



TEST REPORT

Report Number: 13911916-E2V2

Applicant : APPLE, INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A

Model : A2595 (Parent Model, Full Test)
A2782, A2783, A2784, A2785 (Variant Models)

FCC ID : BCG-E4082A (Parent Model)
BCG-E8064A, BCG-E4083A, BCG-8076A (Variant Models)

IC : 579C-E4082A (Parent Model)
579C-E8064A, 579C-E4083A, 579C-8076A (Variant Models)

EUT Description : SMARTPHONE

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:
February 09, 2022

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	1/25/2022	Initial Issue	Chin Pang
V2	2/9/2022	Address TCB's questions on cover page and page 9. Add loop antenna in section 8, update ANT 2 iPA power on L/H channels	Chin Pang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A

EUT DESCRIPTION: SMARTPHONE

MODEL: A2595 (Parent Model)
A2782, A2783, A2784, A2785 (Variant Models)

BRAND: APPLE

FCC ID: BCG-E4082A (Parent Model)
BCG-E8064A, BCG-E4083A, BCG-E8076A (Variant Models)

IC: 579C-E4082A (Parent Model)
579C-E8064A, 579C-E4083A, 579C-E8076A (Variant Models)

SERIAL NUMBER: DT23CMFDH2

SAMPLE RECEIPT DATE: SEPTEMBER 08, 2021

DATE TESTED: SEPTEMBER 08, 2021 – FEBRUARY 9, 2022

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.

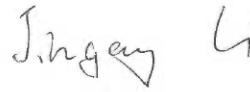
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Approved & Released For
UL Verification Services Inc. By:



Chin Pang
Senior Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:



Jingang Li
Test Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST SUMMARY

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	Complies	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Complies	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	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Complies	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, KDB 662911, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

Location	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	22541	550739
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	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	2.87 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%.

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G FR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, GPS and NFC. All models support at least one UICC based SIM. The second SIM is an UICC based e-SIM (electronic SIM) in some models. China model has 1 p-SIM only. The device supports a built-in inductive charging receiver. The rechargeable battery is not user accessible.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC and by ISED-Canada.

The Model and FCC IDs / ISED covered by this report includes:

Parent Model: A2595, FCC ID: BCG-E4082A, IC: 579C-E4082A

Variant Models: A2782, FCC ID: BCG-E8064A, IC: 579C-E8064A
 A2783; FCC ID: BCG-E4083A, IC: 579C-E4083A
 A2784 & A2785, FCC ID: BCG-E8076A, IC: 579C-8076A

6.2. MAXIMUM OUTPUT POWER

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

Antenna	Configuration	Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
ANT 2	High Power	2402 - 2480	BLE 1M	17.21	52.60
	Low Power			11.71	14.83
	High Power	2404 - 2478	BLE 2M	17.33	54.08
	Low Power			11.69	14.76
ANT 3	High Power	2402 - 2480	BLE 1M	20.26	106.17
	Low Power			11.32	13.55
	High Power	2404 - 2478	BLE 2M	20.25	105.93
	Low Power			11.28	13.43
BF, ANT 2 + ANT 3	High Power	2402 - 2480	BLE 1M	20.24	105.68
	Low Power			14.5	28.18
	High Power	2404 - 2478	BLE 2M	20.28	106.66
	Low Power			14.52	28.31

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Frequency Range (GHz)	ANT 2 (dBi)	ANT 3 (dBi)
2.4	2.6	-0.3

6.4. SOFTWARE AND FIRMWARE

The EUT firmware version installed during testing was 19.5.418.4462

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X, Y and Z on ANT 2, ANT 3 and 2TX beamforming. It was determined that X (Flatbed) orientation was the worst-case orientation for ANT 2, ANT 3 and beamforming 2TX.

Radiated band edge, harmonic, and spurious emissions from 1GHz to 18GHz were performed with the EUT was set to transmit at highest power on Low/Middle/High channels.

Radiated emissions below 30MHz, below 1GHz, 18-26GHz and power line conducted emissions were performed with the EUT transmits at the channel with the highest output power as worst-case scenario. There were no emissions found below 30MHz within 20dB of the limit.

For below 1GHz tests were performed with EUT connected to AC power adapter as the worst case; and for above 1GHz, the worst-case configuration reported was tested with EUT only. For AC line conducted emission, test was investigated with AC power adapter and with laptop.

For simultaneous transmission of multiple channels in the 2.4GHz BLE and 5GHz bands. No noticeable emission was found.

There are two vendors of the WiFi/Bluetooth radio modules: variant 1 and variant 2. The Wi-Fi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

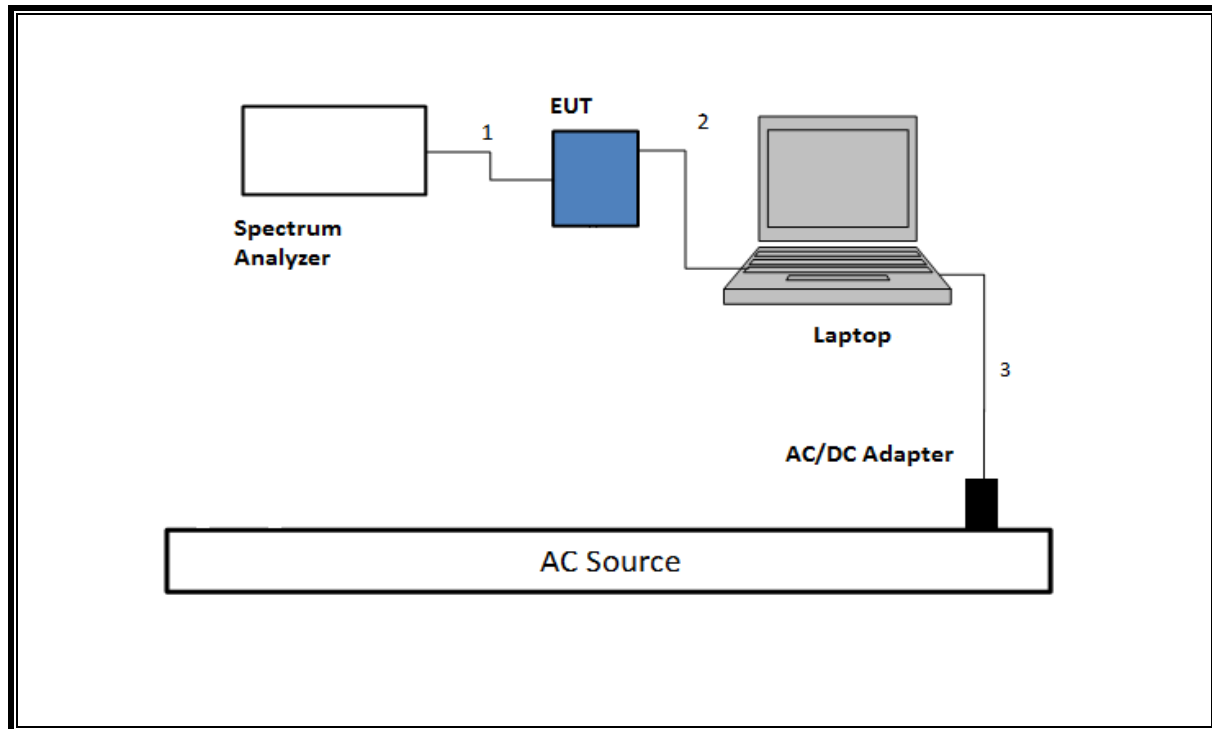
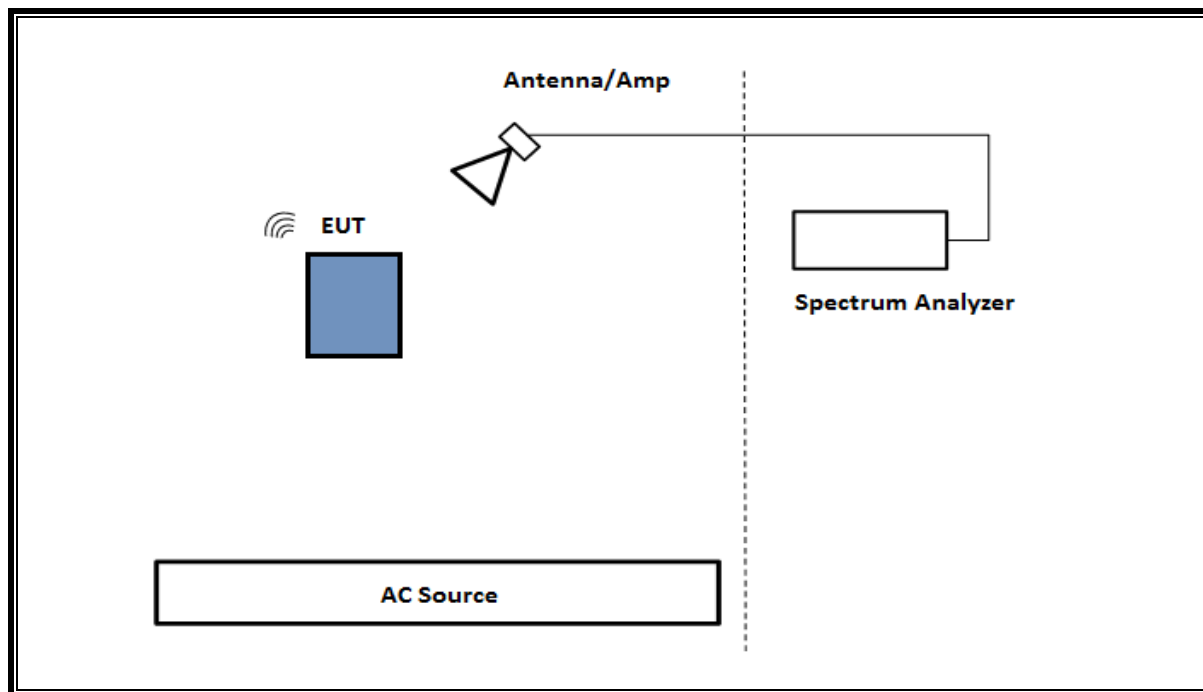
Baseline testing was performed on the two variants to determine the worst case on all conducted power and radiated emissions.

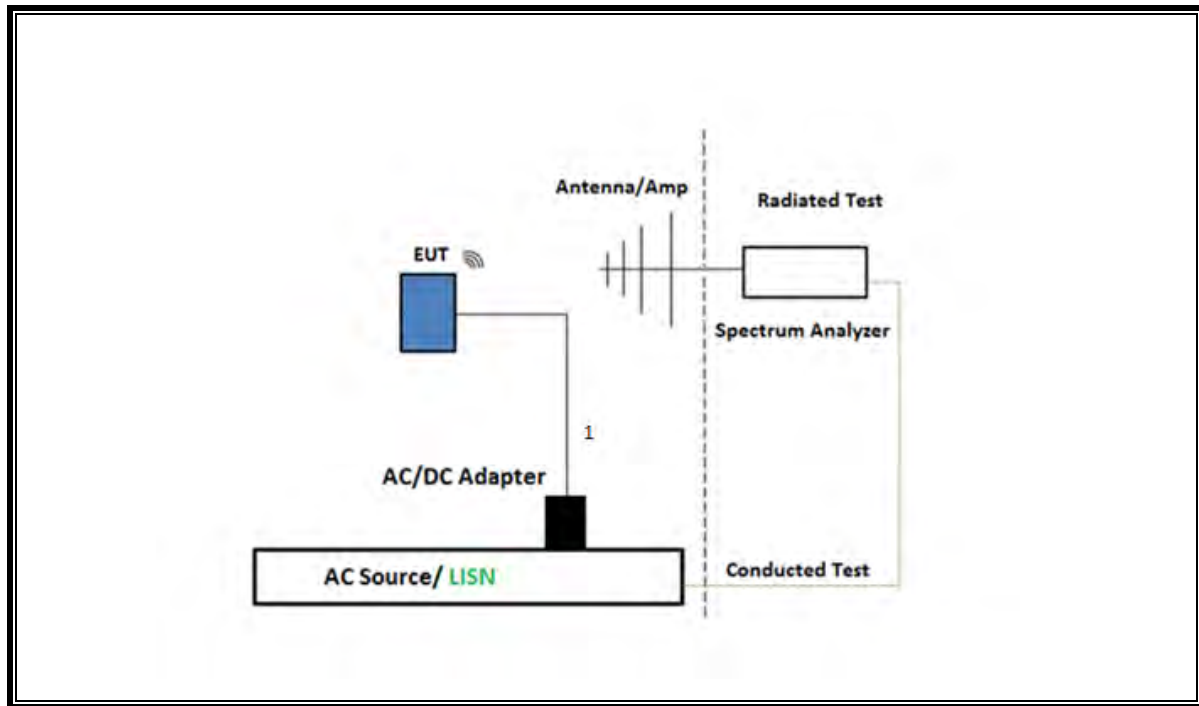
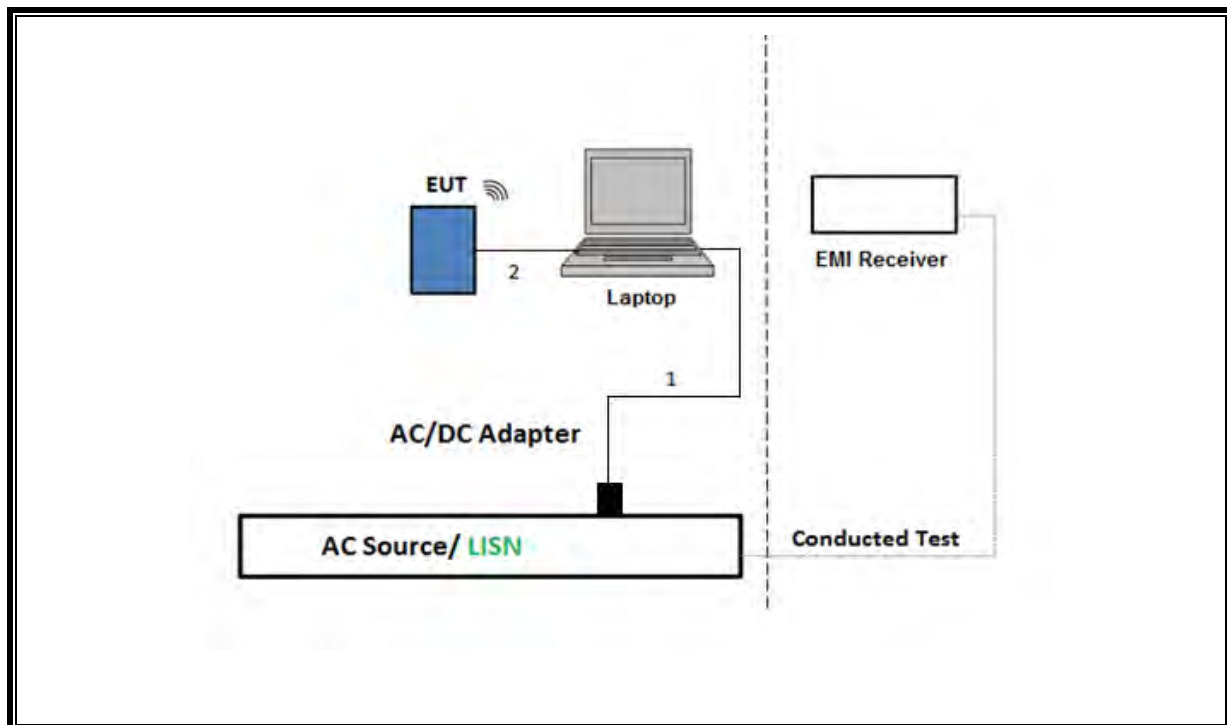
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	Macbook Pro	C02VD7SAHV22		BCGA1708
Laptop AC/DC adapter		Liteon Technology	A1424	NSW25679		DoC
EUT AC/DC adapter		Apple	A1720	C3D8417A7R93KVPA8		DoC
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	Un-shielded	0.2	To spectrum Analyzer
2	USB	1	USB	Shielded	1.0	N/A
3	AC	1	AC	Un-shielded	2	N/A
I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	2	N/A
2	USB	1	USB	Un-shielded	1	N/A

TEST SETUP

The EUT setup is shown as below. Test software exercised the radio card.

SETUP DIAGRAM FOR CONDUCTED TESTS**SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz**

SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST**TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION**

7. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 558074 D01 v05r02, Section 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 Measurement using gated average power meter.

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

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1 & Clause 13

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

Band-edge: ANSI C63.10 Subclause -11.13.3.2 & Clause 13: Integration method -Peak detection

Band-edge: ANSI C63.10 Subclause -11.13.3.3 & Clause 13: Integration method -Trace averaging with continuous transmission at full power

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

Radiated emissions non-restricted frequency bands ANSI C63.10 Subclause -11.11 & Clause 13

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4 & 13

NOTE: All conducted antenna port tests for Beamforming applied the same test procedures as BLE 1Mbps and BLE 2Mbps normal modes.

8. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
*Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1466	01/25/2022	01/25/2021
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T740	10/13/2022	10/13/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	204045	03/03/2022	03/03/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T712	03/22/2022	03/22/2021
Antenna Horn 18 to 26.5GHz (HFR)	ARA	MWH-1826/B	81140	04/22/2022	04/22/2021
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/27/2022	01/27/2021
Pre-Amp 18-26GHz	Agilent Technology	8449B	T404	04/19/2022	04/19/2021
Antenna, Active Loop 9KHz to 30MHz	ETS-Lindgren	6502	T757	11/12/2021	11/12/2020
*Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T342	01/25/2022	01/25/2021
Power Meter, P-series single channel	Keysight	N1911A	T1268	01/27/2022	01/27/2021
*Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T342	01/25/2022	01/25/2021
Power Sensor	Keysight	N1921A	T1225	01/28/2022	01/28/2021

AC Line Conducted					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	T1436	02/19/2022	02/19/2021
*Power Cable, Line Conducted Emissions	UL	PR1	T861	10/27/2021	10/27/2020
*LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01	PRE0186446	01/20/2022	01/20/2021
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, Mar 6, 2020		
Conducted Software	UL	UL EMC	2020.2.26		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, February 21, 2020		

*Testing was completed before equipment calibration date

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

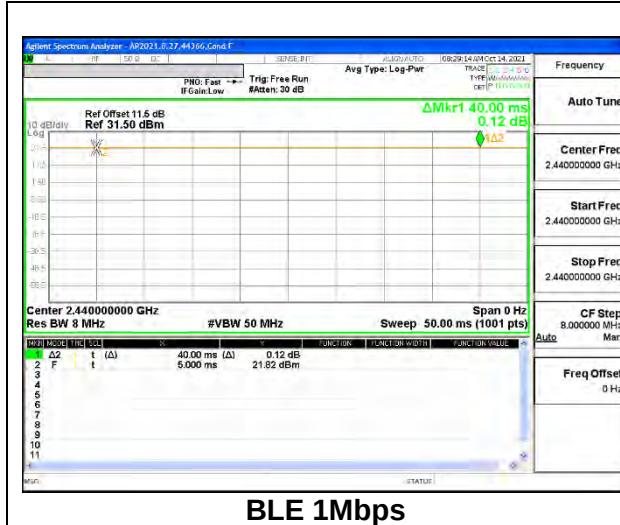
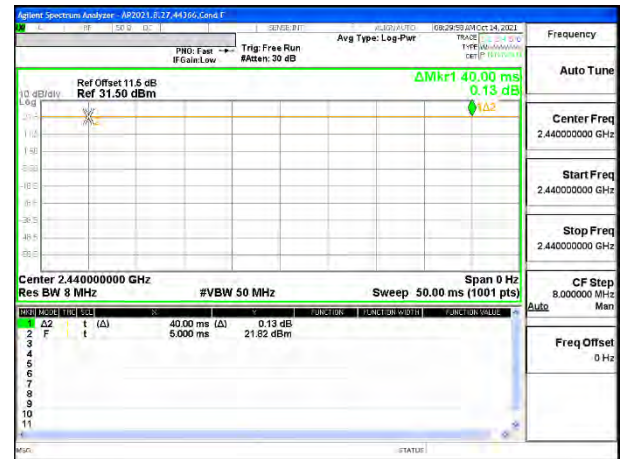
None; for reporting purposes only.

PROCEDURE

KDB 558074 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	40.00	40.00	1.000	100.00%	0.00	0.010
BLE, 2Mbps	40.00	40.00	1.000	100.00%	0.00	0.010
BLE, TXBF, 1Mbps	40.00	40.00	1.000	100.00%	0.00	0.010
BLE, TXBF, 2Mbps	40.00	40.00	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOTS**BLE 1Mbps****BLE 2Mbps****BLE TXBF 1Mbps****BLE TXBF 2Mbps**

9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

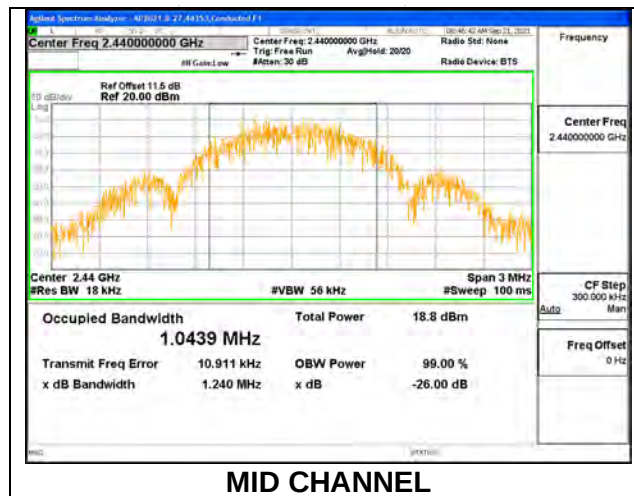
RESULTS

Only High Power modes result is reported, it covers all Low Power modes. Only Mid channel plot is reported to show setting parameter complies with testing method/procedure.

9.2.1. HIGH POWER BLE (1Mbps)

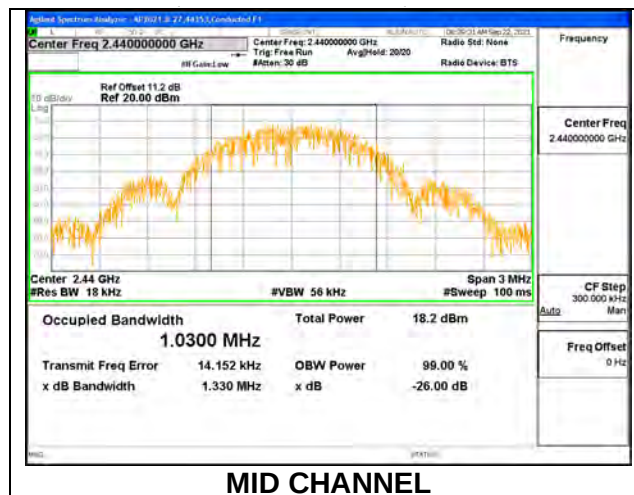
ANT 2

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.033
Middle	2440	1.044
High	2480	1.054



ANT 3

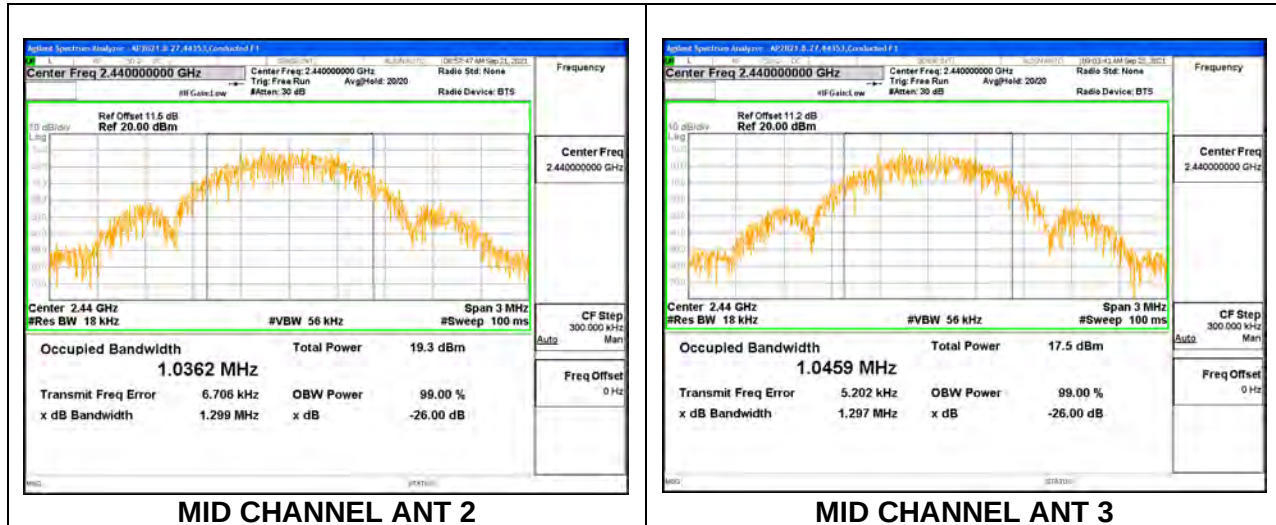
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.056
Middle	2440	1.030
High	2480	1.058



9.2.2. HIGH POWER BLE TXBF (1Mbps)

Channel	Frequency (MHz)	99% Bandwidth UAT 1 (MHz)	99% Bandwidth LAT 3 (MHz)
Low	2402	1.056	1.039
Mid	2440	1.036	1.046
High	2480	1.029	1.052

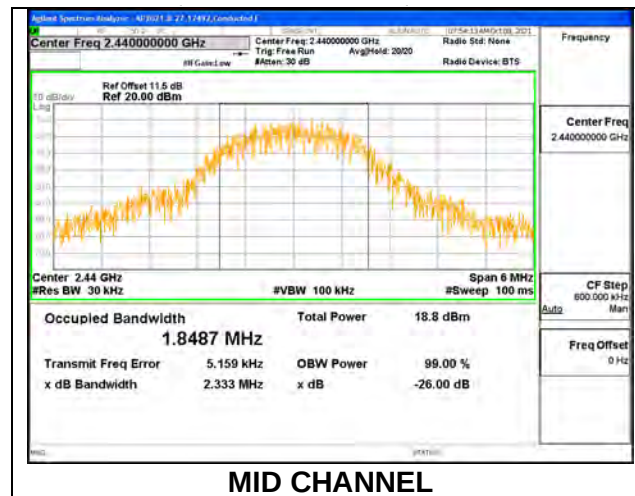
Note: Test procedures and setting are same as BLE normal mode.



9.2.3. HIGH POWER BLE (2Mbps)

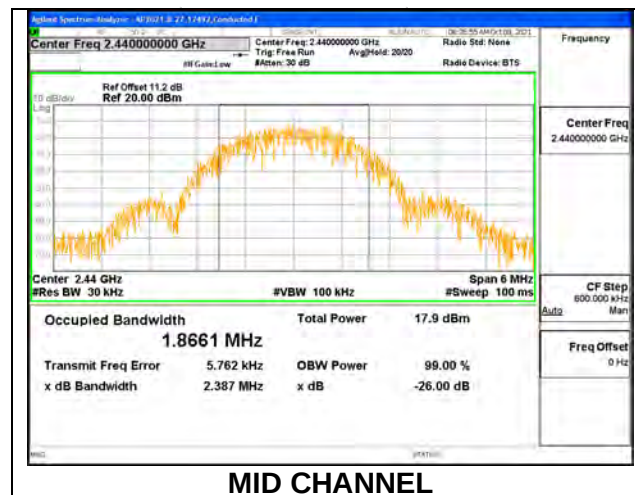
ANT 2

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2404	1.871
Middle	2440	1.849
High	2078	1.871



ANT 3

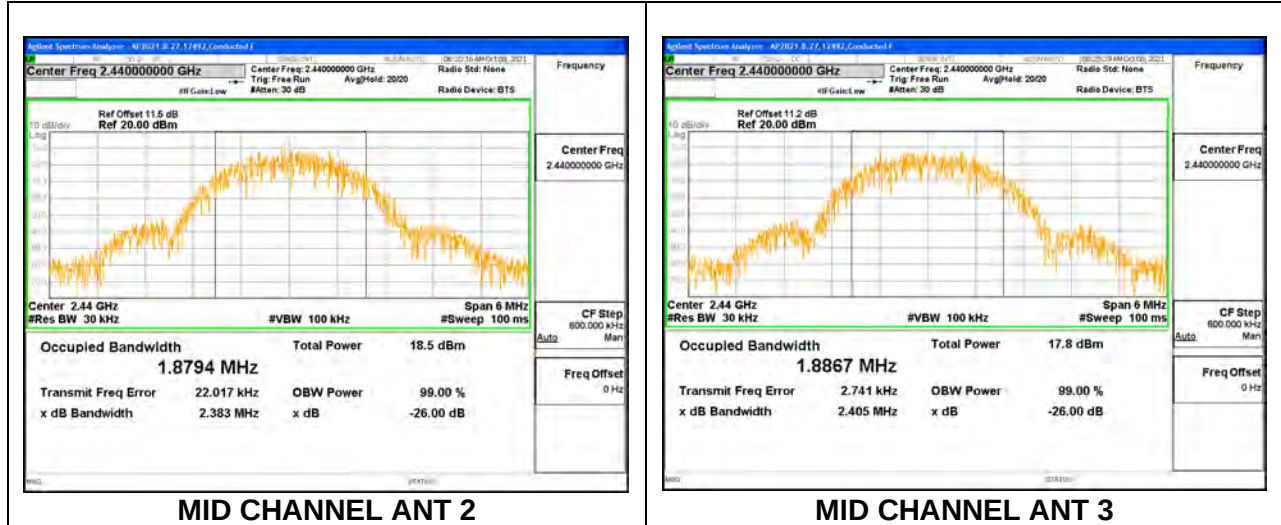
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2404	1.890
Middle	2440	1.866
High	2478	1.890



9.2.4. HIGH POWER BLE TXBF (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 3 (MHz)
Low	2404	1.835	1.871
Mid	2440	1.879	1.887
High	2478	1.885	1.866

Note: Test procedures and setting are same as BLE normal mode.



9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

RSS-247 5.2 (a)

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

RESULTS

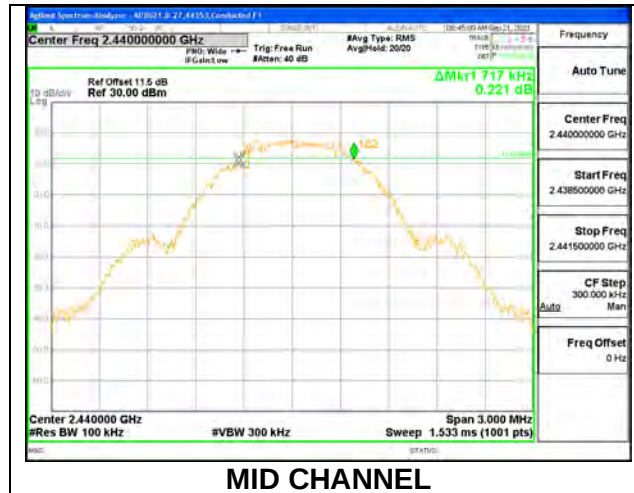
The 6dB bandwidth was measured for the narrowest bandwidth mode, High Power 1Mbps, to demonstrate compliance with the minimum required bandwidth of 500 kHz. Other modes were not tested as their bandwidth is greater than the High Power 1Mbps mode, as demonstrated by the 99% bandwidth measurements performed on all modes.

Only Mid channel plot is reported to show setting parameter complies with testing method/procedure.

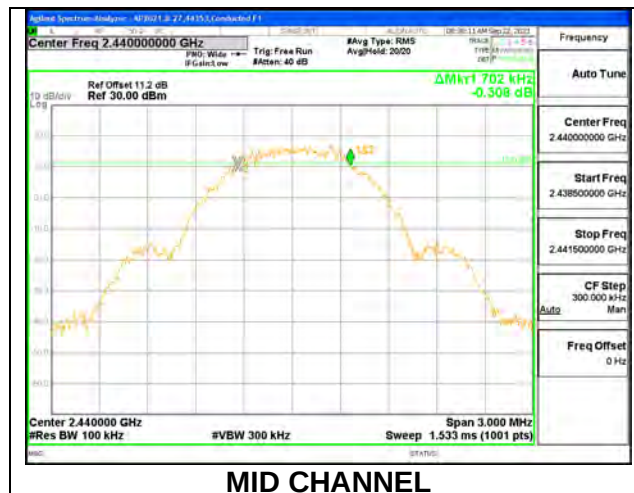
9.3.1. HIGH POWER BLE (1Mbps)

ANT 2

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.720	0.5
Middle	2440	0.717	0.5
High	2480	0.714	0.5

ANT 3

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.729	0.5
Middle	2440	0.702	0.5
High	2480	0.714	0.5



9.3.2. HIGH POWER BLE TXBF (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth ANT 2 (MHz)	6 dB Bandwidth ANT 3 (MHz)	Minimum Limit (MHz)
Low	2402	0.690	0.690	0.5
Mid	2440	0.690	0.690	0.5
High	2480	0.705	0.717	0.5



MID CHANNEL ANT 2



MID CHANNEL ANT 3

9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

Measurements perform using a wideband RF 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 the power meter.

DIRECTIONAL ANTENNA GAIN

For 1 TX:

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

For 2TX:

Tx chains are correlated for power and PSD due to the device supporting Beamforming mode. The directional gains are as follows:

Band (GHz)	ANT 2 Gain (dBi)	ANT 3 Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.4	2.60	-0.30	4.28

RESULTS

9.4.1. HIGH POWER BLE (1Mbps)**ANT 2**

Tested By:	44252
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	17.18	30	-12.82
Middle	2440	17.21	30	-12.79
High	2480	17.13	30	-12.87

ANT 3

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	20.20	30	-9.80
Middle	2440	20.21	30	-9.79
High	2480	20.26	30	-9.74

9.4.2. HIGH POWER BLE TXBF (1Mbps)**ANT 2 + ANT 3**

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Peak Power ANT 2 (dBm)	Peak Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	17.21	17.22	20.23	30	-9.77
Middle	2440	17.21	17.24	20.24	30	-9.76
High	2480	17.23	17.20	20.23	30	-9.77

9.4.3. HIGH POWER BLE (2Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2404	17.33	30	-12.67
Middle	2440	17.27	30	-12.73
High	2478	17.29	30	-12.71

ANT 3

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2404	20.25	30	-9.75
Middle	2440	20.22	30	-9.78
High	2478	20.20	30	-9.80

9.4.4. HIGH POWER BLE TXBF (2Mbps)**ANT 2 + ANT 3**

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Peak Power ANT 2 (dBm)	Peak Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	17.20	17.22	20.22	30	-9.78
Middle	2440	17.23	17.20	20.23	30	-9.77
High	2478	17.26	17.27	20.28	30	-9.72

9.4.5. LOW POWER BLE (1Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.62	30	-18.38
Middle	2440	11.71	30	-18.29
High	2480	11.44	30	-18.56

ANT 3

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.20	30	-18.80
Middle	2440	11.32	30	-18.68
High	2480	11.25	30	-18.75

9.4.6. LOW POWER BLE TXBF (1Mbps)**ANT 2 + ANT 3**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power ANT 2 (dBm)	Peak Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.60	11.26	14.44	30	-15.56
Middle	2440	11.73	11.24	14.50	30	-15.50
High	2480	11.42	11.28	14.36	30	-15.64

9.4.7. LOW POWER BLE (2Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2404	11.62	30	-18.38
Middle	2440	11.69	30	-18.31
High	2478	11.60	30	-18.40

ANT 3

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2404	11.22	30	-18.78
Middle	2440	11.28	30	-18.72
High	2478	11.20	30	-18.80

9.4.8. LOW POWER BLE TXBF (2Mbps)**ANT 2 + ANT 3**

Tested By:	44353
Date:	1/25/2022, 2/9/2022

Channel	Frequency (MHz)	Peak Power ANT 2 (dBm)	Peak Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	11.42	11.29	14.37	30	-15.63
Middle	2440	11.72	11.28	14.52	30	-15.48
High	2478	11.44	11.26	14.36	30	-15.64

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband RF 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. HIGH POWER BLE (1Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	16.88
Middle	2440	16.91
High	2480	16.80

ANT 3

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	19.90
Middle	2440	19.91
High	2480	19.96

9.5.2. HIGH POWER BLE TXBF (1Mbps)**ANT 2 + ANT 3**

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	16.93	16.94	19.95
Middle	2440	16.93	16.95	19.95
High	2480	16.94	16.90	19.93

9.5.3. HIGH POWER BLE (2Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Average power (dBm)
Low	2404	17.00
Middle	2440	16.95
High	2478	16.97

ANT 3

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Average power (dBm)
Low	2404	19.93
Middle	2440	19.90
High	2478	19.87

9.5.4. HIGH POWER BLE TXBF (2Mbps)**ANT 2 + ANT 3**

Tested By:	44366
Date:	10/26/2021

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2404	16.88	16.91	19.91
Middle	2440	16.90	16.87	19.90
High	2478	16.93	16.94	19.95

9.5.5. LOW POWER BLE (1Mbps)**ANT 2**

Tested By:	44353
Date:	2/9/2022

Channel	Frequency (MHz)	Average power (dBm)
Low	2402	11.21
Middle	2440	11.37
High	2480	11.04

ANT 3

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Average power (dBm)
Low	2402	10.87
Middle	2440	10.99
High	2480	10.91

9.5.6. LOW POWER BLE TXBF (1Mbps)**ANT 2 + ANT 3**

Tested By:	44353
Date:	01/25/2022, 02/09/2022

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	11.31	10.93	14.13
Middle	2440	11.40	10.91	14.17
High	2480	11.12	10.95	14.05

9.5.7. LOW POWER BLE (2Mbps)**ANT 2**

Tested By:	44353
Date:	1/25/2022 2/09/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2404	11.3
Middle	2440	11.38
High	2478	11.33

ANT 3

Tested By:	44353
Date:	1/25/2022

Channel	Frequency (MHz)	Average power (dBm)
Low	2404	10.88
Middle	2440	10.94
High	2478	10.86

9.5.8. LOW POWER BLE TXBF (2Mbps)**ANT 2 + ANT 3**

Tested By:	44353
Date:	1/25/2022 2/9/2022

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2404	11.11	10.94	14.04
Middle	2440	11.41	10.93	14.19
High	2478	11.18	10.91	14.06

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

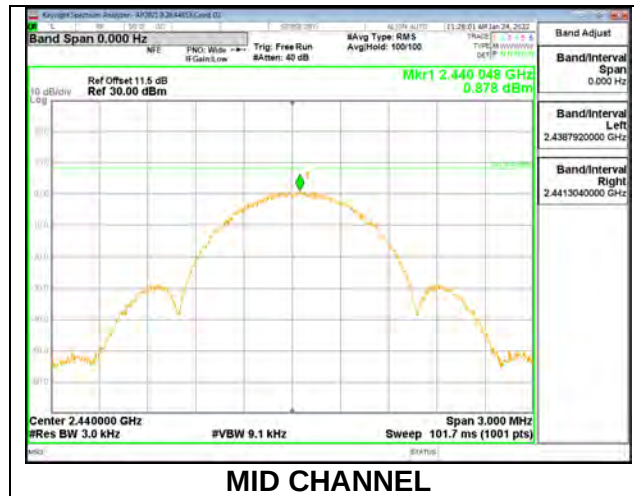
Only Mid channel plot is reported to show setting parameter complies with testing method/procedure.

Only High-Power modes result is reported, it covers all Low Power modes

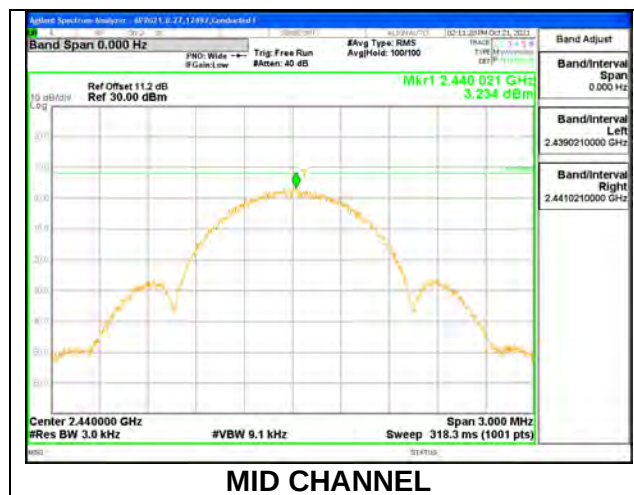
9.6.1. HIGH POWER BLE (1Mbps)

ANT 2

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	0.998	8	-7.00
Middle	2440	0.878	8	-7.12
High	2480	0.944	8	-7.06

ANT 3

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	3.112	8	-4.89
Middle	2440	3.234	8	-4.77
High	2480	3.419	8	-4.58



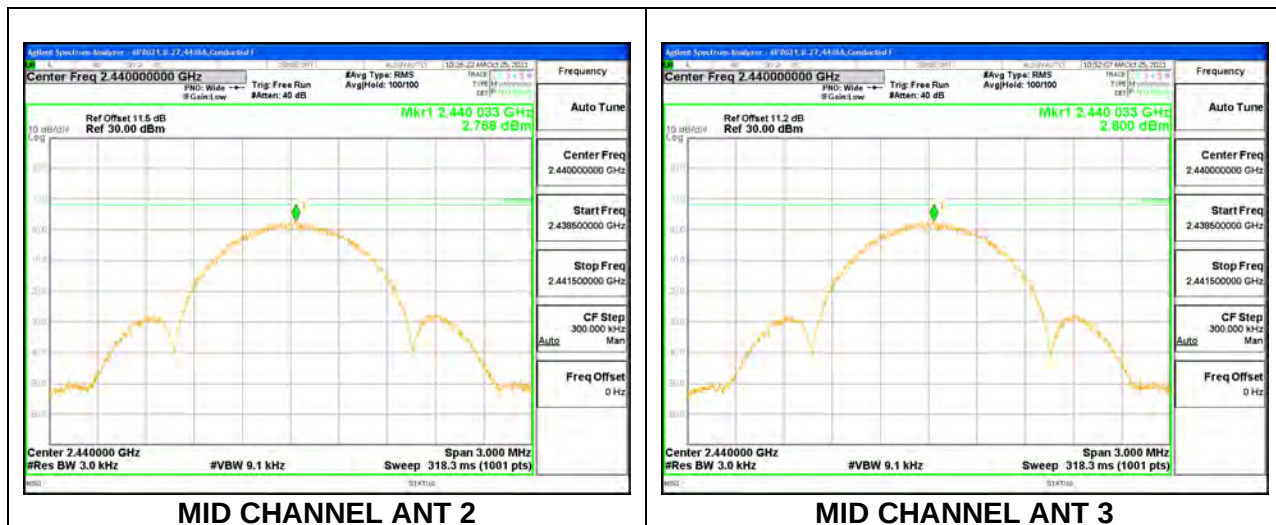
9.6.2. HIGH POWER BLE TXBF (1Mbps)

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	ANT 2 Meas (dBm/ 3kHz)	ANT 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low	2402	2.741	2.760	5.76	8.0	-2.2
Mid	2440	2.768	2.800	5.79	8.0	-2.2
Hjigh	2480	2.780	2.726	5.76	8.0	-2.2

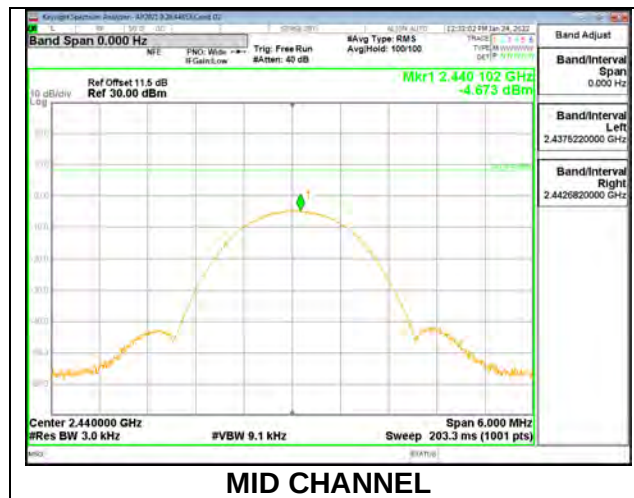
Note: Test procedures and setting are same as BLE normal mode.



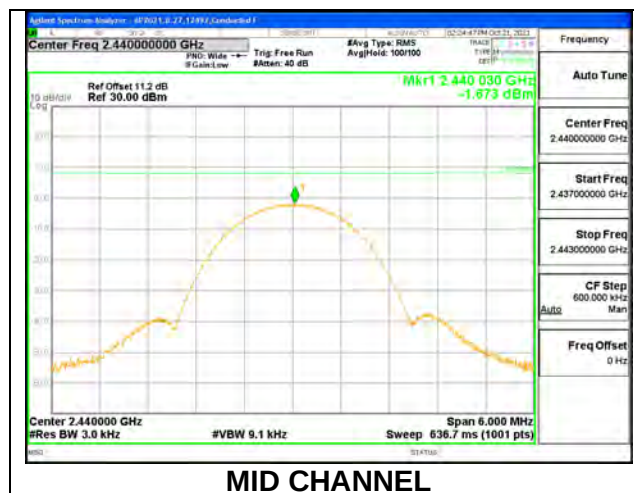
9.6.3. HIGH POWER BLE (2Mbps)

ANT 2

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2404	-4.592	8	-12.59
Middle	2440	-4.673	8	-12.67
High	2478	-4.476	8	-12.48

ANT 3

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2404	-1.669	8	-9.67
Middle	2440	-1.673	8	-9.67
High	2478	-1.710	8	-9.71



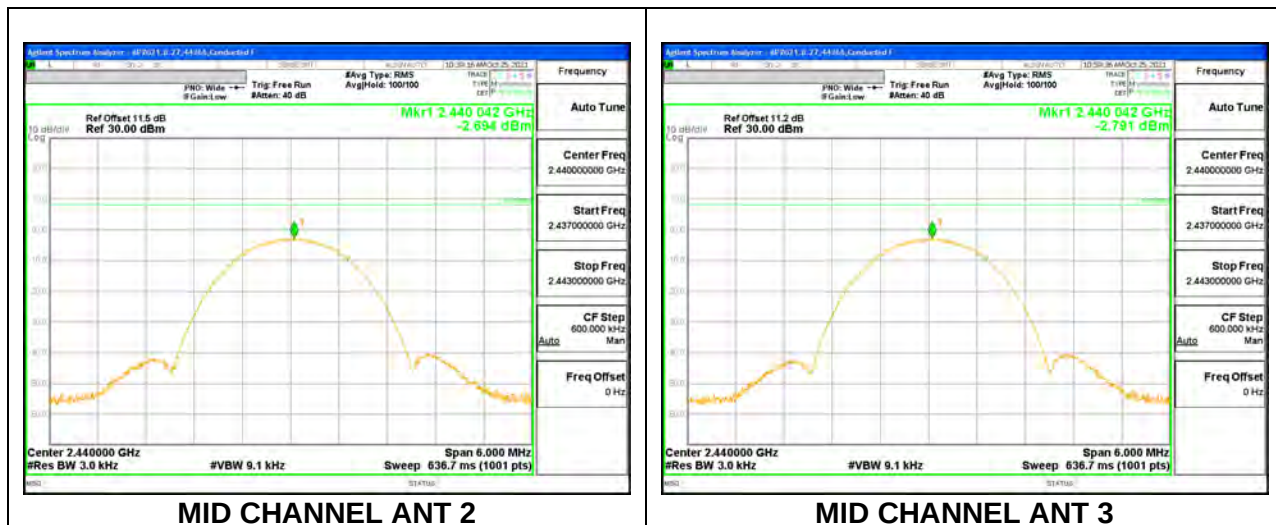
9.6.4. HIGH POWER BLE TXBF (2Mbps)

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	ANT 2 Meas (dBm/ 3kHz)	ANT 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low	2404	-2.749	-2.699	0.29	8.0	-7.7
Mid	2440	-2.694	-2.791	0.27	8.0	-7.7
Hjigh	2478	-2.569	-2.685	0.38	8.0	-7.6

Note: Test procedures and setting are same as BLE normal mode.



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

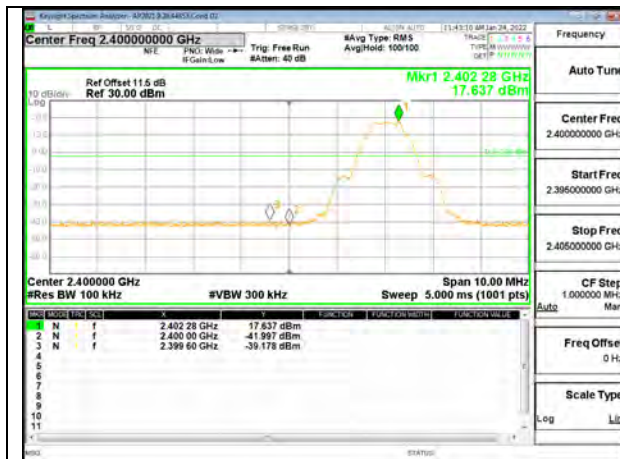
RSS-247 5.5

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

Note: Test procedures and setting are same as BLE normal mode.

RESULTS

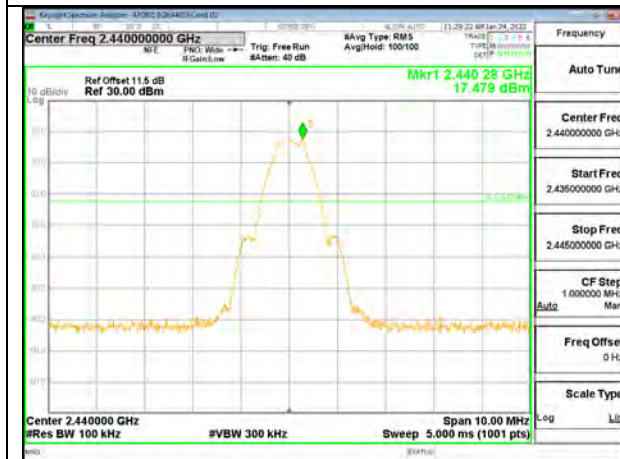
9.7.1. HIGH POWER BLE (1Mbps) ANT 2



LOW CHANNEL BANDEDGE



OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



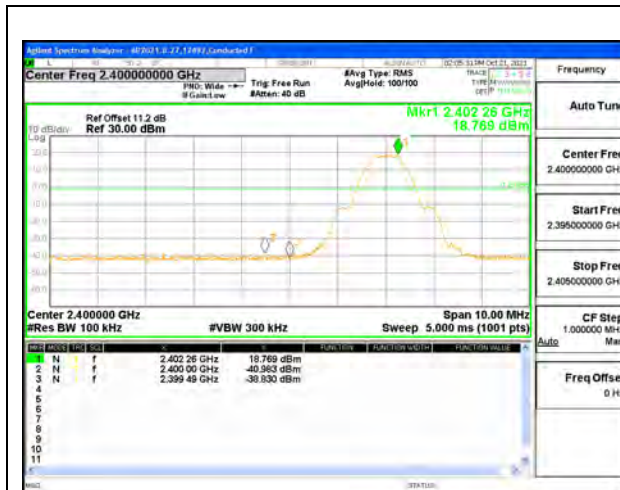
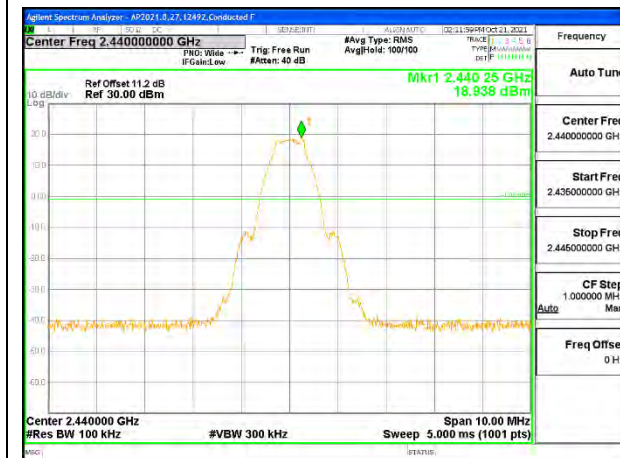
OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



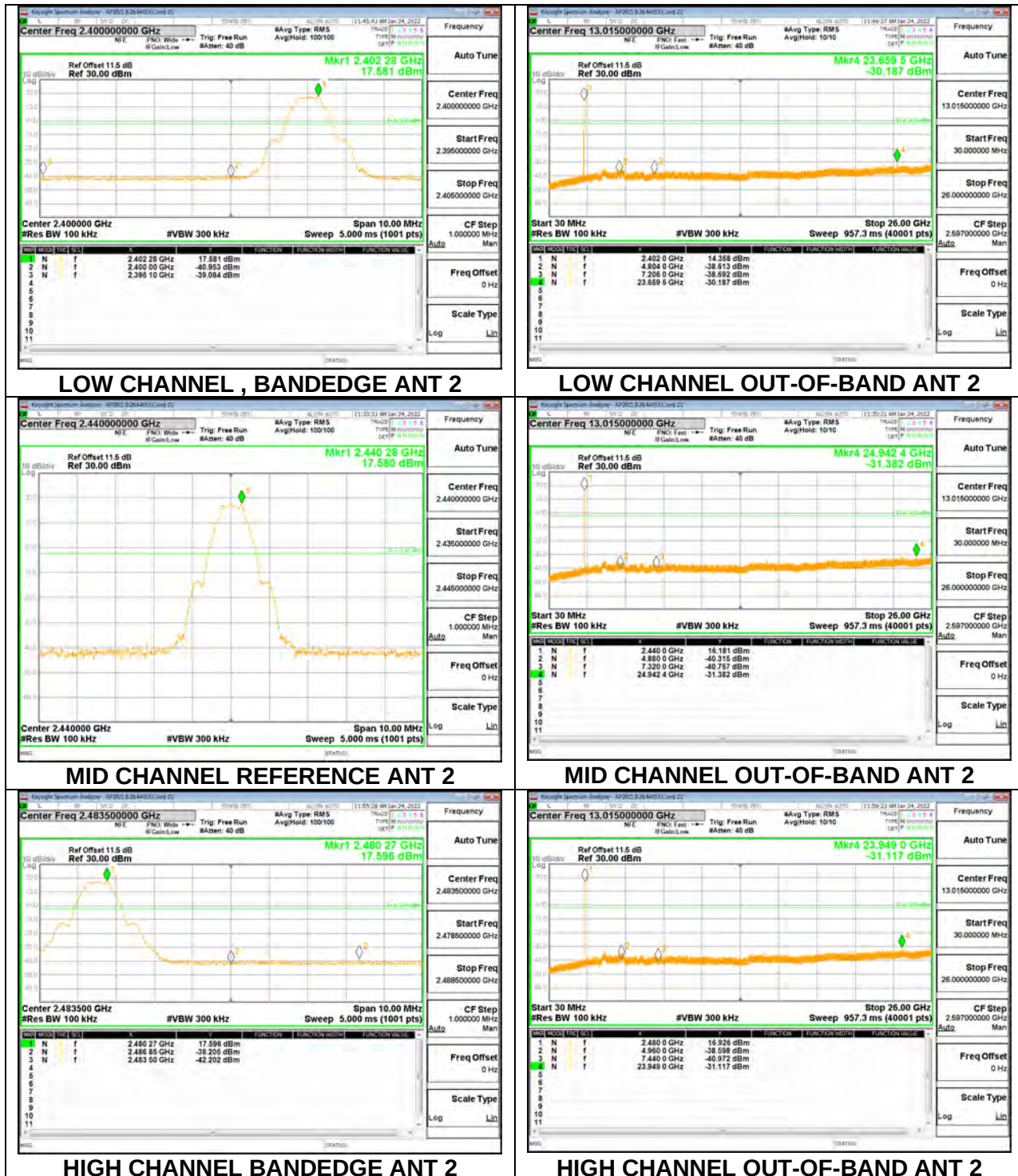
OUT-OF-BAND HIGH CHANNEL

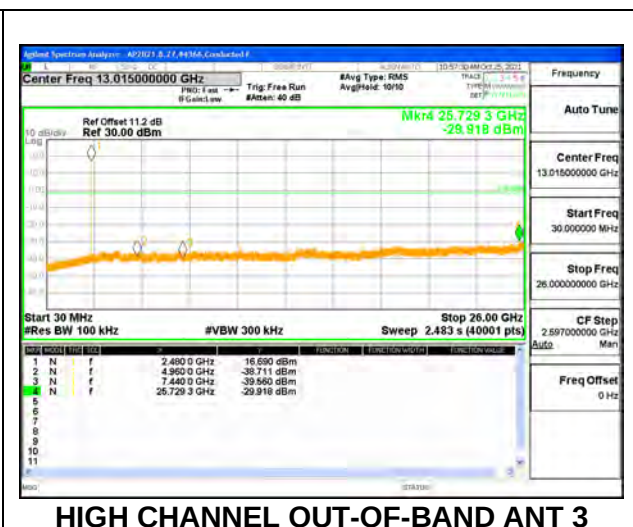
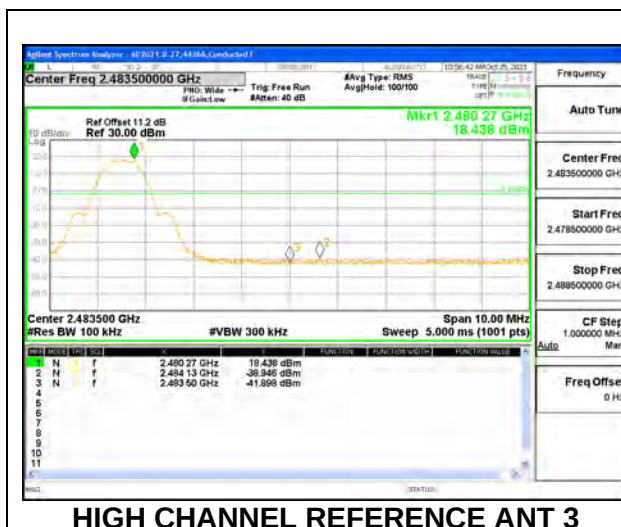
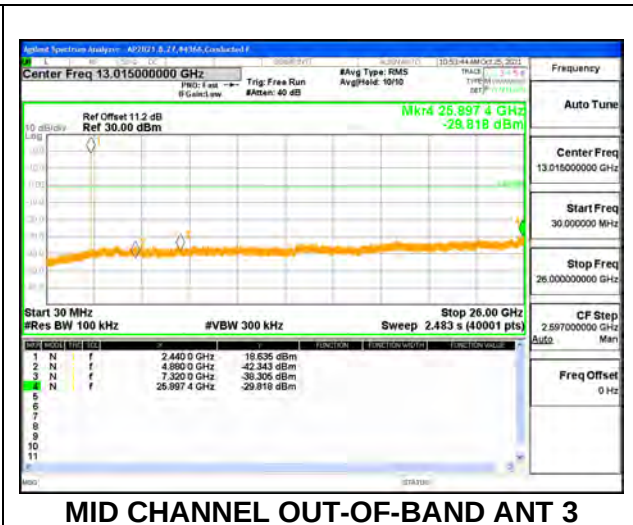
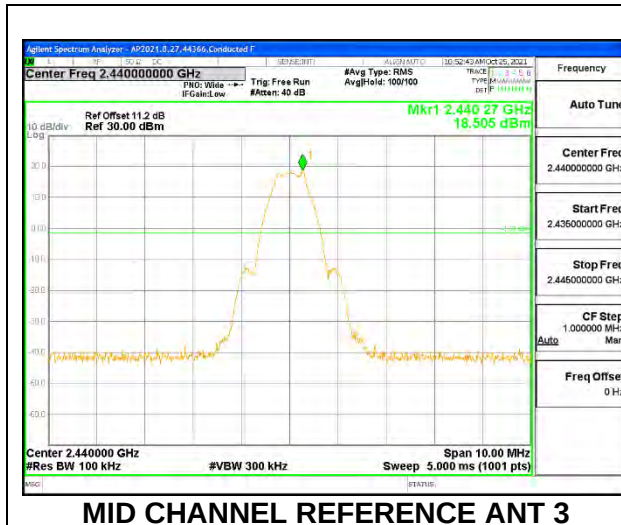
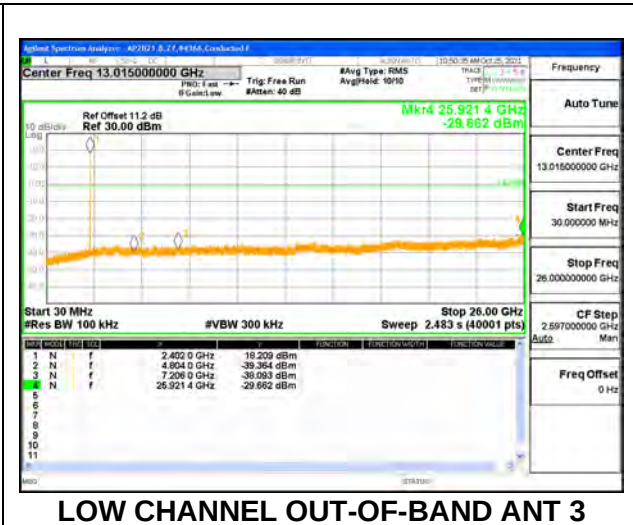
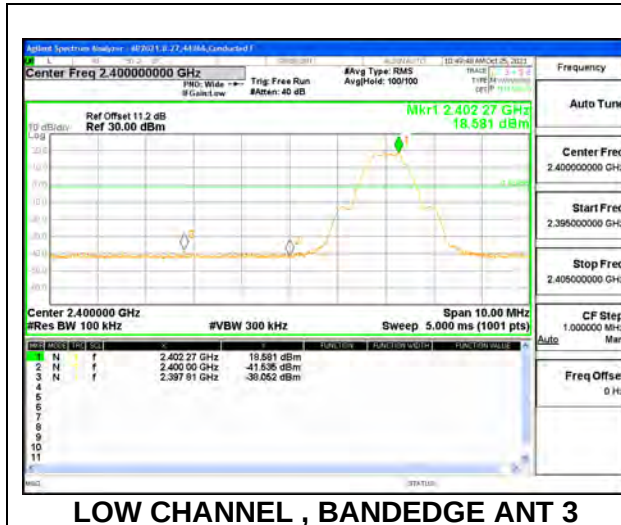
ANT 3**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

9.7.2. HIGH POWER BLE TXBF (1Mbps)

Note: Test procedures and setting are same as BLE normal mode.

ANT 2



ANT 3

9.7.3. HIGH POWER BLE (2Mbps)

ANT 2



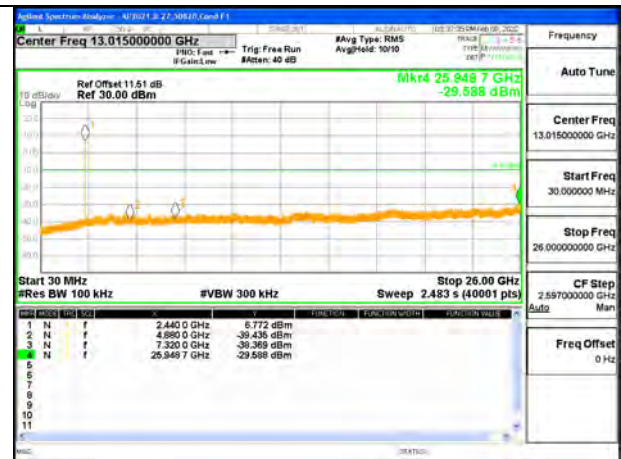
LOW CHANNEL BANDEDGE



OUT-OF-BAND LOW CHANNEL



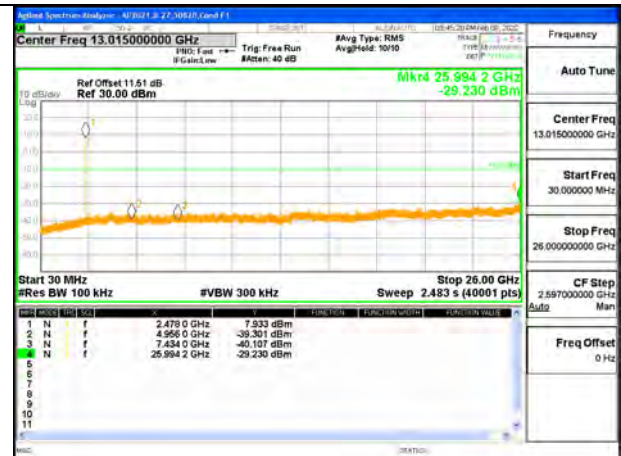
IN-BAND REFERENCE LEVEL



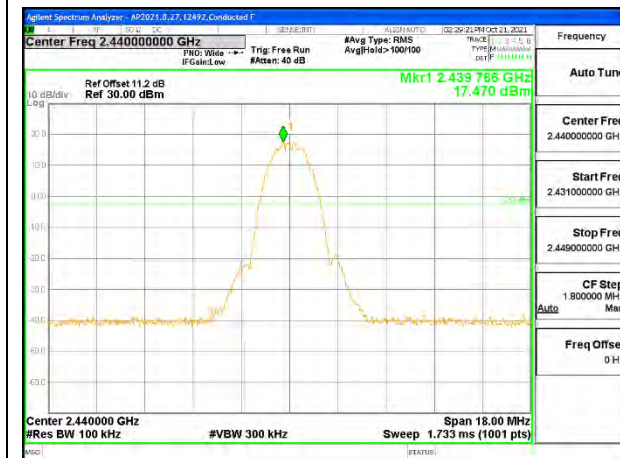
OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



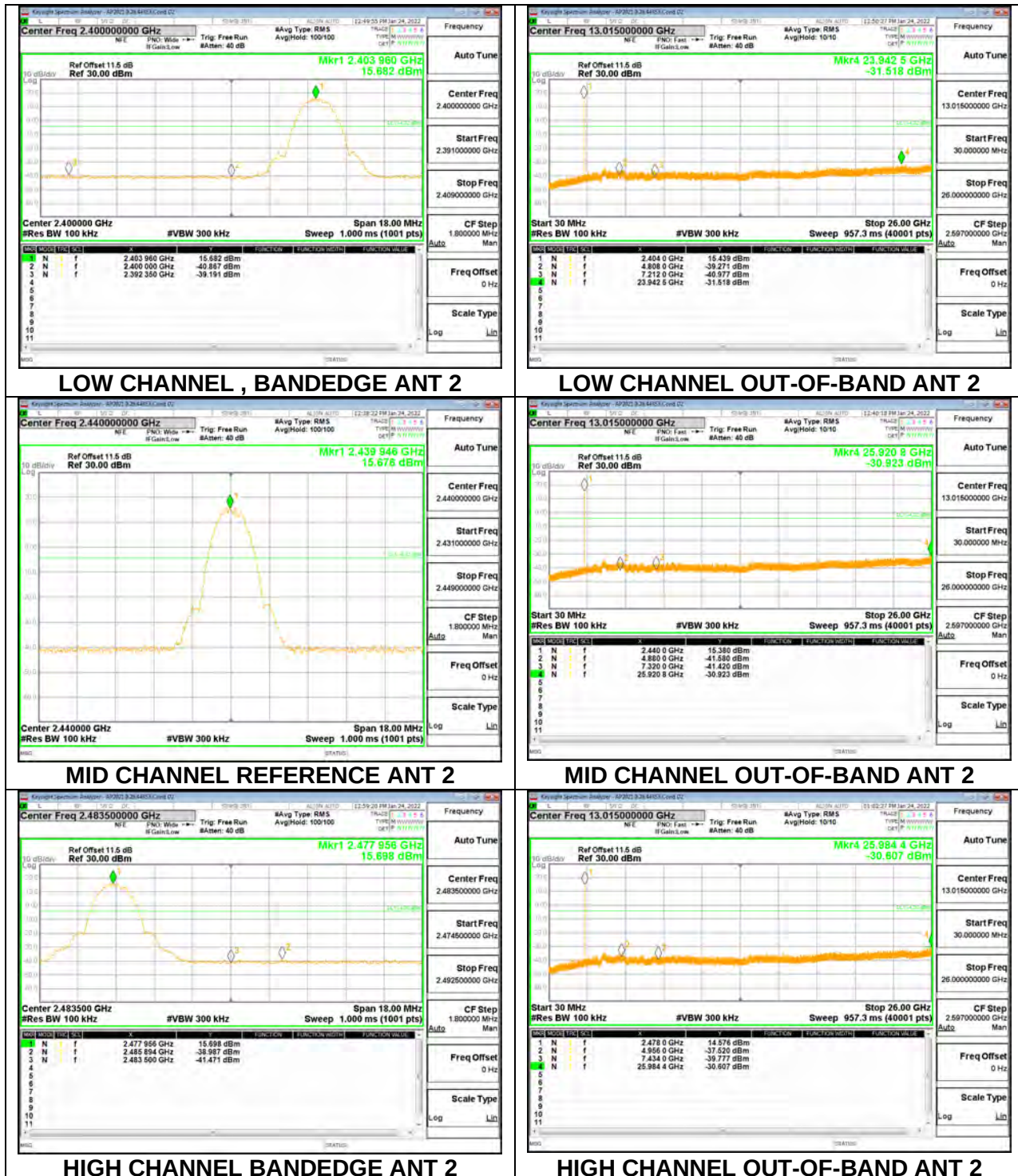
OUT-OF-BAND HIGH CHANNEL

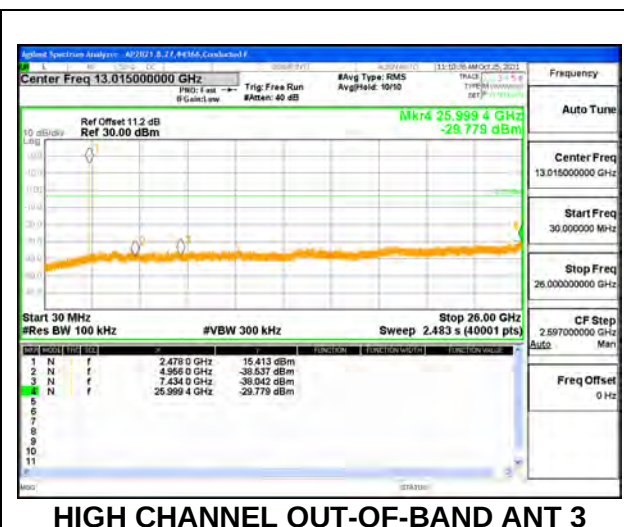
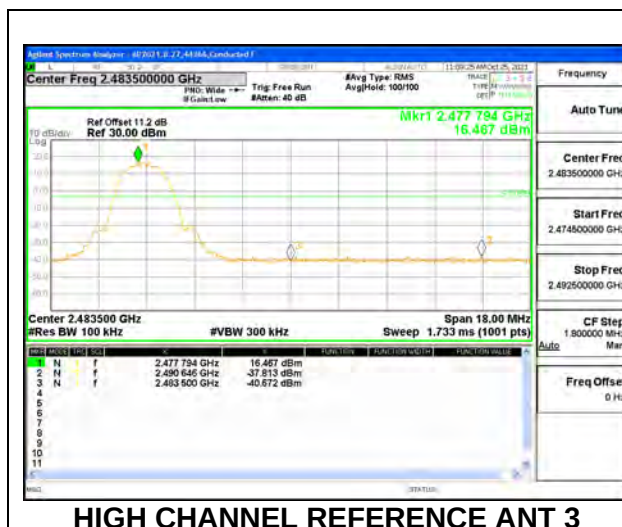
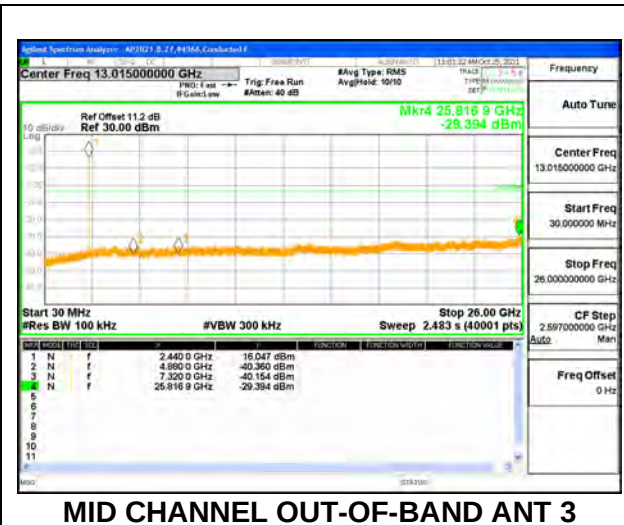
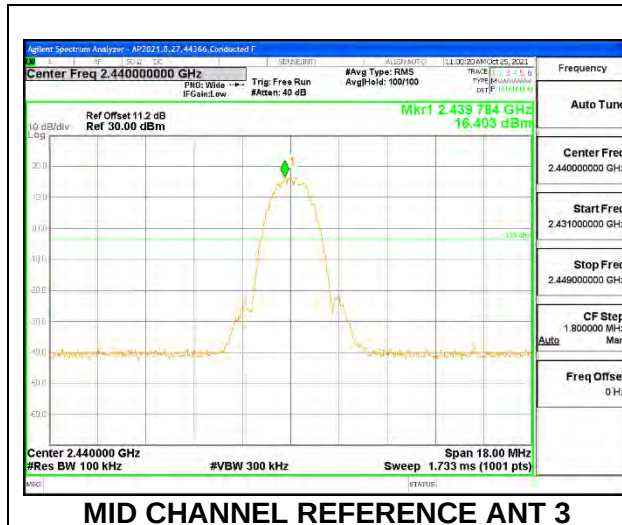
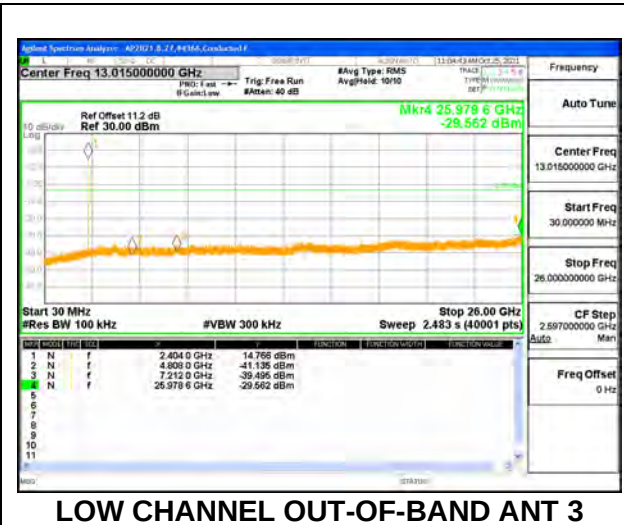
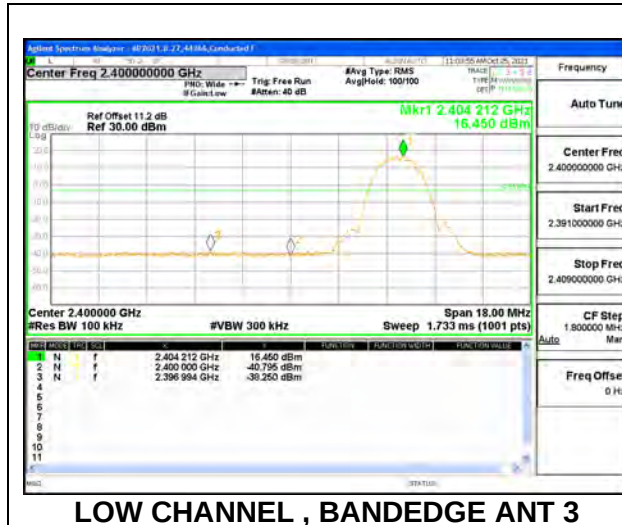
ANT 3**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

9.7.4. HIGH POWER BLE TXBF (2Mbps)

Note: Test procedures and setting are same as BLE normal mode.

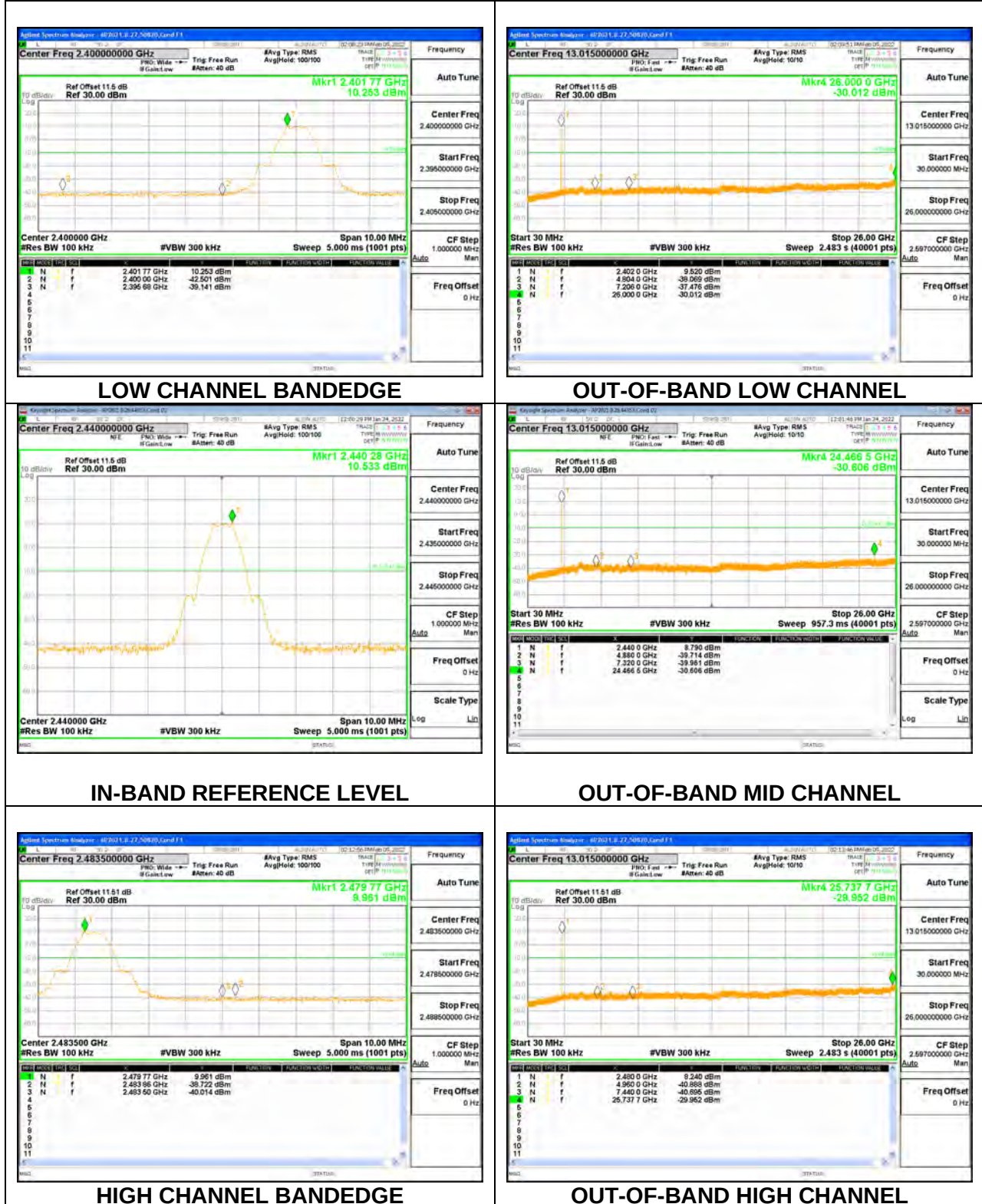
ANT 2

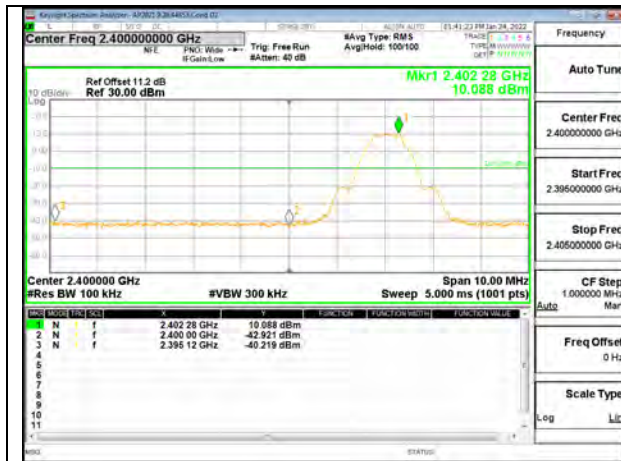
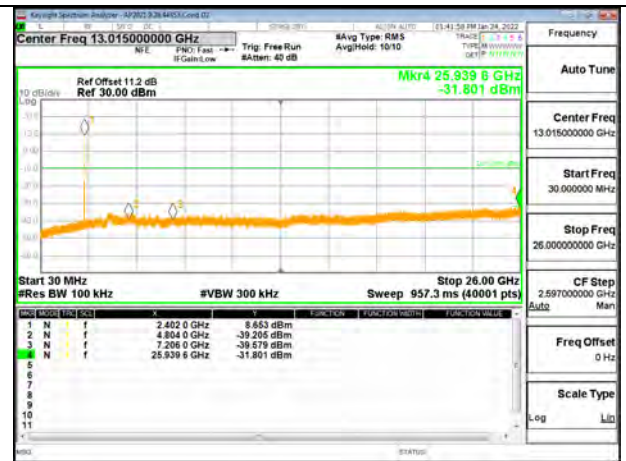
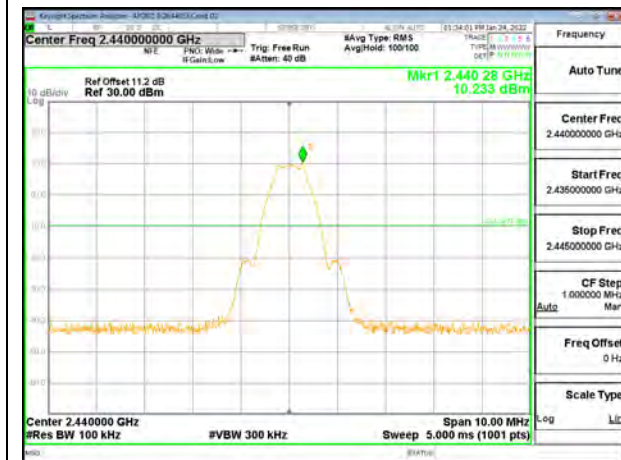
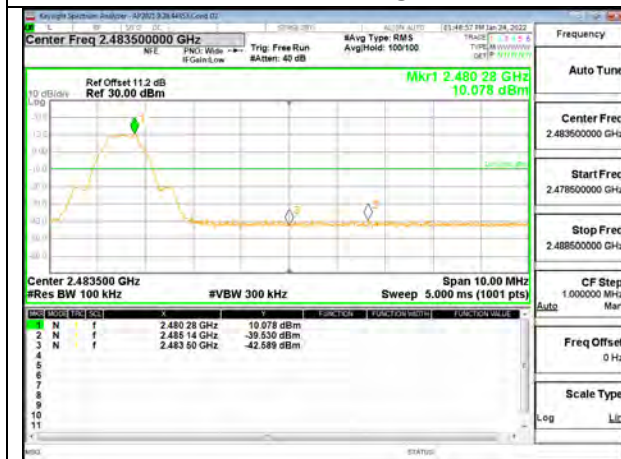


ANT 3

9.7.5. LOW POWER BLE (1Mbps)

ANT 2

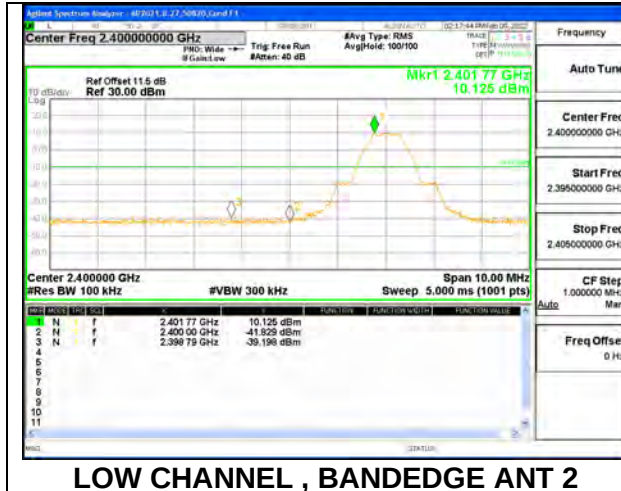


ANT 3**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

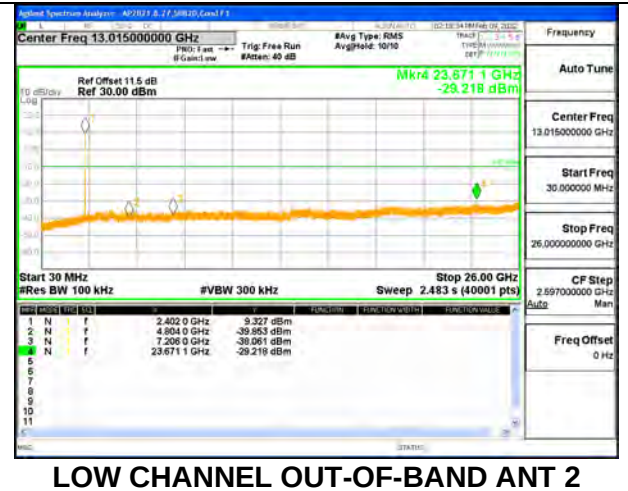
9.7.6. LOW POWER BLE TXBF (1Mbps)

Note: Test procedures and setting are same as BLE normal mode.

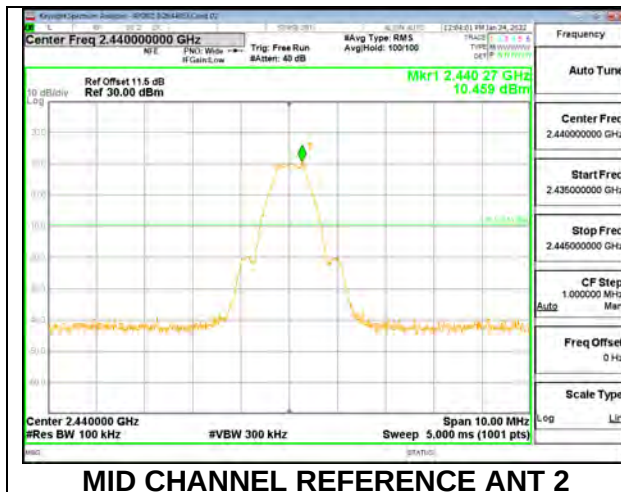
ANT 2



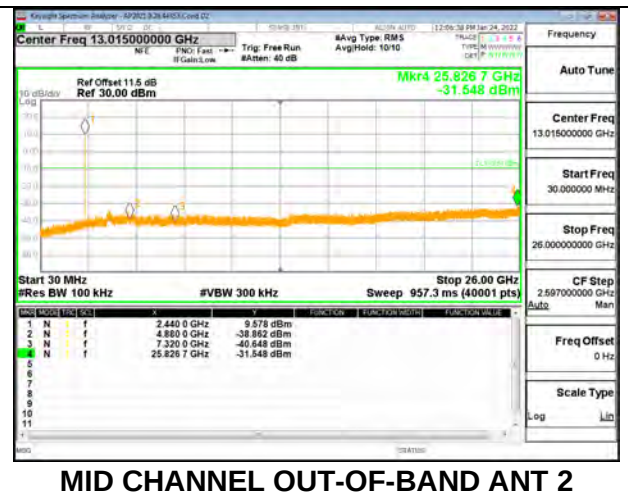
LOW CHANNEL , BANDEDGE ANT 2



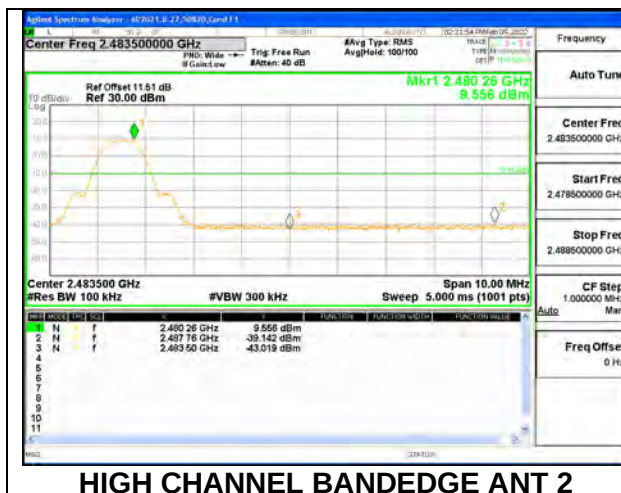
LOW CHANNEL OUT-OF-BAND ANT 2



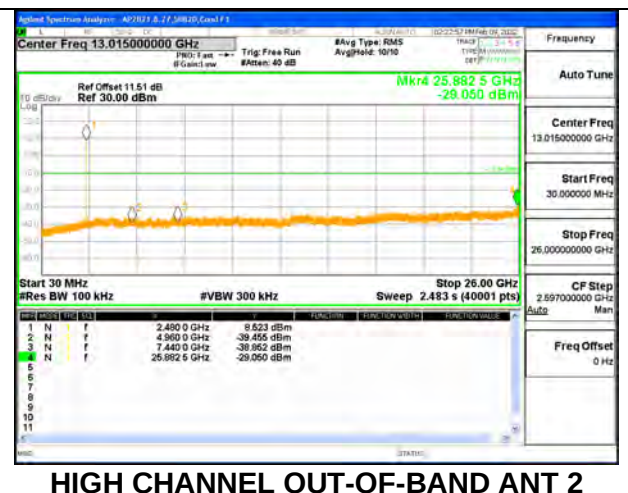
MID CHANNEL REFERENCE ANT 2



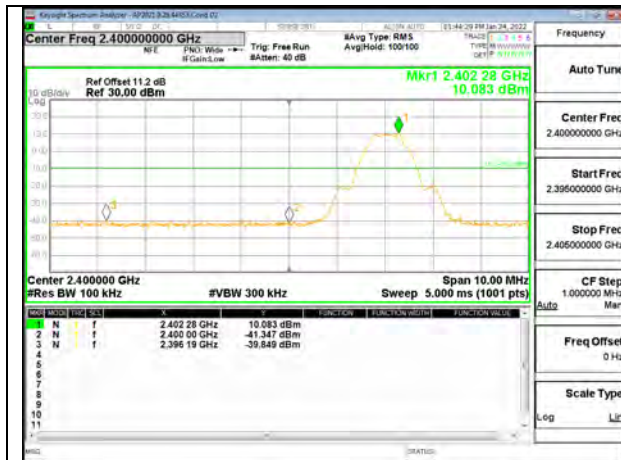
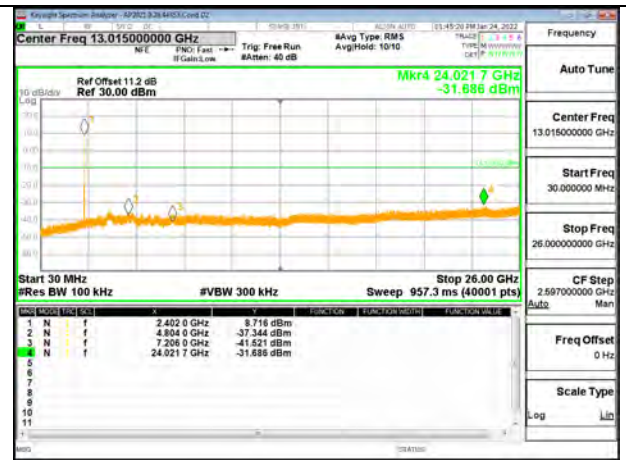
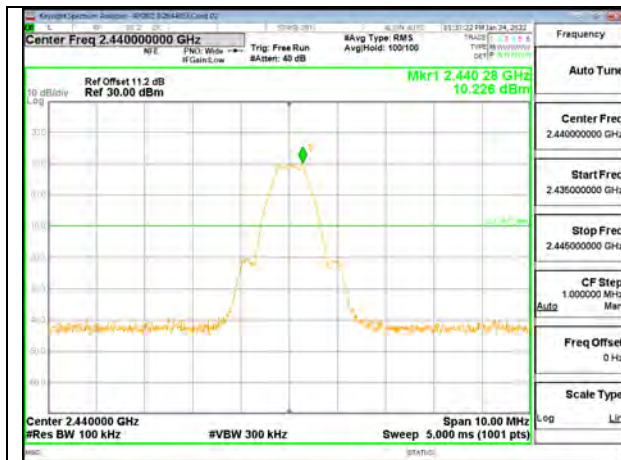
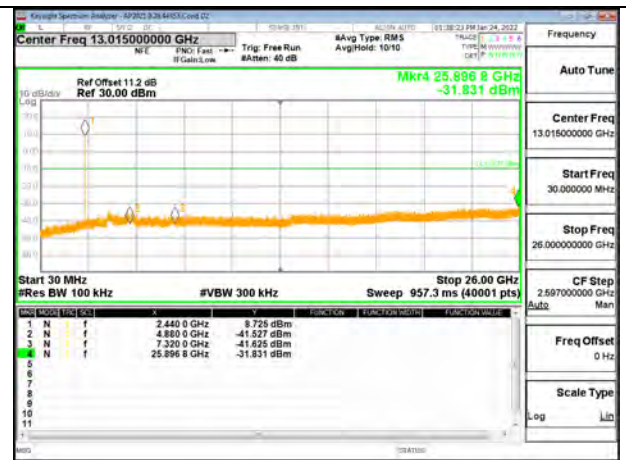
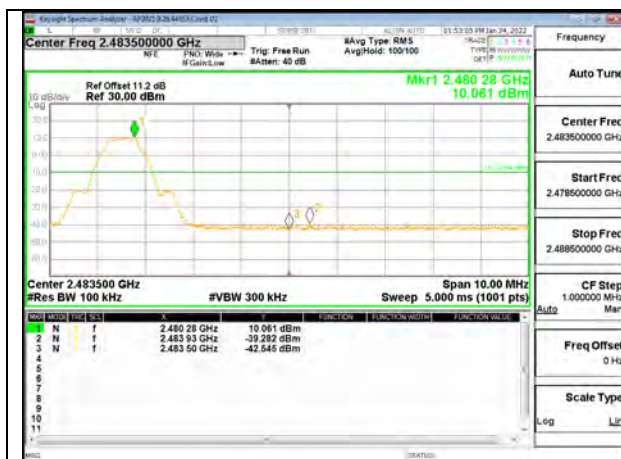
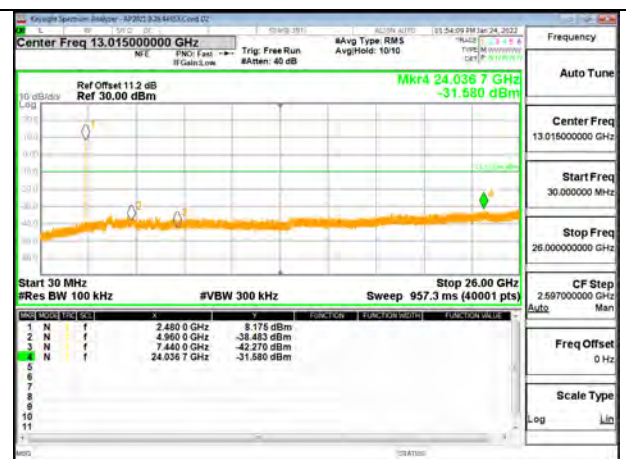
MID CHANNEL OUT-OF-BAND ANT 2



HIGH CHANNEL BANDEDGE ANT 2



HIGH CHANNEL OUT-OF-BAND ANT 2

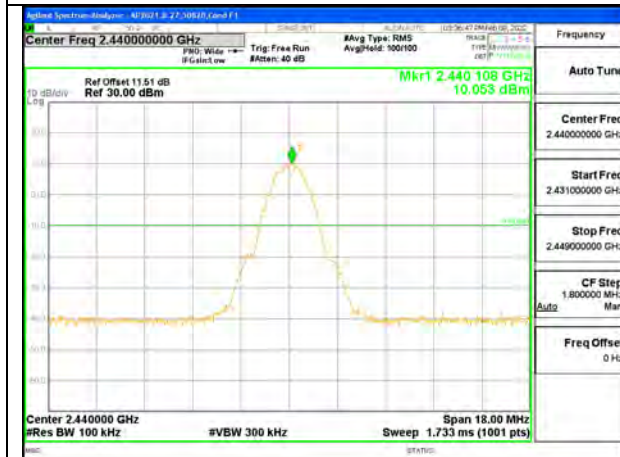
ANT 3**LOW CHANNEL , BANDEDGE ANT 3****LOW CHANNEL OUT-OF-BAND ANT 3****MID CHANNEL REFERENCE ANT 3****MID CHANNEL OUT-OF-BAND ANT 3****HIGH CHANNEL REFERENCE ANT 3****HIGH CHANNEL OUT-OF-BAND ANT 3**

9.7.7. LOW POWER BLE (2Mbps)

ANT 2



LOW CHANNEL BANDEDGE



IN-BAND REFERENCE LEVEL



HIGH CHANNEL BANDEDGE



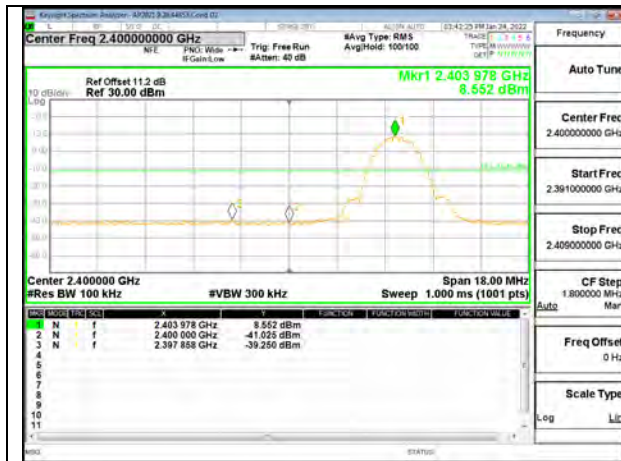
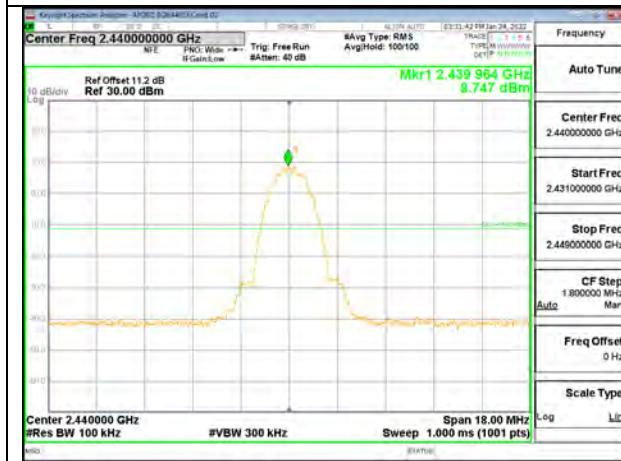
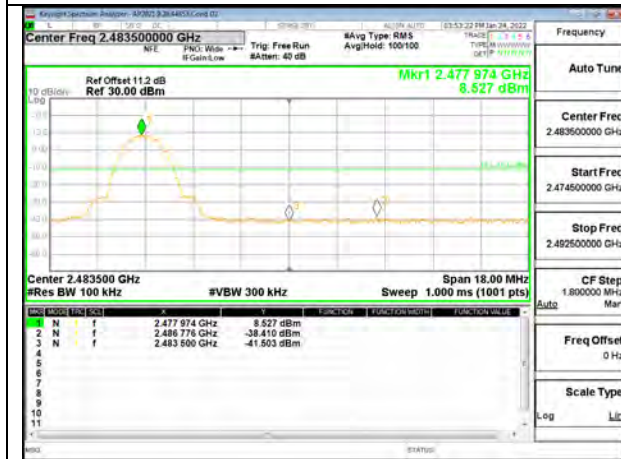
OUT-OF-BAND LOW CHANNEL



OUT-OF-BAND MID CHANNEL



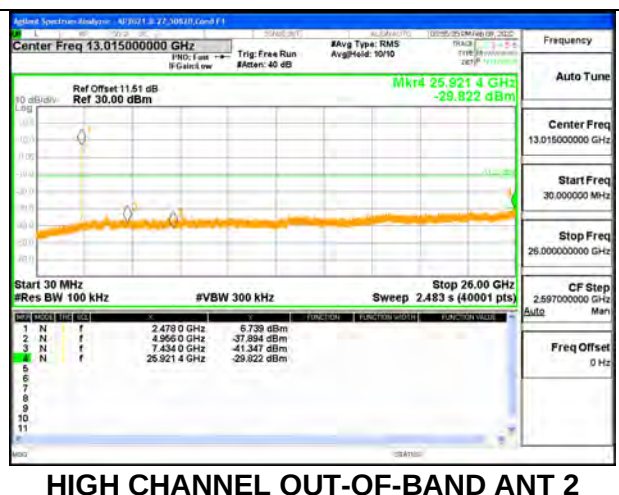
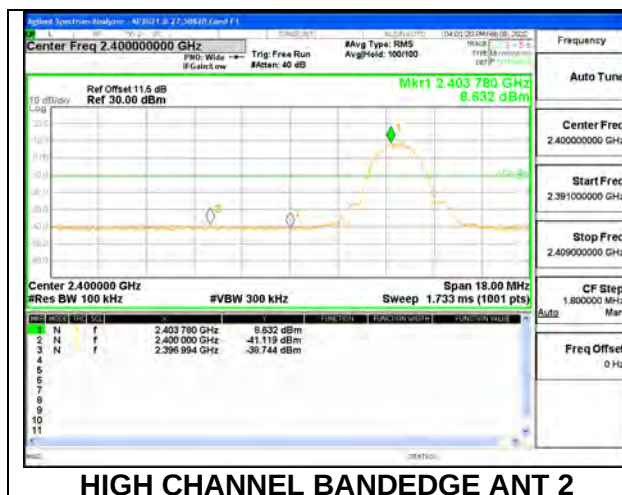
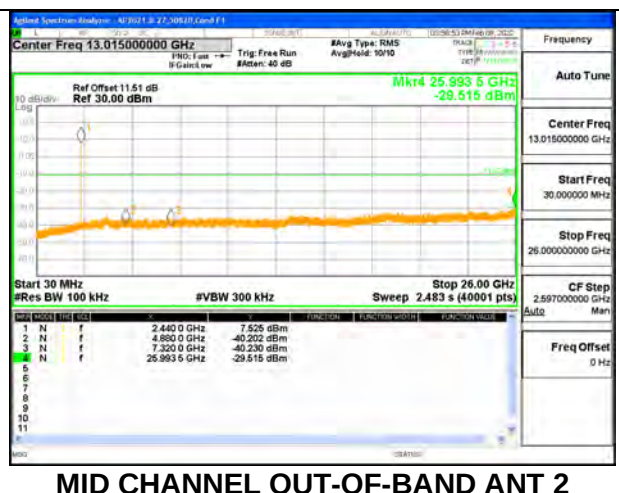
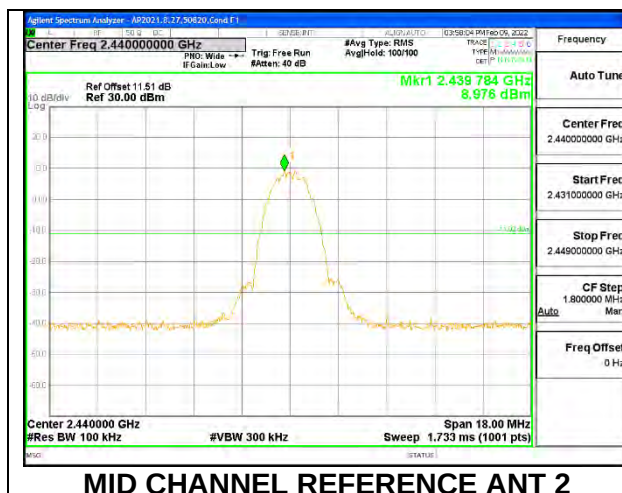
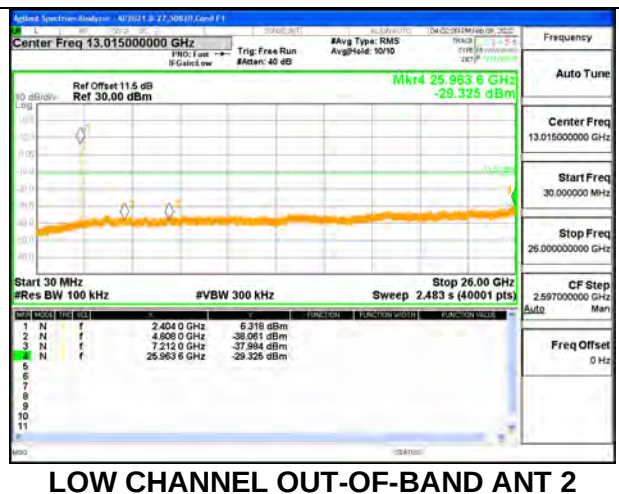
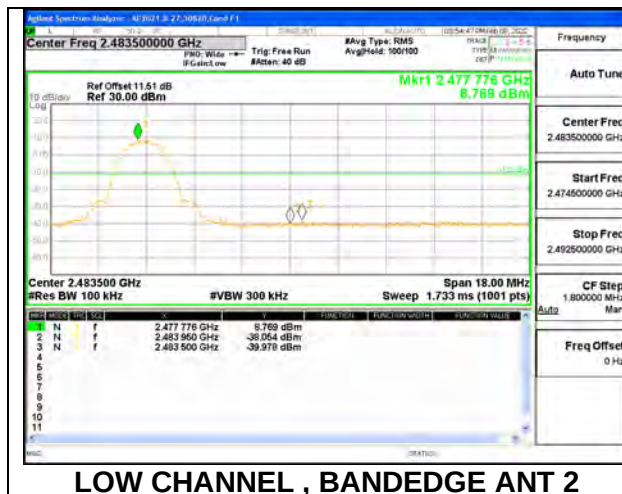
OUT-OF-BAND HIGH CHANNEL

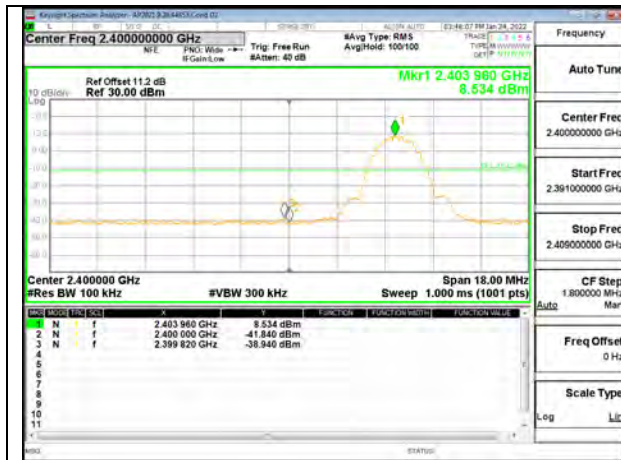
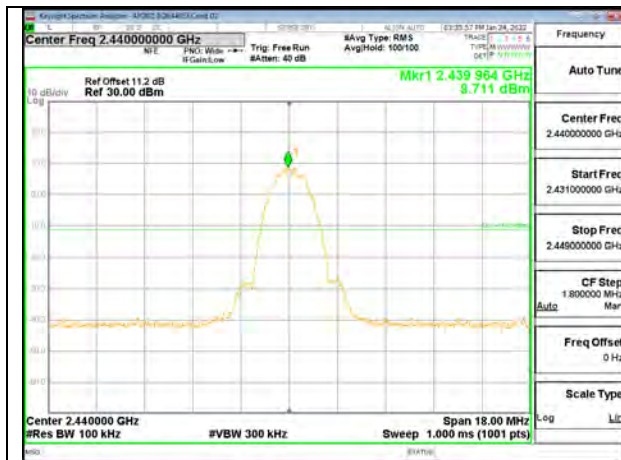
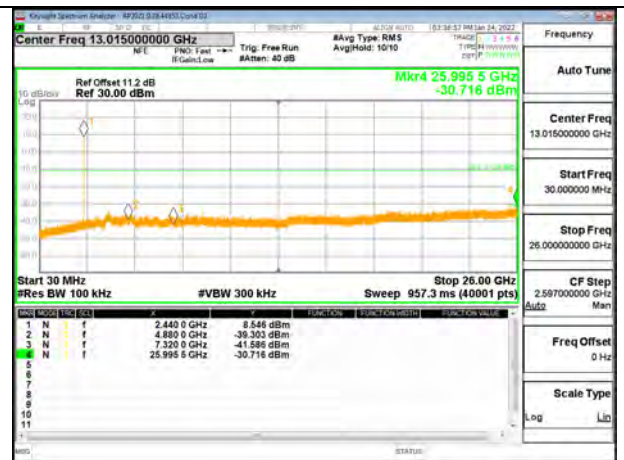
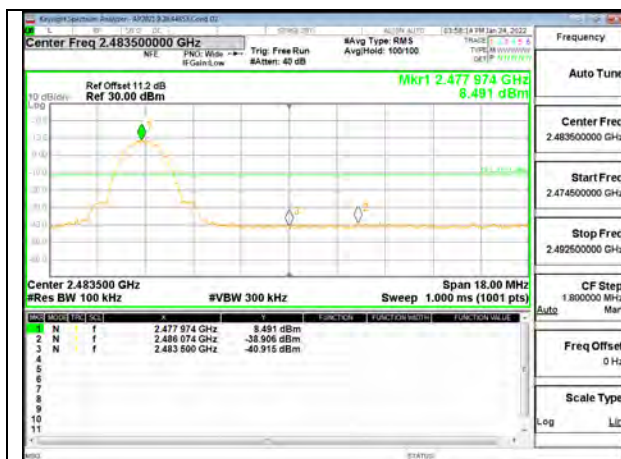
ANT 3**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

9.7.8. LOW POWER BLE TXBF (2Mbps)

Note: Test procedures and setting are same as BLE normal mode.

ANT 2



ANT 3**LOW CHANNEL , BANDEDGE ANT 3****LOW CHANNEL OUT-OF-BAND ANT 3****MID CHANNEL REFERENCE ANT 3****MID CHANNEL OUT-OF-BAND ANT 3****HIGH CHANNEL REFERENCE ANT 3****HIGH CHANNEL OUT-OF-BAND ANT 3**

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. Peak detection is used unless otherwise noted as quasi-peak.

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.

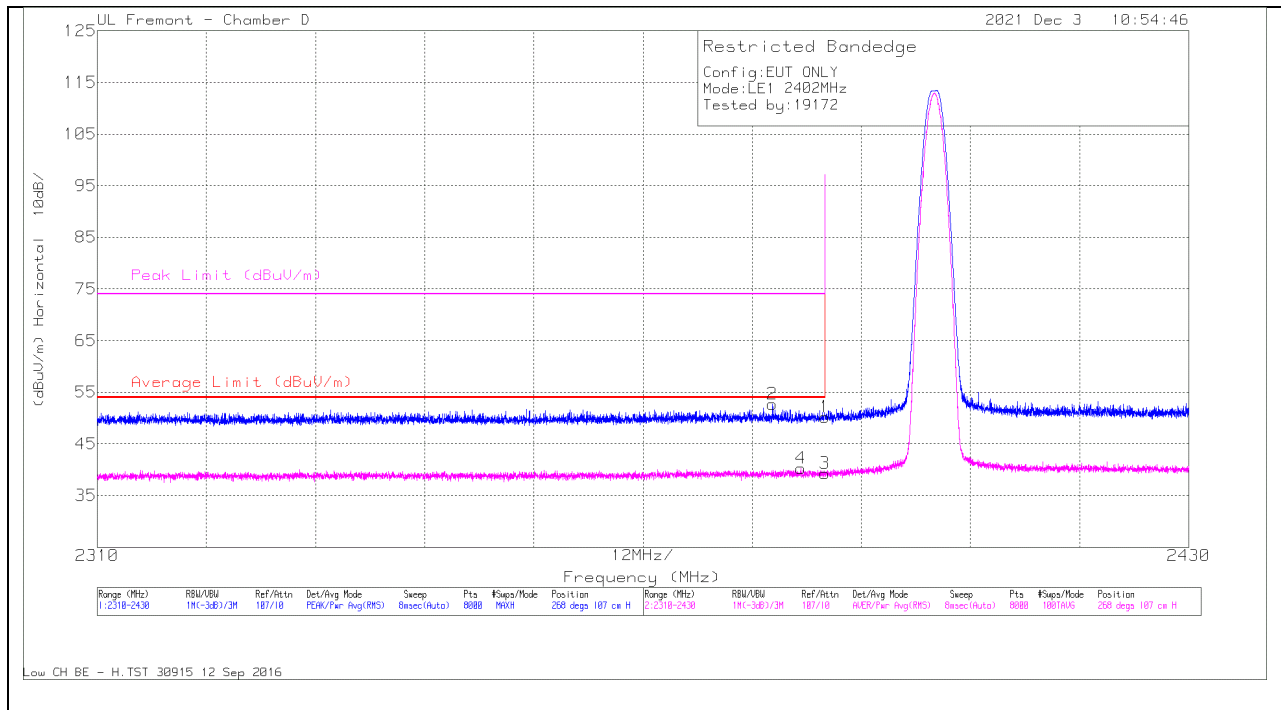
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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

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.

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

RESULTS

10.2. TRANSMITTER ABOVE 1 GHz**10.2.1. HIGH POWER BLE (1Mbps)****ANT 2****BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

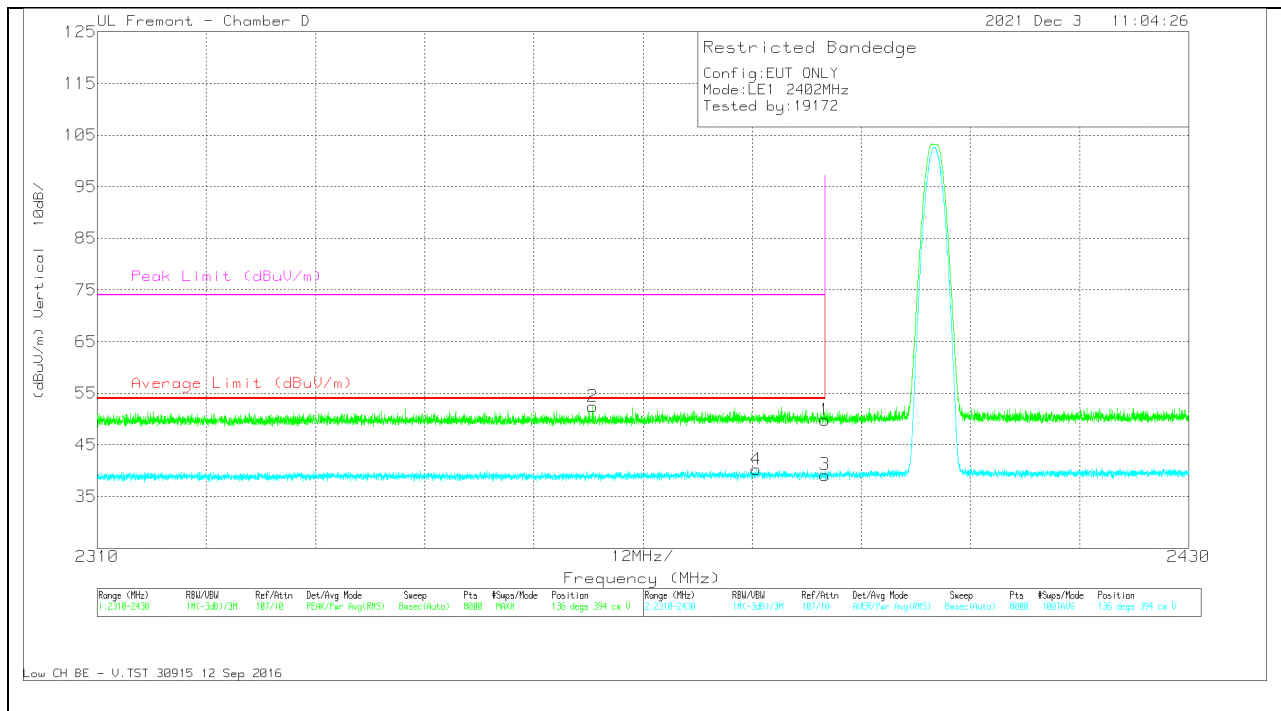
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Ampl/Cbll Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.76	Pk	32.1	-20.7	50.16	-	-	74	-23.84	268	107	H
2	* 2384.2	41.41	Pk	32.1	-20.8	52.71	-	-	74	-21.29	268	107	H
3	* 2390	27.88	RMS	32.1	-20.7	39.28	54	-14.72	-	-	268	107	H
4	* 2387.3	29.01	RMS	32.1	-20.8	40.31	54	-13.69	-	-	268	107	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

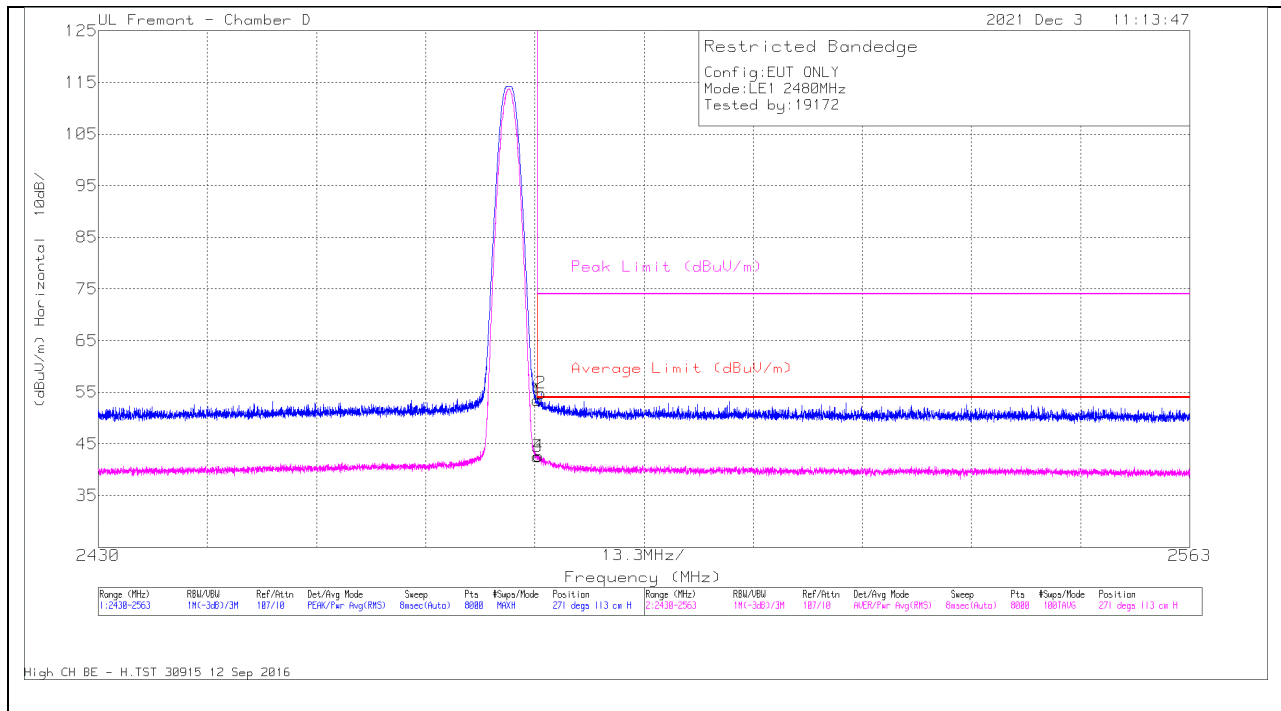


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.44	Pk	32.1	-20.7	49.84	-	-	74	-24.16	136	394	V
2	* 2364.5	41.4	Pk	31.9	-20.8	52.5	-	-	74	-21.5	136	394	V
3	* 2390	27.8	RMS	32.1	-20.7	39.2	54	-14.8	-	-	136	394	V
4	* 2382.4	28.91	RMS	32.1	-20.8	40.21	54	-13.79	-	-	136	394	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

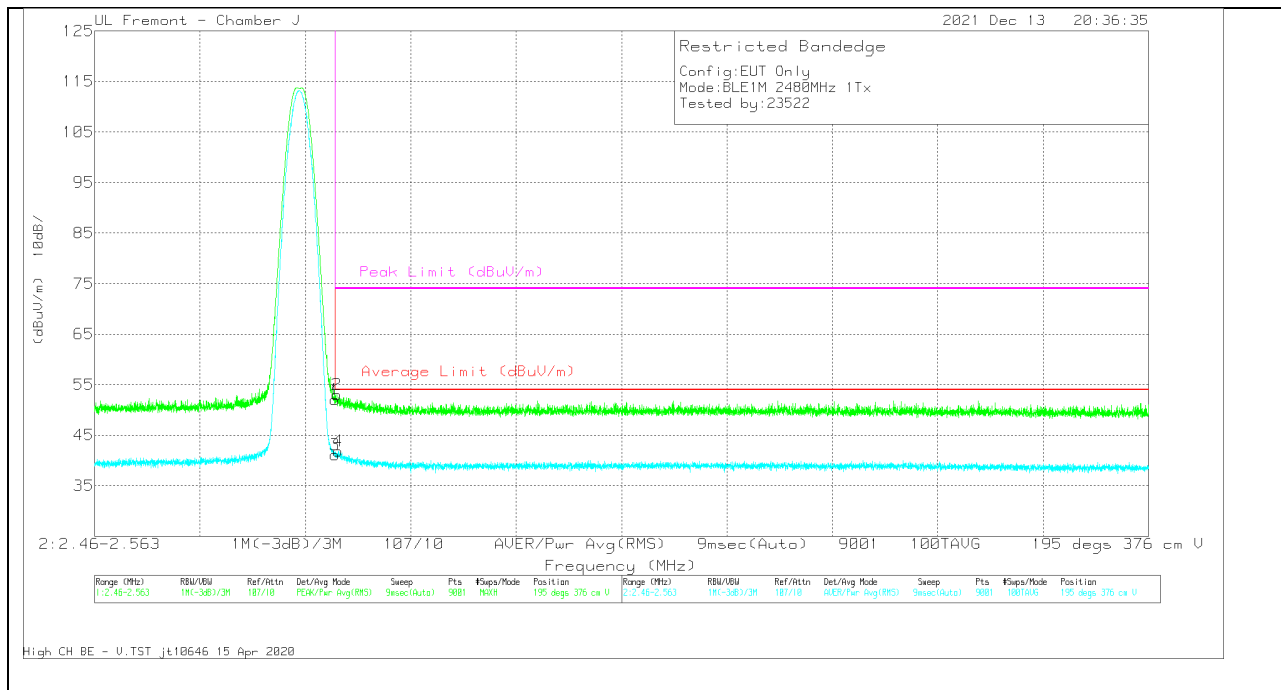
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	41.41	Pk	32.7	-20.7	53.41	-	-	74	-20.59	271	113	H
2	* 2483.91	42.79	Pk	32.7	-20.7	54.79	-	-	74	-19.21	271	113	H
3	* 2483.5	30.52	RMS	32.7	-20.7	42.52	54	-11.48	-	-	271	113	H
4	* 2483.6	30.68	RMS	32.7	-20.7	42.68	54	-11.32	-	-	271	113	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

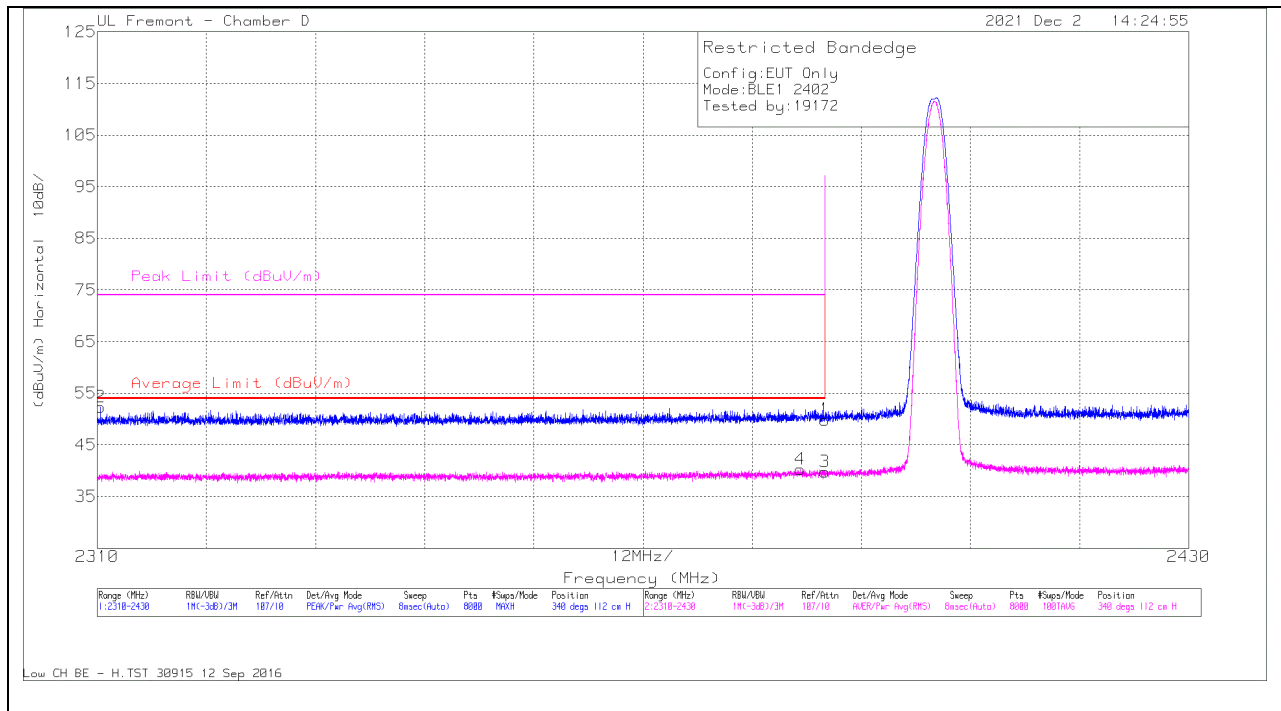


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 206806 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	46.76	Pk	32.4	-27.1	52.06	-	-	74	-21.94	195	376	V
2	* 2483.655	47.71	Pk	32.4	-27.1	53.01	-	-	74	-20.99	195	376	V
3	* 2483.5	35.8	RMS	32.4	-27.1	41.1	54	-12.9	-	-	195	376	V
4	* 2483.792	36.53	RMS	32.4	-27.1	41.83	54	-12.17	-	-	195	376	V

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

Pk - Peak detector

RMS - RMS detection

ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

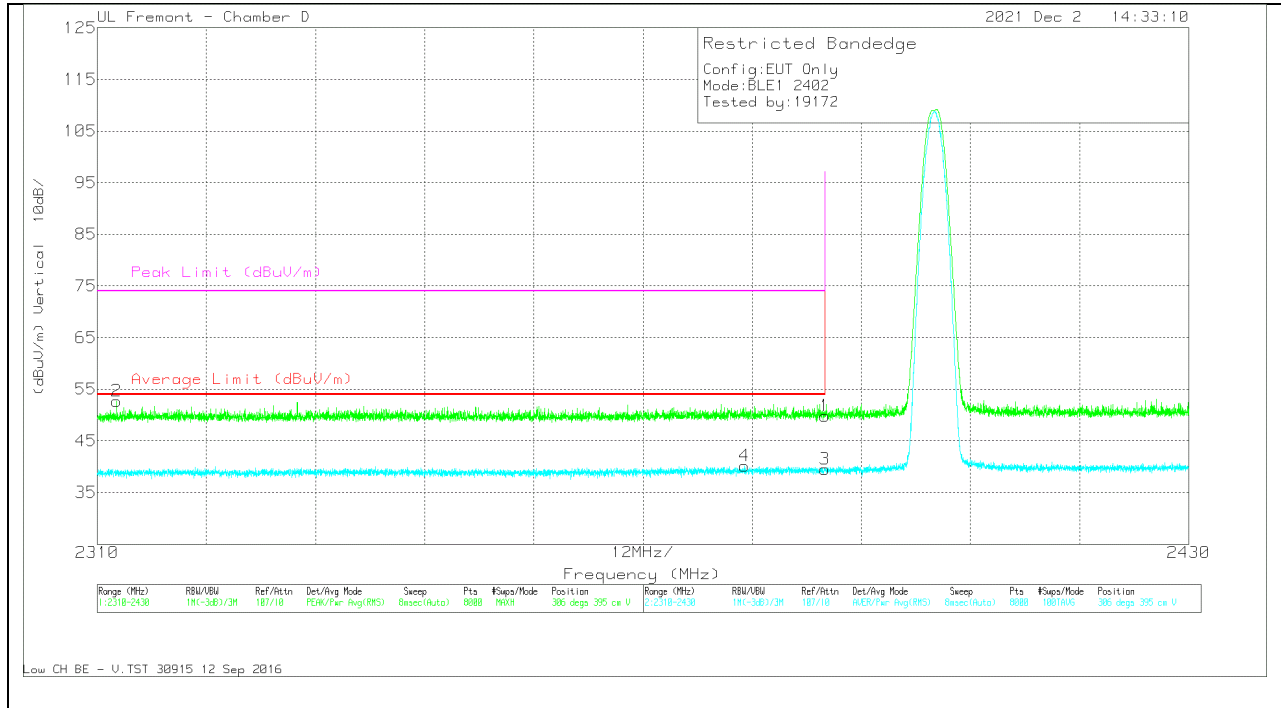
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.47	Pk	32.1	-20.7	49.87	-	-	74	-24.13	340	112	H
2	* 2310.4	41.37	Pk	31.8	-20.8	52.37	-	-	74	-21.63	340	112	H
3	* 2390	28.33	RMS	32.1	-20.7	39.73	54	-14.27	-	-	340	112	H
4	* 2387.3	28.99	RMS	32.1	-20.8	40.29	54	-13.71	-	-	340	112	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

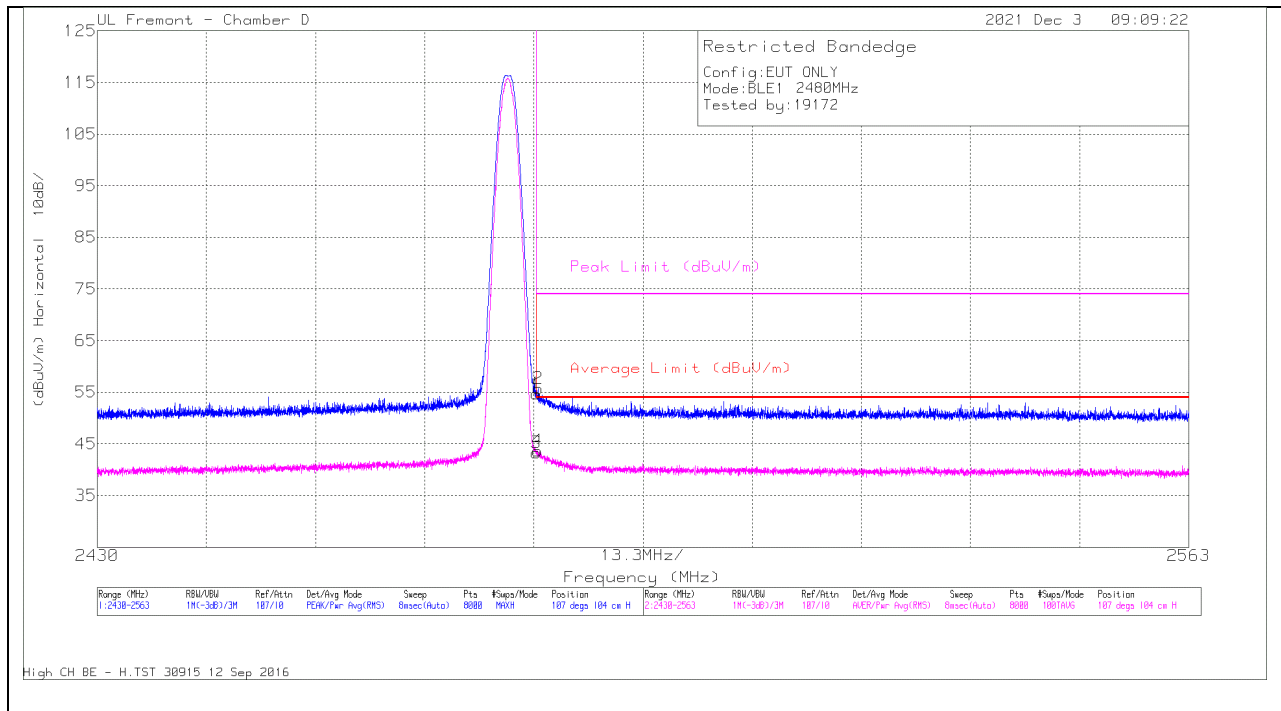


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.44	Pk	32.1	-20.7	49.84	-	-	74	-24.16	306	395	V
2	* 2312.1	41.83	Pk	31.8	-20.9	52.73	-	-	74	-21.27	306	395	V
3	* 2390	28.09	RMS	32.1	-20.7	39.49	54	-14.51	-	-	306	395	V
4	* 2381.1	28.79	RMS	32.1	-20.8	40.09	54	-13.91	-	-	306	395	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

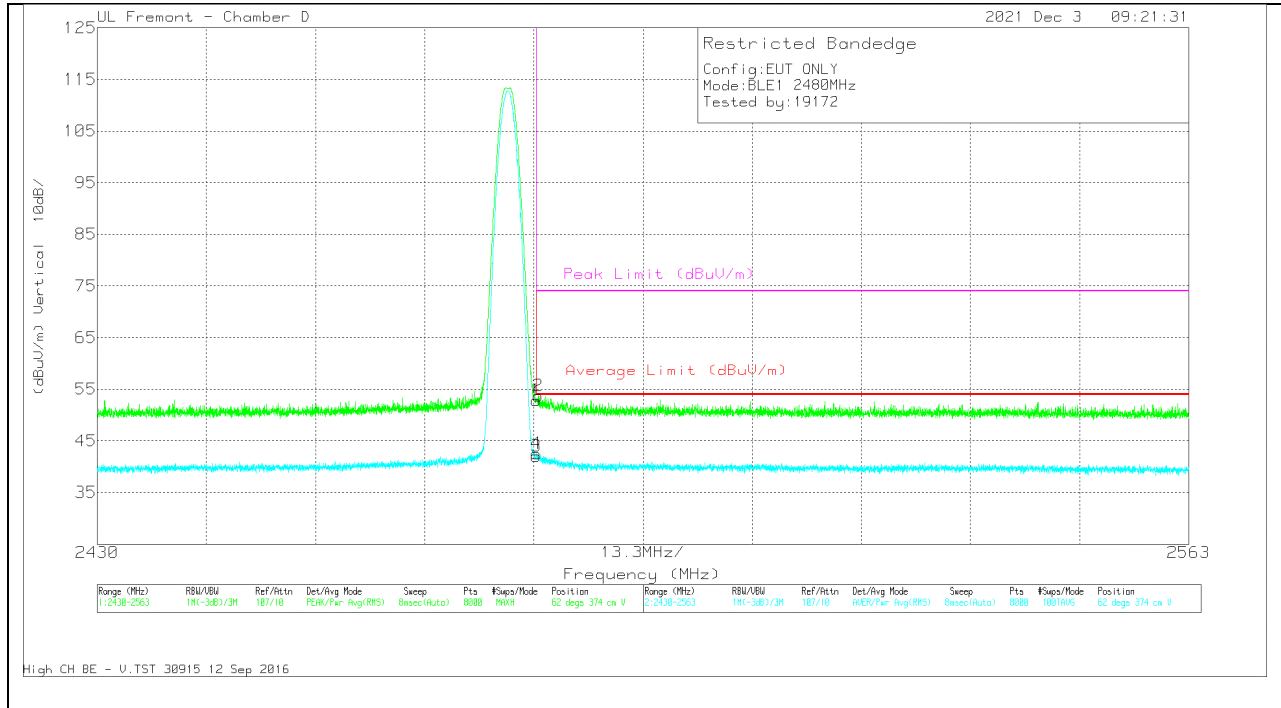
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF-T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	42.75	Pk	32.7	-20.7	54.75	-	-	74	-19.25	107	104	H
2	* 2483.7	43.73	Pk	32.7	-20.7	55.73	-	-	74	-18.27	107	104	H
3	* 2483.5	31.31	RMS	32.7	-20.7	43.31	54	-10.69	-	-	107	104	H
4	* 2483.7	31.66	RMS	32.7	-20.7	43.66	54	-10.34	-	-	107	104	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	40.85	Pk	32.7	-20.7	52.85	-	-	74	-21.15	62	374	V
2	* 2483.76	41.73	Pk	32.7	-20.7	53.73	-	-	74	-20.27	62	374	V
3	* 2483.5	30.05	RMS	32.7	-20.7	42.05	54	-11.95	-	-	62	374	V
4	* 2483.52	30.57	RMS	32.7	-20.7	42.57	54	-11.43	-	-	62	374	V

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

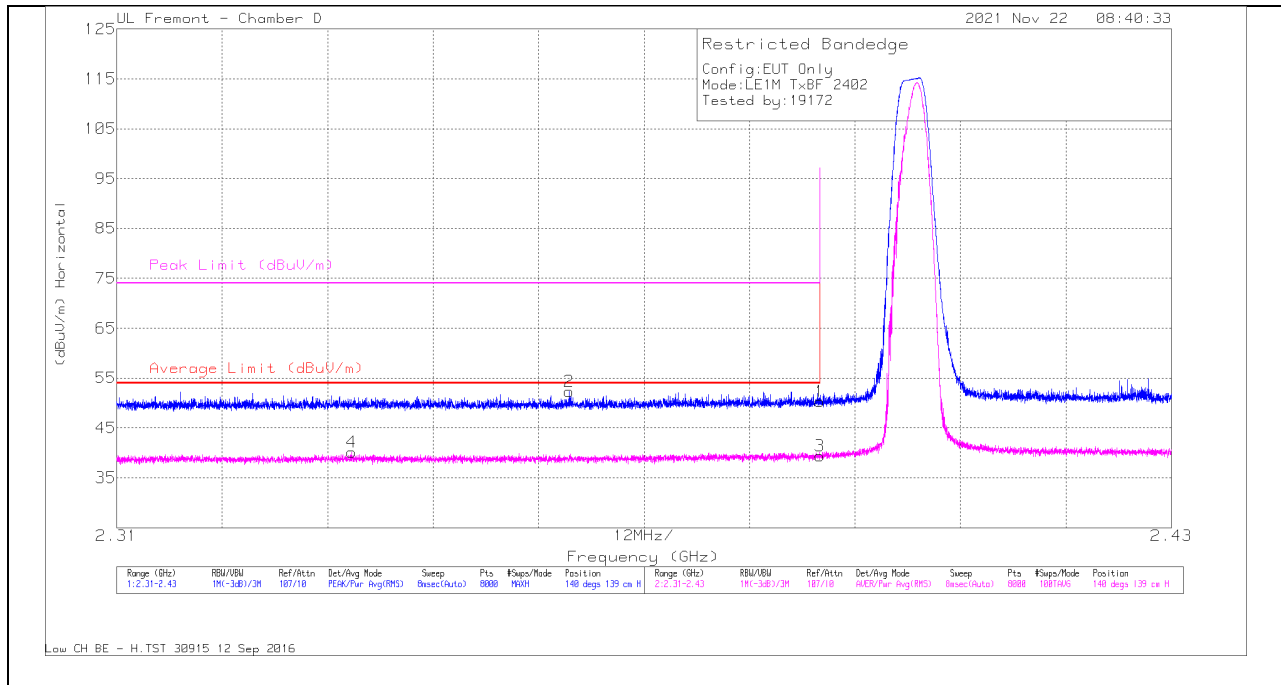
Pk - Peak detector

RMS - RMS detection

10.2.2. HIGH POWER BLE TXBF (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



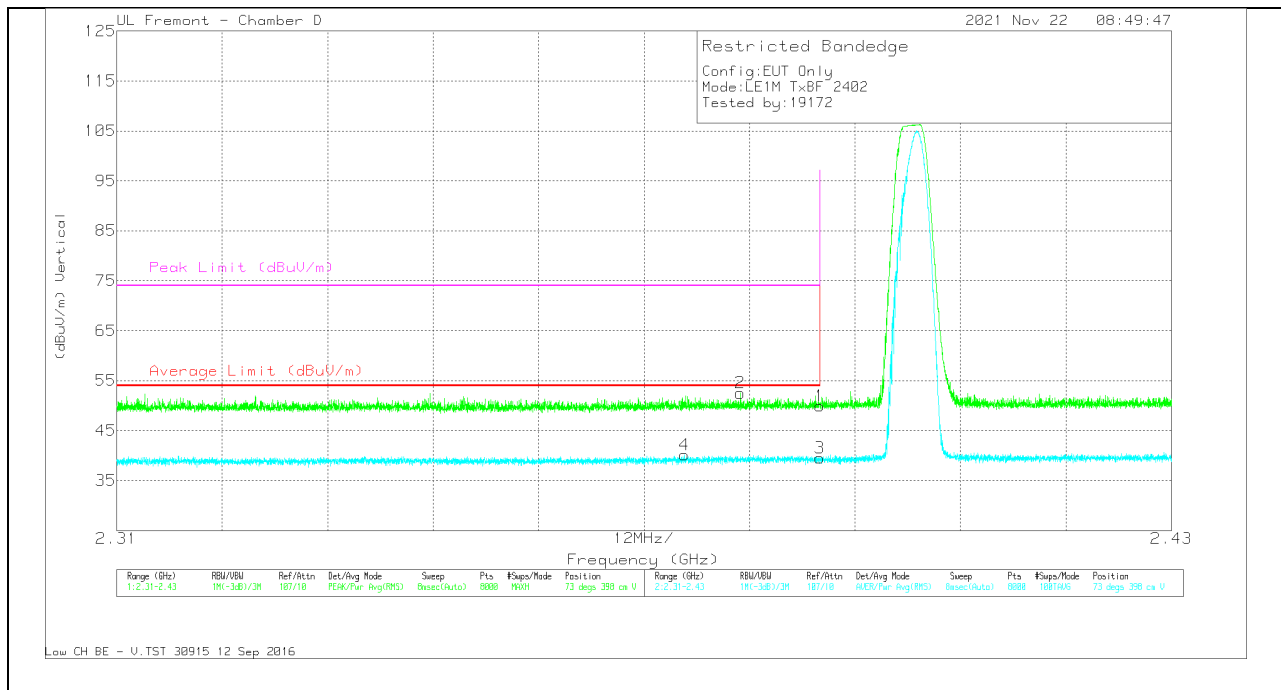
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.94	Pk	32.1	-20.7	50.34	-	-	74	-23.66	140	139	H
2	* 2.36144	41.27	Pk	31.9	-20.8	52.37	-	-	74	-21.63	140	139	H
3	* 2.39	28.01	RMS	32.1	-20.7	39.41	54	-14.59	-	-	140	139	H
4	* 2.3367	29.16	RMS	31.9	-20.9	40.16	54	-13.84	-	-	140	139	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

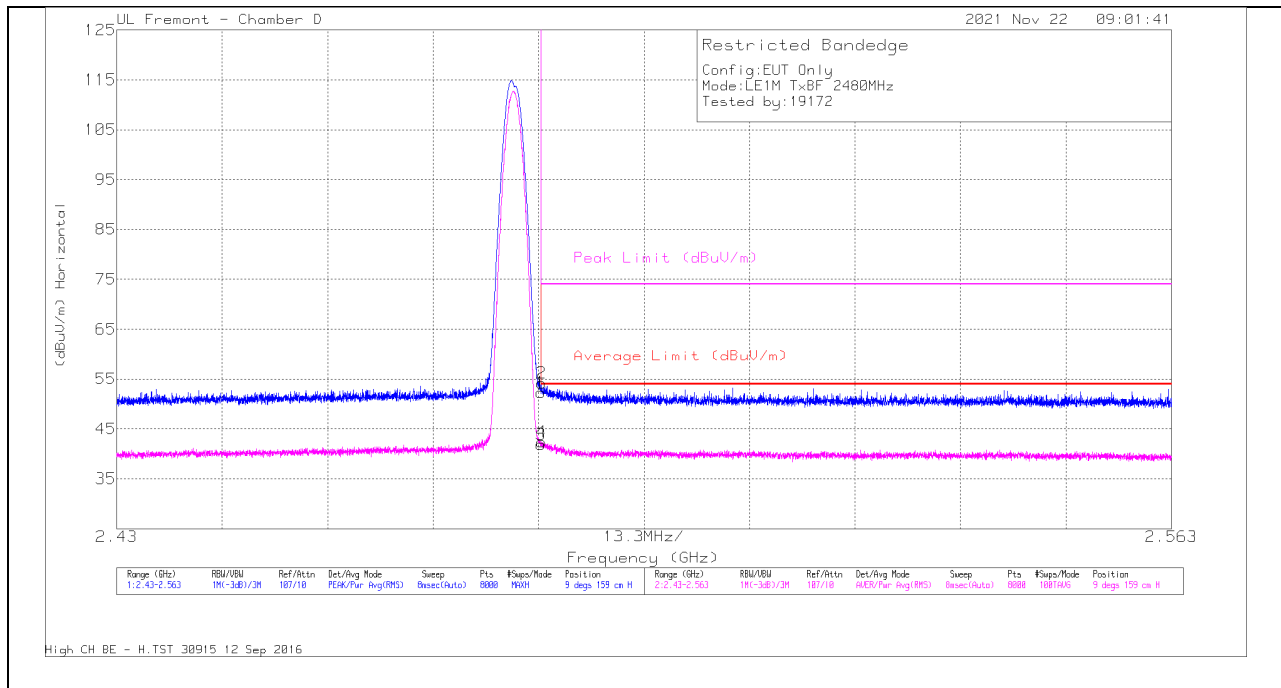


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.56	Pk	32.1	-20.7	49.96	-	-	74	-24.04	73	398	V
2	* 2.38094	41.21	Pk	32.1	-20.8	52.51	-	-	74	-21.49	73	398	V
3	* 2.39	28.09	RMS	32.1	-20.7	39.49	54	-14.51	-	-	73	398	V
4	* 2.37457	28.86	RMS	32	-20.7	40.16	54	-13.84	-	-	73	398	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

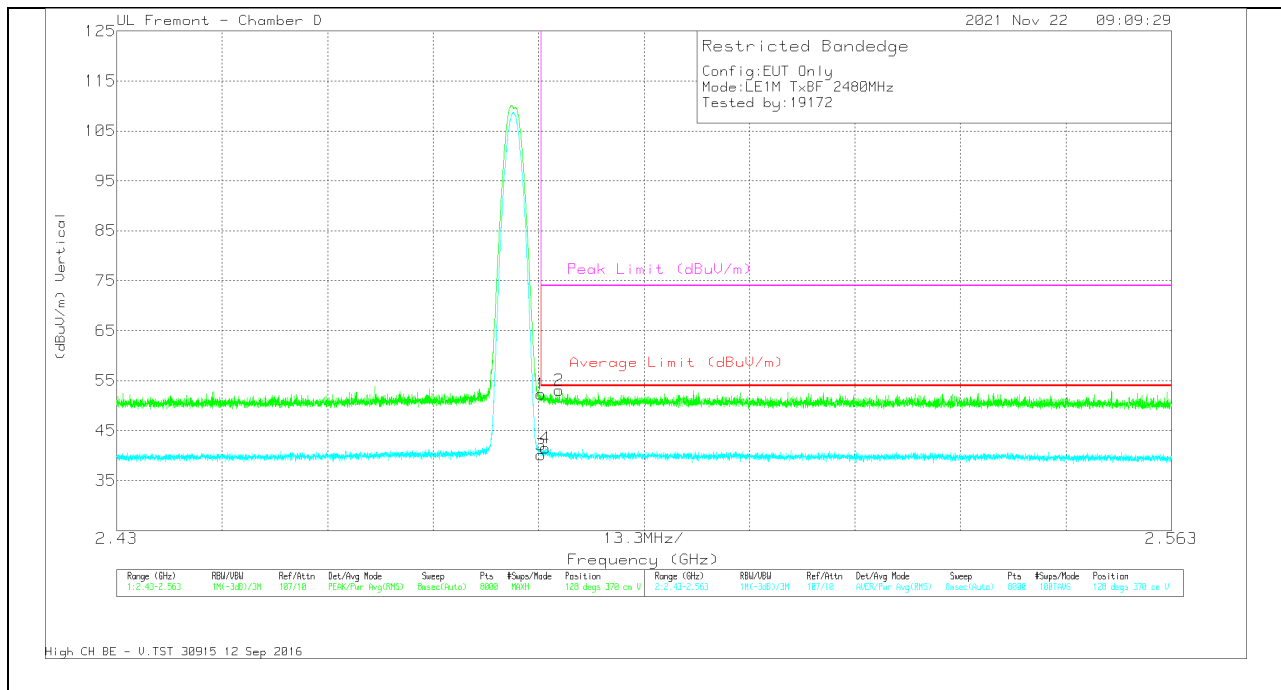
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.27	Pk	32.7	-20.7	52.27	-	-	74	-21.73	9	159	H
2	* 2.48359	42.21	Pk	32.7	-20.7	54.21	-	-	74	-19.79	9	159	H
3	* 2.4835	29.85	RMS	32.7	-20.7	41.85	54	-12.15	-	-	9	159	H
4	* 2.48356	30.34	RMS	32.7	-20.7	42.34	54	-11.66	-	-	9	159	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 T712 (dB/m)	Amp/Cb/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.31	Pk	32.7	-20.7	52.31	-	-	74	-21.69	128	370	V
2	* 2.48578	41.04	Pk	32.7	-20.7	53.04	-	-	74	-20.96	128	370	V
3	* 2.4835	28.16	RMS	32.7	-20.7	40.16	54	-13.84	-	-	128	370	V
4	* 2.48402	29.53	RMS	32.7	-20.7	41.53	54	-12.47	-	-	128	370	V

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

Pk - Peak detector

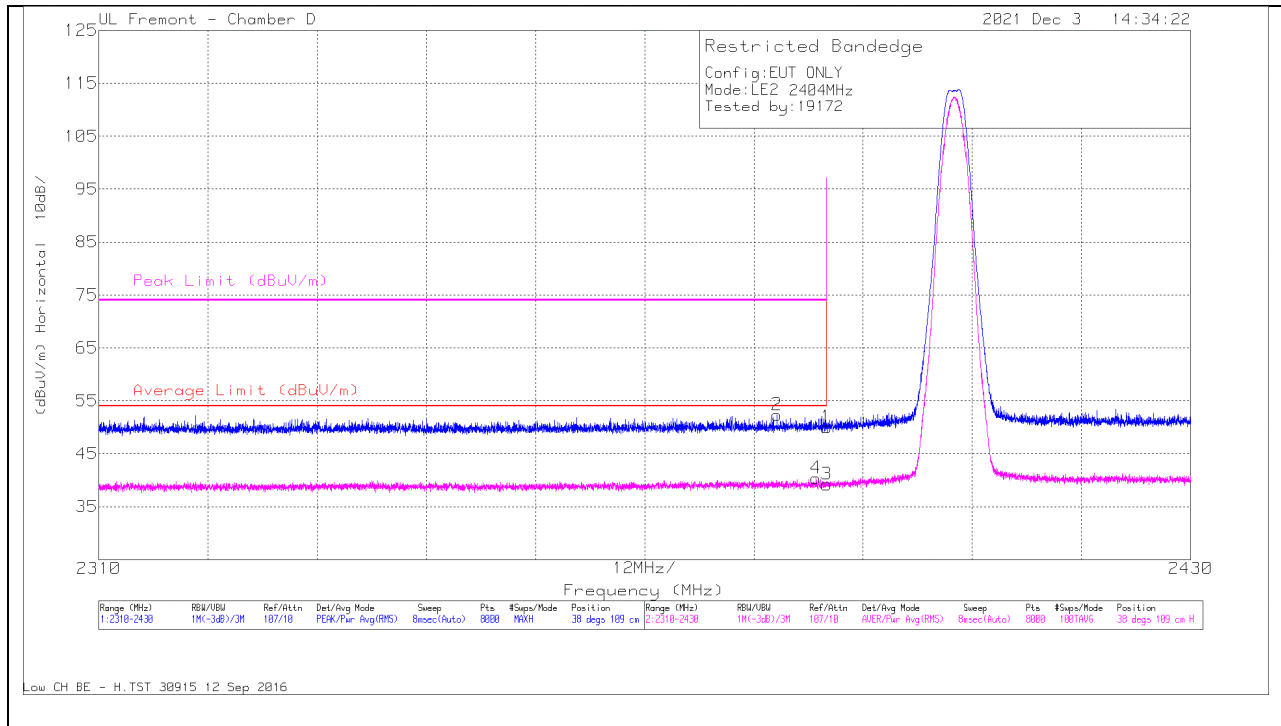
RMS - RMS detection

10.2.3. HIGH POWER BLE (2Mbps)

ANT 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



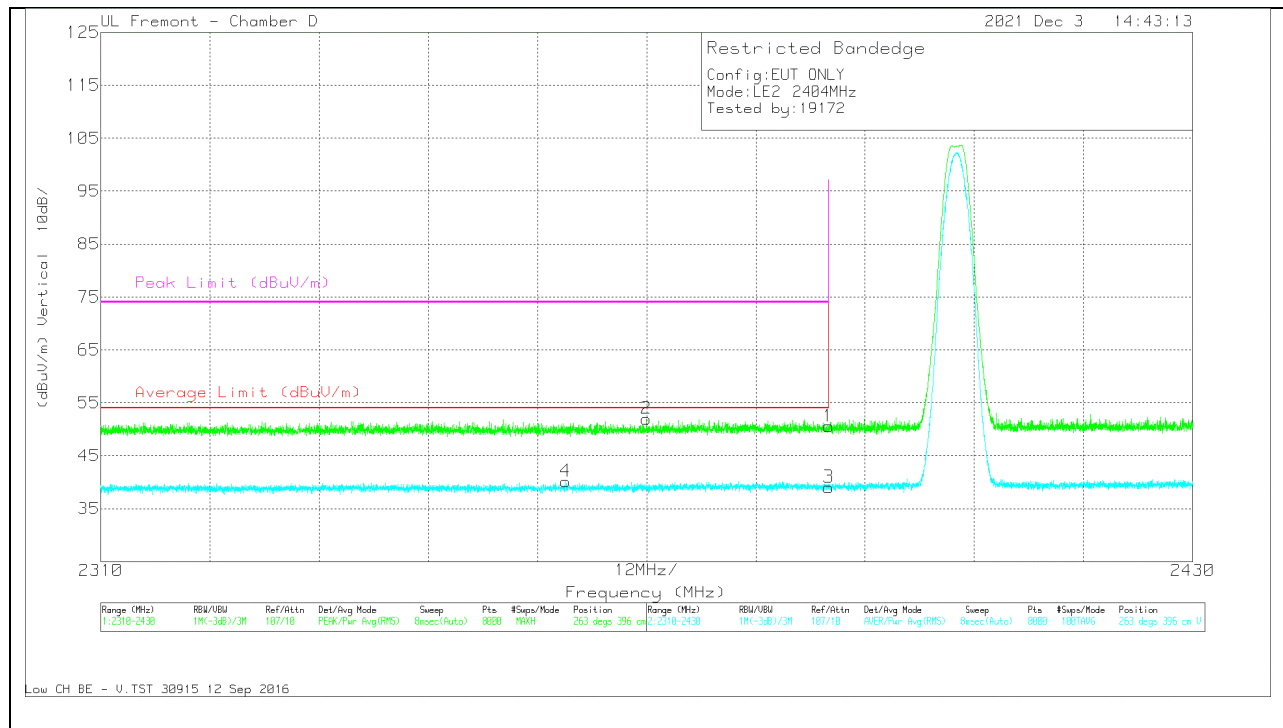
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.6	Pk	32.1	-20.7	50	-	-	74	-24	38	109	H
2	* 2384.53	41.03	Pk	32.1	-20.8	52.33	-	-	74	-21.67	38	109	H
3	* 2390	27.8	RMS	32.1	-20.7	39.2	54	-14.8	-	-	38	109	H
4	* 2388.8	28.98	RMS	32.1	-20.7	40.38	54	-13.62	-	-	38	109	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

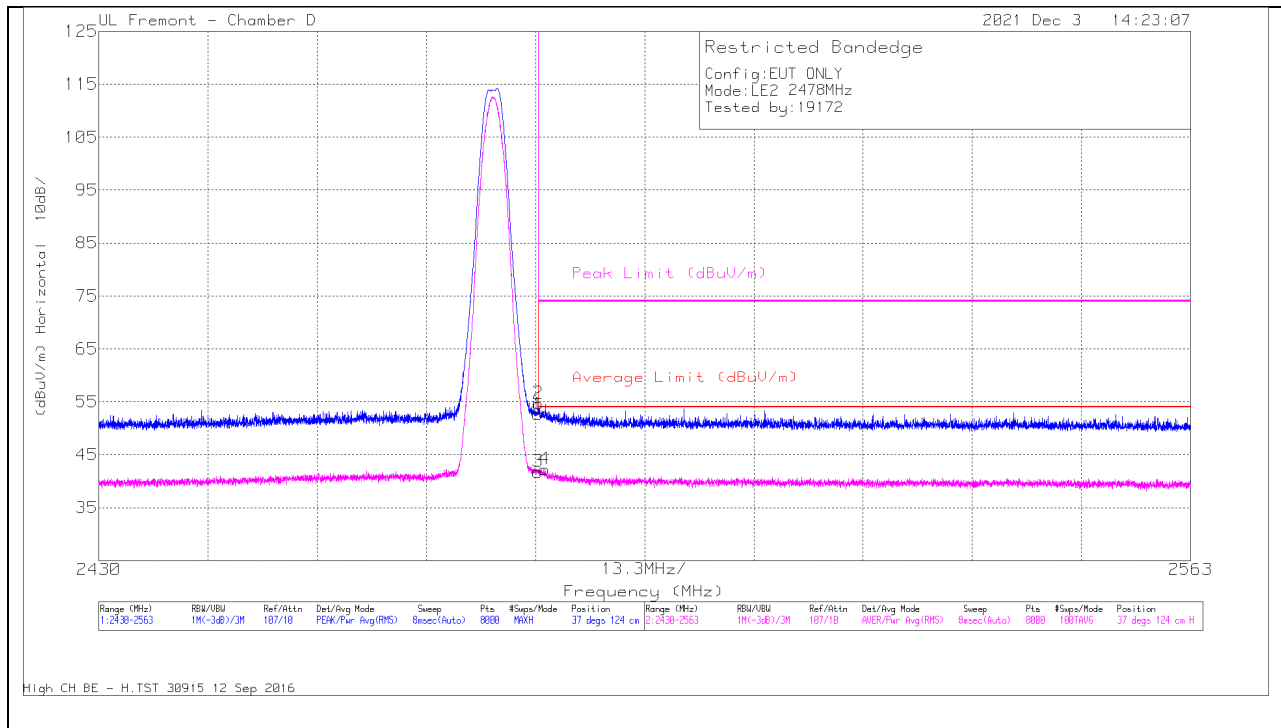


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.16	Pk	32.1	-20.7	50.56	-	-	74	-23.44	263	396	V
2	* 2369.9	40.89	Pk	31.9	-20.8	51.99	-	-	74	-22.01	263	396	V
3	* 2390	27.64	RMS	32.1	-20.7	39.04	54	-14.96	-	-	263	396	V
4	* 2361.1	29.06	RMS	31.9	-20.8	40.16	54	-13.84	-	-	263	396	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

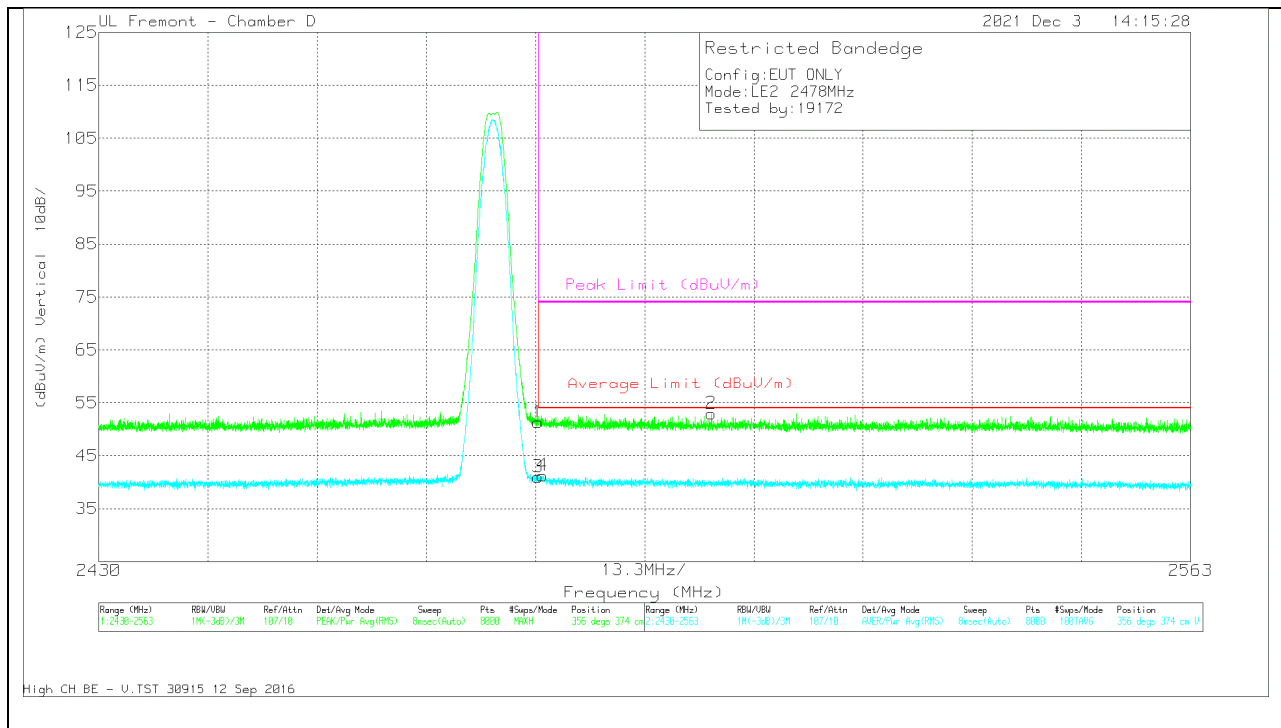
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	40.65	Pk	32.7	-20.7	52.65	-	-	74	-21.35	37	124	H
2	* 2483.54	42.68	Pk	32.7	-20.7	54.68	-	-	74	-19.32	37	124	H
3	* 2483.5	29.77	RMS	32.7	-20.7	41.77	54	-12.23	-	-	37	124	H
4	* 2484.3	30.26	RMS	32.7	-20.7	42.26	54	-11.74	-	-	37	124	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

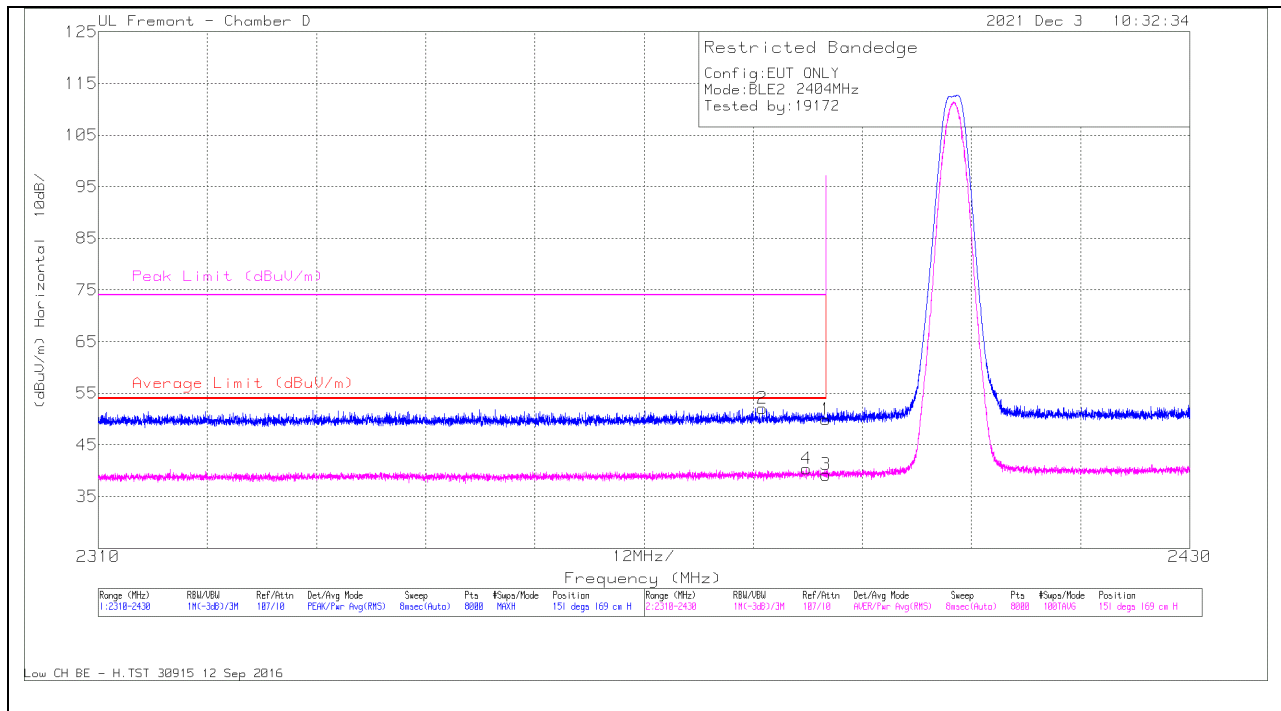


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.3	Pk	32.7	-20.7	51.3	-	-	74	-22.7	356	374	V
3	* 2483.5	28.98	RMS	32.7	-20.7	40.98	54	-13.02	-	-	356	374	V
4	* 2484.1	29.26	RMS	32.7	-20.7	41.26	54	-12.74	-	-	356	374	V
2	2504.64	40.96	Pk	32.7	-20.7	52.96	-	-	74	-21.04	356	374	V

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

Pk - Peak detector

RMS - RMS detection

ANT 3**BANDEGE (LOW CHANNEL)****HORIZONTAL RESULT**

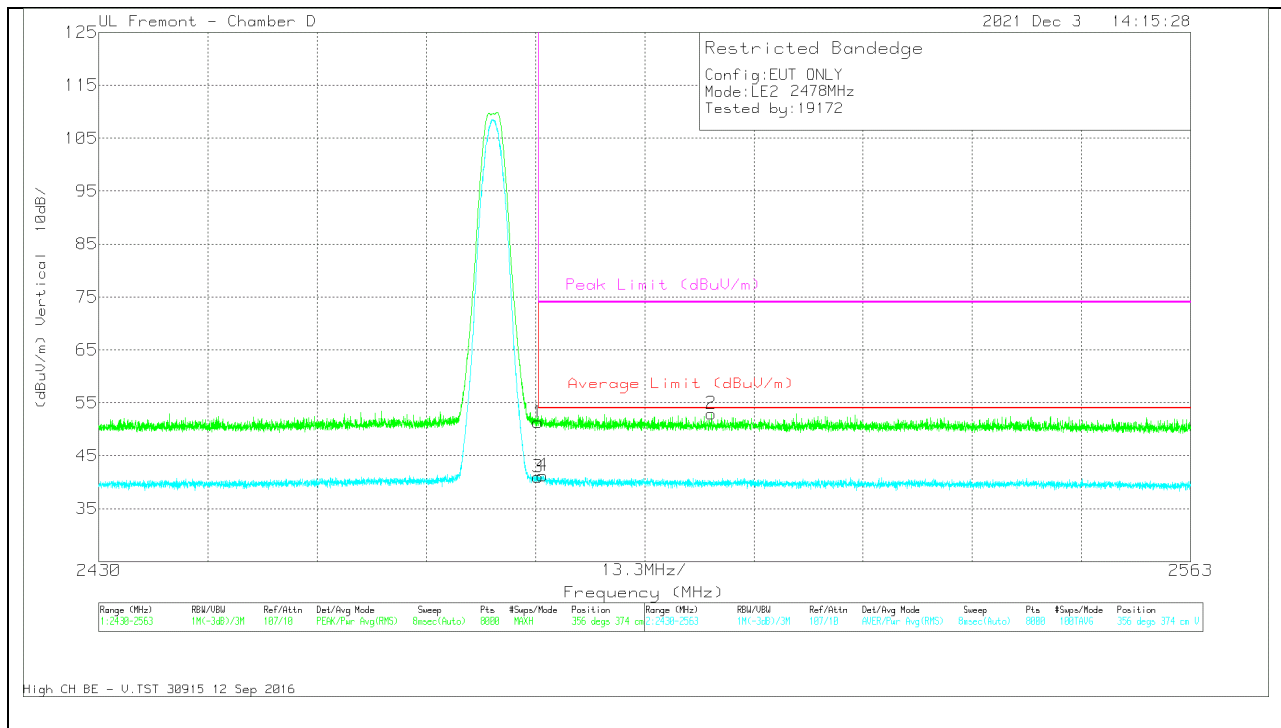
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.54	Pk	32.1	-20.7	49.94	-	-	74	-24.06	151	169	H
2	* 2383.03	40.7	Pk	32.2	-20.8	52.1	-	-	74	-21.9	151	169	H
3	* 2390	27.8	RMS	32.1	-20.7	39.2	54	-14.8	-	-	151	169	H
4	* 2387.83	28.96	RMS	32.1	-20.7	40.36	54	-13.64	-	-	151	169	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

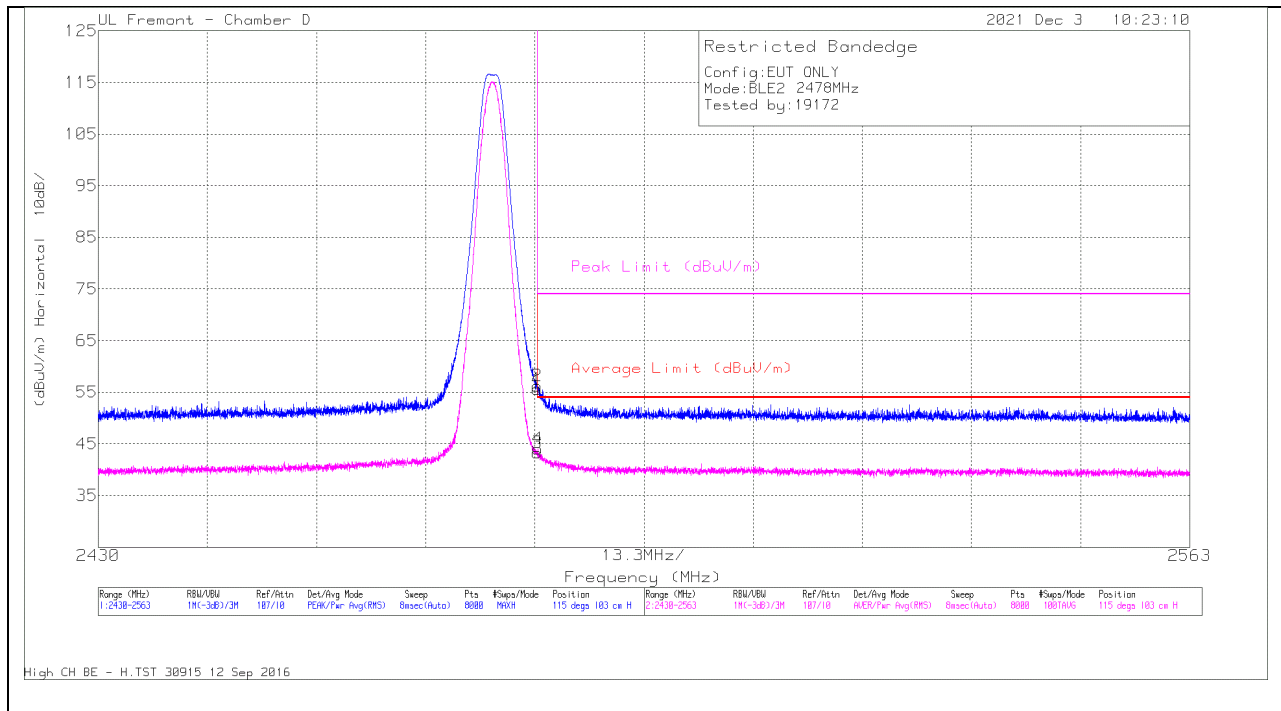


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.58	Pk	32.1	-20.7	49.98	-	-	74	-24.02	63	401	V
2	* 2344.93	41.62	Pk	31.9	-20.8	52.72	-	-	74	-21.28	63	401	V
3	* 2390	27.9	RMS	32.1	-20.7	39.3	54	-14.7	-	-	63	401	V
4	* 2388.66	29.01	RMS	32.1	-20.7	40.41	54	-13.59	-	-	63	401	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

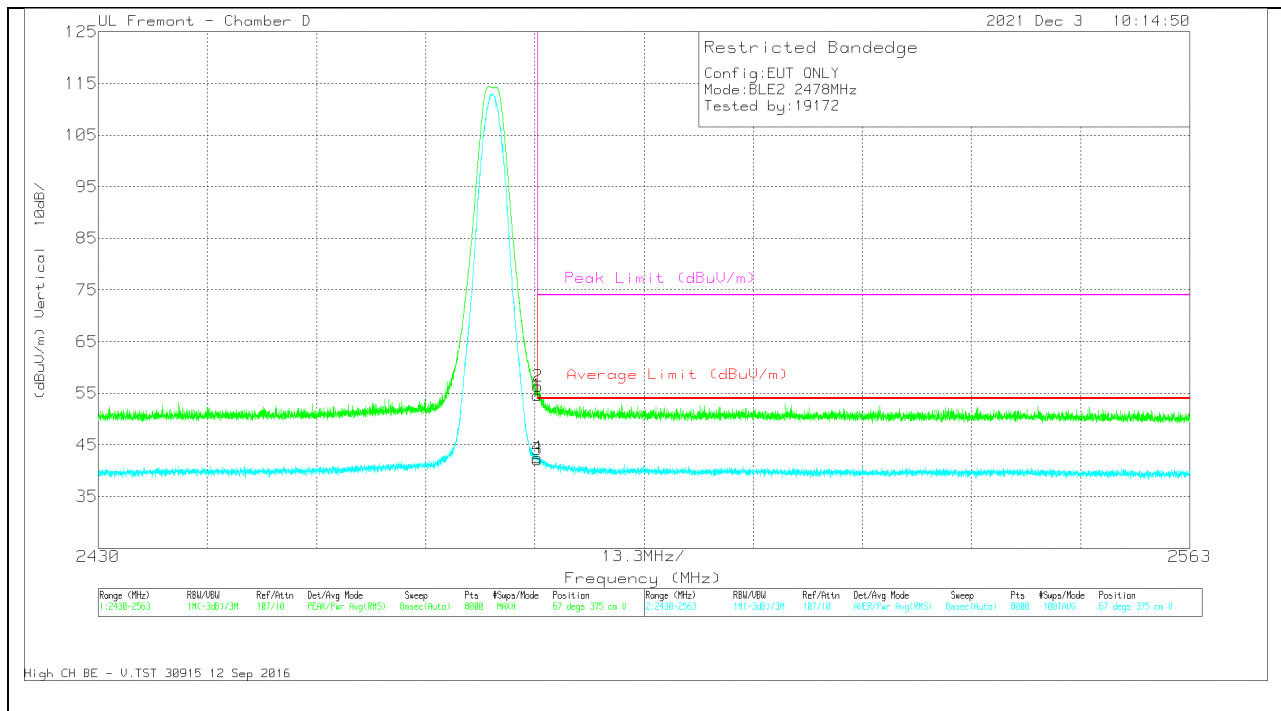
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	43.55	Pk	32.7	-20.7	55.55	-	-	74	-18.45	115	103	H
2	* 2483.52	44.18	Pk	32.7	-20.7	56.18	-	-	74	-17.82	115	103	H
3	* 2483.5	31.23	RMS	32.7	-20.7	43.23	54	-10.77	-	-	115	103	H
4	* 2483.54	31.99	RMS	32.7	-20.7	43.99	54	-10.01	-	-	115	103	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	42.62	Pk	32.7	-20.7	54.62	-	-	74	-19.38	67	375	V
2	* 2483.59	44.3	Pk	32.7	-20.7	56.3	-	-	74	-17.7	67	375	V
3	* 2483.5	30.12	RMS	32.7	-20.7	42.12	54	-11.88	-	-	67	375	V
4	* 2483.52	30.54	RMS	32.7	-20.7	42.54	54	-11.46	-	-	67	375	V

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

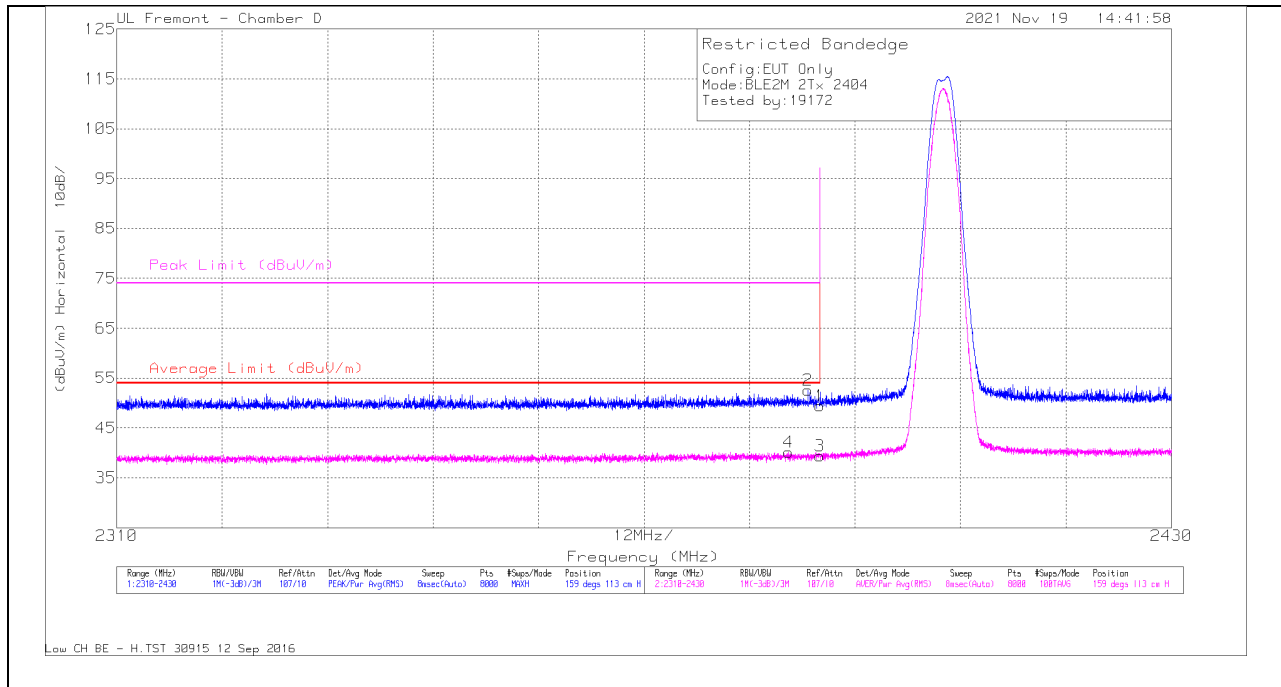
Pk - Peak detector

RMS - RMS detection

10.2.4. HIGH POWER BLE TXBF (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



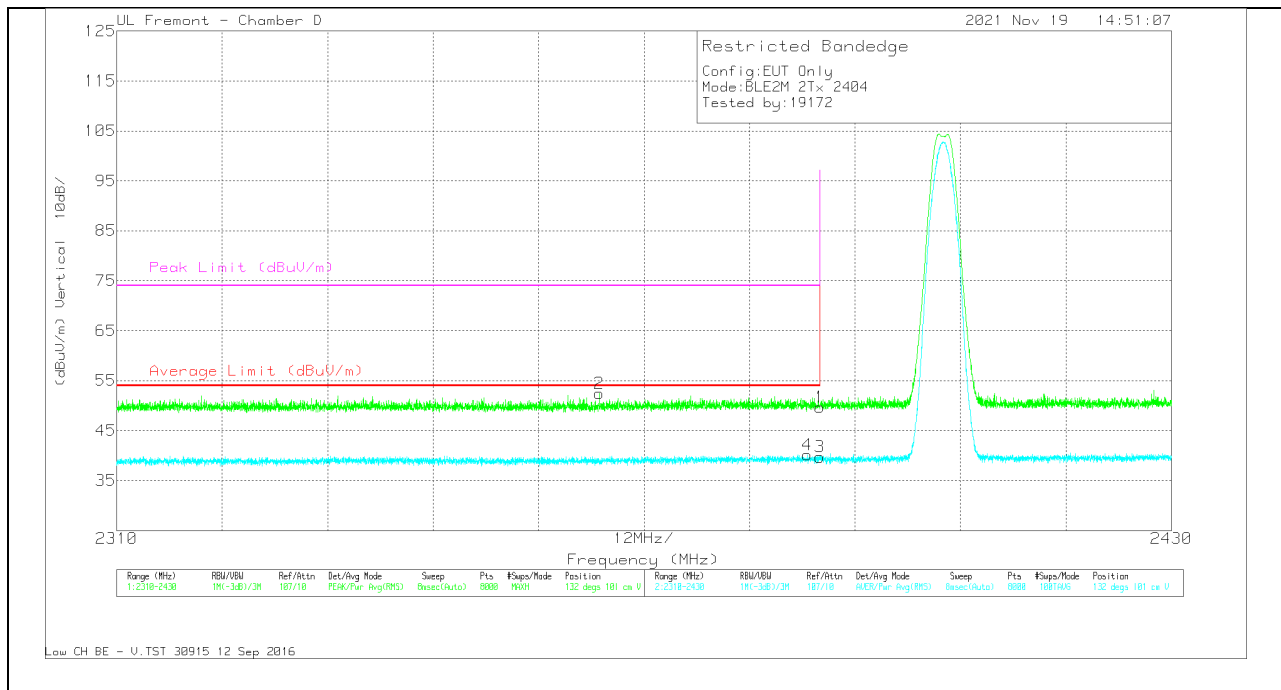
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.03	Pk	32.1	-20.7	49.43	-	-	74	-24.57	159	113	H
2	* 2388.66	41.18	PK	32.1	-20.7	52.58	-	-	74	-21.42	159	113	H
3	* 2390	27.93	RMS	32.1	-20.7	39.33	54	-14.67	-	-	159	113	H
4	* 2386.44	28.89	RMS	32.1	-20.8	40.19	54	-13.81	-	-	159	113	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

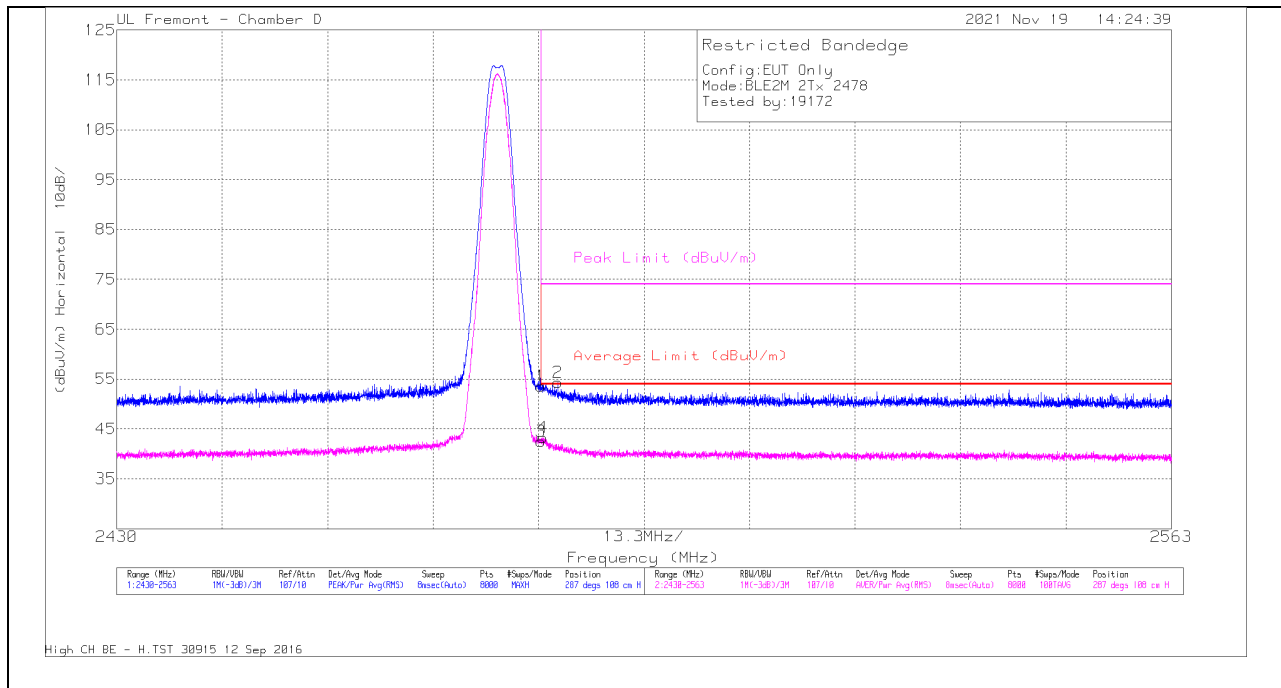


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.28	Pk	32.1	-20.7	49.68	-	-	74	-24.32	132	101	V
2	* 2364.88	41.31	Pk	31.9	-20.8	52.41	-	-	74	-21.59	132	101	V
3	* 2390	28.3	RMS	32.1	-20.7	39.7	54	-14.3	-	-	132	101	V
4	* 2388.58	28.74	RMS	32.1	-20.7	40.14	54	-13.86	-	-	132	101	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

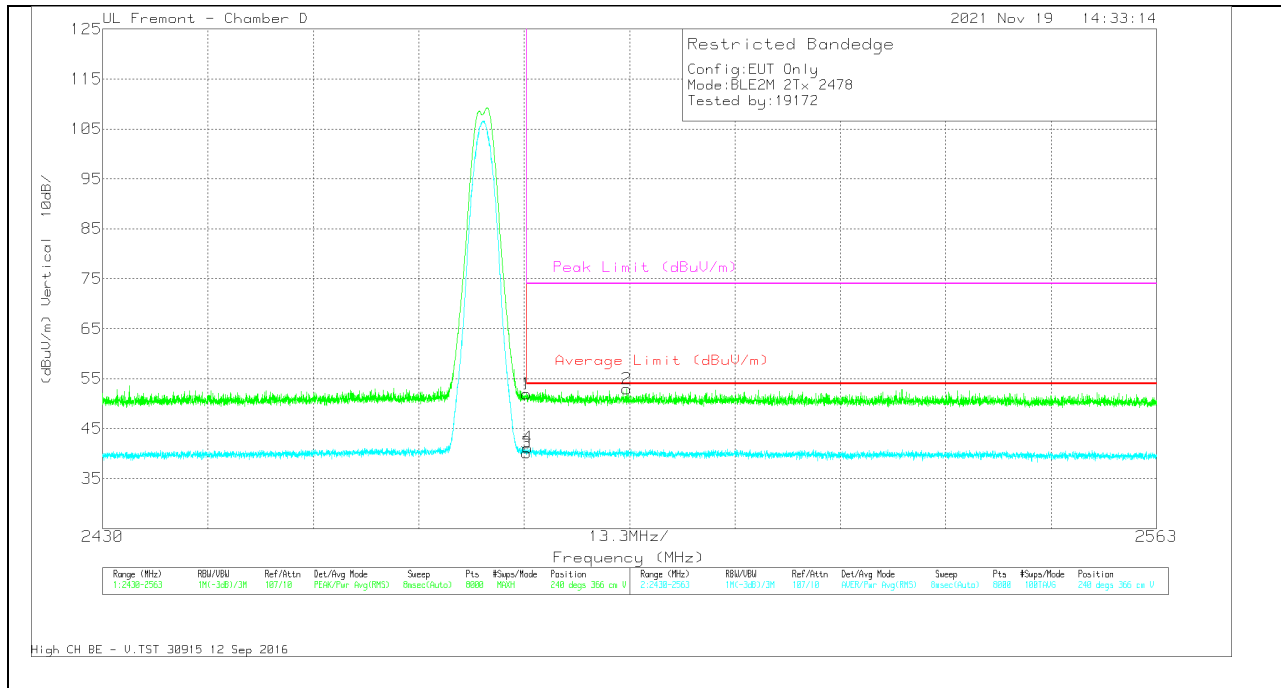
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	41.54	Pk	32.7	-20.7	53.54	-	-	74	-20.46	287	108	H
2	* 2485.61	42.29	PK	32.7	-20.7	54.29	-	-	74	-19.71	287	108	H
3	* 2483.5	30.56	RMS	32.7	-20.7	42.56	54	-11.44	-	-	287	108	H
4	* 2483.70	31.3	RMS	32.7	-20.7	43.3	54	-10.7	-	-	287	108	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.99	Pk	32.7	-20.7	51.99	-	-	74	-22.01	240	366	V
2	* 2496.142	40.76	Pk	32.8	-20.6	52.96	-	-	74	-21.04	240	366	V
3	* 2483.5	28.15	RMS	32.7	-20.7	40.15	54	-13.85	-	-	240	366	V
4	* 2483.655	29.2	RMS	32.7	-20.7	41.2	54	-12.8	-	-	240	366	V

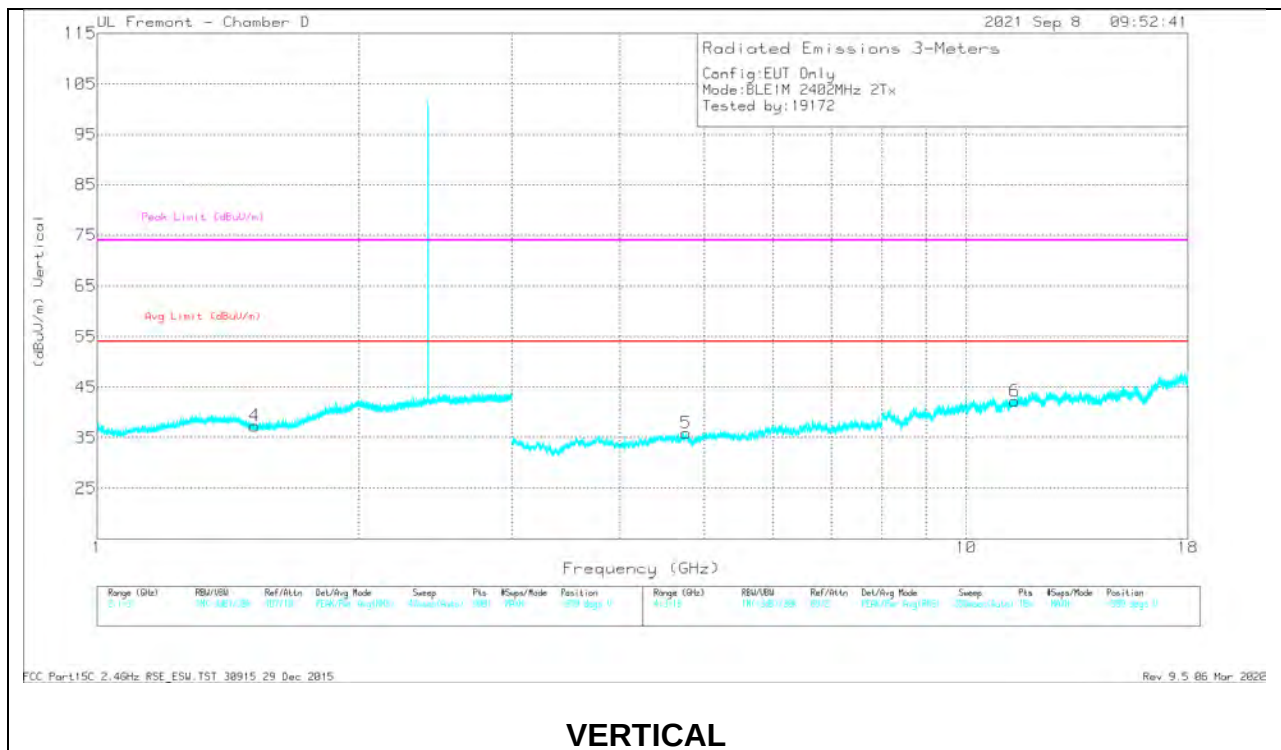
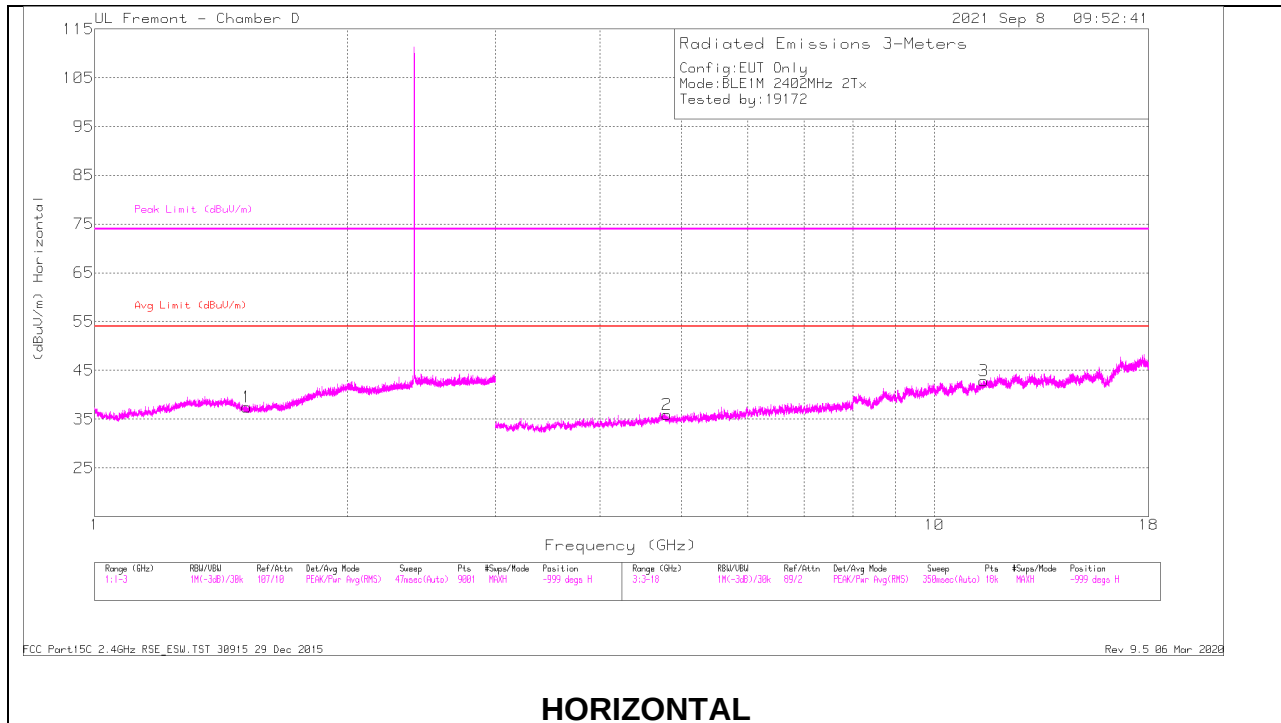
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

10.2.5. HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

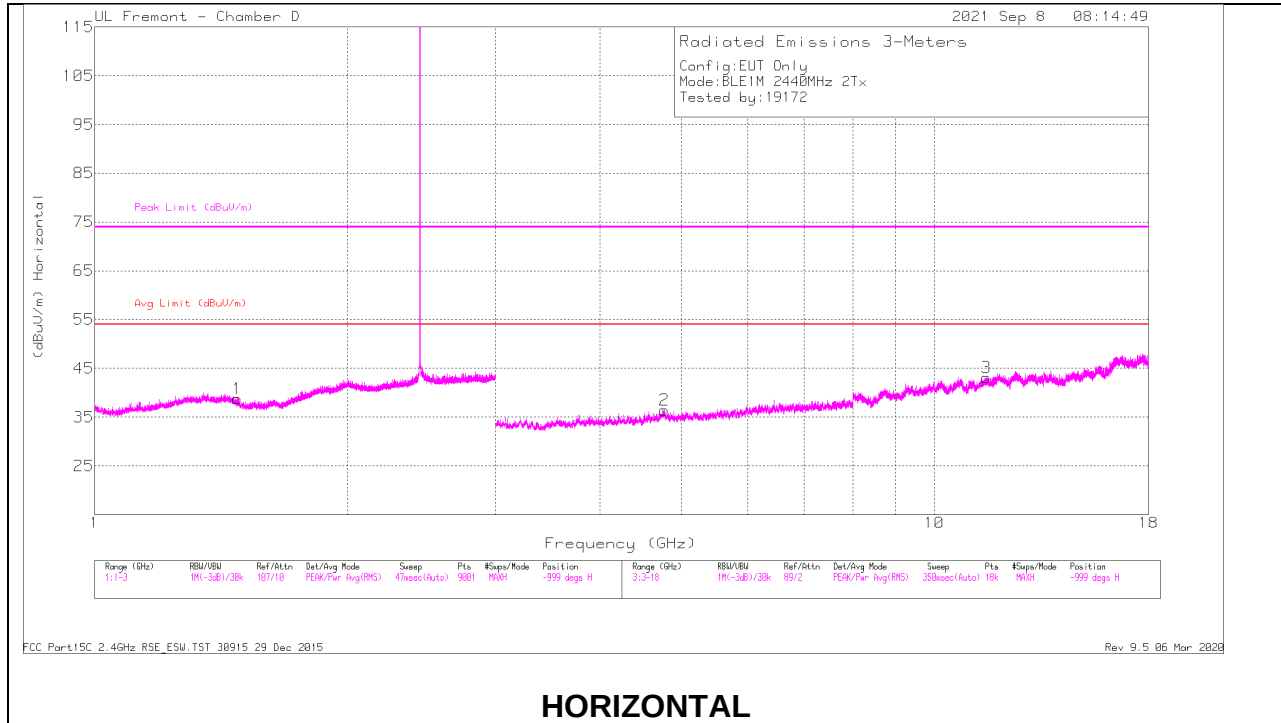
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF-T712 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.51866	39.01	PK2	27.8	-21.5	45.31	-	-	74	-28.69	147	199	H
	* 1.51801	29.04	MAV1	27.8	-21.5	35.34	54	-18.66	-	-	147	199	H
4	* 1.51828	38.58	PK2	27.8	-21.5	44.88	-	-	74	-29.12	51	114	V
	* 1.51677	29.35	MAV1	27.9	-21.5	35.75	54	-18.25	-	-	51	114	V
2	* 4.80228	35.81	PK2	34.2	-26.6	43.41	-	-	74	-30.59	218	178	H
	* 4.80144	26.05	MAV1	34.2	-26.6	33.65	54	-20.35	-	-	218	178	H
3	* 11.44608	31.9	PK2	38	-20.9	49	-	-	74	-25	149	263	H
	* 11.44965	22.91	MAV1	38.1	-20.9	40.11	54	-13.89	-	-	149	263	H
5	* 4.76497	36.04	PK2	34.2	-26.2	44.04	-	-	74	-29.96	356	106	V
	* 4.76679	25.91	MAV1	34.2	-26.2	33.91	54	-20.09	-	-	356	106	V
6	* 11.37913	32.19	PK2	38	-21	49.19	-	-	74	-24.81	22	295	V
	* 11.37855	22.74	MAV1	38	-21	39.74	54	-14.26	-	-	22	295	V

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

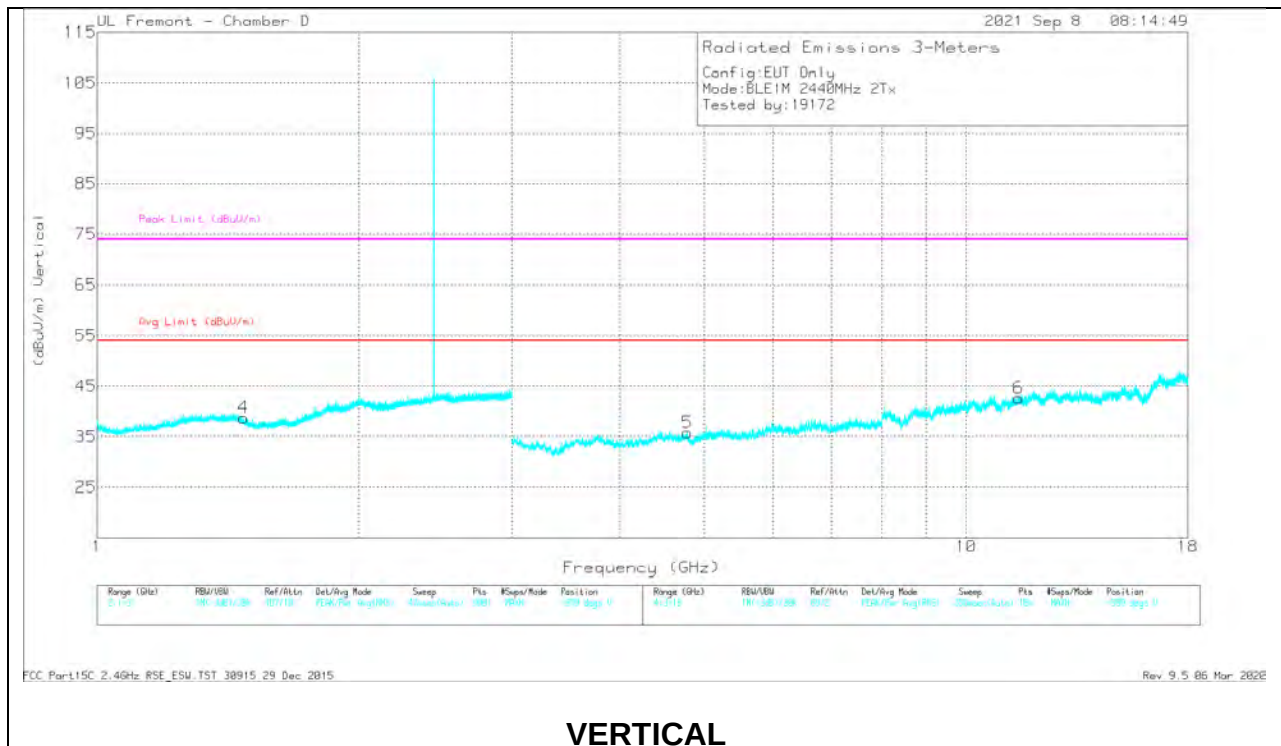
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

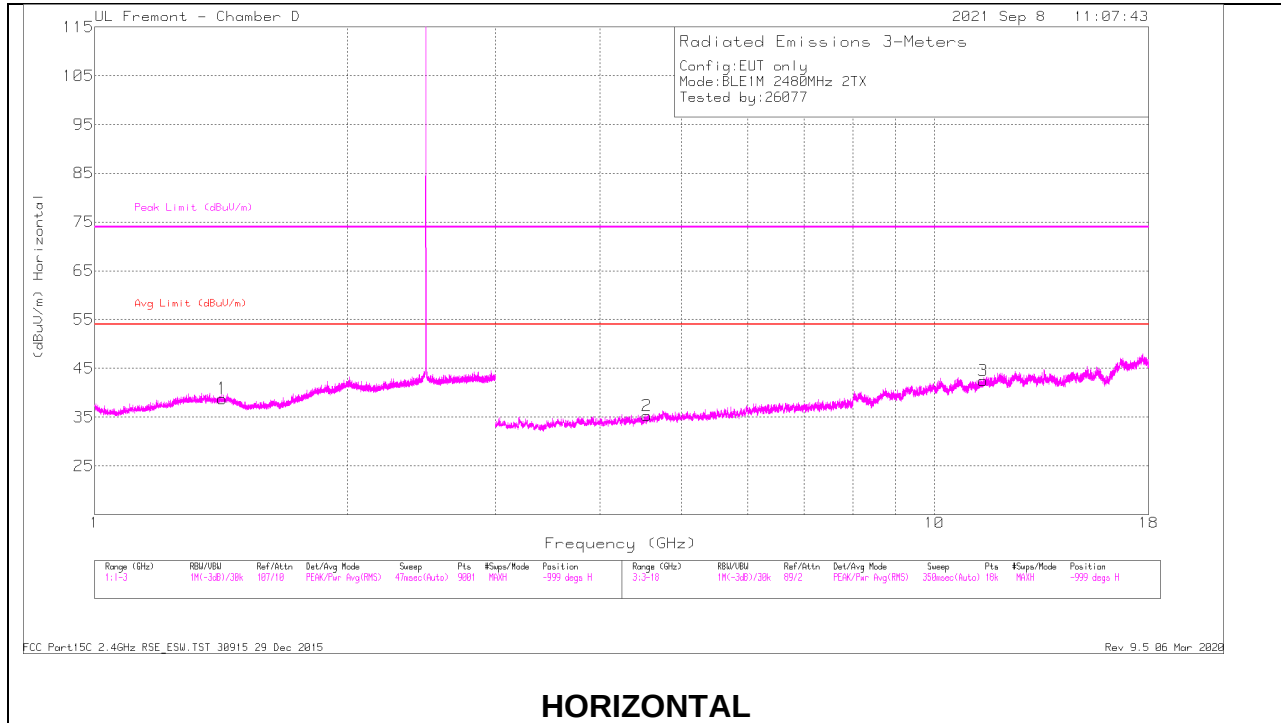
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF-T712 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.47801	38.93	PK2	28.6	-21.6	45.93	-	-	74	-28.07	183	193	H
	* 1.47857	28.97	MAv1	28.5	-21.6	35.87	54	-18.13	-	-	183	193	H
	* 1.47375	38.92	PK2	28.6	-21.6	45.92	-	-	74	-28.08	329	190	V
2	* 1.47361	29.43	MAv1	28.6	-21.5	36.53	54	-17.47	-	-	329	190	V
	* 4.76889	35.74	PK2	34.2	-26.2	43.74	-	-	74	-30.26	16	262	H
	* 4.76819	26.8	MAv1	34.2	-26.2	34.8	54	-19.2	-	-	16	262	H
3	* 11.54607	31.87	PK2	38.2	-20	50.07	-	-	74	-23.93	43	342	H
	* 11.54664	21.73	MAv1	38.2	-20	39.93	54	-14.07	-	-	43	342	H
	* 4.77583	35.36	PK2	34.2	-26.3	43.26	-	-	74	-30.74	188	237	V
5	* 4.7756	25.22	MAv1	34.2	-26.3	33.12	54	-20.88	-	-	188	237	V
	* 11.49372	33.04	PK2	38.1	-20.5	50.64	-	-	74	-23.36	176	175	V
	* 11.49051	22.66	MAv1	38.1	-20.7	40.06	54	-13.94	-	-	176	175	V

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

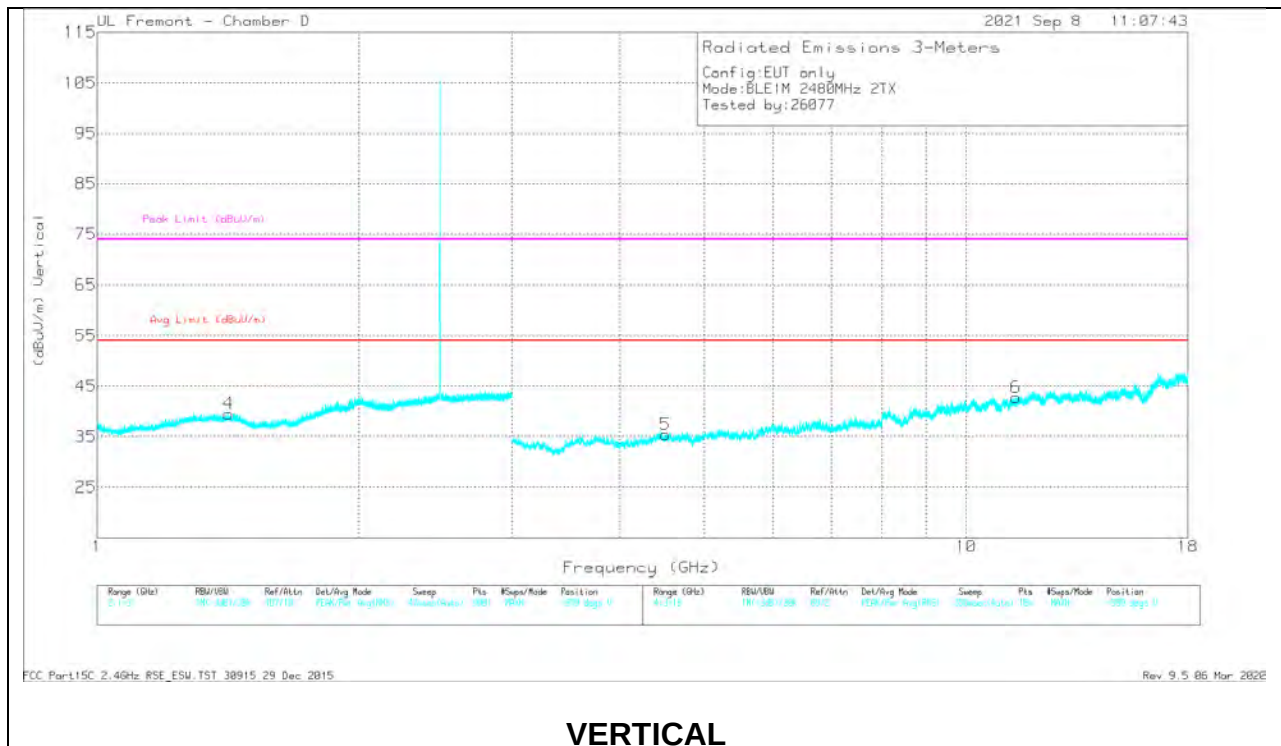
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

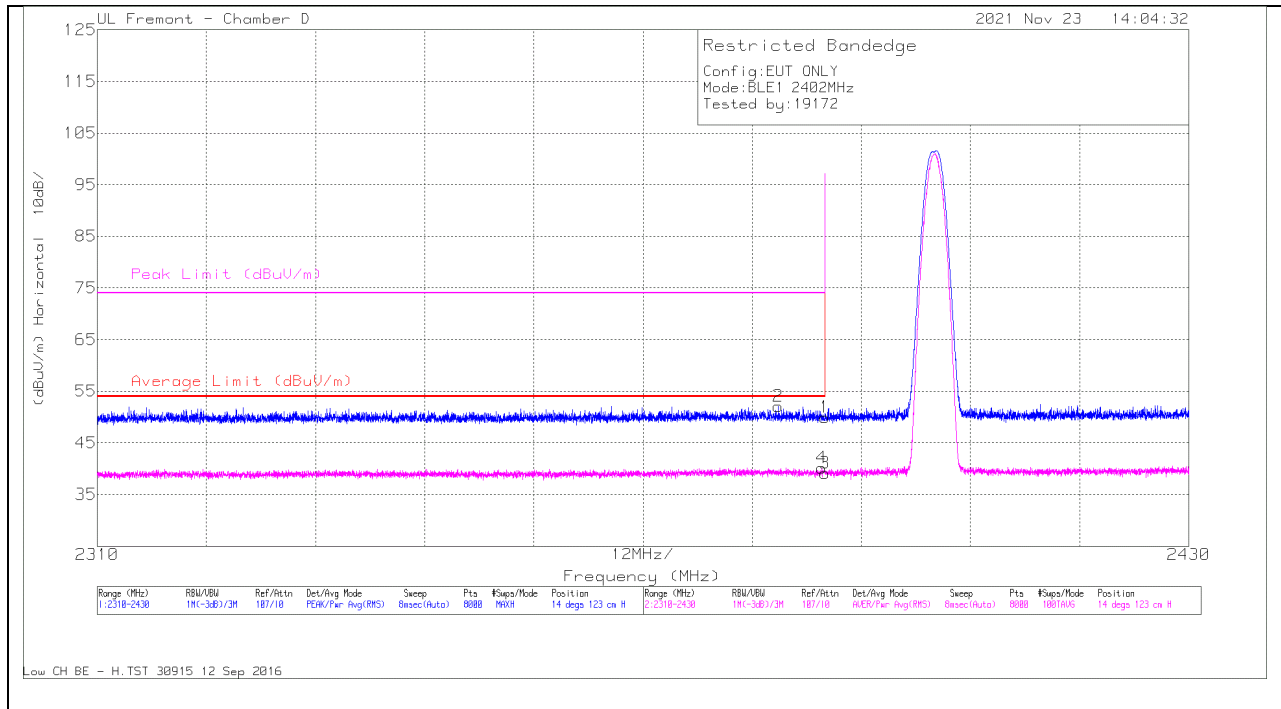
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fitr/P ad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.41646	39.35	PK2	29.3	-21.7	46.95	-	-	74	-27.05	298	113	H
	* 1.41718	29.46	MAv1	29.3	-21.6	37.16	54	-16.84	-	-	298	113	H
4	* 1.41981	39.34	PK2	29.4	-21.6	47.14	-	-	74	-26.86	136	258	V
	* 1.41725	29.22	MAv1	29.3	-21.6	36.92	54	-17.08	-	-	136	258	V
2	* 4.54579	36.45	PK2	33.8	-27.4	42.85	-	-	74	-31.15	238	303	H
	* 4.54817	26.59	MAv1	33.8	-27.4	32.99	54	-21.01	-	-	238	303	H
3	* 11.44443	32.82	PK2	38	-20.9	49.92	-	-	74	-24.08	307	107	H
	* 11.44417	23.08	MAv1	38	-20.9	40.18	54	-13.82	-	-	307	107	H
5	* 4.50952	36.24	PK2	33.7	-27.1	42.84	-	-	74	-31.16	11	296	V
	* 4.50751	26.85	MAv1	33.6	-27.1	33.35	54	-20.65	-	-	11	296	V
6	* 11.42564	33.17	PK2	38	-20.7	50.47	-	-	74	-23.53	357	306	V
	* 11.42747	22.36	MAv1	38	-20.8	39.56	54	-14.44	-	-	357	306	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.2.6. LOW POWER BLE (1Mbps)

ANT 2**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

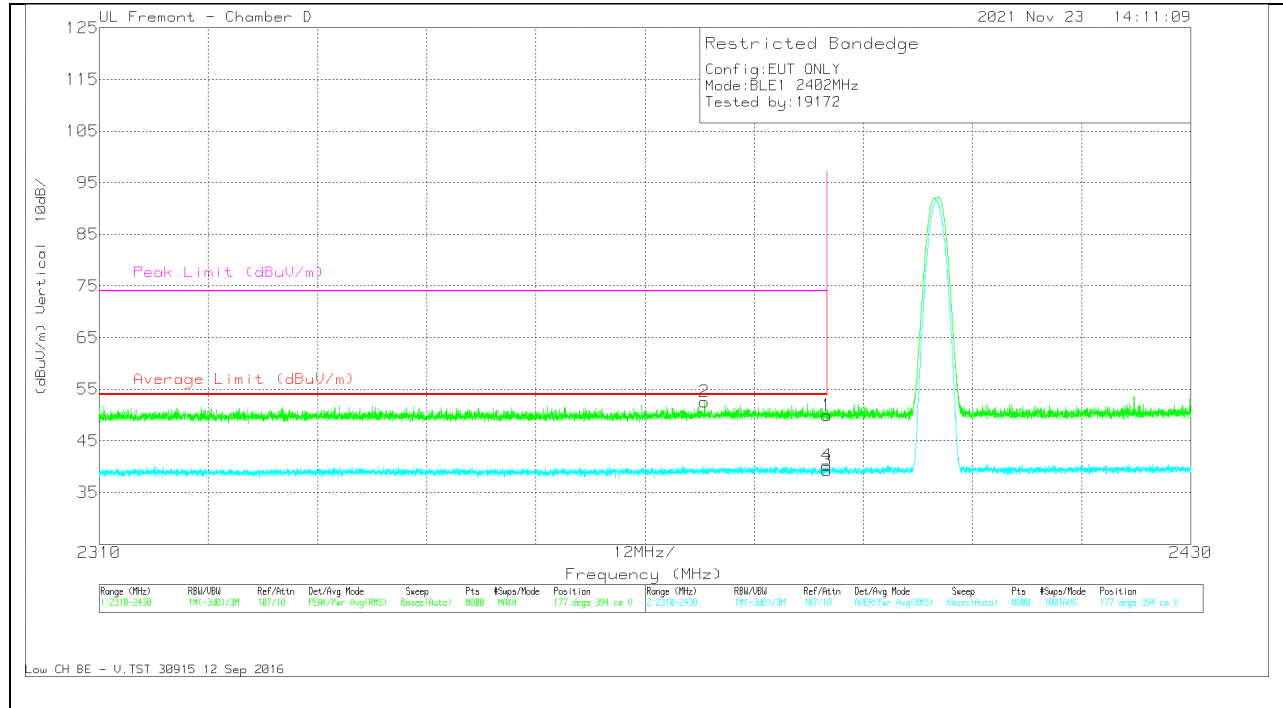
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/ Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.53	Pk	32.1	-20.7	49.93	-	-	74	-24.07	14	123	H
2	* 2384.89	40.77	Pk	32.1	-20.8	52.07	-	-	74	-21.93	14	123	H
3	* 2390	27.72	RMS	32.1	-20.7	39.12	54	-14.88	-	-	14	123	H
4	* 2389.631	28.76	RMS	32.1	-20.7	40.16	54	-13.84	-	-	14	123	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

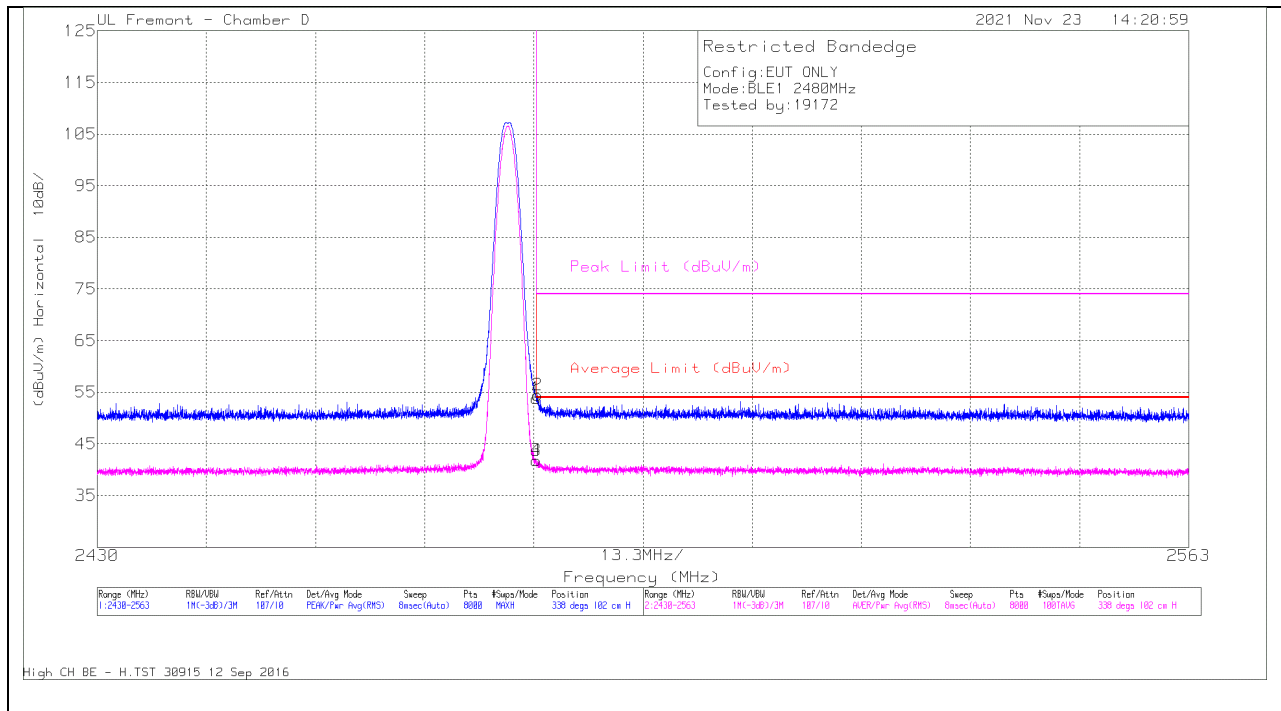


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T12 (dB/m)	Ampl/Cb1/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.51	Pk	32.1	-20.7	49.91	-	-	74	-24.09	177	394	V
2	* 2376.549	41.12	Pk	32.1	-20.7	52.52	-	-	74	-21.48	177	394	V
3	* 2390	27.84	RMS	32.1	-20.7	39.24	54	-14.76	-	-	177	394	V
4	* 2389.976	28.83	RMS	32.1	-20.7	40.23	54	-13.77	-	-	177	394	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

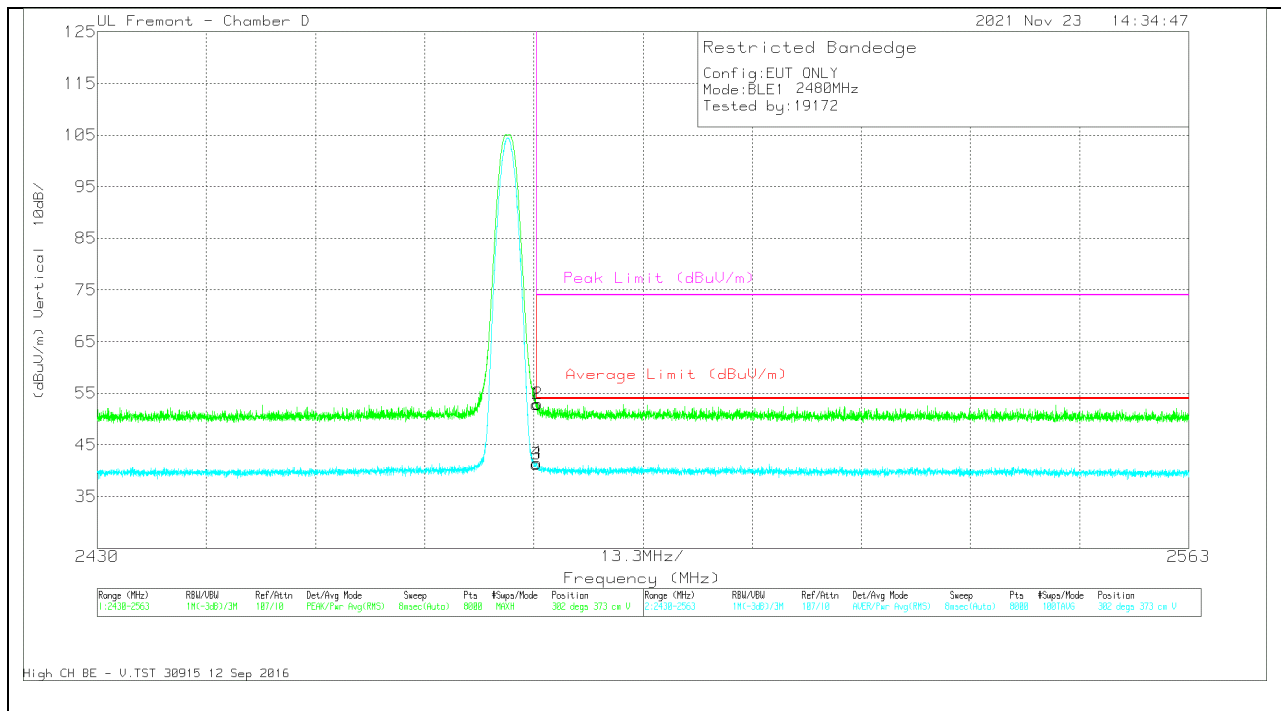
Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	AF T712 (dBm)	Amp/CbI/Filt/Pa d (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	41.81	PK	32.7	-20.7	53.81	-	-	74	-20.19	338	102	H
2	* 2483.655	42.49	PK	32.7	-20.7	54.49	-	-	74	-19.51	338	102	H
3	* 2483.5	29.72	RMS	32.7	-20.7	41.72	54	-12.28	-	-	338	102	H
4	* 2483.506	29.72	RMS	32.7	-20.7	41.72	54	-12.28	-	-	338	102	H

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

PK - Peak detector

RMS - RMS detection

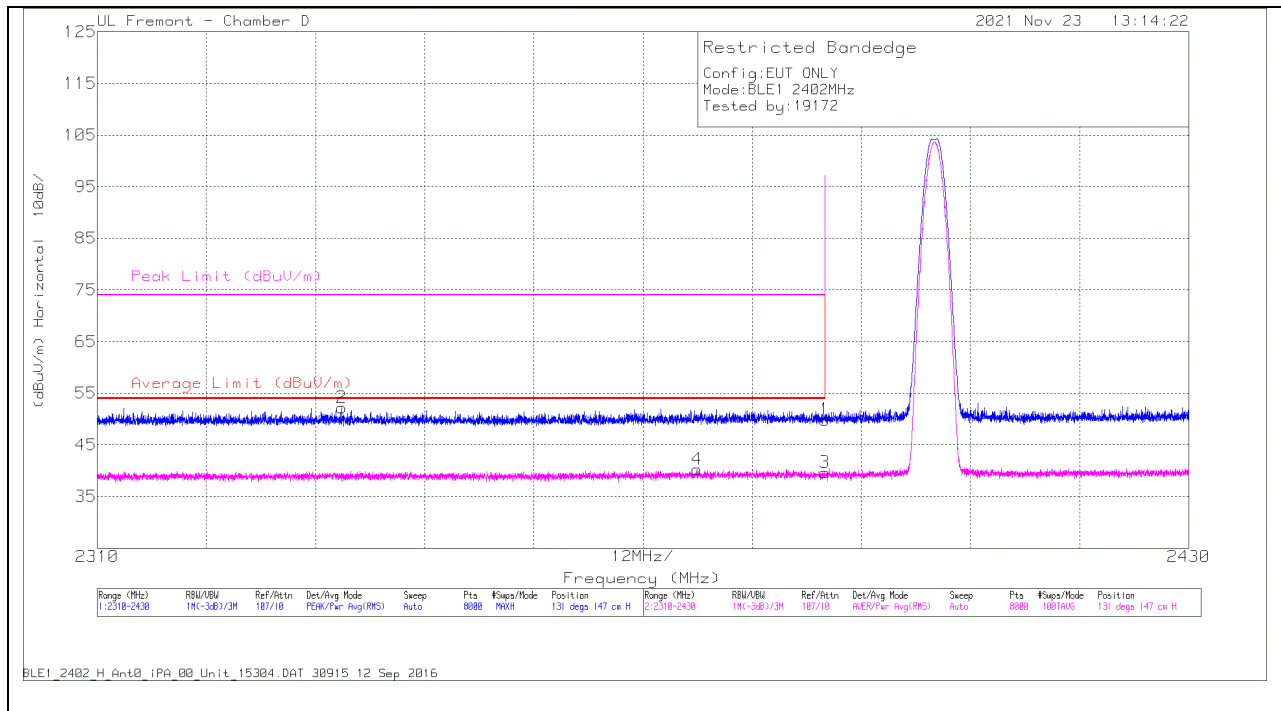
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/CbI/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	40.83	PK	32.7	-20.7	52.83	-	-	74	-21.17	302	373	V
2	* 2483.672	40.95	PK	32.7	-20.7	52.95	-	-	74	-21.05	302	373	V
3	* 2483.5	29.23	RMS	32.7	-20.7	41.23	54	-12.77	-	-	302	373	V
4	* 2483.539	29.46	RMS	32.7	-20.7	41.46	54	-12.54	-	-	302	373	V

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

PK - Peak detector

ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

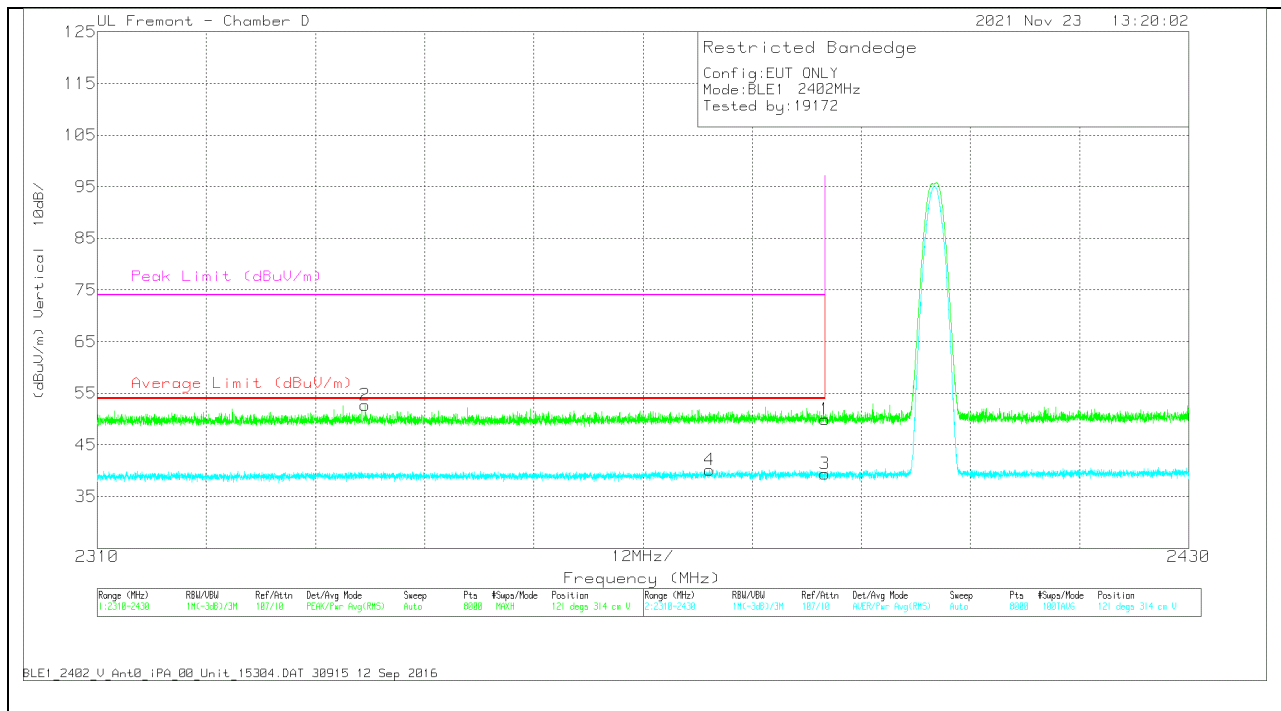
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Ampl/Cb1/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.47	Pk	32.1	-20.7	49.87	-	-	74	-24.13	131	147	H
2	* 2336.854	41.23	Pk	31.9	-20.9	52.23	-	-	74	-21.77	131	147	H
3	* 2390	28.28	RMS	32.1	-20.7	39.68	54	-14.32	-	-	131	147	H
4	* 2375.934	28.87	RMS	32.1	-20.7	40.27	54	-13.73	-	-	131	147	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT

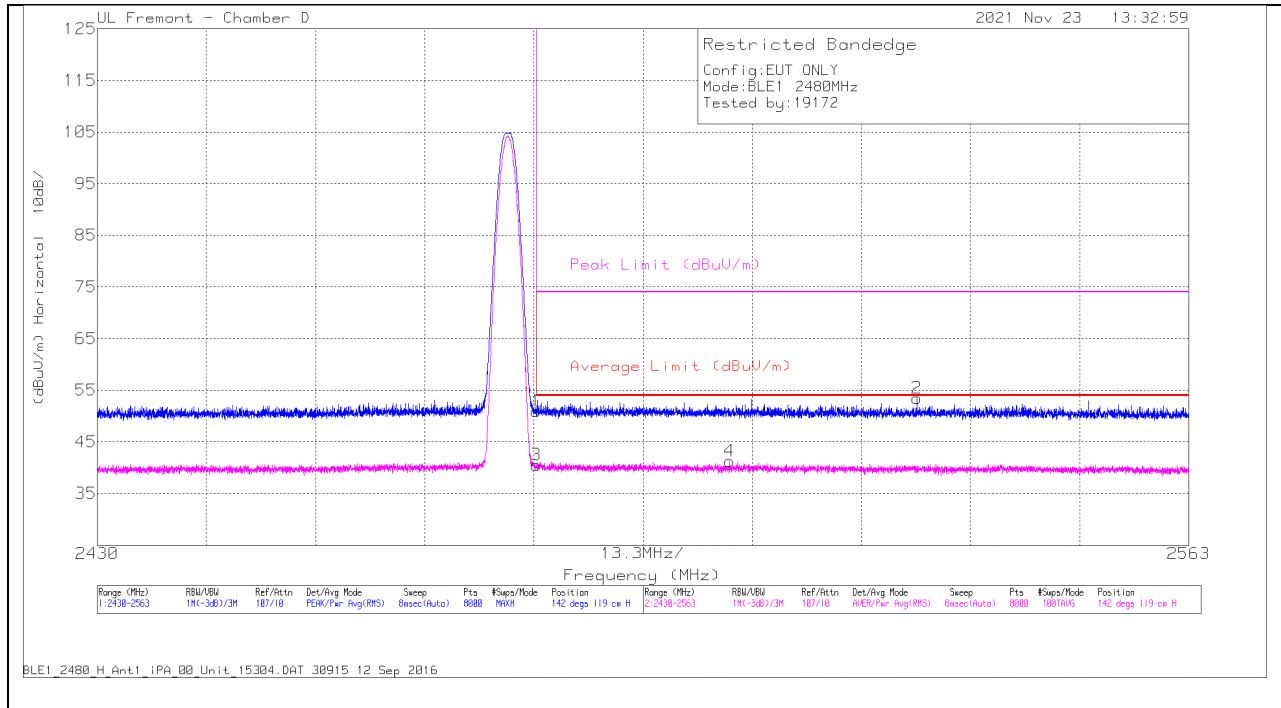


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/CbI/Ftr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.58	PK	32.1	-20.7	49.98	-	-	74	-24.02	121	314	V
2	* 2339.464	41.69	PK	31.9	-20.9	52.69	-	-	74	-21.31	121	314	V
3	* 2390	27.95	RMS	32.1	-20.7	39.35	54	-14.65	-	-	121	314	V
4	* 2377.329	28.78	RMS	32.1	-20.7	40.18	54	-13.82	-	-	121	314	V

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

PK - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

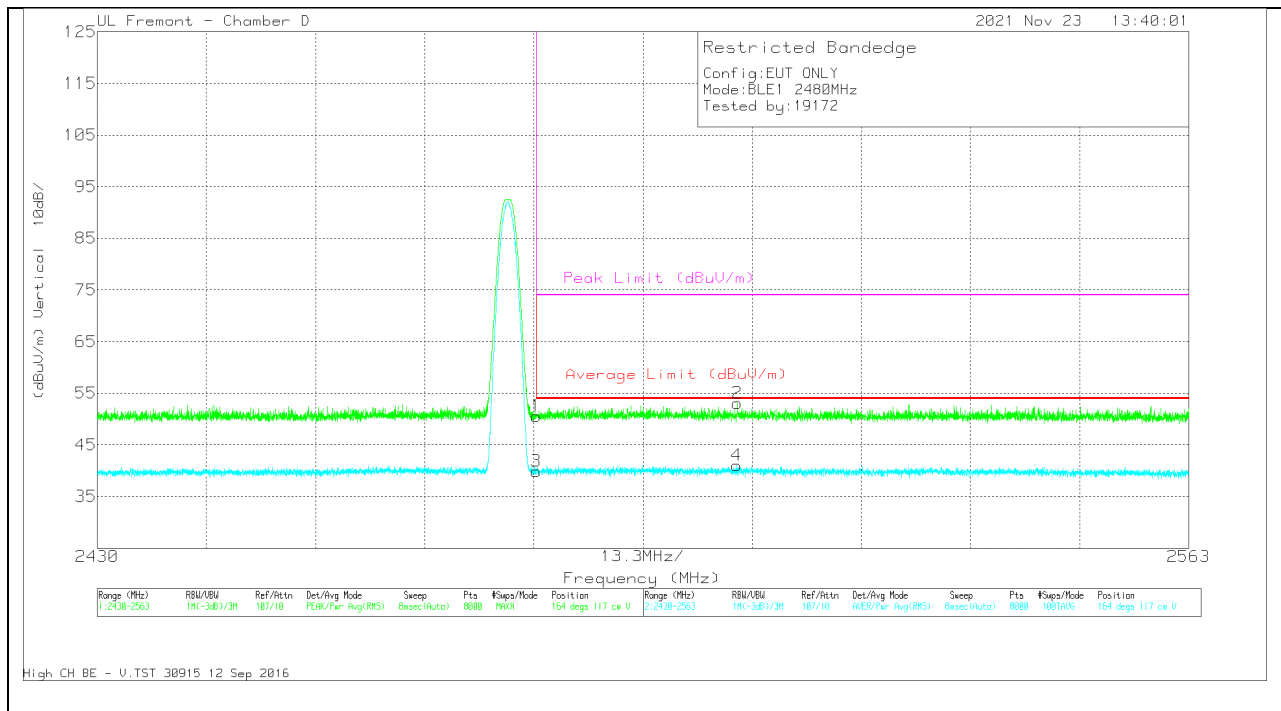
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Ampl/Ch/Filt/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.98	Pk	32.7	-20.7	50.98	-	-	74	-23.02	142	119	H
3	* 2483.5	28.56	RMS	32.7	-20.7	40.56	54	-13.44	-	-	142	119	H
4	2507.033	29.17	RMS	32.7	-20.6	41.27	54	-12.73	-	-	142	119	H
2	2529.895	41.44	Pk	32.6	-20.6	53.44	-	-	74	-20.56	142	119	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Ampl/Cbl/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.53	Pk	32.7	-20.7	50.53	-	-	74	-23.47	164	117	V
3	* 2483.5	27.92	RMS	32.7	-20.7	39.92	54	-14.08	-	-	164	117	V
4	2507.881	28.93	RMS	32.7	-20.6	41.03	54	-12.97	-	-	164	117	V
2	2507.997	40.88	Pk	32.7	-20.5	53.08	-	-	74	-20.92	164	117	V

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

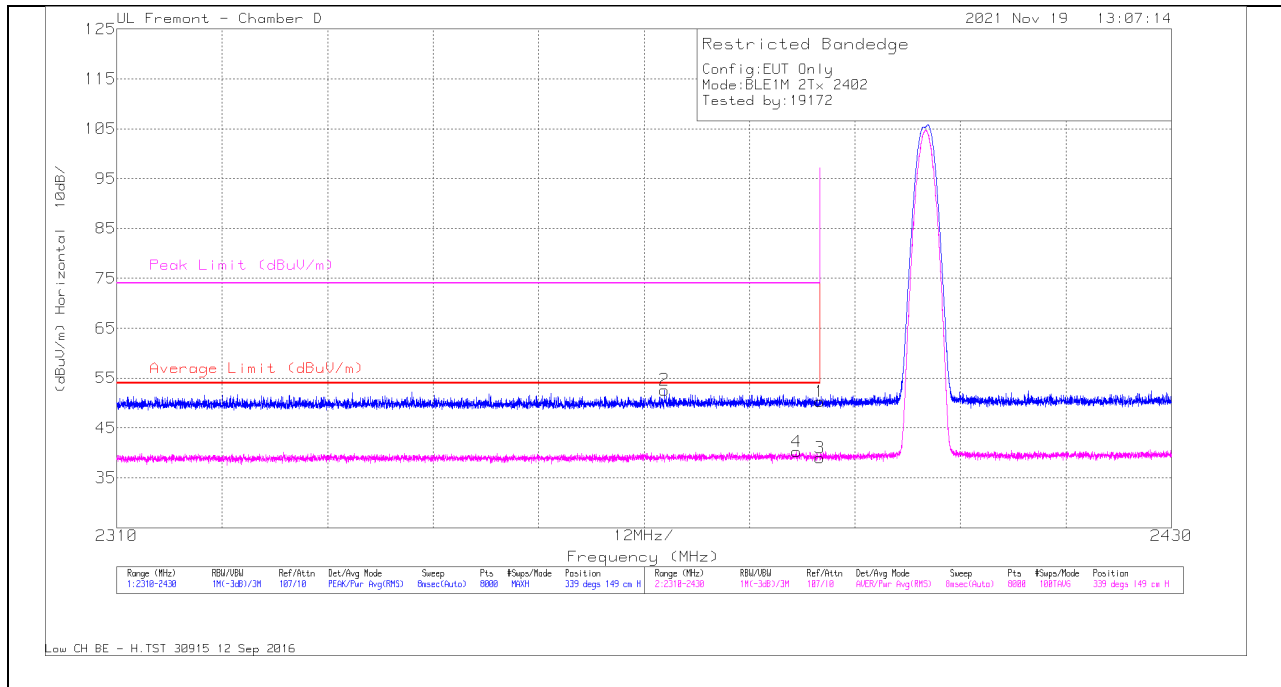
Pk - Peak detector

RMS - RMS detection

10.2.7. LOW POWER BLE TXBF (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



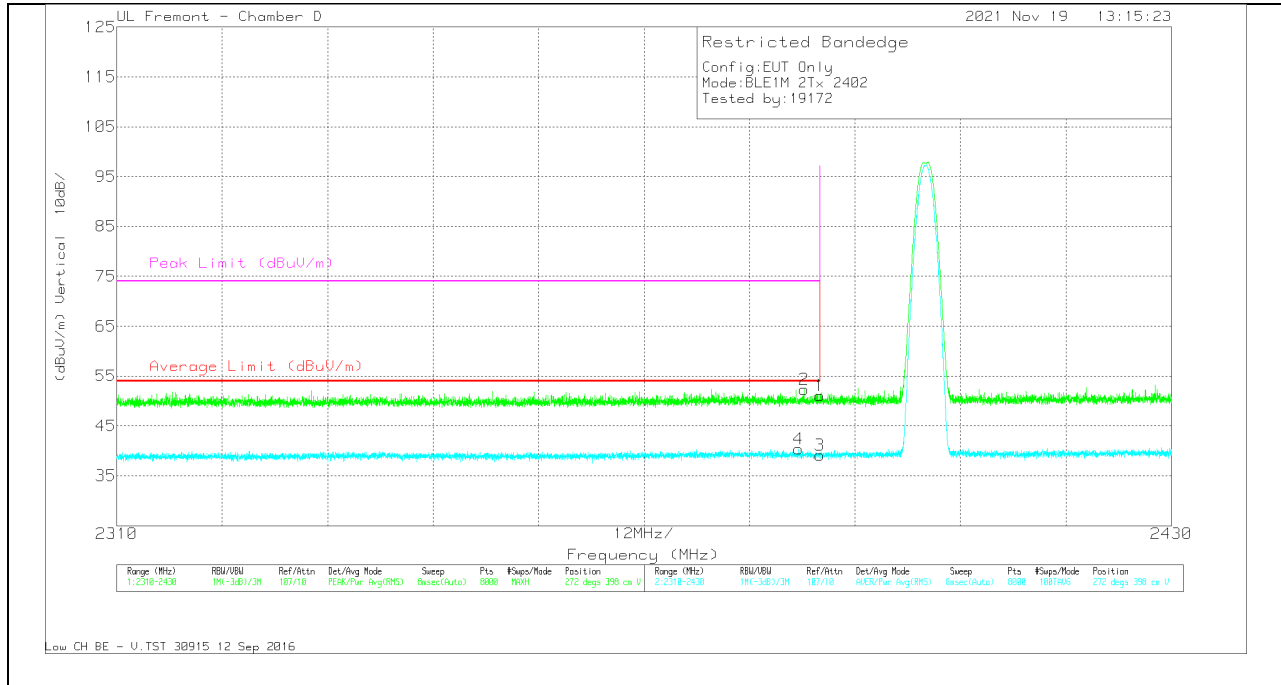
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.91	Pk	32.1	-20.7	50.31	-	-	74	-23.69	339	149	H
2	* 2372.3183	41.43	Pk	32	-20.8	52.63	-	-	74	-21.37	339	149	H
3	* 2390	27.59	RMS	32.1	-20.7	38.99	54	-15.01	-	-	339	149	H
4	* 2387.3353	28.99	RMS	32.1	-20.8	40.29	54	-13.71	-	-	339	149	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

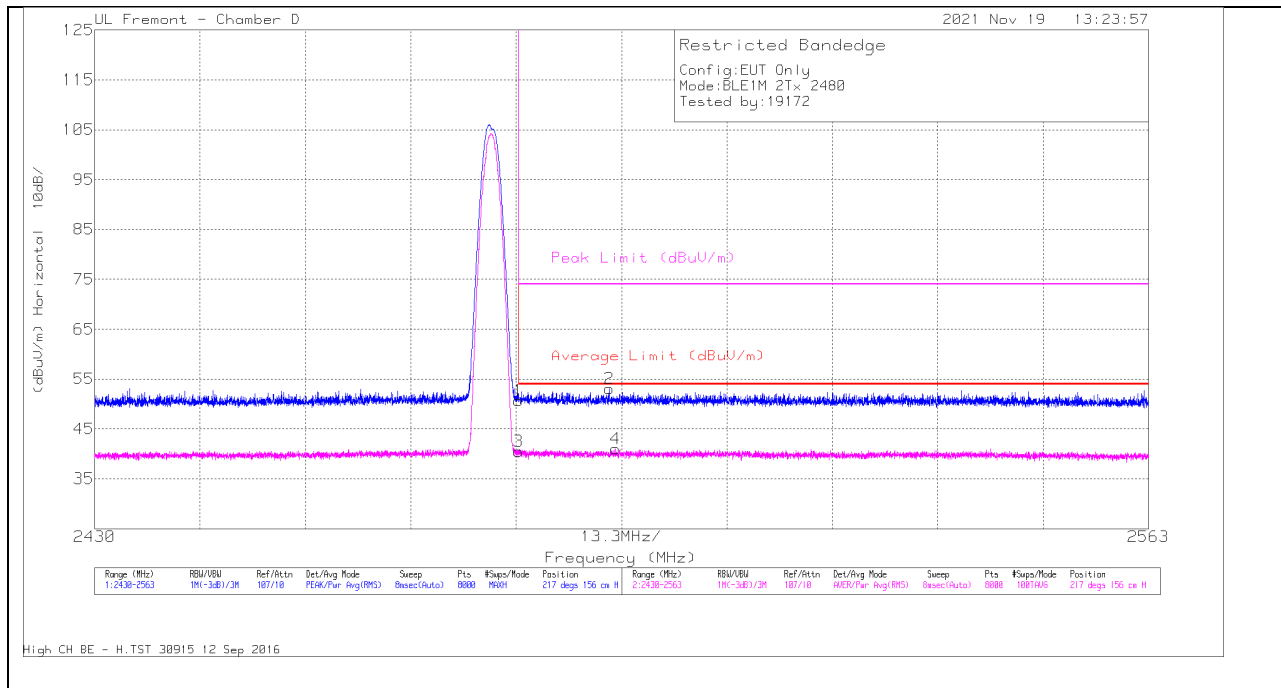


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.62	Pk	32.1	-20.7	51.02	-	-	74	-22.98	272	398	V
2	* 2388.1904	40.93	Pk	32.1	-20.7	52.33	-	-	74	-21.67	272	398	V
3	* 2390	27.78	RMS	32.1	-20.7	39.18	54	-14.82	-	-	272	398	V
4	* 2387.6054	29.04	RMS	32.1	-20.8	40.34	54	-13.66	-	-	272	398	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

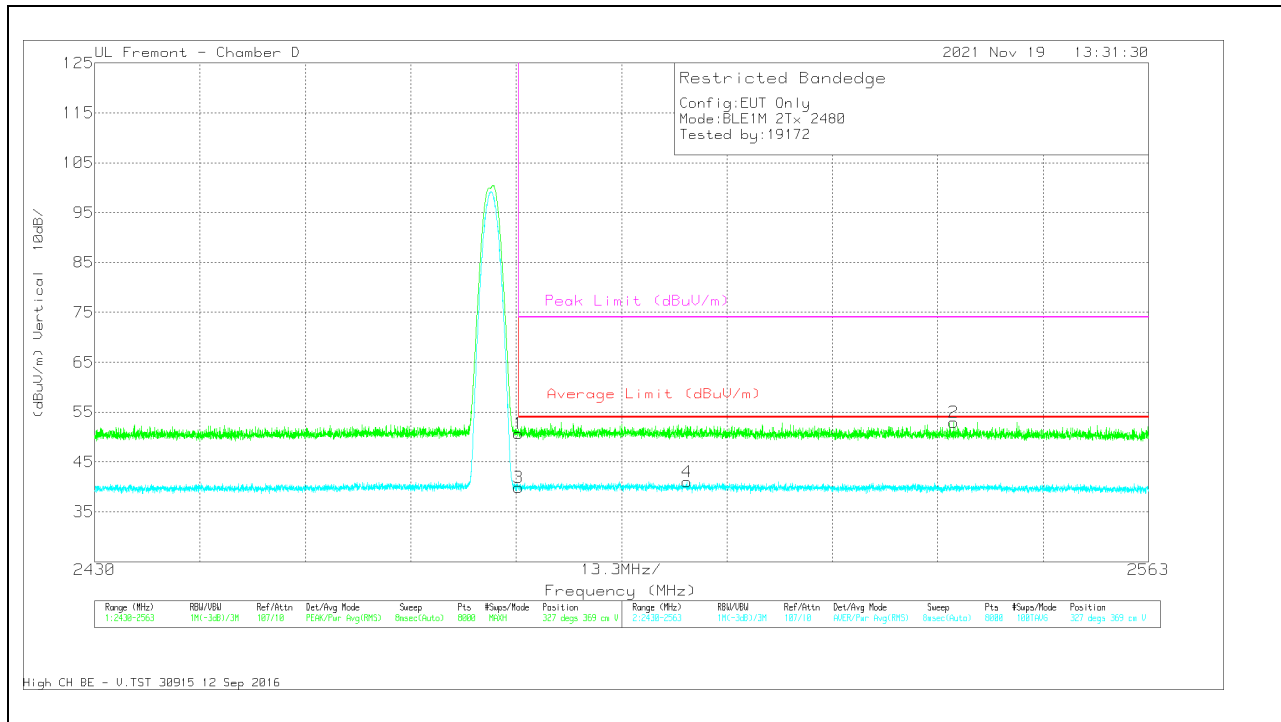
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.69	Pk	32.7	-20.7	50.69	-	-	74	-23.31	217	156	H
2	* 2494.9284	41.02	Pk	32.8	-20.7	53.12	-	-	74	-20.88	217	156	H
3	* 2483.5	28.46	RMS	32.7	-20.7	40.46	54	-13.54	-	-	217	156	H
4	* 2495.7265	28.86	RMS	32.8	-20.6	41.06	54	-12.94	-	-	217	156	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT



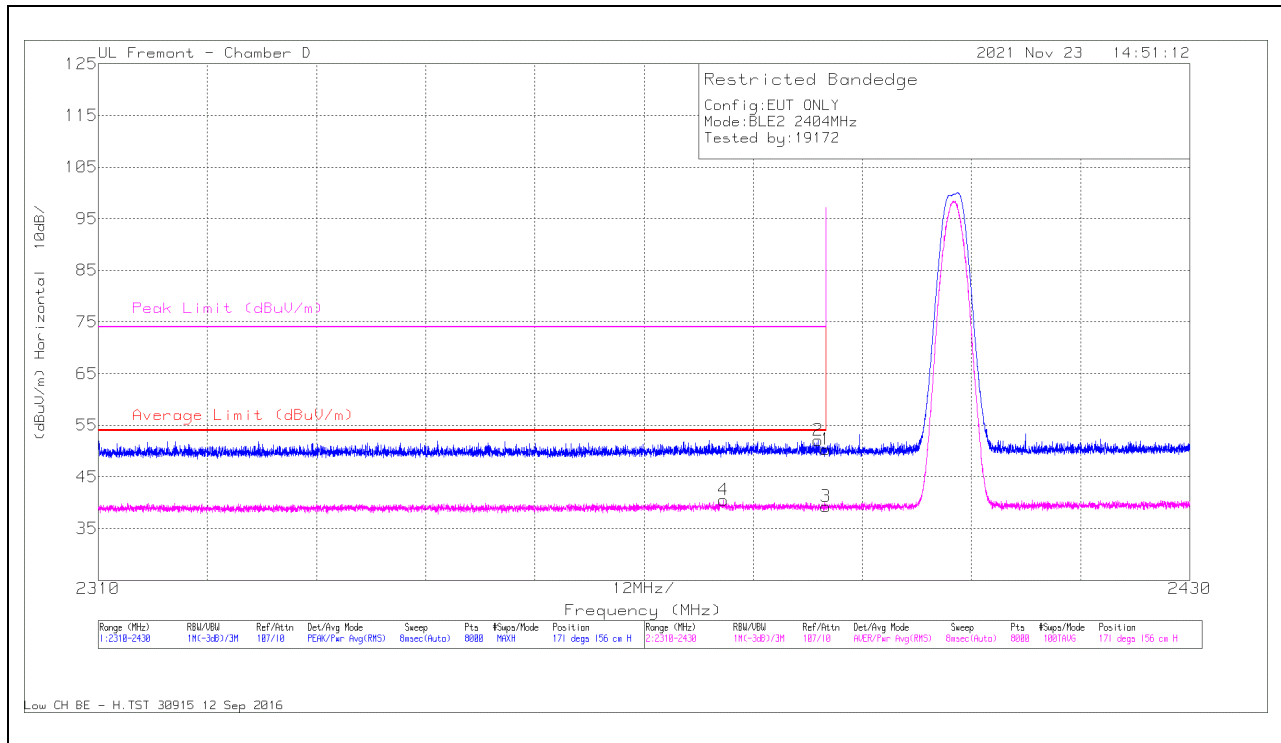
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.7	Pk	32.7	-20.7	50.7	-	-	74	-23.3	327	369	V
3	* 2483.5	27.93	RMS	32.7	-20.7	39.93	54	-14.07	-	-	327	369	V
4	2504.7716	29.06	RMS	32.7	-20.7	41.06	54	-12.94	-	-	327	369	V
2	2538.408	41.09	Pk	32.4	-20.5	52.99	-	-	74	-21.01	327	369	V

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

Pk - Peak detector

RMS - RMS detection

10.2.8. LOW POWER BLE (2Mbps)

ANT 2**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

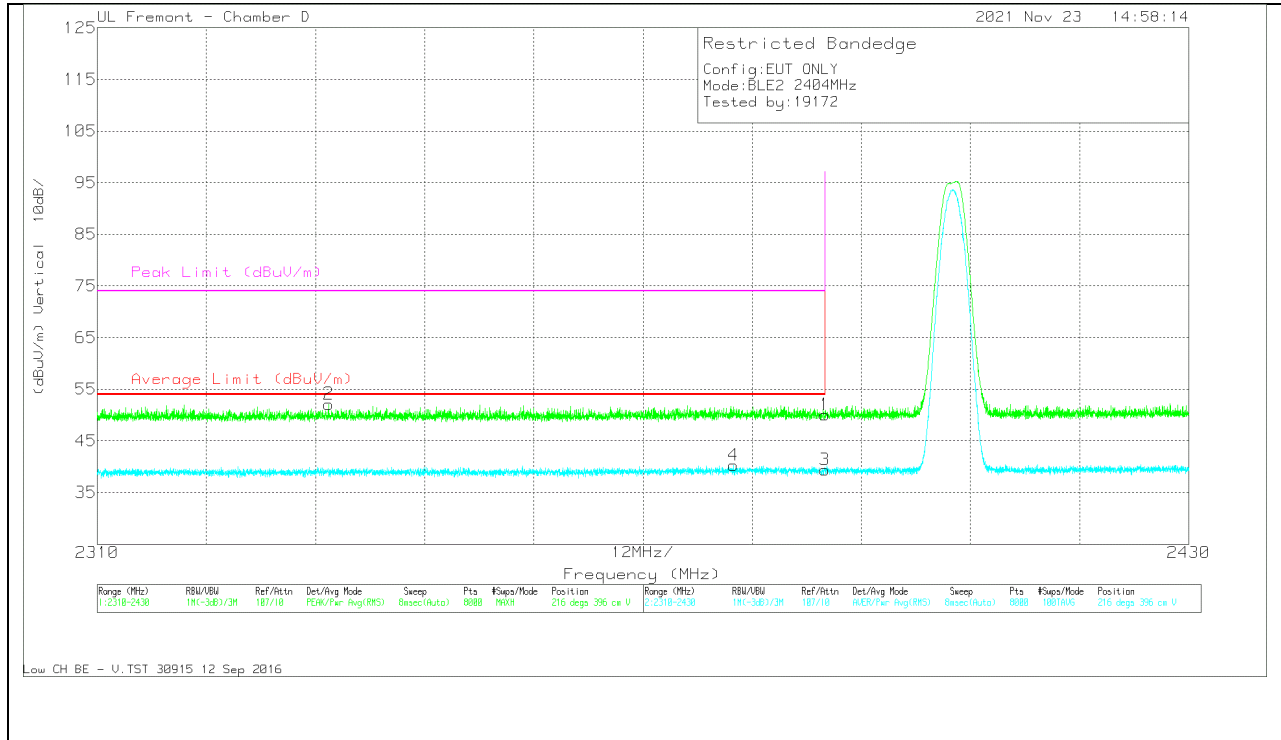
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Ampl/Cbll/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.87	Pk	32.1	-20.7	50.27	-	-	74	-23.73	171	156	H
2	* 2389.151	40.7	Pk	32.1	-20.7	52.1	-	-	74	-21.9	171	156	H
3	* 2390	27.81	RMS	32.1	-20.7	39.21	54	-14.79	-	-	171	156	H
4	* 2378.739	29.16	RMS	32.1	-20.8	40.46	54	-13.54	-	-	171	156	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

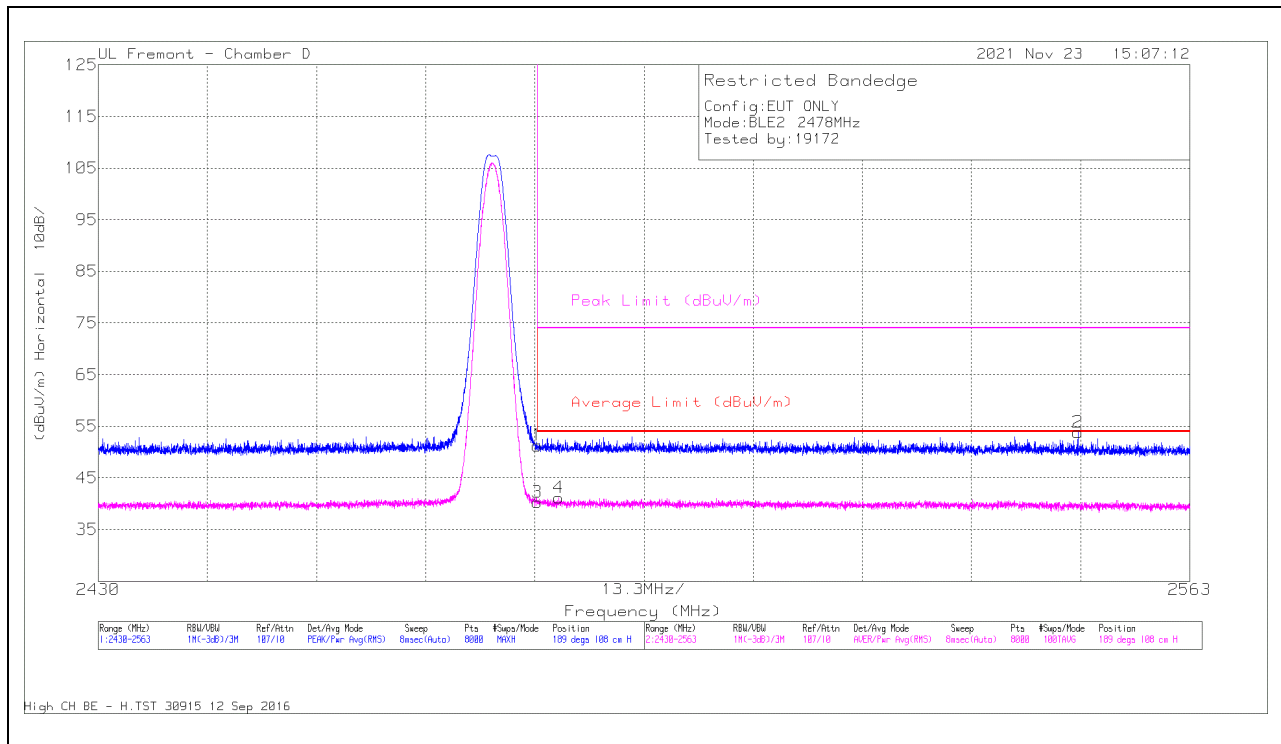


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/CbI/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.71	PK	32.1	-20.7	50.11	-	-	74	-23.89	216	396	V
2	* 2335.413	41.13	PK	31.9	-20.9	52.13	-	-	74	-21.87	216	396	V
3	* 2390	28.02	RMS	32.1	-20.7	39.42	54	-14.58	-	-	216	396	V
4	* 2379.954	28.99	RMS	32.1	-20.8	40.29	54	-13.71	-	-	216	396	V

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

PK - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

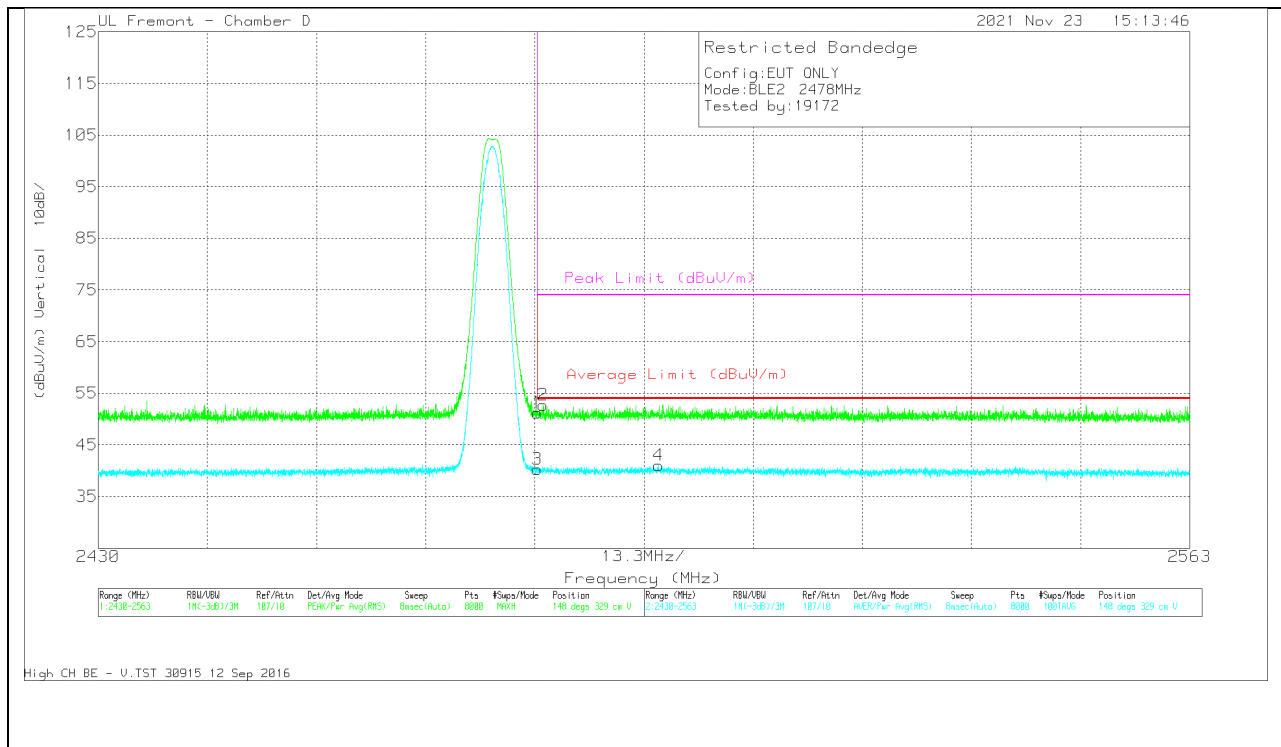
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Ampl/Cbl/FiltriPa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.25	Pk	32.7	-20.7	51.25	-	-	74	-22.75	189	108	H
3	* 2483.5	28.28	RMS	32.7	-20.7	40.28	54	-13.72	-	-	189	108	H
4	* 2486.083	29.15	RMS	32.7	-20.7	41.15	54	-12.85	-	-	189	108	H
2	2549.365	41.98	Pk	32.3	-20.5	53.78	-	-	74	-20.22	189	108	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

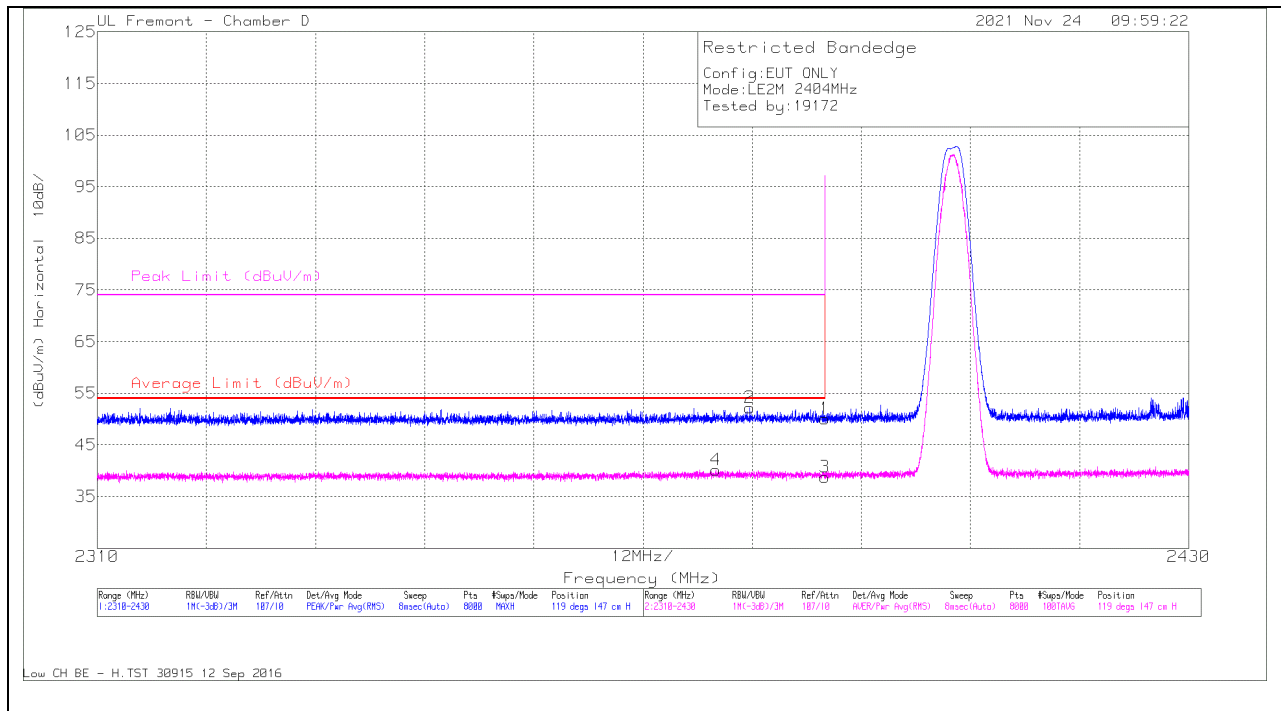


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Ampl/Cb1/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.14	Pk	32.7	-20.7	51.14	-	-	74	-22.86	148	329	V
2	* 2484.221	40.75	Pk	32.7	-20.7	52.75	-	-	74	-21.25	148	329	V
3	* 2483.5	28.31	RMS	32.7	-20.7	40.31	54	-13.69	-	-	148	329	V
4	* 2498.237	28.78	RMS	32.8	-20.6	40.98	54	-13.02	-	-	148	329	V

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

Pk - Peak detector

RMS - RMS detection

ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

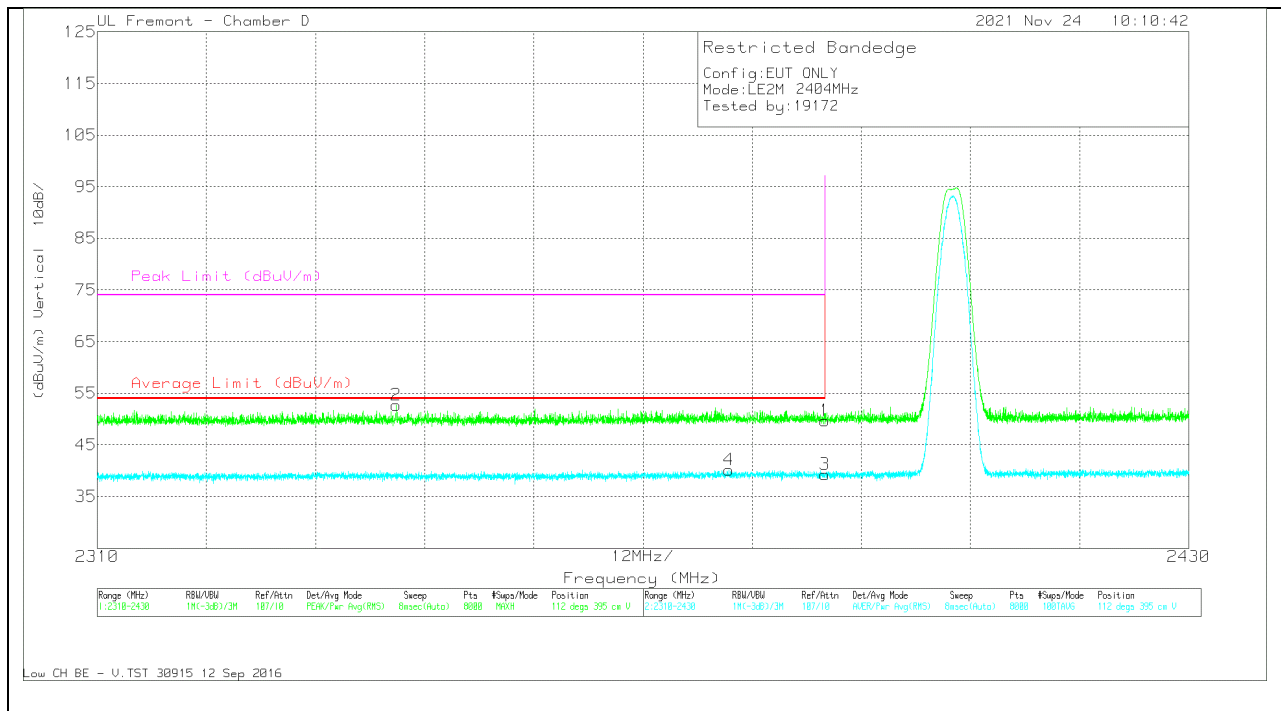
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Ampl/Cbl/Filt/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.67	PK	32.1	-20.7	50.07	-	-	74	-23.93	119	147	H
2	* 2381.74	40.86	PK	32.1	-20.8	52.16	-	-	74	-21.84	119	147	H
3	* 2390	27.35	RMS	32.1	-20.7	38.75	54	-15.25	-	-	119	147	H
4	* 2377.989	28.87	RMS	32.1	-20.8	40.17	54	-13.83	-	-	119	147	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT

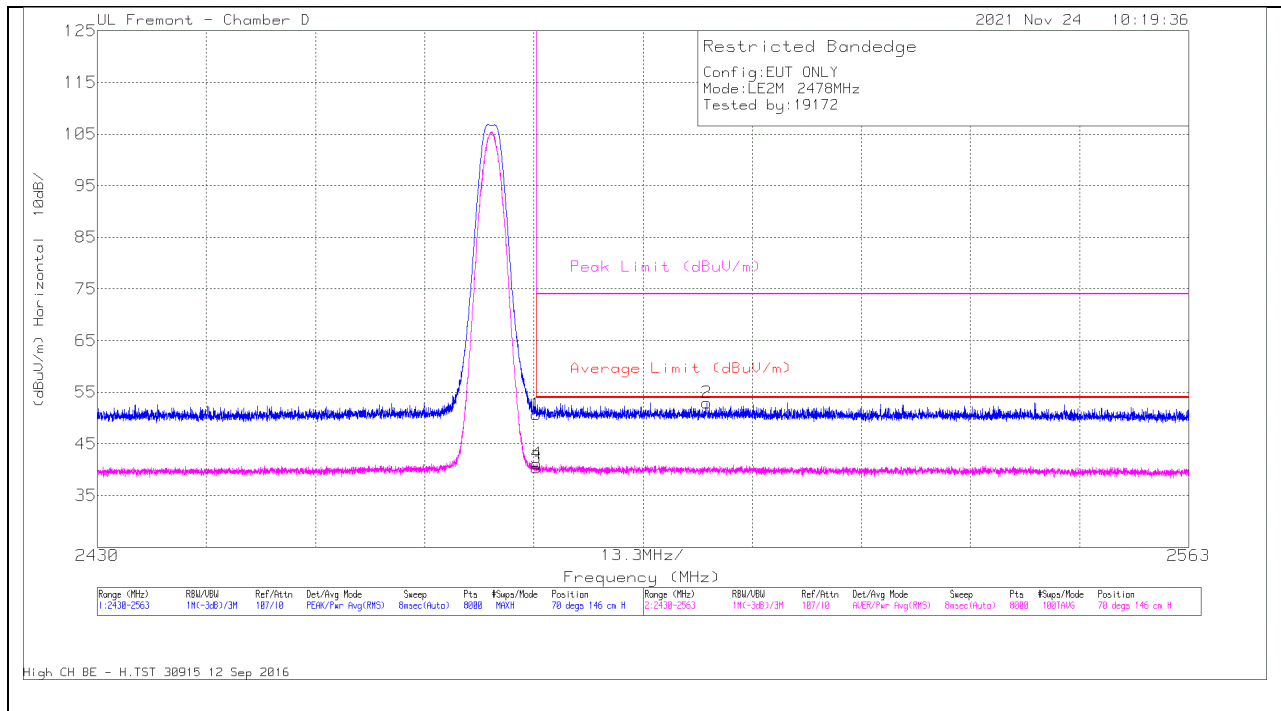


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/CbI/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.27	PK	32.1	-20.7	49.67	-	-	74	-24.33	112	395	V
2	* 2342.854	41.61	PK	31.9	-20.8	52.71	-	-	74	-21.29	112	395	V
3	* 2390	27.86	RMS	32.1	-20.7	39.26	54	-14.74	-	-	112	395	V
4	* 2379.444	28.8	RMS	32.1	-20.8	40.1	54	-13.9	-	-	112	395	V

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

PK - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

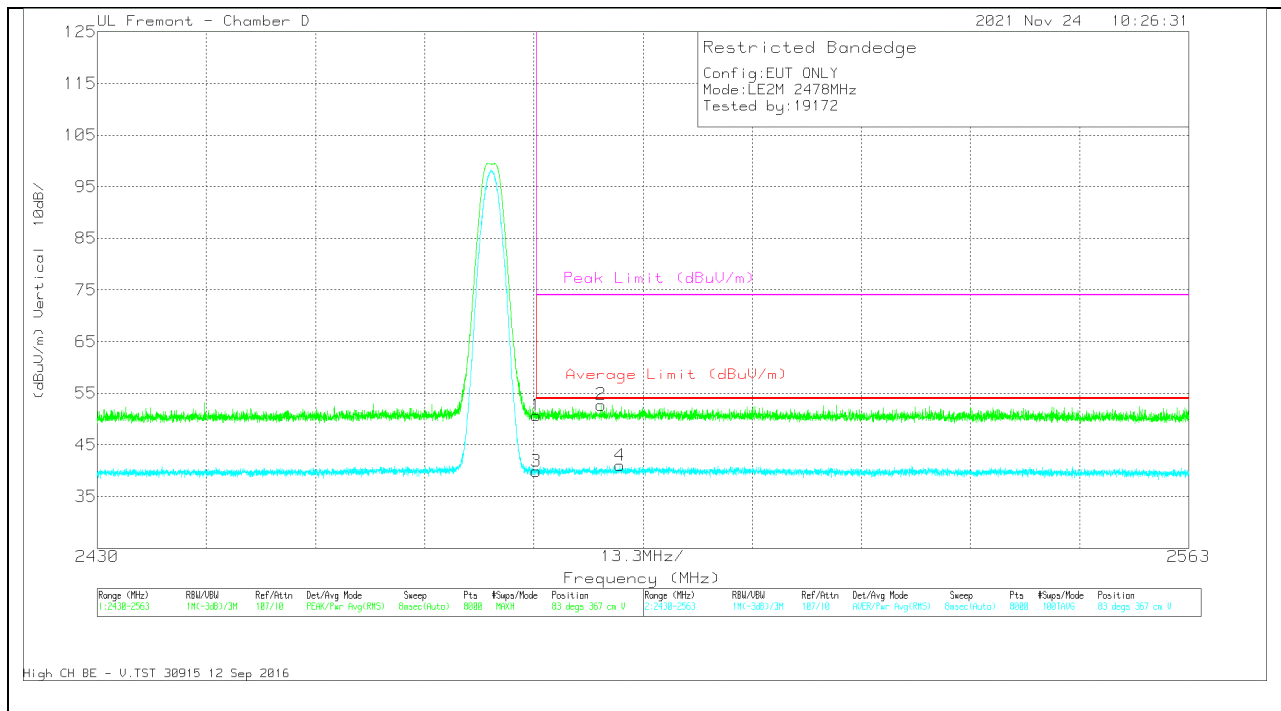
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.73	Pk	32.7	-20.7	50.73	-	-	74	-23.27	70	146	H
3	* 2483.5	28.34	RMS	32.7	-20.7	40.34	54	-13.66	-	-	70	146	H
4	* 2483.589	29.09	RMS	32.7	-20.7	41.09	54	-12.91	-	-	70	146	H
2	2504.273	40.98	Pk	32.7	-20.7	52.98	-	-	74	-21.02	70	146	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/CbI/Fitr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.72	PK	32.7	-20.7	50.72	-	-	74	-23.28	83	367	V
2	* 2491.387	40.66	PK	32.8	-20.7	52.76	-	-	74	-21.24	83	367	V
3	* 2483.5	27.87	RMS	32.7	-20.7	39.87	54	-14.13	-	-	83	367	V
4	* 2493.698	28.94	RMS	32.8	-20.7	41.04	54	-12.96	-	-	83	367	V

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

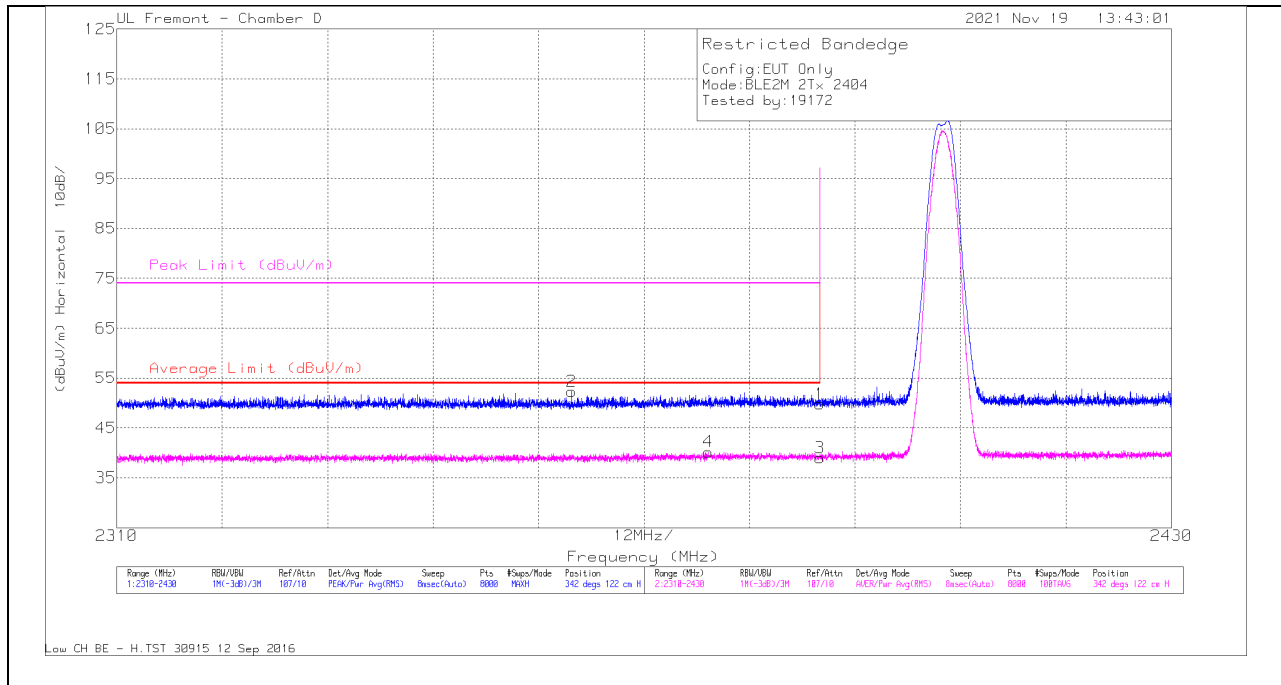
PK - Peak detector

RMS - RMS detection

10.2.9. LOW POWER BLE TXBF (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



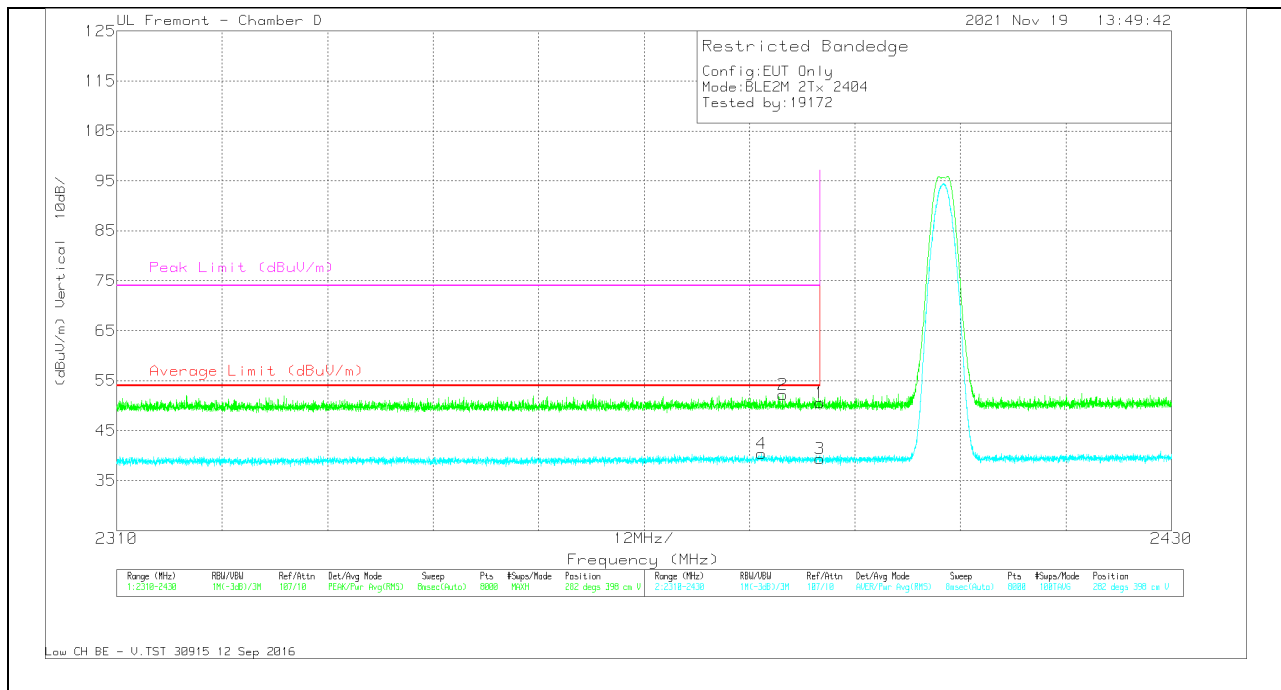
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.36	Pk	32.1	-20.7	49.76	-	-	74	-24.24	342	122	H
2	* 2361.7419	41.21	Pk	31.9	-20.8	52.31	-	-	74	-21.69	342	122	H
3	* 2390	27.66	RMS	32.1	-20.7	39.06	54	-14.94	-	-	342	122	H
4	* 2377.314	28.8	RMS	32.1	-20.7	40.2	54	-13.8	-	-	342	122	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

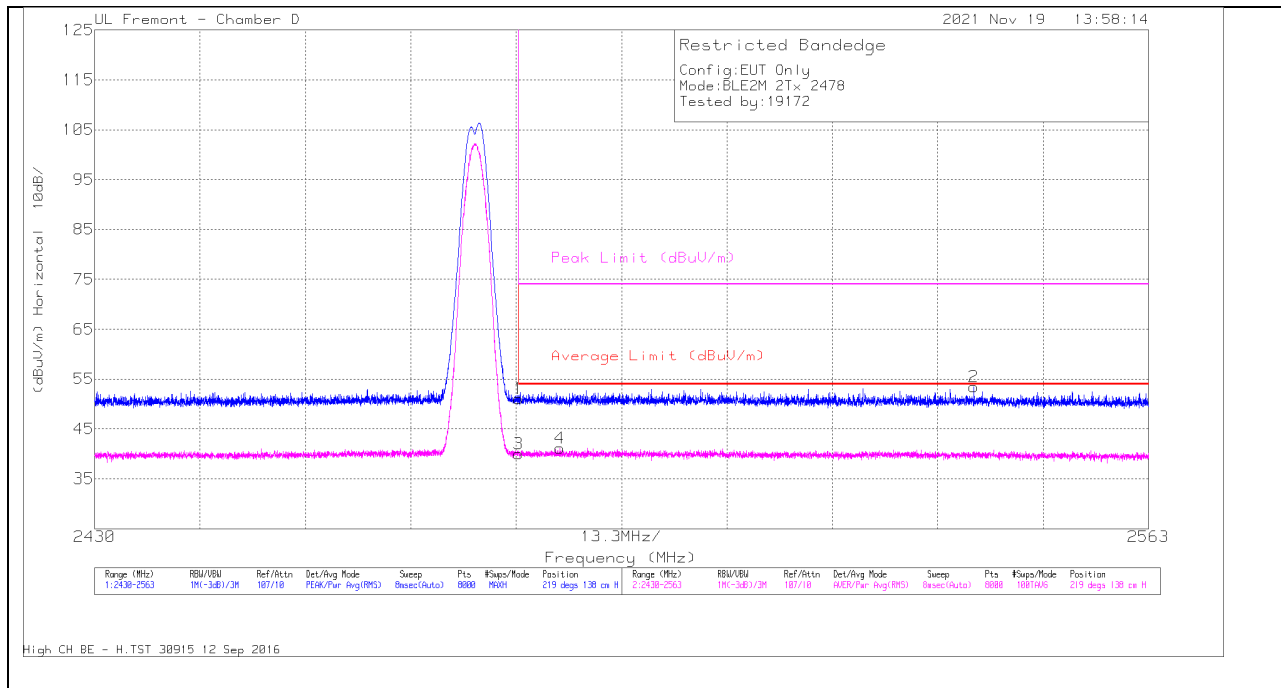


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dBm)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.13	Pk	32.1	-20.7	50.53	-	-	74	-23.47	282	398	V
2	* 2385.7601	40.92	Pk	32.1	-20.8	52.22	-	-	74	-21.78	282	398	V
3	* 2390	28	RMS	32.1	-20.7	39.4	54	-14.6	-	-	282	398	V
4	* 2383.3898	29.1	RMS	32.1	-20.8	40.4	54	-13.6	-	-	282	398	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

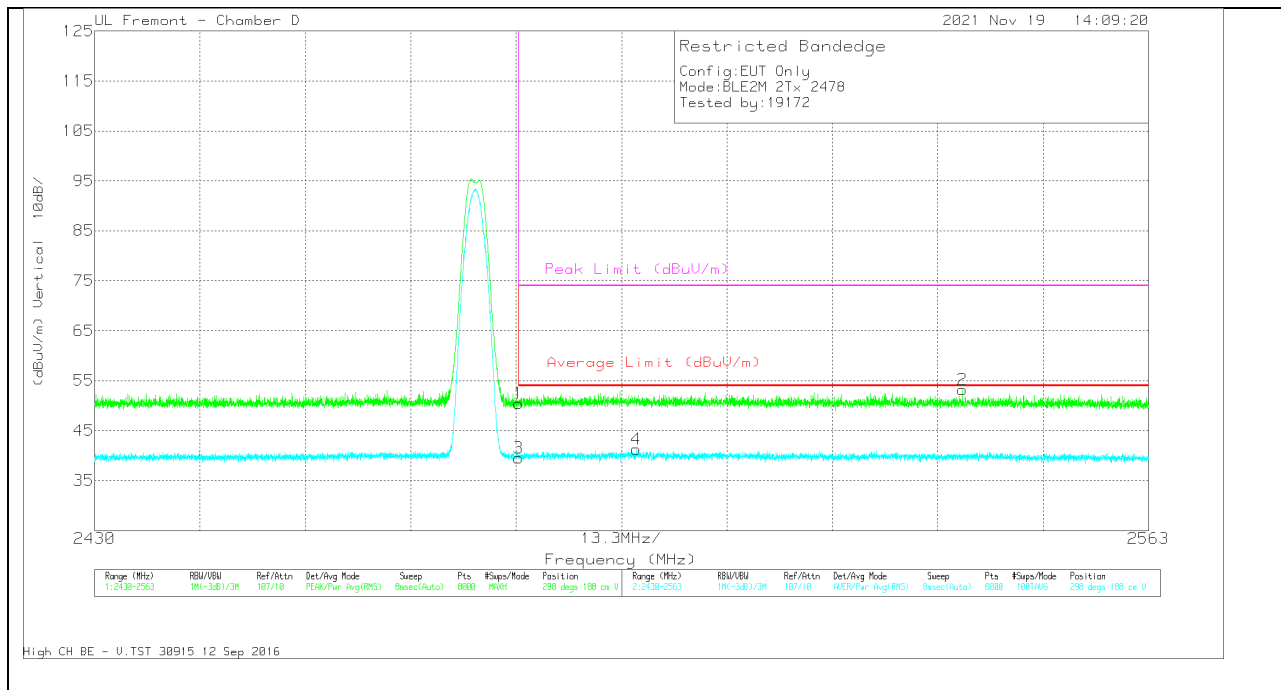
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.02	Pk	32.7	-20.7	51.02	-	-	74	-22.98	219	138	H
3	* 2483.5	28.03	RMS	32.7	-20.7	40.03	54	-13.97	-	-	219	138	H
4	* 2488.7099	29.07	RMS	32.8	-20.7	41.17	54	-12.83	-	-	219	138	H
2	2540.952	41.42	Pk	32.4	-20.4	53.42	-	-	74	-20.58	219	138	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/CbllFilt/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.4	Pk	32.7	-20.7	50.4	-	-	74	-23.6	298	188	V
3	* 2483.5	27.55	RMS	32.7	-20.7	39.55	54	-14.45	-	-	298	188	V
4	* 2498.3536	29.11	RMS	32.8	-20.6	41.31	54	-12.69	-	-	298	188	V
2	2539.5221	41.16	Pk	32.4	-20.4	53.16	-	-	74	-20.84	298	188	V

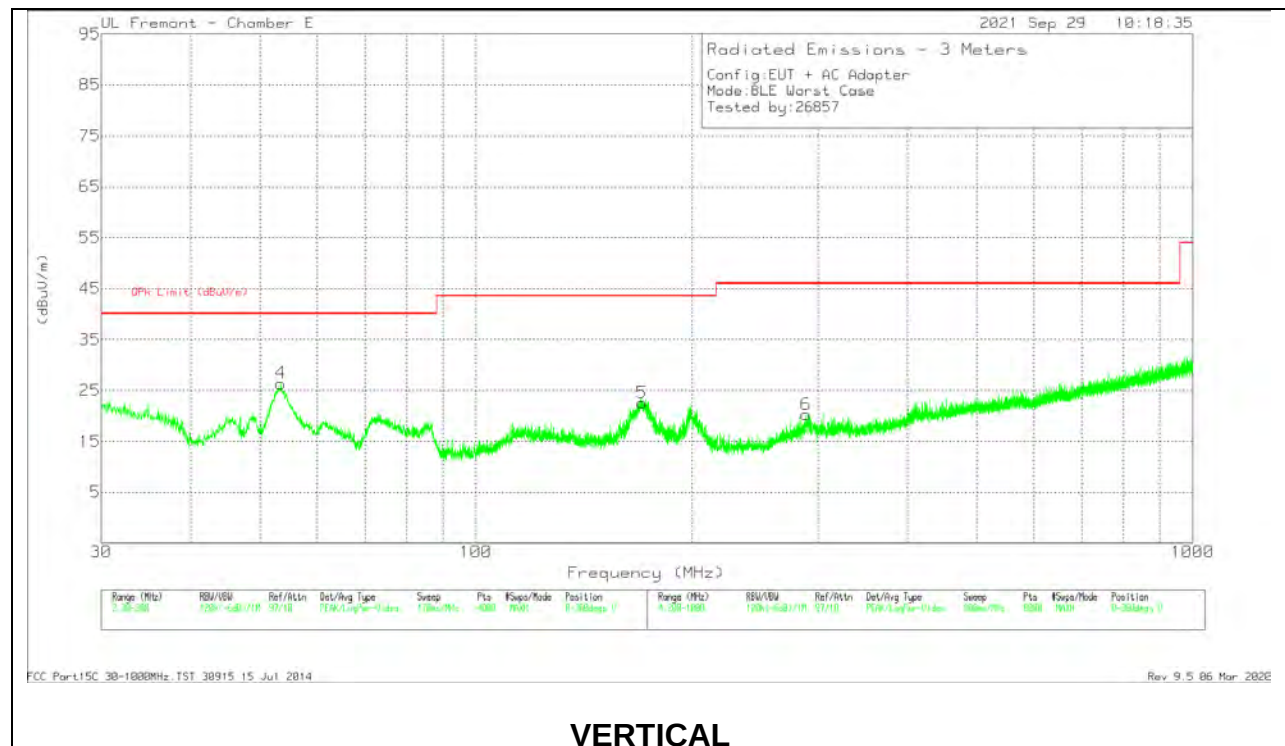
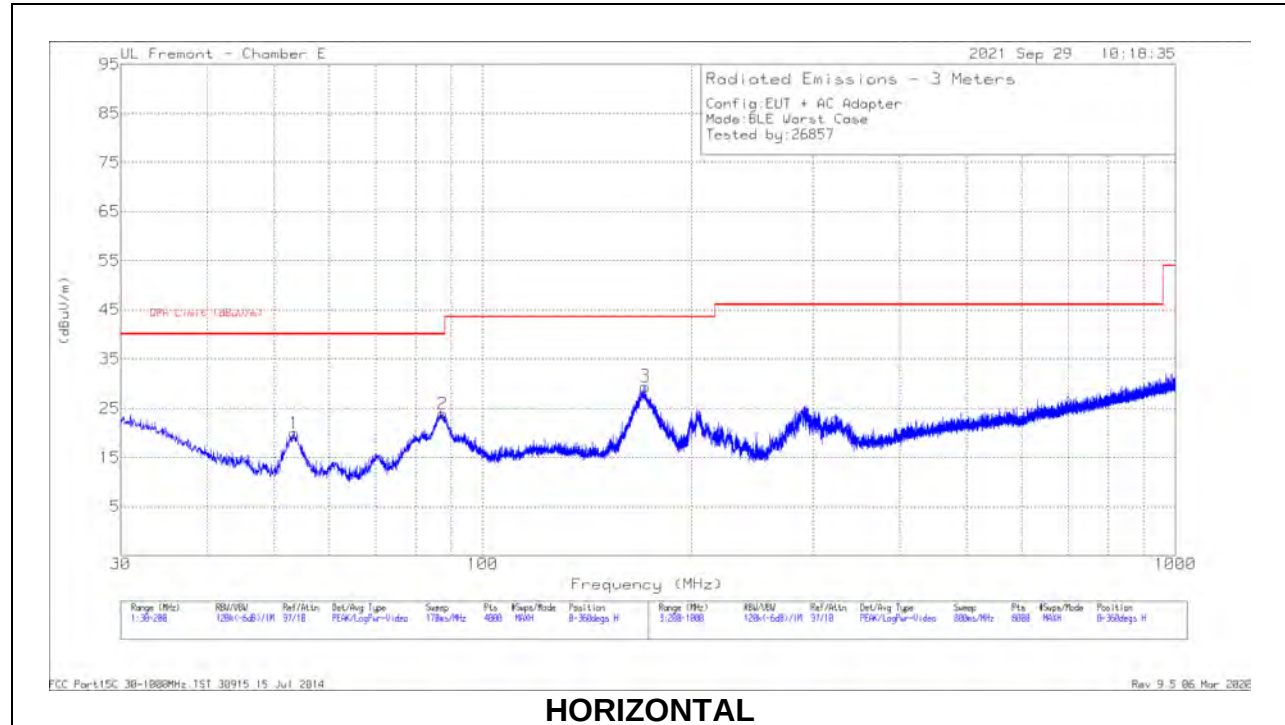
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

10.3. WORST CASE BELOW 1 GHz

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



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 204045 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 171.5191	42.17	Pk	17.4	-30.1	29.47	43.52	-14.05	0-360	98	H
5	* 170.5414	35.17	Pk	17.5	-30.1	22.57	43.52	-20.95	0-360	100	V
1	53.4236	37.92	Pk	13.2	-31.2	19.92	40	-20.08	0-360	401	H
4	53.4661	44.32	Pk	13.2	-31.2	26.32	40	-13.68	0-360	100	V
2	87.4749	41.52	Pk	13.3	-30.9	23.92	40	-16.08	0-360	301	H
6	289.0116	30.31	Pk	19.1	-29.2	20.21	46.02	-25.81	0-360	99	V

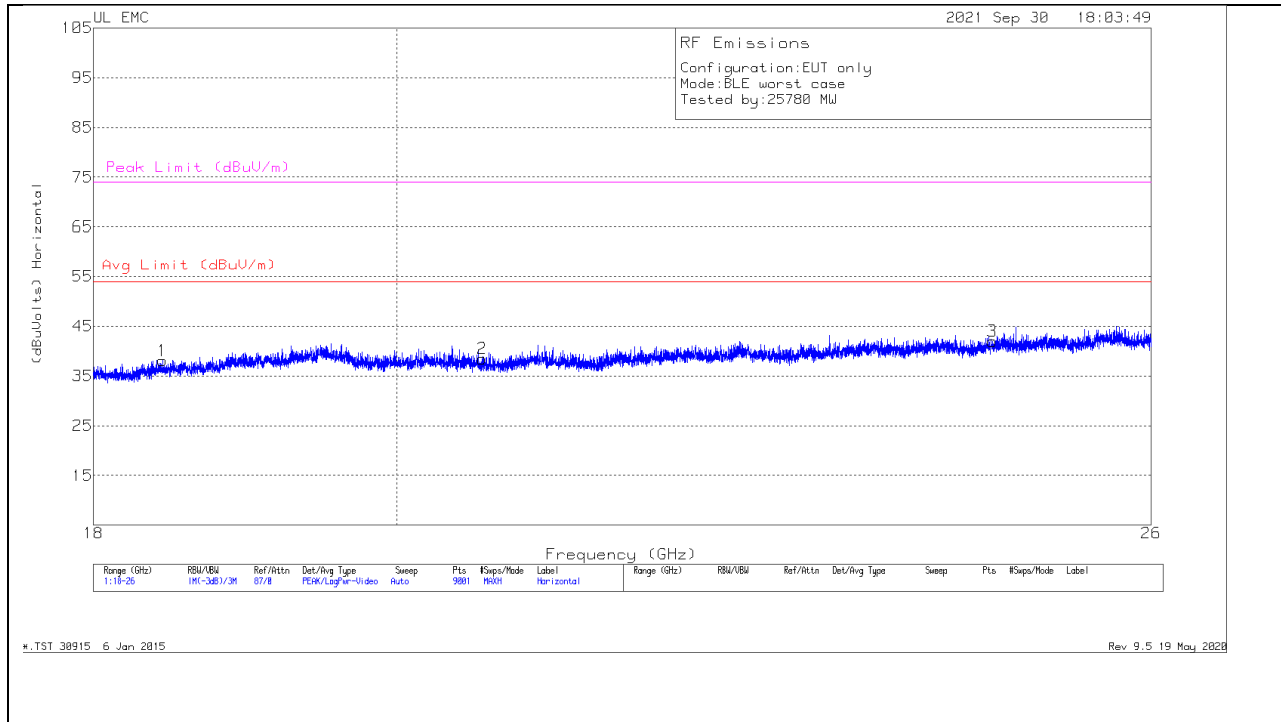
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

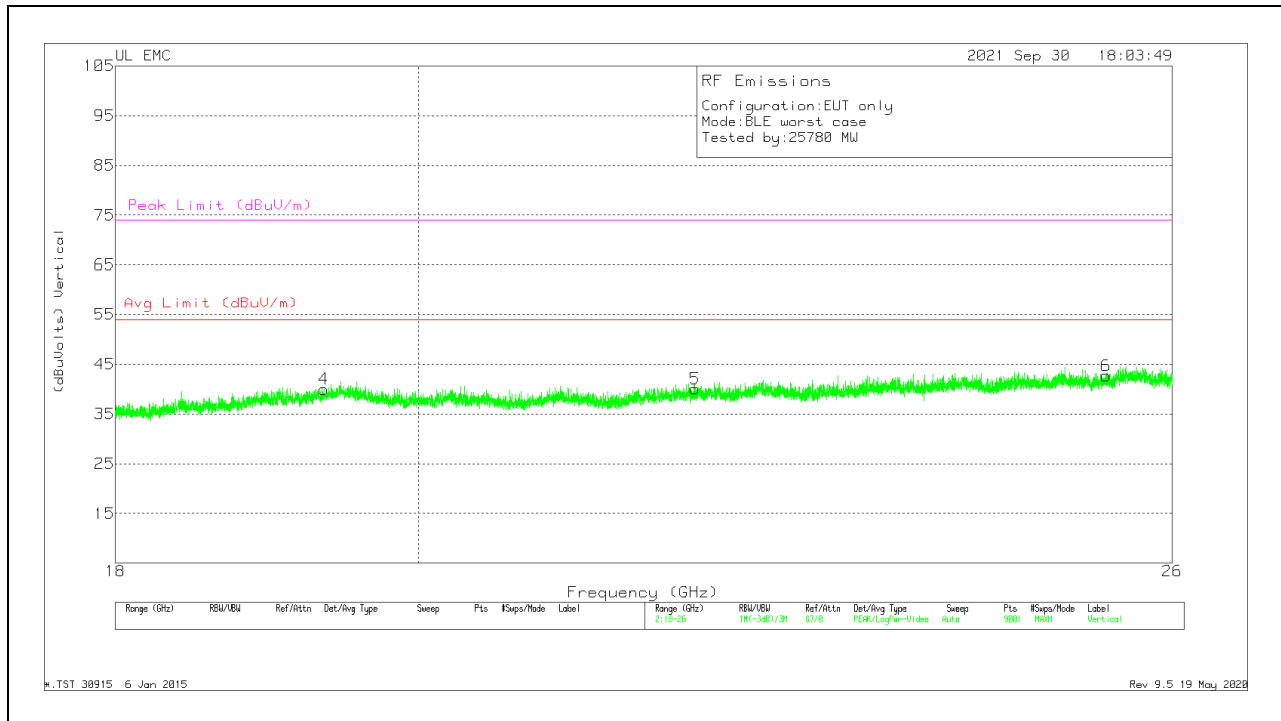
10.4. WORST CASE 18-26 GHz

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

HORIZONTAL



VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 81140	Ampl/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	18.43733	35.7	Pk	32.4	-20.5	-9.5	38.1	54	-15.9	74	-35.9
2	20.60444	34.87	Pk	32.9	-19.8	-9.5	38.47	54	-15.53	74	-35.53
3	24.60267	35.15	Pk	33.8	-17.5	-9.5	41.95	54	-12.05	74	-32.05
4	19.35467	34.99	Pk	32.7	-18.2	-9.5	39.99	54	-14.01	74	-34.01
5	22.02133	35.37	Pk	33.3	-19.1	-9.5	40.07	54	-13.93	74	-33.93
6	25.40711	36.09	Pk	34.2	-18.1	-9.5	42.69	54	-11.31	74	-31.31

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	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.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

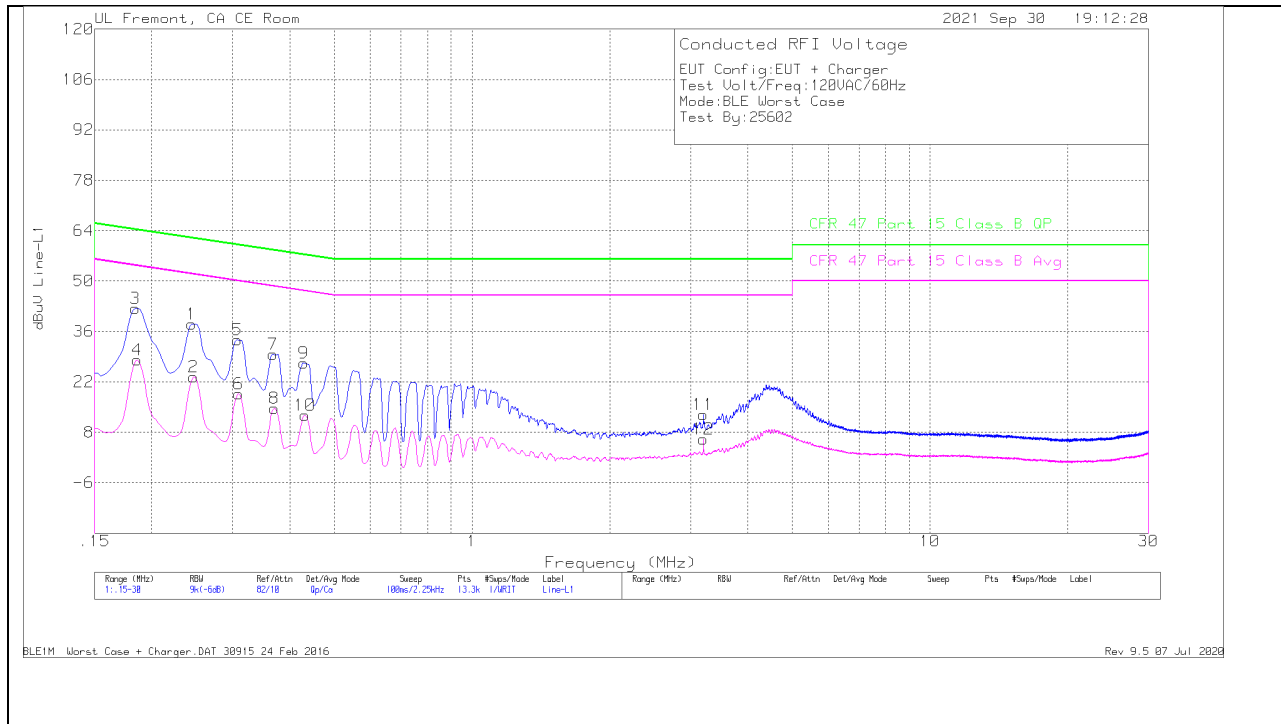
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

11.1. AC POWER LINE WITH AC/DC ADAPTER

LINE 1 RESULTS



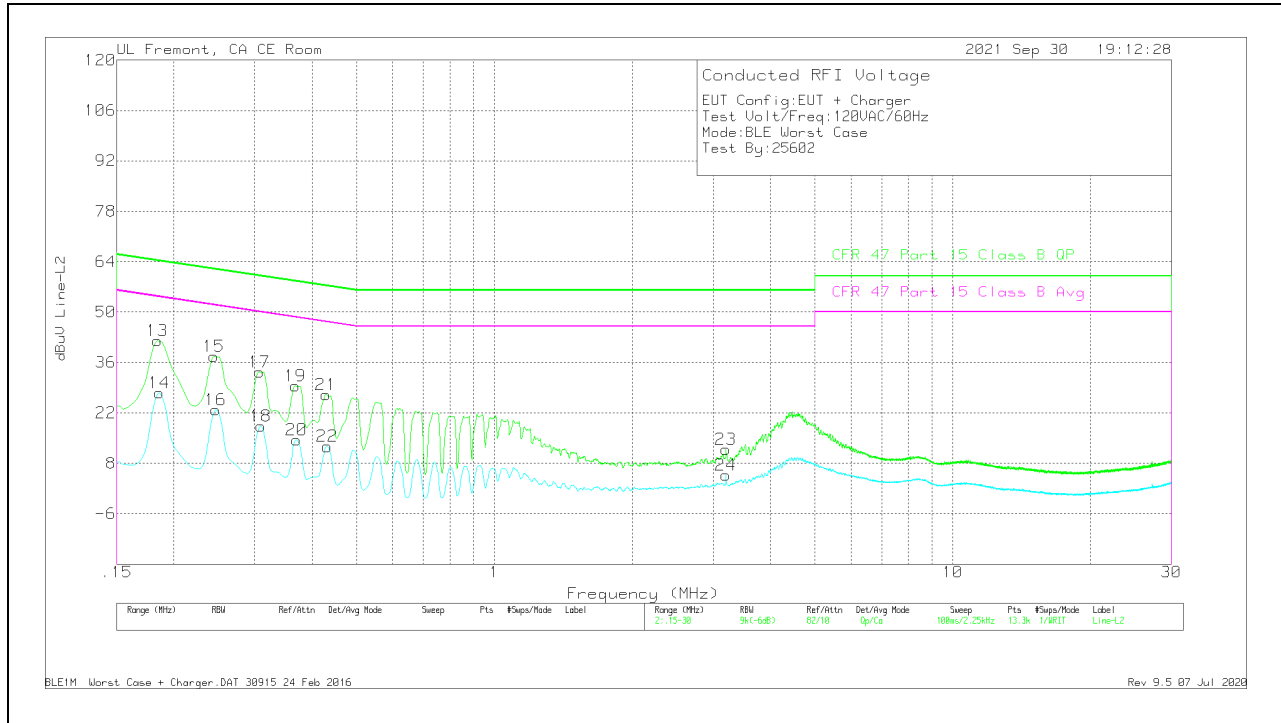
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE018644 6 L1	LC Cables C1&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)M argin (dB)
2	.24675	14.1	Ca	0	0	9.3	23.4	-	-	51.87	-28.47
4	.186	18.74	Ca	0	0	9.4	28.14	-	-	54.21	-26.07
6	.30975	9.31	Ca	0	0	9.3	18.61	-	-	49.98	-31.37
8	.3705	5.37	Ca	0	0	9.3	14.67	-	-	48.49	-33.82
10	.43125	3.48	Ca	0	0	9.3	12.78	-	-	47.23	-34.45
12	3.19875	-3.3	Ca	0	.1	9.3	6.1	-	-	46	-39.9
1	.2445	28.8	Qp	0	0	9.3	38.1	61.94	-23.84	-	-
3	.18375	33.07	Qp	0	0	9.4	42.47	64.31	-21.84	-	-
5	.3075	24.34	Qp	0	0	9.3	33.64	60.04	-26.4	-	-
7	.36825	20.39	Qp	0	0	9.3	29.69	58.54	-28.85	-	-
9	.429	18	Qp	0	0	9.3	27.3	57.27	-29.97	-	-
11	3.19875	3.57	Qp	0	.1	9.3	12.97	56	-43.03	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

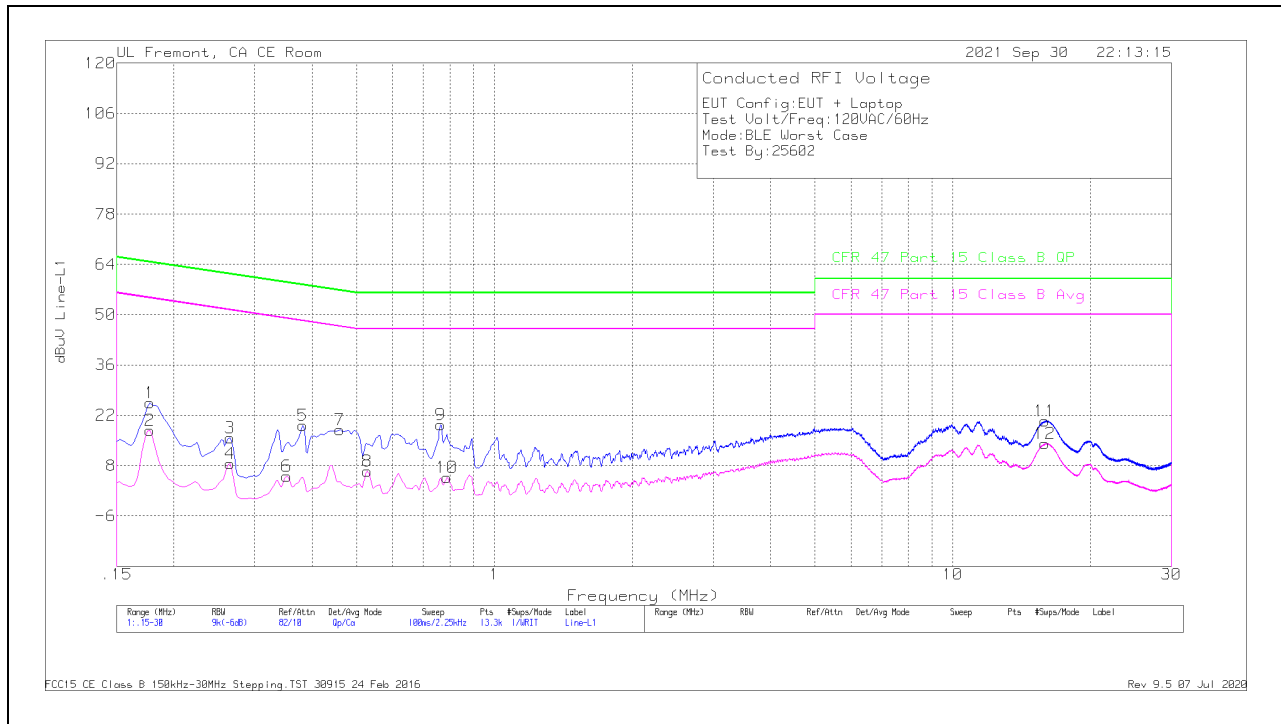
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE018644 6 L2	LC Cables C2&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)M argin (dB)
14	.186	18.22	Ca	0	0	9.4	27.62	-	-	54.21	-26.59
16	.24675	13.63	Ca	0	0	9.3	22.93	-	-	51.87	-28.94
18	.30975	8.95	Ca	0	0	9.3	18.25	-	-	49.98	-31.73
20	.3705	5.23	Ca	0	0	9.3	14.53	-	-	48.49	-33.96
22	.43125	3.36	Ca	0	0	9.3	12.66	-	-	47.23	-34.57
24	3.19875	-4.73	Ca	0	.1	9.3	4.67	-	-	46	-41.33
13	.18375	32.67	Qp	0	0	9.4	42.07	64.31	-22.24	-	-
15	.2445	28.45	Qp	0	0	9.3	37.75	61.94	-24.19	-	-
17	.3075	24.08	Qp	0	0	9.3	33.38	60.04	-26.66	-	-
19	.36825	20.21	Qp	0	0	9.3	29.51	58.54	-29.03	-	-
21	.429	17.79	Qp	0	0	9.3	27.09	57.27	-30.18	-	-
23	3.19875	2.42	Qp	0	.1	9.3	11.82	56	-44.18	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

11.2. AC POWER LINE WITH LAPTOP

LINE 1 RESULTS



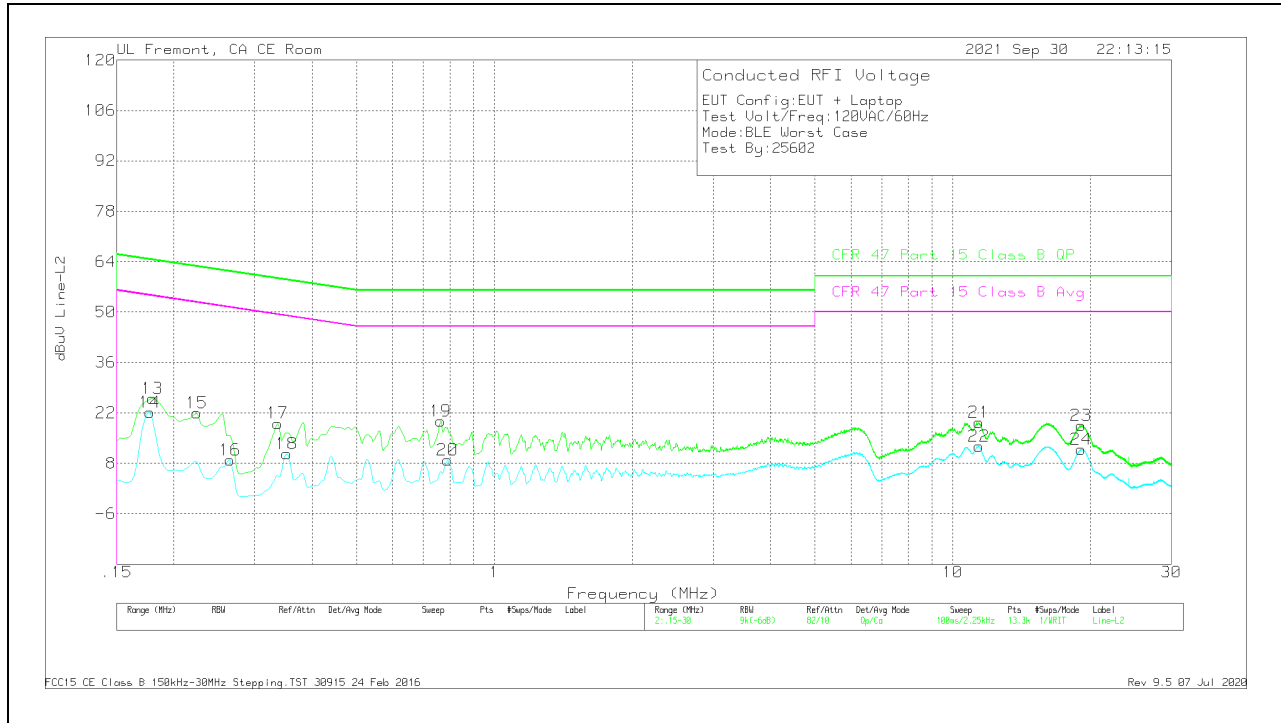
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE018644 6 L1	LC Cables C1&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
2	.177	8.33	Ca	0	0	9.4	17.73	-	-	54.63	-36.9
4	.26475	-6.9	Ca	0	0	9.3	8.61	-	-	51.28	-42.67
6	.3525	-4.25	Ca	0	0	9.3	5.05	-	-	48.9	-43.85
8	.528	-2.91	Ca	0	0	9.3	6.39	-	-	46	-39.61
10	.789	-4.7	Ca	0	.1	9.3	4.7	-	-	46	-41.3
12	15.90225	4.6	Ca	0	.2	9.3	14.1	-	-	50	-35.9
1	.177	16.13	Qp	0	0	9.4	25.53	64.63	-39.1	-	-
3	.26475	6.45	Qp	0	0	9.3	15.75	61.28	-45.53	-	-
5	.38175	9.84	Qp	0	0	9.3	19.14	58.24	-39.1	-	-
7	.4605	8.61	Qp	0	0	9.3	17.91	56.68	-38.77	-	-
9	.76425	9.98	Qp	0	.1	9.3	19.38	56	-36.62	-	-
11	15.89663	10.97	Qp	0	.2	9.3	20.47	60	-39.53	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE018644 6 L2	LC Cables C2&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)M argin (dB)
14	.177	12.7	Ca	0	0	9.4	22.1	-	-	54.63	-32.53
16	.26475	-.47	Ca	0	0	9.3	8.83	-	-	51.28	-42.45
18	.3525	1.32	Ca	0	0	9.3	10.62	-	-	48.9	-38.28
20	.79125	-.4	Ca	0	0	9.3	8.9	-	-	46	-37.1
22	11.4045	3.27	Ca	0	.2	9.3	12.77	-	-	50	-37.23
24	19.04775	2.33	Ca	0	.2	9.3	11.83	-	-	50	-38.17
13	.17925	16.59	Qp	0	0	9.4	25.99	64.52	-38.53	-	-
15	.22425	12.72	Qp	0	0	9.3	22.02	62.66	-40.64	-	-
17	.33675	9.81	Qp	0	0	9.3	19.11	59.28	-40.17	-	-
19	.76425	10.39	Qp	0	0	9.3	19.69	56	-36.31	-	-
21	11.40675	9.85	Qp	0	.2	9.3	19.35	60	-40.65	-	-
23	19.04775	8.94	Qp	0	.2	9.3	18.44	60	-41.56	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to 13911916-EP1V1 for setup photos

END OF TEST REPORT