

Honeywell Home

FCC / ISED Test Report

For

SiXOCC

Report #: 58791-OCC

FCC ID: CFS8DL6OCC1

IC ID: 573F-6OCC1

Report Completion Date: 2019-03-13

Prepared by and for:

Ademco Inc.

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Suite 100 PO Box 9040

Melville, NY 11747



Testing

NVLAP Lab Code: 600110

Document Introduction

Ademco 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 Ademco 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 Ademco 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 Ademco and all revisions are duly noted in the revisions section. Any alterations of this document not carried out by Ademco 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.

Ademco Inc. is the legal entity name for Honeywell Home / Resideo. All three names can be used synonymously within this test report.

Test Report Revision History				
Revision	Prepared By	Reviewed By	Revision Detail	Release Date
---	M. Antola	A. Roussin	Original Release	2019-03-13
A	M. Antola	A. Roussin	Updated KDB 558074 reference to latest version	2019-03-14
B	M. Antola	A. Roussin	Updated Power measurements	2019-03-15

Report Authorization

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Applicable Test Standards/Limits

Test Standards/Limits	Result	Dates Tested
ANSI C63.10: 2013	Compliant	02/23/19 – 03/13/19
RSS-247, Issue 2, Section 5	Compliant	02/23/19 – 03/13/19
RSS-GEN, Issue 5	Compliant	02/23/19 – 03/13/19
CFR 47 Pt 15 Subpart C, Section 15.209	Compliant	02/23/19 – 03/13/19
CFR 47 Pt 15 Subpart C, Section 15.247	Compliant	02/23/19 – 03/13/19

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. Ademco Inc. 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 Ademco 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 Ademco SiX™ RF protocol to send alert messages to the Ademco 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 for diversity, each having a gain of 2dBi.

Worse-Case Configuration & Mode

Radiated emissions was performed with the EUT set to transmit at the low/mid/high channels 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-673	Non-serialized production unit	02/23/19
MEL-674	Non-serialized production unit	02/23/19
MEL-675	Non-serialized production unit	02/23/19

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:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

[i.e.] $37 \text{ dBuV/m} = 30 \text{ dBuV} + 18.5 \text{ dB/m} + 0.5 \text{ dB} - 12 \text{ dB}$

- 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 (Intentional)	PASS

Test & Measurement Equipment

The following test and measurement equipment was utilized for the tests documented in this report:

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
RF Lab (RF Conducted & Power Tests)						
Spectrum Analyzer	11531	MY41000078	Agilent	E4440A	06/06/17	06/06/19
EMI Receiver	11566	102484	Rohde & Schwarz	ESR3	09/19/28	09/19/19
Attenuator	-	1624	Pasternack	PE7087-6	*	*
RF Chamber						
Spectrum Analyzer	11531	MY41000078	Agilent	E4440A	06/06/17	06/06/19
Loop Antenna (9kHz-30MHz)	11535	121080	Com-Power	AL-130R	10/29/18	10/29/19
Bilog Antenna (30MHz-5GHz)	11311	A022406	Sunol	JB5	02/13/19	02/13/21
Horn Antenna (1-18GHz)	2319	2317	EMCO	3115	01/08/19	01/08/21
Horn Antenna (18-40GHz)	11472	151	EMCO	EM-6963	02/22/19	02/22/21
Preamp (10-4200MHz)	11537	1603006	Mini Circuits	TVA-11-422	*	*
Preamp (500MHz-18GHz)	11557	18040034	Com-Power	PAM-118A	*	*
Preamp (18-40GHz)	11541	160911	Amplical	AMP18G40-35	*	*
Band Reject Filter	11553	G041	Micro-tronics	BRM50702-01	*	*
RF Cable	-	-	Mini-Circuits	RDE#2	*	*
RF Cable	-	-	Insulated Wire	SMA#8	*	*
OATS						
Spectrum Analyzer	11496	100303	Rohde & Schwarz	FSU26	04/11/18	04/11/19
Bilog Antenna (30MHz-6GHz)	11534	A012816	Sunol	JB6	03/27/18	03/27/19
Horn Antenna (1-18GHz)	2973	3127	EMCO	RGA-60	01/31/19	01/31/21
Horn Antenna (18-40GHz)	11472	151	EMCO	EM-6963	02/22/19	02/22/21
Preamp (100kHz-1.3GHz)	11540	2443AUF555	HP	8447D	*	*
Preamp (1-18GHz)	11539	160362	Amplical	AMP1G18-35	*	*
Preamp (18-40GHz)	11541	160911	Amplical	AMP18G40-35	*	*

High Pass Filter	11552	G018	Micro-tronics	HPM50111-01	*	*
RF Cable	-	-	Pasternack	RDE#1	*	*
RF Cable	-	-	MegaPhase	EMC2-S1S1-360	*	*
Misc.						
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

*-Passive devices & Preamps are characterized in-house, not calibrated.

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

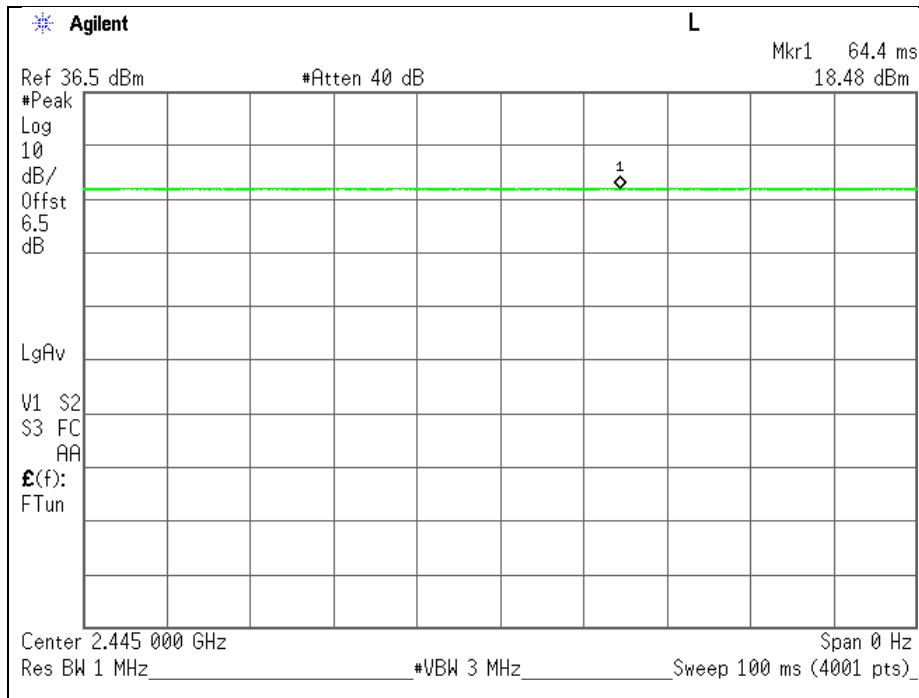
Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	03/05/18	22.4	8.8	1010	P

Test Results

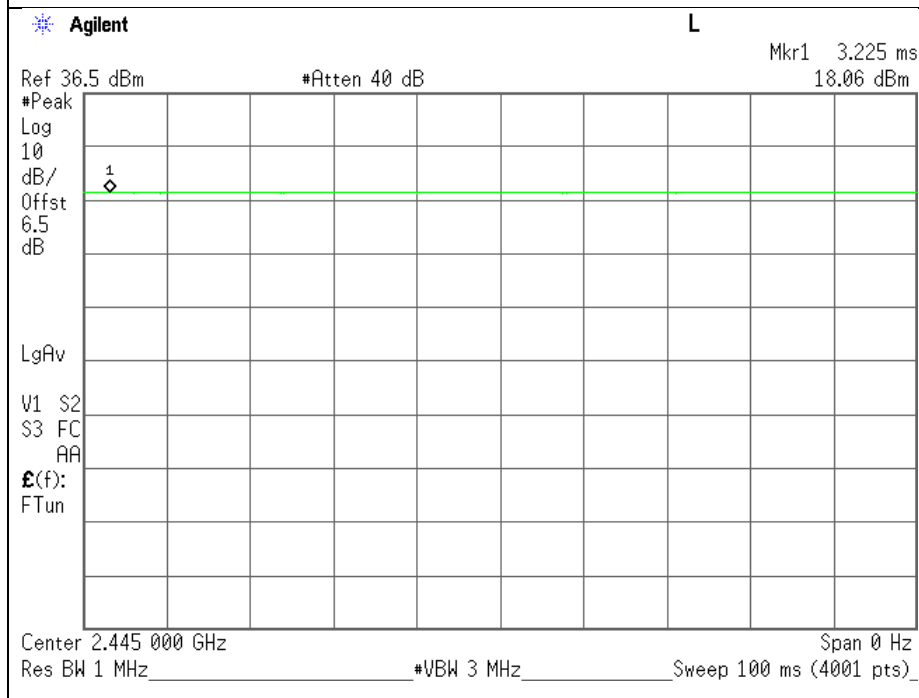
Antenna	On Time (usec)	Period (usec)	Duty Cycle	Duty Cycle (%)
1	64.4	64.4	1	100
2	3.225	3.225	1	100

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



Antenna 1



Antenna 2

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 v05.

Test Criteria

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

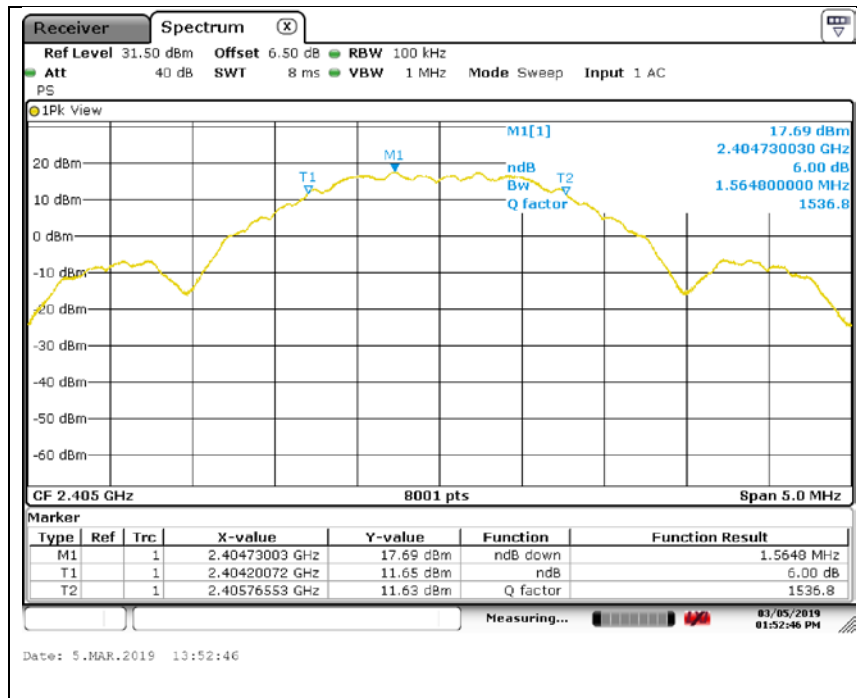
Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	03/05/18	22.4	8.8	1010	P

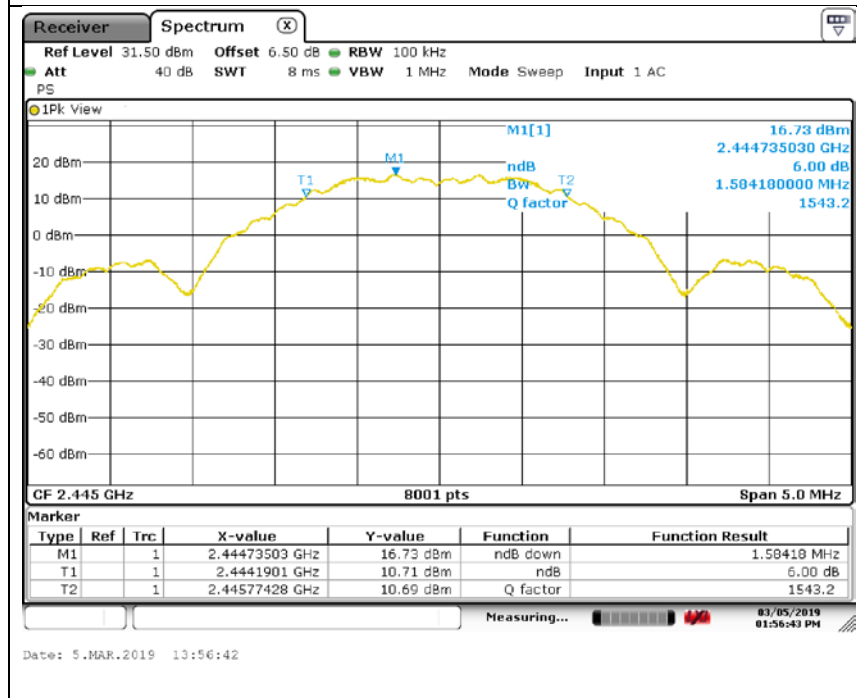
Test Results

Channel	Frequency (GHz)	6dB Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2405	1.565	1.569
Mid	2445	1.584	1.587
High	2475	1.597	1.590

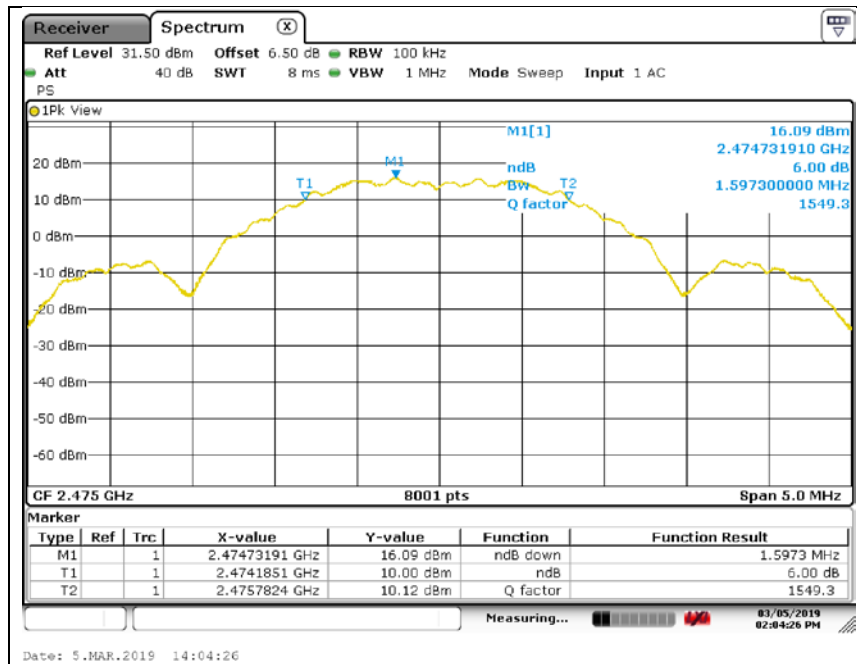
6dB Bandwidth



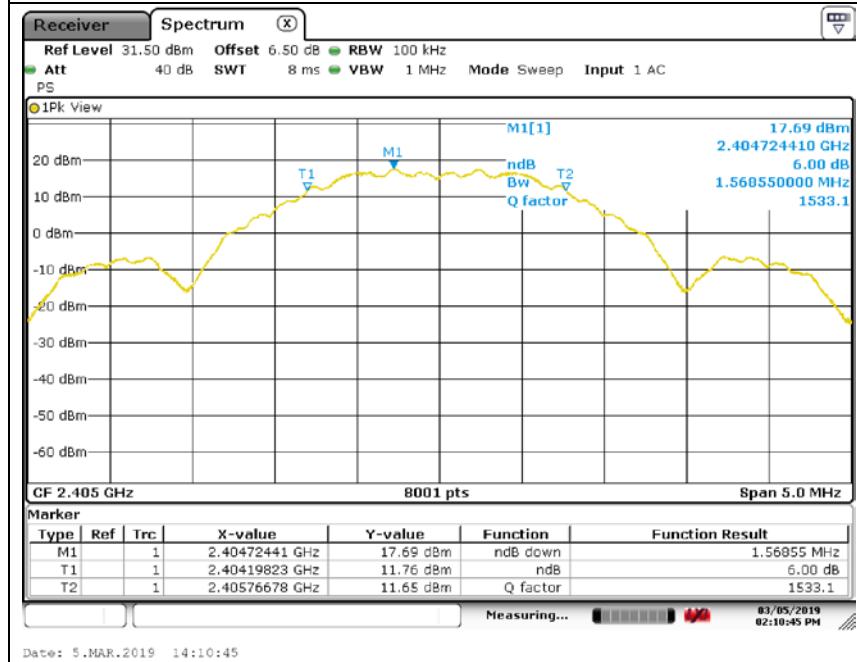
Antenna 1 – Low Channel



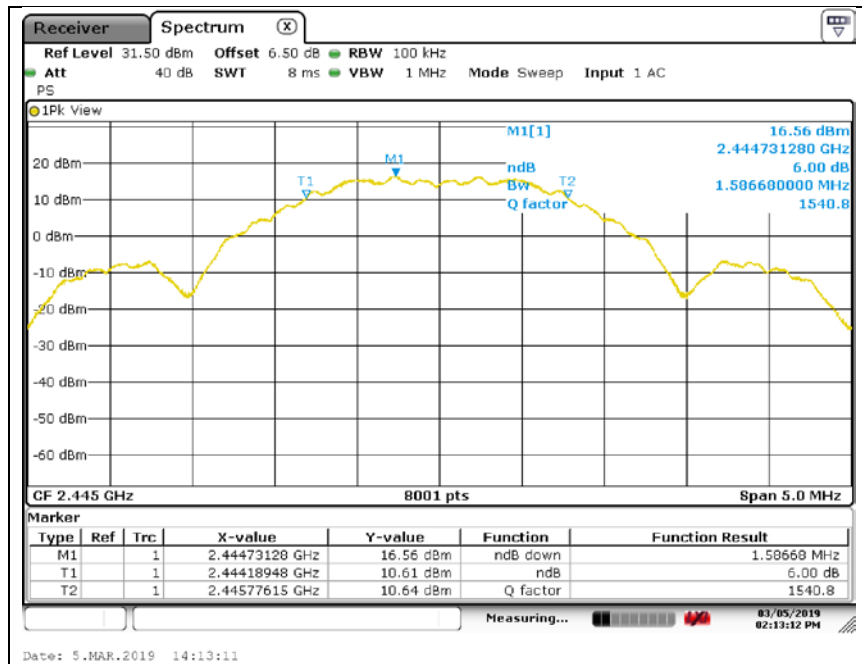
Antenna 1 – Mid Channel



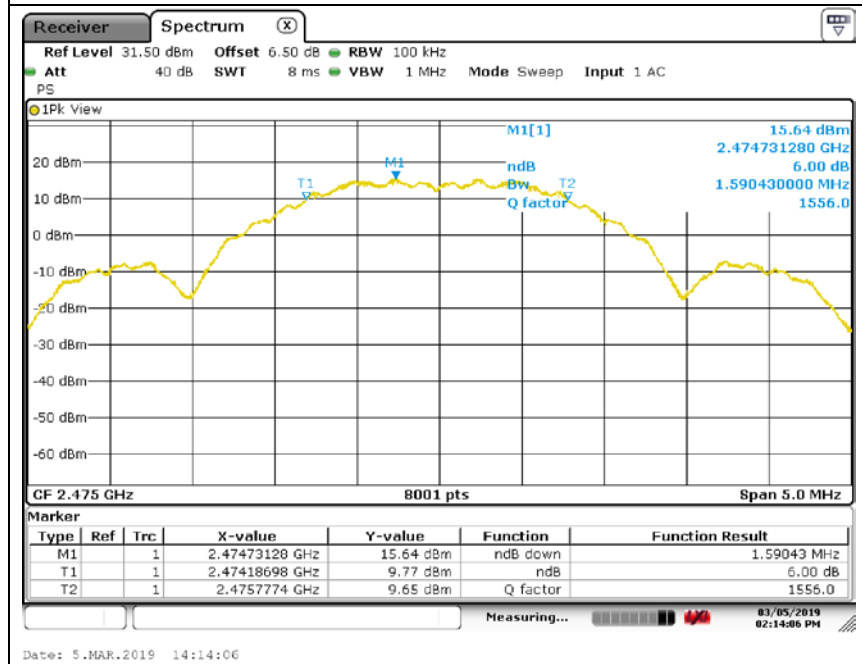
Antenna 1 – High Channel



Antenna 2 – Low Channel



Antenna 2 – Mid Channel



Antenna 2 – High Channel

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 6.7	N/A

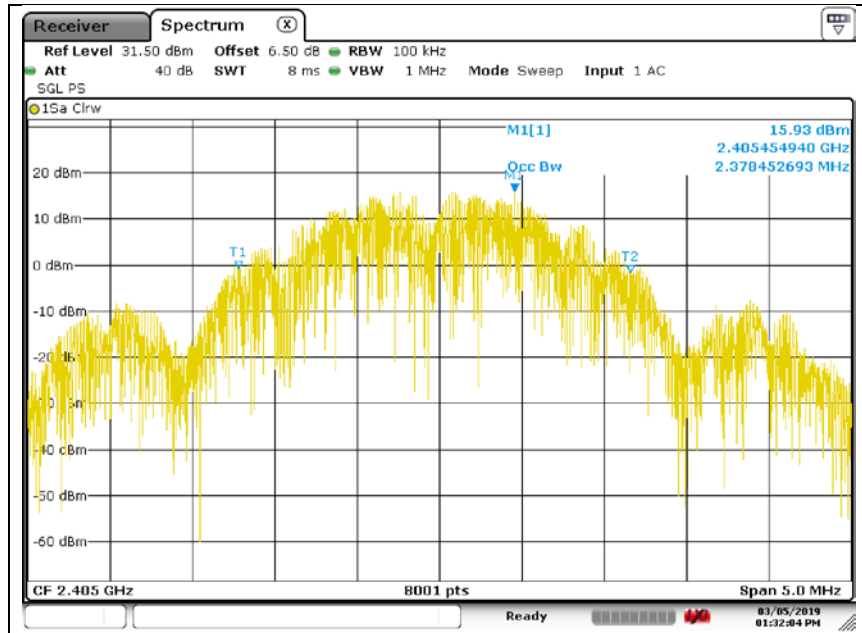
Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	03/05/18	22.4	8.8	1010	P

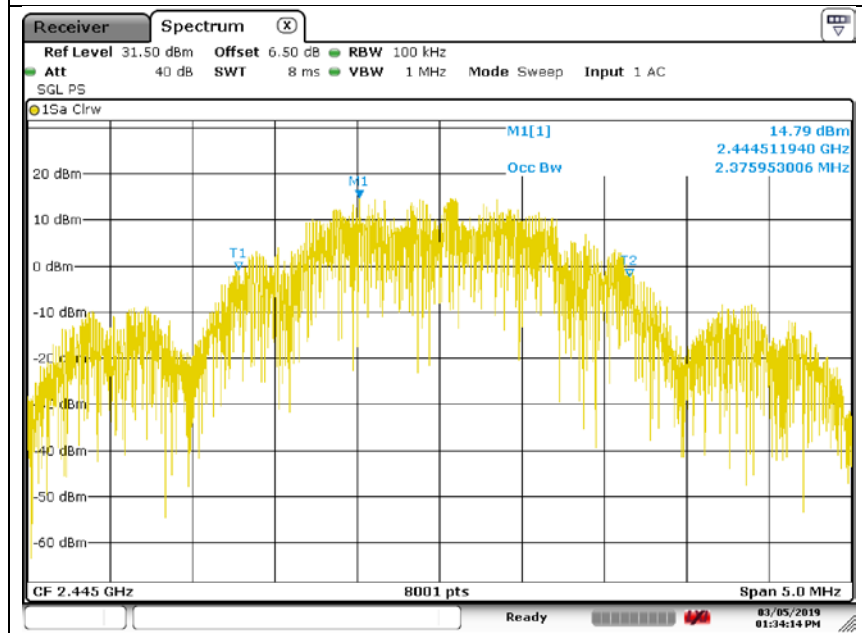
Test Results

Channel	Frequency (GHz)	99% Bandwidth (in MHz)	
		Antenna 1	Antenna 2
Low	2405	2.378	2.136
Mid	2445	2.376	2.296
High	2475	2.300	2.261

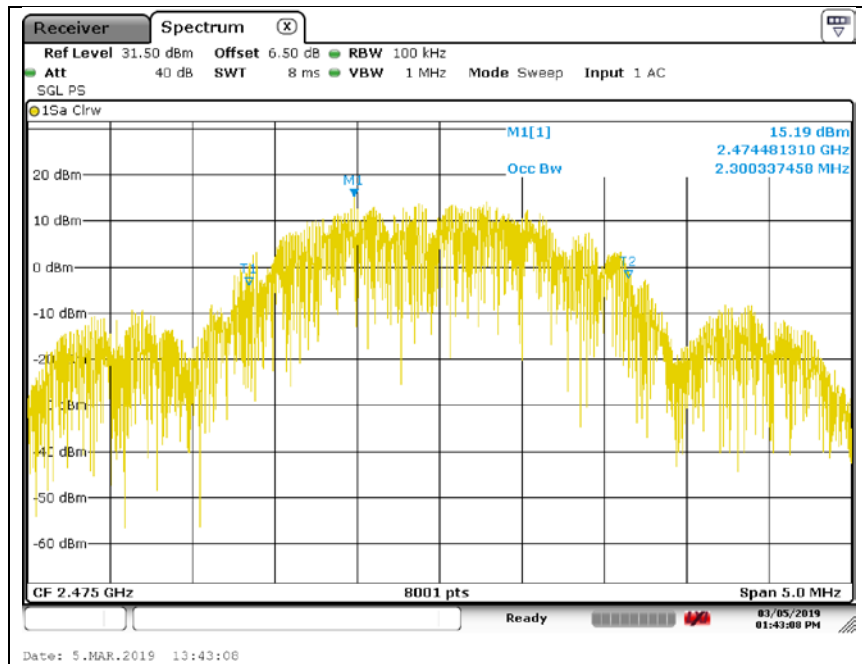
99% Bandwidth



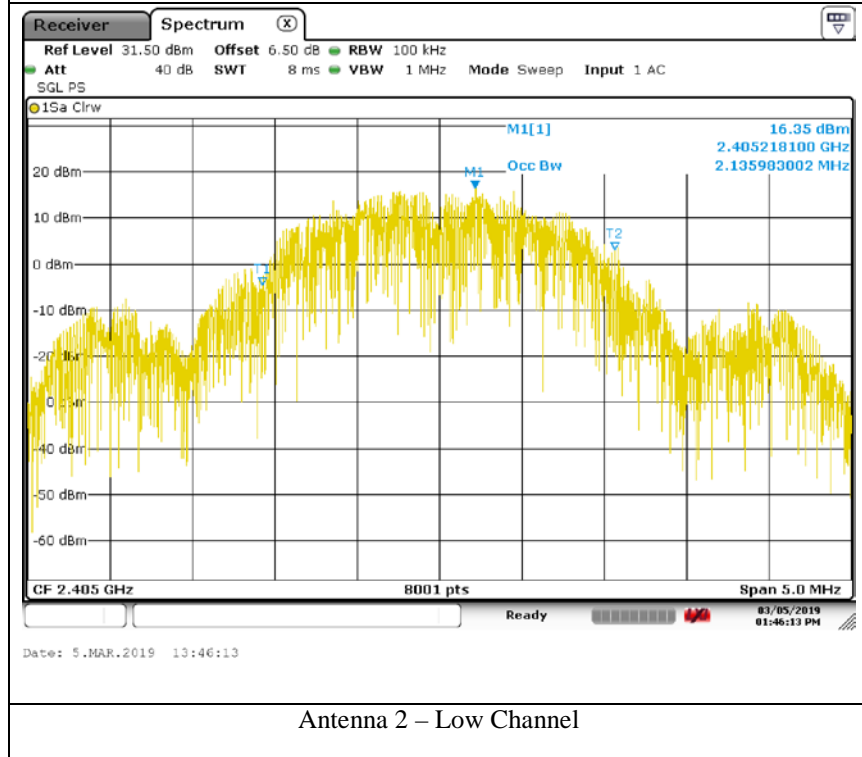
Antenna 1 – Low Channel



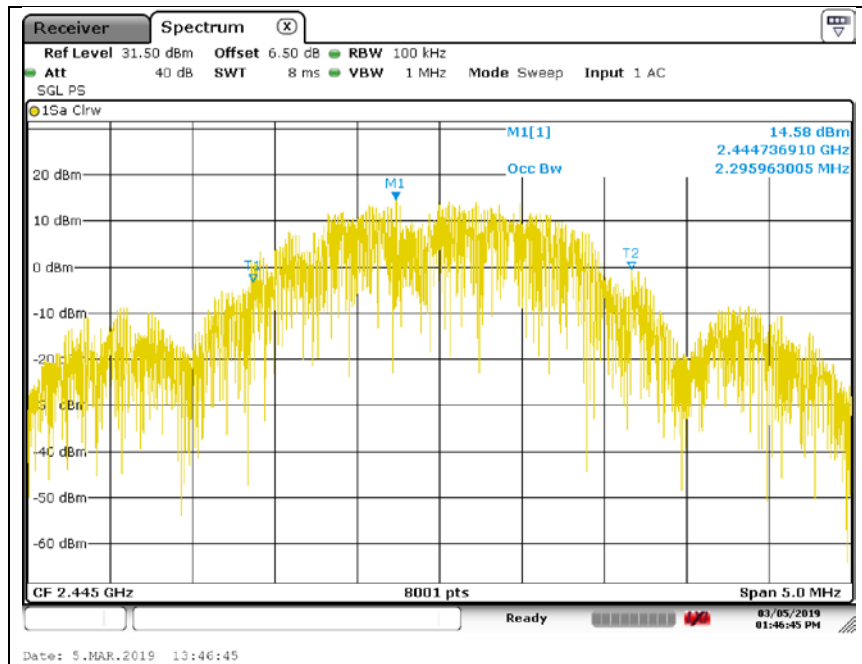
Antenna 1 – Mid Channel



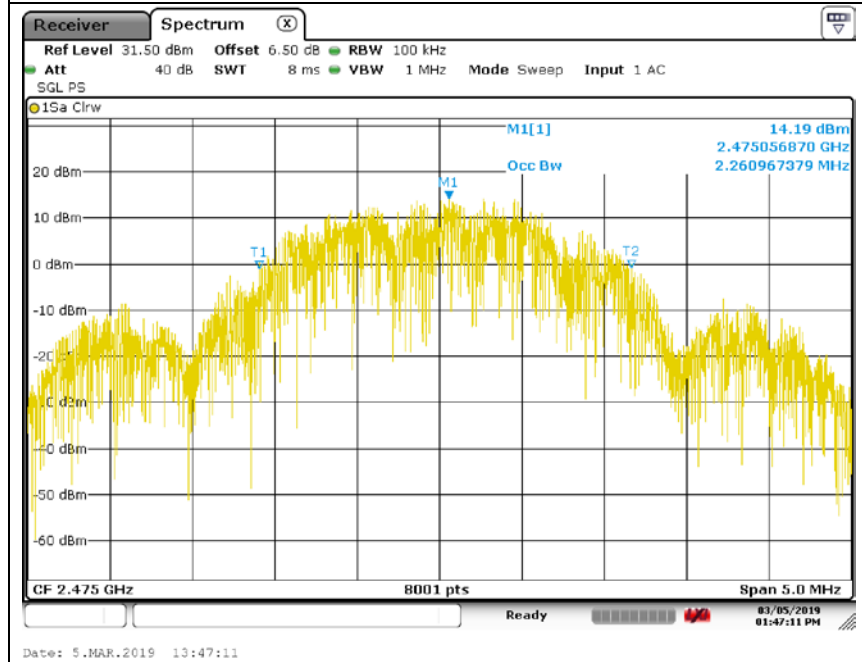
Antenna 1 – High Channel



Antenna 2 – Low Channel



Antenna 2 – Mid Channel



Antenna 2 – High Channel

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)

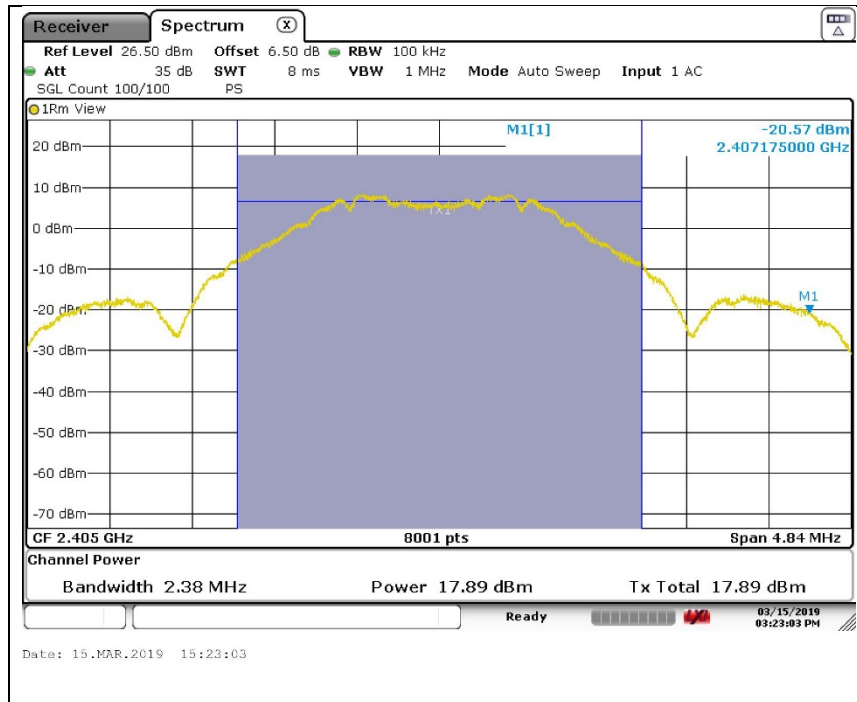
Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
MA	RF Lab	03/15/18	22.4	8.8	1010	P

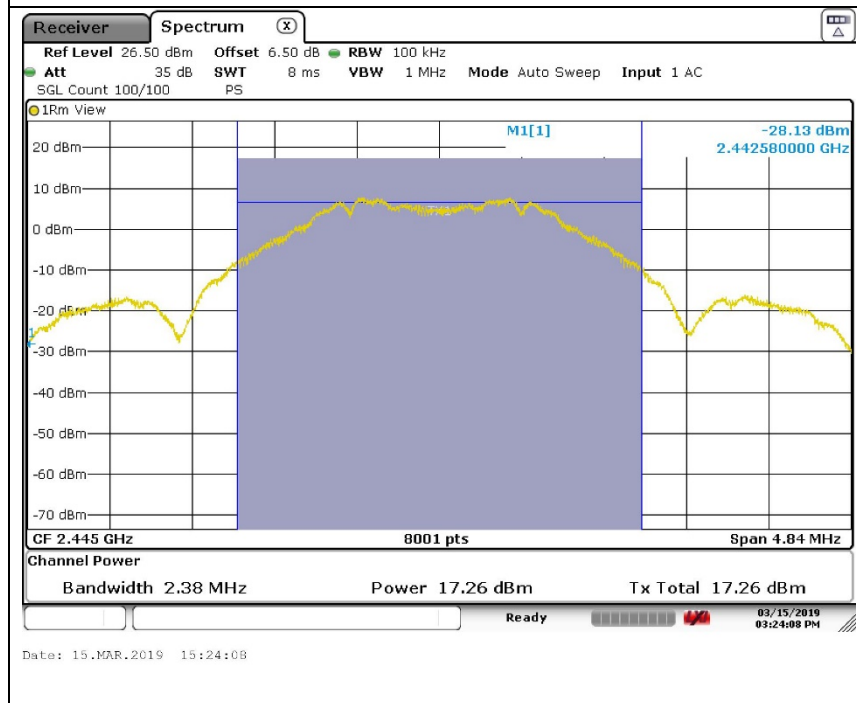
Test Results

Channel	Frequency (GHz)	Tx Channel BW Power (dBm)	
		Antenna 1	Antenna 2
Low	2405	17.89	17.86
Mid	2445	17.26	17.06
High	2475	16.78	16.36

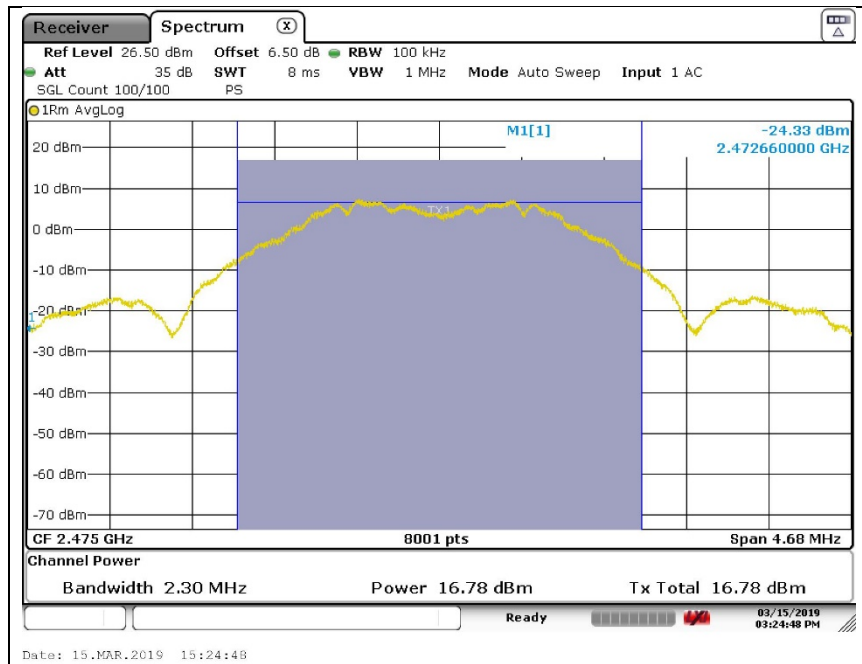
Output Power



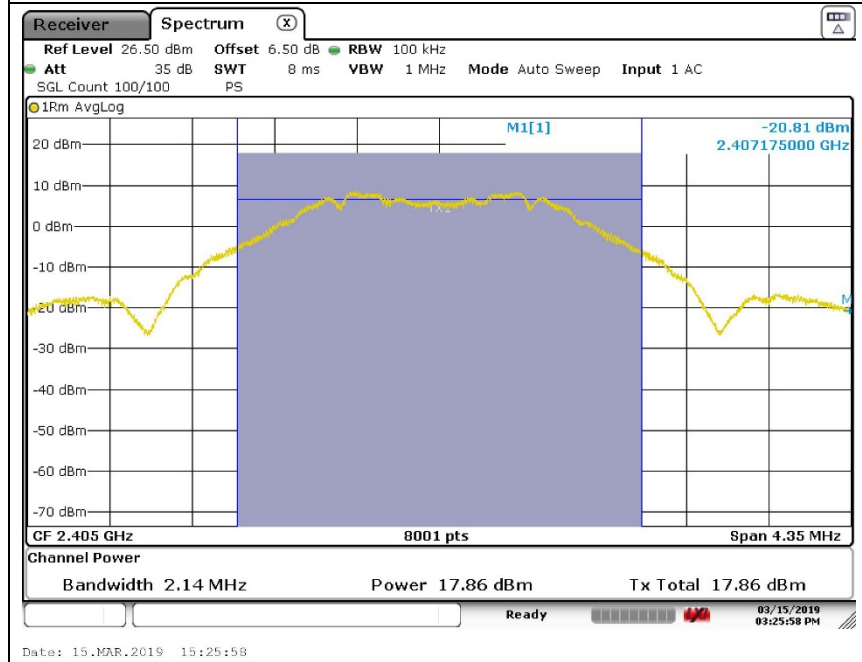
Antenna 1 – Low Channel



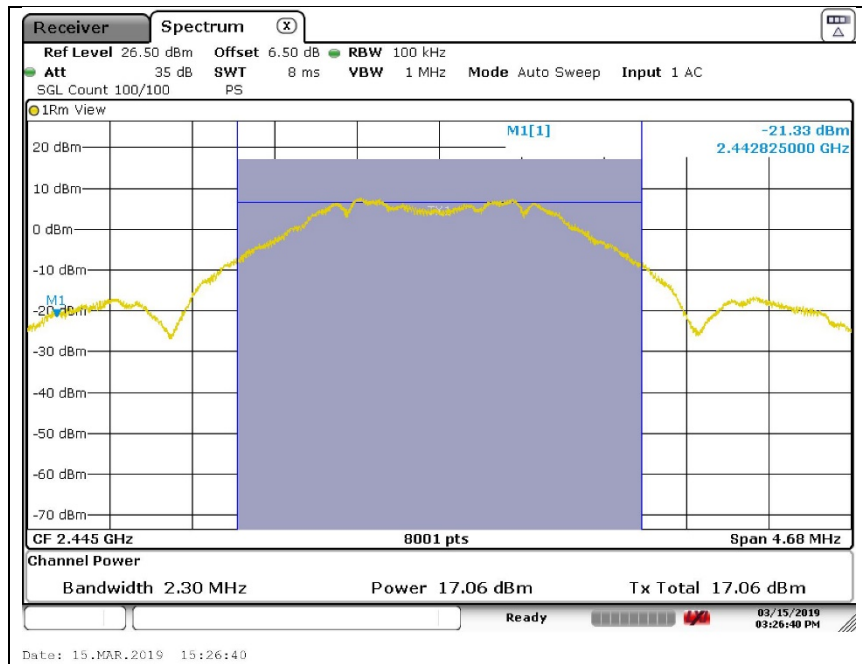
Antenna 1 – Mid Channel



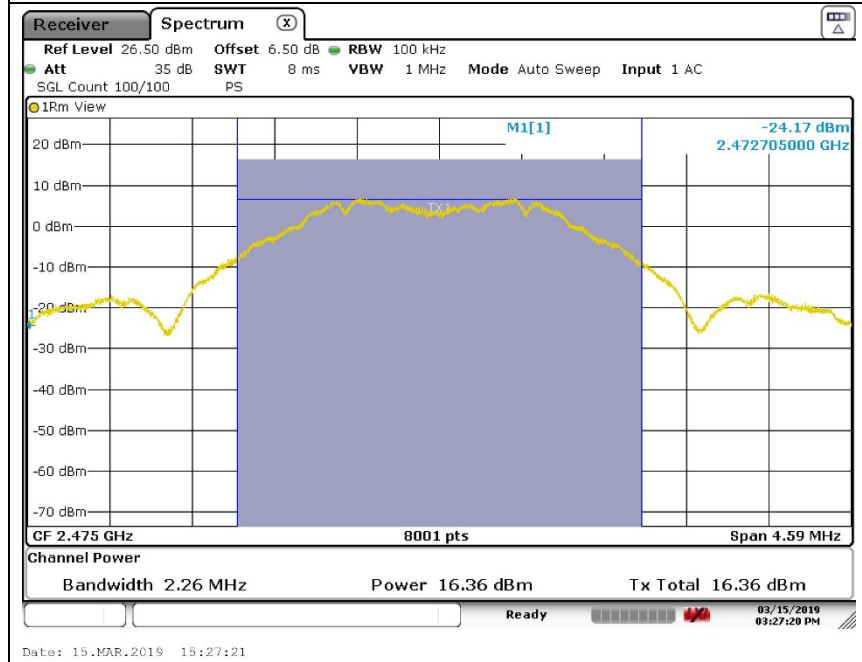
Antenna 1 – High Channel



Antenna 2 – Low Channel



Antenna 2 – Mid Channel



Antenna 2 – High Channel

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 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

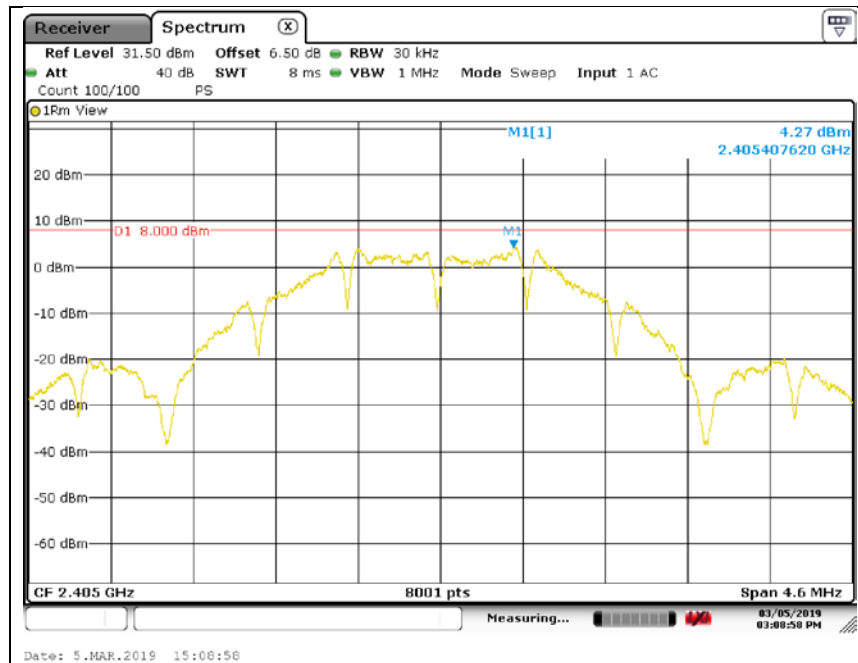
Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	03/05/18	22.4	8.8	1010	P

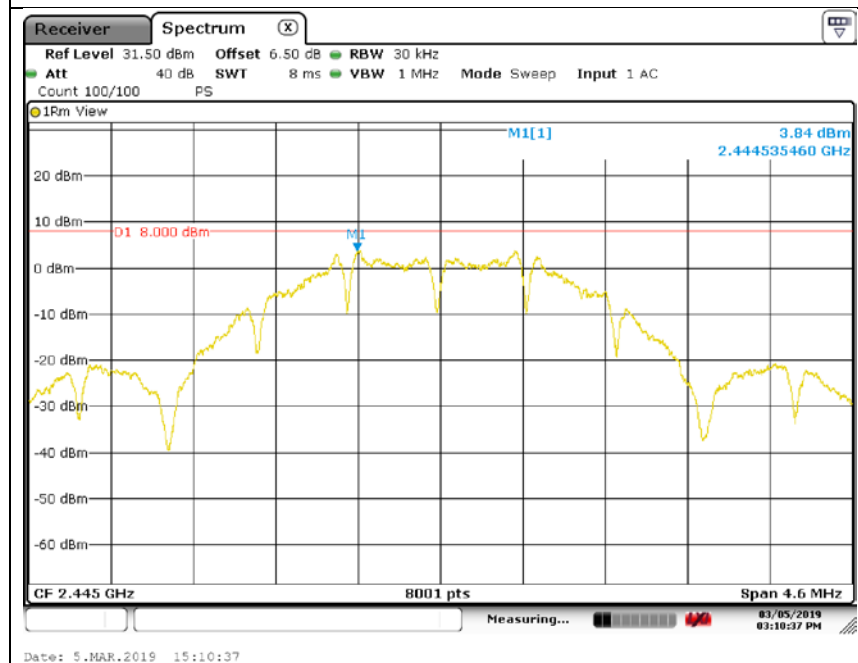
Test Results

Channel	Frequency (GHz)	Max PSD (dBm)	
		Antenna 1	Antenna 2
Low	2405	4.27	4.88
Mid	2445	3.84	3.99
High	2475	3.00	3.21

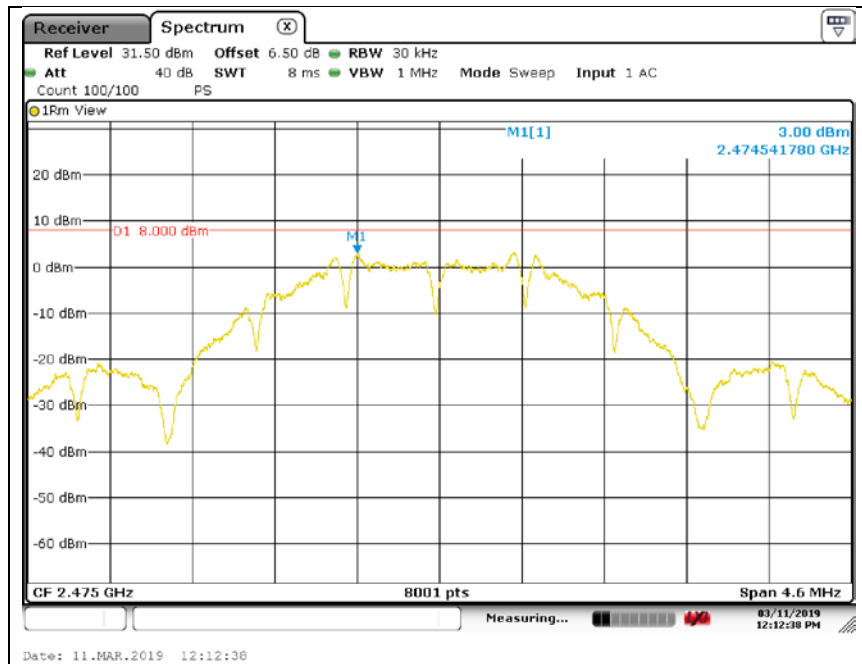
PSD



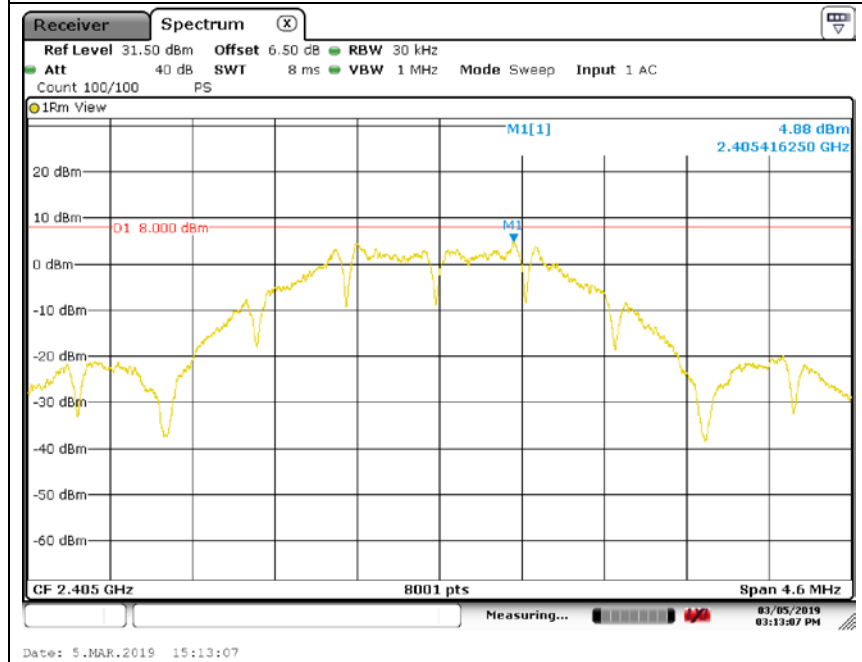
Antenna 1 – Low Channel



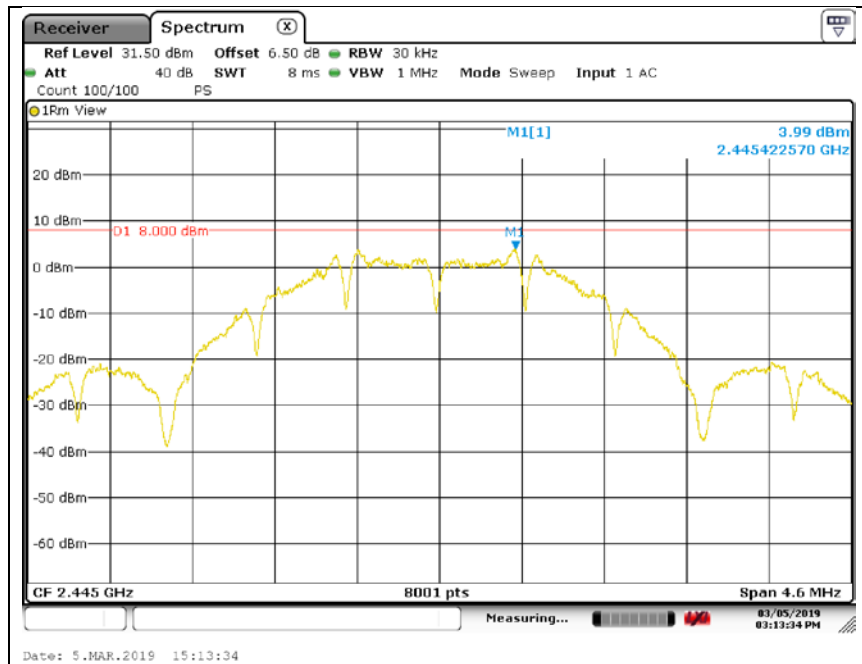
Antenna 1 – Mid Channel



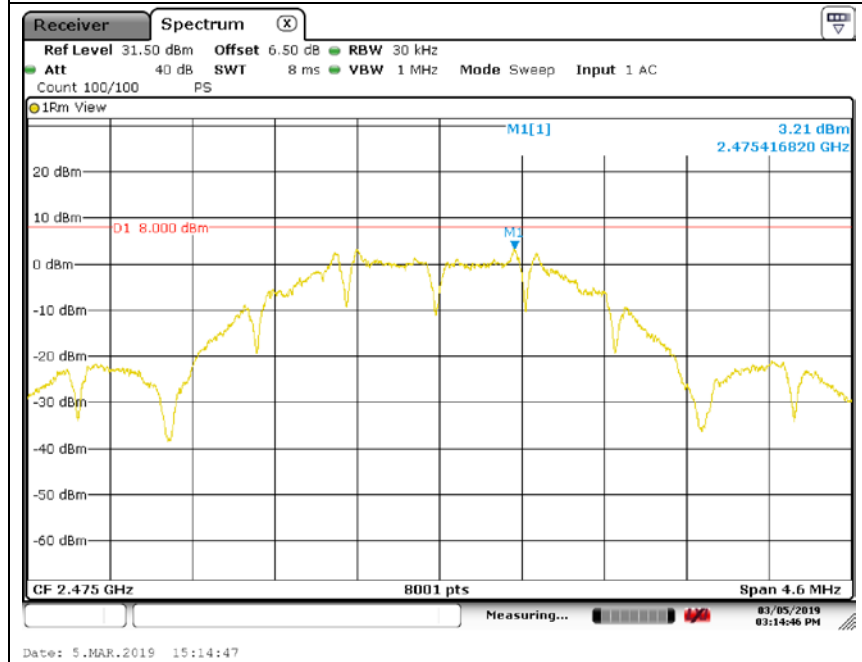
Antenna 1 – High Channel



Antenna 2 – Low Channel



Antenna 2 – Mid Channel



Antenna 2 – High Channel

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

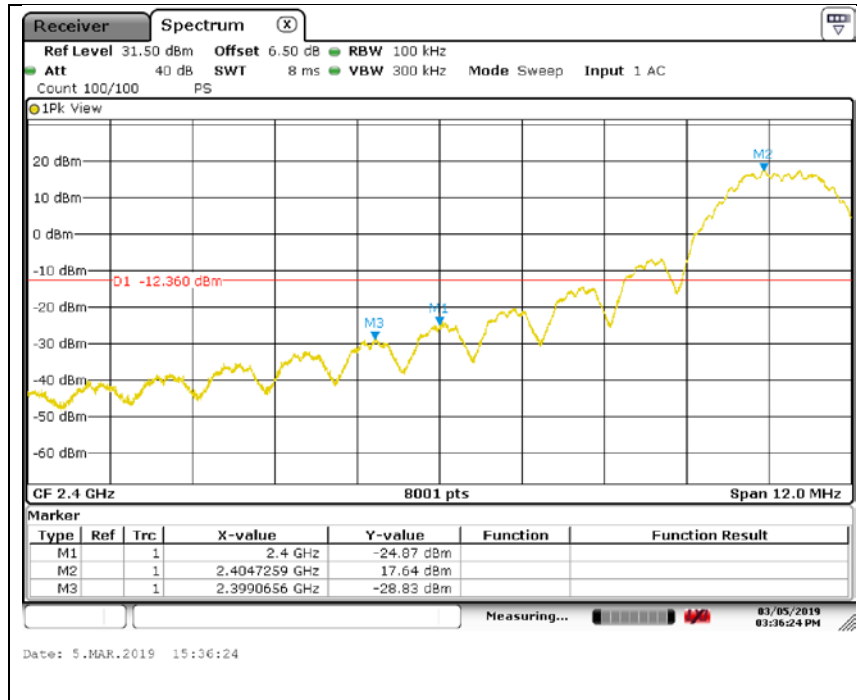
Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	03/05/18, 03/12/19	22.4	8.8	1010	P

Test Results

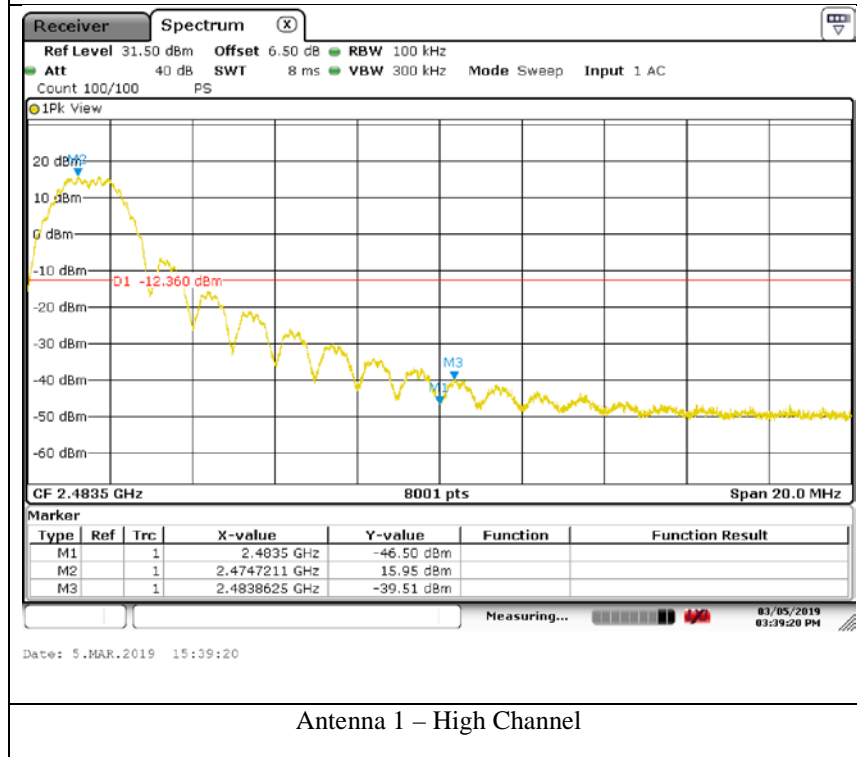
Antenna	Channel	Authorized Band Edge			Margin (dB)
		Frequency (GHz)	Delta at the Band edge (dB)	Limit (dB)	
1	Low	2405	42.51	30	-12.51
	High	2475	62.45	30	-32.45
2	Low	2405	42.42	30	-12.42
	High	2475	61.08	30	-31.08

Channel	Frequency (GHz)	Conducted Spurious	
		Highest Spurious Emission Delta from the -30dB Limit (dB)	
		Antenna 1	Antenna 2
Low	2405	-45.58	-40.81
Mid	2445	-48.73	-44.85
High	2475	-49.15	-48.07

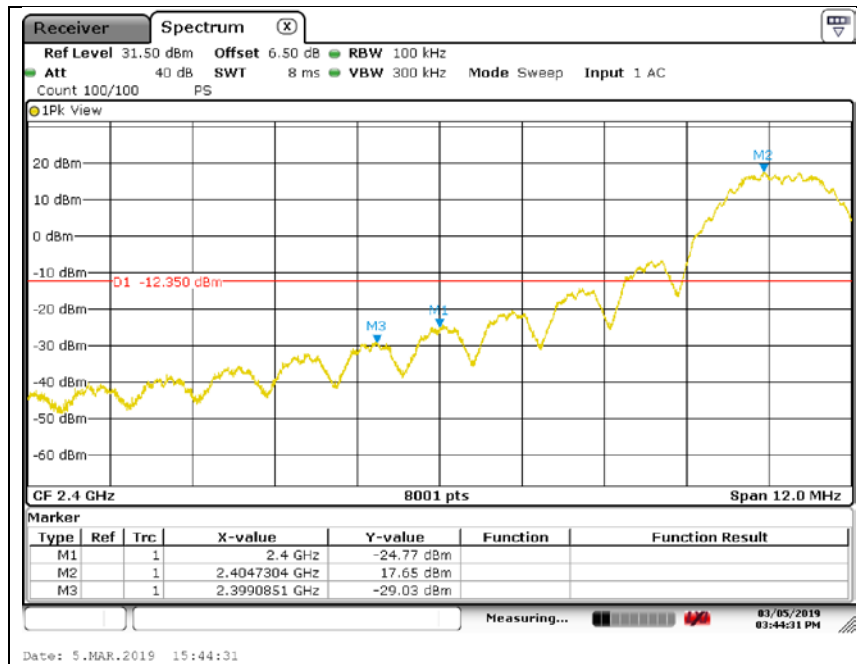
Band Edge



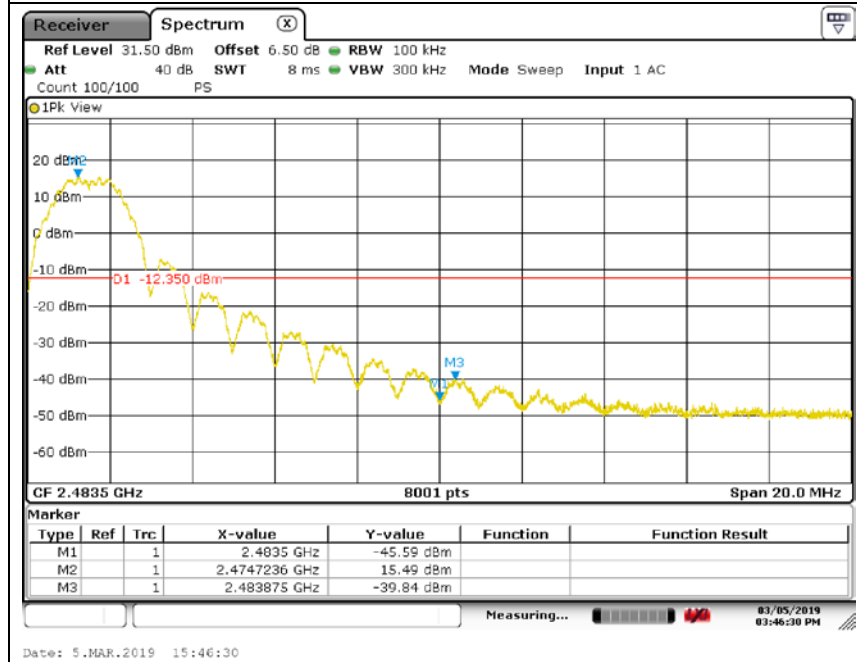
Antenna 1 – Low Channel



Antenna 1 – High Channel

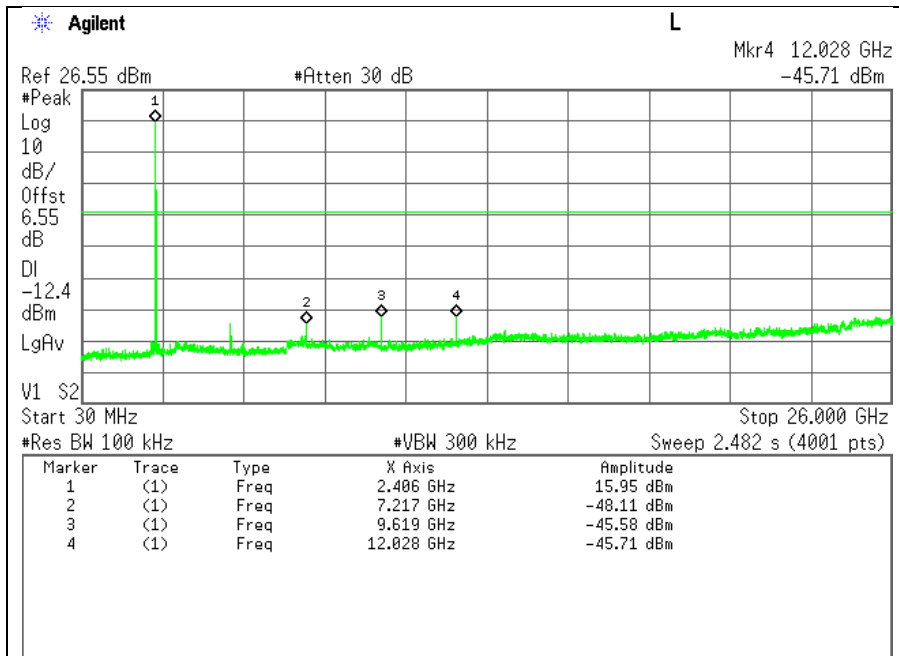


Antenna 2 – Low Channel

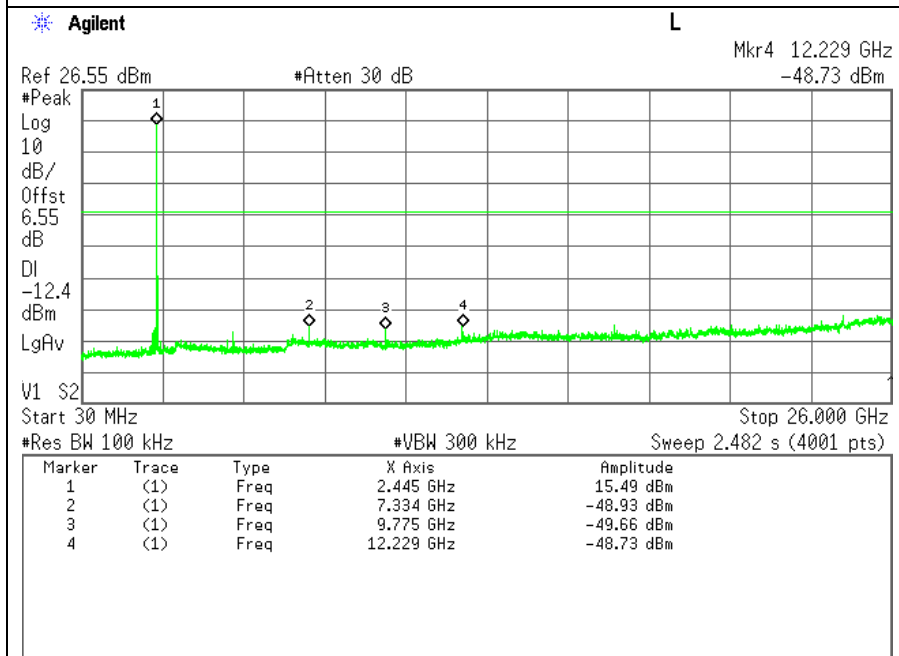


Antenna 2 – High Channel

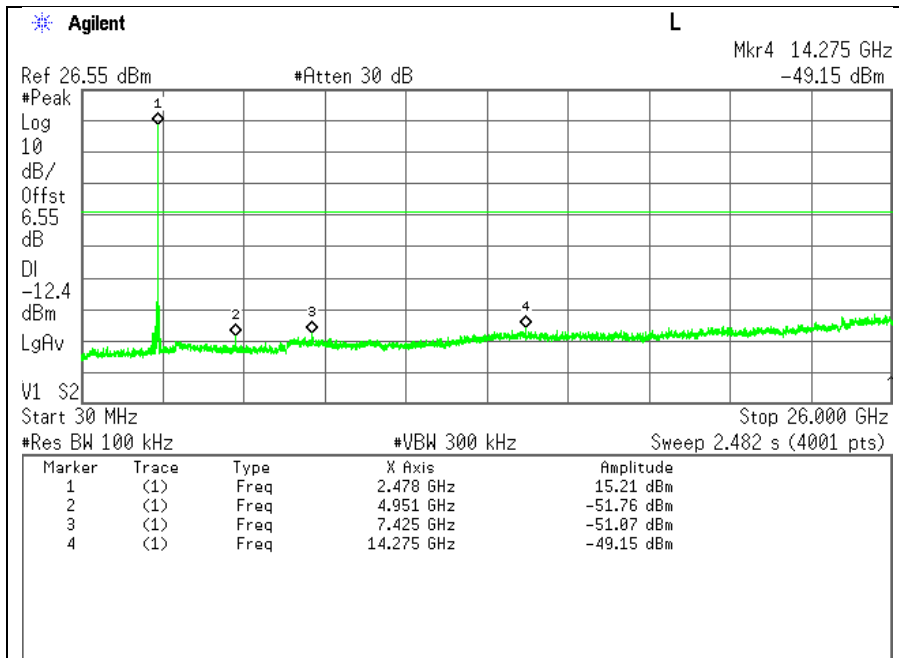
Conducted Spurious



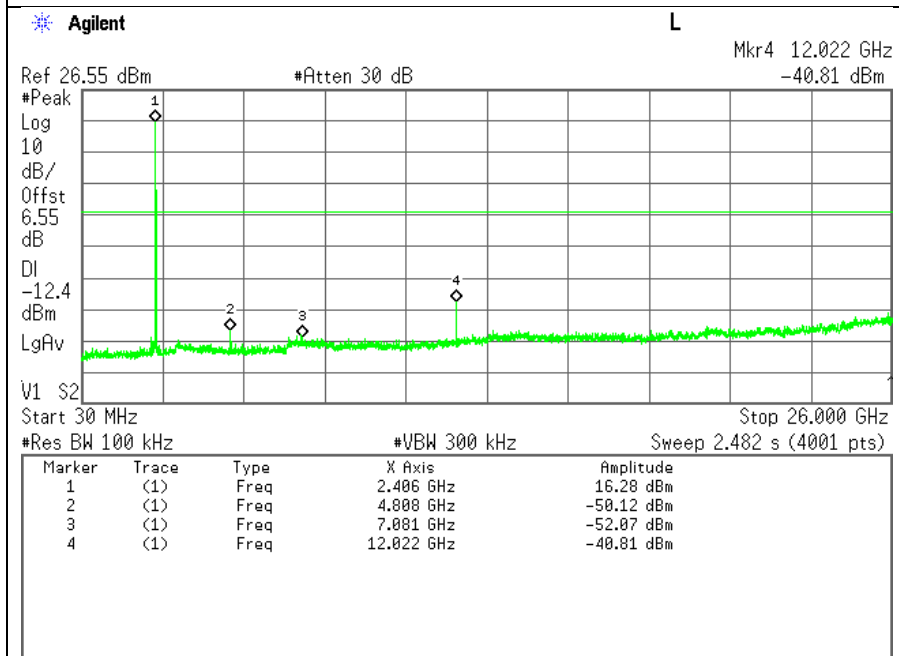
Antenna 1 – Low Channel



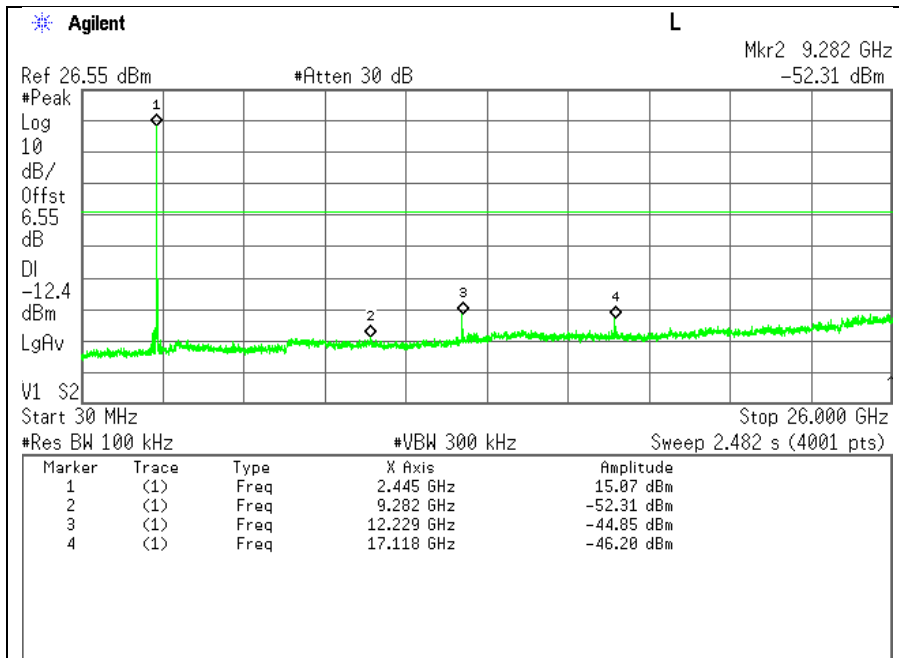
Antenna 1 – Mid Channel



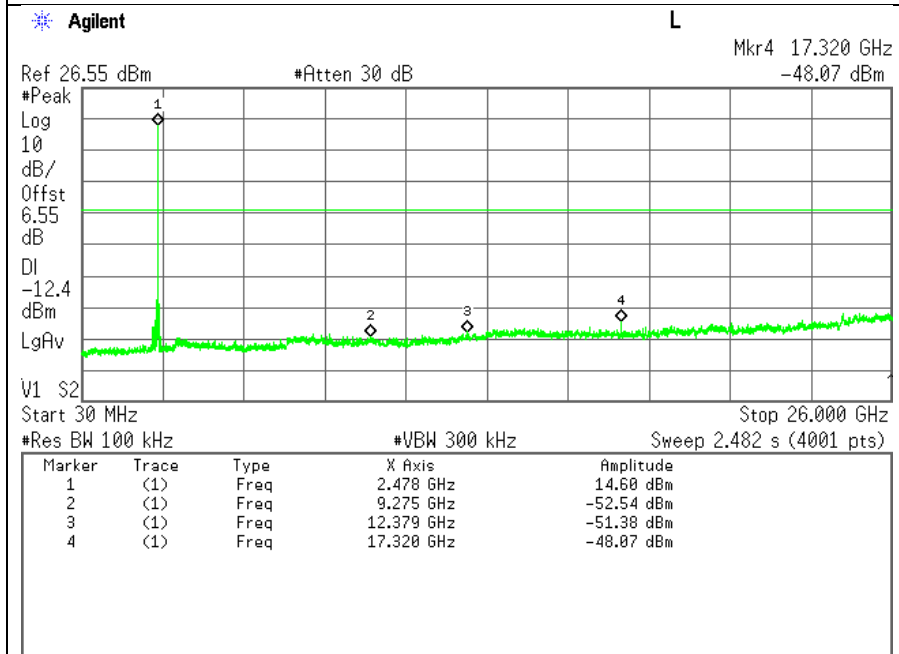
Antenna 1 – High Channel



Antenna 2 – Low Channel



Antenna 2 – Mid Channel



Antenna 2 – High Channel

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.

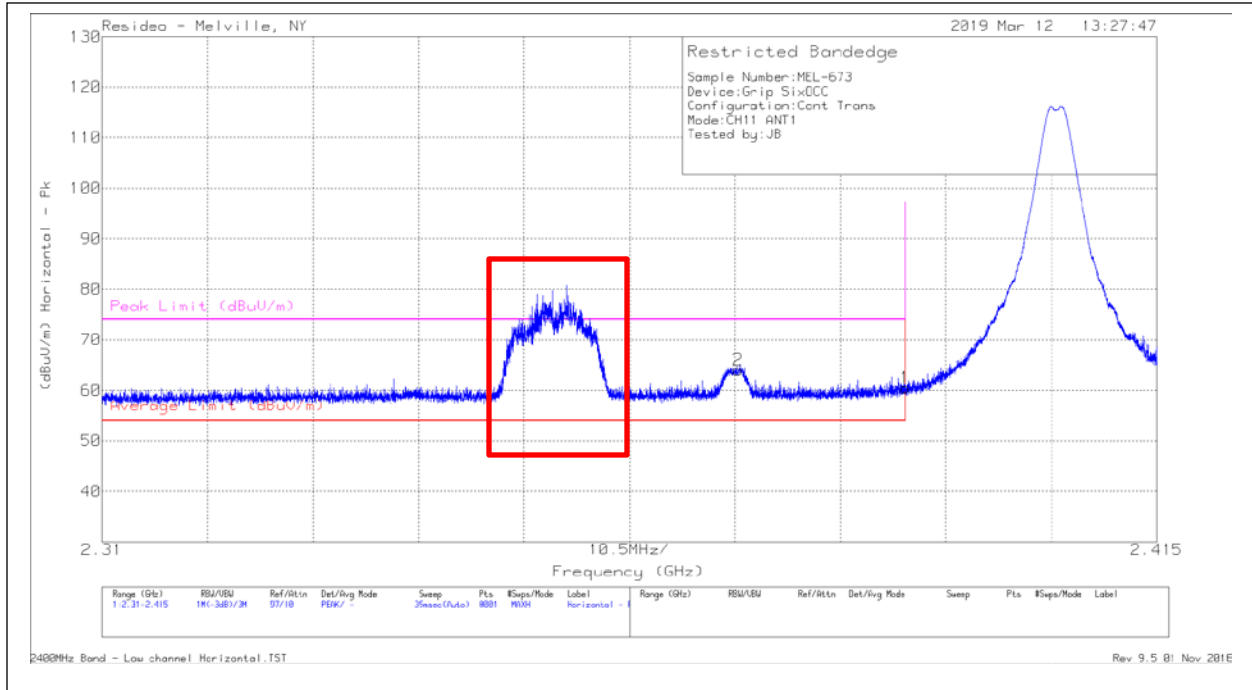
Test Information

Tester	Test Location	Date	Temperature (°C)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
AG/JB	RF Chamber/OATS	02/23/19 – 03/13/19	3.3	40	1026	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. Prescans performed in an anechoic chamber, final measurements performed on an OATS.

Test Results

Restricted Band Edge



Antenna 1: Low Channel Horizontal – Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	26.24	Pk	28.5	5.8	-	60.54	74	-13.46	344	134	H
2	* 2.373	29.84	Pk	28.4	5.8	-	64.04	74	-9.96	344	134	H
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	26.24	Av	28.5	5.8	-23.1	37.44	54	-16.56	344	134	H
2	* 2.373	29.84	Av	28.4	5.8	-23.1	40.94	54	-13.06	344	134	H

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

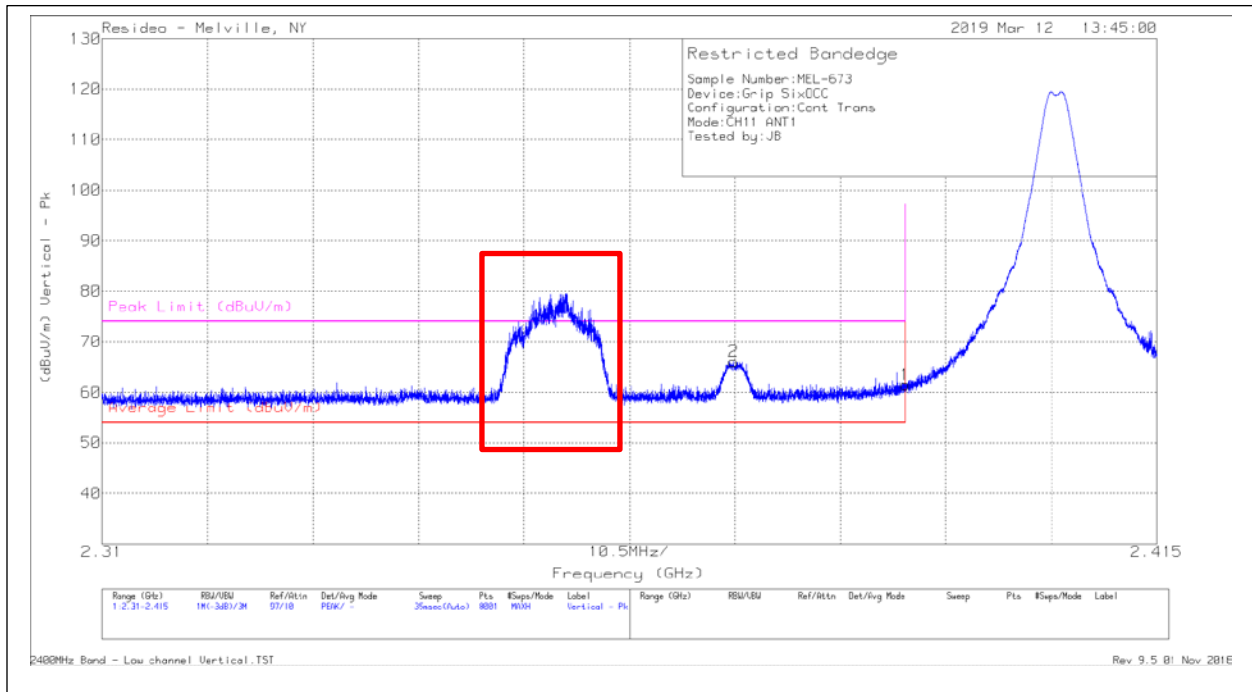
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	27.25	Pk	28.5	5.8	-	61.55	74	-12.45	274	102	V
2	* 2.373	31.84	Pk	28.4	5.8	-	66.04	74	-7.96	274	102	V
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	27.25	Av	28.5	5.8	-23.1	38.45	54	-15.55	274	102	V
2	* 2.373	31.84	Av	28.4	5.8	-23.1	42.94	54	-11.06	274	102	V

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

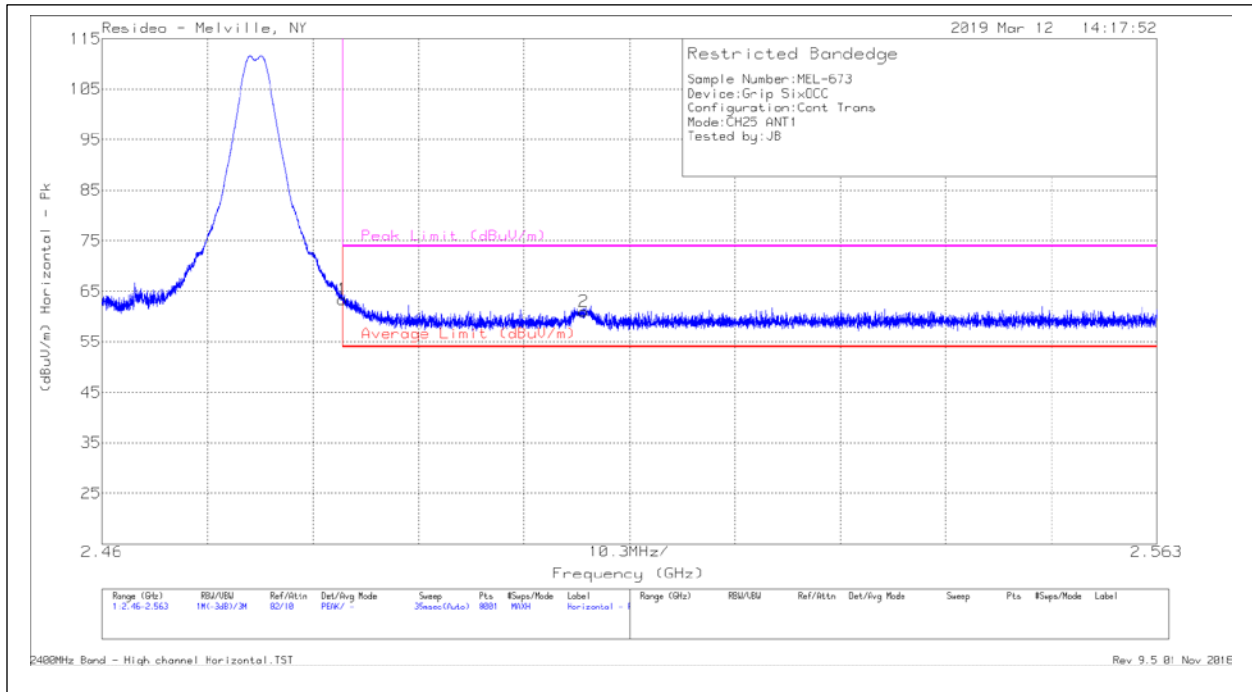
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.82	Pk	28.7	5.9	-	63.42	74	-10.58	0	209	H
2	2.507	26.19	Pk	28.8	6	-	60.99	74	-13.01	0	209	H
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.82	Av	28.7	5.9	-23.1	40.32	54	-13.68	0	209	H
2	2.507	26.19	Av	28.8	6	-23.1	37.89	54	-16.11	0	209	H

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

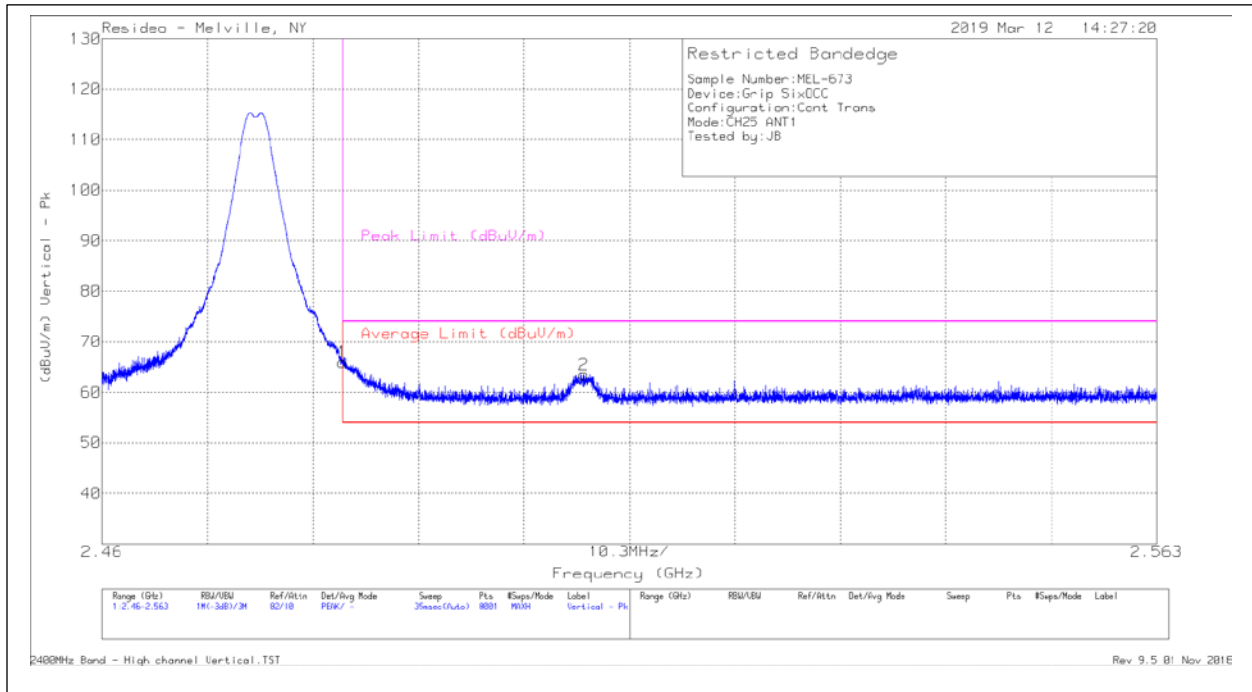
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	31.37	Pk	28.7	5.9	-	65.97	74	-8.03	92	159	V
2	2.507	28.66	Pk	28.8	6	-	63.46	74	-10.54	92	159	V
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	31.37	Av	28.7	5.9	-23.1	42.87	54	-11.13	92	159	V
2	2.507	28.66	Av	28.8	6	-23.1	40.36	54	-13.64	92	159	V

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

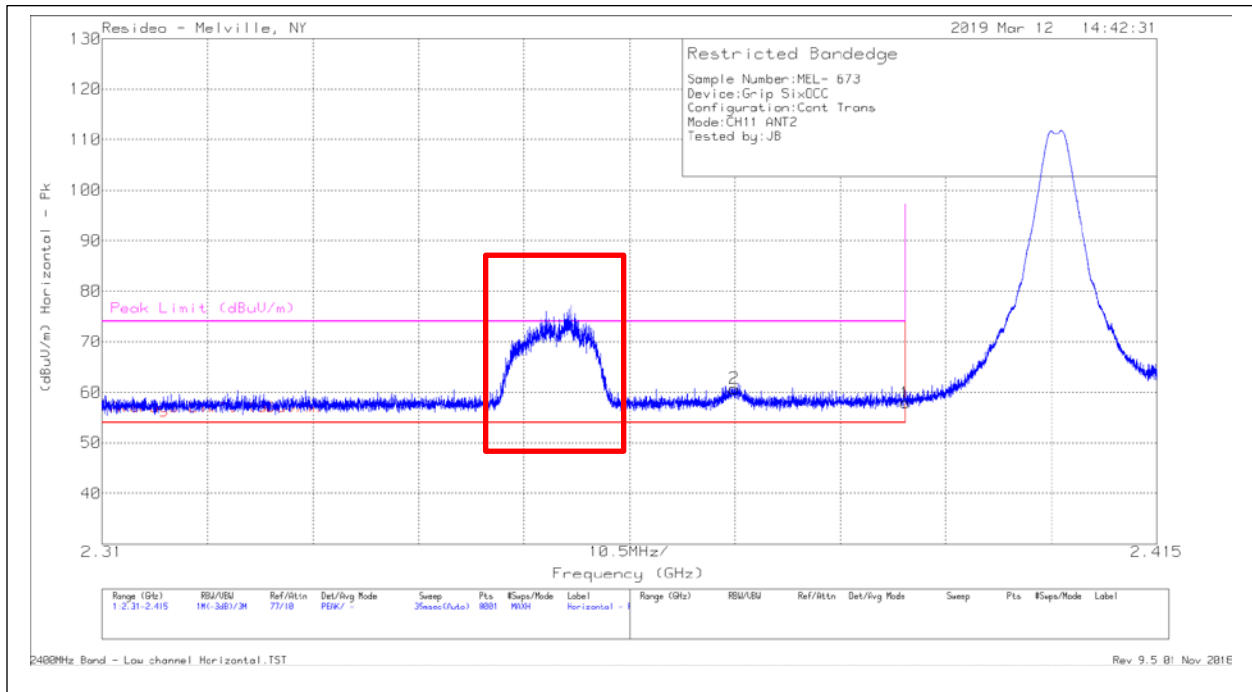
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	23.64	Pk	28.5	5.8	-	57.94	74	-16.06	43	151	H
2	* 2.373	26.58	Pk	28.4	5.8	-	60.78	74	-13.22	43	151	H
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	23.64	Av	28.5	5.8	-23.1	34.84	54	-19.16	43	151	H
2	* 2.373	26.58	Av	28.4	5.8	-23.1	37.68	54	-16.32	43	151	H

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

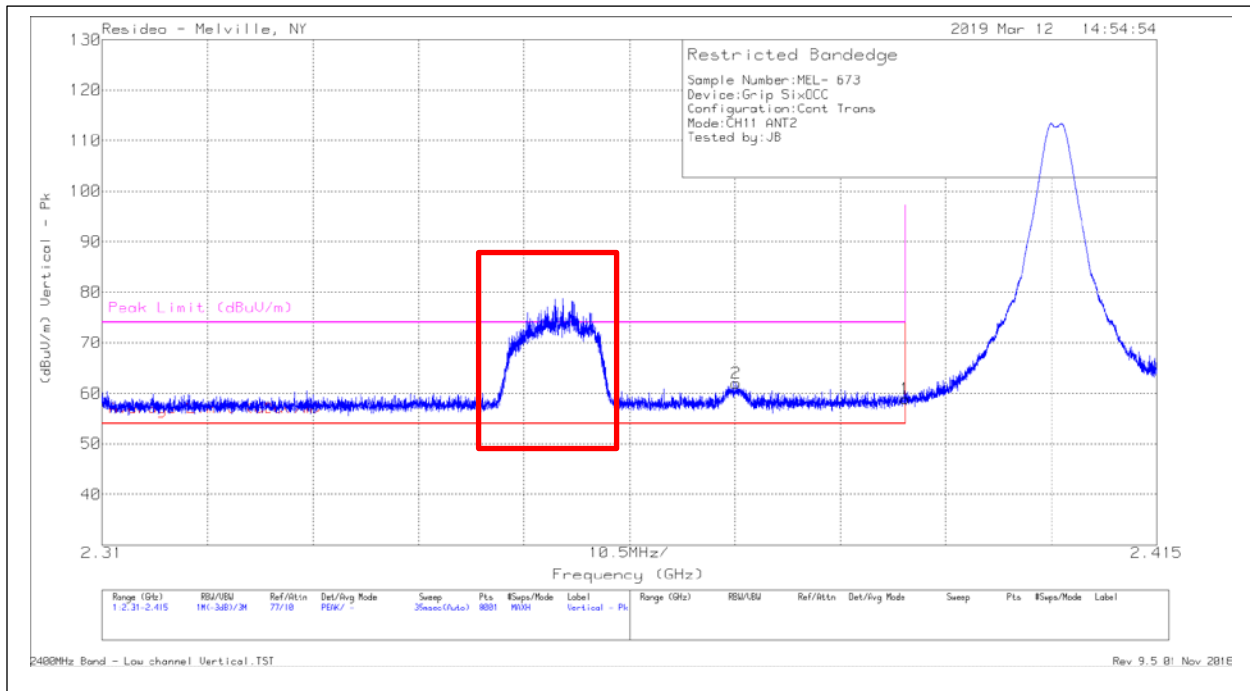
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	24.58	Pk	28.5	5.8	-	58.88	74	-15.12	317	147	V
2	* 2.373	27.83	Pk	28.4	5.8	-	62.03	74	-11.97	317	147	V
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	24.58	Av	28.5	5.8	-23.1	35.78	54	-18.22	317	147	V
2	* 2.373	27.83	Av	28.4	5.8	-23.1	38.93	54	-15.07	317	147	V

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

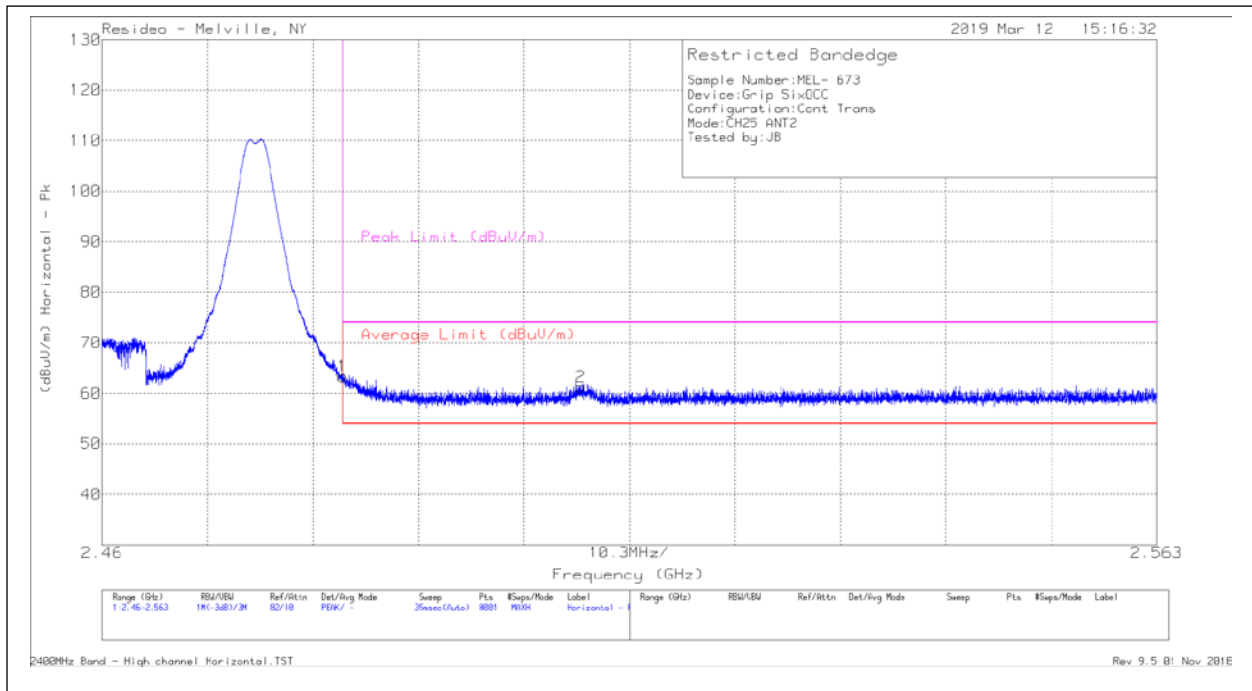
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.75	Pk	28.7	5.9	-	63.35	74	-10.65	42	122	H
2	2.507	26.43	Pk	28.8	6	-	61.23	74	-12.77	42	122	H
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.75	Av	28.7	5.9	-23.1	40.25	54	-13.75	42	122	H
2	2.507	26.43	Av	28.8	6	-23.1	38.13	54	-15.87	42	122	H

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

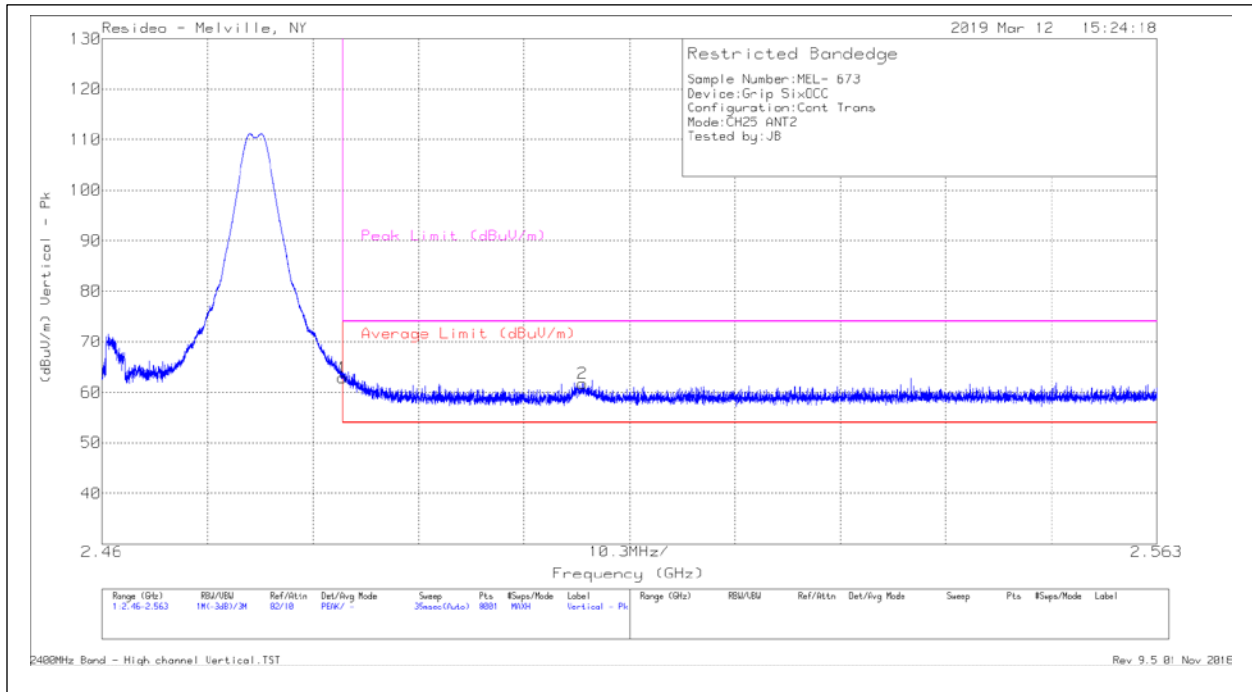
Pk - Peak detector

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

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

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]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.21	Pk	28.7	5.9	-	62.81	74	-11.19	3	119	V
2	2.507	26.97	Pk	28.8	6	-	61.77	74	-12.23	3	119	V
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	28.21	Av	28.7	5.9	-23.1	39.71	54	-14.29	3	119	V
2	2.507	26.97	Av	28.8	6	-23.1	38.67	54	-15.33	3	119	V

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

Pk - Peak detector

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

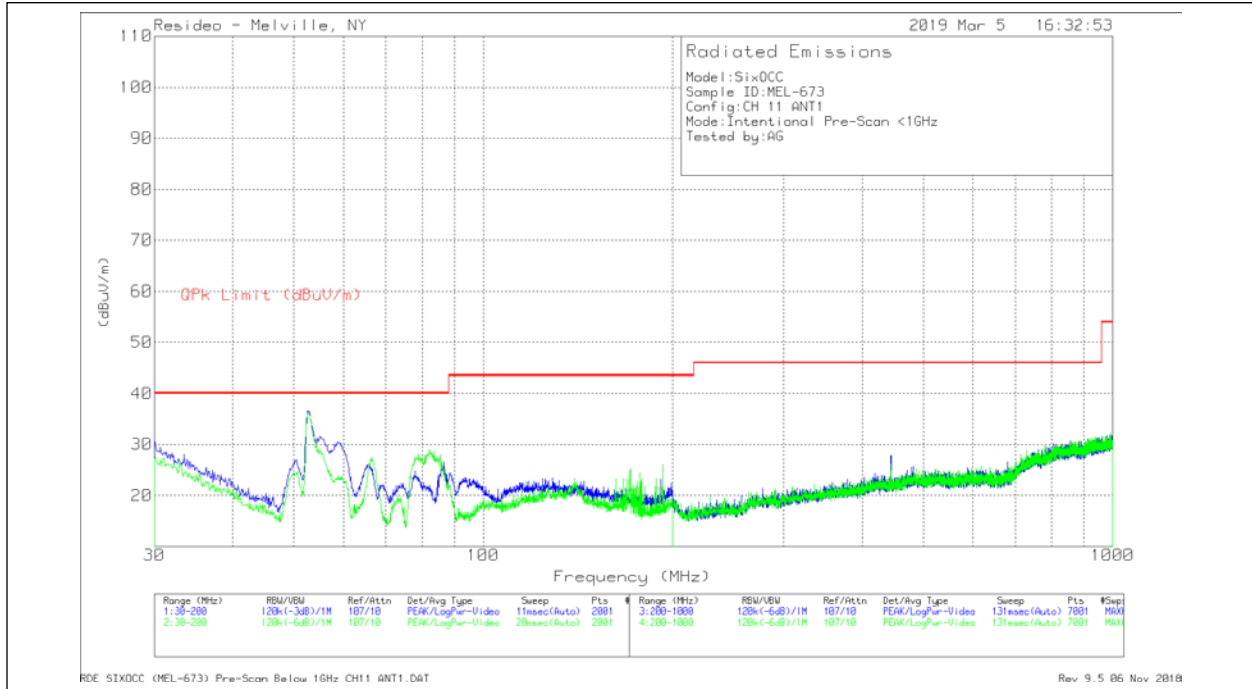
Duty Cycle = 6.976%, thus DC Corr = $20\log(0.06976) = -23.1\text{dB}$

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)

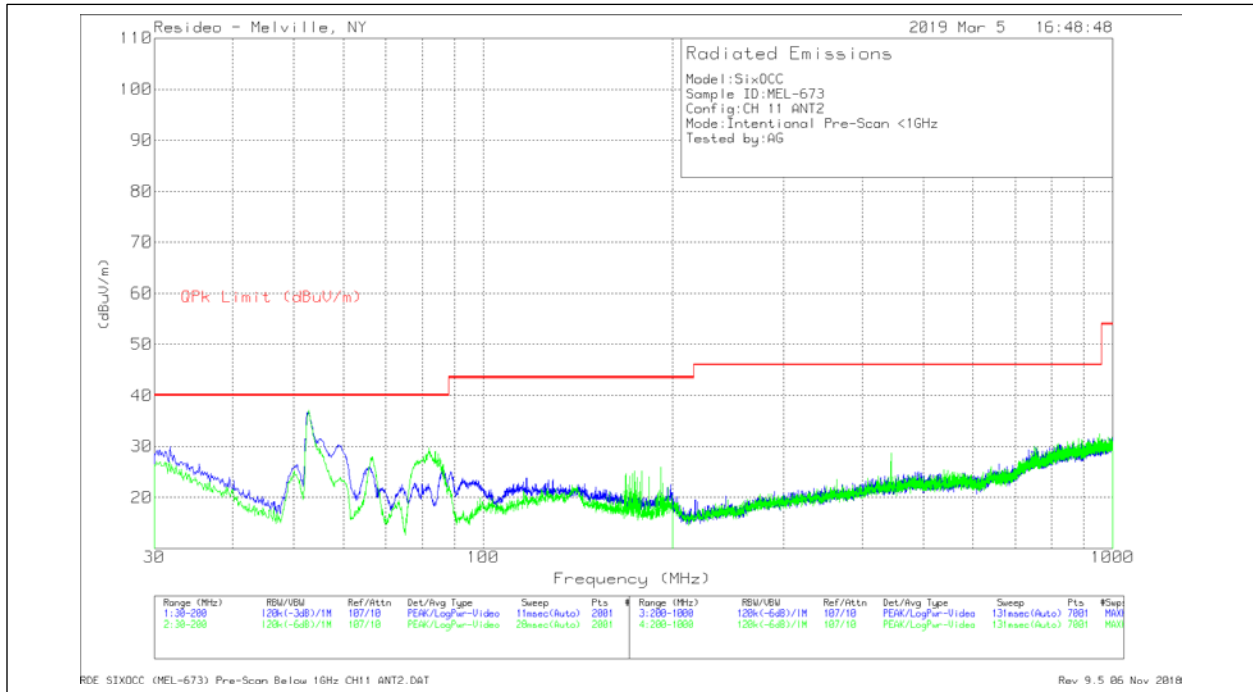


Antenna 1: Low Channel - Plot

Frequency (MHz)	Meter Reading (dBuV)	Det	AF_JB6 [dB/m]	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
191.58	7.62	Qp	15.6	2.3	25.52	43.52	-18	133	108	H
52.8548	11.25	Qp	12.2	1.1	24.55	40	-15.45	317	373	H
53.0662	21.92	Qp	12.1	1.1	35.12	40	-4.88	1	307	V
192.907	9.33	Qp	15.8	2.4	27.53	43.52	-15.99	117	369	V
443.5383	7.65	Qp	20.9	4.6	33.15	46.02	-12.87	278	291	H
443.6087	7.63	Qp	20.9	4.6	33.13	46.02	-12.89	169	182	V

Qp - Quasi-Peak detector

Antenna 1: Low Channel – Data



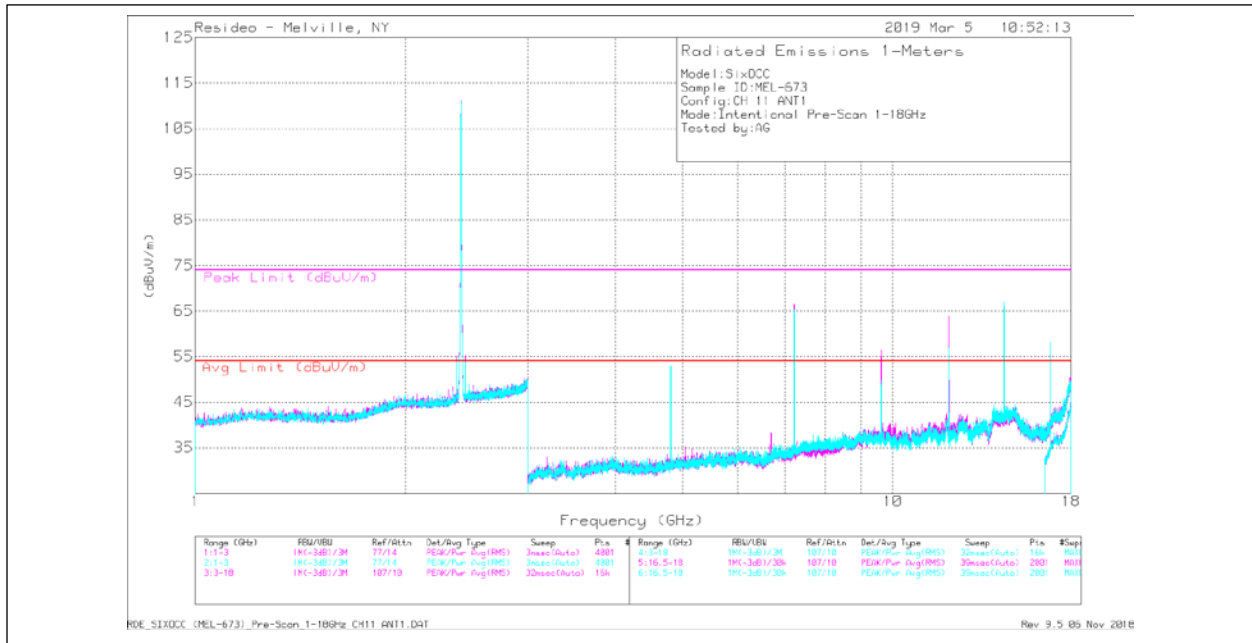
Antenna 2: Low Channel - Plot

Frequency (MHz)	Meter Reading (dBuV)	Det	AF_JB6 [dB/m]	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
53.0672	11.17	Qp	12.1	1.1	24.37	40	-15.63	88	393	H
53.2673	20.37	Qp	12.1	1.1	33.57	40	-6.43	78	141	V
191.2973	8.02	Qp	15.6	2.3	25.92	43.52	-17.6	110	351	V
445.139	7.64	Qp	21	4.6	33.24	46.02	-12.78	166	395	H
760.9872	-6.81	Qp	25.3	7.5	25.99	46.02	-20.03	311	335	H
444.7337	7.72	Qp	21	4.6	33.32	46.02	-12.7	64	265	V

Qp - Quasi-Peak detector

Antenna 2: Low Channel – Data

1-18GHz

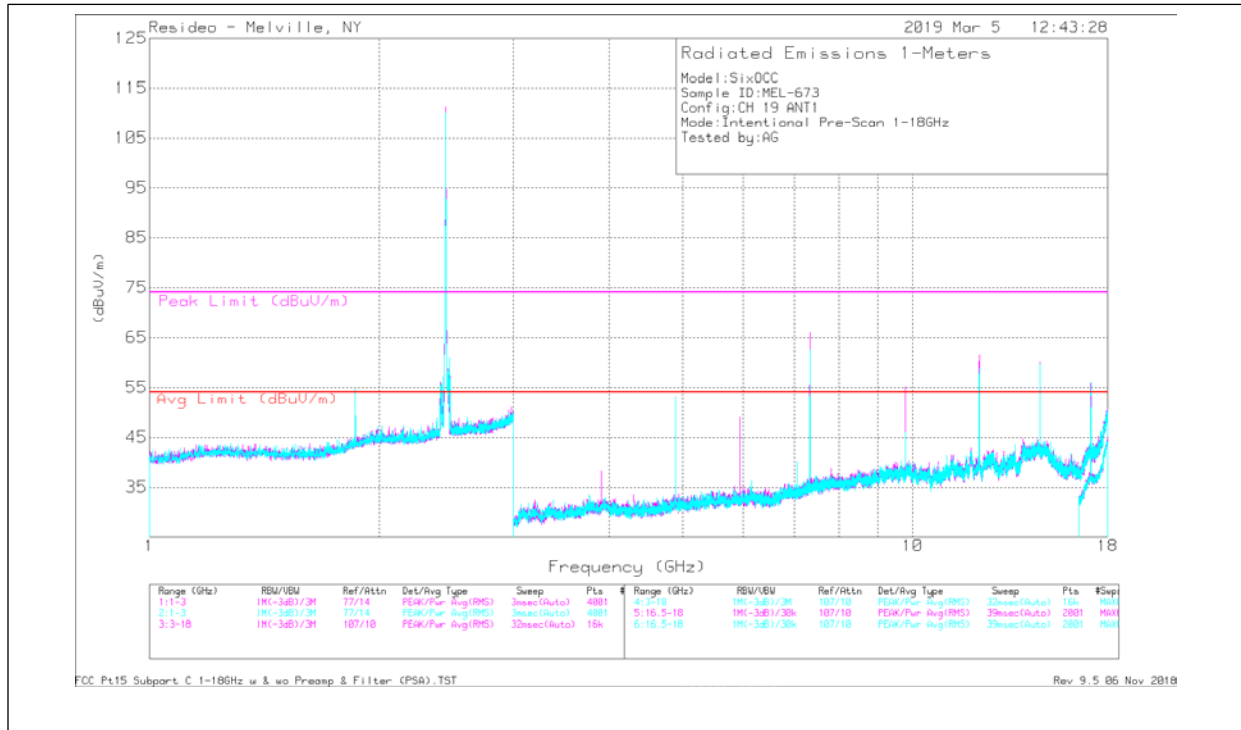


Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.811	59.22	PK2	33.1	-33.8	58.52	74	-15.48	2	146	H
7.213	62.86	PK2	36.2	-30.3	68.76	74	-5.24	301	195	H
9.622	57.28	PK2	38	-28.2	67.08	74	-6.92	250	231	H
* 12.028	59	PK2	39.4	-25.2	73.2	74	-8	303	294	H
14.427	52.15	PK2	42.1	-23.7	70.55	74	-3.45	278	241	H
16.835	45.64	PK2	39.6	-23.6	61.64	74	-12.36	181	388	H
* 4.809	54.88	PK2	33.1	-33.8	54.18	74	-19.82	332	127	V
7.213	63.16	PK2	36.2	-30.3	69.06	74	-4.94	293	131	V
9.618	57.05	PK2	38	-28.2	66.85	74	-7.15	295	129	V
* 12.022	55	PK2	39.4	-25.2	69.2	74	-4.8	61	130	V
14.427	52.07	PK2	42.1	-23.7	70.47	74	-3.53	6	237	V
16.839	46.74	PK2	39.6	-23.5	62.84	74	-11.16	0	332	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.811	59.22	Av	33.1	-33.8	-23.1	35.42	54	-18.58	2	146	H
7.213	62.86	Av	36.2	-30.3	-23.1	45.66	54	-8.34	301	195	H
9.622	57.28	Av	38	-28.2	-23.1	43.98	54	-10.02	250	231	H
* 12.028	59	Av	39.4	-25.2	-23.1	50.1	54	-3.9	303	294	H
14.427	52.15	Av	42.1	-23.7	-23.1	47.45	54	-6.55	278	241	H
16.835	45.64	Av	39.6	-23.6	-23.1	38.54	54	-15.46	181	388	H
* 4.809	54.88	Av	33.1	-33.8	-23.1	31.08	54	-22.92	332	127	V
7.213	63.16	Av	36.2	-30.3	-23.1	45.96	54	-8.04	293	131	V
9.618	57.05	Av	38	-28.2	-23.1	43.75	54	-10.25	295	129	V
* 12.022	55	Av	39.4	-25.2	-23.1	46.1	54	-7.9	61	130	V
14.427	52.07	Av	42.1	-23.7	-23.1	47.37	54	-6.63	6	237	V
16.839	46.74	Av	39.6	-23.5	-23.1	39.74	54	-14.26	0	332	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.332	43.06	PK2	36.6	-30.6	49.06	74	-24.94	31	114	H
9.78	44.57	PK2	38.1	-28.3	54.37	74	-19.63	65	101	H
* 12.225	44.24	PK2	39.2	-24.8	58.64	74	-15.36	217	356	H
14.674	43.11	PK2	42.6	-23.9	61.81	74	-12.19	144	241	H
17.121	45.74	PK2	41.1	-23.7	63.14	74	-10.86	13	335	H
* 7.339	44.08	PK2	36.6	-30.6	50.08	74	-23.92	100	229	V
* 12.221	43.81	PK2	39.2	-24.8	58.21	74	-15.79	256	263	V
14.668	43.4	PK2	42.6	-23.8	62.2	74	-11.8	315	213	V
17.114	46.18	PK2	41.1	-23.6	63.68	74	-10.32	126	324	V

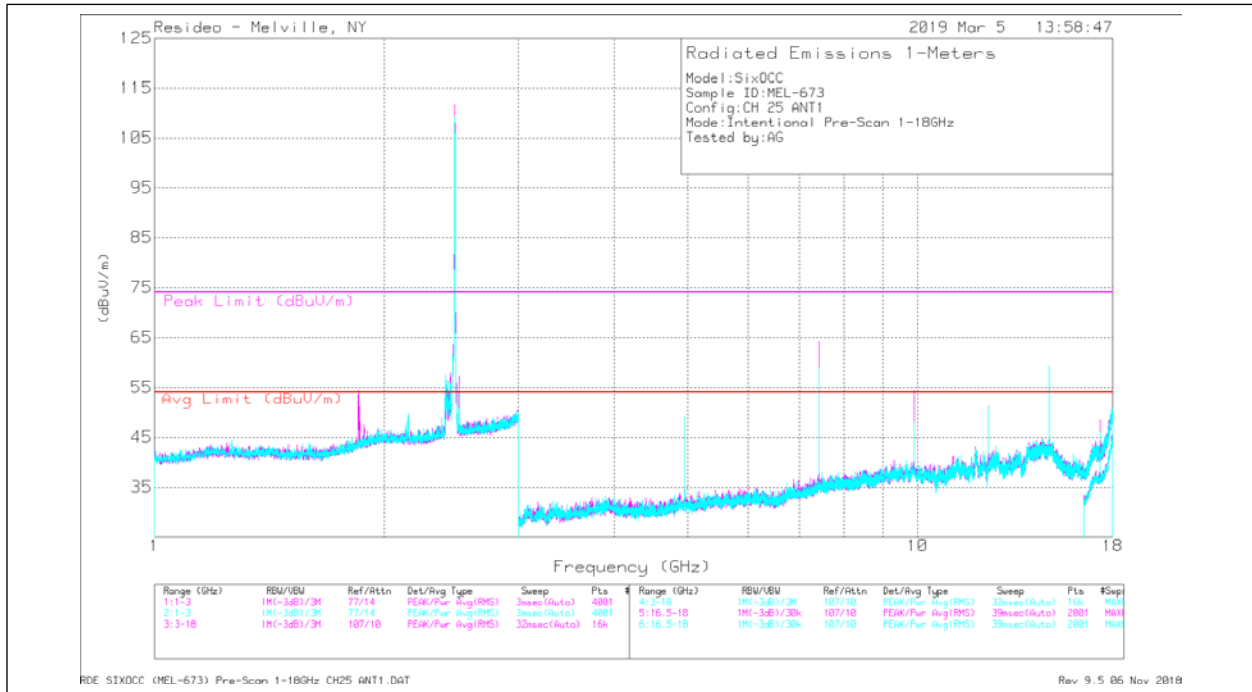
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.332	43.06	Av	36.6	-30.6	-23.1	25.96	54	-28.04	31	114	H
9.78	44.57	Av	38.1	-28.3	-23.1	31.27	54	-22.73	65	101	H
* 12.225	44.24	Av	39.2	-24.8	-23.1	35.54	54	-18.46	217	356	H
14.674	43.11	Av	42.6	-23.9	-23.1	38.71	54	-15.29	144	241	H
17.121	45.74	Av	41.1	-23.7	-23.1	40.04	54	-13.96	13	335	H
* 7.339	44.08	Av	36.6	-30.6	-23.1	26.98	54	-27.02	100	229	V
* 12.221	43.81	Av	39.2	-24.8	-23.1	35.11	54	-18.89	256	263	V
14.668	43.4	Av	42.6	-23.8	-23.1	39.1	54	-14.9	315	213	V
17.114	46.18	Av	41.1	-23.6	-23.1	40.58	54	-13.42	126	324	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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

NOTE: Emission detected at ~1.8GHz was found to be an ambient and not a product of the EUT.

Antenna 1: Mid Channel – Plot/Data



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.424	59.59	PK2	36.7	-30.4	65.89	74	-8.11	191	281	H
9.902	47.84	PK2	38.2	-28.4	57.64	74	-16.36	273	245	H
14.853	46.51	PK2	42	-23.6	64.91	74	-9.09	33	236	H
* 4.949	53.83	PK2	33.2	-34	53.03	74	-20.97	351	225	V
* 7.424	59.73	PK2	36.7	-30.4	66.03	74	-7.97	286	262	V
14.847	45.72	PK2	42	-23.6	64.12	74	-9.88	343	182	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.424	59.59	Av	36.7	-30.4	-23.1	42.79	54	-11.21	191	281	H
9.902	47.84	Av	38.2	-28.4	-23.1	34.54	54	-19.46	273	245	H
14.853	46.51	Av	42	-23.6	-23.1	41.81	54	-12.19	33	236	H
* 4.949	53.83	Av	33.2	-34	-23.1	29.93	54	-24.07	351	225	V
* 7.424	59.73	Av	36.7	-30.4	-23.1	42.93	54	-11.07	286	262	V
14.847	45.72	Av	42	-23.6	-23.1	41.02	54	-12.98	343	182	V

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

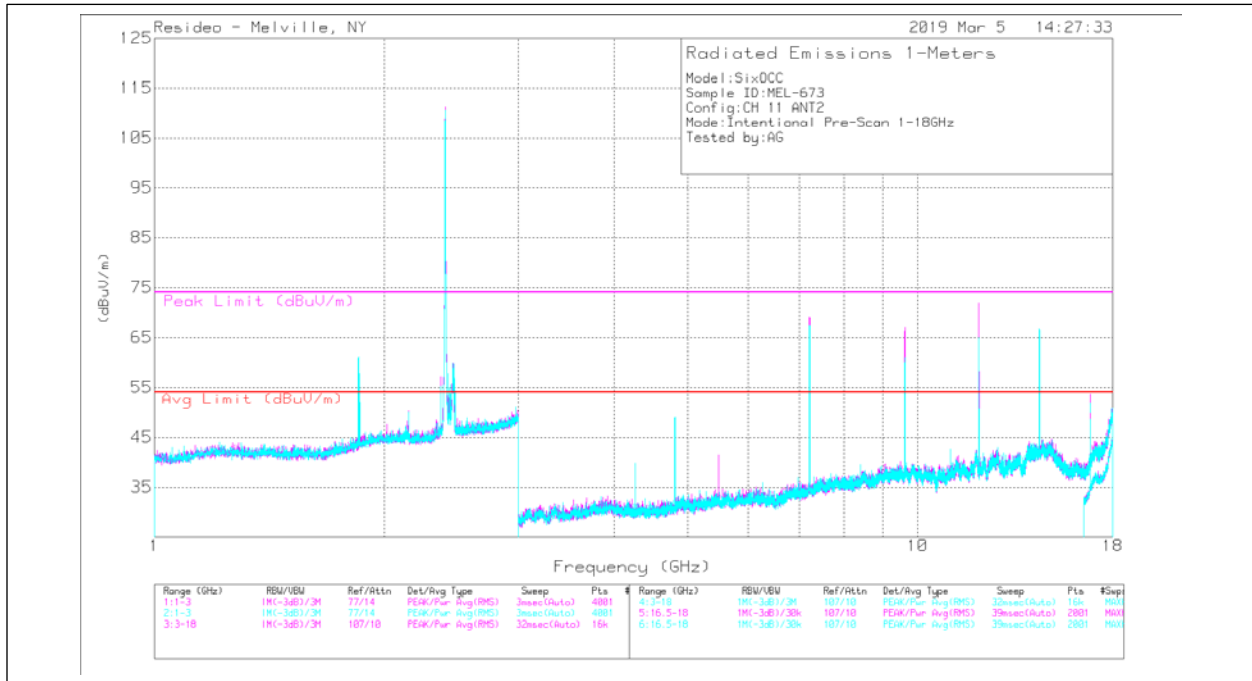
PK - KDB558074 Method: Maximum Peak

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

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

NOTE: Emission detected at ~1.8GHz was found to be an ambient and not a product of the EUT.

Antenna 1: High Channel – Plot/Data



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.213	47.65	PK2	36.2	-30.3	53.55	74	-20.45	122	100	H
9.618	47.08	PK2	38	-28.2	56.88	74	-17.12	301	330	H
* 11.992	44.1	PK2	39.4	-25	58.5	74	-15.5	72	110	H
* 12.022	49.26	PK2	39.4	-25.2	63.46	74	-10.54	210	249	H
14.427	50.04	PK2	42.1	-23.7	68.44	74	-5.56	43	228	H
7.213	61.79	PK2	36.2	-30.3	67.69	74	-6.31	288	218	V
9.622	48.56	PK2	38	-28.2	58.36	74	-15.64	9	195	V
* 12.022	47.98	PK2	39.4	-25.2	62.18	74	-11.82	170	267	V
14.427	47.25	PK2	42.1	-23.7	65.65	74	-8.35	20	260	V

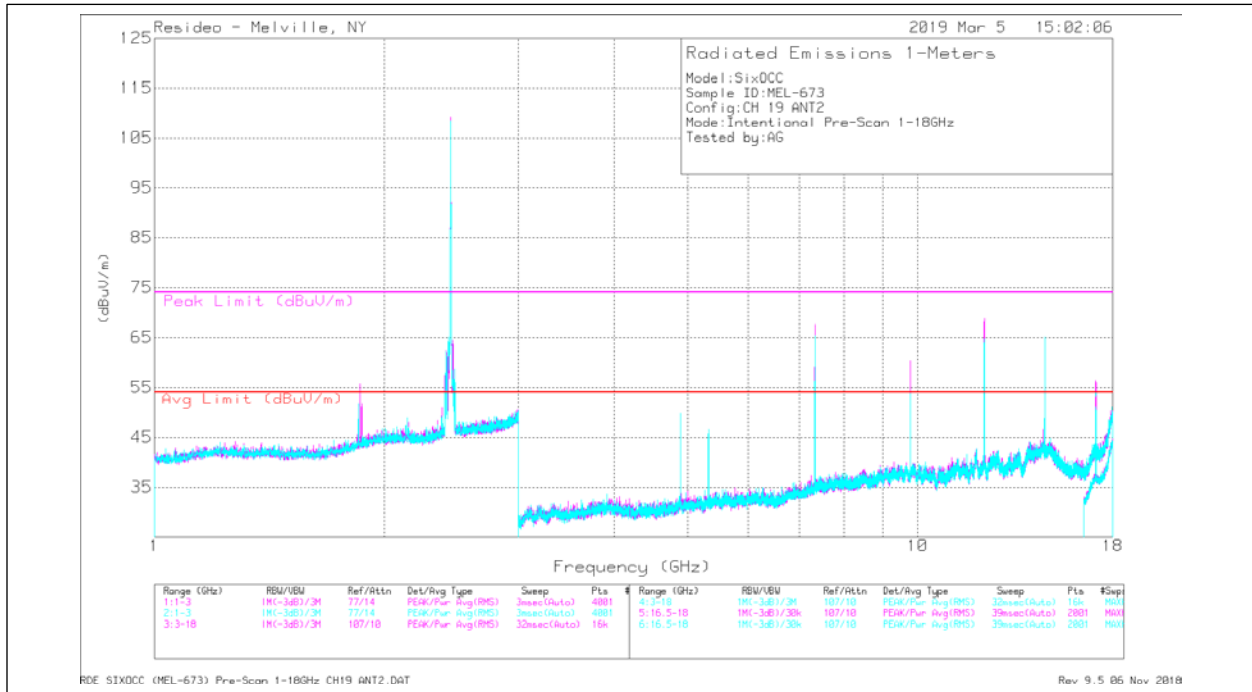
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.213	47.65	Av	36.2	-30.3	-23.1	30.45	54	-23.55	122	100	H
9.618	47.08	Av	38	-28.2	-23.1	33.78	54	-20.22	301	330	H
* 11.992	44.1	Av	39.4	-25	-23.1	35.4	54	-18.6	72	110	H
* 12.022	49.26	Av	39.4	-25.2	-23.1	40.36	54	-13.64	210	249	H
14.427	50.04	Av	42.1	-23.7	-23.1	45.34	54	-8.66	43	228	H
7.213	61.79	Av	36.2	-30.3	-23.1	44.59	54	-9.41	288	218	V
9.622	48.56	Av	38	-28.2	-23.1	35.26	54	-18.74	9	195	V
* 12.022	47.98	Av	39.4	-25.2	-23.1	39.08	54	-14.92	170	267	V
14.427	47.25	Av	42.1	-23.7	-23.1	42.55	54	-11.45	20	260	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

NOTE: Emission detected at ~1.8GHz was found to be an ambient and not a product of the EUT.

Antenna 2: Low Channel – Plot/Data



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.337	56.34	PK2	36.6	-30.6	62.34	74	-11.66	253	229	H
9.778	47.81	PK2	38.1	-28.3	57.61	74	-16.39	188	392	H
* 12.222	48.79	PK2	39.2	-24.8	63.19	74	-10.81	315	247	H
14.667	48.13	PK2	42.6	-23.8	66.93	74	-7.07	343	236	H
17.106	45.81	PK2	41	-23.6	63.21	74	-10.79	146	322	H
* 7.333	52.5	PK2	36.6	-30.6	58.5	74	-15.5	146	322	V
* 12.222	44.49	PK2	39.2	-24.8	58.89	74	-15.11	125	223	V
14.673	45.65	PK2	42.6	-23.9	64.35	74	-9.65	272	209	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.337	56.34	Av	36.6	-30.6	-23.1	39.24	54	-14.76	253	229	H
9.778	47.81	Av	38.1	-28.3	-23.1	34.51	54	-19.49	188	392	H
* 12.222	48.79	Av	39.2	-24.8	-23.1	40.09	54	-13.91	315	247	H
14.667	48.13	Av	42.6	-23.8	-23.1	43.83	54	-10.17	343	236	H
17.106	45.81	Av	41	-23.6	-23.1	40.11	54	-13.89	146	322	H
* 7.333	52.5	Av	36.6	-30.6	-23.1	35.4	54	-18.6	146	322	V
* 12.222	44.49	Av	39.2	-24.8	-23.1	35.79	54	-18.21	125	223	V
14.673	45.65	Av	42.6	-23.9	-23.1	41.25	54	-12.75	272	209	V

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

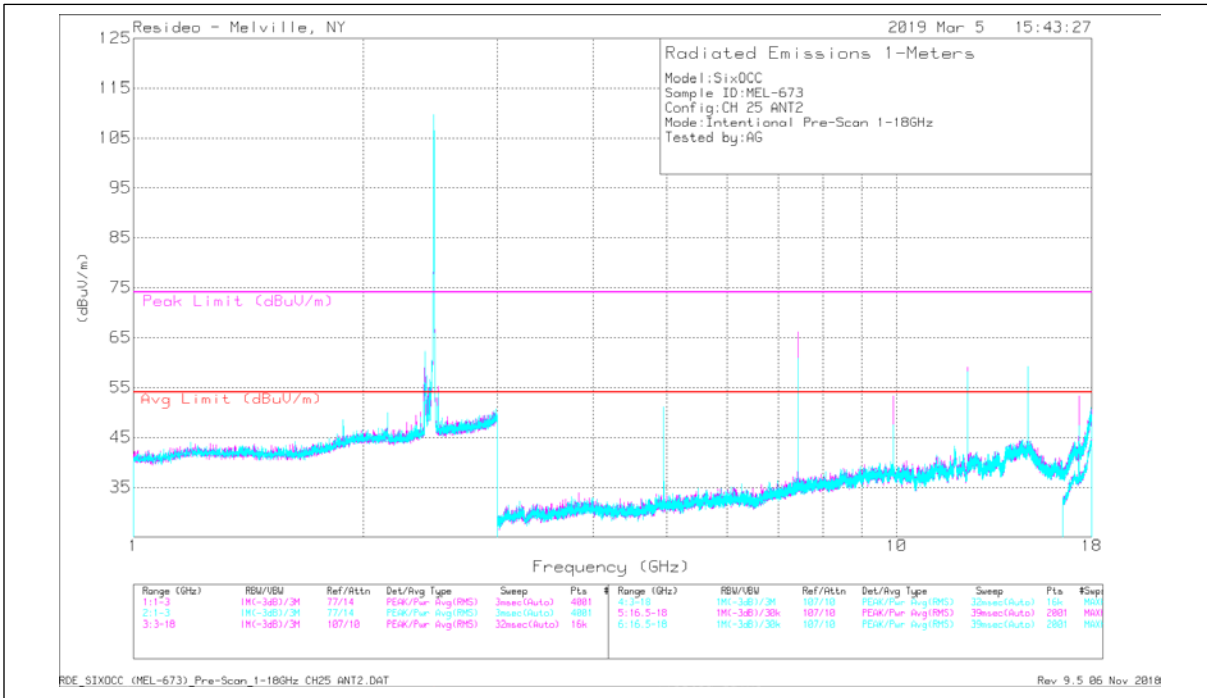
PK - KDB558074 Method: Maximum Peak

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

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

NOTE: Emission detected at ~1.8GHz was found to be an ambient and not a product of the EUT.

Antenna 2: Mid Channel – Plot/Data



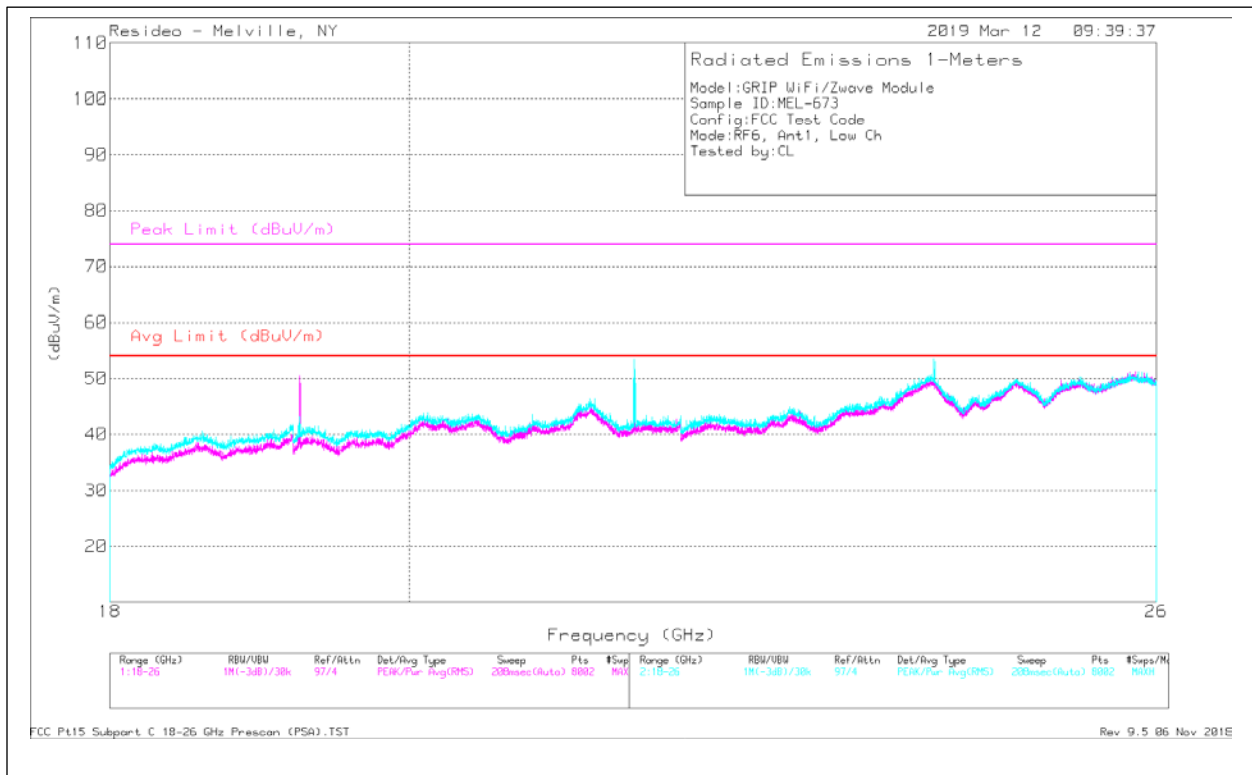
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.423	54.62	PK2	36.7	-30.4	60.92	74	-13.08	248	197	H
* 12.372	46.38	PK2	39	-24.7	60.68	74	-13.32	42	332	H
14.847	44.44	PK2	42	-23.6	62.84	74	-11.16	303	245	H
* 7.424	60.28	PK2	36.7	-30.4	66.58	74	-7.42	292	244	V
* 12.372	45.72	PK2	39	-24.7	60.02	74	-13.98	326	303	V
14.847	44.8	PK2	42	-23.6	63.2	74	-10.8	171	192	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DCF [dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Av Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.423	54.62	Av	36.7	-30.4	-23.1	37.82	54	-16.18	248	197	H
* 12.372	46.38	Av	39	-24.7	-23.1	37.58	54	-16.42	42	332	H
14.847	44.44	Av	42	-23.6	-23.1	39.74	54	-14.26	303	245	H
* 7.424	60.28	Av	36.7	-30.4	-23.1	43.48	54	-10.52	292	244	V
* 12.372	45.72	Av	39	-24.7	-23.1	36.92	54	-17.08	326	303	V
14.847	44.8	Av	42	-23.6	-23.1	40.1	54	-13.9	171	192	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 - Plot/Data

18-26GHz



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.239	40.09	PK2	44.1	-28.5	55.69	74	-18.31	93	107	H
21.635	39.96	PK2	44.4	-28.9	55.46	74	-18.54	131	217	H
24.04	42.03	PK2	46.4	-23	65.43	74	-8.57	195	281	H
* 19.243	40.19	PK2	44.1	-28.4	55.89	74	-18.11	352	268	V
21.641	40.09	PK2	44.4	-28.8	55.69	74	-18.31	58	175	V
24.04	42.43	PK2	46.4	-23	65.83	74	-8.17	234	387	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.239	40.09	Av	44.1	-28.5	-23.1	32.59	54	-21.41	93	107	H
21.635	39.96	Av	44.4	-28.9	-23.1	32.36	54	-21.64	131	217	H
24.04	42.03	Av	46.4	-23	-23.1	42.33	54	-11.67	195	281	H
* 19.243	40.19	Av	44.1	-28.4	-23.1	32.79	54	-21.21	352	268	V
21.641	40.09	Av	44.4	-28.8	-23.1	32.59	54	-21.41	58	175	V
24.04	42.43	Av	46.4	-23	-23.1	42.73	54	-11.27	234	387	V

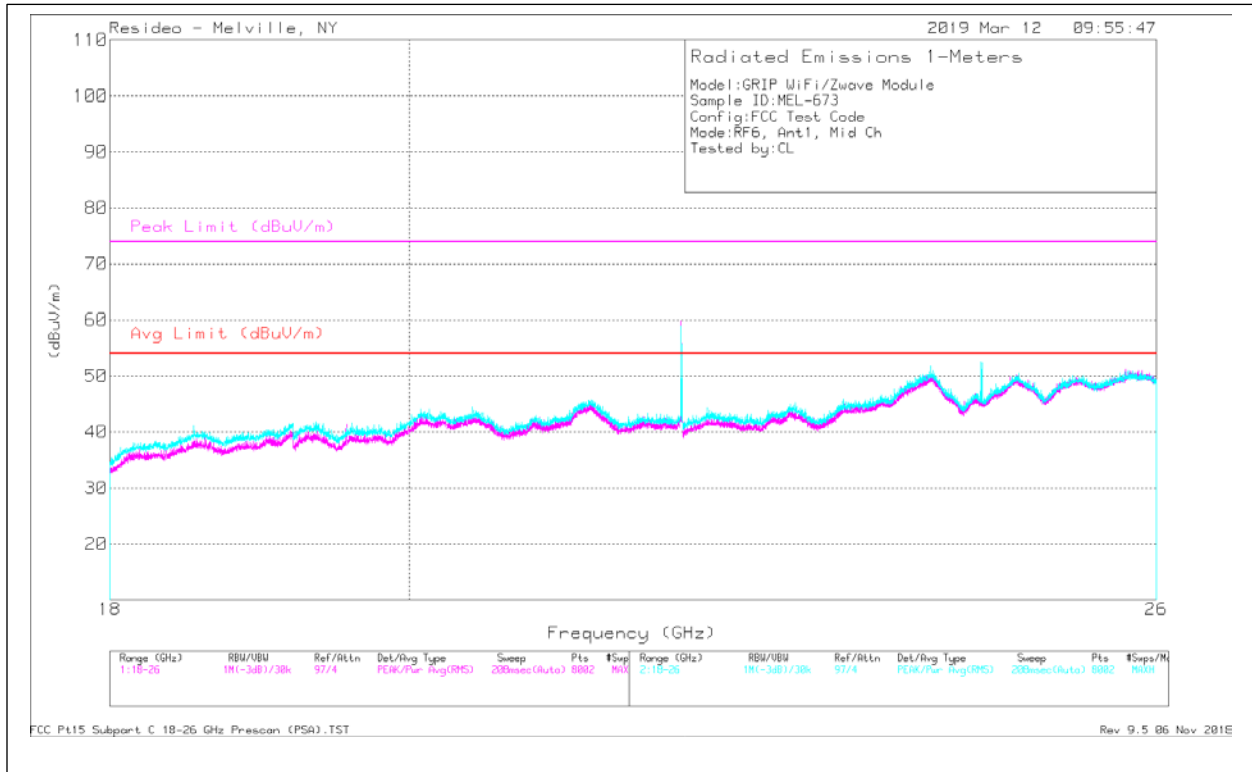
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - 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 – Plot/Data



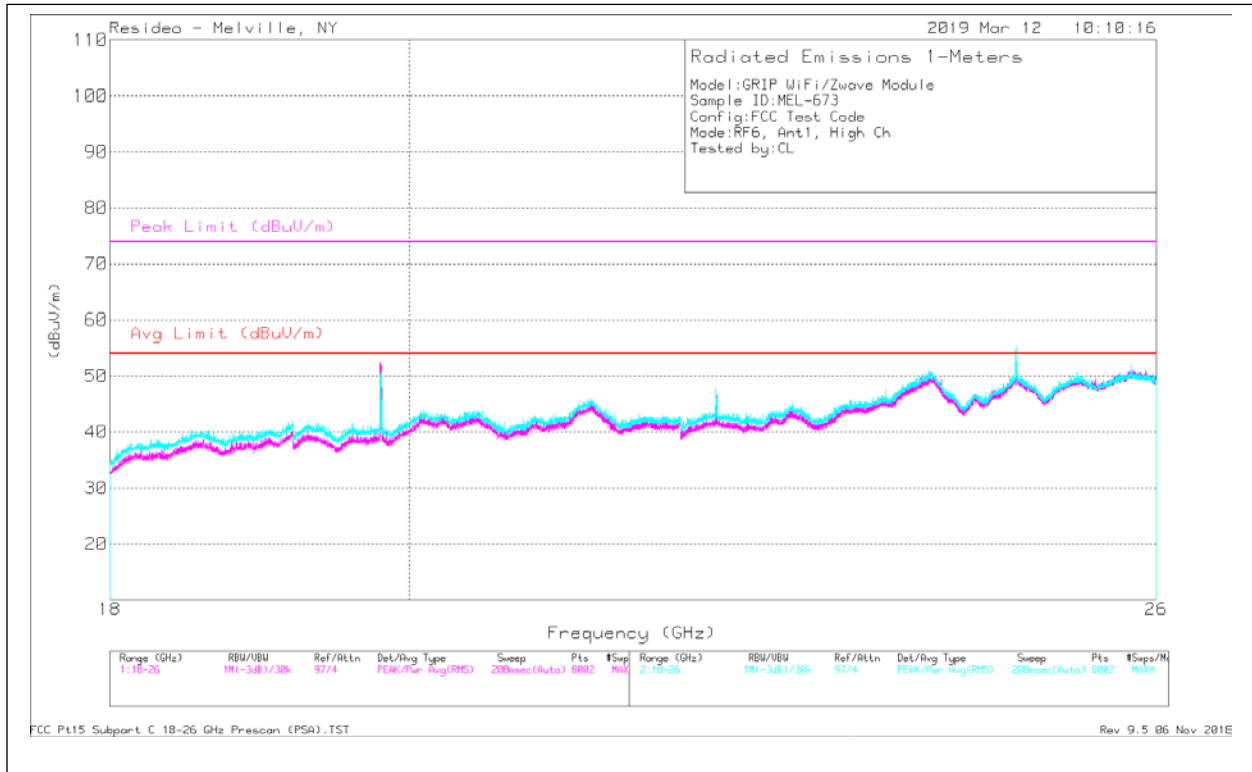
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 18.541	40.26	PK2	43.8	-29.5	54.56	74	-19.44	289	118	H
21.996	41.73	PK2	44.5	-28.6	57.63	74	-16.37	115	339	H
24.45	43.08	PK2	46.5	-27.4	62.18	74	-11.82	298	212	H
* 18.543	40.94	PK2	43.8	-29.5	55.24	74	-18.76	338	253	V
22	41.09	PK2	44.5	-28.5	57.09	74	-16.91	65	320	V
24.442	43.22	PK2	46.5	-27.4	62.32	74	-11.68	250	263	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 18.541	40.26	Av	43.8	-29.5	-23.1	31.46	54	-22.54	289	118	H
21.996	41.73	Av	44.5	-28.6	-23.1	34.53	54	-19.47	115	339	H
24.45	43.08	Av	46.5	-27.4	-23.1	39.08	54	-14.92	298	212	H
* 18.543	40.94	Av	43.8	-29.5	-23.1	32.14	54	-21.86	338	253	V
22	41.09	Av	44.5	-28.5	-23.1	33.99	54	-20.01	65	320	V
24.442	43.22	Av	46.5	-27.4	-23.1	39.22	54	-14.78	250	263	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data



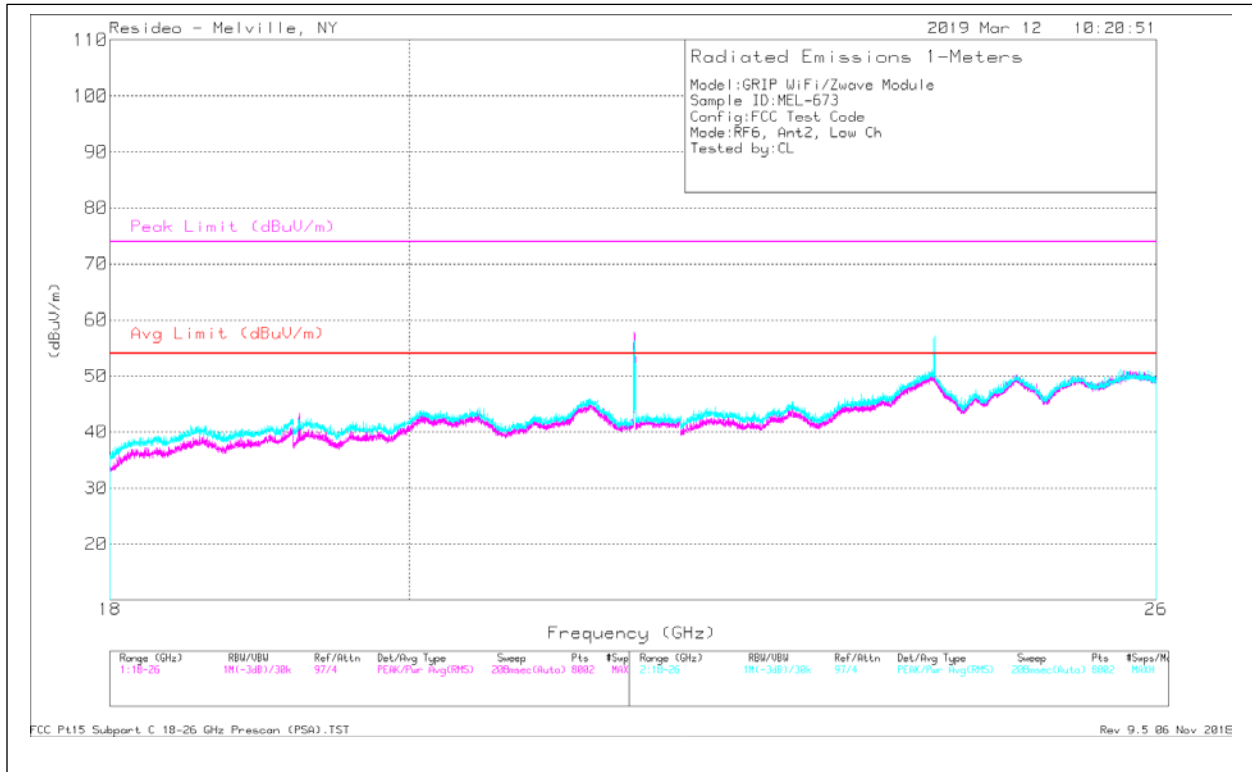
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.797	39.55	PK2	44.2	-29.7	54.05	74	-19.95	332	253	H
* 22.266	41.23	PK2	44.9	-27.3	58.83	74	-15.17	50	232	H
24.752	44	PK2	46.7	-24	66.7	74	-7.3	55	183	H
* 19.769	40.09	PK2	44.2	-29.6	54.69	74	-19.31	16	316	V
* 22.271	41.2	PK2	44.9	-27.3	58.8	74	-15.2	167	232	V
24.755	43.58	PK2	46.7	-24	66.28	74	-7.72	207	283	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.797	39.55	Av	44.2	-29.7	-23.1	30.95	54	-23.05	332	253	H
* 22.266	41.23	Av	44.9	-27.3	-23.1	35.73	54	-18.27	50	232	H
24.752	44	Av	46.7	-24	-23.1	43.6	54	-10.4	55	183	H
* 19.769	40.09	Av	44.2	-29.6	-23.1	31.59	54	-22.41	16	316	V
* 22.271	41.2	Av	44.9	-27.3	-23.1	35.7	54	-18.3	167	232	V
24.755	43.58	Av	46.7	-24	-23.1	43.18	54	-10.82	207	283	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data



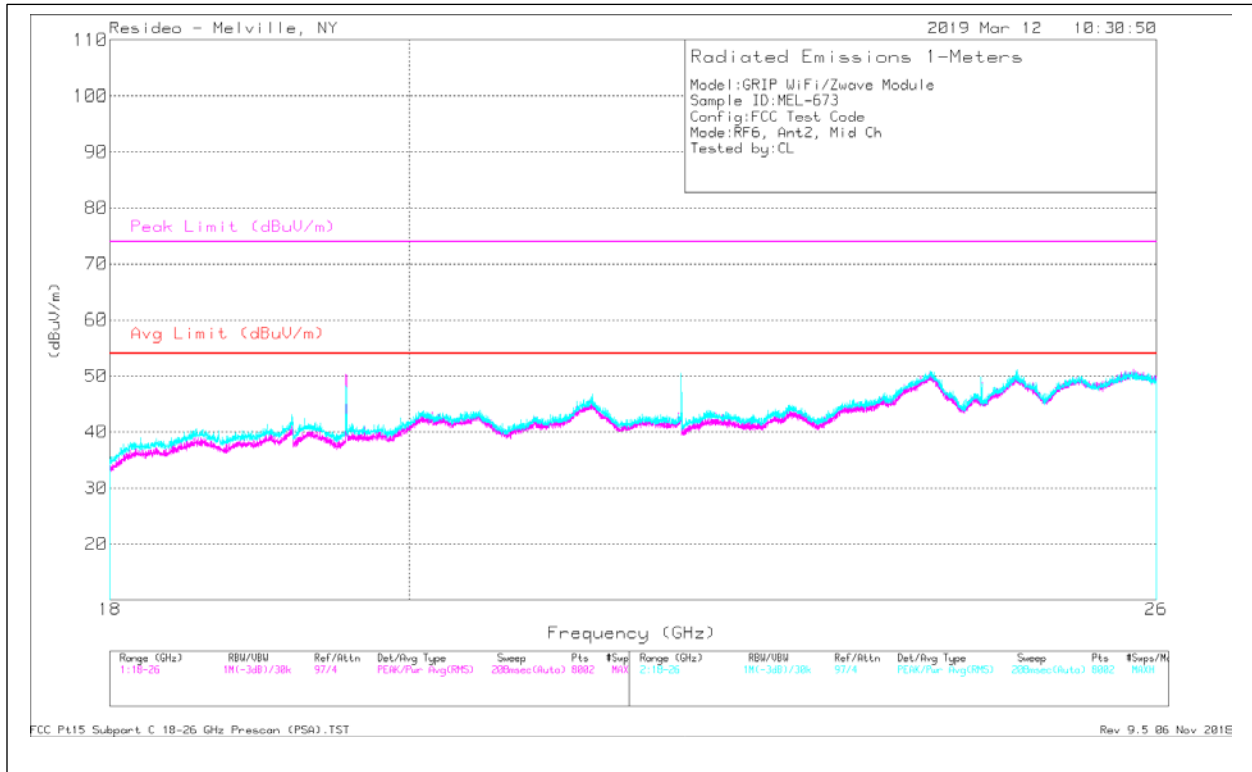
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.242	40.3	PK2	44.1	-28.4	56	74	-18	161	322	H
21.637	40.53	PK2	44.4	-28.9	56.03	74	-17.97	210	175	H
24.054	42.22	PK2	46.4	-23.4	65.22	74	-8.78	58	358	H
* 19.24	40.15	PK2	44.1	-28.5	55.75	74	-18.25	15	102	V
21.641	40.84	PK2	44.4	-28.8	56.44	74	-17.56	213	324	V
24.054	42.32	PK2	46.4	-23.4	65.32	74	-8.68	283	178	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.242	40.3	Av	44.1	-28.4	-23.1	32.9	54	-21.1	161	322	H
21.637	40.53	Av	44.4	-28.9	-23.1	32.93	54	-21.07	210	175	H
24.054	42.22	Av	46.4	-23.4	-23.1	42.12	54	-11.88	58	358	H
* 19.24	40.15	Av	44.1	-28.5	-23.1	32.65	54	-21.35	15	102	V
21.641	40.84	Av	44.4	-28.8	-23.1	33.34	54	-20.66	213	324	V
24.054	42.32	Av	46.4	-23.4	-23.1	42.22	54	-11.78	283	178	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data



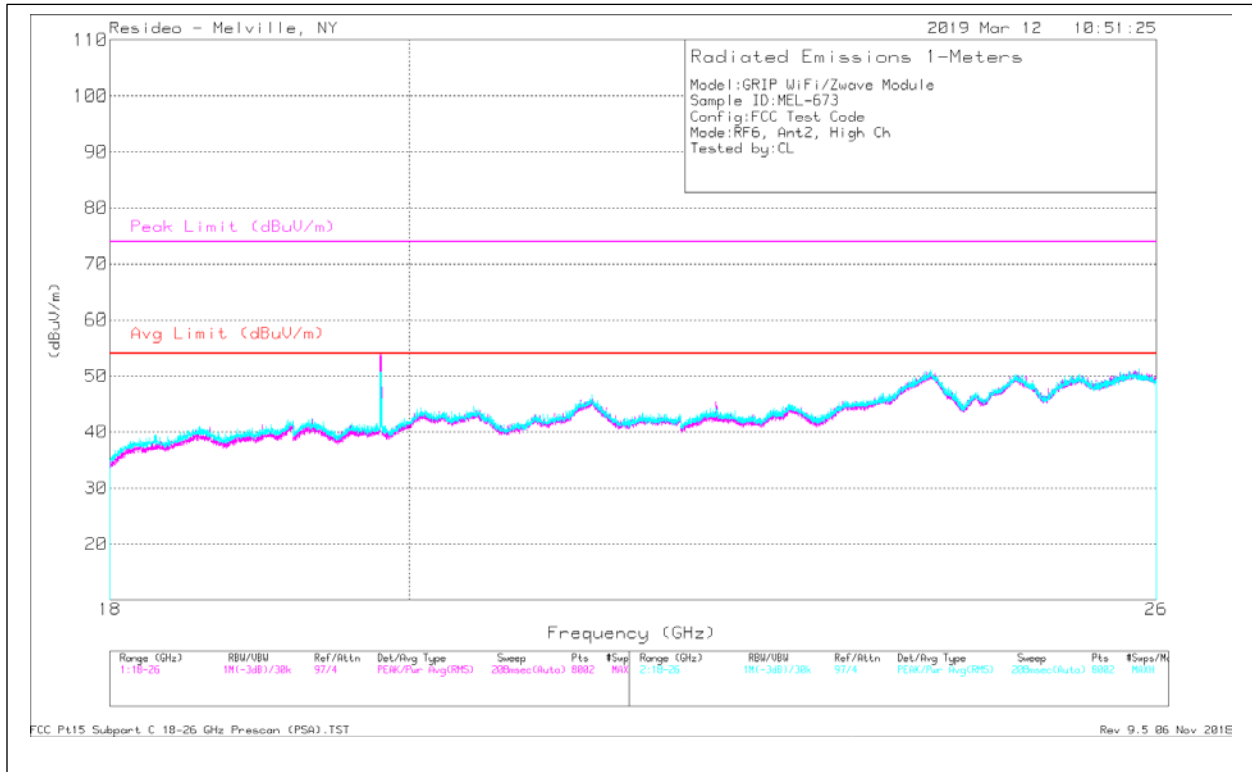
Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.55	40.27	PK2	44.3	-29.9	54.67	74	-19.33	17	122	H
22.002	40.87	PK2	44.5	-28.5	56.87	74	-17.13	338	219	H
24.443	42.82	PK2	46.5	-27.4	61.92	74	-12.08	219	143	H
* 19.555	39.8	PK2	44.3	-29.9	54.2	74	-19.8	73	216	V
21.995	40.81	PK2	44.5	-28.6	56.71	74	-17.29	29	163	V
24.445	43.74	PK2	46.5	-27.4	62.84	74	-11.16	163	331	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.55	40.27	Av	44.3	-29.9	-23.1	31.57	54	-22.43	17	122	H
22.002	40.87	Av	44.5	-28.5	-23.1	33.77	54	-20.23	338	219	H
24.443	42.82	Av	46.5	-27.4	-23.1	38.82	54	-15.18	219	143	H
* 19.555	39.8	Av	44.3	-29.9	-23.1	31.1	54	-22.9	73	216	V
21.995	40.81	Av	44.5	-28.6	-23.1	33.61	54	-20.39	29	163	V
24.445	43.74	Av	46.5	-27.4	-23.1	39.74	54	-14.26	163	331	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data



Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.794	39.63	PK2	44.2	-29.7	54.13	74	-19.87	130	327	H
* 22.271	41.19	PK2	44.9	-27.3	58.79	74	-15.21	345	123	H
24.04	42.79	PK2	46.4	-23	66.19	74	-7.81	89	180	H
* 19.798	40.22	PK2	44.2	-29.7	54.72	74	-19.28	192	371	V
* 22.274	41.25	PK2	44.9	-27.4	58.75	74	-15.25	131	353	V
24.018	41.92	PK2	46.4	-22.5	65.82	74	-8.18	295	132	V

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss [dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.794	39.63	Av	44.2	-29.7	-23.1	31.03	54	-22.97	130	327	H
* 22.271	41.19	Av	44.9	-27.3	-23.1	35.69	54	-18.31	345	123	H
24.04	42.79	Av	46.4	-23	-23.1	43.09	54	-10.91	89	180	H
* 19.798	40.22	Av	44.2	-29.7	-23.1	31.62	54	-22.38	192	371	V
* 22.274	41.25	Av	44.9	-27.4	-23.1	35.65	54	-18.35	131	353	V
24.018	41.92	Av	46.4	-22.5	-23.1	42.72	54	-11.28	295	132	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - 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 – Plot/Data

END OF REPORT