FCC / ISED Test Report

For

SiXCO

Report #: 47216

FCC ID: CFS8DL6CO
IC ID: 573F-6CO

Report Completion Date: 2018-03-01

Prepared by and for:
Honeywell International Inc.
2 Corporate Center Dr.
Suite 100 PO Box 9040
Melville, NY 11747

Testing
NVLAP Lab Code: 600110

Document Introduction

Honeywell tested the above equipment in accordance with the requirements set forth in the listed standards. All indications of Pass/Fail in the report are opinions expressed by Honeywell based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

This document is a record of the FCC/ISED Test Report for Honeywell products. It demonstrates the data required to be analyzed to certify a product according to the requirements of the FCC & ISED.

The results in the report reflect only the model of the items under test unless noted otherwise. This document may not be altered or revised in any way unless done so my Honeywell and all revisions are duly noted in the revisions section. Any alterations of this document not carried out by Honeywell will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Test Report Revision History

Revision	Prepared By	Reviewed By	Revision Detail	Release Date
---	M. Antola	A. Roussin	Original Release	2018-02-27
A	M. Antola	A. Roussin	Added Duty Cycle plots; updated PSD & Spurious Emissions test sections	2018-03-01

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Report Authorization

Report Prepared By:

Michael Antola
Hardware Engineer
HBT RF & EMC Design
Honeywell International Inc.

Reviewed & Approved By:

Andrew Roussin
Hardware Engineer II
HBT RF & EMC Design
Honeywell International Inc.

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Contents

Applicable Test Standards/Limits....5
Deviations from Test Methods....5
Facilities and Accreditation....5
Test Item Description....5
Worse-Case Configuration & Mode....6
Calibration & Measurement Uncertainty....7
Opinions / Interpretations....7
Test Summary....8
On Time and Duty Cycle....9
6dB Occupied Bandwidth (DTS Bandwidth)....11
99% Bandwidth....15
Maximum Conducted Output Power....19
Maximum Power Spectral Density....23
Authorized Band Edge / Conducted Spurious Emissions....27
Radiated Emissions (Intentional)....34
END OF REPORT....56

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Applicable Test Standards/Limits

Test Standards/Limits	Result	Dates Tested
ANSI C63.4: 2014	Compliant	2/7/18 – 3/1/18
ANSI C63.10: 2013	Compliant	2/7/18 – 3/1/18
ICES-003 Issue 6: 2016	Compliant	2/7/18 – 3/1/18
RSS-247, Issue 2, Section 5	Compliant	2/7/18 – 3/1/18
RSS-GEN, Issue 4	Compliant	2/7/18 – 3/1/18
CFR 47 Pt 15 Subpart B, Section 15.107/109	Compliant	2/7/18 – 3/1/18
CFR 47 Pt 15 Subpart C, Section 15.207/209	Compliant	2/7/18 – 3/1/18
CFR 47 Pt 15 Subpart C, Section 15.247	Compliant	2/7/18 – 3/1/18

Deviations from Test Methods

#	Deviation Description
0	None

Facilities and Accreditation

The test site and measurement facility used to collect data are located at 2 Corporate Center Dr., Melville, NY 11747, USA. Honeywell International is accredited by NVLAP, Laboratory Code 600110-0. The full scope of accreditation can be viewed at the NVLAP website.

Test Item Description

The RF6 carbon monoxide (CO) Sensor is a battery powered 2.4 GHz IEEE 802.15.4-compliant transceiver, and is part of a wireless alarm system. It is used in conjunction with an alarm system transceiver to sound an alarm upon a detection event. It contains two (2) printed "F" type antennas, each having a gain of 2dBi.

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Worse-Case Configuration & Mode
Radiated emissions was performed with the EUT set to transmit at the channel with the highest output power as worst-case scenario. The EUT was tested in all three orthogonal planes in order to determine the worst-case emissions. It was determined that the X axis orientation was the worst-case orientation. Therefore, all final radiated test was performed with the EUT in the X axis orientation.

Test Sample Identification		
Sample ID Number	**Sample Serial Number**	**Date Received**
MEL-401	Non-serialized production unit	11/30/17
MEL-402	Non-serialized production unit	11/30/17

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Calibration & Measurement Uncertainty

- Measuring Instrument Calibration – The measuring equipment utilized to perform the tests documented in this report have been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

- Sample Calculation – Where relevant, the following sample calculation is provided:

  Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

  [i.e.] 37 dBuV/m = 30 dBuV + 18.5 dB/m + 0.5 dB – 12 dB

- Uncertainty - Figures are valid to a confidence level of 95%.

Test	Standard Uncertainty
Radiated Emissions (30-200MHz Horizontal)	+/- 5.05 dB
Radiated Emissions (30-200MHz Vertical)	+/- 5.28 dB
Radiated Emissions (200-1000MHz Horizontal)	+/- 10.21 dB
Radiated Emissions (200-1000MHz Vertical)	+/- 10.36 dB
Radiated Emissions (Above 1GHz)	+/- 9.70 dB
Conducted Emissions (150KHz-30MHz)	+/- 4.36 dB

Opinions / Interpretations

None

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Test Summary

All tests described below are required, unless otherwise noted. Notes should be described in detail in the "Additional notes" section.

#	Test Description	Status
1	99% Bandwidth	PASS
2	6 dB Occupied Bandwidth	PASS
3	Maximum Conducted Output Power	PASS
4	Maximum Power Spectral Density	PASS
5	Band Edge / Conducted Spurious Emissions	PASS
6	Radiated Emissions (Intentional)	PASS

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On Time and Duty Cycle

Test Description

Refer to KDB 558074 Zero-Span Analyzer Method.

Test Criteria

Reference	Limit
KDB 558074, Section 6	None, for reporting only

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
MA	RF Lab	03/01/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Antenna	On Time (usec)	Period (usec)	Duty Cycle	Duty Cycle (%)
1	405	405	1	100
2	405	405	1	100

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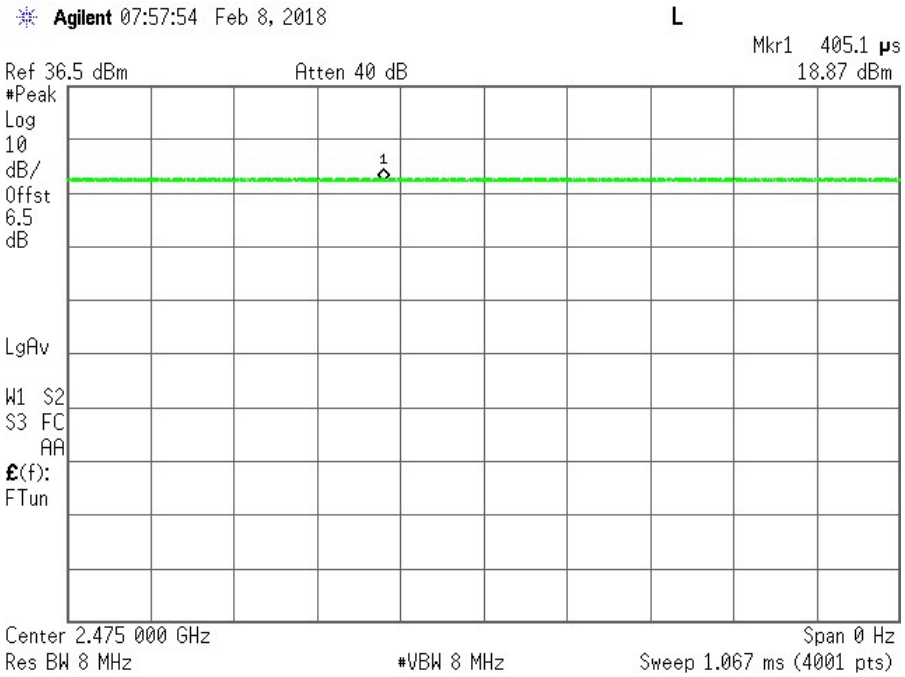
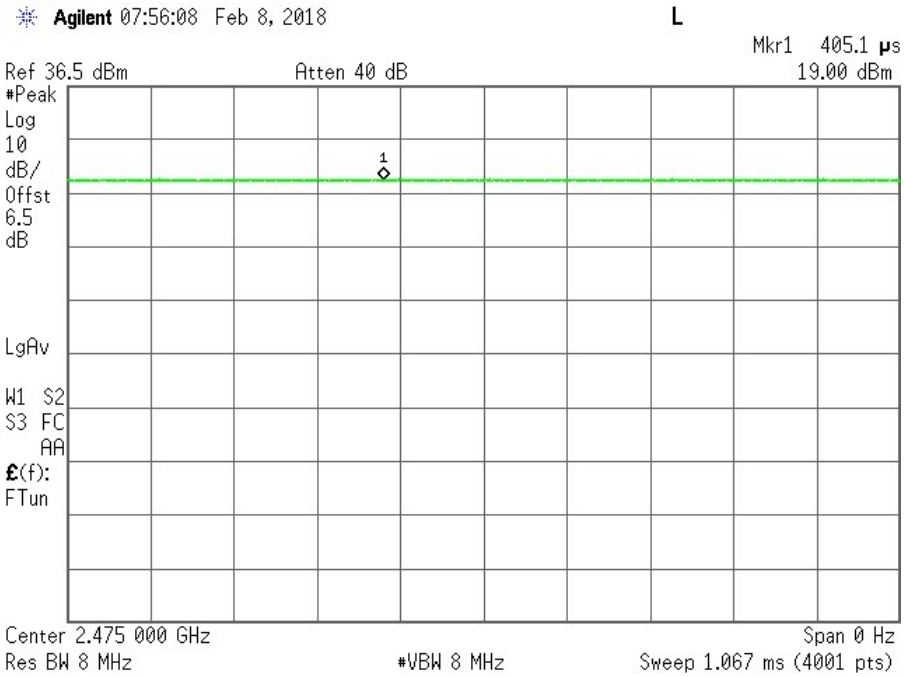
Duty Cycle Plots



Antenna 1



Antenna 2

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6dB Occupied Bandwidth (DTS Bandwidth)

Test Description

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Refer to KDB 558074 D01 DTS Meas Guidance v04.

Test Criteria

Reference	Limit
CFR 47 Subpart C 15.247 (a)(2) RSS-247 Section 5.2 (a)	≥ 500kHz

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	02/07/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Channel	Frequency (GHz)	6dB Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2405	1.306	1.302
Mid	2445	1.533	1.529
High	2475	1.536	1.538

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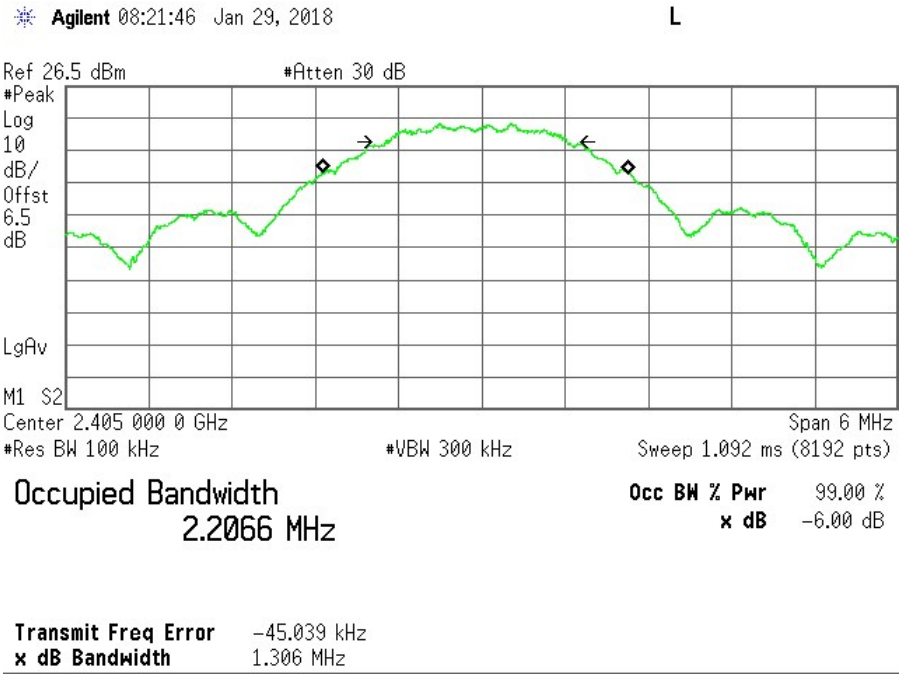
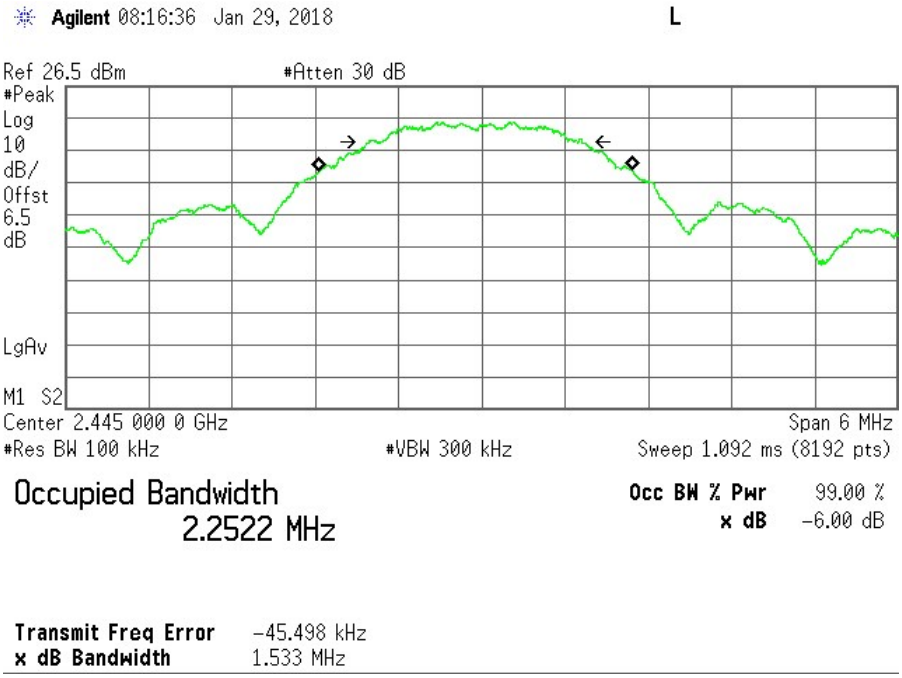
6dB Bandwidth



Antenna 1: Low Channel - Plot



Antenna 1: Mid Channel - Plot

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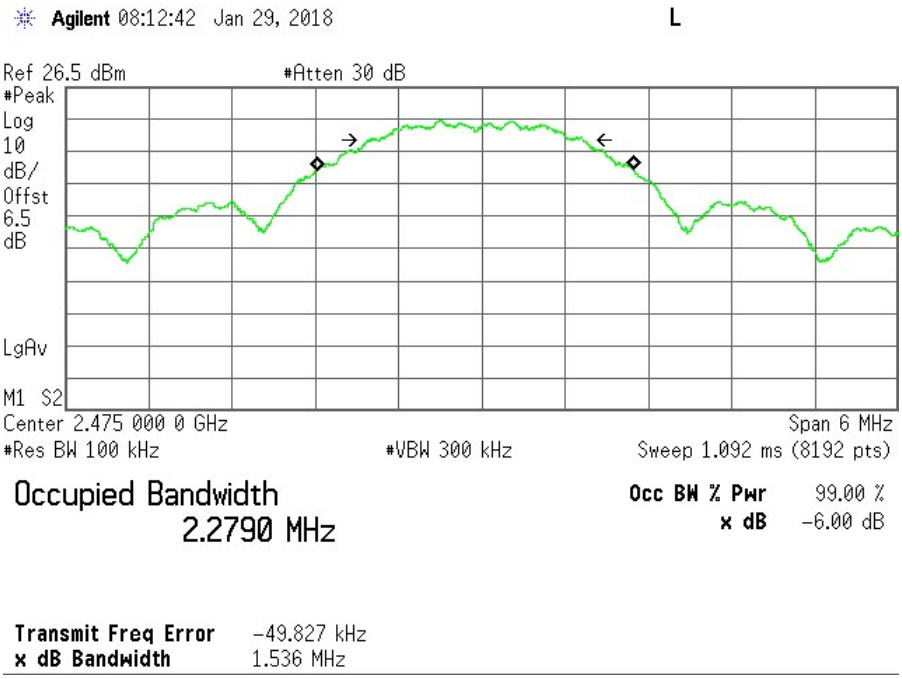
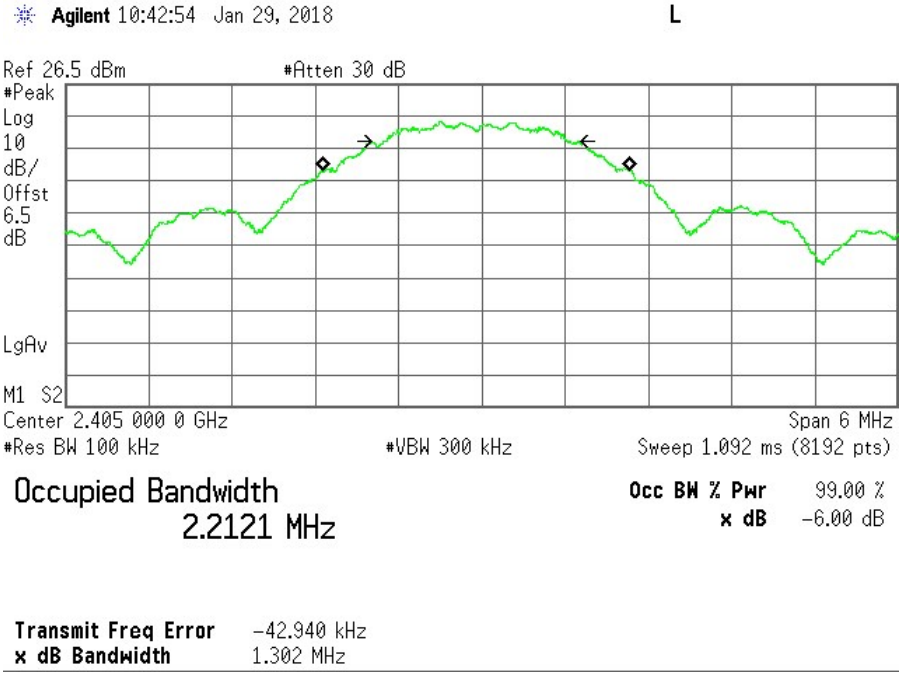


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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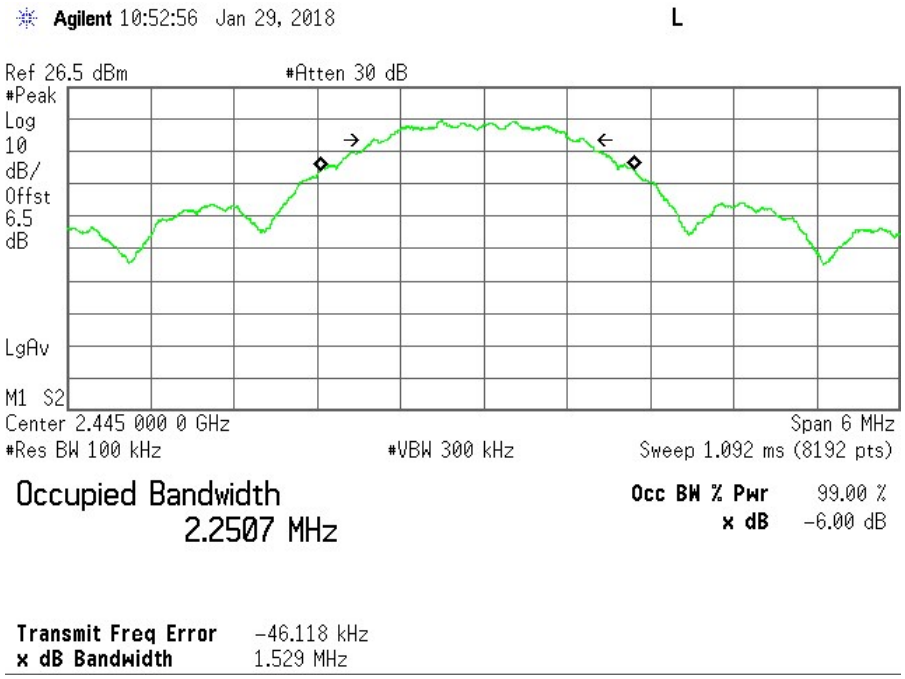
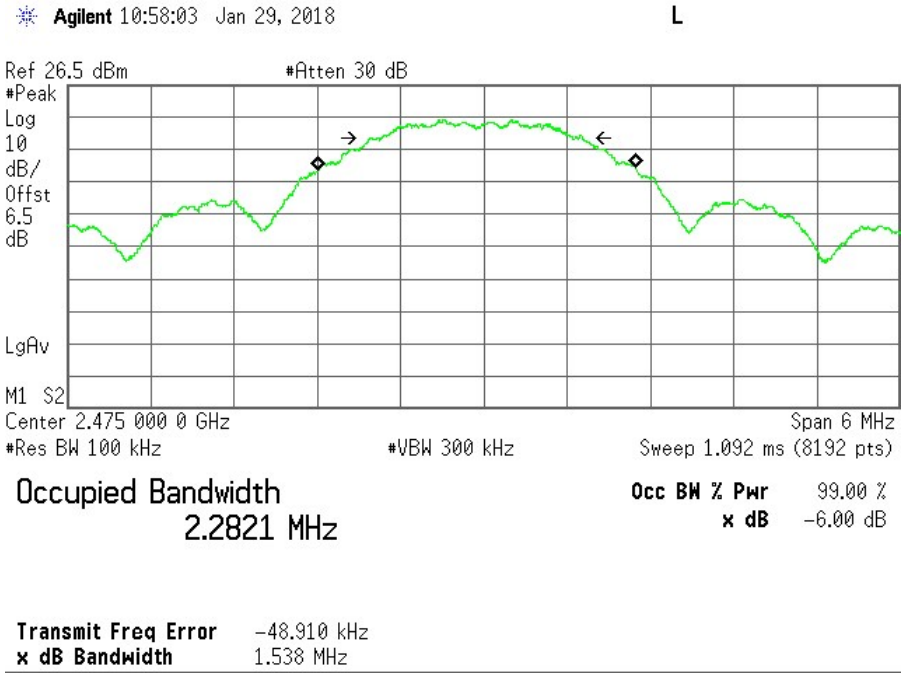


Antenna 2: Mid Channel – Plot



Antenna 2: High Channel - Plot

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99% Bandwidth

Test Description

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.
When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

Test Criteria

Reference	Limit
RSS-GEN, Section 6.6	N/A

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	02/07/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Channel	Frequency (GHz)	99% Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2045	2.224	2.210
Mid	2445	2.247	2.252
High	2475	2.250	2.303

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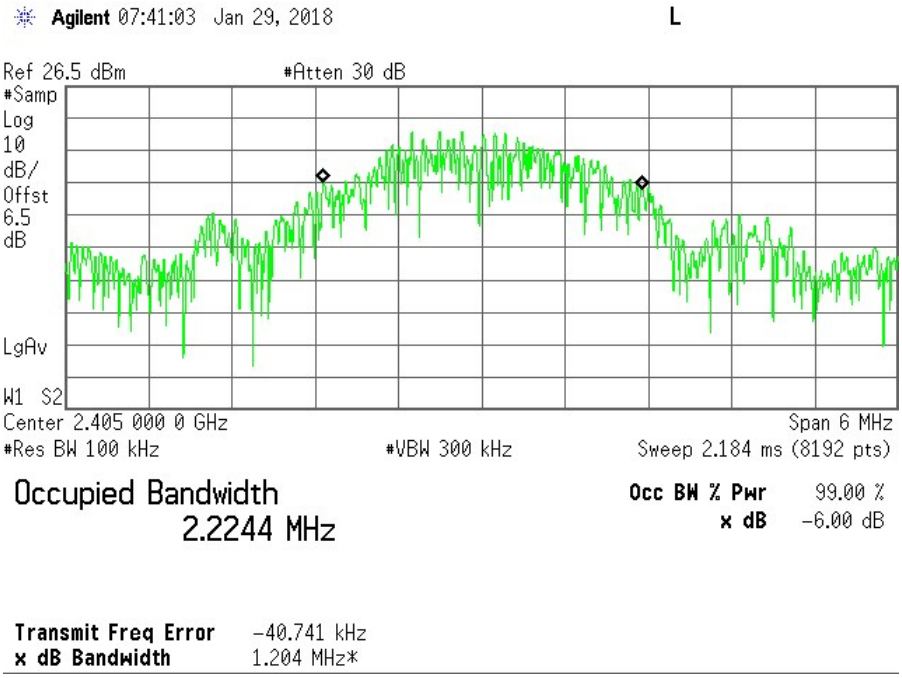
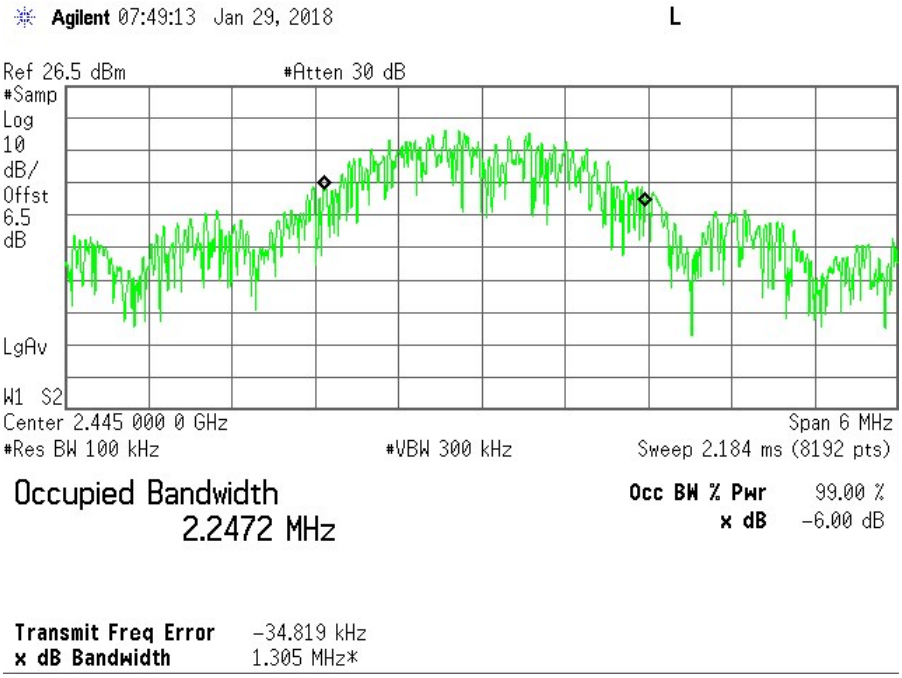
99% Bandwidth



Antenna 1: Low Channel - Plot



Antenna 1: Mid Channel - Plot

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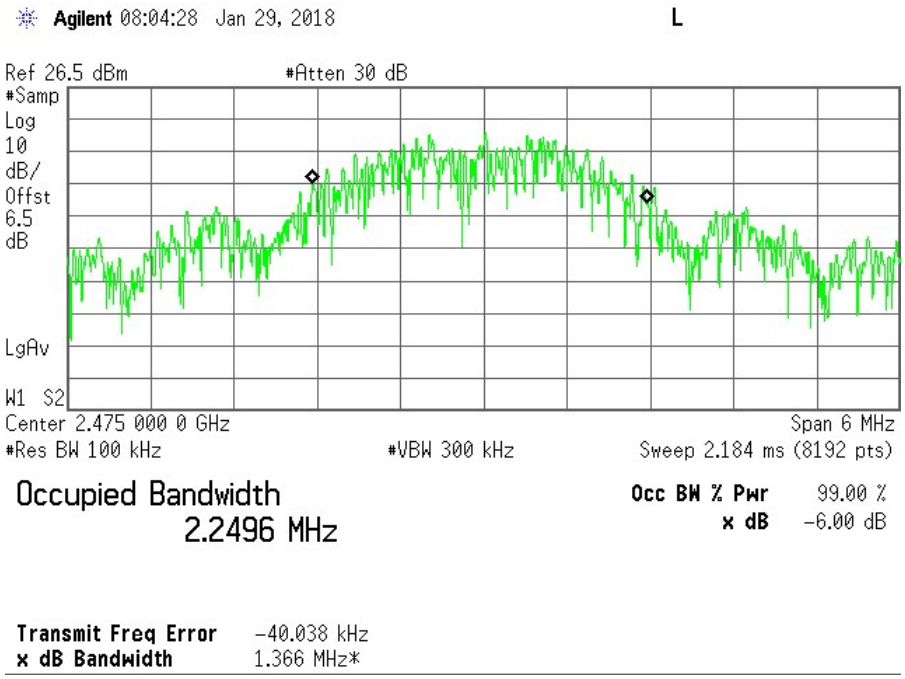
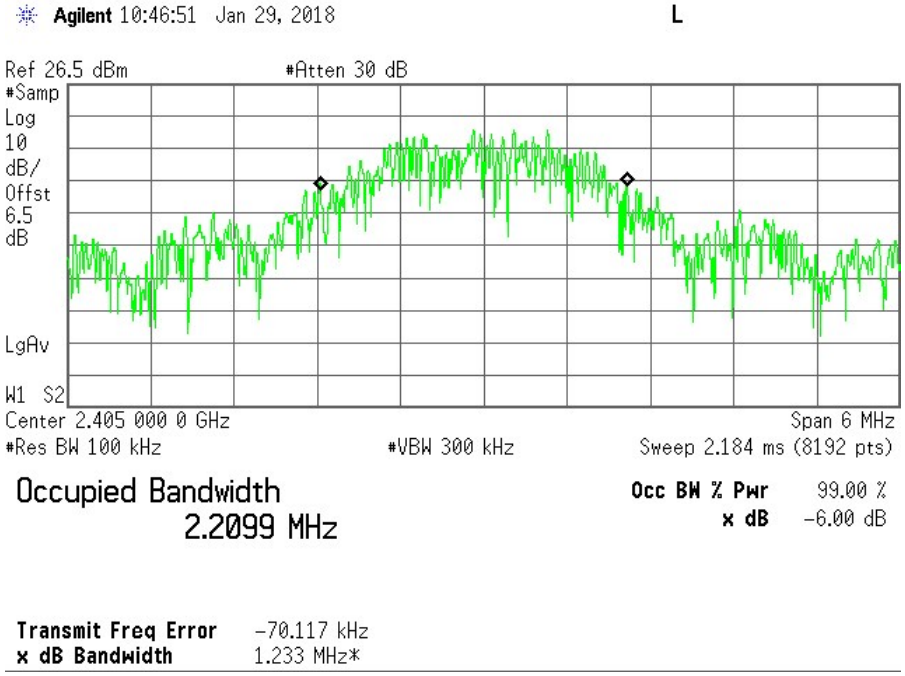


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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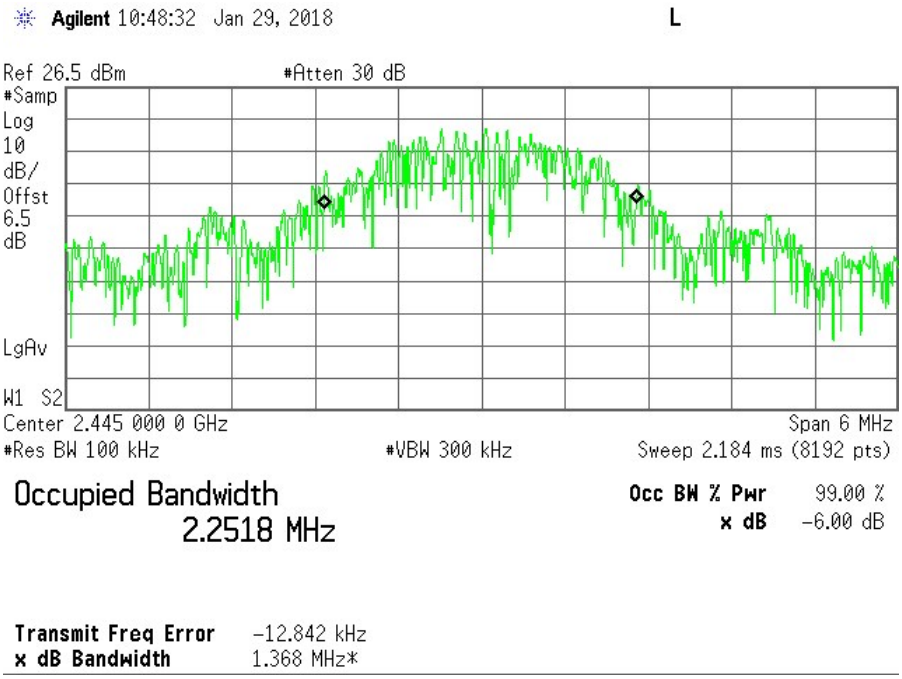
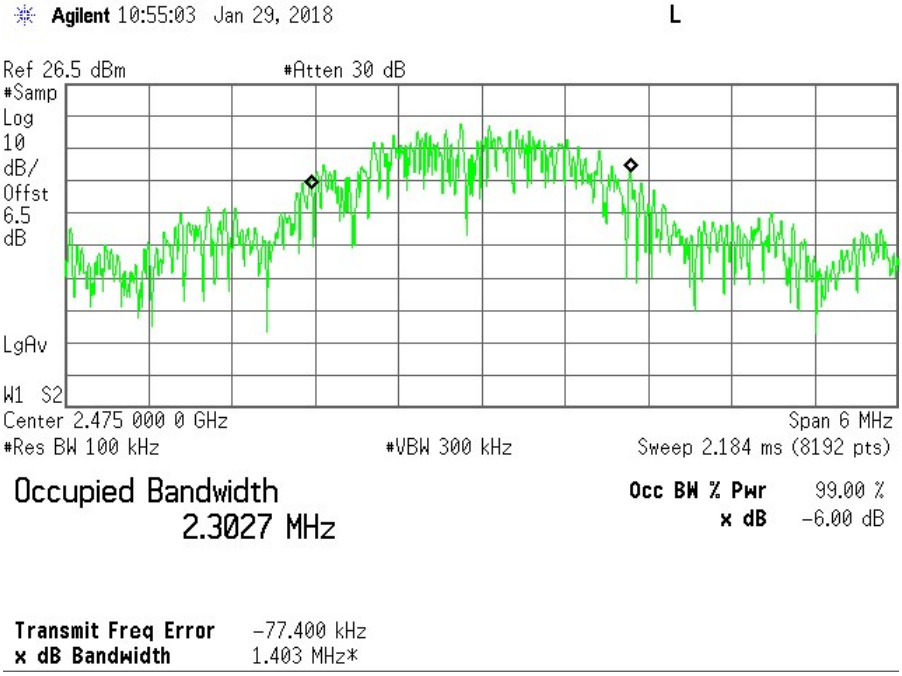


Antenna 2: Mid Channel - Plot



Antenna 2: High Channel - Plot

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Maximum Conducted Output Power

Test Description

For systems using digital modulation in the 902-928MHz, 2400-2483,5MHz and 5725-5850MHz bands, the conducted output power limit (specified below) is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Maximum conducted (average) output power was the method employed to determine fundamental emission output power.

Method AVGSA-1 per C63.10 and KDB 558074 was utilized for this test program.

Test Criteria

Reference	Limit
CFR 47 Subpart C 15.247 (b)(3) RSS-247 Section 5.4 (d)	1W (30dBm)

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	02/09/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Channel	Frequency (GHz)	Tx Channel BW Power (dBm)	
		Antenna 1	Antenna 2
Low	2405	17.02	16.97
Mid	2445	18.14	18.25
High	2475	18.62	18.46

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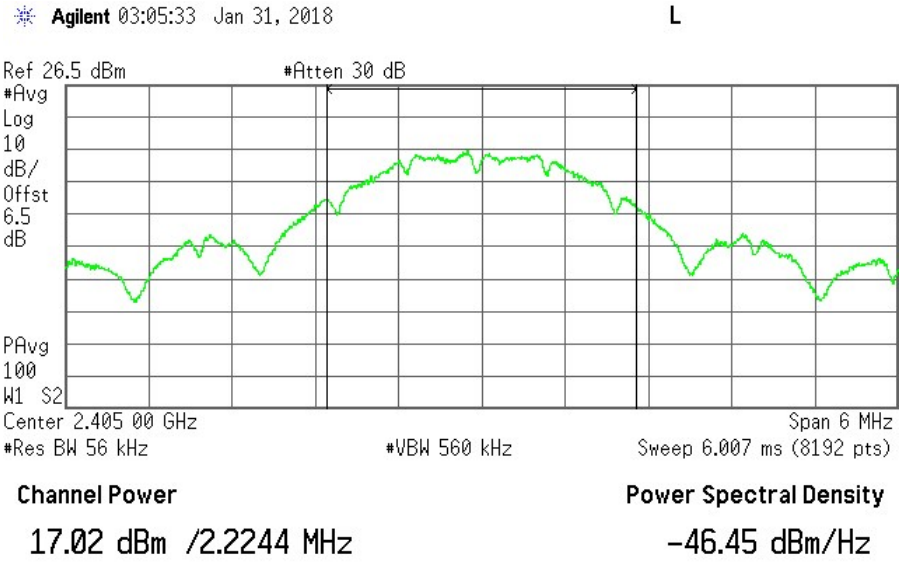
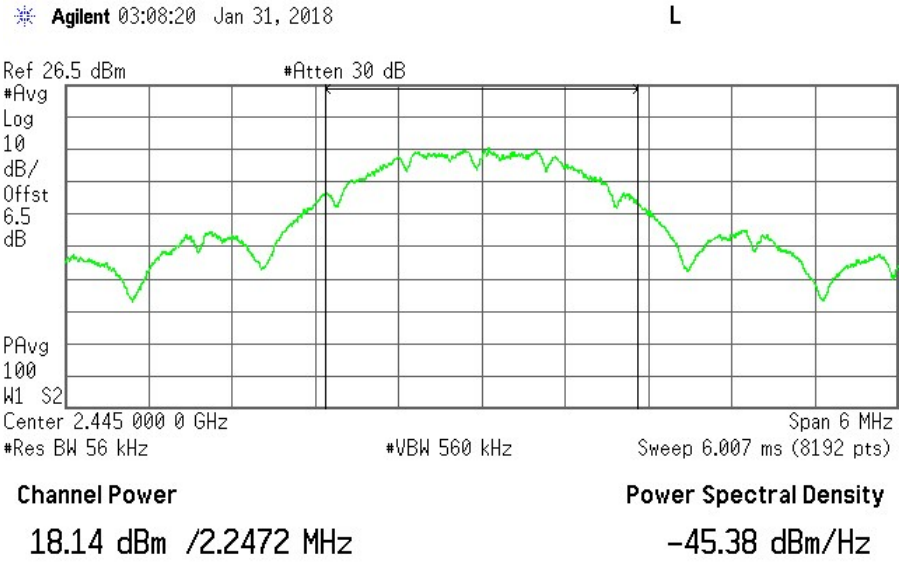
Output Power



Antenna 1: Low Channel - Plot



Antenna 1: Mid Channel - Plot

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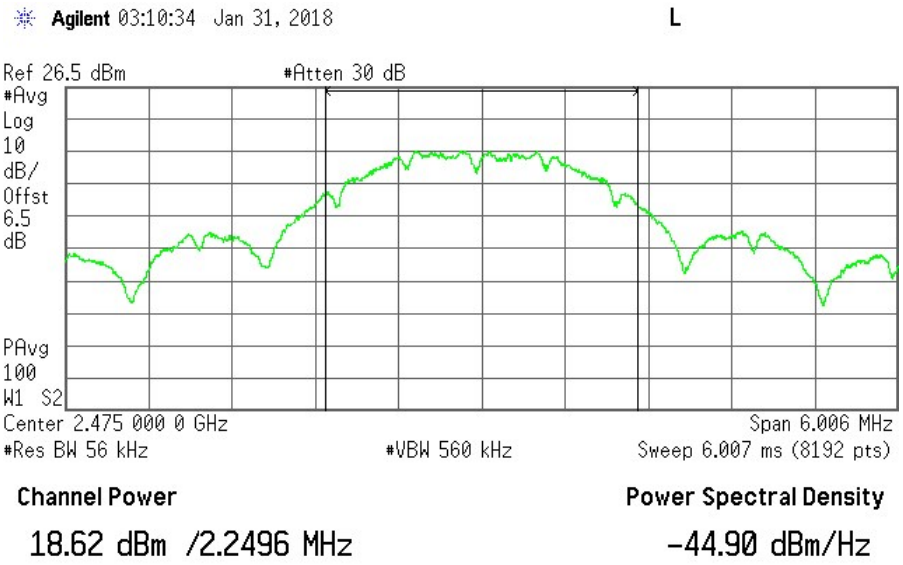
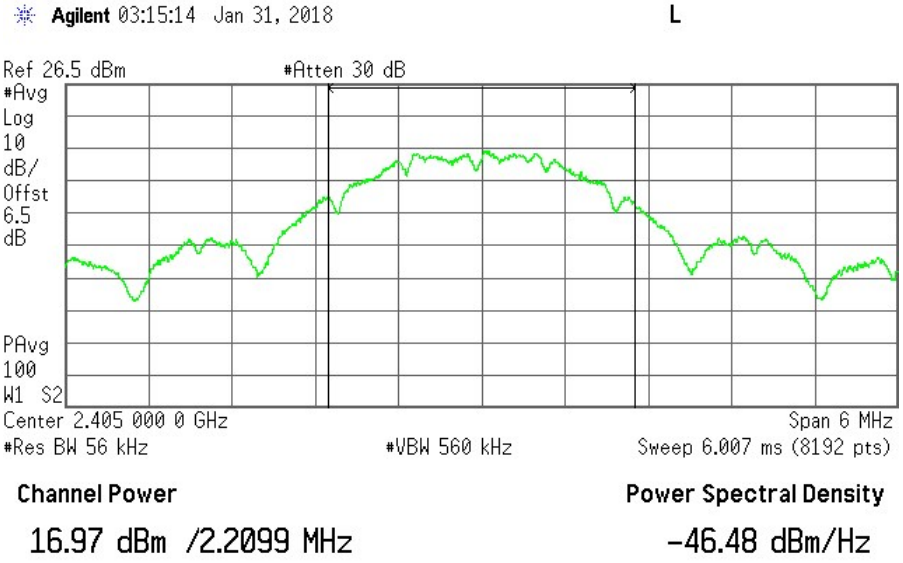


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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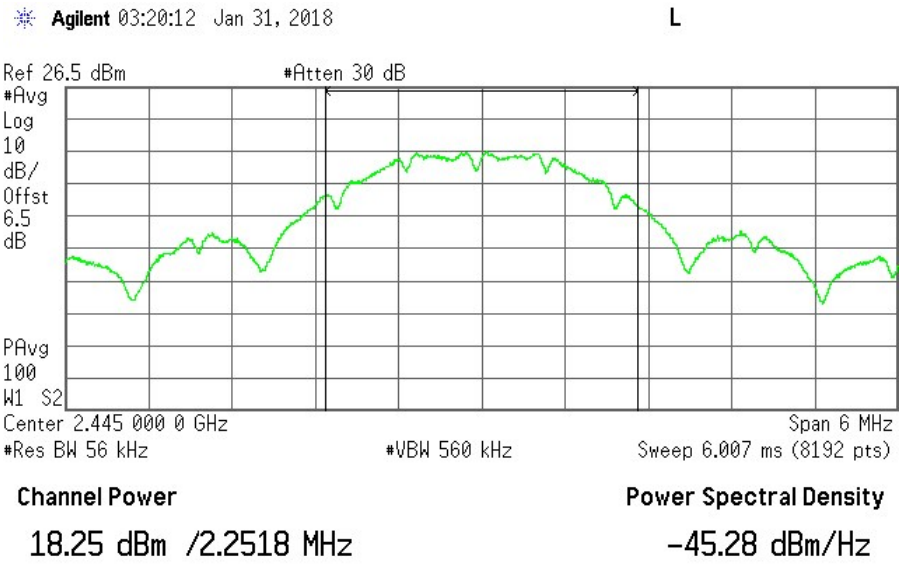
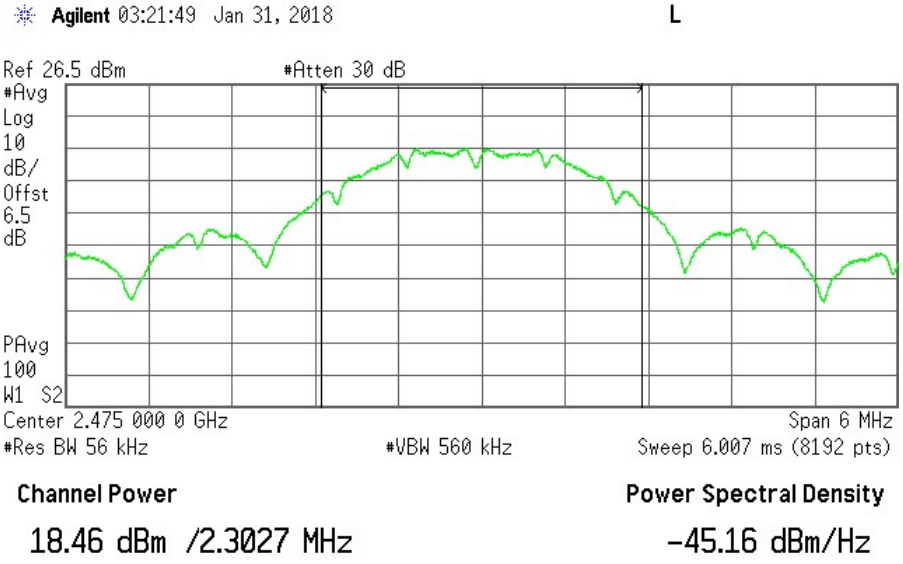


Antenna 2: Mid Channel - Plot



Antenna 2: High Channel - Plot

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Maximum Power Spectral Density

Test Description

The DTS rules specify a conducted PSD limit within the *DTS bandwidth* during any time interval of continuous transmission. Such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. Therefore, if maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used.

Since maximum conducted (average) output power was the method employed to determine fundamental emission output power, then the peak / average power spectral density method was utilized.

Method AVGPSD-1 per C63.10 and KDB 558074 was utilized for this test program.

Test Criteria

Reference	Limit
CFR 47 Subpart C 15.247 (e) RSS-247 Section 5.2 (b)	< 8 dBm in any 3 kHz Band

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
MA	RF Lab	03/01/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Channel	Frequency (GHz)	Max PSD (dBm)	
		Antenna 1	Antenna 2
Low	2405	3.64	3.49
Mid	2445	3.65	5.15
High	2475	5.29	5.14

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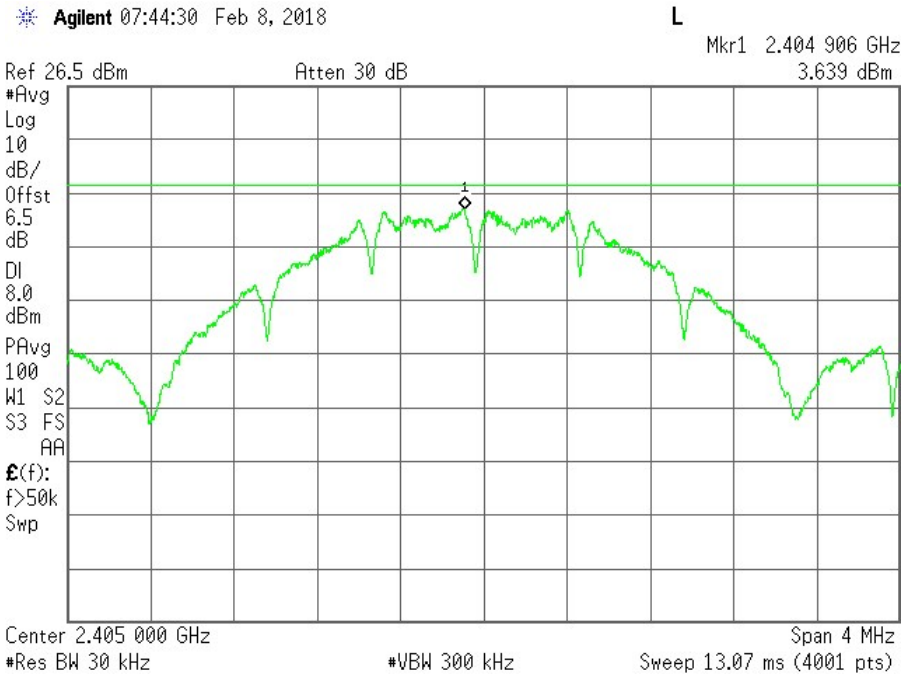
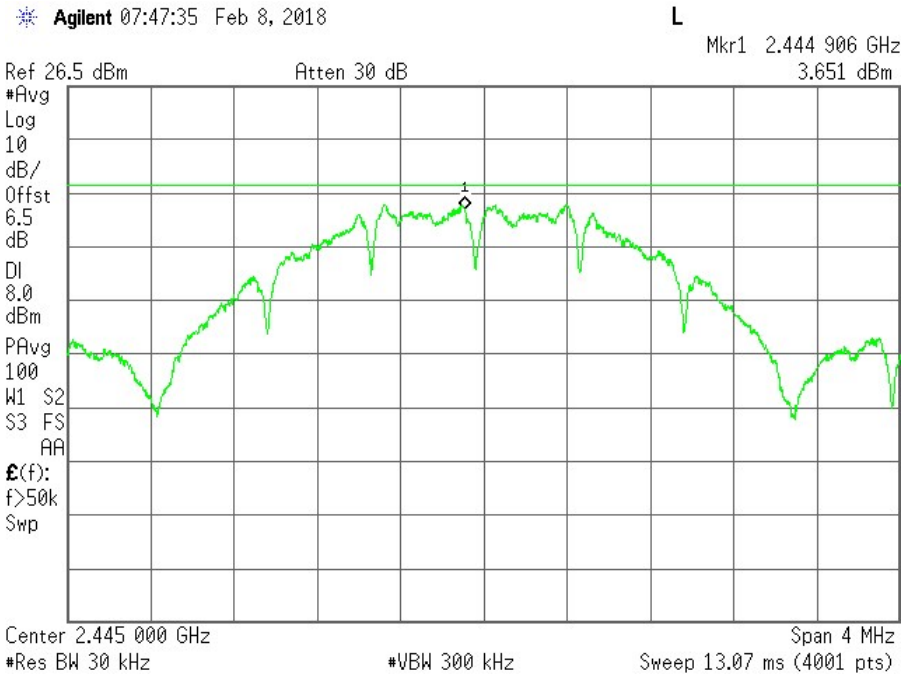
PSD



Antenna 1: Low Channel - Plot



Antenna 1: Mid Channel - Plot

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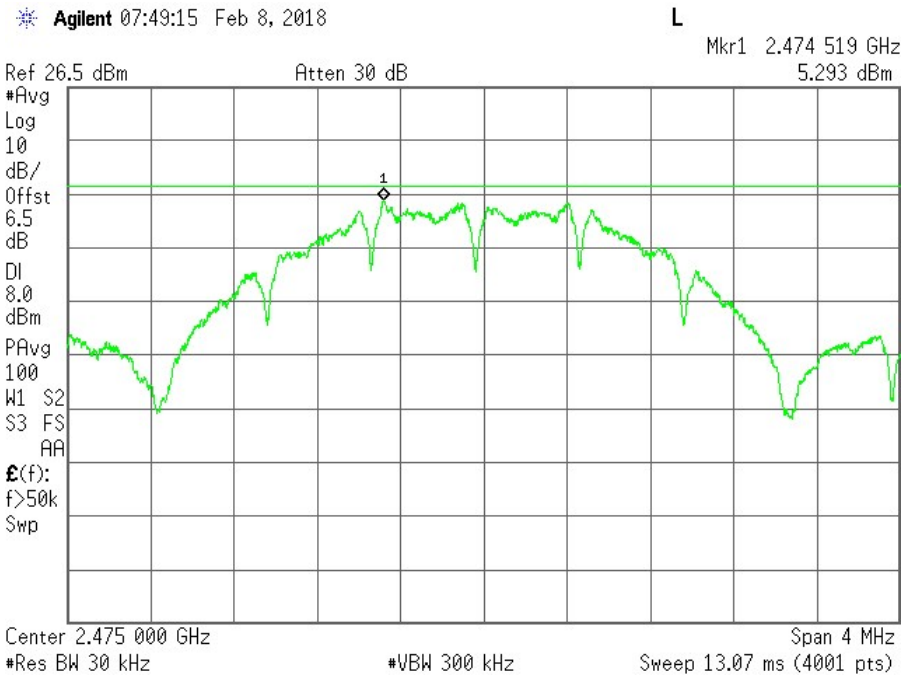
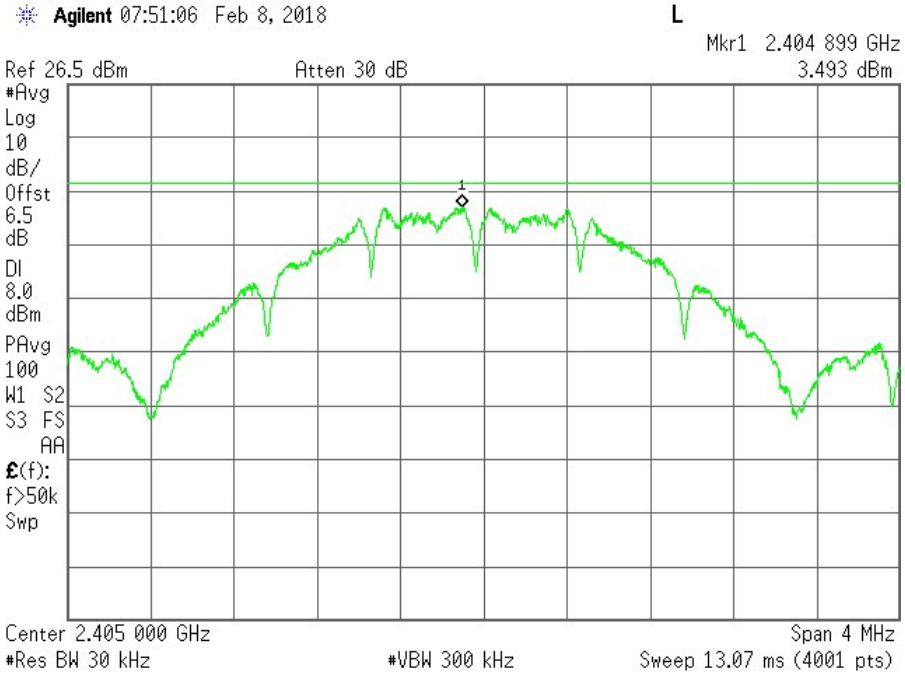


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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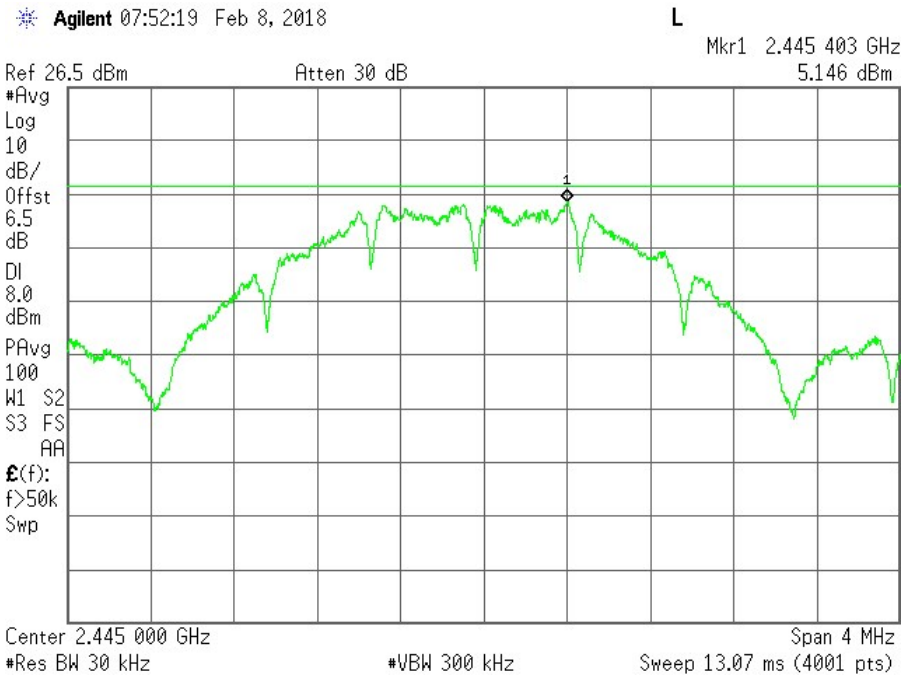
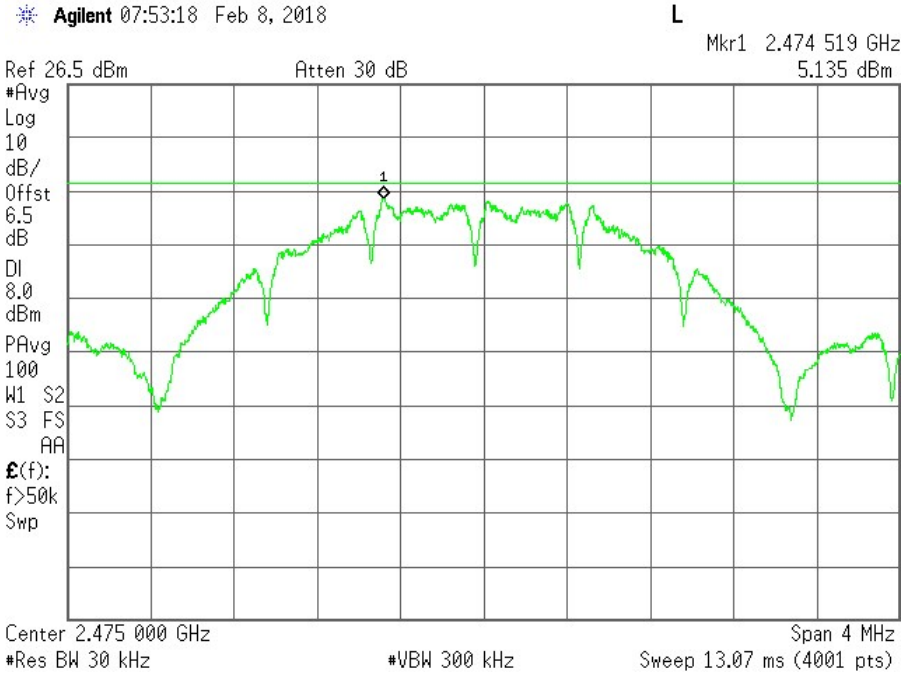


Antenna 2: Mid Channel - Plot



Antenna 2: High Channel - Plot

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Authorized Band Edge / Conducted Spurious Emissions

Test Description

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Test Criteria

Reference	Limit
CFR 47 Subpart C 15.247 (d) RSS-247, Section 5.5	30dB Below the Fundamental

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	02/07/18	21.2	28.2	1008	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

Authorized Band Edge			
Channel	Frequency (GHz)	Delta from Band edge (dB)	
		Antenna 1	Antenna 2
Low	2405	-14.91	-15.55
High	2475	-33.03	-34.79

Conducted Spurious			
Channel	Frequency (GHz)	Highest Spurious Emission Delta from Limit (dB)	
		Antenna 1	Antenna 2
Low	2405	-29.82	-36.3
Mid	2445	-28.05	-34.66
High	2475	-23.35	-36.05

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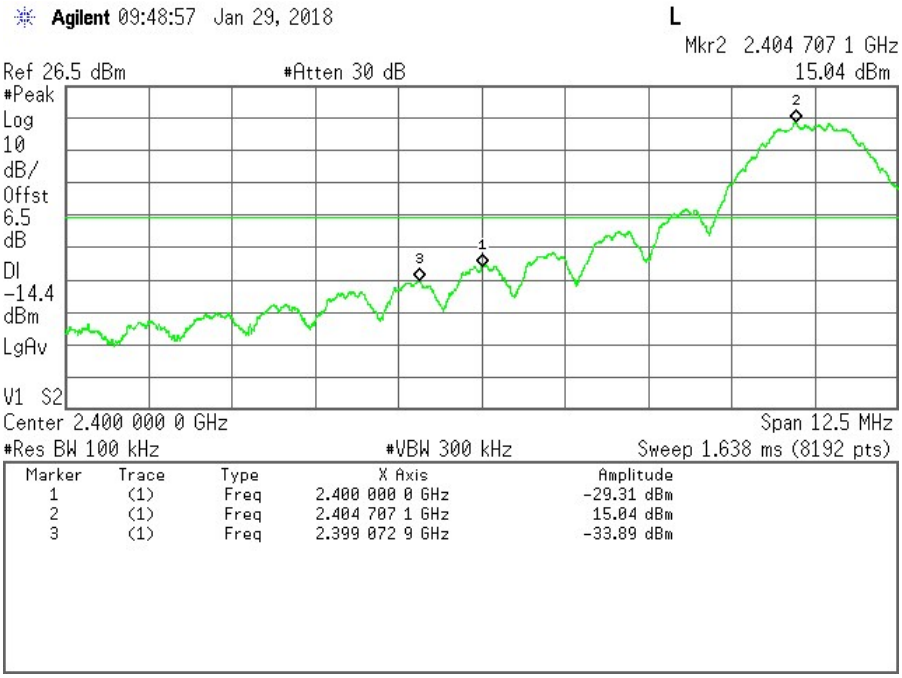
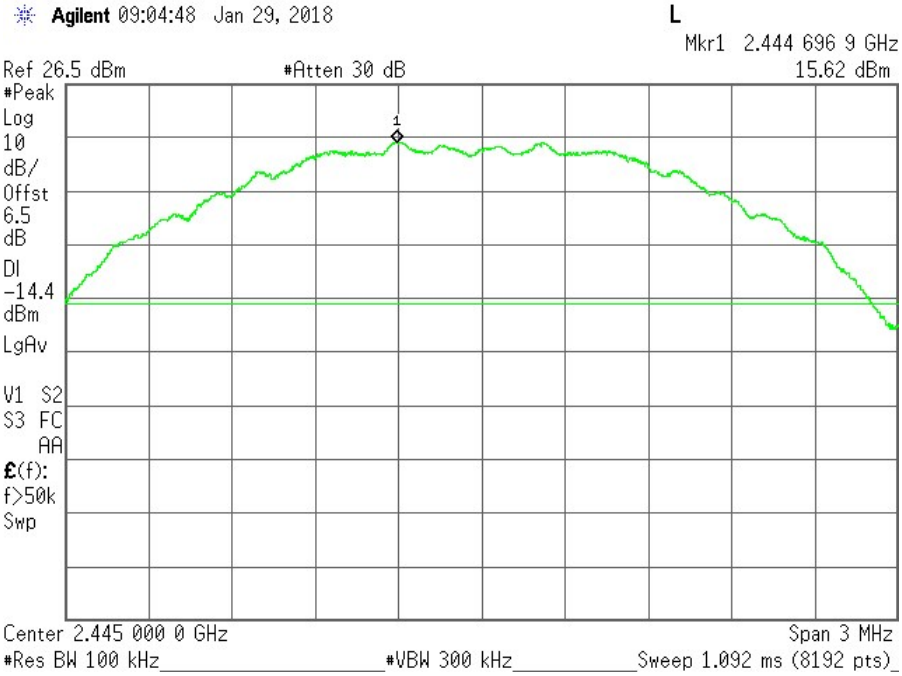
Band Edge



Antenna 1: Low Channel - Plot



Antenna 1: Mid (Reference) Channel - Plot

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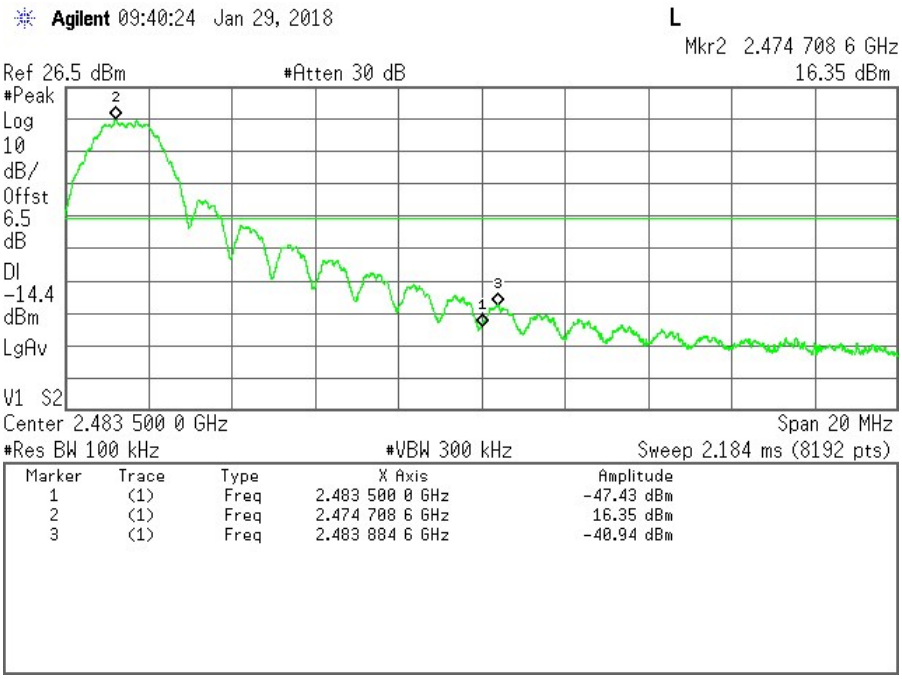
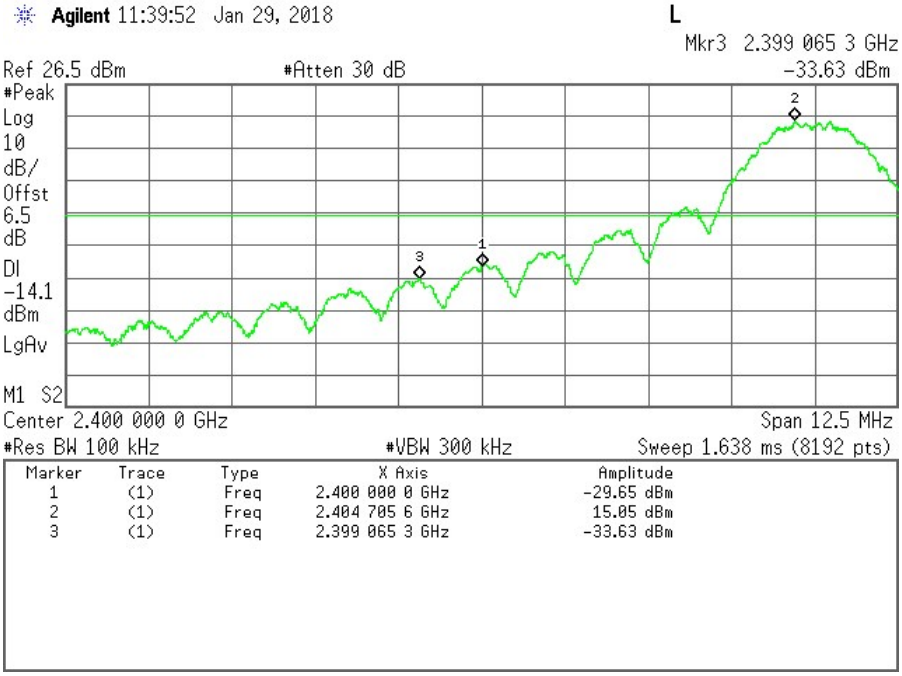


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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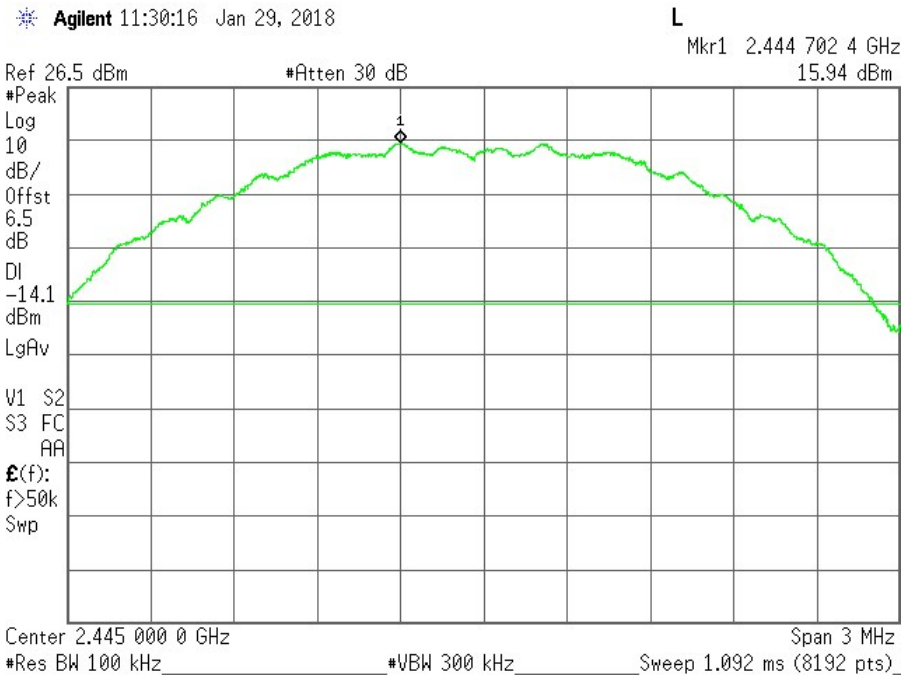
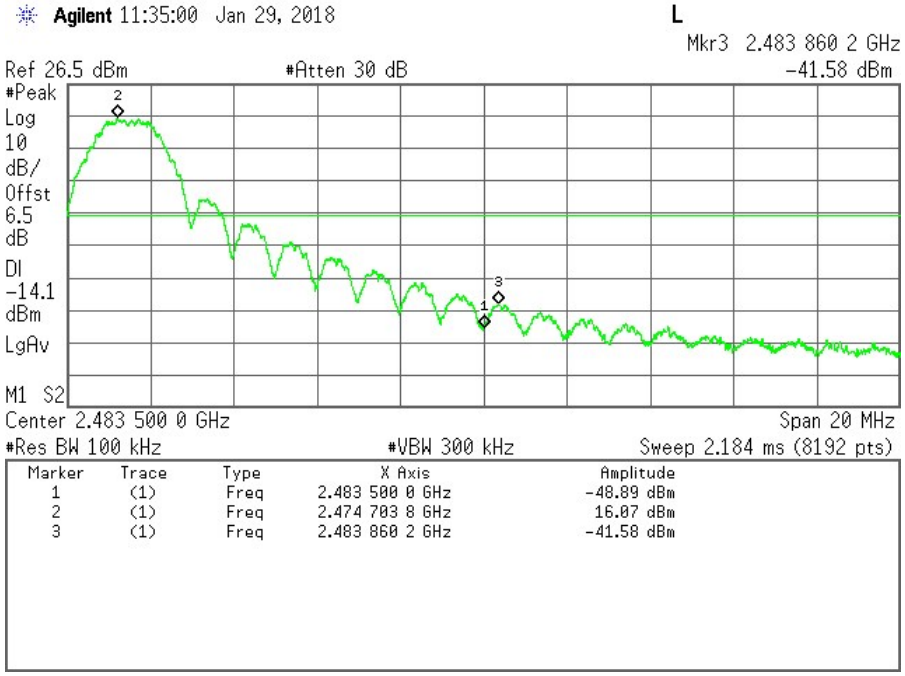


Antenna 2: Mid (Reference) Channel - Plot



Antenna 2: High Channel - Plot

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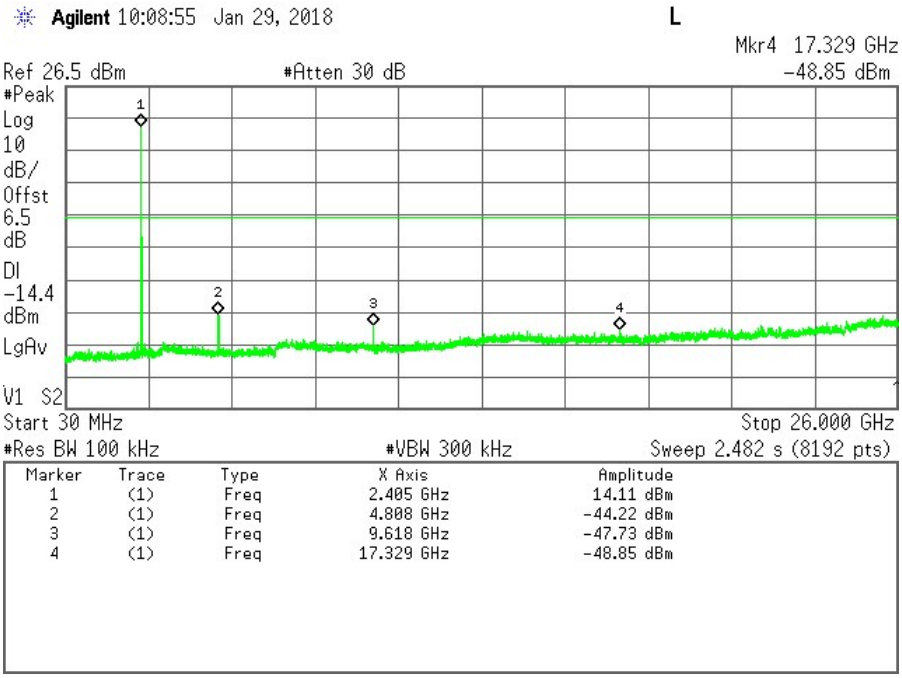
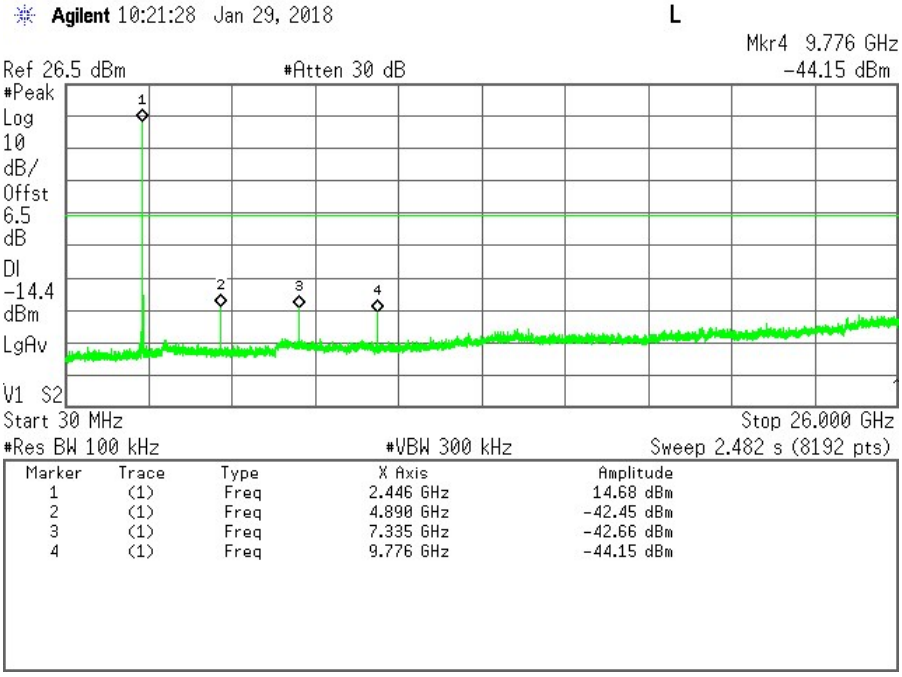
Conducted Spurious



Antenna 1: Low Channel - Plot



Antenna 1: Mid Channel - Plot

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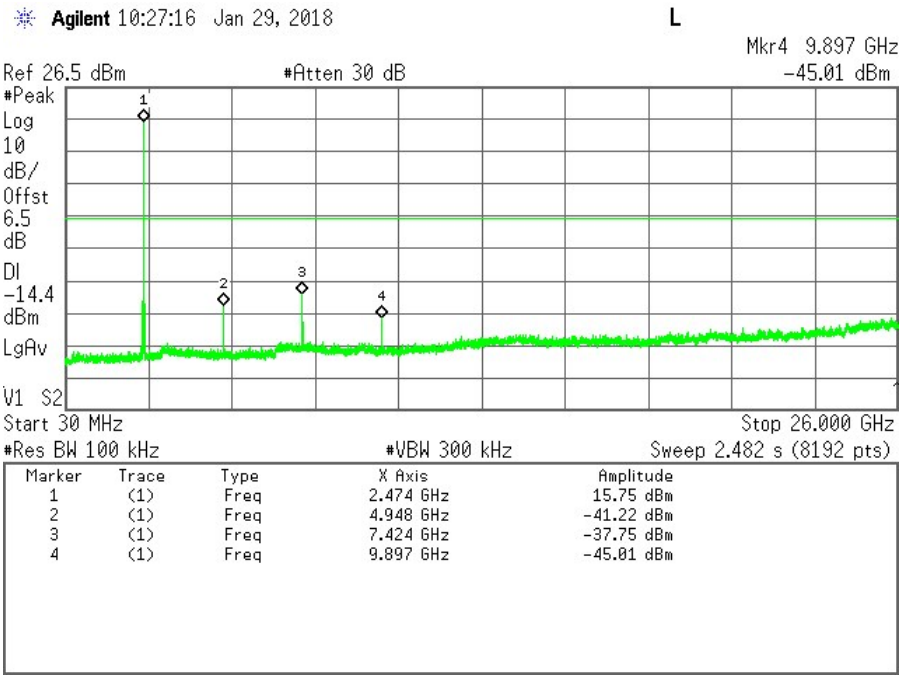
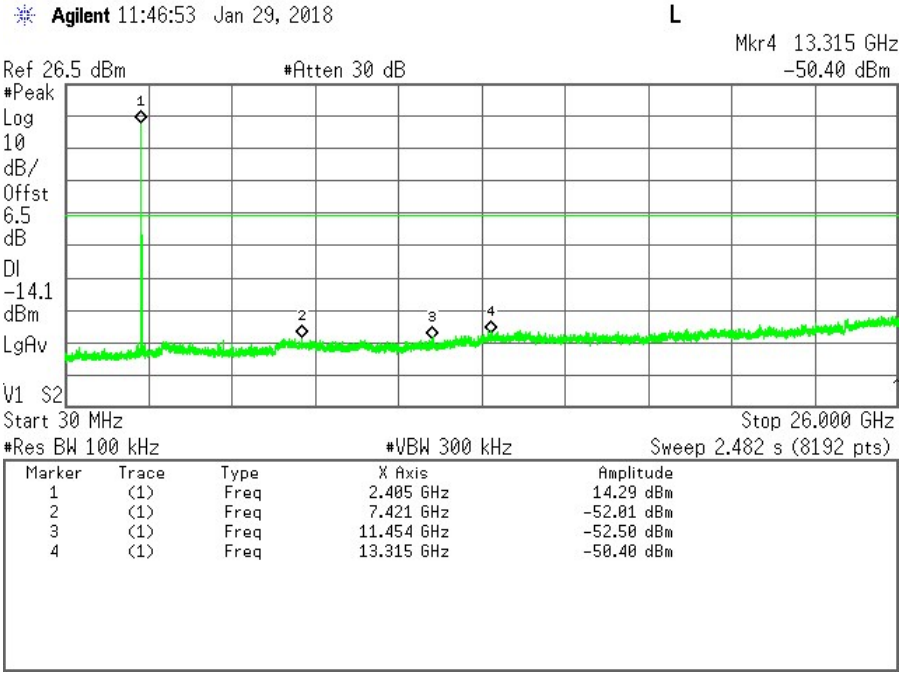


Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot

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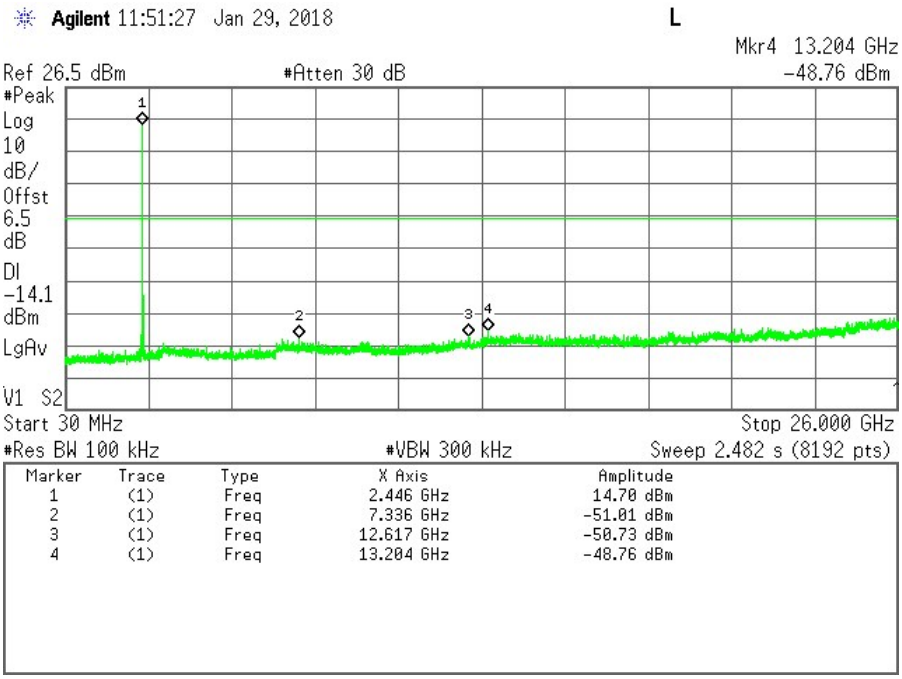
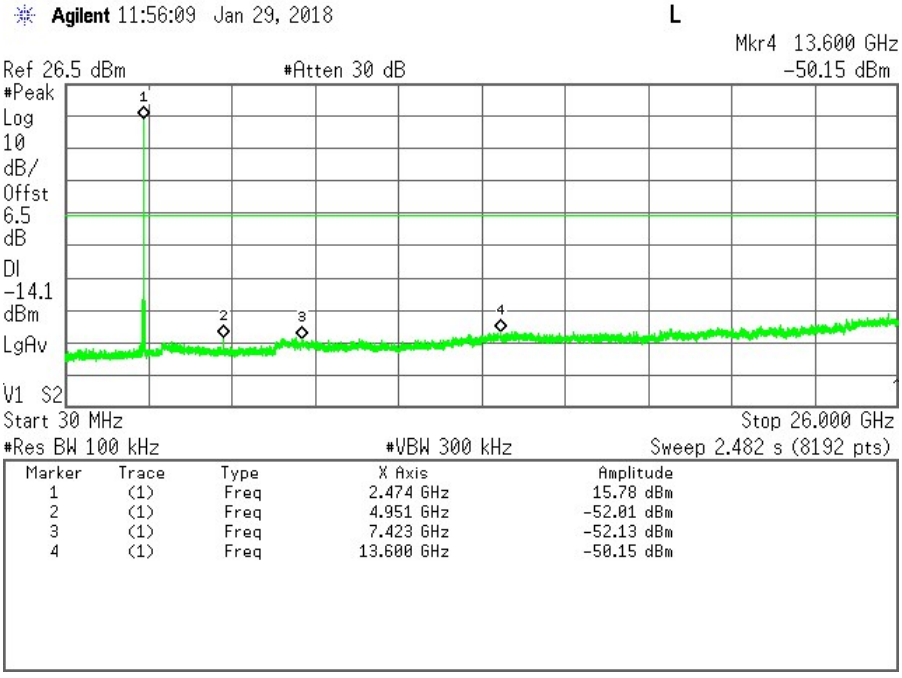


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.446 GHz	14.70 dBm
2	(1)	Freq	7.336 GHz	-51.01 dBm
3	(1)	Freq	12.617 GHz	-50.73 dBm
4	(1)	Freq	13.204 GHz	-48.76 dBm

Antenna 2: Mid Channel - Plot



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.474 GHz	15.78 dBm
2	(1)	Freq	4.951 GHz	-52.01 dBm
3	(1)	Freq	7.423 GHz	-52.13 dBm
4	(1)	Freq	13.600 GHz	-50.15 dBm

Antenna 2: High Channel - Plot

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Radiated Emissions (Intentional)

Test Description

Intentional Radiator Radiated Emissions are a test of the emissions, and harmonics on the EUT. The EUT is positioned to get the maximum emissions after a series of prescan measurements.
The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1 GHz measurements and 1.5 m above the ground plane for above 1 GHz measurements. The antenna to EUT distance is 3 meters.
For measurements below 1 GHz the resolution bandwidth is set to 120 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.
The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

Test Criteria

Reference	Limit		
CFR 47 Subpart C, 15.205 CFR 47 Subpart C, 15.209 RSS-GEN	Frequency Range (MHz)	Field Strength Limit (uV/m)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100**	3
	88-216	150**	3
	216-960	200**	3
	Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL/JB	RF Chamber/OATS	01/16/18-02/26/18	4.4	50	1001	P

NOTE: Below 30MHz, pretesting showed that no emissions as a product of the EUT were detected within 20dB of the regulatory limit. Worse-case plot/data reported from 30MHz - 1GHz, per antenna. Worse-case plots reported per antenna above 1GHz, however, all required numerical data is provided for each channel/antenna. Prescans performed in an anechoic chamber, final measurements performed on an OATS.

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Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
RF Chamber						
Spectrum Analyzer	11496	100303	Rohde & Schwarz	FSU26	04/10/17	04/10/18
Loop Antenna (9kHz-30MHz)	11535	121080	Com-Power	AL-130R	10/17/17	10/17/18
Bilog Antenna (30MHz-6GHz)	11534	A012816	Sunol	JB6	03/09/17	03/09/18
Horn Antenna (1-18GHz)	2319	2317	EMCO	3115	01/10/18	01/10/19
Horn Antenna (18-40GHz)	11472	151	EMCO	EM-6963	02/14/18	02/14/19
Preamp (30-1000MHz)	11537	1603006	Mini Circuits	TVA-11-422	N/A	N/A
Preamp (1-18GHz)	11539	160362	Amplical	AMP1G18-35	N/A	N/A
Preamp (18-40GHz)	11541	160911	Amplical	AMP18G40-35	N/A	N/A
Band Reject Filter	11553	G041	Micro-tronics	BRM50702-01	N/A	N/A
Measurement Software	11543	Version 9.5	UL	UL EMC	N/A	N/A
Environmental Meter	11548	A.078188	Extech Instruments	SD700	04/24/17	04/14/18
OATS						
Spectrum Analyzer	11496	100303	Rohde & Schwarz	FSU26	04/10/17	04/10/18
Spectrum Analyzer	11545	103125	Rohde & Schwarz	FSW26	02/14/17	02/14/18
Bilog Antenna (30MHz-6GHz)	11534	A012816	Sunol	JB6	03/09/17	03/09/18
Horn Antenna (1-18GHz)	2973	3127	EMCO	RGA-60	01/22/18	01/22/19
Horn Antenna (18-40GHz)	11472	151	EMCO	EM-6963	02/14/18	02/14/19
Preamp (1-18GHz)	11539	160362	Amplical	AMP1G18-35	N/A	N/A
Preamp (18-40GHz)	11541	160911	Amplical	AMP18G40-35	N/A	N/A
High Pass Filter	11552	G018	Micro-tronics	HPM50111-01	N/A	N/A
Measurement Software	11543	Version 9.5	UL	UL EMC	N/A	N/A
Environmental Meter	11533	A070144	Extech Instruments	SD700	08/21/17	08/21/20

Note: Testing above 18GHz was performed using the horn antenna after calibration was performed.

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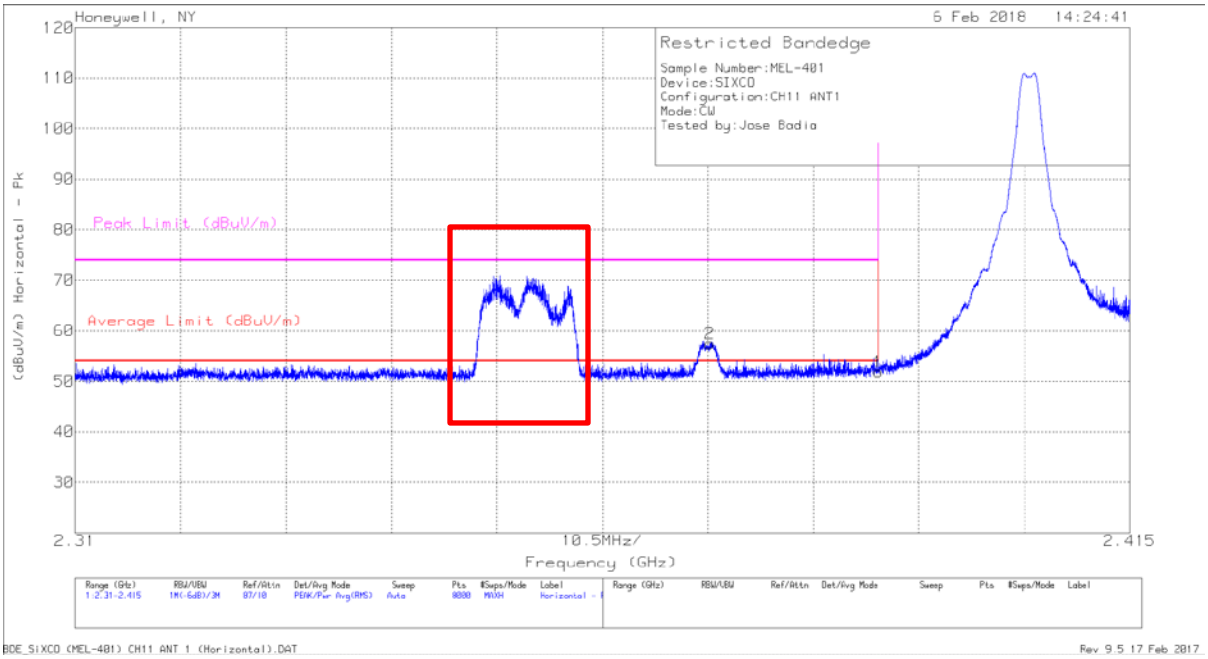
Test Results

Restricted Band Edge



Antenna 1: Low Channel Horizontal – Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	17.62	Pk	28.5	.7	2.6	2.5	-	51.92	74	-22.08	221	246	H
2	* 2.373	23.3	Pk	28.4	.7	2.6	2.5	-	57.5	74	-16.5	221	246	H
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.39	17.62	Av	28.5	.7	2.6	2.5	-23.1	28.82	54	-25.18	221	246	H
2	* 2.373	23.3	Av	28.4	.7	2.6	2.5	-23.1	34.4	54	-19.6	221	246	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: Low Channel Horizontal – Data

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter

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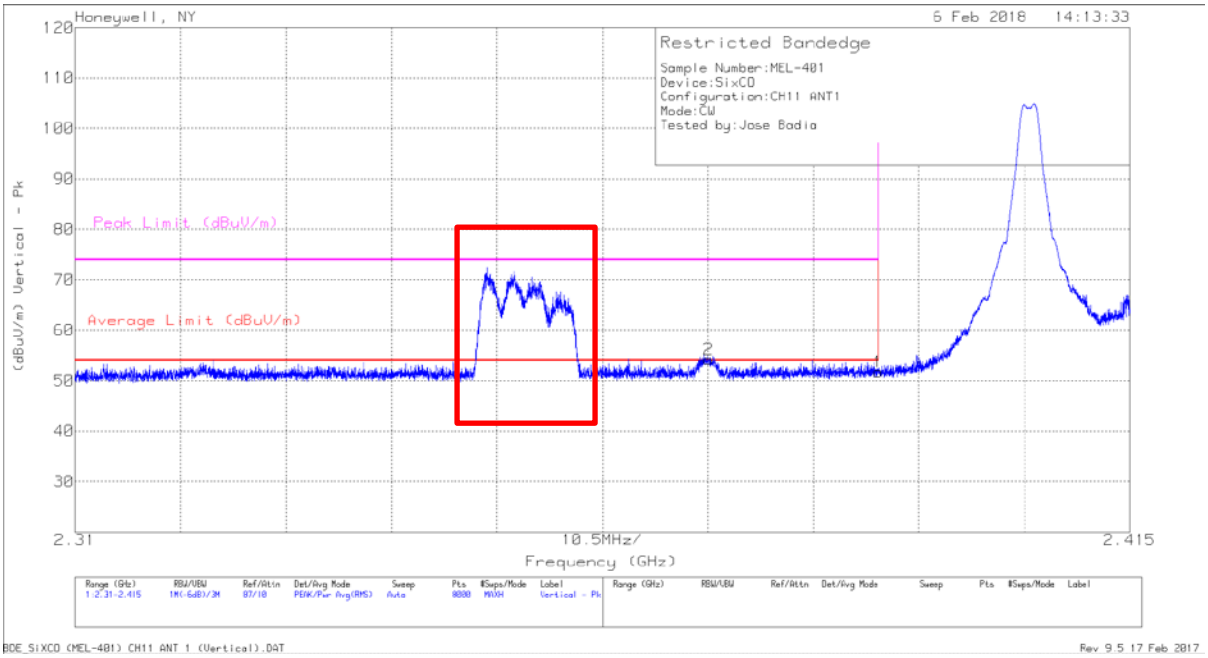

Antenna 1: Low Channel Vertical – Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	17.46	Pk	28.5	.7	2.6	2.5	-	51.76	74	-22.24	35	166	V
2	* 2.373	20.04	Pk	28.4	.7	2.6	2.5	-	54.24	74	-19.76	35	166	V
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.39	17.46	Av	28.5	.7	2.6	2.5	-23.1	28.66	54	-25.34	35	166	V
2	* 2.373	20.04	Av	28.4	.7	2.6	2.5	-23.1	31.14	54	-22.86	35	166	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: Low Channel Vertical – Data

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter

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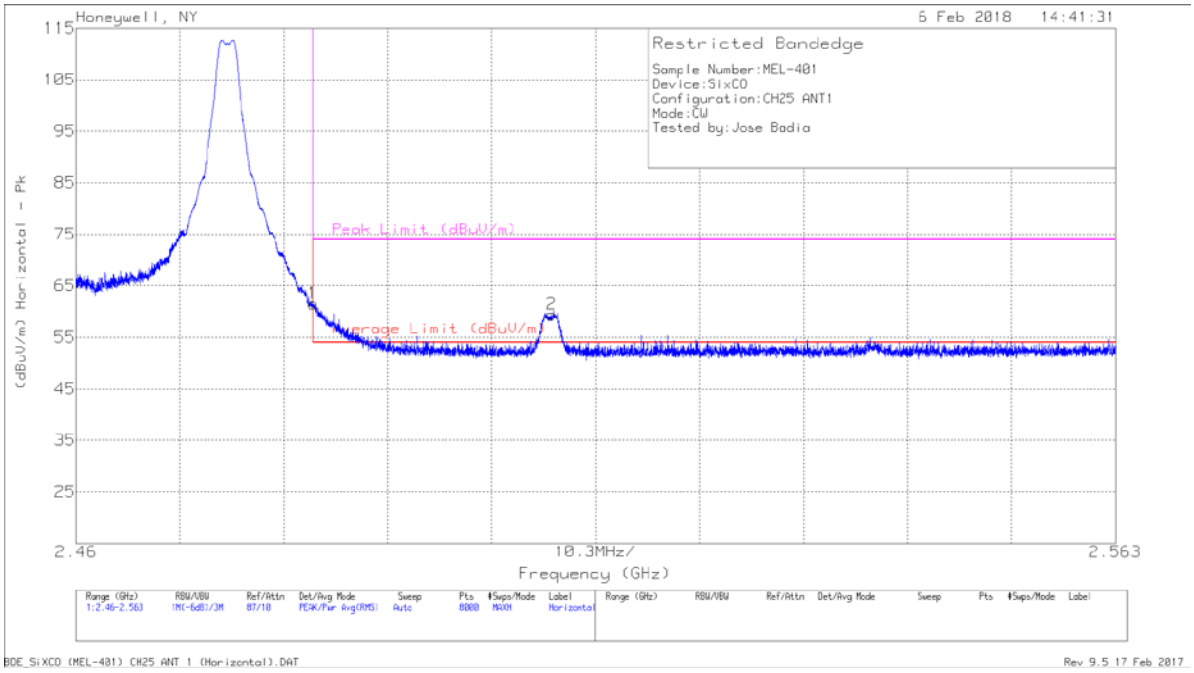

Antenna 1: High Channel Horizontal - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	26.97	Pk	28.7	.7	2.6	2.6	-	61.57	74	-12.43	221	167	H
2	2.507	24.66	Pk	28.8	.7	2.7	2.6	-	59.46	74	-14.54	221	167	H
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.484	26.97	Av	28.7	.7	2.6	2.6	-23.1	38.47	54	-15.53	221	167	H
2	2.507	24.66	Av	28.8	.7	2.7	2.6	-23.1	36.36	54	-17.64	221	167	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: High Channel Horizontal – Data

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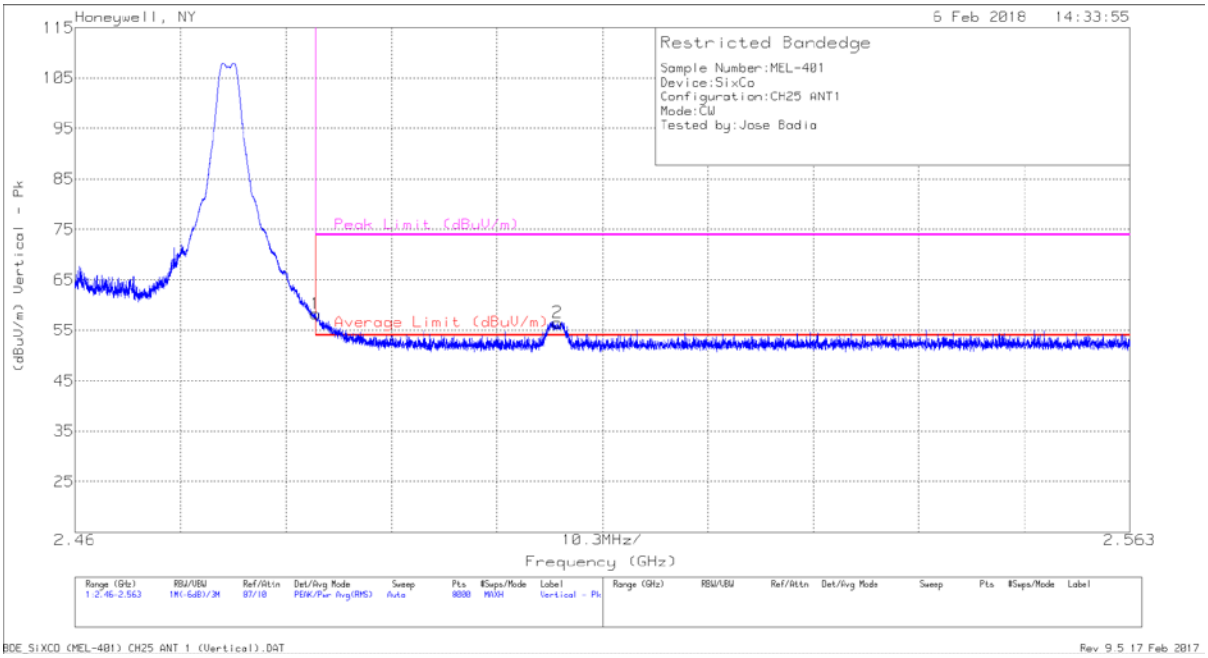

Antenna 1: High Channel Vertical - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	23.68	Pk	28.7	.7	2.6	2.6	-	58.28	74	-15.72	285	260	V
2	2.507	21.78	Pk	28.8	.7	2.7	2.6	-	56.58	74	-17.42	285	260	V
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.484	23.68	Av	28.7	.7	2.6	2.6	-23.1	35.18	54	-18.82	285	260	V
2	2.507	21.78	Av	28.8	.7	2.7	2.6	-23.1	33.48	54	-20.52	285	260	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: High Channel Vertical – Data

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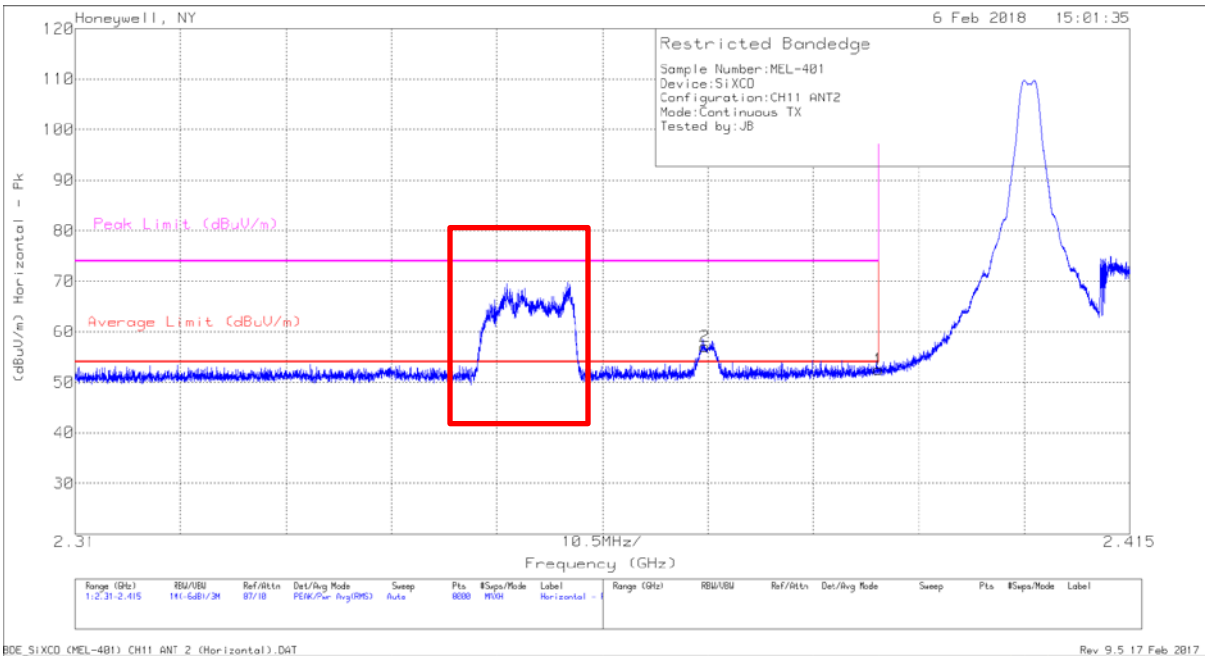

Antenna 2: Low Channel Horizontal – Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	18.25	Pk	28.5	.7	2.6	2.5	-	52.55	74	-21.45	34	129	H
2	* 2.373	22.9	Pk	28.4	.7	2.6	2.5	-	57.1	74	-16.9	34	129	H
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Av Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.39	18.25	Av	28.5	.7	2.6	2.5	-23.1	29.45	54	-24.55	34	129	H
2	* 2.373	22.9	Av	28.4	.7	2.6	2.5	-23.1	34	54	-20	34	129	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: Low Channel Horizontal – Data

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter

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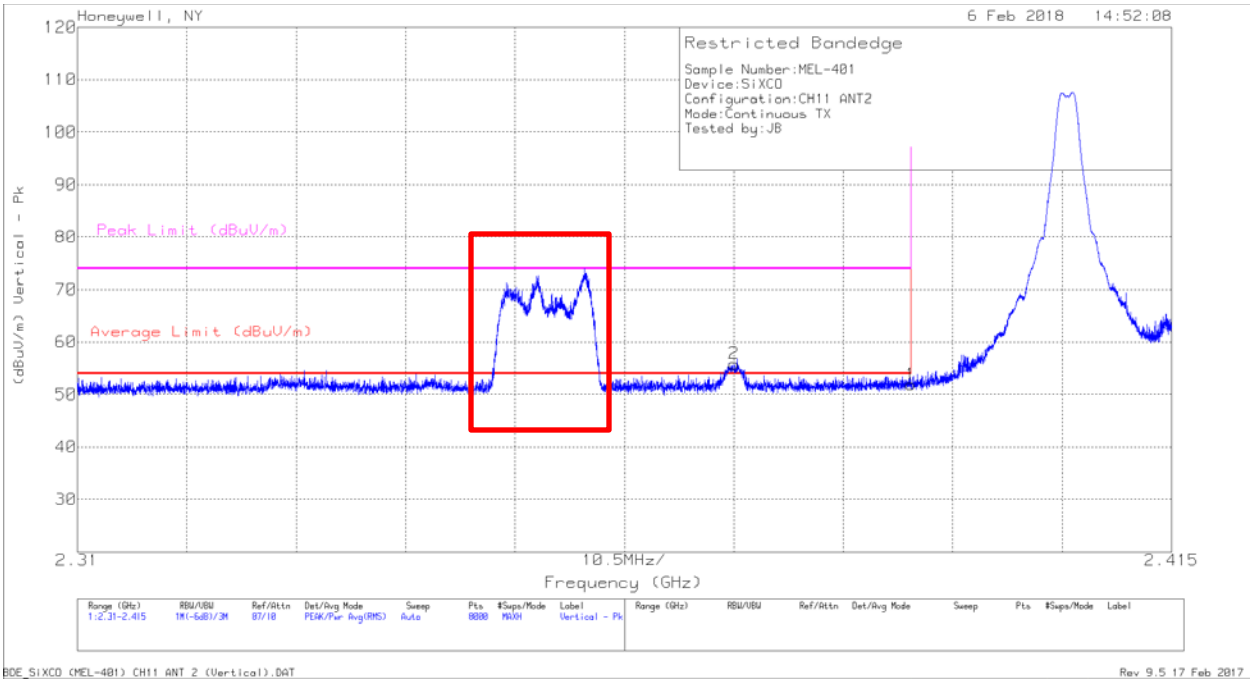

Antenna 2: Low Channel Vertical - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	17.54	Pk	28.5	.7	2.6	2.5	-	51.84	74	-22.16	2	134	V
2	* 2.373	21.7	Pk	28.4	.7	2.6	2.5	-	55.9	74	-18.1	2	134	V
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.39	17.54	Pk	28.5	.7	2.6	2.5	-23.1	28.74	54	-25.26	2	134	V
2	* 2.373	21.7	Pk	28.4	.7	2.6	2.5	-23.1	32.8	54	-21.2	2	134	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: Low Channel Vertical – Data

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter

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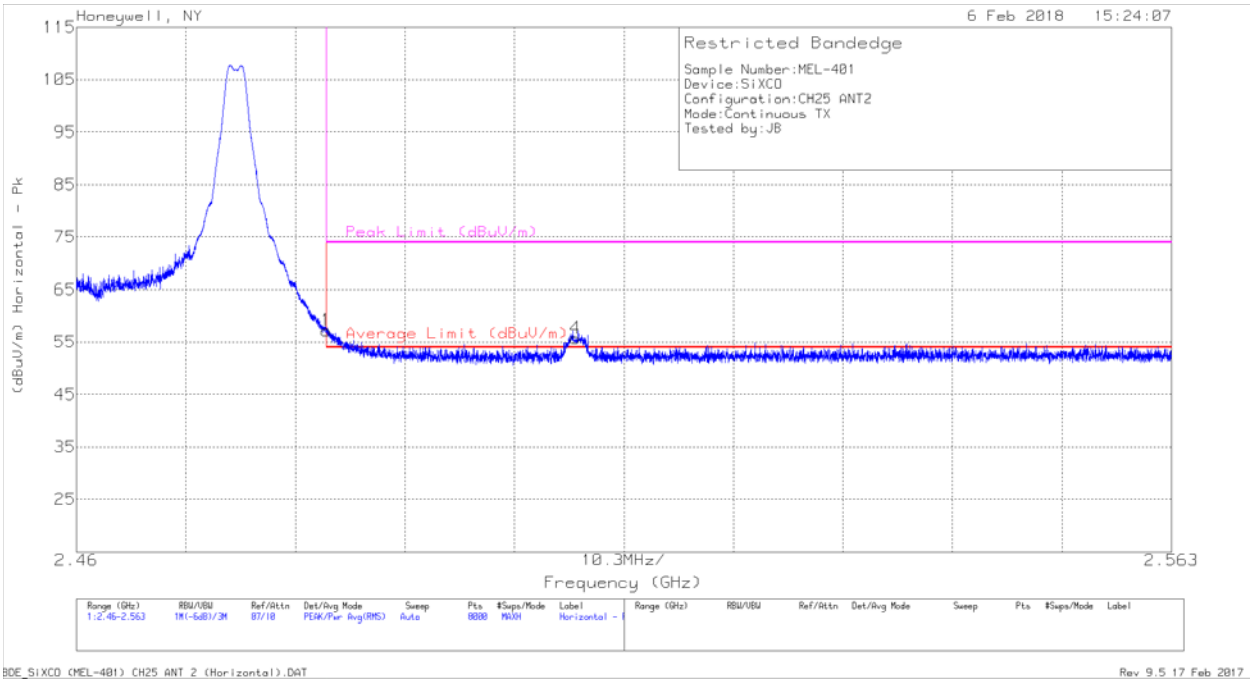

Antenna 2: High Channel Horizontal - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	22.59	Pk	28.7	.7	2.6	2.6	-	57.19	74	-16.81	44	106	H
4	2.507	20.86	Pk	28.8	.7	2.7	2.6	-	55.66	74	-18.34	44	106	H
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.484	22.59	Av	28.7	.7	2.6	2.6	-23.1		54		44	106	H
4	2.507	20.86	Av	28.8	.7	2.7	2.6	-23.1		54		44	106	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: High Channel Horizontal – Data

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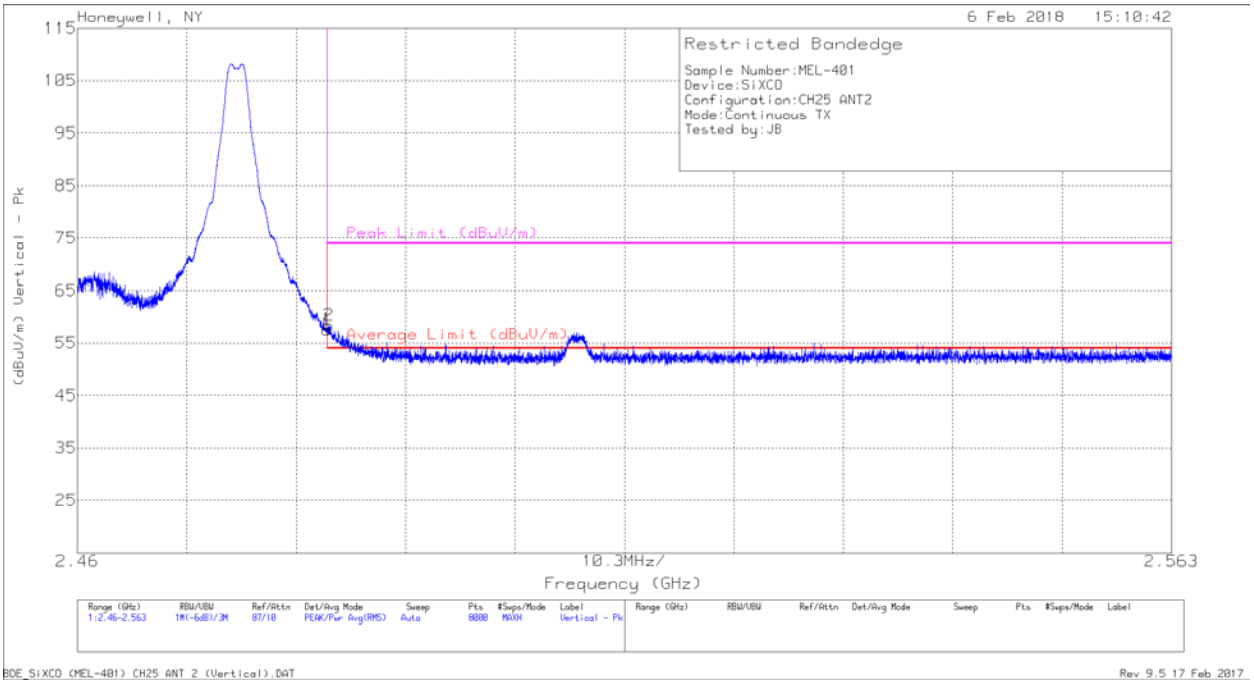

Antenna 2: High Channel Vertical - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX3 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	22.9	Pk	28.7	.7	2.6	2.6	-	57.5	74	-16.5	2	128	V
2	* 2.484	23.65	Pk	28.7	.7	2.6	2.6	-	58.25	74	-15.75	2	128	V
Marker	**Frequency (GHz)**	**Meter Reading (dBuV)**	**Det**	**AF [dB/m]**	**SWBOX3 [dB]**	**SMA7 [dB]**	**SMA5 [dB]**	**DC Corr (dB)**	**Corrected Reading (dBuV/m)**	**Average Limit (dBuV/m)**	**Margin (dB)**	**Azimuth (Degs)**	**Height (cm)**	**Polarity**
1	* 2.484	22.9	Av	28.7	.7	2.6	2.6	-23.1	34.4	54	-19.6	2	128	V
2	* 2.484	23.65	Av	28.7	.7	2.6	2.6	-23.1	35.15	54	-18.85	2	128	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: High Channel Vertical - Data

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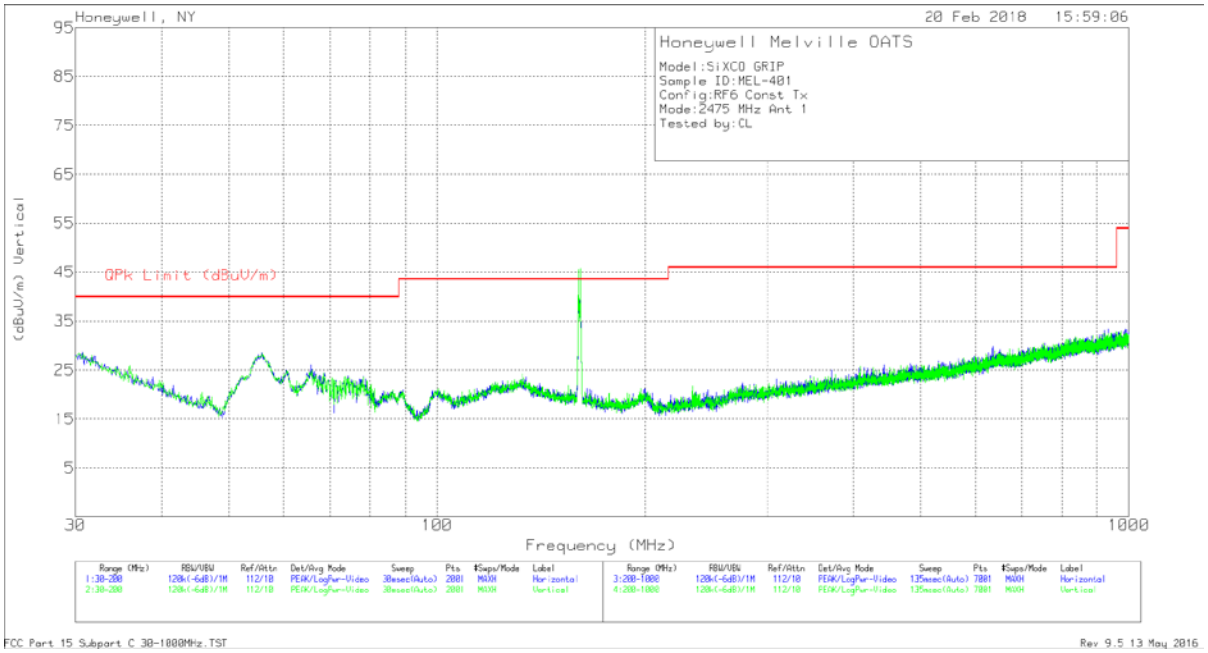
Spurious Emissions

Below 1GHz (Worse-case)



Antenna 1: High Channel - Plot

Frequency (MHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Cable 1 [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
55.75	14.45	Qp	11.9	1.1	27.45	40	-12.55	167	397	H
160.1446	5.27	Qp	17	2.1	24.37	43.52	-19.15	266	375	H
54.3131	18.22	Qp	12	1.1	31.32	40	-8.68	330	274	V
161.8786	5.44	Qp	17	2	24.44	43.52	-19.08	348	395	V
941.7897	4.22	Qp	27.5	9	40.72	46.02	-5.3	202	265	H
942.8725	4.27	Qp	27.5	9	40.77	46.02	-5.25	297	104	V

Qp - Quasi-Peak detector

Antenna 1: High Channel – Data

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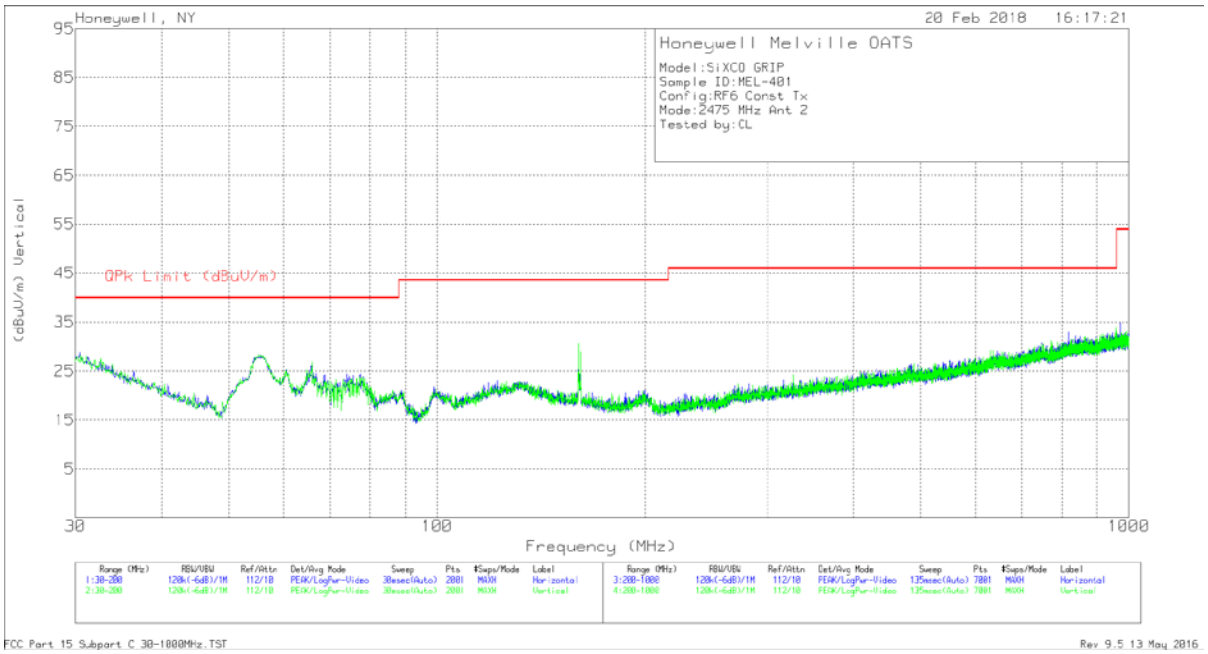

Antenna 2: High Channel - Plot

Frequency (MHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Cable 1 [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
49.6201	9.6	Qp	12.8	1.1	23.5	40	-16.5	159	320	H
158.7687	5.82	Qp	17.1	2	24.92	43.52	-18.6	230	386	H
50.8668	18.98	Qp	12.5	1	32.48	40	-7.52	109	262	V
158.4733	5.48	Qp	17.1	2	24.58	43.52	-18.94	307	399	V
955.058	4.21	Qp	27.3	9.2	40.71	46.02	-5.31	160	303	H
944.2599	4.21	Qp	27.5	9.1	40.81	46.02	-5.21	142	346	V

Qp - Quasi-Peak detector

Antenna 2: High Channel - Data

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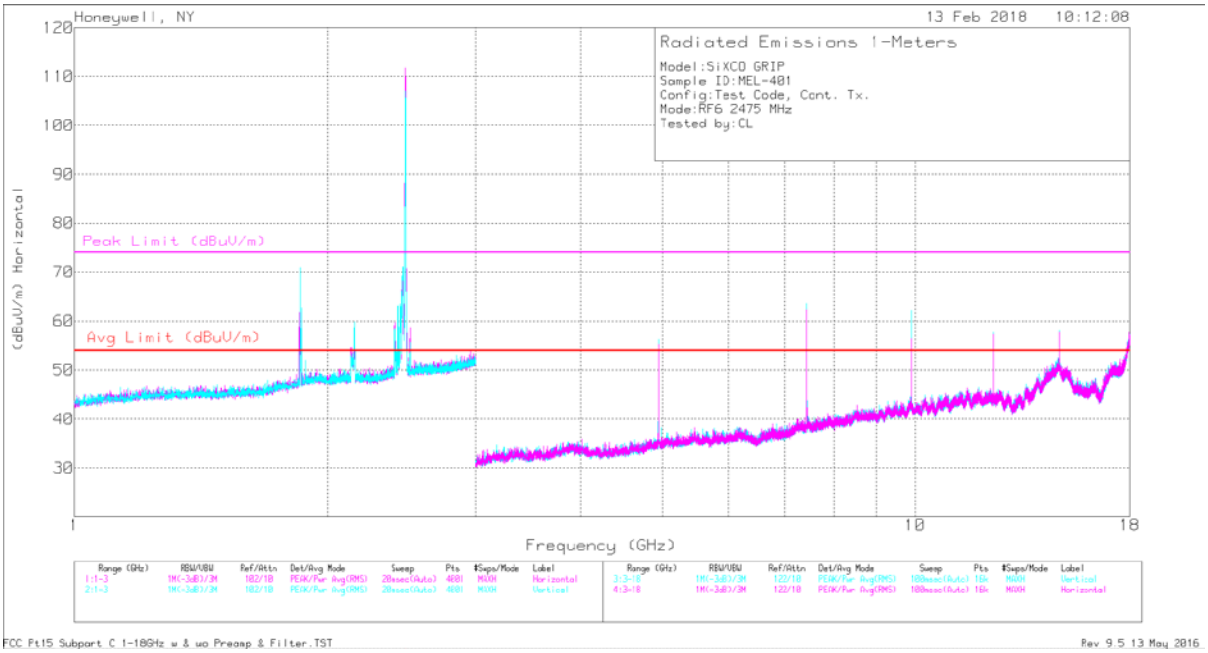
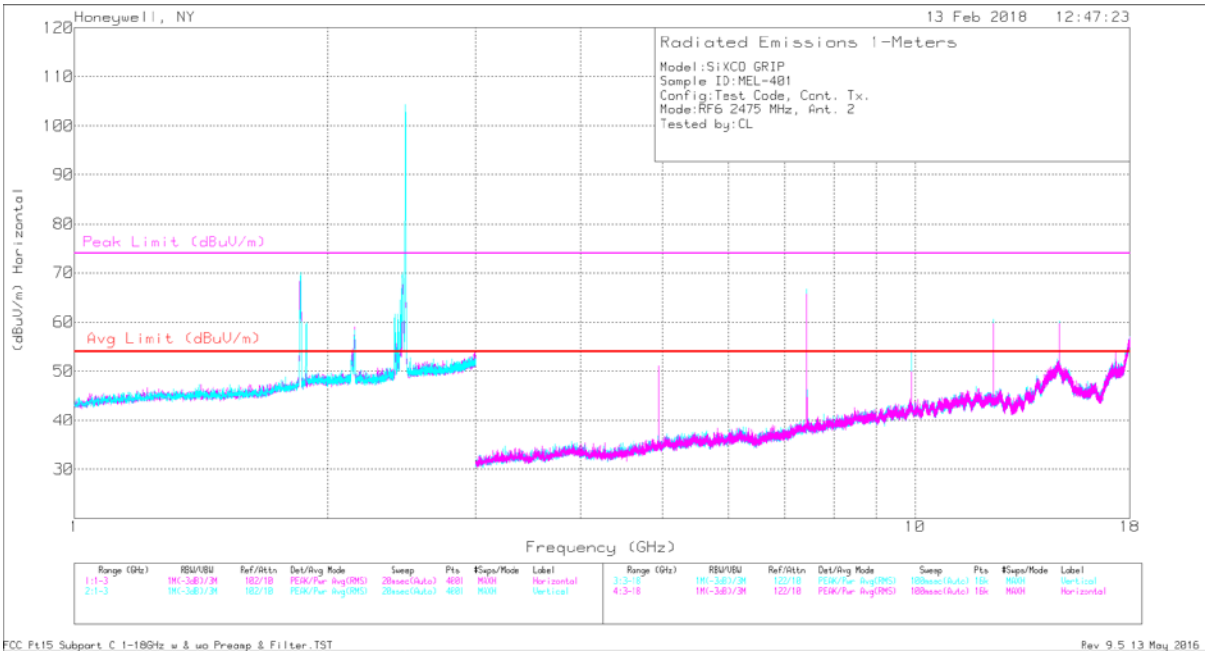
1-18GHz



Antenna 1: High Channel – Plot



Antenna 2: High Channel – Plot

Note: Emissions measured at ~ 1.8GHz and 2.1GHz were found to be ambient and not a product of the transmitter.

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.809	61.67	PK	33.1	-41.2	3.7	3.7	60.97	74	-13.03	326	273	H
7.217	59.52	PK	36.2	-39.5	4.7	4.5	65.42	74	-8.58	24	281	H
9.622	49.7	PK	38	-39	5.6	5.2	59.5	74	-14.5	288	280	H
* 12.028	41.73	PK	39.4	-37.3	6.5	5.6	55.93	74	-18.07	36	319	H
14.431	38.52	PK	42.1	-36.9	6.8	6.4	56.92	74	-17.08	250	107	H
16.833	38.33	PK	39.6	-38.1	7.4	7.1	54.33	74	-19.67	20	247	H
* 4.811	58.64	PK	33.1	-41.2	3.7	3.7	57.94	74	-16.06	129	311	V
7.216	57.71	PK	36.2	-39.5	4.7	4.5	63.61	74	-10.39	2	256	V
9.622	52.1	PK	38	-39	5.6	5.2	61.9	74	-12.1	64	242	V
* 12.027	45.8	PK	39.4	-37.3	6.5	5.6	60	74	-14	310	236	V
14.433	37.99	PK	42.1	-36.9	6.8	6.4	56.39	74	-17.61	268	190	V
16.832	38.28	PK	39.6	-38.1	7.4	7.1	54.28	74	-19.72	357	247	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.809	61.67	Av	33.1	-41.2	3.7	3.7	-23.1	37.87	54	-16.13	326	273	H
7.217	59.52	Av	36.2	-39.5	4.7	4.5	-23.1	42.32	54	-11.68	24	281	H
9.622	49.7	Av	38	-39	5.6	5.2	-23.1	36.4	54	-17.6	288	280	H
* 12.028	41.73	Av	39.4	-37.3	6.5	5.6	-23.1	32.83	54	-21.17	36	319	H
14.431	38.52	Av	42.1	-36.9	6.8	6.4	-23.1	33.82	54	-20.18	250	107	H
16.833	38.33	Av	39.6	-38.1	7.4	7.1	-23.1	31.23	54	-22.77	20	247	H
* 4.811	58.64	Av	33.1	-41.2	3.7	3.7	-23.1	34.84	54	-19.16	129	311	V
7.216	57.71	Av	36.2	-39.5	4.7	4.5	-23.1	40.51	54	-13.49	2	256	V
9.622	52.1	Av	38	-39	5.6	5.2	-23.1	38.8	54	-15.2	64	242	V
* 12.027	45.8	Av	39.4	-37.3	6.5	5.6	-23.1	36.9	54	-17.1	310	236	V
14.433	37.99	Av	42.1	-36.9	6.8	6.4	-23.1	33.29	54	-20.71	268	190	V
16.832	38.28	Av	39.6	-38.1	7.4	7.1	-23.1	31.18	54	-22.82	357	247	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: Low Channel - Data

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.891	58.53	PK	33.2	-41.4	3.7	3.6	57.63	74	-16.37	60	324	H
* 7.333	59	PK	36.6	-39.7	4.6	4.5	65	74	-9	43	254	H
9.782	52.27	PK	38.1	-39.1	5.5	5.3	62.07	74	-11.93	350	239	H
* 12.228	41.29	PK	39.2	-37.2	6.5	5.9	55.69	74	-18.31	352	228	H
14.673	41.8	PK	42.6	-36.9	6.6	6.4	60.5	74	-13.5	81	239	H
17.116	38.16	PK	41.1	-38.1	7.5	7	55.66	74	-18.34	74	145	H
* 4.891	64.11	PK	33.2	-41.4	3.7	3.6	63.21	74	-10.79	279	105	V
* 7.336	58.89	PK	36.6	-39.7	4.6	4.5	64.89	74	-9.11	222	116	V
9.782	54.75	PK	38.1	-39.1	5.5	5.3	64.55	74	-9.45	176	125	V
* 12.223	40.52	PK	39.2	-37.2	6.5	5.9	54.92	74	-19.08	215	308	V
14.673	39.25	PK	42.6	-36.9	6.6	6.4	57.95	74	-16.05	317	299	V
17.119	38.33	PK	41.1	-38.1	7.5	7	55.83	74	-18.17	312	363	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.891	58.53	Av	33.2	-41.4	3.7	3.6	-23.1	34.53	54	-19.47	60	324	H
* 7.333	59	Av	36.6	-39.7	4.6	4.5	-23.1	41.9	54	-12.1	43	254	H
9.782	52.27	Av	38.1	-39.1	5.5	5.3	-23.1	38.97	54	-15.03	350	239	H
* 12.228	41.29	Av	39.2	-37.2	6.5	5.9	-23.1	32.59	54	-21.41	352	228	H
14.673	41.8	Av	42.6	-36.9	6.6	6.4	-23.1	37.4	54	-16.6	81	239	H
17.116	38.16	Av	41.1	-38.1	7.5	7	-23.1	32.56	54	-21.44	74	145	H
* 4.891	64.11	Av	33.2	-41.4	3.7	3.6	-23.1	40.11	54	-13.89	279	105	V
* 7.336	58.89	Av	36.6	-39.7	4.6	4.5	-23.1	41.79	54	-12.21	222	116	V
9.782	54.75	Av	38.1	-39.1	5.5	5.3	-23.1	41.45	54	-12.55	176	125	V
* 12.223	40.52	Av	39.2	-37.2	6.5	5.9	-23.1	31.82	54	-22.18	215	308	V
14.673	39.25	Av	42.6	-36.9	6.6	6.4	-23.1	34.85	54	-19.15	317	299	V
17.119	38.33	Av	41.1	-38.1	7.5	7	-23.1	32.73	54	-21.27	312	363	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: Mid Channel - Data

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.951	63.22	PK	33.2	-41.5	3.8	3.7	62.42	74	-11.58	227	364	H
* 7.426	60.48	PK	36.7	-39.7	4.7	4.6	66.78	74	-7.22	214	302	H
9.898	55.3	PK	38.2	-39.2	5.5	5.2	65	74	-9	29	299	H
* 12.378	45.41	PK	38.9	-37.1	6.5	5.9	59.61	74	-14.39	334	231	H
14.853	41.63	PK	42	-36.9	6.8	6.5	60.03	74	-13.97	313	281	H
17.322	38.46	PK	42.4	-38.2	7.5	7.1	57.26	74	-16.74	249	254	H
* 4.951	61.31	PK	33.2	-41.5	3.8	3.7	60.51	74	-13.49	20	119	V
* 7.423	61.81	PK	36.7	-39.7	4.7	4.6	68.11	74	-5.89	217	102	V
9.902	57.09	PK	38.2	-39.2	5.5	5.3	66.89	74	-7.11	298	103	V
* 12.377	45.47	PK	38.9	-37.1	6.5	5.9	59.67	74	-14.33	123	109	V
14.853	46.2	PK	42	-36.9	6.8	6.5	64.6	74	-9.4	295	102	V
17.323	38.35	PK	42.4	-38.2	7.5	7.1	57.15	74	-16.85	173	344	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.951	63.22	Av	33.2	-41.5	3.8	3.7	-23.1	39.32	54	-14.68	227	364	H
* 7.426	60.48	Av	36.7	-39.7	4.7	4.6	-23.1	43.68	54	-10.32	214	302	H
9.898	55.3	Av	38.2	-39.2	5.5	5.2	-23.1	41.9	54	-12.1	29	299	H
* 12.378	45.41	Av	38.9	-37.1	6.5	5.9	-23.1	36.51	54	-17.49	334	231	H
14.853	41.63	Av	42	-36.9	6.8	6.5	-23.1	36.93	54	-17.07	313	281	H
17.322	38.46	Av	42.4	-38.2	7.5	7.1	-23.1	34.16	54	-19.84	249	254	H
* 4.951	61.31	Av	33.2	-41.5	3.8	3.7	-23.1	37.41	54	-16.59	20	119	V
* 7.423	61.81	Av	36.7	-39.7	4.7	4.6	-23.1	45.01	54	-8.99	217	102	V
9.902	57.09	Av	38.2	-39.2	5.5	5.3	-23.1	43.79	54	-10.21	298	103	V
* 12.377	45.47	Av	38.9	-37.1	6.5	5.9	-23.1	36.57	54	-17.43	123	109	V
14.853	46.2	Av	42	-36.9	6.8	6.5	-23.1	41.5	54	-12.5	295	102	V
17.323	38.35	Av	42.4	-38.2	7.5	7.1	-23.1	34.05	54	-19.95	173	344	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 1: High Channel – Data

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.811	45.89	PK	33.1	-41.2	3.7	3.7	45.19	74	-28.81	282	131	H
7.217	49.23	PK	36.2	-39.5	4.7	4.5	55.13	74	-18.87	217	387	H
9.622	39.62	PK	38	-39	5.6	5.2	49.42	74	-24.58	114	243	H
* 12.027	44.09	PK	39.4	-37.3	6.5	5.6	58.29	74	-15.71	343	230	H
14.433	41.47	PK	42.1	-36.9	6.8	6.4	59.87	74	-14.13	102	250	H
16.837	38.67	PK	39.6	-38.1	7.5	7.1	54.77	74	-19.23	290	277	H
* 4.811	58.36	PK	33.1	-41.2	3.7	3.7	57.66	74	-16.34	67	280	V
7.216	50.02	PK	36.2	-39.5	4.7	4.5	55.92	74	-18.08	345	237	V
9.622	49.26	PK	38	-39	5.6	5.2	59.06	74	-14.94	312	174	V
* 12.027	43.33	PK	39.4	-37.3	6.5	5.6	57.53	74	-16.47	316	252	V
14.433	42.34	PK	42.1	-36.9	6.8	6.4	60.74	74	-13.26	93	234	V
16.832	38.3	PK	39.6	-38.1	7.4	7.1	54.3	74	-19.7	135	388	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.811	45.89	Av	33.1	-41.2	3.7	3.7	-23.1	22.09	54	-31.91	282	131	H
7.217	49.23	Av	36.2	-39.5	4.7	4.5	-23.1	32.03	54	-21.97	217	387	H
9.622	39.62	Av	38	-39	5.6	5.2	-23.1	26.32	54	-27.68	114	243	H
* 12.027	44.09	Av	39.4	-37.3	6.5	5.6	-23.1	35.19	54	-18.81	343	230	H
14.433	41.47	Av	42.1	-36.9	6.8	6.4	-23.1	36.77	54	-17.23	102	250	H
16.837	38.67	Av	39.6	-38.1	7.5	7.1	-23.1	31.67	54	-22.33	290	277	H
* 4.811	58.36	Av	33.1	-41.2	3.7	3.7	-23.1	34.56	54	-19.44	67	280	V
7.216	50.02	Av	36.2	-39.5	4.7	4.5	-23.1	32.82	54	-21.18	345	237	V
9.622	49.26	Av	38	-39	5.6	5.2	-23.1	35.96	54	-18.04	312	174	V
* 12.027	43.33	Av	39.4	-37.3	6.5	5.6	-23.1	34.43	54	-19.57	316	252	V
14.433	42.34	Av	42.1	-36.9	6.8	6.4	-23.1	37.64	54	-16.36	93	234	V
16.832	38.3	Av	39.6	-38.1	7.4	7.1	-23.1	31.2	54	-22.8	135	388	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: Low Channel - Data

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.891	55.7	PK	33.2	-41.4	3.7	3.6	54.8	74	-19.2	142	385	H
* 7.336	61.18	PK	36.6	-39.7	4.6	4.5	67.18	74	-6.82	41	253	H
9.782	55.01	PK	38.1	-39.1	5.5	5.3	64.81	74	-9.19	280	258	H
* 12.227	45.87	PK	39.2	-37.2	6.5	5.9	60.27	74	-13.73	343	225	H
14.672	38.15	PK	42.6	-36.9	6.6	6.4	56.85	74	-17.15	95	250	H
17.11	38.33	PK	41	-38.1	7.5	7	55.73	74	-18.27	283	120	H
* 4.891	59.25	PK	33.2	-41.4	3.7	3.6	58.35	74	-15.65	274	106	V
* 7.337	60.9	PK	36.6	-39.7	4.6	4.5	66.9	74	-7.1	222	116	V
9.778	52.88	PK	38.1	-39.1	5.5	5.3	62.68	74	-11.32	176	125	V
* 12.227	45.09	PK	39.2	-37.2	6.5	5.9	59.49	74	-14.51	117	117	V
14.672	37.89	PK	42.6	-36.9	6.6	6.4	56.59	74	-17.41	242	141	V
17.113	38.36	PK	41.1	-38.1	7.5	7	55.86	74	-18.14	139	248	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.891	55.7	Av	33.2	-41.4	3.7	3.6	-23.1	31.7	54	-22.3	142	385	H
* 7.336	61.18	Av	36.6	-39.7	4.6	4.5	-23.1	44.08	54	-9.92	41	253	H
9.782	55.01	Av	38.1	-39.1	5.5	5.3	-23.1	41.71	54	-12.29	280	258	H
* 12.227	45.87	Av	39.2	-37.2	6.5	5.9	-23.1	37.17	54	-16.83	343	225	H
14.672	38.15	Av	42.6	-36.9	6.6	6.4	-23.1	33.75	54	-20.25	95	250	H
17.11	38.33	Av	41	-38.1	7.5	7	-23.1	32.63	54	-21.37	283	120	H
* 4.891	59.25	Av	33.2	-41.4	3.7	3.6	-23.1	35.25	54	-18.75	274	106	V
* 7.337	60.9	Av	36.6	-39.7	4.6	4.5	-23.1	43.8	54	-10.2	222	116	V
9.778	52.88	Av	38.1	-39.1	5.5	5.3	-23.1	39.58	54	-14.42	176	125	V
* 12.227	45.09	Av	39.2	-37.2	6.5	5.9	-23.1	36.39	54	-17.61	117	117	V
14.672	37.89	Av	42.6	-36.9	6.6	6.4	-23.1	33.49	54	-20.51	242	141	V
17.113	38.36	Av	41.1	-38.1	7.5	7	-23.1	32.76	54	-21.24	139	248	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: Mid Channel - Data

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.951	58.17	PK	33.2	-41.5	3.8	3.7	57.37	74	-16.63	312	292	H
* 7.427	65	PK	36.7	-39.7	4.7	4.6	71.3	74	-2.7	219	313	H
9.902	42.38	PK	38.2	-39.2	5.5	5.3	52.18	74	-21.82	349	230	H
* 12.377	51.06	PK	38.9	-37.1	6.5	5.9	65.26	74	-8.74	348	221	H
14.853	46.6	PK	42	-36.9	6.8	6.5	65	74	-9	335	221	H
17.322	40.08	PK	42.4	-38.2	7.5	7.1	58.88	74	-15.12	344	210	H
* 4.949	56.69	PK	33.2	-41.5	3.8	3.7	55.89	74	-18.11	174	224	V
* 7.426	66.02	PK	36.7	-39.7	4.7	4.6	72.32	74	-1.68	331	240	V
9.902	47.14	PK	38.2	-39.2	5.5	5.3	56.94	74	-17.06	301	204	V
* 12.377	49.3	PK	38.9	-37.1	6.5	5.9	63.5	74	-10.5	133	206	V
14.853	47.27	PK	42	-36.9	6.8	6.5	65.67	74	-8.33	273	206	V
17.321	39.46	PK	42.4	-38.2	7.5	7.1	58.26	74	-15.74	94	372	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	SWBOX2 [dB]	SMA7 [dB]	SMA5 [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.951	58.17	Av	33.2	-41.5	3.8	3.7	-23.1	34.27	54	-19.73	312	292	H
* 7.427	65	Av	36.7	-39.7	4.7	4.6	-23.1	48.2	54	-5.8	219	313	H
9.902	42.38	Av	38.2	-39.2	5.5	5.3	-23.1	29.08	54	-24.92	349	230	H
* 12.377	51.06	Av	38.9	-37.1	6.5	5.9	-23.1	42.16	54	-11.84	348	221	H
14.853	46.6	Av	42	-36.9	6.8	6.5	-23.1	41.9	54	-12.1	335	221	H
17.322	40.08	Av	42.4	-38.2	7.5	7.1	-23.1	35.78	54	-18.22	344	210	H
* 4.949	56.69	Av	33.2	-41.5	3.8	3.7	-23.1	32.79	54	-21.21	174	224	V
* 7.426	66.02	Av	36.7	-39.7	4.7	4.6	-23.1	49.22	54	-4.78	331	240	V
9.902	47.14	Av	38.2	-39.2	5.5	5.3	-23.1	33.84	54	-20.16	301	204	V
* 12.377	49.3	Av	38.9	-37.1	6.5	5.9	-23.1	40.4	54	-13.6	133	206	V
14.853	47.27	Av	42	-36.9	6.8	6.5	-23.1	42.57	54	-11.43	273	206	V
17.321	39.46	Av	42.4	-38.2	7.5	7.1	-23.1	35.16	54	-18.84	94	372	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - KDB558074 Method: Maximum Peak
Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

Duty Cycle = 6.976%, thus DC Corr = 20log(0.06976) = -23.1dB

Antenna 2: High Channel – Data

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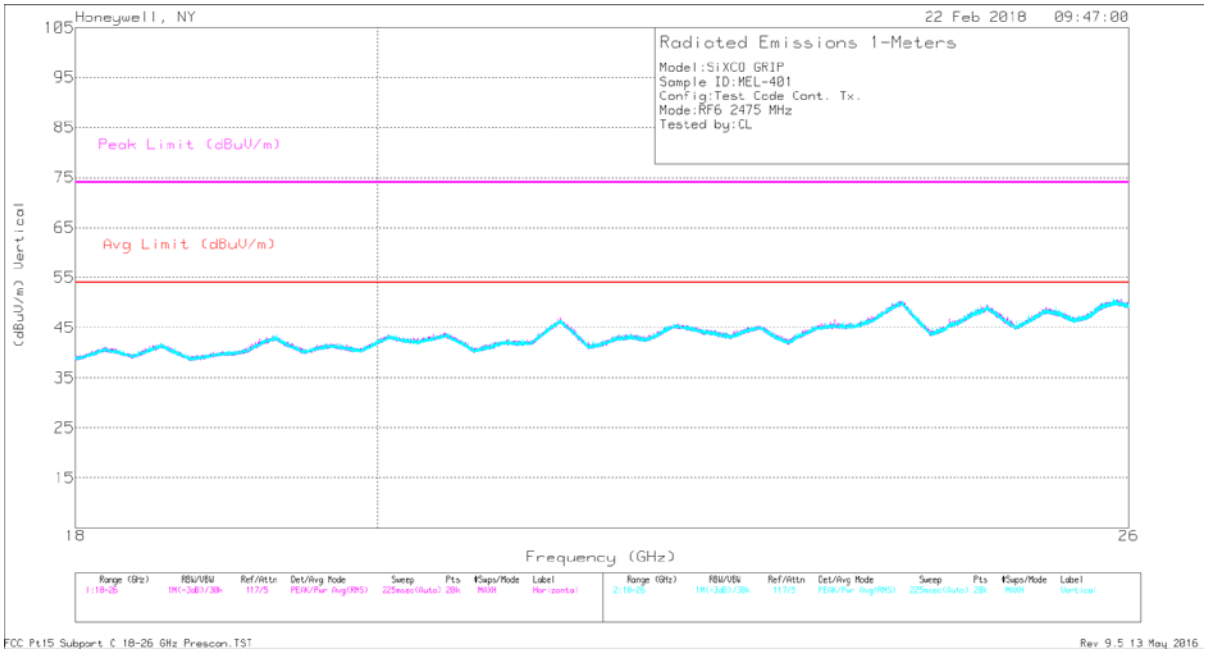
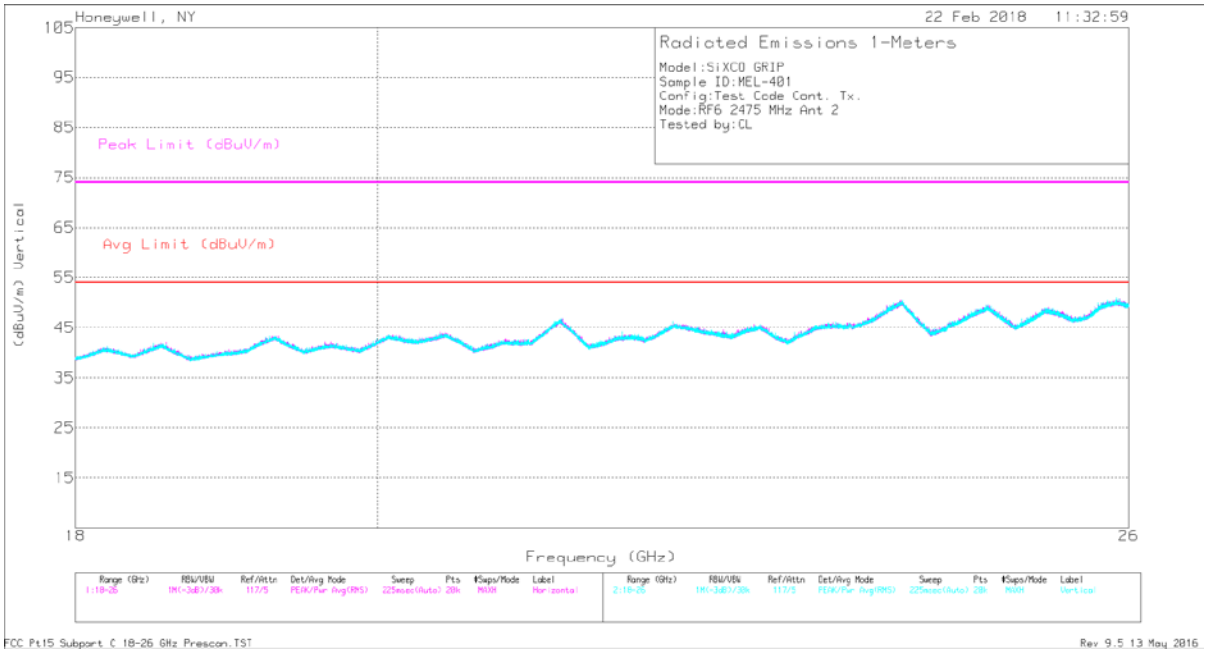
18-26GHz



Antenna 1: High Channel – Plot



Antenna 2: High Channel - Plot

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Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.32	34.73	Pk	44.3	8	-34.5	-9.5	43.03	54	-10.97	74	-30.97	0-360	H
* 21.311	34.93	Pk	44.9	8.1	-32	-9.5	46.43	54	-7.57	74	-27.57	0-360	H
24.012	35.36	Pk	46.3	8.4	-30.4	-9.5	50.16	54	-3.84	74	-23.84	0-360	H
* 20.484	34.79	Pk	44.4	8.4	-34.1	-9.5	43.99	54	-10.01	74	-30.01	0-360	V
* 22.167	35.91	Pk	45.6	8.4	-34.2	-9.5	46.21	54	-7.79	74	-27.79	0-360	V
25.894	39.15	Pk	47.1	9.9	-34.5	-9.5	52.15	54	-1.85	74	-21.85	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 1: Low Channel – Data

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.292	34.77	Pk	44.3	8	-34.3	-9.5	43.27	54	-10.73	74	-30.73	0-360	H
* 21.327	35.22	Pk	44.9	8.1	-32.1	-9.5	46.62	54	-7.38	74	-27.38	0-360	H
24.023	35.46	Pk	46.3	8.4	-30.3	-9.5	50.36	54	-3.64	74	-23.64	0-360	H
* 20.057	35.02	Pk	44.1	8.4	-34.5	-9.5	43.52	54	-10.48	74	-30.48	0-360	V
* 22.21	35.32	Pk	45.7	8.4	-34.2	-9.5	45.72	54	-8.28	74	-28.28	0-360	V
24.764	37.01	Pk	46	8.7	-32.7	-9.5	49.51	54	-4.49	74	-24.49	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 1: Mid Channel – Data

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.329	34.88	Pk	44.3	7.9	-34.7	-9.5	42.88	54	-11.12	74	-31.12	0-360	H
* 21.297	34.8	Pk	44.9	8.1	-32.3	-9.5	46	54	-8	74	-28	0-360	H
* 23.992	35.39	Pk	46.3	8.4	-30.6	-9.5	49.99	54	-4.01	74	-24.01	0-360	H
* 20.499	34.54	Pk	44.4	8.4	-34.2	-9.5	43.64	54	-10.36	74	-30.36	0-360	V
* 22.935	35.05	Pk	45.6	8.1	-35.1	-9.5	44.15	54	-9.85	74	-29.85	0-360	V
25.808	37.06	Pk	47.1	9.6	-34.5	-9.5	49.76	54	-4.24	74	-24.24	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 1: High Channel – Data

Note: No emissions detected from the EUT above the system noise floor

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Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.269	34.67	Pk	44.3	8	-34.5	-9.5	42.97	54	-11.03	74	-31.03	0-360	H
* 21.336	34.69	Pk	44.9	8.1	-32.3	-9.5	45.89	54	-8.11	74	-28.11	0-360	H
* 23.918	34.96	Pk	46.3	8.5	-31.5	-9.5	48.76	54	-5.24	74	-25.24	0-360	H
* 20.504	34.43	Pk	44.4	8.4	-34.3	-9.5	43.43	54	-10.57	74	-30.57	0-360	V
23.383	35.65	Pk	45.8	8.3	-34.6	-9.5	45.65	54	-8.35	74	-28.35	0-360	V
25.828	37.68	Pk	47.1	9.6	-34.5	-9.5	50.38	54	-3.62	74	-23.62	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 2: Low Channel – Data

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.289	34.81	Pk	44.3	8	-34.3	-9.5	43.31	54	-10.69	74	-30.69	0-360	H
* 21.324	35	Pk	44.9	8.1	-32	-9.5	46.5	54	-7.5	74	-27.5	0-360	H
24.036	35.53	Pk	46.3	8.4	-30.7	-9.5	50.03	54	-3.97	74	-23.97	0-360	H
* 20.04	34.86	Pk	44.1	8.4	-34.8	-9.5	43.06	54	-10.94	74	-30.94	0-360	V
23.494	36.45	Pk	45.9	8.3	-34.8	-9.5	46.35	54	-7.65	74	-27.65	0-360	V
25.795	38.07	Pk	47.1	9.5	-34.5	-9.5	50.67	54	-3.33	74	-23.33	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 2: Mid Channel – Data

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA 5 [dB]	18-26G Preamp [dB]	Distance Corr Factor [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
* 19.268	34.51	Pk	44.3	8	-34.5	-9.5	42.81	54	-11.19	74	-31.19	0-360	H
* 21.335	35.64	Pk	44.9	8.1	-32.3	-9.5	46.84	54	-7.16	74	-27.16	0-360	H
24.016	35.33	Pk	46.3	8.4	-30.3	-9.5	50.23	54	-3.77	74	-23.77	0-360	H
* 20.509	34.51	Pk	44.4	8.4	-34.4	-9.5	43.41	54	-10.59	74	-30.59	0-360	V
* 22.819	35.39	Pk	45.7	8.3	-34.6	-9.5	45.29	54	-8.71	74	-28.71	0-360	V
24.782	37.04	Pk	46.1	8.7	-33	-9.5	49.34	54	-4.66	74	-24.66	0-360	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Antenna 2: High Channel – Data

Note: No emissions detected from the EUT above the system noise floor

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