Honeywell Home

FCC Test Report

For

GRIP Defender Panel

Report #: 58791-D1

FCC ID: CFS8DL-GRIPDF1

Report Completion Date: 2019-08-22

Prepared by and for:

Ademco Inc.
2 Corporate Center Dr.
Suite 100 PO Box 9040
Melville, NY 11747

NVLAP®

Testing
NVLAP Lab Code: 600110

Document Introduction

Ademco Inc. 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 Inc. 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 Test Report for Ademco Inc. products. It demonstrates the data required to be analyzed to certify a product according to the requirements of the FCC.

The results in the report reflect only the model of the items under test unless noted otherwise. This document may not be altered or revised in any way unless done so my Ademco Inc. and all revisions are duly noted in the revisions section. Any alterations of this document not carried out by Ademco Inc. 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	2019-08-20
A	M. Antola	A. Roussin	Added radiated simultaneous data – spurious & Bandedge	2019-08-22

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Report Authorization

Report Prepared By:

Michael Antola
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Reviewed & Approved By:

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Hardware Engineer II
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Ademco Inc.

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Contents

Ademco Inc. **Document #: 800-23065, Revision B**
2 Corporate Center Dr., Melville, NY 11747 **TEL: (516) 577-2000**

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Applicable Test Standards/Limits

Test Standards/Limits	Result	Dates Tested
ANSI C63.10: 2013	Compliant	08/16/2019 – 08/21/2019
CFR 47 Pt 15 Subpart C, Section 15.207/209	Compliant	08/16/2019 – 08/21/2019
CFR 47 Pt 15 Subpart C, Section 15.247	Compliant	08/16/2019 – 08/21/2019

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 Global Residential Intrusion Platform (GRIP) Defender solution consists of a panel with a push-button interface and small LED screen display. The panel consists of a main PCB board that contains components (Display, camera, microphones, speaker) to support features such as video and audio, interfaces to external devices/sensors (sensors, devices, and cameras) and wireless communicators. The EUT is AC powered with a battery back-up.

There are two (2) on-board radios - Bluetooth (LE) and RF6. The Wiselink radio block & antenna has been removed from this device that was initially certified under FCC ID: CFS8DL-GRIPDF, IC: 573F-GRIPDF. Plug-in modules can support Wi-Fi, Z-Wave and cellular communications. This report will cover the RF6 portion of the EUT only, which is a 2.4GHz Zigbee-based transmitter. This report contains only radiated (spurious emissions, Bandedge, etc.) data. Conducted antenna port data is being leveraged from a previous certification (FCC ID: CFS8DL-GRIPAIO7, IC: 573F-GRIPAIO7) based on similarities. See test report exhibit titled “AIO 7-INCH EXHIBIT 5-2A FCC_ISED Test Report RF6” for specific data.

It contains two (2) integral PCB antennas with gains of 6.6dBi & 4.7dBi.

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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 has a typical installation orientation of vertical (i.e. wall-mounted or standing upright on desktop). Therefore, all final radiated test was performed with the EUT in the vertical orientation. See setup photos for details. The AC powered configuration proved to be the worse-case configuration and was tested as such.

Test Sample Identification

Sample ID Number	Sample Serial Number	Date Received
MEL-813	Non-serialized production unit	08/16/2019

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Calibration & Measurement Uncertainty

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

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

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

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

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

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

Opinions / Interpretations

None

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Test Summary

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

#	Test Description	Status
1	Radiated Emissions (Intentional)	PASS

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On Time and Duty Cycle

Test Description

Refer to KDB 558074 Zero-Span Analyzer Method.

Test Criteria

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

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL	RF Lab	08/16/19	22.6	37.2	1014	P

Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
Spectrum Analyzer	11549	MY46187211	Agilent	E4440A	06/25/19	06/25/21

Test Results

On Time (usec)	Period (usec)	Duty Cycle	Duty Cycle (%)
59.7	59.7	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 6.75% (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.

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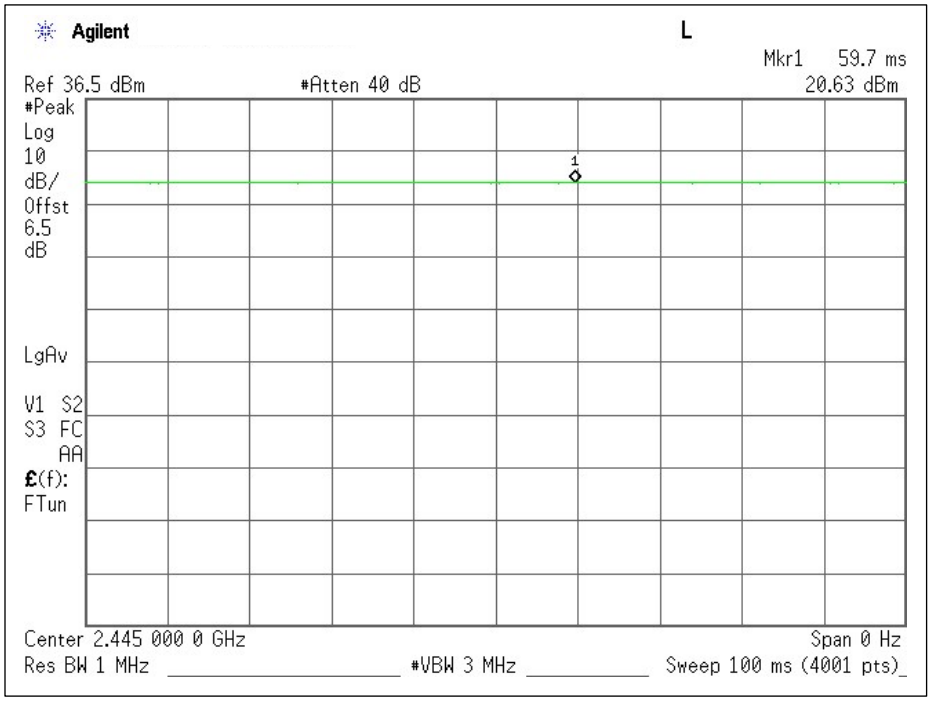
Duty Cycle Plot



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Radiated Emissions (Intentional)

Test Description

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

Test Criteria

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

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

Test Information

Tester	Test Location	Date	Temperature (ºC)	Humidity (%RH)	Pressure (mbar)	Results (P/F)
CL/JB	RF Chamber/OATS	08/16/19-08/21/19	28.3	54	1002	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 and above 18GHz. Prescans performed in an anechoic chamber, final measurements performed on an OATS.

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Equipment List

Instrument Type	ID #	Serial #	Manufacturer	Model	Cal Date	Cal Due Date
RF Chamber						
Spectrum Analyzer	11496	100303	Rohde & Schwarz	FSU26	04/11/19	04/11/21
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	N/A	N/A
Preamp (1-18GHz)	11557	18040034	Com-Power	PAM-118A	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	A078188	Extech Instruments	SD700	09/29/18	09/29/21
OATS						
Spectrum Analyzer	11545	103125	Rohde & Schwarz	FSW26	03/13/19	03/15/20
Bilog Antenna (30MHz-6GHz)	11534	A012816	Sunol	JB6	04/05/19	04/05/21
Horn Antenna (1-18GHz)	2973	3127	EMCO	RGA-60	01/31/19	01/31/21
Preamp (800MHz-21GHz)	11538	233701631	Mini Circuits	ZVA-213-S+	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

All testing performed using equipment that remained within the calibration cycle at the time of testing.

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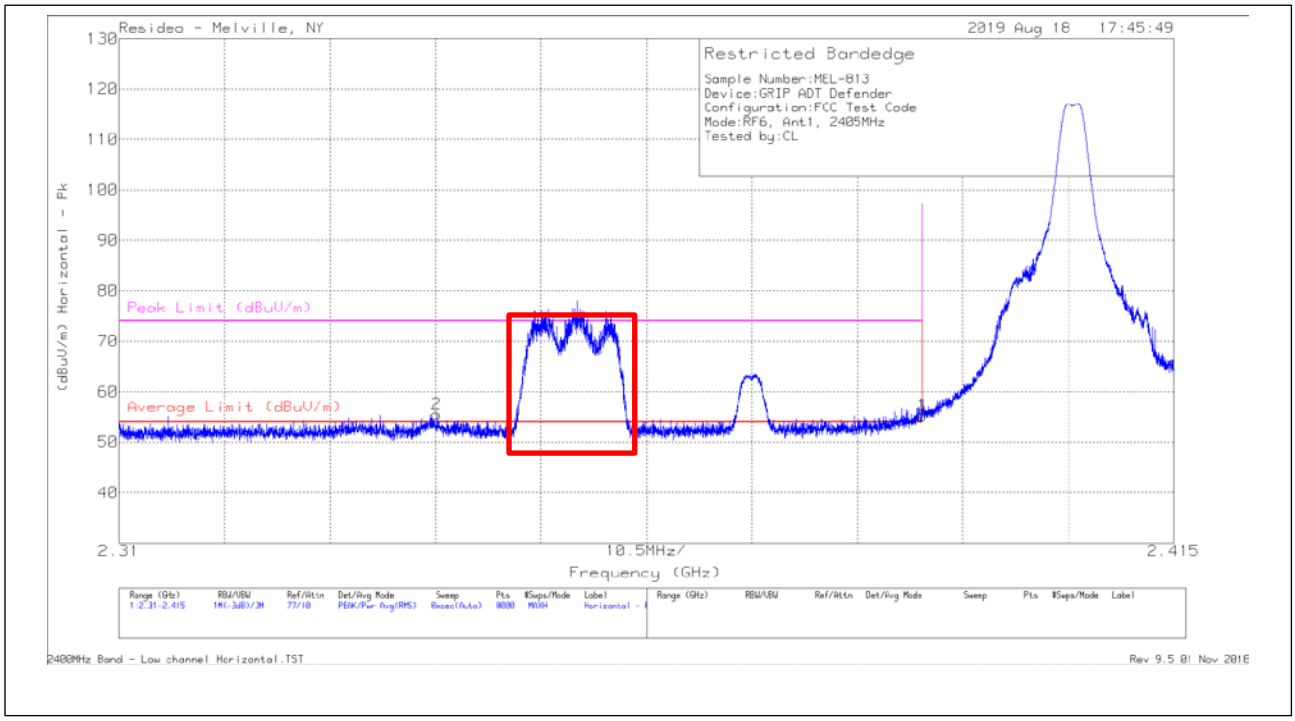
Test Results

Restricted Band Edge



Antenna 1: Low Channel Horizontal - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	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	21	Pk	28.5	5.8	-	55.3	74	-18.7	163	271	H
2	* 2.342	21.65	Pk	28.1	5.8	-	55.55	74	-18.45	163	271	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	21	Av	28.5	5.8	-23.4	31.9	54	-22.1	163	271	H
2	* 2.342	21.65	Av	28.1	5.8	-23.4	32.15	54	-21.85	163	271	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 1: Low Channel Horizontal - Data

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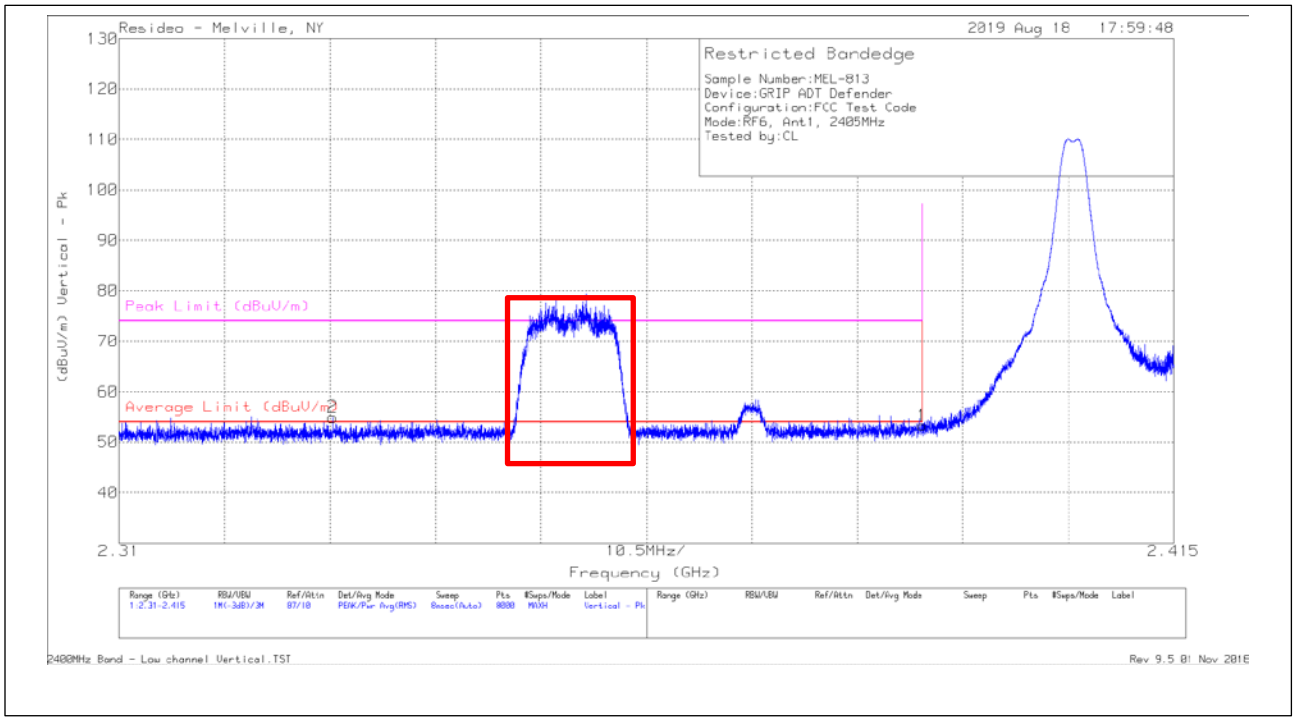

Antenna 1: Low Channel Vertical - Plot

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	19.01	Pk	28.5	5.8	-	55.3	74	-20.69	85	399	V
2	* 2.331	21.18	Pk	28	5.8	-	55.55	74	-19.02	85	399	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	19.01	Av	28.5	5.8	-23.4	29.91	54	-24.09	85	399	V
2	* 2.331	21.18	Av	28	5.8	-23.4	31.58	54	-22.42	85	399	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 1: Low Channel Vertical - Data

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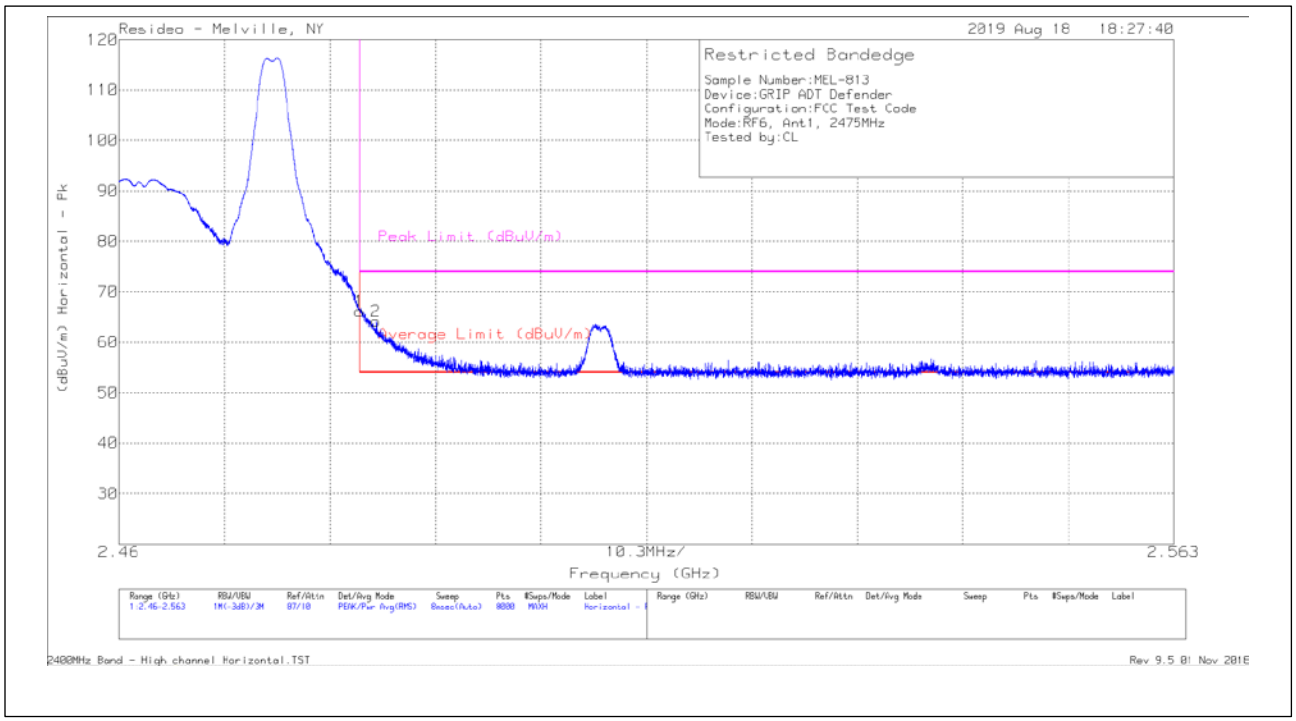

Antenna 1: High Channel Horizontal - Plot

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	31.59	Pk	28.7	5.9	-	66.19	74	-7.81	168	255	H
2	* 2.485	29.55	Pk	28.7	5.9	-	64.15	74	-9.85	168	255	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	31.59	Av	28.7	5.9	-23.4	42.79	54	-11.21	168	255	H
2	* 2.485	29.55	Av	28.7	5.9	-23.4	40.75	54	-13.25	168	255	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 1: High Channel Horizontal - Data

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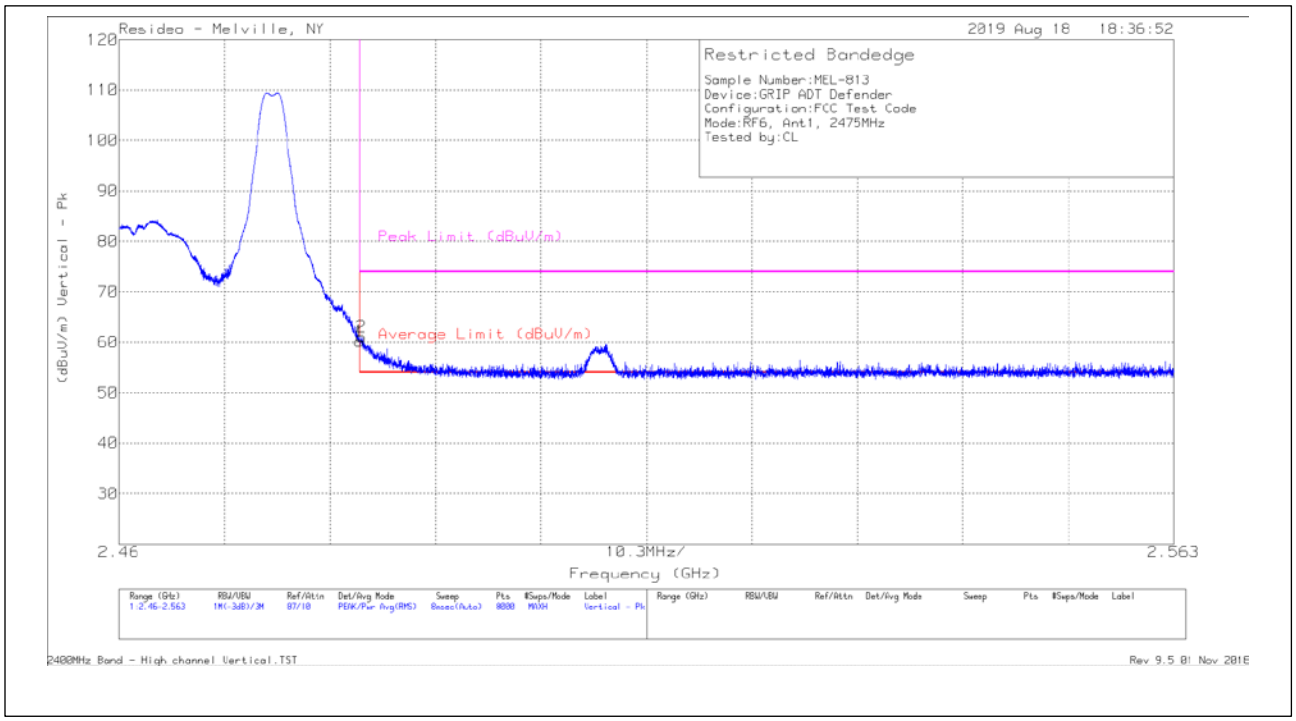

Antenna 1: High Channel Vertical - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	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	25.56	Pk	28.7	5.9	-	60.16	74	-13.84	85	380	V
2	* 2.484	26.49	Pk	28.7	5.9	-	61.09	74	-12.91	85	380	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	25.56	Av	28.7	5.9	-23.4	36.76	54	-17.24	85	380	V
2	* 2.484	26.49	Av	28.7	5.9	-23.4	37.69	54	-16.31	85	380	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 1: High Channel Vertical - Data

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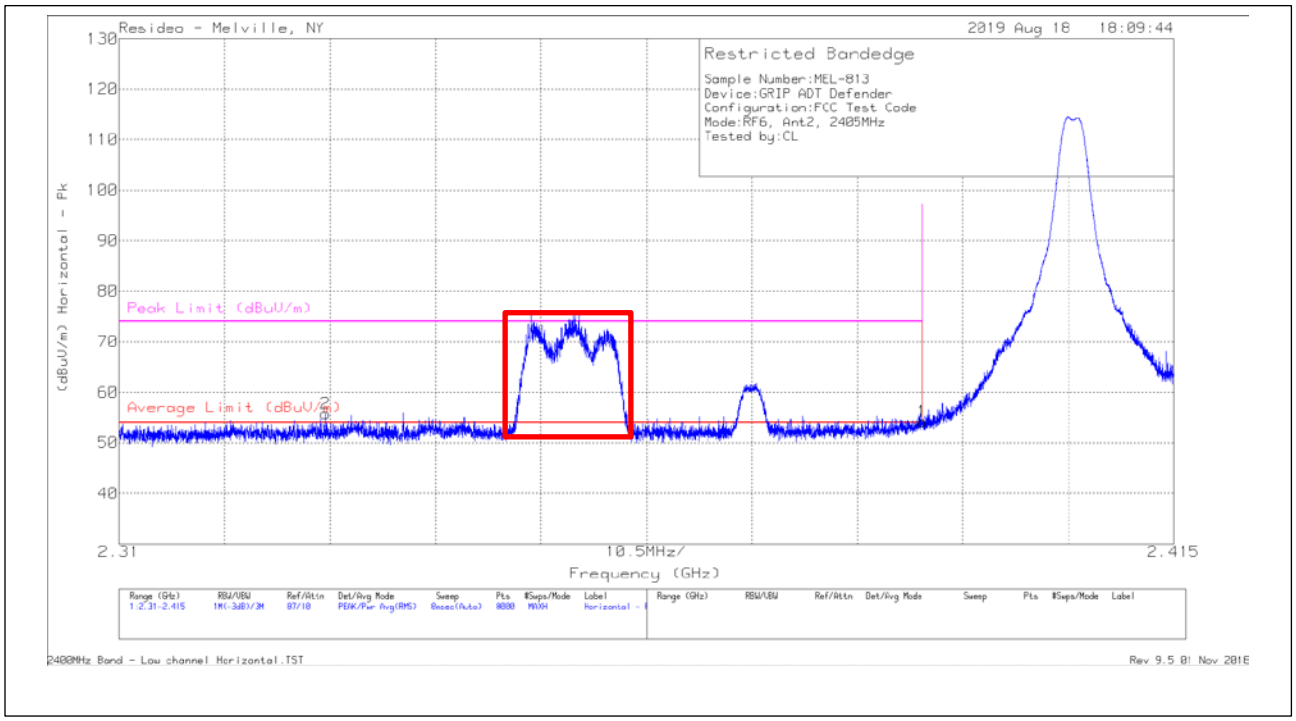

Antenna 2: Low Channel Horizontal - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	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	19.89	Pk	28.5	5.8	-	54.19	74	-19.81	161	345	H
2	* 2.331	22.03	Pk	28	5.8	-	55.83	74	-18.17	161	345	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	19.89	Av	28.5	5.8	-23.4	30.79	54	-23.21	161	345	H
2	* 2.331	22.03	Av	28	5.8	-23.4	32.43	54	-21.57	161	345	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 2: Low Channel Horizontal - Data

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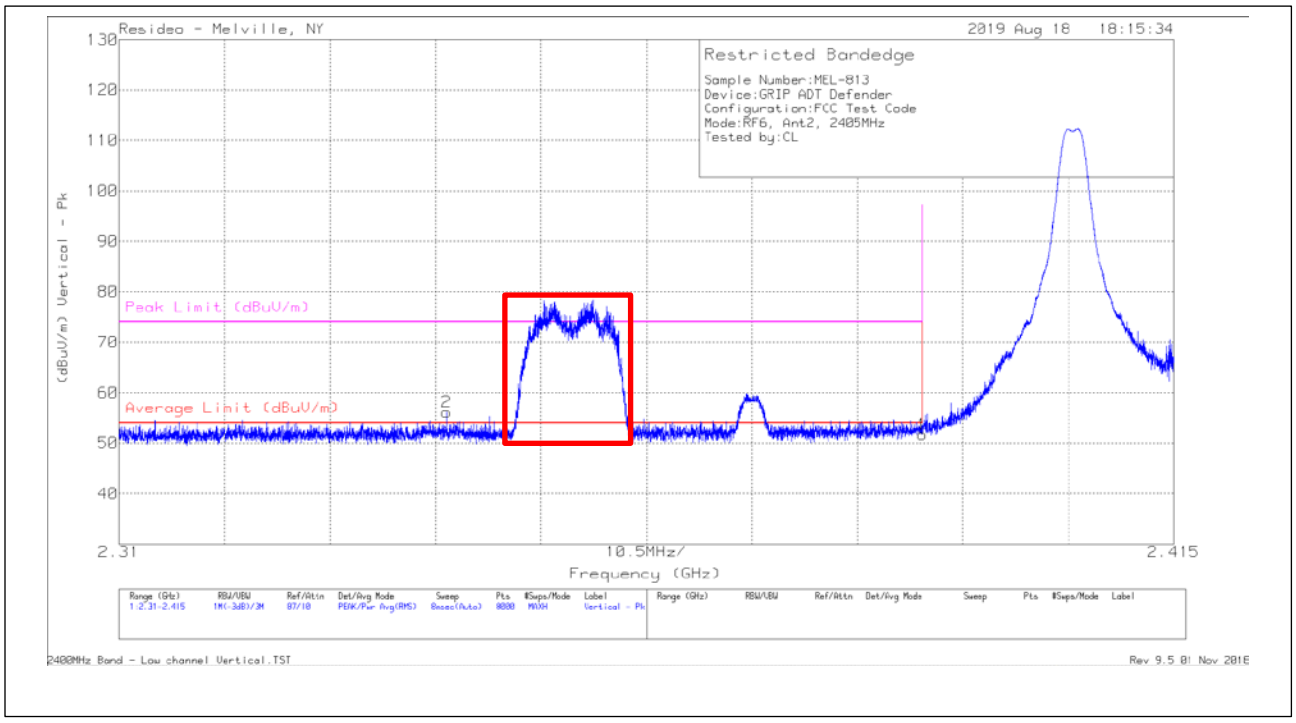

Antenna 2: Low Channel Vertical - Plot

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	17.43	Pk	28.5	5.8	-	51.73	74	-22.27	267	391	V
2	* 2.343	22.25	Pk	28.1	5.8	-	56.15	74	-17.85	267	391	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	28.33	54	-25.67	28.33	54	-25.67	28.33	54	267	391	V
2	* 2.343	32.75	54	-21.25	32.75	54	-21.25	32.75	54	267	391	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 2: Low Channel Vertical - Data

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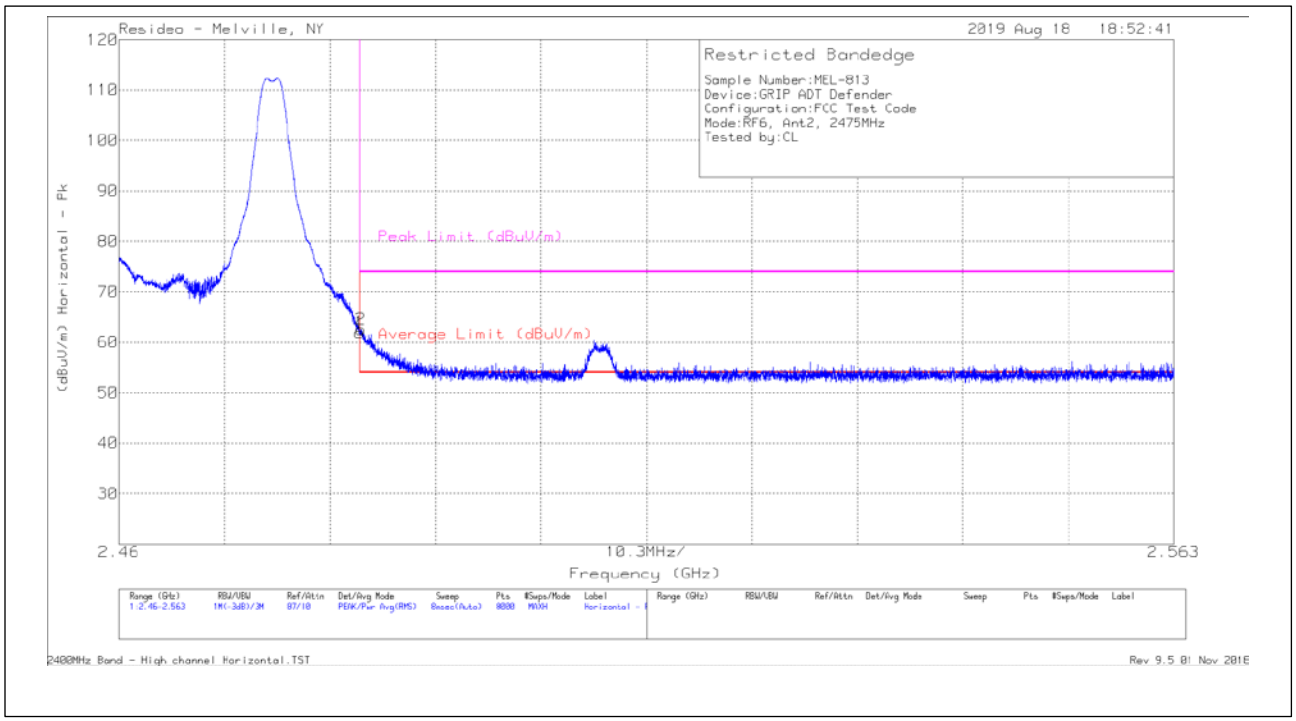

Antenna 2: High Channel Horizontal - Plot

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	27.28	Pk	28.7	5.9	-	61.88	74	-12.12	158	361	H
2	* 2.484	27.9	Pk	28.7	5.9	-	62.5	74	-11.5	158	361	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	27.28	Av	28.7	5.9	-23.4	38.48	54	-15.52	158	361	H
2	* 2.484	27.9	Av	28.7	5.9	-23.4	39.1	54	-14.9	158	361	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 2: High Channel Horizontal - Data

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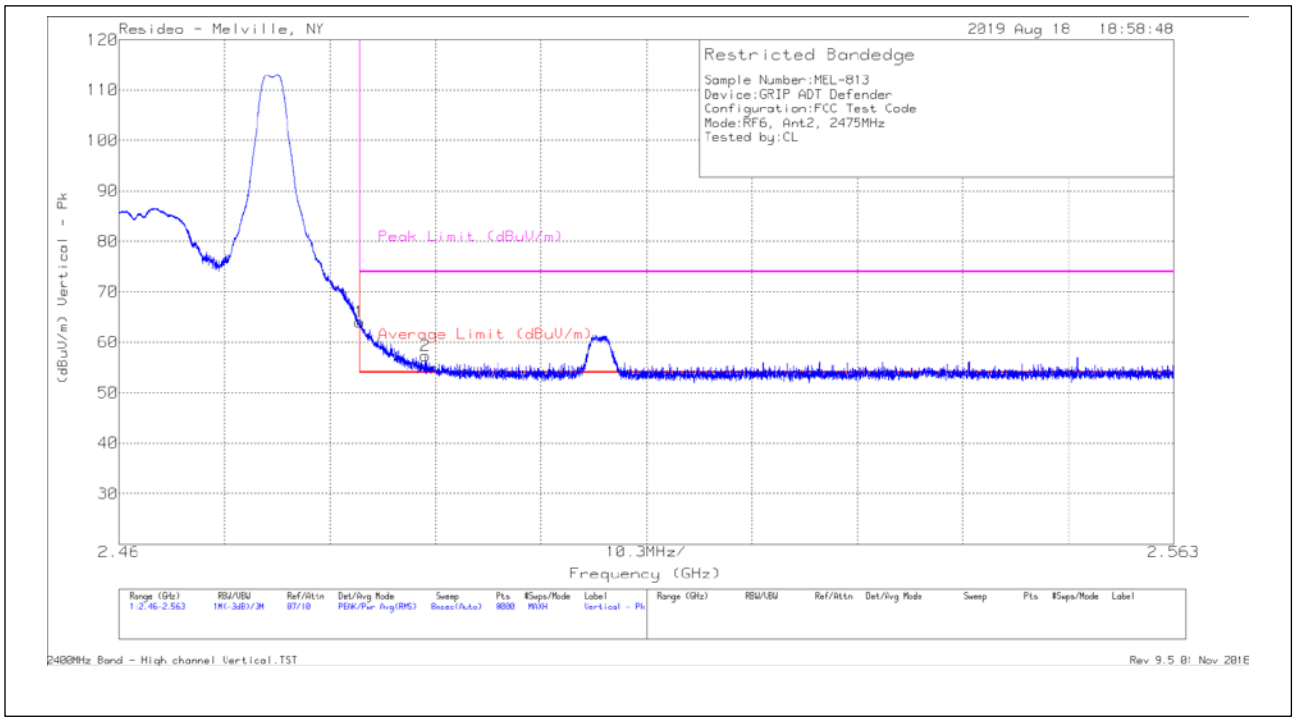

Antenna 2: High Channel Vertical - Plot

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	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	29.47	Pk	28.7	5.9	-	64.07	74	-9.93	265	357	V
2	* 2.49	22.6	Pk	28.7	6	-	57.3	74	-16.7	265	357	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	29.47	Av	28.7	5.9	-23.4	40.67	54	-13.33	265	357	V
2	* 2.49	22.6	Av	28.7	6	-23.4	33.9	54	-20.1	265	357	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Antenna 2: High Channel Vertical - Data

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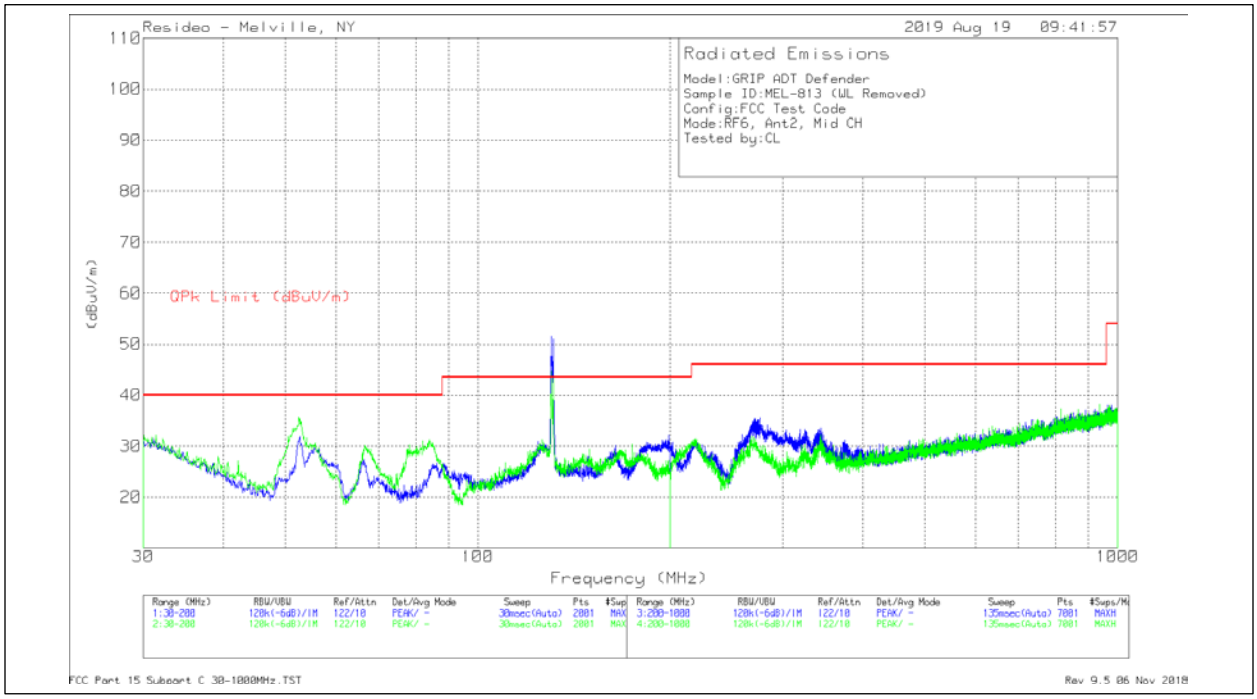
Spurious Emissions

Below 1GHz (Worse-case)



Antenna 2 Mid Channel - Plot

Frequency (MHz)	Meter Reading (dBuV)	Det	AF [dB]	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
57.7973	14.37	Qp	11.9	1.2	27.47	40	-12.53	308	374	H
66.8657	13.38	Qp	12	1.3	26.68	40	-13.32	360	374	H
* 130.4468	5.4	Qp	17.5	1.8	24.7	43.52	-18.82	348	386	H
52.8429	20.19	Qp	12.2	1.1	33.49	40	-6.51	83	142	V
84.4162	12.18	Qp	11.8	1.4	25.38	40	-14.62	224	140	V
* 129.7259	6.01	Qp	17.6	1.8	25.41	43.52	-18.11	338	163	V
* 271.1357	4.61	Qp	17.4	3.1	25.11	46.02	-20.91	93	339	H
343.6227	4.43	Qp	18.6	3.7	26.73	46.02	-19.29	351	209	V

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

Antenna 2 Mid Channel - Data

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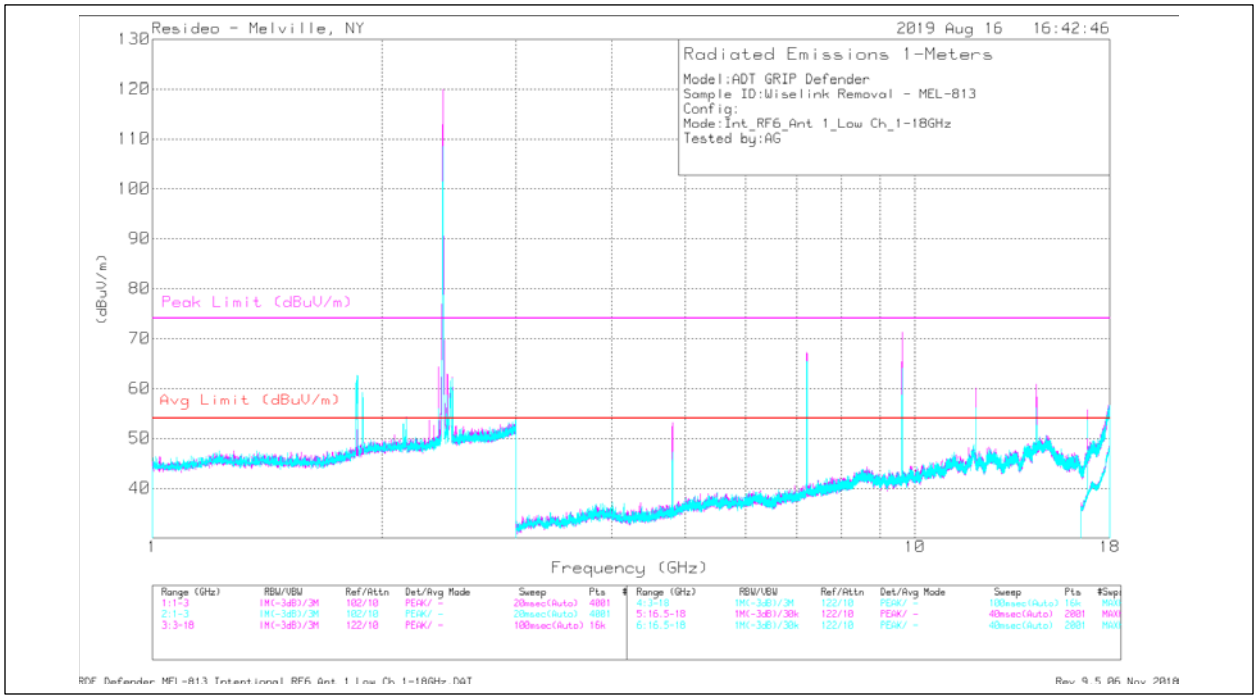
1-18GHz



Antenna 1: Low Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.809	51.87	PK	33.1	-33.8	51.17	74	-22.83	290	109	H
7.214	62.35	PK	36.2	-30.3	68.25	74	-5.75	263	315	H
9.622	57.91	PK	38	-28.2	67.71	74	-6.29	292	323	H
* 12.027	49.06	PK	39.4	-25.2	63.26	74	-10.74	230	115	H
14.433	44.39	PK	42.1	-23.7	62.79	74	-11.21	5	328	H
16.836	39.3	PK	39.6	-23.6	55.3	74	-18.7	69	236	H
* 4.809	50.88	PK	33.1	-33.8	50.18	74	-23.82	336	278	V
7.216	57.23	PK	36.2	-30.3	63.13	74	-10.87	83	241	V
9.618	51.95	PK	38	-28.2	61.75	74	-12.25	113	393	V
* 12.029	38.37	PK	39.4	-25.2	52.57	74	-21.43	41	169	V
14.434	39.25	PK	42.1	-23.6	57.75	74	-16.25	245	340	V
16.834	39.63	PK	39.6	-23.6	55.63	74	-18.37	296	119	V

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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
* 4.809	51.87	Av	33.1	-33.8	-23.4	27.77	54	-26.23	290	109	H
7.214	62.35	Av	36.2	-30.3	-23.4	44.85	54	-9.15	263	315	H
9.622	57.91	Av	38	-28.2	-23.4	44.31	54	-9.69	292	323	H
* 12.027	49.06	Av	39.4	-25.2	-23.4	39.86	54	-14.14	230	115	H
14.433	44.39	Av	42.1	-23.7	-23.4	39.39	54	-14.61	5	328	H
16.836	39.3	Av	39.6	-23.6	-23.4	31.9	54	-22.1	69	236	H
* 4.809	50.88	Av	33.1	-33.8	-23.4	26.78	54	-27.22	336	278	V
7.216	57.23	Av	36.2	-30.3	-23.4	39.73	54	-14.27	83	241	V
9.618	51.95	Av	38	-28.2	-23.4	38.35	54	-15.65	113	393	V
* 12.029	38.37	Av	39.4	-25.2	-23.4	29.17	54	-24.83	41	169	V
14.434	39.25	Av	42.1	-23.6	-23.4	34.35	54	-19.65	245	340	V
16.834	39.63	Av	39.6	-23.6	-23.4	32.23	54	-21.77	296	119	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 = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 1: Low Channel - Data

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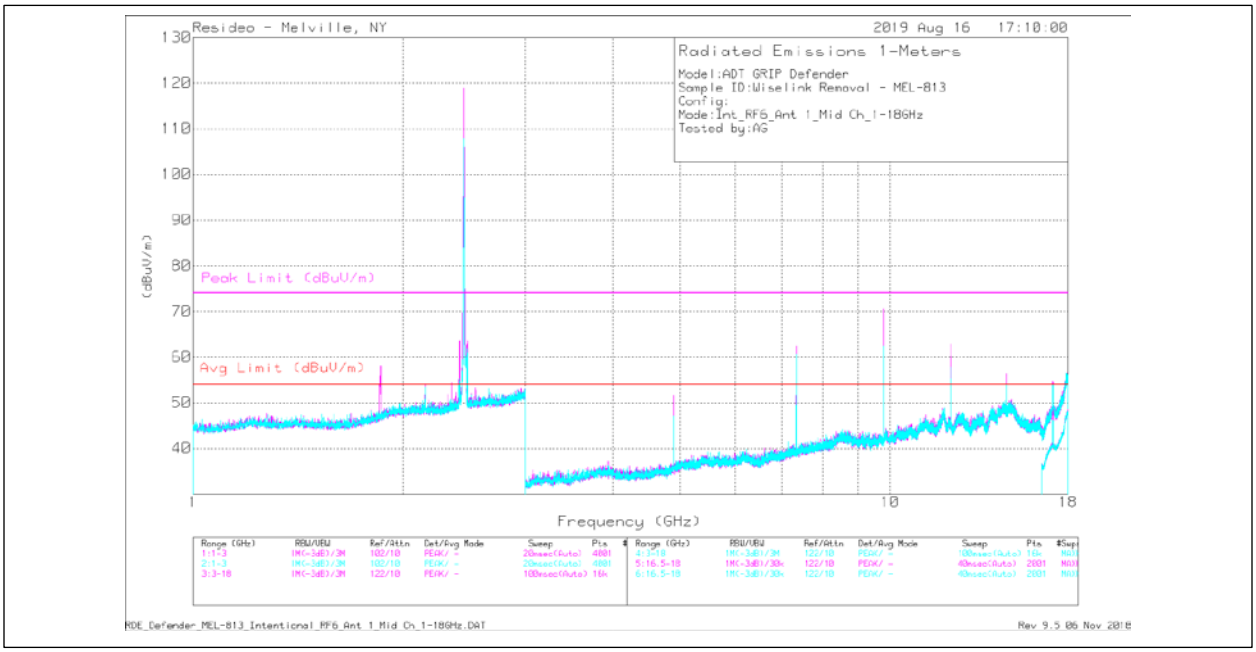

Antenna 1: Mid Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.889	50.79	PK	33.2	-34.1	49.89	74	-24.11	248	126	H
* 7.333	57.14	PK	36.6	-30.6	63.14	74	-10.86	265	331	H
9.782	57.93	PK	38.1	-28.3	67.73	74	-6.27	295	333	H
* 12.227	46.01	PK	39.2	-24.8	60.41	74	-13.59	23	312	H
14.667	41.94	PK	42.6	-23.8	60.74	74	-13.26	31	315	H
17.119	39.91	PK	41.1	-23.6	57.41	74	-16.59	270	198	H
* 4.889	47.19	PK	33.2	-34.1	46.29	74	-27.71	360	182	V
* 7.336	39.44	PK	36.6	-30.6	45.44	74	-28.56	49	104	V
9.78	42.38	PK	38.1	-28.3	52.18	74	-21.82	151	128	V
* 12.226	38.86	PK	39.2	-24.8	53.26	74	-20.74	98	365	V
14.67	39.06	PK	42.6	-23.8	57.86	74	-16.14	293	264	V
17.115	39.46	PK	41.1	-23.6	56.96	74	-17.04	360	268	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.889	50.79	Av	33.2	-34.1	-23.4	26.49	54	-27.51	248	126	H
* 7.333	57.14	Av	36.6	-30.6	-23.4	39.74	54	-14.26	265	331	H
9.782	57.93	Av	38.1	-28.3	-23.4	44.33	54	-9.67	295	333	H
* 12.227	46.01	Av	39.2	-24.8	-23.4	37.01	54	-16.99	23	312	H
14.667	41.94	Av	42.6	-23.8	-23.4	37.34	54	-16.66	31	315	H
17.119	39.91	Av	41.1	-23.6	-23.4	34.01	54	-19.99	270	198	H
* 4.889	47.19	Av	33.2	-34.1	-23.4	22.89	54	-31.11	360	182	V
* 7.336	39.44	Av	36.6	-30.6	-23.4	22.04	54	-31.96	49	104	V
9.78	42.38	Av	38.1	-28.3	-23.4	28.78	54	-25.22	151	128	V
* 12.226	38.86	Av	39.2	-24.8	-23.4	29.86	54	-24.14	98	365	V
14.67	39.06	Av	42.6	-23.8	-23.4	34.46	54	-19.54	293	264	V
17.115	39.46	Av	41.1	-23.6	-23.4	33.56	54	-20.44	360	268	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 = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 1: Mid Channel - Data

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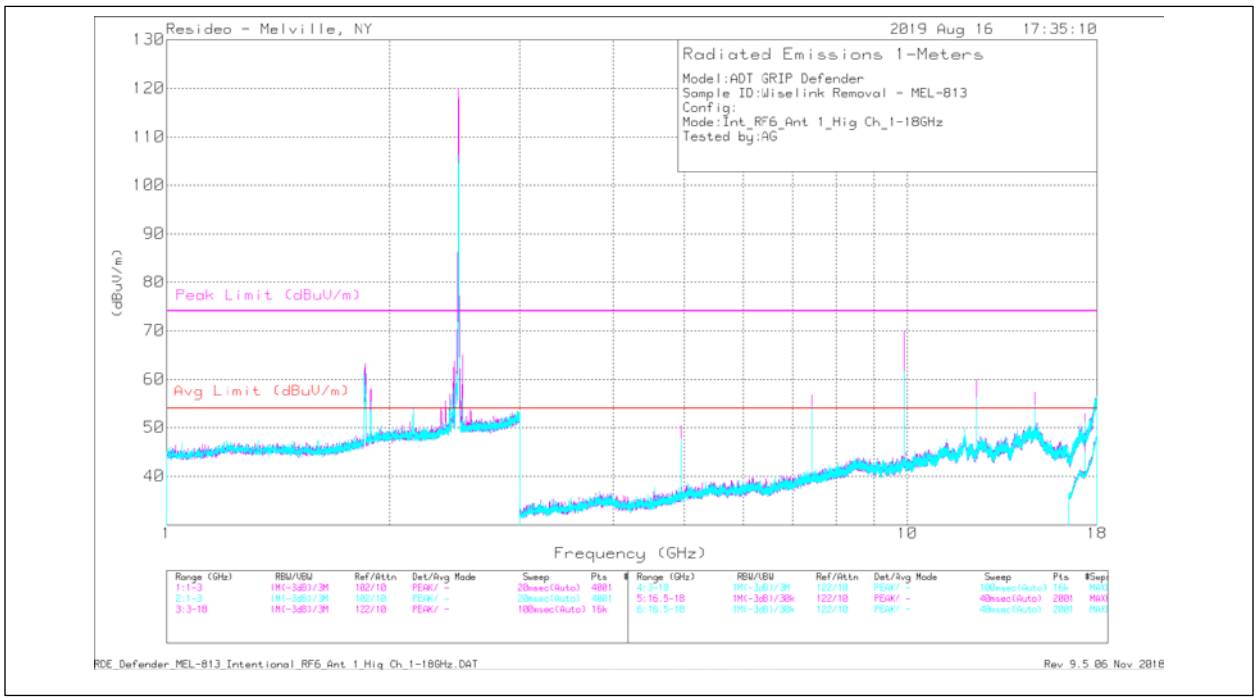

Antenna 1: High Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.949	54.09	PK	33.2	-34	53.29	74	-20.71	294	306	H
* 7.426	53.84	PK	36.7	-30.4	60.14	74	-13.86	278	321	H
9.902	55.09	PK	38.2	-28.4	64.89	74	-9.11	294	330	H
* 12.372	43.37	PK	39	-24.7	57.67	74	-16.33	46	302	H
14.852	40.35	PK	42	-23.6	58.75	74	-15.25	309	287	H
17.323	39.81	PK	42.4	-23.6	58.61	74	-15.39	26	328	H
* 4.949	53.13	PK	33.2	-34	52.33	74	-21.67	328	398	V
* 7.426	50.09	PK	36.7	-30.4	56.39	74	-17.61	266	395	V
9.902	52.65	PK	38.2	-28.4	62.45	74	-11.55	237	285	V
* 12.377	43.59	PK	38.9	-24.7	57.79	74	-16.21	298	267	V
14.852	40.29	PK	42	-23.6	58.69	74	-15.31	258	290	V
17.325	40.86	PK	42.4	-23.6	59.66	74	-14.34	171	348	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.949	54.09	Av	33.2	-34	-23.4	29.89	54	-24.11	294	306	H
* 7.426	53.84	Av	36.7	-30.4	-23.4	36.74	54	-17.26	278	321	H
9.902	55.09	Av	38.2	-28.4	-23.4	41.49	54	-12.51	294	330	H
* 12.372	43.37	Av	39	-24.7	-23.4	34.27	54	-19.73	46	302	H
14.852	40.35	Av	42	-23.6	-23.4	35.35	54	-18.65	309	287	H
17.323	39.81	Av	42.4	-23.6	-23.4	35.21	54	-18.79	26	328	H
* 4.949	53.13	Av	33.2	-34	-23.4	28.93	54	-25.07	328	398	V
* 7.426	50.09	Av	36.7	-30.4	-23.4	32.99	54	-21.01	266	395	V
9.902	52.65	Av	38.2	-28.4	-23.4	39.05	54	-14.95	237	285	V
* 12.377	43.59	Av	38.9	-24.7	-23.4	34.39	54	-19.61	298	267	V
14.852	40.29	Av	42	-23.6	-23.4	35.29	54	-18.71	258	290	V
17.325	40.86	Av	42.4	-23.6	-23.4	36.26	54	-17.74	171	348	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 = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 1: High Channel – Data

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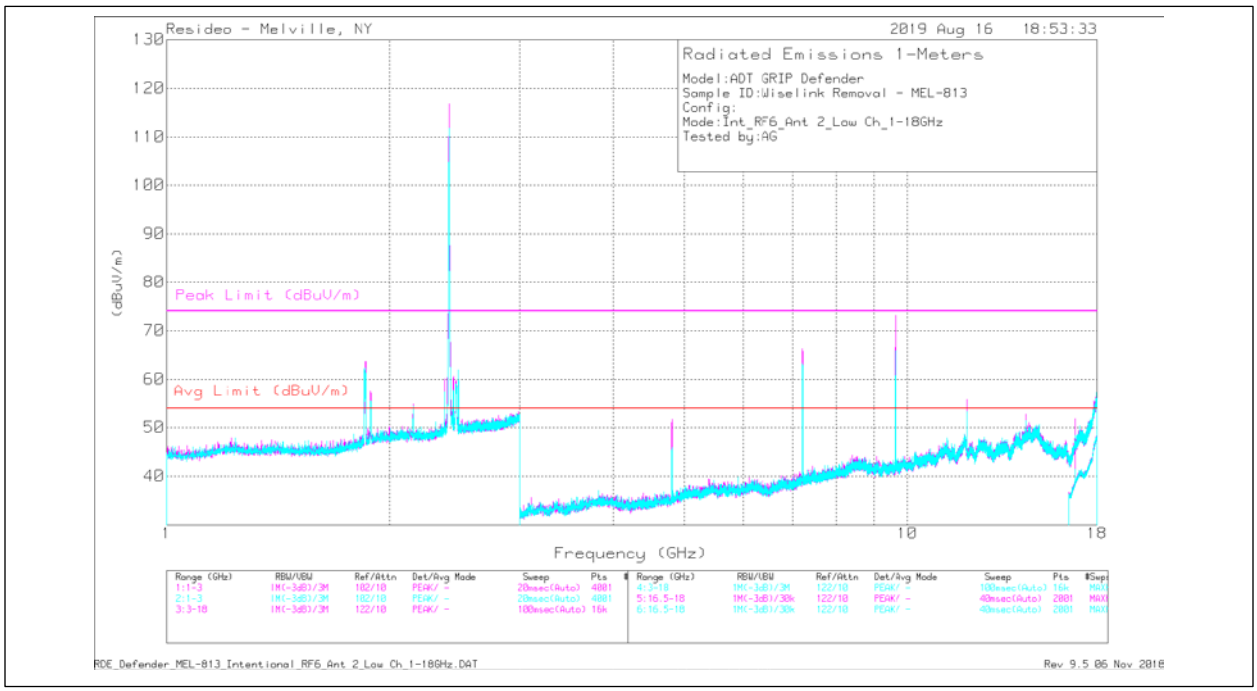

Antenna 2: Low Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.809	52.22	PK	33.1	-33.8	51.52	74	-22.48	123	301	H
7.213	60.88	PK	36.2	-30.3	66.78	74	-7.22	273	327	H
9.622	60.07	PK	38	-28.2	69.87	74	-4.13	58	324	H
* 12.027	44.84	PK	39.4	-25.2	59.04	74	-14.96	28	302	H
14.433	40.42	PK	42.1	-23.7	58.82	74	-15.18	7	292	H
16.838	39.51	PK	39.6	-23.5	55.61	74	-18.39	274	142	H
* 4.811	47.18	PK	33.1	-33.8	46.48	74	-27.52	264	137	V
7.218	40.09	PK	36.2	-30.3	45.99	74	-28.01	242	125	V
9.62	38.25	PK	38	-28.2	48.05	74	-25.95	133	369	V
* 12.026	38.13	PK	39.4	-25.2	52.33	74	-21.67	304	181	V
14.434	39.83	PK	42.1	-23.6	58.33	74	-15.67	186	337	V
16.834	39.09	PK	39.6	-23.6	55.09	74	-18.91	110	287	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.809	52.22	Av	33.1	-33.8	-23.4	28.12	54	-25.88	123	301	H
7.213	60.88	Av	36.2	-30.3	-23.4	43.38	54	-10.62	273	327	H
9.622	60.07	Av	38	-28.2	-23.4	46.47	54	-7.53	58	324	H
* 12.027	44.84	Av	39.4	-25.2	-23.4	35.64	54	-18.36	28	302	H
14.433	40.42	Av	42.1	-23.7	-23.4	35.42	54	-18.58	7	292	H
16.838	39.51	Av	39.6	-23.5	-23.4	32.21	54	-21.79	274	142	H
* 4.811	47.18	Av	33.1	-33.8	-23.4	23.08	54	-30.92	264	137	V
7.218	40.09	Av	36.2	-30.3	-23.4	22.59	54	-31.41	242	125	V
9.62	38.25	Av	38	-28.2	-23.4	24.65	54	-29.35	133	369	V
* 12.026	38.13	Av	39.4	-25.2	-23.4	28.93	54	-25.07	304	181	V
14.434	39.83	Av	42.1	-23.6	-23.4	34.93	54	-19.07	186	337	V
16.834	39.09	Av	39.6	-23.6	-23.4	31.69	54	-22.31	110	287	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 = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 2: Low Channel - Data

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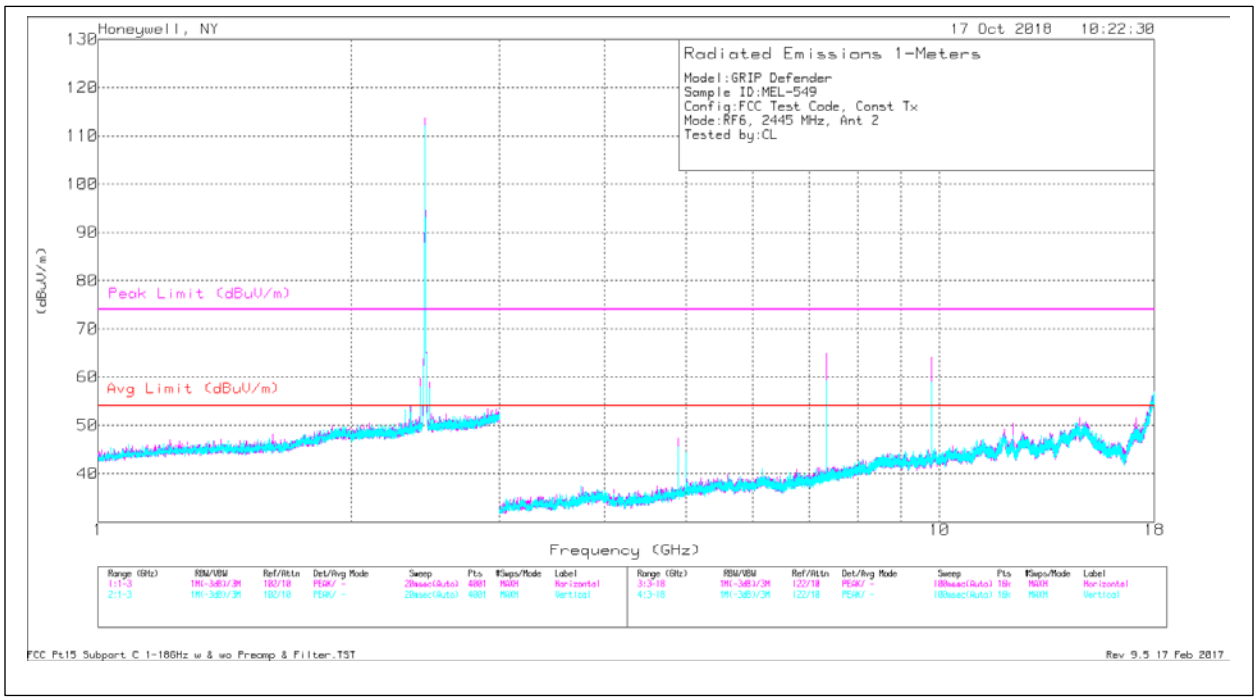

Antenna 2: Mid Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.889	51.57	PK	33.2	-34.1	50.67	74	-23.33	132	103	H
* 7.333	52.49	PK	36.6	-30.6	58.49	74	-15.51	248	325	H
9.782	58.25	PK	38.1	-28.3	68.05	74	-5.95	302	337	H
* 12.227	43.48	PK	39.2	-24.8	57.88	74	-16.12	46	258	H
14.67	39.78	PK	42.6	-23.8	58.58	74	-15.42	280	127	H
17.114	39.48	PK	41.1	-23.6	56.98	74	-17.02	284	354	H
* 4.889	46.66	PK	33.2	-34.1	45.76	74	-28.24	150	263	V
* 7.333	50.87	PK	36.6	-30.6	56.87	74	-17.13	99	103	V
9.782	55.35	PK	38.1	-28.3	65.15	74	-8.85	157	107	V
* 12.227	40.91	PK	39.2	-24.8	55.31	74	-18.69	53	104	V
14.672	39.31	PK	42.6	-23.9	58.01	74	-15.99	184	368	V
17.111	39.68	PK	41.1	-23.6	57.18	74	-16.82	223	372	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.889	51.57	Av	33.2	-34.1	-23.4	27.27	54	-26.73	132	103	H
* 7.333	52.49	Av	36.6	-30.6	-23.4	35.09	54	-18.91	248	325	H
9.782	58.25	Av	38.1	-28.3	-23.4	44.65	54	-9.35	302	337	H
* 12.227	43.48	Av	39.2	-24.8	-23.4	34.48	54	-19.52	46	258	H
14.67	39.78	Av	42.6	-23.8	-23.4	35.18	54	-18.82	280	127	H
17.114	39.48	Av	41.1	-23.6	-23.4	33.58	54	-20.42	284	354	H
* 4.889	46.66	Av	33.2	-34.1	-23.4	22.36	54	-31.64	150	263	V
* 7.333	50.87	Av	36.6	-30.6	-23.4	33.47	54	-20.53	99	103	V
9.782	55.35	Av	38.1	-28.3	-23.4	41.75	54	-12.25	157	107	V
* 12.227	40.91	Av	39.2	-24.8	-23.4	31.91	54	-22.09	53	104	V
14.672	39.31	Av	42.6	-23.9	-23.4	34.61	54	-19.39	184	368	V
17.111	39.68	Av	41.1	-23.6	-23.4	33.78	54	-20.22	223	372	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 2: Mid Channel - Data

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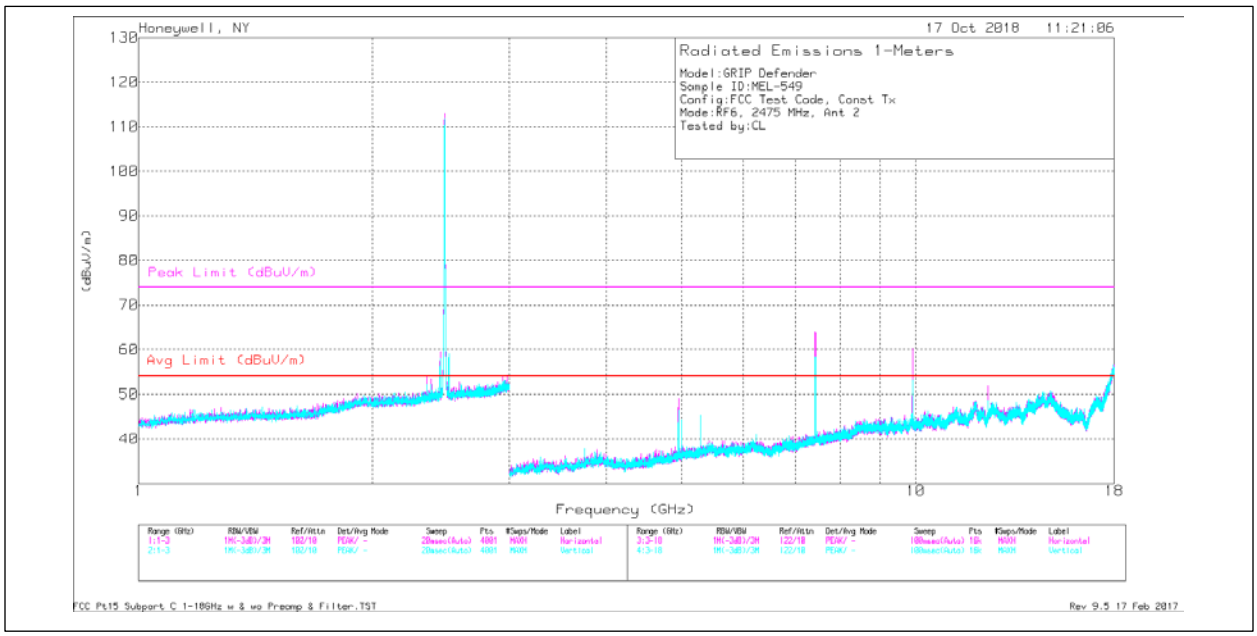

Antenna 2: High Channel - Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.949	53.01	PK	33.2	-34	52.21	74	-21.79	137	110	H
* 7.423	50.02	PK	36.7	-30.4	56.32	74	-17.68	288	119	H
9.902	57.4	PK	38.2	-28.4	67.2	74	-6.8	131	129	H
* 12.377	42.74	PK	38.9	-24.7	56.94	74	-17.06	146	132	H
14.853	39.05	PK	42	-23.6	57.45	74	-16.55	0	110	H
17.322	39.91	PK	42.4	-23.6	58.71	74	-15.29	177	178	H
* 4.949	49.94	PK	33.2	-34	49.14	74	-24.86	20	172	V
* 7.426	49.45	PK	36.7	-30.4	55.75	74	-18.25	316	162	V
9.902	53.63	PK	38.2	-28.4	63.43	74	-10.57	266	160	V
* 12.373	42.08	PK	39	-24.7	56.38	74	-17.62	24	141	V
14.853	39.44	PK	42	-23.6	57.84	74	-16.16	250	332	V
17.324	39.81	PK	42.4	-23.6	58.61	74	-15.39	239	242	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.949	53.01	Av	33.2	-34	-23.4	28.81	54	-25.19	137	110	H
* 7.423	50.02	Av	36.7	-30.4	-23.4	32.92	54	-21.08	288	119	H
9.902	57.4	Av	38.2	-28.4	-23.4	43.8	54	-10.2	131	129	H
* 12.377	42.74	Av	38.9	-24.7	-23.4	33.54	54	-20.46	146	132	H
14.853	39.05	Av	42	-23.6	-23.4	34.05	54	-19.95	0	110	H
17.322	39.91	Av	42.4	-23.6	-23.4	35.31	54	-18.69	177	178	H
* 4.949	49.94	Av	33.2	-34	-23.4	25.74	54	-28.26	20	172	V
* 7.426	49.45	Av	36.7	-30.4	-23.4	32.35	54	-21.65	316	162	V
9.902	53.63	Av	38.2	-28.4	-23.4	40.03	54	-13.97	266	160	V
* 12.373	42.08	Av	39	-24.7	-23.4	32.98	54	-21.02	24	141	V
14.853	39.44	Av	42	-23.6	-23.4	34.44	54	-19.56	250	332	V
17.324	39.81	Av	42.4	-23.6	-23.4	35.21	54	-18.79	239	242	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 = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

Antenna 2: High Channel – Data

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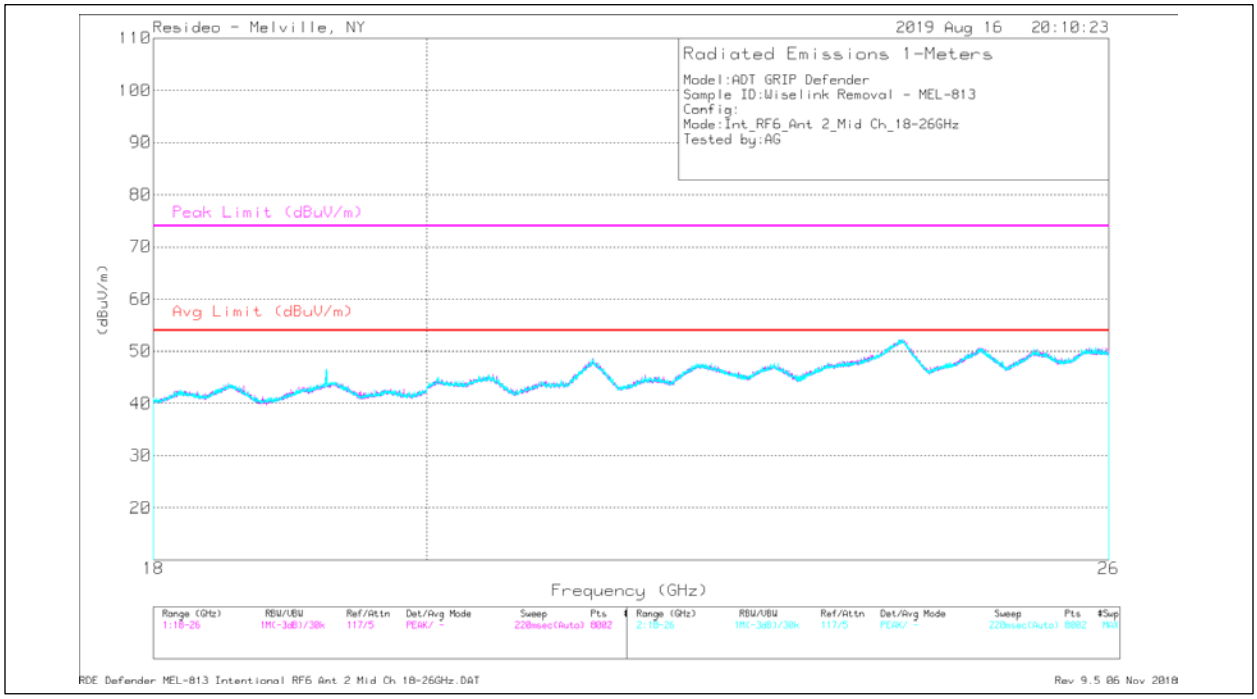
18-26GHz

Note: No emissions detected above the system noise floor



Antenna 1: Low Channel - Plot

Frequency (GHz)	Meter Reading (dBuV)	Det	AF EM-6963 [dB/m]	Preamp [dB]	SMA7 [dB]	SMA5 [dB]	Dist Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.274	28.65	PK2	44.1	-34.5	7.9	8	-9.5	44.65	-	-	74	-29.35	0	100	H
* 19.276	20.91	MAv1	44.1	-34.5	7.9	8	-9.5	36.91	54	-17.09	-	-	0	100	H
* 21.319	33.99	PK2	44.5	-31.9	8.3	8.1	-9.5	53.49	-	-	74	-20.51	0	100	H
* 21.319	20.79	MAv1	44.5	-31.9	8.3	8.1	-9.5	40.29	54	-13.71	-	-	0	100	H
* 21.318	31.03	PK2	44.5	-31.9	8.3	8.1	-9.5	50.53	-	-	74	-23.47	193	166	H
* 21.318	20.71	MAv1	44.5	-31.9	8.3	8.1	-9.5	40.21	54	-13.79	-	-	193	166	H
24.027	30.98	PK2	46.4	-30.4	8.9	8.4	-9.5	54.78	-	-	74	-19.22	140	354	H
24.026	20.24	MAv1	46.4	-30.4	8.9	8.4	-9.5	44.04	54	-9.96	-	-	140	354	H
* 19.29	31	PK2	44.2	-34.3	7.9	8	-9.5	47.3	-	-	74	-26.7	277	321	V
* 19.29	21.1	MAv1	44.2	-34.3	7.9	8	-9.5	37.4	54	-16.6	-	-	277	321	V
* 21.323	31.14	PK2	44.5	-32	8.3	8.1	-9.5	50.54	-	-	74	-23.46	139	366	V
* 21.324	20.5	MAv1	44.5	-32	8.3	8.1	-9.5	39.9	54	-14.1	-	-	139	366	V
24.018	30.41	PK2	46.4	-30.3	8.9	8.4	-9.5	54.31	-	-	74	-19.69	272	380	V
24.019	20.61	MAv1	46.4	-30.3	8.9	8.4	-9.5	44.51	54	-9.49	-	-	272	380	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

Antenna 1: Low Channel – Data

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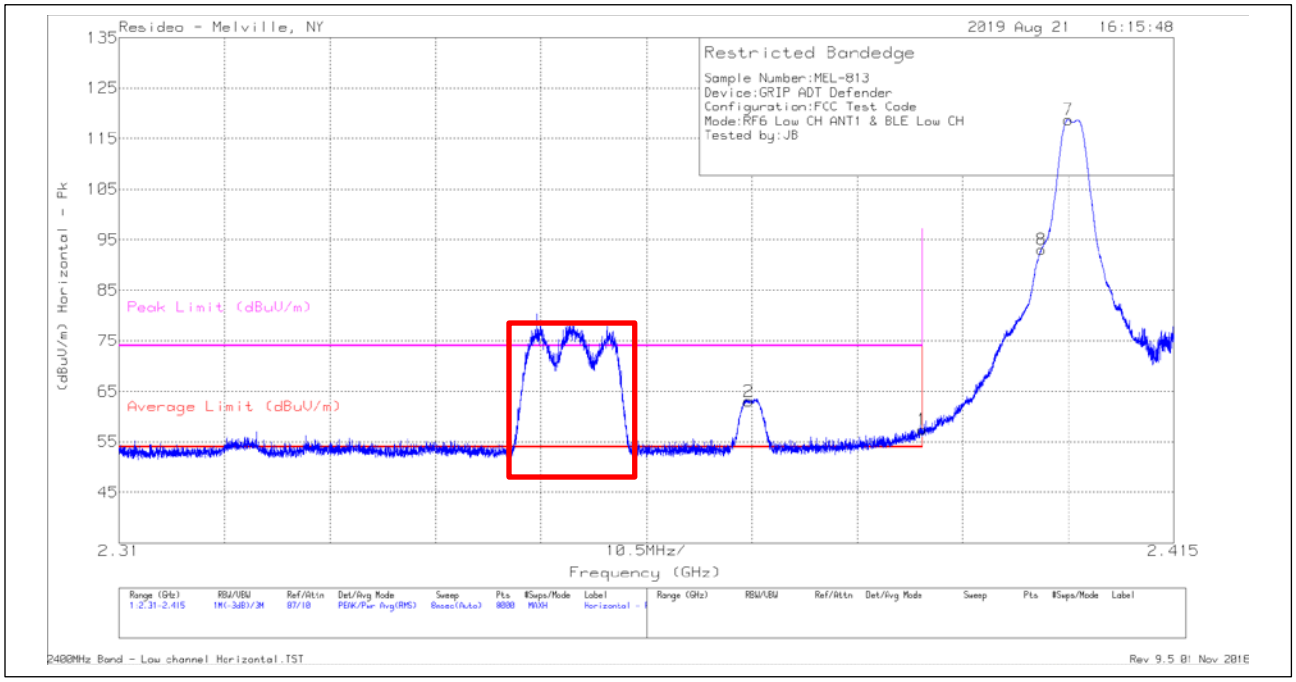
Simultaneous Transmission

Configuration (Worse-case):

RF6 – Antenna 1, Low Channel
Bluetooth (LE) – Mid Channel

Restricted Band Edge



Low Channel Horizontal – Plot

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)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.39	23.17	Pk	28.5	5.8	-	57.47	-	-	74	-16.53	350	348	H
* 2.39	23.17	Av	28.5	5.8	-23.4	34.07	54	-19.93	-	-	350	348	H
* 2.373	28.85	Pk	28.4	5.8	-	63.05	-	-	74	-10.95	350	348	H
* 2.373	28.85	Av	28.4	5.8	-23.4	39.65	54	-14.35	-	-	350	348	H
** 2.404	84.37	Pk	28.6	5.8	-	118.77	-	-	-	-	350	348	H
** 2.402	58.65	Pk	28.6	5.8	-	93.05	-	-	-	-	350	348	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Low Channel Horizontal - Data

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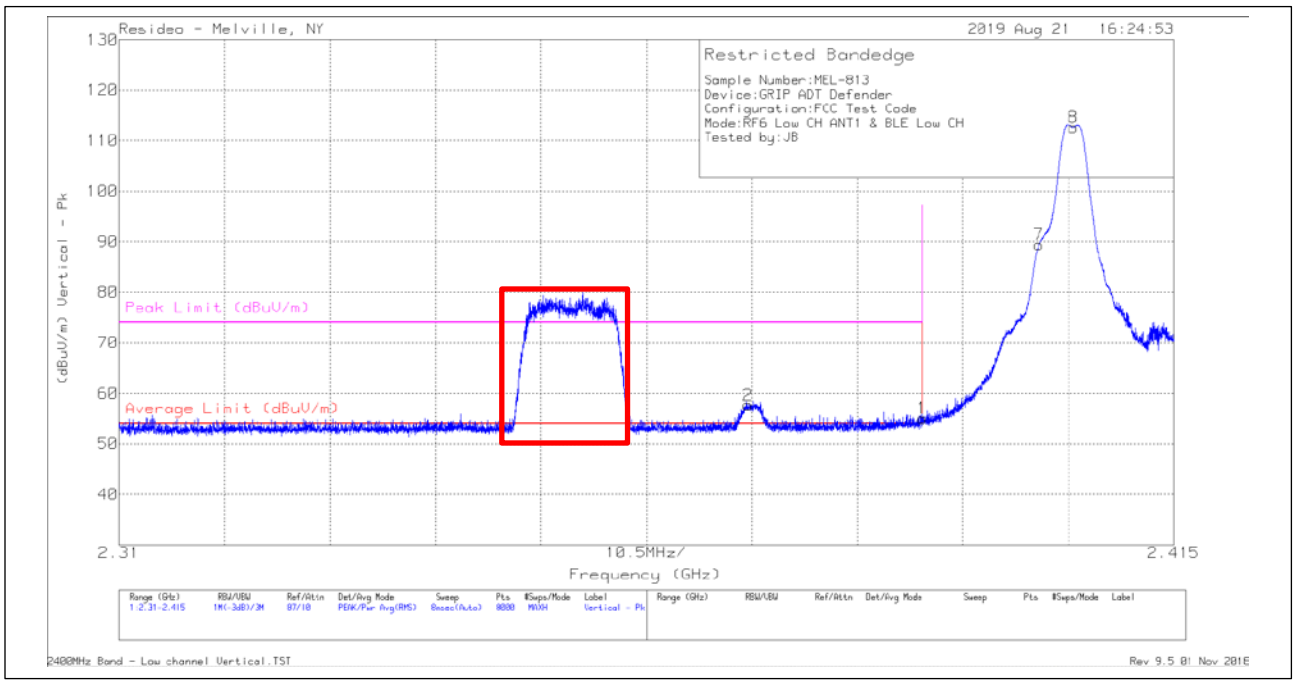

Low Channel Vertical – Plot

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)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.39	20.76	Pk	28.5	5.8	-	55.06	-	-	74	-18.94	265	391	V
* 2.39	20.76	Av	28.5	5.8	-23.4	31.66	54	-22.34	-	-	265	391	V
* 2.373	23.49	Pk	28.4	5.8	-	57.69	-	-	74	-16.31	265	391	V
* 2.373	23.49	AV	28.4	5.8	-23.4	34.29	54	-19.71	-	-	265	391	V
** 2.402	55	Pk	28.6	5.8	-	89.4	-	-	-	-	265	391	V
** 2.405	78.3	Pk	28.6	5.8	-	112.7	-	-	-	-	265	391	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

Low Channel Vertical - Data

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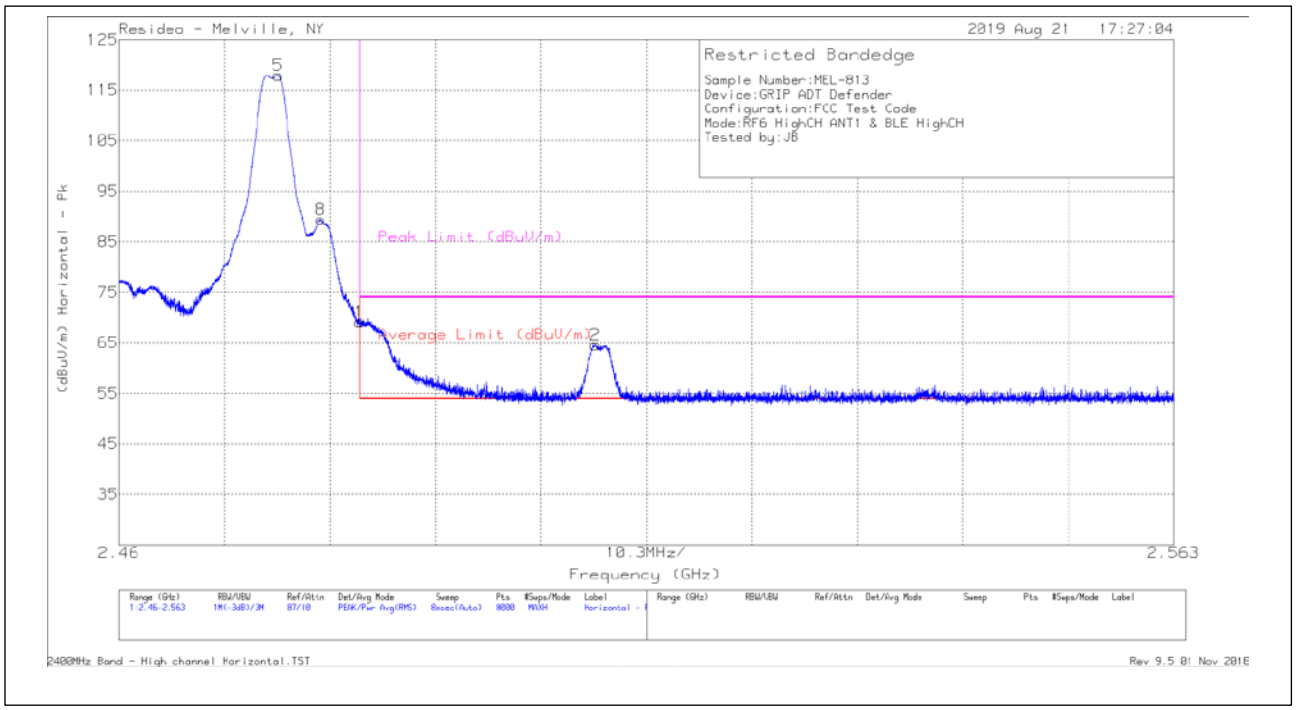

High Channel Horizontal – Plot

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)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.484	34.51	Pk	28.7	5.9	-	69.11	-	-	74	-4.89	342	167	H
* 2.484	34.51	Av	28.7	5.9	-23.4	45.71	54	-8.29	-	-	342	167	H
2.507	29.79	Pk	28.8	6	-	64.59	-	-	74	-9.41	342	167	H
2.507	29.79	Av	28.8	6	-23.4	41.19	54	-12.81	-	-	342	167	H
** 2.476	83.34	Pk	28.7	5.9		117.94	-	-	-	-	342	167	H
** 2.48	54.79	Pk	28.7	5.9		89.39	-	-	-	-	342	167	H

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

High Channel Horizontal - Data

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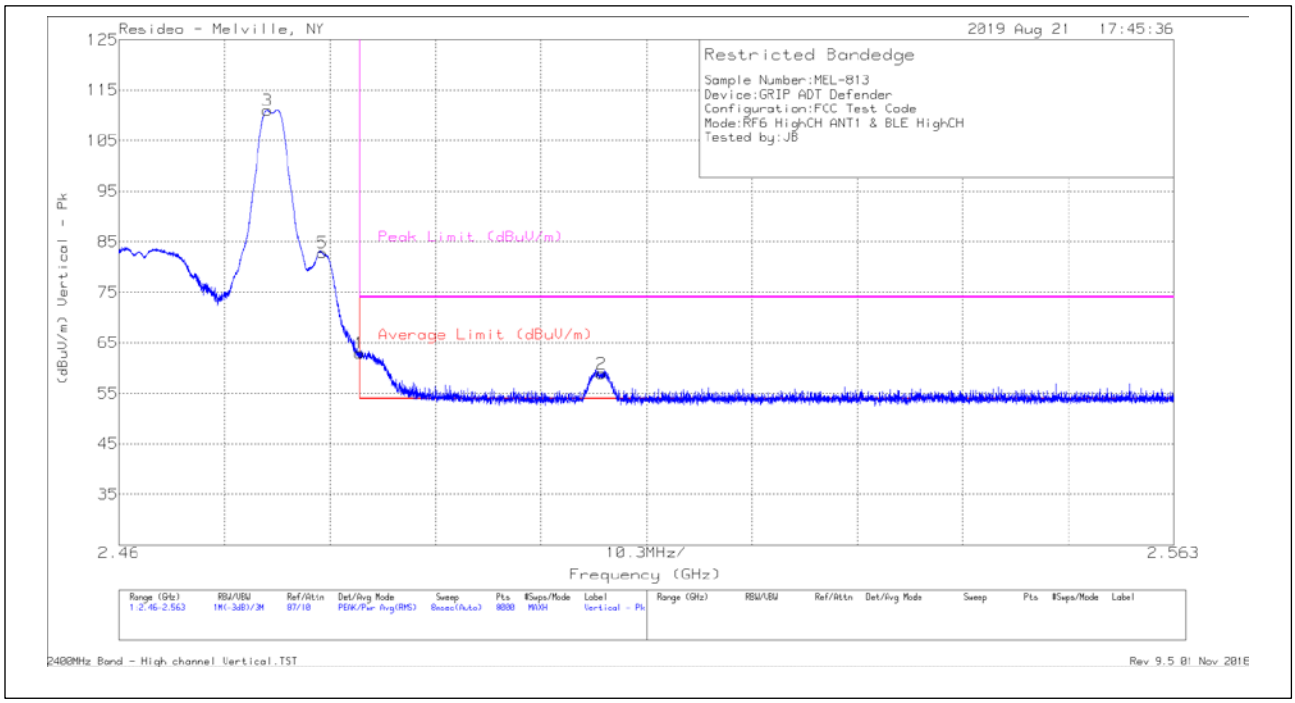

High Channel Vertical – Plot

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)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.484	28.31	Pk	28.7	5.9	-	62.91	-	-	74	-11.09	266	372	V
* 2.484	28.31	Av	28.7	5.9	-23.4	39.51	54	-14.49	-	-	266	372	V
2.507	24.05	Pk	28.8	6	-	58.85	-	-	74	-15.15	266	372	V
2.507	24.05	Av	28.8	6	-23.4	35.45	54	-18.55	-	-	266	372	V
** 2.475	76.38	Pk	28.7	5.9	-	110.98	-	-	-	-	266	372	V
** 2.48	48.19	Pk	28.7	5.9	-	82.79	-	-	-	-	266	372	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.06752) = -23.4dB

NOTE: Emissions highlighted in the plot above is OATS ambient and not a product of the transmitter. Worse-case emissions are reported and all other peak emissions, once corrected by the DC Corr, would be below the average limit.

High Channel Vertical - Data

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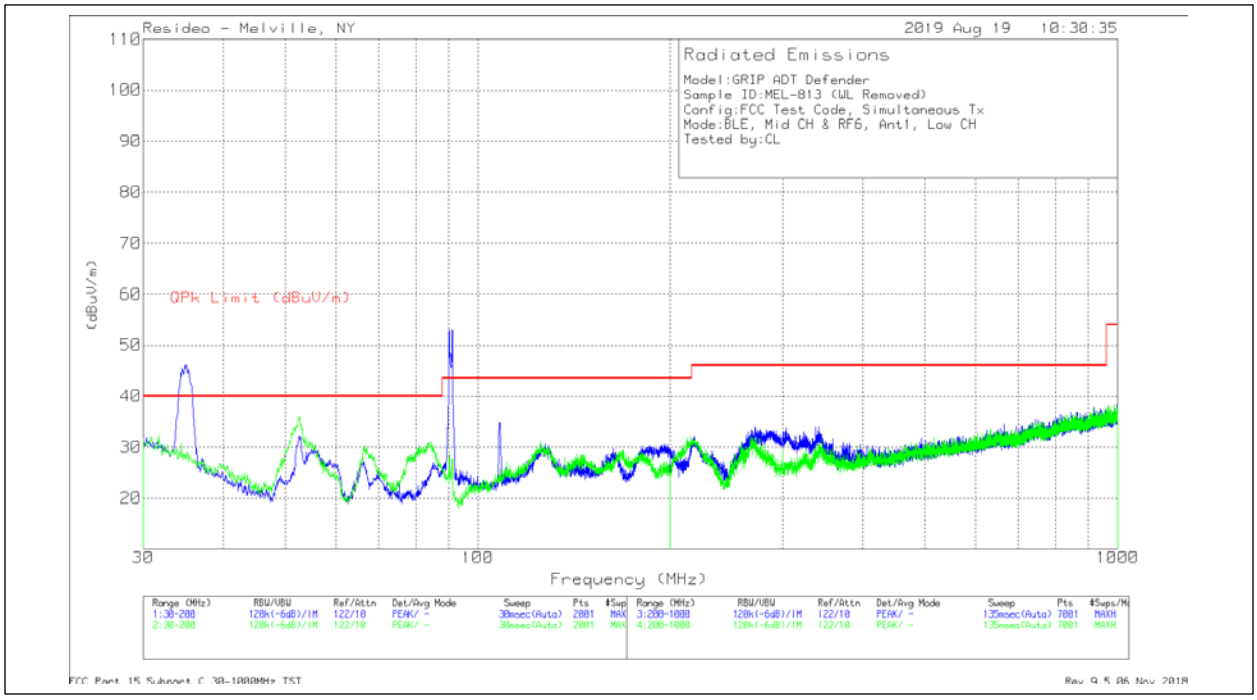
Spurious Emissions



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
35.3559	10.27	Qp	21	.9	32.17	40	-7.83	117	392	H
52.0262	12.57	Qp	12.2	1.1	25.87	40	-14.13	309	390	H
91.9168	27.31	Qp	12.4	1.5	41.21	43.52	-2.31	178	366	H
* 109.0431	6.01	Qp	16.4	1.6	24.01	43.52	-19.51	321	381	H
52.02	19.47	Qp	12.2	1.1	32.77	40	-7.23	1	164	V
84.4364	12.4	Qp	11.8	1.4	25.6	40	-14.4	135	117	V
* 125.6071	7.63	Qp	17.6	1.8	27.03	43.52	-16.49	80	172	V

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

30-1000MHz – Plot / Data

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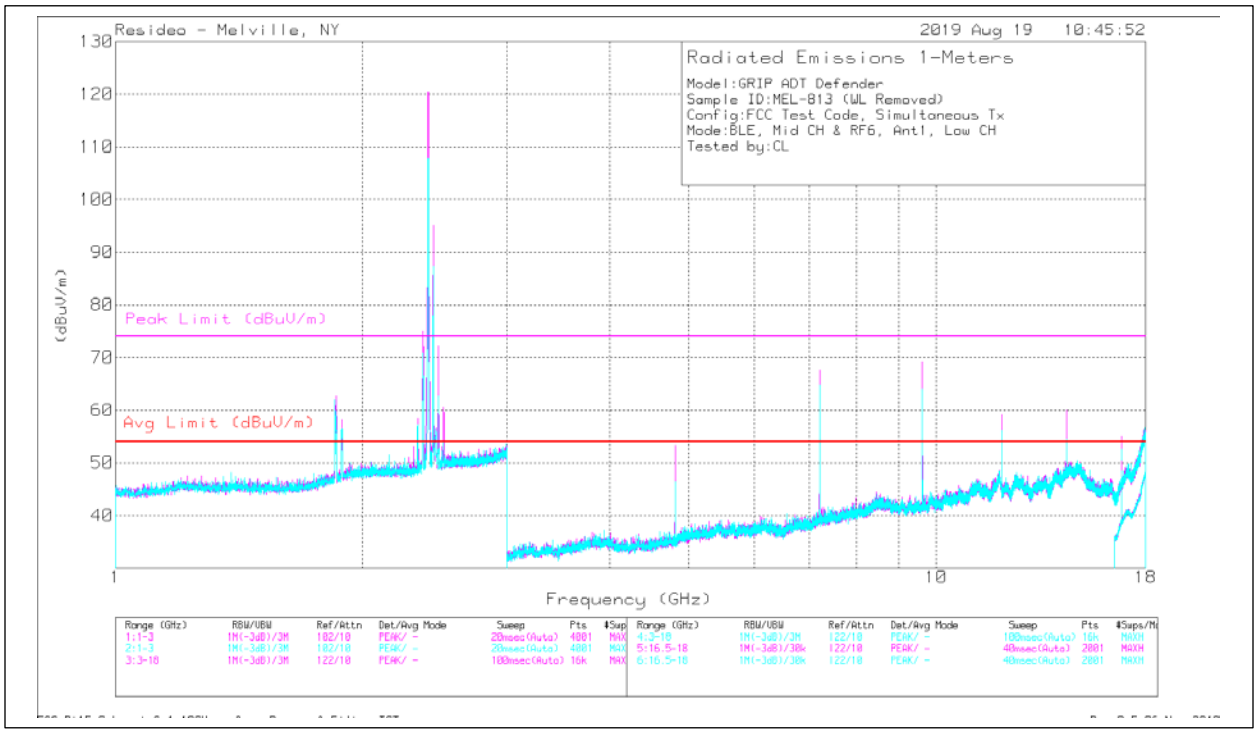

1-18GHz – Plot

Note: Emissions detected at ~1.8GHz were found to be ambient and not a product of the EUT

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
* 4.889	51.57	PK	33.2	-34.1	50.67	74	-23.33	132	103	H
* 7.333	52.49	PK	36.6	-30.6	58.49	74	-15.51	248	325	H
9.782	58.25	PK	38.1	-28.3	68.05	74	-5.95	302	337	H
* 12.227	43.48	PK	39.2	-24.8	57.88	74	-16.12	46	258	H
14.67	39.78	PK	42.6	-23.8	58.58	74	-15.42	280	127	H
17.114	39.48	PK	41.1	-23.6	56.98	74	-17.02	284	354	H
* 4.889	46.66	PK	33.2	-34.1	45.76	74	-28.24	150	263	V
* 7.333	50.87	PK	36.6	-30.6	56.87	74	-17.13	99	103	V
9.782	55.35	PK	38.1	-28.3	65.15	74	-8.85	157	107	V
* 12.227	40.91	PK	39.2	-24.8	55.31	74	-18.69	53	104	V
14.672	39.31	PK	42.6	-23.9	58.01	74	-15.99	184	368	V
17.111	39.68	PK	41.1	-23.6	57.18	74	-16.82	223	372	V

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m]	Gain/Loss (dB)	DCF [dB]	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.889	51.57	Av	33.2	-34.1	-23.4	27.27	54	-26.73	132	103	H
* 7.333	52.49	Av	36.6	-30.6	-23.4	35.09	54	-18.91	248	325	H
9.782	58.25	Av	38.1	-28.3	-23.4	44.65	54	-9.35	302	337	H
* 12.227	43.48	Av	39.2	-24.8	-23.4	34.48	54	-19.52	46	258	H
14.67	39.78	Av	42.6	-23.8	-23.4	35.18	54	-18.82	280	127	H
17.114	39.48	Av	41.1	-23.6	-23.4	33.58	54	-20.42	284	354	H
* 4.889	46.66	Av	33.2	-34.1	-23.4	22.36	54	-31.64	150	263	V
* 7.333	50.87	Av	36.6	-30.6	-23.4	33.47	54	-20.53	99	103	V
9.782	55.35	Av	38.1	-28.3	-23.4	41.75	54	-12.25	157	107	V
* 12.227	40.91	Av	39.2	-24.8	-23.4	31.91	54	-22.09	53	104	V
14.672	39.31	Av	42.6	-23.9	-23.4	34.61	54	-19.39	184	368	V
17.111	39.68	Av	41.1	-23.6	-23.4	33.78	54	-20.22	223	372	V

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

Duty Cycle = 6.75%, thus DC Corr = 20log(0.0675) = -23.4dB

1-18GHz – Data

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