



TEST REPORT

Report Number.: 13757234-E1V1

Applicant : Magic Leap Inc.
7500 West Sunrise Blvd
Plantation, FL, 33322, US

Model : M2003000, M2004000, M2005000, M2103000,
M2104000, M2105000

Brand : Magic Leap Inc.

FCC ID : 2AM5N-ML2M2

IC : 23045-ML2M2

EUT Description : Magic Leap 2 Controller with BLE transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5 + A1 + A2

Date of Issue:
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	5/18/2022	Initial Issue	---

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Magic Leap Inc
7500 West Sunrise Blvd
Plantation, FL, 33322, US

EUT DESCRIPTION: Magic Leap 2 Controller with BLE transceiver

MODEL: M2003000, M2004000, M2005000, M2103000,
M2104000, M2105000

MODEL TESTED: M2003000

BRAND: Magic Leap Inc.

SERIAL NUMBER: G55344G0000E (Radiated Sample)
G55344G0000T (Conducted Sample)

SAMPLE RECEIPT DATE: July 27, 2021

DATE TESTED: July 27 to August 5, 2021

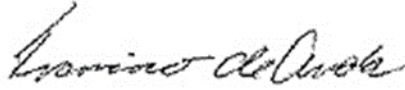
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services 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 A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL Verification Services Inc. By:



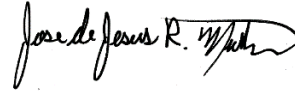
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2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Pass	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Pass	None.
See Comment		Average power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD	Pass	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Pass	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Pass	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Pass	None.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input checked="" type="checkbox"/>	Building 1: 47173 Benicia Street Fremont, CA 94538, U.S.A	US0104	2324A	550739
<input type="checkbox"/>	Building 2: 47266 Benicia Street Fremont, CA 94538, U.S.A	US0104	22541	550739
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd Fremont, CA 94538, U.S.A	US0104	2324B	550739

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{Lab}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.84 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

$$\text{Final Voltage (dBuV)} = \text{Measured Voltage (dBuV)} + \text{Cable Loss (dB)} + \text{Limiter Factor (dB)} + \text{LISN Insertion Loss.}$$

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is an optical handheld operated input device includes BLE radio transceiver.

6.2. MODEL DIFFERENCES

Models M2003000, M2004000, M2005000, M2103000, M2104000, and M2105000 are electronically identical. The model numbers are to differentiate the markets and regions of sale.

6.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	8.34	6.82

6.4. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

The radio utilizes an PCB antenna with coaxial cable, with a maximum gain of 1 dBi.

6.5. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was A895.

The test utility software used during testing was proprietary software

6.6. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 30MHz, below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle, and high channels.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

The worst-case data rates were determined to be as follows, based on input from the manufacturer of the radio.

BLE: 1 Mbps.

BLE: 2 Mbps

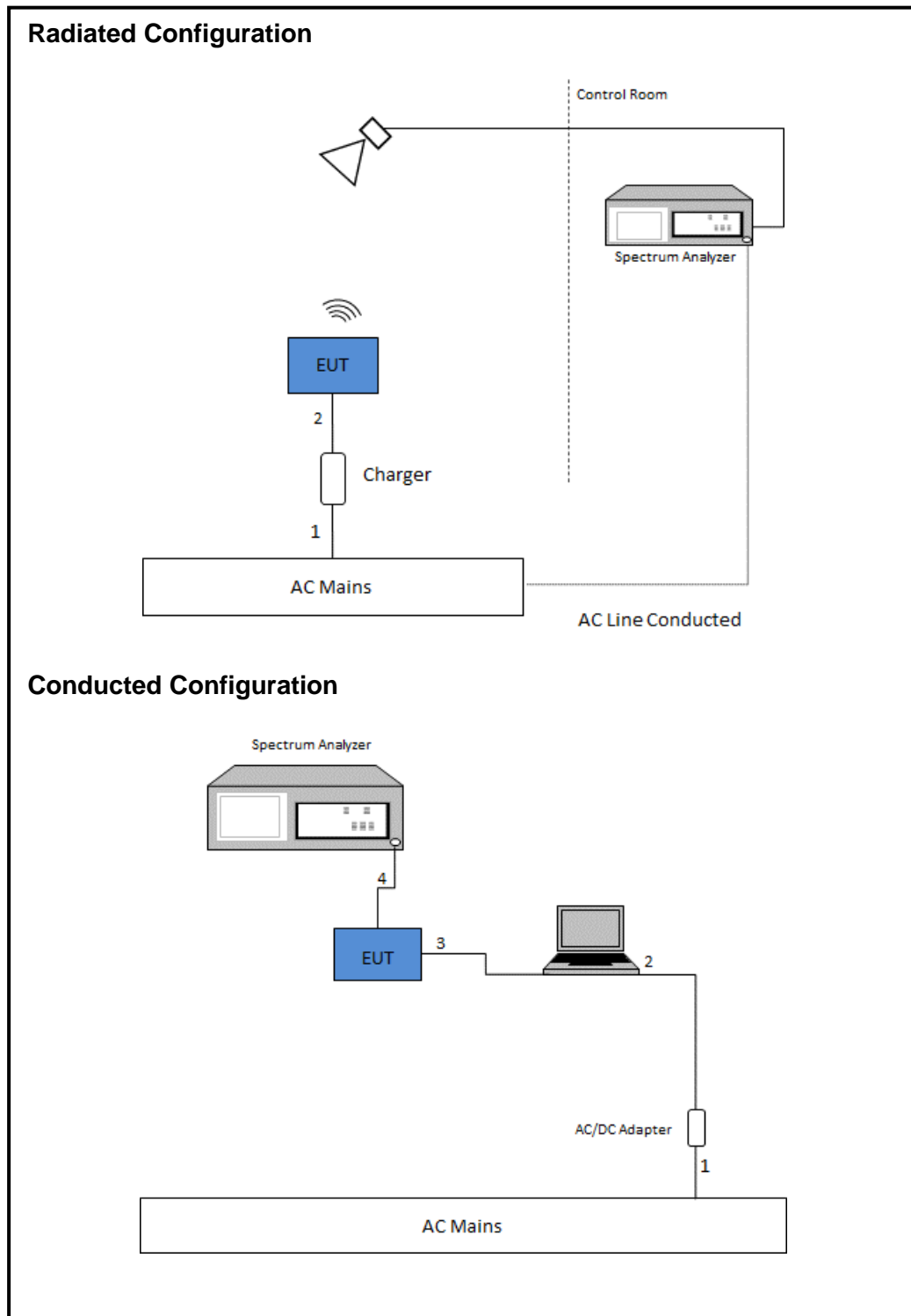
6.7. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	HP	EliteBook 840 G3	5CG6261W37	DoC		
Laptop AC Adapter	HP	TPN-CA03	WFDEC0CHH66127	DoC		
Charger	Magic Leap	M3013	GB200171	DoC		
I/O CABLES (CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	1.25	AC Mains to DC Power Adapter
2	DC	1	DC	Shielded	1	Adapter to Laptop
3	USB	1	USB-A to USB-C	Shielded	1	USB-A to EUT USB-C
4	Antenna	1	SMA	Un-shielded	0.3	Antenna to Analyzer
I/O CABLES (RADIATED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC Power	1	3-Prong	Un-shielded	1.25	AC Mains to Power Adapter
2	USB	1	Type C	Shielded	.9	Power Adapter to EUT

TEST SETUP

A test laptop is used to program the EUTs and then removed during the tests. Test software exercised the radio card. For radiated emissions, EUT was powered by AC/DC adapter and for conducted tests the EUT was powered by laptop via USB.

SETUP DIAGRAMS



7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Section 11.6.

6 dB BW: ANSI C63.10 Subclause -11.8.1 RBW \geq DTS BW

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Output Power: ANSI C63.10 Subclause -11.9.1.3 Method PKPM1 Peak-reading power meter

Output Power: ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Radiated emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1

Conducted emissions in restricted frequency bands: ANSI C63.10 Subclause -11.12.2

Band-edge: ANSI C63.10 Section 6.10

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	PRE0184970	12/02/2021	12/02/2020
Amplifier, 10KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310N	T300	04/09/2022	04/09/2021
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	T119	05/07/2022	05/07/2021
Amplifier, 1 - 18GHz	MITEQ	AFS42-00101800-25-S-42	T1568	04/09/2022	04/09/2021
EMI TEST RECEIVER, with B8 option	Rohde & Schwarz	ESW44	PRE0179377	02/23/2022	02/23/2021
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T447	09/24/2021	09/24/2020
Rf Amplifier, 18-26.5GHz, 60dB gain	AMPLICAL	AMP18G26.5-60	171590	05/21/2022	05/21/2021
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO METRICS	EM-6871	SC-8015	05/24/2022	05/24/2021
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO METRICS	EM-6872	SC-8014	05/24/2022	05/24/2021
Spectrum Analyzer, PSA, 3Hz to 26.5GHz	Keysight Technologies Inc	E4440A	T189	01/21/2022	01/21/2021
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	T1272	01/21/2022	01/21/2021
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	T1223	06/17/2022	06/17/2021
AC Line Conducted					
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2-01-480V	PRE0186446	01/20/2022	01/20/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESR	T1436	02/19/2022	02/19/2021
Transient Limiter	COM-POWER	LIT-930A	PRE0213145	01/20/2022	01/20/2021
UL TEST SOFTWARE LIST					
Radiated Software	UL	UL EMC	Rev 9.5, Apr 30, 2020		
Antenna Port Software	UL	UL RF	Ver 2021.07.13 / AP2020.12.3		
AC Line Conducted Software	UL	UL EMC	Rev 9.5, 07 Jul 2020		

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

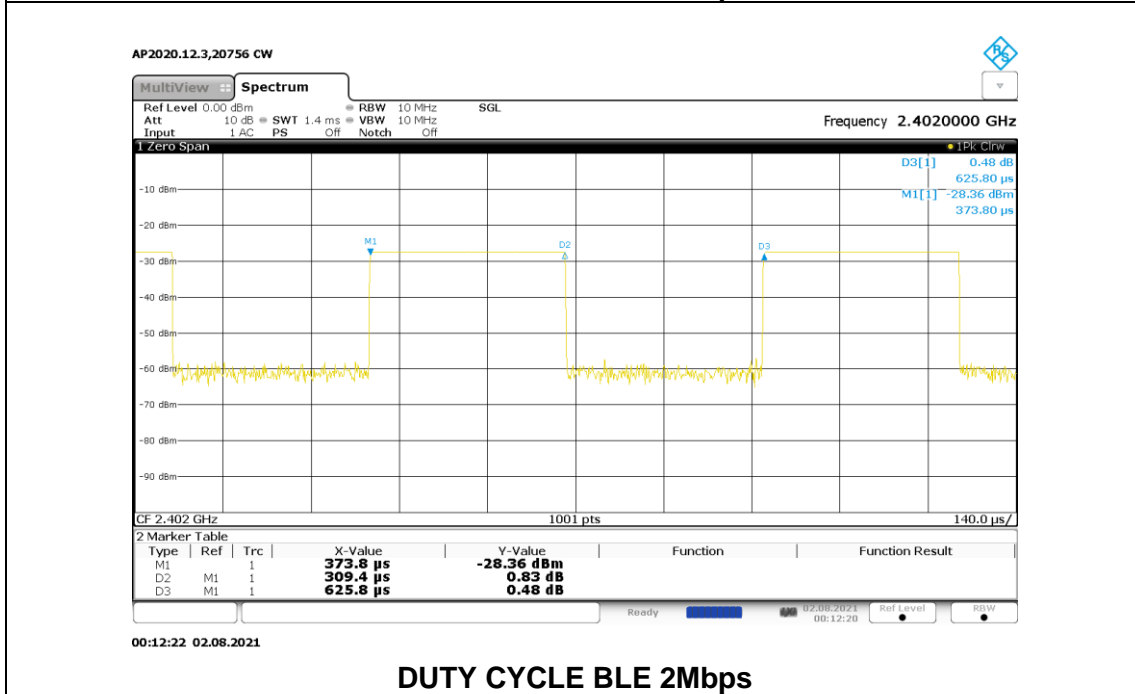
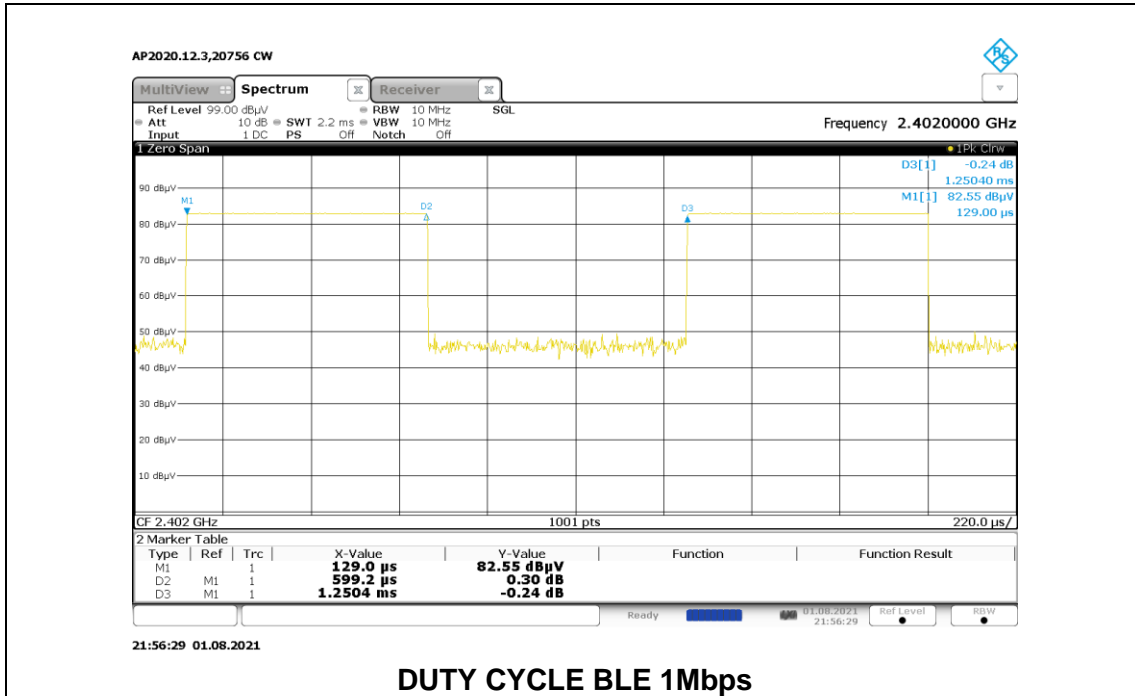
PROCEDURE

ANSI C63.10, Section 11.6 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
BLE 1Mbps	0.5992	1.2504	0.479	47.92	3.19	1.669
BLE 2Mbps	0.3094	0.6258	0.494	49.44	3.06	3.232

DUTY CYCLE PLOTS



9.2. 99% BANDWIDTH

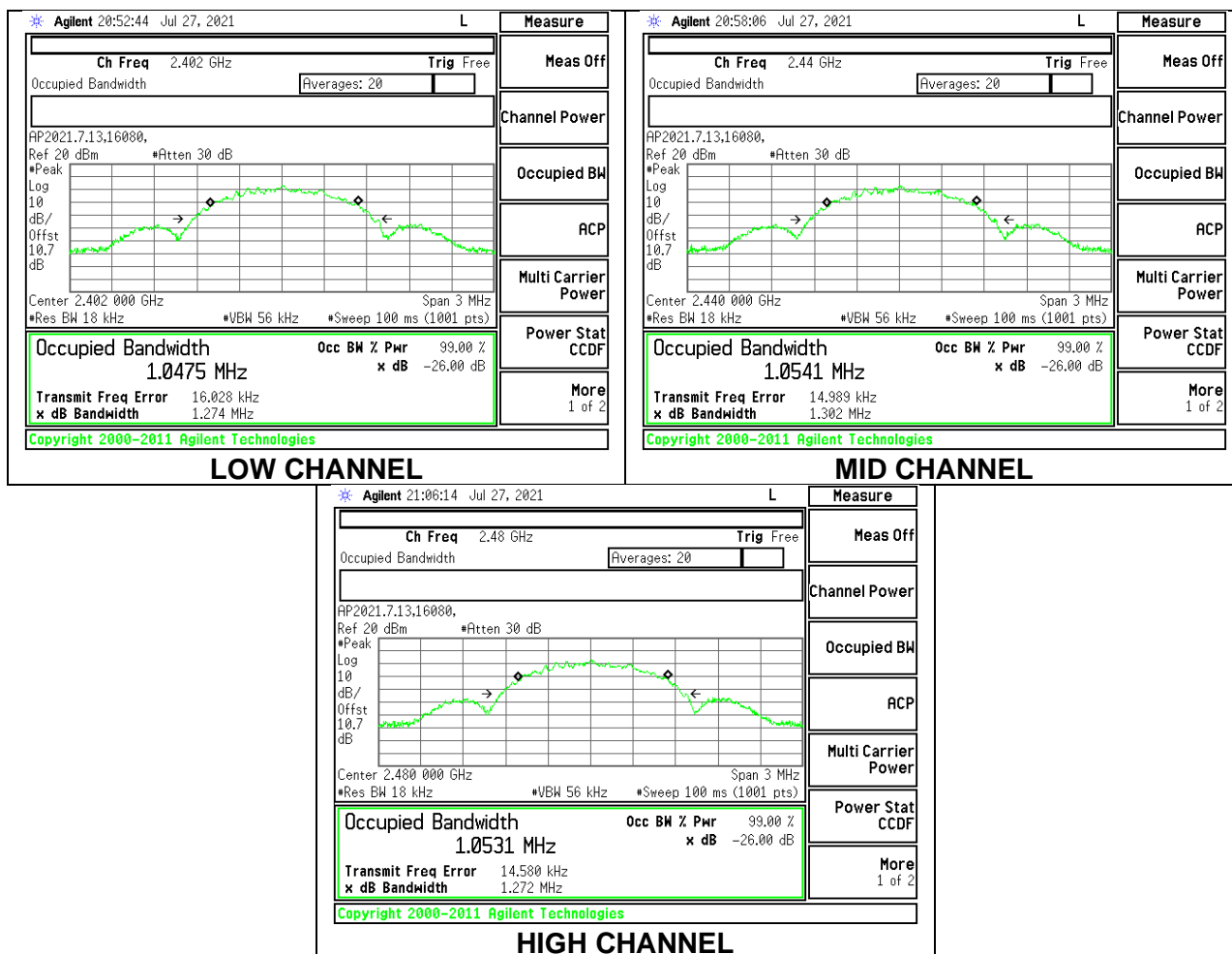
LIMITS

None; for reporting purposes only.

RESULTS

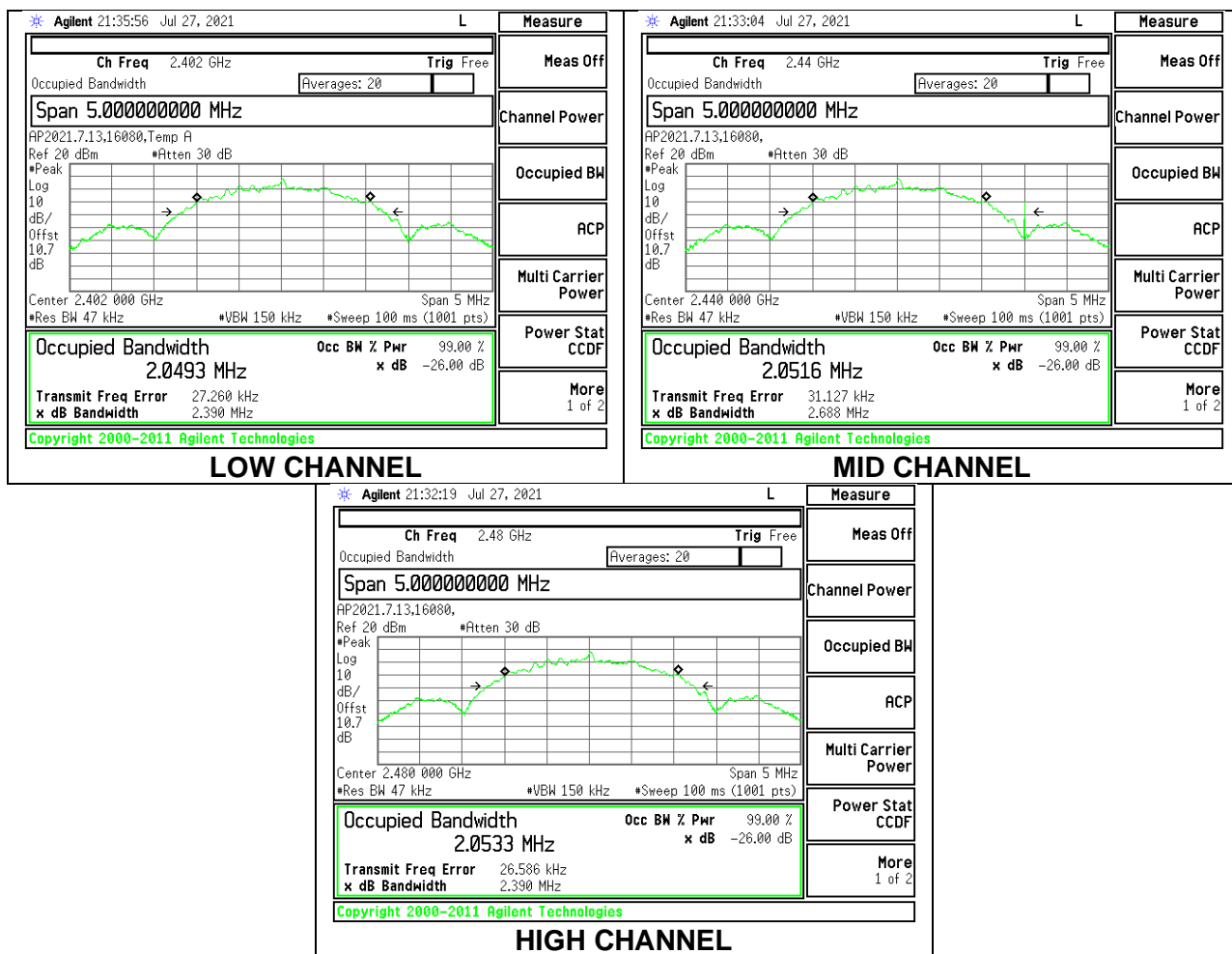
9.2.1. BLE (1Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0475
Middle	2440	1.0541
High	2480	1.0531



9.2.2. BLE (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	2.0493
Middle	2440	2.0516
High	2480	2.0533



9.3. 6 dB BANDWIDTH

LIMITS

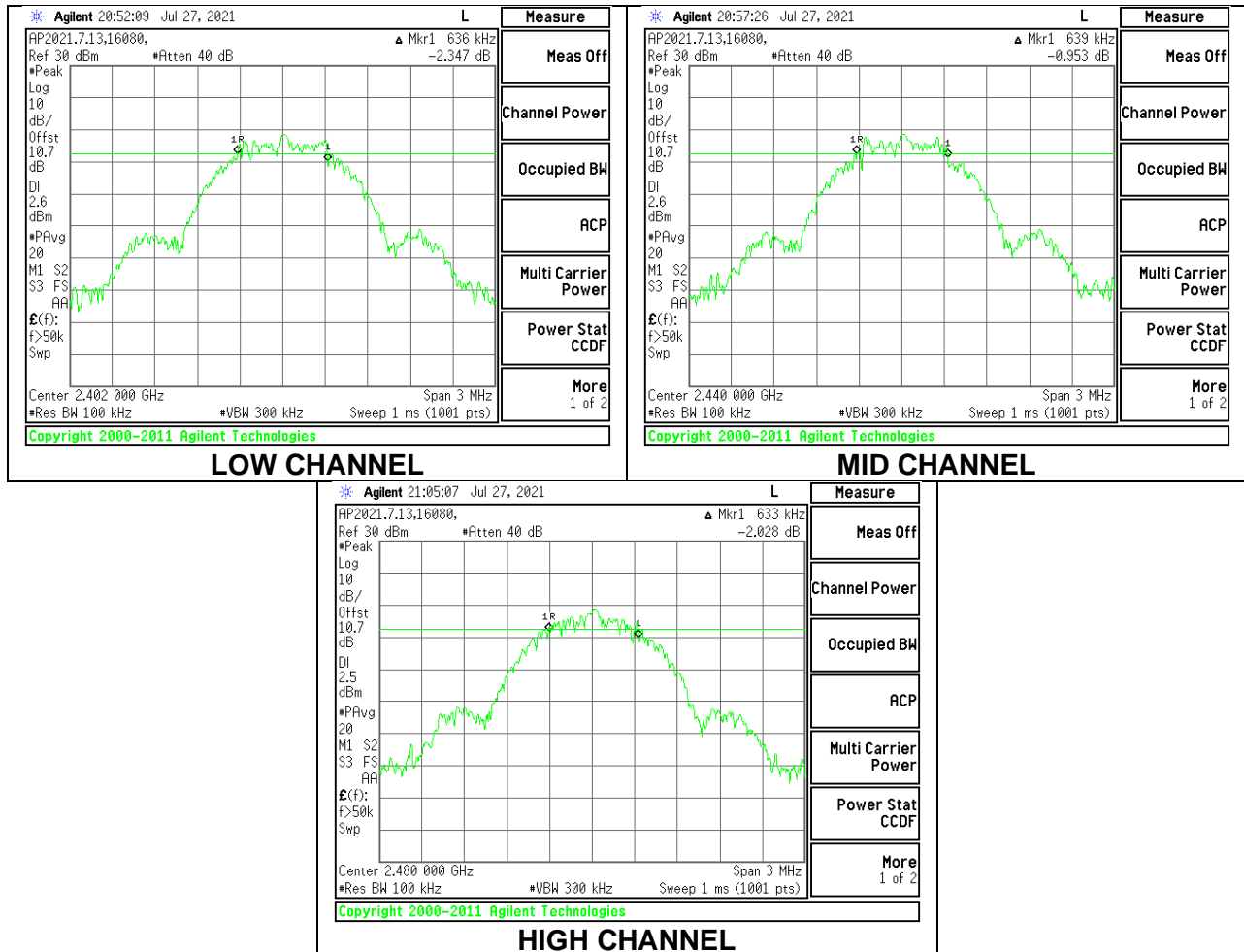
FCC §15.247 (a) (2)
 RSS-247 5.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

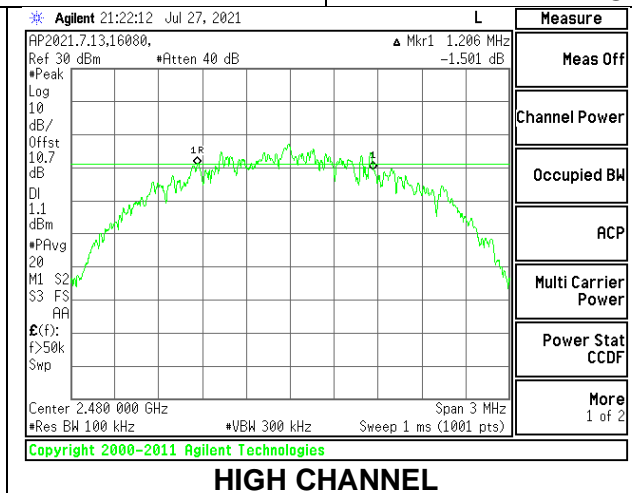
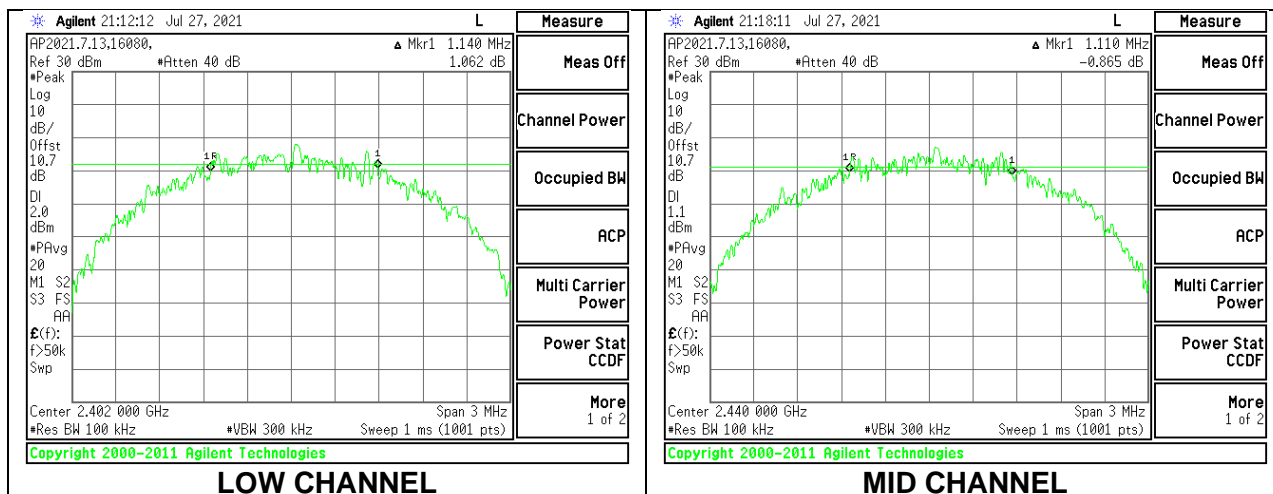
9.3.1. BLE (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.636	0.5
Middle	2440	0.639	0.5
High	2480	0.633	0.5



9.3.2. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	1.140	0.5
Middle	2440	1.110	0.5
High	2480	1.206	0.5



9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, 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.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband peak power sensor. Peak output power was read directly from power meter.

RESULTS

9.4.1. BLE (1Mbps)

Tested By:	16080 ZS
Date:	7/27/2021

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.26	30	-21.740
Middle	2440	8.29	30	-21.710
High	2480	8.34	30	-21.660

9.4.2. BLE (2Mbps)

Tested By:	16080 ZS
Date:	7/27/2021

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.25	30	-21.750
Middle	2440	8.28	30	-21.720
High	2480	8.32	30	-21.680

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband average power sensor. Gated average output power was read directly from power meter.

RESULTS

9.5.1. BLE (1Mbps)

Tested By:	16080 ZS
Date:	7/27/2021

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	8.21
Middle	2440	8.23
High	2480	8.29

9.5.2. BLE (2Mbps)

Tested By:	16080 ZS
Date:	7/27/2021

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	8.20
Middle	2440	8.22
High	2480	8.28

9.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

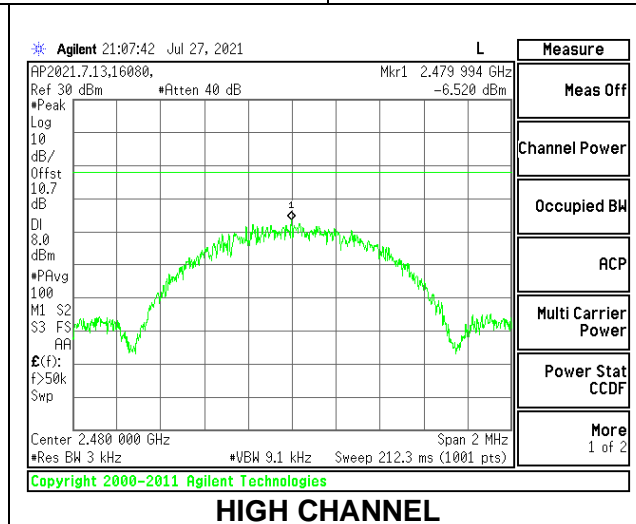
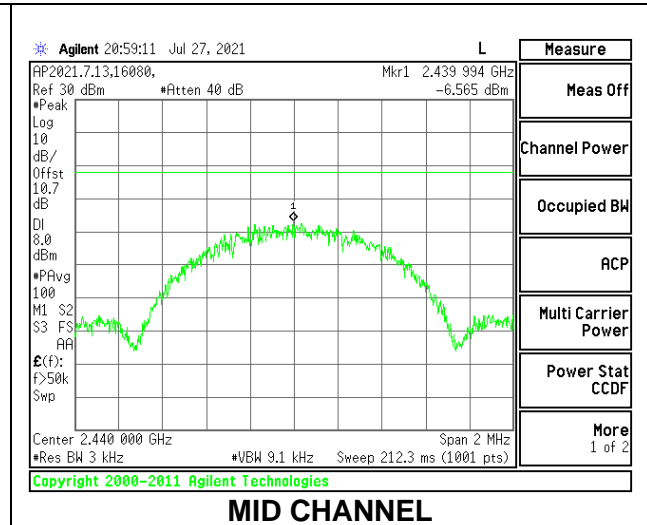
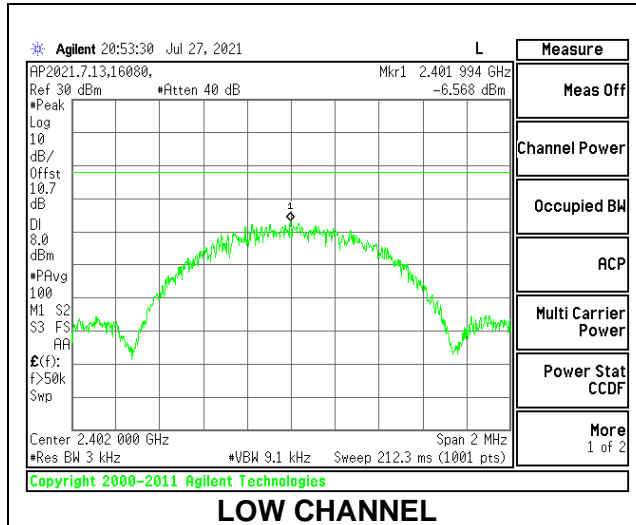
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

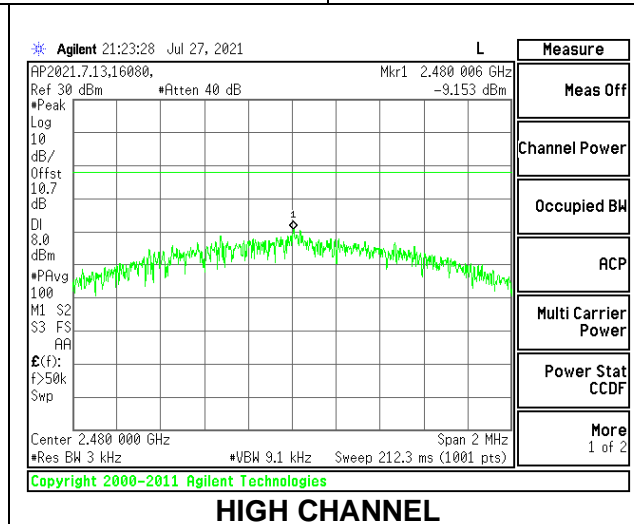
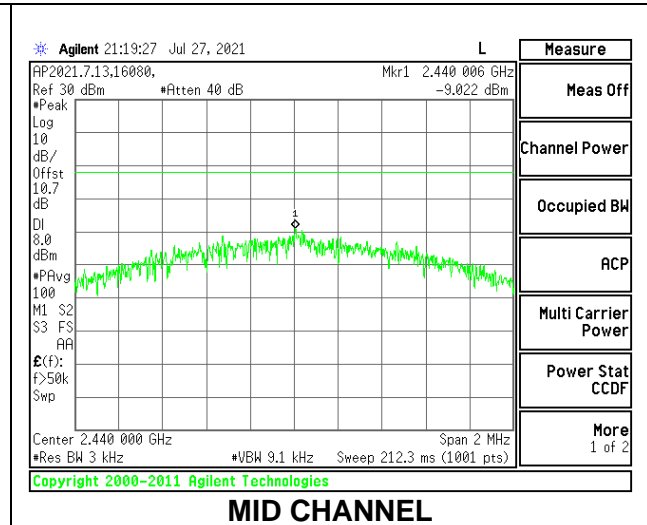
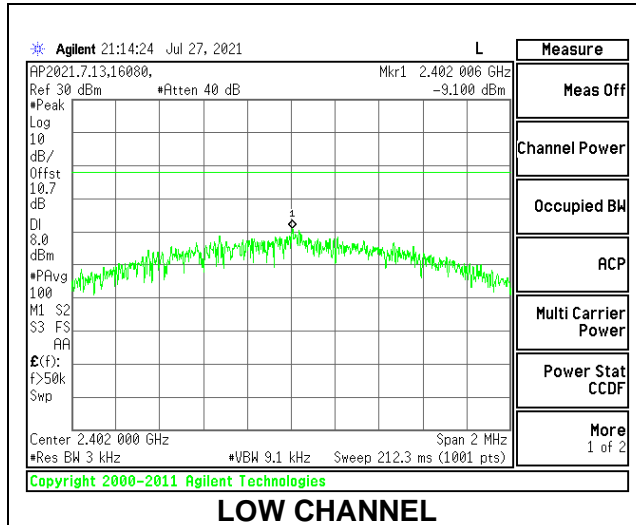
9.6.1. BLE (1Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-6.568	8	-14.57
Middle	2440	-6.565	8	-14.57
High	2480	-6.520	8	-14.52



9.6.2. BLE (2Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-9.100	8	-17.10
Middle	2440	-9.022	8	-17.02
High	2480	-9.153	8	-17.15



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

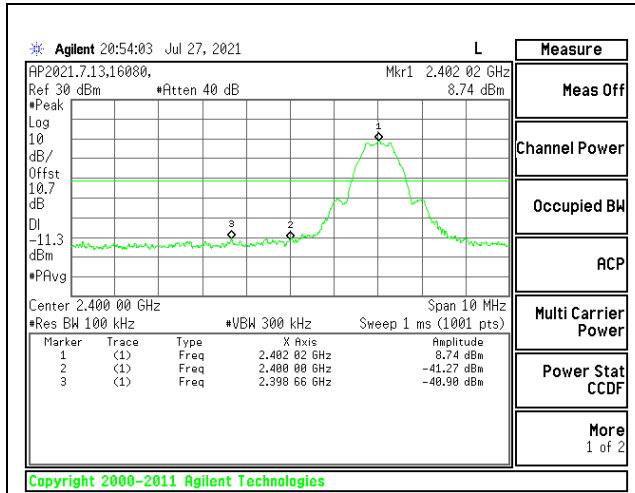
FCC §15.247 (d)

RSS-247 5.5

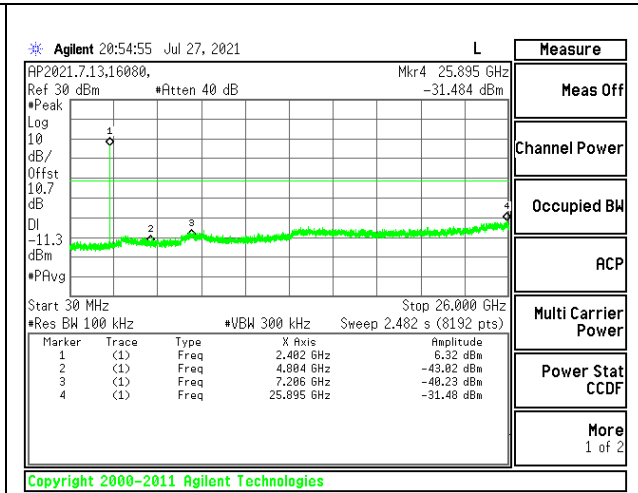
Output power was measured based on the use of a peak measurement; therefore, the required attenuation is 20 dBc.

RESULTS

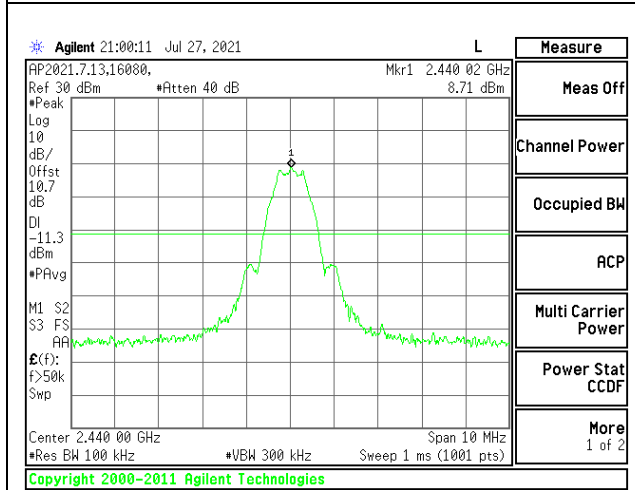
9.7.1. BLE (1Mbps)



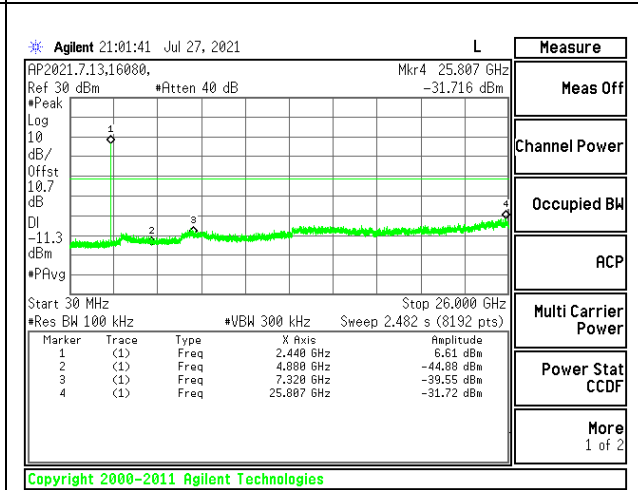
LOW CHANNEL BANDEDGE



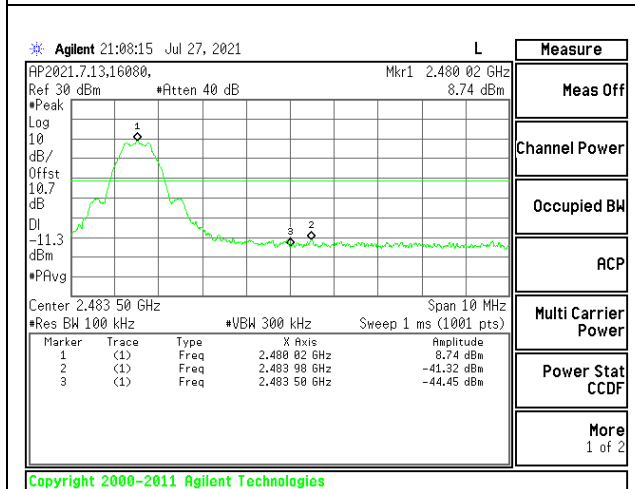
OUT-OF-BAND LOW CHANNEL



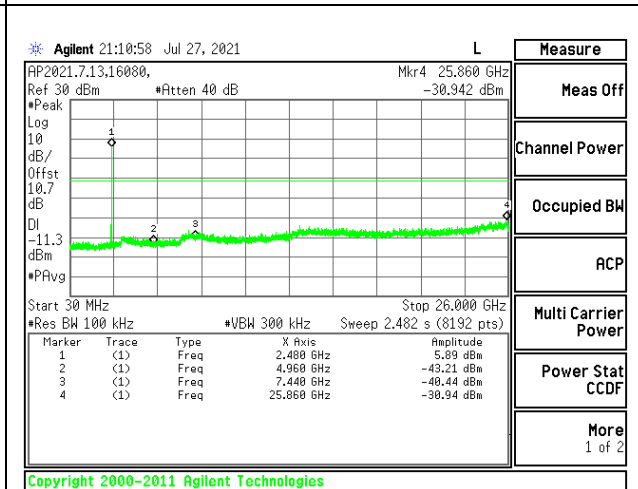
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

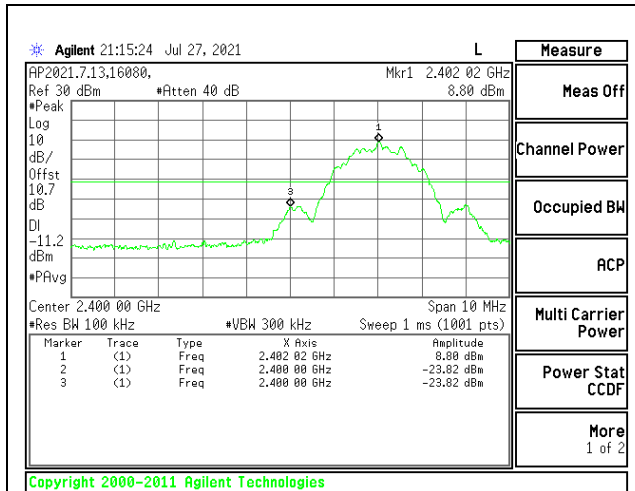


HIGH CHANNEL BANDEDGE

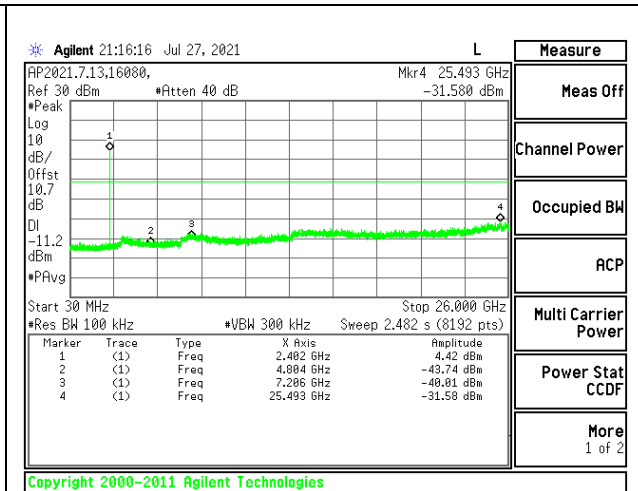


OUT-OF-BAND HIGH CHANNEL

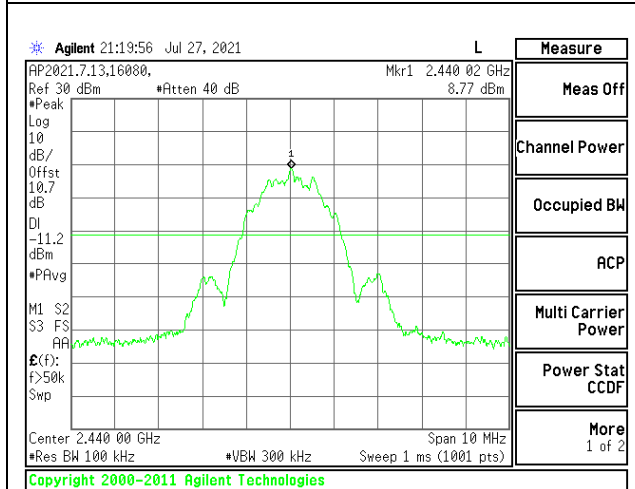
9.7.2. BLE (2Mbps)



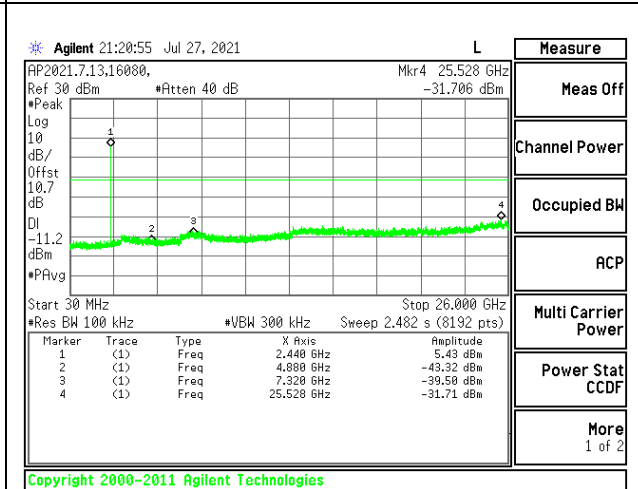
LOW CHANNEL BANDEDGE



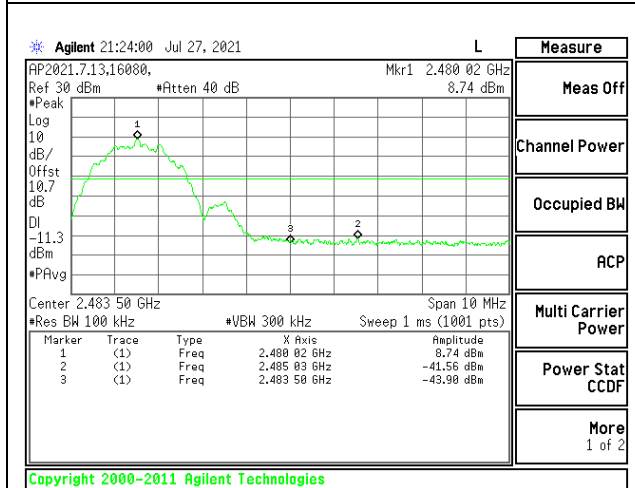
OUT-OF-BAND LOW CHANNEL



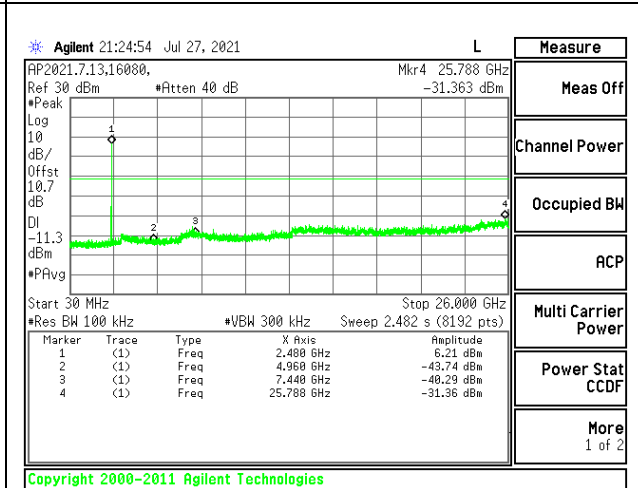
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. 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.

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

KDB 414788 Open Field Site (OFS) and Chamber Correlation Justification

OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

NOTE: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y - 51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

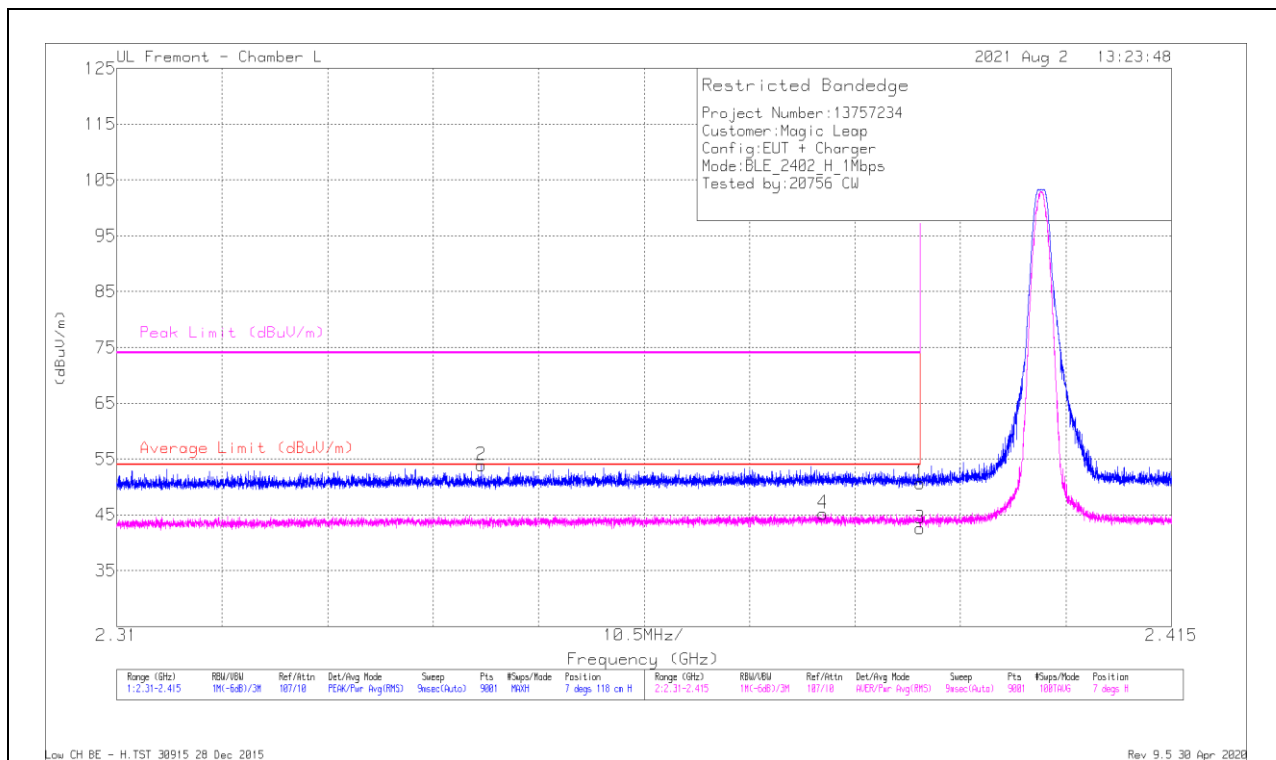
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



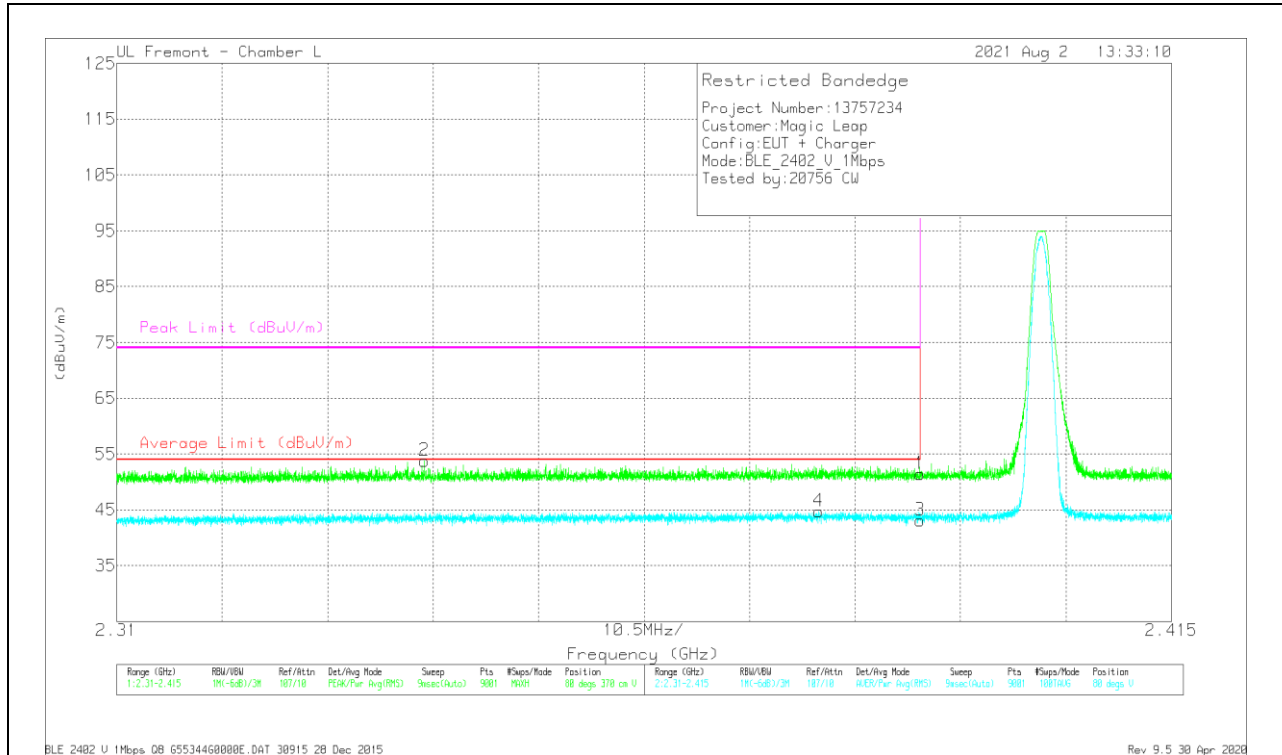
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.38999	37.97	Pk	32	-19.3	0	50.67	-	-	74	-23.33	7	118	H
2	* 2.34631	41.48	Pk	31.9	-19.5	0	53.88	-	-	74	-20.12	7	118	H
3	* 2.38999	26.65	RMS	32	-19.3	3.19	42.54	54	-11.48	-	-	7	118	H
4	* 2.38028	29.37	RMS	32.1	-19.4	3.19	45.26	54	-9.74	-	-	7	118	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	Amp/Cal/Fit/Pad (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
1	* 2.38999	38.7	PK	32	-19.3	0	51.4	-	-	74	-22.6	80	370	V
2	* 2.34063	41.42	PK	31.9	-19.5	0	53.82	-	-	74	-20.18	80	370	V
3	* 2.38999	27.22	RMS	32	-19.3	3.19	43.11	54	-10.89	-	-	80	370	V
4	* 2.37985	28.86	RMS	32.1	-19.4	3.19	44.75	54	-9.25	-	-	80	370	V

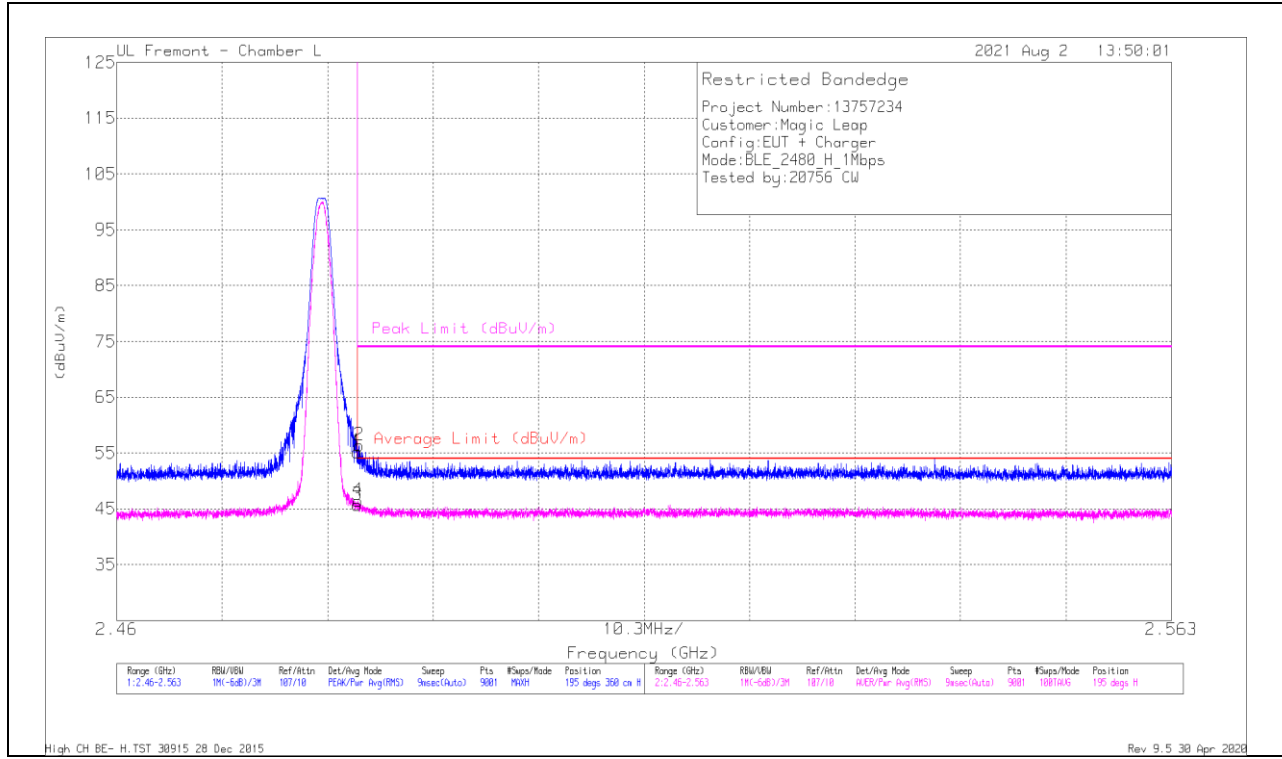
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)

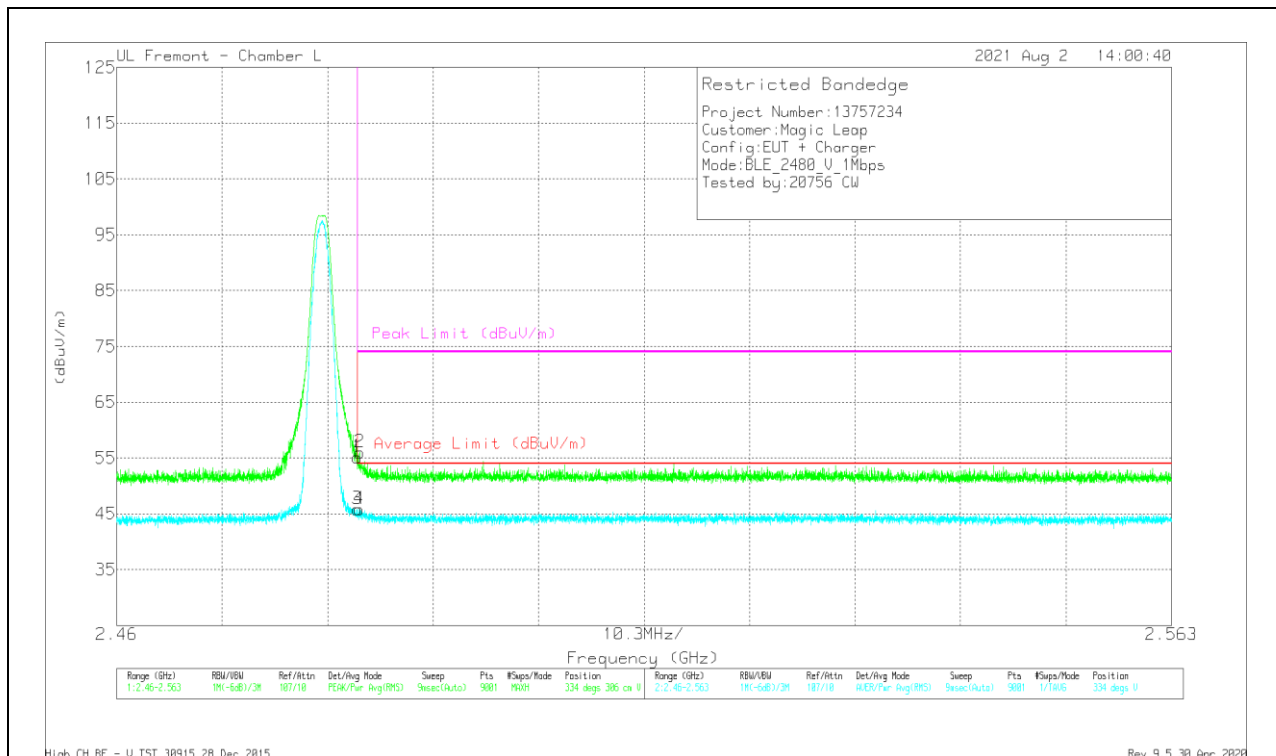
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (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
1	* 2.48351	41.9	Pk	32.3	-19	0	55.2	-	-	74	-18.8	195	360	H
2	* 2.48369	43.08	Pk	32.3	-19	0	56.38	-	-	74	-17.62	195	360	H
3	* 2.48351	29.2	RMS	32.3	-19	3.19	45.69	54	-8.31	-	-	195	360	H
4	* 2.48357	28.91	RMS	32.3	-19	3.19	46.4	54	-7.6	-	-	195	360	H

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

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBu)	Det	AF T119 (dBm)	Amp/Cliff/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuW/m)	Average Limit (dBu/m)	Margin (dB)	Peak Limit (dBu/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	41.86	PK	32.3	-19	0	55.16	-	-	74	-18.84	334	306	V
2	* 2.48373	42.72	PK	32.3	-19	0	56.02	-	-	74	-17.98	334	306	V
3	* 2.48351	29.28	RMS	32.3	-19	3.19	45.77	54	-8.23	-	-	334	306	V
4	* 2.48367	29.36	RMS	32.3	-19	3.19	45.85	54	-8.15	-	-	334	306	V

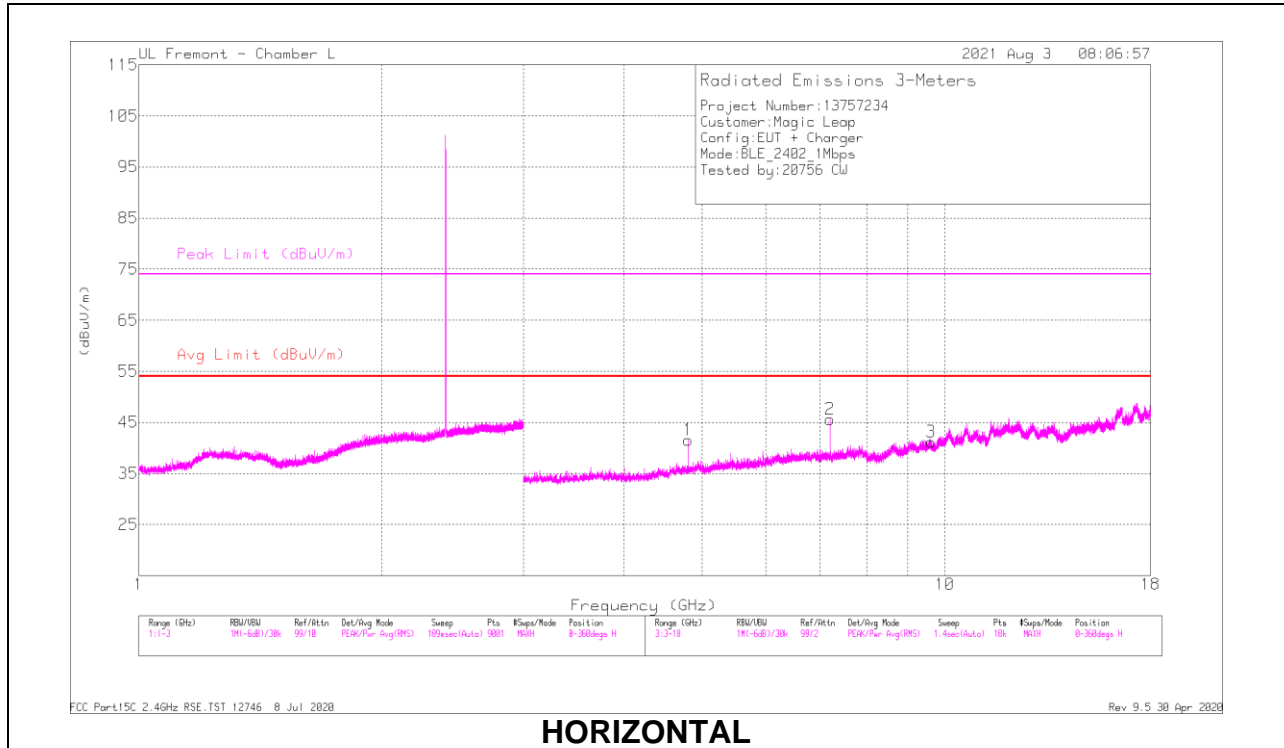
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

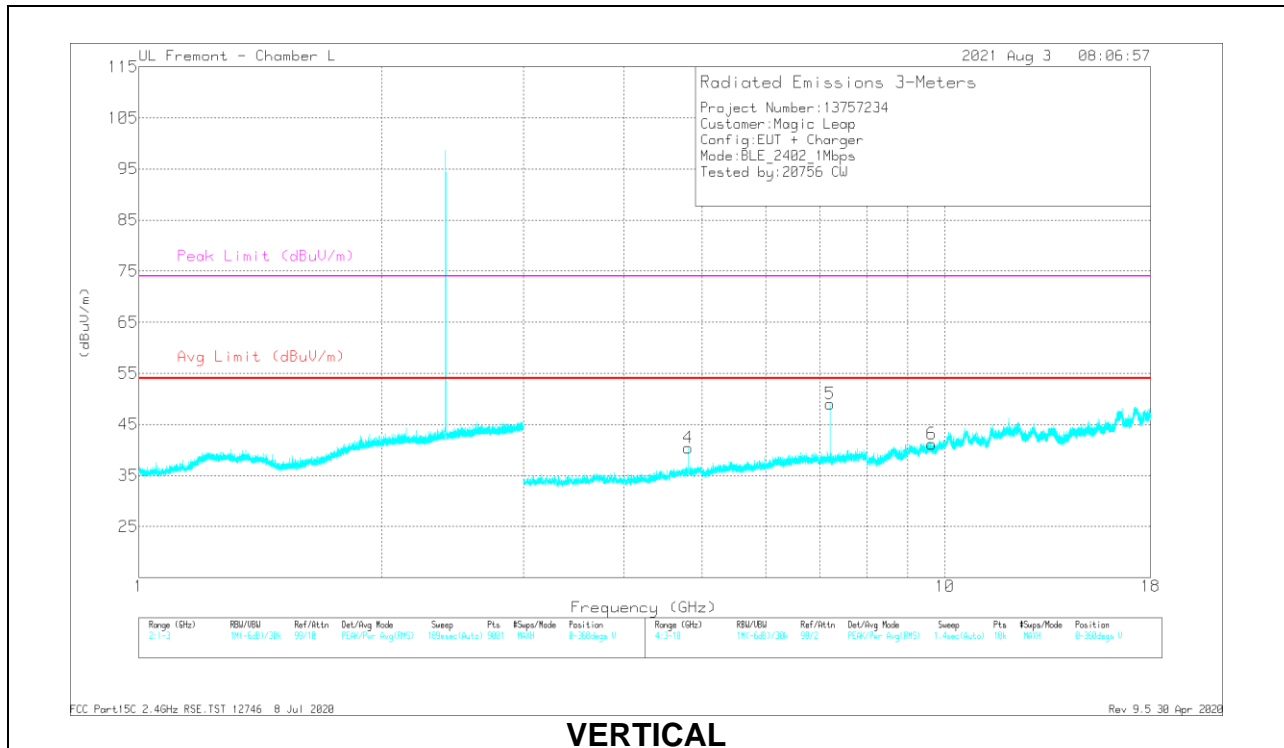
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



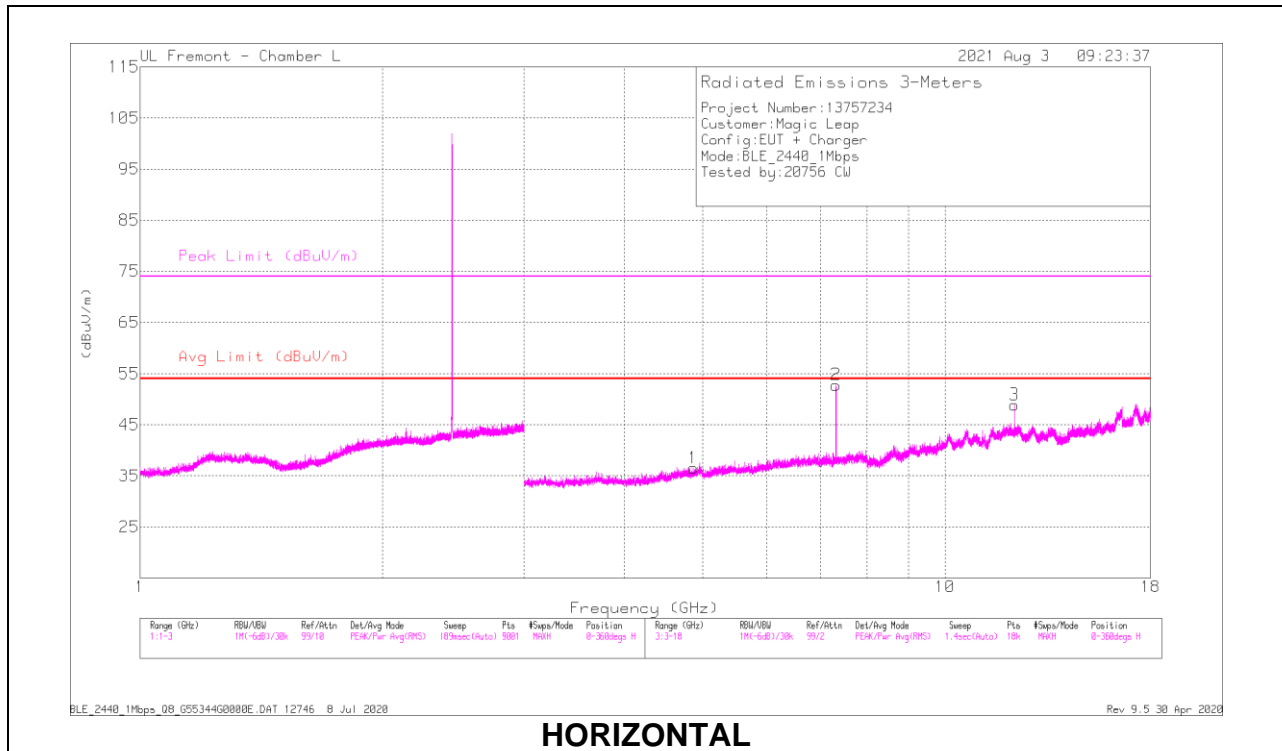
VERTICAL

RADIATED EMISSIONS

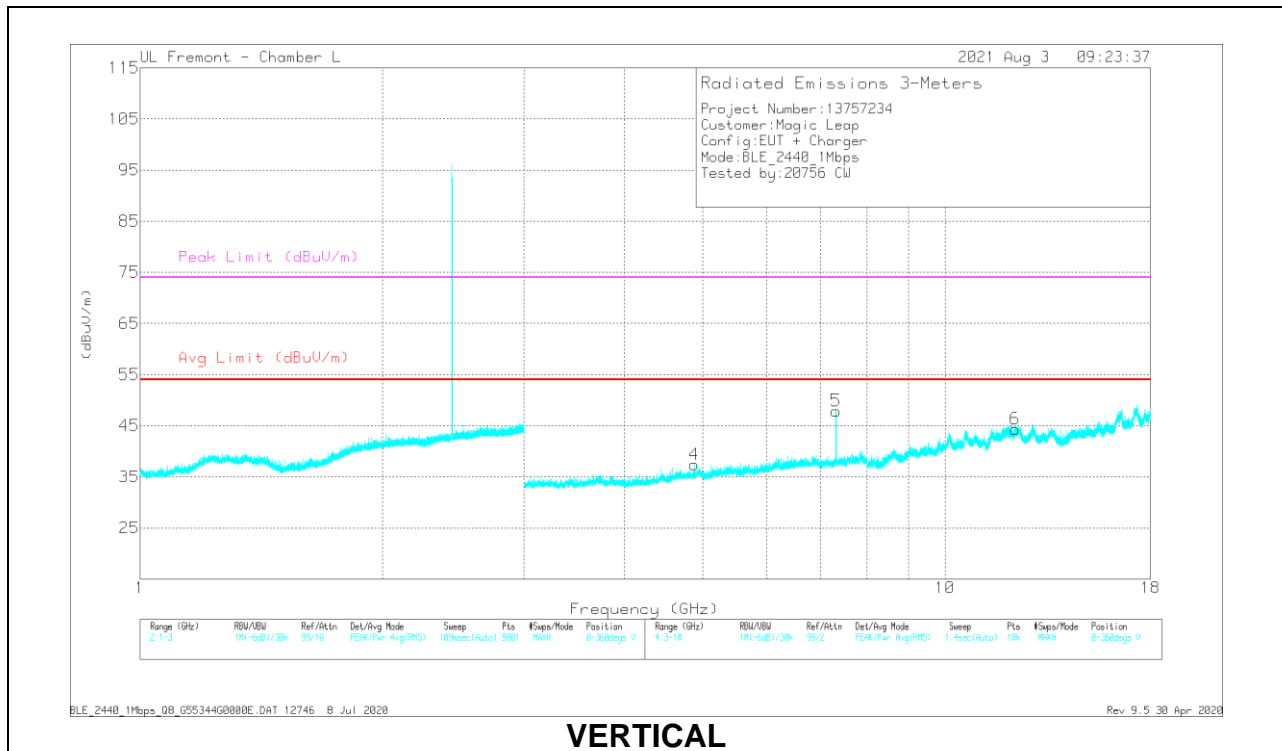
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.80454	38.9	PK2	34.1	-24.5	0	-48.5	-	-	74	-25.5	51	107	H
	* 4.80387	24.82	MAv1	34.1	-24.5	3.19	37.61	54	-16.39	-	-	51	107	H
2	7.20586	35.55	PK2	35.6	-20.1	0	51.05	-	-	-	-	14	143	H
3	9.61957	27.73	PK2	36.7	-16.2	0	48.23	-	-	-	-	28	348	H
4	* 4.80449	35.95	PK2	34.1	-24.5	0	45.55	-	-	74	-28.45	96	145	V
	* 4.80456	23.37	MAv1	34.1	-24.5	3.19	36.16	54	-17.84	-	-	96	145	V
5	7.20677	36.75	PK2	35.5	-20.2	0	52.05	-	-	-	-	169	106	V
	7.2059	20.71	MAv1	35.6	-20.1	3.19	39.4	-	-	-	-	169	106	V
6	9.63076	26.26	PK2	36.8	-16.1	0	46.96	-	-	-	-	202	161	V

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

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

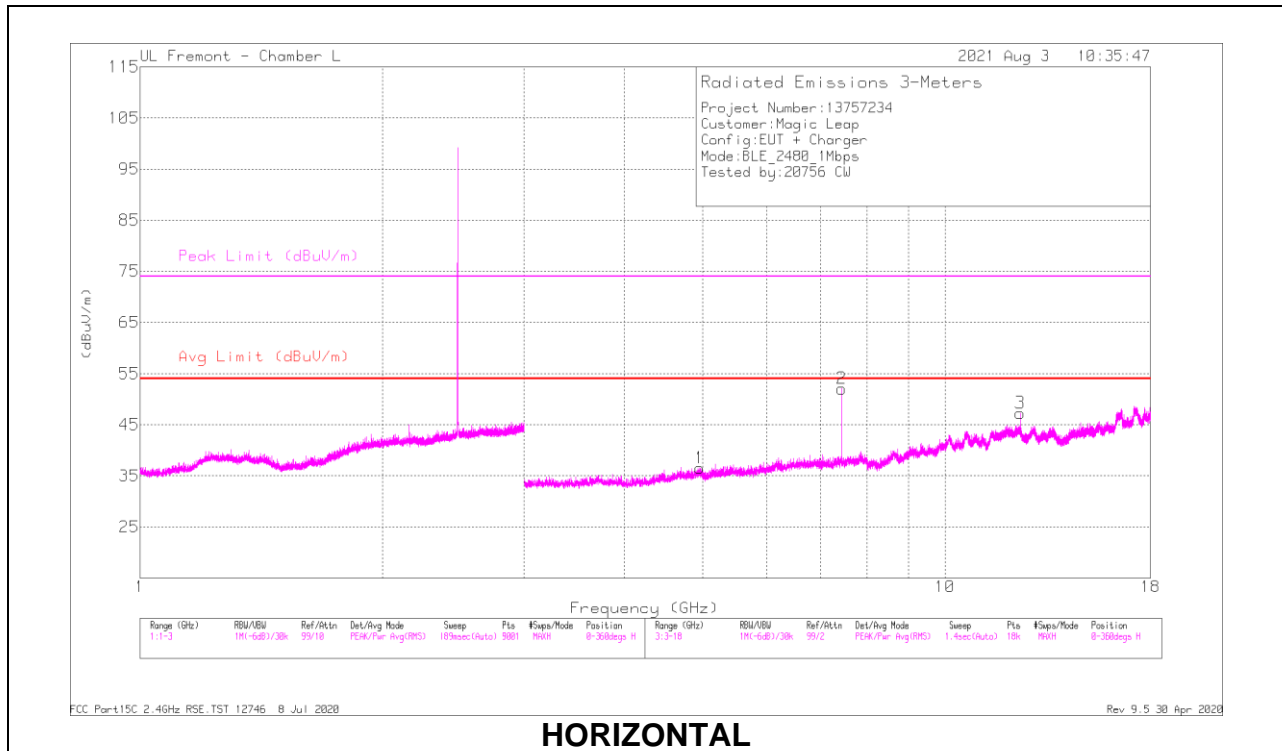
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.87144	35.51	PK2	34.2	-24.6	0	45.11	-	-	74	-28.89	94	109	H
	* 4.86367	24.1	MAv1	34.2	-24.7	3.19	36.79	54	-17.21	-	-	94	109	H
2	* 7.3208	41.83	PK2	35.6	-20.1	0	57.33	-	-	74	-16.67	74	101	H
	* 7.32076	23.31	MAv1	35.6	-20.1	3.19	42	54	-12	-	-	74	101	H
3	* 12.20008	31.82	PK2	39.1	-16.7	0	54.22	-	-	74	-19.78	284	189	H
	* 12.19894	18.62	MAv1	39.2	-16.7	3.19	44.31	54	-9.69	-	-	284	189	H
4	* 4.88052	35.44	PK2	34.2	-24.4	0	45.24	-	-	74	-28.76	75	316	V
	* 4.8804	23.33	MAv1	34.2	-24.4	3.19	36.32	54	-17.68	-	-	75	316	V
5	* 7.31924	37.98	PK2	35.6	-20.1	0	53.48	-	-	74	-20.52	61	102	V
	* 7.32056	23.25	MAv1	35.6	-20.1	3.19	41.94	54	-12.06	-	-	61	102	V
6	* 12.21514	28.21	PK2	39.1	-16.6	0	50.71	-	-	74	-23.29	219	109	V
	* 12.21545	17.18	MAv1	39.1	-16.6	3.19	42.87	54	-11.13	-	-	219	109	V

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

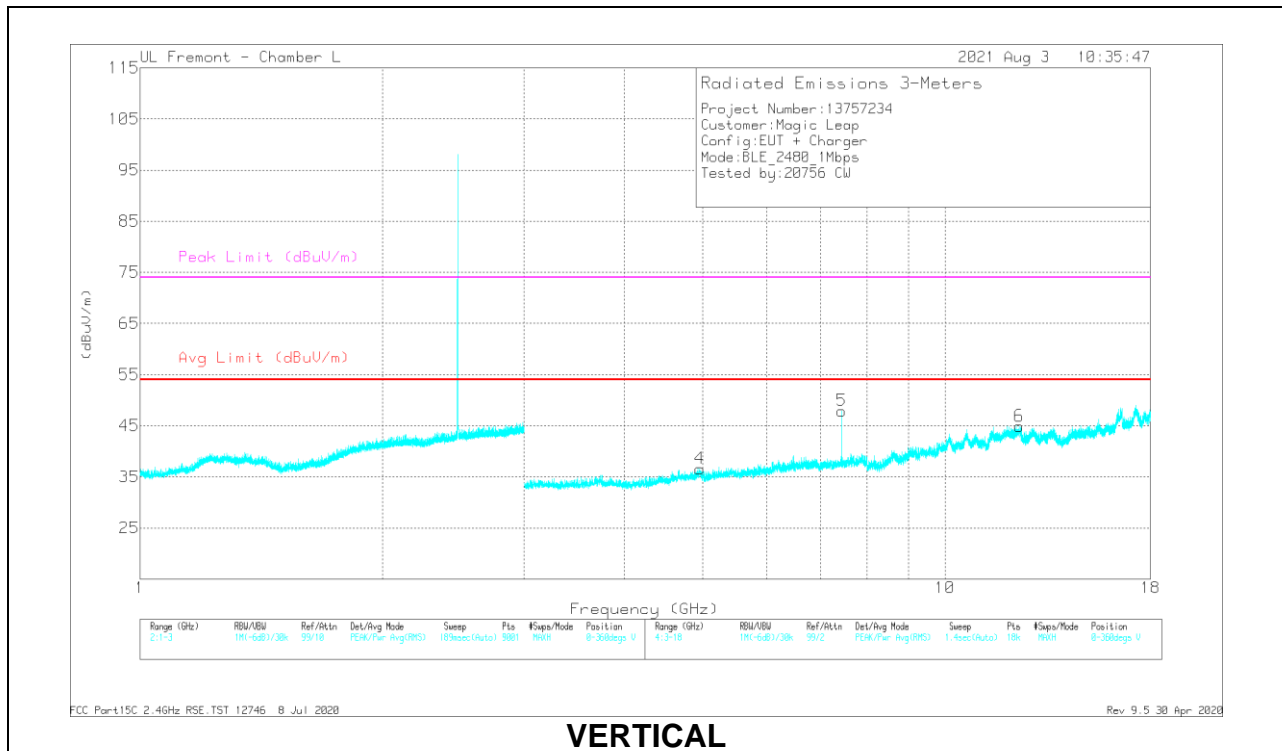
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.9584	33.61	PK2	34.2	-23.2	0	44.61	-	-	74	-29.39	334	326	H
	* 4.95613	22.72	MAv1	34.2	-23.2	3.19	36.91	54	-17.09	-	-	334	326	H
2	* 7.44081	38.78	PK2	35.7	-20	0	54.48	-	-	74	-19.52	256	104	H
	* 7.43962	22.5	MAv1	35.7	-20	3.19	41.39	54	-12.61	-	-	256	104	H
3	* 12.39885	30.77	PK2	39.2	-16.3	0	53.67	-	-	74	-20.33	277	218	H
	* 12.39897	17.96	MAv1	39.2	-16.3	3.19	44.05	54	-9.95	-	-	277	218	H
4	* 4.96004	33.74	PK2	34.2	-23.2	0	44.74	-	-	74	-29.26	196	149	V
	* 4.95838	21.5	MAv1	34.2	-23.2	3.19	35.69	54	-18.31	-	-	196	149	V
5	* 7.43928	35.63	PK2	35.7	-20	0	51.33	-	-	74	-22.67	18	147	V
	* 7.43938	21.89	MAv1	35.7	-20	3.19	40.78	54	-13.22	-	-	18	147	V
6	* 12.36731	28.09	PK2	39.1	-16.1	0	51.09	-	-	74	-22.91	270	119	V
	* 12.36742	16.9	MAv1	39.1	-16.1	3.19	43.09	54	-10.91	-	-	270	119	V

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

PK2 - KDB558074 Method: Maximum Peak

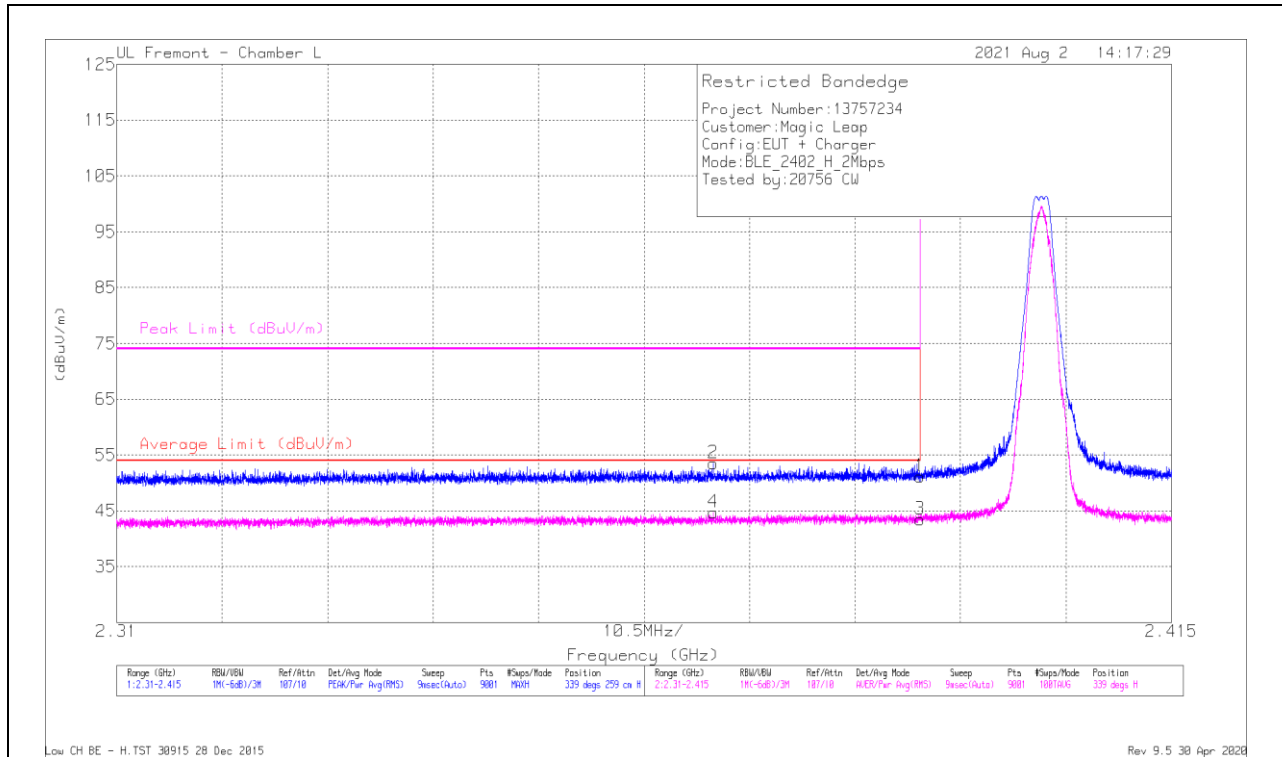
MAv1 - KDB558074 Option 1 Maximum RMS Average

10.2.2. BLE (2Mbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



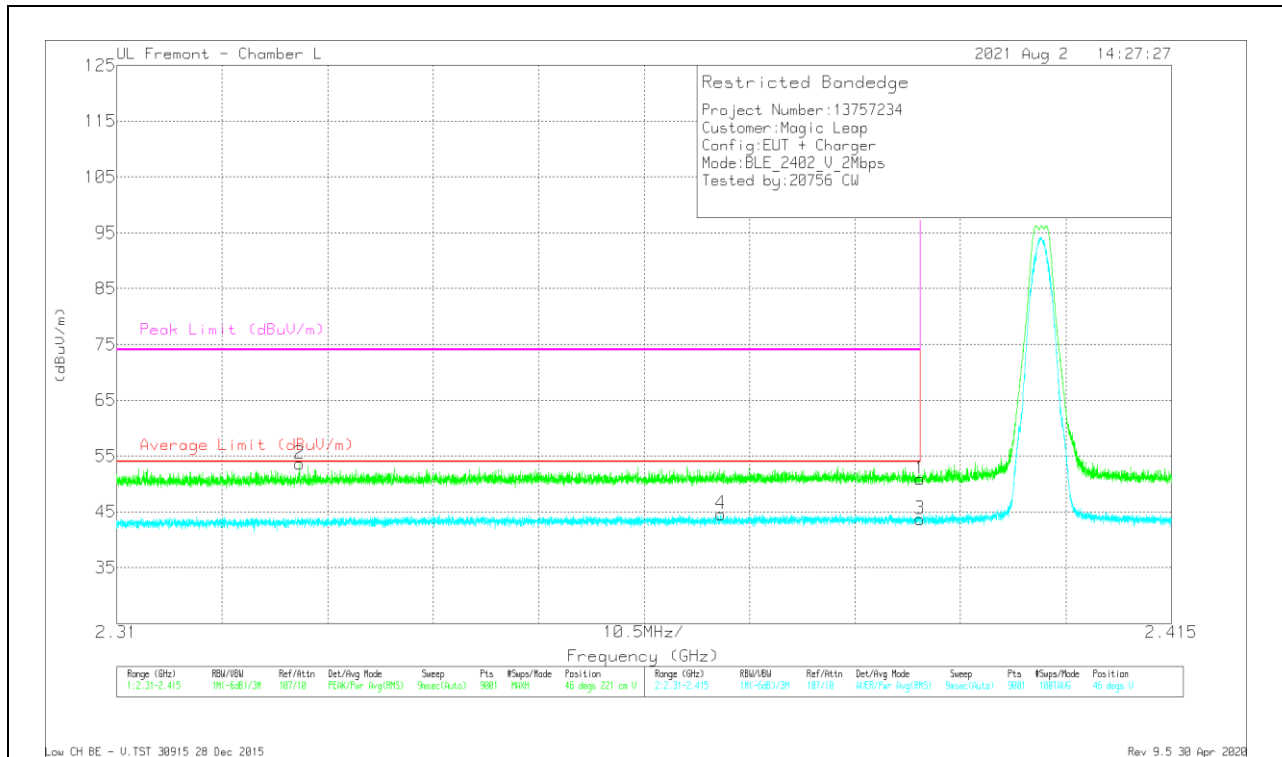
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/CM/FW/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.38999	38.44	Pk	32	-19.3	0	51.14	-	-	74	-22.86	339	259	H
2	* 2.36937	40.9	Pk	32	-19.4	0	53.5	-	-	74	-20.5	339	259	H
3	* 2.38999	27.71	RMS	32	-19.3	3.06	43.47	54	-10.53	-	-	339	259	H
4	* 2.36941	29.07	RMS	32	-19.4	3.06	44.73	54	-9.27	-	-	339	259	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

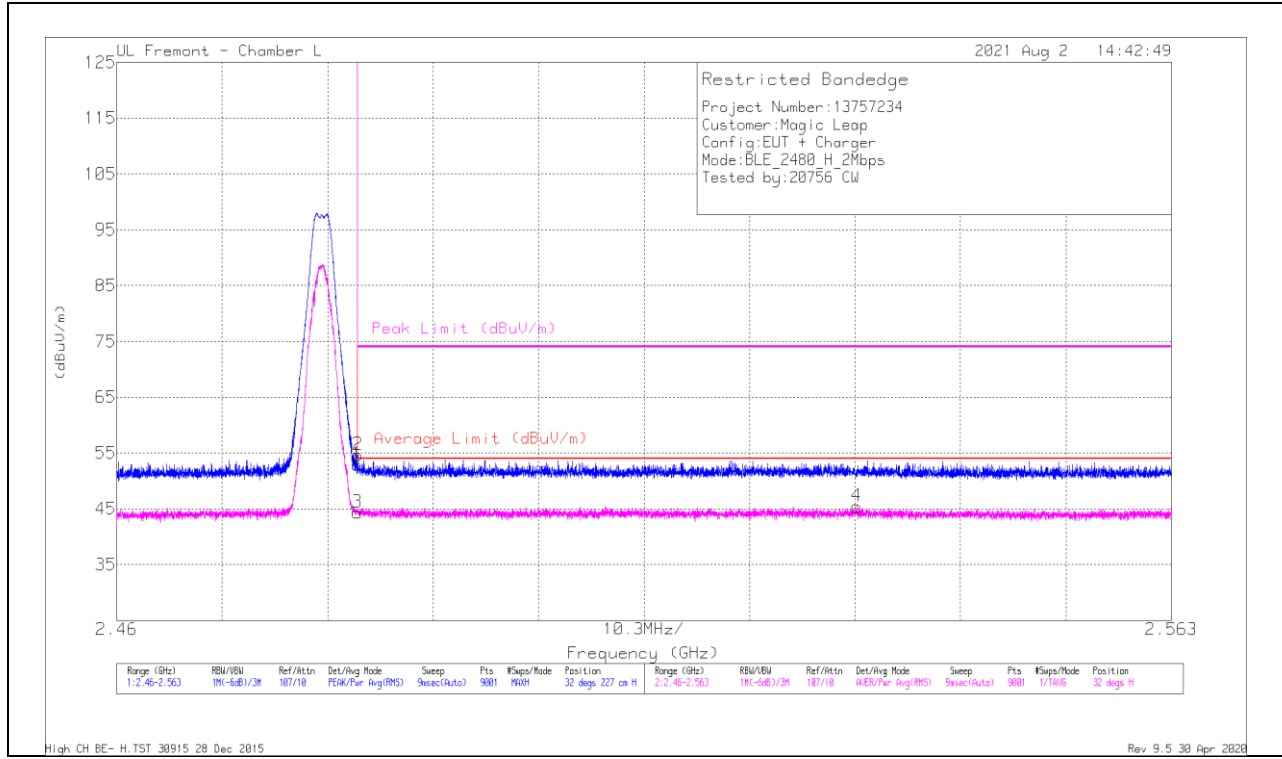


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	Amp/Cal/Fit/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.38999	38.19	Pk	32	-19.3	0	50.88	-	-	74	-23.12	46	221	V
2	*2.32821	41.45	Pk	31.8	-19.6	0	53.65	-	-	74	-20.35	46	221	V
3	*2.38999	27.96	RMS	32	-19.3	3.06	43.72	54	-10.28	-	-	46	221	V
4	*2.37011	28.98	RMS	32	-19.4	3.06	44.64	54	-9.36	-	-	46	221	V

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

BANDEDGE (HIGH CHANNEL)

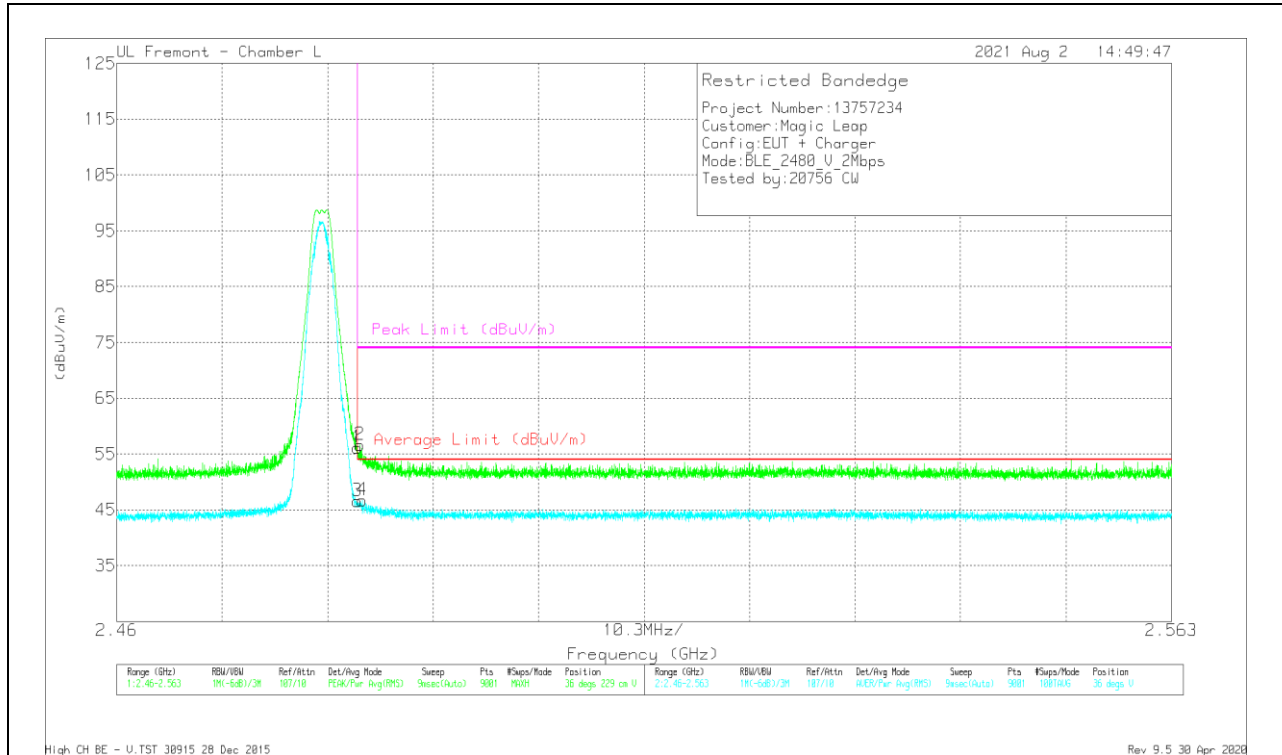
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	Amp/Cb/Ftr/Pad (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
1	* 2.48351	39.55	Pk	32.3	-19	0	52.85	-	-	74	-21.15	32	227	H
2	* 2.48355	41.35	Pk	32.3	-19	0	54.65	-	-	74	-19.35	32	227	H
3	* 2.48351	27.93	RMS	32.3	-19	3.06	44.29	54	-9.71	-	-	32	227	H
4	2.53229	28.93	RMS	32.4	-19	3.06	45.39	54	-8.61	-	-	32	227	H

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

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBu)	Det	AF T119 (dBm)	Amp/Cal/Fix/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuW/m)	Average Limit (dBuW/m)	Margin (dB)	Peak Limit (dBuW/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	42.85	PK	32.3	-19	0	58.15	-	-	74	-17.85	36	229	V
2	* 2.48371	43.34	PK	32.3	-19	0	56.64	-	-	74	-17.36	36	229	V
3	* 2.48351	30.22	RMS	32.3	-19	3.06	46.58	54	-7.42	-	-	36	229	V
4	* 2.48398	30.35	RMS	32.3	-19	3.06	46.71	54	-7.29	-	-	36	229	V

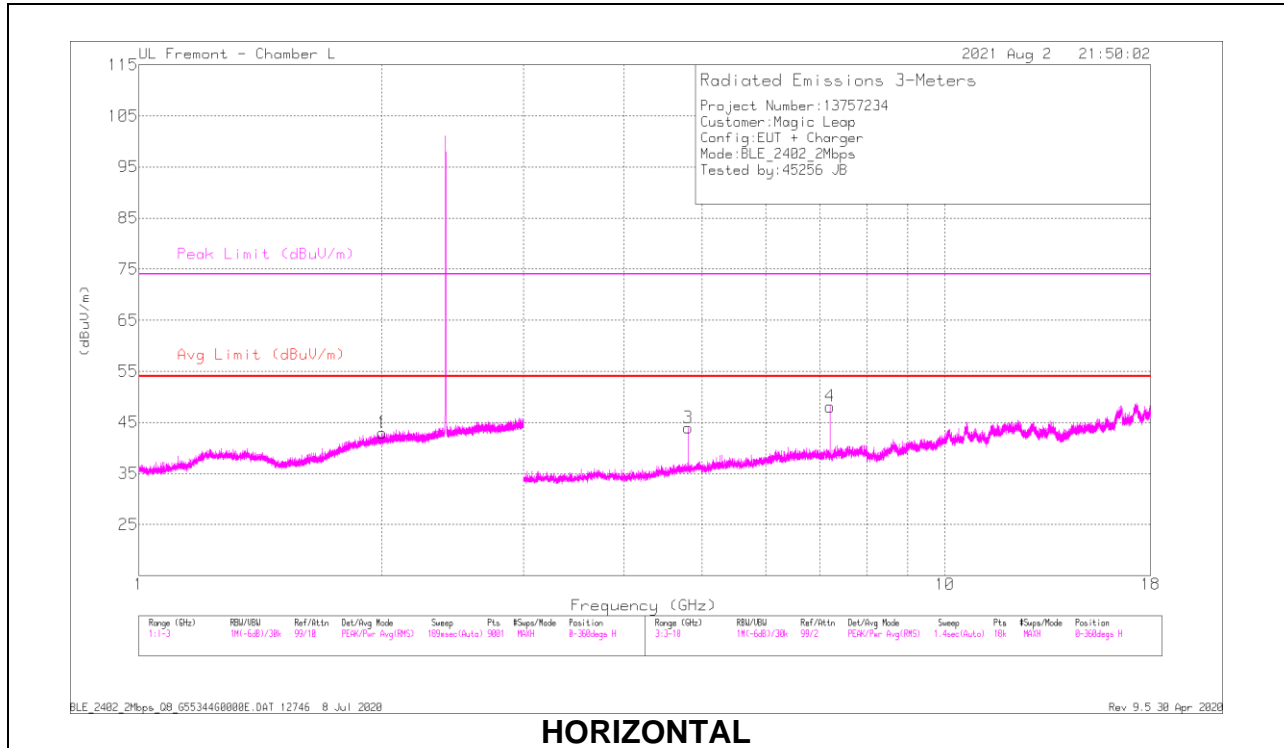
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

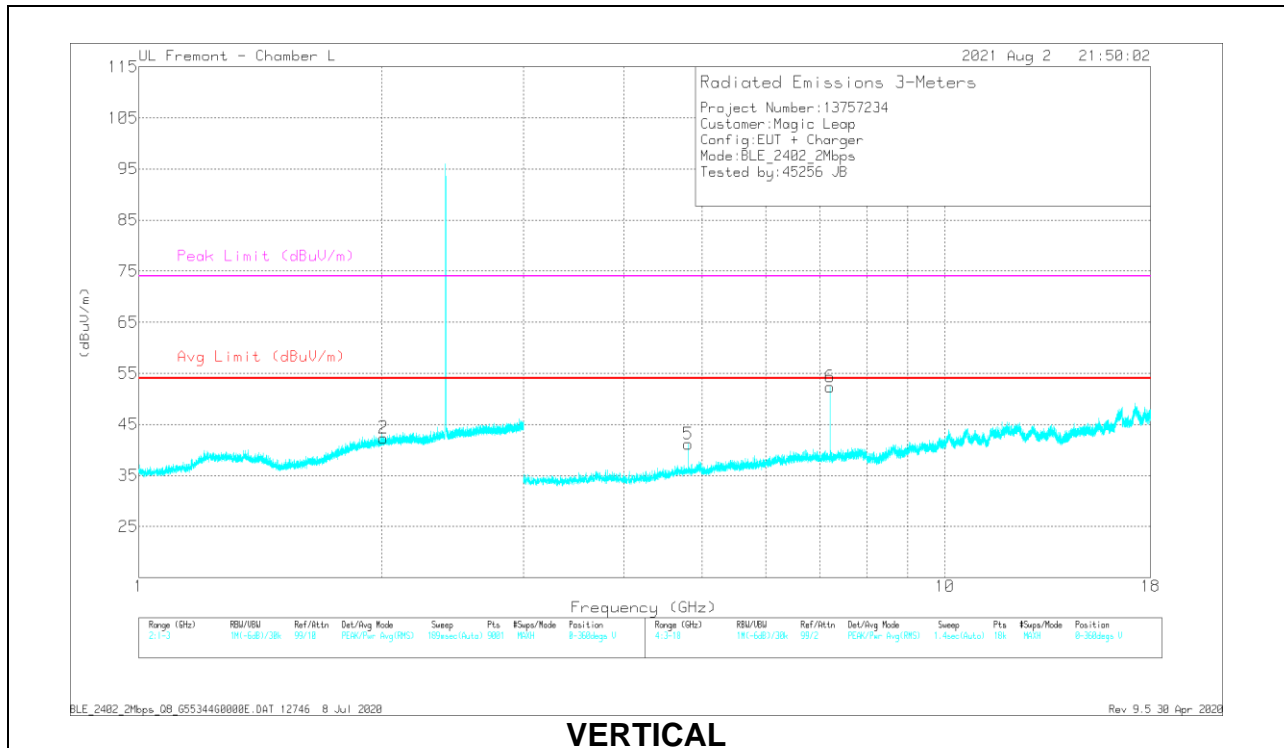
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

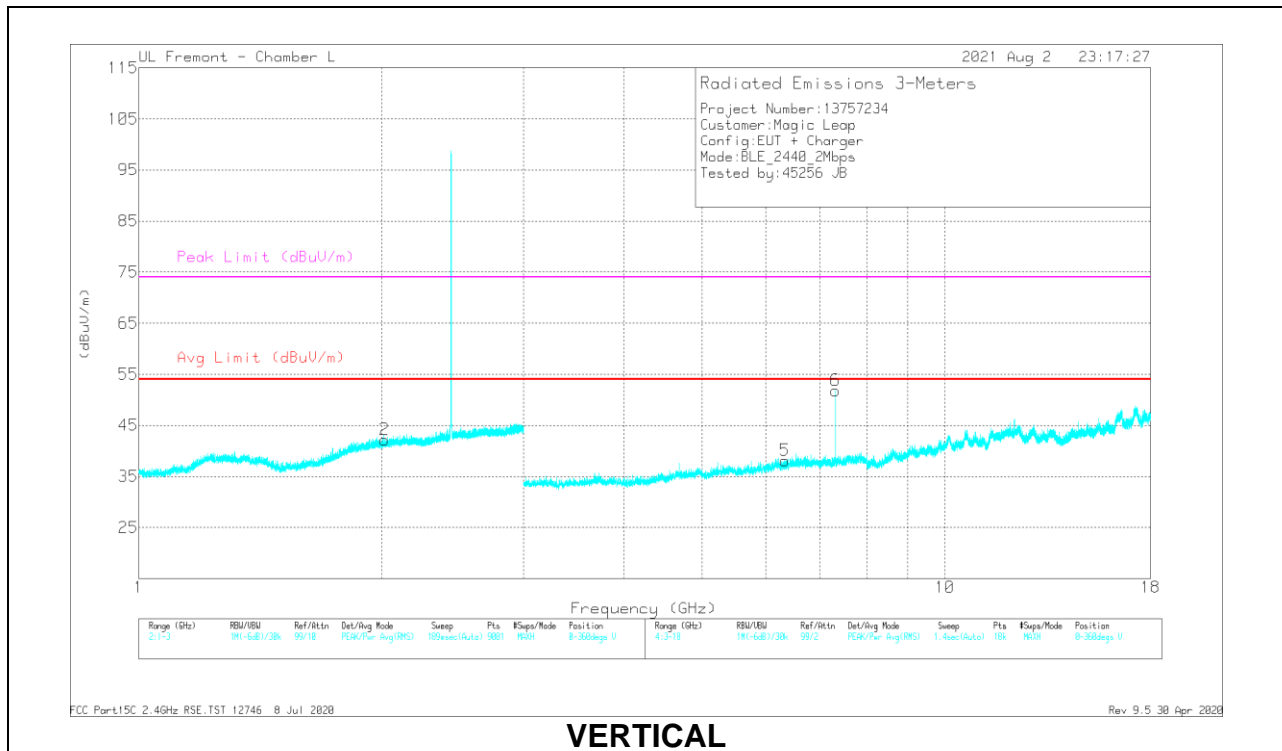
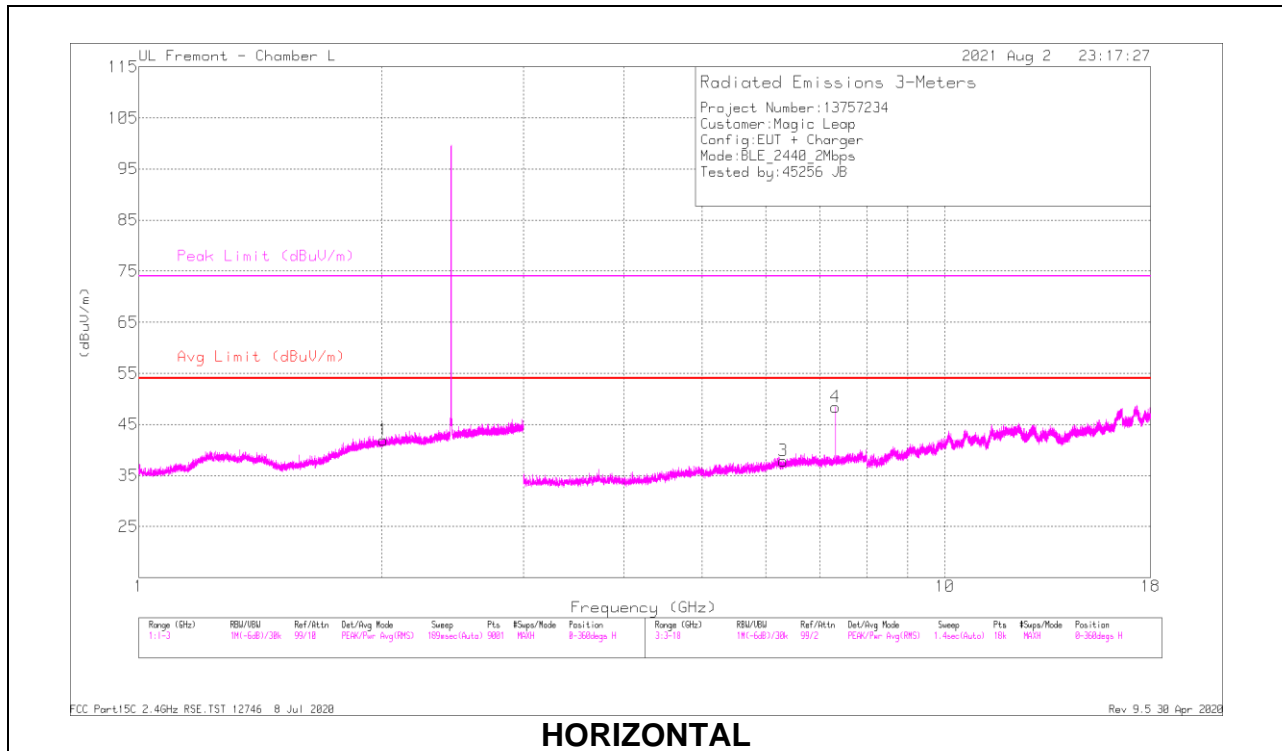
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.00355	32.07	Pk	31.4	-20.5	0	42.97	-	-	-	-	0-360	101	H
2	2.01089	31.26	Pk	31.5	-20.4	0	42.36	-	-	-	-	0-360	101	V
3	* 4.80309	37.33	PK2	34.1	-24.5	0	46.93	-	-	74	-27.07	154	152	H
	* 4.80379	24.82	MAv1	34.1	-24.5	3.06	37.48	54	-16.52	-	-	154	152	H
4	7.20731	37.59	PK2	35.5	-20.2	0	52.89	-	-	-	-	168	336	H
5	* 4.80382	39.07	PK2	34.1	-24.5	0	48.67	-	-	74	-25.33	77	283	V
	* 4.80406	25.55	MAv1	34.1	-24.5	3.06	38.21	54	-15.79	-	-	77	283	V
6	7.2075	35.79	PK2	35.6	-20.2	0	51.19	-	-	-	-	188	101	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



RADIATED EMISSIONS

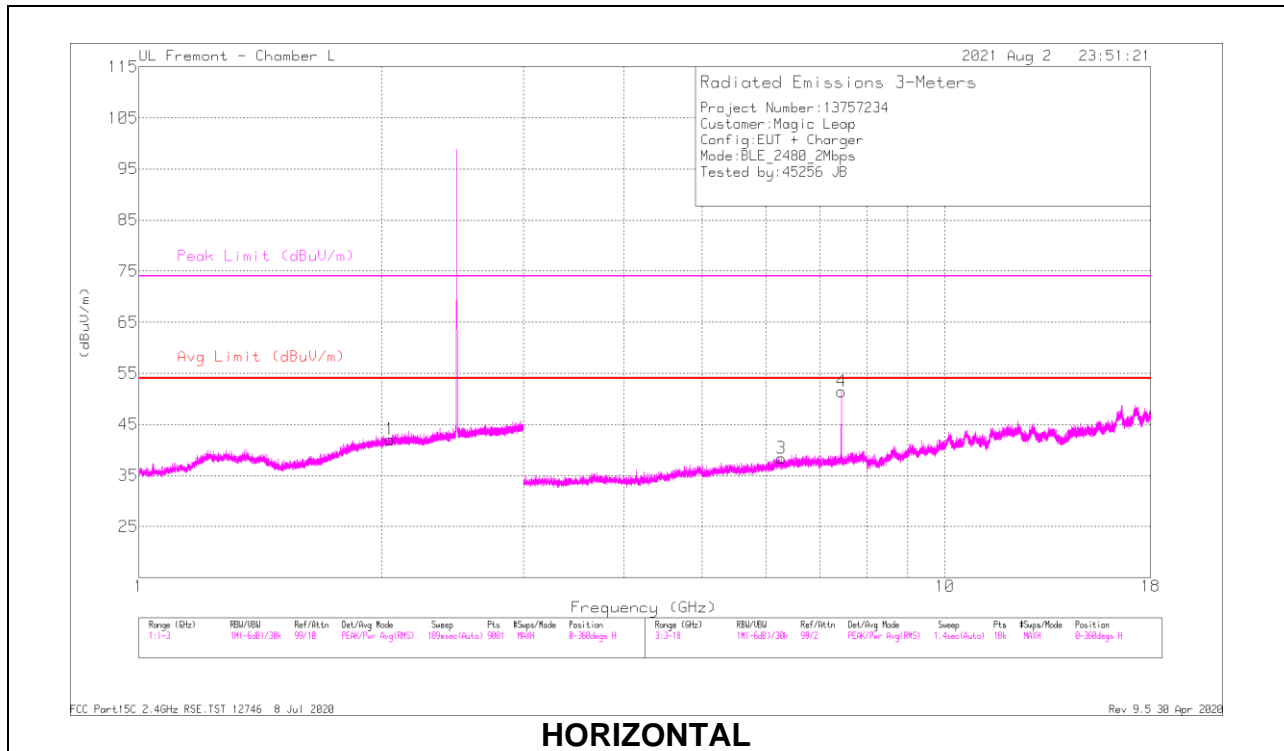
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.01267	30.85	Pk	31.5	-20.4	0	41.95	-	-	-	-	0-360	101	H
2	2.01778	31.02	Pk	31.5	-20.4	0	42.12	-	-	-	-	0-360	200	V
3	6.30352	24.31	Pk	35.6	-22.1	0	37.81	-	-	-	-	0-360	200	H
4	* 7.31857	38.17	PK2	35.7	-20.1	0	53.77	-	-	74	-20.23	36	104	H
	* 7.3189	25.24	MAv1	35.6	-20.1	3.06	43.8	54	-10.2	-	-	36	104	H
5	6.33519	24.57	Pk	35.6	-22.1	0	38.07	-	-	-	-	0-360	101	V
6	* 7.31862	40.09	PK2	35.7	-20.1	0	55.69	-	-	74	-18.31	189	103	V
	* 7.31883	28.37	MAv1	35.6	-20.1	3.06	46.93	54	-7.07	-	-	189	103	V

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

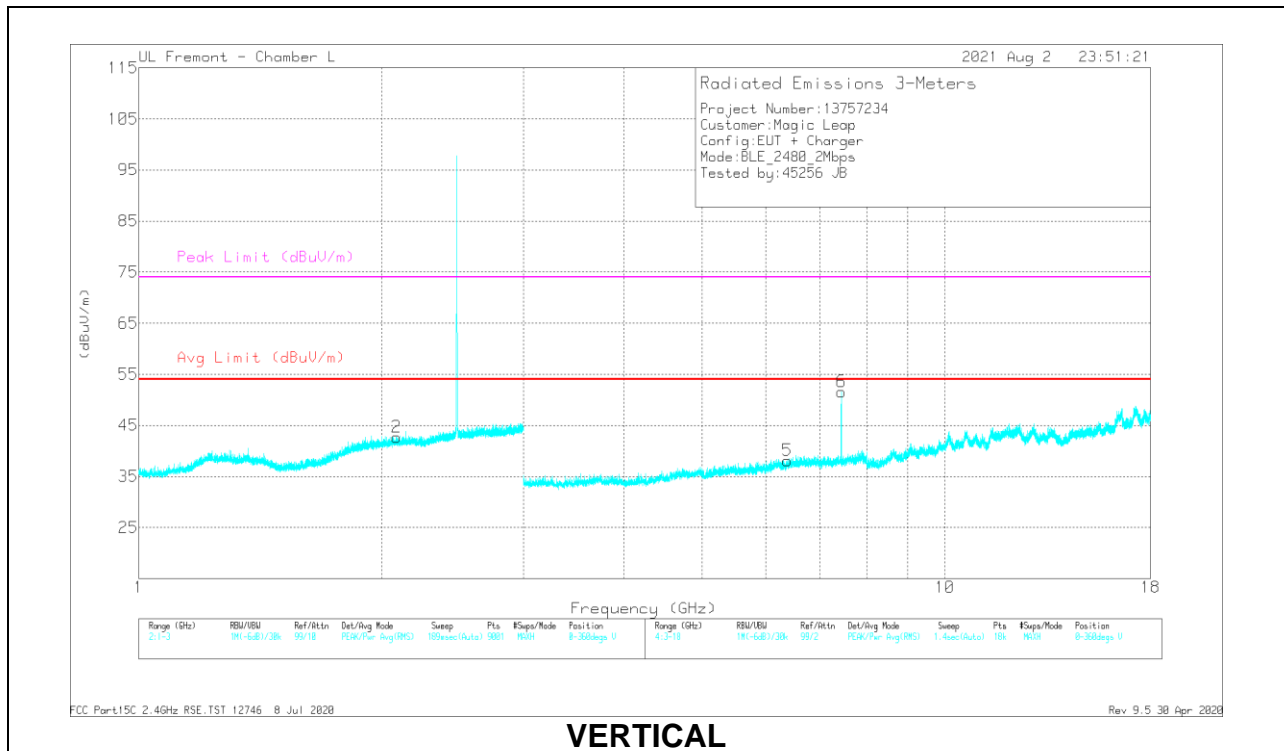
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.04955	30.79	Pk	31.6	-20.3	0	42.09	-	-	-	-	0-360	200	H
2	2.08867	31.15	Pk	31.6	-20.1	0	42.65	-	-	-	-	0-360	101	V
3	6.27185	25.02	Pk	35.6	-22.3	0	38.32	-	-	-	-	0-360	101	H
4	* 7.43852	39.8	PK2	35.7	-19.9	0	55.6	-	-	74	-18.4	61	271	H
	* 7.44121	26.4	MAv1	35.7	-20	3.06	45.16	54	-8.84	-	-	61	271	H
5	6.37936	24.25	Pk	35.6	-21.7	0	38.15	-	-	-	-	0-360	101	V
6	* 7.43853	39.31	PK2	35.7	-19.9	0	55.11	-	-	74	-18.89	184	102	V
	* 7.43884	26.29	MAv1	35.7	-19.9	3.06	45.15	54	-8.85	-	-	184	102	V

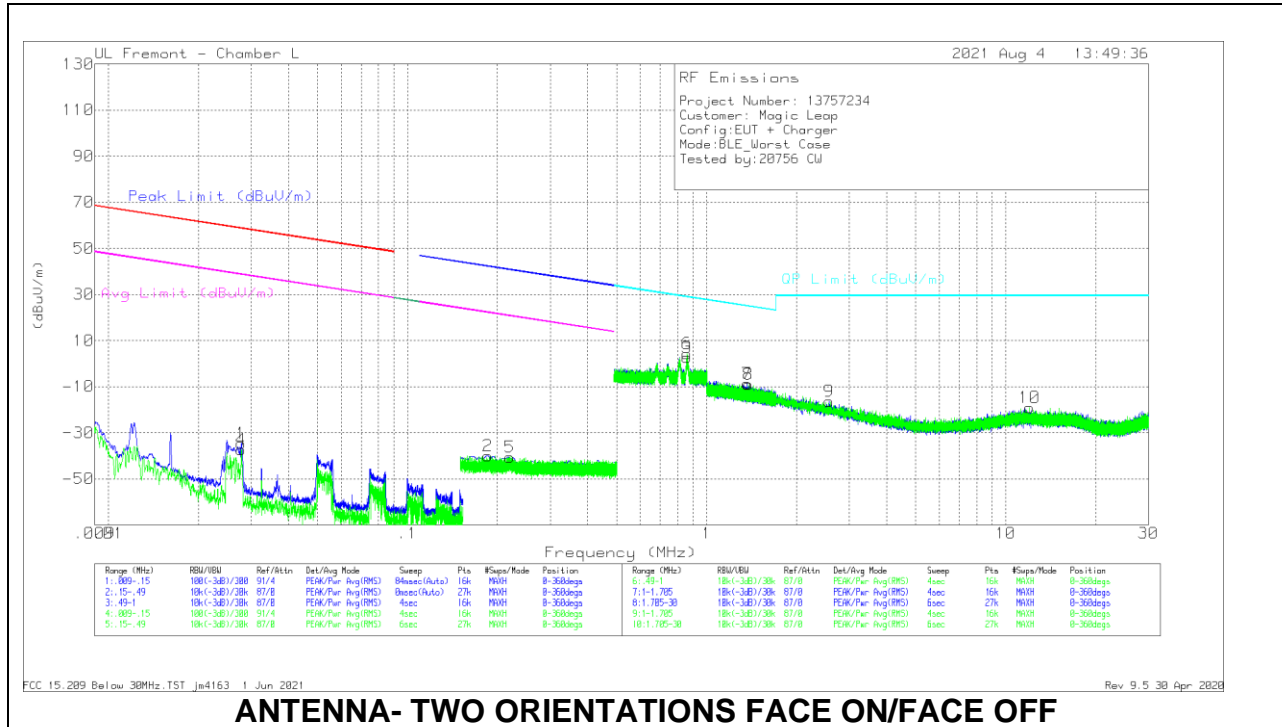
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.3. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.02785	18.73	Pk	58.1	-31.5	-80	-34.67	58.69	-93.36	38.69	-73.36	0-360
2	.18543	15.92	Pk	56.1	-32	-80	-39.98	42.26	-82.24	22.26	-62.24	0-360
4	.02783	16.06	Pk	58.1	-31.5	-80	-37.34	58.69	-96.03	38.69	-76.03	0-360
5	.21971	15.25	Pk	56.2	-32	-80	-40.55	40.78	-81.33	20.78	-61.33	0-360

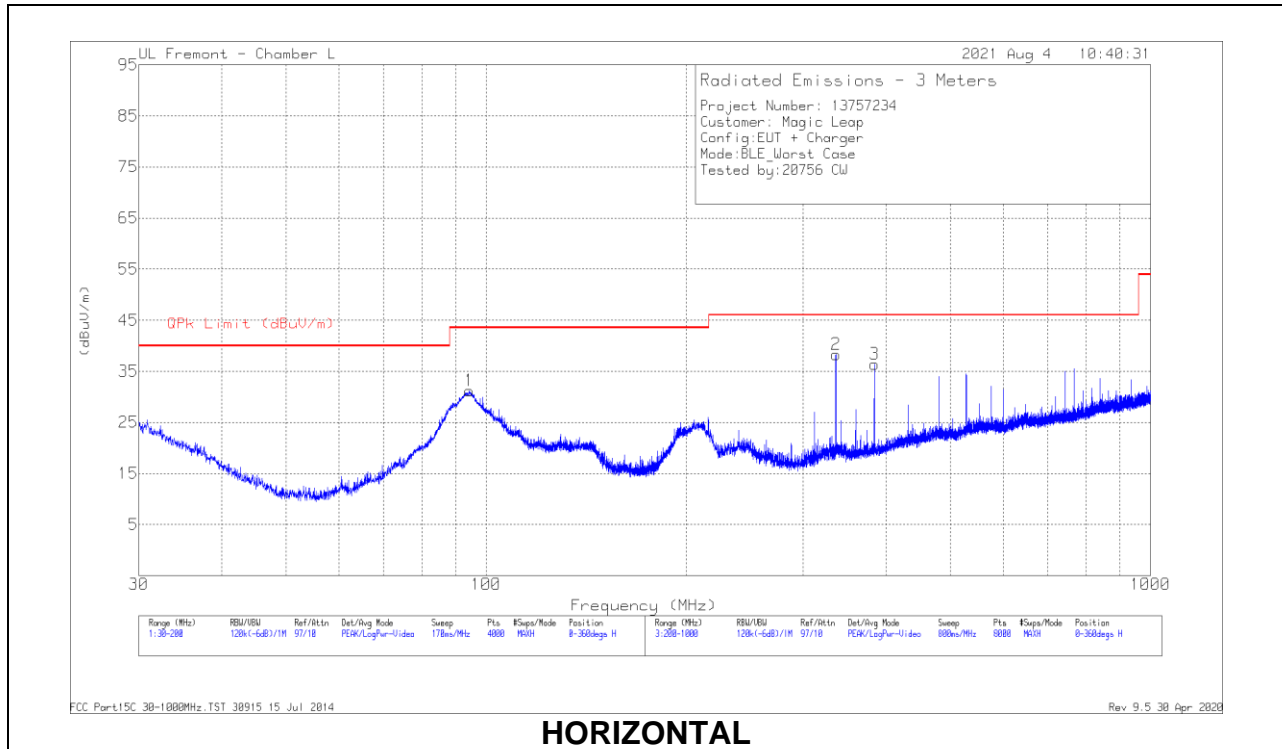
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.85976	18.33	Pk	56.2	-31.9	-40	2.63	28.93	-26.3	0-360
6	.86101	20.16	Pk	56.2	-31.9	-40	4.46	28.92	-24.46	0-360
7	1.36216	18.42	Pk	44.8	-31.9	-40	-8.68	24.94	-33.62	0-360
9	2.56541	15.56	Pk	39.9	-31.8	-40	-16.34	29.5	-45.84	0-360
8	1.38122	18.18	Pk	44.7	-31.9	-40	-9.02	24.82	-33.84	0-360
10	11.99636	18.62	Pk	34	-31.6	-40	-18.98	29.5	-48.48	0-360

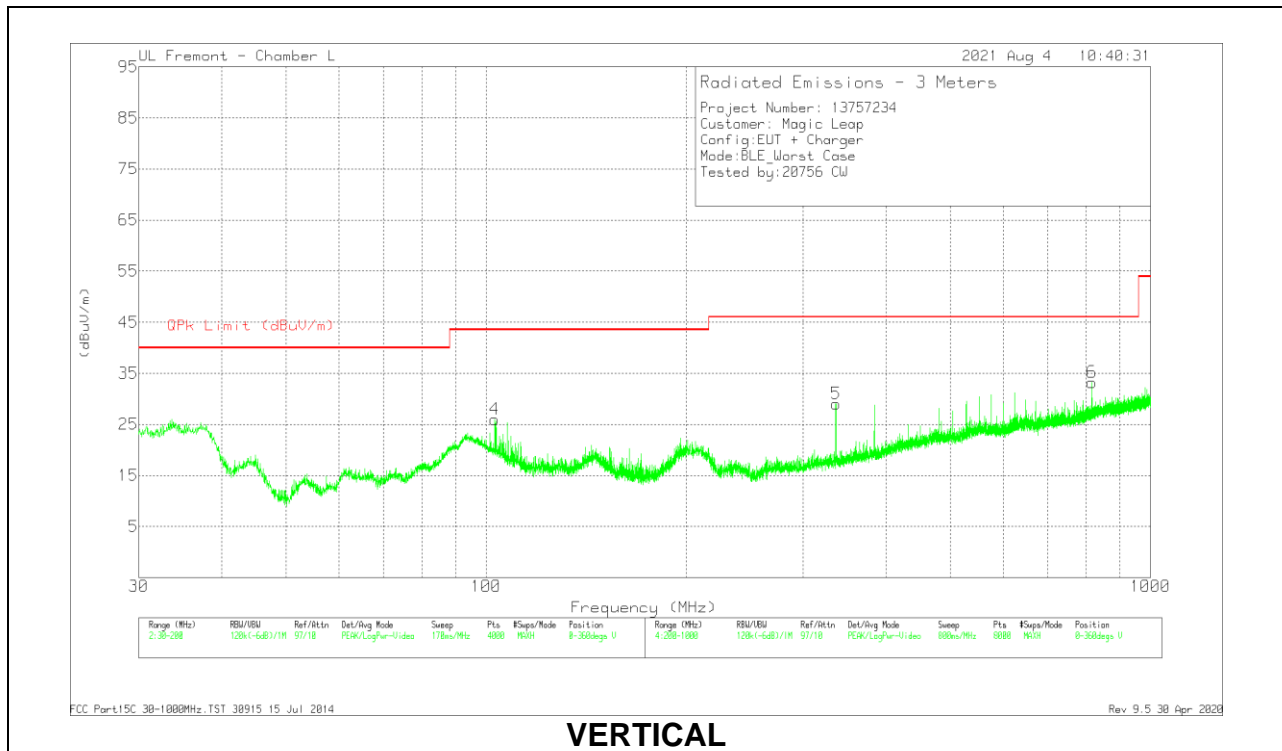
Pk - Peak detector

10.4. WORST CASE BELOW 1 GHZ

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



HORIZONTAL



VERTICAL

Below 1GHz Data

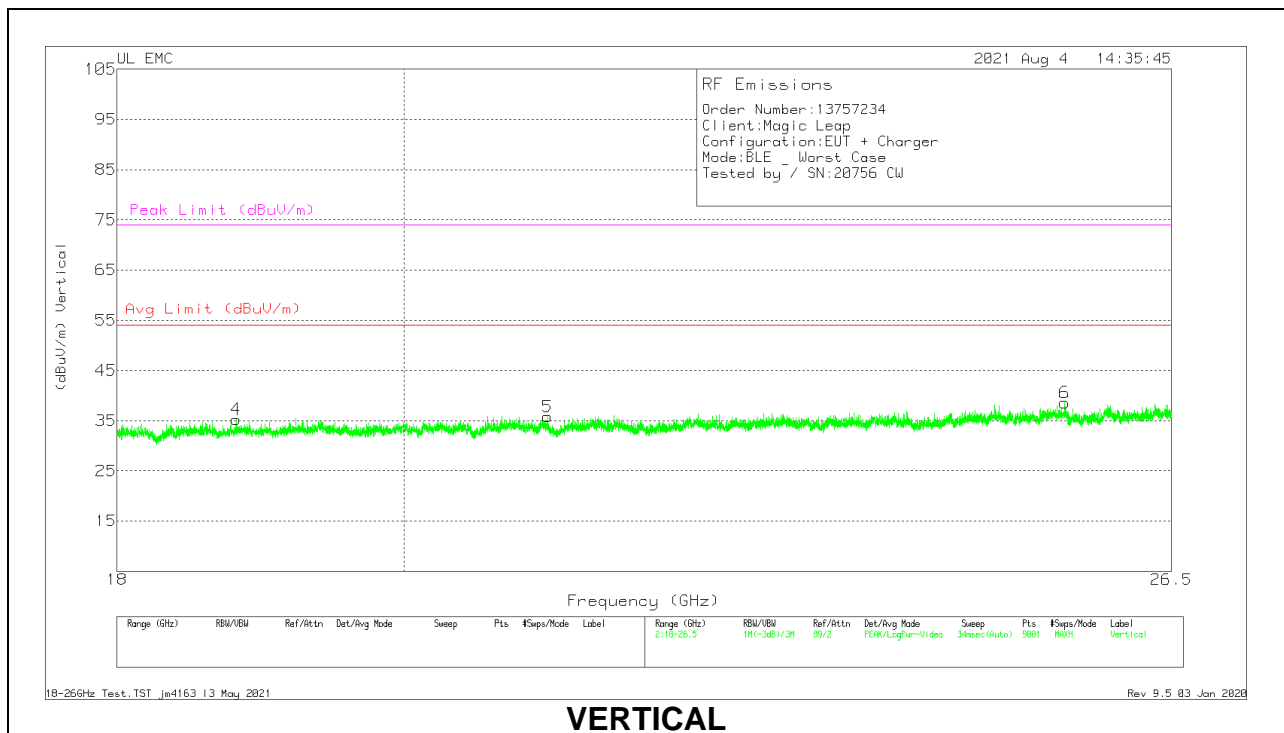
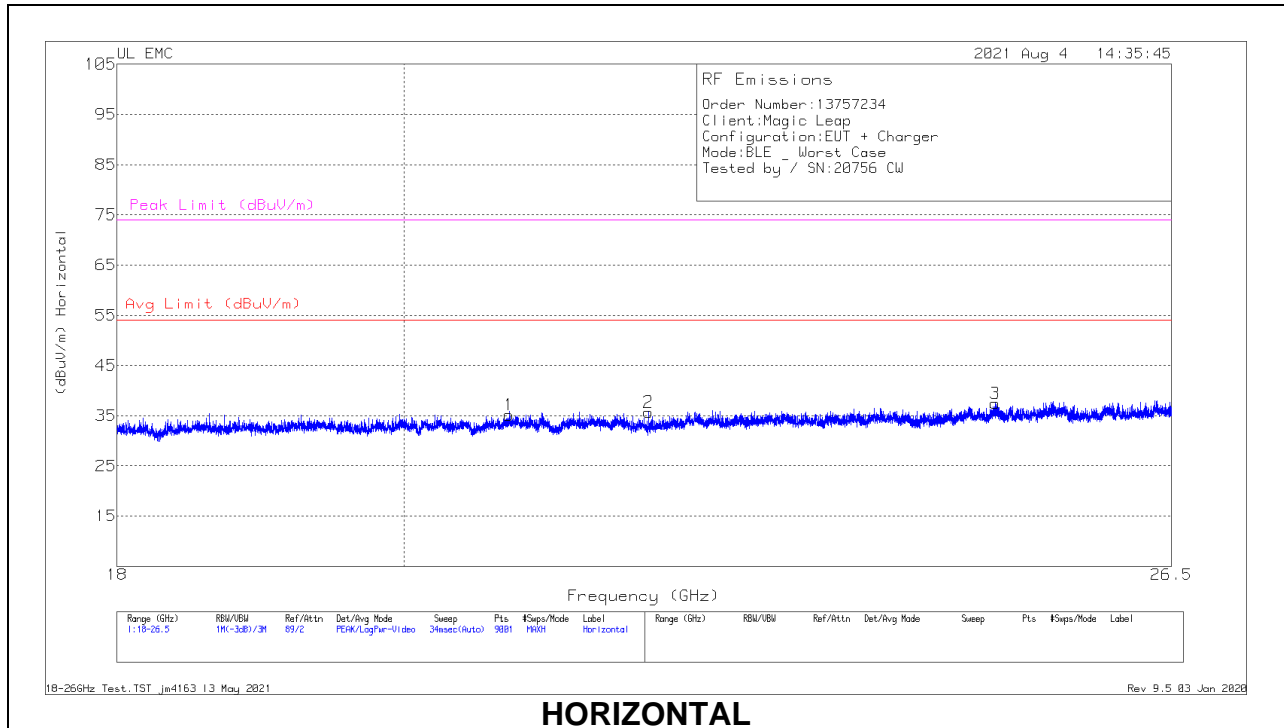
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 174373 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	94.2766	47.48	Pk	14.5	-30.8	31.18	43.52	-12.34	0-360	199	H
4	102.9914	39.93	Pk	16.8	-30.7	26.03	43.52	-17.49	0-360	101	V
2	336	47.4	Qp	19.8	-29.3	37.9	46.02	-8.12	215	114	H
3	383.9239	44.6	Pk	20.8	-29	36.4	46.02	-9.62	0-360	101	H
5	336.0177	38.53	Pk	19.8	-29.3	29.03	46.02	-16.99	0-360	98	V
6	816.0801	33.84	Pk	27.3	-27.9	33.24	46.02	-12.78	0-360	98	V

Pk - Peak detector

Qp - Quasi-Peak detector

10.5. WORST CASE 18-26 GHZ

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	18-26GHz Horn	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	20.78328	67.95	Pk	33.5	-56.8	-9.5	35.15	54	-18.85	74	-38.85
2	21.87411	68.88	Pk	33.7	-57.4	-9.5	35.68	54	-18.32	74	-38.32
3	24.84061	67.35	Pk	35.3	-55.7	-9.5	37.45	54	-16.55	74	-36.55
4	18.80278	70.14	Pk	32.9	-58.3	-9.5	35.24	54	-18.76	74	-38.76
5	21.07889	68.6	Pk	33.7	-57	-9.5	35.8	54	-18.2	74	-38.2
6	25.48189	67.56	Pk	35.5	-55	-9.5	38.56	54	-15.44	74	-35.44

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

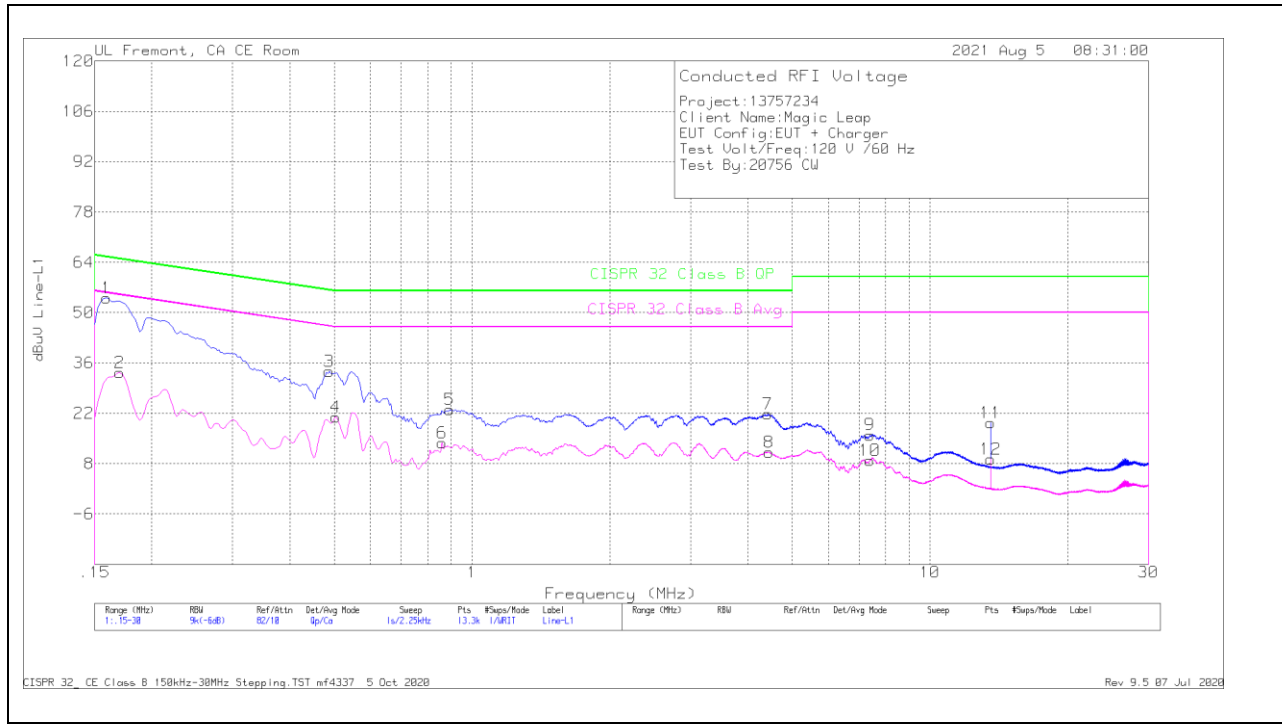
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

RESULTS

AC Power Line Norm

LINE 1 RESULTS



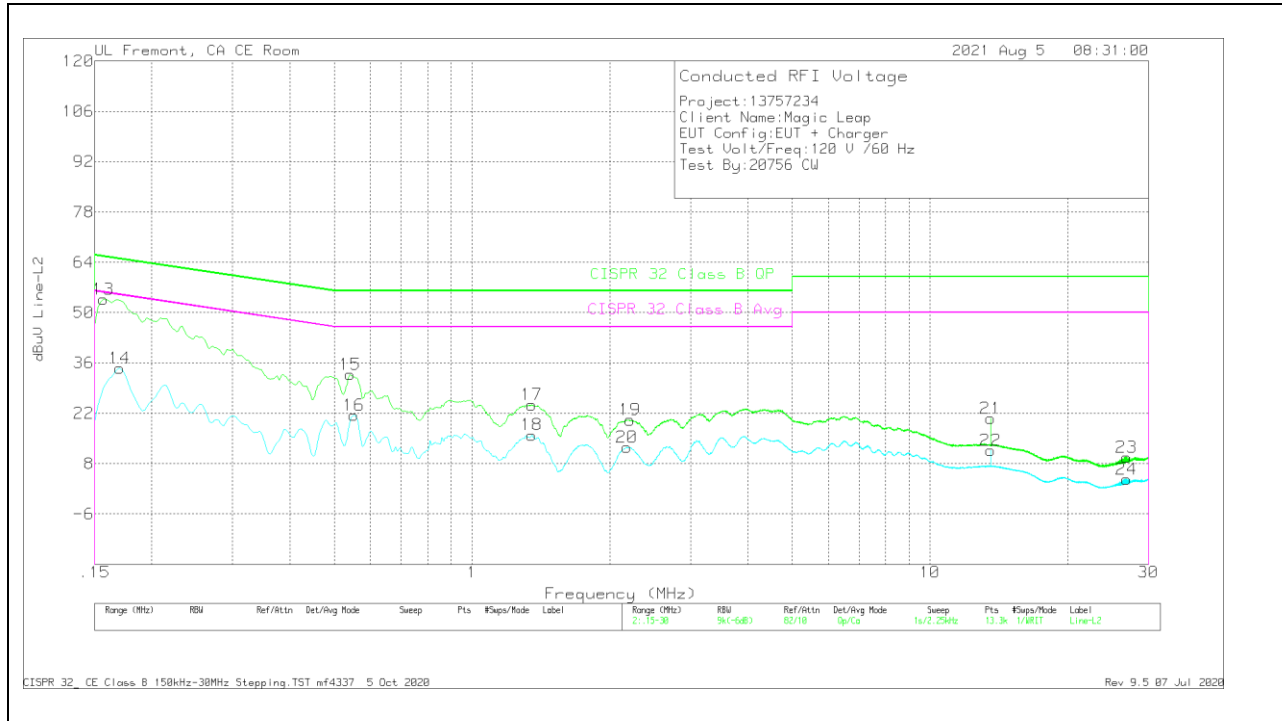
Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 L1	LC Cables C1&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
2	.17025	23.98	Ca	0	0	9.4	33.38	-	-	54.95	-21.57
4	.50325	11.71	Ca	0	0	9.3	21.01	-	-	46	-24.99
6	.861	4.32	Ca	0	.1	9.3	13.72	-	-	46	-32.28
8	4.45425	1.83	Ca	0	.1	9.3	11.23	-	-	46	-34.77
10	7.39725	-4.2	Ca	0	.1	9.3	8.98	-	-	50	-41.02
12	13.56	-3	Ca	.1	.2	9.3	9.3	-	-	50	-40.7
1	.159	44.54	Qp	.1	0	9.4	54.04	65.52	-11.48	-	-
3	.4875	24.43	Qp	0	0	9.3	33.73	56.21	-22.48	-	-
5	.89475	13.62	Qp	0	.1	9.3	23.02	56	-32.98	-	-
7	4.42725	12.37	Qp	0	.1	9.3	21.77	56	-34.23	-	-
9	7.386	6.57	Qp	0	.1	9.3	15.97	60	-44.03	-	-
11	13.56	9.82	Qp	.1	.2	9.3	19.42	60	-40.58	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

NOTE: Markers 11 and 12, 13.56MHz is an external NFC signal unrelated to the EUT.

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 L2	LC Cables C2&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
14	.17025	25.12	Ca	0	0	9.4	34.52	-	-	54.95	-20.43
16	.55275	12.09	Ca	0	0	9.3	21.39	-	-	46	-24.61
18	1.3515	6.57	Ca	0	.1	9.3	15.97	-	-	46	-30.03
20	2.1795	3.13	Ca	0	.1	9.3	12.53	-	-	46	-33.47
22	13.56	2.11	Ca	.1	.2	9.3	11.71	-	-	50	-38.29
24	26.89125	-6.15	Ca	.1	.3	9.4	3.65	-	-	50	-46.35
13	.15675	44.35	Qp	0	0	9.4	53.75	65.63	-11.88	-	-
15	.5415	23.48	Qp	0	0	9.3	32.78	56	-23.22	-	-
17	1.34925	14.95	Qp	0	.1	9.3	24.35	56	-31.65	-	-
19	2.211	10.76	Qp	0	.1	9.3	20.16	56	-35.84	-	-
21	13.56	10.95	Qp	.1	.2	9.3	20.55	60	-39.45	-	-
23	26.89013	.03	Qp	.1	.3	9.4	9.83	60	-50.17	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

NOTE: Markers 21 and 22, 13.56MHz is an external NFC signal unrelated to the EUT.

12. SETUP PHOTOS

Please refer to UL Verification Services Report number 13757234-EP1V1.

END OF TEST REPORT