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APPLICATION

For Revision H (Revision Independent)

PART NO	LIFECYCLE	NEXT ASSY	USED ON

REVISIONS FOR DRAWING

NOTE: Draft Revision history not shown. See Agile change history

REV	DISPOSITION	DATE
A	Check Agile for individual part dis	03/02/2012
B	Check Agile for individual part dis	08/20/2012
C	Check Agile for individual part dis	02/22/2013
D	Check Agile for individual part dis	06/07/2013
E	Check Agile for individual part dis	03/24/2014
F	Check Agile for individual part dis	08/04/2014
G	Check Agile for individual part dis	05/08/2015
H	Check Agile for individual part dis	03/18/2016

The information hereon is referenced by document # 2344649

ALL SHEETS ARE THE SAME REVISION

Changes in the application of the part defined hereon may not effect the revision level. Check electronic data base for current application.

Ball Aerospace & Technologies Corp.
P.O BOX 1062
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GMI CALIBRATION DATA BOOK

DWG NO.	2344649	REV	H

ATTACHMENTS INCLUDED		
File Name	Description	Owner
2344649H - GMI Calibration Data Book_AllSheets.pdf	Print	2344649

The following files were located in Agile and are associated with the requested drawing , however, they have not been included in the report.
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ATTACHMENTS EXCLUDED		
File Name	Description	Owner
2344649H - GMI Calibration Data Book.docx	Native	C484272
2344649H - GMI Calibration Data Book Appendices.xlsx	Native - Appendix	C484272
2344649H - GMI Calibration DataBook LargeFiles.zip	Ref - Large Files	C484272
CalDatabookRevH_Update.pptx		C484272
2344649H - GMI Calibration Data Book-changes.docx		C484272
GMI Cal Data Book ITAR release .pdf		C484272
CalDatabookRevH_Update_ITAR_Approval.pdf		C484272

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Document No: 2344649
Revision: H
Date: Mar 17, 2016

Calibration Data Book

For

Global Precipitation Measurement (GPM) Microwave Imager (GMI)

CDRL 14

Prepared for
National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland

Prepared by
Ball Aerospace & Technologies Corp.
P.O. Box 1062
Boulder, Colorado 80306-1062
Cage Code 13993

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Chief Systems Engineer
GMI Program

SEE THE PRODUCT DATA MANAGEMENT SYSTEM FOR REVISION HISTORY AND APPROVAL INFORMATION

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1. SCOPE

This document is the Calibration Data Book for the Global Precipitation Measurement (GPM) Microwave Imager (GMI) Flight 1 unit. The GMI flight 1 unit will fly on the GPM core spacecraft. The GMI Calibration Data Book contains all the calibration-related data computed for the GMI instrument. It also serves as verification for several GMI calibration-related requirements. The GMI Calibration Data Book consists of this document, a set of appendices in Excel format containing data referenced from this document, and a .ZIP file containing data too large to be contained in either the document or the .XLS file. This document is submitted as part of CDRL 14.

The tree showing the documents that are part of the calibration Contract Data Requirements List (CDRL) Data Item Descriptions (DIDs) 14, 15 and 16 is shown in Figure 1. The calibration data book is a compilation of results from instrument and subsystem calibration efforts.

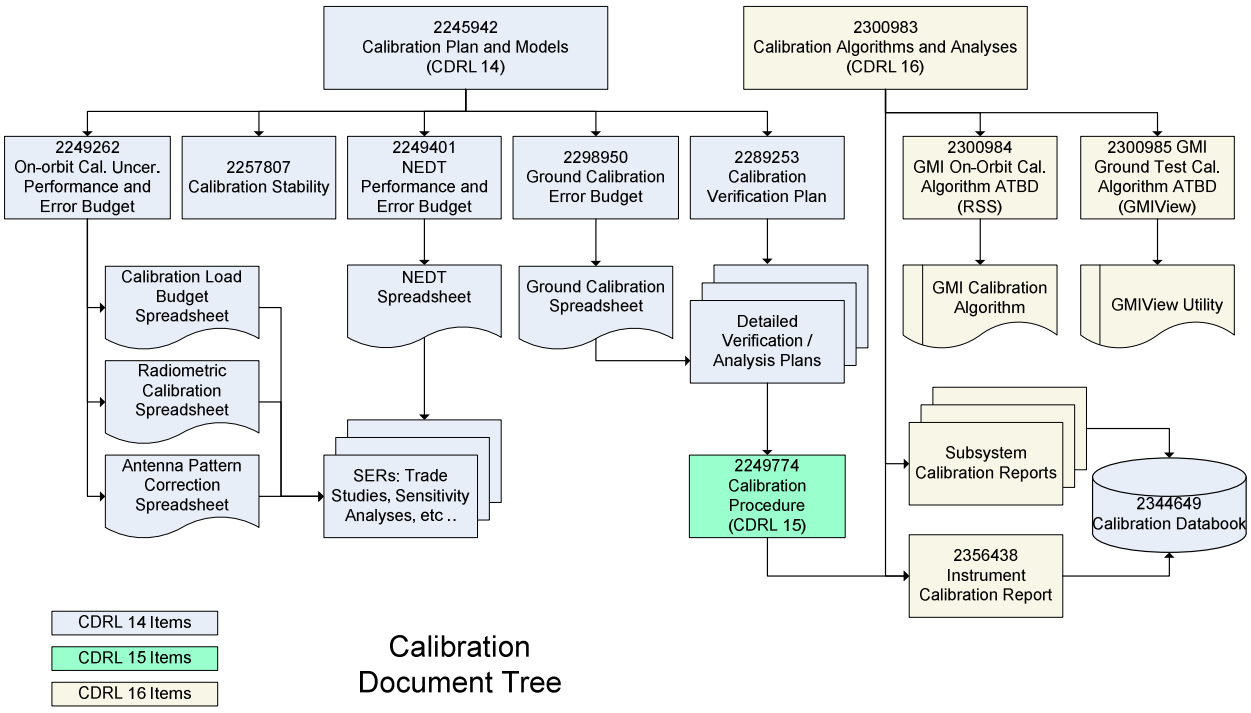

Figure 1. GMI Calibration document tree.

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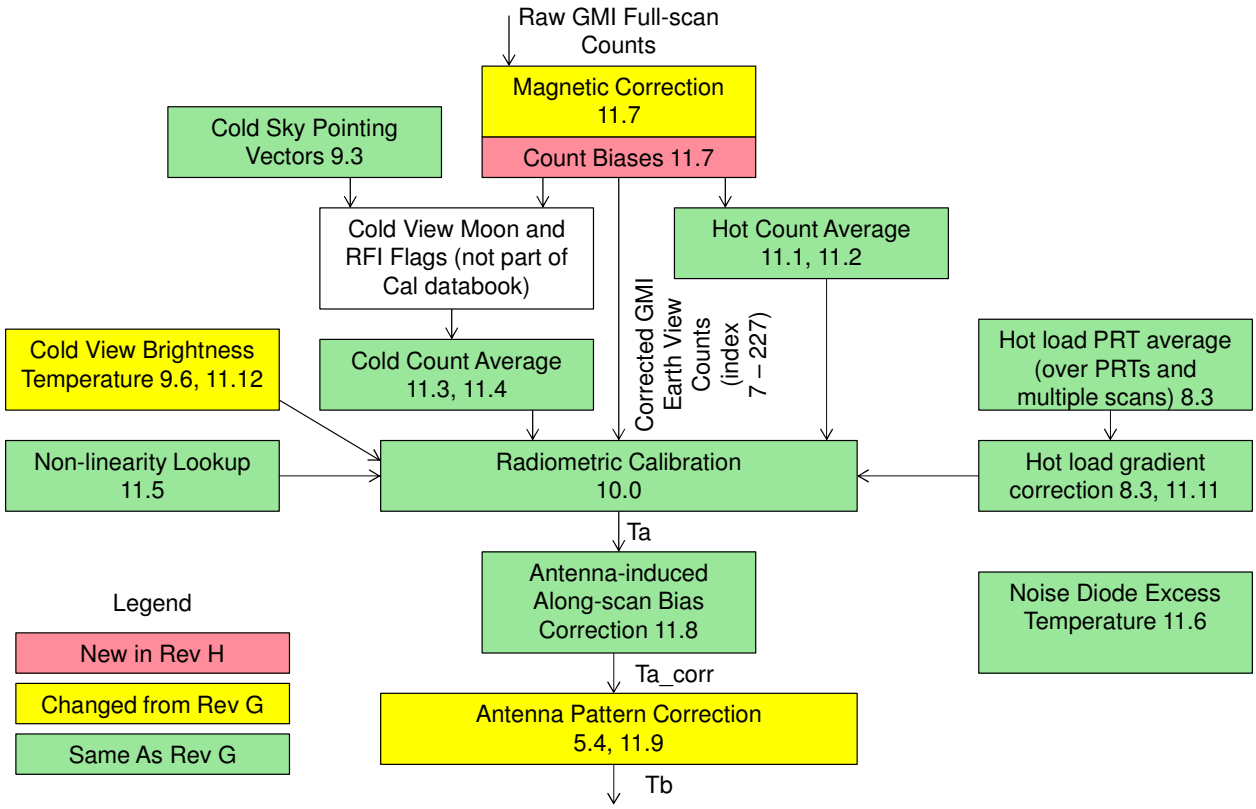
NOTES ABOUT THIS REVISION: Revision H includes updates based on GMI calibration/validation activities. This revision includes updated earth magnetic correction coefficients including the addition of scan-sector dependent scan biases (11.7 and Appendix W), and updated antenna pattern correction coefficients (11.9 and Appendix Y). The cold view brightness temperature have also been updated (11.12). An updated on-orbit calibration uncertainty analysis is given in Section 12. A modification to the algorithm flow regarding the addition of count biases is shown in Figure 2. The changes to the algorithm are per Wentz and Draper, JTECH 2016.

Figure 2. Changes in the algorithm in Rev H of this document.



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2. REFERENCED DOCUMENTS

The following documents are referenced herein and apply only to the extent specified in this data book at the point of reference. Documents with a revision and/or date listed depict the exact issue to be used. Ball Aerospace documents will be subject to change during the life of the contract and are under change control.

2.1 Customer Documents

422-10-05-001 – GMI Technical Requirements

422-30-00-003 – GMI Contract Data Requirements List (CDRL)

422-30-00-004 – GMI Interface Control Document (ICD)

422-30-00-006 – GMI Statement of Work

2.2 Ball Aerospace Documents

2289253	CALIBRATION VERIFICATION PLAN
2242380	GMI 1553 COMMAND AND TELEMETRY HANDBOOK
2249262	GMI CALIBRATION UNCERTAINTY PERFORMANCE AND ERROR BUDGET
2249401	GMI NEDT PERFORMANCE AND ERROR BUDGET
2256350	COLD SKY REFLECTOR POSITION TRADE
2256587	GMI MAIN REFLECTOR DISTORTION ANALYSIS AND TOLERANCE ALLOCATION
2257807	CALIBRATION STABILITY
2261989	GMI SENSITIVITY ANALYSIS PERFORMED IN GICS
2298950	GMI GROUND CALIBRATION ERROR BUDGET
2300984	SDRL 03, RSS, GMI CALIBRATION ALGORITHM AND ANALYSIS THEORETICAL BASIS DOCUMENT
2307281	SDRL 08, RSS, CALIBRATION ALGORITHM, GMI INTRUMENT CDRL CAL ALGORITHM SECTION PRESENTATION
2307285	SDRL 16, RSS, CALIBRATION ALGORITHM AND ANALYSIS, CALIBRATION ALGORITHM CODE
2307286	SDRL 17, RSS, CALIBRATION ALGORITHM AND ANALYSIS, INPUT PARAMETERS
2307287	SDRL 18, RSS, CALIBRATION ALGORITHM AND ANALYSIS, CALIBRATION ALGORITHM USER'S MANUAL
2307288	SDRL 19, RSS, CALIBRATION ALGORITHM AND ANALYSIS, STANDARD SCENES
2331199	GMI TEMPERATURE SENSOR LOCATIONS
2334010	SDRL 02, RSS, CALIBRATION ALGORITHM AND ANALYSIS, TECH RPT, CALIBRATION COUNT AVERAGING
2335021	NUMBER OF CLEAR CALIBRATION SAMPLES FOR THE GMI HOT LOAD AND COLD SKY VIEWS
2335165	GMI CALIBRATION TARGET SOLAR ILLUMINATION TEST 8/12/2009
2336117	GMI DATA RATE, TIMING AND SAMPLING PARAMETERS

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2340122	GMI HOT LOAD THERMAL MODEL CORRELATION
2342459	GMI HOT LOAD THERMAL ANALYSIS
2343232	GMI ALLSPACE BEAM EFFICIENCY THEORETICAL ANALYSIS
2345335	GMI HOT LOAD CALIBRATION ERROR ASSESSMENT
2345459	SDRL 02, RSS, CALIBRATION ALGORITHM AND ANALYSIS, TECH RPT, GMI HOT LOAD ANALYSIS
2346067	CALIBRATION TARGET - TEMPERATURE NON-LINEARITY ANALYSIS
2346070	GMI ALIGNMENT TRANSFORMS MASTER SUMMARY
2346734	SDRL 02, RSS, CALIBRATION ALGORITHM AND ANALYSIS, TECH RPT, ANTENNA PATTERN CORRECTION
2348578	GMI POINTING REQUIREMENTS VERIFICATION
2349971	GMI RF FLIGHT CHARACTERIZATION REPORT
2351450	SER, RADIATION DISTRIBUTION PATTERN DESCRIPTIONS, GMI
2356438	GMI INSTRUMENT CALIBRATION ANALYSIS REPORT
2358242	SVDD GMI PROCESS GDR SOFTWARE
2359571	GMI FLIGHT COLD SKY RF TEST REPORT
2363348	SDRL 02, RSS, CALIBRATION ALGORITHM AND ANALYSIS, TECH RPT, PRECIPITATION RADAR BLANKING CORRECTION
2369738	GMI PRELIMINARY CALIBRATION CURVES FOR PRTS
2370764	NEAR FIELD BEAM FRACTION PREDICTIONS, GMI
2375095	HOT LOAD SUMMARY FOR FINAL CONFIGURATION, WITH TOP HAT
2376251	GMI RADIOMETRIC PARAMETER CALCULATION CODE IN SUPPORT OF THE TVAC CALIBRATION TEST
2435550	GLOBAL PRECIPITATION MEASUREMENT (GPM) MICROWAVE IMAGER (GMI) ON-ORBIT PERFORMANCE REPORT
2425748	GMI DEEP SPACE CALIBRATION MANEUVERS 5/20/2014 and 12/08/2014
2461074	GMI ON-ORBIT CALIBRATION UNCERTAINTY

2.3 Other Documents

- F. J. Wentz and D. W. Draper, "On-Orbit Absolute Calibration of the Global Precipitation Mission Microwave Imager," *J. Atmos. Oceanic Tech., to be published,* 2016.
- S. Farrar, *et al.*, "GPM Microwave Imager on-orbit calibration using deep-space and nadir-viewing observatory maneuvers", *IEEE Trans. Geosci. Remote Sens.*, to be published, 2016.
- D. W. Draper, D. A. Newell, F. J. Wentz, S. Krimchansky, and G. Skofronick-Jackson, "The Global Precipitation Measurement (GPM) Microwave Imager (GMI): Instrument Overview and Early On-orbit Performance," *IEEE J. Sel. Topics Geosci. Remote Sens.*, vol. 8, no. 7, pp. 3452-3462, 2015, DOI: 10.1109/JSTARS.2015.2403303.

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- D. W. Draper, D. A. Newell, D. Mckague and J. Piepmeier, "Assessing Calibration Stability using the Global Precipitation Measurement (GPM) Microwave Imager (GMI) Noise Diodes," *IEEE J. Sel. Topics Geosci. Remote Sens.*, 2015, DO:10.1109/JSTARS.2015.2406661.
- D. W. Draper, D.A. Newell, D.A. Teusch, P.K. Yoho, "Global Precipitation Measurement Microwave Imager (GMI) hot load calibration," *IEEE Trans. Geosci. Rem. Sens.,* vol. 51, no. 9*,* Sep. 2013.

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3. INTRODUCTION

3.1 Requirements Verified

This document serves as verification for the GMI Technical Requirements given in Table 1.

Table 1. GMI Requirements Verified in this Document

TRD Paragraph Reference	Requirement text	Section where Verified
3.2.1.5.9	The behavior of the hot calibration load shall be measured and analyzed to predict its on-orbit performance.	Section 8
3.2.1.7.2	The antenna physical temperature measurement shall be accurate to ±1 K.	Section 4.2
3.2.2.2	The calibration algorithms shall cover the entire operating physical temperature range of the GMI instrument while in orbit.	Section 10
3.2.3.3	The antenna main reflector shall be calibrated.	Section 6

3.2 GMI Calibration Overview

The GMI instrument is a conically scanning microwave radiometer (see Figure 3) with imaging channels at 10.7, 18.7, 23.8, 36.5, 89, 166 and 183 GHz. Flying in low-Earth orbit at altitudes of 407 km (core spacecraft) and 635 km (constellation spacecraft), GMI is designed to remotely sense precipitation. The core spacecraft GMI will serve as the precipitation standard to which all other instruments in the GPM constellation will be compared and calibrated (calibrated for retrieved precipitation only). The calibration system is similar in concept to the heritage conically scanning microwave radiometers; multi-point calibration yields estimates of antenna temperature using an on-board hot load and a cold sky reflector, which is then converted to main beam brightness temperatures using an antenna pattern correction algorithm. The hot load is thermally isolated and specifically designed to be highly emissive at microwave frequencies, have low thermal gradients, and provide three-dimensional gradient information. PRTs are placed throughout the base of the hot load and in several pyramids so that it's physical temperature can be accurately measured. The cold sky reflector is a highly reflective antenna pointed at cold space, which radiates uniformly at approximately 2.73 K. These two calibration targets sit on a stationary fixture as the GMI main reflector and feed horns rotate. During part of this rotation, the feed horns view the Earth through the main reflector. For the back section of the rotation, when the spacecraft is blocking the main reflector's field of view, the feed horns rotate underneath the cold sky reflector and hot load to obtain the calibration measurements. Given the pre-flight measured characteristics of the hot load, cold sky reflector, main reflector, and the measured physical temperature of the hot load, antenna temperatures can be computed

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for creating two points at which the measured detector counts can be tied to antenna temperature. The Earth scene antenna temperature can then be computed via interpolation between the cold and hot points using measured scene detector counts.

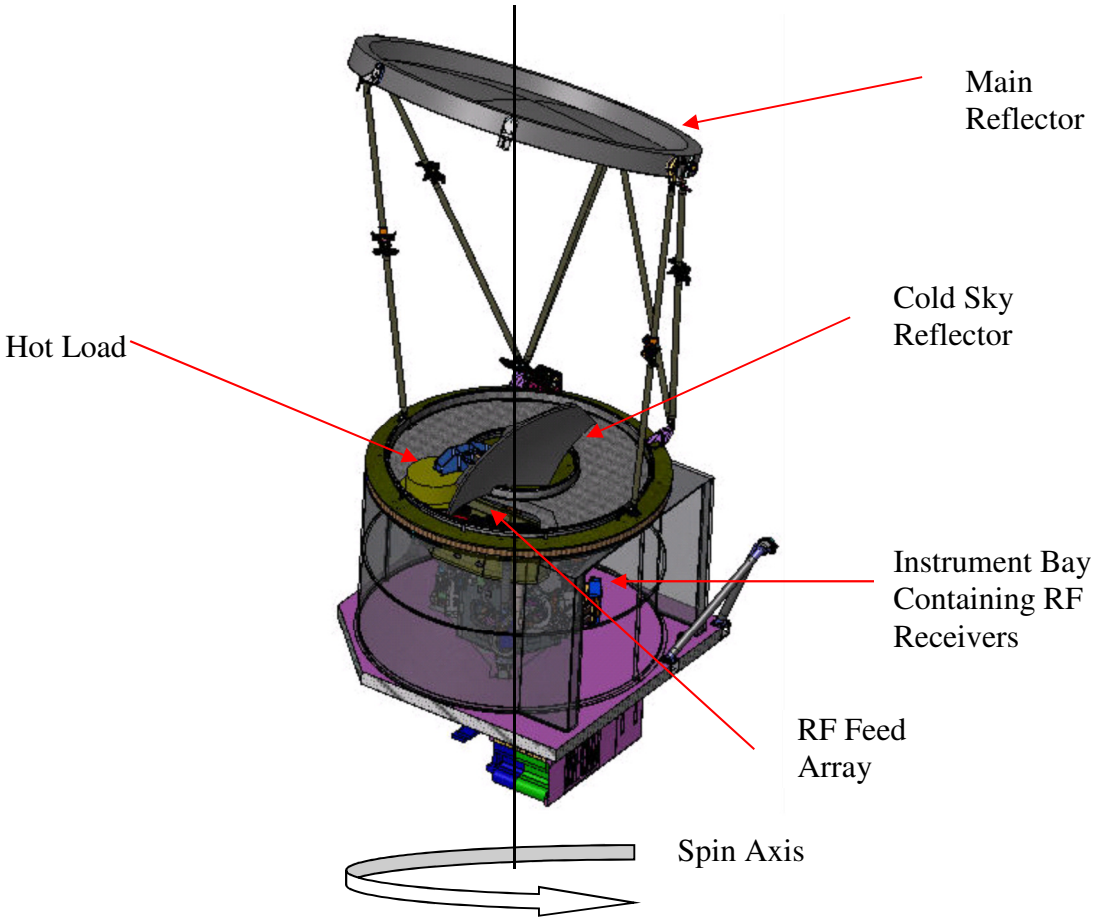

Figure 3. GMI instrument concept.

The GMI design includes some unique features to eliminate problems that have plagued past conically scanning microwave radiometers. The hot load has been designed to limit thermal loads, primarily from direct solar radiation, that can drive temperature gradients into the load. Another unique feature of GMI calibration is the incorporation of noise diodes, which can be used for computing non-linearity through four-point calibration and for a hot load back-up. With four-point calibration, noise is injected into the receivers to create four calibration points a cold point, a hot point, a cold + noise point, and a hot + noise point. The four points are realized by energizing the noise diodes every other rotation (nominal operations) of the instrument, thereby taking hot and cold calibration measurements on one rotation and hot + noise and cold + noise calibration measurements on the alternate rotation. With these four points, one can solve for four

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unknowns: receiver gain, offset, non-linearity, and the magnitude of the injected noise. The injected noise value can be trended on-orbit to be used as a radiometric calibration hot point in the case that the hot load data is suspect. Because the injected noise is trended on-orbit, the noise diodes do not need to be ultra-stable; however they do need to be predictable over temperature. By solving for the non-linearity, non-linearity changes from ground to on-orbit may be identified and updated in the operational algorithm. Although it is not in the baseline plan, four-point calibration may also be performed on a rotation-by-rotation basis to compute nonlinearity and remove it real-time.

For reference, the following relevant data may be found in this document and attachments:

Word Document (relevant data not contained in spreadsheet or zip file):

Section 5: Timing parameters

Section 6: Footprint spans (IFOVs in axial and radial directions)

Section 7: Spectral Parameters (center frequency, out-of-band rejection, bandwidth, gain ripple)

Section 10: On-orbit Number of Hot Samples and Scans to average, On-orbit Number of Cold Samples and Scans to Average

Spreadsheet:

Appendix A: PRT curves

Appendix B: Selected Telemetry Descriptions and Conversion Factors

Appendix C: Alignment Data / Transformation Matrices

Appendix D: Sample Tables (human readable format)

Appendix E: Antenna RF Parameters (Beam Efficiency, Beam Width, Beam Shape, Cross-pol, Off-nadir Angle, Azimuth Angle, Cross-pol alignment)

Appendix F: Antenna Pattern Correction Coefficients

Appendix G: Main Reflector Coating Conductivity Data

Appendix H: IFOVs

Appendix I: 90 Percent Contours

Appendix J: Hot Load Emissivity Data

Appendix K: Hot Load Gradient Correction Parameters

Appendix L: Cold Sky Contours

Appendix M: Cold Sky Beam Pointing Data

Appendix N: Radiometric Parameters Measured during TVAC Cal

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Appendix O: NEDT Measurements

Appendix P: Radiometric Raw Data

Appendix Q: 36 GHz Radiometric Raw Data with Blanking

Appendix R: Non-linearity Curves (Ground Determined)

Appendix S: Noise Diode Excess Temperature Curves (Ground Determined)

Appendix T: Target Correction parameters used in the Ground Calibration Analysis

Appendix U: Non-linearity Curves (On-orbit Determined)

Appendix V: Noise Diode Excess Temperature Curves (On-orbit Determined)

Appendix W: Magnetic Correction Terms

Appendix X: Antenna Along-scan Bias Correction Terms

<u>"Large Files" Zip File:</u>

\05_ALIGNMENT_DATA:

Raw Binary Sample Tables (as used in the flight software)

\06_MAIN_ANTENNA

All Space Antenna Patterns

Antenna foot print contours

\07_SPECTRAL

Spectral Bandpass Data

\09_COLD_SKY

Cold Sky Beam Patterns

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4. PRT SENSOR AND CIRCUIT CALIBRATION

The GMI instrument uses platinum resistance thermometers (PRTs) for all GMI-measured telemetry. The PRTs are sensed by either the Instrument Control Electronics (ICA) or the Receiver Subsystem (RS). In both cases, the analog/digital converter (ADC) circuits also sense calibration resistors that envelope the dynamic range of the PRT resistances for the on-orbit physical temperatures. The calibration resistors afford a more accurate conversion to resistance. The location of the temperature sensors are described in Systems Engineering Report (SER) 2331199.

In addition, the GMI provides 5 redundant analog temperature telemetry points to the spacecraft (10 total temperature sensors). Eight of the sensors are thermistors. Two of the sensors, located on the main reflector, are PRTs.

4.1 PRT Calibration Method

Temperature sensor data is first converted from raw counts to resistance (Ohms), and then is converted from resistance to temperature (°C). The conversion from raw counts to resistance requires the use of two of the calibration resistors, which are sensed during each data taking cycle. On GMI, there are several sets of calibration resistors, each corresponding to the conditioning circuitry and / or ADC that is associated with a set of temperature sensors. To compute the temperature, it is necessary to know which calibration resistors are associated with each temperature sensor, the resistance of those sensors, and the polynomial coefficients to convert from resistance to temperature. The mapping calibration resistor to temperature telemetry is given in Appendix A.

For each temperature sensor, let R_{lo} and R_{hi} be the resistances of the calibration resistors (low and high) corresponding to that temperature sensor (see Appendix A, "Low Cal Resistance (Ohms)" and "High Cal Resistance (Ohms)"). Let C_{lo}, C_{hi}, and C_T be the raw measured counts of the low calibration resistor, high calibration resistor, and the temperature sensor respectively taken from the instrument telemetry (the values of C_{lo}, C_{hi} in Appendix A are for reference only; the algorithm should pull the actual values from instrument telemetry for each scan). The resistance of the temperature sensor R_T is computed as

$$R_T = \frac{R_{hi} - R_{lo}}{C_{hi} - C_{lo}}\left(C_T - C_{lo}\right) + R_{lo} \quad (\Omega). \tag{1}$$

We note that the C_{hi} and C_{lo} may be time averaged over several scans (e.g. +/- 4) to reduce the sampling noise. Once the resistance is computed using the calibration resistors, the temperature in Celsius is computed using polynomial coefficients,

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$$T_T = \sum_{i=0}^{N} a_i R_T^i \quad (^\circ C). \tag{2}$$

The temperature telemetry curves coefficients (a_0, a_1, a_2, a_3, a_4, a_5) are given in Appendix A.

4.2 PRT Calibration Accuracy

The uncertainty of the PRT calibration curves is given in Table 2 below. Most of the data used in this document is taken from the generic curves supplied by the manufacturer. The hot load PRTs were calibrated in place by the vendor. The PRTs in the receivers supplied NIST-traceable cal data for each PRT. For the hot load PRTs, the data has been corrected for both integrated circuit board trace resistance and cable resistance, by comparing the four-wire to two-wire measurements at ambient. For the others, a bulk resistance correction has been made. The resulting uncertainty in the trace and cable resistance between PRTs, along with the resistance variation over temperature is listed in Table 2. This analysis verifies the 1K accuracy requirement (TRD 3.2.1.7.2) for the three main reflector PRTs MR_ICA_TEMP, TEMP_RS_MR1 and TEMP_RS_MR2.

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Table 2. GMI PRT Calibration Curve Uncertainty Analysis.

		Cal Curve Type					PRT Effects		IC Trace R Correction				Cable R Correction					
Signal Mnemonic	Mfr Part #	Generic	Lot data	S/N data	ZAX cal	Cal Uncert	Hysteresis	Self Heating	Bulk	PRT-depend	Temp-erature	Uncert.	Bulk	PRT-depend	Temp-erature	Uncert	Elec-tronics	Total (RSS)
HL_TEMP_1	Goodrich 0118CAF2				x	0.03	0.02	0.001	N/A	N/A	N/A	0	N/A	N/A	N/A	0	0.11	**0.12**
HL_TEMP_2	Goodrich 0118CAF2				x	0.03	0.02	0.001	N/A	N/A	N/A	0	N/A	N/A	N/A	0	0.11	**0.12**
HL_TEMP_7	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_8	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_9	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_10	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_11	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_12	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_13	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_14	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
HL_TEMP_15	Goodrich 0118CAF2				x	0.03	0.02	0.001		x		0.05		x		0.003	0.11	**0.12**
CLR_TEMP	Minco S100815PFPFY24A	x				0.56	0.20	0.001	x			0.42	x			0.12	0.57	**0.92**
MR_LR_LEFT_TEMP	Minco S100815PFPFY24A	x				0.56	0.20	0.001	x			0.42	x			0.12	0.57	**0.92**
MR_LR_LOWR_TEMP	Minco S100815PFPFY24A	x				0.56	0.20	0.001	x			0.42	x			0.12	0.57	**0.92**
MR_LR_RGHT_TEMP	Minco S100815PFPFY24A	x				0.56	0.20	0.001	x			0.42	x			0.12	0.57	**0.92**
CE_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
CSR_TEMP1	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
IBS_LR1_TEMP	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
IBS_LR2_TEMP	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
IBS_LR3_TEMP	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
ICA_BOX_TEMP_1	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
ICA_BOX_TEMP_2	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
IE_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
LVPS_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
MR_ICA_TEMP	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.29	**0.69**
PC_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
RDA_TEMP_1	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.29	**0.69**
RDA_TEMP_2	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.29	**0.69**
RDA_TEMP_3	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.29	**0.69**
ROT_TEMP_SPARE	Goodrich 0118CAF2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**
RS_TEMP_1	Goodrich 0118CAF2			x		0.02	0.10	0.001	x			0.21	x			0.06	0.29	**0.37**
RS_TEMP_2	Goodrich 0118CAF2			x		0.02	0.10	0.001	x			0.21	x			0.06	0.29	**0.37**
SCE_A_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
SCE_B_BD_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
SMA_BEARING_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
SMA_MTR_TEMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
SMA_SLPRHTR_TMP	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.29	**0.57**
CSR_TEMP2	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.29	**0.69**
TEMP_166GHZ_LO	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_V166GHZMXR	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_183GHZ_LO	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_183GHZMXR	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_89GHZ_LO	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_H166GHZMXR	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_H10GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_H18GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_H36GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_V10GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_V18GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_V36GHZ_ND	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_RS_MR1	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.08	**0.64**
TEMP_RS_MR2	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.11	0.08	**0.64**
TEMP_10GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_166GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_183GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_18GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_23GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_36GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_89GHZRCVR	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_RS_EDC	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_RS_EPC	Goodrich 0118CAF2			x		0.02	0.20	0.001	x			0.21	x			0.06	0.08	**0.30**
TEMP_SMA_SPUN_HSG	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_H89GHZMXR	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_V89GHZMXR	Goodrich 0118CAF2	x				0.44	0.10	0.001	x			0.21	x			0.06	0.08	**0.50**
TEMP_FEED	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.08	**0.64**
TEMP_HL_TRAY	Goodrich 0118CAF2	x				0.56	0.20	0.001	x			0.21	x			0.06	0.08	**0.64**

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4.3 Spacecraft-monitored Telemetry

GMI provides 5 redundant analog telemetry points to the spacecraft for monitoring of GMI temperature while GMI is OFF. These telemetry points include the following:

1. ICA_A_PT_TEMP – Thermistor located on the ICA radiator
2. ICA_B_PT_TEMP – Thermistor located on the ICA radiator
3. MR_A_PT_TEMP – PRT located on the back of the Main Reflector
4. MR_B_PT_TEMP – PRT located on the back of the Main Reflector (note, this PRT is not in the same location as MR_A_PT_TEMP, and may therefore read a different value.)
5. RS_A_PT_TEMP – Thermistor located in the 23 GHz receiver
6. RS_B_PT_TEMP – Thermistor located in the 23 GHz receiver
7. SMA_A_PT_TEMP - Thermistor located in the SMA
8. SMA_B_PT_TEMP - Thermistor located in the SMA
9. STAT_A_PT_TEMP – Thermistor located on the ISS deck
10. STAT_B_PT_TEMP – Thermistor located on the ISS deck (note, this thermistor is not in the same location as STAT_A_PT_TEMP, and may therefore read a different value.)

All thermistors are 10K Ohm, part number s-311-p-18-08T101. The PRTs are 2 KΩ, part number 0188MF2000AC. Typical 5th-order polynomial curves for these devices are given in Appendix A.

4.4 Other Engineering Data

In addition to temperature telemetry, the GMI contains various other telemetry points, including voltages, currents, and timing signals. The conversions from raw counts to engineering units are found in 2242380 – GMI Command and Telemetry Handbook. These are converted using an (up to) 5th-order polynomial, as follows,

$$D_{eng-units} = \sum_{i=0}^{N} b_i D_{counts}^{i} \tag{3}$$

In addition, some telemetry points are indicators of states. A selected set of telemetry points and their conversions are given in Appendix B. For all others, please consult 2242380 – GMI Command and Telemetry Handbook.

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5. INSTRUMENT ALIGNMENT DATA

This section describes various alignment transform relationships that are required to relate beam pointing and other alignment data to physically relevant coordinate systems on the GMI. The data given here is not an exhaustive list of GMI coordinate system relationships, but contains the most critical transforms that may be required during spacecraft testing and on-orbit operations. For an exhaustive list of measured and derived coordinate transforms, please reference 2346070 – GMI Alignment Transform Master Summary.

5.1 GMI Coordinate Systems used for Antenna Patterns and Pointing

This section describes the various GMI coordinate systems contained in this document. The following coordinate systems relate the antenna pattern measurements to the primary alignment reference on the GMI, which is the cube on the Instrument Support Structure (ISS).

1. GMI Instrument Coordinate System (GICS) – Primary coordinate system for the GMI. The GICS coordinate axes are defined by the faces of the Instrument Support Structure (ISS) cube. The +Z-axis is nominally upward toward zenith. When the instrument is operational on-orbit, the -Z-axis will point nominally toward geodetic nadir. The +X-axis is orthogonal to the +Z-axis and points toward the center of the earth-viewing sector (along the expected ground track). The +Y-axis is orthogonal to both the +Z-axis and the +X-axis and points toward the sun side of the instrument. We note that the GICS is origin is *not* located at the instrument mounting interface. Rather, the GICS origin is located at the intersection of the mounting interface of the SMA to the ISS deck and the nominal SMA spin axis. See Section 5.8 for the relationship of GICS to the interface.
2. Spin-Axis Coordinate System, Stationary Side (SACS-S) – The SACS-S is defined with the +Z axis in the direction of the instrument spin axis, and the +X axis in the direction of the front face of the Instrument Support Structure (ISS) cube. The SACS-S allows for characterization of the slight misalignment between the ISS cube and the spin axis.
3. Spin-Axis Coordinate System, Rotational Side (SACS-R) – The SACS-R is defined on the rotational side of the instrument with the +Z axis in the direction of the spin axis, and the +X axis in the direction of the front face of the Instrument Bay Assembly/Structure (IBA or IBS) cube.
4. Main Reflector Coordinate System (MRCS) – The MRCS is defined on the rotational side of the instrument with the +Z axis in the nominal direction of the GMI antenna boresight (i.e. in the direction of the main reflector parabola axis). The MRCS +Y axis points horizontally, orthogonal to the antenna beam direction, and the +X axis points upward, orthogonal to the +Z and +Y axes.
5. Cold Sky Ellipse Coordinate System (CSECS) – The CSECS is defined by the parent ellipse of the cold sky reflector. The origin is at the location of the inner-most focus of the cold sky reflector. The +Z axis is along the major axis. The +Y and +X are in the direction of the minor axes.

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6. Nearfield Systems Inc. (NSI) Coordinate System (NSICS) – Coordinate system defined by the NSI near field range scan plane used during antenna pattern testing. The +Z axis is orthogonal to the scan plane pointing outward. The +Y axis points vertically along the scan grid, and +X axis points horizontally along the scan grid.

The RF antenna patterns are originally taken in the NSI coordinate system (NSICS), which is defined by the near field scan plane. The data is subsequently transformed into the MRCS by combining optical metrology data taken during the RF characterization test, NSI system optical metrology, and Main Reflector Metrology (see 2346070). The relationship between the MRCS, GICS, and NSICS are shown in Figure 4. The coordinate systems SACS-S and SACS-R are shown in Figure 5. The definition of the CSECS is shown in Figure 6.

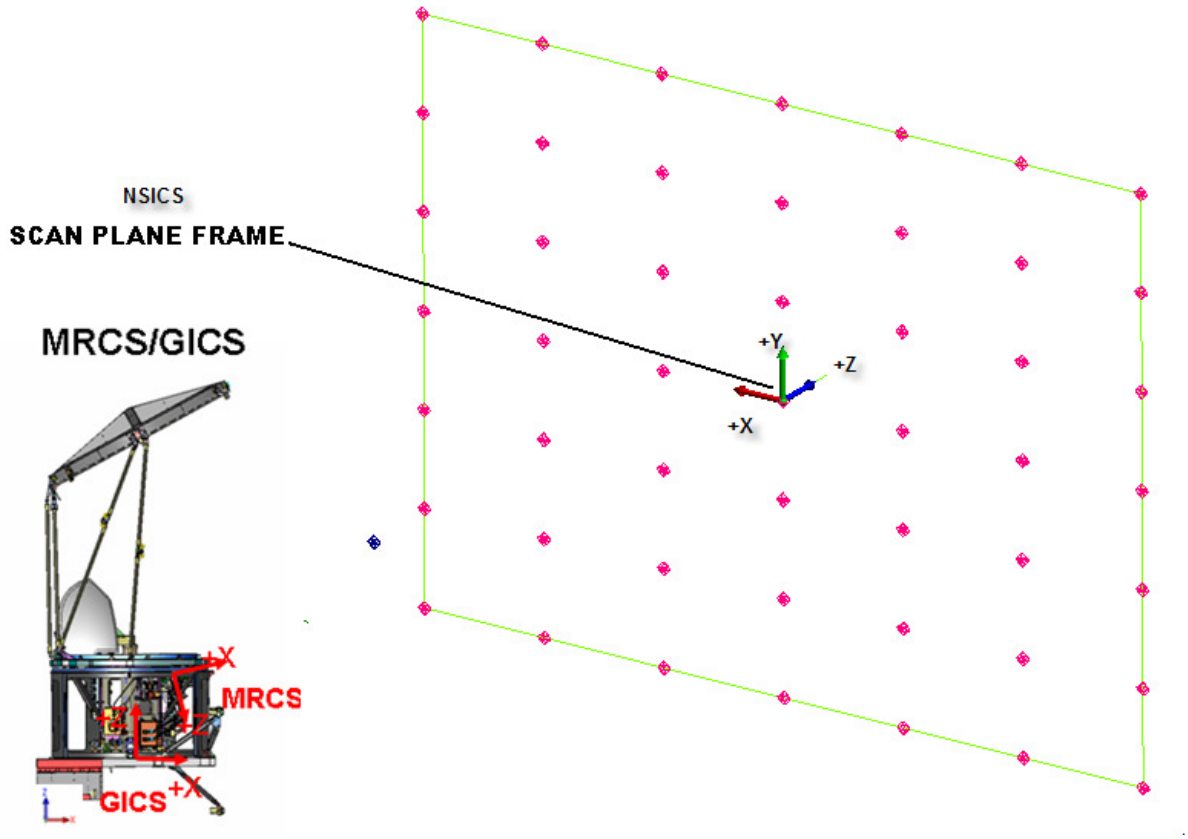

Figure 4. Representation of the GICS, MRCS, and NSICS.

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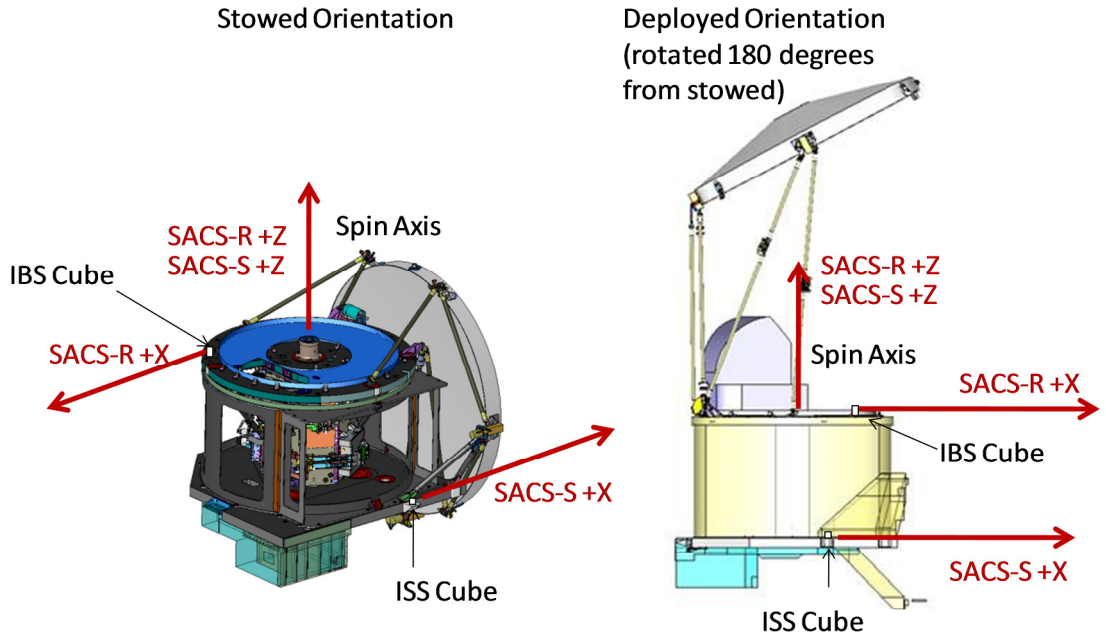

Figure 5. Representation of the SACS-R and SACS-S.

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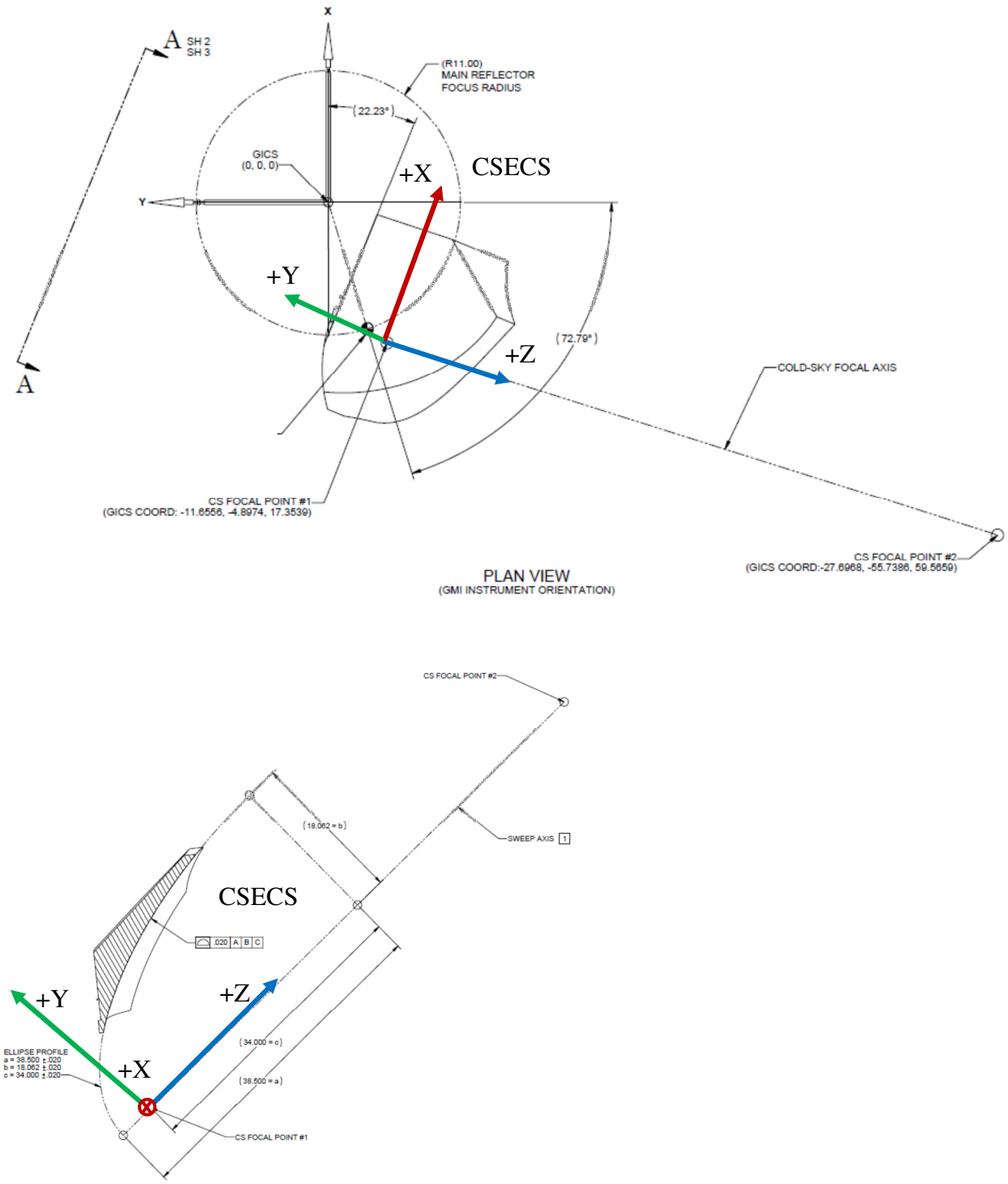

Figure 6. Cold Sky Ellipse Coordinate System (CSECS). Top figure shows the view relative to the GMI Instrument Coordinate System (GICS). The bottom figure shows the view relative to the cold sky ellipse.

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5.2 Transforming Antenna Pattern Data from Main Reflector Coordinate System to the Spin Axis Coordinate System, Rotational Side

All 4-pi steradian antenna pattern data are provided in the MRCS, theta-phi spherical coordinate system. The theta-phi spherical coordinate system is illustrated in Figure 7.

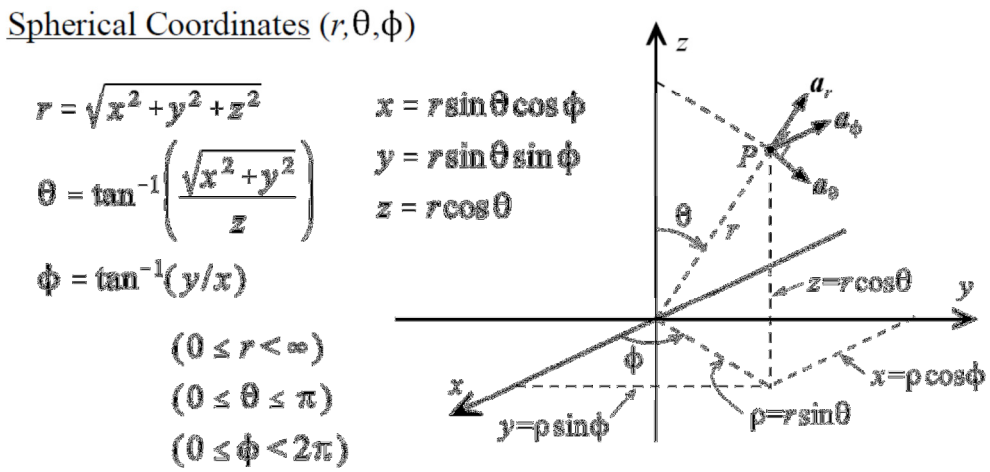

Figure 7. Theta-phi spherical coordinate system.

For each antenna pattern data point, the direction angles, magnitude and phase in each direction are supplied as

1. θ is the spherical "theta" coordinate angle in degrees
2. ϕ is the spherical "phi" coordinate angle in degrees
3. $G_\phi(\theta,\phi)$ for the gain magnitude (in dB) in $\boldsymbol{a}_\varphi$ direction,
4. $G_\theta(\theta,\phi)$ for the gain magnitude (in dB) in $\boldsymbol{a}_\theta$ direction,
5. $\varphi_\phi(\theta,\phi)$ for the electric field phase (in degrees) in $\boldsymbol{a}_\varphi$ direction,
6. $\varphi_\theta(\theta,\phi)$ for the electric field phase (in degrees) in $\boldsymbol{a}_\theta$ direction.

The normalized complex electric field vector is computed as

$$\mathbf{E}_{MRCS}(\theta,\phi) = E_\phi(\theta,\phi)\boldsymbol{a}_\varphi + E_\theta(\theta,\phi)\boldsymbol{a}_\theta \tag{4a}$$

where

$$E_\phi(\theta,\phi) = (Z_0/4\pi)^{1/2}\,10^{G_\phi(\theta,\phi)/20}\,e^{j\varphi_\phi(\theta,\phi)(\pi/180)}\ , \tag{4b}$$

$$E_\theta(\theta,\phi) = (Z_0/4\pi)^{1/2}\,10^{G_\theta(\theta,\phi)/20}\,e^{j\varphi_\theta(\theta,\phi)(\pi/180)}\ , \tag{4c}$$

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and $Z_0 \approx 120\pi$ is the characteristic impedance of free space. The electric field vector are expressed in terms of Cartesian coordinates by the following relation,

$$\mathbf{E}_{MRCS}(\theta,\phi) = E_x\hat{\mathbf{x}} + E_y\hat{\mathbf{y}} + E_z\hat{\mathbf{z}} \tag{5a}$$

where

$$E_x(\theta,\phi) = E_\theta(\theta,\phi)\cos(\theta)\cos(\phi) - E_\phi(\theta,\phi)\sin(\phi) \tag{5b}$$

$$E_y(\theta,\phi) = E_\theta(\theta,\phi)\cos(\theta)\sin(\phi) + E_\phi(\theta,\phi)\cos(\phi) \tag{5c}$$

$$E_z(\theta,\phi) = -E_\theta(\theta,\phi)\sin(\theta) \tag{5d}$$

In addition, the Cartesian coordinate vectors for each of the defined angles (θ, ϕ) are represented as

$$\mathbf{v}_{MRCS}(\theta,\phi) = \sin(\theta)\cos(\phi)\hat{\mathbf{x}} + \sin(\theta)\sin(\phi)\hat{\mathbf{y}} + \cos(\theta)\hat{\mathbf{z}} \tag{6}$$

In order to express the antenna patterns given in MRCS in the SACS-R, Cartesian field components in an Nx3 [E_x E_y E_z] matrix, and the coordinate vectors in an Nx3 matrix [v_x, v_y, v_z] are oriented with the following operations:

$$\mathbf{E}_{SACS-R}(\theta,\phi) = \mathbf{E}_{MRCS}(\theta,\phi)R_{MRCS->SACS-R} \tag{7a}$$

$$\mathbf{v}_{SACS-R}(\theta,\phi) = \mathbf{v}_{MRCS}(\theta,\phi)R_{MRCS->SACS-R} \tag{7b}$$

where the rotation matrix $R_{MRCS->SACS-R}$ as measured on the GMI Flight 1 instrument is defined in Appendix C.

5.3 Determining the rotation angle of the instrument based on instrument telemetry

A handful of instrument timing parameters allow one to determine the instrument rotational angle for each science data sample. At the "zero crossing" of the spin mechanism resolver, a "Scan Start" pulse is generated, which initializes the radiometer scan cycle. Each channel then waits for a programmable time delay known as the "Sample Offset". After the sample offset, each radiometer channel begins sampling at an interval of 3.6 ms: the channel integrates for 3.55 ms, and then resets for 0.05 ms, and then samples again. The sampling continues for each channel for a programmable "Total Number of Samples." Once all channels are done sampling, the scan cycle ends, and waits for the "Scan Start" pulse of the following scan.

In the nominal on-orbit configuration, full scans will be transmitted to the ground. The instrument also has the capability to operate in a reduced data bandwidth mode in which the data that is sent to the ground does not contain all the samples collected for each channel. In order to meet the GMI data rate requirements, the reduced bandwidth configuration only sends down the data that will be useful for earth-view, hot load view, and cold sky view or other critical samples

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for special on-orbit cal/val operations. The samples sent down are based on one of several on-board "sample tables" described in appendix D. For each channel the sample table lists a "0" or a "1" depending if a sample is sent to the ground. "0" indicates that a sample is not sent to the ground, and "1" indicates that a sample is sent to the ground. We note that current plan is that the spacecraft operate with full sampling (i.e. KEEP_ALL sample table, reported as SAMPLE_TBL_VER 0xFFFF, or SMPL_TBL 7), during spacecraft testing and on-orbit; however the ground algorithm needs to accommodate the use of a reduced-bandwidth sample table as well as full scans. Figure 8 illustrates the sampling scheme for the GMI instrument while utilizing the sample table (reduced bandwidth).

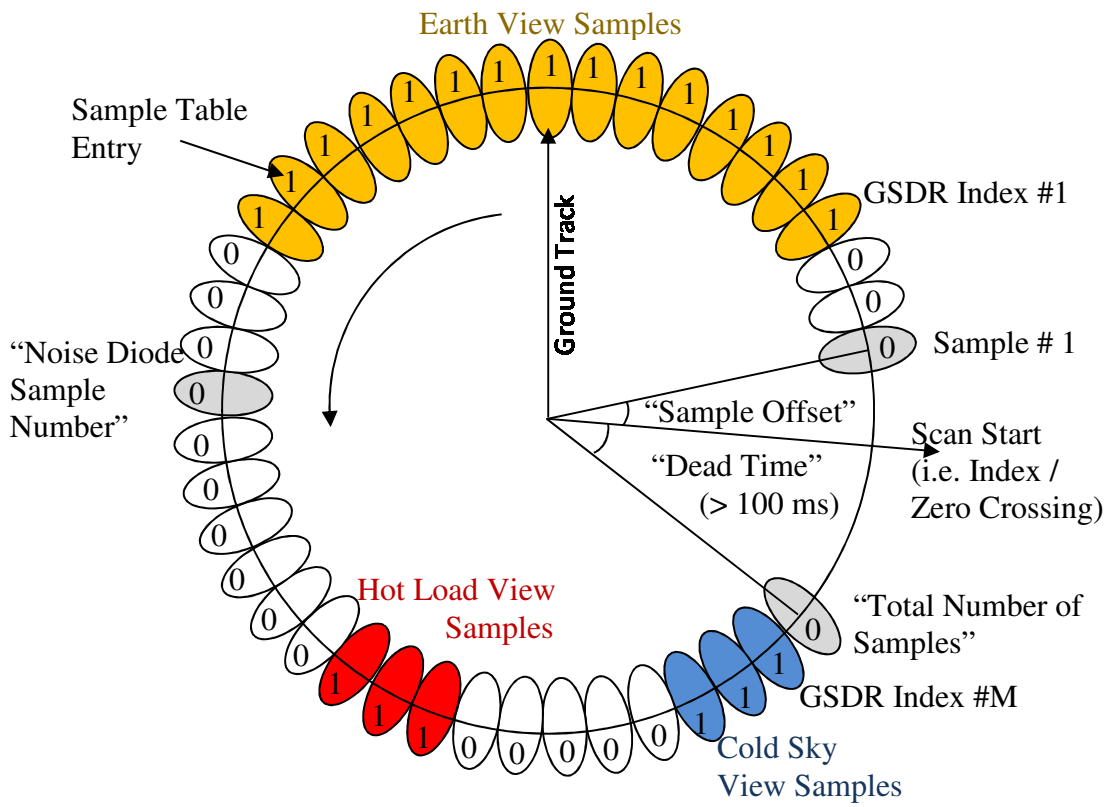

Figure 8. Notional Illustration of the GMI Scan Cycle showing the nominal on-orbit configuration.

Except when in "KEEP_ALL" sampling mode, the number of samples sent down for each channel will be limited to the number of samples identified as "1" in the sample table. The science samples are transmitted in the GMI Science Data Records (identified as RDR_OPR or RDR_CAL packets in 2242380 – GMI Command and Telemetry Handbook . The GMI Science Data Record (GSDR) format is given in Table 3. The GSDR begins with science-data-related housekeeping telemetry, including temperatures, voltages, software flags, etc as defined in 2242380 – GMI Command and Telemetry Handbook. After the housekeeping telemetry, the

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radiometer data is given for each GMI channel, starting with a 2-byte channel header which identifies the channel and number of samples for that channel recorded in the GSDR. After the channel header, the radiometer data begins starting at the first sample identified by the sample table (GSDR Index #1), and continuing to the last sample identified by the sample table for that channel (GSDR Index #M).

Table 3. GMI Science Data Record Format

Science Data Record Housekeeping Telemetry (See command and telemetry handbook)
Channel 1 Header, 2 bytes (5 bits = channel number, 11 bits = number of samples)
Channel 1 Data, 2 bytes x number of samples identified by the sample table (M)
Channel 2 Header, 2 bytes (5 bits = channel number, 11 bits = number of samples)
Channel 2 Data, 2 bytes x number of samples identified by the sample table (M)
Channel 3 Header …
Channel 3 Data …

The on-board sample table format is given in Table 4. The on-board sample tables are given in Appendix D, where the "1"'s have been replaced by the index of the science sample within the GSDR. The actual binary sample table files are included in the .ZIP file under 05_ALIGNMENT_DATA\SampleTables.

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Table 4. On-board sample table format

Version No. (4 bytes)	
0x00 (first byte)	Channel 0, reserved (511 bytes) – 0x00 for all 511 bytes
0x00 (first byte)	Channel 1, 10.65 GHz V-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 2, 18.70 GHz V-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 3, 23.80 GHz V-pol (511bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 4, 36.50 GHz V-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 5, 89.00 GHz V-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 6, 166.0 GHz V-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 7, 183.31 +/- 3 GHz (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 8, reserved (511 bytes) – 0x00 for all 511 bytes
0x00 (first byte)	Channel 9, 10.65 GHz H-pol (511 bytes) – 0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 10, 18.70 GHz H-pol (511 bytes)–0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 11, reserved (511 bytes) – 0x00 for all 511 bytes
0x00 (first byte)	Channel 12, 36.50 GHz H-pol (511 bytes)–0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 13, 89.00 GHz H-pol (511 bytes)–0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 14, 166.0 GHz H-pol (511 bytes)–0x01 = send sample, 0x00 = don't send sample
0x00 (first byte)	Channel 15, 183.31 +/- 8 GHz (511 bytes)–0x01 = send sample, 0x00 = don't send sample

In order to determine the rotation angle for a sample, one needs to know the "Sample Offset" for the channel, the sample table, the sample number (i.e. 1, 2, 3…), and the rotation rate. The programmed "Sample Offset" for each channel is contained in the GMI science telemetry data in units of 4us. The sample number requires knowledge of the sample table used. The nominal sample table contains three regions of contiguous data in the scan: one for earth-view, one for hot load view, and one for cold-sky view. See SER 2336117 for the derivation of the on-orbit sample table. The beginning sample number for each contiguous segment, and number of total samples within that segment for each channel are reported in the instrument science data telemetry. Using this telemetry, the time from the "Scan Start" to the center of the sample of interest can be computed using the following equation,

$$t_{samp}[chan,i] = (N[chan,i]-1)\times 0.0036 + SMPOFFST\_XXGHZ \times 0.000004 + 0.00355/2 + t_{v-h-delay}[chan] \quad \text{sec} \qquad (8)$$

where *chan* is the GMI channel, *i* is the index of the sample within the science data record (starting with "1"), *SMPOFFST_XXGHZ* is the sample offset for each channel frequency reported in the science data record (See Appendix B for the full timing and sampling telemetry mnemonics),and $t_{v\text{-}h\text{-}delay}[chan]$ is the internal delay between sampling of the two channels of a single frequency. The values of $t_{v\text{-}h\text{-}delay}[chan]$ are given in Table 5 below.

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Table 5. Frequency Bands and delay between two channels within a band corresponding to each GMI channel. Also the ground-determined sample offsets (for reference only).

Channel	*FSW Channel ID*	*Frequency Band (XX)*	$t_{v\text{-}h\text{-}delay}$ [*chan*]	Sample Offset* (SMA Pri)	Sample Offset* (SMA Red)
10.65 GHz V-pol	1	10	0 sec	30702	29646
18.7 GHz V-pol	2	18	0 sec	23377	22320
23.8 GHz V-pol	3	23	0 sec	23412	22355
36.64 GHz V-pol	4	36	0 sec	15029	13973
89 GHz V-pol	5	89	0 sec	19017	17961
166 GHz V-pol	6	166	0 sec	21083	20027
183.31 +/- 3 GHz V-pol	7	183	0 sec	18087	17031
10.65 GHz H-pol	9	10	$30e^{-6}$ sec	30702	29646
18.7 GHz H-pol	10	18	$30e^{-6}$ sec	23377	22320
36.64 GHz H-pol	12	36	$30e^{-6}$ sec	15029	13973
89 GHz H-pol	13	89	$30e^{-6}$ sec	19017	17961
166 GHz H-pol	14	166	$30e^{-6}$ sec	21083	20027
183.31 +/- 7 GHz V-pol	15	183	$30e^{-6}$ sec	18087	17031

* Sample offsets are for reference only. Please use actual values from the GSDR telemetry.

The term *N* from Eq. (8) is the sample number either determined from the sample table (known a-priori), or from the instrument telemetry if operating in the nominal on-orbit configuration. An example of determining the sample number *N* from the sample table is given in Table 6 below.

Table 6. Example of using the sample table to determine the sample number

Sample Table Entry for a specific channel:	0x00	0x00	0x00	0x00	0x01	0x01	0x01	0x00	0x01	…
Index of sample within the science data record (*i*):	n/a	n/a	n/a	n/a	1	2	3	n/a	4	…
Sample number (*N*)	n/a	1	2	3	4	5	6	7	8	…

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In the case that the instrument telemetry is used to determine the sample number *N*, and the sample table is set up to have three segments of contiguous data (as shown in Figure 8), the following equation is used to determine the sample number,

$$N[XX,i] = \begin{cases} i + EARTH\_XXG\_STRT - 1 & i \le EARTH\_XXG\_NUM \\ i - EARTH\_XXG\_NUM + HLOAD\_XXG\_STRT - 1 & \begin{cases} i \le EARTH\_XXG\_NUM + HLOAD\_XXG\_NUM \\ i > EARTH\_XXG\_NUM \end{cases} \\ i - EARTH\_XXG\_NUM - HLOAD\_XXG\_NUM + CSKY\_XXG\_STRT - 1 & \text{otherwise} \end{cases}$$

where *EARTH_XXG_START, HLOAD_XXG_START,* and *CSKY_XXG_START* are the starting sample numbers for each of the three segments, and *EARTH_XXG_NUM, HLOAD_XXG_NUM,* and *CSKY_XXG_NUM* are the number of samples for each of the three segments. See Appendix B for these telemetry mnemonics for each GMI frequency band.

Once the time from the zero crossing corresponding to a sample is determined from Eq. (8) ($t_{samp}[chan, i]$), the rotational angle about the spin axis is computed by integrating the rotational rate over the time duration from the zero crossing, and adding $\phi_{zero-cross}$ the angle between the SACS-S and SACS-R at which the zero crossing occurs:

$$\phi[chan,i] = \phi_{zero-cross} + \int_0^{t_{samp}[chan,i]} \omega(t)\,dt \tag{9a}$$

where $\omega(t)$ is the angular rotational rate of the SMA in degrees/sec and $t_{samp}[chan,i]$ is the duration from the scan start (zero crossing) to the center of the sample *i* defined in Eq. (8). If the rotational rate of the SMA is constant (we note that this is a very good assumption based on GMI data), i.e. $\omega(t) = \omega$, then $\phi[chan,i]$ simplifies to

$$\phi[chan,i] = \phi_{zero-cross} + \omega \times t_{samp}[chan,i]. \tag{9b}$$

The rotation rate in RPM is available from the SCE_RATE telemetry point. At 32 RPM, $\omega = 192\ \text{deg/sec}$. If the rotational rate varies significantly enough over a scan, a finer resolution rotational rate may be derived using the time stamps of the tachometer pulses,

$$\omega(t)\Big|_{t=t_{tach}[n]}^{t=t_{tach}[n+1]} = 11.25\,\text{deg}/\left(t_{tach}[n+1] - t_{tach}[n]\right). \tag{9c}$$

where 11.25 degrees is the angular distance between tachometer pulses, and $t_{tach}[n]$ is the time stamp of the nth tach pulse. We note that at the start of the scan, a short period of time may exist between the scan start pulse and the first tach pulse. In this case, the rotational rate computed from the first to the second tach pulse may be used for the time intervening the start pulse and the first tach pulse.

The relationship between the stationary spin-axis coordinate system (SACS-S) and the rotational-side spin axis coordinate system (SACS-R) at the zero crossing provides the link from instrument telemetry to rotation angle. The rotation angle of the instrument at the zero crossing pulse is given in Table 7. We note that the zero crossing angle is different for each side of the spin mechanism assembly (SMA) control electronics (SCE). The SCE side can be determined from the telemetry by looking at the SCE_SELECTION telemetry point (1 = side A, 2 = Side B).

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Table 7. SACS-S to SACS-R transform at the zero crossing.

Data Obtained From	SCE SIDE A $\phi_{zero-cross}$ (deg)	SCE SIDE B $\phi_{zero-cross}$ (deg)	Notes
2011-01-07 CSA cube survey and 2010-11 SMA Zero Crossing Test Average	-94.38427	-93.57308	

5.4 Time Conversion to GPS Time for GMI Science Samples

This section describes how to compute the GPS time corresponding to GMI science measurements for geolocation purposes. The GMI utilizes a free-running clock for all internal operations. The FSW uses the clock to time-stamp specific GMI events and also time-stamp the 1-Hz pulse from the spacecraft. The time stamps, together with other GMI Instrument telemetry included in the GSDRs, allow the ground to relate scan position to GPS time.

For each 1-Hz pulse, the GPM spacecraft also provides a 1553 time broadcast ("time code update"), specifying the spacecraft time of the 1 Hz pulse. Following the time code update, the spacecraft sends a "time correlation packet", which relates the offset between spacecraft time and GPS time if not already synchronized. The formats for the "time code update" and "time correlation packet" are found in 422-30-00-004 GPM GMI ICD. The GMI flight software adds the time code update to the time correlation factor, and transmits the result for the latest 1Hz clock pulse back to the spacecraft in each GHDR and GSDR.

In order to compute the GPS time corresponding to a sample, we use the following GSDR telemetry points:

1. G_TCU_SECS – GPS time in whole seconds at the time of the 1-Hz pulse. This telemetry point gives the time of the "time code update" plus the "time correlation factor."
2. G_TCU_SUBS – Sub-seconds in 2^{-32} second increments for the GPS time at the time of the 1-Hz pulse.
3. G_TC_PULSE_SECS – Seconds in GMI time (i.e. using the GMI free-running clock) corresponding to the 1-Hz pulse.
4. G_TC_PULSE_SUBS – Sub-seconds in 16 us increments of GMI time corresponding to the 1-Hz pulse
5. IDX_PULSE_SECS – Seconds in GMI time corresponding to the scan start pulse. This is collected once per GMI revolution.
6. IDX_PULSE_SUBS – Sub-seconds in 16 us increments of GMI time corresponding to the scan start pulse. This is collected once per GMI revolution.

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7. SMPOFFST_*XX*GHZ – Sample offsets corresponding to each frequency band. See Eq. (8).

Using the telemetry points given above, GPS time at the 1-Hz pulse in seconds is expressed by

$$t_{1Hz\text{-}GPS} = \text{G\_TCU\_SECS} + \text{G\_TCU\_SUBSEC} \times 2^{-32} \text{ sec.}$$

The GMI time at the 1-Hz pulse in seconds is computed as

$$t_{1Hz\text{-}GMI} = \text{G\_TC\_PULSE\_SECS} + \text{G\_TC\_PULSE\_SUBS} \times 0.000016 \text{ sec.}$$

The GMI time at the scan start pulse is

$$t_{ScanStart\text{-}GMI} = \text{IDX\_PULSE\_SECS} + \text{IDX\_PULSE\_SUBS} \times 0.000016 \text{ sec.}$$

Using these definitions, the GPS time corresponding to the center of the ith GSDR data sample of channel *chan* is computed as

$$t_{samp\text{-}GPS}[chan, i] = (t_{ScanStart\text{-}GMI} - t_{1Hz\text{-}GMI}) + t_{1Hz\text{-}GPS} + t_{samp}[chan, i] \tag{10}$$

where $t_{samp}[chan, i]$ is defined in Eq. (8).

5.5 Transforming Antenna Pattern Data from the Spin Axis Coordinate System, Rotational Side to GICS

All beam pointing angles given in Section 6.3 are reported in the Spin Axis Coordinate System - Rotational Side (SACS-R). Expressing the beam patterns, or the boresight direction, in terms of GICS involves two rotations. The first is the instrument rotation angle about the spin axis to transform from the SACS-R in to the SACS-S. The second rotation is from the SACS-S to the GICS.

Beam pointing data is translated from off-nadir angle/azimuth angles given in Section 6.3 to Cartesian coordinates using the following equation

$$\mathbf{r}_{SACS-R} = \cos\phi_{AZ} \sin\theta_{ONA}\hat{\mathbf{x}} + \sin\phi_{AZ} \sin\theta_{ONA}\hat{\mathbf{y}} - \cos\theta_{ONA}\hat{\mathbf{z}} \tag{12}$$

where $\mathbf{r}_{SACS-R}$ is the beam pointing unit vector in SACS-R, ϕ_{AZ} is the beam pointing azimuth angle, and θ_{ONA} is the beam pointing off-nadir angle.

The Cartesian field coordinates of the antenna patterns, coordinate vectors, and beam pointing vectors, in GICS are expressed as

$$\mathbf{E}_{GICS} = \mathbf{E}_{SACS-R} R_{SACS-R->SACS-S} R_{SACS-S->GICS} \tag{13a}$$

$$\mathbf{r}_{GICS} = \mathbf{r}_{SACS-R} R_{SACS-R->SACS-S} R_{SACS-S->GICS} \tag{13b}$$

$$\mathbf{v}_{GICS} = \mathbf{v}_{SACS-R} R_{SACS-R->SACS-S} R_{SACS-S->GICS} \tag{13c}$$

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where the rotation matrix $R_{SACS-R->SACS-S}$ is defined as

$$R_{SACS-R->SACS-S} = \begin{bmatrix} \cos\phi[chan,i] & \sin\phi[chan,i] & 0 \\ -\sin\phi[chan,i] & \cos\phi[chan,i] & 0 \\ 0 & 0 & 1 \end{bmatrix} \tag{14}$$

and $R_{SACS-S->GICS}$ is given in Appendix C. The term $\phi[freq,i]$ is the rotation angle of the instrument, defined in Eq. (9) as the angle between the front (+X) face of the ISS cube and the front face of the Instrument Bay Assembly (IBA) cube (also referred to as the Instrument Bay Structure, IBS cube). The angle $\phi[chan,i]$=0 when the antenna is pointing toward the center of the earth field of view. Positive $\phi[chan,i]$ indicates a counter-clockwise rotation of the antenna. Negative $\phi[chan,i]$ indicates a clock-wise rotation of the antenna.

5.6 Transforming Antenna Pattern Data from the Spin Axis Coordinate System to Local Beam Coordinate Systems

Another useful transformation is to translate the antenna pattern data in the Local Beam Coordinate System (LBCS). The local beam coordinate system +Z axis points in the direction of a specific channel's boresight and the coordinate axes are defined by v-pol (+Y) and h-pol (+X) directions and the main beam pointing vector **r** as shown in Figure 9.

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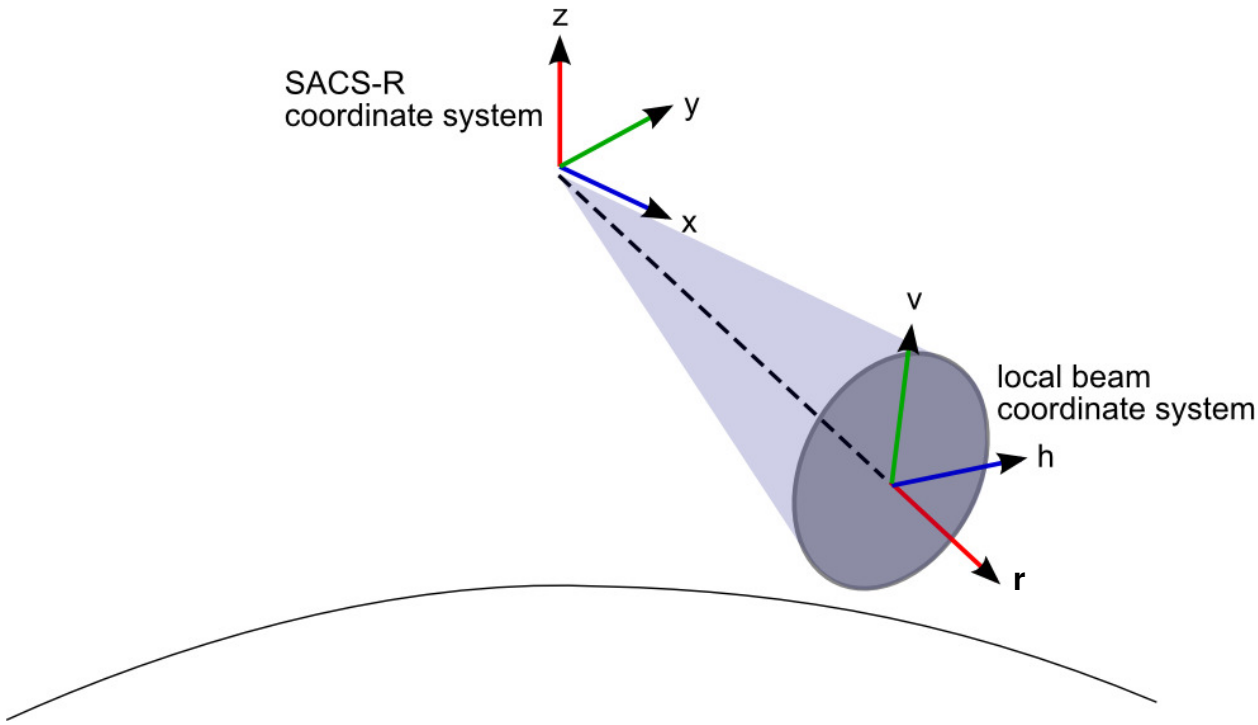

Figure 9. Local Beam Coordinate System Definition.

The rotation matrix relating the SACS-R to the local beam coordinate system is defined as follows:

$$R_{SACS-R->LBCS} = R_z(\phi_{AZ})R_y(180° - \theta_{ONA})R_z(90°) \tag{15}$$

where R_z and R_y are rotation matrices defined in Section 5.7. The electric field vectors, pointing vectors, and coordinate vectors in LBCS are given by

$$\mathbf{E}_{LBCS} = \mathbf{E}_{SACS-R}R_{SACS-R->LBCS} \tag{16a}$$

$$\mathbf{r}_{LBCS} = \mathbf{r}_{SACS-R}R_{SACS-R->LBCS} \tag{16b}$$

$$\mathbf{v}_{LBCS} = \mathbf{v}_{SACS-R}R_{SACS-R->LBCS}. \tag{16c}$$

5.7 Critical Secondary Coordinate Systems and Transforms

The GMI contains various alignment features that allow for determining the location of primary instrument coordinate systems with simple laser tracker or theodolite measurements. These secondary coordinate systems are listed below:

1. Main Reflector Secondary Coordinate System (MRSCS) – The MRSCS is defined by the three sphere mounted retro-reflectors (SMRs) on the main reflector, which are used as

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laser tracker targets on the rotating top deck of the instrument. The origin is located at MR SMR 1 (the lower SMR). The +Z axis is orthogonal to the plane formed by the three SMRs, pointing downward. The +Y axis points from SMR 3 to SMR 2. (See Figure 10)

2. Instrument Bay Assembly Secondary Coordinate System (IBASCS) – The IBASCS is defined by three SMRs on the top deck. The origin of the IBASCS is at the center of the retro on the +Y side. The plane defined by the three retro-reflectors give the "Z" axis. The "Y" axis is defined by the line between the "-Y" SMR and the "+Y" SMR.
3. Instrument Bay Assembly Cube Coordinate System, Deployed Orientation (IBACCS-D) – The IBACCS-D is formed by the faces of the IBA (i.e. IBS) cube. It is located on the rotational side, and is intended to approximately line up with GICS when the instrument bay is rotated in the center of the earth-view (deployed, and 180 degrees from stowed).
4. Instrument Support Structure Cube Coordinate System (ISSCCS) – The ISSCCS is defined by the faces of the ISS cube, and is exactly in line with the axes of GICS.

The various secondary coordinate systems are shown in Figure 10. The measured relationships between various primary and secondary coordinate systems on the GMI are given in Appendix C.

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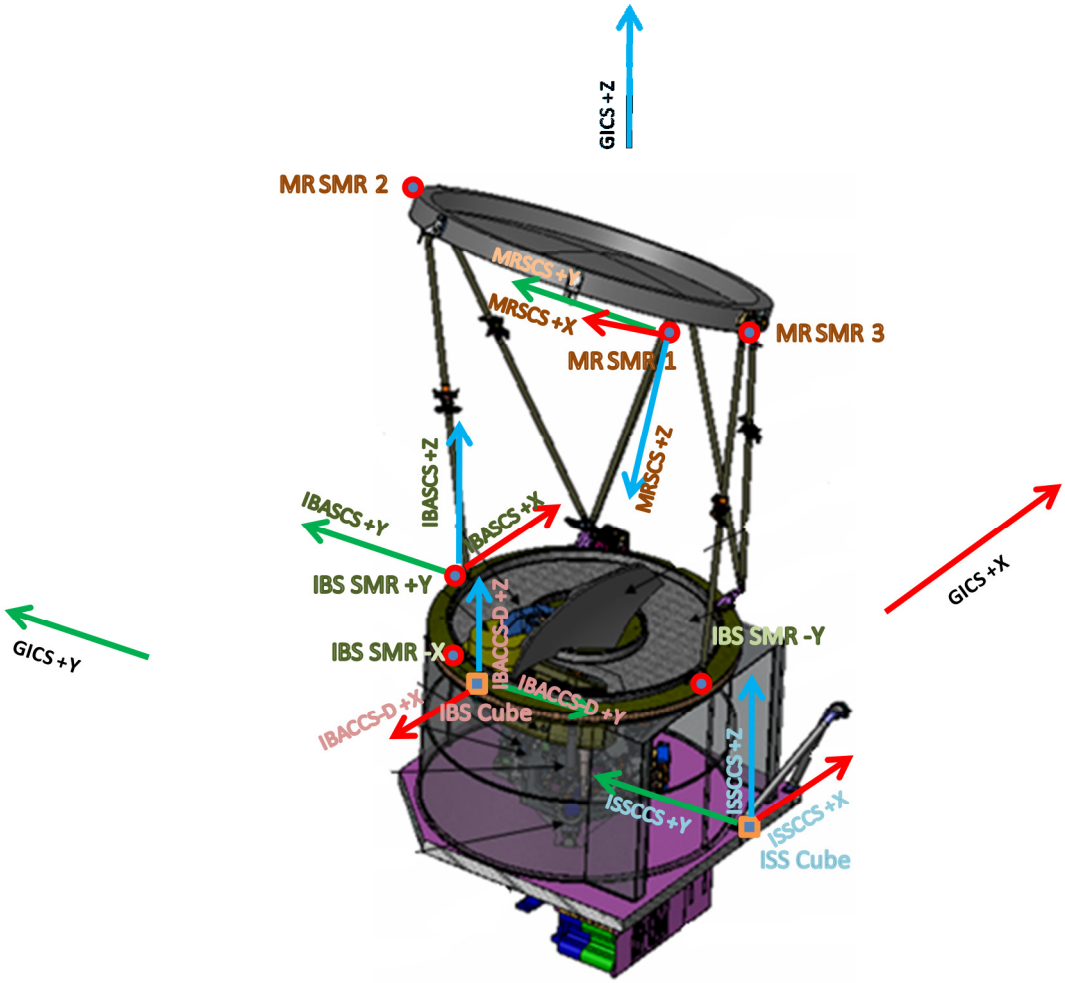

Figure 10. Relationship between various GMI secondary coordinate systems.

The measured relationship between the two coordinate systems, known as a "transform" is defined by a translational vector from one coordinate system to the next, and a rotation of coordinate axes. The starting coordinate system is called the "original frame," which we label as "frame *A*", and the resultant coordinate system is the "referred frame," which we label as "frame *B*". The translation $\vec{v}_{A->B} = [\Delta x_{A->B} \quad \Delta y_{A->B} \quad \Delta z_{A->B}]^T$ is defined in the original frame's coordinates.

For our application, the rotations are defined about the original coordinate system's "Z" axis, followed by a rotation about the resulting intermediate coordinate system's "Y" axis, followed by the final coordinate system's "X" axis. The three rotation angles are written as (θ_x, θ_y, θ_z). The transform is illustrated in Figure 11.

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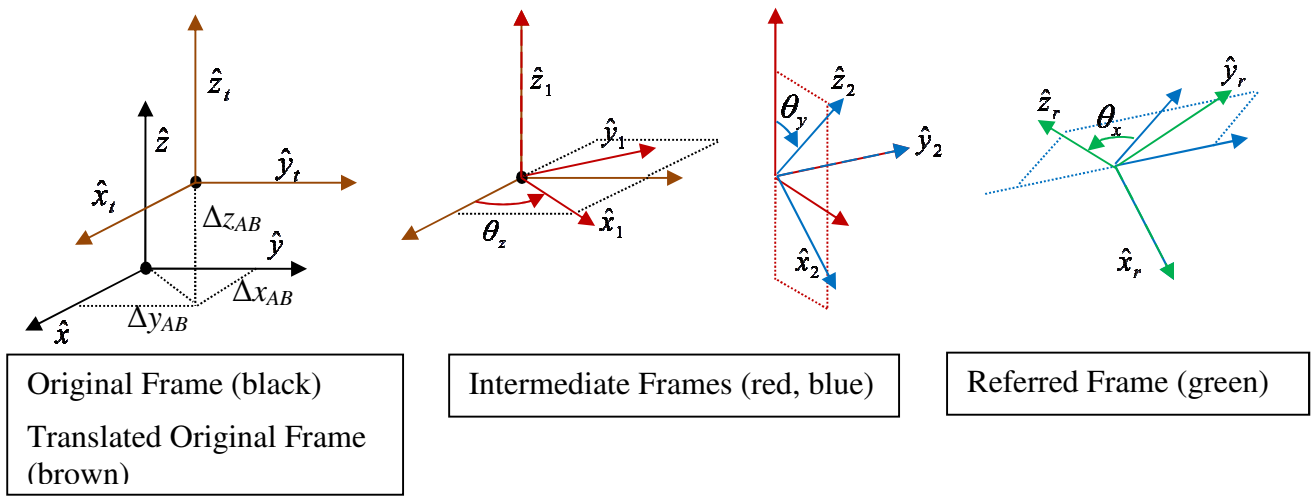

Figure 11. Coordinate frame transform illustration.

The rotation matrix that may be used to map from one frame to another is formed by combining the three rotation matrices for each coordinate axis in succession as follows,

$$R_{A->B} = R_z(\theta_z)R_y(\theta_y)R_x(\theta_x) \tag{17}$$

where

$$R_x(\theta_x) = \begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos\theta_x & -\sin\theta_x \\ 0 & \sin\theta_x & \cos\theta_x \end{bmatrix}, \tag{18a}$$

$$R_y(\theta_y) = \begin{bmatrix} \cos\theta_y & 0 & \sin\theta_y \\ 0 & 1 & 0 \\ -\sin\theta_y & 0 & \cos\theta_y \end{bmatrix}, \tag{18b}$$

$$R_z(\theta_z) = \begin{bmatrix} \cos\theta_z & -\sin\theta_z & 0 \\ \sin\theta_z & \cos\theta_z & 0 \\ 0 & 0 & 1 \end{bmatrix}. \tag{18c}$$

Two coordinate transforms may be combined in succession to create a composite transform. Let $R_{A->B}$ represent the rotational transform from frame A to frame B. Also, let $R_{B->C}$ be the

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transform from frame *B* to frame *C*. The composite rotation matrix from frame *A* to frame *C* can be written as

$$R_{A->C} = R_{A->B} R_{B->C} \,. \tag{19a}$$

For the translation portion of the transform, let $\vec{v}_{A->B} = [\Delta x_{A->B} \quad \Delta y_{A->B} \quad \Delta z_{A->B}]^T$ be the translation from frame *A* to frame *B*, and let $\vec{v}_{B->C} = [\Delta x_{B->C} \quad \Delta y_{B->C} \quad \Delta z_{B->C}]^T$ be the translation from frame *B* to frame *C*. Then, the composite translation is written as,

$$\vec{v}_{A->C} = [\Delta x_{A->C} \quad \Delta y_{A->C} \quad \Delta z_{A->C}]^T = \vec{v}_{A->B} + R_{A->B}\vec{v}_{B->C} \,. \tag{19b}$$

The math given above, in concert with the measured transforms in Appendix C allows the user to transform data from any coordinate system to any other coordinate system.

5.8 Relating GICS to the mounting interface

Since the GICS is not located at the instrument mounting interface, it is important to define one more coordinate system at the mounting interface and relate it to the GICS.

The Instrument Support Structure Coordinate System (ISSCS) is located at the mounting interface of the instrument. The ISSCS nominally points in the direction of GICS, but its origin is located at the center of the SMA fitting on the bottom side of the ISS deck, in plane with the interface to the spacecraft. The ISSCS +Z axis points perpendicular to the GMI interface plane toward zenith.

The relationship between the GICS and the ISSCS is given in Appendix C.

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6. MAIN ANTENNA CHARACTERIZATION

This section describes the main antenna characterization. It includes a description of the measured all-space patterns, derived RF parameters, beam pointing, antenna pattern correction, IFOVs, and 90% energy contours.

6.1 All-space Beam Patterns

The GMI antenna patterns are characterized using a hybrid measured / simulated method. The measured near-main beam radiation distribution patterns (RDPs) are combined with simulated antenna patterns for the remainder of visible space as shown in Figure 12 (SER 2351450). For the measured near-main beam patterns, the data is measured using a near field range with the flight antenna and feed horn assembly, with flight-like struts (SER 2349971).

For the simulated portion of the patterns, both Method of Moments (MoM) and Physical Optics (PO) are used. The MoM makes no approximation to Maxwell's equations, and is best for modeling antenna pattern content well outside of the main beam. Due to the larger backlobe, the MoM is employed for 10.65 GHz through 23.8 GHz channels. For the other channels, the PO is used because the back lobes are much smaller making the higher fidelity of the MoM less critical. Also the shorter wavelengths make the MoM too computationally expensive for the higher frequencies.

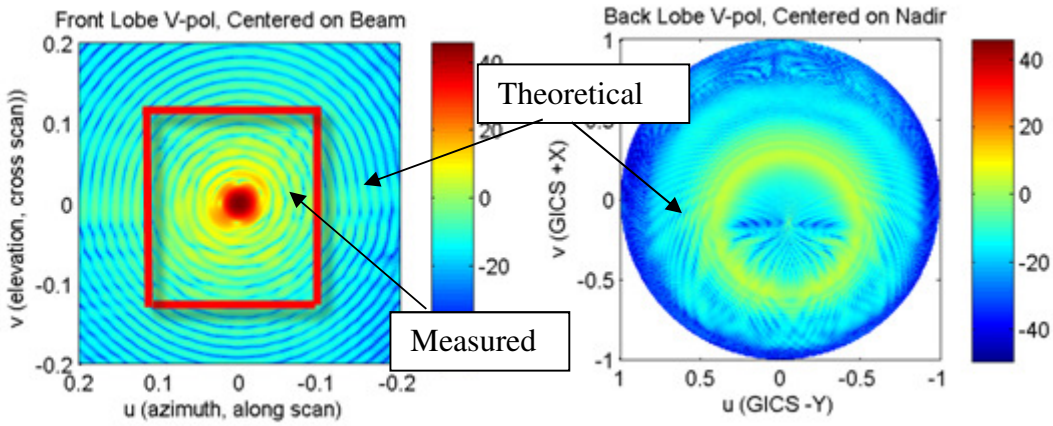

Figure 12. Measured Forward-Space Pattern and Theoretical Back-space Pattern

The models for the bands 10.65 GHz through 89 GHz include the following:

- HE_{11} mode feed aperture fields numerically fitted to measured GMI feed horn patterns
- Illumination by the feed onto the main reflector
- Illumination by the feed onto struts

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- near-field scattering of the struts onto the main reflector
- Far field aperture radiation of the feed
- Far field reflection and shadow radiation of the main reflector
- Far-field shadow radiation of the struts

The above list of effects produces:

- main beam
- reflection of strut scattering from the main reflector
- blockage of the feed by the main reflector and struts (back lobe)

No theoretical patterns are applied to 166 and 183 GHz, due to the extremely low edge taper of the main reflector for these channels. No other effects like spacecraft body or solar panel scattering was included. Far-field transformation of measured near-field scanner data was inserted into the PO-based RDPs near the main beam. The measurements were made without reference to gain, so the measurement levels were scaled so that the relative beam efficiency calculation is the same for the corresponding PO RDP.

Figure 13 through Figure 24 are plots of the combined RDPs. Figure 25 through Figure 36 are plots of the RDPs in the principle planes. The plots are shown in u/v space, which is equivalent to the hemisphere projected into a plane perpendicular to the beam direction for the top four (front lobe) plots, and into a plane perpendicular to nadir direction for the bottom two (back lobe) plots. In general, the "x" axis of the plots are the azimuthal or along-scan direction. The "y" is the elevation direction, which when projected to the earth's surface corresponds to the cross scan direction.

The all space pattern data is located in the attached .ZIP file in the subdirectory 06_MAIN_ANTENNA\AllSpacePatterns. Each of the patterns consists of six .txt files, as described below:

- phi_angles.txt – MRCS Phi angle in degrees for each sample point
- theta_angles.txt – MRCS Theta angle in degrees for each sample point
- phi_mag.txt – Antenna gain magnitude in the MRCS phi-hat direction in units of dB
- theta_mag.txt – Antenna gain magnitude in the MRCS theta-hat direction in units of dB
- phi_phase.txt – Electric field phase in the MRCS phi-hat direction in units of degrees
- theta_phase.txt – Electric field phase in the MRCS theta-hat direction in units of degrees.

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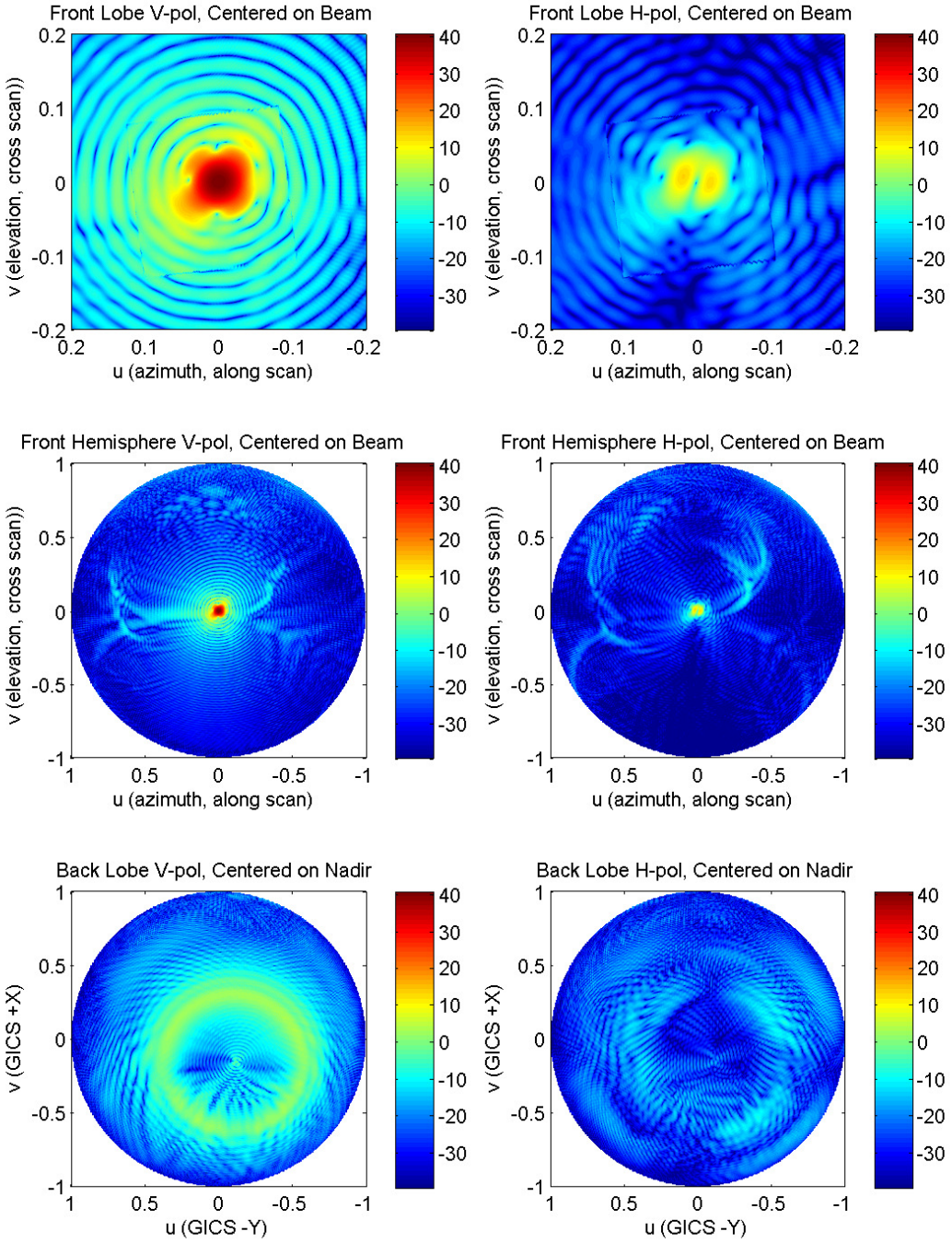

Figure 13. 10.65 GHz vpol RDP

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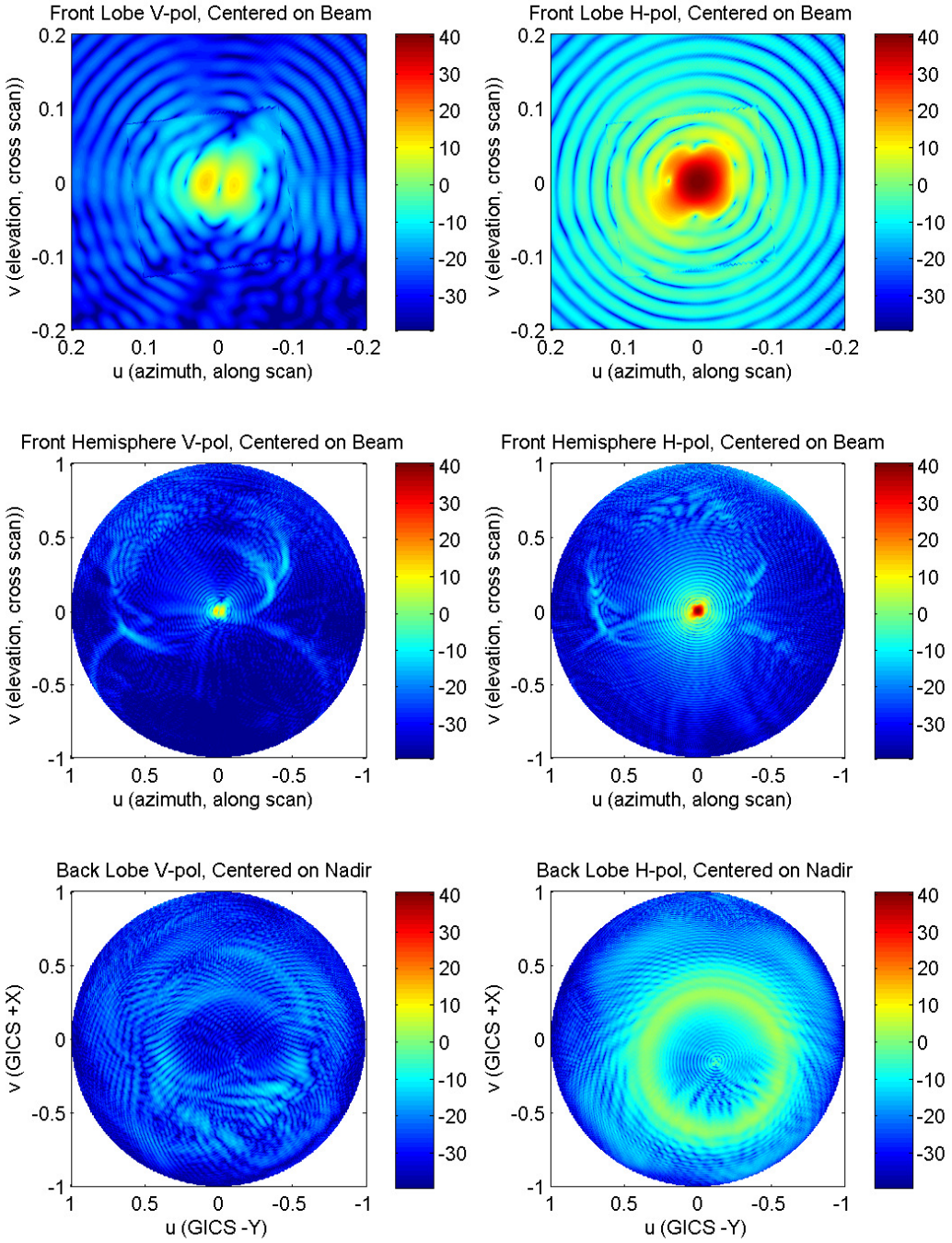

Figure 14. 10.65 GHz hpol RDP

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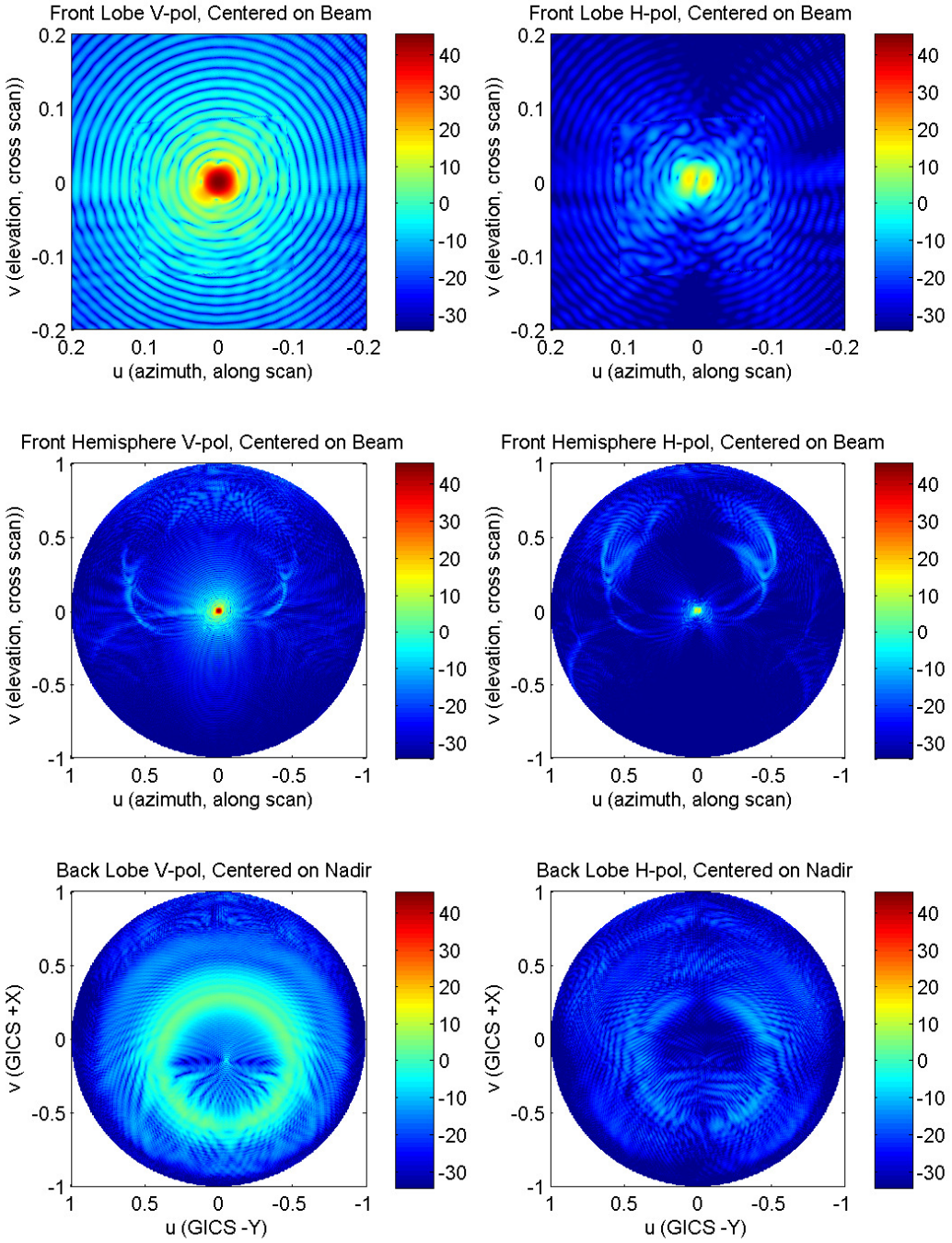

Figure 15. 18.7 GHz vpol RDP

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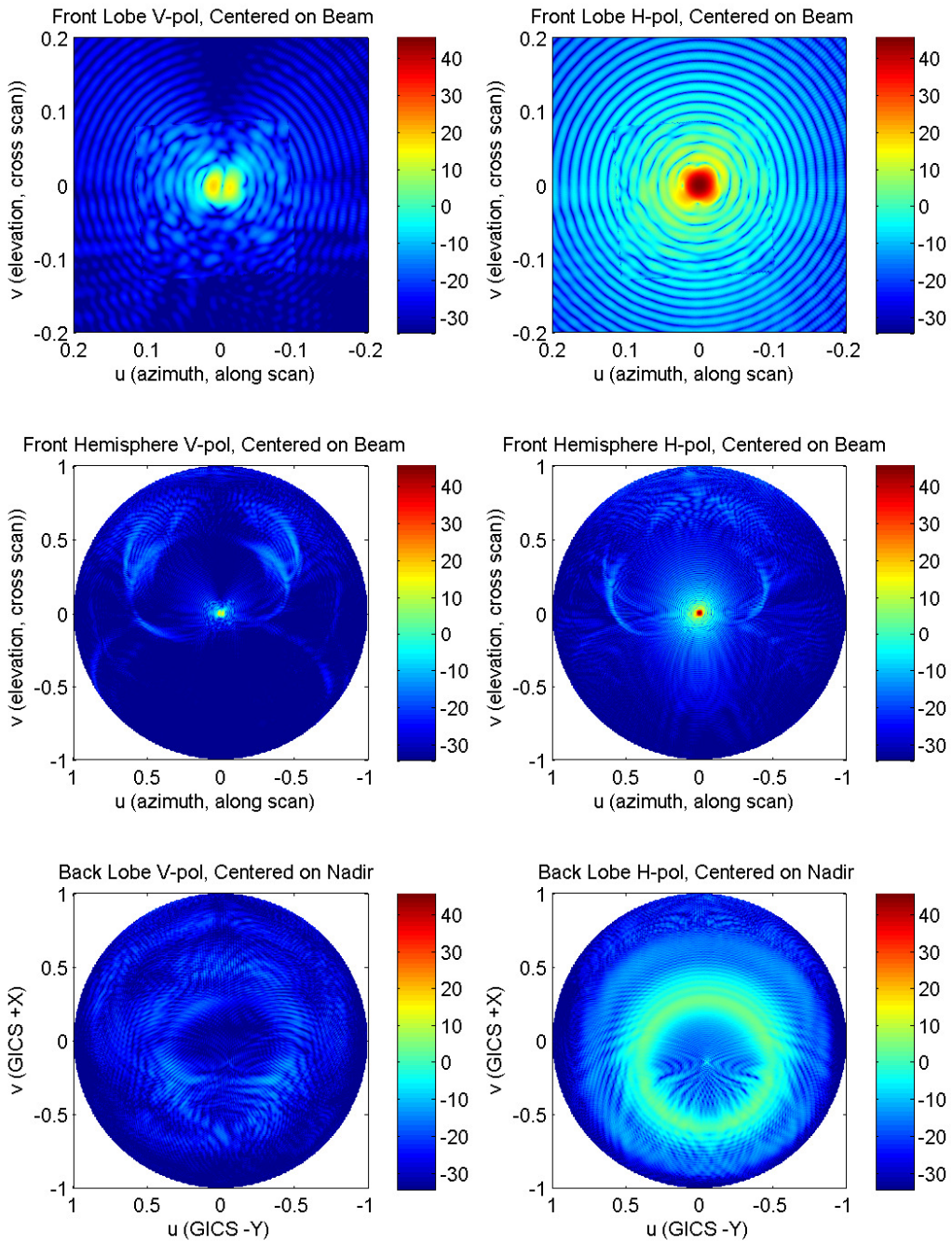

Figure 16. 18.7 GHz hpol RDP

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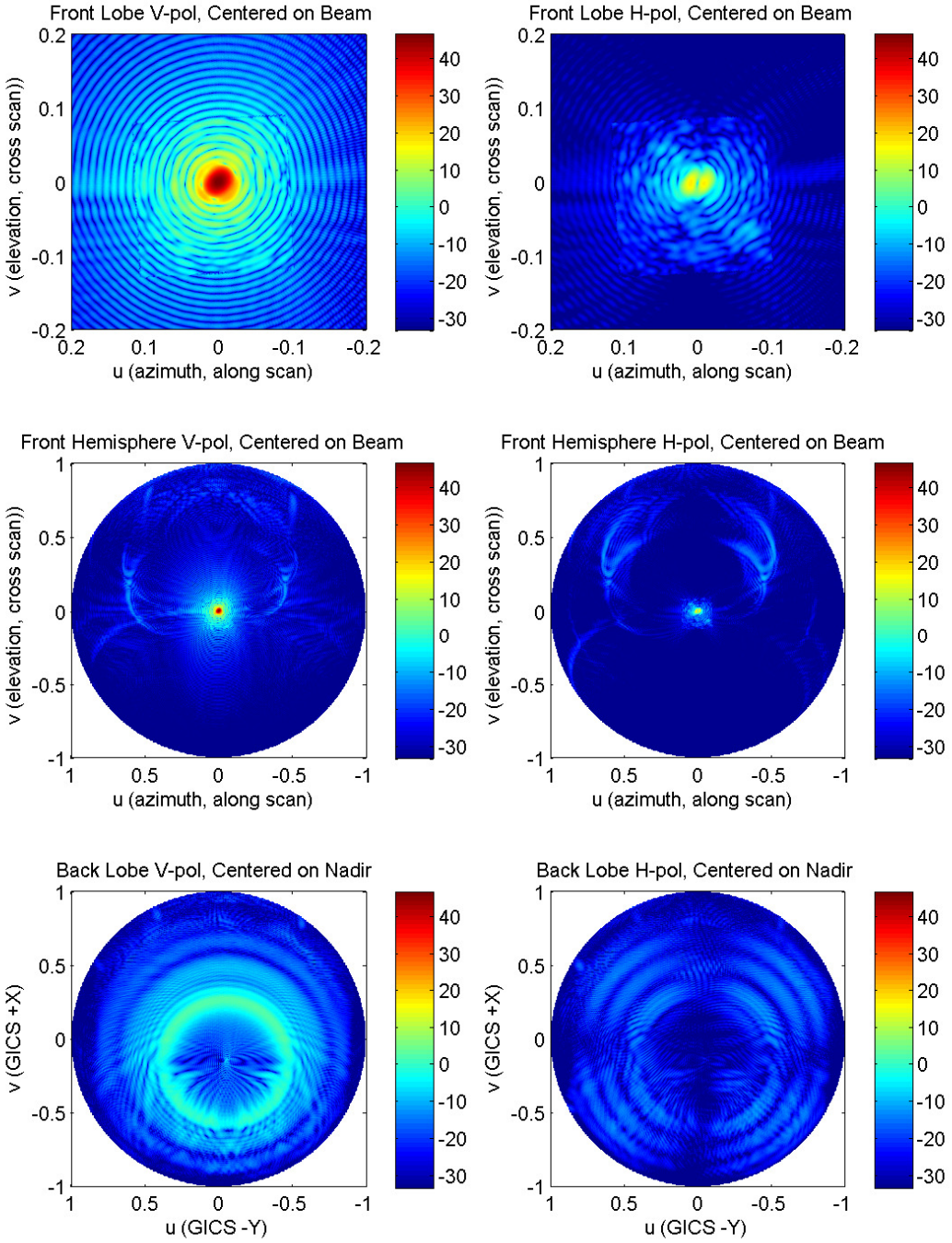

Figure 17. 23.8 GHz vpol RDP

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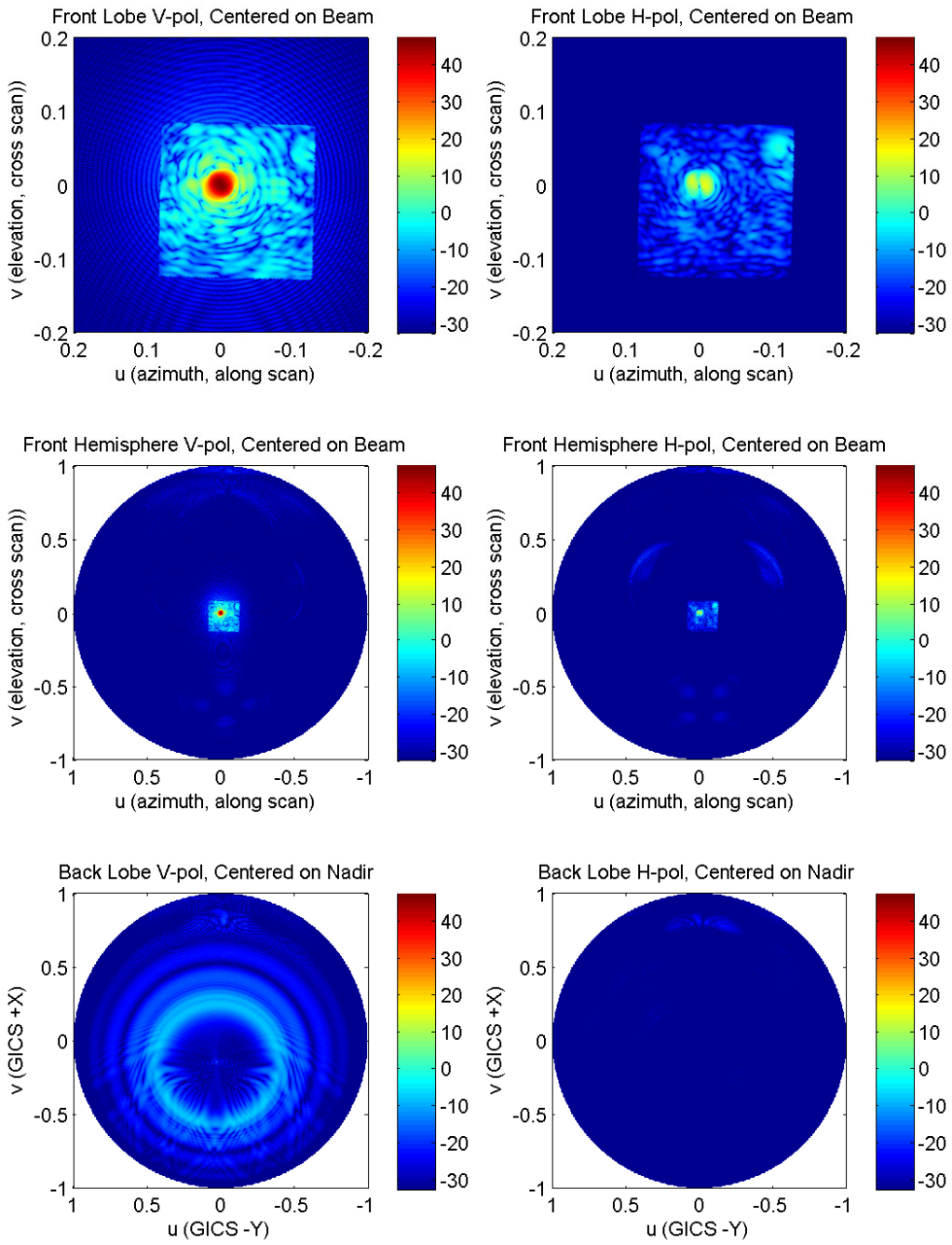

Figure 18. 36.64 GHz vpol RDP

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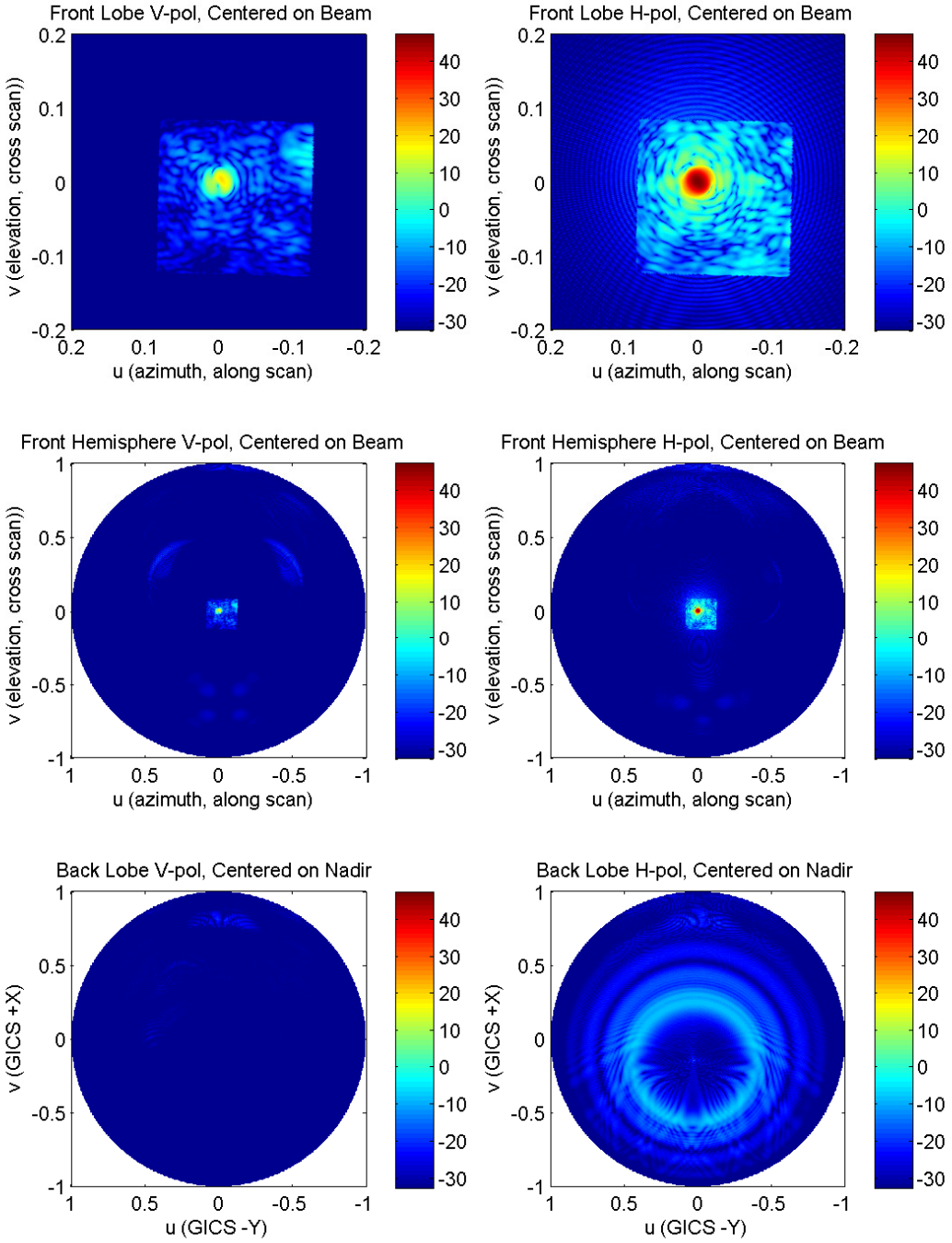

Figure 19. 36.64 GHz hpol RDP

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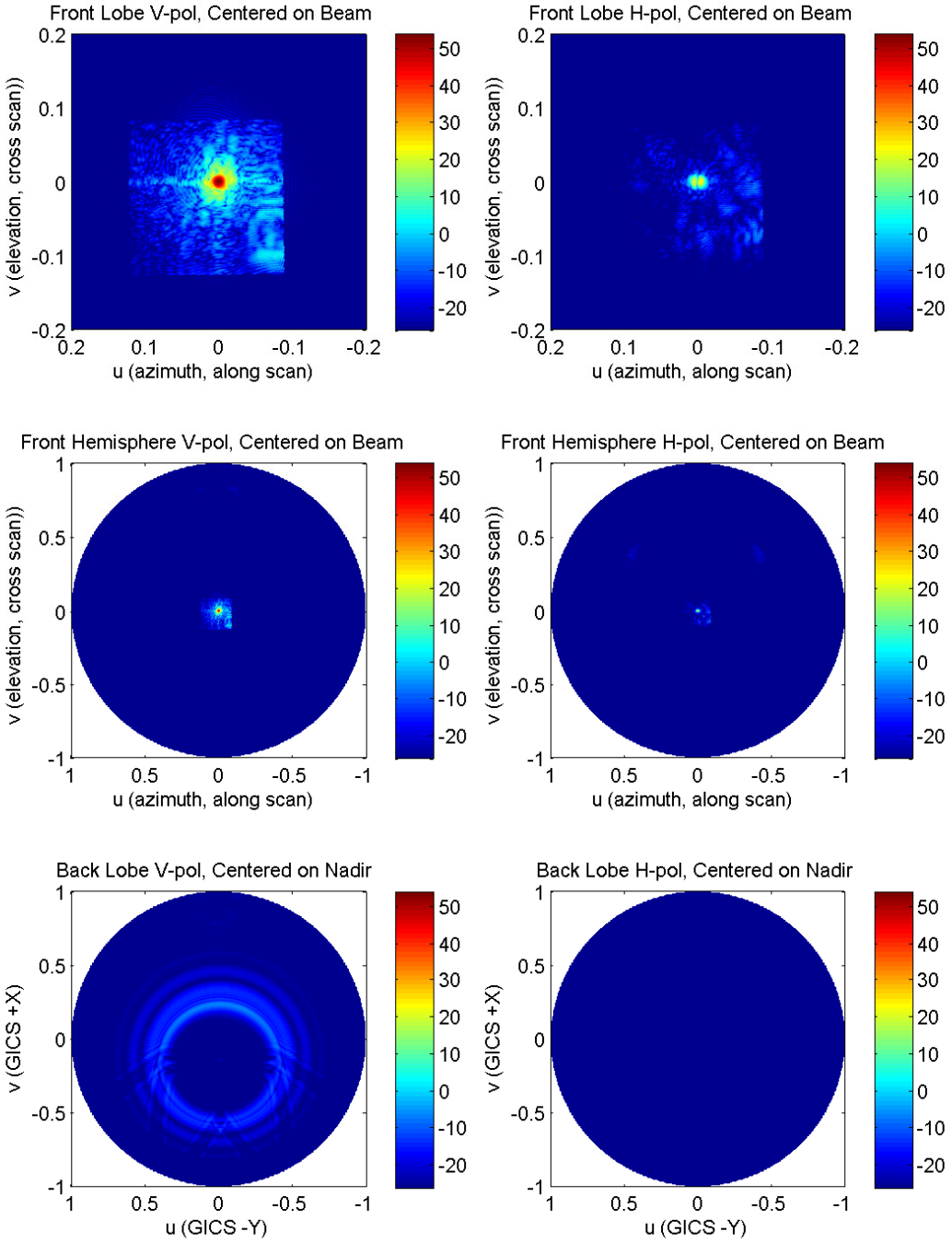

Figure 20. 89 GHz vpol RDP

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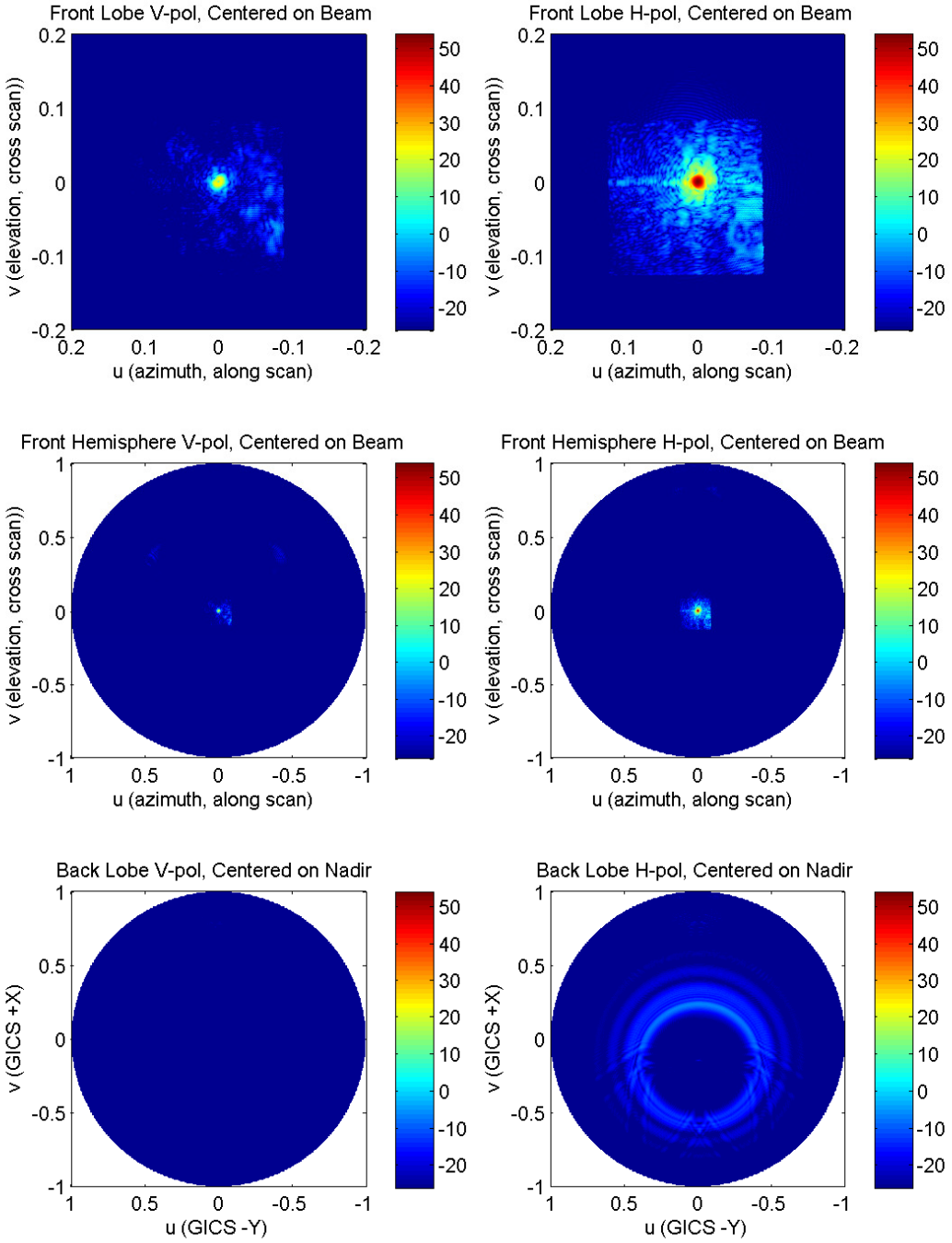

Figure 21. 89 GHz hpol RDP

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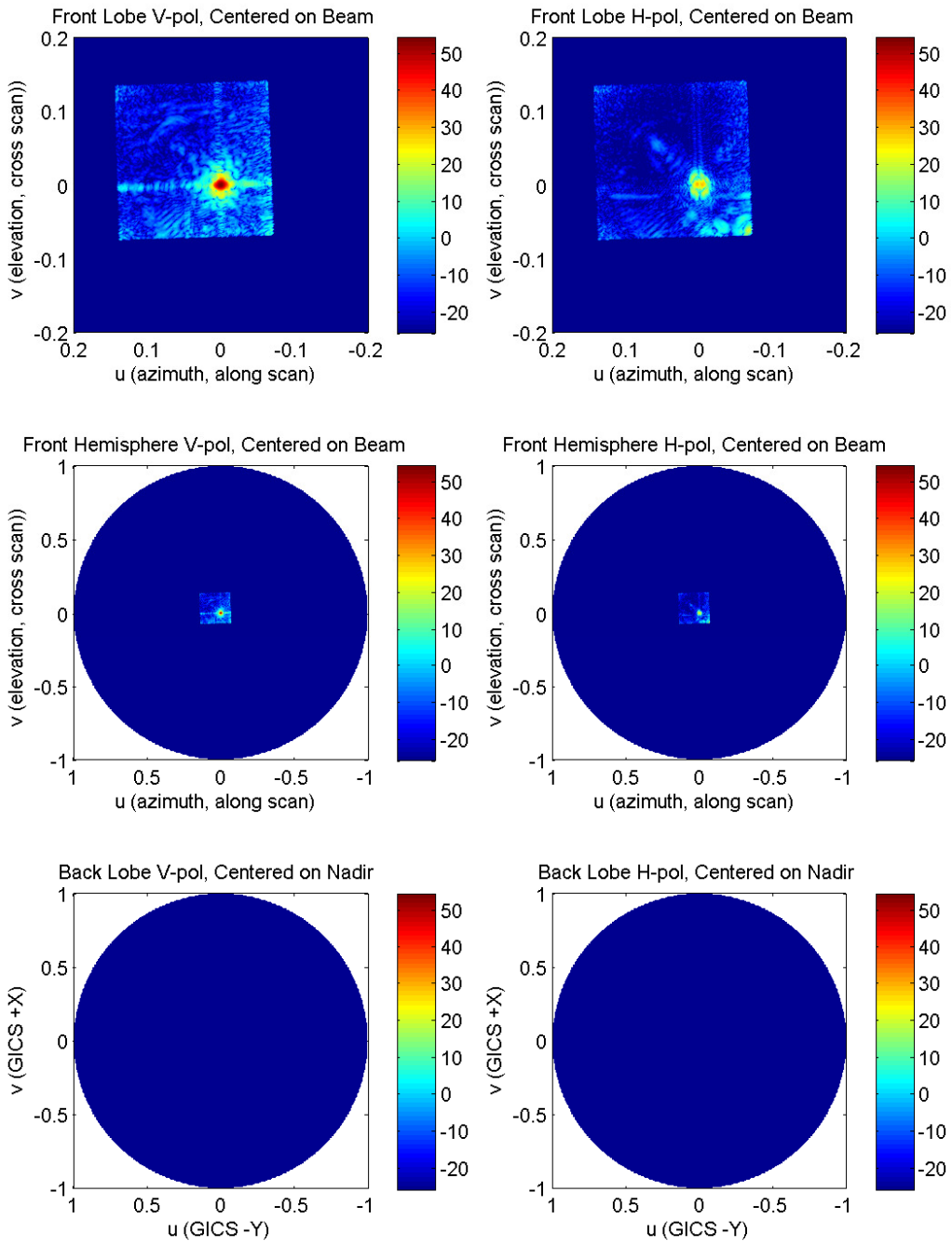

Figure 22. 166 GHz vpol RDP

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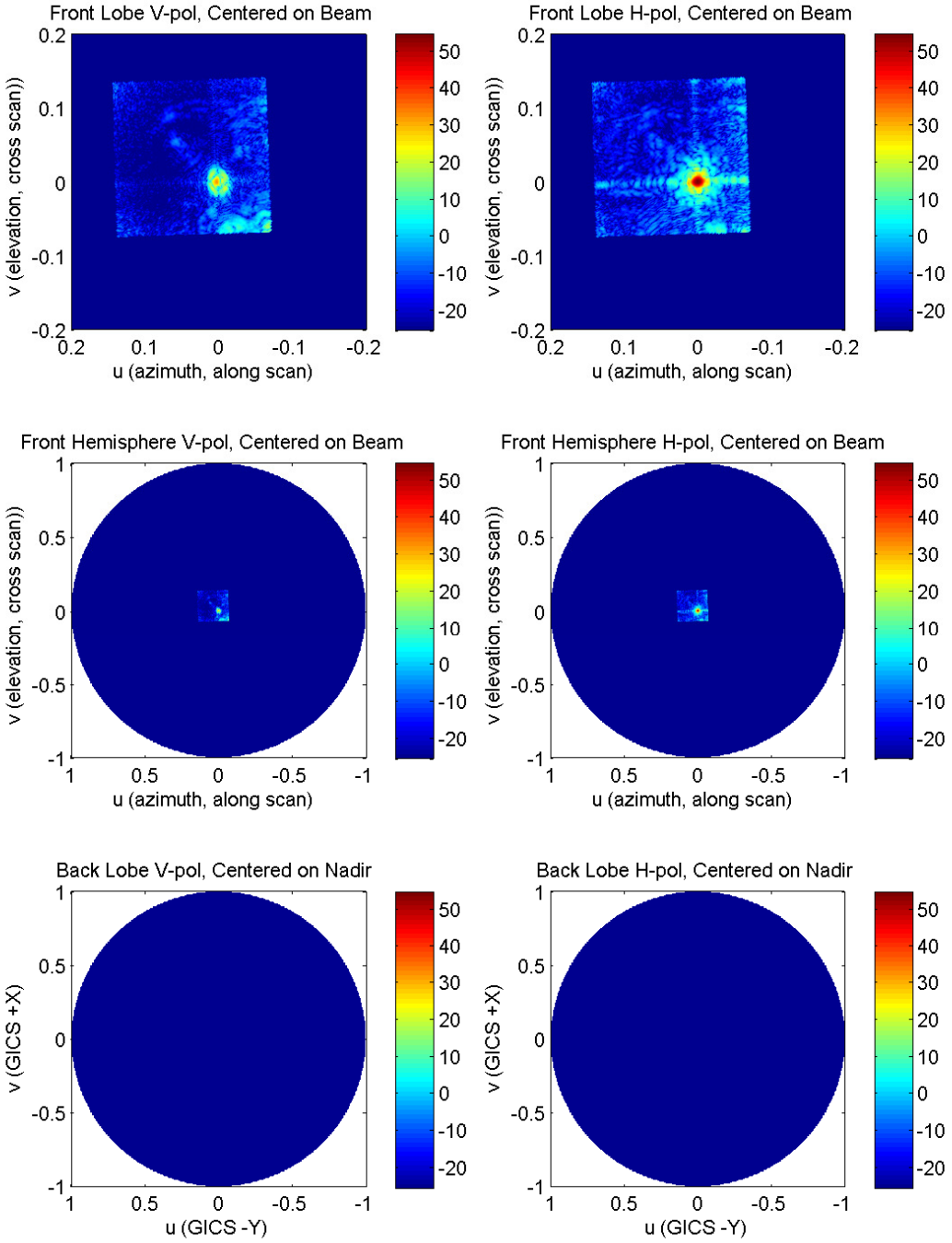

Figure 23. 166 GHz hpol RDP

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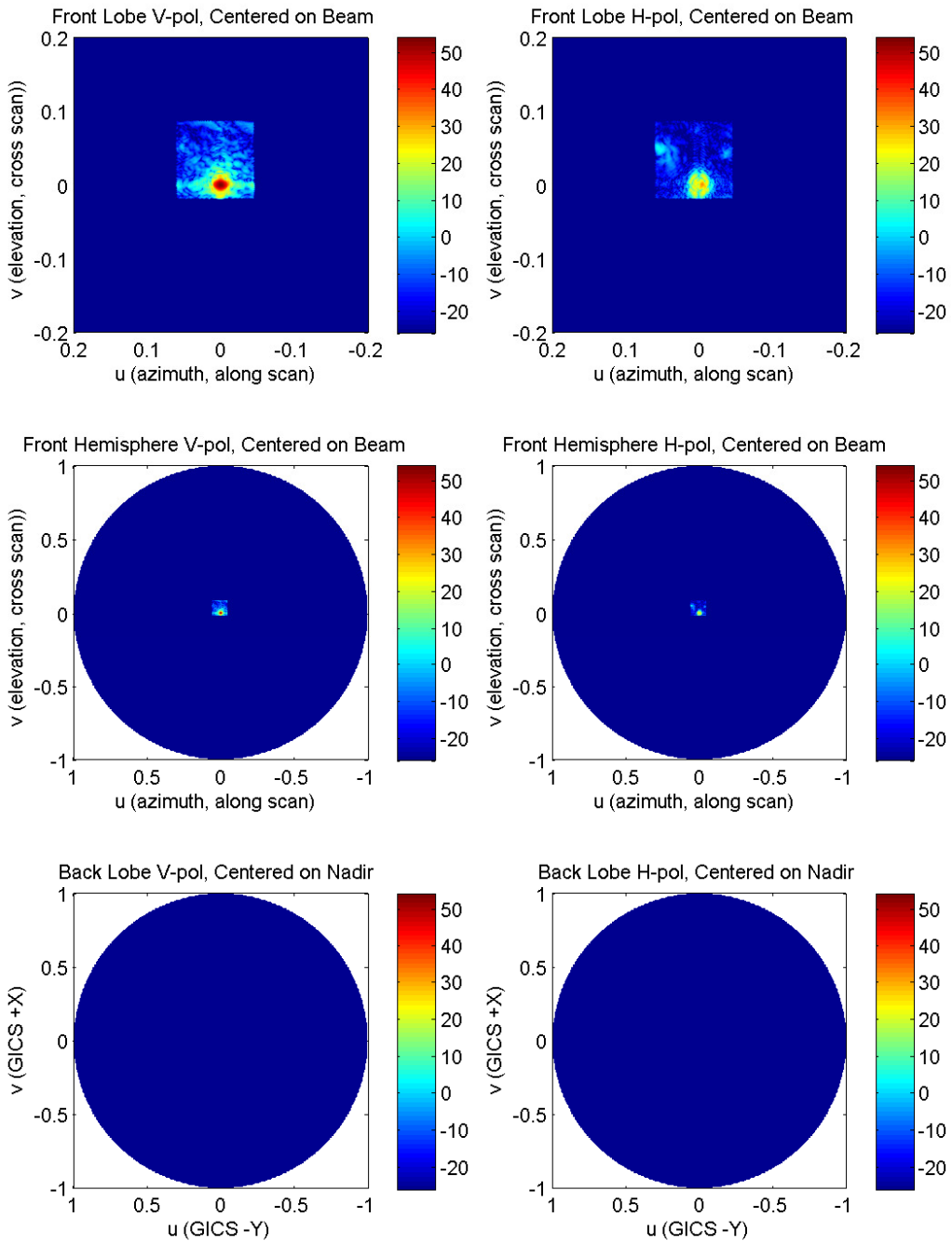

Figure 24. 183 GHz vpol RDP

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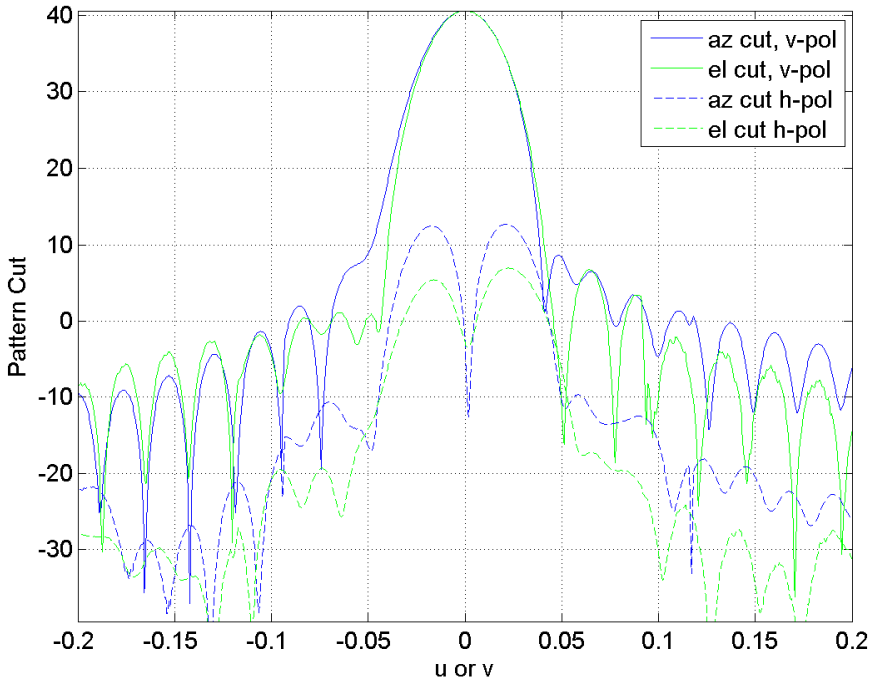

Figure 25. 10 GHz vpol RDP in the principle planes

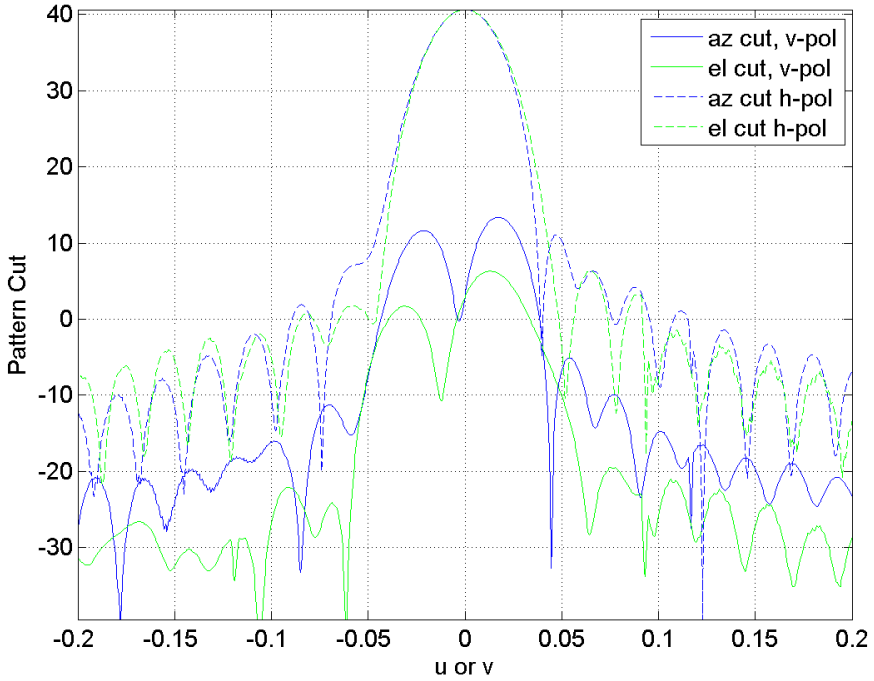

Figure 26. 10 GHz hpol RDP in the principle planes

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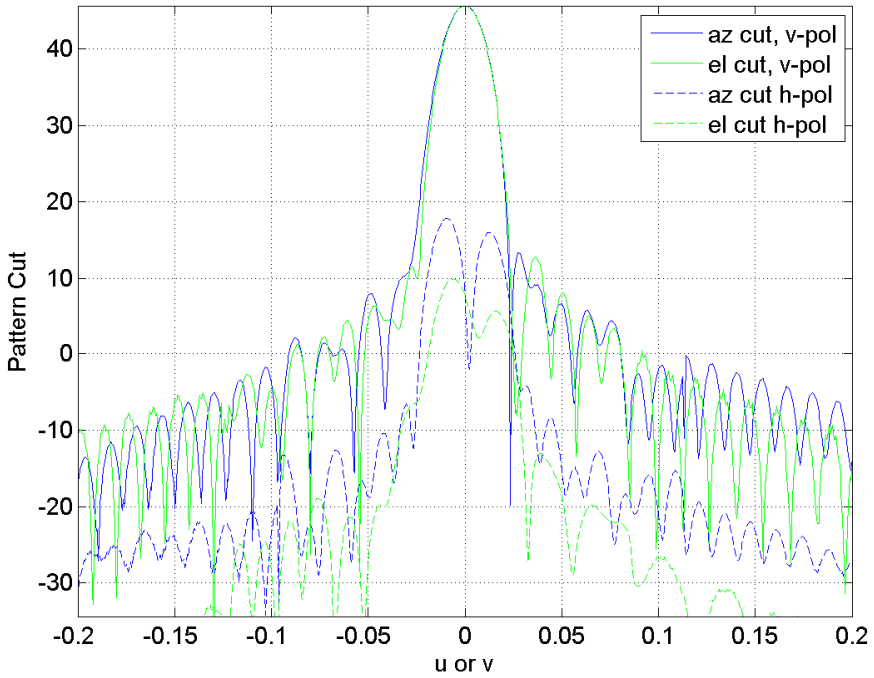

Figure 27. 18 GHz vpol RDP in the principle planes

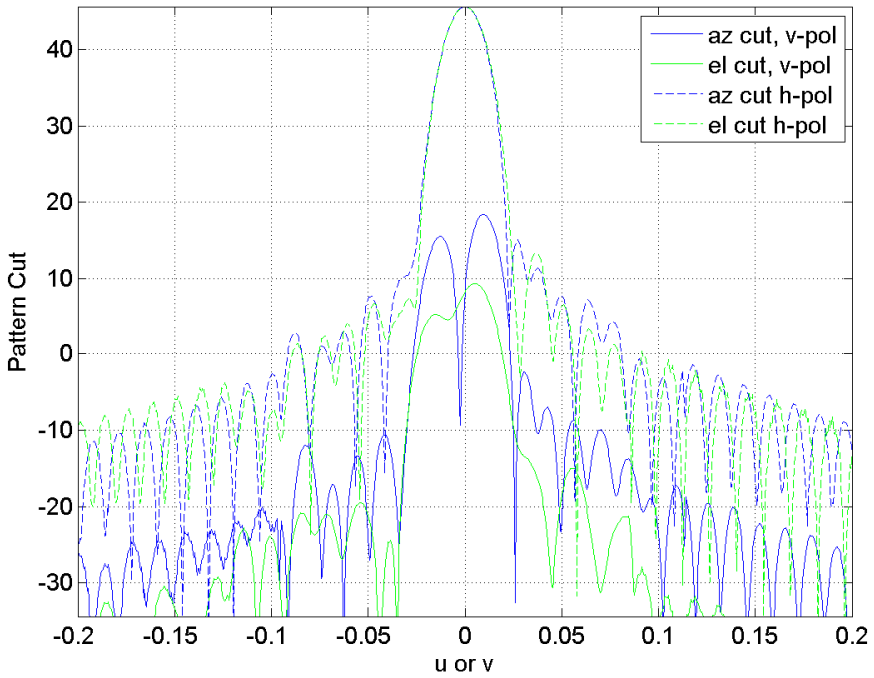

Figure 28. 18 GHz hpol RDP in the principle planes

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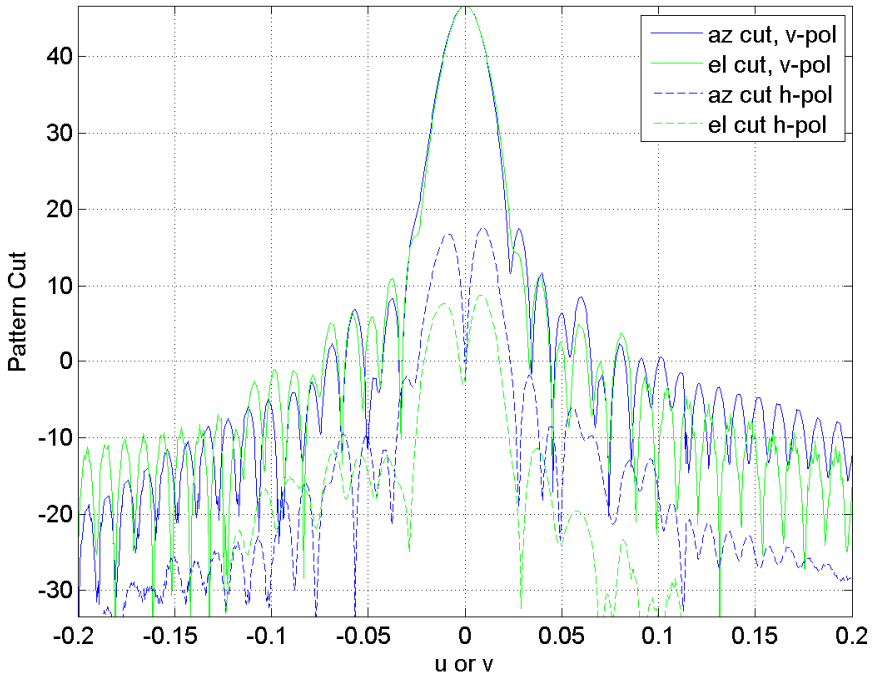

Figure 29. 23 GHz vpol RDP in the principle planes

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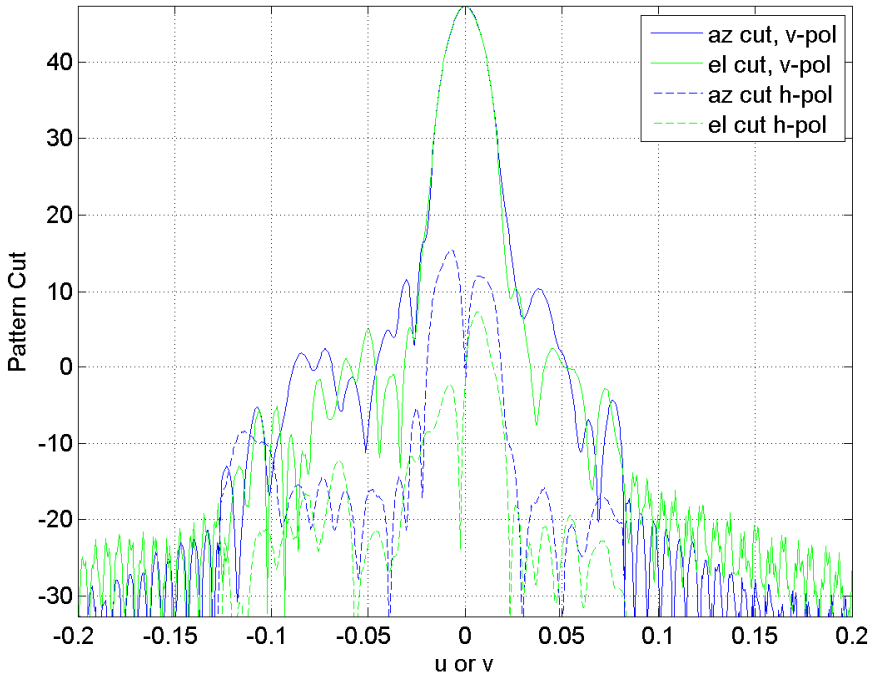

Figure 30. 36 GHz vpol RDP in the principle planes

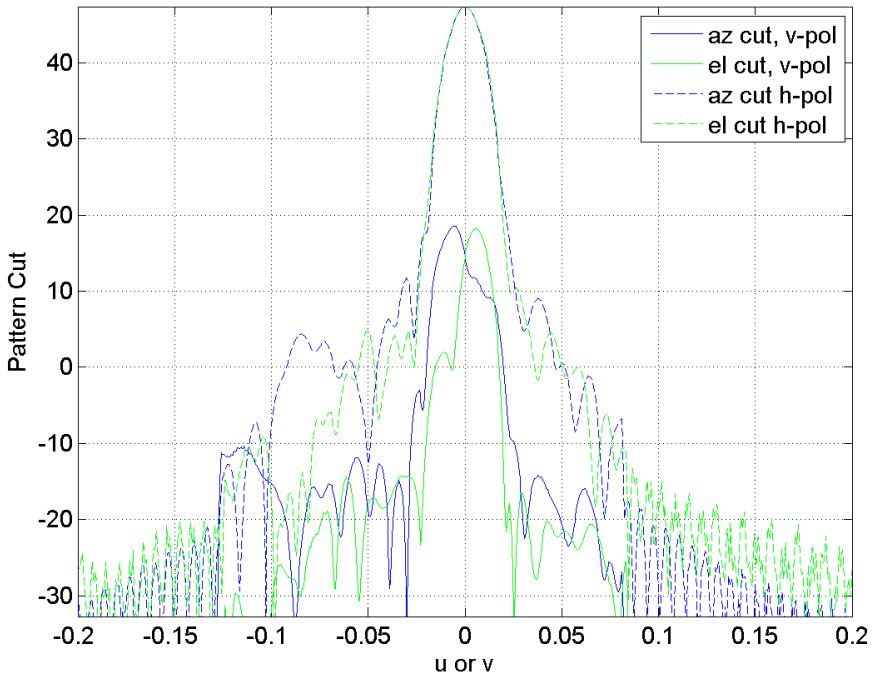

Figure 31. 36 GHz hpol RDP in the principle planes

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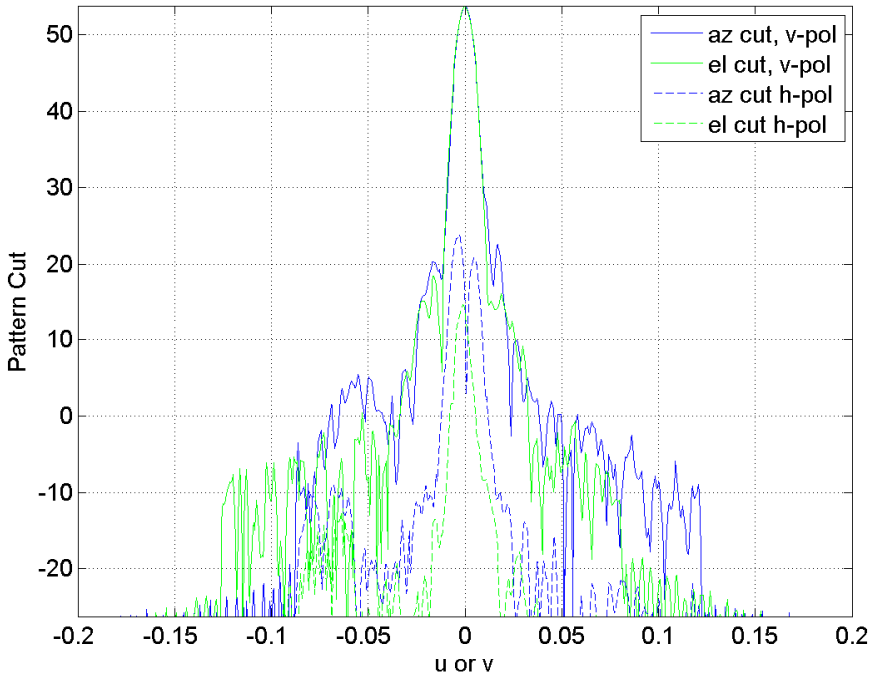

Figure 32. 89 GHz vpol RDP in the principle planes

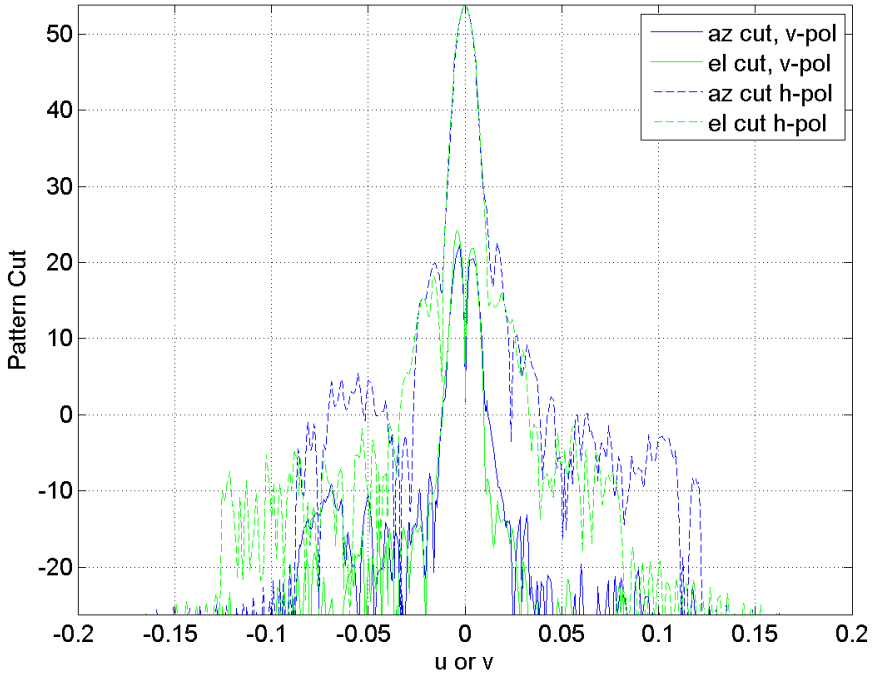

Figure 33. 89 GHz hpol RDP in the principle planes

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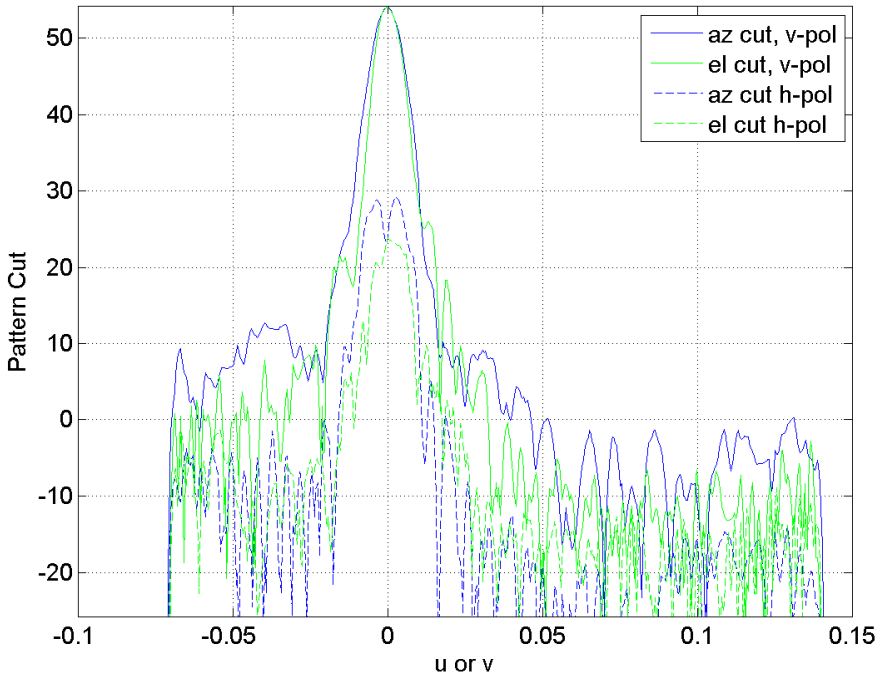

Figure 34. 166 GHz vpol RDP in the principle planes

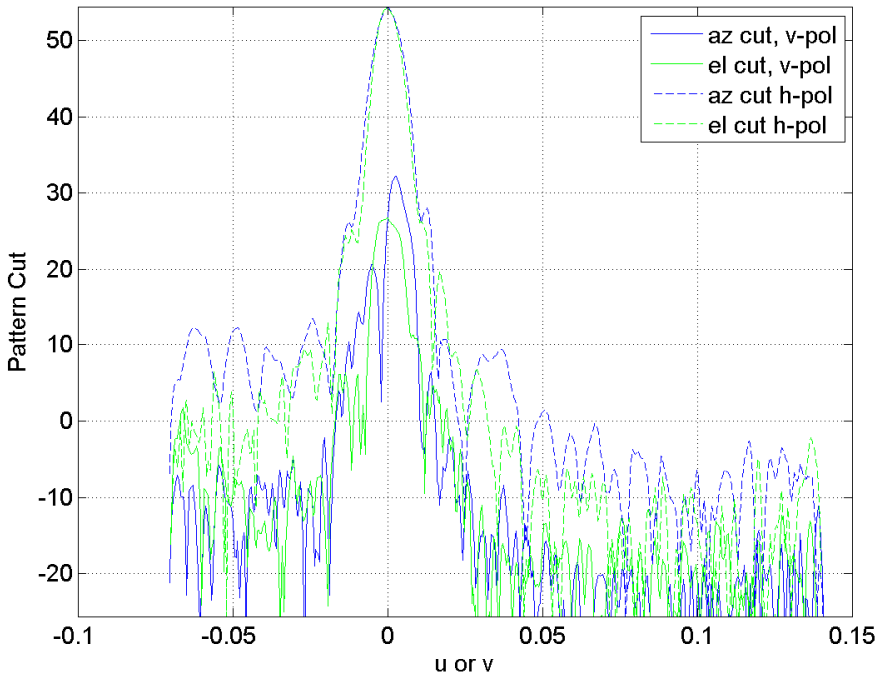

Figure 35. 166 GHz hpol RDP in the principle planes

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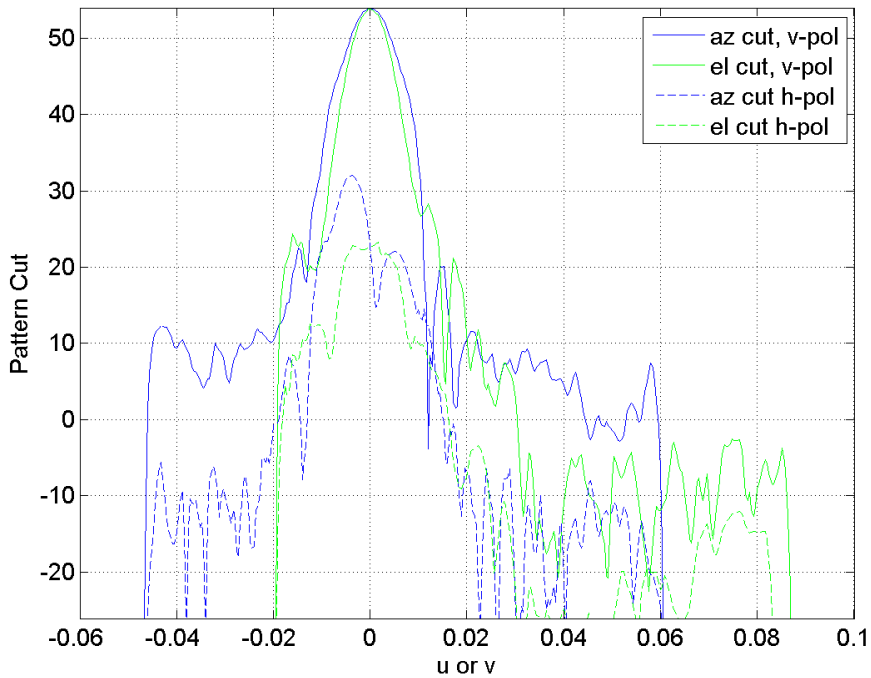

Figure 36. 183 GHz vpol RDP in the principle planes

6.2 Beam Efficiency

For a given channel, the beam efficiency is the ratio of the power of the main polarization received through the main beam diameter to the total power received by the antenna. The total power received by the antenna includes the power in the main beam as well as all the side lobes. Total power includes both the power of the main polarization and the cross-polarization. The main beam diameter is defined to be 2.5 times the half-power beam width. The beam efficiency is computed from the combined measured / theoretical patterns as describe in this section.

The method employed here is to perform very accurate measurements of the forward space radiation patterns using a planar near field scanner [1]. Theoretical all-space patterns are then used for information about the backlobe. This method is inherently accurate because a very large percentage (>90%) of the power is captured and characterized using the near field. The theoretical uncertainty in employing theoretical patterns for backlobe calculations is likely similar to or better than measurement uncertainty.

A new term called the 'forward beam efficiency' is defined as the ratio of the power contained within 2.5 half power beamwidths to the total power captured by the near field scan plane. The forward beam efficiency is calculated according to equation 1, where θ_{NF} is the extent of the forward space pattern measurements and includes the main beam, relevant sidelobes, and greater than 90% of the total radiated energy:

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$$BE_{FORWARD} = \frac{\iint_A \left[E_{copol}{}^2\right] \sin\theta d\theta d\phi}{\int_0^{2\pi} \int_0^{\theta_{NF}} \left[E_\theta{}^2 + E_\phi{}^2\right] \sin\theta d\theta d\phi} \tag{20}$$

Figure 37 shows an example a measured GMI pattern at 10 GHz. Everything shown in the figure is the measured forward region. In this case a 10° span is characterized by the planar near field. The black dotted line shows the relevant 2.5 HPBW region. It is apparent that the energy away from the main beam decreases substantially in power.

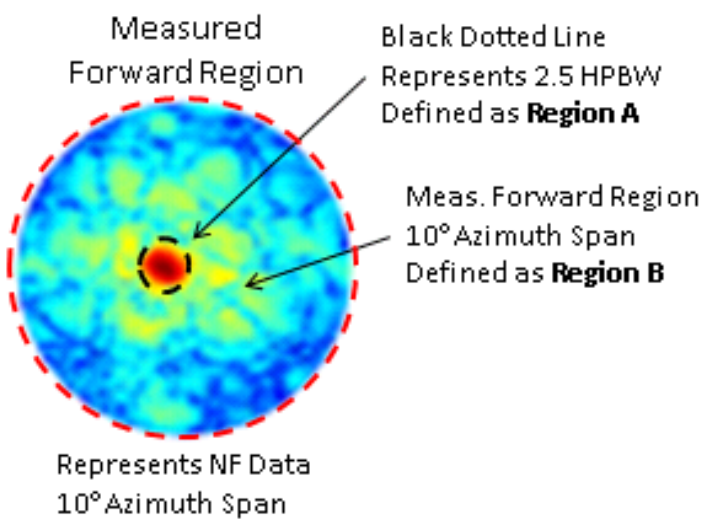

Figure 37. Forward Beam Region, 10 GHz

Figure 38 shows the theoretical all-space pattern. The red dotted line is included to represent the forward space region. It is shown that outside of the forward space region, the power is highly dissipated, up to 80 dB lower than in the forward region. The spillover lobe is evident and is the main artifact outside of the main beam.

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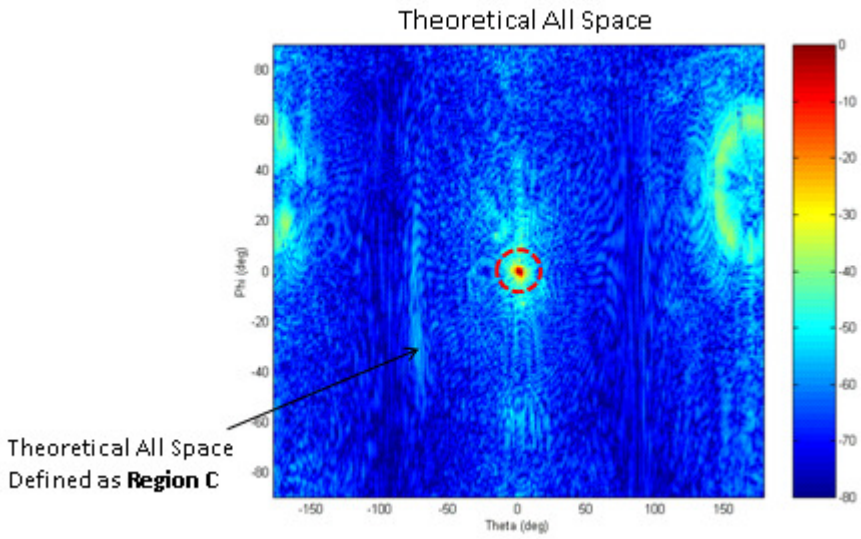

Figure 38. Theoretical All-Space Pattern with Forward Region Highlighted

The equations below show how the beam efficiency is calculated using this method. Essentially, a weighting factor is applied to the forward beam efficiency based on the theoretical all-space beam fraction.

$$BE_{FORWARD} = \frac{\text{Region A}}{\text{Region A} + \text{B}} \tag{21a}$$

$$BE = BE_{FORWARD} \frac{\text{Region A} + \text{B}}{\text{Region A} + \text{B} + \text{C}} \tag{21b}$$

We have shown that this method is not particularly sensitive to the size of region B. For more information, see SER 2343232.

The overall beam efficiency results are shown in Table 8.

Table 8. Measured Beam Efficiency, Including Theoretical All-space Backlobe

Frequency Band	Measured Foreward Beam Fraction	Theoretical Allspace Beam Factor	Uncertainty in Theo. Allspace Method	Total Beam Fraction	ANTS Requirement	Predicted (at PDR)
10.65 GHz	0.973	0.939	0.0025	0.911	0.9	0.914
18.7 GHz	0.982	0.936	0.0026	0.917	0.91	0.920
23.8 GHz	0.972	0.963	0.0015	0.935	0.92	0.925
36.5 GHz	0.990	0.995	0.0005	0.985	0.95	0.966
89.0 GHz	0.982	0.997	0.0003	0.979	0.95	0.956
166 GHz	0.978	0.9999	0.0000	0.978	0.90	0.919
183 GHz	0.964	0.9999	0.0000	0.964	0.90	0.917

* note: all quantities are given in terms of a beam fraction, multiply by 100 to convert to a percentage

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The uncertainties in the theoretical all-space method, presented in Table 8, are arrived at through separate methods according to the channel. The uncertainty for the 10.65, 18.7, and 23.8 GHz channels are derived from a detailed Method of Moments (MoM) analysis. The analysis, consists of running a full-wave all-space simulation of the reflector and cataloging all analysis uncertainties.

The uncertainty for the 36.5 through 183 GHz channels are based on a conservative analysis of previous measured data (on the CMIS program). The CMIS analysis showed a 0.002 uncertainty when using a theoretical (instead of measured) backlobe for the CMIS antenna. The CMIS antenna featured 0.017 of the power in the spillover lobe. Table 2 gives the power in the spillover lobe for the GMI antenna at different frequencies. As expected, the power is shown to decrease with increasing frequency. For the worst case analysis, the uncertainty was scaled by the relative power in the backlobe. This is conservative because many of the error mechanisms causing the uncertainty do not scale with the power in the backlobe.

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6.3 Beam Pointing and Other RF Parameters

Various RF parameters are derived from the RF beam patterns. The parameters include:

1. Beam Efficiency (see previous section)
2. Beam Width - The antenna beam width is defined as the half-power total width (the total width between two 3 dB points) for each GMI channel and is the arithmetic average of the two beam widths in the two principal planes.
3. Beam Shape – The beam shape, or ellipticity is the maximum percentage variation from the reported beam width in any plane containing the axis of maximum gain.
4. Beam Cross Polarization Isolation - The cross-polarization isolation percentage is defined to be the total cross-polarization power inside the half-power beam width divided by the total power of the antenna, expressed as a percentage. See Figure 39 below for the definition of v-polarization and h-polarization.

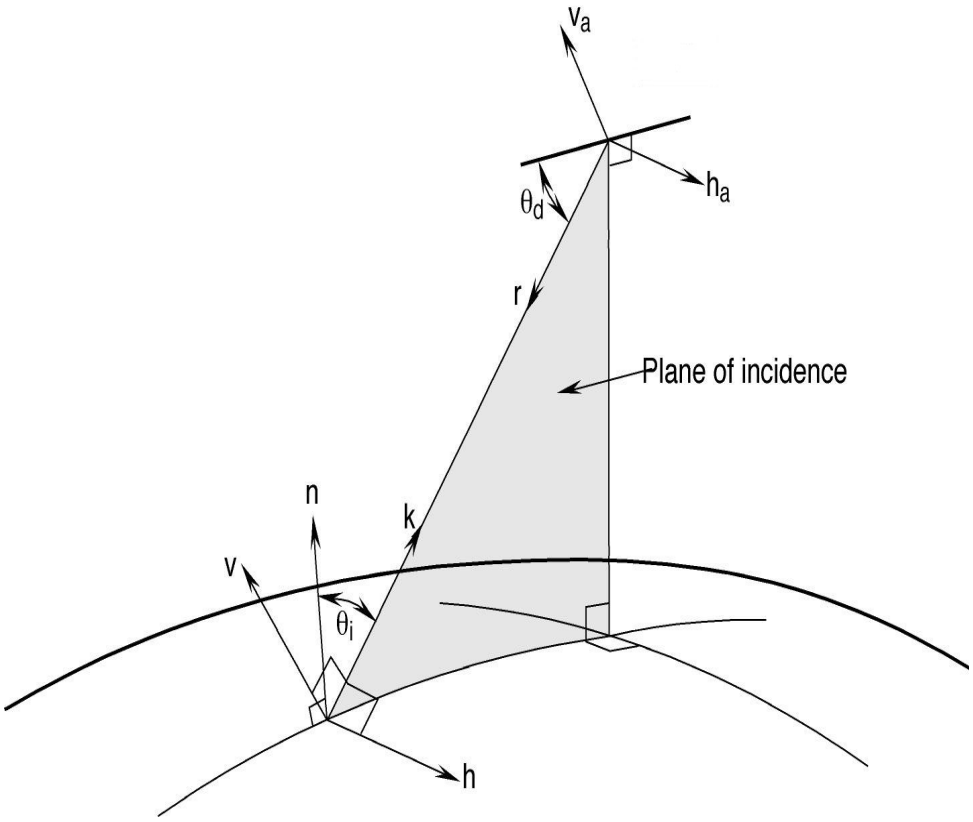

Figure 39. GMI polarization definition.

5. Off-nadir Angle – Angle from the spin axis (nominal nadir vector) to the beam pointing vector.

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6. Azimuth Angle – Angle about the spin axis from the IBS Cube front face (SACS-R +x axis) to the azimuthal direction of the beam.
7. Cross-pol Alignment – measured alignment between the ideal v-pol and h-pol vectors, and the antenna v-pol and h-pol.

The measured RF-parameters for the GMI antenna are given in Table 9 through Table 15 and repeated in Appendix E.

Table 9. Key ANTS Requirements Verification, 10.65 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.911	0.0016	0.0021	0.9078	>.90	>.90
	Hpol	0.911			0.9077	>.90	>.90
Beamwidth (°)	Vpol	1.721	0.0062	0.0011	1.7134 : 1.7280	0.75 : 1.75	< 1.75
	Hpol	1.717			1.7096 : 1.7242	0.75 : 1.75	< 1.75
Beam Shape (%)	Vpol	4.257	0.7300	0.3774	5.365	< 15	< 15
	Hpol	4.138			5.245	<15	<15
Beam Cross-Pol (%)***	Vpol	0.037	0.0073	0.0090	0.053	<1.0	<1.0
	Hpol	0.037			0.053	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.432	N/A *	N/A *	48.432	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.423			48.423	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-9.717	N/A *	N/A *	-9.717	N/A	N/A
	Hpol	-9.716			-9.716		
Cross-Pol Alignment (°)***	Vpol	0.180	0.050	0.088	0.042 : 0.318	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.205			-0.343 : -0.067	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

Table 10. Key ANTS Requirements Verification, 18.7 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.917	0.0016	0.0031	0.9119	>.91	>.90
	Hpol	0.916			0.9117	>.91	>.90
Beamwidth (°)	Vpol	0.975	0.0030	0.0010	0.9710 : 0.9790	0.75 : 1.0	< 1.0
	Hpol	0.975			0.9712 : 0.9792	0.75 : 1.0	< 1.0
Beam Shape (%)	Vpol	2.216	0.7300	0.2295	3.175	< 15	< 15
	Hpol	1.990			2.950	<15	<15
Beam Cross-Pol (%)***	Vpol	0.036	0.0073	0.0089	0.052	<1.0	<1.0
	Hpol	0.037			0.053	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.444	N/A *	N/A *	48.444	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.438			48.438	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-4.091	N/A *	N/A *	-4.091	N/A	N/A
	Hpol	-4.093			-4.093		
Cross-Pol Alignment (°)***	Vpol	0.225	0.050	0.088	0.087 : 0.363	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.015			-0.123 : 0.153	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

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Table 11. Key ANTS Requirements Verification, 23.8 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.934	0.0016	0.0030	0.9297	>.92	>.90
	Hpol	0.934			0.9295	>.92	>.90
Beamwidth (°)	Vpol	0.853	0.0030	0.0021	0.8478 : 0.8580	0.75 : 0.9	< 0.9
	Hpol	0.852			0.8473 : 0.8575	0.75 : 0.9	< 0.9
Beam Shape (%)	Vpol	12.280	0.7300	0.2984	13.308	< 15	< 15
	Hpol	12.238			13.267	<15	<15
Beam Cross-Pol (%)***	Vpol	0.026	0.0073	0.0085	0.042	<1.0	<1.0
	Hpol	0.030			0.046	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.447	N/A *	N/A *	48.447	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.448			48.448	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-4.116	N/A *	N/A *	-4.116	N/A	N/A
	Hpol	-4.116			-4.116		
Cross-Pol Alignment (°)***	Vpol	-0.165	0.050	0.088	-0.303 : -0.027	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.205			0.067 : 0.343	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

Table 12. Key ANTS Requirements Verification, 36.64 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.986	0.0016	0.0051	0.9789	>.95	>.90
	Hpol	0.985			0.9780	>.95	>.90
Beamwidth (°)	Vpol	0.815	0.0030	0.0065	0.8053 : 0.8243	0.75 : 0.9	< 0.9
	Hpol	0.815			0.8053 : 0.8243	0.75 : 0.9	< 0.9
Beam Shape (%)	Vpol	17.039	0.7300	0.4525	18.221	< 15 ****	< 15 ****
	Hpol	17.085			18.268	<15 ****	<15 ****
Beam Cross-Pol (%)***	Vpol	0.014	0.0073	0.0048	0.026	<1.0	<1.0
	Hpol	0.049			0.061	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.474	N/A *	N/A *	48.474	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.470			48.470	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	2.310	N/A *	N/A *	2.310	N/A	N/A
	Hpol	2.322			2.322		
Cross-Pol Alignment (°)***	Vpol	-0.220	0.050	0.088	-0.358 : -0.082	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.200			0.062 : 0.338	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan
**** The Non-compliance in 36.6 GHz beam shape is addressed in Waiver GMI-W-013.

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Table 13. Key ANTS Requirements Verification, 89 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.980	0.0016	0.0105	0.9677	>.95	>.90
	Hpol	0.979			0.9666	>.95	>.90
Beamwidth (°)	Vpol	0.384	0.0030	0.0080	0.3727 : 0.3947	0.373 : 0.4	< 0.4
	Hpol	0.381			0.3704 : 0.3924	0.373 : 0.4	< 0.4
Beam Shape (%)	Vpol	8.449	0.7300	0.8152	9.994	< 15	< 15
	Hpol	8.462			10.008	<15	<15
Beam Cross-Pol (%)***	Vpol	0.023	0.0073	0.0091	0.039	<1.0	<1.0
	Hpol	0.028			0.045	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.463	N/A *	N/A *	48.463	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.462			48.462	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-0.740	N/A *	N/A *	-0.740	N/A	N/A
	Hpol	-0.732			-0.732		
Cross-Pol Alignment (°)***	Vpol	-0.170	0.050	0.088	-0.308 : -0.032	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.135			-0.273 : 0.003	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

Table 14. Key ANTS Requirements Verification, 166 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.977	0.0016	0.0100	0.9650	>.90	>.90
	Hpol	0.979			0.9671	>.90	>.90
Beamwidth (°)	Vpol	0.378	0.0030	0.0011	0.3736 : 0.3818	0.35 : 0.4	< 0.4
	Hpol	0.368			0.3643 : 0.3725	0.35 : 0.4	< 0.4
Beam Shape (%)	Vpol	7.422	0.7300	0.4602	8.612	< 15	< 15
	Hpol	4.806			5.996	<15	<15
Beam Cross-Pol (%)***	Vpol	0.098	0.0073	0.0026	0.108	<2.0	<2.0
	Hpol	0.109			0.119	<2.0	<2.0
Off-Nadir Angle (°, SACS-R)	Vpol	45.282	N/A *	N/A *	45.282	45.333 +-0.07 **	45.333 +-0.1
	Hpol	45.283			45.283	45.333 +-0.07 **	45.333 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-2.325	N/A *	N/A *	-2.325	N/A	N/A
	Hpol	-2.336			-2.336		
Cross-Pol Alignment (°)***	Vpol	0.155	0.050	0.088	0.017 : 0.293	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.170			-0.308 : -0.032	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** Derived beam pointing relative to channel 7 measured off-nadir angle: 48.473° -3.14° = 45.333°
*** The on-orbit stability includes the variation due to wobble movement over the scan

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Table 15. Key ANTS Requirements Verification, 183 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.964	0.0016	0.0100	0.9523	>.90	>.90
Beamwidth (°)	Vpol	0.371	0.0030	0.0011	0.3666 : 0.3748	< 0.4	< 0.4
Beam Shape (%)	Vpol	10.531	0.7300	0.4602	11.721	< 15	< 15
Beam Cross-Pol (%)***	Vpol	0.101	0.0073	0.0026	0.111	<2.0	<2.0
Off-Nadir Angle (°, SACS-R)	Vpol	45.277	N/A *	N/A *	45.277	45.333 +-0.07 **	45.333 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-0.036	N/A *	N/A *	-0.036	N/A	N/A
Cross-Pol Alignment (°)***	Vpol	-0.240	0.050	0.088	-0.378 : -0.102	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** Derived beam pointing relative to channel 7 measured off-nadir angle: 48.473° -3.14° = 45.333°
*** The on-orbit stability includes the variation due to wobble movement over the scan

The tables above include measured results and uncertainties related to meeting on-orbit requirements.

- The 'Measured' data column reports the results from the flight characterization procedure (2323377) acquisition. The 'Beam Efficiency' entry in the column reports the final All-Space beam fraction, including the measured forward-space and theoretical all-space contributions, as well as the uncertainty in that analysis.
- The 'Measurement Uncertainty' numbers are derived from a 3σ analysis of measured data. The analysis includes the repeatability of multiple acquisitions acquired over multiple days and measurement sessions. In addition, between acquisitions the test hardware (main reflector and feed tray) and measurement hardware were removed and replaced to verify test setup repeatability. The data with which the measurement uncertainty values are derived as well as an analysis of the feed to feed tray alignment is documented in SER 2349831.
- The 'On-Orbit Stability' column accounts for RF performance impacts due to mechanical alignment changes during flight. It captures the expected shifts in alignment between the main reflector and the feed tray on orbit throughout the life of the instrument. The

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amount and direction of the mechanical shifts are determined at the system level and flowed down in the ANTS specification. Based on these predicted shifts, the RF Sensitivity Analysis (SER 2261989) is then used to determine their impact on RF performance. The sensitivity analysis is a measurement-validated tool which predicts impacts on RF performance due to component pointing and translation effects. All error sources are included and their effects combined in an RSS fashion to predict the 3σ RF performance impact. In addition to the primary alignment mechanisms, a term for the reflector distortion modes is included in the beam efficiency entry. The reflector distortion term assumes a worst-case error, derived in SER 2256587.

- For the 'Beam Cross-Pol' and the 'Cross-Pol Alignment' rows, the variation due to wobble movement over the scan is included in the On-Orbit Stability column.
- Pointing Angles: The on-orbit uncertainty on the beam pointing angles (Off-Nadir and Azimuth) and beam pointing characterization/analysis is covered in SER 2348578. The values reported in the table are the computed by taking the mean of the three 'Alignment Characterization' (i.e. Pointing Repeats) scans.

6.4 Antenna Pattern Correction (APC) Coefficients

The antenna pattern correction involves converting from antenna temperature T_A (the result of radiometric calibration with the hot load and cold sky views) to top-of-atmosphere brightness temperatures T_B. The antenna pattern correction algorithm is derived in 2300984 – GMI Algorithm Theoretical Basis Document (ATBD) based on the measured antenna patterns. The antenna pattern correction involves first correcting for the antenna spillover,

$$\begin{aligned} \tilde{\tilde{T}}_{A,v} &= \frac{1}{\eta_v} T_{A,v} - \frac{(1-\eta_v)}{\eta_v} T'_{cs} \\ \tilde{\tilde{T}}_{A,h} &= \frac{1}{\eta_h} T_{A,h} - \frac{(1-\eta_h)}{\eta_h} T'_{cs} \end{aligned}, \tag{22}$$

where $T_{A,v}$ is the measured antenna temperature, (η_v, η_h) are the spillover coefficients, and T'_{cs} is the radiometric temperature of cold space, corrected for the approximation to the Rayleigh-Jeans law. Secondly, the APC corrects for the emissivity of the reflector,

$$\begin{aligned} \tilde{T}_{A,v} &= \frac{1}{R} \tilde{\tilde{T}}_{A,v} - \frac{(1-R)}{R} T_{refl} \\ \tilde{T}_{A,h} &= \frac{1}{R} \tilde{\tilde{T}}_{A,h} - \frac{(1-R)}{R} T_{refl} \end{aligned}, \tag{23}$$

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where R is the RF reflectivity of the main reflector, and T_{refl} is the measured temperature of the reflector. Thirdly, the APC corrects for the cross polarization,

$$\begin{pmatrix} T_{B,v} \\ T_{B,h} \end{pmatrix} = \frac{1}{1-a_{hv}-a_{vh}} \begin{pmatrix} 1-a_{hv} & -a_{vh} \\ -a_{hv} & 1-a_{vh} \end{pmatrix} \begin{pmatrix} \tilde{T}_{A,v} \\ \tilde{T}_{A,h} \end{pmatrix} \tag{24}$$

where (a_{hv}, a_{vh}) are the cross-polarization contamination coefficients from v into h, and from h into v respectively. For single polarization channels (23 GHz and 183 GHz), the spillover and cross-polarization portions of the APC are simplified to the following form, $\tilde{\tilde{T}}_{A,v} = \lambda T_{A,v} + \xi$. The emissivity correction may then be performed after the simplified cross-pol and spill-over correction, $T_{B,v} = \frac{1}{R}\tilde{\tilde{T}}_{A,v} - \frac{(1-R)}{R} T_{refl}$.

The antenna pattern coefficients (η_v, η_h, a_{hv}, a_{vh}) or (λ, ξ) for each channel are determined by simulation of earth brightness temperatures using a Radiative Transfer Model (RTM) developed by Remote Sensing Systems. The co-pol antenna pattern over the main beam is projected to the simulated earth scene and integrated to create a predicted top-of-atmosphere main beam brightness temperature T_b. Then, the entire 4-pi steradian pattern, including cross-pol is integrated over the entire earth and cold space to create an antenna temperature T_b. The coefficients are then derived such that the RMS error is minimized.

The calculation of the antenna temperatures Ta from the Earth scenes is performed in 3 different ways:

1. It is assumed that the Tb is constant over the whole Earth field of view. This is a good approximation for land scenes.
2. It is assumed that the Earth scene varies over the whole Earth field of view as predicted by NCEP GDAS and the Tb varies accordingly.
3. It is assumed that the Earth scene is constant over the whole Earth field of view. The Tb in the integral over the antenna pattern still varies due to the change of the Earth incidence angle and the rotation of the polarization basis within the Earth field of view.

The simulated scenes are taken from 15 simulated GMI orbits using the forward look of every 5th scan and only boresight scenes that are over open ocean scenes. An scene is regarded as open ocean scene if it there no land or sea ice within a 2.5^{o} latitude and 2.5^{o} longitude box around its center.

For the high frequency bands (166.0 and 183 GHz) only Method 1 is used for calculating the Ta.

The general method for deriving the pre-launch APC is to compare simulated Tb and Ta. For details, consult the GMI Calibration ATBD.

It turns out that the best overall performance results are obtained when calculating the APC using the Ta that were computed from method 1.

Table 16 lists the numerical values for the APC. These values are also given in Appendix F.

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Table 16: Numerical values of the APC coefficients derived from ground calibration. These values are obsolete. Please see Section 11.9 for updated values derived during on-orbit calibration to be used in the operational algorithm.

f [GHz]	10.65	18.7	23.8	36.64	89.0	166.0	183.31
a_{vh}	0.00363	0.00280	0.00211*	0.00094	0.00119	0.01339	0.01104*
a_{hv}	0.00366	0.00292	N/A	0.00094	0.00119	0.01339	N/A
η_v	0.94435	0.93968	0.96601*	0.99590	0.99810	1.00000	1.00000*
η_h	0.94369	0.94082	N/A	0.99590	0.99810	1.00000	N/A
$1-\eta_v$	0.05565	0.06032	0.03399*	0.00410	0.00190	0.00000	0.00000*
$1-\eta_h$	0.05631	0.05918	N/A	0.00410	0.00190	0.00000	N/A
λ	N/A	N/A	1.03386	N/A	N/A	N/A	1.00000
ξ	N/A	N/A	0.28259	N/A	N/A	N/A	0.00000
R	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

OBSOLETE

* Values are given for reference only. For signal polarization channels, the (λ, ξ) parameters should be used for the APC.

6.5 Main Reflector Coating Conductivity

The conductivity of the main reflector SN002 was measured on various coupon samples, which were representative of the coating used on the flight article. The samples were thermal cycled and life tested. Throughout the testing, the main reflector coating maintained its integrity. The typical values for the main reflector coating conductivity are > 30 MegaSiemens per meter, which we estimate should provide an RF reflectivity of > 0.9999. The high reflectivity means that the physical temperature of the reflector should have a negligible impact on calibration uncertainty. The data for the coating is given in Appendix G.

6.6 IFOVs

This section illustrates projected Earth footprints of GMI antenna beams using measured antenna pattern data. Footprints are shown for circular GPM orbits of 407 and 635 km orbits. Footprints are projected onto a spherical Earth with mean radius 6378 km. This analysis was done in three parts:

- Earth footprint projections using the SACS-R coordinate system
- Earth footprint projections using local beam coordinate systems
- Sine-space angle contours using local beam coordinate systems.

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6.6.1 Earth footprints using the SACS-R coordinate systems

The spacecraft was placed at the two orbital altitudes along the z-axis of a Cartesian coordinate system that is equal to the Spin-Axis Coordinate System (SACS) for an instrument rotation angle of 0. The half-power and 90%-power contours were extracted from the measured data files and projected onto a sphere with mean Earth radius 6378km. The Earth sphere is centered at the origin. This geometry with a portion of the Earth-sphere is shown in Figure 40.

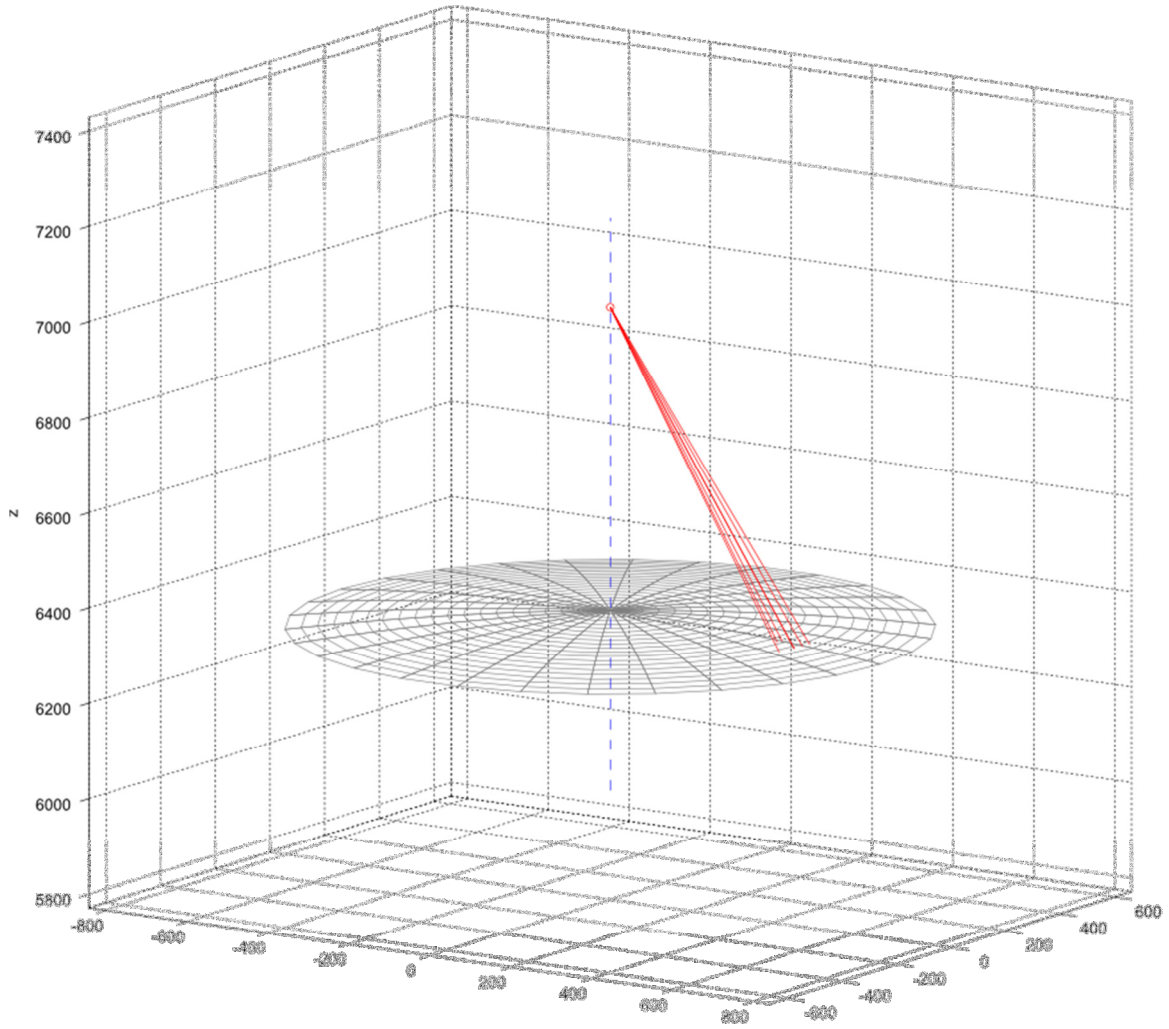

Figure 40: Geometry of the Earth relative to the GMI Instrument

Figure 41 shows the overhead views of the Earth footprints. The data for the SACS-R footprints are given in the attached .ZIP file under 06_MAIN_ANTENNA\Contours\SACS-R_Footprints.

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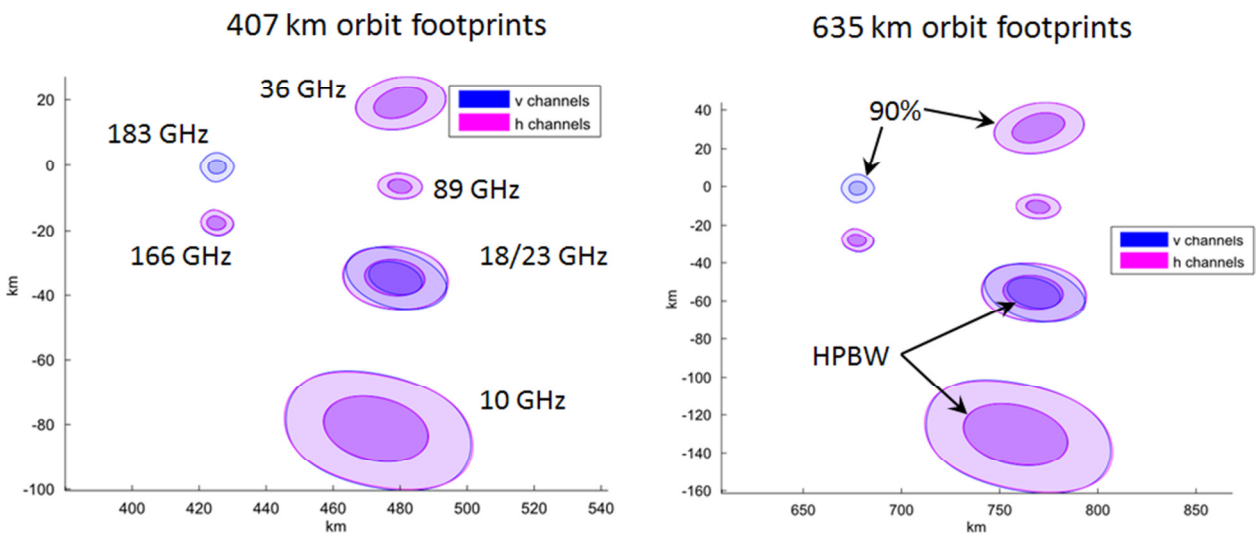

Figure 41: Earth footprints in SACS-R coordinate system

6.6.2 Earth footprints using local footprint coordinate systems

For this part, the SACS-R coordinate system is rotated about the z-axis for each beam so that the beam is centered on the xz-plane. The beam contours containing various fractions of total beam power are then projected onto the Earth surface for orbit altitudes of 407 and 635 km. These Earth footprints are then expressed in another local coordinate system where the footprint center is at {x,y}={0,0}. The spacecraft lies on the xz plane of the footprint coordinate system. The footprint span distance are taken as the footprint extents in the x (radial) and y (axial, or scan) direction. These coordinate systems are shown in Figure 42.

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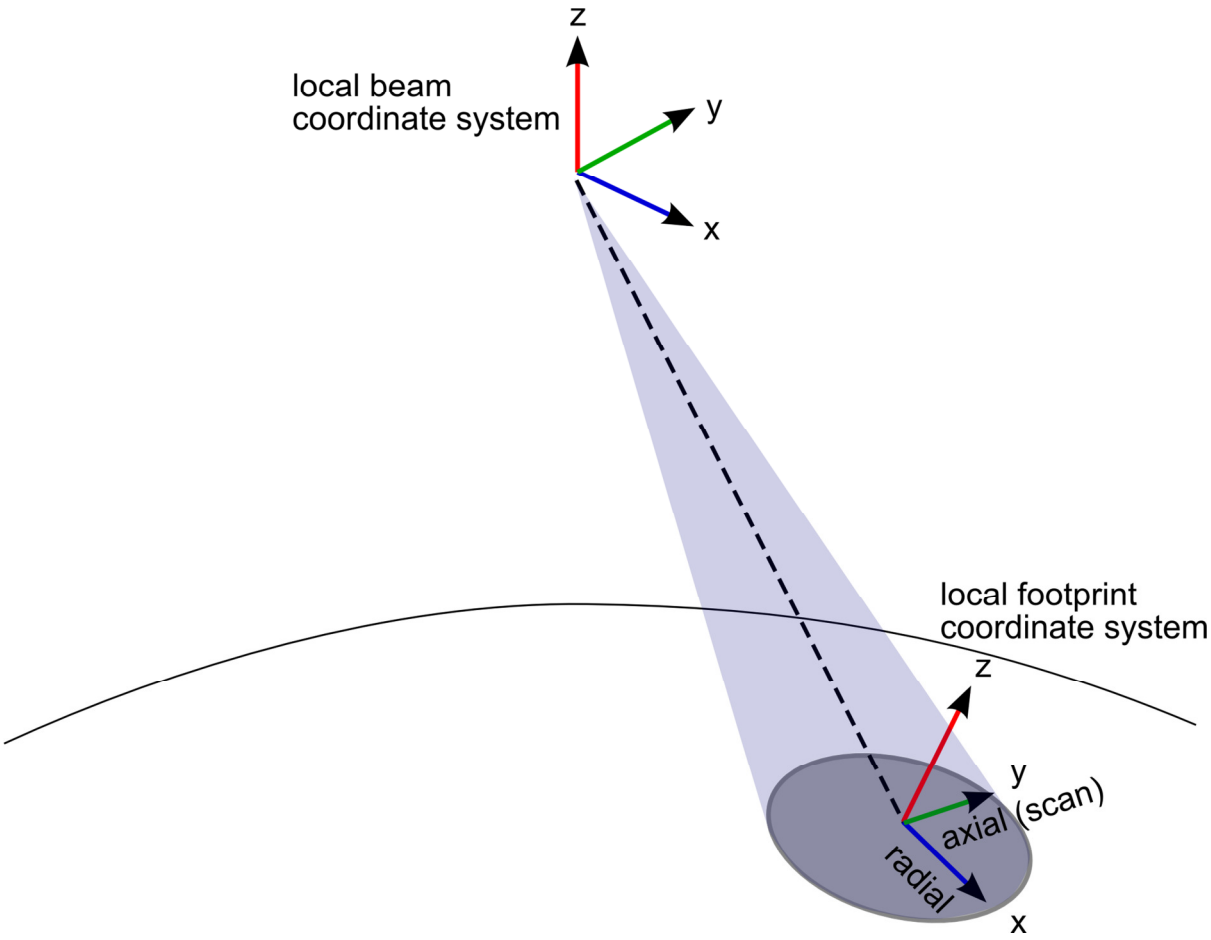

Figure 42. Beam and footprint coordinate systems

From the GMI, beam measurements were taken at a limited number of discrete frequencies. For a given beam, the beam measurements are weighted by the measured spectral response of that band. For example, the 10 GHz band response and the 3 measured beam discrete frequencies are shown in Figure 43.

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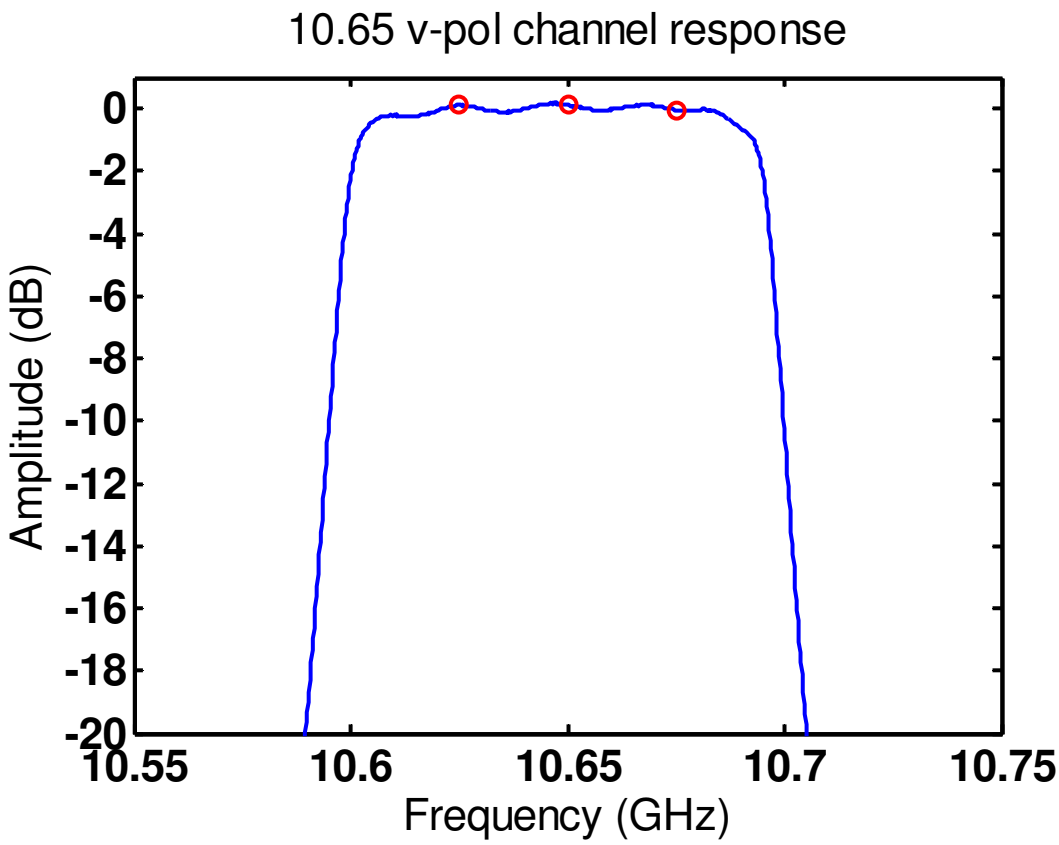

Figure 43: Spectral response

Using the measured beam patterns weighted over the spectral response, spatial footprint projections onto a spherical Earth from orbit heights of 407 and 635km. The radial and axial footprint spans, as measured in coordinate systems described by Figure 42, are listed in Table 17 through Table 30.

Data describing the footprint contours in local footprint coordinate systems are given in the attached .ZIP file under 06_MAIN_ANTENNA\Contours\LocalFootprintCoordinates_Footproints and in Appendix H for the HPBW contours.

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Table 17: 10.65 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	31.5	19.5
50%		31.5	19.3
90%		57.8	34.9
91%		59.2	35.7
92%		60.7	36.5
93%		62.4	37.5
HPBW	H	32.0	19.2
50%		32.2	19.0
90%		59.0	34.2
91%		60.4	35.0
92%		61.8	35.8
93%		63.5	36.8

Table 18: 10.65 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	53.8	31.3
50%		53.9	30.9
90%		99.1	55.9
91%		101.3	57.2
92%		104.0	58.6
93%		106.9	60.1
HPBW	H	54.6	30.7
50%		55.0	30.4
90%		101.1	54.9
91%		103.4	56.1
92%		105.9	57.5
93%		108.7	59.0

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Table 19: 18 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	17.9	11.1
50%		17.7	10.8
90%		31.4	19.2
91%		32.1	19.7
92%		32.9	20.1
93%		33.7	20.6
HPBW	H	18.2	10.9
50%		17.8	10.6
90%		32.1	18.9
91%		32.8	19.3
92%		33.6	19.8
93%		34.5	20.3

Table 20: 18 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	30.5	17.7
50%		30.2	17.3
90%		53.7	30.8
91%		54.9	31.5
92%		56.2	32.3
93%		57.7	33.1
HPBW	H	31.0	17.4
50%		30.4	17.0
90%		54.9	30.3
91%		56.1	31.0
92%		57.5	31.7
93%		59.0	32.5

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Table 21: 23 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	15.7	9.6
50%		16.1	9.8
90%		30.0	17.8
91%		30.7	18.2
92%		31.6	18.7
93%		32.8	19.2

Table 22: 23 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	26.9	15.4
50%		27.5	15.7
90%		51.2	28.5
91%		52.6	29.2
92%		54.0	30.0
93%		56.0	30.8

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Table 23: 36 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	15.1	9.1
50%		15.1	8.9
90%		27.1	16.1
91%		27.4	16.4
92%		28.2	16.8
93%		28.8	17.2
HPBW	H	15.3	9.0
50%		15.3	8.9
90%		27.4	15.9
91%		28.0	16.2
92%		28.6	16.5
93%		29.2	16.9

Table 24: 36 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	25.8	14.6
50%		25.8	14.4
90%		46.3	25.8
91%		46.9	26.3
92%		48.3	26.9
93%		49.3	27.5
HPBW	H	26.2	14.4
50%		26.2	14.2
90%		46.7	25.5
91%		48.0	26.0
92%		48.9	26.5
93%		49.9	27.1

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Table 25: 89 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	7.1	4.2
50%		7.4	4.2
90%		13.4	7.8
91%		13.6	8.0
92%		13.9	8.1
93%		14.3	8.4
HPBW	H	7.2	4.2
50%		7.4	4.2
90%		13.3	7.5
91%		13.6	7.7
92%		13.8	7.9
93%		14.2	8.1

Table 26: 89 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	12.0	6.7
50%		12.6	6.8
90%		23.0	12.4
91%		23.2	12.8
92%		23.8	13.1
93%		24.5	13.4
HPBW	H	12.3	6.7
50%		12.6	6.8
90%		22.7	12.1
91%		23.2	12.3
92%		23.5	12.7
93%		24.3	13.0

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Table 27: 166 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	5.7	4.2
50%		5.5	4.1
90%		10.0	7.7
91%		10.2	7.9
92%		10.5	8.1
93%		10.7	8.4
HPBW	H	5.7	4.0
50%		5.6	3.9
90%		9.8	7.5
91%		10.0	7.7
92%		10.3	7.9
93%		10.6	8.1

Table 28: 166 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	9.5	6.7
50%		9.3	6.5
90%		16.7	12.2
91%		17.1	12.6
92%		17.5	13.0
93%		18.0	13.5
HPBW	H	9.5	6.4
50%		9.3	6.3
90%		16.4	12.0
91%		16.8	12.3
92%		17.3	12.6
93%		17.8	12.0

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Table 29: 183 GHz 407 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	5.3	4.4
50%		5.5	4.4
90%		10.2	9.0
91%		10.4	9.3
92%		10.6	9.6
93%		11.0	9.9

Table 30: 183 GHz 635 km orbit Earth footprint spans

Contour fraction	Polarization	Radial Footprint span (km)	Axial Footprint span (km)
HPBW	V	8.9	6.9
50%		9.2	7.0
90%		17.1	14.4
91%		17.4	14.8
92%		17.7	15.3
93%		18.3	15.7

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6.7 90% beam contours in local beam coordinate systems

For this part, the beam contours for integrated power levels of 90%,91%, 92%, and 93% are transformed in local beam coordinate systems illustrated by Figure 44. Each beam is centered on its own local coordinate system. The beam locations are given in Section 6.3.

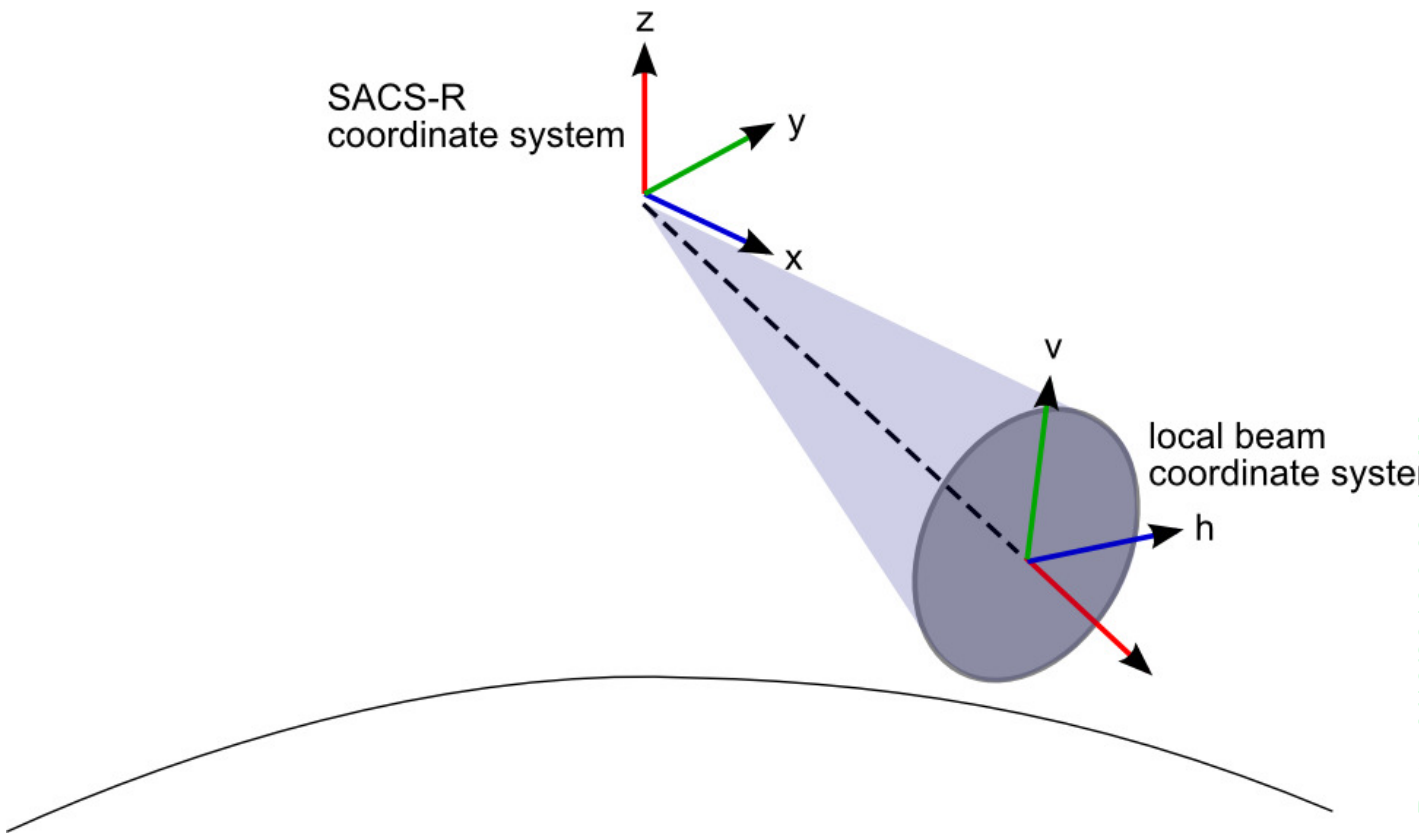

Figure 44: Local beam coordinate system

The 90 percent beam contours for all the channels are shown in Figure 45 through Figure 51. The data is in the attached .ZIP file under 06_MAIN_ANTENNA\Contours\LocalBeamCoordinates_Contours, with the 90 percent contours given in Appendix H.

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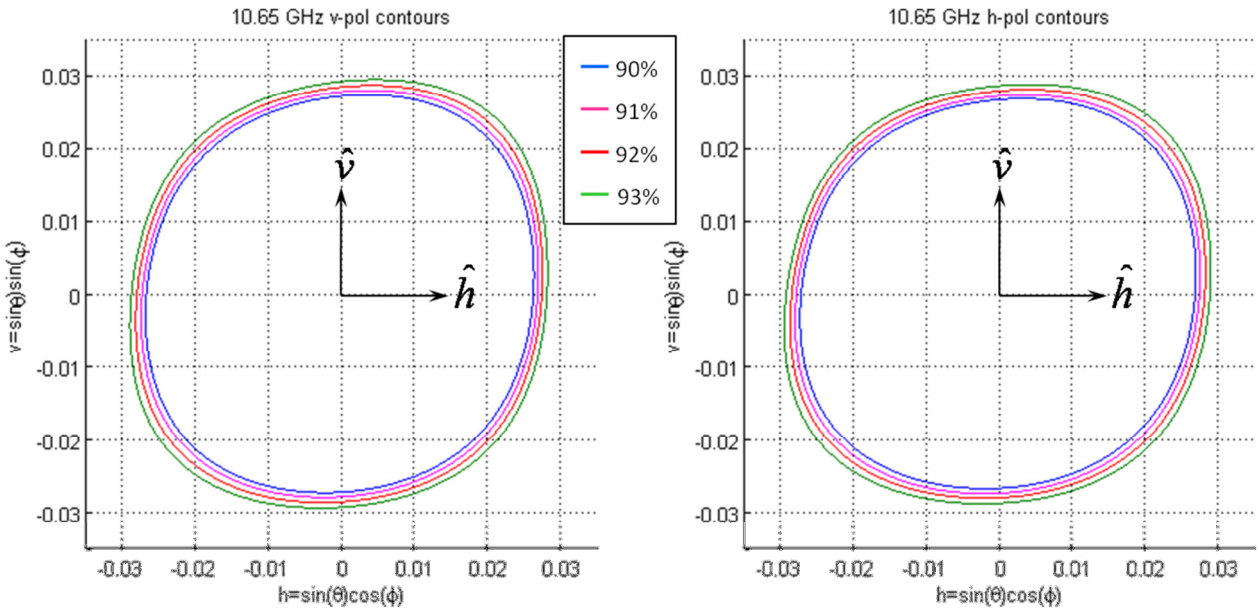

Figure 45: 10.65 GHz beam contours

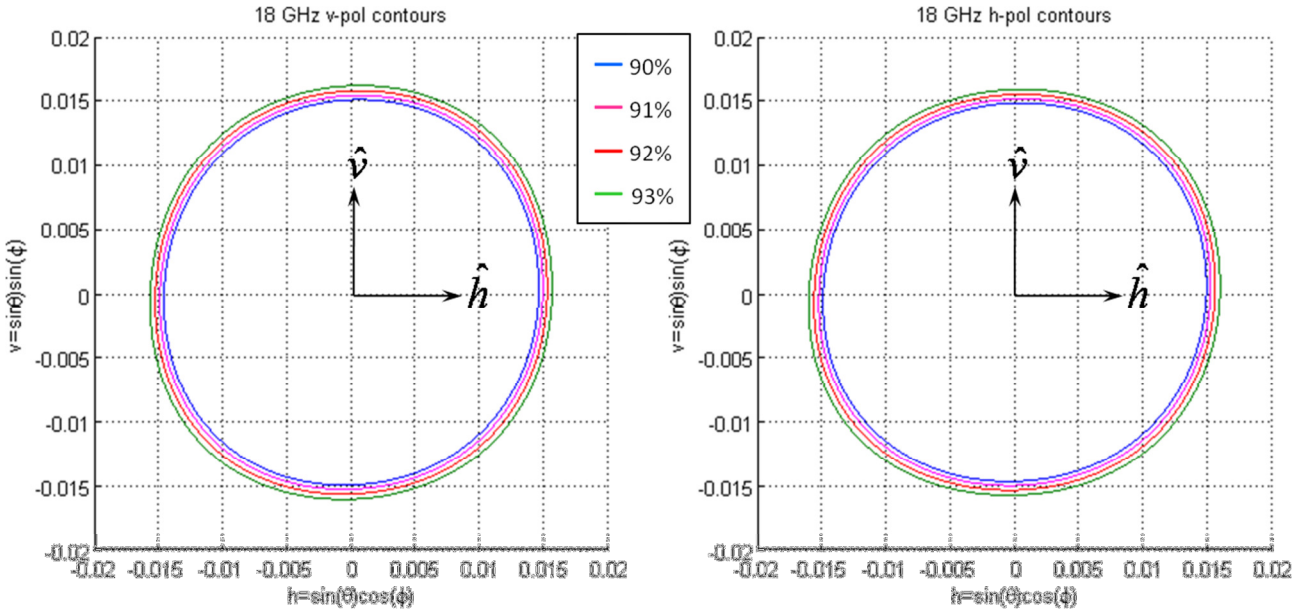

Figure 46: 18 GHz beam contours

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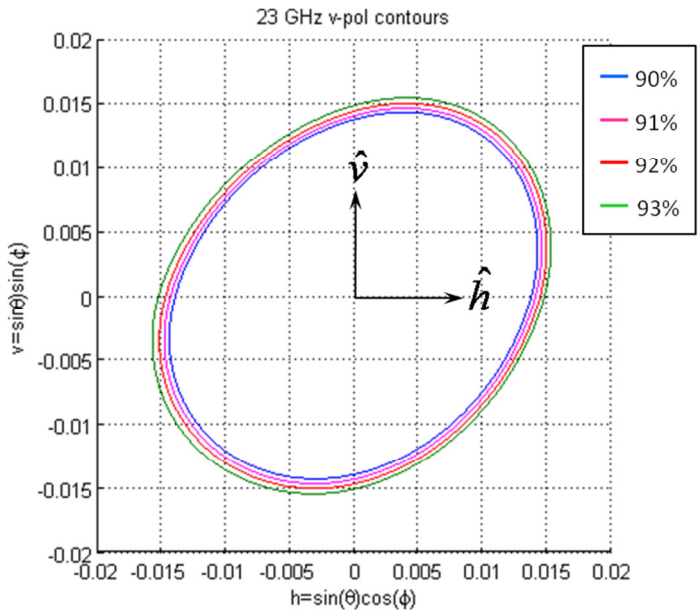

Figure 47: 23 GHz contours

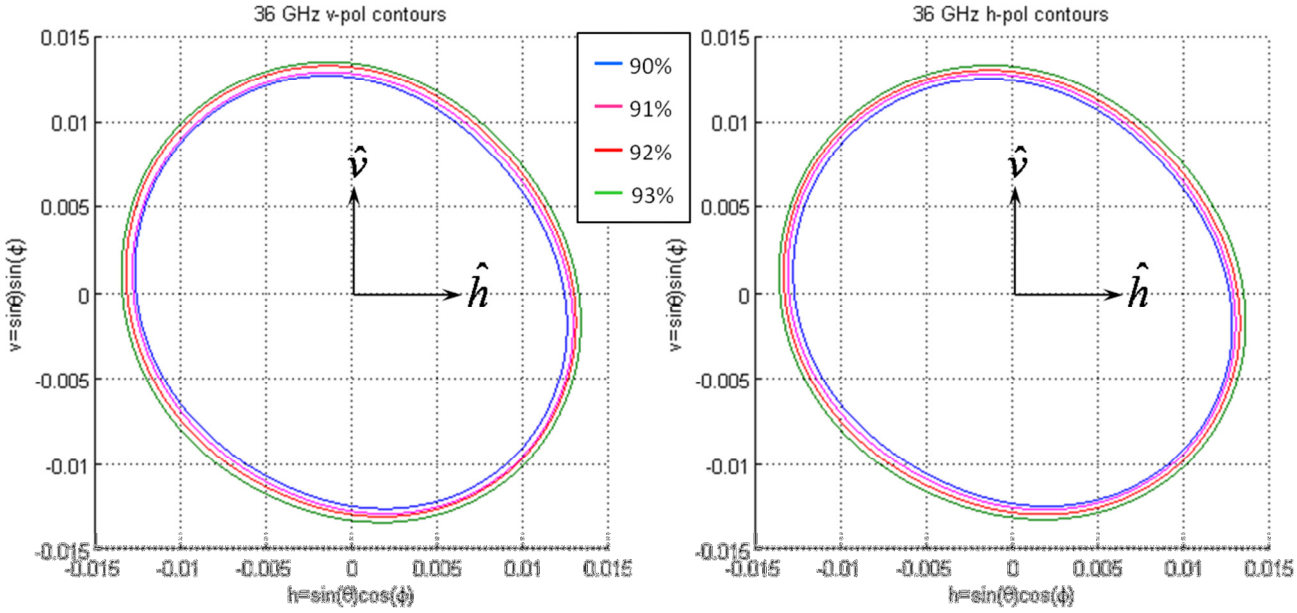

Figure 48: 36 GHz beam contours

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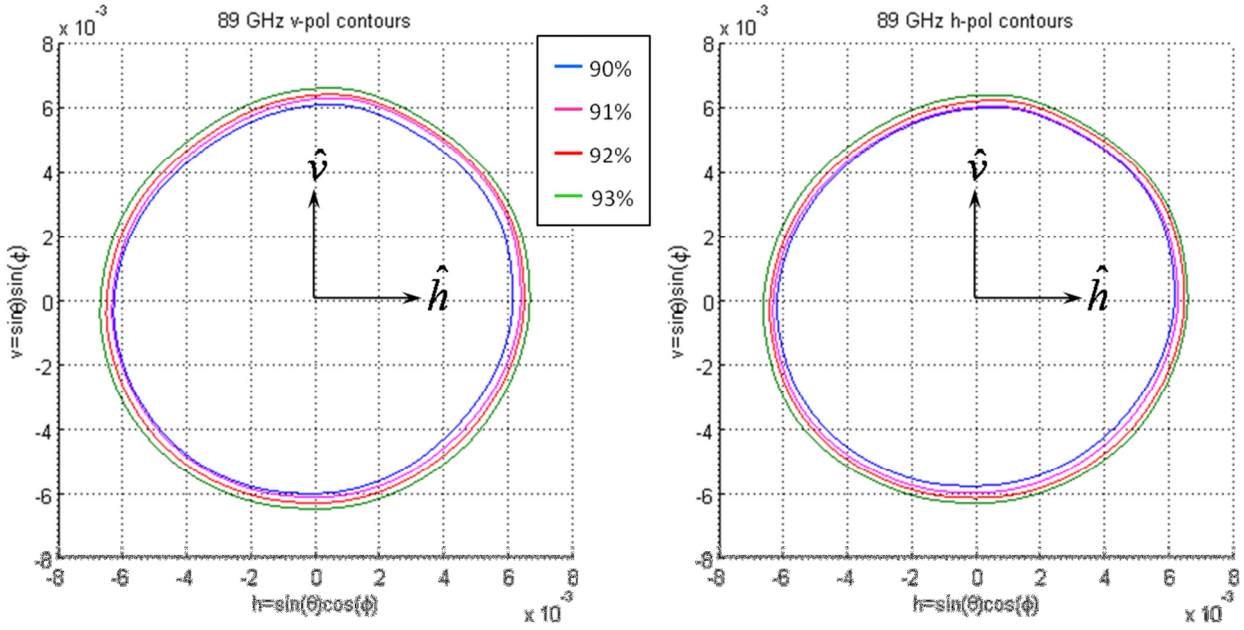

Figure 49: 89 GHz beam contours

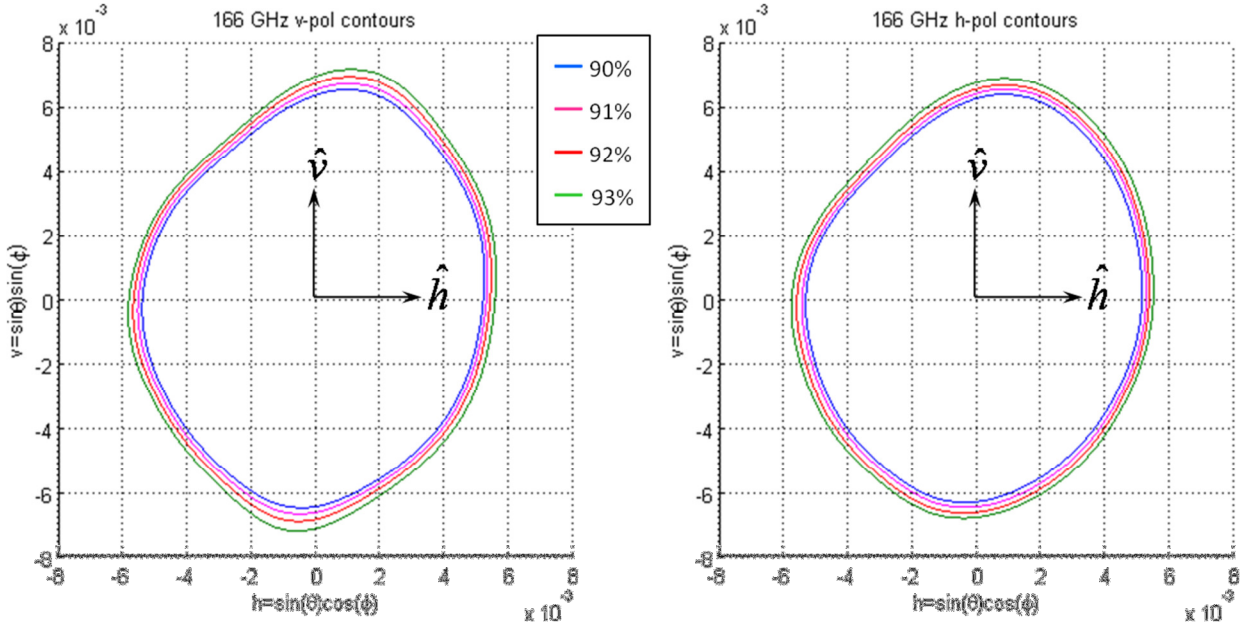

Figure 50: 166 GHz beam contours

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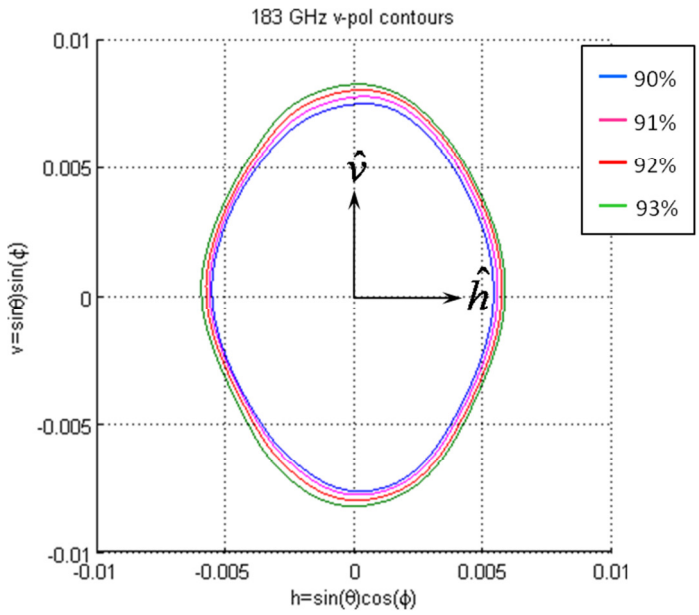

Figure 51: 183 GHz beam contours

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7. SPECTRAL CHARACTERIZATION

The spectral characterization for each GMI channel is given in this section. The data for the spectral characterization is found in the attached .ZIP file under the 07_SPECTRAL folder.

7.1 10 GHz Spectral Characterization

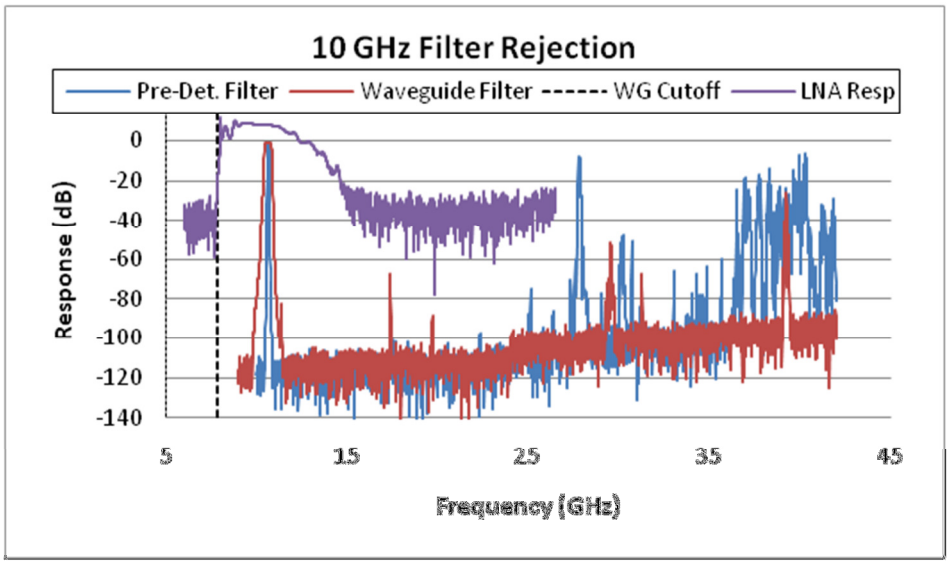

Figure 52. Broad-band Response of components in the 10 GHz channel. Filter modeling results for both the pre-detect and waveguide filters show that the rejection between waveguide cutoff and the lower end of measured data at 9 GHz is better than -250 dB.

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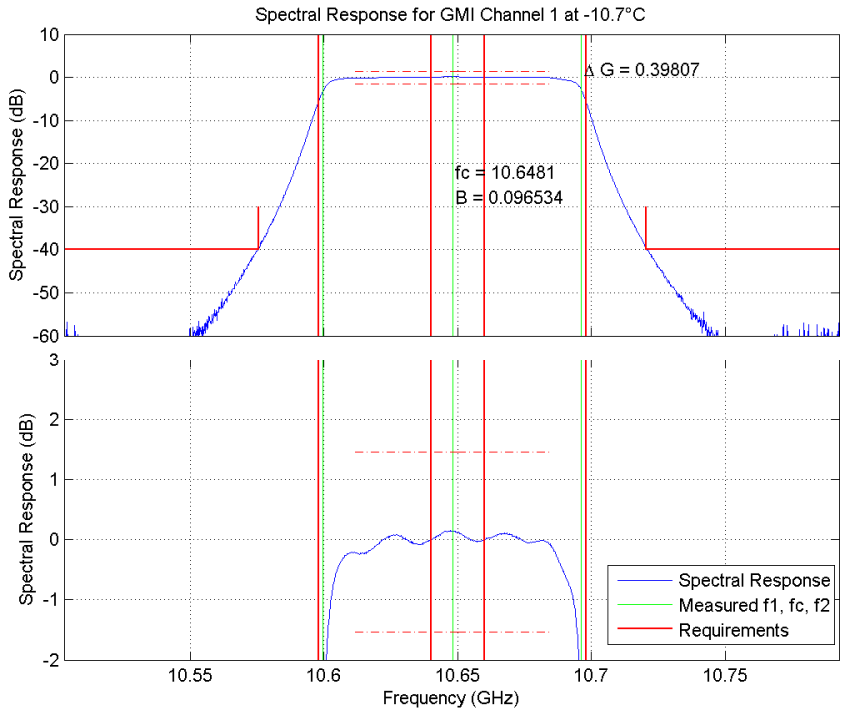

Figure 53. Band-pass and gain variation verification data for Channel 1 at -10.7℃

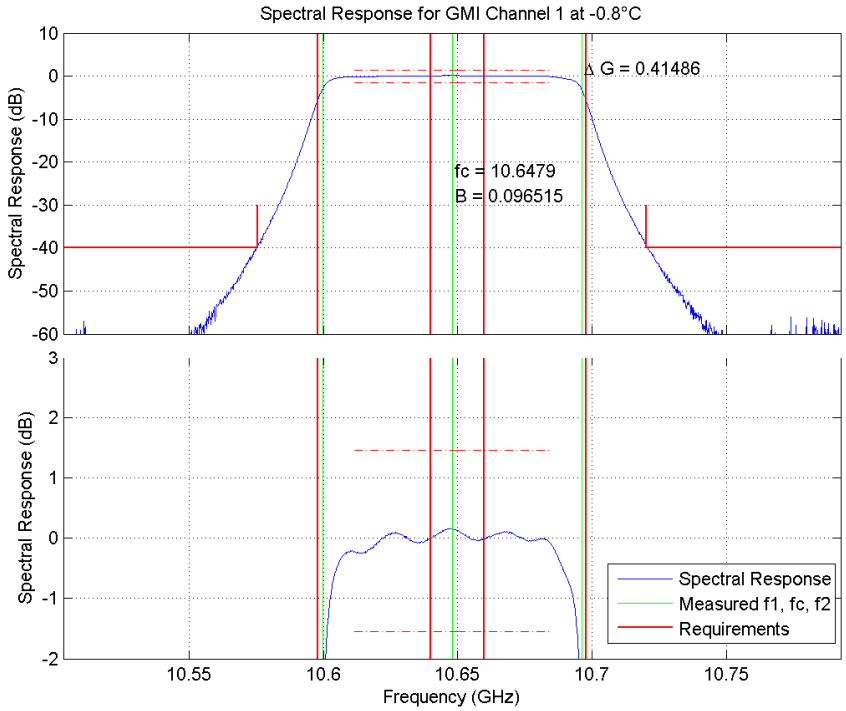

Figure 54. Band-pass and gain variation verification data for Channel 1 -0.8℃

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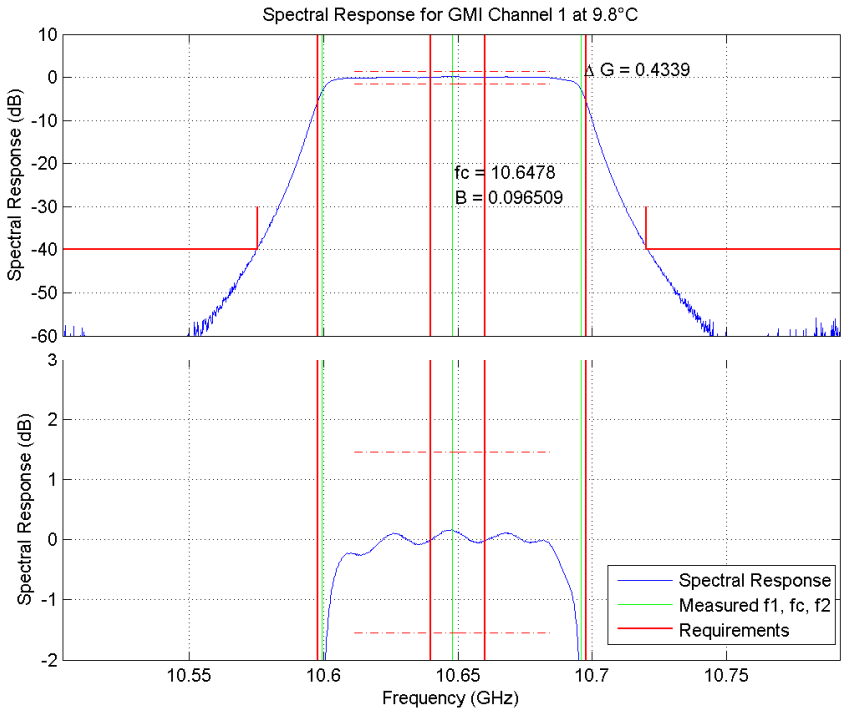

Figure 55. Band-pass and gain variation verification data for Channel 1 at 9.8℃

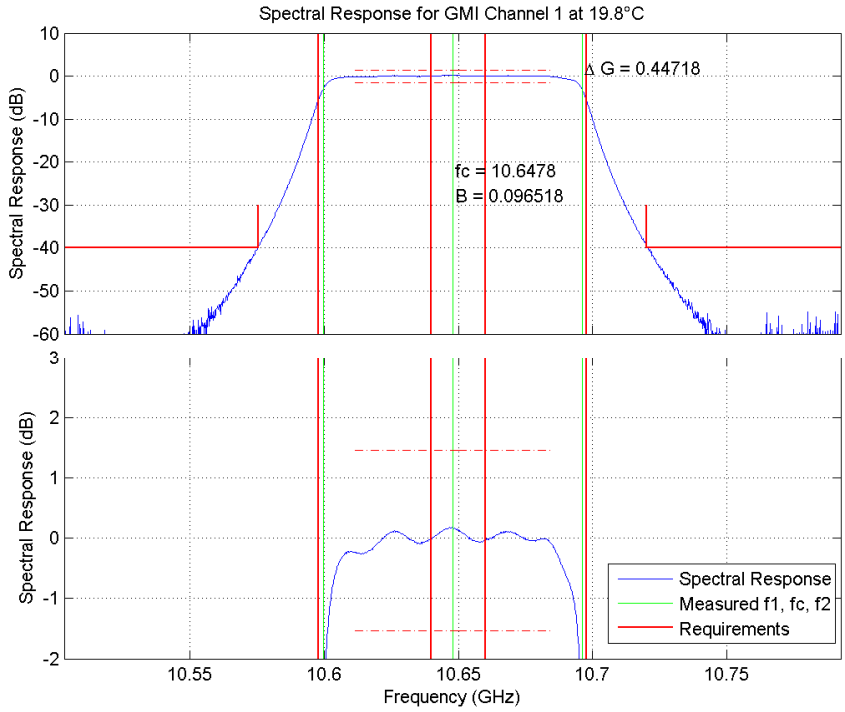

Figure 56. Band-pass and gain variation verification data for Channel 1 at 19.8℃

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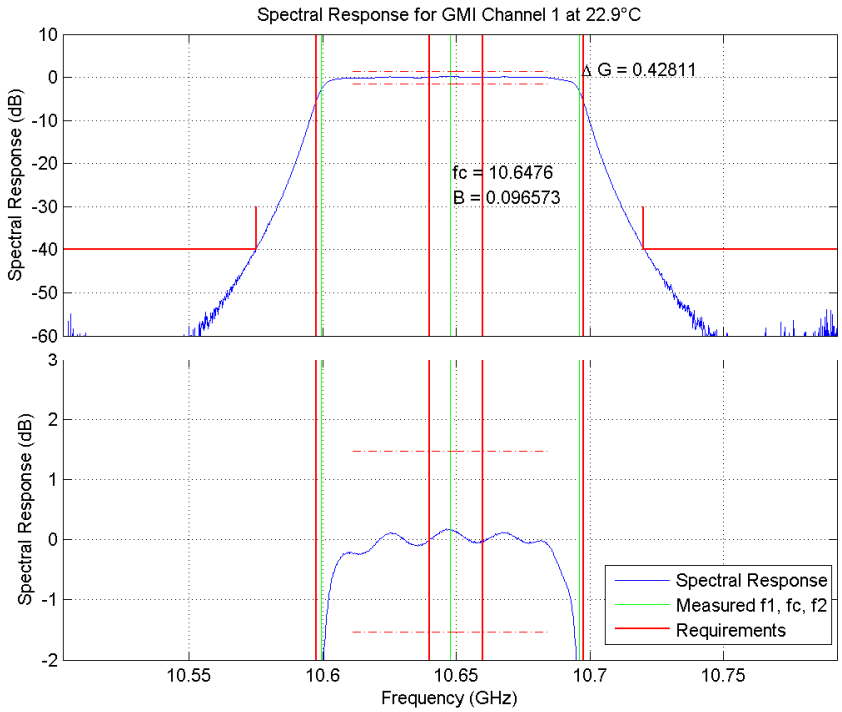

Figure 57. Band-pass and gain variation verification data for Channel 1 at 22.9°C

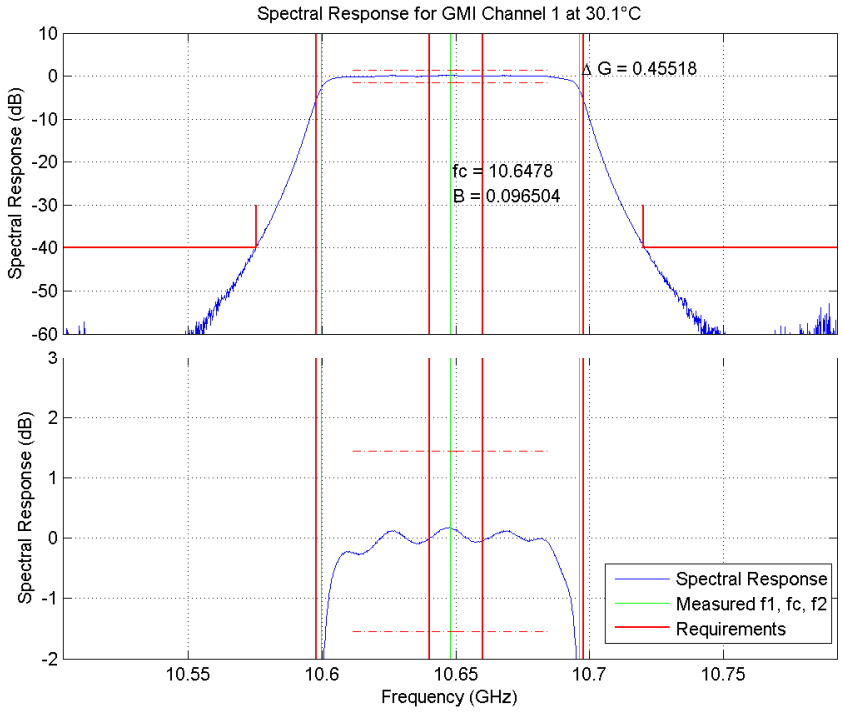

Figure 58. Band-pass and gain variation verification data for Channel 1 at 30.1°C

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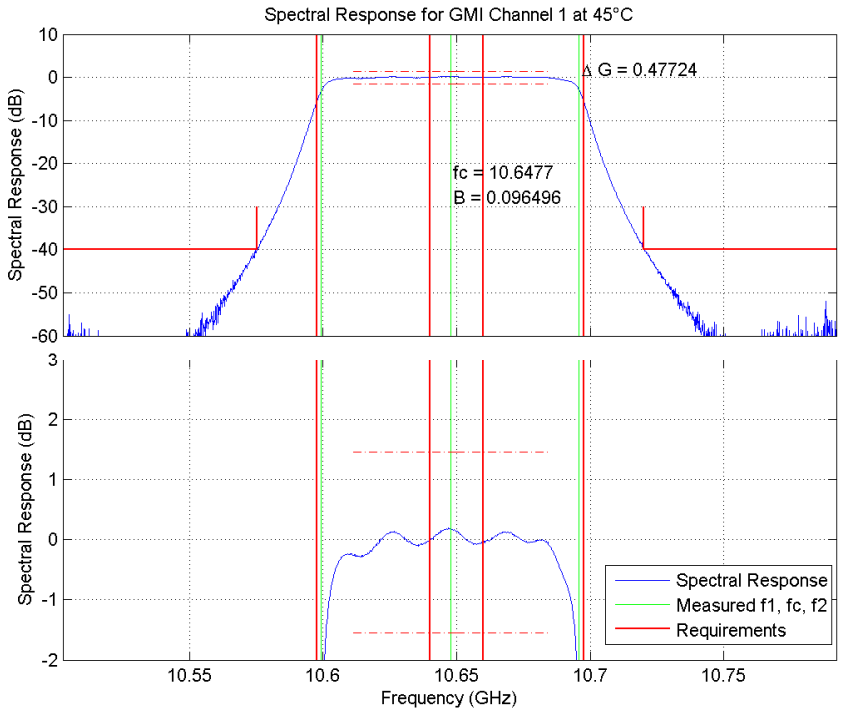

Figure 59. Band-pass and gain variation verification data for Channel 1 at 45°C

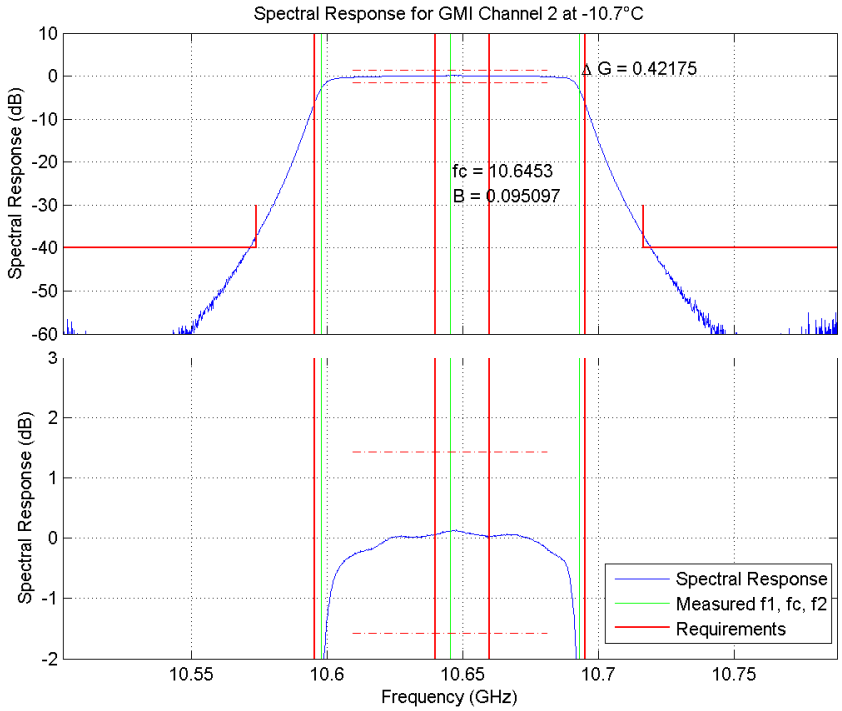

Figure 60. Band-pass and gain variation verification data for Channel 2 at -10.7°C

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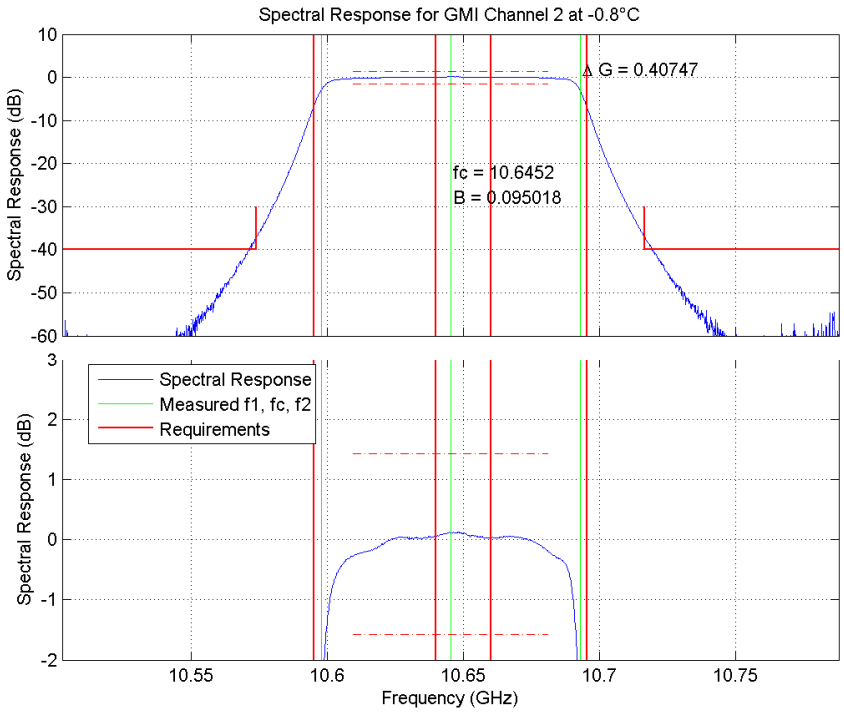

Figure 61. Band-pass and gain variation verification data for Channel 2 at -0.8℃

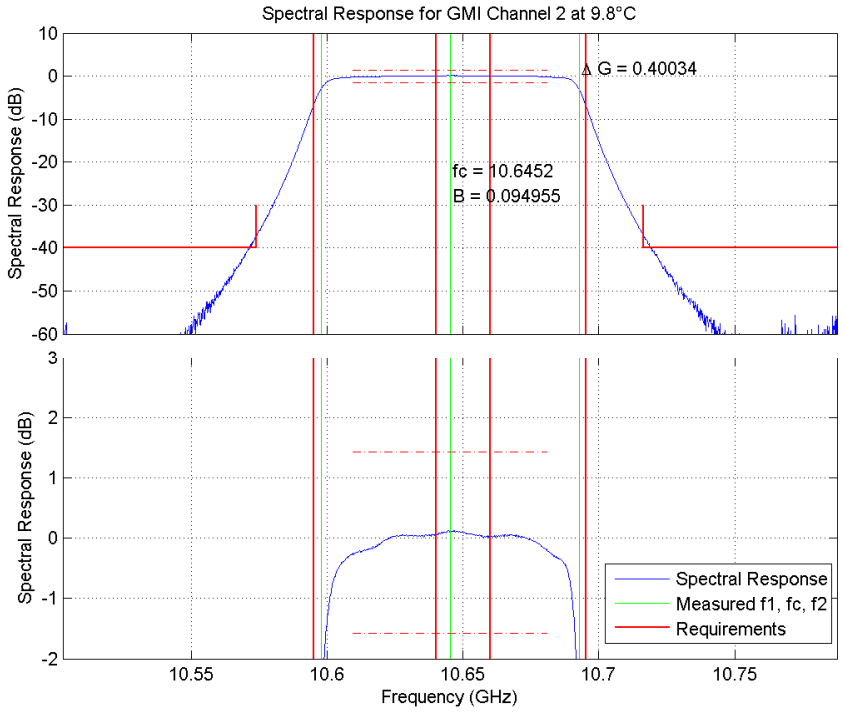

Figure 62. Band-pass and gain variation verification data for Channel 2 at 9.8℃

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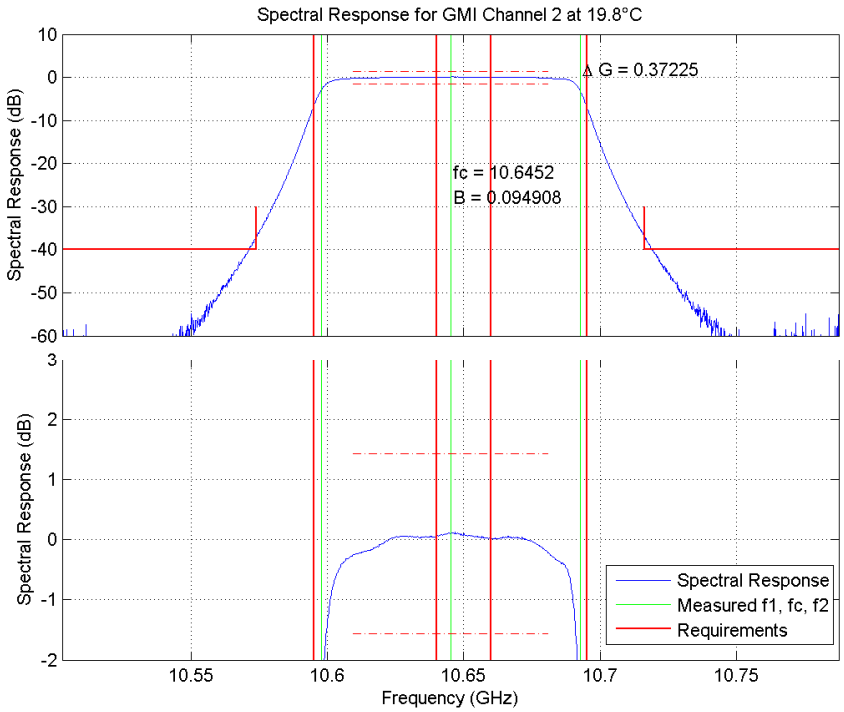

Figure 63. Band-pass and gain variation verification data for Channel 2 at 19.8℃

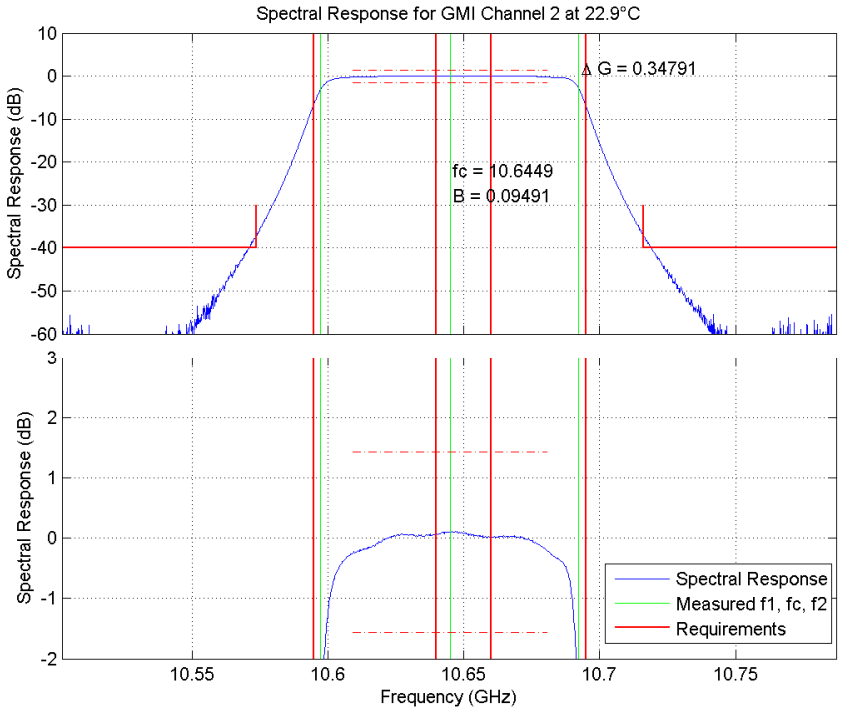

Figure 64. Band-pass and gain variation verification data for Channel 2 at 22.9℃

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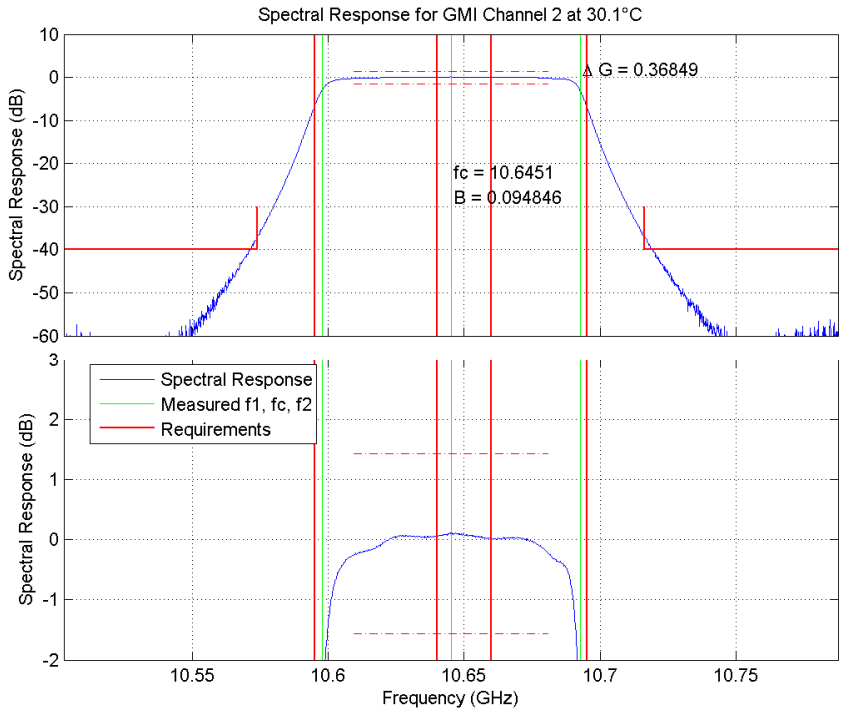

Figure 65. Band-pass and gain variation verification data for Channel 2 at 30.1℃

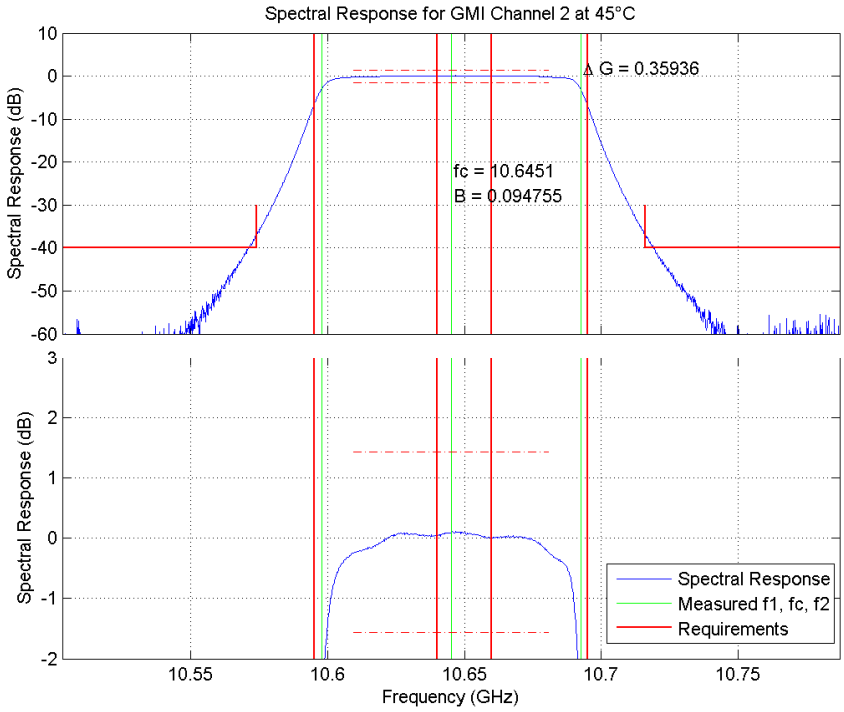

Figure 66. Band-pass and gain variation verification data for Channel 2 at 45℃

[Manual: 2344649 Program: GMI
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[Manual: 2344649 Program: GMI

7.2 18 GHz V-pol Spectral Characterization

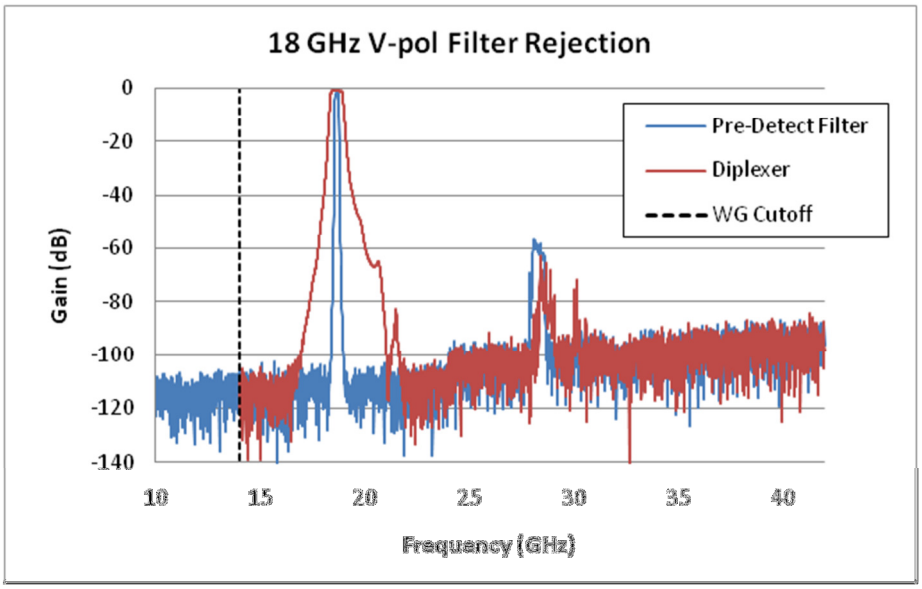

Figure 67. Broad-band transmission of the filters on the 18 GHz V-pol channel

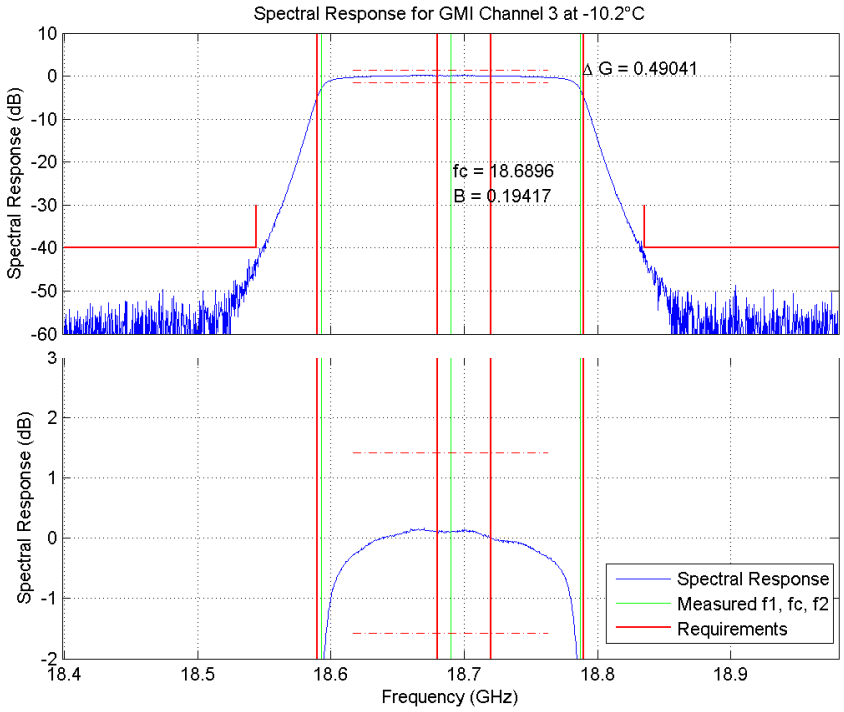

Figure 68. Band-pass and gain variation verification data for Channel 3 at -10.2°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

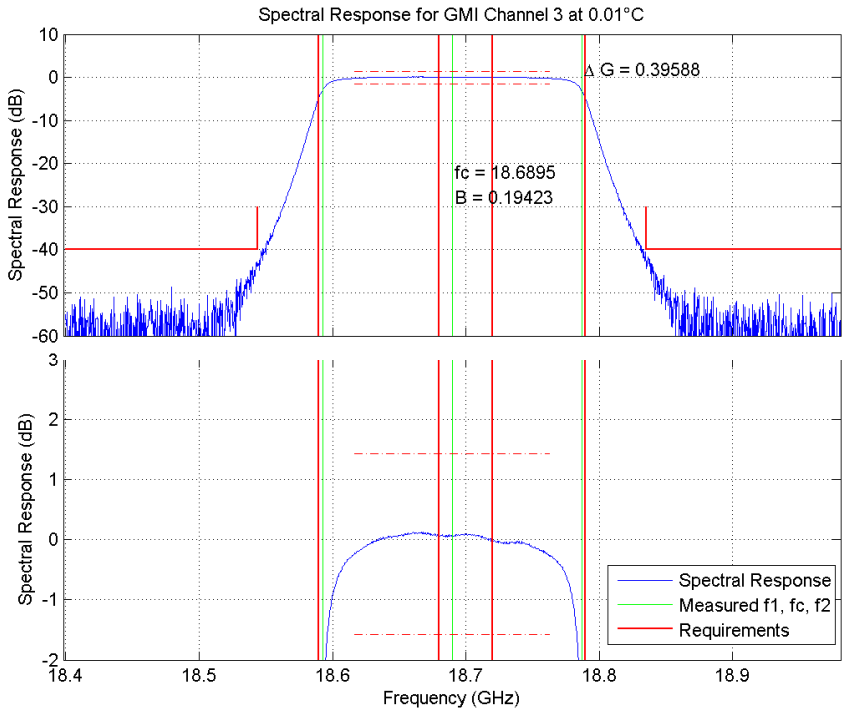

Figure 69. Band-pass and gain variation verification data for Channel 3 at 0.01℃

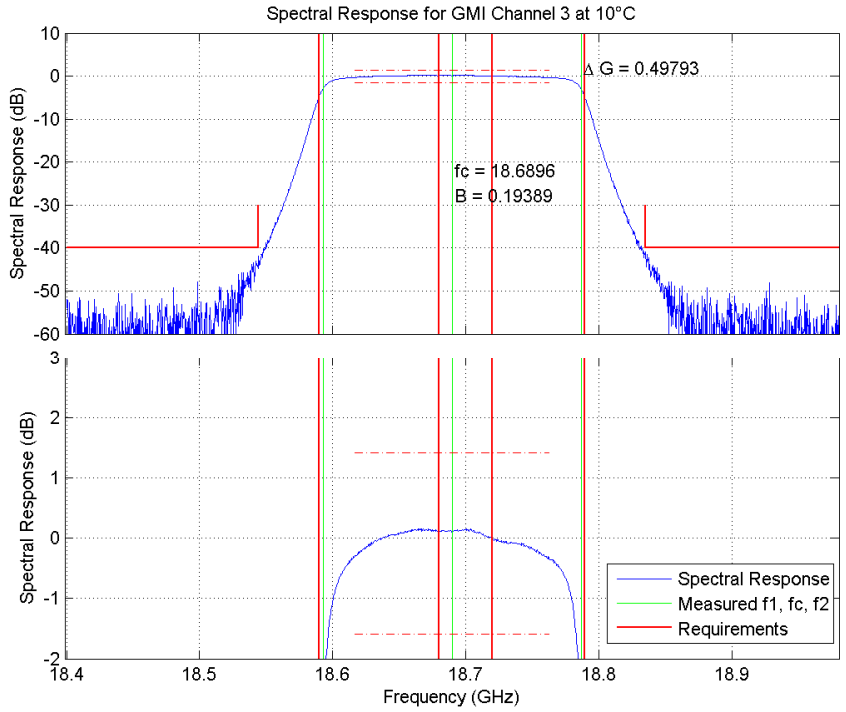

Figure 70. Band-pass and gain variation verification data for Channel 3 at 10℃

[Manual: 2344649 Program: GMI
Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

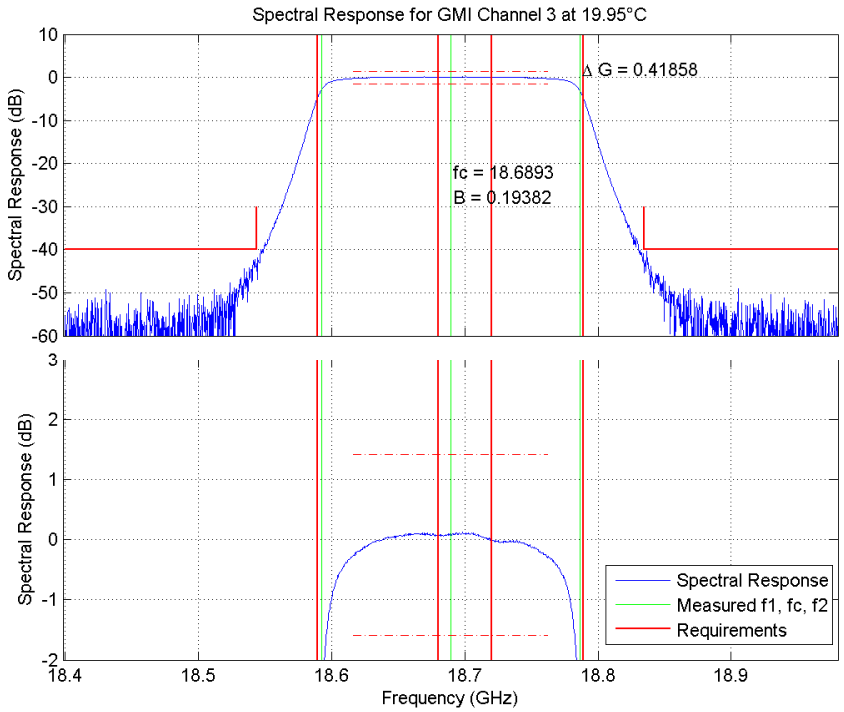

Figure 71. Band-pass and gain variation verification data for Channel 3 at 19.95℃

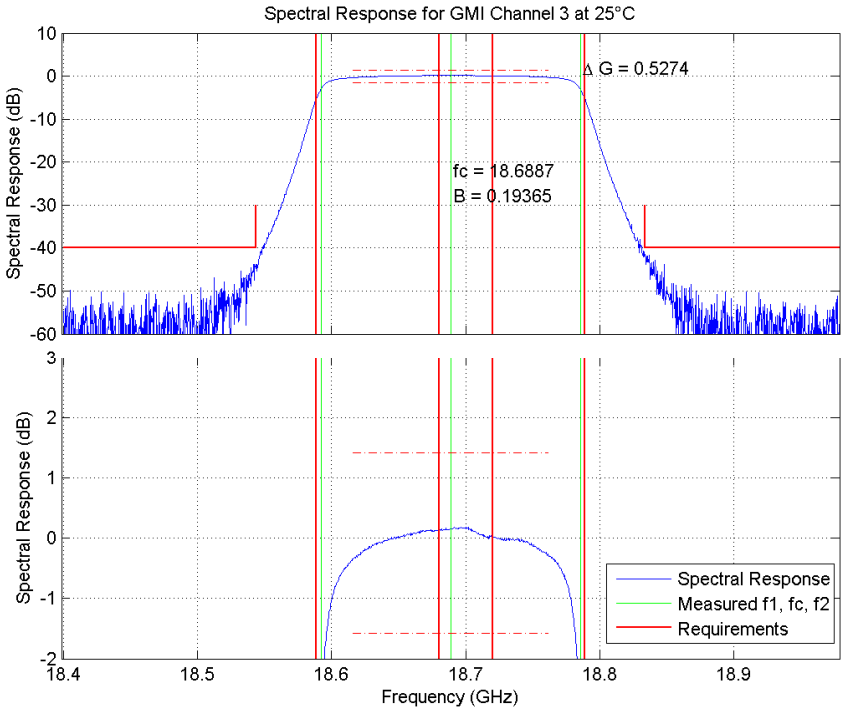

Figure 72. Band-pass and gain variation verification data for Channel 3 at 25℃

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

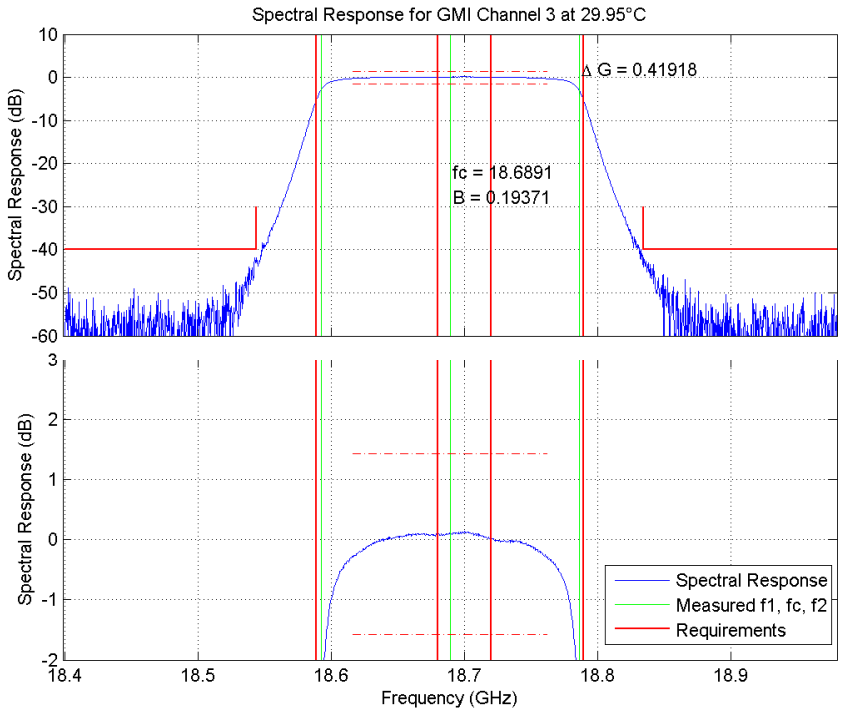

Figure 73. Band-pass and gain variation verification data for Channel 3 at 29.95℃

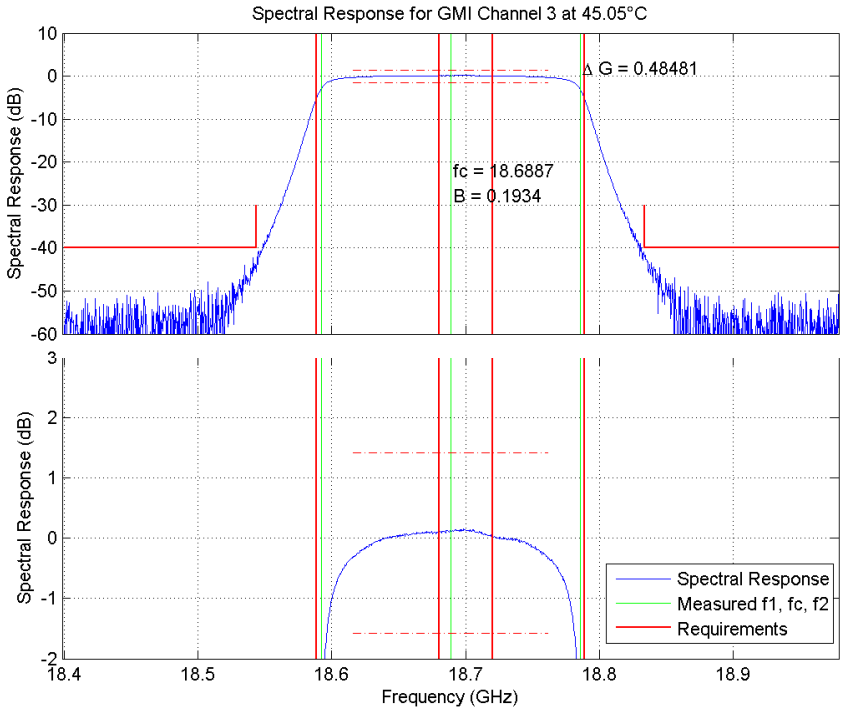

Figure 74. Band-pass and gain variation verification data for Channel 3 at 45.05℃

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

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[Manual: 2344649 Program: GMI

7.3 18 GHz H-pol Spectral Characterization

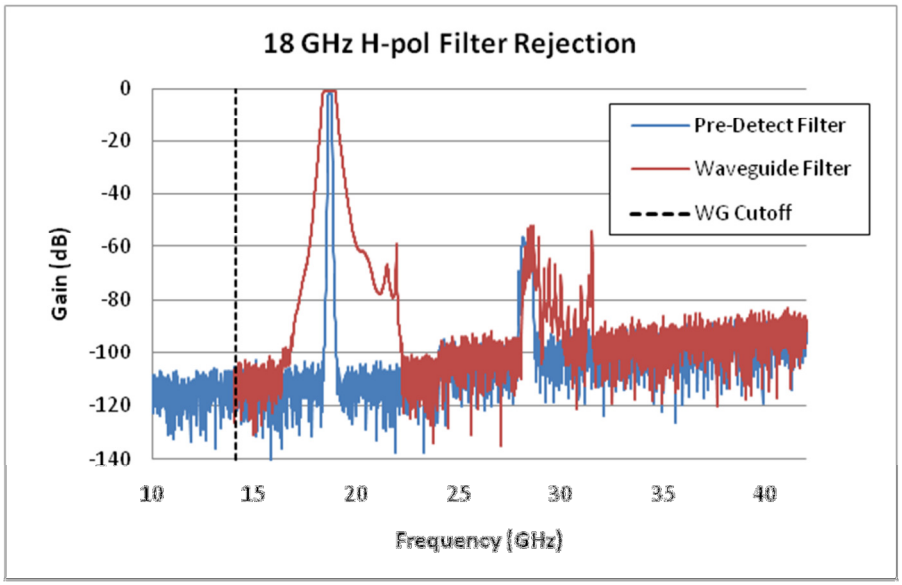

Figure 75 Broad-band transmission of the filters on the 18 GHz H-pol channel

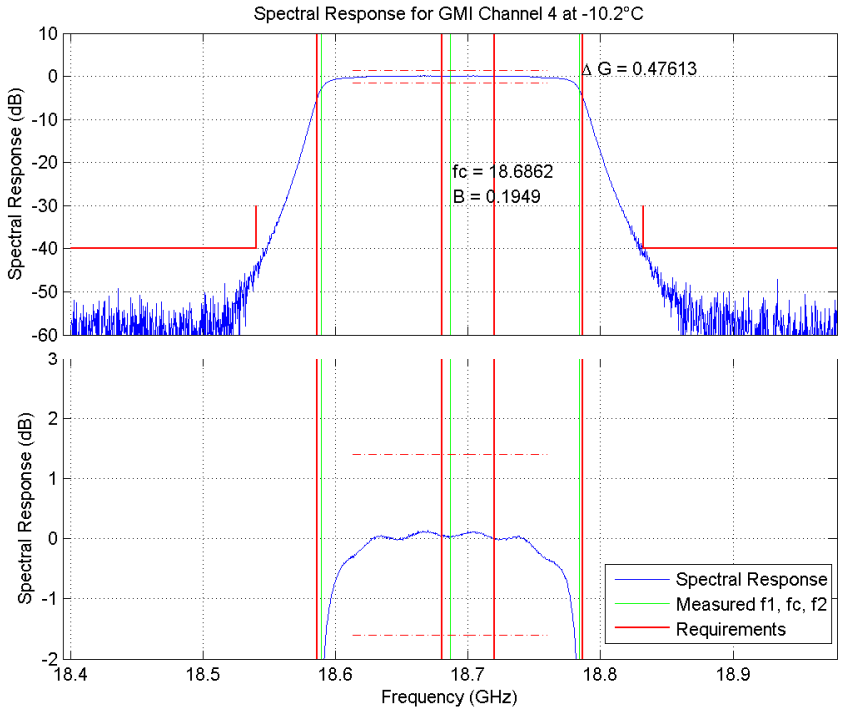

Figure 76. Band-pass and gain variation verification data for Channel 4 at -10.2℃

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

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[Manual: 2344649 Program: GMI

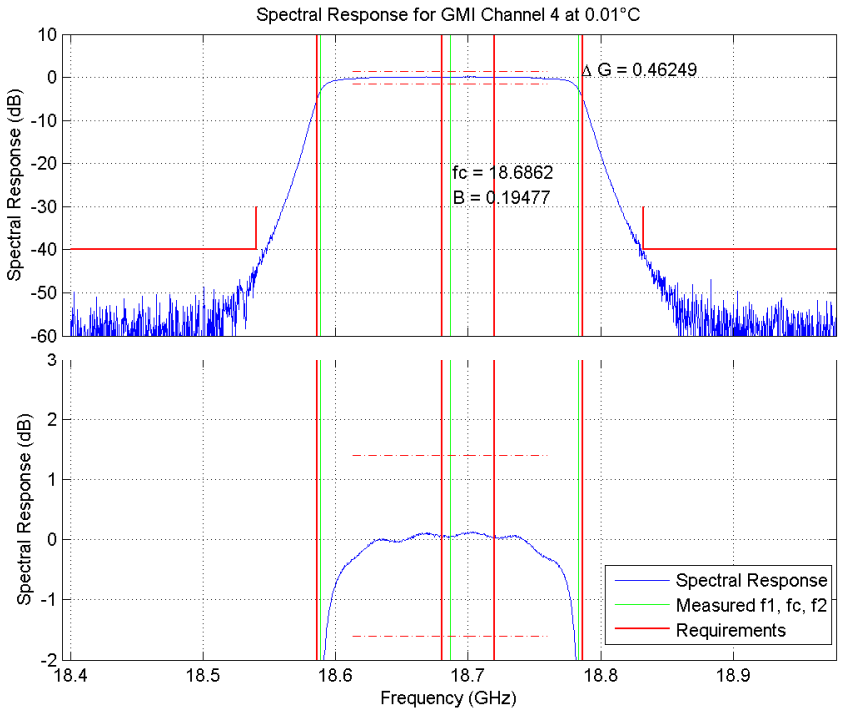

Figure 77. Band-pass and gain variation verification data for Channel 4 at 0.01°C

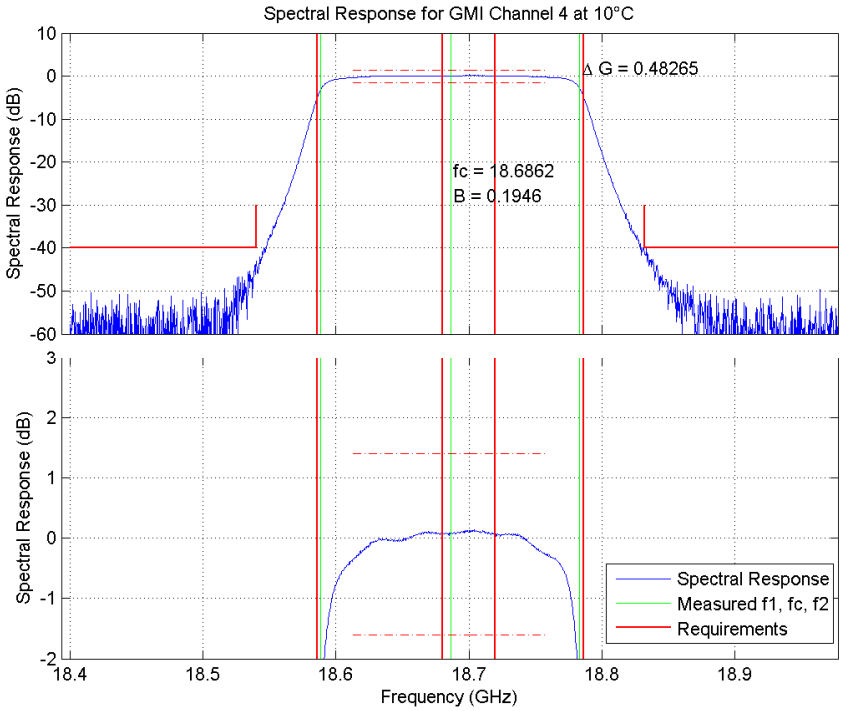

Figure 78. Band-pass and gain variation verification data for Channel 4 at 10°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

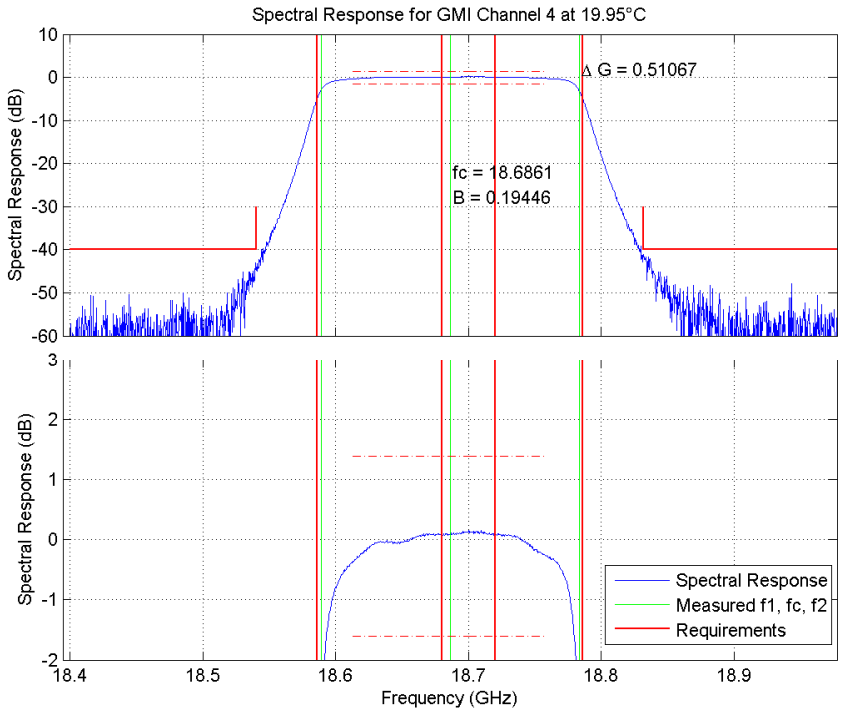

Figure 79. Band-pass and gain variation verification data for Channel 4 at 19.95℃

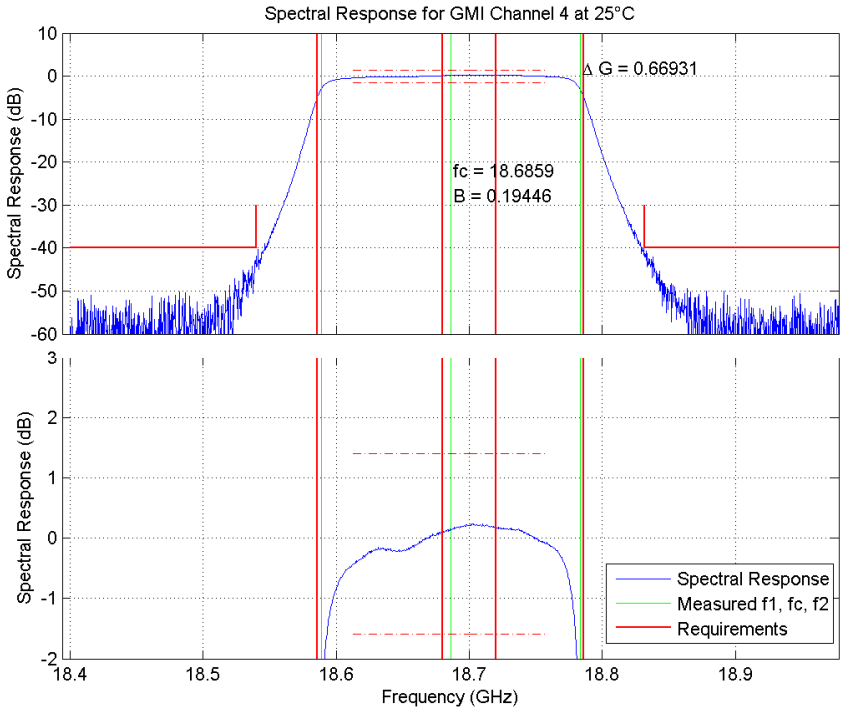

Figure 80. Band-pass and gain variation verification data for Channel 4 at 25℃

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

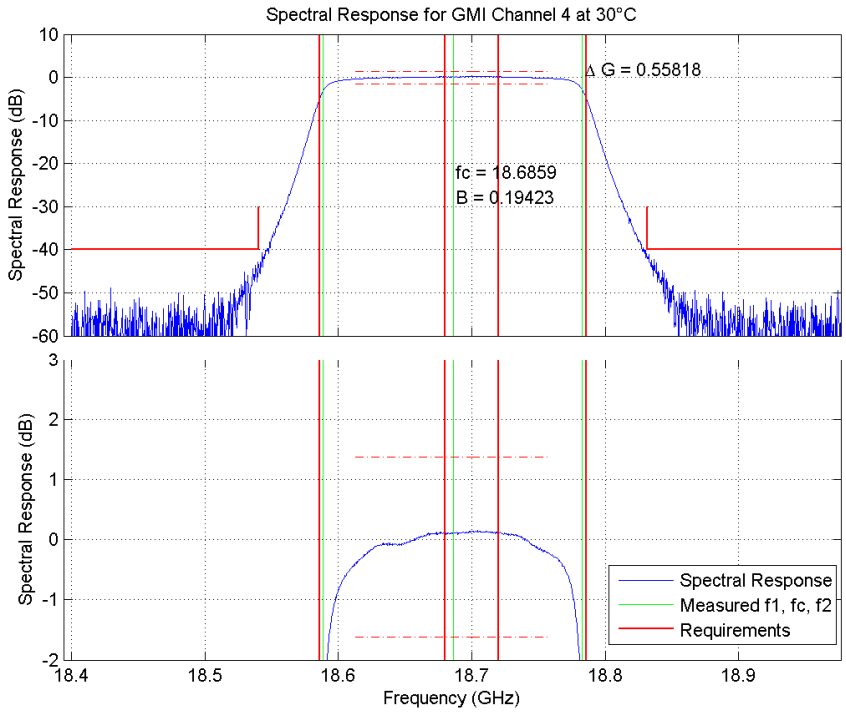

Figure 81. Band-pass and gain variation verification data for Channel 4 at 30°C

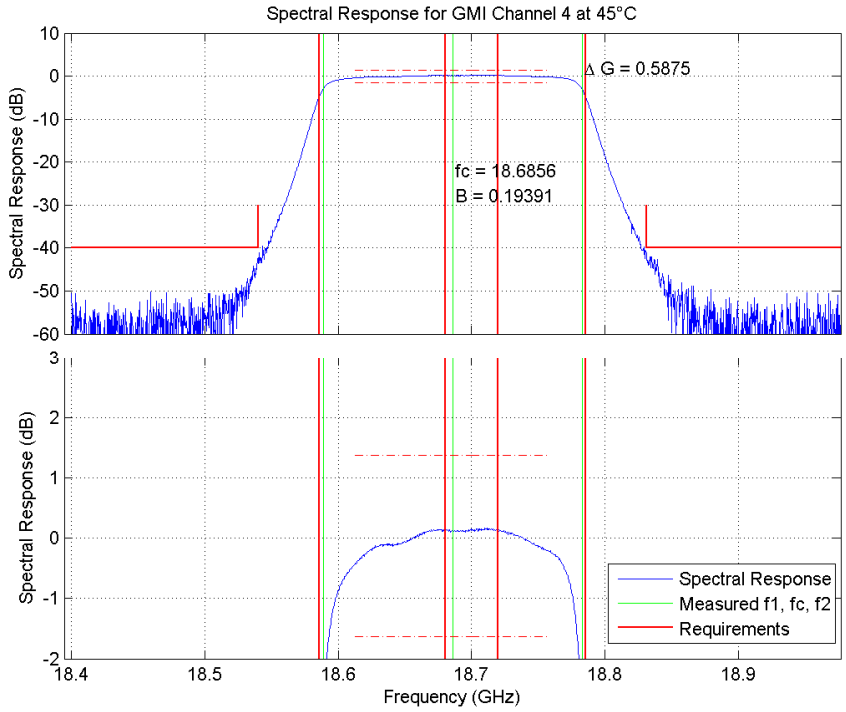

Figure 82. Band-pass and gain variation verification data for Channel 4 at 45°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

7.4 23 GHz V-pol Spectral Characterization

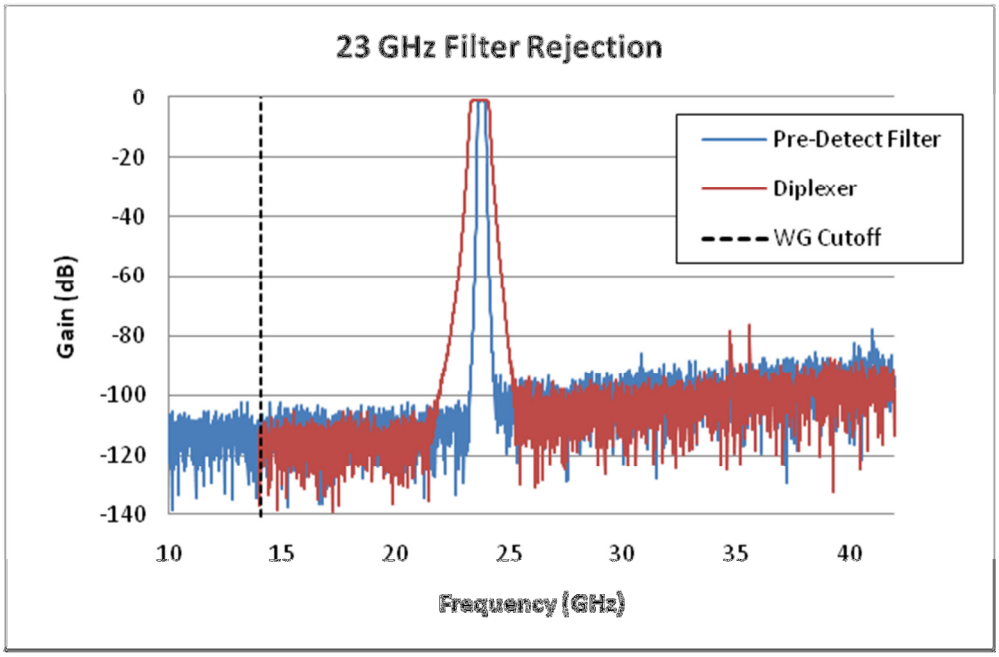

Figure 83. Broad-band transmission of the filters on the 23 GHz channel

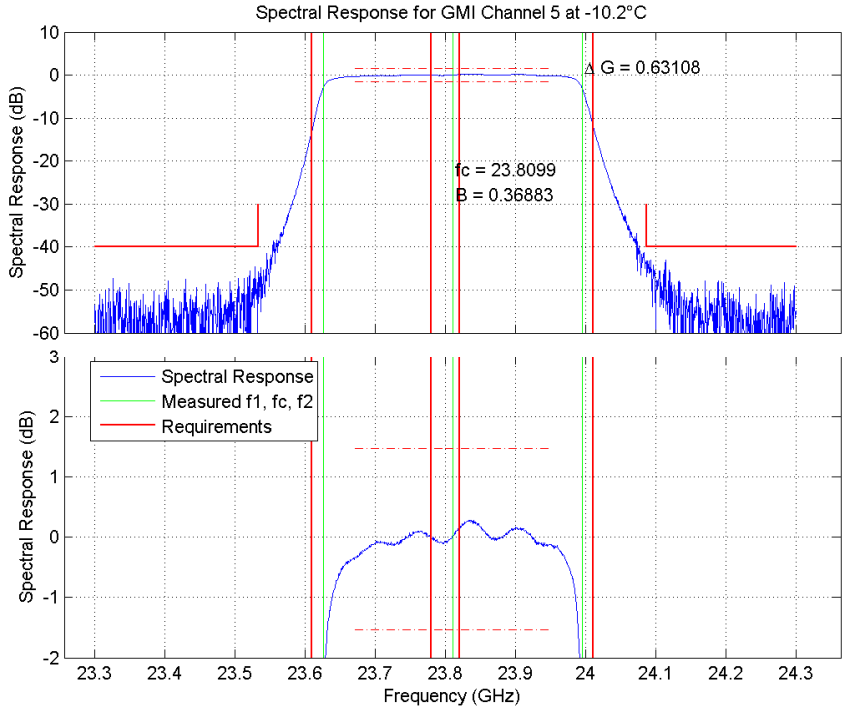

Figure 84. Band-pass and gain variation verification data for Channel 5 at -10.2℃

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

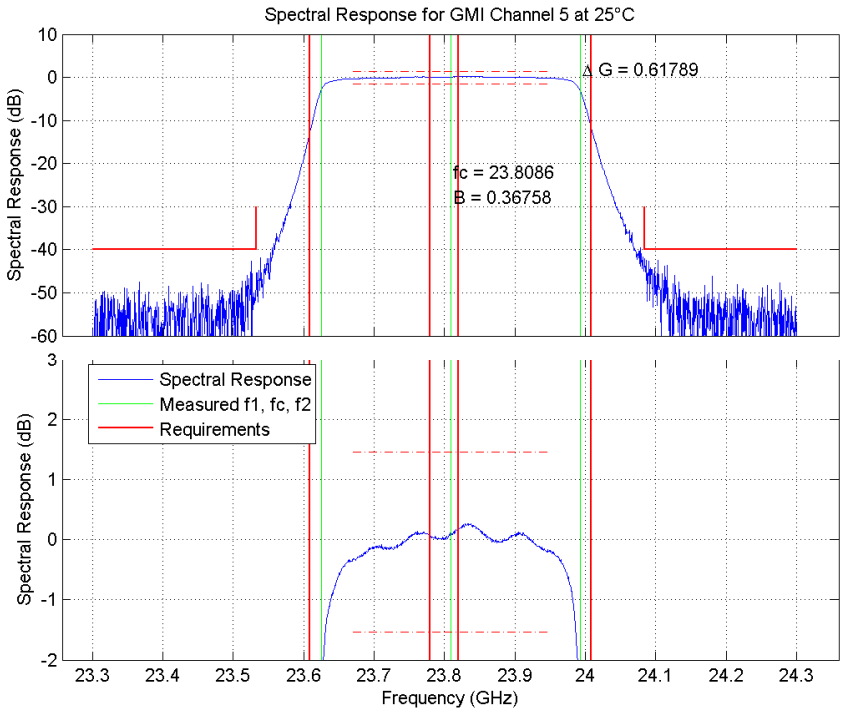

Figure 85. Band-pass and gain variation verification data for Channel 5 at 25°C

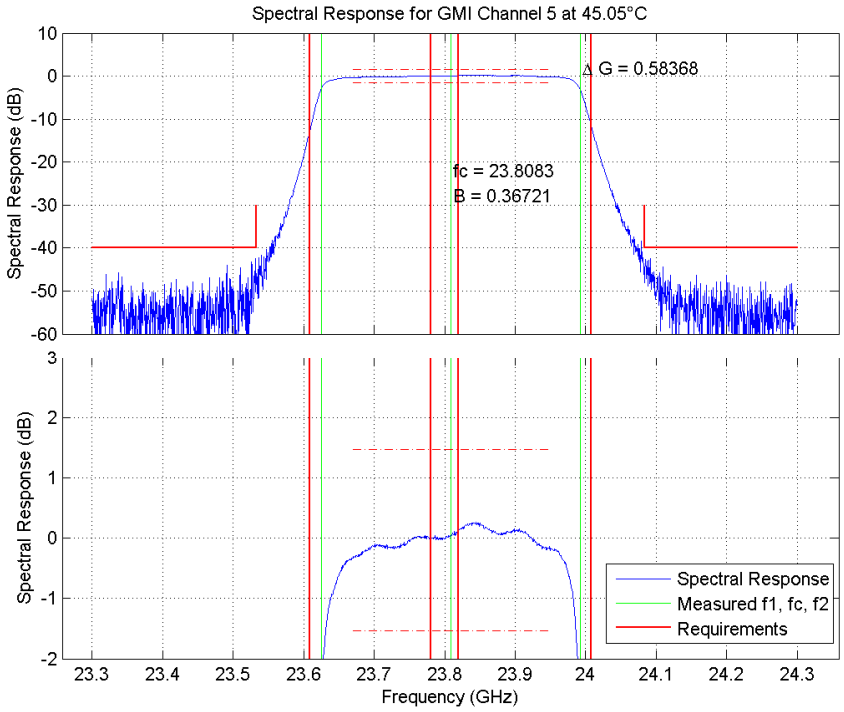

Figure 86. Band-pass and gain variation verification data for Channel 5 at 45.05°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

7.5 36 GHz Spectral Characterization

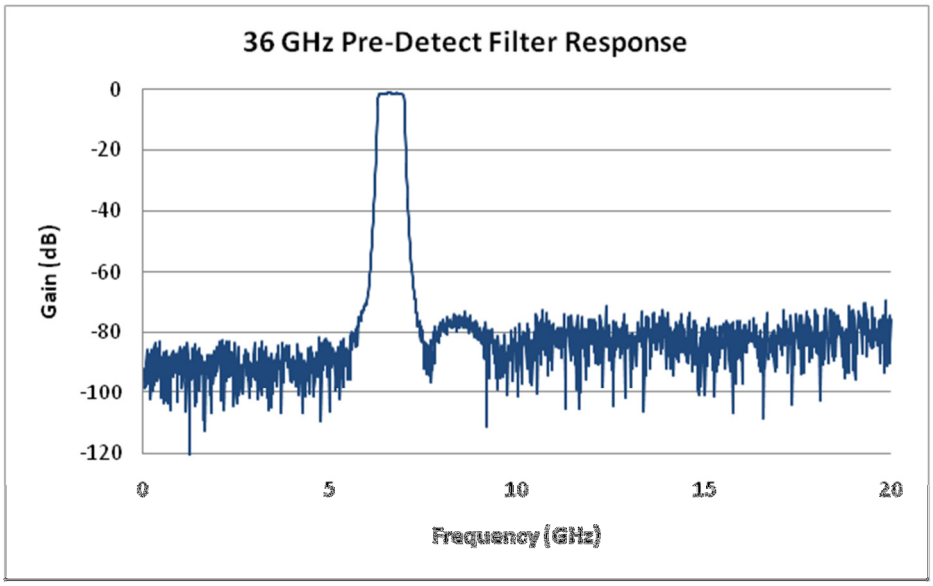

Figure 87. Broad-band transmission of the pre-detect filter on the 36 GHz channel

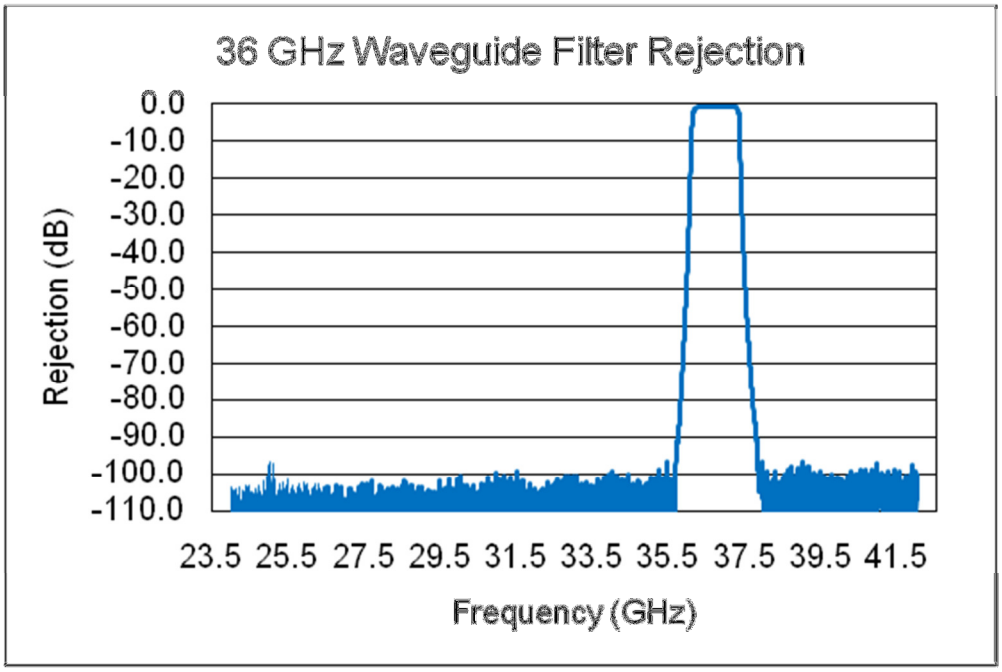

Figure 88. Broad-band transmission of the waveguide filter on the 36 GHz channels.

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

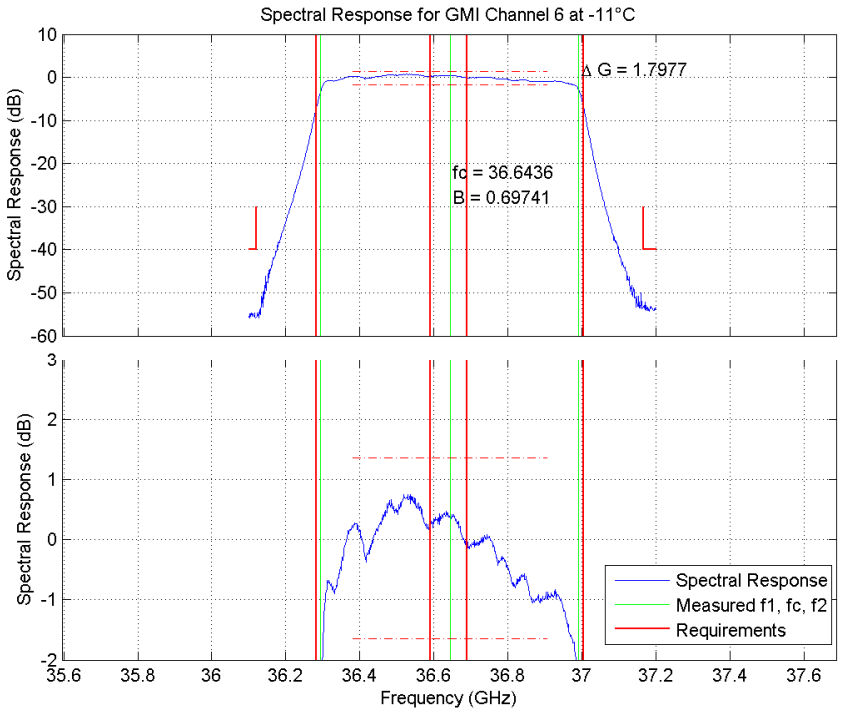

Figure 89. Band-pass and gain variation verification data for Channel 6 at -11°C

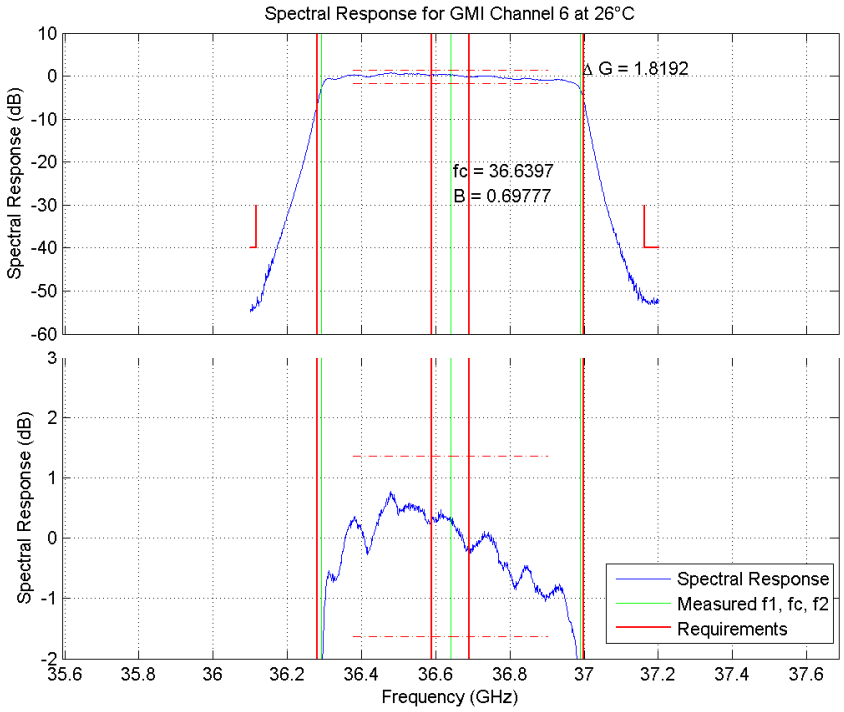

Figure 90. Band-pass and gain variation verification data for Channel 6 at 26°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

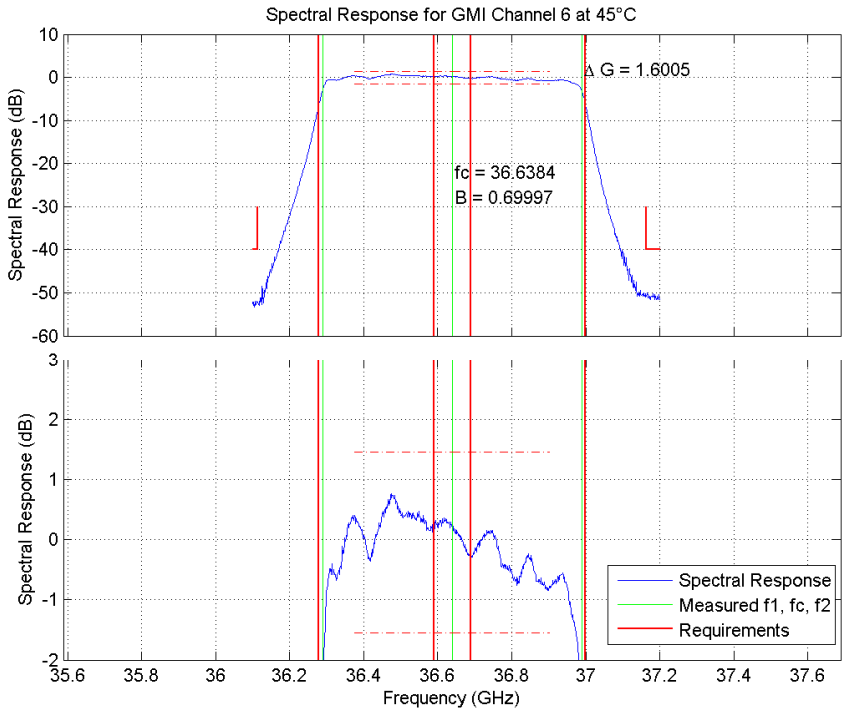

Figure 91. Band-pass and gain variation verification data for Channel 6 at 45°C

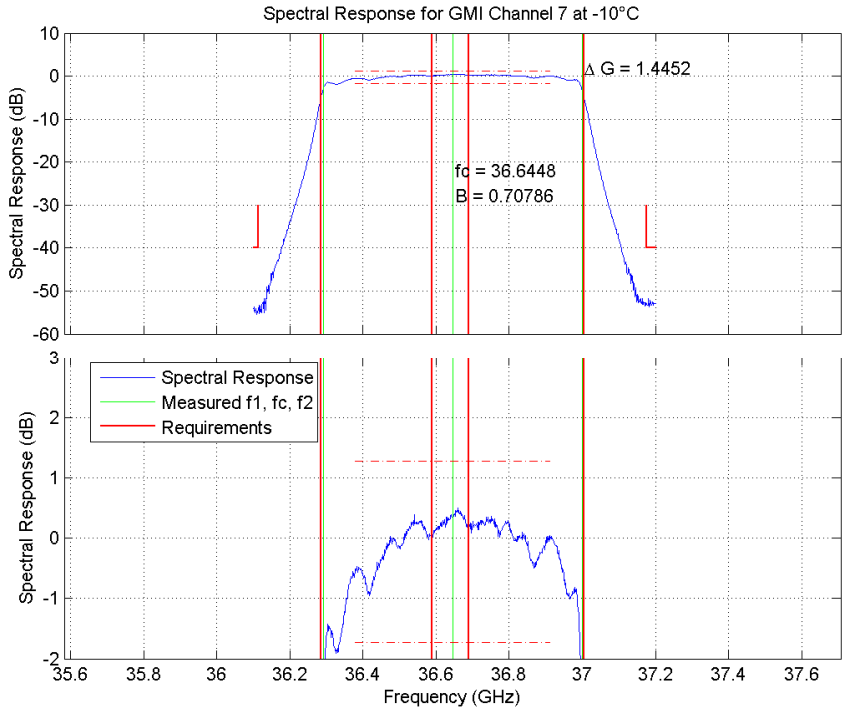

Figure 92. Band-pass and gain variation verification data for Channel 7 at -10°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

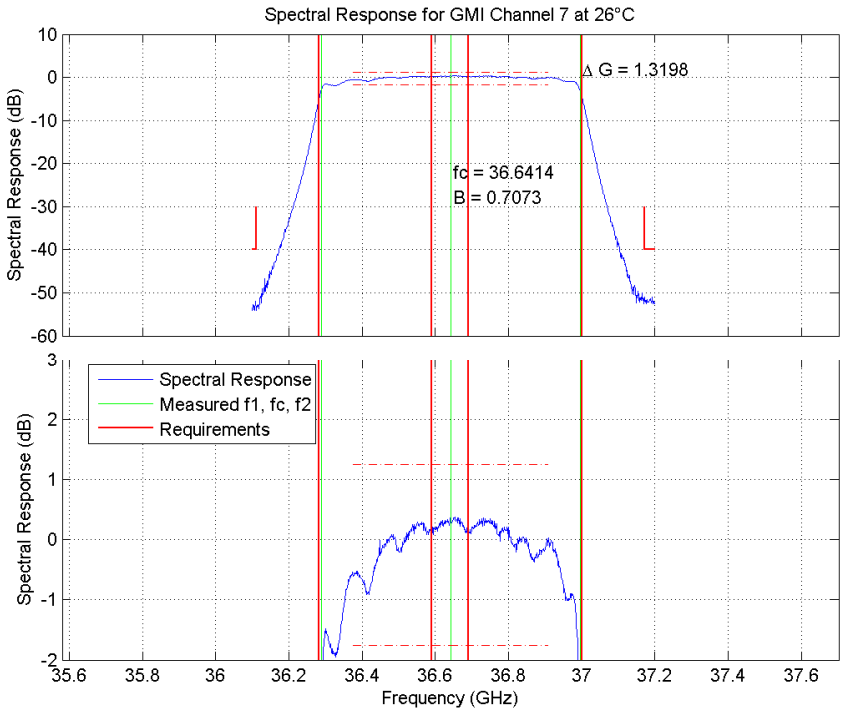

Figure 93. Band-pass and gain variation verification data for Channel 7 at 26°C

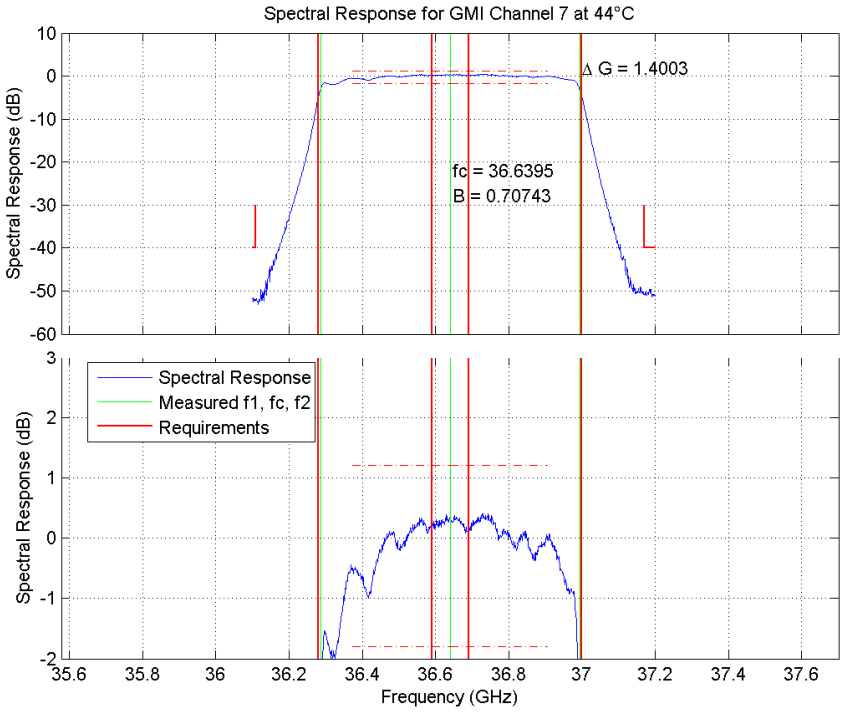

Figure 94. Band-pass and gain variation verification data for Channel 7 at 44°C

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

7.6 89 GHz V-pol Spectral Characterization

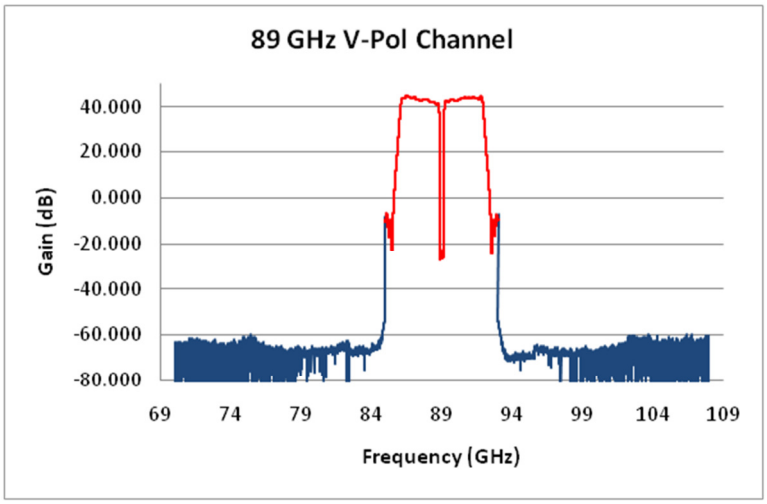

Figure 95. 89 GHz V-pol channel combined wide band rejection and narrow band gain data with signal injected before the mixer input and measured prior to the detector. The 69 to 108 GHz frequency range is equivalent to an IF range of 0 to 19 GHz.

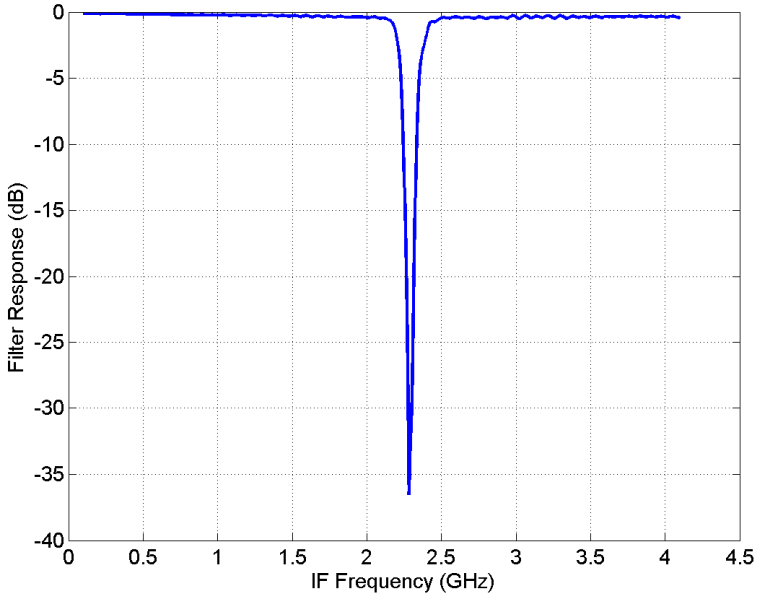

Figure 96. 89 GHz V-pol IF filter response of the High Gain Antenna (HGAS) reject filter applied during GPM S/C-level testing.

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

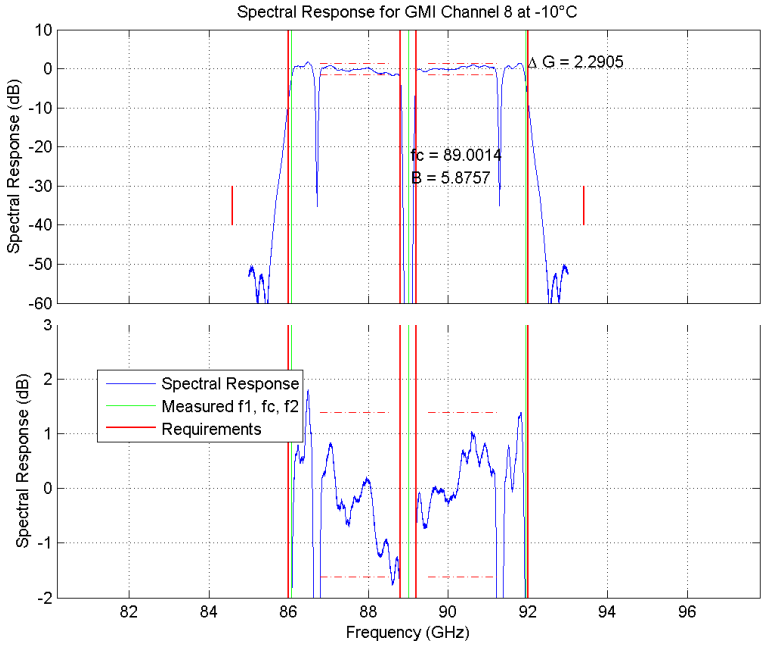

Figure 97. Band-pass and gain variation verification data for Channel 8 at -10°C. Note that the spectral response includes the HGAS rejection filter response.

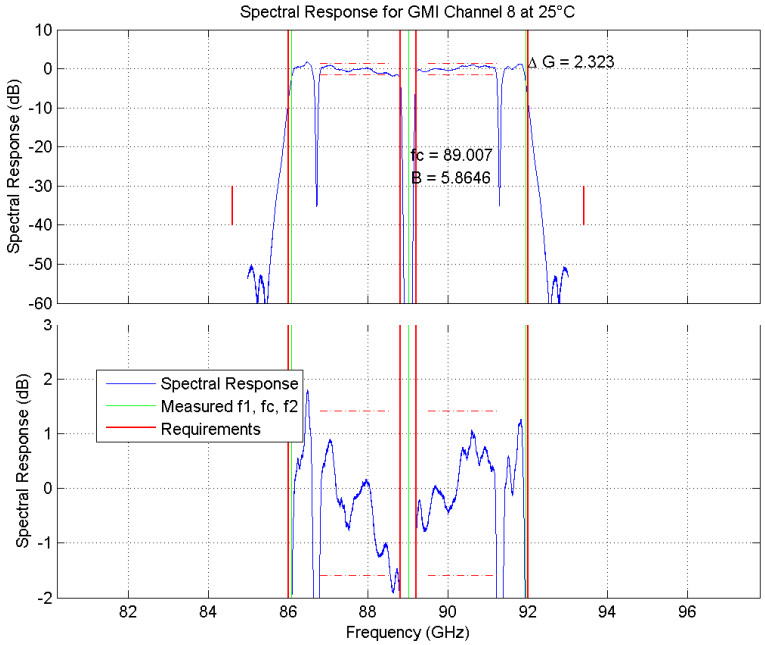

Figure 98. Band-pass and gain variation verification data for Channel 8 at 25°C. Note that the spectral response includes the HGAS rejection filter response.

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

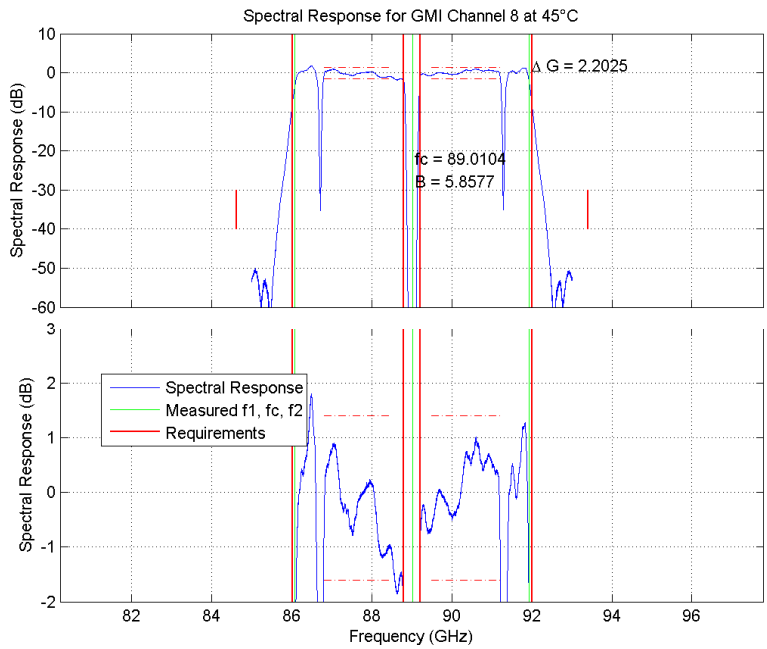

Figure 99. Band-pass and gain variation verification data for Channel 8 at 45°C. Note that the spectral response includes the HGAS rejection filter response.

7.7 89 GHz H-pol Spectral Characterization

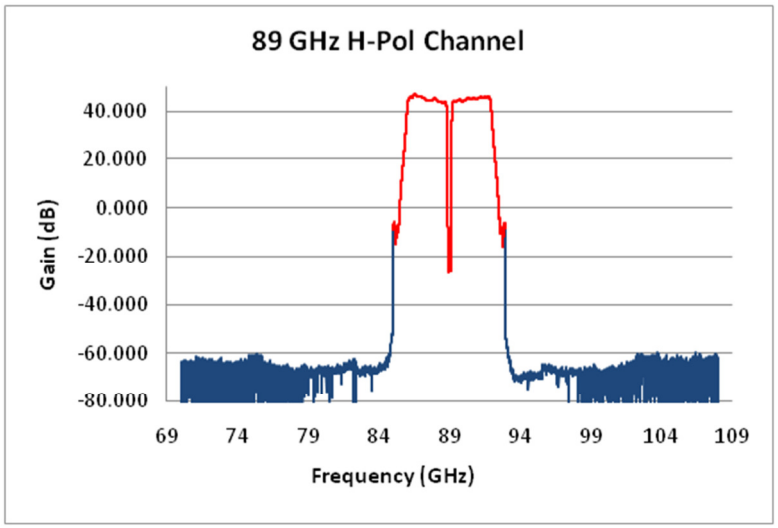

Figure 100. 89 GHz H-pol channel combined wide band rejection and narrow band gain data with signal injected before the mixer input and measured prior to the detector. The 69 to 108 GHz frequency range is equivalent to an IF range of 0 to 19 GHz.

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

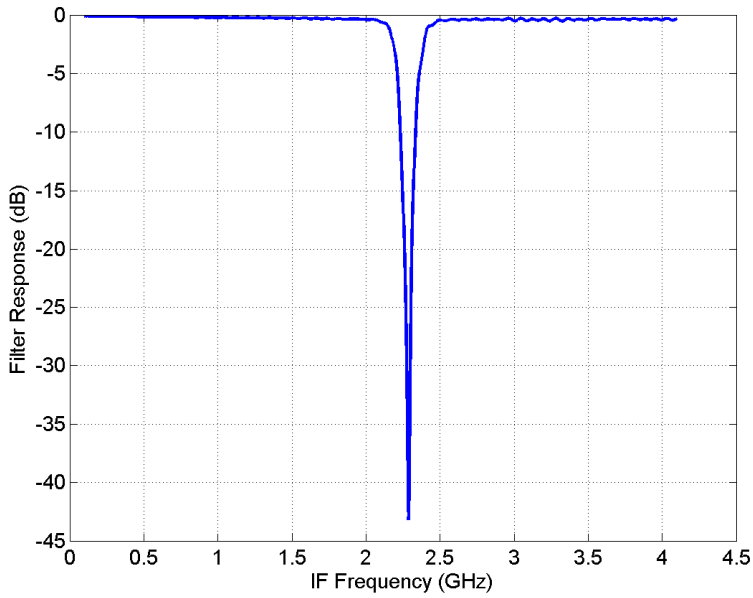

Figure 101. 89 GHz H-pol IF filter response of the High Gain Antenna (HGAS) reject filter applied during GPM S/C-level testing.

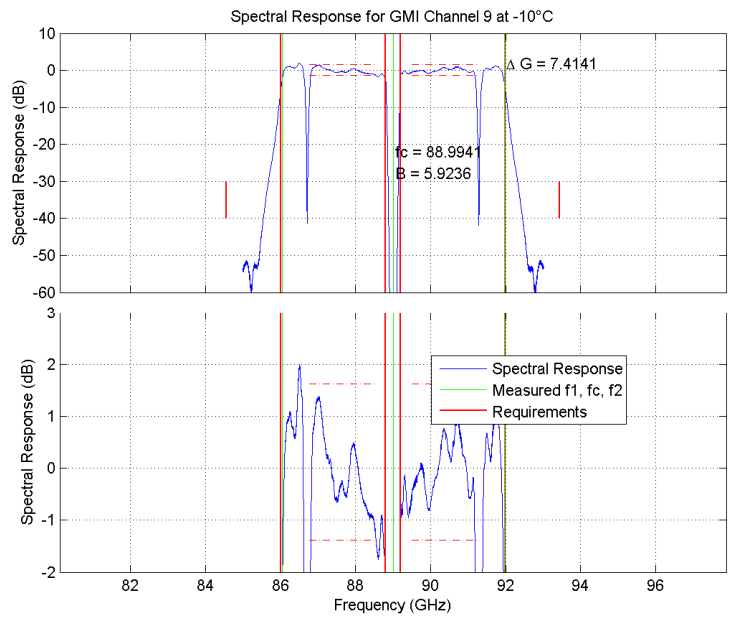

Figure 102. Band-pass and gain variation verification data for Channel 9 at -10°C. Note that the spectral response includes the HGAS rejection filter response.

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

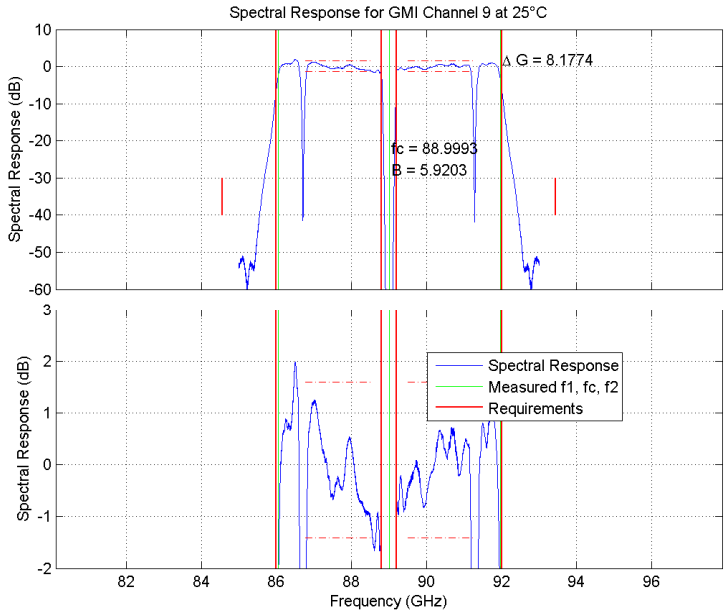

Figure 103. Band-pass and gain variation verification data for Channel 9 at 25°C. Note that the spectral response includes the HGAS rejection filter response.

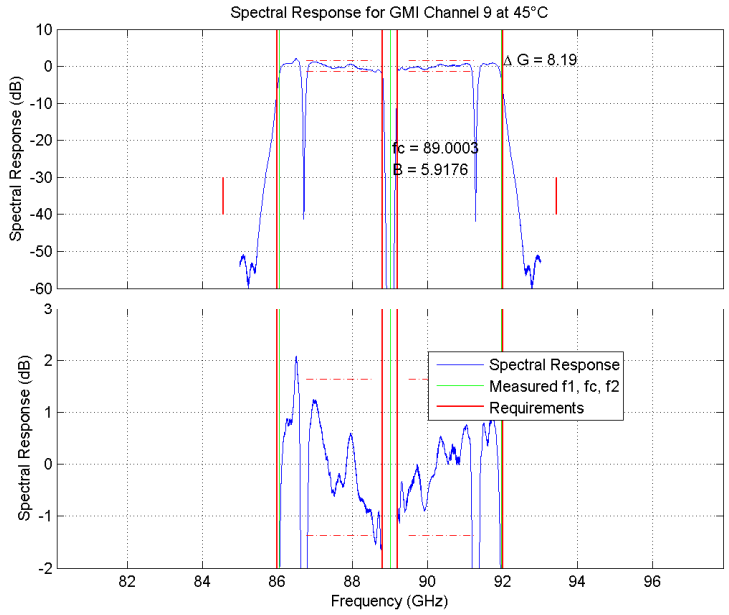

Figure 104. Band-pass and gain variation verification data for Channel 9 at 45°C. Note that the spectral response includes the HGAS rejection filter response.

[Manual: 2344649 Program: GMI
Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

7.8 166 GHz V-pol Spectral Characterization

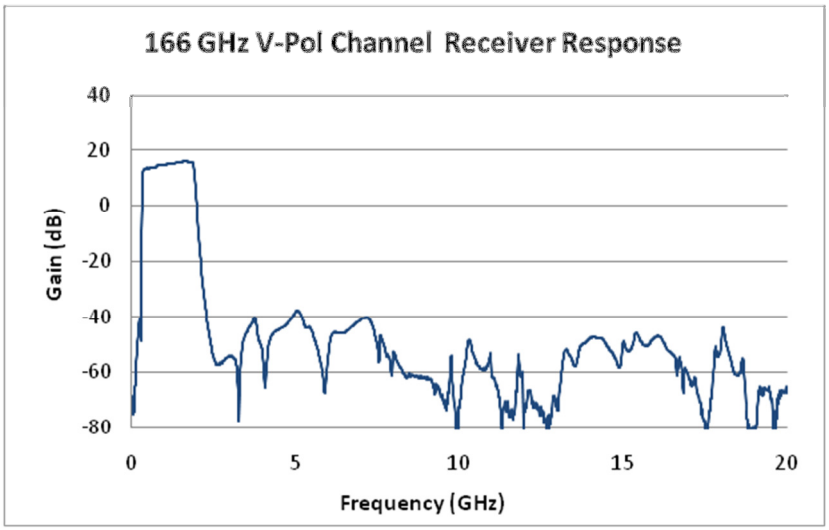

Figure 105. 166 GHz V-pol channel wide band rejection data with the receiver minus the mixer pre-amps and interconnect cables.

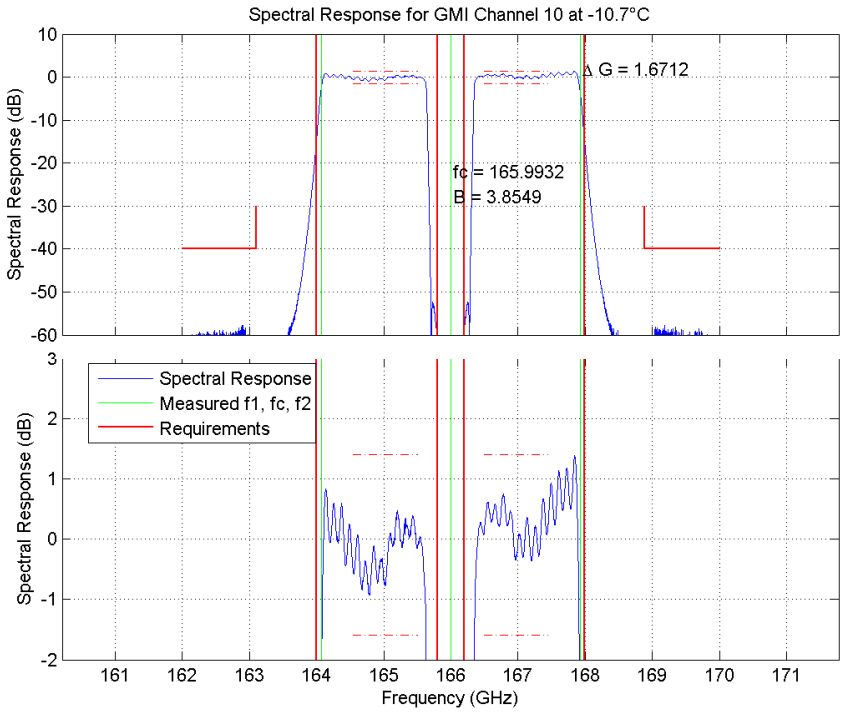

Figure 106. Band-pass and gain variation verification data for Channel 10 at -10.7°C

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Agile Revision: H (C484272)

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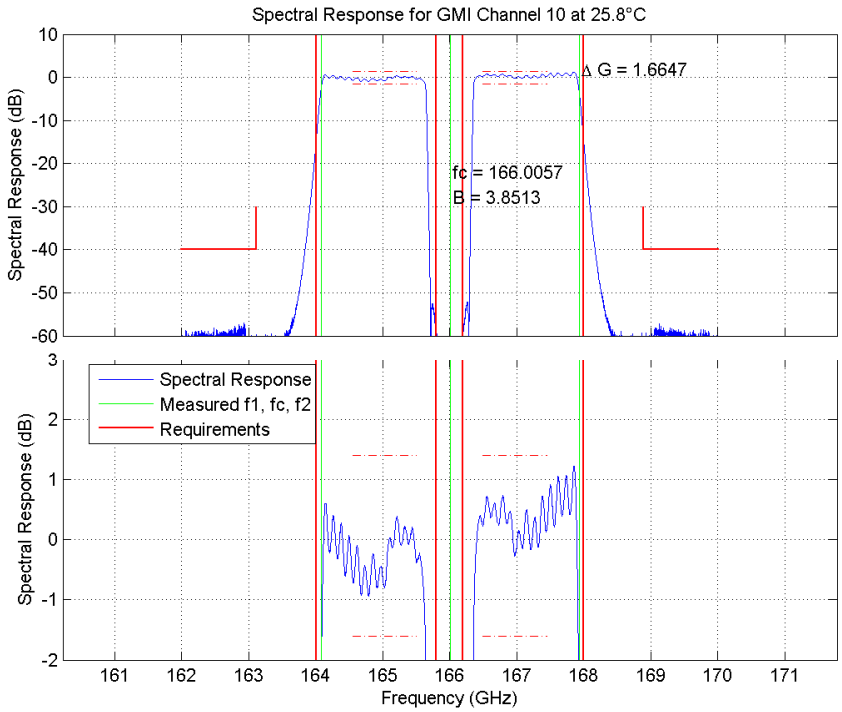

Figure 107. Band-pass and gain variation verification data for Channel 10 at 25.8℃

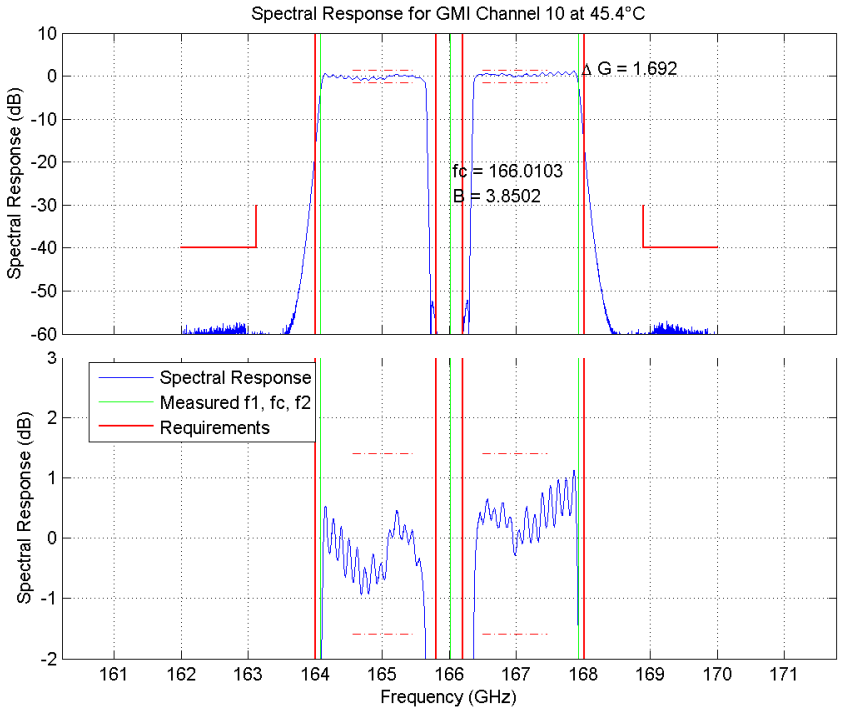

Figure 108. Band-pass and gain variation verification data for Channel 10 at 45.5℃

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7.9 166 GHz H-pol Spectral Characterization

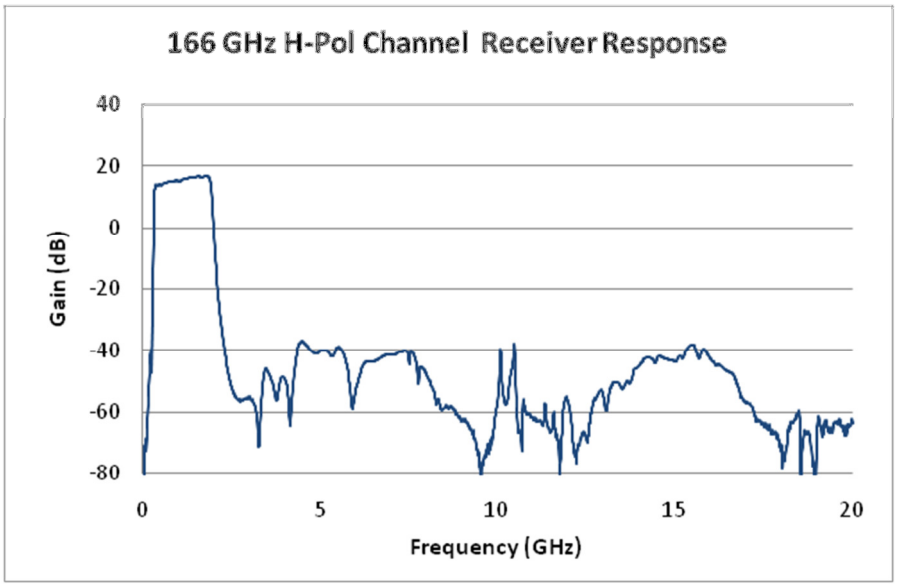

Figure 109. 166 GHz H-pol channel wide band rejection data with the receiver minus the mixer pre-amps and interconnect cables.

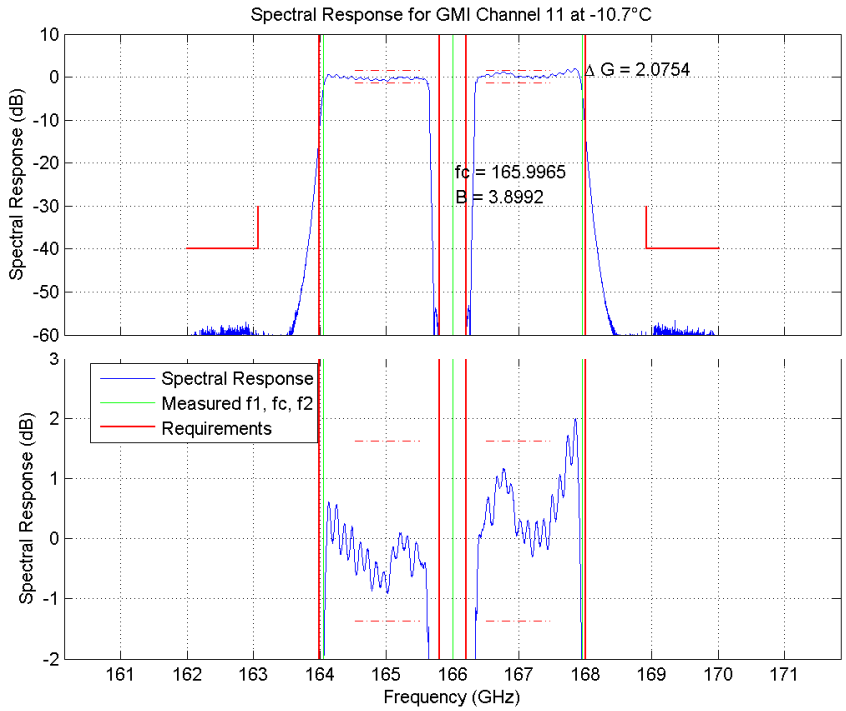

Figure 110. Band-pass and gain variation verification data for Channel 11 at -10.7°C

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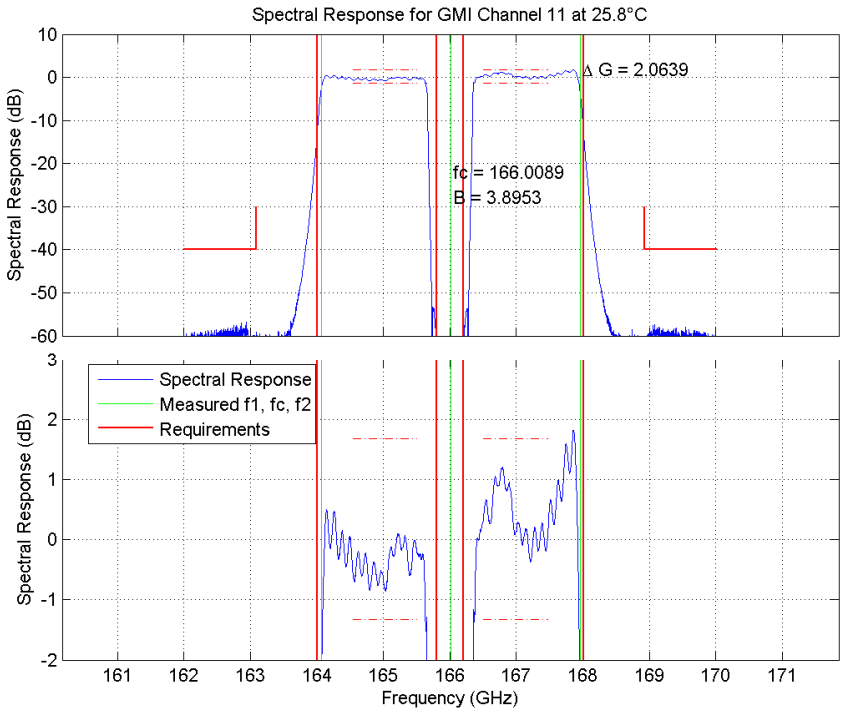

Figure 111. Band-pass and gain variation verification data for Channel 11 at 25.8℃

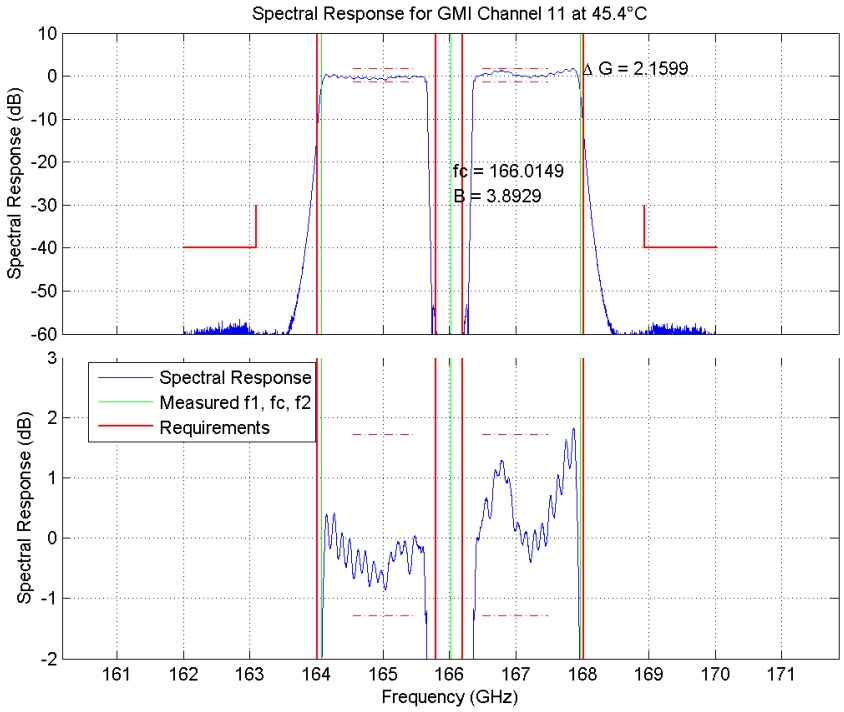

Figure 112. Band-pass and gain variation verification data for Channel 1 at 45.4℃

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7.10 183 +/- 3 GHz Spectral Characterization

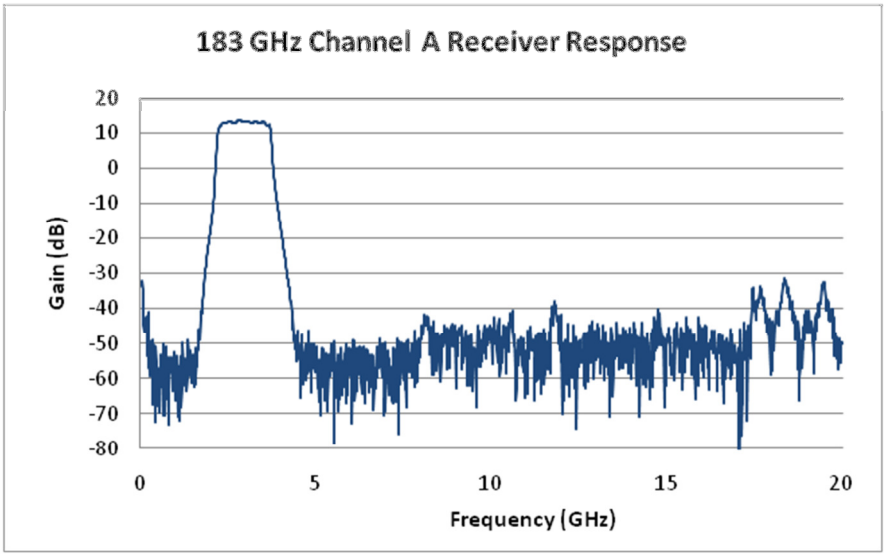

Figure 113. 183 GHz channel A wide band rejection data taken with the receiver minus the mixer pre-amps and interconnect cables.

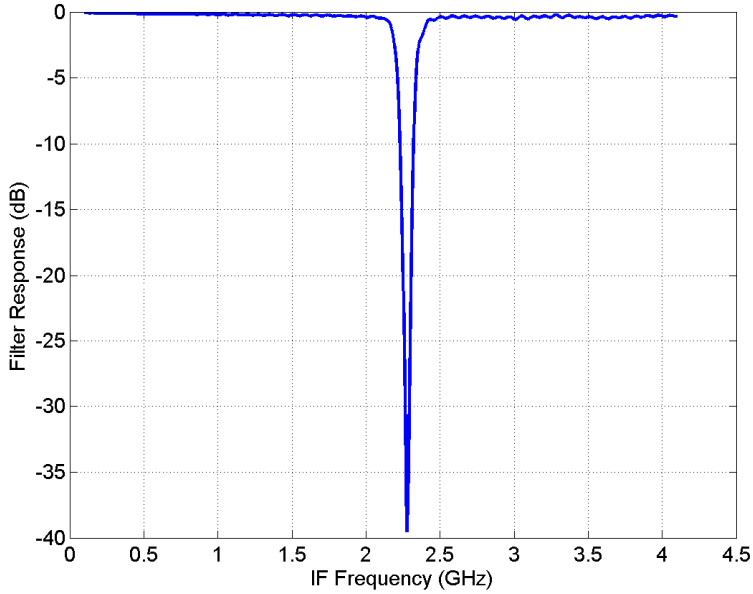

Figure 114. 183.31 +/- 3 GHz IF filter response of the High Gain Antenna (HGAS) reject filter applied during GPM S/C-level testing.

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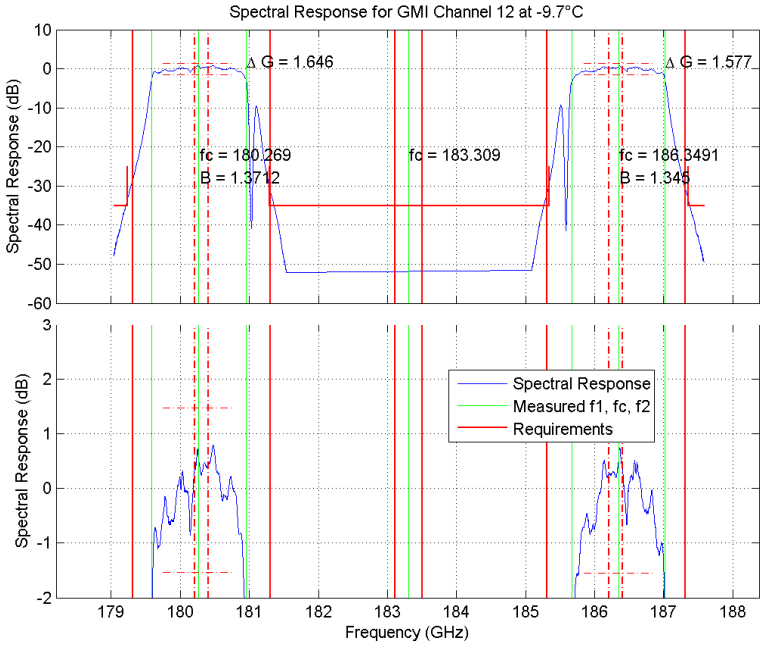

Figure 115. Band-pass and gain variation verification data for Channel 12 at -9.7°C. Note that the spectral response includes the HGAS rejection filter response.

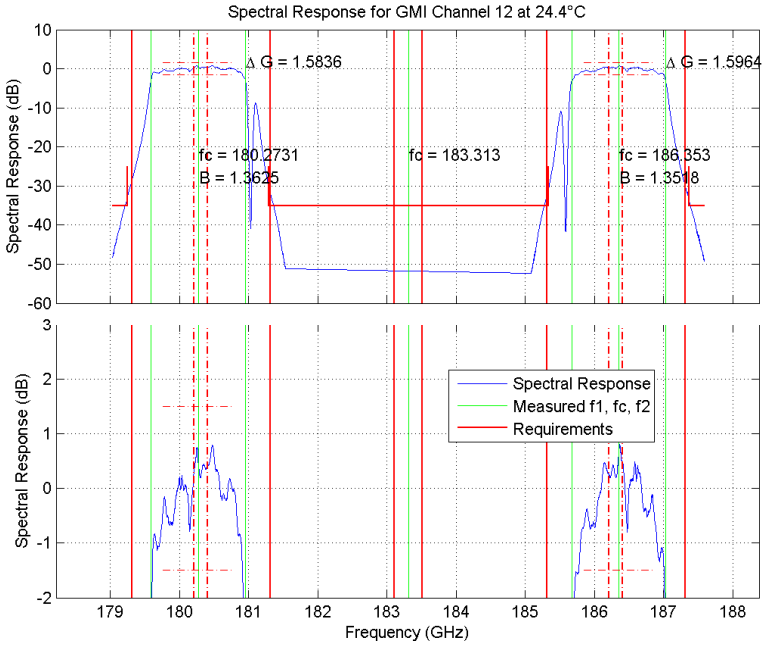

Figure 116. Band-pass and gain variation verification data for Channel 12 at 24.4°C. Note that the spectral response includes the HGAS rejection filter response.

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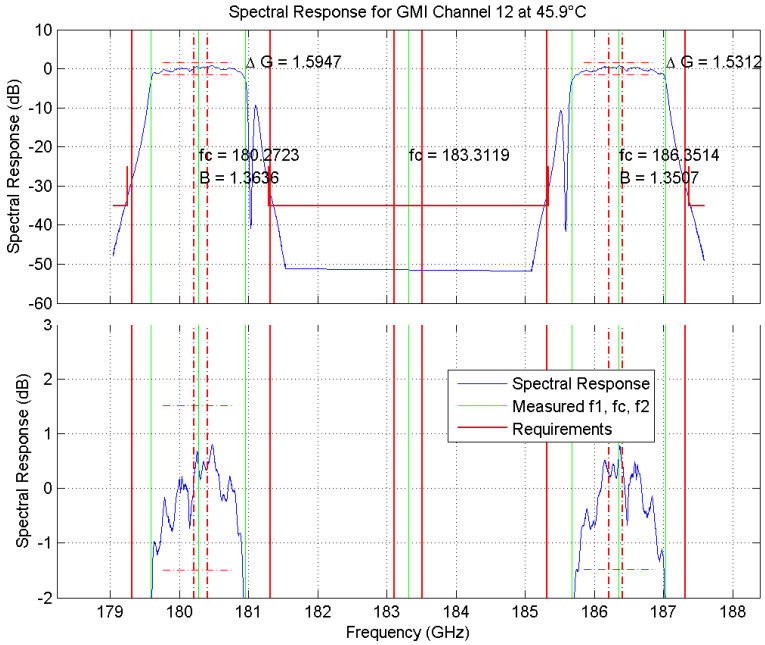

Figure 117. Band-pass and gain variation verification data for Channel 12 at 45.9°C. Note that the spectral response includes the HGAS rejection filter response.

7.11 183 +/- 7 GHz Spectral Characterization

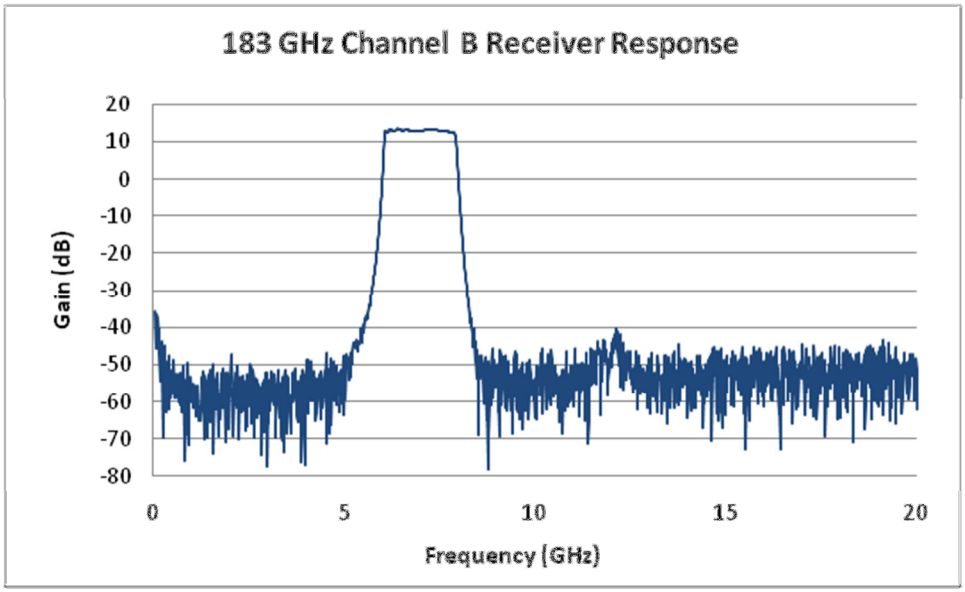

Figure 118. 183 GHz channel B wide band rejection data taken with the receiver minus the mixer pre-amps and interconnect cables.

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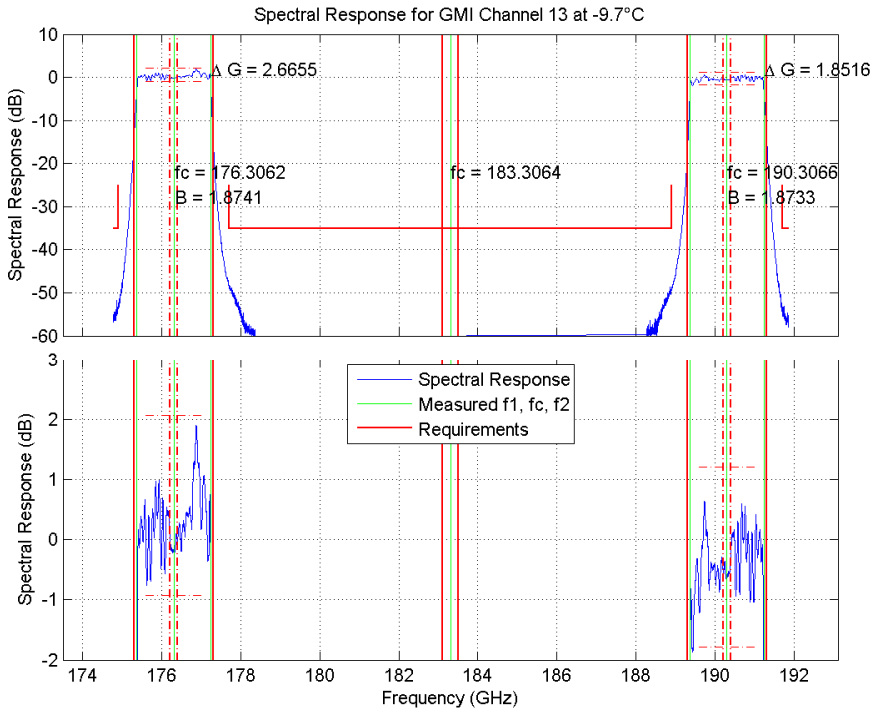

Figure 119. Band-pass and gain variation verification data for Channel 13 at -9.7°C

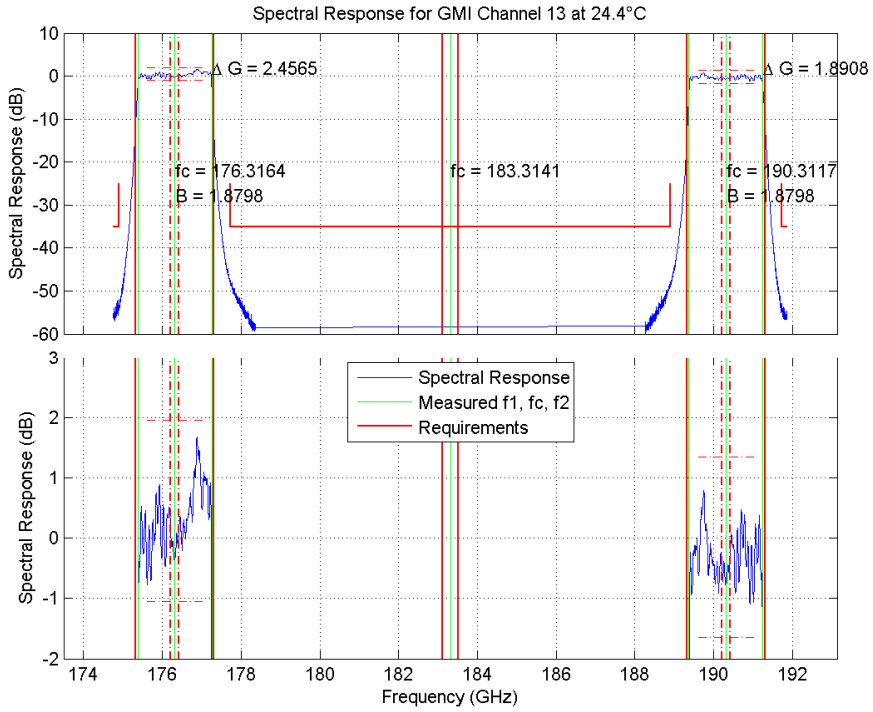

Figure 120. Band-pass and gain variation verification data for Channel 13 at 24.4°C

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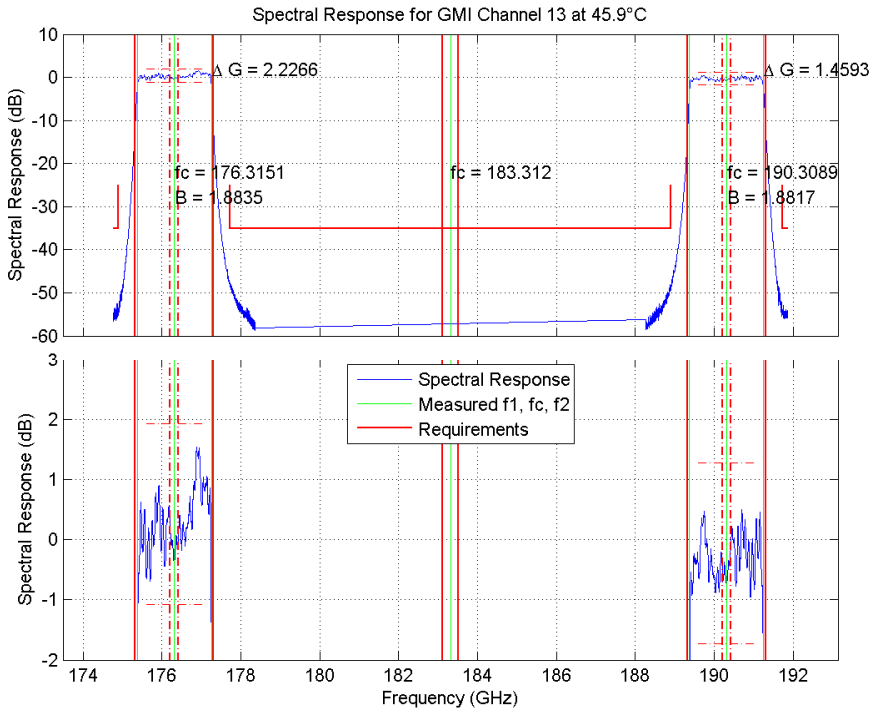

Figure 121. Band-pass and gain variation verification data for Channel 13 at 49.5°C

7.12 Spectral Parameters

7.12.1 Overview of Analysis Method

The narrowband spectral response for each channel was measured at ITT (now Exelis Inc.). The data was analyzed at ITT and then re-analyzed at Ball using released Matlab analysis software 2291872-200 Rev B. The ITT and Ball analysis software results are slightly different mostly due to the fact that the Ball code interpolated the data onto a finer sampling grid, while the ITT analysis method used the native data sampling. The following gives a high-level overview of the analysis methodology.

<u>3 dB Points</u>

The 3-dB frequencies depend on the average gain over the inner 75% of the pass-band bandwidth, which in turn is dependent upon the 3-dB frequencies. Since average gain and the 3-dB points are interdependent, they are computed iteratively. The algorithm uses the maximum bandwidth and center frequency requirements from the GMI Instrument Specification as a starting point to compute the average gain over the inner 0.75 of the pass-band. The 3 dB points are computed from the initial average gain, and the gain is re-computed from the 3 dB points. The process is repeated until convergence is reached. Linear interpolation is used between sample frequencies to more precisely determine the 3 dB points.

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Center Frequency

The center frequency is the average of the 3 dB points. For channels 12-13, the center frequency is the average of the two center frequencies of the sidebands.

Peak to Peak Gain Variation

The peak-to-peak gain variation is computed by differencing the maximum and minimum gain levels within the inner 75% of the pass-bands. The data are inspected to find reasonable guard bands for channels 8-11. In all four cases a guard band of 1 GHz is used.

Out-of-band rejection

All data outside of +/- 0.75 times the pass-band is inspected to verify that the gain is 40 dB below the average gain over the center 0.75 of the pass-band.

Thus, to verify the band-pass and gain variation, the ITT targeted data are used with released Matlab code to produce quantitative values. To verify out-of-band (OOB) rejection, the additional data are inspected where necessary.

7.12.2 Band-pass and Gain Variation

The data shown in this SER come from testing performed by ITT on the receiver chains themselves. In order to produce instrument level performance data, the response of the antenna and feed horns must also be accounted for.

The reflector is designed to be broadband in its response, so the effect on spectral performance is assumed to be negligible. The impact of the feed horns is not quite as small as that of the reflector, but it is minor. The most non-uniform feed horn is the 18/23 GHz horn. Return loss data for this horn are shown below in Figure 122. The variation looks dramatic, but in order to calculate the real impact to spectral shape, the return loss needs to be converted into transmission. Over the frequency range of interest for the 18 GHz channel, the return loss varies from approximately -22 dB to -37 dB. These numbers say that only 0.63% and 0.02% of the signal is reflected by the horn, which implies that the transmission varies by just 0.03 dB.

We will ignore reflector and feedhorn effects because this 0.03 dB impact is the largest effect and would not change the results of the testing.

We note that for channel 9, the HGAS rejection filter slightly intrudes into the inner 75% of the pass-band, which affects the gain variation estimate of that channel and now shows a non-conformance to the requirement.

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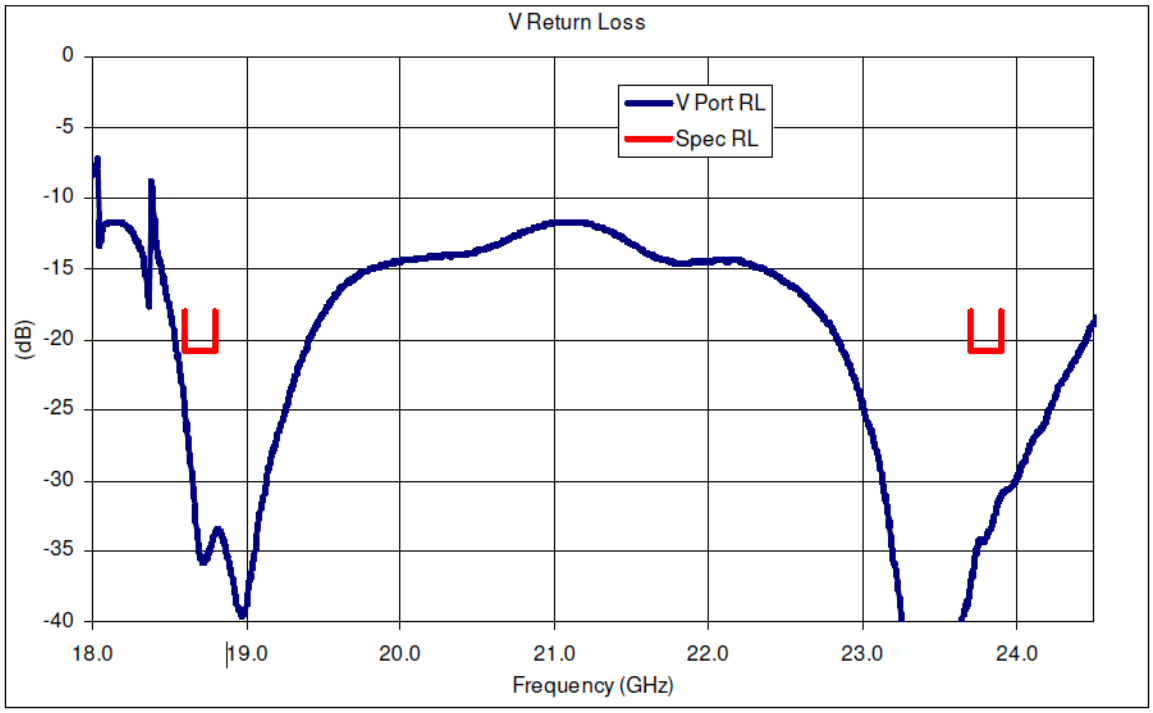

Figure 122. Return loss data for the 18/23 GHz feed horn, which is the most non-uniform of all the GMI feed horns.

7.12.3 Out-of-Band Rejection

Wideband measurements of end-to-end receiver performance are not available for all channels. Instead, performance data of various components for each channel are provided to show overall compliance with the requirements. For the 10 GHz channels, the OOB rejection is slightly out of spec and a waiver has been written. For Channel 12, the HGAS rejection filter slightly narrows the effective bandwidth. The narrowing of the bandwidth changes the points at which the OOB rejection is measured (i.e. at +/- 0.75 x bandwidth), which somewhat changes the reported OOB rejection. This channel now shows an out-of tolerance condition. For all other channels we meet all OOB rejection requirements.

7.12.4 Frequency Stability

For the low frequency receivers (10 GHz through 23 GHz) the center frequency is set by the passive cavity type pre-detect filters. Aging effects on these channels are negligible. Vacuum effects, however, are not negligible. The calculated shifts are 2.7 MHz for the 10 GHz channel, 4.7 MHz for 18 GHz and 6.0 MHz for 23 GHz. For 36 GHz and above, breadboard/engineering model unit (EMU) aging data were presented at ITT's interim critical design review (CDR) (Day 2, pg 60). A summary of testing is shown below in Table 31 and Table 32. All channels meet stability requirements.

7.13 Spectral Results

Table 31 and Table 32 summarize the results for frequency stability that were gathered from ITT reports. Table 33 and Table 34 collect all the calculated results of both BATC and ITT analysis

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using data from ITT. The most conservative values are highlighted in gray and are presented in Table 33. Plots of relevant data are shown in Figure 52 through Figure 121.

Table 31 Frequency Stability Results. Results with HGAS rejection filter are shown in blue.

Channel	Nominal Frequency	Req't	Aging (MHz)	Vacuum shift (MHz)	Δf at temperature (MHz)			Performance
					-10° C	+25° C	+45° C	
1	10.65	10	Negligible	3.14	-1.97	-2.53	-2.44	1.17
2					-4.78	-5.25	-4.97	-2.11
3	18.70	20		5.52	-13.9	-14.25	-14.45	-8.93
4					-10.5	-11.5	-11.5	-5.98
5	23.80			7.02	-13.9	-14.25	-14.45	-7.43
6	36.50	50	0.58	-7.2	+1.43	+1.40	+1.39	-5.81
7					+1.46	+1.41	+1.40	-5.80
8	89.00	200	2.0		1.4	7	10.4	-5.8
9					-5.9	-0.7	0.3	-13.1
10	166		4.0		-8	+1	+8	-15.2
11					-6	+4	+12	-13.2
12	183.31				-1	+3	+1.9	-5
13					-3	+6	+5	10.2

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Table 32. LO Stability analysis from ITT Interim CDR, Day 2, page 60.

Projected Frequency Stability

LO Frequency Stability Analysis

RF Center Freq. (GHz)	LO Freq. (GHz)	Eff. Mult. xN	Effective LO Freq. (GHz)	LO Frequency Stability Coefficients				LO Frequency Accuracy						
				Temp. (ppm/°C)	Aging (ppm/yr)	Pulling (ppm)	Pushing (ppm/V)	Temp. (±MHz)	Aging (±MHz)	Pulling (±MHz)	Pushing (±MHz)	Vacuum (±MHz)	Bias (±MHz)	Random (±MHz)
10.65	N/A													
18.7	N/A													
23.8	N/A													
36.64	15.0	2	30.0	1.3	2.7	50	1.0	1.07	0.58	1.5	0.015	3.4	2.0	6.6
				(MHz/°C)	(MHz/yr)		(MHz/V)							
89.0	89.0	1	89.0	0.026	0.28	0.01	0.01	0.72	2.0	0.00	0.01	14.4	2.0	17.1
166	83.0	2	166.0	0.063	0.28	0.01	0.01	3.47	4.0	0.00	0.01	9.6	4.0	17.1
183.31 ± 3	91.655	2	183.31	0.081	0.28	0.01	0.01	4.5	4.0	0.00	0.01	11.2	3.0	19.7
183.31 ± 8	91.655	2	183.31	0.081	0.28	0.01	0.01	4.5	4.0	0.00	0.01	11.2	3.0	19.7

Filter Frequency Stability Analysis & Channel Total

RF Center Freq. (GHz)	IF Center Freq. (GHz)	IF Filter Accuracy			Proj Bias (±MHz)	Proj Random (±MHz)	Proj Total (±MHz)	Spec Total (±MHz)	Margin Total (±MHz)	Comments
		TC (ppm/C)	Random (±MHz)	Bias (±MHz)						
10.65	10.65	1.3	0.4	5.8	5.8	0.4	6.2	10	3.8	w/g structure, invar
18.7	18.70	1.3	0.7	10.9	10.9	0.7	11.6	20	8.4	w/g structure, invar
23.8	23.80	1.3	0.9	6.6	6.6	0.9	7.5	20	12.5	w/g structure, invar
36.64	6.64	19.2	3.5	2.0	4.0	10.1	14.1	50	35.9	DRO, IF combline filter
89.0	1.55	40	3.4	30.0	32.0	20.5	52.5	200	147.5	DRO, HP/LP LE filter
165.5	1.125	40	2.5	45.0	49.0	19.6	68.6	200	131.4	DRO, HP/LP LE filter
183.31 ± 3	3.00	40	6.6	10.0	13.0	26.3	39.3	200	160.7	DRO, HP/LP LE filter
183.31 ± 8	8.00	20	4.4	5.0	8.0	24.1	32.1	200	167.9	DRO, IF combline filter

ITT

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Table 33. Summary of analysis of ITT data for channels 1 through 5 over temperature. Worst number highlighted in gray.

Channel	Temperature (C)	OOB Rejection (dB)		Bandwidth (MHz)		Gain Variation (dB)	
		BATC	ITT	BATC	ITT	BATC	ITT
1	-10.7	-39.31	-39.54	96.53	96.56	0.398	0.40
	-0.8	-39.59		96.52		0.415	
	9.8	-39.36		96.51		0.434	
	19.8	-39.43		96.52		0.447	
	22.9	-39.57	-39.56	96.57	96.56	0.428	0.43
	30.1	-39.66		96.50		0.455	
	45	-39.56	-39.73	96.50	96.38	0.477	0.48
2	-10.7	-37.15	-37.44	95.10	95.06	0.422	0.42

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	-0.8	-37.14		95.02		0.407	
	9.8	-37.07		94.96		0.400	
	19.8	-36.83		94.91		0.372	
	22.9	-37.05	-37.38	94.91	94.88	0.348	0.35
	30.1	-37.11		94.85		0.368	
	45	-36.77	-36.87	94.75	94.69	0.359	0.36
3	-10.2	-41.68	-41.64	194.2	194.2	0.490	0.49
	0.01	-41.68		194.2		0.396	
	10	-40.88		193.9		0.498	
	19.95	-40.32		193.8		0.419	
	25	-41.70	-41.95	193.6	193.9	0.527	0.53
	29.95	-41.80		193.7		0.419	
	45.05	-41.72	-40.90	193.4	193.1	0.485	0.46
4	-10.2	-40.16	-41.76	194.9	195.0	0.476	0.48
	0.01	-40.57		194.8		0.462	
	10	-40.09		194.6		0.483	
	19.95	-41.14		194.5		0.511	
	25	-40.61	-41.24	194.5	194.3	0.669	0.68
	30	-41.16		194.2		0.558	
	45	-42.00	-41.32	193.9	193.9	0.587	0.60
5	-10.2	-43.03	< -45	368.8	368.8	0.631	0.63
	25	-42.05	< -45	367.6	367.5	0.618	0.62
	45.05	-42.48	< -45	367.2	366.9	0.584	0.59

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Table 34. Summary of analysis of ITT data for channels 6 through 13 over temperature. Worst number highlighted in gray. Data computed with the HGAS rejection filter are shown in blue.

Channel	Temperature (C)	OOB Rejection (dB)		Bandwidth (MHz)		Gain Variation (dB)	
		BATC	ITT	BATC	ITT	BATC	ITT
6	-11	-52.24	-53.47	697.4	696.0	1.798	1.08
	26	-51.60	-51.87	697.8	697.0	1.819	1.82
	45	-50.00	-50.84	700.0	700.0	1.601	1.60
7	-10	-51.82	-53.39	707.9	708.0	1.445	1.45
	26	-50.90	-51.40	707.3	707.0	1.320	1.32
	44	-49.60	-50.91	707.4	708.0	1.400	1.40
8*	-10	< - 50	-58.00	5865	5871	2.323	3.12
	25	< - 50	-58.00	5858	5860	2.202	3.17
	45	< - 50	-56.00	5876	5854	2.291	3.15
9*	-10	< - 50	-48.00	5920	5913	8.177**	3.08
	25	< - 50	-49.00	5918	5909	8.190**	3.09
	45	< - 50	-50.00	5924	5906	7.414**	3.25
10*	-10.7	-57.76	-52.71	3855	3854	1.671	2.09
	25.8	-56.95	-53.06	3851	3850	1.665	1.99
	45.4	-57.06	-52.39	3850	3849	1.692	1.90
11*	-10.7	-56.63	-54.84	3899	3899	2.075	2.63
	25.8	-56.73	-54.72	3895	3894	2.064	2.45
	45.4	-56.65	-54.51	3893	3893	2.160	2.50
12	-9.7	-29.68***	-35.52	1371 / 1345	1449 / 1485	1.646 / 1.577	1.61 / 2.09
	24.4	-30.45***	-35.56	1363 / 1352	1493 / 1479	1.584 / 1.596	1.54 / 2.10
	45.9	-30.57***	-35.04	1364 / 1351	1489 / 1475	1.598 / 1.531	1.56 / 2.04
13	-9.7	-48.28	-48.83	1874 / 1873	1874 / 1874	2.665 / 1.852	2.65 / 1.85
	24.4	-48.05	-48.28	1880 / 1880	1880 / 1880	2.457 / 1.891	2.44 / 1.88
	45.9	-47.88	-48.26	1883 / 1882	1882 / 1882	2.227 / 1.459	2.21 / 1.46

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*For channels 8 through 11, ITT's analysis method calculated the gain variation for the two sidebands separately, while BATCs analysis calculated the gain variation over the entire pass-band excluding a 1 GHz zone around baseband. Although the two methods produce somewhat different results, both methods meet the gain variation requirement.

** For Channel 9, the HGAS rejection filter slightly intrudes into the inner 75% of the pass-band, which affects the gain variation estimate

***For Channel 12, the HGAS rejection filter slightly narrows the effective bandwidth. The narrowing of the bandwidth changes the points at which the OOB rejection is measured (i.e. at +/- 0.75 x bandwidth), which somewhat changes the reported OOB rejection.

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8. HOT LOAD CHARACTERIZATION

8.1 Hot Load Emissivity

The hot load emissivity was measured at three frequencies and various antenna angles by the hot load vendor ZAX. The data is given in Appendix J.

8.2 Beam Fractions on Hot Load

Using the PO model, the beam fractions incident on the hot load are predicted in Figure 123. We note that the beam efficiency onto the hot load is sufficiently high to not warrant a correction.

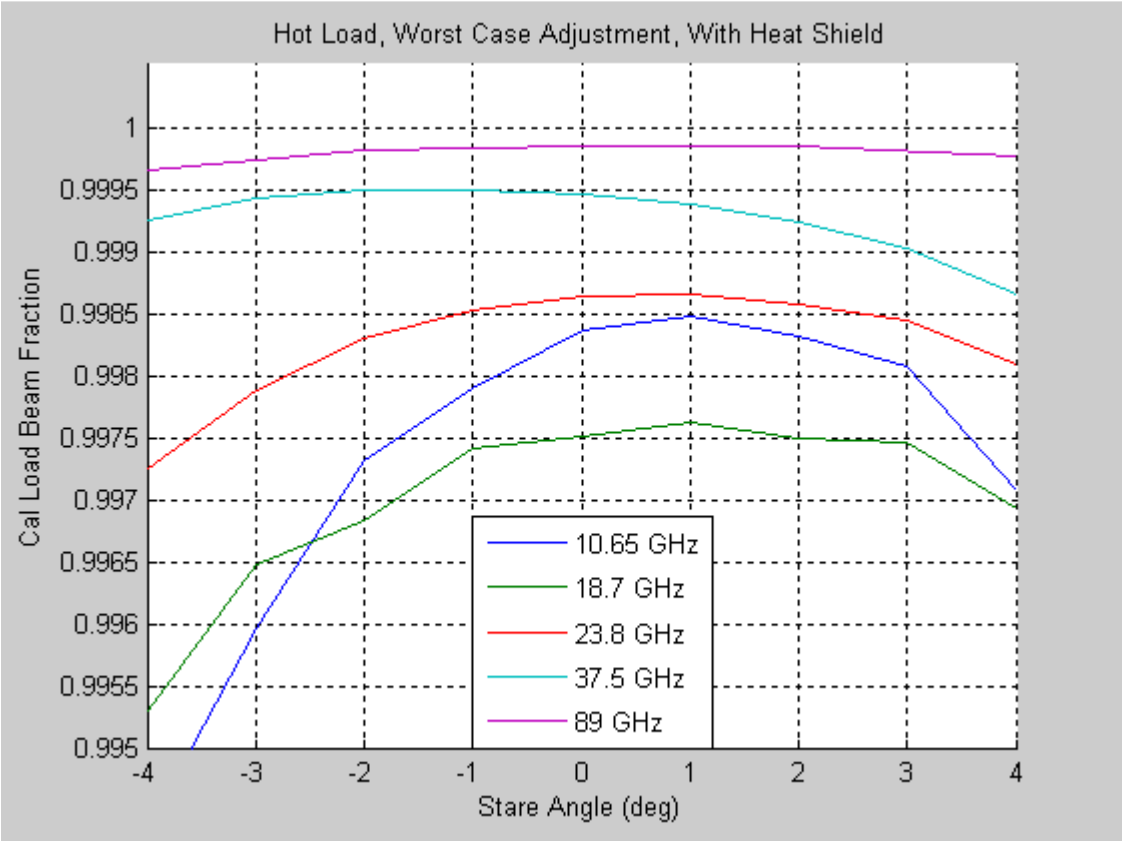

Figure 123. Hot load beam fractions.

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8.3 Hot Load Brightness Temperature Determination

The GMI hot load gradient correction involves removing the gradient contribution based on the measured temperature of the hot load and hot load tray. In the on-orbit algorithm, the brightness temperature of the hot load is determined by 1) averaging the PRTs data along the track viewed by the feeds, 2) performing the on-orbit bias correction using the hot load tray temperature. The same method is employed here. For the hot load, we write the brightness temperature in the following way,

$$T_{h-b} = \overline{T}_{h-prt} + \Delta T_{RF-base}, \tag{23}$$

where $\overline{T}_{h-prt}$ is the average hot load temperature defined by

$$\overline{T}_{h-prt} = w_0 + w_1 \frac{\sum_k T_{PRT}[k]\Theta[k]}{\sum_k \Theta[k]} \tag{24}$$

and $\Delta T_{RF-base}$ is the difference between the RF surface temperature and the base (PRT) temperature, derived as follows (see 2345335)

$$\Delta T_{RF-base} \cong u_0 + u_1\left(T_{hl-tray} - \overline{T}_{h-prt}\right) + u_2\left(T_{hl-tray} - \overline{T}_{h-prt}\right)^2 + u_3\left(T_{hl-tray} - \overline{T}_{h-prt}\right)^3 \tag{25}$$

where $T_{hl-tray}$ is the hot load tray temperature, and $[u_0, u_1, u_2, u_3]$ are cubic coefficients.

The term $T_{PRT}[k]$ is the hot load PRT temperature for the kth PRT, $T_{hl-tray}$ is the hot load tray temperature, $\Theta[k]$ is equal to "1" if the hot load falls along the track of the feed, and "0" otherwise, and $[u_0, u_1, u_2, u_3]$ are cubic coefficients. The cubic coefficients derived for each channel are given in Table 35 and Appendix K.

For the 10, 166, and 183 GHz channels, the feeds view the center portion of the hot load. The PRTs in the "outer track" are averaged. These include HL_TEMP_1, HL_TEMP_8, HL_TEMP_9, and HL_TEMP_10. See Figure 124.

For the 18, 23, 36, and 89 GHz channels, the feeds view the inner portion of the hot load. The PRTs in the "inner track" are averaged, which include HL_TEMP_2, HL_TEMP_11, HL_TEMP_12, HL_TEMP_13, and HL_TEMP14. See Figure 124.

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Table 35. Cubic correction used for each GMI channel in the ground-test data analysis. These numbers are obsolete (are prior to rev F). Please see Section 11.11 Table 63 for updated numbers to be used in the operational algorithm.

Frequency (GHz)	pol	w0	w1	u0	u1	u2	u3
10.65	vpol	0.000	1.000	0.030	0.009208	4.32029E-05	7.19969E-08
10.65	hpol	0.000	1.000	0.030	0.009208	4.32029E-05	7.19969E-08
18.7	vpol	0.000	1.000	0.056	0.008654	4.25853E-05	7.60154E-08
18.7	hpol	0.000	1.000	0.056	0.008654	4.25853E-05	7.60154E-08
23.8	vpol	0.000	1.000	0.049	0.008725	4.27177E-05	7.59399E-08
36.64	vpol	0.000	1.000	0.077	0.009063	4.37882E-05	7.44574E-08
36.64	hpol	0.000	1.000	0.077	0.009063	4.37882E-05	7.44574E-08
89	vpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
89	hpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
166	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
166	hpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±3	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±7	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08

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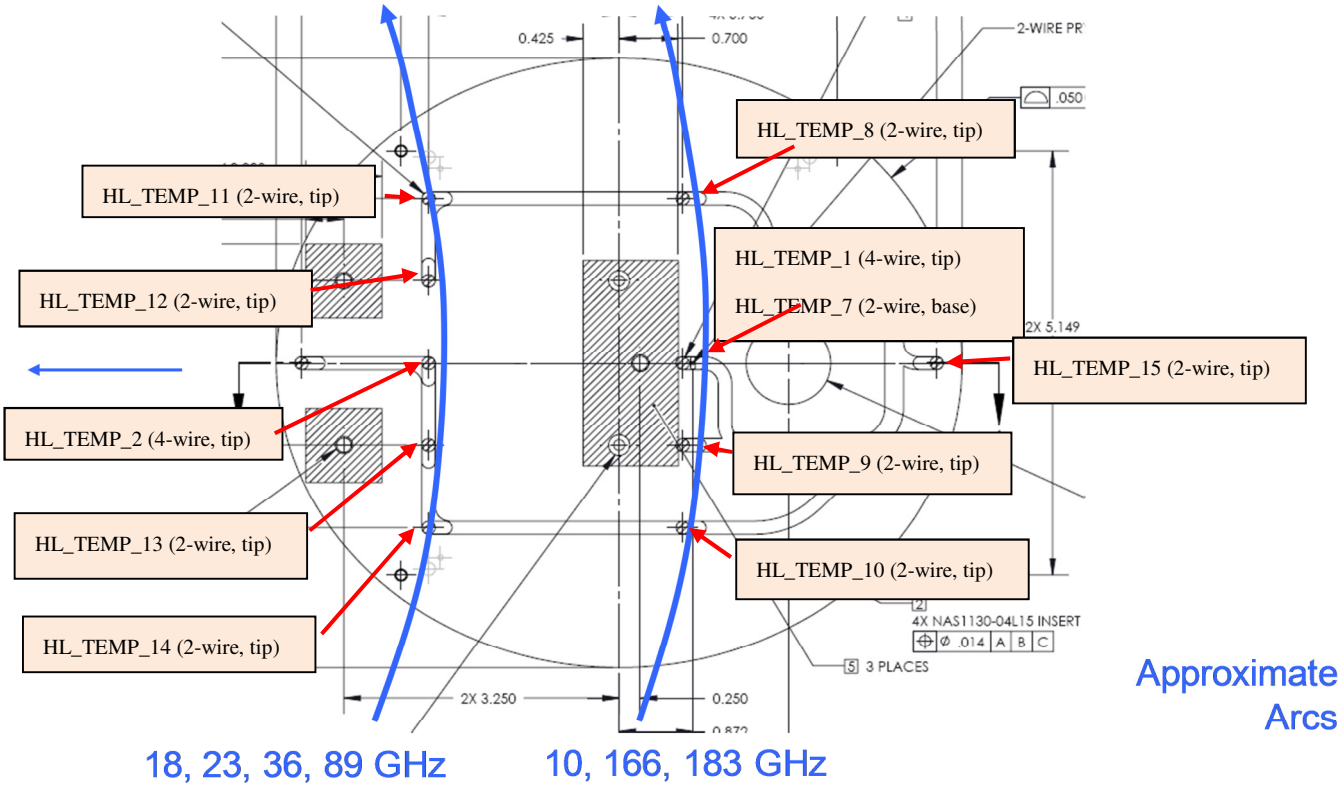

Figure 124. Location of hot load PRTs and approximate arcs traced by the feeds during the hot load view.

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8.4 Hot Load On-orbit Samples

This section is superseded by Section 11.1. The suggested hot samples to use on orbit are determined from data taken during the thermal vacuum calibration test cold cycle by visually inspecting the samples that are the "flattest" across the hot load view. As discussed previously, the nominal on-orbit configuration sends a selected set of samples to the ground. In determining the samples sent in the sample table, we slightly oversample the hot load, which allows us to choose from the samples sent to the ground the best samples to use. The suggested best samples, along with the samples sent down for the "nominal" and "spare1" sample tables are shown in Table 36. The data from which these numbers are derived are shown in Figure 125 through Figure 131.

Table 36. On-orbit Hot Samples. Shown are the samples sent down in the nominal sample table, the Spare1 sample table, and the best samples to use based on ground data. This data is superseded by the data in Section 11.1.

	Nominal Sample Table		Spare1 Sample Table		Best Samples to Use	
Frequency	Hot Start	Hot End	Hot Start	Hot End	Hot Start	Hot End
10 GHz	272	282	269	285	274	282
18 GHz	306	316	303	319	307	316
23 GHz	306	316	303	319	306	316
36 GHz	352	366	349	369	352	366
89 GHz	327	346	324	349	327	346
166 GHz	315	339	312	342	320	339
183 GHz	329	353	326	356	334	352

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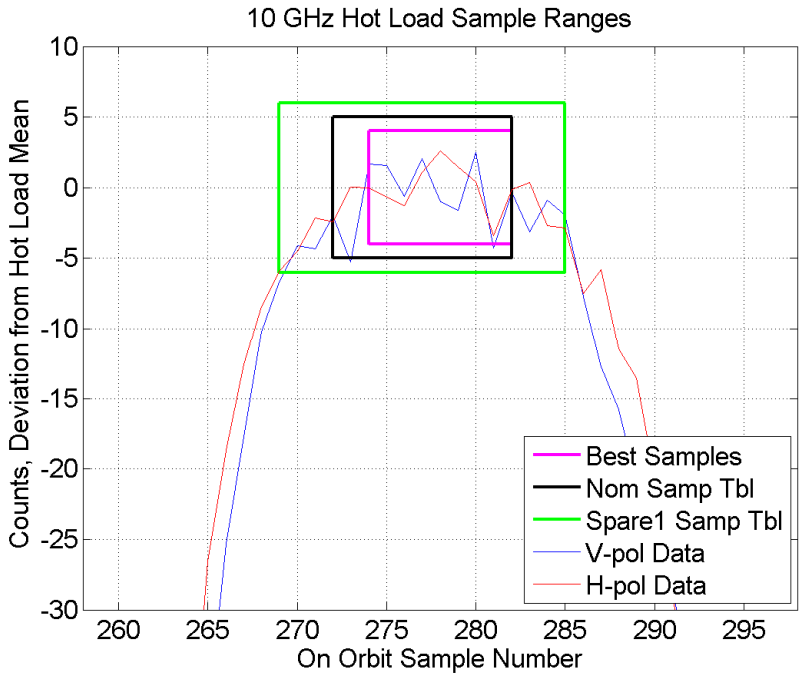

Figure 125. 10 GHz hot load sample ranges.

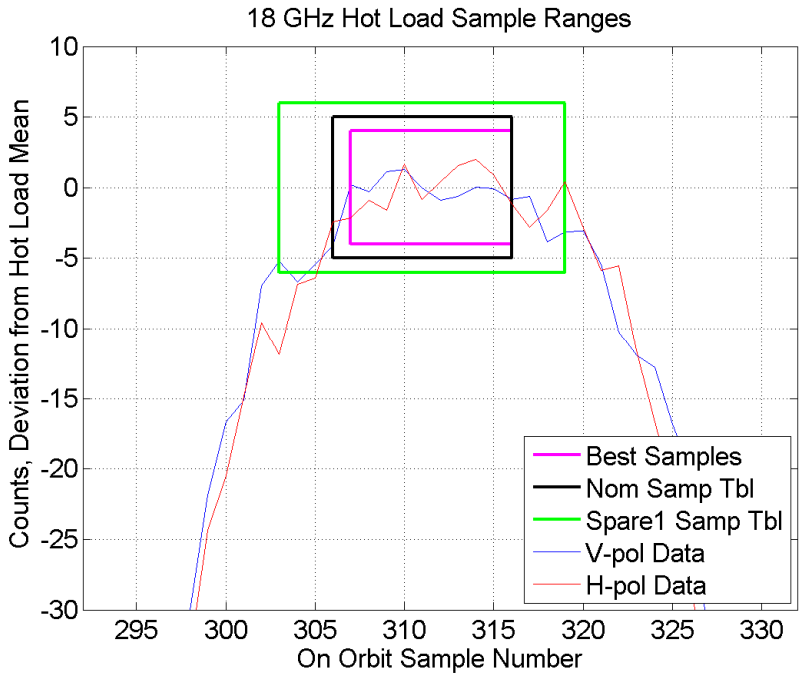

Figure 126. 18 GHz hot load sample ranges.

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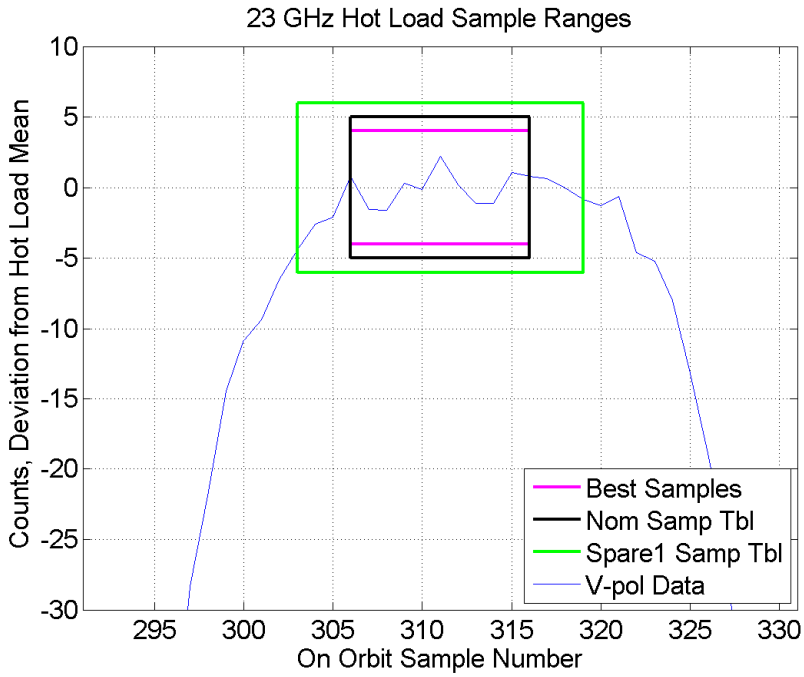

Figure 127. 23 GHz hot load sample ranges.

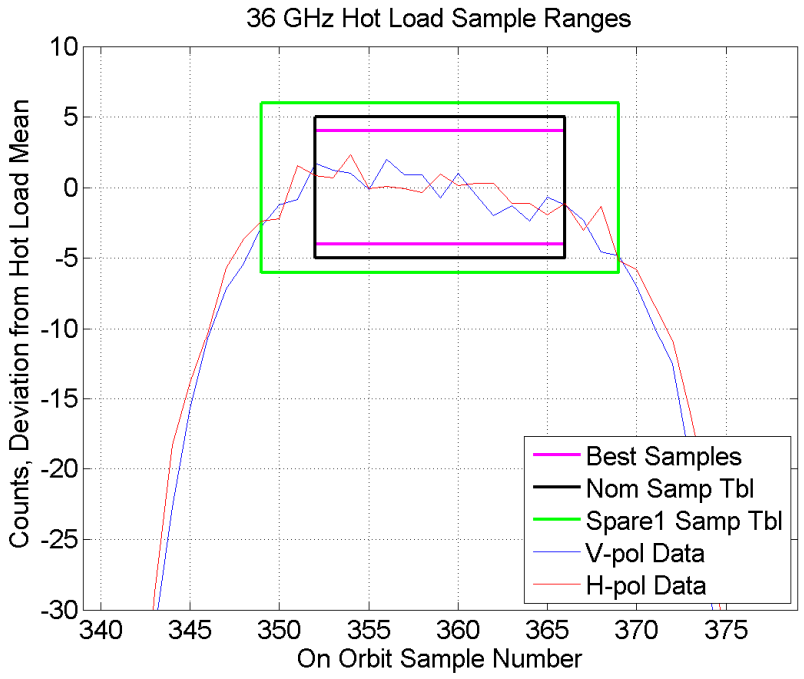

Figure 128. 36 GHz hot load sample ranges.

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Figure 129. 89 GHz hot load sample ranges.

Figure 130. 166 GHz hot load sample ranges.

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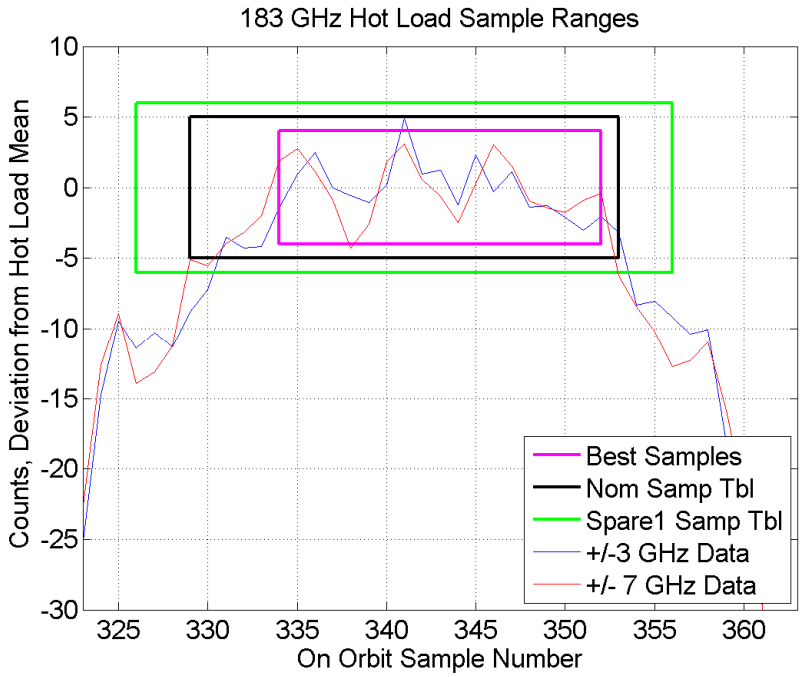

Figure 131. 183 GHz hot load sample ranges.

8.5 Number of Hot Scans to Average

This section is superseded by Section 11.2. The calibration algorithm requires that $\pm N_h$ scans be averaged to determine the mean hot load counts of a particular scan. The number of hot scans to average in the hot load calibration algorithm is based on the analysis given in 2334010. We have updated the numbers slightly due to the fact that the number of good samples determined during the GMI calibration test differs slightly from the number of samples estimated prior to test.

For the channels with noise diodes, every other scan will have noise diodes ON, which means that only half of the scan range will be available for averaging. See 2300984 – GMI Calibration ATBD for more details on the hot load algorithm. The value of N_h is given in Table 37.

Table 37. Number of hot scans to average for the GMI Calibration Algorithm. This data is superseded by the data in Section 11.2.

	10 GHz	18 GHz	23 GHz	36 GHz	89 GHz	166 GHz	183 GHz
$\pm N_h$	±4 scans	±4 scans	±4 scans	±2 scans	±2 scans	±2 scans	±2 scans

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9. COLD SKY VIEW CHARACTERIZATION

9.1 Cold Sky View Beam Patterns

The GMI cold sky antenna patterns are determined using a physical optics analysis. The cold sky beam patterns for 10 GHz and 36 GHz are provided in the attached .ZIP file under 09_COLD_SKY\ColdSkyTheoreticalPatterns.

For each antenna pattern data file, the direction angles, magnitude and phase in each direction are supplied in each column as

1. Column 1: θ is the spherical "theta" coordinate angle in degrees
2. Column 2: ϕ is the spherical "phi" coordinate angle in degrees
3. Column 3: $G_\phi(\theta,\phi)$ for the gain magnitude (in dB) in $\boldsymbol{a}_\varphi$ direction,
4. Column 4: $G_\theta(\theta,\phi)$ for the gain magnitude (in dB) in $\boldsymbol{a}_\theta$ direction,
5. Column 5: $\varphi_\phi(\theta,\phi)$ for the electric field phase (in degrees) in $\boldsymbol{a}_\varphi$ direction,
6. Column 6: $\varphi_\theta(\theta,\phi)$ for the electric field phase (in degrees) in $\boldsymbol{a}_\theta$ direction.

The normalized complex electric field vector is computed as

$$\mathbf{E}_{GICS}(\theta,\phi) = E_\phi(\theta,\phi)\boldsymbol{a}_\varphi + E_\theta(\theta,\phi)\boldsymbol{a}_\theta \tag{26a}$$

where

$$E_\phi(\theta,\phi) = \left(Z_0/4\pi\right)^{1/2} 10^{G_\phi(\theta,\phi)/20} e^{j\varphi_\phi(\theta,\phi)(\pi/180)}, \tag{26b}$$

$$E_\theta(\theta,\phi) = \left(Z_0/4\pi\right)^{1/2} 10^{G_\theta(\theta,\phi)/20} e^{j\varphi_\theta(\theta,\phi)(\pi/180)}, \tag{26c}$$

and $Z_0 \approx 120\pi$ is the characteristic impedance of free space. The electric field vector are expressed in terms of Cartesian coordinates by the following relation,

$$\mathbf{E}_{GICS}(\theta,\phi) = E_x\hat{\mathbf{x}} + E_y\hat{\mathbf{y}} + E_z\hat{\mathbf{z}} \tag{26c}$$

where

$$E_x(\theta,\phi) = E_\theta(\theta,\phi)\cos(\theta)\cos(\phi) - E_\phi(\theta,\phi)\sin(\phi) \tag{26d}$$

$$E_y(\theta,\phi) = E_\theta(\theta,\phi)\cos(\theta)\sin(\phi) + E_\phi(\theta,\phi)\cos(\phi) \tag{26e}$$

$$E_z(\theta,\phi) = -E_\theta(\theta,\phi)\sin(\theta). \tag{26f}$$

Figure 132 through Figure 138 show the theoretical cold sky antenna patterns.

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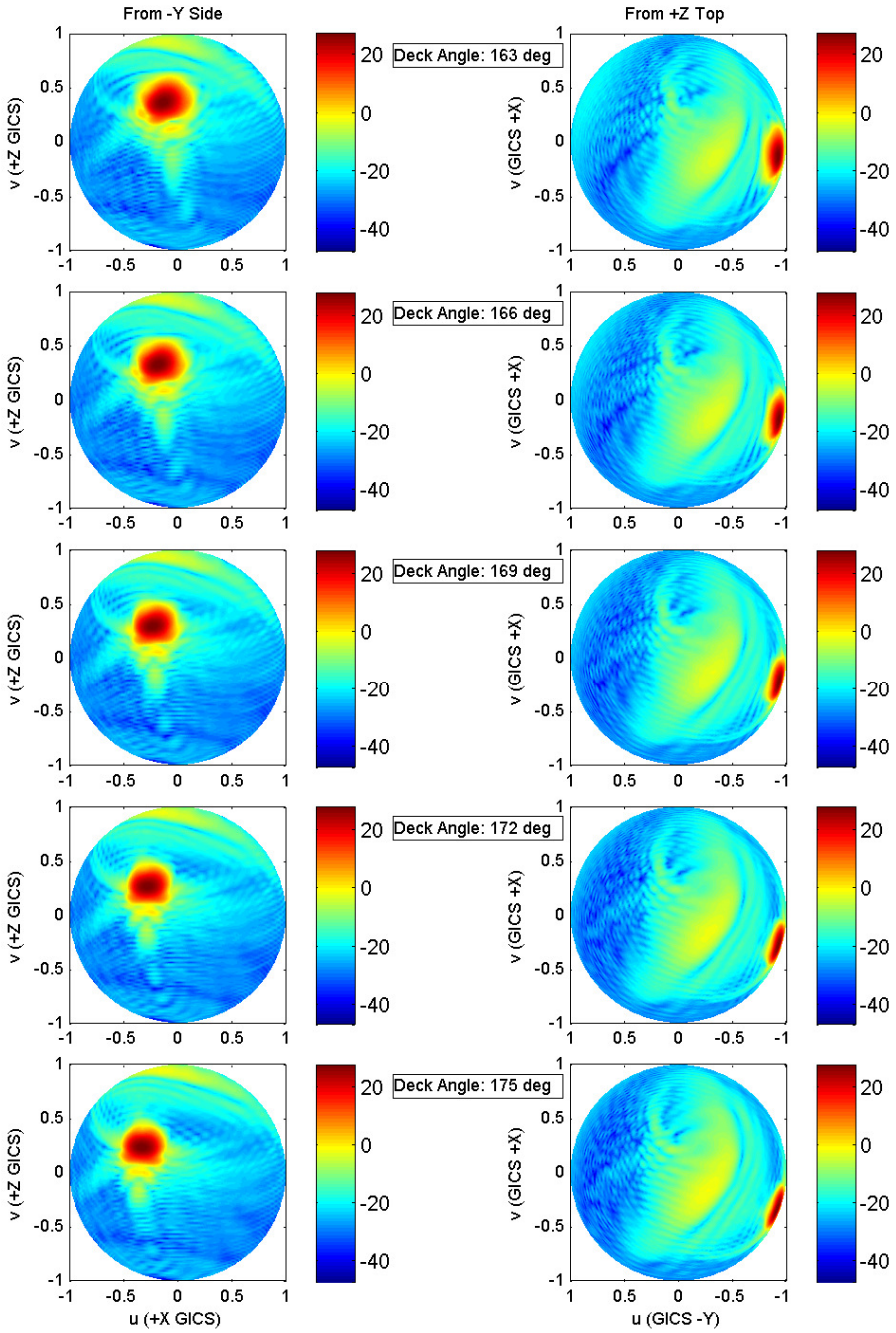

Figure 132. 10 GHz PO-model cold sky patterns at five different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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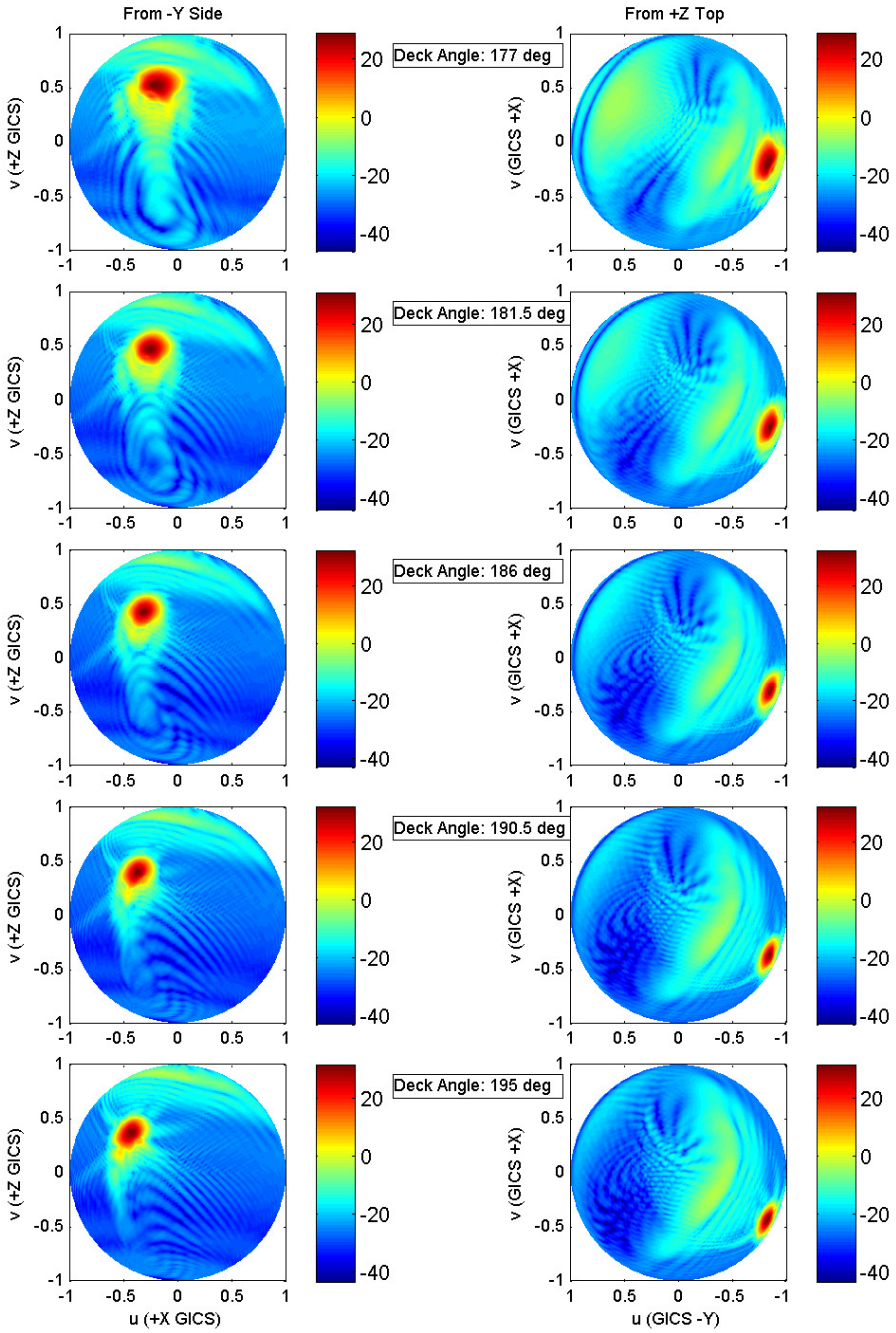

Figure 133. 18 GHz PO-model cold sky patterns at five different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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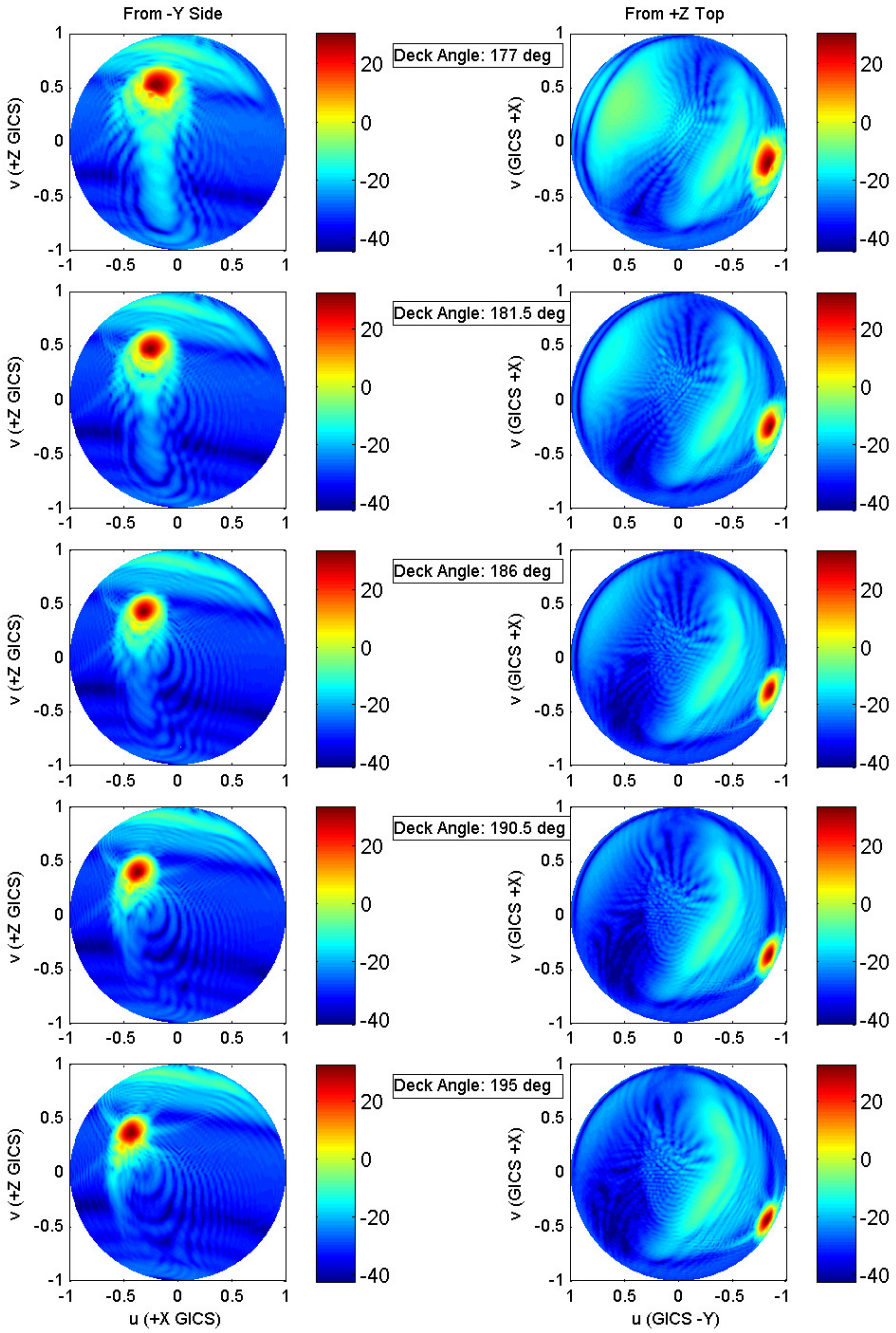

Figure 134. 23 GHz PO-model cold sky patterns at five different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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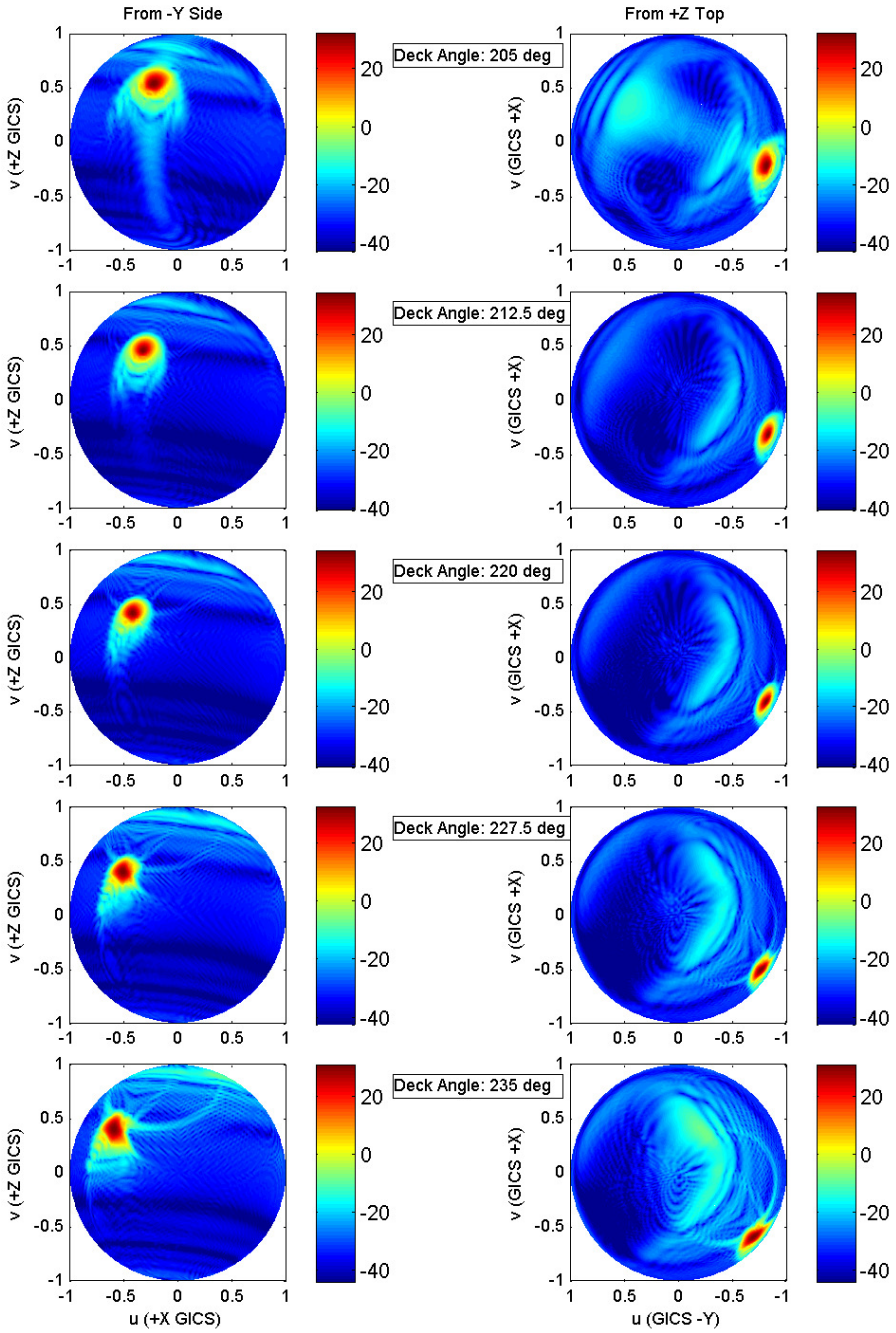

Figure 135. 36 GHz PO-model cold sky patterns at five different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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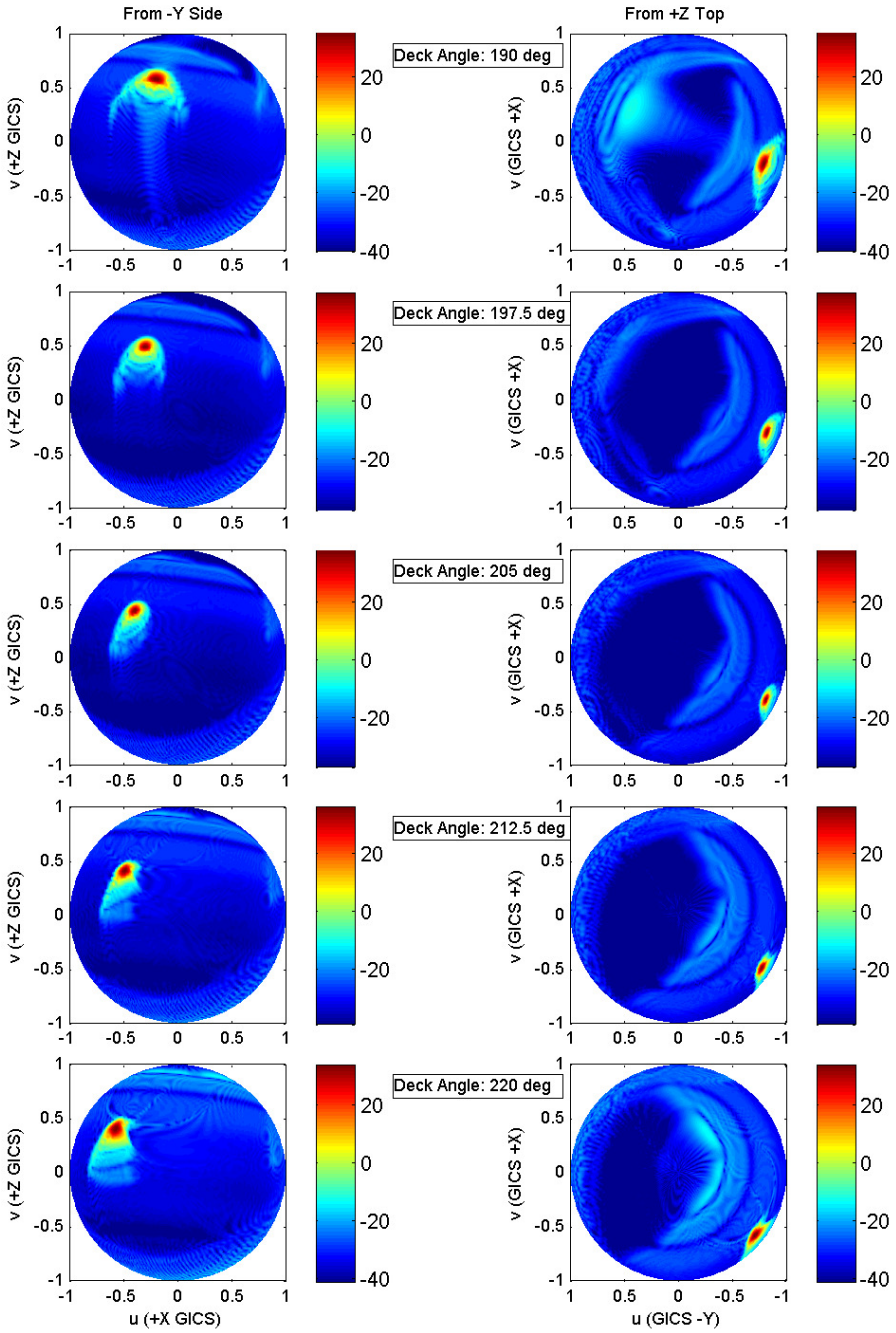

Figure 136. 89 GHz PO-model cold sky patterns at five different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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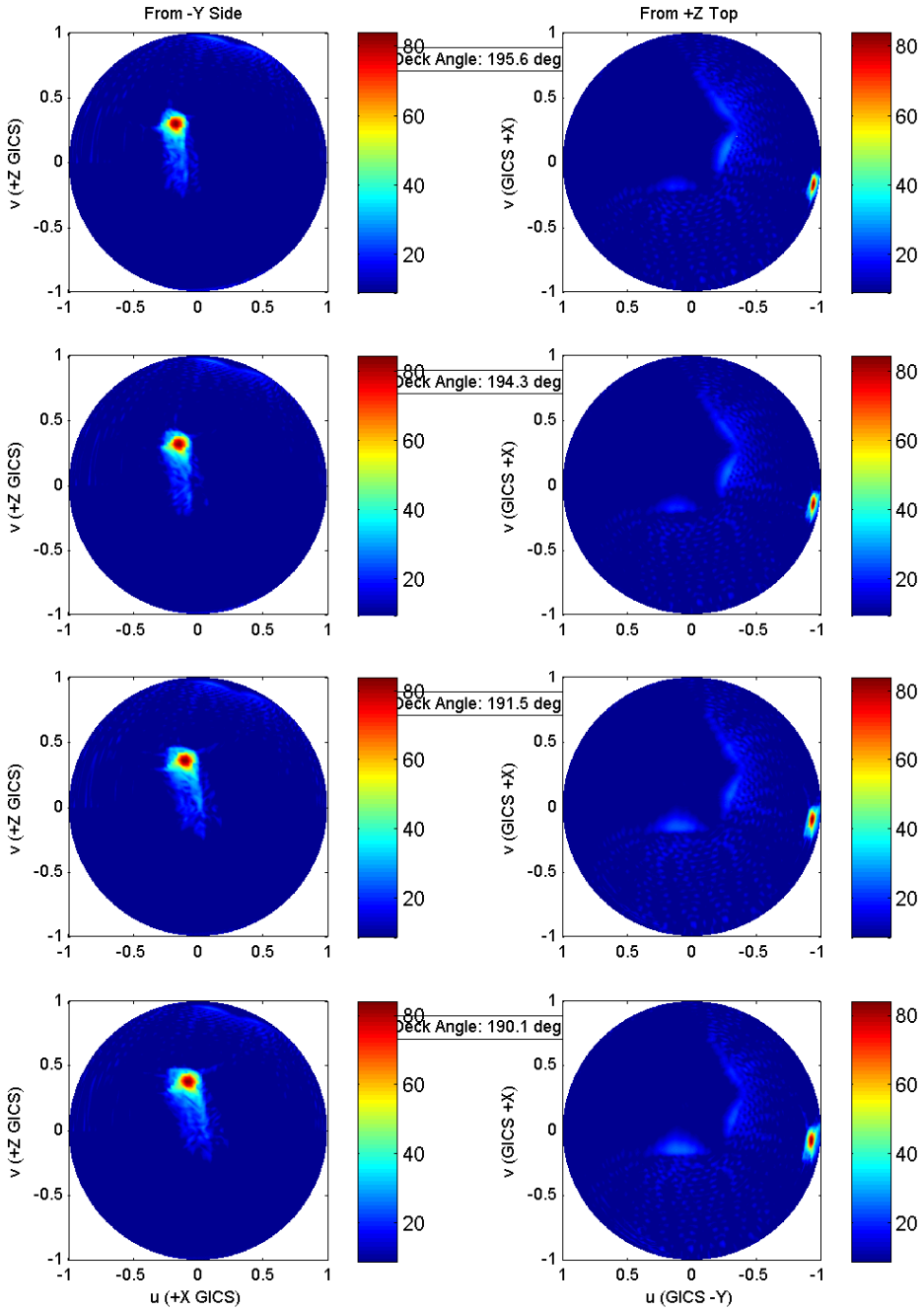

Figure 137. 166 GHz PO-model cold sky patterns at four different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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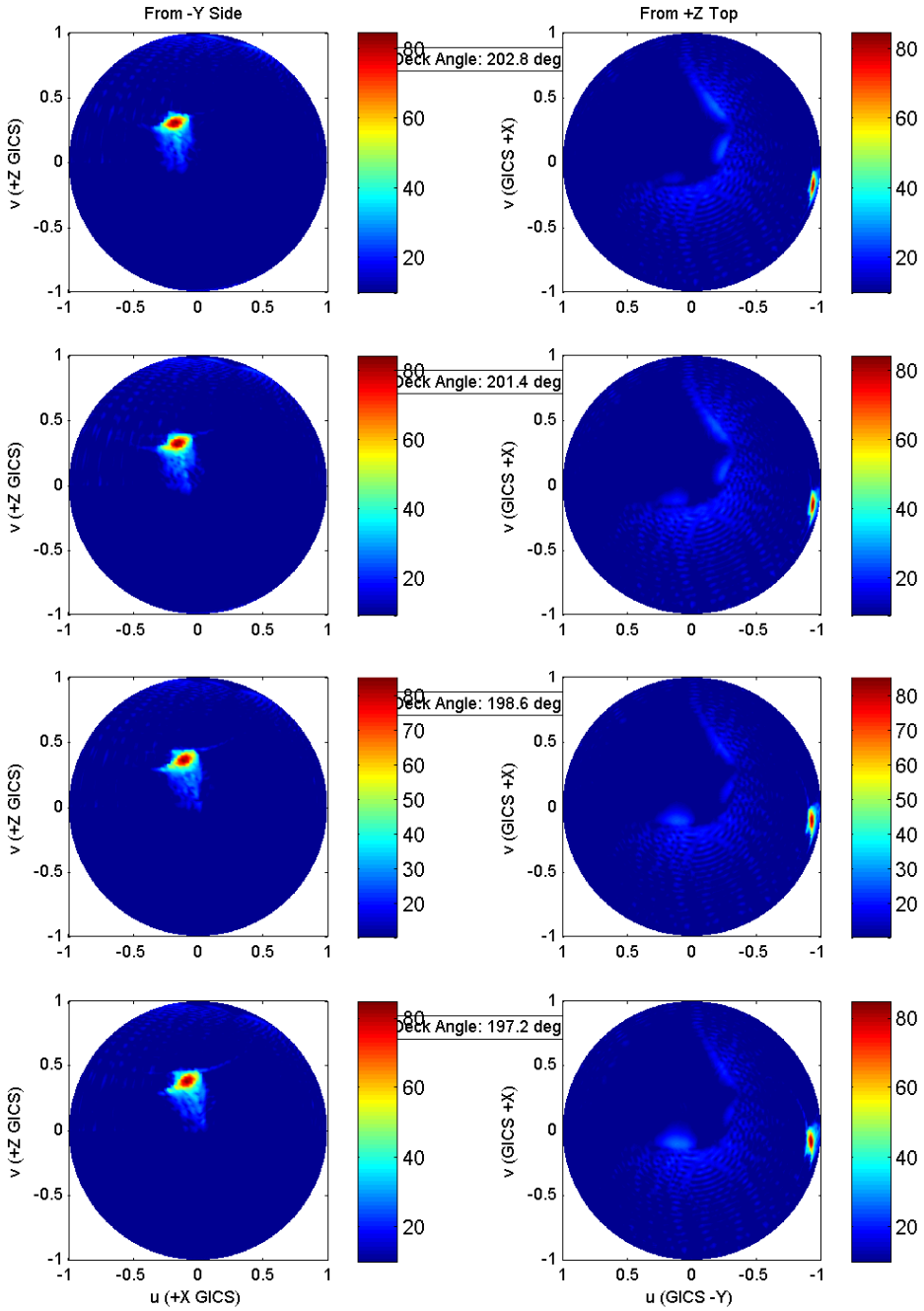

Figure 138. 183 GHz PO-model cold sky patterns at four different rotation angles of the deck. The left plots are the patterns from the –Y side of the instrument, and the right plots are from the top.

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The GMI cold sky reflector antenna patterns were measured at 10 GHz and 36 GHz at three instrument rotation angles. These are given in Figure 139 and Figure 140. Also shown in these figures are the cold sky keep-out zone defined in 422-30-00-004 GMI Interface Control Document (ICD). We note that the keep out zone guarantees that no obstruction will be in this zone, but significant areas outside the zone will be clear as well.

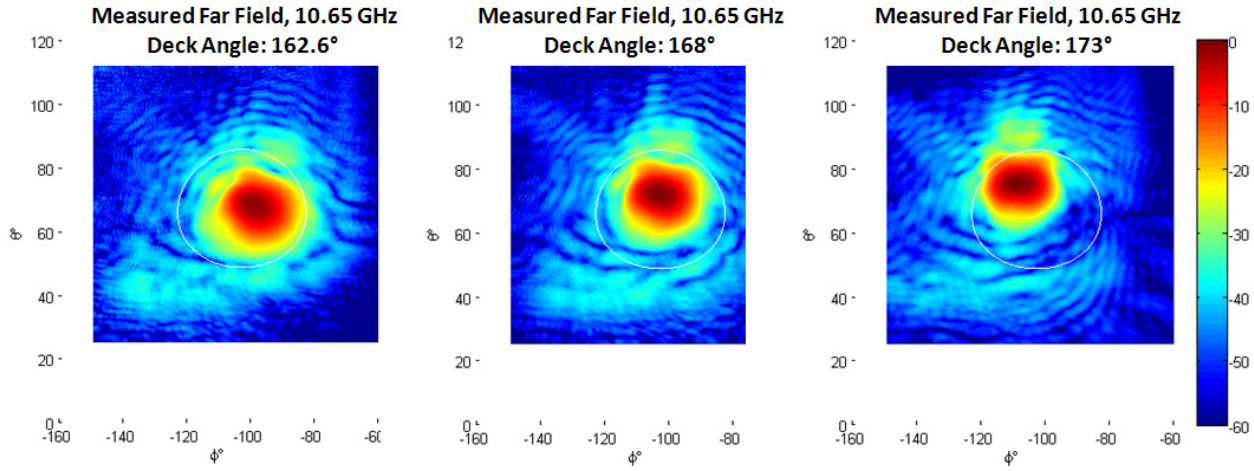

Figure 139. GMI 10 GHz Patterns at three instrument rotation angles.

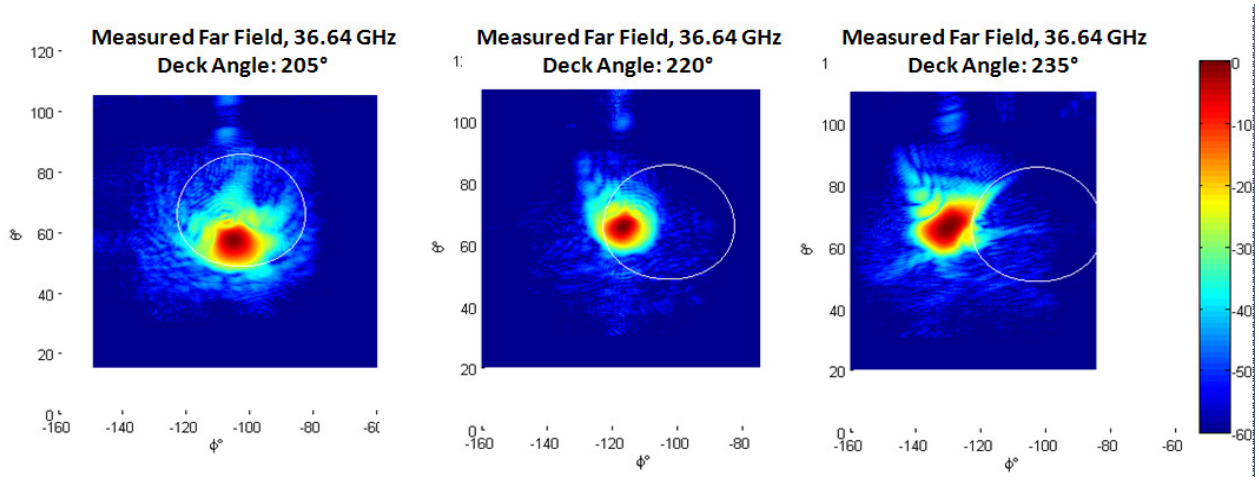

Figure 140. GMI 36 GHz cold sky patterns at three instrument rotation angles.

The cold sky beam patterns for 10 GHz and 36 GHz are provided in the attached .ZIP file under 09_COLD_SKY\ColdSkyMeasuredPatterns. The far-field data is found in the "data" subdirectories under the frequency and polarization.

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9.2 Cold Sky Beam Contours

The cold sky pattern 6-dB contours are given in GICS theta-phi coordinates. The data for these contours are shown in Figure 141 through Figure 147 and given in Appendix L.

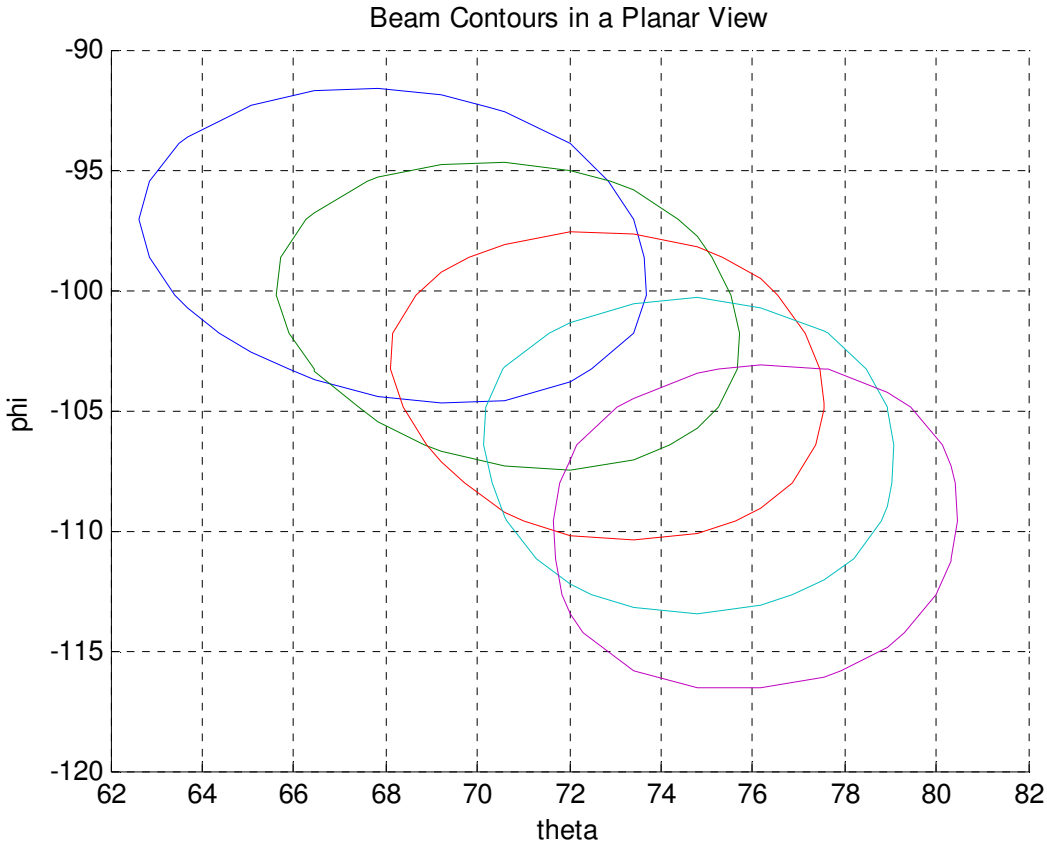

Figure 141. 10 GHz 6-dB Cold Sky Beam contours

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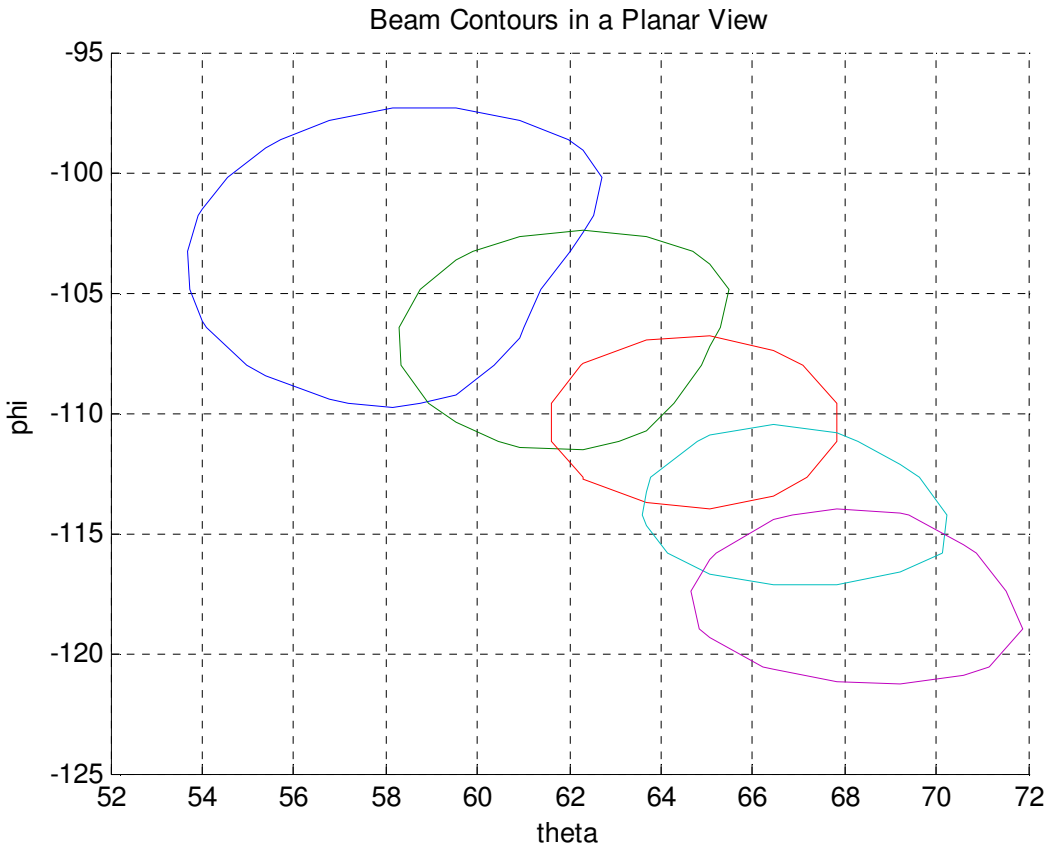

Figure 142. 18 GHz 6-dB Cold Sky Beam contours

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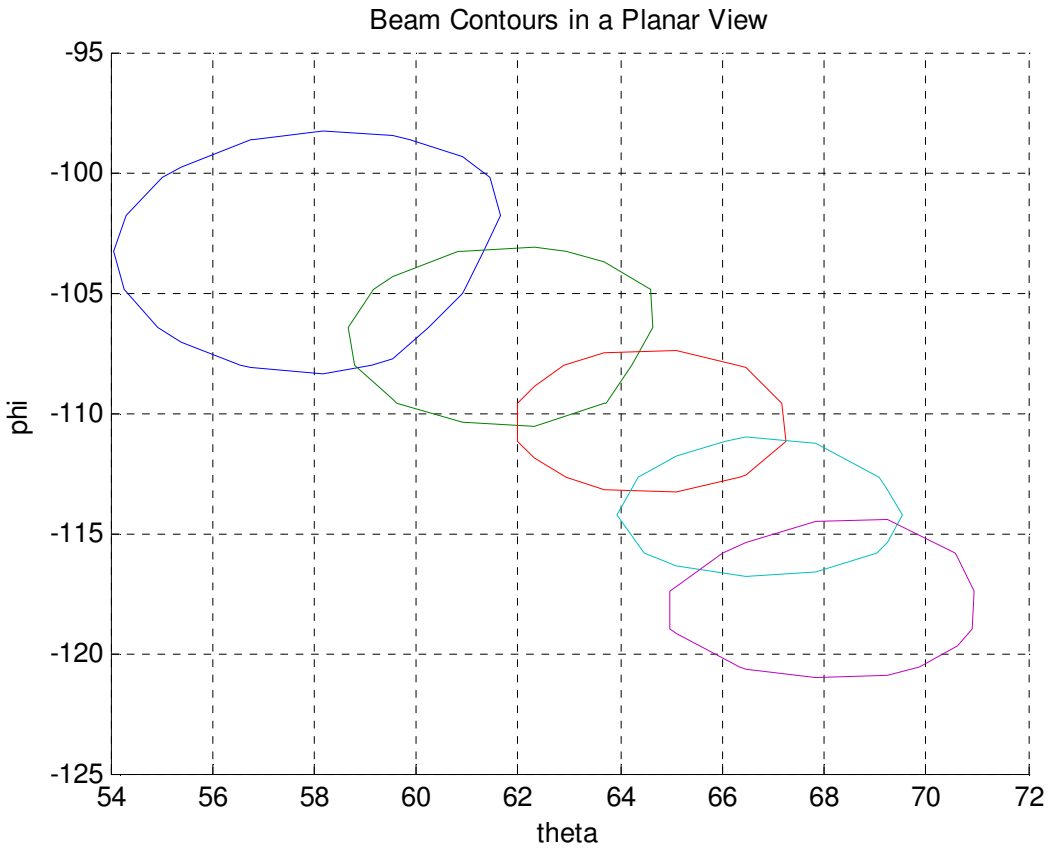

Figure 143. 23 GHz 6 dB Cold Sky Beam contours

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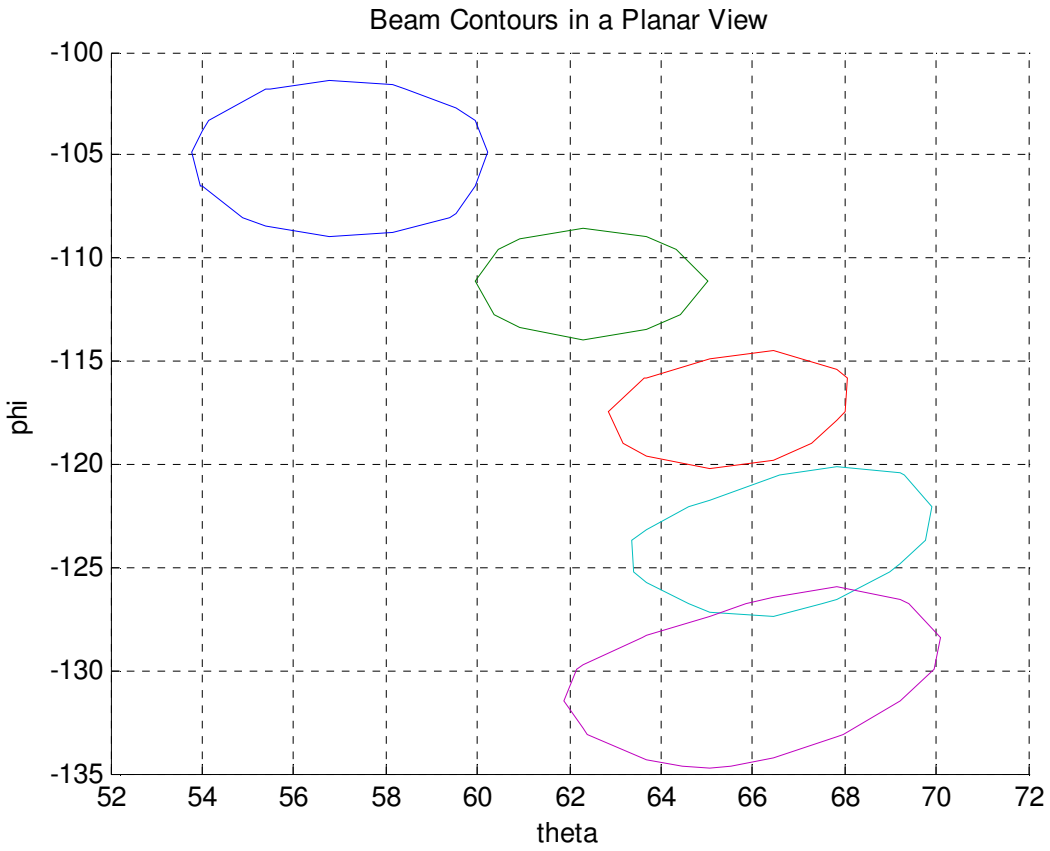

Figure 144. 36 GHz 6 dB Cold Sky Beam contours

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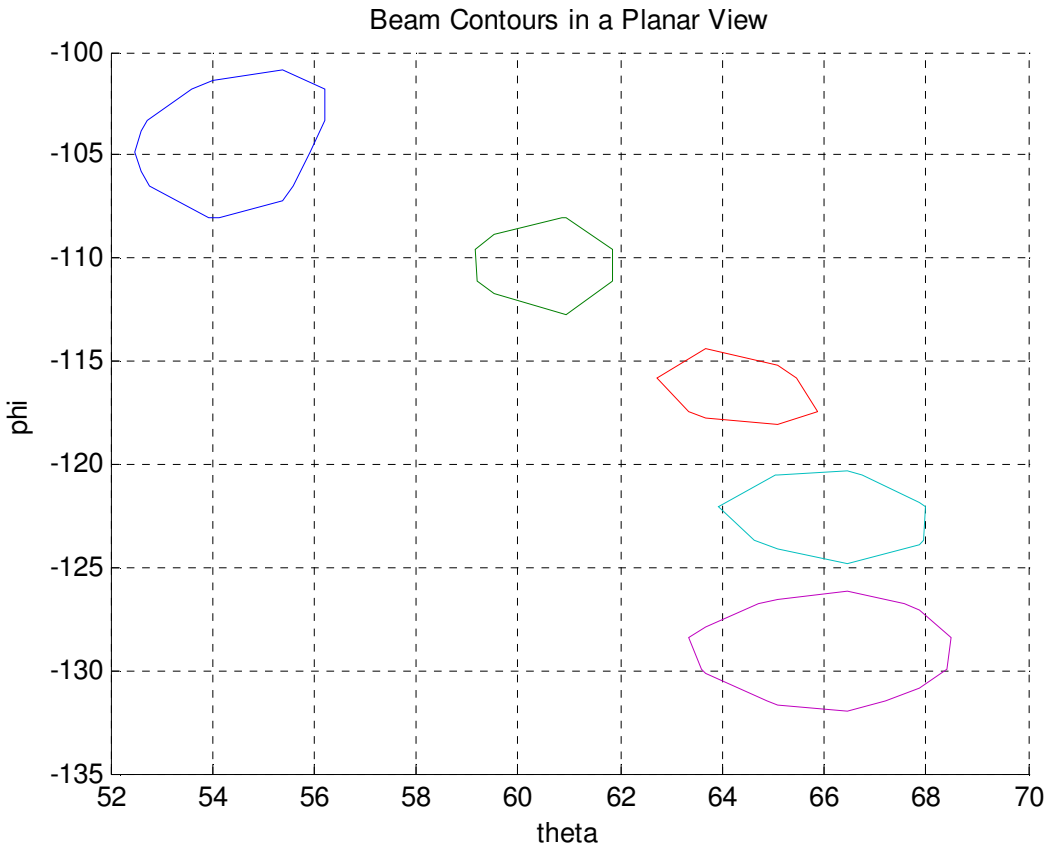

Figure 145. 89 GHz 6 dB Cold Sky Beam contours

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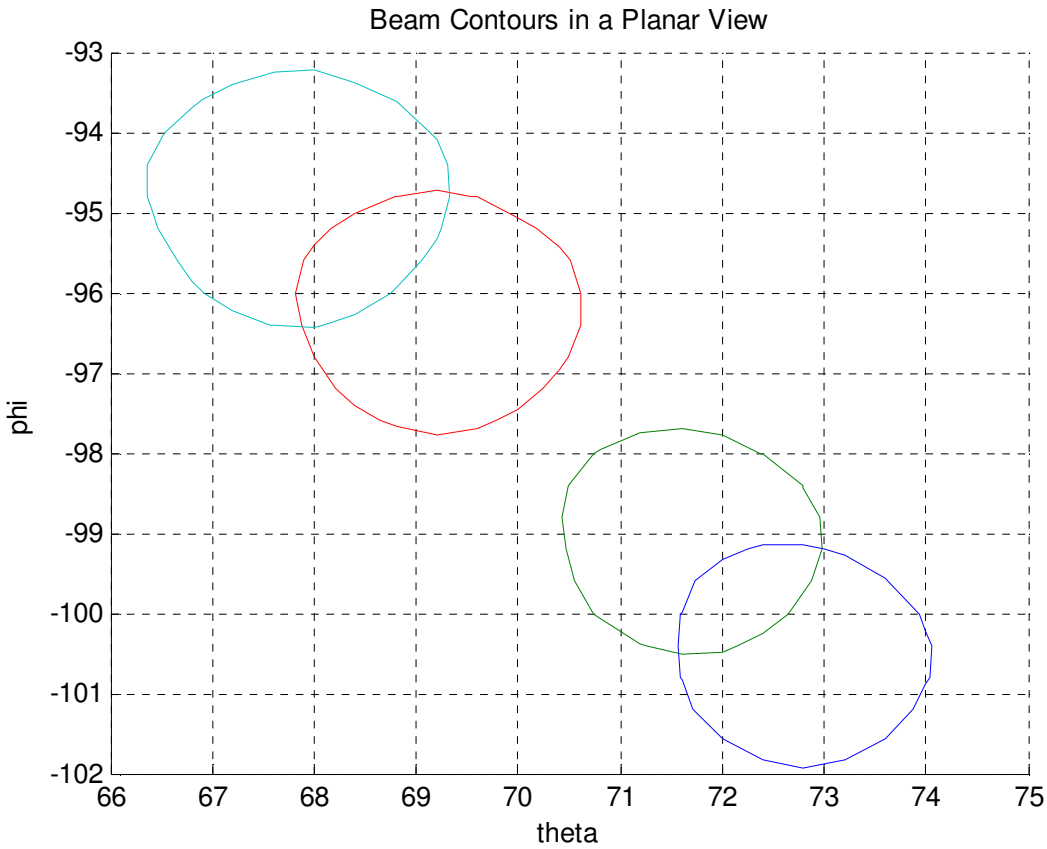

Figure 146. 166 GHz 6 dB Cold Sky Beam contours

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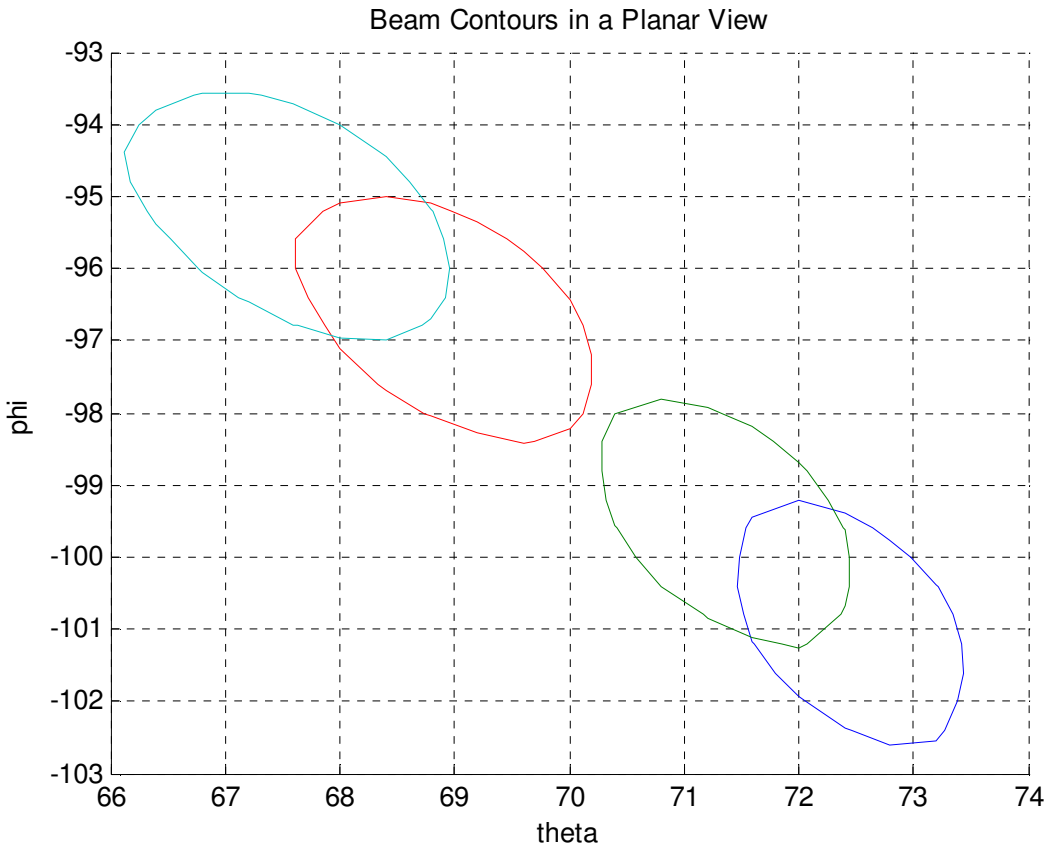

Figure 147. 183 GHz 6 dB Cold Sky Beam contours

9.3 Cold Sky Beam pointing

The angles of the cold sky beam pointing are determined based on the center of the contours given in Section 9.2. The data has been interpolated / extrapolated to each cold sky sample, and given in Appendix M.

9.4 Cold Sky View Beam Fractions

The estimated beam efficiencies for the selected configuration of the cold sky reflector are listed in Table 38. The data is for the nominal instrument rotation angle, and with the stare angle being the angle the feeds are rotated from the nominal zero position sample. Since the feeds rotate 0.6933 degrees about the instrument Z axis for each integration time, the feed to cold sky reflector geometry changes for each sample. The stare angle captures the geometric difference. The beam fractions are computed over the set of angles used for sampling the cold sky reflector. Except for possibly the main reflector percentage, the cold sky beam fractions are sufficiently small as to not warrant an a-priori correction. A cold sky correction may be re-evaluated based on on-orbit data.

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Table 38. Estimated Cold Sky Reflector Beam Fractions

10.65 GHz Cold Sky Theoretical Cal Efficiency								
Rotation Angle	Clocking Angle	Stare Angle	Cold Sky Percentage	Deck Percentage	Earth Percentage	Solar Panel Percentage	Strut Percentage	Main Reflector Percentage
50.0000	160.0000	-1.0400	99.7131	0.0518	0.0079	0.0289	0.0285	0.1698
50.0000	160.0000	-0.3467	99.7089	0.0516	0.0079	0.0316	0.0293	0.1707
50.0000	160.0000	0.3467	99.7084	0.0514	0.0079	0.0345	0.0278	0.1699
50.0000	160.0000	1.0400	99.7039	0.0512	0.0079	0.0378	0.0283	0.1709

18.7 GHz Cold Sky Theoretical Cal Efficiency								
Rotation Angle	Clocking Angle	Stare Angle	Cold Sky Percentage	Deck Percentage	Earth Percentage	Solar Panel Percentage	Strut Percentage	Main Reflector Percentage
50.0000	160.0000	-1.0400	99.8544	0.0518	0.0056	0.0331	0.0142	0.0409
50.0000	160.0000	-0.3467	99.8523	0.0523	0.0057	0.0343	0.0143	0.0412
50.0000	160.0000	0.3467	99.8504	0.0527	0.0057	0.0354	0.0143	0.0415
50.0000	160.0000	1.0400	99.8487	0.0531	0.0058	0.0365	0.0142	0.0416

36.5 GHz Cold Sky Theoretical Cal Efficiency								
Rotation Angle	Clocking Angle	Stare Angle	Cold Sky Percentage	Deck Percentage	Earth Percentage	Solar Panel Percentage	Strut Percentage	Main Reflector Percentage
50.0000	160.0000	-2.7732	99.9844	0.0091	0.0007	0.0027	0.0012	0.0019
50.0000	160.0000	0.0000	99.9836	0.0094	0.0007	0.0031	0.0013	0.0020
50.0000	160.0000	2.7732	99.9829	0.0096	0.0007	0.0034	0.0013	0.0020

89 GHz Cold Sky Theoretical Cal Efficiency								
Rotation Angle	Clocking Angle	Stare Angle	Cold Sky Percentage	Deck Percentage	Earth Percentage	Solar Panel Percentage	Strut Percentage	Main Reflector Percentage
50.0000	160.0000	0.0000	99.9898	0.0075	0.0005	0.0013	0.0007	0.0002

9.5 Cold Sky Reflector Emissivity

The cold sky reflector has the same coating as the main reflector. The coating conductivity measurements for the cold sky reflector SN001 is given in Appendix G. Based on ground measurements of the coating conductivity, we expect the contribution to calibration uncertainty from the cold sky reflector physical temperature to be negligible.

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9.6 Cold Sky Brightness Temperature Accounting for the Deviation of the Rayleigh Jeans Approximation to Planck's Law

In this section we present the brightness temperature that should be used for the cold sky view. The basic quantity which is intended to be measured by a microwave radiometer is power of electromagnetic radiation at the top of the atmosphere. For historic reasons, it is common in microwave physics to work in terms of brightness temperatures (Tb) instead of the power, though in principle it would be as easy to work in terms of power rather than Tb. The relationship between power and temperature is given by Planck's law and the use of Tb instead of power is justified by using the Rayleigh-Jeans (RJ) approximation to the correct Planck law. The RJ approximation is justified in the microwave region for most cases. However, when dealing with radiation from cold space, it breaks down. This problem can be fixed, by using an effective cold space brightness temperature $T_c(\nu)$, which is higher than the physical cold space temperature $T_{c0} = 2.73K$ and depends on the frequency ν of the radiation. The cold sky brightness temperature which takes into account the deviation of the Rayleigh-Jeans approximation to Planck's law is derived in 2300984 – GMI Algorithm and Analysis Theoretical Basis Document. The cold sky brightness temperature from that derivation is given in Table 39

Table 39: Values for the effective temperature of cold space accounting for the deviation of the RJ approximation from the Planck law for the GMI frequencies. NOTE that the on-orbit values to use for the cold brightness temperature have been updated and are given in Section 11.12.

Frequency [GHz]	10.65	18.7	23.8	36.64	89.0	166.5	183.31
T_c [Kelvin]	2.74	2.75	2.77	2.82	3.27	4.43	4.76

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9.7 Cold Sky On-orbit Samples

This section is superseded by Section 11.3. The range for the cold sky on-orbit samples have been determined by analysis (See SER 2335021). During the GMI comprehensive performance tests, a vertical cold target assembly was used to simulate cold space. The vertical cold target assembly was placed in front of the cold target. The data taken during the comprehensive performance test (CPT) over the vertical cold target gives a feel for which samples should be used in the on-orbit algorithm The data from the vertical cold target suggests that the analytically-derived ranges are generally shifted somewhat to the left of the "sweet spot" observed during testing. It is unclear how much the limited size of the cold target affects this apparent shift, and may be the primary reason the data seems to be shifted. We give our best estimate of the samples to use in the on orbit algorithm in Table 40 based on engineering judgment after reviewing the CPT data. Data taken over the cold calibration range during the GMI final CPT test are shown in Figure 148 through Figure 154.

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Table 40. On-orbit Cold Samples. Shown are the samples sent down in the nominal sample table, the Spare1 sample table, and the best samples to use based on engineering judgment. This data is superseded by the data in Section 11.3.

	Nominal Sample Table		Spare1 Sample Table		Best Samples to Use*	
Frequency	Cold Start	Cold End	Cold Start	Cold End	Cold Start	Cold End
10 GHz	340	353	337	356	343	356
18 GHz	368	393	365	396	378	393
23 GHz	368	393	365	396	378	393
36 GHz	418	459	415	462	424	443
89 GHz	392	433	389	436	401	420
166 GHz	381	422	378	425	399	425
183 GHz	395	436	392	439	413	439

* The best samples to use are obtained by engineering judgment. These will need to be re-evaluated on-orbit.

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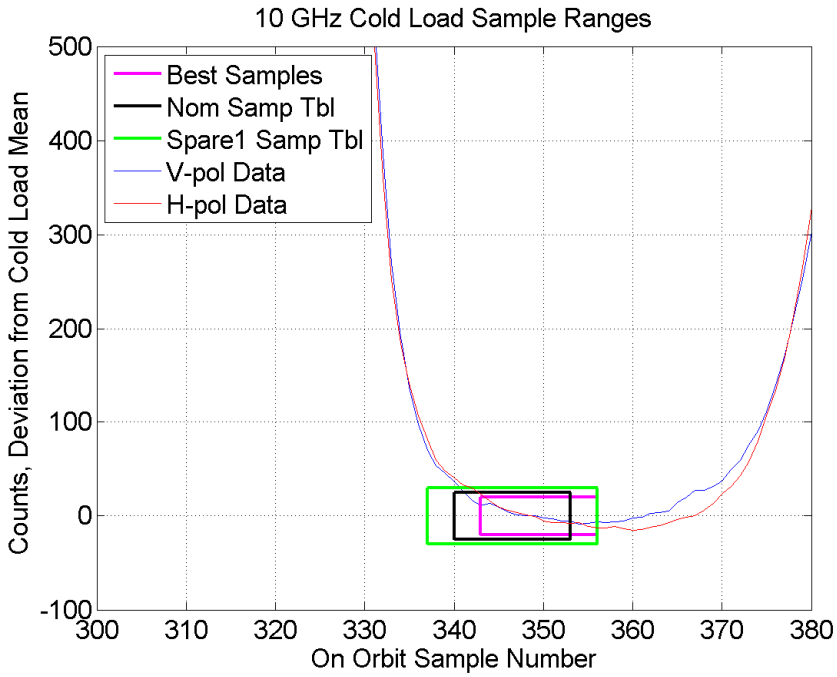

Figure 148. 10 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

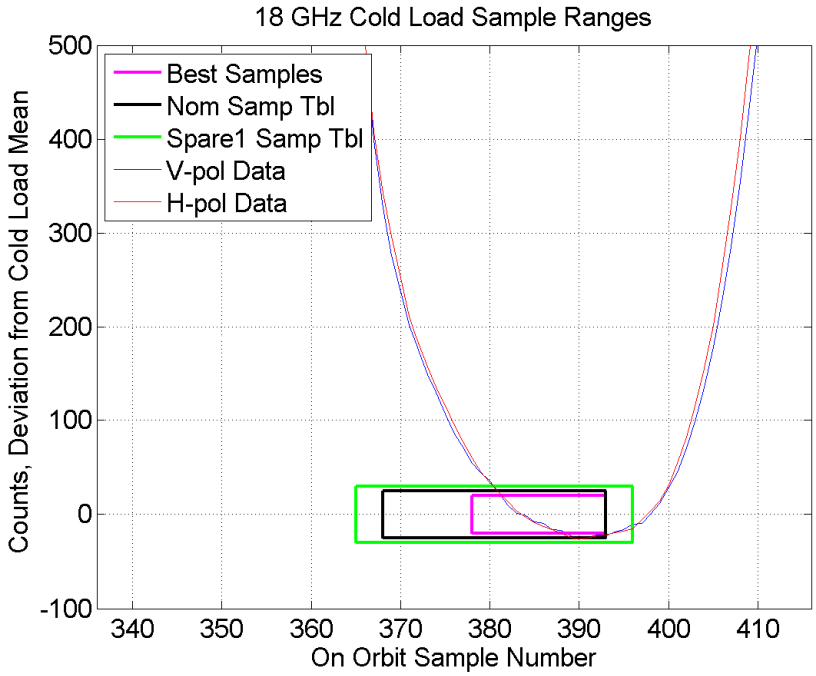

Figure 149. 18 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

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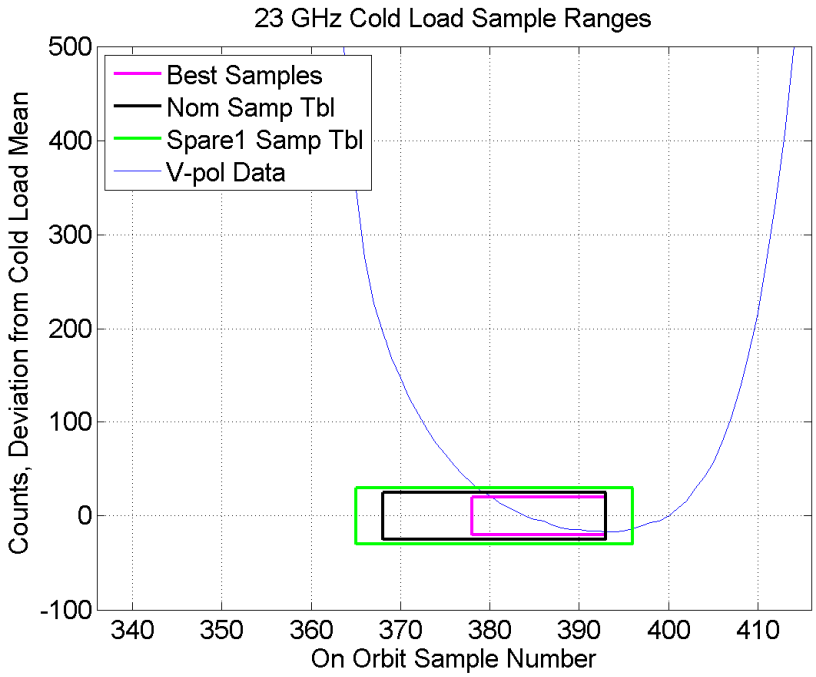

Figure 150. 23 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

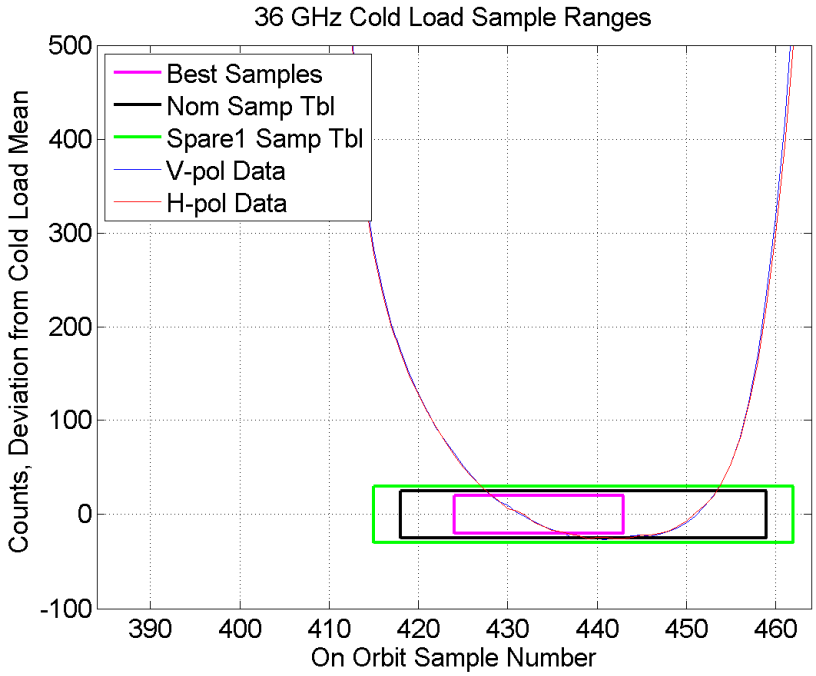

Figure 151. 36 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

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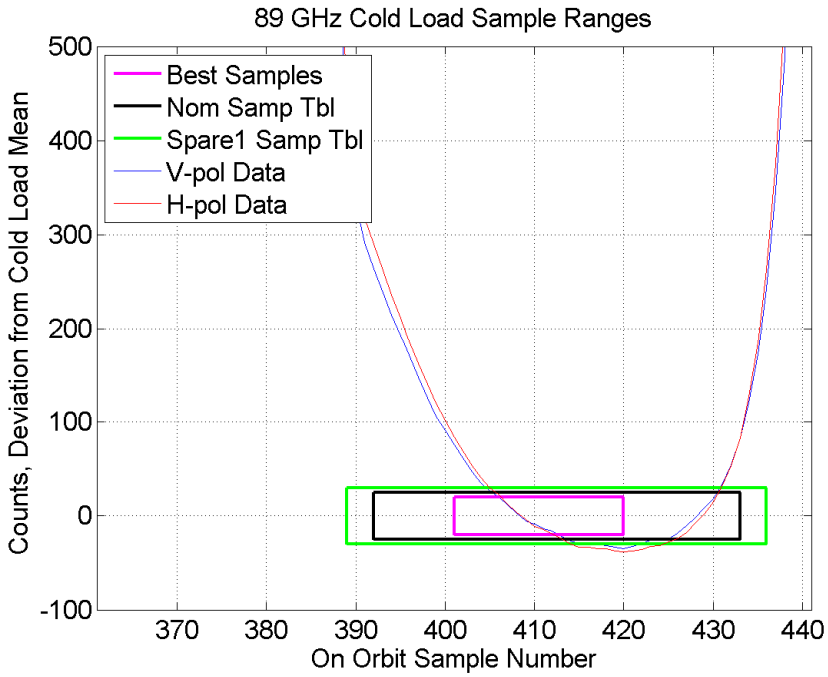

Figure 152. 89 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

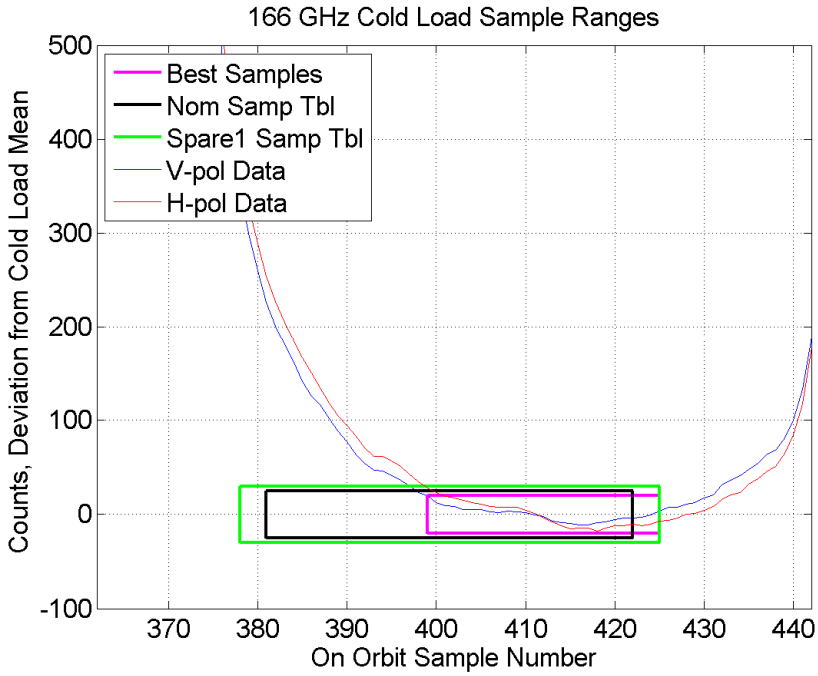

Figure 153. 166 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

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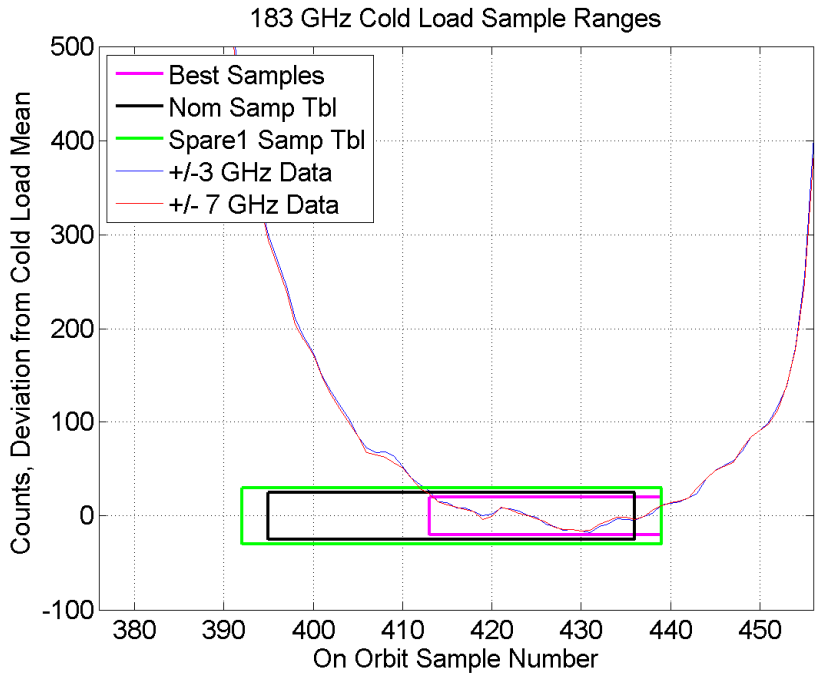

Figure 154. 183 GHz cold sky sample ranges. We note that the size of the vertical cold target likely influenced the shape of the data

9.8 Number of Cold Scans to Average

This section is superseded by Section 11.4. The calibration algorithm requires that $\pm N_c$ scans be averaged to determine the mean cold sky counts of a particular scan. The number of cold scans to average in the cold calibration algorithm is based on the analysis given in 2334010. We have updated the numbers slightly due to the fact that the number of good samples determined during the GMI calibration test differs slightly from the number of samples estimated prior to test.

For the channels with noise diodes, every other scan will have noise diodes ON, which means that only half of the scan range will be available for averaging. See 2300984 – GMI Calibration ATBD for more details on the cold sky algorithm. The value of N_c is given in Table 41.

Table 41. Number of cold scans to average for the GMI Calibration Algorithm. This data is superseded by the data in Section 11.4.

	10 GHz	18 GHz	23 GHz	36 GHz	89 GHz	166 GHz	183 GHz
$\pm N_c$	±4 scans	±4 scans	±4 scans	±2 scans	±2 scans	±2 scans	±2 scans

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10. RADIOMETRIC CHARACTERIZATION

This section provides the results of the GMI radiometric calibration test. The data is taken from 2356438 – GMI Instrument Calibration Report. One of the purposes of the calibration test is to determine key parameters of the radiometric transfer function (See 2298950). The radiometric transfer function relates digital counts to brightness temperature, and may be written as

$$T_s = xT_h + (1-x)T_c - 4T_{nl}(x - x^2)\,, \tag{27a}$$

where x is the normalized radiometer response

$$x = \frac{C_s - C_c}{C_h - C_c}\,. \tag{27b}$$

The terms in Eq. (27a) and (27b) have the following definitions:

- T_s – Radiometric temperature of the variable temperature "scene" target.
- T_h – Hot load radiometric temperature of feeds viewing the hot load
- T_c – Cold radiometric temperature of feeds viewing the cold target
- T_{nl} – Peak radiometric temperature deviation due to non-linearity
- C_s – Radiometer counts when viewing the "scene" target
- C_c – Scan-averaged radiometer counts when viewing the cold sky reflector
- C_h – Scan-averaged radiometer counts when viewing the hot load.

For the purposes of the calibration test, we re-write the radiometric transfer function as the following:

$$T_s = T_c + \frac{C_s - C_c}{g} + u\frac{(C_s - C_c)(C_s - C_h)}{g^2} \tag{28a}$$

where

- $g = \dfrac{C_h - C_c}{T_h - T_c}$ is the linear gain of the radiometer, units of counts/K (28b)
- $u = \dfrac{4T_{nl}}{(T_h - T_c)^2}$ is the normalized non-linearity, units of 1/K. (28c)

The following sections provide the data that was used to determine the radiometric transfer function parameters.

Data for channels 89V, 89H, and 183.31 +/- 3 V GHz have been corrected for the HGAS filter installation.

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10.1 Radiometric Transfer Function Parameters

The GMI ground calibration analysis methods presented in SER 2356438 were employed on the data taken during the GMI calibration test. The following parameters are extracted, shown in Table 42, Table 43, and Table 44, and given in spreadsheet format in Appendix N:

1. Receiver (10, 18, 23, 36, and 89 GHz) and Mixer (166, 183 GHz) temperature at each plateau. We present the mixer temperatures for the 166 and 183 GHz channels, since the mixers are located remotely from the receiver boxes, and are the RF components that most effect the variation in receiver gain. For all other channels, we give the receiver temperature.
2. Radiometric Gain (DN/K) – This is defined as the linear gain using tie points of 3K and 300K.
3. Radiometric Offset (DN) – This is defined as the y-intercept of the radiometric transfer function using tie points of 3K and 300K.
4. Non-linearity, Tnl (K) – This is the peak non-linearity between 3K and 300K using tie points of 3K and 300K. See Eq. (27)
5. Counts at 3K (DN) – Radiometer counts expected at 3K, which is the lower end of the dynamic range.
6. Counts at 340K (DN) – Radiometer counts expected at 340K, which is the upper end of the dynamic range.
7. Noise Diode Physical Temperature (10, 18, 23, 36 GHz).
8. Noise Diode Excess Temperature (10, 18, 23, 36 GHz) – Final noise diode excess temperature after all corrections. This is the value that should be used as the starting point for trending on-orbit.
9. Variable to Cold Bias – Bias between the variable target and cold target. We note that we subtract out this bias in computing the absolute accuracy in section 6.4.
10. Variable to Hot Bias – Bias between the variable target and the hot load.
11. Non-linearity parameter "u" – This is the non-linearity parameter that will be used in the on-orbit algorithms. See Eq. (28).
12. Maximum Error from the best linear fit (i.e. ideal linear response) in K– A best linear fit was performed, independent of all other parameters to the radiometric transfer function. The best linear fit's tie points are chosen arbitrarily as to yield the lowest maximum error between best linear fit and the measured data with noise diodes off. The maximum error between the measured data and the best linear fit is given in Table 44.

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Table 42. Radiometric transfer function parameters I.

				Low Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	2.7	20.6	39.1	28.24	23.73	20.17	12238.1	12028.6	11804.8	-0.133	-0.106	-0.068
10.65	hpol	Off	6	2.7	20.6	39.1	28.88	24.69	20.86	11361.8	11129.8	10820.1	-0.127	-0.089	-0.068
18.7	vpol	Off	6	1.3	25.2	43.4	29.54	29.84	28.95	11699.2	12415.0	12846.9	-0.030	-0.017	-0.007
18.7	hpol	Off	6	1.3	25.2	43.4	28.80	28.53	27.38	11524.5	11985.3	12231.9	0.015	0.026	0.035
23.8	vpol	Off	6	0.8	24.7	42.9	23.55	17.55	13.82	11657.5	10773.5	10200.6	0.033	0.030	0.070
36.64	vpol	Off	6	-0.3	24.6	42.5	29.39	23.65	19.46	10041.2	9041.7	8158.0	-0.532	-0.409	-0.325
36.64	hpol	Off	6	-0.3	24.6	42.5	26.63	23.23	18.80	9671.0	9081.8	8080.2	-0.479	-0.381	-0.299
89*	vpol	Off	6	4.2	28.2	46.9	26.36	29.03	30.37	9285.4	12678.5	15349.4	-0.414	-0.339	-0.336
89†	vpol	Off	6	4.2	28.2	46.9	23.02	25.36	26.54	7082.7	9944.9	12271.5	-0.394	-0.314	-0.317
89*	hpol	Off	6	4.2	28.2	46.7	27.39	30.58	32.07	9120.5	12370.9	14744.3	-0.463	-0.399	-0.392
89†	hpol	Off	6	4.2	28.2	46.7	23.73	26.50	27.79	7063.6	9744.2	11830.7	-0.442	-0.382	-0.382
166	vpol	Off	4	0.6‡	12.1‡	32.4‡	25.96	25.33	24.83	12219.1	11875.3	13107.4	-0.389	-0.342	-0.225
166	hpol	Off	4	-1.5‡	11.7‡	32.0‡	27.48	26.88	26.38	15284.6	15488.9	16900.0	-0.298	-0.292	-0.207
183.31±3*	vpol	Off	5	1.0‡	13.3‡	33.7‡	48.33	44.30	40.00	10404.2	9361.2	9966.9	-0.495	-0.438	-0.349
183.31±3†	vpol	Off	5	1.0‡	13.3‡	33.7‡	40.05	36.61	33.06	3345.6	2353.4	2949.2	-0.604	-0.536	-0.427
183.31±7	vpol	Off	5	1.0‡	13.3‡	33.7‡	44.00	43.39	41.98	9546.7	10901.3	13518.3	-0.498	-0.432	-0.331

				Nominal Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	2.7	20.6	39.1	40.98	34.20	28.87	13847.2	13520.4	13176.7	-0.160	-0.125	-0.091
10.65	hpol	Off	4	2.7	20.6	39.1	42.01	35.69	29.93	13005.7	12671.5	12222.7	-0.168	-0.126	-0.088
18.7	vpol	Off	4	1.3	25.2	43.4	44.47	44.34	42.64	14425.0	15407.2	15962.2	-0.018	0.005	0.015
18.7	hpol	Off	4	1.3	25.2	43.4	46.86	45.84	43.68	14387.7	15103.0	15483.8	0.050	0.075	0.083
23.8	vpol	Off	4	0.8	24.7	43.0	39.69	29.08	22.66	15604.9	13991.9	12933.6	0.072	0.042	0.025
36.64	vpol	Off	4	-0.3	24.6	42.5	42.13	33.65	27.52	13869.5	12434.6	11166.8	-0.587	-0.481	-0.394
36.64	vpol	Dur=8	4	-0.3	24.6	42.5	40.80	32.60	26.66	14450.8	13063.8	11841.7	-0.582	-0.485	-0.403
36.64	vpol	Dur=20	4	-0.3	24.6	42.5	38.78	30.98	25.34	15356.3	14038.1	12874.6	-0.581	-0.490	-0.386
36.64	vpol	Dur=32	4	-0.3	24.6	42.5	36.76	29.36	24.01	16260.9	15012.6	13910.6	-0.576	-0.487	-0.404
36.64	vpol	Off	4	-0.3	24.6	42.5	38.02	32.96	26.50	13445.8	12564.4	11114.3	-0.565	-0.456	-0.367
36.64	vpol	Dur=8	4	-0.3	24.6	42.5	36.83	31.92	25.66	14036.1	13187.2	11788.5	-0.557	-0.463	-0.379
36.64	vpol	Dur=20	4	-0.3	24.6	42.5	35.01	30.34	24.40	14961.6	14154.3	12822.6	-0.558	-0.465	-0.366
36.64	vpol	Dur=32	4	-0.3	24.6	42.5	33.19	28.76	23.12	15886.6	15121.7	13861.3	-0.560	-0.465	-0.379
89*	vpol	Off	4	4.2	28.3	46.9	37.77	41.45	43.23	16200.8	21014.2	24765.2	-0.497	-0.408	-0.327
89†	vpol	Off	4	4.2	28.3	46.9	32.99	36.20	37.76	13122.0	17213.8	20484.9	-0.490	-0.402	-0.319
89*	hpol	Off	4	4.2	28.2	46.8	39.35	43.79	45.78	15344.0	20010.8	23388.6	-0.577	-0.445	-0.329
89†	hpol	Off	4	4.2	28.2	46.8	34.09	37.94	39.67	12453.2	16358.5	19313.0	-0.587	-0.453	-0.325
166	vpol	Off	2	0.6‡	12.1‡	32.6‡	35.76	34.80	33.98	24320.5	23753.5	25389.9	-0.341	-0.228	-0.231
166	hpol	Off	2	-1.4‡	11.7‡	32.2‡	37.83	36.89	36.08	27032.3	27228.8	29105.3	-0.269	-0.174	-0.119
183.31±3*	vpol	Off	4	1.0‡	13.4‡	33.9‡	57.40	52.51	47.32	17953.4	16654.2	17342.9	-0.423	-0.420	-0.348
183.31±3†	vpol	Off	4	1.0‡	13.4‡	33.9‡	47.54	43.46	39.15	9562.9	8421.7	9067.4	-0.476	-0.492	-0.406
183.31±7	vpol	Off	4	1.0‡	13.4‡	33.9‡	51.07	50.36	48.71	15044.9	16671.4	19778.2	-0.488	-0.454	-0.332

				High Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	2.7	20.6	39.1	57.54	48.15	40.73	15933.8	15495.7	15042.1	-0.154	-0.115	-0.081
10.65	hpol	Off	2	2.7	20.6	39.1	58.67	50.01	42.05	15086.5	14669.5	14098.1	-0.191	-0.134	-0.104
18.7	vpol	Off	2	1.3	25.2	43.4	67.16	67.31	64.81	18575.0	20162.8	21014.7	-0.024	-0.009	0.008
18.7	hpol	Off	2	1.3	25.2	43.4	63.01	62.05	59.27	16950.6	18024.9	18596.5	0.075	0.095	0.109
23.8	vpol	Off	2	0.8	24.7	43.0	59.26	43.65	34.00	20399.8	18047.0	16422.7	0.129	0.107	0.072
36.64	vpol	Off	2	-0.3	24.6	42.5	61.79	49.04	39.88	19738.8	17588.5	15723.9	-0.535	-0.396	-0.362
36.64	hpol	Off	2	-0.3	24.6	42.5	56.00	48.20	38.52	19336.7	17961.5	15803.9	-0.479	-0.345	-0.342
89*	vpol	Off	2	4.2	28.3	46.9	51.03	55.85	58.13	24266.3	30725.5	35703.3	-0.446	-0.456	-0.355
89†	vpol	Off	2	4.2	28.3	46.9	44.57	48.77	50.78	20161.7	25693.1	30035.2	-0.445	-0.473	-0.364
89*	hpol	Off	2	4.2	28.2	46.8	53.58	59.38	61.91	22688.3	29017.8	33532.6	-0.490	-0.488	-0.424
89†	hpol	Off	2	4.2	28.2	46.8	46.41	51.43	53.62	18810.8	24155.2	28093.9	-0.501	-0.493	-0.399
166	vpol	Off	1	0.6‡	12.1‡	32.5‡	43.15	41.82	40.71	33452.0	32643.3	34449.9	-0.392	-0.330	-0.280
166	hpol	Off	1	-1.4‡	11.7‡	32.0‡	45.68	44.37	43.25	35953.8	36066.2	38162.7	-0.297	-0.258	-0.174
183.31±3*	vpol	Off	3	1.1‡	13.3‡	33.7‡	66.50	60.79	54.71	25532.8	23954.3	24677.7	-0.542	-0.420	-0.364
183.31±3†	vpol	Off	3	1.1‡	13.3‡	33.7‡	55.08	50.32	45.28	15856.5	14468.8	15158.2	-0.450	-0.365	-0.316
183.31±7	vpol	Off	3	1.1‡	13.3‡	33.7‡	65.03	63.84	61.50	25959.3	27826.6	31561.3	-0.535	-0.432	-0.339

* Original parameters derived from the Ball Thermal Vacuum Test (for reference only)
† Parameters reflect notch filter installation (as-launched condition)
‡ Mixer Temperature reflected here, not receiver temperature.

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Table 43. Radiometric transfer function parameters II.

		Low Gain													
		Blanking Setting @ 250Hz	Gain Setting	Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol			Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	-18.9	8.7	28.8	215.66	224.12	228.71	0.11	0.14	0.18	0.01	0.16	0.25
10.65	hpol	Off	6	-19.0	8.7	28.8	191.45	198.79	201.61	-0.04	-0.06	-0.14	-0.62	-0.56	-0.64
18.7	vpol	Off	6	-3.0	21.4	39.7	223.20	239.16	250.85	-0.12	-0.27	-0.44	-0.09	0.06	0.12
18.7	hpol	Off	6	-1.2	22.7	41.0	215.89	229.70	240.67	-0.03	-0.22	-0.36	-0.23	-0.08	-0.02
23.8	vpol	Off	6	-3.0	21.4	39.7	182.48	198.09	208.79	-0.18	-0.40	-0.65	0.02	0.17	0.30
36.64	vpol	Off	6	-6.9	18.6	36.5	190.77	197.77	203.25	-0.12	-0.30	-0.44	0.18	0.38	0.54
36.64	hpol	Off	6	-7.1	18.3	36.3	202.86	212.82	219.55	-0.12	-0.26	-0.43	0.05	0.17	0.27
89	vpol	Off	6							0.00	-0.15	-0.28	-0.03	0.04	0.10
89	hpol	Off	6							-0.11	-0.21	-0.30	0.18	0.24	0.30
166	vpol	Off	4							0.21	0.28	0.36	-0.15	-0.09	-0.02
166	hpol	Off	4							0.16	0.22	0.28	-0.30	-0.26	-0.23
183.31±3	vpol	Off	5							0.21	0.28	0.35	0.00	0.07	0.13
183.31±7	vpol	Off	5							0.23	0.27	0.35	-0.04	0.05	0.10

		Nominal Gain													
		Blanking Setting @ 250Hz	Gain Setting	Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol			Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	-18.9	8.7	28.8	215.65	224.13	228.64	0.09	0.07	0.10	-0.03	0.07	0.17
10.65	hpol	Off	4	-19.0	8.7	28.8	191.44	198.74	201.56	0.07	0.03	-0.03	-0.47	-0.43	-0.45
18.7	vpol	Off	4	-3.0	21.4	39.7	223.14	239.13	250.86	-0.07	-0.26	-0.41	-0.07	0.02	0.10
18.7	hpol	Off	4	-1.1	22.7	41.1	215.83	229.66	240.63	-0.10	-0.29	-0.45	-0.20	-0.10	-0.03
23.8	vpol	Off	4	-3.0	21.4	39.7	182.50	198.09	208.77	-0.06	-0.26	-0.48	-0.02	0.12	0.20
36.64	vpol	Off	4	-6.9	18.5	36.6	190.72	197.78	203.22	-0.12	-0.26	-0.44	0.12	0.26	0.38
36.64	vpol	Dur=8	4	-6.9	18.5	36.6	190.76	197.77	203.22	-0.12	-0.30	-0.44	0.18	0.38	0.54
36.64	vpol	Dur=20	4	-6.9	18.5	36.6	190.73	197.75	203.27	-0.12	-0.26	-0.44	0.12	0.26	0.38
36.64	vpol	Dur=32	4	-6.9	18.5	36.6	190.76	197.80	203.24	-0.10	-0.25	-0.40	0.03	0.18	0.26
36.64	vpol	Off	4	-7.1	18.3	36.3	202.94	212.88	219.66	-0.08	-0.25	-0.41	0.02	0.13	0.18
36.64	vpol	Dur=8	4	-7.1	18.3	36.3	202.93	212.88	219.65	-0.12	-0.26	-0.43	0.05	0.17	0.27
36.64	vpol	Dur=20	4	-7.1	18.3	36.3	202.95	212.85	219.64	-0.08	-0.25	-0.41	0.02	0.13	0.18
36.64	vpol	Dur=32	4	-7.1	18.3	36.3	202.90	212.86	219.66	-0.09	-0.24	-0.38	-0.05	0.09	0.14
89	vpol	Off	4							-0.02	-0.17	-0.30	-0.05	0.05	0.10
89	hpol	Off	4							-0.02	-0.12	-0.25	0.12	0.22	0.26
166	vpol	Off	2							0.19	0.23	0.36	-0.13	-0.08	-0.02
166	hpol	Off	2							0.17	0.21	0.29	-0.22	-0.19	-0.14
183.31±3	vpol	Off	4							0.18	0.24	0.34	-0.01	0.07	0.12
183.31±7	vpol	Off	4							0.18	0.23	0.34	-0.06	0.02	0.08

		High Gain													
		Blanking Setting @ 250Hz	Gain Setting	Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol			Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	-18.9	8.7	28.8	215.69	224.13	228.69	0.06	0.05	0.07	-0.07	0.04	0.09
10.65	hpol	Off	2	-19.0	8.7	28.8	191.43	198.70	201.56	0.12	0.08	0.07	-0.41	-0.32	-0.31
18.7	vpol	Off	2	-3.0	21.4	39.7	223.10	239.08	250.77	-0.07	-0.24	-0.38	-0.11	0.01	0.10
18.7	hpol	Off	2	-1.2	22.7	41.0	215.78	229.58	240.54	-0.15	-0.34	-0.49	-0.21	-0.09	-0.03
23.8	vpol	Off	2	-3.0	21.4	39.7	182.48	198.05	208.76	-0.01	-0.19	-0.36	-0.06	0.08	0.19
36.64	vpol	Off	2	-6.9	18.6	36.6	190.68	197.74	203.21	-0.10	-0.25	-0.40	0.03	0.18	0.26
36.64	hpol	Off	2	-7.1	18.3	36.3	202.86	212.85	219.63	-0.09	-0.24	-0.38	-0.05	0.09	0.14
89	vpol	Off	2							-0.03	-0.16	-0.31	-0.05	0.04	0.10
89	hpol	Off	2							0.03	-0.06	-0.20	0.12	0.20	0.25
166	vpol	Off	1							0.17	0.23	0.34	-0.12	-0.06	-0.01
166	hpol	Off	1							0.16	0.22	0.28	-0.20	-0.17	-0.12
183.31±3	vpol	Off	3							0.21	0.25	0.34	-0.01	0.07	0.12
183.31±7	vpol	Off	3							0.16	0.21	0.29	-0.07	0.02	0.05

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Table 44. Radiometric transfer function parameters III.

				Low Gain											
		Blanking		Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	12322.8	12099.8	11865.3	21840.4	20098.5	18664.2	-6.0292E-06	-4.7983E-06	-3.0817E-06	-0.100	-0.103	-0.070
10.65	hpol	Off	6	11448.5	11203.9	10882.6	21182.9	19524.5	17913.7	-5.7625E-06	-4.0238E-06	-3.0991E-06	-0.105	-0.075	-0.067
18.7	vpol	Off	6	11787.8	12504.5	12933.7	21742.8	22560.9	22690.9	-1.3399E-06	-7.6298E-07	-3.1189E-07	-0.027	-0.058	-0.029
18.7	hpol	Off	6	11610.9	12070.9	12314.1	21315.2	21685.9	21542.0	6.6150E-07	1.1660E-06	1.5848E-06	0.046	0.023	0.027
23.8	vpol	Off	6	11728.2	10826.1	10242.1	19664.3	16739.0	14898.7	1.4778E-06	1.3602E-06	3.1826E-06	0.031	0.043	0.077
36.64	vpol	Off	6	10129.3	9112.7	8216.4	20041.8	17088.2	14777.3	-2.4123E-05	-1.8565E-05	-1.4745E-05	-0.365	-0.278	-0.230
36.64	hpol	Off	6	9750.8	9151.5	8136.6	18731.7	16987.1	14474.9	-2.1734E-05	-1.7286E-05	-1.3539E-05	-0.339	-0.256	-0.221
89*	vpol	Off	6	9364.5	12765.5	15440.5	18253.3	22553.1	25681.6	-1.8782E-05	-1.5375E-05	-1.5242E-05	-0.267	-0.229	-0.217
89†	vpol	Off	6	7151.8	10021.0	12351.1	14915.9	18572.4	21300.7	-1.7875E-05	-1.4244E-05	-1.4374E-05	-0.255	-0.215	-0.205
89*	hpol	Off	6	9202.7	12462.6	14840.5	18439.9	22775.6	25654.1	-2.0995E-05	-1.8109E-05	-1.7760E-05	-0.311	-0.274	-0.263
89†	hpol	Off	6	7134.8	9823.7	11914.1	15138.5	18760.2	21286.0	-2.0050E-05	-1.7317E-05	-1.7329E-05	-0.300	-0.266	-0.259
166	vpol	Off	4	12297.0	11951.3	13181.9	21050.3	20494.1	21554.6	-1.7637E-05	-1.5525E-05	-1.0221E-05	-0.249	-0.226	-0.151
166	hpol	Off	4	15367.1	15569.5	16979.1	24634.4	24632.5	25870.9	-1.3535E-05	-1.3221E-05	-9.4041E-06	-0.206	-0.199	-0.143
183.31±3*	vpol	Off	5	10549.2	9494.1	10086.9	26849.9	24435.2	23575.3	-2.2435E-05	-1.9874E-05	-1.5841E-05	-0.328	-0.295	-0.223
183.31±3†	vpol	Off	5	3465.8	2463.2	3048.4	16978.1	14814.5	14199.7	-2.7398E-05	-2.4329E-05	-1.9350E-05	-0.401	-0.361	-0.273
183.31±7	vpol	Off	5	9678.7	11031.5	13644.2	24521.2	25665.6	27799.5	-2.2587E-05	-1.9571E-05	-1.5002E-05	-0.327	-0.292	-0.218

				Nominal Gain											
		Blanking		Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	13970.2	13623.1	13263.3	27783.9	25152.6	22994.5	-7.2513E-06	-5.6621E-06	-4.1425E-06	-0.139	-0.135	-0.066
10.65	hpol	Off	4	13131.7	12778.5	12312.5	27292.9	24807.4	22398.9	-7.6343E-06	-5.7215E-06	-3.9928E-06	-0.130	-0.122	-0.061
18.7	vpol	Off	4	14558.4	15540.2	16090.1	29546.6	30481.9	30460.1	-8.0889E-07	2.2639E-07	6.8229E-07	-0.064	0.018	0.023
18.7	hpol	Off	4	14528.3	15240.6	15614.8	30317.4	30686.6	30333.8	2.2594E-06	3.3817E-06	3.7531E-06	0.020	0.038	0.061
23.8	vpol	Off	4	15724.0	14079.2	13001.6	29097.4	23880.0	20637.8	3.2530E-06	1.8878E-06	1.1353E-06	0.038	0.030	0.041
36.64	vpol	Off	4	13995.9	12535.5	11249.3	28208.1	23887.1	20531.6	-2.6614E-05	-2.1820E-05	-1.7865E-05	-0.459	-0.344	-0.282
36.64	vpol	Dur=8	4	14573.2	13161.5	11921.6	28338.3	24157.2	20911.8	-2.4123E-05	-1.8565E-05	-1.4745E-05	-0.365	-0.278	-0.230
36.64	vpol	Dur=20	4	15472.6	14131.0	12950.6	28556.6	24581.2	21495.0	-2.6614E-05	-2.1820E-05	-1.7865E-05	-0.459	-0.344	-0.282
36.64	vpol	Dur=32	4	16371.2	15100.7	13982.6	28772.5	25004.1	22080.6	-2.4250E-05	-1.7952E-05	-1.6429E-05	-0.404	-0.337	-0.286
36.64	vpol	Off	4	13559.9	12663.3	11193.8	26384.6	23779.9	20129.8	-2.5627E-05	-2.0674E-05	-1.6631E-05	-0.429	-0.316	-0.252
36.64	vpol	Dur=8	4	14146.7	13283.0	11865.5	26572.6	24050.4	20520.1	-2.1734E-05	-1.7286E-05	-1.3539E-05	-0.339	-0.256	-0.221
36.64	vpol	Dur=20	4	15066.6	14245.3	12895.8	26875.8	24479.2	21123.2	-2.5627E-05	-2.0674E-05	-1.6631E-05	-0.429	-0.316	-0.252
36.64	vpol	Dur=32	4	15986.2	15208.0	13930.7	27181.2	24907.9	21727.3	-2.1734E-05	-1.5650E-05	-1.5494E-05	-0.334	-0.293	-0.290
89*	vpol	Off	4	16314.1	21138.6	24894.9	29053.1	35119.3	39471.3	-2.2520E-05	-1.8506E-05	-1.4843E-05	-0.328	-0.275	-0.222
89†	vpol	Off	4	13220.9	17322.4	20598.2	24347.1	29531.3	33330.3	-2.2229E-05	-1.8218E-05	-1.4465E-05	-0.328	-0.273	-0.219
89*	hpol	Off	4	15462.0	20142.2	23526.0	28735.8	34913.0	38964.6	-2.6167E-05	-2.0200E-05	-1.4897E-05	-0.382	-0.292	-0.219
89†	hpol	Off	4	12555.4	16472.3	19432.0	24054.6	29269.5	32808.6	-2.6638E-05	-2.0551E-05	-1.4740E-05	-0.391	-0.299	-0.219
166	vpol	Off	2	24427.8	23857.9	25491.8	36486.8	35591.4	36947.7	-1.5444E-05	-1.0359E-05	-1.0458E-05	-0.223	-0.144	-0.141
166	hpol	Off	2	27145.8	27339.5	29213.5	39899.2	39776.0	41373.8	-1.2214E-05	-7.8999E-06	-5.3874E-06	-0.176	-0.125	-0.075
183.31±3*	vpol	Off	4	18125.6	16811.7	17484.8	37484.9	34521.8	33440.3	-1.9175E-05	-1.9062E-05	-1.5767E-05	-0.267	-0.277	-0.216
183.31±3†	vpol	Off	4	9705.6	8552.1	9184.9	25739.2	23211.3	22386.7	-2.1578E-05	-2.2331E-05	-1.8431E-05	-0.301	-0.325	-0.252
183.31±7	vpol	Off	4	15198.1	16822.5	19924.4	32424.8	33808.7	36350.5	-2.2118E-05	-2.0586E-05	-1.5060E-05	-0.304	-0.299	-0.216

				High Gain											
		Blanking		Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	16106.4	15640.1	15164.3	35501.9	31870.5	28893.7	-7.0060E-06	-5.1984E-06	-3.6655E-06	-0.120	-0.097	-0.091
10.65	hpol	Off	2	15262.5	14819.6	14224.3	35040.5	31676.4	28397.6	-8.6773E-06	-6.0727E-06	-4.7018E-06	-0.129	-0.105	-0.083
18.7	vpol	Off	2	18776.5	20364.7	21209.2	41411.4	43048.9	43049.3	-1.0944E-06	-4.0790E-07	3.6046E-07	-0.015	-0.020	0.047
18.7	hpol	Off	2	17139.7	18211.0	18774.3	38372.1	39117.0	38743.3	3.4169E-06	4.3242E-06	4.9307E-06	0.061	0.081	0.089
23.8	vpol	Off	2	20577.5	18177.9	16524.7	40541.8	32886.4	27982.6	5.8470E-06	4.8330E-06	3.2654E-06	0.103	0.067	0.041
36.64	vpol	Off	2	19924.2	17735.6	15843.5	40767.4	34273.2	29292.2	-2.4250E-05	-1.7952E-05	-1.6429E-05	-0.404	-0.337	-0.286
36.64	hpol	Off	2	19504.7	18106.1	15919.5	38392.1	34360.4	28908.7	-2.1734E-05	-1.5650E-05	-1.5494E-05	-0.334	-0.293	-0.290
89*	vpol	Off	2	24419.4	30893.0	35877.7	41631.8	49729.1	55481.8	-2.0206E-05	-2.0699E-05	-1.6110E-05	-0.297	-0.300	-0.229
89†	vpol	Off	2	20295.4	25839.4	30187.5	35326.1	42288.9	47310.2	-2.0181E-05	-2.1434E-05	-1.6501E-05	-0.300	-0.312	-0.235
89*	hpol	Off	2	22849.0	29196.0	33718.4	40921.4	49226.0	54597.6	-2.2226E-05	-2.2109E-05	-1.9247E-05	-0.326	-0.315	-0.279
89†	hpol	Off	2	18950.1	24309.5	28254.7	34604.9	41658.1	46338.3	-2.2710E-05	-2.2367E-05	-1.8092E-05	-0.335	-0.321	-0.264
166	vpol	Off	1	33581.5	32768.8	34572.1	48134.5	46871.5	48298.5	-1.7792E-05	-1.4968E-05	-1.2719E-05	-0.261	-0.201	-0.193
166	hpol	Off	1	36090.8	36199.3	38292.5	51493.8	51158.1	52870.7	-1.3450E-05	-1.1688E-05	-7.8709E-06	-0.193	-0.172	-0.124
183.31±3*	vpol	Off	3	25732.3	24136.6	24841.8	48163.6	44637.0	43292.7	-2.4595E-05	-1.9068E-05	-1.6513E-05	-0.345	-0.286	-0.245
183.31±3†	vpol	Off	3	16021.7	14619.8	15294.1	34600.1	31589.7	30562.6	-2.0414E-05	-1.6529E-05	-1.4339E-05	-0.289	-0.255	-0.217
183.31±7	vpol	Off	3	26154.4	28018.1	31745.8	48091.8	49548.4	52484.1	-2.4262E-05	-1.9594E-05	-1.5366E-05	-0.336	-0.283	-0.226

* Original parameters derived from the Ball Thermal Vacuum Test (for reference only)

† Parameters reflect notch filter installation (as-launched condition)

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10.2 NEDT Calculation for the variable target at 300K

For each instrument temperature plateau, the NEDT was computed over the variable target at 300K. The method used to compute NEDT can be found in 2249401. The NEDT results, with worst-case on-orbit corrections are given in Table 45 and Appendix O.

Table 45. NEDT Computed from the GMI Calibration Test with Variable Target at 300K.

		Receiver / Mixer Temperature					Low Gain				Nominal Gain				High Gain			
Frequency (GHz)	pol	Blanking	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	REQUIREMENT
10.65	vpol	Off	2.7	20.4	39.2	6	0.79	0.83	0.85	4	0.79	0.81	0.85	2	0.78	0.83	0.84	0.96
10.65	hpol	Off	2.7	20.4	39.2	6	0.80	0.82	0.85	4	0.79	0.81	0.86	2	0.78	0.82	0.84	0.96
18.7	vpol	Off	1.6	25.3	43.8	6	0.65	0.68	0.70	4	0.64	0.68	0.72	2	0.65	0.67	0.70	0.84
18.7	hpol	Off	1.6	25.3	43.8	6	0.62	0.64	0.68	4	0.61	0.64	0.66	2	0.61	0.64	0.67	0.84
23.8	vpol	Off	1.0	24.8	43.3	6	0.53	0.57	0.62	4	0.52	0.56	0.60	2	0.53	0.55	0.58	1.05
36.64	vpol	Off	-0.4	24.4	42.7	6	0.43	0.45	0.47	4	0.43	0.46	0.47	2	0.43	0.45	0.47	0.65
36.64	vpol	Dur=8	-0.4	24.4	42.7	6	0.60	0.77	0.95	4	0.45	0.53	0.64	2	0.44	0.45	0.50	N/A
36.64	vpol	Dur=20	-0.4	24.4	42.7	6	1.11	1.63	2.20	4	0.56	0.83	1.19	2	0.49	0.47	0.56	N/A
36.64	vpol	Dur=32	-0.4	24.4	42.7	6	1.73	2.54	3.41	4	0.68	1.19	1.83	2	0.55	0.48	0.67	N/A
36.64	hpol	Off	-0.4	24.4	42.7	6	0.45	0.46	0.50	4	0.45	0.46	0.48	2	0.45	0.47	0.49	0.65
36.64	hpol	Dur=8	-0.4	24.4	42.7	6	0.68	0.81	1.06	4	0.49	0.55	0.68	2	0.46	0.47	0.50	N/A
36.64	hpol	Dur=20	-0.4	24.4	42.7	6	1.42	1.75	2.42	4	0.67	0.87	1.34	2	0.48	0.48	0.60	N/A
36.64	hpol	Dur=32	-0.4	24.4	42.7	6	2.19	2.71	3.90	4	0.91	1.28	2.01	2	0.52	0.49	0.74	N/A
89†	vpol	Off	3.6	27.0	45.6	6	0.35	0.38	0.39	4	0.35	0.37	0.39	2	0.34	0.37	0.38	0.57
89†	hpol	Off	3.6	27.0	45.6	6	0.32	0.35	0.36	4	0.32	0.34	0.35	2	0.31	0.34	0.35	0.57
166	vpol	Off	2.0	14.1	35.0	4	0.69	0.71	0.74	2	0.69	0.70	0.74	1	0.70	0.71	0.74	1.50
166	hpol	Off	-0.1	13.7	34.5	4	0.64	0.65	0.69	2	0.64	0.67	0.69	1	0.64	0.67	0.69	1.50
183.31±3†	vpol	Off	2.3	15.3	36.2	5	0.58	0.61	0.65	4	0.58	0.61	0.65	3	0.58	0.61	0.65	1.50
183.31±7	vpol	Off	2.3	15.3	36.2	5	0.48	0.50	0.53	4	0.48	0.49	0.53	3	0.48	0.50	0.52	1.50

† NEDT performance reflects notch filter installation (as-launched condition)

10.3 Radiometric Calibration Test Data

The data taken during the radiometric calibration test is shown in Figure 155 through Figure 169, and is given in Appendix P for data with Blanking OFF and Appendix Q for data with Blanking ON (36 GHz only). The radiometric transfer function data in the Appendices include the following items, listed for each GMI instrument temperature plateau (labeled "Cold Plateau", "Nominal Plateau", and "Hot Plateau"):

1. Plateau – Approximate temperature of the scene target (for reference only)
2. Rcvr Temp – Measured receiver box temperature in degrees Celsius
3. ND Temp – Measured noise diode temperature in degrees Celsius
4. Mixer Temp – Measured mixer temperature in degrees Celsius
5. LO Temp – Measured LO source temperature in degrees Celsius
6. Gain – Measured radiometric gain, defined as (Ch – Cc) / (Th – Tc), where Ch, Cc, Th, and Tc are defined below.
7. Offset – Measured radiometric offset, defined as Cc – Tc * Gain.

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8. Tnd – Measured excess temperature of the noise diode in units of Kelvin.
9. Tnl_nd – Measured non-linearity based on 4-point calibration from the hot, cold, hot + noise, and cold+ noise data. The Tnl_nd is the maximum deviation from linear between tie points of 3K and 300K in units of Kelvin.
10. Cc – Average cold counts
11. Ch – Average hot counts
12. Cs – Average variable (scene) target counts
13. Ccn – Average cold + noise counts
14. Chn – Average hot + noise counts
15. Csn – Average variable (scene) + noise counts
16. Tc – Radiometric temperature of the cold target in units of Kelvin, after all corrections (including correcting for the "Cold Bias", or the bias between the cold and variable target)
17. Th – Radiometric temperature of the hot target in Units of Kelvin, after all corrections except correcting for the "Hot Bias", or the bias between the hot and variable target
18. Ts – Radiometric temperature of the scene target in Units of Kelvin, after all corrections.
19. Tb – Brightness temperature of the variable target based on calibrating the radiometer data. Tb = Tc + (Cs – Cc) / Gain + u (Cs – Cc) (Cs – Ch) / Gain^2.
20. Cs_GC – Average variable (Scene) counts, after correcting for gain variations over all datasets.
21. Linear Fit – Best linear fit (K) relating Ts and Cs_GC. Linear_Fit = a0 + a1 * Cs_GC.
22. LinFit – Ts – Deviation of the scene temperature from the best linear fit in Units of Kelvin.
23. Csn_GC – Average variable (scene) + noise counts, after correcting for gain variations over all datasets.
24. LinFitND – Best linear fit relating Ts + Tnd and Ccn_GC. LinFitND = a0 + a1*Csn_GC.
25. LinFitND- (Ts+Tnd) – Deviation of the scene + noise temperature from the best linear fit.

In addition in Appendix P and Q, we list various "Overall" parameters which are computed from the final-derived radiometric transfer function.

1. Rcvr Temp – Measured receiver box temperature, averaged over all scene target plateaus in degrees Celsius.
2. ND Temp – Measured noise diode temperature, averaged over all scene target plateaus in degrees Celsius

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3. Mixer Temp – Measured mixer temperature, averaged over all scene target plateaus in degrees Celsius
4. LO Temp – Measured LO source temperature, averaged over all scene target plateaus in degrees Celsius
5. Gain – Radiometric gain with tie points at 3K and 300K, defined as (C_300K – C_3K) / (300K – 3K), where C_300K and C_3K are defined below.
6. Offset – Radiometric offset with tie points at 3K and 300K, defined as C_3K – 3K * Gain.
7. Tnd – Average excess temperature of the noise diode in Kelvin.
8. Tnl_nd – Average non-linearity based on 4-point calibration from the hot, cold, hot + noise, and cold+ noise data. The Tnl_nd is the maximum deviation from linear between tie points of 3K and 300K in units of Kelvin.
9. C_3K – Radiometer counts at 3K.
10. C_300K – Radiometer counts at 300K.
11. C_340K – Radiometer counts at 340K
12. C_3K + ND – Radiometer counts at 3K plus noise diode excess temperature
13. C_300K + ND – Radiometer counts at 300K plus noise diode excess temperature
14. C_340K + ND – Radiometer counts at 340K plus noise diode excess temperature
15. u – Measured non-linearity "u" parameter
16. Cold Bias – Bias between the cold target and the variable target (Kelvin). This bias is removed in the cold target data
17. Hot Bias – Bias between the hot load and variable target (Kelvin).
18. NaxNLErr – maximum error between the measured variable target temperature and the best linear fit
19. Tnl – Maximum deviation from linear between tie points of 3K and 300K
20. GainSet – Gain Setting used on the particular dataset
21. (a0, a1) – Best linear fit constant and linear terms

As a note, the temperature of the cold target and hot load were influenced by the temperature of the variable target throughout the test. Thus, the increasing temperature of the variable target also raised the temperature of the hot and cold targets.

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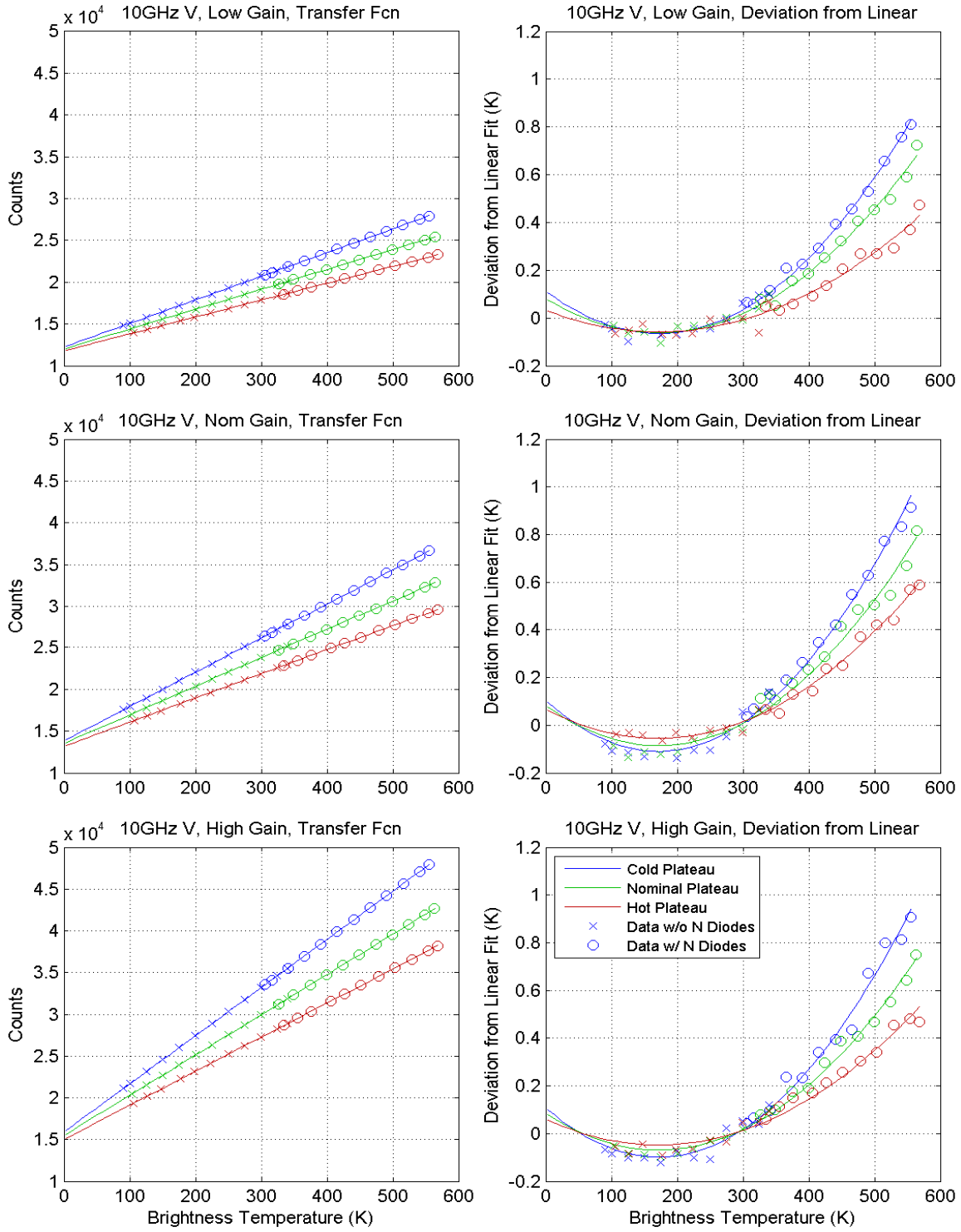

Figure 155 GMI 10 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit.

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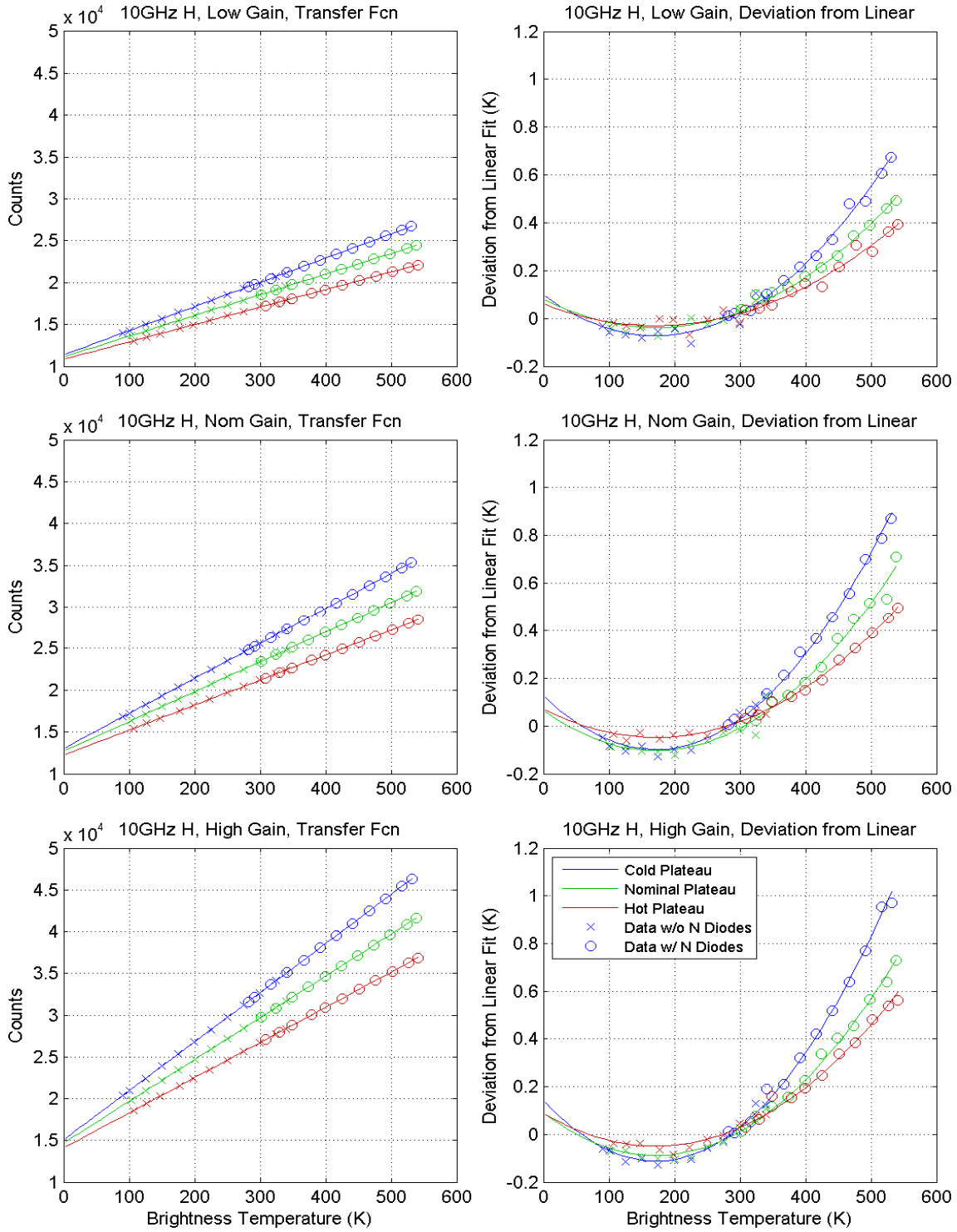

Figure 156 GMI 10 GHz H-pol channel radiometric transfer function, and its deviation from a best linear fit.

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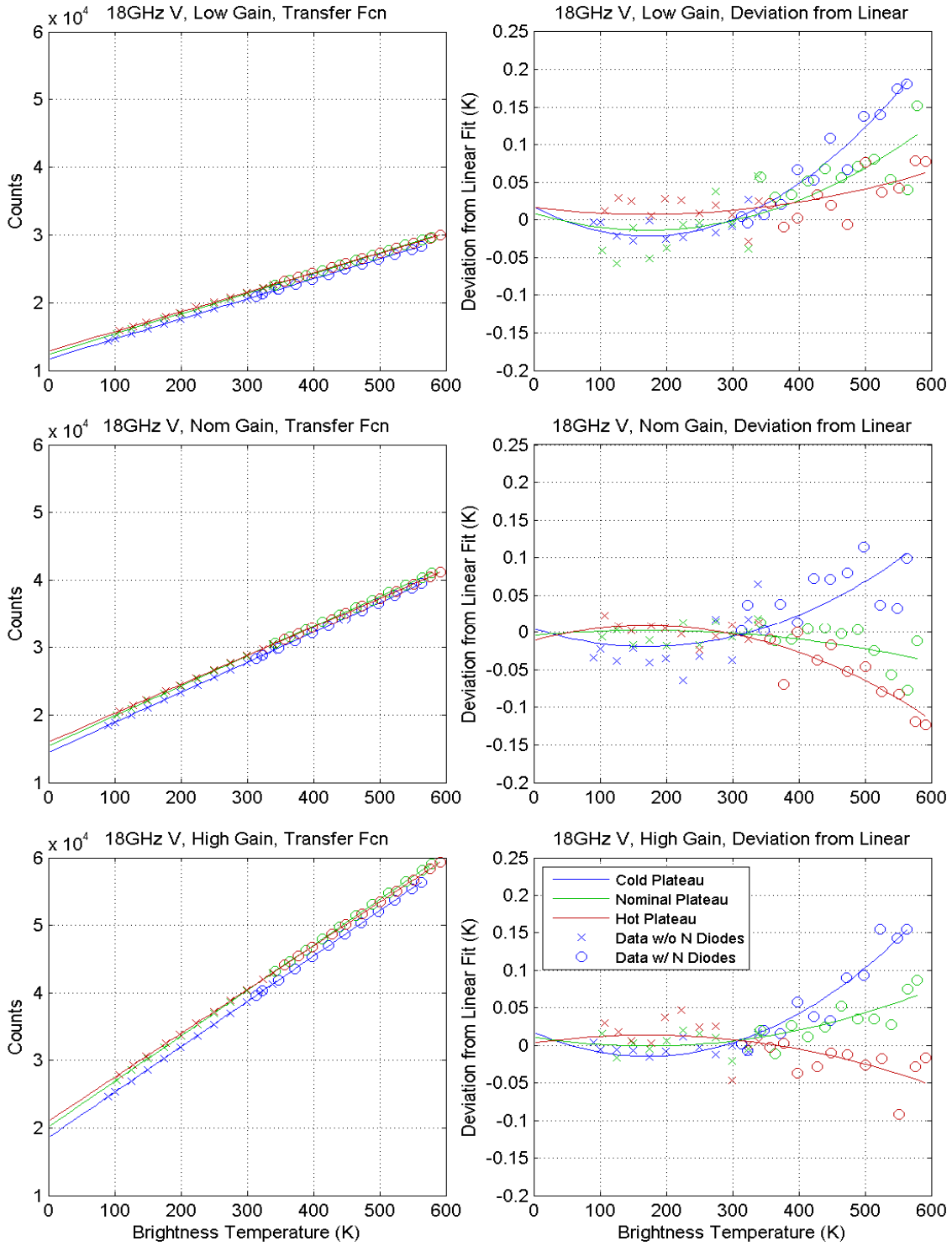

Figure 157 GMI 18 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit.

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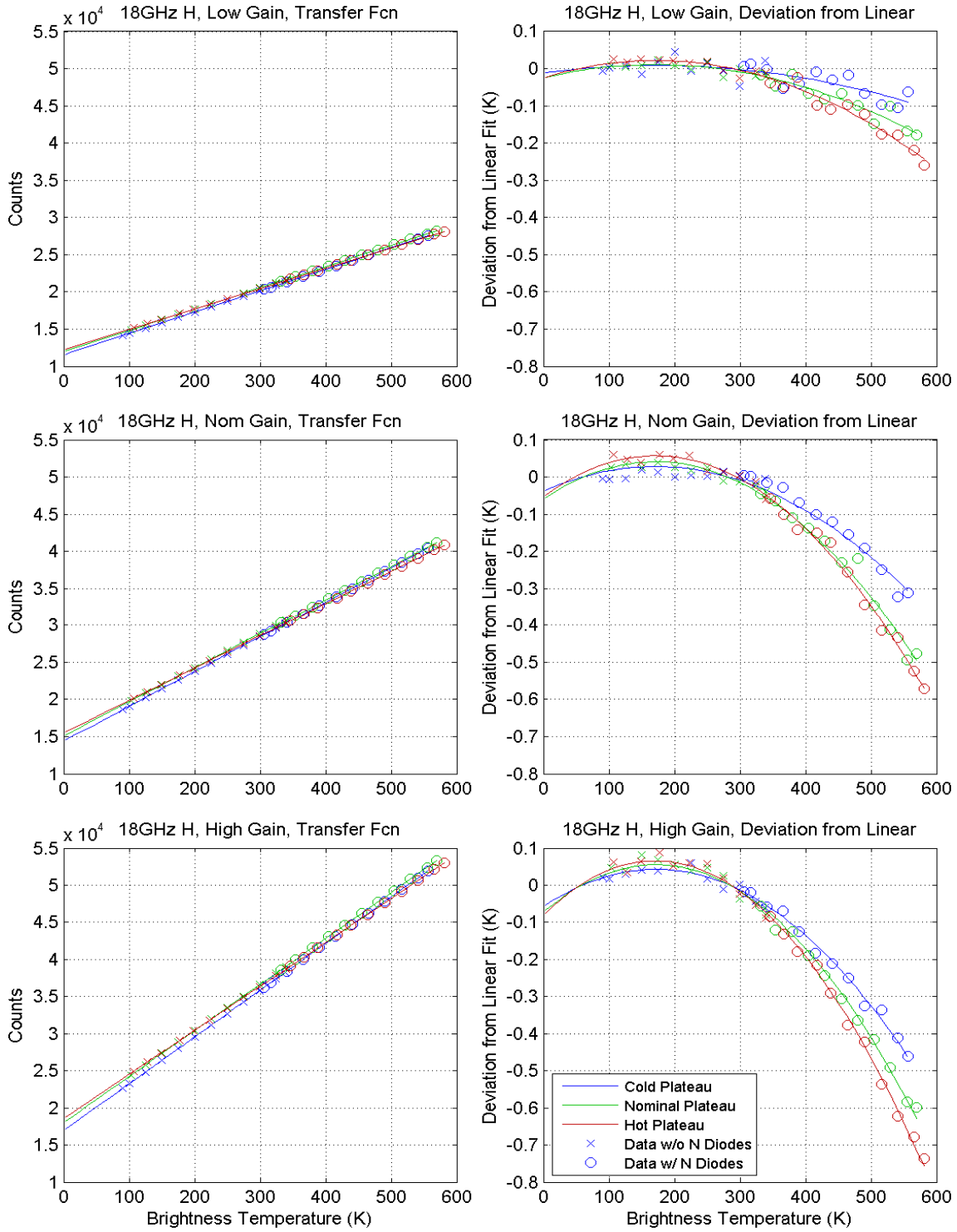

Figure 158 GMI 18 GHz H-pol channel radiometric transfer function, and its deviation from a best linear fit.

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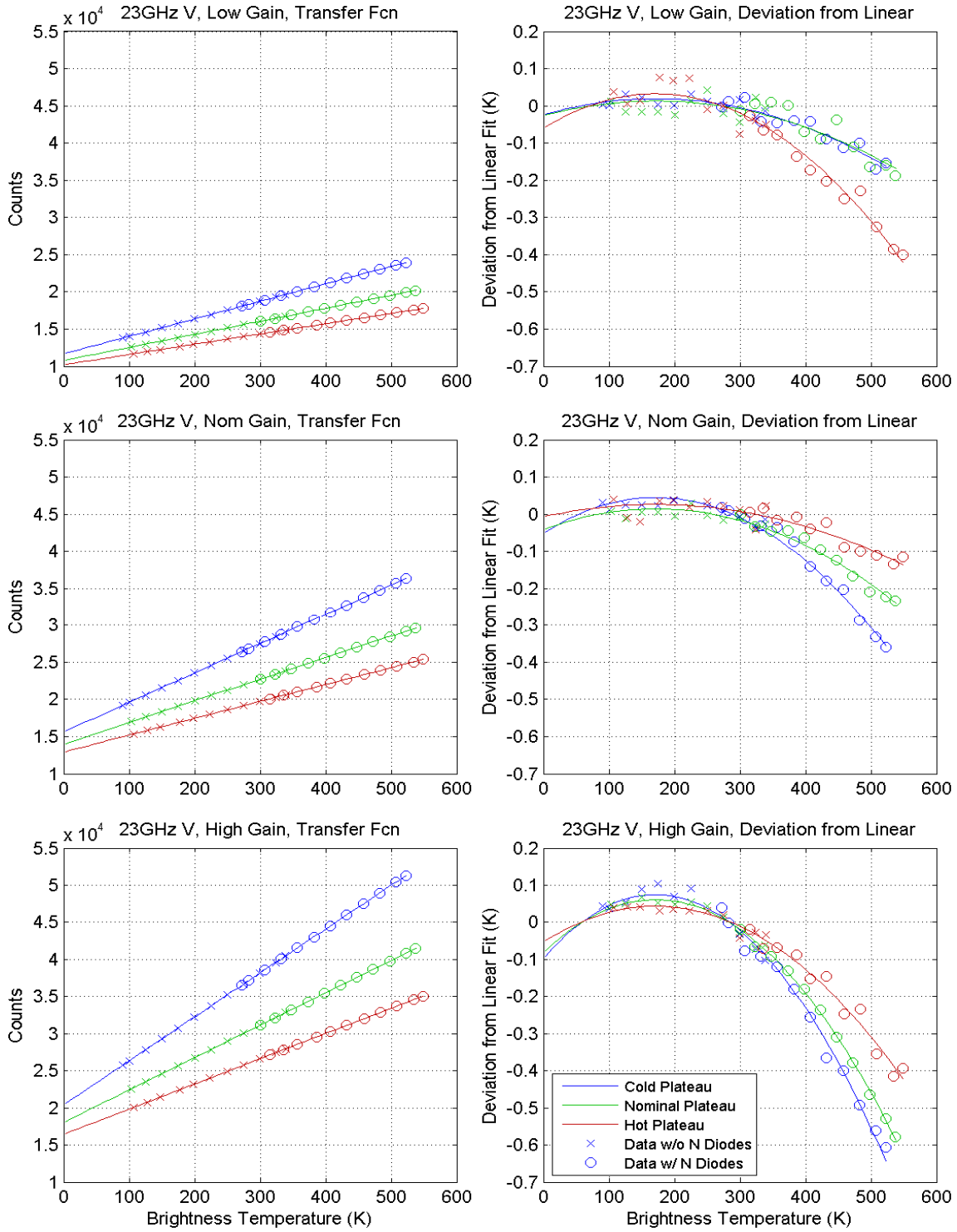

Figure 159 GMI 23 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit.

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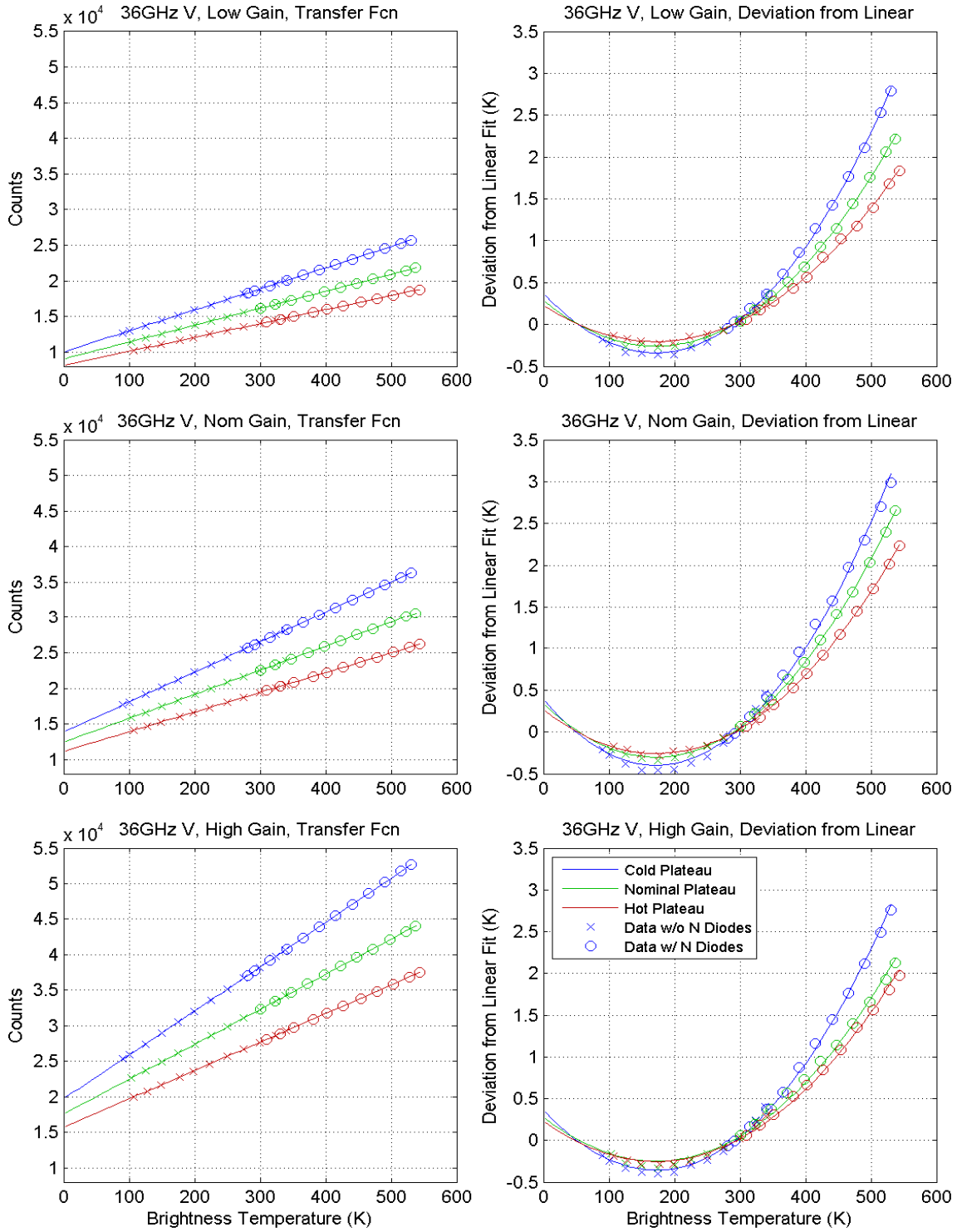

Figure 160 GMI 36 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit.

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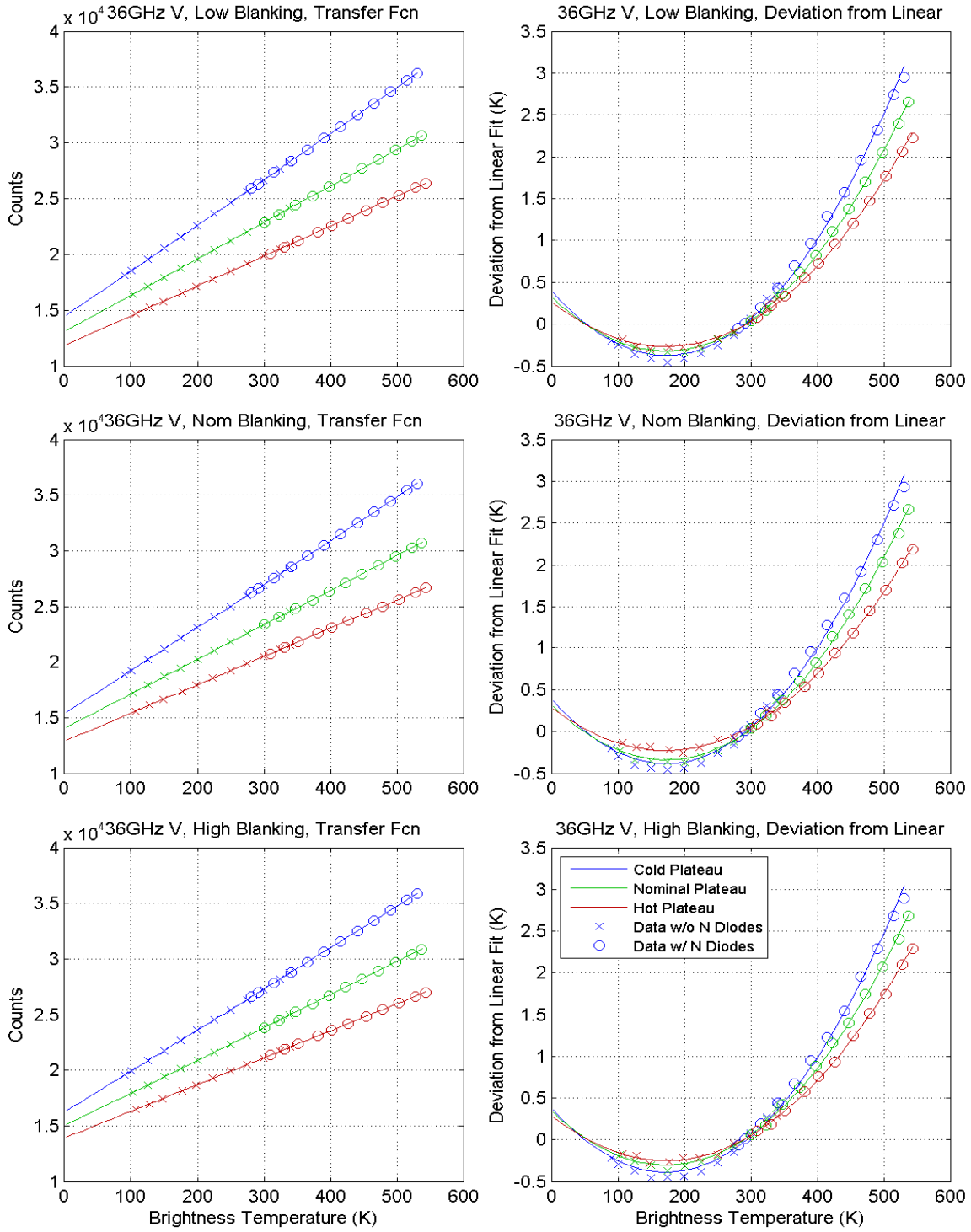

Figure 161 GMI 36 GHz V-pol channel radiometric transfer function, nominal gain, with blanking enabled at durations of 8, 20, and 32 microseconds with a repetition interval of 250 microseconds, and its deviation from a best linear fit.

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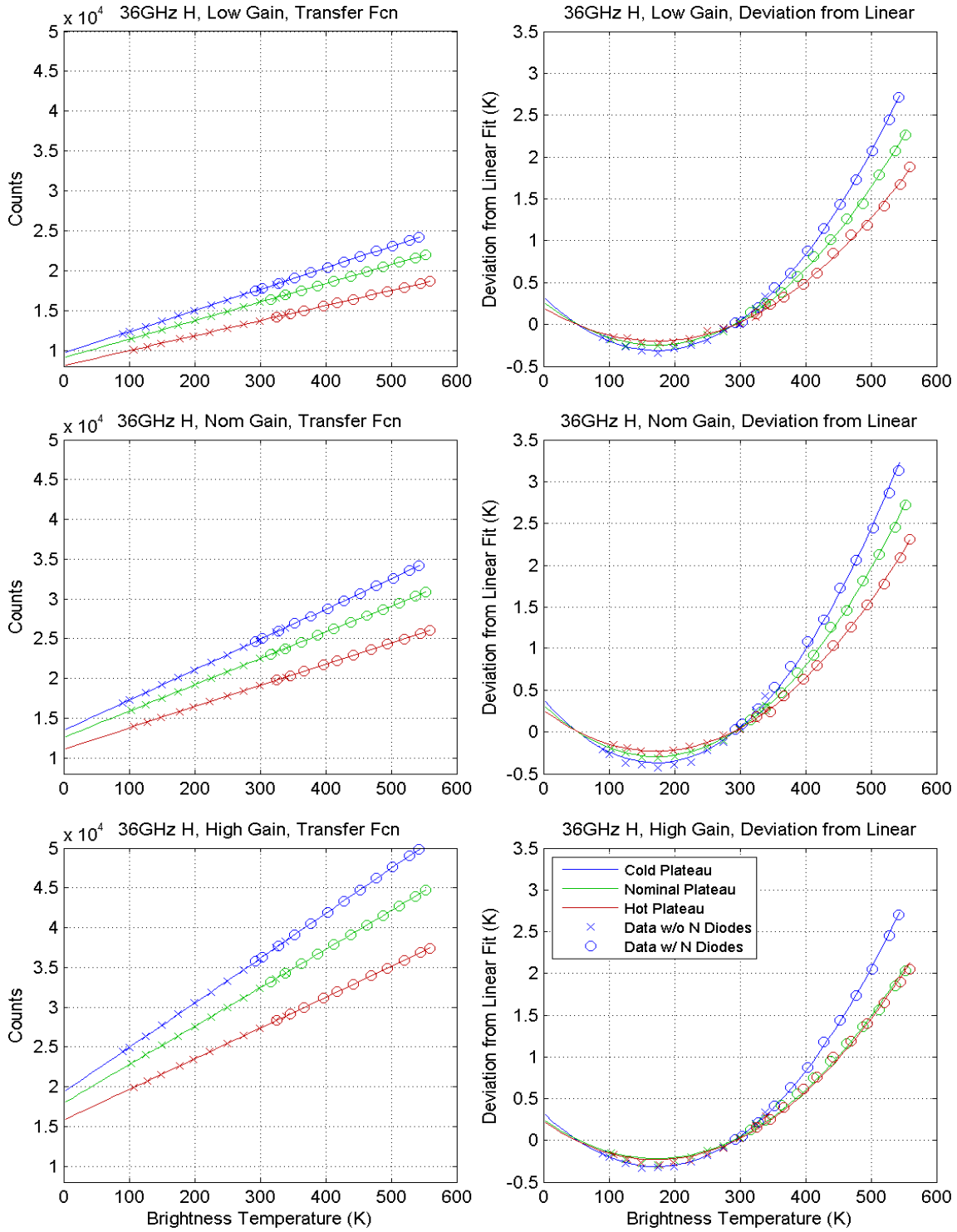

Figure 162 GMI 36 GHz H-pol channel radiometric transfer function, and its deviation from a best linear fit.

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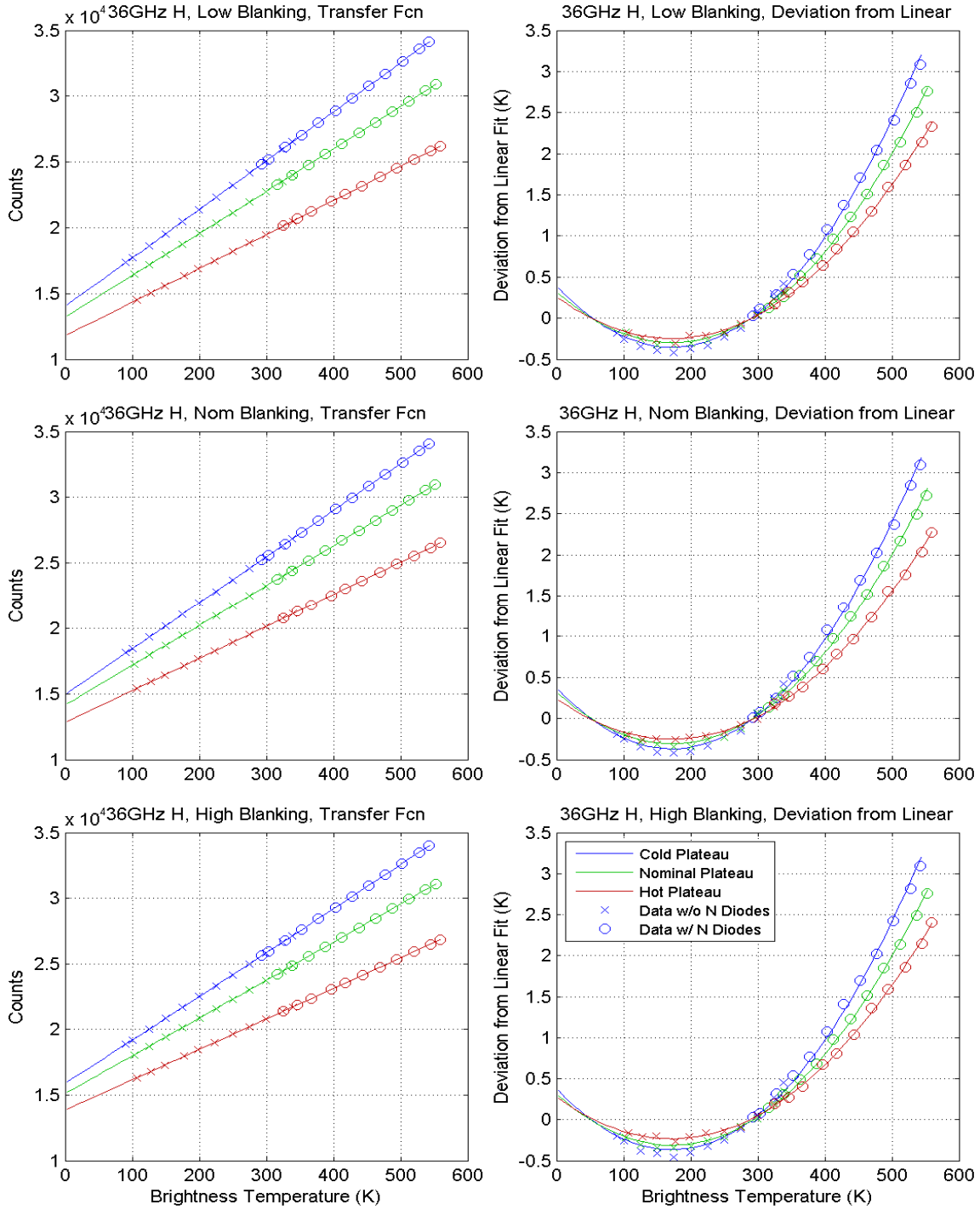

Figure 163 GMI 36 GHz H-pol channel radiometric transfer function, nominal gain, with blanking enabled at durations of 8, 20, and 32 microseconds with a repetition interval of 250 us, and its deviation from a best linear fit.

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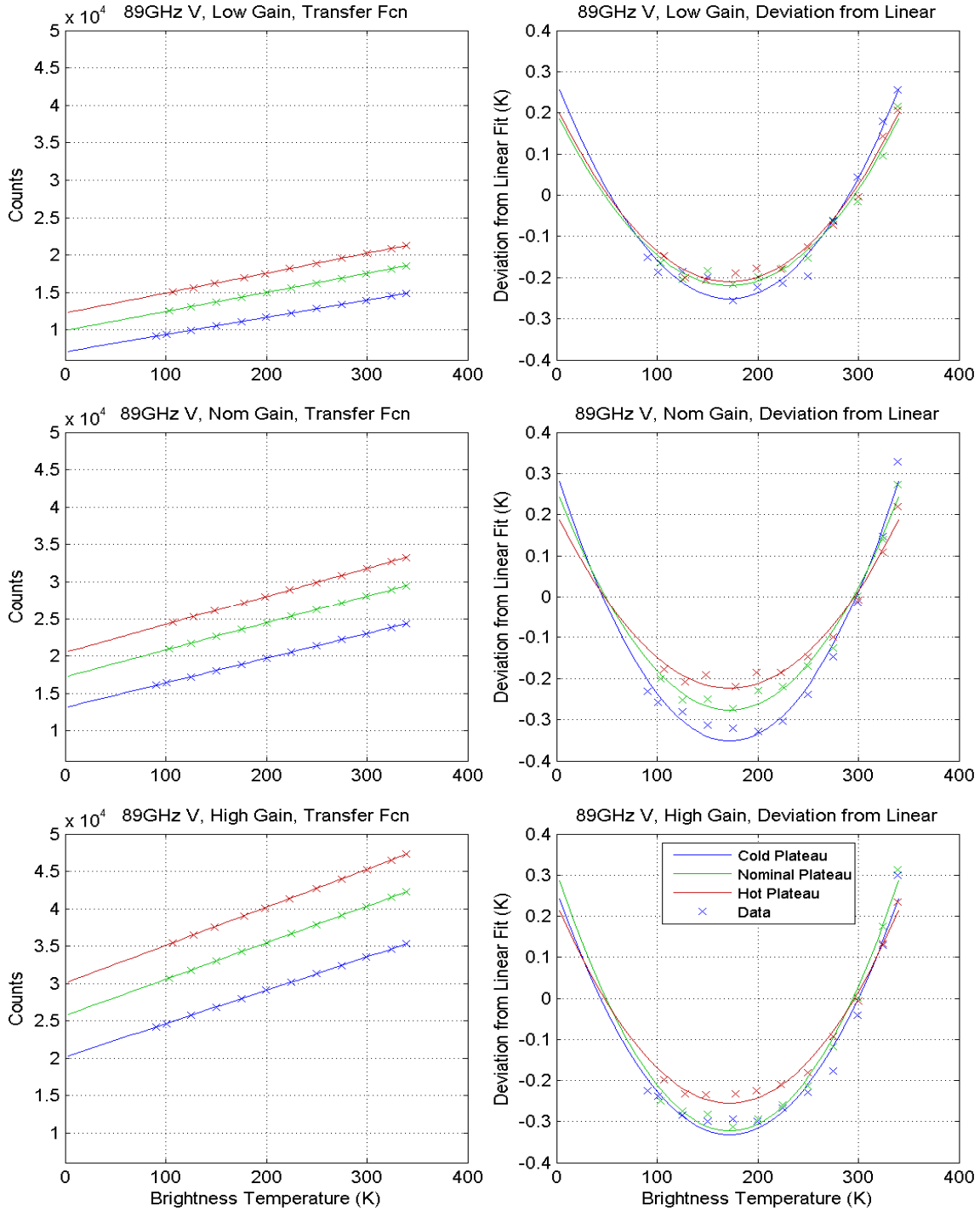

Figure 164 GMI 89 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit. This data has been adjusted to reflect the HGAS filter installation (flight configuration).

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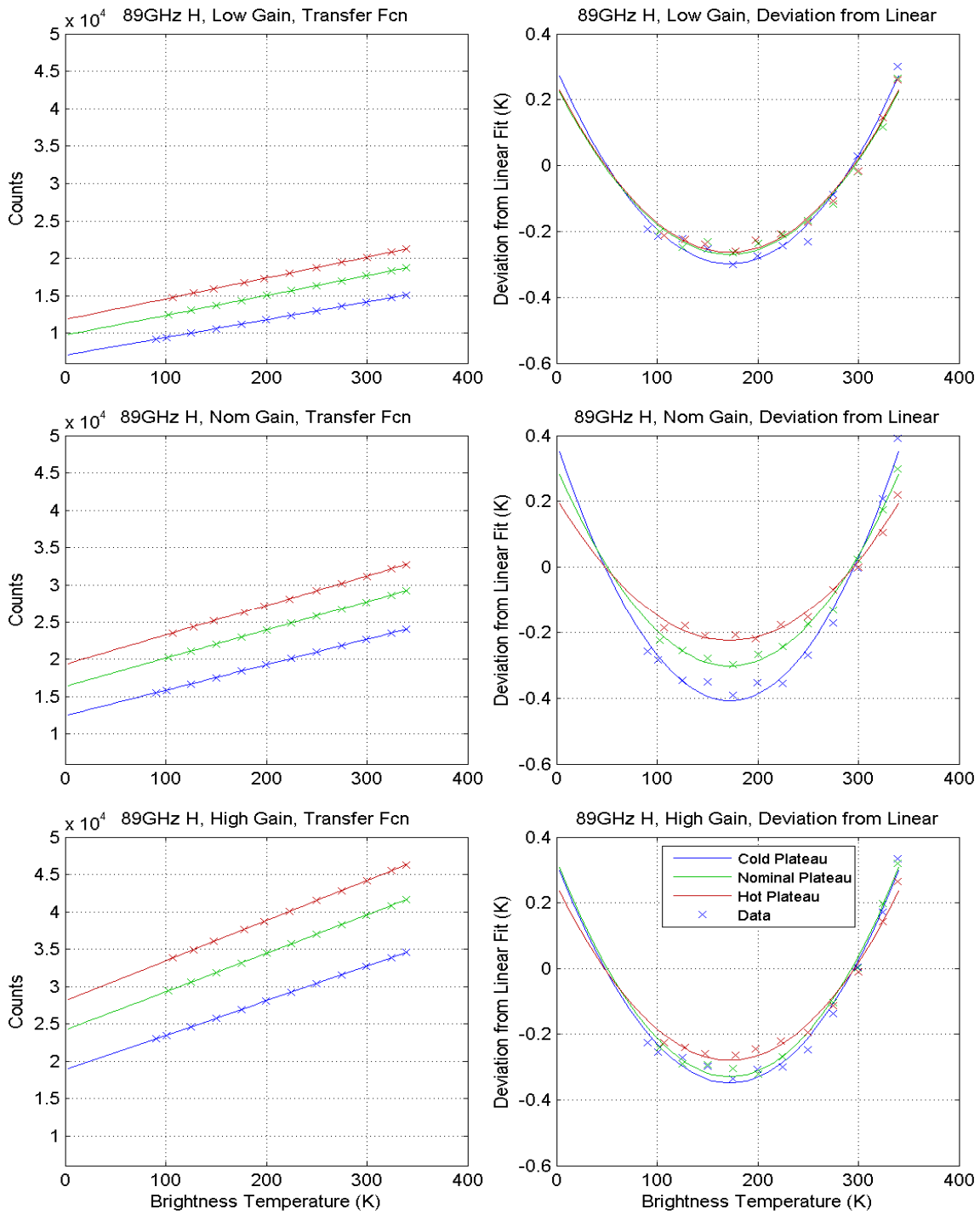

Figure 165 GMI 89 GHz H-pol channel radiometric transfer function, and its deviation from a best linear fit. This data has been adjusted to reflect the HGAS filter installation (flight configuration).

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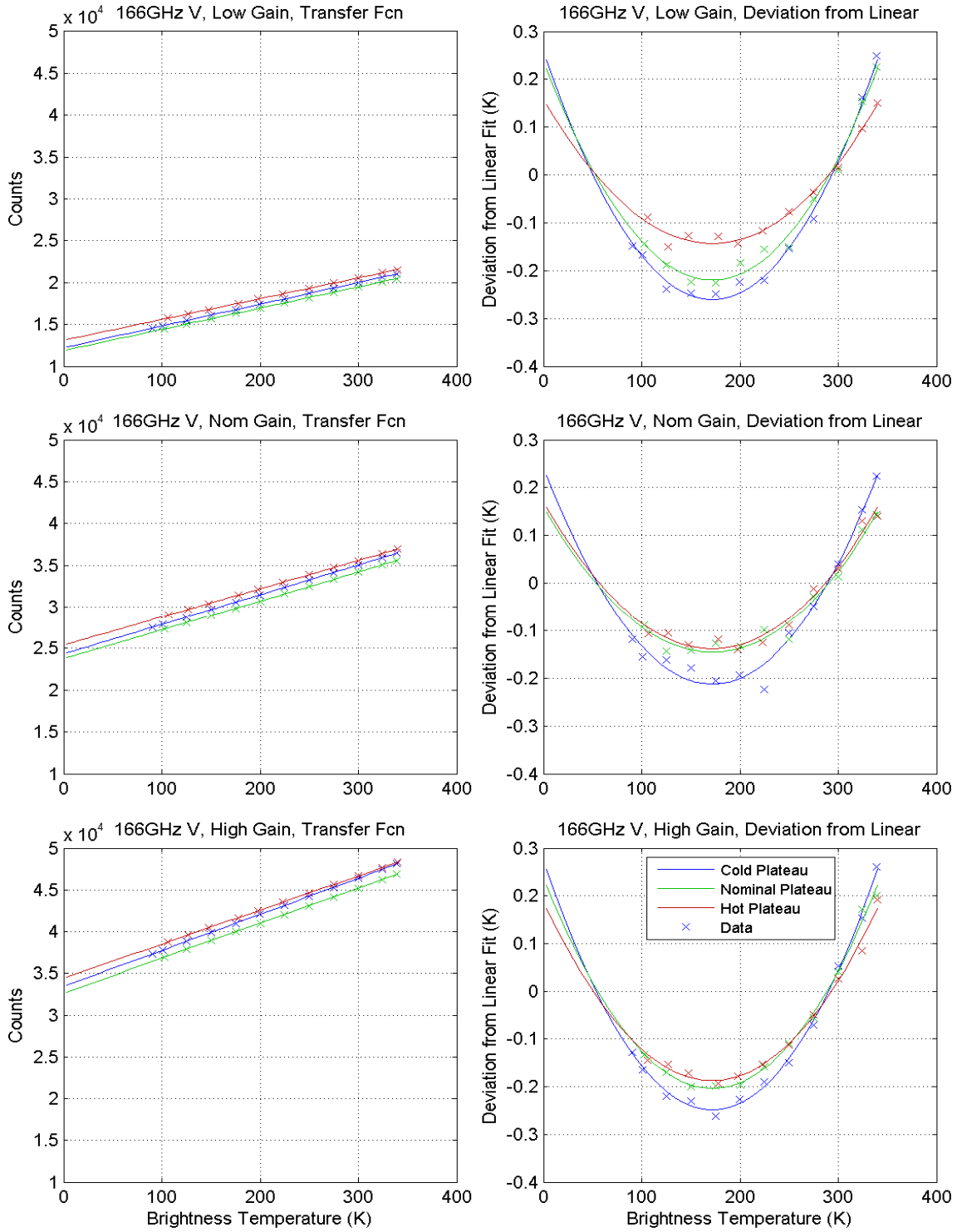

Figure 166 GMI 166 GHz V-pol channel radiometric transfer function, and its deviation from a best linear fit.

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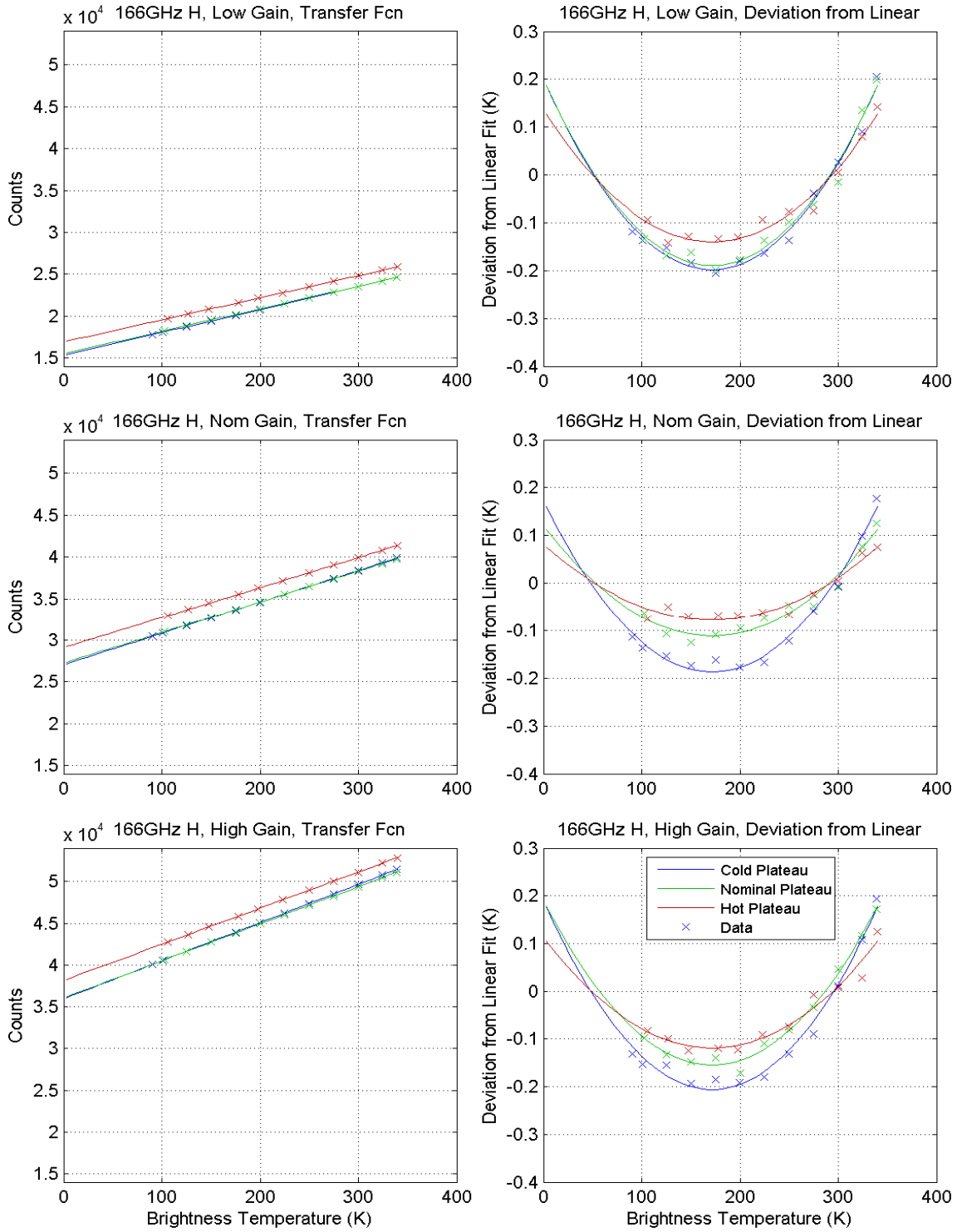

Figure 167 GMI 166 GHz H-pol channel radiometric transfer function, and its deviation from a best linear fit.

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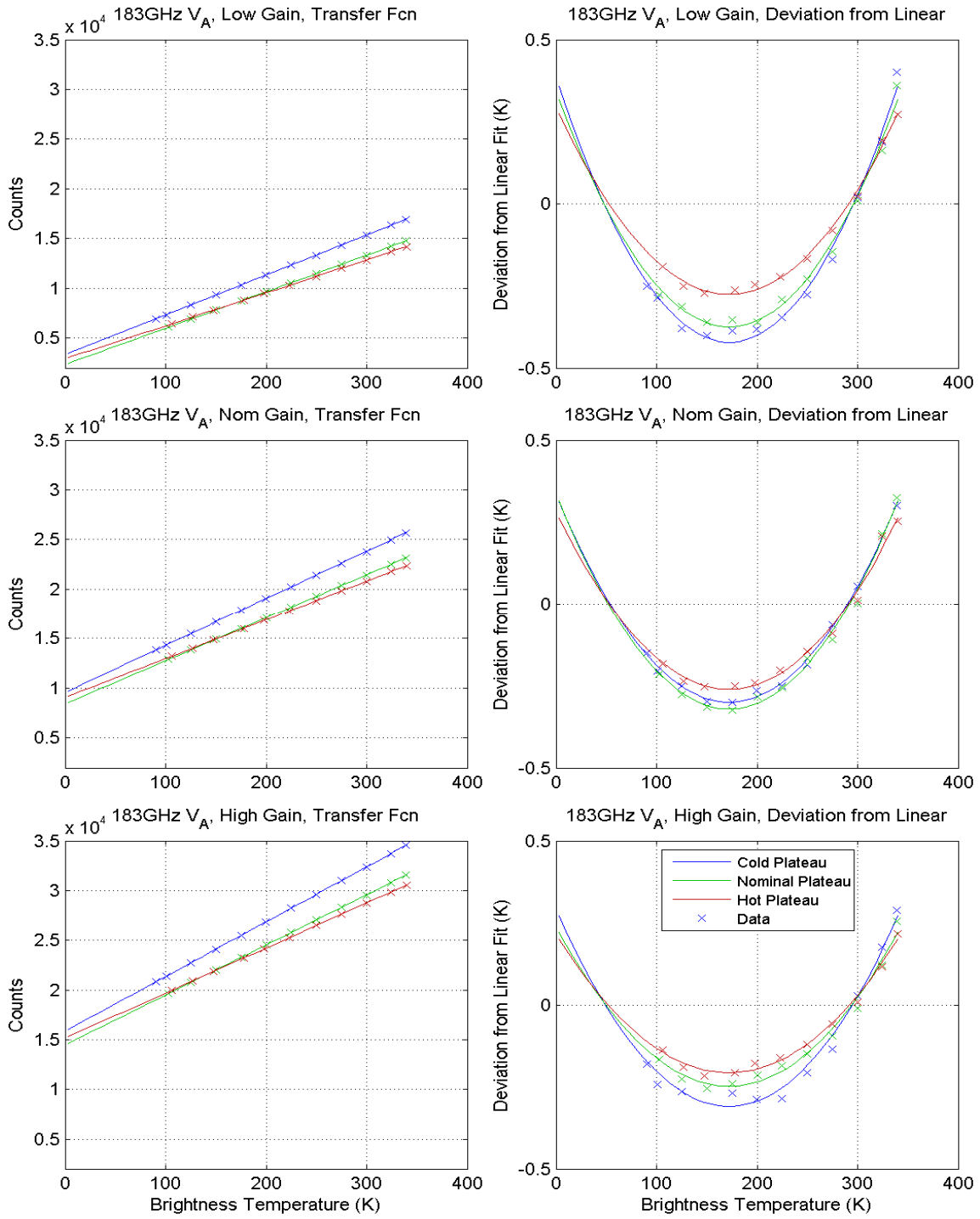

Figure 168 GMI 183 +/- 3 GHz (VA) channel radiometric transfer function, and its deviation from a best linear fit. This data has been adjusted to reflect the HGAS filter installation (flight configuration).

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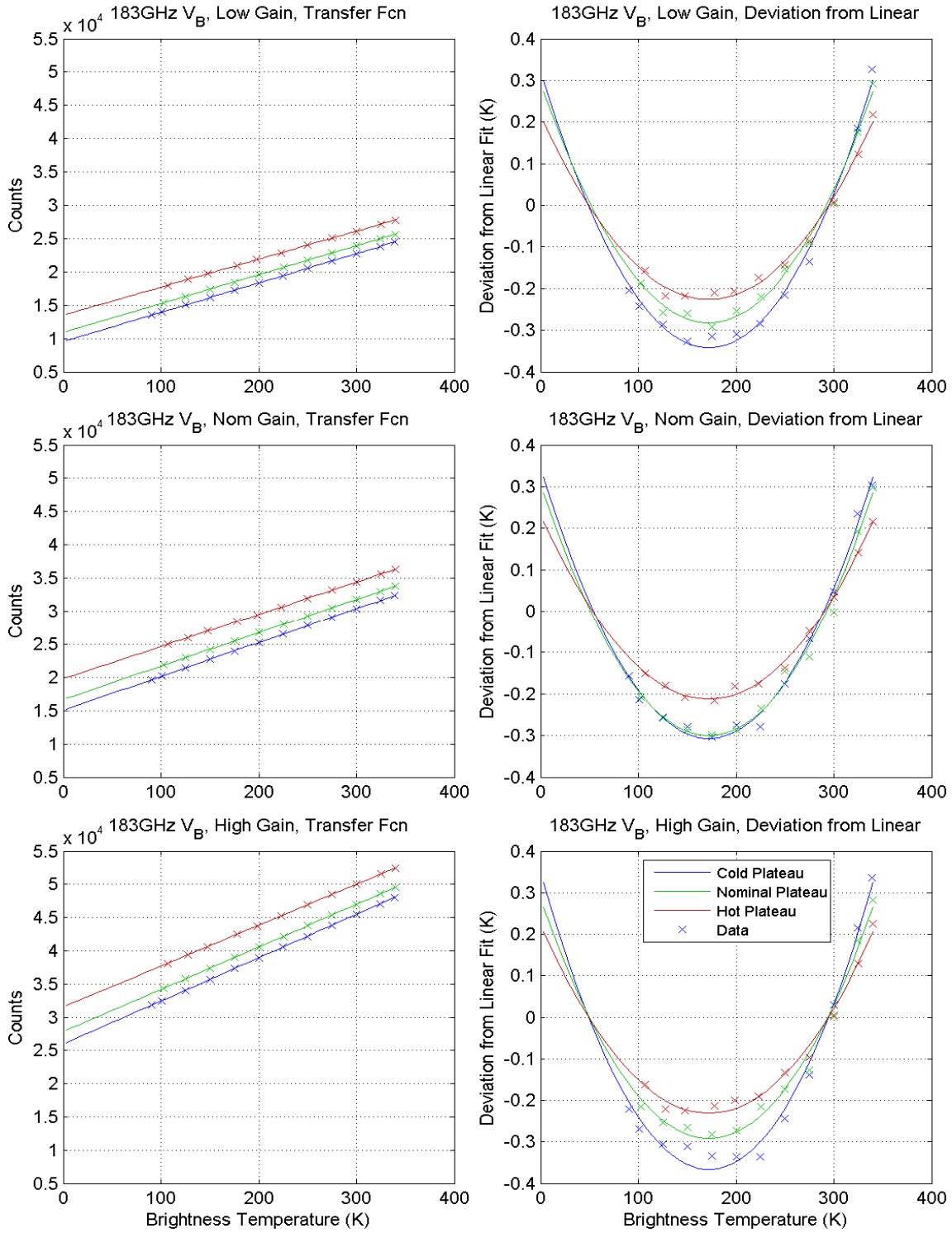

Figure 169 GMI 183 +/- 7 GHz (VB) channel radiometric transfer function, and its deviation from a best linear fit.

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10.4 Absolute Accuracy (GMI Tb compared to Variable Target Tb)

In this section, we define the absolute accuracy as the error between the GMI brightness temperature, using the instrument data converted through the radiometric transfer function given in Eq. (27) and (28), and the brightness temperature of the variable target determined using the method given in 2356438. The absolute accuracy for the GMI radiometer, based on the nominal gain setting with blanking OFF is shown in Figure 170. We note that for this computation, we removed the bias between the variable target and cold target. We did *not* remove the bias between the variable target and GMI instrument hot load. This data is included in Appendix P as "LinFit – Ts".

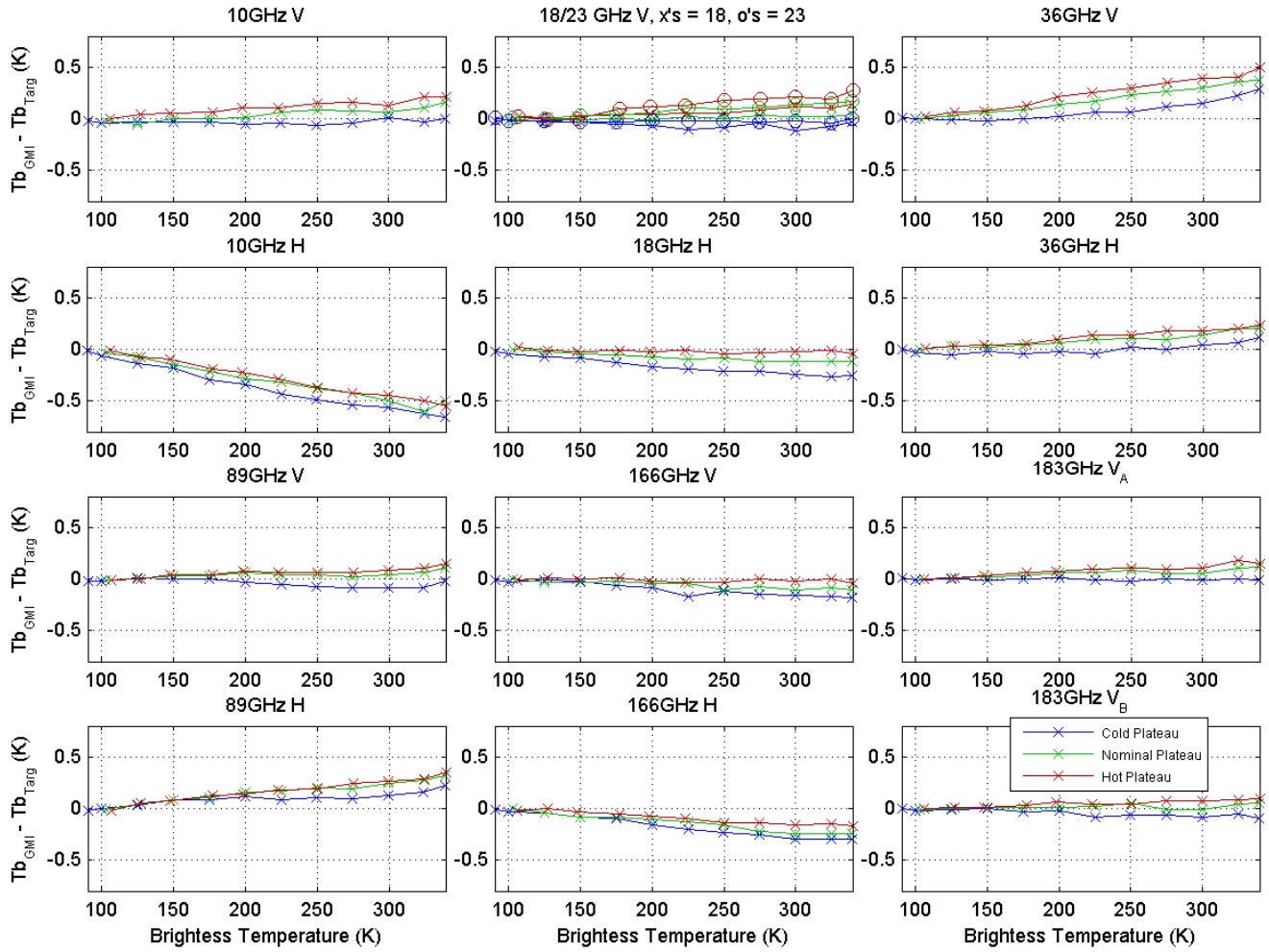

Figure 170. Absolute accuracy if the GMI radiometer based on the calibration test. It is the error between the GMI-calibrated brightness temperatures and the variable target.

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10.5 Non-linearity Parameter "u" over Temperature

For 10.65 through 36.64 GHz channels, the data in this Section is superseded by Section 11.5. The non-linearity parameter "u" will be used in the on-orbit algorithm. The data for the non-linearity parameter "u" interpolated over temperature is shown in Figure 171. The data reported here for the 89V, 89H, and 183 VA channels have been corrected for the HGAS filter installation. The ground-determined non-linearity data interpolated over temperature is given in Appendix R. The on-orbit update to these values is given in Appendix U.

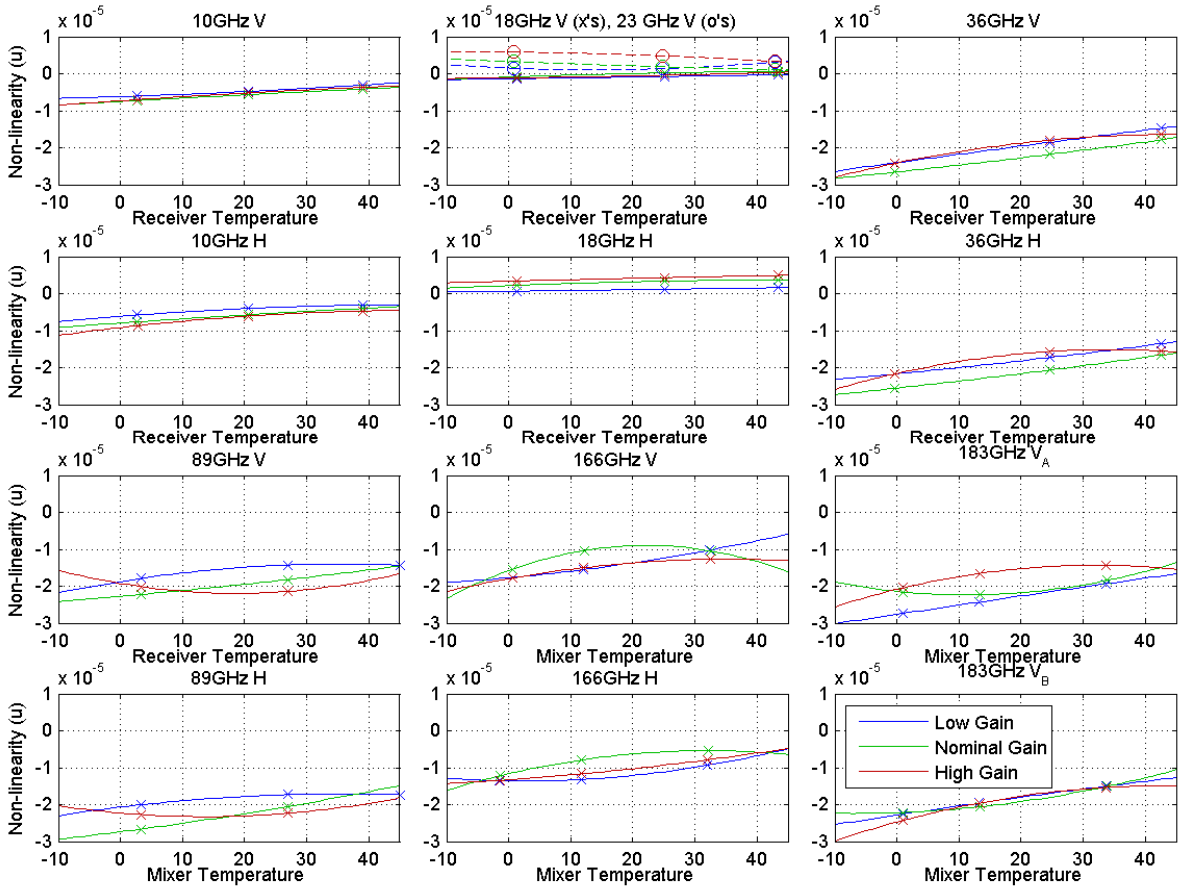

Figure 171. Non-linearity parameter "u" over temperature. **The data reported here for the 89V, 89H, and 183 VA channels have been corrected for the HGAS filter installation. For 10.65 GHz through 36.64 GHz, the data in this plot are superseded by Section 11.5.**

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10.6 Noise Diode Excess Temperature over Noise Diode Physical Temperature

This section is superseded by Section 11.6. The noise diode excess temperature parameter "Tnd" will be used in the on-orbit algorithm for a backup for the hot load, and to trend non-linearity. The data for noise diode excess temperature interpolated over temperature is shown in Figure 172. The data interpolated over temperature is given in Appendix S. The on-orbit updates to the noise diode excess temperature are given in Appendix V.

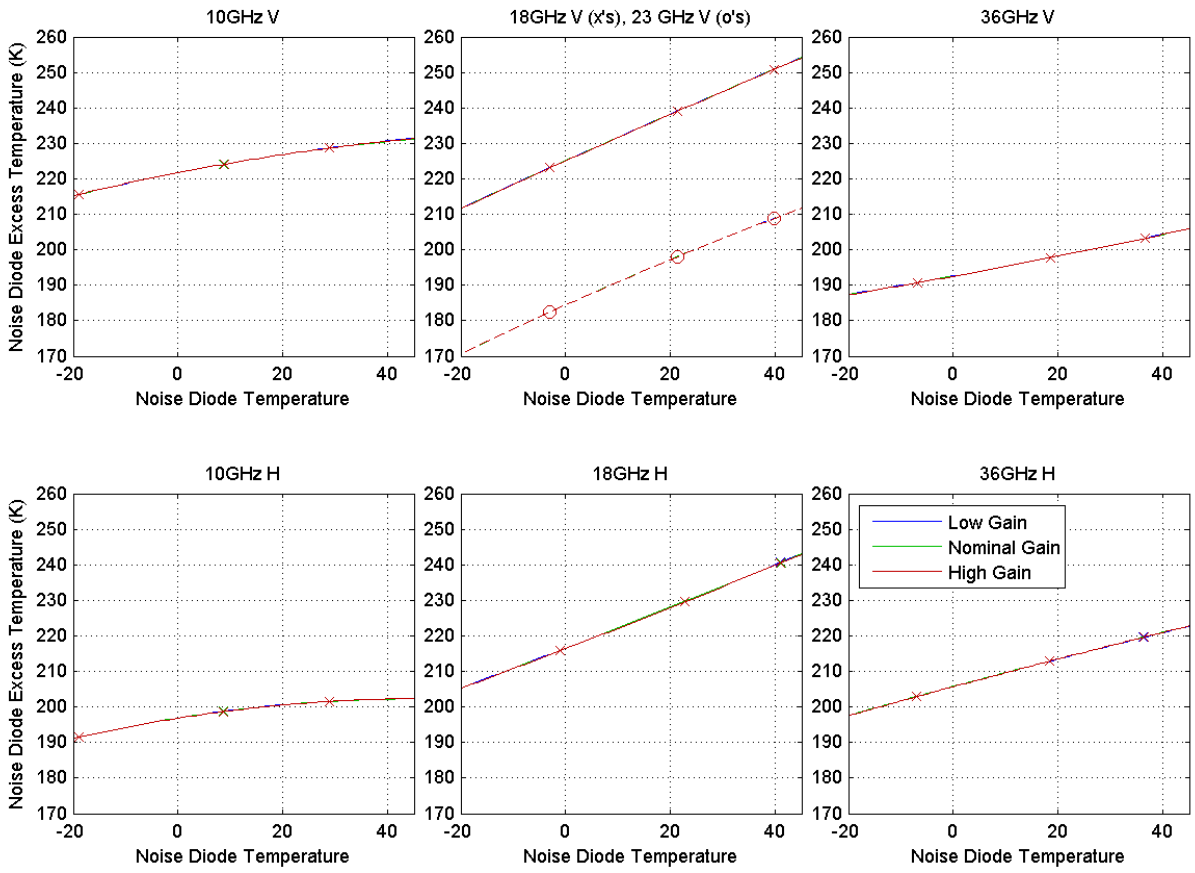

Figure 172. Noise diode excess temperature plotted over physical temperature of the noise diode. The data in this figure is superseded by the data in Section 11.6.

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10.7 Blanking Effects

This section, we look at the effect of the blanking function on the GMI radiometric performance with no interfering signal. The blanking function in the GMI reduces the effective integration time for each sample by the total duration blanked during the integration period. The detector circuitry used in the GMI design utilizes a current offset to center the output dynamic range around 0V, or approximately 32500 digital counts. This is demonstrated by the following simple model for the receiver output voltage,

$$V_{out} = \left[1e^9 k(T_a + T_{rec})BG_{RF}K_{det} - I_{off}\right]R_F G_V G_B \,. \tag{29}$$

where

- k is Boltzmann's constant in J/K
- T_a is the Antenna Temperature in K
- T_{rec} = Receiver Noise Temp in K
- B = pre-detect bandwidth in MHz
- G_{RF} = Receiver RF/IF gain in ratio
- K_{det} = detector sensitivity in mA/mW
- I_{off} = offset current in mA
- R_F = feedback resistor of first op-amp stage in kohms
- G_V = video gain of remaining 2 op-amp stages in ratio (blanking OFF)
- G_B = gain coefficient for blanking (1 = blanking OFF, < 1 = blanking ON - actual value depends on the pulse width, PRI, and timing relative to the integration period).

The term G_B may be approximated by the following equation,

$$G_B \cong \frac{t_{int} - N_B t_B}{t_{int}} \tag{30}$$

where t_{int} is the nominal integration period of 0.00355 seconds, N_B is the effective number of blanking pulses during an integration period, and t_B is the blanking duration.

By inspection of Eq. (29) it is seen that if the term "[$1e^9$ ... - I_{off}]" is less than zero (meaning low antenna or scene temperatures) the counts will increase with blanking activated (video gain decreases causing a less negative voltage). If the term is greater than zero (meaning high antenna or scene temperatures) the counts will decrease with blanking ON (video gain decreases causing a lower positive voltage). If the term is close to zero, very little change will be seen in the output counts. Because the least impact is around 0V, if blanking must be enabled, it is most desirable to have the detected signal around 32500 counts.

Another complication with the blanking function is that the pulses are asynchronous with the GMI sampling interval. Thus, the number of blanking pulses occurring during an integration period can vary by up to one blanking pulse. The blanking pulses also may overlap the 50 microsecond integrate reset period, meaning that N_B may not be a whole number of pulses. For

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example, if we assume that N_B = 14 for some samples, and N_B = 15 for others, (and somewhere between 14 and 15 for others), we can plug Eq. (30) into Eq. (29), and show that the random variation in output voltage due to the asynchronous nature of the blanking function (i.e. sometimes getting 14, and other times 15 pulses) is equal to

$$\Delta V_{blank} = -V_{out} \frac{t_B}{t_{int}} . \tag{31a}$$

This effect may be translated into a change in brightness temperature,

$$\Delta T_{blank} = \frac{(32500 - C_{out})}{g} \frac{t_B}{t_{int}} \tag{31b}$$

Where C_{out} is the receiver output in digital counts, and g is the radiometric gain. From Eq. (31b), we see that if the counts are around 32500, the random variation in counts will be zero. For the nominal 36 GHz gain setting, viewing a 200K scene (about 20000 counts), with a blanking duration of 20us and repetition interval of 250 microseconds, the resulting variation in counts is ΔT_{blank} = 3K. An example from the test is shown in Figure 173. The effect on NEDT due to blanking is shown in Table 45. To mitigate the effects of blanking on, it is suggested to operate the 36 GHz receivers in the high gain setting and perform an algorithmic correction.

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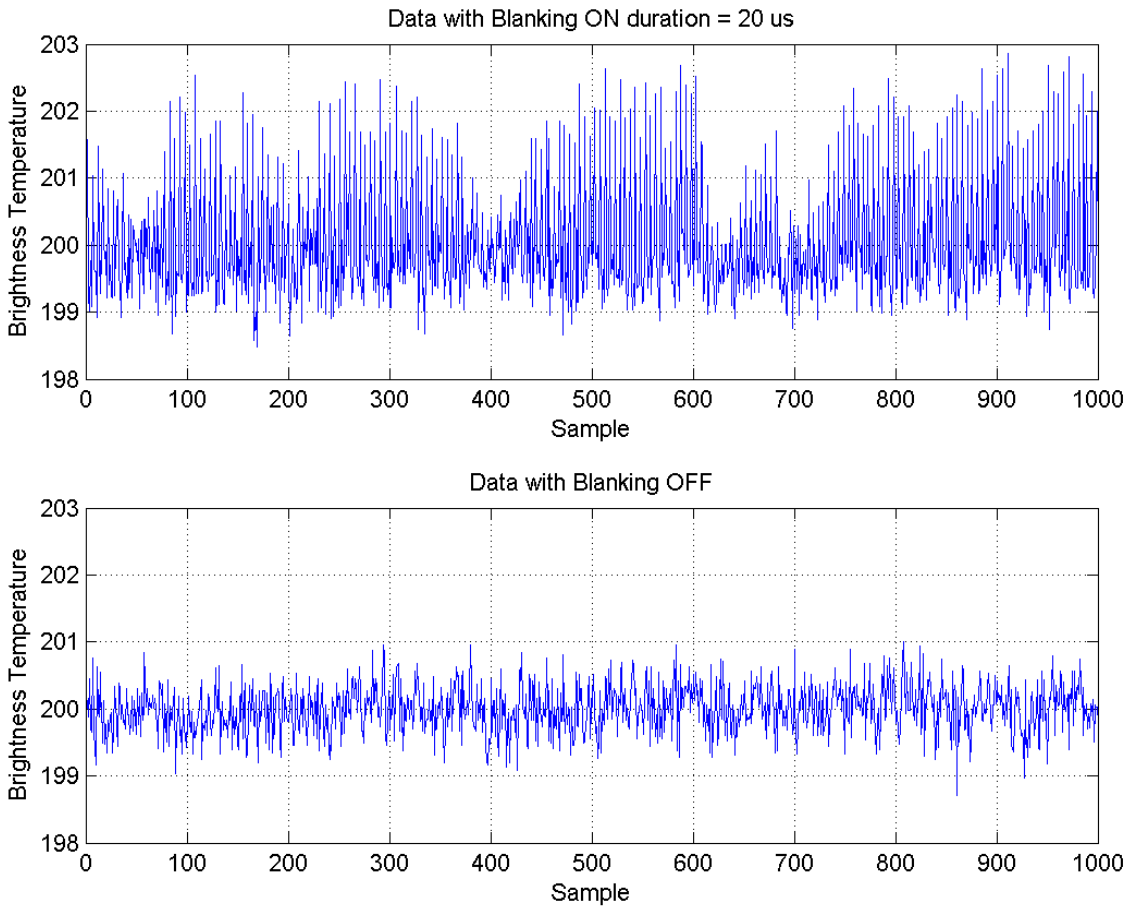

Figure 173. Example of 36 GHz V-pol data with Blanking ON and Blanking OFF, nominal gain setting with blanking duration set to 20us and pulse interval of 250 us.

A blanking correction may be applied to mitigate the effect of the blanking function on radiometric performance. The blanking correction is based on the number of blanking pulses received per integration period, which data are downlinked from the GMI when blanking is enabled. The blanking correction is based on a simple equation to scale each data point to be consistent with a 3.55 ms integration time. The corrected blanking counts C_{corr} is computed by

$$C_{corr} = (C_{out} - 32500)\frac{t_{int}}{t_{int} - N_B t_B} + 32500 \qquad (32)$$

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where the parameters of Eq. (32) are defined above. The blanking correction is not perfect, because it does not take into account blanking pulses that overlap between sample periods and the integrate-reset time, where only partial pulses corrupt the data. Thus, even after performing the blanking correction, the data quality is still somewhat degraded. In fact, early testing suggested that the blanking correction might introduce nearly as much noise as the blanking itself, and thus the correction method was never used in any of the pre-delivery GMI instrument data analysis.

After re-investigation of the blanking correction method using data taken at Goddard Space Flight Center with the actual DPR, we found that the blanking correction method of Eq. (32) yeilds significantly improved results over non-correction with the flight DPR pulsing scheme. It was found during spacecraft-level testing that the DPR pulses "drop out" several times per scan while the DPR performs its internal calibration. The pulse drop-outs cause large spikes on the order of 1000 counts in the 36 GHz data while momentarily the G_B term of Eq. (29) goes to unity. The blanking correction method of Eq. (32) nicely removes the effect of the drop-outs, while lowering the remaining noise by about a factor of 2.

Figure 174 shows 36 GHz radiometric data taken during the GPM pre-environmental comprehensive performance test (CPT) with blanking enabled at a duration of 20 us. The top plot shows the raw data without any corrections. Notice the large "drop-outs" corresponding to the DPR's calibration cycle. The center plot shows the same data after the blanking correction. Notice that in the corrected data, the drop-outs disappear, and the noise introduced by the asynchronous blanking is somewhat reduced. For comparison, the bottom plot shows data taken with blanking off.

The effect on NEDT for four cases is shown in Table 46. NEDT computed with blanking enabled, ignoring drop-outs, with the blanking correction, and no blanking for both GMI 36 GHz channels.: 1) with blanking enabled, 2) with blanking enabled, but ingoring drop outs, 3) with blanking corrected, and 4) with no blanking. The effective NEDT with blanking enabled, including drop outs and without any correction is about 6K. If the drop outs are ignored, the NEDT is reduced to between 1K and 2K. With the blanking correction, the NEDT reduced to about one half of the "data ignoring drop outs" to 0.7K compared with a non-blanking baseline of 0.44K. We suspect that the blanking-corrected NEDT will further improve if the receiver is operated in the high gain mode, and will likely be within the 0.5 K.

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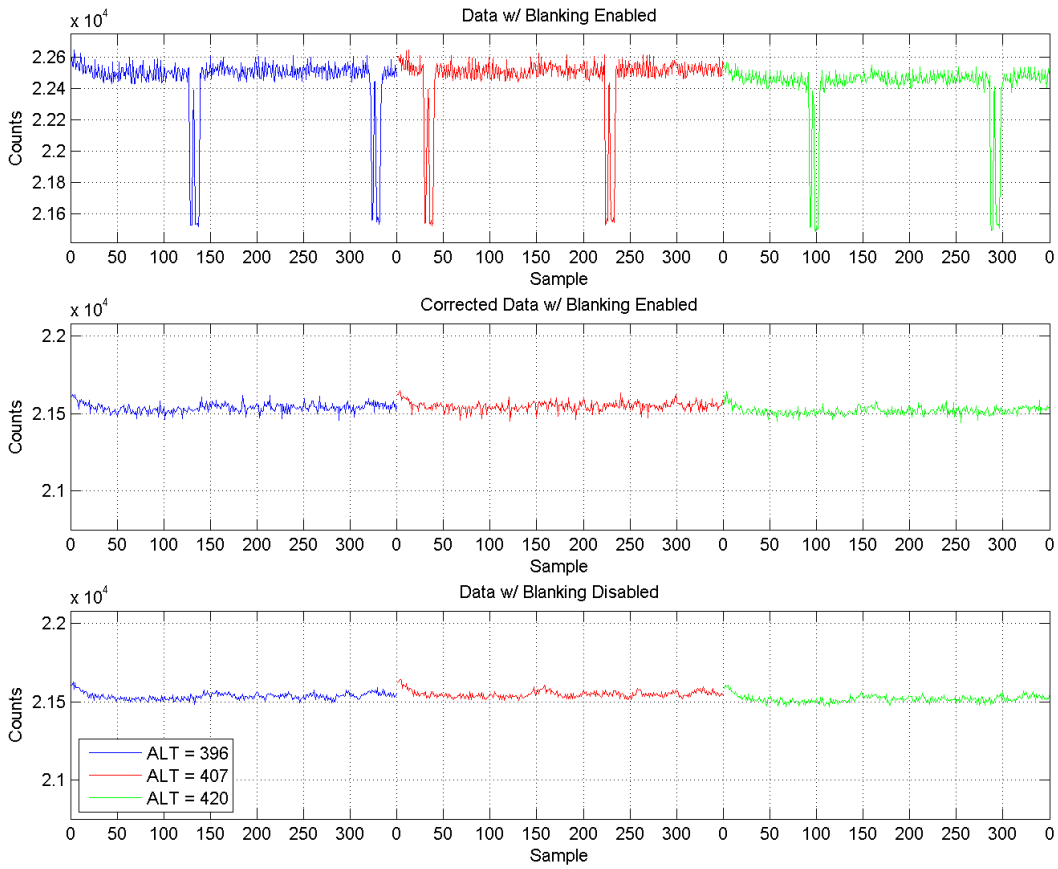

Figure 174. 36 GHz V-pol radiometric data with blanking enabled taken during the GPM pre-environmental CPT. The blue line shows a scan of data taken with the DPR pulse characteristics set to 396 km altitude. The red line shows data with pulse characteristics of 407 km, and the green line is for 420 km. The top plot is the raw data counts with blanking enabled. The center plot is the data after blanking correction, and the bottom plot is data taken with blanking OFF.

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Table 46. NEDT computed with blanking enabled, ignoring drop-outs, with the blanking correction, and no blanking for both GMI 36 GHz channels.

Altitude	NEDT (K) Blanking Enabled		NEDT (K) Blanking Enabled, Ignoring Drop-outs		NEDT (K) Blanking Corrected		NEDT (K) Blanking Corrected, High Gain (est, cold scene)		NEDT (K) No Blanking	
	v-pol	h-pol	v-pol	h-pol	v-pol	h-pol	v-pol	h-pol	v-pol	h-pol
396 km	6.51	6.78	1.39	1.41	0.72	0.69	0.50	0.50	0.43	0.44
407 km	6.38	6.65	1.70	1.78	0.69	0.71	0.49	0.50	0.43	0.44
420 km	6.26	6.51	1.35	1.40	0.64	0.65	0.48	0.49	0.43	0.44

10.8 Ground Calibration Target Corrections

The ground calibration report 2356438 describes the method used to determine the cold and variable target brightness temperatures from the data. The brightness temperature of the targets is determined using the following equation,

$$T_x = \int_{targ} T_{base}(x,y)\,p(x,y)\,dxdy + \Delta\overline{T}_{RF-base} + \Delta T_{vswr} - \Delta T_x \qquad (33)$$

- $x = c$ or s, depending on the target (cold, scene)
- T_x is the RF brightness temperature observed by the GMI while looking at the target
- $T_{base}(x,y)$ is the temperature of the target in the metal base
- $\Delta\overline{T}_{RF-base}$ is the delta temperature between the surface RF absorptive coating, as viewed in the RF, and the target base temperature. We assume that this term is constant over the target.
- $p(x,y)$ is the feed pattern projected onto the target. The term $p(x,y)$ integrates to "1" over the target.
- ΔT_{vswr} is the effective temperature reflected from the target, including standing wave effects (note this term is labeled $(1 - \varepsilon)T_{refl}$ in 2356438A.)
- ΔT_x represents other error contributions.

The first part of the equation $\int_{targ} T_{base}(x,y)\,p(x,y)\,dxdy$ is performed by the Matlab routines attached to 2356438. The data for the remaining terms are given in Appendix T, including

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1. ΔT_{vswr} for each sample over the target determined from data taken with the targets at the same temperature,
2. $\Delta T_{RF-base}$ for each temperature plateau derived from the detailed correlated hot load thermal model,
3. ΔT_x for the variable target, which is the residual non-linear effects for channels with noise diodes.

The ΔT_x terms for the cold and hot targets are given in Appendix N as "Variable to Cold Load Bias (K)" and "Variable to Hot Load Bias (K)".

10.9 Thermal Vacuum Calibration Test Errors

The error sources in the calibration test are divided into two main error terms: 1) The error in determining the brightness temperature of the variable (scene) target Ts, and 2) The error in the radiometer-determined Tb over the variable target.

The error in the brightness temperature of the variable target Ts includes the following sources:

1. PRT Calibration Error
2. PRT Measurement Error
3. Cable Loss Error
4. Temporal Instability of the Load
5. Gradients
6. Target Coupling (VSWR effects, LO Leakage, etc)
7. Brightness Temperature contribution through sidelobes.

For the scene target, the largest contributors are gradients and target coupling. The gradient term is the estimated residual error after correcting both vertical and horizontal gradients. The target coupling error is based on the observed difference between the cold and variable targets over temperature, after correcting the targets for coupling effects when the variable and cold targets were at the same temperature. The coupling error was split (in an RSS sense) between the cold target and variable target.

Table 47. Scene target calibration errors during the GMI calibration test

		Static Bias (worst-case)							Dynamic Error (3-sigma)						
Scene Target Budget Terms (K)		**10**	**18**	**23**	**36**	**89**	**166**	**183**	**10**	**18**	**23**	**36**	**89**	**166**	**183**
PRT Calibration	$\sigma_{PRT\text{-}cal}$	0.05	0.05	0.05	0.05	0.05	0.05	0.05							
PRT Measurement	$\sigma_{PRT\text{-}meas}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cable Loss	$\sigma_{cable\text{-}loss}$														
Temporal Instability of the load	$\sigma_{temporal}$								0.08	0.08	0.08	0.08	0.08	0.08	0.08
Gradients	σ_{grad}	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Target Coupling	σ_{refl}	0.38	0.38	0.38	0.38	0.38	0.38	0.38							
Sidelobe Temperature	$\sigma_{sidelobe}$	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Combined Values (RSS)		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.36	0.36	0.36	0.36	0.36	0.36	0.36

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The error of the radiometer-determined Tb include the following sources:

1. Hot load view error (including the terms that apply to Ts, in addition to the radiometric sensitivity and gain drifts)
2. Cold Target view error (including the terms that apply to Ts, in addition to the radiometric sensitivity and gain drifts)
3. Scene Target view radiometric sensitivity and gain drifts
4. Non-linearity Error (see 2298950 Rev E).

For the hot load view, the calibration error during the ground calibration test is given in Table 48. The driving terms in the hot calibration budget are gradients are again gradients and target coupling. The gradient error is based on the worst-case error predicted in 2345335 for on-orbit cases, which should be conservative for the ground test case. The target coupling error is based on the observed differences between the variable target and hot load, with the variable target coupling error removed.

Table 48. Hot calibration errors during the calibration test

		Static Bias (worst-case)								Dynamic Error (3-sigma)						
Hot Load Budget Terms (K)		**10**	**18**	**23**	**36**	**89**	**166**	**183**		**10**	**18**	**23**	**36**	**89**	**166**	**183**
NEDT Contribution	σ_{NEDT}									0.07	0.05	0.04	0.03	0.01	0.03	0.02
Receiver Temperature Drift	$\sigma_{rcvr\text{-}drift}$									0.00	0.00	0.01	0.01	0.00	0.00	0.01
PRT Calibration	$\sigma_{PRT\text{-}cal}$	0.06	0.06	0.06	0.06	0.06	0.06	0.06								
PRT Measurement	$\sigma_{PRT\text{-}meas}$	0.04	0.04	0.04	0.04	0.04	0.04	0.04		0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cable Loss	$\sigma_{cable\text{-}loss}$									0.12	0.12	0.12	0.12	0.12	0.12	0.12
Temporal Instability of the load	$\sigma_{temporal}$									0.08	0.08	0.08	0.08	0.08	0.08	0.08
Gradients	σ_{grad}									0.27	0.25	0.25	0.27	0.29	0.29	0.29
Target Coupling	σ_{refl}	0.30	0.25	0.25	0.25	0.27	0.26	0.26								
Sidelobe Temperature	$\sigma_{sidelobe}$	0.15	0.15	0.10	0.05	0.01	0.00	0.00		0.01	0.01	0.01	0.00	0.00	0.00	0.00
Combined Values (RSS)		0.34	0.30	0.28	0.26	0.28	0.27	0.27		0.31	0.29	0.29	0.30	0.32	0.32	0.32

For the cold view, the analysis is essentially the same as the scene target, except the gradient errors are somewhat higher due to the fact that the horizontal gradients on the cold target were larger than the variable target.

Table 49. Cold calibration errors during the calibration test

		Static Bias (worst-case)								Dynamic Error (3-sigma)						
Cold Target Budget Terms (K)		**10**	**18**	**23**	**36**	**89**	**166**	**183**		**10**	**18**	**23**	**36**	**89**	**166**	**183**
NEDT Contribution	σ_{NEDT}									0.02	0.01	0.01	0.01	0.01	0.02	0.01
Receiver Temperature Drift	$\sigma_{rcvr\text{-}drift}$									0.00	0.00	0.00	0.01	0.00	0.00	0.01
PRT Calibration	$\sigma_{PRT\text{-}cal}$	0.05	0.05	0.05	0.05	0.05	0.05	0.05								
PRT Measurement	$\sigma_{PRT\text{-}meas}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cable Loss	$\sigma_{cable\text{-}loss}$															
Temporal Instability of the load	$\sigma_{temporal}$									0.08	0.08	0.08	0.08	0.08	0.08	0.08
Gradients	σ_{grad}	0.35	0.35	0.35	0.35	0.35	0.35	0.35		0.35	0.35	0.35	0.35	0.35	0.35	0.35
Target Coupling	σ_{refl}	0.38	0.38	0.38	0.38	0.38	0.38	0.38								
Sidelobe Temperature	$\sigma_{sidelobe}$	0.02	0.02	0.02	0.02	0.02	0.02	0.02		0.02	0.02	0.02	0.02	0.02	0.02	0.02
Combined Values (RSS)		0.52	0.52	0.52	0.52	0.52	0.52	0.52		0.36	0.36	0.36	0.36	0.36	0.36	0.36

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The combined error for the Tb is given in Table 50. We note that the hot, cold, and non-linearity errors have been appropriately scaled to the brightness temperature of the variable target at 340K.

Table 50. Total GMI Tb error during the calibration test

Tb Budget Terms		10	18	23	36	89	166	183		10	18	23	36	89	166	183
Hot Load View Scaled Error	σ_{Th}	0.48	0.42	0.39	0.37	0.40	0.39	0.38		0.44	0.41	0.41	0.43	0.45	0.45	0.45
Cold Target View Scaled Error	σ_{Tc}	0.21	0.21	0.21	0.21	0.22	0.22	0.22		0.15	0.15	0.15	0.15	0.15	0.15	0.15
Scene NEDT and Gain Drift	$\sigma_{Ts\text{-}gain/NEDT}$									0.02	0.02	0.01	0.01	0.01	0.02	0.01
Non-linearity Contribution	σ_{Tnl}	0.09	0.08	0.08	0.08	0.25	0.25	0.25		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tb Combined Values		0.54	0.48	0.46	0.44	0.52	0.51	0.51		0.46	0.43	0.43	0.45	0.47	0.48	0.48

The total error of the ground calibration test is the error in the comparison of Tb and Ts and is given in Table 51.

Table 51. Total error during the GMI calibration test

Tb - Ts Total Error		10	18	23	36	89	166	183		10	18	23	36	89	166	183
Tb Total Error	$\sigma_{Ts\text{-}gain/NEDT}$	0.54	0.48	0.46	0.44	0.52	0.51	0.51		0.46	0.43	0.43	0.45	0.47	0.48	0.48
Ts Total Error	σ_{Tnl}	0.40	0.40	0.40	0.40	0.40	0.40	0.40		0.36	0.36	0.36	0.36	0.36	0.36	0.36
Total Ground Calibration Error	$\sigma_{(Tb\text{-}Ts)}$	0.67	0.62	0.60	0.59	0.65	0.65	0.65		0.59	0.56	0.57	0.58	0.60	0.60	0.60
Total (RSS Static and Dynamic)		**0.89**	**0.84**	**0.83**	**0.83**	**0.88**	**0.88**	**0.88**								

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10.10 On Orbit Calibration Error Analysis, Based on Pre-flight Analysis

The on-orbit calibration error analysis is given in 2249262. Table 52 through Table 55 provide a summary of the on-orbit error analysis from 2249262 Rev L.

Table 52. Hot load error budget

HOT LOAD ERROR PREDICTED														
ERROR BUDGET TERMS	Static Bias (worst-case)							Dynamic Error (3-sigma)						
Error Budget Terms (K)	10	18	23	36	89	166	183	10	18	23	36	89	166	183
Hot Load Temp (Gradients)								0.316	0.325	0.321	0.378	0.420	0.421	0.421
PRT Measurement Error	0.0546	0.0546	0.0546	0.0546	0.0546	0.0546	0.0546	0.090	0.090	0.090	0.090	0.090	0.090	0.090
PRT Calibration	0.031	0.031	0.031	0.031	0.031	0.031	0.031							
Cable Loss								0.039	0.039	0.039	0.039	0.039	0.039	0.039
Shroud Contribution								0.053	0.053	0.053	0.053	0.053	0.053	0.053
Gap Contribution	0.161	0.2576	0.1288	0.0644	0.0193	0.0193	0.0193							
Other Contribution	0.0228	0.0353	0.0218	0.0115	0.0048	0.0008	0.0008	0.085	0.133	0.082	0.043	0.018	0.003	0.003
LO Leakage / Reflections	0.1467*	0.156	0.2317	0.2668	0.2064	0.1418	0.117							
Polarization Non-uniformity	0.01	0.01	0.01	0.01	0.01	0.01	0.01							
Combined Values	0.2436	0.3379	0.2836	0.2846	0.2173	0.1567	0.1347	0.346	0.368	0.350	0.396	0.435	0.435	0.435
Uncertainty (RSS Dynamic and Static)	0.423	0.500	0.450	0.488	0.486	0.462	0.455							
Requirement	0.500	0.500	0.500	0.500	0.500	0.500	0.500							
Margin	15.4%	0.0%	9.9%	2.5%	2.7%	7.5%	8.9%							

* The 10 GHz H-pol error due to reflections is estimated to be about 0.53K based on GMI ground calibration data. We expect that this error will be removed during GMI on-orbit cal/val and the resulting uncertainty will be consistent with the error listed for the 10 GHz V-pol channel above.

Table 53. Cold sky view error budget.

COLD SKY ERROR PREDICTED														
ERROR BUDGET TERMS	Static Bias (worst-case)							Dynamic Error (3-sigma)						
Error Budget Terms (K)	10	18	23	36	89	166	183	10	18	23	36	89	166	183
Cold Sky Contribution								0.060	0.060	0.060	0.060	0.060	0.060	0.060
Earth (from cold sky reflector)	0.025	0.018	0.018	0.002	0.002	0.002	0.002							
Instrument Contribution	0.025	0.025	0.025	0.005	0.004	0.003	0.003							
Spacecraft Contribution	0.056	0.054	0.054	0.005	0.002	0.002	0.002	0.057	0.055	0.055	0.005	0.002	0.002	0.002
Strut Contribution	0.014	0.007	0.007	0.001	0.000	0.000	0.000							
Backlobe-Main Refl Contribution	0.337	0.082	0.082	0.004	0.000	0.000	0.000	0.171	0.042	0.042	0.002	0.000	0.000	0.000
Cold Sky Refl. Phys. Contrib.	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.011	0.011	0.011	0.011	0.011	0.011	0.011
LO Leakage / Reflections	0.0147	0.0156	0.0232	0.0267	0.0206	0.0142	0.0117							
Combined Values	0.485	0.215	0.216	0.052	0.042	0.039	0.038	0.190	0.092	0.092	0.061	0.061	0.061	0.061
Uncertainty (RSS Dynamic and Static)	0.521	0.234	0.235	0.081	0.074	0.072	0.072							
Requirement	1.200	1.200	1.200	1.200	1.200	1.200	1.200							
Margin	56.6%	80.5%	80.4%	93.3%	93.8%	94.0%	94.0%							

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Table 54. Antenna Temperature error.

ANTENNA TEMPERATURE ERROR PREDICTED														
ERROR BUDGET TERMS	Static Bias (worst-case)							Dynamic Error (3-sigma)						
Error Budget Terms (K)	10	18	23	36	89	166	183	10	18	23	36	89	166	183
Hot Load Contribution	0.291	0.385	0.369	0.396	0.306	0.224	0.192	0.463	0.491	0.478	0.558	0.615	0.623	0.622
Cold Sky Contribution	0.164	0.071	0.079	0.021	0.017	0.017	0.016	0.064	0.030	0.034	0.025	0.025	0.026	0.026
Non-Linearity Contribution	0.202	0.196	0.223	0.256	0.768	0.820	0.817							
Combined Values	0.3902	0.4384	0.4377	0.4723	0.8274	0.8499	0.8391	0.4671	0.4915	0.4789	0.5587	0.6153	0.6233	0.6228

Table 55. Main beam brightness temperature error budget. This is the antenna temperature error, with the antenna pattern correction.

MAIN BEAM BRIGHTNESS TEMPERATURE PREDICTED														
ERROR BUDGET TERMS	Static Bias (worst-case)							Dynamic Error (3-sigma)						
Error Budget Terms (K)	10	18	23	36	89	166	183	10	18	23	36	89	166	183
Antenna Temp Contribution	0.415	0.468	0.454	0.475	0.830	0.862	0.849	0.497	0.525	0.497	0.561	0.617	0.632	0.630
Earth Co-pol Contribution	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.120	0.120	0.120	0.120	0.120	0.120	0.120
Earth Cross-pol Contribution	0.073	0.059	0.101	0.015	0.017	0.186	0.011	0.020	0.016	0.077	0.004	0.006	0.069	0.068
Cold "Spillover" Contribution	0.896	0.936	0.525	0.169	0.101			0.003	0.004	0.002	0.000	0.000	0.000	0.000
Spacecraft Contribution	0.015	0.015	0.015	0.014	0.014	0.014	0.014	0.012	0.012	0.012	0.011	0.011	0.011	0.011
Strut Contribution	0.292	0.293	0.285	0.021	0.021	0.021	0.021							
Reflector Phys. Temp Contrib.	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Combined Values	1.082	1.136	0.822	0.531	0.853	0.897	0.865	0.512	0.539	0.517	0.574	0.629	0.647	0.645
Uncertainty (RSS Dynamic and Static)	1.197	1.257	0.971	0.782	1.059	1.106	1.079							
Requirement	1.350	1.350	1.350	1.350	1.350	1.500	1.500							
Margin	11.3%	6.9%	28.0%	42.1%	21.5%	26.3%	28.1%							

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10.11 Using the Noise Diodes to compute Non-linearity and Noise Diode Excess Temperature

The noise diodes operate during the calibration view every other scan providing four calibration points: 1) cold, 2) cold + noise, 3) hot, 4) hot + noise. The baseline GMI calibration scheme uses the hot load and cold sky view along with the ground-determined non-linearity to relate observed counts to antenna brightness temperature.

In nominal conditions, four calibration points allow determination of two other parameters: the excess temperature of the noise diodes and the non-linearity. Solving the RTF for the two noise diode views, the noise diode excess temperature can be monitored using the following equation,

$$T_{nd} = [T_h - T_c]\frac{x_{cn}(x_{hn} - x_{hn}^2) - (x_{hn} - 1)(x_{cn} - x_{cn}^2)}{x_{hn} - x_{cn} + x_{cn}^2 - x_{hn}^2} \tag{34}$$

where

- $x_{cn} = (C_{cn} - C_c)/(C_h - C_c)$
- $x_{hn} = (C_{hn} - C_c)/(C_h - C_c)$
- C_{cn} and C_{hn} are the cold + noise and hot + noise counts.

Likewise, the non-linearity can be monitored using the following equation,

$$T_{nl} = [T_h - T_c]\frac{x_{hn} - x_{cn} - 1}{4(x_{hn} - x_{cn} + x_{cn}^2 - x_{hn}^2)}. \tag{35}$$

$$u = 4T_{nl}/(T_h - T_c)^2$$

On orbit, the noise diode excess temperature and non-linearity will be trended as a function of physical temperature of the noise diode for T_{nd} and receiver physical temperature for u.

10.12 Backup Calibration

Once the noise diodes have been trended on-orbit as a function of the noise diode physical temperature, the cold and cold + noise views can be used as a backup method to calibrate the instrument,

$$T_{a1} = T_c + \frac{C_s - C_c}{g_1} + u\frac{(C_s - C_c)(C_s - C_{cn})}{g_1^2} \tag{36}$$

where $g_1 = (C_{cn} - C_c)/T_{nd-trended}$. Likewise, the hot and hot + noise views can be used to calibrate the instrument,

$$T_{a2} = T_h + \frac{C_s - C_h}{g_2} + u\frac{(C_s - C_h)(C_s - C_{hn})}{g_2^2} \tag{37}$$

where $g_2 = (C_{hn} - C_h)/T_{nd-trended}$.

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The hot and cold-view brightness temperatures can be calculated indirectly by using Equations (36) and (37) over the calibration fields of view. If the predicted hot load or cold sky temperatures from Equations (36) and (37) are in error from those used in the RTF, a transient event may have occurred. In this case, the result of Equations (36) or (37) can be used as backup calibration over the earth view.

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11. ON-ORBIT DERIVED CALIBRATION DATA

This section contains various updates to calibration parameters based on on-orbit measurements and analysis.

11.1 Hot Load On-orbit Samples

This section supersedes section 8.4.

The hot and cold sample ranges have been re-evaluated based on on-orbit data. The following gives updated hot sample ranges based on on-orbit data compared to Rev D of this document.

Table 56. On-orbit Hot Samples.

	Cal Databook Rev D Best Samples		On Orbit Best Samples	
Frequency	Hot Start	Hot End	Hot Start	Hot End
10 GHz	274	282	273	283
18 GHz	307	316	307	317
23 GHz	306	316	306	318
36 GHz	352	366	352	367
89 GHz	327	346	325	347
166 GHz	320	339	320	335
183 GHz	334	352	330	350

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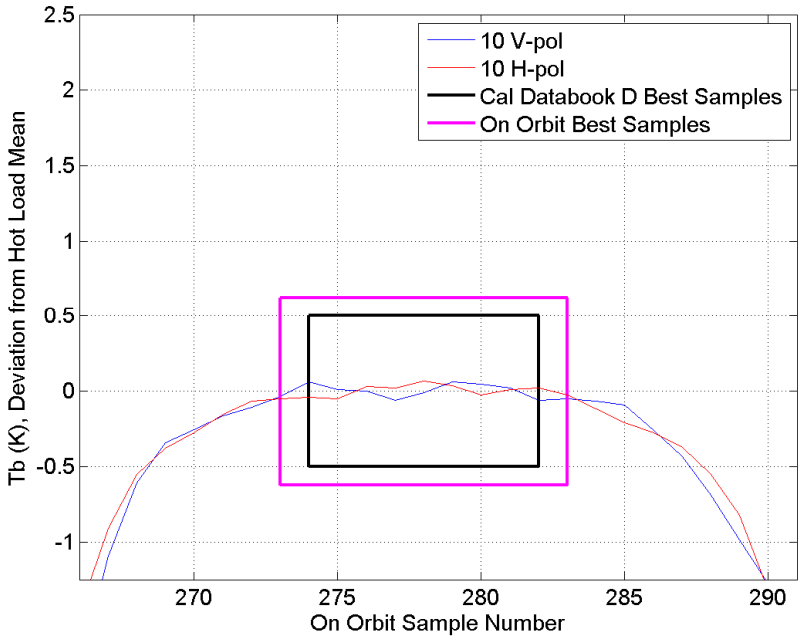

Figure 175. 10 GHz hot load sample ranges.

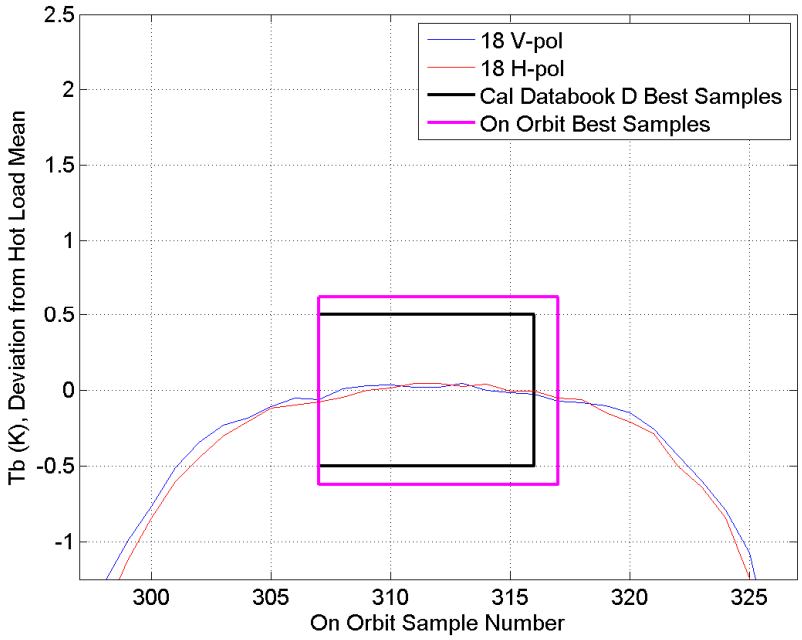

Figure 176. 18 GHz hot load sample ranges.

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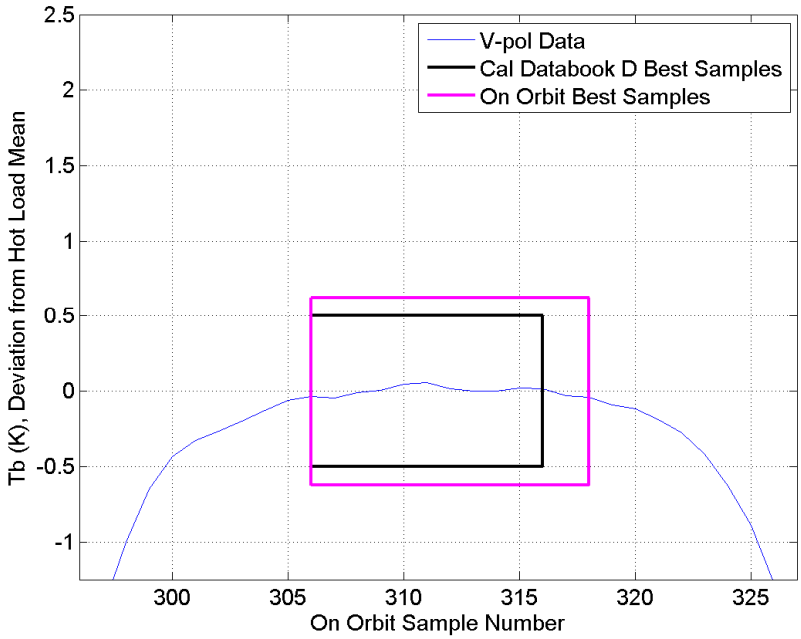

Figure 177. 23 GHz hot load sample ranges.

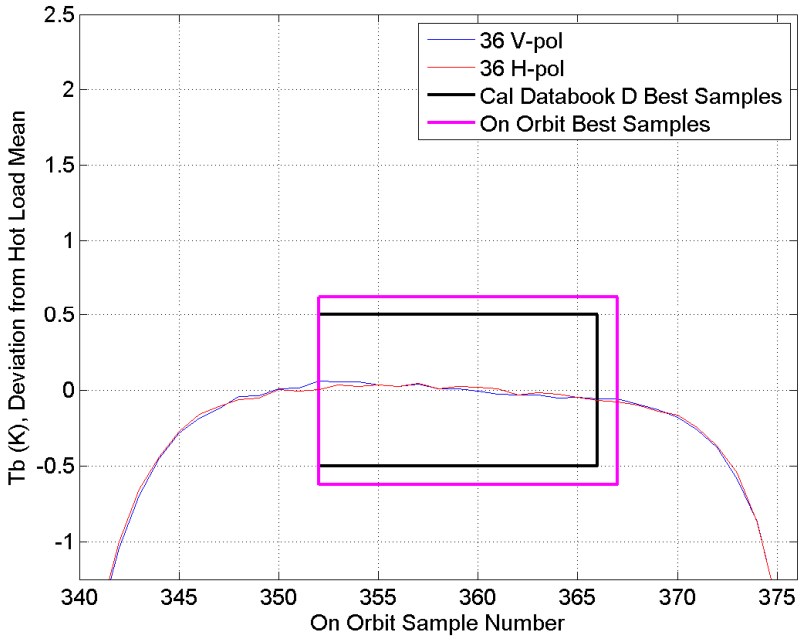

Figure 178. 36 GHz hot load sample ranges.

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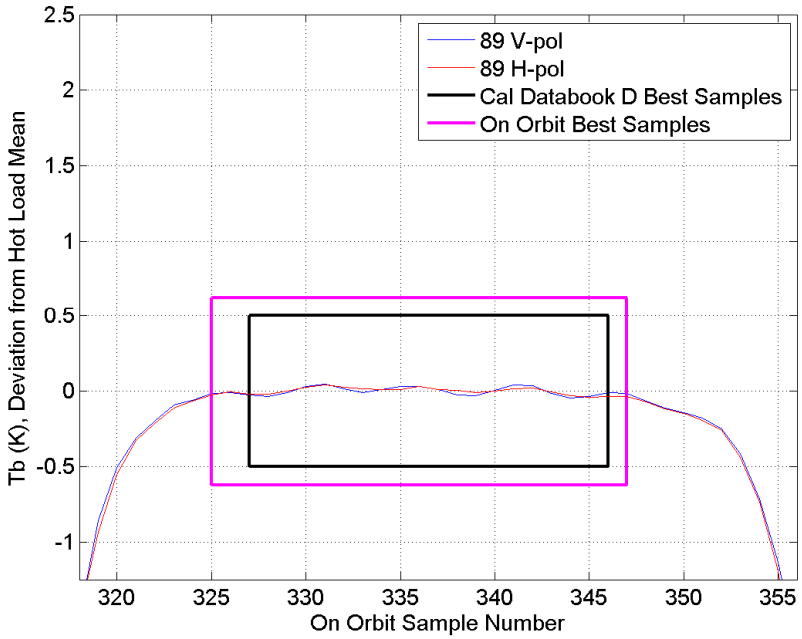

Figure 179. 89 GHz hot load sample ranges.

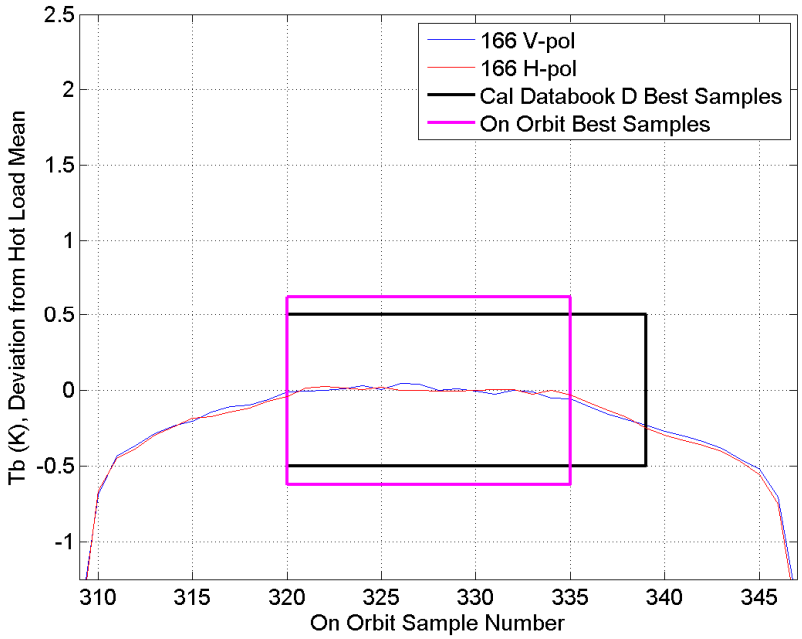

Figure 180. 166 GHz hot load sample ranges.

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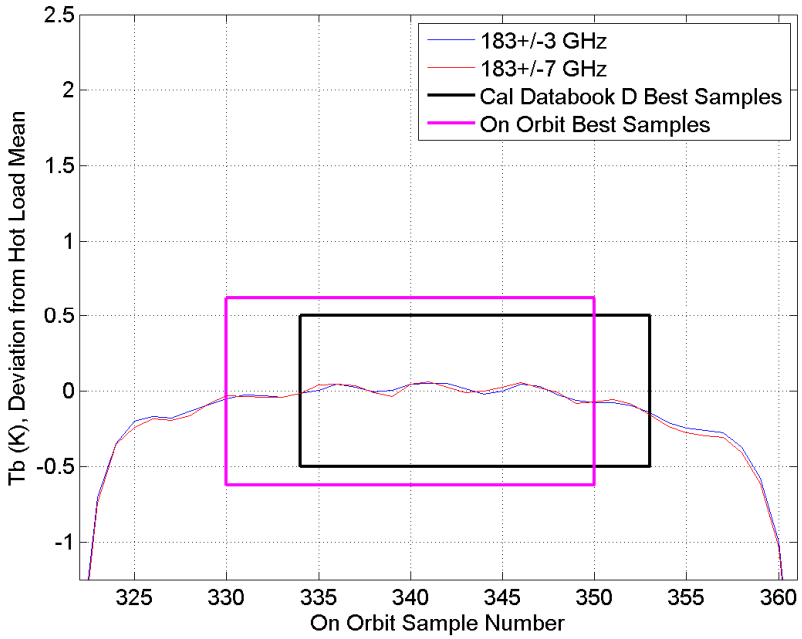

Figure 181. 183 GHz hot load sample ranges.

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11.2 Number of Hot Scans to Average

This section supersedes section 8.5.

Based on radiometer stability observed in the first two weeks of on-orbit operations, the number of hot scans to average has been updated to provide at least 80 hot samples per calibration observation, allowing the noise on the hot measurements to be reduced to below 12% of the overall NEDT. The updated numbers of scans for hot load averaging are given in Table 57 below.

Table 57. Number of hot scans to average for the GMI Calibration Algorithm.

	10 GHz	18 GHz	23 GHz	36 GHz	89 GHz	166 GHz	183 GHz
$\pm N_h$	±8 scans	±8 scans	±7 scans	±6 scans	±2 scans	±2 scans	±2 scans

For 10 and 18 GHz, C_h are averaged over 8 scans. If the diode is off for the index scan (i_n): i_n, $i_n\pm2$, $i_n\pm4$, $i_n\pm6$, i_n+8 are used; if the diode is on for the index scan: $i_n\pm1$, $i_n\pm3$, $i_n\pm5$, $i_n\pm7$ are used. For 23 GHz, C_h are averaged over 7 scans. If the diode is off for the index scan: i_n, $i_n\pm2$, $i_n\pm4$, $i_n\pm6$ are used; if the diode is on for the index scan: $i_n\pm1$, $i_n\pm3$, $i_n\pm5$, i_n+7 are used. For 36 GHz, C_h are averaged over 6 scans. If the diode is off for the index scan: i_n, $i_n\pm2$, $i_n\pm4$, i_n+6 are used; if the diode is on for the index scan: $i_n\pm1$, $i_n\pm3$, $i_n\pm5$ are used. For 89 – 183 GHz, C_h is always averaged over five scans: i_n, $i_n\pm1$, $i_n\pm2$.

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11.3 Cold Sky On-orbit Samples

This section supersedes section 9.7.

The cold sample ranges have been re-evaluated based on on-orbit data. The following gives updated cold sample ranges based on on-orbit data compared to Rev D of this document.

Table 58. On-orbit Cold Samples.

	Cal Databook Rev D Best Samples		On Orbit Best Samples	
Frequency	**Cold Start**	**Cold End**	**Cold Start**	**Cold End**
10 GHz	343	356	342	368
18 GHz	378	393	390	410
23 GHz	378	393	388	408
36 GHz	424	443	437	460
89 GHz	401	420	410	440
166 GHz	399	425	392	442
183 GHz	413	439	398	452

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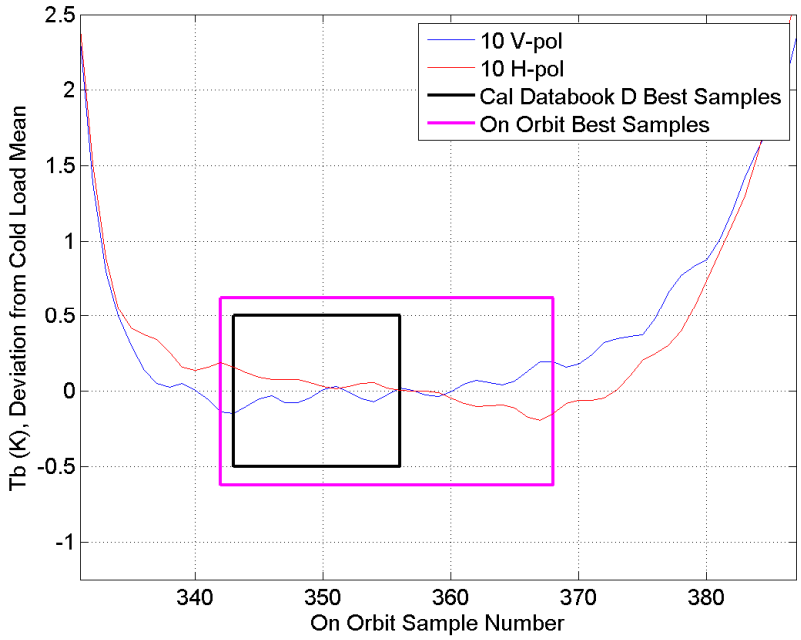

Figure 182. 10 GHz cold sky sample ranges.

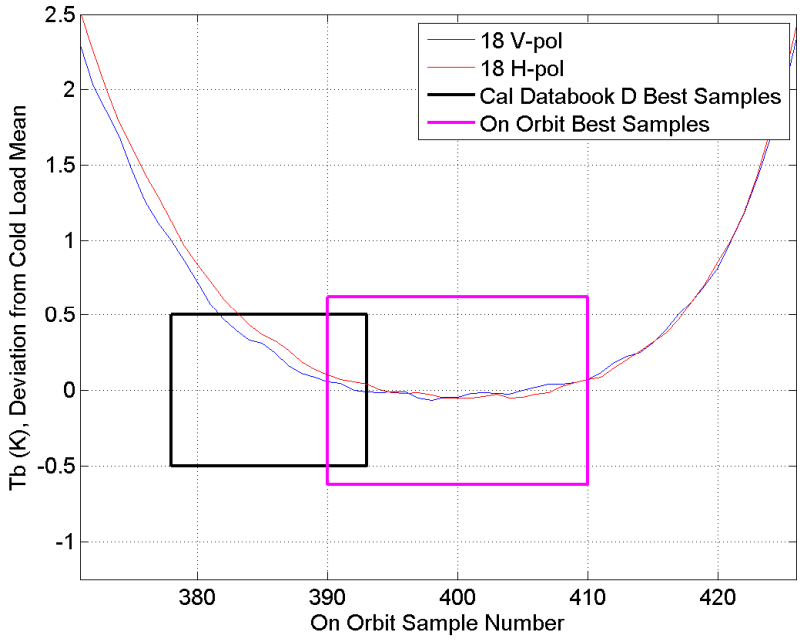

Figure 183. 18 GHz cold sky sample ranges.

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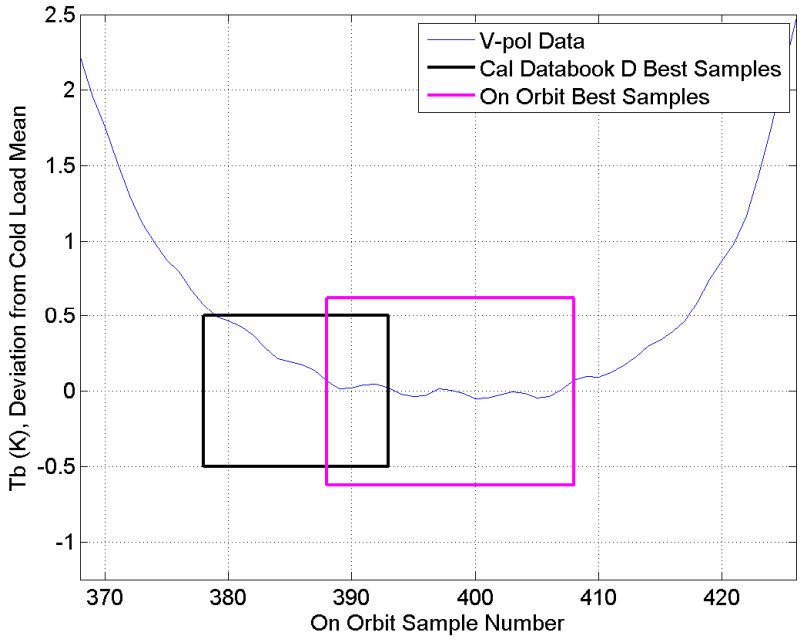

Figure 184. 23 GHz cold sky sample ranges.

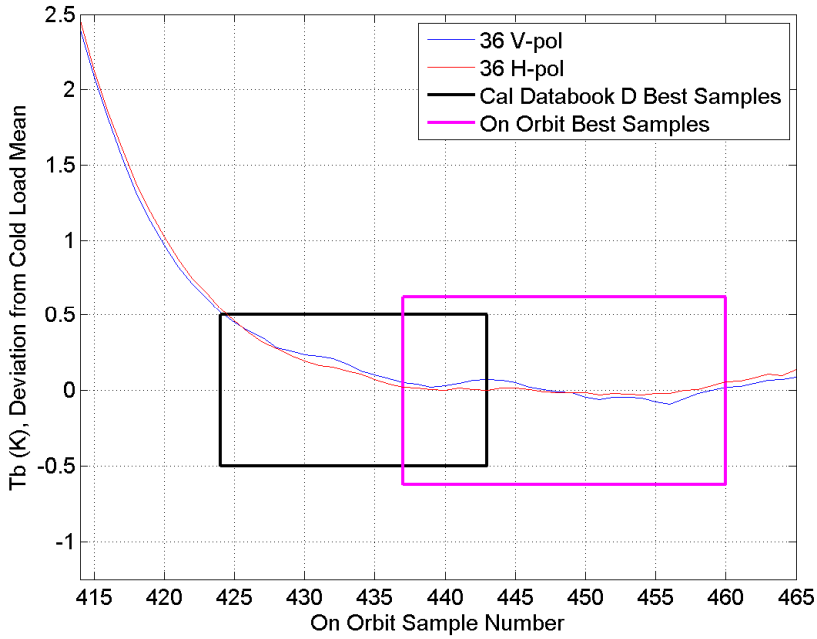

Figure 185. 36 GHz cold sky sample ranges.

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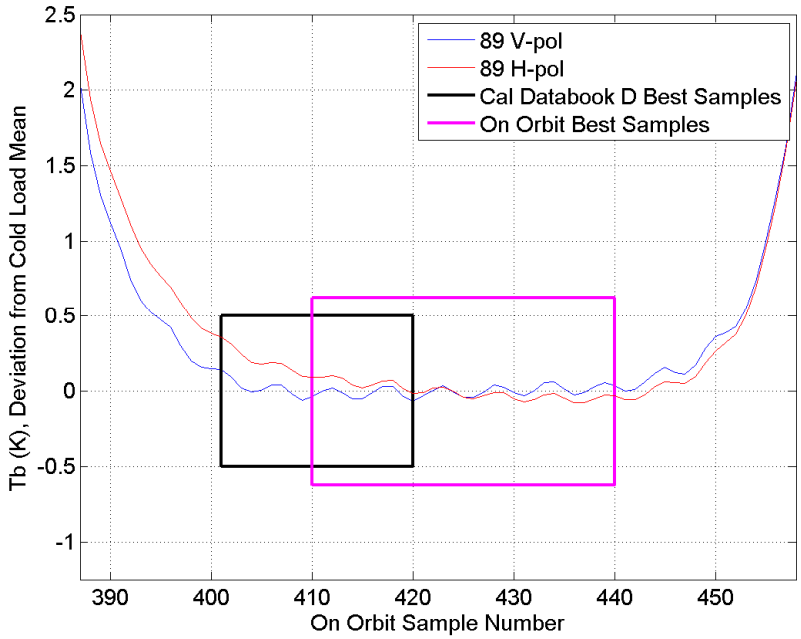

Figure 186. 89 GHz cold sky sample ranges.

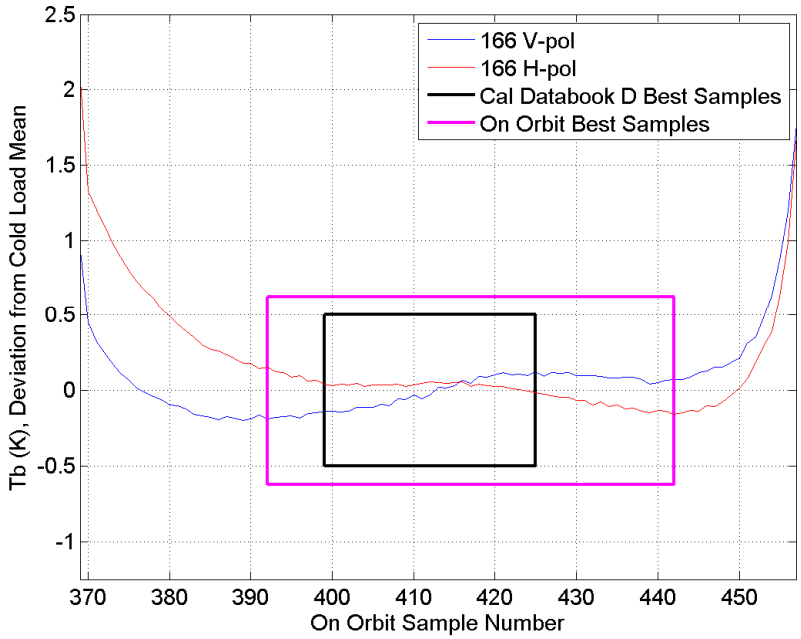

Figure 187. 166 GHz cold sky sample ranges.

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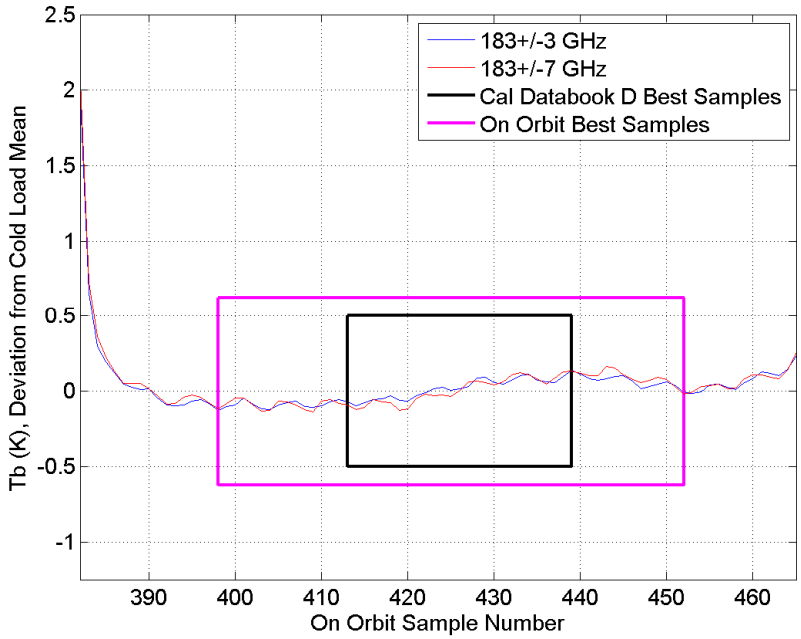

Figure 188. 183 GHz cold sky sample ranges.

11.4 Number of Cold Scans to Average

This section supersedes section 9.8.

Based on radiometer stability observed in the first two weeks of on-orbit operations, the number of cold scans to average has been updated to provide at least 80 cold samples per calibration observation, allowing the noise on the cold measurements to be reduced to below 12% of the overall NEDT. The updated numbers of scans for cold sky averaging are given below.

Table 59. Number of cold scans to average for the GMI Calibration Algorithm.

	10 GHz	18 GHz	23 GHz	36 GHz	89 GHz	166 GHz	183 GHz
$\pm N_c$	±5 scans	±5 scans	±5 scans	±5 scans	±2 scans	±2 scans	±2 scans

For 10 through 36 GHz, C_c are averaged over 5 scans. If the diode is off for the index scan (i_n): i_n, $i_n\pm2$, $i_n\pm4$ are used; if the diode is on for the index scan: $i_n\pm1$, $i_n\pm3$, i_n+5 are used. For 89 – 183 GHz, C_c is always averaged over five scans: i_n, $i_n\pm1$, $i_n\pm2$.

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11.5 Non-linearity

This section supersedes section 10.5.

The non-linearity based on the first two weeks on-orbit has been re-evaluated for channels with noise diodes. Since the dynamic range of the on-orbit data is much narrower than what was tested on the ground, we have kept the changes to only bias shifts or linear changes in the non-linearity curves over temperature. The updated curves are shown below and given in Appendix U.

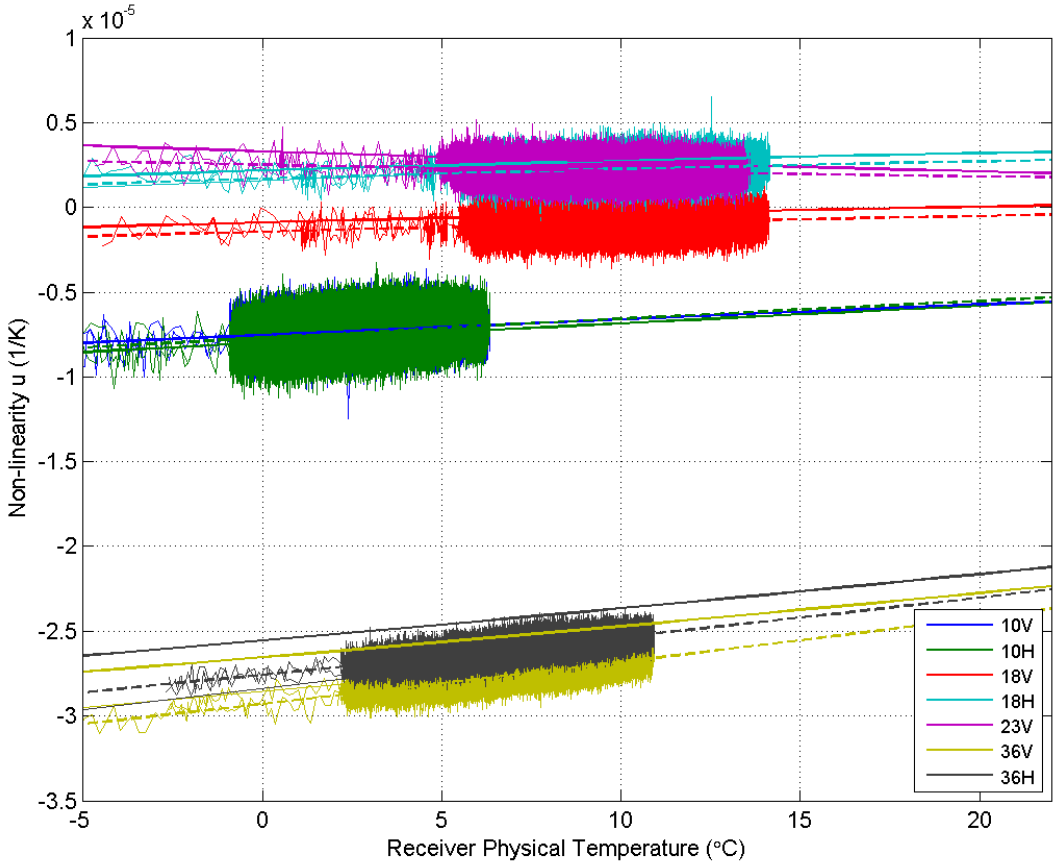

Figure 189. On-orbit non-linearity. Sold lines are the ground characterization, dashed lines are the on-orbit adjusted values, and the small dots are the on-orbit data measured using noise diodes.

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11.6 Noise Diode Excess Temperature over Physical Temperature

This section supersedes section 10.6.

The noise diode excess temperature characterization based on the 5 months on-orbit has been re-evaluated for channels with noise diodes. Since the dynamic range of the on-orbit data is much narrower than what was tested on the ground, we have limited the changes outside of the dynamic range to bias shifts and only small changes in the curvature. The updated curves are shown below and given in Appendix V.

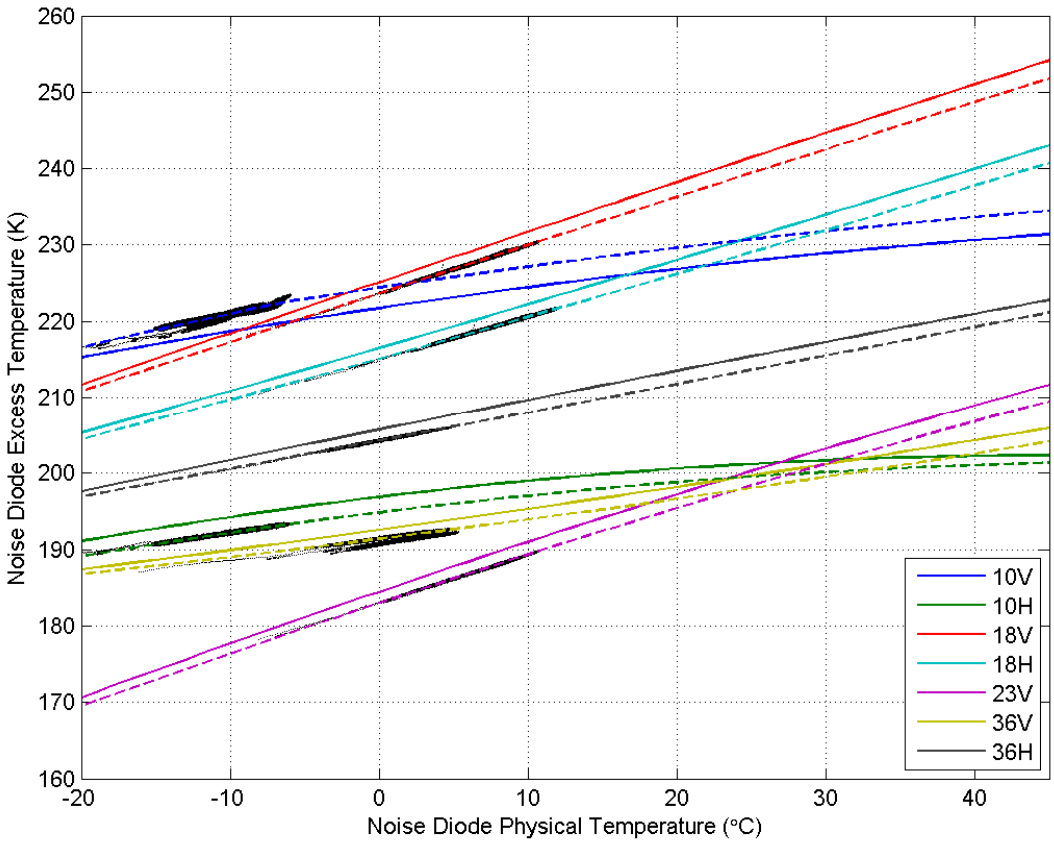

Figure 190. On-orbit noise diode excess temperature. Sold lines are the ground characterization, dashed lines are the on-orbit adjusted values, and the small black dots are the on-orbit measured values.

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11.7 Magnetic-Induced Along Scan Bias Correction

During the deep space maneuver, it was found that the GMI receivers exhibit a small but detectable variation in output when exposed to a changing magnetic field. Each receiver exhibits the variation due to the earth magnetic field, observatory magnetic fields and instrument magnetic fields.

The magnetometers on the spacecraft directly measure the magnetic field from the earth and spacecraft, which provides means for a correction of those terms. The combined earth and spacecraft magnetic field cause a one-cycle sinusoid across the full 360 degree scan.

As for the instrument magnetic fields: two main sources of magnetics have been identified: 1. spin mechanism, 2. feed switches on the launch restraints. The spin mechanism causes a small ripple in the counts at 96 cycles per revolution. The reed switches on the launch restraints cause blips in the scan as the receivers pass the launch restraints. The blips are most noticeable at the 10 GHz H-pol channel, the receiver closest to the IBS launch restraints, although they can also be seen in other channels. The change in receiver output due to instrument magnetic fields has now been shown to exist in GMI ground data and has been very stable from ground to on-orbit.

The magnetic correction is applied to the full-scan radiometer counts prior to calibration and has the following form:

$$C_{corr}(i) = C(i) - \alpha(\vec{v}_{mag})\cos(\theta_i) - \beta(\vec{v}_{mag})\sin(\theta_i) - \gamma(i) - \Delta C_k \qquad (38)$$

where

- i is full-scan the sample index starting at 1 and progressing to 455 or 465, depending on channel
- $\theta_i = 0.6912^\circ \times i$ is the "sample angle"
- $C(i)$ represents the uncorrected counts from the receiver
- $\vec{v}_{mag}$ is the voltage output vector (x, y, z) from the spacecraft magnetometer
- $\alpha(\vec{v}_{mag}) = \vec{v}_{mag} \cdot \vec{a}$ is the cosine coefficient to the one-cycle sinusoid
- $\beta(\vec{v}_{mag}) = \vec{v}_{mag} \cdot \vec{b}$ is the sine coefficient to the on-cycle sinusoid
- $\vec{a}$ and $\vec{b}$ are the cosine and sine term susceptibility vectors (see appendix W)
- $\gamma(i)$ is a look-up table sample dependent bias that captures the variations due to the magnetics of the instrument (see Figure 191).
- ΔC_k is the count bias applied to $k = e$ *(Earth)*, $k = h$ *(Hot)*, or $k = c$ *(Cold)* view.

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Figure 191 shows the full-scan count correction term $\gamma(i)$. The vectors $\vec{a}$, $\vec{b}$ and along-scan bias correction $\gamma(i)$ are given in appendix W.

The earth magnetic field effect on the GMI channels from Eq. (38) can be recast in a simpler and more physically meaningful form. The phenomenon can be modeled as a channel-dependent susceptibility vector that rotates through the earth magnetic field, written as

$$C_{corr}(i) = C(i) - \vec{s}^{\,T} R_z^T(\theta_i)\vec{B} - \gamma(i) - \Delta C_k \tag{39}$$

where $\vec{s}$ is the channel-dependent susceptibility vector, $R_z^T(\theta_i)$ is a rotation matrix about the spin axis,

$$R_z^T(\theta_i) = \begin{pmatrix} \cos\theta_i & \sin\theta_i & 0 \\ -\sin\theta_i & \cos\theta_i & 0 \\ 0 & 0 & 1 \end{pmatrix}, \tag{40}$$

and $\vec{B}$ is the earth magnetic field vector in the reference frame of the stationary side of the GMI instrument in units of approximately 10 x Gauss (units of the magnetometer readings). The earth magnetic field $\vec{B}$ in GMI instrument coordinates can be derived from either an earth magnetic field model or from on-board spacecraft magnetometer measurements. When derived from on-board spacecraft magnetometer measurements, the magnetic field data is converted to from TAM coordinates to GMI coordinates using the following equation: $\vec{B} = R_y^T(\beta)\vec{v}_{mag}$ where $\beta = 3.91°$, and $R_y^T(\beta)$ is a rotation matrix,

$$R_y^T(\beta) = \begin{pmatrix} \cos\beta & 0 & -\sin\beta \\ 0 & 1 & 0 \\ \sin\beta & 0 & \cos\beta \end{pmatrix}. \tag{41}$$

It is expected that Equation (39) will used in connection with the model earth magnetic field in the operational algorithm. The susceptibility vectors $\vec{s}$ are given in Appendix W.

The values for ΔC_k are given in Table 60.

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Table 60. Count biases ΔC_k.

Channel	Earth ΔC_e	Hot ΔC_h	Cold ΔC_c
10 V	8.8	0	0
10 H	3.2	0	0
18 V	5.1	0	-2.7
18 H	0.4	0	-2.7
23 V	5.5	0	-5.5
36 V	0.3	0	-1.4
36 H	2.6	0	-1.4
89 V	0.8	0	-0.8
89 H	0.8	0	-2.7
166 V	0	0	0
166 H	0	0	0
183 VA	0	0	0
183 VB	0	0	0

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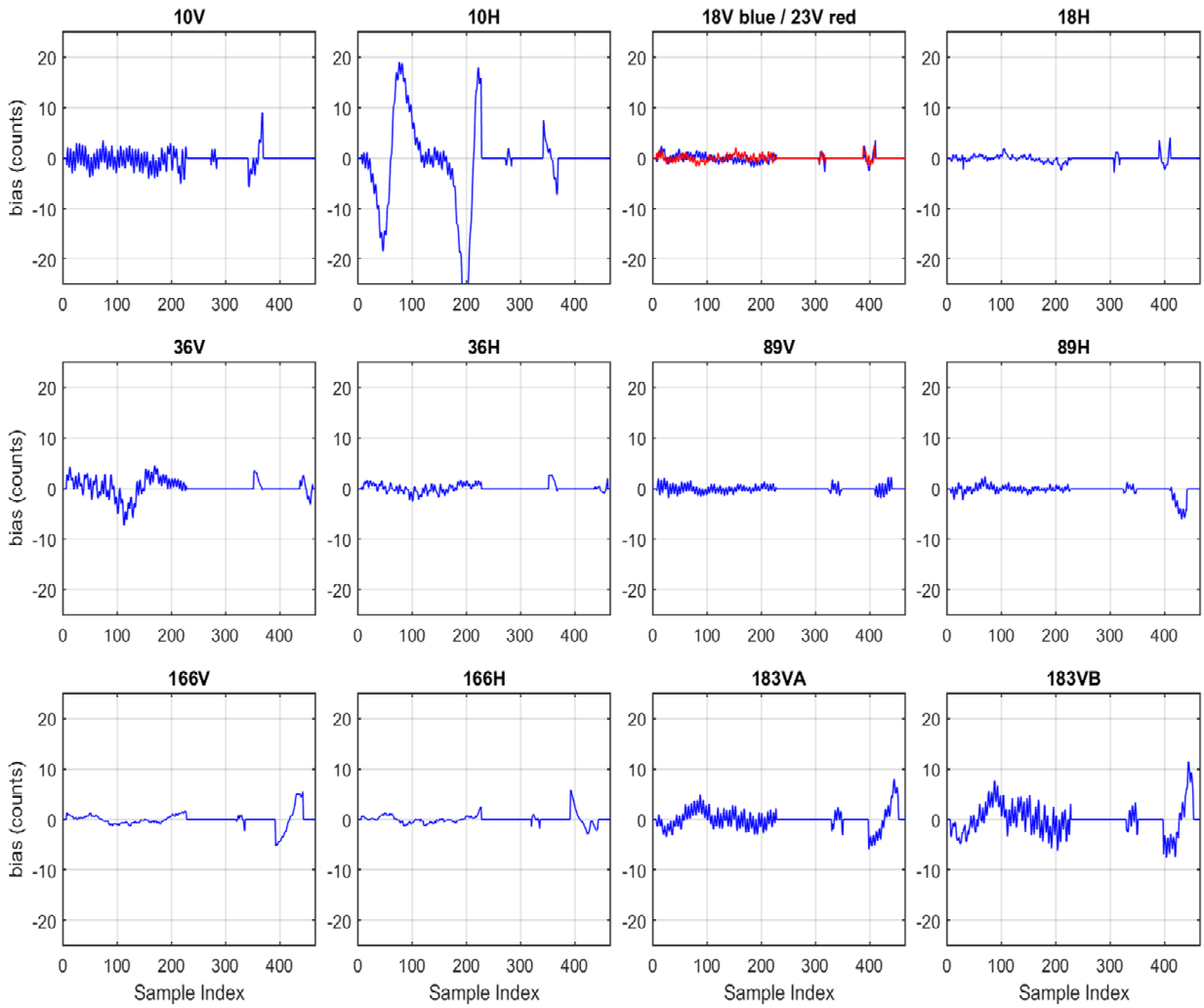

Figure 191. Along-scan count corrections for magnetic-induced biases $\gamma(i)$. See Appendix W.

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11.8 Earth-view Antenna-induced Along-scan Bias Correction

In addition to the magnetic along-scan bias correction, the antenna effect on the earth view along-scan bias has been derived from data produced by Remote Sensing Systems together with data from the cold space maneuver. The antenna effect is subdivided into two terms: an additive term and a multiplicative term. The additive portion most likely comes from the backlobes for the 10-23 GHz channels, while the multiplicative term comes from edge of scan effects such as the cold sky reflector MLI intruding into the sidelobes of the feeds.

The correction is performed on the antenna temperatures (after the radiometric calibration and before antenna pattern correction), and is represented as:

$$T_{a-corr}(i) = T_a(i) - \Delta T_{const}(i) - (T_{intr} - T_a(i))\Delta t_{mult}(i) \tag{42}$$

where

- $T_a(i)$ is the antenna temperature
- $\Delta T_{const}(i)$ is the constant along-scan bias term (units of K)
- T_{intr} is the temperature of the intrusion
- $\Delta t_{mult}(i)$ is the multiplicative bias term (units of K/K)

The values for T_{intr} are given in Table 61 for each channel.

Table 61. Values for T_{intr} for each GMI channel

	10 V	10 H	18 V	18 H	23 V	36 V	36 H	89V	89H	166V	166H	183VA	183VB
T_{intr}	175	175	175	175	175	125	125	0	0	0	0	0	0

The values for $\Delta T_{const}(i)$ and Δt_{mult} are shown in Figure 192 and Figure 193. The values for $\Delta T_{const}(i)$ and Δt_{mult} given in Appendix X.

Please note that the Rev F antenna-induced along-scan bias correction was performed after the antenna pattern correction, while rev G and beyond performs the antenna-induced bias correction before the antenna pattern correction.

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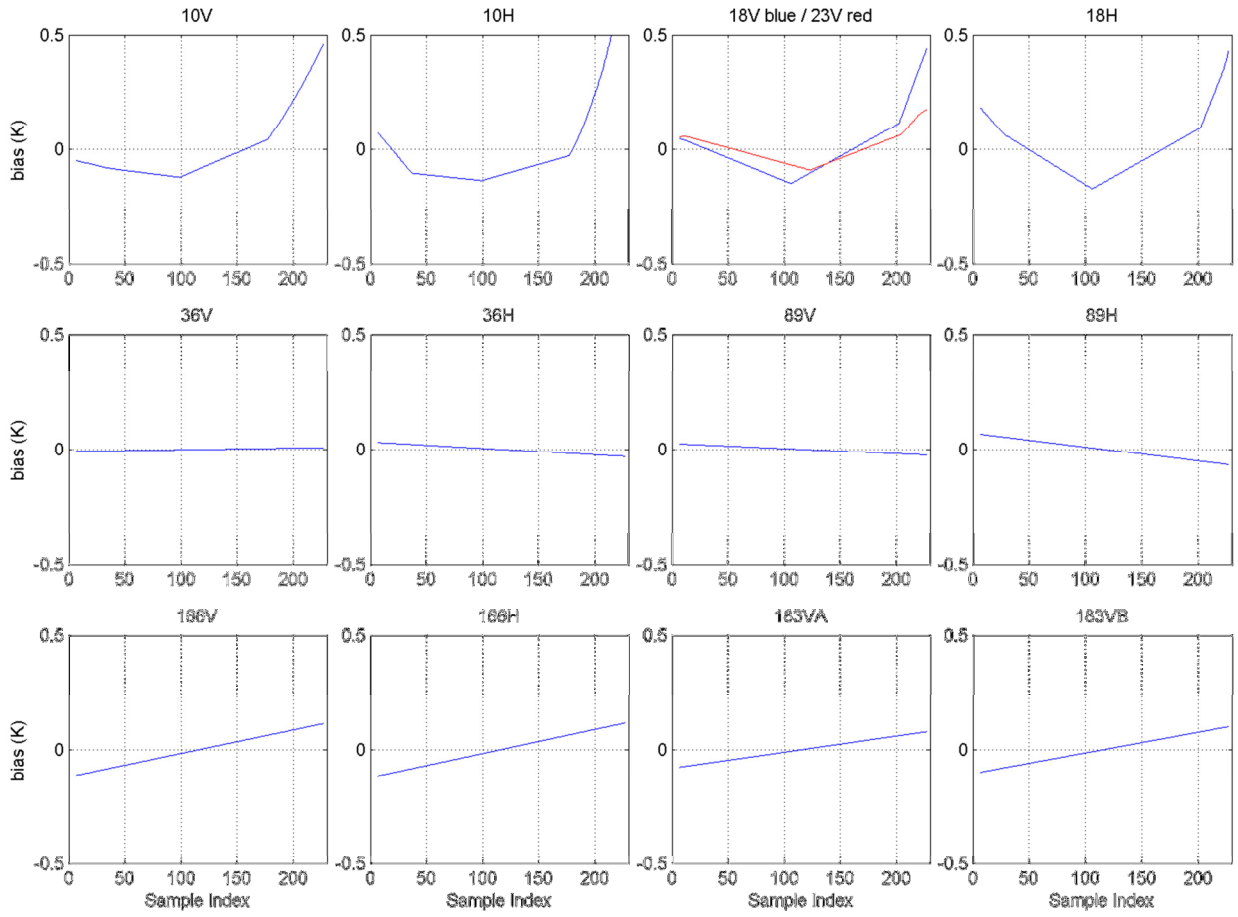

Figure 192. Constant term for along-scan bias correction for antenna/on-orbit induced biases. See Appendix X.

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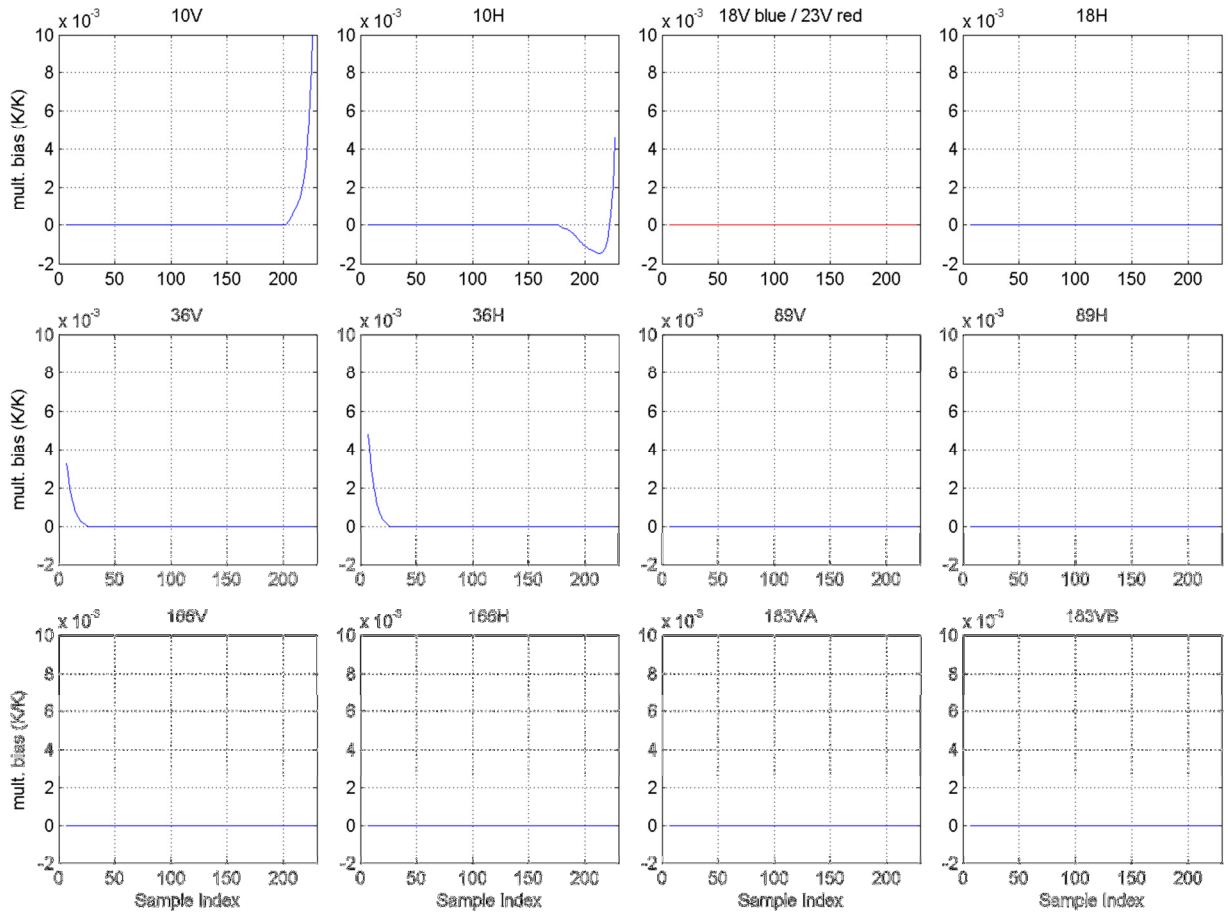

Figure 193. Multiplicative term for bias correction for antenna/on-orbit induced biases. See Appendix X.

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11.9 On-orbit Antenna Pattern Correction Coefficients

This section contains antenna pattern correction coefficients that supersede the coefficients given in Section 6.4. The GMI on-orbit antenna pattern correction has been updated based on the on-orbit deep space calibration maneuver data (see 2435748C). The updated coefficients are given in Table 62. These coefficients are also given in Appendix Y.

Table 62. GMI On-orbit derived APC coefficients. This table supersedes Table 16 of Section 6.4.

f [GHz]	10.65	18.7	23.8	36.64	89	166	183.31
a_{vh}	**0.00290**	**0.00235**	**0.00167**	**0.00120**	**0.00145**	**0.01339**	**0.01104**
a_{hv}	**0.00290**	**0.00235**	N/A	**0.00120**	**0.00145**	**0.01339**	N/A
η_v	**0.95729**	**0.95924**	**0.97358**	**0.99598**	**0.99726**	**0.98885**	**0.99239**
η_h	**0.95729**	**0.95924**	N/A	**0.99598**	**0.99726**	**0.98885**	N/A
$1-\eta_v$	**0.04271**	**0.04076**	**0.02642**	**0.00402**	**0.00274**	**0.01115**	**0.00761**
$1-\eta_h$	**0.04271**	**0.04076**	N/A	**0.00402**	**0.00274**	**0.01115**	N/A
λ	N/A	N/A	**1.02610**	N/A	N/A	N/A	**1.00767**
ξ	N/A	N/A	**0.223**	N/A	N/A	N/A	**-0.037**
R	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

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11.10 On-orbit computation of NEDT

The on-orbit NEDT may be computed operationally using data from the hot load for trending purposes. The NEDT is defined as the standard deviation of the calibrated brightness temperatures, referenced to the main aperture. It is the overall sensitivity of a radiometric channel.

The NEDT is typically subdivided into two main components: the random "white" noise component and the gain drift. A robust method of computing the white noise component is via the single-sample Allan standard deviation, which can be computed by first differencing neighboring calibrated hot load samples and then taking the RMS of the differences divided by the square root of 2,

$$\sigma_{T-Allan} = \left(\frac{1}{2N_{scans}(h2-h1)} \sum_{j=1}^{N_{scans}} \sum_{i=h1+1}^{h2} \left(T_h(i,j) - T_h(i-1,j)\right)^2 \right)^{1/2}. \tag{43}$$

where N_{scans} is the total number of valid scans over which the NEDT is computed (for channels with noise diodes N_{scans} is the total number of valid scans with noise diodes OFF), $h1$ is the starting sample of the hot load, $h2$ is the end sample of the hot load, i is the sample index, j is the scan index of all scans over which the NEDT is computed (for channels with noise diodes, it is the index to all scans with noise diodes OFF over which the NEDT is computed) and $T_h(i, j)$ is the antenna temperature of the hot load for sample i and scan j. In order to reduce the uncertainty of the calculation, it is suggested that N_{scans} represent an orbit of data.

From the Allan standard deviation, the system noise temperature of the channel is computed as follows,

$$T_{sys} = \sigma_{T-Allan}\sqrt{B\tau} \tag{44}$$

where B is the channel bandwidth in Hz (See Table 34) and τ is the integration period in seconds, which is 0.00355 seconds for all GMI channels. Further, the receiver noise temperature can be computed,

$$T_{rcvr} = T_{sys} - \langle T_h \rangle \tag{45}$$

where $\langle T_h \rangle$ represents the average hot load temperature over the duration of N_{scans}. The total NEDT (including gain drift) is,

$$NEDT = \frac{1}{\eta_p} \left(\frac{1}{N_{scans}(h2-h1+1)} \sum_{j=1}^{N_{scans}} \sum_{i=h1}^{h2} \left(\frac{300K + T_{rcvr}}{T_{h-b}(j) + T_{rcvr}} \right)^2 \left(T_h(i,j) - T_{h-b}(j)\right)^2 \right)^{1/2} \tag{46}$$

where η_p is the spillover coefficient (which references the data to the reflector aperture), and $T_{h-b}(j)$ is the hot load brightness temperature at scan j (see section 8.3). The term $(300K + T_{rcvr})/(T_{h-b}(j) + T_{rcvr})$ scales the NEDT to an equivalent 300K input antenna temperature.

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11.11 On-orbit Hot load Gradient Correction

In rev F of this document, the hot load gradient correction was updated to reflect on-orbit analysis by comparing to the backup calibration using noise diodes. This update was originally omitted from section 11, but has been now included in Rev G forward of this document. The updated numbers are given in Table 63. These numbers are also given in appendix K.

Table 63. On-orbit derived hot load gradient correction. This table supersedes Table 35. (See Appendix K)

Frequency (GHz)	pol	w0	w1	u0	u1	u2	u3
10.65	vpol	0.000	1.000	0.006	0.001842	8.64057E-06	1.43994E-08
10.65	hpol	0.000	1.000	0.006	0.001842	8.64057E-06	1.43994E-08
18.7	vpol	0.000	1.000	0.034	0.005192	2.55512E-05	4.56092E-08
18.7	hpol	0.000	1.000	0.034	0.005192	2.55512E-05	4.56092E-08
23.8	vpol	0.000	1.000	0.039	0.006980	3.41741E-05	6.07519E-08
36.64	vpol	0.000	1.000	0.061	0.007250	3.50306E-05	5.9566E-08
36.64	hpol	0.000	1.000	0.061	0.007250	3.50306E-05	5.9566E-08
89	vpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
89	hpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
166	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
166	hpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±3	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±7	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08

11.12 On-orbit Cold View Brightness Temperature

The on-orbit cold view brightness temperature has been updated to reflect analysis showing intrusion in to the cold view on-orbit. The updated values are given in Table 64.

Table 64. On-orbit values to use for the cold brightness temperature. This table supersedes Table 39 from Section 9.6.

Frequency [GHz]	10.65	18.7	23.8	36.64	89.0	166.5	183.31
T_c [Kelvin]	2.94	2.85	2.77	2.82	3.27	4.43	4.76

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12. ON-ORBIT CALIBRATION UNCERTAINTY ANALYSIS, REVISITED

The following paragraphs provide the uncertainty analysis for the on-orbit updates to the GMI calibration.

12.1 Uncertainty in Count Correction for Magnetic Effects

The magnetic count correction is derived through a combination of deep space maneuvers and on-orbit intercomparisons with other satellites through the RTM. The magnetic correction has the form given in Eq. (39). The residual errors corresponding to the count correction can be divided into the individual components:

1. Error in the Earth magnetic field correction $\vec{s}^T R_z^T(\theta_i)\vec{B}$: This error will be zero mean and time-varying. It is made up of the error in the magnetic field estimate itself and error in the estimate of the susceptibility vector $\vec{s}$. This error is sinusoidal across the scan and will vary as a function of time. Based on experience with the magnetic correction, we conservatively estimate this error to be no more than 20% of the earth magnetic field correction.
2. Error in the Instrument magnetic field correction $\gamma(i)$: This term has been derived from averaging data over long periods of time on-orbit. For most channels, this term is within 0.1K. Because the correction is so small, we expect that the residual error after correction to be within 20%, which is nearly negligible. We book this term as a time-variable term since it varies with along-scan position, and is zero mean.
3. Error in the constant biases over the scan sectors ΔC_k: This term was derived from the deep-space and nadir-look maneuvers. We conservatively estimate this error to be no more than 20% of the constant biases observed during the deep space maneuver.

Table 65. Magnetic field correction terms and associated uncertainty

Channel	Earth Magnetic Field Correction RMS	Correction Error (%)	Error After Correction (time varying)	Instrument Magnetic Field Correction RMS	Correction Error (%)	Error After Correction (time varying)	Count Bias in DSC (Converted to K)	Correction Error (%)	Error After Correction (static bias)	Total Bias	Total Time-varying error
10V	0.44	20%	0.09	0.05	20%	0.01	0.47	20%	0.09	0.09	0.09
10H	0.50	20%	0.10	0.26	20%	0.05	0.27	20%	0.05	0.05	0.11
18V	0.25	20%	0.05	0.02	20%	0.00	0.25	20%	0.05	0.05	0.05
18H	0.33	20%	0.07	0.02	20%	0.00	0.19	20%	0.04	0.04	0.07
23V	0.40	20%	0.08	0.02	20%	0.00	0.32	20%	0.06	0.06	0.08
36V	0.56	20%	0.11	0.06	20%	0.01	0.06	20%	0.01	0.01	0.11
36H	0.37	20%	0.07	0.03	20%	0.01	0.09	20%	0.02	0.02	0.07
89V	0.16	20%	0.03	0.03	20%	0.01	-0.01	20%	0.00	0.00	0.03
89H	0.44	20%	0.09	0.04	20%	0.01	0.12	20%	0.02	0.02	0.09
166V	0.26	20%	0.05	0.05	20%	0.01	0.18	20%	0.04	0.04	0.05
166H	0.45	20%	0.09	0.03	20%	0.01	0.18	20%	0.04	0.04	0.09
183VA	0.28	20%	0.06	0.05	20%	0.01	0.10	20%	0.02	0.02	0.06
183VB	0.44	20%	0.09	0.07	20%	0.01	0.10	20%	0.02	0.02	0.09
RMS	0.39	20%	0.08	0.08	20%	0.02	0.22	20%	0.04	0.04	0.08

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12.2 Uncertainty of the TA Calibration

The radiometric (TA) calibration equations are given in Eq. (27). There are three calibration-related parameters in the radiometric calibration. These parameters are the hot load brightness temperature, the cold sky brightness temperature and the non-linearity. The normalized radiometer response x is equal to zero at the cold calibration point, and equal to one at the hot calibration point. Over the ocean, x ranges between 0.3 and 1 depending on channel and earth/atmospheric state. Over land, x is typically very close to 1.

The uncertainty of the hot load view, cold sky view and non-linearity were determined in a 3-sigma sense prior to launch. Based on the prelaunch numbers, the RMS (i.e. 1-sigma) uncertainties are given in Table 66.

Table 66. TA Calibration Error Terms and total error from TA calibration

	Hot Load			Cold Sky			Non-linearity				
Channel	bias	time-varying error	x (ocean)	bias	time-varying error	1-x (ocean)	bias	time-varying error	4x(1-x) (ocean)	Total Bias	Total Time-varying error
10V	0.08	0.12	0.59	0.25	0.06	0.41	0.03	0	0.97	0.12	0.07
10H	0.08	0.12	0.33	0.25	0.06	0.67	0.03	0	0.88	0.18	0.06
18V	0.12	0.12	0.66	0.11	0.03	0.34	0.03	0	0.89	0.09	0.08
18H	0.12	0.12	0.44	0.11	0.03	0.56	0.03	0	0.98	0.09	0.06
23V	0.10	0.12	0.78	0.22	0.03	0.22	0.03	0	0.68	0.09	0.09
36V	0.10	0.13	0.80	0.05	0.02	0.20	0.03	0	0.63	0.08	0.11
36H	0.10	0.13	0.57	0.05	0.02	0.43	0.03	0	0.98	0.07	0.08
89V	0.07	0.15	0.96	0.04	0.02	0.04	0.10	0	0.14	0.07	0.14
89H	0.07	0.15	0.85	0.04	0.02	0.15	0.10	0	0.51	0.08	0.12
166V	0.05	0.14	0.99	0.04	0.02	0.01	0.10	0	0.04	0.05	0.14
166H	0.05	0.14	0.97	0.04	0.02	0.03	0.10	0	0.11	0.05	0.14
183VA	0.03	0.14	0.96	0.04	0.02	0.04	0.10	0	0.14	0.04	0.14
183VB	0.03	0.14	0.98	0.04	0.02	0.02	0.10	0	0.07	0.03	0.14
RMS	0.08	0.13	0.76	0.15	0.04	0.24	0.07	0	0.73	0.09	0.11

12.3 Along-scan bias corrections from intrusions through the antenna

The earth-view antenna-induced alongscan bias correction is given in Eq. (42). Like the along-scan bias corrections corresponding to the instrument magnetic effects, this correction is assumed to be zero mean. Any non-zero portion of the antenna-induced bias effect has been absorbed into the count correction ΔC_k term described in section 12.1.

This correction has been validated using at both hot and cold ends by RSS and the GPM XCAL team. We conservatively estimate the residual error from this correction to be within 20% of the correction itself. We also book the error as time-varying.

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Table 67. Error analysis for the antenna-induced bias correction.

Channel	Antenna-induced Along-scan bias (RMS)	Correction Error (%)	Error After Correction (time varying)	Total Bias	Total Time-varying error
10V	0.15	20%	0.03	0.00	0.03
10H	0.21	20%	0.04	0.00	0.04
18V	0.12	20%	0.02	0.00	0.02
18H	0.13	20%	0.03	0.00	0.03
23V	0.06	20%	0.01	0.00	0.01
36V	0.00	20%	0.00	0.00	0.00
36H	0.02	20%	0.00	0.00	0.00
89V	0.01	20%	0.00	0.00	0.00
89H	0.04	20%	0.01	0.00	0.01
166V	0.07	20%	0.01	0.00	0.01
166H	0.07	20%	0.01	0.00	0.01
183VA	0.05	20%	0.01	0.00	0.01
183VB	0.06	20%	0.01	0.00	0.01
RMS	0.09	20%	0.02	0.00	0.02

12.4 Antenna Pattern Correction for Spillover and Cross-pol

The top-of-atmosphere brightness temperature TB is derived from a combination of cross-pol and spill-over corrections given in Eqs. (22)-(24). As a note, some confusion exists in the definition of the spillover coefficient η. In the GMI calibration databook, the term η represents the fraction of the antenna pattern intersecting the earth during normal operations, and in Wentz and Draper 2016, this term represents the fraction of antenna pattern intersecting cold space during normal operations. In order to alleviate the notational ambiguity, we use the term η_e to represent the fraction intersecting the earth as in the GMI calibration databook convention and $\eta_s = 1 - \eta_e$ to represent the fraction intersecting space as in the Wentz and Draper 2016 paper.

The on-orbit spillover correction is derived from the inertial hold spacecraft maneuver performed during the on-orbit deep space calibration. The equation used to compute the spillover is as follows,

$$\eta_s = 1 - \eta_e = \frac{(T_{Av} + T_{Ah})/2 - T_{B,space}}{T_{B,eff}/2 - T_{B,space}} + \eta_a \tag{5}$$

Where T_{Av} and T_{Ah} are the antenna temperature for the V and H pols respectively while the spacecraft is upside down, $T_{B,space}$ is the cold space effective brightness temperature, $T_{B,eff}$ is the brightness temperature of the Earth (v + h), integrated over the backlobe region of the antenna pattern while the spacecraft is upside down, and η_a represents the "annulus" portion of the

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spillover that views cold space during the maneuver instead of Earth. Assuming that $T_{B,space}$ is well known, the major terms of error in this equation are as follows,

1. The error in the calibrated antenna temperature T_{Av} and T_{Ah} while upside down: Because the cold view is obstructed by the earth during much of the inertial hold maneuver, the calibration has to be performed with proxy sources such as the hot load + noise diodes on the 10-36 GHz channels and using extrapolation of the gain-temperature sensitivity curves for 89-183 GHz. We baseline the proxy calibration against the hot and cold views at points in the orbit that have a clear view to cold space. The proxy sources introduce error, which we estimate to be about 0.2K RMS for $(T_{Av} + T_{Ah})/2$. This error estimate is based on trial and error of various calibration and baselining schemes.
2. The error in the Earth brightness temperature $T_{B,eff}/2$: This term has been derived using geophysical parameters retrieved from co-located satellite data, projected through the RSS radiative transfer model for 10 – 36 GHz and integrated over the backlobe antenna pattern. We estimate the error to be within 2K, since the data has been very well validated and is collocated very tightly in time. For 89 through 183 GHz, this is derived from a global map using the closest valid GMI pass, scaled for incidence angle, and integrated over the backlobe antenna pattern. We conservatively estimate the error on these channels to be within 10K.
3. The error in the annulus spillover fraction η_a: This term is derived from theoretical patterns produced pre-flight. It is small, and we estimate the error to be within 30% of the value for 10-23 GHz where the spillover is large, and to be within 100% for 36 to 183 GHz where the spillover is small.

We use a propagation of errors analysis to project each term to determine its effect on ocean TB. The results are given in Table 68

Table 68. Spillover calibration error analysis

			TA			TB,earth			annulus spillover				
Channel	Spillover value	Nominal ocean TA (K)	Value (May DSC)	Uncertainty	Contribution to ocean Tb bias	Value (May DSC)	Uncertainty	Contribution to ocean Tb bias	Value	Uncertainty	Contribution to ocean Tb bias	**Total Bias**	**Total Time-varying**
10V	0.04271	160+/-10	8.23	0.2	0.26	136.4	2	0.11	0.00169	30%	0.08	**0.29**	**0.02**
10H	0.04271	90+/-10	8.23	0.2	0.15	136.4	2	0.06	0.00169	30%	0.05	**0.17**	**0.02**
18V	0.04076	180+/-12	9.29	0.2	0.23	171.5	2	0.09	0.00149	30%	0.08	**0.26**	**0.02**
18H	0.04076	120+/-18	9.29	0.2	0.15	171.5	2	0.06	0.00149	30%	0.05	**0.17**	**0.03**
23V	0.02642	212.5+/-30	8.08	0.2	0.21	213.3	2	0.05	0.00081	30%	0.05	**0.23**	**0.03**
36V	0.00402	217.5+/-10	3.56	0.2	0.21	211.3	2	0.01	0.00014	100%	0.03	**0.21**	**0.01**
36H	0.00402	155+/-20	3.56	0.2	0.15	211.3	2	0.01	0.00014	100%	0.02	**0.15**	**0.02**
89V	0.00274	260+/-15	3.72	0.2	0.22	241.3	10	0.02	0.00010	100%	0.03	**0.22**	**0.01**
89H	0.00274	230+/-25	3.72	0.2	0.19	241.3	10	0.02	0.00010	100%	0.02	**0.20**	**0.02**
166V	0.01115	267.5+/-12	7.00	0.2	0.23	246.8	10	0.12	0.00047	100%	0.13	**0.28**	**0.01**
166H	0.01115	262.5+/-17	7.00	0.2	0.22	246.8	10	0.12	0.00047	100%	0.12	**0.28**	**0.02**
183VA	0.00761	260+/-10	6.31	0.2	0.21	252.5	10	0.07	0.00032	100%	0.08	**0.24**	**0.01**
183VB	0.00761	265+/-10	6.31	0.2	0.22	252.5	10	0.07	0.00032	100%	0.08	**0.24**	**0.01**
RMS	0.04000	200+/-15	8.00	0.2	0.21	200.0	4	0.07	0.0010	30%	0.07	**0.23**	**0.02**

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The cross-polarization coefficients have been derived based on the ground-measured antenna patterns. We estimate the error in the ground measured cross-polarization coefficients to be about 25% of the correction. Since the V-H contrast of the channels is time-varying, the cross-polarization correction produces both a static and time-varying component. For 23 and 183.31 GHz channels, GMI has no H-polarization, so the correction is only performed "on average," making the time varying component of the resulting error somewhat larger than other channels.

The error analysis for the cross-polarization is given in Table 69.

Table 69. Cross-polarization correction error analysis.

Channel	Cross-pol Coeffi-cient	Error Percent	TV-TH (ocean)	Total Bias	Total Time-varying error
10V	0.00363	25%	75+/-5	0.07	0.00
10H	0.00366	25%	75+/-5	0.07	0.00
18V	0.00280	25%	65+/-7	0.05	0.00
18H	0.00292	25%	65+/-7	0.05	0.01
23V	0.00211	25%	45+/-15	0.02	0.03
36V	0.00094	25%	60+/-10	0.01	0.00
36H	0.00094	25%	60+/-10	0.01	0.00
89V	0.00119	25%	30+/-15	0.01	0.00
89H	0.00119	25%	30+/-15	0.01	0.00
166V	0.01339	25%	5+/-6	0.02	0.02
166H	0.01339	25%	5+/-6	0.02	0.02
183VA	0.01104	25%	5+/-6	0.01	0.07
183VB	0.01104	25%	5+/-6	0.01	0.07
RMS	0.01	25%	0.00	0.03	0.03

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12.5 Overall On-orbit Calibration Uncertainty

The on-orbit calibration uncertainty is the combination in root-sum-squared sense of all error contributors. For ocean brightness temperatures, the on-orbit calibration uncertainty for ocean scenes is given in Table 70. The on-orbit calibration uncertainty for land scenes (290K) is given in Table 71.

Table 70. Calibration Uncertainty for ocean scene temperatures. See Table 68 for the list of nominal GMI ocean TAs

	Magnetic Correction		TA Calibration		Antenna-Induced Bias		**Total TA ERROR (ocean)**		Spillover		Cross-pol		**Total TB ERROR (ocean)**	
Channel	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	**Total Bias**	**Total Time-varying error**	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	**Total Bias**	**Total Time-varying error**
10V	0.09	0.09	0.12	0.07	0.00	0.03	**0.15**	**0.12**	0.29	0.02	0.07	0.00	**0.34**	**0.12**
10H	0.05	0.11	0.18	0.06	0.00	0.04	**0.18**	**0.13**	0.17	0.02	0.07	0.00	**0.26**	**0.13**
18V	0.05	0.05	0.09	0.08	0.00	0.02	**0.10**	**0.10**	0.26	0.02	0.05	0.00	**0.28**	**0.10**
18H	0.04	0.07	0.09	0.06	0.00	0.03	**0.09**	**0.09**	0.17	0.03	0.05	0.01	**0.20**	**0.09**
23V	0.06	0.08	0.09	0.09	0.00	0.01	**0.11**	**0.12**	0.23	0.03	0.02	0.03	**0.25**	**0.13**
36V	0.01	0.11	0.08	0.11	0.00	0.00	**0.08**	**0.16**	0.21	0.01	0.01	0.00	**0.23**	**0.16**
36H	0.02	0.07	0.07	0.08	0.00	0.00	**0.07**	**0.11**	0.15	0.02	0.01	0.00	**0.17**	**0.11**
89V	0.00	0.03	0.07	0.14	0.00	0.00	**0.07**	**0.14**	0.22	0.01	0.01	0.00	**0.23**	**0.14**
89H	0.02	0.09	0.08	0.12	0.00	0.01	**0.08**	**0.15**	0.20	0.02	0.01	0.00	**0.21**	**0.15**
166V	0.04	0.05	0.05	0.14	0.00	0.01	**0.06**	**0.15**	0.28	0.01	0.02	0.02	**0.29**	**0.16**
166H	0.04	0.09	0.05	0.14	0.00	0.01	**0.06**	**0.17**	0.28	0.02	0.02	0.02	**0.29**	**0.17**
183VA	0.02	0.06	0.04	0.14	0.00	0.01	**0.04**	**0.15**	0.24	0.01	0.01	0.07	**0.24**	**0.16**
183VB	0.02	0.09	0.03	0.14	0.00	0.01	**0.04**	**0.17**	0.24	0.01	0.01	0.07	**0.25**	**0.18**
RMS	0.04	0.08	0.09	0.11	0.00	0.02	**0.10**	**0.14**	0.23	0.02	0.03	0.03	**0.25**	**0.14**

Table 71. Total calibration uncertainty for land scenes (290 K)

	Magnetic Correction		TA Calibration		Antenna-Induced Bias		**Total TA ERROR (land)**		Spillover		Cross-pol		**Total TB ERROR (land)**	
Channel	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	**Total Bias**	**Total Time-varying error**	Total Bias	Total Time-varying error	Total Bias	Total Time-varying error	**Total Bias**	**Total Time-varying error**
10V	0.09	0.09	0.09	0.12	0.00	0.03	**0.13**	**0.15**	0.53	0.02	0.07	0.00	**0.55**	**0.16**
10H	0.05	0.11	0.09	0.12	0.00	0.04	**0.11**	**0.17**	0.53	0.02	0.07	0.00	**0.55**	**0.18**
18V	0.05	0.05	0.13	0.13	0.00	0.02	**0.14**	**0.14**	0.42	0.02	0.05	0.00	**0.44**	**0.14**
18H	0.04	0.06	0.13	0.13	0.00	0.03	**0.13**	**0.15**	0.42	0.03	0.05	0.01	**0.44**	**0.15**
23V	0.06	0.08	0.11	0.13	0.00	0.01	**0.12**	**0.15**	0.31	0.03	0.02	0.03	**0.33**	**0.16**
36V	0.01	0.11	0.10	0.14	0.00	0.00	**0.10**	**0.18**	0.28	0.01	0.01	0.00	**0.30**	**0.18**
36H	0.02	0.07	0.10	0.14	0.00	0.00	**0.10**	**0.16**	0.28	0.02	0.01	0.00	**0.30**	**0.16**
89V	0.00	0.03	0.08	0.16	0.00	0.00	**0.08**	**0.16**	0.25	0.01	0.01	0.00	**0.26**	**0.16**
89H	0.02	0.09	0.08	0.16	0.00	0.01	**0.09**	**0.18**	0.25	0.02	0.01	0.00	**0.26**	**0.18**
166V	0.04	0.05	0.07	0.16	0.00	0.01	**0.07**	**0.17**	0.31	0.01	0.02	0.02	**0.32**	**0.17**
166H	0.04	0.09	0.07	0.16	0.00	0.01	**0.07**	**0.18**	0.31	0.02	0.02	0.02	**0.32**	**0.18**
183VA	0.02	0.06	0.05	0.16	0.00	0.01	**0.05**	**0.17**	0.27	0.01	0.01	0.07	**0.27**	**0.18**
183VB	0.02	0.09	0.05	0.16	0.00	0.01	**0.05**	**0.18**	0.27	0.01	0.01	0.07	**0.27**	**0.19**
RMS	0.04	0.08	0.09	0.14	0.00	0.02	**0.10**	**0.17**	0.32	0.02	0.03	0.03	**0.34**	**0.17**

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13. ACRONYMS AND ABBREVIATIONS

ADC – Analog-Digital Converter

APC – Antenna Pattern Correction

ATBD – Algorithm Theoretical Basis Document

BATC – Ball Aerospace & Technologies Corp

CDRL – Contract Data Requirements List

CMIS – Conical Microwave Imager/Scanner

CSECS – Cold Sky Ellipse Coordinate System

DID – Data Item Description

DN – Digital Number

EMU – Engineering Model Unit

GSDR – GMI Science Data Record

IBA – Instrument Bay Assembly

IBACCS-D – Instrument Bay Assembly Cube Coordinate System – Deployed Orientation

IBASCS – Instrument Bay Assembly Secondary Coordinate System

ICA – Instrument Controller Assembly

ICD – Interface Control Document

ISS – Instrument Support Structure

ISSCCS – Instrument Support Structure Cube Coordinate System

ISSCS – Instrument Support Structure Coordinate System

IFOV – Instantaneous Field of View

GICS – GMI Instrument Coordinate System

GMI – GPM Microwave Imager

GPM – Global Precipitation Measurement

LBCS – Local Beam Coordinate System

MoM – Method of Moments

MRCS – Main Reflector Coordinate System

MRSCS – Main Reflector Secondary Coordinate System

NSICS – Nearfield Systems Inc. Coordinate System

PO – Physical Optics

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PRT – Platinum Resistance Thermometer

RDP – Radiation Distribution Pattern

RJ – Rayleigh-Jeans

RS – Receiver Subsystem

SACS-R – Spin Axis Coordinate System – Rotational Side

SACS-S – Spin Axis Coordinate System – Stationary Side

SCE – SMA Control Electronics

SER – Systems Engineering Report

SMA – Spin Mechanism Assembly

Ta – Antenna Temperature

Tb – Brightness Temperature

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APPENDIX A: PRT Calibration Curves

Signal Mnemonic	Classification	Hi Cal Resistor	Hi Cal Resistance (Ohms)	Hi Cal Counts (Ref Only)	Lo Cal Resistor	Lo Cal Resistance (Ohms)	Lo Cal Counts (Ref Only)	a0	a1	a2	a3	a4	a5
HL_TEMP_1	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-260.3268548	0.162461012	-4.58202E-05	2.52991E-08	-6.611E-12	6.92314E-16
HL_TEMP_2	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-256.6634276	0.153105919	-3.64844E-05	2.06898E-08	-5.48131E-12	5.82286E-16
HL_TEMP_7	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-229.1336105	0.081543673	3.70996E-05	-1.71872E-08	4.26292E-12	-4.19728E-16
HL_TEMP_8	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-239.1461698	0.10633824	1.27543E-05	-5.16554E-09	1.28903E-12	-1.24749E-16
HL_TEMP_9	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-265.1250734	0.172522043	-5.44843E-05	2.87902E-08	-7.24365E-12	7.28819E-16
HL_TEMP_10	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-227.5221504	0.080916951	3.41126E-05	-1.36997E-08	2.84902E-12	-2.20101E-16
HL_TEMP_11	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-173.9211332	-0.056511813	0.000174168	-8.47823E-08	2.08193E-11	-2.03058E-15
HL_TEMP_12	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-220.8544276	0.062438765	5.3899E-05	-2.41548E-08	5.58068E-12	-5.02863E-16
HL_TEMP_13	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-231.8990945	0.08994359	2.70811E-05	-1.12182E-08	2.51066E-12	-2.1678E-16
HL_TEMP_14	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-247.547878	0.127616967	-8.95689E-06	5.78887E-09	-1.44903E-12	1.46345E-16
HL_TEMP_15	IE Tlm - High Accuracy	TEMP_CALRES_2	2800.08	45201.6	TEMP_CALRES_1	1500.04	10033.94	-241.1117667	0.113170615	3.50976E-06	6.80404E-10	-4.94577E-13	8.72336E-17
CLR_TEMP	IE Tlm - Low Resistance	TEMP_CALRES_6	2000.06	36907.7	TEMP_CALRES_4	504.99	9298.34	-248.7732802	0.238416282	7.84965E-06	5.35611E-10	3.07872E-14	7.96338E-18
MR_LR_LEFT_TEMP	IE Tlm - Low Resistance	TEMP_CALRES_6	2000.06	36907.7	TEMP_CALRES_4	504.99	9298.34	-248.7732802	0.238416282	7.84965E-06	5.35611E-10	3.07872E-14	7.96338E-18
MR_LR_LOWR_TEMP	IE Tlm - Low Resistance	TEMP_CALRES_6	2000.06	36907.7	TEMP_CALRES_4	504.99	9298.34	-248.7732802	0.238416282	7.84965E-06	5.35611E-10	3.07872E-14	7.96338E-18
MR_LR_RGHT_TEMP	IE Tlm - Low Resistance	TEMP_CALRES_6	2000.06	36907.7	TEMP_CALRES_4	504.99	9298.34	-248.7732802	0.238416282	7.84965E-06	5.35611E-10	3.07872E-14	7.96338E-18
CE_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
CSR_TEMP1	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
IBS_LR1_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
IBS_LR2_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
IBS_LR3_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
ICA_BOX_TEMP_1	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
ICA_BOX_TEMP_2	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
IE_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
LVPS_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
MR_ICA_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
PC_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
RDA_TEMP_1	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
RDA_TEMP_2	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
RDA_TEMP_3	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
ROT_TEMP_SPARE	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
RS_TEMP_1	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-236.2747234	0.10098128	1.628E-05	-5.96614E-09	1.2743E-12	-1.07045E-16
RS_TEMP_2	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-236.172099	0.10076639	1.64856E-05	-6.05769E-09	1.29469E-12	-1.08855E-16
SCE_A_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
SCE_B_BD_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1201555	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
SMA_BEARING_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
SMA_MTR_TEMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
SMA_SLPRHTR_TMP	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
CSR_TEMP2	IE Tlm - Normal	TEMP_CALRES_5	3399.97	62752.23	TEMP_CALRES_4	504.99	9298.34	-239.1712541	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_166GHZ_LO	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_V166GHZMXR	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_183GHZ_LO	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18

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Signal Mnemonic	Classification	Hi Cal Resistor	Hi Cal Resistance (Ohms)	Hi Cal Counts (Ref Only)	Lo Cal Resistor	Lo Cal Resistance (Ohms)	Lo Cal Counts (Ref Only)	a0	a1	a2	a3	a4	a5
TEMP_183GHZMXR	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_89GHZ_LO	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_H166GHZMXR	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_H10GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_H18GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_H36GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_V10GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_V18GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_V36GHZ_ND	RS Tlm - BATC ADC, Hi res	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_RS_MR1	RS Tlm - BATC ADC, Normal	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_RS_MR2	RS Tlm - BATC ADC, Normal	BATC_CALRES_2	3157	58170.308	BATC_CALRES_1	1195	7706.137	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_10GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-235.8509438	0.099626991	1.74703E-05	-6.44468E-09	1.37026E-12	-1.1467E-16
TEMP_166GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.2362645	0.100930691	1.63367E-05	-6.00249E-09	1.28482E-12	-1.08198E-16
TEMP_183GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.1070635	0.100466029	1.67138E-05	-6.13536E-09	1.30677E-12	-1.09468E-16
TEMP_18GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.0646535	0.100765016	1.63998E-05	-6.02941E-09	1.29013E-12	-1.08618E-16
TEMP_23GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.2001883	0.100808265	1.64408E-05	-6.03744E-09	1.29008E-12	-1.08434E-16
TEMP_36GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.0667138	0.100417622	1.67243E-05	-6.14661E-09	1.31071E-12	-1.09965E-16
TEMP_89GHZRCVR	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.1859287	0.100662332	1.65911E-05	-6.10118E-09	1.30393E-12	-1.09648E-16
TEMP_RS_EDC	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.1546147	0.100791608	1.64276E-05	-6.02745E-09	1.28695E-12	-1.08089E-16
TEMP_RS_EPC	RS Tlm - RS ADC, Hi res	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-236.2471582	0.100914848	1.63272E-05	-5.98779E-09	1.27917E-12	-1.07482E-16
TEMP_SMA_SPUN_HSG	RS Tlm - RS ADC, Normal	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_H89GHZMXR	RS Tlm - RS ADC, Normal	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_V89GHZMXR	RS Tlm - RS ADC, Normal	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_FEED	RS Tlm - RS ADC, Normal	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18
TEMP_HL_TRAY	RS Tlm - RS ADC, Normal	RS_CALRES_2	3157	58020.896	RS_CALRES_1	1195	7501.9765	-238.3771643	0.108516065	7.18387E-06	-1.12508E-09	8.5039E-14	2.92338E-18

SPACECRAFT MONITORED TELEMETRY

Signal Mnemonic	Classification	Notes	a0	a1	a2	a3	a4	a5
ICA_A_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
ICA_B_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
MR_A_PT_TEMP	S/C-Monitored PRT	Conversion Listed is from R to ˚C	-237.0967	0.10593	9.4946E-06	-2.1251E-09	2.9518E-13	-1.4276E-17
MR_B_PT_TEMP	S/C-Monitored PRT	Conversion Listed is from R to ˚C	-237.0967	0.10593	9.4946E-06	-2.1251E-09	2.9518E-13	-1.4276E-17
RS_A_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
RS_B_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
SMA_A_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
SMA_B_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
STAT_A_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051
STAT_B_PT_TEMP	S/C-Monitored Thermistor	Conversion Listed is from ln(R) to ˚C	591.3713	-133.5303	13.5564	-0.8687	0.031045	-0.00047051

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APPENDIX B: Engineering Data Conversions

Telemetry Mnemonic	Description	Converted Units	b0	b1	b2	b3	b4	b5
BATC_CALRES_1	RS Calibration Resistor for BATC telemetry #1	degrees C	-138.3611379	0.004953399	0	0	0	0
BATC_CALRES_2	RS Calibration Resistor for BATC telemetry #2	degrees C	-138.3611379	0.004953399	0	0	0	0
BLK_DELAY	Blanking Delay	micorseconds	0	1	0	0	0	0
BLK_DURATION	Blanking Duration	microseconds	1	1	0	0	0	0
EPS_2_5V_REF	2.5V Reference for A-D Converter	Volts	0	5.31031E-05	0	0	0	0
EPS_28V	Operational Power Bus	Volts	0	0.000563907	0	0	0	0
EPS_5V_ANA	2.5V Reference for A-D Converter	Volts	0	9.81065E-05	0	0	0	0
EPS_5V_DIG	LVPS - 5V Digital Secondary Voltage	Volts	0	9.81065E-05	0	0	0	0
EPS_AGND	Interface Electronics - Analog Ground	Volts	0	7.62939E-05	0	0	0	0
EPS_CE_2_5V	2.5V Regulator for Controller FPGA	Volts	0	5.31031E-05	0	0	0	0
EPS_IE_2_5V	2.5V Regulator for Interface Electronics FPGA	Volts	0	5.31031E-05	0	0	0	0
EPS_NEG12VANA	LVPS - Negative 12V Secondary Voltage	Volts	0	-0.000212412	0	0	0	0
EPS_NEG12VMTRA	SMA Controller A - Motor Negative 12V	Volts	0	-0.000224908	0	0	0	0
EPS_NEG12VMTRB	SMA Controller B - Motor Negative 12V	Volts	0	-0.000224908	0	0	0	0
EPS_POS12VANA	LVPS - Positive 12V Secondary Voltage	Volts	0	0.000212412	0	0	0	0
EPS_POS12VMTRA	SMA Controller A - Motor Positive 12V	Volts	0	0.000225376	0	0	0	0
EPS_POS12VMTRB	SMA Controller B - Motor Positive 12V	Volts	0	0.000225376	0	0	0	0
EPS_ROT_SPR	Spare Voltage Monitor	Volts	0	5.31031E-05	0	0	0	0
EPS_SCE_A_MTRI	SMA Controller A - Motor Current	Volts	0	3.00143E-05	0	0	0	0
EPS_SCE_B_MTRI	SMA Controller B - Motor Current	Volts	0	3.00143E-05	0	0	0	0
NDIODE10GHZSNUM	RS Config. of Noise Diode start Sample Number	count	0	1				
NUMSMPLS_10GHZ	RS Configuration of Number of Samples for the 10 GHz channels	count	0	1				
NUMSMPLS_18GHZ	RS Configuration of Number of Samples for the 18GHz channels	count	0	1				
NUMSMPLS_23GHZ	RS Configuration of Number of Samples for the 23Hz channels	count	0	1				
NUMSMPLS_36GHZ	RS Configuration of Number of Samples for the 36 GHz channels	count	0	1				
NUMSMPLS_89GHZ	RS Configuration of Number of Samples for the 89 GHz channels	count	0	1				
NUMSMPLS_166GHZ	RS Configuration of Number of Samples for the 166 GHz channels	count	0	1				
NUMSMPLS_183GHZ	RS Configuration of Number of Samples for the 183 GHz channels	count	0	1				
RESOLVER_POS	The resolver position reported by the SCE	degrees	0	0.005493248	0	0	0	0
RS_CALRES_1	RS Calibration Resistor for RS telemetry #1	degrees C	-137.3944596	0.004954097	0	0	0	0
RS_CALRES_2	RS Calibration Resistor for BATC telemetry #2	degrees C	-137.3944596	0.004954097	0	0	0	0
RS_EPC_15V	EPC 15V Telemetry	Volts	-25.84469127	0.000788717	0	0	0	0
RS_EPC_5V	EPC 5V Telemetry	Volts	-8.527457777	0.000260237	0	0	0	0
RS_EPC_7V	EPC 7V Telemetry	Volts	-11.98424603	0.00036573	0	0	0	0
RS_EPC_ISENS	Receiver Subsystem EPC Current Sense	Amps	-7.877143941	0.000240391	0	0	0	0
RS_EPC_NEG12V	EPC -12V Telemetry	Volts	20.64067021	-0.000629903	0	0	0	0
RS_EPC_POS12V	EPC +12V Telemetry	Volts	-20.64613005	0.00063007	0	0	0	0
SCE_CMD_RATE	Last rate value commanded to the SCE.	RPM	0	0.002999106	0	0	0	0
SCE_RATE	The SMA rotational rate reported by the SCE	RPM	0	0.002999106	0	0	0	0
SMA_CMD_RATE	Last rate value commanded to the SCE.	PRM	0	0.001	0	0	0	0
SMA_RATE	The ICA calculated rotational rate of the SMA	RPM	0	0.001	0	0	0	0
SMA_RTPRB_SEC	The time since the beginning of the rate problem.	Seconds	0	0.1	0	0	0	0
SMPOFFST_10GHZ	RS-Reported Sample Offset for the 10GHz Channels (4us)	seconds	0	0.000004				
SMPOFFST_18GHZ	RS-Reported Sample Offset for the 18 GHz Channels (4us)	seconds	0	0.000004				

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SMPOFFST_23GHZ	RS-Reported Sample Offset for the 23 GHz Channel (4us)	seconds	0	0.000004				
SMPOFFST_36GHZ	RS-Reported Sample Offset for the 36 GHz Channels (4us)	seconds	0	0.000004				
SMPOFFST_89GHZ	RS-Reported Sample Offset for the 89 GHz Channels (4us)	seconds	0	0.000004				
SMPOFFST_166GHZ	RS-Reported Sample Offset for the 166 GHz Channels (4us)	seconds	0	0.000004				
SMPOFFST_183GHZ	RS-Reported Sample Offset for the 183 GHz Channels (4us)	seconds	0	0.000004				
TEMP_CALRES_1	ICA IE Telemetry Calibration Resistor #1	degrees C	-110.1577598	0.004714353	0	0	0	0
TEMP_CALRES_2	ICA IE Telemetry Calibration Resistor #2	degrees C	-110.1577598	0.004714353	0	0	0	0
TEMP_CALRES_3	ICA IE Telemetry Calibration Resistor #3	degrees C	-111.3097596	0.004714353	0	0	0	0
TEMP_CALRES_4	ICA IE Telemetry Calibration Resistor #4	degrees C	-246.0620837	0.006810062	0	0	0	0
TEMP_CALRES_5	ICA IE Telemetry Calibration Resistor #5	degrees C	-246.0620837	0.006810062	0	0	0	0
TEMP_CALRES_6	ICA IE Telemetry Calibration Resistor #6	degrees C	-252.2487566	0.006810062	0	0	0	0

Telemetry Mnemonic	Description	Valid Values						
BLK_SIDE	Blanking Side	0 = Primary	1 = Redundant					
BLK_STATE	Blanking State	0 = Disabled	1 = Enabled					
GAIN_V10GHZ	RS-reported gain setting for the 10 GHz V-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_H10GHZ	RS-reported gain setting for the 10 GHz H-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_V18GHZ	RS-reported gain setting for the 18 GHz V-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_H18GHZ	RS-reported gain setting for the 18 GHz H-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_V23GHZ	RS-reported gain setting for the 23 GHz V-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_V36GHZ	RS-reported gain setting for the 36 GHz V-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_H36GHZ	RS-reported gain setting for the 36 GHz H-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_V89GHZ	RS-reported gain setting for the 89 GHz V-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_H89GHZ	RS-reported gain setting for the 89 GHz H-pol channel	6 = Low	4 = Nominal	2 = High				
GAIN_V166GHZ	RS-reported gain setting for the 166 GHz V-pol channel	4 = Low	2 = Nominal	1 = High				
GAIN_H166GHZ	RS-reported gain setting for the 166 GHz H-pol channel	4 = Low	2 = Nominal	1 = High				
GAIN_VA183GHZ	RS-reported gain setting for the 183.31 +/- 3 GHz V-pol channel	5 = Low	4 = Nominal	3 = High				
GAIN_VB183GHZ	RS-reported gain setting for the 183.31 +/- 7 GHz V-pol channel	5 = Low	4 = Nominal	3 = High				
NDIODE_MODE	RS Configuration of Noise Diode Mode	0 = On Every Scan	1 = Every Other	2 = Off				
SCE_SELECTION	The current SCE selection setting.	1 = Side A	2 = Side B					
SAMPLE_TBL_VER	Sample table version	Version #	(note: KEEP_ALL = 0xFFFF)					
SMPL_TBL	Sample Table Pointer	7 = KEEP_ALL	9 = DISCARD	Other = Pointer to Memory Location of Sample Table				

Telemetry Mnemonic	Description	Valid Values						
SMPL_INFO_VALID	Sample Table Info (below) is valid	0 = INVALID	1 = VALID					
EARTH_10G_STRT	Earth viewing start sample number (10GHz)	1 to 511						
EARTH_10G_NUM	Earth viewing number of samples (10GHz)	1 to 511						
HLOAD_10G_STRT	Hot Load start sample number (10GHz)	1 to 511						
HLOAD_10G_NUM	Hot Load number of samples (10GHz)	1 to 511						
CSKY_10G_STRT	Cold Sky start sample number (10GHz)	1 to 511						
CSKY_10G_NUM	Cold Sky number of samples (10GHz)	1 to 511						
EARTH_18G_STRT	Earth viewing start sample number (18GHz)	1 to 511						
EARTH_18G_NUM	Earth viewing number of samples (18GHz)	1 to 511						
HLOAD_18G_STRT	Hot Load start sample number (18GHz)	1 to 511						
HLOAD_18G_NUM	Hot Load number of samples (18GHz)	1 to 511						
CSKY_18G_STRT	Cold Sky start sample number (18GHz)	1 to 511						
CSKY_18G_NUM	Cold Sky number of samples (18GHz)	1 to 511						

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EARTH_23G_STRT	Earth viewing start sample number (23GHz)	1 to 511						
EARTH_23G_NUM	Earth viewing number of samples (23GHz)	1 to 511						
HLOAD_23G_STRT	Hot Load start sample number (23GHz)	1 to 511						
HLOAD_23G_NUM	Hot Load number of samples (23GHz)	1 to 511						
CSKY_23G_STRT	Cold Sky start sample number (23GHz)	1 to 511						
CSKY_23G_NUM	Cold Sky number of samples (23GHz)	1 to 511						
EARTH_36G_STRT	Earth viewing start sample number (36GHz)	1 to 511						
EARTH_36G_NUM	Earth viewing number of samples (36GHz)	1 to 511						
HLOAD_36G_STRT	Hot Load start sample number (36GHz)	1 to 511						
HLOAD_36G_NUM	Hot Load number of samples (36GHz)	1 to 511						
CSKY_36G_STRT	Cold Sky start sample number (36GHz)	1 to 511						
CSKY_36G_NUM	Cold Sky number of samples (36GHz)	1 to 511						
EARTH_89G_STRT	Earth viewing start sample number (89GHz)	1 to 511						
EARTH_89G_NUM	Earth viewing number of samples (89GHz)	1 to 511						
HLOAD_89G_STRT	Hot Load start sample number (89GHz)	1 to 511						
HLOAD_89G_NUM	Hot Load number of samples (89GHz)	1 to 511						
CSKY_89G_STRT	Cold Sky start sample number (89GHz)	1 to 511						
CSKY_89G_NUM	Cold Sky number of samples (89GHz)	1 to 511						
EARTH_166G_STRT	Earth viewing start sample number (166GHz)	1 to 511						
EARTH_166G_NUM	Earth viewing number of samples (166GHz)	1 to 511						
HLOAD_166G_STRT	Hot Load start sample number (166GHz)	1 to 511						
HLOAD_166G_NUM	Hot Load number of samples (166GHz)	1 to 511						
CSKY_166G_STRT	Cold Sky start sample number (166GHz)	1 to 511						
CSKY_166G_NUM	Cold Sky number of samples (166GHz)	1 to 511						
EARTH_183G_STRT	Earth viewing start sample number (183GHz)	1 to 511						
EARTH_183G_NUM	Earth viewing number of samples (183GHz)	1 to 511						
HLOAD_183G_STRT	Hot Load start sample number (183GHz)	1 to 511						
HLOAD_183G_NUM	Hot Load number of samples (183GHz)	1 to 511						
CSKY_183G_STRT	Cold Sky start sample number (183GHz)	1 to 511						
CSKY_183G_NUM	Cold Sky number of samples (183GHz)	1 to 511						

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APPENDIX C: Critical Alignment Relationships

Transform from Main Reflector Coordinate System (MRCS) to Spin Axis Coordinate System, Rotational Side (SACS-R)

$$R_{MRCS\text{->}SACS\text{-}R} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
-179.98819	-48.46727	-0.01158

	xhat	yhat	zhat
i	0.66304771	-0.00004772	0.74857714
j	-0.00013396	-0.99999999	0.00005490
k	0.74857713	-0.00013668	-0.66304771

$$R_{SACS\text{-}R\text{->}MRCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
179.99526	-48.46728	-0.00412

	xhat	yhat	zhat
i	0.66304771	-0.00013396	0.74857713
j	-0.00004772	-0.99999999	-0.00013668
k	0.74857714	0.00005490	-0.66304771

Transform from Spin Axis Coordinate System, Stationary Side (SACS-S) to GMI Instrument Coordinate System (GICS)

$$R_{SACS\text{-}S\text{->}GICS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
0.00115	0.00345	0.00000

	xhat	yhat	zhat
i	1.00000000	0.00000000	0.00006023
j	0.00000000	1.00000000	-0.00002008
k	-0.00006023	0.00002008	1.00000000

$$R_{GICS\text{->}SACS\text{-}S} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
-0.00115	-0.00345	0.00000

	xhat	yhat	zhat
i	1.00000000	0.00000000	-0.00006023
j	0.00000000	1.00000000	0.00002008
k	0.00006023	-0.00002008	1.00000000

Transform from the IBA Cube Coordinate System, Deployed orientation (IBACCS-D) to Spin Axis Coordinate System, Rotational Side (SACS-R)

$$R_{IBACCS\text{-}D\text{->}SACS\text{-}R} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
0.04155	0.02518	0.00000

	xhat	yhat	zhat
i	0.99999990	0.00000032	0.00043950
j	0.00000000	0.99999974	-0.00072514
k	-0.00043950	0.00072514	0.99999964

$$R_{SACS\text{-}R\text{->}IBACCS\text{-}D} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$$

θx (deg)	θy (deg)	θz (deg)
-0.04155	-0.02518	0.00002

	xhat	yhat	zhat
i	0.99999990	0.00000000	-0.00043950
j	0.00000032	0.99999974	0.00072514
k	0.00043950	-0.00072514	0.99999964

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Transform from the Main Reflector Secondary Coordinate System (MRSCS) to the Main Reflector Coordinate System (MRCS)

$v_{MRSCS\text{->}MRCS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{MRSCS\text{->}MRCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
1.72177	3.34516	57.36569	-0.00008	16.52387	-0.00066

	v
i	1.72177
j	3.34516
k	57.36569

	xhat	yhat	zhat
i	0.95870131	0.00001111	0.28441485
j	-0.00001105	1.00000000	-0.00000183
k	-0.28441485	-0.00000139	0.95870131

$v_{MRSCS\text{->}MRCS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{MRSCS\text{->}MRCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
14.66503	-3.34510	-55.48625	-0.00011	-16.52387	0.00066

	v
i	14.66503
j	-3.34510
k	-55.48625

	xhat	yhat	zhat
i	0.95870131	-0.00001105	-0.28441485
j	0.00001111	1.00000000	-0.00000139
k	0.28441485	-0.00000183	0.95870131

Transform from the IBA Secondary Coordinate System (IBASCS) to the Main Reflector Secondary Coordinate System (MRSCS)

$v_{IBASCS\text{->}MRSCS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{IBASCS\text{->}MRSCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
20.82750	-23.28073	44.51447	179.99104	-31.95136	179.97109

	v
i	20.82750
j	-23.28073
k	44.51447

	xhat	yhat	zhat
i	-0.84849755	0.00058741	-0.52919898
j	0.00042819	0.99999982	0.00042345
k	0.52919913	0.00013270	-0.84849765

$v_{MRSCS\text{->}IBASCS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{MRSCS\text{->}IBASCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
-5.87496	23.26259	48.80217	179.97141	31.95135	179.96033

	v
i	-5.87496
j	23.26259
k	48.80217

	xhat	yhat	zhat
i	-0.84849755	0.00042819	0.52919913
j	0.00058741	0.99999982	0.00013270
k	-0.52919898	0.00042345	-0.84849765

Transform from the GMI Instrument Coordinate System (GICS) to the IBA Secondary Coordinate System (IBASCS) while stowed

$v_{GICS\text{->}IBASCS@stowed} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{GICS\text{->}IBASCS@stowed} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
0.00316	19.95818	26.14097	-0.00507	-0.00137	0.02790

	v
i	0.00316
j	19.95818
k	26.14097

	xhat	yhat	zhat
i	0.99999988	-0.00048689	-0.00002400
j	0.00048690	0.99999988	0.00008842
k	0.00002395	-0.00008843	1.00000000

$v_{IBASCS\text{->}GICS@stowed} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{IBASCS\text{->}GICS@stowed} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
-0.01351	-19.95587	-26.14274	0.00507	0.00137	-0.02790

	v
i	-0.01351
j	-19.95587
k	-26.14274

	xhat	yhat	zhat
i	0.99999988	0.00048690	0.00002395
j	-0.00048689	0.99999988	-0.00008843
k	-0.00002400	0.00008842	1.00000000

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Transform from the GMI Instrument Coordinate System (GICS) to the IBA Secondary Coordinate System (IBASCS) while deployed, at 180 degrees from stowed

$v_{GICS\text{->}IBASCS@depl} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{GICS\text{->}IBASCS@depl} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
0.03082	-19.93979	26.14097	-0.00737	-0.00827	-179.97210

	v
i	0.03082
j	-19.93979
k	26.14097

	xhat	yhat	zhat
i	-0.99999987	0.00048688	0.00014446
j	-0.00048690	-0.99999987	-0.00012859
k	0.00014440	-0.00012866	0.99999998

$v_{IBASCS\text{->}GICS@depl} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{IBASCS\text{->}GICS@depl} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
0.01734	-19.93644	-26.14354	-0.00737	-0.00828	179.97210

	v
i	0.01734
j	-19.93644
k	-26.14354

	xhat	yhat	zhat
i	-0.99999987	-0.00048690	0.00014440
j	0.00048688	-0.99999987	-0.00012866
k	0.00014446	-0.00012859	0.99999998

Transform from the GMI Instrument Coordinate System (GICS) to the Cold Sky Ellipse Coordinate System (CSECS)

$v_{GICS\text{->}CSECS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{GICS\text{->}CSECS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
-11.69329	-4.89067	17.28042	51.33742	5.90244	-22.19618

	v
i	-11.69329
j	-4.89067
k	17.28042

	xhat	yhat	zhat
i	0.92098705	0.31035811	-0.23550096
j	-0.37577631	0.54810276	-0.74724530
k	-0.10283491	0.77669892	0.62142076

$v_{CSECS\text{->}GICS} = [\Delta x\ \Delta y\ \Delta z]^T$ $\quad R_{CSECS\text{->}GICS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
10.70860	-7.11199	-17.14672	-50.25256	13.62115	18.62300

	v
i	10.70860
j	-7.11199
k	-17.14672

	xhat	yhat	zhat
i	0.92098705	-0.37577631	-0.10283491
j	0.31035811	0.54810276	0.77669892
k	-0.23550096	-0.74724530	0.62142076

Transform from the GMI Instrument Coordinate System (GICS) to the ISS Cube Coordinate System (ISSCCS)

$R_{GICS\text{->}ISSCCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

θx (deg)	θy (deg)	θz (deg)
0.00000	0.00000	0.00000

	xhat	yhat	zhat
i	1.00000000	0.00000000	0.00000000
j	0.00000000	1.00000000	0.00000000
k	0.00000000	0.00000000	1.00000000

$R_{ISSCCS\text{->}GICS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

θx (deg)	θy (deg)	θz (deg)
0.00000	0.00000	0.00000

	xhat	yhat	zhat
i	1.00000000	0.00000000	0.00000000
j	0.00000000	1.00000000	0.00000000
k	0.00000000	0.00000000	1.00000000

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Transform from the Mounting Interface (ISSCS) to the GMI Instrument Coordinate System (GICS)

$v_{ISSCS\text{->}GICS} = [\Delta x \ \Delta y \ \Delta z]^T$ $\quad R_{ISSCS\text{->}GICS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
0.00000	0.00000	2.26600	-0.00437	0.00110	-0.00236

	v
i	0.00000
j	0.00000
k	2.26600

	xhat	yhat	zhat
i	1.00000000	0.00004113	0.00001917
j	-0.00004113	1.00000000	0.00007622
k	-0.00001916	-0.00007622	1.00000000

$v_{GICS\text{->}ISSCS} = [\Delta x \ \Delta y \ \Delta z]^T$ $\quad R_{GICS\text{->}ISSCS} = R_z(\theta z)R_y(\theta y)R_x(\theta x)$

Δx (in)	Δy (in)	Δz (in)	θx (deg)	θy (deg)	θz (deg)
0.00004	0.00017	-2.26600	0.00437	-0.00110	0.00236

	v
i	0.00004
j	0.00017
k	-2.26600

	xhat	yhat	zhat
i	1.00000000	-0.00004113	-0.00001916
j	0.00004113	1.00000000	-0.00007622
k	0.00001917	0.00007622	1.00000000

where

$$R_x(\theta_x) = \begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos\theta_x & -\sin\theta_x \\ 0 & \sin\theta_x & \cos\theta_x \end{bmatrix}$$

$$R_y(\theta_y) = \begin{bmatrix} \cos\theta_y & 0 & \sin\theta_y \\ 0 & 1 & 0 \\ -\sin\theta_y & 0 & \cos\theta_y \end{bmatrix}$$

$$R_z(\theta_z) = \begin{bmatrix} \cos\theta_z & -\sin\theta_z & 0 \\ \sin\theta_z & \cos\theta_z & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

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APPENDIX D: Sample Table Mapping of Sample Number to Index of Sample within GSDR

Sample Table 24 "Nominal" Blanking May be On or Off

Sample Number ->	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74

Sample Number ->	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
18 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
23 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
36 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
89 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
166 GHz V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
183 +/- 3 V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
18 GHz H GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
89 GHz H GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
166 GHz H GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
183 +/- 7 V GSDR Index	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160

Sample Number ->	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number ->	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	224	225	226
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	224	225	226
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226

Sample Number ->	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227	228	229	230	231	232	233	234	235	236	237	238
89 GHz V GSDR Index	229	230	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227	228	229	230	231	232	233	234	235	236	237	238
89 GHz H GSDR Index	229	230	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271

Sample Number ->	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	270	271	272	273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	272	273	274	275	276	277	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	270	271	272	273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	272	273	274	275	276	277	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

[Manual: 2344649 Program: GMI
Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Copies are Uncontrolled

Sample Table 25 "Spare1" Expanded Nominal, Requires Blanking Off or Fast Telemetry Rate

Sample Number ->	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78

Sample Number ->	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
18 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
23 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
36 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
89 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
166 GHz V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
183 +/- 3 V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
18 GHz H GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
89 GHz H GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
166 GHz H GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164
183 +/- 7 V GSDR Index	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164

Sample Number ->	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number ->	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237

Sample Number ->	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	244	245	246	247	248	249	250	251	252	253	254	255	256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
89 GHz V GSDR Index	240	241	242	243	244	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	0	0	0	0
183 +/- 3 V GSDR Index	238	239	240	241	242	243	244	245	246	247	248	249	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	244	245	246	247	248	249	250	251	252	253	254	255	256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
89 GHz H GSDR Index	240	241	242	243	244	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	0	0	0	0
183 +/- 7 V GSDR Index	238	239	240	241	242	243	244	245	246	247	248	249	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288

Sample Number ->	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	287	288	289	290	291	292	293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	289	290	291	292	293	294	295	296	297	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	287	288	289	290	291	292	293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	289	290	291	292	293	294	295	296	297	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

Copies are Uncontrolled

Sample Table 27 "Calibration" Every other sample, except full sampling around edges of Earth View and Hot and Cold Views. Requires Blanking OFF or Fast Telemetry Rate

Sample Number ->	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
18 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
23 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
36 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
89 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
166 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
183 +/- 3 V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
18 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
89 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
166 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48
183 +/- 7 V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0	26	0	27	0	28	0	29	0	30	0	31	0	32	0	33	0	34	0	35	0	36	0	37	0	38	0	39	0	40	0	41	0	42	0	43	0	44	0	45	0	46	0	47	0	48

Sample Number ->	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
18 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
23 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
36 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
89 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
166 GHz V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
183 +/- 3 V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
18 GHz H GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
89 GHz H GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
166 GHz H GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91
183 +/- 7 V GSDR Index	0	49	0	50	0	51	0	52	0	53	0	54	0	55	0	56	0	57	0	58	0	59	0	60	0	61	0	62	0	63	0	64	0	65	0	66	0	67	0	68	0	69	0	70	0	71	0	72	0	73	0	74	0	75	0	76	0	77	0	78	0	79	0	80	0	81	0	82	0	83	0	84	0	85	0	86	0	87	0	88	0	89	0	90	0	91

Sample Number ->	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
18 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
23 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
36 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
89 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
166 GHz V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
183 +/- 3 V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
18 GHz H GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
89 GHz H GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
166 GHz H GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139
183 +/- 7 V GSDR Index	0	92	0	93	0	94	0	95	0	96	0	97	0	98	0	99	0	100	0	101	0	102	0	103	0	104	0	105	0	106	0	107	0	108	0	109	0	110	0	111	0	112	0	113	0	114	0	115	0	116	0	117	118	119	120	121	122	123	124	125	126	127	0	128	0	129	0	130	0	131	0	132	0	133	0	134	0	135	0	136	0	137	0	138	0	139

Sample Number ->	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	140	0	141	0	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	0	175	0	176	0	177	0	178	0	179	0	180	0	181	0	182	0	183	0	184	0	185	0	186	0	187	0	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208
18 GHz V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	0	191	0	192	0	193	0	194	0	195	0	196	0	197	0	198
23 GHz V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	0	191	0	192	0	193	0	194	0	195	0	196	0	197	0	198
36 GHz V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	0	172	0	173	0	174	0	175	0	176	0	177	0	178	0	179	0	180	0	181	0	182
89 GHz V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193
166 GHz V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198
183 +/- 3 V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	0	172	0	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	140	0	141	0	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	0	175	0	176	0	177	0	178	0	179	0	180	0	181	0	182	0	183	0	184	0	185	0	186	0	187	0	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208
18 GHz H GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	0	191	0	192	0	193	0	194	0	195	0	196	0	197	0	198
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	0	172	0	173	0	174	0	175	0	176	0	177	0	178	0	179	0	180	0	181	0	182
89 GHz H GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193
166 GHz H GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198
183 +/- 7 V GSDR Index	0	140	0	141	0	142	0	143	0	144	0	145	0	146	0	147	0	148	0	149	0	150	0	151	0	152	0	153	0	154	0	155	0	156	0	157	0	158	0	159	0	160	0	161	0	162	0	163	0	164	0	165	0	166	0	167	0	168	0	169	0	170	0	171	0	172	0	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191

Sample Number ->	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	237	0	238	0	239	0	240	0	241	0	242	0	243	0	244	0	245	0	246	0	247	0	248	0	249	0	250	0	251	0	252	0	253	0	254	0	255	0	256	0	257	0	258	0	259	0	260	0	261	0	262	0	263	0	264	0	265
18 GHz V GSDR Index	0	199	0	200	0	201	0	202	0	203	0	204	0	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	0	254	0	255	0	256	0	257	0	258	0	259	0	260	0	261	0	262	0	263	0	264	0	265
23 GHz V GSDR Index	0	199	0	200	0	201	0	202	0	203	0	204	0	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	0	254	0	255	0	256	0	257	0	258	0	259	0	260	0	261	0	262	0	263	0	264	0	265
36 GHz V GSDR Index	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	0	215	0	216	0	217	0	218	0	219	0	220	0	221	0	222	0	223	0	224	0	225	0	226	0	227	0	228	0	229	0	230	0	231	0	232	0	233	0	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
89 GHz V GSDR Index	194	195	196	197	198	199	200	201	0	202	0	203	0	204	0	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	0	216	0	217	0	218	0	219	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
166 GHz V GSDR Index	0	199	0	200	0	201	0	202	0	203	0	204	0	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	0	264	0	265
183 +/- 3 V GSDR Index	192	193	194	195	196	197	198	199	200	201	202	203	204	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	0	216	0	217	0	218	0	219	0	220	0	221	0	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	0	237	0	238	0	239	0	240	0	241	0	242	0	243	0	244	0	245	0	246	0	247	0	248	0	249	0	250	0	251	0	252	0	253	0	254	0	255	0	256	0	257	0	258	0	259	0	260	0	261	0	262	0	263	0	264	0	265
18 GHz H GSDR Index	0	199	0	200	0	201	0	202	0	203	0	204	0	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	0	254	0	255	0	256	0	257	0	258	0	259	0	260	0	261	0	262	0	263	0	264	0	265
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	0	215	0	216	0	217	0	218	0	219	0	220	0	221	0	222	0	223	0	224	0	225	0	226	0	227	0	228	0	229	0	230	0	231	0	232	0	233	0	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
89 GHz H GSDR Index	194	195	196	197	198	199	200	201	0	202	0	203	0	204	0	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	0	216	0	217	0	218	0	219	0	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
166 GHz H GSDR Index	0	199	0	200	0	201	0	202	0	203	0	204	0	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	0	264	0	265
183 +/- 7 V GSDR Index	192	193	194	195	196	197	198	199	200	201	202	203	204	205	0	206	0	207	0	208	0	209	0	210	0	211	0	212	0	213	0	214	0	215	0	216	0	217	0	218	0	219	0	220	0	221	0	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260

Sample Number ->	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	261	262	263	264	265	266	267	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	261	262	263	264	265	266	267	268	269	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	261	262	263	264	265	266	267	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	266	0	267	0	268	0	269	0	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	261	262	263	264	265	266	267	268	269	270	0	271	0	272	0	273	0	274	0	275	0	276	0	277	0	278	0	279	0	280	0	281	0	282	0	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

Sample Table 28 "Spare2" Second Half of the Scan. Requires Blanking OFF or Fast Telemetry Rate

Sample Number ->	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number ->	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number ->	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76

Sample Number ->	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
18 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
23 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
36 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
89 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
166 GHz V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
183 +/- 3 V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
18 GHz H GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
89 GHz H GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
166 GHz H GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
183 +/- 7 V GSDR Index	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162

Sample Number ->	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
18 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
23 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
36 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
89 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
166 GHz V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
183 +/- 3 V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
18 GHz H GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
89 GHz H GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
166 GHz H GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
183 +/- 7 V GSDR Index	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248

Sample Number ->	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Sample Table 29 "Spare3" First Half of the Scan plus Minimal Hot and Cold Views. Requires Blanking OFF or Fast Telemetry Rate

Sample Number ->	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
18 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
23 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
36 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
89 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
166 GHz V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
183 +/- 3 V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
18 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
89 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
166 GHz H GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
183 +/- 7 V GSDR Index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85

Sample Number ->	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
18 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
23 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
36 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
89 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
166 GHz V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
183 +/- 3 V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
18 GHz H GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
89 GHz H GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
166 GHz H GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
183 +/- 7 V GSDR Index	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171

Sample Number ->	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
18 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
23 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
36 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
89 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
166 GHz V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
183 +/- 3 V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
18 GHz H GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
89 GHz H GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
166 GHz H GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
183 +/- 7 V GSDR Index	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257

Sample Number ->	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273
18 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0
166 GHz V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273
18 GHz H GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0
166 GHz H GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266

Sample Number ->	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	259	260	261	262	263	264	265	266	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	267	268	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0

Sample Number ->	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz V GSDR Index	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 3 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 GHz H GSDR Index	0	0	270	271	272	273	274	275	276	277	278	279	280	281	282	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 GHz H GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183 +/- 7 V GSDR Index	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[Manual: 2344649 Program: GMI
Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

APPENDIX E: GMI RF parameters

10 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.911	0.0016	0.0021	0.9078	>.90	>.90
	Hpol	0.911			0.9077	>.90	>.90
Beamwidth (°)	Vpol	1.721	0.0062	0.0011	1.7134 : 1.7280	0.75 : 1.75	< 1.75
	Hpol	1.717			1.7096 : 1.7242	0.75 : 1.75	< 1.75
Beam Shape (%)	Vpol	4.257	0.7300	0.3774	5.365	< 15	< 15
	Hpol	4.138			5.245	<15	<15
Beam Cross-Pol (%)***	Vpol	0.037	0.0073	0.0090	0.053	<1.0	<1.0
	Hpol	0.037			0.053	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.432	N/A *	N/A *	48.432	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.423			48.423	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-9.717	N/A *	N/A *	-9.717	N/A	N/A
	Hpol	-9.716			-9.716		
Cross-Pol Alignment (°)***	Vpol	0.180	0.050	0.088	0.042 : 0.318	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.205			-0.343 : -0.067	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

18 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.917	0.0016	0.0031	0.9119	>.91	>.90
	Hpol	0.916			0.9117	>.91	>.90
Beamwidth (°)	Vpol	0.975	0.0030	0.0010	0.9710 : 0.9790	0.75 : 1.0	< 1.0
	Hpol	0.975			0.9712 : 0.9792	0.75 : 1.0	< 1.0
Beam Shape (%)	Vpol	2.216	0.7300	0.2295	3.175	< 15	< 15
	Hpol	1.990			2.950	<15	<15
Beam Cross-Pol (%)***	Vpol	0.036	0.0073	0.0089	0.052	<1.0	<1.0
	Hpol	0.037			0.053	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.444	N/A *	N/A *	48.444	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.438			48.438	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-4.091	N/A *	N/A *	-4.091	N/A	N/A
	Hpol	-4.093			-4.093		
Cross-Pol Alignment (°)***	Vpol	0.225	0.050	0.088	0.087 : 0.363	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.015			-0.123 : 0.153	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

23 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.934	0.0016	0.0030	0.9297	>.92	>.90
	Hpol	0.934			0.9295	>.92	>.90
Beamwidth (°)	Vpol	0.853	0.0030	0.0021	0.8478 : 0.8580	0.75 : 0.9	< 0.9
	Hpol	0.852			0.8473 : 0.8575	0.75 : 0.9	< 0.9
Beam Shape (%)	Vpol	12.280	0.7300	0.2984	13.308	< 15	< 15
	Hpol	12.238			13.267	<15	<15
Beam Cross-Pol (%)***	Vpol	0.026	0.0073	0.0085	0.042	<1.0	<1.0
	Hpol	0.030			0.046	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.447	N/A *	N/A *	48.447	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.448			48.448	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-4.116	N/A *	N/A *	-4.116	N/A	N/A
	Hpol	-4.116			-4.116		
Cross-Pol Alignment (°)***	Vpol	-0.165	0.050	0.088	-0.303 : -0.027	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.205			0.067 : 0.343	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

36 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.986	0.0016	0.0051	0.9789	>.95	>.90
	Hpol	0.985			0.9780	>.95	>.90
Beamwidth (°)	Vpol	0.815	0.0030	0.0065	0.8053 : 0.8243	0.75 : 0.9	< 0.9
	Hpol	0.815			0.8053 : 0.8243	0.75 : 0.9	< 0.9
Beam Shape (%)	Vpol	17.039	0.7300	0.4525	18.221	< 15 ****	< 15 ****
	Hpol	17.085			18.268	<15 ****	<15 ****
Beam Cross-Pol (%)***	Vpol	0.014	0.0073	0.0048	0.026	<1.0	<1.0
	Hpol	0.049			0.061	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.474	N/A *	N/A *	48.474	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.470			48.470	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	2.310	N/A *	N/A *	2.310	N/A	N/A
	Hpol	2.322			2.322		
Cross-Pol Alignment (°)***	Vpol	-0.220	0.050	0.088	-0.358 : -0.082	-0.25 : 0.25	-0.5 : 0.5
	Hpol	0.200			0.062 : 0.338	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan
**** The Non-compliance in 36.6 GHz beam shape is addressed in Waiver GMI-W-013.

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89 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.980	0.0016	0.0105	0.9677	>.95	>.90
	Hpol	0.979			0.9666	>.95	>.90
Beamwidth (°)	Vpol	0.384	0.0030	0.0080	0.3727 : 0.3947	0.373 : 0.4	< 0.4
	Hpol	0.381			0.3704 : 0.3924	0.373 : 0.4	< 0.4
Beam Shape (%)	Vpol	8.449	0.7300	0.8152	9.994	< 15	< 15
	Hpol	8.462			10.008	<15	<15
Beam Cross-Pol (%)***	Vpol	0.023	0.0073	0.0091	0.039	<1.0	<1.0
	Hpol	0.028			0.045	<1.0	<1.0
Off-Nadir Angle (°, SACS-R)	Vpol	48.463	N/A *	N/A *	48.463	48.473 +-0.07 **	48.473 +-0.1
	Hpol	48.462			48.462	48.473 +-0.07 **	48.473 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-0.740	N/A *	N/A *	-0.740	N/A	N/A
	Hpol	-0.732			-0.732		
Cross-Pol Alignment (°)***	Vpol	-0.170	0.050	0.088	-0.308 : -0.032	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.135			-0.273 : 0.003	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** 48.473 is the measured off-nadir angle of channel 7
*** The on-orbit stability includes the variation due to wobble movement over the scan

166 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.977	0.0016	0.0100	0.9650	>.90	>.90
	Hpol	0.979			0.9671	>.90	>.90
Beamwidth (°)	Vpol	0.378	0.0030	0.0011	0.3736 : 0.3818	0.35 : 0.4	< 0.4
	Hpol	0.368			0.3643 : 0.3725	0.35 : 0.4	< 0.4
Beam Shape (%)	Vpol	7.422	0.7300	0.4602	8.612	< 15	< 15
	Hpol	4.806			5.996	<15	<15
Beam Cross-Pol (%)***	Vpol	0.098	0.0073	0.0026	0.108	<2.0	<2.0
	Hpol	0.109			0.119	<2.0	<2.0
Off-Nadir Angle (°, SACS-R)	Vpol	45.282	N/A *	N/A *	45.282	45.333 +-0.07 **	45.333 +-0.1
	Hpol	45.283			45.283	45.333 +-0.07 **	45.333 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-2.325	N/A *	N/A *	-2.325	N/A	N/A
	Hpol	-2.336			-2.336		
Cross-Pol Alignment (°)***	Vpol	0.155	0.050	0.088	0.017 : 0.293	-0.25 : 0.25	-0.5 : 0.5
	Hpol	-0.170			-0.308 : -0.032	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** Derived beam pointing relative to channel 7 measured off-nadir angle: 48.473° -3.14° = 45.333°
*** The on-orbit stability includes the variation due to wobble movement over the scan

183 GHz

		Measured	Measurement Uncertainty (3σ)	On-Orbit Stability (3σ)	Measured, With Uncertainty	ANTS Spec	TRD Spec
Beam Efficiency (frac)	Vpol	0.964	0.0016	0.0100	0.9523	>.90	>.90
Beamwidth (°)	Vpol	0.371	0.0030	0.0011	0.3666 : 0.3748	< 0.4	< 0.4
Beam Shape (%)	Vpol	10.531	0.7300	0.4602	11.721	< 15	< 15
Beam Cross-Pol (%)***	Vpol	0.101	0.0073	0.0026	0.111	<2.0	<2.0
Off-Nadir Angle (°, SACS-R)	Vpol	45.277	N/A *	N/A *	45.277	45.333 +-0.07 **	45.333 +-0.1
Azimuth Angle (°, SACS-R)	Vpol	-0.036	N/A *	N/A *	-0.036	N/A	N/A
Cross-Pol Alignment (°)***	Vpol	-0.240	0.050	0.088	-0.378 : -0.102	-0.25 : 0.25	-0.5 : 0.5

* See BATC Systems Engineering Report 2348578 For Analysis of Beam Pointing Uncertainties
** Derived beam pointing relative to channel 7 measured off-nadir angle: 48.473° -3.14° = 45.333°
*** The on-orbit stability includes the variation due to wobble movement over the scan

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APPENDIX F: Antenna Pattern Correction Coefficients (GROUND-DERIVED)

See appendix Y for updated Antenna Pattern Correction Coefficients for use on-orbit

f [GHz]	10.65	18.7	23.8	36.64	89	166	183.31
a_{vh}	0.00363	0.0028	0.00211	0.00094	0.00119	0.01339	0.01104
a_{hv}	0.00366	0.00292	N/A	0.00094	0.00119	0.01339	N/A
η_v	0.94435	0.93968	0.96601	0.9959	0.9981	1	1
η_h	0.94369	0.94082	N/A	0.9959	0.9981	1	N/A
$1-\eta_v$	0.05565	0.06032	0.03399	0.0041	0.0019	0	0
$1-\eta_h$	0.05631	0.05918	N/A	0.0041	0.0019	0	N/A
λ	N/A	N/A	1.03386	N/A	N/A	N/A	1
ξ	N/A	N/A	0.28259	N/A	N/A	N/A	0
R	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

OBSOLETE

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APPENDIX G: Main Reflector and Cold Sky Reflector Coating Conductivity (MegaSiemens/meter)

Run number	Sample ID	Information	Size	Testing Completed	Notes	Pre T/C Va	Post T/C V	Post T/C x2 Value
Development run								
1003-1223	6BC	Group A	2x2	Control for 10,000 cycles	Unsealed bag	31.6566	32.0942	
1003-1223	5BC	Group A	2x2	Control for 10,000 cycles	Unsealed bag	32.614	32.8677	
1003-1223	10BC	Group 2	2x2	Control for 10,000 cycles	Unsealed bag	32.4438	30.6671	
1003-1224	3BC	Group 3	2x2	Control for 10,000 cycles	Unsealed bag	30.445	30.6317	
1003-1224	7BC	Group 4	2x2	Control for 10,000 cycles	Unsealed bag	28.2234	27.3247	
1003-1224	1A	Group 1	3x3	Control for 10,000 cycles	Unsealed bag	29.9049	29.873	
1003-1223	6A	Group 2	3x3	Control for 10,000 cycles	Unsealed bag	25.7669	29.8598	
1003-1224	13A	Group 3	3x3	Control for 10,000 cycles	Unsealed bag	30.615	29.9025	
1003-1223	15A	Group 4	3x3	Control for 10,000 cycles	Unsealed bag	29.8899	28.4658	29.3197
1003-1223	7A	Group 1	3x3	10,000 cycles	Sealed bag	32.5063	32.7552	
1003-1223	11A	Group 1	3x3	10,000 cycles, life test	Sealed bag	35.1787	33.0812	33.0546
1003-1223	12A	Group 1	3x3	10,000 cycles	Sealed bag	34.0198	30.9649	31.7732
1003-1223	10A	Group 1	3x3	10,000 cycles	Sealed bag	32.5063	33.8249	
1003-1223	16A	Group 2	3x3	10,000 cycles, life test	Sealed bag	27.6805	24.9389	23.8302
1003-1223	19A	Group 2	3x3	10,000 cycles	Sealed bag	31.6793	29.1597	30.3715
1003-1223	20A	Group 2	3x3	10,000 cycles, life test	Sealed bag	26.7236	26.8984	25.9683
1003-1223	24A	Group 2	3x3	10,000 cycles	Sealed bag	28.5841	30.3949	
1003-1223	23A	Group 2	3x3	10,000 cycles	Sealed bag	29.1779	30.6492	
1003-1223	2A	Group 3	3x3	10,000 cycles	Sealed bag	31.778	31.345	
1003-1223 (1224?)	3A	Group 3	3x3	10,000 cycles, life test	Sealed bag	30.2931	31.9051	30.7749
1003-1223 (1224?)	4A	Group 3	3x3	10,000 cycles, life test	Sealed bag	29.4608	29.7056	31.7298
1003-1223	5A	Group 3	3x3	10,000 cycles	Sealed bag	29.149	30.2334	
1003-1223 (1224?)	8A	Group 3	3x3	10,000 cycles	Sealed bag	30.6853	32.5939	30.679
1003-1224	14A	Group 4	3x3	10,000 cycles, life test	Sealed bag	29.2685	28.6295	26.558
1003-1223 (1224?)	17A	Group 4	3x3	10,000 cycles	Sealed bag	29.6439	29.5292	28.0876
1003-1223	18A	Group 4	3x3	10,000 cycles	Sealed bag	30.7364	30.2915	
1003-1223 (1224?)	21A	Group 4	3x3	10,000 cycles, life test	Sealed bag	30.5121	30.9225	31.98

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Cold Sky SN001

1024-2189	C1	Honeycomb lan	4x4		Sealed bags from JDSU	33.7894	34.8472	
1024-2189	C10	Honeycomb lan	2X2		Sealed bags from JDSU	33.7538	34.5039	
1024-2189	C11	Flat laminate	4x4		Sealed bags from JDSU	33.8378	34.4489	34.256
1024-2189	C12	Flat lam	2X2		Sealed bags from JDSU	32.4877	34.2189	34.2041
1024-2189	C13	Honeycomb lan	4x4	Life test (10,000 removal)	Sealed bags from JDSU	34.0228	34.5053	35.099
1024-2189	C14	Honeycomb lan	2X2	Life test (20000 removal)	Sealed bags from JDSU	34.1999	34.0456	34.3252
1024-2189	C15	Flat laminate	4x4		Sealed bags from JDSU	33.9236	33.9337	34.3026
1024-2189	C2	Honeycomb lan	2X2		Sealed bags from JDSU	33.0839	33.5617	33.6828
1024-2189	C3	Flat laminate	4x4	Life test	Sealed bags from JDSU	33.859	34.618	34.5363
1024-2189	C4	Honeycomb lan	2X2	Life test	Sealed bags from JDSU	33.916	34.27	34.4629
1024-2189	C5	Honeycomb lan	4x4	Life test	Sealed bags from JDSU	34.308	34.8127	35.3272
1024-2189	C6	Honeycomb lan	2X2		Sealed bags from JDSU	33.7124	33.7278	
1024-2189	C8	Honeycomb lan	2X2	Life test	Sealed bags from JDSU	33.9403	34.5284	34.4827
1024-2189	C9	Honeycomb lan	4x4		Sealed bags from JDSU	33.8482	33.758	34.3005

Cold sky SN002

All coupons in ziplock with desicant

1024-2195	1	Flat laminate	4x4	Life test	unsealed bags from JD	34.3008	34.4061	35.3905
1024-2195	2	Flat laminate	2x2		unsealed bags from JD	34.7762	34.0361	
1024-2195	3	Flat laminate	4x4		unsealed bags from JD	34.2887	34.7809	
1024-2195	4	Flat laminate	2x2	Life test (10000 removal)	unsealed bags from JD	34.0378	33.4194	32.4088
1024-2195	5	Flat laminate	4x4		unsealed bags from JD	33.9347	33.423	
1024-2195	6	Flat laminate	2x2		unsealed bags from JD	33.4699	32.6186	
1024-2195	7	Honeycomb lan	4x4		unsealed bags from JD	34.3934	34.4889	34.5408
1024-2195	8	Flat laminate	2x2		unsealed bags from JD	33.0465	32.4494	34.294
1024-2195	9	Flat laminate	4x4	Life test (20,000 removal)	unsealed bags from JD	34.2409	32.7784	34.1832
1024-2195	10	Flat laminate	2x2	Life test	unsealed bags from JD	33.4892	32.7067	33.5911
1024-2195	11	Flat laminate	4x4		unsealed bags from JD	33.9049	33.9688	33.7741
1024-2195	12	Flat laminate	2x2		unsealed bags from JD	33.1474	32.9011	
1024-2195	13	Honeycomb lan	4x4	Life test	unsealed bags from JD	32.9825	33.0511	33.3312
1024-2195	14	Flat laminate	2x2	Life test	unsealed bags from JD	32.3172	31.337	32.29
1024-2195	15	Flat laminate	4x4	Life test	unsealed bags from JD	33.6395	34.1644	34.2587
1024-2195	16	Flat laminate	2x2		unsealed bags from JD	33.4867	32.6385	

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Main reflector SN002

1024-2199	1	Flat laminate	4X4		Sealed bags from JDSU	34.1754	34.2739	34.823
1024-2199	2		2X2		Sealed bags from JDSU	32.9243	32.1383	
1024-2199	3	Flat laminate	4X4	Life test (10000 removal)	Sealed bags from JDSU	34.6064	34.1627	34.7489
1024-2199	4	Flat laminate	2X2		Sealed bags from JDSU	32.2605	30.6943	33.6639
1024-2199	5	Flat laminate	4X4		Sealed bags from JDSU	34.7412	33.2371	34.3715
1024-2199	6	Flat laminate	2X2	Life test (20,000 removal)	Sealed bags from JDSU	32.474	33.3353	34.2776
1024-2199	7	Flat laminate	4X4	Life test	Sealed bags from JDSU	33.3561	34.0284	35.3398
1024-2199	8		2X2		Sealed bags from JDSU	32.455	32.6201	
1024-2199	9		4X4		Sealed bags from JDSU	33.7784	33.1262	
1024-2199	10	Flat laminate	2X2	Life test	Sealed bags from JDSU	31.0374	30.666	31.4216
1024-2199	11		4X4		Sealed bags from JDSU	31.7838	32.6812	
1024-2199	12	Flat laminate	2X2		Sealed bags from JDSU	30.6946	31.4563	31.9119
1024-2199	13	Flat laminate	4X4	Life test	Sealed bags from JDSU	31.629	31.3267	32.6075
1024-2199	14	Flat laminate	2X2	Life test	Sealed bags from JDSU	29.5096	31.929	32.1441
1024-2199	15	Flat laminate	4X4		Sealed bags from JDSU	32.5192	32.5333	32.8571
1024-2199	16		2X2		Sealed bags from JDSU	33.4677	33.6581	

Main reflector SN001 recoat

1024-2225	1		4x4	Life test (20,000 removal)	Sealed bags from JDSU	33.6859	34.1601	33.1454
1024-2225	3		4x4		Sealed bags from JDSU	34.2238	33.5343	33.7325
1024-2225	5		4x4	Life test	Sealed bags from JDSU	33.44	33.75	34.7094
1024-2225	7	Flat laminate	4x4	Life test (10000 removal)	Sealed bags from JDSU	30.7861	30.3042	33.3461
1024-2225	9		4x4		Sealed bags from JDSU	28.5842	28.6837	
1024-2225	11		4x4		Sealed bags from JDSU	32.2084	32.0032	31.5664
1024-2225	13		4x4	Life test	Sealed bags from JDSU	31.0519	32.226	32.0721
1024-2225	15		4x4		Sealed bags from JDSU	31.0483	32.0492	

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APPENDIX H: IFOVs (3dB contours, projected to the earth in Local footprint coordinates)

407 km circular orbit - Local footprint coordinates (km)

10 GHz Vpol		10 GHz Hpol		18 GHz Vpol		18 GHz Hpol		23 GHz Vpol		36 GHz Vpol		36 GHz Hpol		89 GHz Vpol		89 GHz Hpol		166 GHz Vpol		166 GHz Hpol		183 GHz Vpol	
Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)
-2.2972	-9.5543	-2.6343	-9.3274	-1.7165	-5.3521	-0.4464	-5.3746	-0.3043	-4.7349	0.3343	4.6190	0.2684	4.5220	-0.7584	-1.9687	-0.4130	-2.0055	-0.6497	-2.0356	-0.1867	-1.9534	-0.8622	-2.1056
-2.4315	-9.5379	-2.9323	-9.2852	-1.7670	-5.3447	-0.5367	-5.3711	-0.4355	-4.7174	-0.0074	4.5597	0.2283	4.5176	-0.9184	-1.9366	-0.4130	-2.0046	-0.7605	-2.0131	-0.1867	-1.9524	-0.9520	-2.0843
-2.8336	-9.4792	-3.3374	-9.2243	-2.1514	-5.2824	-0.9188	-5.3407	-0.8200	-4.6542	-0.3897	4.4839	-0.1435	4.4546	-1.2890	-1.8179	-0.7930	-1.9276	-0.9285	-1.9758	-0.3472	-1.9350	-1.1117	-2.0394
-3.2394	-9.4144	-3.7337	-9.1557	-2.5365	-5.2112	-1.3015	-5.3014	-1.1954	-4.5783	-0.7624	4.3968	-0.5257	4.3819	-1.5397	-1.7147	-1.1634	-1.8251	-1.0901	-1.9305	-0.5079	-1.9117	-1.2315	-1.9978
-3.6360	-9.3439	-4.1387	-9.0803	-2.9299	-5.1289	-1.6925	-5.2520	-1.5818	-4.4902	-0.9312	4.3552	-0.8983	4.2978	-1.6701	-1.6569	-1.3738	-1.7504	-1.0903	-1.9275	-0.6689	-1.8833	-1.2715	-1.9833
-4.0026	-9.2712	-4.3166	-9.0460	-3.0928	-5.0876	-2.0767	-5.1937	-1.6607	-4.4704	-1.1431	4.2986	-1.0571	4.2579	-2.0492	-1.4658	-1.5442	-1.6854	-1.2422	-1.8767	-0.8368	-1.8490	-1.4312	-1.9145
-4.0415	-9.2655	-4.5368	-9.0009	-3.3066	-5.0340	-2.4515	-5.1257	-1.9765	-4.3901	-1.5167	4.1875	-1.2789	4.2018	-2.0592	-1.4622	-1.9231	-1.5131	-1.3843	-1.8206	-0.8570	-1.8438	-1.4811	-1.8909
-4.4405	-9.1812	-4.9363	-8.9136	-3.6843	-4.9271	-2.5731	-5.1025	-2.3546	-4.2774	-1.7998	4.0968	-1.6524	4.0947	-2.4213	-1.2380	-1.9532	-1.4977	-1.4046	-1.8114	-0.9983	-1.8076	-1.5910	-1.8275
-4.8407	-9.0900	-5.3370	-8.8194	-3.9914	-4.8281	-2.8447	-5.0465	-2.5592	-4.2131	-1.8909	4.0654	-1.9556	3.9999	-2.4616	-1.2104	-2.2948	-1.3085	-1.5679	-1.7281	-1.1600	-1.7603	-1.6609	-1.7843
-5.2002	-8.9998	-5.5139	-8.7756	-4.0630	-4.8052	-3.2211	-4.9565	-2.7336	-4.1526	-2.2730	3.9303	-2.0264	3.9757	-2.7940	-0.9649	-2.3954	-1.2457	-1.5884	-1.7140	-1.2209	-1.7358	-1.7507	-1.7213
-5.2320	-8.9911	-5.7363	-8.7176	-4.4504	-4.6684	-3.6083	-4.8553	-3.1209	-4.0159	-2.5062	3.8396	-2.4085	3.8447	-2.8040	-0.9592	-2.6671	-1.0641	-1.7217	-1.6314	-1.3222	-1.7020	-1.8107	-1.6779
-5.6422	-8.8852	-6.1296	-8.6079	-4.6971	-4.5741	-3.6493	-4.8413	-3.2751	-3.9580	-2.6482	3.7822	-2.6720	3.7432	-3.0767	-0.7085	-2.7678	-0.9947	-1.7626	-1.6071	-1.4749	-1.6312	-1.9105	-1.5917
-6.0361	-8.7716	-6.4701	-8.5105	-4.8313	-4.5156	-3.9867	-4.7384	-3.5018	-3.8652	-3.0239	3.6202	-2.7835	3.7007	-3.1754	-0.6070	-3.0477	-0.7606	-1.8861	-1.5192	-1.4849	-1.6297	-1.9405	-1.5718
-6.1537	-8.7350	-6.5240	-8.4914	-5.2134	-4.3479	-4.3735	-4.6086	-3.8835	-3.7036	-3.0951	3.5850	-3.1591	3.5417	-3.3070	-0.4583	-3.0679	-0.7439	-1.9068	-1.5010	-1.6380	-1.5499	-2.0404	-1.4657
-6.4316	-8.6491	-6.9272	-8.3669	-5.2654	-4.3196	-4.4352	-4.5850	-3.8837	-3.7006	-3.3903	3.4417	-3.2710	3.4881	-3.4501	-0.2082	-3.3106	-0.4936	-2.0310	-1.3951	-1.6891	-1.5230	-2.0704	-1.4320
-6.8355	-8.5207	-7.2816	-8.2475	-5.5945	-4.1585	-4.7539	-4.4638	-4.2669	-3.5170	-3.6218	3.3306	-3.5253	3.3683	-3.5033	0.0417	-3.4226	-0.3258	-2.0414	-1.3865	-1.8016	-1.4576	-2.1403	-1.3597
-6.9653	-8.4721	-7.3243	-8.2346	-5.7611	-4.0673	-5.0634	-4.3309	-4.3992	-3.4509	-3.7746	3.2507	-3.8077	3.2342	-3.5067	0.2917	-3.4736	-0.2435	-2.1453	-1.2887	-1.8632	-1.4172	-2.2203	-1.2538
-7.2238	-8.3808	-7.7128	-8.0936	-5.9695	-3.9501	-5.1254	-4.3033	-4.6491	-3.3147	-4.0909	3.0782	-3.9096	3.1823	-3.4702	0.5416	-3.5667	0.0062	-2.2077	-1.2273	-1.9559	-1.3489	-2.2370	-1.2313
-7.6233	-8.2347	-7.9940	-7.9880	-6.1991	-3.8164	-5.5157	-4.1256	-4.8574	-3.1996	-4.1421	3.0452	-4.2769	2.9819	-3.3839	0.7917	-3.5800	0.2561	-2.2395	-1.1826	-2.0075	-1.3101	-2.2969	-1.1480
-7.6675	-8.2129	-8.1126	-7.9455	-6.3463	-3.7169	-5.6091	-4.0782	-5.0353	-3.0902	-4.5101	2.8258	-4.2869	2.9813	-3.2377	1.0421	-3.5535	0.5060	-2.3338	-1.0774	-2.1209	-1.2237	-2.3570	-1.0423
-8.0146	-8.0770	-8.5118	-7.7859	-6.5672	-3.5655	-5.8899	-3.9282	-5.2555	-2.9489	-4.5202	2.8242	-4.6547	2.7670	-3.1789	1.1223	-3.4771	0.7559	-2.3723	-1.0327	-2.1416	-1.2045	-2.3970	-0.9602
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-8.4150	-7.9105	-8.9050	-7.6173	-6.9126	-3.3163	-6.2658	-3.7069	-5.6136	-2.6983	-4.9069	2.5742	-5.0308	2.5346	-2.7975	1.4894	-3.3508	1.0061	-2.4791	-0.8650	-2.2836	-1.0720	-2.4570	-0.8309
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-9.1965	-7.5432	-9.6947	-7.2460	-7.4785	-2.8181	-6.8407	-3.3260	-6.1731	-2.2563	-5.5955	2.0724	-5.4823	2.2265	-2.2531	1.7959	-2.8914	1.5074	-2.5976	-0.6547	-2.4413	-0.8804	-2.5572	-0.5142
-9.3854	-7.4449	-9.7392	-7.2223	-7.4891	-2.8098	-7.0312	-3.1804	-6.2373	-2.1988	-5.6366	2.0430	-5.7704	2.0090	-2.0548	1.8784	-2.6739	1.6497	-2.6419	-0.5484	-2.5053	-0.7810	-2.5572	-0.5093
-9.5927	-7.3424	-10.0840	-7.0433	-7.7064	-2.5699	-7.1587	-3.0764	-6.5052	-1.9507	-5.9049	1.8226	-5.8117	1.9756	-1.6701	2.0082	-2.4759	1.7591	-2.6862	-0.4432	-2.5696	-0.6755	-2.5773	-0.4086
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-15.3210	-0.7964	-15.6960	-0.5795	-5.2412	4.6115	-6.2741	4.0177	-3.8935	4.7009	-3.7910	-4.6670	-4.2910	-4.5916	-0.1612	-2.0589	1.1090	-2.0851	-0.2727	2.1287	-0.6698	2.0060	0.0169	2.1980
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-15.4790	0.4174	-15.8240	0.8758	-3.7510	5.1234	-5.0591	4.6018	-1.9825	4.9240	-1.9038	-4.7681	-2.0369	-4.7519					0.4716	1.9995	0.2990	2.0021	0.8319	2.0823
-15.4900	0.6590	-15.8150	1.1178	-3.6922	5.1407	-4.7576	4.7190	-1.5855	4.9294	-1.5236	-4.7453	-1.6667	-4.7288					0.5322	1.9830	0.4299	1.9766	0.9916	2.0390
-15.4810	0.9030	-15.7860	1.3623	-3.3090	5.2327	-4.3772	4.8499	-1.2049	4.9210	-1.1530	-4.7111	-1.2861	-4.6951					0.7007	1.9326	0.4600	1.9728	1.0016	2.0356
-15.4720	1.1450	-15.7570	1.6047	-2.9249	5.3138	-4.3477	4.8570	-0.8237	4.9027	-1.0127	-4.6948	-0.9076	-4.6500					0.8022	1.8938	0.6213	1.9355	1.1513	1.9856
-15.4530	1.3868	-15.7180	1.8470	-2.5425	5.3831	-3.9880	4.9638	-0.4318	4.8752	-0.7645	-4.6654	-0.5261	-4.5943					0.8629	1.8753	0.7896	1.8911	1.2911	1.9304
-15.4290	1.5431	-15.6690	2.0899	-2.5227	5.3856	-3.6054	5.0658	-0.0415	4.8360	-0.3929	-4.6082	-0.2548	-4.5482					1.0153	1.8126	0.8503	1.8726	1.3111	1.9239
-15.4140	1.6320	-15.6090	2.3325	-2.1568	5.4413	-3.3991	5.1159	0.2411	4.8004	-0.0110	-4.5405	-0.1443	-4.5287					1.0762	1.7891	0.9515	1.8398	1.4708	1.8517
-15.3750	1.8742	-15.5300	2.5766	-1.7703	5.4884	-3.2319	5.1541	0.3420	4.7867	0.3614	-4.4623	0.2281	-4.4526					1.1778	1.7453	1.1037	1.7821	1.5307	1.8250
-15.3250	2.1171	-15.5300	2.5776	-1.3855	5.5249	-2.8476	5.2322	0.7363	4.7273	0.3915	-4.4565	0.6183	-4.3649					1.3202	1.6831	1.1443	1.7667	1.6405	1.7679
-15.2660	2.3598	-15.4500	2.8197	-0.9973	5.5491	-2.4550	5.2993	1.1288	4.6571	0.7517	-4.3716	0.8402	-4.3058					1.3406	1.6740	1.2662	1.7167	1.7204	1.7192
-15.1960	2.6022	-15.3600	3.0625	-0.6183	5.5616	-2.0792	5.3557	1.5148	4.5740	1.1251	-4.2685	0.9915	-4.2659					1.5035	1.5977	1.3983	1.6622	1.8003	1.6701
-15.1170	2.8462	-15.2500	3.3067	-0.2287	5.5668	-1.8711	5.3818	1.5657	4.5617	1.3169	-4.2121	1.3751	-4.1572					1.5443	1.5774	1.4289	1.6444	1.8802	1.6132
-15.0460	3.0248	-15.1550	3.5160	0.1592	5.5604	-1.6927	5.4028	1.9017	4.4769	1.5088	-4.1548	1.6783	-4.0614					1.6667	1.5144	1.5919	1.5671	1.9601	1.5549
-15.0270	3.0891	-15.1400	3.5490	0.5502	5.5447	-1.2979	5.4400	2.2896	4.3678	1.9006	-4.0301	1.7567	-4.0372					1.7484	1.4717	1.6124	1.5560	2.0200	1.5071
-14.9270	3.3326	-15.0100	3.7927	0.9320	5.5193	-0.9197	5.4635	2.4607	4.3176	2.0728	-3.9659	2.1412	-3.9066					1.8303	1.4231	1.7552	1.4818	2.1199	1.4160
-14.8000	3.5775	-14.8620	4.0371	1.3318	5.4857	-0.5308	5.4777	2.6859	4.2458	2.2753	-3.8920	2.3844	-3.8133					1.9225	1.3659	1.8065	1.4499	2.1399	1.4008
-14.6800	3.8215	-14.7660	4.1865	1.7150	5.4404	-0.1512	5.4822	3.0755	4.1118	2.6604	-3.7443	2.5161	-3.7636					1.9943	1.3208	1.9189	1.3875	2.2398	1.2944
-14.6550	3.8562	-14.7020	4.2819	1.7655	5.4340	0.2465	5.4785	3.1785	4.0712	2.7214	-3.7177	2.9015	-3.6110					2.0767	1.2592	1.9906	1.3445	2.2964	1.2385
-14.5390	4.0659	-14.5310	4.5275	2.0992	5.3821	0.6274	5.4651	3.4663	3.9629	3.0361	-3.5822	3.0031	-3.5650					2.1655	1.2066	2.0830	1.2832	2.3264	1.1879
-14.3890	4.3110	-14.3740	4.7312	2.4941	5.3125	1.0188	5.4434	3.8138	3.8243	3.2977	-3.4683	3.2849	-3.4450					2.2276	1.1531	2.1448	1.2378	2.4064	1.0814
-14.2770	4.4846	-14.3510	4.7717	2.8874	5.2313	1.3282	5.4172	3.8655	3.8010	3.4298	-3.4085	3.5695	-3.3153					2.3208	1.0739	2.2444	1.1645	2.4564	0.9970
-14.2290	4.5549	-14.1500	5.0174	3.0399	5.1962	1.4086	5.4110	4.2585	3.6201	3.8065	-3.2215	3.6712	-3.2684					2.3519	1.0462	2.2957	1.1316	2.4664	0.9747
-14.0490	4.8011	-13.9980	5.1909	3.2741	5.1381	1.8015	5.3694	4.3517	3.5758	3.8166	-3.2179	4.0579	-3.0828					2.4661	0.9398	2.4097	1.0293	2.5164	0.8681
-13.8910	5.0049	-13.9290	5.2636	3.6716	5.0326	2.1853	5.3161	4.6429	3.4205	4.1936	-3.0248	4.0885	-3.0650					2.4871	0.9167	2.4199	1.0257	2.5664	0.7613
-13.8580	5.0462	-13.6980	5.5095	3.9349	4.9520	2.5700	5.2508	4.8198	3.3252	4.2957	-2.9669	4.4426	-2.8848					2.5604	0.8336	2.5241	0.9189	2.6065	0.6546
-13.6470	5.2926	-13.6110	5.5925	4.0677	4.9135	2.9223	5.1836	5.0464	3.1998	4.5787	-2.8148	4.5752	-2.8131					2.6447	0.7270	2.5765	0.8601	2.6165	0.6264
-13.5030	5.4545	-13.4300	5.7575	4.4573	4.7794	2.9728	5.1752	5.2554	3.0747	4.7523	-2.7157	4.8303	-2.6723					2.6451	0.7161	2.6184	0.8118	2.6366	0.5478
-13.4190	5.5387	-13.2200	5.9519	4.6525	4.7063	3.3591	5.0870	5.4342	2.9534	4.9670	-2.5872	5.0144	-2.5616					2.7090	0.6206	2.6928	0.7048	2.6666	0.4410
-13.1780	5.7853	-13.1590	6.0042	4.8480	4.6293	3.7462	4.9878	5.6337	2.8225	5.1616	-2.4629	5.2088	-2.4433					2.7634	0.5138	2.7356	0.6345	2.6867	0.3342

635 km circular orbit - Local footprint coordinates (km)

10 GHz Vpol		10 GHz Hpol		18 GHz Vpol		18 GHz Hpol		23 GHz Vpol		36 GHz Vpol		36 GHz Hpol		89 GHz Vpol		89 GHz Hpol		166 GHz Vpol		166 GHz Hpol		183 GHz Vpol	
Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)	Radial	Axial (Scan)
-3.9686	-15.3160	-4.5345	-14.9490	-2.9436	-8.5793	-0.7785	-8.6178	-0.5213	-7.5907	0.5675	7.4059	0.4568	7.2506	-1.3005	-3.1568	-0.6973	-3.2148	-1.0854	-3.2433	-0.3089	-3.1116	-1.4272	-3.3546
-4.1956	-15.2840	-5.0512	-14.8850	-3.0241	-8.5672	-0.9183	-8.6109	-0.7423	-7.5617	-0.0224	7.3106	0.3749	7.2434	-1.5692	-3.1044	-0.7072	-3.2139	-1.2759	-3.2082	-0.3188	-3.1110	-1.5970	-3.3206
-4.8773	-15.1970	-5.7363	-14.7780	-3.6902	-8.4685	-1.5808	-8.5622	-1.3987	-7.4606	-0.6752	7.1893	-0.2551	7.1429	-2.2193	-2.9142	-1.3563	-3.0906	-1.5372	-3.1471	-0.5787	-3.0828	-1.8655	-3.2490
-5.5721	-15.0920	-6.4092	-14.6710	-4.3476	-8.3522	-2.2444	-8.4984	-2.0664	-7.3402	-1.3187	7.0496	-0.9076	7.0257	-2.6285	-2.7488	-2.0060	-2.9263	-1.8194	-3.0763	-0.8595	-3.0470	-2.0645	-3.1828
-6.2467	-14.9760	-7.0959	-14.5550	-5.0062	-8.2200	-2.8871	-8.4190	-2.7258	-7.1972	-1.5896	6.9824	-1.5510	6.8901	-2.8482	-2.6558	-2.3451	-2.8060	-1.8296	-3.0707	-1.1202	-3.0008	-2.1341	-3.1596
-6.8828	-14.8610	-7.4102	-14.4960	-5.2897	-8.1535	-3.5529	-8.3254	-2.8474	-7.1670	-1.9729	6.8913	-1.8118	6.8266	-3.4899	-2.3494	-2.6345	-2.7019	-2.0817	-2.9902	-1.3911	-2.9461	-2.3928	-3.0500
-6.9253	-14.8480	-7.7860	-14.4190	-5.6563	-8.0671	-4.2098	-8.2160	-3.3745	-7.0362	-2.6058	6.7136	-2.2051	6.7359	-3.4999	-2.3436	-3.2757	-2.4255	-2.3143	-2.9008	-1.4214	-2.9373	-2.4830	-3.0122
-7.6154	-14.7120	-8.4663	-14.2810	-6.3056	-7.8959	-4.4017	-8.1769	-4.0266	-6.8565	-3.0906	6.5666	-2.8378	6.5634	-4.1323	-1.9840	-3.3257	-2.4001	-2.3448	-2.8851	-1.6632	-2.8799	-2.6721	-2.9114
-8.2974	-14.5650	-9.1482	-14.1340	-6.8366	-7.7383	-4.8680	-8.0888	-4.3746	-6.7518	-3.2516	6.5170	-3.3528	6.4106	-4.2024	-1.9400	-3.9276	-2.0972	-2.6090	-2.7539	-1.9351	-2.8041	-2.7815	-2.8424
-8.9288	-14.4180	-9.4424	-14.0630	-6.9588	-7.7001	-5.5176	-7.9428	-4.6901	-6.6566	-3.8882	6.3000	-3.4834	6.3729	-4.7758	-1.5467	-4.0977	-1.9965	-2.6604	-2.7296	-2.0461	-2.7667	-2.9308	-2.7421
-8.9811	-14.4070	-9.8215	-13.9660	-7.6038	-7.4806	-6.1662	-7.7816	-5.3450	-6.4370	-4.2814	6.1547	-4.1199	6.1620	-4.7958	-1.5379	-4.5704	-1.7058	-2.8847	-2.5999	-2.1976	-2.7120	-3.0303	-2.6729
-9.6446	-14.2380	-10.4990	-13.7870	-8.0129	-7.3280	-6.2375	-7.7587	-5.6007	-6.3425	-4.5356	6.0633	-4.5855	5.9992	-5.2579	-1.1353	-4.7307	-1.5939	-2.9460	-2.5604	-2.4610	-2.5998	-3.1996	-2.5357
-10.3330	-14.0510	-11.0810	-13.6330	-8.2604	-7.2369	-6.8188	-7.5938	-6.0017	-6.1945	-5.1740	5.8013	-4.7671	5.9305	-5.4090	-0.9723	-5.1924	-1.2192	-3.1509	-2.4198	-2.4711	-2.5962	-3.2394	-2.5038
-10.5340	-13.9950	-11.1780	-13.5990	-8.8970	-6.9656	-7.4729	-7.3860	-6.6276	-5.9346	-5.3054	5.7456	-5.4053	5.6756	-5.6427	-0.7343	-5.2446	-1.1928	-3.1918	-2.3915	-2.7456	-2.4701	-3.4192	-2.3348
-11.0140	-13.8530	-11.8580	-13.4000	-9.0118	-6.9219	-7.5752	-7.3473	-6.6379	-5.9293	-5.8013	5.5164	-5.6074	5.5897	-5.8765	-0.3335	-5.6372	-0.7911	-3.3979	-2.2219	-2.8171	-2.4261	-3.4790	-2.2812
-11.6850	-13.6520	-12.4670	-13.2090	-9.5479	-6.6633	-8.1189	-7.1515	-7.2982	-5.6369	-6.1880	5.3383	-6.0422	5.3991	-5.9713	0.0672	-5.8393	-0.5218	-3.4183	-2.2088	-3.0105	-2.3210	-3.5786	-2.1660
-11.9200	-13.5710	-12.5310	-13.1900	-9.8492	-6.5170	-8.6616	-6.9395	-7.5149	-5.5305	-6.4514	5.2098	-6.5099	5.1834	-5.9767	0.4677	-5.9305	-0.3901	-3.5839	-2.0535	-3.1127	-2.2572	-3.7180	-1.9973
-12.3610	-13.4230	-13.1950	-12.9600	-10.2010	-6.3281	-8.7643	-6.8958	-7.9508	-5.3119	-6.9911	4.9328	-6.6822	5.1003	-5.9126	0.8683	-6.0869	0.0100	-3.6882	-1.9543	-3.2664	-2.1495	-3.7379	-1.9615
-13.0240	-13.1930	-13.6780	-12.7980	-10.5750	-6.1138	-9.4141	-6.6095	-8.2828	-5.1257	-7.0826	4.8795	-7.3230	4.7795	-5.7691	1.2691	-6.1221	0.4105	-3.7608	-1.8843	-3.3585	-2.0873	-3.8276	-1.8288
-13.1330	-13.1590	-13.8720	-12.7200	-10.8470	-5.9553	-9.5688	-6.5336	-8.5961	-4.9513	-7.7246	4.5275	-7.3231	4.7775	-5.5363	1.6702	-6.0558	0.8110	-3.8971	-1.7158	-3.5440	-1.9495	-3.9372	-1.6603
-13.7050	-12.9330	-14.5510	-12.4710	-11.2230	-5.7121	-10.0660	-6.2933	-8.9708	-4.7241	-7.7247	4.5245	-7.9549	4.4333	-5.4167	1.7990	-5.9322	1.2116	-3.9598	-1.6444	-3.5851	-1.9181	-4.0070	-1.5295
-14.1930	-12.7420	-14.7670	-12.3860	-11.4970	-5.5327	-10.3660	-6.1307	-9.2419	-4.5534	-8.3559	4.1416	-8.0666	4.3727	-5.1722	2.0720	-5.8353	1.3879	-4.0334	-1.5474	-3.7712	-1.7497	-4.0269	-1.4919
-14.3770	-12.6720	-15.2240	-12.2000	-11.8010	-5.3123	-10.7110	-5.9394	-9.5892	-4.3223	-8.3764	4.1244	-8.5857	4.0615	-4.7794	2.3875	-5.7192	1.6125	-4.1399	-1.3787	-3.8127	-1.7084	-4.0967	-1.3236
-15.0530	-12.3820	-15.7460	-11.9760	-12.1290	-5.0534	-11.0640	-5.7286	-9.8931	-4.1110	-8.9905	3.7264	-8.7405	3.9692	-4.6614	2.4747	-5.3969	2.0140	-4.2248	-1.2501	-3.9274	-1.5811	-4.1665	-1.1553
-15.1720	-12.3310	-15.8910	-11.9070	-12.3100	-4.9124	-11.3580	-5.5427	-10.1580	-3.9230	-9.0006	3.7218	-9.2199	3.6573	-4.1368	2.7444	-5.1986	2.1917	-4.2463	-1.2110	-4.0736	-1.4130	-4.2165	-0.9872
-15.7210	-12.0790	-16.5570	-11.6070	-12.7570	-4.5139	-11.6720	-5.3280	-10.5380	-3.6150	-9.5651	3.3197	-9.3527	3.5666	-3.8408	2.8790	-4.9336	2.4162	-4.3329	-1.0424	-4.0741	-1.4030	-4.2664	-0.8189
-16.0500	-11.9230	-16.6460	-11.5700	-12.7780	-4.5004	-11.9980	-5.0950	-10.6440	-3.5225	-9.6266	3.2721	-9.8555	3.2182	-3.4929	3.0112	-4.5694	2.6445	-4.4095	-0.8735	-4.1900	-1.2447	-4.2664	-0.8112
-16.3800	-11.7570	-17.2200	-11.2730	-13.1660	-4.1167	-12.2210	-4.9280	-11.1130	-3.1248	-10.0780	2.9190	-9.9371	3.1655	-2.8483	3.2194	-4.2320	2.8197	-4.4762	-0.7051	-4.2965	-1.0760	-4.3064	-0.6508
-16.8570	-11.5130	-17.4630	-11.1610	-13.4250	-3.8319	-12.6440	-4.5819	-11.1880	-3.0501	-10.2650	2.7719	-10.4620	2.7649	-2.6010	3.2858	-3.9260	2.9496	-4.4869	-0.6865	-4.3398	-0.9918	-4.3371	-0.4827
-17.0550	-11.4160	-17.8950	-10.9320	-13.5130	-3.7190	-12.6970	-4.5296	-11.5100	-2.7258	-10.5530	2.5183	-10.4930	2.7361	-2.2151	3.3797	-3.2816	3.1748	-4.5435	-0.5373	-4.3831	-0.9075	-4.3572	-0.3147
-17.6120	-11.1150	-18.2170	-10.7540	-13.8200	-3.3233	-13.1260	-4.1319	-11.8360	-2.3808	-10.8830	2.2103	-10.9350	2.3647	-1.5687	3.4536	-3.1036	3.2258	-4.5902	-0.3691	-4.4703	-0.7395	-4.3773	-0.1466
-17.7240	-11.0530	-18.5630	-10.5690	-14.0650	-2.9894	-13.2870	-3.9702	-11.8790	-2.3289	-10.9980	2.1194	-11.1210	2.1921	-0.9212	3.4518	-2.6365	3.3487	-4.6270	-0.2015	-4.5269	-0.5717	-4.3776	0.0215
-18.3090	-10.7060	-18.9220	-10.3570	-14.1090	-2.9275	-13.5030	-3.7353	-12.1970	-1.9320	-11.3810	1.7195	-11.3800	1.9659	-0.2732	3.4117	-2.0026	3.4622	-4.6538	-0.0335	-4.5737	-0.4035	-4.3778	0.1896
-18.3870	-10.6590	-19.2270	-10.1740	-14.3370	-2.5310	-13.8300	-3.3391	-12.4740	-1.5453	-11.5270	1.5662	-11.7530	1.5787	0.3632	3.3353	-1.3556	3.4917	-4.6707	0.1350	-4.6005	-0.2355	-4.3581	0.3577
-18.9410	-10.3080	-19.5770	-9.9510	-14.5440	-2.1361	-13.9310	-3.2152	-12.4740	-1.5353	-11.7350	1.3214	-11.7740	1.5665	0.5843	3.2994	-0.7080	3.4837	-4.6677	0.3032	-4.6145	-0.1360	-4.3384	0.5258
-19.0550	-10.2450	-19.8840	-9.7505	-14.6980	-1.7934	-14.1200	-2.9423	-12.7440	-1.1391	-12.0710	0.9232	-12.1390	1.1685	1.0122	3.2211	-0.0600	3.4430	-4.6647	0.4715	-4.6174	-0.0671	-4.2982	0.6939
-19.5460	-9.9036	-20.1820	-9.5465	-14.7220	-1.7410	-14.3770	-2.5470	-12.9620	-0.7440	-12.1550	0.7955	-12.3910	0.8474	1.6617	3.0679	0.5763	3.3699	-4.6517	0.6392	-4.6243	0.1008	-4.2685	0.8272
-19.7160	-9.7911	-20.5480	-9.2953	-14.8720	-1.3460	-14.5610	-2.2085	-13.1150	-0.4053	-12.3450	0.5259	-12.4530	0.7699	2.2320	2.9016	1.2252	3.2648	-4.6288	0.8073	-4.6213	0.2691	-4.2586	0.8621
-20.1090	-9.5121	-20.7430	-9.1566	-14.9800	-0.9519	-14.5950	-2.1518	-13.1490	-0.3476	-12.5990	0.1278	-12.7370	0.3720	2.3217	2.8747	1.3248	3.2443	-4.5859	0.9752	-4.6145	0.3474	-4.2091	1.0302
-20.3760	-9.3047	-21.2170	-8.8106	-15.0580	-0.5575	-14.7840	-1.7567	-13.3070	0.0479	-12.7940	-0.2231	-12.9940	-0.0254	2.9725	2.6316	1.8845	3.1219	-4.5126	1.1430	-4.6083	0.4368	-4.1398	1.1985
-20.6300	-9.1154	-21.2870	-8.7518	-15.1070	-0.1630	-14.9420	-1.3622	-13.4260	0.4433	-12.8160	-0.2693	-13.0260	-0.0932	3.2721	2.5001	2.5344	2.9428	-4.4853	1.2052	-4.5754	0.6053	-4.0704	1.3668
-21.0400	-8.7888	-21.7890	-8.3599	-15.1250	0.2317	-15.0600	-0.9677	-13.5160	0.8386	-12.9900	-0.6666	-13.1980	-0.4225	3.6119	2.3361	2.8236	2.8456	-4.4399	1.3112	-4.5326	0.7732	-4.0009	1.4974
-21.1330	-8.7137	-21.8830	-8.2848	-15.1230	0.6248	-15.1380	-0.5734	-13.5640	1.2341	-13.1250	-1.0635	-13.3730	-0.8197	4.0640	2.0969	3.1849	2.7133	-4.3473	1.4802	-4.4797	0.9405	-3.9811	1.5351
-21.5960	-8.3150	-22.2500	-7.9629	-15.0820	1.0199	-15.1960	-0.1796	-13.5830	1.6288	-13.2210	-1.4600	-13.4980	-1.2160	4.2642	1.9727	3.7643	2.4434	-4.2448	1.6486	-4.4070	1.1087	-3.8819	1.7035
-21.7030	-8.2219	-22.5380	-7.7063	-15.0210	1.4143	-15.2010	0.0226	-13.5720	2.0236	-13.2760	-1.8570	-13.5840	-1.6128	4.6871	1.6924	3.8244	2.4086	-4.2260	1.6764	-4.3410	1.2131	-3.7727	1.8720
-22.0260	-7.9228	-22.6920	-7.5706	-14.9300	1.8090	-15.2150	0.2151	-13.5210	2.4194	-13.2920	-2.2537	-13.6290	-2.0103	4.9279	1.5059	4.4569	2.0397	-4.1224	1.8168	-4.3039	1.2777	-3.7430	1.9188
-22.3660	-7.5941	-23.0920	-7.1733	-14.7970	2.2038	-15.2030	0.6100	-13.4280	2.8154	-13.2680	-2.6510	-13.6350	-2.4064	5.1791	1.2871	4.4869	2.0237	-3.9800	1.9849	-4.2013	1.4461	-3.6437	2.0407
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-22.8080	-7.1329	-23.4830	-6.7824	-14.6360	2.5986	-15.1720	1.0033	-13.1370	3.6077	-13.1010	-3.4454	-13.5280	-3.2014	5.5841	0.8647	5.1411	1.5242	-3.8178	2.1538	-4.0789	1.6143	-3.4749	2.2343
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-24.3860	-5.1703	-25.1720	-4.6460	-12.8920	4.9771	-13.9850	3.7690	-11.4150	5.5971	-11.5400	-5.5229	-11.7910	-5.5956	5.1735	-1.9640	5.9544	-1.2101	-2.8698	2.8314	-3.1377	2.4588	-2.3907	3.0289
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-26.1240	-1.2767	-26.7560	-0.9308	-8.9667	7.3888	-10.7150	6.4376	-6.6551	7.5339	-6.4684	-7.4817	-7.3403	-7.3586	-0.2717	-3.3010	1.8822	-3.3441	-0.4626	3.3919	-1.1266	3.1962	0.0263	3.5021
-26.2110	-0.8859	-26.8450	-0.5383	-8.9065	7.4114	-10.4730	6.5627	-6.1048	7.6324	-6.4684	-7.4827	-6.6966	-7.4633	-0.9201	-3.2257	1.2250	-3.3589	-0.1930	3.3711	-0.8592	3.2294	0.2948	3.4853
-26.2780	-0.4917	-26.9010	-0.1523	-8.2673	7.6576	-10.0700	6.7676	-6.0065	7.6497	-5.8238	-7.5662	-6.0520	-7.5459	-1.3005	-3.1568	0.5774	-3.3416	-0.0329	3.3507	-0.5808	3.2505	0.5640	3.4584
-26.3050	-0.3341	-26.9470	0.2355	-7.8572	7.7969	-9.6344	6.9670	-5.3540	7.7397	-5.1905	-7.6277	-5.4284	-7.6052			-0.0587	-3.2933	0.0771	3.3373	-0.3124	3.2587	0.8325	3.4217
-26.3340	-0.1057	-26.9740	0.6266	-7.6141	7.8768	-9.4222	7.0617	-4.7001	7.8108	-4.5438	-7.6593	-4.7817	-7.6349			-0.6973	-3.2148	0.3484	3.2891	-0.0532	3.2485	0.9021	3.4095
-26.3710	0.2837	-26.9910	1.0194	-6.9589	8.0682	-8.7624	7.3265	-4.0349	7.8627	-3.9060	-7.6625	-4.1339	-7.6366					0.6196	3.2304	0.2164	3.2257	1.1010	3.3751
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-26.4030	1.0595	-26.9620	1.7955	-6.3022	8.2386	-8.1323	7.5610	-2.7317	7.9012	-2.6080	-7.6087	-2.8458	-7.5817					0.8813	3.1592	0.7277	3.1504	1.6487	3.2490
-26.3980	1.4459	-26.9270	2.1772	-5.6659	8.3863	-7.4784	7.7713	-2.0718	7.8896	-1.9701	-7.5543	-2.2078	-7.5275					1.1639	3.0785	0.7678	3.1431	1.6686	3.2437
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-26.3390	2.2173	-26.8080	2.9587	-4.3455	8.6294	-6.8227	7.9546	-0.7385	7.8161	-1.3292	-7.4806	-0.9057	-7.3680					1.4363	2.9887	1.3112	3.0142	2.1561	3.0763
-26.3110	2.4657	-26.7120	3.3488	-4.3258	8.6328	-6.1655	8.1180	-0.0750	7.7546	-0.6777	-7.3903	-0.4557	-7.2942					1.6992	2.8886	1.4120	2.9833	2.1859	3.0658
-26.2850	2.6121	-26.6060	3.7324	-3.6932	8.7222	-5.8130	8.1989	0.3969	7.6969	-0.0254	-7.2809	-0.2635	-7.2624					1.8003	2.8508	1.5833	2.9324	2.4652	2.9507
-26.2200	2.9988	-26.4910	4.1177	-3.0296	8.7979	-5.5288	8.2608	0.5776	7.6761	0.6154	-7.1556	0.3772	-7.1412					1.9723	2.7819	1.8459	2.8393	2.5547	2.9083
-26.1360	3.3889	-26.4830	4.1293	-2.3870	8.8579	-4.8688	8.3863	1.2435	7.5806	0.6676	-7.1462	1.0307	-7.0011					2.2159	2.6825	1.9066	2.8158	2.7338	2.8172
-26.0300	3.7725	-26.3460	4.5082	-1.7208	8.8956	-4.2077	8.4948	1.9107	7.4682	1.2690	-7.0103	1.4241	-6.9064					2.2463	2.6688	2.1188	2.7355	2.8731	2.7398
-25.9070	4.1694	-26.1910	4.9003	-1.0633	8.9177	-3.5552	8.5857	2.5792	7.3369	1.9234	-6.8471	1.6849	-6.8429					2.5201	2.5461	2.3321	2.6479	3.0025	2.6616
-25.7720	4.5582	-26.0170	5.2958	-0.3949	8.9255	-3.1999	8.6277	2.6603	7.3158	2.2449	-6.7559	2.3398	-6.6678					2.5811	2.5146	2.3929	2.6214	3.1418	2.5709
-25.6570	4.8398	-25.8310	5.6304	0.2648	8.9156	-2.8917	8.6613	3.2495	7.1806	2.5785	-6.6648	2.8625	-6.5138					2.7843	2.4130	2.6668	2.4967	3.2818	2.4780
-25.6150	4.9486	-25.8100	5.6848	0.9234	8.8915	-2.2490	8.7203	3.8991	7.0056	3.2245	-6.4631	2.9954	-6.4757					2.9165	2.3454	2.6973	2.4799	3.3814	2.4018
-25.4390	5.3342	-25.5830	6.0691	1.5853	8.8518	-1.5828	8.7590	4.1956	6.9262	3.5365	-6.3616	3.6395	-6.2666					3.0697	2.2673	2.9311	2.3606	3.5506	2.2567
-25.2540	5.7216	-25.3490	6.4649	2.2483	8.7960	-0.9255	8.7821	4.5722	6.8115	3.8690	-6.2439	4.0748	-6.1176					3.2227	2.1766	3.0227	2.3113	3.5804	2.2324
-25.0390	6.1140	-25.1880	6.7058	2.9224	8.7251	-0.2572	8.7909	5.2468	6.5953	4.5264	-6.0057	4.2965	-6.0385					3.3351	2.1052	3.2166	2.2109	3.7497	2.0629
-25.0080	6.1701	-25.0830	6.8560	2.9928	8.7142	0.4024	8.7840	5.4306	6.5316	4.6373	-5.9641	4.9543	-5.7924					3.4884	2.0075	3.3289	2.1425	3.8194	1.9738
-24.8020	6.5082	-24.7860	7.2505	3.5880	8.6334	1.0606	8.7649	5.9230	6.3573	5.1846	-5.7465	5.1360	-5.7197					3.6014	1.9221	3.4822	2.0448	3.8891	1.8932
-24.5460	6.8976	-24.5280	7.5691	4.2430	8.5208	1.7222	8.7291	6.4986	6.1349	5.6311	-5.5648	5.6127	-5.5273					3.7143	1.8378	3.5847	1.9730	4.0087	1.7234
-24.3520	7.1748	-24.4800	7.6385	4.9114	8.3913	2.2548	8.6879	6.5909	6.0965	5.8435	-5.4683	6.0880	-5.3194					3.8787	1.7125	3.7487	1.8567	4.0884	1.5890
-24.2710	7.2904	-24.1220	8.0332	5.1863	8.3343	2.3849	8.6783	7.2587	5.8086	6.5033	-5.1691	6.2720	-5.2433					3.9409	1.6686	3.8205	1.8037	4.1183	1.5535
-23.9640	7.6865	-23.8670	8.3108	5.5910	8.2425	3.0587	8.6103	7.4253	5.7357	6.5135	-5.1635	6.9197	-4.9462					4.1171	1.4988	4.0164	1.6397	4.2186	1.3835
-23.6960	8.0069	-23.7670	8.4297	6.2622	8.0731	3.7238	8.5256	7.9309	5.4890	7.1517	-4.8530	6.9804	-4.9177					4.1585	1.4605	4.0266	1.6341	4.2884	1.2134
-23.6380	8.0779	-23.3590	8.8231	6.7094	7.9453	4.3782	8.4220	8.2427	5.3355	7.3462	-4.7613	7.5802	-4.6292					4.2734	1.3282	4.2134	1.4643	4.3582	1.0433
-23.2920	8.4728	-23.2090	8.9505	6.9350	7.8817	4.9853	8.3141	8.6055	5.1345	7.8130	-4.5159	7.8033	-4.5152					4.4098	1.1587	4.2968	1.3707	4.3782	0.9984
-23.0320	8.7289	-22.9220	9.2135	7.5974	7.6674	5.0559	8.3012	8.9706	4.9328	8.1095	-4.3572	8.2417	-4.2882					4.4205	1.1412	4.3697	1.2936	4.4181	0.8731
-22.9040	8.8628	-22.5630	9.5294	7.9363	7.5509	5.7251	8.1597	9.2831	4.7401	8.4753	-4.1527	8.5667	-4.1112					4.5263	0.9884	4.4961	1.1237	4.4581	0.7029
-22.4980	9.2579	-22.4550	9.6171	8.2736	7.4282	6.3955	8.0012	9.6168	4.5300	8.8110	-3.9531	8.9042	-3.9222					4.6129	0.8179	4.5704	1.0107	4.4882	0.5326

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

[Manual: 2344649 Program: GMI

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-13.1170	5.8455	-12.8570	6.2531	5.2475	4.4633	3.9095	4.9415	5.8339	2.6807	5.3460	-2.3432	5.4237	-2.3089
-12.9170	6.0324	-12.8310	6.2749	5.2578	4.4590	4.1418	4.8756	5.9719	2.5705	5.5409	-2.2109	5.5979	-2.1958
-12.7320	6.1961	-12.5360	6.5014	5.6411	4.2743	4.5407	4.7502	6.2265	2.3685	5.7259	-2.0772	5.8106	-2.0560
-12.6360	6.2799	-12.4460	6.5677	5.7657	4.2102	4.6946	4.6963	6.2801	2.3183	5.8979	-1.9567	5.9855	-1.9259
-12.3420	6.5152	-12.1760	6.7509	6.0363	4.0624	4.9308	4.6101	6.5660	2.0649	6.1242	-1.7856	6.1502	-1.8014
-12.3240	6.5295	-12.0490	6.8368	6.2037	3.9593	5.3295	4.4541	6.6203	2.0056	6.2273	-1.7037	6.3668	-1.6260
-11.9850	6.7785	-11.7940	7.0016	6.4235	3.8229	5.3399	4.4488	6.8144	1.8113	6.5064	-1.4616	6.4597	-1.5477
-11.9490	6.8050	-11.6570	7.0851	6.6093	3.7085	5.7222	4.2771	7.0208	1.5837	6.5169	-1.4491	6.7494	-1.2932
-11.6230	7.0278	-11.3820	7.2514	6.8306	3.5512	5.8777	4.2002	7.0427	1.5582	6.7865	-1.1947	6.7496	-1.2882
-11.5600	7.0702	-11.2710	7.3121	6.9574	3.4571	6.1164	4.0792	7.2411	1.3040	6.8907	-1.0847	7.0066	-1.0380
-11.2310	7.2791	-10.9200	7.5047	7.2232	3.2378	6.3458	3.9494	7.4080	1.0705	7.0262	-0.9391	7.1425	-0.8854
-11.1770	7.3139	-10.8820	7.5233	7.2656	3.2048	6.5024	3.8566	7.4295	1.0500	7.2435	-0.6843	7.2364	-0.7831
-10.7990	7.5304	-10.4840	7.7198	7.5338	2.9516	6.7713	3.6991	7.5880	0.7949	7.2855	-0.6329	7.4263	-0.5275
-10.7800	7.5397	-10.4090	7.7570	7.6195	2.8726	6.9081	3.6038	7.7339	0.5403	7.4234	-0.4283	7.5324	-0.3706
-10.3840	7.7480	-10.0990	7.8987	7.7821	2.6979	7.1294	3.4474	7.8176	0.3519	7.5833	-0.1725	7.5962	-0.2721
-10.3190	7.7835	-9.8357	8.0133	8.0179	2.4448	7.2990	3.3143	7.8424	0.2855	7.6694	-0.0138	7.7362	-0.0156
-10.0010	7.9388	-9.7037	8.0695	8.0185	2.4358	7.4476	3.1948	7.9309	0.0303	7.7132	0.0835	7.8462	0.2402
-9.7859	8.0389	-9.3082	8.2258	8.2063	2.1898	7.6929	2.9820	7.9994	-0.2244	7.8232	0.3393	7.9145	0.4486
-9.6075	8.1195	-9.1943	8.2699	8.3846	1.9361	7.7458	2.9417	8.0579	-0.4798	7.9033	0.5953	7.9363	0.4958
-9.2036	8.2863	-8.9183	8.3713	8.4190	1.8744	8.0016	2.6881	8.0865	-0.7354	7.9634	0.8511	7.9865	0.7530
-9.1848	8.2947	-8.5269	8.5079	8.5230	1.6804	8.0988	2.5879	8.1049	-0.9897	7.9935	1.1071	8.0168	1.0090
-8.8153	8.4407	-8.4598	8.5296	8.6514	1.4261	8.2399	2.4347	8.0935	-1.2452	7.9838	1.3637	8.0171	1.2652
-8.5108	8.5532	-8.1261	8.6336	8.7598	1.1713	8.4382	2.1804	8.0520	-1.4999	7.9441	1.6195	7.9774	1.5210
-8.4251	8.5842	-7.7315	8.7515	8.8120	1.0026	8.4938	2.1032	7.9905	-1.7551	7.8745	1.8755	7.9169	1.7536
-8.0255	8.7169	-7.5866	8.7917	8.8383	0.9153	8.6166	1.9257	7.8990	-2.0094	7.7848	2.1303	7.9078	1.7770
-7.7183	8.8136	-7.3352	8.8595	8.9067	0.6606	8.7749	1.6715	7.8131	-2.2032	7.6650	2.3783	7.8083	2.0322
-7.6319	8.8407	-6.9375	8.9596	8.9551	0.4054	8.8920	1.4353	7.7775	-2.2649	7.6553	2.3857	7.6788	2.2876
-7.2366	8.9546	-6.5408	9.0502	8.9836	0.1498	8.9034	1.4161	7.6284	-2.5179	7.4959	2.6413	7.5288	2.5278
-6.8400	9.0607	-6.4920	9.0606	9.0021	-0.1055	9.0118	1.1613	7.4470	-2.7728	7.2964	2.8955	7.5094	2.5436
-6.7624	9.0802	-6.1406	9.1355	8.9905	-0.3610	9.1002	0.9061	7.4106	-2.8236	7.2776	2.9253	7.3100	2.7979
-6.4343	9.1579	-5.7491	9.2123	8.9591	-0.6170	9.1687	0.6504	7.2354	-3.0259	7.0495	3.1493	7.1376	2.9770
-6.0446	9.2455	-5.3391	9.2848	8.9175	-0.8717	9.2171	0.3952	7.0115	-3.2477	6.8759	3.2994	7.0608	3.0521
-5.6439	9.3279	-5.0140	9.3359	8.8460	-1.1275	9.2531	0.1396	6.9738	-3.2786	6.7503	3.4035	6.7440	3.3058
-5.5165	9.3519	-4.9450	9.3467	8.8139	-1.2371	9.2715	-0.1158	6.6621	-3.5309	6.4980	3.5827	6.7441	3.3078
-5.2441	9.4007	-4.5499	9.4028	8.7644	-1.3821	9.2600	-0.3713	6.6144	-3.5625	6.3811	3.6555	6.3550	3.5586
-4.8409	9.4683	-4.1436	9.4527	8.6529	-1.6378	9.2210	-0.6272	6.2729	-3.7824	6.1079	3.8115	6.3550	3.5586
-4.4461	9.5264	-3.7386	9.4949	8.5314	-1.8923	9.1695	-0.8826	6.2154	-3.8166	5.9221	3.9071	5.9741	3.7661
-4.0501	9.5775	-3.3403	9.5322	8.4163	-2.0982	9.0980	-1.1385	5.8209	-4.0289	5.7188	4.0040	5.8860	3.8097
-3.6458	9.6237	-2.9410	9.5637	8.3898	-2.1472	9.0064	-1.3938	5.8112	-4.0326	5.3657	4.1572	5.5845	3.9437
-3.4766	9.6398	-2.5331	9.5892	8.2083	-2.4021	8.8949	-1.6485	5.4238	-4.2053	5.3362	4.1694	5.2997	4.0602
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-2.4311	9.7237	-1.3184	9.6302	7.7775	-2.9091	8.6018	-2.1581	4.6361	-4.4758	4.5681	4.4274	4.5412	4.3080
-2.0299	9.7443	-0.9138	9.6310	7.6195	-3.0750	8.4931	-2.3144	4.4498	-4.5275	4.1753	4.5249	4.4327	4.3394
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-1.2166	9.7658	-0.1042	9.6153	7.2342	-3.4148	8.2086	-2.6659	3.8599	-4.6648	3.4617	4.6486	3.6632	4.4992
-0.8220	9.7659	0.3031	9.6004	7.2252	-3.4285	8.0972	-2.7843	3.4576	-4.7347	3.4121	4.6556	3.2960	4.5510
-0.4166	9.7619	0.7114	9.5796	6.9125	-3.6668	7.9670	-2.9201	3.2301	-4.7693	3.0269	4.6968	3.2761	4.5538
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0.8035	9.7126	1.9916	9.4746	6.1114	-4.1687	7.3002	-3.4814	1.9006	-4.8758	1.5039	4.7315	1.7549	4.6329
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1.6312	9.6503	2.7636	9.3834	5.6390	-4.4105	6.9099	-3.7534	1.1199	-4.8646	0.7532	4.6746	0.9876	4.6014
2.0329	9.6091	3.1681	9.3254	5.6196	-4.4190	6.6227	-3.9286	0.7309	-4.8424	0.3644	4.6238	0.6170	4.5673
2.4456	9.5627	3.5737	9.2615	5.2416	-4.5838	6.4998	-3.9922	0.3487	-4.8111	0.3343	4.6190	0.2684	4.5220
2.8054	9.5149	3.6257	9.2532	5.0301	-4.6668	6.1534	-4.1798	-0.0443	-4.7696				
2.8572	9.5077	3.9980	9.1914	4.8453	-4.7374	6.1150	-4.2016	-0.3043	-4.7349				
3.2623	9.4467	4.4058	9.1147	4.4553	-4.8740	5.7182	-4.3838						
3.6782	9.3816	4.8150	9.0301	4.3281	-4.9134	5.6115	-4.4287						
4.0930	9.3079	4.8465	9.0234	4.0641	-4.9947	5.3299	-4.5444						
4.1874	9.2886	5.2328	8.9386	3.6643	-5.1014	4.9620	-4.6759						
4.5015	9.2272	5.6445	8.8392	3.4384	-5.1570	4.9229	-4.6887						
4.9113	9.1387	5.8458	8.7867	3.2811	-5.1935	4.5322	-4.8154						
5.2870	9.0572	6.0574	8.7329	2.8869	-5.2733	4.1699	-4.9209						
5.3297	9.0443	6.4714	8.6198	2.4941	-5.3374	4.1405	-4.9291						
5.7421	8.9410	6.7237	8.5494	2.1081	-5.3905	3.7501	-5.0271						
6.1556	8.8308	6.8945	8.4977	2.0683	-5.3944	3.3565	-5.1139						
6.1980	8.8198	7.3116	8.3668	1.7112	-5.4324	3.1101	-5.1629						
6.5707	8.7117	7.4836	8.3082	1.3334	-5.4618	2.9720	-5.1889						
6.9946	8.5847	7.7202	8.2263	0.9375	-5.4831	2.5690	-5.2498						
7.0057	8.5795	8.1479	8.0776	0.5484	-5.4943	2.1825	-5.2979						
7.4031	8.4452	8.1804	8.0650	0.1586	-5.4966	1.7955	-5.3381						
7.7152	8.3368	8.5599	7.9174	-0.2294	-5.4881	1.4077	-5.3672						
7.8226	8.3006	8.7994	7.8187	-0.6108	-5.4677	1.0117	-5.3875						
8.2414	8.1443	8.9736	7.7473	-0.9930	-5.4364	0.8919	-5.3901						
8.3717	8.0927	9.3855	7.5726	-1.3859	-5.3958	0.6325	-5.3970						
8.6645	7.9789	9.3969	7.5655	-1.7165	-5.3521	0.2427	-5.3982						
8.9703	7.8481	9.8148	7.3708			-0.1454	-5.3898						
9.0795	7.8010	9.9137	7.3249			-0.4464	-5.3746						
9.5043	7.6103	10.2350	7.1623										
9.5262	7.6008	10.4020	7.0754										
9.9240	7.4057	10.6650	6.9409										
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13.3050	5.1122	13.8840	4.5445										
13.3410	5.0828	14.0460	4.3714										
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13.7310	4.6966	14.3470	4.0327										
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14.1550	4.2310	14.7560	3.5186										
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14.5090	3.8028	14.9420	3.2615										
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2.7978	0.4061	2.7571	0.5983	2.6969	0.2274
2.8087	0.3826	2.8015	0.4911	2.7070	0.1205
2.8321	0.2995	2.8358	0.3844	2.7071	0.0137
2.8565	0.1924	2.8702	0.2777	2.7072	-0.0931
2.8709	0.0859	2.8846	0.1712	2.6974	-0.2000
2.8853	-0.0206	2.8890	0.0643	2.6776	-0.3068
2.8798	-0.1279	2.8934	-0.0426	2.6578	-0.4136
2.8742	-0.2353	2.8879	-0.1499	2.6380	-0.5204
2.8587	-0.3420	2.8623	-0.2571	2.6181	-0.5779
2.8332	-0.4492	2.8467	-0.3628	2.5982	-0.6272
2.8063	-0.5243	2.8112	-0.4704	2.5584	-0.7339
2.7976	-0.5557	2.7657	-0.5773	2.5087	-0.8407
2.7621	-0.6623	2.7389	-0.6535	2.4589	-0.9473
2.7066	-0.7697	2.7202	-0.6843	2.4589	-0.9529
2.6511	-0.8761	2.6647	-0.7907	2.3892	-1.0539
2.6512	-0.8781	2.5992	-0.8975	2.3095	-1.1604
2.5756	-0.9833	2.5708	-0.9347	2.2896	-1.1796
2.5001	-1.0895	2.5237	-1.0037	2.2032	-1.2670
2.4809	-1.1083	2.4282	-1.1108	2.1235	-1.3495
2.4047	-1.1966	2.4092	-1.1326	2.0936	-1.3733
2.3185	-1.2842	2.3228	-1.2172	1.9740	-1.4796
2.2993	-1.3030	2.2458	-1.2875	1.9640	-1.4865
2.1838	-1.4089	2.2007	-1.3231	1.8245	-1.5857
2.1645	-1.4247	2.0747	-1.4154	1.7946	-1.6008
2.0317	-1.5151	2.0553	-1.4302	1.6450	-1.6916
1.9930	-1.5437	1.9192	-1.5210	1.6351	-1.6985
1.8663	-1.6210	1.8899	-1.5362	1.4755	-1.7821
1.8274	-1.6447	1.7532	-1.6109	1.4456	-1.7974
1.6810	-1.7268	1.6945	-1.6414	1.3160	-1.8537
1.6712	-1.7322	1.5966	-1.6875	1.1863	-1.9027
1.5045	-1.8062	1.4493	-1.7476	1.1464	-1.9163
1.4457	-1.8327	1.4295	-1.7535	0.9869	-1.9711
1.3474	-1.8718	1.2720	-1.8080	0.8672	-2.0076
1.1800	-1.9278	1.1141	-1.8526	0.8273	-2.0183
1.1505	-1.9380	1.1041	-1.8540	0.6610	-2.0585
1.0222	-1.9764	0.9459	-1.8916	0.5014	-2.0923
0.8542	-2.0174	0.7874	-1.9212	0.3917	-2.1117
0.7354	-2.0423	0.6218	-1.9428	0.3418	-2.1204
0.6957	-2.0500	0.4825	-1.9556	0.1722	-2.1425
0.5303	-2.0746	0.4527	-1.9589	0.0126	-2.1584
0.3712	-2.0912	0.2933	-1.9675	-0.1471	-2.1678
0.2019	-2.1023	0.1336	-1.9691	-0.3067	-2.1697
0.0423	-2.1059	-0.0264	-1.9647	-0.4663	-2.1613
-0.1177	-2.1015	-0.1867	-1.9534	-0.6260	-2.1445
-0.2780	-2.0892			-0.7924	-2.1190
-0.4386	-2.0698			-0.8622	-2.1056
-0.5994	-2.0455				
-0.6497	-2.0356				

-22.3840	9.3588	-21.9480	10.0090	8.9519	7.1610	6.6795	7.9267	9.9639	4.3009	9.1387	-3.7616	9.2606	-3.7055
-22.0410	9.6599	-21.9040	10.0480	8.9623	7.1537	7.0674	7.8218	10.2150	4.1258	9.4750	-3.5480	9.5680	-3.5243
-21.7220	9.9181	-21.3890	10.4090	9.6227	6.8582	7.7288	7.6204	10.6390	3.8011	9.8035	-3.3346	9.9148	-3.2991
-21.5650	10.0570	-21.2370	10.5160	9.8392	6.7547	8.0059	7.5335	10.7440	3.7205	10.0790	-3.1415	10.2110	-3.0899
-21.0620	10.4260	-20.7900	10.8050	10.3060	6.5192	8.4041	7.3951	11.2120	3.3146	10.4480	-2.8661	10.5090	-2.8924
-21.0360	10.4510	-20.5720	10.9440	10.6070	6.3536	9.0811	7.1448	11.3080	3.2194	10.6340	-2.7340	10.8780	-2.6101
-20.4680	10.8520	-20.1450	11.2110	10.9830	6.1356	9.1015	7.1373	11.6410	2.9081	11.1170	-2.3461	11.0420	-2.4846
-20.3950	10.8950	-19.9030	11.3420	11.2750	5.9514	9.7604	6.8617	11.9860	2.5424	11.1370	-2.3260	11.5380	-2.0758
-19.8520	11.2530	-19.4260	11.6180	11.6510	5.6981	10.0280	6.7389	12.0290	2.5014	11.6030	-1.9179	11.5480	-2.0682
-19.7300	11.3230	-19.2510	11.7090	11.8730	5.5470	10.4420	6.5446	12.3890	2.0937	11.7790	-1.7418	11.9830	-1.6670
-19.1720	11.6530	-18.6460	12.0150	12.3360	5.1958	10.8350	6.3377	12.6750	1.7186	12.0060	-1.5078	12.2120	-1.4221
-19.0810	11.7090	-18.5810	12.0460	12.4000	5.1423	11.1170	6.1890	12.6970	1.6852	12.3820	-1.0991	12.3570	-1.2568
-18.4350	12.0630	-17.9180	12.3620	12.8790	4.7363	11.5530	5.9361	12.9660	1.2767	12.4450	-1.0166	12.6910	-0.8470
-18.4150	12.0670	-17.7780	12.4270	13.0180	4.6090	11.7830	5.7834	13.2160	0.8681	12.6870	-0.6881	12.8730	-0.5946
-17.7460	12.4040	-17.2500	12.6480	13.2970	4.3296	12.1720	5.5321	13.3480	0.5649	12.9610	-0.2788	12.9780	-0.4368
-17.6250	12.4650	-16.8080	12.8370	13.6860	3.9231	12.4660	5.3190	13.4050	0.4588	13.1130	-0.0232	13.2230	-0.0264
-17.0710	12.7120	-16.5800	12.9250	13.6970	3.9098	12.7300	5.1269	13.5540	0.0496	13.1880	0.1329	13.4080	0.3855
-16.7160	12.8750	-15.9170	13.1720	14.0140	3.5149	13.1530	4.7868	13.6730	-0.3597	13.3740	0.5438	13.5310	0.7198
-16.4040	13.0080	-15.7060	13.2470	14.3240	3.1075	13.2270	4.7210	13.7630	-0.7693	13.5090	0.9546	13.5540	0.7959
-15.7450	13.2740	-15.2400	13.4090	14.3810	3.0084	13.6770	4.3148	13.8220	-1.1790	13.6050	1.3651	13.6620	1.2074
-15.7060	13.2810	-14.5700	13.6250	14.5730	2.6986	13.8380	4.1541	13.8420	-1.5887	13.6510	1.7766	13.7180	1.6184
-15.0700	13.5210	-14.4560	13.6650	14.7810	2.2897	14.0640	3.9080	13.8310	-1.9975	13.6480	2.1881	13.7150	2.0299
-14.5450	13.7020	-13.8880	13.8320	14.9600	1.8796	14.4240	3.5002	13.7610	-2.4067	13.5840	2.5979	13.6420	2.4412
-14.3920	13.7490	-13.2130	14.0180	15.0710	1.6091	14.5230	3.3761	13.6520	-2.8158	13.4720	3.0088	13.5250	2.8137
-13.7210	13.9640	-12.9720	14.0800	15.1210	1.4704	14.7320	3.0916	13.4920	-3.2255	13.3090	3.4187	13.5170	2.8511
-13.2030	14.1150	-12.5480	14.1940	15.2300	1.0603	14.9900	2.6833	13.3450	-3.5361	13.0960	3.8166	13.3440	3.2614
-13.0480	14.1600	-11.8680	14.3510	15.3100	0.6500	15.2090	2.3044	13.2930	-3.6342	13.0970	3.8285	13.1220	3.6717
-12.3850	14.3460	-11.1950	14.4960	15.3690	0.2412	15.2210	2.2732	13.0310	-4.0415	12.8130	4.2378	12.8690	4.0562
-11.7060	14.5130	-11.1280	14.5170	15.3880	-0.1694	15.4000	1.8641	12.7320	-4.4484	12.4810	4.6465	12.8510	4.0810
-11.5710	14.5460	-10.5130	14.6420	15.3680	-0.5800	15.5590	1.4546	12.6590	-4.5320	12.4340	4.6944	12.4870	4.4896
-11.0260	14.6690	-9.8359	14.7580	15.3180	-0.9897	15.6680	1.0445	12.3640	-4.8555	12.0480	5.0547	12.2010	4.7764
-10.3440	14.8160	-9.1609	14.8750	15.2380	-1.3996	15.7570	0.6339	11.9790	-5.2106	11.7600	5.2946	12.0660	4.8979
-9.6581	14.9430	-8.5993	14.9600	15.1280	-1.8097	15.8070	0.2234	11.9230	-5.2609	11.5480	5.4612	11.5340	5.3043
-9.4527	14.9790	-8.4819	14.9800	15.0710	-1.9863	15.8260	-0.1862	11.3730	-5.6653	11.1000	5.7490	11.5340	5.3073
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-2.1261	15.6530	-0.2166	15.4190	12.3580	-5.4805	14.0160	-4.2800	6.5766	-7.4823	5.9095	7.4564	6.2525	7.2176
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13.3370	13.3260	15.0280	12.5540	-1.0548	-8.7660	1.7275	-8.6380						
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15.3010	12.5950	16.7560	11.8350			-0.2572	-8.6407						
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16.2140	12.2140	17.4800	11.5020										
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19.8170	10.3340	21.0950	9.4317										
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21.2760	9.3655	22.5550	8.3413										
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22.3010	8.5671	23.3000	7.7074										
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23.2380	7.7534	24.1470	6.8882										
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24.7820	6.1095	25.5510	5.2402										
24.9340	5.9409	25.8340	4.8225										

4.6797	0.6475	4.6026	0.9540	4.5083	0.3622
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4.8172	-0.0333	4.8268	0.1016	4.4796	-0.4890
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4.8014	-0.3743	4.8109	-0.2383	4.4004	-0.8294
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4.6732	-0.8861	4.6300	-0.9194	4.2022	-1.3398
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4.1808	-1.7363	4.2102	-1.6005	3.6953	-2.0191
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3.8458	-2.0751	3.7504	-2.0526	3.2881	-2.3689
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1.9648	-3.0724	1.8555	-2.9523	1.3787	-3.2160
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15.6630	1.7393	16.0160	0.9364
15.7580	1.4807	16.0710	0.6769
15.8500	1.2234	16.1260	0.4185
15.8630	1.1485	16.1600	0.1586
15.9150	0.9637	16.1840	-0.1011
15.9690	0.7042	16.1860	-0.1129
16.0240	0.4457	16.2080	-0.3587
16.0590	0.1858	16.2130	-0.6188
16.0830	-0.0738	16.1970	-0.8793
16.1070	-0.3314	16.1830	-1.0927
16.1110	-0.5905	16.1800	-1.1378
16.1050	-0.8503	16.1540	-1.3970
16.0890	-1.1098	16.1170	-1.6550
16.0630	-1.3691	16.0610	-1.9154
16.0260	-1.6280	15.9940	-2.1745
15.9790	-1.8867	15.9270	-2.4317
15.9230	-2.1451	15.8300	-2.6920
15.8590	-2.3661	15.7620	-2.8843
15.8560	-2.4033	15.7320	-2.9493
15.7690	-2.6628	15.6070	-3.2080
15.6640	-2.9212	15.4800	-3.4665
15.5570	-3.1802	15.3420	-3.7237
15.4390	-3.4379	15.3260	-3.7488
15.4240	-3.4660	15.1840	-3.9813
15.3110	-3.6945	15.0150	-4.2377
15.1630	-3.9524	14.9010	-4.3965
15.0050	-4.2100	14.8270	-4.4955
14.9960	-4.2167	14.6180	-4.7528
14.8260	-4.4671	14.4760	-4.9265
14.6380	-4.7240	14.3990	-5.0088
14.5720	-4.8095	14.1520	-5.2643
14.4310	-4.9796	14.0400	-5.3780
14.2120	-5.2356	13.8920	-5.5202
14.1440	-5.3083	13.6220	-5.7738
13.9630	-5.4927	13.6130	-5.7765
13.7120	-5.7420	13.3120	-6.0293
13.7130	-5.7469	13.1920	-6.1263
13.4330	-6.0013	12.9840	-6.2826
13.2920	-6.1241	12.7590	-6.4462
13.1250	-6.2561	12.6320	-6.5360
12.8680	-6.4650	12.3430	-6.7332
12.8050	-6.5094	12.2610	-6.7869
12.4630	-6.7612	11.9220	-6.9965
12.4460	-6.7754	11.8490	-7.0387
12.0920	-7.0131	11.4910	-7.2382
12.0190	-7.0601	11.3980	-7.2886
11.6820	-7.2642	11.0740	-7.4594
11.5900	-7.3166	10.9150	-7.5385
11.2400	-7.5151	10.6530	-7.6639
11.1750	-7.5517	10.3730	-7.7870
10.7660	-7.7643	10.2230	-7.8536
10.7480	-7.7726	9.8079	-8.0288
10.3290	-7.9725	9.7986	-8.0334
10.2450	-8.0114	9.3906	-8.1911
9.9059	-8.1592	9.1525	-8.2779
9.6698	-8.2579	8.9637	-8.3417
9.4901	-8.3305	8.5523	-8.4797
9.0647	-8.4900	8.4177	-8.5212
9.0266	-8.5036	8.1392	-8.6078
8.6447	-8.6366	7.7169	-8.7261
8.3192	-8.7446	7.5813	-8.7617
8.2328	-8.7717	7.3006	-8.8356
7.8117	-8.8969	6.8829	-8.9371
7.4931	-8.9864	6.6101	-8.9984
7.3964	-9.0122	6.4661	-9.0281
6.9794	-9.1178	6.0555	-9.1122
6.5636	-9.2147	5.6436	-9.1884
6.5244	-9.2225	5.3978	-9.2298
6.1437	-9.3034	5.2304	-9.2567
5.7325	-9.3836	4.8086	-9.3191
5.3298	-9.4542	4.4028	-9.3719
5.3199	-9.4559	3.9862	-9.4205
4.9083	-9.5186	3.6801	-9.4498
4.4931	-9.5751	3.5707	-9.4605
4.0868	-9.6250	3.1618	-9.4956
3.6716	-9.6670	2.7518	-9.5238
3.6118	-9.6722	2.3433	-9.5454
3.2629	-9.7031	1.9312	-9.5617
2.8531	-9.7323	1.5280	-9.5705
2.4347	-9.7555	1.1164	-9.5743
2.0327	-9.7712	0.7113	-9.5722
1.6294	-9.7800	0.3052	-9.5642
1.2080	-9.7855	-0.1019	-9.5503
0.8026	-9.7815	-0.5076	-9.5297
0.4061	-9.7708	-0.9166	-9.5050
-0.0010	-9.7569	-1.3168	-9.4726
-0.4169	-9.7361	-1.7253	-9.4353
-0.8162	-9.7087	-2.1275	-9.3911
-1.2165	-9.6754	-2.5306	-9.3420
-1.6256	-9.6351	-2.6343	-9.3274
-2.0280	-9.5900		
-2.2972	-9.5543		

25.1170	5.6986	26.0950	4.4112
25.4190	5.2843	26.2090	4.2179
25.6510	4.9288	26.3500	3.9966
25.7040	4.8649	26.5700	3.5885
25.9560	4.4520	26.7730	3.1670
26.1980	4.0374	26.9440	2.7602
26.3910	3.6751	26.9550	2.7521
26.4100	3.6276	27.1170	2.3337
26.6130	3.2143	27.2610	1.9202
26.7950	2.7994	27.3820	1.5049
26.9570	2.3810	27.4840	1.0862
27.0880	1.9675	27.5740	0.6757
27.1200	1.8410	27.6350	0.2601
27.2100	1.5522	27.6860	-0.1572
27.3020	1.1318	27.6800	-0.1786
27.4040	0.7213	27.7080	-0.5796
27.4670	0.2959	27.7180	-0.9939
27.5160	-0.1116	27.7090	-1.4115
27.5480	-0.5323	27.6770	-1.7520
27.5490	-0.9482	27.6790	-1.8226
27.5490	-1.3641	27.6300	-2.2471
27.5200	-1.7852	27.5590	-2.6552
27.4700	-2.1997	27.4700	-3.0765
27.4110	-2.6160	27.3600	-3.4914
27.3300	-3.0258	27.2300	-3.9097
27.2190	-3.4489	27.0660	-4.3215
27.1180	-3.8012	26.9390	-4.6378
27.0980	-3.8654	26.8960	-4.7367
26.9570	-4.2756	26.6950	-5.1570
26.7960	-4.6891	26.4840	-5.5692
26.6160	-5.1060	26.2290	-5.9766
26.4020	-5.5165	26.1970	-6.0228
26.3810	-5.5709	25.9590	-6.3989
26.1710	-5.9320	25.6660	-6.8049
25.9300	-6.3493	25.4660	-7.0607
25.6460	-6.7618	25.3420	-7.2242
25.6380	-6.7733	24.9890	-7.6305
25.3540	-7.1777	24.7360	-7.9179
25.0320	-7.5888	24.6040	-8.0402
24.9130	-7.7210	24.2010	-8.4551
24.6660	-7.9952	24.0010	-8.6419
24.2930	-8.4049	23.7460	-8.8668
24.1820	-8.5255	23.2710	-9.2738
23.8680	-8.8215	23.2710	-9.2738
23.4430	-9.2200	22.7540	-9.6760
23.4350	-9.2315	22.5410	-9.8449
22.9480	-9.6386	22.1870	-10.0870
22.7100	-9.8322	21.8090	-10.3450
22.4450	-10.0510	21.5920	-10.4940
21.9860	-10.3820	21.0810	-10.8140
21.8860	-10.4500	20.9440	-10.8990
21.2890	-10.8560	20.3550	-11.2330
21.2530	-10.8820	20.2360	-11.3040
20.6410	-11.2600	19.6230	-11.6210
20.5220	-11.3320	19.4650	-11.6990
19.9520	-11.6620	18.8970	-11.9780
19.7960	-11.7500	18.6260	-12.1070
19.2050	-12.0660	18.1750	-12.3050
19.0730	-12.1270	17.7250	-12.5040
18.3840	-12.4600	17.4620	-12.6110
18.3450	-12.4750	16.7410	-12.8860
17.6350	-12.8010	16.7230	-12.8990
17.4830	-12.8660	16.0190	-13.1510
16.9080	-13.0970	15.6080	-13.2910
16.4900	-13.2590	15.3010	-13.3850
16.1870	-13.3720	14.5820	-13.6090
15.4730	-13.6260	14.3620	-13.6780
15.4060	-13.6480	13.8690	-13.8120
14.7560	-13.8600	13.1450	-14.0070
14.1700	-14.0410	12.9330	-14.0640
14.0350	-14.0740	12.4370	-14.1780
13.3220	-14.2770	11.7300	-14.3410
12.7830	-14.4220	11.2520	-14.4430
12.6060	-14.4600	11.0170	-14.4830
11.9000	-14.6330	10.3040	-14.6250
11.1890	-14.7850	9.5970	-14.7460
11.1300	-14.7950	9.1844	-14.8070
10.4760	-14.9270	8.8887	-14.8560
9.7612	-15.0590	8.1770	-14.9470
9.0724	-15.1660	7.4750	-15.0360
9.0528	-15.1700	6.7720	-15.1080
8.3428	-15.2710	6.2543	-15.1550
7.6409	-15.3600	6.0667	-15.1770
6.9396	-15.4410	5.3678	-15.2250
6.2343	-15.5110	4.6592	-15.2750
6.1348	-15.5180	3.9586	-15.3130
5.5354	-15.5590	3.2547	-15.3320
4.8267	-15.6090	2.5605	-15.3490
4.1262	-15.6470	1.8767	-15.3560
3.4222	-15.6650	1.1775	-15.3430
2.7281	-15.6820	0.4783	-15.3300
2.0345	-15.6910	-0.2226	-15.3080
1.3370	-15.6880	-0.9137	-15.2830
0.6459	-15.6640	-1.6081	-15.2390
-0.0550	-15.6410	-2.2923	-15.1850
-0.7478	-15.6070	-2.9803	-15.1200
-1.4423	-15.5630	-3.6684	-15.0550
-2.1264	-15.5100	-4.3598	-14.9700
-2.8144	-15.4440	-4.5345	-14.9490
-3.5042	-15.3690		
-3.9686	-15.3160		

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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APPENDIX I: 90% Antenna Pattern Contours (in a plane perpendicular to the beam)

Sine-space coordinates - Horizontal (sin θ cos ϕ) and Vertical Horizontal (sin θ sin ϕ)																							
10 GHz Vpol		10 GHz Hpol		18 GHz Vpol		18 GHz Hpol		23 GHz Vpol		36 GHz Vpol		36 GHz Hpol		89 GHz Vpol		89 GHz Hpol		166 GHz Vpol		166 GHz Hpol		183 GHz Vpol	
Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle	Horiz. Angle	Vert. Angle
-0.02684	-0.00047	-0.02734	-0.00048	-0.01469	-0.00051	-0.01501	-0.00052	-0.01405	-0.00024	-0.01259	-0.00044	-0.01272	-0.00044	-0.00632	-0.00031	-0.00625	-0.00030	-0.00543	-0.00007	-0.00535	-0.00007	-0.00554	-0.00033
-0.02687	-0.00094	-0.02738	-0.00096	-0.01468	-0.00077	-0.01501	-0.00079	-0.01411	-0.00049	-0.01256	-0.00066	-0.01268	-0.00066	-0.00632	-0.00042	-0.00624	-0.00040	-0.00543	-0.00016	-0.00535	-0.00016	-0.00553	-0.00042
-0.02690	-0.00141	-0.02741	-0.00144	-0.01468	-0.00103	-0.01501	-0.00105	-0.01417	-0.00074	-0.01252	-0.00088	-0.01265	-0.00088	-0.00631	-0.00053	-0.00623	-0.00051	-0.00543	-0.00026	-0.00535	-0.00025	-0.00552	-0.00052
-0.02691	-0.00188	-0.02743	-0.00192	-0.01467	-0.00128	-0.01500	-0.00131	-0.01422	-0.00099	-0.01248	-0.00109	-0.01261	-0.00110	-0.00631	-0.00064	-0.00622	-0.00062	-0.00543	-0.00035	-0.00535	-0.00035	-0.00551	-0.00061
-0.02692	-0.00236	-0.02745	-0.00240	-0.01466	-0.00154	-0.01499	-0.00158	-0.01427	-0.00124	-0.01244	-0.00131	-0.01256	-0.00132	-0.00630	-0.00075	-0.00621	-0.00073	-0.00543	-0.00045	-0.00534	-0.00044	-0.00549	-0.00071
-0.02693	-0.00283	-0.02746	-0.00289	-0.01464	-0.00180	-0.01497	-0.00184	-0.01431	-0.00150	-0.01239	-0.00152	-0.01252	-0.00154	-0.00628	-0.00086	-0.00620	-0.00083	-0.00543	-0.00054	-0.00534	-0.00053	-0.00547	-0.00080
-0.02693	-0.00331	-0.02746	-0.00337	-0.01462	-0.00206	-0.01495	-0.00210	-0.01435	-0.00175	-0.01234	-0.00173	-0.01246	-0.00175	-0.00627	-0.00097	-0.00618	-0.00094	-0.00542	-0.00064	-0.00533	-0.00063	-0.00546	-0.00089
-0.02692	-0.00378	-0.02745	-0.00386	-0.01460	-0.00231	-0.01492	-0.00236	-0.01438	-0.00201	-0.01229	-0.00195	-0.01241	-0.00197	-0.00625	-0.00107	-0.00616	-0.00105	-0.00541	-0.00073	-0.00532	-0.00072	-0.00544	-0.00099
-0.02691	-0.00426	-0.02744	-0.00435	-0.01457	-0.00257	-0.01489	-0.00263	-0.01441	-0.00227	-0.01223	-0.00216	-0.01235	-0.00218	-0.00623	-0.00118	-0.00614	-0.00115	-0.00540	-0.00083	-0.00530	-0.00081	-0.00542	-0.00108
-0.02689	-0.00474	-0.02742	-0.00484	-0.01454	-0.00283	-0.01486	-0.00289	-0.01443	-0.00253	-0.01217	-0.00237	-0.01229	-0.00239	-0.00621	-0.00129	-0.00612	-0.00126	-0.00539	-0.00092	-0.00529	-0.00090	-0.00540	-0.00117
-0.02686	-0.00522	-0.02740	-0.00533	-0.01451	-0.00308	-0.01482	-0.00315	-0.01444	-0.00279	-0.01211	-0.00257	-0.01222	-0.00260	-0.00618	-0.00140	-0.00610	-0.00136	-0.00537	-0.00102	-0.00528	-0.00100	-0.00538	-0.00127
-0.02683	-0.00570	-0.02736	-0.00582	-0.01447	-0.00334	-0.01478	-0.00341	-0.01445	-0.00306	-0.01204	-0.00278	-0.01215	-0.00280	-0.00616	-0.00150	-0.00608	-0.00147	-0.00536	-0.00111	-0.00526	-0.00109	-0.00535	-0.00136
-0.02679	-0.00618	-0.02732	-0.00631	-0.01442	-0.00360	-0.01473	-0.00367	-0.01446	-0.00332	-0.01197	-0.00298	-0.01207	-0.00301	-0.00613	-0.00161	-0.00605	-0.00157	-0.00534	-0.00120	-0.00524	-0.00118	-0.00533	-0.00145
-0.02674	-0.00667	-0.02727	-0.00680	-0.01438	-0.00385	-0.01468	-0.00393	-0.01446	-0.00359	-0.01189	-0.00319	-0.01199	-0.00321	-0.00610	-0.00171	-0.00602	-0.00168	-0.00532	-0.00130	-0.00522	-0.00127	-0.00530	-0.00154
-0.02669	-0.00715	-0.02721	-0.00729	-0.01432	-0.00411	-0.01462	-0.00419	-0.01445	-0.00385	-0.01181	-0.00339	-0.01191	-0.00342	-0.00607	-0.00182	-0.00599	-0.00178	-0.00530	-0.00139	-0.00520	-0.00136	-0.00528	-0.00163
-0.02663	-0.00764	-0.02715	-0.00778	-0.01427	-0.00436	-0.01456	-0.00445	-0.01444	-0.00412	-0.01173	-0.00359	-0.01183	-0.00362	-0.00604	-0.00192	-0.00596	-0.00189	-0.00528	-0.00148	-0.00518	-0.00145	-0.00525	-0.00172
-0.02656	-0.00812	-0.02707	-0.00828	-0.01421	-0.00462	-0.01449	-0.00471	-0.01442	-0.00439	-0.01165	-0.00378	-0.01174	-0.00381	-0.00600	-0.00203	-0.00593	-0.00199	-0.00525	-0.00157	-0.00516	-0.00154	-0.00522	-0.00181
-0.02648	-0.00860	-0.02699	-0.00877	-0.01414	-0.00487	-0.01442	-0.00497	-0.01439	-0.00466	-0.01156	-0.00398	-0.01165	-0.00401	-0.00597	-0.00213	-0.00590	-0.00209	-0.00523	-0.00167	-0.00514	-0.00164	-0.00519	-0.00190
-0.02640	-0.00909	-0.02689	-0.00926	-0.01407	-0.00512	-0.01435	-0.00522	-0.01436	-0.00492	-0.01147	-0.00417	-0.01155	-0.00420	-0.00593	-0.00223	-0.00586	-0.00219	-0.00520	-0.00176	-0.00511	-0.00173	-0.00516	-0.00199
-0.02630	-0.00957	-0.02679	-0.00975	-0.01400	-0.00537	-0.01427	-0.00548	-0.01431	-0.00519	-0.01137	-0.00437	-0.01146	-0.00440	-0.00589	-0.00234	-0.00582	-0.00229	-0.00517	-0.00185	-0.00509	-0.00182	-0.00513	-0.00208
-0.02620	-0.01006	-0.02667	-0.01024	-0.01392	-0.00563	-0.01418	-0.00573	-0.01427	-0.00545	-0.01128	-0.00456	-0.01135	-0.00459	-0.00585	-0.00244	-0.00578	-0.00239	-0.00514	-0.00194	-0.00506	-0.00191	-0.00509	-0.00217
-0.02609	-0.01054	-0.02655	-0.01073	-0.01384	-0.00588	-0.01409	-0.00598	-0.01421	-0.00572	-0.01118	-0.00475	-0.01125	-0.00478	-0.00580	-0.00254	-0.00574	-0.00249	-0.00511	-0.00203	-0.00503	-0.00200	-0.00506	-0.00226
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-0.00190	-0.02724	-0.00187	-0.02668	-0.00078	-0.01494	-0.00077	-0.01465	-0.00106	-0.01415	-0.00065	-0.01238	-0.00064	-0.01223	-0.00032	-0.00600	-0.00032	-0.00576	-0.00051	-0.00646	-0.00051	-0.00629	-0.00040	-0.00758
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0.01221	-0.02396	0.01206	-0.02366	0.00695	-0.01308	0.00689	-0.01296	0.00571	-0.01140	0.00625	-0.01176	0.00622	-0.01171	0.00273	-0.00522	0.00266	-0.00511	0.00256	-0.00515	0.00253	-0.00512	0.00310	-0.00596
0.01263	-0.02375	0.01247	-0.02346	0.00718	-0.01295	0.00712	-0.01285	0.00590	-0.01128	0.00647	-0.01167	0.00644	-0.01162	0.00282	-0.00517	0.00275	-0.00507	0.00264	-0.00509	0.00261	-0.00506	0.00318	-0.00586
0.01304	-0.02352	0.01289	-0.02325	0.00740	-0.01282	0.00735	-0.01273	0.00608	-0.01115	0.00668	-0.01157	0.00665	-0.01152	0.00291	-0.00511	0.00283	-0.00502	0.00272	-0.00503	0.00269	-0.00499	0.00325	-0.00575
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0.01425	-0.02281	0.01411	-0.02257	0.00806	-0.01242	0.00801	-0.01234	0.00662	-0.01075	0.00730	-0.01124	0.00728	-0.01121	0.00316	-0.00494	0.00309	-0.00487	0.00295	-0.00484	0.00291	-0.00479	0.00345	-0.00544
0.01465	-0.02255	0.01450	-0.02233	0.00828	-0.01227	0.00823	-0.01220	0.00679	-0.01062	0.00750	-0.01112	0.00749	-0.01110	0.00324	-0.00489	0.00318	-0.00482	0.00303	-0.00478	0.00298	-0.00473	0.00352	-0.00534
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0.01690	-0.02087	0.01679	-0.02074	0.00951	-0.01133	0.00948	-0.01130	0.00780	-0.00977	0.00866	-0.01032	0.00867	-0.01034	0.00372	-0.00451	0.00366	-0.00447	0.00346	-0.00437	0.00339	-0.00430	0.00387	-0.00474
0.01726	-0.02057	0.01716	-0.02045	0.00970	-0.01116	0.00968	-0.01114	0.00796	-0.00963	0.00884	-0.01017	0.00886	-0.01019	0.00380	-0.00445	0.00374	-0.00441	0.00353	-0.00430	0.00346	-0.00423	0.00393	-0.00464
0.01761	-0.02026	0.01751	-0.02015	0.00989	-0.01098	0.00988	-0.01097	0.00812	-0.00948	0.00902	-0.01002	0.00905	-0.01005	0.00387	-0.00438	0.00382	-0.00435	0.00359	-0.00423	0.00352	-0.00416	0.00398	-0.00454
0.01795	-0.01994	0.01786	-0.01984	0.01008	-0.01081	0.01007	-0.01080	0.00827	-0.00933	0.00919	-0.00986	0.00923	-0.00989	0.00395	-0.00431	0.00390	-0.00428	0.00366	-0.00415	0.00358	-0.00408	0.00403	-0.00444
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0.01861	-0.01928	0.01855	-0.01921	0.01044	-0.01044	0.01045	-0.01045	0.00858	-0.00902	0.00953	-0.00953	0.00957	-0.00957	0.00410	-0.00418	0.00405	-0.00415	0.00378	-0.00400	0.00369	-0.00393	0.00413	-0.00425
0.01894	-0.01894	0.01888	-0.01888	0.01062	-0.01025	0.01063	-0.01026	0.00873	-0.00887	0.00969	-0.00936	0.00974	-0.00941	0.00417	-0.00410	0.00412	-0.00408	0.00384	-0.00393	0.00375	-0.00385	0.00418	-0.00416
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0.01956	-0.01824	0.01953	-0.01821	0.01096	-0.00987	0.01098	-0.00989	0.00903	-0.00855	0.01000	-0.00901	0.01007	-0.00907	0.00431	-0.00396	0.00427	-0.00394	0.00396	-0.00377	0.00386	-0.00370	0.00428	-0.00397
0.01986	-0.01788	0.01984	-0.01786	0.01113	-0.00967	0.01116	-0.00970	0.00918	-0.00840	0.01015	-0.00883	0.01023	-0.00889	0.00438	-0.00389	0.00434	-0.00387	0.00401	-0.00370	0.00391	-0.00362	0.00432	-0.00387
0.02015	-0.01751	0.02014	-0.01751	0.01129	-0.00947	0.01133	-0.00950	0.00932	-0.00823	0.01030	-0.00864	0.01038	-0.00871	0.00445	-0.00381	0.00441	-0.00380	0.00407	-0.00362	0.00396	-0.00354	0.00437	-0.00378
0.02043	-0.01714	0.02044	-0.01715	0.01145	-0.00927	0.01149	-0.00930	0.00946	-0.00807	0.01044	-0.00846	0.01053	-0.00853	0.00452	-0.00374	0.00448	-0.00373	0.00412	-0.00354	0.00401	-0.00346	0.00441	-0.00369
0.02071	-0.01677	0.02073	-0.01679	0.01160	-0.00906	0.01165	-0.00910	0.00961	-0.00791	0.01058	-0.00827	0.01068	-0.00834	0.00459	-0.00366	0.00455	-0.00365	0.00417	-0.00346	0.00406	-0.00338	0.00445	-0.00360
0.02098	-0.01639	0.02102	-0.01642	0.01175	-0.00886	0.01181	-0.00890	0.00974	-0.00774	0.01071	-0.00807	0.01082	-0.00815	0.00465	-0.00359	0.00461	-0.00358	0.00422	-0.00338	0.00411	-0.00330	0.00450	-0.00350
0.02124	-0.01600	0.02129	-0.01605	0.01190	-0.00864	0.01196	-0.00869	0.00988	-0.00757	0.01084	-0.00788	0.01096	-0.00796	0.00472	-0.00351	0.00468	-0.00350	0.00427	-0.00329	0.00416	-0.00322	0.00454	-0.00341
0.02149	-0.01562	0.02156	-0.01567	0.01204	-0.00843	0.01211	-0.00848	0.01002	-0.00741	0.01097	-0.00768	0.01109	-0.00776	0.00478	-0.00343	0.00474	-0.00342	0.00431	-0.00321	0.00420	-0.00314	0.00458	-0.00332
0.02174	-0.01522	0.02182	-0.01528	0.01218	-0.00822	0.01226	-0.00827	0.01015	-0.00724	0.01109	-0.00748	0.01122	-0.00757	0.00484	-0.00335	0.00481	-0.00334	0.00436	-0.00313	0.00425	-0.00306	0.00462	-0.00323
0.02198	-0.01482	0.02208	-0.01489	0.01232	-0.00800	0.01240	-0.00805	0.01029	-0.00706	0.01121	-0.00728	0.01134	-0.00736	0.00491	-0.00327	0.00487	-0.00326	0.00440	-0.00304	0.00429	-0.00298	0.00465	-0.00314

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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0.02221	-0.01442	0.02233	-0.01450	0.01245	-0.00778	0.01254	-0.00783	0.01042	-0.00689	0.01132	-0.00707	0.01146	-0.00716	0.00497	-0.00319	0.00493	-0.00318	0.00444	-0.00296	0.00433	-0.00290	0.00469	-0.00305
0.02243	-0.01402	0.02256	-0.01410	0.01257	-0.00755	0.01267	-0.00761	0.01055	-0.00672	0.01142	-0.00686	0.01157	-0.00695	0.00503	-0.00310	0.00499	-0.00310	0.00448	-0.00288	0.00437	-0.00282	0.00473	-0.00296
0.02265	-0.01361	0.02280	-0.01370	0.01270	-0.00733	0.01280	-0.00739	0.01068	-0.00654	0.01153	-0.00665	0.01168	-0.00674	0.00508	-0.00302	0.00505	-0.00302	0.00452	-0.00279	0.00441	-0.00274	0.00476	-0.00287
0.02285	-0.01319	0.02302	-0.01329	0.01281	-0.00710	0.01293	-0.00717	0.01081	-0.00636	0.01162	-0.00644	0.01178	-0.00653	0.00514	-0.00293	0.00510	-0.00293	0.00456	-0.00271	0.00445	-0.00266	0.00480	-0.00278
0.02305	-0.01278	0.02324	-0.01288	0.01293	-0.00687	0.01305	-0.00694	0.01093	-0.00618	0.01171	-0.00623	0.01188	-0.00632	0.00520	-0.00285	0.00516	-0.00285	0.00459	-0.00262	0.00449	-0.00258	0.00483	-0.00269
0.02325	-0.01236	0.02345	-0.01247	0.01304	-0.00664	0.01317	-0.00671	0.01106	-0.00600	0.01179	-0.00601	0.01197	-0.00610	0.00525	-0.00276	0.00522	-0.00276	0.00463	-0.00253	0.00453	-0.00249	0.00487	-0.00260
0.02343	-0.01194	0.02365	-0.01205	0.01315	-0.00641	0.01329	-0.00648	0.01118	-0.00582	0.01188	-0.00579	0.01206	-0.00588	0.00531	-0.00267	0.00527	-0.00268	0.00466	-0.00245	0.00457	-0.00241	0.00490	-0.00251
0.02361	-0.01152	0.02385	-0.01163	0.01325	-0.00618	0.01340	-0.00625	0.01130	-0.00563	0.01195	-0.00557	0.01214	-0.00566	0.00536	-0.00259	0.00532	-0.00259	0.00469	-0.00236	0.00460	-0.00233	0.00493	-0.00242
0.02378	-0.01109	0.02403	-0.01121	0.01335	-0.00594	0.01350	-0.00601	0.01142	-0.00545	0.01203	-0.00535	0.01222	-0.00544	0.00541	-0.00250	0.00538	-0.00250	0.00473	-0.00228	0.00464	-0.00225	0.00496	-0.00233
0.02395	-0.01066	0.02422	-0.01078	0.01344	-0.00571	0.01360	-0.00577	0.01153	-0.00526	0.01209	-0.00513	0.01229	-0.00522	0.00546	-0.00241	0.00543	-0.00241	0.00476	-0.00219	0.00467	-0.00216	0.00499	-0.00224
0.02410	-0.01023	0.02439	-0.01035	0.01353	-0.00547	0.01370	-0.00554	0.01165	-0.00507	0.01216	-0.00491	0.01236	-0.00500	0.00551	-0.00231	0.00548	-0.00232	0.00479	-0.00210	0.00470	-0.00208	0.00502	-0.00215
0.02426	-0.00980	0.02456	-0.00992	0.01362	-0.00523	0.01380	-0.00530	0.01176	-0.00488	0.01222	-0.00469	0.01243	-0.00477	0.00556	-0.00222	0.00552	-0.00223	0.00481	-0.00201	0.00473	-0.00200	0.00505	-0.00206
0.02440	-0.00937	0.02472	-0.00949	0.01370	-0.00499	0.01389	-0.00505	0.01187	-0.00468	0.01228	-0.00447	0.01249	-0.00455	0.00560	-0.00213	0.00557	-0.00214	0.00484	-0.00193	0.00476	-0.00191	0.00508	-0.00197
0.02454	-0.00893	0.02487	-0.00905	0.01378	-0.00475	0.01397	-0.00481	0.01198	-0.00449	0.01233	-0.00424	0.01255	-0.00432	0.00564	-0.00203	0.00561	-0.00204	0.00486	-0.00184	0.00479	-0.00183	0.00510	-0.00188
0.02467	-0.00849	0.02502	-0.00862	0.01386	-0.00450	0.01406	-0.00457	0.01209	-0.00429	0.01237	-0.00402	0.01260	-0.00409	0.00568	-0.00194	0.00566	-0.00195	0.00489	-0.00175	0.00482	-0.00174	0.00513	-0.00179
0.02480	-0.00806	0.02516	-0.00818	0.01393	-0.00426	0.01414	-0.00432	0.01220	-0.00409	0.01241	-0.00380	0.01264	-0.00387	0.00572	-0.00184	0.00570	-0.00185	0.00491	-0.00167	0.00485	-0.00166	0.00515	-0.00170
0.02492	-0.00762	0.02530	-0.00773	0.01400	-0.00401	0.01421	-0.00407	0.01230	-0.00389	0.01245	-0.00357	0.01268	-0.00364	0.00576	-0.00174	0.00574	-0.00176	0.00494	-0.00158	0.00487	-0.00157	0.00517	-0.00161
0.02503	-0.00718	0.02543	-0.00729	0.01406	-0.00377	0.01428	-0.00383	0.01240	-0.00368	0.01248	-0.00334	0.01271	-0.00341	0.00580	-0.00165	0.00578	-0.00166	0.00496	-0.00149	0.00490	-0.00149	0.00520	-0.00152
0.02514	-0.00674	0.02555	-0.00685	0.01412	-0.00352	0.01435	-0.00358	0.01250	-0.00348	0.01250	-0.00312	0.01274	-0.00318	0.00583	-0.00155	0.00581	-0.00156	0.00498	-0.00140	0.00492	-0.00140	0.00522	-0.00143
0.02524	-0.00629	0.02567	-0.00640	0.01417	-0.00327	0.01441	-0.00333	0.01260	-0.00327	0.01252	-0.00289	0.01276	-0.00295	0.00587	-0.00145	0.00585	-0.00146	0.00500	-0.00131	0.00494	-0.00131	0.00524	-0.00134
0.02534	-0.00585	0.02578	-0.00595	0.01423	-0.00302	0.01447	-0.00307	0.01270	-0.00306	0.01254	-0.00267	0.01278	-0.00272	0.00590	-0.00135	0.00588	-0.00136	0.00502	-0.00123	0.00496	-0.00123	0.00525	-0.00125
0.02543	-0.00541	0.02588	-0.00550	0.01427	-0.00277	0.01452	-0.00282	0.01279	-0.00285	0.01255	-0.00244	0.01279	-0.00249	0.00593	-0.00125	0.00591	-0.00127	0.00503	-0.00114	0.00498	-0.00114	0.00527	-0.00116
0.02552	-0.00496	0.02598	-0.00505	0.01432	-0.00252	0.01457	-0.00257	0.01288	-0.00263	0.01256	-0.00221	0.01280	-0.00226	0.00595	-0.00115	0.00594	-0.00116	0.00505	-0.00105	0.00500	-0.00105	0.00529	-0.00106
0.02560	-0.00451	0.02608	-0.00460	0.01436	-0.00227	0.01462	-0.00232	0.01297	-0.00242	0.01256	-0.00199	0.01281	-0.00203	0.00598	-0.00105	0.00597	-0.00106	0.00507	-0.00096	0.00502	-0.00097	0.00530	-0.00097
0.02567	-0.00407	0.02616	-0.00414	0.01440	-0.00202	0.01466	-0.00206	0.01306	-0.00220	0.01256	-0.00177	0.01281	-0.00180	0.00600	-0.00094	0.00600	-0.00096	0.00508	-0.00087	0.00504	-0.00088	0.00532	-0.00088
0.02574	-0.00362	0.02624	-0.00369	0.01443	-0.00177	0.01470	-0.00180	0.01314	-0.00198	0.01255	-0.00154	0.01280	-0.00157	0.00602	-0.00084	0.00602	-0.00086	0.00510	-0.00079	0.00505	-0.00079	0.00533	-0.00079
0.02581	-0.00317	0.02632	-0.00323	0.01446	-0.00152	0.01473	-0.00155	0.01322	-0.00176	0.01255	-0.00132	0.01279	-0.00134	0.00604	-0.00074	0.00604	-0.00076	0.00511	-0.00070	0.00506	-0.00070	0.00534	-0.00070
0.02587	-0.00272	0.02639	-0.00277	0.01449	-0.00127	0.01476	-0.00129	0.01330	-0.00153	0.01253	-0.00110	0.01278	-0.00112	0.00606	-0.00063	0.00606	-0.00065	0.00513	-0.00061	0.00508	-0.00062	0.00535	-0.00061
0.02593	-0.00227	0.02645	-0.00231	0.01451	-0.00101	0.01479	-0.00103	0.01338	-0.00131	0.01252	-0.00088	0.01276	-0.00089	0.00608	-0.00053	0.00608	-0.00055	0.00514	-0.00052	0.00509	-0.00053	0.00536	-0.00051
0.02598	-0.00182	0.02651	-0.00185	0.01453	-0.00076	0.01481	-0.00078	0.01346	-0.00108	0.01249	-0.00065	0.01274	-0.00067	0.00609	-0.00042	0.00610	-0.00044	0.00515	-0.00043	0.00510	-0.00044	0.00537	-0.00042
0.02602	-0.00136	0.02657	-0.00139	0.01454	-0.00051	0.01483	-0.00052	0.01353	-0.00085	0.01247	-0.00044	0.01271	-0.00044	0.00610	-0.00032	0.00611	-0.00034	0.00516	-0.00034	0.00510	-0.00035	0.00538	-0.00033
0.02606	-0.00091	0.02661	-0.00093	0.01456	-0.00025	0.01485	-0.00026	0.01360	-0.00061	0.01244	-0.00022	0.01268	-0.00022	0.00611	-0.00021	0.00613	-0.00023	0.00517	-0.00025	0.00511	-0.00026	0.00539	-0.00024
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0.02613	0.00000	0.02669	0.00000	0.01457	0.00025	0.01486	0.00026	0.01374	-0.00014	0.01237	0.00022	0.01261	0.00022	0.00612	0.00000	0.00614	-0.00002	0.00519	-0.00007	0.00512	-0.00008	0.00539	-0.00005
0.02615	0.00046	0.02672	0.00047	0.01457	0.00051	0.01487	0.00052	0.01380	0.00010	0.01232	0.00043	0.01256	0.00044	0.00612	0.00010	0.00615	0.00008	0.00520	0.00002	0.00513	0.00000	0.00539	0.00004
0.02617	0.00091	0.02675	0.00093	0.01457	0.00076	0.01487	0.00078	0.01386	0.00034	0.01228	0.00064	0.01251	0.00066	0.00612	0.00021	0.00615	0.00019	0.00520	0.00011	0.00513	0.00009	0.00540	0.00013
0.02619	0.00137	0.02677	0.00140	0.01456	0.00102	0.01486	0.00104	0.01391	0.00058	0.01223	0.00086	0.01246	0.00087	0.00612	0.00032	0.00615	0.00030	0.00521	0.00020	0.00513	0.00018	0.00539	0.00022
0.02620	0.00183	0.02678	0.00187	0.01455	0.00127	0.01485	0.00130	0.01396	0.00083	0.01218	0.00107	0.01241	0.00109	0.00611	0.00042	0.00614	0.00040	0.00522	0.00029	0.00513	0.00027	0.00539	0.00032
0.02620	0.00229	0.02679	0.00234	0.01454	0.00153	0.01484	0.00156	0.01401	0.00108	0.01212	0.00127	0.01235	0.00130	0.00611	0.00053	0.00614	0.00051	0.00522	0.00038	0.00513	0.00036	0.00539	0.00041
0.02620	0.00275	0.02679	0.00282	0.01452	0.00178	0.01482	0.00182	0.01405	0.00133	0.01206	0.00148	0.01229	0.00151	0.00610	0.00063	0.00613	0.00062	0.00522	0.00048	0.00513	0.00045	0.00539	0.00050
0.02620	0.00322	0.02679	0.00329	0.01450	0.00204	0.01480	0.00208	0.01409	0.00158	0.01200	0.00169	0.01222	0.00172	0.00609	0.00074	0.00612	0.00072	0.00523	0.00057	0.00513	0.00054	0.00538	0.00060
0.02619	0.00368	0.02677	0.00376	0.01448	0.00229	0.01478	0.00234	0.01413	0.00183	0.01194	0.00189	0.01215	0.00192	0.00608	0.00084	0.00611	0.00083	0.00523	0.00066	0.00512	0.00063	0.00538	0.00069
0.02617	0.00415	0.02676	0.00424	0.01445	0.00255	0.01474	0.00260	0.01416	0.00209	0.01187	0.00209	0.01208	0.00213	0.00607	0.00095	0.00610	0.00093	0.00523	0.00075	0.00512	0.00072	0.00537	0.00078
0.02615	0.00461	0.02673	0.00471	0.01442	0.00280	0.01471	0.00286	0.01419	0.00234	0.01180	0.00229	0.01200	0.00233	0.00606	0.00106	0.00609	0.00104	0.00523	0.00085	0.00511	0.00081	0.00536	0.00087
0.02613	0.00508	0.02670	0.00519	0.01438	0.00306	0.01467	0.00312	0.01421	0.00260	0.01172	0.00249	0.01193	0.00253	0.00605	0.00116	0.00608	0.00115	0.00523	0.00094	0.00510	0.00090	0.00535	0.00097
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0.02606	0.00602	0.02662	0.00615	0.01430	0.00356	0.01458	0.00364	0.01424	0.00312	0.01157	0.00289	0.01176	0.00293	0.00602	0.00137	0.00604	0.00136	0.00522	0.00113	0.00509	0.00108	0.00533	0.00115
0.02601	0.00649	0.02657	0.00663	0.01425	0.00382	0.01453	0.00389	0.01425	0.00339	0.01149	0.00308	0.01168	0.00313	0.00600	0.00148	0.00603	0.00146	0.00521	0.00122	0.00508	0.00117	0.00531	0.00125
0.02596	0.00696	0.02652	0.00710	0.01420	0.00407	0.01448	0.00415	0.01426	0.00365	0.01141	0.00327	0.01159	0.00332	0.00598	0.00158	0.00601	0.00157	0.00520	0.00132	0.00507	0.00126	0.00530	0.00134
0.02591	0.00743	0.02645	0.00758	0.01415	0.00432	0.01442	0.00441	0.01425	0.00392	0.01132	0.00346	0.01150	0.00352	0.00595	0.00169	0.00598	0.00167	0.00520	0.00141	0.00505	0.00135	0.00528	0.00143
0.02585	0.00790	0.02638	0.00807	0.01409	0.00458	0.01435	0.00466	0.01424	0.00418	0.01124	0.00365	0.01141	0.00371	0.00593	0.00179	0.00596	0.00178	0.00519	0.00150	0.00504	0.00144	0.00526	0.00152
0.02578	0.00838	0.02630	0.00855	0.01402	0.00483	0.01428	0.00492	0.01423	0.00445	0.01115	0.00384	0.01131	0.00390	0.00590	0.00190	0.00593	0.00188	0.00518	0.00160	0.00503	0.00153	0.00524	0.00162
0.02570	0.00885	0.02621	0.00903	0.01396	0.00508	0.01421	0.00517	0.01421	0.00471	0.01105	0.00402	0.01121	0.00408	0.00588	0.00200	0.00591	0.00199	0.00516	0.00169	0.00501	0.00163	0.00523	0.00171
0.02562	0.00932	0.02612	0.00951	0.01388	0.00533	0.01413	0.00542	0.01419	0.00498	0.01096	0.00421	0.01111	0.00427	0.00585	0.00210	0.00588	0.00209	0.00515	0.00179	0.00499	0.00172	0.00521	0.00180
0.02553	0.00980	0.02601	0.00999	0.01381	0.00558	0.01404	0.00567	0.01416	0.00525	0.01086	0.00439	0.01101	0.00445	0.00581	0.00220	0.00585	0.00219	0.00513	0.00189	0.00498	0.00181	0.00518	0.00190
0.02543	0.01028	0.02590	0.01047	0.01373	0.00583	0.01396	0.00592	0.01412	0.00552	0.01076	0.00457	0.01091	0.00463	0.00578	0.00231	0.00581	0.00230	0.00512	0.00198	0.00496	0.00190	0.00516	0.00199
0.02533	0.01075	0.02578	0.01094	0.01364	0.00607	0.01386	0.00617	0.01408	0.00579	0.01066	0.00475	0.01080	0.00481	0.00574	0.00241	0.00578	0.00240	0.00510	0.00208	0.00494	0.00199	0.00514	0.00208
0.02522	0.01123	0.02565	0.01142	0.01355	0.00632	0.01377	0.00642	0.01403	0.00605	0.01056	0.00492	0.01069	0.00499	0.00570	0.00251	0.00574	0.00250	0.00508	0.00217	0.00492	0.00208	0.00511	0.00217
0.02510	0.01170	0.02551	0.01190	0.01346	0.00657	0.01366	0.00666	0.01398	0.00632	0.01045	0.00510	0.01058	0.00516	0.00565	0.00260	0.00570	0.00260	0.00505	0.00227	0.00490	0.00218	0.00508	0.00227
0.02497	0.01218	0.02537	0.01237	0.01336	0.00681	0.01356	0.00691	0.01392	0.00659	0.01034	0.00527	0.01047	0.00533	0.00561	0.00270	0.00566	0.00270	0.00503	0.00236	0.00487	0.00227	0.00506	0.00236
0.02483	0.01265	0.02521	0.01284	0.01326	0.00705	0.01345	0.00715	0.01385	0.00685	0.01023	0.00544	0.01035	0.00550	0.00556	0.00280	0.00562	0.00280	0.00500	0.00246	0.00485	0.00236	0.00503	0.00245
0.02468	0.01312	0.02504	0.01332	0.01316	0.00729	0.01333	0.00739	0.01377	0.00712	0.01012	0.00561	0.01024	0.00567	0.00551	0.00289	0.00557	0.00290	0.00497	0.00255	0.00483	0.00245	0.00500	0.00254
0.02453	0.01360	0.02487	0.01378	0.01305	0.00753	0.01321	0.00763	0.01369	0.00738	0.01001	0.00578	0.01012	0.00584	0.00546	0.00299	0.00552	0.00299	0.00494	0.00264	0.00480	0.00255	0.00497	0.00264
0.02436	0.01407	0.02468	0.01425	0.01293	0.00777	0.01309	0.00786	0.01361	0.00764	0.00990	0.00595	0.01000	0.00601	0.00540	0.00308	0.00546	0.00309	0.00491	0.00274	0.00477	0.00264	0.00493	0.00273
0.02419	0.01453	0.02448	0.01471	0.01281	0.00801	0.01296	0.00810	0.01351	0.00790	0.00978	0.00611	0.00988	0.00617	0.00534	0.00317	0.00541	0.00318	0.00488	0.00283	0.00474	0.00273	0.00490	0.00282
0.02400	0.01500	0.02427	0.01517	0.01269	0.00824	0.01282	0.00833	0.01341	0.00816	0.00966	0.00627	0.00975	0.00633	0.00529	0.00326	0.00535	0.00327	0.00484	0.00292	0.00471	0.00282	0.00487	0.00291
0.02381	0.01546	0.02405	0.01562	0.01256	0.00847	0.01269	0.00856	0.01330	0.00841	0.00954	0.00644	0.00963	0.00650	0.00523	0.00335	0.00529	0.00336	0.00480	0.00302	0.00468	0.00292	0.00483	0.00301
0.02361	0.01592	0.02383	0.01607	0.01243	0.00870	0.01254	0.00878	0.01319	0.00867	0.00942	0.00660	0.00950	0.00665	0.00516	0.00344	0.00523	0.00345	0.00476	0.00311	0.00465	0.00301	0.00480	0.00310
0.02339	0.01638	0.02359	0.01652	0.01229	0.00893	0.01239	0.00900	0.01307	0.00892	0.00930	0.00676	0.00938	0.00681	0.00510	0.00352	0.00517	0.00354	0.00472	0.00320	0.00462	0.00310	0.00476	0.00319
0.02316	0.01683	0.02333	0.01695	0.01215	0.00915	0.01224	0.00922	0.01294	0.00916	0.00918	0.00691	0.00925	0.00697	0.00504	0.00361	0.00510	0.00363	0.00468	0.00329	0.00458	0.00320	0.00472	0.00328
0.02293	0.01728	0.02307	0.01739	0.01200	0.00938	0.01208	0.00944	0.01281	0.00941	0.00905	0.00707	0.00912	0.00712	0.00497	0.00369	0.00504	0.00371	0.00464	0.00338	0.00454	0.00329	0.00468	0.00338
0.02268	0.01772	0.02280	0.01781	0.01185	0.00960	0.01192	0.00965	0.01267	0.00965	0.00892	0.00722	0.00898	0.00727	0.00490	0.00377	0.00497	0.00380	0.00459	0.00347	0.00451	0.00338	0.00464	0.00347
0.02242	0.01816	0.02251	0.01823	0.01169	0.00981	0.01175	0.00986	0.01252	0.00988	0.00879	0.00738	0.00885	0.00742	0.00483	0.00385	0.00490	0.00388	0.00454	0.00356	0.00447	0.00348	0.00460	0.00356
0.02215	0.01859	0.02222	0.01864	0.01153	0.01002	0.01158	0.01007	0.01236	0.01011	0.00866	0.00753	0.00871	0.00757	0.00476	0.00393	0.00482	0.00396	0.00449	0.00365	0.00442	0.00357	0.00455	0.00366
0.02187	0.01901	0.02191	0.01905	0.01137	0.01023	0.01140	0.01027	0.01220	0.01034	0.00853	0.00768	0.00857	0.00772	0.00469	0.00401	0.00475	0.00404	0.00444	0.00374	0.00438	0.00366	0.00451	0.00375
0.02157	0.01942	0.02159	0.01944	0.01120	0.01044	0.01122	0.01047	0.01203	0.01056	0.00839	0.00783	0.00844	0.00787	0.00461	0.00409	0.00468	0.00411	0.00439	0.00383	0.00433	0.00375	0.00446	0.00385

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
[Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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0.02127	0.01983	0.02127	0.01983	0.01102	0.01064	0.01104	0.01066	0.01186	0.01078	0.00826	0.00797	0.00830	0.00801	0.00454	0.00416	0.00460	0.00419	0.00434	0.00392	0.00429	0.00384	0.00442	0.00394
0.02095	0.02023	0.02093	0.02021	0.01084	0.01084	0.01085	0.01085	0.01168	0.01099	0.00812	0.00812	0.00815	0.00815	0.00446	0.00424	0.00452	0.00426	0.00428	0.00401	0.00424	0.00394	0.00437	0.00403
0.02062	0.02062	0.02058	0.02058	0.01066	0.01104	0.01066	0.01104	0.01149	0.01120	0.00798	0.00827	0.00801	0.00830	0.00438	0.00431	0.00444	0.00433	0.00423	0.00410	0.00419	0.00403	0.00432	0.00413
0.02028	0.02100	0.02022	0.02094	0.01047	0.01123	0.01046	0.01122	0.01130	0.01141	0.00784	0.00841	0.00787	0.00844	0.00430	0.00438	0.00436	0.00440	0.00417	0.00418	0.00413	0.00412	0.00427	0.00423
0.01993	0.02138	0.01985	0.02129	0.01028	0.01142	0.01026	0.01140	0.01110	0.01160	0.00770	0.00855	0.00772	0.00857	0.00422	0.00445	0.00428	0.00447	0.00411	0.00427	0.00408	0.00421	0.00422	0.00432
0.01957	0.02174	0.01947	0.02162	0.01009	0.01160	0.01006	0.01157	0.01090	0.01179	0.00755	0.00869	0.00757	0.00871	0.00414	0.00452	0.00419	0.00454	0.00405	0.00436	0.00402	0.00429	0.00417	0.00442
0.01920	0.02209	0.01908	0.02195	0.00989	0.01178	0.00985	0.01174	0.01069	0.01198	0.00741	0.00883	0.00742	0.00885	0.00406	0.00458	0.00411	0.00461	0.00399	0.00444	0.00397	0.00438	0.00412	0.00451
0.01882	0.02243	0.01868	0.02227	0.00968	0.01196	0.00964	0.01191	0.01047	0.01215	0.00726	0.00897	0.00727	0.00898	0.00397	0.00465	0.00402	0.00467	0.00392	0.00453	0.00391	0.00447	0.00406	0.00461
0.01843	0.02276	0.01828	0.02257	0.00947	0.01213	0.00943	0.01207	0.01025	0.01233	0.00711	0.00910	0.00712	0.00911	0.00389	0.00471	0.00394	0.00473	0.00386	0.00461	0.00384	0.00456	0.00401	0.00471
0.01803	0.02308	0.01786	0.02287	0.00926	0.01229	0.00921	0.01223	0.01003	0.01249	0.00696	0.00924	0.00696	0.00924	0.00380	0.00477	0.00385	0.00479	0.00379	0.00470	0.00378	0.00465	0.00395	0.00481
0.01762	0.02338	0.01744	0.02315	0.00905	0.01246	0.00899	0.01238	0.00980	0.01265	0.00681	0.00937	0.00681	0.00937	0.00372	0.00483	0.00376	0.00485	0.00373	0.00478	0.00372	0.00473	0.00389	0.00490
0.01720	0.02368	0.01701	0.02342	0.00883	0.01261	0.00877	0.01252	0.00956	0.01280	0.00665	0.00950	0.00665	0.00949	0.00363	0.00490	0.00367	0.00491	0.00366	0.00487	0.00365	0.00482	0.00383	0.00500
0.01678	0.02396	0.01658	0.02368	0.00861	0.01277	0.00854	0.01267	0.00932	0.01295	0.00649	0.00963	0.00649	0.00962	0.00355	0.00495	0.00358	0.00496	0.00359	0.00495	0.00358	0.00490	0.00377	0.00510
0.01634	0.02423	0.01614	0.02393	0.00839	0.01291	0.00832	0.01281	0.00908	0.01308	0.00633	0.00975	0.00632	0.00974	0.00346	0.00501	0.00349	0.00502	0.00352	0.00504	0.00351	0.00498	0.00371	0.00520
0.01590	0.02449	0.01569	0.02416	0.00816	0.01306	0.00808	0.01294	0.00884	0.01322	0.00617	0.00988	0.00616	0.00986	0.00337	0.00507	0.00340	0.00507	0.00345	0.00512	0.00344	0.00506	0.00364	0.00529
0.01545	0.02473	0.01524	0.02439	0.00793	0.01320	0.00785	0.01307	0.00859	0.01334	0.00601	0.01000	0.00599	0.00998	0.00328	0.00512	0.00331	0.00513	0.00338	0.00521	0.00336	0.00515	0.00357	0.00539
0.01500	0.02496	0.01478	0.02460	0.00770	0.01333	0.00762	0.01319	0.00833	0.01346	0.00584	0.01012	0.00583	0.01009	0.00319	0.00518	0.00322	0.00518	0.00330	0.00529	0.00329	0.00523	0.00350	0.00549
0.01454	0.02518	0.01432	0.02480	0.00746	0.01346	0.00738	0.01331	0.00808	0.01357	0.00568	0.01024	0.00566	0.01021	0.00310	0.00523	0.00312	0.00523	0.00323	0.00538	0.00321	0.00530	0.00343	0.00558
0.01408	0.02539	0.01385	0.02499	0.00722	0.01358	0.00714	0.01342	0.00782	0.01367	0.00551	0.01036	0.00549	0.01032	0.00301	0.00528	0.00303	0.00528	0.00315	0.00546	0.00313	0.00538	0.00336	0.00568
0.01361	0.02559	0.01339	0.02517	0.00698	0.01370	0.00690	0.01353	0.00756	0.01376	0.00534	0.01047	0.00531	0.01043	0.00292	0.00534	0.00294	0.00533	0.00307	0.00555	0.00305	0.00546	0.00328	0.00578
0.01313	0.02578	0.01291	0.02534	0.00674	0.01381	0.00665	0.01364	0.00730	0.01385	0.00516	0.01059	0.00514	0.01054	0.00282	0.00539	0.00284	0.00538	0.00299	0.00563	0.00296	0.00553	0.00320	0.00587
0.01266	0.02595	0.01244	0.02550	0.00649	0.01392	0.00641	0.01374	0.00703	0.01393	0.00499	0.01070	0.00496	0.01065	0.00273	0.00544	0.00275	0.00542	0.00290	0.00571	0.00288	0.00560	0.00312	0.00597
0.01218	0.02611	0.01196	0.02565	0.00624	0.01402	0.00616	0.01384	0.00677	0.01400	0.00481	0.01081	0.00479	0.01075	0.00264	0.00548	0.00266	0.00547	0.00282	0.00579	0.00279	0.00568	0.00304	0.00606
0.01169	0.02626	0.01148	0.02579	0.00599	0.01412	0.00591	0.01393	0.00650	0.01407	0.00463	0.01092	0.00461	0.01085	0.00254	0.00553	0.00256	0.00551	0.00273	0.00587	0.00270	0.00575	0.00296	0.00616
0.01121	0.02640	0.01100	0.02592	0.00574	0.01421	0.00566	0.01401	0.00623	0.01412	0.00445	0.01103	0.00443	0.01095	0.00245	0.00558	0.00247	0.00556	0.00264	0.00594	0.00261	0.00581	0.00287	0.00625
0.01072	0.02653	0.01052	0.02604	0.00549	0.01430	0.00541	0.01409	0.00596	0.01418	0.00427	0.01113	0.00424	0.01105	0.00235	0.00562	0.00237	0.00560	0.00255	0.00601	0.00252	0.00588	0.00278	0.00634
0.01023	0.02665	0.01004	0.02615	0.00524	0.01439	0.00516	0.01417	0.00569	0.01422	0.00409	0.01123	0.00406	0.01115	0.00226	0.00567	0.00227	0.00564	0.00246	0.00608	0.00243	0.00594	0.00269	0.00643
0.00974	0.02676	0.00956	0.02625	0.00498	0.01447	0.00491	0.01425	0.00542	0.01426	0.00390	0.01133	0.00387	0.01124	0.00216	0.00571	0.00217	0.00568	0.00236	0.00615	0.00233	0.00600	0.00260	0.00652
0.00925	0.02686	0.00907	0.02635	0.00472	0.01454	0.00465	0.01432	0.00515	0.01430	0.00371	0.01142	0.00368	0.01133	0.00206	0.00575	0.00208	0.00572	0.00226	0.00622	0.00223	0.00606	0.00250	0.00661
0.00876	0.02695	0.00859	0.02643	0.00447	0.01461	0.00440	0.01438	0.00488	0.01432	0.00352	0.01151	0.00349	0.01141	0.00197	0.00579	0.00198	0.00576	0.00216	0.00628	0.00213	0.00611	0.00240	0.00669
0.00827	0.02703	0.00810	0.02650	0.00421	0.01467	0.00414	0.01444	0.00461	0.01434	0.00333	0.01160	0.00330	0.01150	0.00187	0.00583	0.00188	0.00579	0.00206	0.00633	0.00203	0.00616	0.00230	0.00678
0.00777	0.02711	0.00762	0.02657	0.00395	0.01473	0.00388	0.01449	0.00434	0.01435	0.00313	0.01169	0.00310	0.01158	0.00177	0.00587	0.00178	0.00583	0.00195	0.00638	0.00193	0.00621	0.00220	0.00686
0.00728	0.02717	0.00714	0.02663	0.00369	0.01479	0.00363	0.01455	0.00407	0.01435	0.00293	0.01177	0.00291	0.01166	0.00167	0.00590	0.00168	0.00586	0.00184	0.00642	0.00182	0.00625	0.00210	0.00694
0.00679	0.02723	0.00665	0.02669	0.00343	0.01484	0.00337	0.01459	0.00380	0.01436	0.00274	0.01185	0.00271	0.01173	0.00157	0.00594	0.00158	0.00589	0.00173	0.00646	0.00171	0.00629	0.00199	0.00701
0.00630	0.02727	0.00617	0.02673	0.00316	0.01488	0.00311	0.01464	0.00353	0.01435	0.00254	0.01193	0.00251	0.01180	0.00147	0.00597	0.00148	0.00592	0.00162	0.00649	0.00160	0.00632	0.00188	0.00708
0.00581	0.02731	0.00569	0.02677	0.00290	0.01492	0.00285	0.01468	0.00327	0.01434	0.00233	0.01200	0.00231	0.01187	0.00136	0.00599	0.00138	0.00594	0.00150	0.00652	0.00149	0.00635	0.00176	0.00715
0.00532	0.02734	0.00521	0.02680	0.00264	0.01496	0.00259	0.01471	0.00300	0.01433	0.00213	0.01207	0.00210	0.01193	0.00126	0.00602	0.00127	0.00596	0.00139	0.00654	0.00138	0.00637	0.00165	0.00721
0.00483	0.02737	0.00473	0.02683	0.00238	0.01500	0.00233	0.01474	0.00274	0.01431	0.00192	0.01214	0.00190	0.01200	0.00116	0.00604	0.00117	0.00598	0.00127	0.00656	0.00127	0.00639	0.00153	0.00727
0.00434	0.02738	0.00425	0.02684	0.00211	0.01502	0.00208	0.01477	0.00248	0.01428	0.00171	0.01220	0.00169	0.01205	0.00105	0.00606	0.00106	0.00599	0.00116	0.00657	0.00116	0.00641	0.00141	0.00731
0.00385	0.02739	0.00377	0.02686	0.00185	0.01505	0.00182	0.01479	0.00222	0.01426	0.00151	0.01226	0.00149	0.01211	0.00095	0.00607	0.00096	0.00600	0.00104	0.00657	0.00105	0.00642	0.00129	0.00736
0.00336	0.02740	0.00330	0.02686	0.00158	0.01507	0.00156	0.01481	0.00196	0.01422	0.00129	0.01231	0.00128	0.01216	0.00084	0.00609	0.00086	0.00601	0.00093	0.00657	0.00093	0.00642	0.00116	0.00740
0.00288	0.02739	0.00282	0.02686	0.00132	0.01508	0.00130	0.01483	0.00170	0.01418	0.00108	0.01237	0.00107	0.01221	0.00074	0.00610	0.00075	0.00602	0.00081	0.00657	0.00082	0.00643	0.00104	0.00743
0.00240	0.02738	0.00235	0.02686	0.00106	0.01509	0.00104	0.01484	0.00145	0.01414	0.00087	0.01241	0.00086	0.01225	0.00063	0.00610	0.00065	0.00602	0.00069	0.00656	0.00071	0.00642	0.00091	0.00746
0.00191	0.02737	0.00188	0.02685	0.00079	0.01510	0.00078	0.01484	0.00120	0.01409	0.00065	0.01246	0.00064	0.01230	0.00052	0.00611	0.00054	0.00602	0.00058	0.00655	0.00059	0.00642	0.00079	0.00748
0.00143	0.02734	0.00141	0.02683	0.00053	0.01510	0.00052	0.01484	0.00095	0.01404	0.00044	0.01250	0.00043	0.01233	0.00042	0.00611	0.00044	0.00602	0.00046	0.00653	0.00048	0.00641	0.00066	0.00750
0.00095	0.02731	0.00094	0.02681	0.00026	0.01509	0.00026	0.01484	0.00070	0.01398	0.00022	0.01254	0.00022	0.01237	0.00031	0.00611	0.00033	0.00602	0.00034	0.00650	0.00037	0.00639	0.00053	0.00751
0.00048	0.02728	0.00047	0.02678	0.00000	0.01509	0.00000	0.01484	0.00045	0.01392	0.00000	0.01257	0.00000	0.01240	0.00021	0.00610	0.00023	0.00602	0.00023	0.00648	0.00025	0.00637	0.00040	0.00751
0.00000	0.02724	0.00000	0.02674	-0.00026	0.01508	-0.00026	0.01483	0.00021	0.01386	-0.00022	0.01260	-0.00022	0.01242	0.00010	0.00610	0.00012	0.00601	0.00012	0.00645	0.00014	0.00634	0.00027	0.00751
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-0.00095	0.02713	-0.00093	0.02666	-0.00079	0.01504	-0.00078	0.01480	-0.00027	0.01373	-0.00066	0.01265	-0.00065	0.01246	-0.00011	0.00608	-0.00008	0.00600	-0.00011	0.00637	-0.00008	0.00628	0.00001	0.00750
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-0.00282	0.02687	-0.00278	0.02643	-0.00183	0.01492	-0.00180	0.01470	-0.00120	0.01343	-0.00156	0.01268	-0.00153	0.01249	-0.00053	0.00602	-0.00050	0.00594	-0.00054	0.00619	-0.00050	0.00612	-0.00050	0.00742
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-0.01004	0.02486	-0.00996	0.02464	-0.00585	0.01378	-0.00580	0.01365	-0.00457	0.01188	-0.00513	0.01207	-0.00506	0.01191	-0.00211	0.00553	-0.00206	0.00549	-0.00199	0.00522	-0.00195	0.00519	-0.00235	0.00661
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-0.01091	0.02450	-0.01082	0.02431	-0.00632	0.01356	-0.00627	0.01345	-0.00496	0.01165	-0.00556	0.01192	-0.00548	0.01176	-0.00229	0.00545	-0.00225	0.00541	-0.00215	0.00509	-0.00211	0.00505	-0.00255	0.00645
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-0.01176	0.02411	-0.01168	0.02395	-0.00679	0.01333	-0.00674	0.01323	-0.00534	0.01142	-0.00598	0.01174	-0.00591	0.01159	-0.00247	0.00535	-0.00243	0.00532	-0.00231	0.00497	-0.00225	0.00492	-0.00273	0.00628
-0.01218	0.02390	-0.01211	0.02376	-0.00702	0.01321	-0.00697	0.01312	-0.00552	0.01130	-0.00619	0.01165	-0.00612	0.01151	-0.00256	0.00531	-0.00252	0.00528	-0.00238	0.00490	-0.00233	0.00486	-0.00282	0.00620
-0.01260	0.02369	-0.01253	0.02357	-0.00725	0.01308	-0.00720	0.01300	-0.00570	0.01118	-0.00640	0.01155	-0.00633	0.01141	-0.00265	0.00526	-0.00261	0.00523	-0.00246	0.00484	-0.00240	0.00479	-0.00291	0.00611

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Copies are Uncontrolled

-0.01301	0.02347	-0.01295	0.02336	-0.00747	0.01295	-0.00743	0.01287	-0.00589	0.01105	-0.00661	0.01145	-0.00653	0.01132	-0.00274	0.00521	-0.00270	0.00519	-0.00253	0.00478	-0.00247	0.00473	-0.00299	0.00602
-0.01342	0.02325	-0.01337	0.02315	-0.00770	0.01281	-0.00766	0.01274	-0.00606	0.01093	-0.00682	0.01134	-0.00674	0.01122	-0.00283	0.00516	-0.00279	0.00514	-0.00260	0.00472	-0.00254	0.00466	-0.00308	0.00593
-0.01383	0.02301	-0.01378	0.02293	-0.00792	0.01267	-0.00788	0.01261	-0.00624	0.01080	-0.00702	0.01123	-0.00694	0.01111	-0.00292	0.00511	-0.00288	0.00509	-0.00268	0.00466	-0.00261	0.00459	-0.00316	0.00584
-0.01423	0.02277	-0.01419	0.02270	-0.00814	0.01253	-0.00810	0.01248	-0.00642	0.01067	-0.00722	0.01112	-0.00715	0.01100	-0.00301	0.00506	-0.00297	0.00504	-0.00275	0.00460	-0.00268	0.00453	-0.00324	0.00575
-0.01463	0.02252	-0.01459	0.02247	-0.00835	0.01238	-0.00832	0.01234	-0.00659	0.01054	-0.00742	0.01100	-0.00735	0.01089	-0.00309	0.00500	-0.00305	0.00499	-0.00282	0.00454	-0.00275	0.00446	-0.00332	0.00566
-0.01502	0.02227	-0.01499	0.02223	-0.00856	0.01223	-0.00854	0.01219	-0.00676	0.01041	-0.00762	0.01088	-0.00754	0.01077	-0.00318	0.00495	-0.00314	0.00493	-0.00289	0.00448	-0.00281	0.00440	-0.00339	0.00556
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-0.01579	0.02173	-0.01578	0.02172	-0.00898	0.01192	-0.00896	0.01189	-0.00710	0.01014	-0.00800	0.01062	-0.00793	0.01052	-0.00335	0.00484	-0.00331	0.00482	-0.00303	0.00435	-0.00294	0.00427	-0.00354	0.00538
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-0.01691	0.02088	-0.01692	0.02090	-0.00958	0.01142	-0.00958	0.01142	-0.00760	0.00973	-0.00856	0.01020	-0.00849	0.01012	-0.00360	0.00466	-0.00356	0.00465	-0.00324	0.00417	-0.00313	0.00408	-0.00375	0.00510
-0.01727	0.02058	-0.01730	0.02061	-0.00977	0.01125	-0.00978	0.01125	-0.00777	0.00959	-0.00873	0.01005	-0.00867	0.00998	-0.00368	0.00460	-0.00364	0.00459	-0.00331	0.00411	-0.00320	0.00401	-0.00382	0.00501
-0.01763	0.02028	-0.01766	0.02032	-0.00997	0.01107	-0.00997	0.01108	-0.00793	0.00945	-0.00891	0.00990	-0.00885	0.00983	-0.00376	0.00454	-0.00372	0.00453	-0.00338	0.00405	-0.00326	0.00395	-0.00388	0.00492
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-0.01994	0.01795	-0.02004	0.01804	-0.01120	0.00974	-0.01125	0.00978	-0.00902	0.00842	-0.01005	0.00874	-0.01002	0.00871	-0.00431	0.00408	-0.00426	0.00407	-0.00384	0.00360	-0.00369	0.00350	-0.00430	0.00428
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-0.02054	0.01723	-0.02066	0.01733	-0.01152	0.00933	-0.01159	0.00938	-0.00932	0.00811	-0.01034	0.00838	-0.01032	0.00836	-0.00445	0.00393	-0.00441	0.00393	-0.00396	0.00347	-0.00381	0.00337	-0.00441	0.00410
-0.02082	0.01686	-0.02095	0.01697	-0.01167	0.00912	-0.01175	0.00918	-0.00946	0.00795	-0.01048	0.00819	-0.01046	0.00818	-0.00453	0.00386	-0.00448	0.00386	-0.00402	0.00340	-0.00387	0.00330	-0.00446	0.00401
-0.02111	0.01649	-0.02125	0.01660	-0.01182	0.00891	-0.01191	0.00897	-0.00961	0.00779	-0.01062	0.00800	-0.01060	0.00799	-0.00460	0.00379	-0.00455	0.00378	-0.00408	0.00333	-0.00393	0.00324	-0.00452	0.00391
-0.02138	0.01611	-0.02153	0.01622	-0.01197	0.00870	-0.01206	0.00876	-0.00975	0.00763	-0.01075	0.00781	-0.01074	0.00780	-0.00467	0.00371	-0.00462	0.00371	-0.00414	0.00326	-0.00399	0.00317	-0.00456	0.00382
-0.02165	0.01573	-0.02181	0.01584	-0.01211	0.00848	-0.01221	0.00855	-0.00989	0.00746	-0.01088	0.00762	-0.01087	0.00761	-0.00474	0.00364	-0.00469	0.00363	-0.00420	0.00319	-0.00405	0.00310	-0.00461	0.00373
-0.02191	0.01534	-0.02208	0.01546	-0.01225	0.00826	-0.01236	0.00834	-0.01003	0.00730	-0.01100	0.00742	-0.01100	0.00742	-0.00481	0.00356	-0.00476	0.00356	-0.00426	0.00311	-0.00410	0.00304	-0.00466	0.00364
-0.02216	0.01495	-0.02234	0.01507	-0.01239	0.00804	-0.01250	0.00812	-0.01017	0.00713	-0.01112	0.00722	-0.01113	0.00723	-0.00488	0.00348	-0.00483	0.00348	-0.00431	0.00304	-0.00416	0.00297	-0.00471	0.00355
-0.02240	0.01455	-0.02259	0.01467	-0.01252	0.00782	-0.01264	0.00790	-0.01031	0.00696	-0.01124	0.00702	-0.01125	0.00703	-0.00494	0.00340	-0.00489	0.00340	-0.00437	0.00297	-0.00422	0.00290	-0.00475	0.00345
-0.02264	0.01415	-0.02284	0.01427	-0.01264	0.00760	-0.01278	0.00768	-0.01044	0.00680	-0.01135	0.00682	-0.01136	0.00683	-0.00501	0.00332	-0.00496	0.00332	-0.00442	0.00289	-0.00427	0.00283	-0.00479	0.00336
-0.02287	0.01374	-0.02308	0.01387	-0.01277	0.00737	-0.01291	0.00745	-0.01058	0.00662	-0.01146	0.00661	-0.01148	0.00663	-0.00507	0.00324	-0.00502	0.00323	-0.00447	0.00282	-0.00433	0.00276	-0.00484	0.00327
-0.02309	0.01333	-0.02331	0.01346	-0.01289	0.00714	-0.01303	0.00722	-0.01071	0.00645	-0.01156	0.00641	-0.01158	0.00642	-0.00514	0.00315	-0.00508	0.00315	-0.00452	0.00274	-0.00438	0.00269	-0.00488	0.00317
-0.02331	0.01292	-0.02354	0.01305	-0.01300	0.00691	-0.01316	0.00700	-0.01084	0.00628	-0.01166	0.00620	-0.01169	0.00622	-0.00520	0.00307	-0.00514	0.00307	-0.00457	0.00266	-0.00443	0.00261	-0.00492	0.00308
-0.02352	0.01251	-0.02376	0.01263	-0.01311	0.00668	-0.01328	0.00676	-0.01098	0.00610	-0.01175	0.00599	-0.01179	0.00601	-0.00526	0.00298	-0.00520	0.00298	-0.00462	0.00258	-0.00448	0.00254	-0.00496	0.00299
-0.02372	0.01209	-0.02397	0.01221	-0.01322	0.00645	-0.01339	0.00653	-0.01111	0.00592	-0.01184	0.00578	-0.01188	0.00580	-0.00532	0.00290	-0.00526	0.00290	-0.00467	0.00250	-0.00453	0.00246	-0.00499	0.00290
-0.02392	0.01167	-0.02417	0.01179	-0.01332	0.00621	-0.01350	0.00630	-0.01124	0.00574	-0.01193	0.00556	-0.01198	0.00558	-0.00537	0.00281	-0.00531	0.00281	-0.00471	0.00242	-0.00458	0.00239	-0.00503	0.00280
-0.02411	0.01124	-0.02437	0.01136	-0.01342	0.00598	-0.01361	0.00606	-0.01136	0.00556	-0.01201	0.00535	-0.01206	0.00537	-0.00543	0.00272	-0.00537	0.00272	-0.00476	0.00234	-0.00463	0.00231	-0.00507	0.00271
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-0.02463	0.00995	-0.02492	0.01007	-0.01369	0.00526	-0.01390	0.00534	-0.01173	0.00500	-0.01222	0.00469	-0.01229	0.00472	-0.00559	0.00245	-0.00553	0.00245	-0.00488	0.00209	-0.00476	0.00208	-0.00517	0.00243
-0.02479	0.00952	-0.02509	0.00963	-0.01378	0.00501	-0.01399	0.00509	-0.01186	0.00481	-0.01228	0.00447	-0.01235	0.00450	-0.00564	0.00235	-0.00558	0.00236	-0.00492	0.00201	-0.00481	0.00200	-0.00520	0.00234
-0.02495	0.00908	-0.02526	0.00919	-0.01386	0.00477	-0.01408	0.00485	-0.01197	0.00462	-0.01234	0.00425	-0.01241	0.00427	-0.00569	0.00226	-0.00563	0.00226	-0.00495	0.00192	-0.00485	0.00192	-0.00523	0.00224
-0.02509	0.00864	-0.02542	0.00875	-0.01394	0.00453	-0.01416	0.00460	-0.01209	0.00442	-0.01239	0.00403	-0.01247	0.00405	-0.00574	0.00216	-0.00567	0.00217	-0.00499	0.00184	-0.00489	0.00183	-0.00526	0.00215
-0.02524	0.00820	-0.02557	0.00831	-0.01401	0.00428	-0.01425	0.00436	-0.01221	0.00423	-0.01244	0.00380	-0.01252	0.00383	-0.00578	0.00207	-0.00572	0.00207	-0.00502	0.00175	-0.00493	0.00175	-0.00529	0.00206
-0.02537	0.00776	-0.02571	0.00786	-0.01408	0.00404	-0.01432	0.00411	-0.01232	0.00403	-0.01248	0.00358	-0.01257	0.00361	-0.00582	0.00197	-0.00576	0.00198	-0.00506	0.00167	-0.00497	0.00167	-0.00531	0.00196
-0.02550	0.00731	-0.02585	0.00741	-0.01414	0.00379	-0.01439	0.00386	-0.01243	0.00383	-0.01252	0.00336	-0.01262	0.00338	-0.00587	0.00187	-0.00580	0.00188	-0.00509	0.00158	-0.00500	0.00158	-0.00534	0.00187
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-0.02575	0.00642	-0.02612	0.00651	-0.01426	0.00329	-0.01452	0.00335	-0.01265	0.00342	-0.01260	0.00291	-0.01270	0.00293	-0.00594	0.00167	-0.00588	0.00168	-0.00515	0.00140	-0.00507	0.00141	-0.00539	0.00168
-0.02586	0.00597	-0.02624	0.00606	-0.01432	0.00304	-0.01459	0.00310	-0.01275	0.00321	-0.01263	0.00268	-0.01273	0.00271	-0.00598	0.00157	-0.00591	0.00158	-0.00518	0.00131	-0.00510	0.00133	-0.00541	0.00159
-0.02596	0.00552	-0.02635	0.00560	-0.01436	0.00279	-0.01464	0.00285	-0.01286	0.00300	-0.01265	0.00246	-0.01276	0.00248	-0.00601	0.00147	-0.00595	0.00148	-0.00520	0.00123	-0.00513	0.00124	-0.00543	0.00149
-0.02607	0.00507	-0.02646	0.00514	-0.01441	0.00254	-0.01469	0.00259	-0.01296	0.00278	-0.01267	0.00223	-0.01278	0.00225	-0.00604	0.00137	-0.00598	0.00138	-0.00523	0.00114	-0.00516	0.00115	-0.00545	0.00140
-0.02616	0.00461	-0.02657	0.00468	-0.01445	0.00229	-0.01474	0.00233	-0.01306	0.00257	-0.01269	0.00201	-0.01280	0.00203	-0.00608	0.00127	-0.00601	0.00128	-0.00525	0.00105	-0.00518	0.00106	-0.00547	0.00130
-0.02625	0.00416	-0.02667	0.00422	-0.01449	0.00204	-0.01478	0.00208	-0.01316	0.00235	-0.01270	0.00178	-0.01281	0.00180	-0.00610	0.00116	-0.00604	0.00118	-0.00528	0.00096	-0.00521	0.00097	-0.00548	0.00121
-0.02634	0.00370	-0.02676	0.00376	-0.01453	0.00178	-0.01482	0.00182	-0.01325	0.00213	-0.01270	0.00156	-0.01282	0.00157	-0.00613	0.00106	-0.00607	0.00108	-0.00530	0.00086	-0.00523	0.00089	-0.00550	0.00111
-0.02641	0.00324	-0.02685	0.00330	-0.01456	0.00153	-0.01486	0.00156	-0.01335	0.00191	-0.01271	0.00134	-0.01283	0.00135	-0.00616	0.00095	-0.00610	0.00097	-0.00532	0.00077	-0.00525	0.00079	-0.00551	0.00102
-0.02649	0.00278	-0.02693	0.00283	-0.01459	0.00128	-0.01489	0.00130	-0.01344	0.00168	-0.01271	0.00111	-0.01283	0.00112	-0.00618	0.00085	-0.00612	0.00087	-0.00533	0.00068	-0.00527	0.00070	-0.00552	0.00092
-0.02655	0.00232	-0.02701	0.00236	-0.01461	0.00102	-0.01492	0.00104	-0.01352	0.00146	-0.01270	0.00089	-0.01282	0.00090	-0.00620	0.00074	-0.00614	0.00076	-0.00535	0.00059	-0.00529	0.00061	-0.00554	0.00082
-0.02662	0.00186	-0.02708	0.00189	-0.01464	0.00077	-0.01495	0.00078	-0.01361	0.00123	-0.01269	0.00067	-0.01281	0.00067	-0.00623	0.00064	-0.00617	0.00066	-0.00537	0.00050	-0.00530	0.00052	-0.00555	0.00073
-0.02667	0.00140	-0.02714	0.00142	-0.01465	0.00051	-0.01497	0.00052	-0.01369	0.00099	-0.01268	0.00044	-0.01280	0.00045	-0.00624	0.00053	-0.00619	0.00055	-0.00538	0.00040	-0.00531	0.00043	-0.00555	0.00063
-0.02672	0.00093	-0.02720	0.00095					-0.01377	0.00076					-0.00626	0.00042	-0.00620	0.00045	-0.00539	0.00031	-0.00532	0.00034	-0.00556	0.00054
-0.02677	0.00047	-0.02725	0.00048					-0.01384	0.00052					-0.00628	0.00031	-0.00622	0.00034	-0.00540	0.00022	-0.00533	0.00024	-0.00557	0.00044
								-0.01391	0.00028					-0.00629	0.00020	-0.00623	0.00023	-0.00541	0.00012	-0.00534	0.00015	-0.00557	0.00035

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

Manual: 2344649 Program: GMI

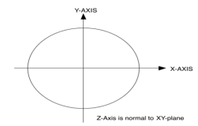
Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Contract: 09TDT00138

Emissivity Test Data

BALL PN: 2203140-500

SN: 001



10.65 GHz Band

DATE	FREQUENCY (GHz	MAX, MIN in Z axis	AREA OF LOAD	POLARIZATION	SWEEP PLANE	ANGLE °	MAX SHORT (dB)	MIN SHORT (dB)	MAX LOAD (dB)	MIN LOAD (dB)	REFERENCE MAX (dB)	MEAN SHORT (dB)	MEAN LOAD (dB)	CALCULATED RETURN (dB)	EMISSIVITY
6/22/2006	10.635939	1st set out	CENTER	V	-	0°	-5.39	-8.21	-51.3	-56.1	-65	-6.69	-53.37	-46.69	0.9999786
6/22/2006	10.635939	2nd set out	CENTER	V	-	0°	-6.05	-8.53	-51.7	-56.1	-65	-7.20	-53.62	-46.42	0.9999772
6/22/2006	10.635939	3rd set out	CENTER	V	-	0°	-6.44	-8.82	-51.8	-55.4	-65	-7.55	-53.41	-45.87	0.9999741
6/22/2006	10.635939	1st set out	CENTER	V	XZ PLANE	8°	-5.39	-8.21	-57.5	-63.0	-65	-6.69	-59.82	-53.14	0.9999951
6/22/2006	10.635939	2nd set out	CENTER	V	XZ PLANE	8°	-6.05	-8.53	-58.0	-63.5	-65	-7.20	-60.32	-53.12	0.9999951
6/22/2006	10.635939	3rd set out	CENTER	V	XZ PLANE	8°	-6.44	-8.82	-58.0	-63.5	-65	-7.55	-60.32	-52.77	0.9999947
6/22/2006	10.635939	1st set out	CENTER	V	XZ PLANE	10°	-5.39	-8.21	-60.5	-68.5	-65	-6.69	-63.61	-56.92	0.9999980
6/22/2006	10.635939	2nd set out	CENTER	V	XZ PLANE	10°	-6.05	-8.53	-60.8	-69.0	-65	-7.20	-63.97	-56.76	0.9999979
6/22/2006	10.635939	3rd set out	CENTER	V	XZ PLANE	10°	-6.44	-8.82	-60.8	-68.5	-65	-7.55	-63.82	-56.27	0.9999976
6/22/2006	10.635939	1st set out	CENTER	V	XZ PLANE	13°	-5.39	-8.21	-65.0	-77.0	-65	-6.69	-69.07	-62.39	0.9999994
6/22/2006	10.635939	2nd set out	CENTER	V	XZ PLANE	13°	-6.05	-8.53	-65.0	-76.0	-65	-7.20	-68.86	-61.66	0.9999993
6/22/2006	10.635939	3rd set out	CENTER	V	XZ PLANE	13°	-6.44	-8.82	-65.0	-76.0	-65	-7.55	-68.86	-61.32	0.9999993
6/22/2006	10.635732	1st set out	CENTER	H	-	0°	-5.37	-8.21	-51.9	-55.7	-65	-6.67	-53.59	-46.92	0.9999797
6/22/2006	10.635732	2nd set out	CENTER	H	-	0°	-5.98	-8.53	-51.9	-56.2	-65	-7.16	-53.79	-46.62	0.9999782
6/22/2006	10.635732	3rd set out	CENTER	H	-	0°	-6.4	-8.82	-51.5	-56.0	-65	-7.53	-53.46	-45.94	0.9999745
6/22/2006	10.635732	1st set out	CENTER	H	YZ PLANE	8°	-5.37	-8.21	-55.1	-64.5	-65	-6.67	-58.59	-51.91	0.9999936
6/22/2006	10.635732	2nd set out	CENTER	H	YZ PLANE	8°	-5.98	-8.53	-55.4	-64.2	-65	-7.16	-58.73	-51.57	0.9999930
6/22/2006	10.635732	3rd set out	CENTER	H	YZ PLANE	8°	-6.4	-8.82	-55.6	-65.5	-65	-7.53	-59.21	-51.68	0.9999932
6/22/2006	10.635732	1st set out	CENTER	H	YZ PLANE	10°	-5.37	-8.21	-57.5	-69.5	-65	-6.67	-61.57	-54.90	0.9999968
6/22/2006	10.635732	2nd set out	CENTER	H	YZ PLANE	10°	-5.98	-8.53	-57.8	-70.0	-65	-7.16	-61.91	-54.75	0.9999967
6/22/2006	10.635732	3rd set out	CENTER	H	YZ PLANE	10°	-6.4	-8.82	-58.0	-70.5	-65	-7.53	-62.17	-54.65	0.9999966
6/22/2006	10.635732	1st set out	CENTER	H	YZ PLANE	13°	-5.37	-8.21	-61.3	-80.0	-65	-6.67	-66.37	-59.69	0.9999989
6/22/2006	10.635732	2nd set out	CENTER	H	YZ PLANE	13°	-5.98	-8.53	-61.5	-80.0	-65	-7.16	-66.55	-59.38	0.9999988
6/22/2006	10.635732	3rd set out	CENTER	H	YZ PLANE	13°	-6.4	-8.82	-62.0	-80.0	-65	-7.53	-66.99	-59.46	0.9999989

Emissivity Uniformity Tests

6/22/2006	10.635939	1st set out	BEST PERFORMANCE	V	-	0°						-	-	-	-
6/22/2006	10.635939	2nd set out	BEST PERFORMANCE	V	-	0°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635939	3rd set out	BEST PERFORMANCE	V	-	0°						-	-	-	-
6/22/2006	10.635939	1st set out	WORST PERFORMANC	V	-	0°						-	-	-	-
6/22/2006	10.635939	2nd set out	WORST PERFORMANC	V	-	0°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635939	3rd set out	WORST PERFORMANC	V	-	0°						-	-	-	-
6/22/2006	10.635939	1st set out	BEST PERFORMANCE	V	XZ PLANE	12°	-5.39	-8.21	-63.2	-77.0	-65	-6.69	-67.61	-60.92	0.9999992
6/22/2006	10.635939	2nd set out	BEST PERFORMANCE	V	XZ PLANE	12°	-6.05	-8.53	-63.0	-76.0	-65	-7.20	-67.27	-60.06	0.9999990
6/22/2006	10.635939	3rd set out	BEST PERFORMANCE	V	XZ PLANE	12°	-6.44	-8.82	-64.0	-77.0	-65	-7.55	-68.27	-60.72	0.9999992
6/22/2006	10.635939	1st set out	WORST PERFORMANC	V	XZ PLANE	12°						-	-	-	-
6/22/2006	10.635939	2nd set out	WORST PERFORMANC	V	XZ PLANE	12°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635939	3rd set out	WORST PERFORMANC	V	XZ PLANE	12°						-	-	-	-
6/22/2006	10.635732	1st set out	BEST PERFORMANCE	H	-	0°						-	-	-	-
6/22/2006	10.635732	2nd set out	BEST PERFORMANCE	H	-	0°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635732	3rd set out	BEST PERFORMANCE	H	-	0°						-	-	-	-
6/22/2006	10.635732	1st set out	WORST PERFORMANC	H	-	0°						-	-	-	-
6/22/2006	10.635732	2nd set out	WORST PERFORMANC	H	-	0°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635732	3rd set out	WORST PERFORMANC	H	-	0°						-	-	-	-
6/22/2006	10.635732	1st set out	BEST PERFORMANCE	H	YZ PLANE	12°	-5.37	-8.21	-60.6	-77.0	-65	-6.67	-65.40	-58.72	0.9999987
6/22/2006	10.635732	2nd set out	BEST PERFORMANCE	H	YZ PLANE	12°	-5.98	-8.53	-60.8	-77.0	-65	-7.16	-65.57	-58.41	0.9999986
6/22/2006	10.635732	3rd set out	BEST PERFORMANCE	H	YZ PLANE	12°	-6.4	-8.82	-61.5	-77.0	-65	-7.53	-66.17	-58.65	0.9999986
6/22/2006	10.635732	1st set out	WORST PERFORMANC	H	YZ PLANE	12°						-	-	-	-
6/22/2006	10.635732	2nd set out	WORST PERFORMANC	H	YZ PLANE	12°	DISCERNIBLE CHANGE IN PERFORMANCE DUE TO XY TRANSLAT					-	-	-	-
6/22/2006	10.635732	3rd set out	WORST PERFORMANC	H	YZ PLANE	12°						-	-	-	-

Data Gathering Equipment Utilized

Model No./Serial No.	Calibration
HP 8340A /	2/8/2007
HP 8513A /	2/14/2007
HP 8510B /	2/14/2007

NOTES:

TEST HORN: BALL PROVIDED, APERTURE DIAMETER OF 4.34"
SHORT MAX AND MIN SETS RECORDED
BEGINNING 3.5" FROM HORN APERTURE
LOAD MAX AND MIN SETS RECORDED
BEGINNING WITH TIPS 1.5" FROM HORN APERTURE

Manual: 2344649 Program: GMI
Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

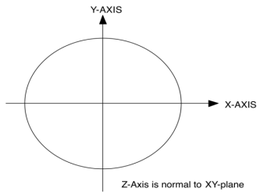
Copies are Uncontrolled

Contract: 09TDT00138

Emissivity Test Data

BALL PN: 2203140-500

SN: 001



89 GHz Band

DATE	FREQUENCY (GHz	MAX, MIN in Z axis	AREA OF LOAD	POLARIZATION	SWEEP PLANE	ANGLE °	MAX SHORT (dB)	MIN SHORT (dB)	MAX LOAD (dB)	MIN LOAD (dB)	REFERENCE MAX (dB)	MEAN SHORT (dB)	MEAN LOAD (dB)	CALCULATED RETURN (dB)	EMISSIVITY
6/14/2006	88.825	1st set out	CENTER	V	-	0°	-6.8	-10.5	-62.3	-69.0	-62	-8.45	-65.02	-56.56	0.9999978
6/14/2006	88.825	2nd set out	CENTER	V	-	0°	-6.9	-10.57	-62.5	-70.0	-62	-8.54	-65.46	-56.92	0.9999980
6/14/2006	88.825	3rd set out	CENTER	V	-	0°	-6.96	-10.65	-62.0	-70.0	-62	-8.61	-65.11	-56.50	0.9999978
6/14/2006	88.825	1st set out	CENTER	V	XZ PLANE	8°	-6.8	-10.5	-61.3	-69.0	-62	-8.45	-64.32	-55.87	0.9999974
6/14/2006	88.825	2nd set out	CENTER	V	XZ PLANE	8°	-6.9	-10.57	-61.2	-70.0	-62	-8.54	-64.53	-55.99	0.9999975
6/14/2006	88.825	3rd set out	CENTER	V	XZ PLANE	8°	-6.96	-10.65	-61.3	-70.0	-62	-8.61	-64.60	-55.99	0.9999975
6/14/2006	88.825	1st set out	CENTER	V	XZ PLANE	10°	-6.8	-10.5	-58.5	-63.7	-62	-8.45	-60.72	-52.26	0.9999941
6/14/2006	88.825	2nd set out	CENTER	V	XZ PLANE	10°	-6.9	-10.57	-58.5	-64.0	-62	-8.54	-60.82	-52.28	0.9999941
6/14/2006	88.825	3rd set out	CENTER	V	XZ PLANE	10°	-6.96	-10.65	-58.5	-64.0	-62	-8.61	-60.82	-52.21	0.9999940
6/14/2006	88.825	1st set out	CENTER	V	XZ PLANE	13°	-6.8	-10.5	-58.9	-64.5	-62	-8.45	-61.26	-52.80	0.9999948
6/14/2006	88.825	2nd set out	CENTER	V	XZ PLANE	13°	-6.9	-10.57	-58.5	-64.5	-62	-8.54	-60.99	-52.45	0.9999943
6/14/2006	88.825	3rd set out	CENTER	V	XZ PLANE	13°	-6.96	-10.65	-58.6	-64.8	-62	-8.61	-61.16	-52.55	0.9999944
6/14/2006	88.825	1st set out	CENTER	H	-	0°	-6.8	-10.5	-55.8	-60.0	-62	-8.45	-57.65	-49.19	0.9999880
6/14/2006	88.825	2nd set out	CENTER	H	-	0°	-6.9	-10.57	-55.8	-60.0	-62	-8.54	-57.65	-49.11	0.9999877
6/14/2006	88.825	3rd set out	CENTER	H	-	0°	-6.96	-10.65	-56.1	-60.0	-62	-8.61	-57.83	-49.22	0.9999880
6/14/2006	88.825	1st set out	CENTER	H	YZ PLANE	8°	-6.8	-10.5	-58.3	-67.5	-62	-8.45	-61.73	-53.28	0.9999953
6/14/2006	88.825	2nd set out	CENTER	H	YZ PLANE	8°	-6.9	-10.57	-59.0	-68.5	-62	-8.54	-62.51	-53.97	0.9999960
6/14/2006	88.825	3rd set out	CENTER	H	YZ PLANE	8°	-6.96	-10.65	-59.1	-68.0	-62	-8.61	-62.46	-53.85	0.9999959
6/14/2006	88.825	1st set out	CENTER	H	YZ PLANE	10°	-6.8	-10.5	-55.9	-61.2	-62	-8.45	-58.15	-49.70	0.9999893
6/14/2006	88.825	2nd set out	CENTER	H	YZ PLANE	10°	-6.9	-10.57	-56.2	-61.8	-62	-8.54	-58.56	-50.01	0.9999900
6/14/2006	88.825	3rd set out	CENTER	H	YZ PLANE	10°	-6.96	-10.65	-56.0	-61.2	-62	-8.61	-58.22	-49.61	0.9999891
6/14/2006	88.825	1st set out	CENTER	H	YZ PLANE	13°	-6.8	-10.5	-53.4	-56.9	-62	-8.45	-54.97	-46.52	0.9999777
6/14/2006	88.825	2nd set out	CENTER	H	YZ PLANE	13°	-6.9	-10.57	-53.4	-57.1	-62	-8.54	-55.05	-46.51	0.9999777
6/14/2006	88.825	3rd set out	CENTER	H	YZ PLANE	13°	-6.96	-10.65	-53.3	-57.1	-62	-8.61	-54.99	-46.38	0.9999770

Data Gathering Equipment Utilized

Model No./Serial No.	Calibration
HP 8340A /	2/8/2007
HP 8341A /	2/14/2007
HP 8510B /	2/14/2007
Wiltron 3640B-W /	2/14/2007

NOTES:
TEST HORN: BALL PROVIDED, APERTURE DIAMETER OF 1.13"
SHORT MAX AND MIN SETS RECORDED
BEGINNING 4.5" FROM HORN APERTURE
LOAD MAX AND MIN SETS RECORDED
BEGINNING WITH TIPS 2.5" FROM HORN APERTURE

Emissivity Uniformity Tests

6/15/2006	88.817	1st set out	BEST PERFORMANCE	V	-	0°	-6.91	-10.43	-70.0	-77.0	-61	-8.49	-72.81	-64.32	0.9999996
6/15/2006	88.817	2nd set out	BEST PERFORMANCE	V	-	0°	-6.98	-10.52	-70.5	-78.0	-61	-8.57	-73.46	-64.89	0.9999997
6/15/2006	88.817	3rd set out	BEST PERFORMANCE	V	-	0°	-7.05	-10.6	-71.0	-77.0	-61	-8.64	-73.49	-64.85	0.9999997
6/15/2006	88.8855	1st set out	WORST PERFORMANC	V	-	0°	-6.19	-10.59	-53.3	-60.3	-62	-8.11	-56.11	-48.00	0.9999841
6/15/2006	88.8855	2nd set out	WORST PERFORMANC	V	-	0°	-6.27	-10.68	-53.5	-60.8	-62	-8.20	-56.40	-48.21	0.9999849
6/15/2006	88.8855	3rd set out	WORST PERFORMANC	V	-	0°	-6.35	-10.76	-53.4	-61.0	-62	-8.28	-56.39	-48.12	0.9999846
6/15/2006	88.817	1st set out	BEST PERFORMANCE	V	XZ PLANE	9°	-6.91	-10.43	-69.0	-77.0	-61	-8.49	-72.11	-63.62	0.9999996
6/15/2006	88.817	2nd set out	BEST PERFORMANCE	V	XZ PLANE	9°	-6.98	-10.52	-68.0	-76.0	-61	-8.57	-71.11	-62.54	0.9999994
6/15/2006	88.817	3rd set out	BEST PERFORMANCE	V	XZ PLANE	9°	-7.05	-10.6	-68.0	-75.0	-61	-8.64	-70.81	-62.17	0.9999994
6/15/2006	88.817	1st set out	WORST PERFORMANC	V	XZ PLANE	9°	-6.91	-10.43	-52.6	-53.8	-61	-8.49	-53.18	-44.69	0.9999660
6/15/2006	88.817	2nd set out	WORST PERFORMANC	V	XZ PLANE	9°	-6.98	-10.52	-52.9	-54	-61	-8.57	-53.43	-44.86	0.9999674
6/15/2006	88.817	3rd set out	WORST PERFORMANC	V	XZ PLANE	9°	-7.05	-10.6	-53.2	-54.2	-61	-8.64	-53.69	-45.04	0.9999687
6/15/2006	88.8655	1st set out	BEST PERFORMANCE	H	-	0°	-6.21	-10.28	-70.0	-77.0	-63	-8.01	-72.81	-64.80	0.9999997
6/15/2006	88.8655	2nd set out	BEST PERFORMANCE	H	-	0°	-6.29	-10.36	-70.0	-76.0	-63	-8.09	-72.49	-64.40	0.9999996
6/15/2006	88.8655	3rd set out	BEST PERFORMANCE	H	-	0°	-6.36	-10.45	-70.0	-76.0	-63	-8.17	-72.49	-64.33	0.9999996
6/15/2006	88.8655	1st set out	WORST PERFORMANC	H	-	0°	-6.21	-10.28	-55.8	-56.3	-63	-8.01	-56.05	-48.04	0.9999843
6/15/2006	88.8655	2nd set out	WORST PERFORMANC	H	-	0°	-6.29	-10.36	-56.0	-56.8	-63	-8.09	-56.39	-48.30	0.9999852
6/15/2006	88.8655	3rd set out	WORST PERFORMANC	H	-	0°	-6.36	-10.45	-56.0	-56.8	-63	-8.17	-56.39	-48.22	0.9999849
6/15/2006	88.8655	1st set out	BEST PERFORMANCE	H	YZ PLANE	9°	-6.21	-10.28	-71.0	-76.0	-63	-8.01	-73.15	-65.14	0.9999997
6/15/2006	88.8655	2nd set out	BEST PERFORMANCE	H	YZ PLANE	9°	-6.29	-10.36	-70.0	-75.0	-63	-8.09	-72.15	-64.06	0.9999996
6/15/2006	88.8655	3rd set out	BEST PERFORMANCE	H	YZ PLANE	9°	-6.36	-10.45	-69.0	-77.0	-63	-8.17	-72.11	-63.94	0.9999996
6/15/2006	88.8655	1st set out	WORST PERFORMANC	H	YZ PLANE	9°	-6.21	-10.28	-56.7	-58.3	-63	-8.01	-57.46	-49.45	0.9999887
6/15/2006	88.8655	2nd set out	WORST PERFORMANC	H	YZ PLANE	9°	-6.29	-10.36	-56.7	-58.1	-63	-8.09	-57.37	-49.28	0.9999882
6/15/2006	88.8655	3rd set out	WORST PERFORMANC	H	YZ PLANE	9°	-6.36	-10.45	-56.6	-57.9	-63	-8.17	-57.23	-49.06	0.9999876

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

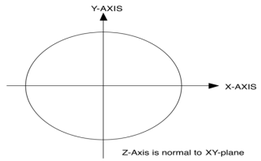
Copies are Uncontrolled

Contract: 09TDT00138

Emissivity Test Data

BALL PN: 2203140-500

SN: 001



190 GHz Band

DATE	FREQUENCY (GHz	MAX, MIN in Z axis	AREA OF LOAD	POLARIZATION	SWEEP PLANE	ANGLE °	MAX SHORT (dBm)	MIN SHORT (dBm)	MAX LOAD (dBm)	MIN LOAD (dBm)	REFERENCE MAX (dBm)	MEAN SHORT (dBm)	MEAN LOAD (dBm)	CALCULATED RETURN (dBm)	EMISSIVITY
8/5/2006	191.465	1st set out	CENTER	V	-	0°	-9	-11	-55.0	-66.0	-65	-9.94	-58.86	-48.92	0.9999872
8/5/2006	191.465	2nd set out	CENTER	V	-	0°	-9	-11	-56.0	-62.0	-65	-9.94	-58.49	-48.55	0.9999860
8/5/2006	191.465	3rd set out	CENTER	V	-	0°	-9	-11	-56.0	-63.0	-65	-9.94	-58.81	-48.87	0.9999870
8/5/2006	191.465	1st set out	CENTER	V	XZ PLANE	8°	-9	-11	-56.0	-70.0	-65	-9.94	-60.44	-50.50	0.9999911
8/5/2006	191.465	2nd set out	CENTER	V	XZ PLANE	8°	-9	-11	-55.0	-70.0	-65	-9.94	-59.60	-49.66	0.9999892
8/5/2006	191.465	3rd set out	CENTER	V	XZ PLANE	8°	-9	-11	-55.0	-72.0	-65	-9.94	-59.87	-49.93	0.9999898
8/5/2006	191.465	1st set out	CENTER	V	XZ PLANE	10°	-9	-11	-62	-73	-65	-9.94	-65.86	-55.92	0.9999974
8/5/2006	191.465	2nd set out	CENTER	V	XZ PLANE	10°	-9	-11	-61	-74	-65	-9.94	-65.27	-55.32	0.9999971
8/5/2006	191.465	3rd set out	CENTER	V	XZ PLANE	10°	-9	-11	-60	-73	-65	-9.94	-64.27	-54.32	0.9999963
8/5/2006	191.465	1st set out	CENTER	V	XZ PLANE	13°	-9	-11	-60.0	-70.0	-65	-9.94	-63.63	-53.69	0.9999957
8/5/2006	191.465	2nd set out	CENTER	V	XZ PLANE	13°	-9	-11	-58.0	-70.0	-65	-9.94	-62.07	-52.13	0.9999939
8/5/2006	191.465	3rd set out	CENTER	V	XZ PLANE	13°	-9	-11	-59.0	-70.0	-65	-9.94	-62.86	-52.92	0.9999949
8/5/2006	191.463	1st set out	CENTER	H	-	0°	-5	-9	-52.0	-63.0	-65	-6.77	-55.86	-49.09	0.9999877
8/5/2006	191.463	2nd set out	CENTER	H	-	0°	-5	-9	-52.0	-65.0	-65	-6.77	-56.27	-49.49	0.9999888
8/5/2006	191.463	3rd set out	CENTER	H	-	0°	-5	-9	-51.0	-72.0	-65	-6.77	-56.28	-49.51	0.9999888
8/5/2006	191.463	1st set out	CENTER	H	YZ PLANE	8°	-5	-9	-55.0	-75.0	-65	-6.77	-60.19	-53.42	0.9999955
8/5/2006	191.463	2nd set out	CENTER	H	YZ PLANE	8°	-5	-9	-54.0	-73.0	-65	-6.77	-59.10	-52.33	0.9999941
8/5/2006	191.463	3rd set out	CENTER	H	YZ PLANE	8°	-5	-9	-55.0	-73.0	-65	-6.77	-59.99	-53.22	0.9999952
8/5/2006	191.463	1st set out	CENTER	H	YZ PLANE	10°	-5	-9	-68.0	-75.0	-65	-6.77	-70.81	-64.04	0.9999996
8/5/2006	191.463	2nd set out	CENTER	H	YZ PLANE	10°	-5	-9	-67.0	-75.0	-65	-6.77	-70.11	-63.34	0.9999995
8/5/2006	191.463	3rd set out	CENTER	H	YZ PLANE	10°	-5	-9	-67.0	-75.0	-65	-6.77	-70.11	-63.34	0.9999995
8/5/2006	191.463	1st set out	CENTER	H	YZ PLANE	13°	-5	-9	-68.0	-75.0	-65	-6.77	-70.81	-64.04	0.9999996
8/5/2006	191.463	2nd set out	CENTER	H	YZ PLANE	13°	-5	-9	-67.5	-75.0	-65	-6.77	-70.46	-63.69	0.9999996
8/5/2006	191.463	3rd set out	CENTER	H	YZ PLANE	13°	-5	-9	-67.0	-75.0	-65	-6.77	-70.11	-63.34	0.9999995

Emissivity Uniformity Tests

8/5/2006	191.465	1st set out	BEST PERFORMANCE	V	-	0°	-9	-11	-60.0	-64.0	-65	-9.94	-61.77	-51.83	0.9999934
8/5/2006	191.465	2nd set out	BEST PERFORMANCE	V	-	0°	-9	-11	-60.0	-64.0	-65	-9.94	-61.77	-51.83	0.9999934
8/5/2006	191.465	3rd set out	BEST PERFORMANCE	V	-	0°	-9	-11	-60.0	-65.0	-65	-9.94	-62.15	-52.20	0.9999940
8/5/2006	191.465	1st set out	VORST PERFORMANC	V	-	0°	-9	-11	-53.0	-58.0	-65	-9.94	-55.15	-45.20	0.9999698
8/5/2006	191.465	2nd set out	VORST PERFORMANC	V	-	0°	-9	-11	-53.0	-58.0	-65	-9.94	-55.15	-45.20	0.9999698
8/5/2006	191.465	3rd set out	VORST PERFORMANC	V	-	0°	-9	-11	-53.0	-59.0	-65	-9.94	-55.49	-45.55	0.9999721
8/5/2006	191.465	1st set out	BEST PERFORMANCE	V	XZ PLANE	10°	-9	-11	-64.0	-74.0	-65	-9.94	-67.63	-57.69	0.9999983
8/5/2006	191.465	2nd set out	BEST PERFORMANCE	V	XZ PLANE	10°	-9	-11	-66.0	-74.0	-65	-9.94	-69.11	-59.17	0.9999988
8/5/2006	191.465	3rd set out	BEST PERFORMANCE	V	XZ PLANE	10°	-9	-11	-65.0	-74.0	-65	-9.94	-68.38	-58.44	0.9999986
8/5/2006	191.465	1st set out	VORST PERFORMANC	V	XZ PLANE	10°	-9	-11	-60	-74	-65	-9.94	-64.44	-54.50	0.9999965
8/5/2006	191.465	2nd set out	VORST PERFORMANC	V	XZ PLANE	10°	-9	-11	-59	-74	-65	-9.94	-63.60	-53.66	0.9999957
8/5/2006	191.465	3rd set out	VORST PERFORMANC	V	XZ PLANE	10°	-9	-11	-59	-74	-65	-9.94	-63.60	-53.66	0.9999957
8/5/2006	191.463	1st set out	BEST PERFORMANCE	H	-	0°	-5	-9	-62.0	-70.0	-65	-6.77	-65.11	-58.34	0.9999985
8/5/2006	191.463	2nd set out	BEST PERFORMANCE	H	-	0°	-5	-9	-61.0	-70.0	-65	-6.77	-64.38	-57.61	0.9999983
8/5/2006	191.463	3rd set out	BEST PERFORMANCE	H	-	0°	-5	-9	-62.0	-69.0	-65	-6.77	-64.81	-58.04	0.9999984
8/5/2006	191.463	1st set out	VORST PERFORMANC	H	-	0°	-5	-9	-53.0	-57.0	-65	-6.77	-54.77	-48.00	0.9999842
8/5/2006	191.463	2nd set out	VORST PERFORMANC	H	-	0°	-5	-9	-52.0	-57.0	-65	-6.77	-54.15	-47.37	0.9999817
8/5/2006	191.463	3rd set out	VORST PERFORMANC	H	-	0°	-5	-9	-52.0	-58.0	-65	-6.77	-54.49	-47.72	0.9999831
8/5/2006	191.463	1st set out	BEST PERFORMANCE	H	YZ PLANE	10°	-5	-9	-69.0	-74.0	-65	-6.77	-71.15	-64.37	0.9999996
8/5/2006	191.463	2nd set out	BEST PERFORMANCE	H	YZ PLANE	10°	-5	-9	-69.0	-74.0	-65	-6.77	-71.15	-64.37	0.9999996
8/5/2006	191.463	3rd set out	BEST PERFORMANCE	H	YZ PLANE	10°	-5	-9	-69.0	-73.0	-65	-6.77	-70.77	-64.00	0.9999996
8/5/2006	191.463	1st set out	VORST PERFORMANC	H	YZ PLANE	10°	-5	-9	-60.0	-68.0	-65	-6.77	-63.11	-56.34	0.9999977
8/5/2006	191.463	2nd set out	VORST PERFORMANC	H	YZ PLANE	10°	-5	-9	-61.0	-69.0	-65	-6.77	-64.11	-57.34	0.9999982
8/5/2006	191.463	3rd set out	VORST PERFORMANC	H	YZ PLANE	10°	-5	-9	-60.0	-70.0	-65	-6.77	-63.63	-56.86	0.9999979

Data Gathering Equipment Utilized

Model No./Serial No.	Calibration
Tektronix 494P /	2/10/2007

NOTES:
TESTS PERFORMED WITH CORRGATED HORN,
.38" DIAMETER APERTURE, ILLUMINATING BALL SUPPLIED
SUBREFLECTOR OF DIAMETER 1.20" (TUBE REMOVED)
SHORT MAX AND MIN SETS RECORDED BEGINNING 7.9"
FROM SUBREFLECTOR BASEPLATE
LOAD MAX AND MIN SETS RECORDED BEGINNING
WITH TIPS 5.9" FROM SUBREFLECTOR BASEPLATE

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Appendix K: Hot Load Gradient Correction Parameters

Current Operational Values

Frequency (GHz)	pol	w0	w1	u0	u1	u2	u3
10.65	vpol	0.000	1.000	0.006	0.001842	8.64057E-06	1.43994E-08
10.65	hpol	0.000	1.000	0.006	0.001842	8.64057E-06	1.43994E-08
18.7	vpol	0.000	1.000	0.034	0.005192	2.55512E-05	4.56092E-08
18.7	hpol	0.000	1.000	0.034	0.005192	2.55512E-05	4.56092E-08
23.8	vpol	0.000	1.000	0.039	0.006980	3.41741E-05	6.07519E-08
36.64	vpol	0.000	1.000	0.061	0.007250	3.50306E-05	5.9566E-08
36.64	hpol	0.000	1.000	0.061	0.007250	3.50306E-05	5.9566E-08
89	vpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
89	hpol	0.000	1.000	0.078	0.009411	4.39606E-05	6.89555E-08
166	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
166	hpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±3	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±7	vpol	0.000	1.000	0.055	0.008895	4.30404E-05	7.46213E-08

Obsolete Rev A-E Values (reference only)

	u0	u1	u2	u3
10.65 vpol	0.030	0.009208	4.32029E-05	7.19969E-08
10.65 hpol	0.030	0.009208	4.32029E-05	7.19969E-08
18.7 vpol	0.056	0.008654	4.25853E-05	7.60154E-08
18.7 hpol	0.056	0.008654	4.25853E-05	7.60154E-08
23.8 vpol	0.049	0.008725	4.27177E-05	7.59399E-08
36.64 vpol	0.077	0.009063	4.37882E-05	7.44574E-08
36.64 hpol	0.077	0.009063	4.37882E-05	7.44574E-08
89 vpol	0.078	0.009411	4.39606E-05	6.89555E-08
89 hpol	0.078	0.009411	4.39606E-05	6.89555E-08
166 vpol	0.055	0.008895	4.30404E-05	7.46213E-08
166 hpol	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±3 vpol	0.055	0.008895	4.30404E-05	7.46213E-08
183.31±7 vpol	0.055	0.008895	4.30404E-05	7.46213E-08

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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Appendix L: Cold Sky 6-dB Contours

Freq 10 GHz Instrument Rotation 163 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.521	-98.178	-0.13237	-0.92109	0.366164
72.463	-103.326	-0.21977	-0.92785	0.301325
73.385	-101.764	-0.19537	-0.93812	0.285946
73.386	-101.761	-0.19532	-0.93814	0.285923
73.660	-100.196	-0.16987	-0.94445	0.28134
73.640	-98.631	-0.144	-0.94864	0.281671
73.389	-97.067	-0.11789	-0.95099	0.285871
73.385	-97.050	-0.11761	-0.951	0.285946
72.850	-95.502	-0.09161	-0.95113	0.294881
72.017	-93.937	-0.0653	-0.9489	0.308734
72.000	-93.913	-0.06491	-0.94884	0.309017
70.615	-92.563	-0.04218	-0.94237	0.331908
70.294	-92.372	-0.03897	-0.94063	0.337196
69.231	-91.858	-0.03031	-0.93452	0.354605
67.846	-91.585	-0.02562	-0.92582	0.377095
66.462	-91.720	-0.02752	-0.91638	0.399365
65.077	-92.292	-0.03627	-0.90615	0.421401
64.962	-92.372	-0.0375	-0.90525	0.423219
63.692	-93.655	-0.05715	-0.8946	0.443192
63.492	-93.937	-0.06144	-0.89276	0.446327
62.843	-95.502	-0.08531	-0.88566	0.456428
62.641	-97.067	-0.10926	-0.8814	0.459558
62.836	-98.631	-0.13352	-0.87963	0.456536
63.392	-100.196	-0.15827	-0.87997	0.447885
63.692	-100.711	-0.1666	-0.88081	0.443192
64.363	-101.761	-0.18376	-0.88263	0.432666
65.077	-102.578	-0.19749	-0.88511	0.421401
65.879	-103.326	-0.21036	-0.88811	0.408658
66.462	-103.748	-0.21788	-0.89053	0.399365
67.846	-104.421	-0.23065	-0.89699	0.377095
69.231	-104.734	-0.2378	-0.90427	0.354605
70.615	-104.578	-0.23743	-0.91294	0.331908
72.000	-103.807	-0.22696	-0.92358	0.309017
72.463	-103.326	-0.21977	-0.92785	0.301325

Freq 18 GHz Instrument Rotation 177 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
58.113	-103.796	-0.20248	-0.82459	0.528253
58.771	-109.585	-0.28663	-0.80563	0.518459
59.538	-109.262	-0.28436	-0.81371	0.50696
60.346	-108.020	-0.26883	-0.8264	0.494767
60.923	-106.908	-0.25418	-0.83619	0.485983
61.012	-106.455	-0.24778	-0.83889	0.484627
61.393	-104.890	-0.2256	-0.84844	0.478802
62.003	-103.326	-0.20351	-0.8592	0.469425
62.308	-102.459	-0.19102	-0.86461	0.464723
62.546	-101.761	-0.18087	-0.86875	0.46104
62.694	-100.196	-0.15729	-0.87454	0.458744
62.308	-99.075	-0.13966	-0.87437	0.464723
61.993	-98.631	-0.1325	-0.87289	0.46958
60.923	-97.873	-0.11972	-0.86573	0.485983
59.538	-97.353	-0.11032	-0.85488	0.50696
58.154	-97.307	-0.10805	-0.84257	0.52764
56.769	-97.813	-0.11371	-0.8287	0.548013
55.698	-98.631	-0.12397	-0.81672	0.563559
55.385	-98.954	-0.1281	-0.81295	0.568065
54.556	-100.196	-0.14421	-0.80181	0.579911
54.000	-101.516	-0.16151	-0.79273	0.587785
53.919	-101.761	-0.16473	-0.79121	0.588935
53.672	-103.326	-0.18569	-0.78395	0.592409
53.711	-104.890	-0.20713	-0.77898	0.591855
54.000	-106.160	-0.22517	-0.77705	0.587785
54.082	-106.455	-0.22941	-0.77669	0.586621
54.988	-108.020	-0.25337	-0.77886	0.573749
55.385	-108.434	-0.26023	-0.78076	0.568065
56.769	-109.468	-0.27878	-0.78865	0.548013
57.180	-109.585	-0.2817	-0.79176	0.541998
58.154	-109.778	-0.28744	-0.79936	0.52764
58.771	-109.585	-0.28663	-0.80563	0.518459

Freq 23 GHz Instrument Rotation 177 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
58.048	-103.418	-0.1969	-0.82533	0.529206
59.111	-108.020	-0.26547	-0.81607	0.513381
59.538	-107.793	-0.2634	-0.82074	0.50696
60.228	-106.455	-0.24588	-0.83246	0.496543
60.923	-105.013	-0.2264	-0.84414	0.485983
60.949	-104.890	-0.22464	-0.84483	0.485591
61.330	-103.326	-0.20223	-0.85378	0.479758
61.654	-101.761	-0.17939	-0.86162	0.474802
61.456	-100.196	-0.1555	-0.86458	0.477834
60.923	-99.364	-0.1422	-0.86232	0.485983
59.868	-98.631	-0.1298	-0.85508	0.50199
59.538	-98.480	-0.12711	-0.85255	0.50696
58.154	-98.325	-0.12299	-0.84052	0.52764
56.798	-98.631	-0.12558	-0.82727	0.547585
56.769	-98.641	-0.12567	-0.82698	0.548013
55.385	-99.742	-0.13926	-0.81112	0.568065
55.033	-100.196	-0.14506	-0.80654	0.573111
54.316	-101.761	-0.16556	-0.7952	0.583313
54.070	-103.326	-0.18663	-0.78794	0.586793
54.254	-104.890	-0.20856	-0.78436	0.584189
54.916	-106.455	-0.2318	-0.78479	0.574777
55.385	-107.028	-0.241	-0.7869	0.568065
56.571	-108.020	-0.25817	-0.79363	0.550905
56.769	-108.120	-0.26015	-0.79499	0.548013
58.154	-108.368	-0.26768	-0.80619	0.52764
59.111	-108.020	-0.26547	-0.81607	0.513381

Freq 36 GHz Instrument Rotation 205 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
57.017	-105.176	-0.2196	-0.80958	0.544387
59.383	-108.020	-0.26622	-0.81838	0.509298
59.538	-107.830	-0.26392	-0.82057	0.50696
59.967	-106.455	-0.24523	-0.83028	0.500503
60.240	-104.890	-0.22308	-0.83896	0.496368
59.966	-103.326	-0.19954	-0.84242	0.500516
59.538	-102.670	-0.18906	-0.84098	0.50696
58.446	-101.761	-0.17369	-0.83426	0.5233
58.154	-101.583	-0.17056	-0.83217	0.52764
56.769	-101.379	-0.16504	-0.82003	0.548013
55.484	-101.761	-0.16795	-0.80667	0.56663
55.385	-101.813	-0.16848	-0.80555	0.568065
54.153	-103.326	-0.18683	-0.78876	0.585623
54.000	-103.866	-0.19388	-0.78544	0.587785
53.789	-104.890	-0.20734	-0.77975	0.590758
53.961	-106.455	-0.22905	-0.7755	0.588332
54.000	-106.539	-0.2303	-0.77555	0.587785
54.897	-108.020	-0.25309	-0.77799	0.575043
55.385	-108.396	-0.25973	-0.78093	0.568065
56.769	-108.920	-0.27123	-0.79128	0.548013
58.154	-108.781	-0.27349	-0.80424	0.52764
59.383	-108.020	-0.26622	-0.81838	0.509298

Freq 89 GHz Instrument Rotation 190 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
54.216	-104.946	-0.20922	-0.78378	0.584735
54.124	-108.020	-0.25066	-0.77054	0.586029
55.385	-107.233	-0.24382	-0.78604	0.568065
55.602	-106.455	-0.23373	-0.79134	0.564932
55.901	-104.890	-0.21279	-0.80027	0.56062
56.193	-103.326	-0.19151	-0.80855	0.556394
56.223	-101.761	-0.16942	-0.81376	0.555966
55.385	-100.878	-0.15531	-0.8082	0.568065
54.000	-101.343	-0.15912	-0.79321	0.587785
53.579	-101.761	-0.16402	-0.78779	0.593708
52.717	-103.326	-0.18339	-0.77423	0.605756
52.615	-103.881	-0.19063	-0.77137	0.607163
52.486	-104.890	-0.20383	-0.76657	0.608955
52.615	-105.749	-0.21567	-0.76475	0.607163
52.780	-106.455	-0.22557	-0.7637	0.604877
53.937	-108.020	-0.25007	-0.76872	0.588672
54.000	-108.066	-0.25089	-0.76913	0.587785
54.124	-108.020	-0.25066	-0.77054	0.586029

Freq 166 GHz Instrument Rotation 190.09 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
67.885	-94.772	-0.07708	-0.92322	0.376475
68.200	-93.178	-0.05147	-0.92706	0.371368
67.800	-93.182	-0.05139	-0.92444	0.377841
67.600	-93.231	-0.0521	-0.92308	0.38107
67.216	-93.400	-0.05468	-0.92035	0.387256
67.000	-93.541	-0.05686	-0.91875	0.390731
66.800	-93.704	-0.05938	-0.91722	0.393942
66.600	-93.913	-0.06262	-0.91562	0.397148
66.406	-94.200	-0.06712	-0.91395	0.400247
66.327	-94.400	-0.07026	-0.91315	0.401518
66.268	-94.800	-0.0766	-0.91223	0.402459
66.334	-95.200	-0.08301	-0.91213	0.401397
66.408	-95.400	-0.08624	-0.91235	0.400226
66.600	-95.779	-0.09241	-0.91309	0.397148
66.742	-96.000	-0.09603	-0.9137	0.394879
66.918	-96.200	-0.09935	-0.91456	0.392055
67.200	-96.392	-0.10263	-0.91613	0.387516
67.400	-96.465	-0.10395	-0.91734	0.384295
67.800	-96.513	-0.10503	-0.91989	0.377841
68.200	-96.411	-0.10367	-0.92268	0.371368
68.400	-96.295	-0.10195	-0.92417	0.368125
68.600	-96.146	-0.09967	-0.92571	0.364877
68.800	-95.962	-0.09684	-0.92728	0.361625
69.000	-95.740	-0.09337	-0.9289	0.358368
69.200	-95.456	-0.08889	-0.93059	0.355107
69.329	-95.200	-0.0848	-0.93177	0.353002
69.400	-95.000	-0.08158	-0.9325	0.351834
69.457	-94.600	-0.0751	-0.93339	0.35091
69.412	-94.200	-0.06856	-0.93362	0.35165
69.328	-94.000	-0.06527	-0.93334	0.353019
69.189	-93.800	-0.06195	-0.9327	0.355288
68.973	-93.600	-0.05861	-0.93157	0.358803
68.706	-93.400	-0.05526	-0.93009	0.363155
68.400	-93.232	-0.05242	-0.9283	0.368125

Freq 183 GHz Instrument Rotation 194.3 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
64.368	-92.201	-0.03463	-0.90092	0.432595
64.000	-90.374	-0.00586	-0.89877	0.438371
63.600	-90.363	-0.00567	-0.89569	0.444635
63.400	-90.422	-0.00659	-0.89413	0.447759
63.118	-90.600	-0.00934	-0.89189	0.452157
62.766	-91.000	-0.01552	-0.88901	0.45762
62.619	-91.400	-0.0217	-0.88771	0.4599
62.641	-91.800	-0.0279	-0.8877	0.459567
62.779	-92.200	-0.03414	-0.8886	0.457419
62.883	-92.400	-0.03727	-0.8893	0.455803
63.000	-92.603	-0.04046	-0.89009	0.45399
63.200	-92.888	-0.04497	-0.89145	0.450878
63.400	-93.138	-0.04895	-0.89281	0.447759
63.600	-93.353	-0.05239	-0.89418	0.444635
63.800	-93.538	-0.05537	-0.89555	0.441506
64.000	-93.697	-0.05795	-0.89692	0.438371
64.495	-94.000	-0.06296	-0.90035	0.430593
64.800	-94.119	-0.06499	-0.90249	0.425779
65.200	-94.144	-0.06561	-0.9054	0.419452
65.512	-94.000	-0.06348	-0.90783	0.41451
65.721	-93.800	-0.06041	-0.90955	0.411185
65.859	-93.600	-0.0573	-0.91074	0.40899
66.000	-93.213	-0.05121	-0.91211	0.406737
66.019	-93.000	-0.04782	-0.91243	0.406438
66.000	-92.742	-0.04371	-0.9125	0.406737
65.921	-92.400	-0.03823	-0.91218	0.408001
65.800	-92.073	-0.033	-0.91152	0.409923
65.664	-91.800	-0.02862	-0.91069	0.412094
65.400	-91.389	-0.02204	-0.90897	0.416281
65.200	-91.152	-0.01825	-0.90759	0.419452
65.000	-90.952	-0.01506	-0.90618	0.422618
64.800	-90.781	-0.01233	-0.90474	0.425779
64.534	-90.600	-0.00945	-0.90279	0.429976
64.200	-90.433	-0.00681	-0.90029	0.435231

Freq 10 GHz Instrument Rotation 166 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
70.819	-101.146	-0.18258	-0.92667	0.328561
74.184	-106.455	-0.27254	-0.92273	0.272556
74.769	-105.782	-0.26243	-0.9285	0.262707
75.248	-104.890	-0.2485	-0.93456	0.254633
75.665	-103.326	-0.22331	-0.94278	0.247592
75.724	-101.761	-0.19753	-0.94877	0.246593
75.526	-100.196	-0.1714	-0.95297	0.249946
75.124	-98.631	-0.14505	-0.95554	0.256725
74.769	-97.756	-0.13022	-0.95605	0.262707
74.376	-97.067	-0.11848	-0.95573	0.269325
73.385	-95.877	-0.09812	-0.95321	0.285946
72.876	-95.502	-0.09163	-0.95127	0.294444
72.000	-95.011	-0.08308	-0.94742	0.309017
70.615	-94.662	-0.07668	-0.94019	0.331908
69.231	-94.759	-0.07757	-0.93179	0.354605
67.846	-95.337	-0.08615	-0.92216	0.377095
67.620	-95.502	-0.08865	-0.92042	0.38075
66.462	-96.785	-0.10832	-0.91037	0.399365
66.276	-97.067	-0.11263	-0.90854	0.402333
65.724	-98.631	-0.13681	-0.90125	0.411127
65.620	-100.196	-0.16123	-0.89644	0.412788
65.889	-101.761	-0.18604	-0.89359	0.408505
66.456	-103.326	-0.2113	-0.89207	0.399446
66.462	-103.335	-0.21145	-0.89207	0.399365
67.407	-104.890	-0.23725	-0.89226	0.384175
67.846	-105.461	-0.2469	-0.89266	0.377095
68.861	-106.455	-0.2642	-0.89451	0.360629
69.231	-106.745	-0.2694	-0.89537	0.354605
70.615	-107.361	-0.28147	-0.90034	0.331908
72.000	-107.489	-0.28582	-0.90709	0.309017
73.385	-107.057	-0.28108	-0.91609	0.285946
74.184	-106.455	-0.27254	-0.92273	0.272556

Freq 18 GHz Instrument Rotation 181.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
62.108	-107.157	-0.26072	-0.8445	0.467808
63.077	-111.150	-0.3217	-0.83156	0.452796
63.692	-110.730	-0.3173	-0.83839	0.443192
64.285	-109.585	-0.30201	-0.84884	0.43389
64.859	-108.020	-0.28004	-0.86086	0.424843
65.077	-107.256	-0.26901	-0.86606	0.421401
65.279	-106.455	-0.25731	-0.87115	0.418207
65.457	-104.890	-0.23375	-0.8791	0.415381
65.077	-103.846	-0.21702	-0.88052	0.421401
64.700	-103.326	-0.20838	-0.87974	0.427352
63.692	-102.715	-0.1973	-0.87445	0.443192
62.308	-102.414	-0.19035	-0.86475	0.464723
60.923	-102.670	-0.19169	-0.85269	0.485983
59.886	-103.326	-0.19938	-0.84174	0.501726
59.538	-103.660	-0.20356	-0.83759	0.50696
58.756	-104.890	-0.2197	-0.82626	0.518678
58.310	-106.455	-0.24103	-0.81605	0.525331
58.359	-108.020	-0.26336	-0.80959	0.5246
58.924	-109.585	-0.28709	-0.80693	0.516176
59.538	-110.386	-0.30026	-0.80798	0.50696
60.437	-111.150	-0.31383	-0.81122	0.493383
60.923	-111.409	-0.31902	-0.81366	0.485983
62.308	-111.524	-0.32487	-0.82371	0.464723
63.077	-111.150	-0.3217	-0.83156	0.452796

Freq 23 GHz Instrument Rotation 181.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
61.780	-106.771	-0.25424	-0.84366	0.47286
63.720	-109.585	-0.30055	-0.84477	0.44276
64.243	-108.020	-0.27861	-0.85646	0.434561
64.639	-106.455	-0.25597	-0.86661	0.428324
64.580	-104.890	-0.23209	-0.87285	0.429254
63.692	-103.688	-0.21212	-0.87097	0.443192
62.923	-103.326	-0.20522	-0.86642	0.455195
62.308	-103.126	-0.20107	-0.86232	0.464723
60.923	-103.274	-0.20067	-0.85062	0.485983
60.819	-103.326	-0.20123	-0.84958	0.487569
59.538	-104.342	-0.21352	-0.8351	0.50696
59.151	-104.890	-0.22062	-0.82969	0.512774
58.677	-106.455	-0.24198	-0.81926	0.519865
58.803	-108.020	-0.26462	-0.81344	0.517977
59.538	-109.471	-0.28733	-0.81267	0.50696
59.622	-109.585	-0.28918	-0.81279	0.505708
60.923	-110.415	-0.30486	-0.81907	0.485983
62.308	-110.554	-0.31088	-0.82909	0.464723
63.692	-109.635	-0.30122	-0.8443	0.443192
63.720	-109.585	-0.30055	-0.84477	0.44276

Freq 36 GHz Instrument Rotation 212.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
62.521	-111.302	-0.3223	-0.82657	0.461424
64.401	-112.714	-0.34823	-0.8319	0.432066
65.009	-111.150	-0.32702	-0.84533	0.422468
64.333	-109.585	-0.30213	-0.84918	0.433137
63.692	-108.908	-0.29049	-0.84805	0.443192
62.308	-108.527	-0.28135	-0.83957	0.464723
60.923	-109.105	-0.28604	-0.82583	0.485983
60.462	-109.585	-0.29164	-0.8197	0.492996
59.964	-111.150	-0.31235	-0.8074	0.50054
60.355	-112.714	-0.33559	-0.8017	0.49463
60.923	-113.352	-0.34642	-0.80238	0.485983
62.308	-113.937	-0.35925	-0.8093	0.464723
63.692	-113.485	-0.35724	-0.82217	0.443192
64.401	-112.714	-0.34823	-0.8319	0.432066

Freq 89 GHz Instrument Rotation 197.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
60.602	-110.000	-0.29798	-0.81869	0.490867
61.853	-111.150	-0.31814	-0.82235	0.471736
61.843	-109.585	-0.29553	-0.83065	0.47189
60.952	-108.020	-0.27044	-0.83134	0.485536
60.923	-108.007	-0.27017	-0.83116	0.485983
60.867	-108.020	-0.27021	-0.83064	0.486845
59.538	-108.882	-0.27895	-0.81558	0.50696
59.150	-109.585	-0.28777	-0.80884	0.5128
59.186	-111.150	-0.30987	-0.80098	0.512253
59.538	-111.760	-0.31954	-0.80055	0.50696
60.923	-112.690	-0.33713	-0.80633	0.485983
61.853	-111.150	-0.31814	-0.82235	0.471736

Freq 166 GHz Instrument Rotation 191.48 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
69.223	-96.241	-0.10165	-0.92942	0.35474
69.800	-94.781	-0.07821	-0.93523	0.345298
69.400	-94.688	-0.0765	-0.93293	0.351842
69.000	-94.735	-0.07707	-0.93039	0.358368
68.799	-94.800	-0.07801	-0.92905	0.361634
68.420	-95.000	-0.08105	-0.92637	0.3678
68.200	-95.166	-0.08361	-0.92471	0.371368
68.000	-95.371	-0.08679	-0.92311	0.374607
67.849	-95.600	-0.09038	-0.92178	0.377043
67.768	-95.800	-0.09354	-0.92092	0.378353
67.725	-96.200	-0.09994	-0.91996	0.379059
67.800	-96.592	-0.1063	-0.91975	0.377841
67.877	-96.800	-0.10969	-0.91986	0.376589
68.000	-97.090	-0.11444	-0.92009	0.374607
68.188	-97.400	-0.11957	-0.92068	0.371561
68.399	-97.600	-0.12297	-0.9216	0.368136
68.600	-97.716	-0.12501	-0.92263	0.364877
68.800	-97.800	-0.12654	-0.9237	0.361625
69.200	-97.848	-0.12764	-0.92607	0.355107
69.441	-97.800	-0.12707	-0.92765	0.35117
69.800	-97.624	-0.1245	-0.9302	0.345298
70.000	-97.472	-0.12221	-0.93171	0.34202
70.200	-97.288	-0.11936	-0.93328	0.338738
70.400	-97.060	-0.11578	-0.93492	0.335452
70.571	-96.800	-0.11166	-0.93642	0.332646
70.661	-96.600	-0.10845	-0.93732	0.331152
70.758	-96.200	-0.10197	-0.93861	0.329554
70.740	-95.800	-0.0954	-0.9392	0.329851
70.600	-95.450	-0.08959	-0.93896	0.332161
70.400	-95.213	-0.08559	-0.93816	0.335452
70.200	-95.042	-0.0827	-0.93724	0.338738
70.000	-94.896	-0.0802	-0.93626	0.34202

Freq 183 GHz Instrument Rotation 197.23 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
67.573	-95.177	-0.08341	-0.9206	0.381501
67.309	-93.600	-0.05793	-0.92078	0.385757
67.200	-93.558	-0.0572	-0.92009	0.387516
66.800	-93.570	-0.05723	-0.91735	0.393942
66.732	-93.600	-0.05768	-0.91685	0.395031
66.245	-94.000	-0.06385	-0.91305	0.402826
66.128	-94.400	-0.07016	-0.91176	0.404688
66.184	-94.800	-0.07655	-0.91164	0.403796
66.319	-95.200	-0.083	-0.91202	0.40165
66.400	-95.380	-0.08592	-0.91233	0.400349
66.517	-95.600	-0.0895	-0.9128	0.398478
66.762	-96.000	-0.09605	-0.91384	0.39455
66.800	-96.051	-0.09689	-0.91401	0.393942
67.116	-96.400	-0.1027	-0.91555	0.388864
67.200	-96.478	-0.10401	-0.91598	0.387516
67.600	-96.784	-0.10921	-0.91807	0.38107
67.633	-96.800	-0.1095	-0.91826	0.380544
68.000	-96.966	-0.11244	-0.92034	0.374607
68.400	-97.000	-0.11332	-0.92285	0.368125
68.721	-96.800	-0.11033	-0.92527	0.362909
68.800	-96.699	-0.10876	-0.92596	0.361625
68.913	-96.400	-0.104	-0.92722	0.359778
68.955	-96.000	-0.09756	-0.92818	0.359109
68.909	-95.600	-0.09105	-0.92856	0.359855
68.807	-95.200	-0.0845	-0.92853	0.361514
68.800	-95.183	-0.08422	-0.92851	0.361625
68.400	-94.453	-0.07218	-0.92697	0.368125
68.358	-94.400	-0.07131	-0.92677	0.368806
68.000	-94.003	-0.06473	-0.92492	0.374607
67.996	-94.000	-0.06468	-0.9249	0.374672
67.600	-93.718	-0.05996	-0.9226	0.38107
67.309	-93.600	-0.05793	-0.92078	0.385757

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Freq 10 GHz Instrument Rotation 169 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
73.214	-104.246	-0.23561	-0.92795	0.28879
75.632	-109.585	-0.32472	-0.91268	0.248146
76.154	-109.101	-0.31773	-0.91748	0.239316
76.840	-108.020	-0.30122	-0.92597	0.227676
77.384	-106.455	-0.27643	-0.93588	0.218424
77.538	-104.998	-0.2527	-0.94318	0.215784
77.547	-104.890	-0.25093	-0.94368	0.215636
77.538	-104.734	-0.24834	-0.94433	0.215784
77.441	-103.326	-0.22497	-0.94979	0.217451
77.122	-101.761	-0.1987	-0.95438	0.22288
76.560	-100.196	-0.17217	-0.95725	0.232434
76.154	-99.515	-0.1605	-0.95759	0.239316
75.344	-98.631	-0.14519	-0.95651	0.253008
74.769	-98.200	-0.13762	-0.95501	0.262707
73.385	-97.655	-0.12764	-0.94971	0.285946
72.000	-97.603	-0.12584	-0.94269	0.309017
70.615	-98.077	-0.13253	-0.93396	0.331908
69.817	-98.631	-0.14086	-0.92797	0.345018
69.231	-99.277	-0.15073	-0.92279	0.354605
68.644	-100.196	-0.16486	-0.91663	0.364157
68.169	-101.761	-0.18921	-0.9088	0.371863
68.125	-103.326	-0.21389	-0.90302	0.372576
68.403	-104.890	-0.23893	-0.89857	0.368082
68.911	-106.455	-0.26429	-0.8948	0.359825
69.231	-107.173	-0.27607	-0.89333	0.354605
69.703	-108.020	-0.29014	-0.8919	0.346889
70.615	-109.269	-0.31129	-0.89047	0.331908
70.991	-109.585	-0.31692	-0.89077	0.325712
72.000	-110.178	-0.32805	-0.89269	0.309017
73.385	-110.421	-0.33435	-0.89802	0.285946
74.769	-110.123	-0.33195	-0.90598	0.262707
75.632	-109.585	-0.32472	-0.91268	0.248146

Freq 18 GHz Instrument Rotation 183 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
64.706	-110.508	-0.31676	-0.84683	0.427261
67.197	-112.714	-0.35596	-0.85035	0.387566
67.842	-111.150	-0.33416	-0.86376	0.377167
67.812	-109.585	-0.31038	-0.87238	0.377642
67.072	-108.020	-0.28491	-0.87582	0.38957
66.462	-107.374	-0.27377	-0.87496	0.399365
65.077	-106.794	-0.26203	-0.8682	0.421401
63.692	-106.981	-0.26181	-0.85734	0.443192
62.308	-107.974	-0.27324	-0.84224	0.464723
62.269	-108.020	-0.27382	-0.84173	0.465314
61.623	-109.585	-0.29492	-0.82894	0.475273
61.625	-111.150	-0.31745	-0.82059	0.475244
62.291	-112.714	-0.34185	-0.81665	0.464988
62.308	-112.734	-0.34219	-0.81666	0.464723
63.692	-113.739	-0.36087	-0.82058	0.443192
65.077	-113.953	-0.36818	-0.82877	0.421401
66.462	-113.441	-0.36471	-0.84113	0.399365
67.197	-112.714	-0.35596	-0.85035	0.387566

Freq 23 GHz Instrument Rotation 183 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
64.604	-110.504	-0.31642	-0.84614	0.428866
66.348	-112.714	-0.3537	-0.84496	0.401175
66.462	-112.629	-0.35275	-0.84621	0.399365
67.234	-111.150	-0.33269	-0.85998	0.386972
67.177	-109.585	-0.30896	-0.86838	0.387884
66.462	-108.139	-0.28542	-0.87123	0.399365
66.309	-108.020	-0.28328	-0.87081	0.401797
65.077	-107.394	-0.27109	-0.86541	0.421401
63.692	-107.520	-0.26987	-0.85484	0.443192
62.900	-108.020	-0.27539	-0.84655	0.455542
62.308	-108.867	-0.28633	-0.83788	0.464723
61.974	-109.585	-0.29589	-0.83166	0.469873
61.974	-111.150	-0.31849	-0.82328	0.469869
62.308	-111.845	-0.32947	-0.82188	0.464723
62.932	-112.714	-0.34384	-0.82141	0.45504
63.692	-113.186	-0.35294	-0.82402	0.443192
65.077	-113.332	-0.35918	-0.83271	0.421401
66.348	-112.714	-0.3537	-0.84496	0.401175

Freq 36 GHz Instrument Rotation 220 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
65.764	-117.425	-0.41999	-0.80939	0.410489
67.284	-118.973	-0.44683	-0.80698	0.386166
67.846	-117.860	-0.43281	-0.81883	0.377095
68.009	-117.409	-0.42684	-0.82316	0.374455
68.039	-115.844	-0.40429	-0.83468	0.373978
67.846	-115.435	-0.39778	-0.8364	0.377095
66.462	-114.440	-0.37931	-0.83465	0.399365
65.077	-114.841	-0.38098	-0.82297	0.421401
63.692	-115.792	-0.39003	-0.80713	0.443192
63.641	-115.844	-0.3906	-0.80642	0.443988
62.858	-117.409	-0.40964	-0.78999	0.456191
63.198	-118.973	-0.43236	-0.78086	0.450916
63.692	-119.553	-0.44214	-0.7798	0.443192
65.077	-120.188	-0.45601	-0.78389	0.421401
66.462	-119.837	-0.45613	-0.79527	0.399365
67.284	-118.973	-0.44683	-0.80698	0.386166

Freq 89 GHz Instrument Rotation 205 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
64.541	-116.591	-0.40416	-0.80739	0.429864
65.893	-117.409	-0.42018	-0.81032	0.408449
65.479	-115.844	-0.39661	-0.81882	0.415024
65.077	-115.183	-0.38588	-0.82068	0.421401
63.692	-114.415	-0.37053	-0.81627	0.443192
62.741	-115.844	-0.38751	-0.80003	0.45802
63.326	-117.409	-0.41134	-0.79327	0.448912
63.692	-117.754	-0.41745	-0.7933	0.443192
65.077	-118.056	-0.42654	-0.8003	0.421401
65.893	-117.409	-0.42018	-0.81032	0.408449

Freq 166 GHz Instrument Rotation 192.2 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
70.102	-97.166	-0.1173	-0.93296	0.34034
70.600	-95.761	-0.09468	-0.93846	0.332161
70.200	-95.680	-0.09313	-0.93626	0.338738
69.800	-95.737	-0.09381	-0.93379	0.345298
69.600	-95.804	-0.09478	-0.93248	0.348572
69.235	-96.000	-0.09774	-0.92992	0.354538
69.000	-96.186	-0.10061	-0.92814	0.358368
68.818	-96.400	-0.10394	-0.92662	0.361337
68.712	-96.600	-0.10709	-0.92559	0.363053
68.628	-97.000	-0.11349	-0.92429	0.36442
68.682	-97.400	-0.11998	-0.92382	0.363544
68.800	-97.798	-0.12649	-0.9237	0.361625
68.883	-98.000	-0.12983	-0.92377	0.360273
69.000	-98.216	-0.13341	-0.924	0.358368
69.200	-98.433	-0.1371	-0.92472	0.355107
69.449	-98.600	-0.14002	-0.92583	0.351033
69.800	-98.728	-0.14242	-0.92762	0.345298
70.200	-98.729	-0.14279	-0.92998	0.338738
70.539	-98.600	-0.14099	-0.93226	0.333172
70.800	-98.431	-0.13846	-0.93417	0.328867
71.000	-98.260	-0.13583	-0.93571	0.325568
71.200	-98.046	-0.13251	-0.93733	0.322266
71.374	-97.800	-0.12861	-0.93886	0.319389
71.472	-97.600	-0.1254	-0.93984	0.317771
71.580	-97.200	-0.11891	-0.94128	0.315981
71.567	-96.800	-0.11233	-0.94202	0.316201
71.400	-96.406	-0.10574	-0.94185	0.318959
71.219	-96.200	-0.10225	-0.94122	0.321953
71.000	-96.012	-0.09902	-0.94032	0.325568
70.800	-95.869	-0.09656	-0.93943	0.328867

Freq 183 GHz Instrument Rotation 198.61 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.993	-96.712	-0.10911	-0.92714	0.358485
68.978	-95.200	-0.0846	-0.9296	0.358728
68.800	-95.088	-0.08268	-0.92865	0.361625
68.400	-94.992	-0.08091	-0.92625	0.368125
68.000	-95.086	-0.0822	-0.92353	0.374607
67.849	-95.200	-0.08394	-0.92238	0.377046
67.606	-95.600	-0.09022	-0.92017	0.380973
67.611	-96.000	-0.09665	-0.91955	0.380891
67.721	-96.400	-0.10315	-0.91958	0.37912
67.864	-96.800	-0.10968	-0.91978	0.376806
68.000	-97.101	-0.11462	-0.92007	0.374607
68.055	-97.200	-0.11625	-0.92023	0.373719
68.332	-97.600	-0.12291	-0.92117	0.369236
68.400	-97.680	-0.12425	-0.92144	0.368125
68.740	-98.000	-0.1297	-0.92287	0.362605
68.800	-98.048	-0.13053	-0.92314	0.361625
69.200	-98.291	-0.1348	-0.92505	0.355107
69.522	-98.400	-0.13685	-0.92676	0.34984
69.600	-98.424	-0.13731	-0.92717	0.348572
69.695	-98.400	-0.137	-0.9278	0.347023
70.000	-98.234	-0.13457	-0.93001	0.34202
70.115	-98.000	-0.13088	-0.93123	0.34013
70.200	-97.600	-0.12444	-0.93262	0.338733
70.192	-97.200	-0.11792	-0.93342	0.338867
70.117	-96.800	-0.11135	-0.93377	0.340103
70.000	-96.423	-0.10512	-0.93379	0.34202
69.991	-96.400	-0.10474	-0.93378	0.342174
69.760	-96.000	-0.09807	-0.93311	0.345947
69.600	-95.763	-0.09412	-0.93254	0.348572
69.451	-95.600	-0.09137	-0.9319	0.351007
69.200	-95.348	-0.08713	-0.93076	0.355107
68.978	-95.200	-0.0846	-0.9296	0.358728

Freq 10 GHz Instrument Rotation 172 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
74.768	-107.225	-0.28572	-0.9216	0.262723
76.847	-112.714	-0.37601	-0.89824	0.227547
77.538	-112.093	-0.36724	-0.90475	0.215784
78.189	-111.150	-0.35317	-0.9129	0.204682
78.812	-109.585	-0.32883	-0.92424	0.194035
78.923	-108.952	-0.31872	-0.92817	0.192127
79.047	-108.020	-0.30371	-0.93362	0.190011
79.061	-106.455	-0.27812	-0.94162	0.189763
78.923	-104.930	-0.25283	-0.94824	0.192127
78.918	-104.890	-0.25218	-0.9484	0.192208
78.476	-103.326	-0.22584	-0.95346	0.199781
77.623	-101.761	-0.19909	-0.95625	0.214339
77.538	-101.667	-0.19745	-0.95627	0.215784
76.154	-100.711	-0.18045	-0.95403	0.239316
74.769	-100.350	-0.17335	-0.94918	0.262707
73.385	-100.582	-0.17597	-0.94195	0.285946
72.000	-101.373	-0.18754	-0.93238	0.309017
71.576	-101.761	-0.19338	-0.92883	0.316043
70.615	-103.221	-0.21575	-0.91831	0.331908
70.565	-103.326	-0.21735	-0.91763	0.332732
70.203	-104.890	-0.24178	-0.9093	0.338695
70.150	-106.455	-0.26644	-0.90206	0.339563
70.314	-108.020	-0.29127	-0.89537	0.336863
70.615	-109.459	-0.31426	-0.88943	0.331908
70.649	-109.585	-0.31626	-0.88892	0.331359
71.293	-111.150	-0.34174	-0.88337	0.320728
72.000	-112.262	-0.3603	-0.88017	0.309017
72.478	-112.714	-0.36822	-0.87964	0.301065
73.385	-113.245	-0.37819	-0.88046	0.285946
74.769	-113.466	-0.38421	-0.88508	0.262707
76.154	-113.139	-0.38155	-0.89283	0.239316
76.847	-112.714	-0.37601	-0.89824	0.227547

Freq 18 GHz Instrument Rotation 190.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
66.805	-113.881	-0.37212	-0.84048	0.39386
70.117	-115.844	-0.40994	-0.84634	0.340097
70.234	-114.279	-0.38696	-0.85785	0.338179
69.609	-112.714	-0.36194	-0.86464	0.34842
69.231	-112.149	-0.35251	-0.86602	0.354605
68.299	-111.150	-0.33523	-0.86654	0.369767
67.846	-110.810	-0.32903	-0.86576	0.377095
66.462	-110.512	-0.32125	-0.85867	0.399365
65.077	-110.931	-0.32398	-0.84703	0.421401
64.792	-111.150	-0.32644	-0.84383	0.425898
63.766	-112.714	-0.34636	-0.82743	0.442034
63.692	-113.280	-0.35429	-0.82344	0.443192
63.581	-114.279	-0.36824	-0.81635	0.444938
63.692	-114.670	-0.37417	-0.8146	0.443192
64.166	-115.844	-0.39235	-0.81004	0.435773
65.077	-116.681	-0.40721	-0.81031	0.421401
66.462	-117.187	-0.41887	-0.81551	0.399365
67.846	-117.122	-0.42223	-0.82433	0.377095
69.231	-116.581	-0.41839	-0.83618	0.354605
70.117	-115.844	-0.40994	-0.84634	0.340097

Freq 23 GHz Instrument Rotation 190.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
67.062	-113.903	-0.37314	-0.84194	0.389738
69.028	-115.844	-0.40704	-0.84037	0.35791
69.231	-115.435	-0.40158	-0.84439	0.354605
69.535	-114.279	-0.38523	-0.85402	0.349631
69.231	-113.235	-0.36887	-0.85918	0.354605
69.075	-112.714	-0.36067	-0.86161	0.357143
67.846	-111.261	-0.33584	-0.86314	0.377095
67.404	-111.150	-0.33311	-0.86105	0.384225
66.462	-110.989	-0.32838	-0.85596	0.399365
66.032	-111.150	-0.32969	-0.85222	0.406222
65.077	-111.784	-0.33656	-0.84211	0.421401
64.328	-112.714	-0.34802	-0.83139	0.433213
63.924	-114.279	-0.36933	-0.81877	0.439565
64.464	-115.844	-0.39334	-0.81207	0.431079
65.077	-116.374	-0.40287	-0.81248	0.421401
66.462	-116.829	-0.41378	-0.81811	0.399365
67.846	-116.618	-0.41496	-0.82801	0.377095
69.028	-115.844	-0.40704	-0.84037	0.35791

Freq 36 GHz Instrument Rotation 227.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
66.667	-123.866	-0.51168	-0.76243	0.396072
67.490	-126.797	-0.55335	-0.73975	0.382837
67.846	-126.545	-0.55149	-0.74408	0.377095
68.963	-125.233	-0.53845	-0.76238	0.358963
69.231	-124.829	-0.53401	-0.76752	0.354605
69.764	-123.668	-0.52016	-0.7809	0.345883
69.881	-122.103	-0.49902	-0.7954	0.34397
69.290	-120.538	-0.47528	-0.80563	0.353645
69.231	-120.464	-0.47405	-0.80594	0.354605
67.846	-120.079	-0.46419	-0.80145	0.377095
66.575	-120.538	-0.46624	-0.7903	0.39755
66.462	-120.596	-0.46663	-0.78916	0.399365
65.077	-121.749	-0.4772	-0.77117	0.421401
64.609	-122.103	-0.48011	-0.76526	0.428799
63.692	-123.191	-0.49074	-0.75017	0.443192
63.339	-123.668	-0.49544	-0.74378	0.448704
63.385	-125.233	-0.51577	-0.73027	0.44799
63.692	-125.773	-0.52403	-0.72731	0.443192
64.607	-126.797	-0.54112	-0.72339	0.428826
65.077	-127.133	-0.54745	-0.723	0.421401
66.462	-127.358	-0.55631	-0.72872	0.399365
67.490	-126.797	-0.55335	-0.73975	0.382837

Freq 89 GHz Instrument Rotation 212.5 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
66.388	-122.449	-0.49163	-0.77322	0.400545
67.953	-123.668	-0.51384	-0.77141	0.375369
68.004	-122.103	-0.49276	-0.78544	0.374536
67.846	-121.880	-0.48916	-0.78646	0.377095
66.734	-120.538	-0.46679	-0.79125	0.395008
66.462	-120.281	-0.46229	-0.7917	0.399365
65.077	-120.527	-0.46064	-0.78117	0.421401
65.052	-120.538	-0.4607	-0.78093	0.421792
63.930	-122.103	-0.47737	-0.76091	0.439467
64.646	-123.668	-0.50098	-0.7521	0.428216
65.077	-124.145	-0.50902	-0.75055	0.421401
66.462	-124.860	-0.52401	-0.75228	0.399365
67.846	-123.858	-0.51601	-0.76911	0.377095
67.953	-123.668	-0.51384	-0.77141	0.375369

Freq 166 GHz Instrument Rotation 194.25 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
71.700	-99.111	-0.15033	-0.93745	0.313995
72.200	-100.399	-0.17187	-0.93649	0.305695
72.484	-100.200	-0.16887	-0.93856	0.300973
72.696	-100.000	-0.16579	-0.94023	0.297443
72.856	-99.800	-0.16265	-0.94162	0.294775
73.000	-99.536	-0.15843	-0.94309	0.292372
73.097	-99.200	-0.15297	-0.94449	0.290745
73.095	-98.800	-0.14638	-0.94553	0.290785
73.000	-98.522	-0.14171	-0.94575	0.292372
72.800	-98.235	-0.13683	-0.94543	0.295708
72.600	-98.044	-0.13353	-0.94485	0.299041
72.400	-97.890	-0.13085	-0.94417	0.30237
72.200	-97.771	-0.12874	-0.94339	0.305695
71.800	-97.663	-0.12668	-0.94149	0.312335
71.400	-97.697	-0.12694	-0.93923	0.318959
71.085	-97.800	-0.12839	-0.93725	0.324166
70.800	-97.957	-0.13073	-0.93528	0.328867
70.600	-98.132	-0.13342	-0.93374	0.332161
70.420	-98.400	-0.13764	-0.93207	0.335118
70.359	-98.600	-0.14084	-0.93123	0.336121
70.345	-99.000	-0.14732	-0.93014	0.33635
70.396	-99.400	-0.15386	-0.92939	0.335516
70.440	-99.600	-0.15714	-0.9291	0.334791
70.600	-99.980	-0.16346	-0.92895	0.332161
70.784	-100.200	-0.16722	-0.92936	0.329126
71.000	-100.367	-0.17015	-0.93008	0.325568
71.200	-100.474	-0.17209	-0.93088	0.322266
71.600	-100.569	-0.17404	-0.93278	0.315649
72.000	-100.494	-0.17321	-0.93515	0.309017

Freq 183 GHz Instrument Rotation 201.39 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
71.400	-99.512	-0.15663	-0.93474	0.318958
71.328	-98.000	-0.13185	-0.93815	0.320155
71.200	-97.913	-0.13032	-0.93764	0.322266
70.800	-97.821	-0.12851	-0.93559	0.328867
70.403	-98.000	-0.13111	-0.93291	0.335407
70.400	-98.003	-0.13116	-0.93288	0.335452
70.291	-98.400	-0.13753	-0.93132	0.337244
70.283	-98.800	-0.14402	-0.93029	0.337375
70.326	-99.200	-0.15055	-0.92951	0.336663
70.400	-99.559	-0.15644	-0.92898	0.335452
70.411	-99.600	-0.15712	-0.92893	0.335279
70.576	-100.000	-0.16377	-0.92876	0.332549
70.799	-100.400	-0.17048	-0.92886	0.32888
70.800	-100.401	-0.1705	-0.92886	0.328867
71.162	-100.800	-0.17734	-0.92967	0.322895
71.200	-100.837	-0.17798	-0.92977	0.322266
71.600	-101.113	-0.18289	-0.93108	0.315649
71.855	-101.200	-0.18457	-0.93217	0.311431
72.000	-101.248	-0.18551	-0.93279	0.309017
72.077	-101.200	-0.18481	-0.93335	0.307731
72.368	-100.800	-0.17858	-0.93614	0.302907
72.400	-100.681	-0.17666	-0.93668	0.30237
72.443	-100.400	-0.17211	-0.93775	0.301652
72.447	-100.000	-0.16556	-0.93895	0.301589
72.400	-99.632	-0.15949	-0.93975	0.30237
72.395	-99.600	-0.15896	-0.93981	0.30246
72.261	-99.200	-0.15228	-0.9402	0.304682
72.072	-98.800	-0.14556	-0.94025	0.307815
72.000	-98.679	-0.14351	-0.94017	0.309017
71.778	-98.400	-0.13876	-0.93966	0.312694
71.600	-98.199	-0.13532	-0.93918	0.315649
71.328	-98.000	-0.13185	-0.93815	0.320155

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Freq 10 GHz Instrument Rotation 175 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
76.146	-109.874	-0.33007	-0.91308	0.239449
77.926	-115.844	-0.42628	-0.88008	0.209166
78.923	-114.856	-0.41251	-0.89046	0.192127
79.325	-114.279	-0.40407	-0.89578	0.185233
79.977	-112.714	-0.38024	-0.90836	0.174039
80.308	-111.247	-0.35722	-0.91872	0.168357
80.325	-111.150	-0.35567	-0.91938	0.168056
80.438	-109.585	-0.33054	-0.92906	0.166118
80.409	-108.020	-0.30502	-0.93766	0.166614
80.308	-107.290	-0.29297	-0.94118	0.168357
80.151	-106.455	-0.27909	-0.94491	0.171057
79.455	-104.890	-0.25263	-0.9501	0.18301
78.923	-104.222	-0.2411	-0.95129	0.192127
77.644	-103.326	-0.22515	-0.95053	0.213993
77.538	-103.275	-0.22421	-0.95035	0.215784
76.154	-103.124	-0.22047	-0.94558	0.239316
75.240	-103.326	-0.22288	-0.94097	0.254768
74.769	-103.476	-0.22486	-0.93831	0.262707
73.385	-104.476	-0.23954	-0.92782	0.285946
73.016	-104.890	-0.24576	-0.92427	0.292107
72.173	-106.455	-0.26967	-0.913	0.306136
72.000	-107.050	-0.27886	-0.90926	0.309017
71.798	-108.020	-0.29387	-0.90337	0.312365
71.667	-109.585	-0.31819	-0.89433	0.314541
71.680	-111.150	-0.34252	-0.88537	0.314327
71.832	-112.714	-0.36689	-0.87645	0.311806
72.000	-113.439	-0.3783	-0.87258	0.309017
72.287	-114.279	-0.39169	-0.86834	0.304248
73.385	-115.837	-0.41762	-0.86246	0.285946
73.393	-115.844	-0.41774	-0.86245	0.285798
74.769	-116.495	-0.43045	-0.86354	0.262707
76.154	-116.579	-0.43443	-0.86833	0.239316
77.538	-116.112	-0.42976	-0.87678	0.215784
77.926	-115.844	-0.42628	-0.88008	0.209166

Freq 18 GHz Instrument Rotation 195 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.196	-117.732	-0.43205	-0.82181	0.371434
71.125	-120.538	-0.48079	-0.81498	0.323502
71.904	-118.973	-0.46045	-0.83157	0.310602
71.530	-117.409	-0.43662	-0.84202	0.3168
70.848	-115.844	-0.41179	-0.85017	0.328074
70.615	-115.484	-0.40586	-0.85154	0.331908
69.391	-114.279	-0.38487	-0.85322	0.351982
69.231	-114.182	-0.38302	-0.85297	0.354605
67.846	-113.995	-0.37664	-0.84614	0.377095
66.841	-114.279	-0.37805	-0.83809	0.393291
66.462	-114.466	-0.3797	-0.83447	0.399365
65.190	-115.844	-0.39569	-0.81692	0.419603
65.077	-116.131	-0.39941	-0.81418	0.421401
64.664	-117.409	-0.41606	-0.80235	0.427933
64.831	-118.973	-0.43841	-0.79178	0.425288
65.077	-119.362	-0.44467	-0.79037	0.421401
66.202	-120.538	-0.46491	-0.78806	0.403518
66.462	-120.699	-0.46805	-0.78831	0.399365
67.846	-121.166	-0.47931	-0.7925	0.377095
69.231	-121.310	-0.4859	-0.79885	0.354605
70.615	-120.954	-0.48519	-0.80897	0.331908
71.125	-120.538	-0.48079	-0.81498	0.323502

Freq 23 GHz Instrument Rotation 195 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.048	-118.155	-0.43765	-0.81775	0.373836
69.861	-120.538	-0.47705	-0.80863	0.344304
70.615	-119.693	-0.46728	-0.81944	0.331908
70.912	-118.973	-0.45777	-0.82674	0.327026
70.946	-117.409	-0.43511	-0.83911	0.326454
70.615	-115.969	-0.41306	-0.84807	0.331908
70.580	-115.844	-0.41112	-0.84878	0.332483
69.231	-114.390	-0.38611	-0.85157	0.354605
67.846	-114.496	-0.38402	-0.84281	0.377095
66.462	-115.423	-0.39358	-0.82801	0.399365
65.991	-115.844	-0.39821	-0.82212	0.406882
65.077	-117.246	-0.41518	-0.80626	0.421401
64.984	-117.409	-0.41715	-0.80446	0.422877
64.974	-118.973	-0.43893	-0.79271	0.423031
65.077	-119.166	-0.44195	-0.7919	0.421401
66.335	-120.538	-0.46538	-0.78886	0.401392
66.462	-120.618	-0.46694	-0.78897	0.399365
67.846	-120.999	-0.47699	-0.7939	0.377095
69.231	-120.883	-0.47993	-0.80244	0.354605
69.861	-120.538	-0.47705	-0.80863	0.344304

Freq 36 GHz Instrument Rotation 235 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
65.891	-130.736	-0.59565	-0.69162	0.408473
65.507	-134.621	-0.63921	-0.64771	0.414587
66.462	-134.259	-0.63984	-0.6566	0.399365
67.846	-133.182	-0.6338	-0.67535	0.377095
67.957	-133.057	-0.63282	-0.67727	0.375295
69.214	-131.492	-0.61939	-0.7003	0.354877
69.231	-131.462	-0.6191	-0.70069	0.354605
69.968	-129.927	-0.60298	-0.72047	0.342545
70.069	-128.362	-0.58346	-0.73714	0.340895
69.419	-126.797	-0.56076	-0.74965	0.351528
69.231	-126.565	-0.55702	-0.75099	0.354605
67.846	-125.968	-0.54397	-0.74959	0.377095
66.462	-126.441	-0.54457	-0.73753	0.399365
65.848	-126.797	-0.54655	-0.73066	0.409156
65.077	-127.363	-0.55035	-0.72079	0.421401
63.692	-128.309	-0.55569	-0.70341	0.443192
63.601	-128.362	-0.55591	-0.70233	0.444627
62.308	-129.756	-0.56627	-0.68072	0.464723
62.166	-129.927	-0.56756	-0.67814	0.46691
61.898	-131.492	-0.58441	-0.66075	0.471042
62.308	-132.850	-0.60218	-0.64916	0.464723
62.405	-133.057	-0.60505	-0.64756	0.463224
63.692	-134.362	-0.62677	-0.64089	0.443192
64.488	-134.621	-0.63393	-0.64236	0.430707
65.077	-134.758	-0.63854	-0.64396	0.421401
65.507	-134.621	-0.63921	-0.64771	0.414587

Freq 89 GHz Instrument Rotation 220 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
65.971	-129.235	-0.57769	-0.70743	0.407206
67.194	-131.492	-0.61072	-0.69049	0.387607
67.846	-130.839	-0.60565	-0.7007	0.377095
68.414	-129.927	-0.5968	-0.71308	0.367892
68.485	-128.362	-0.57739	-0.72947	0.36674
67.846	-127.115	-0.55886	-0.73856	0.377095
67.555	-126.797	-0.55361	-0.7401	0.3818
66.462	-126.158	-0.54092	-0.74021	0.399365
65.077	-126.584	-0.5405	-0.72821	0.421401
64.722	-126.797	-0.54163	-0.72408	0.427017
63.692	-127.858	-0.55014	-0.70776	0.443192
63.338	-128.362	-0.55464	-0.70073	0.448724
63.577	-129.927	-0.57476	-0.68675	0.444993
63.692	-130.127	-0.57773	-0.68543	0.443192
64.866	-131.492	-0.59978	-0.67813	0.424743
65.077	-131.686	-0.60311	-0.67726	0.421401
66.462	-131.986	-0.61329	-0.68146	0.399365
67.194	-131.492	-0.61072	-0.69049	0.387607

Freq 166 GHz Instrument Rotation 195.64 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
72.795	-100.529	-0.17456	-0.93917	0.29579
73.400	-101.725	-0.19475	-0.93833	0.285688
73.600	-101.579	-0.19255	-0.93979	0.282341
73.800	-101.384	-0.18955	-0.9414	0.278991
74.000	-101.091	-0.18492	-0.94331	0.275637
74.117	-100.800	-0.18023	-0.94479	0.273674
74.159	-100.400	-0.17366	-0.94622	0.272973
74.052	-100.000	-0.16696	-0.9469	0.274763
73.926	-99.800	-0.16356	-0.94688	0.27688
73.749	-99.600	-0.16011	-0.9466	0.279846
73.514	-99.400	-0.15661	-0.94601	0.283784
73.200	-99.214	-0.15329	-0.94497	0.289032
73.000	-99.151	-0.15209	-0.94413	0.292372
72.600	-99.132	-0.15145	-0.94215	0.299041
72.280	-99.200	-0.1523	-0.9403	0.304366
72.000	-99.326	-0.15412	-0.93849	0.309017
71.800	-99.476	-0.1564	-0.93701	0.312335
71.600	-99.759	-0.16085	-0.93514	0.315649
71.532	-100.000	-0.16471	-0.93409	0.316782
71.504	-100.400	-0.17119	-0.93277	0.317241
71.525	-100.800	-0.17772	-0.93166	0.316895
71.600	-101.122	-0.18304	-0.93105	0.315649
71.745	-101.400	-0.18771	-0.93094	0.313247
71.926	-101.600	-0.19116	-0.93124	0.310246
72.195	-101.800	-0.1947	-0.93198	0.305785
72.400	-101.896	-0.19649	-0.93272	0.30237
72.800	-101.953	-0.19785	-0.93457	0.295708
73.200	-101.840	-0.19642	-0.93695	0.289032

Freq 183 GHz Instrument Rotation 202.77 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
72.475	-101.008	-0.18208	-0.93604	0.301126
73.264	-102.400	-0.20564	-0.9353	0.287963
73.382	-102.000	-0.19923	-0.93729	0.285996
73.429	-101.600	-0.19273	-0.93889	0.285201
73.414	-101.200	-0.18615	-0.94014	0.28546
73.339	-100.800	-0.17951	-0.94105	0.286706
73.208	-100.400	-0.17282	-0.94163	0.288893
73.200	-100.382	-0.17252	-0.94165	0.289032
72.970	-100.000	-0.16603	-0.94162	0.292878
72.800	-99.758	-0.16191	-0.94146	0.295708
72.636	-99.600	-0.15917	-0.94106	0.298441
72.400	-99.395	-0.1556	-0.94041	0.30237
72.000	-99.226	-0.15249	-0.93875	0.309017
71.600	-99.444	-0.15569	-0.93602	0.315649
71.539	-99.600	-0.15819	-0.93526	0.316656
71.476	-100.000	-0.16465	-0.93379	0.317694
71.473	-100.400	-0.17116	-0.9326	0.31775
71.516	-100.800	-0.17771	-0.93161	0.317038
71.600	-101.168	-0.18378	-0.93091	0.315649
71.610	-101.200	-0.18431	-0.93086	0.315491
71.796	-101.600	-0.19101	-0.93055	0.312407
72.000	-101.937	-0.19671	-0.93049	0.309017
72.051	-102.000	-0.19779	-0.93054	0.308163
72.400	-102.366	-0.20414	-0.93108	0.30237
72.452	-102.400	-0.20474	-0.93122	0.30151
72.800	-102.604	-0.20845	-0.93226	0.295708
73.200	-102.535	-0.20777	-0.9345	0.289032
73.264	-102.400	-0.20564	-0.9353	0.287963

Freq 10 GHz Instrument Rotation 183.2 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
78.23027	-118.4364	-0.46617	-0.86086	0.203979
78.23084	-125.2326	-0.56477	-0.79965	0.203969
78.92308	-124.9348	-0.56198	-0.80453	0.192127
80.30769	-123.8992	-0.54977	-0.81817	0.168357
80.52699	-123.6678	-0.54682	-0.82092	0.164583
81.62453	-122.103	-0.52578	-0.83806	0.145659
81.69231	-121.9768	-0.52402	-0.83936	0.144489
82.30527	-120.5383	-0.50354	-0.85353	0.133895
82.79568	-118.9735	-0.48058	-0.86794	0.125408
83.07692	-117.5983	-0.45989	-0.87976	0.120537
83.11137	-117.4087	-0.45701	-0.88134	0.11994
83.1899	-115.8439	-0.43285	-0.89364	0.118579
83.07692	-114.703	-0.41487	-0.90186	0.120537
83.02317	-114.2791	-0.40814	-0.9048	0.121468
82.46702	-112.7144	-0.3828	-0.91448	0.131097
81.69231	-111.5199	-0.36298	-0.92053	0.144489
81.09775	-111.1496	-0.35646	-0.92141	0.154749
80.30769	-110.8373	-0.35064	-0.92125	0.168357
78.92308	-110.9096	-0.35025	-0.91674	0.192127
78.21487	-111.1496	-0.3532	-0.91298	0.204242
77.53846	-111.4666	-0.35734	-0.90871	0.215784
76.15385	-112.6645	-0.37414	-0.89596	0.239316
76.11478	-112.7144	-0.37485	-0.89549	0.239978
75.18654	-114.2791	-0.39752	-0.88126	0.255673
74.76923	-115.061	-0.40871	-0.87404	0.262707
74.43363	-115.8439	-0.41993	-0.86697	0.268354
73.80563	-117.4087	-0.44207	-0.85252	0.278897
73.38462	-118.6291	-0.45913	-0.84109	0.285946
73.28314	-118.9735	-0.46393	-0.83787	0.287642
73.03847	-120.5383	-0.48601	-0.82382	0.29173
73.12992	-122.103	-0.50857	-0.81064	0.290202
73.38462	-122.9434	-0.5211	-0.80417	0.285946
73.70803	-123.6678	-0.53212	-0.79885	0.280532
74.76923	-124.9453	-0.55267	-0.79091	0.262707
75.30924	-125.2326	-0.55804	-0.79011	0.253602
76.15385	-125.5286	-0.56422	-0.79018	0.239316
77.53846	-125.4741	-0.56666	-0.79519	0.215784
78.23084	-125.2326	-0.56477	-0.79965	0.203969

Freq 18 GHz Instrument Rotation 199.7 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.934	-121.756	-0.49113	-0.79347	0.359442
72.183	-125.233	-0.54923	-0.77764	0.305981
72.821	-123.668	-0.52965	-0.79514	0.295351
72.973	-122.103	-0.50815	-0.80996	0.292825
72.517	-120.538	-0.48464	-0.8215	0.300428
72.000	-119.226	-0.46436	-0.82999	0.309017
71.898	-118.973	-0.46043	-0.83154	0.310712
70.615	-117.564	-0.43651	-0.83624	0.331908
69.998	-117.409	-0.43257	-0.8342	0.342058
69.231	-117.302	-0.42888	-0.83085	0.354605
68.741	-117.409	-0.42901	-0.82734	0.362581
67.846	-117.678	-0.43021	-0.82019	0.377095
66.462	-118.556	-0.43825	-0.80526	0.399365
65.984	-118.973	-0.44247	-0.79911	0.406987
65.077	-120.234	-0.45664	-0.78352	0.421401
64.895	-120.538	-0.46011	-0.77993	0.424278
64.676	-122.103	-0.48038	-0.76569	0.427729
65.077	-123.463	-0.50006	-0.75655	0.421401
65.165	-123.668	-0.50311	-0.7553	0.420005
66.462	-124.970	-0.52546	-0.75127	0.399365
66.856	-125.233	-0.53047	-0.75108	0.393047
67.846	-125.780	-0.54152	-0.75137	0.377095
69.231	-126.286	-0.55336	-0.75369	0.354605
70.615	-126.287	-0.55828	-0.76037	0.331908
72.000	-125.470	-0.55188	-0.77455	0.309017
72.183	-125.233	-0.54923	-0.77764	0.305981

Freq 23 GHz Instrument Rotation 198.3 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.723	-120.781	-0.47688	-0.80057	0.362871
70.770	-123.668	-0.52344	-0.78583	0.329369
71.626	-122.103	-0.50435	-0.80391	0.315219
72.000	-120.724	-0.4859	-0.81757	0.309017
72.040	-120.538	-0.48335	-0.81932	0.308354
72.000	-120.304	-0.4799	-0.8211	0.309017
71.739	-118.973	-0.46001	-0.83078	0.313353
71.022	-117.409	-0.43531	-0.83949	0.325207
70.615	-116.966	-0.42776	-0.84075	0.331908
69.231	-116.680	-0.41982	-0.83547	0.354605
67.846	-117.331	-0.42523	-0.82279	0.377095
67.749	-117.409	-0.42605	-0.82164	0.378671
66.462	-118.509	-0.43758	-0.80562	0.399365
65.903	-118.973	-0.44219	-0.79861	0.408285
65.077	-120.433	-0.45936	-0.78193	0.421401
65.029	-120.538	-0.46061	-0.78078	0.422164
65.077	-121.614	-0.47538	-0.77229	0.421401
65.111	-122.103	-0.48209	-0.76842	0.420855
66.420	-123.668	-0.50809	-0.76277	0.400036
66.462	-123.699	-0.50866	-0.76274	0.399365
67.846	-124.326	-0.52227	-0.76488	0.377095
69.231	-124.482	-0.52936	-0.77074	0.354605
70.615	-123.850	-0.52544	-0.78342	0.331908
70.770	-123.668	-0.52344	-0.78583	0.329369

Freq 89 GHz Instrument Rotation 224 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
65.610	-132.560	-0.616	-0.67083	0.412948
67.045	-134.621	-0.64679	-0.6554	0.390013
67.846	-133.356	-0.63585	-0.67342	0.377095
67.991	-133.057	-0.63297	-0.67743	0.374746
67.854	-131.492	-0.61364	-0.69379	0.376962
67.846	-131.472	-0.61336	-0.69397	0.377095
66.765	-129.927	-0.58976	-0.70467	0.394505
66.462	-129.734	-0.58603	-0.70504	0.399365
65.077	-129.581	-0.57783	-0.69895	0.421401
64.397	-129.927	-0.57879	-0.69157	0.432132
63.692	-130.413	-0.58115	-0.68253	0.443192
62.543	-131.492	-0.58788	-0.66467	0.461086
62.333	-133.057	-0.60466	-0.64714	0.464329
63.241	-134.621	-0.62719	-0.63554	0.450242
63.692	-135.145	-0.63547	-0.63227	0.443192
65.077	-135.755	-0.64965	-0.63275	0.421401
66.462	-135.251	-0.6511	-0.64542	0.399365
67.045	-134.621	-0.64679	-0.6554	0.390013

Freq 166 GHz Instrument Rotation 210.7 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
79.591	-116.635	-0.44093	-0.87917	0.180671
79.800	-118.196	-0.46502	-0.86741	0.177085
80.190	-118.000	-0.46261	-0.87004	0.170374
80.400	-117.812	-0.46003	-0.8721	0.166769
80.562	-117.600	-0.45703	-0.87421	0.163974
80.675	-117.400	-0.45412	-0.87608	0.162031
80.800	-117.088	-0.4495	-0.87886	0.159881
80.866	-116.800	-0.44516	-0.88127	0.158743
80.896	-116.400	-0.43903	-0.88443	0.158231
80.851	-116.000	-0.43279	-0.88736	0.159009
80.797	-115.800	-0.42963	-0.88873	0.159926
80.600	-115.416	-0.42342	-0.89109	0.163326
80.406	-115.200	-0.41982	-0.89217	0.166657
80.200	-115.051	-0.41724	-0.89271	0.170209
80.000	-114.953	-0.41546	-0.89288	0.173648
79.600	-114.895	-0.41404	-0.89218	0.180519
79.294	-115.000	-0.41526	-0.89053	0.185761
79.019	-115.200	-0.41798	-0.88826	0.190487
78.832	-115.400	-0.42081	-0.88623	0.193691
78.681	-115.600	-0.42368	-0.88429	0.196274
78.558	-115.800	-0.42658	-0.88243	0.198375
78.400	-116.175	-0.4321	-0.87912	0.201078
78.337	-116.400	-0.43545	-0.87722	0.202161
78.261	-116.800	-0.44145	-0.87392	0.203449
78.262	-117.200	-0.44754	-0.87082	0.203439
78.363	-117.600	-0.45377	-0.86799	0.201705
78.469	-117.800	-0.45697	-0.86673	0.199902
78.642	-118.000	-0.46028	-0.86565	0.196943
79.000	-118.184	-0.46363	-0.86524	0.190809
79.200	-118.228	-0.46461	-0.86546	0.187381
79.600	-118.237	-0.46535	-0.86652	0.180519

Freq 183 GHz Instrument Rotation 213.0 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
77.944	-111.579	-0.35967	-0.90941	0.208859
78.400	-109.762	-0.33121	-0.92188	0.201078
78.000	-109.645	-0.32884	-0.92122	0.207912
77.800	-109.839	-0.33171	-0.91941	0.211325
77.600	-110.147	-0.3364	-0.91691	0.214735
77.475	-110.400	-0.34028	-0.91498	0.21686
77.384	-110.600	-0.34335	-0.91346	0.21841
77.249	-111.000	-0.34953	-0.91056	0.220712
77.200	-111.205	-0.35271	-0.90913	0.221548
77.141	-111.600	-0.35889	-0.90646	0.22255
77.113	-112.000	-0.36517	-0.90383	0.223034
77.135	-112.400	-0.3715	-0.90134	0.22265
77.200	-112.784	-0.37764	-0.89906	0.221548
77.263	-113.000	-0.38112	-0.89785	0.22047
77.400	-113.336	-0.38659	-0.89608	0.218143
77.600	-113.561	-0.3904	-0.89525	0.214735
78.000	-113.442	-0.38913	-0.89741	0.207912
78.200	-113.219	-0.38592	-0.89958	0.204496
78.344	-113.000	-0.38267	-0.90152	0.20203
78.455	-112.800	-0.37968	-0.90321	0.20014
78.600	-112.465	-0.37457	-0.90588	0.197657
78.677	-112.200	-0.37049	-0.90785	0.196346
78.751	-111.800	-0.36423	-0.91065	0.195069
78.789	-111.400	-0.35791	-0.91329	0.194425
78.779	-111.000	-0.35152	-0.91573	0.194595
78.714	-110.600	-0.34504	-0.91796	0.195699
78.608	-110.200	-0.3385	-0.92	0.197515
78.523	-110.000	-0.33518	-0.9209	0.198982

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Freq 18 GHz Instrument Rotation 206.6 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.761	-128.384	-0.57875	-0.73063	0.362253
71.221	-133.057	-0.64638	-0.69178	0.321924
72.000	-132.294	-0.64	-0.70349	0.309017
72.499	-131.492	-0.63184	-0.71438	0.300729
73.199	-129.927	-0.61441	-0.73413	0.289046
73.385	-129.347	-0.60754	-0.74103	0.285946
73.638	-128.362	-0.5955	-0.75235	0.281705
73.500	-126.797	-0.57432	-0.76778	0.284022
73.385	-126.575	-0.57099	-0.76955	0.285946
72.679	-125.233	-0.55073	-0.77977	0.297733
72.013	-123.668	-0.52728	-0.79159	0.308798
72.000	-123.648	-0.52697	-0.79172	0.309017
70.615	-122.653	-0.50896	-0.79423	0.331908
69.231	-122.626	-0.50412	-0.78748	0.354605
67.846	-123.076	-0.50546	-0.77609	0.377095
66.462	-123.656	-0.50809	-0.76312	0.399365
66.438	-123.668	-0.50816	-0.76288	0.399736
65.077	-124.720	-0.51653	-0.7454	0.421401
64.602	-125.233	-0.52114	-0.73787	0.428899
63.893	-126.797	-0.53788	-0.71906	0.440045
63.692	-128.189	-0.55423	-0.70457	0.443192
63.672	-128.362	-0.55625	-0.70277	0.443508
63.692	-128.483	-0.55783	-0.70172	0.443192
64.044	-129.927	-0.57707	-0.68951	0.43768
65.077	-131.393	-0.59965	-0.68033	0.421401
65.168	-131.492	-0.60126	-0.6798	0.419961
66.462	-132.602	-0.62058	-0.67482	0.399365
67.201	-133.057	-0.62938	-0.67359	0.387494
67.846	-133.384	-0.63618	-0.67311	0.377095
69.231	-133.670	-0.64564	-0.67632	0.354605
70.615	-133.452	-0.64876	-0.6848	0.331908
71.221	-133.057	-0.64638	-0.69178	0.321924

Freq 23 GHz Instrument Rotation 205.3 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
68.787	-127.050	-0.56169	-0.74403	0.361834
69.893	-131.492	-0.62214	-0.7034	0.343766
70.615	-130.965	-0.61844	-0.7123	0.331908
71.387	-129.927	-0.60824	-0.72675	0.319175
72.000	-129.002	-0.59855	-0.73909	0.309017
72.349	-128.362	-0.59141	-0.74719	0.30321
72.920	-126.797	-0.57257	-0.76544	0.293703
73.026	-125.233	-0.55177	-0.78123	0.29194
72.411	-123.668	-0.52846	-0.79336	0.30218
72.000	-122.852	-0.51592	-0.79896	0.309017
71.232	-122.103	-0.50319	-0.80205	0.321733
70.615	-121.854	-0.49785	-0.80124	0.331908
69.231	-122.080	-0.49659	-0.79225	0.354605
69.198	-122.103	-0.4968	-0.79187	0.355147
67.846	-123.070	-0.50538	-0.77614	0.377095
66.850	-123.668	-0.50974	-0.76525	0.393145
66.462	-123.980	-0.5124	-0.76023	0.399365
65.077	-125.140	-0.52197	-0.7416	0.421401
64.983	-125.233	-0.52278	-0.74019	0.422883
64.250	-126.797	-0.5395	-0.72124	0.434452
64.271	-128.362	-0.5591	-0.70636	0.434119
65.061	-129.927	-0.58197	-0.69536	0.421647
65.077	-129.944	-0.58225	-0.69528	0.421401
66.462	-131.176	-0.60359	-0.69006	0.399365
67.065	-131.492	-0.61014	-0.68984	0.389682
67.846	-131.806	-0.61739	-0.69038	0.377095
69.231	-131.833	-0.62362	-0.69667	0.354605
69.893	-131.492	-0.62214	-0.7034	0.343766

Freq 166 GHz Instrument Rotation 227 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
77.962	-134.280	-0.68281	-0.70019	0.208567
78.200	-136.363	-0.70843	-0.67551	0.204496
78.450	-136.200	-0.70715	-0.67813	0.20022
78.692	-136.000	-0.70538	-0.68117	0.196079
78.887	-135.800	-0.70347	-0.68409	0.192737
79.049	-135.600	-0.70146	-0.68692	0.189961
79.200	-135.377	-0.69914	-0.68999	0.187381
79.391	-135.000	-0.69502	-0.69502	0.184107
79.462	-134.800	-0.69275	-0.6976	0.18288
79.557	-134.400	-0.68807	-0.70264	0.181254
79.576	-134.000	-0.68319	-0.70747	0.180938
79.502	-133.600	-0.67808	-0.71205	0.182198
79.400	-133.337	-0.67458	-0.71491	0.183951
79.213	-133.000	-0.66995	-0.71843	0.18715
79.073	-132.800	-0.66712	-0.72043	0.18956
78.918	-132.600	-0.66425	-0.72237	0.192221
78.749	-132.400	-0.66134	-0.72426	0.1951
78.565	-132.200	-0.65839	-0.7261	0.198251
78.339	-132.000	-0.65532	-0.72781	0.202127
78.000	-131.847	-0.65256	-0.72866	0.207912
77.600	-131.978	-0.65324	-0.72606	0.214735
77.400	-132.166	-0.65511	-0.72336	0.218143
77.224	-132.400	-0.65761	-0.72017	0.221134
77.106	-132.600	-0.65981	-0.71754	0.223145
76.997	-132.800	-0.66202	-0.71492	0.224995
76.828	-133.200	-0.66654	-0.70979	0.227878
76.757	-133.400	-0.66882	-0.70725	0.229075
76.639	-133.800	-0.67341	-0.70222	0.231087
76.589	-134.000	-0.67572	-0.69972	0.231931
76.518	-134.400	-0.68038	-0.69479	0.233133
76.474	-134.800	-0.68509	-0.68989	0.233879
76.466	-135.200	-0.68987	-0.68507	0.23402
76.507	-135.600	-0.69475	-0.68035	0.233318
76.600	-135.945	-0.69911	-0.67642	0.231748
76.736	-136.200	-0.70251	-0.67368	0.229436
76.921	-136.400	-0.70539	-0.67173	0.226287
77.200	-136.545	-0.70787	-0.6707	0.221548
77.600	-136.571	-0.70929	-0.67141	0.214735
78.000	-136.459	-0.70904	-0.67382	0.207912

Freq 183 GHz Instrument Rotation 231.6 deg

Spherical Ang. (deg)		unit vector		
theta	phi	xhat	yhat	zhat
78.049	-131.975	-0.65431	-0.72733	0.207075
78.000	-133.709	-0.6759	-0.70706	0.207912
78.200	-133.538	-0.67428	-0.7096	0.204496
78.400	-133.333	-0.67223	-0.71252	0.201078
78.600	-133.096	-0.66975	-0.7158	0.197657
78.800	-132.826	-0.66682	-0.71946	0.194234
78.942	-132.600	-0.66431	-0.72243	0.191798
79.057	-132.400	-0.66204	-0.72503	0.189827
79.200	-132.120	-0.6588	-0.72861	0.187381
79.333	-131.800	-0.65501	-0.73259	0.185102
79.406	-131.600	-0.65261	-0.73505	0.183847
79.505	-131.200	-0.64767	-0.73983	0.182144
79.546	-130.800	-0.64257	-0.74443	0.18145
79.464	-130.400	-0.63719	-0.7487	0.182853
79.282	-130.200	-0.6342	-0.75047	0.185979
79.000	-130.112	-0.63245	-0.75073	0.190809
78.600	-130.049	-0.63074	-0.7504	0.197657
78.200	-130.013	-0.62937	-0.74971	0.204496
77.800	-130.177	-0.63059	-0.7468	0.211325
77.600	-130.365	-0.63255	-0.74416	0.214735
77.420	-130.600	-0.63515	-0.74104	0.217797
77.301	-130.800	-0.63744	-0.73848	0.219832
77.191	-131.000	-0.63973	-0.73593	0.221709
77.019	-131.400	-0.64441	-0.73094	0.224627
76.950	-131.600	-0.64678	-0.72848	0.225804
76.829	-132.000	-0.65153	-0.7236	0.227853
76.780	-132.200	-0.65392	-0.72117	0.228683
76.713	-132.600	-0.65876	-0.71639	0.22983
76.685	-133.000	-0.66367	-0.71169	0.230306
76.730	-133.400	-0.66874	-0.70717	0.229548
76.800	-133.611	-0.67153	-0.70491	0.228351
77.000	-133.870	-0.67526	-0.70244	0.224951
77.400	-133.997	-0.67789	-0.70205	0.218143
77.800	-133.848	-0.6771	-0.7049	0.211325

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Agile Revision: H (C484272)
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Appendix M: Cold Sky Beam Pointing Vectors for each Sample

10 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
337	161.7789	67.4506	-97.056
338	162.4701	68.0769	-97.7283
339	163.1613	68.6846	-98.4016
340	163.8525	69.2739	-99.076
341	164.5437	69.8445	-99.7514
342	165.2349	70.3967	-100.428
343	165.9261	70.9302	-101.105
344	166.6173	71.4453	-101.784
345	167.3085	71.9418	-102.464
346	167.9997	72.4197	-103.144
347	168.6909	72.8791	-103.826
348	169.3821	73.32	-104.509
349	170.0733	73.7423	-105.193
350	170.7645	74.1461	-105.877
351	171.4557	74.5313	-106.563
352	172.1469	74.898	-107.25
353	172.8381	75.2461	-107.938
354	173.5293	75.5757	-108.627
355	174.2205	75.8868	-109.317
356	174.9117	76.1793	-110.008
357	175.6029	76.4532	-110.701
358	176.2941	76.7086	-111.394
359	176.9853	76.9455	-112.088
360	177.6765	77.1638	-112.783
361	178.3677	77.3636	-113.48
362	179.0589	77.5448	-114.177
363	179.7501	77.7075	-114.876
364	180.4413	77.8517	-115.575
365	181.1325	77.9773	-116.276
366	181.8237	78.0843	-116.977
367	182.5149	78.1728	-117.68
368	183.2061	78.2428	-118.384
369	183.8973	78.2942	-119.088
370	184.5885	78.3271	-119.794
371	185.2797	78.3414	-120.501
372	185.9709	78.3372	-121.209
373	186.6621	78.3144	-121.918
374	187.3533	78.2731	-122.628
375	188.0445	78.2133	-123.339
376	188.7357	78.1349	-124.051

18 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
365	175.5069	57.0022	-102.874
366	176.1981	57.628	-103.337
367	176.8893	58.2371	-103.805
368	177.5805	58.8297	-104.277
369	178.2717	59.4057	-104.754
370	178.9629	59.9651	-105.236
371	179.6541	60.5079	-105.723
372	180.3453	61.034	-106.214
373	181.0365	61.5437	-106.71
374	181.7277	62.0367	-107.21
375	182.4189	62.5131	-107.715
376	183.1101	62.9729	-108.225
377	183.8013	63.4162	-108.739
378	184.4925	63.8428	-109.259
379	185.1837	64.2529	-109.782
380	185.8749	64.6463	-110.311
381	186.5661	65.0232	-110.844
382	187.2573	65.3835	-111.382
383	187.9485	65.7272	-111.924
384	188.6397	66.0543	-112.472
385	189.3309	66.3648	-113.023
386	190.0221	66.6587	-113.58
387	190.7133	66.9361	-114.141
388	191.4045	67.1968	-114.707
389	192.0957	67.4409	-115.277
390	192.7869	67.6685	-115.853
391	193.4781	67.8795	-116.432
392	194.1693	68.0738	-117.017
393	194.8605	68.2516	-117.606
394	195.5517	68.4128	-118.2
395	196.2429	68.5574	-118.798
396	196.9341	68.6854	-119.402
397	197.6253	68.7968	-120.009
398	198.3165	68.8916	-120.622
399	199.0077	68.9699	-121.239
400	199.6989	69.0315	-121.861
401	200.3901	69.0766	-122.487
402	201.0813	69.105	-123.119
403	201.7725	69.1169	-123.754
404	202.4637	69.1122	-124.395
405	203.1549	69.0908	-125.04
406	203.8461	69.0529	-125.69
407	204.5373	68.9984	-126.344
408	205.2285	68.9274	-127.003
409	205.9197	68.8397	-127.667
410	206.6109	68.7354	-128.336
411	207.3021	68.6145	-129.009
412	207.9933	68.4771	-129.687
413	208.6845	68.323	-130.369
414	209.3757	68.1524	-131.056
415	210.0669	67.9652	-131.748
416	210.7581	67.7613	-132.445
417	211.4493	67.5409	-133.146
418	212.1405	67.3039	-133.852
419	212.8317	67.0503	-134.562
420	213.5229	66.7802	-135.277

23 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
365	175.5337	56.7841	-102.26
366	176.2249	57.427	-102.781
367	176.9161	58.0526	-103.304
368	177.6073	58.6608	-103.83
369	178.2985	59.2517	-104.359
370	178.9897	59.8252	-104.89
371	179.6809	60.3813	-105.424
372	180.3721	60.9201	-105.961
373	181.0633	61.4415	-106.5
374	181.7545	61.9456	-107.042
375	182.4457	62.4322	-107.586
376	183.1369	62.9016	-108.133
377	183.8281	63.3535	-108.683
378	184.5193	63.7881	-109.235
379	185.2105	64.2053	-109.791
380	185.9017	64.6052	-110.348
381	186.5929	64.9877	-110.909
382	187.2841	65.3528	-111.471
383	187.9753	65.7006	-112.037
384	188.6665	66.031	-112.605
385	189.3577	66.344	-113.176
386	190.0489	66.6397	-113.75
387	190.7401	66.918	-114.326
388	191.4313	67.1789	-114.905
389	192.1225	67.4225	-115.486
390	192.8137	67.6487	-116.07
391	193.5049	67.8576	-116.657
392	194.1961	68.0491	-117.246
393	194.8873	68.2232	-117.838
394	195.5785	68.38	-118.433
395	196.2697	68.5194	-119.03
396	196.9609	68.6414	-119.63
397	197.6521	68.7461	-120.232
398	198.3433	68.8334	-120.837
399	199.0345	68.9033	-121.445
400	199.7257	68.9559	-122.056
401	200.4169	68.9911	-122.669
402	201.1081	69.009	-123.285
403	201.7993	69.0095	-123.903
404	202.4905	68.9926	-124.524
405	203.1817	68.9584	-125.147
406	203.8729	68.9068	-125.774
407	204.5641	68.8378	-126.403
408	205.2553	68.7515	-127.034
409	205.9465	68.6478	-127.668
410	206.6377	68.5267	-128.305
411	207.3289	68.3883	-128.945
412	208.0201	68.2325	-129.587
413	208.7113	68.0593	-130.231
414	209.4025	67.8688	-130.879
415	210.0937	67.6609	-131.529
416	210.7849	67.4357	-132.182
417	211.4761	67.1931	-132.837
418	212.1673	66.9331	-133.495
419	212.8585	66.6558	-134.155
420	213.5497	66.3611	-134.819

36 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
415	203.6556	55.9062	-104.182
416	204.3468	56.5248	-104.718
417	205.038	57.1255	-105.256
418	205.7292	57.7082	-105.797
419	206.4204	58.2728	-106.339
420	207.1116	58.8194	-106.884
421	207.8028	59.348	-107.431
422	208.494	59.8586	-107.98
423	209.1852	60.3512	-108.531
424	209.8764	60.8258	-109.085
425	210.5676	61.2824	-109.64
426	211.2588	61.7209	-110.198
427	211.95	62.1415	-110.758
428	212.6412	62.544	-111.32
429	213.3324	62.9285	-111.885
430	214.0236	63.295	-112.451
431	214.7148	63.6435	-113.02
432	215.406	63.974	-113.591
433	216.0972	64.2865	-114.164
434	216.7884	64.581	-114.739
435	217.4796	64.8574	-115.317
436	218.1708	65.1158	-115.896
437	218.862	65.3563	-116.478
438	219.5532	65.5787	-117.062
439	220.2444	65.7831	-117.648
440	220.9356	65.9695	-118.236
441	221.6268	66.1379	-118.827
442	222.318	66.2882	-119.42
443	223.0092	66.4206	-120.014
444	223.7004	66.5349	-120.611
445	224.3916	66.6312	-121.211
446	225.0828	66.7096	-121.812
447	225.774	66.7699	-122.416
448	226.4652	66.8122	-123.021
449	227.1564	66.8364	-123.629
450	227.8476	66.8427	-124.239
451	228.5388	66.831	-124.852
452	229.23	66.8012	-125.466
453	229.9212	66.7534	-126.083
454	230.6124	66.6877	-126.702
455	231.3036	66.6039	-127.322
456	231.9948	66.5021	-127.946
457	232.686	66.3823	-128.571
458	233.3772	66.2444	-129.199
459	234.0684	66.0886	-129.828
460	234.7596	65.9148	-130.46
461	235.4508	65.7229	-131.094
462	236.142	65.513	-131.73
463	236.8332	65.2851	-132.369
464	237.5244	65.0392	-133.009
465	238.2156	64.7753	-133.652

89 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
389	188.7472	53.1059	-103.876
390	189.4384	53.7891	-104.375
391	190.1296	54.4546	-104.877
392	190.8208	55.1024	-105.381
393	191.512	55.7325	-105.889
394	192.2032	56.3448	-106.398
395	192.8944	56.9395	-106.911
396	193.5856	57.5165	-107.426
397	194.2768	58.0758	-107.944
398	194.968	58.6173	-108.464
399	195.6592	59.1412	-108.987
400	196.3504	59.6474	-109.512
401	197.0416	60.1358	-110.04
402	197.7328	60.6066	-110.571
403	198.424	61.0596	-111.105
404	199.1152	61.495	-111.641
405	199.8064	61.9127	-112.179
406	200.4976	62.3126	-112.721
407	201.1888	62.6948	-113.265
408	201.88	63.0594	-113.811
409	202.5712	63.4062	-114.36
410	203.2624	63.7354	-114.912
411	203.9536	64.0468	-115.466
412	204.6448	64.3405	-116.023
413	205.336	64.6166	-116.583
414	206.0272	64.8749	-117.145
415	206.7184	65.1155	-117.71
416	207.4096	65.3385	-118.278
417	208.1008	65.5437	-118.848
418	208.792	65.7312	-119.42
419	209.4832	65.901	-119.996
420	210.1744	66.0531	-120.574
421	210.8656	66.1875	-121.154
422	211.5568	66.3042	-121.738
423	212.248	66.4032	-122.323
424	212.9392	66.4846	-122.912
425	213.6304	66.5482	-123.503
426	214.3216	66.5941	-124.097
427	215.0128	66.6222	-124.693
428	215.704	66.6327	-125.292
429	216.3952	66.6255	-125.894
430	217.0864	66.6006	-126.498
431	217.7776	66.558	-127.105
432	218.4688	66.4977	-127.714
433	219.16	66.4197	-128.326
434	219.8512	66.324	-128.941
435	220.5424	66.2105	-129.558
436	221.2336	66.0794	-130.178
437	221.9248	65.9306	-130.801
438	222.616	65.764	-131.426
439	223.3072	65.5798	-132.054
440	223.9984	65.3779	-132.684
441	224.6896	65.1582	-133.317
442	225.3808	64.9209	-133.953
443	226.072	64.6658	-134.591
444	226.7632	64.3931	-135.232
445	227.4544	64.1027	-135.875
446	228.1456	63.7945	-136.521
447	228.8368	63.4686	-137.17
448	229.528	63.1251	-137.822
449	230.2192	62.7638	-138.476

166 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
378	182.7307	60.1367	-87.1729
379	183.4219	60.9634	-87.8864
380	184.1131	61.7726	-88.6007
381	184.8043	62.5645	-89.3156
382	185.4955	63.3389	-90.0313
383	186.1867	64.0959	-90.7476
384	186.8779	64.8356	-91.4647
385	187.5691	65.5578	-92.1824
386	188.2603	66.2626	-92.9008
387	188.9515	66.95	-93.62
388	189.6427	67.62	-94.3398
389	190.3339	68.2726	-95.0604
390	191.0251	68.9078	-95.7816
391	191.7163	69.5256	-96.5036
392	192.4075	70.126	-97.2262
393	193.0987	70.7089	-97.9496
394	193.7899	71.2745	-98.6736
395	194.4811	71.8226	-99.3983
396	195.1723	72.3534	-100.124
397	195.8635	72.8667	-100.85
398	196.5547	73.3626	-101.577
399	197.2459	73.8412	-102.304
400	197.9371	74.3023	-103.033
401	198.6283	74.746	-103.762
402	199.3195	75.1723	-104.491
403	200.0107	75.5812	-105.222
404	200.7019	75.9727	-105.953
405	201.3931	76.3467	-106.684
406	202.0843	76.7034	-107.417
407	202.7755	77.0427	-108.15
408	203.4667	77.3645	-108.884
409	204.1579	77.669	-109.618
410	204.8491	77.956	-110.354
411	205.5403	78.2256	-111.09
412	206.2315	78.4779	-111.826
413	206.9227	78.7127	-112.564
414	207.6139	78.9301	-113.302
415	208.3051	79.1301	-114.04
416	208.9963	79.3127	-114.78
417	209.6875	79.4779	-115.52
418	210.3787	79.6257	-116.261
419	211.0699	79.7561	-117.002
420	211.7611	79.869	-117.745
421	212.4523	79.9646	-118.487
422	213.1435	80.0428	-119.231
423	213.8347	80.1035	-119.975
424	214.5259	80.1468	-120.721
425	215.2171	80.1728	-121.466
426	215.9083	80.1813	-122.213
427	216.5995	80.1724	-122.96
428	217.2907	80.1461	-123.708
429	217.9819	80.1024	-124.456
430	218.6731	80.0413	-125.205
431	219.3643	79.9628	-125.955
432	220.0555	79.8669	-126.706
433	220.7467	79.7536	-127.457
434	221.4379	79.6229	-128.209
435	222.1291	79.4747	-128.962
436	222.8203	79.3092	-129.716
437	223.5115	79.1262	-130.47
438	224.2027	78.9259	-131.225

183 GHz

Sample #	Instrument Rotation Angle	Cold View Pointing Theta	Cold View Pointing Phi
392	190.1065	59.6137	-88.0449
393	190.7977	60.4731	-88.736
394	191.4889	61.3139	-89.4284
395	192.1801	62.1358	-90.1222
396	192.8713	62.9391	-90.8174
397	193.5625	63.7236	-91.514
398	194.2537	64.4894	-92.2119
399	194.9449	65.2365	-92.9112
400	195.6361	65.9648	-93.6118
401	196.3273	66.6744	-94.3138
402	197.0185	67.3653	-95.0172
403	197.7097	68.0374	-95.722
404	198.4009	68.6908	-96.4281
405	199.0921	69.3255	-97.1356
406	199.7833	69.9414	-97.8445
407	200.4745	70.5386	-98.5547
408	201.1657	71.1171	-99.2663
409	201.8569	71.6768	-99.9793
410	202.5481	72.2178	-100.694
411	203.2393	72.7401	-101.409
412	203.9305	73.2437	-102.127
413	204.6217	73.7285	-102.845
414	205.3129	74.1946	-103.565
415	206.0041	74.6419	-104.286
416	206.6953	75.0705	-105.009
417	207.3865	75.4804	-105.733
418	208.0777	75.8716	-106.458
419	208.7689	76.244	-107.185
420	209.4601	76.5977	-107.913
421	210.1513	76.9327	-108.642
422	210.8425	77.2489	-109.373
423	211.5337	77.5464	-110.105
424	212.2249	77.8251	-110.839
425	212.9161	78.0852	-111.573
426	213.6073	78.3265	-112.31
427	214.2985	78.5491	-113.047
428	214.9897	78.7529	-113.786
429	215.6809	78.938	-114.527
430	216.3721	79.1044	-115.268
431	217.0633	79.252	-116.012
432	217.7545	79.3809	-116.756
433	218.4457	79.4911	-117.502
434	219.1369	79.5826	-118.249
435	219.8281	79.6553	-118.998
436	220.5193	79.7093	-119.748
437	221.2105	79.7445	-120.499
438	221.9017	79.7611	-121.252
439	222.5929	79.7588	-122.006
440	223.2841	79.7379	-122.761
441	223.9753	79.6982	-123.518
442	224.6665	79.6398	-124.276
443	225.3577	79.5627	-125.036
444	226.0489	79.4668	-125.797
445	226.7401	79.3522	-126.559
446	227.4313	79.2189	-127.323
447	228.1225	79.0668	-128.088
448	228.8137	78.896	-128.854
449	229.5049	78.7065	-129.622
450	230.1961	78.4983	-130.391
451	230.8873	78.2713	-131.162
452	231.5785	78.0255	-131.934

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450	230.9104	62.3849	-139.132
451	231.6016	61.9882	-139.792
452	232.2928	61.5738	-140.453
453	232.984	61.1418	-141.118
454	233.6752	60.692	-141.785
455	234.3664	60.2245	-142.455
456	235.0576	59.7394	-143.127
457	235.7488	59.2365	-143.802
458	236.44	58.7159	-144.48
459	237.1312	58.1776	-145.16
460	237.8224	57.6216	-145.843

439	224.8939	78.7081	-131.98
440	225.5851	78.4729	-132.736
441	226.2763	78.2203	-133.493
442	226.9675	77.9503	-134.251
443	227.6587	77.6629	-135.009
444	228.3499	77.3581	-135.768
445	229.0411	77.0359	-136.528
446	229.7323	76.6963	-137.289
447	230.4235	76.3393	-138.05
448	231.1147	75.9649	-138.812
449	231.8059	75.573	-139.574
450	232.4971	75.1638	-140.337

453	232.2697	77.6611	-132.704
454	232.9609	77.4779	-133.481
455	233.6521	77.176	-134.257
456	234.3433	76.8553	-135.035
457	235.0345	76.516	-135.814
458	235.7257	76.1578	-136.594
459	236.4169	75.781	-137.375
460	237.1081	75.3854	-138.158

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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Manual: 2344649 Program: GMI

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Appendix N: GMI Radiometric Parameters

				Low Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	2.7	20.6	39.1	28.24	23.73	20.17	12238.1	12028.6	11804.8	-0.133	-0.106	-0.068
10.65	hpol	Off	6	2.7	20.6	39.1	28.88	24.69	20.86	11361.8	11129.8	10820.1	-0.127	-0.089	-0.068
18.7	vpol	Off	6	1.3	25.2	43.4	29.54	29.84	28.95	11699.2	12415.0	12846.9	-0.030	-0.017	-0.007
18.7	hpol	Off	6	1.3	25.2	43.4	28.80	28.53	27.38	11524.5	11985.3	12231.9	0.015	0.026	0.035
23.8	vpol	Off	6	0.8	24.7	42.9	23.55	17.55	13.82	11657.5	10773.5	10200.6	0.033	0.030	0.070
36.64	vpol	Off	6	-0.3	24.6	42.5	29.39	23.65	19.46	10041.2	9041.7	8158.0	-0.532	-0.409	-0.325
36.64	hpol	Off	6	-0.3	24.6	42.5	26.63	23.23	18.80	9671.0	9081.8	8080.2	-0.479	-0.381	-0.299
89*	vpol	Off	6	4.2	28.2	46.9	26.36	29.03	30.37	9285.4	12678.5	15349.4	-0.414	-0.339	-0.336
89†	vpol	Off	6	4.2	28.2	46.9	23.02	25.36	26.54	7082.7	9944.9	12271.5	-0.394	-0.314	-0.317
89*	hpol	Off	6	4.2	28.2	46.7	27.39	30.58	32.07	9120.5	12370.9	14744.3	-0.463	-0.399	-0.392
89†	hpol	Off	6	4.2	28.2	46.7	23.73	26.50	27.79	7063.6	9744.2	11830.7	-0.442	-0.382	-0.382
166	vpol	Off	4	0.6‡	12.1‡	32.4‡	25.96	25.33	24.83	12219.1	11875.3	13107.4	-0.389	-0.342	-0.225
166	hpol	Off	4	-1.5‡	11.7‡	32.0‡	27.48	26.88	26.38	15284.6	15488.9	16900.0	-0.298	-0.292	-0.207
183.31±3*	vpol	Off	5	1.0‡	13.3‡	33.7‡	48.33	44.30	40.00	10404.2	9361.2	9966.9	-0.495	-0.438	-0.349
183.31±3†	vpol	Off	5	1.0‡	13.3‡	33.7‡	40.05	36.61	33.06	3345.6	2353.4	2949.2	-0.604	-0.536	-0.427
183.31±7	vpol	Off	5	1.0‡	13.3‡	33.7‡	44.00	43.39	41.98	9546.7	10901.3	13518.3	-0.498	-0.432	-0.331

				Low Gain											
		Blanking		Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	-18.9	8.7	28.8	215.66	224.12	228.71	0.11	0.14	0.18	0.01	0.16	0.25
10.65	hpol	Off	6	-19.0	8.7	28.8	191.45	198.79	201.61	-0.04	-0.06	-0.14	-0.62	-0.56	-0.64
18.7	vpol	Off	6	-3.0	21.4	39.7	223.20	239.16	250.85	-0.12	-0.27	-0.44	-0.09	0.06	0.12
18.7	hpol	Off	6	-1.2	22.7	41.0	215.89	229.70	240.67	-0.03	-0.22	-0.36	-0.23	-0.08	-0.02
23.8	vpol	Off	6	-3.0	21.4	39.7	182.48	198.09	208.79	-0.18	-0.40	-0.65	0.02	0.17	0.30
36.64	vpol	Off	6	-6.9	18.6	36.5	190.77	197.77	203.25	-0.12	-0.30	-0.44	0.18	0.38	0.54
36.64	hpol	Off	6	-7.1	18.3	36.3	202.86	212.82	219.55	-0.12	-0.26	-0.43	0.05	0.17	0.27
89	vpol	Off	6							0.00	-0.15	-0.28	-0.03	0.04	0.10
89	hpol	Off	6							-0.11	-0.21	-0.30	0.18	0.24	0.30
166	vpol	Off	4							0.21	0.28	0.36	-0.15	-0.09	-0.02
166	hpol	Off	4							0.16	0.22	0.28	-0.30	-0.26	-0.23
183.31±3	vpol	Off	5							0.21	0.28	0.35	0.00	0.07	0.13
183.31±7	vpol	Off	5							0.23	0.27	0.35	-0.04	0.05	0.10

				Nominal Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	2.7	20.6	39.1	40.98	34.20	28.87	13847.2	13520.4	13176.7	-0.160	-0.125	-0.091
10.65	hpol	Off	4	2.7	20.6	39.1	42.01	35.69	29.93	13005.7	12671.5	12222.7	-0.168	-0.126	-0.088
18.7	vpol	Off	4	1.3	25.2	43.4	44.47	44.34	42.64	14425.0	15407.2	15962.2	-0.018	0.005	0.015
18.7	hpol	Off	4	1.3	25.2	43.4	46.86	45.84	43.68	14387.7	15103.0	15483.8	0.050	0.075	0.083
23.8	vpol	Off	4	0.8	24.7	43.0	39.69	29.08	22.66	15604.9	13991.9	12933.6	0.072	0.042	0.025
36.64	vpol	Off	4	-0.3	24.6	42.5	42.13	33.65	27.52	13869.5	12434.6	11166.8	-0.587	-0.481	-0.394
36.64	vpol	Dur=8	4	-0.3	24.6	42.5	40.80	32.60	26.66	14450.8	13063.8	11841.7	-0.582	-0.485	-0.403
36.64	vpol	Dur=20	4	-0.3	24.6	42.5	38.78	30.98	25.34	15356.3	14038.1	12874.6	-0.581	-0.490	-0.386
36.64	vpol	Dur=32	4	-0.3	24.6	42.5	36.76	29.36	24.01	16260.9	15012.6	13910.6	-0.576	-0.487	-0.404
36.64	vpol	Off	4	-0.3	24.6	42.5	38.02	32.96	26.50	13445.8	12564.4	11114.3	-0.565	-0.456	-0.367
36.64	vpol	Dur=8	4	-0.3	24.6	42.5	36.83	31.92	25.66	14036.1	13187.2	11788.5	-0.557	-0.463	-0.379
36.64	vpol	Dur=20	4	-0.3	24.6	42.5	35.01	30.34	24.40	14961.6	14154.3	12822.6	-0.558	-0.465	-0.366
36.64	vpol	Dur=32	4	-0.3	24.6	42.5	33.19	28.76	23.12	15886.6	15121.7	13861.3	-0.560	-0.465	-0.379
89*	vpol	Off	4	4.2	28.3	46.9	37.77	41.45	43.23	16200.8	21014.2	24765.2	-0.497	-0.408	-0.327
89†	vpol	Off	4	4.2	28.3	46.9	32.99	36.20	37.76	13122.0	17213.8	20484.9	-0.490	-0.402	-0.319
89*	hpol	Off	4	4.2	28.2	46.8	39.35	43.79	45.78	15344.0	20010.8	23388.6	-0.577	-0.445	-0.329
89†	hpol	Off	4	4.2	28.2	46.8	34.09	37.94	39.67	12453.2	16358.5	19313.0	-0.587	-0.453	-0.325
166	vpol	Off	2	0.6‡	12.1‡	32.6‡	35.76	34.80	33.98	24320.5	23753.5	25389.9	-0.341	-0.228	-0.231
166	hpol	Off	2	-1.4‡	11.7‡	32.2‡	37.83	36.89	36.08	27032.3	27228.8	29105.3	-0.269	-0.174	-0.119
183.31±3*	vpol	Off	4	1.0‡	13.4‡	33.9‡	57.40	52.51	47.32	17953.4	16654.2	17342.9	-0.423	-0.420	-0.348
183.31±3†	vpol	Off	4	1.0‡	13.4‡	33.9‡	47.54	43.46	39.15	9562.9	8421.7	9067.4	-0.476	-0.492	-0.406
183.31±7	vpol	Off	4	1.0‡	13.4‡	33.9‡	51.07	50.36	48.71	15044.9	16671.4	19778.2	-0.488	-0.454	-0.332

				Nominal Gain											
		Blanking		Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	-18.9	8.7	28.8	215.65	224.13	228.64	0.09	0.07	0.10	-0.03	0.07	0.17
10.65	hpol	Off	4	-19.0	8.7	28.8	191.44	198.74	201.56	0.07	0.03	-0.03	-0.47	-0.43	-0.45
18.7	vpol	Off	4	-3.0	21.4	39.7	223.14	239.13	250.86	-0.07	-0.26	-0.41	-0.07	0.02	0.10
18.7	hpol	Off	4	-1.1	22.7	41.1	215.83	229.66	240.63	-0.10	-0.29	-0.45	-0.20	-0.10	-0.03
23.8	vpol	Off	4	-3.0	21.4	39.7	182.50	198.09	208.77	-0.06	-0.26	-0.48	-0.02	0.12	0.20
36.64	vpol	Off	4	-6.9	18.5	36.6	190.72	197.78	203.22	-0.12	-0.26	-0.44	0.12	0.26	0.38
36.64	vpol	Dur=8	4	-6.9	18.5	36.6	190.76	197.77	203.22	-0.12	-0.30	-0.44	0.18	0.38	0.54
36.64	vpol	Dur=20	4	-6.9	18.5	36.6	190.73	197.75	203.27	-0.12	-0.26	-0.44	0.12	0.26	0.38
36.64	vpol	Dur=32	4	-6.9	18.5	36.6	190.76	197.80	203.24	-0.10	-0.25	-0.40	0.03	0.18	0.26
36.64	vpol	Off	4	-7.1	18.3	36.3	202.94	212.88	219.66	-0.08	-0.25	-0.41	0.02	0.13	0.18
36.64	vpol	Dur=8	4	-7.1	18.3	36.3	202.93	212.88	219.65	-0.12	-0.26	-0.43	0.05	0.17	0.27
36.64	vpol	Dur=20	4	-7.1	18.3	36.3	202.95	212.85	219.64	-0.08	-0.25	-0.41	0.02	0.13	0.18
36.64	vpol	Dur=32	4	-7.1	18.3	36.3	202.90	212.86	219.66	-0.09	-0.24	-0.38	-0.05	0.09	0.14
89	vpol	Off	4							-0.02	-0.17	-0.30	-0.05	0.05	0.10
89	vpol	Off	4							-0.02	-0.12	-0.25	0.12	0.22	0.26
166	vpol	Off	2							0.19	0.23	0.36	-0.13	-0.08	-0.02
166	hpol	Off	2							0.17	0.21	0.29	-0.22	-0.19	-0.14
183.31±3	vpol	Off	4							0.18	0.24	0.34	-0.01	0.07	0.12
183.31±7	vpol	Off	4							0.18	0.23	0.34	-0.06	0.02	0.08

				High Gain											
		Blanking		Rcvr/Mixer Temp (˚C)			Gain (DN/K)			Offset (DN)			Non-linearity (Tnl) (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	2.7	20.6	39.1	57.54	48.15	40.73	15933.8	15495.7	15042.1	-0.154	-0.115	-0.081
10.65	hpol	Off	2	2.7	20.6	39.1	58.67	50.01	42.05	15086.5	14669.5	14098.1	-0.191	-0.134	-0.104
18.7	vpol	Off	2	1.3	25.2	43.4	67.16	67.31	64.81	18575.0	20162.8	21014.7	-0.024	-0.009	0.008
18.7	hpol	Off	2	1.3	25.2	43.4	63.01	62.05	59.27	16950.6	18024.9	18596.5	0.075	0.095	0.109
23.8	vpol	Off	2	0.8	24.7	43.0	59.26	43.65	34.00	20399.8	18047.0	16422.7	0.129	0.107	0.072
36.64	vpol	Off	2	-0.3	24.6	42.5	61.79	49.04	39.88	19738.8	17588.5	15723.9	-0.535	-0.396	-0.362
36.64	hpol	Off	2	-0.3	24.6	42.5	56.00	48.20	38.52	19336.7	17961.5	15803.9	-0.479	-0.345	-0.342
89*	vpol	Off	2	4.2	28.3	46.9	51.03	55.85	58.13	24266.3	30725.5	35703.3	-0.446	-0.456	-0.355
89†	vpol	Off	2	4.2	28.3	46.9	44.57	48.77	50.78	20161.7	25693.1	30035.2	-0.445	-0.473	-0.364
89*	hpol	Off	2	4.2	28.2	46.8	53.58	59.38	61.91	22688.3	29017.8	33532.6	-0.490	-0.488	-0.424
89†	hpol	Off	2	4.2	28.2	46.8	46.41	51.43	53.62	18810.8	24155.2	28093.9	-0.501	-0.493	-0.399
166	vpol	Off	1	0.6‡	12.1‡	32.5‡	43.15	41.82	40.71	33452.0	32643.3	34449.9	-0.392	-0.330	-0.280
166	hpol	Off	1	-1.4‡	11.7‡	32.0‡	45.68	44.37	43.25	35953.8	36066.2	38162.7	-0.297	-0.258	-0.174
183.31±3*	vpol	Off	3	1.1‡	13.3‡	33.7‡	66.50	60.79	54.71	25532.8	23954.3	24677.7	-0.542	-0.420	-0.364
183.31±3†	vpol	Off	3	1.1‡	13.3‡	33.7‡	55.08	50.32	45.28	15856.5	14468.8	15158.2	-0.450	-0.365	-0.316
183.31±7	vpol	Off	3	1.1‡	13.3‡	33.7‡	65.03	63.84	61.50	25959.3	27826.6	31561.3	-0.535	-0.432	-0.339

* Original parameters derived from the Ball Thermal Vacuum Test (for reference only)
† Parameters reflect notch filter installation (as-launched condition)
‡ Mixer Temperature reflected here, not receiver temperature.

				High Gain											
		Blanking		Noise Diode Phys Temp (˚C)			Noise Diode Excess Temp (K)			Variable to Cold Load Bias (K)			Variable to Hot Load Bias (K)		
Frequency (GHz)	pol	Setting @ 250Hz	Gain Setting	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	-18.9	8.7	28.8	215.69	224.13	228.69	0.06	0.05	0.07	-0.07	0.04	0.09
10.65	hpol	Off	2	-19.0	8.7	28.8	191.43	198.70	201.56	0.12	0.08	0.07	-0.41	-0.32	-0.31
18.7	vpol	Off	2	-3.0	21.4	39.7	223.10	239.08	250.77	-0.07	-0.24	-0.38	-0.11	0.01	0.10
18.7	hpol	Off	2	-1.2	22.7	41.0	215.78	229.58	240.54	-0.15	-0.34	-0.49	-0.21	-0.09	-0.03
23.8	vpol	Off	2	-3.0	21.4	39.7	182.48	198.05	208.76	-0.01	-0.19	-0.36	-0.06	0.08	0.19
36.64	vpol	Off	2	-6.9	18.6	36.6	190.68	197.74	203.21	-0.10	-0.25	-0.40	0.03	0.18	0.26
36.64	hpol	Off	2	-7.1	18.3	36.3	202.86	212.85	219.63	-0.09	-0.24	-0.38	-0.05	0.09	0.14
89	vpol	Off	2							-0.03	-0.16	-0.31	-0.05	0.04	0.10
89	hpol	Off	2							0.03	-0.06	-0.20	0.12	0.20	0.25
166	vpol	Off	1							0.17	0.23	0.34	-0.12	-0.06	-0.01
166	hpol	Off	1							0.16	0.22	0.28	-0.20	-0.17	-0.12
183.31±3	vpol	Off	3							0.21	0.25	0.34	-0.01	0.07	0.12
183.31±7	vpol	Off	3							0.16	0.21	0.29	-0.07	0.02	0.05

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Low Gain

Frequency (GHz)	pol	Blanking Setting @ 250Hz	Gain Setting	Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
				Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	6	12322.8	12099.8	11865.3	21840.4	20098.5	18664.2	-6.0292E-06	-4.7983E-06	-3.0817E-06	-0.100	-0.103	-0.070
10.65	hpol	Off	6	11448.5	11203.9	10882.6	21182.9	19524.5	17913.7	-5.7625E-06	-4.0238E-06	-3.0991E-06	-0.105	-0.075	-0.067
18.7	vpol	Off	6	11787.8	12504.5	12933.7	21742.8	22560.9	22690.9	-1.3399E-06	-7.6298E-07	-3.1189E-07	-0.027	-0.058	-0.029
18.7	hpol	Off	6	11610.9	12070.9	12314.1	21315.2	21685.9	21542.0	6.6150E-07	1.1660E-06	1.5848E-06	0.046	0.023	0.027
23.8	vpol	Off	6	11728.2	10826.1	10242.1	19664.3	16739.0	14898.7	1.4778E-06	1.3602E-06	3.1826E-06	0.031	0.043	0.077
36.64	vpol	Off	6	10129.3	9112.7	8216.4	20041.8	17088.2	14777.3	-2.4123E-05	-1.8565E-05	-1.4745E-05	-0.365	-0.278	-0.230
36.64	hpol	Off	6	9750.8	9151.5	8136.6	18731.7	16987.1	14474.9	-2.1734E-05	-1.7286E-05	-1.3539E-05	-0.339	-0.256	-0.221
89*	vpol	Off	6	9364.5	12765.5	15440.5	18253.3	22553.1	25681.6	-1.8782E-05	-1.5375E-05	-1.5242E-05	-0.267	-0.229	-0.217
89†	vpol	Off	6	7151.8	10021.0	12351.1	14915.9	18572.4	21300.7	-1.7875E-05	-1.4244E-05	-1.4374E-05	-0.255	-0.215	-0.205
89*	hpol	Off	6	9202.7	12462.6	14840.5	18439.9	22775.6	25654.1	-2.0995E-05	-1.8109E-05	-1.7760E-05	-0.311	-0.274	-0.263
89†	hpol	Off	6	7134.8	9823.7	11914.1	15138.5	18760.2	21286.0	-2.0050E-05	-1.7317E-05	-1.7329E-05	-0.300	-0.266	-0.259
166	vpol	Off	4	12297.0	11951.3	13181.9	21050.3	20494.1	21554.6	-1.7637E-05	-1.5525E-05	-1.0221E-05	-0.249	-0.226	-0.151
166	hpol	Off	4	15367.1	15569.5	16979.1	24634.4	24632.5	25870.9	-1.3535E-05	-1.3221E-05	-9.4041E-06	-0.206	-0.199	-0.143
183.31±3*	vpol	Off	5	10549.2	9494.1	10086.9	26849.9	24435.2	23575.3	-2.2435E-05	-1.9874E-05	-1.5841E-05	-0.328	-0.295	-0.223
183.31±3†	vpol	Off	5	3465.8	2463.2	3048.4	16978.1	14814.5	14199.7	-2.7398E-05	-2.4329E-05	-1.9350E-05	-0.401	-0.361	-0.273
183.31±7	vpol	Off	5	9678.7	11031.5	13644.2	24521.2	25665.6	27799.5	-2.2587E-05	-1.9571E-05	-1.5002E-05	-0.327	-0.292	-0.218

Nominal Gain

Frequency (GHz)	pol	Blanking Setting @ 250Hz	Gain Setting	Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
				Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	4	13970.2	13623.1	13263.3	27783.9	25152.6	22994.5	-7.2513E-06	-5.6621E-06	-4.1425E-06	-0.139	-0.135	-0.066
10.65	hpol	Off	4	13131.7	12778.5	12312.5	27292.9	24807.4	22398.9	-7.6343E-06	-5.7215E-06	-3.9928E-06	-0.130	-0.122	-0.061
18.7	vpol	Off	4	14558.4	15540.2	16090.1	29546.6	30481.9	30460.1	-8.0889E-07	2.2639E-07	6.8229E-07	-0.064	0.018	0.023
18.7	hpol	Off	4	14528.3	15240.6	15614.8	30317.4	30686.6	30333.8	2.2594E-06	3.3817E-06	3.7531E-06	0.020	0.038	0.061
23.8	vpol	Off	4	15724.0	14079.2	13001.6	29097.4	23880.0	20637.8	3.2530E-06	1.8878E-06	1.1353E-06	0.038	0.030	0.041
36.64	vpol	Off	4	13995.9	12535.5	11249.3	28208.1	23887.1	20531.6	-2.6614E-05	-2.1820E-05	-1.7865E-05	-0.459	-0.344	-0.282
36.64	vpol	Dur=8	4	14573.2	13161.5	11921.6	28338.3	24157.2	20911.8	-2.4123E-05	-1.8565E-05	-1.4745E-05	-0.365	-0.278	-0.230
36.64	vpol	Dur=20	4	15472.6	14131.0	12950.6	28556.6	24581.2	21495.0	-2.6614E-05	-2.1820E-05	-1.7865E-05	-0.459	-0.344	-0.282
36.64	vpol	Dur=32	4	16371.2	15100.7	13982.6	28772.5	25004.1	22080.6	-2.4250E-05	-1.7952E-05	-1.6429E-05	-0.404	-0.337	-0.286
36.64	vpol	Off	4	13559.9	12663.3	11193.8	26384.6	23779.9	20129.8	-2.5627E-05	-2.0674E-05	-1.6631E-05	-0.429	-0.316	-0.252
36.64	vpol	Dur=8	4	14146.7	13283.0	11865.5	26572.6	24050.4	20520.1	-2.1734E-05	-1.7286E-05	-1.3539E-05	-0.339	-0.256	-0.221
36.64	vpol	Dur=20	4	15066.6	14245.3	12895.8	26875.8	24479.2	21123.2	-2.5627E-05	-2.0674E-05	-1.6631E-05	-0.429	-0.316	-0.252
36.64	vpol	Dur=32	4	15986.2	15208.0	13930.7	27181.2	24907.9	21727.3	-2.1734E-05	-1.5650E-05	-1.5494E-05	-0.334	-0.293	-0.290
89*	vpol	Off	4	16314.1	21138.6	24894.9	29053.1	35119.3	39471.3	-2.2520E-05	-1.8506E-05	-1.4843E-05	-0.328	-0.275	-0.222
89†	vpol	Off	4	13220.9	17322.4	20598.2	24347.1	29531.3	33330.3	-2.2229E-05	-1.8218E-05	-1.4465E-05	-0.328	-0.273	-0.219
89*	hpol	Off	4	15462.0	20142.2	23526.0	28735.8	34913.0	38964.6	-2.6167E-05	-2.0200E-05	-1.4897E-05	-0.382	-0.292	-0.219
89†	hpol	Off	4	12555.4	16472.3	19432.0	24054.6	29269.5	32808.6	-2.6638E-05	-2.0551E-05	-1.4740E-05	-0.391	-0.299	-0.219
166	vpol	Off	2	24427.8	23857.9	25491.8	36486.8	35591.4	36947.7	-1.5444E-05	-1.0359E-05	-1.0458E-05	-0.223	-0.144	-0.141
166	hpol	Off	2	27145.8	27339.5	29213.5	39899.2	39776.0	41373.8	-1.2214E-05	-7.8999E-06	-5.3874E-06	-0.176	-0.125	-0.075
183.31±3*	vpol	Off	4	18125.6	16811.7	17484.8	37484.9	34521.8	33440.3	-1.9175E-05	-1.9062E-05	-1.5767E-05	-0.267	-0.277	-0.216
183.31±3†	vpol	Off	4	9705.6	8552.1	9184.9	25739.2	23211.3	22386.7	-2.1578E-05	-2.2331E-05	-1.8431E-05	-0.301	-0.325	-0.252
183.31±7	vpol	Off	4	15198.1	16822.5	19924.4	32424.8	33808.7	36350.5	-2.2118E-05	-2.0586E-05	-1.5060E-05	-0.304	-0.299	-0.216

High Gain

Frequency (GHz)	pol	Blanking Setting @ 250Hz	Gain Setting	Counts at 3K (DN)			Counts at 340K (DN)			Non-linearity parameter "u"			Max. Error from best linear fit		
				Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot	Cold	Nominal	Hot
10.65	vpol	Off	2	16106.4	15640.1	15164.3	35501.9	31870.5	28893.7	-7.0060E-06	-5.1984E-06	-3.6655E-06	-0.120	-0.097	-0.091
10.65	hpol	Off	2	15262.5	14819.6	14224.3	35040.5	31676.4	28397.6	-8.6773E-06	-6.0727E-06	-4.7018E-06	-0.129	-0.105	-0.083
18.7	vpol	Off	2	18776.5	20364.7	21209.2	41411.4	43048.9	43049.3	-1.0944E-06	-4.0790E-07	3.6046E-07	-0.015	-0.020	0.047
18.7	hpol	Off	2	17139.7	18211.0	18774.3	38372.1	39117.0	38743.3	3.4169E-06	4.3242E-06	4.9307E-06	0.061	0.081	0.089
23.8	vpol	Off	2	20577.5	18177.9	16524.7	40541.8	32886.4	27982.6	5.8470E-06	4.8330E-06	3.2654E-06	0.103	0.067	0.041
36.64	vpol	Off	2	19924.2	17735.6	15843.5	40767.4	34273.2	29292.2	-2.4250E-05	-1.7952E-05	-1.6429E-05	-0.404	-0.337	-0.286
36.64	hpol	Off	2	19504.7	18106.1	15919.5	38392.1	34360.4	28908.7	-2.1734E-05	-1.5650E-05	-1.5494E-05	-0.334	-0.293	-0.290
89*	vpol	Off	2	24419.4	30893.0	35877.7	41631.8	49729.1	55481.8	-2.0206E-05	-2.0699E-05	-1.6110E-05	-0.297	-0.300	-0.229
89†	vpol	Off	2	20295.4	25839.4	30187.5	35326.1	42288.9	47310.2	-2.0181E-05	-2.1434E-05	-1.6501E-05	-0.300	-0.312	-0.235
89*	hpol	Off	2	22849.0	29196.0	33718.4	40921.4	49226.0	54597.6	-2.2226E-05	-2.2109E-05	-1.9247E-05	-0.326	-0.315	-0.279
89†	hpol	Off	2	18950.1	24309.5	28254.7	34604.9	41658.1	46338.3	-2.2710E-05	-2.2367E-05	-1.8092E-05	-0.335	-0.321	-0.264
166	vpol	Off	1	33581.5	32768.8	34572.1	48134.5	46871.5	48298.5	-1.7792E-05	-1.4968E-05	-1.2719E-05	-0.261	-0.201	-0.193
166	hpol	Off	1	36090.8	36199.3	38292.5	51493.8	51158.1	52870.7	-1.3450E-05	-1.1688E-05	-7.8709E-06	-0.193	-0.172	-0.124
183.31±3*	vpol	Off	3	25732.3	24136.6	24841.8	48163.6	44637.0	43292.7	-2.4595E-05	-1.9068E-05	-1.6513E-05	-0.345	-0.286	-0.245
183.31±3†	vpol	Off	3	16021.7	14619.8	15294.1	34600.1	31589.7	30562.6	-2.0414E-05	-1.6529E-05	-1.4339E-05	-0.289	-0.255	-0.217
183.31±7	vpol	Off	3	26154.4	28018.1	31745.8	48091.8	49548.4	52484.1	-2.4262E-05	-1.9594E-05	-1.5366E-05	-0.336	-0.283	-0.226

* Original parameters derived from the Ball Thermal Vacuum Test (for reference only)

† Parameters reflect notch filter installation (as-launched condition)

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Appendix O: NEDT Measurements

NEDT - Allan Method

Frequency (GHz)	pol	Blanking Setting @ 250Hz	Receiver / Mixer Temperature Cold	Nom	Hot	Gain Setting	Low Gain Cold	Nom	Hot	Gain Setting	Nominal Gain Cold	Nom	Hot	Gain Setting	High Gain Cold	Nom	Hot	REQUIREMENT
10.65	vpol	Off	2.7	20.4	39.2	6	0.72	0.76	0.78	4	0.72	0.74	0.77	2	0.71	0.75	0.77	0.96
10.65	hpol	Off	2.7	20.4	39.2	6	0.73	0.75	0.77	4	0.72	0.74	0.78	2	0.71	0.74	0.77	0.96
18.7	vpol	Off	1.6	25.3	43.8	6	0.58	0.61	0.63	4	0.58	0.61	0.64	2	0.58	0.60	0.63	0.84
18.7	hpol	Off	1.6	25.3	43.8	6	0.56	0.57	0.61	4	0.55	0.58	0.59	2	0.55	0.57	0.60	0.84
23.8	vpol	Off	1.0	24.8	43.3	6	0.48	0.52	0.57	4	0.48	0.51	0.55	2	0.48	0.50	0.53	1.05
36.64	vpol	Off	-0.4	24.4	42.7	6	0.39	0.42	0.44	4	0.39	0.43	0.43	2	0.40	0.41	0.44	0.65
36.64	vpol	Dur=8	-0.4	24.4	42.7	6	0.57	0.74	0.92	4	0.42	0.49	0.61	2	0.40	0.41	0.46	N/A
36.64	vpol	Dur=20	-0.4	24.4	42.7	6	1.08	1.59	2.16	4	0.52	0.80	1.16	2	0.46	0.43	0.52	N/A
36.64	vpol	Dur=32	-0.4	24.4	42.7	6	1.69	2.49	3.35	4	0.65	1.15	1.79	2	0.51	0.45	0.64	N/A
36.64	hpol	Off	-0.4	24.4	42.7	6	0.41	0.42	0.46	4	0.41	0.42	0.45	2	0.41	0.43	0.45	0.65
36.64	hpol	Dur=8	-0.4	24.4	42.7	6	0.65	0.78	1.03	4	0.46	0.51	0.65	2	0.43	0.43	0.47	N/A
36.64	hpol	Dur=20	-0.4	24.4	42.7	6	1.39	1.71	2.37	4	0.64	0.84	1.30	2	0.44	0.45	0.57	N/A
36.64	hpol	Dur=32	-0.4	24.4	42.7	6	2.14	2.66	3.83	4	0.88	1.25	1.97	2	0.48	0.46	0.71	N/A
89†	vpol	Off	3.6	27.0	45.6	6	0.32	0.35	0.37	4	0.32	0.34	0.36	2	0.31	0.34	0.36	0.57
89†	hpol	Off	3.6	27.0	45.6	6	0.29	0.32	0.33	4	0.29	0.31	0.32	2	0.28	0.31	0.32	0.57
166	vpol	Off	2.0	14.1	35.0	4	0.67	0.68	0.71	2	0.67	0.68	0.71	1	0.67	0.68	0.72	1.50
166	hpol	Off	-0.1	13.7	34.5	4	0.62	0.63	0.67	2	0.62	0.65	0.67	1	0.62	0.65	0.67	1.50
183.31±3†	vpol	Off	2.3	15.3	36.2	5	0.54	0.56	0.61	4	0.54	0.56	0.61	3	0.54	0.56	0.61	1.50
183.31±7	vpol	Off	2.3	15.3	36.2	5	0.44	0.45	0.49	4	0.44	0.45	0.49	3	0.43	0.45	0.48	1.50

NEDT - Standard Deviation Method

Frequency (GHz)	pol	Blanking Setting @ 250Hz	Receiver / Mixer Temperature Cold	Nom	Hot	Gain Setting	Low Gain Cold	Nom	Hot	Gain Setting	Nominal Gain Cold	Nom	Hot	Gain Setting	High Gain Cold	Nom	Hot	REQUIREMENT
10.65	vpol	Off	2.7	20.4	39.2	6	0.74	0.79	0.80	4	0.74	0.76	0.79	2	0.74	0.77	0.79	0.96
10.65	hpol	Off	2.7	20.4	39.2	6	0.82	0.85	0.87	4	0.77	0.80	0.84	2	0.75	0.79	0.82	0.96
18.7	vpol	Off	1.6	25.3	43.8	6	0.60	0.63	0.64	4	0.59	0.62	0.65	2	0.59	0.62	0.64	0.84
18.7	hpol	Off	1.6	25.3	43.8	6	0.57	0.59	0.62	4	0.56	0.59	0.60	2	0.56	0.58	0.61	0.84
23.8	vpol	Off	1.0	24.8	43.3	6	0.50	0.54	0.58	4	0.49	0.52	0.56	2	0.49	0.51	0.54	1.05
36.64	vpol	Off	-0.4	24.4	42.7	6	0.44	0.46	0.47	4	0.42	0.45	0.46	2	0.42	0.44	0.45	0.65
36.64	vpol	Dur=8	-0.4	24.4	42.7	6	0.57	0.72	0.88	4	0.44	0.50	0.61	2	0.42	0.44	0.47	N/A
36.64	vpol	Dur=20	-0.4	24.4	42.7	6	1.00	1.46	1.97	4	0.53	0.76	1.07	2	0.47	0.45	0.53	N/A
36.64	vpol	Dur=32	-0.4	24.4	42.7	6	1.52	2.23	2.98	4	0.63	1.05	1.61	2	0.51	0.47	0.62	N/A
36.64	hpol	Off	-0.4	24.4	42.7	6	0.43	0.44	0.47	4	0.43	0.44	0.46	2	0.43	0.44	0.46	0.65
36.64	hpol	Dur=8	-0.4	24.4	42.7	6	0.63	0.74	0.96	4	0.47	0.51	0.63	2	0.44	0.45	0.48	N/A
36.64	hpol	Dur=20	-0.4	24.4	42.7	6	1.26	1.55	2.13	4	0.62	0.78	1.19	2	0.46	0.45	0.56	N/A
36.64	hpol	Dur=32	-0.4	24.4	42.7	6	1.90	2.34	3.38	4	0.81	1.12	1.74	2	0.49	0.47	0.67	N/A
89†	vpol	Off	3.6	27.0	45.6	6	0.34	0.37	0.39	4	0.33	0.36	0.38	2	0.33	0.36	0.38	0.57
89†	hpol	Off	3.6	27.0	45.6	6	0.30	0.33	0.35	4	0.30	0.33	0.35	2	0.29	0.33	0.34	0.57
166	vpol	Off	2.0	14.1	35.0	4	0.68	0.69	0.72	2	0.67	0.69	0.72	1	0.68	0.68	0.72	1.50
166	hpol	Off	-0.1	13.7	34.5	4	0.63	0.64	0.67	2	0.63	0.65	0.67	1	0.63	0.65	0.67	1.50
183.31±3†	vpol	Off	2.3	15.3	36.2	5	0.56	0.59	0.63	4	0.56	0.58	0.63	3	0.56	0.58	0.63	1.50
183.31±7	vpol	Off	2.3	15.3	36.2	5	0.47	0.48	0.51	4	0.46	0.48	0.51	3	0.47	0.48	0.51	1.50

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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NEDT w/ worst-case On-orbit Corrections

			Receiver / Mixer Temperature				Low Gain				Nominal Gain				High Gain			
Frequency (GHz)	pol	Blanking	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	Gain Setting	Cold	Nom	Hot	REQUIREMENT
10.65	vpol	Off	2.7	20.4	39.2	6	0.79	0.83	0.85	4	0.79	0.81	0.85	2	0.78	0.83	0.84	0.96
10.65	hpol	Off	2.7	20.4	39.2	6	0.80	0.82	0.85	4	0.79	0.81	0.86	2	0.78	0.82	0.84	0.96
18.7	vpol	Off	1.6	25.3	43.8	6	0.65	0.68	0.70	4	0.64	0.68	0.72	2	0.65	0.67	0.70	0.84
18.7	hpol	Off	1.6	25.3	43.8	6	0.62	0.64	0.68	4	0.61	0.64	0.66	2	0.61	0.64	0.67	0.84
23.8	vpol	Off	1.0	24.8	43.3	6	0.53	0.57	0.62	4	0.52	0.56	0.60	2	0.53	0.55	0.58	1.05
36.64	vpol	Off	-0.4	24.4	42.7	6	0.43	0.45	0.47	4	0.43	0.46	0.47	2	0.43	0.45	0.47	0.65
36.64	vpol	Dur=8	-0.4	24.4	42.7	6	0.60	0.77	0.95	4	0.45	0.53	0.64	2	0.44	0.45	0.50	N/A
36.64	vpol	Dur=20	-0.4	24.4	42.7	6	1.11	1.63	2.20	4	0.56	0.83	1.19	2	0.49	0.47	0.56	N/A
36.64	vpol	Dur=32	-0.4	24.4	42.7	6	1.73	2.54	3.41	4	0.68	1.19	1.83	2	0.55	0.48	0.67	N/A
36.64	hpol	Off	-0.4	24.4	42.7	6	0.45	0.46	0.50	4	0.45	0.46	0.48	2	0.45	0.47	0.49	0.65
36.64	hpol	Dur=8	-0.4	24.4	42.7	6	0.68	0.81	1.06	4	0.49	0.55	0.68	2	0.46	0.47	0.50	N/A
36.64	hpol	Dur=20	-0.4	24.4	42.7	6	1.42	1.75	2.42	4	0.67	0.87	1.34	2	0.48	0.48	0.60	N/A
36.64	hpol	Dur=32	-0.4	24.4	42.7	6	2.19	2.71	3.90	4	0.91	1.28	2.01	2	0.52	0.49	0.74	N/A
89†	vpol	Off	3.6	27.0	45.6	6	0.35	0.38	0.39	4	0.35	0.37	0.39	2	0.34	0.37	0.38	0.57
89†	hpol	Off	3.6	27.0	45.6	6	0.32	0.35	0.36	4	0.32	0.34	0.35	2	0.31	0.34	0.35	0.57
166	vpol	Off	2.0	14.1	35.0	4	0.69	0.71	0.74	2	0.69	0.70	0.74	1	0.70	0.71	0.74	1.50
166	hpol	Off	-0.1	13.7	34.5	4	0.64	0.65	0.69	2	0.64	0.67	0.69	1	0.64	0.67	0.69	1.50
183.31±3†	vpol	Off	2.3	15.3	36.2	5	0.58	0.61	0.65	4	0.58	0.61	0.65	3	0.58	0.61	0.65	1.50
183.31±7	vpol	Off	2.3	15.3	36.2	5	0.48	0.50	0.53	4	0.48	0.49	0.53	3	0.48	0.50	0.52	1.50

† NEDT performance reflects notch filter installation (as-launched condition)

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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Appendix P: Radiometric Raw Data

10GHz V	Low Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.795174	-18.85608	28.26772	12229.34	215.3242	-0.148659	14748.34	19027.95	14792.54572	20838.14	25130.23	20882.95	89.112312	240.508	90.68187	90.6776	-0.00428	14795.25	90.6524	-0.02947	20879.21	306.0733	0.067203
100	2.850452	-18.83155	28.24264	12225.38	215.381	-0.143989	14734.09	19021.82	15062.81315	20819.99	25119.84	21149.64	88.827005	240.6447	100.4867	100.4762	-0.01046	15071.72	100.4414	-0.04528	21157.5	315.9267	0.059115
125	2.805955	-18.86554	28.2584	12228	215.3527	-0.128828	14746.52	19034.63	15759.24045	20834.75	25133.7	21851.83	89.124673	240.8712	125.0333	124.9877	-0.04565	15763.43	124.9336	-0.09975	21851.6	340.5035	0.117409
150	2.757995	-18.89135	28.26338	12223.6	215.3821	-0.150785	14738.58	19040.46	16462.98662	20829.09	25143.69	22558.95	88.983504	241.1903	150.0221	150.0291	0.006989	16470.31	149.9629	-0.05925	22560.79	365.6146	0.210437
175	2.761278	-18.89135	28.25756	12223.96	215.4416	-0.135694	14760.41	19057.7	17168.15838	20851.09	25159.83	23265.28	89.761721	241.8377	175.0045	175.0034	-0.00111	17175.51	174.9326	-0.07186	23268.45	390.6715	0.225349
200	2.886343	-18.78505	28.2079	12230.98	215.5934	-0.12798	14804.3	19096.32	17870.79929	20888.43	25191.23	23963.19	91.22672	243.3835	199.9677	199.9659	-0.00183	17880.6	199.8984	-0.0693	23979.62	415.8525	0.291416
225	2.600284	-18.95249	28.28433	12227.77	215.5807	-0.139224	14839.22	19160.75	18588.56595	20939.65	25273	24699.19	92.328684	245.1176	224.8924	224.9039	0.011475	18585.19	224.8467	-0.04572	24686.08	440.8668	0.393661
250	2.401454	-19.25562	28.33179	12243.15	215.6094	-0.142016	14899.49	19264.15	19320.93308	21010.96	25387.8	25444.17	93.758261	247.8135	249.8213	249.8158	-0.00552	19289.27	249.7766	-0.04471	25392.69	465.8866	0.455908
275	2.748428	-18.86725	28.21188	12240.95	215.8736	-0.131372	14943.49	19361.73	19992.25232	21036.28	25465.93	26097.79	95.794639	252.4037	274.7208	274.7291	0.008259	19993.62	274.7161	-0.00477	26105.44	491.1237	0.529276
300	2.644898	-18.97156	28.22667	12243.08	215.9748	-0.143482	15032.3	19518.04	20702.04728	21131.25	25629.66	26815	98.815263	257.7337	299.5871	299.6292	0.042175	20697.79	299.6495	0.062486	26814.16	516.2179	0.656021
325	2.791148	-18.81179	28.168	12246.72	216.1492	-0.14328	15051.28	19666.86	21387.71417	21142.26	25770.87	27494.6	99.565595	263.4244	324.4009	324.4342	0.0333	21399.49	324.4952	0.094319	27522.72	541.3066	0.756455
340	2.760913	-18.88168	28.15871	12250.63	216.2417	-0.148587	15105.25	19797.9	21807.19181	21196.79	25903.18	27915.79	101.3761	268.0259	339.269	339.2797	0.010651	21819.55	339.3688	0.099749	27946.75	556.3206	0.809885

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.733694	-18.90511	28.23537	12238.07	215.6587	-0.140325	12322.77	20708.68	21840.39353	18408.99	26816.79	27951.47	-6.029E-06	0.10821	0.01114	-0.099749	-0.13296	6	-433.218	0.035408

10GHz H	Low Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.795174	-18.92524	29.03807	11343.31	191.2311	-0.125516	13945.2	18327.2	13977.17628	19476.55	23868.12	19508.93	89.602897	240.508	90.7079	90.70487	-0.00304	13978.35	90.67507	-0.03283	19503.4	281.9498	0.010742
100	2.850452	-18.89973	29.01393	11339.21	191.2279	-0.119629	13930.67	18321.26	14253.47889	19457.31	23857.05	19781.65	89.31759	240.6447	100.5135	100.4527	-0.06081	14260.88	100.4559	-0.05766	19786.87	291.7634	0.021929
125	2.805955	-18.93397	29.02087	11342.28	191.2677	-0.113923	13943	18332.58	14966.54231	19472.05	23870.33	20497.74	89.615258	240.8712	125.0633	124.9082	-0.15508	14969.68	124.9945	-0.06878	20497.41	316.3621	0.031182
150	2.757995	-18.96194	29.0269	11335.47	191.3123	-0.095199	13932.63	18336.48	15682.59692	19463.99	23875.14	21218.76	89.474089	241.1903	150.0554	149.7938	-0.26167	15691.19	149.9729	-0.08259	21222.68	341.4704	0.10265
175	2.761278	-18.96159	29.01752	11336.13	191.3028	-0.136975	13955.03	18353.67	16404.84197	19484.73	23893.86	21939.69	90.252305	241.8377	175.04	174.7101	-0.32987	16413.72	174.9863	-0.05367	21945.74	366.5025	0.159756
200	2.886343	-18.8546	28.97106	11345.69	191.4325	-0.126274	14002.84	18396.77	17127.05003	19527.34	23930.93	22658.04	91.717305	243.3835	200.0032	199.5836	-0.41966	17135.11	199.9607	-0.04253	22672.21	391.6526	0.216821
225	2.600284	-19.02327	29.0563	11337.6	191.323	-0.141351	14034.58	18459.81	17855.5296	19572.38	24008.51	23402.69	92.819269	245.1176	224.9246	224.3365	-0.58811	17853.19	224.8201	-0.10455	23390.21	416.5093	0.261741
250	2.401454	-19.32598	29.08919	11356.25	191.381	-0.129289	14097.88	18564.95	18606.14979	19643.65	24120.79	24160.98	94.248846	247.8135	249.8463	249.2286	-0.61769	18575.38	249.8221	-0.02417	24113.75	441.558	0.330701
275	2.748428	-18.93733	28.96964	11355.48	191.5942	-0.132469	14144.83	18667.53	19295.1018	19674.29	24207.44	24836.74	96.285224	252.4037	274.7353	274.0446	-0.69067	19295.29	274.7451	0.009846	24843.1	466.8078	0.478316
300	2.644898	-19.04383	28.98998	11353.06	191.6351	-0.097062	14231.94	18824.76	20015.33895	19766.41	24367.01	25563.44	99.305848	257.7337	299.5874	298.7552	-0.83223	20012.19	299.5638	-0.02362	25562.53	491.7141	0.491586
325	2.791148	-18.88289	28.91719	11359.02	191.8529	-0.116089	14252.36	18976.51	20718.07238	19779.89	24513.62	26258.65	100.05618	263.4244	324.3849	323.5726	-0.81227	20732.18	324.4894	0.104548	26288.45	516.8452	0.607379
340	2.760913	-18.9539	28.91304	11362.68	191.8772	-0.128865	14307.96	19112.13	21148.08351	19835.75	24650.73	26691.29	101.86669	268.0259	339.243	338.3465	-0.8965	21160.71	339.3251	0.082077	26720.26	531.7942	0.674013

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.733694	-18.97536	28.87874	11361.83	191.4531	-0.121887	11448.47	20025.46	21182.85498	16974.03	25570.01	26729.98	-5.762E-06	-0.037174	-0.624624	-0.104548	-0.12708	6	-393.249	0.03462

18GHz V	Low Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.098169	-3.163711	29.61168	11672.25	222.6404	-0.02857	14325.07	18797.68	14359.10425	20914.68	25389.88	20948.43	89.58696	240.6292	90.72727	90.73661	0.009347	14378.7	90.72432	-0.00295	20955.74	313.3718	0.00418
100	1.170244	-3.102173	29.61062	11663.32	222.6901	-0.023287	14307.57	18792.53	14640.20657	20898.31	25385.39	21230.53	89.300655	240.7655	100.5307	100.5366	0.005901	14668.31	100.5281	-0.00266	21246.56	323.2167	-0.00407
125	1.131201	-3.140801	29.61219	11663.17	222.6817	-0.028505	14316.45	18799.45	15365.94995	20907.41	25392.99	21957.23	89.600847	240.9911	125.0702	125.0479	-0.02228	15392.66	125.0492	-0.02098	21971.53	347.7585	0.006685
150	1.119126	-3.152223	29.60677	11663.59	222.705	-0.014184	14312.22	18808	16104.56452	20902.36	25399.43	22695.93	89.460084	241.3098	150.0465	150.0059	-0.04056	16130.28	150.0191	-0.02739	22710.43	372.772	0.020573
175	1.141862	-3.129888	29.59437	11670.86	222.7945	-0.02645	14341.47	18831.39	16849.03478	20931.77	25424.08	23440.86	90.240734	241.9559	175.0065	174.9793	-0.02715	16868.38	175.0057	-0.00079	23451.76	397.8679	0.066947
200	1.288338	-2.984037	29.58785	11685.96	222.9572	-0.026556	14399.47	18890.61	17599.47059	20993.13	25486.68	24194.95	91.710415	243.5004	199.9353	199.8692	-0.06612	17604.06	199.9099	-0.02548	24192.56	422.9456	0.053084
225	1.132764	-3.156586	29.57716	11670.95	222.9235	-0.022445	14416.47	18924.22	18318.67021	21006.67	25516.47	24912.37	92.825404	245.2321	224.8423	224.762	-0.08031	18339.86	224.8186	-0.02376	24928.98	447.8751	0.10918
250	0.992002	-3.2816	29.55025	11694.15	223.0434	-0.016066	14479.78	19020.35	19070.75946	21067.41	25609.46	25660.35	94.267619	247.9234	249.7135	249.6291	-0.08439	19074.94	249.7025	-0.01094	25665.96	472.8232	0.066355
275	1.474741	-2.8218	29.52754	11721.13	223.5448	-0.028918	14565.35	19177.13	19824.71845	21163.02	25777.52	26426.33	96.324008	252.51	274.5435	274.4363	-0.10717	19808.26	274.5269	-0.01656	26416.37	498.2264	0.138152
300	1.514708	-2.810632	29.49845	11728.39	223.7764	-0.033744	14659.61	19334.02	20554.80065	21257.74	25935.36	27156.51	99.368638	257.8315	299.3217	299.2051	-0.11663	20540.46	299.3138	-0.00799	27155.2	523.2376	0.139425
325	1.790368	-2.573168	29.46395	11753.17	224.2195	-0.029118	14704.12	19517.33	21297.95717	21307.57	26123.63	27905.02	100.1549	263.5142	324.0298	323.9301	-0.09979	21271.39	324.0572	0.027389	27899.19	548.4233	0.174026
340	1.887891	-2.498899	29.43742	11774.15	224.4769	-0.022592	14776.13	19666.64	21745.10881	21381.12	26273.89	28354.59	101.97818	268.1108	338.8253	338.6947	-0.13059	21707.86	338.833	0.0077	28344.06	563.4831	0.180956

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.311785	-2.984626	29.53855	11699.18	223.2044	-0.025036	11787.8	20560.75	21742.82308	18380.28	27158.48	28341.27	-1.34E-06	-0.124939	-0.085972	-0.027389	-0.02955	6	-396.027	0.033852

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
IManual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

18GHz H Low Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.098169	-1.3948	28.88729	11502.33	215.3179	0.010966	14083.1	18453.46	14124.99583	20293.34	24662.76	20335.8	89.339138	240.6292	90.80295	90.78934	-0.01361	14139.36	90.79585	-0.0071	20340.12	306.1283	0.007473
100	1.170244	-1.330382	28.89109	11496.91	215.3614	0.011852	14069.75	18452.89	14403.05594	20282.07	24664.2	20615.84	89.052833	240.7655	100.6096	100.5885	-0.02107	14422.01	100.6114	0.001837	20623.91	315.9832	0.012297
125	1.131201	-1.371342	28.89	11498.8	215.3719	0.009893	14080.21	18461.03	15112.98968	20292.63	24672.61	21325.22	89.353025	240.9911	125.1528	125.099	-0.05377	15128.94	125.1608	0.008072	21330.52	340.5218	-0.00287
150	1.119126	-1.381067	28.89601	11495.91	215.3505	0.028508	14073.78	18468.8	15830.81719	20286.58	24679.15	22042.93	89.212262	241.3098	150.1288	150.014	-0.11483	15847.53	150.1149	-0.01389	22047.67	365.4258	-0.05341
175	1.141862	-1.357716	28.88059	11500.49	215.4824	0.026359	14099.53	18488.32	16553.66783	20312.84	24699.37	22765.73	89.992913	241.9559	175.0862	174.9643	-0.12185	16567.08	175.1026	0.016377	22770.49	390.527	-0.04155
200	1.288338	-1.208448	28.86899	11514.47	215.6565	0.014209	14154.91	18544.08	17285.03487	20370.96	24758.92	23499.76	91.462593	243.5004	200.012	199.8847	-0.12731	17285.7	200.0581	0.046098	23494.24	415.6608	-0.00776
225	1.132764	-1.329867	28.86879	11500.51	215.633	0.021486	14173.11	18580.07	17987.50856	20388.36	24793.46	24202.38	92.577582	245.2321	224.917	224.7044	-0.2126	18001.39	224.9118	-0.00526	24210.07	440.5193	-0.03078
250	0.992002	-1.460583	28.83753	11520.93	215.7246	0.008026	14232.23	18670.43	18717.75764	20443.7	24881.2	24928.47	94.019797	247.9234	249.7885	249.5648	-0.22375	18718.18	249.8036	0.01507	24929.34	465.497	-0.01609
275	1.474741	-0.976078	28.81006	11536.87	216.2262	0.014557	14304.83	18811.7	19440.795	20524.86	25030.44	25659.41	96.076186	252.51	274.6217	274.3486	-0.27305	19432.64	274.6144	-0.00732	25657.45	490.7821	-0.06583
300	1.514708	-0.936843	28.78309	11545.93	216.4779	0.021077	14398.94	18967.12	20153.94087	20620.41	25186.71	26374.36	99.120816	257.8315	299.4062	299.0702	-0.33601	20145.22	299.3601	-0.0461	26377.51	515.7873	-0.09684
325	1.790368	-0.663997	28.74579	11562.86	216.8994	0.020479	14434.77	19137.78	20870.65818	20660.58	25361.71	27094.03	99.907074	263.5142	324.1233	323.8058	-0.31743	20858.11	324.1163	-0.00699	27101.16	540.9173	-0.10535
340	1.887891	-0.578209	28.71215	11574.74	217.178	0.025073	14495.64	19272.78	21297.14325	20722.26	25497.04	27521.76	101.73036	268.1108	338.9247	338.6272	-0.29743	21285.18	338.9472	0.022577	27536.62	556.0397	-0.06297

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.311785	-1.165778	28.79698	11524.49	215.89	0.017707	11610.88	20163.58	21315.20515	17828.19	26378.45	27529.75	6.615E-07	-0.02678	-0.231808	0.046098	0.014588	6	-400.219	0.034727

23GHz V Low Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.610125	-3.163711	23.65567	11657.25	181.9759	0.042117	13779.4	17349.26	13801.91574	18084.58	21651.96	18107.12	89.71001	240.6193	90.66841	90.66178	-0.00663	13793.32	90.67144	0.003029	18078.59	272.6408	-0.0035
100	0.679958	-3.102173	23.63319	11648.79	182.043	0.039048	13762.15	17338.61	14022.97555	18064.85	21639	18326.04	89.423706	240.7555	100.4657	100.4577	-0.00798	14024.02	100.468	0.002279	18311.24	282.52	0.011303
125	0.641876	-3.140801	23.64257	11652.37	182.0455	0.024689	13773.67	17349.79	14608.23977	18078.23	21652.88	18912.67	89.723889	240.9812	124.997	125.0171	0.020047	14602.39	125.0279	0.030877	18889.27	307.0653	0.022719
150	0.624893	-3.152223	23.64269	11651.43	182.0524	0.051041	13769.41	17356.4	15197.7141	18073.99	21657.96	19500.98	89.583119	241.2999	149.9727	149.987	0.014326	15190.38	149.9964	0.023717	19476.08	331.9836	-0.0415
175	0.646604	-3.129888	23.62748	11655.32	182.1152	0.036118	13790.39	17371.9	15788.79178	18093.77	21673.15	20091.16	90.363753	241.9462	174.9366	174.9349	-0.00174	15777.82	174.9411	0.00443	20065.37	357.0069	-0.04499
200	0.794321	-2.984037	23.57517	11656.6	182.3092	0.045432	13821.59	17396.94	16368.7619	18119.96	21692.63	20666.41	91.833408	243.4908	199.871	199.8712	0.000189	16364.94	199.8725	0.001475	20657.27	382.1416	-0.03869
225	0.627001	-3.156586	23.61908	11655.27	182.24	0.034233	13850.63	17447.21	16965.37599	18155.44	21749.99	21268.66	92.948377	245.2227	224.7827	224.8186	0.035824	16952.28	224.8133	0.030561	21242.24	406.9814	-0.04132
250	0.483855	-3.2816	23.63871	11677.32	182.334	0.032671	13908.59	17537.69	17579.421	18219.21	21846.35	21887.87	94.390523	247.9142	249.6553	249.68	0.024693	17537.56	249.6664	0.011096	21829.07	431.9004	-0.08882
275	0.9584	-2.8218	23.46944	11663.41	182.7977	0.03413	13926.97	17589.47	18105.59845	18217.6	21878.04	22393.99	96.446827	252.5011	274.4825	274.4983	0.015814	18121.78	274.4749	-0.00757	22424.11	457.1682	-0.11203
300	0.985036	-2.810632	23.43986	11663.35	182.9987	0.035955	13995.41	17706.68	18678.69444	18285.34	21994.4	22966.15	99.491358	257.8229	299.2532	299.3037	0.050513	18705.67	299.2689	0.015704	23012.45	482.1513	-0.10064
325	1.252381	-2.573168	23.3315	11657.99	183.3306	0.045523	13997.62	17805.98	19216.13345	18275.44	22080.93	23490.96	100.27746	263.5059	323.9494	323.9657	0.016372	19286.15	323.9185	-0.03088	23600.19	507.109	-0.17096
340	1.338563	-2.498899	23.27481	11664.56	183.5646	0.041833	14040.93	17904.6	19548.98557	18313.83	22174.81	23818.94	102.10066	268.1027	338.7365	338.7783	0.041745	19634.78	338.7226	-0.01393	23954.37	522.1488	-0.15231

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	0.803584	-2.984626	23.55083	11657.52	182.4839	0.038566	11728.17	18722.77	19664.3319	16026.54	23017.37	23958.43	1.478E-06	-0.183784	0.023731	0.030877	0.03259	6	-495.046	0.042464

36GHz V Low Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.0314	-6.525916	29.34789	10003.03	190.4941	-0.54969	12631.79	17065.2	12667.08591	18234.55	22710.72	18270.04	89.572449	240.6362	90.77893	90.77932	0.000388	12695.71	90.59811	-0.18082	18302.75	281.2235	-0.04956
100	-0.158192	-6.7162	29.39532	10010.17	190.4567	-0.547575	12634.75	17087.75	12965.59389	18245.36	22741.13	18580.05	89.285933	240.7725	100.5753	100.5789	0.003554	12982.53	100.3491	-0.22623	18592.02	291.058	0.02593
125	-0.248998	-6.803282	29.41265	10013.67	190.4321	-0.551399	12648.65	17102.06	13690.20107	18261.88	22758.38	19315.05	89.586743	240.9983	125.1015	125.0975	-0.00401	13700.81	124.7689	-0.3326	19317.47	315.7213	0.187724
150	-0.277087	-6.826108	29.41269	10014.24	190.4501	-0.551814	12645.09	17112.03	14425.81848	18258.78	22768.97	20056.74	89.446147	241.3173	150.0699	150.1223	0.05247	14434.8	149.7227	-0.34716	20057.57	340.8827	0.362761
175	-0.272045	-6.81642	29.4049	10015.25	190.506	-0.532251	12668.38	17130.18	15160.25782	18282.07	22785.53	20798.57	90.227474	241.964	175.0267	175.108	0.08135	15168.55	174.6686	-0.35812	20800.39	366.1367	0.604048
200	-0.166074	-6.711444	29.3691	10013.97	190.607	-0.53864	12707.07	17165.62	15885.53521	18316.96	22817.68	21527.21	91.698393	243.5093	199.9539	200.0369	0.082978	15901.57	199.5892	-0.36475	21544	391.4177	0.856773
225	-0.443628	-7.002137	29.42416	10029.31	190.6054	-0.549807	12760.35	17245.34	16648.24266	18380.71	22909.02	22305.86	92.816345	245.2418	224.86	225.0137	0.15375	16636.84	224.5866	-0.27336	22285.13	416.6142	1.14881
250	-0.64963	-7.187356	29.44965	10041.61	190.7151	-0.533599	12817.59	17343.2	17401.26847	18445.69	23013.73	23072.69	94.261866	247.9346	249.7359	249.8991	0.163228	17370.37	249.5247	-0.21121	23028.2	441.8768	1.425811
275	-0.313339	-6.861072	29.35234	10036.78	190.9968	-0.541939	12864.09	17448.91	18105.10379	18481.55	23110.12	23771.27	96.323284	252.5226	274.5737	274.7822	0.208493	18104.83	274.4944	-0.07925	23776.98	467.3335	1.763014
300	-0.446838	-7.006129	29.36622	10049.82	191.1367	-0.536335	12968.05	17621.77	18853.94271	18591.84	23289.56	24531.33	99.37393	257.8456	299.3596	299.6017	0.242109	18838.31	299.4309	0.0713	24520.26	492.6032	2.106939
325	-0.337037	-6.916488	29.30752	10052.55	191.3728	-0.539082	12988.26	17775.97	19567.59936	18606.94	23440.21	25247.41	100.16918	263.5302	324.0737	324.3312	0.257471	19570.06	324.3086	0.234833	25266.74	517.9815	2.534986
340	-0.373337	-6.956516	29.30355	10061.6	191.5119	-0.531173	13050.45	17918.7	20012.00396	18671.93	23585.87	25697.72	101.996	268.1278	338.871	339.1536	0.282662	20009.12	339.2357	0.364746	25713.46	533.1688	2.785958

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.304567	-6.860756	29.38532	10041.15	190.7737	-0.541942	10129.31	18856.75	20041.80419	15720.86	24529.76	25726.06	-2.412E-05	-0.121597	0.17782	-0.364746	-0.53196	6	-341.024	0.033997

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

36GHz H Low Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.0314	-6.762608	26.6506	9646.55	202.6385	-0.485639	12033.81	16059.65	12065.91293	17442.09	21504.39	17474.36	89.576131	240.6362	90.77199	90.7847	0.012715	12077.58	90.61622	-0.15577	17482.52	293.4322	0.02169
100	-0.158192	-6.950251	26.68372	9651.668	202.5751	-0.480955	12034.25	16076.37	12335.01696	17447.43	21525.8	17749.42	89.289616	240.7725	100.5749	100.5956	0.020735	12338.08	100.3911	-0.1838	17742.25	303.1785	0.028498
125	-0.248998	-7.037313	26.70395	9655.246	202.535	-0.485189	12047.66	16090.85	12993.93275	17463.94	21543.69	18418.33	89.590426	240.9983	125.1098	125.1153	0.005496	12989.62	124.8399	-0.26988	18399.76	327.8508	0.206039
150	-0.277087	-7.060442	26.71442	9659.407	202.5624	-0.49004	12049.01	16106.06	13665.66303	17468.14	21562.26	19100.18	89.44983	241.3173	150.079	150.0862	0.00713	13653.88	149.7655	-0.31353	19072.04	353.0776	0.436164
175	-0.272045	-7.04976	26.69972	9657.716	202.6062	-0.484538	12066.86	16118.09	14327.68768	17484.14	21571.97	19765.58	90.231157	241.964	175.0319	175.0305	-0.00133	14318.17	174.6924	-0.33946	19742.84	378.2489	0.610843
200	-0.166074	-6.944128	26.65996	9653.95	202.7352	-0.484809	12098.72	16145.9	14982.98783	17511.39	21595.18	20421.69	91.702076	243.5093	199.9533	199.9917	0.038423	14983.65	199.664	-0.28928	20417.53	403.5663	0.87781
225	-0.443628	-7.237233	26.70846	9664.438	202.6941	-0.480971	12143.52	16214.47	15669.44543	17564.8	21672.28	21122.75	92.820028	245.2418	224.8541	224.894	0.039833	15648.24	224.6024	-0.25175	21087.26	428.697	1.148778
250	-0.64963	-7.418446	26.67383	9664.316	202.7787	-0.487015	12178.74	16277.68	16326.69334	17595.17	21731.39	21780.75	94.265548	247.9346	249.7279	249.7658	0.037895	16312.79	249.539	-0.18898	21760.07	453.9438	1.437065
275	-0.313339	-7.089574	26.5781	9653.592	203.0672	-0.478182	12213.78	16365.16	16955.54726	17618.05	21806.56	22401.33	96.326967	252.5226	274.5679	274.6497	0.081747	16978.4	274.5155	-0.05243	22437.63	479.3688	1.733646
300	-0.446838	-7.234674	26.58075	9663.821	203.147	-0.472914	12305.35	16517.55	17626.33068	17711.95	21961.43	23081.45	99.377612	257.8456	299.3606	299.3778	0.017202	17640.55	299.3622	0.001651	23109.59	504.5835	2.075973
325	-0.337037	-7.143559	26.52971	9665.902	203.431	-0.470002	12323.46	16657.28	18273.0677	17726.61	22098.61	23729.7	100.17286	263.5302	324.086	324.1382	0.052146	18304.28	324.2682	0.182222	23786.03	529.9665	2.449484
340	-0.373337	-7.182807	26.50337	9668.743	203.5567	-0.484203	12372.08	16775.03	18663.13675	17773	22215.97	24119.76	101.99968	268.1278	338.8912	339.0004	0.109204	18703.02	339.2307	0.339463	24190.92	545.1596	2.711636

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.304567	-7.092566	26.62613	9670.957	202.8606	-0.482038	9750.835	17658.8	18731.70686	15141.15	23119.78	24202.42	-2.173E-05	-0.123888	0.046336	-0.339463	-0.47927	6	-362.585	0.037524

89GHz V Low Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.29344	4.089734	2.85588	26.41111	9256.393	11617.61	15611.56	11654.17	89.40226826	240.6248	90.80583	90.79056	-0.0152718	11669.22	90.64989	-0.155945
100	3.236982	4.033872	2.798813	26.40466	9246.666	11599.74	15603.88	11901.58	89.11584955	240.7611	100.6019	100.5771	-0.0247569	11926.67	100.4108	-0.19109
125	3.175917	3.971644	2.739249	26.39753	9238.803	11599.18	15600.27	12540.34	89.41650251	240.9871	125.1307	125.1474	0.0166756	12573.45	124.9321	-0.198563
150	3.14963	3.94809	2.713666	26.39117	9236.364	11592.46	15604.72	13195.74	89.27589444	241.3064	150.106	150.1308	0.0248037	13231.73	149.889	-0.216988
175	3.172499	3.971282	2.734879	26.38966	9238.652	11615.23	15623.73	13855.3	90.05706883	241.9538	175.0703	175.0482	-0.0220673	13888.87	174.803	-0.267251
200	3.334344	4.130942	2.89353	26.39535	9262.203	11678.11	15689.47	14538.61	91.52764665	243.4999	199.9994	199.9879	-0.0115101	14547.2	199.7625	-0.236912
225	3.168612	3.943443	2.701853	26.37353	9246.139	11689.51	15713.8	15174.98	92.64489761	245.233	224.894	224.8535	-0.0404951	15204.21	224.6715	-0.222527
250	3.07037	3.860156	2.610537	26.34687	9239.472	11718.43	15771.58	15817.82	94.08937005	247.9274	249.7587	249.6771	-0.0816333	15860.72	249.5614	-0.197314
275	3.532322	4.31663	3.05835	26.37214	9300.649	11836.31	15960.06	16542.87	96.14921824	252.5167	274.5808	274.5423	-0.0385377	16518.91	274.5153	-0.065473
300	3.555772	4.332701	3.065857	26.36299	9310.463	11925.62	16107.93	17205.15	99.19811774	257.8411	299.3435	299.3043	-0.0392022	17174.98	299.389	0.045504
325	3.833299	4.589194	3.319271	26.36637	9349.586	11985.97	16297.85	17898.91	99.99049944	263.5274	324.0277	323.9954	-0.0322808	17829.78	324.2142	0.186448
340	3.913366	4.666862	3.391947	26.36428	9360.2	12044.51	16429.14	18299.81	101.8162992	268.1259	338.8065	338.7642	-0.0423412	18221.72	339.0737	0.267251

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.369713	4.154546	2.906986	26.35638	9285.385	9364.454	17192.3	18253.27	-1.87825E-05	-0.003619	-0.033875	-0.267251	-0.4141954	6	-351.7627	0.037913

89GHz V Low Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.29344	4.089734	2.85588	23.07553	7057.438	9120.443	12609.98	9152.331	89.40226826	240.6248	90.80583	90.78784	-0.0179938	9165.315	90.65427	-0.151565
100	3.236982	4.033872	2.798813	23.06986	7048.944	9104.834	12603.27	9368.49	89.11584955	240.7611	100.6019	100.5731	-0.0288073	9390.202	100.4155	-0.186399
125	3.175917	3.971644	2.739249	23.06352	7042.405	9104.664	12600.42	9927.087	89.41650251	240.9871	125.1307	125.1494	0.018708	9955.361	124.9463	-0.184444
150	3.14963	3.94809	2.713666	23.05747	7040.439	9098.915	12604.35	10499.87	89.27589444	241.3064	150.106	150.1341	0.0281069	10530.42	149.9067	-0.199293
175	3.172499	3.971282	2.734879	23.05552	7042.206	9118.519	12620.58	11075.61	90.05706883	241.9538	175.0703	175.0448	-0.0254571	11104.28	174.8152	-0.255104
200	3.334344	4.130942	2.89353	23.05879	7062.314	9172.831	12677.13	11671.8	91.52764665	243.4999	199.9994	199.9861	-0.013303	11679.35	199.7763	-0.223137
225	3.168612	3.943443	2.701853	23.03932	7049.686	9184.161	12699.69	12228.91	92.64489761	245.233	224.894	224.8476	-0.0464128	12253.11	224.68	-0.214035
250	3.07037	3.860156	2.610537	23.01342	7044.284	9209.602	12749.94	12790.05	94.08937005	247.9274	249.7587	249.6653	-0.0934671	12826.35	249.5617	-0.197031
275	3.532322	4.31663	3.05835	23.03195	7095.865	9310.369	12911.82	13420.6	96.14921824	252.5167	274.5808	274.5367	-0.0440825	13401.32	274.5184	-0.06238
300	3.555772	4.332701	3.065857	23.02189	7105.358	9389.087	13041.35	13999.21	99.19811774	257.8411	299.3435	299.2986	-0.0448229	13974.27	299.3873	0.043828
325	3.833299	4.589194	3.319271	23.02128	7139.098	9441.008	13205.84	14603.38	99.99049944	263.5274	324.0277	323.9908	-0.0368772	14546.1	324.2076	0.179905
340	3.913366	4.666862	3.391947	23.0176	7148.092	9491.658	13319.7	14952.41	101.8162992	268.1259	338.8065	338.7581	-0.0484115	14888.32	339.0616	0.255104

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.369713	4.154546	2.906986	23.02222	7082.715	7151.782	13989.38	14915.85	-1.7875E-05	-0.003619	-0.033875	-0.255104	-0.3941829	6	-307.1668	0.043405

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

89GHz H Low Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.29344	4.105571	2.85588	27.40147	9091.604	11547.59	15685.08	11576.18	89.62976252	240.6248	90.6983	90.67627	-0.022026	11593.31	90.50371	-0.194594
100	3.236982	4.047901	2.798813	27.39421	9083.19	11530.68	15678.65	11835.21	89.34334382	240.7611	100.4944	100.4927	-0.0016992	11861.19	100.2769	-0.217419
125	3.175917	3.98537	2.739249	27.38749	9077.152	11532.28	15677.18	12500.8	89.64399678	240.9871	125.0232	125.0938	0.0706258	12533.06	124.7886	-0.234574
150	3.14963	3.963125	2.713666	27.37982	9075.077	11525.66	15682	13181.67	89.50338871	241.3064	149.9985	150.1019	0.1034631	13216.74	149.7314	-0.267119
175	3.172499	3.985066	2.734879	27.37694	9077.949	11549.66	15701.9	13867.32	90.2845631	241.9538	174.9628	175.0609	0.0981621	13899.81	174.652	-0.310754
200	3.334344	4.145131	2.89353	27.38915	9099.952	11613.05	15769.21	14575.79	91.75514092	243.4999	199.8919	200.0263	0.1344119	14583.8	199.6059	-0.285925
225	3.168612	3.960384	2.701853	27.36328	9085.725	11627.02	15796.1	15239.3	92.87239188	245.233	224.7865	224.9408	0.1543633	15267.13	224.536	-0.25052
250	3.07037	3.876042	2.610537	27.33523	9077.553	11655.73	15854.7	15905.64	94.31686432	247.9274	249.6512	249.7846	0.1333968	15949.27	249.4225	-0.228677
275	3.532322	4.333431	3.05835	27.37378	9137.554	11775.75	16049.89	16658.73	96.3767125	252.5167	274.4733	274.6752	0.2019035	16633.48	274.3842	-0.089027
300	3.555772	4.349451	3.065857	27.36717	9146.747	11867.74	16203.13	17346.95	99.425612	257.8411	299.2359	299.4607	0.2248055	17315.56	299.2686	0.032713
325	3.833299	4.607206	3.319271	27.38312	9181.463	11925.74	16397.66	18065.46	100.2179937	263.5274	323.9202	324.1464	0.2262578	17995.66	324.0808	0.160641
340	3.913366	4.684709	3.391947	27.37986	9193.78	11987.73	16535.03	18484.86	102.0437935	268.1259	338.699	338.9852	0.2862502	18404.86	339.0097	0.310754

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.369713	4.170282	2.906986	27.38684	9120.547	9202.708	17336.6	18439.88	-2.09952E-05	-0.110773	0.177529	-0.310754	-0.4629919	6	-332.455	0.036483

89GHz H Low Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.29344	4.105571	2.85588	23.74116	7039.458	9167.372	12752.17	9191.662	89.62976252	240.6248	90.6983	90.65596	-0.042343	9206.576	90.50459	-0.193708
100	3.236982	4.047901	2.798813	23.73488	7032.368	9152.922	12746.8	9416.427	89.34334382	240.7611	100.4944	100.4766	-0.0177297	9438.754	100.2805	-0.213812
125	3.175917	3.98537	2.739249	23.72916	7027.718	9154.895	12746.14	9994.087	89.64399678	240.9871	125.0232	125.0917	0.0685131	10021.13	124.8017	-0.221454
150	3.14963	3.963125	2.713666	23.72185	7026.11	9149.296	12750.34	10584.32	89.50338871	241.3064	149.9985	150.1077	0.1092518	10613.57	149.7467	-0.251775
175	3.172499	3.985066	2.734879	23.71846	7028.467	9169.878	12767.24	11178.13	90.2845631	241.9538	174.9628	175.0686	0.105868	11205.32	174.6627	-0.300101
200	3.334344	4.145131	2.89353	23.72769	7046.873	9224.011	12824.57	11791.17	91.75514092	243.4999	199.8919	200.0422	0.1503265	11797.99	199.6173	-0.274602
225	3.168612	3.960384	2.701853	23.70463	7036.118	9237.624	12849.28	12367.49	92.87239188	245.233	224.7865	224.9624	0.1759651	12390.01	224.5443	-0.242207
250	3.07037	3.876042	2.610537	23.67761	7029.289	9262.486	12899.61	12944.22	94.31686432	247.9274	249.6512	249.8054	0.1542125	12980.82	249.4205	-0.230655
275	3.532322	4.333431	3.05835	23.70788	7079.265	9364.152	13065.9	13593.92	96.3767125	252.5167	274.4733	274.7088	0.235523	13573.72	274.385	-0.088222
300	3.555772	4.349451	3.065857	23.70021	7088.129	9444.537	13199.02	14190.32	99.425612	257.8411	299.2359	299.4999	0.2639996	14164.6	299.2642	0.028263
325	3.833299	4.607206	3.319271	23.71126	7117.176	9493.471	13365.74	14810.57	100.2179937	263.5274	323.9202	324.1877	0.2675518	14753.66	324.067	0.146796
340	3.913366	4.684709	3.391947	23.7061	7127.813	9546.873	13484.03	15173.09	102.0437935	268.1259	338.699	339.0368	0.3378042	15108.3	338.9991	0.300101

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.369713	4.170282	2.906986	23.73073	7063.603	7134.796	14182.82	15138.52	-2.00503E-05	-0.110773	0.177529	-0.300101	-0.4421537	6	-297.1422	0.042105

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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166GHz V Low Gain Cold Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.545852	-0.208484	-1.768767	26.06517	12182.97	14504.41	18452.78	14546.69	89.06272911	240.5434	90.69503	90.68914	-0.0058918	14564.66	90.54597	-0.149058
100	-1.699136	-0.351977	-1.920555	26.05775	12165.75	14479.09	18437.33	14783.55	88.77747715	240.68	100.4982	100.4903	-0.0079052	14818.81	100.3308	-0.167433
125	-1.760251	-0.443017	-1.982115	26.06716	12161.66	14483.58	18441.41	15417.97	89.07456538	240.9065	125.0443	124.9933	-0.0509346	15454.54	124.8063	-0.238008
150	-1.767941	-0.553282	-1.992236	26.05944	12144.24	14461.78	18430.43	16050.14	88.93304291	241.2253	150.0366	149.9827	-0.0539293	16103.47	149.7899	-0.246697
175	-1.717237	-0.44728	-1.943424	26.05491	12148.71	14486.11	18450.68	16704.47	89.71041336	241.8724	175.0241	174.9527	-0.0714405	16752.45	174.7755	-0.248646
200	-1.496859	0.091057	-1.730622	26.02975	12177.56	14550.8	18513.66	17379.12	91.17409259	243.4176	199.9986	199.9149	-0.0837451	17401.79	199.7748	-0.223816
225	-1.602118	0.479064	-1.874112	26.00721	12217.68	14617.46	18593.38	18063.17	92.27387528	245.1514	224.9503	224.8119	-0.1384687	18049.99	224.7306	-0.219785
250	-1.584455	1.139737	-1.855984	25.97044	12270.99	14704.43	18707.67	18756.72	93.70018327	247.8464	249.8823	249.7298	-0.1525313	18699.28	249.7282	-0.154074
275	-0.962959	1.902563	-1.262279	25.92662	12289.43	14771.44	18834.24	19410.29	95.73203477	252.4358	274.7734	274.5843	-0.189079	19347.43	274.6818	-0.091577
300	-0.772752	1.820523	-1.101548	25.92923	12269.78	14830.22	18953.43	20037.31	98.7470785	257.7649	299.6258	299.4185	-0.2073105	19995.57	299.6352	0.009374
325	-0.292051	1.980011	-0.662159	25.91137	12241.27	14819.18	19067.75	20648.74	99.48951702	263.4547	324.4212	324.2282	-0.192973	20643.59	324.5839	0.162708
340	-0.072007	1.867935	-0.458693	25.89946	12209.6	14833.11	19152.1	20999.29	101.2959493	268.0557	339.2771	339.078	-0.199152	21031.7	339.5258	0.248646

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.272801	0.606404	-1.546041	25.9557	12219.13	12297	20005.84	21050.28	-1.7637E-05	0.208932	-0.149165	-0.248646	-0.3889345	4	-470.1912	0.0385

166GHz H Low Gain Cold Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.545852	-2.277287	-1.768767	27.61064	15211.31	17672.52	21852.87	17714.2	89.13996654	240.5434	90.66395	90.65239	-0.0115603	17769.4	90.54581	-0.118142
100	-1.699136	-2.414694	-1.920555	27.60475	15182.49	17635.3	21826.4	17954.44	88.85471459	240.68	100.4671	100.4377	-0.0293752	18038.47	100.3306	-0.136533
125	-1.760251	-2.518996	-1.982115	27.61363	15178.43	17640.23	21830.73	18627.5	89.15180281	240.9065	125.0132	124.9607	-0.0524933	18713.06	124.8614	-0.151807
150	-1.767941	-2.586253	-1.992236	27.6127	15162.22	17620.03	21823.1	19299.18	89.01028035	241.2253	150.0056	149.8961	-0.1094432	19399.46	149.822	-0.183563
175	-1.717237	-2.479986	-1.943424	27.6009	15168.22	17646.44	21844.12	19991.31	89.7876508	241.8724	174.993	174.8208	-0.1721745	20086	174.7875	-0.205553
200	-1.496859	-1.985649	-1.730622	27.5794	15221.31	17737.97	21934.62	20728.93	91.25133002	243.4176	199.9675	199.7645	-0.2030175	20773.49	199.7874	-0.180105
225	-1.602118	-1.580833	-1.874112	27.56139	15278.78	17824.1	22035.49	21469.72	92.35111272	245.1514	224.9193	224.6606	-0.2586856	21460.12	224.7562	-0.163095
250	-1.584455	-0.91864	-1.855984	27.53443	15356.12	17938.23	22180.43	22226.91	93.77742071	247.8464	249.8512	249.5308	-0.3204135	22146.44	249.7136	-0.137577
275	-0.962959	-0.175746	-1.262279	27.48779	15406.74	18040.32	22345.64	22951.43	95.80927221	252.4358	274.7423	274.4212	-0.3211734	22833.64	274.7034	-0.038901
300	-0.772752	-0.222833	-1.101548	27.48567	15384.49	18100.75	22469.33	23612.02	98.82431594	257.7649	299.5947	299.2261	-0.3686907	23518.88	299.6215	0.026741
325	-0.292051	-0.085832	-0.662159	27.46919	15370.97	18105.99	22607.86	24274.94	99.56675445	263.4547	324.3901	323.9591	-0.430977	24202.49	324.4806	0.090476
340	-0.072007	-0.179979	-0.458693	27.45452	15336.35	18119.5	22695.69	24645.57	101.3731868	268.0557	339.246	338.8494	-0.3966177	24614.19	339.4516	0.205553

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.272801	-1.452227	-1.546041	27.48456	15284.61	15367.06	23529.98	24634.4	-1.35353E-05	0.160649	-0.295092	-0.205553	-0.2984843	4	-555.6253	0.036364

183GHz V_A Low Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.760393	0.214264	-1.954426	48.46645	10264.3	14579.71	21922.59	14657.58	89.03910601	240.5434	90.65872	90.65106	-0.007666	14765.12	90.45293	-0.205795
100	-2.014197	0.07968	-2.203737	48.51826	10277.02	14583.21	21954.4	15149.48	88.75394235	240.68	100.4638	100.462	-0.0018263	15238.01	100.2295	-0.234329
125	-2.079549	-0.014989	-2.269702	48.54043	10282.35	14604.92	21976.05	16345.48	89.05094902	240.9065	125.0146	125.0022	-0.0124231	16421.82	124.7034	-0.311228
150	-2.122063	-0.113928	-2.310577	48.55001	10274.02	14590.58	21985.51	17551.6	88.90948191	241.2253	150.0134	150.0235	0.0100506	17630.19	149.6851	-0.328363
175	-2.106051	-0.009991	-2.295665	48.53585	10285.71	14638.73	22025.19	18775.25	89.68684077	241.8724	175.0077	175.0408	0.0331239	18839.74	174.6912	-0.316467
200	-1.949112	0.513862	-2.146261	48.42313	10308.97	14722.75	22096.01	19988.59	91.15042079	243.4176	199.9826	200.0028	0.0201502	20048.02	199.671	-0.311688
225	-2.263245	0.879675	-2.480792	48.4118	10389.48	14855.46	22257.7	21275.37	92.24977123	245.1514	224.916	224.9206	0.0045724	21255.46	224.6336	-0.282487
250	-2.365108	1.541185	-2.568785	48.31054	10465.47	14990.99	22439.06	22535.27	93.67562111	247.8464	249.8438	249.8308	-0.0130581	22463.92	249.6171	-0.22671
275	-1.980131	2.285882	-2.202979	48.15939	10515.54	15124.72	22672.69	23749.63	95.70672038	252.4358	274.7336	274.7079	-0.0256979	23672.13	274.5955	-0.138134
300	-2.062706	2.202608	-2.287912	48.18849	10519.03	15276.25	22940.34	24964.61	98.72101666	257.7649	299.583	299.583	1.154E-05	24881.54	299.5986	0.015637
325	-1.889925	2.340942	-2.142034	48.15049	10499.37	15288.52	23184.85	26132.2	99.462065	263.4547	324.3732	324.3568	-0.0164306	26087.38	324.528	0.154741
340	-1.866032	2.227919	-2.124673	48.14078	10481.87	15357	23386.28	26833.39	101.2682782	268.0557	339.2269	339.2775	0.0505556	26814.25	339.5553	0.328363

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.038209	1.012259	-2.248962	48.32646	10404.18	10549.16	24902.11	26849.91	-2.24351E-05	0.20969	0.004462	-0.328363	-0.494744	5	-214.7995	0.020674

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

183GHz V_A Low Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.760393	0.214264	-1.954426	40.18032	3214.046	6791.666	12879.16	6857.828	89.03910601	240.5434	90.65872	90.6925	0.0337708	6956.129	90.40824	-0.250486
100	-2.014197	0.07968	-2.203737	40.22597	3226.781	6796.994	12908.37	7267.751	88.75394235	240.68	100.4638	100.5017	0.0379037	7347.87	100.1783	-0.285488
125	-2.079549	-0.014989	-2.269702	40.24468	3232.808	6816.635	12928.01	8260.123	89.05094902	240.9065	125.0146	125.0328	0.0181493	8328.494	124.6352	-0.379361
150	-2.122063	-0.113928	-2.310577	40.25079	3225.275	6803.951	12934.78	9258.825	88.90948191	241.2253	150.0134	150.0515	0.0381126	9329.989	149.6127	-0.40076
175	-2.106051	-0.009991	-2.295665	40.24006	3235.818	6844.821	12968.78	10274.22	89.68684077	241.8724	175.0077	175.0667	0.059001	10332.72	174.6209	-0.386761
200	-1.949112	0.513862	-2.146261	40.14501	3254.021	6913.256	13026.02	11278.59	91.15042079	243.4176	199.9826	200.0193	0.0366441	11334.35	199.6018	-0.380877
225	-2.263245	0.879675	-2.480792	40.1428	3328.059	7031.224	13169.12	12354.31	92.24977123	245.1514	224.916	224.9273	0.0112349	12335.51	224.5709	-0.345181
250	-2.365108	1.541185	-2.568785	40.06147	3395.729	7148.513	13324.82	13404.53	93.67562111	247.8464	249.8438	249.8275	-0.0162937	13337.75	249.5669	-0.276876
275	-1.980131	2.285882	-2.202979	39.93638	3439.48	7261.659	13520.85	14414.25	95.70672038	252.4358	274.7336	274.6965	-0.0370796	14340.08	274.5651	-0.168463
300	-2.062706	2.202608	-2.287912	39.96223	3443.087	7388.199	13743.95	15423.89	98.72101666	257.7649	299.583	299.5717	-0.0112766	15343.96	299.6021	0.01909
325	-1.889925	2.340942	-2.142034	39.92959	3422.538	7394.018	13942.18	16388.3	99.462065	263.4547	324.3732	324.3375	-0.0356819	16344.78	324.5627	0.189487
340	-1.866032	2.227919	-2.124673	39.91645	3406.114	7448.384	14105.95	16967.25	101.2682782	268.0557	339.2269	339.2696	0.042709	16948.83	339.6277	0.40076

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.038209	1.012259	-2.248962	40.05162	3345.601	3465.755	15361.09	16978.1	-2.73982E-05	0.20969	0.004462	-0.40076	-0.6041917	5	-83.07873	0.02494

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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183GHz V_B	Low Gain	Cold Plateau														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.760393	0.214264	-1.954426	44.13066	9426.92	13353.94	20042.26	13431.88	88.98610397	240.5434	90.76859	90.75824	-0.0103502	13522.08	90.56421	-0.204381
100	-2.014197	0.07968	-2.203737	44.13404	9409.697	13324.43	20031.88	13846.05	88.70094031	240.68	100.5737	100.5574	-0.0162362	13952.29	100.332	-0.241618
125	-2.079549	-0.014989	-2.269702	44.15594	9409.836	13339.62	20047.29	14930.62	88.99794698	240.9065	125.1245	125.1236	-0.00088	15031.62	124.8383	-0.286207
150	-2.122063	-0.113928	-2.310577	44.14815	9394.972	13317.82	20044.62	16016.68	88.85647987	241.2253	150.1233	150.1144	-0.0089149	16130.85	149.7963	-0.327022
175	-2.106051	-0.009991	-2.295665	44.14733	9410.101	13367.2	20088.12	17135.75	89.63383873	241.8724	175.1176	175.1259	0.0083243	17232.23	174.8031	-0.314486
200	-1.949112	0.513862	-2.146261	44.09733	9460.177	13477.33	20194.24	18278.52	91.09741875	243.4176	200.0925	200.0813	-0.0111859	18332.39	199.7823	-0.310178
225	-2.263245	0.879675	-2.480792	44.05379	9509.041	13570.66	20308.89	19417.94	92.19676918	245.1514	225.0259	224.9879	-0.0379556	19431.64	224.7407	-0.285167
250	-2.365108	1.541185	-2.568785	43.98917	9581.728	13700.11	20484.29	20575.16	93.62261907	247.8464	249.9537	249.9049	-0.0487931	20532.57	249.7375	-0.216209
275	-1.980131	2.285882	-2.202979	43.94609	9668.313	13871.92	20761.88	21747.34	95.65371834	252.4358	274.8435	274.7692	-0.0742498	21632.39	274.7087	-0.134762
300	-2.062706	2.202608	-2.287912	43.95172	9667.232	14003.86	20996.44	22844.76	98.66801462	257.7649	299.6928	299.6272	-0.065669	22733.12	299.701	0.008149
325	-1.889925	2.340942	-2.142034	43.92894	9680.353	14047.29	21253.64	23946.03	99.40906295	263.4547	324.4831	324.4324	-0.0506446	23832.74	324.6679	0.184767
340	-1.866032	2.227919	-2.124673	43.93256	9665.654	14112.3	21442.03	24589.73	101.2152762	268.0557	339.3368	339.3184	-0.0184001	24493.21	339.6638	0.327022

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.038209	1.012259	-2.248962	44.00304	9546.676	9678.685	22747.59	24521.22	-2.25866E-05	0.22697	-0.036945	-0.327022	-0.4980845	5	-216.4549	0.022705

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Agile Revision: H (C484272)
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10GHz V Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.823947	-18.82963	41.01406	13825.85	215.3206	-0.184595	17473.98	23692.95	17542.65994	26308.15	32549.67	26377.72	88.948355	240.5785	90.64092	90.62469	-0.01622	17555.47	90.56259	-0.07833	26386.27	305.9985	0.03694
100	2.801139	-18.84447	41.01746	13828.54	215.3633	-0.162589	17470.56	23701.83	17947.8943	26306.64	32557.8	26787.98	88.791942	240.7095	100.4791	100.4412	-0.03794	17957.49	100.3702	-0.10896	26792.58	315.9106	0.068138
125	2.769636	-18.87803	41.02003	13826.25	215.3869	-0.167187	17478.9	23710.73	18952.22727	26316.62	32568.91	27796.48	89.045503	240.9672	125.0195	124.993	-0.02651	18963.21	124.9057	-0.1138	27801.95	340.5352	0.128798
150	2.783995	-18.89835	41.02004	13830.86	215.4129	-0.155521	17482.64	23733.28	19981.15605	26321.11	32590.83	28829.65	89.024243	241.4043	150.0107	149.9743	-0.03641	19986.89	149.8794	-0.13127	28829.89	365.6129	0.189266
175	2.803606	-18.87721	40.99396	13833.36	215.4897	-0.174157	17519.03	23759.64	21004.38536	26355.51	32617.48	29852.96	89.907522	242.14	174.9997	174.9702	-0.02947	21011.55	174.8768	-0.12287	29860.34	390.7516	0.262228
200	2.920794	-18.72263	40.93218	13829.01	215.5937	-0.150566	17577.93	23810	22010.51912	26404.76	32655.27	30853.87	91.588499	243.8421	199.9697	199.9141	-0.05561	22034.44	199.8312	-0.13851	30891.54	415.9088	0.345369
225	2.434043	-19.13557	41.13737	13843.09	215.5017	-0.181029	17646.14	23937.54	23092.41015	26514.17	32827.95	31977.72	92.447645	245.3838	224.8987	224.8595	-0.03915	23057.72	224.7952	-0.10349	31912.72	440.8215	0.421064
250	2.455087	-19.19221	41.11639	13853	215.5857	-0.160451	17716.96	24063.35	24121.93931	26583.33	32949.73	33011.17	93.976326	248.3281	249.8193	249.7514	-0.06787	24079.2	249.7151	-0.10415	32942.91	465.9539	0.548873
275	2.748234	-18.84217	40.96573	13843.73	215.8032	-0.181192	17772.2	24193.45	25096.49112	26615.37	33059.53	33962.74	95.896623	252.6435	274.706	274.6587	-0.04728	25101.68	274.6595	-0.04649	33975.24	491.1386	0.629396
300	2.68301	-18.92487	40.9611	13851.32	215.991	-0.17577	17905.72	24432.18	26124.0017	26755.32	33304.38	34998.19	98.981836	258.3148	299.5491	299.558	0.008921	26124.16	299.604	0.054897	35007.22	516.3146	0.774502
325	2.714938	-18.85935	40.93307	13855.95	216.0826	-0.163586	17925.05	24662.23	27134.54797	26771.77	33530.68	36008.14	99.408569	263.9988	324.3332	324.2993	-0.03391	27140.51	324.3989	0.065645	36029.36	541.2509	0.83502
340	2.818234	-18.83585	40.86289	13857.69	216.2179	-0.157417	18015.91	24831.66	27722.75323	26852.76	33689.67	36586.57	101.76038	268.5558	339.1821	339.1851	0.002988	27752.16	339.3206	0.138513	36646.84	556.3147	0.914641

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.729722	-18.90336	40.97848	13847.25	215.6458	-0.167838	13970.18	26140.79	27783.94707	22801.8	35010.65	36659	-7.251E-06	0.085717	-0.029516	-0.138513	-0.15991	4	-337.72	0.024396

10GHz H Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.823947	-18.89804	42.16883	12973.16	191.2572	-0.170886	16739.33	23118.08	16796.17784	24781.95	31179.7	24839.49	89.311637	240.5785	90.66653	90.66123	-0.0053	16808.5	90.61717	-0.04936	24847.73	281.9307	0.006959
100	2.801139	-18.91273	42.18138	12976.06	191.2289	-0.163991	16736.75	23129.52	17212.29737	24780.51	31191.54	25259.3	89.155224	240.7095	100.5005	100.4411	-0.05938	17220.27	100.4164	-0.0841	25260.75	291.7596	0.030164
125	2.769636	-18.9482	42.19501	12971.37	191.2067	-0.148428	16743.98	23138.98	18240.14964	24789.17	31200.71	26291.04	89.408785	240.9672	125.0333	124.8988	-0.1345	18250.24	124.9269	-0.10637	26292.03	316.3015	0.061607
150	2.783995	-18.96816	42.17078	12980.21	191.2678	-0.176328	16749.76	23160.42	19297.51856	24793.35	31223.72	27348.56	89.387525	241.4043	150.0205	149.8451	-0.1754	19301.19	149.9371	-0.08344	27347.71	341.4241	0.135755
175	2.803606	-18.94699	42.15831	12981.53	191.2641	-0.157128	16787.2	23189.74	20345.46775	24827.96	31248.04	28399.03	90.270804	242.14	175.0093	174.7169	-0.29236	20349.31	174.8797	-0.12956	28400.85	366.486	0.212698
200	2.920794	-18.79234	42.09881	12977.41	191.3829	-0.170548	16848.47	23242.87	21380.65657	24883.08	31296.5	29430.37	91.951782	243.8421	199.9822	199.644	-0.33817	21400.06	199.8849	-0.09737	29459.3	391.6746	0.30946
225	2.434043	-19.20984	42.28624	12989.75	191.3073	-0.182602	16914.37	23366.11	22481.56529	24981.8	31454.08	30566.37	92.810928	245.3838	224.9171	224.4869	-0.43018	22447.64	224.8147	-0.10232	30506.27	416.5899	0.365602
250	2.455087	-19.26396	42.25834	13001.64	191.3989	-0.171191	16988.28	23495.57	23539.34711	25054.22	31580.96	31624.76	94.339608	248.3281	249.8457	249.3627	-0.48294	23496.85	249.7832	-0.06246	31561.44	441.7002	0.455693
275	2.748234	-18.91323	42.10133	12990.24	191.6015	-0.17901	17042.91	23626.87	24535.59919	25087.74	31692.28	32602.31	96.259905	252.6435	274.7416	274.1985	-0.54307	24544.53	274.7153	-0.02629	32620.39	466.9007	0.557533
300	2.68301	-18.99666	42.10247	12994.88	191.697	-0.163186	17177.55	23870.57	25587.63741	25226.64	31938.75	33660.99	99.345118	258.3148	299.5946	299.0357	-0.55891	25592.39	299.6518	0.057178	33674.82	491.9935	0.701879
325	2.714938	-18.9306	42.06177	13000.56	191.8071	-0.173201	17197.14	24104.81	26622.77743	25243.62	32172.22	34695.56	99.771851	263.9988	324.389	323.7598	-0.62914	26635.68	324.4795	0.090509	34724.95	516.9838	0.787756
340	2.818234	-18.9072	41.99606	13002.14	191.9009	-0.163938	17290.93	24280.42	27226.9363	25328.85	32338.39	35292.79	102.12367	268.5558	339.2437	338.5908	-0.6529	27261.53	339.3733	0.12956	35356.57	532.0149	0.870295

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.729722	-18.974	42.00836	13005.68	191.4433	-0.16837	13131.7	25608.18	27292.85451	21167.44	33680.55	35370.19	-7.634E-06	0.067636	-0.469208	-0.12956	-0.16835	4	-309.383	0.023797

18GHz V Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.154504	-3.101254	44.57562	14380.53	222.5817	-0.031113	18363.32	25109.89	18421.99278	28281.76	35032.58	28341.18	89.348871	240.7001	90.68622	90.66538	-0.02084	18456.62	90.65216	-0.03406	28357.66	313.2706	0.002644
100	1.142943	-3.114183	44.57423	14379.91	222.5907	-0.041441	18355.58	25114.71	18859.9645	28274.45	35039.24	28780.25	89.191913	240.8296	100.5208	100.5089	-0.01191	18894.56	100.4988	-0.02202	28796.99	323.1487	0.03718
125	1.115257	-3.145099	44.58019	14375.42	222.5885	-0.017215	18363.02	25123.16	19948.3886	28282.35	35044.84	29869.1	89.44787	241.088	125.0501	125.0134	-0.03677	19984.76	125.0113	-0.03884	29886.3	347.6411	0.002458
150	1.115596	-3.148508	44.56594	14382.64	222.6364	-0.021931	18368.07	25146.37	21067.30859	28286.52	35067.83	30987.79	89.427748	241.5238	150.0281	149.9996	-0.02854	21096.44	150.0069	-0.02128	31000.9	372.7023	0.037767
175	1.163408	-3.101978	44.56191	14392.47	222.7168	-0.019376	18417.05	25187.98	22187.825	28338.1	35111.68	32110.74	90.314198	242.2586	174.9959	174.9377	-0.05822	22206.02	174.9549	-0.04102	32113.83	397.7256	0.012987
200	1.352661	-2.904766	44.53585	14410.43	222.9677	-0.035622	18507.76	25275.24	23311.63658	28434.7	35207.06	33242.26	92.000686	243.9565	199.9328	199.87	-0.06281	23315.36	199.8978	-0.03497	33236.7	422.9727	0.072194
225	0.963196	-3.327148	44.52825	14384.56	222.7186	-0.024101	18519.98	25316.15	24391.97918	28433.78	35233.26	34311.09	92.871967	245.4979	224.8493	224.7455	-0.10382	24422.23	224.785	-0.06432	34333.75	447.6393	0.071324
250	1.069421	-3.193867	44.48935	14423.48	223.0219	-0.033092	18623.9	25476.27	25529.34372	28542.83	35399.8	35452.18	94.41387	248.4368	249.7125	249.6295	-0.08305	25529.49	249.681	-0.0315	35453.4	472.8138	0.079358
275	1.497503	-2.783554	44.44499	14452.66	223.5287	-0.039577	18735.08	25686.02	26652.30865	28666.87	35623.4	36587.15	96.353282	252.7476	274.5318	274.4857	-0.04609	26635.52	274.5494	0.017621	36581.33	498.1745	0.114064
300	1.569925	-2.745617	44.40874	14469.07	223.7682	-0.016814	18886.14	25944.84	27755.41759	28819.83	35880.93	37691.79	99.464139	258.4125	299.2904	299.1767	-0.11372	27734.21	299.2527	-0.03766	37689.68	523.0951	0.036506
325	1.758472	-2.595967	44.35627	14495.88	224.1303	-0.010546	18928.11	26209.86	28863.31401	28866.03	36149.35	38801.46	99.923306	264.0884	323.9705	323.899	-0.07148	28834.3	323.9876	0.017075	38803.25	548.133	0.032213
340	1.948094	-2.424716	44.30689	14522.46	224.47	-0.003515	19054.6	26425.1	29530.48369	28996.37	36367.4	39473.47	102.2897	268.6408	338.747	338.7155	-0.03154	29493.59	338.8113	0.064323	39478.51	563.3158	0.098767

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.320915	-2.965555	44.47392	14425.02	223.1433	-0.024529	14558.44	27767.19	29546.63254	24481.9	37695.43	39475.51	-8.089E-07	-0.073926	-0.065109	-0.064323	-0.01784	4	-324.333	0.022484

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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18GHz H Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.154504	-1.330871	47.00059	14349.17	215.2814	0.040601	18542.8	25662.22	18614.0955	28646.67	35760.45	28719.29	89.225037	240.7001	90.76137	90.74134	-0.02003	18641.55	90.75669	-0.00468	28728.39	306.0475	0.004766
100	1.142943	-1.345873	46.99618	14348.09	215.3199	0.025877	18533.95	25666.16	19074.16754	28639.12	35767.73	29180.25	89.068079	240.8296	100.5975	100.5595	-0.03806	19102.32	100.5913	-0.00625	29190.97	315.9207	0.003292
125	1.115257	-1.375522	47.00066	14347.67	215.2882	0.024376	18545.96	25678.96	20225.67148	28650.66	35780.27	30330.31	89.324035	241.088	125.1277	125.0528	-0.07491	20251.68	125.1229	-0.00476	30337.91	340.4006	-0.0153
150	1.115596	-1.378133	46.99376	14351.89	215.339	0.034607	18548.62	25702	21402.35201	28653.97	35802.52	31506.15	89.303913	241.5238	150.1038	150.0172	-0.08655	21423.03	150.1238	0.020054	31509.85	365.4142	-0.02858
175	1.163408	-1.330012	46.98046	14360.51	215.4131	0.038752	18597.7	25741.93	22580.02312	28703.53	35842.36	32682.89	90.190364	242.2586	175.0688	174.943	-0.12575	22592.38	175.0822	0.013443	32681.11	390.4132	-0.06869
200	1.352661	-1.129325	46.9671	14373.21	215.6097	0.045446	18688.4	25831.14	23759.42225	28800.38	35936.78	33867.88	91.876852	243.9565	200.0037	199.8357	-0.16803	23760	200.0035	-0.00025	33857.09	415.5131	-0.10032
225	0.963196	-1.490859	46.95909	14354.08	215.4777	0.047807	18709.45	25882.44	24907.52315	28813.52	35979.82	35007.08	92.748133	245.4979	224.9206	224.7308	-0.18983	24927.61	224.9247	0.004089	35017.42	440.2789	-0.11947
250	1.069421	-1.370689	46.91169	14383.63	215.7378	0.05286	18806.94	26038.22	26091.63165	28913	36136.82	36191.83	94.290036	248.4368	249.7877	249.5757	-0.21204	26092.64	249.7908	0.003046	36193.08	465.3717	-0.15378
275	1.497503	-0.935015	46.86237	14407.8	216.2078	0.035478	18917.34	26252.15	27266.39689	29035.48	36365.2	37375.96	96.229448	252.7476	274.6145	274.3995	-0.21506	27256.43	274.6305	0.015946	37376.55	490.6314	-0.19097
300	1.569925	-0.872475	46.81558	14424.25	216.4372	0.04565	19074.93	26521.98	28428.05448	29193.68	36634.07	38536.53	99.340304	258.4125	299.384	299.1453	-0.23869	28416.33	299.3869	0.002883	38545.07	515.572	-0.24924
325	1.758472	-0.688003	46.75809	14444.05	216.7688	0.053775	19110.48	26792.32	29583.4044	29232.6	36906.33	39693.18	99.799471	264.0884	324.0782	323.8107	-0.2675	29572.23	324.0581	-0.02005	39714.21	540.5258	-0.32117
340	1.948094	-0.507285	46.70312	14468.98	217.0839	0.060685	19240.45	27015.35	30281.43893	29365.41	37131.04	40394.04	102.16586	268.6408	338.8638	338.6112	-0.25262	30265.69	338.8593	-0.00459	40422.14	555.6357	-0.31204

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.320915	-1.146172	46.85641	14387.69	215.8304	0.042159	14528.26	28444.62	30317.44671	24643.15	38545.95	40416.96	2.259E-06	-0.099754	-0.199444	0.020054	0.049826	4	-307.123	0.021344

23GHz V Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.662475	-3.101254	39.8429	15597.35	182.0698	0.063678	19159.39	25187.14	19208.61184	26411.84	32433.27	26460.93	89.402112	240.6901	90.62941	90.63695	0.007534	19204.56	90.66088	0.031471	26429.27	272.7185	0.019266
100	0.653003	-3.114183	39.861	15598.12	182.0306	0.063326	19155.52	25197.43	19602.51398	26409.72	32445.33	26856.95	89.245153	240.8197	100.4719	100.4538	-0.01815	19594.38	100.484	0.012075	26817.92	282.5121	0.009572
125	0.621736	-3.145099	39.86875	15599.18	182.0419	0.073032	19167.48	25210.67	20582.97821	26423.45	32459.36	27837.94	89.501102	241.078	125.0103	124.9916	-0.01874	20568.65	125.0349	0.024552	27791.28	307.0403	-0.01199
150	0.623416	-3.148508	39.86986	15602.15	182.0631	0.088497	19169.75	25231.28	21581.7612	26426.62	32479.31	28836.98	89.48097	241.514	149.9868	149.9602	-0.02664	21559.86	150.0127	0.025883	28782.53	332.019	-0.0309
175	0.672771	-3.101978	39.82974	15605.31	182.1186	0.075111	19204.62	25254.02	22572.74226	26456.52	32498.43	29822.89	90.367402	242.2489	174.9474	174.9119	-0.03557	22550.23	174.9694	0.021944	29775.09	357.0309	-0.0351
200	0.855266	-2.904766	39.71077	15595.74	182.3267	0.071332	19251.27	25283.06	23532.80615	26489.81	32514.5	30767.41	92.053863	243.9469	199.8766	199.8564	-0.02013	23540.15	199.9147	0.038146	30771.06	382.1285	-0.07482
225	0.457914	-3.327148	39.92046	15621.92	182.1383	0.082915	19331.53	25421.93	24594.92602	26600.69	32682.76	31858.06	92.925133	245.4884	224.7888	224.7633	-0.02547	24528.43	224.8187	0.02995	31749.62	406.7876	-0.13953
250	0.561222	-3.193867	39.82288	15636.94	182.3954	0.080658	19398.88	25530.04	25577.88037	26660.56	32783.56	32832.29	94.466961	248.4276	249.6548	249.6296	-0.02521	25514.92	249.6775	0.022681	32745	431.8705	-0.17967
275	0.975192	-2.783554	39.55298	15607.18	182.8281	0.068791	19420.33	25603.75	26462.21442	26650.08	32826.45	33684.41	96.40629	252.7387	274.4854	274.4555	-0.02991	26499.63	274.4916	0.006148	33746.63	457.1107	-0.20277
300	1.038084	-2.745617	39.47534	15611.21	183.0248	0.058159	19539.68	25811.78	27422.708	26763.15	33029.21	34635.78	99.517041	258.4038	299.2636	299.2387	-0.02487	27482.49	299.2589	-0.00468	34734.38	482.0014	-0.28703
325	1.214626	-2.595967	39.32758	15607.45	183.3611	0.072497	19539.26	25993.08	28345.21129	26748.96	33195.01	35544.17	99.976066	264.0801	323.971	323.9324	-0.03861	28461.64	323.9329	-0.03815	35726.4	506.9995	-0.33256
340	1.396128	-2.424716	39.19163	15604.58	183.6339	0.063331	19615.54	26132.73	28879.28742	26811.11	33321.44	36062.14	102.34237	268.6327	338.7661	338.7668	0.000757	29049.76	338.753	-0.01308	36323.31	522.0412	-0.35874

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	0.810986	-2.965555	39.68881	15604.9	182.5027	0.071777	15723.97	27511.54	29097.3565	22969.98	34743.58	36327.52	3.253E-06	-0.06296	-0.022762	0.038146	0.071735	4	-393.28	0.025199

36GHz V Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.111993	-6.644104	42.12142	13816.53	190.4527	-0.618652	17581.29	23955.45	17638.75456	25618.68	32062.17	25676.17	89.378789	240.707	90.73936	90.74851	0.00915	17671.9	90.52602	-0.21334	25709.7	281.1183	-0.07384
100	-0.225034	-6.758871	42.16811	13823.85	190.411	-0.611741	17586.16	23979.47	18063.21766	25630.51	32092.55	26112.53	89.221731	240.8366	100.5778	100.5773	-0.00056	18084.37	100.3065	-0.27136	26125.18	290.9702	-0.01862
125	-0.278307	-6.813657	42.17989	13825.72	190.3884	-0.624679	17599.9	23995.09	19097.69648	25645.73	32111.13	27161.48	89.47827	241.0951	125.1108	125.0976	-0.01315	19114.38	124.7302	-0.38058	27167.53	315.6864	0.187231
150	-0.283575	-6.826616	42.17552	13826.74	190.415	-0.622325	17599.7	24013.45	20149.65593	25645.66	32129.58	28226.62	89.458488	241.5313	150.0867	150.0665	-0.02021	20164.62	149.6335	-0.4532	28231.9	340.9247	0.42306
175	-0.255867	-6.796256	42.1513	13827.15	190.4746	-0.621864	17635.34	24039	21199.49552	25679.24	32152.94	29284.88	90.345786	242.2667	175.0486	175.0537	0.00511	21217.07	174.5892	-0.45938	29297.72	366.1974	0.674318
200	-0.125397	-6.646773	42.08488	13822.78	190.5961	-0.629237	17696.01	24090.03	22234.12134	25732.49	32197.35	30322.27	92.033698	243.9654	199.9748	199.9927	0.017852	22268.95	199.5312	-0.44361	30365.74	391.5223	0.951445
225	-0.641807	-7.20801	42.25563	13855.49	190.5155	-0.629741	17781.37	24229.56	23357.27208	25846.85	32366.51	31485.14	92.907689	245.5074	224.877	224.9367	0.059683	23322.3	224.5082	-0.36879	31426.82	416.6826	1.290083
250	-0.590724	-7.113468	42.2228	13865	190.6841	-0.611433	17853.07	24355.16	24412.56641	25918.84	32490.94	32549.04	94.453068	248.4479	249.7338	249.8018	0.067954	24373.88	249.4434	-0.29042	32494.27	441.9941	1.576087
275	-0.309731	-6.832527	42.10524	13860.95	190.9211	-0.613765	17919.78	24503.47	25430.3474	25972.54	32627.52	33563.37	96.397296	252.7602	274.5506	274.6689	0.118319	25427.03	274.4157	-0.13488	33567.83	467.4501	1.978403
300	-0.406866	-6.949592	42.11026	13872.07	191.0547	-0.602916	18062.66	24754.48	26491.54987	26121.24	32884.29	34635.64	99.51457	258.4265	299.3088	299.4573	0.148492	26478.27	299.3425	0.033716	34631.15	492.6636	2.300121
325	-0.407494	-6.966616	42.06828	13882.98	191.2641	-0.602546	18089.05	24993.39	27537.35304	26147.12	33125.01	35687.41	99.981931	264.1041	323.9902	324.215	0.224827	27529.63	324.2723	0.28219	35698.02	517.9613	2.707053
340	-0.331074	-6.892593	42.01915	13890.23	191.4384	-0.612303	18190.98	25179	28155.62477	26246.55	33310.33	36306.6	102.35225	268.6577	338.7676	339.0504	0.282759	28160.31	339.227	0.459382	36340.59	533.198	2.991967

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.330656	-6.870757	42.12745	13869.47	190.718	-0.616767	13995.86	26507.71	28208.07367	22007.54	34648.38	36366.6	-2.661E-05	-0.11515	0.119545	-0.459382	-0.5869	4	-328.51	0.023712

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
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36GHz H Nominal Gai Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.111993	-6.88026	38.0802	13410.92	202.6553	-0.59065	16813.35	22577.09	16865.62043	24542.38	30369.81	24595.7	89.349134	240.707	90.7311	90.72709	-0.00401	16877.07	90.52598	-0.20511	24598.2	293.4167	0.030284
100	-0.225034	-6.993081	38.12147	13418.56	202.6057	-0.594681	16818.69	22599.6	17249.73698	24554.2	30399.43	24991.17	89.192076	240.8366	100.5664	100.5399	-0.02652	17248.96	100.2983	-0.2681	24973.09	303.2678	0.095674
125	-0.278307	-7.047205	38.14535	13422.65	202.5923	-0.58954	16834.7	22619.3	18188.34572	24574.45	30422.84	25944.77	89.448615	241.0951	125.0917	125.0409	-0.05083	18178.37	124.7207	-0.371	25912.75	327.9597	0.275599
150	-0.283575	-7.06049	38.14309	13424.13	202.645	-0.59516	16835.23	22636.88	19141.64694	24576.54	30442.82	26910.11	89.428833	241.5313	150.0611	150.0384	-0.02267	19127.84	149.6702	-0.39091	26874.8	353.2397	0.533582
175	-0.255867	-7.029986	38.11333	13421.11	202.7027	-0.59235	16863.36	22654.7	20084.38842	24600.83	30456.39	27859.63	90.316131	242.2667	175.0197	174.9742	-0.04552	20076.19	174.5903	-0.42935	27836.27	378.5046	0.782202
200	-0.125397	-6.880195	38.0594	13415.7	202.8416	-0.584383	16917.32	22700.87	21020.21345	24649.02	30495.89	28798.67	92.004043	243.9654	199.9472	199.9285	-0.01867	21026.49	199.5617	-0.38551	28801.38	403.865	1.076228
225	-0.641807	-7.441802	38.17854	13436.32	202.6825	-0.563965	16982.27	22809.43	22016.89681	24731.56	30620.2	29822.09	92.878034	245.5074	224.8566	224.8189	-0.03771	21975.47	224.4985	-0.35815	29753.46	428.8832	1.344022
250	-0.590724	-7.344785	38.07524	13427.44	202.8792	-0.57885	17022.64	22887.16	22936.66387	24758.47	30686.6	30737.11	94.423414	248.4479	249.727	249.743	0.01597	22927.09	249.5043	-0.22269	30722.14	454.3373	1.731153
275	-0.309731	-7.061199	37.96679	13419.89	203.1557	-0.57561	17078.66	23016.38	23848.14879	24802.48	30804.34	31644.79	96.367641	252.7602	274.563	274.5678	0.004802	23876.11	274.4421	-0.1209	31690.62	479.7866	2.067912
300	-0.406866	-7.177294	37.94887	13428.87	203.2854	-0.584425	17204.21	23235.86	24798.37753	24928.94	31026.84	32601.84	99.484916	258.4265	299.3451	299.3896	0.044498	24826.2	299.4079	0.06285	32652.93	505.0735	2.443038
325	-0.407494	-7.19502	37.90801	13435.36	203.5046	-0.570042	17224.35	23447.02	25735.32214	24947.82	31237.22	33546.06	99.952276	264.1041	324.0542	324.1213	0.067151	25774.05	324.3149	0.260668	33617.64	530.4234	2.864565
340	-0.331074	-7.117775	37.8425	13434.02	203.6948	-0.563206	17306.16	23600.7	26277.5714	25022.99	31384.29	34084.6	102.3226	268.6577	338.8489	338.9651	0.116236	26343.49	339.2782	0.429351	34198.11	545.6767	3.132965

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.330656	-7.102424	38.01628	13445.83	202.9371	-0.581905	13559.88	24850.71	26384.62583	21256.14	32666.29	34216.7	-2.563E-05	-0.084104	0.023127	-0.429351	-0.56513	4	-352.958	0.026277

89GHz V Nominal Gai Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.251372	4.053763	2.811083	37.8498	16144.04	19521.3	25254.32	19578.46	89.22786251	240.6956	90.76598	90.74311	-0.0228745	19612.31	90.53932	-0.226658
100	3.191016	3.99051	2.749824	37.83976	16131.58	19502	25244.34	19936.18	89.07087406	240.8252	100.602	100.5814	-0.0205546	19983.07	100.3474	-0.25453
125	3.154161	3.956773	2.714652	37.83172	16125.98	19505.38	25246.6	20856.67	89.32724885	241.0839	125.1309	125.139	0.0081153	20909.22	124.8482	-0.282705
150	3.164767	3.96511	2.725677	37.82988	16128.82	19507.3	25265.5	21802.79	89.30740211	241.5204	150.1069	150.1118	0.0048441	21852.08	149.7908	-0.316122
175	3.215768	4.015449	2.77421	37.82911	16137.69	19549.66	25302.03	22755.56	90.19447413	242.2564	175.0723	175.0699	-0.0023948	22795.43	174.7466	-0.325684
200	3.393083	4.197099	2.948268	37.841	16174.26	19651.16	25405.8	23737.27	91.88198047	243.9559	200.0004	199.97	-0.0304216	23737.64	199.672	-0.328426
225	3.027888	3.801409	2.55305	37.78577	16115.99	19620.83	25392.34	24609.39	92.75541224	245.4984	224.8965	224.8391	-0.057359	24679.76	224.5952	-0.301332
250	3.14861	3.93916	2.684231	37.77362	16144.12	19706.16	25528.62	25575.87	94.29962457	248.4405	249.7582	249.6871	-0.0710298	25622.1	249.5241	-0.23407
275	3.547971	4.342122	3.069371	37.80342	16226.82	19865.11	25781.79	26606.97	96.24237727	252.7542	274.5804	274.4947	-0.0856976	26563.93	274.4396	-0.140859
300	3.609752	4.392729	3.117516	37.79299	16242.73	19997.76	26009.27	27559.58	99.35773564	258.4218	299.3432	299.2581	-0.0851368	27505.11	299.3381	-0.005111
325	3.785801	4.547358	3.267154	37.78428	16279.35	20051.08	26258.22	28530.71	99.82252945	264.1011	324.0273	323.9408	-0.0864872	28444.27	324.1828	0.155454
340	3.972184	4.737208	3.448039	37.79042	16316.09	20177.96	26468.7	29133.04	102.1916793	268.6556	338.8062	338.7824	-0.0237803	29009.46	339.1346	0.328426

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.371865	4.161557	2.905256	37.7667	16200.82	16314.12	27530.84	29053.07	-2.25198E-05	-0.016363	-0.052367	-0.328426	-0.4966117	4	-428.2909	0.026454

89GHz V Nominal Gai Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.251372	4.053763	2.811083	33.06713	13071.73	16022.24	21030.84	16071.99	89.22786251	240.6956	90.76598	90.73746	-0.0285199	16101.66	90.53416	-0.231827
100	3.191016	3.99051	2.749824	33.0583	13061.1	16005.63	21022.37	16384.8	89.07087406	240.8252	100.602	100.5763	-0.0256851	16425.52	100.3436	-0.258409
125	3.154161	3.956773	2.714652	33.05083	13056.48	16008.82	21024.5	17189.36	89.32724885	241.0839	125.1309	125.1384	0.0075549	17234.62	124.8505	-0.280329
150	3.164767	3.96511	2.725677	33.04879	13059.07	16010.57	21041.03	18015.98	89.30740211	241.5204	150.1069	150.1111	0.0042211	18058.15	149.7945	-0.312439
175	3.215768	4.015449	2.77421	33.04688	13066.47	16047.11	21072.29	18847.75	90.19447413	242.2564	175.0723	175.0686	-0.0036933	18882.08	174.7506	-0.321679
200	3.393083	4.197099	2.948268	33.05489	13097.68	16134.83	21161.61	19704	91.88198047	243.9559	200.0004	199.965	-0.0354522	19704.9	199.6729	-0.327538
225	3.027888	3.801409	2.55305	33.00708	13049.8	16111.39	21152.99	20468.8	92.75541224	245.4984	224.8965	224.8306	-0.0659285	20527.63	224.5927	-0.303776
250	3.14861	3.93916	2.684231	32.99169	13073.49	16184.6	21269.96	21310.89	94.29962457	248.4405	249.7582	249.6769	-0.0813123	21350.6	249.5198	-0.238369
275	3.547971	4.342122	3.069371	33.01307	13144.62	16321.87	21488.81	22208.98	96.24237727	252.7542	274.5804	274.4826	-0.0978438	22173.11	274.4328	-0.147624
300	3.609752	4.392729	3.117516	33.00072	13159.3	16438.18	21687.41	23040.66	99.35773564	258.4218	299.3432	299.2462	-0.0969759	22995.11	299.3306	-0.012641
325	3.785801	4.547358	3.267154	32.98848	13191.56	16484.56	21903.86	23887.38	99.82252945	264.1011	324.0273	323.929	-0.0983001	23815.32	324.1738	0.146426
340	3.972184	4.737208	3.448039	32.99017	13223.01	16594.33	22086	24411.67	102.1916793	268.6556	338.8062	338.7799	-0.02631	24309.22	339.1338	0.327538

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.371865	4.161557	2.905256	32.98563	13121.98	13220.94	23017.67	24347.06	-2.22288E-05	-0.016363	-0.052367	-0.327538	-0.4901948	4	-397.1702	0.030289

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Agile Revision: H (C484272)
IManual: 2344649 Program: GMI

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89GHz Nominal Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.251372	4.053579	2.811083	39.38301	15286.7	18805.65	24766.02	18856.04	89.3520004	240.6956	90.65845	90.6364	-0.0220552	18891.28	90.41179	-0.246658
100	3.191016	3.989983	2.749824	39.37164	15276.73	18788.48	24758.41	19231.68	89.19501195	240.8252	100.4944	100.493	-0.0014678	19277.66	100.2212	-0.27327
125	3.154161	3.956398	2.714652	39.36487	15271.02	18792.27	24761.26	20189.57	89.45138674	241.0839	125.0233	125.0554	0.0320461	20241.36	124.6881	-0.335216
150	3.164767	3.965432	2.725677	39.36146	15272.98	18793.14	24779.58	21174.92	89.43154	241.5204	149.9994	150.0871	0.0876819	21224.75	149.6547	-0.344712
175	3.215768	4.015249	2.77421	39.36281	15283.88	18839.08	24819.78	22168.36	90.31861202	242.2564	174.9647	175.0471	0.0824247	22206.62	174.5829	-0.38184
200	3.393083	4.196318	2.948268	39.38239	15319.31	18942.73	24926.87	23191.21	92.00611836	243.9559	199.8929	200.0082	0.1152805	23189.84	199.5452	-0.347669
225	3.027888	3.804191	2.55305	39.31112	15261.28	18912.48	24912.1	24098.59	92.87955013	245.4984	224.789	224.8757	0.0867281	24170.7	224.4474	-0.341527
250	3.14861	3.941102	2.684231	39.31244	15289.05	19001.08	25055.85	25107.68	94.42376246	248.4405	249.6506	249.7537	0.1030214	25153.26	249.3931	-0.25755
275	3.547971	4.343847	3.069371	39.36069	15368.5	19161.55	25317.08	26179.9	96.36651516	252.7542	274.4729	274.5727	0.0998491	26134.83	274.3135	-0.159363
300	3.609752	4.394693	3.117516	39.34935	15383.21	19297.76	25551.94	27171.51	99.48187353	258.4218	299.2357	299.3649	0.1292168	27116.69	299.2415	0.005779
325	3.785801	4.550183	3.267154	39.3454	15419.09	19351.53	25810.26	28184.21	99.94666734	264.1011	323.9198	324.083	0.1631998	28096.94	324.1284	0.208634
340	3.972184	4.739757	3.448039	39.36486	15454.14	19481.79	26029.73	28812.83	102.3158172	268.6556	338.6987	338.9171	0.2184646	28685.88	339.0805	0.38184

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.371865	4.162561	2.905256	39.34653	15343.96	15462	27147.92	28735.8	-2.61671E-05	-0.02016	0.120955	-0.38184	-0.5770443	4	-389.2069	0.025388

89GHz Nominal Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.251372	4.053579	2.811083	34.12052	12402.82	15451.56	20615.48	15494.99	89.3520004	240.6956	90.65845	90.62991	-0.0285376	15525.74	90.39999	-0.258465
100	3.191016	3.989983	2.749824	34.11065	12394.76	15437.26	20609.46	15821.1	89.19501195	240.8252	100.4944	100.4899	-0.0045315	15860.5	100.2106	-0.28382
125	3.154161	3.956398	2.714652	34.10457	12390.06	15440.76	20612.12	16651.37	89.45138674	241.0839	125.0233	125.0581	0.0347233	16695.4	124.6784	-0.344915
150	3.164767	3.965432	2.725677	34.10091	12391.75	15441.44	20627.81	17505.22	89.43154	241.5204	149.9994	150.0989	0.099489	17547.47	149.6497	-0.349679
175	3.215768	4.015249	2.77421	34.10092	12401.12	15481.07	20662.29	18365.61	90.31861202	242.2564	174.9647	175.0586	0.09391	18397.94	174.5739	-0.390806
200	3.393083	4.196318	2.948268	34.11586	12431	15569.87	20753.76	19250.71	92.00611836	243.9559	199.8929	200.0252	0.1322595	19249.8	199.5388	-0.354087
225	3.027888	3.804191	2.55305	34.05356	12383.55	15546.42	20743.64	20039.33	92.87955013	245.4984	224.789	224.8887	0.0997778	20099.3	224.4347	-0.354275
250	3.14861	3.941102	2.684231	34.05106	12406.71	15621.94	20866.37	20911.82	94.42376246	248.4405	249.6506	249.7696	0.1189504	20950.54	249.3816	-0.268981
275	3.547971	4.343847	3.069371	34.0892	12474.17	15759.23	21090.36	21838.23	96.36651516	252.7542	274.4729	274.5886	0.1156662	21800.85	274.3012	-0.171653
300	3.609752	4.394693	3.117516	34.07568	12487.6	15877.51	21293.5	22696.85	99.48187353	258.4218	299.2357	299.3856	0.1499082	22651.62	299.2342	-0.001523
325	3.785801	4.550183	3.267154	34.06752	12518.91	15923.85	21516.18	23572.81	99.94666734	264.1011	323.9198	324.1093	0.1895165	23501.04	324.1276	0.207814
340	3.972184	4.739757	3.448039	34.08172	12548.49	16035.59	21704.73	24115.79	102.3158172	268.6556	338.6987	338.9523	0.2536118	24011.57	339.0895	0.390806

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.371865	4.162561	2.905256	34.08548	12453.15	12555.41	22678.8	24054.58	-2.66379E-05	-0.02016	0.120955	-0.390806	-0.5874261	4	-364.6046	0.029306

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166GHz V Nominal Gai Cold Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.649341	-0.349455	-1.873289	35.90016	24246.91	27438.42	32884.99	27501	88.8996129	240.6139	90.65537	90.64677	-0.0086011	27552.04	90.53649	-0.11888
100	-1.735504	-0.456116	-1.956378	35.91155	24239.93	27426.83	32885.45	27847	88.7431405	240.7449	100.4981	100.4687	-0.029423	27902.97	100.3436	-0.154515
125	-1.767554	-0.543071	-1.990496	35.91565	24228.13	27424.48	32883.89	28716.41	88.99619729	241.0024	125.0442	125.0318	-0.0124276	28781.05	124.8825	-0.161682
150	-1.750038	-0.427787	-1.974859	35.90486	24230.28	27424.89	32899.12	29613.32	88.97444682	241.4393	150.036	150.0112	-0.0247632	29674.71	149.8566	-0.179355
175	-1.669526	-0.274204	-1.898519	35.88583	24238.43	27463.02	32929.07	30513.76	89.85678809	242.1747	175.0223	174.9577	-0.0645919	30567.85	174.8165	-0.205823
200	-1.407476	0.195358	-1.642136	35.84556	24266.05	27547.22	33007.93	31429.39	91.53633656	243.8763	199.9979	199.9125	-0.085325	31461.97	199.8035	-0.194392
225	-1.754812	0.583935	-2.031264	35.82889	24342.74	27653.1	33135.78	32395.25	92.39351168	245.4177	224.9566	224.7913	-0.1653077	32354.04	224.7334	-0.223167
250	-1.482504	1.316942	-1.756716	35.76202	24399.02	27757.74	33280.91	33331.18	93.91880877	248.361	249.8811	249.7634	-0.117713	33250.12	249.7752	-0.105905
275	-0.92847	2.064576	-1.228962	35.70706	24443.85	27865.83	33466.15	34252.09	95.83470223	252.6756	274.7731	274.6255	-0.1475889	34142.87	274.724	-0.049074
300	-0.694779	1.901989	-1.023481	35.70782	24390.76	27922.76	33615.73	35088.5	98.91406035	258.3462	299.6249	299.4633	-0.161599	35035.36	299.6656	0.04073
325	-0.322839	1.922932	-0.692136	35.69111	24351.13	27896.45	33774.62	35931.52	99.33336266	264.0292	324.4206	324.2514	-0.1691874	35926.7	324.5751	0.154488
340	0.009268	1.759032	-0.377162	35.68558	24288.03	27916.57	33872.66	36398.1	101.6809131	268.5857	339.2763	339.095	-0.1812993	36460.75	339.4994	0.223167

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.262798	0.641178	-1.537117	35.76104	24320.51	24427.79	35048.82	36486.75	-1.54442E-05	0.185654	-0.129022	-0.223167	-0.3405801	2	-679.4336	0.027946

166GHz H Nominal Gai Cold Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.649341	-2.398716	-1.873289	37.98284	26896.07	30274.4	36035.27	30337.79	88.94366334	240.6139	90.62429	90.6156	-0.0086868	30451.49	90.51066	-0.113634
100	-1.735504	-2.519829	-1.956378	37.98918	26884.43	30257.39	36030.14	30699.24	88.78719095	240.7449	100.467	100.4382	-0.028805	30823.07	100.3293	-0.137666
125	-1.767554	-2.577766	-1.990496	37.99046	26862.21	30244.89	36018.01	31607.88	89.04024773	241.0024	125.0131	124.9681	-0.0450369	31751.37	124.859	-0.154126
150	-1.750038	-2.502815	-1.974859	37.98002	26878.46	30259.39	36048.34	32570.05	89.01849727	241.4393	150.0049	149.9253	-0.0795901	32696.42	149.8312	-0.173641
175	-1.669526	-2.34805	-1.898519	37.96441	26896.63	30309.66	36090.65	33533.72	89.90083853	242.1747	174.9912	174.8939	-0.097337	33642.44	174.8292	-0.162032
200	-1.407476	-1.862599	-1.642136	37.93435	26951.87	30425.91	36203.16	34529.38	91.58038701	243.8763	199.9668	199.8117	-0.1550966	34587.07	199.7903	-0.176496
225	-1.754812	-1.503286	-2.031264	37.9223	27050.72	30556.16	36357.52	35571.42	92.43756213	245.4177	224.9255	224.7219	-0.2035868	35532	224.7592	-0.166243
250	-1.482504	-0.765541	-1.756716	37.85881	27147.62	30704.94	36550.27	36597.96	93.96285922	248.361	249.85	249.6183	-0.2317282	36476.9	249.7275	-0.12254
275	-0.92847	0.014232	-1.228962	37.8069	27234.77	30859.65	36787.65	37614.18	95.87875268	252.6756	274.742	274.4898	-0.2522543	37421.32	274.683	-0.059049
300	-0.694779	-0.133575	-1.023481	37.79976	27173.67	30914.26	36939.09	38490.84	98.9581108	258.3462	299.5938	299.2974	-0.2964224	38363.77	299.5866	-0.00727
325	-0.322839	-0.123034	-0.692136	37.7751	27142.38	30896.37	37116.11	39391.16	99.37741311	264.0292	324.3895	324.0899	-0.299581	39306.13	324.4877	0.09819
340	0.009268	-0.260196	-0.377162	37.76088	27085.2	30926.43	37227.23	39892.11	101.7249635	268.5857	339.2452	338.9534	-0.2918161	39871.29	339.4217	0.176496

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.262798	-1.415098	-1.537117	37.82549	27032.3	27145.78	38379.95	39899.23	-1.22138E-05	0.170557	-0.219998	-0.176496	-0.2693421	2	-714.1466	0.026424

183GHz V_A Nominal Gai Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.978394	0.081223	-2.169043	57.61295	17792.03	22912.72	31654.51	23012.98	88.88086004	240.6139	90.61907	90.62606	0.0069923	23135.31	90.48403	-0.135033
100	-2.069324	-0.02899	-2.264454	57.64548	17795.18	22909.74	31673.03	23583.99	88.72446863	240.7449	100.4637	100.4524	-0.0113437	23698.15	100.2817	-0.181998
125	-2.120111	-0.103485	-2.305408	57.6675	17787.94	22919.04	31685.94	24992.73	88.97743281	241.0024	125.0145	125.0168	0.0023044	25106.12	124.7913	-0.22324
150	-2.097985	0.000813	-2.28597	57.64285	17805.96	22933.62	31723.21	26446.5	88.95569992	241.4393	150.0129	150.0049	-0.0080224	26539.76	149.7475	-0.265439
175	-2.048904	0.151376	-2.243524	57.60981	17821.1	22996.65	31772.73	27896.76	89.8379796	242.1747	175.0067	175.0046	-0.002042	27975.45	174.7395	-0.267223
200	-1.91024	0.620406	-2.103778	57.50383	17848.02	23110.62	31871.84	29343.16	91.51737918	243.8763	199.9823	199.9937	0.0113226	29411.93	199.7452	-0.237129
225	-2.430816	0.975171	-2.647258	57.50201	17960.93	23272.64	32072.95	30890.48	92.37420994	245.4177	224.9191	224.9061	-0.0129677	30845.34	224.6975	-0.221599
250	-2.288804	1.705018	-2.502238	57.34192	18033.44	23417.79	32274.94	32358.96	93.89896283	248.361	249.8427	249.8219	-0.0208158	32280.35	249.6777	-0.164977
275	-1.988417	2.452793	-2.201241	57.1805	18115.34	23594.04	32563.45	33828.95	95.81417761	252.6756	274.7333	274.7311	-0.0021675	33716.32	274.6747	-0.058611
300	-2.022446	2.286	-2.246403	57.23033	18083.78	23743.44	32869.02	35237.76	98.8926615	258.3462	299.582	299.5763	-0.0057359	35149.93	299.6305	0.048428
325	-1.965384	2.287289	-2.216745	57.20638	18070.6	23751.81	33174.75	36641.56	99.31081073	264.0292	324.3726	324.369	-0.0036546	36581.87	324.5572	0.184568
340	-1.821502	2.129849	-2.067176	57.21457	18030.36	23846.68	33397.37	37456.82	101.6580186	268.5857	339.2261	339.2134	-0.0126318	37439.89	339.4933	0.267223

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.061861	1.046455	-2.271103	57.40164	17953.44	18125.64	35173.93	37484.94	-1.91752E-05	0.18159	-0.006553	-0.267223	-0.4228568	4	-312.2475	0.017408

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183GHz V_A Nominal Gai Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.978394	0.081223	-2.169043	47.7325	9423.374	13665.88	20908.48	13750.76	88.88086004	240.6139	90.61907	90.66477	0.0457058	13852.2	90.46815	-0.15092
100	-2.069324	-0.02899	-2.264454	47.76007	9427.402	13664.89	20925.4	14224.86	88.72446863	240.7449	100.4637	100.4847	0.0209809	14318	100.2583	-0.20536
125	-2.120111	-0.103485	-2.305408	47.77893	9420.923	13672.17	20935.76	15391.17	88.97743281	241.0024	125.0145	125.0458	0.031241	15483.9	124.7637	-0.250797
150	-2.097985	0.000813	-2.28597	47.75756	9437.124	13685.43	20967.68	16596.22	88.95569992	241.4393	150.0129	150.0254	0.0125256	16670.97	149.7137	-0.299189
175	-2.048904	0.151376	-2.243524	47.7296	9449.774	13737.7	21008.67	17797.54	89.8379796	242.1747	175.0067	175.0204	0.0137671	17860.04	174.706	-0.300673
200	-1.91024	0.620406	-2.103778	47.63921	9468.645	13828.46	21086.72	18991.9	91.51737918	243.8763	199.9823	200.0066	0.0242477	19049.99	199.7168	-0.265552
225	-2.430816	0.975171	-2.647258	47.6361	9564.524	13964.87	21255.27	20275.49	92.37420994	245.4177	224.9191	224.9085	-0.0106229	20237.18	224.6693	-0.24978
250	-2.288804	1.705018	-2.502238	47.49863	9623.326	14083.4	21420.13	21489.53	93.89896283	248.361	249.8427	249.8172	-0.0254844	21425.99	249.6561	-0.186619
275	-1.988417	2.452793	-2.201241	47.36334	9693.881	14231.96	21661.44	22709.84	95.81417761	252.6756	274.7333	274.7253	-0.0080061	22615.99	274.6679	-0.065425
300	-2.022446	2.286	-2.246403	47.40703	9665.184	14353.39	21912.61	23875.19	98.8926615	258.3462	299.582	299.5652	-0.0168225	23803.95	299.6368	0.054728
325	-1.965384	2.287289	-2.216745	47.38348	9652.578	14358.27	22163.2	25035.58	99.31081073	264.0292	324.3726	324.3542	-0.0184233	24990.73	324.5808	0.208131
340	-1.821502	2.129849	-2.067176	47.38969	9617.825	14435.37	22346.02	25709.43	101.6580186	268.5857	339.2261	339.1949	-0.0311808	25701.82	339.5267	0.300673

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.061861	1.046455	-2.271103	47.53627	9562.944	9705.552	23823.82	25739.21	-2.15779E-05	0.18159	-0.006553	-0.300673	-0.4758405	4	-200.6813	0.021018

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183GHz V_B Nominal Gai Cold Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.978394	0.081223	-2.169043	51.23617	14881.54	19433.63	27209.67	19530.05	88.84521033	240.6139	90.72893	90.73346	0.0045255	19658.14	90.57231	-0.156621
100	-2.069324	-0.02899	-2.264454	51.24553	14874.89	19419.79	27211.99	20025.73	88.68881892	240.7449	100.5736	100.5497	-0.0238887	20158.42	100.3591	-0.214503
125	-2.120111	-0.103485	-2.305408	51.2571	14860.49	19419.39	27213.58	21268.7	88.94178311	241.0024	125.1244	125.1134	-0.01104	21411.24	124.8676	-0.256759
150	-2.097985	0.000813	-2.28597	51.24667	14878.13	19434.98	27251.09	22564.87	88.92005022	241.4393	150.1228	150.1186	-0.0042322	22688	149.8443	-0.278483
175	-2.048904	0.151376	-2.243524	51.23342	14901.18	19502.06	27308.62	23865.04	89.8023299	242.1747	175.1165	175.0878	-0.0287898	23964.31	174.8123	-0.3042
200	-1.91024	0.620406	-2.103778	51.17982	14952.54	19634.56	27434.09	25186.52	91.48172947	243.8763	200.0922	200.0666	-0.0255681	25242.54	199.8178	-0.27435
225	-2.430816	0.975171	-2.647258	51.13016	15006.02	19727.31	27554.27	26504.38	92.33856023	245.4177	225.029	224.9443	-0.0847208	26516.99	224.7495	-0.279512
250	-2.288804	1.705018	-2.502238	51.05073	15103.32	19895.11	27782.33	27860.67	93.86331313	248.361	249.9525	249.8904	-0.0621581	27796.34	249.7769	-0.175666
275	-1.988417	2.452793	-2.201241	51.00542	15210.22	20095.45	28098.05	29230.13	95.77852791	252.6756	274.8432	274.783	-0.0601432	29074.3	274.7771	-0.066058
300	-2.022446	2.286	-2.246403	51.01252	15186.61	20229.55	28365.49	30479.95	98.85701179	258.3462	299.6919	299.6117	-0.0802549	30350.33	299.7397	0.047743
325	-1.965384	2.287289	-2.216745	50.99883	15192.9	20255.82	28658.08	31753.81	99.27516103	264.0292	324.4825	324.4284	-0.054071	31627.12	324.717	0.234529
340	-1.821502	2.129849	-2.067176	51.0215	15168.02	20352.95	28871.67	32495.78	101.6223689	268.5857	339.3359	339.2427	-0.0932008	32389.96	339.6401	0.3042

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.061861	1.046455	-2.271103	51.07232	15044.87	15198.09	30366.57	32424.82	-2.21182E-05	0.181517	-0.057843	-0.3042	-0.4877563	4	-293.9925	0.019563

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10GHz V	High Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.846355	-18.84853	57.60463	15907.33	215.3574	-0.186682	21040.73	29762.42	21129.29519	33447.14	42200.82	33536.68	89.114411	240.5204	90.67062	90.65341	-0.0172	21142.4	90.60171	-0.06891	33543.48	306.0724	0.044415
100	2.825949	-18.83467	57.60892	15898.79	215.3554	-0.153001	21017.76	29762.85	21684.46828	33423.75	42195.1	34094.85	88.857289	240.6582	100.4687	100.4417	-0.02701	21705.42	100.3843	-0.0844	34108.54	315.8904	0.066311
125	2.791973	-18.86816	57.62447	15901.18	215.4151	-0.14118	21038.14	29782.41	23100.03211	33450.5	42218.99	35519.88	89.14561	240.8913	124.9928	124.9562	-0.03662	23115.81	124.89	-0.10282	35525.1	340.5033	0.095483
150	2.781738	-18.89491	57.6134	15910.84	215.4566	-0.169965	21040.27	29810.34	24547.1739	33453.64	42253	36975.01	89.031916	241.2547	149.9752	149.9405	-0.03469	24553.74	149.8742	-0.10101	36973.4	365.6678	0.236056
175	2.787842	-18.89128	57.60106	15911.88	215.5171	-0.142299	21086.3	29845.38	25984.07609	33499.53	42283.08	38413.53	89.832087	241.8965	174.9633	174.9012	-0.06208	25990.79	174.8432	-0.12013	38414.86	390.7132	0.232772
200	2.903675	-18.76984	57.50496	15906.15	215.6395	-0.151048	21160.43	29909.6	27399.79397	33560.31	42335.44	39819.02	91.370911	243.5171	199.9397	199.9054	-0.03439	27430.83	199.8641	-0.0756	39865.65	415.9209	0.341637
225	2.588831	-18.99575	57.68961	15921.1	215.5902	-0.159396	21251.76	30066.5	28888.38872	33688.87	42531.22	41348.88	92.402428	245.1983	224.8808	224.7957	-0.08507	28864.79	224.7793	-0.10147	41301.29	440.8654	0.394511
250	2.402184	-19.2429	57.79354	15937.81	215.6092	-0.116412	21361.96	30267.24	30368.76306	33821.01	42746.64	42855.08	93.853933	247.9417	249.8218	249.6964	-0.12538	30299.81	249.7131	-0.10866	42740.07	465.8645	0.433535
275	2.783275	-18.85338	57.49126	15933.18	215.9129	-0.190227	21445.48	30451.44	31727.33829	33859.24	42898.96	44171.66	95.880642	252.5298	274.7303	274.6949	-0.03541	31740.96	274.7533	0.022987	44204.85	491.3153	0.672093
300	2.693655	-18.91923	57.53188	15943.2	216.0046	-0.178548	21639.32	30807.66	33179.7753	34066.56	43267.17	45643.09	99.008048	258.3692	299.5976	299.5425	-0.05503	33173.83	299.6496	0.052059	45648.64	516.4013	0.799149
325	2.712719	-18.8941	57.49852	15947.15	216.0943	-0.162505	21658.94	31148.5	34598.26714	34083.3	43603.26	47060.74	99.337981	264.3781	324.4065	324.281	-0.1255	34600.85	324.4443	0.037883	47082.39	541.3129	0.81217
340	2.827954	-18.82714	57.39391	15949.19	216.2682	-0.145815	21806.83	31383.46	35423.37588	34218.01	43822.18	47873.43	102.06033	268.9182	339.2712	339.1906	-0.08065	35461.11	339.3914	0.120129	47953.42	556.4472	0.9077

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.745513	-18.90332	57.53728	15933.81	215.685	-0.15809	16106.42	33194.99	35501.93069	28509.27	45649.73	47963.7	-7.006E-06	0.06472	-0.071983	-0.120129	-0.1545	2	-276.751	0.017375

10GHz H	High Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	2.846355	-18.91655	58.88678	15050.61	191.2198	-0.177399	20315.21	29214.08	20391.01394	31548.46	40474.85	31626.18	89.402038	240.5204	90.69882	90.69099	-0.00783	20398.01	90.6391	-0.05971	31624.68	281.9313	0.01264
100	2.825949	-18.9034	58.88868	15037.69	191.2172	-0.165885	20287.31	29209.73	20953.82858	31520.58	40468.79	32189.42	89.144916	240.6582	100.5088	100.4769	-0.03186	20973.18	100.4394	-0.06932	32199.81	291.7311	0.005091
125	2.791973	-18.93689	58.90496	15039.42	191.229	-0.159021	20307.48	29229.12	22396.36104	31544.4	40490.76	33641.14	89.433237	240.8913	125.0502	124.9308	-0.11946	22410.73	124.9341	-0.11615	33643.52	316.3305	0.051284
150	2.781738	-18.96562	58.88575	15050.47	191.2777	-0.191316	20310.12	29256.94	23873.35761	31546.94	40523.62	35124.77	89.319543	241.2547	150.037	149.8786	-0.15843	23878	149.9349	-0.10208	35121	341.5055	0.190765
175	2.787842	-18.96137	58.88338	15050.72	191.2396	-0.181824	20357.27	29294.4	25339.0548	31591.2	40556.66	36590.34	90.119714	241.8965	175.0201	174.7733	-0.24682	25342.65	174.8913	-0.12877	36586.16	366.4704	0.210662
200	2.903675	-18.8391	58.79068	15042.92	191.3729	-0.174008	20431.58	29359.46	26780.4987	31655.51	40610.48	38026.78	91.658538	243.5171	199.9864	199.6915	-0.29494	26809.21	199.8801	-0.10636	38065.68	391.68	0.320683
225	2.588831	-19.06817	58.95503	15059.27	191.338	-0.189154	20523.81	29514.94	28295.70772	31777.42	40798.23	39576.99	92.690055	245.1983	224.9157	224.5412	-0.37444	28272.32	224.8101	-0.10555	39532.57	416.6745	0.42087
250	2.402184	-19.31471	59.0351	15076.05	191.3471	-0.188171	20633.7	29713.31	29801.32335	31903.25	41012.67	41101.32	94.14156	247.9417	249.847	249.4306	-0.41638	29738.22	249.7877	-0.05923	41002.07	441.7135	0.519357
275	2.783275	-18.92313	58.76467	15069.37	191.5658	-0.188988	20720.67	29909.2	31188.83744	31951.69	41170.57	42455.09	96.168269	252.5298	274.7501	274.2718	-0.4783	31201.57	274.7219	-0.02817	42483.43	466.9546	0.638678
300	2.693655	-18.99065	58.78632	15080.01	191.6836	-0.189741	20917.23	30268.58	32666.98682	32159.57	41541.95	43948.3	99.295674	258.3692	299.6172	299.0971	-0.52006	32664.29	299.6453	0.028137	43957.46	492.0706	0.769757
325	2.712719	-18.96764	58.71687	15083.65	191.8196	-0.19965	20933.35	30607.11	34109.32578	32170.98	41878.54	45390.67	99.625608	264.3781	324.4311	323.9079	-0.52326	34126.49	324.5599	0.12877	45432.6	517.2056	0.954868
340	2.827954	-18.89805	58.63609	15085.25	191.899	-0.182059	21086.53	30853.57	34954.19341	32313.25	42111.41	46225.59	102.34796	268.9182	339.3008	338.7082	-0.59252	34998.92	339.4252	0.124435	46310.94	532.1718	0.97204

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	2.745513	-18.97377	58.66817	15086.47	191.4341	-0.182268	15262.48	32686.92	35040.53286	26483.27	43965.89	46327.41	-8.677E-06	0.122294	-0.41269	-0.12877	-0.19135	2	-256.924	0.017039

18GHz V	High Gain	Cold Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.128779	-3.139945	67.32769	18512.97	222.5748	-0.010821	24538.46	34714.79	24621.57506	39513.83	49692.38	39596.49	89.49492	240.6412	90.71857	90.72964	0.011074	24667.37	90.72286	0.004298	39616.66	313.2956	0.002196
100	1.16407	-3.101111	67.32425	18506.33	222.61	-0.018065	24514.14	34716.56	25274.00952	39491.49	49697.63	40250.64	89.236928	240.7785	100.5297	100.5254	-0.00427	25325.67	100.5241	-0.0056	40277.42	323.1332	-0.00646
125	1.13053	-3.138212	67.33407	18504.4	222.5587	-0.014006	24532.67	34732.69	26924.24794	39508.55	49711.46	41901.36	89.527774	241.0117	125.0684	125.0504	-0.01798	26973.86	125.0631	-0.00534	41923.91	347.6471	0.019946
150	1.118943	-3.14785	67.32803	18511.16	222.5752	-0.019457	24531.27	34762.43	28610.69491	39507.21	49742.39	43587.37	89.414636	241.3745	150.0456	150.011	-0.03458	28651.41	150.0393	-0.00623	43602.34	372.6363	0.015615
175	1.146413	-3.124146	67.30234	18523.03	222.6585	-0.021642	24594.87	34811.21	30296.93917	39570.8	49791.6	45276.93	90.21743	242.015	175.0068	174.9468	-0.05999	30327.36	174.9917	-0.01509	45287.35	397.7236	0.058291
200	1.311047	-2.955929	67.28509	18543.11	222.8927	-0.016817	24717.27	34935.99	31990.82672	39704.88	49927.07	46980.82	91.761193	243.6332	199.9368	199.867	-0.06983	32002.31	199.9292	-0.00761	46976.17	422.8676	0.038154
225	1.099808	-3.195918	67.25825	18525.03	222.7968	-0.011862	24766.97	35024.38	33642.93682	39741.96	50001.83	48618.9	92.805566	245.3134	224.8464	224.777	-0.06937	33676.67	224.8579	0.011517	48642.48	447.6765	0.033311
250	1.01103	-3.260607	67.20234	18562.83	222.927	-0.02069	24897.98	35232.41	35337.27709	39869.75	50208.5	50314.33	94.269729	248.0505	249.7131	249.6108	-0.10234	35345.93	249.7107	-0.0024	50325.26	472.7306	0.09055
275	1.493107	-2.796131	67.15413	18610.25	223.4358	-0.017044	25078.3	35575.7	37038.23371	40073.46	50574.49	52039.61	96.316533	252.6346	274.5399	274.409	-0.1309	37012.79	274.5277	-0.01221	52027.15	498.0691	0.09337
300	1.573237	-2.736507	67.07916	18642.53	223.7208	-0.02324	25314.91	35980.29	38711.56457	40312.84	50983.26	53718.63	99.470169	258.4671	299.3131	299.1754	-0.13767	38677.5	299.3128	-0.00024	53714.31	523.1884	0.154594
325	1.732612	-2.625094	67.00297	18676.05	224.0711	-0.013234	25365.05	36396.32	40375.93295	40369.27	51403.51	55389.4	99.831362	264.4698	324.0145	323.8498	-0.16465	40336.04	324.0061	-0.00844	55396.12	548.2281	0.142421
340	1.943983	-2.441733	66.94834	18710.27	224.3727	-0.030416	25577.24	36719.57	41383.73739	40590.17	51739.4	56404.37	102.57118	269.0029	338.8055	338.6531	-0.1524	41331.08	338.8206	0.015093	56410.64	563.3328	0.154561

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.32113	-2.971932	67.16297	18574.99	223.0995	-0.018108	18776.47	38723.88	41411.3856	33759.29	53716.44	56405.26	-1.094E-06	-0.074433	-0.106946	-0.015093	-0.02413	2	-276.537	0.014889

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18GHz H High Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	1.128779	-1.368996	63.18875	16902.95	215.2565	0.072101	22553.44	32108.76	22639.95711	36133.33	45675.24	36219.67	89.422392	240.6412	90.79296	90.79094	-0.00201	22675.69	90.814	0.021039	36235.32	306.0319	-0.01759
100	1.16407	-1.327851	63.19651	16897.17	215.2781	0.068256	22532.05	32113.53	23253.55334	36115.2	45683.94	36836.51	89.1644	240.7785	100.6003	100.5757	-0.02453	23293.38	100.6179	0.017641	36854.53	315.86	-0.01845
125	1.13053	-1.368457	63.19806	16898.46	215.2693	0.067583	22551.86	32129.93	24803.98778	36134.8	45700.26	38383.46	89.455246	241.0117	125.133	125.0771	-0.05588	24839.82	125.163	0.030015	38397.14	340.3442	-0.0581
150	1.118943	-1.376689	63.19428	16904.07	215.2921	0.077975	22549.98	32157.56	26385.8219	36133.22	45726.2	39964.66	89.342108	241.3745	150.1081	150.0223	-0.08573	26414.03	150.1488	0.040761	39971.46	365.3318	-0.06835
175	1.146413	-1.351754	63.17899	16906.65	215.345	0.084895	22601.91	32196.91	27960.88302	36184.9	45764.04	41536.35	90.144902	242.015	175.0703	174.9475	-0.12278	27986.65	175.1093	0.038983	41543.94	390.2901	-0.12518
200	1.311047	-1.177643	63.164	16925.89	215.5209	0.086109	22717.31	32314.73	29551.3513	36308.13	45889.44	43130.19	91.688665	243.6332	200.0033	199.8677	-0.13562	29558.6	200.0593	0.055992	43122.32	415.3421	-0.18206
225	1.099808	-1.364589	63.15132	16914.24	215.498	0.06999	22770.45	32406.1	31108.75599	36357.84	45980.34	44681.57	92.733038	245.3134	224.9172	224.7606	-0.15652	31128.57	224.9778	0.060632	44688.79	440.2051	-0.2101
250	1.01103	-1.436738	63.0912	16938.1	215.621	0.076895	22881.11	32587.9	32683.61606	36463.25	46155.48	46251.82	94.197201	248.0505	249.7883	249.5684	-0.2199	32692.79	249.805	0.016675	46260.99	465.1589	-0.25044
275	1.493107	-0.948993	63.03133	16978.17	216.0831	0.085931	23044.56	32902.06	34270.59604	36642.96	46483.91	47852.55	96.244005	252.6346	274.6189	274.3597	-0.25919	34255.5	274.6083	-0.0106	47849.76	490.3758	-0.3262
300	1.573237	-0.863106	62.96164	17006.2	216.3973	0.071654	23264.44	33279.71	35839.05646	36868.49	46869.72	49425.01	99.397641	258.4671	299.3949	299.1441	-0.2508	35817.35	299.3979	0.002988	49429.96	515.4566	-0.33559
325	1.732612	-0.718637	62.88864	17035.5	216.7237	0.071046	23309.19	33667.65	37396.09852	36918.85	47262.87	50985.9	99.758835	264.4698	324.0982	323.8018	-0.29644	37370.81	324.0543	-0.04395	51002.19	540.4111	-0.41089
340	1.943983	-0.512378	62.84005	17061.39	217.0155	0.086927	23502.41	33965.54	38334.28745	37119.62	47564.91	51930.28	102.49865	269.0029	338.8899	338.5806	-0.3093	38301.69	338.8293	-0.06063	51949.33	555.444	-0.46137

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	1.32113	-1.151319	63.01279	16950.62	215.775	0.076613	17139.65	35854.45	38372.06758	30740.01	49427.28	51941.2	3.417E-06	-0.151568	-0.2122	0.060632	0.075349	2	-269.094	0.015872

23GHz V High Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.634039	-3.139945	59.51583	20393.94	182.0143	0.134426	25720.23	34715.31	25790.09298	36546.35	45521.55	36617.25	89.493555	240.6312	90.66073	90.66644	0.005713	25778.63	90.70395	0.043218	36561.18	272.7146	0.039615
100	0.665949	-3.101111	59.49866	20386.43	182.0452	0.144185	25695.83	34711.83	26364.20891	36520.56	45515.19	37187.99	89.235564	240.7685	100.4733	100.4599	-0.01333	26359.57	100.5103	0.037027	37141.85	282.5163	-0.0021
125	0.631338	-3.138212	59.53086	20393.37	182.035	0.139239	25722.95	34740.41	27835.63498	36553.01	45549.82	38659.24	89.526401	241.0018	125.0131	124.9912	-0.02191	27814.44	125.0687	0.055597	38590.66	306.9725	-0.07569
150	0.624942	-3.14785	59.52359	20398.6	182.0497	0.133732	25720.8	34765.49	29327.85994	36550.53	45575.33	40148.16	89.413255	241.3646	149.9893	149.9797	-0.00955	29296.01	150.0777	0.088449	40070.21	331.9474	-0.0916
175	0.650111	-3.124146	59.47065	20402.95	182.1525	0.131025	25768.16	34795.16	30808.78834	36594.39	45601.92	41623.17	90.216033	242.0053	174.9486	174.9411	-0.00749	30775.5	175.0518	0.103173	41553.31	356.9824	-0.11873
200	0.808352	-2.955929	59.33735	20388.91	182.2865	0.141887	25833.69	34844.89	32248.07351	36643.44	45633.59	43044.66	91.75977	243.6236	199.877	199.8323	-0.04474	32250.37	199.9477	0.070653	43034.45	381.9841	-0.17946
225	0.591607	-3.195918	59.48878	20413.73	182.2108	0.133511	25934.54	35006.57	33785.57837	36767.56	45819.65	44599.78	92.804126	245.3039	224.7865	224.7634	-0.02306	33727.22	224.877	0.090537	44501.15	406.7422	-0.25516
250	0.496908	-3.260607	59.51513	20450.28	182.301	0.155215	26060.67	35212.5	35304.92767	36903.66	46032.11	46125.78	94.268218	248.0414	249.6552	249.5959	-0.05937	35197.73	249.6994	0.044197	45973.17	431.5901	-0.36607
275	0.96922	-2.796131	59.06669	20403.31	182.7903	0.150025	26092.31	35325.07	36610.71052	36882.79	46092.68	47379.03	96.314937	252.6257	274.4864	274.4143	-0.0721	36666.91	274.4994	0.012966	47471.17	456.8765	-0.40026
300	1.040543	-2.736507	58.94109	20415.37	183.0193	0.139386	26278.15	35649.2	38046.24138	37059.55	46409.01	48803	99.468466	258.4585	299.266	299.1744	-0.09161	38132.21	299.2338	-0.03228	48947.29	481.7936	-0.4917
325	1.186046	-2.625094	58.75522	20411.68	183.313	0.148883	26277.19	35950.18	39436.5605	37042.26	46691.41	50175.37	99.829517	264.4615	323.9757	323.8766	-0.09905	39593.62	323.9027	-0.07304	50424.37	506.7269	-0.56184
340	1.389233	-2.441733	58.54477	20404.67	183.5942	0.141452	26409.56	36152.9	40226.19475	37152.74	46873.23	50942.54	102.56925	268.9947	338.7723	338.6665	-0.10587	40468.41	338.6692	-0.10317	51314.97	521.7604	-0.60614

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	0.807357	-2.971932	59.25514	20399.76	182.4843	0.14108	20577.52	38176.3	40541.8431	31397.89	48959.23	51319.77	5.847E-06	-0.008863	-0.063801	0.103173	0.12894	2	-344.442	0.01688

36GHz V High Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.00955	-6.550377	61.7746	19654.79	190.4217	-0.544716	25184.12	34520.73	25262.54611	36960.85	46386.67	37039.22	89.508086	240.6482	90.76987	90.78233	0.012457	25320.71	90.58687	-0.183	37105.6	281.129	-0.06256
100	-0.185737	-6.724554	61.86087	19668.7	190.3813	-0.556118	25189.77	34563.89	25886.92186	36980.56	46446.12	37685.28	89.249912	240.7854	100.5722	100.5579	-0.01433	25922.95	100.324	-0.24823	37713.07	290.9508	-0.00271
125	-0.263328	-6.804378	61.89686	19672.85	190.3661	-0.554657	25215.18	34591.16	27408.32566	37011.86	46479.06	39227.94	89.541371	241.0188	125.0965	125.0734	-0.02317	27434.58	124.7647	-0.33187	39239.26	315.6268	0.164136
150	-0.281149	-6.82651	61.90508	19678.12	190.3662	-0.552227	25214.19	34620.89	28958.10889	37012.25	46510.06	40795.47	89.42844	241.382	150.0676	150.041	-0.02659	28975.96	149.6861	-0.38148	40796.9	340.8112	0.377446
175	-0.273972	-6.814818	61.88045	19677.62	190.4199	-0.551135	25261.22	34654.12	30497.88135	37057.95	46541.69	42347.2	90.231955	242.0231	175.0286	174.9953	-0.03323	30518.4	174.6249	-0.40366	42356.4	366.0257	0.57725
200	-0.159669	-6.689609	61.79319	19673.81	190.5252	-0.551233	25345	34729.23	32021.22196	37131.63	46606.68	43876.19	91.777012	243.6421	199.9588	199.9332	-0.02559	32061.75	199.5782	-0.38059	43922.9	391.3534	0.869456
225	-0.487225	-7.055063	61.94292	19706.81	190.512	-0.552773	25456.61	34902.83	33632.95184	37270.81	46808.72	45527.42	92.824288	245.323	224.8668	224.8879	0.02111	33607.89	224.5768	-0.28998	45480.84	416.5427	1.163859
250	-0.64617	-7.170516	61.99726	19735.99	190.6175	-0.547718	25581.82	35115.14	35219.35599	37412.47	47037.53	47143.42	94.291782	248.0617	249.7349	249.7364	0.001489	35149.4	249.5004	-0.2345	47042.79	441.7969	1.444438
275	-0.306594	-6.841446	61.77979	19723.12	190.8898	-0.547441	25675.21	35331.61	36691.32954	37480.5	47229.95	48602.21	96.343624	252.6472	274.5621	274.5612	-0.0009	36691.4	274.432	-0.13005	48614.97	467.2165	1.764592
300	-0.407193	-6.940948	61.79575	19746.03	191.0404	-0.533324	25894.94	35719.07	38256.88799	37711.58	47628	50189.78	99.503812	258.4811	299.3314	299.3498	0.018369	38232.96	299.3566	0.025147	50178.12	492.4901	2.118249
325	-0.440004	-7.000717	61.75157	19767.04	191.2327	-0.537442	25934.35	36099.43	39800.6858	37752.85	48014.32	51744.57	99.872954	264.4855	324.0243	324.0969	0.072582	39773.82	324.2696	0.245252	51740.31	517.7481	2.490993
340	-0.350496	-6.923626	61.66404	19770.64	191.4145	-0.536903	26098.43	36359.47	40695.06882	37910.91	48269.27	52638.07	102.61728	269.0195	338.8082	338.9259	0.117717	40697.98	339.2119	0.403663	52682.45	532.9808	2.758158

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.315999	-6.86188	61.78876	19738.84	190.6823	-0.547141	19924.2	38275.46	40767.39965	31675.79	50199.17	52714.86	-2.425E-05	-0.098798	0.025744	-0.403663	-0.53478	2	-318.807	0.016168

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

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36GHz H High Gain Cold Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	0.00955	-6.786849	56.06858	19282.14	202.6587	-0.470494	24300.21	32774.94	24371.38557	35671.77	44220.84	35743.47	89.498741	240.6482	90.76119	90.77235	0.011157	24397.34	90.60321	-0.15799	35765.16	293.4347	0.014717
100	-0.185737	-6.959181	56.15332	19293.92	202.5726	-0.469729	24305.08	32814.82	24938.88754	35688.85	44273.09	36327.3	89.240567	240.7854	100.5576	100.5621	0.004496	24944.35	100.3633	-0.19434	36311.31	303.1794	0.049146
125	-0.263328	-7.038722	56.19038	19300.41	202.5729	-0.469042	24331.24	32843.34	26322.07161	35722.54	44309.04	37731.4	89.532025	241.0188	125.0717	125.0514	-0.02027	26313.77	124.7973	-0.27439	37694.27	327.855	0.21049
150	-0.281149	-7.059954	56.21184	19307.12	202.549	-0.477608	24333.53	32875.64	27731.4099	35727.95	44346.1	39158.47	89.419095	241.382	150.0377	149.9871	-0.05056	27709.66	149.7035	-0.33413	39103.61	353.0012	0.414576
175	-0.273972	-7.047991	56.18017	19306.3	202.6182	-0.474558	24375.02	32903.2	29128.55623	35766.89	44370.52	40564.66	90.22261	242.0231	174.9987	174.9585	-0.04017	29109.08	174.6729	-0.32574	40518.84	378.2526	0.635695
200	-0.159669	-6.923507	56.09369	19294.42	202.7342	-0.471613	24442	32961.2	30500.67642	35822.78	44416.93	41937.55	91.767666	243.6421	199.9331	199.8805	-0.05256	30507.27	199.6202	-0.3129	41936.07	403.5398	0.872491
225	-0.487225	-7.290201	56.22184	19324.92	202.6564	-0.487102	24543.15	33117.43	31960.41039	35945.8	44598.01	43432.07	92.814943	245.323	224.8491	224.8024	-0.04665	31906.88	224.5929	-0.25621	43345.18	428.682	1.176518
250	-0.64617	-7.402198	56.14226	19320.42	202.7583	-0.477096	24613.64	33247.16	33338.20465	36005.36	44715.76	44808.76	94.282436	248.0617	249.7279	249.6779	-0.05004	33305.46	249.5472	-0.18075	44759.78	453.9219	1.435749
275	-0.306594	-7.069409	55.93669	19298.47	203.0363	-0.473004	24687.09	33430.71	34658.10942	36052.06	44873.01	46112.31	96.334278	252.6472	274.5669	274.5047	-0.06221	34702.79	274.4791	-0.08783	46183.99	479.3337	1.73038
300	-0.407193	-7.168054	55.92395	19313.37	203.1806	-0.470372	24877.49	33768.66	36059.35035	36247.34	45216.77	47528.79	99.494467	258.4811	299.3487	299.264	-0.08473	36097.73	299.3685	0.019771	47598.93	504.5799	2.050518
325	-0.440004	-7.228147	55.86302	19328.69	203.3988	-0.480512	24907.37	34103.65	37444.36308	36276.03	45555.14	48924.54	99.863608	264.4855	324.054	323.9957	-0.05833	37492.57	324.256	0.202008	49018.37	529.9063	2.453461
340	-0.350496	-7.148533	55.76221	19322.87	203.5573	-0.4762	25044.52	34323.99	38235.98753	36401.05	45763.45	49709.22	102.60793	269.0195	338.8452	338.8137	-0.0315	38328.95	339.1794	0.334127	49870.09	545.1032	2.700641

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-0.315999	-7.093562	55.99656	19336.69	202.8578	-0.474778	19504.68	36135.66	38392.06233	30840.72	47620.33	49897.2	-2.173E-05	-0.088061	-0.050353	-0.334127	-0.47929	2	-344.709	0.017843

89GHz V High Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.318216	4.120746	2.871967	51.14992	24205.93	28778.27	36514.49	28848.82	89.39083228	240.6368	90.7972	90.77431	-0.0228912	28879.96	90.58048	-0.216713
100	3.223576	4.02982	2.780319	51.13225	24180.56	28738.12	36491.88	29322.37	89.13274958	240.774	100.6019	100.5914	-0.010514	29379.99	100.3706	-0.231308
125	3.173623	3.979851	2.730608	51.11747	24168.34	28739.47	36488.04	30560.04	89.42405112	241.0076	125.1308	125.1229	-0.0078725	30630.34	124.8511	-0.27965
150	3.172465	3.973281	2.728415	51.11717	24170.51	28735.84	36508.72	31837.87	89.31109431	241.3711	150.1063	150.1079	0.0016556	31905.08	149.8091	-0.2972
175	3.19512	3.994196	2.747791	51.1039	24174.94	28780.14	36542.74	33116.21	90.11443583	242.0129	175.0707	175.0775	0.0067795	33180.31	174.7767	-0.294049
200	3.358725	4.165756	2.908552	51.11798	24220.17	28905.6	36674.18	34437.9	91.65913515	243.6327	199.9995	199.9809	-0.0186634	34453.43	199.7028	-0.296776
225	3.161398	3.936562	2.683053	51.06836	24182.16	28916.49	36709.95	35662.77	92.70575064	245.3141	224.8957	224.8634	-0.0323028	35726.78	224.6335	-0.262154
250	3.089987	3.884788	2.622958	51.02315	24176.99	28981.95	36833.51	36917.47	94.17216509	248.0544	249.7585	249.6948	-0.0637052	36998.77	249.5378	-0.220787
275	3.560116	4.355357	3.079792	51.07786	24299.68	29214.51	37204.05	38323.43	96.2224525	252.6412	274.5806	274.4775	-0.10305	38269.48	274.4169	-0.163654
300	3.622615	4.404438	3.123681	51.06071	24325.63	29400.07	37523.62	39614.06	99.38067614	258.4765	299.3431	299.2512	-0.0919214	39541	299.3118	-0.031333
325	3.77534	4.542335	3.253833	51.04514	24370.77	29462.38	37871.3	40921.06	99.74732787	264.4823	324.0272	323.9575	-0.0696455	40810.3	324.1633	0.136069
340	3.985696	4.741872	3.447404	51.05921	24426.06	29659.14	38161.87	41741.95	102.4903487	269.0172	338.8057	338.7983	-0.0074227	41573.35	339.1029	0.2972

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.386406	4.177417	2.914864	51.03388	24266.3	24419.4	39576.46	41631.82	-2.02056E-05	-0.033735	-0.04646	-0.2972	-0.4455797	2	-474.8567	0.019579

89GHz V High Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.318216	4.120746	2.871967	44.67752	20107.69	24101.45	30858.74	24162.71	89.39083228	240.6368	90.7972	90.76615	-0.0310439	24190.46	90.57185	-0.225349
100	3.223576	4.02982	2.780319	44.66205	20085.64	24066.49	30839.1	24576.55	89.13274958	240.774	100.6019	100.5854	-0.0165197	24627.22	100.3643	-0.237641
125	3.173623	3.979851	2.730608	44.64843	20075.3	24067.94	30835.91	25657.91	89.42405112	241.0076	125.1308	125.1181	-0.0126544	25719.15	124.8464	-0.284393
150	3.172465	3.973281	2.728415	44.64835	20077.76	24065.35	30854.58	26774.72	89.31109431	241.3711	150.1063	150.1054	-0.0009094	26832.43	149.8069	-0.299378
175	3.19512	3.994196	2.747791	44.6344	20081.36	24103.57	30883.46	27890.67	90.11443583	242.0129	175.0707	175.0764	0.0057356	27946.1	174.7763	-0.294367
200	3.358725	4.165756	2.908552	44.6437	20119.99	24212	30996.66	29043.43	91.65913515	243.6327	199.9995	199.9768	-0.0226942	29057.72	199.6998	-0.299786
225	3.161398	3.936562	2.683053	44.5999	20089.65	24224.32	31030.64	30115.86	92.70575064	245.3141	224.8957	224.8581	-0.0375786	30169.63	224.6295	-0.266169
250	3.089987	3.884788	2.622958	44.55509	20085.28	24281.13	31137.37	31210.27	94.17216509	248.0544	249.7585	249.6856	-0.0729058	31280.22	249.53	-0.228505
275	3.560116	4.355357	3.079792	44.59735	20190.59	24481.85	31457.72	32434.43	96.2224525	252.6412	274.5806	274.4632	-0.1173763	32389.65	274.4042	-0.176368
300	3.622615	4.404438	3.123681	44.57804	20214.8	24644.99	31737.17	33561.65	99.38067614	258.4765	299.3431	299.239	-0.104105	33500.09	299.3013	-0.041837
325	3.77534	4.542335	3.253833	44.55852	20255.08	24699.68	32040.02	34701.83	99.74732787	264.4823	324.0272	323.9491	-0.0780845	34608.67	324.1565	0.129287
340	3.985696	4.741872	3.447404	44.56691	20303.27	24870.95	32292.54	35417.43	102.4903487	269.0172	338.8057	338.7992	-0.0064447	35275.42	339.1055	0.299786

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.386406	4.177417	2.914864	44.56519	20161.72	20295.42	33531.28	35326.11	-2.01808E-05	-0.033735	-0.04646	-0.299786	-0.4450329	2	-451.7976	0.022421

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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89GHz H High Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.318216	4.105193	2.871967	53.63654	22629.51	27427.36	35536.43	27492.37	89.45119887	240.6368	90.68966	90.66718	-0.0224834	27524.3	90.47508	-0.214581
100	3.223576	4.013789	2.780319	53.61561	22606.71	27388.85	35515.95	27992.33	89.19311617	240.774	100.4944	100.4838	-0.0105416	28048.55	100.251	-0.243398
125	3.173623	3.962664	2.730608	53.6025	22595.37	27391.96	35513.98	29294.76	89.48441771	241.0076	125.0233	125.0744	0.0511679	29362.83	124.7586	-0.264705
150	3.172465	3.956069	2.728415	53.59389	22595.85	27385.61	35531.87	30632.55	89.3714609	241.3711	149.9987	150.0787	0.0799687	30700.67	149.7056	-0.293141
175	3.19512	3.978169	2.747791	53.59149	22601.44	27434.04	35571.27	31975.29	90.17480242	242.0129	174.9632	175.0395	0.0763441	32037.7	174.6374	-0.325747
200	3.358725	4.148451	2.908552	53.61356	22646.35	27563.76	35708.37	33363.14	91.71950174	243.6327	199.892	199.9947	0.1026629	33375.93	199.5918	-0.300182
225	3.161398	3.922746	2.683053	53.55504	22608.04	27576.13	35745.85	34648.02	92.76611723	245.3141	224.7882	224.8752	0.0870536	34711.68	224.4999	-0.288303
250	3.089987	3.870447	2.622958	53.50831	22601.17	27643.4	35874.15	35964.39	94.23253168	248.0544	249.651	249.7352	0.0841845	36047.85	249.4157	-0.235286
275	3.560116	4.341392	3.079792	53.5821	22720.64	27879.67	36257.68	37437.86	96.28281909	252.6412	274.4731	274.5794	0.1063562	37384.72	274.3446	-0.128443
300	3.622615	4.389014	3.123681	53.56556	22746.74	28073.36	36592.18	38792.23	99.44104273	258.4765	299.2356	299.3658	0.130168	38720.05	299.2449	0.009275
325	3.77534	4.529255	3.253833	53.57071	22789.69	28136.46	36958.2	40166.44	99.80769446	264.4823	323.9197	324.0714	0.1517887	40052.58	324.0928	0.173164
340	3.985696	4.7279	3.447404	53.59321	22843.49	28339.51	37260.99	41026.21	102.5507152	269.0172	338.6981	338.9033	0.2051538	40853.29	339.0239	0.325747

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.386406	4.162091	2.914864	53.57924	22688.3	22849.04	38762.08	40921.43	-2.22255E-05	0.026239	0.115146	-0.325747	-0.4901228	2	-422.7768	0.018647

89GHz H High Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	3.318216	4.105193	2.871967	46.46742	18758.08	22914.65	29939.85	22970.99	89.45119887	240.6368	90.68966	90.66773	-0.0219341	22999.25	90.46375	-0.225912
100	3.223576	4.013789	2.780319	46.44924	18738.77	22881.73	29922.55	23404.61	89.19311617	240.774	100.4944	100.486	-0.0084	23453.37	100.2396	-0.254781
125	3.173623	3.962664	2.730608	46.43765	18729.44	22884.89	29921.27	24533.77	89.48441771	241.0076	125.0233	125.0855	0.062221	24592.07	124.7525	-0.270812
150	3.172465	3.956069	2.728415	46.42928	18730.21	22879.66	29936.9	25693.11	89.3714609	241.3711	149.9987	150.0936	0.0948205	25750.98	149.7002	-0.298548
175	3.19512	3.978169	2.747791	46.42602	18734.87	22921.32	29970.56	26855.89	90.17480242	242.0129	174.9632	175.0532	0.0899905	26908.99	174.6284	-0.334778
200	3.358725	4.148451	2.908552	46.44235	18772.98	23032.65	30087.85	28057	91.71950174	243.6327	199.892	200.0117	0.1197266	28068.28	199.5845	-0.307515
225	3.161398	3.922746	2.683053	46.39079	18742.33	23045.82	30122.65	29172.27	92.76611723	245.3141	224.7882	224.8892	0.1010738	29225.15	224.4884	-0.299803
250	3.089987	3.870447	2.622958	46.34477	18736.29	23103.48	30232.32	30311.09	94.23253168	248.0544	249.651	249.7482	0.097144	30382.51	249.4028	-0.248229
275	3.560116	4.341392	3.079792	46.40322	18837.66	23305.5	30561.03	31583.91	96.28281909	252.6412	274.4731	274.5953	0.1222089	31540.7	274.335	-0.138098
300	3.622615	4.389014	3.123681	46.38421	18861.97	23474.47	30851.2	32757.37	99.44104273	258.4765	299.2356	299.3848	0.149218	32697.61	299.2396	0.003967
325	3.77534	4.529255	3.253833	46.38435	18899.75	23529.26	31167.59	33946.78	99.80769446	264.4823	323.9197	324.0934	0.1737677	33852.1	324.0923	0.172655
340	3.985696	4.7279	3.447404	46.39994	18946.16	23704.51	31428.55	34690.19	102.5507152	269.0172	338.6981	338.9334	0.2352088	34546.15	339.0329	0.334778

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	3.386406	4.162091	2.914864	46.41094	18810.84	18950.07	32734.12	34604.89	-2.27097E-05	0.026239	0.115146	-0.334778	-0.5007997	2	-404.6392	0.021527

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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166GHz V High Gain Cold Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.563475	-0.181797	-1.788033	43.30971	33378	37235.31	43796.4	37305.6	89.06338391	240.5557	90.68647	90.69076	0.0042861	37351.58	90.55911	-0.127362
100	-1.71065	-0.438745	-1.933265	43.33286	33358.1	37206.33	43788.04	37711.08	88.80629758	240.6936	100.4981	100.4836	-0.0145397	37773.66	100.3329	-0.165226
125	-1.762181	-0.522148	-1.984697	43.34073	33345.46	37206.87	43787.4	38760.19	89.09406078	240.9266	125.0444	125.0079	-0.0364945	38831.29	124.8242	-0.220184
150	-1.760996	-0.469046	-1.985917	43.33592	33340.87	37196.9	43797.39	39837.04	88.97996801	241.2897	150.0365	150.0017	-0.0347555	39910.14	149.8068	-0.229732
175	-1.708804	-0.352555	-1.937058	43.32031	33345.02	37234.28	43825.55	40919.37	89.7792717	241.9312	175.0235	174.9468	-0.0767188	40987.81	174.7622	-0.26131
200	-1.471211	0.08583	-1.707675	43.26777	33380.77	37331.85	43918.7	42027.41	91.31674897	243.5513	199.999	199.9246	-0.0743564	42067.85	199.7725	-0.226511
225	-1.633007	0.570984	-1.910454	43.22813	33462.67	37454.62	44063.6	43180.95	92.34614753	245.2321	224.9534	224.8619	-0.0915072	43147.09	224.7641	-0.189282
250	-1.561213	1.144641	-1.836003	43.16895	33529.77	37578.77	44234.57	44311.59	93.79434504	247.9745	249.8819	249.7537	-0.1282146	44225.28	249.7315	-0.150455
275	-0.938904	2.058538	-1.241235	43.08796	33587.44	37715.97	44469.81	45423.66	95.81652162	252.5619	274.7732	274.6286	-0.1446078	45303.61	274.7021	-0.071143
300	-0.681585	2.157782	-1.01312	43.06672	33561.33	37822.26	44689.79	46465.63	98.93799086	258.4005	299.6249	299.4879	-0.1369553	46382.14	299.6772	0.05233
325	-0.333483	1.898031	-0.705276	43.07041	33479.98	37755.18	44868.17	47455.83	99.2605973	264.4086	324.4201	324.2477	-0.1724231	47457.24	324.573	0.152934
340	0.023043	1.830378	-0.375295	43.05506	33413.53	37804.22	44993.11	48027.21	101.97845	268.9482	339.2762	339.1206	-0.1555163	48103.47	339.5375	0.26131

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.258539	0.648491	-1.534836	43.15308	33452.05	33581.5	46397.97	48134.51	-1.77918E-05	0.166894	-0.117317	-0.26131	-0.3923488	1	-774.3813	0.023157

166GHz H High Gain Cold Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.563475	-2.253933	-1.788033	45.84925	35813.03	39898.09	46842.33	39968.66	89.09771618	240.5557	90.65539	90.63981	-0.015582	40083.16	90.52384	-0.13155
100	-1.71065	-2.477434	-1.933265	45.87022	35771.94	39847.08	46812.61	40378.04	88.84062984	240.6936	100.4671	100.4379	-0.0291559	40530.65	100.3146	-0.152441
125	-1.762181	-2.556552	-1.984697	45.87519	35756.7	39845.48	46809.26	41488.08	89.12839304	240.9266	125.0133	124.99	-0.023253	41652.48	124.8589	-0.154334
150	-1.760996	-2.541552	-1.985917	45.87007	35765.24	39848.33	46833.21	42639.31	89.01430028	241.2897	150.0054	149.9345	-0.0709397	42793	149.8123	-0.193135
175	-1.708804	-2.431161	-1.937058	45.84607	35782.14	39899.74	46873.73	43797.29	89.81360397	241.9312	174.9925	174.9043	-0.0881649	43935.41	174.8071	-0.185376
200	-1.471211	-1.957244	-1.707675	45.81646	35840.91	40026.29	46999.57	44993.61	91.35108123	243.5513	199.9679	199.8327	-0.1352182	45076.65	199.7761	-0.191821
225	-1.633007	-1.521198	-1.910454	45.78691	35962.29	40192.11	47190.71	46250.86	92.3804798	245.2321	224.9223	224.742	-0.1803113	46217.78	224.7427	-0.179598
250	-1.561213	-0.922737	-1.836003	45.73832	36067.94	40359.5	47409.87	47486.5	93.82867731	247.9745	249.8509	249.6464	-0.2044608	47359.38	249.7196	-0.131233
275	-0.938904	-0.022486	-1.241235	45.65821	36184.76	40561.14	47716.28	48720.05	95.85085389	252.5619	274.7421	274.4935	-0.2486278	48498.97	274.6528	-0.089358
300	-0.681585	0.078946	-1.01312	45.6326	36171	40687.36	47962.49	49835.96	98.97232313	258.4005	299.5938	299.3455	-0.2482951	49639.43	299.6047	0.010936
325	-0.333483	-0.144241	-0.705276	45.61622	36075.92	40605.38	48137.24	50869.49	99.29492957	264.4086	324.389	324.1238	-0.2652238	50777.16	324.497	0.107962
340	0.023043	-0.22109	-0.375295	45.59291	36025.05	40676.11	48287.18	51490.8	102.0127823	268.9482	339.2451	338.9898	-0.2552342	51460.06	339.4382	0.193135

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-1.258539	-1.414223	-1.534836	45.68142	35953.79	36090.84	49658.22	51493.8	-1.345E-05	0.161515	-0.195043	-0.193135	-0.2966037	1	-786.4519	0.021879

183GHz V_A High Gain Cold Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.795106	0.244391	-1.98266	66.70628	25339.56	31276.41	41386.13	31385.83	88.99995039	240.5557	90.65017	90.64634	-0.0038207	31530.41	90.44062	-0.209549
100	-2.047961	-0.002106	-2.232417	66.77262	25332.75	31258.35	41404.49	32036.21	88.74294723	240.6936	100.4637	100.4325	-0.0312263	32179.33	100.1898	-0.273969
125	-2.104249	-0.081351	-2.285052	66.81655	25340.87	31289.59	41438.75	33687.15	89.03062754	240.9266	125.0147	125.0158	0.001146	33810.9	124.7019	-0.312775
150	-2.079863	-0.041685	-2.269972	66.81452	25354.44	31295.36	41476.1	35370.87	88.91658198	241.2897	150.0133	150.051	0.0376971	35474.51	149.6955	-0.317849
175	-2.075117	0.072675	-2.268321	66.78061	25366.82	31358.1	41523.13	37046.67	89.71586192	241.9312	175.0074	175.0393	0.0318543	37137.06	174.6731	-0.334365
200	-1.952506	0.519902	-2.135632	66.65304	25394.08	31476.38	41627.51	38715.83	91.25322056	243.5513	199.9831	199.9838	0.0006432	38798.79	199.6383	-0.344844
225	-2.271885	0.963284	-2.491245	66.60437	25513.33	31659.73	41846.86	40487.32	92.28222167	245.2321	224.9178	224.8865	-0.0313056	40459.73	224.5918	-0.326032
250	-2.348791	1.537725	-2.554877	66.49781	25610.03	31842.86	42099.79	42223.03	93.72993414	247.9745	249.8435	249.8207	-0.0227535	42124.84	249.6078	-0.235651
275	-1.970381	2.44365	-2.180834	66.2512	25702.88	32046.52	42435.41	43908.09	95.75137031	252.5619	274.7334	274.6927	-0.0406853	43787.85	274.5922	-0.141176
300	-2.00423	2.52783	-2.234655	66.2424	25710.77	32260.29	42827.84	45569.07	98.87193072	258.4005	299.582	299.5777	-0.0042709	45453.66	299.6188	0.036826
325	-1.979342	2.268785	-2.219792	66.30025	25664.97	32241.52	43195.33	47193.16	99.19345349	264.4086	324.3721	324.3732	0.001028	47115.52	324.5861	0.213948
340	-1.820999	2.188868	-2.074835	66.28698	25625.07	32380.44	43452.84	48139.7	101.9108463	268.9482	339.2259	339.2404	0.0144458	48112.93	339.5708	0.344844

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.037536	1.053497	-2.244191	66.49564	25532.83	25732.32	45481.52	48163.6	-2.45953E-05	0.207473	-0.005323	-0.344844	-0.5423814	3	-383.2616	0.015024

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Manual: 2344649 Program: GMI
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183GHz V_A High Gain Cold Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.795106	0.244391	-1.98266	55.27512	15694.43	20613.92	28991.18	20706.93	88.99995039	240.5557	90.65017	90.68785	0.0376871	20828.88	90.47011	-0.180051
100	-2.047961	-0.002106	-2.232417	55.32755	15688.8	20598.73	29005.79	21245.45	88.74294723	240.6936	100.4637	100.4653	0.0015456	21366.37	100.2198	-0.243943
125	-2.104249	-0.081351	-2.285052	55.36732	15697.88	20627.27	29037.34	22616.74	89.03062754	240.9266	125.0147	125.0479	0.0332651	22718.72	124.7507	-0.264025
150	-2.079863	-0.041685	-2.269972	55.36699	15711.01	20634.06	29070.5	24014.38	88.91658198	241.2897	150.0133	150.0834	0.0700646	24097.41	149.7591	-0.254242
175	-2.075117	0.072675	-2.268321	55.33629	15720.8	20685.34	29108.37	25401.72	89.71586192	241.9312	175.0074	175.0637	0.0562536	25474.45	174.7378	-0.26965
200	-1.952506	0.519902	-2.135632	55.22479	15739.63	20779.07	29189.7	26778.99	91.25322056	243.5513	199.9831	199.9954	0.0123216	26850.24	199.6937	-0.289414
225	-2.271885	0.963284	-2.491245	55.18222	15842.26	20934.6	29374.71	28248.9	92.28222167	245.2321	224.9178	224.8856	-0.0322196	28225.1	224.6329	-0.284896
250	-2.348791	1.537725	-2.554877	55.09072	15923.72	21087.37	29584.82	29686.56	93.72993414	247.9745	249.8435	249.8155	-0.0280141	29603.56	249.6373	-0.206207
275	-1.970381	2.44365	-2.180834	54.87901	16002.1	21256.84	29862.45	31080.61	95.75137031	252.5619	274.7334	274.6779	-0.0555023	30979.66	274.5989	-0.134564
300	-2.00423	2.52783	-2.234655	54.86736	16007.71	21432.55	30185.46	32453.35	98.87193072	258.4005	299.582	299.565	-0.0170153	32358.41	299.6086	0.026564
325	-1.979342	2.268785	-2.219792	54.91343	15968.3	21415.35	30487.88	33795.07	99.19345349	264.4086	324.3721	324.3568	-0.0152738	33733.27	324.5476	0.175455
340	-1.820999	2.188868	-2.074835	54.89725	15933.24	21527.87	30697.76	34574.55	101.9108463	268.9482	339.2259	339.2247	-0.0012721	34558.42	339.5153	0.289414

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.037536	1.053497	-2.244191	55.08337	15856.47	16021.72	32381.48	34600.09	-2.04142E-05	0.207473	-0.005323	-0.289414	-0.450178	3	-287.3527	0.018139

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183GHz V_B	High Gain	Cold Plateau														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
90	-1.795106	0.244391	-1.98266	65.23561	25775.04	31581.55	41467.84	31694.43	89.00837645	240.5557	90.76003	90.74503	-0.0149977	31831.77	90.5388	-0.22123
100	-2.047961	-0.002106	-2.232417	65.23855	25723.32	31513.33	41425.82	32279.92	88.75137329	240.6936	100.5736	100.5418	-0.0317997	32467.44	100.3038	-0.269811
125	-2.104249	-0.081351	-2.285052	65.27376	25723.98	31535.9	41450.17	33884.26	89.0390536	240.9266	125.1245	125.1174	-0.0071086	34063.32	124.8196	-0.304943
150	-2.079863	-0.041685	-2.269972	65.27619	25740.48	31545.16	41490.95	35532.2	88.92500803	241.2897	150.1232	150.1398	0.0165836	35690.19	149.8114	-0.311803
175	-2.075117	0.072675	-2.268321	65.26041	25755.08	31610.53	41543.61	37173.92	89.72428798	241.9312	175.1173	175.112	-0.0053412	37315.75	174.7831	-0.334172
200	-1.952506	0.519902	-2.135632	65.19147	25820.65	31770.13	41698.12	38855.09	91.26164661	243.5513	200.093	200.0558	-0.0371385	38941.45	199.7569	-0.336064
225	-2.271885	0.963284	-2.491245	65.12491	25906.66	31917.08	41877.38	40551.03	92.29064773	245.2321	225.0277	224.9314	-0.0962726	40564.65	224.6924	-0.335253
250	-2.348791	1.537725	-2.554877	65.04421	26006.34	32103.48	42135.65	42258.64	93.7383602	247.9745	249.9533	249.8583	-0.0950584	42193.14	249.7091	-0.244205
275	-1.970381	2.44365	-2.180834	64.9525	26158.19	32378.03	42562.72	44009.23	95.75979636	252.5619	274.8433	274.7355	-0.107823	43820.27	274.705	-0.138262
300	-2.00423	2.52783	-2.234655	64.92486	26176.95	32596.74	42953.57	45641.88	98.88035677	258.4005	299.6919	299.6051	-0.0867433	45448.8	299.7222	0.030373
325	-1.979342	2.268785	-2.219792	64.96516	26143.59	32588.26	43320.94	47240	99.20187955	264.4086	324.482	324.404	-0.077943	47074.6	324.6977	0.215737
340	-1.820999	2.188868	-2.074835	64.97272	26128.74	32750.71	43603.04	48197.78	101.9192724	268.9482	339.3358	339.2583	-0.0774948	48049.36	339.6719	0.336064

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	-2.037536	1.053497	-2.244191	65.03238	25959.32	26154.42	45469.04	48091.8	-2.42618E-05	0.163324	-0.06863	-0.336064	-0.5350278	3	-398.458	0.015362

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10GHz V	Low Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.97572	9.079675	23.66209	12019.43	223.9417	-0.118823	14297.81	17997.39	14453.1331	19603.96	23312.49	19759.84	96.288484	252.6387	102.845	102.8573	0.012279	14467.07	102.8126	-0.03241	19784.92	326.8655	0.078854
125	20.90789	8.994041	23.68247	12018.43	223.9294	-0.09596	14301.58	18084.65	14981.20695	19611.43	23401.91	20292.09	96.406818	256.1484	125.1071	125.1224	0.015367	14994.73	125.044	-0.06308	20312.4	349.0893	0.052812
150	20.89284	8.950864	23.68092	12018.18	223.947	-0.113392	14302.68	18118.45	15573.15406	19612.79	23437.39	20886.34	96.470105	257.6029	150.0938	150.1476	0.053734	15587.94	150.0371	-0.05674	20908.34	374.1975	0.156671
175	20.93176	8.970436	23.67202	12018.08	223.9471	-0.103191	14304.63	18138.08	16162.83429	19612.55	23454.07	21475.77	96.593015	258.5333	175.0895	175.1224	0.032865	16180.1	174.9863	-0.10327	21502.29	399.2221	0.185536
200	21.04404	9.078658	23.63399	12018.71	224.0683	-0.108229	14320.5	18173.22	16749.5321	19622.78	23484	22056.68	97.393093	260.409	200.0804	200.1999	0.119447	16774.86	200.0449	-0.03552	22099.9	424.4009	0.252172
225	21.06458	9.128958	23.63051	12017.94	224.061	-0.115726	14335.02	18207.72	17337.96039	19636.4	23518.25	22645.67	98.054332	261.9399	225.0204	225.1558	0.135385	17366.88	224.9881	-0.03232	22693.35	449.4042	0.322767
250	20.78495	8.912629	23.67911	12022.98	224.1435	-0.109674	14367.98	18283.8	17944.52893	19682.06	23606.64	23266.97	99.032496	264.4026	249.9463	250.0852	0.13882	17958.44	249.9116	-0.03469	23288.87	474.4949	0.404993
275	20.28787	8.43784	23.76794	12034.29	224.2023	-0.112515	14462.29	18417.05	18570.08131	19797.68	23761.53	23913.95	102.15446	268.545	274.8057	274.9781	0.172476	18549.32	274.8067	0.001054	23881.47	499.4623	0.454305
300	20.33556	8.484362	23.75354	12038.21	224.284	-0.102967	14538.09	18533.24	19160.15067	19871.97	23875.51	24503.67	105.2425	273.4341	299.6474	299.8018	0.154458	19138.72	299.6396	-0.00775	24474.01	524.4275	0.496101
325	20.16399	8.441836	23.76999	12045.68	224.4809	-0.091461	14622.46	18689.67	19763.02958	19964.41	24039.22	25115.78	108.40473	279.5119	324.4378	324.6211	0.183232	19728.2	324.4758	0.037999	25069.34	549.5101	0.591405
340	19.33249	7.720331	23.93104	12055.65	224.364	-0.097605	14693.34	18820.84	20181.97273	20068.69	24204.42	25569.52	110.22062	282.6954	339.2749	339.51	0.23503	20081.91	339.3782	0.103272	25421.87	564.3628	0.723841

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.61106	8.745421	23.73022	12028.64	224.1245	-0.106322	12099.83	19147.71	20098.45279	17416.49	24479.58	25432.38	-4.798E-06	0.137759	0.155502	-0.103272	-0.10581	6	-506.718	0.042132

10GHz H	Low Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.97572	9.030611	24.72398	11107.33	198.6985	-0.10024	13501.5	17353.56	13649.36424	18397.58	22256.63	18546.4	96.83591	252.6387	102.8646	102.8202	-0.04445	13666.63	102.8231	-0.04156	18574.55	301.6035	0.040455
125	20.90789	8.947904	24.73792	11106.75	198.6207	-0.097929	13505.2	17443.33	14198.264	18402.4	22347.5	19098.24	96.954244	256.1484	125.11	124.9853	-0.12467	14215.52	125.0545	-0.05551	19123.33	323.8301	0.099463
150	20.89284	8.905577	24.73837	11108.24	198.6221	-0.108787	13508.3	17480.92	14816.11021	18405.83	22386.26	19716.09	97.01753	257.6029	150.0892	149.9062	-0.18299	14832.76	150.0538	-0.03543	19740.36	348.8212	0.109943
175	20.93176	8.923834	24.73245	11108.89	198.6055	-0.099497	13511.41	17503.05	15431.00224	18407.35	22406.17	20330.96	97.140441	258.5333	175.0861	174.7809	-0.30518	15448.96	175.0112	-0.07496	20357.65	373.8225	0.130922
200	21.04404	9.031807	24.69049	11109.27	198.7848	-0.070987	13527.47	17538.89	16039.92291	18419.38	22435.95	20936.46	97.940519	260.409	200.0836	199.7234	-0.36021	16066.88	200.0378	-0.04579	20980.4	399.0452	0.176814
225	21.06458	9.081246	24.68326	11107.33	198.7881	-0.100531	13541.14	17572.86	16651.53931	18432	22471.05	21546.45	98.601758	261.9399	225.0328	224.6331	-0.39965	16684.09	225.0363	0.003532	21597.38	424.034	0.213207
250	20.78495	8.863876	24.73307	11111.14	198.79	-0.109151	13574.06	17650.63	17280.56728	18475.02	22559.64	22187.37	99.579922	264.4026	249.9675	249.4493	-0.5182	17299.02	249.9422	-0.02528	22214.26	449.0187	0.261218
275	20.28787	8.387755	24.83986	11126.52	198.8127	-0.097909	13677.62	17797.14	17938.84746	18600.31	22727.12	22868.95	102.70189	268.545	274.833	274.2458	-0.58723	17913.41	274.8262	-0.0068	22830.84	473.9915	0.345694
300	20.33556	8.435133	24.81541	11132.22	198.9164	-0.0992	13757.44	17917.6	18553.77124	18677.98	22845.61	23481.51	105.78993	273.4341	299.6775	299.0505	-0.62699	18528.05	299.7201	0.042566	23447.92	498.9846	0.390691
325	20.16399	8.38977	24.83372	11139.4	199.0722	-0.0946	13845.09	18080.72	19181.13198	18773.32	23016.21	24117.35	108.95216	279.5119	324.4667	323.7846	-0.6821	19140.9	324.5416	0.074956	24065.52	523.9984	0.459519
340	19.33249	7.66539	25.01127	11149.29	198.9416	-0.085299	13919.74	18219.86	19618.44478	18879.98	23186.74	24587.51	110.76805	282.6954	339.3007	338.5624	-0.73827	19507.14	339.3753	0.074622	24429.4	538.7363	0.494032

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.61106	8.696628	24.68619	11129.81	198.7866	-0.096739	11203.87	18535.67	19524.45636	16109.21	23452.77	24443.15	-4.024E-06	-0.064466	-0.556247	-0.074956	-0.08873	6	-450.702	0.040502

18GHz V	Low Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.2336	21.47282	29.88006	12386.64	238.7815	-0.031666	15284.25	19938.32	15461.76055	22422.64	27079.9	22602.16	96.974621	252.7329	102.9441	102.9161	-0.02798	15485.53	102.9039	-0.04026	22613.9	341.7825	0.056864
125	25.1792	21.38117	29.87378	12385.97	238.7621	-0.040553	15286.51	20041.31	16125.1584	22422.95	27181.93	23263.12	97.093297	256.2562	125.2045	125.1692	-0.03531	16149.27	125.1467	-0.0578	23276.79	363.9965	0.029919
150	25.17562	21.37165	29.87953	12387.36	238.7585	-0.033203	15290.42	20087.67	16875.31179	22427.9	27228.6	24013.22	97.158586	257.7116	150.1836	150.2058	0.022162	16896.08	150.1729	-0.01072	24022.2	388.9761	0.033952
175	25.22209	21.41687	29.8763	12391.51	238.806	-0.017463	15297.98	20118.77	17624.19238	22435.69	27258.3	24764.48	97.283577	258.6418	175.1589	175.1499	-0.00892	17640.16	175.1076	-0.05126	24769.44	414.0169	0.052038
200	25.37537	21.56683	29.8581	12401.71	239.0101	-0.031773	15330.51	20180.22	18377.07286	22470.3	27323.36	25519.11	98.090784	260.5161	200.1171	200.1302	0.013166	18385.35	200.0799	-0.03719	25520.77	439.1946	0.067424
225	25.44785	21.6299	29.84222	12407.15	239.153	-0.027191	15354.44	20227.23	19123.4182	22494.57	27370.24	26264.65	98.762446	262.0476	225.0114	225.0628	0.05138	19129.16	225.0054	-0.00603	26267.59	464.2211	0.056634
250	25.29747	21.45979	29.83394	12407.79	239.1844	-0.018825	15383.8	20299.05	19864.12851	22522.64	27439.91	27004.68	99.752559	264.5063	249.8712	249.9298	0.058675	19871.04	249.8667	-0.00445	27010.81	489.1272	0.071625
275	24.99508	21.14684	29.8166	12419.79	239.2237	-0.026326	15487.78	20429.82	20613.10956	22623.81	27568.67	27749.66	102.89566	268.6434	274.6852	274.7899	0.104669	20612.77	274.7227	0.037491	27752.74	513.9902	0.081323
300	25.21077	21.37297	29.78742	12447.42	239.5274	-0.012662	15605.35	20595.12	21368.65325	22743.08	27734.23	28507.65	106.01538	273.5281	299.4283	299.4927	0.064404	21349.85	299.4229	-0.00542	28499.34	539.0092	0.053511
325	25.32115	21.46791	29.75014	12472.05	239.9047	0.013552	15720.76	20790.2	22115.2643	22860.15	27928.1	29257.05	109.20004	279.6006	324.1005	324.1329	0.032431	22085.11	324.0621	-0.03835	29246.44	564.0454	0.040122
340	24.72463	20.83282	29.73915	12463.4	239.6971	-0.009298	15765.57	20873.04	22544.55127	22896.63	28005.14	29677.94	111.03776	282.7801	338.8469	338.9761	0.12917	22528.02	338.9047	0.057799	29683.62	578.6959	0.15178

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.19844	21.37451	29.84007	12415.02	239.1644	-0.021401	12504.54	21367.04	22560.94914	19640.91	28506.64	29700.99	-7.63E-07	-0.272848	0.059551	-0.057799	-0.01683	6	-416.031	0.033511

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

18GHz H Low Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.2336	22.74562	28.60012	11966.63	229.3134	0.032748	14734.39	19194.82	14912.84475	21288.76	25746.16	21467.28	96.77458	252.7329	103.0131	103.0131	5.15E-05	14925.28	103.0214	0.008291	21467.12	332.3101	-0.01642
125	25.1792	22.64277	28.60224	11963.68	229.2652	0.037536	14735.04	19293.18	15545.90893	21288.53	25843.11	22098.8	96.893256	256.2562	125.2565	125.2386	-0.01784	15559.79	125.2607	0.004212	22099.51	354.4752	-0.04641
150	25.17562	22.63025	28.60233	11967.05	229.2471	0.038771	14740.29	19338.21	16263.19038	21293.3	25887.51	22816.44	96.958544	257.7116	150.2239	150.1956	-0.02822	16272.24	150.2317	0.007862	22812.26	379.4567	-0.01426
175	25.22209	22.67408	28.59136	11971.17	229.3371	0.030017	14746.92	19366.09	16979.70644	21300.18	25916.47	23531.11	97.083536	258.6418	175.1949	175.169	-0.02586	16985.11	175.2176	0.022714	23525.77	404.465	-0.06693
200	25.37537	22.82824	28.57067	11977.77	229.4999	0.03034	14774.57	19420.89	17695.14235	21327.76	25971.15	24246.48	97.890743	260.5161	200.1558	200.1062	-0.04953	17696.9	200.1652	0.009485	24242.18	429.575	-0.08068
225	25.44785	22.91301	28.54965	11980.09	229.6848	0.044536	14794.01	19461.46	18403.63716	21347.41	26010.53	24956.2	98.562405	262.0476	225.0593	224.9901	-0.06921	18407.11	225.0581	-0.0012	24958.41	454.6784	-0.06573
250	25.29747	22.78549	28.5414	11979.32	229.6983	0.026832	14820.69	19528.7	19111.22597	21372.96	26078.34	25660.83	99.552517	264.5063	249.9337	249.8768	-0.05689	19117.36	249.9518	0.018135	25667.53	479.5329	-0.09915
275	24.99508	22.5199	28.53694	11986	229.7192	0.028067	14916.62	19652.26	19824.02858	21468.46	26201.34	26373.05	102.69562	268.6434	274.766	274.6637	-0.10232	19824.68	274.7433	-0.02271	26375.23	504.3374	-0.14782
300	25.21077	22.77439	28.485	12006.18	230.1093	0.014156	15020.33	19797.63	20535.80885	21571.66	26347.55	27084.77	105.81534	273.5281	299.5305	299.4485	-0.08199	20531.89	299.5307	0.00022	27094.22	529.538	-0.10184
325	25.32115	22.94234	28.44371	12021.54	230.4997	0.021311	15121.91	19974.42	21240.53251	21674.78	26525.13	27789.86	109	279.6006	324.2254	324.1246	-0.10086	21235.93	324.2071	-0.0183	27808.05	554.5572	-0.16796
340	24.72463	22.39243	28.45947	12013.54	230.3518	0.032638	15167.92	20061.31	21657.58474	21720.05	26610.11	28206.19	110.83771	282.7801	338.9878	338.8843	-0.10348	21657.03	338.9665	-0.02128	28224.72	569.1615	-0.17806

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.19844	22.7135	28.53232	11985.33	229.7023	0.030632	12070.93	20545.03	21685.87367	18625.39	27094.95	28235.18	1.166E-06	-0.222469	-0.078679	0.022714	0.025714	6	-420.104	0.03505

23GHz V Low Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.80926	21.47282	17.55513	10766.8	197.8075	0.02537	12472.52	15203.41	12573.09446	15948.67	18678.32	16048.99	97.163329	252.7241	102.8803	102.8913	0.01106	12579.23	102.8921	0.011843	16049.43	300.6733	-0.01447
125	24.74941	21.38117	17.56895	10767.52	197.7362	0.031284	12476.67	15269.52	12965.92275	15954.2	18745.48	16444.1	97.282	256.2471	125.1224	125.1249	0.002447	12968.98	125.1056	-0.01679	16438.8	322.8649	0.006352
150	24.74526	21.37165	17.56581	10768.21	197.7422	0.035878	12478.19	15294.96	13405.22931	15955.15	18770.11	16882.92	97.347276	257.7025	150.0875	150.1148	0.02733	13407.03	150.0717	-0.01571	16877	347.8398	0.010175
175	24.79141	21.41687	17.54603	10768.71	197.8321	0.021352	12478.96	15306.69	13841.31048	15953.66	18780.3	17316.5	97.472252	258.6327	175.0562	175.1079	0.051616	13845.1	175.0395	-0.0167	17316.5	372.8889	0.000546
200	24.9391	21.56683	17.5065	10764.95	197.9689	0.031056	12485.48	15325.52	14267.906	15954.67	18793.13	17736.55	98.279427	260.5071	200.016	200.0863	0.070335	14282.91	199.9922	-0.02379	17755.6	397.9154	-0.06947
225	25.0083	21.6299	17.47884	10762.71	198.1146	0.030144	12492.26	15342.84	14696.55278	15958.51	18807.55	18161.23	98.951046	262.0388	224.92	225.057	0.136937	14720.56	224.9353	0.015238	18194.78	422.9458	-0.0888
250	24.84635	21.45979	17.50317	10767.82	198.1256	0.020755	12517.11	15397.37	15143.49404	15988.4	18867.59	18613.57	99.941115	264.4976	249.7973	249.9901	0.192804	15157.53	249.8404	0.043137	18632.35	447.8849	-0.03799
275	24.53209	21.14684	17.56162	10785.86	198.1057	0.030764	12596.18	15503.52	15611.61803	16078.65	18984.38	19092.81	103.08415	268.6349	274.6348	274.7916	0.156788	15592.21	274.6146	-0.0202	19066.53	472.6307	-0.10982
300	24.73802	21.37297	17.49325	10786.01	198.4023	0.020089	12643.86	15570.76	16026.31682	16117.98	19043.83	19498.59	106.20375	273.5198	299.4069	299.5686	0.16164	16026.45	299.3638	-0.04314	19505.43	497.6453	-0.16394
325	24.82867	21.46791	17.44299	10789.35	198.7427	0.025739	12697.41	15666.28	16447.04185	16167.42	19134.91	19914.17	109.38829	279.5925	324.1112	324.3663	0.255097	16461.06	324.1337	0.022442	19944.92	522.6935	-0.1604
340	24.21523	20.83282	17.57357	10807.41	198.4632	0.021767	12762.05	15776.72	16766.7389	16253.11	19266.61	20254.96	111.22592	282.7721	338.8807	339.1251	0.24435	16719.7	338.875	-0.00567	20198.69	537.1569	-0.18696

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.74574	21.37451	17.5466	10773.48	198.0946	0.026745	10826.12	16037.46	16738.99822	14302.47	19511	20212.17	1.36E-06	-0.397707	0.169564	0.043137	0.029995	6	-614.051	0.056994

36GHz V Low Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.0195	18.95431	23.56156	9006.521	197.5761	-0.416342	11291.94	14961.6	11433.79562	15962.19	19659.59	16104.51	96.997951	252.7456	103.0083	103.0352	0.026884	11469.41	102.8478	-0.16051	16150	300.6218	0.037386
125	24.91014	18.84184	23.59561	9010.018	197.4937	-0.41235	11301.55	15056.82	11964.72691	15976.01	19759.38	16645.38	97.116764	256.2679	125.2655	125.2912	0.025709	11993.75	125.0036	-0.26189	16678.1	322.9363	0.177118
150	24.89184	18.82497	23.59373	9011.054	197.5067	-0.417296	11303.95	15091.71	12556.32155	15978.18	19794.62	17240.16	97.182603	257.7232	150.2326	150.369	0.136426	12585.12	149.9914	-0.24121	17273.26	348.084	0.344754
175	24.92687	18.86241	23.58043	9009.658	197.5435	-0.41165	11304.23	15108.82	13141.82286	15976.52	19809.54	17828.58	97.308189	258.6537	175.1923	175.3578	0.165484	13174.96	174.9142	-0.27803	17868.79	373.2475	0.511779
200	25.03268	18.97096	23.54395	9005.509	197.6622	-0.417394	11315.58	15139.38	13720.09468	15983.33	19836.13	18405.99	98.11721	260.5284	200.1368	200.3605	0.223645	13765.74	199.8771	-0.25979	18466.24	398.4923	0.69319
225	25.04687	18.98167	23.54032	9009.443	197.7271	-0.409376	11335.03	15178.43	14310.73638	16003.41	19875.4	19002.24	98.791485	262.0606	225.0242	225.2871	0.262881	14355.25	224.7864	-0.23781	19062.32	423.6794	0.928014
250	24.77479	18.6898	23.59349	9025.73	197.749	-0.398517	11380	15266.68	14928.56478	16059.14	19973.97	19633.96	99.784567	264.5199	249.8883	250.2291	0.340843	14945.72	249.7361	-0.15216	19656.56	448.7883	1.151031
275	24.31041	18.2308	23.68372	9054.895	197.8187	-0.414053	11492.73	15417.71	15570.94395	16191.39	20145.94	20300.11	102.93275	268.658	274.715	275.1071	0.392078	15535.34	274.6499	-0.06514	20252.78	473.9811	1.447349
300	24.36815	18.30832	23.64636	9059.112	198.0385	-0.416638	11567.05	15527.43	16153.36636	16263.28	20253.72	20884.48	106.0603	273.5438	299.4881	299.9193	0.431204	16124.03	299.5243	0.03619	20851.62	499.2843	1.757691
325	24.19929	18.13508	23.66238	9079.602	198.2488	-0.415403	11664.74	15696.02	16767.17601	16368.72	20430.54	21508.72	109.25095	279.6175	324.1992	324.7046	0.505463	16712.72	324.3989	0.199757	21448.54	524.5066	2.058541
340	23.40104	17.30184	23.83652	9123.146	198.1565	-0.41426	11771.24	15864.06	17221.28105	16507.41	20631.15	21996.56	111.09403	282.7977	338.9766	339.4948	0.518219	17064.3	339.2546	0.278035	21799.85	539.351	2.217948

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.6256	18.55473	23.64868	9041.729	197.7746	-0.413025	9112.675	16136.33	17088.24018	13781.15	20856.96	21816.03	-1.856E-05	-0.297423	0.37744	-0.278035	-0.40939	6	-381.781	0.042254

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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36GHz H Low Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.0195	18.67764	23.27759	9069.239	212.6492	-0.391943	11326.17	14952.55	11466.30623	16286.7	19940.84	16428.76	96.957264	252.7456	102.998	102.9931	-0.00494	11466.76	102.8222	-0.17579	16418.56	315.7936	0.146361
125	24.91014	18.56572	23.28274	9066.197	212.5568	-0.385853	11326.39	15032.82	11980.49374	16285.36	20019.71	16945.55	97.076076	256.2679	125.2472	125.2335	-0.01374	11982.28	124.9942	-0.25301	16936.02	338.049	0.245008
150	24.89184	18.5485	23.27645	9065.64	212.5733	-0.383107	11326.76	15064.52	12561.04772	16284.57	20050.3	17527.78	97.141916	257.7232	150.2074	150.2679	0.060477	12563.05	149.9726	-0.23483	17519.99	363.1648	0.384113
175	24.92687	18.5851	23.27204	9067.163	212.6266	-0.382673	11330.78	15086.56	13142.70756	16288.79	20072.66	18114.49	97.267502	258.6537	175.1632	175.2386	0.075374	13142.85	174.909	-0.25423	18105.89	388.3636	0.573818
200	25.03268	18.69344	23.24852	9064.077	212.7106	-0.383833	11344.21	15120.98	13715.76836	16299.07	20104.17	18689.77	98.076523	260.5284	200.1077	200.1921	0.084345	13722.78	199.8512	-0.25649	18693.3	413.6274	0.809096
225	25.04687	18.70496	23.24275	9066.832	212.8113	-0.374595	11362.07	15157.84	14297.07398	16317.85	20141.42	19275.99	98.750798	262.0606	224.9993	225.1076	0.108319	14302.33	224.7768	-0.22251	19279.21	438.8266	1.015995
250	24.77479	18.41695	23.23129	9069.848	212.8104	-0.378342	11387.03	15214.99	14877.96242	16340.21	20196.49	19857.44	99.74388	264.5199	249.8721	250.0503	0.178173	14883.03	249.7523	-0.11983	19863.25	463.9456	1.263115
275	24.31041	17.95818	23.22147	9075.407	212.8514	-0.367096	11464.71	15314.04	15458.73435	16416.52	20293.49	20439.84	102.89206	268.658	274.7114	274.8705	0.159096	15461.44	274.6287	-0.08267	20446.03	489.0101	1.447316
300	24.36815	18.0401	23.18826	9079.709	213.078	-0.380777	11538.12	15422.72	16031.05298	16488.07	20401.65	21014.92	106.01961	273.5438	299.5009	299.6907	0.189827	16040.36	299.5276	0.026771	21035.53	514.3641	1.785249
325	24.19929	17.87265	23.17196	9090.775	213.2732	-0.387907	11621.39	15570.06	16613.68616	16572.15	20550.87	21600.39	109.21026	279.6175	324.2309	324.4881	0.257244	16619.29	324.4266	0.195719	21621.66	539.573	2.068903
340	23.40104	17.04065	23.17755	9097.864	213.0789	-0.385453	11671.81	15652.42	16966.4849	16619.05	20629.75	21952.58	111.05334	282.7977	339.0219	339.2694	0.247407	16964.61	339.2784	0.256495	21965.63	554.3667	2.265813

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.6256	18.28217	23.23486	9081.804	212.82	-0.381962	9151.508	16052.26	16987.10661	14089.14	21041.23	21983.12	-1.729E-05	-0.255344	0.173164	-0.256495	-0.38119	6	-390.35	0.043009

89GHz V Low Gain Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.96865	28.33669	26.69128	29.09413	12674.1	15490.2	20027.33	15671.06	96.79290633	252.7396	103.0308	103.0234	-0.0074039	15659.91	102.8609	-0.169931
125	26.84511	28.20951	26.57104	29.08182	12646.11	15464.48	20098.65	16287.71	96.91178412	256.2611	125.281	125.276	-0.0050233	16304.88	125.0683	-0.21278
150	26.83496	28.19893	26.56008	29.07825	12643.4	15463.33	20137.34	17010.97	96.97748833	257.7164	150.2476	150.2886	0.0409759	17030.38	150.0481	-0.19952
175	26.88066	28.24448	26.60608	29.08144	12651.18	15475.08	20173.01	17744.45	97.10292583	258.6471	175.2134	175.2382	0.0248117	17754.6	174.9841	-0.229311
200	27.0356	28.40087	26.75313	29.0864	12675.06	15522.96	20252.72	18495.43	97.91143632	260.5222	200.1658	200.2009	0.0351378	18479.77	199.9527	-0.213107
225	27.11378	28.47255	26.82061	29.08577	12690.02	15557.44	20312.09	19234.93	98.58498305	262.055	225.0578	225.093	0.0351621	19203.45	224.8698	-0.188038
250	26.97698	28.3195	26.66353	29.05787	12674.38	15567.89	20360.63	19936.31	99.57733399	264.515	249.9248	249.9462	0.0213453	19926.56	249.7676	-0.157257
275	26.69536	28.02907	26.3673	29.00714	12640.41	15620.15	20433.29	20611.74	102.7241977	268.6538	274.7378	274.7895	0.0517516	20649.96	274.6751	-0.062667
300	26.9337	28.26899	26.58784	29.01315	12684.65	15755.67	20620.93	21377.15	105.8493717	273.5407	299.5028	299.5278	0.025018	21370.85	299.4963	-0.006541
325	27.06983	28.39087	26.68828	28.9985	12720.38	15882.32	20828.81	22127.11	109.0383054	279.6155	324.1993	324.2388	0.0394963	22091.5	324.3093	0.109993
340	26.49698	27.78089	26.07903	28.9189	12644.83	15851.36	20822.99	22455.63	110.8799049	282.7963	338.9645	339.0539	0.089388	22523.8	339.1938	0.229311

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.8956	28.24112	26.58074	29.02536	12678.46	12765.54	21386.07	22553.14	-1.53746E-05	-0.150999	0.043149	-0.229311	-0.3390455	6	-436.3306	0.034431

89GHz V Low Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.96865	28.33669	26.69128	25.42153	9942.719	12403.34	16367.75	12560.84	96.79290633	252.7396	103.0308	103.0015	-0.0293632	12550.41	102.8675	-0.163305
125	26.84511	28.20951	26.57104	25.40941	9917.34	12379.81	16428.78	13098.72	96.91178412	256.2611	125.281	125.2574	-0.0236258	13113.98	125.0773	-0.203755
150	26.83496	28.19893	26.56008	25.40577	9914.939	12378.73	16462.42	13730.85	96.97748833	257.7164	150.2476	150.28	0.0323714	13748.04	150.0647	-0.182849
175	26.88066	28.24448	26.60608	25.40874	9922.148	12389.41	16494.04	14372.18	97.10292583	258.6471	175.2134	175.2306	0.0171899	14380.72	174.998	-0.215387
200	27.0356	28.40087	26.75313	25.41298	9943.798	12432.02	16564.44	15029.19	97.91143632	260.5222	200.1658	200.198	0.0321649	15014.29	199.9663	-0.199471
225	27.11378	28.47255	26.82061	25.41167	9957.337	12462.55	16616.59	15675.64	98.58498305	262.055	225.0578	225.0932	0.0353401	15646.49	224.8802	-0.177578
250	26.97698	28.3195	26.66353	25.38433	9943.45	12471.15	16657.98	16287.4	99.57733399	264.515	249.9248	249.9474	0.0225251	16278.1	249.7715	-0.153337
275	26.69536	28.02907	26.3673	25.33396	9912.503	12514.91	16718.57	16874.6	102.7241977	268.6538	274.7378	274.7978	0.060055	16910.1	274.6776	-0.060227
300	26.9337	28.26899	26.58784	25.33854	9952.614	12634.68	16883.74	17544.21	105.8493717	273.5407	299.5028	299.5348	0.0319846	17539.65	299.4876	-0.015236
325	27.06983	28.39087	26.68828	25.32273	9985.268	12746.42	17065.9	18199.65	109.0383054	279.6155	324.1993	324.2502	0.0508663	18169.12	324.2941	0.094807
340	26.49698	27.78089	26.07903	25.24485	9917.009	12716.16	17056.16	18481.52	110.8799049	282.7963	338.9645	339.0739	0.1093529	18546.85	339.1799	0.215387

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.8956	28.24112	26.58074	25.36053	9944.88	10020.96	17553.04	18572.36	-1.4244E-05	-0.150999	0.043149	-0.215387	-0.3141128	6	-391.7286	0.039409

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Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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89GHz H Low Gain Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.96865	28.2783	26.69128	30.61399	12367.42	15336.11	20104.79	15517.77	96.9715043	252.7396	102.9233	102.9216	-0.0017325	15507.01	102.7214	-0.20186
125	26.84511	28.15149	26.57104	30.603	12344.51	15315.77	20186.87	16174.01	97.09038208	256.2611	125.1735	125.2015	0.0280163	16186.4	124.9218	-0.251717
150	26.83496	28.13873	26.56008	30.59733	12341.64	15314.36	20227.08	16935.59	97.15608629	257.7164	150.1401	150.2454	0.1053417	16950.72	149.8978	-0.242233
175	26.88066	28.18592	26.60608	30.59994	12348.4	15325.21	20262.98	17706.66	97.28152379	258.6471	175.1059	175.2246	0.1187108	17713.77	174.832	-0.273858
200	27.0356	28.33966	26.75313	30.61178	12370.43	15373.14	20345.48	18496.27	98.09003428	260.5222	200.0583	200.2254	0.1671473	18478.22	199.812	-0.246243
225	27.11378	28.41284	26.82061	30.61317	12382.77	15406.24	20405.11	19272.57	98.76358102	262.055	224.9503	225.1446	0.1943164	19240.86	224.7332	-0.217129
250	26.97698	28.26044	26.66353	30.58159	12366.67	15417.36	20455.96	20011.89	99.75593195	264.515	249.8173	250.0337	0.2163893	20003.34	249.6486	-0.168649
275	26.69536	27.97185	26.3673	30.53516	12333.77	15475.92	20537.16	20726.97	102.9027956	268.6538	274.6302	274.8508	0.2205104	20764.38	274.5175	-0.11278
300	26.9337	28.2136	26.58784	30.5418	12375.51	15613.79	20729.93	21529.99	106.0279697	273.5407	299.3953	299.6442	0.2489318	21525.43	299.3862	-0.009053
325	27.06983	28.33643	26.68828	30.52951	12405.9	15740.24	20942.42	22314.39	109.2169034	279.6155	324.0918	324.3793	0.287506	22285.44	324.2214	0.129631
340	26.49698	27.73082	26.07903	30.4433	12334.45	15715.44	20943.7	22668.54	111.0585029	282.7963	338.857	339.2193	0.3622902	22741.71	339.1308	0.273858

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.8956	28.18364	26.58074	30.58009	12370.85	12462.59	21544.88	22775.6	-1.81088E-05	-0.209256	0.239617	-0.273858	-0.3993397	6	-404.0041	0.032677

89GHz H Low Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.96865	28.2783	26.69128	26.52176	9742.416	12314.27	16445.52	12470.84	96.9715043	252.7396	102.9233	102.8903	-0.0329785	12462.21	102.7235	-0.199778
125	26.84511	28.15149	26.57104	26.51291	9723.854	12298	16518.08	13041.04	97.09038208	256.2611	125.1735	125.1794	0.0058516	13050.96	124.9254	-0.248129
150	26.83496	28.13873	26.56008	26.50738	9721.512	12296.87	16552.9	13701.37	97.15608629	257.7164	150.1401	150.2401	0.1000783	13713.48	149.909	-0.231035
175	26.88066	28.18592	26.60608	26.50903	9727.054	12305.89	16583.54	14369.15	97.28152379	258.6471	175.1059	175.2263	0.1204252	14374.6	174.84	-0.26583
200	27.0356	28.33966	26.75313	26.51786	9744.988	12346.13	16653.48	15052.08	98.09003428	260.5222	200.0583	200.2393	0.1810082	15037.06	199.8215	-0.236727
225	27.11378	28.41284	26.82061	26.51835	9756.004	12375.05	16705.27	15724.93	98.76358102	262.055	224.9503	225.1673	0.2170425	15697.85	224.7399	-0.210367
250	26.97698	28.26044	26.66353	26.4886	9742.318	12384.71	16748.95	16365.17	99.75593195	264.515	249.8173	250.0643	0.2469973	16358.44	249.6512	-0.166141
275	26.69536	27.97185	26.3673	26.44689	9716.082	12437.54	16821.14	16986.46	102.9027956	268.6538	274.6302	274.886	0.255778	17017.71	274.5124	-0.117848
300	26.9337	28.2136	26.58784	26.44831	9750.414	12554.67	16985.1	17678.98	106.0279697	273.5407	299.3953	299.6877	0.2924381	17677.06	299.3766	-0.018664
325	27.06983	28.33643	26.68828	26.43299	9776.049	12662.98	17167.12	18356.2	109.2169034	279.6155	324.0918	324.4323	0.3405027	18335.55	324.2083	0.116491
340	26.49698	27.73082	26.07903	26.35757	9719.46	12646.69	17173.28	18668.12	111.0585029	282.7963	338.857	339.2858	0.4287855	18731.05	339.1228	0.26583

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.8956	28.18364	26.58074	26.49954	9744.17	9823.668	17694.03	18760.24	-1.73174E-05	-0.209256	0.239617	-0.26583	-0.3818867	6	-367.2291	0.03771

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

166GHz V	Low Gain	Nominal Plateau														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.0378	11.37655	22.11891	25.38742	11819.36	14261.46	18234.02	14429.87	96.19346401	252.6708	102.8428	102.8423	-0.0004991	14473.01	102.6999	-0.142934
125	21.99247	10.1757	22.07207	25.40297	11662.88	14109.47	18170.63	14839.05	96.31140803	256.181	125.1085	125.0902	-0.0182674	15036.27	124.9195	-0.189041
150	22.00997	9.971644	22.08773	25.40435	11628.81	14077.13	18173.87	15438.62	96.37403377	257.6356	150.0963	150.0564	-0.0398259	15668.8	149.8722	-0.224113
175	22.07709	9.985167	22.15445	25.40163	11622.86	14074.02	18190.86	16066.73	96.49619235	258.5658	175.0932	175.0459	-0.0472586	16302.42	174.8674	-0.225735
200	22.29308	10.33294	22.36062	25.38794	11640.72	14110.83	18252.79	16717.36	97.29449136	260.4412	200.0893	200.0588	-0.03048	16937.12	199.9052	-0.18409
225	22.42165	10.73609	22.46605	25.37755	11677.45	14163.26	18325.65	17385.32	97.953267	261.9718	225.0377	224.9912	-0.0465236	17570.26	224.8816	-0.15608
250	22.361	11.33716	22.37581	25.37377	11754.15	14264.34	18463.84	18093.47	98.92857981	264.4341	249.974	249.8715	-0.1024873	18202.55	249.8246	-0.149414
275	22.24718	12.35936	22.22525	25.36078	11895.89	14483.87	18707.19	18865.06	102.0461782	268.5761	274.8682	274.7842	-0.0839914	18836.13	274.8184	-0.04983
300	22.68708	13.88613	22.62946	25.33755	12050.09	14713.76	18979.01	19643.18	105.1273403	273.4646	299.7217	299.598	-0.1237045	19467.66	299.7316	0.009859
325	23.06155	15.94675	22.93771	25.32297	12297.31	15039.36	19376.14	20516.67	108.2831359	279.5417	324.5275	324.43	-0.0975511	20100.12	324.6811	0.153517
340	22.60367	16.73222	22.42025	25.32764	12452.82	15241.24	19613.57	21050.83	110.0942432	282.7248	339.3743	339.2693	-0.104959	20478.31	339.6	0.225735
	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.34478	12.07634	22.34985	25.33366	11875.29	11951.29	19475.39	20494.06	-1.55249E-05	0.276232	-0.085468	-0.225735	-0.3423592	4	-468.2391	0.039449

166GHz H	Low Gain	Nominal Plateau														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.0378	10.96909	22.11891	26.98089	15414.43	18012.04	22231.71	18187.58	96.27580297	252.6708	102.8117	102.795	-0.0167751	18245.17	102.6789	-0.132833
125	21.99247	9.773625	22.07207	26.97824	15223.55	17824.09	22134.87	18595.14	96.39374698	256.181	125.0774	125.0239	-0.0534883	18843.01	124.9091	-0.168287
150	22.00997	9.570918	22.08773	26.97515	15184.99	17786.91	22134.75	19229.24	96.45637272	257.6356	150.0652	150.0012	-0.0639857	19515.17	149.903	-0.162141
175	22.07709	9.583349	22.15445	26.96933	15179.63	17784.28	22152.97	19894.99	96.5785313	258.5658	175.0621	174.9283	-0.1338029	20186.41	174.8628	-0.199259
200	22.29308	9.929557	22.36062	26.95681	15210.02	17834.98	22230.68	20596.45	97.37683032	260.4412	200.0582	199.8992	-0.1590214	20859.24	199.8815	-0.176791
225	22.42165	10.32603	22.46605	26.94416	15256.32	17897.81	22314.93	21312.32	98.03560596	261.9718	225.0066	224.8234	-0.1832808	21531.25	224.8696	-0.137019
250	22.361	10.91596	22.37581	26.93544	15349.17	18016.07	22471.81	22074.68	99.01091876	264.4341	249.9429	249.7195	-0.2234118	22202.9	249.8444	-0.098529
275	22.24718	11.93202	22.22525	26.9318	15512.48	18262.99	22745.72	22907.2	102.1285171	268.5761	274.8371	274.5584	-0.2787533	22873.36	274.7749	-0.062208
300	22.68708	13.44807	22.62946	26.91297	15715.07	18546.58	23074.82	23773.33	105.2096792	273.4646	299.6906	299.3523	-0.3382866	23543	299.675	-0.015583
325	23.06155	15.49282	22.93771	26.88905	16010.23	18924.07	23526.84	24730.83	108.3654748	279.5417	324.4965	324.1901	-0.3064163	24214.18	324.6323	0.135883
340	22.60367	16.26153	22.42025	26.89803	16174.77	19138.3	23779.51	25298.35	110.1765821	282.7248	339.3432	339.0204	-0.3227854	24615.16	339.5424	0.199259
	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.34478	11.65481	22.34985	26.87879	15488.87	15569.51	23552.51	24632.48	-1.32206E-05	0.222847	-0.255947	-0.199259	-0.2915434	4	-575.7547	0.037184

183GHz V_A	Low Gain	Nominal Plateau (Original As-measured Data, reference only)														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.14066	12.61576	22.23308	44.26506	9196.94	13453.77	20381.43	13746.19	96.16689841	252.6708	102.806	102.7926	-0.013486	13897.47	102.5791	-0.226922
125	22.02112	11.44099	22.11946	44.44548	9057.394	13336.83	20443.48	14614.12	96.28496789	256.181	125.0787	125.0983	0.0196849	14883.62	124.822	-0.256642
150	22.01151	11.24197	22.1095	44.4714	9036.643	13321.35	20494.06	15706.71	96.34756775	257.6356	150.0724	150.1003	0.0279612	15990.09	149.7785	-0.293863
175	22.05663	11.25739	22.15658	44.46186	9034.944	13324.17	20531.26	16815.74	96.46971289	258.5658	175.076	175.1298	0.0537494	17098.89	174.7878	-0.28827
200	22.18332	11.60119	22.27976	44.4387	9077.829	13400.29	20651.5	17965.36	97.26782816	260.4412	200.0766	200.1187	0.0421391	18207.02	199.782	-0.294613
225	22.2076	11.99211	22.29411	44.39838	9126.319	13474.09	20757.44	19115.96	97.92629827	261.9718	225.0238	225.0934	0.0695506	19315.64	224.787	-0.236859
250	21.94828	12.56356	22.01936	44.38271	9229.527	13619.04	20965.83	20324.35	98.90139129	264.4341	249.9602	250.0242	0.0639635	20423.42	249.7731	-0.187073
275	21.53942	13.54782	21.60012	44.37489	9404.522	13931.57	21322.56	21603.25	102.0182435	268.5761	274.8292	274.8799	0.0506845	21529	274.7097	-0.119496
300	21.67165	15.04534	21.72287	44.24386	9586.568	14236.52	21685.7	22853.26	105.098231	273.4646	299.6804	299.7518	0.0713532	22636.42	299.6878	0.007378
325	21.57753	17.04828	21.60103	44.08663	9892.89	14665.43	22216.94	24209.66	108.253598	279.5417	324.4818	324.5473	0.0655282	23741.53	324.6138	0.132003
340	20.78424	17.78141	20.7728	44.11878	10102	14957.9	22575.48	25090.24	110.0641365	282.7248	339.3262	339.4645	0.1382479	24406.88	339.6208	0.294613
	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83109	13.28507	21.90079	44.30022	9361.15	9494.051	22651.22	24435.18	-1.98738E-05	0.27535	0.072356	-0.294613	-0.4382625	5	-210.8808	0.022555

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183GHz V_A Low Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.14066	12.61576	22.23308	36.57964	2196.893	5714.644	11439.5	5958.054	96.16689841	252.6708	102.806	102.8454	0.0393584	6099.388	102.5289	-0.277114
125	22.02112	11.44099	22.11946	36.72388	2068.779	5604.736	11476.74	6661.407	96.28496789	256.181	125.0787	125.1502	0.0714903	6914.346	124.7648	-0.313821
150	22.01151	11.24197	22.1095	36.74374	2050.12	5590.29	11516.61	7561.844	96.34756775	257.6356	150.0724	150.1449	0.0725565	7828.707	149.7129	-0.35945
175	22.05663	11.25739	22.15658	36.73524	2048.843	5592.681	11547.32	8477.924	96.46971289	258.5658	175.076	175.1709	0.0948983	8745.343	174.7231	-0.352972
200	22.18332	11.60119	22.27976	36.72385	2089.567	5661.616	11653.97	9434.259	97.26782816	260.4412	200.0766	200.1489	0.072369	9661.345	199.7159	-0.360662
225	22.2076	11.99211	22.29411	36.69523	2134.049	5727.477	11747.16	10390.72	97.92629827	261.9718	225.0238	225.1209	0.0971014	10578.25	224.7334	-0.290411
250	21.94828	12.56356	22.01936	36.69249	2227.599	5856.537	11930.34	11400.33	98.90139129	264.4341	249.9602	250.0425	0.082338	11494.42	249.7308	-0.229426
275	21.53942	13.54782	21.60012	36.70758	2386.702	6131.545	12245.48	12478.16	102.0182435	268.5761	274.8292	274.8883	0.0590812	12408.92	274.6827	-0.146461
300	21.67165	15.04534	21.72287	36.62172	2555.74	6404.617	12570.48	13537.96	105.098231	273.4646	299.6804	299.7577	0.077277	13325.42	299.6892	0.008838
325	21.57753	17.04828	21.60103	36.51523	2836.179	6789.084	13043.71	14695.75	108.253598	279.5417	324.4818	324.546	0.0642096	14240.03	324.6439	0.162083
340	20.78424	17.78141	20.7728	36.55495	3025.48	7048.869	13360.47	15446.61	110.0641365	282.7248	339.3262	339.4744	0.1482223	14791.36	339.6869	0.360662

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83109	13.28507	21.90079	36.6146	2353.386	2463.23	13337.77	14814.47	-2.43286E-05	0.27535	0.072356	-0.360662	-0.5364999	5	-63.8911	0.027285

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183GHz V_B	Low Gain	Nominal Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.14066	12.61576	22.23308	43.39206	10725.45	14896.92	21689.36	15190.49	96.1343466	252.6708	102.9159	102.9198	0.0039319	15350.24	102.728	-0.187912
125	22.02112	11.44099	22.11946	43.47011	10573.56	14757.66	21709.77	16011.93	96.25241608	256.181	125.1885	125.18	-0.0084935	16314.38	124.9306	-0.257932
150	22.01151	11.24197	22.1095	43.48923	10549.8	14738.47	21754.17	17077.55	96.31501594	257.6356	150.1822	150.2136	0.0314021	17399.68	149.9231	-0.259078
175	22.05663	11.25739	22.15658	43.48957	10553.92	14747.93	21798.83	18167.73	96.43716108	258.5658	175.1859	175.2007	0.0148153	18484.02	174.8938	-0.292062
200	22.18332	11.60119	22.27976	43.48902	10615.03	14843.69	21941.36	19317.56	97.23527635	260.4412	200.1864	200.2301	0.0437002	19571.28	199.9318	-0.254633
225	22.2076	11.99211	22.29411	43.47274	10674.33	14930.04	22062.96	20459.51	97.89374646	261.9718	225.1337	225.1794	0.0457119	20656.13	224.9141	-0.219545
250	21.94828	12.56356	22.01936	43.45485	10770.91	15067.24	22261.85	21638.2	98.86883948	264.4341	250.0701	250.1248	0.0547692	21741.89	249.9175	-0.152598
275	21.53942	13.54782	21.60012	43.44119	10939.35	15369.73	22606.61	22885.45	101.9856917	268.5761	274.9391	274.9731	0.0340277	22824.5	274.8483	-0.090735
300	21.67165	15.04534	21.72287	43.392	11159.11	15718.12	23025.28	24172.89	105.0656792	273.4646	299.7903	299.8111	0.0208662	23907.74	299.7936	0.003312
325	21.57753	17.04828	21.60103	43.33287	11490.06	16179.59	23603.4	25566.57	108.2210462	279.5417	324.5917	324.6539	0.0622195	24992.24	324.768	0.176318
340	20.78424	17.78141	20.7728	43.3102	11636.91	16402.4	23881.78	26352.87	110.0315847	282.7248	339.4361	339.5239	0.08779	25641.88	339.7282	0.292062

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83109	13.28507	21.90079	43.39039	10901.29	11031.46	23918.41	25665.56	-1.95708E-05	0.27218	0.047928	-0.292062	-0.4315803	5	-250.7638	0.023028

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10GHz V Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.97295	9.08219	34.12362	13501.89	223.909	-0.147869	16784.39	22142.41	17010.67899	24431.97	29806.17	24661.25	96.194398	253.2124	102.8534	102.8314	-0.02204	17033.85	102.77	-0.08346	24701.01	326.8746	0.112217
125	20.89835	8.973842	34.14411	13501.67	223.9232	-0.139436	16794.33	22264.25	17771.78696	24446.57	29932.05	25428.7	96.433952	256.635	125.1316	125.0828	-0.04875	17794.28	124.9969	-0.13466	25463.42	349.1593	0.104495
150	20.90535	8.950821	34.13242	13502.81	223.9652	-0.149446	16798.1	22309.11	18625.61603	24449.28	29977.11	26282.87	96.544309	258.004	150.1241	150.119	-0.0051	18650.12	150.0123	-0.11184	26322.32	374.2641	0.174824
175	20.95837	8.989956	34.11234	13502.31	224.0152	-0.132477	16804.01	22336.41	19474.62745	24451.99	29999.35	27131.34	96.789136	258.9709	175.1155	175.1152	-0.00028	19504.84	174.995	-0.12052	27181.06	399.3644	0.233729
200	21.08192	9.116146	34.06791	13500.96	224.0378	-0.137991	16826.93	22386.55	20316.98471	24465.76	30041.04	27965.82	97.627496	260.8198	200.0927	200.1069	0.014217	20359.66	199.9807	-0.11196	28038.1	424.415	0.284506
225	21.06903	9.135702	34.06624	13502.72	224.0795	-0.130886	16850.78	22444.36	21169.72872	24490.45	30098.97	28822.3	98.280811	262.4779	225.0293	225.0886	0.059247	21214.37	224.9633	-0.06609	28897.05	449.5213	0.41242
250	20.70869	8.83159	34.17065	13511.89	224.1222	-0.140349	16904.9	22563.02	22055.09194	24569.55	30243.89	29733.81	99.296132	264.8803	249.9477	250.0285	0.080868	22067.91	249.9114	-0.03624	29753.52	474.5551	0.485216
275	20.25058	8.390384	34.29967	13526.74	224.1886	-0.126311	17040.09	22751.82	22955.08796	24735.61	30462.07	30665.2	102.43099	268.9552	274.8038	274.8757	0.071931	22918.55	274.7748	-0.02893	30606.96	499.5004	0.508058
300	20.42491	8.590651	34.23322	13529.22	224.3656	-0.10556	17124.71	22915.61	23790.26521	24810.82	30614.21	31491.99	105.02926	274.1894	299.6508	299.7112	0.060394	23769.06	299.6346	-0.01623	31464.36	524.5617	0.545245
325	20.15928	8.434928	34.29044	13542.22	224.4777	-0.12619	17271.53	23140.95	24673.38246	24974.61	30859.19	32392.98	108.75645	279.9243	324.4536	324.5595	0.105897	24620.27	324.5146	0.060989	32321.06	549.602	0.670655
340	19.19403	7.560981	34.57829	13564.06	224.3667	-0.136689	17383.21	23354	25304.45558	25147.21	31134.7	33087.12	110.44939	283.1239	339.3017	339.4576	0.155949	25130.78	339.4363	0.134664	32830.3	564.4867	0.818315

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.60213	8.732472	34.20467	13520.44	224.1319	-0.133927	13623.05	23781.84	25152.64118	21286.24	31470.91	32845.22	-5.662E-06	0.072556	0.073051	-0.134664	-0.12486	4	-395.115	0.029229

10GHz H Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.97295	9.034403	35.71455	12637.22	198.6383	-0.1255	16086.75	21680.59	16309.94419	23163.45	28769.99	23387.91	96.586088	253.2124	102.8684	102.8408	-0.02762	16338.03	102.782	-0.08644	23431.42	301.5105	0.003806
125	20.89835	8.927173	35.7301	12639.01	198.6176	-0.127657	16098.6	21808.6	17106.31588	23177.92	28901.11	24187.56	96.825642	256.635	125.122	125.0505	-0.07151	17132.33	125.0352	-0.08677	24225.69	323.7627	0.023172
150	20.90535	8.905647	35.7193	12641.02	198.6254	-0.154286	16103.51	21856.74	17996.29907	23181.38	28950.69	25079.18	96.935999	258.004	150.1055	149.9595	-0.146	18023.41	149.9997	-0.10585	25120.46	348.8304	0.099448
175	20.95837	8.943865	35.69959	12639.55	198.6169	-0.130172	16108.87	21884.71	18881.82813	23182.3	28971.74	25961.58	97.180826	258.9709	175.1015	174.893	-0.20855	18915.6	174.995	-0.10651	26013.38	373.8466	0.128168
200	21.08192	9.070469	35.65057	12638.09	198.7112	-0.104402	16132.53	21936.47	19759.80964	23199.39	29014.28	26835.71	98.019186	260.8198	200.0906	199.8	-0.2906	19807	199.9686	-0.12204	26910.65	398.9844	0.182615
225	21.06903	9.08829	35.64278	12640.29	198.757	-0.131712	16157.26	21995.74	20649.12831	23224.58	29076.98	27725.69	98.672501	262.4779	225.0412	224.7245	-0.31665	20699.26	224.9661	-0.07509	27805.09	424.0432	0.24498
250	20.70869	8.78265	35.7475	12648.94	198.7251	-0.141448	16212.53	22117.74	21570.68279	23299.68	29220.02	28670.73	99.687822	264.8803	249.9702	249.5899	-0.38024	21589.56	249.9088	-0.06139	28698.12	449.0621	0.366844
275	20.25058	8.340885	35.89885	12669.9	198.7617	-0.136767	16361.11	22325.08	22520.90816	23479.6	29458.33	29653.77	102.82268	268.9552	274.83	274.4049	-0.42509	22478.12	274.8028	-0.02714	29589.69	474.0404	0.448672
300	20.42491	8.539515	35.81819	12673.41	198.8757	-0.141692	16449.4	22494.38	23390.33465	23556.18	29616.68	30513.33	105.42095	274.1894	299.6725	299.1757	-0.49678	23365.22	299.6557	-0.01681	30482.94	499.0657	0.517476
325	20.15928	8.382299	35.89619	12686.14	198.933	-0.093923	16604.15	22734.36	24313.376	23728.15	29868.79	31454.97	109.14814	279.9243	324.4616	323.8587	-0.60291	24249.33	324.4249	-0.03671	31370.34	523.9272	0.532664
340	19.19403	7.505387	36.18734	12711.45	198.8971	-0.13016	16722.49	22956.95	24974.1624	23903.4	30152.56	32172.88	110.84108	283.1239	339.2961	338.7948	-0.50127	24784.49	339.4181	0.122044	31904.94	538.9046	0.711397

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.60213	8.683689	35.68571	12671.48	198.7417	-0.128883	12778.54	23377.2	24807.38333	19866.79	30489.63	31923.1	-5.721E-06	0.026067	-0.42622	-0.122044	-0.12617	4	-354.944	0.028016

18GHz V Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.22261	21.45407	44.40675	15368.12	238.7549	0.005596	19666.65	26616.89	19939.40448	30270.02	37219.41	30543.88	96.799092	253.3121	102.9479	102.941	-0.00693	19971.51	102.9417	-0.00623	30558.19	341.7163	0.013459
125	25.17012	21.37332	44.41294	15365.39	238.6851	0.004476	19675.21	26768.12	20926.62088	30276.98	37369.21	31527.97	97.039745	256.7435	125.2114	125.2156	0.004286	20959.03	125.2144	0.00303	31541.12	363.8855	-0.01099
150	25.18795	21.38636	44.40393	15369.73	238.7322	0.00238	19683.68	26830.93	22038.18304	30285.46	37432.34	32640.41	97.152444	258.1122	150.1892	150.1758	-0.01338	22065.59	150.172	-0.01714	32650.71	388.9116	-0.0097
175	25.25273	21.45047	44.39001	15376.37	238.8296	0.005092	19699.95	26876.91	23151.59039	30302.63	37478.8	33755.18	97.399943	259.0795	175.1599	175.1556	-0.00437	23173.01	175.1491	-0.01083	33762.82	413.9942	0.004652
200	25.42229	21.6145	44.36607	15389.11	239.0111	0.002919	19747.89	26965.39	24266.7179	30352.98	37570.02	34872.99	98.245827	260.9264	200.1064	200.0977	-0.00874	24278.75	200.0883	-0.01808	34876.96	439.1228	0.005318
225	25.46907	21.65636	44.34582	15399.21	239.1474	0.001981	19785.41	27043.67	25378.43687	30391.73	37649.68	35984.23	98.909164	262.5831	225.0055	225.031	0.025518	25384.1	225.0185	0.01304	35986.67	464.1515	-0.0014
250	25.2398	21.41064	44.34239	15397.61	239.0541	0.00516	19829.03	27147.58	26477.24739	30430.27	37748.01	37079.63	99.936586	264.983	249.8668	249.8652	-0.00159	26485.04	249.8494	-0.01739	37085.02	488.9239	0.003009
275	24.9727	21.13164	44.32063	15412.63	239.1266	0.001	19981.78	27337.23	27588.37233	30581.18	37936.46	38186.17	103.09328	269.0532	274.687	274.7199	0.032875	27586.88	274.7007	0.013723	38187.47	513.7891	-0.0245
300	25.32952	21.50262	44.25856	15453.3	239.5677	0.013784	20132.44	27592.66	28707.05215	30736.06	38194.04	39309.01	105.72287	274.2828	299.447	299.4631	0.016089	28683.78	299.4405	-0.00649	39303.41	538.9581	-0.05655
325	25.33199	21.48894	44.19984	15482.28	239.8854	0.015591	20320.99	27858.78	29810.27206	30924.53	38459.75	40410.99	109.47358	280.0123	324.1397	324.1661	0.026395	29778.9	324.1399	0.000198	40411.38	563.9476	-0.07748
340	24.61098	20.73062	44.20814	15473.44	239.5977	0.008638	20388.91	27993.55	30457.64359	30981.94	38585.15	41049.79	111.18924	283.2082	338.903	338.9496	0.04661	30434.26	338.9211	0.018081	41056.14	578.4897	-0.01103

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.20089	21.38178	44.33794	15407.15	239.1265	0.006056	15540.17	28708.54	30481.92004	26142.69	39309.63	41082.82	2.264E-07	-0.257222	0.018601	0.018081	0.004992	4	-347.501	0.022554

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

18GHz H Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.22261	22.72444	45.95353	15073.71	229.2609	0.069343	19516.64	26714.3	19807.75131	30042.71	37230.01	30333.26	96.683027	253.3121	103.0191	103.0148	-0.00431	19828.5	103.0441	0.025042	30333.22	332.2347	-0.04523
125	25.17012	22.63518	45.95764	15071.99	229.176	0.072703	19526.38	26871.32	20828.95833	30049.62	37383.49	31350.52	96.92368	256.7435	125.2723	125.2542	-0.01811	20848.85	125.3062	0.033884	31348.43	354.3845	-0.06378
150	25.18795	22.64371	45.94727	15075.34	229.2082	0.073305	19533.9	26934.89	21977.36124	30056.33	37446.08	32496.39	97.036378	258.1122	150.2438	150.1968	-0.04708	21993.05	150.27	0.026191	32492.35	379.3425	-0.10953
175	25.25273	22.70791	45.92752	15080.57	229.3151	0.084623	19548.58	26979.45	23126.28847	30071.08	37488.91	33643.92	97.283877	259.0795	175.2131	175.1608	-0.05233	23138.03	175.251	0.037872	33640.38	404.3899	-0.13831
200	25.42229	22.8812	45.88927	15089.66	229.4891	0.072534	19592.76	27063.38	24272.40301	30114.93	37574.3	34788.37	98.129762	260.9264	200.162	200.0856	-0.07643	24280.98	200.1878	0.025792	34790.29	429.4786	-0.17256
225	25.46907	22.94007	45.86547	15097.03	229.5966	0.075129	19628.22	27140.53	25416.25587	30149.85	37650.44	35929.59	98.793098	262.5831	225.0666	224.9729	-0.09367	25422.02	225.0829	0.016333	35934.04	454.4327	-0.2304
250	25.2398	22.73727	45.8611	15098.19	229.6271	0.06134	19676.07	27250.61	26556.84412	30198.63	37763.51	37070.85	99.82052	264.983	249.9355	249.8479	-0.08768	26562.28	249.9609	0.025323	37075.79	479.3434	-0.21927
275	24.9727	22.50407	45.85437	15108.31	229.6776	0.073358	19830.27	27445.58	27701.72782	30353.28	37956.99	38212.7	102.97722	269.0532	274.7644	274.6426	-0.12174	27698.61	274.7532	-0.01116	38210.34	504.0969	-0.34507
300	25.32952	22.90732	45.76112	15136.56	230.1172	0.073613	19969.25	27688.05	28837.44502	30491.14	38198.11	39344.59	105.60681	274.2828	299.5333	299.4165	-0.11676	28833.75	299.5195	-0.01375	39362.72	529.2393	-0.41123
325	25.33199	22.96438	45.6943	15160.67	230.4844	0.070119	20157.68	27955.63	29969.68004	30681.2	38467.75	40475.26	109.35752	280.0123	324.2351	324.1209	-0.11425	29965.49	324.2117	-0.02344	40507.92	554.2251	-0.49441
340	24.61098	22.28698	45.73507	15154	230.2648	0.070746	20233.94	28106.55	30650.95694	30756.9	38617.91	41157.61	111.07317	283.2082	339.0041	338.8848	-0.11938	30641.75	338.9663	-0.03787	41175.61	568.7926	-0.4763

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.20089	22.72114	45.84018	15103.03	229.6561	0.072437	15240.55	28855.08	30686.60465	25770.42	39363.86	41192.55	3.382E-06	-0.29082	-0.102304	0.037872	0.074574	4	-329.571	0.021818

23GHz V Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.79429	21.45407	29.11321	13980.59	197.797	0.038771	16800.73	21355.06	16976.05348	22563.09	27114.25	22738.66	96.868212	253.3032	102.8818	102.8886	0.006747	16985.36	102.8897	0.007833	22737.55	300.6783	-0.00055
125	24.73781	21.37332	29.12905	13981.2	197.7382	0.038129	16809.89	21459.63	17626.15314	22573.62	27220.18	23389.74	97.108859	256.7344	125.1258	125.1242	-0.0016	17631.71	125.1142	-0.01159	23381.79	322.8305	-0.0335
150	24.75447	21.38636	29.11222	13981.69	197.7795	0.030402	16812.02	21495.64	18352.47996	22573.68	27254.75	24113.06	97.221543	258.1031	150.0955	150.1252	0.029718	18358.37	150.1007	0.005169	24108.79	347.8286	-0.04643
175	24.81906	21.45047	29.08265	13979.45	197.8487	0.036643	16814.11	21513.91	19072.63731	22571.85	27268.57	24829.41	97.469024	259.0704	175.0686	175.1157	0.047064	19084.67	175.0743	0.005745	24837.13	372.8726	-0.04469
200	24.98308	21.6145	29.00513	13972.06	198.0035	0.036677	16823.69	21540	19775.66398	22570.57	27283.77	25521.37	98.314878	260.9174	200.0235	200.0773	0.053821	19810.08	200.0175	-0.00592	25566.83	397.9633	-0.06365
225	25.02689	21.65636	28.96498	13970.71	198.1406	0.026598	16837.61	21576.17	20489.35833	22580.57	27316.87	26229.14	98.97817	262.5743	224.9333	225.0439	0.110633	20535.57	224.9634	0.030117	26294.36	422.9794	-0.09445
250	24.78858	21.41064	29.04891	13985.63	198.0463	0.044041	16890.68	21682.85	21245.20828	22647.38	27435.75	26998.99	100.00555	264.9743	249.8042	249.9044	0.100273	21257.93	249.8019	-0.00226	27014.08	447.7268	-0.1237
275	24.50892	21.13164	29.13222	14013.97	198.0693	0.041137	17019.32	21851.84	22017.66766	22793.2	27622.16	27787.85	103.16218	269.0447	274.6299	274.7387	0.108792	21979.51	274.6132	-0.0168	27735.48	472.5323	-0.16696
300	24.85158	21.50262	28.95572	14003.04	198.4928	0.053222	17066.31	21944.85	22675.93825	22817.35	27691.22	28421.94	105.79165	274.2744	299.3904	299.5322	0.141835	22699.86	299.3824	-0.00799	28466.66	497.6738	-0.20944
325	24.83593	21.48894	28.92713	14015.57	198.7179	0.043437	17184.31	22115.28	23393.89427	22936.24	27863.36	29141.08	109.54223	280.0041	324.0778	324.2232	0.145367	23417.18	324.0477	-0.03012	29190.83	522.5743	-0.22149
340	24.09975	20.73062	29.19567	14065.92	198.397	0.050319	17314.16	22334.14	23962.55671	23110.05	28125.49	29753.34	111.25781	283.2002	338.8348	339.0002	0.165421	23846.45	338.8081	-0.02666	29610.31	536.998	-0.2338

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.74549	21.38178	29.08468	13991.93	198.0937	0.039943	14079.18	22717.33	23879.97581	19841.75	28473.44	29635.22	1.888E-06	-0.262492	0.115879	0.030117	0.04163	4	-481.151	0.034385

36GHz V Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.99287	18.93309	33.56158	12377.97	197.536	-0.502431	15626.85	20879.94	15834.29266	22273.71	27574.83	22483.33	96.803607	253.3245	103.0056	103.0049	-0.00071	15886.39	102.7961	-0.20947	22549.56	300.6087	0.067114
125	24.88921	18.82958	33.60051	12383.59	197.4841	-0.50546	15644.34	21010.7	16590.57216	22296.49	27712.2	23251.83	97.044566	256.755	125.2522	125.2866	0.034441	16633.84	124.9859	-0.26623	23302.28	322.9552	0.218882
150	24.89298	18.83414	33.59742	12384.25	197.5264	-0.49113	15648.51	21056.55	17428.94387	22301.04	27757.4	24098.03	97.157899	258.1238	150.2164	150.276	0.059548	17473	149.8985	-0.31791	24150.19	348.1273	0.38441
175	24.94198	18.88648	33.5748	12382.09	197.567	-0.489914	15652.48	21081.03	18261.67252	22301.73	27778.68	24936.54	97.40614	259.0913	175.1787	175.2614	0.082706	18312.96	174.8349	-0.34375	25000.63	373.3747	0.629082
200	25.05787	19.00519	33.52464	12375.59	197.6707	-0.480145	15669.51	21123.46	19084.80147	22312.02	27813.64	25758.36	98.25391	260.9386	200.1206	200.263	0.142365	19154.45	199.8166	-0.30406	25851.19	398.6258	0.834389
225	25.04193	18.98749	33.52296	12383.05	197.7561	-0.487069	15699.13	21186.05	19928.6629	22344.05	27879.65	26612.18	98.919785	262.596	225.0212	225.1912	0.169951	19994.36	224.7514	-0.26977	26701.8	423.8781	1.100835
250	24.69368	18.62132	33.62457	12411.78	197.7506	-0.490088	15772.56	21322.17	20820.27386	22437.17	28036.35	27530.52	99.950192	264.9965	249.8878	250.1189	0.23117	20835.2	249.7136	-0.17411	27549.85	449.0546	1.416236
275	24.26936	18.19903	33.7514	12449.57	197.8236	-0.481257	15929.75	21530.98	21731.11488	22621.7	28272.08	28473.57	103.11212	269.0677	274.7131	274.9751	0.261963	21674.66	274.6351	-0.078	28397.53	474.2202	1.683543
300	24.44944	18.4025	33.65869	12448.3	198.0565	-0.487029	16007.69	21680.82	22542.17839	22688.67	28412.26	29280.21	105.7495	274.2982	299.4847	299.7807	0.296046	22513.45	299.5367	0.052055	29251.55	499.5737	2.032475
325	24.1879	18.13665	33.70938	12482.3	198.27	-0.490123	16173.69	21921.9	23429.71034	22871.58	28671.33	30189.49	109.50641	280.0291	324.19	324.5486	0.358538	23351.92	324.4287	0.23867	30103.22	524.8577	2.397587
340	23.26624	17.18424	34.00367	12550.91	198.1139	-0.484599	16333.06	22181.63	24099.10958	23083.73	28984.1	30916.09	111.22764	283.2257	338.9614	339.3352	0.373738	23853.02	339.3052	0.343746	30604.06	539.7265	2.651186

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.60759	18.54725	33.65464	12434.56	197.7777	-0.489931	12535.52	22530.95	23887.11403	19177.22	29260.05	30628.25	-2.182E-05	-0.263119	0.258085	-0.343746	-0.48117	4	-368.83	0.029687

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
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36GHz H Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.99287	18.65674	33.03718	12541.6	212.6831	-0.459866	15739.19	20910.73	15943.61299	22779.64	27997.76	22986.38	96.787706	253.3245	102.9952	102.9945	-0.00073	15945.46	102.7937	-0.20155	22972.79	315.8264	0.148005
125	24.88921	18.553	33.04069	12538.67	212.6152	-0.465896	15744.56	21022.03	16674.85863	22783.02	28108.65	23721.25	97.028665	256.755	125.2348	125.2613	0.026544	16677.65	124.99	-0.24476	23708.52	338.13	0.280036
150	24.89298	18.55807	33.03394	12537.37	212.6564	-0.452535	15746.35	21064.21	17495.58888	22784.28	28149.27	24549.82	97.141998	258.1238	150.1941	150.2131	0.018966	17498.94	149.8872	-0.30698	24539.33	363.3159	0.465375
175	24.94198	18.60967	33.021	12536.81	212.717	-0.455927	15752.73	21092.26	18317.41998	22789.85	28177.08	25378.84	97.390239	259.0913	175.1546	175.1935	0.038958	18322.03	174.839	-0.31561	25372.56	388.5753	0.703716
200	25.05787	18.73014	32.98664	12533.85	212.8387	-0.451595	15774.4	21141.34	19132.33695	22807.98	28222.44	26196.34	98.238009	260.9386	200.0976	200.1632	0.065563	19145.64	199.8069	-0.29074	26206.49	413.8557	0.919341
225	25.04193	18.71254	32.97311	12539.94	212.9281	-0.463134	15801.11	21198.55	19958.86371	22834.78	28281.27	27031.84	98.903884	262.596	225.0019	225.0971	0.095188	19968.93	224.7646	-0.23734	27041.99	439.1839	1.253875
250	24.69368	18.35053	32.96967	12543.07	212.8552	-0.444731	15837.88	21279.92	20783.3281	22867.86	28357.36	27857.51	99.934291	264.9965	249.8746	249.9811	0.106519	20791.43	249.6987	-0.17589	27866.98	464.1932	1.463465
275	24.26936	17.9289	32.95067	12550.33	212.8737	-0.453902	15947.42	21416.29	21606.00665	22973.95	28491.52	28685.03	103.09622	269.0677	274.7075	274.8048	0.097279	21612.84	274.5998	-0.10778	28698.35	489.3962	1.814979
300	24.44944	18.13338	32.91787	12558.87	213.1514	-0.463673	16039.4	21588.19	22425.24682	23067.81	28667.18	29510.92	105.7336	274.2982	299.4879	299.625	0.137133	22435.02	299.524	0.036116	29535.4	514.7712	2.131856
325	24.1879	17.87491	32.89101	12572.94	213.3224	-0.457556	16174.2	21783.38	23249.30615	23202.1	28861.79	30337.97	109.49051	280.0291	324.2031	324.4001	0.196946	23256.56	324.4288	0.225647	30367.1	539.9843	2.458811
340	23.26624	16.92352	32.92933	12588.65	213.091	-0.46155	16250.78	21915.09	23766.28915	23279	28994.71	30860.57	111.21174	283.2257	338.9811	339.1779	0.196864	23747.01	339.2967	0.315614	30855.74	554.7974	2.725292

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.60759	18.27558	32.95961	12564.4	212.8847	-0.457306	12663.28	22452.29	23779.92767	19667.65	29543.97	30883.63	-2.067E-05	-0.245826	0.126459	-0.315614	-0.45591	4	-380.591	0.030315

89GHz V Nominal Gai Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.93791	28.30781	26.65522	41.55878	20992.37	25009.11	31519.97	25273.27	96.65213902	253.3184	103.0321	103.0261	-0.0060704	25269.91	102.8332	-0.198961
125	26.83966	28.20631	26.55852	41.54278	20959.65	24984.86	31625.68	26161.15	96.89309611	256.7481	125.2811	125.2772	-0.0038586	26190.75	125.0296	-0.251469
150	26.85411	28.21979	26.57378	41.54228	20961.92	24991.79	31684.69	27200.59	97.00625839	258.1168	150.2481	150.2825	0.034338	27226.46	149.995	-0.253104
175	26.91649	28.28388	26.63449	41.54397	20976.57	25016.9	31739.97	28251.86	97.25430367	259.0847	175.2143	175.2436	0.0292955	28261.29	174.9394	-0.274869
200	27.08795	28.45597	26.80059	41.55356	21013.45	25089.92	31856.12	29328.57	98.10154469	260.9323	200.1587	200.2209	0.0621483	29297.78	199.9235	-0.235284
225	27.14172	28.50576	26.8456	41.55023	21032.93	25136.71	31943.62	30382.51	98.76671202	262.5903	225.0598	225.1064	0.0466025	30331.41	224.8388	-0.221014
250	26.93079	28.27733	26.61344	41.49963	20992.72	25134.23	31989.77	31364.63	99.79638897	264.9914	249.9253	249.9697	0.0444315	31365.1	249.7555	-0.169741
275	26.6808	28.01836	26.34904	41.43518	20953.75	25219.79	32102.44	32339	102.956944	269.0634	274.736	274.7543	0.0182683	32396.49	274.6169	-0.119116
300	27.05935	28.40206	26.70606	41.45335	21049.01	25426.15	32419.45	33470.03	105.5919273	274.2949	299.5022	299.5477	0.0455013	33429.2	299.5101	0.007896
325	27.09325	28.41767	26.7042	41.41653	21077.29	25606.07	32675.03	34514.34	109.3470898	280.0269	324.1991	324.2602	0.0611575	34459.5	324.3451	0.146057
340	26.39591	27.68504	25.97572	41.29143	20942.78	25528.88	32637.51	34953.27	111.0667539	283.2242	338.9642	339.0707	0.1065571	35077.39	339.239	0.274869

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.90345	28.25272	26.58333	41.45486	21014.2	21138.56	33450.65	35119.26	-1.85062E-05	-0.170206	0.054099	-0.274869	-0.4081026	4	-506.2894	0.024105

89GHz V Nominal Gai Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.93791	28.30781	26.65522	36.29427	17195.88	20703.8	26389.89	20933.62	96.65213902	253.3184	103.0321	103.0015	-0.0305928	20930.39	102.832	-0.200174
125	26.83966	28.20631	26.55852	36.27903	17166.56	20681.75	26481.13	21708.28	96.89309611	256.7481	125.2811	125.2564	-0.0246592	21734.53	125.0284	-0.252667
150	26.85411	28.21979	26.57378	36.27829	17168.7	20687.92	26532.74	22616.48	97.00625839	258.1168	150.2481	150.271	0.0228701	22639.16	149.9987	-0.249447
175	26.91649	28.28388	26.63449	36.2792	17181.83	20710.14	26581.21	23534.9	97.25430367	259.0847	175.2143	175.2351	0.0208272	23542.79	174.9413	-0.272985
200	27.08795	28.45597	26.80059	36.28676	17214.41	20774.2	26682.8	24475.68	98.10154469	260.9323	200.1587	200.2207	0.0620003	24448.04	199.9288	-0.229991
225	27.14172	28.50576	26.8456	36.28267	17232.29	20815.81	26759.77	25396.66	98.76671202	262.5903	225.0598	225.1076	0.0477394	25350.53	224.8401	-0.219687
250	26.93079	28.27733	26.61344	36.23427	17196.74	20812.79	26798.51	26252.87	99.79638897	264.9914	249.9253	249.9739	0.0486588	26253.14	249.7546	-0.170716
275	26.6808	28.01836	26.34904	36.17175	17162.6	20886.74	26895.1	27101.72	102.956944	269.0634	274.736	274.7578	0.0217582	27153.6	274.6098	-0.126184
300	27.05935	28.40206	26.70606	36.18523	17247.37	21068.24	27172.8	28090.19	105.5919273	274.2949	299.5022	299.558	0.0557983	28055.49	299.5044	0.002207
325	27.09325	28.41767	26.7042	36.14738	17273.44	21226.05	27395.68	29001.44	109.3470898	280.0269	324.1991	324.2755	0.0764474	28955.2	324.3388	0.13973
340	26.39591	27.68504	25.97572	36.02948	17154.79	21156.46	27359.21	29380.58	111.0667539	283.2242	338.9642	339.0941	0.1299241	29494.94	339.2371	0.272985

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.90345	28.25272	26.58333	36.20171	17213.8	17322.4	28074.31	29531.33	-1.82177E-05	-0.170206	0.054099	-0.272985	-0.4017405	4	-474.9043	0.027603

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Agile Revision: H (C484272)
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89GHz H Nominal Gai Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.93791	28.23234	26.65522	43.85997	19992.6	24234.87	31103.14	24505.74	96.72309244	253.3184	102.9246	102.9176	-0.007012	24500.24	102.7087	-0.215935
125	26.83966	28.13082	26.55852	43.84454	19964.98	24216.32	31221.98	25451.75	96.96404953	256.7481	125.1735	125.2164	0.0428416	25474	124.9251	-0.248382
150	26.85411	28.14474	26.57378	43.84099	19965.36	24221.32	31281.46	26546.32	97.07721181	258.1168	150.1406	150.2254	0.0848653	26567.14	149.8656	-0.274955
175	26.91649	28.20915	26.63449	43.84527	19979.84	24247.09	31339.48	27656.5	97.32525709	259.0847	175.1068	175.2173	0.1105286	27660.65	174.8144	-0.292424
200	27.08795	28.37959	26.80059	43.86223	20015.24	24321.3	31460.31	28791.3	98.17249811	260.9323	200.0512	200.2077	0.156456	28755.26	199.7881	-0.263074
225	27.14172	28.43129	26.8456	43.85455	20028.4	24362.88	31544.18	29896.92	98.83766544	262.5903	224.9523	225.1244	0.1721045	29847.75	224.7138	-0.238455
250	26.93079	28.20409	26.61344	43.80418	19992.59	24367.19	31600.32	30942.6	99.86734239	264.9914	249.8178	250.0219	0.2041414	30940.58	249.6471	-0.170653
275	26.6808	27.94735	26.34904	43.73175	19952.14	24457.73	31718.76	31971.33	103.0278974	269.0634	274.6285	274.819	0.190561	32030.22	274.5076	-0.120891
300	27.05935	28.32933	26.70606	43.7567	20040.63	24664.09	32042.88	33156.38	105.6628808	274.2949	299.3946	299.6429	0.2482502	33122.21	299.4215	0.026881
325	27.09325	28.34784	26.7042	43.72127	20064.44	24848.34	32307.57	34254.78	109.4180432	280.0269	324.0915	324.3701	0.278626	34211.09	324.2647	0.17314
340	26.39591	27.61878	25.97572	43.5817	19936.48	24780.05	32279.87	34729.56	111.1377073	283.2242	338.8566	339.1741	0.3175132	34863.47	339.149	0.292424

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.90345	28.17957	26.58333	43.79453	20010.83	20142.22	33149.19	34912.99	-2.02004E-05	-0.120819	0.221951	-0.292424	-0.4454648	4	-456.2724	0.022815

89GHz H Nominal Gai Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.93791	28.23234	26.65522	37.99672	16343.21	20018.37	25968.48	20252.29	96.72309244	253.3184	102.9246	102.8986	-0.0259876	20247.65	102.701	-0.223606
125	26.83966	28.13082	26.55852	37.98364	16320.29	20003.34	26072.52	21073.24	96.96404953	256.7481	125.1735	125.2077	0.0341469	21091.38	124.9196	-0.25396
150	26.85411	28.14474	26.57378	37.97961	16320.38	20007.34	26123.56	22021.44	97.07721181	258.1168	150.1406	150.2261	0.0855258	22038.49	149.8607	-0.279886
175	26.91649	28.20915	26.63449	37.9821	16332.57	20029.19	26173.15	22982.88	97.32525709	259.0847	175.1068	175.2247	0.1179661	22985.83	174.808	-0.298749
200	27.08795	28.37959	26.80059	37.99504	16362.39	20092.46	26276.53	23965.1	98.17249811	260.9323	200.0512	200.2249	0.1736583	23934.27	199.7842	-0.267026
225	27.14172	28.43129	26.8456	37.98646	16374	20128.49	26348.88	24922.83	98.83766544	262.5903	224.9523	225.1467	0.194405	24880.72	224.7081	-0.244211
250	26.93079	28.20409	26.61344	37.94048	16343.9	20132.91	26397.8	25829.23	99.86734239	264.9914	249.8178	250.0517	0.2339803	25827.59	249.6428	-0.175003
275	26.6808	27.94735	26.34904	37.87398	16311.08	20213.16	26501.58	26721.49	103.0278974	269.0634	274.6285	274.8491	0.2206337	26771.45	274.4984	-0.13005
300	27.05935	28.32933	26.70606	37.8883	16384.44	20387.82	26777	27742.81	105.6628808	274.2949	299.3946	299.6841	0.2894644	27717.79	299.4193	0.02471
325	27.09325	28.34784	26.7042	37.85177	16405.75	20547.42	27005.27	28693.02	109.4180432	280.0269	324.0915	324.4182	0.3266664	28661.31	324.2658	0.174329
340	26.39591	27.61878	25.97572	37.7305	16301.68	20494.96	26987.87	29110.92	111.1377073	283.2242	338.8566	339.2292	0.3725446	29226.72	339.1554	0.298749

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.90345	28.17957	26.58333	37.94235	16358.51	16472.34	27741.22	29269.51	-2.05512E-05	-0.120819	0.221951	-0.298749	-0.4532007	4	-430.4999	0.026334

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166GHz V Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.01909	11.01518	22.09735	34.87664	23608.31	26959.25	32440.63	27194.92	96.07974002	253.2445	102.8433	102.8475	0.0041915	27325.9	102.7542	-0.089102
125	21.99138	10.07746	22.06926	34.8934	23439.6	26800.49	32395.61	27802.47	96.31881969	256.6677	125.1084	125.0735	-0.0348638	28099.21	124.9646	-0.143847
150	22.03332	9.956976	22.10988	34.88574	23406.48	26770.46	32408.28	28639.63	96.42846166	258.0367	150.0961	150.0683	-0.0278243	28969.28	149.954	-0.142066
175	22.12443	10.03724	22.1993	34.87715	23406.66	26778.32	32439.96	29510.31	96.67240266	259.0034	175.0928	175.0725	-0.0203259	29840.13	174.9658	-0.127007
200	22.35789	10.44725	22.41946	34.86295	23437.03	26836.48	32531.1	30408.69	97.50897215	260.8521	200.0852	200.0379	-0.0473021	30710.06	199.9512	-0.133988
225	22.46895	10.89037	22.51095	34.84933	23498.45	26919.25	32646.74	31337.58	98.15984015	262.5099	225.0377	224.9928	-0.0448991	31580.08	224.939	-0.098719
250	22.33066	11.45844	22.34259	34.84851	23608.05	27064.06	32839.84	32314.63	99.17232991	264.9119	249.9739	249.8643	-0.1095447	32447.61	249.8556	-0.118302
275	22.24815	12.4889	22.22341	34.83249	23795.89	27359.35	33165.35	33367.83	102.3027613	268.9863	274.8658	274.7886	-0.0771836	33317.41	274.837	-0.028798
300	22.83086	14.2722	22.76876	34.79315	24040.7	27690.29	33581.67	34467.11	104.8941402	274.2199	299.7203	299.6173	-0.1030261	34184.28	299.7346	0.014286
325	23.09592	16.13561	22.96967	34.76983	24355.46	28131.98	34089.43	35639.67	108.6147776	279.9542	324.5268	324.4404	-0.0864093	35051.38	324.6388	0.111977
340	22.52179	16.8311	22.33911	34.7829	24570.15	28406.81	34419.05	36375.39	110.302831	283.1534	339.3735	339.2643	-0.1091459	35569.42	339.5173	0.143847

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.36568	12.14643	22.36816	34.80312	23753.46	23857.87	34194.4	35591.4	-1.03587E-05	0.230716	-0.080882	-0.143847	-0.2284321	2	-682.0757	0.028721

166GHz H Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.01909	10.61239	22.09735	37.01295	27040.18	30598.06	36413.51	30845.4	96.12536786	253.2445	102.8122	102.8158	0.0035129	31016.41	102.7495	-0.062716
125	21.99138	9.674722	22.06926	37.00922	26838.64	30405.02	36337.71	31464.84	96.36444753	256.6677	125.0773	125.0311	-0.0462411	31836.46	124.9708	-0.106537
150	22.03332	9.554016	22.10988	37.00873	26803.14	30373.52	36352.74	32352.17	96.4740895	258.0367	150.065	149.9842	-0.0807903	32757.91	149.9398	-0.125232
175	22.12443	9.634562	22.1993	36.9948	26803.02	30381.08	36384.8	33274.17	96.7180305	259.0034	175.0617	174.9726	-0.0890996	33681.01	174.9538	-0.107996
200	22.35789	10.04397	22.41946	36.97531	26856.4	30463.51	36501.49	34247.54	97.55459999	260.8521	200.0541	199.9431	-0.1109952	34603.78	199.9584	-0.095666
225	22.46895	10.48182	22.51095	36.9555	26926.61	30555.84	36627.79	35235.56	98.20546799	262.5099	225.0067	224.8745	-0.1321937	35525.45	224.9337	-0.072985
250	22.33066	11.03793	22.34259	36.94867	27060.58	30726.55	36848.72	36289.1	99.21795775	264.9119	249.9428	249.7841	-0.1586964	36446.65	249.8958	-0.047032
275	22.24815	12.06097	22.22341	36.93711	27283.92	31064.38	37219.5	37427.7	102.3483892	268.9863	274.8347	274.6151	-0.219585	37365.21	274.7865	-0.048176
300	22.83086	13.83364	22.76876	36.89602	27598.06	31469.92	37715.68	38647.73	104.9397681	274.2199	299.6892	299.4426	-0.2466137	38283.93	299.6816	-0.007594
325	23.09592	15.68201	22.96967	36.8673	27976.08	31982.1	38297.24	39933.34	108.6604054	279.9542	324.4957	324.2569	-0.2388439	39202.47	324.572	0.076258
340	22.52179	16.36261	22.33911	36.88239	28199.44	32269.36	38642.82	40710.09	110.3484589	283.1534	339.3424	339.1024	-0.2400126	39752.17	339.4676	0.125232

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.36568	11.72533	22.36816	36.89195	27228.78	27339.46	38296.37	39775.98	-7.89995E-06	0.214042	-0.192382	-0.125232	-0.1742116	2	-737.7206	0.027098

183GHz V_A Nominal Gai Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.10686	12.26287	22.20516	52.51769	16400.48	21444.28	29700.3	21798.71	96.04013938	253.2445	102.8066	102.8082	0.0015561	22033.01	102.6215	-0.185096
125	22.01139	11.34452	22.10826	52.6981	16265.51	21339.25	29791.41	22853.62	96.27928751	256.6677	125.0785	125.0881	0.0095759	23200.69	124.8409	-0.237579
150	22.02588	11.22716	22.12582	52.70323	16249.63	21329.63	29848.99	24154.28	96.3888765	258.0367	150.0723	150.0946	0.0223429	24512.52	149.8034	-0.268829
175	22.08511	11.3089	22.18389	52.69501	16262.53	21354.59	29910.72	25483.3	96.63279031	259.0034	175.0753	175.1092	0.0338598	25826.05	174.798	-0.277286
200	22.22396	11.71283	22.31999	52.66389	16323.96	21457.07	30061.45	26857.52	97.46914069	260.8521	200.0708	200.1337	0.0629208	27141.38	199.8272	-0.243601
225	22.22097	12.14395	22.30894	52.61536	16383.96	21546.57	30196.01	28222.12	98.1197202	262.5099	225.0242	225.085	0.0607729	28454.12	224.807	-0.217253
250	21.89035	12.68151	21.96313	52.62009	16517.25	21733.59	30456.94	29672.2	99.1319941	264.9119	249.9599	250.0415	0.0815943	29768.4	249.816	-0.143908
275	21.51599	13.67348	21.57853	52.59791	16717.19	22095.94	30865.31	31176.47	102.2616309	268.9863	274.8269	274.8827	0.055869	31077.91	274.7343	-0.092609
300	21.77248	15.42514	21.8221	52.40446	16965.89	22460.59	31336.23	32677.99	104.8518387	274.2199	299.6789	299.7287	0.0498029	32388.96	299.6818	0.002878
325	21.58508	17.23186	21.60952	52.22986	17299.29	22969.99	31921.26	34262.01	108.571999	279.9542	324.481	324.5858	0.1047998	33701.79	324.6633	0.182254
340	20.67794	17.87838	20.66867	52.31564	17552.88	23321.17	32366.23	35323.78	110.2594151	283.1534	339.3254	339.4391	0.1136842	34486.89	339.6027	0.277286

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.82873	13.35369	21.89946	52.51183	16654.2	16811.74	32407.75	34521.82	-1.90618E-05	0.24293	0.073483	-0.277286	-0.4203556	4	-316.6384	0.019029

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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183GHz V_A Nominal Gai Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.10686	12.26287	22.20516	43.45631	8192.778	12366.33	19197.85	12661.57	96.04013938	253.2445	102.8066	102.857	0.050421	12870.51	102.5908	-0.215795
125	22.01139	11.34452	22.10826	43.61105	8075.303	12274.14	19268.85	13528.72	96.27928751	256.6677	125.0785	125.1311	0.052623	13836.61	124.8006	-0.277921
150	22.02588	11.22716	22.12582	43.61336	8062.18	12266.02	19316.03	14604.31	96.3888765	258.0367	150.0723	150.1322	0.0599193	14922.21	149.7574	-0.314892
175	22.08511	11.3089	22.18389	43.60837	8074.505	12288.5	19369.22	15705.72	96.63279031	259.0034	175.0753	175.1413	0.066009	16009.39	174.7503	-0.325031
200	22.22396	11.71283	22.31999	43.59028	8130.123	12378.83	19500.74	16849.28	97.46914069	260.8521	200.0708	200.1647	0.0938454	17098.41	199.7859	-0.284945
225	22.22097	12.14395	22.30894	43.55247	8181.039	12454.39	19613.99	17980.44	98.1197202	262.5099	225.0242	225.1084	0.0842325	18185.2	224.7698	-0.254358
250	21.89035	12.68151	21.96313	43.56368	8296.748	12615.3	19837.28	19188.21	99.1319941	264.9119	249.9599	250.0627	0.1027989	19273.65	249.7922	-0.167722
275	21.51599	13.67348	21.57853	43.55843	8468.781	12923.14	20185.4	20443.67	102.2616309	268.9863	274.8269	274.8926	0.0657277	20357.91	274.7182	-0.108628
300	21.77248	15.42514	21.8221	43.41402	8685.856	13237.9	20590.84	21703.25	104.8518387	274.2199	299.6789	299.7316	0.0526339	21443.8	299.6817	0.002817
325	21.58508	17.23186	21.60952	43.28247	8980.007	13679.27	21097.12	23038.61	108.571999	279.9542	324.481	324.594	0.1129249	22531.88	324.6954	0.214384
340	20.67794	17.87838	20.66867	43.36597	9203.299	13984.81	21482.52	23936.22	110.2594151	283.1534	339.3254	339.4447	0.119271	23182.41	339.6504	0.325031

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.82873	13.35369	21.89946	43.46004	8421.674	8552.054	21459.69	23211.28	-2.2331E-05	0.24293	0.073483	-0.325031	-0.4924479	4	-193.2884	0.022989

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
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183GHz V_B Nominal Gai Nominal Plateau

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.10686	12.26287	22.20516	50.39163	16393.76	21232.09	29155.17	21578.54	96.01447421	253.2445	102.9165	102.911	-0.0054707	21833.83	102.7076	-0.208823
125	22.01139	11.34452	22.10826	50.47373	16258.62	21116.9	29213.6	22573.53	96.25362233	256.6677	125.1884	125.191	0.002653	22953.98	124.931	-0.257324
150	22.02588	11.22716	22.12582	50.48684	16239.77	21104.85	29267.23	23816.63	96.36321133	258.0367	150.1821	150.1951	0.0129997	24212.33	149.8964	-0.285712
175	22.08511	11.3089	22.18389	50.48975	16261.72	21139.39	29338.73	25100.58	96.60712514	259.0034	175.1852	175.1982	0.013015	25471.94	174.8866	-0.298632
200	22.22396	11.71283	22.31999	50.49836	16343.91	21264.64	29516.51	26446.88	97.44347552	260.8521	200.1807	200.1937	0.0130344	26732.46	199.895	-0.285651
225	22.22097	12.14395	22.30894	50.4688	16420.62	21371.31	29669.18	27779.14	98.09405503	262.5099	225.1341	225.1581	0.0240583	27992.73	224.8985	-0.235606
250	21.89035	12.68151	21.96313	50.45283	16530.8	21531	29896.36	29147.67	99.10632893	264.9119	250.0698	250.1187	0.0488822	29254.11	249.9238	-0.145951
275	21.51599	13.67348	21.57853	50.42556	16718.05	21873.36	30281.83	30582.67	102.2359658	268.9863	274.9367	274.931	-0.0057408	30509.31	274.8265	-0.110243
300	21.77248	15.42514	21.8221	50.37129	17030.91	22311.14	30843.72	32136.14	104.8261735	274.2199	299.7888	299.7748	-0.0139735	31767.39	299.7865	-0.002275
325	21.58508	17.23186	21.60952	50.2873	17373.66	22832.16	31451.8	33708.55	108.5463339	279.9542	324.5909	324.6314	0.0405113	33027.39	324.7846	0.193658
340	20.67794	17.87838	20.66867	50.27729	17527.85	23070.1	31764.03	34609.63	110.2337499	283.1534	339.4353	339.484	0.0487568	33780.9	339.7339	0.298632

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.82873	13.35369	21.89946	50.36217	16671.44	16822.53	31780.09	33808.66	-2.05859E-05	0.232873	0.021993	-0.298632	-0.453966	4	-330.4693	0.01984

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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10GHz V	High Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.9871	9.081303	48.05041	15469.59	223.9417	-0.117527	20098.99	27613.54	20410.81209	30865.89	38398.46	31179.77	96.34458	252.7335	102.8447	102.8392	-0.00554	20442.51	102.7937	-0.05108	31234.11	326.8652	0.078832
125	20.91688	8.989506	48.08168	15470.02	223.9375	-0.124354	20109.43	27790.91	21483.37654	30883.11	38584.07	32261.35	96.490249	256.2491	125.1041	125.085	-0.0191	21513.01	125.021	-0.08305	32306.88	349.1397	0.098134
150	20.90625	8.948384	48.07829	15469.52	223.9443	-0.120011	20112.19	27859.18	22683.70308	30885.2	38651.16	33465.13	96.564777	257.6978	150.0888	150.0807	-0.00802	22716.15	150.0023	-0.08646	33514.33	374.2107	0.177631
175	20.94867	8.973228	48.05552	15469.04	223.9998	-0.106057	20116.66	27897.75	23880.61137	30886.76	38684.68	34660.58	96.713701	258.6324	175.0833	175.0727	-0.01057	23919.42	174.9864	-0.09688	34721.32	399.2719	0.188876
200	21.0634	9.087365	47.98662	15469.4	224.0372	-0.145048	20149.39	27970.29	25068.89089	30906.94	38751.01	35839.69	97.526956	260.5078	200.0741	200.0774	0.003257	25123.62	199.99	-0.08412	35931.97	424.4093	0.297928
225	21.07423	9.127565	47.97657	15469.85	224.0725	-0.132398	20180.32	28043.08	26265.03048	30936.86	38820.87	37038.45	98.182676	262.0702	225.0157	225.0339	0.018239	26325.81	224.9517	-0.06392	37139.17	449.4751	0.386995
250	20.77581	8.892745	48.09586	15481.38	224.1461	-0.11047	20251.11	28203.56	27504.05851	31037.2	39007.57	38306.97	99.171301	264.517	249.9439	249.9846	0.040693	27528.04	249.9141	-0.02975	38344.37	474.4994	0.409418
275	20.28973	8.426887	48.28153	15503.22	224.2004	-0.109428	20442.3	28473.52	28773.36246	31272.55	39321.72	39622.18	102.29758	268.6391	274.8063	274.8437	0.037406	28726.19	274.792	-0.01433	39547.24	499.475	0.468351
300	20.40558	8.550606	48.20761	15510.76	224.3515	-0.119599	20580.6	28717.21	29959.6987	31401.68	39558.18	40801.15	105.16674	273.9495	299.6527	299.6971	0.044413	29924.4	299.6711	0.018445	40755.14	524.5554	0.551325
325	20.1727	8.437624	48.27656	15527.01	224.4899	-0.117919	20768.1	29025.49	31195.92083	31611.14	39888.45	42060.79	108.5638	279.6073	324.4492	324.5151	0.06596	31121.24	324.5216	0.07238	41960.45	549.5819	0.64282
340	19.31076	7.683831	48.62836	15553.24	224.3191	-0.130955	20919.7	29304.8	32058.92377	31833.68	40241.23	42998.17	110.35661	282.7889	339.2902	339.3576	0.067395	31837.18	339.3871	0.096879	42672.2	564.3603	0.7509

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.62283	8.745368	48.15135	15495.65	224.1309	-0.121251	15640.11	29941.06	31870.49502	26428.22	40762.62	42696.58	-5.198E-06	0.046875	0.036841	-0.096879	-0.11464	2	-321.665	0.020764

10GHz H	High Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	20.9871	9.032893	50.01962	14628.86	198.5793	-0.132474	19463.51	27270.5	19772.5929	29378.8	37204.48	29689.12	96.655127	252.7335	102.8647	102.8399	-0.02485	19807.03	102.7933	-0.07141	29744.17	301.4555	0.01153
125	20.91688	8.943097	50.03585	14629.05	198.5594	-0.127167	19472.57	27450.7	20885.52248	29390.2	37386.68	30807.49	96.800796	256.2491	125.1116	125.0622	-0.04941	20919.99	125.0436	-0.06804	30859.14	323.746	0.074926
150	20.90625	8.902652	50.04588	14629.11	198.5352	-0.133913	19477.32	27525.82	22133.28065	29395.94	37463.93	32059.48	96.875324	257.6978	150.0955	149.9806	-0.11487	22168.33	150.0001	-0.09539	32109.64	348.7458	0.115093
175	20.94867	8.927649	50.01028	14629.93	198.6116	-0.114421	19482.14	27564.2	23376.32969	29397.24	37496.03	33301.61	97.024248	258.6324	175.0974	174.9317	-0.16564	23418.66	174.9966	-0.10076	33366.09	373.8647	0.155699
200	21.0634	9.040168	49.93983	14629.99	198.66	-0.137385	19515.98	27639.71	24609.91546	29419.98	37563.9	34527.41	97.837503	260.5078	200.0978	199.8765	-0.22127	24668.95	199.9924	-0.10542	34622.6	398.9846	0.226774
225	21.07423	9.079909	49.91319	14630.33	198.7193	-0.141098	19546.44	27711.09	25848.29031	29448.22	37633.72	35768.48	98.493224	262.0702	225.0465	224.778	-0.26854	25917.44	224.952	-0.09451	35879.11	424.1046	0.338827
250	20.77581	8.843813	50.03023	14641.87	198.751	-0.134397	19618.97	27875.72	27133.11943	29545.52	37822.36	37079.08	99.481848	264.517	249.9751	249.6876	-0.28745	27166.59	249.9249	-0.05017	37130.87	449.1297	0.403613
275	20.28973	8.376381	50.26302	14668.31	198.7267	-0.13672	19825.7	28170.92	28465.26555	29797.31	38163.19	38457.68	102.60813	268.6391	274.8287	274.4891	-0.33964	28410.5	274.793	-0.03568	38375.4	474.0101	0.454784
300	20.40558	8.501848	50.18766	14673.77	198.8256	-0.141547	19967.43	28422.65	29696.97937	29929.24	38406.15	39681.51	105.47729	273.9495	299.6566	299.3108	-0.34575	29655.67	299.6863	0.029777	39627.83	499.0487	0.566509
325	20.1727	8.385467	50.27087	14691.77	198.9581	-0.095726	20164.98	28747.88	30984.0233	30149.49	38747.26	40993.46	108.87435	279.6073	324.4239	324.0312	-0.39273	30896.05	324.4838	0.059876	40876.89	524.0198	0.63773
340	19.31076	7.62918	50.64528	14718.27	198.8221	-0.125465	20323.04	29040.2	31883.04803	30375.48	39112.45	41962.04	110.66716	282.7889	339.2413	338.8437	-0.39768	31639.5	339.3468	0.105421	41615.8	538.792	0.728603

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	20.62283	8.696642	50.0081	14669.54	198.7044	-0.129119	14819.56	29671.97	31676.3944	24750.46	39638.84	41648.14	-6.073E-06	0.081529	-0.316375	-0.105421	-0.13392	2	-293.187	0.019992

18GHz V	High Gain	Nominal Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.23782	21.4686	67.421	20110.73	238.7255	-0.002919	26643.98	37156.72	27052.57668	42740.03	53253.43	43148.74	96.902322	252.8291	102.9482	102.963	0.014856	27092.75	102.9639	0.015689	43162.21	341.6943	0.020683
125	25.18225	21.37918	67.43947	20104.75	238.6267	0.002018	26649.65	37393.34	28548.08959	42743.14	53486.36	44641.97	97.048549	256.3571	125.2149	125.2003	-0.01466	28589.44	125.199	-0.01594	44652.26	363.8309	-0.01076
150	25.18222	21.37221	67.41813	20109.47	238.6772	-0.013098	26657.47	37490.33	30235.50646	42750.13	53586.06	46328.93	97.125218	257.807	150.1938	150.1998	0.006088	30272.09	150.1968	0.003022	46339.56	388.8976	0.026604
175	25.2327	21.42388	67.40561	20117.88	238.7439	-0.011875	26674.85	37558.47	31924.78654	42768.93	53655.35	48019.18	97.276358	258.7409	175.1644	175.1647	0.000278	31952.45	175.1603	-0.0041	48023.88	413.9201	0.011829
200	25.38934	21.57751	67.36504	20135.85	238.9441	-0.004761	26744.13	37692.16	33617.30461	42841.61	53790.76	49715.59	98.096685	260.6146	200.1163	200.1279	0.011641	33632.72	200.1228	0.006539	49717.74	439.0844	0.024044
225	25.45567	21.63436	67.3318	20148.92	239.0696	-0.009272	26798.79	37801.73	35300.66527	42897.01	53902.17	51400.45	98.762643	262.1765	225.0071	225.033	0.025825	35309.12	225.0276	0.020494	51403.6	464.1298	0.05299
250	25.28627	21.44555	67.32262	20151.22	239.0493	-0.002819	26867.55	37966.16	36974.25564	42961.85	54061.14	53069.59	99.763387	264.6205	249.8672	249.8878	0.020609	36982.17	249.8828	0.015595	53074.43	488.9519	0.03543
275	24.99367	21.14347	67.2874	20168.83	239.1025	0.000523	27093.44	38251.47	38652.85728	43182.71	54340.61	54743.66	102.91104	268.7374	274.6878	274.7023	0.014465	38652.55	274.6982	0.010363	54748.74	513.8258	0.035537
300	25.2973	21.46811	67.19766	20220.96	239.5296	0.006868	27331.33	38636.11	40341.93821	43427.51	54730.6	56441.48	105.81286	274.0445	299.4457	299.4278	-0.01792	40316.98	299.4252	-0.02049	56443.48	539.0031	0.027825
325	25.32594	21.46988	67.10607	20266.03	239.8283	-0.00748	27596.12	39035.27	42017.61744	43691.14	55132.14	58117.29	109.23146	279.6951	324.1373	324.1335	-0.00377	41980.11	324.133	-0.00434	58128.81	564.0407	0.075025
340	24.70215	20.80844	67.11258	20251.2	239.5817	-0.005035	27703.79	39235.57	42997.06961	43783.68	55316.71	59081.12	111.04615	282.8735	338.9003	338.916	0.015623	42975.24	338.9168	0.016439	59106.75	578.569	0.086972

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.20776	21.38102	67.31104	20162.76	239.0798	-0.00435	20364.69	40356.07	43048.88104	36457.02	56452.3	59145.64	-4.079E-07	-0.235481	0.007371	-0.020494	-0.009	2	-299.53	0.014856

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

18GHz H High Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.23782	22.74244	62.19592	17990.63	229.1889	0.099279	24014.63	33715.57	24398.72269	38256.15	47937.14	38639.03	96.855224	252.8291	103.0186	103.0267	0.0081	24422.82	103.0655	0.046905	38634.32	332.1524	-0.05511
125	25.18225	22.6421	62.20358	17985.98	229.1039	0.109978	24019.81	33932.31	25777.84325	38257.72	48147.65	40011.59	97.001451	256.3571	125.2728	125.2479	-0.02485	25802.8	125.3104	0.037648	40005.59	354.257	-0.11964
150	25.18222	22.63213	62.17785	17990.19	229.1593	0.094755	24026.3	34020.07	27333.34465	38262.59	48236.75	41561.81	97.07812	257.807	150.2436	150.2403	-0.0033	27354.53	150.3242	0.080648	41557.77	379.2779	-0.12495
175	25.2327	22.68194	62.17701	17994.42	229.1608	0.098537	24039.84	34082.15	28888.35599	38275.95	48297.77	43113.63	97.22926	258.7409	175.2119	175.1803	-0.0316	28902.68	175.2801	0.068183	43102.81	404.1837	-0.18895
200	25.38934	22.84256	62.11489	18010.55	229.391	0.096302	24100.89	34198.6	30442.14798	38337.27	48414.81	44665.11	98.049587	260.6146	200.1664	200.1121	-0.05429	30449.94	200.2216	0.055238	44661.76	429.3137	-0.24365
225	25.45567	22.91864	62.07881	18015.89	229.5103	0.105329	24144.04	34291.5	31984.17043	38379.25	48504.55	46203.66	98.715545	262.1765	225.064	224.9885	-0.0755	31993.43	225.1024	0.038444	46209.87	454.269	-0.30523
250	25.28627	22.77308	62.06768	18019.53	229.553	0.104156	24208.69	34443.91	33528.85257	38444.22	48657.33	47744.61	99.716289	264.6205	249.934	249.8681	-0.06592	33536.75	249.9805	0.046513	47751.73	479.1235	-0.36352
275	24.99367	22.51712	62.0446	18033.55	229.6271	0.101997	24415.7	34707.25	35076.18901	38650.72	48920.5	49289.75	102.86394	268.7374	274.7663	274.6881	-0.07819	35075.98	274.7926	0.026279	49293.56	503.9776	-0.41578
300	25.2973	22.87148	61.93339	18071.65	230.0297	0.097368	24622.08	35044.16	36613.79172	38856.94	49257.92	50826.65	105.76576	274.0445	299.5368	299.4096	-0.12717	36608.71	299.5	-0.03679	50850.55	529.0761	-0.49045
325	25.32594	22.94734	61.83068	18103.74	230.4196	0.097077	24854.68	35397.48	38141.64021	39090.25	49611.73	52350.87	109.18436	279.6951	324.242	324.1182	-0.12379	38140.3	324.1888	-0.05315	52401.56	554.078	-0.58363
340	24.70215	22.36745	61.87828	18095.71	230.2204	0.095302	24964.14	35599.44	39061.41757	39198.57	49812.79	53270.48	110.99905	282.8735	339.0138	338.8768	-0.13694	39054.96	338.9331	-0.08065	53304.69	568.6362	-0.59793

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	25.20776	22.72148	62.04611	18024.89	229.5785	0.100007	18211.03	36638.72	39116.95605	32459.63	50850.85	53324.19	4.324E-06	-0.338047	-0.092171	0.080648	0.095358	2	-290.626	0.01612

23GHz V High Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.80664	21.4686	43.695	18032.21	197.7719	0.117414	22266.95	29079.19	22528.50572	30911.32	37709.26	31172.18	96.915917	252.8202	102.8846	102.8974	0.012851	22542.84	102.9329	0.048316	31171.72	300.6381	-0.01836
125	24.74542	21.37918	43.73061	18034.8	197.683	0.11503	22279.38	29245.05	23508.48022	30927	37878.36	32153.18	97.06214	256.3481	125.1367	125.1504	0.01374	23514.12	125.1868	0.05007	32136.92	322.753	-0.06676
150	24.74492	21.37221	43.71559	18034.04	197.717	0.112414	22280.52	29303.83	24598.82256	30926.71	37935.91	33240.24	97.138796	257.7979	150.1073	150.1427	0.03544	24604.7	150.1743	0.067046	33227.17	347.7328	-0.09143
175	24.79543	21.42388	43.66956	18032.85	197.7766	0.106675	22281.46	29331.57	25681.1207	30921.25	37957.91	34315.05	97.289918	258.7319	175.0768	175.1081	0.031213	25693.85	175.1289	0.052046	34317.91	372.7239	-0.1296
200	24.94766	21.57751	43.56048	18020.67	197.9349	0.116438	22294.4	29372.78	26737.41465	30919.38	37983.01	35354.66	98.110214	260.6057	200.0329	200.0768	0.043866	26782.9	200.0813	0.048377	35411.8	397.7871	-0.18077
225	25.00849	21.63436	43.49405	18017.03	198.0584	0.097617	22313.2	29419.76	27804.36363	30930.66	38024.8	36411.19	98.77613	262.1677	224.9317	225.0043	0.072577	27869.9	224.9866	0.054893	36501.49	422.754	-0.23611
250	24.83029	21.44555	43.57467	18036.25	198.0532	0.123768	22383.99	29566.62	28925.59264	31016.87	38183.6	37545.58	99.776831	264.6118	249.8018	249.8902	0.088333	28954.85	249.8452	0.043389	37583.52	447.5456	-0.30937
275	24.52445	21.14347	43.71109	18082.96	198.0338	0.108284	22581.9	29829.39	30091.16629	31241.18	38474.62	38735.97	102.92442	268.7288	274.6327	274.7226	0.08993	30037.27	274.6455	0.012839	38663.43	472.2886	-0.37792
300	24.81631	21.46811	43.47808	18068.78	198.4257	0.114489	22669.89	29983.34	31088.83117	31300.01	38598.45	39702.8	105.82611	274.0362	299.4002	299.4863	0.086129	31116.45	299.3719	-0.0283	39757.74	497.3614	-0.46442
325	24.82698	21.46988	43.41091	18086.79	198.6725	0.100447	22829.2	30228.26	32158.18764	31456.89	38842.6	40768.75	109.24459	279.6869	324.1005	324.1903	0.08983	32192.81	324.0335	-0.06705	40843.75	522.2443	-0.52868
340	24.18645	20.80844	43.75617	18155.61	198.4355	0.116035	23015.14	30532.72	32985.95301	31700.93	39202.88	41652.52	111.0592	282.8655	338.8683	338.9932	0.124926	32837.63	338.8076	-0.06072	41475.78	536.7253	-0.57841

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.74846	21.38102	43.65358	18046.98	198.0511	0.111692	18177.94	31143.05	32886.35643	26827.71	39768.08	41508.06	4.833E-06	-0.185228	0.083835	0.067046	0.106578	2	-413.57	0.022912

36GHz V High Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.01326	18.94709	48.90843	17509.64	197.5223	-0.418303	22249.85	29875.73	22547.1753	31928.97	39612.74	32228.51	96.920144	252.8417	103.0068	103.0157	0.008861	22622.54	102.8452	-0.16161	32326.48	300.5901	0.061008
125	24.90044	18.83743	48.97635	17518.05	197.4695	-0.416418	22272.01	30074.06	23648.06199	31961.09	39822.08	33351.47	97.066553	256.3688	125.2602	125.2289	-0.03127	23709.15	124.9879	-0.27226	33422.61	322.9268	0.197112
150	24.88694	18.82073	48.9825	17520.33	197.4627	-0.410646	22278.68	30148.93	24873.73002	31968.19	39897.07	34587.89	97.143805	257.8186	150.2287	150.2255	-0.00323	24932.97	149.9267	-0.30195	34656.33	348.0673	0.375966
175	24.92594	18.86513	48.93463	17513.76	197.5331	-0.420051	22274.89	30175.74	26080.853	31958.36	39919.46	35799.78	97.295577	258.7528	175.1929	175.189	-0.00396	26156.31	174.8556	-0.33729	35894.13	373.291	0.564929
200	25.03511	18.97477	48.86566	17506.64	197.6391	-0.407808	22301.23	30242.35	27283.61338	31975.8	39975.73	36999.66	98.117697	260.6269	200.1413	200.1894	0.048104	27382.61	199.845	-0.29628	37131.73	398.5106	0.73031
225	25.04028	18.97726	48.84487	17515.18	197.7199	-0.420418	22340.38	30321.79	28507.69064	32014.78	40057.18	38230.71	98.786233	262.1895	225.0312	225.1336	0.102436	28607.23	224.8	-0.23119	38367.89	423.7008	0.949719
250	24.74957	18.66782	48.98159	17552.51	197.7347	-0.400198	22440.38	30514.71	29797.58918	32141.94	40274.98	39553.52	99.789977	264.6342	249.8925	250.033	0.140496	29830.76	249.7328	-0.15971	39597.99	448.7676	1.140313
275	24.29504	18.21939	49.18868	17612.76	197.7576	-0.401518	22676.38	30832.32	31134.84747	32419.87	40635.33	40939.86	102.94276	268.7519	274.7121	274.8834	0.171305	31053.1	274.6414	-0.07069	40829.79	473.869	1.399261
300	24.42021	18.37619	49.07651	17616.24	197.9953	-0.400138	22811.12	31066.15	32327.88668	32543.53	40858.69	42127.8	105.85265	274.0601	299.4735	299.6801	0.206628	32274.03	299.5213	0.047814	42069.38	499.129	1.660127
325	24.18948	18.13092	49.14538	17660.04	198.1986	-0.394164	23030.5	31406.59	33613.6888	32786.01	41222.27	43439.79	109.27703	279.7119	324.1678	324.4479	0.280068	33494.67	324.3952	0.227393	43304.27	524.2933	1.926872
340	23.36391	17.2702	49.54003	17756.07	198.104	-0.375015	23259.82	31770.5	34573.77921	33088.41	41657.21	44476.93	111.09709	282.8911	338.9318	339.2452	0.313375	34224.57	339.2691	0.337287	44034.05	539.1647	2.128818

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.62002	18.55336	49.03756	17588.52	197.7397	-0.40588	17735.64	32299.79	34273.24112	27415	42083.67	44071.46	-1.795E-05	-0.254577	0.17578	-0.337287	-0.39589	2	-358.152	0.020378

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36GHz H High Gain Nominal Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.01326	18.67213	48.30433	17932.88	212.666	-0.352901	22614.05	30146.23	22907.44865	32902.24	40486.29	33198.31	96.910003	252.8417	102.9971	102.9982	0.001014	22911.17	102.8507	-0.14643	33181.57	315.7872	0.12406
125	24.90044	18.56125	48.30651	17928.41	212.6304	-0.356493	22616.87	30312.69	23974.32112	32903.2	40652.57	34273.02	97.056411	256.3688	125.2436	125.215	-0.02866	23980.19	125.0146	-0.22904	34258.68	338.1191	0.245027
150	24.88694	18.54439	48.29969	17927.58	212.6273	-0.350775	22619.1	30380.13	25176.64781	32903.41	40717.56	35484.16	97.133664	257.8186	150.2047	150.1745	-0.03014	25182.07	149.9333	-0.27139	35471.12	363.2567	0.424737
175	24.92594	18.58883	48.28314	17927.6	212.6835	-0.350989	22624.84	30421	26378.6359	32908.2	40757.77	36692.72	97.285436	258.7528	175.1636	175.1327	-0.03082	26384.84	174.8703	-0.29326	36684.18	388.407	0.55998
200	25.03511	18.69721	48.2269	17922.38	212.8047	-0.36226	22653.81	30491.61	27569.0752	32931.11	40824.4	37883.8	98.107556	260.6269	200.1103	200.1239	0.013537	27590.18	199.8607	-0.24958	37902.59	413.6684	0.753383
225	25.04028	18.70038	48.21247	17927.72	212.8681	-0.354999	22689.96	30568.52	28774.46213	32966.91	40900.13	39095.78	98.776092	262.1895	225.0038	225.0515	0.04772	28793.38	224.8068	-0.19696	39115.85	438.8229	0.950965
250	24.74957	18.39455	48.19706	17936.25	212.8897	-0.354538	22745.34	30690.84	29982.00692	33019.75	41020.31	40306.72	99.779836	264.6342	249.8747	249.9618	0.087105	29996.72	249.7556	-0.11908	40326.47	463.9228	1.158432
275	24.29504	17.94883	48.19746	17948.91	212.8334	-0.350412	22910	30902.07	31193.95136	33181.48	41228.28	41521.95	102.93261	268.7519	274.7093	274.7917	0.082351	31197.16	274.6444	-0.06493	41531.31	488.9027	1.359956
300	24.42021	18.10954	48.15017	17958.48	213.0726	-0.343541	23054.81	31154.52	32387.47321	33327.18	41481.33	42720.5	105.84251	274.0601	299.4909	299.5889	0.097947	32397	299.5207	0.029768	42747.65	514.1212	1.557608
325	24.18948	17.86775	48.11592	17980.95	213.2343	-0.337297	23238.42	31439.54	33595.71442	33510.74	41766.03	43933.86	109.26689	279.7119	324.2109	324.373	0.162055	33597.14	324.4033	0.192388	43961.76	539.2933	1.84809
340	23.36391	17.00901	48.1508	18000.64	213.069	-0.347763	23349.57	31622.08	34342.54345	33621.28	41950.11	44683.17	111.08695	282.8911	338.9936	339.1881	0.194582	34315.01	339.2868	0.293255	44675.5	554.0914	2.02881

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	24.62002	18.28126	48.20185	17961.52	212.8526	-0.351088	18106.13	32422.07	34360.3775	28352.48	42764.77	44716.26	-1.565E-05	-0.243044	0.092544	-0.293255	-0.34512	2	-372.167	0.020733

89GHz V High Gain Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.97724	28.35104	26.68653	55.99485	30704.74	36123.14	44862.24	36471.61	96.76598959	252.8357	103.0313	103.0085	-0.0227571	36455.3	102.7946	-0.2367
125	26.85896	28.22798	26.57348	55.96989	30652.71	36076.89	45001.26	37660.91	96.91244912	256.362	125.281	125.2906	0.0095221	37697.44	125.018	-0.26299
150	26.85302	28.22179	26.56813	55.97425	30646.95	36075.87	45077.77	39052.61	96.98955367	257.8117	150.2477	150.2885	0.0408714	39092.34	149.9744	-0.273269
175	26.90184	28.27286	26.61535	55.97705	30663.85	36101.53	45147.71	40465.91	97.14116378	258.7462	175.2139	175.2434	0.0295447	40486.26	174.9135	-0.300408
200	27.0607	28.43312	26.76984	55.98714	30710.57	36195.23	45301.98	41912.19	97.9627833	260.6207	200.166	200.2027	0.036732	41881.89	199.883	-0.282927
225	27.13107	28.49718	26.82873	55.98148	30737.62	36259.1	45415.06	43333.24	98.63059666	262.1839	225.0586	225.0935	0.0348952	43275.14	224.81	-0.248619
250	26.97824	28.32754	26.65576	55.92738	30703.4	36275.65	45503.42	44679.52	99.63360412	264.6292	249.9249	249.9433	0.0183715	44667.56	249.7221	-0.2028
275	26.7056	28.04407	26.36691	55.8338	30642.02	36380.9	45647.23	45984.14	102.7850492	268.7478	274.7374	274.7604	0.0229733	46059.61	274.6277	-0.109718
300	27.02936	28.37338	26.67094	55.85498	30757.23	36660.68	46064.67	47493.05	105.6924683	274.0568	299.5027	299.5272	0.0245292	47450.27	299.5083	0.00567
325	27.08642	28.41418	26.69391	55.79751	30800.78	36889.14	46407.9	48904.3	109.1152154	279.7099	324.1993	324.2508	0.0515359	48839.93	324.3712	0.171897
340	26.48603	27.7771	26.05955	55.66101	30647.04	36821.73	46392.97	49533.74	110.9337955	282.8897	338.9645	339.0498	0.0853087	49672.39	339.2649	0.300408

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.91532	28.2673	26.58992	55.84662	30725.5	30893.04	47479.49	49729.06	-2.06986E-05	-0.159032	0.040843	-0.300408	-0.4564506	2	-549.4366	0.017891

89GHz V High Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.97724	28.35104	26.68653	48.90439	25675.58	30407.86	38040.35	30710.93	96.76598959	252.8357	103.0313	102.9831	-0.048182	30695.86	102.7814	-0.249923
125	26.85896	28.22798	26.57348	48.88013	25628.52	30365.61	38159.53	31747.99	96.91244912	256.362	125.281	125.273	-0.0080177	31780.72	125.0068	-0.2742
150	26.85302	28.22179	26.56813	48.88444	25623.23	30364.51	38226.21	32963.54	96.98955367	257.8117	150.2477	150.2791	0.0314395	32999	149.9656	-0.2821
175	26.90184	28.27286	26.61535	48.88674	25638.79	30387.7	38288.05	34198.66	97.14116378	258.7462	175.2139	175.2359	0.0219761	34216.17	174.9018	-0.312138
200	27.0607	28.43312	26.76984	48.8954	25680.92	30470.85	38424.07	35463.27	97.9627833	260.6207	200.166	200.1995	0.0335307	35435.01	199.872	-0.293926
225	27.13107	28.49718	26.82873	48.88867	25705.44	30527.36	38523.26	36705.03	98.63059666	262.1839	225.0586	225.0934	0.0347442	36651.75	224.7994	-0.259253
250	26.97824	28.32754	26.65576	48.83629	25675.25	30540.99	38598.76	37879.27	99.63360412	264.6292	249.9249	249.9439	0.0189966	37867.71	249.7107	-0.214209
275	26.7056	28.04407	26.36691	48.74416	25619.81	30629.98	38719.69	39014.06	102.7850492	268.7478	274.7374	274.7646	0.0271342	39083.55	274.6196	-0.117857
300	27.02936	28.37338	26.67094	48.76209	25724.1	30877.88	39087.68	40335.2	105.6924683	274.0568	299.5027	299.5342	0.0315704	40298.2	299.5039	0.001272
325	27.08642	28.41418	26.69391	48.70352	25764.04	31078.33	39386.89	41566.92	109.1152154	279.7099	324.1993	324.2644	0.0650675	41512.2	324.3752	0.175867
340	26.48603	27.7771	26.05955	48.5719	25625.93	31014.2	39366.42	42108.61	110.9337955	282.8897	338.9645	339.0696	0.1051725	42239.56	339.2766	0.312138

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.91532	28.2673	26.58992	48.7694	25693.06	25839.37	40323.88	42288.87	-2.14339E-05	-0.159032	0.040843	-0.312138	-0.4726649	2	-526.0833	0.020487

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

89GHz H High Gain Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.97724	28.25714	26.68653	59.48771	28999.9	34757.73	44040.52	35121.06	96.79012458	252.8357	102.9238	102.9181	-0.0056463	35103.12	102.6904	-0.233395
125	26.85896	28.13441	26.57348	59.46207	28955.49	34719.55	44199.31	36395.38	96.93658411	256.362	125.1735	125.2017	0.0281999	36422.54	124.8894	-0.284109
150	26.85302	28.12797	26.56813	59.45781	28949.69	34717.91	44278.6	37874.45	97.01368865	257.8117	150.1401	150.2289	0.0887968	37905.97	149.8477	-0.29242
175	26.90184	28.17813	26.61535	59.45676	28963.09	34740.23	44347.3	39372.82	97.16529877	258.7462	175.1064	175.2248	0.1184113	39389.19	174.8025	-0.303892
200	27.0607	28.33716	26.76984	59.47312	29010.66	34838.25	44510.59	40907.74	97.98691828	260.6207	200.0584	200.1779	0.1194522	40871.58	199.7434	-0.315088
225	27.13107	28.40423	26.82873	59.46537	29032.87	34899.41	44623.73	42412.68	98.65473164	262.1839	224.9511	225.1055	0.1544224	42354.11	224.6866	-0.264517
250	26.97824	28.23457	26.65576	59.40857	28997.31	34917.84	44718.56	43846.52	99.6577391	264.6292	249.8174	249.9994	0.1820357	43836.37	249.6252	-0.192172
275	26.7056	27.95361	26.36691	59.31154	28938.6	35036.37	44878.45	45240.58	102.8091842	268.7478	274.6299	274.8301	0.2002171	45316.65	274.5305	-0.099415
300	27.02936	28.28169	26.67094	59.34596	29042.07	35315.93	45306.24	46828.51	105.7166033	274.0568	299.3951	299.5975	0.2024159	46794.87	299.4012	0.006066
325	27.08642	28.32551	26.69391	59.30394	29079.86	35552.26	45667.76	48327.93	109.1393504	279.7099	324.0918	324.3528	0.261062	48274.05	324.2879	0.196157
340	26.48603	27.69207	26.05955	59.14455	28934.42	35496.97	45665.8	49009.95	110.9579305	282.8897	338.8569	339.1461	0.289197	49158.7	339.172	0.315088

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.91532	28.17514	26.58992	59.38331	29017.84	29195.99	46832.83	49226.01	-2.21088E-05	-0.062826	0.201787	-0.315088	-0.4875494	2	-487.9106	0.016825

89GHz H High Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	26.97724	28.25714	26.68653	51.52378	24139.29	29126.28	37166.34	29440.44	96.79012458	252.8357	102.9238	102.9079	-0.0158364	29425.4	102.6847	-0.239123
125	26.85896	28.13441	26.57348	51.50187	24102.32	29094.74	37305.45	30546	96.93658411	256.362	125.1735	125.1981	0.0245922	30568.21	124.8839	-0.289587
150	26.85302	28.12797	26.56813	51.49761	24097.16	29093.13	37373.84	31827.38	97.01368865	257.8117	150.1401	150.2362	0.0960549	31853.27	149.8464	-0.293769
175	26.90184	28.17813	26.61535	51.49467	24108.34	29111.83	37432.39	33124.66	97.16529877	258.7462	175.1064	175.2381	0.1317443	33137.92	174.8009	-0.305497
200	27.0607	28.33716	26.76984	51.50531	24148.53	29195.37	37571.88	34452.4	97.98691828	260.6207	200.0584	200.1928	0.1344041	34421.66	199.7376	-0.320795
225	27.13107	28.40423	26.82873	51.49617	24168.31	29248.65	37669.78	35756.09	98.65473164	262.1839	224.9511	225.1273	0.176186	35705.81	224.6823	-0.268796
250	26.97824	28.23457	26.65576	51.44361	24138.14	29264.89	37751.62	36997.88	99.6577391	264.6292	249.8174	250.0267	0.209367	36989.68	249.6217	-0.195664
275	26.7056	27.95361	26.36691	51.35513	24090.27	29370.05	37891.85	38207.03	102.8091842	268.7478	274.6299	274.8615	0.2315679	38271.8	274.527	-0.102844
300	27.02936	28.28169	26.67094	51.37697	24176.61	29608.01	38256.82	39576.43	105.7166033	274.0568	299.3951	299.6303	0.2351709	39552.04	299.3959	0.000764
325	27.08642	28.32551	26.69391	51.33224	24209.71	29812.08	38567.84	40872.77	109.1393504	279.7099	324.0918	324.3956	0.3038896	40833.58	324.2899	0.198122
340	26.48603	27.69207	26.05955	51.19427	24091.05	29771.46	38573.38	41470.66	110.9579305	282.8897	338.8569	339.1942	0.3372741	41600	339.1777	0.320795

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	26.91532	28.17514	26.58992	51.43333	24155.16	24309.46	39585.16	41658.14	-2.23666E-05	-0.062826	0.201787	-0.320795	-0.4932339	2	-468.9072	0.019425

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166GHz V High Gain Nominal Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.0364	11.30103	22.11299	41.91729	32533.07	36565.53	43128.32	36843.25	96.20029557	252.7656	102.8433	102.8407	-0.0025286	36932.18	102.7104	-0.132849
125	21.9952	10.15493	22.07138	41.9346	32286.92	36327.13	43033.99	37530.53	96.34555625	256.2818	125.1085	125.099	-0.0094375	37862.36	124.9382	-0.170301
150	22.01763	9.966875	22.09173	41.93972	32236.31	36280.12	43045.46	38526.71	96.41940454	257.7304	150.0961	150.0729	-0.0231651	38906.77	149.8954	-0.200703
175	22.08926	9.996576	22.16348	41.92955	32229.15	36278.18	43074.85	39565.64	96.56752992	258.6649	175.0932	175.0701	-0.0231613	39952.93	174.8946	-0.198639
200	22.31016	10.35985	22.37442	41.90653	32255.24	36336.06	43173.57	40634.63	97.37903196	260.54	200.0894	200.0473	-0.0420393	40999.03	199.8923	-0.19705
225	22.43378	10.77035	22.47562	41.88895	32322.11	36428.58	43301.29	41743.97	98.03230815	262.102	225.0379	224.9954	-0.0425375	42044.69	224.8794	-0.158478
250	22.35522	11.36577	22.36746	41.87319	32448.19	36594.39	43525.68	42911.85	99.01807051	264.5486	249.974	249.9224	-0.0516139	43090.23	249.8638	-0.11026
275	22.25016	12.38821	22.22441	41.85796	32679.5	36954.87	43925.49	44182.56	102.1399646	268.6701	274.8676	274.7958	-0.0718085	44134.26	274.8122	-0.055384
300	22.7851	14.14091	22.72134	41.8067	32963.95	37353.74	44418.15	45494.61	105.0020594	273.98	299.7212	299.6536	-0.0675937	45178.4	299.763	0.041809
325	23.07232	15.98787	22.94376	41.7802	33334.75	37863.42	45018.04	46897.63	108.3928515	279.6372	324.5274	324.4789	-0.0484455	46221.93	324.6992	0.171809
340	22.58821	16.75264	22.40151	41.80843	33593.68	38200.17	45417.87	47786.54	110.1808715	282.8184	339.3741	339.2793	-0.0947181	46844.44	339.5748	0.200703

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.35759	12.10773	22.35892	41.82264	32643.33	32768.8	45190.12	46871.51	-1.49682E-05	0.234617	-0.058671	-0.200703	-0.3300832	1	-779.8248	0.023896

166GHz H High Gain Nominal Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.0364	10.89473	22.11299	44.51565	35922.21	40206.64	47174.23	40498.19	96.2454817	252.7656	102.8122	102.8064	-0.0057965	40617.51	102.7143	-0.097844
125	21.9952	9.751724	22.07138	44.50775	35623.31	39913.44	47029.83	41186.81	96.39074238	256.2818	125.0774	125.0446	-0.0328401	41604.29	124.9452	-0.132175
150	22.01763	9.566297	22.09173	44.50192	35565.66	39858.52	47035.16	42238.47	96.46459067	257.7304	150.065	150.0116	-0.0533615	42712.77	149.9177	-0.147341
175	22.08926	9.593132	22.16348	44.49299	35559.1	39857.69	47067.87	43341.78	96.61271605	258.6649	175.0622	174.996	-0.0661489	43822.66	174.9218	-0.140365
200	22.31016	9.955999	22.37442	44.47187	35608.43	39941.07	47195.13	44496.34	97.42421809	260.54	200.0583	199.9273	-0.1310183	44930.79	199.8863	-0.172009
225	22.43378	10.36096	22.47562	44.44702	35687.95	40047.2	47337.6	45681.21	98.07749428	262.102	225.0068	224.8904	-0.1163927	46040.98	224.8973	-0.109498
250	22.35522	10.9444	22.36746	44.44221	35842.33	40244.92	47599.45	46942.59	99.06325664	264.5486	249.943	249.7945	-0.1484112	47149.14	249.8626	-0.0804
275	22.25016	11.95957	22.22441	44.42676	36112.31	40652.06	48048.45	48315.13	102.1851507	268.6701	274.8365	274.6606	-0.1759035	48256.16	274.8021	-0.034347
300	22.7851	13.70247	22.72134	44.3746	36486.04	41147.47	48643.79	49779.2	105.0472455	273.98	299.6901	299.5088	-0.1813267	49362.96	299.7367	0.046529
325	23.07232	15.53374	22.94376	44.34478	36925.87	41734.53	49326.32	51311.29	108.4380376	279.6372	324.4963	324.2863	-0.2099961	50467.21	324.6137	0.117382
340	22.58821	16.28341	22.40151	44.36291	37198.38	42088.32	49745.02	52249.48	110.2260576	282.8184	339.343	339.1211	-0.2218635	51128.65	339.515	0.172009

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	22.35759	11.68604	22.35892	44.3673	36066.17	36199.28	49376.36	51158.08	-1.16876E-05	0.218385	-0.165336	-0.172009	-0.2577384	1	-812.339	0.022529

183GHz V_A High Gain Nominal Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.13991	12.54201	22.23477	60.74328	23710.42	29551.43	39064.23	29954.39	96.1590034	252.7656	102.8065	102.8118	0.005234	30180.75	102.6155	-0.191014
125	22.02335	11.42076	22.12491	60.99554	23526.02	29400.16	39158.06	31150.99	96.30437554	256.2818	125.0786	125.0804	0.0018238	31531.74	124.824	-0.254568
150	22.01808	11.2374	22.12173	61.01145	23499.03	29379.2	39223.53	32649.26	96.37818771	257.7304	150.0722	150.0857	0.0134756	33050.22	149.7859	-0.286275
175	22.06635	11.26779	22.16838	61.00898	23496.09	29385.06	39276.97	34172.22	96.52629936	258.6649	175.0759	175.118	0.0420589	34571.81	174.7989	-0.276959
200	22.19601	11.62678	22.29686	60.96442	23566.94	29501.07	39450.61	35761.04	97.33761484	260.54	200.0764	200.1384	0.0619358	36094.17	199.8247	-0.251693
225	22.21219	12.02567	22.30216	60.91394	23630.87	29599.86	39596.53	37336.68	97.99059595	262.102	225.024	225.0927	0.0687355	37613.97	224.8083	-0.215706
250	21.9366	12.5899	22.01223	60.90957	23775.22	29803.82	39888.76	39001.33	98.97613363	264.5486	249.9602	250.0208	0.0606292	39133.63	249.7896	-0.170623
275	21.53865	13.57655	21.6033	60.88687	24018.12	30234.5	40376.6	40756.02	102.097265	268.6701	274.8286	274.8811	0.0525274	40650.66	274.7276	-0.100965
300	21.75561	15.29618	21.81011	60.67755	24302.93	30671.53	40927.36	42495.71	104.9581238	273.98	299.6799	299.7312	0.0513117	42168.55	299.6799	-2.74E-06
325	21.58037	17.08807	21.60843	60.48487	24686.84	31240.28	41600.66	44328.74	108.3485429	279.6372	324.4817	324.5547	0.0730094	43686.21	324.6284	0.146731
340	20.7616	17.80306	20.75481	60.5546	24984.61	31653.85	42110.56	45555.08	110.1359851	282.8184	339.326	339.4522	0.1261616	44597.71	339.6123	0.286275

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83897	13.31583	21.91252	60.78519	23954.25	24136.61	42189.81	44636.95	-1.90678E-05	0.248473	0.068442	-0.286275	-0.4204885	3	-393.5183	0.016439

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

183GHz V_A High Gain Nominal Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.13991	12.54201	22.23477	50.26812	14254.59	19088.33	26960.65	19424.45	96.1590034	252.7656	102.8065	102.8621	0.0555756	19626.09	102.6402	-0.166359
125	22.02335	11.42076	22.12491	50.48137	14093.18	18954.76	27030.64	20406.35	96.30437554	256.2818	125.0786	125.1218	0.0431759	20744.57	124.8516	-0.226968
150	22.01808	11.2374	22.12173	50.49091	14070.34	18936.57	27083.39	21645.25	96.37818771	257.7304	150.0722	150.1207	0.0485114	22001.73	149.8174	-0.254827
175	22.06635	11.26779	22.16838	50.49032	14067.97	18941.61	27128.04	22905.9	96.52629936	258.6649	175.0759	175.1508	0.074863	23261.52	174.8351	-0.240825
200	22.19601	11.62678	22.29686	50.45945	14133.94	19045.55	27280.65	24229.13	97.33761484	260.54	200.0764	200.168	0.0915891	24521.72	199.8611	-0.215294
225	22.21219	12.02567	22.30216	50.42082	14189.21	19129.98	27404.61	25535.87	97.99059595	262.102	225.024	225.1171	0.0930607	25779.53	224.8396	-0.184419
250	21.9366	12.5899	22.01223	50.42468	14313.85	19304.69	27653.63	26920.08	98.97613363	264.5486	249.9602	250.0374	0.0772032	27036.93	249.8099	-0.150297
275	21.53865	13.57655	21.6033	50.41836	14524.53	19672.11	28070.44	28384.95	102.097265	268.6701	274.8286	274.8903	0.0617002	28291.98	274.7337	-0.094909
300	21.75561	15.29618	21.81011	50.26437	14775.95	20051.61	28547.38	29846.08	104.9581238	273.98	299.6799	299.7342	0.0543018	29547.64	299.6694	-0.010484
325	21.58037	17.08807	21.60843	50.11285	15110.7	20540.35	29124.11	31383.16	108.3485429	279.6372	324.4817	324.5551	0.0734192	30803.13	324.6018	0.120164
340	20.7616	17.80306	20.75481	50.17714	15369.76	20896.07	29560.78	32413.58	110.1359851	282.8184	339.326	339.4573	0.1312989	31557.41	339.5808	0.254827

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83897	13.31583	21.91252	50.32223	14468.84	14619.8	29565.51	31589.68	-1.65294E-05	0.248473	0.068442	-0.254827	-0.3645109	3	-287.1089	0.019859

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

183GHz V_B	High Gain	Nominal Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	22.13991	12.54201	22.23477	63.84332	27543.77	33683.08	43681.17	34112.06	96.16213068	252.7656	102.9164	102.9011	-0.015296	34370.9	102.7019	-0.214492
125	22.02335	11.42076	22.12491	63.96925	27323.65	33484.37	43717.8	35327.13	96.30750282	256.2818	125.1885	125.1885	6.757E-05	35791.35	124.9354	-0.253107
150	22.01808	11.2374	22.12173	63.99527	27293.89	33461.84	43787.42	36899.23	96.38131499	257.7304	150.1821	150.2079	0.025822	37387.44	149.9179	-0.264163
175	22.06635	11.26779	22.16838	64.00134	27297.85	33475.87	43852.75	38502.99	96.52942664	258.6649	175.1858	175.2051	0.0193835	38983.69	174.9029	-0.282819
200	22.19601	11.62678	22.29686	63.99693	27401.94	33631.45	44075.7	40206.53	97.34074212	260.54	200.1863	200.203	0.0167062	40581.55	199.9133	-0.272945
225	22.21219	12.02567	22.30216	63.96532	27486.83	33755.03	44252.27	41884.01	97.99372323	262.102	225.1339	225.17	0.0361687	42179.03	224.9176	-0.21626
250	21.9366	12.5899	22.01223	63.94656	27631.99	33961.37	44548.96	43621.5	98.97926092	264.5486	250.0701	250.0878	0.017749	43774.92	249.897	-0.173025
275	21.53865	13.57655	21.6033	63.92962	27882.43	34409.66	45058.4	45459	102.1003923	268.6701	274.9384	274.9151	-0.0233069	45366.58	274.8104	-0.128017
300	21.75561	15.29618	21.81011	63.83953	28266.09	34966.77	45756.85	47410.47	104.9612511	273.98	299.7897	299.7838	-0.0059	46962.48	299.7899	0.000209
325	21.58037	17.08807	21.60843	63.74867	28699.46	35606.74	46525.96	49406.75	108.3516702	279.6372	324.5915	324.6354	0.0438294	48558.8	324.7761	0.184615
340	20.7616	17.80306	20.75481	63.74815	28919.3	35940.47	46948.45	50577.22	110.1391123	282.8184	339.4359	339.4858	0.049882	49513.45	339.7187	0.282819

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	21.83897	13.31583	21.91252	63.8377	27826.56	28018.08	46977.87	49548.37	-1.95941E-05	0.209624	0.020278	-0.282819	-0.4320933	3	-435.2839	0.015652

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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10GHz V	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.77615	28.34626	20.21747	11801.4	228.4779	-0.071419	13923.76	17420.59	13953.63877	18550.58	22052.6	18581.32	104.97639	277.9375	106.4708	106.4552	-0.01559	13950.91	106.4076	-0.06323	18562.65	334.9979	0.049186
125	38.93151	28.54157	20.1905	11799.62	228.4783	-0.064709	13911.49	17423.12	14368.56701	18532.02	22048.37	18989.44	104.59702	278.5219	127.211	127.2458	0.034805	14369.59	127.1606	-0.05037	18980.74	355.7212	0.031923
150	39.02576	28.64693	20.16893	11799.1	228.5246	-0.05871	13906.29	17425.32	14782.69787	18522.71	22046.04	19399.52	104.4769	278.9549	147.8518	147.948	0.096193	14786.56	147.8286	-0.02318	19398.62	376.4341	0.057683
175	39.05279	28.74848	20.18098	11803.56	228.4561	-0.065535	13917.1	17449.1	15388.92919	18534.95	22071.76	20008.7	104.72945	279.7458	177.5878	177.6837	0.095953	15385.59	177.5204	-0.06738	19997.87	406.1372	0.093381
200	39.23034	28.89821	20.13707	11800.78	228.5534	-0.061743	13922.19	17446.28	15793.09176	18531.92	22060.53	20405.68	105.3485	280.3538	198.1604	198.2804	0.12001	15800.58	198.0905	-0.06986	20415.75	426.8501	0.136383
225	39.38714	29.09819	20.09695	11800.12	228.6573	-0.068156	13964.55	17463.04	16287.04309	18567.3	22070.76	20893.84	107.69963	281.7805	223.1339	223.285	0.151082	16304.49	223.0677	-0.06613	20923.07	451.9967	0.205564
250	39.13471	28.94565	20.13603	11798.38	228.6523	-0.073542	14011.41	17519.63	16838.28231	18623.07	22136.66	21453.93	109.904	284.1303	250.0703	250.3075	0.237163	16849.16	250.0652	-0.00513	21467.7	478.9925	0.269903
275	38.88444	28.64381	20.16793	11813.08	228.8051	-0.065918	14091.68	17612.81	17362.80736	18713.63	22239.58	21988.88	112.9814	287.5718	274.9343	275.1821	0.247841	17350.65	274.9227	-0.01154	21972.43	504.0101	0.270723
300	39.17285	28.95748	20.10642	11812.53	228.9751	-0.068438	14113.22	17692.52	17845.69466	18724.35	22308.75	22461.02	114.4258	292.4437	299.7848	300.0573	0.272507	17852.28	299.787	0.002222	22477.63	529.0513	0.29141
325	39.13024	29.03306	20.10805	11817.19	229.033	-0.063511	14183.57	17802.52	18348.66831	18796.09	22419.82	22968.21	117.68322	297.6583	324.5872	324.8018	0.21451	18351.38	324.5258	-0.06141	22980.76	553.9901	0.369861
340	38.92973	28.92895	20.12893	11820.69	229.1591	-0.069662	14237.85	17890.07	18660.8175	18857.69	22515.21	23286.96	120.08395	301.5251	339.4437	339.79	0.346277	18653.75	339.5135	0.069856	23285.09	569.0747	0.471898

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.05961	28.79896	20.17223	11804.76	228.7066	-0.066486	11865.28	17856.43	18664.1583	16477.83	22477.44	23286.32	-3.082E-06	0.182609	0.251914	-0.069856	-0.06796	6	-585.097	0.049567

10GHz H	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.77615	28.30663	21.04193	10815.13	201.4589	-0.061709	13038.04	16663.48	13055.98829	17261.81	20891.34	17279.99	105.64173	277.9375	106.4973	106.4951	-0.00216	13040.44	106.4808	-0.0165	17244.74	307.9928	0.036613
125	38.93151	28.50307	21.00093	10810.33	201.5195	-0.064169	13020.94	16659.55	13480.36722	17237.84	20880.72	17697.88	105.26236	278.5219	127.2361	127.1492	-0.08688	13472.84	127.2054	-0.03062	17678.79	328.7968	0.041208
150	39.02576	28.6086	20.96972	10806.91	201.4624	-0.059652	13011.71	16656.52	13904.01365	17221.17	20869.95	18114.58	105.14225	278.9549	147.8785	147.7114	-0.16713	13903.33	147.8392	-0.03937	18108.56	349.3955	0.054564
175	39.05279	28.70936	20.97792	10812.64	201.4914	-0.062097	13023.6	16681.13	14533.29289	17235.37	20897.05	18746.58	105.3948	279.7458	177.6194	177.3833	-0.23616	14524.61	177.6167	-0.00271	18730.87	379.2229	0.112093
200	39.23034	28.85925	20.92728	10806.75	201.5382	-0.059594	13025.34	16673.8	14947.37767	17227.89	20880.34	19152.21	106.01385	280.3538	198.1955	197.8812	-0.31436	14953.84	198.1896	-0.0059	19161.83	399.8786	0.144943
225	39.38714	29.05711	20.88652	10799.63	201.5401	-0.040748	13063	16685.04	15450.73507	17257.24	20881.98	19648.3	108.36497	281.7805	223.1716	222.7055	-0.46608	15473.66	223.1048	-0.06681	19682.7	424.8441	0.132454
250	39.13471	28.90226	20.91133	10795.21	201.5932	-0.078338	13107.36	16736.75	16014.4122	17307.9	20942.5	20218.44	110.56934	284.1303	250.1072	249.6021	-0.50507	16036.93	250.1025	-0.00467	20247.51	451.9152	0.214782
275	38.88444	28.60413	20.95559	10814.12	201.6825	-0.064113	13195.66	16840.36	16564.34969	17406.91	21055.9	20780.16	113.64674	287.5718	274.9658	274.4071	-0.55875	16556.39	275.0002	0.034319	20769.91	476.954	0.30572
300	39.17285	28.9155	20.8979	10812.18	201.664	-0.057299	13217.35	16923.64	17062.94259	17416.84	21127.03	21267.5	115.09114	292.4437	299.8063	299.1056	-0.7007	17073.58	299.7889	-0.01747	21287.22	501.7483	0.277881
325	39.13024	28.98859	20.88944	10816.35	201.8385	-0.07556	13288.58	17034.26	17582.04473	17490.23	21241.1	21789.03	118.34856	297.6583	324.5937	323.8647	-0.72903	17592.04	324.6387	0.044997	21809.76	526.794	0.361847
340	38.92973	28.88191	20.91812	10817.23	201.8736	-0.062607	13343.08	17124.57	17902.29197	17551.28	21337.12	22116.03	120.7493	301.5251	339.4391	338.6792	-0.7599	17902.23	339.5059	0.066812	22120.9	541.7067	0.393996

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.05961	28.75786	20.86119	10820.06	201.6057	-0.062353	10882.65	17078.42	17913.73848	15087.14	21290.67	22127.03	-3.099E-06	-0.137533	-0.638546	-0.066812	-0.06834	6	-518.547	0.04793

18GHz V	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.81874	39.0895	29.00781	12799.18	249.9816	-0.001414	15872.13	20865.04	15892.51302	23128.7	28121.77	23149.23	105.93556	278.0585	106.6341	106.6381	0.004044	15934.15	106.6465	0.0124	23172.14	356.6378	0.022061
125	43.00983	39.31442	28.99641	12808.32	250.1723	-0.003703	15869.02	20887.99	16502.93956	23128.3	28147.69	23760.9	105.5544	278.6437	127.3811	127.4174	0.036346	16535.32	127.4103	0.029212	23777.42	377.5436	-0.00973
150	43.11026	39.41354	28.98998	12813.8	250.2779	-0.007345	15870.34	20904.21	17106.20377	23131.14	28165.86	24366.07	105.4343	279.0762	148.0196	148.0669	0.047299	17132.75	148.0449	0.025263	24378.38	398.2998	0.002261
175	43.14668	39.44733	28.98133	12824.99	250.3299	0.001237	15888.04	20935.85	17977.37938	23147.96	28195.63	25238.03	105.69045	279.8651	177.7371	177.7854	0.048289	17992.59	177.7427	0.005636	25241.19	428.1003	0.033323
200	43.36698	39.6703	28.96409	12828.6	250.549	0.010786	15907.75	20952.18	18574.01874	23169.46	28212.66	25835.65	106.30923	280.471	198.2811	198.366	0.084854	18588.07	198.3097	0.02854	25841.96	448.8502	0.020008
225	43.57823	39.88106	28.94992	12838.49	250.7641	0.008864	15984.45	20999.35	19303.2557	23248.91	28262.8	26566.89	108.6688	281.8956	223.2122	223.3106	0.098453	19309.84	223.2387	0.026585	26569.26	473.9702	-0.00611
250	43.45801	39.71951	28.93523	12834.25	250.8541	-0.007761	16042.8	21058.85	20073.19142	23306.6	28323.54	27338.64	110.88733	284.2416	250.0818	250.1788	0.096977	20087.29	250.0908	0.009009	27352.22	501.0127	0.076722
275	43.31464	39.59915	28.92666	12862.23	251.0119	0.008015	16159.4	21183.82	20817.76451	23425.21	28448.71	28084.12	113.98376	287.6786	274.9032	275.0248	0.121614	20806.26	274.9232	0.020061	28074.28	525.9516	0.036512
300	43.75675	40.03617	28.86948	12889.9	251.5174	0.002409	16223.24	21335.54	21544.29052	23489.33	28601.36	28811.31	115.46232	292.5457	299.6557	299.7759	0.120171	21522.53	299.6624	0.006635	28805.73	551.2149	0.041745
325	43.91709	40.19329	28.83458	12913.79	251.8634	-0.009685	16337.68	21499.41	22268.81026	23605.22	28768.09	29539.08	118.74262	297.7544	324.3406	324.4358	0.095156	22236.19	324.3114	-0.02921	29531.52	576.283	0.078997
340	43.9039	40.1543	28.81171	12923.59	252.0534	-0.007479	16414.72	21613.68	22698.66033	23681.87	28881.72	29966.98	121.17038	301.6165	339.1163	339.2716	0.155355	22665.56	339.1413	0.025041	29964.78	591.2473	0.077558

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.39828	39.68351	28.95262	12846.89	250.8523	-0.000552	12933.75	21532.67	22690.90002	20196.47	28796.75	29955.15	-3.119E-07	-0.437558	0.121266	-0.029212	-0.00688	6	-443.699	0.034539

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

18GHz H	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.81874	40.30949	27.45674	12203.23	239.8383	0.044889	15105.74	19837.81	15133.41391	21689.2	26416.66	21716.41	105.71195	278.0585	106.7085	106.7197	0.011182	15155.23	106.7352	0.026726	21720.86	346.508	-0.03882
125	43.00983	40.53957	27.44297	12208.3	240.0073	0.038981	15098.89	19855.11	15705.83124	21683.82	26436.01	22290.15	105.33079	278.6437	127.4463	127.4419	-0.0044	15722.83	127.4636	0.01726	22293.06	367.4045	-0.04906
150	43.11026	40.65014	27.43561	12209.88	240.0959	0.039921	15096.4	19866.5	16272.81952	21681.98	26447.95	22858.27	105.2107	279.0762	148.0818	148.0812	-0.00064	16288.12	148.1076	0.025759	22861.24	388.1541	-0.02361
175	43.14668	40.68504	27.43252	12217.61	240.1413	0.045091	15110.83	19895.01	17095.26992	21696.82	26476.31	23679.28	105.46684	279.8651	177.8017	177.7941	-0.00755	17101.86	177.8249	0.023212	23674.27	417.8453	-0.09767
200	43.36698	40.91632	27.41709	12219.82	240.3218	0.044515	15128.38	19909.52	17658.02656	21715.62	26492.13	24243	106.08562	280.471	198.3499	198.3391	-0.01087	17664.47	198.3711	0.021213	24241.53	438.5614	-0.11028
225	43.57823	41.1463	27.3943	12227.54	240.5759	0.041219	15198.32	19949.87	18344.14911	21787.09	26534.38	24931.19	108.4452	281.8956	223.2863	223.2697	-0.01653	18347.13	223.3015	0.015234	24931.7	463.7659	-0.09623
250	43.45801	41.054	27.38676	12219.91	240.67	0.037507	15250.63	20004.37	19070.91778	21840.24	26590.09	25657.92	110.66373	284.2416	250.1597	250.1501	-0.00956	19083.12	250.1793	0.019652	25669.41	490.7066	-0.12307
275	43.31464	40.93528	27.37491	12241.88	240.8224	0.034671	15356.06	20117.06	19768.76394	21947.05	26704.45	26356.33	113.76016	287.6786	274.9807	274.9522	-0.02851	19762.14	274.9768	-0.00385	26351.78	515.6264	-0.17664
300	43.75675	41.41243	27.32145	12258.6	241.3047	0.035616	15407.09	20251.37	20446.33355	21998.41	26838.93	27034.88	115.23872	292.5457	299.7284	299.6836	-0.04477	20439.18	299.7017	-0.02673	27042.61	540.8552	-0.17791
325	43.91709	41.63106	27.28664	12275.55	241.7026	0.033038	15509.53	20400.27	21126.76071	22103.39	26990.58	27716.16	118.51901	297.7544	324.4032	324.3876	-0.01553	21115.4	324.3969	-0.00622	27728.03	565.8863	-0.2195
340	43.9039	41.65886	27.27188	12279.2	241.9069	0.041864	15577.64	20504.85	21528.27349	22173.36	27096.05	28118.81	120.94677	301.6165	339.1708	339.1563	-0.01451	21519.64	339.1594	-0.01142	28136.92	580.8188	-0.25899

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.39828	40.99441	27.38443	12231.9	240.6716	0.039756	12314.05	20447.23	21542.02248	18905.3	27032.28	28126.23	1.585E-06	-0.363615	-0.021245	0.026726	0.034948	6	-446.725	0.036519

23GHz V	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.38538	39.0895	13.91098	10211.07	208.066	0.059891	11688.61	14079.01	11693.89942	14587.8	16975.51	14592.88	106.21401	278.0496	106.5757	106.5942	0.018514	11674.58	106.6136	0.037897	14548.72	314.6161	-0.02562
125	42.57058	39.31442	13.87543	10207.21	208.2109	0.059658	11675.69	14073.39	11974.09566	14569.46	16964.47	14867.57	105.83284	278.6348	127.3127	127.3287	0.016063	11960.67	127.3181	0.005462	14836.72	335.4594	-0.06424
150	42.67179	39.41354	13.85857	10205.57	208.2888	0.051504	11670.6	14073.05	12256.90868	14561.97	16962.08	15147.62	105.71275	279.0673	147.9454	148.0018	0.056392	12245.89	147.9596	0.014248	15122.71	356.1562	-0.078
175	42.70342	39.44733	13.8487	10206.58	208.3709	0.050371	11674.11	14082.23	12669.59193	14564.55	16970.38	15557.71	105.96886	279.8563	177.66	177.8279	0.167836	12657.34	177.7366	0.076593	15533.63	385.8944	-0.1365
200	42.92564	39.6703	13.8088	10198.62	208.5118	0.051312	11670.46	14071.46	12938.62291	14554.52	16953.19	15819.99	106.58763	280.4623	198.2051	198.4006	0.195551	12941.1	198.2724	0.06727	15818.95	406.5437	-0.17321
225	43.13355	39.88106	13.76667	10195.06	208.762	0.048006	11694.9	14075.71	13270.66849	14573.64	16952.29	16146.25	108.94717	281.887	223.1396	223.3882	0.248589	13285.73	223.2132	0.073528	16166.54	431.6988	-0.20283
250	42.99939	39.71951	13.78727	10192.8	208.769	0.068874	11725.47	14111.6	13643.0455	14608.51	16991.54	16523.57	111.16564	284.2331	250.0148	250.2336	0.218862	13655.93	250.005	-0.00981	16537.34	458.5336	-0.25019
275	42.84981	39.59915	13.80042	10212.96	208.9248	0.041817	11789.83	14182.93	14009.87116	14677.89	17069.11	16895.51	114.26201	287.6702	274.8416	275.1234	0.281754	13999.14	274.843	0.001365	16882.85	483.5386	-0.22781
300	43.28077	40.03617	13.71151	10206.21	209.3331	0.059221	11793.19	14217.34	14317.62222	14668.1	17089.54	17189.94	115.74044	292.5374	299.5994	299.8553	0.255909	14340.16	299.5228	-0.07659	17229.25	508.607	-0.32541
325	43.42631	40.19329	13.67189	10207.04	209.6476	0.051946	11834.28	14277.8	14645.18856	14705.18	17146.29	17512.19	119.02062	297.7463	324.2885	324.6358	0.347293	14681.81	324.2483	-0.04028	17573.9	533.5501	-0.38598
340	43.39573	40.1543	13.66791	10207.52	209.809	0.060559	11867.46	14329.88	14846.55852	14739.68	17199.26	17714.89	121.44827	301.6085	339.0664	339.4371	0.370676	14885.88	339.0166	-0.04977	17780.13	548.4747	-0.40075

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.94021	39.68351	13.81957	10200.61	208.7904	0.054833	10242.07	14346.48	14898.66921	13128.27	17227.24	17778.7	3.183E-06	-0.652631	0.300893	0.076593	0.070183	6	-738.28	0.07237

36GHz V	Low Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.20566	36.19348	19.52802	8154.773	202.7409	-0.328674	10223.92	13584.95	10238.91942	14197.39	17578.97	14211.86	105.95802	278.0711	106.7116	106.7279	0.016255	10228.81	106.5808	-0.13077	14179.6	309.5109	0.058427
125	42.40725	36.44639	19.48419	8146.281	202.8143	-0.320744	10203.35	13575.67	10630.24567	14169.17	17561.62	14598.52	105.57653	278.6563	127.4563	127.535	0.078726	10631.97	127.2888	-0.16748	14587.07	330.4405	0.169844
150	42.50076	36.5335	19.45606	8141.724	202.8968	-0.333027	10193.49	13571.7	11023.92146	14155.2	17554.35	14990.65	105.4565	279.0889	148.0866	148.2212	0.134539	11033.04	147.89	-0.19664	14992.37	351.2585	0.274995
175	42.48498	36.519	19.46353	8149.255	202.9283	-0.323683	10206.82	13596.67	11611.42543	14170.54	17580.82	15583.77	105.71365	279.8782	177.7876	177.9884	0.200807	11610.64	177.5579	-0.22967	15574.16	381.142	0.426135
200	42.69068	36.72527	19.40502	8139.022	203.0504	-0.324207	10202.41	13581.83	11990.36926	14156.61	17556.44	15955.51	106.33256	280.4845	198.3186	198.5831	0.264501	12010.6	198.1014	-0.21725	15978.88	401.9302	0.561091
225	42.84475	36.88627	19.3573	8131.271	203.1719	-0.327078	10235.3	13588.28	12457.9609	14182.28	17555.71	16418.96	108.69424	281.9097	223.2373	223.616	0.378709	12497.12	223.0912	-0.14617	16471.13	427.2143	0.805071
250	42.59325	36.59358	19.40988	8152.908	203.2263	-0.340925	10305.78	13670.29	13014.45336	14264.6	17650.51	16990.54	110.91636	284.2563	250.1012	250.5371	0.43592	13020.73	249.9863	-0.11491	16999.41	454.3488	1.021276
275	42.35954	36.39323	19.44784	8172.969	203.415	-0.328295	10390.36	13768	13528.23003	14360.51	17758.85	17517.63	114.01741	287.6941	274.9208	275.3947	0.473885	13504.66	274.8432	-0.07755	17489.32	479.5128	1.177021
300	42.64341	36.67938	19.36389	8162.771	203.681	-0.335632	10399.39	13827.9	13976.83682	14357.18	17807.22	17956.11	115.50437	292.5617	299.6851	300.232	0.546897	13988.67	299.7039	0.018743	17980.93	504.7643	1.398139
325	42.59347	36.63851	19.35628	8173.601	203.8837	-0.32624	10472.95	13937.34	14466.70823	14432.84	17918.4	18450.4	118.79068	297.7713	324.3903	325.0365	0.646263	14472.42	324.5518	0.161495	18471.3	529.9518	1.677836
340	42.39555	36.41984	19.38591	8190.162	203.9955	-0.318981	10540.22	14037.61	14781.0094	14508.15	18026.44	18774.27	121.22509	301.634	339.1812	339.8576	0.6764	14761.71	339.4109	0.229667	18764.57	545.0156	1.838788

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.51994	36.54804	19.45718	8158.009	203.2549	-0.327953	8216.381	13995.16	14777.33933	12165.67	17979.41	18766.36	-1.475E-05	-0.444	0.541075	-0.229667	-0.32516	6	-418.816	0.051364

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

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36GHz H Low Gain Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.20566	35.90529	18.85958	8076.55	219.0124	-0.309327	10074.64	13320.86	10088.82168	14214.47	17480.87	14228.72	105.94546	278.0711	106.7043	106.6993	-0.00501	10080.8	106.5559	-0.14841	14205.07	325.8381	0.121408
125	42.40725	36.15925	18.82601	8069.348	219.1255	-0.315793	10056.7	13315.34	10468.93727	14191.27	17470.6	14606.05	105.56398	278.6563	127.4594	127.5062	0.046817	10470.93	127.299	-0.16045	14599.82	346.8266	0.241717
150	42.50076	36.24772	18.81238	8065.522	219.1667	-0.302634	10049.17	13315.85	10850.94388	14181.36	17467.91	14988.4	105.44395	279.0889	148.0923	148.1389	0.046579	10858.02	147.8801	-0.21224	14990.28	367.587	0.327978
175	42.48498	36.23183	18.83408	8074.865	219.2412	-0.307705	10065.65	13346.11	11423.18846	14204.01	17504.77	15569.72	105.7011	279.8782	177.7886	177.8797	0.091145	11416.38	177.5671	-0.22148	15553.02	397.5073	0.477552
200	42.69068	36.43947	18.7942	8064.627	219.3397	-0.301263	10062.83	13336.11	11792.22535	14194.23	17487.35	15934.04	106.32	280.4845	198.3137	198.4401	0.126444	11802.67	198.1057	-0.20795	15943.42	418.2641	0.610746
225	42.84475	36.60055	18.75377	8058.558	219.4998	-0.309175	10096.75	13345.43	12246.42419	14222.44	17491.35	16385.95	108.68169	281.9097	223.2255	223.3989	0.173342	12271.91	223.0547	-0.17081	16419.42	443.5727	0.847328
250	42.59325	36.30719	18.78277	8071.141	219.5689	-0.29928	10154.22	13410.26	12772.17539	14287.5	17563.17	16921.44	110.90381	284.2563	250.0857	250.3484	0.262759	12778.93	250.0122	-0.07344	16930.07	470.7231	1.068503
275	42.35954	36.11124	18.81408	8086.321	219.6991	-0.286373	10231.22	13499.02	13262.83156	14373.7	17660.36	17422.78	114.00486	287.6941	274.9078	275.1677	0.259851	13246.24	274.8585	-0.04931	17401.57	495.7922	1.185246
300	42.64341	36.40027	18.741	8076.221	219.9647	-0.298377	10240.65	13559.12	13698.01155	14371.84	17710.3	17849.56	115.49182	292.5617	299.6816	299.9543	0.272649	13713.3	299.6917	0.010113	17876.78	521.0584	1.412114
325	42.59347	36.36486	18.73271	8087.763	220.1771	-0.301175	10312.8	13665.83	14171.40812	14446.01	17819.45	18328.09	118.77813	297.7713	324.4039	324.6852	0.281305	14179.65	324.4868	0.082908	18350.64	546.2534	1.672378
340	42.39555	36.14748	18.76004	8101.616	220.289	-0.307463	10375.57	13760.28	14474.2642	14516.83	17922.6	18640.07	121.21254	301.634	339.2084	339.5802	0.37174	14460.7	339.4299	0.221481	18635.2	561.383	1.885519

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.51994	36.26501	18.7978	8080.225	219.5531	-0.303506	8136.618	13719.57	14474.92628	12259.4	17875.84	18635.77	-1.354E-05	-0.430055	0.274642	-0.221481	-0.29858	6	-429.428	0.053169

89GHz V Low Gain Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.50317	46.21816	44.17698	30.40988	15216.22	18431.36	23672.15	18462.19	105.7269581	278.0652	106.7403	106.7433	0.0030667	18581.95	106.5847	-0.155531
125	44.72797	46.44174	44.39338	30.41572	15253.15	18457.31	23728.5	19128.81	105.3455462	278.6504	127.4761	127.4738	-0.0023184	19210.49	127.2678	-0.208244
150	44.8593	46.57053	44.51816	30.42367	15273.09	18474.43	23763.82	19777.06	105.2254684	279.083	148.1038	148.1272	0.0233801	19837.09	147.8873	-0.216502
175	44.88201	46.59734	44.54135	30.41605	15285.95	18494.3	23798.57	20692.64	105.4822924	279.8727	177.809	177.8705	0.0615278	20740.18	177.6051	-0.203921
200	45.10306	46.81858	44.75268	30.41834	15317.05	18544.47	23848.77	21349.13	106.1011904	280.4793	198.3444	198.4193	0.0749104	21364.58	198.1521	-0.19234
225	45.31723	47.03262	44.95799	30.41467	15350.54	18649.39	23924.59	22139.99	108.4623841	281.905	223.2697	223.3321	0.0623732	22122.13	223.0806	-0.189113
250	45.21262	46.89402	44.81263	30.40352	15347.75	18712.92	23990.02	22953.13	110.6834945	284.2523	250.1393	250.2206	0.0813079	22940.42	250.0076	-0.131615
275	45.09767	46.79131	44.70292	30.38013	15342.94	18799.7	24083.02	23697.46	113.7834489	287.6908	274.9468	275.0307	0.0838485	23696.07	274.8737	-0.073066
300	45.55359	47.25141	45.14145	30.36916	15408.74	18909.32	24293.51	24513.75	115.2677251	292.559	299.7071	299.7906	0.0835319	24450.8	299.7093	0.002167
325	45.75075	47.43954	45.30346	30.35309	15450.54	19048.97	24488.76	25303.83	118.5523334	297.7694	324.4022	324.5378	0.1356201	25205.71	324.5511	0.148881
340	45.75888	47.4248	45.27746	30.3415	15463.71	19134.57	24615.69	25763.08	120.9846566	301.6325	339.185	339.3222	0.1372201	25657	339.4015	0.216502

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.16057	46.86182	44.77986	30.37031	15349.42	15440.53	24460.51	25681.6	-1.52425E-05	-0.279392	0.104717	-0.216502	-0.3361305	6	-504.8863	0.032907

89GHz V Low Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.50317	46.21816	44.17698	26.57406	12157.06	14966.66	19546.38	14992.55	105.7269581	278.0652	106.7403	106.7038	-0.0364651	15096.97	106.5932	-0.147047
125	44.72797	46.44174	44.39338	26.57787	12189.33	14989.19	19595.27	15575.1	105.3455462	278.6504	127.4761	127.4384	-0.037674	15646.22	127.2757	-0.200342
150	44.8593	46.57053	44.51816	26.58463	12206.56	15003.94	19625.88	16141.61	105.2254684	279.083	148.1038	148.1003	-0.0034463	16193.89	147.8984	-0.205435
175	44.88201	46.59734	44.54135	26.57672	12218.65	15022.03	19656.75	16942.66	105.4822924	279.8727	177.809	177.856	0.0470023	16983.19	177.6196	-0.189379
200	45.10306	46.81858	44.75268	26.57689	12245.38	15065.22	19699.65	17515.64	106.1011904	280.4793	198.3444	198.4113	0.0668967	17528.84	198.1663	-0.178154
225	45.31723	47.03262	44.95799	26.57092	12274.41	15156.35	19764.89	18205.86	108.4623841	281.905	223.2697	223.3276	0.0578697	18190.71	223.0893	-0.180427
250	45.21262	46.89402	44.81263	26.56054	12273.59	15213.4	19823.48	18917.87	110.6834945	284.2523	250.1393	250.2245	0.0852363	18905.74	250.0139	-0.125368
275	45.09767	46.79131	44.70292	26.53762	12270.14	15289.68	19904.76	19568.26	113.7834489	287.6908	274.9468	275.0399	0.0930841	19565.95	274.8746	-0.072257
300	45.55359	47.25141	45.14145	26.52205	12326.03	15383.17	20085.29	20277.97	115.2677251	292.559	299.7071	299.8044	0.097277	20225.32	299.7033	-0.003822
325	45.75075	47.43954	45.30346	26.50361	12362.91	15504.97	20254.87	20967.12	118.5523334	297.7694	324.4022	324.5635	0.1613055	20885.03	324.5449	0.142671
340	45.75888	47.4248	45.27746	26.4916	12375.26	15580.34	20365.99	21368.34	120.9846566	301.6325	339.185	339.3505	0.165525	21279.28	339.3904	0.205435

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.16057	46.86182	44.77986	26.54131	12271.51	12351.14	20233.91	21300.73	-1.4374E-05	-0.279392	0.104717	-0.205435	-0.3169785	6	-461.8883	0.037655

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

89GHz H Low Gain Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.50317	46.10207	44.17698	32.0803	14639.97	18036.35	23560.39	18060.11	105.8712435	278.0652	106.6327	106.6142	-0.0185357	18151.42	106.4213	-0.211448
125	44.72797	46.32623	44.39338	32.09006	14667.99	18053.17	23609.9	18754.76	105.4898316	278.6504	127.3686	127.4116	0.0430373	18816.28	127.1412	-0.227402
150	44.8593	46.45511	44.51816	32.08886	14685.31	18066.51	23640.77	19433.95	105.3697537	279.083	147.9963	148.0832	0.0869463	19477.63	147.7516	-0.24464
175	44.88201	46.48292	44.54135	32.08286	14690.26	18079.06	23669.37	20391.36	105.6265778	279.8727	177.7015	177.8303	0.1288244	20430.21	177.4382	-0.263236
200	45.10306	46.70248	44.75268	32.08497	14714.51	18123.39	23713.68	21076.46	106.2454758	280.4793	198.2369	198.4187	0.181828	21090.12	198.0037	-0.233168
225	45.31723	46.91683	44.95799	32.08341	14741.33	18225.8	23785.8	21904.04	108.6066695	281.905	223.1622	223.3723	0.2101408	21890.65	222.9515	-0.210679
250	45.21262	46.77976	44.81263	32.07711	14738.69	18293.73	23856.68	22763.69	110.8277799	284.2523	250.0317	250.2628	0.2310229	22754.13	249.8611	-0.170675
275	45.09767	46.67744	44.70292	32.05239	14733.35	18385.01	23954.53	23549.66	113.9277343	287.6908	274.8393	275.0953	0.2560443	23552.33	274.7365	-0.102755
300	45.55359	47.13889	45.14145	32.0346	14791.54	18488.72	24163.55	24398.93	115.4120105	292.559	299.5996	299.8827	0.2831199	24349.88	299.5914	-0.008204
325	45.75075	47.32567	45.30346	32.01451	14825.29	18625.3	24358.23	25221.84	118.6966188	297.7694	324.2947	324.6462	0.3515333	25147.4	324.4455	0.150801
340	45.75888	47.31611	45.27746	31.99731	14834.21	18710.01	24485.64	25701.22	121.128942	301.6325	339.0774	339.4752	0.3977409	25625.35	339.3407	0.263236

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.16057	46.74759	44.77986	32.06516	14744.26	14840.46	24363.81	25654.15	-1.77595E-05	-0.303336	0.302512	-0.263236	-0.391637	6	-459.2533	0.031164

89GHz H Low Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.50317	46.10207	44.17698	27.79788	11743.73	14686.73	19473.35	14705.95	105.8712435	278.0652	106.6327	106.5649	-0.0678	14783.79	106.4196	-0.213114
125	44.72797	46.32623	44.39338	27.80528	11767.82	14701	19515.77	15308	105.4898316	278.6504	127.3686	127.3776	0.0090249	15360.14	127.1443	-0.224241
150	44.8593	46.45511	44.51816	27.8027	11782.86	14712.42	19542.12	15896.68	105.3697537	279.083	147.9963	148.0615	0.0652947	15933.37	147.7566	-0.239615
175	44.88201	46.48292	44.54135	27.79633	11787.07	14723.1	19566.5	16726.35	105.6265778	279.8727	177.7015	177.823	0.1215217	16758.92	177.4421	-0.259327
200	45.10306	46.70248	44.75268	27.796	11807.73	14760.93	19603.93	17319.5	106.2454758	280.4793	198.2369	198.4249	0.1880129	17330.91	198.0102	-0.226709
225	45.31723	46.91683	44.95799	27.79178	11830.79	14849.17	19665.43	18035.93	108.6066695	281.905	223.1622	223.389	0.2268767	18024.63	222.9553	-0.206897
250	45.21262	46.77976	44.81263	27.78652	11829.64	14909.16	19728.02	18782.02	110.8277799	284.2523	250.0317	250.2893	0.2575839	18772.85	249.8599	-0.171786
275	45.09767	46.67744	44.70292	27.76234	11825.18	14988.08	19812.15	19462.5	113.9277343	287.6908	274.8393	275.1315	0.2922166	19464.52	274.7316	-0.107717
300	45.55359	47.13889	45.14145	27.73923	11874.91	15076.35	19990.27	20195.35	115.4120105	292.559	299.5996	299.9284	0.3288341	20155.63	299.5828	-0.016803
325	45.75075	47.32567	45.30346	27.71647	11904.29	15194.14	20157.41	20906.72	118.6966188	297.7694	324.2947	324.7077	0.4129985	20846.89	324.4393	0.144641
340	45.75888	47.31611	45.27746	27.69887	11912.2	15267.33	20267.08	21321.25	121.128942	301.6325	339.0774	339.5466	0.4692036	21261.18	339.3368	0.259327

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.16057	46.74759	44.77986	27.79045	11830.71	11914.08	20167.84	21286	-1.73294E-05	-0.303336	0.302512	-0.259327	-0.3821517	6	-425.1832	0.035958

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
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Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

166GHz V	Low Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.07744	29.15532	40.13033	24.8925	12600.63	15210.03	19519.99	15250.49	104.8270292	277.9696	106.4446	106.4551	0.0105377	15746.12	106.3554	-0.089223
125	40.30968	29.73799	40.35183	24.89255	12680.57	15280.54	19614.49	15845.23	104.4476918	278.554	127.1984	127.1677	-0.0306962	16260.21	127.0475	-0.150865
150	40.44074	30.10304	40.47605	24.88847	12731.21	15327.76	19674.77	16409.62	104.3274478	278.987	147.8489	147.8542	0.0053054	16773.87	147.7224	-0.126421
175	40.49272	30.45323	40.52201	24.88324	12802.33	15404.6	19764.11	17219.65	104.5788871	279.7776	177.5929	177.598	0.0050764	17512.81	177.4648	-0.128096
200	40.71974	30.79833	40.74344	24.87616	12839.4	15456.31	19814.32	17766.68	105.1973003	280.3854	198.1709	198.1503	-0.0206066	18023.66	198.0267	-0.144248
225	40.98251	31.46746	40.99087	24.87231	12929.47	15604.4	19938.78	18477.68	107.5463159	281.8118	223.1528	223.1371	-0.0156664	18645.02	223.0366	-0.116211
250	40.95702	32.15583	40.90642	24.87	13063.81	15793.22	20130.9	19282.05	109.7472479	284.1612	250.094	250.0788	-0.0151381	19315.36	250.0175	-0.076509
275	40.99387	33.05669	40.93576	24.85875	13226.44	16031.02	20375.88	20061.2	112.8204881	287.6024	274.9895	274.9646	-0.0249011	19934.86	274.9525	-0.03701
300	41.60664	34.755	41.51234	24.83904	13460.62	16298.68	20725.39	20907.96	114.2578939	292.4739	299.844	299.8101	-0.0339024	20553.67	299.8595	0.015581
325	42.00498	36.57931	41.8552	24.80764	13757.54	16672.67	21142.48	21812.17	117.5091011	297.6881	324.6525	324.6259	-0.0265561	21172.04	324.7493	0.096793
340	42.15242	37.92043	41.94788	24.79197	14000.96	16973.62	21477.09	22419.69	119.9042238	301.5547	339.5122	339.4896	-0.0225399	21542.57	339.663	0.150865
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.97616	32.38024	40.94292	24.83447	13107.44	13181.95	20557.78	21554.6	-1.02211E-05	0.359606	-0.023648	-0.150865	-0.225399	4	-527.4274	0.04025

166GHz H	Low Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.07744	28.76501	40.13033	26.46645	16445.7	19222.92	23802.56	19262.13	104.9336838	277.9696	106.4135	106.4176	0.0041243	19701.85	106.3194	-0.094125
125	40.30968	29.34602	40.35183	26.46257	16522.4	19289.17	23893.65	19885.39	104.5543464	278.554	127.1673	127.1169	-0.0504213	20248.15	127.0246	-0.142673
150	40.44074	29.70886	40.47605	26.46146	16569.01	19332.49	23951.41	20477.74	104.4341024	278.987	147.8178	147.7677	-0.0501021	20793.38	147.689	-0.128797
175	40.49272	30.05773	40.52201	26.45785	16625.75	19395.51	24028.07	21319.49	104.6855417	279.7776	177.5618	177.4744	-0.0874037	21578.06	177.4286	-0.133256
200	40.71974	30.40213	40.74344	26.45057	16660.44	19445.79	24076.79	21896.36	105.3039549	280.3854	198.1398	198.023	-0.1168468	22121.08	198.0092	-0.13067
225	40.98251	31.06622	40.99087	26.44073	16737	19583.42	24188.31	22631.42	107.6529705	281.8118	223.1217	222.9935	-0.1282017	22781.2	223.0281	-0.09365
250	40.95702	31.7407	40.90642	26.44139	16861.87	19766.56	24375.49	23468.02	109.8539025	284.1612	250.0629	249.8862	-0.1766943	23492.47	249.9855	-0.077382
275	40.99387	32.63558	40.93576	26.44812	17013.84	20000.56	24620.39	24278.98	112.9271427	287.6024	274.9584	274.7135	-0.2449685	24149.39	274.883	-0.075436
300	41.60664	34.32398	41.51234	26.41244	17213.83	20234.48	24938.78	25126.5	114.3645485	292.4739	299.8129	299.569	-0.2439194	24807.31	299.8184	0.005553
325	42.00498	36.13017	41.8552	26.36913	17470.17	20571.59	25319.94	26024.68	117.6157557	297.6881	324.6214	324.362	-0.2594416	25463.85	324.7014	0.080017
340	42.15242	37.45587	41.94788	26.33907	17656.06	20817.04	25598.73	26593.02	120.0108784	301.5547	339.4811	339.2262	-0.2548361	25857.57	339.6238	0.142673
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.97616	31.96657	40.94292	26.375	16900	16979.13	24812.5	25870.86	-9.40415E-06	0.281905	-0.225883	-0.142673	-0.2073826	4	-640.3882	0.0379

183GHz V_A	Low Gain	Hot Plateau (Original As-measured Data, reference only)														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.87111	30.51564	39.9524	40.27005	9476.148	13696.55	20670	13761.3	104.8025436	277.9696	106.4099	106.4148	0.0048465	14210.61	106.2543	-0.155599
125	40.05637	31.08766	40.13276	40.18821	9522.387	13718.97	20716.97	14631.2	104.4232896	278.554	127.1698	127.1766	0.0067587	15039.56	126.9652	-0.204617
150	40.1511	31.44241	40.22215	40.13618	9575.333	13761.66	20772.8	15505.88	104.3030646	278.987	147.8258	147.8509	0.0251456	15865.57	147.6025	-0.223229
175	40.18538	31.79047	40.25662	40.10137	9626.313	13819.09	20845.78	16745.21	104.5543952	279.7776	177.5776	177.6408	0.0632032	17056.73	177.3629	-0.214626
200	40.36237	32.13092	40.43026	40.05321	9644.488	13857	20874.82	17579.7	105.1730195	280.3854	198.158	198.2379	0.0799775	17880.99	197.9566	-0.201386
225	40.52678	32.78549	40.58758	40.00508	9723.318	14024.74	20997.22	18649.27	107.5219111	281.8118	223.1415	223.2278	0.0863655	18881.79	222.9608	-0.180643
250	40.26113	33.43143	40.289	40.02584	9896.942	14288.68	21270.73	19907.49	109.722471	284.1612	250.0842	250.1779	0.09368	19961.96	249.9483	-0.135893
275	40.1099	34.3161	40.14912	40.00247	10086.85	14598.94	21591.65	21088.65	112.7953062	287.6024	274.9523	275.0603	0.1080155	20960.13	274.8869	-0.06533
300	40.45164	35.98242	40.47563	39.9078	10321.55	14880.27	21993.54	22291.65	114.231305	292.4739	299.8047	299.9219	0.1172125	21958.3	299.8256	0.020846
325	40.46193	37.7547	40.46218	39.81832	10653.62	15331.56	22507.06	23588.91	117.4820302	297.6881	324.6093	324.7685	0.1592876	22956.65	324.7687	0.159406
340	40.28974	39.04967	40.26258	39.80898	10931.68	15703.83	22936.27	24456.99	119.8761483	301.5547	339.4669	339.6222	0.1552873	23553.88	339.6901	0.223229
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.24795	33.66244	40.29275	39.99952	9966.867	10086.87	21966.72	23575.3	-1.58414E-05	0.351664	0.126187	-0.223229	-0.3493394	5	-248.7889	0.024984

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183GHz V_A Low Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.87111	30.51564	39.9524	33.2715	2487.348	5974.286	11735.81	6030.228	104.8025436	277.9696	106.4099	106.4895	0.0795533	6454.859	106.2199	-0.190085
125	40.05637	31.08766	40.13276	33.20529	2529.064	5996.47	11778.53	6751.979	104.4232896	278.554	127.1698	127.2426	0.0727473	7139.823	126.92	-0.249862
150	40.1511	31.44241	40.22215	33.16269	2578.954	6037.924	11830.91	7480.448	104.3030646	278.987	147.8258	147.9119	0.0861203	7822.568	147.553	-0.272722
175	40.18538	31.79047	40.25662	33.13639	2626.182	6090.737	11897	8509.64	104.5543952	279.7776	177.5776	177.6972	0.1196286	8807.386	177.315	-0.262592
200	40.36237	32.13092	40.43026	33.09838	2642.536	6123.593	11922.84	9200.697	105.1730195	280.3854	198.158	198.2894	0.1314235	9488.918	197.9114	-0.246566
225	40.52678	32.78549	40.58758	33.06762	2715.57	6271.064	12034.42	10094.26	107.5219111	281.8118	223.1415	223.2707	0.1292418	10316.46	222.9202	-0.221286
250	40.26113	33.43143	40.289	33.1	2877.94	6509.755	12283.68	11156.89	109.722471	284.1612	250.0842	250.2117	0.1275509	11209.79	249.9175	-0.166683
275	40.1099	34.3161	40.14912	33.09519	3055.293	6788.276	12573.55	12158.08	112.7953062	287.6024	274.9523	275.088	0.1357673	12035.52	274.8718	-0.080518
300	40.45164	35.98242	40.47563	33.04292	3274.524	7049.059	12938.71	13186.41	114.231305	292.4739	299.8047	299.9432	0.1384779	12861.38	299.8296	0.024919
325	40.46193	37.7547	40.46218	32.99402	3585.609	7461.813	13407.53	14305.36	117.4820302	297.6881	324.6093	324.7905	0.181261	13687.76	324.8035	0.194203
340	40.28974	39.04967	40.26258	33.01196	3846.035	7803.382	13800.95	15063.56	119.8761483	301.5547	339.4669	339.6389	0.1720201	14181.99	339.7396	0.272722

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.24795	33.66244	40.29275	33.06407	2949.224	3048.416	12868.44	14199.69	-1.93498E-05	0.351664	0.126187	-0.272722	-0.4267058	5	-88.85083	0.030221

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

183GHz V_B	Low Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.87111	30.51564	39.9524	42.07719	12882.84	17291.29	24579.02	17365	104.7705088	277.9696	106.5198	106.5266	0.0068118	17977.44	106.3629	-0.156905
125	40.05637	31.08766	40.13276	42.04436	12969.9	17358.96	24681.52	18318.76	104.3912548	278.554	127.2797	127.2713	-0.0084247	18846.87	127.0619	-0.217828
150	40.1511	31.44241	40.22215	42.03104	13034.44	17417.06	24760.55	19249.77	104.2710298	278.987	147.9356	147.9605	0.0248429	19714.53	147.7184	-0.217189
175	40.18538	31.79047	40.25662	42.03306	13103.76	17497.15	24863.67	20570.18	104.5223604	279.7776	177.6874	177.7441	0.0566731	20964.52	177.4777	-0.209717
200	40.36237	32.13092	40.43026	41.99785	13153.71	17569.41	24929.3	21478.29	105.1409847	280.3854	198.2678	198.3291	0.0612871	21829.13	198.0619	-0.205957
225	40.52678	32.78549	40.58758	41.97739	13270.38	17782.52	25100.1	22640.84	107.4898762	281.8118	223.2513	223.3281	0.0767948	22879.87	223.0773	-0.174004
250	40.26113	33.43143	40.289	41.99476	13435.18	18041.6	25368.46	23941.91	109.6904362	284.1612	250.194	250.2632	0.0691787	24012.87	250.0511	-0.142911
275	40.1099	34.3161	40.14912	42.00649	13638.28	18375.07	25719.45	25194.36	112.7632713	287.6024	275.0621	275.1327	0.0705288	25059.83	274.9765	-0.085628
300	40.45164	35.98242	40.47563	41.98201	13975.76	18770.07	26254.4	26571.4	114.1992702	292.4739	299.9146	300.0036	0.0890655	26107.68	299.923	0.008474
325	40.46193	37.7547	40.46218	41.98095	14372.87	19303.53	26870.09	28013.01	117.4499953	297.6881	324.7191	324.8279	0.1088095	27154.35	324.8418	0.122653
340	40.28974	39.04967	40.26258	42.01654	14681.84	19717.27	27352.12	28960.78	119.8441135	301.5547	339.5768	339.7145	0.1377353	27782.43	339.7946	0.217828

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.24795	33.66244	40.29275	41.97833	13518.29	13644.23	26111.79	27799.47	-1.50023E-05	0.347977	0.097162	-0.217828	-0.3308345	5	-321.634	0.023807

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649, Program: GMI
Agile Revision: H (C484272)

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10GHz V Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.85855	28.44962	28.94661	13168.61	228.4036	-0.092847	16203.38	21221.41	16252.68251	22822.88	27850.59	22872.62	104.84032	278.1948	106.5447	106.5446	-8.6E-05	16250.3	106.5054	-0.03934	22848.74	335.0154	0.067105
125	39.00202	28.62441	28.90471	13165.63	228.4489	-0.059052	16189.11	21222.38	16843.40961	22799.73	27839.17	23454.24	104.60151	278.7348	127.2131	127.2522	0.039086	16847.4	127.1834	-0.0297	23446.35	355.7112	0.049178
150	39.07668	28.71229	28.88214	13166.2	228.4226	-0.094132	16186.65	21229.04	17437.41131	22791.9	27844.16	24044.94	104.57847	279.1635	147.8548	147.9076	0.05282	17443.1	147.8131	-0.04167	24043.93	376.4059	0.128489
175	39.14316	28.81419	28.87679	13168.72	228.4603	-0.066634	16198.96	21253.38	18297.60868	22803.6	27865.02	24906.02	104.93693	279.971	177.5848	177.6438	0.059012	18300.88	177.5189	-0.06589	24903.87	406.1865	0.141347
200	39.32161	29.01818	28.81766	13163.81	228.456	-0.089495	16241.65	21260.76	18876.60152	22833.06	27861.51	25473.08	106.80409	280.9718	198.161	198.2707	0.109672	18896.05	198.1302	-0.03081	25500.67	426.8543	0.237304
225	39.41515	29.13217	28.78053	13164.58	228.5645	-0.092936	16279.76	21285.25	19588.54873	22865.88	27881.05	26180.57	108.23917	282.1585	223.1296	223.2334	0.103822	19616.45	223.0781	-0.05142	26225.16	451.9441	0.250112
250	38.9541	28.76823	28.89026	13174.29	228.614	-0.085287	16367	21396.32	20402.38292	22979.53	28017.78	27023.36	110.51148	284.5952	250.0676	250.2112	0.143633	20395.18	250.0464	-0.02117	27007.89	479.0506	0.369034
275	38.93744	28.69255	28.87797	13185.66	228.7266	-0.096098	16465.68	21508.68	21129.33381	23078.8	28131.88	27751.69	113.58217	288.2134	274.9297	275.0861	0.156426	21113.41	274.9194	-0.01025	27730.51	504.0758	0.419566
300	39.26467	29.0877	28.7817	13184.18	228.8595	-0.091883	16484.51	21621.23	21816.35151	23079.1	28225.65	28421.47	114.66768	293.1393	299.784	299.9135	0.129571	21830.47	299.7517	-0.03223	28452.67	529.0848	0.441289
325	39.16903	29.06837	28.78051	13193.92	229.0568	-0.098363	16595.92	21774.95	22542.78668	23195.93	28385.59	29153.96	118.20493	298.1543	324.5935	324.8104	0.216908	22549.68	324.6588	0.065278	29178.51	554.2213	0.571015
340	38.8366	28.83108	28.86061	13201.28	229.0304	-0.107501	16675.46	21915.16	23005.05238	23293.11	28544.56	29634.17	120.37778	301.9297	339.4518	339.6595	0.207672	22978.75	339.5177	0.065886	29607.38	569.0735	0.591328

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.089	28.83625	28.87113	13176.69	228.6403	-0.088566	13263.3	21838.03	22994.48723	19862.53	28453.55	29612.21	-4.142E-06	0.097591	0.168756	-0.065886	-0.09135	4	-456.258	0.034631

10GHz H Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.85855	28.40983	30.14206	12214.85	201.4441	-0.083682	15389.1	20600.21	15426.91162	21446.02	26665.13	21484.23	105.30965	278.1948	106.5715	106.565	-0.00651	15409.41	106.5368	-0.03469	21440.67	308.0487	0.033151
125	39.00202	28.58369	30.07242	12208.37	201.5077	-0.102957	15368.11	20590.6	16032.24209	21413.14	26645.5	22078.66	105.07083	278.7348	127.2467	127.1687	-0.07795	16027.42	127.1854	-0.06132	22061.7	328.7984	0.043973
150	39.07668	28.67437	30.05076	12205.28	201.3549	-0.088879	15362.04	20594.35	16646.18025	21398.06	26638.89	22684.5	105.04779	279.1635	147.8953	147.8025	-0.09277	16646.41	147.8666	-0.02872	22676.92	349.3536	0.10348
175	39.14316	28.77439	30.04393	12208.17	201.403	-0.089461	15374.98	20619.6	17538.32624	21411.11	26664.32	23578.08	105.40625	279.971	177.6336	177.4417	-0.19188	17535.68	177.5784	-0.05519	23568.99	379.1586	0.121982
200	39.32161	28.97808	29.95726	12199.08	201.5083	-0.077251	15412.69	20616.22	18129.30837	21434.41	26645.3	24154.91	107.27341	280.9718	198.2131	197.9865	-0.22656	18152.15	198.1751	-0.03796	24188.85	399.8691	0.147725
225	39.41515	29.09221	29.92404	12196.87	201.5189	-0.07217	15449.87	20640.2	18866.02432	21465.17	26662.36	24886.29	108.70849	282.1585	223.182	222.8964	-0.28568	18899.75	223.1536	-0.0284	24937.88	424.8951	0.194109
250	38.9541	28.72638	30.03933	12203.52	201.4753	-0.096671	15537.31	20752.57	19704.98319	21574.68	26799.18	25749.82	110.9808	284.5952	250.1145	249.7407	-0.37387	19705.5	250.0747	-0.03986	25745.14	451.8664	0.276532
275	38.93744	28.64962	30.02903	12217.04	201.6431	-0.091755	15641.9	20871.81	20461.1362	21682.22	26920.94	26509.52	114.05149	288.2134	274.9658	274.5462	-0.41951	20450.11	274.953	-0.01275	26495.48	476.9363	0.327434
300	39.26467	29.04363	29.92537	12212.93	201.6877	-0.097565	15658.45	20985.23	21171.35047	21679.53	27015.85	27201.03	115.13701	293.1393	299.804	299.3541	-0.44988	21194.81	299.8345	0.030534	27242.14	501.883	0.391369
325	39.16903	29.02398	29.9334	12221.63	201.8069	-0.097688	15773.96	21146.4	21923.55025	21800.3	27182.39	27959.25	118.67425	298.1543	324.5914	324.0955	-0.49585	21937.62	324.6527	0.061315	27989.44	526.8515	0.453157
340	38.8366	28.78392	30.02351	12228.97	201.777	-0.099089	15857.23	21293.96	22404.33872	21900.91	27347.54	28458.93	120.8471	301.9297	339.4347	338.8811	-0.55362	22381.52	339.484	0.049265	28434.11	541.7082	0.496546

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.089	28.79455	29.92526	12222.73	201.557	-0.090652	12312.5	21200.31	22398.92867	18341.85	27243.99	28444.55	-3.993E-06	-0.026529	-0.447088	-0.061315	-0.08805	4	-408.311	0.033411

18GHz V Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.91886	39.22719	42.73525	15903.58	250.0578	0.026135	20420.15	27797.48	20464.54235	31111.43	38484.4	31155.74	105.68718	278.316	106.7085	106.7259	0.017476	20513.75	106.7316	0.023165	31175.05	356.7573	-0.00903
125	43.09259	39.39842	42.71348	15909.8	250.2208	0.033843	20413.82	27820.77	21351.42525	31106.32	38507.59	32042.16	105.44735	278.8573	127.3827	127.396	0.013366	21394.71	127.3916	0.00889	32061	377.5342	-0.06925
150	43.17732	39.48569	42.70287	15918.14	250.286	0.016567	20420.09	27844.41	22240.14345	31113.35	38534.89	32934.25	105.42504	279.2852	148.0257	148.0426	0.01694	22274.64	148.0276	0.001937	32946.97	398.3119	0.000167
175	43.25674	39.56814	42.6833	15929.63	250.3959	0.021507	20444.99	27884.77	23518.40843	31137.85	38574	34210.43	105.78738	280.0894	177.7478	177.7875	0.03974	23542.31	177.7566	0.008859	34217.45	428.1068	-0.03689
200	43.48618	39.79556	42.6523	15938.89	250.6277	0.022008	20530.75	27928.01	24399.25222	31225.74	38619.29	35094.43	107.65801	281.0896	198.3039	198.3514	0.047494	24418.7	198.3094	0.005517	35104.71	448.9144	-0.01719
225	43.61893	39.92387	42.63018	15952.54	250.7815	0.021895	20603.43	27985.84	25471.57141	31299.44	38678.18	36166.59	109.09848	282.2719	223.2336	223.2886	0.054996	25481.42	223.2321	-0.00152	36172.79	473.9628	-0.05229
250	43.31119	39.58239	42.6382	15949.33	250.7189	0.019809	20698.62	28088.69	26615.43832	31394.05	38780.79	37311.02	111.38584	284.7061	250.1011	250.1505	0.049396	26626.16	250.078	-0.02317	37316.04	500.774	-0.04607
275	43.38603	39.67654	42.5994	15984.94	251.0311	0.015354	20861.61	28267.22	27699.53479	31560.76	38963.78	38396.57	114.47744	288.3205	274.9109	274.9929	0.082058	27684.82	274.9054	-0.00544	38385.87	525.8633	-0.07875
300	43.86944	40.1633	42.50775	16019.57	251.5252	0.004602	20933.24	28484.65	28761.74786	31630.66	39181.28	39455.91	115.59458	293.2426	299.6501	299.7621	0.112061	28740.36	299.6597	0.009664	39461.7	551.0933	-0.08197
325	43.96974	40.25215	42.46273	16051.92	251.8546	0.02059	21111.63	28716.49	29827.63238	31811.11	39412.39	40523.72	119.15657	298.2514	324.3146	324.4226	0.107971	29791.26	324.305	-0.00967	40525.89	576.0503	-0.11895
340	43.83389	40.09201	42.44738	16064.25	251.962	0.027371	21215.43	28884.27	30462.68329	31915.34	39579.38	41158.28	121.35459	302.0215	339.0719	339.2122	0.140344	30421.51	339.0855	0.013609	41159.54	590.9106	-0.12325

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.44736	39.7423	42.642	15962.18	250.8601	0.02088	16090.11	28754.78	30460.06615	26787.62	39447.96	41152.66	6.823E-07	-0.411451	0.096658	0.023165	0.015046	4	-374.351	0.023452

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18GHz H Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.91886	40.44428	43.80086	15440.75	239.8339	0.093171	20064.94	27631.23	20118.80469	30565.23	38116.23	30618.54	105.57316	278.316	106.784	106.8021	0.018106	20152.54	106.844	0.060026	30622.5	346.5602	-0.05769
125	43.09259	40.62945	43.7816	15445.58	239.9407	0.099263	20057.24	27654.4	21026.4027	30557.43	38138.24	31524.86	105.33333	278.8573	127.4626	127.457	-0.00563	21055.18	127.5106	0.047963	31528.46	367.3026	-0.10063
150	43.17732	40.72264	43.77182	15449.13	239.9944	0.092811	20058.78	27673.95	21931.8155	30559.19	38159.03	32428.93	105.31102	279.2852	148.1038	148.0808	-0.02293	21956.33	148.1429	0.039095	32430.58	387.9573	-0.14085
175	43.25674	40.81008	43.74322	15458	240.1402	0.08954	20080.5	27710.01	23237.17981	30580.55	38195.24	33732.5	105.67337	280.0894	177.8172	177.8096	-0.0076	23255.06	177.8782	0.060922	33734.32	417.8072	-0.15029
200	43.48618	41.0553	43.71171	15468.52	240.3683	0.076616	20169.45	27755.43	24139.82064	30672.26	38245.6	34637.04	107.544	281.0896	198.3667	198.3466	-0.02015	24152.06	198.4155	0.048756	34640.69	438.5589	-0.17619
225	43.61893	41.19437	43.68881	15476.24	240.541	0.085573	20237.64	27808.36	25232.31815	30742.18	38298.82	35727.85	108.98447	282.2719	223.2904	223.2831	-0.00732	25241.04	223.3484	0.057943	35733.38	463.5768	-0.25458
250	43.31119	40.91592	43.70472	15472.19	240.4896	0.093741	20335.29	27915.19	26404.29194	30841.16	38405.62	36899.55	111.27183	284.7061	250.1579	250.1176	-0.04038	26412.67	250.1735	0.015616	36900.72	490.3037	-0.34375
275	43.38603	41.01467	43.65834	15501.69	240.8002	0.095385	20494.6	28089.28	27505.7575	31002.84	38581.76	38000.68	114.36343	288.3205	274.9757	274.9468	-0.02894	27496.53	274.9892	0.013438	37995.14	515.3611	-0.41484
300	43.86944	41.54471	43.55692	15533.87	241.3501	0.082044	20563.85	28306.61	28588.24929	31072.2	38801.11	39082.46	115.48057	293.2426	299.7314	299.7129	-0.01848	28577.43	299.7369	0.005475	39099.54	540.647	-0.43454
325	43.96974	41.69317	43.5022	15557	241.696	0.086316	20735.62	28531.6	29668.61665	31245.74	39027.02	40161.91	119.04256	298.2514	324.4221	324.4086	-0.01347	29655.05	324.4096	-0.01247	40189.16	565.5944	-0.52365
340	43.83389	41.60086	43.4997	15565.97	241.7792	0.084941	20839.9	28703.81	30317.68281	31353.15	39202.47	40814.32	121.24058	302.0215	339.1985	339.1525	-0.04603	30298.31	339.1376	-0.06092	40836.14	580.4076	-0.57018

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.44736	41.05686	43.68306	15483.79	240.6303	0.089036	15614.84	28588.7	30333.82058	26128.53	39079.03	40821.01	3.753E-06	-0.447103	-0.027599	0.060922	0.082763	4	-354.56	0.022896

23GHz V Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.47967	39.22719	22.81751	12947.58	208.102	0.035765	15362.04	19297.85	15381.5609	20115.68	24048.84	20134.92	105.81618	278.3071	106.6516	106.6715	0.0199	15351.34	106.6924	0.040806	20065.99	314.76	0.006454
125	42.64908	39.39842	22.76459	12939.22	208.1962	0.023747	15342.63	19287.1	15838.09033	20087.46	24030.16	20583.89	105.57635	278.8484	127.3446	127.3373	-0.00733	15819.11	127.3361	-0.00853	20537.24	335.557	0.016195
150	42.73393	39.48569	22.74363	12938.28	208.2738	0.032886	15338.97	19290.04	16304.32508	20081.12	24029.74	21047.07	105.55403	279.2763	147.9904	147.9929	0.002564	16286.64	147.9694	-0.02099	21006.09	356.2485	-0.01563
175	42.81272	39.56814	22.71016	12934.2	208.3671	0.020903	15339.58	19294.88	16972.07384	20076.95	24030.68	21708.87	105.91634	280.0806	177.6994	177.7919	0.092479	16961.12	177.7353	0.035854	21681.6	386.06	-0.00661
200	43.04355	39.79556	22.637	12922.09	208.5531	0.028406	15362.07	19284.92	17412.5667	20088.36	24009.1	22137.53	107.78696	281.0808	198.2422	198.3603	0.11804	17426.66	198.2807	0.038411	22150.53	406.7551	-0.04032
225	43.17077	39.92387	22.5902	12917.69	208.7034	0.027862	15385.16	19294.08	17961.93156	20105.09	24011.95	22681.41	109.2274	282.2632	223.1571	223.2855	0.128342	17990.77	223.1761	0.018993	22718.91	431.8388	-0.02175
250	42.84768	39.58239	22.68933	12938.5	208.6372	0.043742	15468.7	19398.1	18615.37328	20207.71	24133.86	23352.23	111.5147	284.6976	250.0189	250.1945	0.175674	18599.78	250.0528	0.033956	23324.57	458.5678	-0.08821
275	42.91421	39.67654	22.64443	12950.01	208.8999	0.034574	15545.21	19478.68	19178.01692	20280.85	24211.74	23911.44	114.60623	288.3121	274.8377	275.0323	0.194577	19161.9	274.8607	0.022964	23892.62	483.637	-0.10066
300	43.38847	40.1633	22.46984	12932.38	209.3764	0.019173	15532.67	19521.31	19669.14344	20242.53	24229.72	24376.74	115.72325	293.2343	299.6021	299.8148	0.21271	19722.79	299.6138	0.011706	24464.36	508.8691	-0.10936
325	43.47331	40.25215	22.42787	12939.36	209.6367	0.035267	15614.68	19628.32	20217.0719	20321.44	24332.4	24922.35	119.28512	298.2433	324.3104	324.5001	0.189648	20281.47	324.2696	-0.04081	25029.57	533.8131	-0.13405
340	43.32194	40.09201	22.45518	12951.17	209.7562	0.029249	15679.09	19732.93	20571.61601	20394.28	24445.86	25284.31	121.48304	302.0134	339.1009	339.3719	0.271008	20618.05	339.1234	0.022477	25367.87	548.7427	-0.11435

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.98503	39.7423	22.66028	12933.63	208.7729	0.030143	13001.61	19731.71	20637.77902	17732.94	24459.85	25365.49	1.135E-06	-0.477076	0.201208	0.040806	0.025035	4	-570.794	0.044132

36GHz V Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.30341	36.35839	27.63738	11154.41	202.7597	-0.388286	14076.45	18846.68	14106.13445	19695.51	24500.28	19724.73	105.72779	278.3286	106.7861	106.8052	0.019106	14096.5	106.6186	-0.16751	19687.86	309.6181	0.072287
125	42.46352	36.51392	27.57815	11142.09	202.8222	-0.390246	14051.24	18832.8	14657.20163	19659.88	24476.24	20269.37	105.4878	278.8699	127.4563	127.5196	0.063321	14664.7	127.2477	-0.20862	20261.74	330.4532	0.174671
150	42.53749	36.58701	27.55156	11138.64	202.8805	-0.397254	14044.38	18833.73	15218.08359	19649.21	24474.05	20832	105.46573	279.2979	148.0868	148.1657	0.078917	15231.45	147.8242	-0.26261	20835.71	351.2917	0.324449
175	42.58596	36.63885	27.53148	11142.75	202.9523	-0.382829	14056.38	18854.39	16037.42053	19658.93	24491.2	21655.13	105.82914	280.1024	177.7843	177.916	0.13172	16048.89	177.5018	-0.28247	21661.15	381.2601	0.523605
200	42.77138	36.81923	27.45516	11127.21	203.0542	-0.389206	14084.15	18844.94	16574.40201	19674.17	24469.56	22182.5	107.70067	281.1029	198.323	198.5372	0.214154	16616.08	198.0943	-0.22872	22234.47	402.075	0.697804
225	42.86247	36.91156	27.4174	11123.29	203.1424	-0.383381	14115.7	18862.83	17247.47145	19700.47	24481.6	22855.66	109.14262	282.2858	223.2367	223.4885	0.251866	17302.88	223.0291	-0.20753	22929.28	427.3009	0.921799
250	42.40644	36.41967	27.56551	11167.97	203.1372	-0.401164	14239.7	19016.44	18067.9141	19854.61	24667.17	23710.97	111.43375	284.7207	250.1019	250.3961	0.294202	18044.22	249.9443	-0.15766	23675.86	454.4062	1.16709
275	42.39818	36.44502	27.54162	11178.97	203.345	-0.39779	14333.33	19120.21	18759.39398	19949.02	24771.53	24407.79	114.5304	288.3358	274.9186	275.2726	0.354034	18730.37	274.8555	-0.06308	24372.91	479.7133	1.449655
300	42.71678	36.77412	27.41182	11163.03	203.6295	-0.395516	14333.36	19201.78	19389.14306	19929.76	24834.28	25022.93	115.65536	293.2584	299.6842	300.071	0.386865	19415.06	299.7139	0.029738	25070.29	505.0322	1.718584
325	42.62224	36.68213	27.41748	11183.58	203.8136	-0.408018	14452.4	19361.35	20091.1885	20054.88	25001.43	25735.85	119.2238	298.2682	324.3913	324.79	0.398732	20098.19	324.5154	0.124133	25764.1	530.2218	2.016992
340	42.29796	36.33808	27.50679	11218.41	203.9139	-0.399754	14558.5	19526.53	20565.78383	20181.7	25187.02	26232.44	121.42805	302.0388	339.1791	339.6732	0.494071	20509.86	339.4616	0.282468	26180.27	545.3312	2.238106

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.54235	36.58982	27.52391	11166.76	203.2228	-0.393949	11249.34	19423.94	20531.56573	16833.43	25068.04	26183.9	-1.786E-05	-0.436307	0.377281	-0.282468	-0.39396	4	-405.168	0.036306

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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36GHz H Nominal Gai Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.30341	36.06867	26.60001	11104.94	219.1845	-0.361368	13916.76	18508.48	13945.54255	19757.81	24382.96	19786.82	105.70775	278.3286	106.779	106.7928	0.013737	13935.31	106.6308	-0.14826	19755.93	326.1418	0.178315
125	42.46352	36.22408	26.55383	11092.88	219.2662	-0.36519	13893.45	18497.94	14476.74714	19726.48	24364.87	20312.67	105.46777	278.8699	127.4598	127.4896	0.029783	14482.54	127.2683	-0.19152	20307.97	346.9611	0.235134
150	42.53749	36.29731	26.53352	11086.97	219.3068	-0.358674	13884.81	18497.72	15014.97317	19714.33	24360.59	20853.52	105.4457	279.2979	148.0938	148.1323	0.038529	15028.71	147.8661	-0.22774	20861.27	367.8274	0.426886
175	42.58596	36.35018	26.54597	11095.79	219.3946	-0.364359	13904.59	18531.38	15813.54141	19739.19	24399.99	21663.05	105.8091	280.1024	177.7883	177.8426	0.054312	15815.46	177.5364	-0.25191	21656.38	397.8131	0.630189
200	42.77138	36.53398	26.49439	11085.51	219.5205	-0.366477	13938.44	18533.15	16339.05957	19765.2	24393.91	22183.82	107.68063	281.1029	198.3223	198.4141	0.091813	16360.72	198.0994	-0.22288	22208.45	418.6332	0.79039
225	42.86247	36.62405	26.45248	11078.94	219.613	-0.352886	13965.5	18546.1	16984.52826	19785.37	24398.6	22827.32	109.12258	282.2858	223.2295	223.3649	0.135362	17022.52	223.0577	-0.1718	22877.73	443.8735	1.031042
250	42.40644	36.13457	26.55853	11111.3	219.5682	-0.348927	14070.28	18673.06	17754.9141	19912.22	24547.42	23624.18	111.41372	284.7207	250.0903	250.2298	0.139494	17735.7	249.9537	-0.13666	23594.57	470.9074	1.248839
275	42.39818	36.16528	26.53218	11116.2	219.7779	-0.369287	14154.41	18766.38	18413.98635	19996.34	24642.75	24287.23	114.51037	288.3358	274.9075	275.0895	0.182041	18396.29	274.8662	-0.04127	24265.58	496.2131	1.527661
300	42.71678	36.49809	26.43342	11102.13	220.039	-0.365468	14158.77	18853.96	19029.02313	19985.34	24715.27	24891.36	115.63533	293.2584	299.6789	299.861	0.182047	19055.11	299.7123	0.033431	24935.93	521.4937	1.77585
325	42.62224	36.4071	26.42991	11119.59	220.2598	-0.368816	14270.14	19002.8	19701.16605	20101.65	24869.7	25573.09	119.20376	298.2682	324.3983	324.6014	0.203057	19713.66	324.5479	0.149627	25605.73	546.7537	2.095628
340	42.29796	36.06331	26.49608	11148.23	220.3065	-0.374935	14365.07	19151.07	20145.48126	20212.28	25034.69	26035.63	121.40802	302.0388	339.1962	339.433	0.236887	20108.76	339.4481	0.251908	26005.13	561.8159	2.313294

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.54235	36.30606	26.49854	11114.34	219.6579	-0.363308	11193.84	19063.91	20129.82694	17006.95	24935.16	26009.04	-1.663E-05	-0.414883	0.184319	-0.251908	-0.36676	4	-418.907	0.037713

89GHz V Nominal Gai Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.61718	46.33633	44.28127	43.29409	24597.71	29166.11	36647.43	29221.46	105.5203968	278.3226	106.8146	106.8019	-0.0126392	29369.12	106.6372	-0.177352
125	44.80865	46.52538	44.46607	43.29901	24635.19	29193.73	36709.72	30152.72	105.2804248	278.8639	127.4765	127.4784	0.0018817	30261.48	127.2684	-0.208139
150	44.91289	46.6324	44.56803	43.30107	24657.01	29214.81	36750.65	31068.5	105.2582598	279.292	148.1046	148.1511	0.0464931	31154.24	147.9087	-0.195965
175	45.00036	46.72044	44.65019	43.29641	24687.88	29260.91	36815.07	32383.4	105.6213297	280.0968	177.8054	177.8498	0.0444	32437.76	177.5832	-0.222237
200	45.23059	46.94993	44.87186	43.30208	24733.05	29387.71	36905.16	33320.36	107.4927172	281.0976	198.3479	198.4234	0.0754805	33327.6	198.156	-0.191959
225	45.36638	47.08453	44.99824	43.29329	24761.47	29477.6	36982.35	34425.95	108.9342935	282.281	223.2673	223.3329	0.0656169	34405.69	223.0811	-0.186225
250	45.0769	46.76394	44.67428	43.27322	24727.45	29540.49	37048.05	35551.64	111.2243657	284.7165	250.1395	250.2073	0.0677344	35569.75	249.9936	-0.145932
275	45.1767	46.87566	44.77449	43.24656	24757.45	29701.39	37226.83	36649.28	114.3197496	288.3323	274.9445	275.0092	0.0647628	36644.89	274.8507	-0.093805
300	45.67989	47.38396	45.2564	43.2293	24863.34	29853.82	37540.57	37823.78	115.4422073	293.2555	299.7064	299.7889	0.0825028	37719.9	299.7045	-0.00194
325	45.81279	47.50718	45.35885	43.19241	24903.62	30043.89	37786.45	38923.53	119.0087894	298.2661	324.4044	324.5117	0.1072262	38793.24	324.5196	0.115166
340	45.70148	47.37447	45.21437	43.16857	24905.68	30138.19	37944.19	39559.49	121.2111126	302.0371	339.1845	339.3343	0.1497875	39437.15	339.4068	0.222237

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.21671	46.92311	44.82855	43.22743	24765.24	24894.93	37733.47	39471.27	-1.48427E-05	-0.295303	0.097844	-0.222237	-0.3273157	4	-572.3667	0.02312

89GHz V Nominal Gai Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.61718	46.33633	44.28127	37.81525	20341.44	24331.72	30866.27	24378.39	105.5203968	278.3226	106.8146	106.7577	-0.056832	24506.57	106.6363	-0.178239
125	44.80865	46.52538	44.46607	37.81799	20373.49	24354.98	30919.56	25191.24	105.2804248	278.8639	127.4765	127.4415	-0.0350062	25286.08	127.2688	-0.20771
150	44.91289	46.6324	44.56803	37.81878	20392.19	24372.93	30954.67	25991.05	105.2582598	279.292	148.1046	148.1258	0.0211574	26066.09	147.9144	-0.190184
175	45.00036	46.72044	44.65019	37.813	20420.38	24414.24	31011.68	27140.68	105.6213297	280.0968	177.8054	177.8313	0.0259341	27187.12	177.5865	-0.218898
200	45.23059	46.94993	44.87186	37.81569	20459.08	24523.99	31088.98	27958.14	107.4927172	281.0976	198.3479	198.4141	0.0661659	27964.48	198.162	-0.185932
225	45.36638	47.08453	44.99824	37.80507	20483.58	24601.85	31155.23	28922.82	108.9342935	282.281	223.2673	223.328	0.0606613	28906.02	223.083	-0.184296
250	45.0769	46.76394	44.67428	37.78846	20457.23	24660.23	31216.23	29909.61	111.2243657	284.7165	250.1395	250.2087	0.069134	29922.68	249.9925	-0.147003
275	45.1767	46.87566	44.77449	37.75982	20483.27	24799.97	31370.65	30866.63	114.3197496	288.3323	274.9445	275.0154	0.0709175	30861.66	274.8457	-0.098773
300	45.67989	47.38396	45.2564	37.73624	20573.96	24930.32	31640.32	31888.04	115.4422073	293.2555	299.7064	299.8025	0.0960708	31800.61	299.6983	-0.00814
325	45.81279	47.50718	45.35885	37.69724	20609.3	25095.61	31853.11	32846.28	119.0087894	298.2661	324.4044	324.5336	0.129129	32738.12	324.5128	0.108342
340	45.70148	47.37447	45.21437	37.67457	20613.49	25180.06	31992.61	33403.37	121.2111126	302.0371	339.1845	339.365	0.1804549	33300.7	339.4034	0.218898

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.21671	46.92311	44.82855	37.75886	20484.91	20598.18	31812.56	33330.32	-1.44648E-05	-0.295303	0.097844	-0.218898	-0.3189823	4	-542.0146	0.026468

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

89GHz Nominal Gain Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.61718	46.20251	44.28127	45.81723	23254.05	28091.92	36006.02	28142.1	105.5905227	278.3226	106.707	106.6887	-0.0183781	28259.56	106.5249	-0.182113
125	44.80865	46.39343	44.46607	45.82148	23286.89	28114.21	36064.84	29123.04	105.3505508	278.8639	127.369	127.4169	0.0479644	29206.15	127.1875	-0.181429
150	44.91289	46.49996	44.56803	45.81752	23306.71	28132.59	36103.17	30086.99	105.3283857	279.292	147.9971	148.0679	0.0707945	30149.81	147.7862	-0.210854
175	45.00036	46.58562	44.65019	45.81826	23324.08	28166.67	36157.62	31466.5	105.6914557	280.0968	177.6979	177.8211	0.1232058	31510.47	177.4871	-0.21073
200	45.23059	46.816	44.87186	45.81504	23358.76	28286.76	36237.26	32442.17	107.5628432	281.0976	198.2404	198.3745	0.1340503	32451.18	198.0215	-0.218952
225	45.36638	46.95137	44.99824	45.808	23384.4	28377.68	36315.13	33610.63	109.0044194	282.281	223.1598	223.3415	0.1817419	33594.64	222.9815	-0.178308
250	45.0769	46.63265	44.67428	45.79182	23353.83	28450.2	36391.51	34808.9	111.2944917	284.7165	250.032	250.2268	0.1948138	34826.98	249.8815	-0.150472
275	45.1767	46.74366	44.77449	45.75921	23380.69	28615.08	36574.55	35966.68	114.3898756	288.3323	274.837	275.0801	0.2431232	35967.16	274.7698	-0.067185
300	45.67989	47.2514	45.2564	45.73852	23470.83	28754.19	36883.9	37186.77	115.5123333	293.2555	299.5989	299.8591	0.2602342	37104.87	299.6043	0.005441
325	45.81279	47.37785	45.35885	45.7021	23505.35	28947.51	37136.74	38343.34	119.0789154	298.2661	324.2969	324.5868	0.2898753	38241.1	324.4064	0.109537
340	45.70148	47.24464	45.21437	45.67944	23502.72	29042.78	37299.61	39012.88	121.2812386	302.0371	339.077	339.4215	0.3444904	38923.22	339.2959	0.218952

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.21671	46.79083	44.82855	45.78436	23388.64	23525.99	37123.95	38964.57	-1.48972E-05	-0.245088	0.264025	-0.218952	-0.3285172	4	-510.3371	0.021828

89GHz Nominal Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.61718	46.20251	44.28127	39.69415	19200.84	23392.17	30248.62	23434.05	105.5905227	278.3226	106.707	106.6483	-0.0587092	23533.41	106.5217	-0.185349
125	44.80865	46.39343	44.46607	39.6957	19228.78	23410.74	30298.47	24283.72	105.3505508	278.8639	127.369	127.3914	0.0224553	24353.8	127.19	-0.178959
150	44.91289	46.49996	44.56803	39.6902	19245.82	23426.32	30330.97	25118.69	105.3283857	279.292	147.9971	148.0504	0.0533038	25171.38	147.7877	-0.209433
175	45.00036	46.58562	44.65019	39.68964	19260.83	23455.68	30377.77	26314.05	105.6914557	280.0968	177.6979	177.818	0.1201573	26350.35	177.4899	-0.207954
200	45.23059	46.816	44.87186	39.68282	19289.74	23558.14	30444.48	27157.51	107.5628432	281.0976	198.2404	198.3772	0.1368063	27165.31	198.0214	-0.21906
225	45.36638	46.95137	44.99824	39.67358	19311.84	23636.43	30510.94	28169.26	109.0044194	282.281	223.1598	223.3568	0.1970113	28156.11	222.9829	-0.176911
250	45.0769	46.63265	44.67428	39.66169	19287.69	23701.81	30580.02	29210.2	111.2944917	284.7165	250.032	250.2494	0.2174313	29223.68	249.8786	-0.153369
275	45.1767	46.74366	44.77449	39.62679	19310.85	23843.76	30736.54	30211.53	114.3898756	288.3323	274.837	275.1148	0.2778434	30211.64	274.7686	-0.06833
300	45.67989	47.2514	45.2564	39.59844	19387.33	23961.44	30999.79	31263.65	115.5123333	293.2555	299.5989	299.9008	0.3019409	31197.29	299.6003	0.001394
325	45.81279	47.37785	45.35885	39.55949	19417.02	24127.72	31216.28	32262.68	119.0789154	298.2661	324.2969	324.6373	0.3403914	32181.71	324.4014	0.104448
340	45.70148	47.24464	45.21437	39.53837	19415.89	24211.15	31357.95	32843.26	121.2812386	302.0371	339.077	339.4827	0.4057558	32772.93	339.2961	0.21906

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.21671	46.79083	44.82855	39.66951	19313.04	19432.05	31213.89	32808.6	-1.47396E-05	-0.245088	0.264025	-0.21906	-0.3250404	4	-486.3635	0.025193

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
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166GHz V Nominal Gai Hot Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.18258	29.41977	40.22944	34.07517	24704.75	28269.35	34185.37	28333.79	104.6098926	278.2269	106.5183	106.5044	-0.0138816	29001.73	106.4107	-0.107631
125	40.37747	29.91771	40.41546	34.06736	24804.32	28359.96	34301.17	29136.75	104.3710325	278.7669	127.1982	127.2087	0.0104341	29704.81	127.0936	-0.104684
150	40.49202	30.22811	40.52299	34.0565	24856.14	28409.85	34364.56	29889.25	104.347667	279.1956	147.849	147.8467	-0.0022202	30405.95	147.7192	-0.129805
175	40.60998	30.60143	40.63696	34.0514	24945.91	28511.26	34480.4	30990.82	104.7050039	280.0029	177.5895	177.6013	0.0118261	31417.33	177.4713	-0.118136
200	40.87011	31.16005	40.88188	34.04602	25043.92	28672.24	34610.98	31787.59	106.5711101	281.0036	198.1741	198.1544	-0.0196034	32116.31	198.0335	-0.140529
225	41.04382	31.62357	41.04495	34.0246	25130.78	28805.58	34732.18	32720.14	108.004434	282.1899	223.1537	223.1265	-0.0272696	32965.98	223.0286	-0.125137
250	40.84338	32.26569	40.79278	34.03972	25334.95	29088.62	35023.55	33845.34	110.2731941	284.6263	250.094	250.064	-0.030054	33883.02	250.0053	-0.088695
275	41.09051	33.30665	41.0273	34.00997	25554.98	29409.66	35358.16	34906.37	113.3394914	288.2441	274.9861	274.9825	-0.0035144	34731.78	274.9738	-0.012295
300	41.76475	35.15417	41.66017	33.96572	25901.53	29787.83	35859.24	36085.52	114.4183937	293.1696	299.8424	299.8186	-0.0238035	35578.17	299.8722	0.029807
325	42.08179	36.8289	41.92932	33.92452	26279.22	30280.59	36394.98	37294.95	117.9491624	298.1842	324.6532	324.6554	0.0021923	36425.01	324.784	0.130795
340	42.11247	38.07859	41.90504	33.91319	26608.74	30682.28	36849.15	38124.27	120.1166326	301.9593	339.5115	339.4725	-0.0389766	36930.42	339.652	0.140529

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	41.04263	32.5986	41.00421	33.97925	25389.91	25491.84	35583.68	36947.66	-1.04585E-05	0.355844	-0.018907	-0.140529	-0.2306333	2	-746.7439	0.029417

166GHz H Nominal Gai Hot Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.18258	29.02925	40.22944	36.18927	28503.78	32292.92	38572.6	32356.64	104.7035715	278.2269	106.4872	106.466	-0.0212237	32942.32	106.4127	-0.074502
125	40.37747	29.52411	40.41546	36.17889	28586.55	32365.97	38672.03	33186.59	104.4647114	278.7669	127.1672	127.1656	-0.0015864	33689.43	127.1174	-0.049722
150	40.49202	29.83486	40.52299	36.17336	28641.73	32419.73	38741.17	33986.55	104.4413459	279.1956	147.8179	147.7864	-0.031518	34433.84	147.7476	-0.070298
175	40.60998	30.20525	40.63696	36.17522	28717.16	32508.28	38846.33	35137.09	104.7986828	280.0029	177.5584	177.5076	-0.0507603	35507.06	177.49	-0.068383
200	40.87011	30.75829	40.88188	36.15936	28795.61	32652.54	38956.52	35956.33	106.664789	281.0036	198.143	198.0732	-0.0698185	36249.84	198.0749	-0.06807
225	41.04382	31.21878	41.04495	36.14524	28871.66	32778.9	39071.49	36931.76	108.0981129	282.1899	223.1227	223.0285	-0.0941905	37151.41	223.0603	-0.062365
250	40.84338	31.84697	40.79278	36.14717	29069.13	33058.58	39357.56	38102.29	110.3668729	284.6263	250.0629	249.9256	-0.1373748	38123.37	249.9965	-0.066478
275	41.09051	32.88426	41.0273	36.13216	29271.37	33369.96	39686.26	39200.74	113.4331702	288.2441	274.955	274.8187	-0.1363234	39023.12	274.9316	-0.023385
300	41.76475	34.71887	41.66017	36.06899	29566.31	33696.65	40140.65	40374.82	114.5120725	293.1696	299.8113	299.6556	-0.155693	39921.04	299.8159	0.004551
325	42.08179	36.38069	41.92932	36.01015	29889.12	34139.86	40626.78	41574.49	118.0428412	298.1842	324.6221	324.4728	-0.1492742	40818.46	324.6863	0.064195
340	42.11247	37.61222	41.90504	35.97939	30144.85	34469.94	41009.16	42354.51	120.2103114	301.9593	339.4804	339.3073	-0.1731162	41354.98	339.5549	0.074502

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	41.04263	32.18305	41.00421	36.076	29105.3	29213.53	39928.1	41373.77	-5.38739E-06	0.291119	-0.143762	-0.074502	-0.1188041	2	-806.5269	0.027713

183GHz V_A Nominal Gai Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.95682	30.77515	40.03601	47.59444	16747.65	21725.67	29989.7	21815.5	104.5924999	278.2269	106.4837	106.4851	0.0013698	22366.21	106.3255	-0.158167
125	40.11351	31.26223	40.18656	47.5272	16804.62	21764.26	30053.63	22846.45	104.3536795	278.7669	127.1697	127.178	0.0082867	23343.54	126.9681	-0.201685
150	40.19457	31.56717	40.2666	47.47407	16867.68	21820.66	30122.23	23882.78	104.3302989	279.1956	147.8262	147.8571	0.030904	24320.86	147.6104	-0.215775
175	40.27293	31.93596	40.34483	47.42657	16911.83	21876.8	30191.4	25330.79	104.6875154	280.0029	177.5731	177.6333	0.0602122	25729.26	177.3576	-0.215538
200	40.45416	32.48309	40.51774	47.3759	16972.65	22020.73	30285.45	26358.33	106.5536828	281.0036	198.1594	198.2306	0.0711486	26704.31	197.9519	-0.207479
225	40.55413	32.93805	40.61737	47.32719	17044.57	22155.29	30399.82	27604.4	107.9870106	282.1899	223.1396	223.2312	0.0916084	27888.64	222.9665	-0.173085
250	40.09984	33.5362	40.13262	47.39907	17264.21	22490.21	30755.22	29119.19	110.2553561	284.6263	250.0842	250.1863	0.1020817	29166.6	249.9588	-0.125354
275	40.16834	34.56149	40.20475	47.32832	17470.42	22833.72	31112.53	30486.14	113.3211261	288.2441	274.949	275.0428	0.0937769	30346.12	274.8717	-0.077345
300	40.54479	36.37462	40.56788	47.18501	17799.95	23197.85	31633.16	31952.09	114.3987639	293.1696	299.8031	299.9091	0.1059503	31527.06	299.8148	0.011645
325	40.50899	38.00233	40.51174	47.10296	18168.91	23723.71	32214.27	33471.35	117.9289407	298.1842	324.6101	324.7851	0.17501	32709.37	324.7867	0.176644
340	40.21551	39.20201	40.19284	47.11858	18509.66	24168.39	32737.55	34517.89	120.0955064	301.9593	339.4662	339.6127	0.1464873	33414.59	339.682	0.215775

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.28033	33.87621	40.32536	47.3155	17342.89	17484.83	31537.53	33440.27	-1.57672E-05	0.340864	0.124783	-0.215775	-0.3477021	4	-366.0785	0.021121

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183GHz V_A Nominal Gai Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.95682	30.77515	40.03601	39.35823	8519.993	12636.57	19470.51	12713.61	104.5924999	278.2269	106.4837	106.5562	0.0725089	13221.29	106.2997	-0.184018
125	40.11351	31.26223	40.18656	39.30563	8570.861	12672.55	19527.97	13569.67	104.3536795	278.7669	127.1697	127.2417	0.0719536	14029.64	126.9342	-0.235504
150	40.19457	31.56717	40.2666	39.26133	8629.784	12725.93	19591.37	14433.06	104.3302989	279.1956	147.8262	147.9168	0.0906708	14838.21	147.5743	-0.251855
175	40.27293	31.93596	40.34483	39.22412	8668.559	12774.84	19651.43	15632.78	104.6875154	280.0029	177.5731	177.6871	0.1140156	16003.55	177.3217	-0.251433
200	40.45416	32.48309	40.51774	39.19004	8722.625	12898.47	19735.16	16487.7	106.5536828	281.0036	198.1594	198.2788	0.1194094	16810.37	197.9172	-0.242188
225	40.55413	32.93805	40.61737	39.15407	8787.974	13016.1	19836.86	17525.16	107.9870106	282.1899	223.1396	223.2741	0.1344979	17790.54	222.9378	-0.20185
250	40.09984	33.5362	40.13262	39.23152	8987.711	13313.2	20154.03	18800.79	110.2553561	284.6263	250.0842	250.2214	0.1372571	18848.26	249.9379	-0.146257
275	40.16834	34.56149	40.20475	39.18632	9176.194	13616.83	20471.42	19953.54	113.3211261	288.2441	274.949	275.0677	0.1186073	19824.49	274.858	-0.091007
300	40.54479	36.37462	40.56788	39.09267	9479.341	13951.49	20940.12	21205.24	114.3987639	293.1696	299.8031	299.9283	0.1251451	20802.21	299.8161	0.012934
325	40.50899	38.00233	40.51174	39.04802	9817.432	14422.32	21460.93	22504.61	117.9289407	298.1842	324.6101	324.8103	0.2001811	21781.65	324.8179	0.207821
340	40.21551	39.20201	40.19284	39.08606	10130.25	14824.31	21932.65	23410.92	120.0955064	301.9593	339.4662	339.6271	0.1609116	22365.35	339.7181	0.251855

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.28033	33.87621	40.32536	39.14549	9067.433	9184.87	20811.08	22386.69	-1.84309E-05	0.340864	0.124783	-0.251855	-0.4064433	4	-231.1974	0.025527

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
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183GHz V_B Nominal Gai Hot Plateau

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.95682	30.77515	40.03601	48.82411	19033.29	24138.24	32617.47	24237.28	104.5579162	278.2269	106.5935	106.5916	-0.0019379	24955.85	106.4418	-0.151707
125	40.11351	31.26223	40.18656	48.79511	19126.46	24216.73	32728.93	25335.17	104.3190959	278.7669	127.2796	127.2926	0.0130252	25962.77	127.0998	-0.179782
150	40.19457	31.56717	40.2666	48.78296	19191.41	24279.27	32811.4	26404.67	104.2957152	279.1956	147.936	147.9504	0.0144038	26968.21	147.7275	-0.208515
175	40.27293	31.93596	40.34483	48.77499	19269.43	24373.87	32926.57	27931.77	104.6529318	280.0029	177.683	177.7105	0.027546	28417.78	177.4669	-0.216053
200	40.45416	32.48309	40.51774	48.74498	19375.56	24567.83	33073.07	29037.58	106.5190991	281.0036	198.2693	198.3301	0.0607918	29422.92	198.0884	-0.18087
225	40.55413	32.93805	40.61737	48.71378	19469.82	24728.59	33216.36	30342.47	107.952427	282.1899	223.2495	223.2968	0.0473275	30640.8	223.0743	-0.175158
250	40.09984	33.5362	40.13262	48.75884	19666.17	25040.41	33544.22	31863.93	110.2207725	284.6263	250.194	250.2377	0.0436106	31956	250.057	-0.137021
275	40.16834	34.56149	40.20475	48.74514	19924.56	25446.73	33975.06	33334.35	113.2865425	288.2441	275.0589	275.132	0.0730664	33172.28	275.0104	-0.048515
300	40.54479	36.37462	40.56788	48.72311	20354.89	25927.07	34639.02	34972.32	114.3641802	293.1696	299.913	299.9912	0.0781955	34387.8	299.9479	0.034931
325	40.50899	38.00233	40.51174	48.72373	20788.57	26532.82	35317.21	36618.46	117.894357	298.1842	324.72	324.8076	0.0875908	35602.14	324.8613	0.141379
340	40.21551	39.20201	40.19284	48.77047	21139.45	26994.88	35866.15	37711.46	120.0609227	301.9593	339.5761	339.6706	0.0945641	36329.9	339.7921	0.216053

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.28033	33.87621	40.32536	48.71289	19778.21	19924.35	34392.08	36350.54	-1.50595E-05	0.339725	0.07571	-0.216053	-0.3320969	4	-405.5528	0.020516

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
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Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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10GHz V	High Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.80682	28.36888	40.87898	15031.04	228.4427	-0.084194	19324.65	26395.29	19383.30447	28670.02	35753.03	28729.93	105.03215	277.9973	106.4873	106.4678	-0.01942	19375.93	106.4346	-0.05263	28687.31	334.9906	0.060627
125	38.96677	28.56411	40.80161	15028.32	228.4737	-0.087206	19299.54	26395.04	20217.00207	28628.5	35736.86	29550.6	104.68267	278.5851	127.213	127.1811	-0.03193	20219.01	127.1287	-0.08426	29535.08	355.7997	0.113005
150	39.04661	28.65858	40.75247	15028.05	228.5469	-0.1011	19290.35	26397.91	21053.88808	28611.34	35733.86	30379.1	104.58981	278.998	147.8597	147.885	0.02533	21061.85	147.817	-0.04272	30380.78	376.5581	0.151551
175	39.08165	28.75783	40.77895	15032.91	228.4735	-0.077875	19309.21	26442.75	22274.11204	28632.7	35777.79	31605.09	104.8654	279.7974	177.6056	177.5994	-0.00618	22271.71	177.5142	-0.0914	31590.42	406.2496	0.17057
200	39.29133	28.97206	40.6744	15027.63	228.5536	-0.099507	19357.96	26448.24	23088.62344	28661.34	35766.3	32399.76	106.46324	280.7813	198.1867	198.2112	0.024471	23111.15	198.1187	-0.068	32433.98	426.9555	0.215247
225	39.40393	29.10608	40.62003	15025.99	228.6319	-0.082499	19409	26475.33	24091.15803	28702.77	35781.22	33394.5	107.90282	281.8644	223.161	223.1947	0.033775	24128.77	223.0972	-0.06375	33456.32	452.05	0.257097
250	39.1038	28.90511	40.71909	15032.52	228.6792	-0.088766	19516.86	26606.45	25218.22968	28835.36	35938.04	34546.49	110.12882	284.2386	250.0946	250.1634	0.068804	25227.47	250.0657	-0.02886	34557.44	479.0778	0.30408
275	38.91969	28.65767	40.77417	15050.29	228.7443	-0.082772	19669.57	26785.68	26262.95493	29003.16	36131.53	35607.99	113.28945	287.8145	274.9443	275.002	0.057694	26239.62	274.9098	-0.03451	35574.01	504.0304	0.341836
300	39.23038	29.02698	40.63149	15051.54	228.9549	-0.10897	19709.12	26950.38	27237.24471	29018.96	36276.68	36559.15	114.62987	292.8479	299.7752	299.9032	0.127953	27254.54	299.8219	0.046674	36598.78	529.1843	0.454182
325	39.14792	29.037	40.64513	15060.76	229.0405	-0.077375	19851.78	27162.8	28257.63866	29167.45	36490.26	37586.76	117.8743	297.7487	324.548	324.6648	0.116864	28263.97	324.5992	0.051191	37612.63	554.0699	0.481453
340	38.92013	28.90402	40.72016	15069.14	229.0657	-0.056731	19965.41	27351.11	28896.01569	29298.79	36693.22	38240.86	120.24179	301.6187	339.383	339.5279	0.144873	28869.99	339.4744	0.091402	38217.44	568.9156	0.466982

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.08355	28.81439	40.73409	15042.09	228.6915	-0.086091	15164.3	27262.32	28893.70016	24477.5	36595.86	38229.99	-3.666E-06	0.071987	0.090297	-0.091402	-0.08083	2	-369.164	0.024546

10GHz H	High Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	38.80682	28.32904	42.34795	14090.48	201.4288	-0.08748	18553.11	25863.09	18600.55143	27068.68	34390.38	27116.38	105.38019	277.9973	106.5125	106.5014	-0.01114	18572.58	106.4735	-0.03898	27047.01	307.9703	0.028979
125	38.96677	28.52574	42.25637	14082.42	201.4704	-0.084014	18520.64	25854.42	19455.92734	27019.56	34364.63	27956.67	105.03071	278.5851	127.2218	127.1802	-0.04165	19443.44	127.18	-0.04184	27921.11	328.7539	0.061635
150	39.04661	28.62023	42.19391	14076.96	201.4115	-0.112028	18504.7	25848.98	20311.75446	26988.9	34348.26	28801.52	104.93785	278.998	147.8601	147.7917	-0.06838	20311.6	147.8223	-0.03775	28790.82	349.4329	0.16132
175	39.08165	28.7189	42.21526	14083.02	201.3946	-0.083721	18524.63	25894.74	21573.02327	27012.14	34393.55	30067.16	105.21343	279.7974	177.6038	177.4589	-0.14488	21561.44	177.5397	-0.06414	30040.74	379.1522	0.153771
200	39.29133	28.933	42.09558	14068.89	201.4304	-0.081216	18565.17	25888.54	22401.73478	27030.07	34364.34	30875.69	106.81128	280.7813	198.1881	197.986	-0.20211	22426.36	198.1049	-0.08324	30909.69	399.8132	0.194624
225	39.40393	29.06512	42.01578	14067.41	201.5387	-0.096765	18615.66	25910.17	23433.25689	27069.2	34376.65	31896.57	108.25086	281.8644	223.1693	222.9443	-0.22503	23478.23	223.1154	-0.05395	31967.1	424.9554	0.247343
250	39.1038	28.86236	42.10323	14068.51	201.5083	-0.096742	18719.94	26035.87	24587.44812	27189.8	34518.71	33069.32	110.47685	284.2386	250.1114	249.8594	-0.25204	24612.76	250.0911	-0.02025	33102.78	451.9583	0.33863
275	38.91969	28.61581	42.16194	14091.69	201.6551	-0.099926	18882.86	26226.5	25671.95244	27370.77	34727.88	34172.83	113.63748	287.8145	274.9676	274.6715	-0.29611	25658.81	274.9629	-0.0047	34156.24	477.0067	0.384001
300	39.23038	28.98465	42.03106	14088.14	201.6915	-0.115765	18920.78	26396.84	26676.51978	27384.19	34876.15	35154.59	114.97791	292.8479	299.8024	299.4962	-0.30627	26705.49	299.85	0.047619	35206.41	501.9765	0.482603
325	39.14792	28.99149	42.03855	14099.03	201.7967	-0.114413	19068.93	26615.95	27730.45915	27538.32	35101.21	36215.32	118.22233	297.7487	324.5757	324.2345	-0.34122	27748.75	324.6557	0.079947	36255.15	526.9124	0.539998
340	38.92013	28.85797	42.11672	14104.9	201.779	-0.082156	19183.75	26808.09	28385.37337	27667.95	35303.79	36885.89	120.58982	301.6187	339.4094	339.0304	-0.37897	28372.76	339.4926	0.083236	36879.19	541.7502	0.561848

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	39.08355	28.77312	42.04949	14098.14	201.555	-0.095839	14224.29	26712.99	28397.63977	22695.77	35208.21	36896.07	-4.702E-06	0.06915	-0.314143	-0.083236	-0.10369	2	-335.127	0.023777

18GHz V	High Gain	Hot Plateau																					
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.84286	39.13499	64.95385	20929.58	249.9474	0.010831	27803.36	38994.42	27858.13685	44047.42	55235.73	44100.96	105.82564	278.1181	106.6511	106.6689	0.017837	27928.22	106.6809	0.029788	44124.61	356.5959	-0.00265
125	43.04192	39.34184	64.91942	20943.56	250.1021	0.009717	27790.9	39037.11	29214.74989	44036.41	55280.15	45460.06	105.47447	278.7079	127.3882	127.4059	0.017681	29271.38	127.4061	0.017971	45478.9	377.4929	0.002646
150	43.12852	39.42898	64.92136	20950.98	250.1402	0.01393	27792.52	39071.85	30562.53095	44040.73	55316.5	46808.93	105.38194	279.1203	148.0293	148.0471	0.017814	30608.33	148.0357	0.006425	46816.47	398.1321	-0.03734
175	43.17353	39.47348	64.89328	20965.25	250.2306	0.013537	27821.95	39129.91	32501.98276	44069	55373.49	48747.99	105.66114	279.9158	177.7459	177.7774	0.031478	32533.98	177.749	0.003075	48748.77	427.948	-0.02856
200	43.44267	39.75181	64.83444	20982.87	250.5139	0.009569	27936.91	39194.68	33844.14425	44187.85	55443.18	50092.81	107.25834	280.8972	198.2908	198.3683	0.077543	33867.68	198.3284	0.037607	50099.79	448.7946	-0.01005
225	43.5903	39.88969	64.79186	21001.63	250.6947	0.015025	28044.97	39271.59	35470.89846	44296.67	55519.46	51719.95	108.70725	281.9794	223.2155	223.3169	0.101362	35483.58	223.2623	0.046733	51726.71	473.8985	-0.01166
250	43.42858	39.68778	64.78929	20999.81	250.6944	0.008675	28187.98	39422.66	37208.70006	44439.37	55671.84	53457.58	110.9469	284.3503	250.0818	250.1769	0.095148	37223.29	250.1066	0.024794	53466.88	500.7499	-0.02633
275	43.3494	39.62997	64.73605	21045.05	250.9622	0.015248	28433.23	39683.93	38848.20832	44688.22	55935.02	55101.63	114.12782	287.9212	274.9009	275.0108	0.109899	38831.8	274.9262	0.025357	55093.26	525.8454	-0.01764
300	43.8172	40.11037	64.62547	21093.71	251.4062	0.016329	28558.06	40025.71	40462.45793	44813.78	56277.16	56716.53	115.50169	292.9495	299.6568	299.708	0.05122	40431.5	299.6101	-0.04673	56721.61	550.9713	-0.09169
325	43.92837	40.20034	64.51647	21140.74	251.8172	0.011859	28803.3	40356.62	42073.56559	45058.29	56608.49	58327.7	118.76892	297.8446	324.3462	324.459	0.112784	42034.65	324.3472	0.00094	58352.39	576.1347	-0.02873
340	43.8907	40.13718	64.47174	21162.87	251.9879	0.004764	28974.46	40614.6	43034.79938	45229.51	56868.38	59289.14	121.16305	301.7095	339.1261	339.2513	0.125184	42992.79	339.1316	0.005557	59322.09	591.0976	-0.01644

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.42128	39.70786	64.80851	21014.73	250.7724	0.011771	21209.16	40457.28	43049.30804	37461.61	56706.26	59297.82	3.605E-07	-0.382759	0.102163	0.046733	0.007949	2	-324.26	0.01543

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

18GHz H High Gain Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.84286	40.35304	59.4216	18536.96	239.7177	0.115961	24822.63	35063.18	24879.83761	39059.61	49274.46	39116.12	105.78091	278.1181	106.7262	106.7428	0.016626	24928.7	106.7882	0.062004	39124.62	346.3604	-0.08348
125	43.04192	40.56943	59.38702	18546.72	239.8358	0.102512	24807.87	35098.35	26115.9171	39044.23	49311.85	40349.7	105.42974	278.7079	127.4643	127.439	-0.02529	26155.91	127.4989	0.034572	40357.58	367.168	-0.13212
150	43.12852	40.66588	59.37187	18550.84	239.9432	0.113367	24804.91	35122.74	27345.36836	39043.58	49336.06	41577.42	105.33721	279.1203	148.104	148.0985	-0.00548	27380.71	148.1687	0.064722	41584.24	387.8692	-0.17798
175	43.17353	40.71553	59.34816	18564.57	240.042	0.098773	24832.71	35177.06	29120.46068	39072.2	49394.39	43349.09	105.61641	279.9158	177.8162	177.8275	0.011291	29142.75	177.9051	0.088833	43348.45	417.6423	-0.21587
200	43.44267	41.0056	59.32858	18578.47	240.201	0.111675	24939.3	35243.7	30347.44766	39182.92	49462.36	44578.75	107.21361	280.8972	198.3581	198.3323	-0.02576	30357.75	198.4096	0.051514	44570.64	438.2682	-0.29091
225	43.5903	41.15668	59.27598	18589.81	240.4309	0.119753	25030.89	35304.42	31826.26879	39275.1	49521.93	46053.1	108.66252	281.9794	223.2804	223.269	-0.01142	31835.04	223.3405	0.060054	46055.93	463.3341	-0.37731
250	43.42858	41.02316	59.26282	18588.26	240.4819	0.100084	25160.63	35439.66	33414.02124	39405.56	49662.24	47638.53	110.90217	284.3503	250.1473	250.1462	-0.00106	33426.87	250.2045	0.057202	47648.27	490.2067	-0.42254
275	43.3494	40.96873	59.23058	18622.02	240.6926	0.116144	25379.23	35675.76	34908.14137	39628.21	49898.76	49133.36	114.08309	287.9212	274.9708	274.951	-0.01985	34895.57	274.9905	0.019662	49124.96	515.1274	-0.53599
300	43.8172	41.48651	59.10851	18664.94	241.2267	0.111227	25489.43	35980.75	36379.16325	39741.08	50206.99	50604.55	115.45696	292.9495	299.735	299.696	-0.03904	36360.36	299.7105	-0.02449	50618.89	540.3392	-0.62253
325	43.92837	41.64023	59.02083	18695.13	241.5833	0.104821	25702.33	36274.17	37839.87173	39954.25	50501.91	52064.16	118.72419	297.8446	324.4374	324.3995	-0.0379	37822.35	324.3831	-0.05423	52100.41	565.3416	-0.67908
340	43.8907	41.64691	58.98799	18710.62	241.7724	0.103723	25855.15	36507.86	38715.52085	40110.43	50739.02	52942.18	121.11832	301.7095	339.2264	339.1754	-0.05107	38696.63	339.1376	-0.08883	52984.59	580.2631	-0.73579

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	43.42128	41.02106	59.26697	18596.48	240.5389	0.108913	18774.28	36376.57	38743.31859	33034.26	50594.94	52956.11	4.931E-06	-0.487693	-0.029051	0.088833	0.108732	2	-313.912	0.016876

23GHz V High Gain Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.4024	39.13499	34.26338	16450.19	208.0582	0.073291	20077.52	25979.15	20102.77788	27213.27	33106.76	27238.39	105.86601	278.1092	106.593	106.6028	0.009824	20049.85	106.6323	0.03933	27121.78	314.633	-0.0182
125	42.59767	39.34184	34.17168	16434.92	208.1779	0.086249	20040.54	25958.54	20787.28954	27161.12	33069.51	27906.05	105.51484	278.699	127.3294	127.3569	0.02751	20754.94	127.3706	0.041187	27829.14	335.4379	-0.06941
150	42.6814	39.42898	34.13513	16432	208.2536	0.066802	20030.6	25959.5	21485.10597	27146.36	33067.8	28598.83	105.4223	279.1114	147.9685	148.0143	0.045777	21456.67	148.01	0.041429	28533.46	356.1533	-0.06883
175	42.72431	39.47348	34.10905	16430.4	208.3224	0.075453	20035.77	25977.76	22494.02769	27148.33	33081.87	29604.34	105.70147	279.907	177.6815	177.7479	0.066369	22466.57	177.7133	0.031784	29545.38	385.916	-0.08794
200	42.99159	39.75181	33.97607	16408.53	208.5231	0.07523	20054.11	25952.01	23147.44043	27145.78	33035.31	30234.63	107.29866	280.8884	198.2243	198.3184	0.094092	23165.16	198.2604	0.036144	30248.49	406.5961	-0.1513
225	43.13812	39.88969	33.89836	16404.26	208.7033	0.069483	20090.62	25962.6	23973.47047	27172.25	33036.53	31051.01	108.74753	281.9707	223.1479	223.2694	0.121527	24012.39	223.1791	0.031228	31102.24	431.7065	-0.14465
250	42.95917	39.68778	33.96802	16419.86	208.6982	0.070626	20189.87	26078.39	24918.30229	27285.87	33166.53	32006.93	110.98712	284.3418	250.0155	250.1739	0.158459	24925.84	250.0455	0.030047	32012.11	458.4679	-0.24576
275	42.87582	39.62997	33.97038	16450.36	208.9135	0.069511	20328.69	26230.87	25793.30723	27432.49	33326.92	32890.62	114.16798	287.9128	274.8386	275.0254	0.18681	25769.49	274.8591	0.020422	32863.81	483.5183	-0.23392
300	43.33378	40.11037	33.73639	16423.71	209.3232	0.072088	20321.67	26306.49	26536.59709	27390.27	33366.92	33596.78	115.54172	292.9412	299.6013	299.7661	0.164738	26609.3	299.5599	-0.04143	33715.55	508.5695	-0.35495
325	43.42924	40.20034	33.64757	16431.6	209.6463	0.069308	20429.23	26453.07	27350.43989	27490.08	33506.01	34400.5	118.80883	297.8364	324.3008	324.524	0.223227	27449.58	324.2742	-0.02655	34564.31	533.5334	-0.4137
340	43.37499	40.13718	33.65031	16446.22	209.7705	0.061313	20524.73	26598.57	27863.9033	27590.39	33657.16	34919.73	121.20287	301.7014	339.0876	339.3307	0.243156	27952.1	339.0543	-0.03324	35071.97	548.4647	-0.3934

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.95532	39.70786	34.00403	16422.7	208.7628	0.071759	16524.71	26623.91	27982.57468	23625.53	33710.99	35067.81	3.265E-06	-0.359748	0.188881	0.041429	0.072008	2	-483.076	0.029412

36GHz V High Gain Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.2208	36.24766	40.09556	15713.42	202.7468	-0.381733	19958.08	26865.22	19992.69804	28104.09	35060.37	28138.75	105.8636	278.1307	106.7279	106.7295	0.001644	19967.07	106.5435	-0.18436	28067.9	309.536	0.061319
125	42.42281	36.46656	39.98905	15693.12	202.8144	-0.382066	19912.45	26838.89	20788.06285	28039.34	35015.11	28922.14	105.51214	278.7205	127.4494	127.4628	0.013383	20791.75	127.2084	-0.24101	28902.29	330.4444	0.180561
150	42.50145	36.54036	39.9516	15686.67	202.8557	-0.377622	19898.36	26838.48	21599.86197	28019.15	35008.12	29734.77	105.41973	279.133	148.0776	148.1005	0.022898	21613.18	147.7921	-0.28553	29732.21	351.2409	0.307628
175	42.50209	36.54234	39.94943	15697.55	202.9269	-0.374853	19920.21	26880.55	22798.06066	28043.27	35052.27	30943.77	105.69994	279.9289	177.7808	177.8583	0.077541	22798.61	177.4969	-0.28383	30929.07	381.232	0.524355
200	42.73163	36.78264	39.81489	15669.31	203.0158	-0.371483	19941.33	26853.73	23564.09655	28040.69	35001	31691.48	107.29715	280.9105	198.318	198.4108	0.092818	23618.13	198.0326	-0.28541	31757.87	402.0003	0.666467
225	42.84339	36.88979	39.74319	15659.71	203.1298	-0.3653	19981.72	26867.03	24532.38924	28071.06	35003.31	32655.38	108.7484	281.9934	223.2378	223.3607	0.122963	24613.66	222.979	-0.25876	32763.9	427.2096	0.842084
250	42.54239	36.54909	39.88455	15706.77	203.1726	-0.371337	20133.62	27048.54	25685.75746	28253.49	35216.36	33845.62	110.99153	284.365	250.1042	250.275	0.17078	25688.49	249.9123	-0.19193	33847.5	454.3628	1.085966
275	42.37422	36.41177	39.94133	15741.61	203.333	-0.361032	20302.01	27242.18	26730.44535	28439.68	35426.68	34913.57	114.17735	287.9366	274.9215	275.1583	0.236807	26683.18	274.8375	-0.08404	34854.84	479.605	1.350409
300	42.67363	36.73452	39.75549	15720.32	203.5935	-0.362694	20314.44	27367.3	27646.26409	28423.94	35524.69	35804.95	115.55944	292.9655	299.6827	299.9611	0.278443	27675.58	299.7052	0.022542	35861.72	504.8356	1.55945
325	42.58988	36.64127	39.74758	15743.51	203.8072	-0.36554	20466.82	27582.78	28653.42145	28582.95	35747.66	36822.26	118.83268	297.8615	324.3794	324.7064	0.326936	28666.48	324.5354	0.155982	36865.61	529.9913	1.80459
340	42.36588	36.39719	39.82607	15782.18	203.9317	-0.352696	20610.43	27798.78	29310.83664	28747.16	35983.05	37501.16	121.23339	301.7269	339.1635	339.5572	0.393646	29261.64	339.4491	0.285532	37467.2	545.0662	1.970924

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.52438	36.56393	39.88064	15723.88	203.2116	-0.369669	15843.52	27688.07	29292.18147	23935.22	35859.66	37474.71	-1.643E-05	-0.404759	0.262414	-0.285532	-0.36229	2	-393.796	0.025058

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
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36GHz H High Gain Hot Plateau

Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.2208	35.95787	38.69081	15796.9	219.1452	-0.366702	19891.91	26558.01	19926.01398	28384.35	35099.69	28418.7	105.83916	278.1307	106.721	106.723	0.00206	19902.84	106.5552	-0.16578	28361.7	326.0178	0.151612
125	42.42281	36.17743	38.61211	15776.28	219.2341	-0.36357	19849.38	26538.27	20695.40926	28327.78	35065.67	29180.69	105.4877	278.7205	127.4603	127.45	-0.01027	20699.75	127.2307	-0.22959	29168.51	346.9501	0.255718
150	42.50145	36.2538	38.57844	15770.37	219.2898	-0.367389	19836.36	26538.89	21480.14915	28309.5	35061.67	29966.91	105.3953	279.133	148.0972	148.0909	-0.00632	21493.85	147.8335	-0.2637	29971.53	367.7842	0.397152
175	42.50209	36.25623	38.61646	15785.44	219.3365	-0.366872	19866.25	26595.3	22647.09093	28349.45	35128.28	31153.35	105.67551	279.9289	177.8018	177.8014	-0.0004	22637.76	177.5119	-0.28984	31126.76	397.7564	0.618186
200	42.73163	36.49674	38.53354	15767.16	219.4771	-0.364907	19900.76	26591.64	23406.16374	28371.26	35111.41	31903.78	107.27271	280.9105	198.335	198.3595	0.024515	23429.98	198.0658	-0.2692	31928.84	418.566	0.753837
225	42.84339	36.60276	38.44754	15748.76	219.5736	-0.359889	19928.93	26590.71	24329.92635	28384.24	35094.41	32819.97	108.72396	281.9934	223.2469	223.2959	0.048936	24391.57	223.0138	-0.23307	32902.04	443.8155	0.994942
250	42.54239	36.26388	38.55	15782.91	219.5681	-0.348557	20060.69	26745.18	25424.83824	28538.09	35269.6	33941.53	110.96709	284.365	250.1045	250.1888	0.084281	25429.41	249.9403	-0.16415	33944.65	470.8657	1.193061
275	42.37422	36.12985	38.59268	15810.11	219.7645	-0.330336	20215.58	26922.36	26422.55574	28709.59	35461.11	34960.56	114.15291	287.9366	274.9157	275.0182	0.102467	26388.46	274.8225	-0.09324	34916.54	496.0809	1.400671
300	42.67363	36.45759	38.43349	15786.33	220.0191	-0.335447	20226.75	27046.02	27310.09333	28695.03	35560.57	35827.1	115.53501	292.9655	299.6744	299.8168	0.142358	27347.11	299.6946	0.020123	35890.17	521.3414	1.64789
325	42.58988	36.3668	38.42603	15810.11	220.2448	-0.334362	20375.44	27255.75	28285.63259	28850.51	35777.4	36812.12	118.80825	297.8615	324.3732	324.5778	0.20461	28305.04	324.5477	0.174452	36860.37	546.513	1.894968
340	42.36588	36.12495	38.50758	15844.65	220.3211	-0.332114	20512.11	27463.42	28919.62126	29007.84	36005.92	37467.64	121.20895	301.7269	339.1607	339.4149	0.254197	28879.45	339.4505	0.289837	37439.25	561.5318	2.050002

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	42.52438	36.28072	38.51952	15803.95	219.634	-0.351831	15919.51	27359.8	28908.67734	24369.54	35888.51	37448.14	-1.549E-05	-0.378931	0.139317	-0.289837	-0.34169	2	-409.818	0.025945

89GHz V High Gain Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.54324	46.2662	44.205	58.2408	35471.79	41627.94	51670	41688.6	105.7016357	278.1248	106.7568	106.7462	-0.0106432	41890.18	106.5663	-0.190528
125	44.77013	46.49141	44.42215	58.24061	35530.65	41666.31	51763.15	42952.14	105.3502361	278.7146	127.4763	127.4819	0.0055606	43093.57	127.2529	-0.223439
150	44.88273	46.60165	44.52877	58.247	35561.79	41692.74	51820.11	44185.21	105.2577689	279.1271	148.104	148.1394	0.0354871	44293.23	147.8754	-0.228535
175	44.92143	46.64468	44.57021	58.23229	35582.98	41728.68	51883.56	45933.91	105.5376499	279.9234	177.809	177.8714	0.0623735	46021.3	177.5814	-0.227537
200	45.18977	46.91317	44.82498	58.23309	35650.75	41889.55	52008.73	47198.17	107.1349982	280.9053	198.3469	198.4179	0.070963	47216.5	198.1273	-0.219665
225	45.34167	47.06349	44.96964	58.2242	35694.05	42016.36	52112.62	48691.5	108.5855734	281.9887	223.269	223.3396	0.0706652	48667.26	223.0662	-0.202774
250	45.19486	46.88564	44.78673	58.20089	35678.78	42129.06	52228.84	50236.12	110.8277246	284.3609	250.1393	250.199	0.059747	50232.16	249.9672	-0.172033
275	45.14194	46.84369	44.73686	58.1573	35687.8	42318.45	52433.21	51680.83	114.012355	287.9332	274.9453	275.0297	0.0844891	51680.12	274.8581	-0.087152
300	45.62929	47.33784	45.20201	58.12842	35820.7	42528.25	52850.16	53248.5	115.3918314	292.9626	299.7067	299.795	0.0883409	53125.48	299.7041	-0.002569
325	45.77452	47.47035	45.31346	58.09178	35880.7	42774.06	53183.89	54738.03	118.6633651	297.8595	324.4021	324.5241	0.1219859	54569.87	324.5337	0.131553
340	45.7593	47.43345	45.26521	58.06466	35902.37	42931.79	53421.95	55613.37	121.0620132	301.7254	339.1849	339.3336	0.1487564	55435.46	339.4134	0.228535

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.19535	46.90469	44.80227	58.13475	35703.33	35877.73	53143.75	55481.85	-1.61098E-05	-0.309232	0.103938	-0.228535	-0.3552583	2	-613.5371	0.01719

89GHz V High Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.54324	46.2662	44.205	50.87013	29836.85	35213.91	43985.09	35264.56	105.7016357	278.1248	106.7568	106.7002	-0.0566564	35438.35	106.5583	-0.198552
125	44.77013	46.49141	44.42215	50.86657	29887.14	35245.94	44064.39	36366.96	105.3502361	278.7146	127.4763	127.4437	-0.0326316	36489.41	127.2446	-0.231781
150	44.88273	46.60165	44.52877	50.87131	29914.02	35268.62	44113.59	37443.92	105.2577689	279.1271	148.104	148.1109	0.0069806	37537.33	147.8691	-0.234862
175	44.92143	46.64468	44.57021	50.85583	29933.16	35300.37	44168.9	38971.9	105.5376499	279.9234	177.809	177.8543	0.0453023	39046.73	177.5763	-0.232677
200	45.18977	46.91317	44.82498	50.85222	29991.02	35439.08	44275.68	40074.14	107.1349982	280.9053	198.3469	198.407	0.0600531	40090.64	198.122	-0.224961
225	45.34167	47.06349	44.96964	50.84078	30028.55	35549.13	44365.08	41377.41	108.5855734	281.9887	223.269	223.3348	0.0658016	41357.7	223.0596	-0.20941
250	45.19486	46.88564	44.78673	50.82008	30018.58	35650.85	44469.83	42729.71	110.8277246	284.3609	250.1393	250.1989	0.0596294	42724.41	249.9582	-0.181021
275	45.14194	46.84369	44.73686	50.77638	30027.61	35816.75	44647.82	43991.34	114.012355	287.9332	274.9453	275.0387	0.0934353	43989.28	274.8526	-0.09263
300	45.62929	47.33784	45.20201	50.73951	30140.81	35995.74	45005.6	45354.07	115.3918314	292.9626	299.7067	299.8096	0.1029016	45251.74	299.6997	-0.006961
325	45.77452	47.47035	45.31346	50.7003	30193.94	36210.21	45295.51	46653.27	118.6633651	297.8595	324.4021	324.5485	0.1464218	46513.61	324.5352	0.133068
340	45.7593	47.43345	45.26521	50.67347	30215.03	36349.66	45504.5	47418.71	121.0620132	301.7254	339.1849	339.3647	0.179774	47269.89	339.4197	0.234862

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.19535	46.90469	44.80227	50.77563	30035.16	30187.49	45267.85	47310.24	-1.65009E-05	-0.309232	0.103938	-0.234862	-0.363881	2	-590.9186	0.019681

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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89GHz H High Gain Hot Plateau (Original As-measured Data, reference only)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.54324	46.1136	44.205	61.98928	33339.34	39892.58	50580.09	39949.12	105.7157619	278.1248	106.6493	106.6308	-0.0184995	40110.01	106.4187	-0.230585
125	44.77013	46.33839	44.42215	61.99	33388.33	39919.87	50665.85	41282.15	105.3643622	278.7146	127.3688	127.4042	0.0354368	41392.45	127.1179	-0.250934
150	44.88273	46.44895	44.52877	61.9872	33414.98	39940.49	50717.29	42586.62	105.271895	279.1271	147.9964	148.0679	0.0714485	42669.16	147.7245	-0.271903
175	44.92143	46.49227	44.57021	61.97537	33426.18	39967.79	50774.53	44437.75	105.551776	279.9234	177.7014	177.8185	0.1170506	44509.14	177.4227	-0.278768
200	45.18977	46.75899	44.82498	61.97578	33480.79	40121.44	50890.11	45767.18	107.1491243	280.9053	198.2394	198.39	0.1505896	45782.74	197.9792	-0.260213
225	45.34167	46.91141	44.96964	61.96562	33517.88	40247.32	50991.48	47349.04	108.5996996	281.9887	223.1614	223.3367	0.1752398	47328.54	222.929	-0.232437
250	45.19486	46.73406	44.78673	61.94599	33505.98	40372.18	51121	48999.86	110.8418508	284.3609	250.0317	250.2111	0.1793434	48995.54	249.8351	-0.196605
275	45.14194	46.69284	44.73686	61.9078	33506.49	40565.62	51331.8	50531.54	114.0264811	287.9332	274.8377	275.0466	0.2088823	50537.74	274.7269	-0.110855
300	45.62929	47.18477	45.20201	61.87796	33622.48	40763.56	51750.41	52177.28	115.4059576	292.9626	299.5992	299.8367	0.2375287	52078.73	299.5992	-1.27E-05
325	45.77452	47.31897	45.31346	61.82646	33674.46	41011.87	52090.06	53748.83	118.6774912	297.8595	324.2946	324.5827	0.288164	53618.47	324.4513	0.156719
340	45.7593	47.28452	45.26521	61.78996	33688.07	41169.36	52331.66	54670.1	121.0761393	301.7254	339.0774	339.4112	0.3338257	54541.92	339.3561	0.278768

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.19535	46.75261	44.80227	61.90818	33532.65	33718.37	52105.1	54597.61	-1.92468E-05	-0.203017	0.250511	-0.278768	-0.4244346	2	-540.9743	0.01614

89GHz H High Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	44.54324	46.1136	44.205	53.68664	27934.45	33609.98	42866.04	33657.13	105.7157619	278.1248	106.6493	106.5968	-0.052509	33791.89	106.4238	-0.225483
125	44.77013	46.33839	44.42215	53.68322	27975.65	33631.95	42937.95	34810.72	105.3643622	278.7146	127.3688	127.3823	0.013467	34902.94	127.1291	-0.239685
150	44.88273	46.44895	44.52877	53.67838	27998.4	33649.23	42981.49	35940.33	105.271895	279.1271	147.9964	148.0552	0.0587555	36008.84	147.7384	-0.258073
175	44.92143	46.49227	44.57021	53.66544	28007.65	33672.13	43029.86	37543.17	105.551776	279.9234	177.7014	177.8181	0.1166891	37602.52	177.4377	-0.263751
200	45.18977	46.75899	44.82498	53.66033	28053.42	33803.08	43126.89	38692.24	107.1491243	280.9053	198.2394	198.3985	0.1590599	38705.62	197.9946	-0.244837
225	45.34167	46.91141	44.96964	53.64674	28085.2	33911.22	43212.97	40060.84	108.5996996	281.9887	223.1614	223.3534	0.1919201	40044.24	222.9408	-0.220635
250	45.19486	46.73406	44.78673	53.62992	28077.94	34022.38	43328.19	41493.28	110.8418508	284.3609	250.0317	250.2328	0.2010231	41487.56	249.838	-0.193745
275	45.14194	46.69284	44.73686	53.59078	28078.22	34188.98	43508.78	42817.78	114.0264811	287.9332	274.8377	275.0767	0.239005	42822.97	274.7244	-0.113371
300	45.62929	47.18477	45.20201	53.55044	28176.28	34356.32	43864.55	44235.94	115.4059576	292.9626	299.5992	299.8748	0.2756314	44157.28	299.59	-0.009177
325	45.77452	47.31897	45.31346	53.49483	28221.74	34570.38	44155.69	45593.23	118.6774912	297.8595	324.2946	324.6319	0.3373638	45490.59	324.4373	0.142703
340	45.7593	47.28452	45.26521	53.45795	28234.47	34706.95	44364.09	46389.8	121.0761393	301.7254	339.0774	339.4692	0.3918313	46290.34	339.3411	0.263751

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	45.19535	46.75261	44.80227	53.62141	28093.88	28254.74	44180.3	46338.32	-1.80923E-05	-0.203017	0.250511	-0.263751	-0.3989763	2	-523.3112	0.018636

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Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

166GHz V	High Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.10387	29.2166	40.1534	40.83248	33632.93	37912.04	44985.56	37979.41	104.7965854	278.0293	106.461	106.4501	-0.0109587	38773.18	106.3168	-0.144211
125	40.33122	29.79209	40.36897	40.82002	33755.04	38018.57	45128.2	38945.8	104.447114	278.6172	127.1983	127.2059	0.0076519	39617.48	127.0452	-0.153075
150	40.45178	30.12743	40.4815	40.81045	33831.85	38090.59	45219.19	39862.9	104.3540799	279.03	147.849	147.8545	0.0055638	40457.84	147.6773	-0.171726
175	40.52248	30.48279	40.54834	40.81019	33941.79	38211.7	45361.67	41185.08	104.6285518	279.8292	177.5926	177.5822	-0.0104189	41668.49	177.4	-0.192663
200	40.81877	31.02646	40.83138	40.79097	34039.11	38372.17	45493.75	42118.69	106.2257837	280.813	198.1747	198.1693	-0.0053347	42507.43	197.9969	-0.177735
225	41.00221	31.49943	41.00262	40.78392	34144.5	38535.43	45641.31	43241.79	107.6631822	281.8957	223.1536	223.147	-0.0066189	43525.87	223.0009	-0.152681
250	40.93368	32.18356	40.8809	40.77919	34369.62	38850.67	45961.9	44565.2	109.8857918	284.2695	250.0939	250.0803	-0.013548	44624.78	249.9804	-0.113451
275	41.03137	33.14641	40.96837	40.75524	34640.18	39247.23	46371.37	45845.92	113.0421153	287.845	274.9872	274.9789	-0.0082634	45641.33	274.9381	-0.049055
300	41.69885	34.97753	41.59723	40.69905	35053.38	39708.36	46973.24	47257.03	114.3756527	292.8782	299.843	299.8348	-0.0082275	46656.78	299.8686	0.025589
325	42.01976	36.62052	41.86666	40.66063	35485.4	40267.65	47593.26	48687.26	117.6138572	297.7785	324.6523	324.6133	-0.0390217	47669.7	324.737	0.084716
340	42.14554	37.95481	41.93534	40.62647	35878.89	40753.08	48133.79	49676.69	119.9757809	301.6482	339.512	339.5197	0.0076932	48279.35	339.7047	0.192663
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	41.00541	32.45706	40.96679	40.71041	34449.93	34572.06	46663.05	48298.48	-1.2719E-05	0.335229	-0.011348	-0.192663	-0.2804833	1	-845.611	0.024551

166GHz H	High Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	40.10387	28.82653	40.1534	43.39113	37439.06	41989.91	49503.07	42057.21	104.8795887	278.0293	106.43	106.4328	0.0028751	42758.66	106.348	-0.081959
125	40.33122	29.39865	40.36897	43.37458	37552.88	42086.83	49637.79	43067.03	104.5301172	278.6172	127.1672	127.1556	-0.0115981	43654.96	127.0674	-0.0998
150	40.45178	29.73327	40.4815	43.36997	37625.4	42154.84	49726.93	44032.62	104.4370832	279.03	147.8179	147.7788	-0.0390933	44547.23	147.6936	-0.124253
175	40.52248	30.08662	40.54834	43.36548	37713.85	42254.71	49848.77	45409.14	104.711555	279.8292	177.5616	177.5107	-0.0508829	45834.08	177.4414	-0.120193
200	40.81877	30.62723	40.83138	43.34324	37797.84	42405.61	49969.18	46380.28	106.3087869	280.813	198.1436	198.0708	-0.0727958	46724.28	198.02	-0.123614
225	41.00221	31.09765	41.00262	43.32637	37890.04	42558.29	50103.56	47551.69	107.7461854	281.8957	223.1225	223.0505	-0.0720229	47806.24	223.0314	-0.091142
250	40.93368	31.76558	40.8809	43.32575	38101.65	42866.13	50417.84	48929.84	109.968795	284.2695	250.0628	249.9629	-0.0998662	48972.36	249.9882	-0.074573
275	41.03137	32.72452	40.96837	43.30944	38354.17	43253.56	50820.58	50258.05	113.1251185	287.845	274.9561	274.873	-0.0830797	50052.12	274.9487	-0.007407
300	41.69885	34.54252	41.59723	43.24608	38700.11	43650	51365.94	51660.75	114.458656	292.8782	299.8119	299.6854	-0.1265197	51128.02	299.8198	0.007886
325	42.01976	36.17279	41.86666	43.18457	39079.13	44161.82	51938.57	53092.08	117.6968604	297.7785	324.6212	324.4463	-0.1748894	52202.09	324.6487	0.027485
340	42.14554	37.49039	41.93534	43.12965	39386.31	44564.4	52396.29	54025.53	120.0587841	301.6482	339.4809	339.3584	-0.1225241	52849.09	339.6052	0.124253
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	41.00541	32.04234	40.96679	43.24514	38162.74	38292.47	51136.28	52870.69	-7.87092E-06	0.28118	-0.119493	-0.124253	-0.1735715	1	-882.0906	0.023117

183GHz V_A	High Gain	Hot Plateau (Original As-measured Data, reference only)														
Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.89332	30.5757	39.97912	55.09143	24007.66	29779.08	39324.7	29871.1	104.7607275	278.0293	106.4264	106.4358	0.0093606	30482.96	106.2643	-0.162137
125	40.08036	31.13978	40.15962	54.97844	24065.09	29805.46	39383.03	31053.93	104.4113306	278.6172	127.1698	127.1765	0.0067513	31615.71	126.9538	-0.216004
150	40.16116	31.46799	40.23389	54.92256	24145.04	29874.46	39470.08	32259.67	104.3183065	279.03	147.8259	147.841	0.0151863	32745.08	147.5813	-0.244521
175	40.20713	31.8192	40.28145	54.85775	24194.07	29931.79	39544.88	33931.53	104.592665	279.8292	177.5768	177.6269	0.0500303	34374.32	177.339	-0.237825
200	40.43349	32.3534	40.50373	54.7739	24250.23	30066.68	39631.46	35101.69	106.190173	280.813	198.1605	198.2391	0.0786713	35502.77	197.9498	-0.21064
225	40.53572	32.81897	40.59953	54.72879	24334.37	30224.69	39762.18	36545.1	107.6273554	281.8957	223.1407	223.2256	0.0849171	36871.68	222.9526	-0.188061
250	40.22405	33.45903	40.25952	54.76582	24576.95	30592.95	40145.2	38273.76	109.8496191	284.2695	250.0841	250.1771	0.0929827	38349.53	249.9451	-0.138934
275	40.13845	34.40407	40.18032	54.73264	24839.81	31024.9	40594.33	39892.43	113.0054674	287.845	274.95	275.0551	0.1051553	39714.92	274.8837	-0.066269
300	40.5157	36.20163	40.54235	54.56743	25190.37	31429.48	41171.98	41556.77	114.3376387	292.8782	299.8037	299.9084	0.1046452	41080.14	299.819	0.01524
325	40.46854	37.79657	40.47653	54.47957	25602.17	32007.63	41825.02	43298.58	117.575365	297.7785	324.609	324.7339	0.124849	42444.93	324.7465	0.137427
340	40.27406	39.0829	40.25135	54.4682	25990.47	32523.19	42420.71	44496.89	119.9363034	301.6482	339.4667	339.6271	0.1603991	43264.25	339.7113	0.244521
	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.26655	33.73811	40.31522	54.71395	24677.68	24841.82	41091.86	43292.68	-1.65128E-05	0.338674	0.117008	-0.244521	-0.3641434	3	-450.4988	0.018265

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183GHz V_A High Gain Hot Plateau (Data with notch filter correction, reflecting as-launched condition)

Plateau	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.89332	30.5757	39.97912	45.56877	14557.15	19330.97	27226.6	19410.38	104.7607275	278.0293	106.4264	106.5077	0.0813547	19964.73	106.289	-0.137354
125	40.08036	31.13978	40.15962	45.47453	14605.63	19353.69	27275.62	20389.52	104.4113306	278.6172	127.1698	127.239	0.0691976	20902.16	126.9795	-0.190264
150	40.16116	31.46799	40.23389	45.42877	14679.69	19418.74	27355.68	21394.73	104.3183065	279.03	147.8259	147.8966	0.0707582	21836.81	147.6087	-0.217102
175	40.20713	31.8192	40.28145	45.37358	14721.45	19467.2	27418.31	22778.48	104.592665	279.8292	177.5768	177.6778	0.1009461	23185.25	177.3707	-0.206147
200	40.43349	32.3534	40.50373	45.30824	14770.51	19581.8	27493.65	23749.67	106.190173	280.813	198.1605	198.2883	0.127805	24119.15	197.9833	-0.177147
225	40.53572	32.81897	40.59953	45.27671	14846.11	19719.12	27609.42	24950.48	107.6273554	281.8957	223.1407	223.2666	0.1259026	25251.68	222.98	-0.160665
250	40.22405	33.45903	40.25952	45.32053	15065.55	20044	27948.8	26402.1	109.8496191	284.2695	250.0841	250.2102	0.1261407	26474.23	249.9636	-0.120437
275	40.13845	34.40407	40.18032	45.30683	15303.82	20423.74	28345.16	27765.58	113.0054674	287.845	274.95	275.0823	0.1323711	27603.67	274.892	-0.057926
300	40.5157	36.20163	40.54235	45.19353	15620.9	20788.22	28857.1	29176.52	114.3376387	292.8782	299.8037	299.9273	0.1235334	28732.71	299.8117	0.007953
325	40.46854	37.79657	40.47653	45.14134	15993.49	21301	29435.61	30656.69	117.575365	297.7785	324.609	324.7482	0.1391434	29861.45	324.7246	0.115605
340	40.27406	39.0829	40.25135	45.15471	16346.15	21761.84	29966.99	31688.06	119.9363034	301.6482	339.4667	339.6432	0.1765035	30539.2	339.6838	0.217102

	Rcvr Temp	Mixer Temp	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.26655	33.73811	40.31522	45.28112	15158.23	15294.08	28742.57	30562.62	-1.43385E-05	0.338674	0.117008	-0.217102	-0.3161968	3	-334.3632	0.022072

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183GHz V_B	High Gain	Hot Plateau														
Plateau	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	Cc	Ch	Cs	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts
100	39.89332	30.5757	39.97912	61.68086	30624.09	37086.84	47773.18	37195.42	104.7772637	278.0293	106.5363	106.5422	0.0059309	38094.7	106.3754	-0.160818
125	40.08036	31.13978	40.15962	61.62187	30750.03	37185.07	47918.95	38589.07	104.4278668	278.6172	127.2797	127.265	-0.0146312	39367.46	127.0579	-0.221726
150	40.16116	31.46799	40.23389	61.61221	30846.21	37274.51	48037.86	39955.98	104.3348428	279.03	147.9357	147.9444	0.008671	40638.35	147.71	-0.225677
175	40.20713	31.8192	40.28145	61.59227	30938.31	37381.43	48173.63	41877.66	104.6092012	279.8292	177.6867	177.7239	0.0371448	42469.93	177.4735	-0.21325
200	40.43349	32.3534	40.50373	61.53439	31050.99	37586.35	48330.64	43246.98	106.2067092	280.813	198.2703	198.3148	0.044497	43737.38	198.0697	-0.200592
225	40.53572	32.81897	40.59953	61.51544	31176.2	37797.96	48517.14	44905.11	107.6438916	281.8957	223.2505	223.2825	0.0319274	45275.29	223.0609	-0.18963
250	40.22405	33.45903	40.25952	61.5477	31428.58	38190.58	48924.71	46825.48	109.8661554	284.2695	250.1939	250.2357	0.0417058	46936.83	250.0611	-0.132822
275	40.13845	34.40407	40.18032	61.56356	31742.03	38700.07	49462.8	48674.62	113.0220036	287.845	275.0598	275.0743	0.014491	48469.27	274.9635	-0.096342
300	40.5157	36.20163	40.54235	61.51106	32266.63	39300.68	50281.88	50717.89	114.3541749	292.8782	299.9136	299.9462	0.0326341	50004.97	299.9188	0.005194
325	40.46854	37.79657	40.47653	61.51636	32796.4	40030.23	51114.65	52780.53	117.5919013	297.7785	324.7189	324.7725	0.0536217	51539.02	324.8474	0.128474
340	40.27406	39.0829	40.25135	61.57941	33258.87	40645.49	51834.19	54182.64	119.9528396	301.6482	339.5766	339.6564	0.0798344	52459.31	339.8023	0.225677

	Rcvr Temp	Mixer Tem	LO Temp	Gain	Offset	C_3K	C_300K	C_340K	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1
Overall	40.26655	33.73811	40.31522	61.49996	31561.33	31745.83	50011.32	52484.13	-1.53659E-05	0.286415	0.047224	-0.225677	-0.338853	3	-512.6682	0.01625

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649, Program: GMI
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Appendix Q: Radiometric Raw Data with Blanking

36GHz V	Low Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.47765	-7.03891	28.44845	10749.87	191.1201	-0.53758	13571.32	18071.7	19279.01	19018.93	23561.96	24779.95	99.1773844	257.3718	299.3598	299.6026	0.242842	19279.01	299.3598	5.68E-14	24779.95	492.5659	2.085965
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.47765	-7.03891	28.44392	10763.68	191.1201	-0.53758	10849.01	19296.86	20444.05	16271.16	24798.84	25957.06	-2.438E-05	-0.1216	0.17782	-5.7E-14	-0.53758	6	-377.764	0.035122	8	4	250000

36GHz H	Low Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.47765	-7.26775	25.74829	10374.75	203.1591	-0.4817	12928.49	17001.63	18088.54	18166.21	22276.08	23373.33	99.181067	257.3718	299.3608	299.4	0.03911	18088.54	299.3608	0	23373.33	504.6051	2.085164
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.47765	-7.26775	25.7261	10387.78	203.1591	-0.4817	10464.96	18105.61	19142.29	15680.71	23390.09	24436.24	-2.184E-05	-0.12389	0.046336	0	-0.4817	6	-403.141	0.038837	8	4	250000

36GHz V	Low Gain	Cold Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.46953	-7.02577	27.03777	11837.66	191.0827	-0.53527	14521.23	18800.9	19942.38	19697.67	24017.7	25170.59	99.2527203	257.5375	299.3597	299.5499	0.19019	19942.38	299.3597	0	25170.59	492.5684	2.126022
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.46953	-7.02577	27.03343	11850.74	191.0827	-0.53527	11931.84	19960.77	21051.03	17084.15	25188.62	26289.31	-2.427E-05	-0.1216	0.17782	0	-0.53527	6	-437.611	0.036955	20	4	250000

36GHz H	Low Gain	Cold Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.46953	-7.25552	24.47295	11480.39	203.2051	-0.4836	13909.49	17783.09	18813.33	18888.92	22797.6	23835.3	99.2564029	257.5375	299.3607	299.4494	0.088704	18813.33	299.3607	0	23835.3	504.5632	1.9974
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.46953	-7.25552	24.45162	11492.85	203.2051	-0.4836	11566.2	18828.33	19813.69	16524.65	23852.38	24846.77	-2.193E-05	-0.12389	0.046336	0	-0.4836	6	-469.37	0.040861	20	4	250000

36GHz V	Low Gain	Cold Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.41018	-6.96887	25.61652	12924.54	191.1261	-0.54772	15473.33	19540.89	20604.99	20378.8	24485.64	25558.53	99.4978874	258.2844	299.3593	299.6171	0.257735	20604.99	299.3593	0	25558.53	492.5808	2.095362
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.41018	-6.96887	25.61093	12937.38	191.1261	-0.54772	13014.21	20620.66	21653.75	17896.23	25575.94	26619.16	-2.484E-05	-0.1216	0.17782	0	-0.54772	6	-504.373	0.039007	32	4	250000

36GHz H	Low Gain	Cold Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.41018	-7.19784	23.18571	12585.58	203.1762	-0.48777	14892.59	18574.08	19531.93	19609.42	23324.54	24290.57	99.50157	258.2844	299.3604	299.4134	0.052992	19531.93	299.3604	0	24290.57	504.6036	2.067069
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.41018	-7.19784	23.16474	12597.55	203.1762	-0.48777	12667.05	19546.97	20480.53	17363.78	24306.39	25248.58	-2.212E-05	-0.12389	0.046336	0	-0.48777	6	-543.063	0.043131	32	4	250000

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36GHz V	Nom Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.04354	-6.58382	40.7814	14397.74	190.5163	-0.61143	18046.12	24212.51	18098.87	25829.57	32062.25	25882.83	89.4620361	240.6678	90.75968	90.76056	0.000872	18134.34	90.55939	-0.20029	25922.34	281.2266	-0.04932
100	-0.19405	-6.74026	40.83438	14404.41	190.4525	-0.6237	18048.42	24237.51	18509.84	25839.44	32096.39	26305.57	89.2388376	240.8044	100.581	100.5803	-0.00075	18533.51	100.3321	-0.24893	26323.19	291.0402	0.006778
125	-0.27519	-6.81274	40.86638	14410.26	190.4596	-0.61649	18068.86	24260.69	19517.95	25866.19	32125.12	27332.5	89.5259872	241.0399	125.1161	125.0936	-0.02249	19530.96	124.7517	-0.36441	27333.47	315.7741	0.198411
150	-0.2896	-6.82538	40.85354	14410.68	190.4701	-0.62515	18064.74	24274.62	20536.37	25860.04	32138.19	28360.05	89.442788	241.4463	150.0896	150.0887	-0.00096	20549.35	149.6842	-0.40545	28363.51	340.9917	0.432038
175	-0.26293	-6.80446	40.84423	14410.68	190.4883	-0.61855	18098.16	24299.96	21553.37	25892.38	32161.65	29388.44	90.2815393	242.122	175.0471	175.0265	-0.02064	21566.77	174.5928	-0.45434	29394.39	366.23	0.69467
200	-0.15127	-6.68969	40.78597	14407.76	190.6053	-0.61412	18155.04	24349.8	22559.33	25942.88	32204.59	30396.87	91.8765396	243.7612	199.97	199.9871	0.017128	22586.52	199.5585	-0.41153	30428.38	391.5444	0.969058
225	-0.53582	-7.10107	40.90886	14433.97	190.5816	-0.60992	18232.68	24472.45	23632.15	26042.79	32349.53	31501.88	92.8579076	245.3865	224.8717	224.9172	0.045536	23606.26	224.5241	-0.34764	31457.46	416.7385	1.285211
250	-0.61467	-7.15214	40.91668	14446.71	190.6746	-0.60039	18307.35	24602.1	24667.91	26122.33	32483.61	32550.11	94.3537224	248.1968	249.7345	249.7986	0.064086	24625.47	249.4765	-0.25804	32488.57	441.9823	1.57318
275	-0.30231	-6.82563	40.78065	14439.55	190.9429	-0.59793	18371.45	24750.46	25644.01	26170.8	32617.07	33520.07	96.4157701	252.8382	274.5606	274.6463	0.085724	25644.75	274.4306	-0.12999	33529.11	467.457	1.953501
300	-0.43508	-6.98317	40.79301	14454.93	191.0825	-0.60866	18510.82	24981.5	26680.44	26317.86	32858.09	34569.73	99.4261343	258.0484	299.3337	299.4762	0.142474	26664.61	299.3992	0.065418	34561.6	492.7348	2.318543
325	-0.37603	-6.94852	40.73019	14463.61	191.3207	-0.61568	18537.4	25214.6	27684.97	26340.93	33090.86	35577.9	100.018876	263.9562	324.0339	324.249	0.215053	27683.52	324.3442	0.310274	35597.68	518.1001	2.745457
340	-0.32871	-6.90451	40.70587	14471.91	191.4662	-0.60112	18635.36	25404.47	28291.85	26439.47	33280.63	36187.26	102.28124	268.5746	338.8238	339.0637	0.239912	28293.51	339.2781	0.454337	36216.3	533.2453	2.955269

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.31743	-6.86428	40.80255	14450.81	190.755	-0.61193	14573.22	26691.58	28338.33	22334.66	34576.81	36240.69	-2.637E-05	-0.10764	0.104317	-0.45434	-0.58153	4	-353.409	0.024482	8	4	250000

36GHz H	Nom Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.04354	-6.82081	36.88659	14000.49	202.6619	-0.57838	17300.27	22877.91	17347.93	24786.81	30424.79	24834.87	89.4572301	240.6678	90.75137	90.7544	0.003029	17361.99	90.56758	-0.18379	24842.53	293.4441	0.030786
100	-0.19405	-6.97552	36.9256	14008.8	202.6222	-0.59164	17303.82	22900.65	17719.65	24796.97	30455.74	25218.9	89.2340315	240.8044	100.5693	100.5352	-0.03416	17721.18	100.3089	-0.26042	25206.12	303.3049	0.113389
125	-0.27519	-7.04607	36.96441	14015.44	202.6016	-0.58343	17324.54	22925.34	18634.39	24824.66	30486.57	26150.02	89.5211811	241.0399	125.098	125.0606	-0.03732	18622.65	124.7575	-0.34048	26116.22	327.9874	0.287834
150	-0.2896	-7.05926	36.96472	14017.18	202.6487	-0.58569	17323.23	22942.17	19557.64	24825.1	30505.61	27086.19	89.437982	241.4463	150.0674	150.0249	-0.04249	19541.43	149.6752	-0.39227	27047.91	353.2553	0.539162
175	-0.26293	-7.03796	36.93843	14014.44	202.6856	-0.57556	17349.12	22958.05	20472.17	24846.89	30516.21	28006.25	90.2767333	242.122	175.0239	174.968	-0.05593	20460.6	174.6037	-0.42027	27978.22	378.4858	0.776264
200	-0.15127	-6.9234	36.88885	14007.93	202.8112	-0.57304	17396.97	23000	21378.58	24889.29	30552.43	28916.03	91.8717336	243.7612	199.949	199.9268	-0.02215	21381.54	199.58	-0.36892	28913.18	403.8424	1.082209
225	-0.53582	-7.33657	36.98358	14028.6	202.7226	-0.56417	17462.64	23103.87	22340.77	24970.62	30671.4	29903.09	92.8531016	245.3865	224.8561	224.8218	-0.03434	22301.21	224.5219	-0.33416	29839.04	428.9521	1.373366
250	-0.61467	-7.38296	36.90941	14020.48	202.8511	-0.57286	17502.85	23181.28	23237.55	25000.43	30739.8	30797.2	94.3489164	248.1968	249.7273	249.7152	-0.01209	23222.08	249.4964	-0.23092	30773.07	454.2837	1.705335
275	-0.30231	-7.05399	36.78154	14008.02	203.1345	-0.57072	17554.17	23307.8	24109.85	25035.72	30850.96	31661.42	96.4109641	252.8382	274.5638	274.5457	-0.0181	24141.78	274.4393	-0.1245	31711.92	479.7457	2.04733
300	-0.43508	-7.20995	36.76535	14018.11	203.2831	-0.56617	17673.37	23505.35	25033.56	25156.62	31050.61	32591.1	99.4213283	258.0484	299.3496	299.4047	0.05514	25063.65	299.4411	0.09148	32644.62	505.0411	2.408397
325	-0.37603	-7.17535	36.71881	14023.93	203.5168	-0.57045	17696.33	23716.09	25939.09	25177.75	31262.11	33503.24	100.01407	263.9562	324.0631	324.1538	0.090704	25982.6	324.3635	0.300426	33580.92	530.4341	2.854296
340	-0.32871	-7.12808	36.67425	14025.34	203.6781	-0.55555	17776.25	23875.11	26471.75	25253.88	31416.53	34035.41	102.276434	268.5746	338.8607	338.953	0.092211	26532.65	339.281	0.420267	34140.88	545.6207	3.081838

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.31743	-7.09583	36.83478	14036.15	202.9348	-0.57397	14146.65	25086.58	26572.65	21603.89	32657.83	34159.65	-2.528E-05	-0.10144	0.017491	-0.42027	-0.55747	4	-380.299	0.027121	8	4	250000

36GHz V	Nom Gain	Cold Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.05474	-6.59979	38.76707	15305.8	190.4581	-0.61806	18773.19	24636.14	18824.24	26170.23	32096.88	26221.45	89.4417512	240.677	90.75421	90.76359	0.009378	18857.69	90.55165	-0.20256	26257.83	281.1546	-0.0577
100	-0.20065	-6.74399	38.81972	15313.01	190.3986	-0.61098	18777.01	24661.43	19214.52	26181.59	32129.17	26625.49	89.2330703	240.8162	100.5769	100.5449	-0.03194	19235.62	100.2858	-0.29105	26639.48	290.9847	0.009259
125	-0.27024	-6.814	38.8401	15318.2	190.3943	-0.62704	18794.74	24680.98	20171.4	26203.26	32154.38	27598.32	89.5090893	241.0596	125.1075	125.0616	-0.04585	20183.81	124.7082	-0.3993	27599.86	315.7208	0.218993
150	-0.2932	-6.82812	38.8286	15317.83	190.4304	-0.62447	18791.03	24694	21138.64	26198.61	32166.39	28574.99	89.4494057	241.4757	150.0808	150.0561	-0.02472	21151.76	149.6393	-0.44149	28579.5	340.9532	0.441866
175	-0.27058	-6.80075	38.81831	15318.12	190.474	-0.61713	18823.6	24718.82	22106.57	26230.87	32190.06	29552.94	90.3048283	242.1719	175.0409	175.0275	-0.01339	22120.11	174.5808	-0.46009	29560.13	366.2108	0.695991
200	-0.13416	-6.67202	38.75402	15313.49	190.5843	-0.61577	18876.19	24762.87	23058.32	26275.47	32225.94	30505.33	91.9311337	243.8299	199.9668	199.9711	0.004312	23088.72	199.5289	-0.43793	30542.26	391.5072	0.95612
225	-0.58324	-7.13894	38.89585	15341.82	190.5263	-0.61629	18954.43	24888.09	24086.79	26378.37	32376.36	31567.91	92.8788704	245.4313	224.8721	224.9019	0.029782	24057.98	224.4939	-0.37819	31519.14	416.6683	1.269912
250	-0.60324	-7.13458	38.86952	15351.64	190.6952	-0.61523	19020.53	25002.32	25062.22	26445.71	32492.32	32552.06	94.3900047	248.2842	249.7343	249.8189	0.0846	25028.14	249.4818	-0.25249	32503.91	442.0328	1.603365
275	-0.36726	-6.91115	38.78612	15345.51	190.8864	-0.59142	19096.54	25170.49	26001.09	26512.33	32649.6	33489.8	96.7105728	253.3116	274.5572	274.6262	0.068979	25995.37	274.3946	-0.16262	33487.45	467.3654	1.921828
300	-0.43281	-6.9728	38.76978	15360.45	191.0813	-0.60864	19216.1	25367.78	26980.27	26636.09	32853.89	34477.29	99.4500649	258.1221	299.3259	299.494	0.168129	26966.22	299.4004	0.074508	34471.27	492.7054	2.298245
325	-0.40696	-6.97336	38.72096	15370.63	191.3195	-0.60551	19241.03	25600.1	27939.58	26659.61	33086.79	35442.22	99.9560755	264.1843	324.018	324.2456	0.227598	27933.87	324.3237	0.305699	35455.33	518.0516	2.714079
340	-0.32807	-6.8841	38.68308	15375.52	191.5042	-0.59326	19337.01	25771.1	28508.73	26754.93	33256.6	36012.34	102.408857	268.7371	338.8023	339.0657	0.2634	28513.86	339.2624	0.460092	36045	533.2394	2.93293

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.32876	-6.8728	38.78362	15356.29	190.7294	-0.61198	15472.65	26991.38	28556.64	22849.06	34485.36	36066.89	-2.635E-05	-0.11126	0.108953	-0.46009	-0.58109	4	-395.159	0.025757	20	4	250000

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Agile Revision: H (C484272)
Manual: 2344649, Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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36GHz H	Nom Gain	Cold Plateau		Nom Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.05474	-6.83602	35.05616	14926.08	202.6699	-0.57205	18060.84	23363.29	18107.46	25176.41	30535.59	25223.29	89.4210071	240.677	90.74671	90.75596	0.009243	18122.41	90.55264	-0.19407	25231.66	293.4305	0.013897
100	-0.20065	-6.97818	35.09244	14935.16	202.6571	-0.58559	18065.83	23385.99	18462.81	25188.48	30566.91	25589.63	89.2123262	240.8162	100.5712	100.5648	-0.00642	18464.73	100.3215	-0.24974	25577.61	303.3031	0.074767
125	-0.27024	-7.04717	35.12572	14940.54	202.631	-0.57244	18083.88	23407.93	19330.35	25212.14	30593.18	26472.17	89.4883452	241.0596	125.1013	125.0784	-0.02294	19321	124.757	-0.3443	26442.24	327.9772	0.244898
150	-0.2932	-7.06253	35.124	14941.84	202.6443	-0.58214	18082.93	23423.44	20206.62	25211.39	30610.04	27360.13	89.4286616	241.4757	150.0699	150.0312	-0.03863	20193.72	149.662	-0.40785	27327.06	353.2275	0.513261
175	-0.27058	-7.0351	35.10636	14940.77	202.6981	-0.57388	18110.32	23442.55	21079.08	25236.99	30626.47	28238.93	90.2840842	242.1719	175.0244	174.9929	-0.03158	21067.87	174.6078	-0.41668	28211.39	378.4638	0.74121
200	-0.13416	-6.905	35.05031	14935.37	202.8293	-0.58201	18156.86	23481.69	21938.41	25276.91	30659.78	29101.95	91.9103896	243.8299	199.9475	199.9197	-0.02779	21941.93	199.551	-0.39644	29101.08	403.8531	1.076395
225	-0.58324	-7.3738	35.14739	14954.29	202.7175	-0.58122	18218.01	23580.56	22854.58	25353.68	30774.58	30041.07	92.8581263	245.4313	224.8552	224.845	-0.01022	22816.97	224.5221	-0.3331	29979.88	428.9314	1.358637
250	-0.60324	-7.36486	35.06579	14946.72	202.9011	-0.58187	18255.85	23653	23704.5	25381.19	30837.19	30887.97	94.3692606	248.2842	249.7274	249.747	0.019566	23692.39	249.5041	-0.2233	30869.6	454.3216	1.693094
275	-0.36726	-7.14164	34.97019	14937.07	203.1042	-0.5737	18318.34	23795.43	24541.5	25430.75	30966.8	31720.45	96.6898287	253.3116	274.567	274.5502	-0.01684	24565.44	274.4185	-0.14851	31758.85	479.6983	2.027042
300	-0.43281	-7.20138	34.93992	14945.28	203.2971	-0.57168	18419.33	23964.04	25413.95	25531.94	31136.21	32596.91	99.4293208	258.1221	299.3614	299.4093	0.04789	25441.52	299.4194	0.058075	32646.49	505.0289	2.370407
325	-0.40696	-7.19987	34.90316	14953.29	203.5101	-0.57832	18441.35	24174.16	26279.26	25552.98	31348.18	33470.72	99.9353314	264.1843	324.0834	324.1544	0.070948	26314.69	324.3373	0.253841	33536.87	530.4379	2.844441
340	-0.32807	-7.10895	34.83894	14951.93	203.7012	-0.57207	18519.02	24314.45	26777.22	25623.79	31481.66	33964.07	102.388113	268.7371	338.8877	339.0036	0.115931	26839.17	339.3043	0.416681	34071.1	545.6835	3.09459

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.32876	-7.10454	35.00626	14961.62	202.9467	-0.57725	15066.64	25463.49	26875.79	22154.1	32659.32	34086.6	-2.528E-05	-0.08913	0.025287	-0.41668	-0.55751	4	-426.61	0.028537	20	4	250000

36GHz V	Nom Gain	Cold Plateau		High Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.06631	-6.61296	36.7506	16213.19	190.4669	-0.61118	19499.23	25058.56	19548.03	26511.41	32130.46	26560.7	89.4146139	240.6865	90.74974	90.74783	-0.00192	19579.21	90.53176	-0.21798	26593.79	281.1502	-0.06646
100	-0.21658	-6.74989	36.79604	16220.54	190.4152	-0.61694	19503.49	25082.01	19918.78	26522.41	32161.43	26943.86	89.220041	240.8268	100.5797	100.5479	-0.0318	19938.14	100.2854	-0.29424	26956.47	291.006	0.011089
125	-0.2694	-6.81314	36.80924	16222.51	190.4288	-0.61957	19516.44	25096.38	20823.33	26538.43	32179.14	27860.77	89.4865641	241.0773	125.1127	125.0986	-0.01416	20838.18	124.7436	-0.36909	27866.45	315.7343	0.192774
150	-0.28571	-6.82871	36.80792	16223.73	190.4414	-0.61663	19516.11	25112.95	21741.43	26538.17	32195.68	28791.17	89.4474582	241.5028	150.0854	150.0499	-0.03545	21754.09	149.6331	-0.45222	28794.99	340.9671	0.440324
175	-0.26772	-6.8005	36.79046	16224.39	190.5089	-0.61497	19547.25	25135.73	22658.64	26568.5	32217.41	29715.82	90.3186151	242.2188	175.0434	175.0378	-0.00555	22672.57	174.5925	-0.45085	29724.54	366.2271	0.674763
200	-0.13138	-6.65561	36.72627	16220.34	190.6209	-0.60876	19598.37	25177.93	23559.8	26611.42	32250.75	30618.08	91.9783642	243.9014	199.9668	199.9664	-0.0004	23590.11	199.5265	-0.44027	30656.02	391.5397	0.952049
225	-0.61259	-7.17688	36.87379	16247.71	190.5643	-0.59569	19672.85	25299.16	24537.69	26711.66	32396.92	31629.71	92.888066	245.4711	224.8708	224.8915	0.020787	24508.61	224.4864	-0.3844	31580.63	416.6656	1.230521
250	-0.60093	-7.12216	36.84937	16257.31	190.7385	-0.5877	19736.47	25409.54	25462.42	26776.69	32508.45	32562.57	94.415679	248.3684	249.7344	249.7979	0.06342	25427.76	249.4638	-0.27061	32513.39	442.0132	1.540233
275	-0.37657	-6.92875	36.75977	16253.68	190.9225	-0.59954	19809.66	25566.83	26353.12	26839.12	32657.15	33452.17	96.7355893	253.3517	274.5618	274.6421	0.080361	26345.89	274.4137	-0.14809	33448.94	467.4362	1.951949
300	-0.4375	-6.97066	36.74842	16264.27	191.1275	-0.59976	19919.37	25752.39	27278.71	26953.78	32848.58	34385.78	99.4626079	258.191	299.3384	299.5082	0.169821	27266	299.4173	0.078927	34380.68	492.756	2.290108
325	-0.4334	-6.9921	36.71272	16274.48	191.3168	-0.60111	19942.18	25980.58	28190.93	26975.5	33078.09	35303.93	99.9027846	264.3798	324.0402	324.2332	0.193004	28182.15	324.3133	0.273083	35310.98	518.0364	2.679406
340	-0.31191	-6.87396	36.65744	16278.27	191.5189	-0.58552	20033.97	26131.84	28724.36	27063.62	33224.7	35834.23	102.453894	268.8014	338.8318	339.0861	0.254354	28733.06	339.284	0.45222	35870.67	533.2458	2.895156

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.33417	-6.87711	36.76025	16260.91	190.7559	-0.60478	16371.19	27288.99	28772.47	23363.93	34392.19	35890.95	-2.612E-05	-0.10645	0.101889	-0.45222	-0.57605	4	-441.526	0.027175	32	4	250000

36GHz H	Nom Gain	Cold Plateau		High Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
90	-0.06631	-6.84812	33.22777	15855.46	202.6378	-0.58578	18826.61	23852.93	18870.47	25570.95	30652.35	25615.56	89.4176993	240.6865	90.74251	90.74283	0.000328	18882.53	90.54391	-0.1986	25621.73	293.4107	0.030412
100	-0.21658	-6.98469	33.26776	15863.6	202.616	-0.58641	18831.85	23875.37	19207.61	25583.53	30682.36	25963.58	89.2231265	240.8268	100.5766	100.5583	-0.01827	19207.22	100.318	-0.2586	25949.2	303.2684	0.075844
125	-0.2694	-7.04632	33.29576	15867.49	202.5501	-0.59327	18847.11	23894.34	20027.96	25602.38	30705.6	26799.18	89.4896495	241.0773	125.1157	125.0595	-0.05622	20018.46	124.7382	-0.37756	26770.12	327.9801	0.314206
150	-0.28571	-7.06306	33.29032	15868.94	202.6081	-0.5973	18846.77	23908.64	20859.46	25602.85	30721.28	27640.04	89.4505436	241.5028	150.0901	150.0497	-0.04042	20846.94	149.6776	-0.41245	27609.12	353.2362	0.538086
175	-0.26772	-7.03488	33.27234	15865.75	202.635	-0.5915	18870.97	23924.94	21683.08	25624.23	30734.14	28469.49	90.3217005	242.2188	175.0465	174.9843	-0.0623	21674.64	174.5936	-0.45293	28446.57	378.4455	0.764002
200	-0.13138	-6.88871	33.22443	15862.05	202.7958	-0.58463	18918.08	23965.53	22501.02	25666.89	30769.6	29291.05	91.9814497	243.9014	199.9665	199.9427	-0.0238	22504.22	199.5661	-0.40045	29290.04	403.8361	1.073713
225	-0.61259	-7.41083	33.312	15879.61	202.6625	-0.6038	18974	24056.74	23368.35	25736.3	30876.51	30179.84	92.8911514	245.4711	224.8663	224.8754	0.009088	23333.93	224.5422	-0.32407	30123.9	428.9374	1.408567
250	-0.60093	-7.35379	33.23606	15871.87	202.8372	-0.58257	19009.98	24126.66	24172.2	25762.12	30934.64	30980.34	94.4187644	248.3684	249.7264	249.7334	0.00707	24162.29	249.478	-0.24835	30965.06	454.2584	1.694876
275	-0.37657	-7.15817	33.15164	15863.77	203.0421	-0.58721	19070.82	24262.8	24969.83	25812.21	31061.39	31772.8	96.7386747	253.3517	274.5515	274.5826	0.031072	24991.42	274.4368	-0.11471	31807.42	479.6156	2.022022
300	-0.4375	-7.19946	33.12065	15871.44	203.2541	-0.57485	19165.81	24422.89	25794.35	25907.39	31221.25	32604.35	99.4656933	258.191	299.3274	299.3884	0.061031	25820.12	299.3828	0.055403	32650.79	505.003	2.421499
325	-0.4334	-7.22077	33.09663	15877.6	203.451	-0.55907	19184.15	24627.68	26616.58	25926.13	31426.88	33433.25	99.9058701	264.3798	324.0303	324.131	0.100736	26647.77	324.297	0.266776	33491.19	530.3012	2.819932
340	-0.31191	-7.09735	33.02106	15875.67	203.6646	-0.55974	19258.91	24751.78	27083.6	25992.27	31543.02	33893.56	102.45698	268.8014	338.8232	338.9929	0.16978	27145.37	339.2761	0.452932	33998.69	545.5783	3.090568

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.33417	-7.10885	33.18581	15886.61	202.8962	-0.58384	15986.16	25842.35	27181.25	22703.31	32662.62	34015.77	-2.538E-05	-0.10814	0.041984	-0.45293	-0.55974	4	-477.867	0.030103	32	4	250000

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Agile Revision: H (C484272)
Manual: 2344649, Program: GMI

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36GHz V	High Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.4042	-6.96235	59.84155	20137.87	191.0332	-0.52663	26091.32	35597.88	38064.28	37533.76	47128.5	49615.61	99.4870011	258.3492	299.3316	299.3677	0.036085	38064.28	299.3316	-5.7E-14	49615.61	492.3958	2.031068
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.4042	-6.96235	59.77393	20172.14	191.0332	-0.52663	20351.46	38104.32	40514.7	31741.31	49658.41	52091.45	-2.388E-05	-0.0988	0.025744	-5.7E-14	-0.52663	2	-336.859	0.016714	8	4	250000

36GHz H	High Gain	Cold Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.4042	-7.1901	54.15005	19718.04	203.196	-0.45373	25104.76	33707.66	35934.35	36114.44	44790.35	47036.84	99.4776558	258.3492	299.3488	299.3007	-0.04806	35934.35	299.3488	0	47036.84	504.5048	1.960026
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.4042	-7.1901	54.07246	19747.23	203.196	-0.45373	19909.45	35968.97	38146.98	30875.5	47071.02	49267.74	-2.058E-05	-0.08806	-0.05035	0	-0.45373	2	-364.66	0.018478	8	4	250000

36GHz V	High Gain	Cold Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.39135	-6.93045	56.88125	20764.51	191.0481	-0.51765	26424.6	35470.26	37802.74	37301.66	46429.77	48781.96	99.5071575	258.5342	299.3314	299.3479	0.016482	37802.74	299.3314	0	48781.96	492.3837	2.004113
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.39135	-6.93045	56.81792	20796.56	191.0481	-0.51765	20967.01	37841.93	40132.79	31794.92	48823.27	51135.29	-2.347E-05	-0.0988	0.025744	0	-0.51765	2	-365.37	0.017583	20	4	250000

36GHz H	High Gain	Cold Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.39135	-7.15785	51.46946	20365.62	203.2161	-0.45821	25486.72	33672.23	35779.72	35952.49	44208.18	46334.23	99.4978121	258.5342	299.3487	299.3104	-0.0383	35779.72	299.3487	5.68E-14	46334.23	504.5376	1.972855
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.39135	-7.15785	51.39495	20393.65	203.2161	-0.45821	20547.84	35812.14	37882.44	30971.72	46366.59	48454.86	-2.078E-05	-0.08806	-0.05035	-5.7E-14	-0.45821	2	-396.241	0.019441	20	4	250000

36GHz V	High Gain	Cold Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.47109	-7.02868	53.94735	21389.58	191.0153	-0.52905	26745.27	35288.98	37550.47	37059.86	45683.18	47963.03	99.2761303	257.6475	299.3319	299.3662	0.034359	37550.47	299.3319	0	47963.03	492.3735	2.026244
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.47109	-7.02868	53.88729	21420.47	191.0153	-0.52905	21582.13	37586.65	39759.73	31849.2	48002.47	50196.08	-2.399E-05	-0.0988	0.025744	0	-0.52905	2	-396.827	0.018539	32	4	250000

36GHz H	High Gain	Cold Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	-0.47109	-7.25806	48.81962	21013.25	203.2054	-0.45367	25859.41	33591.5	35633.9	35785.87	43583.57	45643.66	99.2667849	257.6475	299.3491	299.3107	-0.03841	35633.9	299.3491	0	45643.66	504.5051	1.950607
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	-0.47109	-7.25806	48.75055	21039.44	203.2054	-0.45367	21185.69	35664.61	37628.25	31072.91	45674.42	47654.93	-2.057E-05	-0.08806	-0.05035	0	-0.45367	2	-430.989	0.020496	32	4	250000

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

36GHz V	Low Gain	Nominal Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.3818	18.31691	22.89849	9793.735	198.0888	-0.41926	12221.93	16059.34	16664.69	16770.79	20637.53	21245.32	106.041479	273.6253	299.4884	299.9641	0.475631	16664.69	299.4884	0	21245.32	499.2134	1.636174
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.3818	18.31691	22.91712	9800.453	198.0888	-0.41926	9869.204	16675.59	17598.19	14400.28	21258.52	22188.24	-1.901E-05	-0.29742	0.37744	0	-0.41926	6	-427.127	0.043602	8	4	250000

36GHz H	Low Gain	Nominal Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.3818	18.04698	22.46092	9810.656	213.066	-0.38882	12191.53	15956.53	16544.53	16986.02	20779.71	21371.38	106.000792	273.6253	299.5012	299.7147	0.213523	16544.53	299.5012	5.68E-14	21371.38	514.3145	1.747328
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.3818	18.04698	22.45402	9819.284	213.066	-0.38882	9886.646	16555.49	17459.03	14663.74	21383.26	22293.75	-1.763E-05	-0.25534	0.173164	-5.7E-14	-0.38882	6	-436.794	0.044504	8	4	250000

36GHz V	Low Gain	Nominal Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.39806	18.32933	21.76327	10930.15	198.032	-0.41229	13237.53	16886.85	17458.77	17559.58	21236.31	21812.27	106.021564	273.7043	299.488	299.8877	0.399767	17458.77	299.488	5.68E-14	21812.27	499.2096	1.68962
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.39806	18.32933	21.78144	10936.35	198.032	-0.41229	11001.7	17470.78	18347.57	15307.12	21824.65	22708.09	-1.87E-05	-0.29742	0.37744	-5.7E-14	-0.41229	6	-501.452	0.045876	20	4	250000

36GHz H	Low Gain	Nominal Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.39806	18.0591	21.34609	10946.8	213.0272	-0.39367	13209.07	16789.31	17346.06	17764.79	21372.65	21933.43	105.980877	273.7043	299.5007	299.6961	0.195363	17346.06	299.5007	0	21933.43	514.3204	1.792488
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.39806	18.0591	21.33915	10955.13	213.0272	-0.39367	11019.15	17356.88	18215.61	15558.14	21944.63	22810.05	-1.785E-05	-0.25534	0.173164	0	-0.39367	6	-512.79	0.046829	20	4	250000

36GHz V	Low Gain	Nominal Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.41045	18.34169	20.62058	12064.53	198.0927	-0.40603	14250.31	17710.03	18251.37	18346.64	21831.95	22377.08	105.999896	273.78	299.4882	299.9386	0.450337	18251.37	299.4882	0	22377.08	499.2463	1.665337
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.41045	18.34169	20.63819	12070.24	198.0927	-0.40603	12132.16	18261.7	19092.39	16212.98	22387.73	23224.62	-1.841E-05	-0.29742	0.37744	0	-0.40603	6	-584.206	0.048418	32	4	250000

36GHz H	Low Gain	Nominal Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.41045	18.07384	20.23736	12081.77	213.0445	-0.37586	14226.11	17622.36	18148	18545.38	21966.64	22496.97	105.959209	273.78	299.501	299.6682	0.16725	18148	299.501	0	22496.97	514.3084	1.762917
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.41045	18.07384	20.23199	12089.22	213.0445	-0.37586	12149.92	18158.82	18972.78	16454.05	22507.07	23327.08	-1.704E-05	-0.25534	0.173164	0	-0.37586	6	-596.88	0.049393	32	4	250000

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Agile Revision: H (C484272)

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36GHz V	Nom Gain	Nominal Plateau		Low Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.00991	18.94123	32.50809	13009.22	197.563	-0.48536	16159.47	21232.12	16357.62	22598.88	27716.33	22798.44	96.9065755	252.9494	103.0025	103.0223	0.019773	16407.75	102.7954	-0.20712	22861.98	300.6081	0.042667
125	24.89968	18.83311	32.55023	13014.49	197.5061	-0.4836	16174.41	21362.69	17090.1	22619.58	27853.5	23542.78	97.0781801	256.4714	125.2435	125.291	0.047547	17131.27	124.9702	-0.27329	23589.78	322.9142	0.164611
150	24.88963	18.82222	32.5546	13016.76	197.5049	-0.48935	16179.94	21412.65	17905.09	22625.72	27905.02	24366.5	97.1653381	257.9019	150.2066	150.2834	0.076819	17944.15	149.8837	-0.32291	24410.84	348.0785	0.366999
175	24.93107	18.86625	32.52101	13013.01	197.5742	-0.49808	16178.68	21430.88	18708.96	22620.01	27919.83	25174.32	97.3421487	258.8439	175.172	175.29	0.117999	18758.41	174.8396	-0.3324	25235.9	373.3653	0.619124
200	25.04084	18.98039	32.47687	13006.84	197.6644	-0.49236	16195.22	21473.97	19506.09	22630.48	27956.56	25972.15	98.1738821	260.7126	200.124	200.255	0.130992	19572.27	199.7834	-0.34066	26059.65	398.612	0.823563
225	25.04007	18.97564	32.47058	13013.25	197.7575	-0.48497	16222.76	21530.64	20321.92	22659.55	28014.33	26797.18	98.8439078	262.3112	225.0215	225.1896	0.168051	20386.02	224.7234	-0.29809	26884.22	423.8839	1.104826
250	24.73081	18.6447	32.55975	13039.76	197.7767	-0.48348	16290.98	21659.63	21182.84	22745.76	28161.71	27680.55	99.853955	264.7401	249.8889	250.1451	0.256127	21201.36	249.7126	-0.17633	27704.97	449.0386	1.372943
275	24.28695	18.20468	32.68319	13078.9	197.8124	-0.49357	16445.7	21865.68	22066.84	22926.03	28394.8	28597.38	103.013	268.847	274.7129	274.9787	0.265781	22013.75	274.611	-0.10187	28526.85	474.228	1.702676
300	24.42949	18.37706	32.60432	13080.14	198.0548	-0.4946	16531.06	22017.88	22858.12	23003.2	28539.6	29386.62	105.842462	274.1277	299.4771	299.7884	0.311281	22826.37	299.5166	0.039506	29354.33	499.5892	2.057388
325	24.18885	18.12631	32.65158	13110.05	198.2064	-0.50136	16680.91	22246.04	23713.06	23167.04	28783.2	30260.29	109.362642	279.8023	324.1717	324.519	0.347318	23637.33	324.3713	0.19956	30176.1	524.7751	2.396931
340	23.33666	17.23967	32.91867	13173.76	198.1023	-0.50273	16832.92	22489.19	24353.51	23368.37	29076.64	30953.25	111.157545	282.9831	338.9343	339.3326	0.398289	24123.6	339.2749	0.340658	30662.79	539.6915	2.654897
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61672	18.54648	32.59904	13063.75	197.7748	-0.49177	13161.55	22843.46	24157.18	19594.71	29362.02	30687.49	-2.2E-05	-0.27433	0.268346	-0.34066	-0.48526	4	-400.078	0.030649	8	4	250000

36GHz H	Nom Gain	Nominal Plateau		Low Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.00991	18.66699	31.99627	13165.34	212.7004	-0.46133	16265.07	21258.78	16461.17	23085.16	28124	23282	96.8778883	252.9494	102.9969	103.0259	0.029027	16462.77	102.8223	-0.17454	23268.46	315.8273	0.130056
125	24.89968	18.55688	32.00286	13161.19	212.6194	-0.45965	16267.05	21369.01	17167.49	23085.3	28233.19	23993.31	97.0494928	256.4714	125.2412	125.263	0.021765	17170.9	124.9855	-0.25571	23980.85	338.1238	0.263191
150	24.88963	18.54696	31.99433	13162.5	212.6442	-0.46595	16270.32	21413.9	17964.79	23087.41	28277.94	24799.38	97.1366509	257.9019	150.2022	150.2179	0.015761	17966.38	149.8825	-0.31972	24787.18	363.3602	0.513805
175	24.93107	18.58994	31.98308	13160.81	212.6845	-0.46815	16273.2	21439.43	18759.97	23089.08	28302.72	25600.16	97.3134614	258.8439	175.1623	175.2031	0.040792	18763.67	174.836	-0.32634	25592.64	388.5697	0.722823
200	25.04084	18.70311	31.94923	13157.63	212.8028	-0.47101	16293.29	21487.2	19548.99	23105.62	28347.5	26392.24	98.1451948	260.7126	200.1094	200.1771	0.067756	19561.48	199.8058	-0.30352	26401.13	413.8738	0.961691
225	25.04007	18.69903	31.94052	13162.33	212.898	-0.46443	16318.54	21540.68	20348.71	23131.8	28401.53	27200.14	98.8152205	262.3112	225.0047	225.0916	0.08688	20358.21	224.7419	-0.26275	27208.25	439.1351	1.232388
250	24.73081	18.37162	31.93413	13167.78	212.8603	-0.4651	16355.61	21622.03	21149.84	23166.05	28480.52	28004.09	99.8252677	264.7401	249.8752	250.0005	0.125251	21155.62	249.6995	-0.17568	28010.39	464.2407	1.505185
275	24.28695	17.93434	31.91106	13175.17	212.8912	-0.46887	16461.51	21754.36	21946.56	23267.9	28609.48	28804.22	102.984313	268.847	274.7085	274.8483	0.139812	21951.98	274.624	-0.08454	28816.14	489.459	1.859282
300	24.42949	18.11108	31.88052	13181.8	213.1269	-0.46306	16555.2	21921.13	22737.98	23362.12	28776.9	29600.59	105.813775	274.1277	299.4883	299.6454	0.157101	22747.58	299.5247	0.036434	29624.45	514.7576	2.142456
325	24.18885	17.86275	31.85152	13196.45	213.3144	-0.4653	16678.9	22108.58	23536.29	23485.29	28964.69	30402.71	109.333955	279.8023	324.2054	324.4236	0.218206	23543.41	324.4328	0.227408	30431.67	540.0219	2.502195
340	23.33666	16.97943	31.87283	13208.34	213.1133	-0.47878	16750.34	22227.82	24028.63	23554.75	29083.84	30897.53	111.128858	282.9831	338.9854	339.2123	0.226934	24018.81	339.3117	0.326336	30905.74	554.8595	2.760804
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61672	18.27474	31.92383	13187.18	212.8778	-0.46651	13282.95	22764.33	24050.39	20066.8	29634.05	30931.93	-2.099E-05	-0.24425	0.144773	-0.32634	-0.46284	4	-412.431	0.031298	8	4	250000

36GHz V	Nom Gain	Nominal Plateau		Nom Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.00478	18.9407	30.89057	13986.06	197.5292	-0.50817	16978.68	21803.48	17167.73	23097.23	27966.66	23287.93	96.8780954	253.0682	103.0018	103.0187	0.016812	17215.91	102.7761	-0.22571	23349.53	300.5735	0.042415
125	24.8964	18.83378	30.93159	13992.69	197.4602	-0.50344	16995.36	21928.71	17863.95	23119.14	28097.68	23997.67	97.0744694	256.5667	125.2427	125.2377	-0.005	17901.95	124.8996	-0.34303	24041.71	322.895	0.192223
150	24.89054	18.82855	30.93069	13992.7	197.5078	-0.49453	16998.24	21972.11	18637.02	23122.96	28141.59	24777.59	97.1700618	257.977	150.2081	150.2794	0.071284	18675.98	149.8605	-0.34755	24823.07	348.0923	0.376423
175	24.9335	18.87445	30.90571	13989.74	197.5552	-0.50552	16999.05	21992.03	19402.63	23120.26	28159.2	25547.08	97.3707981	258.9262	175.1767	175.287	0.110274	19449.83	174.8159	-0.36078	25605.94	373.3386	0.606678
200	25.04631	18.99105	30.86292	13985.3	197.6377	-0.50076	17016.4	22034.16	20161.26	23131.44	28194.97	26306.36	98.2114378	260.7937	200.1242	200.2469	0.122684	20223.14	199.7535	-0.37071	26388.79	398.5841	0.822091
225	25.04012	18.9809	30.8534	13991.84	197.7302	-0.51346	17042.57	22088.08	20937.25	23158.53	28251.27	27090.59	98.8782229	262.4098	225.0283	225.2147	0.18646	20997.52	224.726	-0.30226	27173.68	423.8953	1.136789
250	24.71796	18.63988	30.94456	14016.74	197.7452	-0.4949	17107.95	22211.8	21755.02	23241.98	28391.87	27932.25	99.8953746	264.8306	249.8932	250.1186	0.225458	21770.81	249.663	-0.23016	27953.39	449.0393	1.400989
275	24.28046	18.20484	31.06534	14050.55	197.7707	-0.49373	17252.08	22404.88	22593.57	23410.65	28609.84	28801	103.057801	268.9275	274.7103	274.9784	0.268109	22543.71	274.5875	-0.12282	28733.65	474.201	1.720015
300	24.43712	18.38753	30.98718	14051.53	198.0324	-0.50397	17330.54	22547.85	23344.94	23481.37	28746.73	29548.57	105.818399	274.1884	299.4652	299.8005	0.335333	23316.42	299.5058	0.040645	29519.26	499.5355	2.03794
325	24.1872	18.13102	31.03569	14080.84	198.1814	-0.49988	17476.83	22767.17	24158.68	23641.5	28980.2	30381.1	109.42225	279.8819	324.146	324.5032	0.357206	24086.3	324.333	0.187073	30299.71	524.7035	2.376127
340	23.31062	17.22148	31.29338	14142.57	198.0666	-0.49936	17622.2	23000.7	24770.9	23834.15	29261.76	31043.23	111.193907	283.0674	338.8982	339.3477	0.449526	24549.45	339.2689	0.370706	30762.52	539.6284	2.663609
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61318	18.54856	30.98181	14038.06	197.747	-0.50161	14131.01	23332.61	24581.25	20244.02	29527.63	30787.57	-2.224E-05	-0.27829	0.277351	-0.37071	-0.4904	4	-452.404	0.032248	20	4	250000

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36GHz H	Nom Gain	Nominal Plateau		Nom Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	25.00478	18.66641	30.40561	14134.36	212.6927	-0.47478	17079.37	21829.05	17265.71	23560.4	28354.27	23748.22	96.857651	253.0682	102.9962	103.0055	0.00931	17266.9	102.7938	-0.20247	23736.07	315.8238	0.134932
125	24.8964	18.55772	30.40753	14132.06	212.6377	-0.48475	17083.23	21933.62	17937.91	23562.55	28459.03	24425.65	97.0540249	256.5667	125.2422	125.2394	-0.00273	17939.83	124.9535	-0.28864	24414.46	338.1633	0.283447
150	24.89054	18.55232	30.40516	14131.48	212.6319	-0.47478	17085.33	21975.32	18695.74	23563.58	28499.06	25190.94	97.1496173	257.977	150.2093	150.2351	0.025791	18697.11	149.8908	-0.31845	25179.97	363.3714	0.53018
175	24.9335	18.59819	30.3975	14128.99	212.6787	-0.46677	17088.19	21999.69	19450.66	23565.99	28522.41	25951.48	97.3503536	258.9262	175.1767	175.2068	0.030085	19454.47	174.8308	-0.34596	25944.76	388.5561	0.700639
200	25.04631	18.71558	30.36041	14126.72	212.7944	-0.4709	17107.84	22044.52	20199.82	23581.15	28563.43	26704.07	98.1909933	260.7937	200.1216	200.164	0.042391	20212.24	199.7839	-0.33772	26714.24	413.895	0.978863
225	25.04012	18.70478	30.3518	14130.12	212.8799	-0.46947	17130.63	22094.73	20960.02	23604.53	28614.36	27470.16	98.8577785	262.4098	225.0228	225.1242	0.101375	20970.88	224.7659	-0.25693	27480.95	439.1427	1.239991
250	24.71796	18.36537	30.34832	14135.11	212.8252	-0.47721	17166.14	22172.27	21719.89	23637.5	28690.51	28234.46	99.8749301	264.8306	249.8857	249.9716	0.085839	21726.91	249.662	-0.2237	28242.66	464.2259	1.514986
275	24.28046	17.934	30.3316	14142.6	212.832	-0.47966	17267.88	22299.6	22478.77	23735.75	28814.85	28996.36	103.037357	268.9275	274.7026	274.8131	0.110463	22483.61	274.5804	-0.12224	29006.98	489.395	1.860339
300	24.43712	18.11932	30.30033	14148.61	213.1238	-0.47634	17354.32	22456.61	23231.59	23823.94	28974.02	29753.56	105.797955	274.1884	299.4593	299.6604	0.201151	23241.33	299.5319	0.072658	29776.91	514.7489	2.165806
325	24.1872	17.86917	30.28396	14161.01	213.2445	-0.46544	17474.13	22636.94	23990.17	23943.43	29153.53	30516.38	109.401806	279.8819	324.144	324.3639	0.2199	23995.46	324.3656	0.2216	30540.12	539.8812	2.492666
340	23.31062	16.96203	30.31417	14173.94	213.0475	-0.45175	17544.07	22754.89	24463.31	24013.41	29270.5	30992.52	111.173462	283.0674	338.8999	339.1535	0.253599	24447.34	339.2459	0.345959	30989.26	554.6714	2.724017

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61318	18.27681	30.34164	14154.32	212.8535	-0.47199	14245.34	23256.81	24479.17	20692.18	29785.61	31019.25	-2.108E-05	-0.25646	0.145293	-0.34596	-0.46479	4	-465.805	0.03293	20	4	250000

36GHz V	Nom Gain	Nominal Plateau		High Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.99954	18.93725	29.2759	14963.18	197.6251	-0.49875	17797.88	22375.61	17978.9	23598.01	28217.3	23779.87	96.8271177	253.192	103.0051	103.0307	0.025638	18024.66	102.824	-0.18109	23839.31	300.6892	0.059062
125	24.8936	18.83196	29.31099	14968.41	197.5919	-0.49518	17812.95	22491.35	18638.6	23618.4	28338.97	24450.5	97.0467316	256.6593	125.2523	125.2973	0.045062	18676.35	125.0001	-0.25213	24495.65	323.0236	0.17942
150	24.89162	18.83096	29.31534	14969.15	197.5665	-0.4961	17817.15	22533.97	19371.16	23622.48	28381.9	25191.44	97.1504467	258.05	150.2177	150.2871	0.069407	19408.52	149.9149	-0.30284	25235.6	348.2032	0.418983
175	24.93802	18.88073	29.29204	14966.79	197.5929	-0.49363	17819.09	22553.67	20095.28	23620.43	28397.55	25919.61	97.3745583	259.0082	175.1815	175.2253	0.043845	20140.01	174.8065	-0.37501	25975.93	373.3959	0.621549
200	25.05302	18.99766	29.25364	14962.3	197.6791	-0.49687	17835.65	22593.71	20816.32	23631.76	28432.89	26641.08	98.2216603	260.8704	200.1245	200.2492	0.124672	20874.86	199.8126	-0.31185	26719.22	398.6889	0.885271
225	25.04034	18.98474	29.24605	14967.12	197.7641	-0.49344	17859.16	22644.29	21549.93	23656.06	28484.23	27381.92	98.8863775	262.5029	225.0247	225.1879	0.163156	21608.01	224.7609	-0.26386	27461.45	423.9463	1.157392
250	24.70559	18.63016	29.33728	14991.13	197.7635	-0.49055	17922.22	22763.02	22326.48	23736.91	28620.99	28181.1	99.9102309	264.9153	249.8897	250.0845	0.194771	22340.75	249.6949	-0.19481	28199.29	449.0541	1.400883
275	24.27498	18.20223	29.452	15024.49	197.7888	-0.48976	18060.19	22947.03	23122.95	23898.19	28828.67	29006.81	103.073042	268.9985	274.7124	274.949	0.236603	23073.45	274.6279	-0.0845	28939.52	474.2429	1.741809
300	24.44312	18.39434	29.37034	15024.83	198.0609	-0.50685	18131.39	23079.42	23832.03	23960.92	28954.79	29712.09	105.771921	274.2423	299.4793	299.7571	0.277814	23805.41	299.5355	0.056161	29684.97	499.6099	2.069668
325	24.18767	18.13425	29.41845	15052.37	198.223	-0.48674	18272.31	23288.26	24605.55	24115.67	29176.27	30502.74	109.452963	279.9565	324.1777	324.5212	0.343457	24536.9	324.4274	0.249629	30425.37	524.8049	2.404111
340	23.28856	17.20355	29.66887	15112.32	198.0947	-0.48211	18411.49	23512.95	25188.04	24300.47	29446.88	31134.87	111.199707	283.1462	338.9443	339.3207	0.376339	24974.53	339.3193	0.37501	30863.77	539.723	2.683988

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61055	18.54798	29.36072	15012.63	197.7955	-0.49363	15100.71	23820.85	25004.1	20895.37	29692.77	30886.67	-2.21E-05	-0.25778	0.242687	-0.37501	-0.48744	4	-510.533	0.034029	32	4	250000

36GHz H	Nom Gain	Nominal Plateau		High Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	24.99954	18.66244	28.82417	15101.7	212.7089	-0.47474	17892.87	22399.74	18070.07	24035.9	28584.71	24215.2	96.83434	253.192	103.0051	103.0017	-0.00335	18071.82	102.7852	-0.21985	24204.64	315.8556	0.14156
125	24.8936	18.55552	28.8289	15099.45	212.6115	-0.48149	17897.41	22498.65	18708.11	24038.2	28682.87	24858.14	97.0539539	256.6593	125.2699	125.253	-0.0169	18710.28	124.967	-0.3029	24847.57	338.1925	0.311042
150	24.89162	18.55483	28.82176	15098.07	212.6473	-0.47971	17898.33	22535.53	19424.71	24038.41	28719.21	25580.39	97.157669	258.05	150.2408	150.2377	-0.0031	19427.89	149.8987	-0.34209	25572.57	363.3811	0.493047
175	24.93802	18.60359	28.81433	15096.8	212.7028	-0.47343	17902.79	22559.94	20141.66	24042.68	28743.06	26302.74	97.3817806	259.0082	175.1997	175.2192	0.01949	20146.17	174.8537	-0.34603	26298.01	388.5846	0.682142
200	25.05302	18.72345	28.78371	15096.15	212.8088	-0.48445	17923.54	22604.96	20854.26	24059.98	28785.9	27019.38	98.2288826	260.8704	200.1332	200.1784	0.045194	20864.6	199.8137	-0.31946	27027.35	413.924	0.982007
225	25.04034	18.70953	28.77781	15096.68	212.8811	-0.46749	17942.62	22650.94	21571.77	24079.51	28831.01	27742.64	98.8935998	262.5029	225.0234	225.1026	0.079232	21582.77	224.7647	-0.25867	27752.84	439.1294	1.224878
250	24.70559	18.35734	28.76875	15102.99	212.8482	-0.46835	17977.49	22724.27	22292.5	24111.29	28901.69	28467	99.9174532	264.9153	249.8822	249.9544	0.072132	22299.62	249.6701	-0.21218	28475.74	464.2448	1.514369
275	24.27498	17.93231	28.75988	15109.75	212.8396	-0.46882	18074.33	22846.12	23014.34	24205.85	29021.54	29191.59	103.080265	268.9985	274.7054	274.8266	0.1212	23017.86	274.6235	-0.0819	29199.56	489.3923	1.84726
300	24.44312	18.12578	28.7321	15115.04	213.0768	-0.45799	18154.3	22994.6	23725.71	24286.22	29170.08	29908.45	105.779143	274.2423	299.4805	299.5841	0.103542	23733.56	299.489	0.00846	29927.77	514.6922	2.13482
325	24.18767	17.87204	28.70426	15128.17	213.2879	-0.46816	18270.15	23164.12	24444.49	24402.04	29341.11	30630.65	109.460185	279.9565	324.1956	324.3597	0.164162	24450.54	324.3989	0.203354	30655.38	539.9714	2.487905
340	23.28856	16.94259	28.73709	15142.57	213.0669	-0.469	18338.33	23279.36	24897.71	24470.63	29457.24	31087.43	111.206929	283.1462	338.977	339.1906	0.213632	24880.11	339.323	0.346034	31082.16	554.7988	2.754885

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.61055	18.27631	28.75863	15121.71	212.8618	-0.47215	15207.99	23749.3	24907.88	21318.71	29937.74	31107.02	-2.108E-05	-0.26361	0.111071	-0.34603	-0.46496	4	-525.077	0.034743	32	4	250000

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649, Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

36GHz V	High Gain	Nominal Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.40789	18.35109	47.53016	18080.29	197.9857	-0.40005	23115.25	31096.72	32327.95	32540.61	40580.2	41818.47	105.932054	273.8564	299.4738	299.6695	0.195662	32327.95	299.4738	0	41818.47	499.0684	1.608839
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.40789	18.35109	47.51427	18099.16	197.9857	-0.40005	18241.7	32353.44	34265.71	27631.92	41846.14	43772.47	-1.814E-05	-0.25458	0.17578	0	-0.40005	2	-380.414	0.021031	8	4	250000

36GHz H	High Gain	Nominal Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.40789	18.08328	46.63221	18408.54	213.0374	-0.33857	23347.91	31179.07	32381.26	33294.74	41177.75	42387.03	105.921912	273.8564	299.4912	299.56	0.068708	32381.26	299.4912	0	42387.03	514.0598	1.531093
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.40789	18.08328	46.60328	18425.88	213.0374	-0.33857	18565.69	32406.86	34280.69	28481.11	42413.73	44300.07	-1.535E-05	-0.24304	0.092544	0	-0.33857	2	-394.908	0.021444	8	4	250000

36GHz V	High Gain	Nominal Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.41179	18.36126	45.18371	18806.76	197.9688	-0.39457	23592.01	31183.8	32350.82	32551.2	40197.5	41371.72	105.906532	273.9271	299.4734	299.666	0.192565	32350.82	299.4734	-5.7E-14	41371.72	499.0422	1.600077
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.41179	18.36126	45.16938	18824.39	197.9688	-0.39457	18959.9	32375.2	34192.95	27886.15	41397.52	43228.44	-1.789E-05	-0.25458	0.17578	-5.7E-14	-0.39457	2	-416.222	0.022123	20	4	250000

36GHz H	High Gain	Nominal Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.41179	18.09378	44.31972	19118.8	213.0652	-0.32467	23812.09	31259.17	32398.81	33266.6	40760.95	41909.91	105.896391	273.9271	299.4908	299.5678	0.076991	32398.81	299.4908	0	41909.91	514.089	1.532904
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.41179	18.09378	44.2943	19134.5	213.0652	-0.32467	19267.38	32422.79	34203.4	28693.27	41932	43724	-1.472E-05	-0.24304	0.092544	0	-0.32467	2	-431.52	0.022563	20	4	250000

36GHz V	High Gain	Nominal Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.4161	18.36952	42.82599	19533.63	197.9906	-0.39824	24068.05	31267.69	32371.13	32560.71	39812.54	40922.34	105.880173	273.9939	299.4738	299.6692	0.195415	32371.13	299.4738	0	40922.34	499.0683	1.603884
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.4161	18.36952	42.81181	19550.55	197.9906	-0.39824	19678.98	32394.09	34117.06	28140.14	40947.16	42682.74	-1.806E-05	-0.25458	0.17578	0	-0.39824	2	-456.103	0.023341	32	4	250000

36GHz H	High Gain	Nominal Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	24.4161	18.10176	42.01207	19827.92	213.0838	-0.337	24275.74	31338.97	32417.56	33238.97	40348.76	41433.24	105.870031	273.9939	299.4912	299.5912	0.099935	32417.56	299.4912	-5.7E-14	41433.24	514.089	1.513932
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	24.4161	18.10176	41.98616	19843.46	213.0838	-0.337	19969.42	32439.31	34127.46	28904.5	41456.4	43155.76	-1.528E-05	-0.24304	0.092544	-5.7E-14	-0.337	2	-472.136	0.023803	32	4	250000

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

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36GHz V	Low Gain	Hot Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.58412	36.63154	18.76857	8930.733	203.6092	-0.31331	11097.38	14415.97	14565.92	14932.06	18270.08	18421.21	115.439992	292.2567	299.6855	300.2248	0.539325	14565.92	299.6855	-5.7E-14	18421.21	504.6544	1.359699
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.58412	36.63154	18.79841	8932.825	203.6092	-0.31331	8989.22	14572.35	15327.9	12811.66	18427.37	19187.38	-1.421E-05	-0.444	0.541075	-5.7E-14	-0.31331	6	-474.721	0.053166	8	4	250000

36GHz H	Low Gain	Hot Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.58412	36.35257	18.16176	8847.547	219.9549	-0.3009	10943.91	14155.44	14295.31	14947.28	18178.32	18319.38	115.42744	292.2567	299.682	299.9387	0.256758	14295.31	299.682	0	18319.38	521.0994	1.462579
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.58412	36.35257	18.16417	8852.406	219.9549	-0.3009	8906.898	14301.66	15031.58	12897.99	18325.42	19059.81	-1.364E-05	-0.43006	0.274642	0	-0.3009	6	-486.893	0.055023	8	4	250000

36GHz V	Low Gain	Hot Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.60633	36.64855	17.8363	10107.32	203.625	-0.33199	12166.72	15322.05	15462.62	15811.28	18986.2	19126.61	115.460878	292.3663	299.6854	300.2256	0.540159	15462.62	299.6854	5.68E-14	19126.61	504.677	1.366625
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.60633	36.64855	17.86302	10109.81	203.625	-0.33199	10163.4	15468.72	16186.88	13795.64	19133.78	19856.44	-1.505E-05	-0.444	0.541075	-5.7E-14	-0.33199	6	-565.413	0.055948	20	4	250000

36GHz H	Low Gain	Hot Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.60633	36.36775	17.26105	10027.35	219.8835	-0.30184	12020.11	15073.9	15204.95	15823.7	18896.09	19028.47	115.448326	292.3663	299.6818	299.9394	0.257573	15204.95	299.6818	5.68E-14	19028.47	521.0435	1.478093
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.60633	36.36775	17.26322	10032	219.8835	-0.30184	10083.79	15210.97	15904.7	13875.67	19034	19731.98	-1.369E-05	-0.43006	0.274642	-5.7E-14	-0.30184	6	-580.605	0.057895	20	4	250000

36GHz V	Low Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.62518	36.66345	16.89782	11288.08	203.6577	-0.32848	13239.49	16230.15	16361.28	16692.82	19701.86	19834.06	115.482835	292.468	299.6852	300.2067	0.521443	16361.28	299.6852	0	19834.06	504.7688	1.425837
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.62518	36.66345	16.92336	11290.36	203.6577	-0.32848	11341.13	16367.37	17047.72	14782.9	19839.92	20524.48	-1.49E-05	-0.444	0.541075	0	-0.32848	6	-666.523	0.059055	32	4	250000

36GHz H	Low Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.62518	36.38465	16.34757	11210.66	220.0224	-0.31575	13098.32	15991.8	16114.78	16702.99	19614.93	19737.71	115.470282	292.468	299.6817	299.9711	0.289425	16114.78	299.6817	0	19737.71	521.1598	1.455722
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.62518	36.38465	16.34851	11215.41	220.0224	-0.31575	11264.45	16119.96	16777.07	14857.52	19743.91	20405.24	-1.432E-05	-0.43006	0.274642	0	-0.31575	6	-685.454	0.061132	32	4	250000

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
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36GHz V	Nom Gain	Hot Plateau		Low Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.24618	36.28151	26.77768	11832.51	202.7521	-0.411	14666.29	19281.84	14691.2	20111.1	24762.04	20135.67	105.826225	278.1916	106.7446	106.7595	0.014979	14677.75	106.5656	-0.17895	20093.39	309.5724	0.075714
125	42.43754	36.47926	26.70906	11818.95	202.808	-0.41763	14637.07	19264.46	15221.76	20069.33	24732.78	20659.78	105.512042	278.7636	127.4438	127.4635	0.019692	15227.72	127.1812	-0.2626	20650.92	330.4715	0.219727
150	42.50823	36.54189	26.68863	11817.29	202.8683	-0.41779	14631.31	19268.18	15767.89	20060.95	24733.98	21207.51	105.438913	279.1783	148.0726	148.1278	0.055149	15777.05	147.7731	-0.2995	21206.05	351.281	0.340076
175	42.52565	36.56441	26.68417	11823.21	202.904	-0.42388	14644.8	19294.17	16567.65	20074.45	24760.62	22012.33	105.740341	279.9772	177.7796	177.9344	0.154803	16570.18	177.5036	-0.27595	22005.29	381.2408	0.557198
200	42.74164	36.78209	26.59417	11806.66	203.0271	-0.42064	14662.65	19278.24	17082.31	20077.38	24729.24	22516.27	107.391859	280.948	198.3259	198.5135	0.187577	17118.36	198.0526	-0.27335	22561.25	402.0808	0.727816
225	42.85089	36.89277	26.54839	11800.73	203.1467	-0.42094	14690.65	19289.32	17730.65	20099.31	24734.19	23163.45	108.854622	282.0732	223.249	223.4855	0.236496	17784.06	223.0066	-0.24237	23235.33	427.3491	0.953363
250	42.50555	36.50708	26.65772	11835.55	203.1636	-0.42695	14797.76	19418.79	18508.92	20229.17	24887.11	23968.64	111.120165	284.4669	250.1176	250.4224	0.304757	18502.84	249.9502	-0.16745	23959.27	454.4862	1.204966
275	42.38174	36.41897	26.68194	11854.04	203.3416	-0.40725	14903.44	19539.8	19197.79	20344.35	25016.06	24671.77	114.287339	288.0512	274.9296	275.2707	0.341072	19166.63	274.8325	-0.09713	24633.09	479.7445	1.473361
300	42.68622	36.73856	26.55483	11839.91	203.6327	-0.41087	14909.44	19621.46	19809.15	20331.61	25079.93	25268.58	115.592177	293.0371	299.6771	300.0815	0.404398	19830.13	299.7039	0.026801	25308.8	505.0736	1.763808
325	42.59931	36.65552	26.55199	11855.02	203.8287	-0.40822	15014.93	19768.59	20482.45	20441.47	25231.57	25949.68	119.008579	298.0408	324.355	324.8248	0.469848	20492.43	324.5306	0.175572	25980.44	530.2504	2.066707
340	42.34806	36.37576	26.62086	11883.21	203.9251	-0.39117	15112.18	19917.78	20929.04	20555.03	25395.93	26413.05	121.294991	301.8148	339.1209	339.6511	0.530133	20889.65	339.4204	0.299497	26381.1	545.2692	2.223152

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53009	36.56708	26.6575	11841.67	203.218	-0.41421	11921.64	19838.92	20911.83	17329.63	25306.33	26387.39	-1.826E-05	-0.42075	0.39389	-0.2995	-0.40266	4	-443.635	0.037485	8	4	250000

36GHz H	Nom Gain	Hot Plateau		Low Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.24618	35.99305	25.76593	11780.98	219.1406	-0.39532	14506.96	18948.85	14531.03	20165.1	24642.4	20189.4	105.79774	278.1916	106.7368	106.7345	-0.00232	14518.76	106.5589	-0.17787	20155.52	326.0482	0.170715
125	42.43754	36.19091	25.71548	11768.31	219.2335	-0.39505	14480.87	18936.85	15043.94	20130.2	24621.7	20698.83	105.483557	278.7636	127.4362	127.4365	0.000215	15048.77	127.1968	-0.23945	20693.15	346.983	0.313289
150	42.50823	36.25572	25.69707	11763.11	219.2804	-0.38831	14471.85	18937.18	15566.04	20118.2	24618.52	21221.97	105.410428	279.1783	148.0618	148.0867	0.024891	15577.83	147.7978	-0.26402	21227.34	367.7837	0.441472
175	42.52565	36.27798	25.71975	11774.88	219.3335	-0.38818	14493.77	18975.83	16344.34	20146.4	24663.58	22012.62	105.711856	279.9772	177.7613	177.7898	0.028499	16339.47	177.4555	-0.30579	21996.49	397.7335	0.638727
200	42.74164	36.49645	25.66777	11762.39	219.464	-0.38984	14518.17	18973.7	16852.47	20162.87	24653.48	22515.23	107.363374	280.948	198.3029	198.4354	0.132506	16869.39	198.0898	-0.2131	22532.51	418.6056	0.838705
225	42.85089	36.60612	25.61873	11754.27	219.5846	-0.39122	14542.26	18980.63	17473.36	20179.34	24652.81	23133.55	108.826137	282.0732	223.2225	223.3544	0.131865	17509.46	223.0137	-0.20886	23181.01	443.8575	1.050387
250	42.50555	36.22145	25.68587	11777.21	219.5981	-0.38003	14630.69	19083.99	18202.49	20282.75	24770.24	23882.76	111.09168	284.4669	250.093	250.2306	0.137538	18200.43	249.919	-0.17406	23877.77	470.9889	1.297729
275	42.38174	36.13802	25.69973	11793.49	219.765	-0.39473	14729.91	19196.33	18862.64	20389.45	24891.55	24554.43	114.258854	288.0512	274.9132	275.1033	0.190084	18840.51	274.8433	-0.06992	24527	496.2691	1.590934
300	42.68622	36.46207	25.59358	11777.3	220.0538	-0.39295	14734.99	19277.17	19453.04	20378.05	24956.41	25132.67	115.563692	293.0371	299.6752	299.8867	0.211484	19478.9	299.7016	0.026341	25177.33	521.5924	1.86337
325	42.59931	36.37955	25.59548	11793.57	220.2772	-0.37664	14838.93	19422.07	20104.75	20487.76	25105.92	25793.42	118.980094	298.0408	324.3751	324.6183	0.243195	20116.51	324.5291	0.153981	25824.44	546.7902	2.137833
340	42.34806	36.10332	25.64743	11816.66	220.3769	-0.37431	14926.83	19557.43	20527.15	20589.48	25255.26	26230.11	121.266505	301.8148	339.1568	339.4824	0.325586	20500.02	339.4626	0.30579	26211.46	561.86	2.326281

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53009	36.28406	25.66346	11788.49	219.6462	-0.38787	11865.48	19487.53	20520.05	17494.84	25175.14	26215.65	-1.72E-05	-0.39087	0.212808	-0.30579	-0.37924	4	-458.786	0.038939	8	4	250000

36GHz V	Nom Gain	Hot Plateau		Nom Blank																			
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.26626	36.31492	25.44324	12864.94	202.8279	-0.40291	15556.13	19944.23	15581.81	20731.6	25152.68	20756.17	105.772194	278.2383	106.7578	106.7843	0.026523	15571.17	106.6281	-0.12973	20719.19	309.6714	0.085695
125	42.44551	36.49309	25.38339	12854	202.9135	-0.4001	15531.53	19930.97	16088.72	20696.85	25129.14	21256.9	105.483431	278.8029	127.4353	127.4924	0.057066	16094	127.249	-0.18629	21248.06	330.5306	0.181756
150	42.51702	36.5597	25.36429	12851.2	202.9127	-0.40552	15525.32	19933.4	16607.48	20686.7	25128.14	21775.8	105.428457	279.2191	148.0586	148.191	0.132441	16616.98	147.8759	-0.18266	21775.11	351.3182	0.346947
175	42.54637	36.59184	25.34777	12855.48	203.0038	-0.39466	15536.02	19953.37	17362.49	20696.2	25146.09	22535.34	105.750448	280.02	177.7639	177.9355	0.171602	17369.2	177.5443	-0.21959	22535.36	381.3033	0.535657
200	42.74646	36.79185	25.27456	12841.47	203.0879	-0.39478	15557.14	19943.18	17854.55	20704.68	25123.07	23019.39	107.446799	280.9826	198.308	198.4762	0.168242	17889.21	198.0537	-0.25421	23062.42	402.091	0.695096
225	42.85468	36.90079	25.23184	12837.27	203.1774	-0.40498	15585.69	19956.33	18473.24	20726.92	25130.65	23636	108.92648	282.1458	223.2326	223.4847	0.252106	18522.77	223.0422	-0.19045	23702.81	427.3489	0.938811
250	42.46595	36.47568	25.3456	12872.29	203.244	-0.40702	15691.08	20084.63	19218.06	20857.18	25284.19	24408.82	111.214092	284.5601	250.1068	250.453	0.346193	19206.62	250.0139	-0.0929	24391.96	454.5295	1.178691
275	42.38785	36.43066	25.35234	12887.27	203.394	-0.39018	15786.3	20192.43	19864.82	20957.41	25395.72	25066.65	114.349676	288.1457	274.9241	275.2595	0.335478	19836.33	274.8505	-0.07358	25032	479.7733	1.45526
300	42.69923	36.75412	25.23284	12873.34	203.6672	-0.39373	15790.22	20269.76	20445.11	20943.33	25455.93	25632.66	115.59838	293.1266	299.6799	300.0536	0.373723	20466.38	299.7003	0.020368	25672.92	505.0519	1.704827
325	42.60631	36.66203	25.23114	12887.71	203.8915	-0.39257	15891.85	20409.63	21087.6	21050.07	25601.13	26281.75	119.06493	298.1205	324.364	324.8943	0.530222	21098.16	324.6183	0.254212	26312.52	530.2787	2.023127
340	42.32948	36.36446	25.31247	12916.35	203.895	-0.38261	15987.31	20558.05	21516.18	21161.94	25765.51	26730.65	121.322024	301.8947	339.1377	339.6024	0.464704	21472.58	339.3861	0.248417	26691.33	545.2191	2.186449

	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53319	36.57629	25.33643	12874.61	203.2741	-0.39719	12950.62	20475.54	21495.01	18092.41	25671.39	26698.27	-1.748E-05	-0.40707	0.398087	-0.25421	-0.38552	4	-507.516	0.039441	20	4	250000

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36GHz H	Nom Gain	Hot Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.26626	36.02405	24.48687	12815.15	219.1369	-0.38289	15405.63	19628.34	15428.64	20782.87	25038.17	20807.29	105.790328	278.2383	106.7512	106.7327	-0.01851	15418.44	106.5492	-0.20207	20777.82	326.072	0.183886
125	42.44551	36.20481	24.44662	12803.17	219.2013	-0.36873	15382.33	19618.96	15917.37	20752.04	25020.16	21292	105.501565	278.8029	127.4486	127.4426	-0.00591	15922.5	127.1954	-0.25318	21286.73	346.9169	0.267058
150	42.51702	36.27265	24.42912	12800.86	219.26	-0.37805	15376.83	19621.94	16417.19	20744.18	25021.65	21792.12	105.446591	279.2191	148.0793	148.1263	0.047009	16426.26	147.8297	-0.24954	21794.68	367.723	0.383713
175	42.54637	36.30427	24.43853	12808.03	219.3713	-0.38166	15392.86	19651.31	17151.81	20764.99	25056.24	22536.99	105.768582	280.02	177.7808	177.8652	0.084363	17151.17	177.5226	-0.25815	22527.9	397.756	0.603916
200	42.74646	36.50564	24.39792	12798.47	219.4822	-0.37933	15420.39	19653.86	17636.99	20786.38	25052.28	23019.53	107.464933	280.9826	198.317	198.4417	0.124706	17653.22	198.0865	-0.23047	23036.41	418.5848	0.785671
225	42.85468	36.6153	24.3548	12790.51	219.5801	-0.37481	15443.84	19662.12	18228.09	20802.74	25052.96	23607.16	108.944614	282.1458	223.2304	223.3767	0.146315	18262.04	223.0243	-0.20614	23651.46	443.7775	0.966883
250	42.46595	36.1905	24.42762	12815.87	219.5706	-0.3786	15533.01	19766.99	18926.96	20907.72	25174.1	24327.04	111.232227	284.5601	250.0959	250.2507	0.154767	18918.77	249.9243	-0.17162	24313.64	470.9008	1.234233
275	42.38785	36.14999	24.4232	12826.32	219.7819	-0.37997	15619.54	19863.76	19544.57	20998.44	25275.27	24953.96	114.36781	288.1457	274.9123	275.1116	0.19937	19526.9	274.8334	-0.07886	24932.65	496.2558	1.561672
300	42.69923	36.47841	24.33006	12812.07	220.0499	-0.37085	15625.03	19943.86	20108.66	20989.38	25340.65	25506.45	115.616515	293.1266	299.6758	299.8795	0.203656	20133.3	299.6719	-0.00395	25548.63	521.4868	1.761094
325	42.60631	36.38703	24.33347	12827.32	220.2382	-0.36479	15725.03	20081.63	20729.02	21094.49	25483.31	26134.49	119.083065	298.1205	324.3781	324.6346	0.256532	20739.89	324.5181	0.139983	26162.97	546.6504	2.034077
340	42.32948	36.09218	24.38205	12851.23	220.3213	-0.36898	15809.75	20212.04	21131.66	21191.81	25627.06	26552.17	121.340158	301.8947	339.1667	339.4753	0.308572	21103.82	339.4249	0.258152	26531.85	561.7597	2.271668
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53319	36.29317	24.39745	12822.61	219.6358	-0.37533	12895.81	20141.85	21123.24	18247.46	25546.95	26535.67	-1.661E-05	-0.42381	0.219965	-0.25815	-0.36625	4	-524.998	0.040961	20	4	250000

36GHz V	Nom Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.2842	36.33654	24.10993	13899.42	202.7781	-0.4109	16449.08	20608.83	16473.69	21351.8	25543.44	21376.65	105.751419	278.284	106.7707	106.7756	0.004901	16465.58	106.5993	-0.17135	21344.94	309.6544	0.105558
125	42.45552	36.50624	24.05879	13888.18	202.8517	-0.39948	16426.08	20596.7	16954.36	21319.98	25521.7	21850.94	105.487348	278.8389	127.4296	127.5062	0.076626	16961.63	127.2426	-0.18698	21845.07	330.4675	0.18618
150	42.52783	36.57397	24.03651	13886.85	202.8771	-0.40377	16421.48	20599.28	17444.26	21311.42	25520.71	22342.99	105.449062	279.2597	148.0496	148.1026	0.053042	17454.85	147.7679	-0.28172	22345.02	351.2728	0.346049
175	42.56895	36.61648	24.0229	13889.8	202.9611	-0.40172	16431.28	20617.81	18160.08	21320.4	25538.33	23063.09	105.794073	280.0665	177.7503	177.8937	0.143374	18168.93	177.4845	-0.26583	23066.27	381.2877	0.576327
200	42.75332	36.80039	23.95221	13877.04	203.0728	-0.4074	16452.54	20607.98	18628.66	21330.13	25517.2	23522.99	107.526706	281.0156	198.2962	198.5167	0.220505	18663.79	198.0781	-0.21812	23567	402.1258	0.756778
225	42.85833	36.90655	23.91818	13872.81	203.1524	-0.39112	16480.65	20622.89	19214.56	21353.16	25525.67	24107.82	109.032038	282.2157	223.2236	223.4578	0.234261	19262.72	223.0027	-0.22092	24172	427.303	0.92705
250	42.37959	36.39522	24.05014	13914.05	203.1543	-0.41272	16595.82	20763.34	19933.43	21495.39	25695.08	24859.71	111.507629	284.7924	250.1008	250.3727	0.271887	19909.67	249.9256	-0.1752	24825.61	454.5029	1.247858
275	42.39381	36.43937	24.02597	13921.15	203.3673	-0.4179	16670.74	20846.39	20534.28	21570.5	25778.83	25463.54	114.442629	288.2401	274.9212	275.2875	0.366327	20509.22	274.876	-0.04519	25433.65	479.8068	1.518303
300	42.70949	36.76538	23.91816	13908.4	203.632	-0.4043	16674.05	20921.1	21086.02	21557.53	25836.78	26002.36	115.62941	293.1954	299.6812	300.0673	0.386063	21106.16	299.7175	0.036293	26040.4	505.0567	1.743502
325	42.61527	36.67146	23.91271	13923.07	203.8559	-0.41071	16772.15	21053.66	21693.3	21659.72	25974.26	26617.51	119.144987	298.1924	324.3694	324.8402	0.47075	21703.48	324.575	0.205615	26647.58	530.3246	2.09926
340	42.31287	36.34929	23.99545	13951.43	203.9062	-0.39242	16863.97	21197.29	22104.58	21769.34	26134.6	27048.9	121.378821	301.9681	339.1451	339.6273	0.482235	22060.36	339.4268	0.281719	27008.33	545.3373	2.286018
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53265	36.57826	24.01201	13910.59	203.2372	-0.40477	13982.63	21114.19	22080.64	18854.36	26039.63	27013.45	-1.832E-05	-0.42373	0.385255	-0.28172	-0.40395	4	-578.618	0.041615	32	4	250000

36GHz H	Nom Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
100	42.2842	36.04628	23.20459	13852.25	219.2042	-0.38054	16306.06	20309.72	16329.7	21402.63	25437.01	21426.8	105.746752	278.284	106.7648	106.7686	0.003829	16321.75	106.6068	-0.15796	21401.33	326.1658	0.196815
125	42.45552	36.21601	23.16365	13841.06	219.2679	-0.37775	16284.42	20299.98	16792.51	21373.35	25419.51	21884.73	105.482681	278.8389	127.4541	127.4746	0.020461	16799.34	127.2504	-0.20373	21883.07	346.9886	0.266645
150	42.52783	36.28504	23.15152	13837.05	219.31	-0.37963	16278.25	20302.34	17265.08	21365.46	25420.38	22358.62	105.444395	279.2597	148.0882	148.1654	0.077255	17276.93	147.8936	-0.19461	22364.69	367.8059	0.407691
175	42.56895	36.33177	23.15737	13845.43	219.4028	-0.39131	16295.23	20331.03	17960.86	21385.96	25453.64	23065.34	105.789406	280.0665	177.789	177.8423	0.053306	17962.53	177.5278	-0.26124	23060.06	397.8625	0.670663
200	42.75332	36.51451	23.12472	13836.99	219.5215	-0.37345	16323.41	20335.4	18423.04	21409.62	25451.87	23524.62	107.522039	281.0156	198.3266	198.4473	0.12068	18439	198.1227	-0.20389	23541	418.6506	0.802551
225	42.85833	36.61961	23.07855	13830.17	219.6295	-0.37961	16346.37	20343.3	18983.08	21425.04	25452.63	24081.19	109.027371	282.2157	223.2394	223.3927	0.153351	19016.28	223.0749	-0.16443	24125.17	443.9005	1.03172
250	42.37959	36.11055	23.17232	13861.05	219.5827	-0.3798	16444.83	20460.35	19658.02	21543.04	25589.38	24782.11	111.502962	284.7924	250.1019	250.2505	0.148639	19638.37	249.9637	-0.13813	24753.09	471.0415	1.35688
275	42.39381	36.1593	23.14909	13863.46	219.7486	-0.37634	16512.59	20535.96	20229.85	21609.45	25663.44	25356.46	114.437962	288.2401	274.9143	275.0534	0.139143	20213.42	274.8198	-0.09442	25336.34	496.2518	1.588914
300	42.70949	36.48901	23.05938	13850.92	220.0165	-0.37612	16517.16	20611.83	20766.52	21600.02	25725.89	25881.84	115.624742	293.1954	299.6745	299.8825	0.208002	20789.62	299.7254	0.050867	25921.63	521.5504	1.859431
325	42.61527	36.39743	23.05906	13865.62	220.2373	-0.37125	16612.89	20741.66	21353.14	21700.58	25860.43	26476.18	119.14032	298.1924	324.373	324.6166	0.243594	21364.11	324.5569	0.183828	26504.71	546.7535	2.143166
340	42.31287	36.07695	23.11196	13888.17	220.2919	-0.37659	16693.36	20867.24	21735.86	21793.86	25999.64	26875.37	121.374154	301.9681	339.1594	339.4103	0.250898	21707.99	339.4207	0.261238	26854	561.8509	2.39954
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.53265	36.29513	23.11939	13861.34	219.6557	-0.3784	13930.7	20797.15	21727.32	19002.23	25921.15	26858.5	-1.719E-05	-0.41768	0.199163	-0.26124	-0.37912	4	-598.881	0.043224	32	4	250000

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Agile Revision: H (C484272)
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36GHz V	High Gain	Hot Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.6428	36.68858	38.50966	16250.76	203.598	-0.36371	20698.09	27520.85	27802.71	28553.7	35422.9	35706.63	115.486257	292.6561	299.6829	299.9531	0.270173	27802.71	299.6829	0	35706.63	504.8417	1.560763
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.6428	36.68858	38.50031	16265	203.598	-0.36371	16380.5	27815.09	29363.72	24206.99	35719.16	37278.41	-1.649E-05	-0.40476	0.262414	0	-0.36371	2	-421.98	0.025957	8	4	250000

36GHz H	High Gain	Hot Plateau		Low Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.6428	36.41021	37.23102	16314.37	220.0294	-0.33948	20613.13	27210.25	27478.67	28816.96	35459.38	35728.4	115.46182	292.6561	299.6747	299.8451	0.170397	27478.67	299.6747	-5.7E-14	35728.4	521.3027	1.598538
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.6428	36.41021	37.2003	16329.78	220.0294	-0.33948	16441.39	27489.87	28985.65	24616.83	35740.93	37247.06	-1.539E-05	-0.37893	0.139317	-5.7E-14	-0.33948	2	-438.536	0.026865	8	4	250000

36GHz V	High Gain	Hot Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.64873	36.70307	36.59894	17067.91	203.6214	-0.36134	21295.27	27781.78	28046.71	28761.93	35292.32	35559.18	115.505069	292.7374	299.6828	299.9541	0.271329	28046.71	299.6828	0	35559.18	504.8603	1.55609
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.64873	36.70307	36.59039	17081.32	203.6214	-0.36134	17191.09	28058.44	29530.19	24630.26	35570.86	37052.64	-1.639E-05	-0.40476	0.262414	0	-0.36134	2	-466.317	0.027312	20	4	250000

36GHz H	High Gain	Hot Plateau		Nom Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.64873	36.42474	35.38493	17125.63	220.0397	-0.33524	21211.9	27484.12	27735.93	29009.24	35323.98	35577.11	115.480633	292.7374	299.6746	299.8339	0.159296	27735.93	299.6746	-5.7E-14	35577.11	521.3143	1.600102
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.64873	36.42474	35.35638	17140.07	220.0397	-0.33524	17246.14	27746.98	29168.52	25016.82	35588.63	37019.88	-1.52E-05	-0.37893	0.139317	-5.7E-14	-0.33524	2	-484.313	0.028266	20	4	250000

36GHz V	High Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.65692	36.71503	34.69379	17881.37	203.6088	-0.34439	21889.32	28040.36	28288.02	28966.71	35157.37	35407.18	115.523742	292.8188	299.6827	299.9368	0.25404	28288.02	299.6827	0	35407.18	504.7856	1.494121
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.65692	36.71503	34.68839	17893.22	203.6088	-0.34439	17997.29	28299.74	29694.62	25049.83	35418.43	36822.37	-1.562E-05	-0.40476	0.262414	0	-0.34439	2	-515.295	0.02881	32	4	250000

36GHz H	High Gain	Hot Plateau		High Blank																		
Plateau	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	Cc	Ch	Cs	Ccn	Chn	Csn	Tc	Th	Ts	Tb	Tb - Ts	Cs_GC	Linear Fit	LinFit-Ts	Csn_GC	LinFitND	FitND-(Ts+Tnd)
300	42.65692	36.43798	33.53342	17938.37	220.04	-0.33812	21811.45	27757.59	27993.7	29200.84	35187.64	35425.08	115.499306	292.8188	299.6745	299.8401	0.165585	27993.7	299.6745	-5.7E-14	35425.08	521.3313	1.616794
	Rcvr Temp	ND Temp	Gain	Offset	Tnd	Tnl_nd	C_3K	C_300K	C_340K	C_3K+ND	C_300K+ND	C_340K+ND	u	Cold Bias	Hot Bias	MaxNLErr	Tnl	GainSet	a0	a1	BlankDur	BlankDel	BlankIntvl
Overall	42.65692	36.43798	33.50585	17952.2	220.04	-0.33812	18052.72	28003.96	29351.16	25416.63	35435.7	36792.18	-1.533E-05	-0.37893	0.139317	-5.7E-14	-0.33812	2	-535.297	0.029827	32	4	250000

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Appendix R: Nonlinearity Parameter "u" (GROUND DERIVED)

See appendix U for values to use on-orbit

Non-linearity parameter "u" 10 GHz through 36 GHz

Rcvr	10 GHz V			10 GHz H			18 GHz V			18 GHz H			23 GHz V			36 GHz V			36 GHz H		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-6.646E-06	-8.455E-06	-8.489E-06	-7.507E-06	-9.14157E-06	-1.13015E-05	-1.60712E-06	-1.47344E-06	-1.2924E-06	4.40412E-07	1.47535E-06	2.94246E-06	2.467E-06	4.01015E-06	5.91501E-06	-2.63589E-05	-2.82522E-05	-2.8007E-05	-2.3221E-05	-2.73381E-05	-2.59383E-05
-9	-6.606E-06	-8.358E-06	-8.367E-06	-7.354E-06	-9.01881E-06	-1.10725E-05	-1.58366E-06	-1.41024E-06	-1.27821E-06	4.59496E-07	1.55114E-06	2.98551E-06	2.351E-06	3.93644E-06	5.9189E-06	-2.61263E-05	-2.80884E-05	-2.75851E-05	-2.30738E-05	-2.71665E-05	-2.54565E-05
-8	-6.564E-06	-8.262E-06	-8.246E-06	-7.205E-06	-8.89678E-06	-1.08475E-05	-1.56016E-06	-1.34791E-06	-1.26337E-06	4.78669E-07	1.62566E-06	3.02834E-06	2.23998E-06	3.86348E-06	5.92072E-06	-2.58942E-05	-2.79234E-05	-2.71711E-05	-2.29253E-05	-2.69937E-05	-2.49857E-05
-7	-6.520E-06	-8.166E-06	-8.125E-06	-7.058E-06	-8.7755E-06	-1.06264E-05	-1.53663E-06	-1.28645E-06	-1.2479E-06	4.97931E-07	1.69892E-06	3.07095E-06	2.13395E-06	3.79127E-06	5.92045E-06	-2.56625E-05	-2.77571E-05	-2.67648E-05	-2.27753E-05	-2.68197E-05	-2.45258E-05
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-2	-6.284E-06	-7.692E-06	-7.539E-06	-6.362E-06	-8.18026E-06	-9.57974E-06	-1.41853E-06	-9.92246E-07	-1.16095E-06	5.95588E-07	2.04624E-06	3.28065E-06	1.67861E-06	3.44143E-06	5.888E-06	-2.45108E-05	-2.69055E-05	-2.4851E-05	-2.20035E-05	-2.59306E-05	-2.23914E-05
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26	-4.344E-06	-5.205E-06	-4.717E-06	-3.662E-06	-5.19043E-06	-5.53508E-06	-7.4332E-07	2.52438E-07	-3.78888E-07	1.18386E-06	3.40679E-06	4.3521E-06	1.43284E-06	1.82806E-06	4.74725E-06	-1.82663E-05	-2.15277E-05	-1.77457E-05	-1.70143E-05	-2.03746E-05	-1.5513E-05
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32	-3.792E-06	-4.710E-06	-4.214E-06	-3.349E-06	-4.6256E-06	-5.0694E-06	-5.95565E-07	4.30208E-07	-1.46142E-07	1.31905E-06	3.56931E-06	4.55899E-06	1.88888E-06	1.55867E-06	4.29107E-06	-1.69734E-05	-2.02408E-05	-1.70206E-05	-1.57978E-05	-1.90565E-05	-1.51595E-05
33	-3.696E-06	-4.629E-06	-4.133E-06	-3.305E-06	-4.53407E-06	-5.00555E-06	-5.70834E-07	4.56785E-07	-1.05115E-07	1.3419E-06	3.59197E-06	4.59269E-06	1.98234E-06	1.51639E-06	4.20778E-06	-1.67595E-05	-2.00217E-05	-1.69271E-05	-1.559E-05	-1.88324E-05	-1.5139E-05
34	-3.598E-06	-4.548E-06	-4.054E-06	-3.265E-06	-4.44327E-06	-4.94563E-06	-5.46073E-07	4.82489E-07	-6.34493E-08	1.36484E-06	3.61337E-06	4.62617E-06	2.08079E-06	1.47486E-06	4.12241E-06	-1.6546E-05	-1.98013E-05	-1.68415E-05	-1.53808E-05	-1.86071E-05	-1.51295E-05
35	-3.498E-06	-4.468E-06	-3.975E-06	-3.227E-06	-4.35322E-06	-4.88964E-06	-5.21282E-07	5.07321E-07	-2.11447E-08	1.38786E-06	3.6335E-06	4.65943E-06	2.18423E-06	1.43408E-06	4.03496E-06	-1.6333E-05	-1.95796E-05	-1.67636E-05	-1.51701E-05	-1.83805E-05	-1.5131E-05
36	-3.398E-06	-4.388E-06	-3.898E-06	-3.191E-06	-4.26392E-06	-4.83758E-06	-4.96461E-07	5.31282E-07	2.17988E-08	1.41098E-06	3.65236E-06	4.69246E-06	2.29266E-06	1.39404E-06	3.94544E-06	-1.61204E-05	-1.93565E-05	-1.66936E-05	-1.49579E-05	-1.81527E-05	-1.51434E-05
37	-3.296E-06	-4.308E-06	-3.822E-06	-3.159E-06	-4.17536E-06	-4.78946E-06	-4.7161E-07	5.5437E-07	6.53812E-08	1.43418E-06	3.66996E-06	4.72527E-06	2.40607E-06	1.35476E-06	3.85384E-06	-1.59082E-05	-1.91321E-05	-1.66314E-05	-1.47444E-05	-1.79237E-05	-1.51669E-05
38	-3.193E-06	-4.229E-06	-3.746E-06	-3.128E-06	-4.08754E-06	-4.74526E-06	-4.46728E-07	5.76586E-07	1.09602E-07	1.45748E-06	3.68629E-06	4.75786E-06	2.52447E-06	1.31622E-06	3.76017E-06	-1.56965E-05	-1.89065E-05	-1.6577E-05	-1.45293E-05	-1.76934E-05	-1.52013E-05
39	-3.088E-06	-4.150E-06	-3.672E-06	-3.101E-06	-4.00047E-06	-4.705E-06	-4.21817E-07	5.9793E-07	1.54462E-07	1.48086E-06	3.70136E-06	4.79023E-06	2.64785E-06	1.27843E-06	3.66442E-06	-1.54853E-05	-1.86795E-05	-1.65305E-05	-1.43129E-05	-1.74618E-05	-1.52467E-05
40	-2.982E-06	-4.071E-06	-3.598E-06	-3.076E-06	-3.91414E-06	-4.66867E-06	-3.96876E-07	6.18402E-07	1.99961E-07	1.50433E-06	3.71517E-06	4.82237E-06	2.77623E-06	1.24139E-06	3.56659E-06	-1.52744E-05	-1.84511E-05	-1.64917E-05	-1.4095E-05	-1.7229E-05	-1.53031E-05
41	-2.875E-06	-3.993E-06	-3.526E-06	-3.053E-06	-3.82855E-06	-4.63627E-06	-3.71904E-07	6.38003E-07	2.46099E-07	1.5279E-06	3.72771E-06	4.85429E-06	2.90959E-06	1.2051E-06	3.46669E-06	-1.50641E-05	-1.82215E-05	-1.64608E-05	-1.38756E-05	-1.69949E-05	-1.53705E-05
42	-2.766E-06	-3.915E-06	-3.454E-06	-3.033E-06	-3.74371E-06	-4.6078E-06	-3.46903E-07	6.56731E-07	2.92875E-07	1.55155E-06	3.73898E-06	4.88599E-06	3.04794E-06	1.16955E-06	3.36472E-06	-1.48541E-05	-1.79905E-05	-1.64377E-05	-1.36548E-05	-1.67596E-05	-1.54489E-05
43	-2.656E-06	-3.837E-06	-3.384E-06	-3.016E-06	-3.65961E-06	-4.58327E-06	-3.21871E-07	6.74587E-07	3.40291E-07	1.57529E-06	3.74899E-06	4.91747E-06	3.19127E-06	1.13476E-06	3.26066E-06	-1.46446E-05	-1.77582E-05	-1.64224E-05	-1.34326E-05	-1.65231E-05	-1.55382E-05
44	-2.545E-06	-3.760E-06	-3.315E-06	-3.001E-06	-3.57625E-06	-4.56267E-06	-2.96809E-07	6.91571E-07	3.88345E-07	1.59912E-06	3.75774E-06	4.94872E-06	3.3396E-06	1.10071E-06	3.15454E-06	-1.44356E-05	-1.75246E-05	-1.64149E-05	-1.32089E-05	-1.62852E-05	-1.56386E-05
45	-2.432E-06	-3.683E-06	-3.246E-06	-2.989E-06	-3.49364E-06	-4.54599E-06	-2.71717E-07	7.07683E-07	4.37038E-07	1.62305E-06	3.76522E-06	4.97975E-06	3.49291E-06	1.06741E-06	3.04633E-06	-1.4227E-05	-1.72897E-05	-1.64153E-05	-1.29837E-05	-1.60462E-05	-1.57499E-05

OBSOLETE

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Non-linearity parameter "u" 89 GHz through 166 GHz

NOTE: Uses the receiver temperature for the 89 GHz and Mixer Temperature for 166 GHz and 183 GHz

Rcvr/Mixer	89 GHz V†			89 GHz H†			166 GHz V			166 GHz H			183 +/- 3 GHz†			183 +/- 7 GHz		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-2.184E-05	-2.410E-05	-1.565E-05	-2.298E-05	-2.940E-05	-2.031E-05	-1.90219E-05	-2.34434E-05	-2.14211E-05	-1.28329E-05	-1.61728E-05	-1.43104E-05	-3.020E-05	-1.893E-05	-2.557E-05	-2.54617E-05	-2.23558E-05	-2.98384E-05
-9	-2.150E-05	-2.397E-05	-1.608E-05	-2.273E-05	-2.922E-05	-2.056E-05	-1.89147E-05	-2.25569E-05	-2.10391E-05	-1.29521E-05	-1.56652E-05	-1.42222E-05	-2.994E-05	-1.924E-05	-2.504E-05	-2.5194E-05	-2.23786E-05	-2.92805E-05
-8	-2.116E-05	-2.384E-05	-1.650E-05	-2.248E-05	-2.902E-05	-2.079E-05	-1.88025E-05	-2.16983E-05	-2.06656E-05	-1.30615E-05	-1.51699E-05	-1.41308E-05	-2.969E-05	-1.955E-05	-2.452E-05	-2.49276E-05	-2.23926E-05	-2.87332E-05
-7	-2.083E-05	-2.371E-05	-1.691E-05	-2.224E-05	-2.883E-05	-2.101E-05	-1.86856E-05	-2.08677E-05	-2.03006E-05	-1.3161E-05	-1.46868E-05	-1.40363E-05	-2.943E-05	-1.983E-05	-2.401E-05	-2.46626E-05	-2.23978E-05	-2.81966E-05
-6	-2.051E-05	-2.357E-05	-1.729E-05	-2.200E-05	-2.863E-05	-2.123E-05	-1.85637E-05	-2.00651E-05	-1.99442E-05	-1.32508E-05	-1.4216E-05	-1.39386E-05	-2.918E-05	-2.010E-05	-2.352E-05	-2.43988E-05	-2.23941E-05	-2.76705E-05
-5	-2.020E-05	-2.344E-05	-1.767E-05	-2.177E-05	-2.843E-05	-2.143E-05	-1.8437E-05	-1.92904E-05	-1.95963E-05	-1.33308E-05	-1.37574E-05	-1.38377E-05	-2.892E-05	-2.036E-05	-2.304E-05	-2.41364E-05	-2.23816E-05	-2.71551E-05
-4	-1.989E-05	-2.330E-05	-1.802E-05	-2.154E-05	-2.823E-05	-2.162E-05	-1.83055E-05	-1.85437E-05	-1.9257E-05	-1.34009E-05	-1.3311E-05	-1.37337E-05	-2.867E-05	-2.060E-05	-2.258E-05	-2.38753E-05	-2.23603E-05	-2.66503E-05
-3	-1.959E-05	-2.316E-05	-1.836E-05	-2.132E-05	-2.802E-05	-2.180E-05	-1.81691E-05	-1.7825E-05	-1.89262E-05	-1.34613E-05	-1.28768E-05	-1.36265E-05	-2.841E-05	-2.082E-05	-2.212E-05	-2.36156E-05	-2.23302E-05	-2.61561E-05
-2	-1.930E-05	-2.302E-05	-1.869E-05	-2.111E-05	-2.781E-05	-2.197E-05	-1.80279E-05	-1.71342E-05	-1.8604E-05	-1.35118E-05	-1.24549E-05	-1.35162E-05	-2.816E-05	-2.103E-05	-2.168E-05	-2.33571E-05	-2.22912E-05	-2.56726E-05
-1	-1.902E-05	-2.287E-05	-1.900E-05	-2.090E-05	-2.760E-05	-2.213E-05	-1.78818E-05	-1.64714E-05	-1.82903E-05	-1.35525E-05	-1.20452E-05	-1.34026E-05	-2.791E-05	-2.123E-05	-2.125E-05	-2.31E-05	-2.22435E-05	-2.51997E-05
0	-1.875E-05	-2.273E-05	-1.930E-05	-2.070E-05	-2.738E-05	-2.228E-05	-1.77308E-05	-1.58366E-05	-1.79851E-05	-1.35834E-05	-1.16478E-05	-1.32859E-05	-2.765E-05	-2.141E-05	-2.084E-05	-2.28442E-05	-2.21869E-05	-2.47374E-05
1	-1.848E-05	-2.258E-05	-1.958E-05	-2.050E-05	-2.717E-05	-2.242E-05	-1.75751E-05	-1.52297E-05	-1.76885E-05	-1.36046E-05	-1.12626E-05	-1.31661E-05	-2.740E-05	-2.157E-05	-2.044E-05	-2.25897E-05	-2.21215E-05	-2.42857E-05
2	-1.822E-05	-2.243E-05	-1.984E-05	-2.030E-05	-2.694E-05	-2.255E-05	-1.74144E-05	-1.46508E-05	-1.74004E-05	-1.36159E-05	-1.08896E-05	-1.30431E-05	-2.715E-05	-2.172E-05	-2.005E-05	-2.23365E-05	-2.20472E-05	-2.38446E-05
3	-1.797E-05	-2.228E-05	-2.009E-05	-2.012E-05	-2.672E-05	-2.267E-05	-1.72489E-05	-1.40999E-05	-1.71209E-05	-1.36174E-05	-1.05288E-05	-1.29169E-05	-2.690E-05	-2.185E-05	-1.967E-05	-2.20846E-05	-2.19642E-05	-2.34142E-05
4	-1.772E-05	-2.213E-05	-2.032E-05	-1.994E-05	-2.650E-05	-2.277E-05	-1.70786E-05	-1.35769E-05	-1.68499E-05	-1.36091E-05	-1.01803E-05	-1.27875E-05	-2.665E-05	-2.197E-05	-1.930E-05	-2.18341E-05	-2.18723E-05	-2.29944E-05
5	-1.749E-05	-2.198E-05	-2.054E-05	-1.976E-05	-2.627E-05	-2.287E-05	-1.69034E-05	-1.30819E-05	-1.65875E-05	-1.35909E-05	-9.84396E-06	-1.2655E-05	-2.639E-05	-2.207E-05	-1.895E-05	-2.15849E-05	-2.17716E-05	-2.25852E-05
6	-1.726E-05	-2.183E-05	-2.074E-05	-1.959E-05	-2.604E-05	-2.296E-05	-1.67233E-05	-1.26149E-05	-1.63336E-05	-1.3563E-05	-9.51988E-06	-1.25193E-05	-2.614E-05	-2.216E-05	-1.862E-05	-2.1337E-05	-2.16621E-05	-2.21867E-05
7	-1.704E-05	-2.167E-05	-2.093E-05	-1.943E-05	-2.580E-05	-2.303E-05	-1.65384E-05	-1.21759E-05	-1.60882E-05	-1.35253E-05	-9.20804E-06	-1.23805E-05	-2.589E-05	-2.223E-05	-1.829E-05	-2.10904E-05	-2.15438E-05	-2.17987E-05
8	-1.682E-05	-2.151E-05	-2.110E-05	-1.927E-05	-2.556E-05	-2.310E-05	-1.63486E-05	-1.17648E-05	-1.58514E-05	-1.34777E-05	-8.90844E-06	-1.22385E-05	-2.564E-05	-2.229E-05	-1.798E-05	-2.08451E-05	-2.14166E-05	-2.14214E-05
9	-1.662E-05	-2.135E-05	-2.126E-05	-1.911E-05	-2.532E-05	-2.316E-05	-1.6154E-05	-1.13817E-05	-1.56231E-05	-1.34204E-05	-8.62106E-06	-1.20933E-05	-2.539E-05	-2.233E-05	-1.768E-05	-2.06012E-05	-2.12807E-05	-2.10547E-05
10	-1.642E-05	-2.119E-05	-2.140E-05	-1.897E-05	-2.508E-05	-2.320E-05	-1.59546E-05	-1.10265E-05	-1.54034E-05	-1.33532E-05	-8.34591E-06	-1.19449E-05	-2.514E-05	-2.236E-05	-1.739E-05	-2.03586E-05	-2.11359E-05	-2.06987E-05
11	-1.623E-05	-2.103E-05	-2.152E-05	-1.882E-05	-2.483E-05	-2.323E-05	-1.57502E-05	-1.06993E-05	-1.51922E-05	-1.32763E-05	-8.083E-06	-1.17934E-05	-2.490E-05	-2.237E-05	-1.712E-05	-2.01173E-05	-2.09823E-05	-2.03532E-05
12	-1.605E-05	-2.086E-05	-2.163E-05	-1.869E-05	-2.459E-05	-2.326E-05	-1.55411E-05	-1.04001E-05	-1.49896E-05	-1.31895E-05	-7.83231E-06	-1.16387E-05	-2.465E-05	-2.236E-05	-1.685E-05	-1.98773E-05	-2.08199E-05	-2.00184E-05
13	-1.587E-05	-2.070E-05	-2.173E-05	-1.856E-05	-2.434E-05	-2.327E-05	-1.53271E-05	-1.01289E-05	-1.47955E-05	-1.30929E-05	-7.59386E-06	-1.14809E-05	-2.440E-05	-2.234E-05	-1.661E-05	-1.96386E-05	-2.06486E-05	-1.96942E-05
14	-1.570E-05	-2.053E-05	-2.181E-05	-1.843E-05	-2.408E-05	-2.327E-05	-1.51082E-05	-9.88563E-06	-1.46099E-05	-1.29866E-05	-7.36764E-06	-1.13199E-05	-2.415E-05	-2.231E-05	-1.637E-05	-1.94013E-05	-2.04685E-05	-1.93807E-05
15	-1.555E-05	-2.036E-05	-2.187E-05	-1.831E-05	-2.382E-05	-2.327E-05	-1.48845E-05	-9.67033E-06	-1.44329E-05	-1.28704E-05	-7.15365E-06	-1.11557E-05	-2.390E-05	-2.226E-05	-1.615E-05	-1.91652E-05	-2.02796E-05	-1.90777E-05
16	-1.539E-05	-2.019E-05	-2.192E-05	-1.820E-05	-2.356E-05	-2.325E-05	-1.46559E-05	-9.483E-06	-1.42644E-05	-1.27444E-05	-6.95189E-06	-1.09883E-05	-2.366E-05	-2.219E-05	-1.594E-05	-1.89305E-05	-2.00819E-05	-1.87854E-05
17	-1.525E-05	-2.002E-05	-2.195E-05	-1.809E-05	-2.330E-05	-2.322E-05	-1.44225E-05	-9.32363E-06	-1.41045E-05	-1.26086E-05	-6.76236E-06	-1.08178E-05	-2.341E-05	-2.211E-05	-1.574E-05	-1.86971E-05	-1.98754E-05	-1.85037E-05
18	-1.511E-05	-1.984E-05	-2.197E-05	-1.799E-05	-2.304E-05	-2.318E-05	-1.41842E-05	-9.19223E-06	-1.39531E-05	-1.24629E-05	-6.58506E-06	-1.06441E-05	-2.316E-05	-2.201E-05	-1.555E-05	-1.8465E-05	-1.96601E-05	-1.82327E-05
19	-1.499E-05	-1.967E-05	-2.197E-05	-1.789E-05	-2.277E-05	-2.313E-05	-1.39411E-05	-9.08881E-06	-1.38103E-05	-1.23075E-05	-6.42E-06	-1.04673E-05	-2.292E-05	-2.190E-05	-1.538E-05	-1.82343E-05	-1.94359E-05	-1.79722E-05
20	-1.487E-05	-1.949E-05	-2.195E-05	-1.780E-05	-2.250E-05	-2.307E-05	-1.36931E-05	-9.01335E-06	-1.3676E-05	-1.21423E-05	-6.26716E-06	-1.02873E-05	-2.267E-05	-2.177E-05	-1.522E-05	-1.80049E-05	-1.92029E-05	-1.77224E-05
21	-1.475E-05	-1.931E-05	-2.192E-05	-1.771E-05	-2.222E-05	-2.300E-05	-1.34402E-05	-8.96585E-06	-1.35502E-05	-1.19672E-05	-6.12656E-06	-1.01041E-05	-2.243E-05	-2.163E-05	-1.508E-05	-1.77767E-05	-1.89611E-05	-1.74832E-05
22	-1.465E-05	-1.913E-05	-2.188E-05	-1.763E-05	-2.195E-05	-2.292E-05	-1.31826E-05	-8.94633E-06	-1.3433E-05	-1.17824E-05	-5.99819E-06	-9.91777E-06	-2.218E-05	-2.147E-05	-1.494E-05	-1.75499E-05	-1.87105E-05	-1.72546E-05
23	-1.455E-05	-1.895E-05	-2.182E-05	-1.756E-05	-2.167E-05	-2.283E-05	-1.292E-05	-8.95478E-06	-1.33243E-05	-1.15877E-05	-5.88204E-06	-9.72826E-06	-2.194E-05	-2.130E-05	-1.482E-05	-1.73245E-05	-1.8451E-05	-1.70367E-05
24	-1.446E-05	-1.876E-05	-2.174E-05	-1.749E-05	-2.139E-05	-2.272E-05	-1.26526E-05	-8.99119E-06	-1.32242E-05	-1.13833E-05	-5.77813E-06	-9.53559E-06	-2.169E-05	-2.111E-05	-1.472E-05	-1.71003E-05	-1.81827E-05	-1.68294E-05
25	-1.438E-05	-1.858E-05	-2.165E-05	-1.742E-05	-2.110E-05	-2.261E-05	-1.23804E-05	-9.05558E-06	-1.31326E-05	-1.1169E-05	-5.68646E-06	-9.33975E-06	-2.145E-05	-2.091E-05	-1.462E-05	-1.68775E-05	-1.79057E-05	-1.66327E-05
26	-1.430E-05	-1.839E-05	-2.155E-05	-1.736E-05	-2.081E-05	-2.249E-05	-1.21033E-05	-9.14793E-06	-1.30496E-05	-1.09449E-05	-5.60701E-06	-9.14074E-06	-2.120E-05	-2.069E-05	-1.454E-05	-1.66559E-05	-1.76197E-05	-1.64466E-05
27	-1.424E-05	-1.820E-05	-2.142E-05	-1.731E-05	-2.052E-05	-2.235E-05	-1.18213E-05	-9.26825E-06	-1.29751E-05	-1.07111E-05	-5.53979E-06	-8.93857E-06	-2.096E-05	-2.046E-05	-1.447E-05	-1.64357E-05	-1.7325E-05	-1.62712E-05
28	-1.418E-05	-1.801E-05	-2.129E-05	-1.727E-05	-2.023E-05	-2.221E-05	-1.15345E-05	-9.41654E-06	-1.29091E-05	-1.04674E-05	-5.48481E-06	-8.73323E-06	-2.072E-05	-2.021E-05	-1.441E-05	-1.62168E-05	-1.70215E-05	-1.61063E-05
29	-1.413E-05	-1.782E-05	-2.113E-05	-1.722E-05	-1.993E-05	-2.206E-05	-1.12429E-05	-9.59279E-06	-1.28517E-05	-1.02139E-05	-5.44205E-06	-8.52473E-06	-2.048E-05	-1.994E-05	-1.437E-05	-1.59993E-05	-1.67091E-05	-1.59521E-05
30	-1.408E-05	-1.762E-05	-2.096E-05	-1.719E-05	-1.963E-05	-2.189E-05	-1.09464E-05	-9.79702E-06	-1.28028E-05	-9.95057E-06	-5.41153E-06	-8.31306E-06	-2.023E-05	-1.966E-05	-1.434E-05	-1.5783E-05	-1.63879E-05	-1.58085E-05
31	-1.405E-05	-1.743E-05	-2.078E-05	-1.716E-05	-1.933E-05	-2.172E-05	-1.0645E-05	-1.00292E-05	-1.27625E-05	-9.67745E-06	-5.39324E-06	-8.09822E-06	-1.999E-05	-1.937E-05	-1.432E-05	-1.55681E-05	-1.60579E-05	-1.56756E-05
32	-1.402E-05	-1.723E-05	-2.058E-05	-1.713E-05	-1.903E-05	-2.153E-05	-1.03388E-05	-1.02894E-05	-1.27307E-05	-9.39453E-06	-5.38718E-06	-7.88022E-06	-1.975E-05	-1.906E-05	-1.432E-05	-1.53545E-05	-1.57191E-05	-1.55533E-05
33	-1.400E-05	-1.703E-05	-2.037E-05	-1.711E-05	-1.872E-05	-2.133E-05	-1.00278E-05	-1.05775E-05	-1.27075E-05	-9.1018E-06	-5.39335E-06	-7.65905E-06	-1.951E-05	-1.873E-05	-1.432E-05	-1.51422E-05	-1.53714E-05	-1.54416E-05
34	-1.399E-05	-1.683E-05	-2.013E-05	-1.710E-05	-1.841E-05	-2.113E-05	-9.71187E-06	-1.08936E-05	-1.26928E-05	-8.79927E-06	-5.41175E-06	-7.43472E-06	-1.927E-05	-1.839E-05	-1.435E-05	-1.49312E-05	-1.50149E-05	-1.53405E-05
35	-1.398E-05	-1.663E-05	-1.989E-05	-1.709E-05	-1.810E-05	-2.091E-05	-9.39111E-06	-1.12377E-05	-1.26866E-05	-8.48692E-06	-5.44238E-06	-7.20722E-06	-1.903E-05	-1.803E-05	-1.438E-05	-1.47216E-05	-1.46496E-05	-1.525E-05
36	-1.399E-05	-1.642E-05	-1.963E-05	-1.709E-05	-1.778E-05	-2.068E-05	-9.0655E-06	-1.16097E-05	-1.2689E-05	-8.16477E-06	-5.48525E-06	-6.97655E-06	-1.879E-05	-1.766E-05	-1.442E-05	-1.45132E-05	-1.42755E-05	-1.51702E-05
37	-1.400E-05	-1.622E-05	-1.935E-05	-1.709E-05	-1.746E-05	-2.044E-05	-8.73503E-06	-1.20097E-05	-1.26999E-05	-7.83281E-06	-5.54034E-06	-6.74272E-06	-1.855E-05	-1.727E-05	-1.448E-05	-1.43062E-05	-1.38926E-05	-1.5101E-05
38	-1.402E-05	-1.601E-05	-1.906E-05	-1.710E-05	-1.714E-05	-2.019E-05	-8.39971E-06	-1.24377E-05	-1.27194E-05	-7.49104E-06	-5.60767E-06	-6.50572E-06	-1.831E-05	-1.687E-05	-1.456E-05	-1.41005E-05	-1.35009E-05	-1.50424E-05
39	-1.404E-05	-1.580E-05	-1.875E-05	-1.712E-05	-1.682E-05	-1.993E-05	-8.05955E-06	-1.28936E-05	-1.27474E-05	-7.13947E-06	-5.68723E-06	-6.26555E-06	-1.807E-05	-1.645E-05	-1.464E-05	-1.38962E-05	-1.31003E-05	-1.49944E-05
40	-1.408E-05	-1.559E-05	-1.843E-05	-1.714E-05	-1.649E-05	-1.966E-05	-7.71452E-06	-1.33775E-05	-1.2784E-05	-6.77809E-06	-5.77902E-06	-6.02222E-06	-1.783E-05	-1.602E-05	-1.474E-05	-1.36931E-05	-1.26909E-05	-1.49571E-05
41	-1.412E-05	-1.538E-05	-1.809E-05	-1.716E-05	-1.616E-05	-1.938E-05	-7.36465E-06	-1.38894E-05	-1.28291E-05	-6.4069E-06	-5.88304E-06	-5.77573E-06	-1.759E-05	-1.557E-05	-1.485E-05	-1.34914E-05	-1.22727E-05	-1.49304E-05
42	-1.417E-05	-1.516E-05	-1.774E-05	-1.719E-05	-1.583E-05	-1.909E-05	-7.00993E-06	-1.44293E-05	-1.28827E-05	-6.0259E-06	-5.99929E-06	-5.52606E-06	-1.736E-05	-1.511E-05	-1.497E-05	-1.32909E-05	-1.18456E-05	-1.49143E-05
43	-1.422E-05	-1.495E-05	-1.737E-05	-1.723E-05	-1.549E-05	-1.879E-05	-6.65035E-06	-1.49971E-05	-1.29449E-05	-5.63509E-06	-6.12777E-06	-5.27324E-06	-1.712E-05	-1.463E-05	-1.511E-05	-1.30918E-05	-1.14098E-05	-1.49088E-05
44	-1.429E-05	-1.473E-05	-1.698E-05	-1.727E-05	-1.515E-05	-1.848E-05	-6.28592E-06	-1.55929E-05	-1.30157E-05	-5.23448E-06	-6.26849E-06	-5.01724E-06	-1.688E-05	-1.413E-05	-1.526E-05	-1.28941E-05	-1.09651E-05	-1.4914E-05
45	-1.436E-05	-1.451E-05	-1.658E-05	-1.732E-05	-1.481E-05	-1.816E-05	-5.91664E-06	-1.62166E-05	-1.30949E-05	-4.82406E-06	-6.42143E-06	-4.75808E-06	-1.664E-05	-1.362E-05	-1.542E-05	-1.26976E-05	-1.05116E-05	-1.49298E-05

† Parameters reflect notch filter installation (as-launched condition)

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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Non-linearity parameter "u" 36 GHz with Blanking Enabled

Rcvr	36 GHz V - Blanking Dur 8			36 GHz V - Blanking Dur 20			36 GHz V - Blanking Dur 32			36 GHz H - Blanking Dur 8			36 GHz H - Blanking Dur 20			36 GHz H - Blanking Dur 32		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-2.60668E-05	-2.78E-05	-2.71822E-05	-2.65945E-05	-2.71604E-05	-2.67297E-05	-2.78246E-05	-2.72876E-05	-2.70562E-05	-2.30794E-05	-2.6637E-05	-2.42268E-05	-2.30001E-05	-2.62806E-05	-2.52019E-05	-2.44996E-05	-2.66977E-05	-2.42357E-05
-9	-2.58989E-05	-2.76593E-05	-2.681E-05	-2.63461E-05	-2.7097E-05	-2.63624E-05	-2.74999E-05	-2.71772E-05	-2.67139E-05	-2.29595E-05	-2.65048E-05	-2.38038E-05	-2.29006E-05	-2.61936E-05	-2.46875E-05	-2.42404E-05	-2.65707E-05	-2.38087E-05
-8	-2.57288E-05	-2.7517E-05	-2.64444E-05	-2.60988E-05	-2.70289E-05	-2.60017E-05	-2.71783E-05	-2.70644E-05	-2.63764E-05	-2.28372E-05	-2.63707E-05	-2.33907E-05	-2.27981E-05	-2.61029E-05	-2.41856E-05	-2.39838E-05	-2.64416E-05	-2.33916E-05
-7	-2.55565E-05	-2.73731E-05	-2.60853E-05	-2.58526E-05	-2.69562E-05	-2.56476E-05	-2.68598E-05	-2.69493E-05	-2.60437E-05	-2.27126E-05	-2.62349E-05	-2.29875E-05	-2.26925E-05	-2.60083E-05	-2.36963E-05	-2.37297E-05	-2.63104E-05	-2.29846E-05
-6	-2.53819E-05	-2.72276E-05	-2.57328E-05	-2.56076E-05	-2.68787E-05	-2.53001E-05	-2.65443E-05	-2.68319E-05	-2.57159E-05	-2.25857E-05	-2.60971E-05	-2.25941E-05	-2.2584E-05	-2.591E-05	-2.32195E-05	-2.34781E-05	-2.61772E-05	-2.25875E-05
-5	-2.52051E-05	-2.70805E-05	-2.53868E-05	-2.53636E-05	-2.67965E-05	-2.49592E-05	-2.62319E-05	-2.67121E-05	-2.53929E-05	-2.24565E-05	-2.59576E-05	-2.22107E-05	-2.24725E-05	-2.58079E-05	-2.27553E-05	-2.32291E-05	-2.60418E-05	-2.22004E-05
-4	-2.50261E-05	-2.69318E-05	-2.50474E-05	-2.51209E-05	-2.67097E-05	-2.4625E-05	-2.59226E-05	-2.65899E-05	-2.50748E-05	-2.2325E-05	-2.58162E-05	-2.18371E-05	-2.23579E-05	-2.57021E-05	-2.23037E-05	-2.29827E-05	-2.59043E-05	-2.18233E-05
-3	-2.48448E-05	-2.67816E-05	-2.47145E-05	-2.48792E-05	-2.66181E-05	-2.42973E-05	-2.56163E-05	-2.64655E-05	-2.47615E-05	-2.21912E-05	-2.56729E-05	-2.14734E-05	-2.22404E-05	-2.55925E-05	-2.18647E-05	-2.27387E-05	-2.57648E-05	-2.14562E-05
-2	-2.46613E-05	-2.66297E-05	-2.43882E-05	-2.46386E-05	-2.65219E-05	-2.39763E-05	-2.53131E-05	-2.63387E-05	-2.4453E-05	-2.20551E-05	-2.55278E-05	-2.11196E-05	-2.21199E-05	-2.54791E-05	-2.14382E-05	-2.24974E-05	-2.56231E-05	-2.10991E-05
-1	-2.44755E-05	-2.64763E-05	-2.40684E-05	-2.43992E-05	-2.6421E-05	-2.36619E-05	-2.50129E-05	-2.62095E-05	-2.41494E-05	-2.19166E-05	-2.53809E-05	-2.07756E-05	-2.19963E-05	-2.53619E-05	-2.10243E-05	-2.22585E-05	-2.54794E-05	-2.07519E-05
0	-2.42875E-05	-2.63213E-05	-2.37552E-05	-2.41609E-05	-2.63154E-05	-2.33541E-05	-2.47158E-05	-2.6078E-05	-2.38507E-05	-2.17759E-05	-2.52321E-05	-2.04416E-05	-2.18698E-05	-2.5241E-05	-2.06229E-05	-2.20223E-05	-2.53335E-05	-2.04148E-05
1	-2.40973E-05	-2.61647E-05	-2.34485E-05	-2.39238E-05	-2.62051E-05	-2.30529E-05	-2.44218E-05	-2.59442E-05	-2.35567E-05	-2.16329E-05	-2.50815E-05	-2.01174E-05	-2.17402E-05	-2.51163E-05	-2.02341E-05	-2.17885E-05	-2.51856E-05	-2.00876E-05
2	-2.39048E-05	-2.60065E-05	-2.31484E-05	-2.36878E-05	-2.60901E-05	-2.27584E-05	-2.41308E-05	-2.5808E-05	-2.32677E-05	-2.14875E-05	-2.4929E-05	-1.98032E-05	-2.16077E-05	-2.49878E-05	-1.98579E-05	-2.15573E-05	-2.50355E-05	-1.97704E-05
3	-2.37101E-05	-2.58467E-05	-2.28548E-05	-2.34528E-05	-2.59704E-05	-2.24704E-05	-2.38428E-05	-2.56695E-05	-2.29834E-05	-2.13399E-05	-2.47747E-05	-1.94988E-05	-2.14721E-05	-2.48556E-05	-1.94942E-05	-2.13287E-05	-2.48834E-05	-1.94632E-05
4	-2.35132E-05	-2.56854E-05	-2.25678E-05	-2.32191E-05	-2.58461E-05	-2.21891E-05	-2.3558E-05	-2.55286E-05	-2.27041E-05	-2.119E-05	-2.46185E-05	-1.92043E-05	-2.13335E-05	-2.47196E-05	-1.91431E-05	-2.11026E-05	-2.47292E-05	-1.9166E-05
5	-2.3314E-05	-2.55224E-05	-2.22873E-05	-2.29864E-05	-2.5717E-05	-2.19144E-05	-2.32761E-05	-2.53854E-05	-2.24295E-05	-2.10377E-05	-2.44605E-05	-1.89197E-05	-2.1192E-05	-2.45798E-05	-1.88046E-05	-2.08791E-05	-2.45729E-05	-1.88788E-05
6	-2.31126E-05	-2.53579E-05	-2.20134E-05	-2.27549E-05	-2.55833E-05	-2.16463E-05	-2.29974E-05	-2.52399E-05	-2.21598E-05	-2.08832E-05	-2.43007E-05	-1.86449E-05	-2.10474E-05	-2.44363E-05	-1.84787E-05	-2.06581E-05	-2.44145E-05	-1.86016E-05
7	-2.2909E-05	-2.51918E-05	-2.1746E-05	-2.25245E-05	-2.54448E-05	-2.13848E-05	-2.27217E-05	-2.5092E-05	-2.1895E-05	-2.07263E-05	-2.4139E-05	-1.83801E-05	-2.08998E-05	-2.4289E-05	-1.81653E-05	-2.04396E-05	-2.4254E-05	-1.83343E-05
8	-2.27031E-05	-2.50241E-05	-2.14852E-05	-2.22952E-05	-2.53017E-05	-2.113E-05	-2.24491E-05	-2.49418E-05	-2.1635E-05	-2.05672E-05	-2.39754E-05	-1.81251E-05	-2.07492E-05	-2.41379E-05	-1.78645E-05	-2.02237E-05	-2.40914E-05	-1.80771E-05
9	-2.2495E-05	-2.48548E-05	-2.12309E-05	-2.2067E-05	-2.51539E-05	-2.08817E-05	-2.21795E-05	-2.47892E-05	-2.13798E-05	-2.04057E-05	-2.381E-05	-1.788E-05	-2.05956E-05	-2.39831E-05	-1.75762E-05	-2.00103E-05	-2.39267E-05	-1.78298E-05
10	-2.22847E-05	-2.46839E-05	-2.09832E-05	-2.184E-05	-2.50014E-05	-2.06401E-05	-2.1913E-05	-2.46343E-05	-2.11295E-05	-2.02419E-05	-2.36428E-05	-1.76448E-05	-2.04391E-05	-2.38244E-05	-1.73005E-05	-1.97995E-05	-2.37599E-05	-1.75926E-05
11	-2.20721E-05	-2.45114E-05	-2.0742E-05	-2.16141E-05	-2.48442E-05	-2.04051E-05	-2.16495E-05	-2.4477E-05	-2.0884E-05	-2.00759E-05	-2.34738E-05	-1.74195E-05	-2.02795E-05	-2.36621E-05	-1.70374E-05	-1.95912E-05	-2.3591E-05	-1.73653E-05
12	-2.18573E-05	-2.43374E-05	-2.05074E-05	-2.13893E-05	-2.46823E-05	-2.01767E-05	-2.13891E-05	-2.43174E-05	-2.06434E-05	-1.99075E-05	-2.33028E-05	-1.72041E-05	-2.01169E-05	-2.34959E-05	-1.67868E-05	-1.93855E-05	-2.34201E-05	-1.7148E-05
13	-2.16402E-05	-2.41617E-05	-2.02793E-05	-2.11657E-05	-2.45158E-05	-1.99549E-05	-2.11318E-05	-2.41555E-05	-2.04076E-05	-1.97368E-05	-2.31301E-05	-1.69985E-05	-1.99513E-05	-2.3326E-05	-1.65488E-05	-1.91823E-05	-2.3247E-05	-1.69406E-05
14	-2.14209E-05	-2.39845E-05	-2.00578E-05	-2.09432E-05	-2.43445E-05	-1.97398E-05	-2.08775E-05	-2.39912E-05	-2.01767E-05	-1.95638E-05	-2.29555E-05	-1.68028E-05	-1.97827E-05	-2.31523E-05	-1.63234E-05	-1.89817E-05	-2.30718E-05	-1.67433E-05
15	-2.11994E-05	-2.38056E-05	-1.98428E-05	-2.07218E-05	-2.41686E-05	-1.95312E-05	-2.06262E-05	-2.38246E-05	-1.99506E-05	-1.93885E-05	-2.27791E-05	-1.66171E-05	-1.96111E-05	-2.29748E-05	-1.61106E-05	-1.87836E-05	-2.28946E-05	-1.6556E-05
16	-2.09757E-05	-2.36252E-05	-1.96344E-05	-2.05015E-05	-2.39879E-05	-1.93293E-05	-2.03781E-05	-2.36557E-05	-1.97293E-05	-1.92109E-05	-2.26008E-05	-1.64412E-05	-1.94364E-05	-2.27936E-05	-1.59103E-05	-1.85881E-05	-2.27152E-05	-1.63786E-05
17	-2.07497E-05	-2.34432E-05	-1.94325E-05	-2.02824E-05	-2.38026E-05	-1.9134E-05	-2.0133E-05	-2.34844E-05	-1.95129E-05	-1.9031E-05	-2.24206E-05	-1.62752E-05	-1.92588E-05	-2.26086E-05	-1.57225E-05	-1.83951E-05	-2.25338E-05	-1.62113E-05
18	-2.05214E-05	-2.32597E-05	-1.92372E-05	-2.00643E-05	-2.36126E-05	-1.89453E-05	-1.98909E-05	-2.33107E-05	-1.93013E-05	-1.88488E-05	-2.22387E-05	-1.6119E-05	-1.90782E-05	-2.24198E-05	-1.55474E-05	-1.82046E-05	-2.23503E-05	-1.60539E-05
19	-2.0291E-05	-2.30745E-05	-1.90484E-05	-1.98475E-05	-2.34179E-05	-1.87632E-05	-1.96519E-05	-2.31348E-05	-1.90946E-05	-1.86643E-05	-2.20548E-05	-1.59728E-05	-1.88946E-05	-2.22273E-05	-1.53848E-05	-1.80167E-05	-2.21646E-05	-1.59065E-05
20	-2.00583E-05	-2.28877E-05	-1.88661E-05	-1.96317E-05	-2.32185E-05	-1.85877E-05	-1.9416E-05	-2.29564E-05	-1.88927E-05	-1.84775E-05	-2.18692E-05	-1.58364E-05	-1.8708E-05	-2.2031E-05	-1.52348E-05	-1.78314E-05	-2.19769E-05	-1.57691E-05
21	-1.98234E-05	-2.26994E-05	-1.86905E-05	-1.94171E-05	-2.30144E-05	-1.84189E-05	-1.91831E-05	-2.27758E-05	-1.86957E-05	-1.82884E-05	-2.16817E-05	-1.57099E-05	-1.85183E-05	-2.18309E-05	-1.50973E-05	-1.76486E-05	-2.17871E-05	-1.56417E-05
22	-1.95862E-05	-2.25094E-05	-1.85213E-05	-1.92035E-05	-2.28056E-05	-1.82567E-05	-1.89533E-05	-2.25928E-05	-1.85035E-05	-1.80969E-05	-2.14923E-05	-1.55934E-05	-1.83257E-05	-2.16271E-05	-1.49724E-05	-1.74683E-05	-2.15952E-05	-1.55243E-05
23	-1.93468E-05	-2.23179E-05	-1.83587E-05	-1.89912E-05	-2.25922E-05	-1.8101E-05	-1.87266E-05	-2.24074E-05	-1.83162E-05	-1.79032E-05	-2.13011E-05	-1.54867E-05	-1.81301E-05	-2.14195E-05	-1.48601E-05	-1.72906E-05	-2.14012E-05	-1.54168E-05
24	-1.91051E-05	-2.21248E-05	-1.82027E-05	-1.87799E-05	-2.2374E-05	-1.7952E-05	-1.85029E-05	-2.22197E-05	-1.81337E-05	-1.77072E-05	-2.11081E-05	-1.53898E-05	-1.79314E-05	-2.12081E-05	-1.47603E-05	-1.71154E-05	-2.12051E-05	-1.53194E-05
25	-1.88613E-05	-2.19301E-05	-1.80532E-05	-1.85698E-05	-2.21512E-05	-1.78097E-05	-1.82823E-05	-2.20297E-05	-1.7956E-05	-1.75088E-05	-2.09132E-05	-1.53029E-05	-1.77298E-05	-2.0993E-05	-1.46731E-05	-1.69428E-05	-2.10069E-05	-1.52319E-05
26	-1.86152E-05	-2.17338E-05	-1.79103E-05	-1.83608E-05	-2.19236E-05	-1.76739E-05	-1.80647E-05	-2.18374E-05	-1.77832E-05	-1.73082E-05	-2.07165E-05	-1.52258E-05	-1.75251E-05	-2.0774E-05	-1.45985E-05	-1.67727E-05	-2.08066E-05	-1.51544E-05
27	-1.83668E-05	-2.1536E-05	-1.77739E-05	-1.81529E-05	-2.16914E-05	-1.75447E-05	-1.78502E-05	-2.16426E-05	-1.76152E-05	-1.71053E-05	-2.05179E-05	-1.51587E-05	-1.73175E-05	-2.05513E-05	-1.45365E-05	-1.66052E-05	-2.06042E-05	-1.50869E-05
28	-1.81162E-05	-2.13365E-05	-1.76441E-05	-1.79461E-05	-2.14545E-05	-1.74222E-05	-1.76387E-05	-2.14456E-05	-1.74521E-05	-1.69E-05	-2.03175E-05	-1.51014E-05	-1.71068E-05	-2.03249E-05	-1.4487E-05	-1.64402E-05	-2.03997E-05	-1.50294E-05
29	-1.78634E-05	-2.11355E-05	-1.75208E-05	-1.77405E-05	-2.12129E-05	-1.73063E-05	-1.74303E-05	-2.12462E-05	-1.72938E-05	-1.66924E-05	-2.01153E-05	-1.5054E-05	-1.68932E-05	-2.00947E-05	-1.445E-05	-1.62777E-05	-2.01932E-05	-1.49819E-05
30	-1.76084E-05	-2.09328E-05	-1.7404E-05	-1.7536E-05	-2.09666E-05	-1.7197E-05	-1.7225E-05	-2.10445E-05	-1.71404E-05	-1.64826E-05	-1.99112E-05	-1.50165E-05	-1.66765E-05	-1.98607E-05	-1.44257E-05	-1.61179E-05	-1.99845E-05	-1.49444E-05
31	-1.73511E-05	-2.07286E-05	-1.72938E-05	-1.73326E-05	-2.07157E-05	-1.70943E-05	-1.70227E-05	-2.08404E-05	-1.69918E-05	-1.62704E-05	-1.97052E-05	-1.49888E-05	-1.64568E-05	-1.96229E-05	-1.44139E-05	-1.59605E-05	-1.97738E-05	-1.49168E-05
32	-1.70916E-05	-2.05228E-05	-1.71902E-05	-1.71303E-05	-2.046E-05	-1.69982E-05	-1.68235E-05	-2.0634E-05	-1.6848E-05	-1.60559E-05	-1.94974E-05	-1.49711E-05	-1.62342E-05	-1.93814E-05	-1.44147E-05	-1.58057E-05	-1.95609E-05	-1.48993E-05
33	-1.68298E-05	-2.03154E-05	-1.70931E-05	-1.69292E-05	-2.01996E-05	-1.69088E-05	-1.66273E-05	-2.04252E-05	-1.67091E-05	-1.58392E-05	-1.92878E-05	-1.49632E-05	-1.60085E-05	-1.91361E-05	-1.4428E-05	-1.56534E-05	-1.9346E-05	-1.48917E-05
34	-1.65658E-05	-2.01064E-05	-1.70026E-05	-1.67292E-05	-1.99346E-05	-1.68259E-05	-1.64342E-05	-2.02141E-05	-1.65751E-05	-1.56201E-05	-1.90763E-05	-1.49652E-05	-1.57798E-05	-1.8887E-05	-1.44539E-05	-1.55037E-05	-1.91289E-05	-1.48942E-05
35	-1.62996E-05	-1.98958E-05	-1.69186E-05	-1.65304E-05	-1.96648E-05	-1.67497E-05	-1.62442E-05	-2.00007E-05	-1.64458E-05	-1.53987E-05	-1.8863E-05	-1.49771E-05	-1.55481E-05	-1.86342E-05	-1.44924E-05	-1.53566E-05	-1.89098E-05	-1.49066E-05
36	-1.60311E-05	-1.96837E-05	-1.68411E-05	-1.63326E-05	-1.93904E-05	-1.66801E-05	-1.60572E-05	-1.97849E-05	-1.63215E-05	-1.5175E-05	-1.86478E-05	-1.49989E-05	-1.53135E-05	-1.83776E-05	-1.45434E-05	-1.5212E-05	-1.86886E-05	-1.4929E-05
37	-1.57604E-05	-1.94699E-05	-1.67702E-05	-1.6136E-05	-1.91113E-05	-1.66171E-05	-1.58733E-05	-1.95668E-05	-1.62019E-05	-1.4949E-05	-1.84308E-05	-1.50306E-05	-1.50758E-05	-1.81172E-05	-1.4607E-05	-1.50699E-05	-1.84652E-05	-1.49613E-05
38	-1.54875E-05	-1.92546E-05	-1.67059E-05	-1.59405E-05	-1.88275E-05	-1.65607E-05	-1.56924E-05	-1.93463E-05	-1.60873E-05	-1.47207E-05	-1.8212E-05	-1.50722E-05	-1.48351E-05	-1.7853E-05	-1.46832E-05	-1.49304E-05	-1.82398E-05	-1.50037E-05
39	-1.52123E-05	-1.90377E-05	-1.66481E-05	-1.57461E-05	-1.8539E-05	-1.6511E-05	-1.55146E-05	-1.91235E-05	-1.59774E-05	-1.44901E-05	-1.79913E-05	-1.51236E-05	-1.45914E-05	-1.75851E-05	-1.47719E-05	-1.47934E-05	-1.80123E-05	-1.50561E-05
40	-1.49349E-05	-1.88192E-05	-1.65969E-05	-1.55529E-05	-1.82458E-05	-1.64679E-05	-1.53399E-05	-1.88984E-05	-1.58724E-05	-1.42572E-05	-1.77688E-05	-1.51849E-05	-1.43447E-05	-1.73135E-05	-1.48732E-05	-1.4659E-05	-1.77827E-05	-1.51184E-05
41	-1.46553E-05	-1.85991E-05	-1.65522E-05	-1.53608E-05	-1.7948E-05	-1.64313E-05	-1.51682E-05	-1.86709E-05	-1.57723E-05	-1.4022E-05	-1.75444E-05	-1.52561E-05	-1.4095E-05	-1.7038E-05	-1.49871E-05	-1.45271E-05	-1.7551E-05	-1.51908E-05
42	-1.43734E-05	-1.83774E-05	-1.6514E-05	-1.51698E-05	-1.76454E-05	-1.64014E-05	-1.49996E-05	-1.84411E-05	-1.5677E-05	-1.37845E-05	-1.73182E-05	-1.53372E-05	-1.38423E-05	-1.67588E-05	-1.51136E-05	-1.43977E-05	-1.73172E-05	-1.52731E-05
43	-1.40893E-05	-1.81541E-05	-1.64824E-05	-1.49799E-05	-1.73381E-05	-1.63781E-05	-1.4834E-05	-1.82089E-05	-1.55865E-05	-1.35447E-05	-1.70901E-05	-1.54282E-05	-1.35866E-05	-1.64758E-05	-1.52526E-05	-1.42709E-05	-1.70813E-05	-1.53654E-05
44	-1.3803E-05	-1.79293E-05	-1.64574E-05	-1.47912E-05	-1.70262E-05	-1.63614E-05	-1.46715E-05	-1.79744E-05	-1.55009E-05	-1.33026E-05	-1.68602E-05	-1.55291E-05	-1.33278E-05	-1.6189E-05	-1.54041E-05	-1.41467E-05	-1.68434E-05	-1.54677E-05
45	-1.35144E-05	-1.77028E-05	-1.64389E-05	-1.46035E-05	-1.67096E-05	-1.63514E-05	-1.4512E-05	-1.77376E-05	-1.54201E-05	-1.30581E-05	-1.66284E-05	-1.56398E-05	-1.30661E-05	-1.58985E-05	-1.55683E-05	-1.4025E-05	-1.66033E-05	-1.558E-05

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649, Program: GMI
Agile Revision: H (C484272)

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Appendix S: Noise Diode Excess Temperature (GROUND DERIVED)

See appendix V for values to use on-orbit

Noise Diode Phys

Temp (˚C)	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H
-20	215.275	191.0971	211.6924	205.3189	170.6552	187.3948	197.6211
-19	215.6293	191.4349	212.3719	205.868	171.3716	187.6409	198.0337
-18	215.9803	191.7677	213.0505	206.4182	172.0854	187.8882	198.4456
-17	216.3279	192.0953	213.7283	206.9693	172.7965	188.1368	198.8567
-16	216.6723	192.4177	214.4053	207.5213	173.5049	188.3866	199.267
-15	217.0132	192.7349	215.0815	208.0744	174.2107	188.6375	199.6765
-14	217.3509	193.0471	215.7569	208.6284	174.9138	188.8897	200.0852
-13	217.6852	193.354	216.4314	209.1834	175.6143	189.1432	200.4931
-12	218.0162	193.6558	217.1051	209.7394	176.3121	189.3978	200.9002
-11	218.3438	193.9525	217.778	210.2963	177.0073	189.6537	201.3065
-10	218.6681	194.244	218.4501	210.8543	177.6998	189.9107	201.712
-9	218.9891	194.5303	219.1214	211.4132	178.3896	190.169	202.1168
-8	219.3067	194.8115	219.7918	211.973	179.0768	190.4285	202.5207
-7	219.621	195.0876	220.4615	212.5339	179.7613	190.6892	202.9239
-6	219.932	195.3584	221.1303	213.0957	180.4432	190.9512	203.3263
-5	220.2396	195.6242	221.7983	213.6585	181.1224	191.2143	203.7278
-4	220.5439	195.8847	222.4654	214.2222	181.7989	191.4787	204.1286
-3	220.8449	196.1402	223.1318	214.787	182.4728	191.7443	204.5286
-2	221.1425	196.3904	223.7973	215.3527	183.1441	192.0111	204.9278
-1	221.4368	196.6356	224.462	215.9194	183.8127	192.2791	205.3262
0	221.7278	196.8755	225.1259	216.487	184.4786	192.5484	205.7238
1	222.0154	197.1103	225.789	217.0556	185.1419	192.8188	206.1206
2	222.2997	197.34	226.4513	217.6252	185.8025	193.0905	206.5167
3	222.5806	197.5645	227.1127	218.1958	186.4604	193.3634	206.9119
4	222.8583	197.7838	227.7733	218.7674	187.1157	193.6375	207.3063
5	223.1325	197.998	228.4331	219.3399	187.7684	193.9128	207.7
6	223.4035	198.2071	229.0921	219.9134	188.4183	194.1894	208.0928
7	223.6711	198.4109	229.7503	220.4879	189.0657	194.4671	208.4849
8	223.9354	198.6097	230.4076	221.0633	189.7103	194.7461	208.8762
9	224.1963	198.8032	231.0642	221.6397	190.3523	195.0263	209.2667
10	224.4539	198.9917	231.7199	222.2171	190.9917	195.3077	209.6564
11	224.7082	199.1749	232.3748	222.7955	191.6284	195.5904	210.0453
12	224.9591	199.353	233.0288	223.3748	192.2624	195.8742	210.4334
13	225.2067	199.526	233.6821	223.9551	192.8938	196.1593	210.8207
14	225.451	199.6938	234.3345	224.5364	193.5225	196.4456	211.2072
15	225.692	199.8565	234.9861	225.1186	194.1486	196.7331	211.5929
16	225.9296	200.014	235.6369	225.7019	194.772	197.0218	211.9779
17	226.1638	200.1663	236.2869	226.2861	195.3928	197.3117	212.362
18	226.3947	200.3135	236.9361	226.8713	196.0109	197.6028	212.7454
19	226.6223	200.4555	237.5844	227.4574	196.6263	197.8952	213.1279

Noise Diode Phys

Temp (˚C)	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H
20	226.8466	200.5924	238.2319	228.0445	197.2391	198.1888	213.5097
21	227.0675	200.7242	238.8786	228.6326	197.8492	198.4836	213.8907
22	227.2851	200.8507	239.5245	229.2217	198.4567	198.7796	214.2709
23	227.4994	200.9722	240.1696	229.8117	199.0615	199.0769	214.6503
24	227.7103	201.0884	240.8138	230.4027	199.6636	199.3753	215.0289
25	227.9179	201.1995	241.4573	230.9947	200.2631	199.675	215.4067
26	228.1221	201.3055	242.0999	231.5877	200.86	199.9759	215.7837
27	228.3231	201.4063	242.7417	232.1816	201.4542	200.278	216.1599
28	228.5206	201.502	243.3826	232.7765	202.0457	200.5813	216.5354
29	228.7149	201.5925	244.0228	233.3724	202.6346	200.8858	216.91
30	228.9058	201.6778	244.6621	233.9693	203.2208	201.1916	217.2839
31	229.0934	201.758	245.3007	234.5671	203.8043	201.4986	217.6569
32	229.2776	201.833	245.9384	235.1659	204.3852	201.8067	218.0292
33	229.4585	201.9029	246.5752	235.7657	204.9635	202.1161	218.4007
34	229.6361	201.9676	247.2113	236.3664	205.539	202.4268	218.7714
35	229.8103	202.0272	247.8465	236.9682	206.112	202.7386	219.1412
36	229.9812	202.0816	248.481	237.5709	206.6822	203.0517	219.5103
37	230.1488	202.1309	249.1146	238.1745	207.2498	203.3659	219.8786
38	230.313	202.175	249.7474	238.7792	207.8148	203.6814	220.2462
39	230.4739	202.214	250.3793	239.3848	208.3771	203.9981	220.6129
40	230.6315	202.2478	251.0105	239.9914	208.9367	204.3161	220.9788
41	230.7857	202.2765	251.6408	240.5989	209.4937	204.6352	221.344
42	230.9366	202.2999	252.2703	241.2075	210.048	204.9556	221.7083
43	231.0842	202.3183	252.899	241.817	210.5997	205.2772	222.0719
44	231.2284	202.3315	253.5269	242.4275	211.1487	205.6	222.4346
45	231.3693	202.3395	254.1539	243.0389	211.695	205.924	222.7966

OBSOLETE

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
[Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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[Manual: 2344649 Program: GMI

Appendix T: Ground Calibration Target Corrections

Cold Target RF Reflection Correction ΔT_{vswr}

10 GHz V

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Correction	-0.146701511	-0.123930909	-0.103510687	-0.085357117	-0.069376627	-0.055467274	-0.043520132	-0.0334206	-0.025049638	-0.018284926	-0.013001951	-0.009075021	-0.006378212	-0.004786246	-0.004175303	-0.004423763	-0.005412896	-0.007027482	-0.00915637	-0.011692988	-0.01453579	-0.017588643	-0.020761178	-0.023969069	-0.027134276	-0.030185237	-0.03305701	-0.035691372	-0.038036878	-0.040048872	-0.041689464	-0.042927466	-0.04373829	-0.044103817
Sample	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
Correction	-0.044012223	-0.043457783	-0.04244064	-0.040966545	-0.039046572	-0.036696812	-0.033938031	-0.030795324	-0.027297733	-0.023477854	-0.019371428	-0.015016917	-0.010455058	-0.005728418	-0.00088093	0.004042575	0.008996849	0.013936706	0.018817506	0.023595646	0.028229046	0.032677638	0.036903845	0.040873063	0.044554133	0.047919806	0.050947195	0.053618224	0.055920053	0.057845496	0.059393425	0.060569144	0.061384758	0.061859512
Sample	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91											
Correction	0.06202011	0.061901008	0.061544681	0.061001867	0.060331772	0.059602255	0.05888997	0.058280481	0.057868339	0.057757117	0.058059414	0.058896809	0.06039978	0.062707573	0.065968028	0.070337356	0.07597987	0.083067661	0.091780221	0.102304018	0.114832006	0.129563089	0.146701511											

10 GHz H

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Correction	0.415604589	0.40544322	0.398146505	0.393225091	0.390244785	0.388822473	0.388622192	0.389351393	0.390757351	0.392623758	0.394767464	0.397035384	0.399301556	0.401464353	0.403443845	0.405179303	0.406626855	0.407757268	0.408553885	0.409010676	0.409130437	0.408923107	0.408404214	0.407593438	0.406513302	0.405187966	0.403642144	0.401900127	0.399984912	0.397917432	0.395715893	0.393395203	0.390966498	0.388436755
Sample	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
Correction	0.385808499	0.383079592	0.380243106	0.377287271	0.374195504	0.370946506	0.367514437	0.363869146	0.359976478	0.355798628	0.351294568	0.346420513	0.341130454	0.335376723	0.329110622	0.322283079	0.314845349	0.306749757	0.297950464	0.288404271	0.278071449	0.26691659	0.254909481	0.242026	0.228249018	0.213569324	0.197986549	0.181510105	0.164160118	0.145968368	0.126979222	0.107250564	0.086854707	0.065879309
Sample	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91											
Correction	0.044428255	0.022622534	0.00060109	-0.021478356	-0.043438502	-0.065081698	-0.086189215	-0.106520543	-0.125812735	-0.143779793	-0.160112096	-0.174475881	-0.186512774	-0.195839377	-0.202046914	-0.204700933	-0.203341081	-0.197480934	-0.186607911	-0.170183252	-0.147642072	-0.118393504	-0.081820911											

18 GHz V

Sample	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Correction	0.090020832	0.10115464	0.109806132	0.116419807	0.121384111	0.125036167	0.127666249	0.129522027	0.130812581	0.131712188	0.132363888	0.132882846	0.133359499	0.133862498	0.134441467	0.13512956	0.135945837	0.136897467	0.137981749	0.139187976	0.140499129	0.141893422	0.143345693	0.144828654	0.146314004	0.147773404	0.149179335	0.150505824	0.151729065	0.152827922	0.153784341	0.15458365	0.155214776	0.155670376
Sample	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97
Correction	0.15594688	0.156044475	0.155966999	0.155721794	0.155319483	0.154773711	0.154100829	0.153319543	0.152450531	0.151516029	0.150539394	0.149544649	0.148556024	0.147597485	0.146692265	0.145862402	0.145128291	0.144508253	0.144018124	0.143670878	0.143476286	0.143440609	0.14356635	0.143852045	0.144292121	0.144876816	0.145592172	0.146420094	0.147338503	0.148321569	0.149340037	0.150361655	0.151351706	0.152273644
Sample	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120											
Correction	0.15308986	0.153762554	0.154254747	0.154531419	0.154560791	0.154315747	0.153775415	0.152926896	0.151767157	0.150305101	0.148563796	0.146582897	0.144421246	0.142159669	0.13990396	0.13778808	0.135977558	0.134673105	0.134114455	0.134584421	0.136413197	0.139982882	0.145732262											

18 GHz H

Sample	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Correction	-0.044991843	-0.039039198	-0.034049945	-0.029944152	-0.026642963	-0.024068978	-0.022146589	-0.020802291	-0.019964967	-0.019566137	-0.019540185	-0.019824549	-0.020359901	-0.021090285	-0.02196324	-0.022929897	-0.023945051	-0.024967214	-0.025958647	-0.026885367	-0.027717139	-0.02842745	-0.028993459	-0.029395941	-0.029619202	-0.029650989	-0.029482383	-0.029107674	-0.028524229	-0.027732348	-0.026735105	-0.025538182	-0.024149694	-0.022580006
Sample	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97
Correction	-0.020841539	-0.018948575	-0.016917053	-0.014764358	-0.012509112	-0.010170957	-0.007770339	-0.005328284	-0.002866187	-0.000405584	0.002032061	0.004425572	0.006754277	0.008998212	0.011138332	0.013156706	0.015036711	0.016763216	0.018322762	0.019703727	0.020896488	0.021893568	0.02268977	0.023282306	0.023670903	0.023857901	0.023848336	0.023650005	0.023273515	0.022732316	0.02204271	0.021223852	0.020297716	0.019289053
Sample	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120											
Correction	0.018225321	0.017136593	0.016055437	0.015016786	0.014057763	0.013217496	0.012536896	0.012058414	0.011825761	0.011883611	0.012277258	0.013052256	0.014254015	0.015927374	0.018116132	0.02086255	0.024206814	0.028186464	0.032835779	0.038185137	0.044260322	0.051081799	0.058663945											

23 GHz V

Sample	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Correction	0.213359347	0.222161198	0.227761172	0.23075264	0.231658489	0.230936694	0.228985619	0.226149045	0.222720939	0.218949973	0.215043791	0.211173034	0.207475131	0.204057863	0.201002703	0.198367939	0.196191589	0.194494114	0.193280931	0.192544739	0.192267659	0.1924232	0.192978045	0.193893687	0.195127891	0.196636015	0.198372182	0.200290312	0.202345023	0.204492406	0.206690676	0.208900718	0.211086515	0.213215488
Sample	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97
Correction	0.215258728	0.217191154	0.218991576	0.220642698	0.222131036	0.223446789	0.224583643	0.225538532	0.226311354	0.22690465	0.227323253	0.227573915	0.227664916	0.227605657	0.227406258	0.227077151	0.226628681	0.226070727	0.225412338	0.224661403	0.223824347	0.222905873	0.221908752	0.220833659	0.219679078	0.218441262	0.217114277	0.215690115	0.214158898	0.212509172	0.210728296	0.208802942	0.2067197	0.2044658
Sample	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120											
Correction	0.202029964	0.199403379	0.196580815	0.193561878	0.19035242	0.186966097	0.183426096	0.179767025	0.176036978	0.172299789	0.168637462	0.165152805	0.161972258	0.159248929	0.157165848	0.155939435	0.155823197	0.157111656	0.160144515	0.165311076	0.173054899	0.183878726	0.198349673											

36 GHz V

Sample	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
Correction	0.002197212	0.020521862	0.034719133	0.045590593	0.053831298	0.060038967	0.064722676	0.068311093	0.071160268	0.073560986	0.075745686	0.077894972	0.08014372	0.082586786	0.08528434	0.088266821	0.091539545	0.09508695	0.098876513	0.102862344	0.106988456	0.111191739	0.115404636	0.119557549	0.123580957	0.127407295	0.130972571	0.13421775	0.137089923	0.139543244	0.14153968	0.143049561	0.144051953	0.144534859
Sample	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137
Correction	0.144495264	0.143939034	0.142880677	0.141342977	0.139356524	0.136959132	0.134195169	0.131114811	0.127773222	0.124229679	0.120546652	0.116788844	0.113022215	0.109312985	0.105726643	0.102326957	0.099175014	0.096328283	0.093839731	0.091756985	0.090121561	0.088968174	0.088324134	0.088208836	0.088633367	0.089600233	0.091103215	0.093127371	0.095649197	0.098636944	0.102051125	0.105845199	0.109966462	0.114357146
Sample	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160											
Correction	0.118955741	0.123698551	0.128521489	0.133362136	0.13816206	0.142869418	0.147441841	0.151849624	0.15607923	0.160137106	0.164053846	0.167888689	0.171734377	0.175722384	0.180028515	0.184878903	0.1905564	0.197407389	0.205849007	0.216376815	0.229572903	0.246114463	0.266782816											

36 GHz H

Sample	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
Correction	0.070588346	0.072735447	0.073749902	0.073953301	0.073617137	0.072967564	0.0721899	0.071432861	0.07081255	0.070416205	0.070305703	0.07052084	0.071082379	0.071994892	0.073249379	0.074825693	0.076694761	0.078820617	0.081162255	0.083675294	0.086313484	0.089030041	0.091778829	0.094515384	0.097197805	0.099787498	0.102249792	0.104554437	0.106675975	0.108594006	0.11029335	0.111764111	0.113001649	0.114006469
Sample	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137
Correction	0.114784032	0.115344498	0.115702402	0.115876271	0.115888197	0.11576336	0.115529514	0.115216446	0.114855409	0.114478534	0.114118239	0.113806628	0.11357489	0.113452721	0.113467744	0.113644962	0.114006243	0.114569829	0.115349903	0.116356189	0.117593623	0.119062078	0.120756156	0.122665067	0.124772576	0.127057055	0.129491616	0.132044357	0.134678712	0.137353919	0.140025613	0.142646541	0.14516742	0.147537933
Sample	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160											
Correction	0.14970788	0.151628476	0.153253822	0.154542536	0.155459564	0.155978175	0.156082146	0.155768134	0.155048263	0.153952911	0.152533719	0.150866815	0.14905628	0.147237833	0.145582773	0.144302165	0.143651277	0.143934289	0.145509263	0.148793395	0.154268544	0.162487054	0.174077872											

89 GHz V

Sample	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
Correction	0.04966409	0.054779976	0.058728802	0.061698879	0.063858178	0.065355763	0.066323163	0.066875679	0.067113646	0.067123625	0.066979549	0.066743808	0.066468287	0.066195347	0.065958759	0.065784585	0.065692011	0.065694136	0.065798712	0.066008835	0.066323602	0.066738715	0.067247046	0.06783917	0.068503841	0.069228451	0.069999431	0.070802633	0.071623665	0.072448203	0.073262257	0.07405242	0.074806075	0.075511581
Sample	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
Correction	0.076158425	0.076737351	0.077240463	0.0776613	0.077994891	0.078237785	0.078388064	0.078445333	0.078410687	0.07828667	0.078077208	0.077787534	0.07742409	0.076994426	0.076507078	0.075971442	0.075397631	0.074796333	0.074178649	0.073555937	0.072939643	0.072341131	0.071771509	0.071241451	0.070761025	0.070339516	0.069985248	0.069705419	0.069505928	0.069391216	0.069364107	0.069425662	0.069575036	0.06980935
Sample	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140											
Correction	0.070123566	0.070510384	0.070960145	0.071460748	0.071997585	0.072553494	0.073108726	0.07364093	0.074125162	0.074533913	0.074837158	0.075002429	0.074994915	0.074777583	0.074311328	0.073555152	0.072466372	0.071000854	0.069113283	0.066757465	0.063886657	0.060453943	0.056412629											

89 GHz H

Sample	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
Correction	0.131144018	0.148348881	0.16148449	0.171255752	0.178282769	0.183107645	0.186200962	0.187967928	0.18875421	0.188851458	0.188502524	0.187906389	0.187222803	0.186576641	0.186061996	0.185745995	0.185672373	0.185864784	0.186329878	0.187060142	0.188036514	0.18923078	0.190607754	0.192127261	0.193745916	0.195418724	0.197100487	0.198747045	0.200316351	0.201769381	0.203070899	0.204190078	0.205100979	0.205782908
Sample	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
Correction	0.206220648	0.206404582	0.206330707	0.206000544	0.205420973	0.204603968	0.203566263	0.202328957	0.200917042	0.199358898	0.197685722	0.195930939	0.194129563	0.192317554	0.190531146	0.188806171	0.187177387	0.185677811	0.18433806	0.183185729	0.182244785	0.181535005	0.18107146	0.18086405	0.180917099	0.181229015	0.181792035	0.18259204	0.18360847	0.184814333	0.18617632	0.187655035	0.189205339	0.190776835
Sample	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140											
Correction	0.192314472	0.19375931	0.195049418	0.196120948	0.19690936	0.197350828	0.197383828	0.196950912	0.196000675	0.194489933	0.192386108	0.189669828	0.186337764	0.18240569	0.177911787	0.172920206	0.167524868	0.16185355	0.156072225	0.150389689	0.145062479	0.140400073	0.136770404											

166 GHz V

Sample	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
Correction	0.025837879	0.036952374	0.046221025	0.053756536	0.059679254	0.064115238	0.067194487	0.069049294	0.069812748	0.069617358	0.068593808	0.066869839	0.064569245	0.061810982	0.058708394	0.055368541	0.051891627	0.048370532	0.04489043	0.041528504	0.038353737	0.03542679	0.03279996	0.030517197	0.028614203	0.027118587	0.026050082	0.025420817	0.025235637	0.025492478	0.026182773	0.027291908	0.028799702	0.030680925
Sample	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107
Correction	0.032905833	0.035440735	0.038248568	0.041289488	0.04452147	0.047900915	0.051383248	0.054923526	0.058477024	0.061999815	0.065449334	0.068784921	0.071968331	0.074964226	0.077740626	0.080269322	0.08252625	0.084491815	0.086151169	0.087494427	0.088516833	0.08921885	0.089606195	0.089689796	0.089485671	0.08901473	0.088302491	0.087378708	0.086276902	0.085033802	0.083688677	0.082282564	0.080857391	0.079454976
Sample	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130											
Correction	0.078115916	0.076878351	0.075776597	0.074839651	0.074089561	0.073539655	0.073192623	0.073038458	0.073052236	0.073191747	0.073394956	0.073577309	0.073628861	0.073411237	0.072754405	0.071453281	0.069264133	0.065900807	0.061030747	0.054270823	0.045182954	0.033269522	0.017968572											

166 GHz H

Sample	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
Correction	0.070416229	0.087216376	0.100916061	0.111945031	0.120686424	0.127480424	0.132627725	0.136392817	0.13900711	0.140671875	0.141561028	0.141823757	0.141586986	0.14095769	0.140025069	0.138862566	0.137529763	0.136074129	0.134532645	0.1329333	0.131296472	0.129636181	0.127961243	0.126276303	0.124582772	0.122879663	0.121164328	0.119433106	0.117681889	0.115906595	0.114103574	0.11226993	0.110403784	0.108504464
Sample	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107
Correction	0.106572633	0.104610369	0.102621184	0.100609999	0.098583077	0.09654791	0.094513079	0.092488078	0.090483113	0.08850888	0.086576321	0.084696374	0.082879706	0.081136446	0.079475916	0.077906364	0.076434709	0.075066293	0.073804656	0.072651326	0.071605638	0.070664581	0.069822681	0.069071917	0.068401687	0.067798813	0.067247607	0.066729979	0.066225617	0.065712225	0.065165832	0.064561169	0.063872131	0.063072312
Sample	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130											
Correction	0.062135629	0.06103704	0.059753349	0.058264114	0.056552658	0.054607183	0.052422003	0.049998881	0.047348504	0.044492062	0.04146297	0.038308718	0.035092858	0.031897136	0.028823763	0.025997846	0.023569963	0.021718907	0.020654586	0.020621092	0.021899944	0.024813506	0.029728586											

183 +/- 3

Sample	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
Correction	-0.027122681	-0.015997932	-0.007596688	-0.001408047	0.003012175	0.006047301	0.008025343	0.00922424	0.009876797	0.010175333	0.010276048	0.010303109	0.010352473	0.010495448	0.010782006	0.011243845	0.011897217	0.012745538	0.013781761	0.014990548	0.016350236	0.017834605	0.019414456	0.021059009	0.022737135	0.024418411	0.026074026	0.027677538	0.029205488	0.030637881	0.031958538	0.033155341	0.034220356	0.035149864
Sample	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
Correction	0.035944292	0.036608062	0.037149364	0.037579848	0.037914272	0.038170078	0.038366935	0.038526235	0.038670564	0.038823148	0.039007285	0.039245771	0.039560326	0.03997103	0.040495774	0.041149744	0.041944924	0.042889653	0.043988223	0.045240536	0.046641827	0.048182457	0.049847788	0.051618142	0.053468867	0.055370492	0.057289007	0.059186257	0.061020463	0.062746882	0.064318606	0.065687522	0.066805416	0.067625263
Sample	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140											
Correction	0.068102674	0.068197542	0.067875865	0.067111783	0.065889807	0.064207273	0.062077015	0.05953027	0.056619819	0.053423377	0.050047237	0.046630176	0.04334763	0.04041615	0.038098139	0.036706891	0.036611923	0.038244622	0.04210421	0.04876403	0.058878172	0.073188433	0.092531636											

183 +/- 7

Sample	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
Correction	-0.115170072	-0.116986602	-0.11671597	-0.114833723	-0.11175322	-0.107830505	-0.103368955	-0.098623724	-0.093805981	-0.089086946	-0.084601726	-0.080452958	-0.076714265	-0.073433525	-0.070635954	-0.068327018	-0.06649517	-0.065114415	-0.064146712	-0.063544212	-0.063251344	-0.063206744	-0.063345033	-0.063598458	-0.063898381	-0.064176641	-0.06436678	-0.064405135	-0.064231815	-0.063791549	-0.06303442	-0.061916493	-0.060400323	-0.058455365
Sample	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
Correction	-0.056058289	-0.053193185	-0.049851691	-0.046033023	-0.041743922	-0.036998526	-0.031818163	-0.026231071	-0.020272051	-0.013982057	-0.00740773	-0.000600865	0.006382158	0.013481003	0.020632043	0.027769071	0.034824038	0.041727827	0.048411056	0.0548049	0.060841934	0.066456988	0.071588019	0.076176985	0.080170721	0.083521818	0.086189492	0.088140448	0.089349727	0.089801534	0.089490051	0.088420219	0.086608489	0.084083545
Sample	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140											
Correction	0.080886983	0.077073953	0.072713749	0.067890355	0.062702937	0.057266269	0.051711102	0.046184473	0.040849929	0.03588769	0.031494724	0.027884747	0.025288131	0.023951723	0.024138569	0.026127538	0.030212849	0.036703481	0.045922479	0.058206145	0.073903107	0.093373262	0.116986602											

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM

Agile Revision: H (C484272)

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[Manual: 2344649 Program: GMI

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Variable Target RF Reflection Correction ΔT_{vswr}

10 GHz V

Sample	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186
Correction	-0.042574325	-0.05348568	-0.06081021	-0.065124682	-0.066949104	-0.066750297	-0.06494533	-0.061904826	-0.057956141	-0.05338641	-0.048445466	-0.043348647	-0.03827947	-0.033392193	-0.028814262	-0.024648641	-0.020976035	-0.017856998	-0.015333943	-0.01343304	-0.012166015	-0.011531854	-0.011518404	-0.012103878	-0.013258279	-0.014944718	-0.017120655	-0.019739057	-0.022749459	-0.026098962	-0.029733138	-0.03359687	-0.037635111	-0.041793574
Sample	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Correction	-0.046019356	-0.050261493	-0.054471449	-0.058603545	-0.062615331	-0.066467898	-0.070126135	-0.073558932	-0.076739341	-0.079644678	-0.08225659	-0.084561067	-0.086548431	-0.088213264	-0.089554321	-0.090574399	-0.091280172	-0.091682006	-0.091793737	-0.091632439	-0.091218153	-0.090573609	-0.089723927	-0.088696299	-0.08751967	-0.086224392	-0.084841887	-0.083404293	-0.08194411	-0.08049385	-0.079085681	-0.077751083	-0.076520498	-0.075423006
Sample	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	
Correction	-0.074485995	-0.073734857	-0.073192691	-0.072880029	-0.072814581	-0.073011004	-0.07348069	-0.074231592	-0.07526807	-0.076590775	-0.078196564	-0.080078455	-0.082225618	-0.084623409	-0.08725345	-0.09009375	-0.09311888	-0.096300196	-0.099606115	-0.103002447	-0.106452788	-0.109918967	-0.113361564	-0.116740482	-0.1200156	-0.12314748	-0.126098163	-0.128832025	-0.131316718	-0.133524186	-0.135431764	-0.137023365	-0.138290744	

10 GHz H

Sample	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186
Correction	0.009810961	-0.011939988	-0.023756895	-0.027801568	-0.025942952	-0.019782386	-0.010677589	0.00023462	0.012016808	0.023910617	0.035317606	0.045781235	0.054969947	0.062661326	0.068727303	0.073120373	0.075860802	0.077024792	0.076733572	0.075143387	0.072436361	0.068812193	0.064480673	0.059654969	0.054545676	0.049355581	0.044275125	0.039478528	0.035120551	0.03133386	0.028226969	0.025882732	0.024357346	0.023679852
Sample	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Correction	0.023852086	0.024849064	0.026619771	0.029088315	0.032155424	0.035700261	0.039582517	0.043644758	0.047715002	0.051609484	0.055135592	0.058094939	0.060286545	0.061510089	0.061569218	0.060274874	0.057448606	0.052925855	0.046559152	0.038221238	0.027808045	0.015241522	0.000472281	-0.016517979	-0.035714286	-0.057066486	-0.080487636	-0.10585273	-0.132997785	-0.161719314	-0.191774231	-0.22288019	-0.254716414	-0.286925028
Sample	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	
Correction	-0.319112927	-0.350854213	-0.381693229	-0.411148216	-0.438715624	-0.463875111	-0.486095248	-0.50483997	-0.519575805	-0.529779889	-0.534948829	-0.53460841	-0.528324199	-0.515713071	-0.496455669	-0.470309856	-0.437125161	-0.396858271	-0.349589578	-0.295540826	-0.235093878	-0.168810643	-0.09745417	-0.022010972	0.056285426	0.135929658	0.215118394	0.29172289	0.363260171	0.426862842	0.479247469	0.516681519	0.534948829	

18 GHz V

Sample	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
Correction	-0.024590881	-0.039002351	-0.051495836	-0.06229615	-0.07160613	-0.079608235	-0.08646607	-0.092325838	-0.097317716	-0.101557174	-0.105146217	-0.108174563	-0.110720763	-0.112853251	-0.114631336	-0.116106139	-0.117321462	-0.118314615	-0.119117175	-0.119755699	-0.120252386	-0.120625687	-0.120890868	-0.121060524	-0.121145051	-0.121153076	-0.121091835	-0.120967527	-0.120785615	-0.120551094	-0.120268732	-0.119943259	-0.119579544	-0.119182725
Sample	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244
Correction	-0.118758319	-0.118312301	-0.117851155	-0.117381907	-0.116912128	-0.116449916	-0.116003867	-0.115583016	-0.11519677	-0.11485482	-0.114567044	-0.114343395	-0.114193785	-0.114127945	-0.114155299	-0.114284816	-0.114524863	-0.114883058	-0.11536612	-0.115979721	-0.116728335	-0.1176151	-0.118641679	-0.119808129	-0.121112779	-0.12255212	-0.124120705	-0.125811061	-0.12761362	-0.129516663	-0.13150628	-0.13356636	-0.13567859	-0.137822481
Sample	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	
Correction	-0.139975423	-0.142112761	-0.1442079	-0.146232438	-0.148156331	-0.149948093	-0.151575022	-0.153003471	-0.15419915	-0.155127467	-0.15575391	-0.156044475	-0.155966129	-0.155487324	-0.154578557	-0.153212976	-0.151367037	-0.149021209	-0.146160742	-0.142776474	-0.138865707	-0.134433135	-0.12949183	-0.124064294	-0.118183567	-0.111894401	-0.105254505	-0.098335846	-0.091226031	-0.084029748	-0.076870287	-0.06989113	-0.063257618	

18 GHz H

Sample	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
Correction	0.009385034	-0.009755647	-0.025769894	-0.039035139	-0.049894282	-0.058657932	-0.065606548	-0.070992502	-0.075042044	-0.077957192	-0.07991753	-0.081081926	-0.081590176	-0.081564559	-0.081111323	-0.080322093	-0.079275206	-0.078036974	-0.076662876	-0.075198685	-0.073681524	-0.072140861	-0.070599439	-0.069074142	-0.067576809	-0.06611498	-0.064692594	-0.063310627	-0.061967679	-0.060660513	-0.059384538	-0.058134247	-0.056903615	-0.055686441
Sample	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244
Correction	-0.054476658	-0.053268595	-0.052057205	-0.050838251	-0.04960846	-0.048365639	-0.047108764	-0.045838032	-0.04455489	-0.043262031	-0.041963374	-0.040664003	-0.039370106	-0.038088876	-0.0368284	-0.035597532	-0.034405752	-0.033263004	-0.032179528	-0.031165688	-0.030231773	-0.029387815	-0.02864338	-0.028007374	-0.027487834	-0.027091726	-0.026824744	-0.026691111	-0.026693387	-0.026832285	-0.027106488	-0.027512491	-0.028044439	-0.028693992
Sample	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	
Correction	-0.029450197	-0.030299381	-0.031225063	-0.032207888	-0.033225575	-0.034252905	-0.035261718	-0.036220948	-0.037096686	-0.037852269	-0.038448409	-0.038843348	-0.038993057	-0.038851471	-0.038370756	-0.03750163	-0.036193715	-0.034395945	-0.032057007	-0.029125843	-0.025552195	-0.021287202	-0.016284053	-0.010498689	-0.003890572	0.003576499	0.011933505	0.021205264	0.031409423	0.04255539	0.05464319	0.067662261	0.081590176	

23 GHz V

Sample	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
Correction	-0.016812324	-0.031121808	-0.044645775	-0.057342688	-0.069185954	-0.080162303	-0.090270256	-0.099518685	-0.107925453	-0.115516151	-0.122322904	-0.128383267	-0.133739194	-0.138436084	-0.142521901	-0.146046367	-0.149060217	-0.151614527	-0.153760108	-0.155546954	-0.157023758	-0.158237479	-0.159232971	-0.160052659	-0.160736271	-0.161320612	-0.161839392	-0.162323093	-0.162798878	-0.163290541	-0.163818495	-0.164399792	-0.165048178	-0.165774178
Sample	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244
Correction	-0.16658521	-0.167485721	-0.168477352	-0.169559122	-0.170727628	-0.171977272	-0.173300486	-0.174687988	-0.176129031	-0.177611675	-0.179123052	-0.180649642	-0.182177548	-0.183692768	-0.185181467	-0.186630238	-0.188026361	-0.18935805	-0.190614681	-0.191787015	-0.192867399	-0.193849948	-0.194730703	-0.195507771	-0.196181434	-0.196754231	-0.197231011	-0.197618949	-0.197927532	-0.198168504	-0.198355771	-0.198505269	-0.19863478	-0.198763708
Sample	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	
Correction	-0.198912804	-0.199103837	-0.199359219	-0.199701568	-0.200153215	-0.200735651	-0.201468913	-0.202370903	-0.203456644	-0.204737461	-0.206220096	-0.207905749	-0.209789036	-0.211856882	-0.214087319	-0.216448211	-0.218895894	-0.22137372	-0.223810524	-0.226118988	-0.228193919	-0.229910425	-0.231121997	-0.231658489	-0.231323991	-0.229894604	-0.227116101	-0.222701479	-0.216328406	-0.207636541	-0.19622475	-0.181648196	-0.163415307	

36 GHz V

Sample	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
Correction	0.109183323	0.094758956	0.08245046	0.071887833	0.062747677	0.054749409	0.047651658	0.041248828	0.03536784	0.029865043	0.024623288	0.019549162	0.014570379	0.00963333	0.004700771	-0.00025033	-0.005230817	-0.010241222	-0.015273515	-0.020312722	-0.025338409	-0.030326059	-0.035248316	-0.040076122	-0.044779746	-0.049329694	-0.053697532	-0.0578566	-0.061782631	-0.065454281	-0.068853575	-0.071966263	-0.074782098	-0.077295043
Sample	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282
Correction	-0.079503398	-0.081409867	-0.083021555	-0.084349906	-0.08541059	-0.086223324	-0.086811662	-0.087202723	-0.087426892	-0.087517476	-0.087510326	-0.087443434	-0.087356504	-0.087290497	-0.087287163	-0.087388558	-0.087636546	-0.088072302	-0.088735812	-0.089665363	-0.09089706	-0.092464329	-0.094397448	-0.096723093	-0.099463899	-0.102638049	-0.106258898	-0.110334616	-0.11486788	-0.119855598	-0.125288682	-0.131151867	-0.137423581	-0.14407587
Sample	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	
Correction	-0.15107439	-0.158378449	-0.165941128	-0.173709469	-0.181624736	-0.18962276	-0.19763436	-0.205585856	-0.21339967	-0.220995024	-0.228288731	-0.235196095	-0.241631911	-0.247511575	-0.252752317	-0.257274536	-0.261003271	-0.263869787	-0.265813298	-0.266782816	-0.266739142	-0.265656996	-0.263527291	-0.260359556	-0.256184511	-0.251056801	-0.245057887	-0.238299098	-0.230924862	-0.223116093	-0.21509377	-0.20712268	-0.199515357	

36 GHz H

Sample	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
Correction	-0.000781576	-0.006005389	-0.011220694	-0.016389818	-0.021480035	-0.026463175	-0.031315255	-0.036016131	-0.040549165	-0.044900915	-0.049060838	-0.053021017	-0.056775903	-0.060322064	-0.063657969	-0.066783767	-0.069701098	-0.072412905	-0.07492327	-0.077237255	-0.079360766	-0.081300417	-0.083063414	-0.08465745	-0.08609061	-0.087371279	-0.088508074	-0.089509771	-0.090385251	-0.091143446	-0.091793301	-0.092343734	-0.092803609	-0.093181717
Sample	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282
Correction	-0.093486753	-0.093727304	-0.093911847	-0.094048738	-0.094146218	-0.094212409	-0.094255324	-0.094282871	-0.094302861	-0.09432302	-0.094350992	-0.094394354	-0.094460621	-0.094557252	-0.094691657	-0.0948712	-0.095103195	-0.095394909	-0.095753545	-0.096186242	-0.096700047	-0.097301901	-0.097998604	-0.098796785	-0.09970286	-0.100722979	-0.10186297	-0.103128277	-0.104523877	-0.106054202	-0.107723041	-0.109533434	-0.111487556	-0.113586587
Sample	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	
Correction	-0.115830572	-0.118218268	-0.120746975	-0.123412357	-0.126208243	-0.129126423	-0.132156416	-0.135285234	-0.138497119	-0.141773272	-0.145091559	-0.1484262	-0.151747441	-0.155021206	-0.158208728	-0.161266163	-0.164144179	-0.166787532	-0.169134607	-0.171116951	-0.172658774	-0.17367643	-0.174077872	-0.17376209	-0.172618512	-0.170526391	-0.167354159	-0.16295876	-0.15718495	-0.149864573	-0.140815812	-0.129842406	-0.116732839	

89 GHz V

Sample	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229
Correction	0.00781415	-0.012198055	-0.02871967	-0.042166982	-0.052921535	-0.06133212	-0.067716685	-0.072364187	-0.075536359	-0.077469422	-0.078375728	-0.078445333	-0.077847509	-0.076732195	-0.075231384	-0.073460452	-0.071519422	-0.069494181	-0.067457629	-0.06547078	-0.063583807	-0.061837034	-0.060261877	-0.058881731	-0.057712816	-0.056764966	-0.056042378	-0.055544315	-0.055265759	-0.055198026	-0.055329345	-0.055645383	-0.056129741	-0.056764412
Sample	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263
Correction	-0.057530196	-0.058407085	-0.059374614	-0.060412176	-0.061499305	-0.062615934	-0.063742618	-0.064860732	-0.065952641	-0.067001848	-0.06799311	-0.068912541	-0.069747685	-0.070487575	-0.071122767	-0.07164536	-0.072049001	-0.072328864	-0.072481631	-0.072505447	-0.072399866	-0.072165794	-0.071805411	-0.071322093	-0.070720329	-0.070005621	-0.069184394	-0.068263894	-0.067252085	-0.066157551	-0.064989389	-0.063757115	-0.062470566	-0.061139808
Sample	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	
Correction	-0.059775049	-0.058386562	-0.056984613	-0.055579399	-0.054180999	-0.052799331	-0.051444133	-0.050124945	-0.048851116	-0.047631825	-0.046476121	-0.045392979	-0.044391383	-0.043480423	-0.042669423	-0.041968086	-0.041386671	-0.040936191	-0.040628647	-0.040477279	-0.040496861	-0.04070402	-0.041117588	-0.041758992	-0.042652678	-0.043826568	-0.045312564	-0.047147079	-0.049371622	-0.052033413	-0.055186047	-0.058890203	-0.063214395	

89 GHz H

Sample	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229
Correction	-0.050545221	-0.066495609	-0.079937786	-0.091172593	-0.100475321	-0.108097205	-0.11426686	-0.119191669	-0.123059112	-0.126038045	-0.128279933	-0.129920025	-0.131078484	-0.131861473	-0.132362187	-0.13266184	-0.132830613	-0.13292855	-0.133006416	-0.133106512	-0.133263445	-0.133504861	-0.13385214	-0.134321049	-0.134922359	-0.135662427	-0.136543739	-0.137565422	-0.13872372	-0.140012439	-0.141423359	-0.142946614	-0.144571049	-0.146284537
Sample	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263
Correction	-0.148074278	-0.149927067	-0.151829534	-0.153768365	-0.155730493	-0.157703267	-0.159674605	-0.161633116	-0.163568209	-0.165470181	-0.167330287	-0.169140788	-0.170894992	-0.172587271	-0.174213067	-0.175768886	-0.177252277	-0.1786618	-0.179996984	-0.181258274	-0.182446973	-0.183565172	-0.184615673	-0.185601914	-0.186527876	-0.187397998	-0.188217085	-0.18899021	-0.189722621	-0.190419645	-0.191086595	-0.191728674	-0.192350888	-0.192957958
Sample	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	
Correction	-0.193554241	-0.194143651	-0.194729594	-0.195314903	-0.195901791	-0.196491799	-0.197085773	-0.197683836	-0.198285382	-0.198889081	-0.199492899	-0.200094128	-0.200689442	-0.201274962	-0.201846341	-0.202398875	-0.202927619	-0.203427543	-0.203893695	-0.204321393	-0.204706441	-0.20504537	-0.205335704	-0.205576252	-0.205767429	-0.205911608	-0.206013494	-0.206080541	-0.206123387	-0.206156332	-0.206197845	-0.206271106	-0.206404582	

166 GHz V

Sample	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Correction	-0.089689796	-0.070465244	-0.056038972	-0.045641536	-0.038585241	-0.034258402	-0.032119852	-0.031693688	-0.032564256	-0.03437136	-0.036805708	-0.039604568	-0.042547651	-0.045453189	-0.048174242	-0.050595184	-0.0526284	-0.054211166	-0.055302725	-0.055881532	-0.05594269	-0.055495543	-0.054561448	-0.053171703	-0.051365632	-0.049188825	-0.046691525	-0.043927149	-0.040950963	-0.03781887	-0.034586341	-0.031307461	-0.028034094	-0.024815159
Sample	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
Correction	-0.02169602	-0.018717971	-0.015917822	-0.013327582	-0.010974225	-0.008879538	-0.007060055	-0.005527056	-0.004286637	-0.003339848	-0.002682883	-0.002307327	-0.002200452	-0.002345553	-0.00272233	-0.003307298	-0.004074226	-0.004994605	-0.00603813	-0.007173197	-0.008367415	-0.009588113	-0.010802856	-0.011979948	-0.013088928	-0.014101051	-0.01498975	-0.015731066	-0.016304059	-0.016691175	-0.016878573	-0.016856418	-0.016619109	-0.016165463
Sample	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	
Correction	-0.015498838	-0.014627185	-0.013563041	-0.012323437	-0.010929733	-0.00940737	-0.007785525	-0.006096683	-0.0043761	-0.002661169	-0.000990672	0.000596079	0.002060217	0.003364425	0.004474166	0.005359042	0.005994303	0.006362488	0.006455218	0.006275143	0.005838051	0.005175127	0.004335399	0.003388337	0.002426646	0.001569229	0.00096435	0.000792977	0.001272332	0.002659639	0.00525608	0.009410963	0.015526106	

166 GHz H

Sample	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Correction	-0.141823757	-0.139867335	-0.138014804	-0.136245415	-0.13454041	-0.132882905	-0.131257775	-0.129651551	-0.128052313	-0.12644959	-0.124834266	-0.123198489	-0.12153558	-0.119839954	-0.118107035	-0.116333181	-0.114515612	-0.112652341	-0.110742101	-0.108784292	-0.106778913	-0.104726506	-0.102628108	-0.10048519	-0.098299619	-0.096073604	-0.093809658	-0.091510556	-0.089179295	-0.086819062	-0.084433198	-0.082025168	-0.07959853	-0.077156909
Sample	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257
Correction	-0.074703973	-0.072243407	-0.069778892	-0.067314087	-0.064852608	-0.062398011	-0.059953777	-0.057523298	-0.055109865	-0.05271665	-0.050346702	-0.048002933	-0.045688111	-0.043404846	-0.04115559	-0.038942624	-0.036768051	-0.034633795	-0.032541587	-0.030492967	-0.02848927	-0.026531629	-0.024620962	-0.022757968	-0.020943124	-0.019176675	-0.017458627	-0.015788743	-0.014166532	-0.012591239	-0.011061841	-0.009577033	-0.008135214	-0.006734483
Sample	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	
Correction	-0.005372618	-0.004047065	-0.002754921	-0.001492918	-0.000257404	0.000955677	0.00215081	0.003332926	0.004507434	0.005680246	0.006857803	0.008047111	0.009255775	0.010492028	0.011764778	0.013083644	0.014458997	0.015902011	0.017424709	0.019040013	0.020761801	0.022604961	0.024585455	0.026720379	0.02902803	0.03152798	0.034241143	0.037189857	0.040397962	0.043890886	0.047695729	0.051841361	0.056358512	

183 +/- 3

Sample	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233
Correction	-0.03719036	-0.051696137	-0.063383669	-0.072612501	-0.079708603	-0.084966616	-0.088651996	-0.091003071	-0.092232999	-0.092531636	-0.092067326	-0.090988592	-0.089425749	-0.087492437	-0.085287067	-0.082894197	-0.080385827	-0.077822617	-0.075255041	-0.072724459	-0.070264138	-0.067900185	-0.065652433	-0.06353526	-0.061558338	-0.05972734	-0.058044578	-0.05650959	-0.055119675	-0.053870381	-0.052755936	-0.051769638	-0.050904204	-0.050152065
Sample	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267
Correction	-0.049505635	-0.048957525	-0.048500736	-0.048128806	-0.04783593	-0.047617046	-0.047467895	-0.047385052	-0.047365934	-0.047408781	-0.047512623	-0.04767722	-0.047902994	-0.048190935	-0.048542505	-0.048959526	-0.049444054	-0.049998256	-0.050624274	-0.05132409	-0.052099387	-0.052951414	-0.053880848	-0.054887669	-0.055971037	-0.057129175	-0.058359268	-0.059657371	-0.061018337	-0.06243575	-0.063901893	-0.065407721	-0.066942866	-0.068495664
Sample	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	
Correction	-0.070053208	-0.071601428	-0.073125206	-0.074608517	-0.076034612	-0.077386229	-0.07864585	-0.079795991	-0.080819543	-0.081700148	-0.082422628	-0.082973459	-0.083341295	-0.083517547	-0.083497013	-0.083278565	-0.082865895	-0.082268322	-0.081501655	-0.080589129	-0.0795624	-0.07846261	-0.077341525	-0.07626274	-0.075302958	-0.074553353	-0.074120999	-0.074130386	-0.074725019	-0.076069094	-0.078349268	-0.081776506	-0.086588033	

183 +/- 7

Sample	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233
Correction	0.039804673	0.029271244	0.020245719	0.01263735	0.006353774	0.001301737	-0.002612231	-0.005481189	-0.007397217	-0.008450891	-0.008730806	-0.008323148	-0.007311303	-0.005775521	-0.003792609	-0.001435672	0.00122611	0.004127666	0.007208185	0.010411231	0.013684827	0.0169815	0.020258311	0.023476838	0.026603151	0.029607741	0.032465446	0.035155335	0.037660587	0.039968337	0.042069511	0.043958644	0.045633679	0.047095752
Sample	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267
Correction	0.048348973	0.049400179	0.050258697	0.050936083	0.05144586	0.051803256	0.052024927	0.052128688	0.052133237	0.052057878	0.051922253	0.051746071	0.051548846	0.051349634	0.051166789	0.051017718	0.050918651	0.050884424	0.050928271	0.051061637	0.051294004	0.051632733	0.052082926	0.052647315	0.053326165	0.054117202	0.055015572	0.056013818	0.057101894	0.058267196	0.059494642	0.060766764	0.062063849	0.063364108
Sample	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	
Correction	0.064643881	0.06587789	0.067039512	0.068101118	0.069034429	0.069810938	0.070402362	0.070781147	0.070921022	0.0707976	0.070389031	0.06967671	0.068646033	0.067287217	0.065596166	0.063575409	0.061235084	0.058593993	0.055680716	0.052534787	0.049207942	0.045765426	0.042287377	0.03887027	0.035628444	0.032695689	0.030226921	0.028399921	0.027417158	0.027507685	0.028929126	0.031969729	0.036950516	

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Vertical Gradient Contribution $\Delta T_{RF\text{-}base}$

Cold Conditions

HLTray Temp	HL Temp	HL Corr	Cold Temp	Cold Corr	Var Temp	Var Corr
203.3704	240.5785	-0.2567	89.0341	0.2161	90.6418	0.2155
203.5505	240.7095	-0.2564	88.8777	0.2167	100.4845	0.2111
204.3865	240.9672	-0.2528	89.1312	0.2205	125.0327	0.1959
205.9347	241.4043	-0.2457	89.11	0.2274	150.0275	0.167
208.5414	242.14	-0.2335	89.9932	0.2394	175.0162	0.1222
212.6939	243.8421	-0.2173	91.6742	0.2583	199.9829	0.0567
215.8379	245.3838	-0.2064	92.5334	0.2741	224.9058	-0.0485
223.6246	248.3281	-0.1724	94.062	0.3163	249.8188	-0.1701
232.117	252.6435	-0.1416	95.9823	0.3679	274.697	-0.3326
241.6824	258.3148	-0.1117	99.0676	0.4322	299.5316	-0.5386
252.0683	263.9988	-0.074	99.4943	0.5134	324.3074	-0.7906
259.382	268.5558	-0.0511	101.8461	0.5752	339.1517	-0.9614

Nominal Conditions

HLTray Tem	HL Temp	HL Corr	Cold Temp	Cold Corr	Var Temp	Var Corr
232.2423	253.2124	-0.145	96.267	0.3698	102.8479	0.366
233.2335	256.635	-0.163	96.5065	0.3761	125.1152	0.3541
234.5299	258.004	-0.1635	96.6169	0.3843	150.1055	0.3257
236.4166	258.9709	-0.1567	96.8617	0.3975	175.1013	0.2803
239.3256	260.8198	-0.1489	97.7001	0.4171	200.0855	0.2129
242.8337	262.4779	-0.135	98.3534	0.4429	225.0285	0.114
246.9511	264.8803	-0.1218	99.3687	0.4738	249.9493	-0.0214
253.5304	268.9552	-0.1022	102.5035	0.5248	274.8022	-0.1871
261.5138	274.1894	-0.0801	105.1018	0.5941	299.6398	-0.3925
270.6286	279.9243	-0.0521	108.829	0.6804	324.4263	-0.6432
275.563	283.1239	-0.0374	110.5219	0.7308	339.2605	-0.8266

Hot Conditions

HLTray Tem	HL Temp	HL Corr	Cold Temp	Cold Corr	Var Temp	Var Corr
257.6755	278.1948	-0.1416	104.9379	0.5613	106.5459	0.5607
258.1718	278.7348	-0.1419	104.6991	0.5657	127.2276	0.545
258.9248	279.1635	-0.1395	104.6761	0.572	147.8791	0.5204
260.6663	279.971	-0.1324	105.0345	0.5884	177.6173	0.4643
262.43	280.9718	-0.1266	106.9017	0.6029	198.1949	0.4057
265.263	282.1585	-0.1138	108.3368	0.6287	223.1607	0.3081
269.4139	284.5952	-0.1003	110.6091	0.6678	250.0901	0.1663
275.0013	288.2134	-0.0845	113.6798	0.7239	274.9397	0.0006
281.5091	293.1393	-0.0716	114.7653	0.7957	299.7782	-0.2085
288.9861	298.1543	-0.0511	118.3025	0.882	324.5681	-0.4643
294.0269	301.9297	-0.0403	120.4754	0.9437	339.4139	-0.6394

Residual Vertical Gradient Correction, Applied to Variable Target Temperature

Cold Conditions

10 GHz V			10 GHz H			18 GHz V			18 GHz H			23 GHz V			36 GHz V			36 GHz H		
Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-0.0004	0.0008	0.0023	-0.0004	0.0013	0.0002	-0.001	0.0002	-0.0009	-0.0018	-0.0001	-0.0004	-0.0001	-0.001	-0.0011	-0.0002	-0.0005	0.0002	-0.0011	-0.0001	0.001
-0.0021	0.0054	0.0159	-0.0029	0.0101	0.0019	-0.0087	0.0013	-0.0076	-0.0126	-0.0005	-0.0033	-0.0016	-0.0078	-0.0092	-0.0015	-0.0039	0.0016	-0.0089	-0.0004	0.0083
-0.0006	0.0132	0.04	-0.0044	0.0255	0.0087	-0.0198	0.0004	-0.0179	-0.0275	-0.0023	-0.0077	-0.0047	-0.0179	-0.0207	-0.0008	-0.0099	0.0043	-0.0169	0.0013	0.0212
0.0057	0.0168	0.0526	-0.0016	0.033	0.0168	-0.0225	-0.0036	-0.0214	-0.03	-0.0044	-0.0091	-0.0068	-0.0203	-0.0232	0.0031	-0.0129	0.0057	-0.0139	0.0048	0.0277
0.0122	0.0165	0.0533	0.0027	0.033	0.0226	-0.0193	-0.0078	-0.0195	-0.0241	-0.0058	-0.0082	-0.0075	-0.0174	-0.0194	0.0074	-0.013	0.0058	-0.0056	0.0081	0.0278
0.0152	0.0131	0.0436	0.0058	0.0267	0.023	-0.0129	-0.0098	-0.0142	-0.0147	-0.0059	-0.0059	-0.0066	-0.0116	-0.0125	0.0096	-0.0105	0.0048	0.0023	0.0093	0.0226
0.0114	0.0071	0.0243	0.0053	0.0148	0.0155	-0.0055	-0.0075	-0.0069	-0.0054	-0.004	-0.0028	-0.004	-0.005	-0.0051	0.0073	-0.0058	0.0027	0.0053	0.0067	0.0126
-0.0016	-0.0005	-0.0024	-0.0006	-0.0008	-0.0015	0.0004	0.0006	0.0005	0.0002	0.0003	0.0002	0.0004	0.0002	0.0003	-0.001	0.0004	-0.0003	-0.0009	-0.0006	-0.0011
-0.0235	-0.009	-0.0331	-0.0119	-0.0185	-0.0268	0.0033	0.0147	0.0066	0	0.0068	0.0026	0.0061	0.0028	0.002	-0.0152	0.0076	-0.0037	-0.0173	-0.0127	-0.0165
-0.0547	-0.0175	-0.066	-0.029	-0.0369	-0.0596	0.0028	0.0338	0.0111	-0.0068	0.0151	0.0041	0.013	0.0023	-0.0003	-0.0354	0.0151	-0.0076	-0.0443	-0.029	-0.0327
-0.093	-0.0258	-0.0995	-0.0509	-0.0555	-0.0981	-0.0011	0.0578	0.0136	-0.0197	0.025	0.0047	0.0207	-0.0013	-0.0062	-0.0604	0.0228	-0.0115	-0.0805	-0.0491	-0.0491
-0.1167	-0.0304	-0.1197	-0.0646	-0.0659	-0.1232	-0.0047	0.0732	0.0142	-0.0292	0.0313	0.0047	0.0252	-0.0047	-0.0114	-0.0759	0.0272	-0.0139	-0.104	-0.0619	-0.0588

Nominal Conditions

10 GHz V			10 GHz H			18 GHz V			18 GHz H			23 GHz V			36 GHz V			36 GHz H		
Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
0.0024	-0.0055	0.0031	0.0088	0.0056	0.0092	-0.0032	-0.0059	-0.0068	0.0027	-0.0021	-0.0024	0.0026	0.0022	-0.0013	-0.0045	-0.0006	-0.0026	-0.0021	0.0019	-0.0008
0.0083	-0.0163	0.0112	0.0315	0.0193	0.0298	-0.0157	-0.0225	-0.0262	0.0072	-0.0086	-0.0091	0.0084	0.005	-0.0059	-0.0149	-0.0016	-0.0097	-0.0045	0.008	-0.001
0.0117	-0.0186	0.0167	0.0424	0.0261	0.0361	-0.029	-0.0341	-0.0391	0.0056	-0.0139	-0.014	0.0091	0.0015	-0.0106	-0.018	-0.0013	-0.014	-0.0007	0.0131	0.0021
0.0124	-0.0142	0.0185	0.0419	0.0258	0.0305	-0.0383	-0.0385	-0.0434	0.0005	-0.0168	-0.016	0.0062	-0.0052	-0.0138	-0.015	-0.0003	-0.0151	0.0062	0.0159	0.0064
0.0108	-0.0072	0.017	0.0337	0.021	0.0194	-0.0409	-0.0359	-0.0399	-0.0048	-0.0167	-0.0151	0.0022	-0.011	-0.0145	-0.0093	0.0007	-0.0135	0.012	0.0159	0.0096
0.0075	-0.0008	0.0125	0.0213	0.0134	0.0077	-0.0345	-0.0271	-0.0295	-0.0075	-0.0133	-0.0115	-0.0011	-0.0129	-0.0121	-0.0034	0.0013	-0.0096	0.0136	0.0128	0.01
0.0032	0.0016	0.0057	0.0081	0.0052	0.0005	-0.0175	-0.0127	-0.0134	-0.0052	-0.0066	-0.0054	-0.0017	-0.0081	-0.0061	0	0.001	-0.0042	0.0083	0.0063	0.0058
-0.0015	-0.0016	-0.0027	-0.0028	-0.0017	0.001	0.0091	0.0054	0.0061	0.0031	0.0029	0.0025	0.0013	0.0043	0.003	-0.0007	-0.0006	0.0019	-0.0049	-0.0029	-0.0032
-0.0064	-0.011	-0.012	-0.0104	-0.0066	0.0101	0.0454	0.026	0.0278	0.0181	0.0146	0.0116	0.0085	0.0244	0.0151	-0.0062	-0.0034	0.0083	-0.0268	-0.0144	-0.017
-0.0109	-0.0274	-0.0224	-0.0137	-0.0092	0.0289	0.0888	0.0493	0.052	0.0388	0.0287	0.0222	0.0196	0.0527	0.0303	-0.0164	-0.0076	0.0149	-0.056	-0.0285	-0.036
-0.0138	-0.0411	-0.0292	-0.0135	-0.0095	0.0457	0.1213	0.0648	0.0678	0.0554	0.0386	0.0293	0.0288	0.0743	0.0412	-0.0256	-0.0108	0.0191	-0.0788	-0.0383	-0.0505

Hot Conditions

10 GHz V			10 GHz H			18 GHz V			18 GHz H			23 GHz V			36 GHz V			36 GHz H		
Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
0.0013	0.0012	0.0013	0.0009	0.0005	0.0021	-0.0004	-0.0006	-0.0009	0	-0.0012	-0.0011	0	-0.0017	-0.0008	-0.0006	-0.0008	-0.0003	-0.0011	-0.0016	-0.0012
0.0166	0.0144	0.0146	0.0176	0.0069	0.0318	-0.013	-0.0143	-0.0199	-0.0034	-0.0194	-0.0212	-0.0026	-0.0342	-0.0191	-0.0123	-0.0119	-0.0053	-0.0233	-0.0233	-0.0239
0.0268	0.0243	0.019	0.0262	0.0099	0.0447	-0.0242	-0.0297	-0.0337	-0.0115	-0.0329	-0.0335	-0.0079	-0.0523	-0.0308	-0.0174	-0.0169	-0.0082	-0.031	-0.0318	-0.0357
0.0336	0.0325	0.0152	0.0281	0.0098	0.043	-0.036	-0.0496	-0.0446	-0.0257	-0.0442	-0.04	-0.0169	-0.0592	-0.0381	-0.0168	-0.0165	-0.0097	-0.0256	-0.0284	-0.0386
0.0336	0.0339	0.0091	0.0245	0.0079	0.0337	-0.0399	-0.0582	-0.0462	-0.0339	-0.0462	-0.0386	-0.0219	-0.0546	-0.0377	-0.013	-0.0131	-0.0093	-0.0158	-0.0202	-0.0342
0.0292	0.0311	0.001	0.0175	0.0048	0.0187	-0.039	-0.0605	-0.0418	-0.0382	-0.0424	-0.0319	-0.0244	-0.042	-0.0321	-0.0072	-0.0075	-0.0076	-0.0033	-0.0082	-0.0246
0.0198	0.0225	-0.0045	0.0089	0.0016	0.0047	-0.0299	-0.0489	-0.0298	-0.0328	-0.0308	-0.0205	-0.0208	-0.0246	-0.0215	-0.0018	-0.0022	-0.0048	0.0059	0.0016	-0.0129
0.0081	0.0101	-0.0039	0.0026	0	-0.0012	-0.0137	-0.024	-0.0131	-0.0163	-0.0139	-0.0081	-0.0101	-0.0088	-0.0088	0.0005	0.0003	-0.0018	0.0056	0.0035	-0.0039
-0.0053	-0.0058	0.0035	-0.0008	0.0003	0.0023	0.0091	0.014	0.0076	0.0113	0.0075	0.0042	0.0073	0.0038	0.0049	-0.0011	-0.0008	0.001	-0.0054	-0.0034	0.0014
-0.0202	-0.0255	0.019	-0.0005	0.0028	0.0173	0.0386	0.0665	0.0329	0.0509	0.0339	0.0166	0.0323	0.0123	0.0199	-0.0071	-0.006	0.0036	-0.0286	-0.0209	0.002
-0.0292	-0.0379	0.0314	0.0015	0.0053	0.0311	0.0584	0.1024	0.0485	0.0788	0.0506	0.0231	0.0498	0.0148	0.0285	-0.0127	-0.011	0.005	-0.0477	-0.0358	-0.0001

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Appendix U: On-orbit Nonlinearity Parameter "u"

Non-linearity parameter "u" 10 GHz through 36 GHz

Rcvr	10 GHz V			10 GHz H			18 GHz V			18 GHz H			23 GHz V			36 GHz V			36 GHz H		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-6.646E-06	-8.455E-06	-8.489E-06	-7.507E-06	-8.864E-06	-1.13015E-05	-1.60712E-06	-2.02E-06	-1.2924E-06	4.40412E-07	9.944E-07	2.94246E-06	2.467E-06	2.973E-06	5.91501E-06	-2.63589E-05	-3.163E-05	-2.8007E-05	-2.3221E-05	-2.965E-05	-2.59383E-05
-9	-6.606E-06	-8.358E-06	-8.367E-06	-7.354E-06	-8.741E-06	-1.10725E-05	-1.58366E-06	-1.96E-06	-1.27821E-06	4.59496E-07	1.070E-06	2.98551E-06	2.351E-06	2.924E-06	5.9189E-06	-2.61263E-05	-3.140E-05	-2.75851E-05	-2.30738E-05	-2.945E-05	-2.54565E-05
-8	-6.564E-06	-8.262E-06	-8.246E-06	-7.205E-06	-8.619E-06	-1.08475E-05	-1.56016E-06	-1.89E-06	-1.26337E-06	4.78669E-07	1.145E-06	3.02834E-06	2.23998E-06	2.876E-06	5.92072E-06	-2.58942E-05	-3.117E-05	-2.71711E-05	-2.29253E-05	-2.925E-05	-2.49857E-05
-7	-6.520E-06	-8.166E-06	-8.125E-06	-7.058E-06	-8.498E-06	-1.06264E-05	-1.53663E-06	-1.83E-06	-1.2479E-06	4.97931E-07	1.218E-06	3.07095E-06	2.13395E-06	2.829E-06	5.92045E-06	-2.56625E-05	-3.094E-05	-2.67648E-05	-2.27753E-05	-2.904E-05	-2.45258E-05
-6	-6.476E-06	-8.070E-06	-8.006E-06	-6.913E-06	-8.377E-06	-1.04092E-05	-1.51307E-06	-1.77E-06	-1.23179E-06	5.17283E-07	1.290E-06	3.11333E-06	2.03291E-06	2.782E-06	5.91811E-06	-2.54313E-05	-3.071E-05	-2.63664E-05	-2.26238E-05	-2.884E-05	-2.4077E-05
-5	-6.430E-06	-7.975E-06	-7.888E-06	-6.772E-06	-8.257E-06	-1.01959E-05	-1.48948E-06	-1.71E-06	-1.21504E-06	5.36725E-07	1.361E-06	3.1555E-06	1.93685E-06	2.736E-06	5.9137E-06	-2.52005E-05	-3.048E-05	-2.59758E-05	-2.24709E-05	-2.863E-05	-2.36391E-05
-4	-6.382E-06	-7.880E-06	-7.771E-06	-6.632E-06	-8.138E-06	-9.98659E-06	-1.46586E-06	-1.65E-06	-1.19765E-06	5.56256E-07	1.430E-06	3.19744E-06	1.84579E-06	2.691E-06	5.90721E-06	-2.49702E-05	-3.025E-05	-2.55931E-05	-2.23165E-05	-2.842E-05	-2.32122E-05
-3	-6.334E-06	-7.786E-06	-7.654E-06	-6.496E-06	-8.020E-06	-9.7812E-06	-1.44221E-06	-1.59E-06	-1.17962E-06	5.75877E-07	1.498E-06	3.23915E-06	1.7597E-06	2.647E-06	5.89864E-06	-2.47403E-05	-3.001E-05	-2.52181E-05	-2.21607E-05	-2.821E-05	-2.27963E-05
-2	-6.284E-06	-7.692E-06	-7.539E-06	-6.362E-06	-7.902E-06	-9.57974E-06	-1.41853E-06	-1.54E-06	-1.16095E-06	5.95588E-07	1.565E-06	3.28065E-06	1.67861E-06	2.603E-06	5.888E-06	-2.45108E-05	-2.977E-05	-2.4851E-05	-2.20035E-05	-2.800E-05	-2.23914E-05
-1	-6.233E-06	-7.598E-06	-7.425E-06	-6.230E-06	-7.786E-06	-9.38221E-06	-1.39483E-06	-1.48E-06	-1.14164E-06	6.15388E-07	1.631E-06	3.32192E-06	1.6025E-06	2.561E-06	5.87528E-06	-2.42818E-05	-2.954E-05	-2.44917E-05	-2.18448E-05	-2.779E-05	-2.19975E-05
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7	-5.774E-06	-6.861E-06	-6.547E-06	-5.272E-06	-6.878E-06	-7.94351E-06	-1.20407E-06	-1.06E-06	-9.64193E-07	7.77014E-07	2.111E-06	3.64408E-06	1.1732E-06	2.245E-06	5.69881E-06	-2.24657E-05	-2.758E-05	-2.18986E-05	-2.05233E-05	-2.604E-05	-1.92414E-05
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23	-4.602E-06	-5.458E-06	-4.982E-06	-3.854E-06	-5.205E-06	-5.821E-06	-8.16792E-07	-3.93E-07	-4.86637E-07	1.11747E-06	2.827E-06	4.24565E-06	1.27215E-06	1.757E-06	4.94731E-06	-1.89187E-05	-2.343E-05	-1.82138E-05	-1.7603E-05	-2.232E-05	-1.58381E-05
24	-4.517E-06	-5.373E-06	-4.893E-06	-3.788E-06	-5.107E-06	-5.72176E-06	-7.92331E-07	-3.59E-07	-4.5136E-07	1.13951E-06	2.861E-06	4.28136E-06	1.32073E-06	1.733E-06	4.8827E-06	-1.87008E-05	-2.316E-05	-1.80499E-05	-1.74082E-05	-2.207E-05	-1.57188E-05
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27	-4.255E-06	-5.122E-06	-4.631E-06	-3.604E-06	-4.816E-06	-5.44764E-06	-7.1877E-07	-2.61E-07	-3.41694E-07	1.20617E-06	2.956E-06	4.38714E-06	1.49638E-06	1.665E-06	4.67641E-06	-1.80497E-05	-2.234E-05	-1.76053E-05	-1.68151E-05	-2.133E-05	-1.54266E-05
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31	-3.887E-06	-4.792E-06	-4.295E-06	-3.394E-06	-4.440E-06	-5.13719E-06	-6.20266E-07	-1.42E-07	-1.8653E-07	1.2963E-06	3.064E-06	4.52507E-06	1.80041E-06	1.585E-06	4.37229E-06	-1.71878E-05	-2.122E-05	-1.71219E-05	-1.60042E-05	-2.033E-05	-1.51909E-05
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38	-3.193E-06	-4.228E-06	-3.746E-06	-3.128E-06	-3.809E-06	-4.74526E-06	-4.46728E-07	3.16E-08	1.09602E-07	1.45748E-06	3.205E-06	4.75786E-06	2.52447E-06	1.474E-06	3.76017E-06	-1.56965E-05	-1.922E-05	-1.6577E-05	-1.45293E-05	-1.853E-05	-1.52013E-05
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40	-2.982E-06	-4.071E-06	-3.598E-06	-3.076E-06	-3.636E-06	-4.66867E-06	-3.96876E-07	7.34E-08	1.99961E-07	1.50433E-06	3.234E-06	4.82237E-06	2.77623E-06	1.449E-06	3.56659E-06	-1.52744E-05	-1.864E-05	-1.64917E-05	-1.4095E-05	-1.800E-05	-1.53031E-05
41	-2.875E-06	-3.992E-06	-3.526E-06	-3.053E-06	-3.550E-06	-4.63627E-06	-3.71904E-07	9.30E-08	2.46099E-07	1.5279E-06	3.247E-06	4.85429E-06	2.90959E-06	1.438E-06	3.46669E-06	-1.50641E-05	-1.835E-05	-1.64608E-05	-1.38756E-05	-1.774E-05	-1.53705E-05
42	-2.766E-06	-3.914E-06	-3.454E-06	-3.033E-06	-3.465E-06	-4.6078E-06	-3.46903E-07	1.12E-07	2.92875E-07	1.55155E-06	3.258E-06	4.88599E-06	3.04794E-06	1.427E-06	3.36472E-06	-1.48541E-05	-1.805E-05	-1.64377E-05	-1.36548E-05	-1.747E-05	-1.54489E-05
43	-2.656E-06	-3.837E-06	-3.384E-06	-3.016E-06	-3.381E-06	-4.58327E-06	-3.21871E-07	1.30E-07	3.40291E-07	1.57529E-06	3.268E-06	4.91747E-06	3.19127E-06	1.417E-06	3.26066E-06	-1.46446E-05	-1.776E-05	-1.64224E-05	-1.34326E-05	-1.720E-05	-1.55382E-05
44	-2.545E-06	-3.760E-06	-3.315E-06	-3.001E-06	-3.298E-06	-4.56267E-06	-2.96809E-07	1.47E-07	3.88345E-07	1.59912E-06	3.277E-06	4.94872E-06	3.3396E-06	1.408E-06	3.15454E-06	-1.44356E-05	-1.746E-05	-1.64149E-05	-1.32089E-05	-1.694E-05	-1.56386E-05
45	-2.432E-06	-3.683E-06	-3.246E-06	-2.989E-06	-3.215E-06	-4.54599E-06	-2.71717E-07	1.63E-07	4.37038E-07	1.62305E-06	3.284E-06	4.97975E-06	3.49291E-06	1.400E-06	3.04633E-06	-1.4227E-05	-1.716E-05	-1.64153E-05	-1.29837E-05	-1.667E-05	-1.57499E-05

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Non-linearity parameter "u" 89 GHz through 166 GHz

NOTE: Uses the receiver temperature for the 89 GHz and Mixer Temperature for 166 GHz and 183 GHz

Rcvr/Mixer	89 GHz V†			89 GHz H†			166 GHz V			166 GHz H			183 +/- 3 GHz†			183 +/- 7 GHz		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-2.184E-05	-2.410E-05	-1.565E-05	-2.298E-05	-2.940E-05	-2.031E-05	-1.90219E-05	-2.34434E-05	-2.14211E-05	-1.28329E-05	-1.61728E-05	-1.43104E-05	-3.020E-05	-1.893E-05	-2.557E-05	-2.54617E-05	-2.23558E-05	-2.98384E-05
-9	-2.150E-05	-2.397E-05	-1.608E-05	-2.273E-05	-2.922E-05	-2.056E-05	-1.89147E-05	-2.25569E-05	-2.10391E-05	-1.29521E-05	-1.56652E-05	-1.42222E-05	-2.994E-05	-1.924E-05	-2.504E-05	-2.5194E-05	-2.23786E-05	-2.92805E-05
-8	-2.116E-05	-2.384E-05	-1.650E-05	-2.248E-05	-2.902E-05	-2.079E-05	-1.88025E-05	-2.16983E-05	-2.06656E-05	-1.30615E-05	-1.51699E-05	-1.41308E-05	-2.969E-05	-1.955E-05	-2.452E-05	-2.49276E-05	-2.23926E-05	-2.87332E-05
-7	-2.083E-05	-2.371E-05	-1.691E-05	-2.224E-05	-2.883E-05	-2.101E-05	-1.86856E-05	-2.08677E-05	-2.03006E-05	-1.3161E-05	-1.46868E-05	-1.40363E-05	-2.943E-05	-1.983E-05	-2.401E-05	-2.46626E-05	-2.23978E-05	-2.81966E-05
-6	-2.051E-05	-2.357E-05	-1.729E-05	-2.200E-05	-2.863E-05	-2.123E-05	-1.85637E-05	-2.00651E-05	-1.99442E-05	-1.32508E-05	-1.4216E-05	-1.39386E-05	-2.918E-05	-2.010E-05	-2.352E-05	-2.43988E-05	-2.23941E-05	-2.76705E-05
-5	-2.020E-05	-2.344E-05	-1.767E-05	-2.177E-05	-2.843E-05	-2.143E-05	-1.8437E-05	-1.92904E-05	-1.95963E-05	-1.33308E-05	-1.37574E-05	-1.38377E-05	-2.892E-05	-2.036E-05	-2.304E-05	-2.41364E-05	-2.23816E-05	-2.71551E-05
-4	-1.989E-05	-2.330E-05	-1.802E-05	-2.154E-05	-2.823E-05	-2.162E-05	-1.83055E-05	-1.85437E-05	-1.9257E-05	-1.34009E-05	-1.3311E-05	-1.37337E-05	-2.867E-05	-2.060E-05	-2.258E-05	-2.38753E-05	-2.23603E-05	-2.66503E-05
-3	-1.959E-05	-2.316E-05	-1.836E-05	-2.132E-05	-2.802E-05	-2.180E-05	-1.81691E-05	-1.7825E-05	-1.89262E-05	-1.34613E-05	-1.28768E-05	-1.36265E-05	-2.841E-05	-2.082E-05	-2.212E-05	-2.36156E-05	-2.23302E-05	-2.61561E-05
-2	-1.930E-05	-2.302E-05	-1.869E-05	-2.111E-05	-2.781E-05	-2.197E-05	-1.80279E-05	-1.71342E-05	-1.8604E-05	-1.35118E-05	-1.24549E-05	-1.35162E-05	-2.816E-05	-2.103E-05	-2.168E-05	-2.33571E-05	-2.22912E-05	-2.56726E-05
-1	-1.902E-05	-2.287E-05	-1.900E-05	-2.090E-05	-2.760E-05	-2.213E-05	-1.78818E-05	-1.64714E-05	-1.82903E-05	-1.35525E-05	-1.20452E-05	-1.34026E-05	-2.791E-05	-2.123E-05	-2.125E-05	-2.31E-05	-2.22435E-05	-2.51997E-05
0	-1.875E-05	-2.273E-05	-1.930E-05	-2.070E-05	-2.738E-05	-2.228E-05	-1.77308E-05	-1.58366E-05	-1.79851E-05	-1.35834E-05	-1.16478E-05	-1.32859E-05	-2.765E-05	-2.141E-05	-2.084E-05	-2.28442E-05	-2.21869E-05	-2.47374E-05
1	-1.848E-05	-2.258E-05	-1.958E-05	-2.050E-05	-2.717E-05	-2.242E-05	-1.75751E-05	-1.52297E-05	-1.76885E-05	-1.36046E-05	-1.12626E-05	-1.31661E-05	-2.740E-05	-2.157E-05	-2.044E-05	-2.25897E-05	-2.21215E-05	-2.42857E-05
2	-1.822E-05	-2.243E-05	-1.984E-05	-2.030E-05	-2.694E-05	-2.255E-05	-1.74144E-05	-1.46508E-05	-1.74004E-05	-1.36159E-05	-1.08896E-05	-1.30431E-05	-2.715E-05	-2.172E-05	-2.005E-05	-2.23365E-05	-2.20472E-05	-2.38446E-05
3	-1.797E-05	-2.228E-05	-2.009E-05	-2.012E-05	-2.672E-05	-2.267E-05	-1.72489E-05	-1.40999E-05	-1.71209E-05	-1.36174E-05	-1.05288E-05	-1.29169E-05	-2.690E-05	-2.185E-05	-1.967E-05	-2.20846E-05	-2.19642E-05	-2.34142E-05
4	-1.772E-05	-2.213E-05	-2.032E-05	-1.994E-05	-2.650E-05	-2.277E-05	-1.70786E-05	-1.35769E-05	-1.68499E-05	-1.36091E-05	-1.01803E-05	-1.27875E-05	-2.665E-05	-2.197E-05	-1.930E-05	-2.18341E-05	-2.18723E-05	-2.29944E-05
5	-1.749E-05	-2.198E-05	-2.054E-05	-1.976E-05	-2.627E-05	-2.287E-05	-1.69034E-05	-1.30819E-05	-1.65875E-05	-1.35909E-05	-9.84396E-06	-1.2655E-05	-2.639E-05	-2.207E-05	-1.895E-05	-2.15849E-05	-2.17716E-05	-2.25852E-05
6	-1.726E-05	-2.183E-05	-2.074E-05	-1.959E-05	-2.604E-05	-2.296E-05	-1.67233E-05	-1.26149E-05	-1.63336E-05	-1.3563E-05	-9.51988E-06	-1.25193E-05	-2.614E-05	-2.216E-05	-1.862E-05	-2.1337E-05	-2.16621E-05	-2.21867E-05
7	-1.704E-05	-2.167E-05	-2.093E-05	-1.943E-05	-2.580E-05	-2.303E-05	-1.65384E-05	-1.21759E-05	-1.60882E-05	-1.35253E-05	-9.20804E-06	-1.23805E-05	-2.589E-05	-2.223E-05	-1.829E-05	-2.10904E-05	-2.15438E-05	-2.17987E-05
8	-1.682E-05	-2.151E-05	-2.110E-05	-1.927E-05	-2.556E-05	-2.310E-05	-1.63486E-05	-1.17648E-05	-1.58514E-05	-1.34777E-05	-8.90844E-06	-1.22385E-05	-2.564E-05	-2.229E-05	-1.798E-05	-2.08451E-05	-2.14166E-05	-2.14214E-05
9	-1.662E-05	-2.135E-05	-2.126E-05	-1.911E-05	-2.532E-05	-2.316E-05	-1.6154E-05	-1.13817E-05	-1.56231E-05	-1.34204E-05	-8.62106E-06	-1.20933E-05	-2.539E-05	-2.233E-05	-1.768E-05	-2.06012E-05	-2.12807E-05	-2.10547E-05
10	-1.642E-05	-2.119E-05	-2.140E-05	-1.897E-05	-2.508E-05	-2.320E-05	-1.59546E-05	-1.10265E-05	-1.54034E-05	-1.33532E-05	-8.34591E-06	-1.19449E-05	-2.514E-05	-2.236E-05	-1.739E-05	-2.03586E-05	-2.11359E-05	-2.06987E-05
11	-1.623E-05	-2.103E-05	-2.152E-05	-1.882E-05	-2.483E-05	-2.323E-05	-1.57502E-05	-1.06993E-05	-1.51922E-05	-1.32763E-05	-8.083E-06	-1.17934E-05	-2.490E-05	-2.237E-05	-1.712E-05	-2.01173E-05	-2.09823E-05	-2.03532E-05
12	-1.605E-05	-2.086E-05	-2.163E-05	-1.869E-05	-2.459E-05	-2.326E-05	-1.55411E-05	-1.04001E-05	-1.49896E-05	-1.31895E-05	-7.83231E-06	-1.16387E-05	-2.465E-05	-2.236E-05	-1.685E-05	-1.98773E-05	-2.08199E-05	-2.00184E-05
13	-1.587E-05	-2.070E-05	-2.173E-05	-1.856E-05	-2.434E-05	-2.327E-05	-1.53271E-05	-1.01289E-05	-1.47955E-05	-1.30929E-05	-7.59386E-06	-1.14809E-05	-2.440E-05	-2.234E-05	-1.661E-05	-1.96386E-05	-2.06486E-05	-1.96942E-05
14	-1.570E-05	-2.053E-05	-2.181E-05	-1.843E-05	-2.408E-05	-2.327E-05	-1.51082E-05	-9.88563E-06	-1.46099E-05	-1.29866E-05	-7.36764E-06	-1.13199E-05	-2.415E-05	-2.231E-05	-1.637E-05	-1.94013E-05	-2.04685E-05	-1.93807E-05
15	-1.555E-05	-2.036E-05	-2.187E-05	-1.831E-05	-2.382E-05	-2.327E-05	-1.48845E-05	-9.67033E-06	-1.44329E-05	-1.28704E-05	-7.15365E-06	-1.11557E-05	-2.390E-05	-2.226E-05	-1.615E-05	-1.91652E-05	-2.02796E-05	-1.90777E-05
16	-1.539E-05	-2.019E-05	-2.192E-05	-1.820E-05	-2.356E-05	-2.325E-05	-1.46559E-05	-9.483E-06	-1.42644E-05	-1.27444E-05	-6.95189E-06	-1.09883E-05	-2.366E-05	-2.219E-05	-1.594E-05	-1.89305E-05	-2.00819E-05	-1.87854E-05
17	-1.525E-05	-2.002E-05	-2.195E-05	-1.809E-05	-2.330E-05	-2.322E-05	-1.44225E-05	-9.32363E-06	-1.41045E-05	-1.26086E-05	-6.76236E-06	-1.08178E-05	-2.341E-05	-2.211E-05	-1.574E-05	-1.86971E-05	-1.98754E-05	-1.85037E-05
18	-1.511E-05	-1.984E-05	-2.197E-05	-1.799E-05	-2.304E-05	-2.318E-05	-1.41842E-05	-9.19223E-06	-1.39531E-05	-1.24629E-05	-6.58506E-06	-1.06441E-05	-2.316E-05	-2.201E-05	-1.555E-05	-1.8465E-05	-1.96601E-05	-1.82327E-05
19	-1.499E-05	-1.967E-05	-2.197E-05	-1.789E-05	-2.277E-05	-2.313E-05	-1.39411E-05	-9.08881E-06	-1.38103E-05	-1.23075E-05	-6.42E-06	-1.04673E-05	-2.292E-05	-2.190E-05	-1.538E-05	-1.82343E-05	-1.94359E-05	-1.79722E-05
20	-1.487E-05	-1.949E-05	-2.195E-05	-1.780E-05	-2.250E-05	-2.307E-05	-1.36931E-05	-9.01335E-06	-1.3676E-05	-1.21423E-05	-6.26716E-06	-1.02873E-05	-2.267E-05	-2.177E-05	-1.522E-05	-1.80049E-05	-1.92029E-05	-1.77224E-05
21	-1.475E-05	-1.931E-05	-2.192E-05	-1.771E-05	-2.222E-05	-2.300E-05	-1.34402E-05	-8.96585E-06	-1.35502E-05	-1.19672E-05	-6.12656E-06	-1.01041E-05	-2.243E-05	-2.163E-05	-1.508E-05	-1.77767E-05	-1.89611E-05	-1.74832E-05
22	-1.465E-05	-1.913E-05	-2.188E-05	-1.763E-05	-2.195E-05	-2.292E-05	-1.31826E-05	-8.94633E-06	-1.3433E-05	-1.17824E-05	-5.99819E-06	-9.91777E-06	-2.218E-05	-2.147E-05	-1.494E-05	-1.75499E-05	-1.87105E-05	-1.72546E-05
23	-1.455E-05	-1.895E-05	-2.182E-05	-1.756E-05	-2.167E-05	-2.283E-05	-1.292E-05	-8.95478E-06	-1.33243E-05	-1.15877E-05	-5.88204E-06	-9.72826E-06	-2.194E-05	-2.130E-05	-1.482E-05	-1.73245E-05	-1.8451E-05	-1.70367E-05
24	-1.446E-05	-1.876E-05	-2.174E-05	-1.749E-05	-2.139E-05	-2.272E-05	-1.26526E-05	-8.99119E-06	-1.32242E-05	-1.13833E-05	-5.77813E-06	-9.53559E-06	-2.169E-05	-2.111E-05	-1.472E-05	-1.71003E-05	-1.81827E-05	-1.68294E-05
25	-1.438E-05	-1.858E-05	-2.165E-05	-1.742E-05	-2.110E-05	-2.261E-05	-1.23804E-05	-9.05558E-06	-1.31326E-05	-1.1169E-05	-5.68646E-06	-9.33975E-06	-2.145E-05	-2.091E-05	-1.462E-05	-1.68775E-05	-1.79057E-05	-1.66327E-05
26	-1.430E-05	-1.839E-05	-2.155E-05	-1.736E-05	-2.081E-05	-2.249E-05	-1.21033E-05	-9.14793E-06	-1.30496E-05	-1.09449E-05	-5.60701E-06	-9.14074E-06	-2.120E-05	-2.069E-05	-1.454E-05	-1.66559E-05	-1.76197E-05	-1.64466E-05
27	-1.424E-05	-1.820E-05	-2.142E-05	-1.731E-05	-2.052E-05	-2.235E-05	-1.18213E-05	-9.26825E-06	-1.29751E-05	-1.07111E-05	-5.53979E-06	-8.93857E-06	-2.096E-05	-2.046E-05	-1.447E-05	-1.64357E-05	-1.7325E-05	-1.62712E-05
28	-1.418E-05	-1.801E-05	-2.129E-05	-1.727E-05	-2.023E-05	-2.221E-05	-1.15345E-05	-9.41654E-06	-1.29091E-05	-1.04674E-05	-5.48481E-06	-8.73323E-06	-2.072E-05	-2.021E-05	-1.441E-05	-1.62168E-05	-1.70215E-05	-1.61063E-05
29	-1.413E-05	-1.782E-05	-2.113E-05	-1.722E-05	-1.993E-05	-2.206E-05	-1.12429E-05	-9.59279E-06	-1.28517E-05	-1.02139E-05	-5.44205E-06	-8.52473E-06	-2.048E-05	-1.994E-05	-1.437E-05	-1.59993E-05	-1.67091E-05	-1.59521E-05
30	-1.408E-05	-1.762E-05	-2.096E-05	-1.719E-05	-1.963E-05	-2.189E-05	-1.09464E-05	-9.79702E-06	-1.28028E-05	-9.95057E-06	-5.41153E-06	-8.31306E-06	-2.023E-05	-1.966E-05	-1.434E-05	-1.5783E-05	-1.63879E-05	-1.58085E-05
31	-1.405E-05	-1.743E-05	-2.078E-05	-1.716E-05	-1.933E-05	-2.172E-05	-1.0645E-05	-1.00292E-05	-1.27625E-05	-9.67745E-06	-5.39324E-06	-8.09822E-06	-1.999E-05	-1.937E-05	-1.432E-05	-1.55681E-05	-1.60579E-05	-1.56756E-05
32	-1.402E-05	-1.723E-05	-2.058E-05	-1.713E-05	-1.903E-05	-2.153E-05	-1.03388E-05	-1.02894E-05	-1.27307E-05	-9.39453E-06	-5.38718E-06	-7.88022E-06	-1.975E-05	-1.906E-05	-1.432E-05	-1.53545E-05	-1.57191E-05	-1.55533E-05
33	-1.400E-05	-1.703E-05	-2.037E-05	-1.711E-05	-1.872E-05	-2.133E-05	-1.00278E-05	-1.05775E-05	-1.27075E-05	-9.1018E-06	-5.39335E-06	-7.65905E-06	-1.951E-05	-1.873E-05	-1.432E-05	-1.51422E-05	-1.53714E-05	-1.54416E-05
34	-1.399E-05	-1.683E-05	-2.013E-05	-1.710E-05	-1.841E-05	-2.113E-05	-9.71187E-06	-1.08936E-05	-1.26928E-05	-8.79927E-06	-5.41175E-06	-7.43472E-06	-1.927E-05	-1.839E-05	-1.435E-05	-1.49312E-05	-1.50149E-05	-1.53405E-05
35	-1.398E-05	-1.663E-05	-1.989E-05	-1.709E-05	-1.810E-05	-2.091E-05	-9.39111E-06	-1.12377E-05	-1.26866E-05	-8.48692E-06	-5.44238E-06	-7.20722E-06	-1.903E-05	-1.803E-05	-1.438E-05	-1.47216E-05	-1.46496E-05	-1.525E-05
36	-1.399E-05	-1.642E-05	-1.963E-05	-1.709E-05	-1.778E-05	-2.068E-05	-9.0655E-06	-1.16097E-05	-1.2689E-05	-8.16477E-06	-5.48525E-06	-6.97655E-06	-1.879E-05	-1.766E-05	-1.442E-05	-1.45132E-05	-1.42755E-05	-1.51702E-05
37	-1.400E-05	-1.622E-05	-1.935E-05	-1.709E-05	-1.746E-05	-2.044E-05	-8.73503E-06	-1.20097E-05	-1.26999E-05	-7.83281E-06	-5.54034E-06	-6.74272E-06	-1.855E-05	-1.727E-05	-1.448E-05	-1.43062E-05	-1.38926E-05	-1.5101E-05
38	-1.402E-05	-1.601E-05	-1.906E-05	-1.710E-05	-1.714E-05	-2.019E-05	-8.39971E-06	-1.24377E-05	-1.27194E-05	-7.49104E-06	-5.60767E-06	-6.50572E-06	-1.831E-05	-1.687E-05	-1.456E-05	-1.41005E-05	-1.35009E-05	-1.50424E-05
39	-1.404E-05	-1.580E-05	-1.875E-05	-1.712E-05	-1.682E-05	-1.993E-05	-8.05955E-06	-1.28936E-05	-1.27474E-05	-7.13947E-06	-5.68723E-06	-6.26555E-06	-1.807E-05	-1.645E-05	-1.464E-05	-1.38962E-05	-1.31003E-05	-1.49944E-05
40	-1.408E-05	-1.559E-05	-1.843E-05	-1.714E-05	-1.649E-05	-1.966E-05	-7.71452E-06	-1.33775E-05	-1.2784E-05	-6.77809E-06	-5.77902E-06	-6.02222E-06	-1.783E-05	-1.602E-05	-1.474E-05	-1.36931E-05	-1.26909E-05	-1.49571E-05
41	-1.412E-05	-1.538E-05	-1.809E-05	-1.716E-05	-1.616E-05	-1.938E-05	-7.36465E-06	-1.38894E-05	-1.28291E-05	-6.4069E-06	-5.88304E-06	-5.77573E-06	-1.759E-05	-1.557E-05	-1.485E-05	-1.34914E-05	-1.22727E-05	-1.49304E-05
42	-1.417E-05	-1.516E-05	-1.774E-05	-1.719E-05	-1.583E-05	-1.909E-05	-7.00993E-06	-1.44293E-05	-1.28827E-05	-6.0259E-06	-5.99929E-06	-5.52606E-06	-1.736E-05	-1.511E-05	-1.497E-05	-1.32909E-05	-1.18456E-05	-1.49143E-05
43	-1.422E-05	-1.495E-05	-1.737E-05	-1.723E-05	-1.549E-05	-1.879E-05	-6.65035E-06	-1.49971E-05	-1.29449E-05	-5.63509E-06	-6.12777E-06	-5.27324E-06	-1.712E-05	-1.463E-05	-1.511E-05	-1.30918E-05	-1.14098E-05	-1.49088E-05
44	-1.429E-05	-1.473E-05	-1.698E-05	-1.727E-05	-1.515E-05	-1.848E-05	-6.28592E-06	-1.55929E-05	-1.30157E-05	-5.23448E-06	-6.26849E-06	-5.01724E-06	-1.688E-05	-1.413E-05	-1.526E-05	-1.28941E-05	-1.09651E-05	-1.4914E-05
45	-1.436E-05	-1.451E-05	-1.658E-05	-1.732E-05	-1.481E-05	-1.816E-05	-5.91664E-06	-1.62166E-05	-1.30949E-05	-4.82406E-06	-6.42143E-06	-4.75808E-06	-1.664E-05	-1.362E-05	-1.542E-05	-1.26976E-05	-1.05116E-05	-1.49298E-05

† Parameters reflect notch filter installation (as-launched condition)

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

Copies are Uncontrolled

Non-linearity parameter "u" 36 GHz with Blanking Enabled

Rcvr	36 GHz V - Blanking Dur 8			36 GHz V - Blanking Dur 20			36 GHz V - Blanking Dur 32			36 GHz H - Blanking Dur 8			36 GHz H - Blanking Dur 20			36 GHz H - Blanking Dur 32		
Temp (˚C)	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain	Low Gain	Nom Gain	High Gain
-10	-2.60668E-05	-2.78E-05	-2.71822E-05	-2.65945E-05	-2.71604E-05	-2.67297E-05	-2.78246E-05	-2.72876E-05	-2.70562E-05	-2.30794E-05	-2.6637E-05	-2.42268E-05	-2.30001E-05	-2.62806E-05	-2.52019E-05	-2.44996E-05	-2.66977E-05	-2.42357E-05
-9	-2.58989E-05	-2.76593E-05	-2.681E-05	-2.63461E-05	-2.7097E-05	-2.63624E-05	-2.74999E-05	-2.71772E-05	-2.67139E-05	-2.29595E-05	-2.65048E-05	-2.38038E-05	-2.29006E-05	-2.61936E-05	-2.46875E-05	-2.42404E-05	-2.65707E-05	-2.38087E-05
-8	-2.57288E-05	-2.7517E-05	-2.64444E-05	-2.60988E-05	-2.70289E-05	-2.60017E-05	-2.71783E-05	-2.70644E-05	-2.63764E-05	-2.28372E-05	-2.63707E-05	-2.33907E-05	-2.27981E-05	-2.61029E-05	-2.41856E-05	-2.39838E-05	-2.64416E-05	-2.33916E-05
-7	-2.55565E-05	-2.73731E-05	-2.60853E-05	-2.58526E-05	-2.69562E-05	-2.56476E-05	-2.68598E-05	-2.69493E-05	-2.60437E-05	-2.27126E-05	-2.62349E-05	-2.29875E-05	-2.26925E-05	-2.60083E-05	-2.36963E-05	-2.37297E-05	-2.63104E-05	-2.29846E-05
-6	-2.53819E-05	-2.72276E-05	-2.57328E-05	-2.56076E-05	-2.68787E-05	-2.53001E-05	-2.65443E-05	-2.68319E-05	-2.57159E-05	-2.25857E-05	-2.60971E-05	-2.25941E-05	-2.2584E-05	-2.591E-05	-2.32195E-05	-2.34781E-05	-2.61772E-05	-2.25875E-05
-5	-2.52051E-05	-2.70805E-05	-2.53868E-05	-2.53636E-05	-2.67965E-05	-2.49592E-05	-2.62319E-05	-2.67121E-05	-2.53929E-05	-2.24565E-05	-2.59576E-05	-2.22107E-05	-2.24725E-05	-2.58079E-05	-2.27553E-05	-2.32291E-05	-2.60418E-05	-2.22004E-05
-4	-2.50261E-05	-2.69318E-05	-2.50474E-05	-2.51209E-05	-2.67097E-05	-2.4625E-05	-2.59226E-05	-2.65899E-05	-2.50748E-05	-2.2325E-05	-2.58162E-05	-2.18371E-05	-2.23579E-05	-2.57021E-05	-2.23037E-05	-2.29827E-05	-2.59043E-05	-2.18233E-05
-3	-2.48448E-05	-2.67816E-05	-2.47145E-05	-2.48792E-05	-2.66181E-05	-2.42973E-05	-2.56163E-05	-2.64655E-05	-2.47615E-05	-2.21912E-05	-2.56729E-05	-2.14734E-05	-2.22404E-05	-2.55925E-05	-2.18647E-05	-2.27387E-05	-2.57648E-05	-2.14562E-05
-2	-2.46613E-05	-2.66297E-05	-2.43882E-05	-2.46386E-05	-2.65219E-05	-2.39763E-05	-2.53131E-05	-2.63387E-05	-2.4453E-05	-2.20551E-05	-2.55278E-05	-2.11196E-05	-2.21199E-05	-2.54791E-05	-2.14382E-05	-2.24974E-05	-2.56231E-05	-2.10991E-05
-1	-2.44755E-05	-2.64763E-05	-2.40684E-05	-2.43992E-05	-2.6421E-05	-2.36619E-05	-2.50129E-05	-2.62095E-05	-2.41494E-05	-2.19166E-05	-2.53809E-05	-2.07756E-05	-2.19963E-05	-2.53619E-05	-2.10243E-05	-2.22585E-05	-2.54794E-05	-2.07519E-05
0	-2.42875E-05	-2.63213E-05	-2.37552E-05	-2.41609E-05	-2.63154E-05	-2.33541E-05	-2.47158E-05	-2.6078E-05	-2.38507E-05	-2.17759E-05	-2.52321E-05	-2.04416E-05	-2.18698E-05	-2.5241E-05	-2.06229E-05	-2.20223E-05	-2.53335E-05	-2.04148E-05
1	-2.40973E-05	-2.61647E-05	-2.34485E-05	-2.39238E-05	-2.62051E-05	-2.30529E-05	-2.44218E-05	-2.59442E-05	-2.35567E-05	-2.16329E-05	-2.50815E-05	-2.01174E-05	-2.17402E-05	-2.51163E-05	-2.02341E-05	-2.17885E-05	-2.51856E-05	-2.00876E-05
2	-2.39048E-05	-2.60065E-05	-2.31484E-05	-2.36878E-05	-2.60901E-05	-2.27584E-05	-2.41308E-05	-2.5808E-05	-2.32677E-05	-2.14875E-05	-2.4929E-05	-1.98032E-05	-2.16077E-05	-2.49878E-05	-1.98579E-05	-2.15573E-05	-2.50355E-05	-1.97704E-05
3	-2.37101E-05	-2.58467E-05	-2.28548E-05	-2.34528E-05	-2.59704E-05	-2.24704E-05	-2.38428E-05	-2.56695E-05	-2.29834E-05	-2.13399E-05	-2.47747E-05	-1.94988E-05	-2.14721E-05	-2.48556E-05	-1.94942E-05	-2.13287E-05	-2.48834E-05	-1.94632E-05
4	-2.35132E-05	-2.56854E-05	-2.25678E-05	-2.32191E-05	-2.58461E-05	-2.21891E-05	-2.3558E-05	-2.55286E-05	-2.27041E-05	-2.119E-05	-2.46185E-05	-1.92043E-05	-2.13335E-05	-2.47196E-05	-1.91431E-05	-2.11026E-05	-2.47292E-05	-1.9166E-05
5	-2.3314E-05	-2.55224E-05	-2.22873E-05	-2.29864E-05	-2.5717E-05	-2.19144E-05	-2.32761E-05	-2.53854E-05	-2.24295E-05	-2.10377E-05	-2.44605E-05	-1.89197E-05	-2.1192E-05	-2.45798E-05	-1.88046E-05	-2.08791E-05	-2.45729E-05	-1.88788E-05
6	-2.31126E-05	-2.53579E-05	-2.20134E-05	-2.27549E-05	-2.55833E-05	-2.16463E-05	-2.29974E-05	-2.52399E-05	-2.21598E-05	-2.08832E-05	-2.43007E-05	-1.86449E-05	-2.10474E-05	-2.44363E-05	-1.84787E-05	-2.06581E-05	-2.44145E-05	-1.86016E-05
7	-2.2909E-05	-2.51918E-05	-2.1746E-05	-2.25245E-05	-2.54448E-05	-2.13848E-05	-2.27217E-05	-2.5092E-05	-2.1895E-05	-2.07263E-05	-2.4139E-05	-1.83801E-05	-2.08998E-05	-2.4289E-05	-1.81653E-05	-2.04396E-05	-2.4254E-05	-1.83343E-05
8	-2.27031E-05	-2.50241E-05	-2.14852E-05	-2.22952E-05	-2.53017E-05	-2.113E-05	-2.24491E-05	-2.49418E-05	-2.1635E-05	-2.05672E-05	-2.39754E-05	-1.81251E-05	-2.07492E-05	-2.41379E-05	-1.78645E-05	-2.02237E-05	-2.40914E-05	-1.80771E-05
9	-2.2495E-05	-2.48548E-05	-2.12309E-05	-2.2067E-05	-2.51539E-05	-2.08817E-05	-2.21795E-05	-2.47892E-05	-2.13798E-05	-2.04057E-05	-2.381E-05	-1.788E-05	-2.05956E-05	-2.39831E-05	-1.75762E-05	-2.00103E-05	-2.39267E-05	-1.78298E-05
10	-2.22847E-05	-2.46839E-05	-2.09832E-05	-2.184E-05	-2.50014E-05	-2.06401E-05	-2.1913E-05	-2.46343E-05	-2.11295E-05	-2.02419E-05	-2.36428E-05	-1.76448E-05	-2.04391E-05	-2.38244E-05	-1.73005E-05	-1.97995E-05	-2.37599E-05	-1.75926E-05
11	-2.20721E-05	-2.45114E-05	-2.0742E-05	-2.16141E-05	-2.48442E-05	-2.04051E-05	-2.16495E-05	-2.4477E-05	-2.0884E-05	-2.00759E-05	-2.34738E-05	-1.74195E-05	-2.02795E-05	-2.36621E-05	-1.70374E-05	-1.95912E-05	-2.3591E-05	-1.73653E-05
12	-2.18573E-05	-2.43374E-05	-2.05074E-05	-2.13893E-05	-2.46823E-05	-2.01767E-05	-2.13891E-05	-2.43174E-05	-2.06434E-05	-1.99075E-05	-2.33028E-05	-1.72041E-05	-2.01169E-05	-2.34959E-05	-1.67868E-05	-1.93855E-05	-2.34201E-05	-1.7148E-05
13	-2.16402E-05	-2.41617E-05	-2.02793E-05	-2.11657E-05	-2.45158E-05	-1.99549E-05	-2.11318E-05	-2.41555E-05	-2.04076E-05	-1.97368E-05	-2.31301E-05	-1.69985E-05	-1.99513E-05	-2.3326E-05	-1.65488E-05	-1.91823E-05	-2.3247E-05	-1.69406E-05
14	-2.14209E-05	-2.39845E-05	-2.00578E-05	-2.09432E-05	-2.43445E-05	-1.97398E-05	-2.08775E-05	-2.39912E-05	-2.01767E-05	-1.95638E-05	-2.29555E-05	-1.68028E-05	-1.97827E-05	-2.31523E-05	-1.63234E-05	-1.89817E-05	-2.30718E-05	-1.67433E-05
15	-2.11994E-05	-2.38056E-05	-1.98428E-05	-2.07218E-05	-2.41686E-05	-1.95312E-05	-2.06262E-05	-2.38246E-05	-1.99506E-05	-1.93885E-05	-2.27791E-05	-1.66171E-05	-1.96111E-05	-2.29748E-05	-1.61106E-05	-1.87836E-05	-2.28946E-05	-1.6556E-05
16	-2.09757E-05	-2.36252E-05	-1.96344E-05	-2.05015E-05	-2.39879E-05	-1.93293E-05	-2.03781E-05	-2.36557E-05	-1.97293E-05	-1.92109E-05	-2.26008E-05	-1.64412E-05	-1.94364E-05	-2.27936E-05	-1.59103E-05	-1.85881E-05	-2.27152E-05	-1.63786E-05
17	-2.07497E-05	-2.34432E-05	-1.94325E-05	-2.02824E-05	-2.38026E-05	-1.9134E-05	-2.0133E-05	-2.34844E-05	-1.95129E-05	-1.9031E-05	-2.24206E-05	-1.62752E-05	-1.92588E-05	-2.26086E-05	-1.57225E-05	-1.83951E-05	-2.25338E-05	-1.62113E-05
18	-2.05214E-05	-2.32597E-05	-1.92372E-05	-2.00643E-05	-2.36126E-05	-1.89453E-05	-1.98909E-05	-2.33107E-05	-1.93013E-05	-1.88488E-05	-2.22387E-05	-1.6119E-05	-1.90782E-05	-2.24198E-05	-1.55474E-05	-1.82046E-05	-2.23503E-05	-1.60539E-05
19	-2.0291E-05	-2.30745E-05	-1.90484E-05	-1.98475E-05	-2.34179E-05	-1.87632E-05	-1.96519E-05	-2.31348E-05	-1.90946E-05	-1.86643E-05	-2.20548E-05	-1.59728E-05	-1.88946E-05	-2.22273E-05	-1.53848E-05	-1.80167E-05	-2.21646E-05	-1.59065E-05
20	-2.00583E-05	-2.28877E-05	-1.88661E-05	-1.96317E-05	-2.32185E-05	-1.85877E-05	-1.9416E-05	-2.29564E-05	-1.88927E-05	-1.84775E-05	-2.18692E-05	-1.58364E-05	-1.8708E-05	-2.2031E-05	-1.52348E-05	-1.78314E-05	-2.19769E-05	-1.57691E-05
21	-1.98234E-05	-2.26994E-05	-1.86905E-05	-1.94171E-05	-2.30144E-05	-1.84189E-05	-1.91831E-05	-2.27758E-05	-1.86957E-05	-1.82884E-05	-2.16817E-05	-1.57099E-05	-1.85183E-05	-2.18309E-05	-1.50973E-05	-1.76486E-05	-2.17871E-05	-1.56417E-05
22	-1.95862E-05	-2.25094E-05	-1.85213E-05	-1.92035E-05	-2.28056E-05	-1.82567E-05	-1.89533E-05	-2.25928E-05	-1.85035E-05	-1.80969E-05	-2.14923E-05	-1.55934E-05	-1.83257E-05	-2.16271E-05	-1.49724E-05	-1.74683E-05	-2.15952E-05	-1.55243E-05
23	-1.93468E-05	-2.23179E-05	-1.83587E-05	-1.89912E-05	-2.25922E-05	-1.8101E-05	-1.87266E-05	-2.24074E-05	-1.83162E-05	-1.79032E-05	-2.13011E-05	-1.54867E-05	-1.81301E-05	-2.14195E-05	-1.48601E-05	-1.72906E-05	-2.14012E-05	-1.54168E-05
24	-1.91051E-05	-2.21248E-05	-1.82027E-05	-1.87799E-05	-2.2374E-05	-1.7952E-05	-1.85029E-05	-2.22197E-05	-1.81337E-05	-1.77072E-05	-2.11081E-05	-1.53898E-05	-1.79314E-05	-2.12081E-05	-1.47603E-05	-1.71154E-05	-2.12051E-05	-1.53194E-05
25	-1.88613E-05	-2.19301E-05	-1.80532E-05	-1.85698E-05	-2.21512E-05	-1.78097E-05	-1.82823E-05	-2.20297E-05	-1.7956E-05	-1.75088E-05	-2.09132E-05	-1.53029E-05	-1.77298E-05	-2.0993E-05	-1.46731E-05	-1.69428E-05	-2.10069E-05	-1.52319E-05
26	-1.86152E-05	-2.17338E-05	-1.79103E-05	-1.83608E-05	-2.19236E-05	-1.76739E-05	-1.80647E-05	-2.18374E-05	-1.77832E-05	-1.73082E-05	-2.07165E-05	-1.52258E-05	-1.75251E-05	-2.0774E-05	-1.45985E-05	-1.67727E-05	-2.08066E-05	-1.51544E-05
27	-1.83668E-05	-2.1536E-05	-1.77739E-05	-1.81529E-05	-2.16914E-05	-1.75447E-05	-1.78502E-05	-2.16426E-05	-1.76152E-05	-1.71053E-05	-2.05179E-05	-1.51587E-05	-1.73175E-05	-2.05513E-05	-1.45365E-05	-1.66052E-05	-2.06042E-05	-1.50869E-05
28	-1.81162E-05	-2.13365E-05	-1.76441E-05	-1.79461E-05	-2.14545E-05	-1.74222E-05	-1.76387E-05	-2.14456E-05	-1.74521E-05	-1.69E-05	-2.03175E-05	-1.51014E-05	-1.71068E-05	-2.03249E-05	-1.4487E-05	-1.64402E-05	-2.03997E-05	-1.50294E-05
29	-1.78634E-05	-2.11355E-05	-1.75208E-05	-1.77405E-05	-2.12129E-05	-1.73063E-05	-1.74303E-05	-2.12462E-05	-1.72938E-05	-1.66924E-05	-2.01153E-05	-1.5054E-05	-1.68932E-05	-2.00947E-05	-1.445E-05	-1.62777E-05	-2.01932E-05	-1.49819E-05
30	-1.76084E-05	-2.09328E-05	-1.7404E-05	-1.7536E-05	-2.09666E-05	-1.7197E-05	-1.7225E-05	-2.10445E-05	-1.71404E-05	-1.64826E-05	-1.99112E-05	-1.50165E-05	-1.66765E-05	-1.98607E-05	-1.44257E-05	-1.61179E-05	-1.99845E-05	-1.49444E-05
31	-1.73511E-05	-2.07286E-05	-1.72938E-05	-1.73326E-05	-2.07157E-05	-1.70943E-05	-1.70227E-05	-2.08404E-05	-1.69918E-05	-1.62704E-05	-1.97052E-05	-1.49888E-05	-1.64568E-05	-1.96229E-05	-1.44139E-05	-1.59605E-05	-1.97738E-05	-1.49168E-05
32	-1.70916E-05	-2.05228E-05	-1.71902E-05	-1.71303E-05	-2.046E-05	-1.69982E-05	-1.68235E-05	-2.0634E-05	-1.6848E-05	-1.60559E-05	-1.94974E-05	-1.49711E-05	-1.62342E-05	-1.93814E-05	-1.44147E-05	-1.58057E-05	-1.95609E-05	-1.48993E-05
33	-1.68298E-05	-2.03154E-05	-1.70931E-05	-1.69292E-05	-2.01996E-05	-1.69088E-05	-1.66273E-05	-2.04252E-05	-1.67091E-05	-1.58392E-05	-1.92878E-05	-1.49632E-05	-1.60085E-05	-1.91361E-05	-1.4428E-05	-1.56534E-05	-1.9346E-05	-1.48917E-05
34	-1.65658E-05	-2.01064E-05	-1.70026E-05	-1.67292E-05	-1.99346E-05	-1.68259E-05	-1.64342E-05	-2.02141E-05	-1.65751E-05	-1.56201E-05	-1.90763E-05	-1.49652E-05	-1.57798E-05	-1.8887E-05	-1.44539E-05	-1.55037E-05	-1.91289E-05	-1.48942E-05
35	-1.62996E-05	-1.98958E-05	-1.69186E-05	-1.65304E-05	-1.96648E-05	-1.67497E-05	-1.62442E-05	-2.00007E-05	-1.64458E-05	-1.53987E-05	-1.8863E-05	-1.49771E-05	-1.55481E-05	-1.86342E-05	-1.44924E-05	-1.53566E-05	-1.89098E-05	-1.49066E-05
36	-1.60311E-05	-1.96837E-05	-1.68411E-05	-1.63326E-05	-1.93904E-05	-1.66801E-05	-1.60572E-05	-1.97849E-05	-1.63215E-05	-1.5175E-05	-1.86478E-05	-1.49989E-05	-1.53135E-05	-1.83776E-05	-1.45434E-05	-1.5212E-05	-1.86886E-05	-1.4929E-05
37	-1.57604E-05	-1.94699E-05	-1.67702E-05	-1.6136E-05	-1.91113E-05	-1.66171E-05	-1.58733E-05	-1.95668E-05	-1.62019E-05	-1.4949E-05	-1.84308E-05	-1.50306E-05	-1.50758E-05	-1.81172E-05	-1.4607E-05	-1.50699E-05	-1.84652E-05	-1.49613E-05
38	-1.54875E-05	-1.92546E-05	-1.67059E-05	-1.59405E-05	-1.88275E-05	-1.65607E-05	-1.56924E-05	-1.93463E-05	-1.60873E-05	-1.47207E-05	-1.8212E-05	-1.50722E-05	-1.48351E-05	-1.7853E-05	-1.46832E-05	-1.49304E-05	-1.82398E-05	-1.50037E-05
39	-1.52123E-05	-1.90377E-05	-1.66481E-05	-1.57461E-05	-1.8539E-05	-1.6511E-05	-1.55146E-05	-1.91235E-05	-1.59774E-05	-1.44901E-05	-1.79913E-05	-1.51236E-05	-1.45914E-05	-1.75851E-05	-1.47719E-05	-1.47934E-05	-1.80123E-05	-1.50561E-05
40	-1.49349E-05	-1.88192E-05	-1.65969E-05	-1.55529E-05	-1.82458E-05	-1.64679E-05	-1.53399E-05	-1.88984E-05	-1.58724E-05	-1.42572E-05	-1.77688E-05	-1.51849E-05	-1.43447E-05	-1.73135E-05	-1.48732E-05	-1.4659E-05	-1.77827E-05	-1.51184E-05
41	-1.46553E-05	-1.85991E-05	-1.65522E-05	-1.53608E-05	-1.7948E-05	-1.64313E-05	-1.51682E-05	-1.86709E-05	-1.57723E-05	-1.4022E-05	-1.75444E-05	-1.52561E-05	-1.4095E-05	-1.7038E-05	-1.49871E-05	-1.45271E-05	-1.7551E-05	-1.51908E-05
42	-1.43734E-05	-1.83774E-05	-1.6514E-05	-1.51698E-05	-1.76454E-05	-1.64014E-05	-1.49996E-05	-1.84411E-05	-1.5677E-05	-1.37845E-05	-1.73182E-05	-1.53372E-05	-1.38423E-05	-1.67588E-05	-1.51136E-05	-1.43977E-05	-1.73172E-05	-1.52731E-05
43	-1.40893E-05	-1.81541E-05	-1.64824E-05	-1.49799E-05	-1.73381E-05	-1.63781E-05	-1.4834E-05	-1.82089E-05	-1.55865E-05	-1.35447E-05	-1.70901E-05	-1.54282E-05	-1.35866E-05	-1.64758E-05	-1.52526E-05	-1.42709E-05	-1.70813E-05	-1.53654E-05
44	-1.3803E-05	-1.79293E-05	-1.64574E-05	-1.47912E-05	-1.70262E-05	-1.63614E-05	-1.46715E-05	-1.79744E-05	-1.55009E-05	-1.33026E-05	-1.68602E-05	-1.55291E-05	-1.33278E-05	-1.6189E-05	-1.54041E-05	-1.41467E-05	-1.68434E-05	-1.54677E-05
45	-1.35144E-05	-1.77028E-05	-1.64389E-05	-1.46035E-05	-1.67096E-05	-1.63514E-05	-1.4512E-05	-1.77376E-05	-1.54201E-05	-1.30581E-05	-1.66284E-05	-1.56398E-05	-1.30661E-05	-1.58985E-05	-1.55683E-05	-1.4025E-05	-1.66033E-05	-1.558E-05

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Agile Revision: H (C484272)
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Appendix V: On-orbit Noise Diode Excess Temperature

Noise Diode Phys Temp (˚C)	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H
-20	216.7974	189.1753	210.8547	204.4932	169.5805	186.7644	196.9413
-19	217.2523	189.5013	211.5019	205.0137	170.2769	186.9826	197.3097
-18	217.702	189.8234	212.1486	205.5354	170.9708	187.2026	197.6782
-17	218.1466	190.1415	212.7948	206.0583	171.6621	187.4245	198.0467
-16	218.5859	190.4557	213.4405	206.5824	172.3509	187.6481	198.4153
-15	219.0201	190.7659	214.0856	207.1076	173.0371	187.8735	198.7838
-14	219.4491	191.0722	214.7302	207.634	173.7207	188.1007	199.1525
-13	219.8728	191.3745	215.3743	208.1616	174.4018	188.3297	199.5211
-12	220.2914	191.6728	216.0179	208.6903	175.0804	188.5605	199.8898
-11	220.7048	191.9671	216.6609	209.2203	175.7564	188.7931	200.2585
-10	221.1129	192.2575	217.3034	209.7514	176.4298	189.0275	200.6273
-9	221.5159	192.544	217.9454	210.2837	177.1007	189.2637	200.9961
-8	221.9137	192.8265	218.5869	210.8172	177.769	189.5017	201.3649
-7	222.3063	193.105	219.2278	211.3518	178.4348	189.7415	201.7338
-6	222.6937	193.3796	219.8682	211.8876	179.098	189.983	202.1027
-5	222.9991	193.6428	220.5081	212.4247	179.7587	190.2264	202.4716
-4	223.3015	193.9017	221.1474	212.9628	180.4168	190.4716	202.8406
-3	223.6011	194.1564	221.7862	213.5022	181.0723	190.7185	203.2096
-2	223.8977	194.4069	222.4245	214.0428	181.7253	190.9673	203.5786
-1	224.1914	194.6531	223.0623	214.5845	182.3757	191.2179	203.9477
0	224.4822	194.8951	223.6995	215.1274	183.0236	191.4702	204.3168
1	224.7701	195.1328	224.3363	215.6715	183.6689	191.7244	204.686
2	225.0551	195.3663	224.9724	216.2167	184.3117	191.9803	205.0552
3	225.3371	195.5956	225.6081	216.7632	184.9519	192.238	205.4244
4	225.6162	195.8206	226.2432	217.3108	185.5896	192.4976	205.7936
5	225.8924	196.0413	226.8779	217.8596	186.2247	192.7589	206.1629
6	226.1656	196.2578	227.5119	218.4095	186.8572	193.0114	206.5373
7	226.436	196.4701	228.1455	218.9607	187.4872	193.2656	206.9117
8	226.7034	196.6781	228.7785	219.513	188.1147	193.5216	207.2861
9	226.9679	196.8819	229.411	220.0665	188.7396	193.7795	207.6606
10	227.2295	197.0815	230.043	220.6212	189.3619	194.0391	208.0351
11	227.4881	197.2768	230.6744	221.1771	189.9817	194.3005	208.4096
12	227.7438	197.4678	231.3054	221.7341	190.5989	194.5638	208.7842
13	227.9966	197.6546	231.9358	222.2923	191.2135	194.8288	209.1588
14	228.2465	197.8372	232.5656	222.8517	191.8256	195.0956	209.5335
15	228.4935	198.0155	233.195	223.4123	192.4352	195.3642	209.9082
16	228.7375	198.1896	233.8238	223.9741	193.0422	195.6346	210.2829
17	228.9786	198.3594	234.4521	224.537	193.6466	195.9068	210.6577
18	229.2168	198.525	235.0799	225.1011	194.2485	196.1808	211.0324
19	229.4521	198.6864	235.7071	225.6664	194.8479	196.4566	211.4073

Noise Diode Phys Temp (˚C)	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H
20	229.6845	198.8435	236.3338	226.2329	195.4446	196.7342	211.7821
21	229.9139	198.9964	236.96	226.8005	196.0388	197.0136	212.157
22	230.1404	199.145	237.5857	227.3693	196.6305	197.2947	212.5319
23	230.364	199.2893	238.2108	227.9393	197.2196	197.5777	212.9069
24	230.5847	199.4295	238.8354	228.5105	197.8062	197.8625	213.2819
25	230.8024	199.5654	239.4595	229.0829	198.3902	198.1491	213.6569
26	231.0172	199.697	240.083	229.6564	198.9716	198.4374	214.032
27	231.2291	199.8244	240.7061	230.2311	199.5505	198.7276	214.4071
28	231.4381	199.9476	241.3286	230.807	200.1268	199.0195	214.7823
29	231.6442	200.0665	241.9505	231.3841	200.7006	199.3133	215.1574
30	231.8473	200.1811	242.572	231.9624	201.2718	199.6088	215.5326
31	232.0475	200.2916	243.1929	232.5418	201.8405	199.9062	215.9079
32	232.2448	200.3977	243.8133	233.1224	202.4066	200.2053	216.2832
33	232.4392	200.4997	244.4332	233.7042	202.9702	200.5062	216.6585
34	232.6306	200.5974	245.0525	234.2872	203.5312	200.809	217.0338
35	232.8191	200.6908	245.6713	234.8713	204.0896	201.1135	217.4092
36	233.0047	200.78	246.2896	235.4566	204.6455	201.4198	217.7846
37	233.1874	200.865	246.9074	236.0431	205.1988	201.7279	218.1601
38	233.3672	200.9457	247.5246	236.6308	205.7496	202.0379	218.5356
39	233.544	201.0222	248.1413	237.2197	206.2978	202.3496	218.9111
40	233.7179	201.0944	248.7575	237.8097	206.8435	202.6631	219.2867
41	233.8889	201.1624	249.3731	238.4009	207.3866	202.9784	219.6622
42	234.057	201.2262	249.9883	238.9933	207.9272	203.2955	220.0379
43	234.2221	201.2857	250.6029	239.5869	208.4652	203.6144	220.4135
44	234.3844	201.3409	251.2169	240.1816	209.0006	203.9351	220.7892
45	234.5437	201.3919	251.8305	240.7776	209.5335	204.2575	221.165

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Appendix W: Magnetic Correction Terms

"a" magnetic susceptibility vector

component	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
a_x	2.8364	-4.1074	0.6235	-2.3904	2.0841	3.3901	1.287	-0.2574	3.5367	-1.1563	-2.8683	-0.229	-1.4386
a_y	-2.72	2.622	0.046	-2.526	1.132	-4.991	-1.806	-0.567	0.431	-0.1982	2.331	-1.764	-5.168
a_z	-0.1939	0.2807	-0.0426	0.1634	-0.1424	-0.2317	-0.088	0.0176	-0.2417	0.079	0.196	0.0156	0.0983

"b" magnetic susceptibility vector

component	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
b_x	2.7137	-2.6159	-0.0459	2.5201	-1.1294	4.9794	1.8018	0.5657	-0.43	0.1977	-2.3256	1.7599	5.156
b_y	2.843	-4.117	0.625	-2.396	2.089	3.398	1.29	-0.258	3.545	-1.159	-2.875	-0.2295	-1.442
b_z	-0.1855	0.1788	0.0031	-0.1722	0.0772	-0.3403	-0.1232	-0.0387	0.0294	-0.0135	0.1589	-0.1203	-0.3524

"s" magnetic susceptibility vector

component	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
s_x	2.843	-4.117	0.625	-2.396	2.089	3.398	1.29	-0.258	3.545	-1.159	-2.875	-0.2295	-1.442
s_y	-2.72	2.622	0.046	-2.526	1.132	-4.991	-1.806	-0.567	0.431	-0.1982	2.331	-1.764	-5.168
s_z	0	0	0	0	0	0	0	0	0	0	0	0	0

Count Biases ΔC_k

	Earth	Hot	Cold
Channel	ΔC_e	ΔC_h	ΔC_c
10 V	8.8	0	0
10 H	3.2	0	0
18 V	5.1	0	-2.7
18 H	0.4	0	-2.7
23 V	5.5	0	-5.5
36 V	0.3	0	-1.4
36 H	2.6	0	-1.4
89 V	0.8	0	-0.8
89 H	0.8	0	-2.7
166 V	0	0	0
166 H	0	0	0
183 VA	0	0	0
183 VB	0	0	0

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"gamma" along-scan bias correction

scan index	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	-1.5427	0.693	-0.7793	-0.2168	1.0172	2.5582	0.3591	-0.36	-0.8298	1.4666	0.7478	-0.8739	-3.3214
8	1.1761	-1.0654	-0.784	-0.619	0.1167	2.8052	0.0962	-0.0183	-0.9616	1.2781	0.7195	-1.4878	-3.3936
9	2.1259	-1.2476	0.0167	-0.6946	-0.4803	1.8569	-0.2254	1.0035	-0.3964	0.9846	0.6181	-1.3241	-2.4085
10	-0.0197	0.3954	0.9972	-0.1176	-0.0149	1.5874	0.1698	1.9573	0.3679	0.9029	0.702	-0.2914	-1.5232
11	-1.8841	1.1246	1.3532	0.6928	1.1614	2.3689	0.9569	1.2111	-0.0631	0.8921	0.5651	1.0619	-0.8884
12	-1.7787	0.4004	0.5935	0.6181	1.6215	3.7654	1.2431	-0.929	-1.5899	0.9874	0.5028	0.4508	-0.7557
13	0.2561	-1.2375	0.3722	0.2642	1.0486	4.3396	1.3778	-1.3691	-2.1208	0.9425	0.3305	-0.7994	-1.5779
14	1.929	-2.1708	1.0919	-0.0428	0.0974	3.232	0.8588	-0.1771	-1.6226	0.8277	0.1958	-1.4092	-1.2423
15	0.8681	-0.8639	2.0378	0.07	-0.022	2.0853	1.207	1.7289	0.0705	0.6078	0.1726	-1.0586	-0.5538
16	-1.7608	0.8156	2.2715	0.323	0.6513	1.6185	1.4586	1.7649	0.3692	0.7756	0.2607	0.0695	-1.0716
17	-3.023	1.1248	1.7486	0.6695	1.4827	1.9729	1.7147	0.1009	-0.3948	0.6624	0.0544	-0.6297	-2.5945
18	-1.5519	-0.6003	0.693	0.1776	1.4118	2.2119	1.4374	-0.9169	-1.2252	0.5496	0.0701	-1.9681	-3.8149
19	1.2456	-2.3263	1.2466	-0.3605	0.1958	1.1678	0.7632	-0.0648	-0.7279	0.4021	-0.1717	-2.7575	-4.0787
20	1.4299	-1.9782	1.6217	-0.6651	-0.5691	-0.0941	0.2193	1.2294	0.2673	0.1494	-0.1545	-2.9065	-3.7382
21	-0.7981	-0.4274	1.8181	-0.2704	-0.3624	0.1077	0.9717	2.1496	1.2623	0.1085	-0.0998	-2.1866	-4.0004
22	-2.5439	-0.0395	1.1655	-0.0151	0.3301	0.9905	1.382	1.5399	1.1948	0.2791	0.0295	-1.1919	-3.4068
23	-1.6368	-1.5199	-0.1575	-0.0389	0.5714	2.2722	1.6578	-0.0558	0.1643	0.3094	-0.025	-2.0703	-4.1203
24	1.1191	-3.8728	-0.7203	-0.4351	-0.2283	2.5155	1.3678	0.0145	0.0301	0.4458	0.1425	-3.0395	-4.9839
25	2.8698	-4.857	-0.3889	-0.6445	-1.2015	1.0534	0.7195	0.8669	0.4268	0.2306	0.2739	-3.4141	-4.891
26	1.565	-3.9332	0.2108	-0.434	-1.2726	0.1063	0.6304	1.5154	0.6906	-0.0547	0.2214	-2.9655	-4.5962
27	-0.4638	-2.9687	0.185	0.0565	-0.5456	0.2628	1.0384	1.1439	0.423	0.1533	0.3172	-1.1911	-3.496
28	-1.1663	-3.5406	-0.6006	0.6407	0.2855	1.6516	1.1624	-0.9616	-1.1063	0.1857	0.0816	-0.8786	-2.4956
29	0.6232	-5.6075	-1.2965	0.2232	0.0755	3.1175	1.2864	-1.945	-2.2706	0.3944	0.1049	-1.8452	-2.7521
30	2.7741	-7.2187	-0.9195	-2.3373	-0.7592	2.3507	0.7358	-0.8883	-1.7751	0.4275	0.1658	-2.2628	-2.354
31	2.593	-6.7559	-0.0059	-0.0976	-1.1081	0.9296	0.5047	0.3383	-0.815	0.0738	0.006	-2.2686	-1.7037
32	0.2005	-5.298	0.5503	0.0456	-0.6242	0.5097	0.948	0.9871	0.0121	0.2485	-0.0793	-1.2229	-1.6061
33	-1.5894	-5.169	0.2574	0.2359	0.1372	0.7059	1.0363	0.0379	-0.1569	0.353	-0.0902	-0.3595	-1.1055
34	-0.5658	-6.8254	-0.9294	-0.086	0.4474	1.2104	0.663	-1.1833	-1.123	0.4931	-0.1374	-1.7349	-2.918
35	1.6634	-9.0637	-0.9538	-0.6869	-0.2834	0.4446	-0.0653	-0.7044	-0.9604	0.3168	-0.2208	-2.8814	-4.4282
36	2.6057	-10.0995	-0.1734	-0.9145	-1.1531	-0.9755	-0.6871	0.4206	-0.3	0.2463	-0.0821	-3.1134	-4.2779
37	0.8797	-9.4631	0.6518	-0.6756	-0.9125	-1.3944	-0.315	1.2396	0.6258	0.2113	0.2048	-2.2939	-3.624
38	-1.4499	-9.2425	0.6726	-0.2963	-0.1862	-0.4657	0.341	0.8346	0.6218	0.3175	0.2709	-0.3771	-2.6174
39	-1.7699	-10.8489	-0.111	-0.103	0.4013	1.4643	0.784	-0.8963	-0.3451	0.5999	0.4484	-0.4251	-2.2139
40	0.4019	-13.7428	-0.5369	-0.3285	-0.0523	2.8555	1.014	-1.0631	-0.6483	0.5658	0.5158	-1.3409	-2.9165
41	2.332	-15.8906	0.1102	-0.6933	-1.0612	2.3218	0.5694	0.0281	-0.0553	0.5671	0.6207	-1.4795	-1.858
42	1.6485	-15.6738	0.6233	-0.4983	-1.0292	1.9424	0.7637	0.8474	0.4712	0.4631	0.8369	-1.2978	-1.4027
43	-1.0857	-14.711	1.0919	-0.0232	-0.2686	2.3716	1.384	0.8507	0.4662	0.5705	0.8323	0.0268	-0.645
44	-2.3733	-15.2017	0.8007	0.4059	0.3531	2.7241	1.6138	-0.4379	-0.2029	0.8189	0.9391	1.0319	0.8676

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
IManual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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45	-1.4103	-16.9798	0.1074	0.323	0.4196	2.9997	1.2044	-1.5224	-1.0714	0.8212	1.0095	-0.1106	-0.4865
46	0.6777	-18.4684	0.2188	0.0076	-0.2775	1.9665	0.2626	-1.2129	-1.1766	0.6828	0.8223	-1.2528	-1.6892
47	0.7953	-18.0489	1.0902	-0.0276	-0.9052	0.356	-0.1824	-0.0194	-0.5515	0.6503	0.7832	-1.5264	-1.1812
48	-1.5399	-15.8459	1.7383	0.4503	-0.4574	-0.1763	0.1182	0.6643	0.1397	0.8995	1.1137	-0.6114	-0.1699
49	-3.715	-14.4739	1.5819	0.8357	0.2332	0.4851	0.5251	0.192	0.1004	1.2545	1.3342	0.8065	0.9928
50	-3.8406	-14.3063	0.5316	0.942	0.9237	1.7241	0.6125	-1.1643	-0.6696	1.2577	1.3337	0.1226	0.4456
51	-1.5548	-15.2602	0.152	0.7227	0.6078	2.0008	0.5933	-0.8205	-0.3773	1.3314	1.3708	-1.3837	-1.912
52	0.2881	-15.3021	0.6664	0.2245	-0.4022	-0.6868	-0.7394	0.4074	0.3795	0.9829	1.0763	-2.0671	-2.6093
53	-0.6032	-13.0209	1.0022	0.1462	-0.406	-2.2192	-1.2202	1.3974	1.3021	0.5641	0.7824	-1.6078	-2.5015
54	-2.6611	-10.3673	0.757	0.2083	0.2146	-1.6339	-0.8491	1.1294	0.963	0.8142	0.9318	0.2227	-1.3874
55	-3.4735	-9.084	-0.1139	0.4109	0.8698	-0.0475	-0.691	-0.0906	0.1256	0.8532	0.8604	1.1395	0.0288
56	-1.7139	-9.1298	-0.94	0.2878	1.0738	1.5391	-0.2845	-0.8684	-0.5128	0.6459	0.7526	0.32	-1.0696
57	0.8892	-8.8445	-0.5591	0.1654	0.3061	1.3934	-0.446	-0.0482	-0.1886	0.6499	0.7929	-0.408	-1.5139
58	0.959	-6.6927	0.4924	0.3232	-0.2536	0.7473	-0.1106	0.84	0.6334	0.6539	1.1659	0.0067	0.1044
59	-0.6604	-3.2554	0.8735	0.6215	0.1929	1.141	0.7572	1.2184	1.2228	0.5525	0.949	1.2442	1.3205
60	-2.2806	-0.6491	0.6288	0.9204	0.8821	1.8812	1.2344	0.6448	1.1479	0.9086	1.0278	2.9389	3.0901
61	-1.8112	0.3793	-0.2415	0.8471	1.1895	2.7757	1.1791	-0.5748	0.2429	0.9129	1.0703	2.2573	2.1438
62	0.5067	0.6597	-0.3071	0.4949	0.5599	1.8223	0.5557	-0.5023	0.1012	0.8115	1.1132	0.6618	0.0408
63	1.7383	2.4331	0.566	0.3297	-0.2434	-0.44	-0.0323	0.7263	1.2209	0.7102	1.009	0.0262	-0.1506
64	0.2757	5.9485	1.2604	0.4913	-0.2834	-1.778	-0.0169	1.377	2.0084	0.5032	0.9791	0.3048	-0.5934
65	-2.032	9.297	1.2397	0.7003	0.3704	-1.9224	0.034	1.1437	1.7333	0.5779	0.8021	2.2743	1.1269
66	-2.2501	10.528	0.7274	0.537	0.4689	-1.3737	-0.2347	-0.1774	0.7608	0.3006	0.5149	2.7358	2.3443
67	-0.3786	10.762	-0.0531	0.0483	0.1508	-0.5938	-0.397	-0.4786	0.3856	0.1992	0.1174	1.3237	0.0409
68	1.7733	11.3271	0.284	-0.1136	-0.4451	-0.5453	-0.5948	0.4104	0.9731	0.0274	0.0156	0.2316	-0.854
69	1.7536	13.3022	0.934	-0.0884	-0.7288	-1.4591	-0.4377	1.2654	1.7927	0.2075	0.2833	0.2364	0.3135
70	-0.0358	15.7743	1.1371	0.1704	-0.3187	-0.9482	0.1453	1.7125	2.4461	0.0708	0.1086	1.7493	1.6319
71	-1.0221	16.876	0.5357	0.4765	0.3341	0.4483	0.5507	0.2556	1.5721	0.0748	0.1927	3.2165	3.4534
72	0.1213	16.3997	-0.3786	0.3639	0.6398	1.6524	0.6365	-0.6572	0.7975	-0.062	-0.1657	2.216	2.1061
73	2.3894	15.4659	-0.5777	-0.0276	0.0084	0.8932	-0.1652	-0.6179	0.1222	-0.2694	-0.1914	1.1698	0.7588
74	3.3701	15.4857	0.2961	-0.6514	-1.109	-0.8669	-1.0735	0.1015	0.3431	-0.2656	-0.2537	0.7176	1.4738
75	1.7369	17.4135	0.6782	-0.4358	-0.8038	-1.1254	-0.8104	0.617	0.9291	-0.438	-0.2787	1.7279	2.9433
76	-0.5806	19.0083	0.6581	0.1068	-0.0824	1.4268	0.4466	0.1805	0.4855	-0.2233	-0.0818	3.6064	5.2176
77	-1.0902	18.7762	0.1016	0.184	0.1182	2.9011	0.816	-0.9019	0.0418	-0.4311	-0.5119	3.5656	5.6308
78	0.6506	17.4226	0.0368	0.029	-0.3405	2.6816	0.6884	-1.1003	-0.2029	-0.4631	-0.7202	2.1536	3.3277
79	2.2295	16.5246	0.6873	-0.3584	-1.3894	0.3062	-0.3979	-0.3126	0.1829	-0.3896	-0.7066	0.9244	2.2821
80	1.315	17.5347	1.3824	-0.4655	-1.7445	-1.5301	-0.6677	0.4072	0.9669	-0.4571	-0.5083	1.0661	3.1478
81	-0.9673	18.8343	1.4965	-0.0126	-1.1629	-1.6338	-0.1921	0.4131	1.4187	-0.3488	-0.5309	2.7159	4.1643
82	-2.3259	18.6804	1.0295	0.1613	-0.512	-1.0828	-0.3556	-0.6689	0.7415	-0.2407	-0.3318	3.7714	5.5328
83	-1.5148	17.1561	0.2049	0.103	-0.486	-0.2622	-0.4126	-1.4109	-0.0688	-0.4144	-0.6858	2.8618	3.8329
84	0.7827	15.4234	0.1849	-0.1877	-1.1888	-1.251	-1.1443	-1.1328	-0.2153	-0.729	-1.0764	1.8149	2.2837
85	1.4711	15.0593	0.9248	-0.2446	-1.6837	-2.2782	-1.2015	-0.3786	0.468	-1.1143	-1.4298	1.362	3.4003
86	-0.1329	15.8147	1.3072	-0.0212	-1.3806	-1.3418	-0.3004	0.2396	0.8523	-1.0423	-1.4138	3.0569	5.5227
87	-1.7781	15.8222	0.9296	0.2028	-0.6961	0.7112	0.2812	-0.264	0.4064	-1.0057	-1.1392	4.9344	7.6449
88	-1.535	14.3347	-0.0738	0.2879	-0.1159	2.6104	0.5077	-1.4816	-0.6706	-0.9693	-1.1226	4.2068	7.6544
89	0.8778	11.9334	-0.4068	0.0008	-0.3686	2.8156	0.2016	-1.5092	-1.2165	-1.074	-1.1795	2.2451	4.4444
90	2.4454	10.8176	0.2884	0.1804	-0.7257	1.327	-0.1756	-0.8226	-0.8995	-1.0382	-1.0147	1.1059	3.3971
91	1.1576	11.444	0.9836	0.454	-0.9442	0.108	0.0151	0.034	0.2805	-1.2842	-1.1448	1.2917	4.4118

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

92	-1.1362	12.4014	1.0529	0.6351	-0.5036	-0.1485	-0.0428	0.0407	0.4642	-1.249	-0.9794	3.1683	5.9796
93	-2.3457	12.0714	0.3176	0.6771	-0.0632	0.6732	-0.3137	-1.2785	-0.5474	-0.9677	-0.7031	3.8107	6.7423
94	-1.3855	10.4956	-0.373	0.3004	-0.1783	0.5325	-0.9043	-1.4076	-1.0281	-0.8626	-0.6479	2.3507	4.1849
95	0.3776	9.1678	-0.0803	-0.1222	-1.0569	-1.6487	-2.276	-0.8227	-0.9778	-0.9339	-0.5924	1.0732	2.3817
96	0.2903	9.4577	0.7935	0.0152	-1.5541	-3.0982	-1.9082	-0.3737	-0.3633	-0.8296	-0.4629	0.2982	2.5902
97	-1.2051	10.3691	1.2203	0.2931	-1.2534	-2.6997	-1.008	0.0754	0.251	-0.8312	-0.7391	1.2594	3.402
98	-2.983	10.6157	0.5742	0.6649	-0.2937	-1.5696	-0.676	-0.4615	0.0351	-1.0443	-1.052	2.8146	4.6661
99	-2.35	9.1185	-0.1167	0.7113	-0.1322	-1.8639	-1.0895	-1.3382	-0.2475	-1.0466	-0.848	1.9016	3.2136
100	0.0957	6.8635	-0.5394	0.4321	-0.665	-3.5826	-2.0001	-1.1269	-0.4639	-0.9789	-0.7914	0.4856	0.6039
101	1.6157	5.7282	-0.0681	0.3401	-1.0939	-5.1472	-2.5558	-0.4735	0.0168	-1.0172	-0.6239	-0.2453	0.6597
102	0.401	6.4595	0.3584	0.6217	-0.7944	-4.6328	-1.7271	0.418	0.6632	-1.0559	-0.6407	0.6688	2.4252
103	-1.5787	7.0654	0.3378	1.3233	0.0949	-2.5397	-0.437	0.2215	0.7781	-1.2006	-0.5097	2.7707	4.5424
104	-1.9516	6.218	-0.1745	1.9325	0.7756	-0.3311	0.4625	-0.9269	0.0961	-1.1345	-0.4523	3.0443	4.8484
105	0.1265	4.1248	-0.5528	1.7968	0.6234	0.222	0.5454	-0.8172	0.0115	-0.9632	-0.1734	1.1239	1.9851
106	2.3643	2.5703	0.0522	1.6618	0.0198	-1.4578	-0.1173	-0.0274	0.325	-0.722	0.0688	-0.2942	0.3284
107	2.1085	2.7579	0.5354	1.0716	-0.4105	-2.9835	-0.7091	0.5924	0.6716	-0.8684	-0.1317	-1.0272	0.5324
108	-0.038	4.0237	0.7056	0.9481	-0.1471	-2.6226	-0.4135	0.9403	0.8519	-0.7689	-0.0737	0.2502	1.6916
109	-1.7032	4.2512	0.1605	0.9651	0.2549	-1.9922	-0.473	0.0303	0.1688	-0.6698	-0.0156	0.9788	2.0958
110	-1.2791	3.2329	-0.6975	0.7965	0.4137	-2.4012	-0.8166	-0.8796	-0.2821	-0.7824	-0.1788	-0.5323	-0.8204
111	0.7517	1.7988	-0.7064	0.5819	-0.2258	-4.6582	-1.5153	-0.2594	0.13	-0.8603	-0.1942	-1.7239	-3.3347
112	1.5753	1.5258	-0.0001	0.2749	-0.7961	-6.9921	-2.143	0.4288	0.7079	-0.7979	-0.062	-2.0477	-2.2782
113	-0.537	2.7462	0.5719	0.2016	-0.8462	-7.2855	-1.7769	0.9131	1.3188	-0.7712	-0.0403	-1.1837	-0.3672
114	-2.1278	3.2602	0.384	0.1757	-0.3066	-6.0389	-1.3754	0.5475	0.8671	-0.6043	-0.0186	0.9137	1.9456
115	-2.1118	2.2379	-0.6087	0.0106	0.1286	-4.3686	-1.2225	-0.9741	-0.6472	-0.7546	-0.5502	0.9084	1.9943
116	-0.0067	0.2604	-1.1097	-0.1537	0.0083	-4.6619	-1.4246	-0.9995	-0.5681	-0.5887	0.099	-0.514	-0.7241
117	2.057	-1.0538	-0.5828	-0.2242	-0.4938	-6.1486	-1.6979	-0.1069	-0.0245	-0.4937	-0.3219	-1.4343	-1.3808
118	1.7075	-0.5013	-0.1007	-0.1075	-0.5105	-6.2108	-1.3323	0.0037	0.187	-0.7512	-0.1892	-1.3039	0.0744
119	0.0704	0.5484	-0.021	0.2895	0.1319	-4.5789	-0.3632	0.2845	0.4647	-0.7629	-0.3147	0.9281	2.1326
120	-0.8444	0.56	-0.4331	0.8736	1.017	-2.9855	0.2507	-0.3867	0.1778	-0.8456	-0.3664	2.337	4.1398
121	-0.3936	-0.4668	-1.2924	0.3866	0.8261	-2.6626	-0.165	-0.9218	-0.6406	-1.1752	-1.0454	0.7749	1.5691
122	1.9856	-1.9507	-1.2577	0.0401	0.1838	-3.8796	-0.9712	-0.4708	-0.6291	-1.2239	-1.2815	-0.9706	-0.8012
123	2.4741	-1.6093	-0.374	0.1137	-0.0076	-3.9417	-0.1446	0.2523	0.2122	-1.2731	-1.1487	-1.7569	-0.305
124	0.469	0.1423	0.1968	0.0948	-0.0683	-2.5792	0.7529	0.7374	0.5885	-1.4285	-1.311	-0.533	0.9449
125	-1.5776	1.1878	0.0969	0.1699	0.2524	-1.6787	0.8339	0.3386	0.1678	-1.1622	-1.252	1.2387	2.6468
126	-1.6154	0.6141	-0.6289	0.1058	0.2605	-1.6251	0.3467	-1.2161	-0.8507	-0.826	-1.1192	0.7248	1.33
127	0.5164	-0.8318	-0.8632	-0.3771	-0.3909	-3.2271	-0.5666	-0.6628	-0.4749	-0.7017	-0.9864	-1.1606	-1.4966
128	1.8027	-1.2409	-0.3377	-0.5796	-1.112	-5.4451	-1.4799	-0.0414	-0.1658	-0.7892	-1.0381	-1.8128	-1.6077
129	0.1933	0.2584	0.2771	-0.4552	-1.1046	-5.8535	-1.3284	0.1381	0.1432	-0.6661	-0.9054	-1.2774	0.0911
130	-2.1811	1.8401	0.4	-0.1904	-0.5423	-4.2599	-0.6089	0.1137	0.3855	-0.7197	-0.8834	1.2682	3.0467
131	-2.9889	1.761	-0.1925	0.1218	0.1238	-3.0129	-0.2801	-0.9307	-0.0363	-0.774	-0.8984	2.2593	4.3919
132	-1.3458	0.2289	-0.8745	0.1084	0.1998	-2.8823	-0.5194	-1.431	-0.6907	-0.6177	-0.6552	0.7363	2.1649
133	1.2608	-1.2624	-0.5286	0.0025	-0.2103	-3.6758	-0.7232	-0.6732	-0.1501	-0.4269	-0.4858	-0.3303	1.3959
134	1.6954	-1.2188	0.2194	-0.0096	-0.5513	-3.4297	-0.4302	0.0166	0.2908	-0.5888	-0.6117	-0.3922	2.7386
135	-0.042	0.1107	0.7438	0.3052	-0.0944	-1.0277	0.8213	0.2646	0.7314	-0.6809	-0.664	0.2764	3.6277
136	-1.7807	0.5682	0.2846	0.4343	0.5704	0.8739	1.1141	-0.4054	0.1427	-0.7738	-0.6794	1.8583	4.4657
137	-1.0283	-0.6765	-0.6218	0.5175	1.1309	1.4664	0.8034	-1.3474	-0.8778	-0.7265	-0.5473	1.1089	2.5866
138	0.9289	-1.8388	-0.9919	0.2751	0.6154	0.2109	-0.0045	-0.9973	-0.9357	-0.7151	-0.8213	-0.6467	-0.4

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139	1.7593	-1.7981	-0.2	-0.0133	-0.178	-1.4296	-0.8479	-0.2731	-0.5621	-0.6693	-0.9847	-1.4432	-0.3695
140	-0.0246	0.234	0.4576	0.1184	-0.1042	-0.5292	-0.0585	0.3492	-0.0559	-0.765	-0.8162	-0.4582	1.3703
141	-2.2118	2.0996	0.7127	0.6702	0.5593	1.2953	0.8374	0.5975	0.4501	-0.6854	-0.6846	1.6686	3.3104
142	-2.8324	2.0971	0.2077	0.8032	0.9797	1.8107	0.6326	-0.344	-0.1728	-0.4658	-0.5902	1.8753	3.3885
143	-1.2432	0.8906	-0.4316	0.5174	0.671	0.9401	0.0018	-0.7416	-0.4639	-0.1765	-0.2376	-0.6151	-1.2123
144	0.8271	-0.4409	-0.043	0.1857	-0.0543	-0.5851	-0.5581	-0.187	-0.1576	-0.0991	-0.7708	-1.5524	-2.4439
145	1.0068	-0.0299	0.6584	0.041	-0.19	-1.1863	-0.6922	0.2996	0.1486	-0.1633	-0.0127	-1.028	-0.5579
146	-1.5885	1.2935	0.6443	-0.2429	0.0211	-0.517	-0.9328	0.2422	0.023	-0.4043	-0.3618	1.3235	1.9307
147	-3.0193	1.496	0.0489	-0.1068	0.4748	0.1138	-1.209	-0.495	-0.5343	-0.294	-0.2313	2.806	4.1166
148	-2.0796	-0.045	-1.1277	-0.0167	0.9629	0.167	-1.4498	-1.3342	-1.3906	-0.2549	-0.2856	1.7742	2.378
149	0.3464	-1.5035	-1.2765	-0.1123	0.7915	-0.6269	-1.8328	-0.9154	-1.3175	-0.3573	-0.4877	0.3761	0.387
150	1.2435	-1.3439	-0.4868	0.0723	0.5157	-0.6123	-1.3638	0.0136	-0.5805	-0.0382	-0.0259	-0.0632	1.5135
151	-0.2726	0.2262	0.2133	0.4904	0.8295	1.4043	0.0636	0.2626	-0.076	0.069	0.1775	1.0962	2.9409
152	-1.8302	1.1734	0.2874	0.7694	1.4554	3.4593	0.9229	0.3076	-0.0033	-0.1767	0.0854	2.7119	4.7193
153	-1.6201	0.1697	-0.5328	0.9092	2.081	3.9742	0.7171	-0.7693	-0.8272	-0.0711	0.1037	1.9503	3.2271
154	0.2369	-1.706	-1.219	0.3505	1.4919	3.0646	-0.2698	-0.6901	-1.2196	-0.1776	-0.0996	-0.5487	-1.1835
155	1.2485	-2.3785	-0.788	-0.3008	0.6248	1.847	-0.9017	0.2052	-0.6493	-0.0736	0.0658	-2.2717	-3.1304
156	-0.1933	-1.0595	-0.0443	-0.5321	0.1739	2.1307	-0.5398	0.7265	-0.0792	-0.1113	0.2309	-1.8476	-2.161
157	-2.6815	0.9232	0.2969	-0.2502	0.5903	3.3769	0.035	0.9758	0.4576	-0.2906	0.1375	0.0381	-0.5891
158	-4.0453	1.5359	-0.3009	-0.061	1.1799	3.6221	-0.2068	0.1713	-0.0017	-0.5763	-0.3622	0.9632	0.9817
159	-2.9179	0.4054	-1.0777	-0.1974	1.0405	2.4811	-1.0166	-0.2933	-0.6604	-0.5108	-0.5669	-0.0319	-0.6174
160	-0.666	-0.7256	-0.7819	-0.4265	0.4498	1.0321	-1.436	0.4323	0.0752	-0.587	-0.5137	-1.622	-2.9219
161	-0.5058	-0.5288	0.05	-0.655	-0.1065	0.7765	-1.1811	0.6819	0.3459	-0.5232	-0.3501	-1.7962	-1.6059
162	-1.995	0.2901	0.6135	-0.6034	-0.1079	2.2534	-0.2872	0.8636	0.4836	-0.7067	-0.1868	-0.0977	0.715
163	-3.4451	0.4446	0.2381	-0.1318	0.6886	3.3066	0.0386	0.5353	0.5548	-0.5742	-0.2083	1.6457	2.5318
164	-3.0874	-0.9366	-0.8975	-0.0325	1.0684	3.0508	-0.3102	-0.473	0.0615	-0.513	-0.2671	0.8747	1.2289
165	-0.6405	-2.7331	-1.4076	-0.3055	0.6846	1.9094	-0.8366	-0.5631	-0.3655	-0.4526	-0.2524	-0.9026	-2.0872
166	0.7601	-3.4094	-0.7556	-0.5313	0.0923	1.2684	-0.9016	0.0608	-0.1618	-0.2875	0.0202	-1.584	-1.7325
167	-0.4133	-2.343	-0.1487	-0.5237	0.055	2.0903	-0.2211	0.5487	0.4069	-0.44	-0.0766	0.2473	2.142
168	-2.6331	-1.0279	-0.1231	-0.2825	0.6073	3.7592	0.5657	0.7307	0.6103	-0.6286	-0.1737	2.169	3.8524
169	-4.0098	-1.207	-0.7235	0.0523	1.194	4.5809	0.749	-0.3113	0.0168	-0.6069	-0.3081	1.8505	3.2982
170	-2.3324	-2.9633	-1.1901	0.0149	1.2253	4.2475	0.8256	-0.5712	-0.444	-0.2341	-0.037	-0.5255	-0.9793
171	-0.3747	-4.2219	-0.7629	-0.3949	0.4929	3.0286	0.3342	0.087	-0.1745	-0.3197	-0.0984	-2.3082	-3.6485
172	-0.79	-3.4472	0.111	-0.8974	-0.3785	2.772	0.2332	0.2692	-0.2703	-0.3006	-0.0864	-2.6295	-2.8984
173	-2.6938	-2.2992	0.627	-1.0266	-0.4867	3.5548	0.5937	0.2474	-0.2334	-0.8104	-0.4069	-1.1237	-1.5963
174	-3.7545	-2.1058	0.2488	-0.736	-0.04	4.068	0.7765	0.0897	0.235	-0.6875	-0.4327	0.2441	-0.0941
175	-2.9269	-3.4897	-0.532	-0.4915	0.337	3.3107	0.3558	-0.6459	-0.2927	-0.6358	-0.4219	-0.9483	-2.3153
176	-0.6131	-5.2058	-1.0896	-0.8523	-0.119	1.6677	-0.4556	-0.4635	-0.3225	-0.6203	-0.5223	-2.4158	-4.3869
177	0.2525	-5.7185	-0.5746	-1.3059	-1.0264	0.91	-0.628	-0.0431	-0.2528	-0.6056	-0.5124	-2.4219	-2.838
178	-1.3604	-5.4361	0.0742	-1.3396	-1.0665	1.4613	-0.1615	0.2754	0.1489	-0.8031	-0.5768	-0.6923	0.1683
179	-2.6528	-5.8179	-0.1713	-1.0001	-0.274	2.436	0.2695	0.322	0.2516	-1.0014	-0.6416	1.539	2.8213
180	-2.3383	-7.6939	-1.1322	-0.567	0.5182	2.4865	0.2033	-0.7195	-0.4094	-0.8839	-0.67	1.2102	2.5557
181	-0.0952	-10.8564	-1.7805	-0.7859	0.408	1.3819	-0.2179	-1.0128	-0.9044	-0.732	-0.7727	-0.9019	-0.9304
182	2.0664	-12.9816	-1.3563	-1.0976	-0.3271	0.6237	-0.2842	-0.4221	-0.6027	-0.4051	-0.5068	-1.7811	-2.6572
183	1.4934	-13.1563	-0.4854	-0.9894	-0.5766	1.3669	0.5724	-0.0354	-0.1351	-0.5014	-0.3152	-1.6558	-1.8199
184	-0.367	-13.2067	-0.1958	-0.5081	-0.0976	2.6104	1.3935	0.2833	0.266	-0.3523	-0.1979	0.1137	0.4245
185	-1.4245	-14.2945	-0.9346	-0.1196	0.7281	2.8528	1.3269	-0.2139	0.0363	-0.4856	-0.3394	0.694	0.8569

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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186	-1.1564	-16.254	-1.8079	-0.0569	1.0331	2.2866	1.0118	-0.711	-0.2267	-0.1271	-0.1493	-1.2859	-2.4845
187	0.7981	-18.255	-1.6979	-0.5996	0.2969	1.2198	0.6967	-0.2561	-0.1246	-0.0863	-0.1442	-2.8097	-4.9218
188	1.126	-18.762	-0.6943	-0.9555	-0.4743	1.1538	0.9849	0.3008	0.1767	-0.0816	-0.1397	-2.8721	-3.5878
189	-0.8076	-18.4805	0.0855	-1.1713	-0.8293	2.1271	1.5926	1.0617	0.9095	-0.113	-0.1725	-1.336	-1.3999
190	-2.545	-19.0706	-0.163	-0.9674	-0.317	2.6768	1.7032	0.7347	0.779	-0.1101	-0.0583	0.062	-1.2757
191	-2.796	-21.4866	-1.2164	-0.6699	0.2297	2.3024	1.3877	-0.4762	-0.0155	0.1382	0.0923	-1.2373	-3.215
192	0.21	-25.3551	-1.6443	-1.0244	-0.0913	1.0039	0.6817	-0.4632	-0.4449	0.2097	0.021	-2.8118	-5.7591
193	2.293	-27.1071	-1.1785	-1.4253	-0.8635	0.0132	0.2596	0.1279	-0.2435	0.4562	0.1336	-2.8791	-4.5321
194	2.0052	-26.7841	-0.4448	-1.4996	-1.1156	0.9088	0.8314	0.4131	0.0906	0.385	0.098	-1.6222	-1.3949
195	0.9134	-26.5855	-0.2478	-1.0144	-0.5003	1.9198	1.4032	0.6643	0.3251	0.4185	-0.0119	0.8677	1.4895
196	0.7043	-27.4658	-0.8557	-0.4823	0.5311	1.8911	1.1229	-0.3085	-0.3369	0.5567	0.136	1.4828	2.4612
197	1.617	-29.3478	-1.6426	-0.2761	0.9725	1.0538	0.8425	-0.4653	-0.5673	0.3772	0.0249	-0.645	-1.3468
198	2.8455	-30.4447	-1.3124	-0.3958	0.4767	0.1394	0.5621	-0.18	-0.5985	0.6895	0.5037	-1.5857	-3.0436
199	2.0563	-29.8203	-0.4014	-0.3754	-0.0887	0.4952	1.0271	0.1733	-0.2314	0.649	0.5022	-1.202	-1.4218
200	-0.6721	-28.2345	0.5988	-0.2616	0.0397	1.6209	1.5986	0.8666	0.6005	0.7483	0.8323	0.4145	0.4502
201	-2.487	-26.833	-0.1446	0.1787	0.7925	1.938	1.5664	0.982	0.8347	0.882	0.7927	1.2532	0.8622
202	-2.0629	-25.9993	-0.9778	0.2465	1.2675	1.8314	1.1793	0.1453	0.2721	1.1203	0.7157	-0.377	-2.4996
203	0.5995	-25.3621	-1.2955	-0.5044	0.7707	0.7236	0.6855	0.1588	-0.0581	0.9705	0.5273	-2.3737	-6.2148
204	2.3641	-23.3452	-0.4961	-1.2084	-0.108	0.3087	0.5467	0.7162	0.0433	0.9958	0.5966	-2.7263	-5.5551
205	1.6231	-19.7839	0.3924	-1.5394	-0.4871	1.2025	0.9049	1.3757	0.6095	0.7033	0.4808	-1.6174	-3.1363
206	0.2262	-16.7561	0.4761	-1.4508	0.0358	1.9808	0.979	1.3212	0.6444	0.6564	0.4013	0.4958	-0.0145
207	0.0233	-14.9305	-0.0664	-1.3619	0.5585	1.7578	0.414	0.2807	-0.0179	0.7494	0.5057	0.1403	-0.8174
208	0.8142	-13.7311	-0.6538	-1.7389	0.3176	1.1497	0.133	-0.0798	-0.4146	1.1583	0.7571	-1.8615	-4.3881
209	1.8361	-12.3744	-0.3476	-2.302	-0.6868	0.3489	0.0294	0.3758	-0.3797	1.0734	0.4912	-2.219	-4.4391
210	0.9191	-9.4533	0.0925	-2.4456	-1.171	0.5489	0.3163	0.5933	-0.1124	0.9173	0.3723	-1.3894	-1.7249
211	-1.3333	-5.6757	-0.0041	-2.2162	-0.7184	1.6343	0.8161	0.9809	0.2545	0.9715	0.4003	0.7189	0.7365
212	-2.7505	-2.5789	-0.5928	-1.474	0.5321	1.9109	0.8899	0.4846	0.1898	0.884	0.2063	1.6379	1.587
213	-3.0517	-0.3725	-1.4052	-1.1044	1.366	1.2634	0.5021	-0.5558	-0.9373	1.2532	0.3069	0.4081	-0.9841
214	-1.9979	1.4789	-1.0558	-1.1075	0.9505	0.3462	0.4693	-0.2362	-0.5373	1.199	0.1485	-1.0513	-2.0978
215	-1.6022	4.419	0.098	-1.2503	0.1184	0.0833	0.5074	0.0495	-0.6352	1.2497	0.3953	-0.4551	0.107
216	-3.8796	8.8878	0.6256	-1.0667	0.119	1.0523	1.22	0.7092	0.1965	1.1586	0.457	0.5971	1.4554
217	-5.139	11.9949	0.6613	-0.7431	0.6399	1.6745	1.613	0.9269	0.5303	1.3482	0.7025	2.0139	1.9978
218	-3.9025	13.2853	0.0708	-0.4661	1.1259	0.7951	1.154	0.0566	0.1668	1.2202	0.4308	1.0533	-0.1773
219	-0.7456	13.7001	-0.3737	-0.9811	0.503	-0.1616	0.695	-0.3717	-0.3295	1.4081	0.6012	-1.2793	-4.3657
220	1.7028	14.8288	0.1227	-1.4961	-0.5551	-0.4254	0.7329	0.3561	0.1371	1.5599	0.9554	-1.6021	-4.3805
221	0.8902	17.0438	0.7555	-1.5915	-1.1461	0.2731	1.1257	0.7098	0.4045	1.4996	1.0875	-0.6463	-1.7809
222	-1.9614	18.052	1.0775	-0.8947	-0.6455	1.3179	1.6251	1.1316	0.9043	1.1569	1.1451	1.0398	-0.1886
223	-4.2281	16.6386	0.5077	0.0353	0.3221	1.246	1.3078	0.3633	0.4413	1.3765	1.608	1.491	0.0443
224	-4.2159	14.7546	-0.5963	0.1862	0.9586	0.7889	1.1681	-0.5409	-0.254	1.5953	1.9594	-0.2524	-2.8426
225	-1.2824	14.8384	-0.223	-0.2323	0.0843	-0.3614	0.7443	-0.6971	-0.7501	1.602	2.1626	-0.7628	-2.9642
226	2.1529	15.7742	0.6443	-0.3816	-0.4271	-0.3184	0.995	-0.2073	-0.1174	1.6078	2.2913	0.3252	0.3333
227	2.0151	15.8313	0.7985	-0.4946	-0.1244	0.7254	1.3876	0.3505	0.0838	1.5776	2.53	2.1892	3.0762
228	0	0	0	0	0	0	0	0	0	0	0	0	0
229	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0	0	0	0	0
231	0	0	0	0	0	0	0	0	0	0	0	0	0
232	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

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233	0	0	0	0	0	0	0	0	0	0	0	0	0
234	0	0	0	0	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0	0	0	0	0
236	0	0	0	0	0	0	0	0	0	0	0	0	0
237	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	0	0	0	0	0	0	0	0	0	0	0
239	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0
241	0	0	0	0	0	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0
243	0	0	0	0	0	0	0	0	0	0	0	0	0
244	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	0	0	0	0
246	0	0	0	0	0	0	0	0	0	0	0	0	0
247	0	0	0	0	0	0	0	0	0	0	0	0	0
248	0	0	0	0	0	0	0	0	0	0	0	0	0
249	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0
251	0	0	0	0	0	0	0	0	0	0	0	0	0
252	0	0	0	0	0	0	0	0	0	0	0	0	0
253	0	0	0	0	0	0	0	0	0	0	0	0	0
254	0	0	0	0	0	0	0	0	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0	0	0	0	0
256	0	0	0	0	0	0	0	0	0	0	0	0	0
257	0	0	0	0	0	0	0	0	0	0	0	0	0
258	0	0	0	0	0	0	0	0	0	0	0	0	0
259	0	0	0	0	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0	0	0	0	0
261	0	0	0	0	0	0	0	0	0	0	0	0	0
262	0	0	0	0	0	0	0	0	0	0	0	0	0
263	0	0	0	0	0	0	0	0	0	0	0	0	0
264	0	0	0	0	0	0	0	0	0	0	0	0	0
265	0	0	0	0	0	0	0	0	0	0	0	0	0
266	0	0	0	0	0	0	0	0	0	0	0	0	0
267	0	0	0	0	0	0	0	0	0	0	0	0	0
268	0	0	0	0	0	0	0	0	0	0	0	0	0
269	0	0	0	0	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0	0	0	0	0
271	0	0	0	0	0	0	0	0	0	0	0	0	0
272	0	0	0	0	0	0	0	0	0	0	0	0	0
273	-1.5831	-1.5519	0	0	0	0	0	0	0	0	0	0	0
274	1.0206	-1.4935	0	0	0	0	0	0	0	0	0	0	0
275	1.6963	-0.5892	0	0	0	0	0	0	0	0	0	0	0
276	0.471	0.8599	0	0	0	0	0	0	0	0	0	0	0
277	-0.6882	1.877	0	0	0	0	0	0	0	0	0	0	0
278	-0.7868	1.9211	0	0	0	0	0	0	0	0	0	0	0
279	0.8942	0.8368	0	0	0	0	0	0	0	0	0	0	0

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Manual: 2344649 Program: GMI

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280	1.7683	0.158	0	0	0	0	0	0	0	0	0	0	0
281	0.5176	0.0673	0	0	0	0	0	0	0	0	0	0	0
282	-1.0694	-0.337	0	0	0	0	0	0	0	0	0	0	0
283	-2.2407	-1.7484	0	0	0	0	0	0	0	0	0	0	0
284	0	0	0	0	0	0	0	0	0	0	0	0	0
285	0	0	0	0	0	0	0	0	0	0	0	0	0
286	0	0	0	0	0	0	0	0	0	0	0	0	0
287	0	0	0	0	0	0	0	0	0	0	0	0	0
288	0	0	0	0	0	0	0	0	0	0	0	0	0
289	0	0	0	0	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	0
291	0	0	0	0	0	0	0	0	0	0	0	0	0
292	0	0	0	0	0	0	0	0	0	0	0	0	0
293	0	0	0	0	0	0	0	0	0	0	0	0	0
294	0	0	0	0	0	0	0	0	0	0	0	0	0
295	0	0	0	0	0	0	0	0	0	0	0	0	0
296	0	0	0	0	0	0	0	0	0	0	0	0	0
297	0	0	0	0	0	0	0	0	0	0	0	0	0
298	0	0	0	0	0	0	0	0	0	0	0	0	0
299	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0
301	0	0	0	0	0	0	0	0	0	0	0	0	0
302	0	0	0	0	0	0	0	0	0	0	0	0	0
303	0	0	0	0	0	0	0	0	0	0	0	0	0
304	0	0	0	0	0	0	0	0	0	0	0	0	0
305	0	0	0	0	0	0	0	0	0	0	0	0	0
306	0	0	0	0	-0.9488	0	0	0	0	0	0	0	0
307	0	0	-1.3803	-2.9031	-0.9228	0	0	0	0	0	0	0	0
308	0	0	0.2168	-1.3989	-0.5089	0	0	0	0	0	0	0	0
309	0	0	1.2499	0.0235	0.1954	0	0	0	0	0	0	0	0
310	0	0	1.375	0.7848	0.9769	0	0	0	0	0	0	0	0
311	0	0	0.7493	1.2064	1.4999	0	0	0	0	0	0	0	0
312	0	0	0.8851	1.1088	0.5317	0	0	0	0	0	0	0	0
313	0	0	1.081	1.1517	-0.207	0	0	0	0	0	0	0	0
314	0	0	0.8022	0.9397	-0.2359	0	0	0	0	0	0	0	0
315	0	0	-0.3319	0.5958	0.2411	0	0	0	0	0	0	0	0
316	0	0	-1.8313	0.0076	0.7354	0	0	0	0	0	0	0	0
317	0	0	-2.8159	-1.5163	-0.0174	0	0	0	0	0	0	0	0
318	0	0	0	0	-1.3397	0	0	0	0	0	0	0	0
319	0	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	-0.5542	-1.5017	0	0
321	0	0	0	0	0	0	0	0	0	-0.1294	0.5302	0	0
322	0	0	0	0	0	0	0	0	0	0.1112	0.7415	0	0
323	0	0	0	0	0	0	0	0	0	0.9337	0.9352	0	0
324	0	0	0	0	0	0	0	0	0	0.7017	1.0422	0	0
325	0	0	0	0	0	0	0	-0.7269	-1.0061	0.0934	0.64	0	0
326	0	0	0	0	0	0	0	-0.3025	-0.5493	0.7079	0.3229	0	0

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Agile Revision: H (C484272)

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327	0	0	0	0	0	0	0	-0.9501	-0.8104	0.9371	0.1682	0	0		
328	0	0	0	0	0	0	0	-1.0259	-0.78	0.5998	-0.0837	0	0		
329	0	0	0	0	0	0	0	-0.1842	-0.1371	0.9814	-0.3048	0	0		
330	0	0	0	0	0	0	0	1.211	0.8173	0.4346	0.075	-2.3307	-2.2908		
331	0	0	0	0	0	0	0	1.8541	1.3552	-0.2437	0.2719	-0.9211	-1.8906		
332	0	0	0	0	0	0	0	0.6115	0.7252	0.0615	0.1627	-1.664	-2.5601		
333	0	0	0	0	0	0	0	-0.2795	0.1233	-0.554	-0.2998	-1.8791	-2.4241		
334	0	0	0	0	0	0	0	0.3051	0.3456	-1.7824	-0.9059	-0.7291	-0.2044		
335	0	0	0	0	0	0	0	0.9166	0.6845	-2.2987	-1.794	0.5945	1.7039		
336	0	0	0	0	0	0	0	1.1582	0.8361	0	0	1.8646	1.7996		
337	0	0	0	0	0	0	0	0.1882	0.4184	0	0	1.3738	0.973		
338	0	0	0	0	0	0	0	-0.7288	-0.0207	0	0	-0.3763	-1.4988		
339	0	0	0	0	0	0	0	-1.0559	-0.2247	0	0	-0.1318	-1.3223		
340	0	0	0	0	0	0	0	0.133	0.1185	0	0	1.4303	2.4118		
341	0	0	0	0	0	0	0	1.2659	0.7235	0	0	2.3506	2.7718		
342	-5.2112	7.425167	0	0	0	0	0	1.3941	0.9694	0	0	2.1331	1.4598	-0.3199	7.425167
343	-5.7728	6.615467	0	0	0	0	0	-0.3007	0.0759	0	0	0.6969	0.2119	-1.1296	6.615467
344	-4.1971	5.063967	0	0	0	0	0	-1.4468	-0.8635	0	0	-0.1299	-0.6175	-2.6811	5.063967
345	-2.3528	3.910467	0	0	0	0	0	-1.1401	-1.0647	0	0	0.7086	1.7195	-3.8346	3.910467
346	-2.2133	3.441467	0	0	0	0	0	-0.2328	-0.7048	0	0	1.6453	3.3359	-4.3036	3.441467
347	-2.7936	3.005267	0	0	0	0	0	-0.6635	-1.0316	0	0	1.4811	2.2516	-4.7398	3.005267
348	-3.304	2.784467	0	0	0	0	0	0	0	0	0	-0.3738	0.0131	-4.9606	2.784467
349	-2.7276	2.233767	0	0	0	0	0	0	0	0	0	-2.6176	-3.0172	-5.5113	2.233767
350	-0.8208	1.394167	0	0	0	0	0	0	0	0	0	-3.1255	-2.8259	-6.3509	1.394167
351	0.0951	1.014067	0	0	0	0	0	0	0	0	0	0	0	-6.731	1.014067
352	-0.9464	1.139867	0	0	0	3.4639	2.5989	0	0	0	0	0	0	-6.6052	1.139867
353	-2.7868	1.876367	0	0	0	3.4924	2.606	0	0	0	0	0	0	-5.8687	1.876367
354	-3.4366	1.868967	0	0	0	3.3303	2.5958	0	0	0	0	0	0	-5.8761	1.868967
355	-1.7052	0.958567	0	0	0	3.1235	2.5961	0	0	0	0	0	0	-6.7865	0.958567
356	0.1082	0.074567	0	0	0	3.0105	2.587	0	0	0	0	0	0	-7.6705	0.074567
357	-0.3423	-0.11283	0	0	0	3.1228	2.7663	0	0	0	0	0	0	-7.8579	-0.11283
358	-0.9413	-0.43103	0	0	0	2.5958	2.5403	0	0	0	0	0	0	-8.1761	-0.43103
359	-1.3319	-0.45253	0	0	0	2.0451	2.2267	0	0	0	0	0	0	-8.1976	-0.45253
360	0.0928	-1.85023	0	0	0	1.8843	2.1569	0	0	0	0	0	0	-9.5953	-1.85023
361	2.5591	-3.50353	0	0	0	1.2925	1.7647	0	0	0	0	0	0	-11.2486	-3.50353
362	3.6953	-4.14613	0	0	0	1.2091	1.6814	0	0	0	0	0	0	-11.8912	-4.14613
363	3.2067	-4.07323	0	0	0	0.9933	1.3614	0	0	0	0	0	0	-11.8183	-4.07323
364	2.897	-3.85563	0	0	0	0.5377	0.7809	0	0	0	0	0	0	-11.6007	-3.85563
365	3.6705	-4.56053	0	0	0	0.6464	0.6399	0	0	0	0	0	0	-12.3056	-4.56053
366	6.6427	-6.72163	0	0	0	0.2671	0.1061	0	0	0	0	0	0	-14.4667	-6.72163
367	8.9933	-7.32543	0	0	0	-0.2147	-0.6085	0	0	0	0	0	0	-15.0705	-7.32543
368	8.9232	-5.77383	0	0	0	0	0	0	0	0	0	0	0	-7.74507 -13.5189	-5.77383
369	0	0	0	0	0	0	0	0	0	0	0	0	0		
370	0	0	0	0	0	0	0	0	0	0	0	0	0		
371	0	0	0	0	0	0	0	0	0	0	0	0	0		
372	0	0	0	0	0	0	0	0	0	0	0	0	0		
373	0	0	0	0	0	0	0	0	0	0	0	0	0		

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Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI

374	0	0	0	0	0	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	0	0	0	0	0	0	0
376	0	0	0	0	0	0	0	0	0	0	0	0	0
377	0	0	0	0	0	0	0	0	0	0	0	0	0
378	0	0	0	0	0	0	0	0	0	0	0	0	0
379	0	0	0	0	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0	0	0	0	0
381	0	0	0	0	0	0	0	0	0	0	0	0	0
382	0	0	0	0	0	0	0	0	0	0	0	0	0
383	0	0	0	0	0	0	0	0	0	0	0	0	0
384	0	0	0	0	0	0	0	0	0	0	0	0	0
385	0	0	0	0	0	0	0	0	0	0	0	0	0
386	0	0	0	0	0	0	0	0	0	0	0	0	0
387	0	0	0	0	0	0	0	0	0	0	0	0	0
388	0	0	0	0	2.3541	0	0	0	0	0	0	0	0
389	0	0	0	0	0.8642	0	0	0	0	0	0	0	0
390	0	0	2.3715	3.4213	0.6896	0	0	0	0	0	0	0	0
391	0	0	1.534	2.3219	1.001	0	0	0	0	0	0	0	0
392	0	0	0.1109	1.6467	1.4415	0	0	0	0	-5.3631	5.9755	0	0
393	0	0	-0.8069	0.5936	0.6883	0	0	0	0	-5.0409	5.6464	0	0
394	0	0	-0.8368	-0.4722	-0.6525	0	0	0	0	-5.1065	5.1107	0	0
395	0	0	-0.5763	-1.0915	-1.3221	0	0	0	0	-5.1447	4.5999	0	0
396	0	0	-0.795	-1.1478	-0.9062	0	0	0	0	-4.9267	4.1864	0	0
397	0	0	-1.8273	-0.8973	0.2903	0	0	0	0	-4.5341	3.8007	0	0
398	0	0	-2.6219	-1.37	0.5506	0	0	0	0	-4.2584	3.444	-6.0325	-6.8839
399	0	0	-2.3551	-2.0969	-0.8302	0	0	0	0	-4.1921	2.9088	-5.2626	-5.0137
400	0	0	-1.5786	-2.2875	-1.7666	0	0	0	0	-4.3725	2.4257	-4.117	-3.1739
401	0	0	-0.8142	-2.1399	-1.6566	0	0	0	0	-4.2635	2.0329	-3.2987	-3.8245
402	0	0	-0.5285	-1.575	-0.8575	0	0	0	0	-3.8842	1.7664	-3.9606	-5.2262
403	0	0	-0.8394	-1.3149	-0.1453	0	0	0	0	-3.5658	1.5182	-5.3059	-7.5869
404	0	0	-0.8101	-1.5902	-0.6251	0	0	0	0	-3.3421	1.1729	-5.3764	-6.9269
405	0	0	0.0213	-1.3933	-1.238	0	0	0	0	-3.416	0.8612	-4.2568	-4.0056
406	0	0	1.1986	-0.6352	-0.8962	0	0	0	0	-3.4321	0.573	-3.1962	-3.5149
407	0	0	1.7848	0.6776	0.4927	0	0	0	0	-3.1924	0.3633	-3.0119	-4.7059
408	0	0	1.8695	2.1001	2.5237	0	0	0	0	-2.6759	0.2496	-4.4053	-6.1625
409	0	0	2.0903	3.0818	0	0	0	0	0	-2.4694	0.0866	-5.1991	-6.7734
410	0	0	3.4093	4.1688	0	0	0	-1.4214	-0.3906	-2.339	-0.109	-4.2811	-4.2136
411	0	0	0	0	0	0	0	-0.2453	-0.0004	-2.371	-0.3558	-3.1027	-2.8237
412	0	0	0	0	0	0	0	0.7176	0.3606	-2.052	-0.4665	-2.3143	-3.7647
413	0	0	0	0	0	0	0	-0.2047	-0.3691	-1.4866	-0.5301	-2.8379	-4.3784
414	0	0	0	0	0	0	0	-1.7556	-1.8272	-0.9353	-0.6043	-4.1386	-6.0353
415	0	0	0	0	0	0	0	-1.7233	-2.4002	-0.5308	-0.6946	-3.8143	-5.2196
416	0	0	0	0	0	0	0	-0.377	-1.8244	-0.4608	-0.9657	-2.8233	-3.3896
417	0	0	0	0	0	0	0	1.0904	-0.9884	-0.293	-1.299	-1.9908	-3.8799
418	0	0	0	0	0	0	0	1.0561	-0.9236	0.122	-1.481	-1.7521	-4.7897
419	0	0	0	0	0	0	0	-1.0199	-2.5049	0.5856	-1.7121	-3.612	-7.371
420	0	0	0	0	0	0	0	-1.9484	-3.6183	0.8488	-1.9405	-3.9181	-7.1464

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421	0	0	0	0	0	0	0	-1.0254	-3.4861	0.8195	-2.2507	-2.5118	-3.8281
422	0	0	0	0	0	0	0	0.4964	-2.6745	0.7279	-2.6457	-1.2055	-2.3648
423	0	0	0	0	0	0	0	1.2177	-2.3263	0.8703	-2.824	-0.1428	-2.6589
424	0	0	0	0	0	0	0	-0.193	-3.3471	1.3654	-2.7344	-0.6682	-2.9125
425	0	0	0	0	0	0	0	-1.6056	-4.6528	1.7175	-2.7392	-1.7196	-3.7475
426	0	0	0	0	0	0	0	-1.7637	-5.1835	2.2041	-2.4762	-0.9023	-1.5825
427	0	0	0	0	0	0	0	-0.4244	-4.5882	2.7008	-1.9085	0.2857	1.1076
428	0	0	0	0	0	0	0	1.0222	-3.7627	3.3274	-1.2949	1.8304	1.3798
429	0	0	0	0	0	0	0	0.7355	-3.9833	4.3247	-0.5822	2.0976	0.9625
430	0	0	0	0	0	0	0	-0.7466	-5.299	4.8882	-0.374	0.7359	-0.1945
431	0	0	0	0	0	0	0	-1.2837	-6.0722	5.1661	-0.2923	0.4175	0.2985
432	0	0	0	0	0	0	0	-0.0596	-5.5281	5.0708	-0.4135	1.3052	2.8227
433	0	0	0	0	0	0	0	1.7154	-4.2994	4.8402	-0.8044	2.2242	3.4
434	0	0	0	0	0	0	0	2.3289	-3.867	4.8513	-1.0181	2.798	2.5349
435	0	0	0	0	0	0	0	0.8304	-4.7093	5.1329	-1.1457	1.5938	1.7642
436	0	0	0	0	0	0	0	-0.5417	-5.8035	5.1524	-1.511	0.5176	0.4065
437	0	0	0	0	0	1.7816	0.5614	-0.1475	-5.7711	4.8546	-1.662	1.0604	2.3259
438	0	0	0	0	0	1.1573	0.255	1.2335	-4.8437	4.4564	-1.9661	2.3351	4.7792
439	0	0	0	0	0	0.619	0.0667	2.344	-3.9949	4.3708	-2.1041	3.7658	5.1648
440	0	0	0	0	0	0.8474	0.0475	1.6987	-4.2408	4.6258	-2.1383	4.5943	6.2208
441	0	0	0	0	0	1.914	0.2789	0	0	5.0575	-2.0817	4.1308	6.0718
442	0	0	0	0	0	2.4788	0.2609	0	0	5.5681	-1.5968	4.6799	7.2231
443	0	0	0	0	0	2.549	0.319	0	0	0	0	6.3949	11.365
444	0	0	0	0	0	2.3335	0.6294	0	0	0	0	7.6199	11.5106
445	0	0	0	0	0	1.6312	0.5327	0	0	0	0	7.9374	10.1231
446	0	0	0	0	0	1.0858	0.2112	0	0	0	0	6.5648	8.8168
447	0	0	0	0	0	0.4113	-0.3151	0	0	0	0	5.1854	7.2597
448	0	0	0	0	0	-0.02	-0.6276	0	0	0	0	5.3586	8.559
449	0	0	0	0	0	-0.491	-0.4946	0	0	0	0	5.8076	9.3531
450	0	0	0	0	0	-1.6231	-0.66	0	0	0	0	6.5295	8.38
451	0	0	0	0	0	-2.0926	-0.8427	0	0	0	0	5.5685	7.1549
452	0	0	0	0	0	-1.5059	-0.6921	0	0	0	0	3.8195	5.1144
453	0	0	0	0	0	-1.5409	-0.8652	0	0	0	0	0	0
454	0	0	0	0	0	-2.1098	-0.9175	0	0	0	0	0	0
455	0	0	0	0	0	-2.768	-0.7624	0	0	0	0	0	0
456	0	0	0	0	0	-3.1079	-0.6157	0	0	0	0	0	0
457	0	0	0	0	0	-1.9739	-0.0306	0	0	0	0	0	0
458	0	0	0	0	0	-0.6175	0.5127	0	0	0	0	0	0
459	0	0	0	0	0	0.1637	1.1302	0	0	0	0	0	0
460	0	0	0	0	0	0.8777	2.0178	0	0	0	0	0	0
461	0	0	0	0	0	0	0	0	0	0	0	0	0
462	0	0	0	0	0	0	0	0	0	0	0	0	0
463	0	0	0	0	0	0	0	0	0	0	0	0	0
464	0	0	0	0	0	0	0	0	0	0	0	0	0
465	0	0	0	0	0	0	0	0	0	0	0	0	0

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Manual: 2344649 Program: GMI
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Appendix X: Antenna Along-scan Bias Correction Terms

Constant Along-Scan Bias ΔT_{const}

scan index	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
7	-0.0521	0.0689	0.0435	0.1785	0.0512	-0.0086	0.0306	0.0242	0.0661	-0.1135	-0.1164	-0.0781	-0.0998
8	-0.0532	0.0631	0.042	0.173	0.0528	-0.0085	0.0304	0.024	0.0655	-0.1125	-0.1154	-0.0774	-0.0989
9	-0.0543	0.0572	0.0404	0.1675	0.0536	-0.0084	0.0301	0.0238	0.0649	-0.1115	-0.1143	-0.0767	-0.098
10	-0.0554	0.0514	0.0388	0.1619	0.0539	-0.0083	0.0298	0.0235	0.0643	-0.1104	-0.1133	-0.076	-0.0971
11	-0.0565	0.0456	0.0372	0.1564	0.0536	-0.0082	0.0295	0.0233	0.0637	-0.1094	-0.1122	-0.0753	-0.0962
12	-0.0576	0.0398	0.0355	0.1509	0.053	-0.0082	0.0293	0.0231	0.0631	-0.1084	-0.1112	-0.0746	-0.0953
13	-0.0588	0.0339	0.0338	0.1453	0.0521	-0.0081	0.029	0.0229	0.0625	-0.1073	-0.1101	-0.0739	-0.0944
14	-0.0599	0.0281	0.0321	0.1398	0.0512	-0.008	0.0287	0.0227	0.0619	-0.1063	-0.109	-0.0731	-0.0935
15	-0.0610	0.0223	0.0303	0.1343	0.0502	-0.0079	0.0284	0.0224	0.0613	-0.1053	-0.108	-0.0724	-0.0926
16	-0.0621	0.0165	0.0284	0.1287	0.0495	-0.0079	0.0281	0.0222	0.0607	-0.1043	-0.1069	-0.0717	-0.0917
17	-0.0632	0.0107	0.0265	0.1232	0.0481	-0.0078	0.0279	0.022	0.0601	-0.1032	-0.1059	-0.071	-0.0908
18	-0.0643	0.0048	0.0245	0.1177	0.0468	-0.0077	0.0276	0.0218	0.0595	-0.1022	-0.1048	-0.0703	-0.0898
19	-0.0655	-0.0010	0.0225	0.1121	0.0455	-0.0076	0.0273	0.0216	0.0589	-0.1012	-0.1037	-0.0696	-0.0889
20	-0.0666	-0.0068	0.0205	0.1066	0.0442	-0.0075	0.027	0.0213	0.0583	-0.1001	-0.1027	-0.0689	-0.088
21	-0.0677	-0.0126	0.0185	0.1011	0.0428	-0.0075	0.0267	0.0211	0.0577	-0.0991	-0.1016	-0.0682	-0.0871
22	-0.0688	-0.0185	0.0165	0.0955	0.0415	-0.0074	0.0265	0.0209	0.0571	-0.0981	-0.1006	-0.0675	-0.0862
23	-0.0699	-0.0243	0.0145	0.09	0.0402	-0.0073	0.0262	0.0207	0.0565	-0.097	-0.0995	-0.0668	-0.0853
24	-0.0710	-0.0301	0.0125	0.0845	0.0389	-0.0072	0.0259	0.0205	0.0559	-0.096	-0.0985	-0.066	-0.0844
25	-0.0722	-0.0359	0.0105	0.0789	0.0376	-0.0072	0.0256	0.0202	0.0553	-0.095	-0.0974	-0.0653	-0.0835
26	-0.0733	-0.0417	0.0085	0.0734	0.0362	-0.0071	0.0254	0.02	0.0547	-0.0939	-0.0963	-0.0646	-0.0826
27	-0.0744	-0.0476	0.0066	0.0679	0.0349	-0.007	0.0251	0.0198	0.0541	-0.0929	-0.0953	-0.0639	-0.0817
28	-0.0755	-0.0534	0.0046	0.0623	0.0336	-0.0069	0.0248	0.0196	0.0535	-0.0919	-0.0942	-0.0632	-0.0808
29	-0.0766	-0.0592	0.0026	0.0593	0.0323	-0.0068	0.0245	0.0194	0.0529	-0.0908	-0.0932	-0.0625	-0.0799
30	-0.0777	-0.0650	0.0006	0.0563	0.0309	-0.0068	0.0242	0.0191	0.0523	-0.0898	-0.0921	-0.0618	-0.079
31	-0.0789	-0.0709	-0.0014	0.0532	0.0296	-0.0067	0.024	0.0189	0.0517	-0.0888	-0.091	-0.0611	-0.0781
32	-0.0800	-0.0767	-0.0034	0.0502	0.0283	-0.0066	0.0237	0.0187	0.0511	-0.0877	-0.09	-0.0604	-0.0771
33	-0.0811	-0.0825	-0.0054	0.0472	0.027	-0.0065	0.0234	0.0185	0.0505	-0.0867	-0.0889	-0.0597	-0.0762
34	-0.0822	-0.0883	-0.0074	0.0442	0.0256	-0.0065	0.0231	0.0183	0.0499	-0.0857	-0.0879	-0.0589	-0.0753
35	-0.0833	-0.0941	-0.0094	0.0411	0.0243	-0.0064	0.0228	0.018	0.0493	-0.0846	-0.0868	-0.0582	-0.0744
36	-0.0845	-0.1000	-0.0114	0.0381	0.023	-0.0063	0.0226	0.0178	0.0487	-0.0836	-0.0857	-0.0575	-0.0735
37	-0.0855	-0.1055	-0.0134	0.0351	0.0217	-0.0062	0.0223	0.0176	0.0481	-0.0826	-0.0847	-0.0568	-0.0726
38	-0.0861	-0.1060	-0.0154	0.032	0.0203	-0.0061	0.022	0.0174	0.0475	-0.0815	-0.0836	-0.0561	-0.0717
39	-0.0867	-0.1065	-0.0174	0.029	0.019	-0.0061	0.0217	0.0172	0.0469	-0.0805	-0.0826	-0.0554	-0.0708
40	-0.0874	-0.1071	-0.0194	0.026	0.0177	-0.006	0.0215	0.0169	0.0463	-0.0795	-0.0815	-0.0547	-0.0699
41	-0.0880	-0.1076	-0.0214	0.023	0.0164	-0.0059	0.0212	0.0167	0.0457	-0.0784	-0.0805	-0.054	-0.069
42	-0.0886	-0.1081	-0.0234	0.0199	0.0151	-0.0058	0.0209	0.0165	0.0451	-0.0774	-0.0794	-0.0533	-0.0681
43	-0.0892	-0.1086	-0.0254	0.0169	0.0137	-0.0058	0.0206	0.0163	0.0445	-0.0764	-0.0783	-0.0525	-0.0672
44	-0.0898	-0.1092	-0.0274	0.0139	0.0124	-0.0057	0.0203	0.0161	0.0439	-0.0754	-0.0773	-0.0518	-0.0663
45	-0.0904	-0.1097	-0.0294	0.0108	0.0111	-0.0056	0.0201	0.0158	0.0433	-0.0743	-0.0762	-0.0511	-0.0653
46	-0.0910	-0.1102	-0.0314	0.0078	0.0098	-0.0055	0.0198	0.0156	0.0427	-0.0733	-0.0752	-0.0504	-0.0644
47	-0.0916	-0.1107	-0.0334	0.0048	0.0084	-0.0054	0.0195	0.0154	0.0421	-0.0723	-0.0741	-0.0497	-0.0635
48	-0.0923	-0.1113	-0.0354	0.0018	0.0071	-0.0054	0.0192	0.0152	0.0415	-0.0712	-0.073	-0.049	-0.0626

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49	-0.0929	-0.1118	-0.0374	-0.0013	0.0058	-0.0053	0.0189	0.015	0.0409	-0.0702	-0.072	-0.0483	-0.0617
50	-0.0935	-0.1123	-0.0394	-0.0043	0.0045	-0.0052	0.0187	0.0147	0.0403	-0.0692	-0.0709	-0.0476	-0.0608
51	-0.0941	-0.1128	-0.0414	-0.0073	0.0031	-0.0051	0.0184	0.0145	0.0397	-0.0681	-0.0699	-0.0469	-0.0599
52	-0.0947	-0.1134	-0.0434	-0.0104	0.0018	-0.0051	0.0181	0.0143	0.0391	-0.0671	-0.0688	-0.0462	-0.059
53	-0.0953	-0.1139	-0.0454	-0.0134	0.0005	-0.005	0.0178	0.0141	0.0385	-0.0661	-0.0678	-0.0454	-0.0581
54	-0.0959	-0.1144	-0.0474	-0.0164	-0.0008	-0.0049	0.0176	0.0139	0.0379	-0.065	-0.0667	-0.0447	-0.0572
55	-0.0965	-0.1149	-0.0494	-0.0195	-0.0022	-0.0048	0.0173	0.0136	0.0373	-0.064	-0.0656	-0.044	-0.0563
56	-0.0972	-0.1154	-0.0514	-0.0225	-0.0035	-0.0047	0.017	0.0134	0.0367	-0.063	-0.0646	-0.0433	-0.0554
57	-0.0978	-0.1160	-0.0534	-0.0255	-0.0048	-0.0047	0.0167	0.0132	0.0361	-0.0619	-0.0635	-0.0426	-0.0545
58	-0.0984	-0.1165	-0.0554	-0.0285	-0.0061	-0.0046	0.0164	0.013	0.0355	-0.0609	-0.0625	-0.0419	-0.0535
59	-0.0990	-0.1170	-0.0573	-0.0316	-0.0074	-0.0045	0.0162	0.0128	0.0349	-0.0599	-0.0614	-0.0412	-0.0526
60	-0.0996	-0.1175	-0.0593	-0.0346	-0.0088	-0.0044	0.0159	0.0125	0.0343	-0.0588	-0.0603	-0.0405	-0.0517
61	-0.1002	-0.1181	-0.0613	-0.0376	-0.0101	-0.0044	0.0156	0.0123	0.0337	-0.0578	-0.0593	-0.0398	-0.0508
62	-0.1008	-0.1186	-0.0633	-0.0407	-0.0114	-0.0043	0.0153	0.0121	0.0331	-0.0568	-0.0582	-0.0391	-0.0499
63	-0.1015	-0.1191	-0.0653	-0.0437	-0.0127	-0.0042	0.015	0.0119	0.0325	-0.0557	-0.0572	-0.0383	-0.049
64	-0.1021	-0.1196	-0.0673	-0.0467	-0.0141	-0.0041	0.0148	0.0117	0.0319	-0.0547	-0.0561	-0.0376	-0.0481
65	-0.1027	-0.1202	-0.0693	-0.0497	-0.0154	-0.004	0.0145	0.0114	0.0313	-0.0537	-0.055	-0.0369	-0.0472
66	-0.1033	-0.1207	-0.0713	-0.0528	-0.0167	-0.004	0.0142	0.0112	0.0307	-0.0526	-0.054	-0.0362	-0.0463
67	-0.1039	-0.1212	-0.0733	-0.0558	-0.018	-0.0039	0.0139	0.011	0.0301	-0.0516	-0.0529	-0.0355	-0.0454
68	-0.1045	-0.1217	-0.0753	-0.0588	-0.0194	-0.0038	0.0137	0.0108	0.0295	-0.0506	-0.0519	-0.0348	-0.0445
69	-0.1051	-0.1223	-0.0773	-0.0619	-0.0207	-0.0037	0.0134	0.0106	0.0289	-0.0495	-0.0508	-0.0341	-0.0436
70	-0.1057	-0.1228	-0.0793	-0.0649	-0.022	-0.0037	0.0131	0.0103	0.0283	-0.0485	-0.0498	-0.0334	-0.0427
71	-0.1064	-0.1233	-0.0813	-0.0679	-0.0233	-0.0036	0.0128	0.0101	0.0277	-0.0475	-0.0487	-0.0327	-0.0417
72	-0.1070	-0.1238	-0.0833	-0.071	-0.0247	-0.0035	0.0125	0.0099	0.0271	-0.0464	-0.0476	-0.032	-0.0408
73	-0.1076	-0.1244	-0.0853	-0.074	-0.026	-0.0034	0.0123	0.0097	0.0265	-0.0454	-0.0466	-0.0312	-0.0399
74	-0.1082	-0.1249	-0.0873	-0.077	-0.0273	-0.0033	0.012	0.0095	0.0259	-0.0444	-0.0455	-0.0305	-0.039
75	-0.1088	-0.1254	-0.0893	-0.08	-0.0286	-0.0033	0.0117	0.0092	0.0253	-0.0434	-0.0445	-0.0298	-0.0381
76	-0.1094	-0.1259	-0.0913	-0.0831	-0.0299	-0.0032	0.0114	0.009	0.0247	-0.0423	-0.0434	-0.0291	-0.0372
77	-0.1100	-0.1265	-0.0933	-0.0861	-0.0313	-0.0031	0.0111	0.0088	0.024	-0.0413	-0.0423	-0.0284	-0.0363
78	-0.1106	-0.1270	-0.0953	-0.0891	-0.0326	-0.003	0.0109	0.0086	0.0234	-0.0403	-0.0413	-0.0277	-0.0354
79	-0.1113	-0.1275	-0.0973	-0.0922	-0.0339	-0.003	0.0106	0.0084	0.0228	-0.0392	-0.0402	-0.027	-0.0345
80	-0.1119	-0.1280	-0.0993	-0.0952	-0.0352	-0.0029	0.0103	0.0081	0.0222	-0.0382	-0.0392	-0.0263	-0.0336
81	-0.1125	-0.1285	-0.1013	-0.0982	-0.0366	-0.0028	0.01	0.0079	0.0216	-0.0372	-0.0381	-0.0256	-0.0327
82	-0.1131	-0.1291	-0.1033	-0.1012	-0.0379	-0.0027	0.0098	0.0077	0.021	-0.0361	-0.0371	-0.0249	-0.0318
83	-0.1137	-0.1296	-0.1053	-0.1043	-0.0392	-0.0026	0.0095	0.0075	0.0204	-0.0351	-0.036	-0.0241	-0.0309
84	-0.1143	-0.1301	-0.1073	-0.1073	-0.0405	-0.0026	0.0092	0.0073	0.0198	-0.0341	-0.0349	-0.0234	-0.0299
85	-0.1149	-0.1306	-0.1093	-0.1103	-0.0419	-0.0025	0.0089	0.007	0.0192	-0.033	-0.0339	-0.0227	-0.029
86	-0.1156	-0.1312	-0.1113	-0.1134	-0.0432	-0.0024	0.0086	0.0068	0.0186	-0.032	-0.0328	-0.022	-0.0281
87	-0.1162	-0.1317	-0.1133	-0.1164	-0.0445	-0.0023	0.0084	0.0066	0.018	-0.031	-0.0318	-0.0213	-0.0272
88	-0.1168	-0.1322	-0.1153	-0.1194	-0.0458	-0.0023	0.0081	0.0064	0.0174	-0.0299	-0.0307	-0.0206	-0.0263
89	-0.1174	-0.1327	-0.1173	-0.1224	-0.0472	-0.0022	0.0078	0.0062	0.0168	-0.0289	-0.0296	-0.0199	-0.0254
90	-0.1180	-0.1333	-0.1192	-0.1255	-0.0485	-0.0021	0.0075	0.0059	0.0162	-0.0279	-0.0286	-0.0192	-0.0245
91	-0.1186	-0.1338	-0.1212	-0.1285	-0.0498	-0.002	0.0072	0.0057	0.0156	-0.0268	-0.0275	-0.0185	-0.0236
92	-0.1192	-0.1343	-0.1232	-0.1315	-0.0511	-0.0019	0.007	0.0055	0.015	-0.0258	-0.0265	-0.0178	-0.0227
93	-0.1198	-0.1348	-0.1252	-0.1346	-0.0524	-0.0019	0.0067	0.0053	0.0144	-0.0248	-0.0254	-0.017	-0.0218
94	-0.1205	-0.1354	-0.1272	-0.1376	-0.0538	-0.0018	0.0064	0.0051	0.0138	-0.0237	-0.0243	-0.0163	-0.0209
95	-0.1211	-0.1359	-0.1292	-0.1406	-0.0551	-0.0017	0.0061	0.0048	0.0132	-0.0227	-0.0233	-0.0156	-0.02

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Manual: 2344649 Program: GMI
Agile Revision: H (C484272)

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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96	-0.1217	-0.1364	-0.1312	-0.1437	-0.0564	-0.0016	0.0059	0.0046	0.0126	-0.0217	-0.0222	-0.0149	-0.0191
97	-0.1223	-0.1369	-0.1332	-0.1467	-0.0577	-0.0016	0.0056	0.0044	0.012	-0.0206	-0.0212	-0.0142	-0.0182
98	-0.1229	-0.1375	-0.1352	-0.1497	-0.0591	-0.0015	0.0053	0.0042	0.0114	-0.0196	-0.0201	-0.0135	-0.0172
99	-0.1236	-0.1380	-0.1372	-0.1527	-0.0604	-0.0014	0.005	0.004	0.0108	-0.0186	-0.0191	-0.0128	-0.0163
100	-0.1215	-0.1367	-0.1392	-0.1558	-0.0617	-0.0013	0.0047	0.0037	0.0102	-0.0175	-0.018	-0.0121	-0.0154
101	-0.1194	-0.1353	-0.1412	-0.1588	-0.063	-0.0012	0.0045	0.0035	0.0096	-0.0165	-0.0169	-0.0114	-0.0145
102	-0.1173	-0.1339	-0.1432	-0.1618	-0.0644	-0.0012	0.0042	0.0033	0.009	-0.0155	-0.0159	-0.0107	-0.0136
103	-0.1152	-0.1325	-0.1452	-0.1649	-0.0657	-0.0011	0.0039	0.0031	0.0084	-0.0145	-0.0148	-0.0099	-0.0127
104	-0.1130	-0.1311	-0.1472	-0.1679	-0.067	-0.001	0.0036	0.0029	0.0078	-0.0134	-0.0138	-0.0092	-0.0118
105	-0.1109	-0.1298	-0.1492	-0.1709	-0.0683	-0.0009	0.0033	0.0026	0.0072	-0.0124	-0.0127	-0.0085	-0.0109
106	-0.1088	-0.1284	-0.1512	-0.1739	-0.0697	-0.0009	0.0031	0.0024	0.0066	-0.0114	-0.0116	-0.0078	-0.01
107	-0.1067	-0.1270	-0.1485	-0.1712	-0.071	-0.0008	0.0028	0.0022	0.006	-0.0103	-0.0106	-0.0071	-0.0091
108	-0.1046	-0.1256	-0.1457	-0.1684	-0.0723	-0.0007	0.0025	0.002	0.0054	-0.0093	-0.0095	-0.0064	-0.0082
109	-0.1025	-0.1242	-0.143	-0.1657	-0.0736	-0.0006	0.0022	0.0018	0.0048	-0.0083	-0.0085	-0.0057	-0.0073
110	-0.1004	-0.1229	-0.1403	-0.1629	-0.0749	-0.0005	0.002	0.0015	0.0042	-0.0072	-0.0074	-0.005	-0.0064
111	-0.0983	-0.1215	-0.1376	-0.1602	-0.0763	-0.0005	0.0017	0.0013	0.0036	-0.0062	-0.0064	-0.0043	-0.0054
112	-0.0962	-0.1201	-0.1348	-0.1574	-0.0776	-0.0004	0.0014	0.0011	0.003	-0.0052	-0.0053	-0.0036	-0.0045
113	-0.0941	-0.1187	-0.1321	-0.1547	-0.0789	-0.0003	0.0011	0.0009	0.0024	-0.0041	-0.0042	-0.0028	-0.0036
114	-0.0920	-0.1173	-0.1294	-0.1519	-0.0802	-0.0002	0.0008	0.0007	0.0018	-0.0031	-0.0032	-0.0021	-0.0027
115	-0.0899	-0.1159	-0.1267	-0.1491	-0.0816	-0.0002	0.0006	0.0004	0.0012	-0.0021	-0.0021	-0.0014	-0.0018
116	-0.0878	-0.1146	-0.1239	-0.1464	-0.0829	-0.0001	0.0003	0.0002	0.0006	-0.001	-0.0011	-0.0007	-0.0009
117	-0.0857	-0.1132	-0.1212	-0.1436	-0.0842	0	0	0	0	0	0	0	0
118	-0.0836	-0.1118	-0.1185	-0.1409	-0.0855	0.0001	-0.0003	-0.0002	-0.0006	0.001	0.0011	0.0007	0.0009
119	-0.0815	-0.1104	-0.1157	-0.1381	-0.0869	0.0002	-0.0006	-0.0004	-0.0012	0.0021	0.0021	0.0014	0.0018
120	-0.0794	-0.1090	-0.113	-0.1354	-0.0882	0.0002	-0.0008	-0.0007	-0.0018	0.0031	0.0032	0.0021	0.0027
121	-0.0773	-0.1077	-0.1103	-0.1326	-0.0895	0.0003	-0.0011	-0.0009	-0.0024	0.0041	0.0042	0.0028	0.0036
122	-0.0752	-0.1063	-0.1076	-0.1299	-0.0908	0.0004	-0.0014	-0.0011	-0.003	0.0052	0.0053	0.0036	0.0045
123	-0.0731	-0.1049	-0.1048	-0.1271	-0.0921	0.0005	-0.0017	-0.0013	-0.0036	0.0062	0.0064	0.0043	0.0054
124	-0.0709	-0.1035	-0.1021	-0.1244	-0.0902	0.0005	-0.002	-0.0015	-0.0042	0.0072	0.0074	0.005	0.0064
125	-0.0688	-0.1021	-0.0994	-0.1216	-0.0883	0.0006	-0.0022	-0.0018	-0.0048	0.0083	0.0085	0.0057	0.0073
126	-0.0667	-0.1008	-0.0967	-0.1188	-0.0864	0.0007	-0.0025	-0.002	-0.0054	0.0093	0.0095	0.0064	0.0082
127	-0.0646	-0.0994	-0.0939	-0.1161	-0.0845	0.0008	-0.0028	-0.0022	-0.006	0.0103	0.0106	0.0071	0.0091
128	-0.0625	-0.0980	-0.0912	-0.1133	-0.0826	0.0009	-0.0031	-0.0024	-0.0066	0.0114	0.0116	0.0078	0.01
129	-0.0604	-0.0966	-0.0885	-0.1106	-0.0807	0.0009	-0.0033	-0.0026	-0.0072	0.0124	0.0127	0.0085	0.0109
130	-0.0583	-0.0952	-0.0857	-0.1078	-0.0788	0.001	-0.0036	-0.0029	-0.0078	0.0134	0.0138	0.0092	0.0118
131	-0.0562	-0.0938	-0.083	-0.1051	-0.0769	0.0011	-0.0039	-0.0031	-0.0084	0.0145	0.0148	0.0099	0.0127
132	-0.0541	-0.0925	-0.0803	-0.1023	-0.075	0.0012	-0.0042	-0.0033	-0.009	0.0155	0.0159	0.0107	0.0136
133	-0.0520	-0.0911	-0.0776	-0.0996	-0.0731	0.0012	-0.0045	-0.0035	-0.0096	0.0165	0.0169	0.0114	0.0145
134	-0.0499	-0.0897	-0.0748	-0.0968	-0.0712	0.0013	-0.0047	-0.0037	-0.0102	0.0175	0.018	0.0121	0.0154
135	-0.0478	-0.0883	-0.0721	-0.094	-0.0693	0.0014	-0.005	-0.004	-0.0108	0.0186	0.0191	0.0128	0.0163
136	-0.0457	-0.0869	-0.0694	-0.0913	-0.0674	0.0015	-0.0053	-0.0042	-0.0114	0.0196	0.0201	0.0135	0.0172
137	-0.0436	-0.0856	-0.0667	-0.0885	-0.0655	0.0016	-0.0056	-0.0044	-0.012	0.0206	0.0212	0.0142	0.0182
138	-0.0415	-0.0842	-0.0639	-0.0858	-0.0636	0.0016	-0.0059	-0.0046	-0.0126	0.0217	0.0222	0.0149	0.0191
139	-0.0394	-0.0828	-0.0612	-0.083	-0.0617	0.0017	-0.0061	-0.0048	-0.0132	0.0227	0.0233	0.0156	0.02
140	-0.0373	-0.0814	-0.0585	-0.0803	-0.0598	0.0018	-0.0064	-0.0051	-0.0138	0.0237	0.0243	0.0163	0.0209
141	-0.0352	-0.0800	-0.0557	-0.0775	-0.0579	0.0019	-0.0067	-0.0053	-0.0144	0.0248	0.0254	0.017	0.0218
142	-0.0331	-0.0786	-0.053	-0.0748	-0.056	0.0019	-0.007	-0.0055	-0.015	0.0258	0.0265	0.0178	0.0227

Lifecycle: Production Released Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
IManual: 2344649 Program: GMI

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143	-0.0310	-0.0773	-0.0503	-0.072	-0.0541	0.002	-0.0072	-0.0057	-0.0156	0.0268	0.0275	0.0185	0.0236
144	-0.0288	-0.0759	-0.0476	-0.0692	-0.0522	0.0021	-0.0075	-0.0059	-0.0162	0.0279	0.0286	0.0192	0.0245
145	-0.0267	-0.0745	-0.0448	-0.0665	-0.0503	0.0022	-0.0078	-0.0062	-0.0168	0.0289	0.0296	0.0199	0.0254
146	-0.0246	-0.0731	-0.0421	-0.0637	-0.0484	0.0023	-0.0081	-0.0064	-0.0174	0.0299	0.0307	0.0206	0.0263
147	-0.0225	-0.0717	-0.0394	-0.061	-0.0465	0.0023	-0.0084	-0.0066	-0.018	0.031	0.0318	0.0213	0.0272
148	-0.0204	-0.0704	-0.0367	-0.0582	-0.0446	0.0024	-0.0086	-0.0068	-0.0186	0.032	0.0328	0.022	0.0281
149	-0.0183	-0.0690	-0.0339	-0.0555	-0.0427	0.0025	-0.0089	-0.007	-0.0192	0.033	0.0339	0.0227	0.029
150	-0.0162	-0.0676	-0.0312	-0.0527	-0.0408	0.0026	-0.0092	-0.0073	-0.0198	0.0341	0.0349	0.0234	0.0299
151	-0.0141	-0.0662	-0.0285	-0.05	-0.0389	0.0026	-0.0095	-0.0075	-0.0204	0.0351	0.036	0.0241	0.0309
152	-0.0120	-0.0648	-0.0257	-0.0472	-0.037	0.0027	-0.0098	-0.0077	-0.021	0.0361	0.0371	0.0249	0.0318
153	-0.0099	-0.0635	-0.023	-0.0445	-0.0351	0.0028	-0.01	-0.0079	-0.0216	0.0372	0.0381	0.0256	0.0327
154	-0.0078	-0.0621	-0.0203	-0.0417	-0.0332	0.0029	-0.0103	-0.0081	-0.0222	0.0382	0.0392	0.0263	0.0336
155	-0.0057	-0.0607	-0.0176	-0.0389	-0.0312	0.003	-0.0106	-0.0084	-0.0228	0.0392	0.0402	0.027	0.0345
156	-0.0036	-0.0593	-0.0148	-0.0362	-0.0293	0.003	-0.0109	-0.0086	-0.0234	0.0403	0.0413	0.0277	0.0354
157	-0.0015	-0.0579	-0.0121	-0.0334	-0.0274	0.0031	-0.0111	-0.0088	-0.024	0.0413	0.0423	0.0284	0.0363
158	0.0006	-0.0565	-0.0094	-0.0307	-0.0255	0.0032	-0.0114	-0.009	-0.0247	0.0423	0.0434	0.0291	0.0372
159	0.0027	-0.0552	-0.0067	-0.0279	-0.0236	0.0033	-0.0117	-0.0092	-0.0253	0.0434	0.0445	0.0298	0.0381
160	0.0048	-0.0538	-0.0039	-0.0252	-0.0217	0.0033	-0.012	-0.0095	-0.0259	0.0444	0.0455	0.0305	0.039
161	0.0069	-0.0524	-0.0012	-0.0224	-0.0198	0.0034	-0.0123	-0.0097	-0.0265	0.0454	0.0466	0.0312	0.0399
162	0.0090	-0.0510	0.0015	-0.0197	-0.0179	0.0035	-0.0125	-0.0099	-0.0271	0.0464	0.0476	0.032	0.0408
163	0.0111	-0.0496	0.0043	-0.0169	-0.016	0.0036	-0.0128	-0.0101	-0.0277	0.0475	0.0487	0.0327	0.0417
164	0.0132	-0.0483	0.007	-0.0141	-0.0141	0.0037	-0.0131	-0.0103	-0.0283	0.0485	0.0498	0.0334	0.0427
165	0.0154	-0.0469	0.0097	-0.0114	-0.0122	0.0037	-0.0134	-0.0106	-0.0289	0.0495	0.0508	0.0341	0.0436
166	0.0175	-0.0455	0.0124	-0.0086	-0.0103	0.0038	-0.0137	-0.0108	-0.0295	0.0506	0.0519	0.0348	0.0445
167	0.0196	-0.0441	0.0152	-0.0059	-0.0084	0.0039	-0.0139	-0.011	-0.0301	0.0516	0.0529	0.0355	0.0454
168	0.0217	-0.0427	0.0179	-0.0031	-0.0065	0.004	-0.0142	-0.0112	-0.0307	0.0526	0.054	0.0362	0.0463
169	0.0238	-0.0414	0.0206	-0.0004	-0.0046	0.004	-0.0145	-0.0114	-0.0313	0.0537	0.055	0.0369	0.0472
170	0.0259	-0.0400	0.0233	0.0024	-0.0027	0.0041	-0.0148	-0.0117	-0.0319	0.0547	0.0561	0.0376	0.0481
171	0.0280	-0.0386	0.0261	0.0051	-0.0008	0.0042	-0.015	-0.0119	-0.0325	0.0557	0.0572	0.0383	0.049
172	0.0301	-0.0372	0.0288	0.0079	0.0011	0.0043	-0.0153	-0.0121	-0.0331	0.0568	0.0582	0.0391	0.0499
173	0.0322	-0.0358	0.0315	0.0107	0.003	0.0044	-0.0156	-0.0123	-0.0337	0.0578	0.0593	0.0398	0.0508
174	0.0343	-0.0344	0.0343	0.0134	0.0049	0.0044	-0.0159	-0.0125	-0.0343	0.0588	0.0603	0.0405	0.0517
175	0.0364	-0.0331	0.037	0.0162	0.0068	0.0045	-0.0162	-0.0128	-0.0349	0.0599	0.0614	0.0412	0.0526
176	0.0385	-0.0317	0.0397	0.0189	0.0087	0.0046	-0.0164	-0.013	-0.0355	0.0609	0.0625	0.0419	0.0535
177	0.0406	-0.0304	0.0424	0.0217	0.0106	0.0047	-0.0167	-0.0132	-0.0361	0.0619	0.0635	0.0426	0.0545
178	0.0476	-0.0209	0.0452	0.0244	0.0125	0.0047	-0.017	-0.0134	-0.0367	0.063	0.0646	0.0433	0.0554
179	0.0544	-0.0117	0.0479	0.0272	0.0144	0.0048	-0.0173	-0.0136	-0.0373	0.064	0.0656	0.044	0.0563
180	0.0613	-0.0025	0.0506	0.0299	0.0163	0.0049	-0.0176	-0.0139	-0.0379	0.065	0.0667	0.0447	0.0572
181	0.0681	0.0067	0.0533	0.0327	0.0182	0.005	-0.0178	-0.0141	-0.0385	0.0661	0.0678	0.0454	0.0581
182	0.0749	0.0162	0.0561	0.0354	0.0201	0.0051	-0.0181	-0.0143	-0.0391	0.0671	0.0688	0.0462	0.059
183	0.0819	0.0259	0.0588	0.0382	0.022	0.0051	-0.0184	-0.0145	-0.0397	0.0681	0.0699	0.0469	0.0599
184	0.0888	0.0360	0.0615	0.041	0.0239	0.0052	-0.0187	-0.0147	-0.0403	0.0692	0.0709	0.0476	0.0608
185	0.0959	0.0465	0.0643	0.0437	0.0258	0.0053	-0.0189	-0.015	-0.0409	0.0702	0.072	0.0483	0.0617
186	0.1031	0.0574	0.067	0.0465	0.0278	0.0054	-0.0192	-0.0152	-0.0415	0.0712	0.073	0.049	0.0626
187	0.1103	0.0687	0.0697	0.0492	0.0297	0.0054	-0.0195	-0.0154	-0.0421	0.0723	0.0741	0.0497	0.0635
188	0.1177	0.0803	0.0724	0.052	0.0316	0.0055	-0.0198	-0.0156	-0.0427	0.0733	0.0752	0.0504	0.0644
189	0.1251	0.0923	0.0752	0.0547	0.0335	0.0056	-0.0201	-0.0158	-0.0433	0.0743	0.0762	0.0511	0.0653

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Agile Revision: H (C484272)
Manual: 2344649 Program: GMI

Printed By: Draper, David 3/22/2016 8:51 AM (ART:7.7.9)

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190	0.1327	0.1047	0.0779	0.0575	0.0354	0.0057	-0.0203	-0.0161	-0.0439	0.0754	0.0773	0.0518	0.0663
191	0.1403	0.1174	0.0806	0.0602	0.0373	0.0058	-0.0206	-0.0163	-0.0445	0.0764	0.0783	0.0525	0.0672
192	0.1481	0.1303	0.0833	0.063	0.0392	0.0058	-0.0209	-0.0165	-0.0451	0.0774	0.0794	0.0533	0.0681
193	0.1559	0.1435	0.0861	0.0658	0.0411	0.0059	-0.0212	-0.0167	-0.0457	0.0784	0.0805	0.054	0.069
194	0.1637	0.1568	0.0888	0.0685	0.043	0.006	-0.0215	-0.0169	-0.0463	0.0795	0.0815	0.0547	0.0699
195	0.1717	0.1704	0.0915	0.0713	0.0449	0.0061	-0.0217	-0.0172	-0.0469	0.0805	0.0826	0.0554	0.0708
196	0.1797	0.1841	0.0943	0.074	0.0468	0.0061	-0.022	-0.0174	-0.0475	0.0815	0.0836	0.0561	0.0717
197	0.1878	0.1979	0.097	0.0768	0.0487	0.0062	-0.0223	-0.0176	-0.0481	0.0826	0.0847	0.0568	0.0726
198	0.1959	0.2119	0.0997	0.0795	0.0506	0.0063	-0.0226	-0.0178	-0.0487	0.0836	0.0857	0.0575	0.0735
199	0.2040	0.2260	0.1024	0.0823	0.0525	0.0064	-0.0228	-0.018	-0.0493	0.0846	0.0868	0.0582	0.0744
200	0.2122	0.2403	0.1052	0.085	0.0544	0.0065	-0.0231	-0.0183	-0.0499	0.0857	0.0879	0.0589	0.0753
201	0.2204	0.2547	0.1079	0.0878	0.0563	0.0065	-0.0234	-0.0185	-0.0505	0.0867	0.0889	0.0597	0.0762
202	0.2287	0.2694	0.1106	0.0906	0.0582	0.0066	-0.0237	-0.0187	-0.0511	0.0877	0.09	0.0604	0.0771
203	0.2370	0.2842	0.1238	0.1029	0.0601	0.0067	-0.024	-0.0189	-0.0517	0.0888	0.091	0.0611	0.0781
204	0.2453	0.2993	0.137	0.1152	0.062	0.0068	-0.0242	-0.0191	-0.0523	0.0898	0.0921	0.0618	0.079
205	0.2537	0.3148	0.1502	0.1275	0.0675	0.0068	-0.0245	-0.0194	-0.0529	0.0908	0.0932	0.0625	0.0799
206	0.2621	0.3306	0.1634	0.1399	0.073	0.0069	-0.0248	-0.0196	-0.0535	0.0919	0.0942	0.0632	0.0808
207	0.2706	0.3469	0.1766	0.1522	0.0785	0.007	-0.0251	-0.0198	-0.0541	0.0929	0.0953	0.0639	0.0817
208	0.2791	0.3637	0.1898	0.1645	0.084	0.0071	-0.0254	-0.02	-0.0547	0.0939	0.0963	0.0646	0.0826
209	0.2877	0.3811	0.203	0.1768	0.0895	0.0072	-0.0256	-0.0202	-0.0553	0.095	0.0974	0.0653	0.0835
210	0.2964	0.3992	0.2161	0.1892	0.095	0.0072	-0.0259	-0.0205	-0.0559	0.096	0.0985	0.066	0.0844
211	0.3052	0.4179	0.2293	0.2015	0.1005	0.0073	-0.0262	-0.0207	-0.0565	0.097	0.0995	0.0668	0.0853
212	0.3140	0.4375	0.2425	0.2138	0.106	0.0074	-0.0265	-0.0209	-0.0571	0.0981	0.1006	0.0675	0.0862
213	0.3229	0.4579	0.2557	0.2262	0.1115	0.0075	-0.0267	-0.0211	-0.0577	0.0991	0.1016	0.0682	0.0871
214	0.3319	0.4792	0.2689	0.2385	0.117	0.0075	-0.027	-0.0213	-0.0583	0.1001	0.1027	0.0689	0.088
215	0.3411	0.5015	0.2821	0.2508	0.1225	0.0076	-0.0273	-0.0216	-0.0589	0.1012	0.1037	0.0696	0.0889
216	0.3504	0.5246	0.2953	0.2631	0.128	0.0077	-0.0276	-0.0218	-0.0595	0.1022	0.1048	0.0703	0.0898
217	0.3597	0.5488	0.3085	0.2755	0.1335	0.0078	-0.0279	-0.022	-0.0601	0.1032	0.1059	0.071	0.0908
218	0.3692	0.5738	0.3217	0.2878	0.139	0.0079	-0.0281	-0.0222	-0.0607	0.1043	0.1069	0.0717	0.0917
219	0.3789	0.5996	0.3346	0.3001	0.1445	0.0079	-0.0284	-0.0224	-0.0613	0.1053	0.108	0.0724	0.0926
220	0.3886	0.6263	0.3475	0.3125	0.1494	0.008	-0.0287	-0.0227	-0.0619	0.1063	0.109	0.0731	0.0935
221	0.3985	0.6535	0.3603	0.3248	0.154	0.0081	-0.029	-0.0229	-0.0625	0.1073	0.1101	0.0739	0.0944
222	0.4084	0.6813	0.373	0.3371	0.158	0.0082	-0.0293	-0.0231	-0.0631	0.1084	0.1112	0.0746	0.0953
223	0.4184	0.7093	0.3857	0.3494	0.1616	0.0082	-0.0295	-0.0233	-0.0637	0.1094	0.1122	0.0753	0.0962
224	0.4285	0.7373	0.3983	0.3665	0.1648	0.0083	-0.0298	-0.0235	-0.0643	0.1104	0.1133	0.076	0.0971
225	0.4386	0.7649	0.4109	0.3847	0.1674	0.0084	-0.0301	-0.0238	-0.0649	0.1115	0.1143	0.0767	0.098
226	0.4487	0.7918	0.4235	0.4042	0.1696	0.0085	-0.0304	-0.024	-0.0655	0.1125	0.1154	0.0774	0.0989
227	0.4587	0.8175	0.4359	0.425	0.1714	0.0086	-0.0306	-0.0242	-0.0661	0.1135	0.1164	0.0781	0.0998

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
Agile Revision: H (C484272)
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Multiplicative Along-Scan Bias Δt_{mult}

scan index	10 GHz V	10 GHz H	18 GHz V	18 GHz H	23 GHz V	36 GHz V	36 GHz H	89 GHz V	89 GHz H	166 GHz V	166 GHz H	183 GHz VA	183 GHz VB
7	0	0	0	0	0	3.23E-03	4.80E-03	0	0	0	0	0	0
8	0	0	0	0	0	2.76E-03	4.10E-03	0	0	0	0	0	0
9	0	0	0	0	0	2.34E-03	3.48E-03	0	0	0	0	0	0
10	0	0	0	0	0	1.98E-03	2.93E-03	0	0	0	0	0	0
11	0	0	0	0	0	1.66E-03	2.46E-03	0	0	0	0	0	0
12	0	0	0	0	0	1.38E-03	2.04E-03	0	0	0	0	0	0
13	0	0	0	0	0	1.14E-03	1.69E-03	0	0	0	0	0	0
14	0	0	0	0	0	9.36E-04	1.38E-03	0	0	0	0	0	0
15	0	0	0	0	0	7.65E-04	1.12E-03	0	0	0	0	0	0
16	0	0	0	0	0	6.23E-04	9.11E-04	0	0	0	0	0	0
17	0	0	0	0	0	5.06E-04	7.34E-04	0	0	0	0	0	0
18	0	0	0	0	0	4.11E-04	5.91E-04	0	0	0	0	0	0
19	0	0	0	0	0	3.34E-04	4.74E-04	0	0	0	0	0	0
20	0	0	0	0	0	2.71E-04	3.80E-04	0	0	0	0	0	0
21	0	0	0	0	0	2.19E-04	3.03E-04	0	0	0	0	0	0
22	0	0	0	0	0	1.75E-04	2.39E-04	0	0	0	0	0	0
23	0	0	0	0	0	1.34E-04	1.81E-04	0	0	0	0	0	0
24	0	0	0	0	0	9.40E-05	1.25E-04	0	0	0	0	0	0
25	0	0	0	0	0	5.04E-05	6.68E-05	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0
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41	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0

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51	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0

Lifecycle: Production Released, Rev Release Date: 3/18/2016 9:08:17 AM
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Agile Revision: H (C484272)

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98	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0

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145	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	-2.66E-05	0	0	0	0	0	0	0	0	0	0	0
178	0	-9.22E-05	0	0	0	0	0	0	0	0	0	0	0
179	0	-1.33E-04	0	0	0	0	0	0	0	0	0	0	0
180	0	-1.57E-04	0	0	0	0	0	0	0	0	0	0	0
181	0	-1.73E-04	0	0	0	0	0	0	0	0	0	0	0
182	0	-1.86E-04	0	0	0	0	0	0	0	0	0	0	0
183	0	-2.00E-04	0	0	0	0	0	0	0	0	0	0	0
184	0	-2.18E-04	0	0	0	0	0	0	0	0	0	0	0
185	0	-2.42E-04	0	0	0	0	0	0	0	0	0	0	0
186	0	-2.73E-04	0	0	0	0	0	0	0	0	0	0	0
187	0	-3.12E-04	0	0	0	0	0	0	0	0	0	0	0
188	0	-3.58E-04	0	0	0	0	0	0	0	0	0	0	0
189	0	-4.10E-04	0	0	0	0	0	0	0	0	0	0	0
190	0	-4.68E-04	0	0	0	0	0	0	0	0	0	0	0
191	0	-5.31E-04	0	0	0	0	0	0	0	0	0	0	0

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192	0	-5.96E-04	0	0	0	0	0	0	0	0	0	0	0
193	0	-6.63E-04	0	0	0	0	0	0	0	0	0	0	0
194	0	-7.30E-04	0	0	0	0	0	0	0	0	0	0	0
195	0	-7.96E-04	0	0	0	0	0	0	0	0	0	0	0
196	0	-8.60E-04	0	0	0	0	0	0	0	0	0	0	0
197	0	-9.22E-04	0	0	0	0	0	0	0	0	0	0	0
198	0	-9.79E-04	0	0	0	0	0	0	0	0	0	0	0
199	0	-1.03E-03	0	0	0	0	0	0	0	0	0	0	0
200	0	-1.08E-03	0	0	0	0	0	0	0	0	0	0	0
201	0	-1.13E-03	0	0	0	0	0	0	0	0	0	0	0
202	0	-1.17E-03	0	0	0	0	0	0	0	0	0	0	0
203	4.39E-05	-1.21E-03	0	0	0	0	0	0	0	0	0	0	0
204	1.22E-04	-1.24E-03	0	0	0	0	0	0	0	0	0	0	0
205	2.11E-04	-1.28E-03	0	0	0	0	0	0	0	0	0	0	0
206	3.09E-04	-1.31E-03	0	0	0	0	0	0	0	0	0	0	0
207	4.15E-04	-1.34E-03	0	0	0	0	0	0	0	0	0	0	0
208	5.28E-04	-1.37E-03	0	0	0	0	0	0	0	0	0	0	0
209	6.45E-04	-1.39E-03	0	0	0	0	0	0	0	0	0	0	0
210	7.67E-04	-1.42E-03	0	0	0	0	0	0	0	0	0	0	0
211	8.94E-04	-1.44E-03	0	0	0	0	0	0	0	0	0	0	0
212	1.03E-03	-1.45E-03	0	0	0	0	0	0	0	0	0	0	0
213	1.17E-03	-1.46E-03	0	0	0	0	0	0	0	0	0	0	0
214	1.33E-03	-1.46E-03	0	0	0	0	0	0	0	0	0	0	0
215	1.50E-03	-1.44E-03	0	0	0	0	0	0	0	0	0	0	0
216	1.71E-03	-1.40E-03	0	0	0	0	0	0	0	0	0	0	0
217	1.96E-03	-1.32E-03	0	0	0	0	0	0	0	0	0	0	0
218	2.26E-03	-1.21E-03	0	0	0	0	0	0	0	0	0	0	0
219	2.64E-03	-1.04E-03	0	0	0	0	0	0	0	0	0	0	0
220	3.13E-03	-8.01E-04	0	0	0	0	0	0	0	0	0	0	0
221	3.74E-03	-4.81E-04	0	0	0	0	0	0	0	0	0	0	0
222	4.51E-03	-5.62E-05	0	0	0	0	0	0	0	0	0	0	0
223	5.49E-03	4.96E-04	0	0	0	0	0	0	0	0	0	0	0
224	6.72E-03	1.20E-03	0	0	0	0	0	0	0	0	0	0	0
225	8.25E-03	2.09E-03	0	0	0	0	0	0	0	0	0	0	0
226	1.02E-02	3.20E-03	0	0	0	0	0	0	0	0	0	0	0
227	1.25E-02	4.56E-03	0	0	0	0	0	0	0	0	0	0	0

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APPENDIX Y: Antenna Pattern Correction Coefficients (On-orbit Derived)

f [GHz]	10.65	18.7	23.8	36.64	89	166	183.31
a_{vh}	0.00290	0.00235	0.00167	0.00120	0.00145	0.01339	0.01104
a_{hv}	0.00290	0.00235	N/A	0.00120	0.00145	0.01339	N/A
η_v	0.95729	0.95924	0.97358	0.99598	0.99726	0.98885	0.99239
η_h	0.95729	0.95924	N/A	0.99598	0.99726	0.98885	N/A
$1-\eta_v$	0.04271	0.04076	0.02642	0.00402	0.00274	0.01115	0.00761
$1-\eta_h$	0.04271	0.04076	N/A	0.00402	0.00274	0.01115	N/A
λ	N/A	N/A	1.02610	N/A	N/A	N/A	1.00767
ξ	N/A	N/A	0.223	N/A	N/A	N/A	-0.037
R	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

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