

TEST REPORT

Report Number: 15496224-E5V2

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

Model : A3256 (Parent)
A3522, A3523, A3524 (Variants)

Brand : APPLE

FCC ID : BCG-E8949A (Parent)
BCG-E8957A, BCG-E8958A, BCG-E8959A (Variants)

IC : 579C-E8949A (Parent)
579C-E8957A, 579C-E8958A, 579C-E8959A (Variants)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 3
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
2025-07-02

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-07-01	Initial Issue	--
V2	2025-07-02	Address TCB questions section 6, 9	David Collins

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. TEST SUMMARY	7
3. TEST METHODOLOGY	7
4. FACILITIES AND ACCREDITATION	8
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	9
5.1. METROLOGICAL TRACEABILITY	9
5.2. DECISION RULES.....	9
5.3. MEASUREMENT UNCERTAINTY.....	9
5.4. SAMPLE CALCULATION	10
6. EQUIPMENT UNDER TEST	11
6.1. EUT DESCRIPTION	11
6.2. MAXIMUM OUTPUT POWER.....	11
6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS.....	11
6.4. SOFTWARE AND FIRMWARE.....	11
6.5. WORST-CASE CONFIGURATION AND MODE	12
6.6. DESCRIPTION OF TEST SETUP.....	13
7. MEASUREMENT METHOD.....	17
8. TEST AND MEASUREMENT EQUIPMENT	18
9. ANTENNA PORT TEST RESULTS.....	19
9.1. ON TIME AND DUTY CYCLE	19
9.2. 99% BANDWIDTH.....	20
9.2.1. HIGH POWER	21
9.3. 6 dB BANDWIDTH.....	22
9.3.1. HIGH POWER	23
9.4. OUTPUT POWER.....	24
9.4.1. HIGH POWER	25
9.4.2. LOW POWER	26
9.5. AVERAGE POWER	27
9.5.1. HIGH POWER	28
9.5.2. LOW POWER	29
9.6. POWER SPECTRAL DENSITY	30
9.6.1. HIGH POWER	31
9.7. CONDUCTED SPURIOUS EMISSIONS.....	32

9.7.1.	HIGH POWER	33
9.7.2.	LOW POWER	35
10.	RADIATED TEST RESULTS	37
10.1.	TRANSMITTER ABOVE 1 GHz.....	39
10.1.1.	ANT2, 802.15.4 HIGH POWER BANDEDGE	39
10.1.2.	ANT2, 802.15.4 LOW POWER BANDEDGE	43
10.1.3.	ANT2, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS	47
10.1.4.	ANT2, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS	53
10.1.5.	ANT1, 802.15.4 HIGH POWER BANDEDGE	59
10.1.6.	ANT1, 802.15.4 LOW POWER BANDEDGE	63
10.1.7.	ANT1, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS	67
10.1.8.	ANT1, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS	73
10.2.	WORST CASE BELOW 1 GHz	79
10.3.	WORST CASE 18-26 GHz	81
11.	AC POWER LINE CONDUCTED EMISSIONS	83
11.1.	AC Power Line With AC/DC Adapter	84
11.2.	AC Power Line with Laptop	86
12.	SETUP PHOTOS	88
APPENDIX A – SPOT CHECK EVALUATION		88

1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: SMARTPHONE

MODEL: A3256 (Parent)
A3522, A3523, A3524 (Variants)

BRAND: APPLE

SERIAL NUMBER: C07HC80009N0000X9N (Conducted)
MGGXVGF973, QXK3X9Y7YY (Radiated)

SAMPLE RECEIPT DATE: 2025-01-16

DATE TESTED: 2025-02-12 to 2025-06-16

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 3	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.

Approved & Released For
UL Verification Services Inc. By:



Frank Ibrahim
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:



David Collins
Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 6.3)
2. Cable loss (see section 6.3)

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 47 CFR Part 2
- FCC 47 CFR Part 15C
- *ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- KDB 558074 D01 15.247 Meas Guidance
- KDB 414788 D01 Radiated Test Site
- KDB 484596 D01 Referencing Test Data
- RSS-GEN Issue 5 + A1 + A2
- RSS-247 Issue 3

*Note: The use of ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 does not deviate from the testing procedures of ANSI C63.10-2020

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc.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.

	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			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

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}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	1.3 dB (Pk), 0.45 dB (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
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

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable

Loss (dB) – Preamp Gain (dB)

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) +

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 Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), Wireless Power Transfer (WPT) and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible.

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	2405 - 2475	802.15.4	21.01	126.18
	Low Power			8.48	7.05
ANT 1	High Power			21.55	142.89
	Low Power			9.83	9.62

6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS

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

Frequency Band (GHz)	Antenna Type	Antenna Peak Gain ANT 2 (dBi)	Antenna Peak Gain ANT 1 (dBi)	Cable Loss ANT 2 (dB)	Cables Loss ANT 1 (dB)
2.4	IFA	-3.8	-1.8	2.1	1.9

The cables were used for RF antenna port tests that had been offset to the test equipment during testing.

Note: ANT 0 and ANT 1 indicated in the power tune-up document pertain to ANT 2 and ANT 1, respectively.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware is Luck23A256.

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X, Y and Z on ANT 2, and ANT 1. It was determined that X (Flatbed) was the worst-case orientation for ANT 2 and ANT 1.

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 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 and 5GHz bands. No noticeable emission was found.

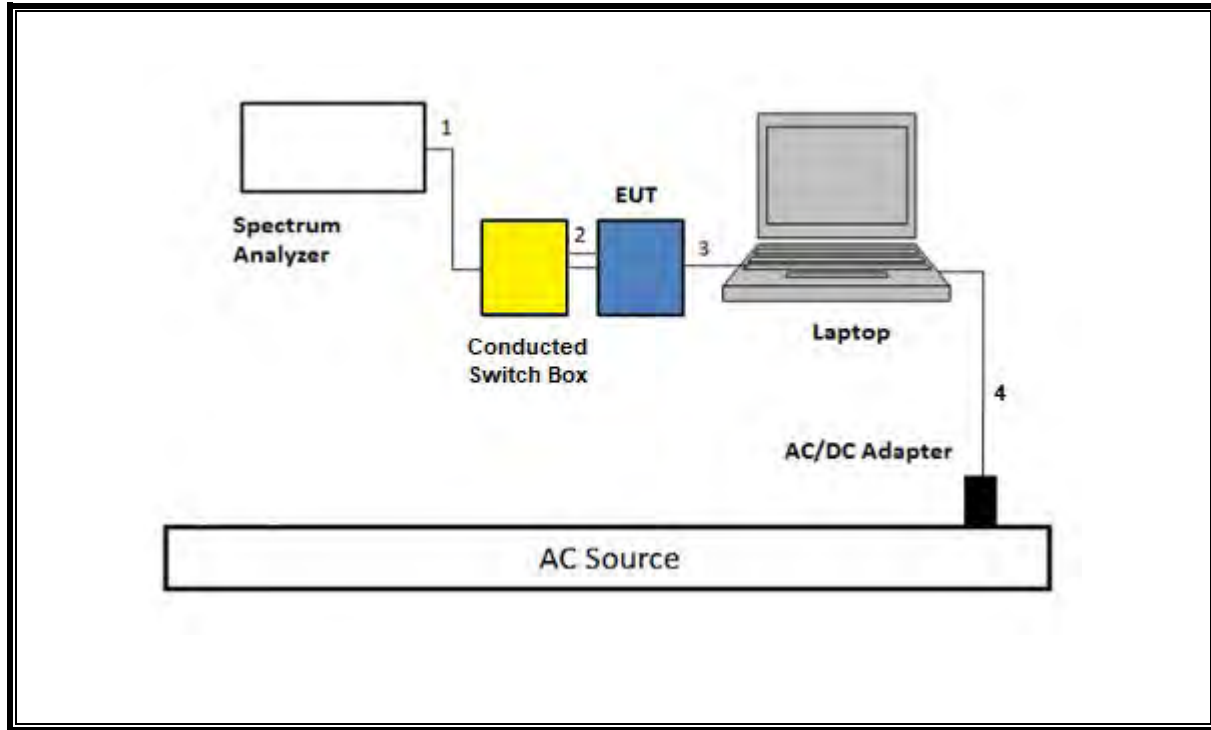
Note: In the Radiated Plots and emissions data, ANT0=ANT2 and ANT1=ANT 1.

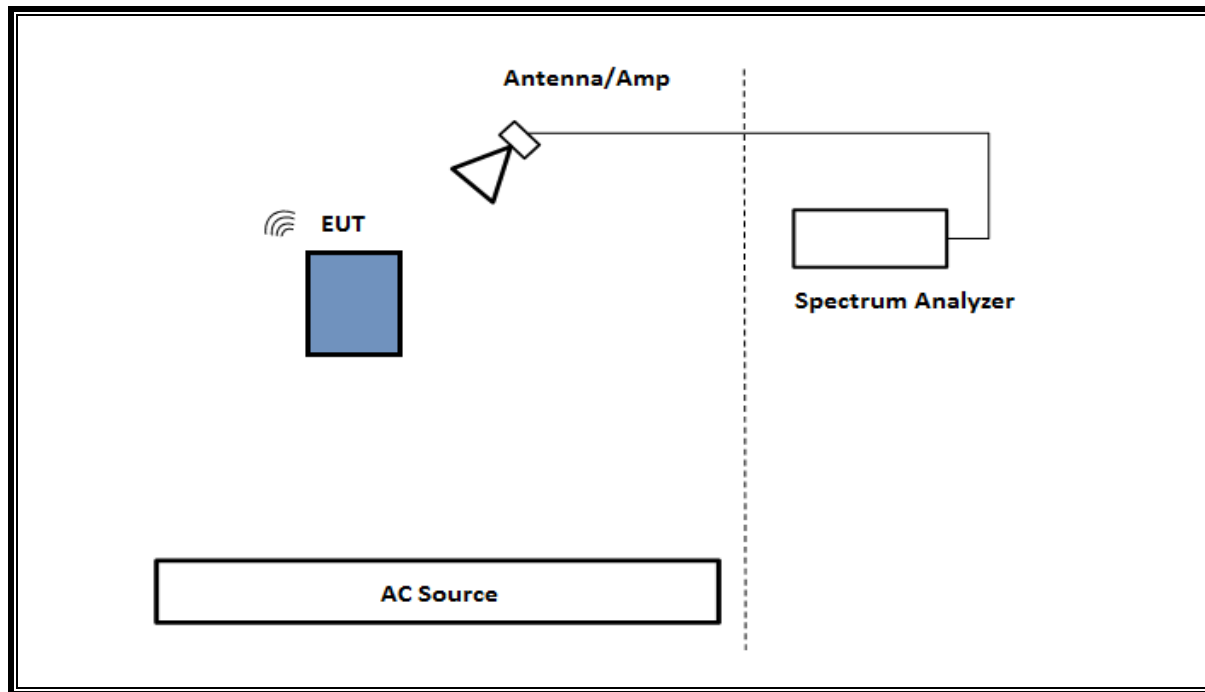
6.6. DESCRIPTION OF TEST SETUP

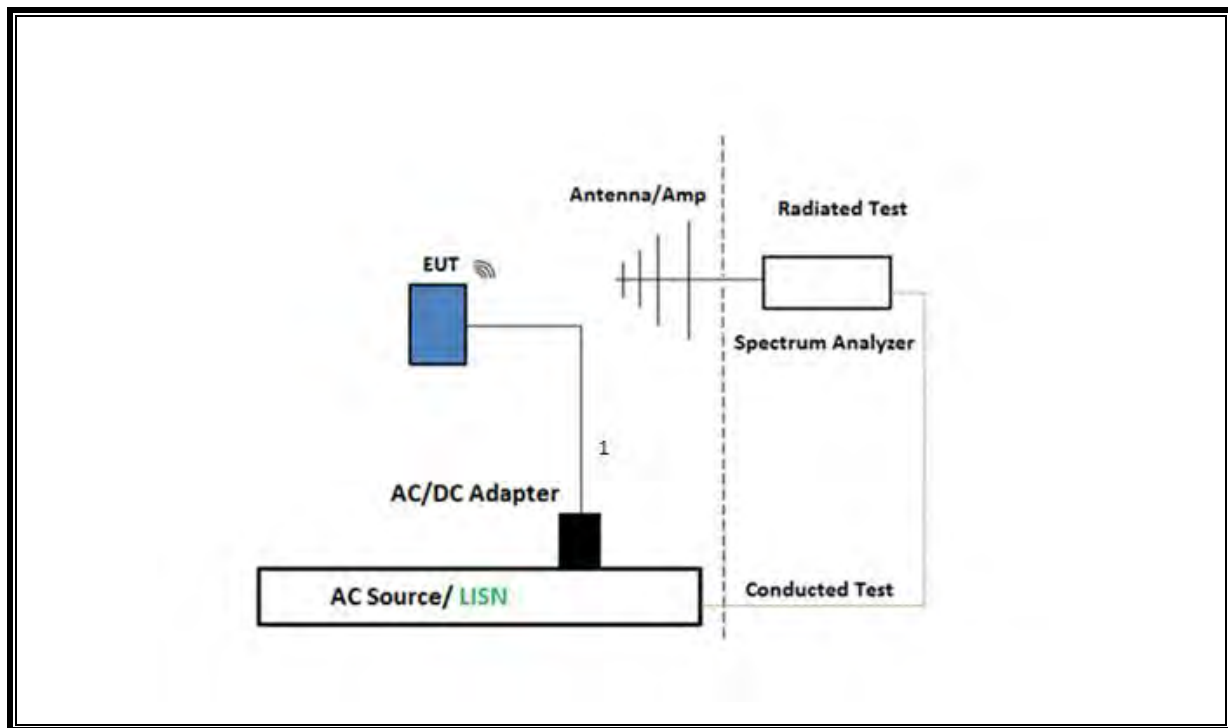
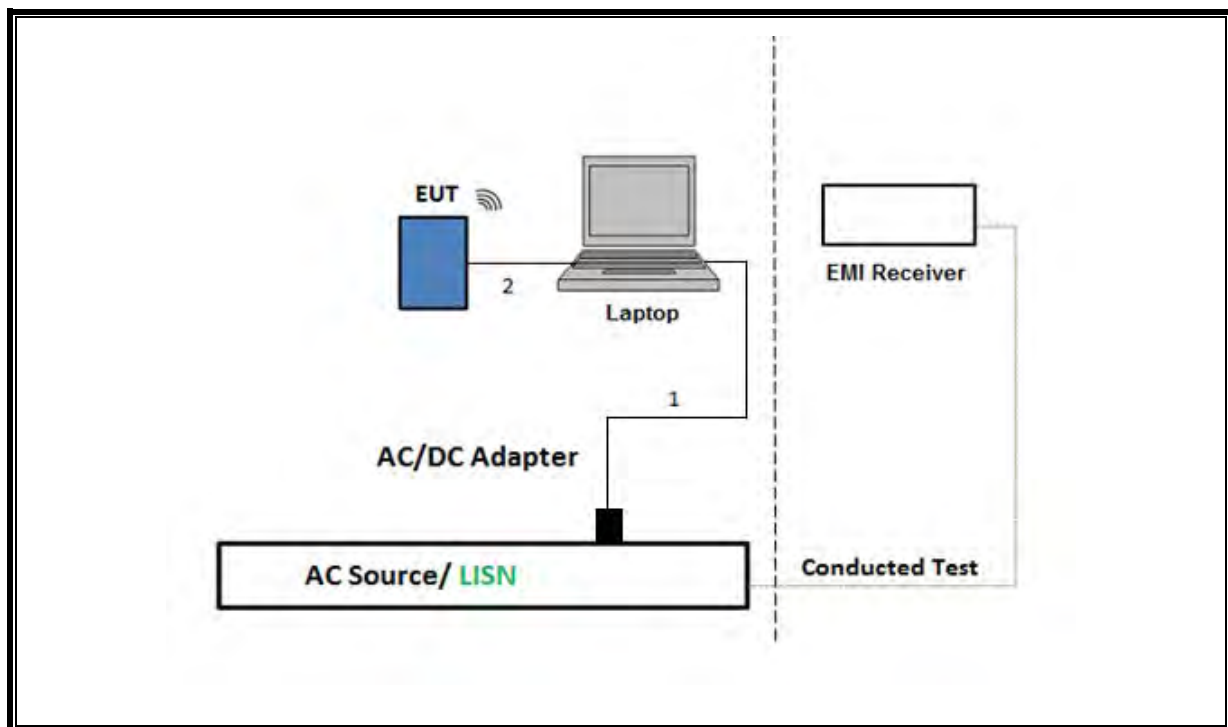
SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	Macbook Pro	C02VD7SAHV22		BCGA1708
Laptop AC/DC adapter		Liteon Technology	A1424	NSW25679		DoC
EUT AC/DC adapter		Apple	A1720	C3D8417A7R93KVPA8		DoC
RF Device, Switch (Conducted Switch Box)		UL	n/a	262287		N/A
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	SMA	1	SMA	Shielded	0.75	To spectrum Analyzer
2	Antenna	2	SMA	Un-shielded	0.2	To Conducted Switch Box
3	USB-C	1	USB-C	Shielded	1.0	N/A
4	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	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: ANSI C63.10 Section 11.6

6 dB BW: ANSI C63.10 Section 11.8.1 RBW $\geq$ DTS BW

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

Output Power: ANSI C63.10 Section 11.9.1.2 Method PKPM1 Peak-reading power meter

Output Power: ANSI C63.10 Section 11.9.2.3.2 Measurement using gated average power meter

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

Radiated emissions restricted frequency bands: ANSI C63.10 Section 11.12.1

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

Band-edge: ANSI C63.10 Section 11.12.2.4 and 13: Peak Measurement

Band-edge: ANSI C63.10 Section 11.12.2.5 and 13: Average Measurement

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

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

Radiated Spurious Emissions Below 30MHz: ANSI C63.10 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
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	84796	2026-10-31
RF Filter Box, 1-18GHz	UL-FR1	Frankenstein	230878	2026-05-31
EMI Test Receiver	Rohde & Schwarz	ESW44	191428	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80430	2026-09-03
RF Filter Box, 1-18GHz	UL-FR1	Frankenstein	224478	2026-01-31
EMI Test Receiver	Rohde & Schwarz	ESW44	201499	2025-02-17*
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226673	2026-02-28
RF Filter Box, 1-18GHz	UL-FR1	Frankenstein	231874	2025-07-31
EMI Test Receiver	Rohde & Schwarz	ESW44	1802501	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	230300	2027-03-30
RF Filter Box, 1-18GHz	UL-FR1	Rats 2.0	225474	2025-10-31
EMI Test Receiver	Rohde & Schwarz	ESW44	201502	2026-02-20
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170013	2025-07-31
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170015	2025-07-31
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A-544	90238	2026-01-31
Spectrum Analyzer, PXA, 3Hz to 50GHz w/Ext. Mixer	Keysight Technologies Inc	N9030A	80400	2026-01-31
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90718	2026-03-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	257704	2026-03-31
RF Device, Switch (Conducted Switch Box)	UL	CSB	245262	2026-04-30
RF Device, Switch (Conducted Switch Box)	UL	CSB	262287	2026-04-30

AC Line Conducted				
Description	Manufacturer	Model	ID Num	Cal Due
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	171646	2026-02-28
LISN for Conducted Emissions CISPR-16	Fischer Custom Communications	FCC-LISN-50/250-25-2-01-480V	175765	2026-01-31
Transient Limiter	TE	TBFL1	207996	2025-09-30
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, May 1 , 2023	
Conducted Software	UL	UL EMC	2020.8.16	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023	

*Testing is completed before equipment expiration date.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

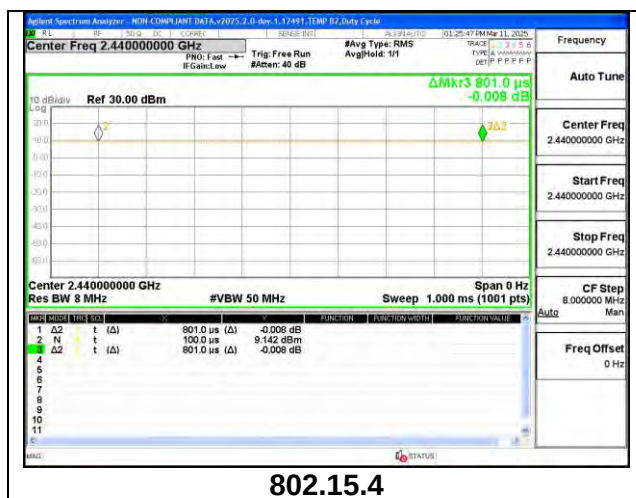
PROCEDURE

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

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time T (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
2.4GHz Band						
802.15.4, 2440MHz	0.801	0.801	1.000	100.00	0.00	0.010

DUTY CYCLE PLOTS



9.2. 99% BANDWIDTH**LIMITS**

None; for reporting purposes only.

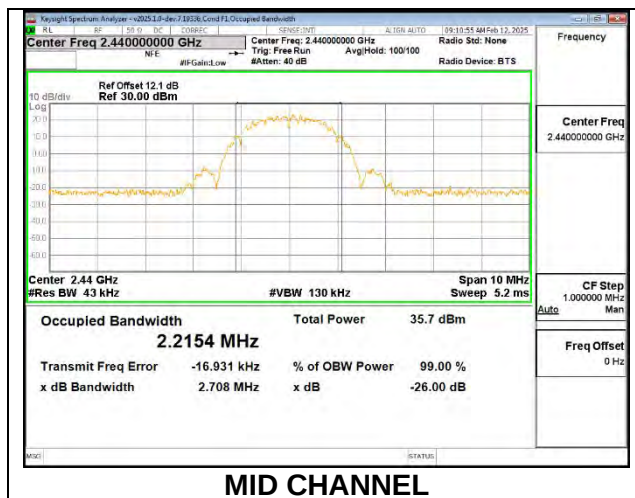
RESULTS

Only High-Power modes result is reported, it covers all Low Power modes. Only Mid channel plot is reported to show the analyzer's settings.

9.2.1. HIGH POWER

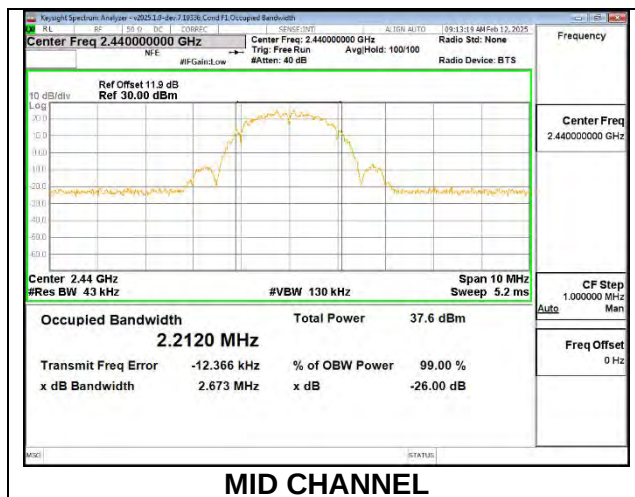
ANT 2

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2101
Middle	2440	2.2154
High	2475	2.2150



ANT 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2209
Middle	2440	2.2120
High	2475	2.2248



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.

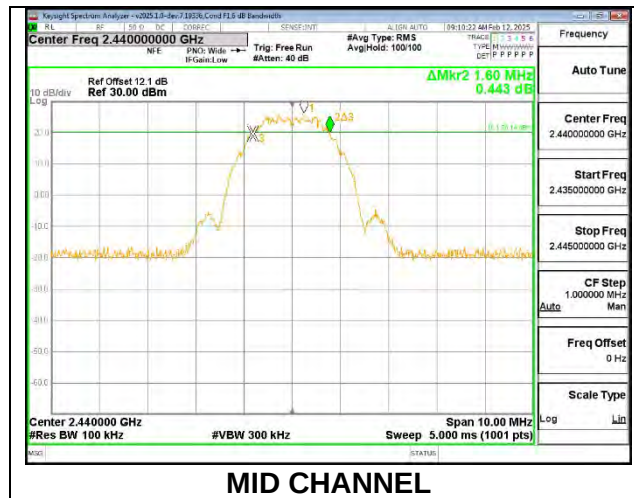
RESULTS

Only High-Power modes result is reported, it covers all Low Power modes. Only Mid channel plot is reported to show the analyzer's settings.

9.3.1. HIGH POWER

ANT 2

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.560	0.5
Middle	2440	1.600	0.5
High	2475	1.640	0.5



ANT 1

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.630	0.5
Middle	2440	1.630	0.5
High	2475	1.620	0.5



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 were performed 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 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.

RESULTS

9.4.1. HIGH POWER**ANT 2**

Tested By:	32480
Date:	2025-03-03

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	21.01	30	-8.99
Middle	2440	20.98	30	-9.02
High	2475	20.93	30	-9.07

ANT 1

Tested By:	32480
Date:	2025-03-03

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	21.52	30	-8.48
Middle	2440	21.55	30	-8.45
High	2475	21.45	30	-8.55

9.4.2. LOW POWER**ANT 2**

Tested By:	27979
Date:	2025-03-07

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	8.46	30	-21.54
Middle	2440	8.48	30	-21.52
High	2475	8.42	30	-21.58

ANT 1

Tested By:	27979
Date:	2025-03-07

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	9.83	30	-20.17
Middle	2440	9.81	30	-20.19
High	2475	9.78	30	-20.22

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements were performed 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 power sensor. Gated average output power was read directly from power meter.

RESULTS

9.5.1. HIGH POWER**ANT 2**

Tested By:	32480
Date:	2025-03-03

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.14
Middle	2440	20.08
High	2475	20.12

ANT 1

Tested By:	32480
Date:	2025-03-03

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.64
Middle	2440	20.61
High	2475	20.62

9.5.2. LOW POWER**ANT 2**

Tested By:	27979
Date:	2025-03-07

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	7.64
Middle	2440	7.62
High	2475	7.60

ANT 1

Tested By:	27979
Date:	2025-03-07

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	8.89
Middle	2440	8.93
High	2475	8.91

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

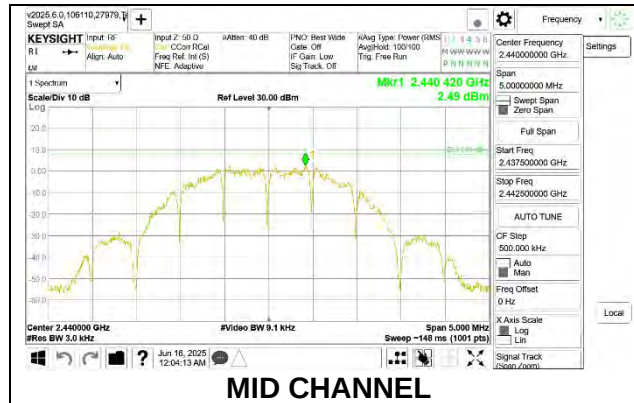
Only Mid channel plot is reported to show the analyzer's settings.

Only High-Power modes results are reported; it covers all Low Power modes.

9.6.1. HIGH POWER

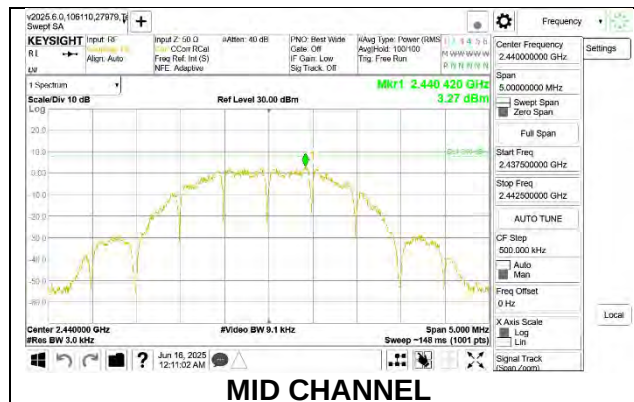
ANT 2

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	2.300	8	-5.70
Middle	2440	2.490	8	-5.51
High	2475	2.660	8	-5.34



ANT 1

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	3.270	8	-4.73
Middle	2440	3.270	8	-4.73
High	2475	3.070	8	-4.93



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

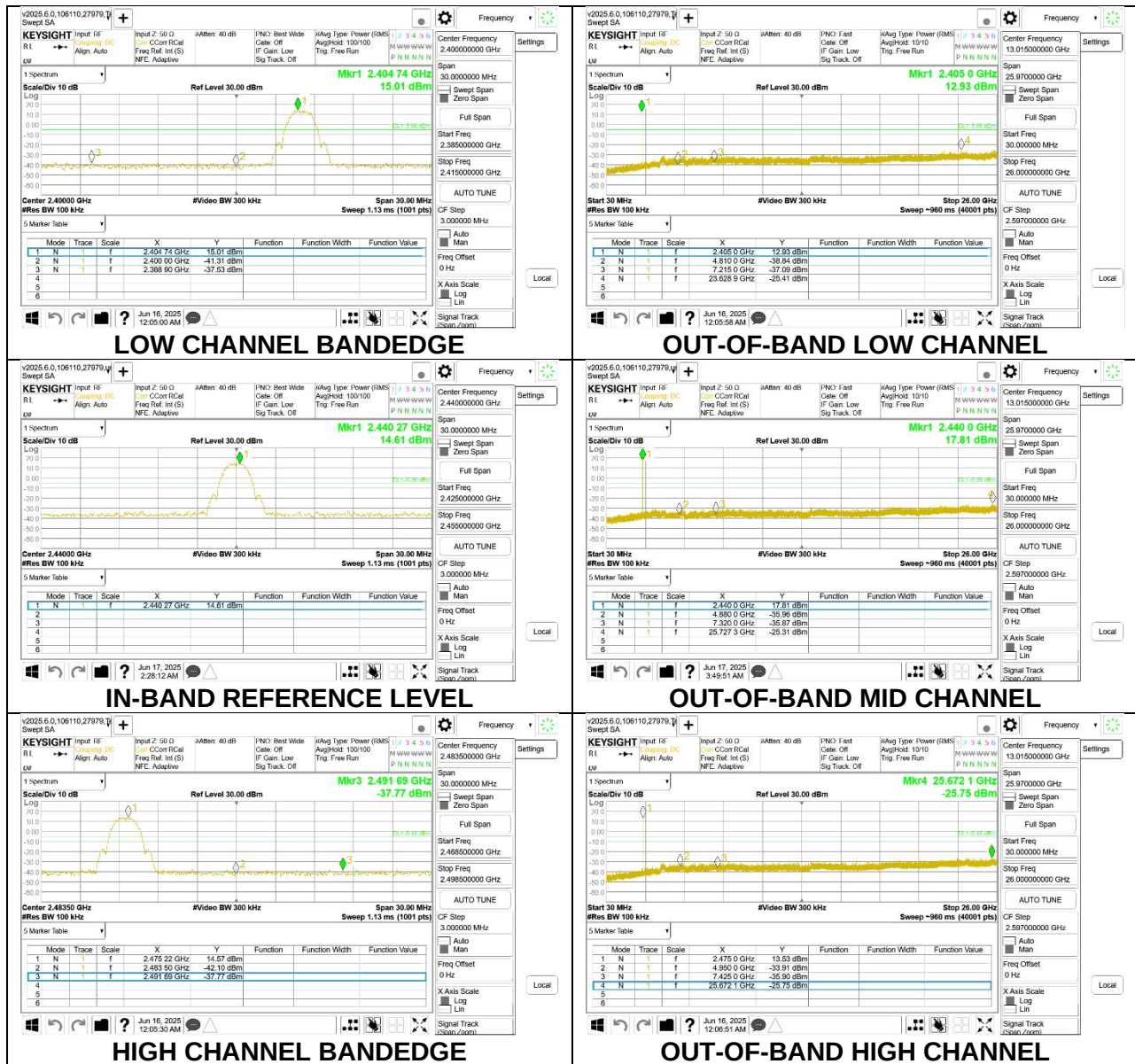
RSS-247 5.5

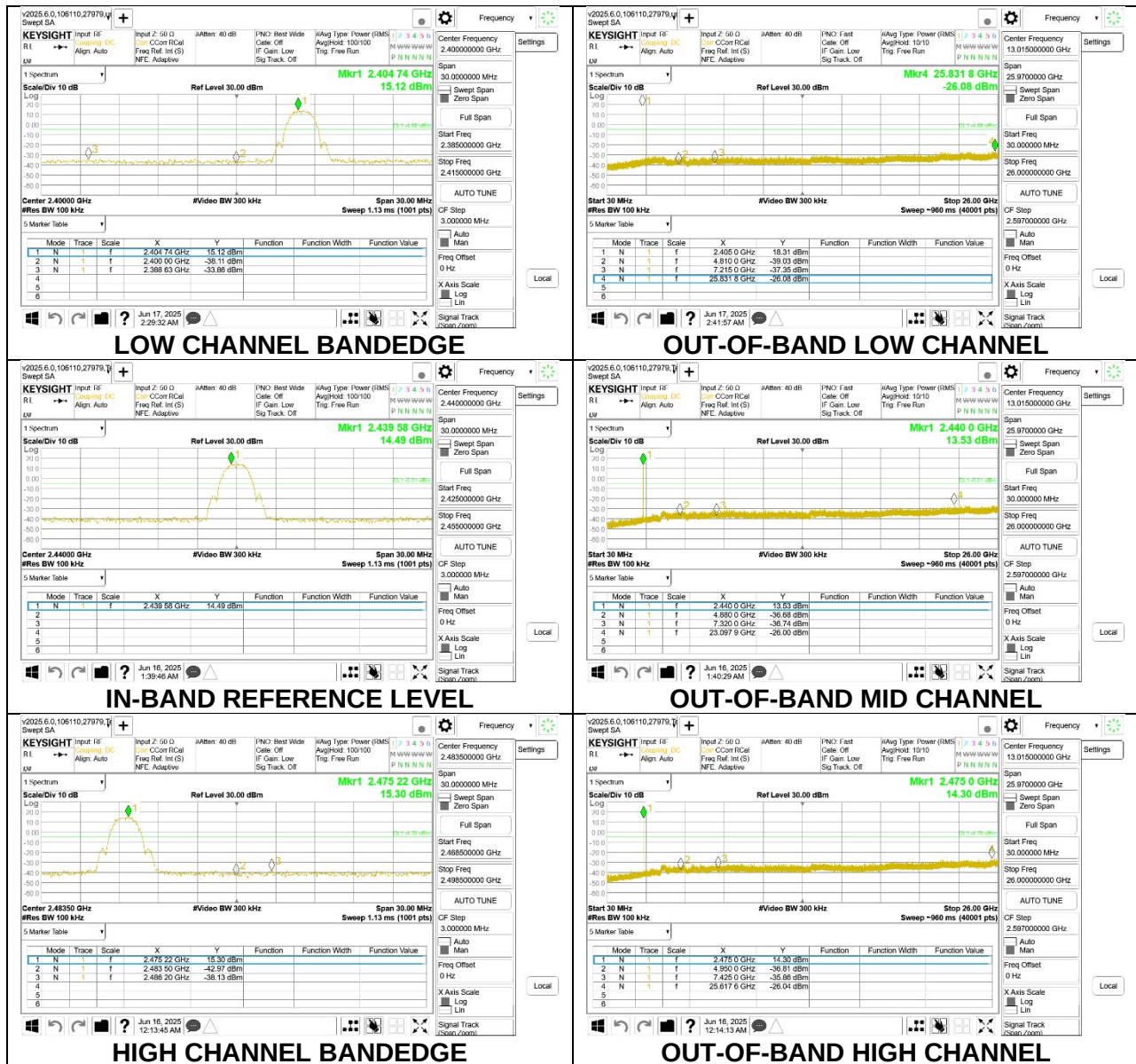
Output power was measured based on the use of a peak measurement; therefore, the required attenuation is 20 dBc.

RESULTS

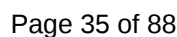
9.7.1. HIGH POWER

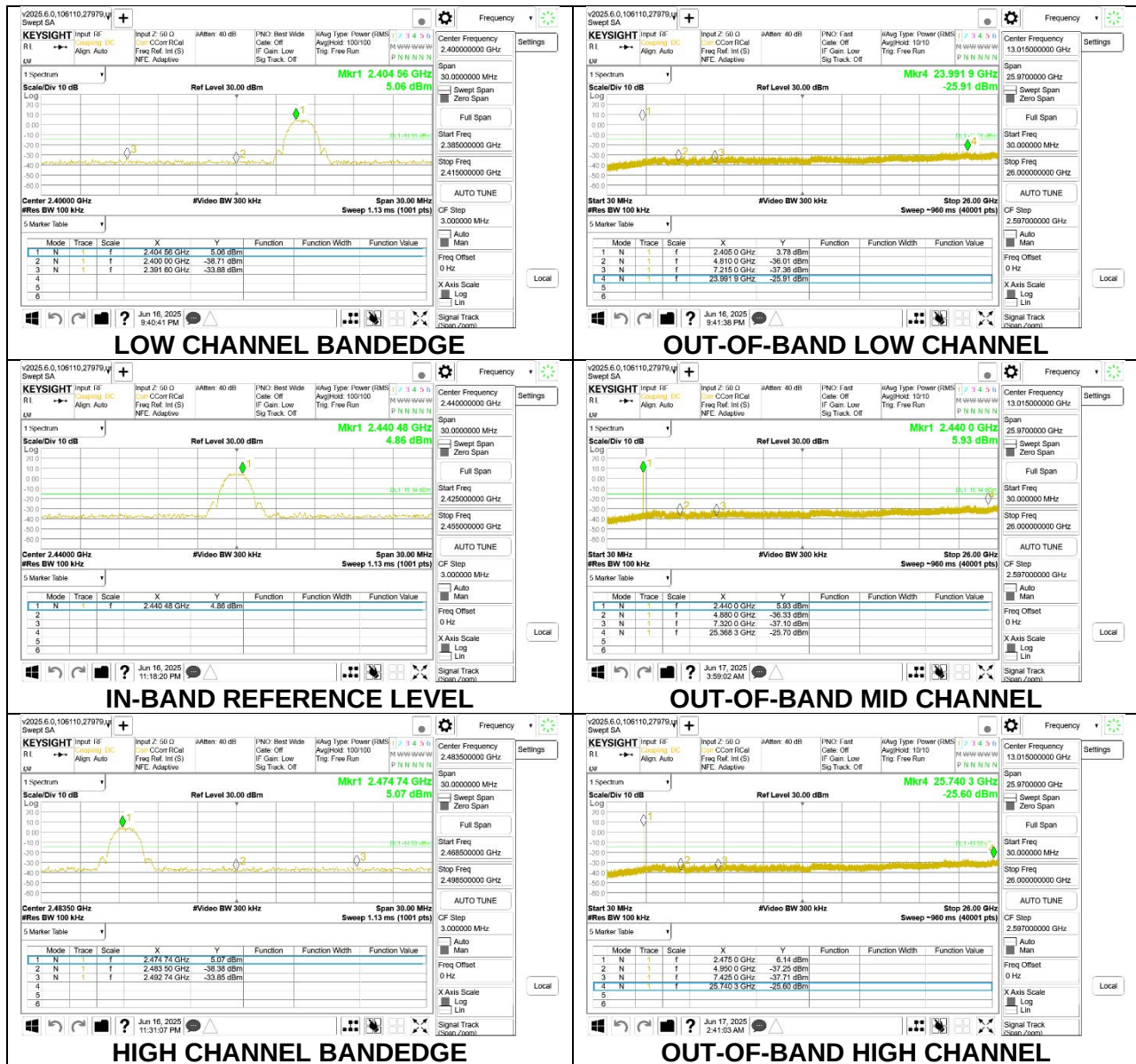
ANT 2



ANT 1

ANT 2



ANT 1

10. RADIATED TEST RESULTS

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 on above 1 GHz restricted bandedge, 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. And for Harmonic Spurious final scans above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T (10 Hz) video bandwidth with peak detector 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.

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 report in the table) using 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.

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

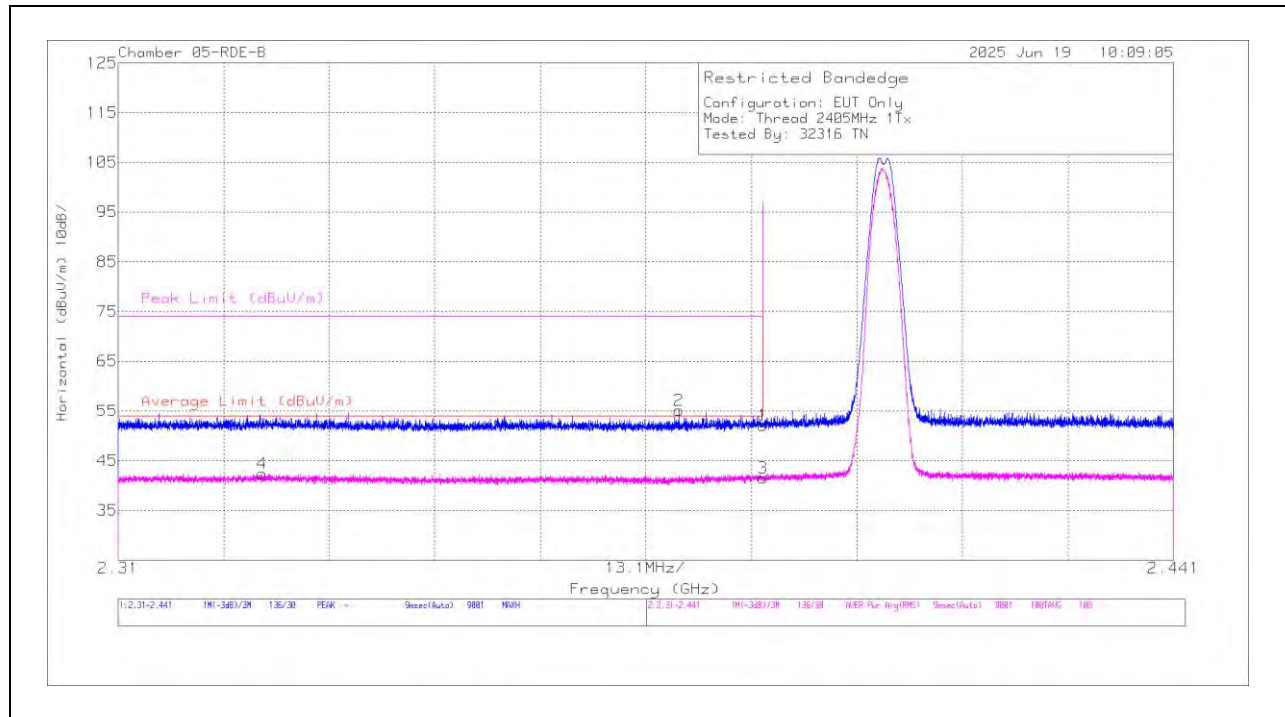
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. ANT2, 802.15.4 HIGH POWER BANDEDGE

Low Channel

HORIZONTAL RESULT



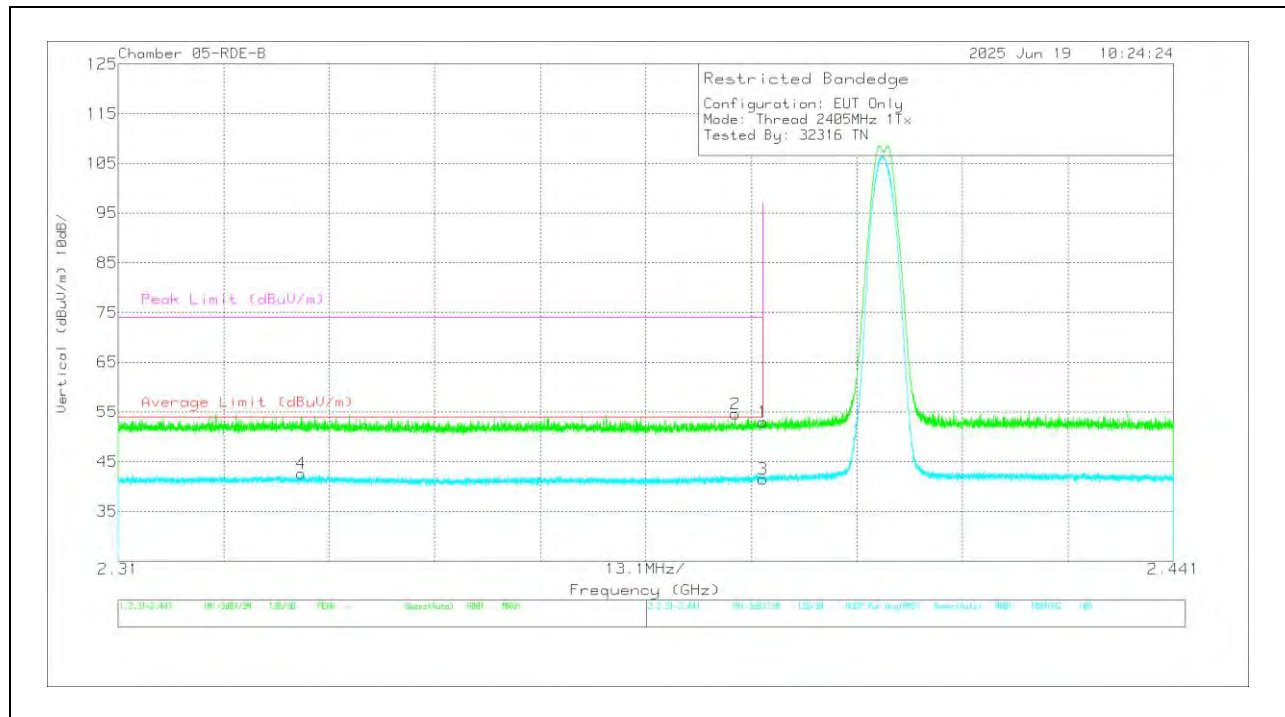
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	*2.327846	51.13	RMS	31.8	-40.59	42.34	54	-11.66	-	-	229	323	H
2	*2.379621	63.6	Pk	32	-40.49	55.11	-	-	74	-18.89	229	323	H
1	*2.39	60.47	Pk	32	-40.39	52.08	-	-	74	-21.92	229	323	H
3	*2.39	49.94	RMS	32	-40.39	41.55	54	-12.45	-	-	229	323	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

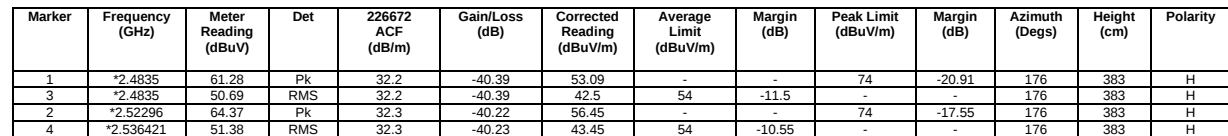


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	*2.332736	51.38	RMS	31.8	-40.59	42.59	54	-11.41	-	-	219	182	V
2	*2.386637	62.96	Pk	32	-40.39	54.57	-	-	74	-19.43	219	182	V
1	*2.39	61.34	Pk	32	-40.39	52.95	-	-	74	-21.05	219	182	V
3	*2.39	49.93	RMS	32	-40.39	41.54	54	-12.46	-	-	219	182	V

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

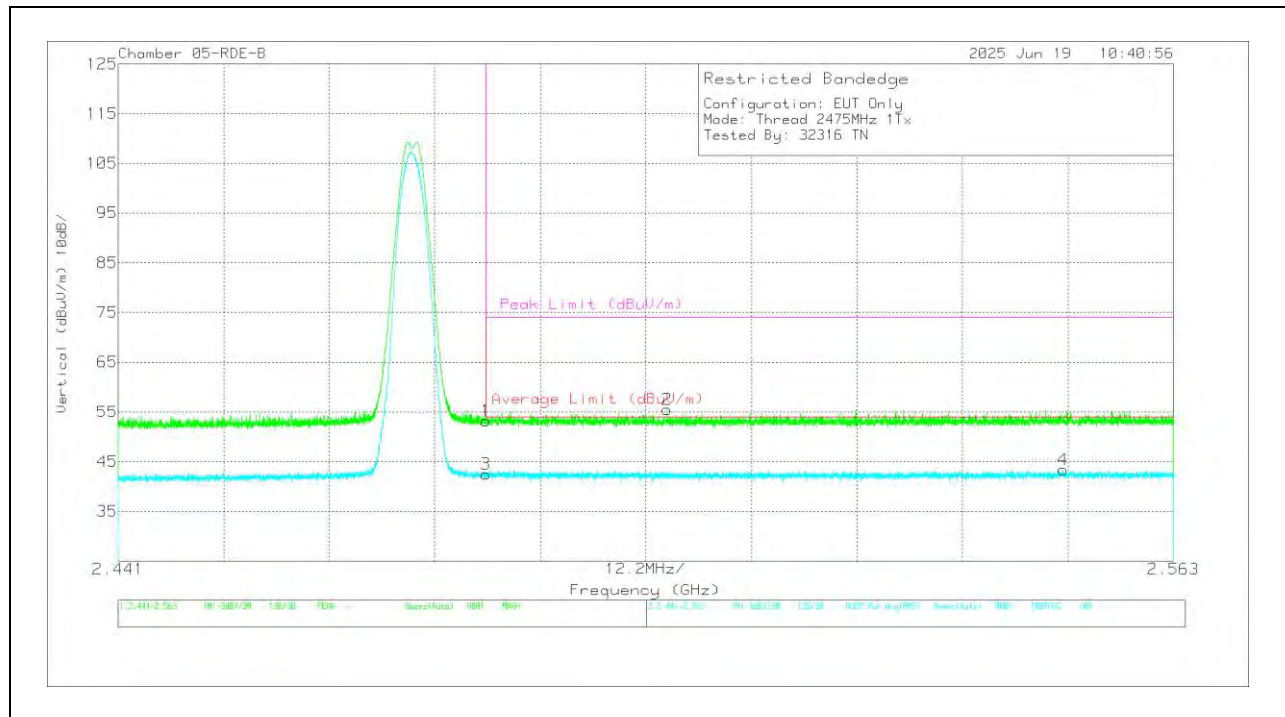
PK - Peak detector
RMS - RMS detection

HORIZONTAL RESULT



Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	61.45	Pk	32.2	-40.39	53.26	-	-	74	-20.74	51	193	V
3	*2.4835	50.67	RMS	32.2	-40.39	42.48	54	-11.52	-	-	51	193	V
2	*2.504456	63.54	Pk	32.3	-40.35	55.49	-	-	74	-18.51	51	193	V
4	*2.550221	51.23	RMS	32.3	-40.11	43.42	54	-10.58	-	-	51	193	V

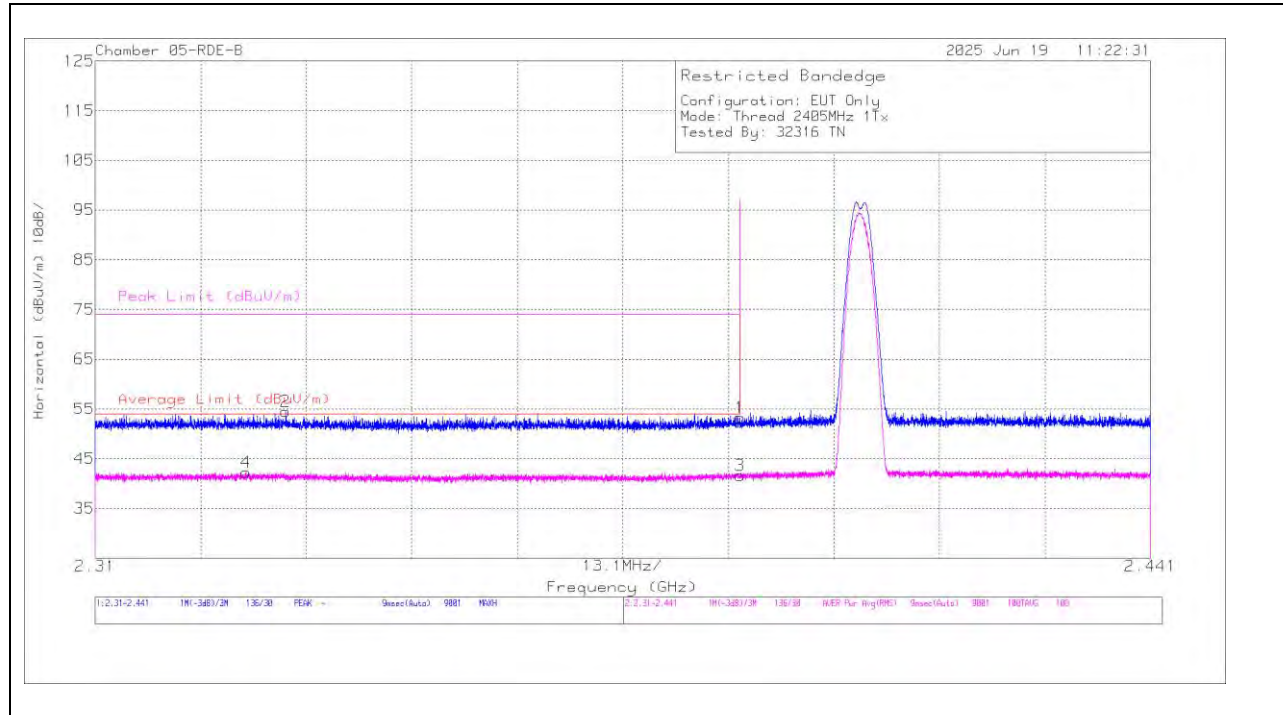
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector
RMS - RMS detection

10.1.2. ANT2, 802.15.4 LOW POWER BANDEDGE

LOW CHANNEL

HORIZONTAL RESULT

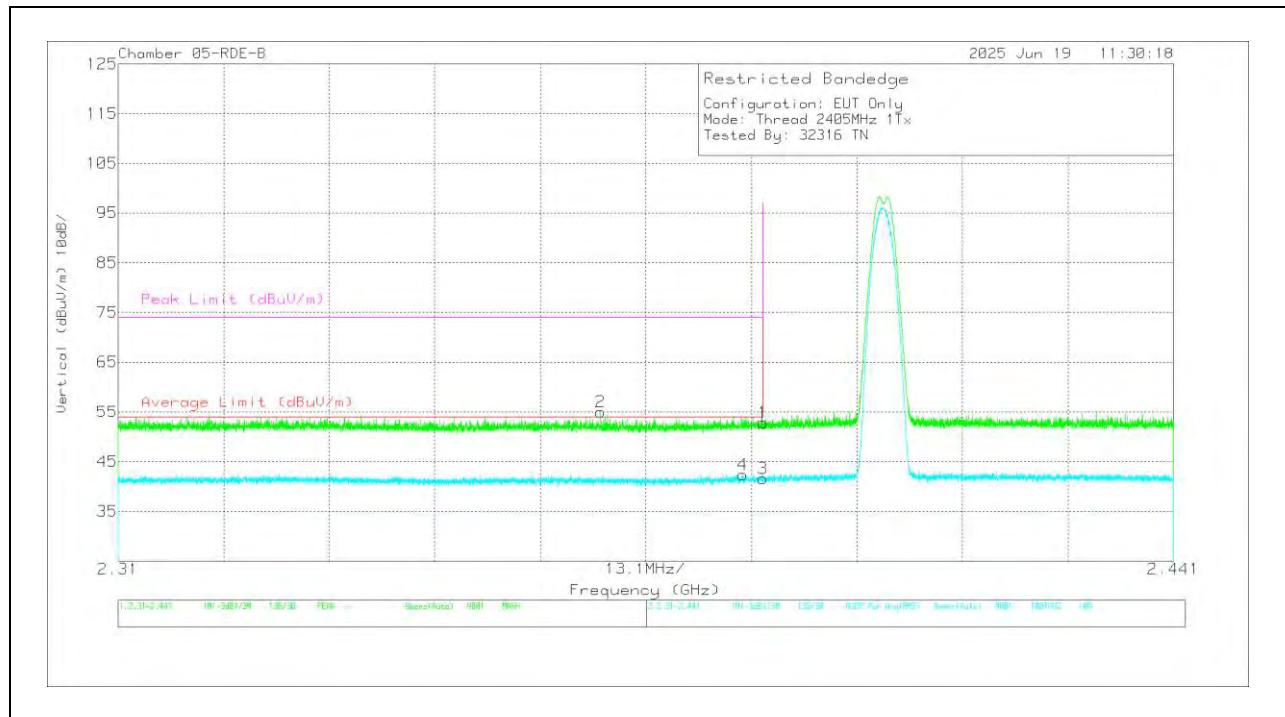


Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	22672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	*2.328748	51.09	RMS	31.8	-40.58	42.31	54	-11.69	-	-	4	364	H
2	*2.333668	63.27	Pk	31.8	-40.6	54.47	-	-	74	-19.53	4	364	H
1	*2.39	61.63	Pk	32	-40.39	53.24	-	-	74	-20.76	4	364	H
3	*2.39	49.97	RMS	32	-40.39	41.58	54	-12.42	-	-	4	364	H

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

PK - Peak detector
RMS - RMS detection

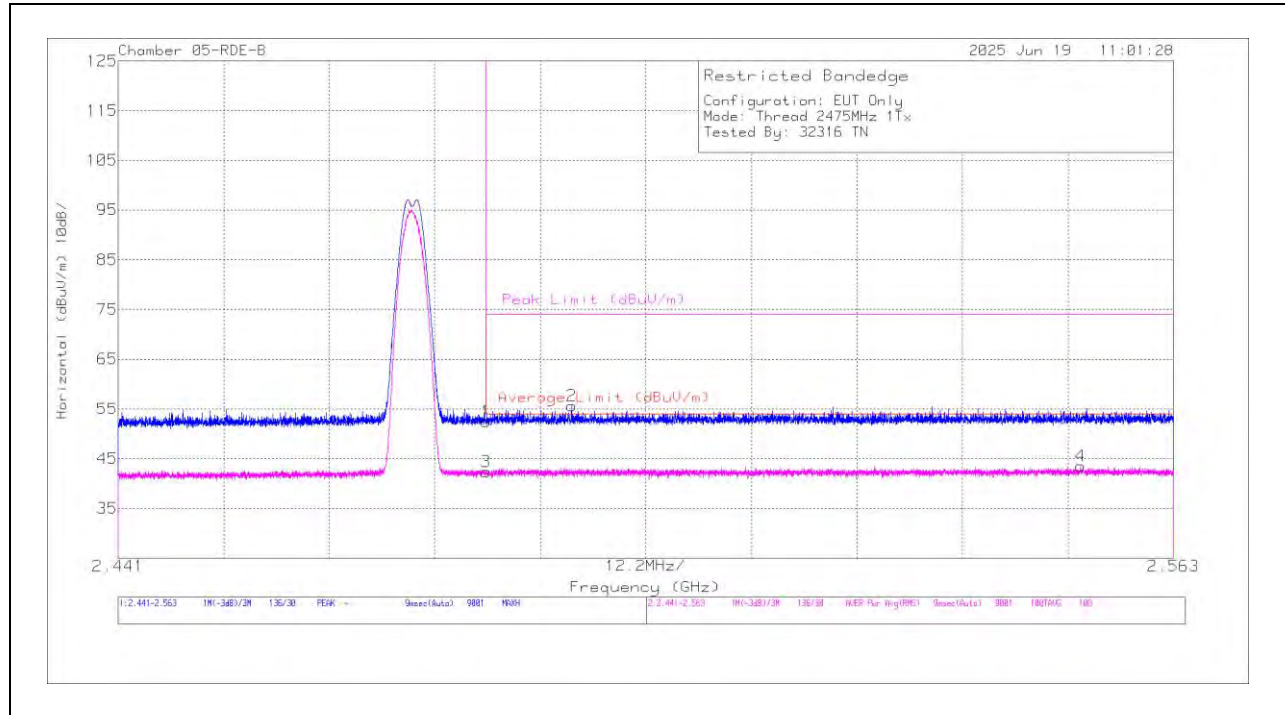
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.369898	63.62	Pk	31.9	-40.55	54.97	-	-	74	-19.03	134	174	V
4	*2.387511	50.81	RMS	32	-40.38	42.43	54	-11.57	-	-	134	174	V
1	*2.39	61.25	Pk	32	-40.39	52.86	-	-	74	-21.14	134	174	V
3	*2.39	50.05	RMS	32	-40.39	41.66	54	-12.34	-	-	134	174	V

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

PK - Peak detector
RMS - RMS detection

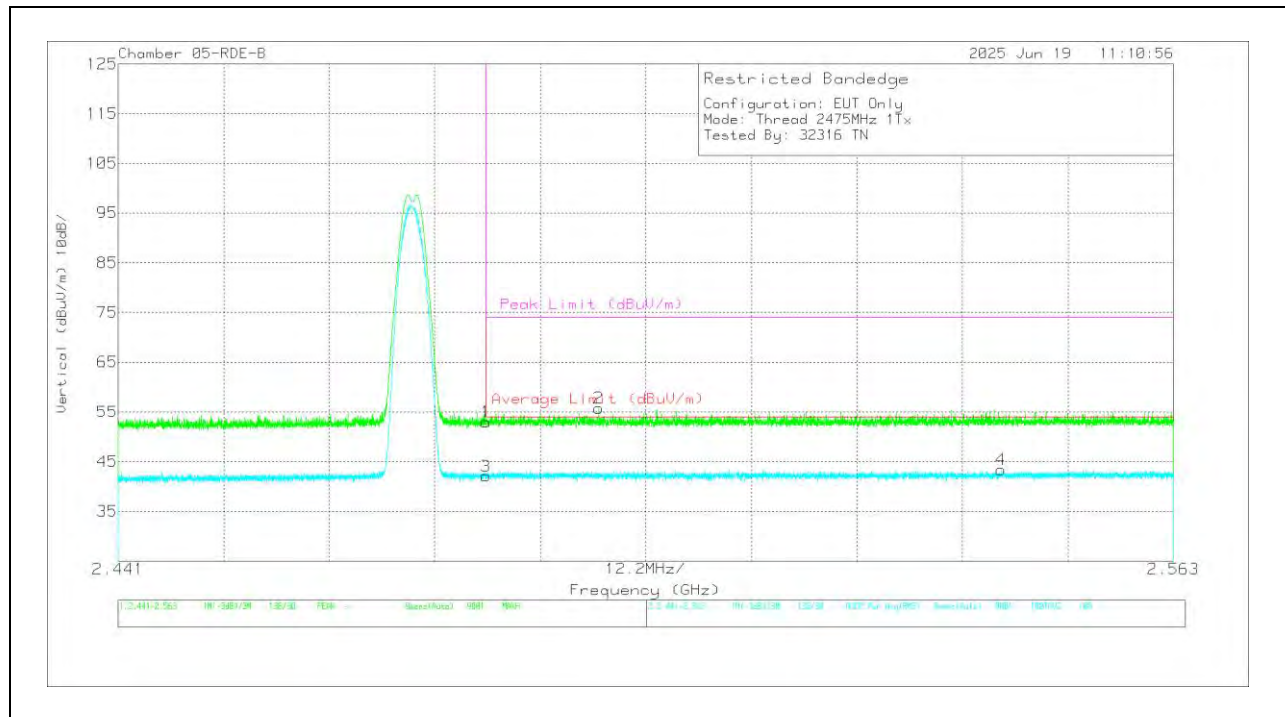
HIGH CHANNEL**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	60.67	Pk	32.2	-40.39	52.48	-	-	74	-21.52	201	338	H
3	*2.4835	50.61	RMS	32.2	-40.39	42.42	54	-11.58	-	-	201	338	H
2	*2.493408	63.67	Pk	32.3	-40.39	55.58	-	-	74	-18.42	201	338	H
4	*2.552281	51.33	RMS	32.3	-40.11	43.52	54	-10.48	-	-	201	338	H

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

Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



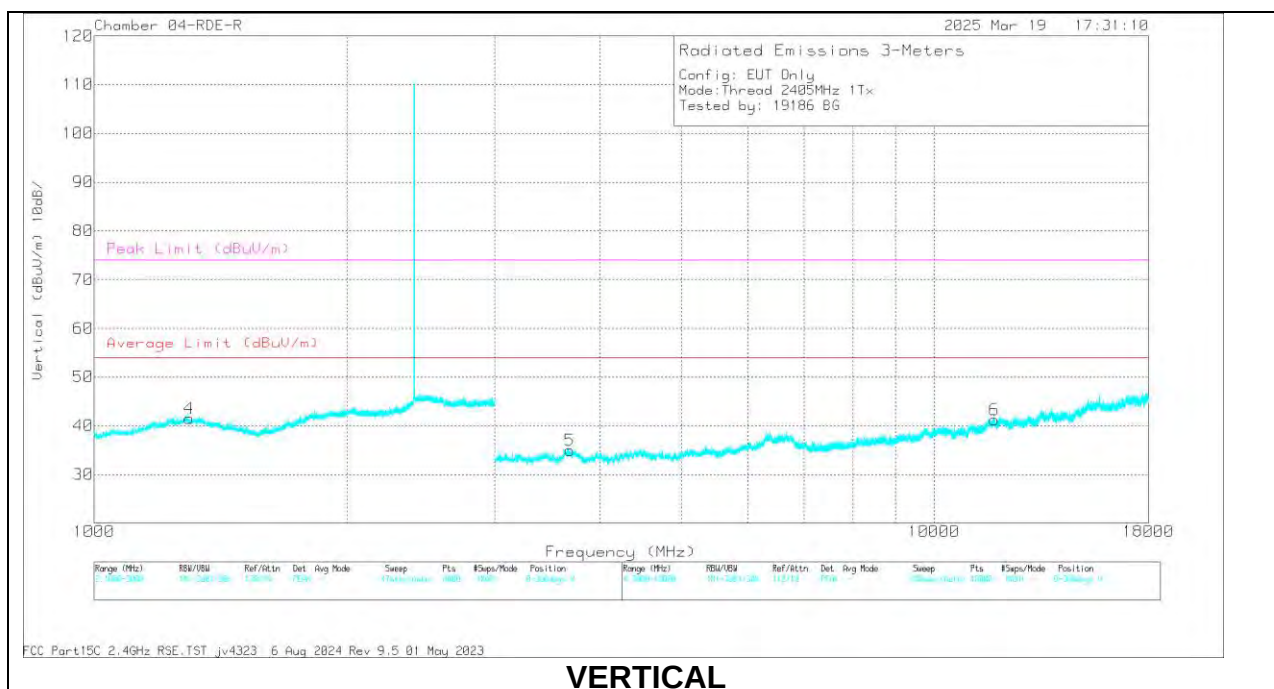
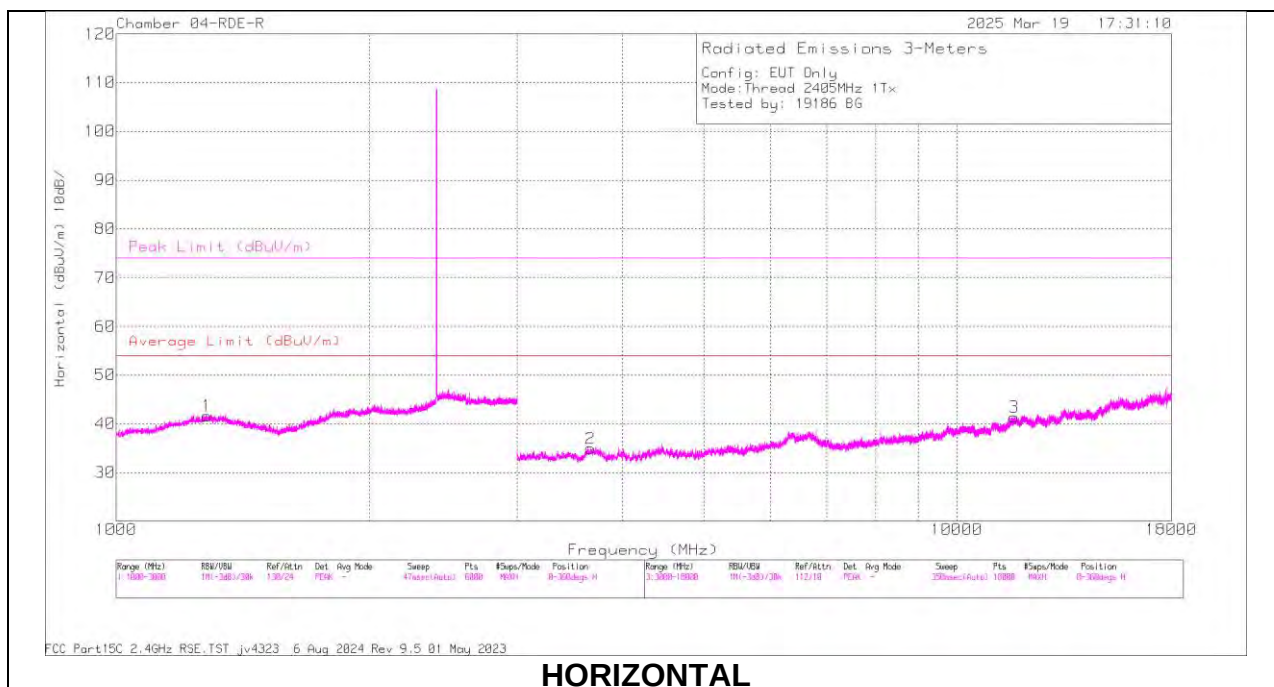
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	61.18	Pk	32.2	-40.39	52.99	-	-	74	-21.01	283	266	V
3	*2.4835	50.26	RMS	32.2	-40.39	42.07	54	-11.93	-	-	283	266	V
2	*2.496552	63.84	Pk	32.3	-40.4	55.74	-	-	74	-18.26	283	266	V
4	*2.543063	51.27	RMS	32.3	-40.15	43.42	54	-10.58	-	-	283	266	V

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

PK - Peak detector
RMS - RMS detection

10.1.3. ANT2, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

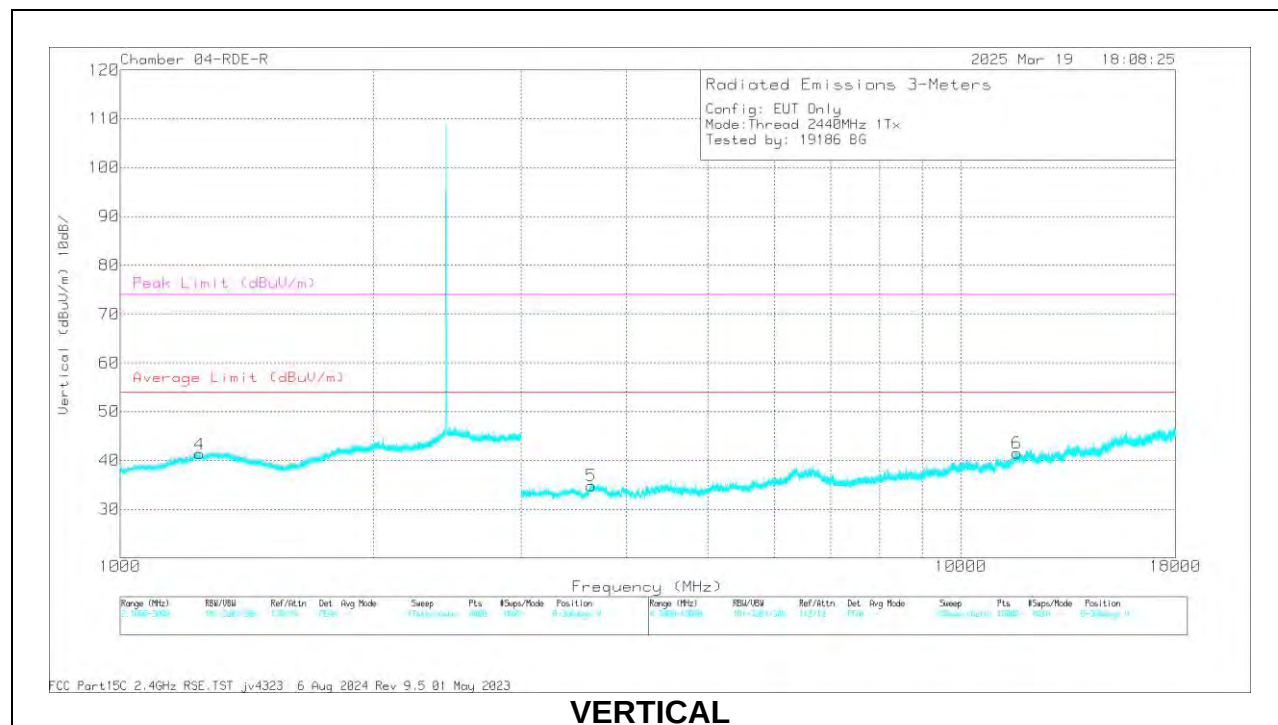
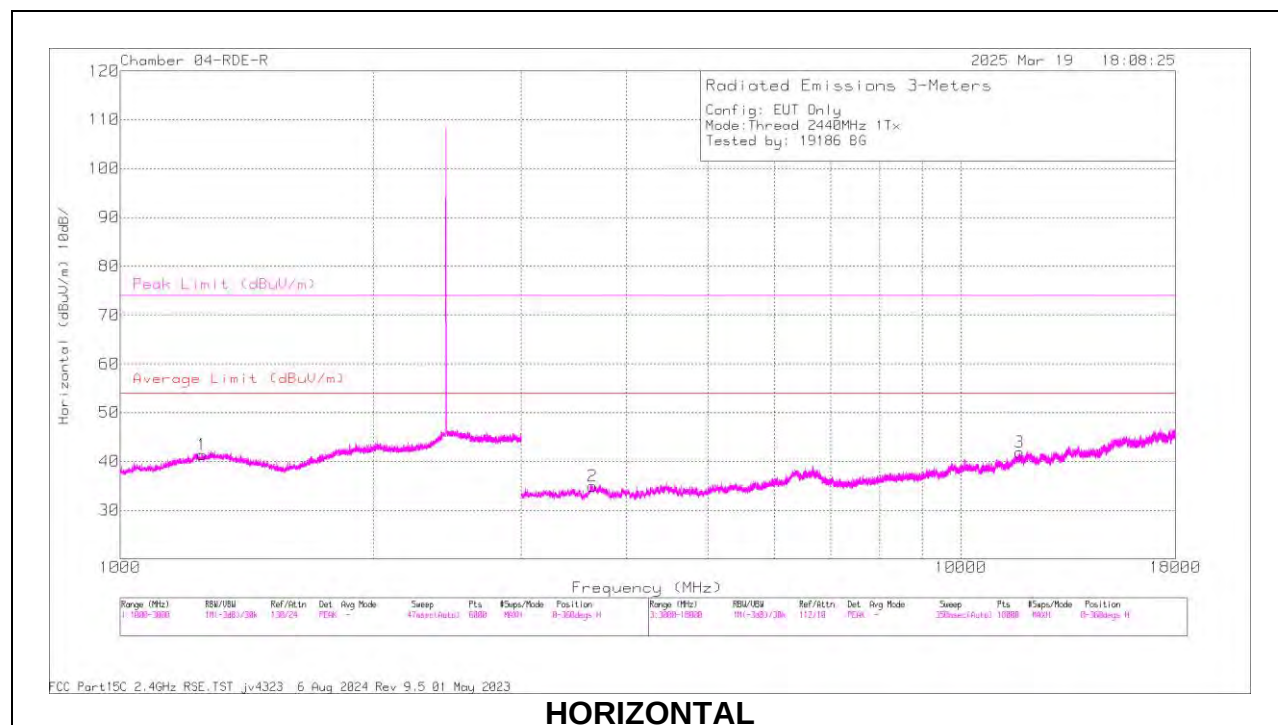
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1282.401	61.61	PK2	30	-40.19	51.42	-	-	-	-	360	100	H
	1281.791	49.96	MAv1	30	-40.19	39.77	-	-	-	-	360	100	H
4	1298.543	61.57	PK2	30	-40.18	51.39	-	-	-	-	360	201	V
	1298.08	49.89	MAv1	30	-40.17	39.72	-	-	-	-	360	201	V
2	*3663.912	58.2	PK2	33.6	-46.82	44.98	-	-	74	-29.02	360	100	H
	*3667.674	46.53	MAv1	33.6	-46.76	33.37	54	-20.63	-	-	360	100	H
3	*11690.285	53.34	PK2	39	-41.89	50.45	-	-	74	-23.55	360	100	H
	*11688.235	41.66	MAv1	39	-41.85	38.81	54	-15.19	-	-	360	100	H
5	*3684.247	58.19	PK2	33.4	-46.81	44.78	-	-	74	-29.22	360	201	V
	*3684.047	46.44	MAv1	33.4	-46.82	33.02	54	-20.98	-	-	360	201	V
6	*11794.478	53.7	PK2	39	-41.81	50.89	-	-	74	-23.11	360	200	V
	*11796.572	42.18	MAv1	39	-41.82	39.36	54	-14.64	-	-	360	200	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

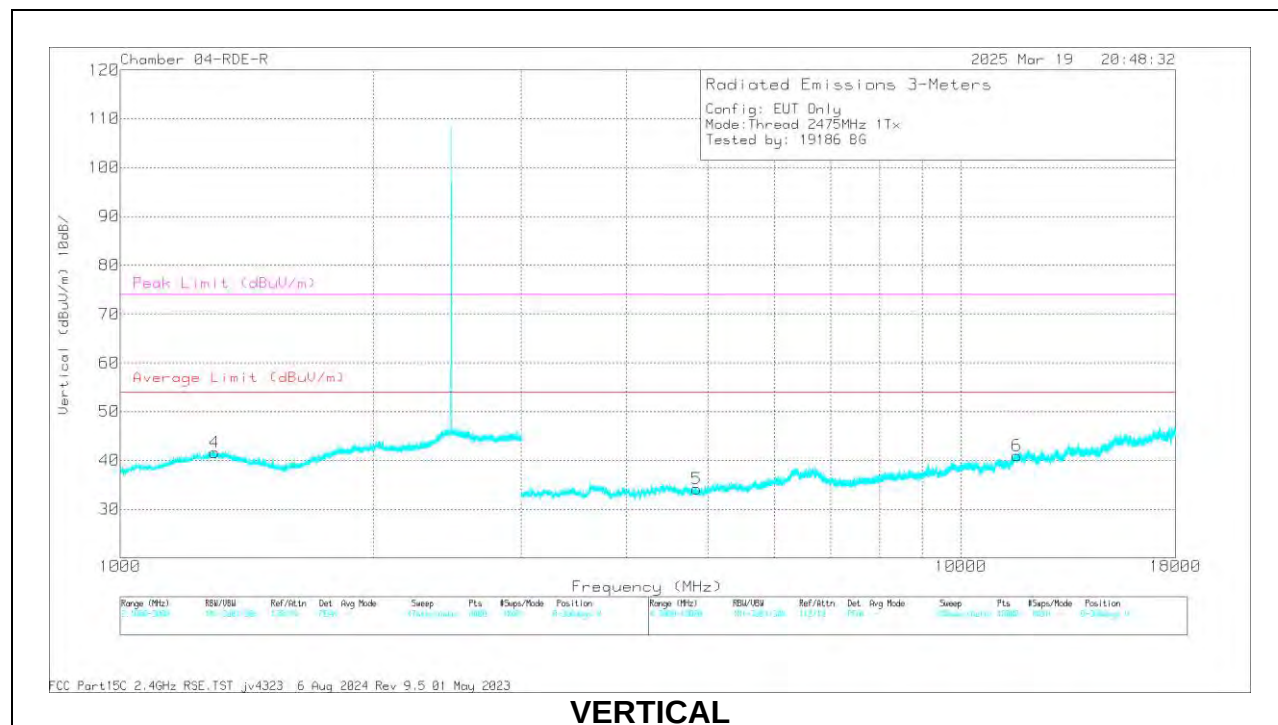
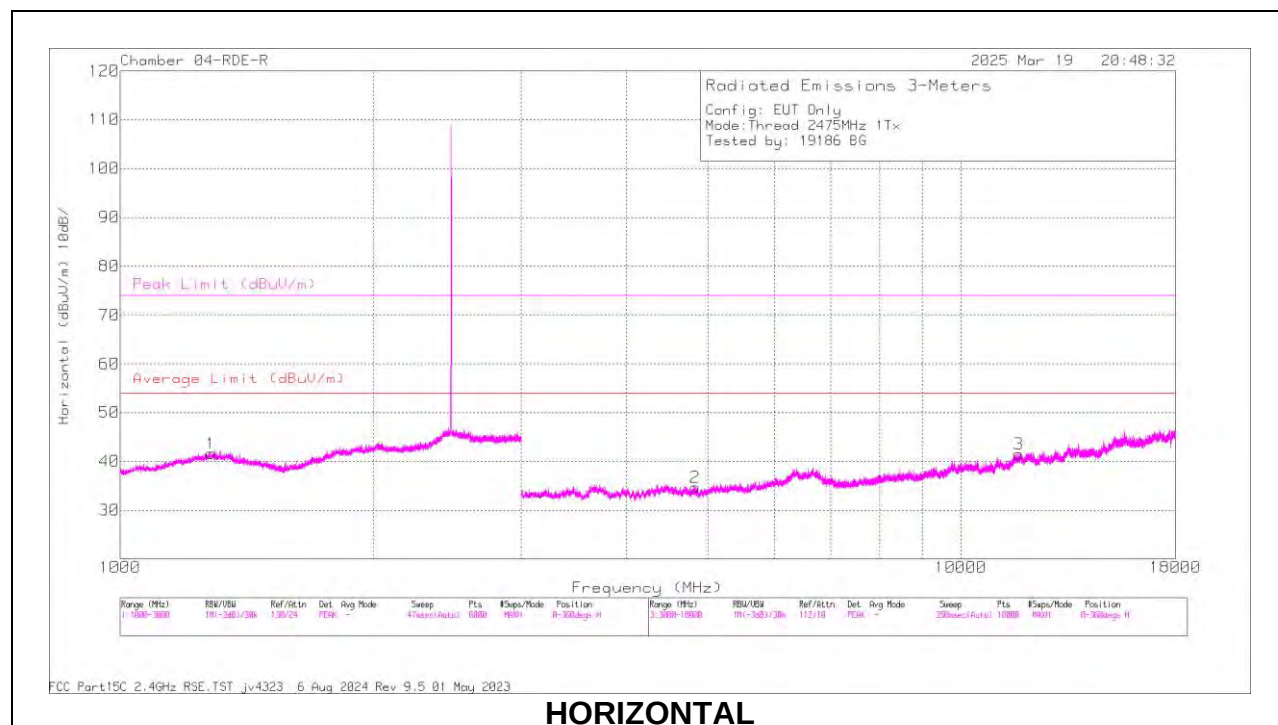
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1254.15	61.65	PK2	30	-40.24	51.41	-	-	-	-	360	100	H
	1253.812	49.6	MAv1	30	-40.24	39.36	-	-	-	-	360	100	H
4	1244.915	61.24	PK2	30	-40.16	51.08	-	-	-	-	360	201	V
	1244.594	49.62	MAv1	30	-40.16	39.46	-	-	-	-	360	201	V
2	*3645.656	57.72	PK2	33.8	-46.56	44.96	-	-	74	-29.04	360	100	H
	*3645.387	46.19	MAv1	33.8	-46.56	33.43	54	-20.57	-	-	360	100	H
3	*11748.487	53.73	PK2	39	-42	50.73	-	-	74	-23.27	360	100	H
	*11746.357	42.03	MAv1	39	-42.02	39.01	54	-14.99	-	-	360	100	H
5	*3632.213	57.65	PK2	33.7	-46.58	44.77	-	-	74	-29.23	360	201	V
	*3634.158	46.21	MAv1	33.7	-46.61	33.3	54	-20.7	-	-	360	201	V
6	*11654.243	54.17	PK2	38.9	-42.17	50.9	-	-	74	-23.1	360	200	V
	*11655.032	42.32	MAv1	38.9	-42.16	39.06	54	-14.94	-	-	360	200	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



RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1282.868	62.23	PK2	30.1	-40.18	52.15	-	-	-	-	360	100	H
	1282.804	49.91	MAv1	30.1	-40.18	39.83	-	-	-	-	360	100	H
4	1294.464	61.42	PK2	30	-40.21	51.21	-	-	-	-	360	201	V
	1294.4	49.78	MAv1	30	-40.21	39.57	-	-	-	-	360	201	V
2	*4833.665	57.24	PK2	34	-46.68	44.56	-	-	74	-29.44	360	100	H
	*4832.997	45.43	MAv1	34	-46.71	32.72	54	-21.28	-	-	360	100	H
3	*11723.143	54.5	PK2	39	-41.89	51.61	-	-	74	-22.39	360	100	H
	*11722.781	41.96	MAv1	39	-41.89	39.07	54	-14.93	-	-	360	100	H
5	*4849.385	57.7	PK2	33.9	-46.7	44.9	-	-	74	-29.1	360	201	V
	*4849.298	45.28	MAv1	33.9	-46.7	32.48	54	-21.52	-	-	360	201	V
6	*11661.132	53.5	PK2	38.9	-42.2	50.2	-	-	74	-23.8	360	200	V
	*11658.449	42.06	MAv1	38.9	-42.2	38.76	54	-15.24	-	-	360	200	V

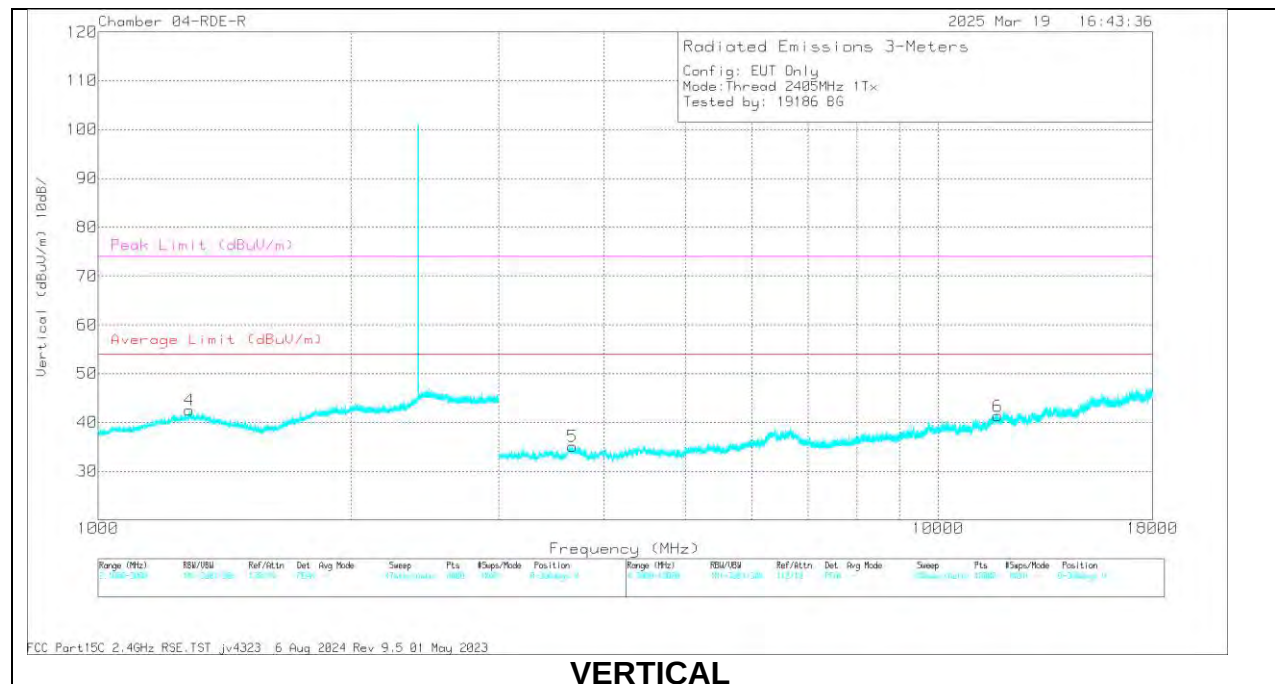
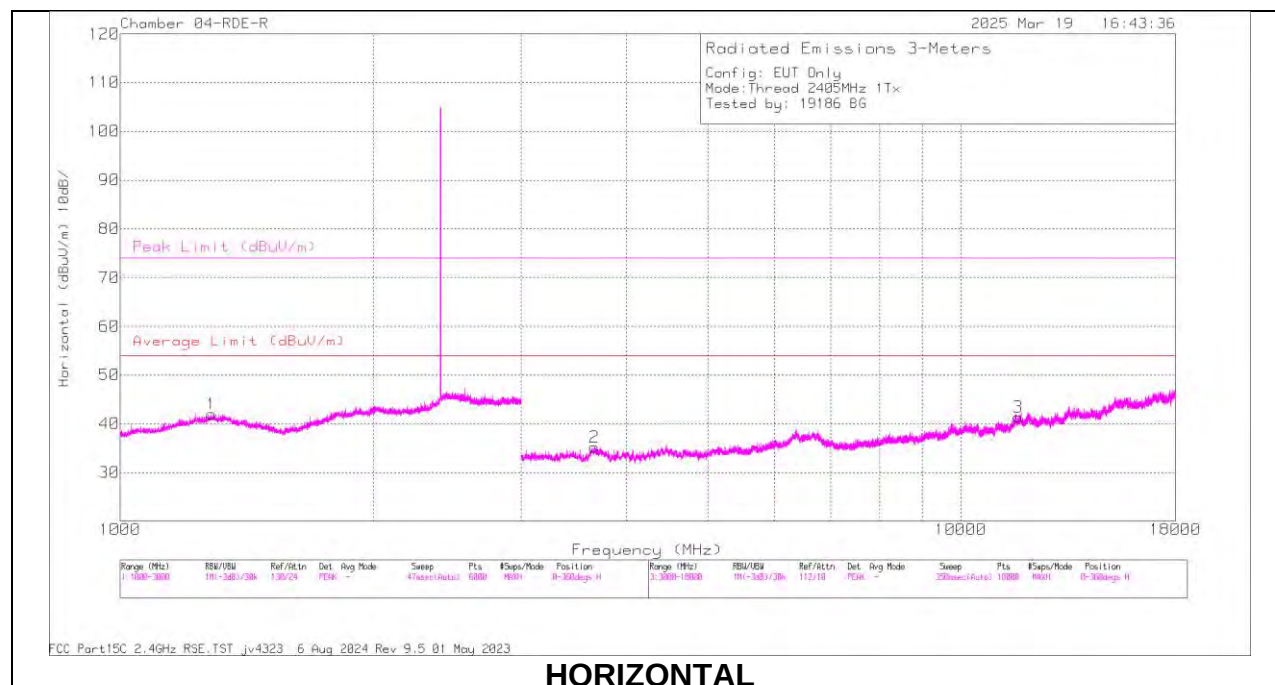
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.1.4. ANT2, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

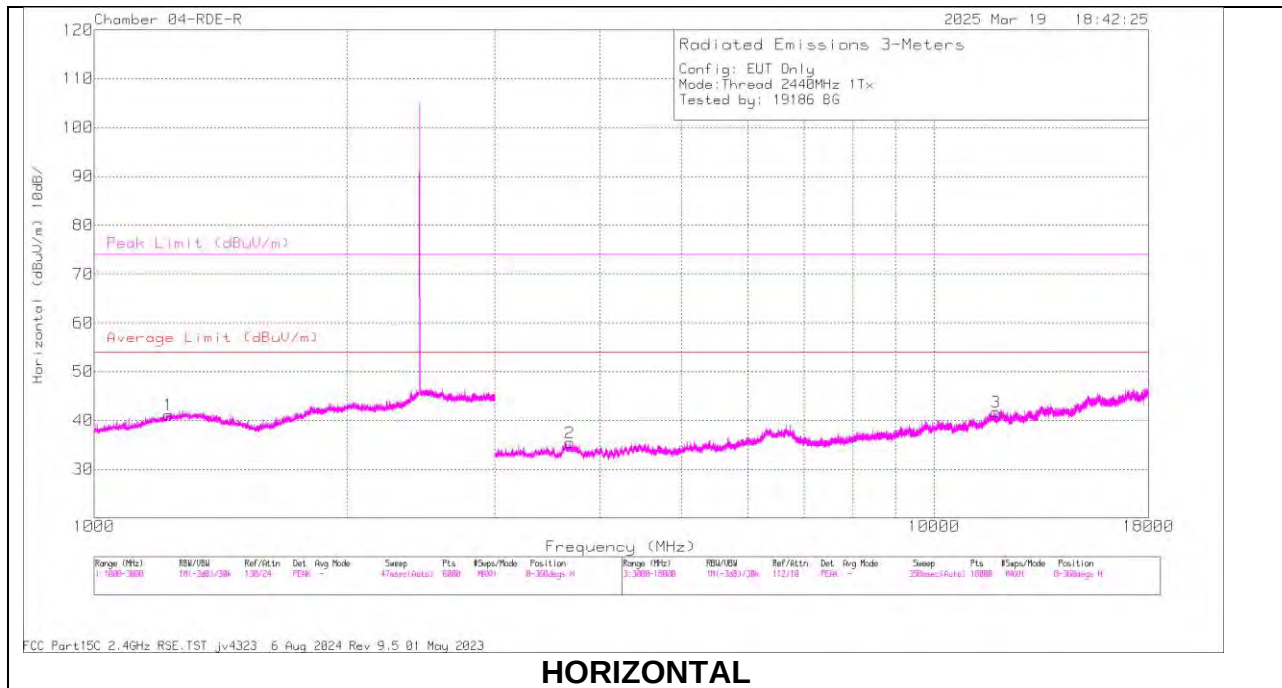
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1283.418	62.3	PK2	30.1	-40.18	52.22	-	-	-	-	360	100	H
	1285.611	50.07	MAv1	30.1	-40.19	39.98	-	-	-	-	360	100	H
4	1282.446	61.8	PK2	30	-40.19	51.61	-	-	-	-	360	201	V
	1283.596	50.16	MAv1	30.1	-40.18	40.08	-	-	-	-	360	201	V
2	*3664.87	58.03	PK2	33.6	-46.82	44.81	-	-	74	-29.19	360	100	H
	*3666.295	46.5	MAv1	33.6	-46.8	33.3	54	-20.7	-	-	360	100	H
3	*11693.237	53.57	PK2	39	-41.91	50.66	-	-	74	-23.34	360	100	H
	*11692.243	41.86	MAv1	39	-41.91	38.95	54	-15.05	-	-	360	100	H
5	*3668.961	58.04	PK2	33.5	-46.72	44.82	-	-	74	-29.18	360	201	V
	*3667.935	46.41	MAv1	33.6	-46.75	33.26	54	-20.74	-	-	360	201	V
6	*11780.318	54.66	PK2	39	-41.62	52.04	-	-	74	-21.96	360	200	V
	*11780.54	42.3	MAv1	39	-41.62	39.68	54	-14.32	-	-	360	200	V

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

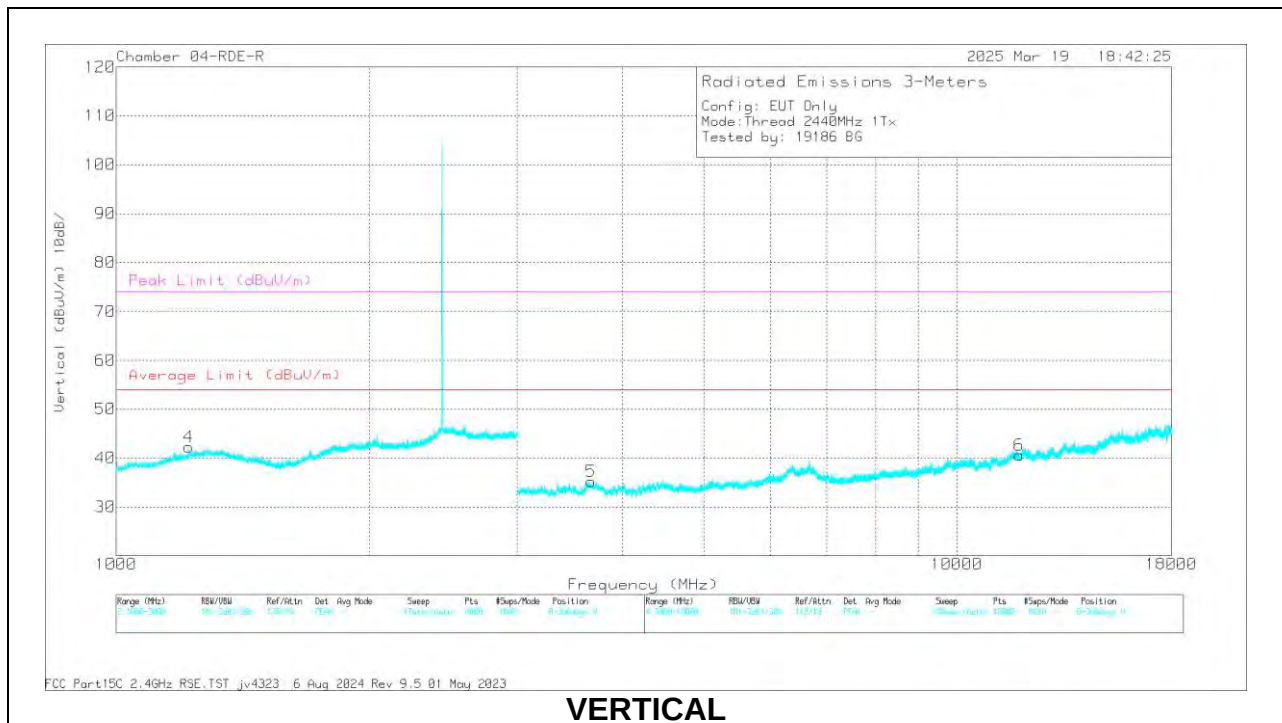
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

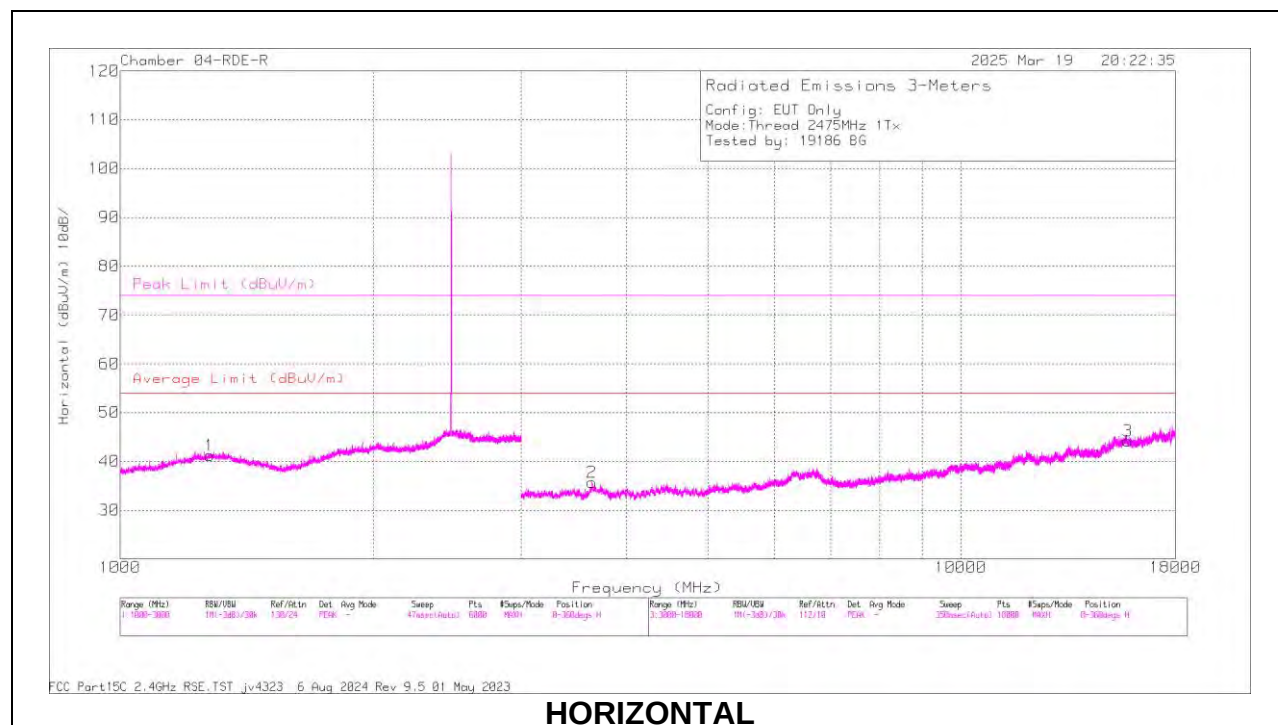
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1226.193	61.8	PK2	29.8	-40.21	51.39			74	-22.61	360	100	H
	* 1224.86	50.08	MAv1	29.7	-40.22	39.56	54	-14.44	-	-	360	100	H
4	* 1219.502	61.35	PK2	29.6	-40.24	50.71			74	-23.29	360	201	V
	* 1221.138	49.83	MAv1	29.7	-40.24	39.29	54	-14.71	-	-	360	201	V
2	* 3682.163	57.88	PK2	33.4	-46.86	44.42			74	-29.58	360	100	H
	* 3679.903	46.64	MAv1	33.4	-46.89	33.15	54	-20.85	-	-	360	100	H
3	* 11848.002	52.66	PK2	39.1	-41.45	50.31			74	-23.69	360	100	H
	* 11847.998	41.47	MAv1	39.1	-41.45	39.12	54	-14.88	-	-	360	100	H
5	* 3672.021	58.2	PK2	33.5	-46.71	44.99			74	-29.01	360	201	V
	* 3671.401	46.54	MAv1	33.5	-46.7	33.34	54	-20.66	-	-	360	201	V
6	* 11865.514	53.28	PK2	39.1	-41.81	50.57			74	-23.43	360	200	V
	* 11867.462	41.23	MAv1	39.1	-41.86	38.47	54	-15.53	-	-	360	200	V

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

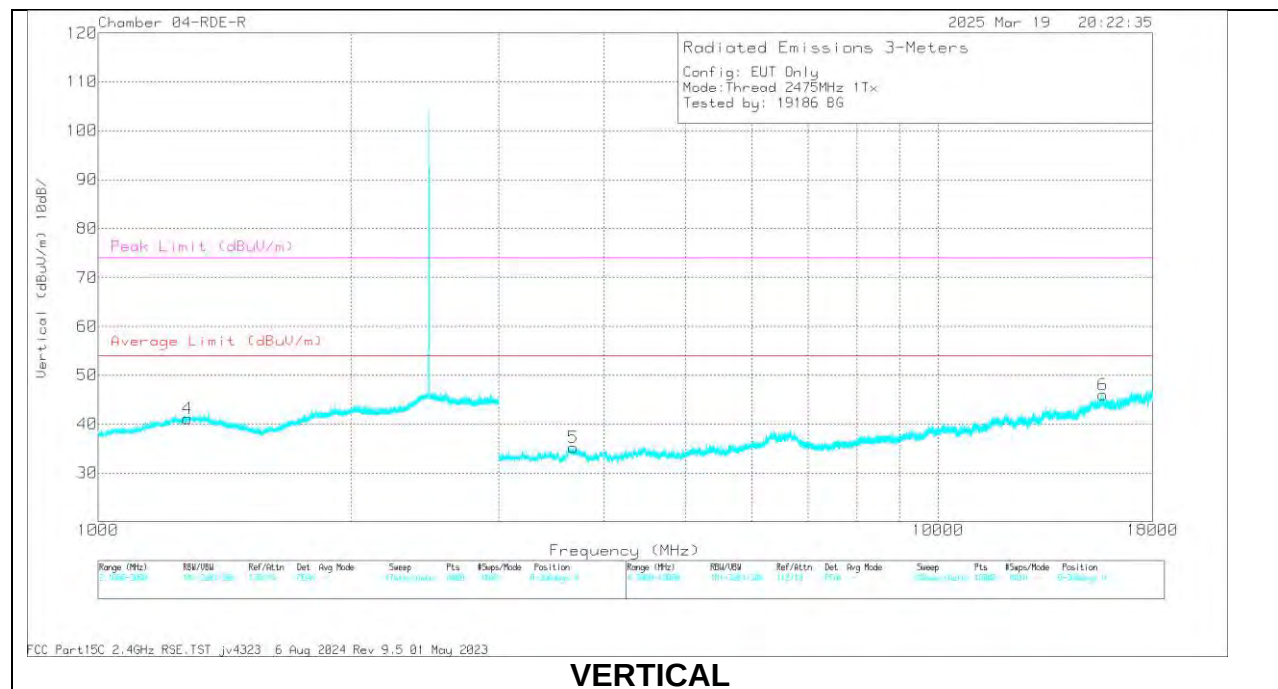
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

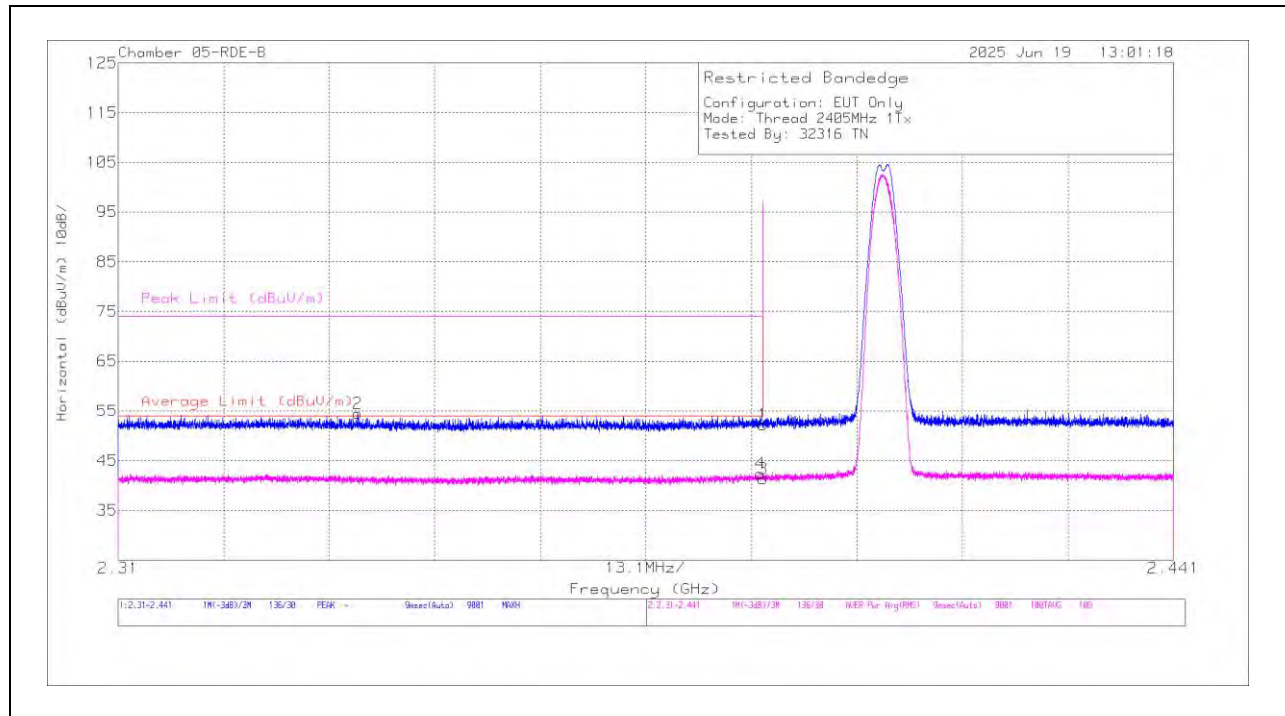
RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80430 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1277.337	61.02	PK2	30	-40.21	50.81	-	-	-	-	360	100	H
	1280.326	50	MAv1	30	-40.2	39.8	-	-	-	-	360	100	H
4	1277.076	62.06	PK2	30	-40.21	51.85	-	-	-	-	360	201	V
	1278.132	49.81	MAv1	30	-40.2	39.61	-	-	-	-	360	201	V
2	*3643.634	58.17	PK2	33.8	-46.54	45.43	-	-	74	-28.57	360	100	H
	*3641.596	46.29	MAv1	33.8	-46.56	33.53	54	-20.47	-	-	360	100	H
3	*15790.021	51.79	PK2	41.2	-40.6	52.39	-	-	74	-21.61	360	100	H
	*15790.065	40.42	MAv1	41.2	-40.6	41.02	54	-12.98	-	-	360	100	H
5	*3677.289	57.94	PK2	33.4	-46.85	44.49	-	-	74	-29.51	360	201	V
	*3678.924	46.81	MAv1	33.4	-46.89	33.32	54	-20.68	-	-	360	201	V
6	*15717.403	53.15	PK2	41.4	-40.07	54.48	-	-	74	-19.52	360	200	V
	*15717.861	40.94	MAv1	41.4	-40.06	42.28	54	-11.72	-	-	360	200	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

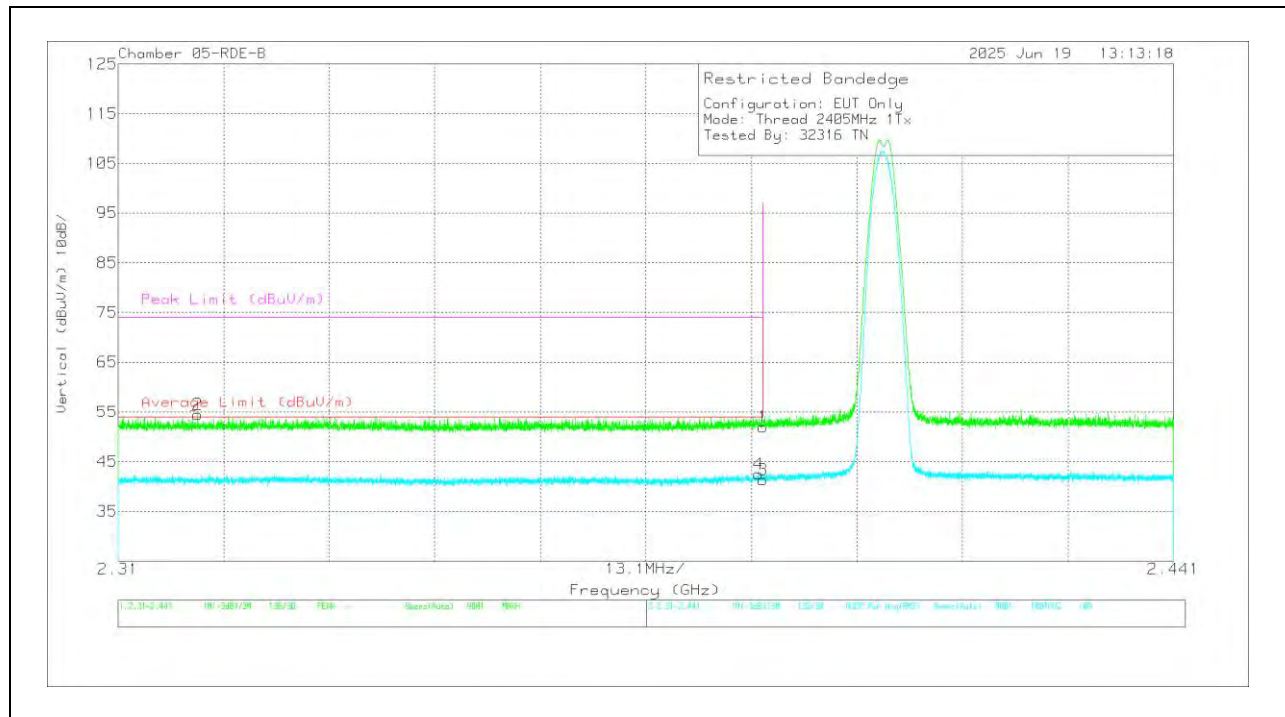
10.1.5. ANT1, 802.15.4 HIGH POWER BANDEGE**Low Channel****HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.339738	63.34	Pk	31.8	-40.62	54.52	-	-	74	-19.48	51	399	H
4	*2.389738	50.74	RMS	32	-40.39	42.35	54	-11.65	-	-	51	399	H
1	*2.39	60.59	Pk	32	-40.39	52.2	-	-	74	-21.8	51	399	H
3	*2.39	49.79	RMS	32	-40.39	41.4	54	-12.6	-	-	51	399	H

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

PK - Peak detector
RMS - RMS detection

VERTICAL RESULT



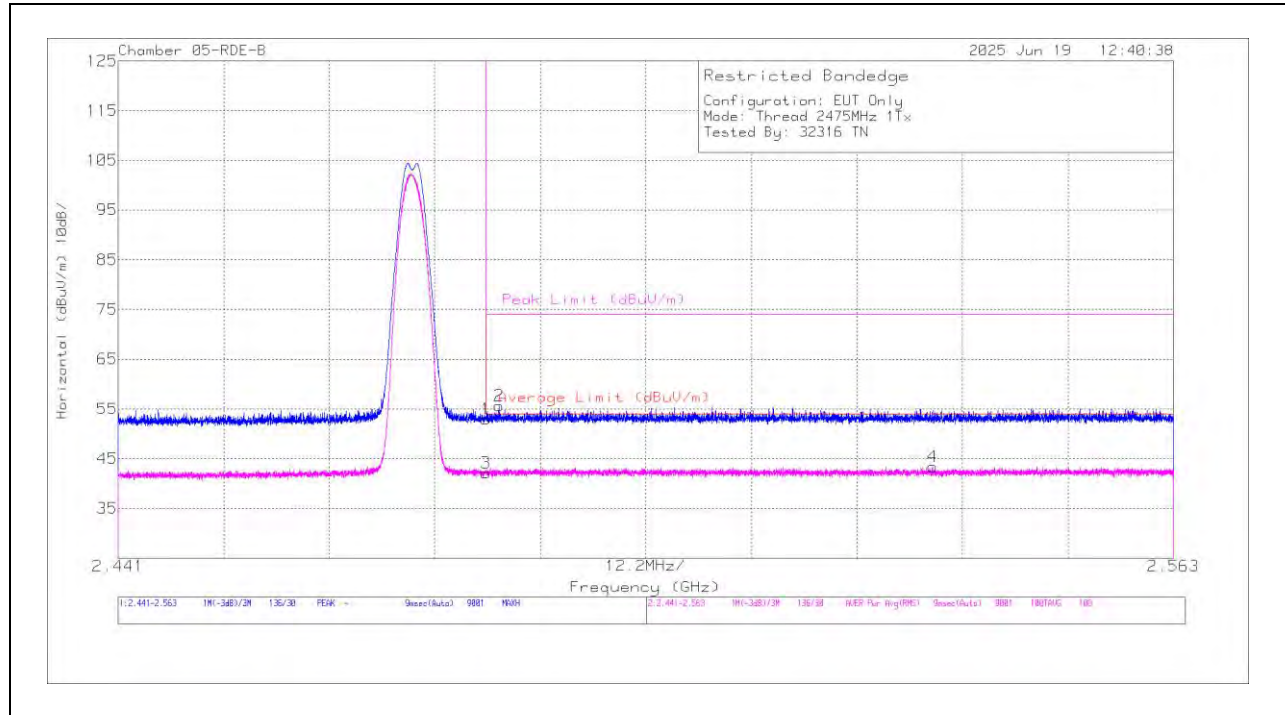
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.319854	63.49	Pk	31.7	-40.65	54.54	-	-	74	-19.46	259	393	V
4	*2.389505	50.86	RMS	32	-40.39	42.47	54	-11.53	-	-	259	393	V
1	*2.39	60.41	Pk	32	-40.39	52.02	-	-	74	-21.98	259	393	V
3	*2.39	49.73	RMS	32	-40.39	41.34	54	-12.66	-	-	259	393	V

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

PK - Peak detector
RMS - RMS detection

High Channel

HORIZONTAL RESULT

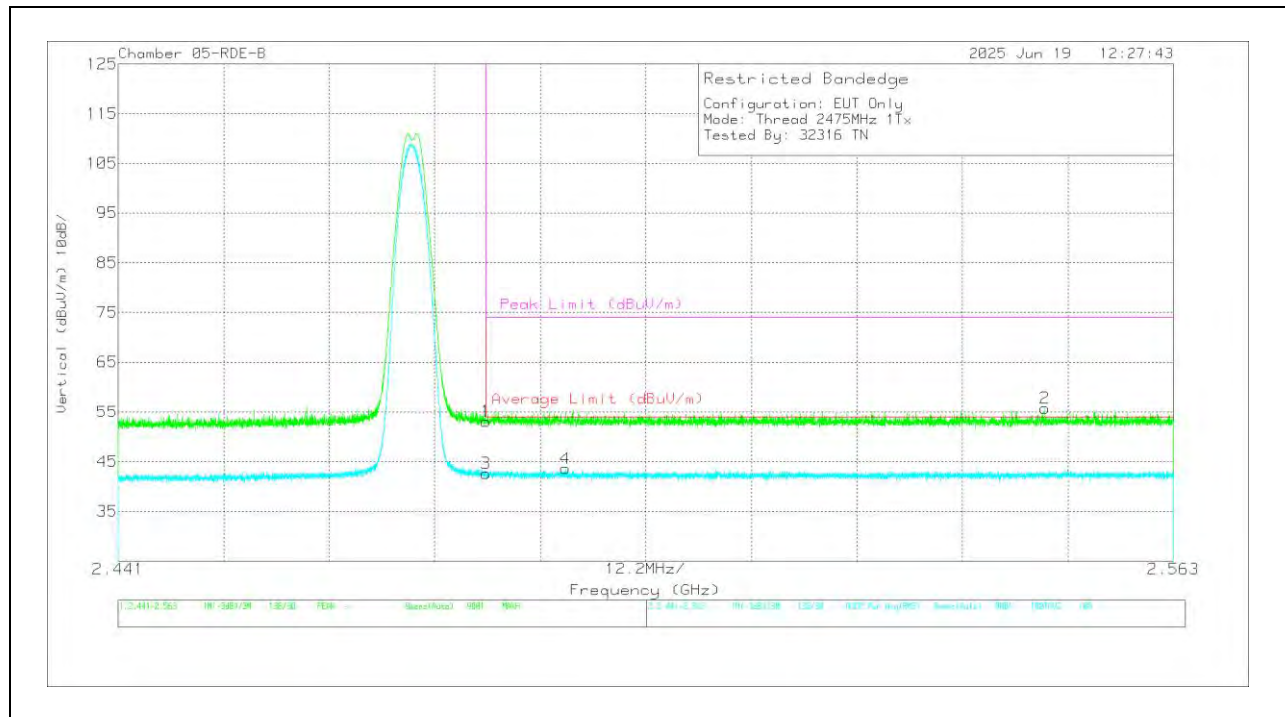


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	61.14	Pk	32.2	-40.39	52.95	-	-	74	-21.05	48	379	H
3	*2.4835	50.32	RMS	32.2	-40.39	42.13	54	-11.87	-	-	48	379	H
2	*2.485003	63.73	Pk	32.3	-40.36	55.67	-	-	74	-18.33	48	379	H
4	*2.535146	51.3	RMS	32.3	-40.24	43.36	54	-10.64	-	-	48	379	H

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

Pk - Peak detector
RMS - RMS detection

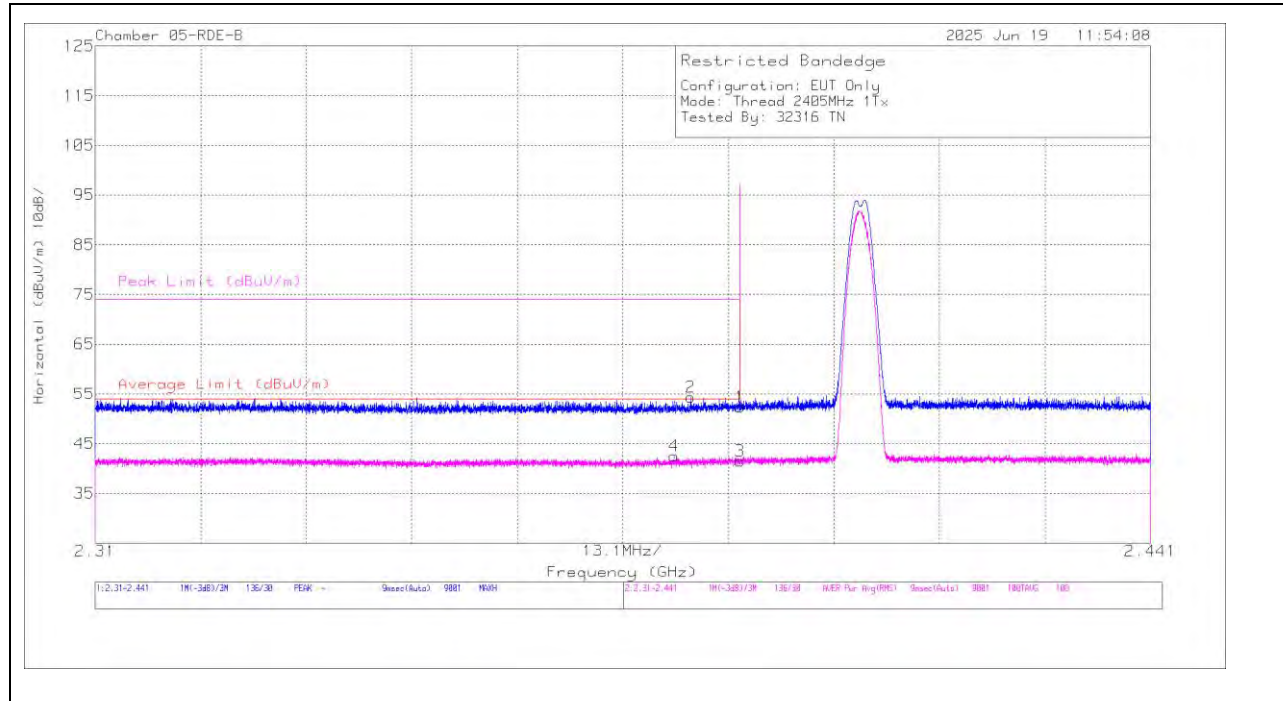
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	61.34	Pk	32.2	-40.39	53.15	-	-	74	-20.85	358	392	V
3	*2.4835	50.8	RMS	32.2	-40.39	42.61	54	-11.39	-	-	358	392	V
4	*2.492743	51.67	RMS	32.3	-40.38	43.59	54	-10.41	-	-	358	392	V
2	*2.548147	63.61	Pk	32.3	-40.13	55.78	-	-	74	-18.22	358	392	V

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

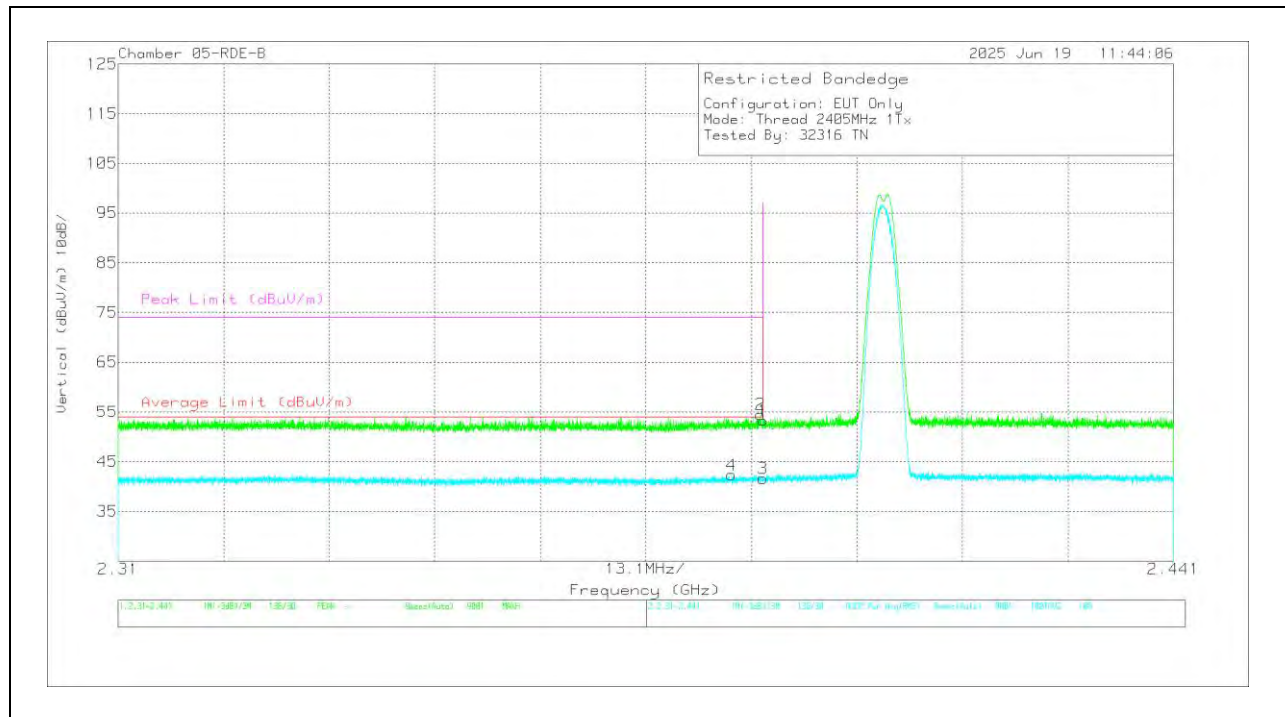
PK - Peak detector
RMS - RMS detection

10.1.6. ANT1, 802.15.4 LOW POWER BANDEDGE**LOW CHANNEL****HORIZONTAL RESULT**

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

Pk - Peak detector
RMS - RMS detection

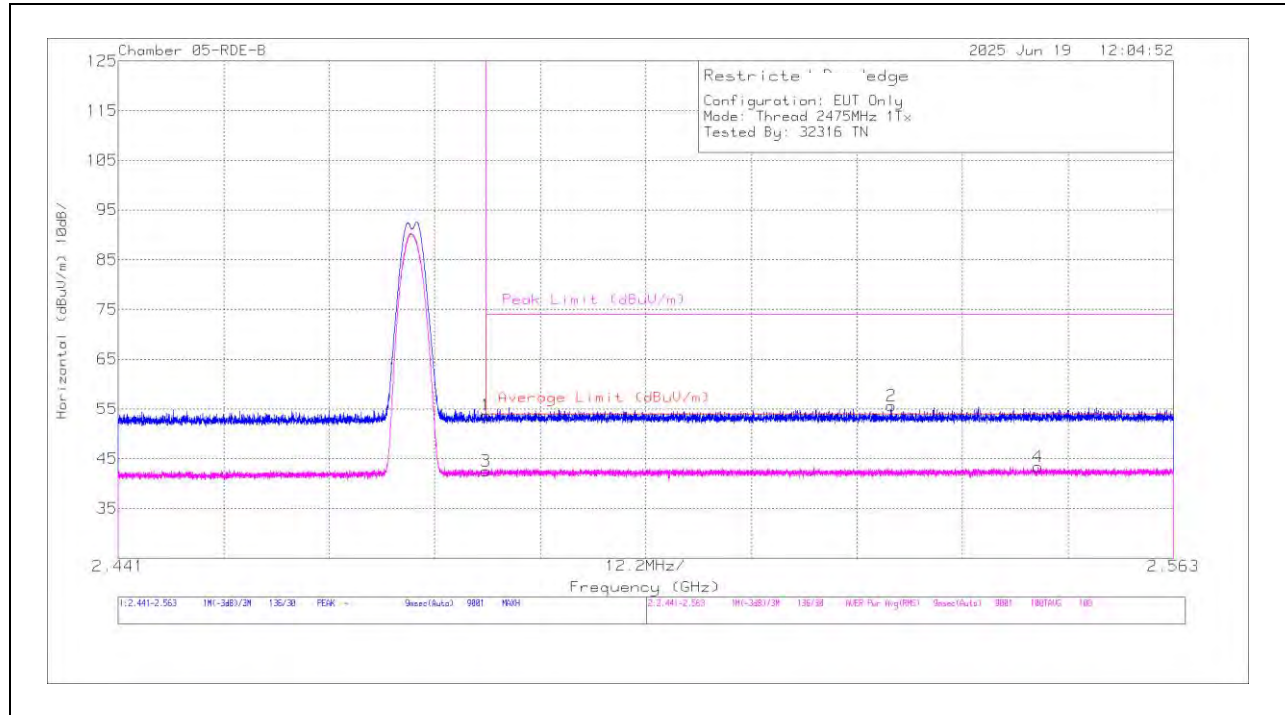
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	*2.386172	50.71	RMS	32	-40.39	42.32	54	-11.68	-	-	300	384	V
2	*2.389694	62.89	Pk	32	-40.39	54.5	-	-	74	-19.5	300	384	V
1	*2.39	61.68	Pk	32	-40.39	53.29	-	-	74	-20.71	300	384	V
3	*2.39	50.01	RMS	32	-40.39	41.62	54	-12.38	-	-	300	384	V

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

PK - Peak detector
RMS - RMS detection

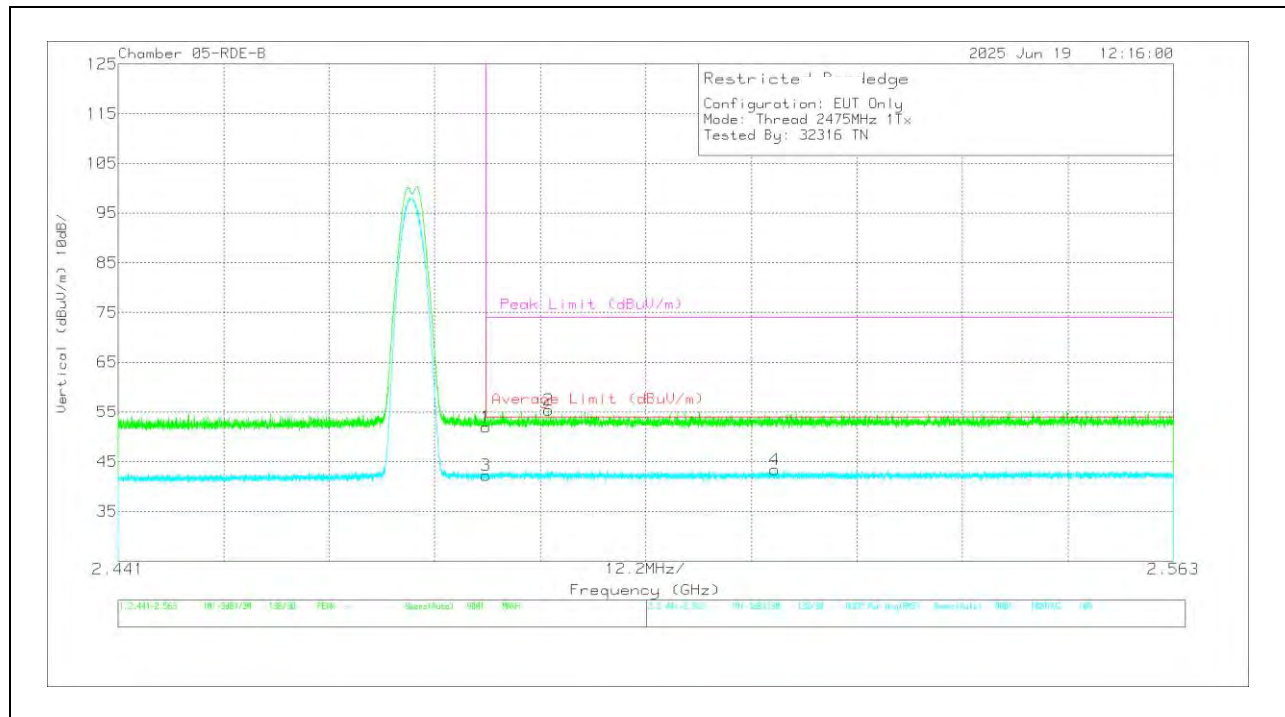
HIGH CHANNEL**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	61.88	Pk	32.2	-40.39	53.69	-	-	74	-20.31	200	342	H
3	*2.4835	50.69	RMS	32.2	-40.39	42.5	54	-11.5	-	-	200	342	H
2	*2.530415	63.62	Pk	32.3	-40.24	55.68	-	-	74	-18.32	200	342	H
4	*2.54732	51.2	RMS	32.3	-40.12	43.38	54	-10.62	-	-	200	342	H

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

Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



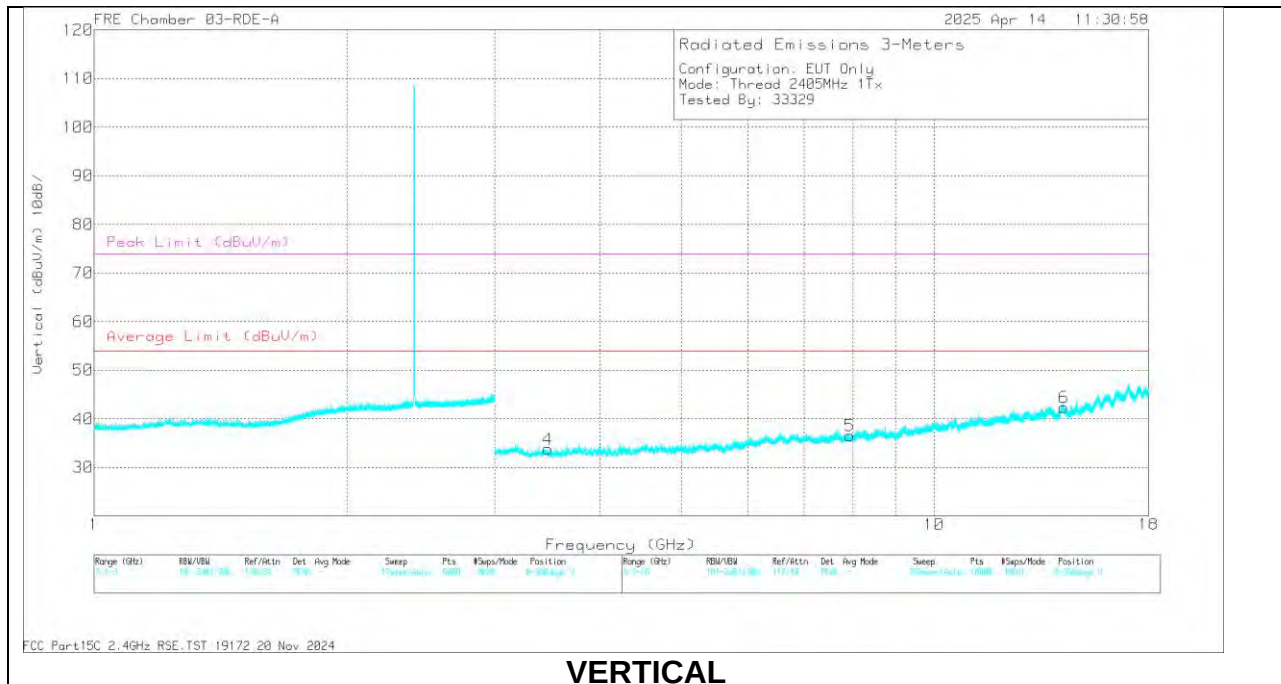
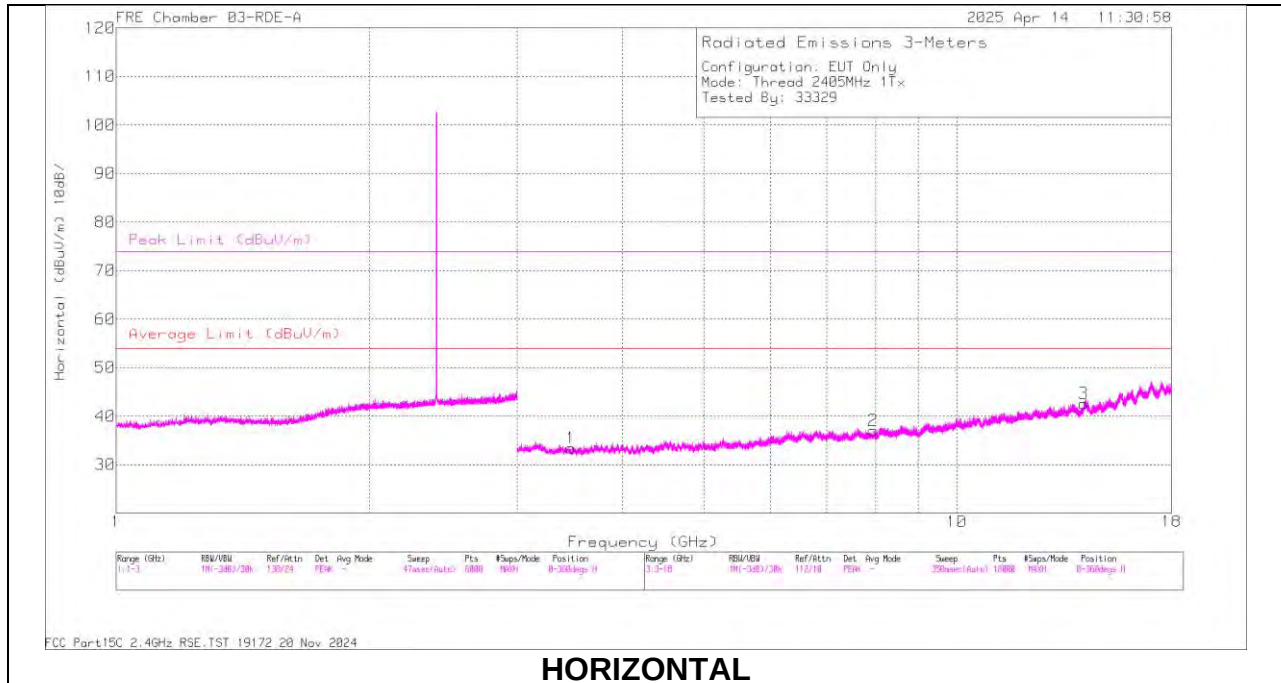
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	60.2	Pk	32.2	-40.39	52.01	-	-	74	-21.99	9	392	V
3	*2.4835	50.5	RMS	32.2	-40.39	42.31	54	-11.69	-	-	9	392	V
2	*2.490751	63.42	Pk	32.3	-40.38	55.34	-	-	74	-18.66	9	392	V
4	*2.516941	51.34	RMS	32.3	-40.22	43.42	54	-10.58	-	-	9	392	V

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

Pk - Peak detector
RMS - RMS detection

10.1.7. ANT1, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

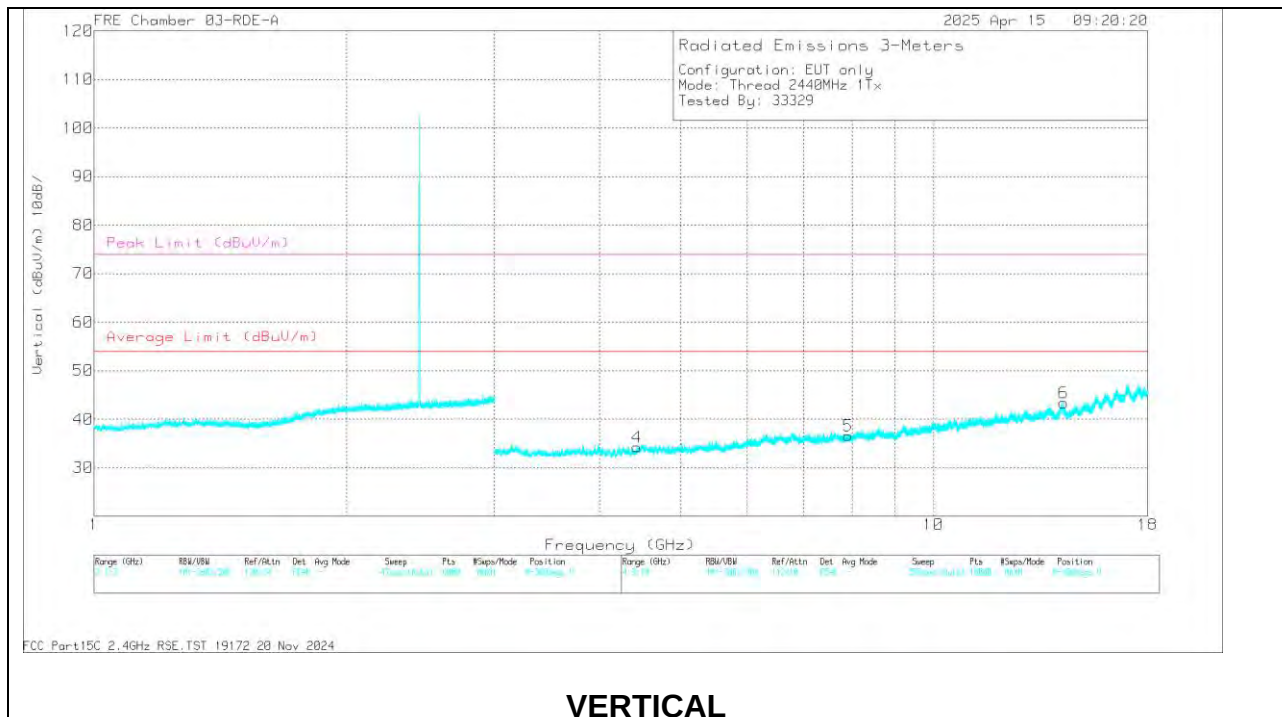
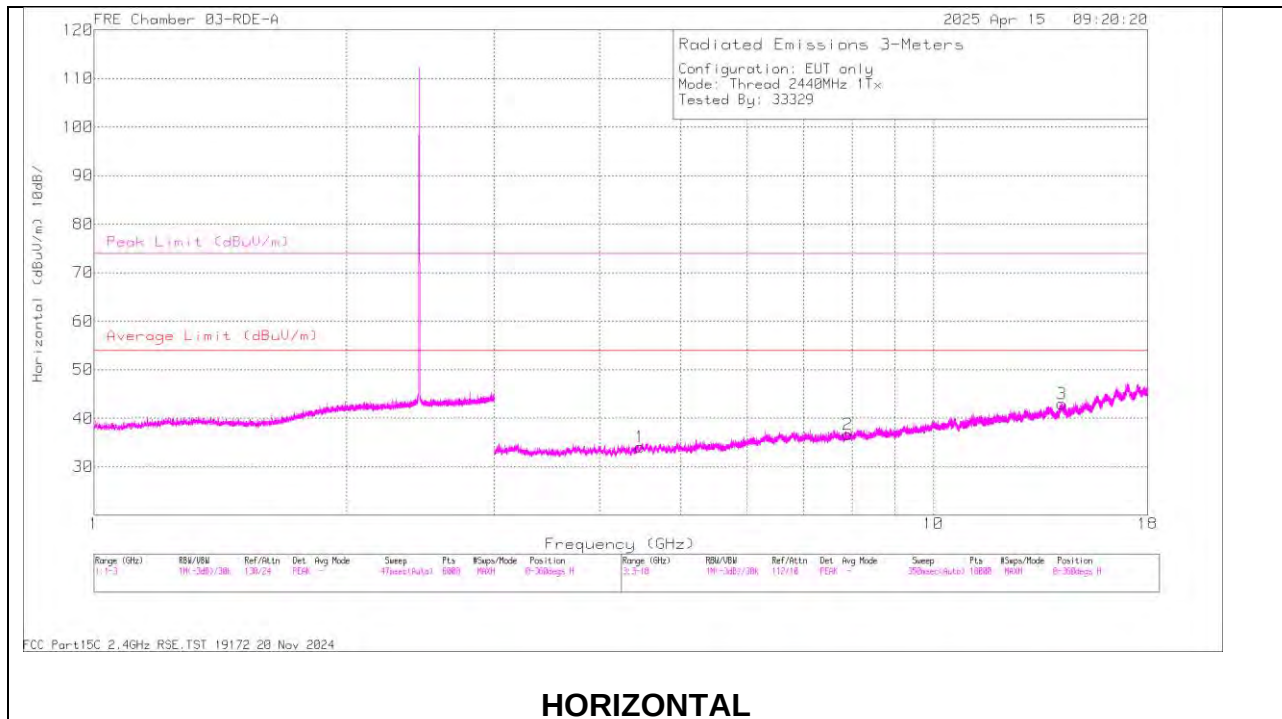
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	3.472913	56.85	PK2	32.9	-46.69	43.06	-	-	-	-	1	101	V
	3.474117	45.58	MAv1	32.9	-46.79	31.69	-	-	-	-	1	101	V
1	3.477222	57.03	PK2	32.9	-46.88	43.05	-	-	-	-	1	101	H
	3.476852	45.57	MAv1	32.9	-46.89	31.58	-	-	-	-	1	101	H
5	7.932891	56.07	PK2	36	-45.5	46.57	-	-	-	-	1	101	V
	7.929488	44.5	MAv1	36	-45.5	35	-	-	-	-	1	101	V
2	7.954423	56.31	PK2	36	-45.6	46.71	-	-	-	-	1	101	H
	7.956322	44.48	MAv1	36	-45.67	34.81	-	-	-	-	1	101	H
3	14.163746	55.46	PK2	39.1	-43.7	50.86	-	-	-	-	1	101	H
	14.164338	43.96	MAv1	39.1	-43.7	39.36	-	-	-	-	1	101	H
6	14.271176	54.86	PK2	39.1	-43.3	50.66	-	-	-	-	1	101	V
	14.270338	43.32	MAv1	39.1	-43.23	39.19	-	-	-	-	1	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

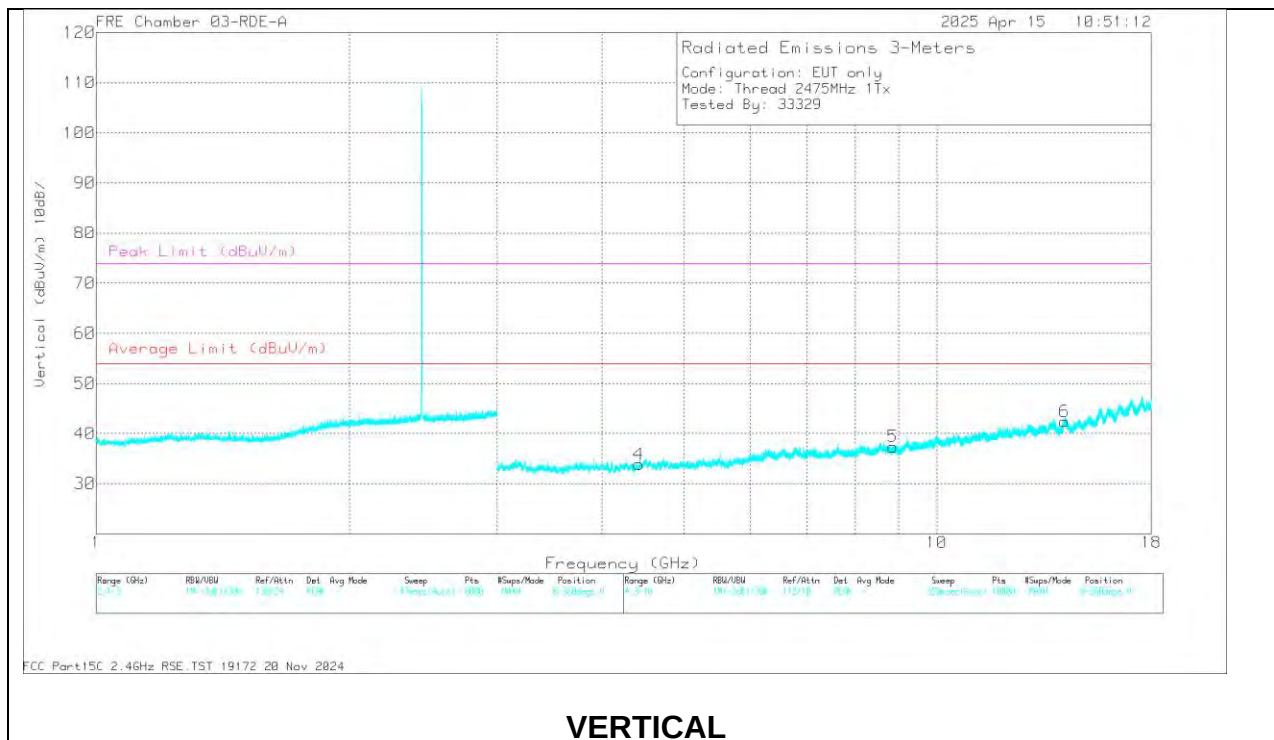
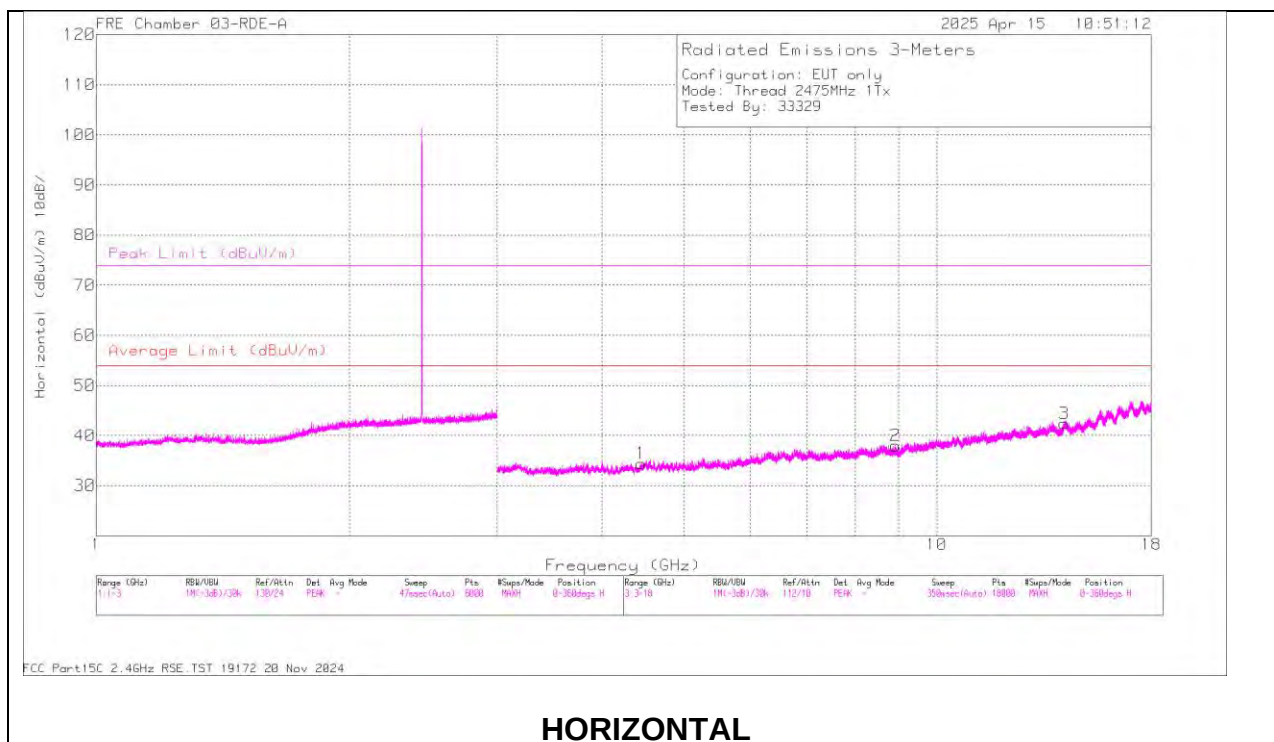
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	4.433273	57.75	PK2	33.8	-47.6	43.95	-	-	-	-	360	101	V
	4.434087	46.3	MAv1	33.8	-47.6	32.5	-	-	-	-	360	101	V
1	4.471821	57.98	PK2	33.9	-47.72	44.16	-	-	-	-	360	200	H
	4.471575	46.49	MAv1	33.9	-47.74	32.65	-	-	-	-	360	200	H
2	7.91484	56.52	PK2	36	-45.4	47.12	-	-	-	-	360	200	H
	7.914281	44.42	MAv1	36	-45.4	35.02	-	-	-	-	360	200	H
5	7.916152	55.84	PK2	36	-45.4	46.44	-	-	-	-	360	200	V
	7.914373	44.4	MAv1	36	-45.4	35	-	-	-	-	360	200	V
3	14.236156	55.49	PK2	39.1	-43.1	51.49	-	-	-	-	360	101	H
	14.235961	43.57	MAv1	39.1	-43.1	39.57	-	-	-	-	360	101	H
6	14.29722	55.21	PK2	39.2	-43.38	51.03	-	-	-	-	360	200	V
	14.299225	43.64	MAv1	39.2	-43.3	39.54	-	-	-	-	360	200	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



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	4.4185	57.44	PK2	33.8	-47.45	43.79	-	-	-	-	360	101	V
	4.421422	45.87	MAv1	33.8	-47.54	32.13	-	-	-	-	360	101	V
1	4.451869	57.86	PK2	33.9	-47.7	44.06	-	-	-	-	360	200	H
	4.450481	46.54	MAv1	33.8	-47.7	32.64	-	-	-	-	360	200	H
5	8.869392	55.89	PK2	36.2	-44.6	47.49	-	-	-	-	360	200	V
	8.869858	44.14	MAv1	36.2	-44.6	35.74	-	-	-	-	360	200	V
2	8.934525	55.5	PK2	36.2	-44.55	47.15	-	-	-	-	360	101	H
	8.932998	44.06	MAv1	36.2	-44.6	35.66	-	-	-	-	360	101	H
3	14.178934	55.14	PK2	39.1	-43.8	50.44	-	-	-	-	360	200	H
	14.17647	43.81	MAv1	39.1	-43.8	39.11	-	-	-	-	360	200	H
6	14.188849	55.52	PK2	39.1	-43.9	50.72	-	-	-	-	360	200	V
	14.188435	43.88	MAv1	39.1	-43.9	39.08	-	-	-	-	360	200	V

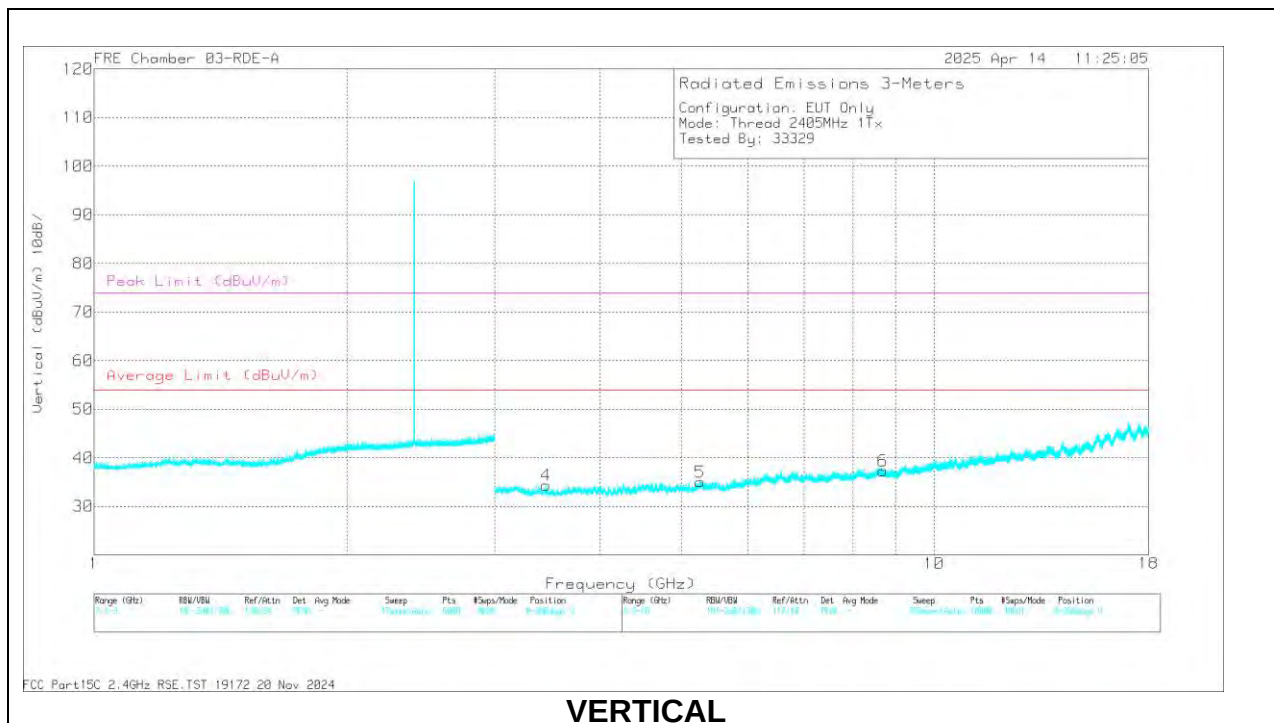
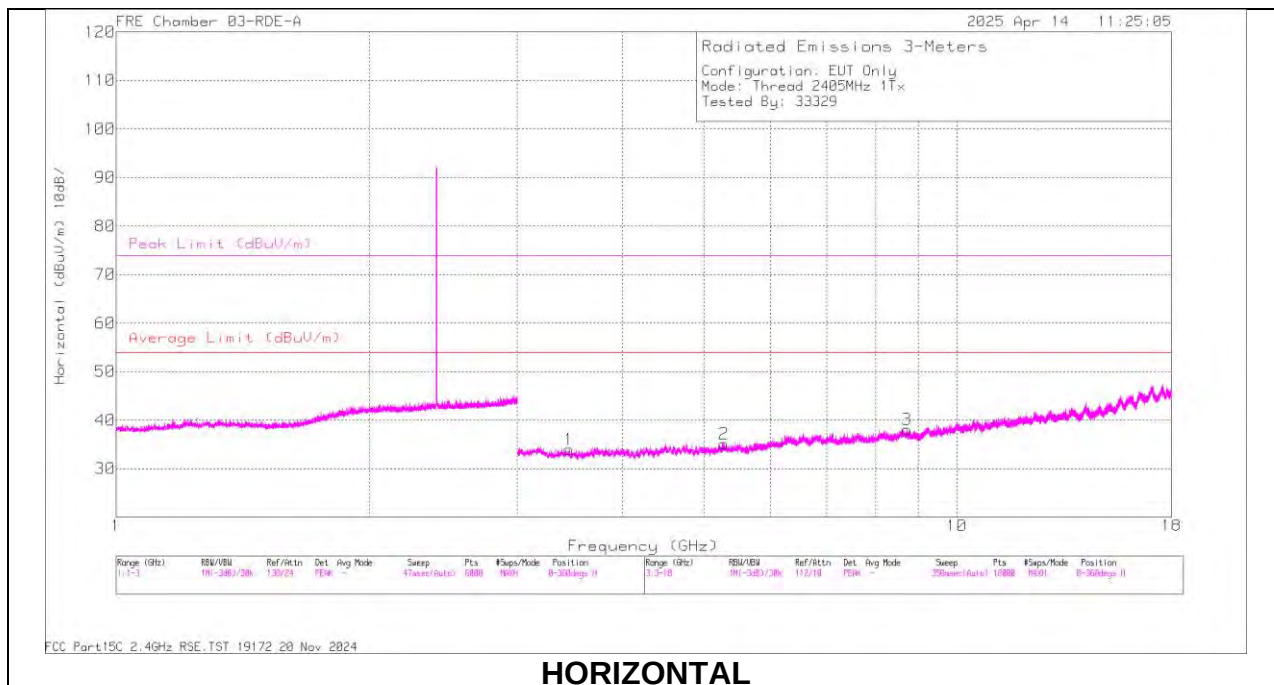
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.1.8. ANT1, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

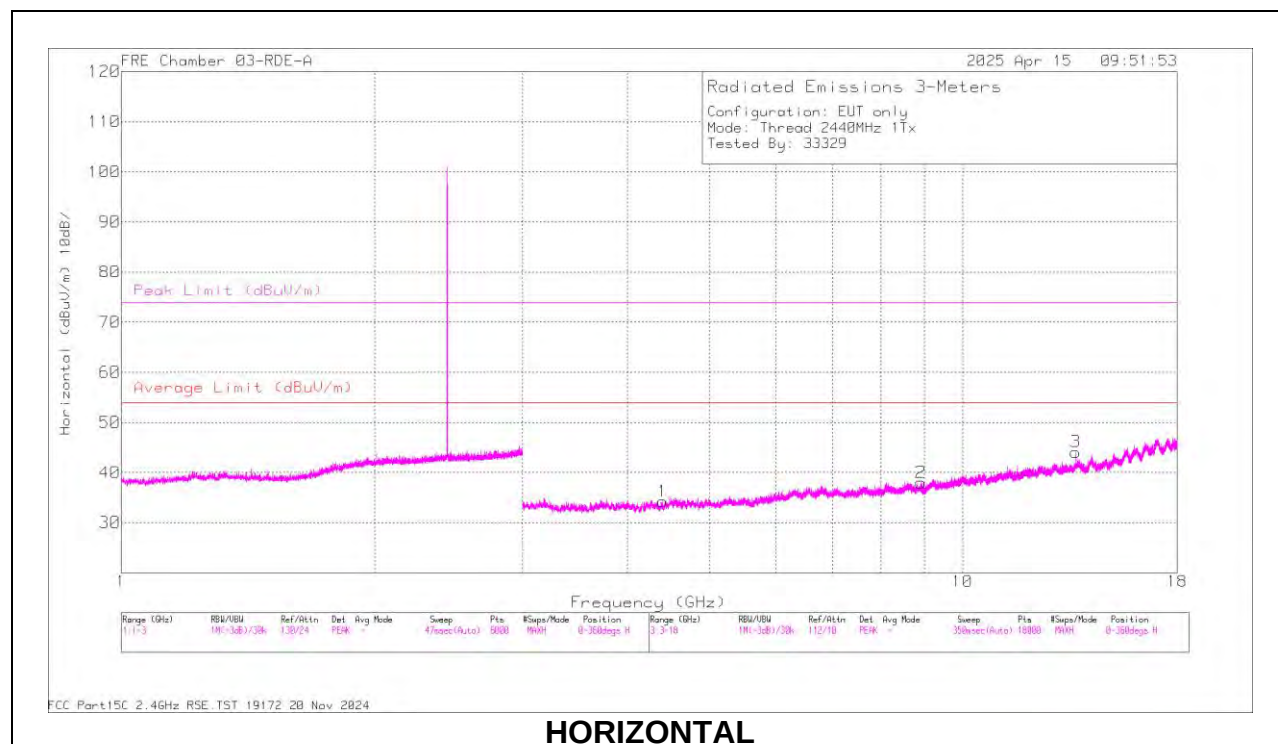
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	3.451551	57.83	PK2	32.8	-46.76	43.87	-	-	-	-	360	101	V
	3.44865	45.96	MAv1	32.8	-46.64	32.12	-	-	-	-	360	101	V
1	3.455395	57.25	PK2	32.8	-46.72	43.33	-	-	-	-	360	101	H
	3.455008	45.75	MAv1	32.8	-46.8	31.75	-	-	-	-	360	101	H
5	5.265379	58.18	PK2	34.5	-47.6	45.08	-	-	-	-	360	101	V
	5.268161	46.45	MAv1	34.5	-47.63	33.32	-	-	-	-	360	101	V
2	5.283369	58.47	PK2	34.5	-47.7	45.27	-	-	-	-	360	101	H
	5.281123	46.43	MAv1	34.5	-47.61	33.32	-	-	-	-	360	101	H
6	8.685821	55.65	PK2	36	-44.6	47.05	-	-	-	-	360	101	V
	8.684685	44.05	MAv1	36	-44.63	35.42	-	-	-	-	360	101	V
3	8.720279	55.69	PK2	36	-44.43	47.26	-	-	-	-	360	101	H
	8.721284	44.5	MAv1	36	-44.5	36	-	-	-	-	360	101	H

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

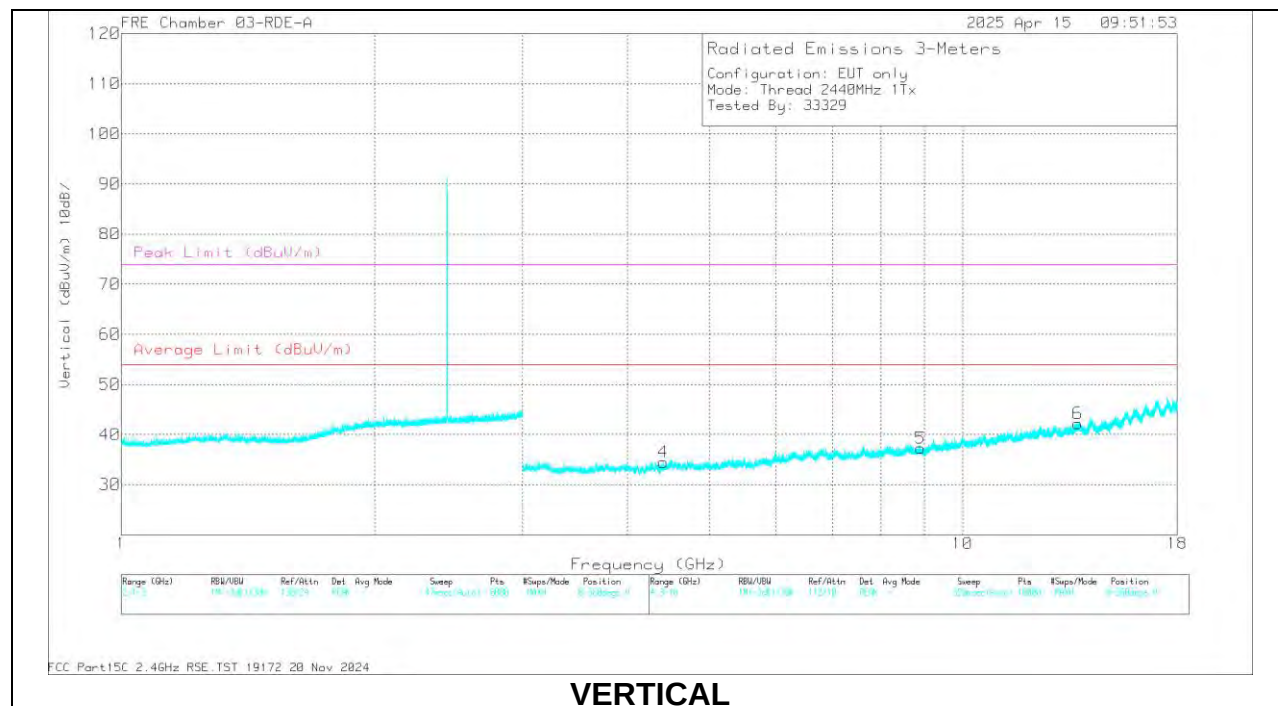
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

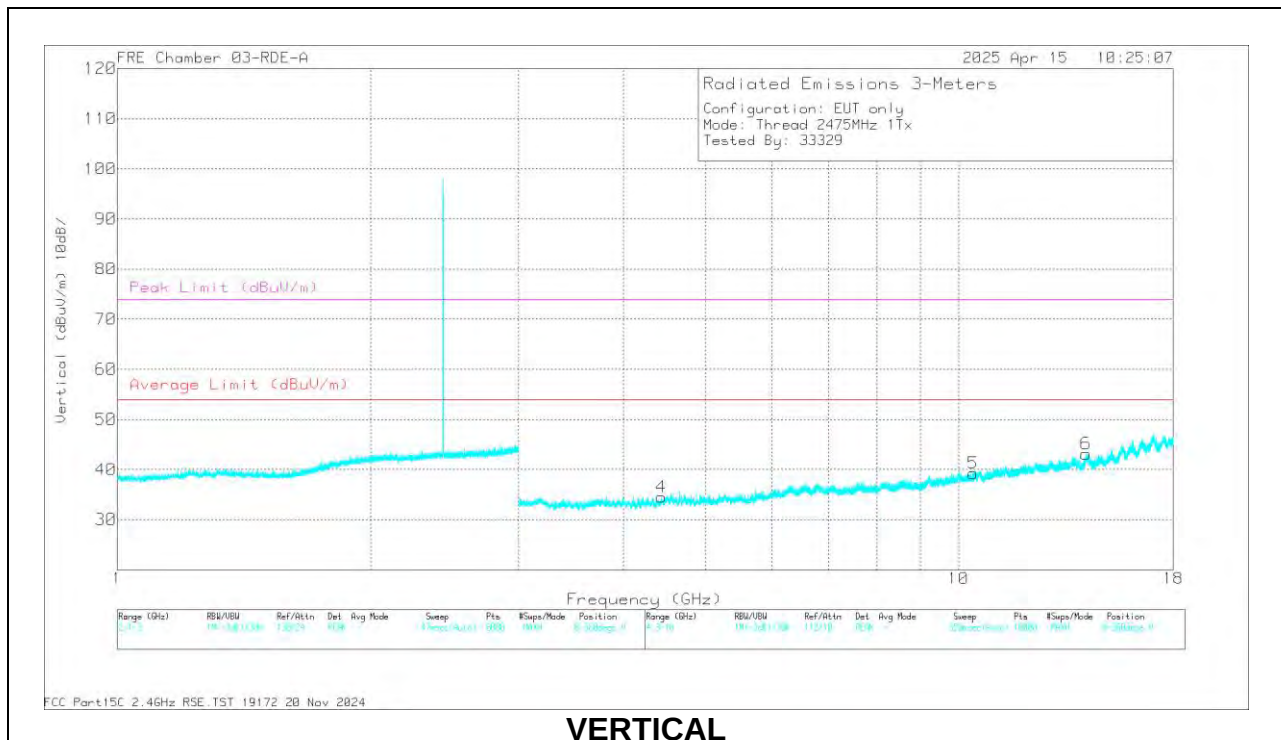
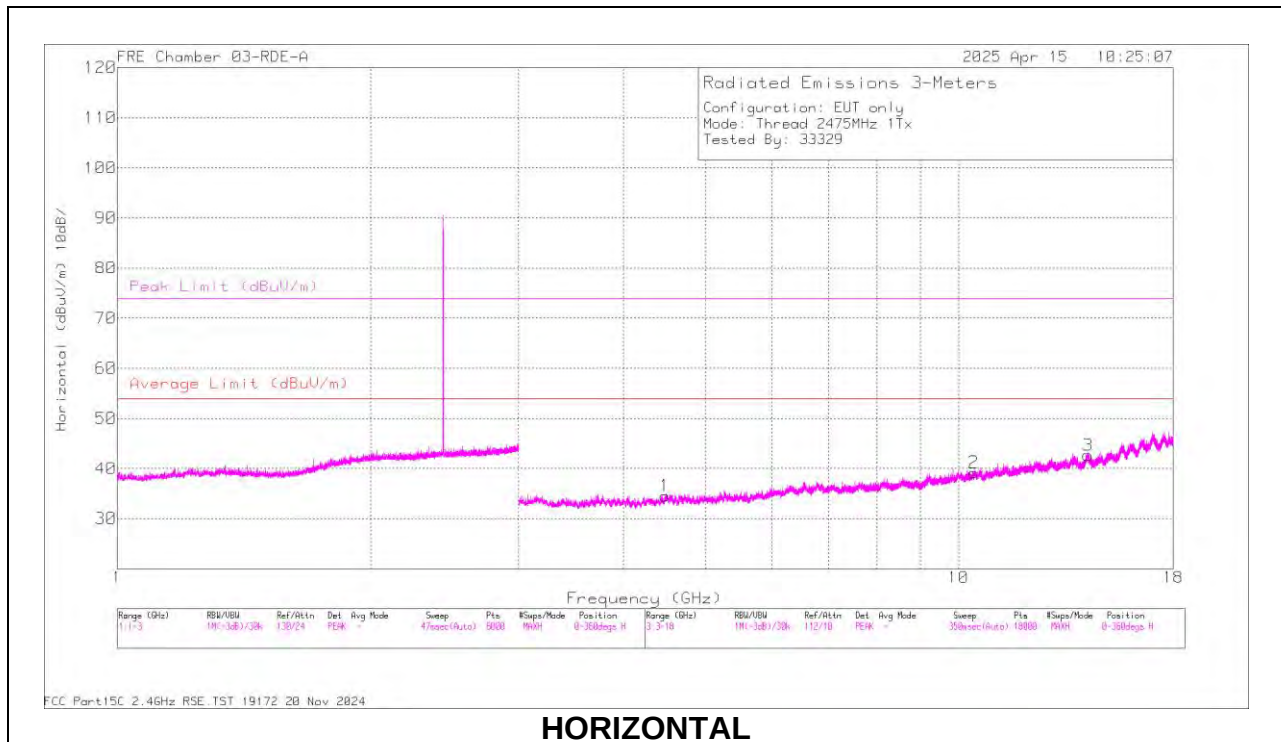
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*4.400803	57.22	PK2	33.8	-47.32	43.7			74	-30.3	360	101	H
	*4.401085	45.64	MAv1	33.8	-47.3	32.14	54	-21.86	-	-	360	101	H
4	*4.409203	57.2	PK2	33.8	-47.5	43.5			74	-30.5	360	200	V
	*4.409776	45.81	MAv1	33.8	-47.5	32.11	54	-21.89	-	-	360	200	V
5	8.916657	55.92	PK2	36.2	-44.7	47.42	-	-	-	-	360	200	V
	8.916056	44.12	MAv1	36.2	-44.7	35.62	-	-	-	-	360	200	V
2	8.920837	56.15	PK2	36.2	-44.62	47.73	-	-	-	-	360	200	H
	8.924685	43.88	MAv1	36.2	-44.53	35.55	-	-	-	-	360	200	H
3	13.628127	56.22	PK2	39.1	-43.71	51.61	-	-	-	-	360	101	H
	13.628423	43.95	MAv1	39.1	-43.74	39.31	-	-	-	-	360	101	H
6	13.706547	54.32	PK2	39	-43.5	49.82	-	-	-	-	360	101	V
	13.70648	42.75	MAv1	39	-43.5	38.25	-	-	-	-	360	101	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



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	4.434041	58.39	PK2	33.8	-47.6	44.59	-	-	-	-	360	101	V
	4.434424	46.47	MAv1	33.8	-47.6	32.67	-	-	-	-	360	101	V
1	4.477414	58.07	PK2	33.9	-47.9	44.07	-	-	-	-	360	101	H
	4.477345	46.59	MAv1	33.9	-47.9	32.59	-	-	-	-	360	101	H
5	10.40359	56.07	PK2	37.5	-45.24	48.33	-	-	-	-	360	200	V
	10.405553	44.85	MAv1	37.5	-45.16	37.19	-	-	-	-	360	200	V
2	10.432352	56.12	PK2	37.6	-45.36	48.36	-	-	-	-	360	200	H
	10.433022	44.45	MAv1	37.6	-45.3	36.75	-	-	-	-	360	200	H
6	14.181532	55.1	PK2	39.1	-43.8	50.4	-	-	-	-	360	101	V
	14.179394	43.82	MAv1	39.1	-43.8	39.12	-	-	-	-	360	101	V
3	14.254573	55.07	PK2	39.1	-42.94	51.23	-	-	-	-	360	101	H
	14.253405	43.58	MAv1	39.1	-43.06	39.62	-	-	-	-	360	101	H

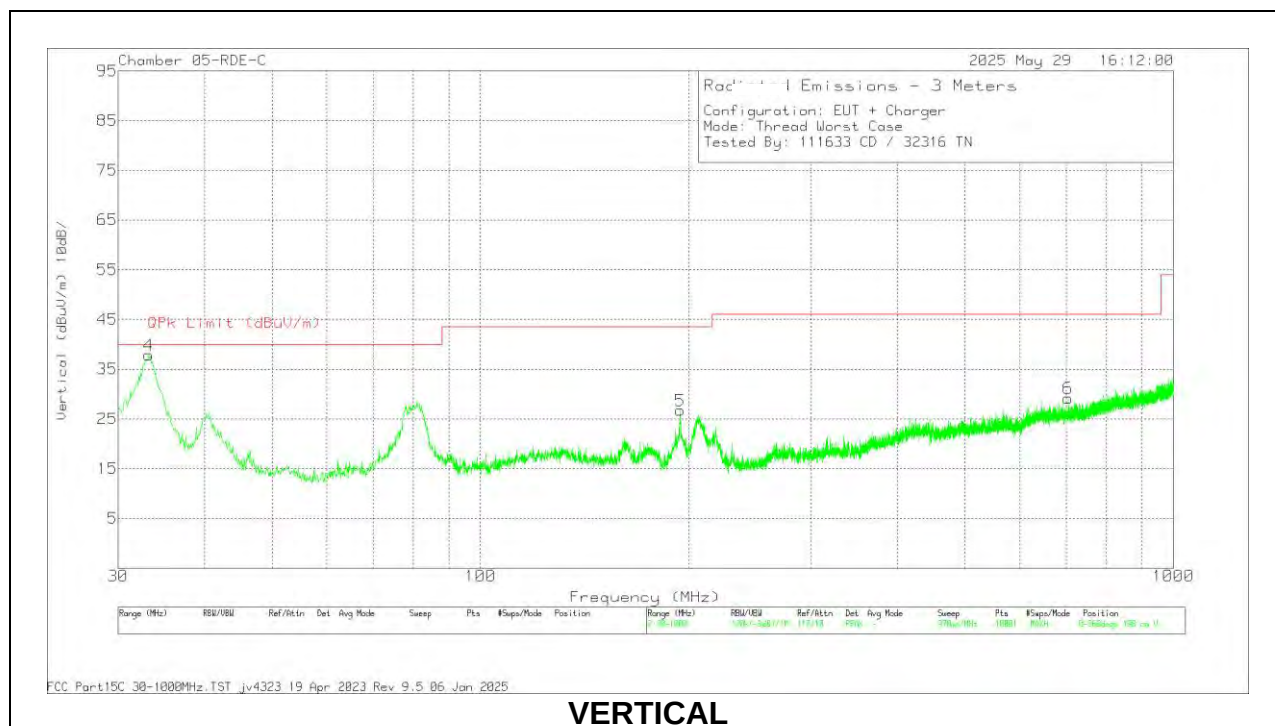
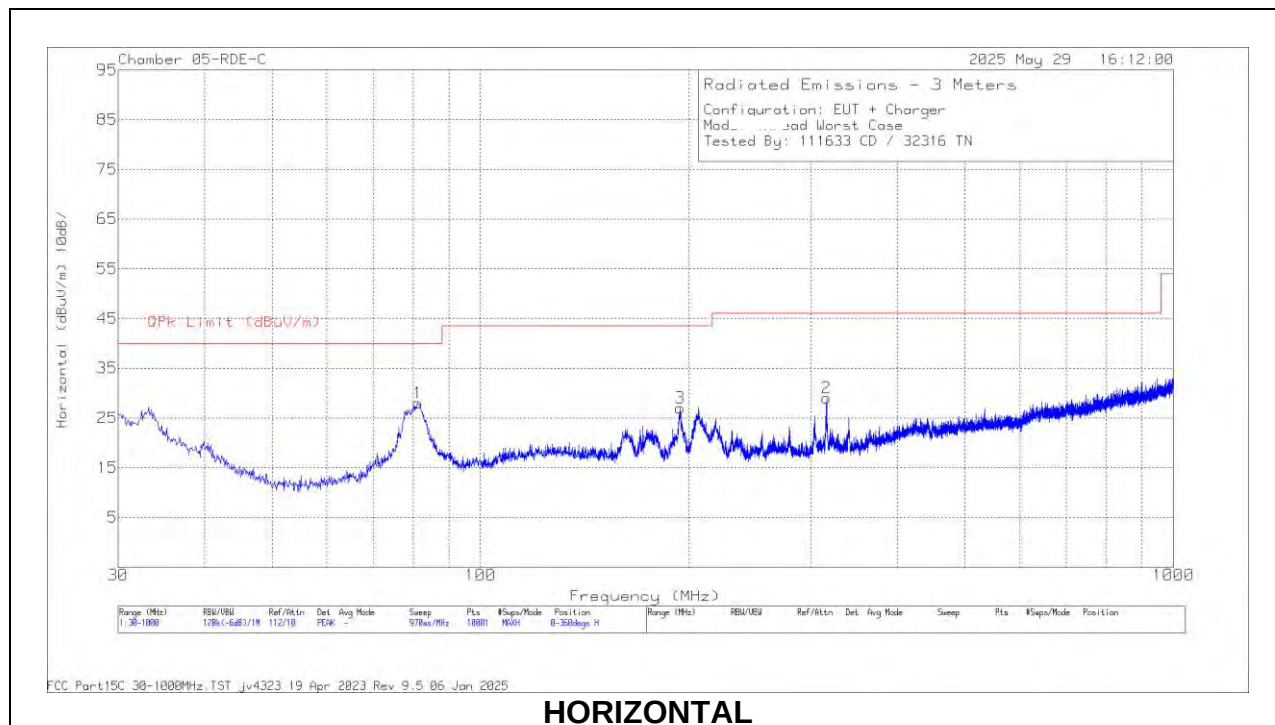
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.2. WORST CASE BELOW 1 GHz

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



Below 1GHz Data

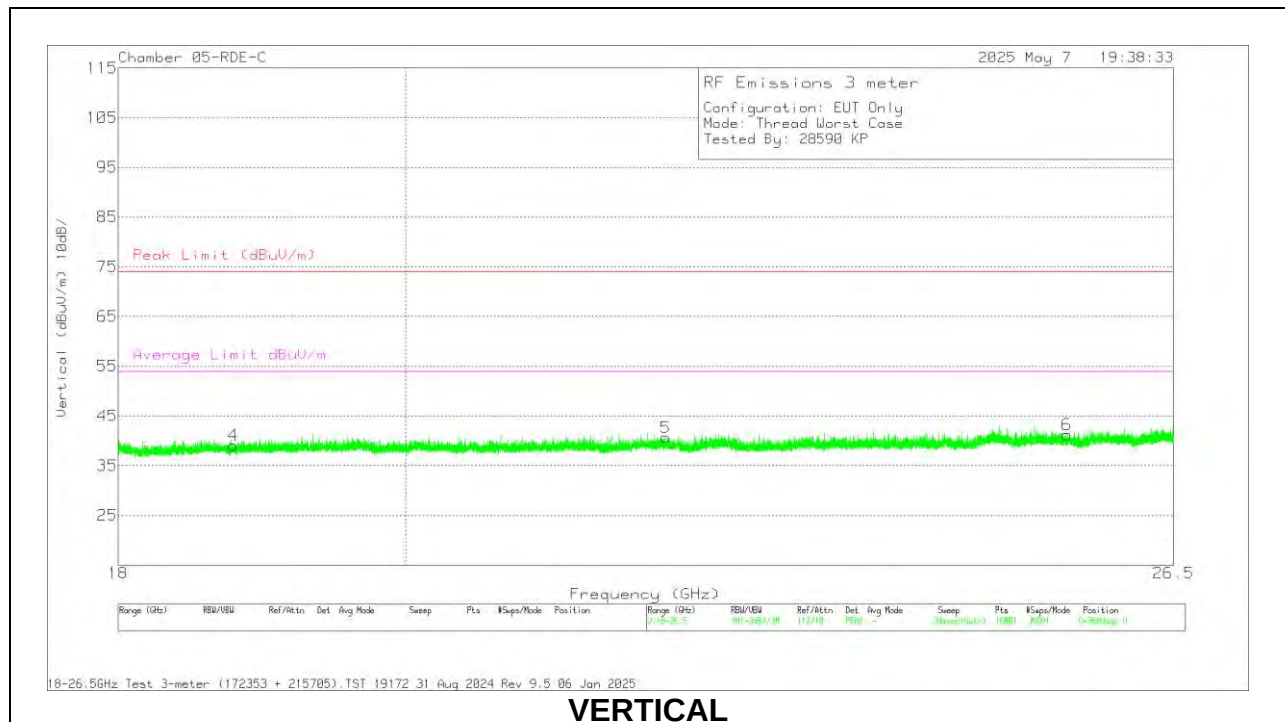
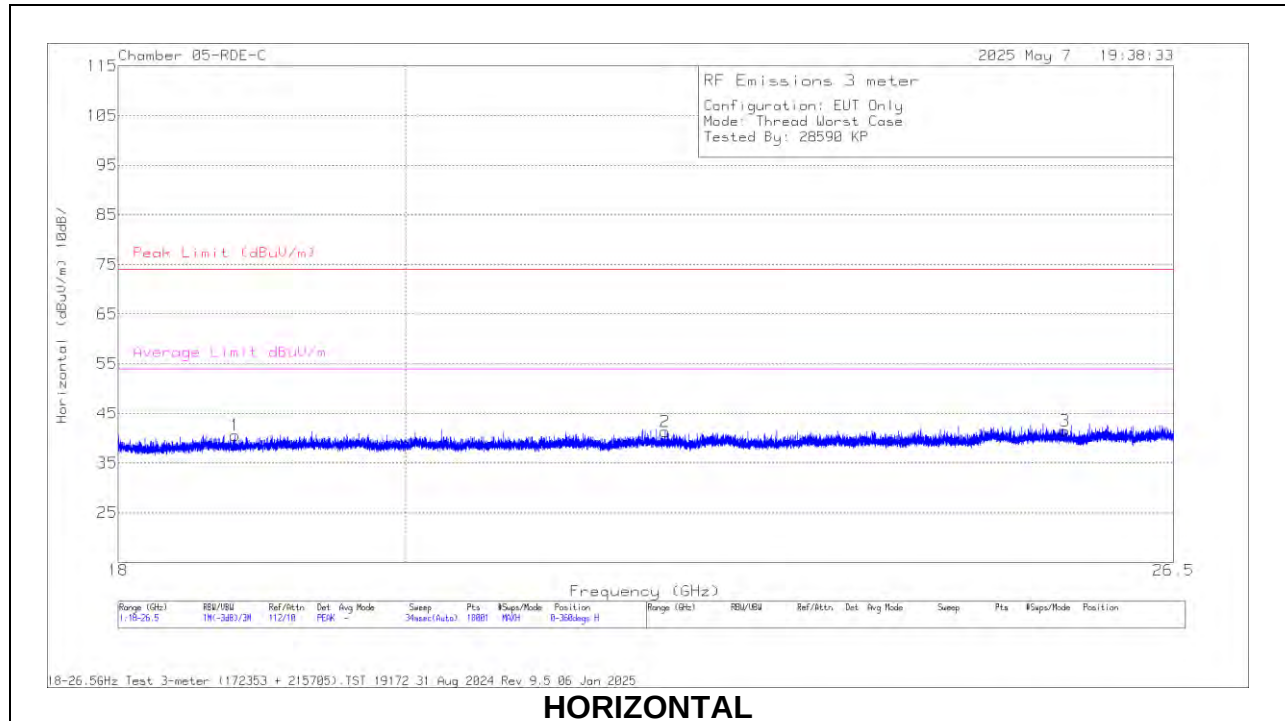
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	171863 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	33.1948	41.57	Qp	24.6	-30.9	35.27	40	-4.73	305	105	V
1	81.313	45.21	Pk	13.5	-30.7	28.01	40	-11.99	0-360	198	H
3	194.221	39.75	Pk	17.4	-30.1	27.05	43.52	-16.47	0-360	198	H
5	194.221	39.4	Pk	17.4	-30.1	26.7	43.52	-16.82	0-360	100	V
2	315.762	38.83	Pk	19.8	-29.6	29.03	46.02	-16.99	0-360	101	H
6	704.926	31.77	Pk	26.1	-28.7	29.17	46.02	-16.85	0-360	100	V

PK - Peak detector

Qp - Quasi-Peak detector

10.3. WORST CASE 18-26 GHz

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



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172353 ACF (dB/m)	CBL AMP (dB)	CBL AMP (dB)	Correct ed Readin g (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Averag e Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*18.789083	56	Pk	32.2	-61.2	13.6	40.6	74	-33.4	54	-13.4	0-360	199	H
4	*18.775861	54.52	Pk	32.2	-61.2	13.6	39.12	74	-34.88	54	-14.88	0-360	101	V
2	*21.994526	54.84	Pk	33	-61.1	14.6	41.34	74	-32.66	54	-12.66	0-360	199	H
5	*22.003026	54.15	Pk	33	-61.1	14.6	40.65	74	-33.35	54	-13.35	0-360	199	V
3	25.467246	53.27	Pk	33.8	-61.5	15.9	41.47	-	-	-	-	0-360	199	H
6	25.485191	52.96	Pk	33.8	-61.4	15.9	41.26	-	-	-	-	0-360	101	V

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

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	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.

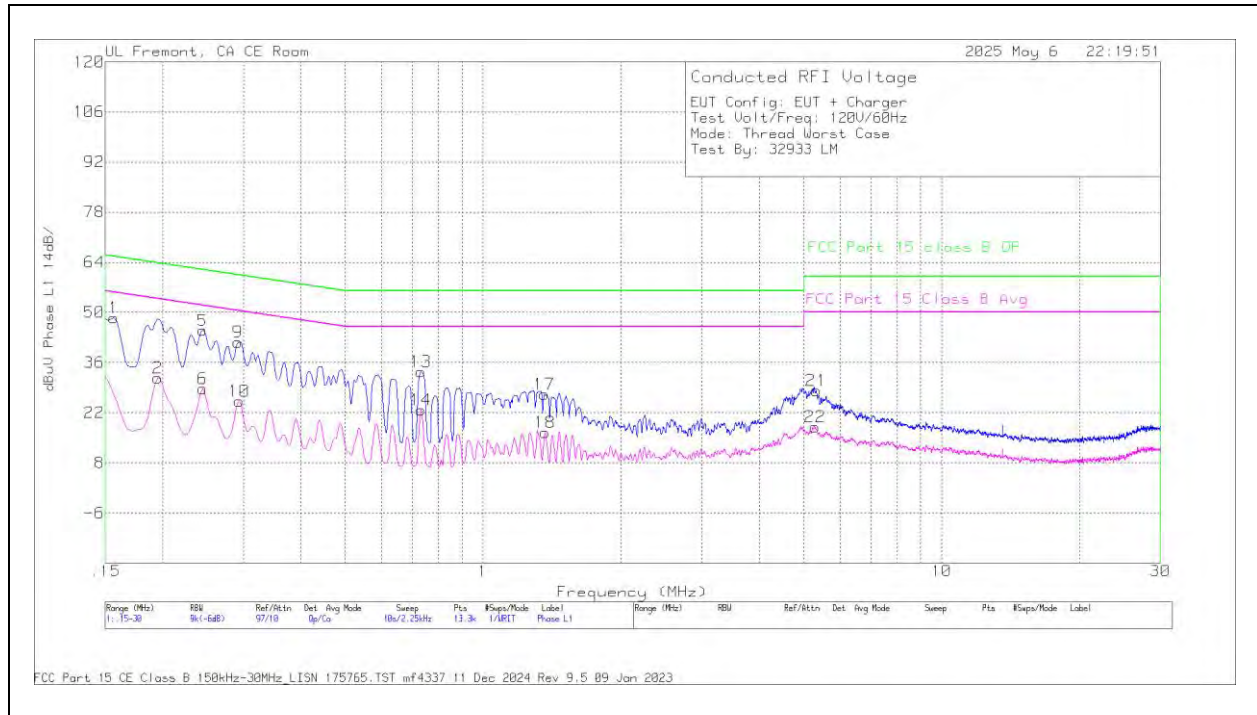
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line With AC/DC Adapter

LINE 1 RESULTS

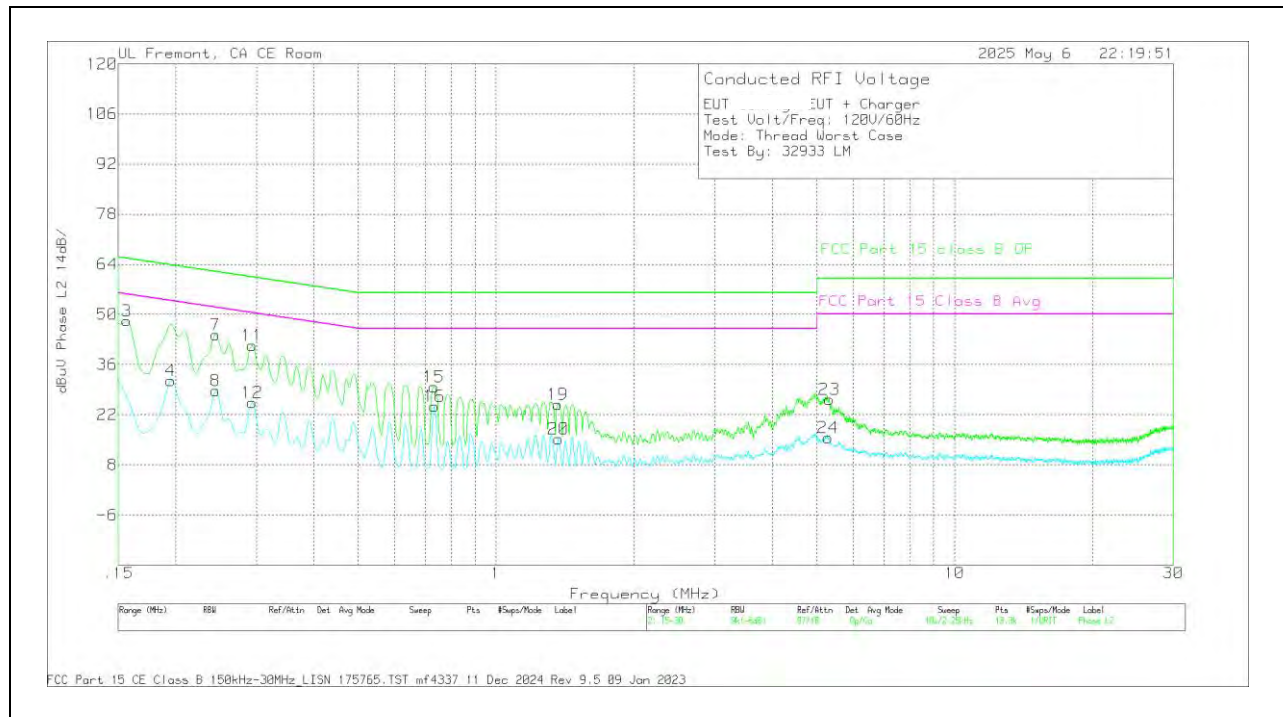


Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg dBuV	Margin (dB)	FCC Part 15C QP dBuV	Margin (dB)
2	.195	13.13	Ca	.1	.1	8.4	10	31.73	53.82	-22.09	-	-
6	.2445	10.62	Ca	-.1	0	8.2	10	28.72	51.94	-23.22	-	-
10	.294	7.27	Ca	0	0	8	10	25.27	50.41	-25.14	-	-
14	.7328	4.14	Ca	.1	0	8.5	10	22.74	46	-23.26	-	-
18	1.365	-2.22	Ca	.2	0	8.4	10	16.38	46	-29.62	-	-
22	5.2913	-.84	Ca	.4	0	8.5	10	18.06	50	-31.94	-	-
1	.1568	29.57	Qp	.4	.1	8.5	10	48.57	-	-	65.63	-17.06
5	.2445	26.82	Qp	-.1	0	8.2	10	44.92	-	-	61.94	-17.02
9	.2918	23.74	Qp	0	0	8	10	41.74	-	-	60.47	-18.73
13	.7328	14.83	Qp	.1	0	8.5	10	33.43	-	-	56	-22.57
17	1.3605	8.42	Qp	.2	0	8.5	10	27.12	-	-	56	-28.88
21	5.325	9.81	Qp	.1	0	8.3	10	28.21	-	-	60	-31.79

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



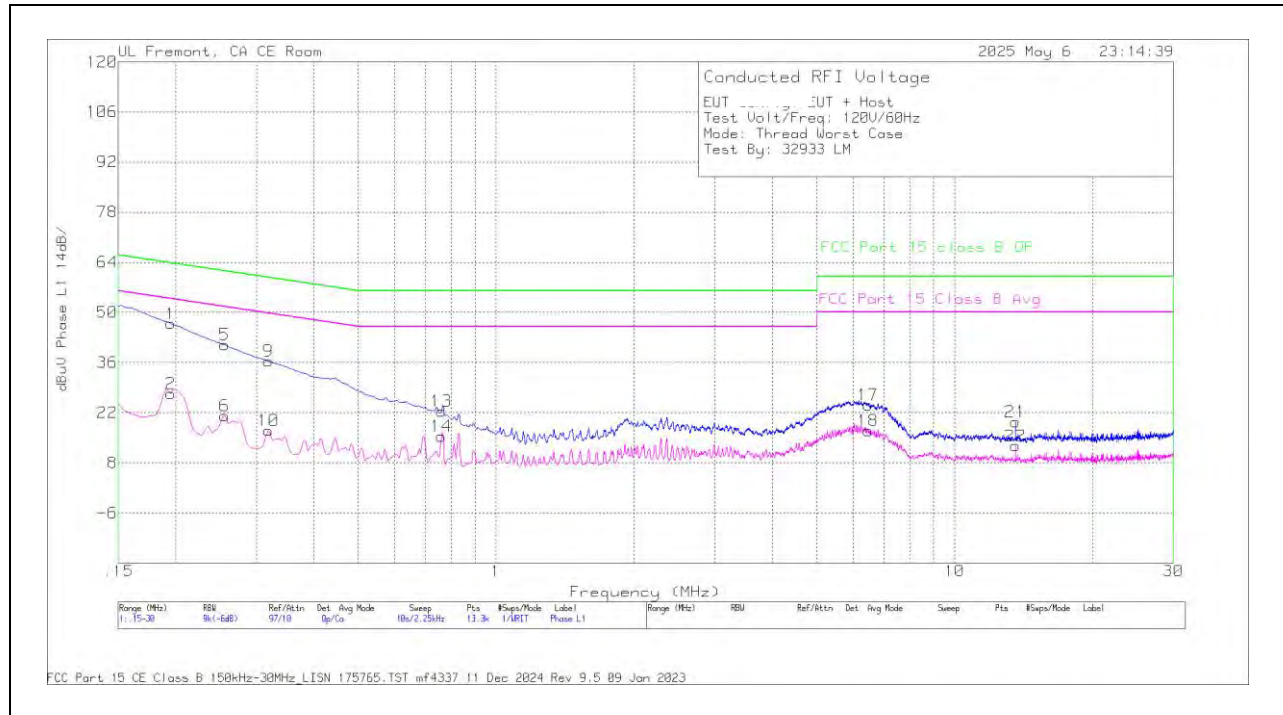
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg dBuV	Margin (dB)	FCC Part 15C QP dBuV	Margin (dB)
4	.195	13.05	Ca	.1	0	8.4	10	31.55	53.82	-22.27	-	-
8	.2445	10.63	Ca	-.1	0	8.2	10	28.73	51.94	-23.21	-	-
12	.294	7.35	Ca	0	0	8	10	25.35	50.41	-25.06	-	-
16	.735	5.78	Ca	.1	0	8.5	10	24.38	46	-21.62	-	-
20	1.3673	-3.4	Ca	.2	0	8.4	10	15.2	46	-30.8	-	-
24	5.2913	-3.38	Ca	.4	0	8.5	10	15.52	50	-34.48	-	-
3	.1568	29.24	Qp	.4	.1	8.5	10	48.24	-	-	65.63	-17.39
7	.2445	26.25	Qp	-.1	0	8.2	10	44.35	-	-	61.94	-17.59
11	.294	23.26	Qp	0	0	8	10	41.26	-	-	60.41	-19.15
15	.7328	11.16	Qp	.1	0	8.5	10	29.76	-	-	56	-26.24
19	1.3628	6.31	Qp	.2	0	8.4	10	24.91	-	-	56	-31.09
23	5.3295	7.79	Qp	.1	0	8.3	10	26.19	-	-	60	-33.81

Qp - Quasi-Peak detector

Ca - CISPR average detection

11.2. AC Power Line with Laptop

LINE 1 RESULTS

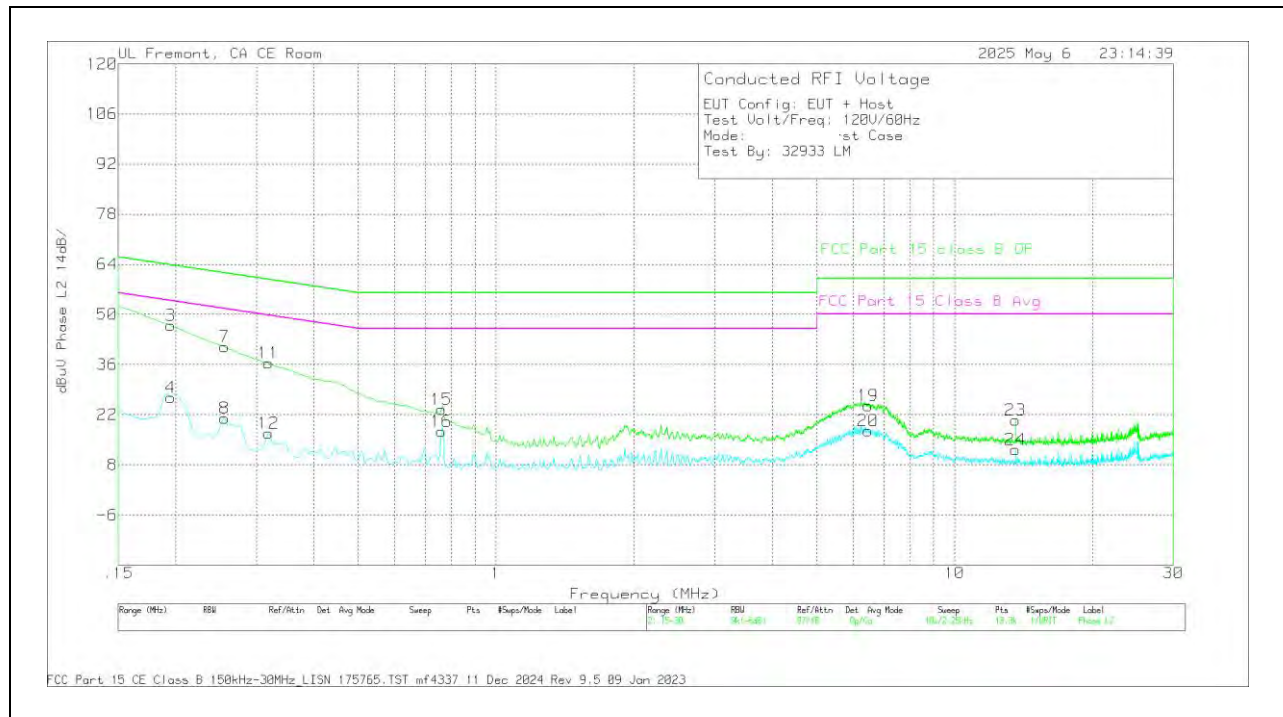


Range 1: Phase L1 15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg dBuV	Margin (dB)	FCC Part 15C QP dBuV	Margin (dB)
2	.195	8.67	Ca	.1	.1	8.4	10	27.27	53.82	-26.55	-	-
6	.2558	3.09	Ca	-.1	0	8.2	10	21.19	51.57	-30.38	-	-
10	.3188	-.96	Ca	-.2	0	8.2	10	17.04	49.74	-32.7	-	-
14	.7598	-3.27	Ca	.1	0	8.5	10	15.33	46	-30.67	-	-
18	6.4703	-1.2	Ca	0	0	8.2	10	17	50	-33	-	-
22	13.56	-5.81	Ca	.2	.1	8.2	10	12.69	50	-37.31	-	-
1	.195	28.25	Qp	.1	.1	8.4	10	46.85	-	-	63.82	-16.97
5	.2558	22.84	Qp	-.1	0	8.2	10	40.94	-	-	61.57	-20.63
9	.3188	18.38	Qp	-.2	0	8.2	10	36.38	-	-	59.74	-23.36
13	.7598	3.73	Qp	.1	0	8.5	10	22.33	-	-	56	-33.67
17	6.4703	5.99	Qp	0	0	8.2	10	24.19	-	-	60	-35.81
21	13.56	.9	Qp	.2	.1	8.2	10	19.4	-	-	60	-40.6

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg dBuV	Margin (dB)	FCC Part 15C QP dBuV	Margin (dB)
4	.195	8.22	Ca	.1	0	8.4	10	26.72	53.82	-27.1	-	-
8	.2558	2.85	Ca	-.1	0	8.2	10	20.95	51.57	-30.62	-	-
12	.3188	-1.14	Ca	-.2	0	8.2	10	16.86	49.74	-32.88	-	-
16	.7598	-1.27	Ca	.1	0	8.5	10	17.33	46	-28.67	-	-
20	6.4703	-.77	Ca	0	0	8.2	10	17.43	50	-32.57	-	-
24	13.56	-6.26	Ca	.2	.1	8.2	10	12.24	50	-37.76	-	-
3	.195	28.42	Qp	.1	0	8.4	10	46.92	-	-	63.82	-16.9
7	.2558	22.83	Qp	-.1	0	8.2	10	40.93	-	-	61.57	-20.64
11	.3188	18.41	Qp	-.2	0	8.2	10	36.41	-	-	59.74	-23.33
15	.7598	4.85	Qp	.1	0	8.5	10	23.45	-	-	56	-32.55
19	6.4703	6.26	Qp	0	0	8.2	10	24.46	-	-	60	-35.54
23	13.56	1.97	Qp	.2	.1	8.2	10	20.47	-	-	60	-39.53

Qp - Quasi-Peak detector

Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to 15496224-EP1 for setup photos

APPENDIX A – SPOT CHECK EVALUATION

1. SPOT CHECK EVALUATION

1.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3256, A3522, A3523 and A3524.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for FR2 is removed from variants and disabled/enabled cellular bands via software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3256	BCG-E8949A	579C-E8949A	-With FR2/LTE/5GNR B14/29/71 -No B11/21 -With UL MIMO (n41/48/77)	eSIM	-
A3522	BCG-E8957A	579C-E8957A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3256
A3523	BCG-E8958A	579C-E8958A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -No UL MIMO	eSIM+pSIM	
A3524	BCG-E8959A	579C-E8959A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -With UL MIMO (n41/78/79) -No MSS / 5GNR B53	pSIM+pSIM	

The spot check plan allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 v03 equation (4).

$$d_{dBmax}(M_{dB}) = \begin{cases} (3 + M_{dB}/20) \text{ dB} & , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \\ 6 \text{ dB} & , \text{ for } M_{dB} > 60 \text{ dB} \end{cases} \quad (4)$$

Where: d_{dB} deviation from Reference data, V_{dB} variant spot check level, and R_{dB} measurement level

1.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3522

A3522 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3522	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID : BCG-E8957A IC : 579C-E8957A			
DTS / Thread	2.4	802.15.4 (Thread) ANT1	N/A	Output Power (dBm)	Mid	Fundamental High Power	21.55	21.49	-0.06	-8.45	Note 1
		802.15.4 (Thread) ANT1	N/A	Radiated Bandedge (dBuV/m)	High	Vertical High Bandedge	43.59	43.51	-0.08	-10.41	Note 1
		Worst Case	N/A	RSE (dBuV/m)	Low	Vertical 0.03 - 1 (@33.1948 MHz)	35.27	34.10	-1.17	-18.73	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

1.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3523

A3523 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3523	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID : BCG-E8958A IC : 579C-E8958A			
DTS / Thread	2.4	802.15.4 (Thread) ANT1	N/A	Output Power (dBm)	Mid	Fundamental	21.55	21.50	-0.05	-8.45	Note 1
		802.15.4 (Thread) ANT1	N/A	Radiated Bandedge (dBuV/m)	High	Horizontal High Bandedge	43.59	43.51	-0.08	-10.41	Note 1
		Worst Case	N/A	RSE (dBuV/m)	Low	Vertical 0.03-18GHz (33.1948MHz)	35.27	34.10	-1.17	-18.73	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

1.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3524

A3524 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3524	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID : BCG-E8959A IC : 579C-E8959A			
DTS / Thread	2.4	802.15.4 (Thread) ANT1	N/A	Output Power (dBm)	Mid	Fundamental	21.55	21.49	-0.06	-8.45	Note 1
		802.15.4 (Thread) ANT1	N/A	Radiated Bandedge (dBuV/m)	High	Horizontal High Bandedge	43.59	43.51	-0.08	-10.41	Note 1
		RSE	N/A	RSE (dBuV/m)	Low	Vertical 0.03-18GHz (33.1948MHz)	35.27	34.10	-1.17	-18.73	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.