



FCC / ISSED Test Report

For

SiXOCC

Report #: 47216

FCC ID: CFS8DL6OCC

IC ID: 573F-6OCC

Report Completion Date: 2018-03-06

Revised: 2018-03-21

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 by 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	2018-03-06
A	M. Antola	A. Roussin	Updated 6dB bandwidth and Spurious Emissions test section for editorial corrections	2018-03-06
B	M. Antola	A. Roussin	Updated note in Duty Cycle test section	2018-03-21

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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Applicable Test Standards/Limits

Test Standards/Limits	Result	Dates Tested
ANSI C63.4: 2014	Compliant	2/8/18 – 3/6/18
ANSI C63.10: 2013	Compliant	2/8/18 – 3/6/18
ICES-003 Issue 6: 2016	Compliant	2/8/18 – 3/6/18
RSS-247, Issue 2, Section 5	Compliant	2/8/18 – 3/6/18
RSS-GEN, Issue 4	Compliant	2/8/18 – 3/6/18
CFR 47 Pt 15 Subpart B, Section 15.107/109	Compliant	2/8/18 – 3/6/18
CFR 47 Pt 15 Subpart C, Section 15.207/209	Compliant	2/8/18 – 3/6/18
CFR 47 Pt 15 Subpart C, Section 15.247	Compliant	2/8/18 – 3/6/18

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 SiXOCC wireless occupancy module is a battery powered 2.4 GHz IEEE 802.15.4-compliant transceiver, intended for use with Honeywell controls that support SiX™ series devices. It provides an ambient light sensor, vibration sensor, thermal sensor, and IR temperature sensor (pyro). It also has tamper detection.

The module uses the Honeywell SiX™ RF protocol to send alert messages to the Honeywell control in the event of change in lighting, vibration, temperature change, excessive heat, low battery, or a tamper condition.

In addition, the SiXOCC sends a regular supervision or check-in RF message, no more often than once per hour.

The device contains two (2) F-type printed inverted antennas, each having a gain of 2dBi.

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 Y axis orientation was the worst-case orientation. Therefore, all final radiated test was performed with the EUT in the Y axis orientation.

Test Sample Identification

Sample ID Number	Sample Serial Number	Date Received
MEL-428	Non-serialized production unit	01/31/18
MEL-429	Non-serialized production unit	02/07/18

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

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 (Unintentional)	PASS
7	Radiated Emissions (Intentional)	PASS

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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
MA	RF Lab	03/01/18	21.2	28.2	1008	P

Equipment List

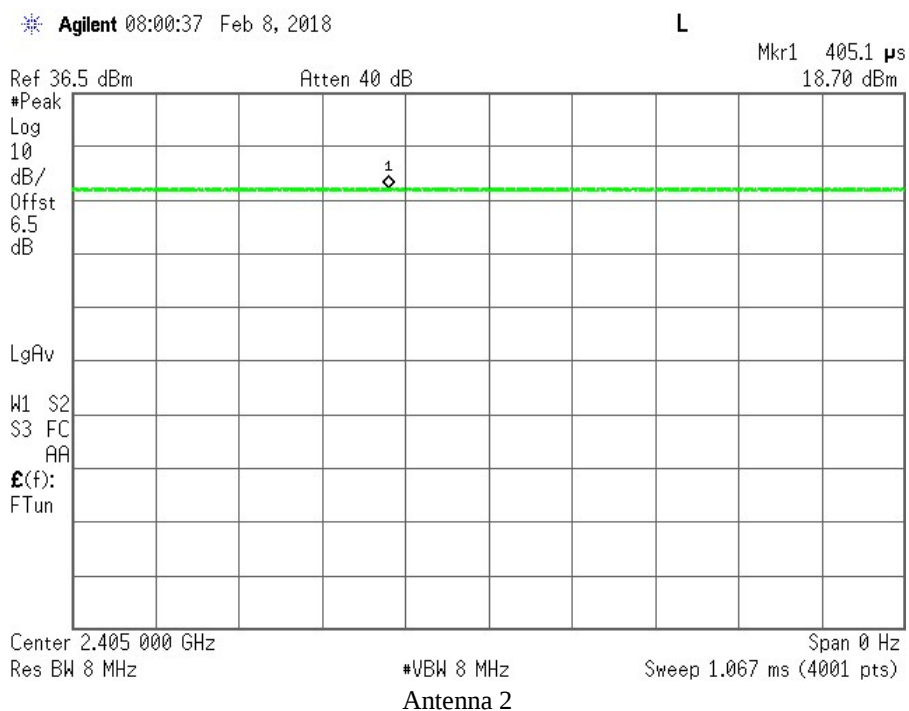
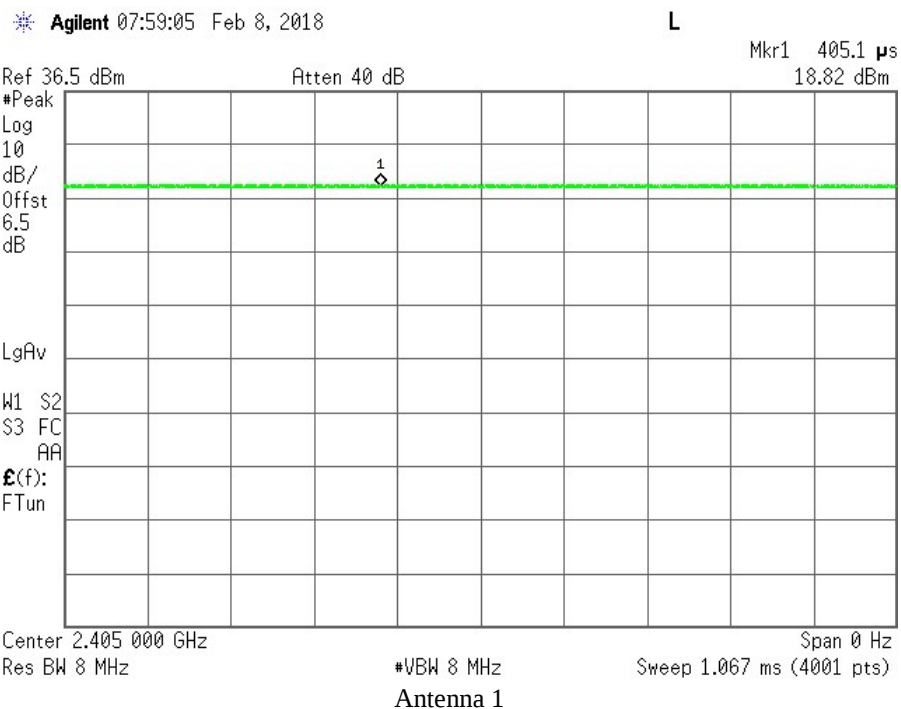
Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

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

Note: The duty cycle used for testing was 100%. In normal operation, the device is limited by the protocol to a maximum operational duty factor of 6.976% (refer to additional exhibits in this filing) and this value is used to determine the average level of radiated spurious emissions related to the fundamental from the measured peak level of the spurious emission using the 20log(d) factor allowed under section 12.5.2.2 (4) of KDB 558074.

Duty Cycle Plots



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)	$\geq 500\text{kHz}$

Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
JB	RF Lab	02/08/18	21	35	1022	P

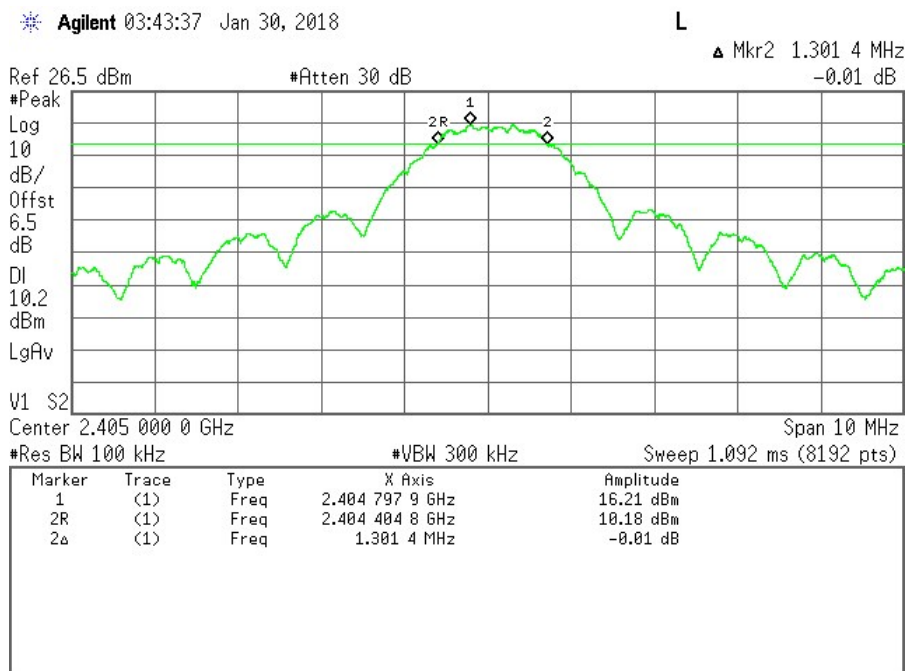
Equipment List

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

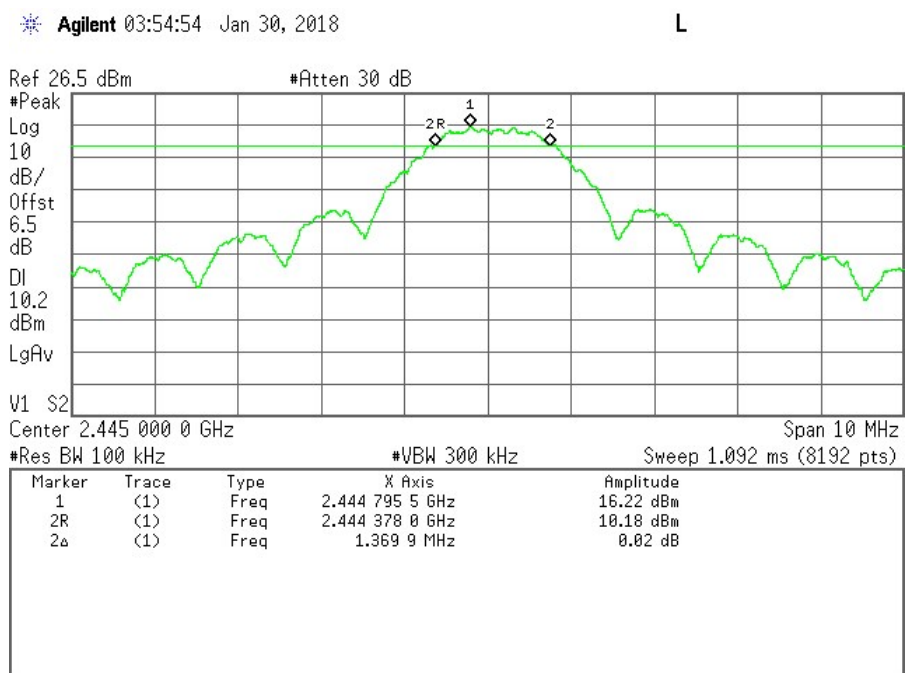
Test Results

Channel	Frequency (GHz)	6dB Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2405	1.301	1.301
Mid	2445	1.370	1.337
High	2475	1.482	1.482

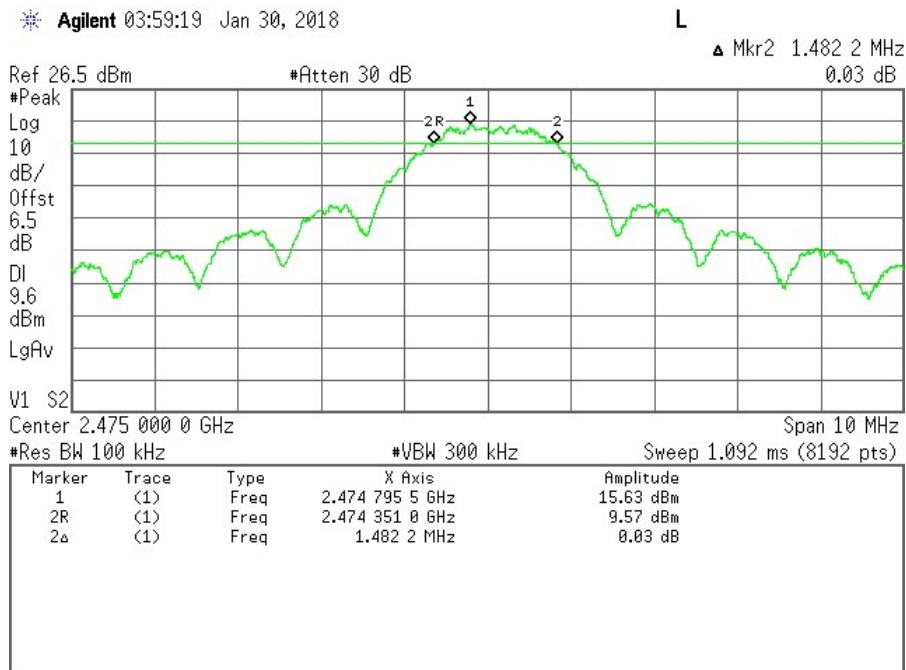
6dB Bandwidth



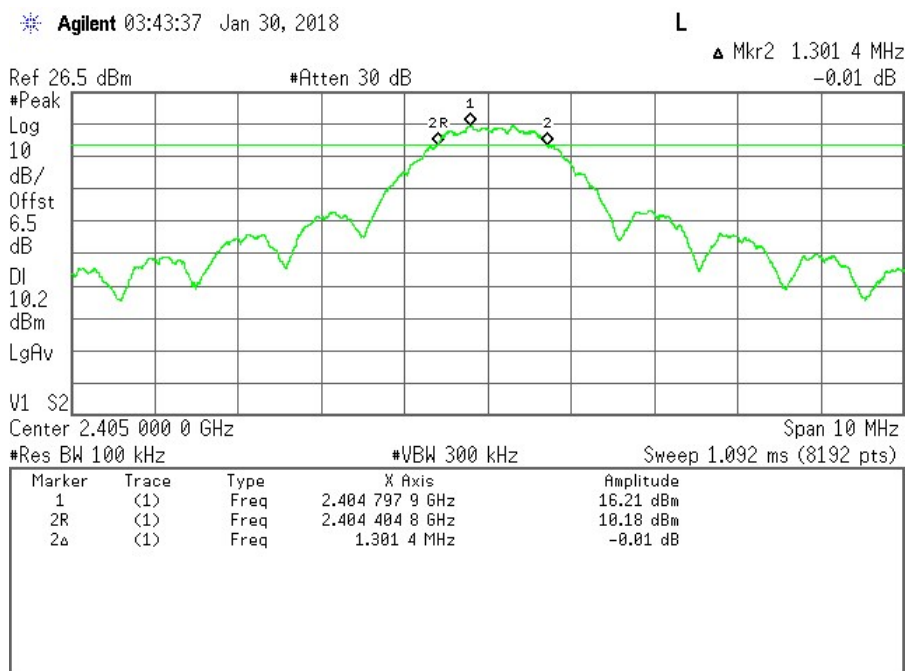
Antenna 1: Low Channel - Plot



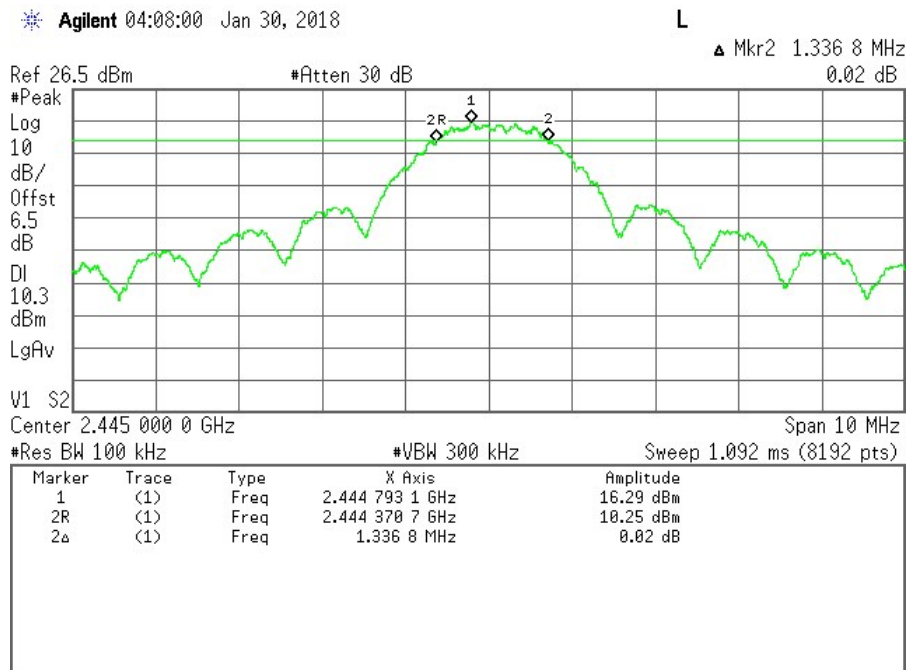
Antenna 1: Mid Channel - Plot



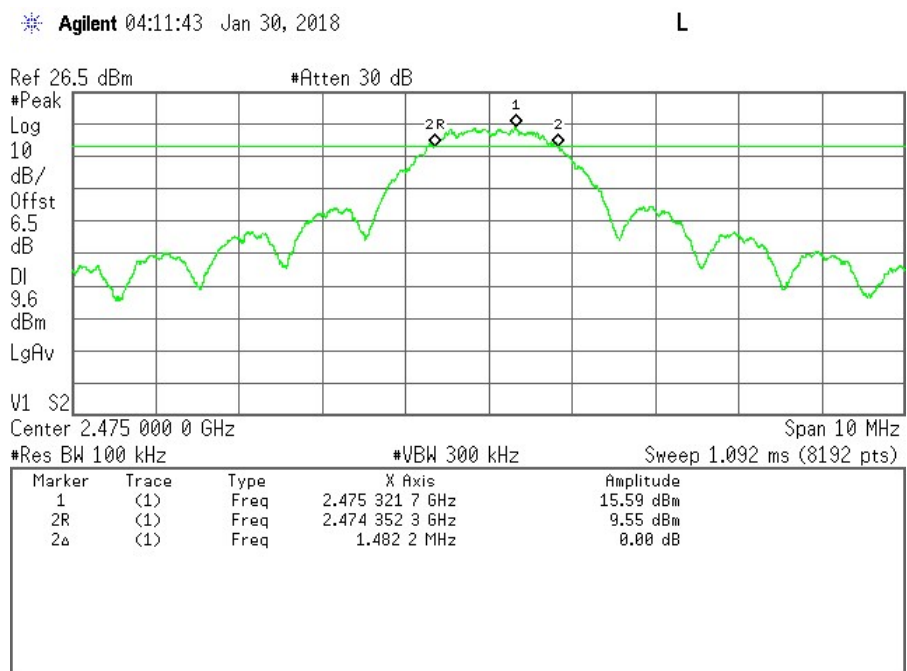
Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot



Antenna 2: Mid Channel – Plot



Antenna 2: High Channel - Plot

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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
JB	RF Lab	02/08/18	21	35	1022	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

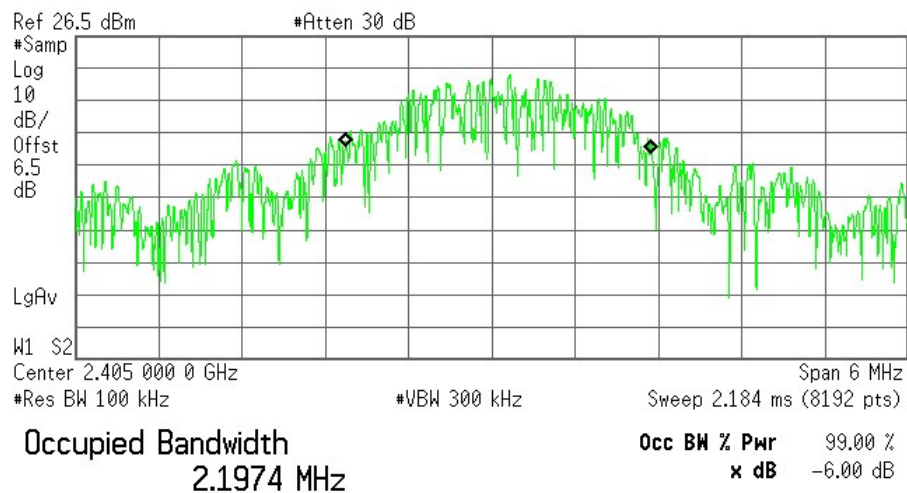
Test Results

Channel	Frequency (GHz)	99% Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2045	2.197	2.267
Mid	2445	2.229	2.242
High	2475	2.298	2.284

99% Bandwidth

Agilent 04:57:05 Jan 30, 2018

L

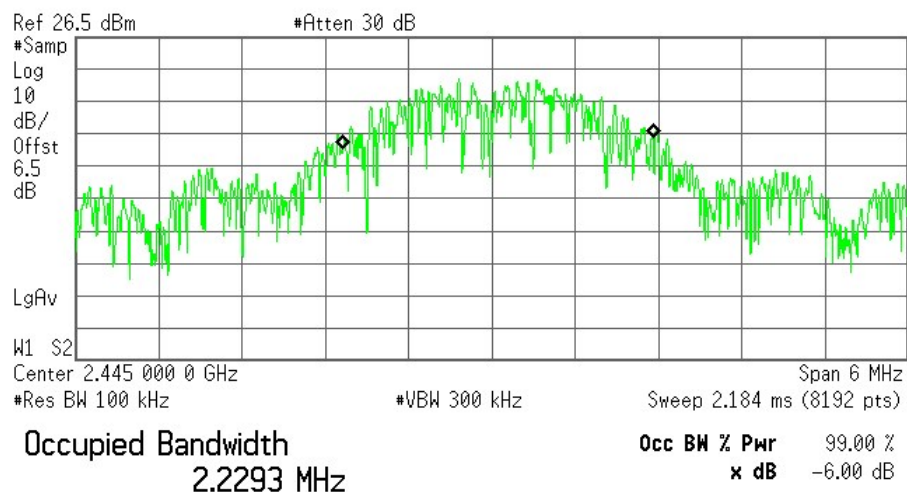


Transmit Freq Error 41.204 kHz
x dB Bandwidth 1.006 MHz*

Antenna 1: Low Channel - Plot

Agilent 06:59:55 Jan 30, 2018

L



Transmit Freq Error 45.363 kHz
x dB Bandwidth 1.345 MHz*

Antenna 1: Mid Channel - Plot

L



L



L

Transmit Freq Error	28.351 kHz
x dB Bandwidth	1.556 MHz*

Antenna 2: Mid Channel - Plot

Agilent 07:07:02 Jan 30, 2018 L

Ref 26.5 dBm #Atten 30 dB

#Samp
Log
10
dB/
Offst
6.5
dB

LgAv

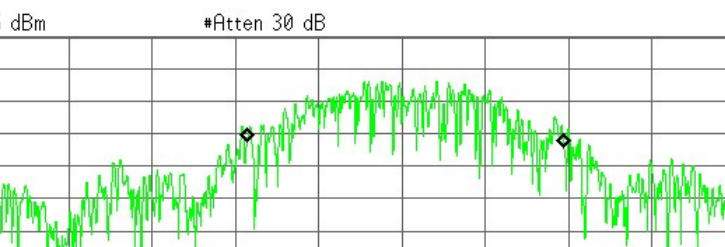
W1 S2

Center 2.475 000 0 GHz Span 6 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 2.184 ms (8192 pts)

Occupied Bandwidth 2.2842 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB



Antenna 2: High Channel - Plot

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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
JB	RF Lab	02/12/18	21	35	1022	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

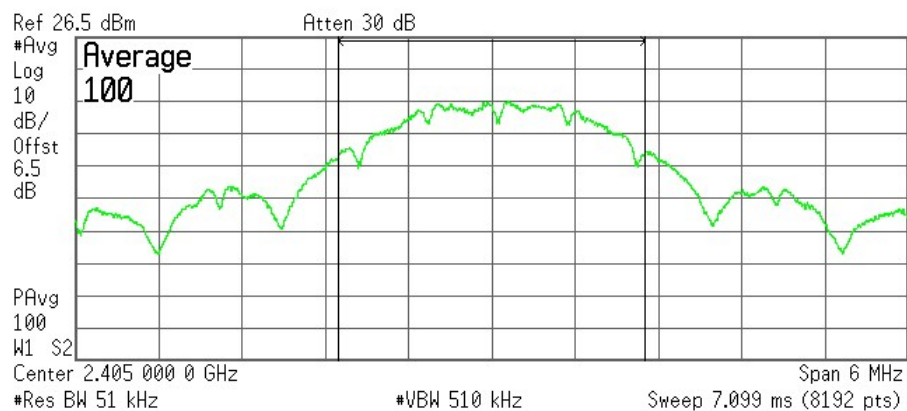
Test Results

Channel	Frequency (GHz)	Tx Channel BW Power (dBm)	
		Antenna 1	Antenna 2
Low	2405	18.29	18.24
Mid	2445	18.50	18.53
High	2475	18.46	18.52

Output Power

Agilent 03:01:09 Feb 3, 2018

L



Channel Power

18.29 dBm /2.1974 MHz

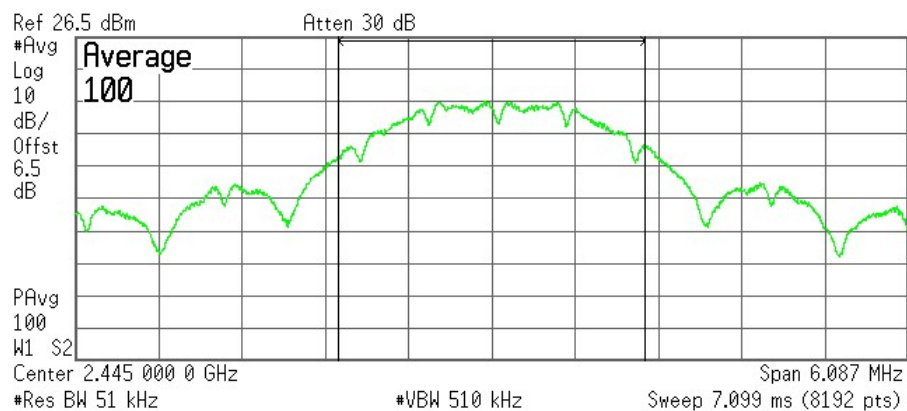
Power Spectral Density

-45.13 dBm/Hz

Antenna 1: Low Channel - Plot

Agilent 03:03:51 Feb 3, 2018

L



Channel Power

18.50 dBm /2.2293 MHz

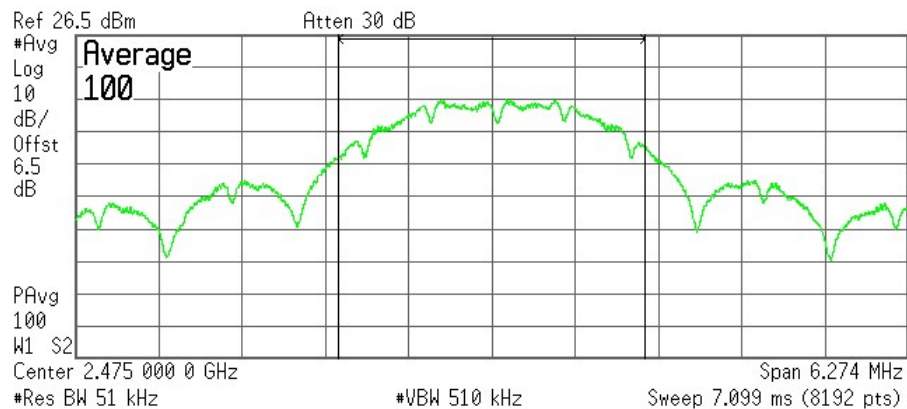
Power Spectral Density

-44.98 dBm/Hz

Antenna 1: Mid Channel - Plot

Agilent 03:06:04 Feb 3, 2018

L



Channel Power

18.46 dBm /2.2977 MHz

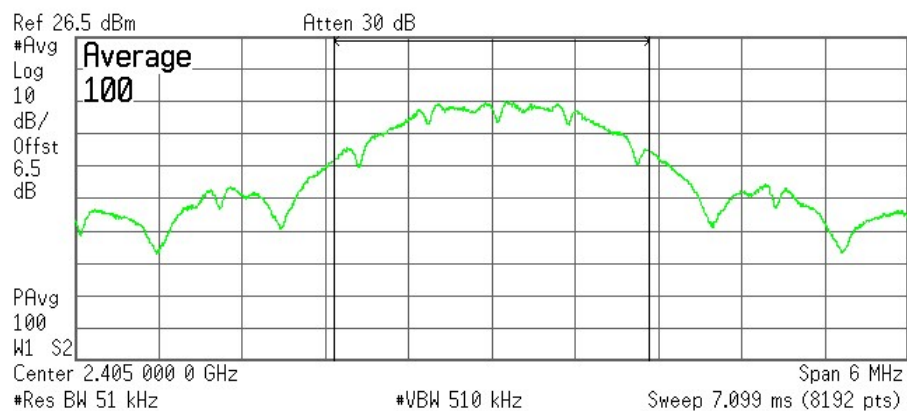
Power Spectral Density

-45.15 dBm/Hz

Antenna 1: High Channel – Plot

Agilent 03:13:45 Feb 3, 2018

L



Channel Power

18.24 dBm /2.2668 MHz

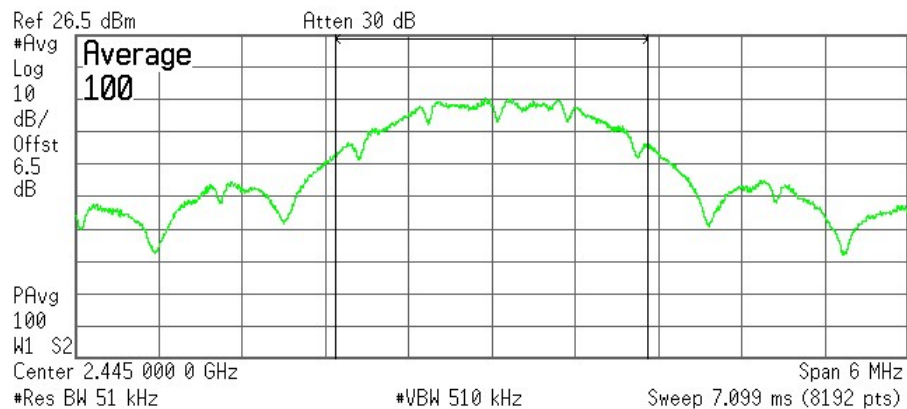
Power Spectral Density

-45.31 dBm/Hz

Antenna 2: Low Channel - Plot

Agilent 03:16:08 Feb 3, 2018

L



Channel Power

18.53 dBm /2.2415 MHz

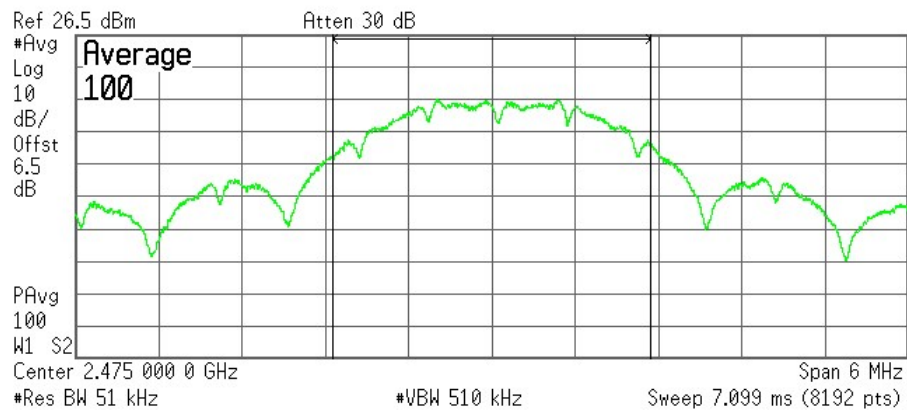
Power Spectral Density

-44.98 dBm/Hz

Antenna 2: Mid Channel - Plot

Agilent 03:17:38 Feb 3, 2018

L



Channel Power

18.52 dBm /2.2842 MHz

Power Spectral Density

-45.06 dBm/Hz

Antenna 2: High Channel - Plot

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 AVGPS-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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
MA	RF Lab	03/01/18	21	35	1022	P

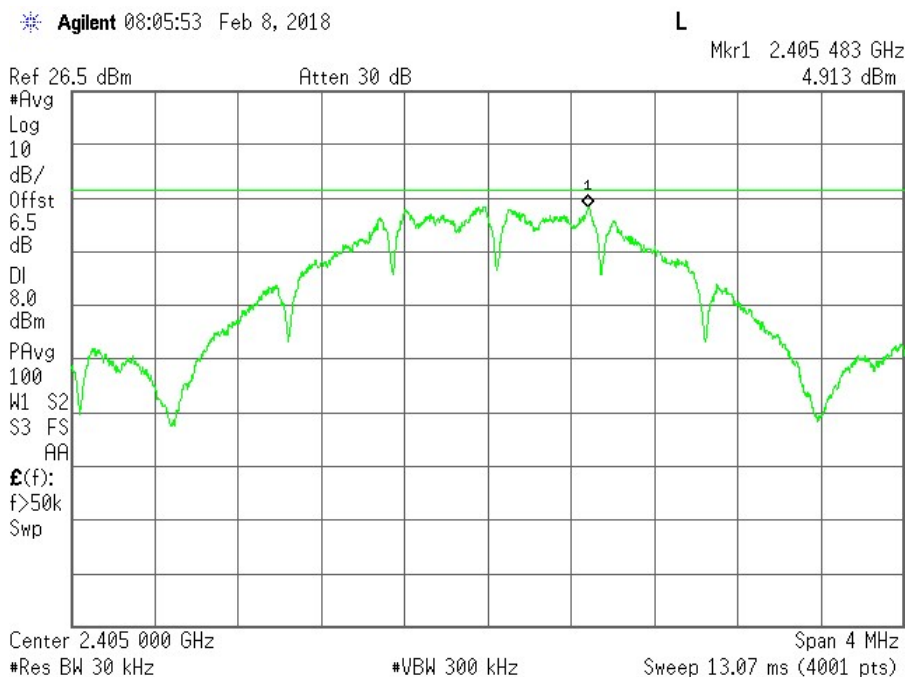
Equipment List

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

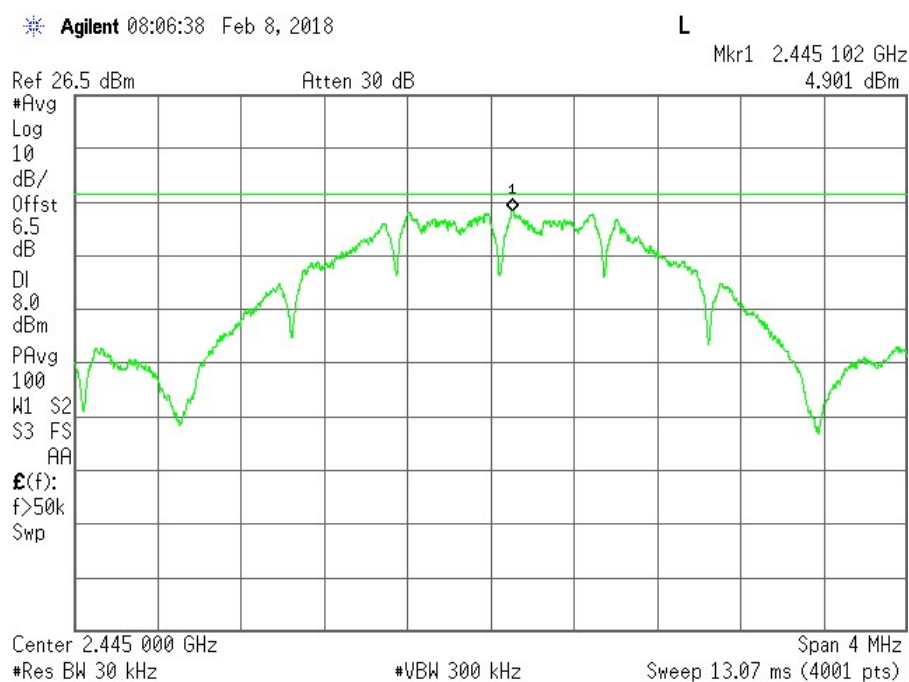
Test Results

Channel	Frequency (GHz)	Max Power (dBm)	
		Antenna 1	Antenna 2
Low	2405	4.91	4.63
Mid	2445	4.90	4.80
High	2475	4.86	4.74

PSD



Antenna 1: Low Channel - Plot

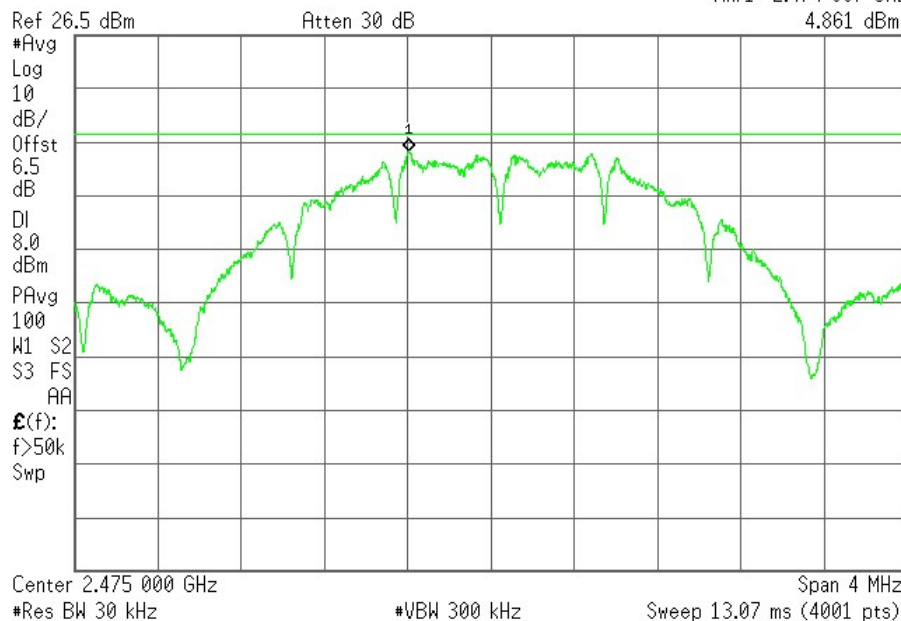


Antenna 1: Mid Channel - Plot

Agilent 08:07:20 Feb 8, 2018

L

Mkr1 2.474 607 GHz
4.861 dBm

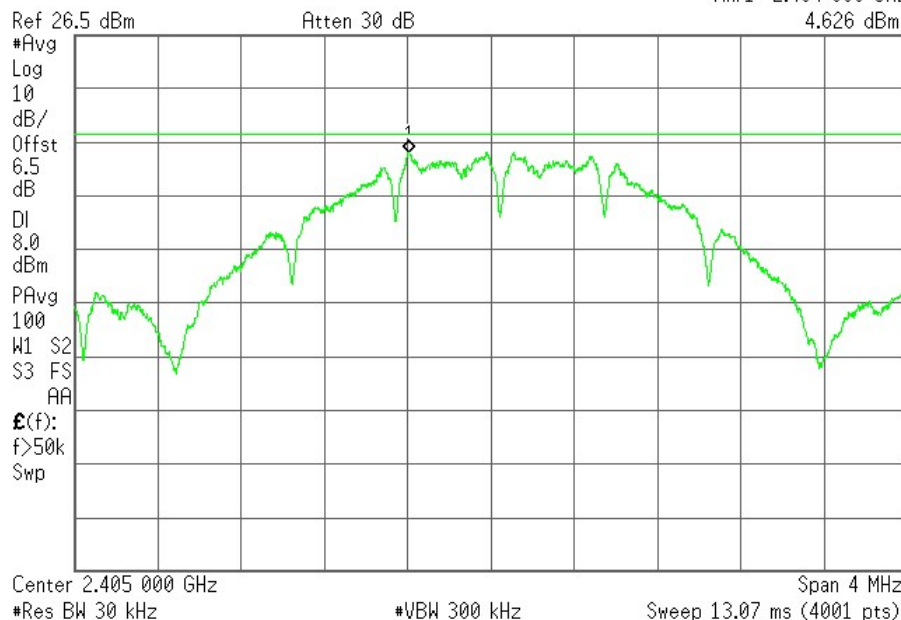


Antenna 1: High Channel – Plot

Agilent 08:02:30 Feb 8, 2018

L

Mkr1 2.404 606 GHz
4.626 dBm

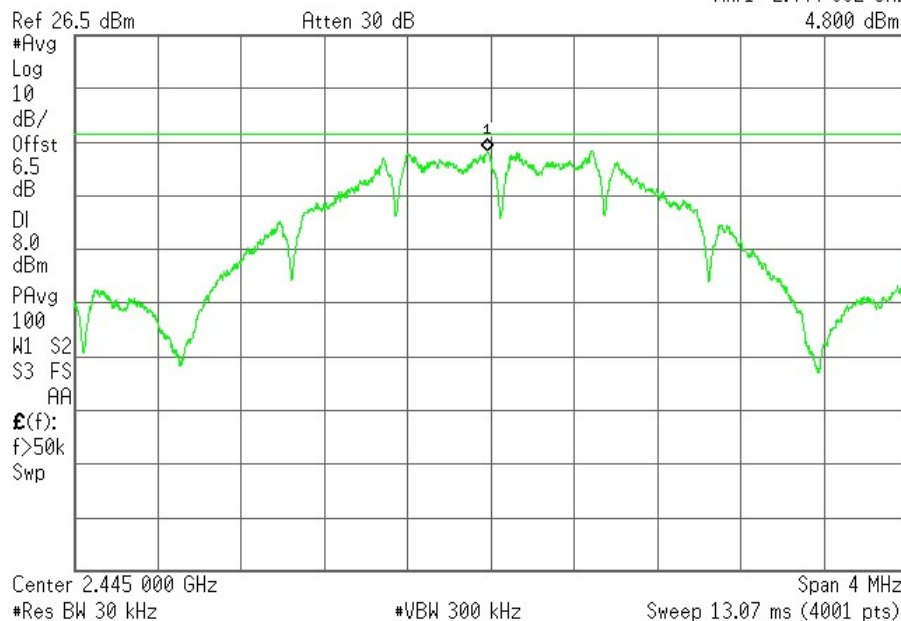


Antenna 2: Low Channel - Plot

Agilent 08:03:31 Feb 8, 2018

L

Mkr1 2.444 982 GHz
4.800 dBm

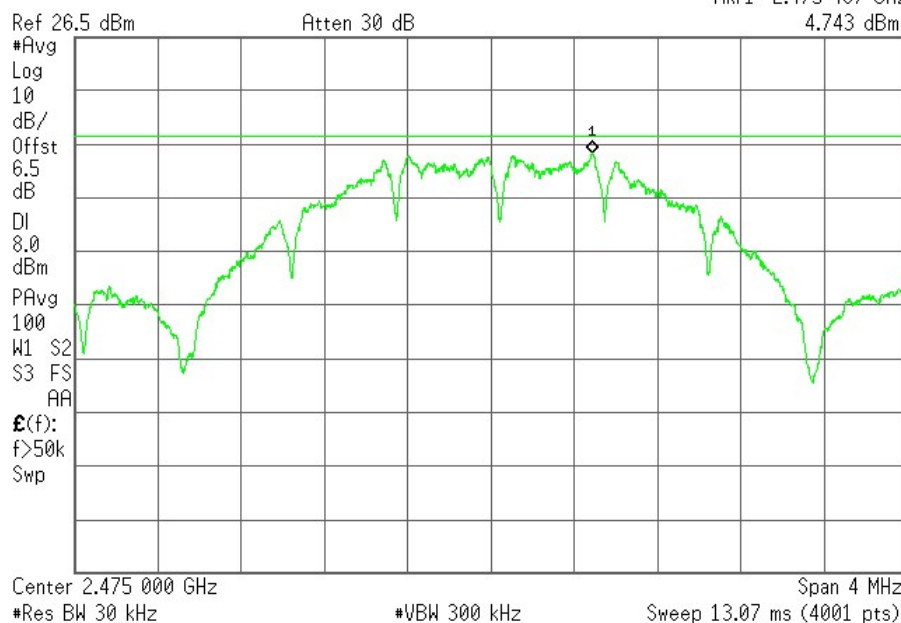


Antenna 2: Mid Channel - Plot

Agilent 08:04:49 Feb 8, 2018

L

Mkr1 2.475 487 GHz
4.743 dBm



Antenna 2: High Channel - Plot

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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
JB	RF Lab	02/08/18	21	35	1022	P

Equipment List

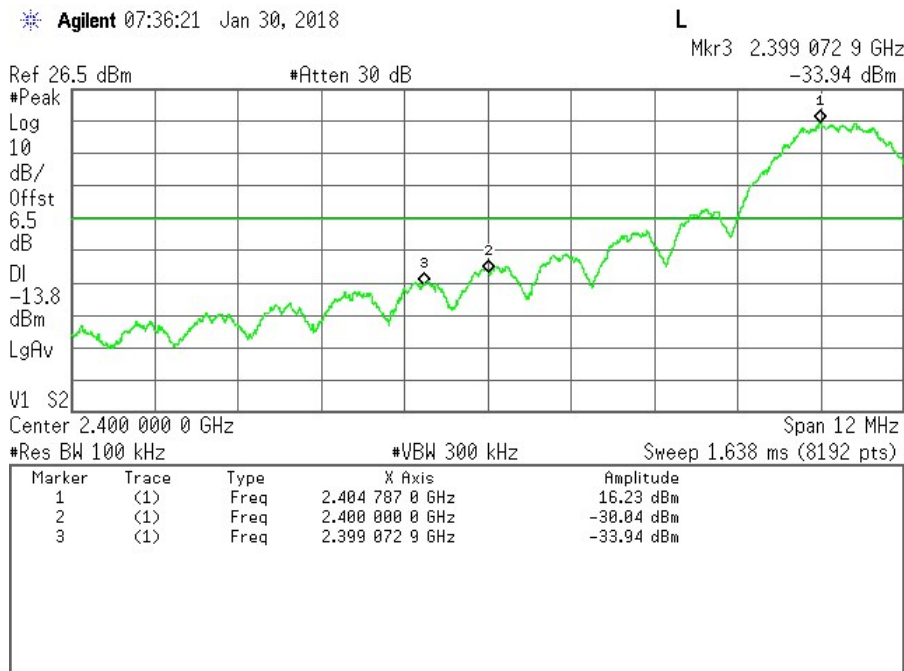
Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/06/17	06/06/19
Environmental Meter	11548	A078188	Extech Instruments	SD700	04/24/17	04/24/18

Test Results

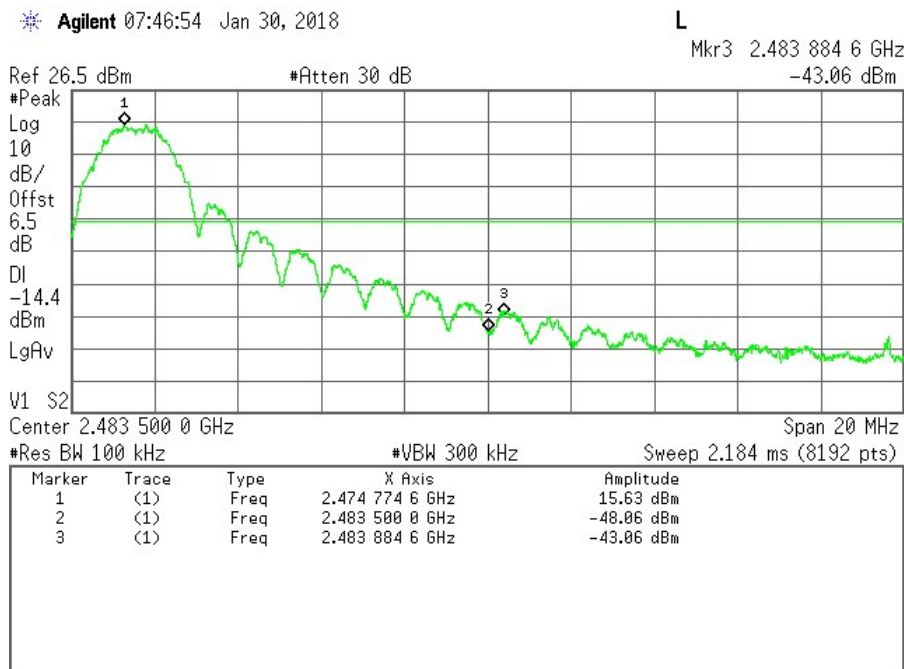
Authorized Band Edge			
Channel	Frequency (GHz)	Delta from Band edge (dB)	
		Antenna 1	Antenna 2
Low	2405	-16.24	-10.85
High	2475	-33.66	-33.14

Conducted Spurious			
Channel	Frequency (GHz)	Highest Spurious Emission Delta from Limit (dB)	
		Antenna 1	Antenna 2
Low	2405	-34.87	-35.22
Mid	2445	-33.91	-36.71
High	2475	-35.9	-34.8

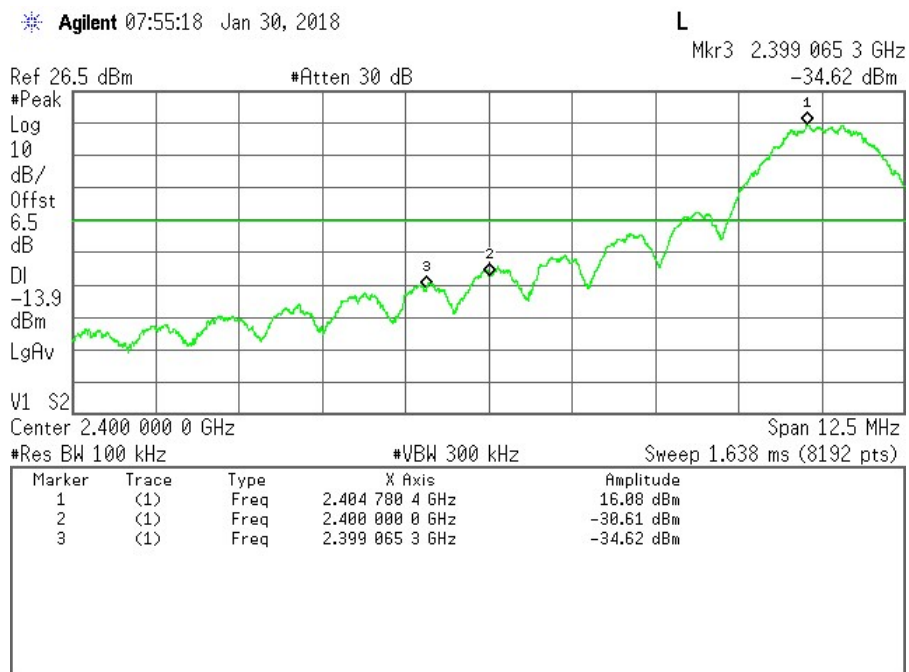
Band Edge



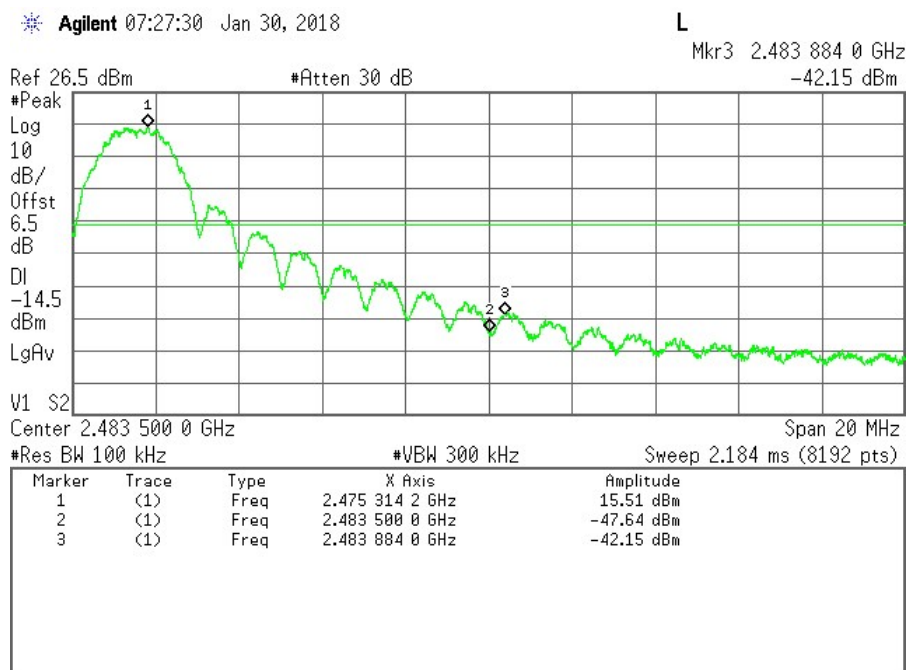
Antenna 1: Low Channel - Plot



Antenna 1: High Channel - Plot

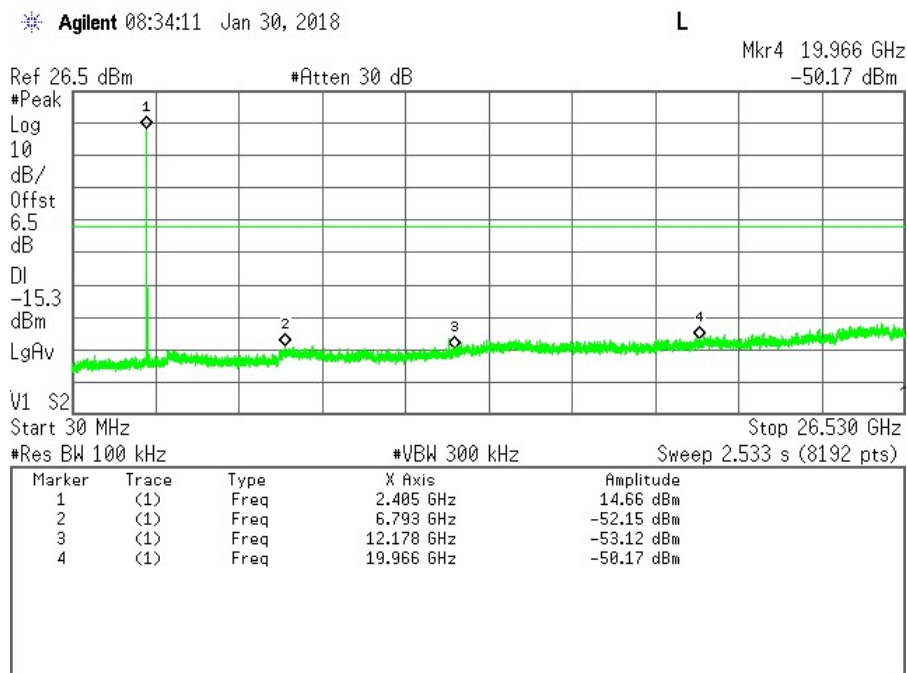


Antenna 2: Low Channel - Plot

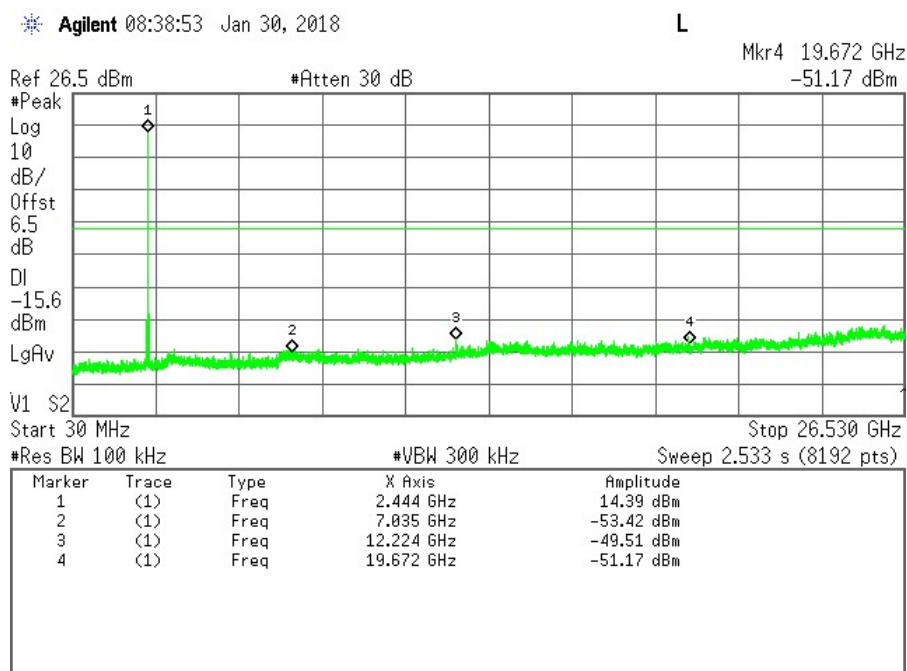


Antenna 2: High Channel - Plot

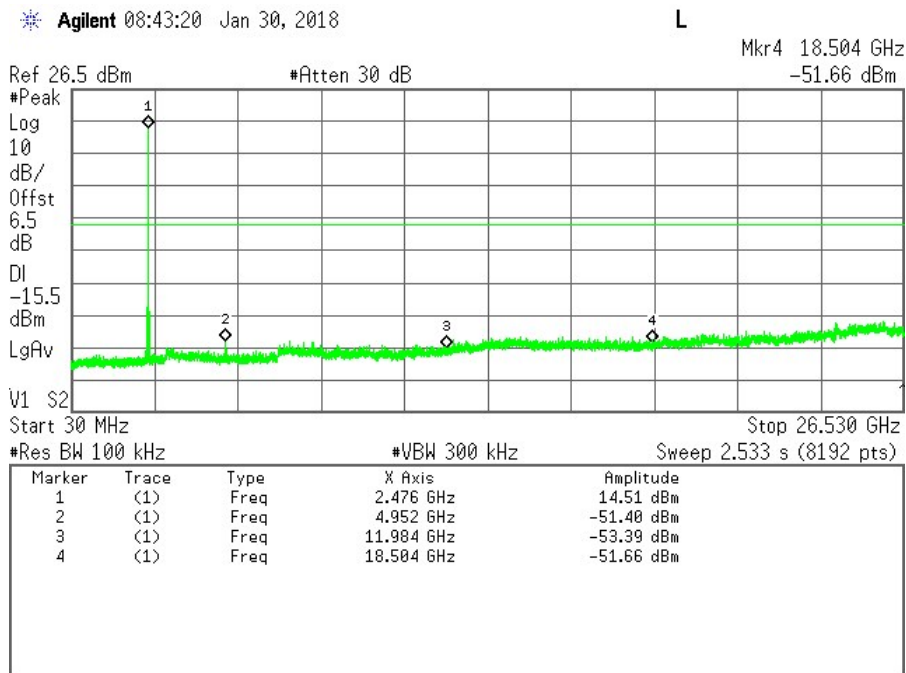
Conducted Spurious



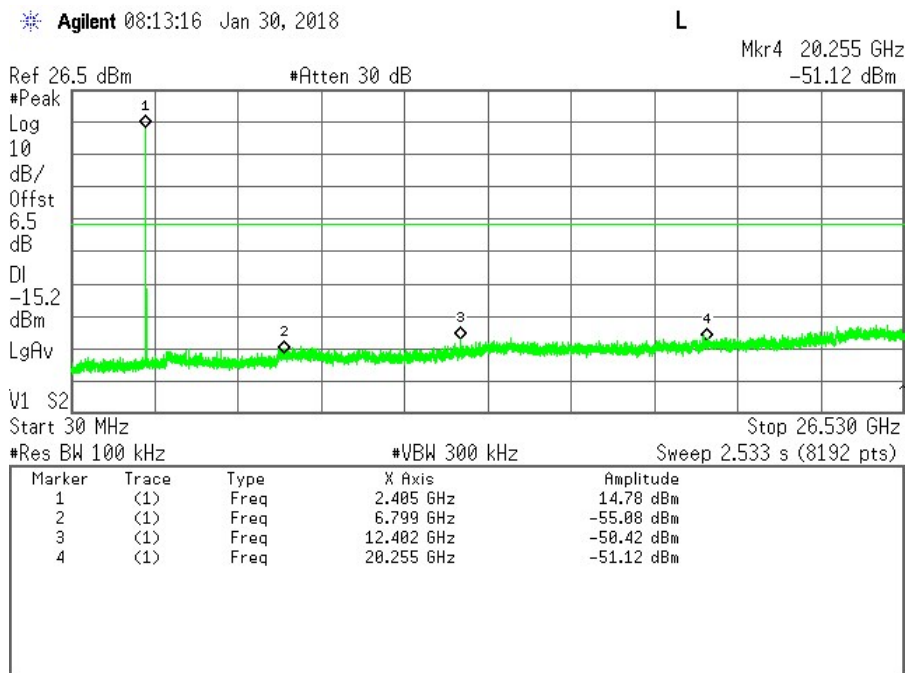
Antenna 1: Low Channel - Plot



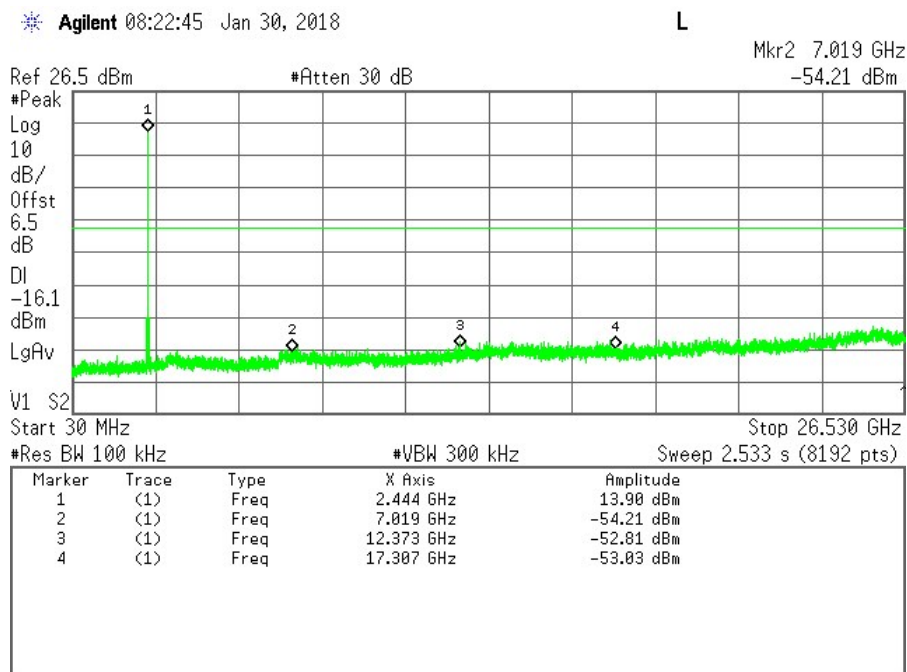
Antenna 1: Mid Channel - Plot



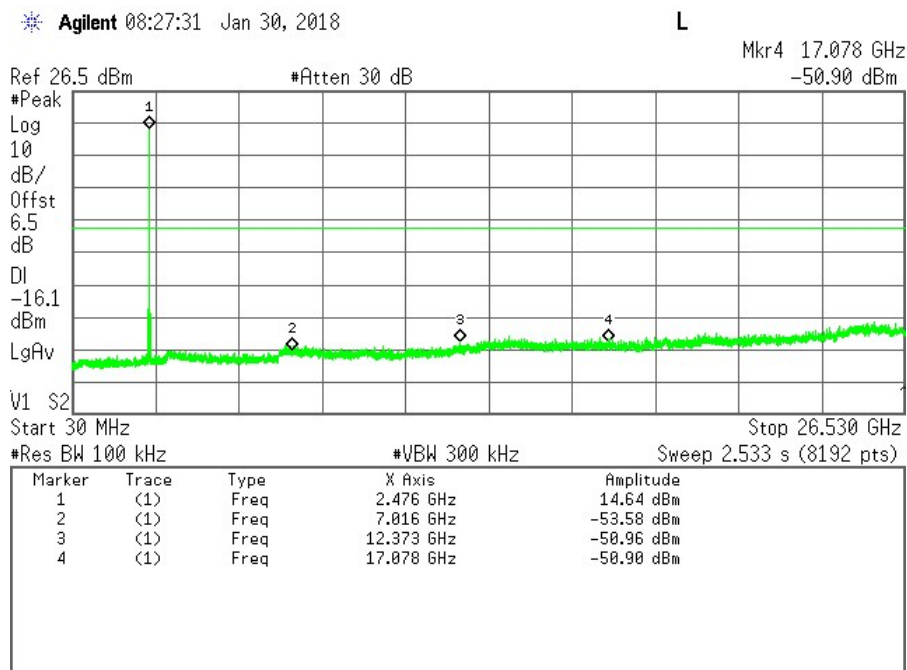
Antenna 1: High Channel – Plot



Antenna 2: Low Channel - Plot



Antenna 2: Mid Channel - Plot



Antenna 2: High Channel - Plot

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		
	Frequency Range (MHz)	Field Strength Limit (uV/m)	Measurement distance (meters)
CFR 47 Subpart C, 15.205 CFR 47 Subpart C, 15.209 RSS-GEN	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 (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL/JB	RF Chamber/OATS	2/5/18-2/27/18	12.2	65	1027	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.

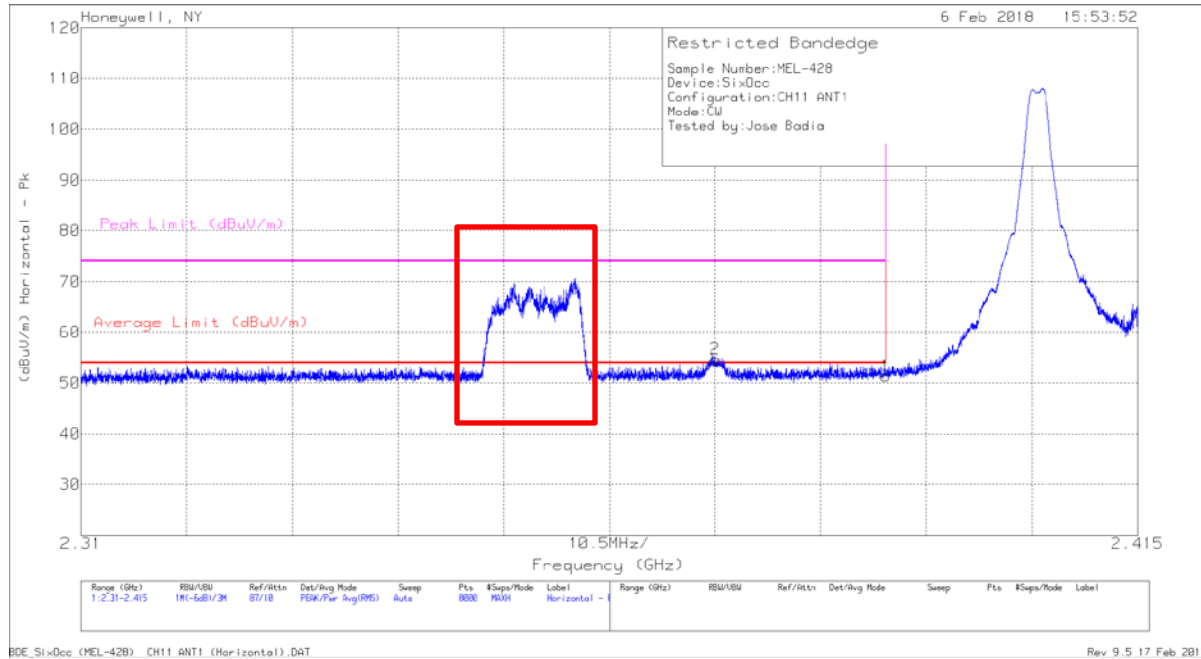
Equipment List

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 (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	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.

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	17.02	Pk	28.5	.7	2.6	2.5	-	51.32	74	-22.68	0	126	H
2	* 2.373	20.54	Pk	28.4	.7	2.6	2.5	-	54.74	74	-19.26	0	126	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	17.02	Av	28.5	.7	2.6	2.5	-23.1	28.22	54	-25.78	0	126	H
2	* 2.373	20.54	Av	28.4	.7	2.6	2.5	-23.1	31.64	54	-22.36	0	126	H

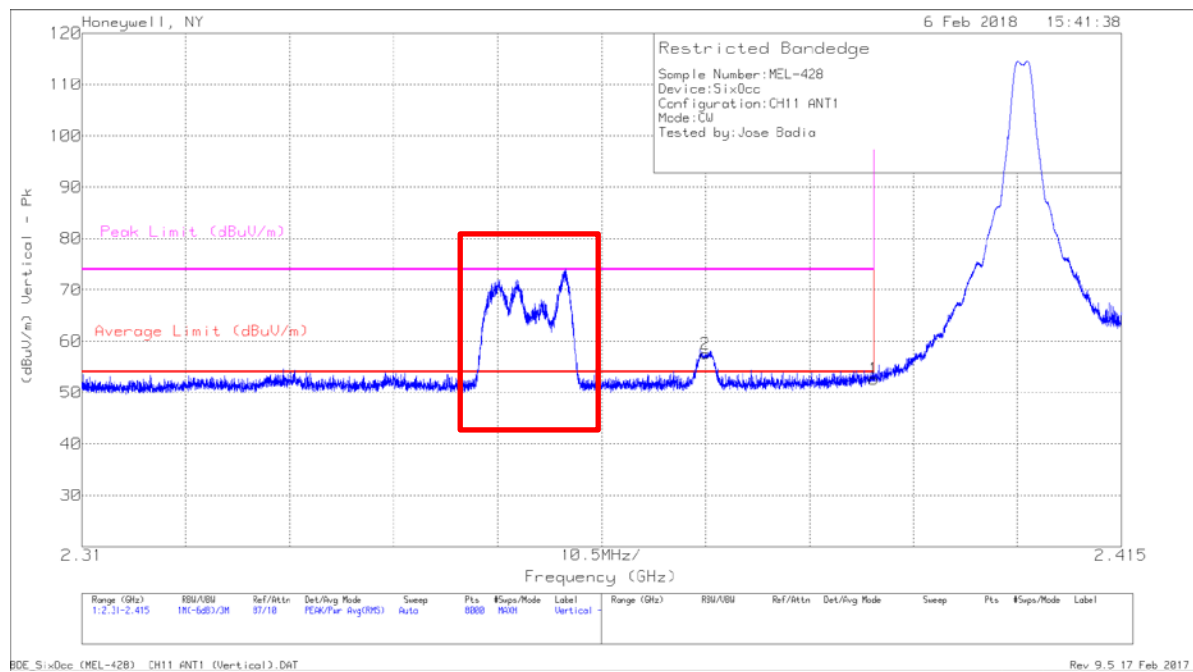
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 1: Low Channel Horizontal – Data

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



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	18.35	Pk	28.5	.7	2.6	2.5	-	52.65	74	-21.35	274	133	V
2	* 2.373	23.35	Pk	28.4	.7	2.6	2.5	-	57.55	74	-16.45	274	133	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	18.35	Av	28.5	.7	2.6	2.5	-23.1	29.55	54	-24.45	274	133	V
2	* 2.373	23.35	Av	28.4	.7	2.6	2.5	-23.1	34.45	54	-19.55	274	133	V

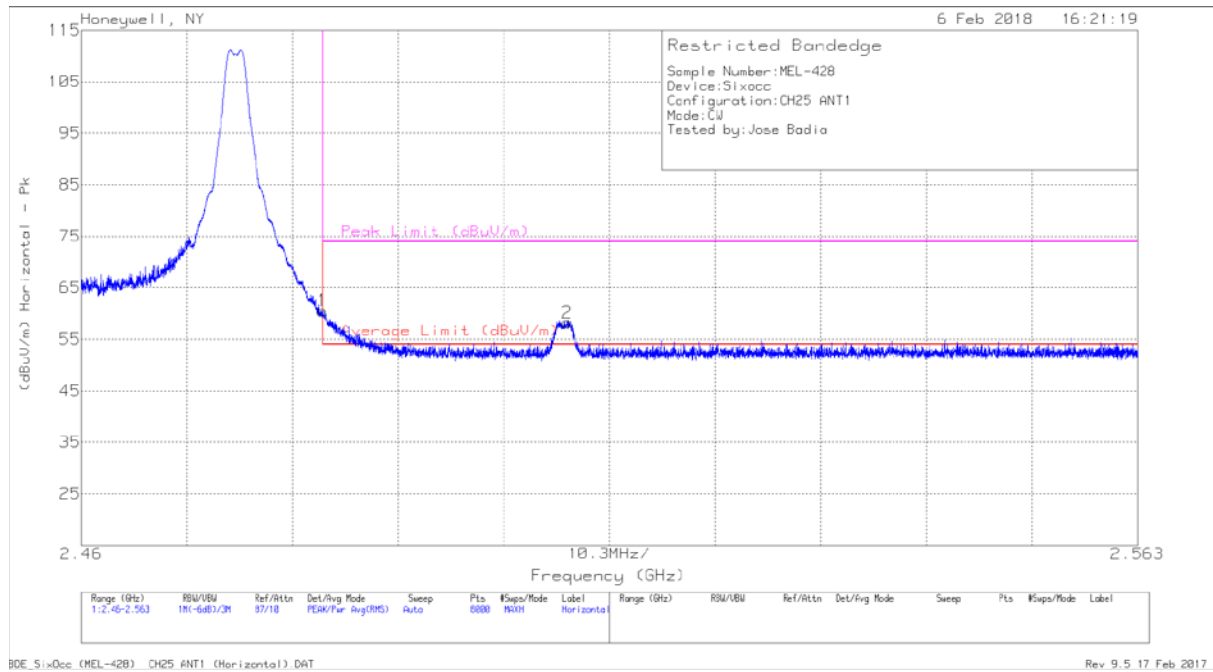
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 1: Low Channel Vertical – Data

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



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	25.96	Pk	28.7	.7	2.6	2.6	-	60.56	74	-13.44	0	120	H
2	2.507	23.42	Pk	28.8	.7	2.7	2.6	-	58.22	74	-15.78	0	120	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	25.96	Av	28.7	.7	2.6	2.6	-23.1	37.46	54	-16.54	0	120	H
2	2.507	23.42	Av	28.8	.7	2.7	2.6	-23.1	35.12	54	-18.88	0	120	H

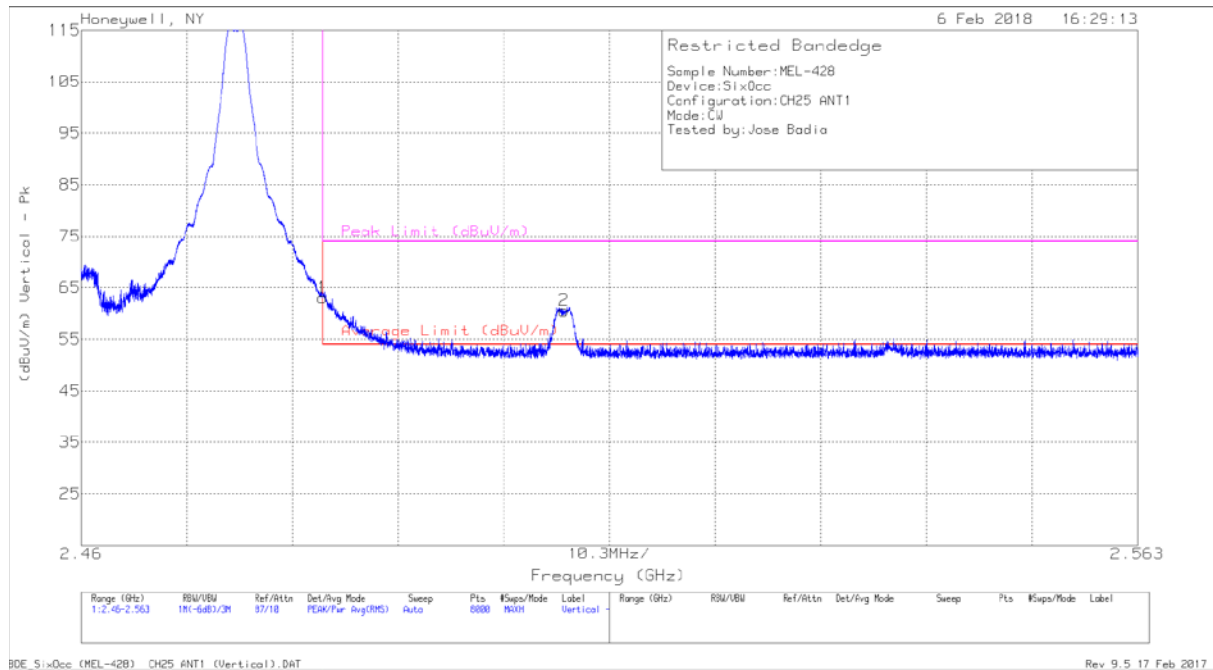
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 1: High Channel Horizontal – Data

Note: Based on the peak levels and level of the DC Corr, all peak emissions in the restricted band will be below the average limit after the correction for duty cycle.



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	28.46	Pk	28.7	.7	2.6	2.6	-	63.06	74	-10.94	274	106	V
2	2.507	25.79	Pk	28.8	.7	2.7	2.6	-	60.59	74	-13.41	274	106	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	28.46	Av	28.7	.7	2.6	2.6	-23.1	39.96	54	-14.04	274	106	V
2	2.507	25.79	Av	28.8	.7	2.7	2.6	-23.1	37.49	54	-16.51	274	106	V

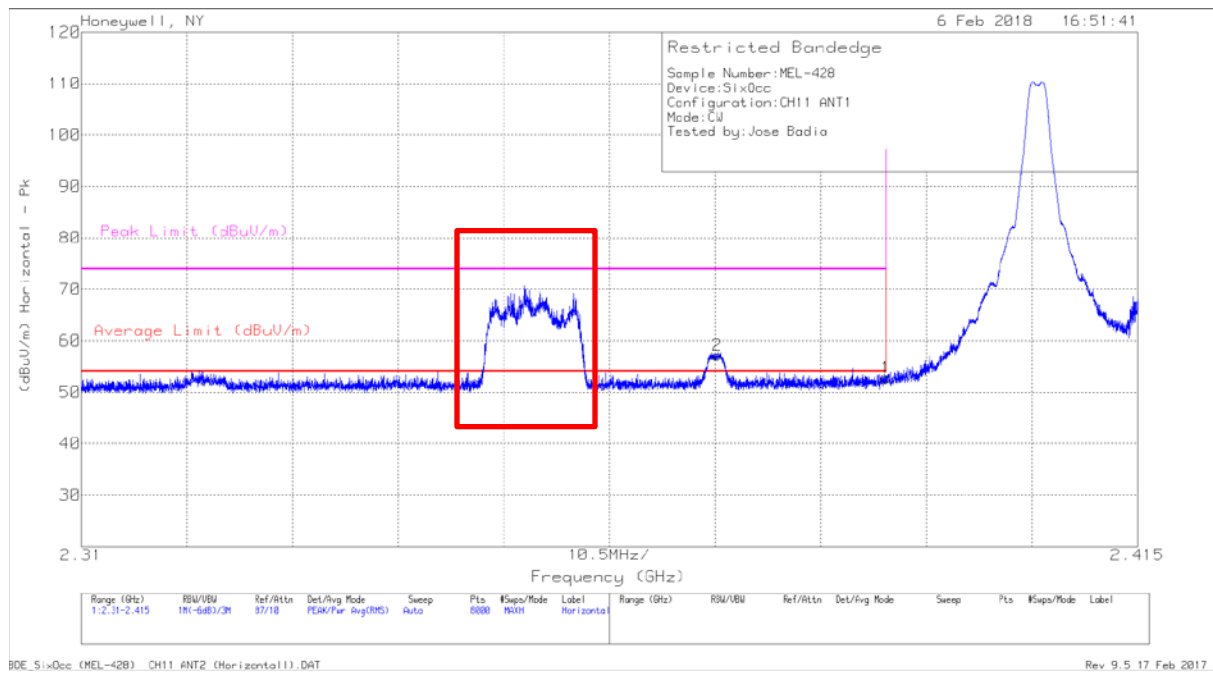
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 1: High Channel Vertical – Data

Note: Based on the peak levels and level of the DC Corr, all peak emissions in the restricted band will be below the average limit after the correction for duty cycle.



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	18.48	Pk	28.5	.7	2.6	2.5	-	52.78	74	-21.22	334	182	H
2	* 2.373	22.99	Pk	28.4	.7	2.6	2.5	-	57.19	74	-16.81	334	182	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	18.48	Av	28.5	.7	2.6	2.5	-23.1	29.68	54	-24.32	334	182	H
2	* 2.373	22.99	Av	28.4	.7	2.6	2.5	-23.1	34.09	54	-19.91	334	182	H

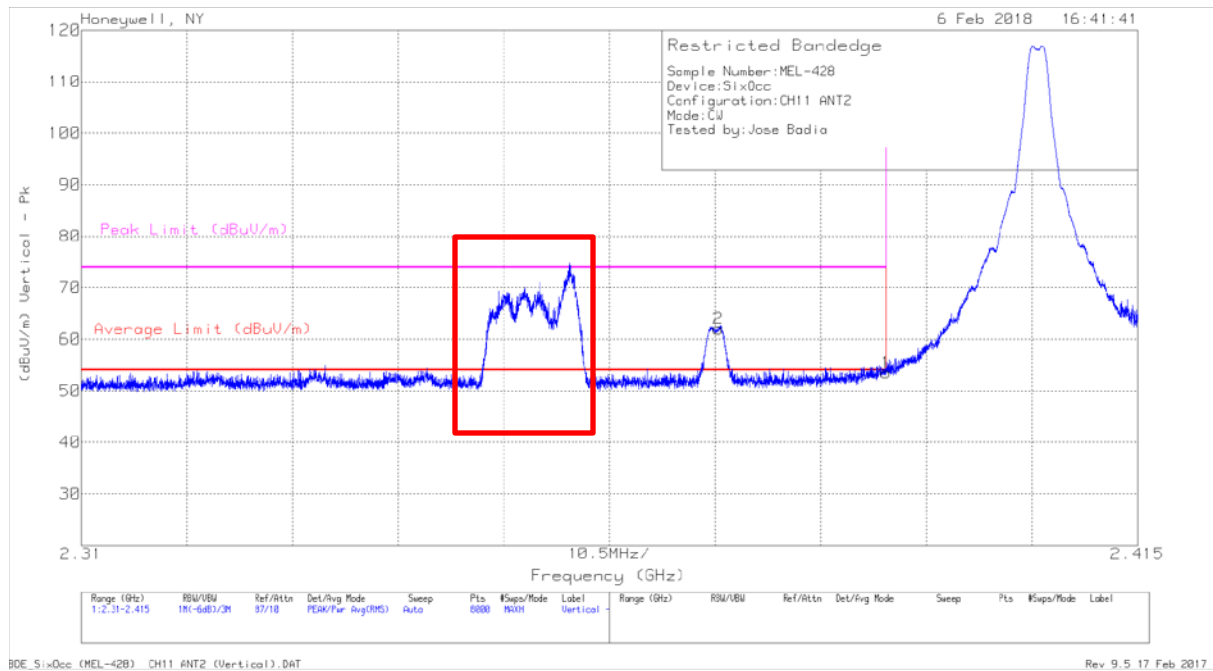
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 2: Low Channel Horizontal – Data

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



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	19.2	Pk	28.5	.7	2.6	2.5	-	53.5	74	-20.5	276	118	V
2	* 2.373	27.84	Pk	28.4	.7	2.6	2.5	-	62.04	74	-11.96	276	118	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	19.2	Av	28.5	.7	2.6	2.5	-23.1	30.4	54	-23.6	276	118	V
2	* 2.373	27.84	Av	28.4	.7	2.6	2.5	-23.1	38.94	54	-15.06	276	118	V

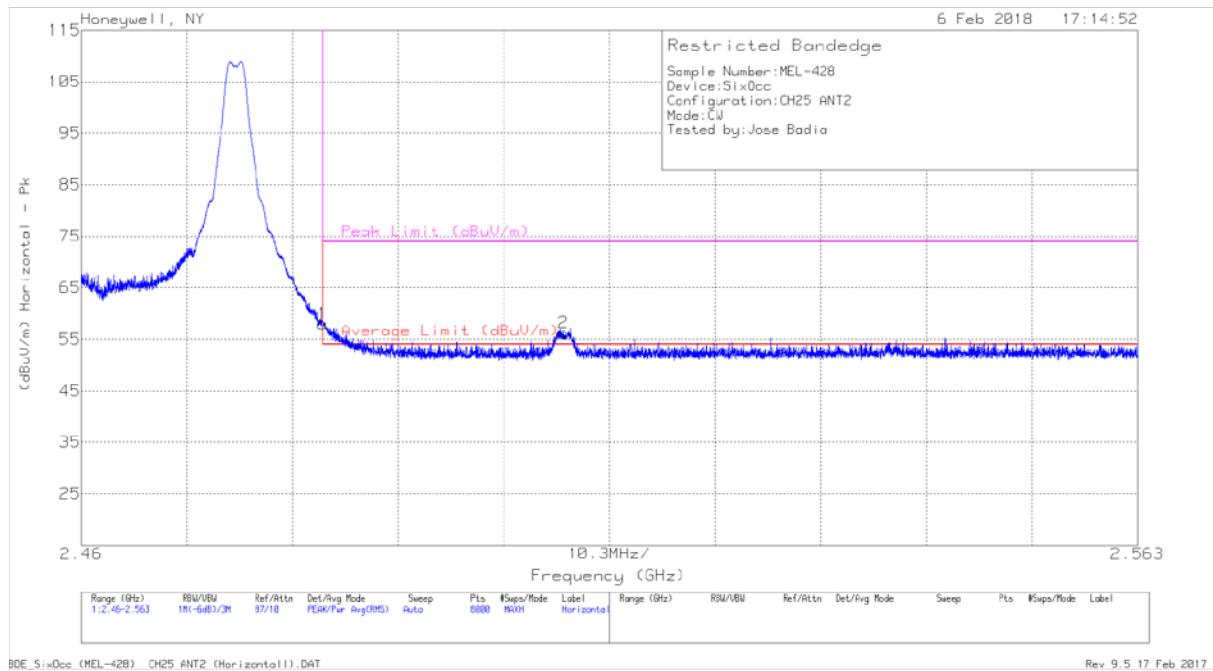
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 2: Low Channel Vertical – Data

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



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	23.37	Pk	28.7	.7	2.6	2.6	-	57.97	74	-16.03	333	171	H
2	2.507	21.44	Pk	28.8	.7	2.7	2.6	-	56.24	74	-17.76	333	171	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	23.37	Av	28.7	.7	2.6	2.6	-23.1	34.87	54	-19.13	333	171	H
2	2.507	21.44	Av	28.8	.7	2.7	2.6	-23.1	33.14	54	-20.86	333	171	H

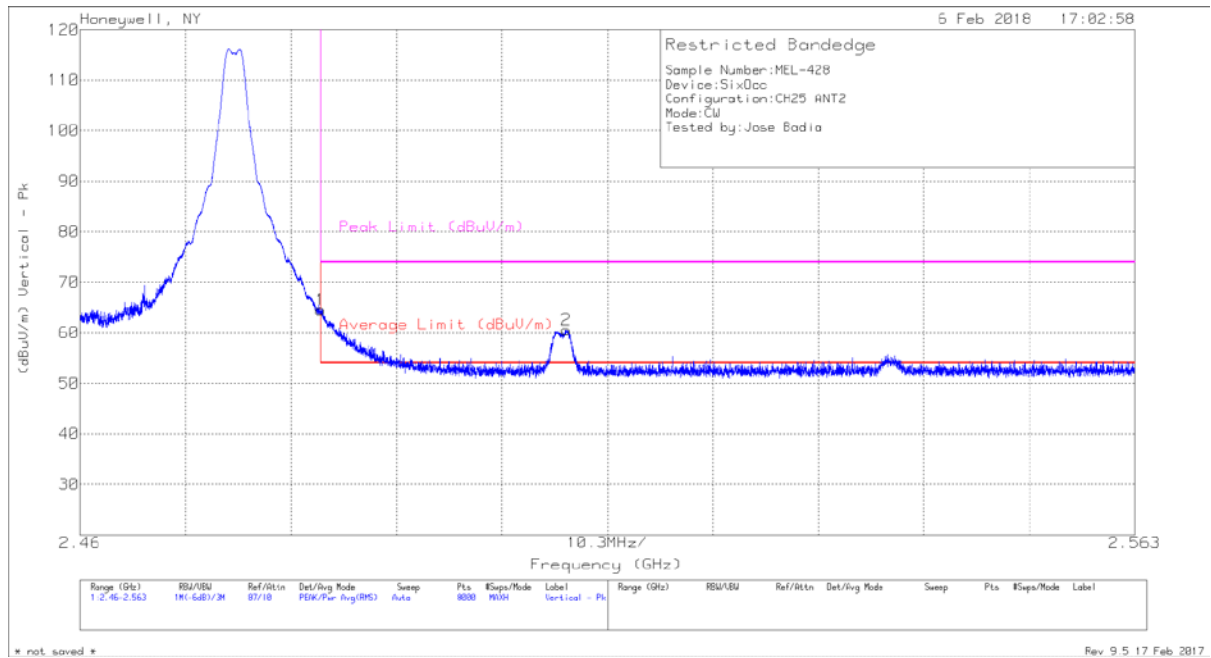
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 2: High Channel Horizontal – Data

Note: Based on the peak levels and level of the DC Corr, all peak emissions in the restricted band will be below the average limit after the correction for duty cycle.



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	29.91	Pk	28.7	.7	2.6	2.6	-	64.51	74	-9.49	92	179	V
2	2.507	25.8	Pk	28.8	.7	2.7	2.6	-	60.6	74	-13.4	92	179	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	29.91	Av	28.7	.7	2.6	2.6	-23.1	41.41	54	-12.59	92	179	V
2	2.507	25.8	Av	28.8	.7	2.7	2.6	-23.1	37.5	54	-16.5	92	179	V

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

Pk - Peak detector

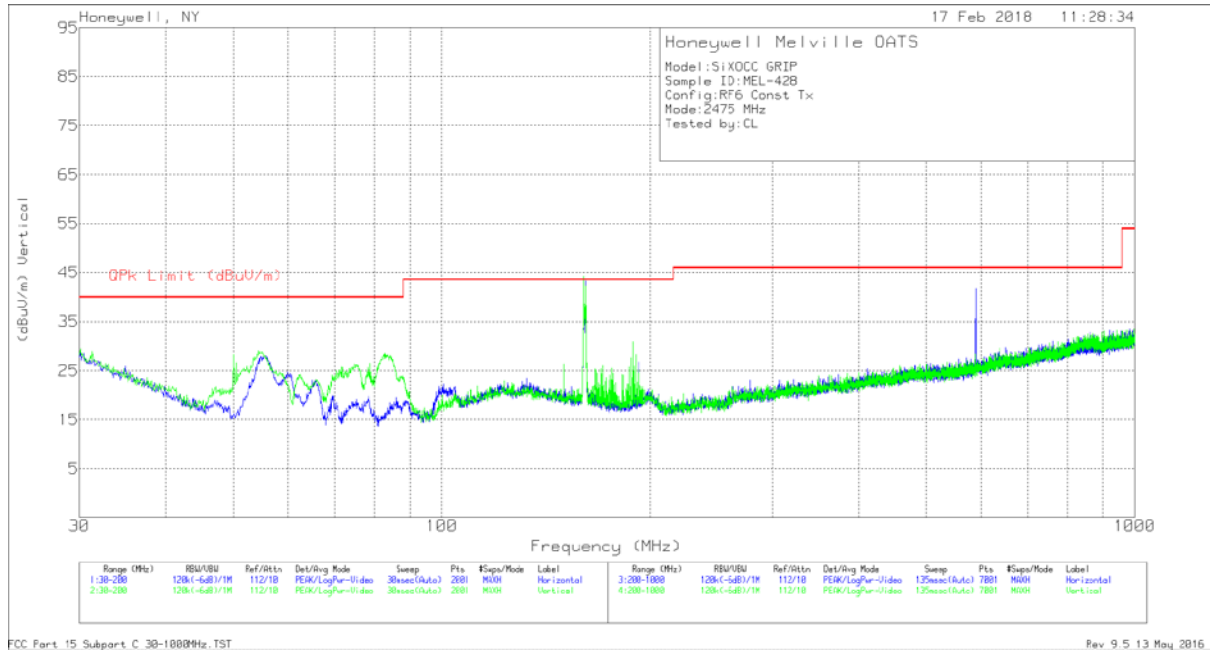
Av - Peak + DC Corr (Duty Cycle Correction Factor)

Antenna 2: High Channel Vertical – Data

Note: Based on the peak levels and level of the DC Corr, all peak emissions in the restricted band will be below the average limit after the correction for duty cycle.

Spurious Emissions

Below 1GHz (Worse-case)

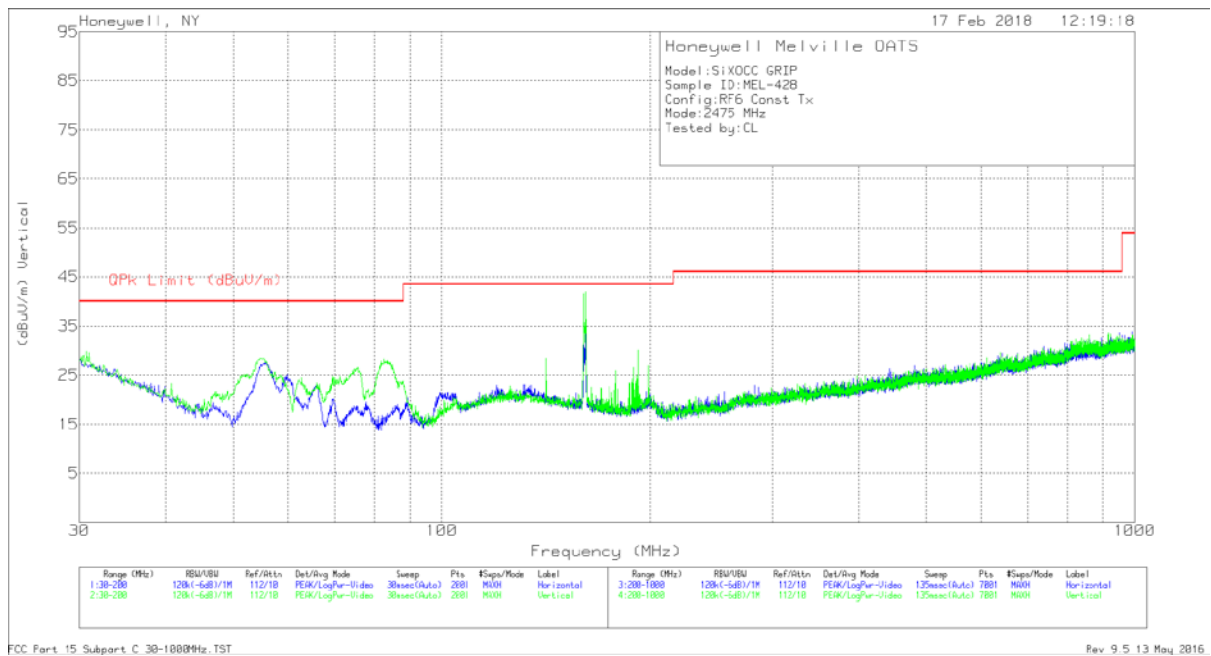


Antenna 1: High Channel - Plot

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
54.3055	20.34	Qp	12	1.1	33.44	40	-6.56	183	400	H
159.0964	5.18	Qp	17.1	2	24.28	43.52	-19.24	45	203	H
51.5004	17.3	Qp	12.3	1.1	30.7	40	-9.3	323	231	V
159.2523	5.41	Qp	17.1	2	24.51	43.52	-19.01	9	278	V
587.9095	10.35	Qp	23.6	5.9	39.85	46.02	-6.17	106	137	H
896.52	4.1	Qp	27.1	8.5	39.7	46.02	-6.32	141	320	V

Qp - Quasi-Peak detector

Antenna 1: High Channel – Data



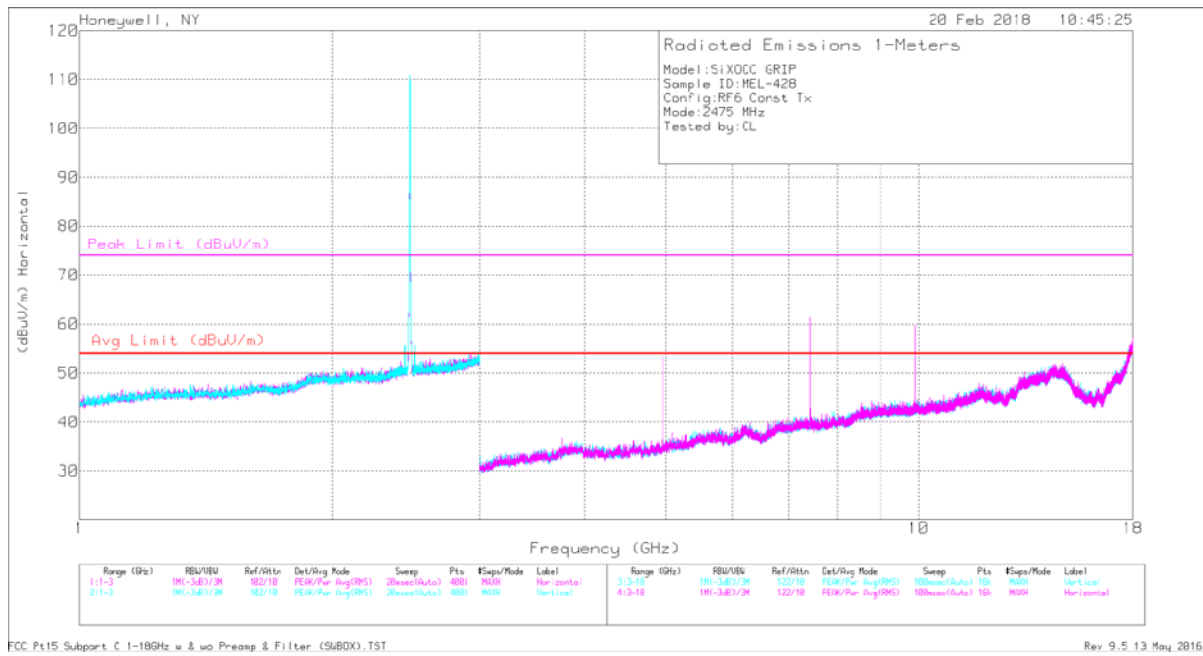
Antenna 2: High Channel - Plot

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
51.7912	9.62	Qp	12.3	1.1	23.02	40	-16.98	119	386	H
159.652	5.36	Qp	17	2.1	24.46	43.52	-19.06	337	390	H
52.3051	19.04	Qp	12.2	1.1	32.34	40	-7.66	25	147	V
159.2827	5.32	Qp	17.1	2	24.42	43.52	-19.1	131	366	V
951.7913	4.09	Qp	27.4	9.2	40.69	46.02	-5.33	9	239	H
929.1912	4.36	Qp	27.3	8.6	40.26	46.02	-5.76	129	398	V

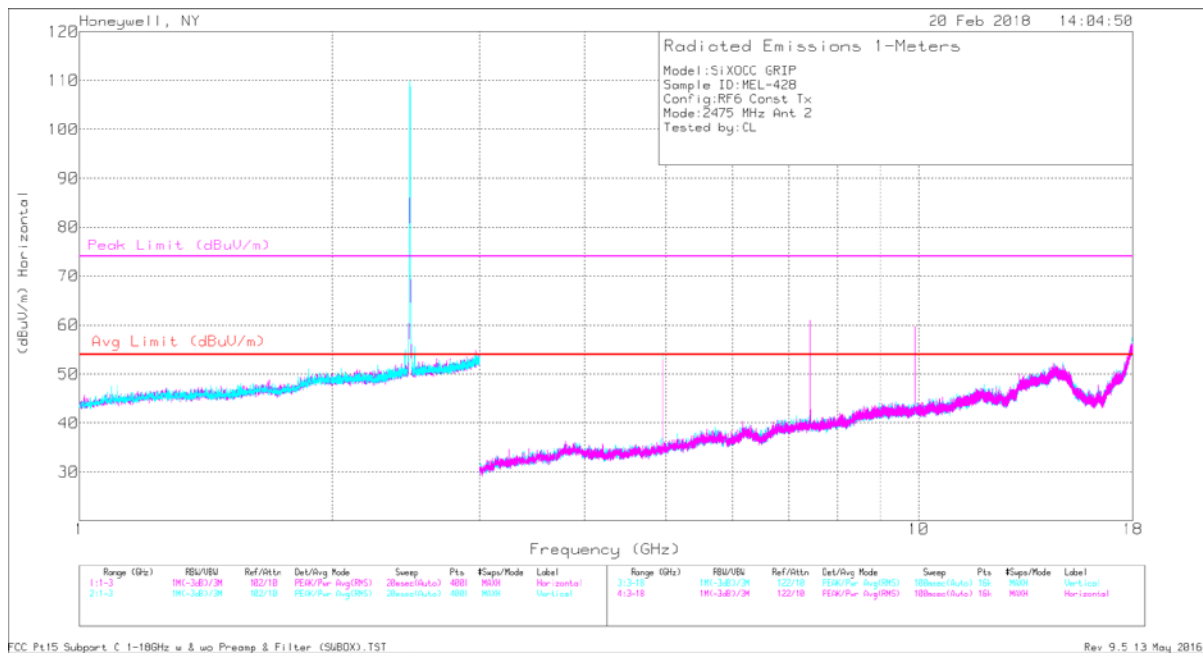
Qp - Quasi-Peak detector

Antenna 2: High Channel - Data

1-18GHz



Antenna 1: High Channel – Plot



Antenna 2: High Channel - Plot

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	57.76	PK	33.1	-41.2	3.7	3.7	57.06	74	-16.94	301	124	H
7.214	51.49	PK	36.2	-39.5	4.7	4.5	57.39	74	-16.61	291	202	H
9.622	52.78	PK	38	-39	5.6	5.2	62.58	74	-11.42	247	213	H
* 12.028	45.88	PK	39.4	-37.3	6.5	5.6	60.08	74	-13.92	227	253	H
14.433	43.7	PK	42.1	-36.9	6.8	6.4	62.1	74	-11.9	83	238	H
16.834	38.84	PK	39.6	-38.1	7.4	7.1	54.84	74	-19.16	195	187	H
* 4.809	56.33	PK	33.1	-41.2	3.7	3.7	55.63	74	-18.37	247	179	V
7.217	48.14	PK	36.2	-39.5	4.7	4.5	54.04	74	-19.96	339	181	V
9.622	51.37	PK	38	-39	5.6	5.2	61.17	74	-12.83	328	204	V
* 12.022	43.01	PK	39.4	-37.3	6.5	5.6	57.21	74	-16.79	59	220	V
14.427	39.04	PK	42.1	-36.9	6.8	6.4	57.44	74	-16.56	7	227	V
16.838	38.13	PK	39.6	-38.1	7.5	7.1	54.23	74	-19.77	36	308	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	57.76	Av	33.1	-41.2	3.7	3.7	-23.1	33.96	54	-20.04	301	124	H
7.214	51.49	Av	36.2	-39.5	4.7	4.5	-23.1	34.29	54	-19.71	291	202	H
9.622	52.78	Av	38	-39	5.6	5.2	-23.1	39.48	54	-14.52	247	213	H
* 12.028	45.88	Av	39.4	-37.3	6.5	5.6	-23.1	36.98	54	-17.02	227	253	H
14.433	43.7	Av	42.1	-36.9	6.8	6.4	-23.1	39	54	-15	83	238	H
16.834	38.84	Av	39.6	-38.1	7.4	7.1	-23.1	31.74	54	-22.26	195	187	H
* 4.809	56.33	Av	33.1	-41.2	3.7	3.7	-23.1	32.53	54	-21.47	247	179	V
7.217	48.14	Av	36.2	-39.5	4.7	4.5	-23.1	30.94	54	-23.06	339	181	V
9.622	51.37	Av	38	-39	5.6	5.2	-23.1	38.07	54	-15.93	328	204	V
* 12.022	43.01	Av	39.4	-37.3	6.5	5.6	-23.1	34.11	54	-19.89	59	220	V
14.427	39.04	Av	42.1	-36.9	6.8	6.4	-23.1	34.34	54	-19.66	7	227	V
16.838	38.13	Av	39.6	-38.1	7.5	7.1	-23.1	31.13	54	-22.87	36	308	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 = $20\log(0.06976) = -23.1\text{dB}$

Antenna 1: Low Channel - Data

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	60.58	PK	33.2	-41.4	3.7	3.6	59.68	74	-14.32	189	271	H
* 7.337	56.51	PK	36.6	-39.7	4.6	4.5	62.51	74	-11.49	253	272	H
9.782	54.38	PK	38.1	-39.1	5.5	5.3	64.18	74	-9.82	247	250	H
* 12.228	45.8	PK	39.2	-37.2	6.5	5.9	60.2	74	-13.8	284	243	H
14.667	41.33	PK	42.6	-36.9	6.7	6.4	60.13	74	-13.87	308	245	H
17.112	39.98	PK	41.1	-38.1	7.5	7	57.48	74	-16.52	249	307	H
* 4.889	59.22	PK	33.2	-41.4	3.7	3.6	58.32	74	-15.68	197	256	V
* 7.337	53.09	PK	36.6	-39.7	4.6	4.5	59.09	74	-14.91	338	168	V
9.782	53.01	PK	38.1	-39.1	5.5	5.3	62.81	74	-11.19	178	162	V
* 12.228	46.68	PK	39.2	-37.2	6.5	5.9	61.08	74	-12.92	164	311	V
14.673	38.58	PK	42.6	-36.9	6.6	6.4	57.28	74	-16.72	164	311	V
17.115	38.32	PK	41.1	-38.1	7.5	7	55.82	74	-18.18	66	118	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	60.58	Av	33.2	-41.4	3.7	3.6	-23.1	36.58	54	-17.42	189	271	H
* 7.337	56.51	Av	36.6	-39.7	4.6	4.5	-23.1	39.41	54	-14.59	253	272	H
9.782	54.38	Av	38.1	-39.1	5.5	5.3	-23.1	41.08	54	-12.92	247	250	H
* 12.228	45.8	Av	39.2	-37.2	6.5	5.9	-23.1	37.1	54	-16.9	284	243	H
14.667	41.33	Av	42.6	-36.9	6.7	6.4	-23.1	37.03	54	-16.97	308	245	H
17.112	39.98	Av	41.1	-38.1	7.5	7	-23.1	34.38	54	-19.62	249	307	H
* 4.889	59.22	Av	33.2	-41.4	3.7	3.6	-23.1	35.22	54	-18.78	197	256	V
* 7.337	53.09	Av	36.6	-39.7	4.6	4.5	-23.1	35.99	54	-18.01	338	168	V
9.782	53.01	Av	38.1	-39.1	5.5	5.3	-23.1	39.71	54	-14.29	178	162	V
* 12.228	46.68	Av	39.2	-37.2	6.5	5.9	-23.1	37.98	54	-16.02	164	311	V
14.673	38.58	Av	42.6	-36.9	6.6	6.4	-23.1	34.18	54	-19.82	164	311	V
17.115	38.32	Av	41.1	-38.1	7.5	7	-23.1	32.72	54	-21.28	66	118	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 = $20\log(0.06976) = -23.1\text{dB}$

Antenna 1: Mid Channel - Data

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	60.69	PK	33.2	-41.5	3.8	3.7	59.89	74	-14.11	162	242	H
* 7.424	57.84	PK	36.7	-39.7	4.7	4.6	64.14	74	-9.86	240	242	H
9.902	54.19	PK	38.2	-39.2	5.5	5.3	63.99	74	-10.01	232	240	H
* 12.378	46.02	PK	38.9	-37.1	6.5	5.9	60.22	74	-13.78	283	253	H
14.854	38.59	PK	42	-36.9	6.8	6.5	56.99	74	-17.01	295	228	H
17.322	38.7	PK	42.4	-38.2	7.5	7.1	57.5	74	-16.5	11	306	H
* 4.951	58.7	PK	33.2	-41.5	3.8	3.7	57.9	74	-16.1	204	264	V
* 7.427	57.86	PK	36.7	-39.7	4.7	4.6	64.16	74	-9.84	237	176	V
9.902	53.02	PK	38.2	-39.2	5.5	5.3	62.82	74	-11.18	170	141	V
* 12.373	45.11	PK	38.9	-37.1	6.5	5.9	59.31	74	-14.69	175	253	V
14.853	38.14	PK	42	-36.9	6.8	6.5	56.54	74	-17.46	143	219	V
17.323	38.8	PK	42.4	-38.2	7.5	7.1	57.6	74	-16.4	59	126	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	60.69	Av	33.2	-41.5	3.8	3.7	-23.1	36.79	54	-17.21	162	242	H
* 7.424	57.84	Av	36.7	-39.7	4.7	4.6	-23.1	41.04	54	-12.96	240	242	H
9.902	54.19	Av	38.2	-39.2	5.5	5.3	-23.1	40.89	54	-13.11	232	240	H
* 12.378	46.02	Av	38.9	-37.1	6.5	5.9	-23.1	37.12	54	-16.88	283	253	H
14.854	38.59	Av	42	-36.9	6.8	6.5	-23.1	33.89	54	-20.11	295	228	H
17.322	38.7	Av	42.4	-38.2	7.5	7.1	-23.1	34.4	54	-19.6	11	306	H
* 4.951	58.7	Av	33.2	-41.5	3.8	3.7	-23.1	34.8	54	-19.2	204	264	V
* 7.427	57.86	Av	36.7	-39.7	4.7	4.6	-23.1	41.06	54	-12.94	237	176	V
9.902	53.02	Av	38.2	-39.2	5.5	5.3	-23.1	39.72	54	-14.28	170	141	V
* 12.373	45.11	Av	38.9	-37.1	6.5	5.9	-23.1	36.21	54	-17.79	175	253	V
14.853	38.14	Av	42	-36.9	6.8	6.5	-23.1	33.44	54	-20.56	143	219	V
17.323	38.8	Av	42.4	-38.2	7.5	7.1	-23.1	34.5	54	-19.5	59	126	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 = $20\log(0.06976) = -23.1\text{dB}$

Antenna 1: High Channel – Data

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	56.09	PK	33.1	-41.2	3.7	3.7	55.39	74	-18.61	192	263	H
7.217	43.03	PK	36.2	-39.5	4.7	4.5	48.93	74	-25.07	192	263	H
9.622	53.36	PK	38	-39	5.6	5.2	63.16	74	-10.84	91	258	H
* 12.028	46.59	PK	39.4	-37.3	6.5	5.6	60.79	74	-13.21	273	224	H
14.433	40.46	PK	42.1	-36.9	6.8	6.4	58.86	74	-15.14	79	244	H
16.839	38.25	PK	39.6	-38.1	7.5	7.1	54.35	74	-19.65	271	190	H
* 4.809	56.63	PK	33.1	-41.2	3.7	3.7	55.93	74	-18.07	223	222	V
7.217	51.57	PK	36.2	-39.5	4.7	4.5	57.47	74	-16.53	217	250	V
9.622	53.32	PK	38	-39	5.6	5.2	63.12	74	-10.88	164	194	V
* 12.028	45.25	PK	39.4	-37.3	6.5	5.6	59.45	74	-14.55	176	208	V
14.431	38.1	PK	42.1	-36.9	6.8	6.4	56.5	74	-17.5	301	166	V
16.831	38.31	PK	39.6	-38.1	7.4	7.1	54.31	74	-19.69	358	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	56.09	Av	33.1	-41.2	3.7	3.7	-23.1	32.29	54	-21.71	192	263	H
7.217	43.03	Av	36.2	-39.5	4.7	4.5	-23.1	25.83	54	-28.17	192	263	H
9.622	53.36	Av	38	-39	5.6	5.2	-23.1	40.06	54	-13.94	91	258	H
* 12.028	46.59	Av	39.4	-37.3	6.5	5.6	-23.1	37.69	54	-16.31	273	224	H
14.433	40.46	Av	42.1	-36.9	6.8	6.4	-23.1	35.76	54	-18.24	79	244	H
16.839	38.25	Av	39.6	-38.1	7.5	7.1	-23.1	31.25	54	-22.75	271	190	H
* 4.809	56.63	Av	33.1	-41.2	3.7	3.7	-23.1	32.83	54	-21.17	223	222	V
7.217	51.57	Av	36.2	-39.5	4.7	4.5	-23.1	34.37	54	-19.63	217	250	V
9.622	53.32	Av	38	-39	5.6	5.2	-23.1	40.02	54	-13.98	164	194	V
* 12.028	45.25	Av	39.4	-37.3	6.5	5.6	-23.1	36.35	54	-17.65	176	208	V
14.431	38.1	Av	42.1	-36.9	6.8	6.4	-23.1	33.4	54	-20.6	301	166	V
16.831	38.31	Av	39.6	-38.1	7.4	7.1	-23.1	31.21	54	-22.79	358	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 = $20\log(0.06976) = -23.1\text{dB}$

Antenna 2: Low Channel - Data

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	58.75	PK	33.2	-41.4	3.7	3.6	57.85	74	-16.15	174	289	H
* 7.334	55.17	PK	36.6	-39.7	4.6	4.5	61.17	74	-12.83	262	280	H
9.782	54.36	PK	38.1	-39.1	5.5	5.3	64.16	74	-9.84	268	386	H
* 12.228	43.84	PK	39.2	-37.2	6.5	5.9	58.24	74	-15.76	228	383	H
14.668	39.24	PK	42.6	-36.9	6.7	6.4	58.04	74	-15.96	208	135	H
17.116	38.53	PK	41.1	-38.1	7.5	7	56.03	74	-17.97	206	171	H
* 4.891	58.1	PK	33.2	-41.4	3.7	3.6	57.2	74	-16.8	224	209	V
* 7.337	52.73	PK	36.6	-39.7	4.6	4.5	58.73	74	-15.27	220	195	V
9.782	53.69	PK	38.1	-39.1	5.5	5.3	63.49	74	-10.51	167	197	V
* 12.228	44.47	PK	39.2	-37.2	6.5	5.9	58.87	74	-15.13	171	105	V
14.673	37.6	PK	42.6	-36.9	6.6	6.4	56.3	74	-17.7	90	119	V
17.113	37.92	PK	41.1	-38.1	7.5	7	55.42	74	-18.58	90	343	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	58.75	Av	33.2	-41.4	3.7	3.6	-23.1	34.75	54	-19.25	174	289	H
* 7.334	55.17	Av	36.6	-39.7	4.6	4.5	-23.1	38.07	54	-15.93	262	280	H
9.782	54.36	Av	38.1	-39.1	5.5	5.3	-23.1	41.06	54	-12.94	268	386	H
* 12.228	43.84	Av	39.2	-37.2	6.5	5.9	-23.1	35.14	54	-18.86	228	383	H
14.668	39.24	Av	42.6	-36.9	6.7	6.4	-23.1	34.94	54	-19.06	208	135	H
17.116	38.53	Av	41.1	-38.1	7.5	7	-23.1	32.93	54	-21.07	206	171	H
* 4.891	58.1	Av	33.2	-41.4	3.7	3.6	-23.1	34.1	54	-19.9	224	209	V
* 7.337	52.73	Av	36.6	-39.7	4.6	4.5	-23.1	35.63	54	-18.37	220	195	V
9.782	53.69	Av	38.1	-39.1	5.5	5.3	-23.1	40.39	54	-13.61	167	197	V
* 12.228	44.47	Av	39.2	-37.2	6.5	5.9	-23.1	35.77	54	-18.23	171	105	V
14.673	37.6	Av	42.6	-36.9	6.6	6.4	-23.1	33.2	54	-20.8	90	119	V
17.113	37.92	Av	41.1	-38.1	7.5	7	-23.1	32.32	54	-21.68	90	343	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 = $20\log(0.06976) = -23.1\text{dB}$

Antenna 2: Mid Channel - Data

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	59.51	PK	33.2	-41.5	3.8	3.7	58.71	74	-15.29	183	286	H
* 7.424	57.31	PK	36.7	-39.7	4.7	4.6	63.61	74	-10.39	292	275	H
9.902	53.04	PK	38.2	-39.2	5.5	5.3	62.84	74	-11.16	256	320	H
* 12.373	41.62	PK	38.9	-37.1	6.5	5.9	55.82	74	-18.18	240	368	H
14.847	38.68	PK	42	-36.9	6.8	6.5	57.08	74	-16.92	202	322	H
17.323	39.48	PK	42.4	-38.2	7.5	7.1	58.28	74	-15.72	119	207	H
* 4.949	58.13	PK	33.2	-41.5	3.8	3.7	57.33	74	-16.67	191	272	V
* 7.427	54.22	PK	36.7	-39.7	4.7	4.6	60.52	74	-13.48	287	284	V
9.902	51.86	PK	38.2	-39.2	5.5	5.3	61.66	74	-12.34	175	204	V
* 12.373	43.13	PK	38.9	-37.1	6.5	5.9	57.33	74	-16.67	171	198	V
14.85	38.18	PK	42	-36.9	6.8	6.5	56.58	74	-17.42	297	282	V
17.321	38.69	PK	42.4	-38.2	7.5	7.1	57.49	74	-16.51	238	274	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	59.51	Av	33.2	-41.5	3.8	3.7	-23.1	35.61	54	-18.39	183	286	H
* 7.424	57.31	Av	36.7	-39.7	4.7	4.6	-23.1	40.51	54	-13.49	292	275	H
9.902	53.04	Av	38.2	-39.2	5.5	5.3	-23.1	39.74	54	-14.26	256	320	H
* 12.373	41.62	Av	38.9	-37.1	6.5	5.9	-23.1	32.72	54	-21.28	240	368	H
14.847	38.68	Av	42	-36.9	6.8	6.5	-23.1	33.98	54	-20.02	202	322	H
17.323	39.48	Av	42.4	-38.2	7.5	7.1	-23.1	35.18	54	-18.82	119	207	H
* 4.949	58.13	Av	33.2	-41.5	3.8	3.7	-23.1	34.23	54	-19.77	191	272	V
* 7.427	54.22	Av	36.7	-39.7	4.7	4.6	-23.1	37.42	54	-16.58	287	284	V
9.902	51.86	Av	38.2	-39.2	5.5	5.3	-23.1	38.56	54	-15.44	175	204	V
* 12.373	43.13	Av	38.9	-37.1	6.5	5.9	-23.1	34.23	54	-19.77	171	198	V
14.85	38.18	Av	42	-36.9	6.8	6.5	-23.1	33.48	54	-20.52	297	282	V
17.321	38.69	Av	42.4	-38.2	7.5	7.1	-23.1	34.39	54	-19.61	238	274	V

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

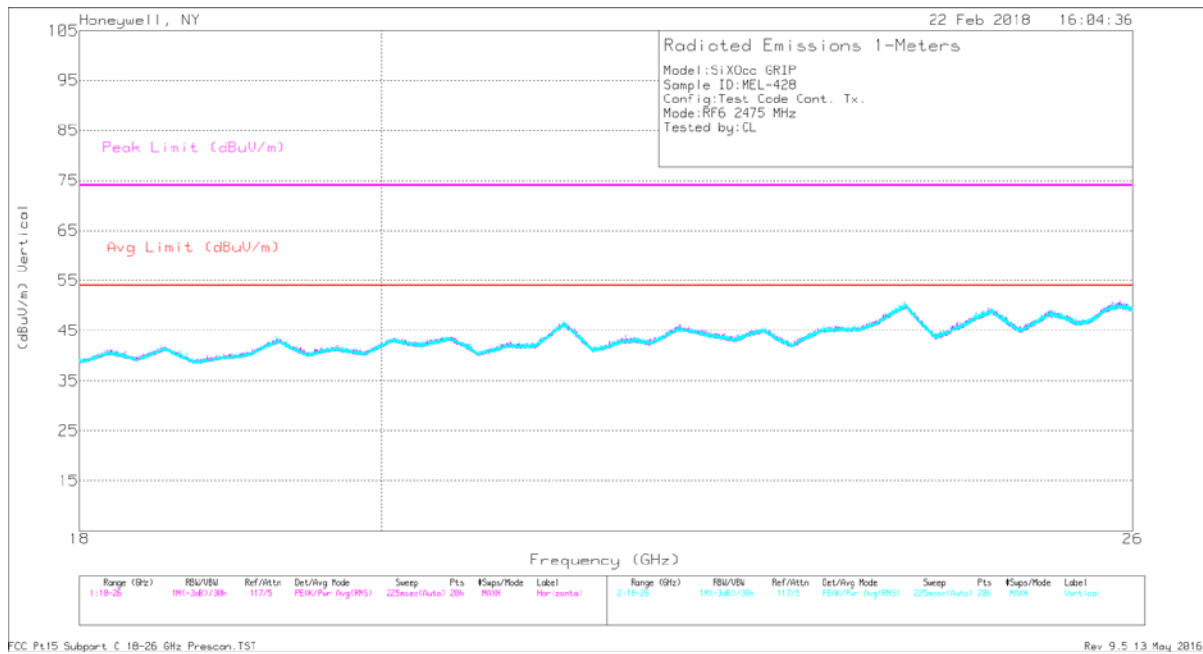
PK - KDB558074 Method: Maximum Peak

Av - KDB558074 Method: PK + DC Corr (Duty Cycle Correction Factor)

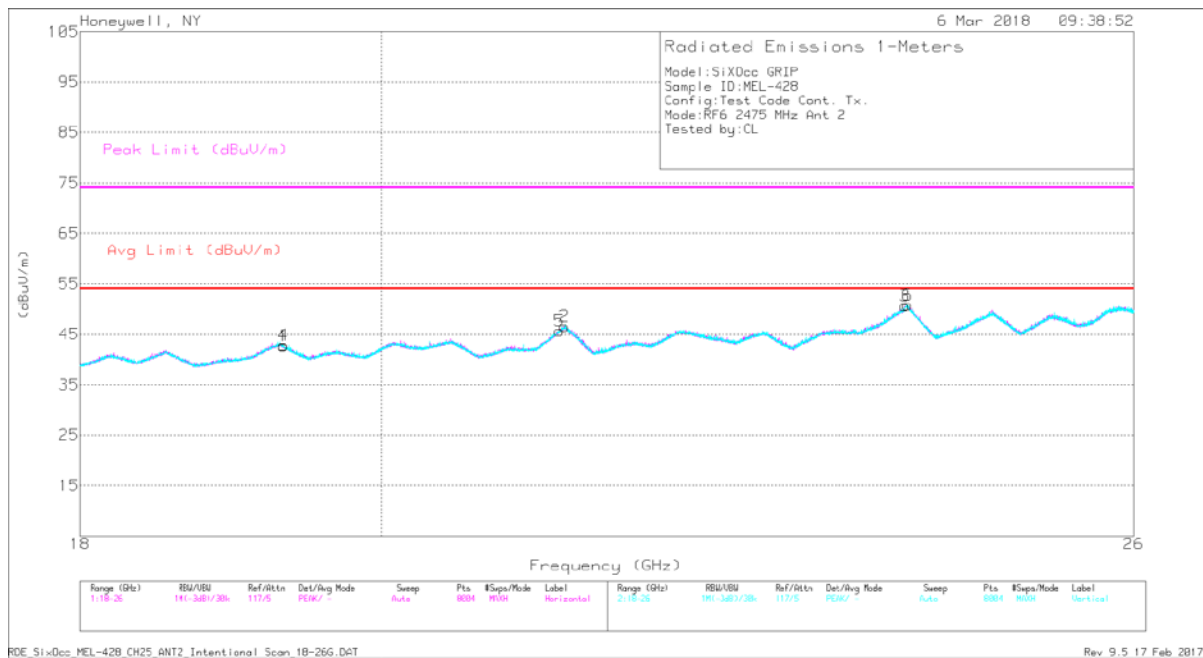
Duty Cycle = 6.976%, thus DC Corr = $20\log(0.06976) = -23.1\text{dB}$

Antenna 2: High Channel – Data

18-26GHz



Antenna 1: High Channel – Plot



Antenna 2: High Channel - Plot

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA5 [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
* 19.295	34.67	Pk	44.3	8	-34.2	-9.5	43.27	54	-10.73	74	-30.73	0-360	H
* 21.323	35.13	Pk	44.9	8.1	-32	-9.5	46.63	54	-7.37	74	-27.37	0-360	H
* 23.993	35.36	Pk	46.3	8.4	-30.6	-9.5	49.96	54	-4.04	74	-24.04	0-360	H
* 20.477	34.81	Pk	44.4	8.3	-34.1	-9.5	43.91	54	-10.09	74	-30.09	0-360	V
* 22.2	35.95	Pk	45.6	8.4	-34.1	-9.5	46.35	54	-7.65	74	-27.65	0-360	V
24.736	37.42	Pk	46	8.7	-32.6	-9.5	50.02	54	-3.98	74	-23.98	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]	SMA5 [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
* 19.294	34.68	Pk	44.3	8	-34.2	-9.5	43.28	54	-10.72	74	-30.72	0-360	H
* 21.329	35.39	Pk	44.9	8.1	-32.1	-9.5	46.79	54	-7.21	74	-27.21	0-360	H
24.014	35.96	Pk	46.3	8.4	-30.4	-9.5	50.76	54	-3.24	74	-23.24	0-360	H
* 20.099	35.18	Pk	44.2	8.3	-34.3	-9.5	43.88	54	-10.12	74	-30.12	0-360	V
* 22.19	35.4	Pk	45.6	8.4	-34	-9.5	45.9	54	-8.1	74	-28.1	0-360	V
24.738	36.58	Pk	46	8.7	-32.5	-9.5	49.28	54	-4.72	74	-24.72	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]	SMA5 [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
* 19.287	34.96	Pk	44.3	8	-34.3	-9.5	43.46	54	-10.54	74	-30.54	0-360	H
* 21.33	35.11	Pk	44.9	8.1	-32.2	-9.5	46.41	54	-7.59	74	-27.59	0-360	H
24.01	35.91	Pk	46.3	8.4	-30.4	-9.5	50.71	54	-3.29	74	-23.29	0-360	H
* 20.083	34.52	Pk	44.2	8.3	-34.2	-9.5	43.32	54	-10.68	74	-30.68	0-360	V
* 22.192	35.09	Pk	45.6	8.4	-34	-9.5	45.59	54	-8.41	74	-28.41	0-360	V
24.78	36.55	Pk	46.1	8.7	-32.9	-9.5	48.95	54	-5.05	74	-25.05	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

Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF [dB]	SMA5 [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
* 19.259	34.52	Pk	44.3	8.1	-34.7	-9.5	42.72	54	-11.28	74	-31.28	0-360	H
* 21.363	34.95	Pk	44.9	8.1	-32.9	-9.5	45.55	54	-8.45	74	-28.45	0-360	H
24.043	35.91	Pk	46.3	8.4	-30.8	-9.5	50.31	54	-3.69	74	-23.69	0-360	H
* 20.067	34.39	Pk	44.1	8.4	-34.4	-9.5	42.99	54	-11.01	74	-31.01	0-360	V
* 22.811	35.46	Pk	45.7	8.3	-34.7	-9.5	45.26	54	-8.74	74	-28.74	0-360	V
24.756	36.67	Pk	46	8.7	-32.5	-9.5	49.37	54	-4.63	74	-24.63	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]	SMA5 [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
* 19.296	34.44	Pk	44.3	8	-34.2	-9.5	43.04	54	-10.96	74	-30.96	0-360	H
* 21.304	34.9	Pk	44.9	8.1	-32.1	-9.5	46.3	54	-7.7	74	-27.7	0-360	H
24.031	35.92	Pk	46.3	8.4	-30.5	-9.5	50.62	54	-3.38	74	-23.38	0-360	H
* 19.335	34.68	Pk	44.3	7.9	-34.8	-9.5	42.58	54	-11.42	74	-31.42	0-360	V
* 21.309	34.9	Pk	44.9	8.1	-32	-9.5	46.4	54	-7.6	74	-27.6	0-360	V
24.04	36.01	Pk	46.3	8.4	-30.8	-9.5	50.41	54	-3.59	74	-23.59	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
* 19.324	34.55	Pk	44.3	8	-34.6	-9.5	42.75	54	-11.25	74	-31.25	0-360	H
* 21.315	34.93	Pk	44.9	8.1	-31.9	-9.5	46.53	54	-7.47	74	-27.47	0-360	H
24.007	35.91	Pk	46.3	8.4	-30.5	-9.5	50.61	54	-3.39	74	-23.39	0-360	H
* 19.325	34.68	Pk	44.3	8	-34.6	-9.5	42.88	54	-11.12	74	-31.12	0-360	V
* 21.281	34.83	Pk	44.9	8.1	-32.6	-9.5	45.73	54	-8.27	74	-28.27	0-360	V
24.03	36.11	Pk	46.3	8.4	-30.5	-9.5	50.81	54	-3.19	74	-23.19	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

END OF REPORT