

TEST REPORT

Report Number: 15496249-E5V3

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

Model : A3257 (Parent)
A3525, A3526, A3527 (Variants)

Brand : APPLE

FCC ID : BCG-E8950A (Parent)
BCG-E8960A, BCG-E8961A, BCG-E8962A (Variants)

IC : 579C-E8950A (Parent)
579C-E8960A, 579C-E8961A, 579C-E8962A (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:

August 09, 2025

Prepared by:

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-08-04	Initial Issue	--
V2	2025-08-09	Updated sections 6,8,10 and 12	Gerardo Abrego

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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: A3257 (Parent)
A3525, A3526, A3527 (Variants)

BRAND: APPLE

SERIAL NUMBER: FV33DQJ970 (Radiated)
HVHHCY0001P0000YEE, HVHHHD0004U0000YE8 (Conducted)

SAMPLE RECEIPT DATE: 2025/03/07

DATE TESTED: 2025/04/14 to 2025/07/29

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 considered unless noted otherwise.

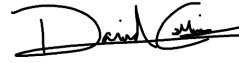
This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL Verification Services Inc. By:



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Consumer Technology Division
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Prepared By:



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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
Power Spectral Density	2.466
Time Domain Measurements Using SA	3.39
RF Power Measurement Direct Method Using Power Meter	1.3 (Peak), 0.45 (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.2%
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	20.74	118.58
	Low Power			8.12	6.49
ANT 1	High Power			21.21	132.13
	Low Power			9.48	8.87

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Frequency Range (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	-1.1	-3.1	2.1	1.9

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

6.4. SOFTWARE AND FIRMWARE

The EUT firmware is 23A258.

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.

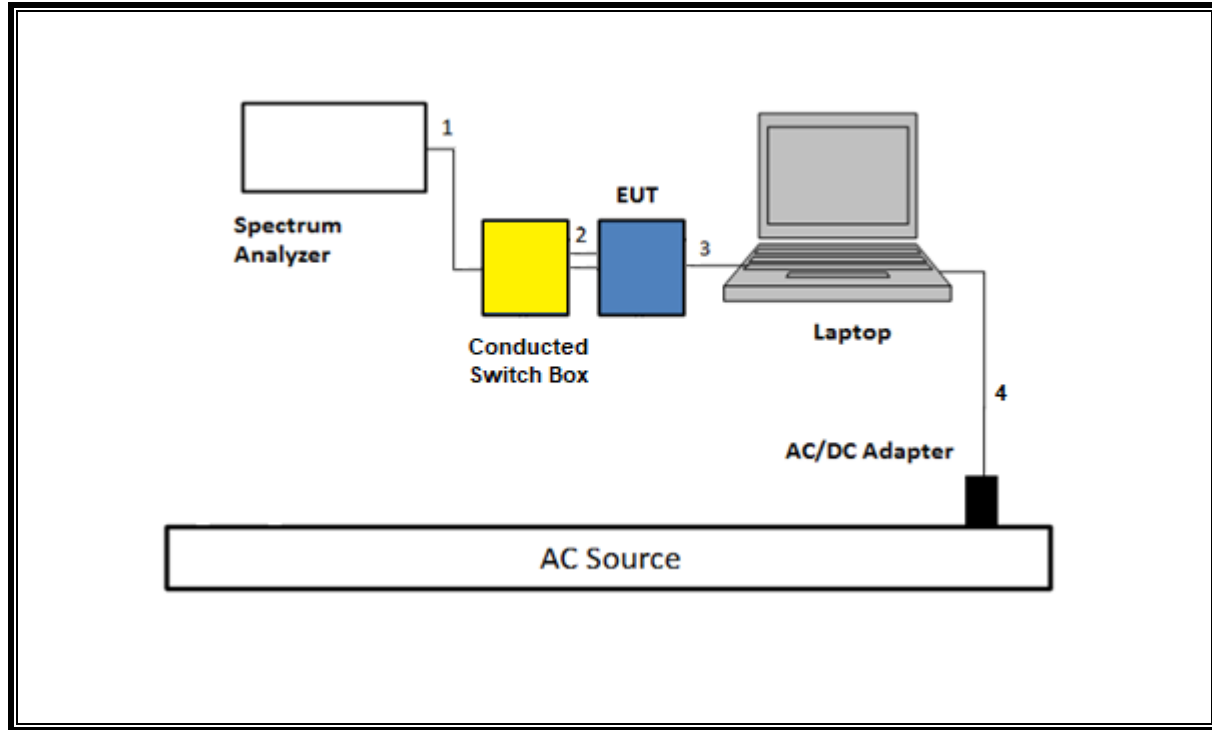
Note: In the Radiated Plots and emissions data, ANT0=ANT2 and ANT1=ANT 1.

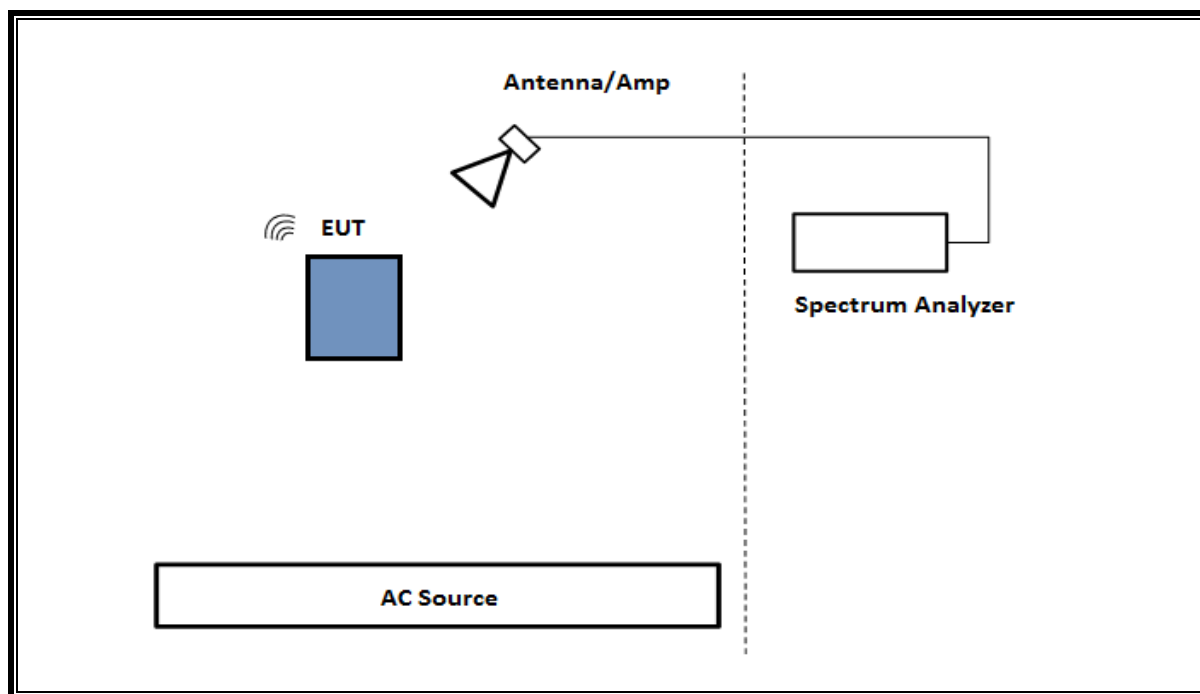
6.6. DESCRIPTION OF TEST SETUP

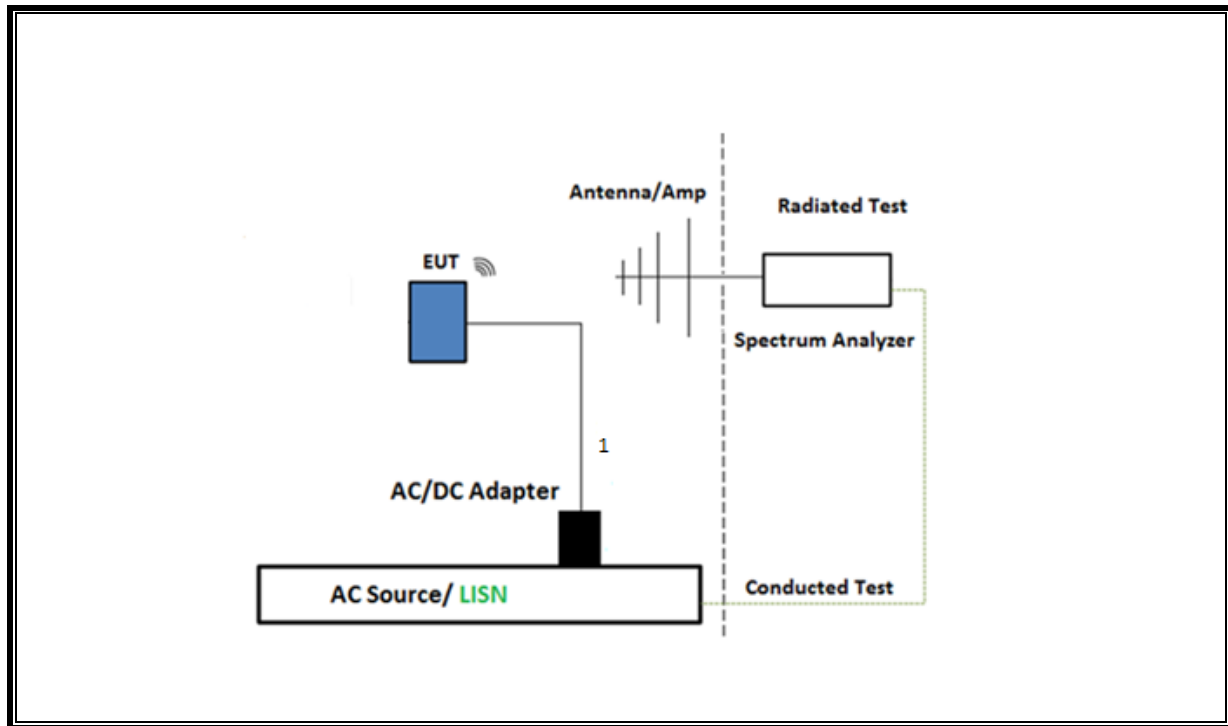
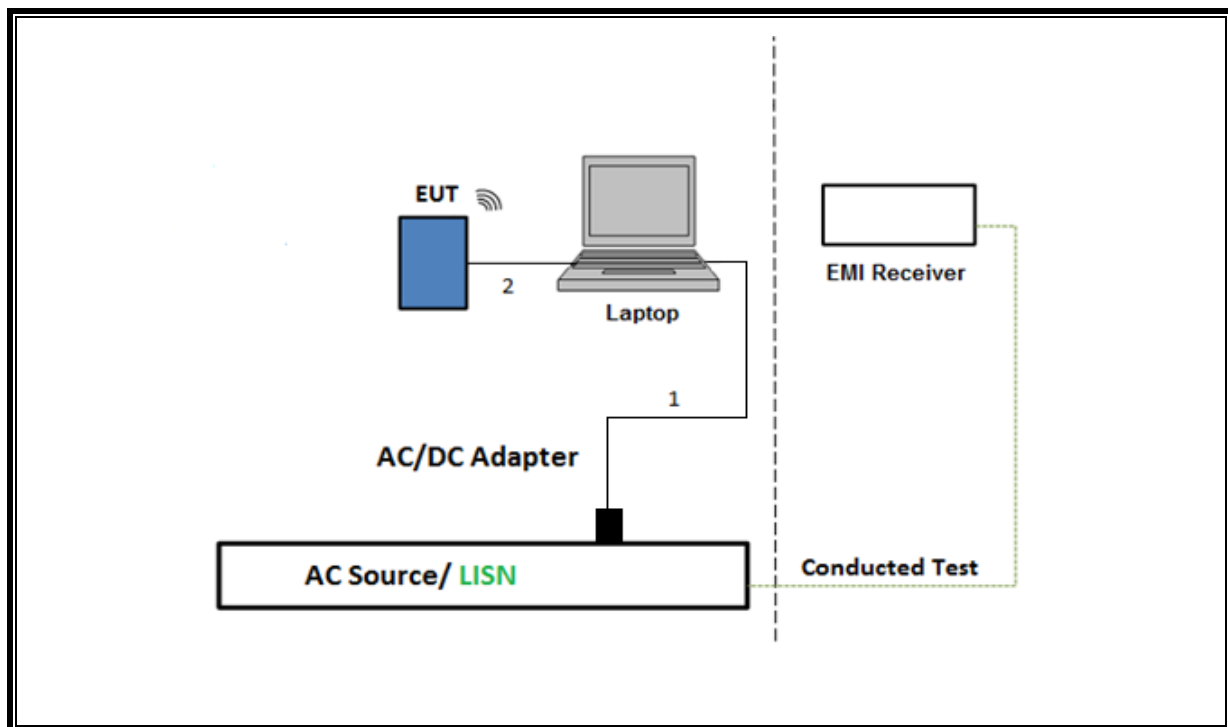
SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	Macbook Pro	C02VD7SAHV22		BCGA1708
Laptop AC/DC adapter		Liteon Technology	A1424	NSW25679		DoC
EUT AC/DC adapter		Apple	A1720	C3D8417A7R93KVPA8		DoC
RF Device, Switch (Conducted Switch Box)		UL	n/a	262287		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 were 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	226674	2027-03-31
Filter Box	UL-FR1	RATS 1.0, 2 Amp, 6 Port	250156	2025-10-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	225683	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	200896	2027-03-31
Filter Box	UL-FR1	Frankenstein, 1 Amp, 12 Port	216812	2026-01-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	230548	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	222741	2026-09-30
Filter Box	UL-FR1	Frankenstein, 1 Amp, 12 Port	217521	2025-08-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	223461	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226672	2026-02-28
Filter Box	UL-FR1	RATS 2.0, 1 Amp, 17 Port	225079	2026-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2026-02-28
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	85150	2025-12-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169937	2026-02-28
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	199658	2026-02-02
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	234683	2026-02-28
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	

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

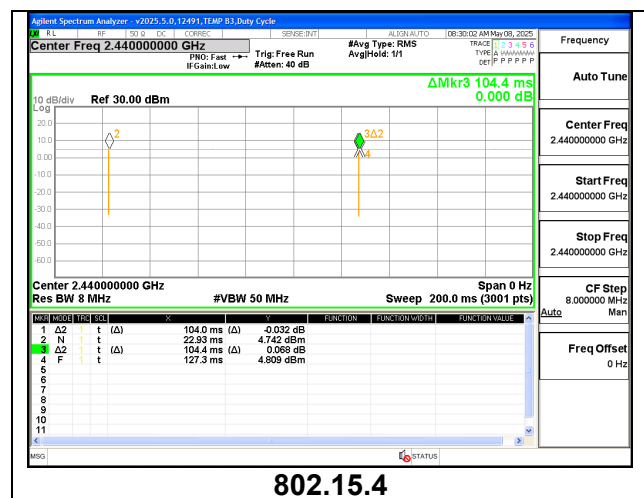
PROCEDURE

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

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.15.4, 2440MHz	104.00	104.40	0.996	99.62%	0.00	0.010

DUTY CYCLE PLOTS



9.2. 99% BANDWIDTH**LIMITS**

None; for reporting purposes only.

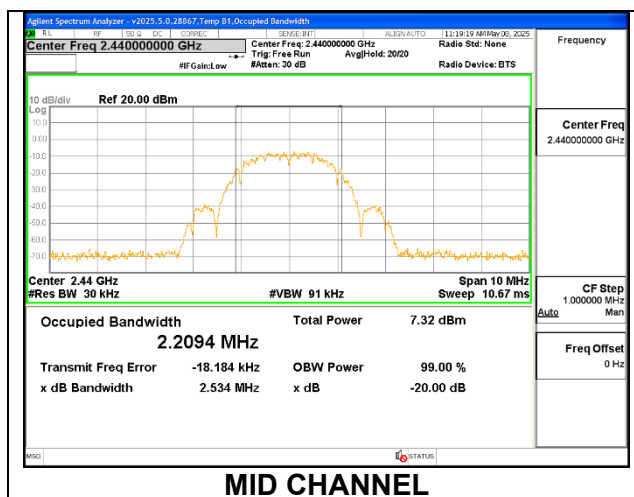
RESULTS

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

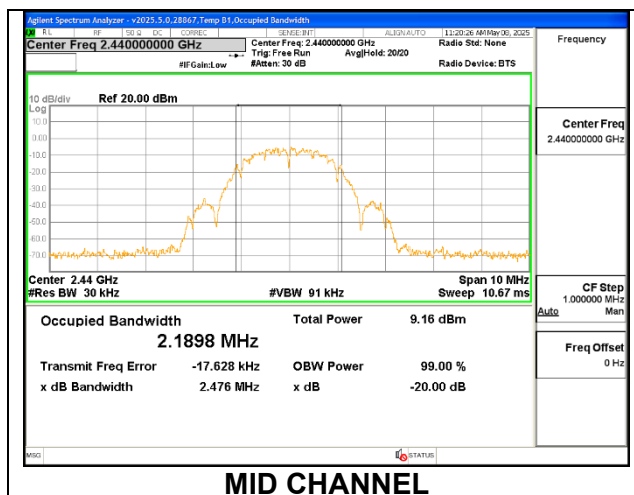
9.2.1. HIGH POWER

ANT 2

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.1977
Middle	2440	2.2094
High	2475	2.2022

ANT 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2040
Middle	2440	2.1898
High	2475	2.2040



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.

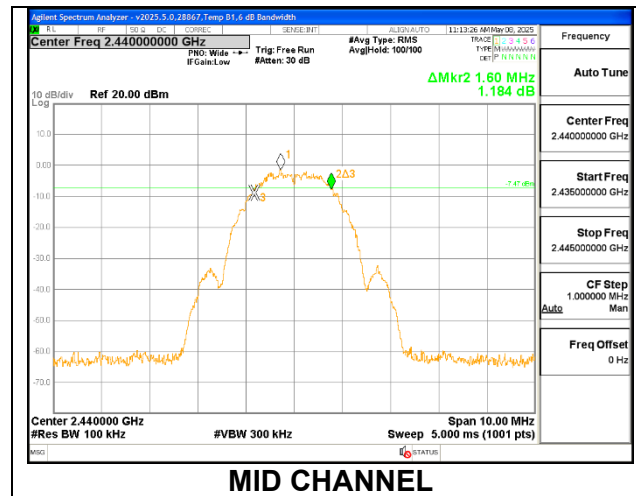
RESULTS

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

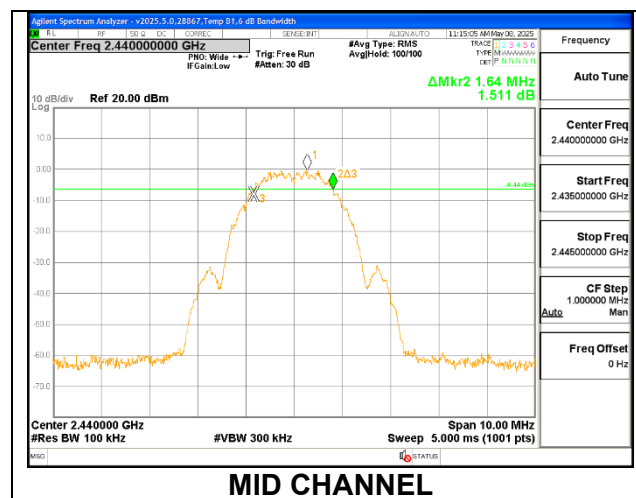
9.3.1. HIGH POWER

ANT 2

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.620	0.5
Middle	2440	1.600	0.5
High	2475	1.600	0.5

ANT 1

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.610	0.5
Middle	2440	1.640	0.5
High	2475	1.590	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:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	20.68	30	-9.32
Middle	2440	20.74	30	-9.26
High	2475	20.72	30	-9.28

ANT 1

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	21.21	30	-8.79
Middle	2440	21.14	30	-8.86
High	2475	21.13	30	-8.87

9.4.2. LOW POWER**ANT 2**

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	8.03	30	-21.97
Middle	2440	8.07	30	-21.93
High	2475	8.12	30	-21.88

ANT 1

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	9.39	30	-20.61
Middle	2440	9.45	30	-20.55
High	2475	9.48	30	-20.52

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****ANT 2**

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.16
Middle	2440	20.24
High	2475	20.14

ANT 1

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.74
Middle	2440	20.63
High	2475	20.69

9.5.2. **LOW POWER****ANT 2**

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	7.67
Middle	2440	7.68
High	2475	7.74

ANT 1

Tested By:	19336
Date:	2025-07-08

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	8.41
Middle	2440	8.47
High	2475	8.43

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

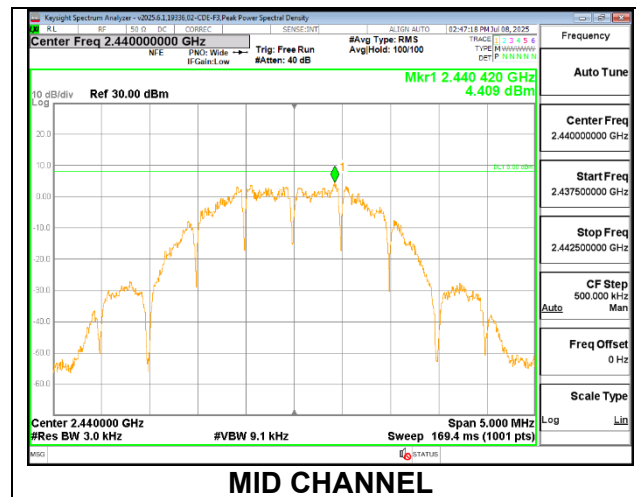
Only Mid channel plot is reported to show the analyzer's settings.

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

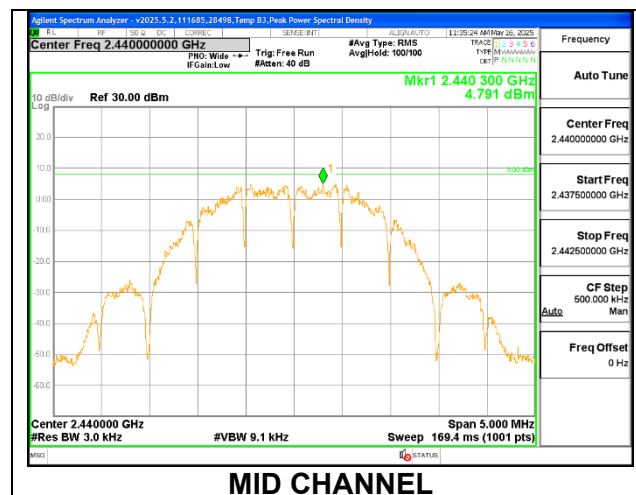
9.6.1. HIGH POWER

ANT 2

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	4.159	8	-3.84
Middle	2440	4.409	8	-3.59
High	2475	4.271	8	-3.73

ANT 1

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	4.707	8	-3.29
Middle	2440	4.791	8	-3.21
High	2475	4.617	8	-3.38



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

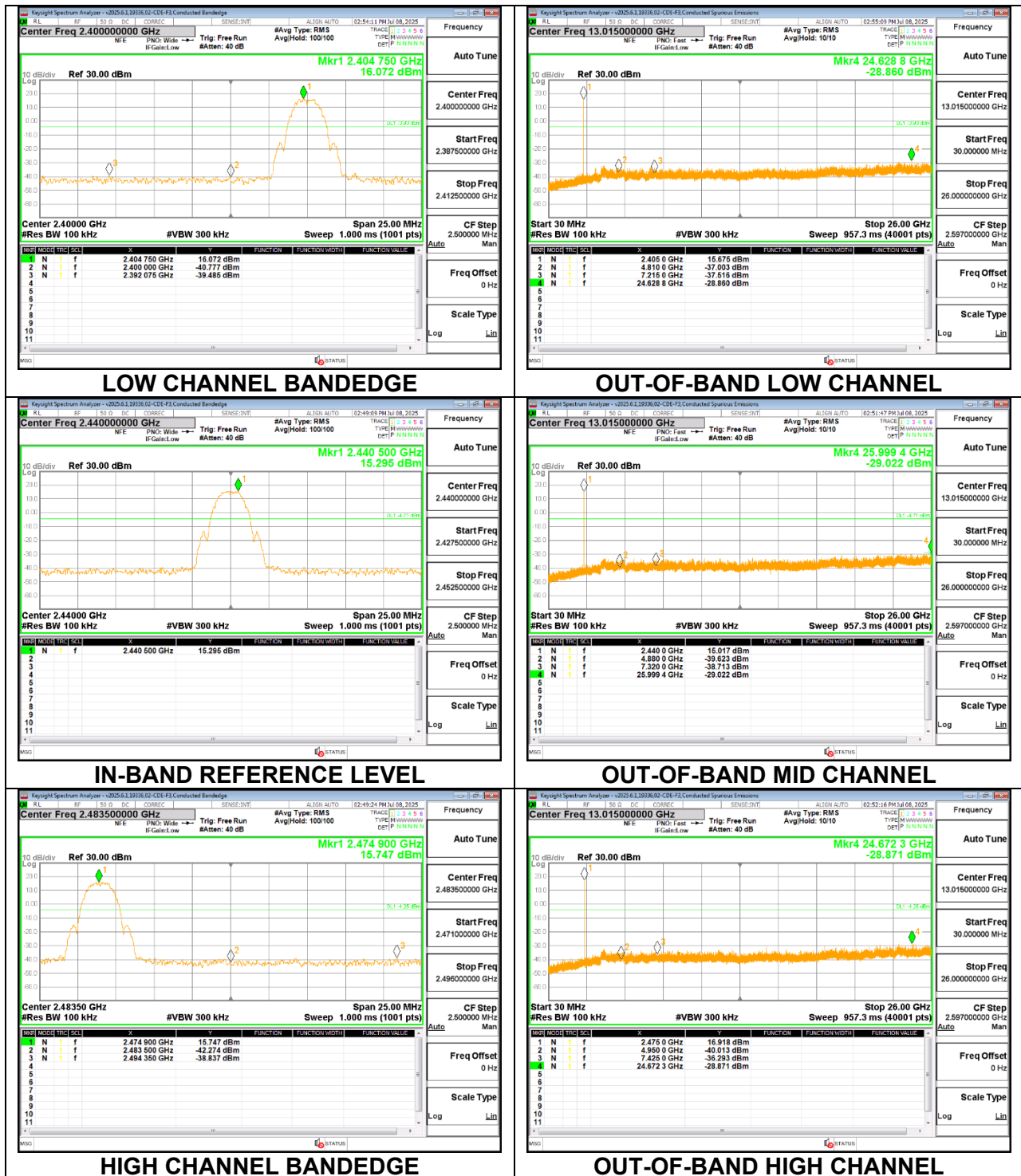
RSS-247 5.5

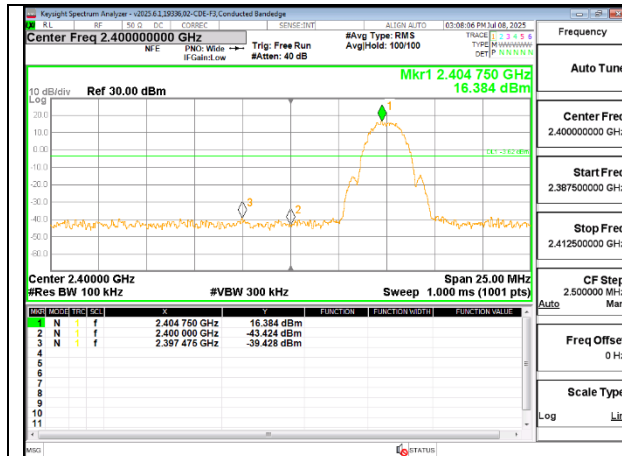
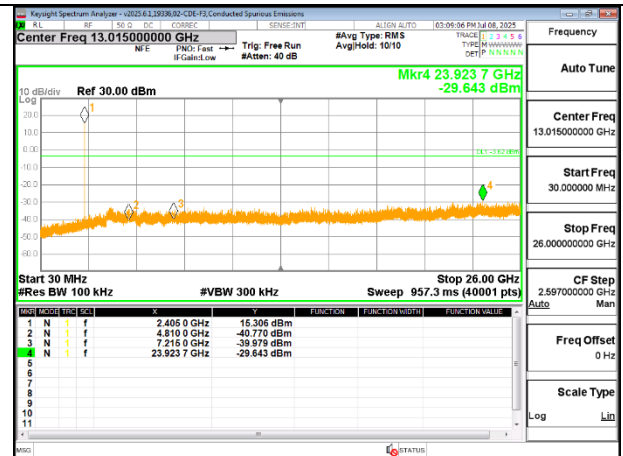
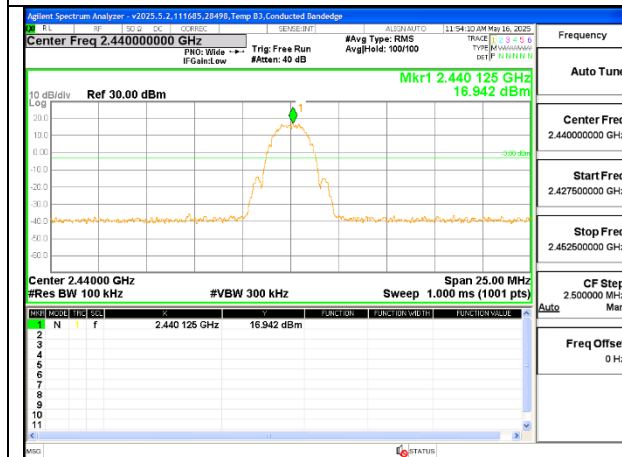
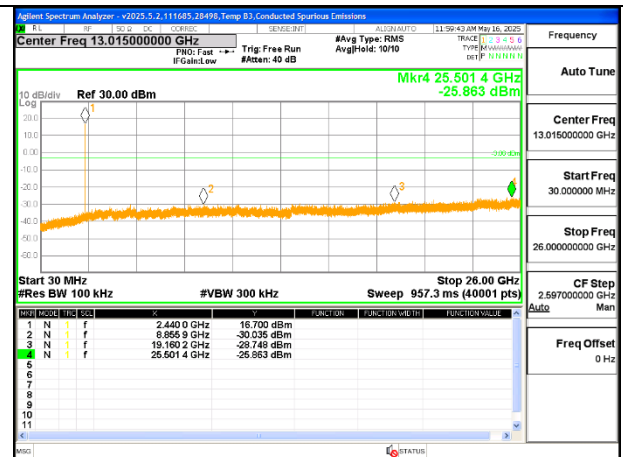
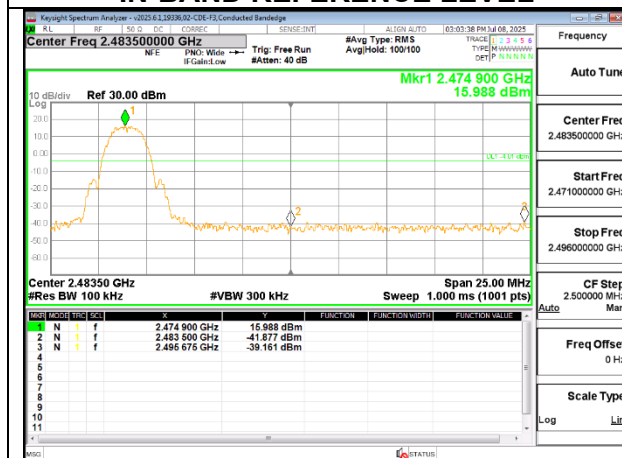
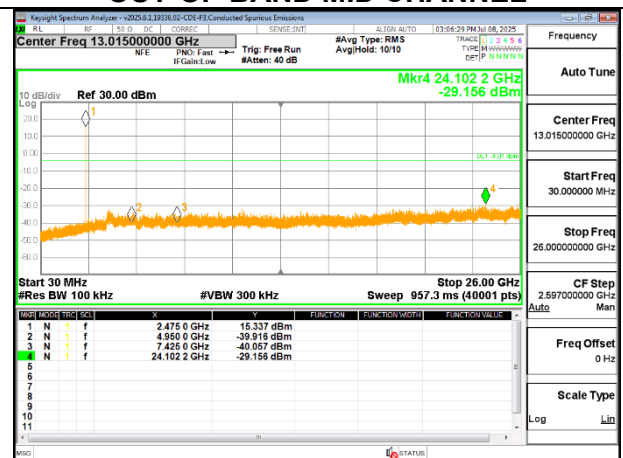
Output power was measured based on the use of a peak measurement; therefore the required attenuation is 20 dBc.

RESULTS

9.7.1. HIGH POWER

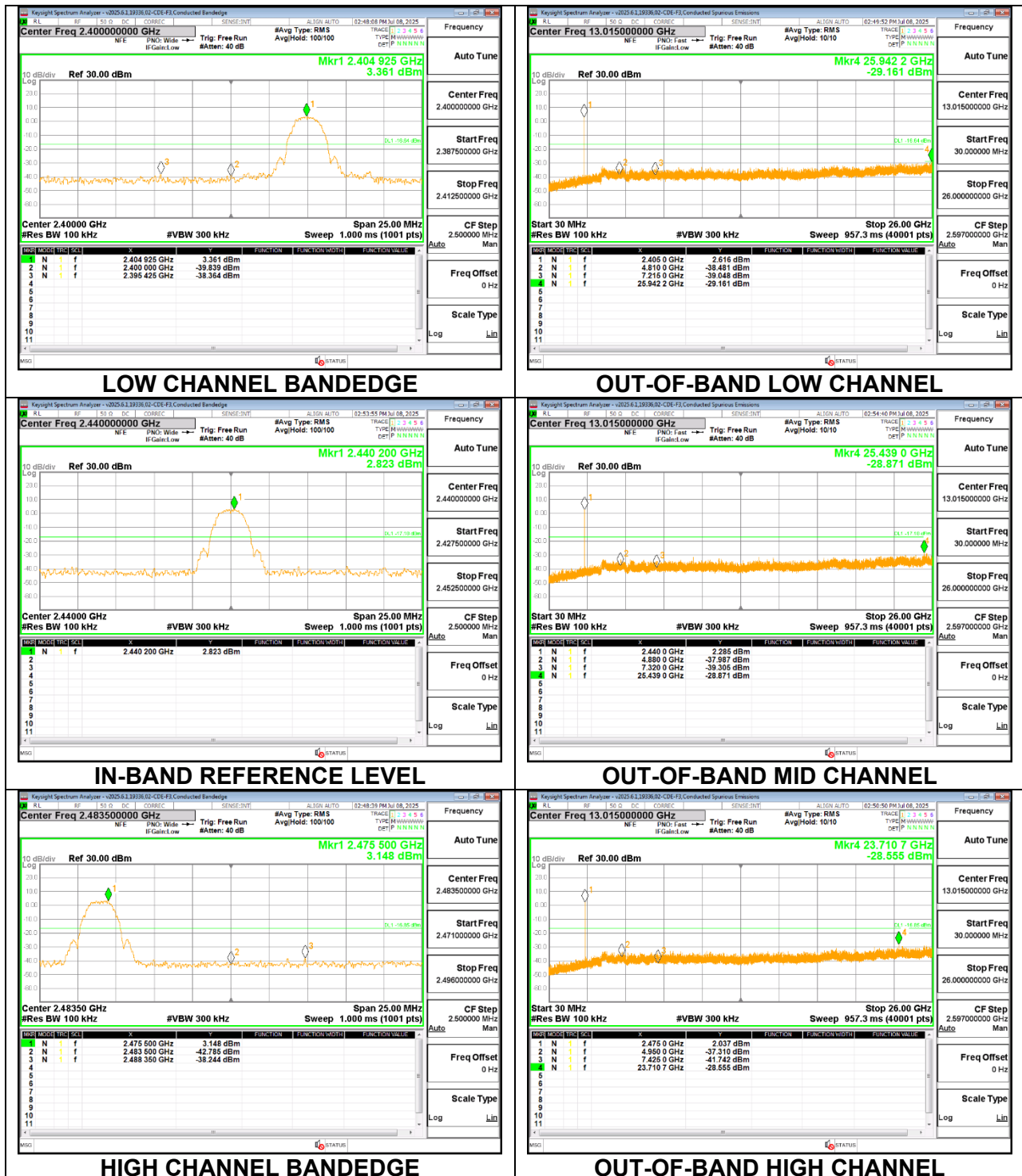
ANT 2

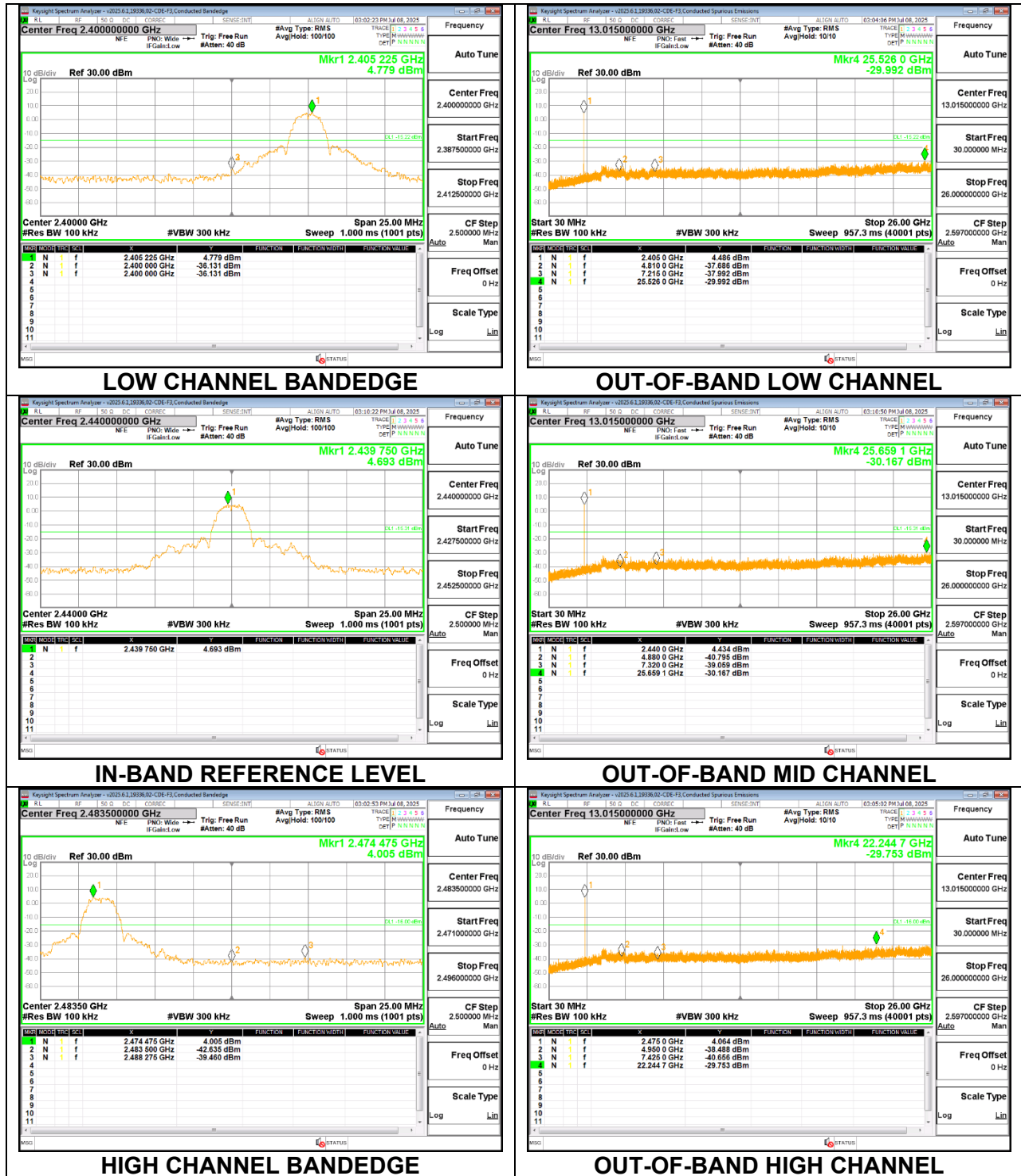


ANT 1**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

9.7.2. LOW POWER

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 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.

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

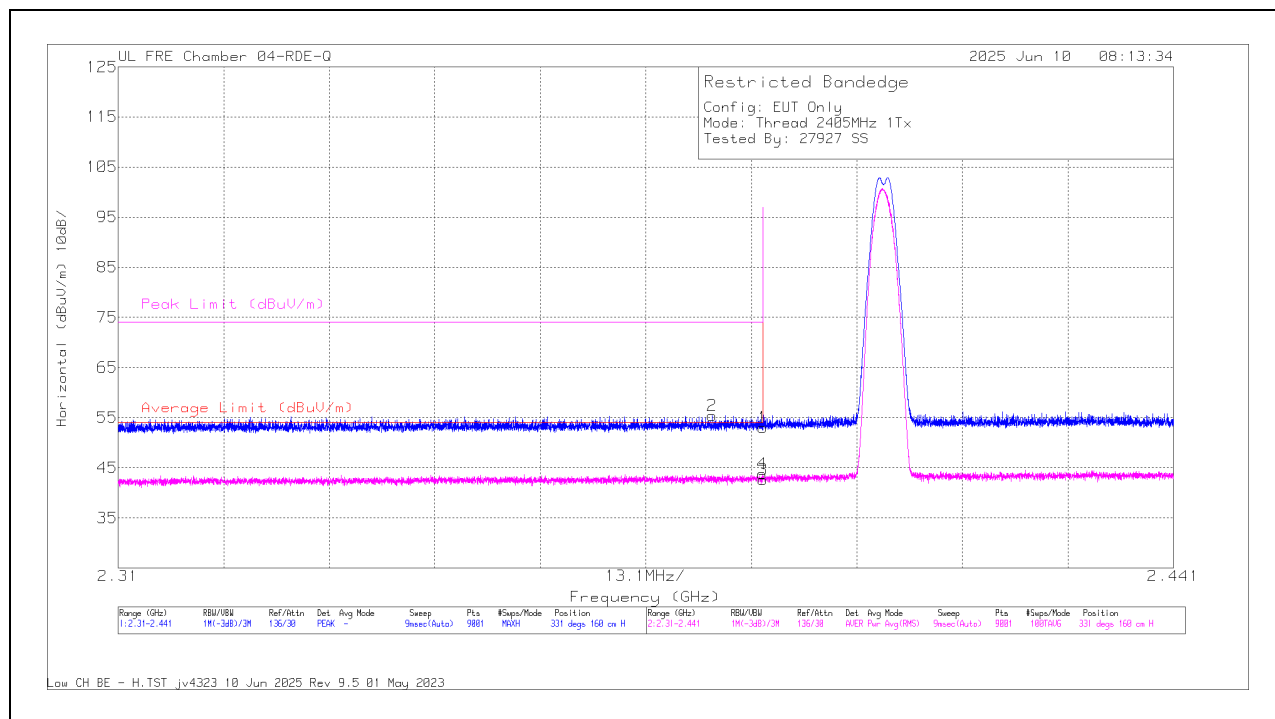
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. ANT2, 802.15.4 HIGH POWER BANDEDGE

LOW CHANNEL

HORIZONTAL RESULT



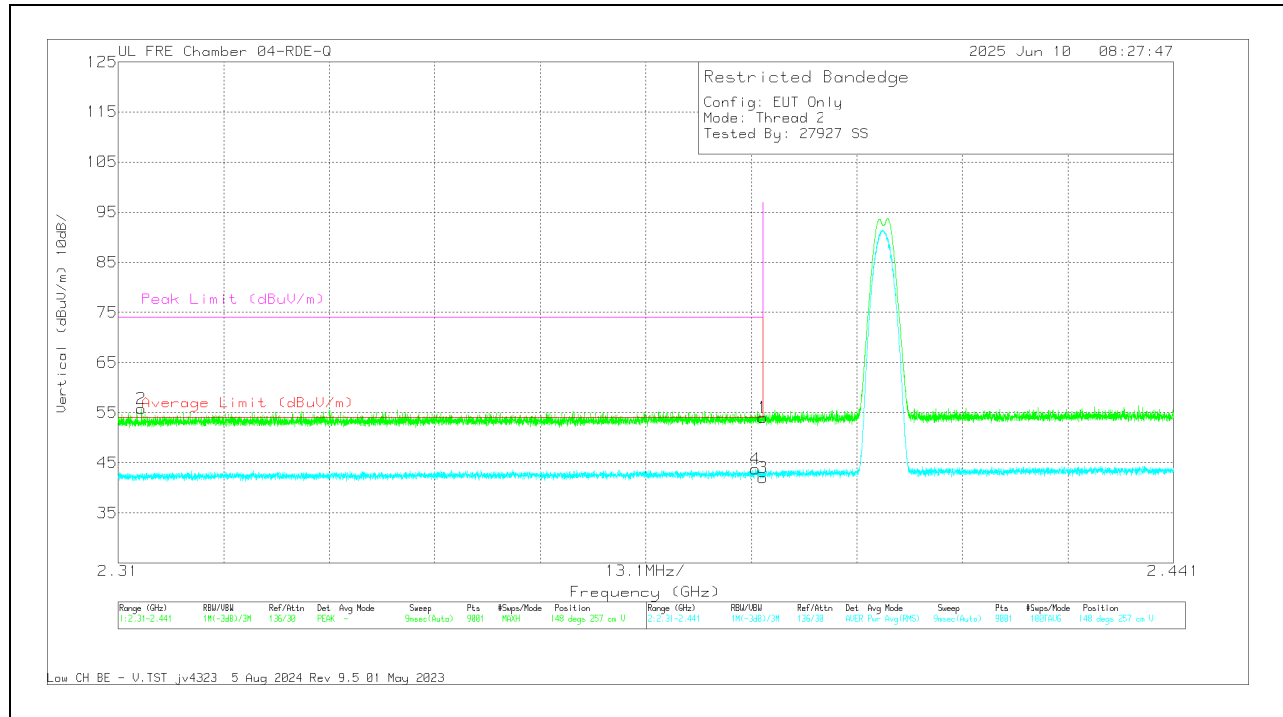
Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	222741 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.383726	61.9	Pk	31.9	-38.35	55.45	-	-	74	-18.55	331	160	H
4	*2.389927	50.14	RMS	31.9	-38.27	43.77	54	-10.23	-	-	331	160	H
1	*2.39	59.41	Pk	31.9	-38.27	53.04	-	-	74	-20.96	331	160	H
3	*2.39	49.02	RMS	31.9	-38.27	42.65	54	-11.35	-	-	331	160	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

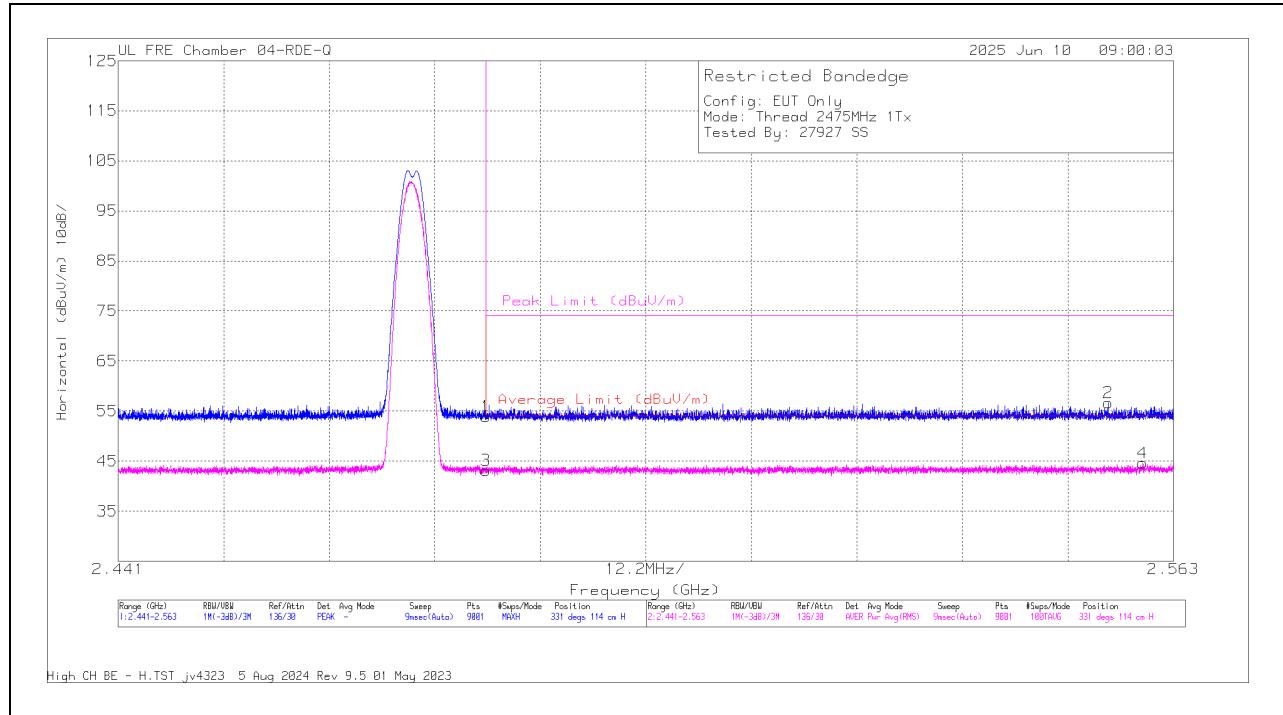


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222741 ACF (dBm)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.312868	62.64	Pk	31.7	-38.55	55.79	-	-	74	-18.21	148	257	V
4	*2.389068	50.16	RMS	31.9	-38.3	43.76	54	-10.24	-	-	148	257	V
1	*2.39	60.4	Pk	31.9	-38.27	54.03	-	-	74	-19.97	148	257	V
3	*2.39	48.41	RMS	31.9	-38.27	42.04	54	-11.96	-	-	148	257	V

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

Pk - Peak detector

RMS - RMS detection

HIGH CHANNEL**HORIZONTAL RESULT**

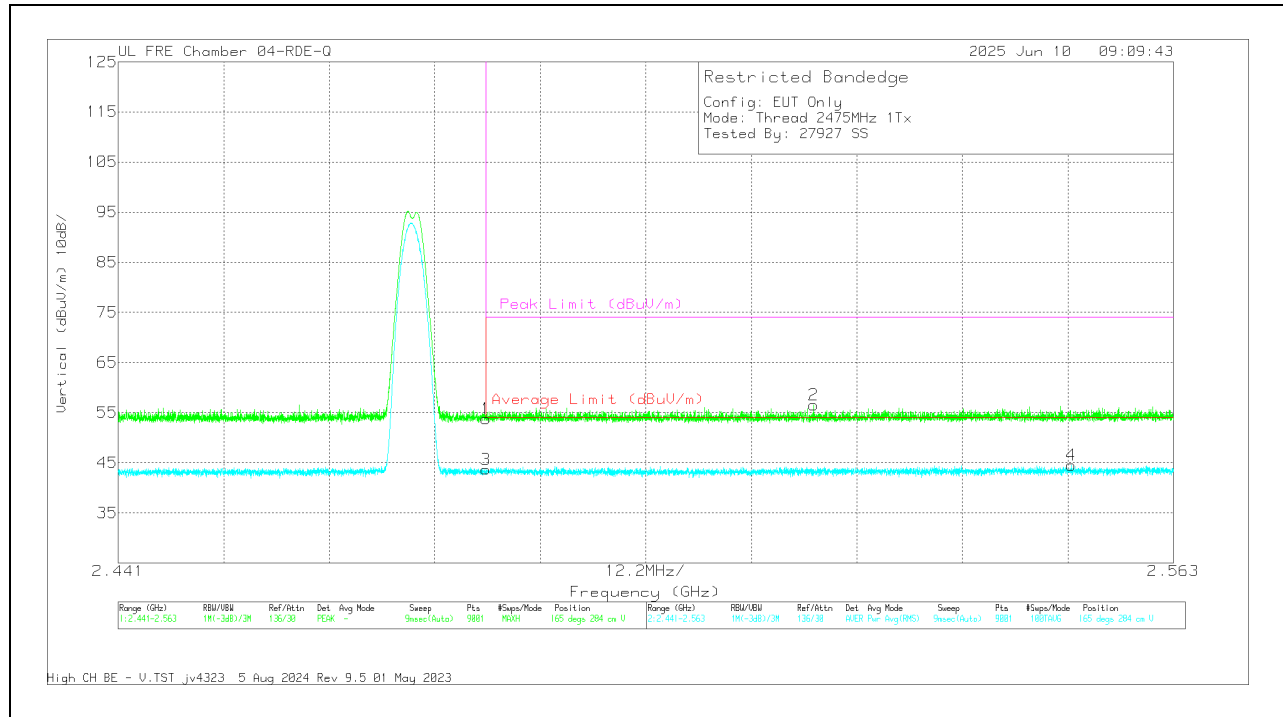
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222741 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	59.66	Pk	32.4	-38.18	53.88	-	-	74	-20.12	331	114	H
3	*2.4835	48.89	RMS	32.4	-38.18	43.11	54	-10.89	-	-	331	114	H
2	*2.555426	62.28	Pk	32.5	-38.12	56.66	-	-	74	-17.34	331	114	H
4	*2.559439	50.17	RMS	32.5	-38.08	44.59	54	-9.41	-	-	331	114	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	222741 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	59.6	Pk	32.4	-38.18	53.82	-	-	74	-20.18	165	284	V
3	*2.4835	49.48	RMS	32.4	-38.18	43.7	54	-10.3	-	-	165	284	V
2	*2.521401	62.2	Pk	32.5	-38.19	56.51	-	-	74	-17.49	165	284	V
4	*2.551197	50.17	RMS	32.5	-38.14	44.53	54	-9.47	-	-	165	284	V

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

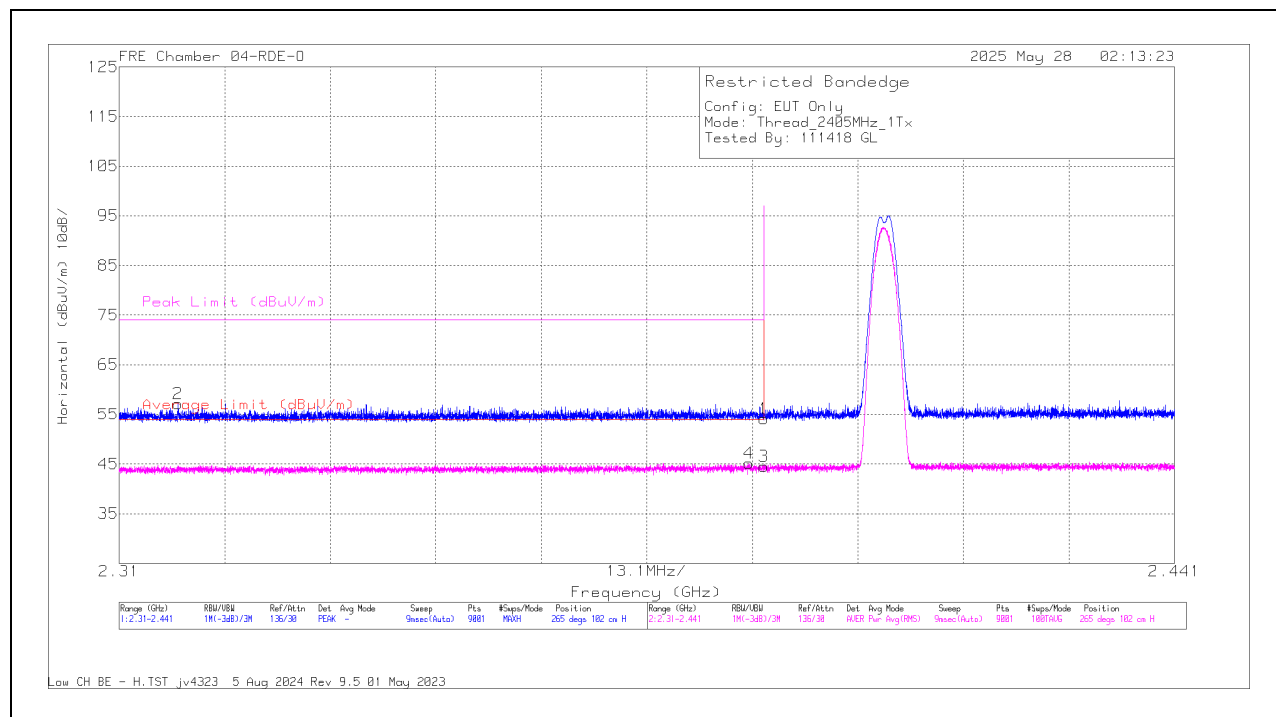
Pk - Peak detector

RMS - RMS detection

10.1.2. ANT2, 802.15.4 LOW POWER BANDEDGE

Low Channel

HORIZONTAL RESULT



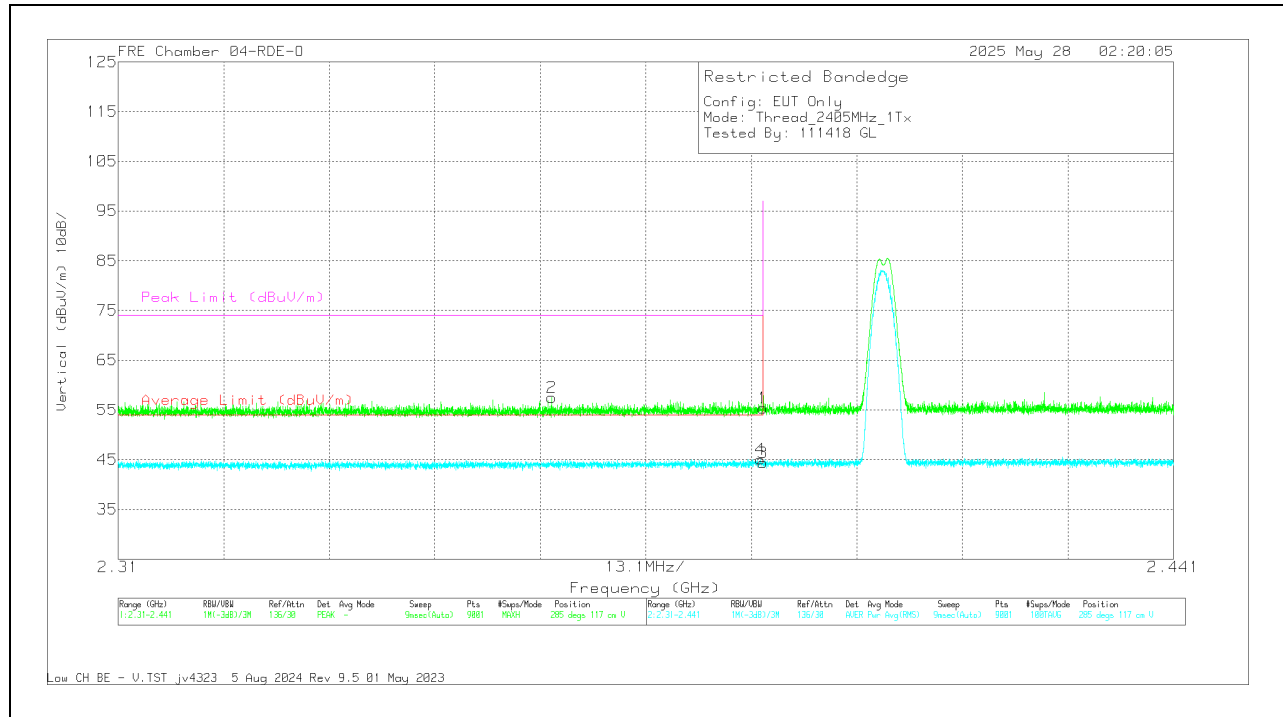
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	59.12	Pk	32.1	-37.08	54.14	-	-	74	-19.86	265	102	H
2	* 2.317307	62.39	Pk	31.8	-37.04	57.15	-	-	74	-16.85	265	102	H
3	* 2.39	49.53	RMS	32.1	-37.08	44.55	54	-9.45	-	-	265	102	H
4	* 2.388137	50.15	RMS	32.1	-37.08	45.17	54	-8.83	-	-	265	102	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 80402 (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	* 2.39	60.32	Pk	32.1	-37.08	55.34	-	-	74	-18.66	285	117	V
2	* 2.363784	62.71	Pk	31.9	-37.14	57.47	-	-	74	-16.53	285	117	V
3	* 2.39	49.33	RMS	32.1	-37.08	44.35	54	-9.65	-	-	285	117	V
4	* 2.389738	50.07	RMS	32.1	-37.08	45.09	54	-8.91	-	-	285	117	V

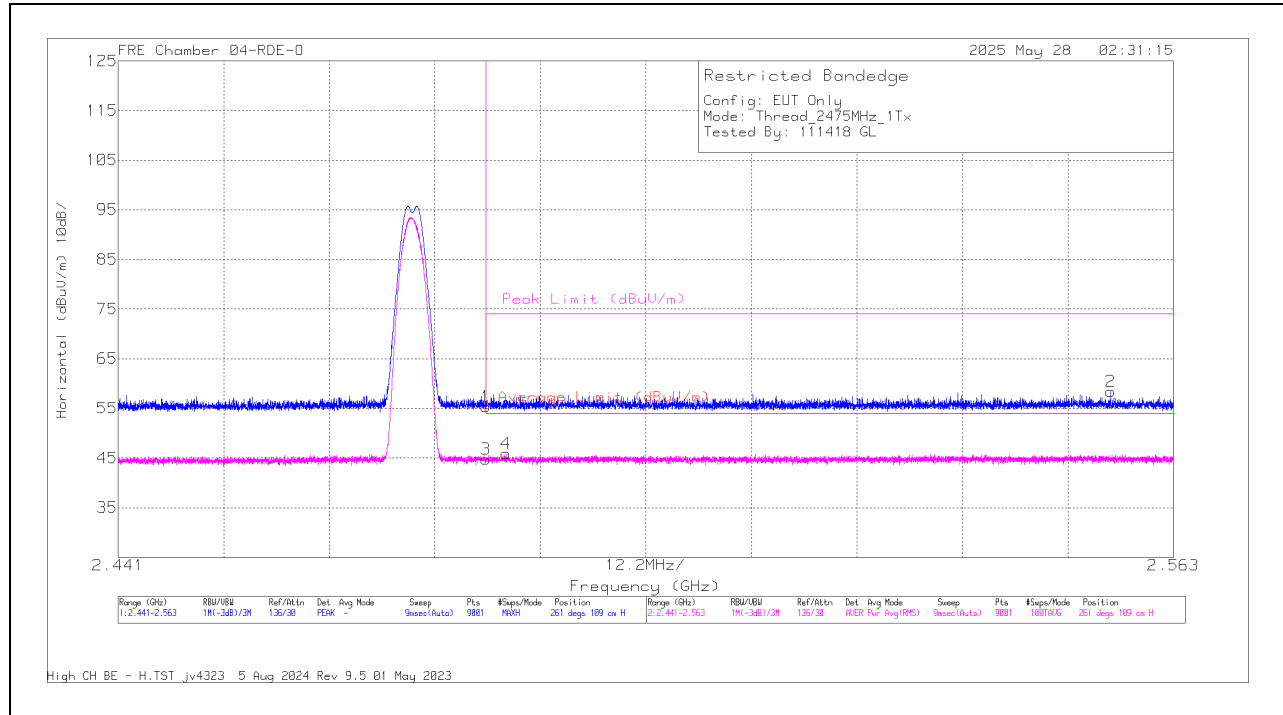
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CHANNEL

HORIZONTAL RESULT



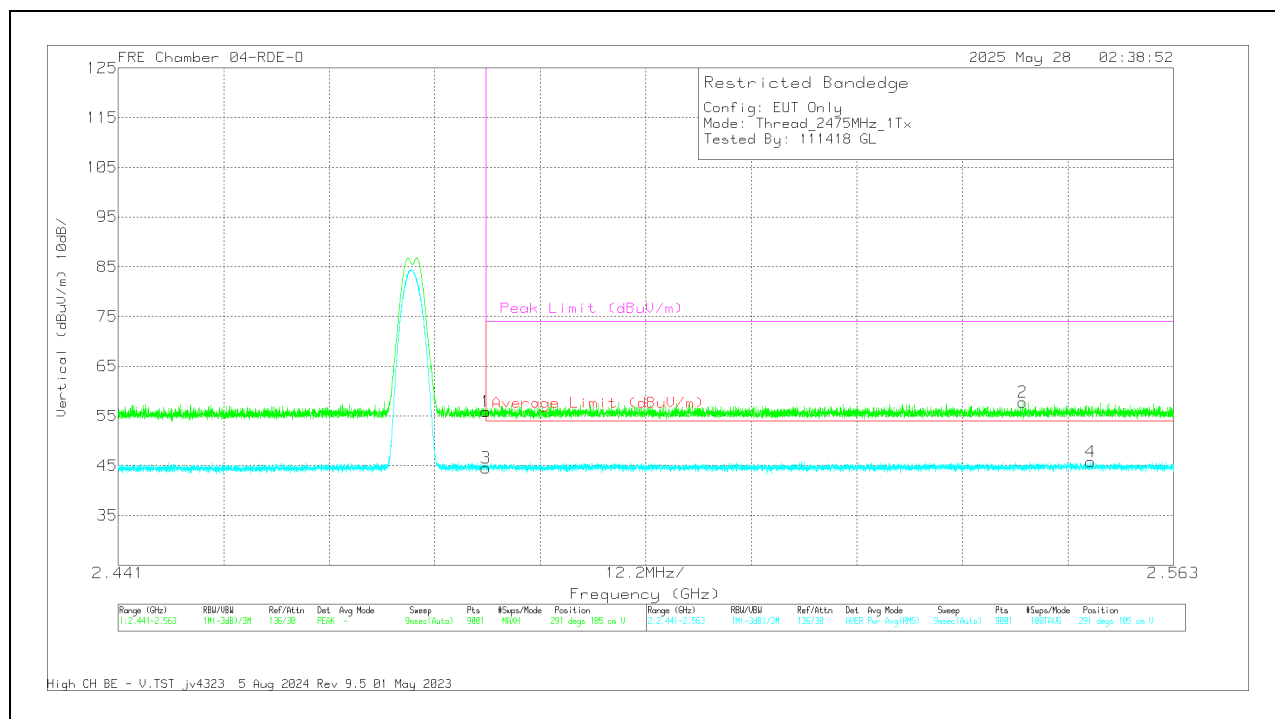
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Dogs)	Height (cm)	Polarity
1	* 2.4835	59.95	Pk	32.3	-36.91	55.34	-	-	74	-18.66	261	109	H
3	* 2.4835	49.34	RMS	32.3	-36.91	44.73	54	-9.27	-	-	261	109	H
4	* 2.48583	50.5	RMS	32.3	-36.92	45.88	54	-8.12	-	-	261	109	H
2	2.55765	62.72	Pk	32.4	-36.76	58.36	-	-	74	-15.64	261	109	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 80402 (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	60.49	Pk	32.3	-36.91	55.88	-	-	74	-18.12	291	105	V
3	* 2.4835	49.15	RMS	32.3	-36.91	44.54	54	-9.46	-	-	291	105	V
2	2.545571	62.25	Pk	32.4	-36.85	57.8	-	-	74	-16.2	291	105	V
4	2.553461	50.16	RMS	32.4	-36.72	45.84	54	-8.16	-	-	291	105	V

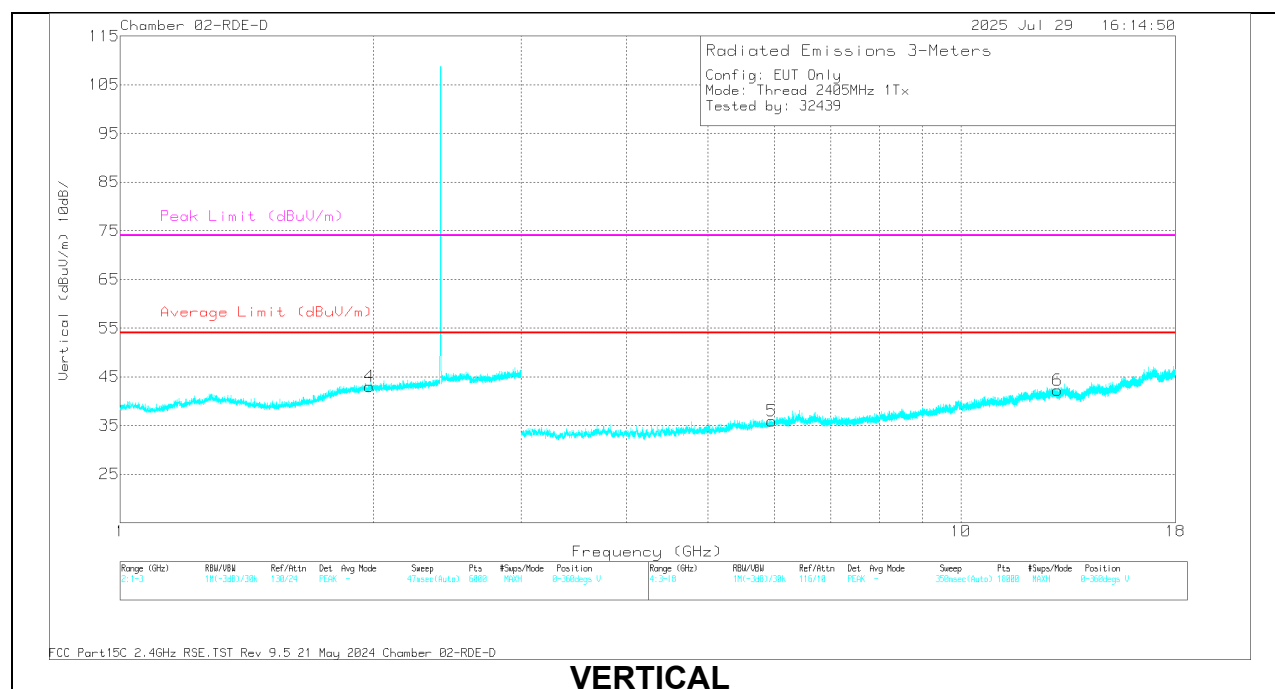
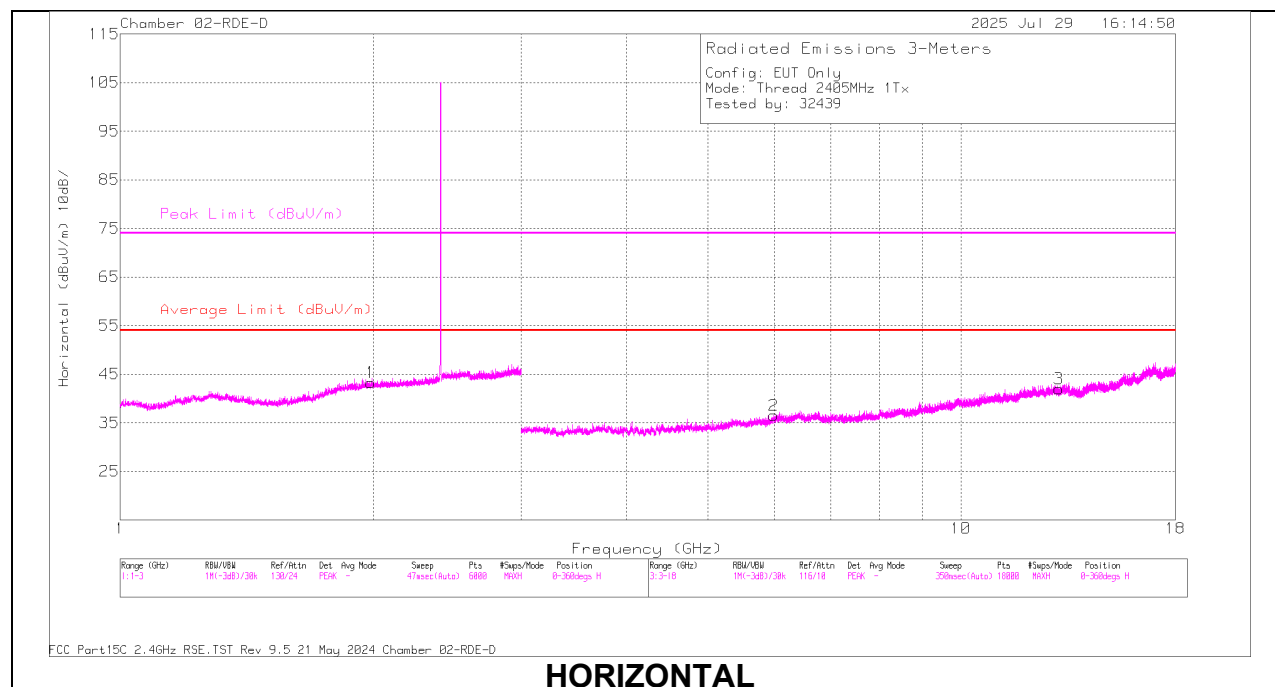
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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

LOW CHANNEL RESULTS



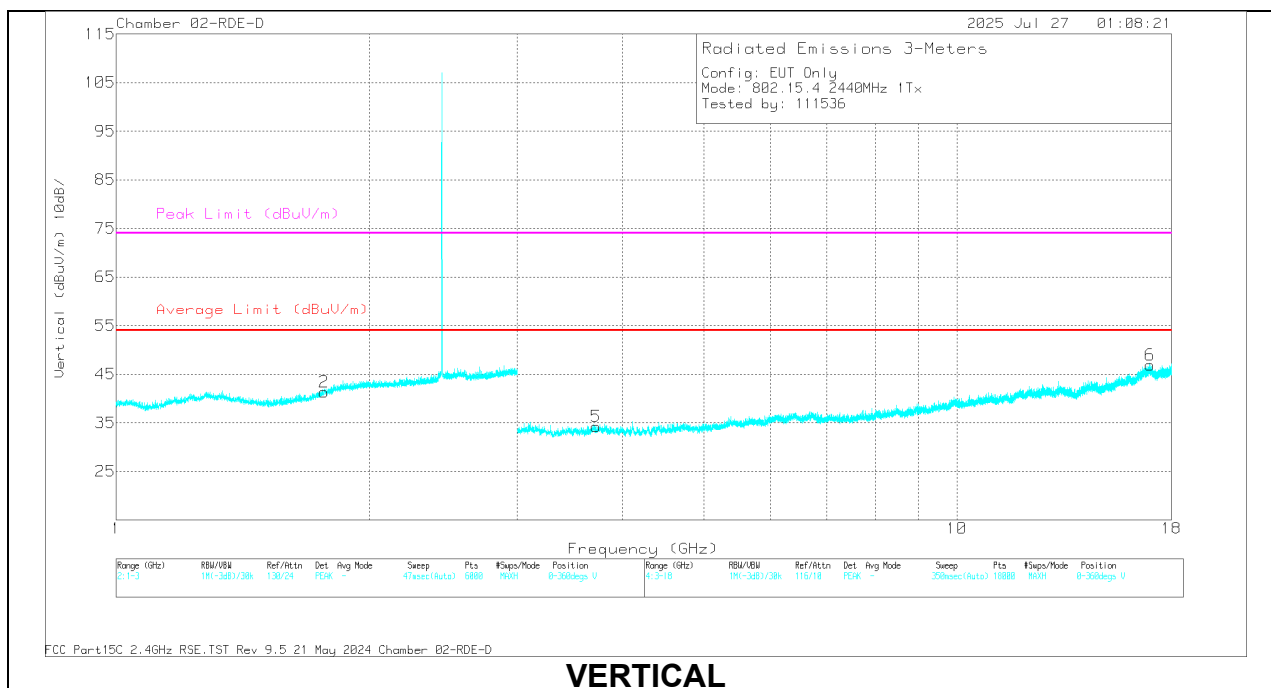
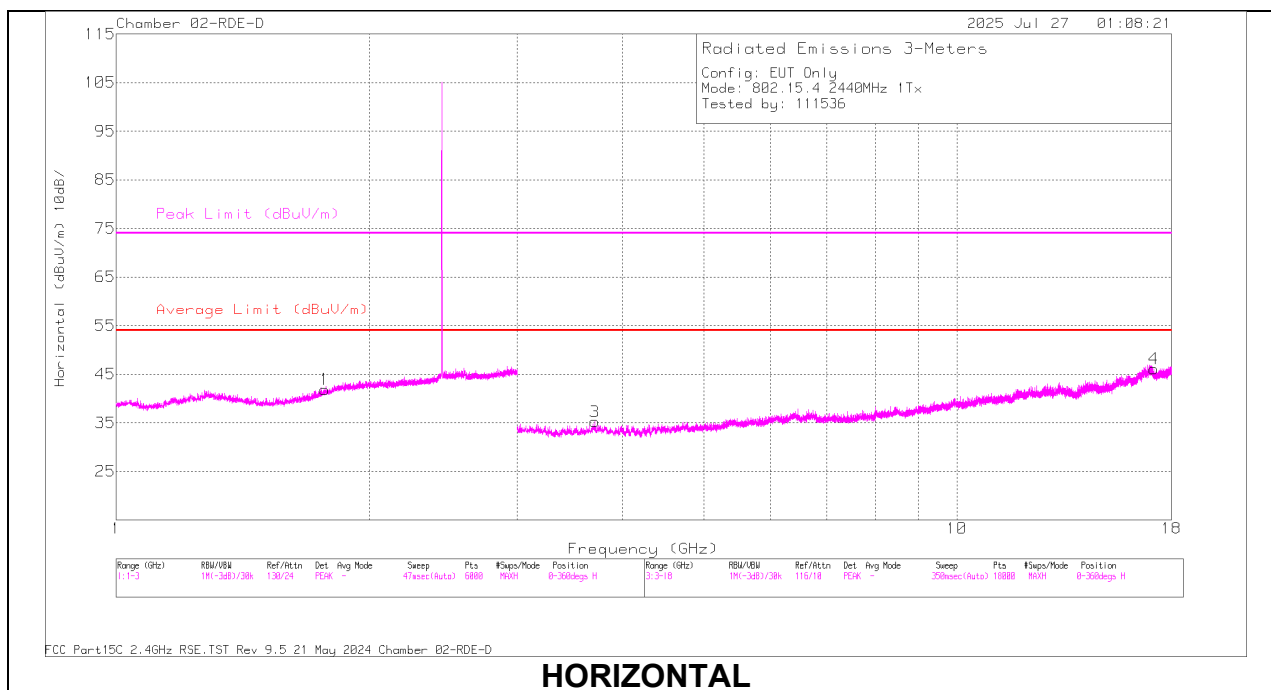
RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.984888	49.03	MAv1	31.4	-38.9	41.53	-	-	-	-	1	101	H
	1.988108	60.64	PK2	31.4	-38.9	53.14	-	-	-	-	1	101	H
2	5.97502	42.37	MAv1	35.6	-43.5	34.47	-	-	-	-	174	255	H
	5.993171	54.17	PK2	35.6	-43.4	46.37	-	-	-	-	174	255	H
3	13.024719	40.59	MAv1	39.3	-39.1	40.79	-	-	-	-	14	247	H
	13.048905	51.72	PK2	39.2	-39.3	51.62	-	-	-	-	14	247	H
4	1.98426	60.62	PK2	31.4	-38.9	53.12	-	-	-	-	1	200	V
	1.994453	48.98	MAv1	31.4	-38.8	41.58	-	-	-	-	1	200	V
5	5.937919	53.84	PK2	35.5	-43.9	45.44	-	-	-	-	172	111	V
	5.960079	42.29	MAv1	35.5	-43.5	34.29	-	-	-	-	172	111	V
6	13.037719	40.59	MAv1	39.3	-39.1	40.79	-	-	-	-	99	324	V
	13.044605	51.72	PK2	39.2	-39.3	51.62	-	-	-	-	99	324	V

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



RADIATED EMISSIONS

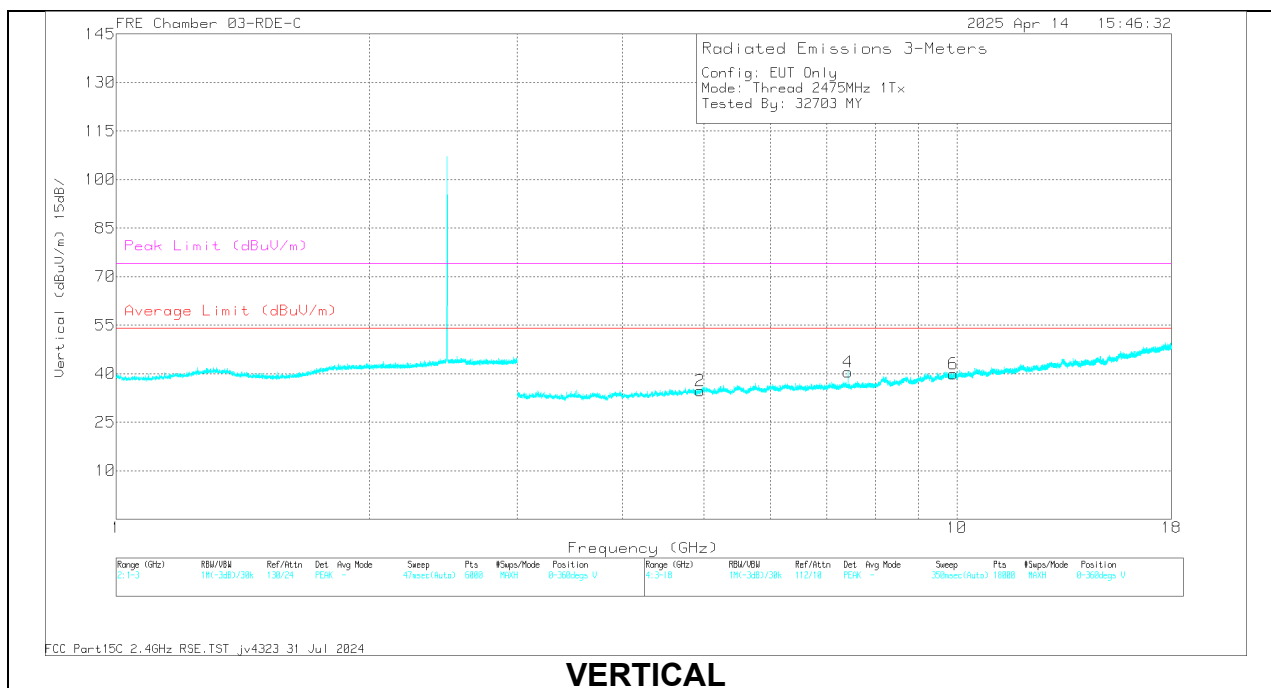
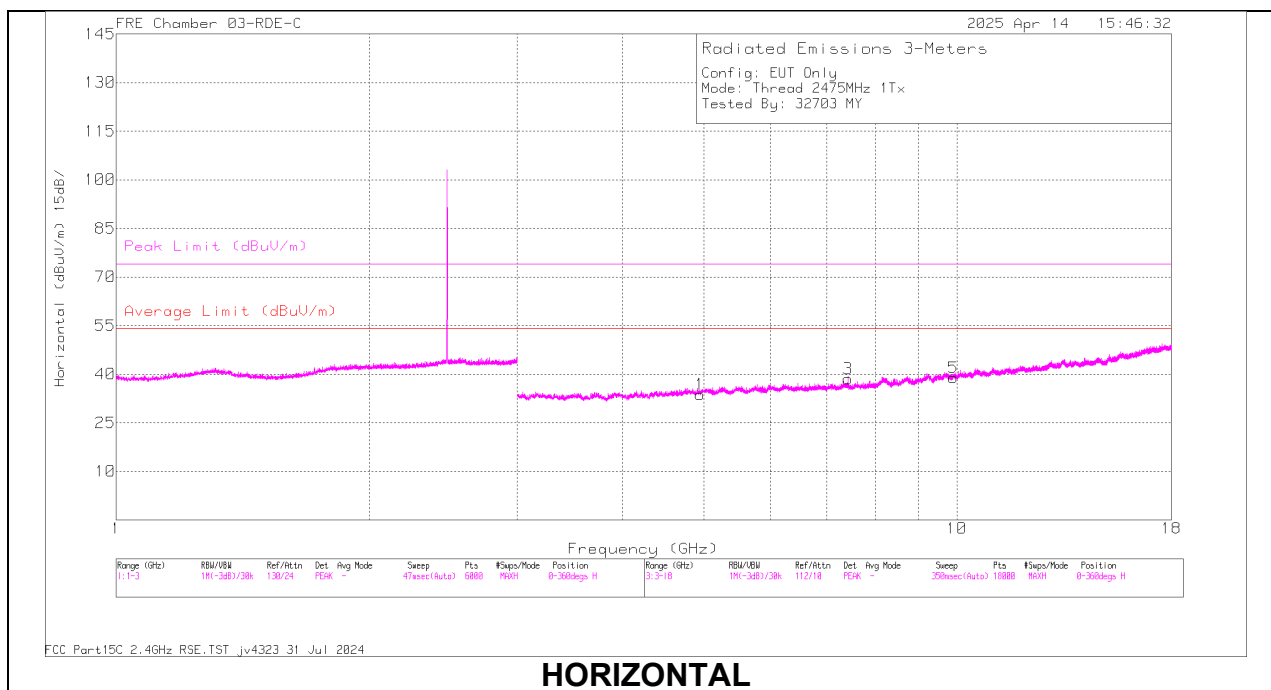
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.759078	60.65	PK2	29.8	-39	51.45	-	-	-	-	360	101	H
	1.769485	49.08	MAv1	30	-39	40.08	-	-	-	-	360	101	H
2	1.776225	60.23	PK2	30	-39	51.23	-	-	-	-	360	200	V
	1.776311	49.07	MAv1	30	-39	40.07	-	-	-	-	360	200	V
3	* 3.702451	44.67	MAv1	33.3	-45.5	32.47	54	-21.53	-	-	360	200	V
	* 3.707722	44.87	MAv1	33.3	-45.3	32.87	54	-21.13	-	-	360	200	H
4	* 3.713478	56.89	PK2	33.3	-45.5	44.69	-	-	74	-29.31	360	200	V
	* 3.714415	56.22	PK2	33.3	-45.4	44.12	-	-	74	-29.88	360	200	H
5	16.960686	50.74	PK2	41.9	-36.7	55.94	-	-	-	-	360	200	V
	16.963411	39.36	MAv1	41.9	-36.7	44.56	-	-	-	-	360	200	V
6	17.153838	39.47	MAv1	41.6	-36.9	44.17	-	-	-	-	360	200	H
	17.17926	50.48	PK2	41.5	-36.6	55.38	-	-	-	-	360	200	H

* - 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	84797 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	* 4.949613	56.07	PKFH	34.4	-47.04	43.43	-	-	74	-30.57	199	107	H
	* 4.949266	42.4	VA1T	34.4	-47.07	29.73	54	-24.27	-	-	199	107	H
2	* 7.427042	54.79	PKFH	35.5	-45.5	44.79	-	-	74	-29.21	96	296	H
	* 7.423655	42.08	VA1T	35.5	-45.6	31.98	54	-22.02	-	-	96	296	H
3	* 4.949915	55.81	PKFH	34.4	-47.01	43.2	-	-	74	-30.8	329	194	V
	* 4.948514	42.42	VA1T	34.4	-47.1	29.72	54	-24.28	-	-	329	194	V
4	* 7.421472	55.08	PKFH	35.5	-45.6	44.98	-	-	74	-29.02	140	361	V
	* 7.423576	42.07	VA1T	35.5	-45.6	31.97	54	-22.03	-	-	140	361	V
5	9.89769	42.45	VA1T	37.2	-45	34.65	-	-	-	-	306	291	V
	9.897949	42.32	VA1T	37.2	-45	34.52	-	-	-	-	179	267	H
6	9.899918	55.88	PKFH	37.2	-44.91	48.17	-	-	-	-	179	267	H
	9.900326	56.43	PKFH	37.2	-44.9	48.73	-	-	-	-	306	291	V

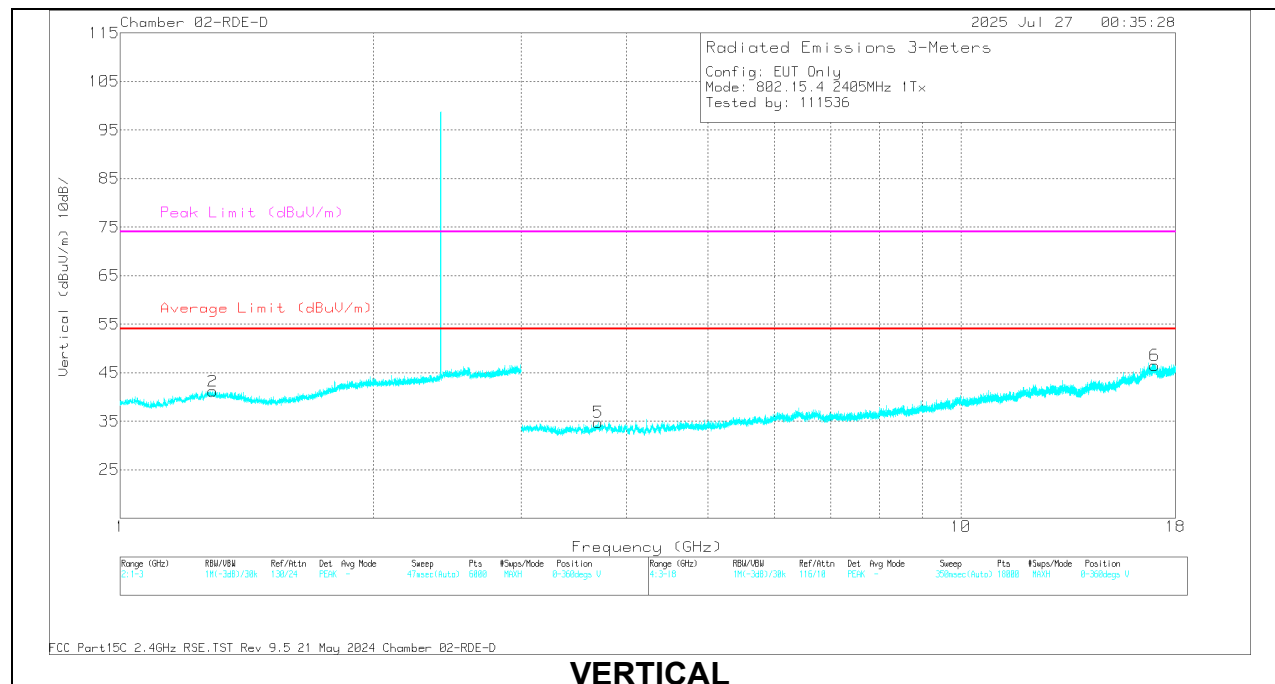
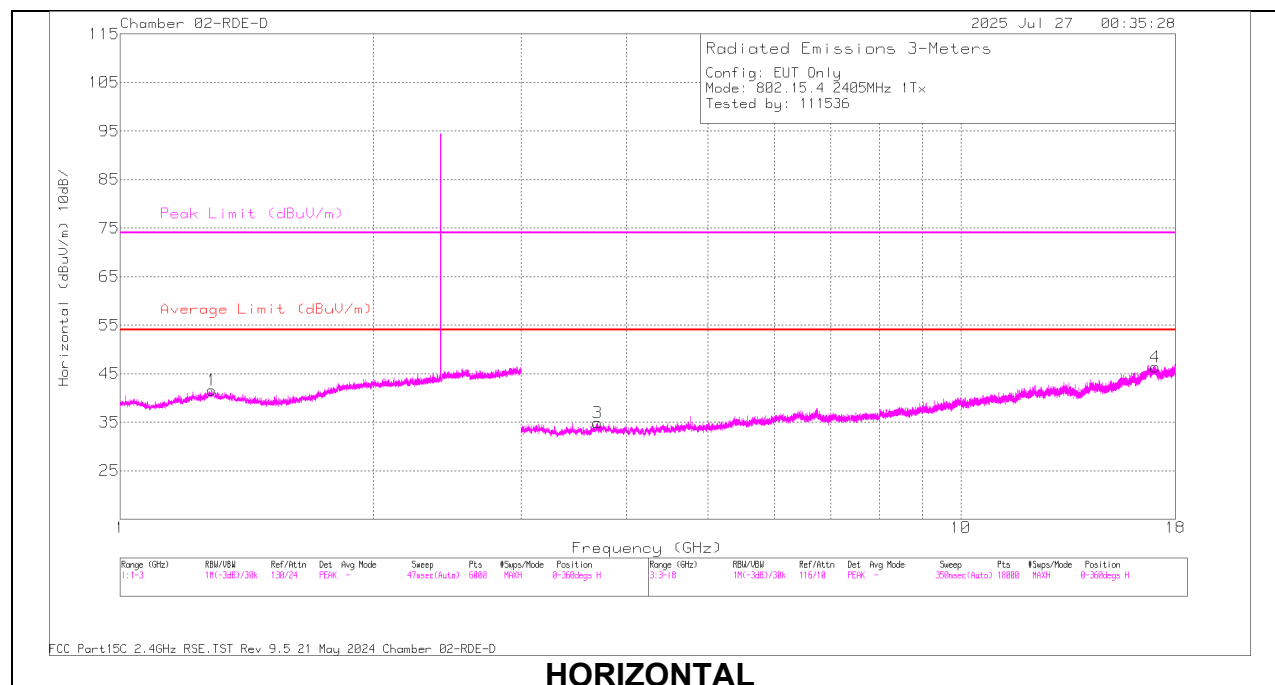
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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

LOW CHANNEL RESULTS



RADIATED EMISSIONS

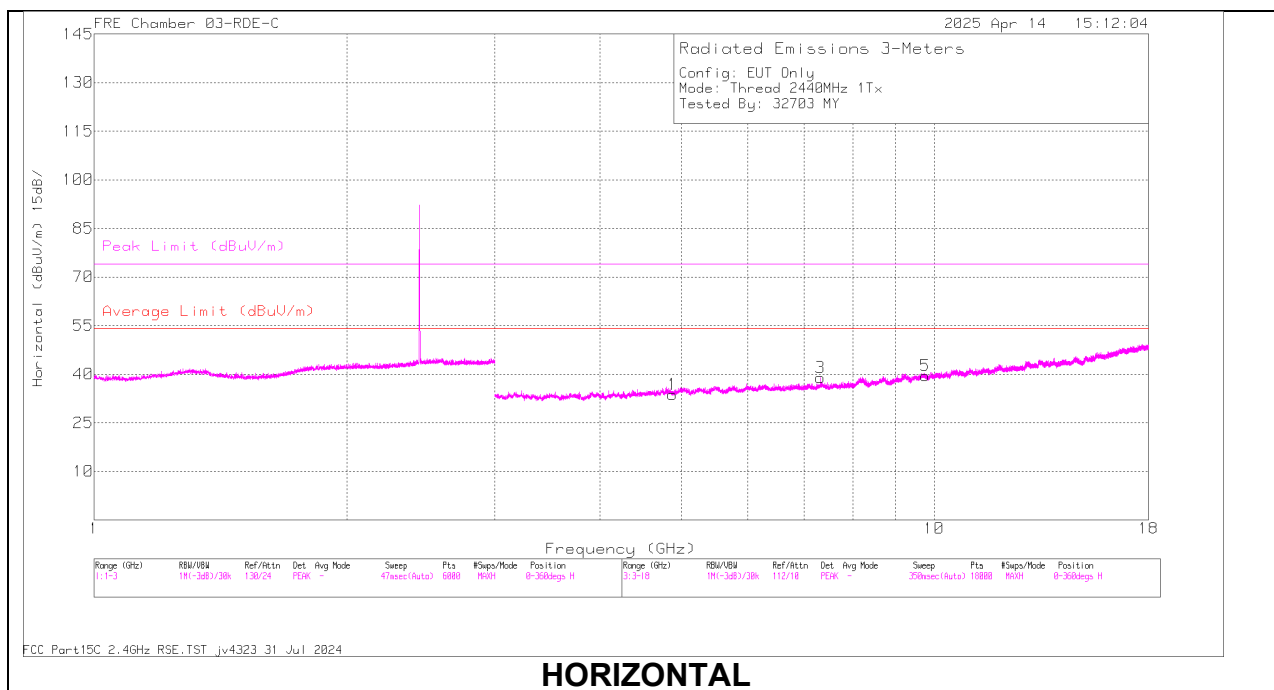
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.279271	61.19	PK2	29.2	-39.2	51.19	-	-	74	-22.81	360	200	H
	* 1.282671	49.32	MAv1	29.2	-39.2	39.32	54	-14.68	-	-	360	200	H
2	* 1.285738	49.19	MAv1	29.1	-39.1	39.19	54	-14.81	-	-	360	200	V
	* 1.291511	61.24	PK2	29.1	-39.1	51.24	-	-	74	-22.76	360	200	V
3	* 3.689528	56.17	PK2	33.3	-45.4	44.07	-	-	74	-29.93	360	101	V
	* 3.689726	44.74	MAv1	33.3	-45.4	32.64	54	-21.36	-	-	360	101	H
4	* 3.695484	44.79	MAv1	33.3	-45.3	32.79	54	-21.21	-	-	360	101	V
	* 3.705188	56.58	PK2	33.3	-45.4	44.48	-	-	74	-29.52	360	101	H
5	16.982586	50.84	PK2	41.9	-36.2	56.54	-	-	-	-	360	101	V
	17.017648	39.3	MAv1	41.8	-36.5	44.6	-	-	-	-	360	101	V
6	17.036293	51.66	PK2	41.8	-36.5	56.96	-	-	-	-	360	101	H
	17.03732	39.63	MAv1	41.8	-36.8	44.63	-	-	-	-	360	101	H

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

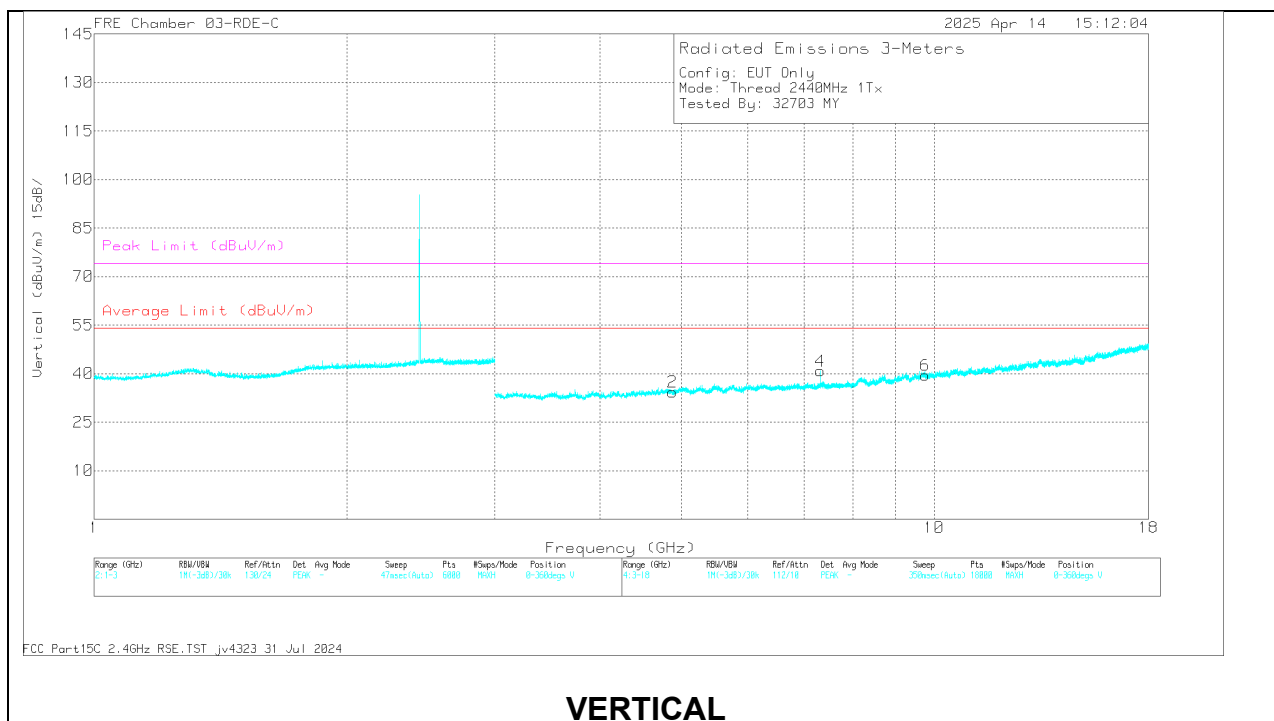
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

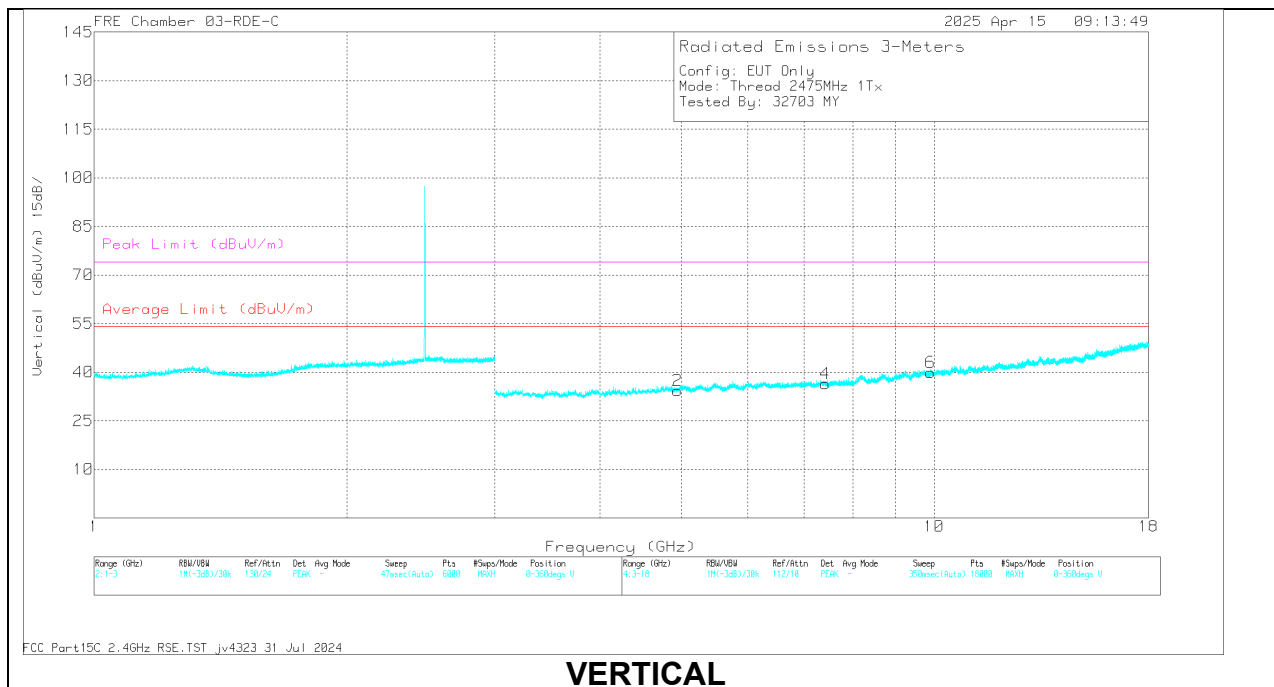
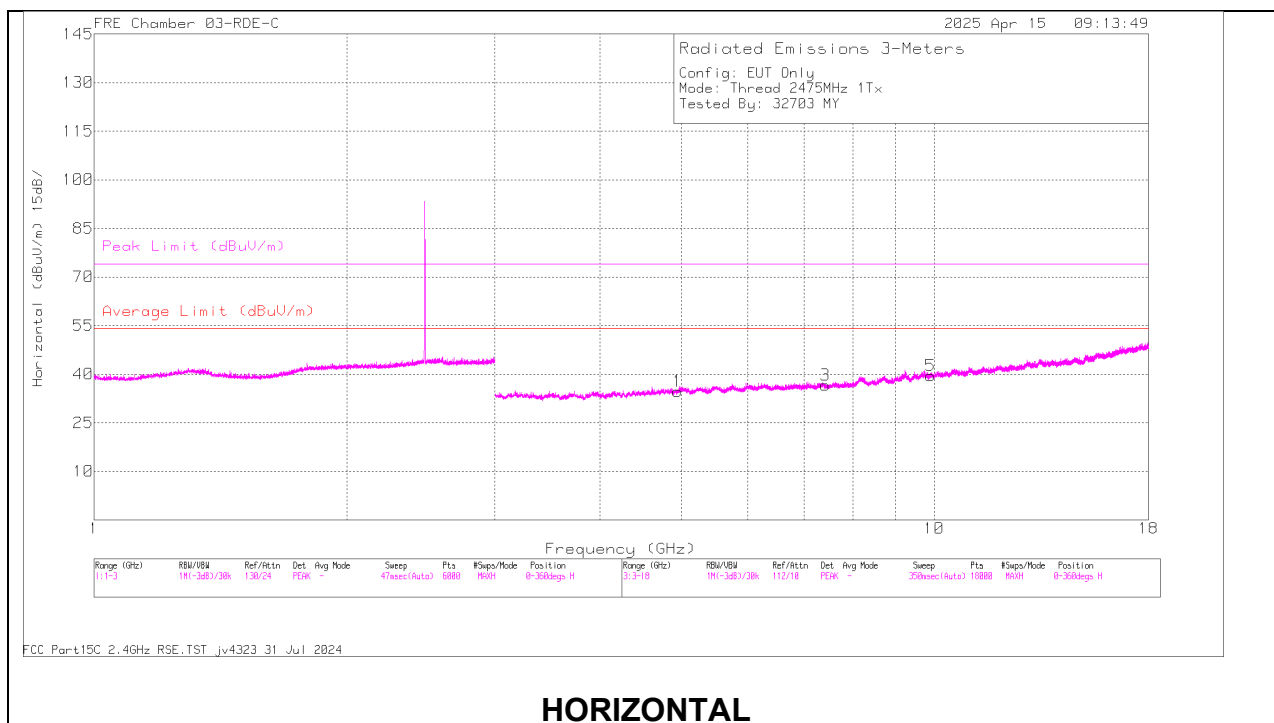
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.88275	55.71	PKFH	34.3	-47.1	42.91	-	-	74	-31.09	25	179	H
	* 4.884203	42.22	VA1T	34.3	-47.1	29.42	54	-24.58	-	-	25	179	H
2	* 7.318156	54.88	PKFH	35.5	-45.1	45.28	-	-	74	-28.72	244	107	H
	* 7.318504	41.95	VA1T	35.5	-45.1	32.35	54	-21.65	-	-	244	107	H
3	* 4.885893	55.57	PKFH	34.3	-47.1	42.77	-	-	74	-31.23	218	140	V
	* 4.886271	42.31	VA1T	34.3	-47.1	29.51	54	-24.49	-	-	218	140	V
4	* 7.318806	57.88	PKFH	35.5	-45.1	48.28	-	-	74	-25.72	126	264	V
	* 7.318626	45.71	VA1T	35.5	-45.1	36.11	54	-17.89	-	-	126	264	V
5	9.758064	42.34	VA1T	37.1	-44.4	35.04	-	-	-	-	82	178	V
	9.759634	56.18	PKFH	37.1	-44.4	48.88	-	-	-	-25.12	82	178	V
6	9.759805	42.33	VA1T	37.1	-44.4	35.03	-	-	-	-	233	185	H
	9.76091	56.03	PKFH	37.1	-44.4	48.73	-	-	-	-25.27	233	185	H

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

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 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	* 4.949308	57.41	PKFH	34.4	-47.07	44.74	-	-	74	-29.26	99	397	H
	* 4.951091	42.86	VA1T	34.4	-47	30.26	54	-23.74	-	-	99	397	H
2	* 7.425947	55.27	PKFH	35.5	-45.51	45.26	-	-	74	-28.74	317	101	H
	* 7.424762	41.57	VA1T	35.5	-45.6	31.47	54	-22.53	-	-	317	101	H
3	* 4.951127	56.61	PKFH	34.4	-47	44.01	-	-	74	-29.99	24	282	V
	* 4.95055	42.65	VA1T	34.4	-47	30.05	54	-23.95	-	-	24	282	V
4	* 7.421493	55.07	PKFH	35.5	-45.6	44.97	-	-	74	-29.03	53	354	V
	* 7.421505	41.71	VA1T	35.5	-45.6	31.61	54	-22.39	-	-	53	354	V
5	9.896944	42.44	VA1T	37.2	-45	34.64	-	-	-	-	162	288	V
	9.898071	55.98	PKFH	37.2	-45	48.18	-	-	-	-25.82	162	288	V
6	9.899416	56.01	PKFH	37.2	-44.96	48.25	-	-	-	-25.75	16	350	H
	9.899436	42.49	VA1T	37.2	-44.96	34.73	-	-	-	-	16	350	H

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

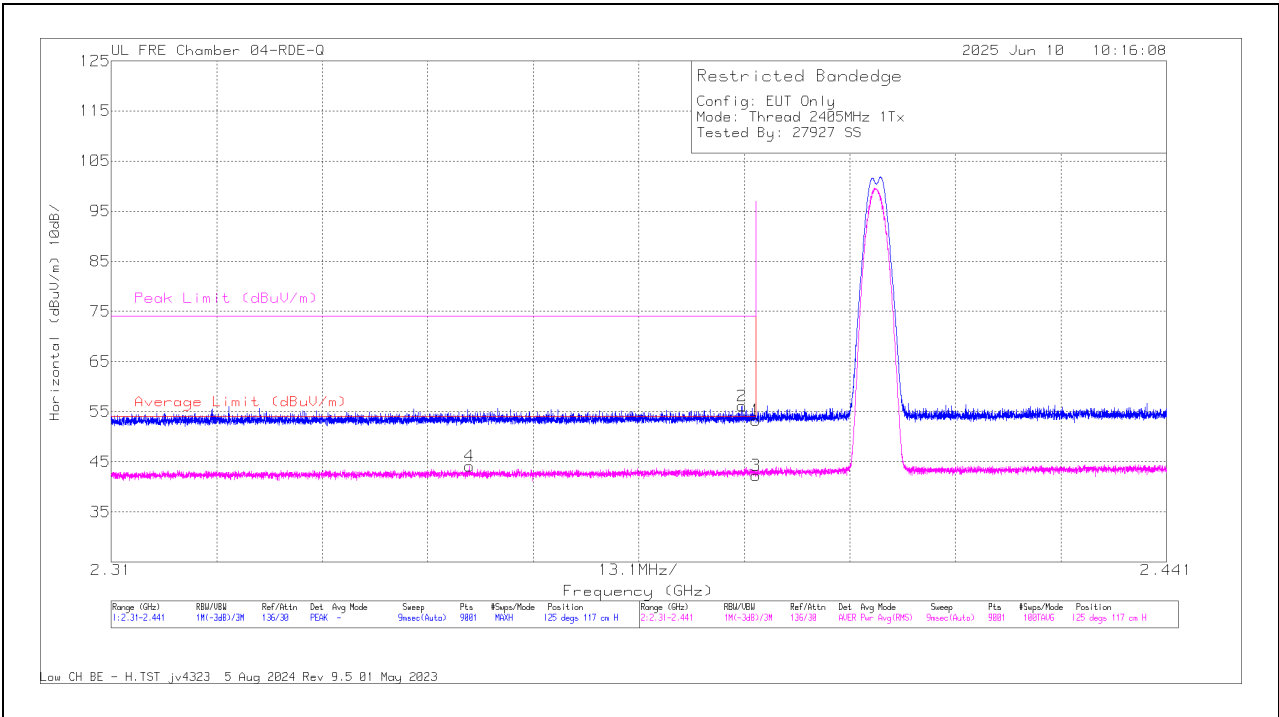
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.1.5. ANT1, 802.15.4 HIGH POWER BANDEGE

LOW CHANNEL

HORIZONTAL RESULT

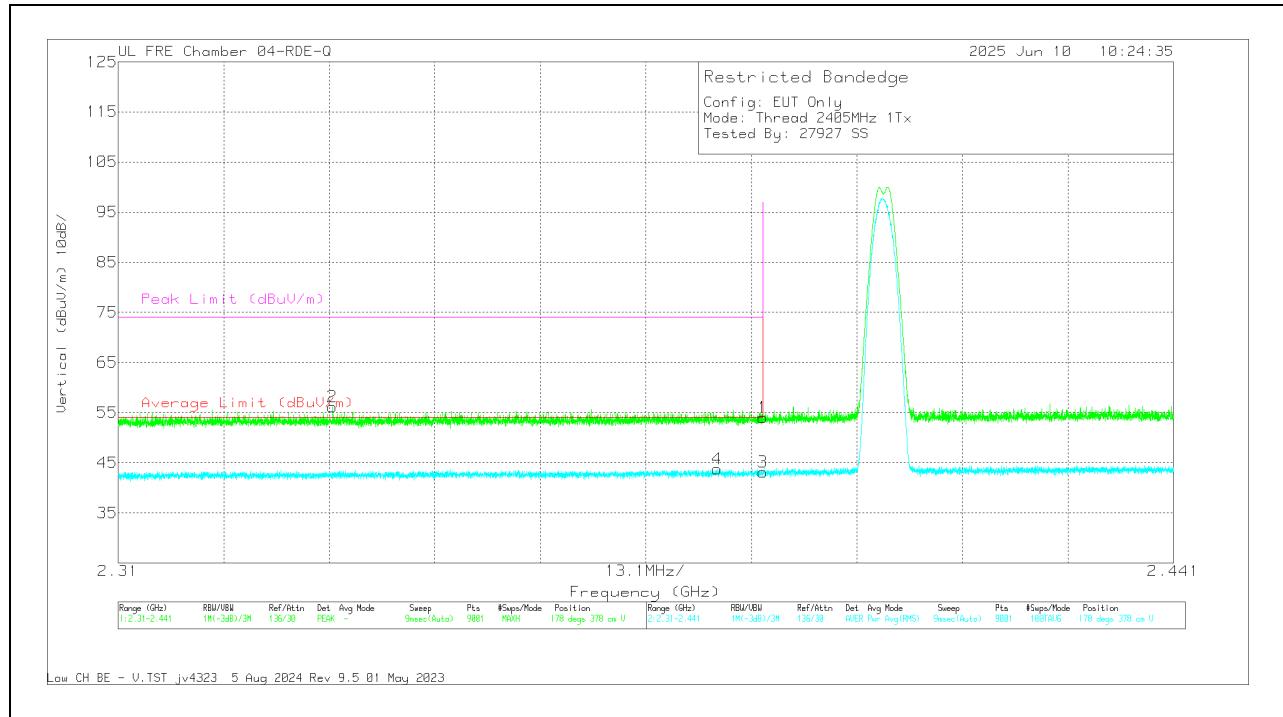


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222741 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	*2.354454	50.63	RMS	31.9	-38.42	44.11	54	-9.89	-	-	125	117	H
2	*2.388297	62.54	Pk	31.9	-38.33	56.11	-	-	74	-17.89	125	117	H
1	*2.39	59.64	Pk	31.9	-38.27	53.27	-	-	74	-20.73	125	117	H
3	*2.39	48.66	RMS	31.9	-38.27	42.29	54	-11.71	-	-	125	117	H

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

Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT

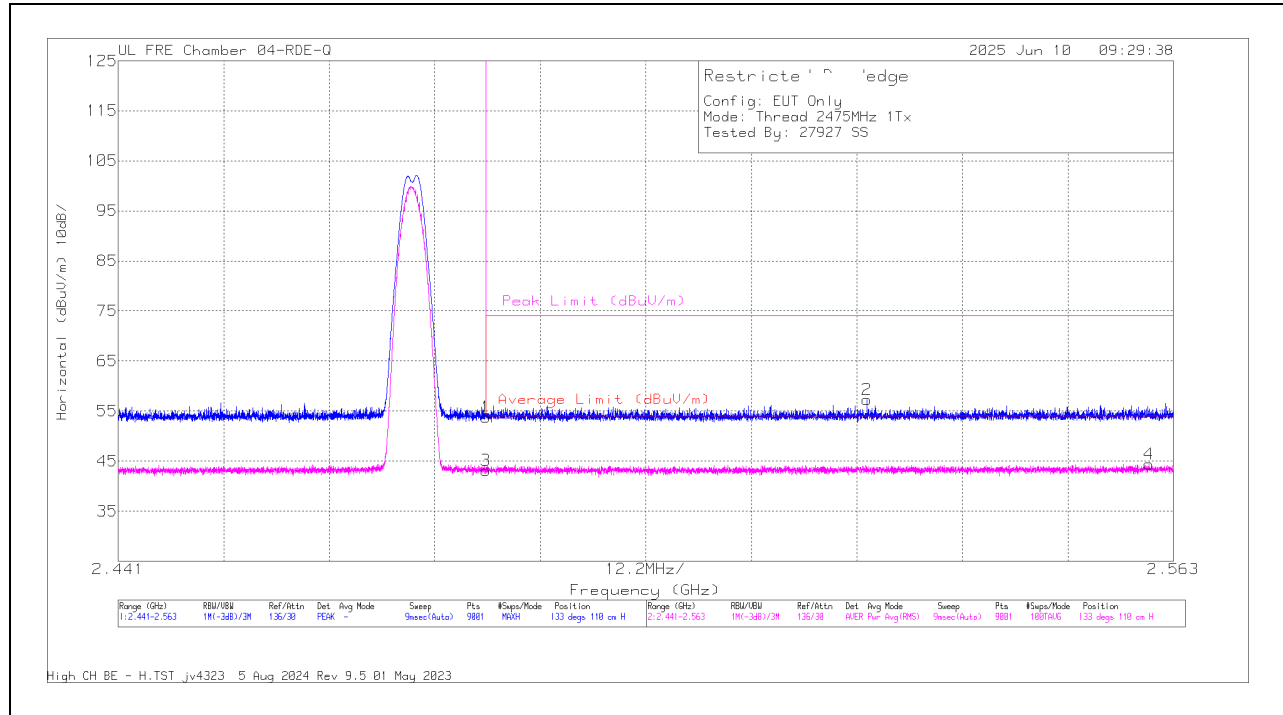


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222741 ACF (dBm)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*2.336565	62.79	Pk	31.8	-38.46	56.13	-	-	74	-17.87	178	378	V
4	*2.384381	50.25	RMS	31.9	-38.34	43.81	54	-10.19	-	-	178	378	V
1	*2.39	60.44	Pk	31.9	-38.27	54.07	-	-	74	-19.93	178	378	V
3	*2.39	49.55	RMS	31.9	-38.27	43.18	54	-10.82	-	-	178	378	V

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

Pk - Peak detector

RMS - RMS detection

HIGH CHANNEL**HORIZONTAL RESULT**

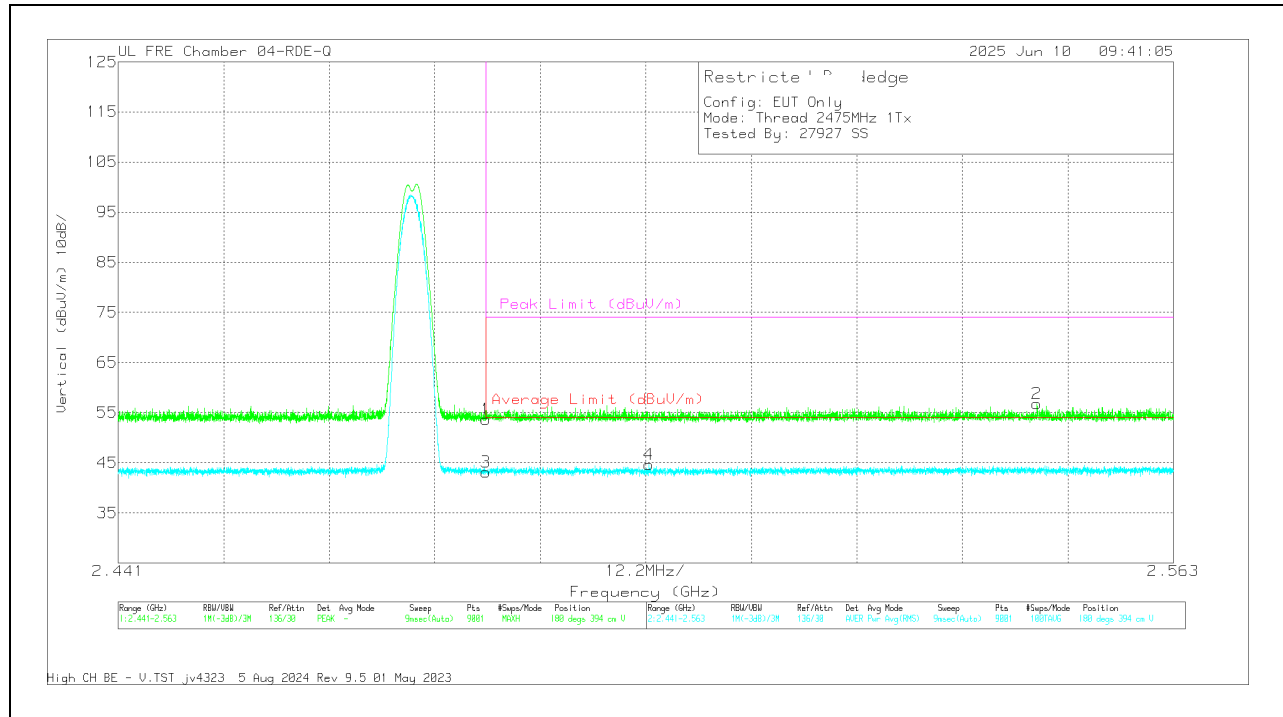
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222741 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.4835	59.57	Pk	32.4	-38.18	53.79	-	-	74	-20.21	133	110	H
3	*2.4835	48.97	RMS	32.4	-38.18	43.19	54	-10.81	-	-	133	110	H
2	*2.527555	62.95	Pk	32.5	-38.15	57.3	-	-	74	-16.7	133	110	H
4	*2.560157	49.99	RMS	32.5	-38.09	44.4	54	-9.6	-	-	133	110	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	222741 ACF (dBm)	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	59.41	Pk	32.4	-38.18	53.63	-	-	74	-20.37	180	394	V
3	*2.4835	48.94	RMS	32.4	-38.18	43.16	54	-10.84	-	-	180	394	V
4	*2.502341	50.43	RMS	32.4	-38.16	44.67	54	-9.33	-	-	180	394	V
2	*2.547225	62.38	Pk	32.5	-38.12	56.76	-	-	74	-17.24	180	394	V

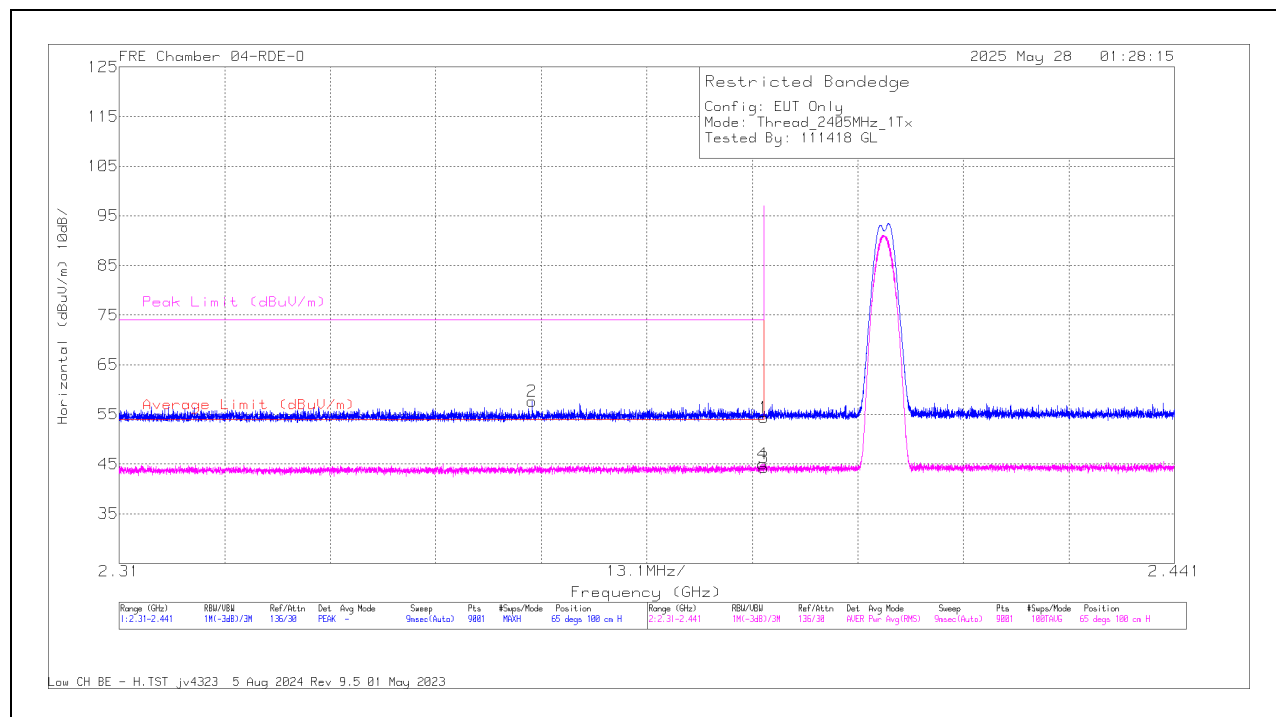
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector
RMS - RMS detection

10.1.6. ANT1, 802.15.4 LOW POWER BANDEDGE

Low Channel

HORIZONTAL RESULT



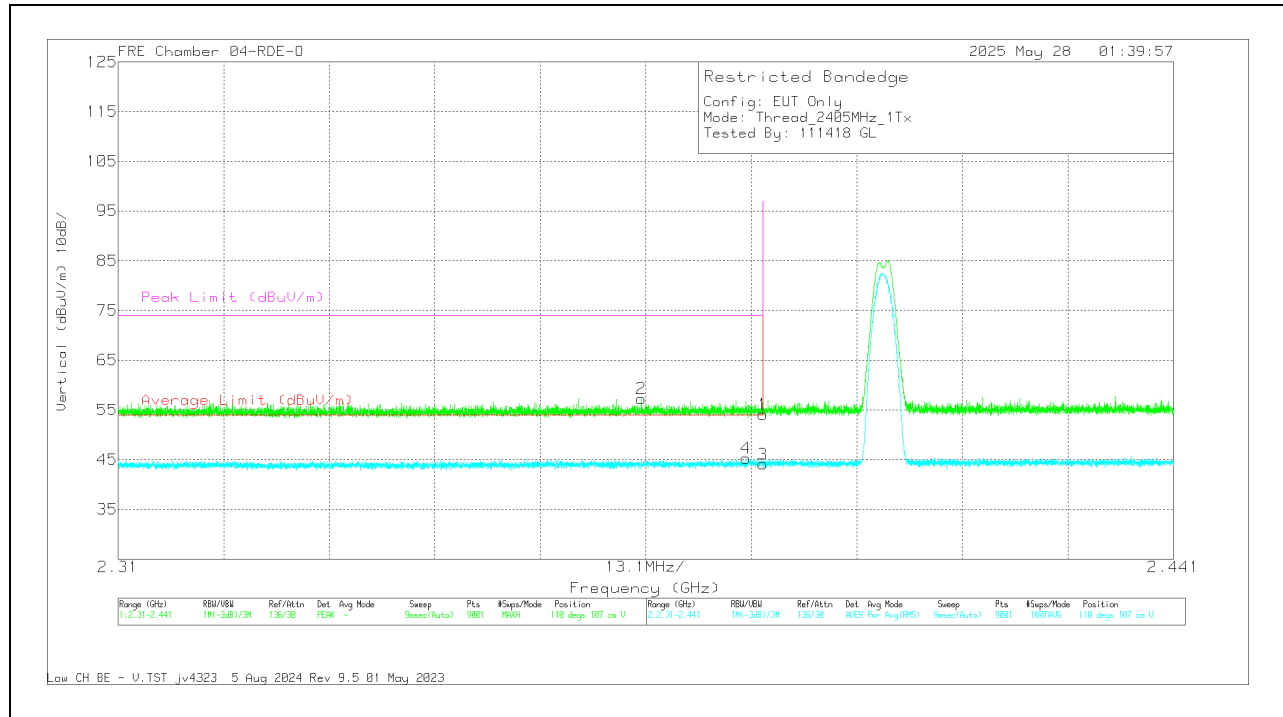
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	59.38	Pk	32.1	-37.08	54.4	-	-	74	-19.6	65	100	H
2	* 2.361252	62.85	Pk	31.9	-37.14	57.61	-	-	74	-16.39	65	100	H
3	* 2.39	49.22	RMS	32.1	-37.08	44.24	54	-9.76	-	-	65	100	H
4	* 2.389883	50	RMS	32.1	-37.08	45.02	54	-8.98	-	-	65	100	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 80402 (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	* 2.39	59.13	Pk	32.1	-37.08	54.15	-	-	74	-19.85	110	107	V
2	* 2.37492	62.39	Pk	32	-37.09	57.3	-	-	74	-16.7	110	107	V
3	* 2.39	49.07	RMS	32.1	-37.08	44.09	54	-9.91	-	-	110	107	V
4	* 2.387918	50.27	RMS	32.1	-37.08	45.29	54	-8.71	-	-	110	107	V

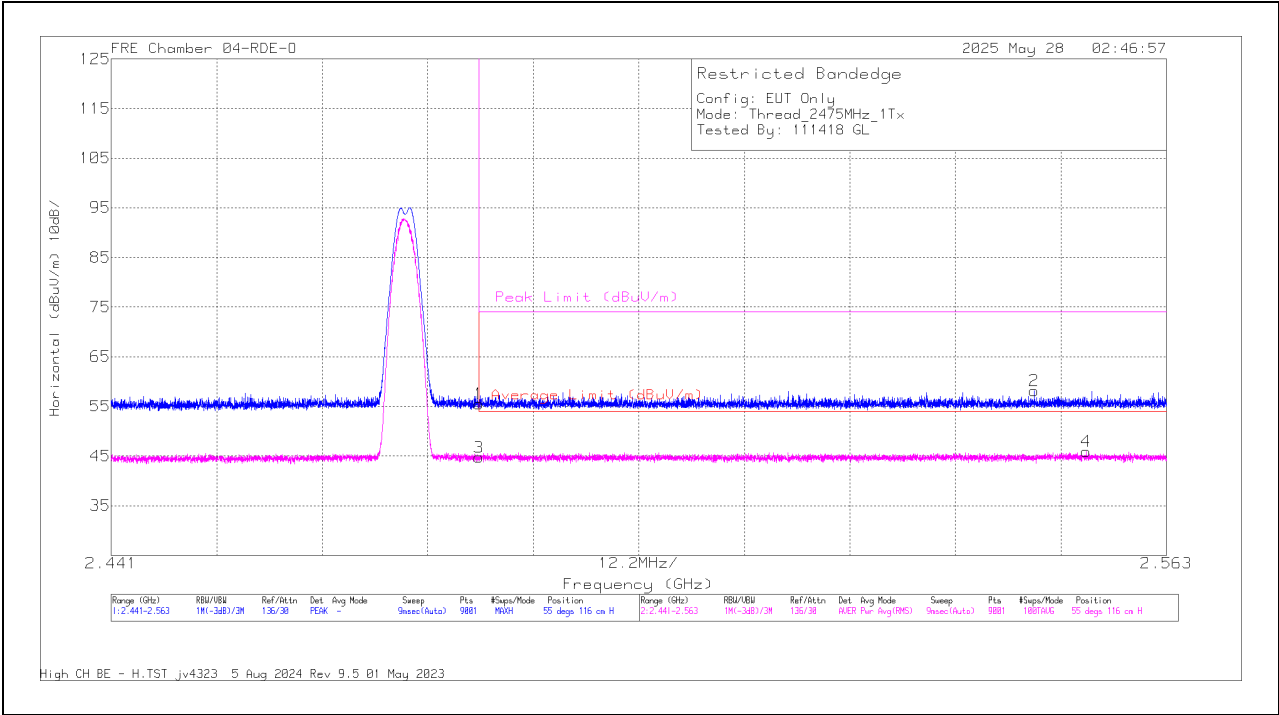
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CHANNEL

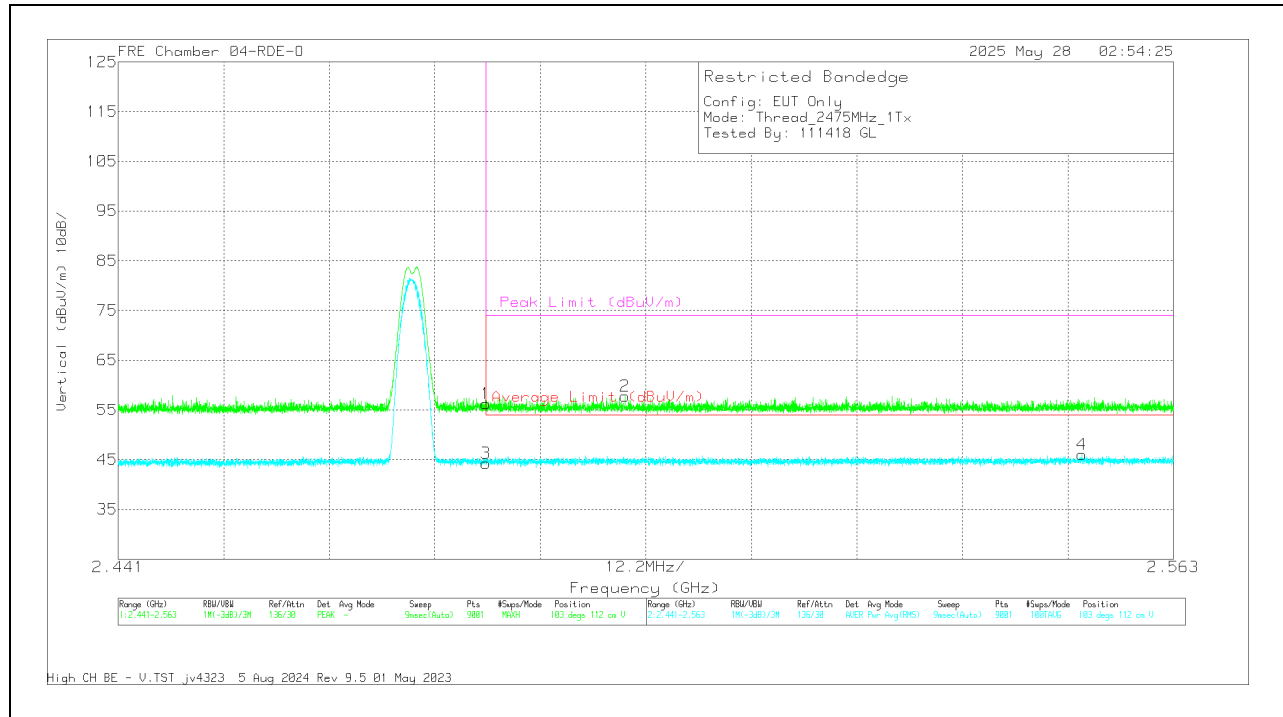
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Dogs)	Height (cm)	Polarity
1	* 2.4835	60.14	Pk	32.3	-36.91	55.53	-	-	74	-18.47	55	116	H
3	* 2.4835	49.33	RMS	32.3	-36.91	44.72	54	-9.28	-	-	55	116	H
2	2.547713	62.55	Pk	32.4	-36.8	58.15	-	-	74	-15.85	55	116	H
4	2.553745	50.21	RMS	32.4	-36.73	45.88	54	-8.12	-	-	55	116	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 80402 (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	60.91	Pk	32.3	-36.91	56.3	-	-	74	-17.7	103	112	V
2	* 2.499616	62.26	Pk	32.4	-36.9	57.76	-	-	74	-16.24	103	112	V
3	* 2.4835	48.91	RMS	32.3	-36.91	44.3	54	-9.7	-	-	103	112	V
4	* 2.55243	50.33	RMS	32.4	-36.71	46.02	54	-7.98	-	-	103	112	V

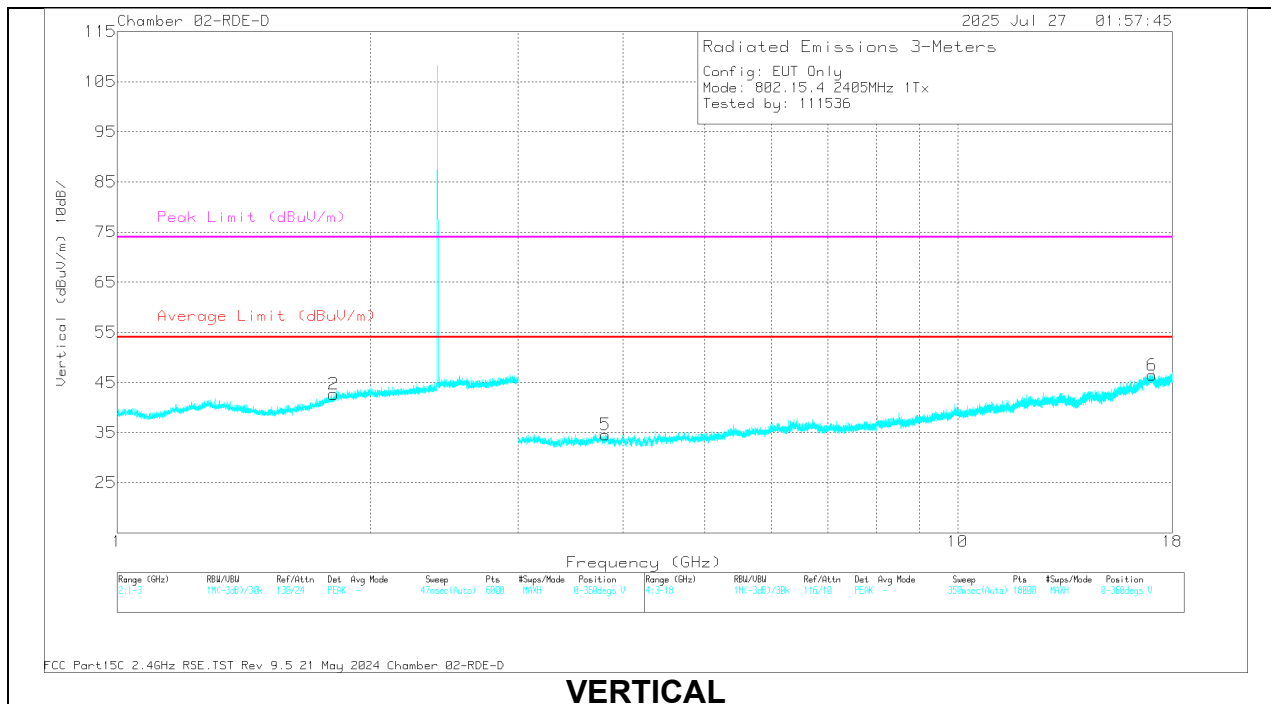
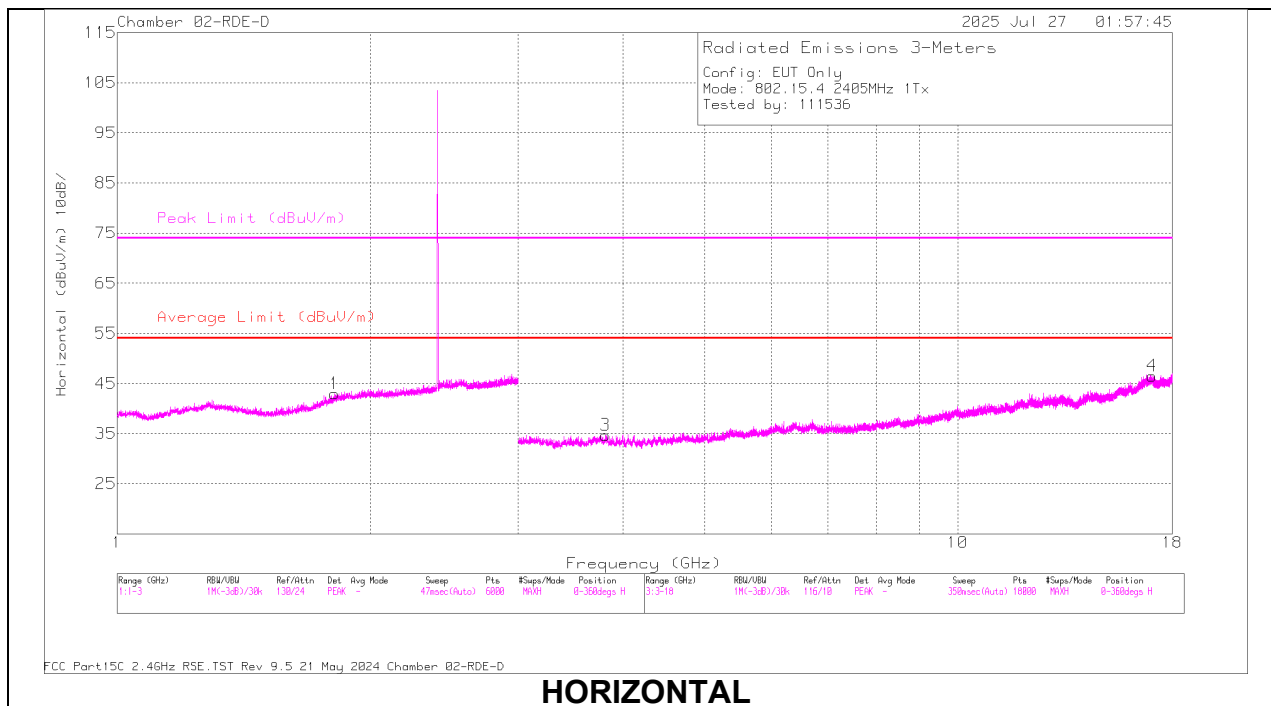
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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

LOW CHANNEL RESULTS



RADIATED EMISSIONS

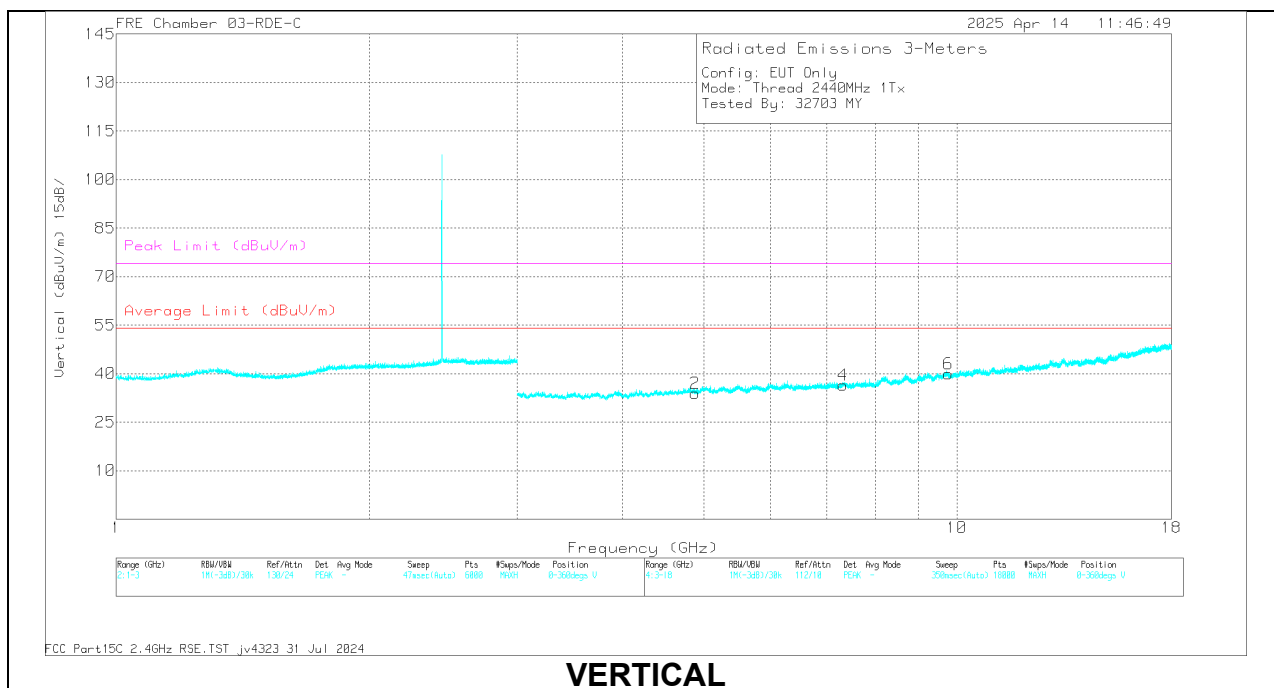
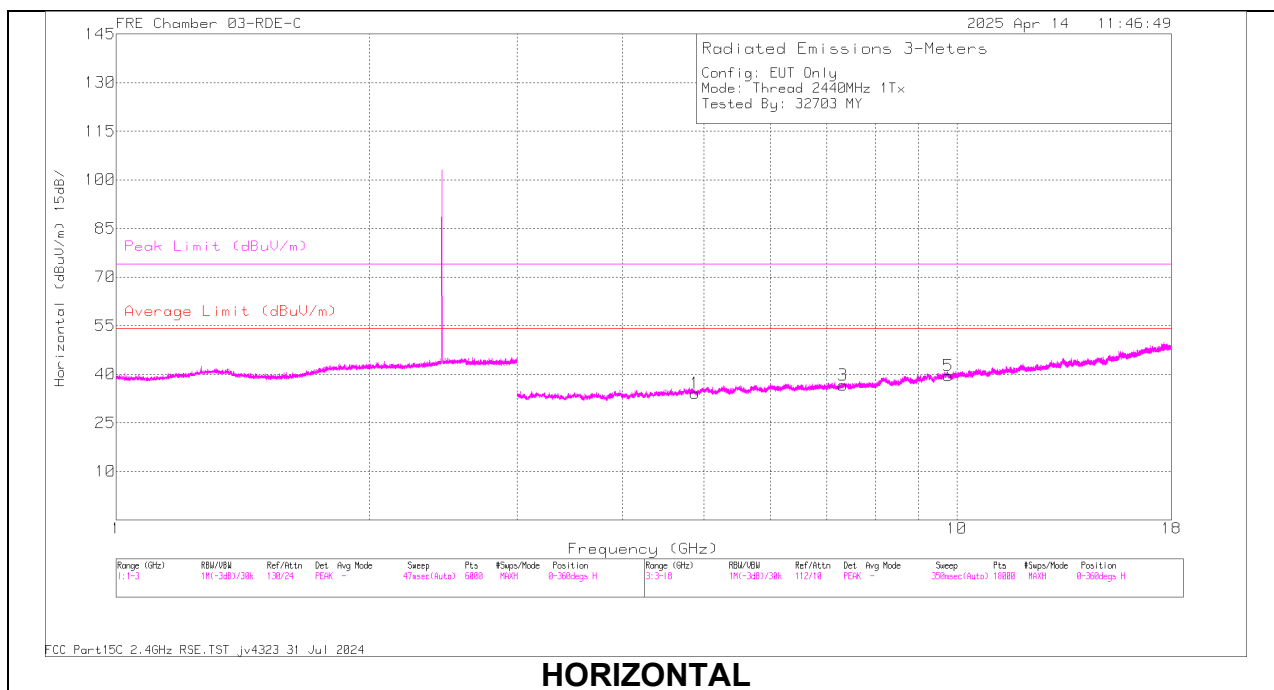
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.816378	48.94	MAv1	30.6	-39	40.54	-	-	-	-	360	200	V
	1.818392	60.32	PK2	30.6	-38.9	52.02	-	-	-	-	360	200	H
2	1.820712	60.16	PK2	30.6	-39	51.76	-	-	-	-	360	200	V
	1.831192	49.2	MAv1	30.8	-39.1	40.9	-	-	-	-	360	200	H
3	* 3.799516	56.18	PK2	33.4	-45.4	44.18	-	-	74	-29.82	360	200	H
	* 3.802077	55.94	PK2	33.4	-45.3	44.04	-	-	74	-29.96	360	200	V
4	* 3.809499	44.24	MAv1	33.4	-45.1	32.54	54	-21.46	-	-	360	200	V
	* 3.810272	44.42	MAv1	33.4	-45.1	32.72	54	-21.28	-	-	360	200	H
5	17.022004	50.81	PK2	41.8	-36.6	56.01	-	-	-	-	360	101	H
	17.040797	39.86	MAv1	41.8	-36.5	45.16	-	-	-	-	360	200	V
6	17.04362	51.41	PK2	41.8	-36.5	56.71	-	-	-	-	360	200	V
	17.049173	39.42	MAv1	41.8	-36.4	44.82	-	-	-	-	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



RADIATED EMISSIONS

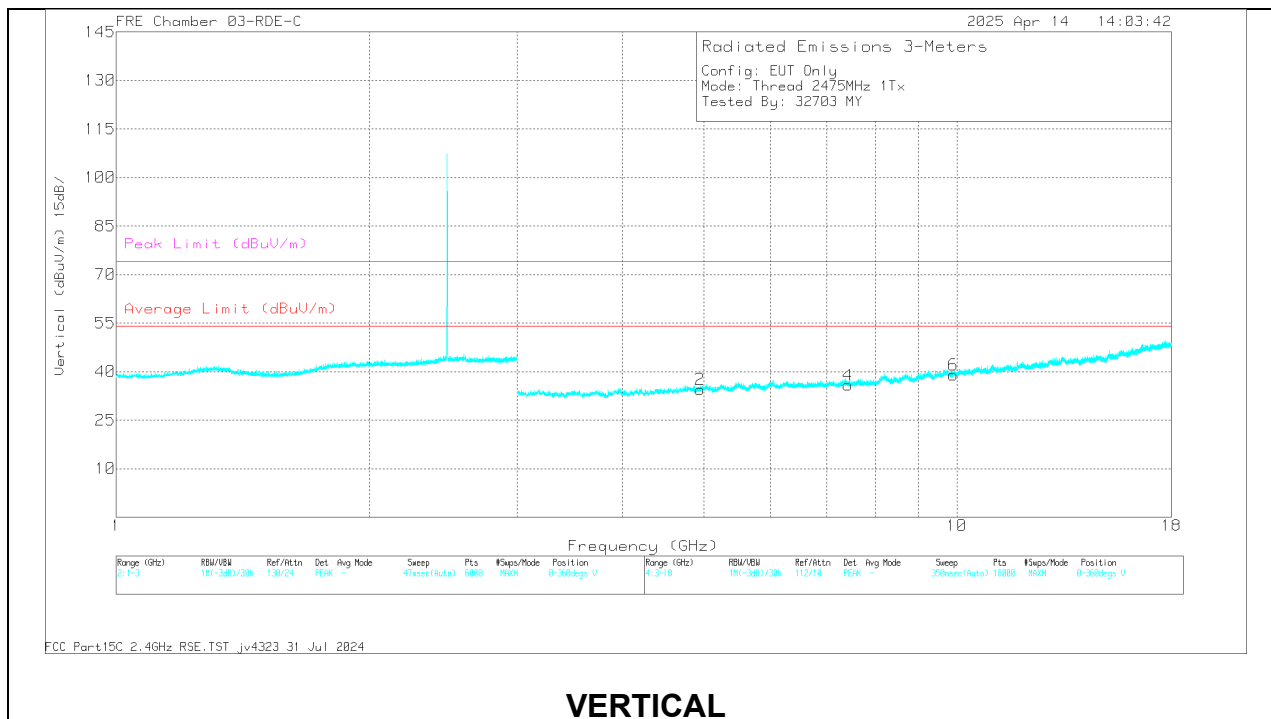
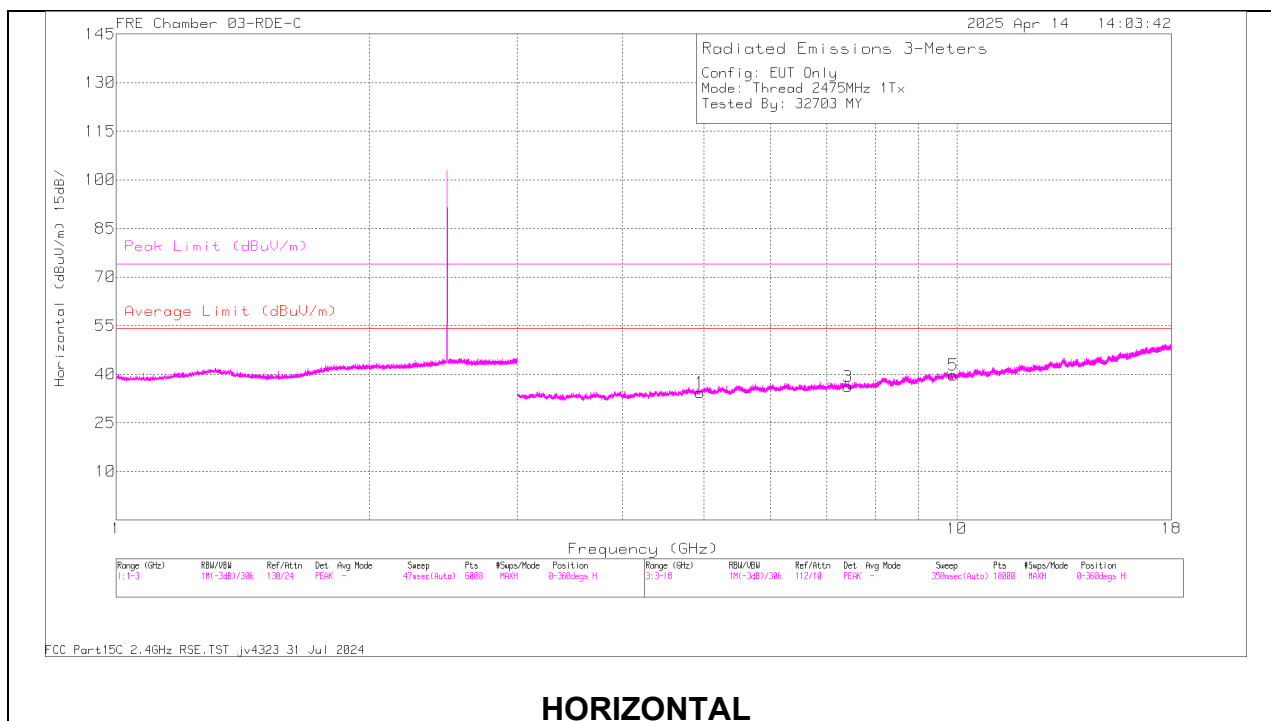
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.878888	55.41	PKFH	34.4	-47.1	42.71	-	-	74	-31.29	211	245	H
	* 4.878849	42.46	VA1T	34.4	-47.1	29.76	54	-24.24	-	-	211	245	H
2	* 7.320976	55.62	PKFH	35.5	-45.1	46.02	-	-	74	-27.98	125	343	H
	* 7.321775	41.85	VA1T	35.5	-45.1	32.25	54	-21.75	-	-	125	343	H
3	* 4.879866	55.64	PKFH	34.4	-47.1	42.94	-	-	74	-31.06	227	122	V
	* 4.878806	42.38	VA1T	34.4	-47.1	29.68	54	-24.32	-	-	227	122	V
4	* 7.320443	54.62	PKFH	35.5	-45.1	45.02	-	-	74	-28.98	299	164	V
	* 7.320384	41.5	VA1T	35.5	-45.1	31.9	54	-22.1	-	-	299	164	V
5	9.759155	42.5	VA1T	37.1	-44.4	35.2	-	-	-	-	267	204	H
	9.75954	55.84	PKFH	37.1	-44.4	48.54	-	-	-	-25.46	131	277	V
6	9.759742	42.57	VA1T	37.1	-44.4	35.27	-	-	-	-	131	277	V
	9.760909	55.68	PKFH	37.1	-44.4	48.38	-	-	-	-25.62	267	204	H

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

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 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	* 4.946193	55.68	PKFH	34.4	-47.1	42.98	-	-	74	-31.02	312	245	H
	* 4.948076	42.6	VA1T	34.4	-47.1	29.9	54	-24.1	-	-	312	245	H
2	* 7.424192	54.68	PKFH	35.5	-45.6	44.58	-	-	74	-29.42	2	111	H
	* 7.423978	41.63	VA1T	35.5	-45.6	31.53	54	-22.47	-	-	2	111	H
3	* 4.951969	56.62	PKFH	34.4	-47	44.02	-	-	74	-29.98	13	280	V
	* 4.951062	42.73	VA1T	34.4	-47	30.13	54	-23.87	-	-	13	280	V
4	* 7.42474	56.13	PKFH	35.5	-45.6	46.03	-	-	74	-27.97	112	321	V
	* 7.424707	41.75	VA1T	35.5	-45.6	31.65	54	-22.35	-	-	112	321	V
5	9.896572	42.58	VA1T	37.2	-45	34.78	-	-	-	-	324	330	H
	9.897117	55.59	PKFH	37.2	-45	47.79	-	-	-	-26.21	324	330	H
6	9.898992	42.39	VA1T	37.2	-45	34.59	-	-	-	-	204	225	V
	9.899846	56.31	PKFH	37.2	-44.92	48.59	-	-	-	-25.41	204	225	V

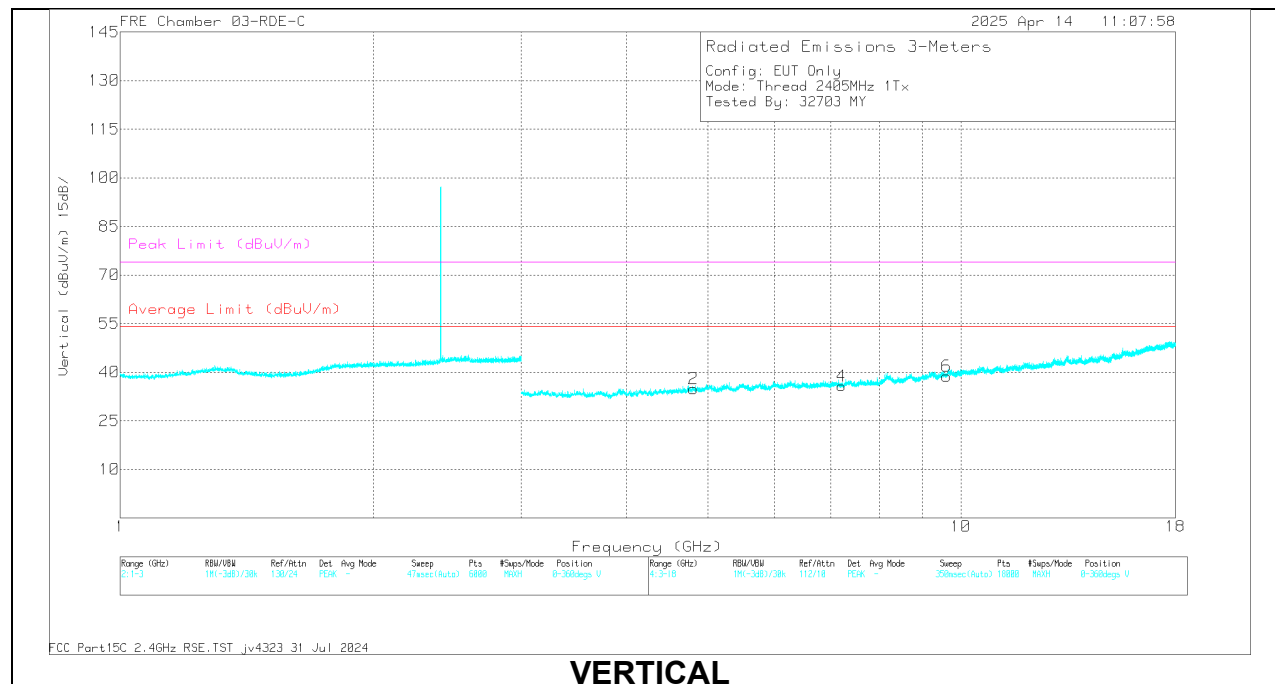
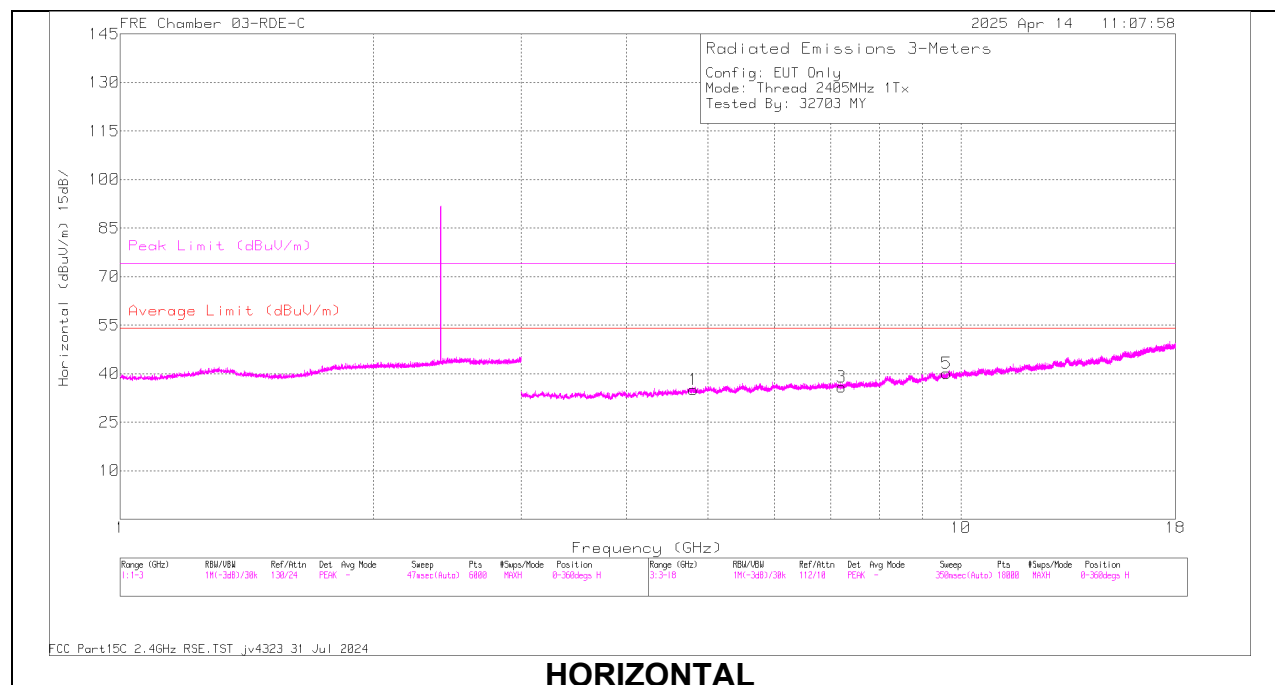
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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

LOW CHANNEL RESULTS



RADIATED EMISSIONS

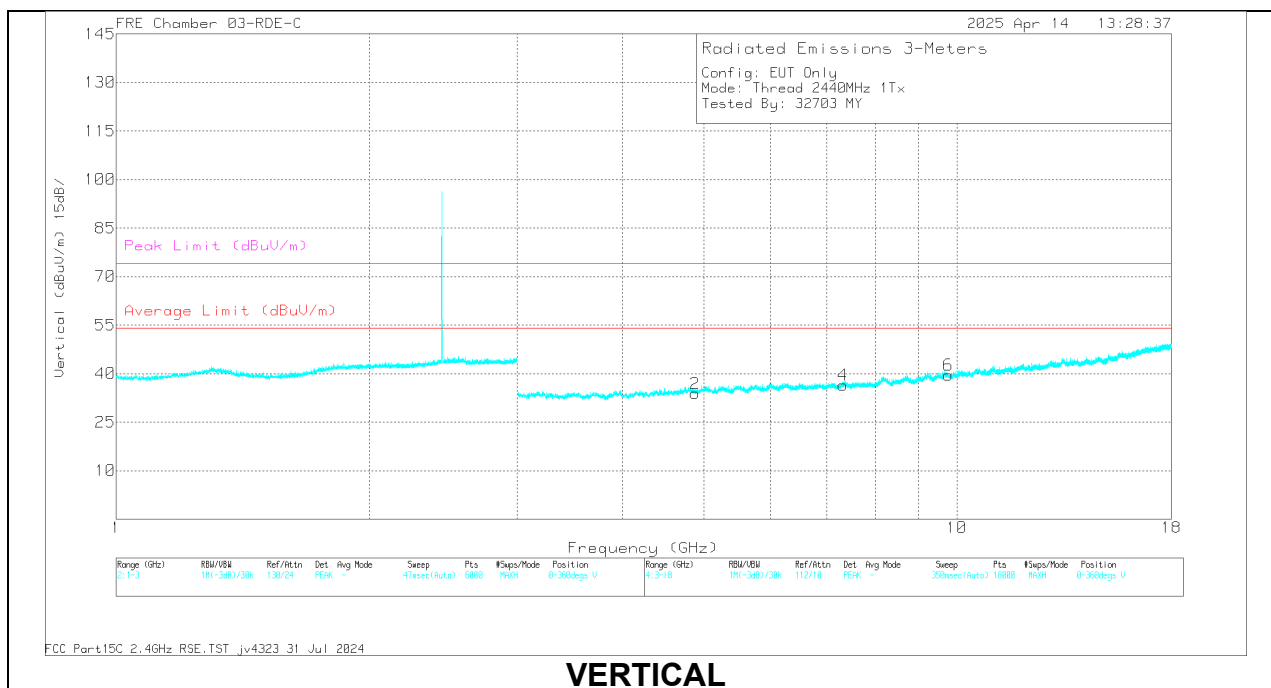
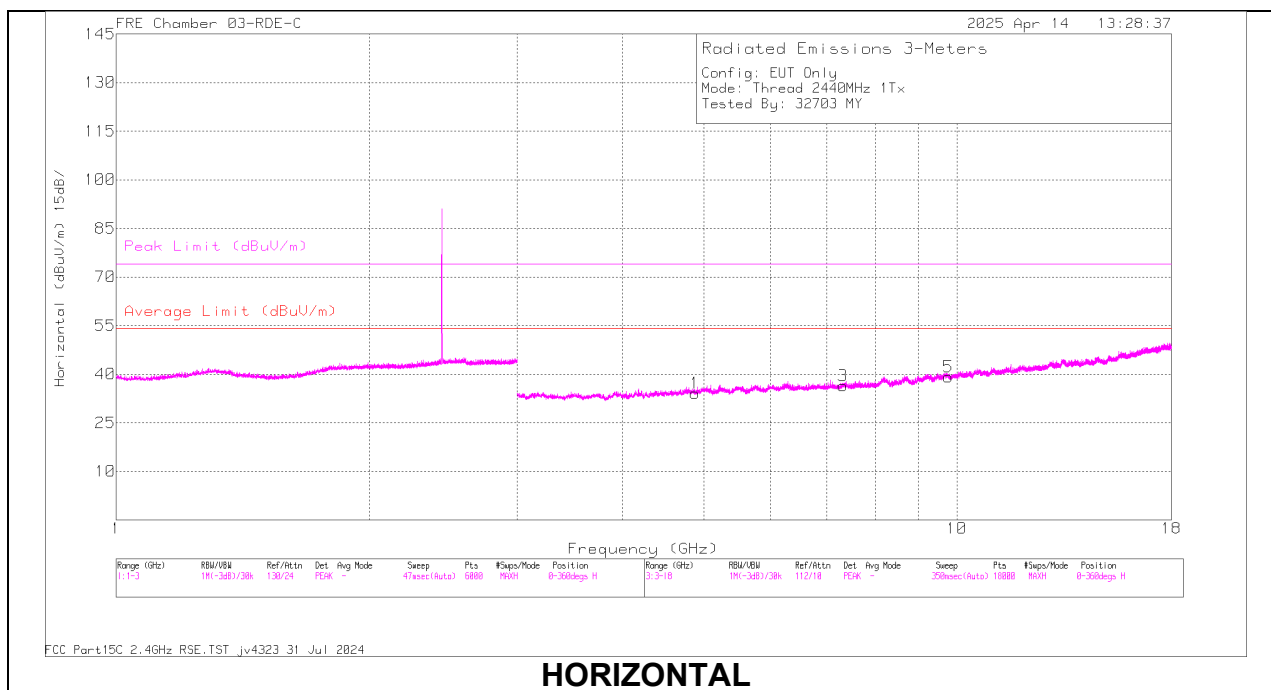
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.810937	56.59	PKFH	34.3	-47.1	43.79	-	-	74	-30.21	74	270	H
	* 4.811672	43.16	VA1T	34.3	-47.03	30.43	54	-23.57	-	-	74	270	H
2	* 4.812029	56.54	PKFH	34.3	-47	43.84	-	-	74	-30.16	24	388	V
	* 4.809221	43.23	VA1T	34.3	-47.1	30.43	54	-23.57	-	-	24	388	V
3	7.213029	55.17	PKFH	35.5	-45.8	44.87	-	-	-	-29.13	322	379	H
	7.213065	41.96	VA1T	35.5	-45.8	31.66	-	-	-	-	322	379	H
4	7.214101	41.64	VA1T	35.5	-45.8	31.34	-	-	-	-	342	201	V
	7.214924	55.24	PKFH	35.5	-45.8	44.94	-	-	-	-29.06	342	201	V
5	9.620645	42.92	VA1T	36.9	-45.26	34.56	-	-	-	-	240	229	V
	9.621125	55.66	PKFH	36.9	-45.29	47.27	-	-	-	-26.73	240	229	V
6	9.621251	56.32	PKFH	36.9	-45.27	47.95	-	-	-	-26.05	84	195	H
	9.621801	42.89	VA1T	36.9	-45.22	34.57	-	-	-	-	84	195	H

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

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

MID CHANNEL RESULTS



RADIATED EMISSIONS

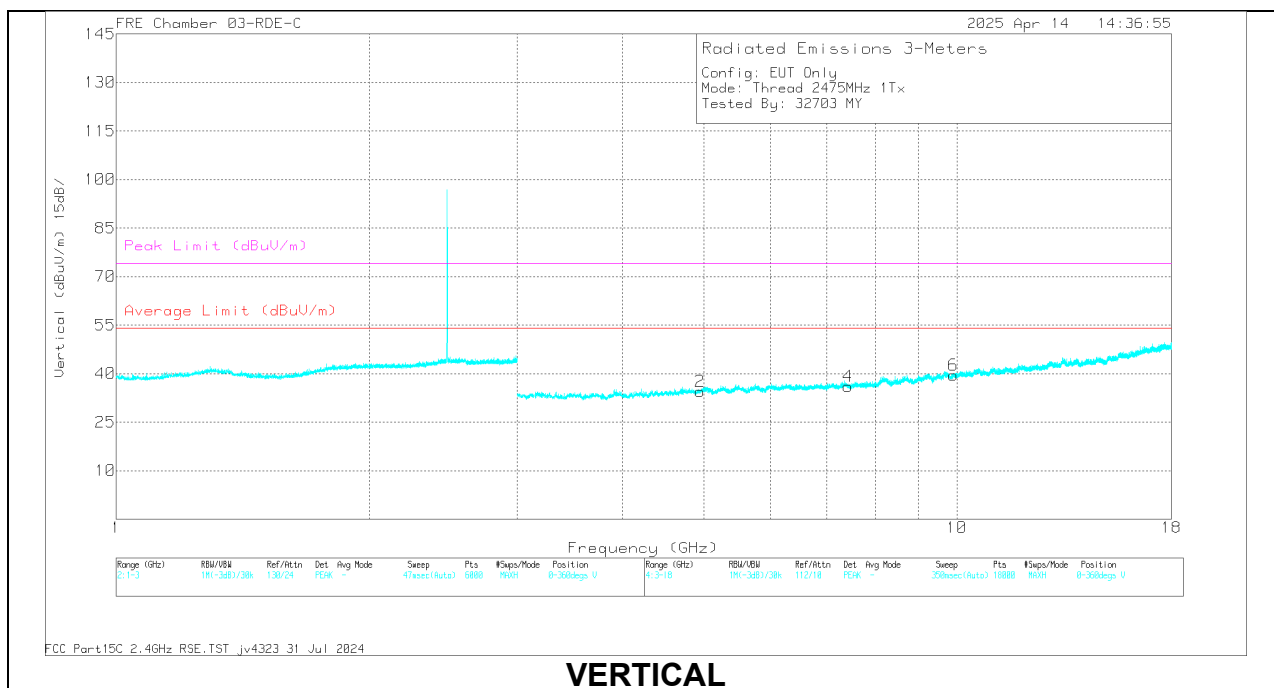
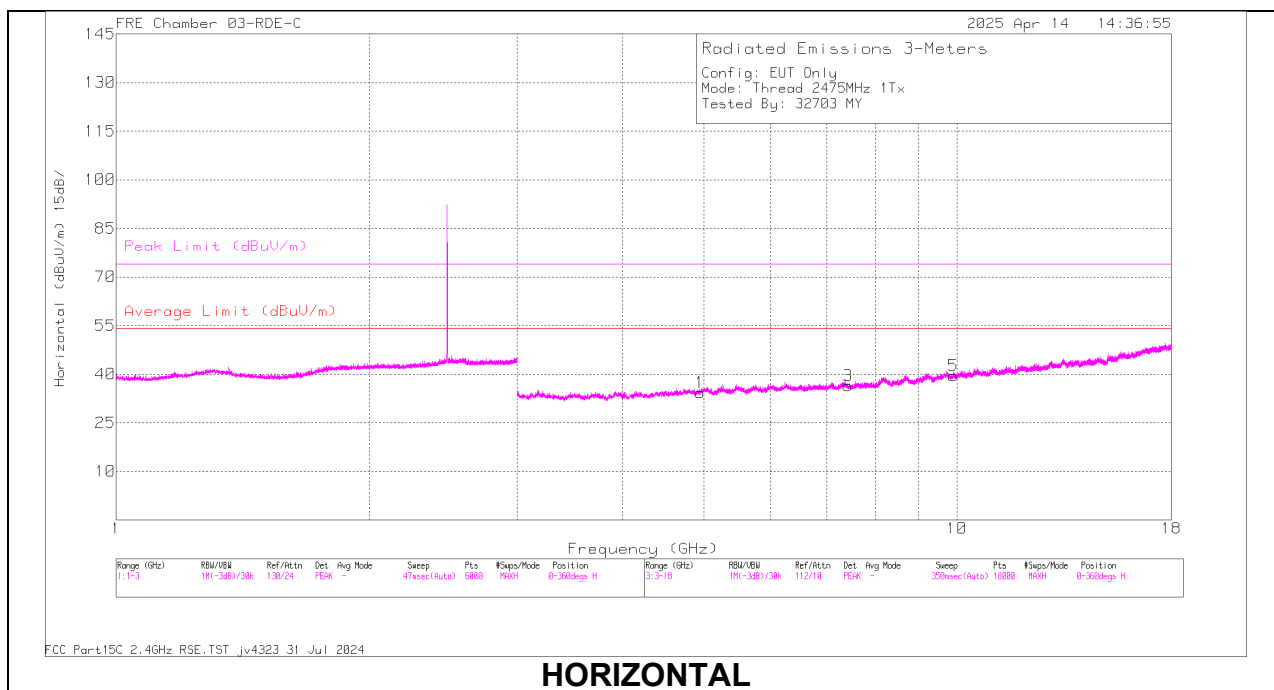
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.880078	55.44	PKFH	34.4	-47.1	42.74	-	-	74	-31.26	290	277	H
	* 4.878066	42.62	VA1T	34.4	-47.1	29.92	54	-24.08	-	-	290	277	H
2	* 7.323077	55.2	PKFH	35.5	-45.1	45.6	-	-	74	-28.4	292	380	H
	* 7.322388	41.95	VA1T	35.5	-45.1	32.35	54	-21.65	-	-	292	380	H
3	* 4.884617	55.94	PKFH	34.3	-47.1	43.14	-	-	74	-30.86	249	109	V
	* 4.881119	42.41	VA1T	34.4	-47.1	29.71	54	-24.29	-	-	249	109	V
4	* 7.320589	56.49	PKFH	35.5	-45.1	46.89	-	-	74	-27.11	203	232	V
	* 7.319345	41.66	VA1T	35.5	-45.1	32.06	54	-21.94	-	-	203	232	V
5	9.759906	42.58	VA1T	37.1	-44.4	35.28	-	-	-	-	250	228	H
	9.760729	42.73	VA1T	37.1	-44.4	35.43	-	-	-	-	181	302	V
6	9.760784	55.48	PKFH	37.1	-44.4	48.18	-	-	-	-25.82	250	228	H
	9.764053	56.11	PKFH	37.1	-44.4	48.81	-	-	-	-25.19	181	302	V

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

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 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	* 4.94821	56.42	PKFH	34.4	-47.1	43.72	-	-	74	-30.28	22	239	H
	* 4.949149	42.56	VA1T	34.4	-47.09	29.87	54	-24.13	-	-	22	239	H
2	* 7.425531	54.53	PKFH	35.5	-45.55	44.48	-	-	74	-29.52	255	124	H
	* 7.425549	41.58	VA1T	35.5	-45.55	31.53	54	-22.47	-	-	255	124	H
3	* 4.949003	56.02	PKFH	34.4	-47.1	43.32	-	-	74	-30.68	252	227	V
	* 4.949111	42.57	VA1T	34.4	-47.09	29.88	54	-24.12	-	-	252	227	V
4	* 7.424431	55.83	PKFH	35.5	-45.6	45.73	-	-	74	-28.27	84	317	V
	* 7.423214	41.75	VA1T	35.5	-45.6	31.65	54	-22.35	-	-	84	317	V
5	9.899565	42.47	VA1T	37.2	-44.94	34.73	-	-	-	-	62	278	H
	9.899916	42.3	VA1T	37.2	-44.91	34.59	-	-	-	-	177	234	V
6	9.901009	55.3	PKFH	37.2	-44.9	47.6	-	-	-	-26.4	177	234	V
	9.902283	56.4	PKFH	37.2	-44.9	48.7	-	-	-	-25.3	62	278	H

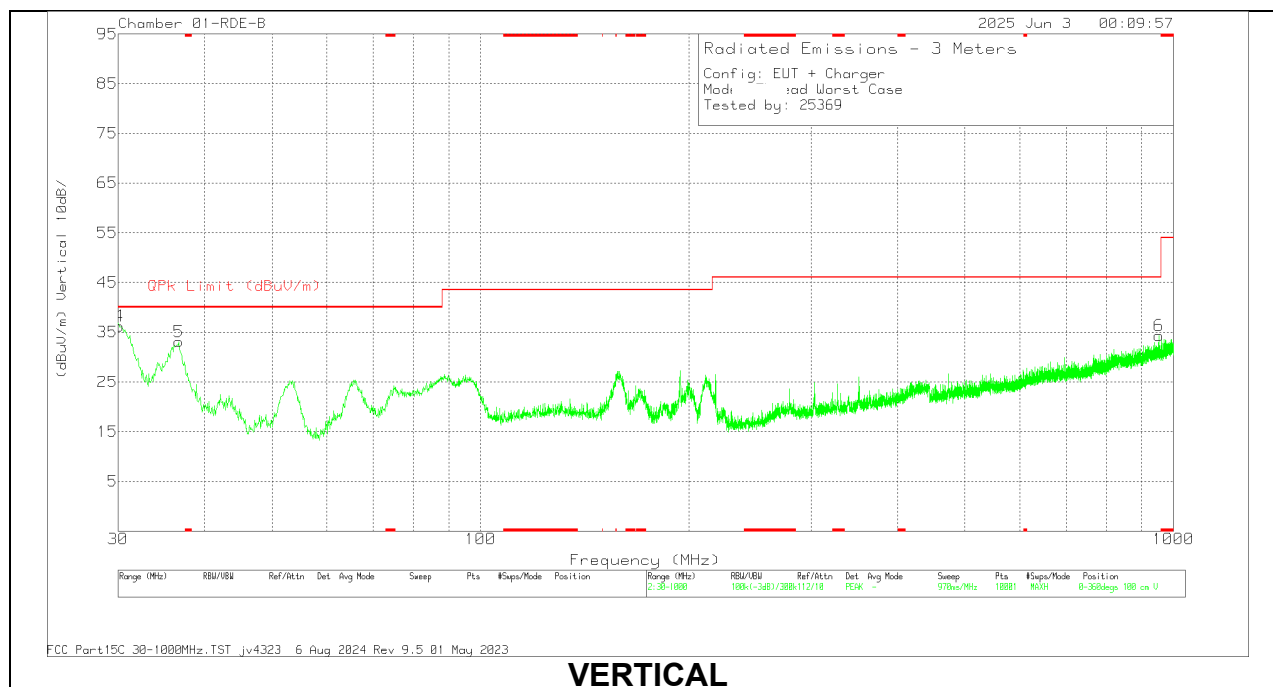
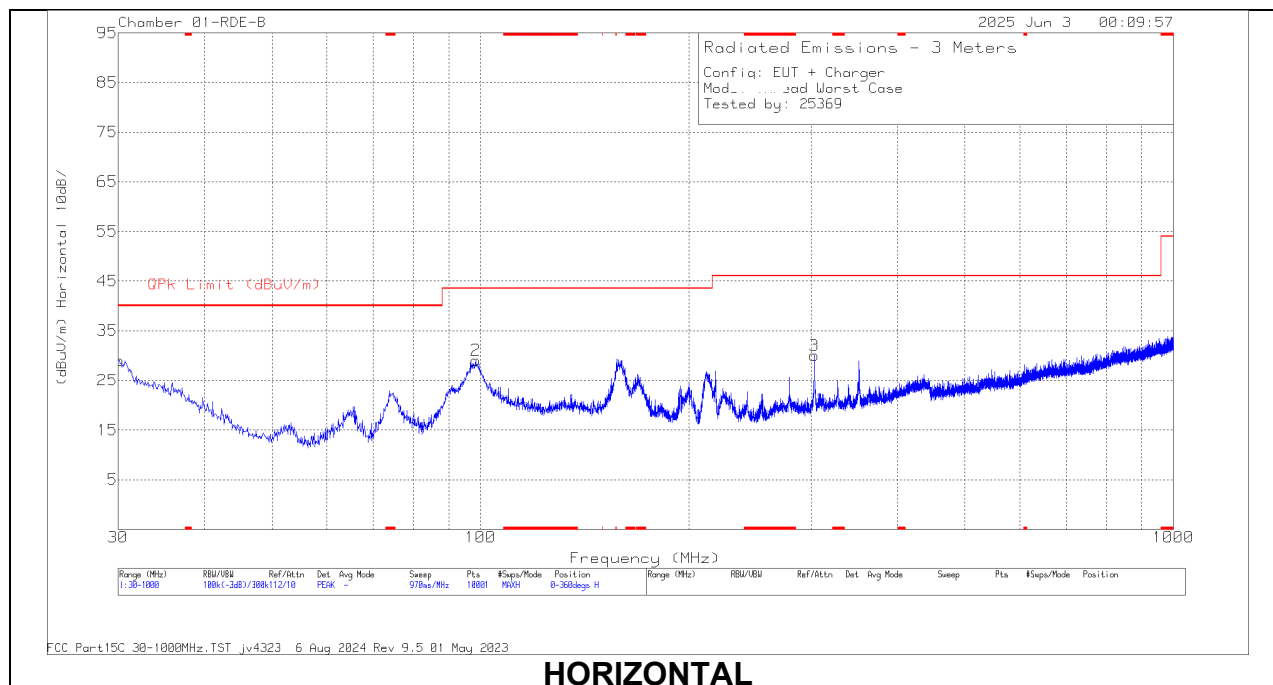
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.2. WORST CASE BELOW 1 GHZ

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



Below 1GHz Data

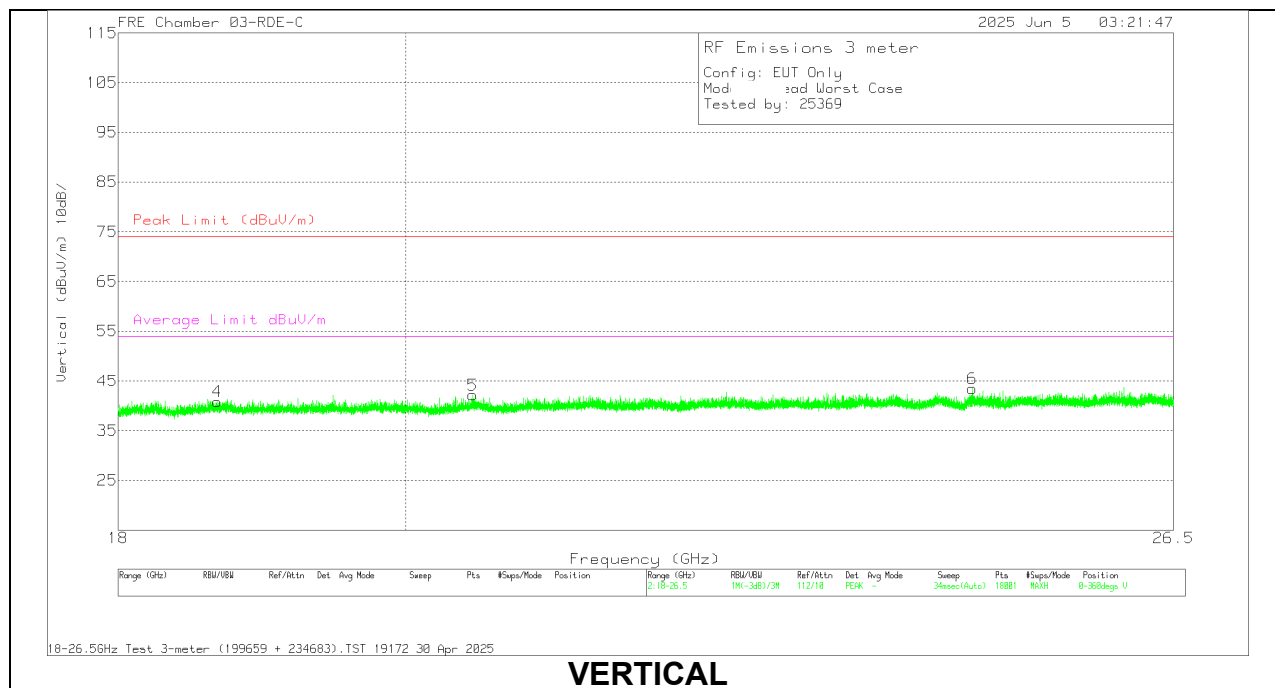
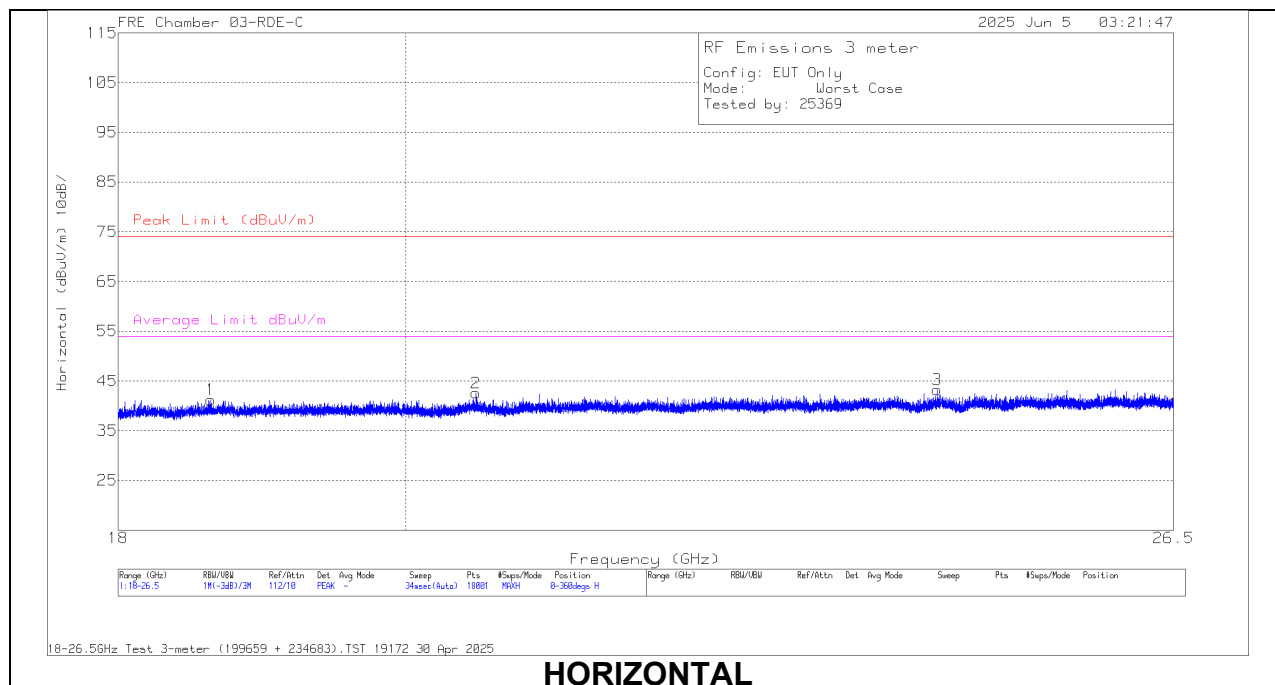
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	85150 ACF (dB/m)	Amp/Cbl (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Dega)	Height (cm)	Polarity
1	30.097	33.34	Pk	27.2	-31.5	0	29.04	40	-10.96	0-360	199	H
4	30.097	40.56	Pk	27.2	-31.5	0	36.26	40	-3.74	0-360	100	V
5	36.693	41.63	Pk	22.9	-31.4	0	33.13	40	-6.87	0-360	100	V
2	98.385	44.12	Pk	15.7	-30.8	0	29.02	43.52	-14.5	0-360	299	H
3	303.249	40.29	Pk	19.4	-29.7	0	29.99	46.02	-16.03	0-360	98	H
6	954.022	32.36	Pk	28.5	-26.5	0	34.36	46.02	-11.66	0-360	100	V
7	30.1195	37.34	Qp	27.2	-31.5	0	33.04	40	-6.96	118	102	V

Pk - Peak detector

Qp - Quasi-Peak detector

10.3. WORST CASE 18-26 GHZ

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



18-26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	199659 ACP (dBm)	234653 18-26 GHz_Amp Assembly	Cable (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 18.619555	57.54	PK	32.3	-62.6	14	41.24	74	-32.76	-	-	0-360	101	H
	* 18.620492	46.15	MAv1	32.3	-62.6	14	29.85	-	-	54	-24.15	360	101	H
2	* 20.523554	56.14	PK	32.7	-60.9	14.6	42.54	74	-31.46	-	-	0-360	200	H
	* 20.524628	44.45	MAv1	32.7	-60.9	14.6	30.85	-	-	54	-23.15	360	199	H
4	* 18.663305	57.18	PK	32.2	-62.5	14	40.88	74	-33.12	-	-	0-360	101	V
	* 18.66785	46.04	MAv1	32.2	-62.5	14	29.74	-	-	54	-24.26	360	101	V
5	* 20.498054	55.86	PK	32.7	-61	14.6	42.16	74	-31.84	-	-	0-360	199	V
	* 20.499991	44.24	MAv1	32.7	-61	14.6	30.54	-	-	54	-23.46	360	199	V
3	24.303691	55.83	PK	33.6	-62.2	16	43.23	-	-	-	-	0-360	101	H
	24.304296	44.75	MAv1	33.6	-62.2	16	32.15	-	-	-	-	360	101	H
6	24.613469	55.53	PK	33.8	-62.1	16.2	43.43	-	-	-	-	0-360	101	V
	24.614085	42.85	MAv1	33.8	-62.1	16.2	30.75	-	-	-	-	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.

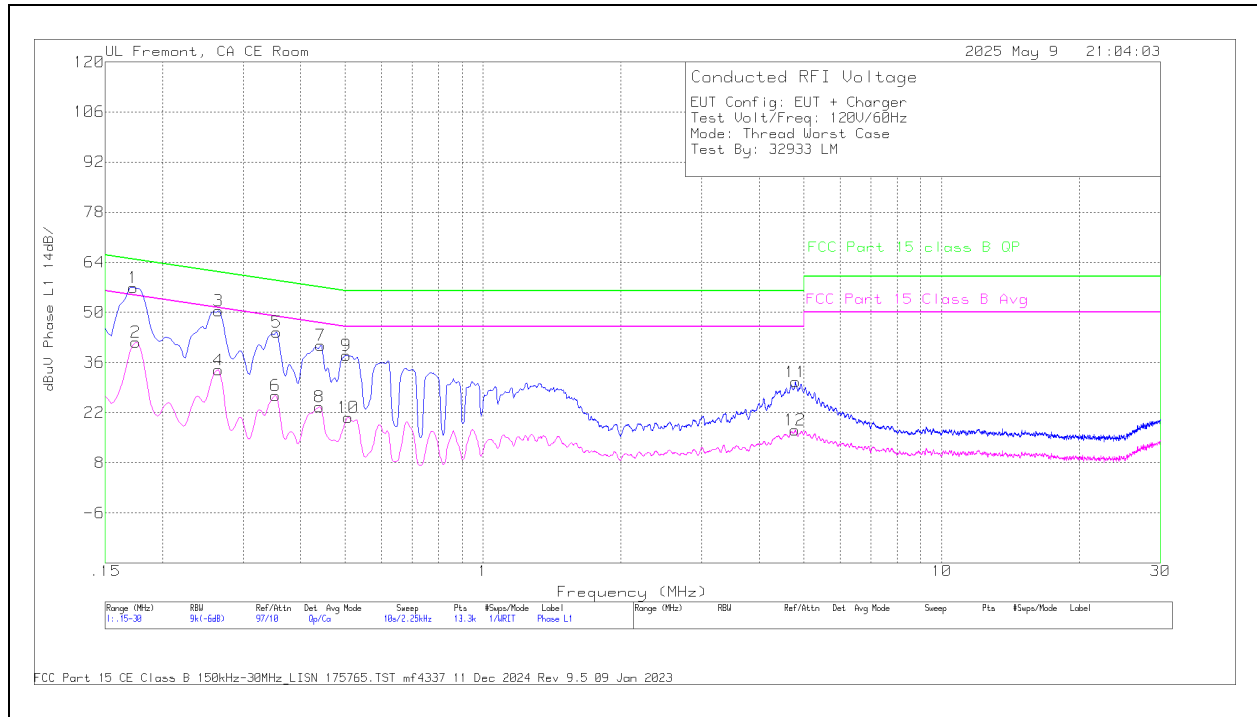
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line With AC/DC Adapter

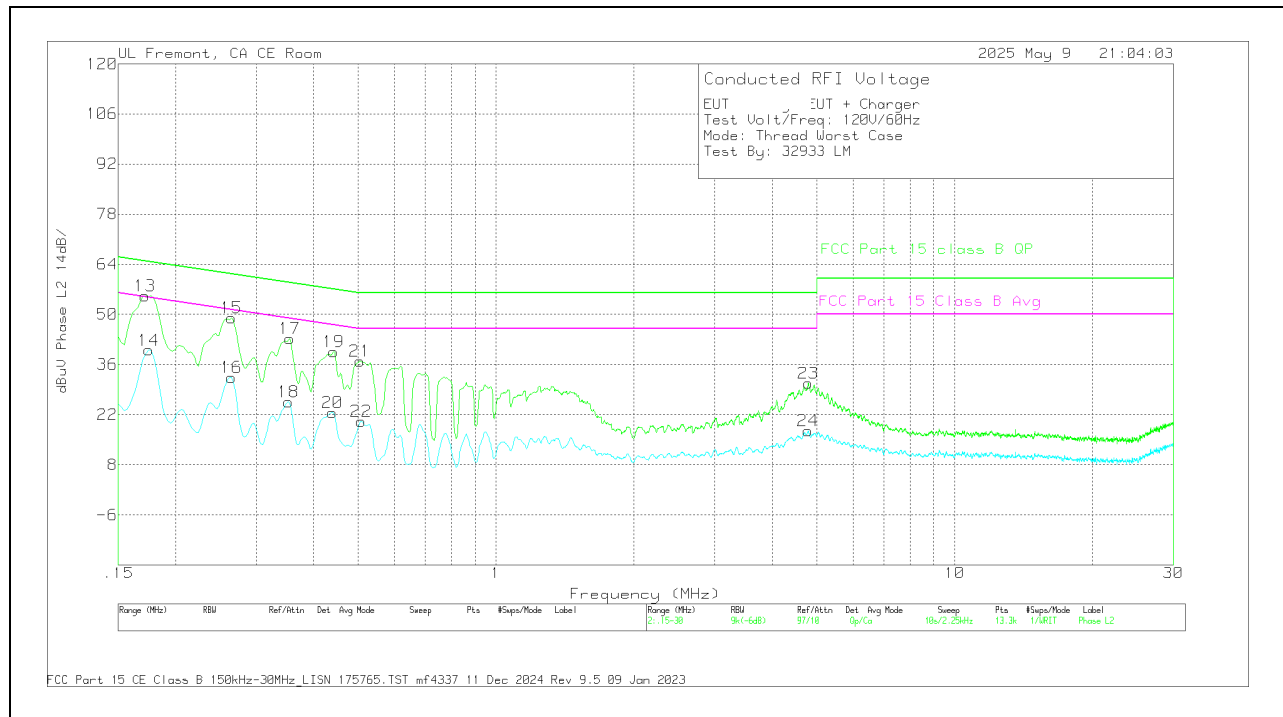
LINE 1 RESULTS



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 15 Class B Avg	Margin (dB)	FCC Part 15 class B QP	Margin (dB)
2	.1748	22.8	Ca	.3	.1	8.5	10	41.7	54.73	-13.03	-	-
4	.2648	15.88	Ca	-.1	0	8.1	10	33.88	51.28	-17.4	-	-
6	.3525	8.83	Ca	-.4	0	8.4	10	26.83	48.9	-22.07	-	-
8	.4403	4.75	Ca	.1	0	8.8	10	23.65	47.06	-23.41	-	-
10	.5078	2.98	Ca	-.2	0	7.9	10	20.68	46	-25.32	-	-
12	.47963	-1.53	Ca	.3	0	8.4	10	17.17	46	-28.83	-	-
1	.1725	37.96	Qp	.3	.1	8.5	10	56.86	-	-	64.84	-7.98
3	.2648	32.49	Qp	-.1	0	8.1	10	50.49	-	-	61.28	-10.79
5	.3548	26.55	Qp	-.4	0	8.4	10	44.55	-	-	58.85	-14.3
7	.4425	21.86	Qp	.1	0	8.8	10	40.76	-	-	57.01	-16.25
9	.5033	20.21	Qp	-.1	0	7.9	10	38.01	-	-	56	-17.99
11	.47985	11.86	Qp	.3	0	8.4	10	30.56	-	-	56	-25.44

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS

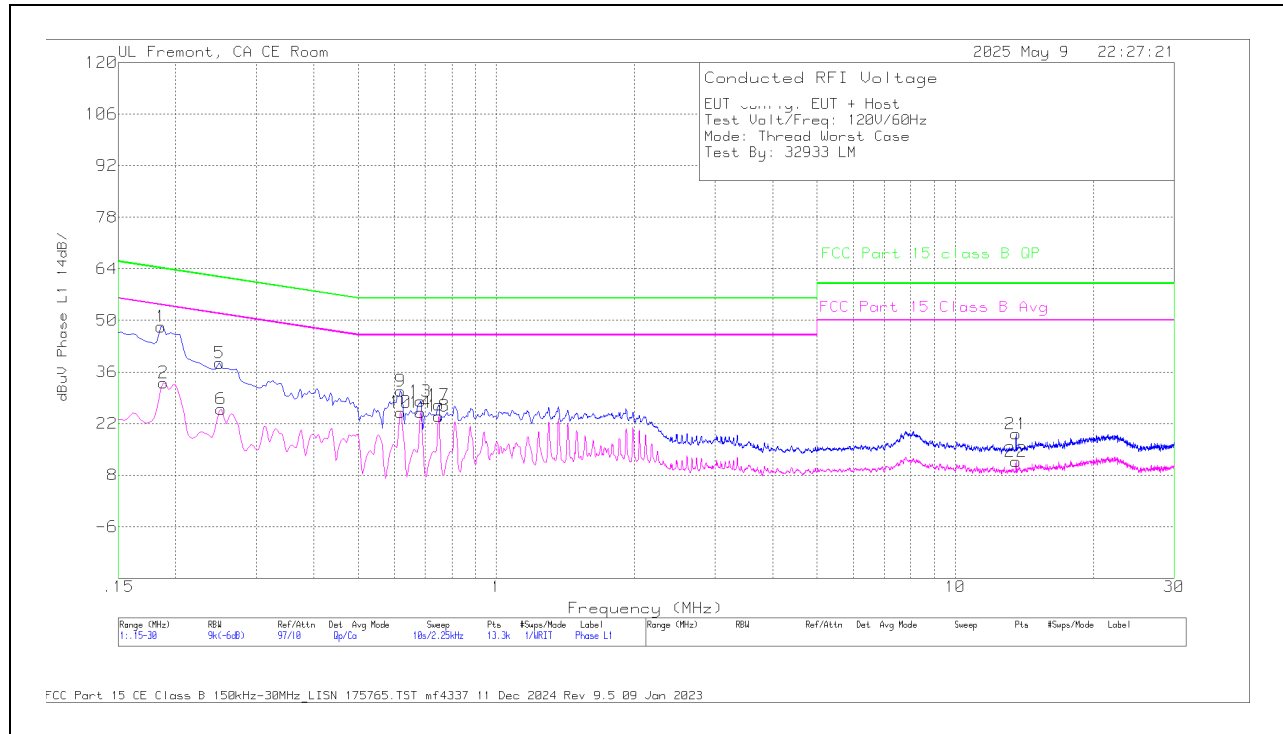


Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg	Margin (dB)	FCC Part 15 class B QP	Margin (dB)
14	.1748	21.21	Ca	.3	0	8.5	10	40.01	54.73	-14.72	-	-
16	.2648	14.45	Ca	-.1	0	8.1	10	32.45	51.28	-18.83	-	-
18	.3525	7.53	Ca	-.4	0	8.4	10	25.53	48.9	-23.37	-	-
20	.4403	3.72	Ca	.1	0	8.8	10	22.62	47.06	-24.44	-	-
22	.5078	2.45	Ca	-.2	0	7.9	10	20.15	46	-25.85	-	-
24	.4794	-1.25	Ca	.3	0	8.4	10	17.45	46	-28.55	-	-
13	.1714	36.32	Qp	.3	0	8.5	10	55.12	-	-	64.89	-9.77
15	.2648	31	Qp	-.1	0	8.1	10	49	-	-	61.28	-12.28
17	.3548	25.19	Qp	-.4	0	8.4	10	43.19	-	-	58.85	-15.66
19	.4425	20.68	Qp	.1	0	8.8	10	39.58	-	-	57.01	-17.43
21	.5055	19.09	Qp	-.1	0	7.9	10	36.89	-	-	56	-19.11
23	.47974	12.04	Qp	.3	0	8.4	10	30.74	-	-	56	-25.26

Qp - Quasi-Peak detector
Ca - CISPR average detection

11.2. AC Power Line with Laptop

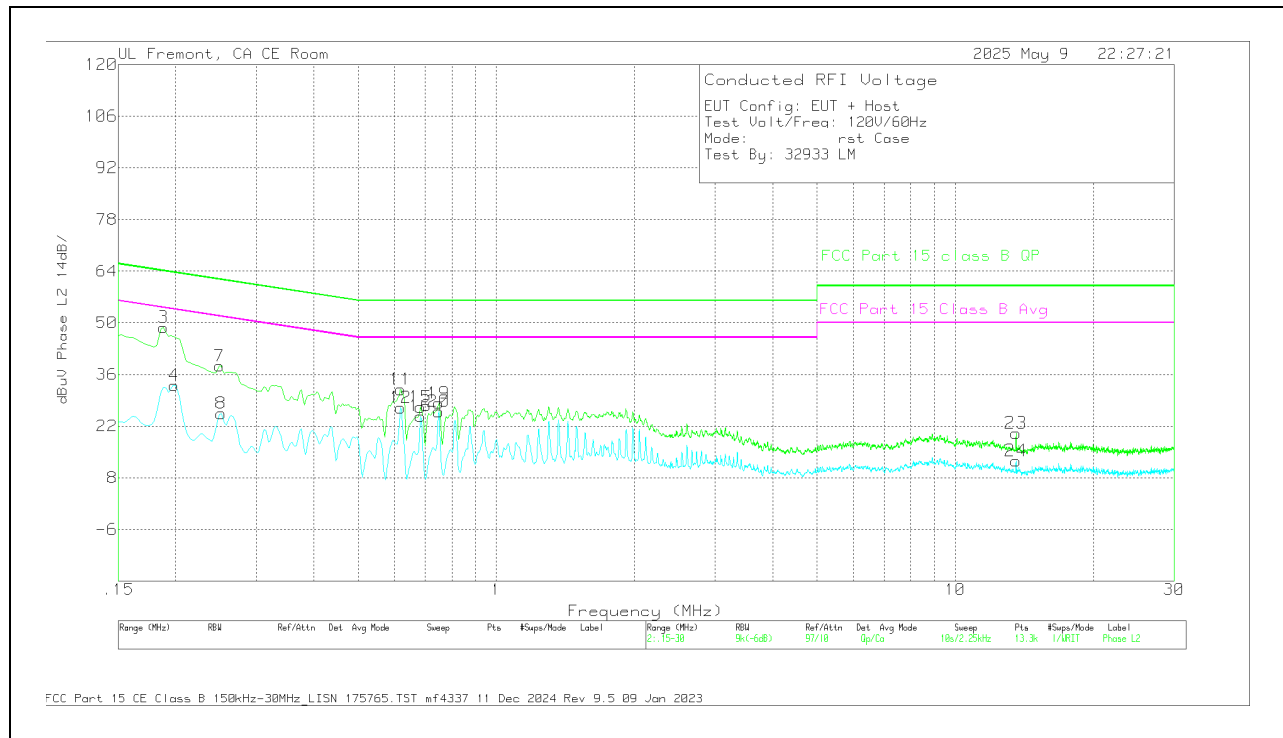
LINE 1 RESULTS



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 15 Class B Avg	Margin (dB)	FCC Part 15 class B QP	Margin (dB)
2	.1883	14.35	Ca	.2	.1	8.4	10	33.05	54.11	-21.06	-	-
6	.2513	7.84	Ca	-.1	0	8.2	10	25.94	51.72	-25.78	-	-
10	.618	6.76	Ca	0	0	8.3	10	25.06	46	-20.94	-	-
14	.6833	6.49	Ca	.2	0	8.3	10	24.99	46	-21.01	-	-
18	.7485	5.33	Ca	.1	0	8.6	10	24.03	46	-21.97	-	-
22	13.56	-6.77	Ca	.2	.1	8.2	10	11.73	50	-38.27	-	-
1	.186	29.6	Qp	.2	.1	8.4	10	48.3	-	-	64.21	-15.91
5	.249	20.32	Qp	-.1	0	8.2	10	38.42	-	-	61.79	-23.37
9	.618	12.51	Qp	0	0	8.3	10	30.81	-	-	56	-25.19
13	.6833	9.56	Qp	.2	0	8.3	10	28.06	-	-	56	-27.94
17	.7485	8.33	Qp	.1	0	8.6	10	27.03	-	-	56	-28.97
21	13.56	.68	Qp	.2	.1	8.2	10	19.18	-	-	60	-40.82

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 15 Class B Avg	Margin (dB)	FCC Part 15 class B QP	Margin (dB)
4	.1984	14.55	Ca	.1	0	8.4	10	33.05	53.68	-20.63	-	-
8	.2513	7.33	Ca	-.1	0	8.2	10	25.43	51.72	-26.29	-	-
12	.618	8.69	Ca	0	0	8.3	10	26.99	46	-19.01	-	-
16	.6833	6.24	Ca	.2	0	8.3	10	24.74	46	-21.26	-	-
20	.7485	7.25	Ca	.1	0	8.6	10	25.95	46	-20.05	-	-
24	13.56	-5.93	Ca	.2	.1	8.2	10	12.57	50	-37.43	-	-
3	.1883	30.16	Qp	.2	0	8.4	10	48.76	-	-	64.11	-15.35
7	.249	20.2	Qp	-.1	0	8.2	10	38.3	-	-	61.79	-23.49
11	.618	13.62	Qp	0	0	8.3	10	31.92	-	-	56	-24.08
15	.6833	8.65	Qp	.2	0	8.3	10	27.15	-	-	56	-28.85
19	.7485	9.52	Qp	.1	0	8.6	10	28.22	-	-	56	-27.78
23	13.56	1.58	Qp	.2	.1	8.2	10	20.08	-	-	60	-39.92

Qp - Quasi-Peak detector

Ca - CISPR average detection

12. APPENDIX A – SPOT CHECK EVALUATION

SPOT CHECK EVALUATION

12.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3257, A3525, A3526 and A3527.

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
A3257	BCG-E8950A	579C-E8950A	-With FR2/LTE/5GNR B14/29/71 -No B11/21 -With UL MIMO (n41/48/77)	eSIM	-
A3525	BCG-E8960A	579C-E8960A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3257
A3526	BCG-E8961A	579C-E8961A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -No UL MIMO	eSIM+pSIM	
A3527	BCG-E8962A	579C-E8962A	-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).

$$d_{dB} = |V_{dB} - R_{dB}| \quad (1)$$

$$d_{dB} \leq d_{dBmax} \quad (2)$$

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

Where d_{dB} is deviation between the variant and the reference model, V_{dB} is variant spot check level, R_{dB} is the corresponding reference measurement level, d_{dBmax} is the maximum deviation d_{dB} allowed, and M_{dB} is the margin in dB.

12.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3525

A3525 SPOT CHECK RESULTS										
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3257	Sub Model: A3525	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8960A IC : 579C-E8960A			
DTS / Thread	2.4	802.15.4, ANT1	Output Power (dBm)	Low	Fundamental High Power	21.21	21.09	-0.12	-8.79	Note 1
		802.15.4, ANT1, Vert., AVG	Radiated Bandedge (dBuV/m)	High	2.55243 MHz	46.02	45.90	-0.12	-7.98	Note 1
		Worst-Case 30-1000 MHz, PK, Vert.	RSE (dBuV/m)	Mid	30.097 MHz	36.26	34.23	-2.03	-3.74	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.

12.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3526

A3526 SPOT CHECK RESULTS										
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3257	Sub Model: A3526	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8961A IC : 579C-E8961A			
DTS / Thread	2.4	802.15.4, ANT1	Output Power (dBm)	Low	Fundamental High Power	21.21	21.05	-0.16	-8.79	Note 1
		802.15.4, ANT1, Vert., AVG	Radiated Bandedge (dBuV/m)	High	2.55243 MHz	46.02	45.97	-0.05	-7.98	Note 1
		Worst-Case 30-1000 MHz, PK, Vert.	RSE (dBuV/m)	Mid	30.097 MHz	36.26	35.66	-0.60	-3.74	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.

12.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3527

A3527 SPOT CHECK RESULTS										
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item	Channel	Measured Frequency (GHz)	Original Model: A3257	Sub Model: A3527	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8962A IC : 579C-E8962A			
DTS / Thread	2.4	802.15.4, ANT1	Output Power (dBm)	Low	Fundamental High Power	21.21	21.15	-0.06	-8.79	Note 1
		802.15.4, ANT1, Vert., AVG	Radiated Bandedge (dBuV/m)	High	2.55243 MHz	46.02	45.91	-0.11	-7.98	Note 1
		Worst-Case 30-1000 MHz, PK, Vert.	RSE (dBuV/m)	Mid	30.097 MHz	36.26	35.15	-1.11	-3.74	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.

END OF REPORT

13. SETUP PHOTOS

Please refer to 15496249-EP1 for setup photos.