TEST REPORT

Report Number: 14982479-E5V1

Applicant	:	APPLE, INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.
Model	:	A3084 (Parent Model) A3295, A3296, A3297 (Variant Models)
Brand	:	APPLE
FCC ID	:	BCG-E8684A (Parent Model) BCG-E8685A, BCG-E8686A, BCG-E8687A (Variant Models)
IC	:	579C-E8684A (Parent Model) 579C-E8685A, 579C-E8686A, 579C-E8687A (Variant Models)
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:
July 31, 2024

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

CERT #0751.05

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2024-07-31	Initial Issue	Tony Li

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47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

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47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

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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: A3084 (Parent Model)
A3295, A3296, A3297 (Variant Models)

BRAND: APPLE

SERIAL NUMBER: DP4Q0WG2LX

SAMPLE RECEIPT DATE: 2024/03/28

DATE TESTED: 2024/03/29 – 2024/07/23

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.

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Approved & Released For
UL Verification Services Inc. By:

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

Prepared By:

Tony Li
Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

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2. TEST SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
See Comment	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	ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Complies	None.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2013
- KDB 558074 D01 DTS Meas Guidance v05r02
- RSS-247 Issue 3
- KDB 414788 D01 Radiated Test Site v01r01
- RSS-GEN Issue 5 + A1 + A2.

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			

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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
Time Domain Measurements Using SA	3.39
RF Power Measurement Direct Method Using Power Meter	0.450 (Peak), 1.3 (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Carrier Frequency Separation	19.70Hz
Number of Hopping Frequencies	0.000dB
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%.

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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 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 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 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, 5GNR2, 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) and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

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 4	High Power	2405 - 2475	802.15.4	21.87	153.82
	Low Power			10.91	12.33
ANT 3	High Power	2405 - 2475	802.15.4	21.79	151.01
	Low Power			10.51	11.25

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) type is IFA type.
The antenna(s) gains, as provided by the manufacturer, are as follows:

Frequency Range (GHz)	ANT 4 (dBi)	ANT 3 (dBi)
2.4	-2.0	-1.7

SMA Cable used for RF conducted testing has a loss as follows:

Loss used for Antenna 4 is 2.00 dB
Loss used for Antenna 3 is 2.20 dB

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 and software version installed during testing was 22.1.93.334

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6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X, Y and Z on ANT 4, and ANT 3. It was determined that X (Flatbed) was the worst-case orientation for ANT 4 and ANT 3.

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 30MHz, 30-1000MHz emissions spurious tests were performed with EUT connected to AC power adapter and set at x orientation 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=ANT4 and ANT1=ANT 3.

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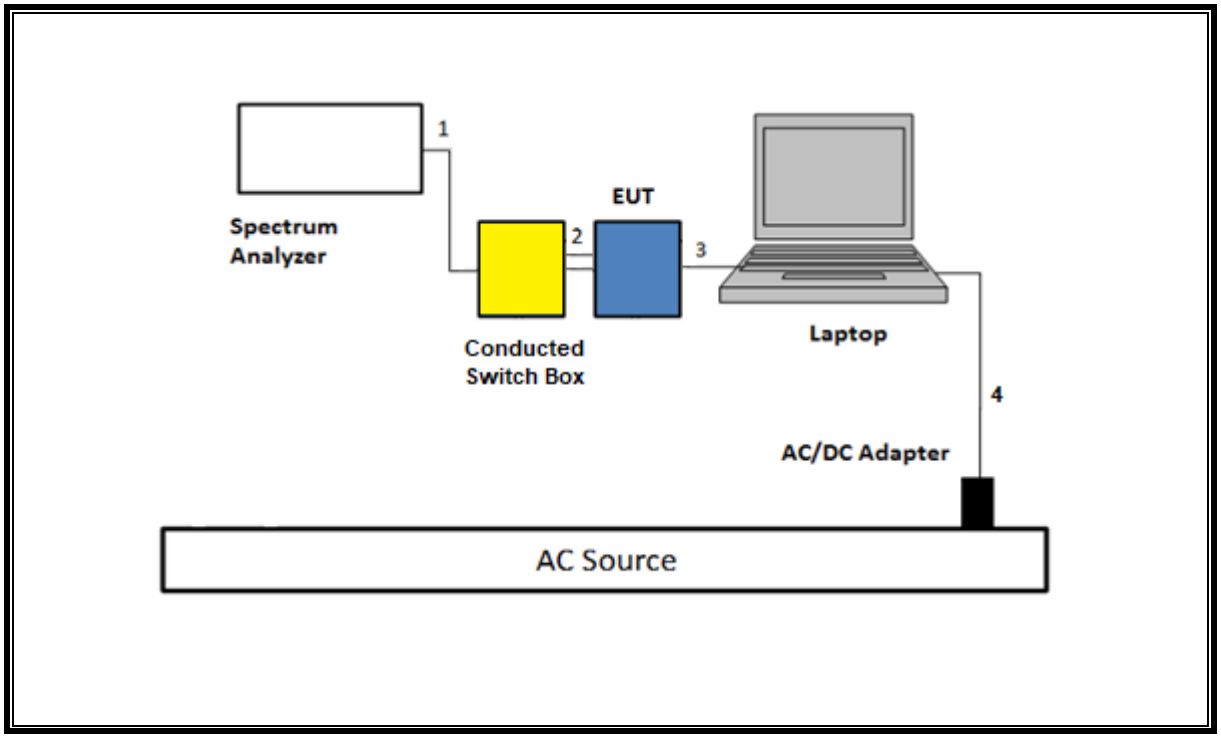
6.6. DESCRIPTION OF TEST SETUP

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
Conducted Switch Box		UL	n/a	208281		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

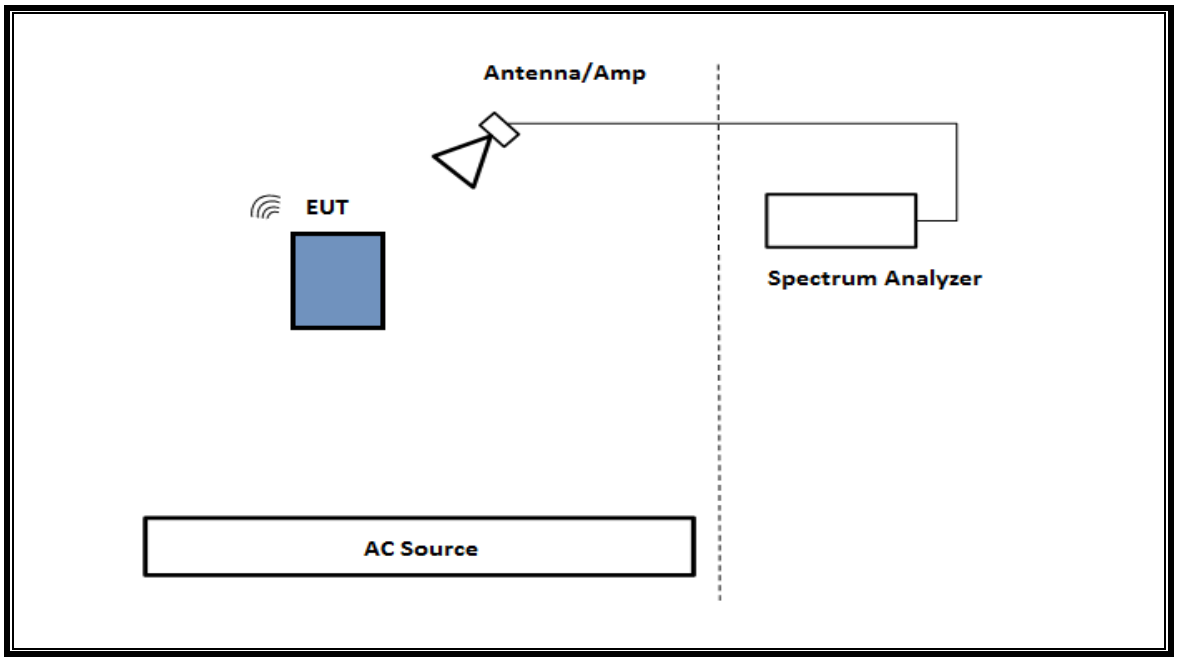
TEST SETUP

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 (1 to 26.5GHz)



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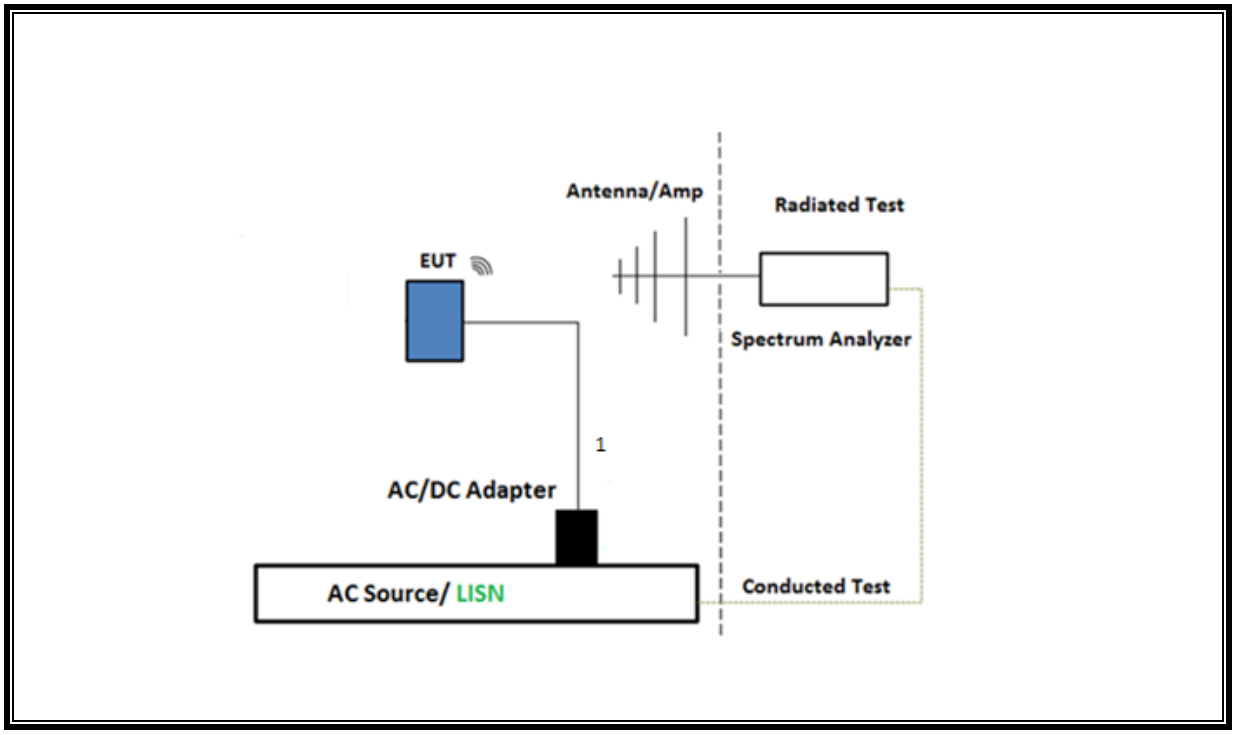
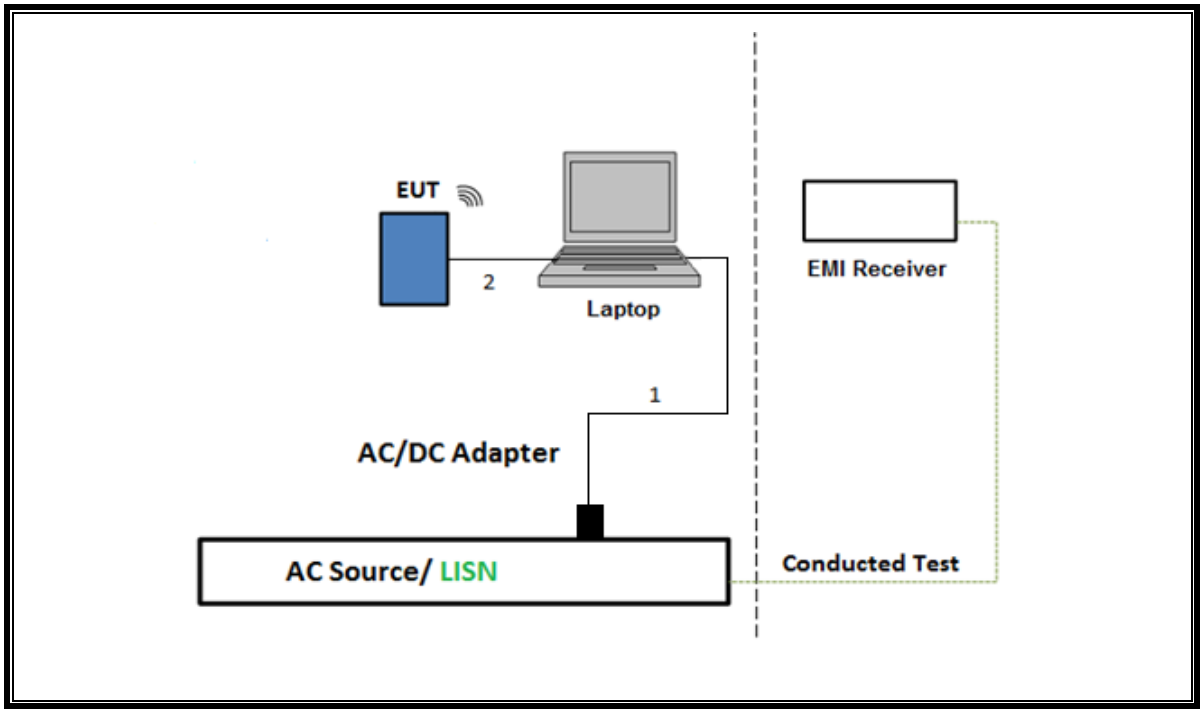
SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION



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7. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 558074 D01 v05r02, Section 6.

6 dB BW: ANSI C63.10-2013 Subclause -11.8.1, RBW ≥ DTS BW

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

Output Power: ANSI C63.10-2013 Subclause -11.9.1.3, Method PKPM1 Peak-reading power meter

Output Power: ANSI C63.10-2013 Subclause -11.9.2.3.2, Measurement using gated average power meter.

PSD: ANSI C63.10-2013 Subclause -11.10.2, Method PKPSD (peak PSD)

Radiated emissions restricted frequency bands: ANSI C63.10-2013 Subclause -11.12.1 & Clause 13

Conducted emissions in restricted frequency bands: ANSI C63.10-2013 Subclause -11.12.2

Band-edge: ANSI C63.10-2013 Subclause -11.13.3.2 & Clause 13, Integration method -Peak detection

Band-edge: ANSI C63.10-2013 Subclause -11.13.3.3 & Clause 13, Integration method -Trace averaging with continuous transmission at full power

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

Radiated emissions non-restricted frequency bands ANSI C63.10-2013 Subclause -11.11 & Clause 13

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

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8. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	ID Num	Cal Due
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90731	2025/01/31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	80120	2025/01/31
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90719	2025/01/31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	90389	2025/01/31
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80397	2025/01/31
Spectrum Analyzer, PXA, 3Hz to 50GHz w/Ext. Mixer	Keysight Technologies Inc	N9030A	80400	2025/02/02
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	125178	2025/01/31
*Conducted Switch Box	N/A	CSB	208281	2024/04/30
Conducted Switch Box	N/A	CSB	208281	2025/05/08
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	81560	2024/12/31
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	211062	2025/03/31
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	81139	2024/08/31
RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	215705	2024/11/30
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226673	2025/01/31
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225575	2025/04/27
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	223461	2024/08/29
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	223084	2024/10/31
RF Filter Box, 1-18GHz	UL-FR1	NA	171389	2025/03/31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201501	2024/11/30
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	230300	2025/01/31
RF Filter Box, 1-18GHz, 12 Ports	UL-FR1	Frankenstein	217521	2024/08/31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	230548	2025/02/28
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170014	2024/08/31
*Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170015	2024/07/31
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	178557	Verified Before Use
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	178558	Verified Before Use

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AC Line Conducted				
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	2025/02/28
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2025/01/31
Transient Limiter	TE	TBFL1	207996	2024/08/31
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, May 1 , 2023	
Conducted Software	UL	UL EMC	2023.2.23	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023	

*Testing was completed before equipment calibration date

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

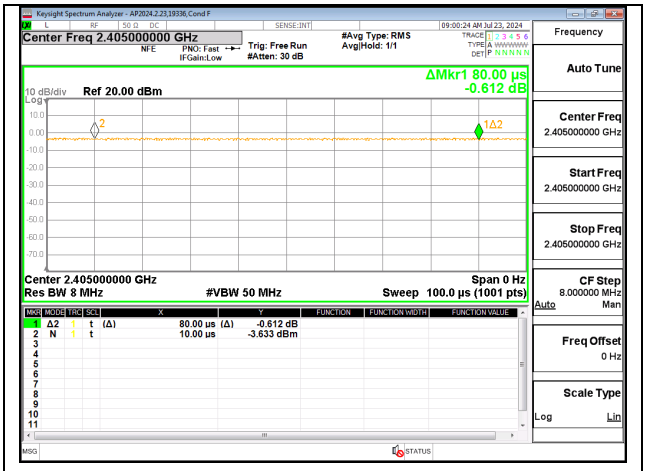
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.15.4, 2440MHz	0.08	0.08	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOTS



802.15.4

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 settings.

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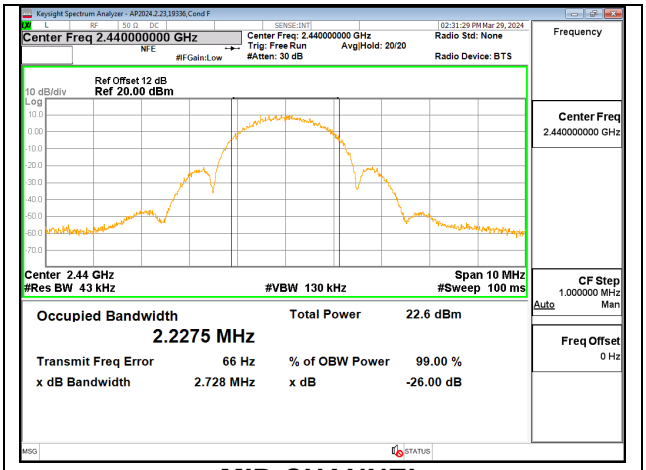
9.2.1. HIGH POWER

ANT 4

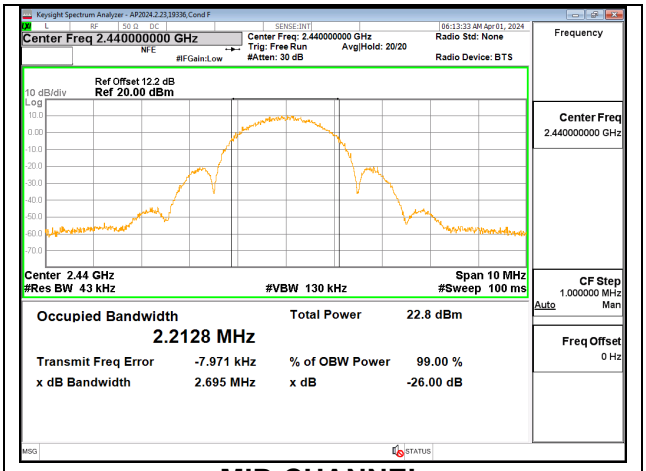
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2044
Middle	2440	2.2275
High	2475	2.2414



MID CHANNEL

ANT 3

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2077
Middle	2440	2.2128
High	2475	2.2106



MID CHANNEL

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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 settings.

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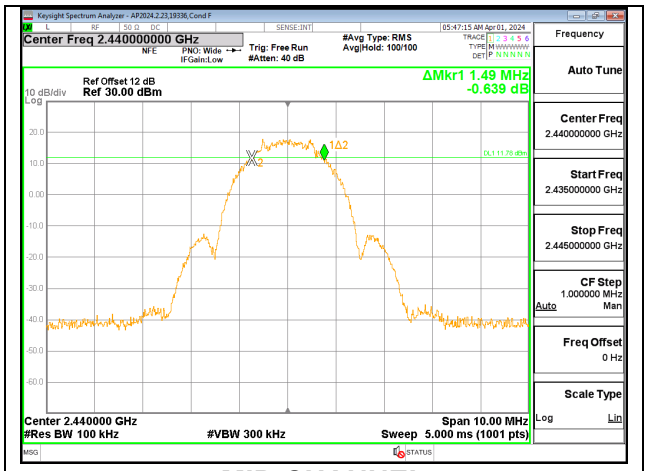
9.3.1. HIGH POWER

ANT 4

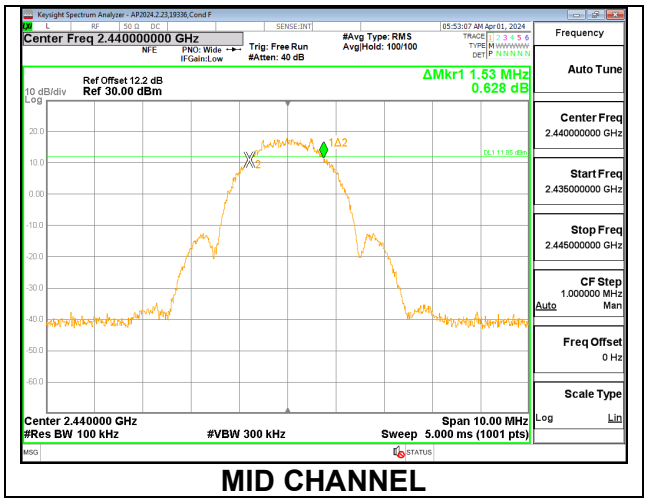
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.500	0.5
Middle	2440	1.490	0.5
High	2475	1.550	0.5



MID CHANNEL

ANT 3

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.540	0.5
Middle	2440	1.530	0.5
High	2475	1.510	0.5



MID CHANNEL

9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

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

TEST PROCEDURE

Measurements perform using a wideband RF power meter.

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

DIRECTIONAL ANTENNA GAIN

For 1 TX:
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

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9.4.1. HIGH POWER

ANT 4

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	21.85	30	-8.15
Middle	2440	21.82	30	-8.18
High	2475	21.87	30	-8.13

ANT 3

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	21.79	30	-8.21
Middle	2440	21.72	30	-8.28
High	2475	21.65	30	-8.35

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9.4.2. LOW POWER

ANT 4

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	10.91	30	-19.09
Middle	2440	10.82	30	-19.18
High	2475	10.84	30	-19.16

ANT 3

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	10.38	30	-19.62
Middle	2440	10.23	30	-19.77
High	2475	10.51	30	-19.49

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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

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9.5.1. HIGH POWER

ANT 4

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.92
Middle	2440	20.96
High	2475	20.99

ANT 3

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	20.91
Middle	2440	20.84
High	2475	20.76

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9.5.2. LOW POWER

ANT 4

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	9.97
Middle	2440	9.89
High	2475	9.91

ANT 3

Tested By:	19336 JP
Date:	6/25/2024

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	9.49
Middle	2440	9.36
High	2475	9.48

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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 settings.

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

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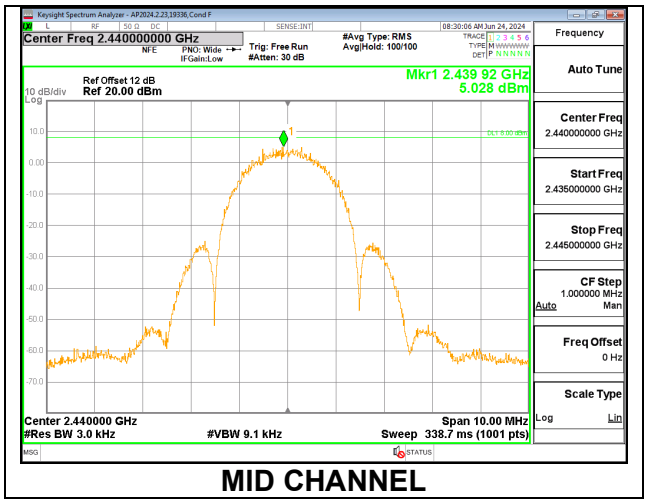
9.6.1. HIGH POWER

ANT 4

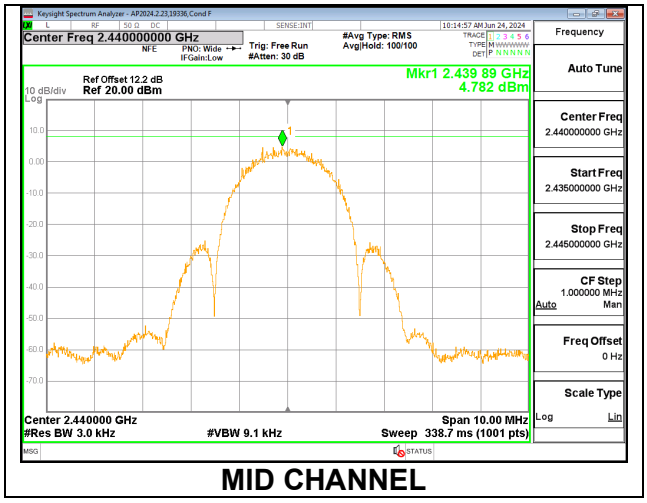
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	4.901	8	-3.10
Middle	2440	5.028	8	-2.97
High	2475	5.110	8	-2.89



MID CHANNEL

ANT 3

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	4.883	8	-3.12
Middle	2440	4.782	8	-3.22
High	2475	4.519	8	-3.48



MID CHANNEL

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

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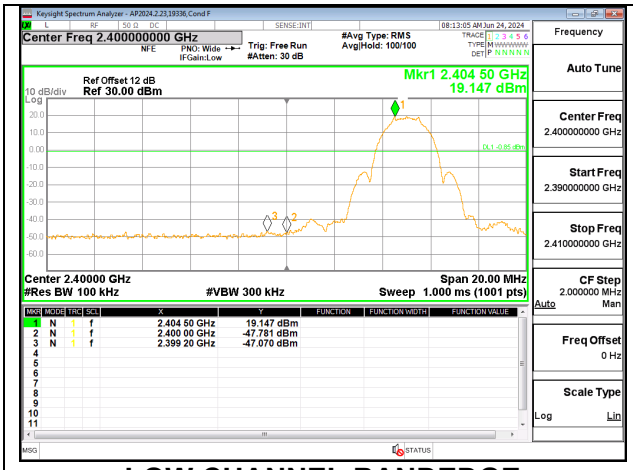
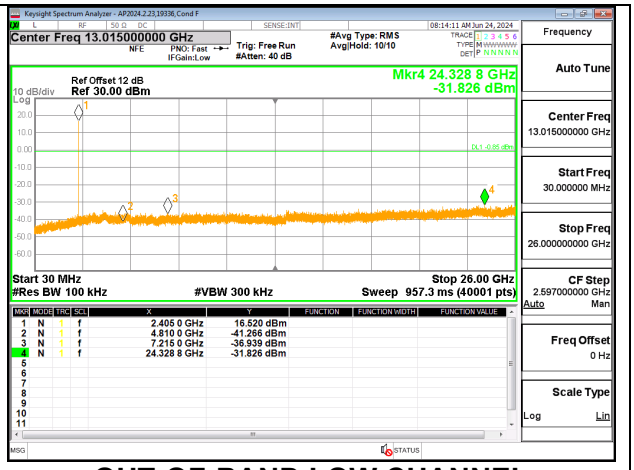
9.7.1. HIGH POWER

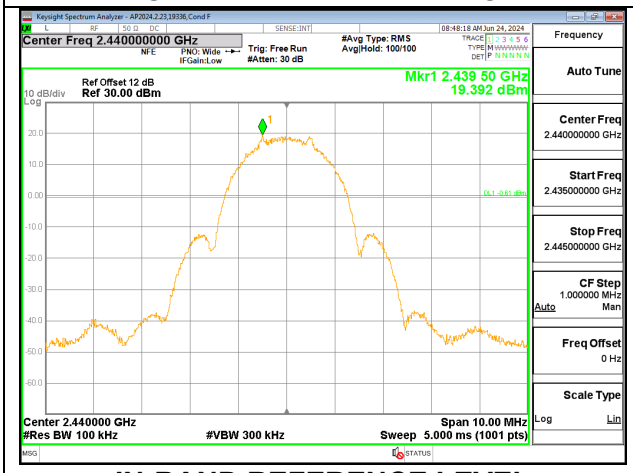
ANT 4



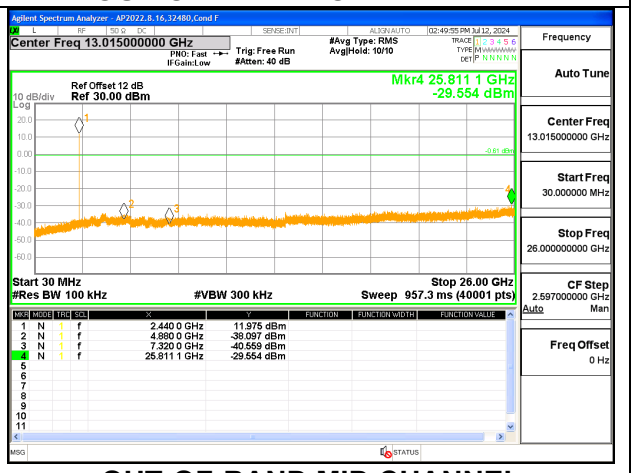
LOW CHANNEL BANDEDGE



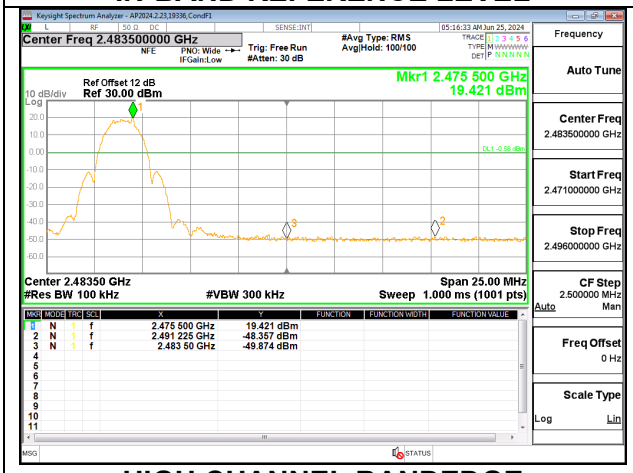
OUT-OF-BAND LOW CHANNEL



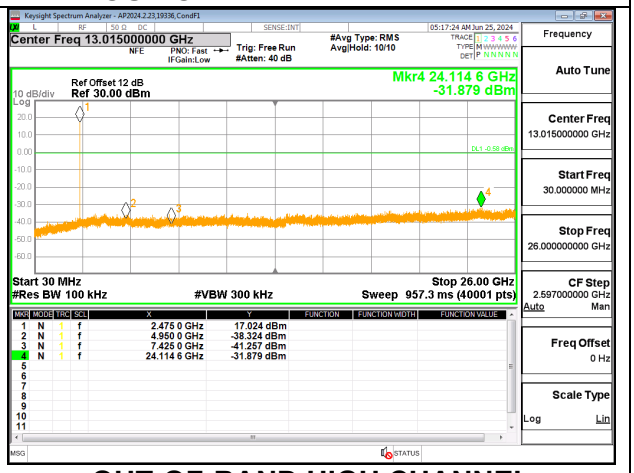
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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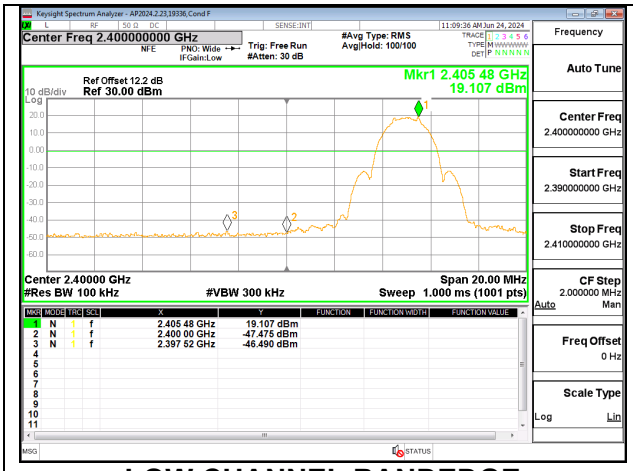
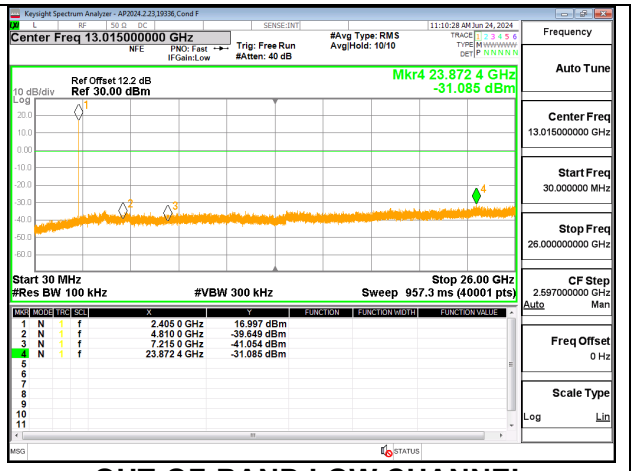
ANT 3



LOW CHANNEL BANDEDGE



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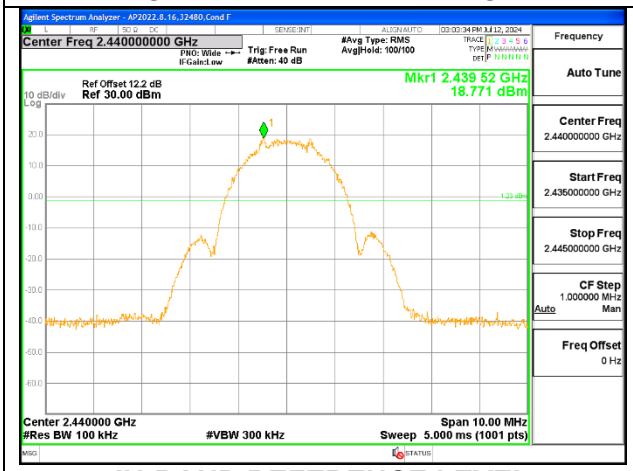
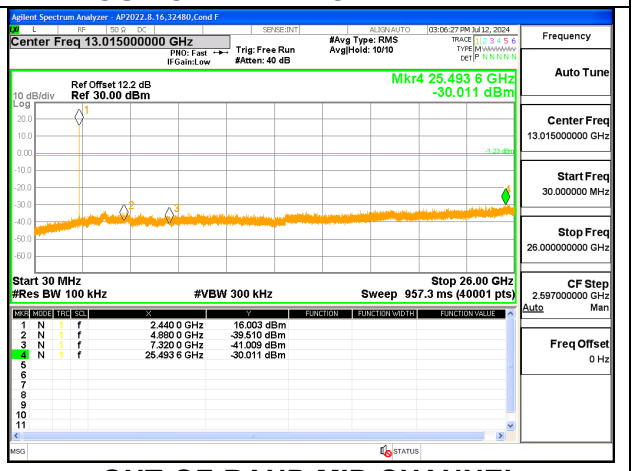
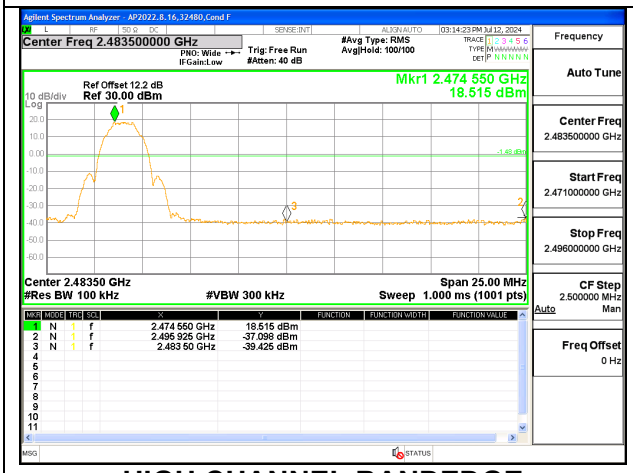


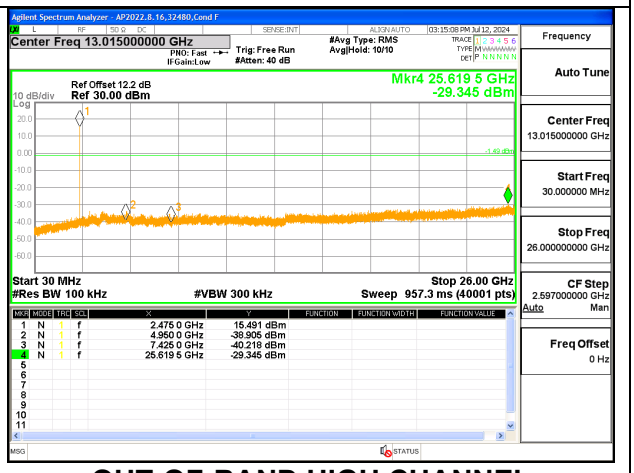
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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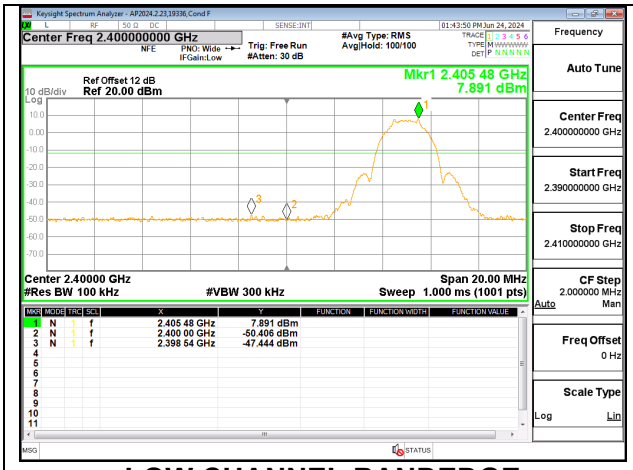
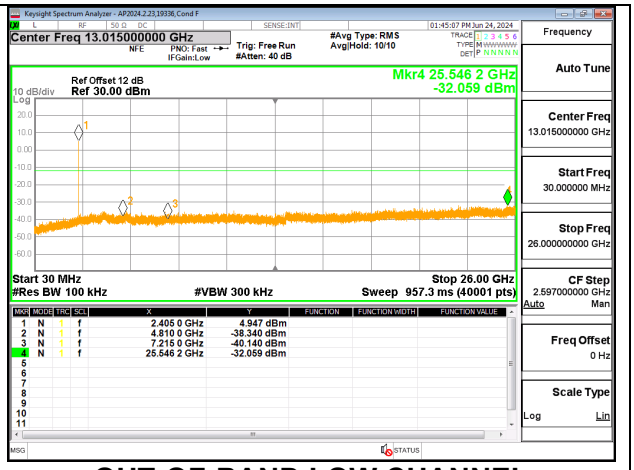
9.7.2. LOW POWER

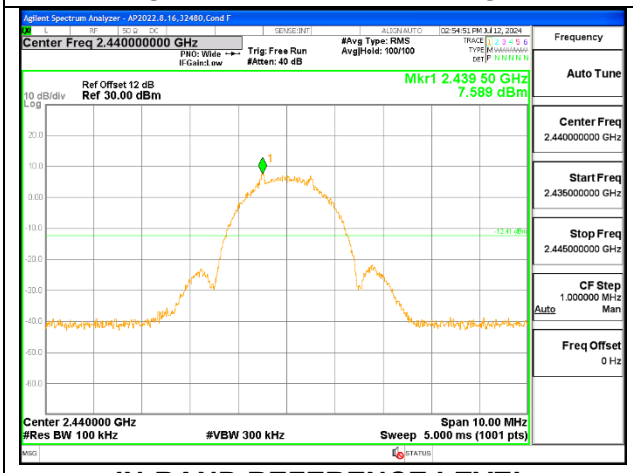
ANT 4



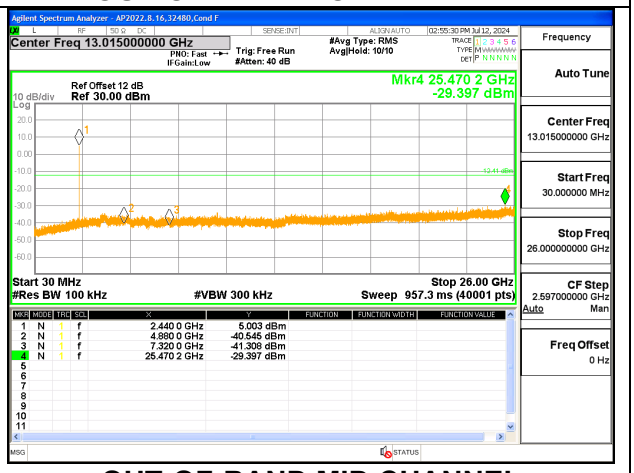
LOW CHANNEL BANDEDGE



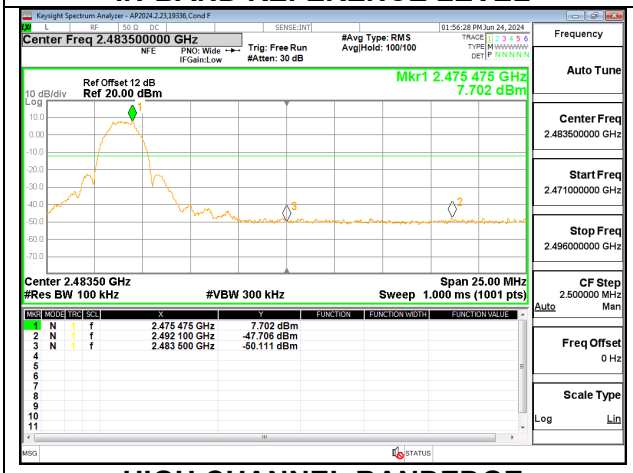
OUT-OF-BAND LOW CHANNEL



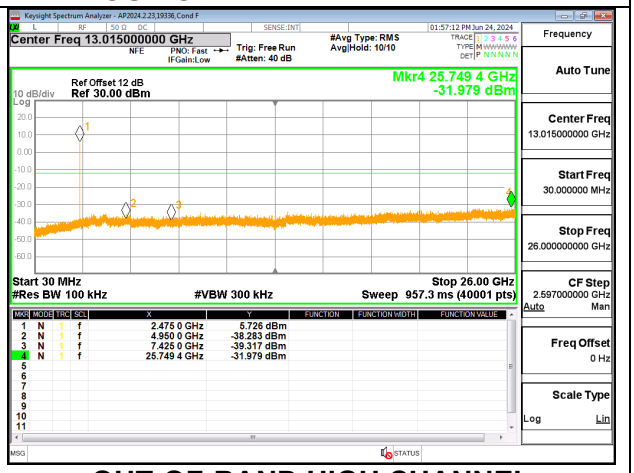
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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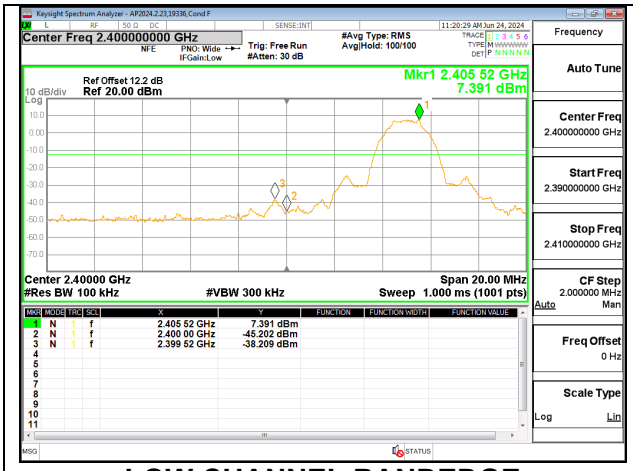
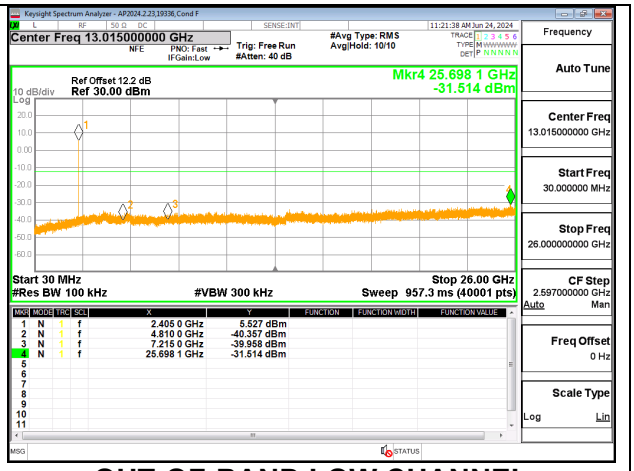
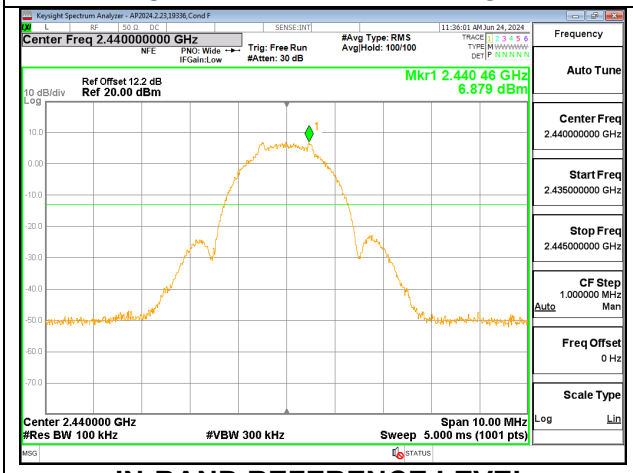
ANT 3



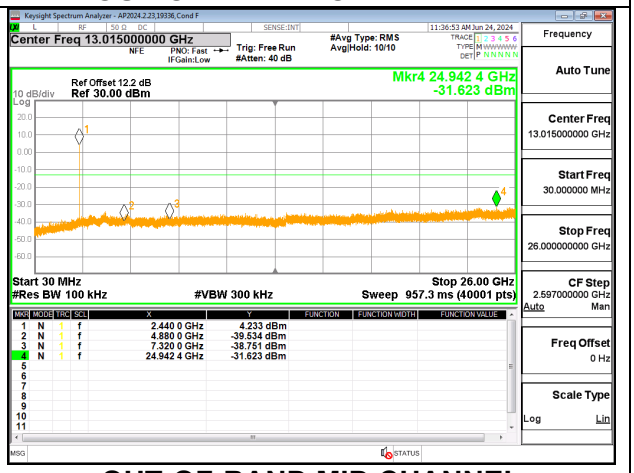
LOW CHANNEL BANDEDGE



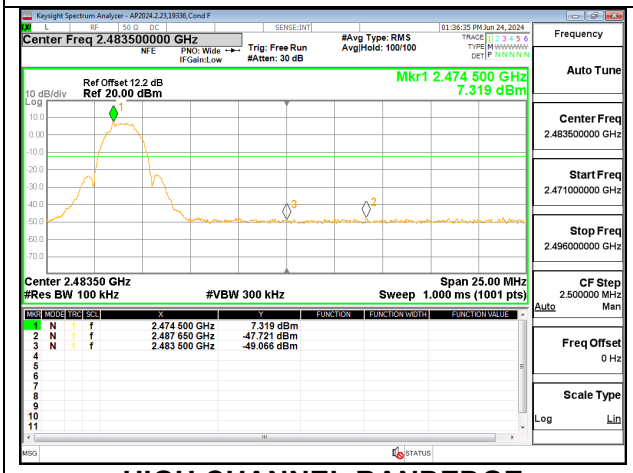
OUT-OF-BAND LOW CHANNEL



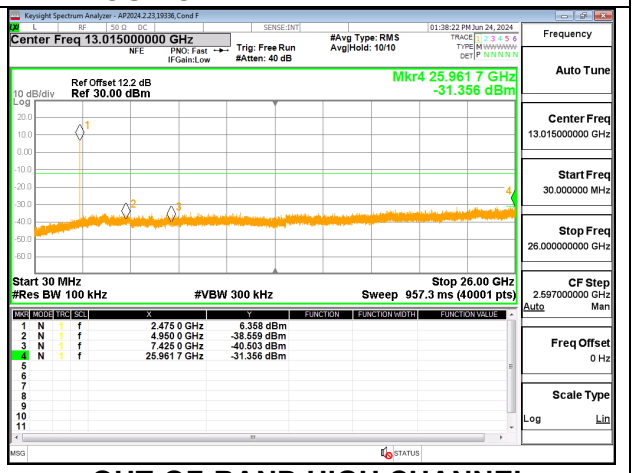
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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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

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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.

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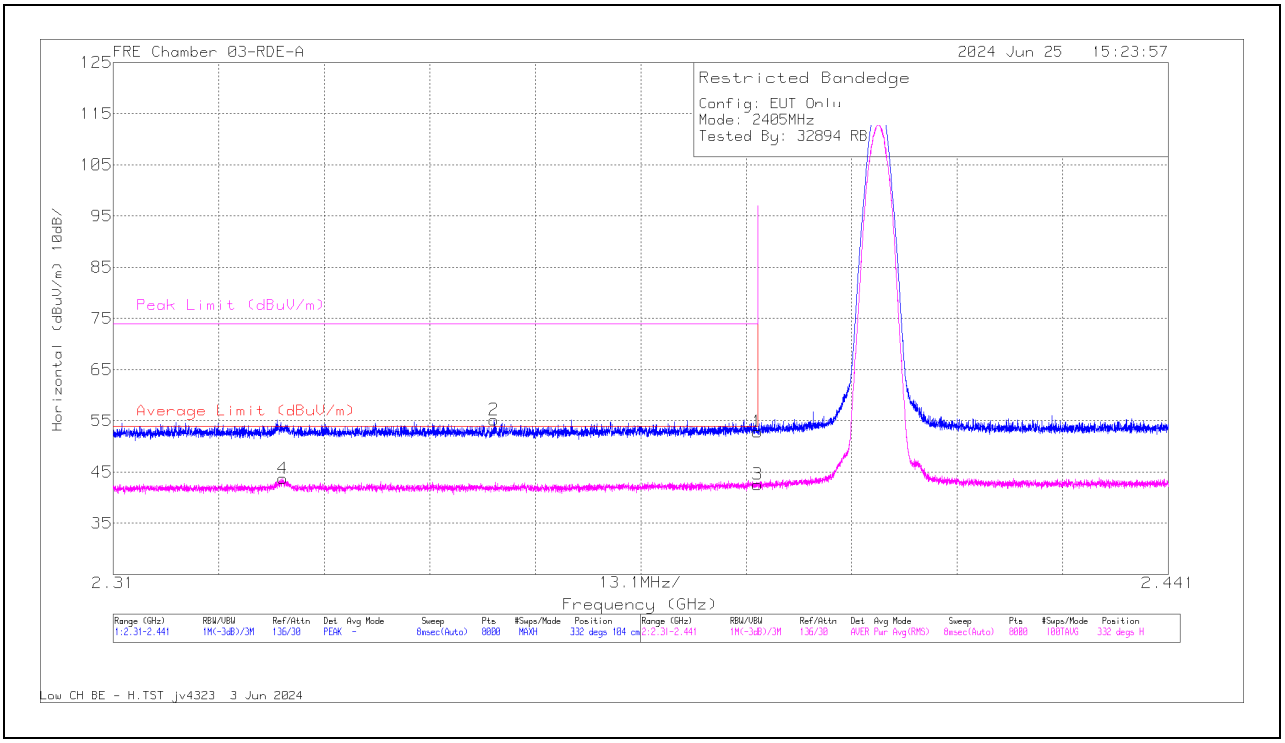
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. ANT4, 802.15.4 HIGH POWER BANDEDGE

Low Channel

HORIZONTAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.84	Pk	32.1	-40.07	52.87	-	-	74	-21.13	332	104	H
2	* 2.357297	63.35	Pk	32	-40.16	55.19	-	-	74	-18.81	332	104	H
3	* 2.39	50.55	RMS	32.1	-40.07	42.58	54	-11.42	-	-	332	104	H
4	* 2.331028	51.99	RMS	31.9	-40.16	43.73	54	-10.27	-	-	332	104	H

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

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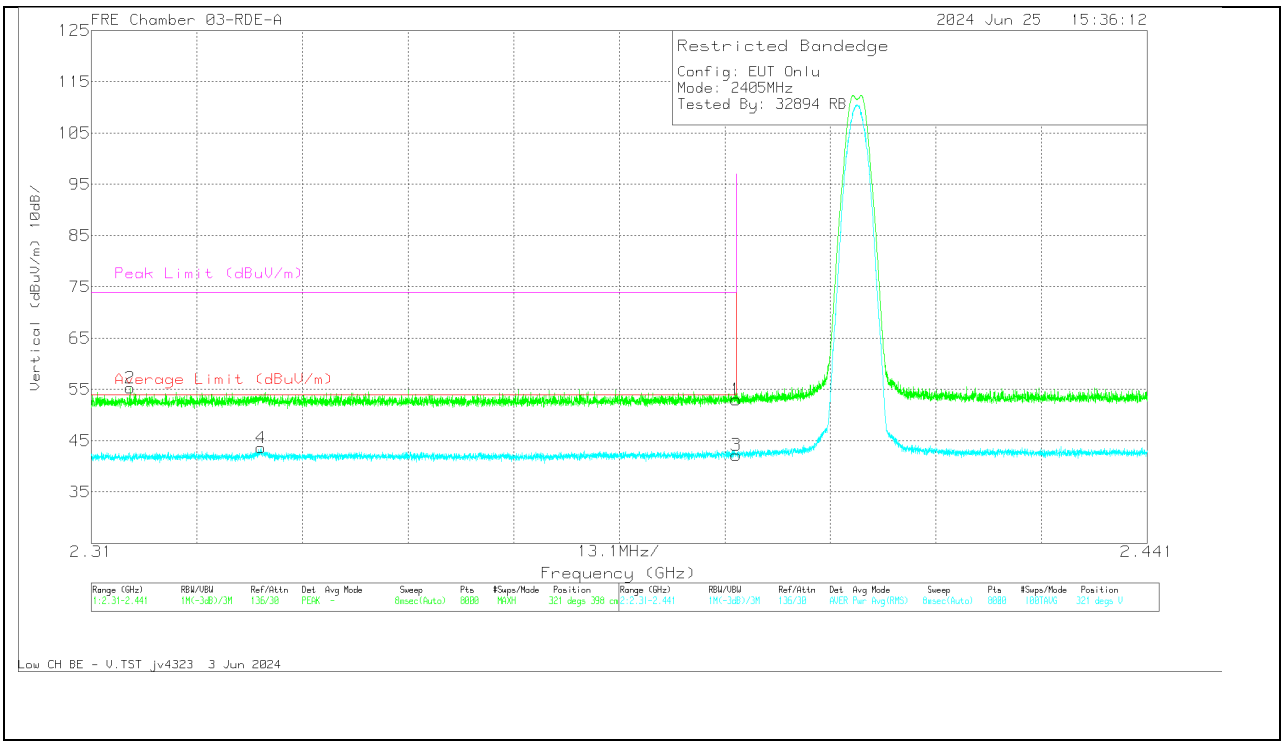
VERTICAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.99	Pk	32.1	-40.07	53.02	-	-	74	-20.98	321	398	V
2	* 2.314798	63.63	Pk	31.8	-40.17	55.26	-	-	74	-18.74	321	398	V
3	* 2.39	50.16	RMS	32.1	-40.07	42.19	54	-11.81	-	-	321	398	V
4	* 2.331077	51.87	RMS	31.9	-40.16	43.61	54	-10.39	-	-	321	398	V

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

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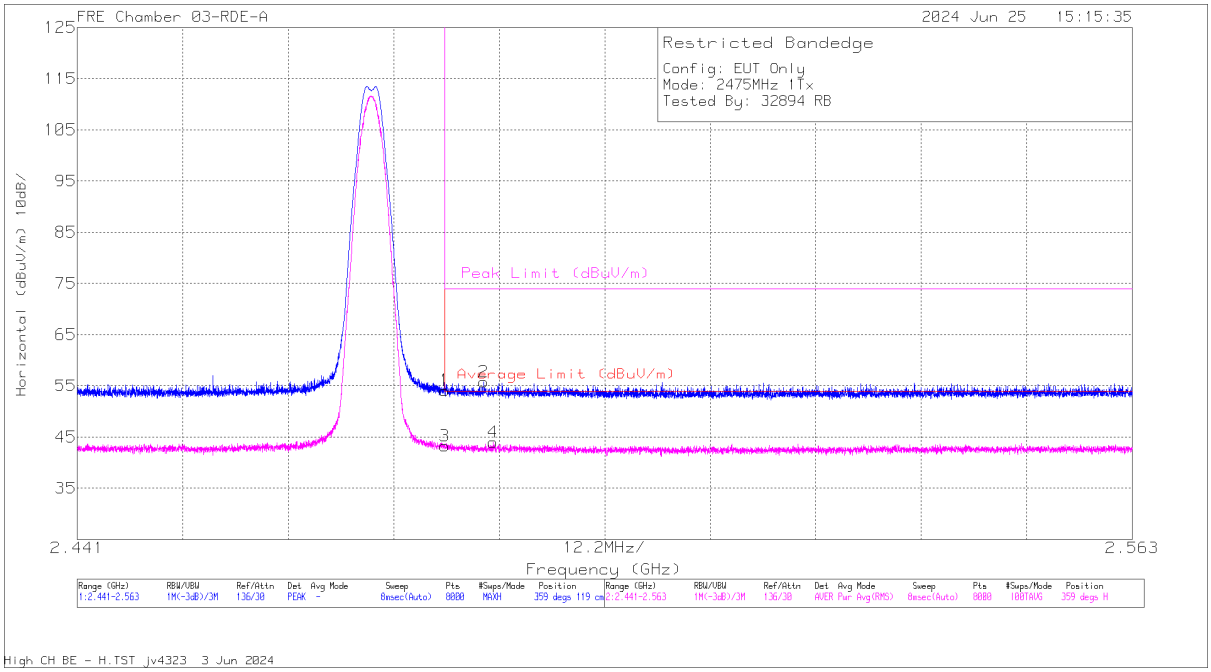
High CHANNEL

HORIZONTAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	61.71	Pk	32.2	-39.84	54.07	-	-	74	-19.93	359	119	H
2	* 2.488007	63.23	Pk	32.3	-39.76	55.77	-	-	74	-18.23	359	119	H
3	* 2.4835	50.88	RMS	32.2	-39.84	43.24	54	-10.76	-	-	359	119	H
4	* 2.489074	51.45	RMS	32.3	-39.76	43.99	54	-10.01	-	-	359	119	H

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

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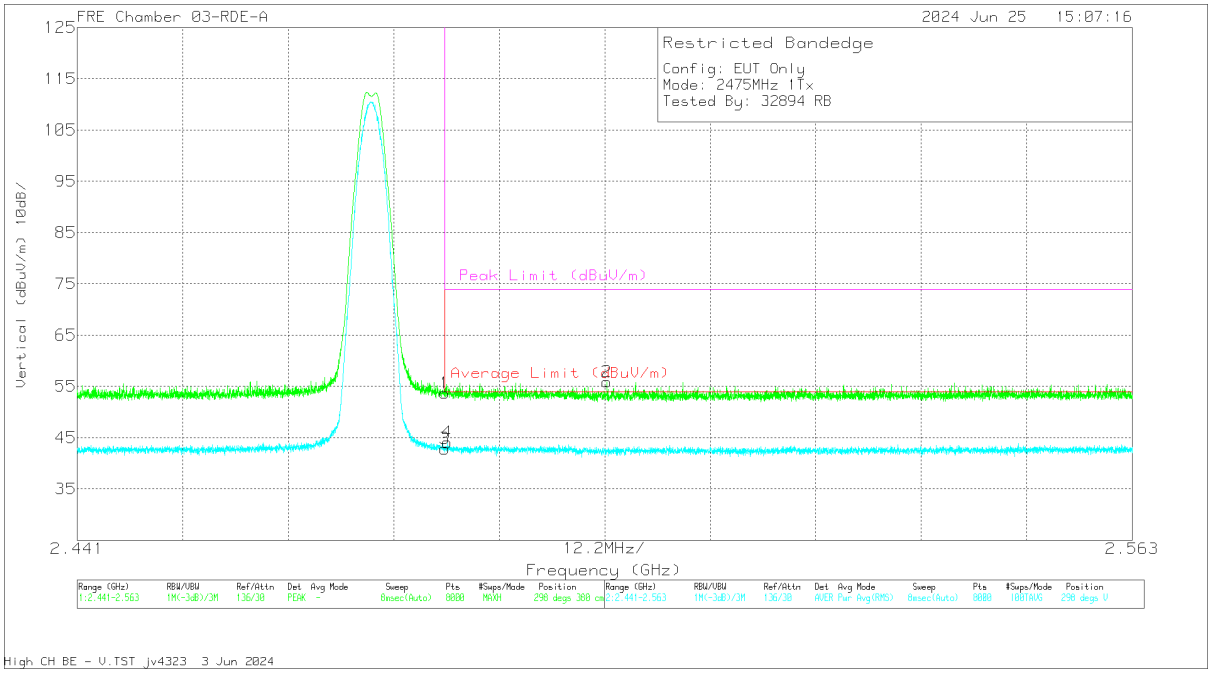
VERTICAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	61.31	Pk	32.2	-39.84	53.67	-	-	74	-20.33	298	380	V
3	* 2.4835	50.49	RMS	32.2	-39.84	42.85	54	-11.15	-	-	298	380	V
4	* 2.483812	51.71	RMS	32.2	-39.83	44.08	54	-9.92	-	-	298	380	V
2	2.502252	63.45	Pk	32.2	-39.78	55.87	-	-	74	-18.13	298	380	V

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

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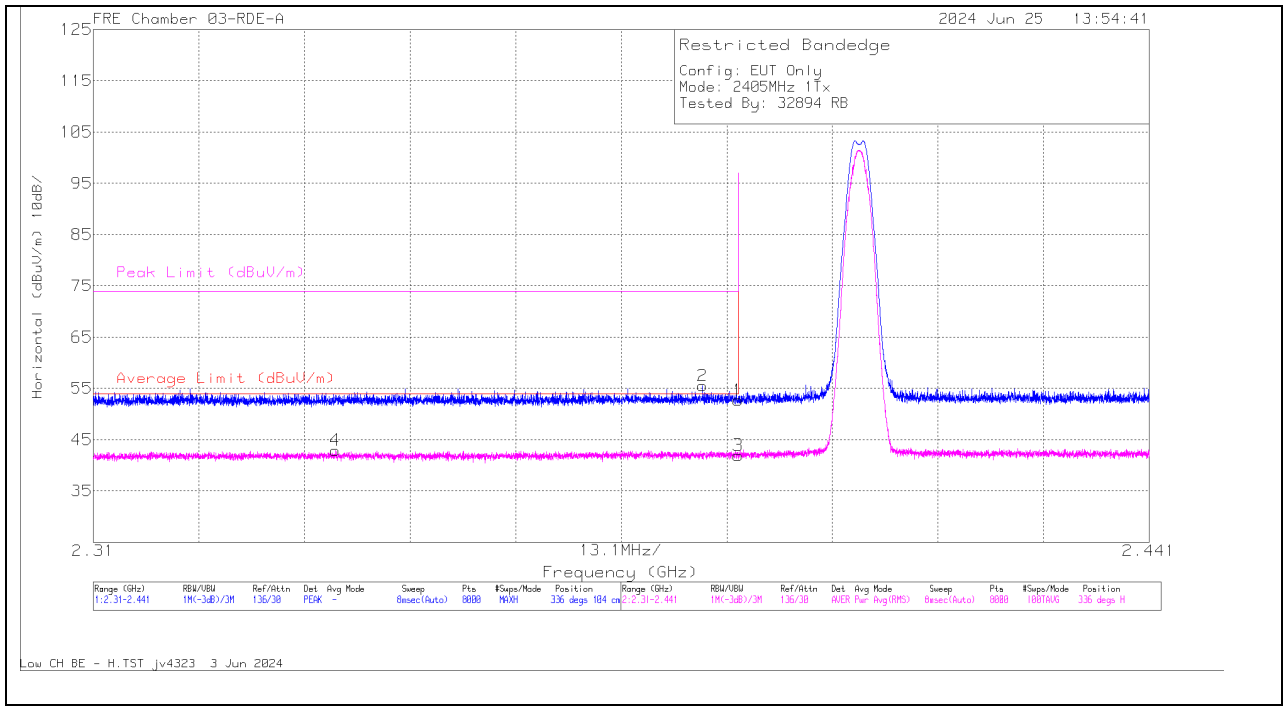
10.1.2. ANT4, 802.15.4 LOW POWER BANDEDGE

LOW CHANNEL

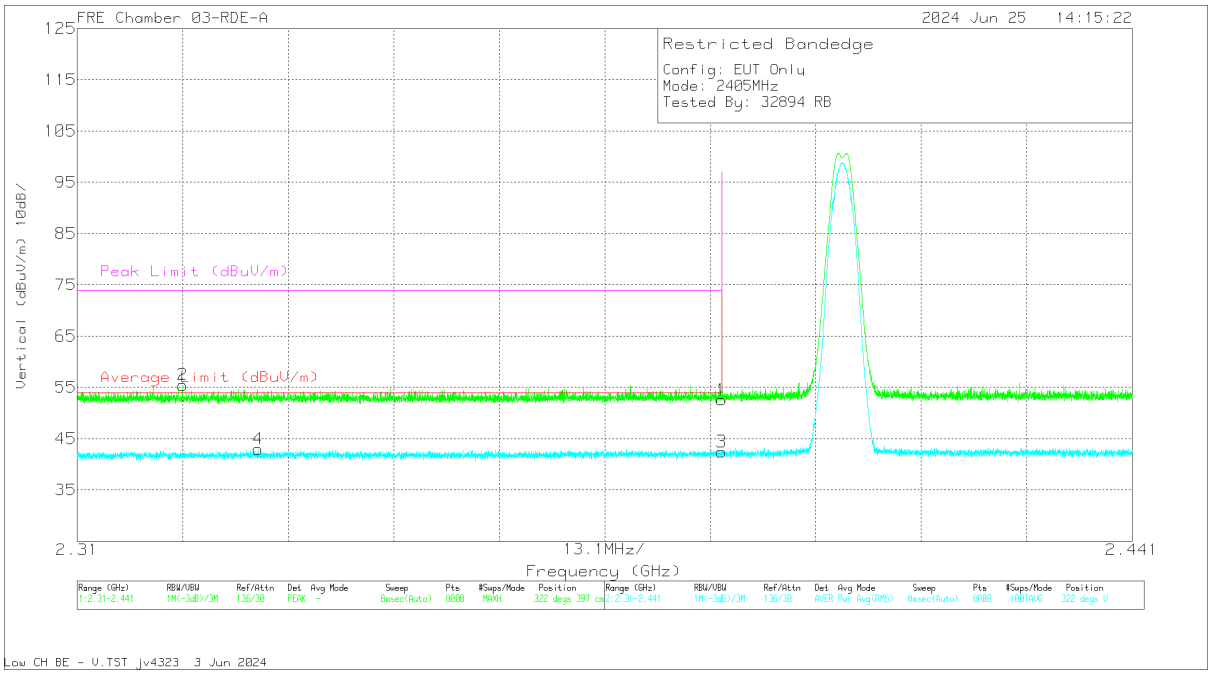
HORIZONTAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.66	Pk	32.1	-40.07	52.69	-	-	74	-21.31	336	104	H
2	* 2.38558	63.5	Pk	32.1	-40.09	55.51	-	-	74	-18.49	336	104	H
3	* 2.39	49.89	RMS	32.1	-40.07	41.92	54	-12.08	-	-	336	104	H
4	* 2.340019	51.09	RMS	32	-40.17	42.92	54	-11.08	-	-	336	104	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	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.54	Pk	32.1	-40.07	52.57	-	-	74	-21.43	322	397	V
2	* 2.323069	63.75	Pk	31.9	-40.18	55.47	-	-	74	-18.53	322	397	V
3	* 2.39	50.38	RMS	32.1	-40.07	42.41	54	-11.59	-	-	322	397	V
4	* 2.332436	51.22	RMS	31.9	-40.15	42.97	54	-11.03	-	-	322	397	V

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

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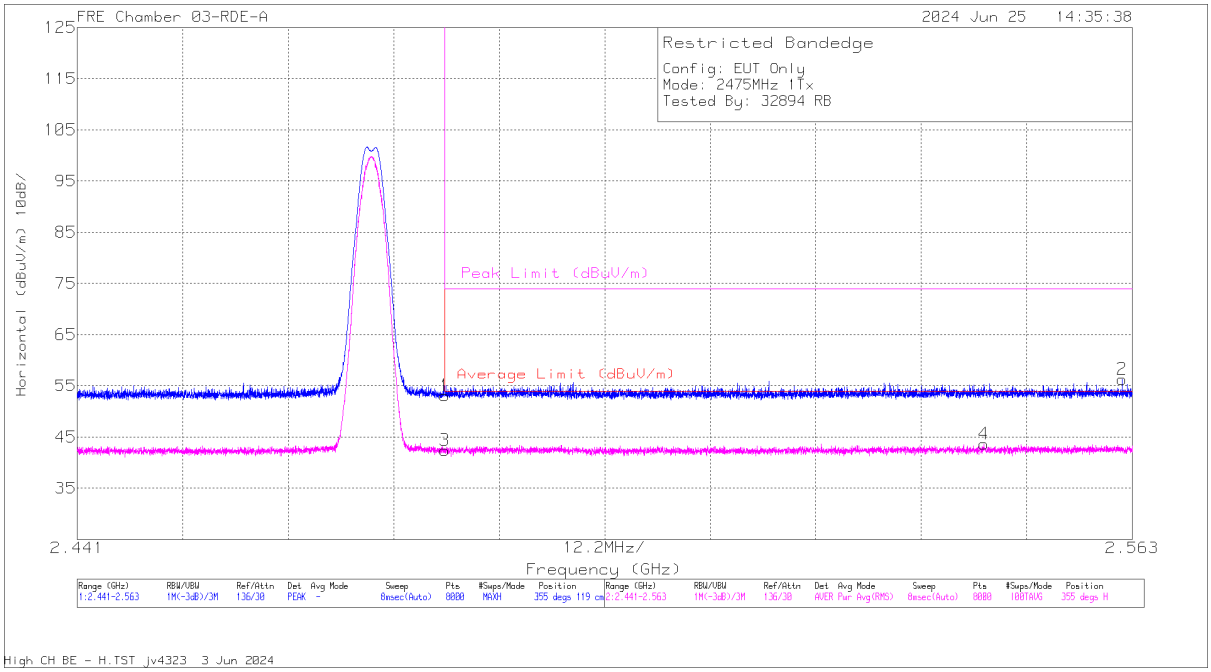
HIGH CHANNEL

HORIZONTAL RESULT



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)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	60.72	Pk	32.2	-39.84	53.08	-	-	74	-20.92	355	119	H
3	* 2.4835	50.05	RMS	32.2	-39.84	42.41	54	-11.59	-	-	355	119	H
4	2.545842	51.1	RMS	32.2	-39.67	43.63	54	-10.37	-	-	355	119	H
2	2.561811	63.68	Pk	32.2	-39.59	56.29	-	-	74	-17.71	355	119	H

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

UL VERIFICATION SERVICES INC.
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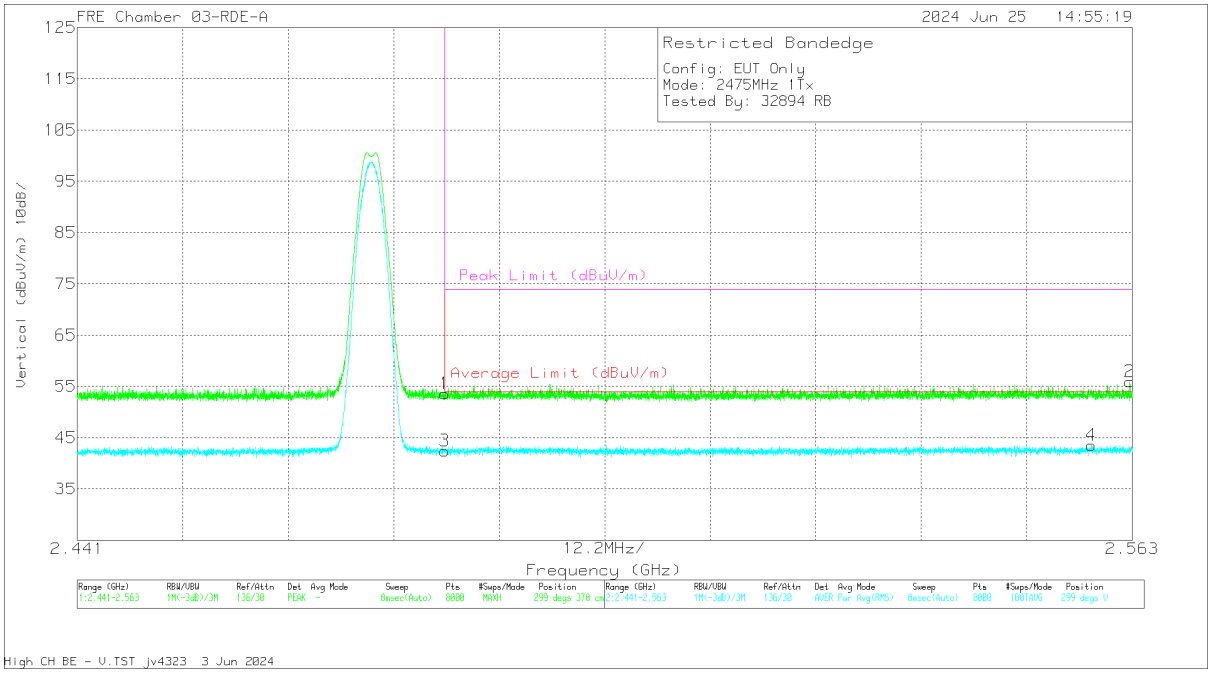
VERTICAL RESULT

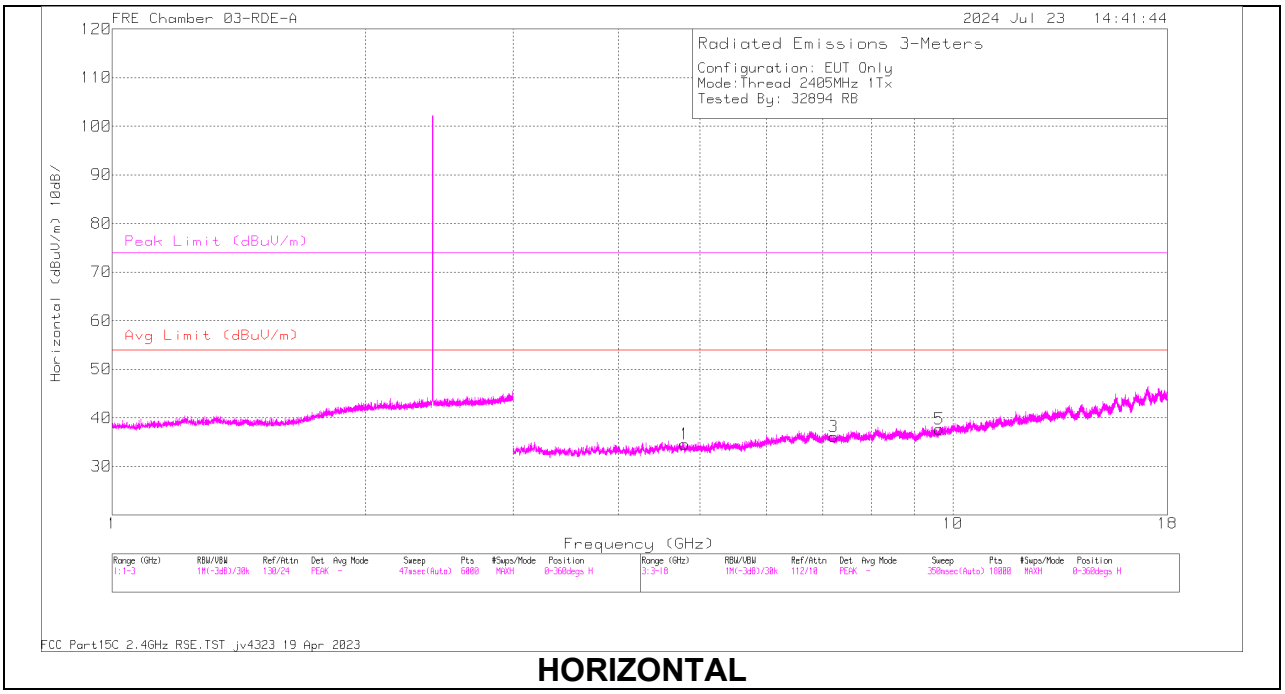


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	61.24	Pk	32.2	-39.84	53.6	-	-	74	-20.4	299	378	V
3	* 2.4835	50.06	RMS	32.2	-39.84	42.42	54	-11.58	-	-	299	378	V
4	2.558288	50.94	RMS	32.2	-39.61	43.53	54	-10.47	-	-	299	378	V
2	2.562726	63.34	Pk	32.2	-39.61	55.93	-	-	74	-18.07	299	378	V

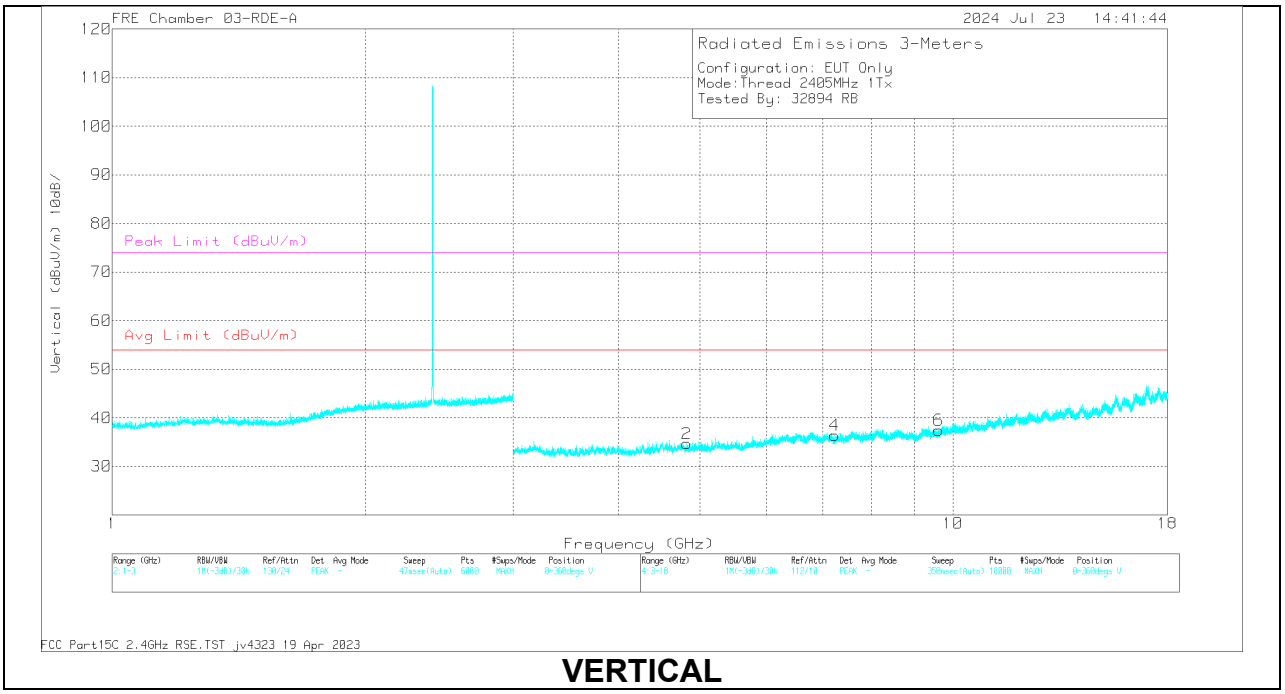
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

10.1.3. ANT4, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.804567	57.95	PK2	34	-47.93	44.02	-	-	74	-29.98	360	101	H
* 4.801201	46.77	MAv1	34	-48.11	32.66	54	-21.34	-	-	360	101	H
* 4.821414	58.39	PK2	34	-47.78	44.61	-	-	74	-29.39	360	198	V
* 4.82284	46.52	MAv1	34	-47.79	32.73	54	-21.27	-	-	360	198	V
7.213562	44.5	MAv1	35.8	-45.86	34.44	-	-	-	-	360	101	H
7.216126	56.38	PK2	35.8	-45.86	46.32	-	-	-	-	360	101	H
7.228501	44.77	MAv1	35.8	-46	34.57	-	-	-	-	360	198	V
7.231365	56.17	PK2	35.8	-45.99	45.98	-	-	-	-	360	198	V
9.621427	44.07	MAv1	36.7	-45.22	35.55	-	-	-	-	360	198	V
9.62313	56.12	PK2	36.7	-45.26	47.56	-	-	-	-	360	198	V
9.636762	44.36	MAv1	36.7	-45.28	35.78	-	-	-	-	360	198	H
9.636868	56.43	PK2	36.7	-45.28	47.85	-	-	-	-	360	198	H

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

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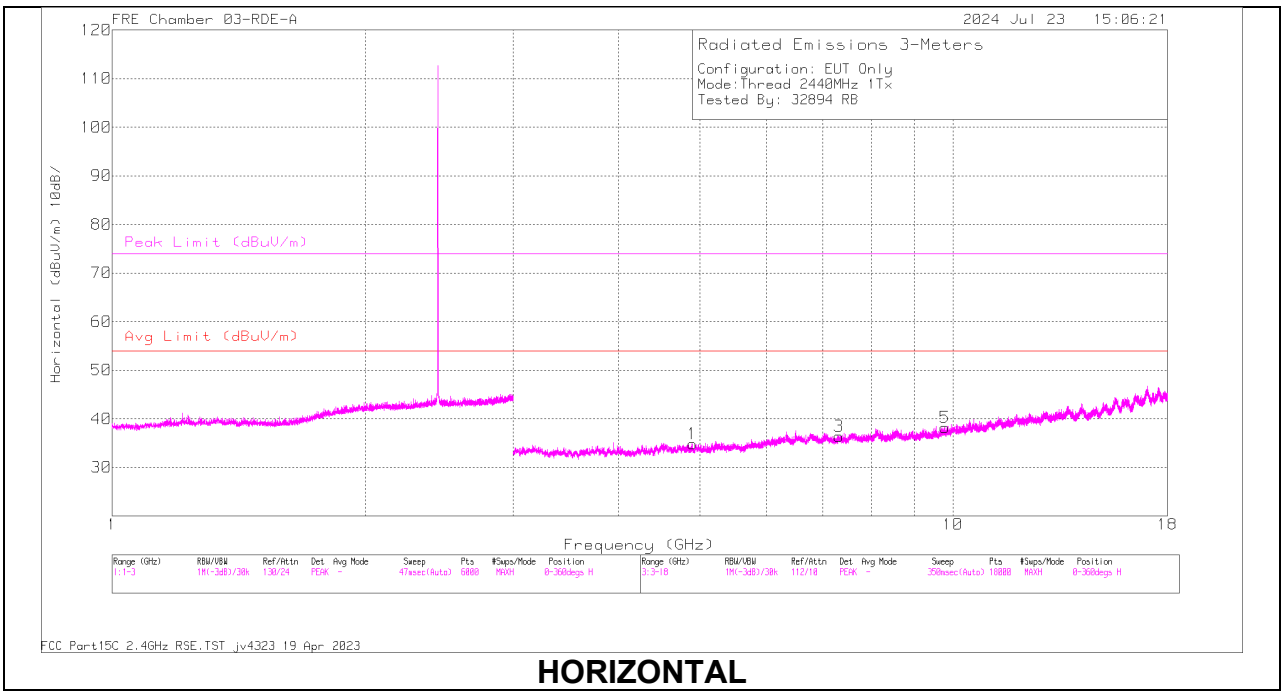
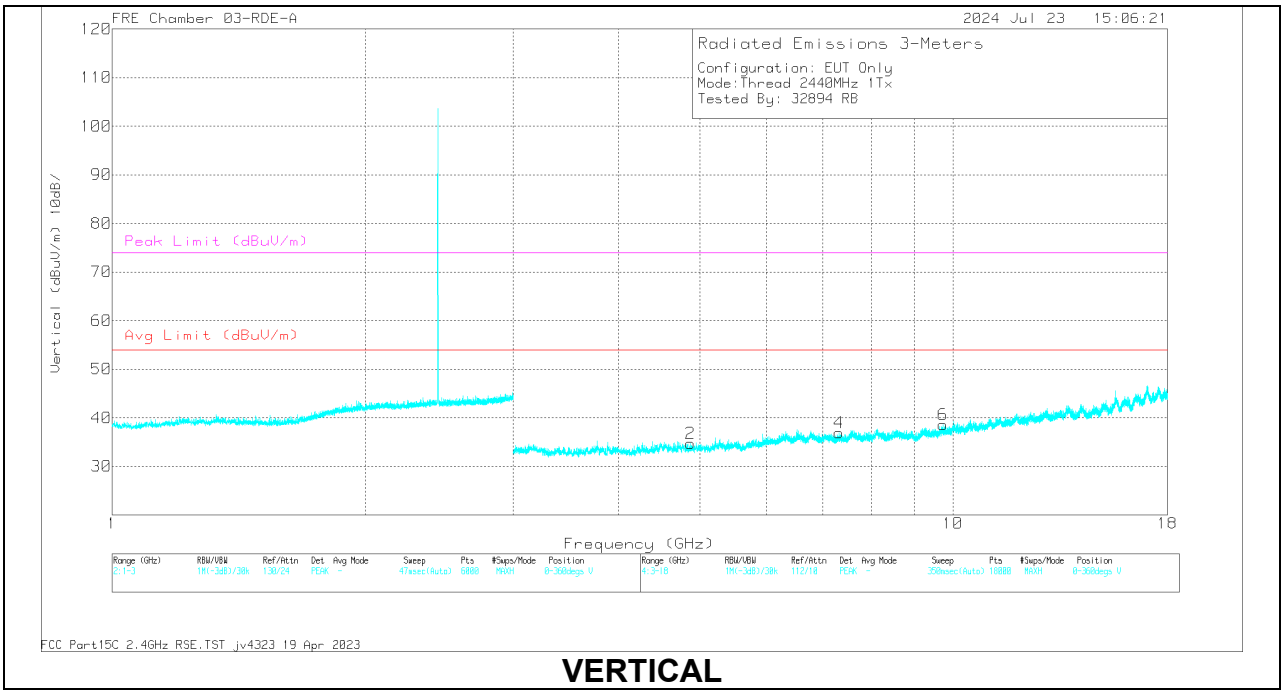
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.901515	57.88	PK2	34	-47.67	44.21	-	-	74	-29.79	360	199	H
* 4.90463	46.8	MAv1	34	-47.7	33.1	54	-20.9	-	-	360	199	H
* 7.316933	56.2	PK2	35.8	-45.57	46.43	-	-	74	-27.57	360	199	H
* 7.317083	44.47	MAv1	35.8	-45.57	34.7	54	-19.3	-	-	360	199	H
* 4.876296	57.73	PK2	34	-47.55	44.18	-	-	74	-29.82	360	200	V
* 4.877784	46.33	MAv1	34	-47.62	32.71	54	-21.29	-	-	360	200	V
* 7.324417	56.66	PK2	35.8	-45.59	46.87	-	-	74	-27.13	360	101	V
* 7.324628	44.57	MAv1	35.8	-45.6	34.77	54	-19.23	-	-	360	101	V
9.735185	45.25	MAv1	36.8	-45.49	36.56	-	-	-	-	360	101	V
9.735353	56.92	PK2	36.8	-45.48	48.24	-	-	-	-	360	101	V
9.780621	55.96	PK2	36.9	-45.42	47.44	-	-	-	-	360	101	H
9.780704	44.46	MAv1	36.9	-45.41	35.95	-	-	-	-	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

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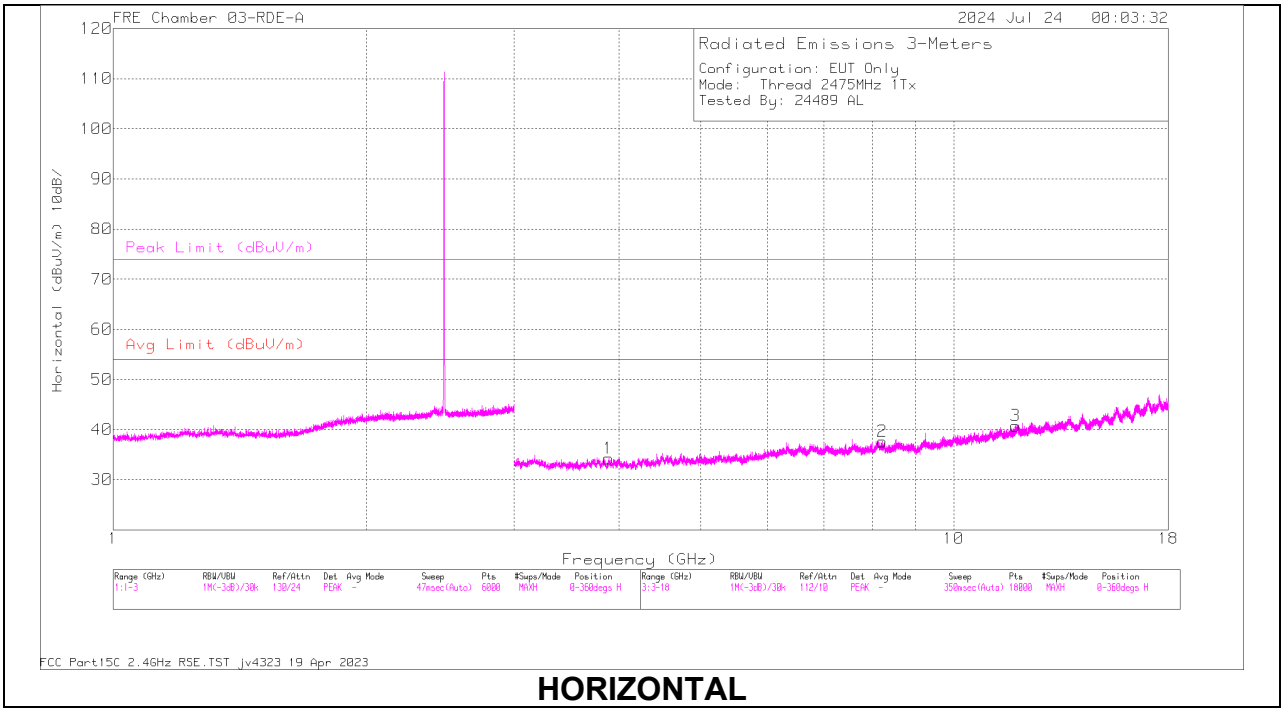
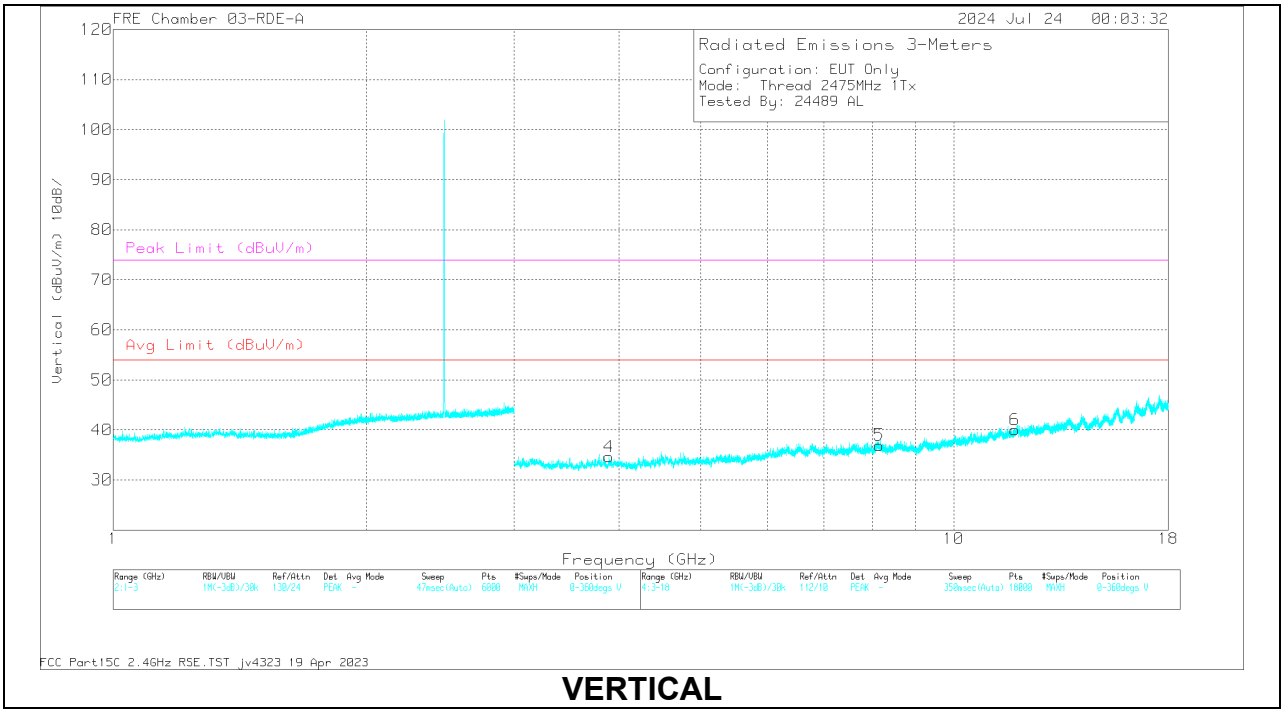
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.884147	57.7	PK2	33.5	-47.14	44.06	-	-	74	-29.94	0	199	H
1	* 3.886529	46.09	MAv1	33.5	-47.01	32.58	54	-21.42	-	-	0	199	H
2	* 8.225905	55.85	PK2	36	-44.94	46.91	-	-	74	-27.09	0	199	H
2	* 8.225879	44.29	MAv1	36	-44.94	35.35	54	-18.65	-	-	0	199	H
3	* 11.839078	54.01	PK2	38.6	-42.83	49.78	-	-	74	-24.22	0	101	H
3	* 11.837736	42.42	MAv1	38.6	-42.84	38.18	54	-15.82	-	-	0	101	H
4	* 3.888575	57.53	PK2	33.5	-46.89	44.14	-	-	74	-29.86	0	198	V
4	* 3.891388	45.92	MAv1	33.5	-47.04	32.38	54	-21.62	-	-	0	198	V
5	* 8.154207	55.25	PK2	36	-44.6	46.65	-	-	74	-27.35	0	101	V
5	* 8.155764	44.09	MAv1	36	-44.61	35.48	54	-18.52	-	-	0	101	V
6	* 11.817493	53.54	PK2	38.6	-42.99	49.15	-	-	74	-24.85	0	101	V
6	* 11.818917	42.4	MAv1	38.6	-43.01	37.99	54	-16.01	-	-	0	101	V

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

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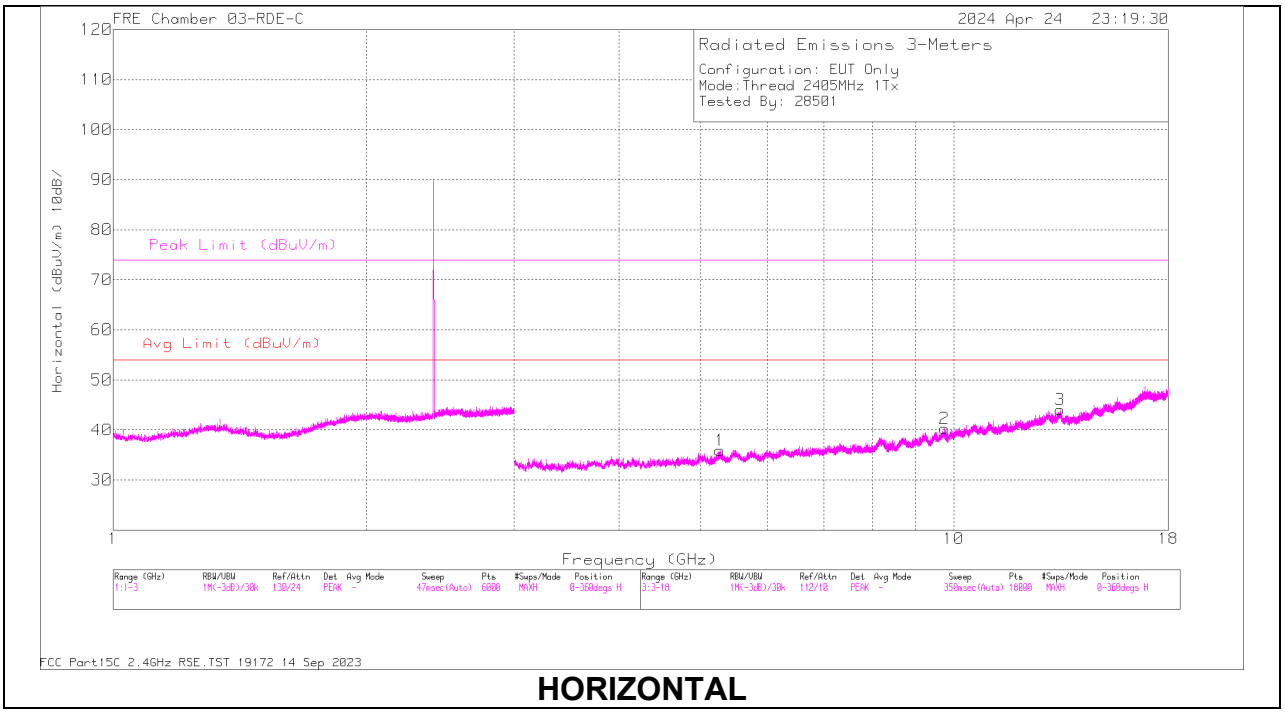
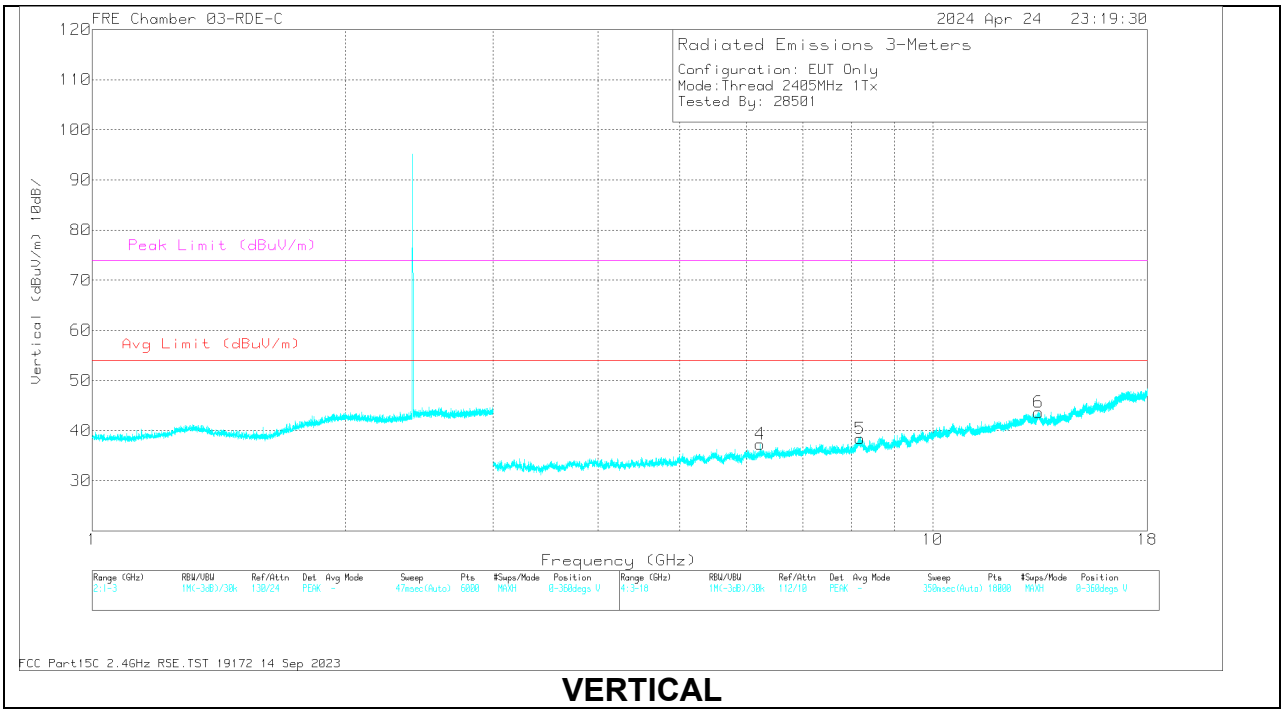
10.1.4. ANT4, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 13.388498	58.52	PK2	39.1	-44.4	53.22	-	-	74	-20.78	263	125	H
* 13.388154	46.77	MAv1	39.1	-44.33	41.54	54	-12.46	-	-	263	125	H
* 8.198379	56.83	PK2	35.8	-44.1	48.53	-	-	74	-25.47	0	189	V
* 8.196405	44.61	MAv1	35.9	-44.12	36.39	54	-17.61	-	-	0	189	V
* 13.36785	58.77	PK2	39.1	-44.5	53.37	-	-	74	-20.63	213	101	V
* 13.36853	46.96	MAv1	39.1	-44.5	41.56	54	-12.44	-	-	213	101	V
5.269376	46.26	MAv1	34.3	-46.76	33.8	-	-	-	-	105	184	H
5.269985	57.96	PK2	34.3	-46.7	45.56	-	-	-	-	105	184	H
6.225044	44.29	MAv1	35.2	-45.2	34.29	-	-	-	-	251	165	V
6.226187	56.35	PK2	35.2	-45.2	46.35	-	-	-	-	251	165	V
9.745446	58.25	PK2	36.9	-44.84	50.31	-	-	-	-	239	154	H
9.747247	46.19	MAv1	36.9	-44.8	38.29	-	-	-	-	239	154	H

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

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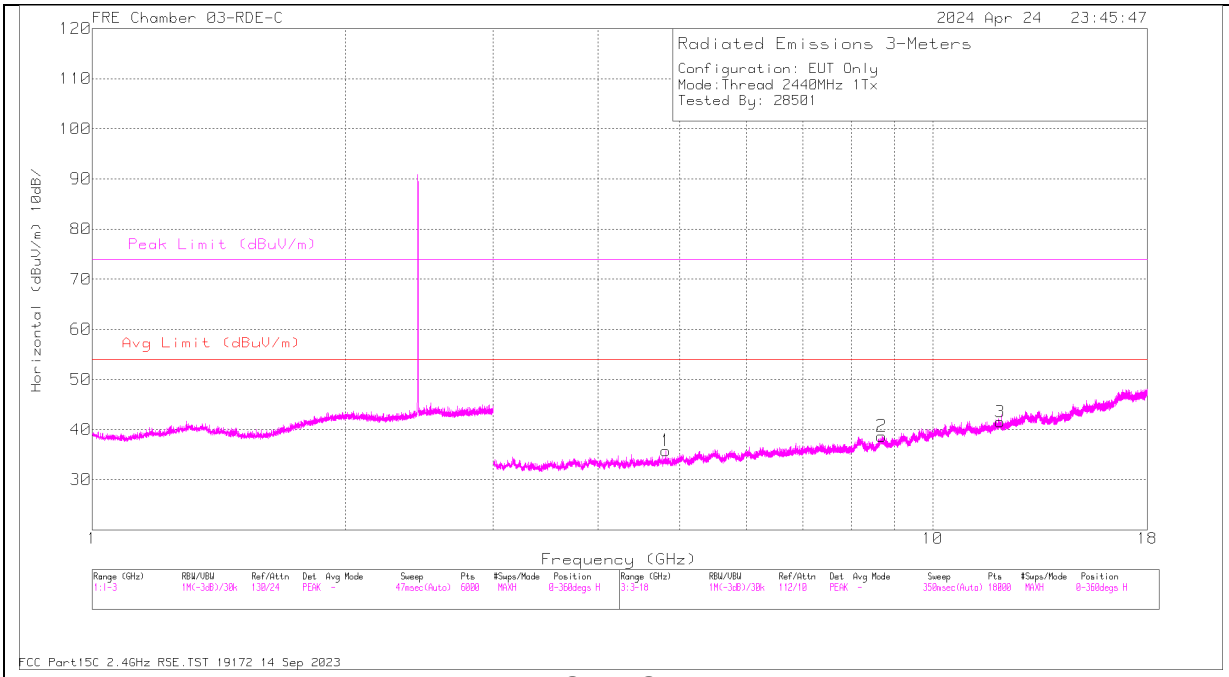
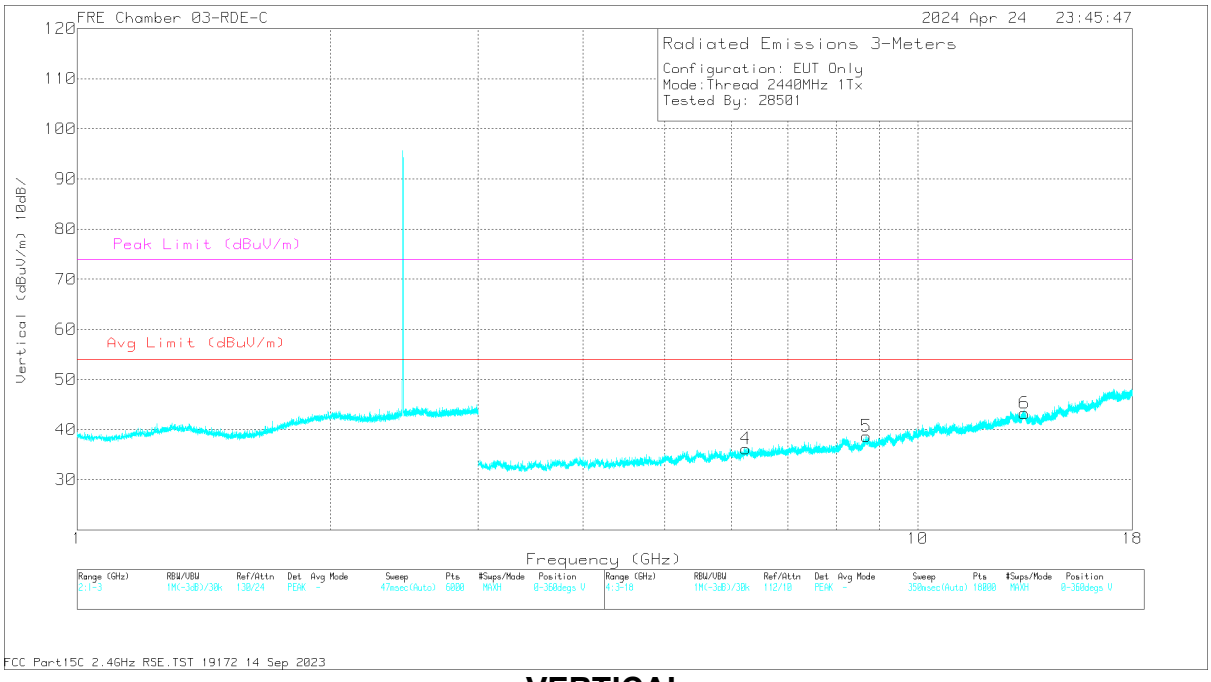
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.815623	58.1	PK2	33.7	-47.56	44.24	-	-	74	-29.76	360	200	H
* 4.817674	46.34	MAv1	33.7	-47.5	32.54	54	-21.46	-	-	360	200	H
* 12.036074	56.28	PK2	38.4	-43.3	51.38	-	-	74	-22.62	230	272	H
* 12.034061	44.69	MAv1	38.4	-43.3	39.79	54	-14.21	-	-	230	272	H
* 13.395287	58.05	PK2	39.1	-44.36	52.79	-	-	74	-21.21	66	170	V
* 13.396271	46.55	MAv1	39.1	-44.47	41.18	54	-12.82	-	-	66	170	V
6.245715	56.65	PK2	35.2	-45.13	46.72	-	-	-	-	150	140	V
6.248012	44.33	MAv1	35.2	-45.1	34.43	-	-	-	-	150	140	V
8.690181	56.42	PK2	35.9	-44.22	48.1	-	-	-	-	2	200	V
8.693037	45	MAv1	35.9	-44.4	36.5	-	-	-	-	2	200	V
8.696138	45.14	MAv1	35.9	-44.2	36.84	-	-	-	-	322	111	H
8.69721	57.04	PK2	35.9	-44.2	48.74	-	-	-	-	322	111	H

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

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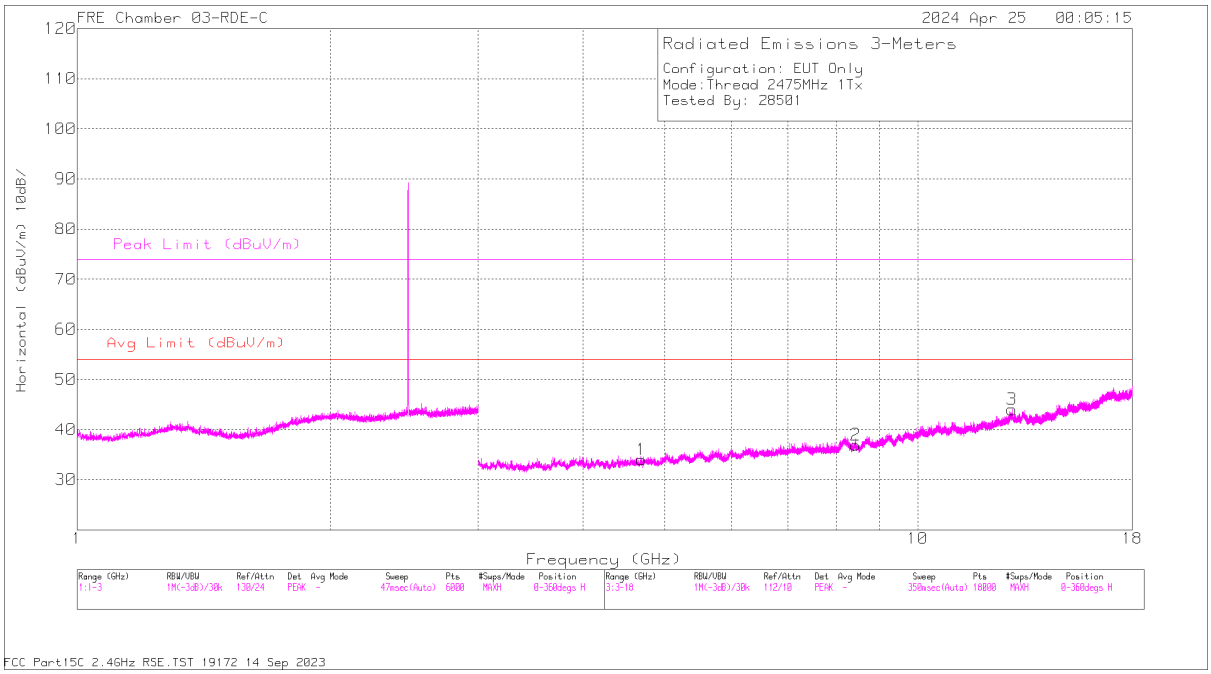
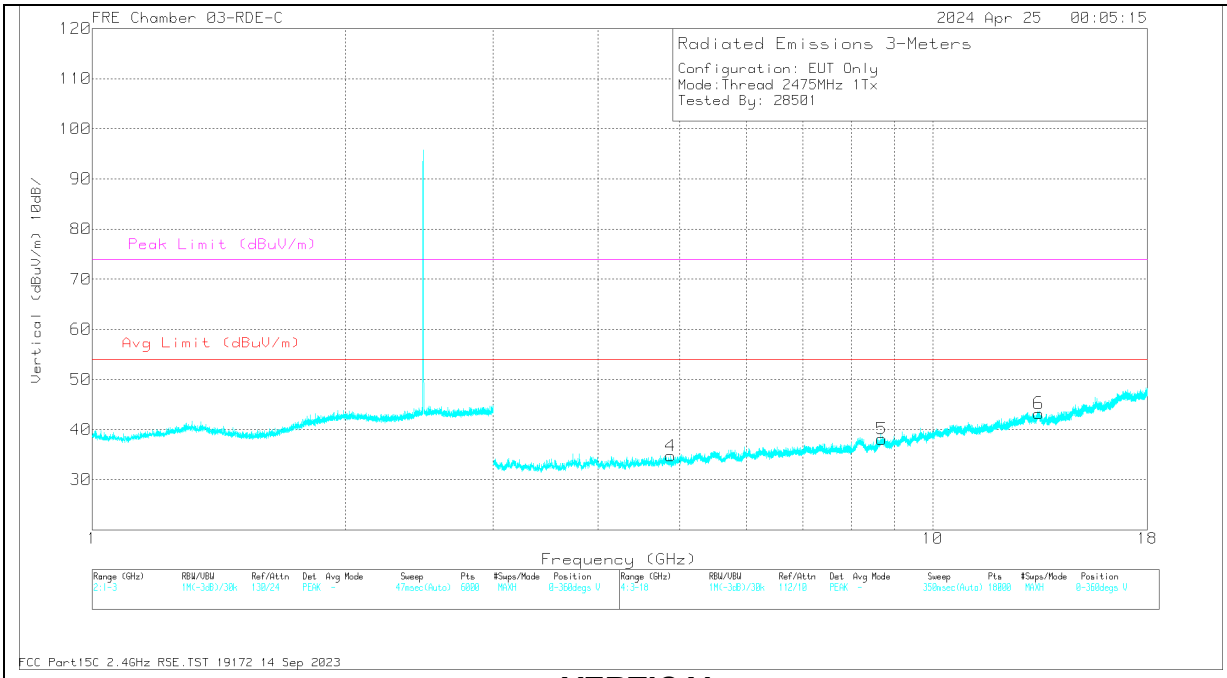
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.690234	57.74	PK2	33.7	-47.58	43.86	-	-	74	-30.14	0	200	H
* 4.692478	46.25	MAv1	33.7	-47.55	32.4	54	-21.6	-	-	0	200	H
* 8.439557	55.93	PK2	35.7	-44.3	47.33	-	-	74	-26.67	64	200	H
* 8.438041	44.27	MAv1	35.7	-44.2	35.77	54	-18.23	-	-	64	200	H
* 4.876546	57.92	PK2	33.7	-47.5	44.12	-	-	74	-29.88	297	195	V
* 4.875687	46.09	MAv1	33.7	-47.5	32.29	54	-21.71	-	-	297	195	V
* 13.373078	57.93	PK2	39.1	-44.41	52.62	-	-	74	-21.38	357	154	V
* 13.374855	46.51	MAv1	39.1	-44.5	41.11	54	-12.89	-	-	357	154	V
8.695175	56.64	PK2	35.9	-44.36	48.18	-	-	-	-	289	105	V
8.695881	45.17	MAv1	35.9	-44.22	36.85	-	-	-	-	289	105	V
12.942366	58.09	PK2	39.3	-44.46	52.93	-	-	-	-	128	110	H
12.943521	46.35	MAv1	39.3	-44.5	41.15	-	-	-	-	128	110	H

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

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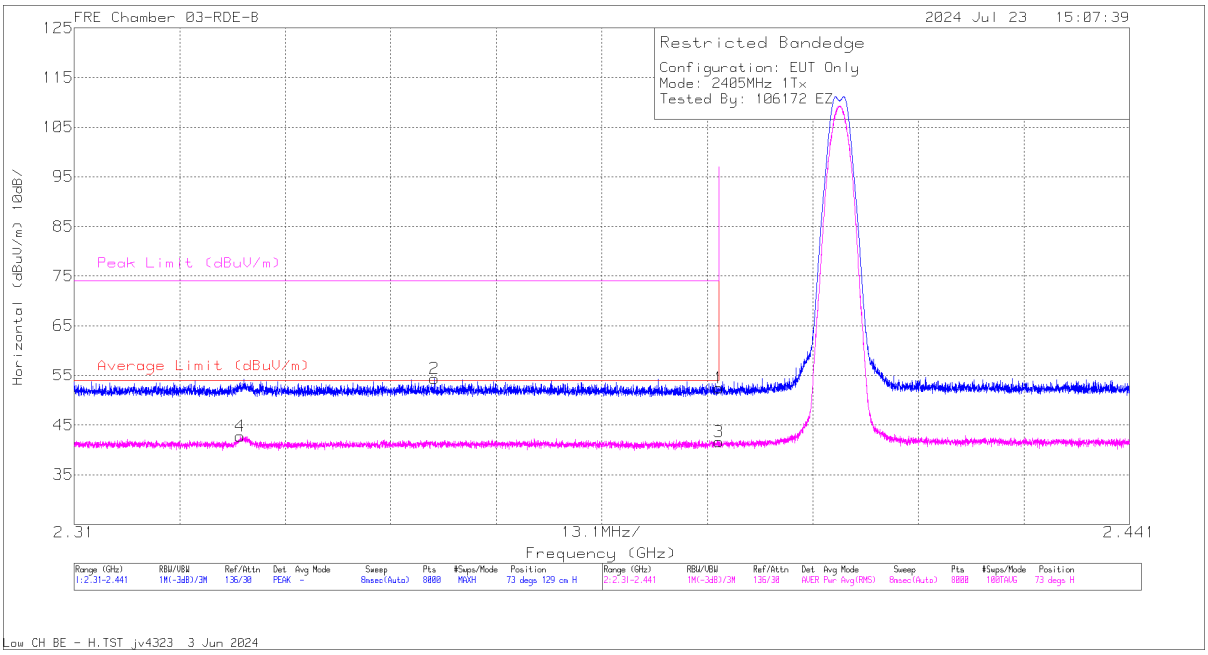
10.1.5. ANT3, 802.15.4 HIGH POWER BANDEDGE

Low Channel

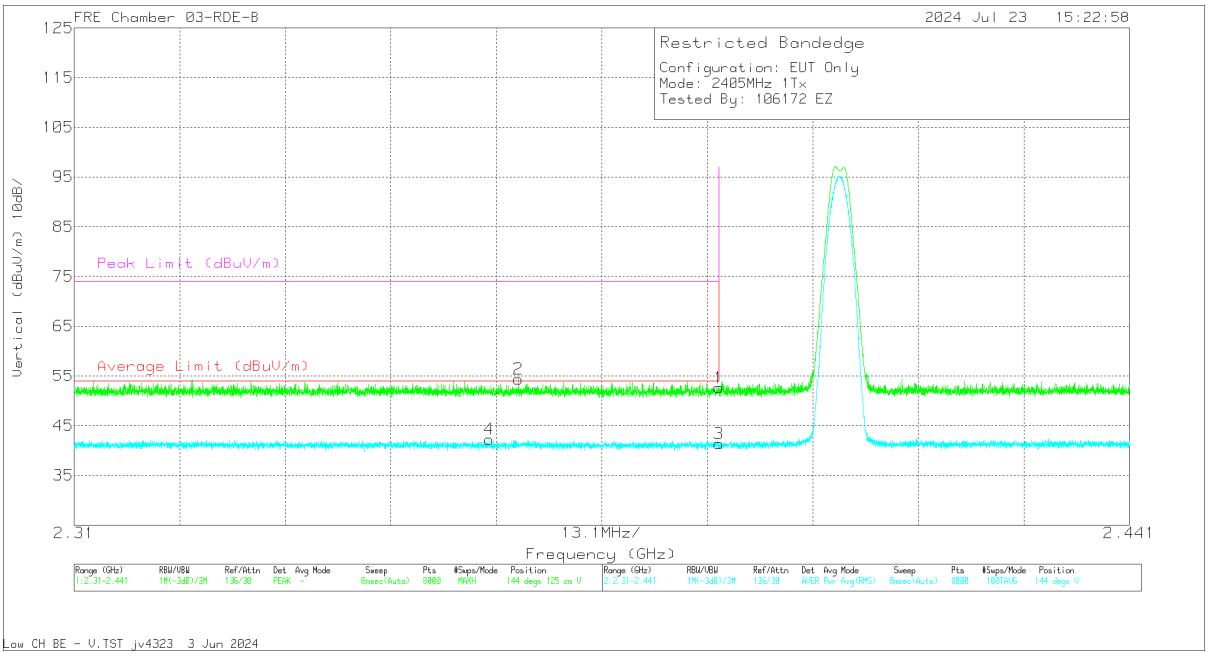
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	61.79	Pk	32.2	-41.5	52.49	-	-	74	-21.51	73	129	H
2	* 2.354742	63.82	Pk	32.1	-41.57	54.35	-	-	74	-19.65	73	129	H
3	* 2.39	50.98	RMS	32.2	-41.5	41.68	54	-12.32	-	-	73	129	H
4	* 2.330586	52.24	RMS	32.1	-41.6	42.74	54	-11.26	-	-	73	129	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	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	61.96	Pk	32.2	-41.5	52.66	-	-	74	-21.34	144	125	V
2	* 2.365158	63.79	Pk	32.1	-41.5	54.39	-	-	74	-19.61	144	125	V
3	* 2.39	50.71	RMS	32.2	-41.5	41.41	54	-12.59	-	-	144	125	V
4	* 2.361522	51.73	RMS	32.1	-41.6	42.23	54	-11.77	-	-	144	125	V

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

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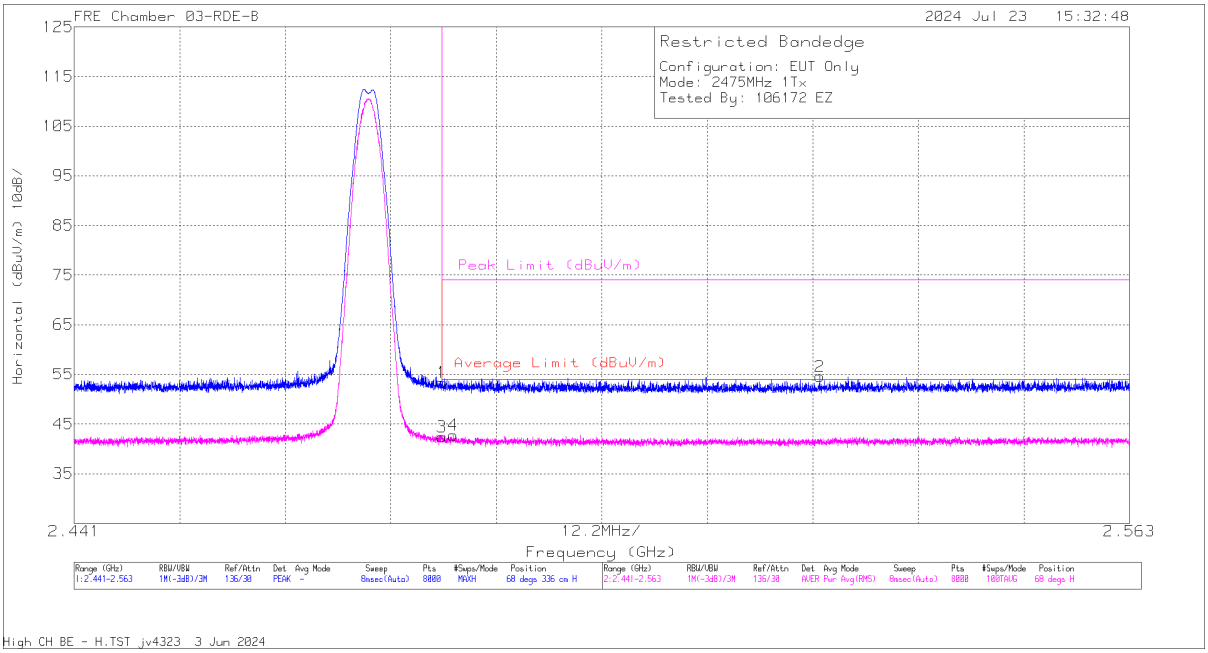
High CHANNEL

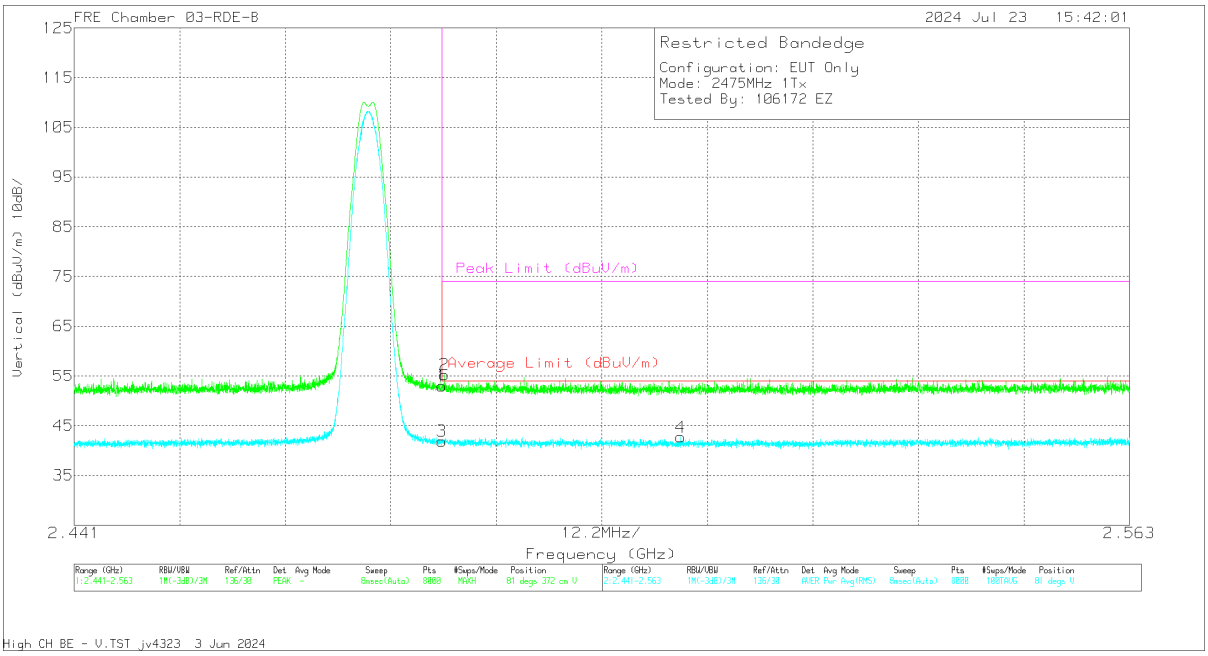
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	62.65	Pk	32.2	-41.5	53.35	-	-	74	-20.65	68	336	H
3	* 2.4835	51.74	RMS	32.2	-41.5	42.44	54	-11.56	-	-	68	336	H
4	* 2.484834	52.09	RMS	32.2	-41.5	42.79	54	-11.21	-	-	68	336	H
2	2.527174	63.64	Pk	32.3	-41.38	54.56	-	-	74	-19.44	68	336	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	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	62.31	Pk	32.2	-41.5	53.01	-	-	74	-20.99	81	372	V
2	* 2.483812	64.55	Pk	32.2	-41.5	55.25	-	-	74	-18.75	81	372	V
3	* 2.4835	51.21	RMS	32.2	-41.5	41.91	54	-12.09	-	-	81	372	V
4	2.511113	51.9	RMS	32.2	-41.4	42.7	54	-11.3	-	-	81	372	V

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

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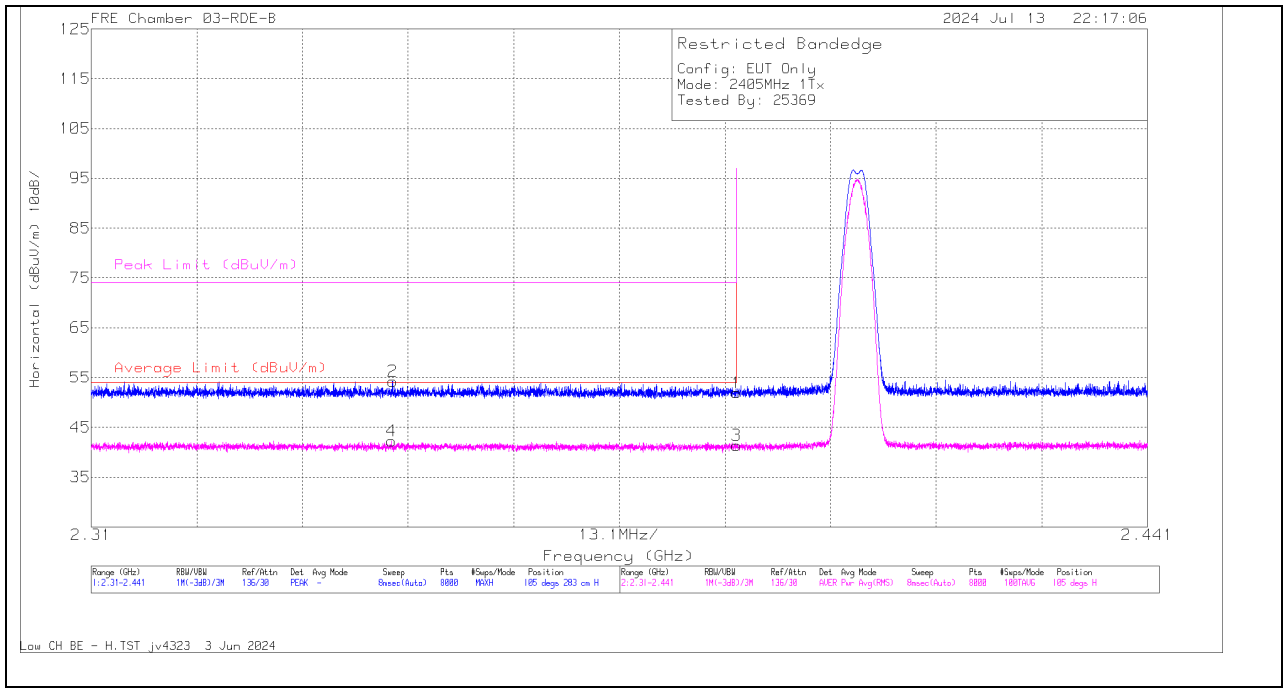
10.1.6. ANT3, 802.15.4 LOW POWER BANDEDGE

LOW CHANNEL

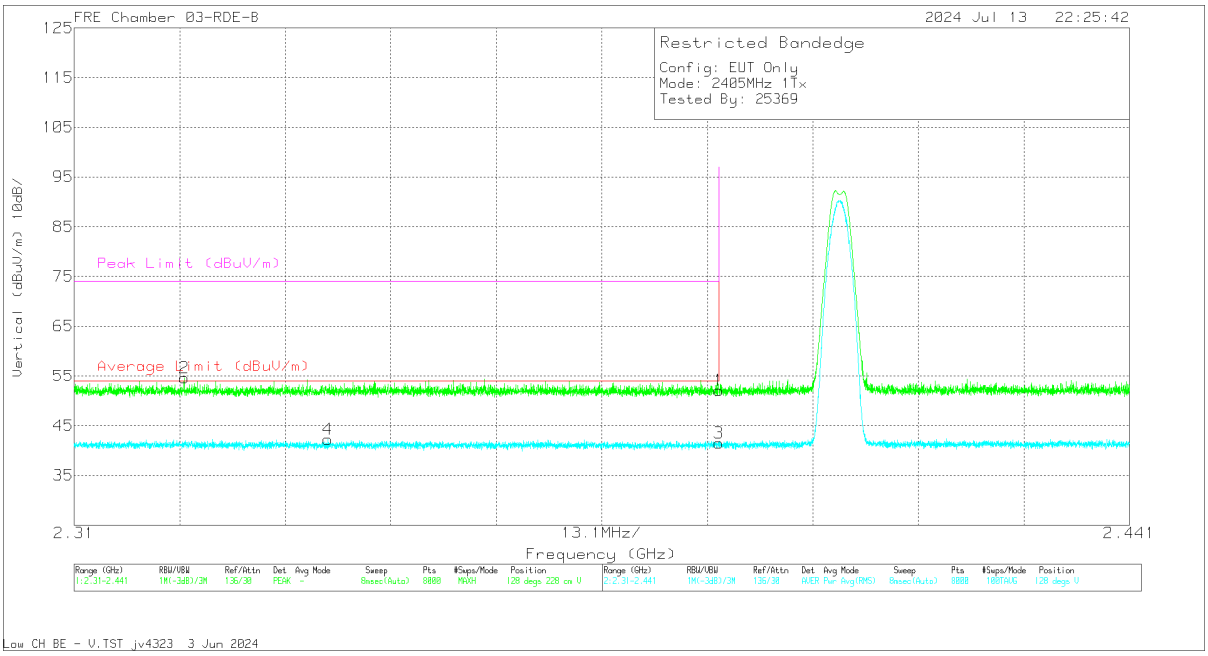
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	61.22	Pk	32.2	-41.5	51.92	-	-	74	-22.08	105	283	H
2	* 2.347372	63.72	Pk	32.1	-41.56	54.26	-	-	74	-19.74	105	283	H
3	* 2.39	50.64	RMS	32.2	-41.5	41.34	54	-12.66	-	-	105	283	H
4	* 2.347258	51.73	RMS	32.1	-41.57	42.26	54	-11.74	-	-	105	283	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	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	61.42	Pk	32.2	-41.5	52.12	-	-	74	-21.88	128	228	V
2	* 2.323642	64.04	Pk	32.1	-41.5	54.64	-	-	74	-19.36	128	228	V
3	* 2.39	50.85	RMS	32.2	-41.5	41.55	54	-12.45	-	-	128	228	V
4	* 2.341526	51.7	RMS	32.1	-41.5	42.3	54	-11.7	-	-	128	228	V

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

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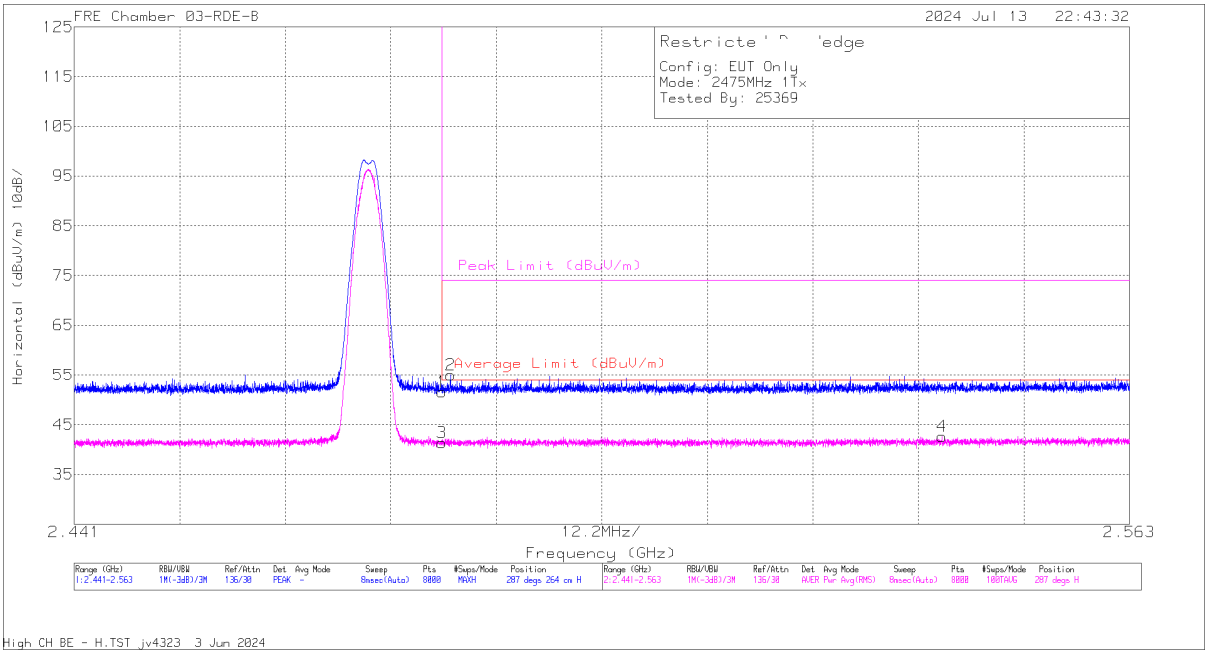
HIGH CHANNEL

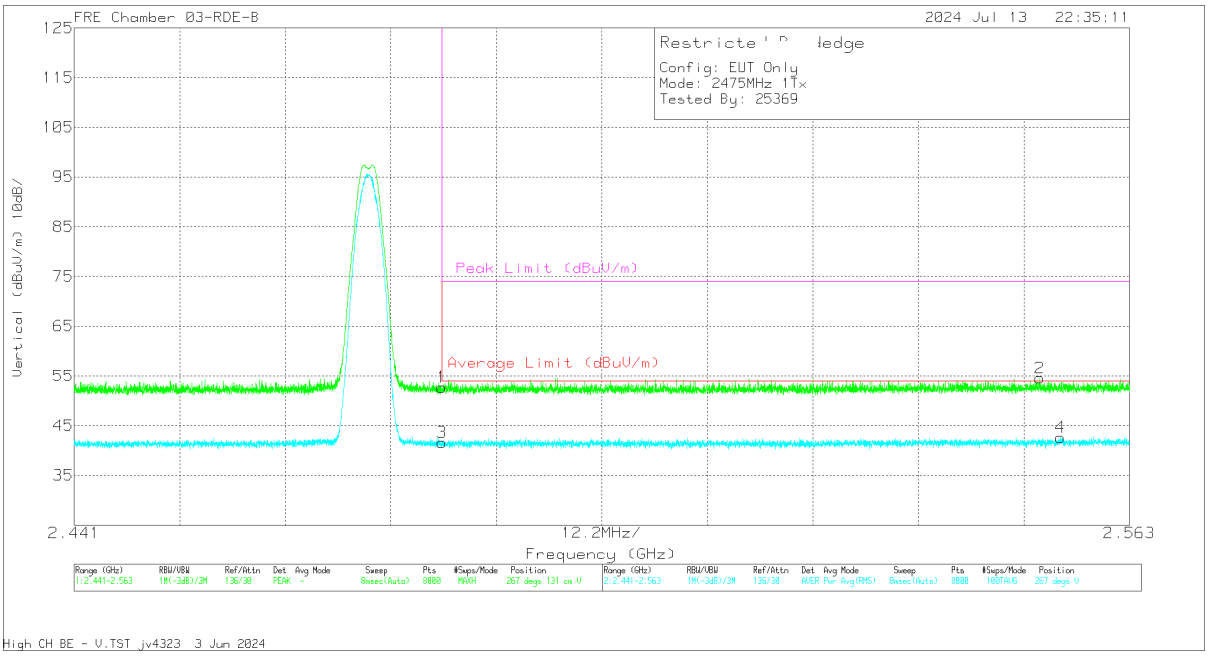
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	60.92	Pk	32.2	-41.5	51.62	-	-	74	-22.38	287	264	H
2	* 2.484529	64.27	Pk	32.2	-41.5	54.97	-	-	74	-19.03	287	264	H
3	* 2.4835	50.7	RMS	32.2	-41.5	41.4	54	-12.6	-	-	287	264	H
4	2.541312	51.63	RMS	32.3	-41.3	42.63	54	-11.37	-	-	287	264	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	230300 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	62	Pk	32.2	-41.5	52.7	-	-	74	-21.3	267	131	V
3	* 2.4835	50.96	RMS	32.2	-41.5	41.66	54	-12.34	-	-	267	131	V
2	2.552645	63.52	Pk	32.3	-41.26	54.56	-	-	74	-19.44	267	131	V
4	2.555054	51.58	RMS	32.3	-41.21	42.67	54	-11.33	-	-	267	131	V

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

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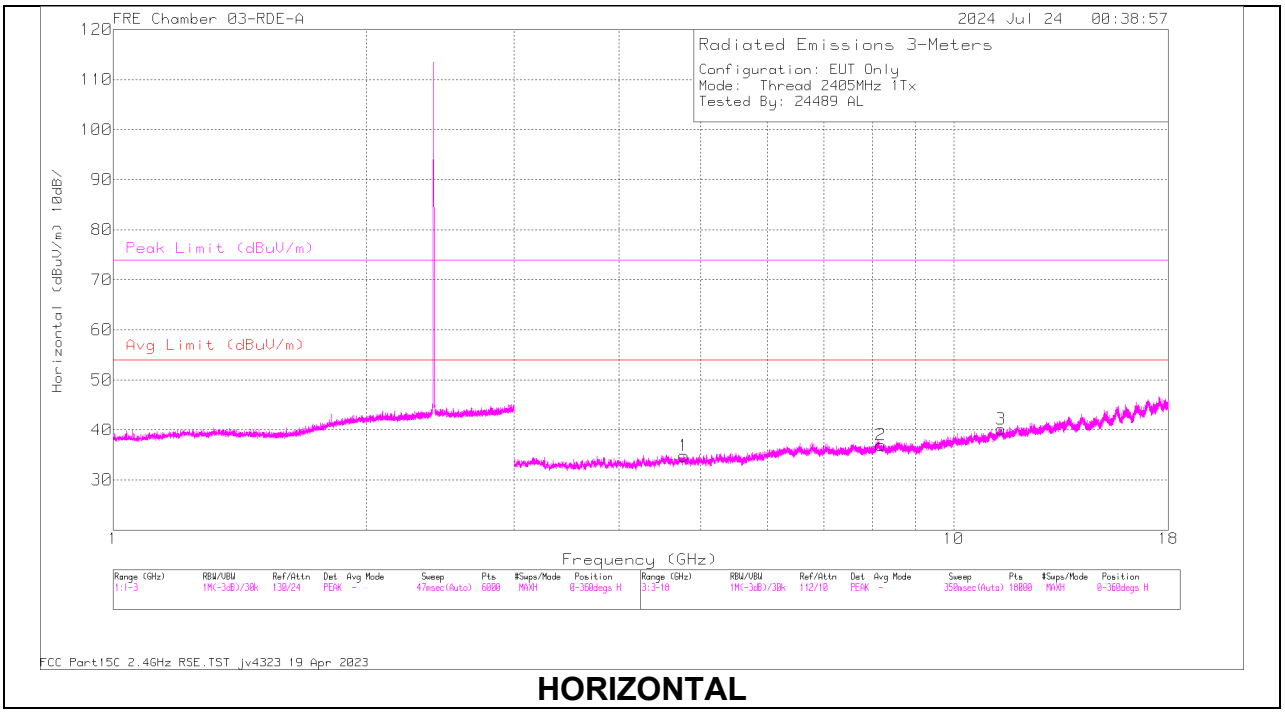
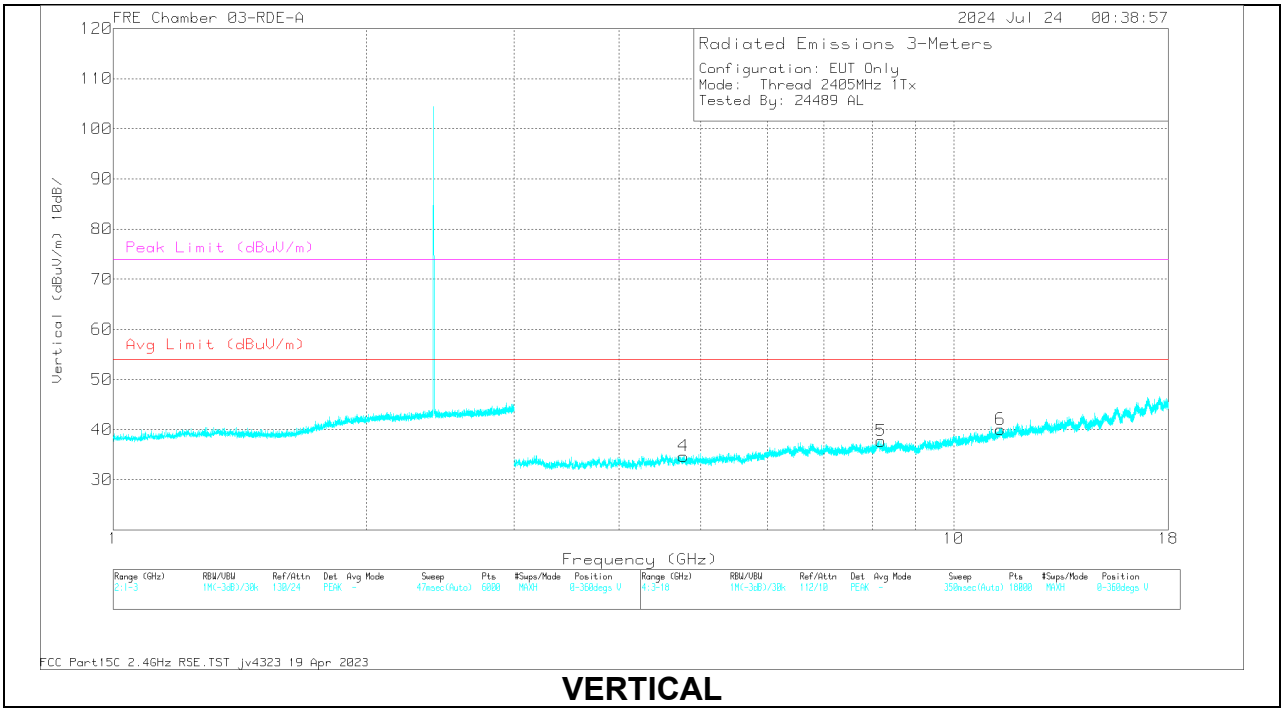
10.1.7. ANT3, 802.15.4 HIGH POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.775482	58.87	PK2	34.1	-48.2	44.77	-	-	74	-29.23	0	101	H
1	* 4.77536	47.17	MAv1	34.1	-48.21	33.06	54	-20.94	-	-	0	101	H
2	* 8.190025	55.62	PK2	36	-44.75	46.87	-	-	74	-27.13	0	101	H
2	* 8.187198	44.21	MAv1	36	-44.78	35.43	54	-18.57	-	-	0	101	H
3	* 11.383299	55.03	PK2	38.1	-42.88	50.25	-	-	74	-23.75	0	200	H
3	* 11.383715	42.93	MAv1	38.1	-42.88	38.15	54	-15.85	-	-	0	200	H
4	* 4.769573	59.13	PK2	34.1	-48.22	45.01	-	-	74	-28.99	0	199	V
4	* 4.767275	47.28	MAv1	34.1	-48.11	33.27	54	-20.73	-	-	0	199	V
5	* 8.19924	56.2	PK2	36	-44.88	47.32	-	-	74	-26.68	0	199	V
5	* 8.198282	44.23	MAv1	36	-44.88	35.35	54	-18.65	-	-	0	199	V
6	* 11.371221	54.41	PK2	38	-43.01	49.4	-	-	74	-24.6	0	199	V
6	* 11.370736	42.99	MAv1	38	-43.02	37.97	54	-16.03	-	-	0	199	V

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

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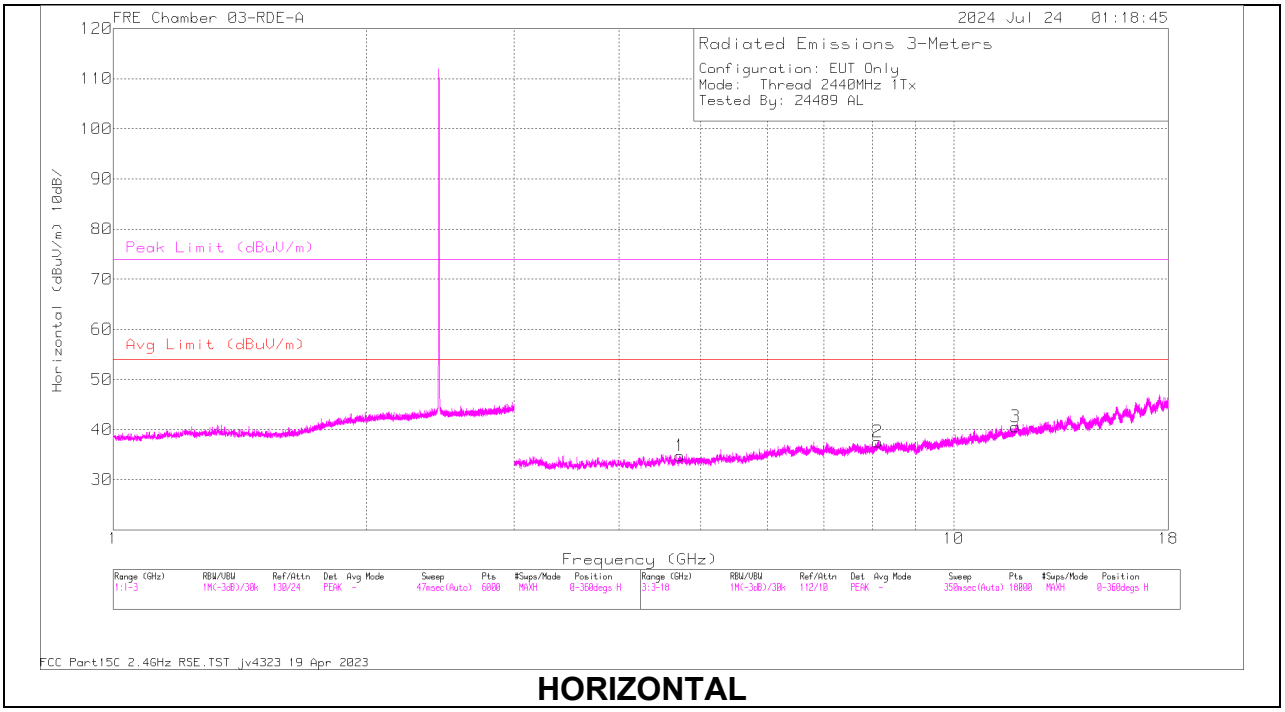
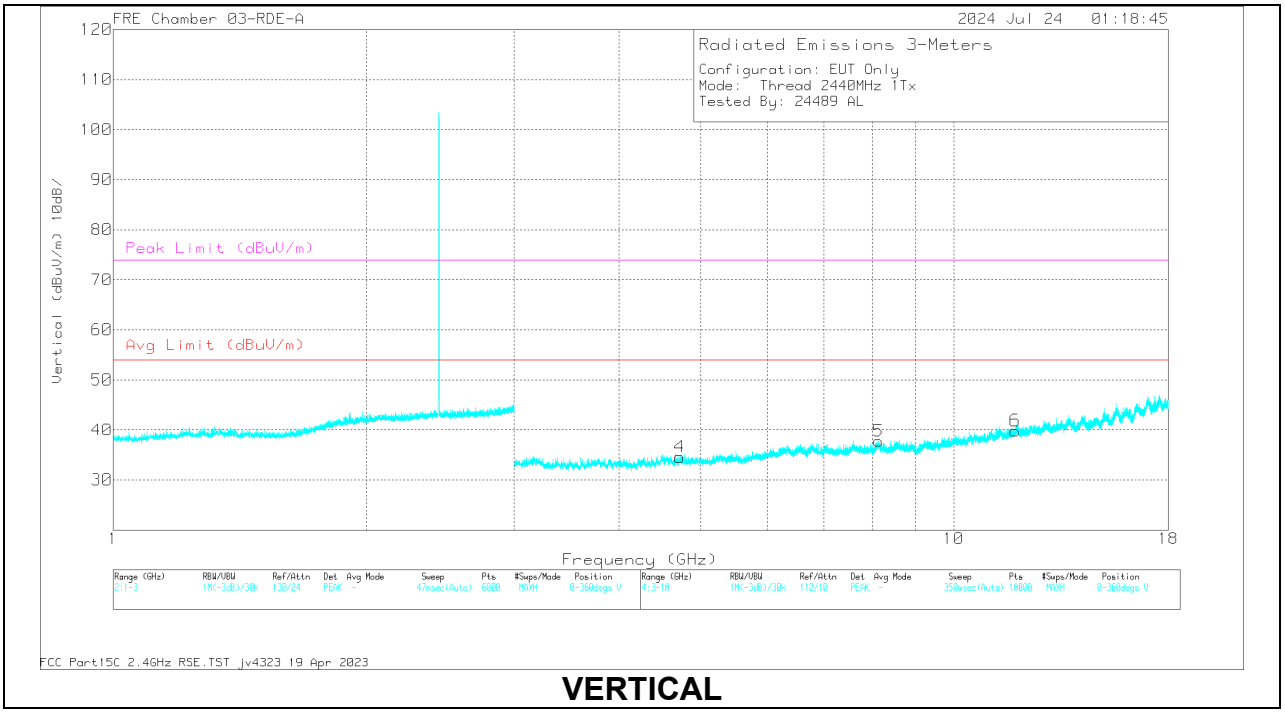
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.722005	58.46	PK2	34.1	-47.97	44.59	-	-	74	-29.41	0	101	H
1	* 4.723946	47.06	MAv1	34.1	-48.02	33.14	54	-20.86	-	-	0	101	H
2	* 8.117669	55.08	PK2	36	-44.02	47.06	-	-	74	-26.94	0	198	H
2	* 8.117201	43.68	MAv1	36	-44.01	35.67	54	-18.33	-	-	0	198	H
3	* 11.851558	53.73	PK2	38.6	-42.74	49.59	-	-	74	-24.41	0	198	H
3	* 11.852824	42.29	MAv1	38.6	-42.71	38.18	54	-15.82	-	-	0	198	H
4	* 4.719674	58.83	PK2	34.1	-48.16	44.77	-	-	74	-29.23	0	101	V
4	* 4.719175	47.03	MAv1	34.1	-48.19	32.94	54	-21.06	-	-	0	101	V
5	* 8.139152	55.22	PK2	36	-44.37	46.85	-	-	74	-27.15	0	198	V
5	* 8.137647	43.97	MAv1	36	-44.32	35.65	54	-18.35	-	-	0	198	V
6	* 11.835578	54.1	PK2	38.6	-42.89	49.81	-	-	74	-24.19	0	198	V
6	* 11.832428	42.24	MAv1	38.6	-42.93	37.91	54	-16.09	-	-	0	198	V

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

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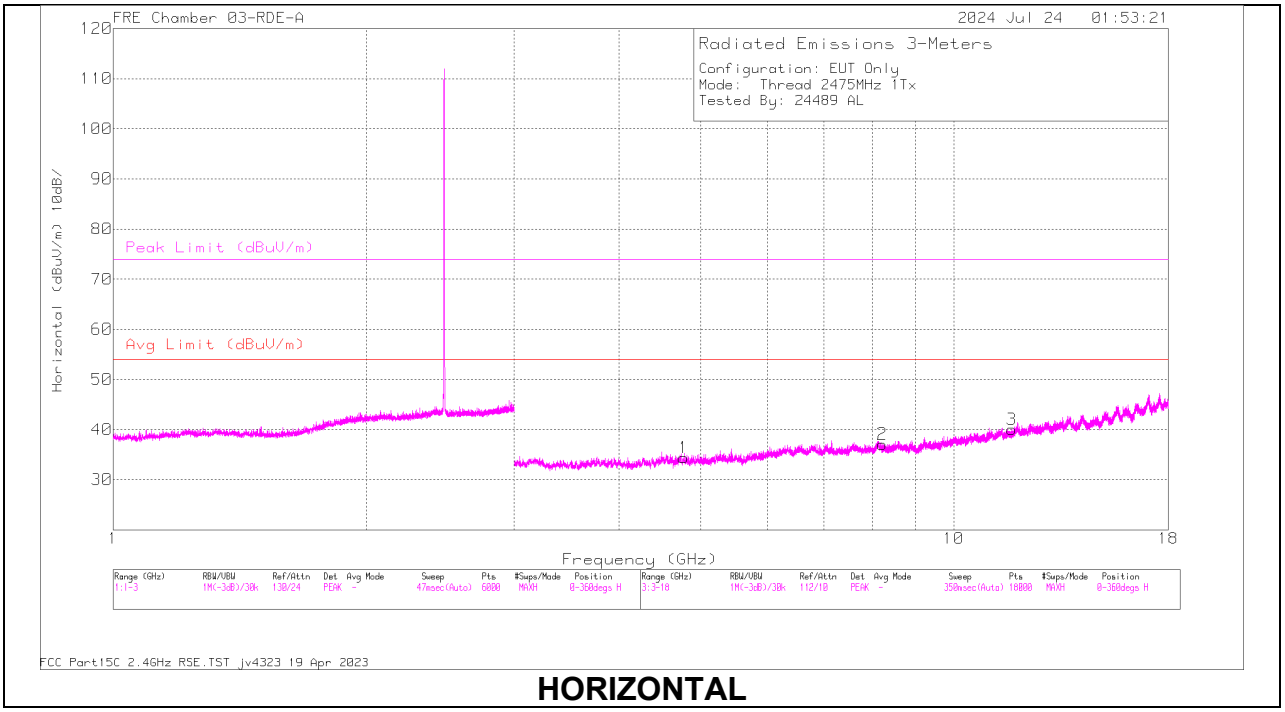
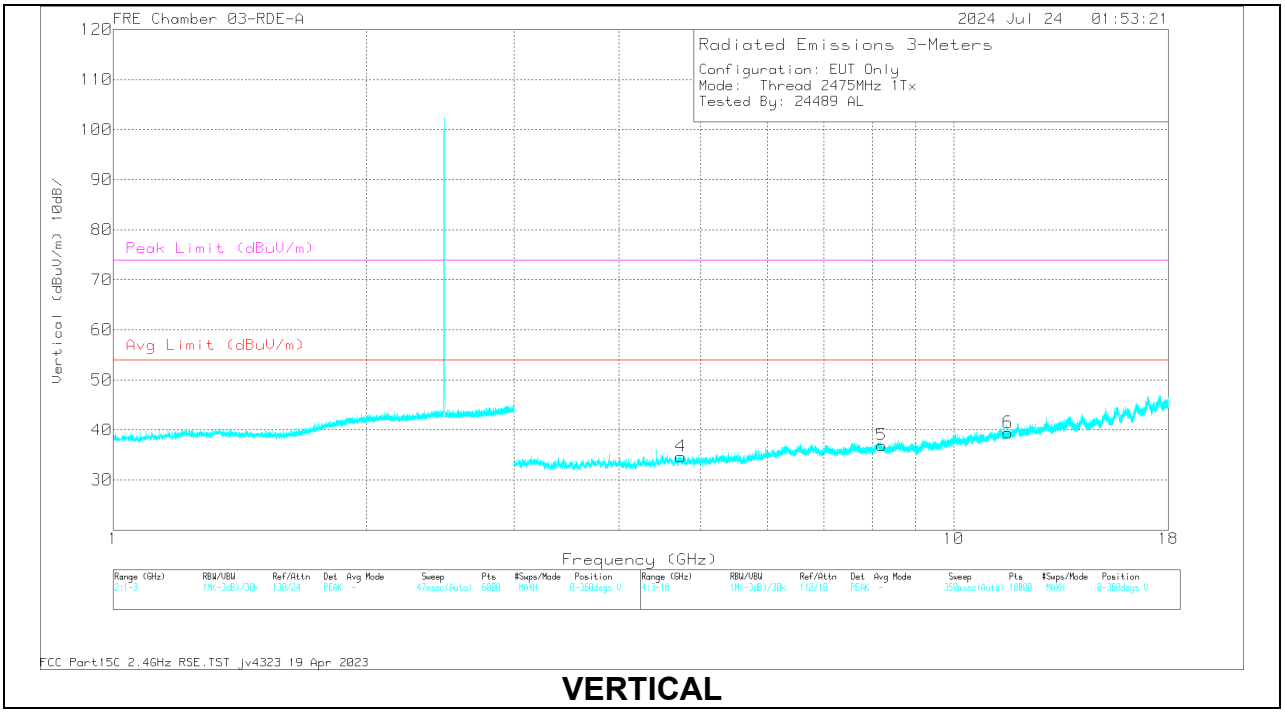
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.769003	59	PK2	34.1	-48.16	44.94	-	-	74	-29.06	0	101	H
1	* 4.768588	47.2	MAv1	34.1	-48.13	33.17	54	-20.83	-	-	0	101	H
2	* 8.218558	56.08	PK2	36	-44.97	47.11	-	-	74	-26.89	0	101	H
2	* 8.219107	44.34	MAv1	36	-44.98	35.36	54	-18.64	-	-	0	101	H
3	* 11.72847	54.8	PK2	38.5	-42.98	50.32	-	-	74	-23.68	0	198	H
3	* 11.727427	42.71	MAv1	38.5	-42.95	38.26	54	-15.74	-	-	0	198	H
4	* 4.735423	59.2	PK2	34.1	-48.31	44.99	-	-	74	-29.01	0	198	V
4	* 4.734675	47	MAv1	34.1	-48.29	32.81	54	-21.19	-	-	0	198	V
5	* 8.205146	55.86	PK2	36	-44.91	46.95	-	-	74	-27.05	0	101	V
5	* 8.206406	44.49	MAv1	36	-44.94	35.55	54	-18.45	-	-	0	101	V
6	* 11.598331	54.06	PK2	38.3	-43.11	49.25	-	-	74	-24.75	0	199	V
6	* 11.596909	42.49	MAv1	38.3	-43.06	37.73	54	-16.27	-	-	0	199	V

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

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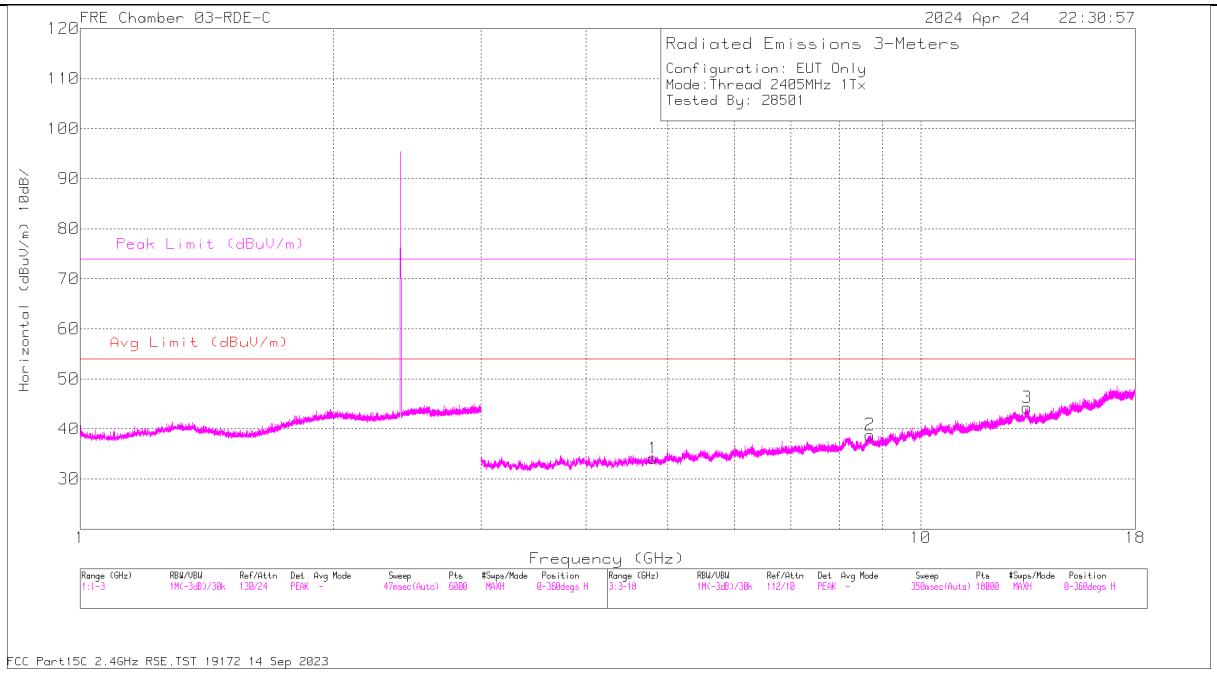
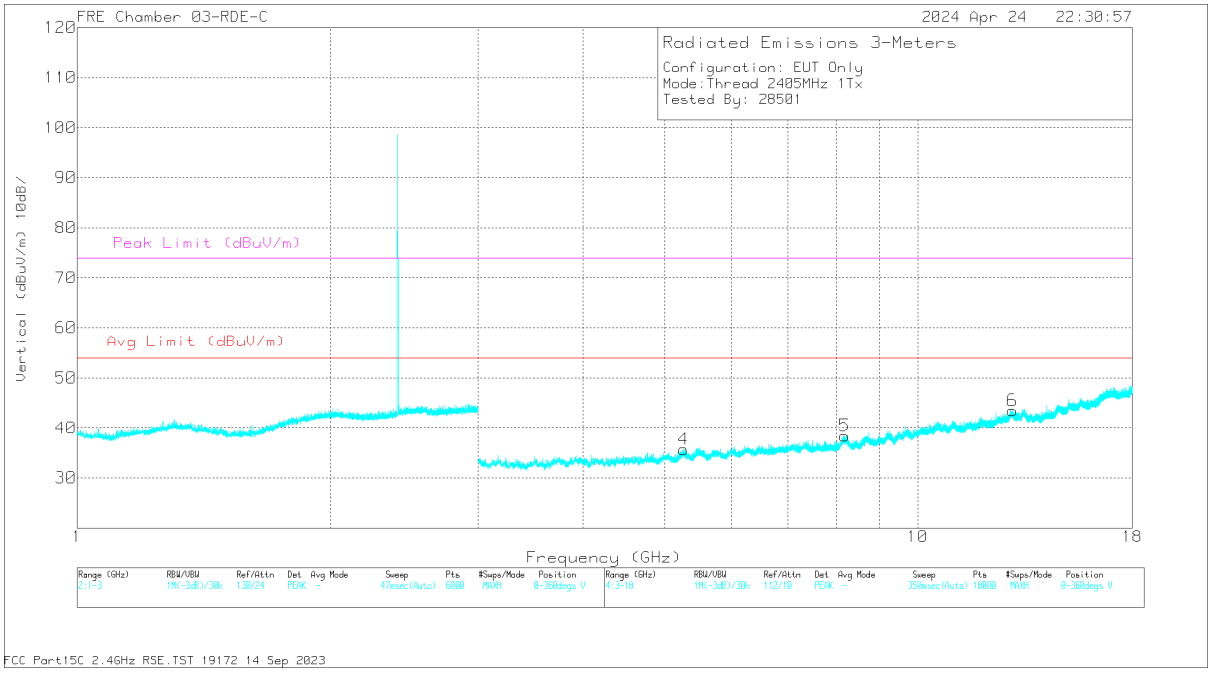
10.1.8. ANT3, 802.15.4 LOW POWER, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.803109	58.14	PK2	33.7	-47.4	44.44	-	-	74	-29.56	308	189	H
* 4.802954	46.6	MAv1	33.7	-47.4	32.9	54	-21.1	-	-	308	189	H
* 13.390556	58.13	PK2	39.1	-44.3	52.93	-	-	74	-21.07	35	109	H
* 13.393571	46.66	MAv1	39.1	-44.44	41.32	54	-12.68	-	-	35	109	H
* 8.186527	57.08	PK2	35.9	-44.1	48.88	-	-	74	-25.12	116	313	V
* 8.18441	44.78	MAv1	35.9	-44	36.68	54	-17.32	-	-	116	313	V
5.264828	57.89	PK2	34.3	-46.88	45.31	-	-	-	-	289	213	V
5.265119	46.22	MAv1	34.3	-46.9	33.62	-	-	-	-	289	213	V
8.696518	45.19	MAv1	35.9	-44.2	36.89	-	-	-	-	211	126	H
8.696953	56.78	PK2	35.9	-44.2	48.48	-	-	-	-	211	126	H
12.962472	46.7	MAv1	39.3	-44.5	41.5	-	-	-	-	355	101	V
12.964388	58.13	PK2	39.3	-44.44	52.99	-	-	-	-	355	101	V

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

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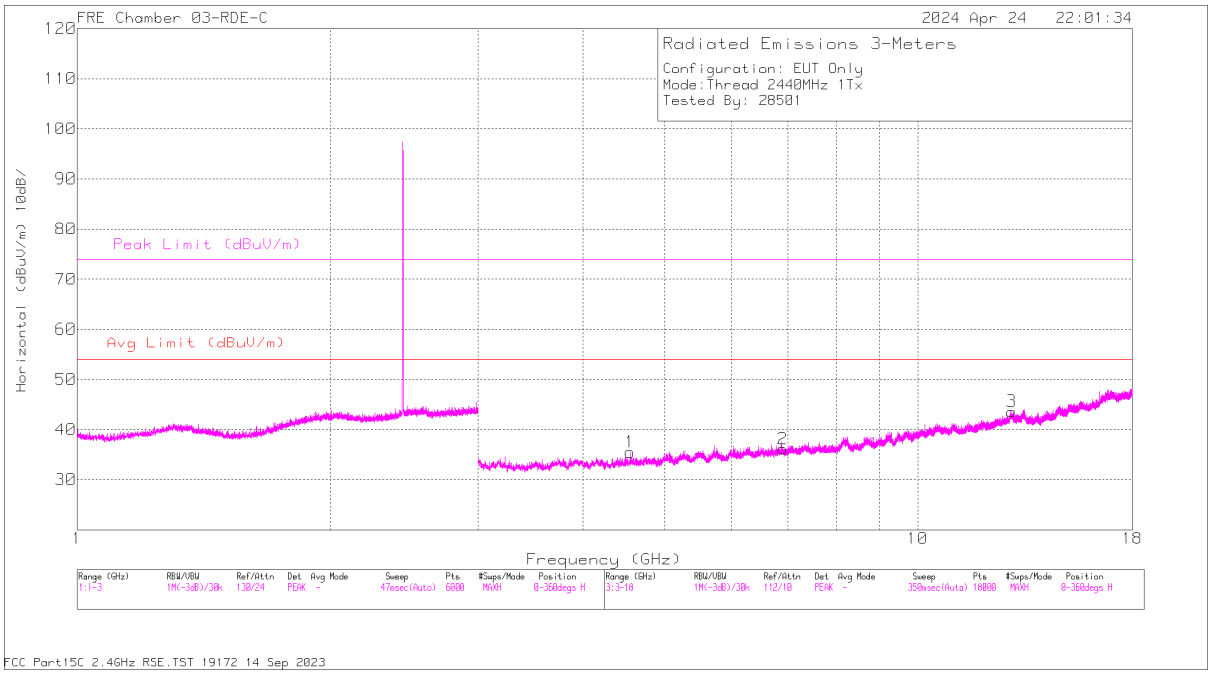
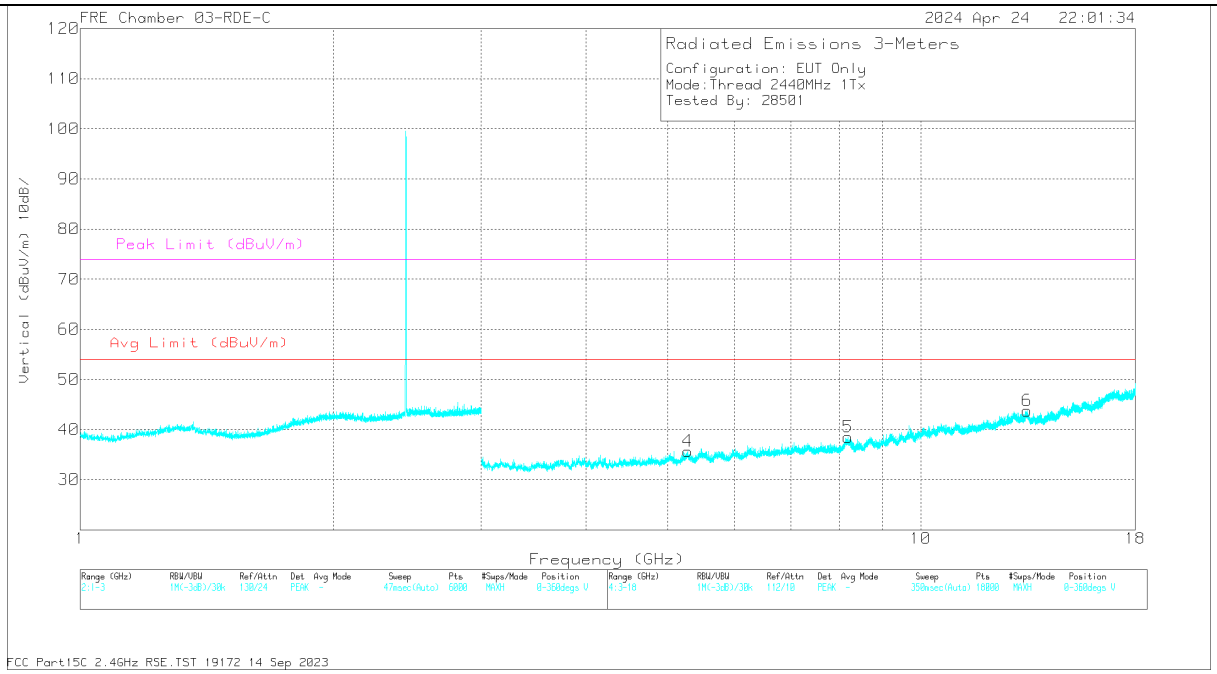
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.549793	57.84	PK2	33.6	-47.4	44.04	-	-	74	-29.96	324	190	H
* 4.550065	46.24	MAv1	33.6	-47.4	32.44	54	-21.56	-	-	324	190	H
* 8.198106	56.4	PK2	35.8	-44.1	48.1	-	-	74	-25.9	15	315	V
* 8.20017	44.91	MAv1	35.8	-44.1	36.61	54	-17.39	-	-	15	315	V
* 13.37643	57.93	PK2	39.1	-44.46	52.57	-	-	74	-21.43	49	200	V
* 13.375683	46.64	MAv1	39.1	-44.5	41.24	54	-12.76	-	-	49	200	V
5.28428	46.28	MAv1	34.3	-46.8	33.78	-	-	-	-	347	117	V
5.286493	58.03	PK2	34.3	-46.75	45.58	-	-	-	-	347	117	V
6.906346	45.31	MAv1	35.7	-46.07	34.94	-	-	-	-	25	114	H
6.90836	56.99	PK2	35.7	-46.1	46.59	-	-	-	-	25	114	H
12.93185	46.31	MAv1	39.3	-44.4	41.21	-	-	-	-	53	128	H
12.93424	57.73	PK2	39.3	-44.5	52.53	-	-	-	-	53	128	H

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

UL VERIFICATION SERVICES INC.
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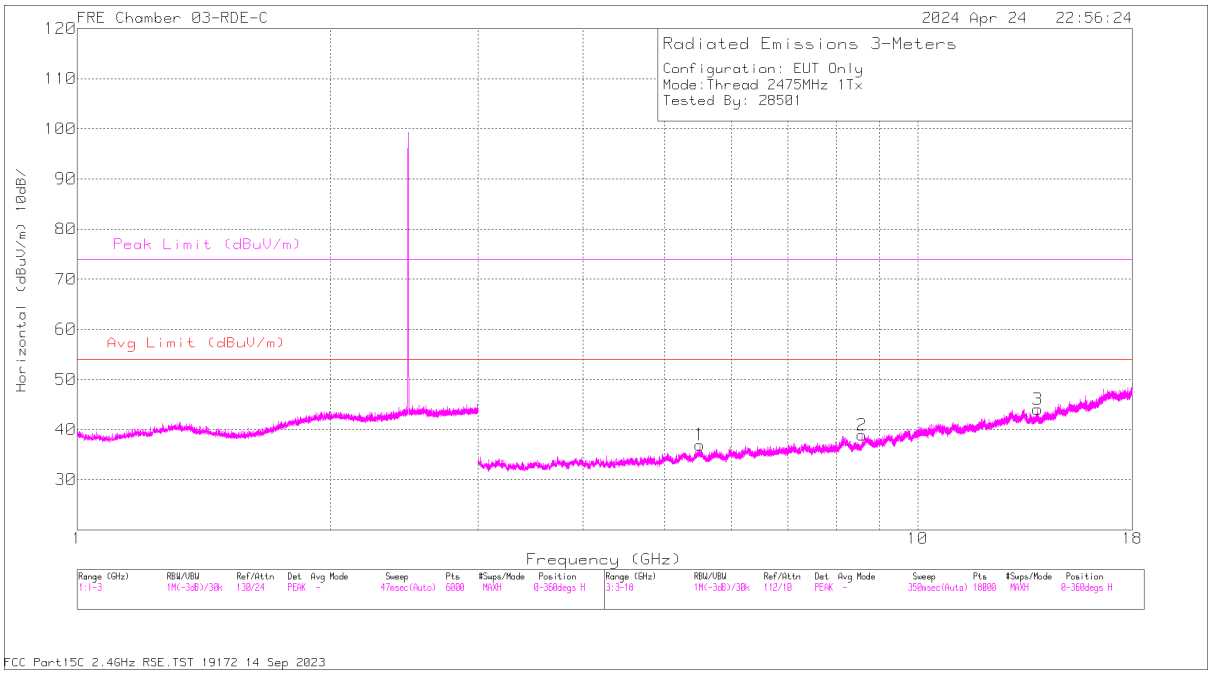
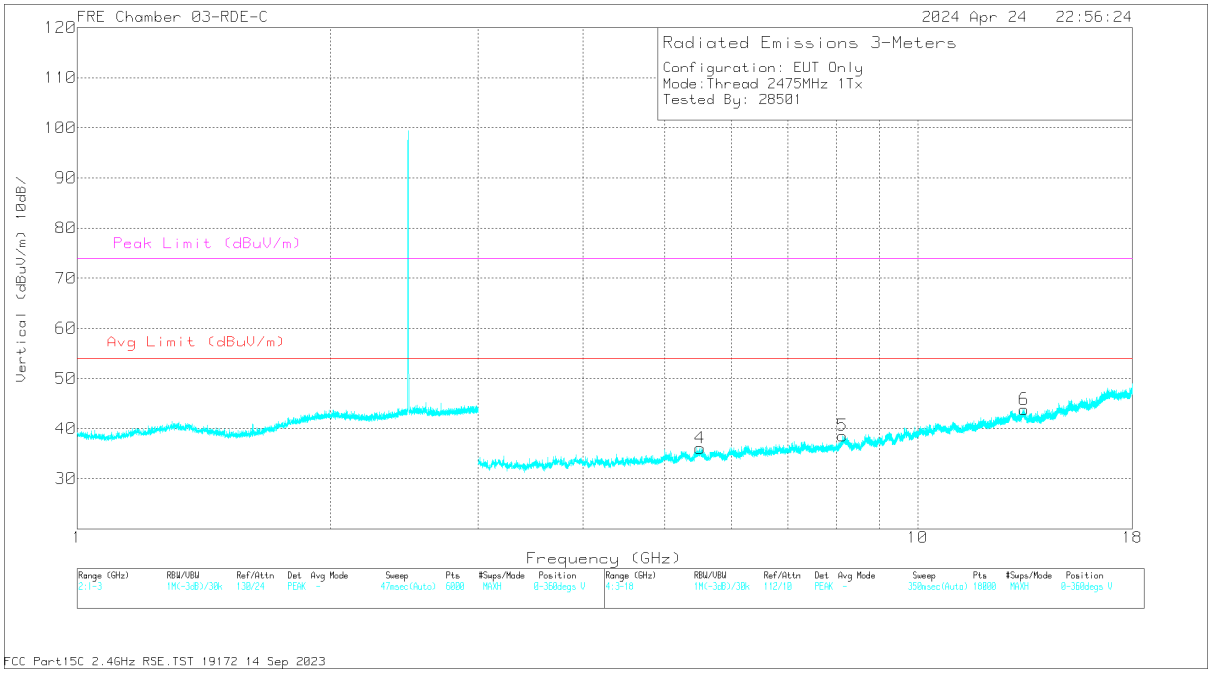
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
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RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 8.143488	55.87	PK2	35.9	-43.95	47.82	-	-	74	-26.18	255	178	V
* 8.141127	44.46	MAv1	35.9	-43.99	36.37	54	-17.63	-	-	255	178	V
* 13.386889	58.26	PK2	39.1	-44.49	52.87	-	-	74	-21.13	148	267	V
* 13.384952	46.83	MAv1	39.1	-44.5	41.43	54	-12.57	-	-	148	267	V
5.506459	45.66	MAv1	34.6	-46.2	34.06	-	-	-	-	255	119	H
5.50681	57.5	PK2	34.6	-46.2	45.9	-	-	-	-	255	119	H
5.510008	45.75	MAv1	34.6	-46.3	34.05	-	-	-	-	349	200	V
5.510073	57.11	PK2	34.6	-46.3	45.41	-	-	-	-	349	200	V
8.577906	55.61	PK2	35.8	-44.29	47.12	-	-	-	-	137	171	H
8.578535	44	MAv1	35.8	-44.3	35.5	-	-	-	-	137	171	H
13.886701	57.66	PK2	38.8	-43.63	52.83	-	-	-	-	132	101	H
13.887507	45.85	MAv1	38.8	-43.65	41	-	-	-	-	132	101	H

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

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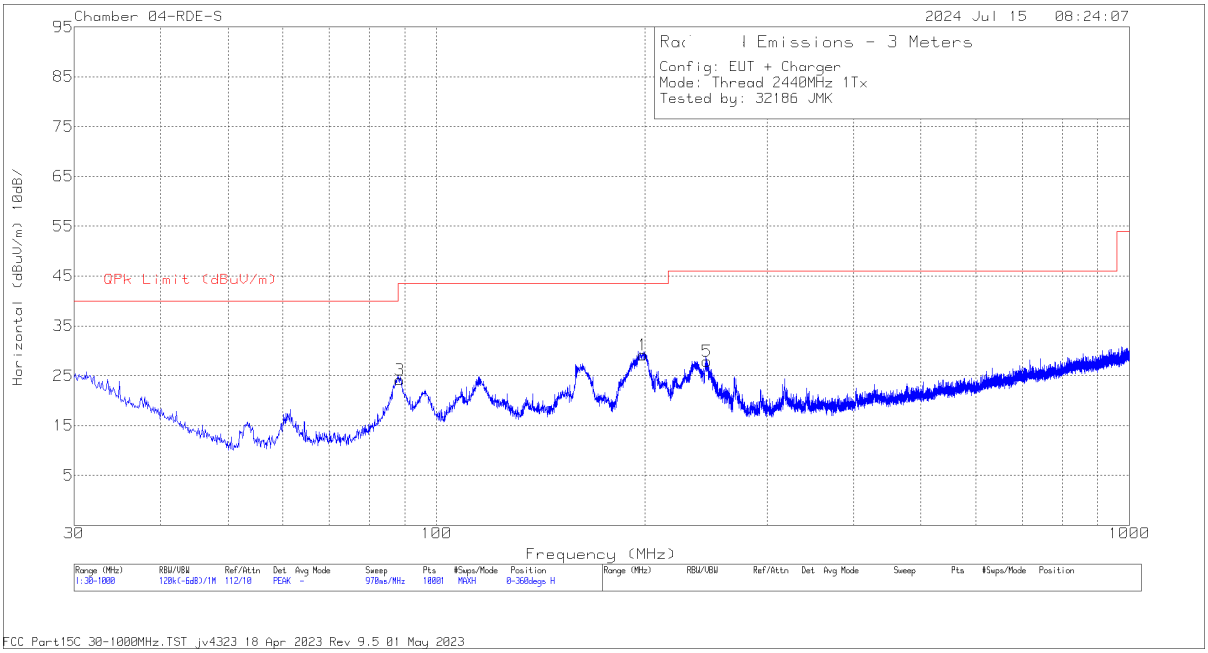
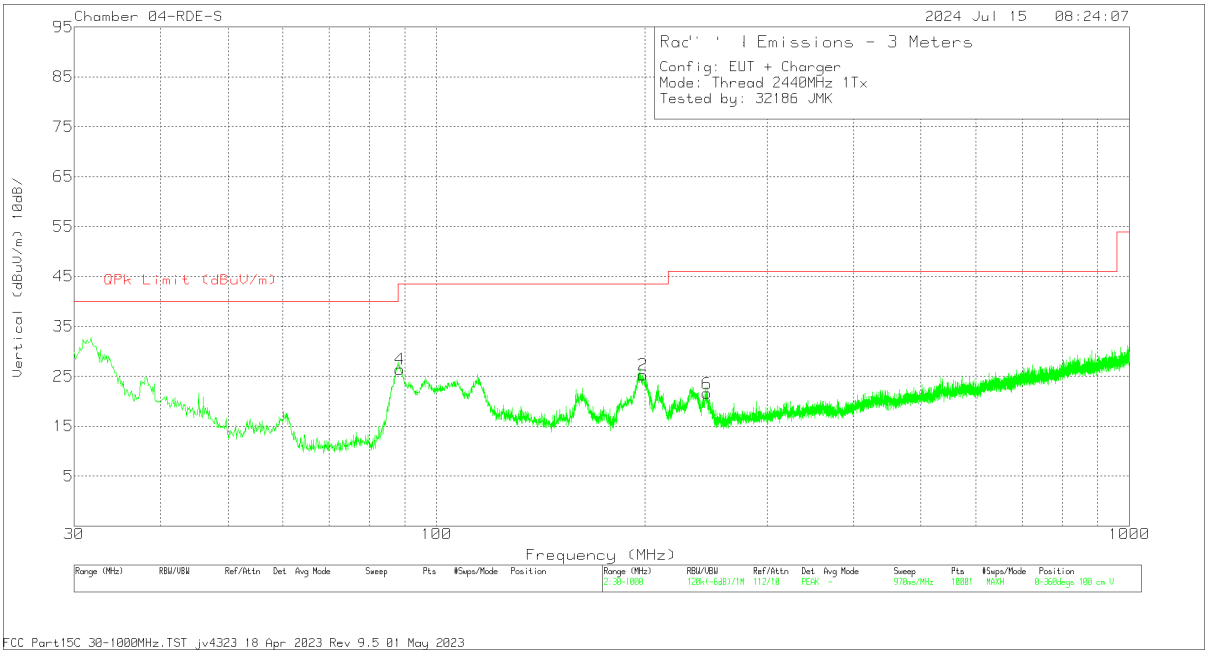
10.2. WORST CASE BELOW 1 GHZ

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



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	81560 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	88.588	42.69	Pk	13.4	-31.9	24.19	43.52	-19.33	0-360	100	H
4	88.588	44.89	Pk	13.4	-31.9	26.39	43.52	-17.13	0-360	100	V
1	198.683	42.32	Pk	18.2	-31.4	29.12	43.52	-14.4	0-360	100	H
2	198.683	38.5	Pk	18.2	-31.4	25.3	43.52	-18.22	0-360	100	V
5	245.728	41.95	Pk	17.3	-31.3	27.95	46.02	-18.07	0-360	100	H
6	245.728	35.56	Pk	17.3	-31.3	21.56	46.02	-24.46	0-360	100	V

Pk - Peak detector

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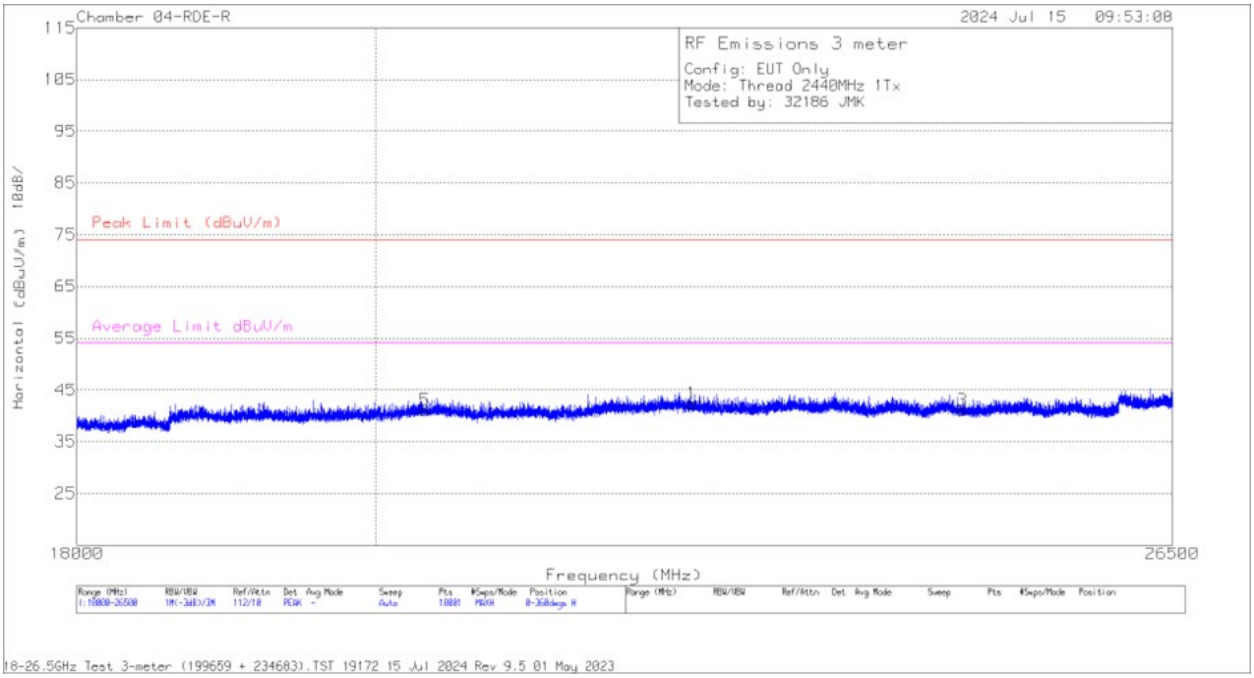
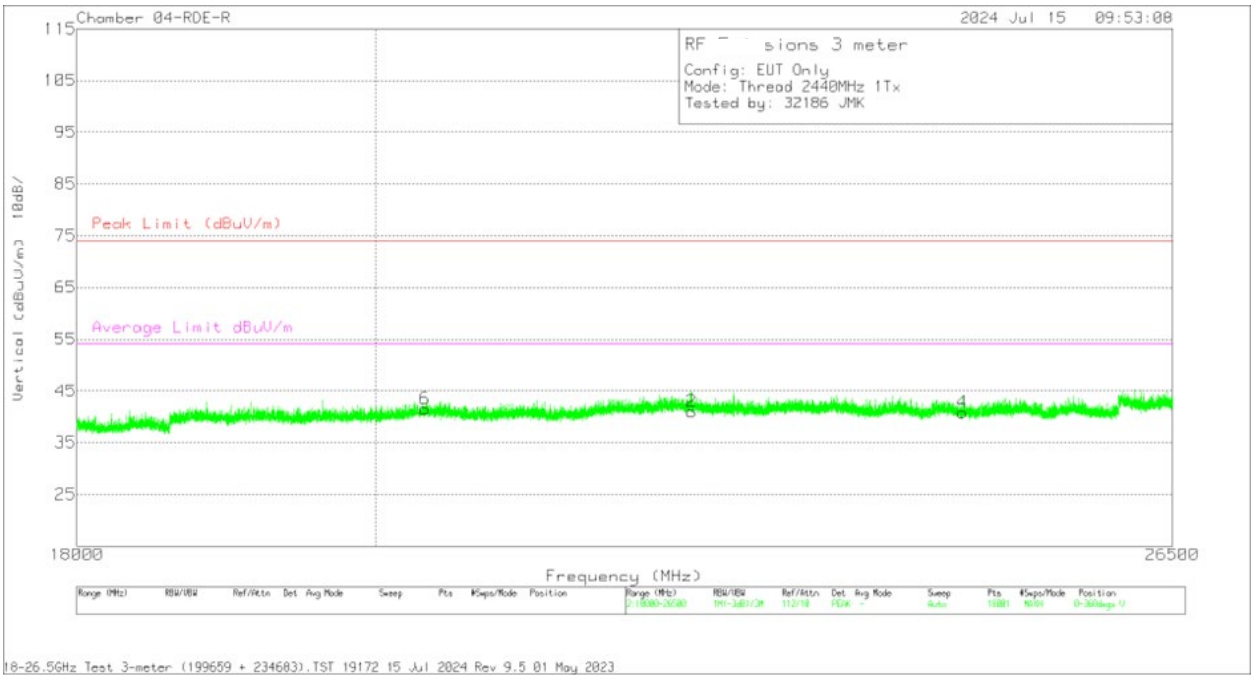
10.3. WORST CASE 18-26 GHZ

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



HORIZONTAL



VERTICAL

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DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn ACF (dB/m)	Amp/Cbl (dB)	Cables (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	20352.61	53.04	Pk	32.9	-61.2	16.3	41.04	74	-32.96	54	-12.96	0-360	100	H
6	20352.61	53.49	Pk	32.9	-61.2	16.3	41.49	74	-32.51	54	-12.51	0-360	99	V
1	22362.387	54.19	Pk	33.3	-62.1	17	42.39	74	-31.61	54	-11.61	0-360	100	H
2	22362.387	52.75	Pk	33.3	-62.1	17	40.95	74	-33.05	54	-13.05	0-360	99	V
3	24604.969	50.98	Pk	33.9	-61.8	17.9	40.98	74	-33.02	54	-13.02	0-360	100	H
4	24604.969	50.83	Pk	33.9	-61.8	17.9	40.83	74	-33.17	54	-13.17	0-360	99	V

Pk - Peak detector

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11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

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

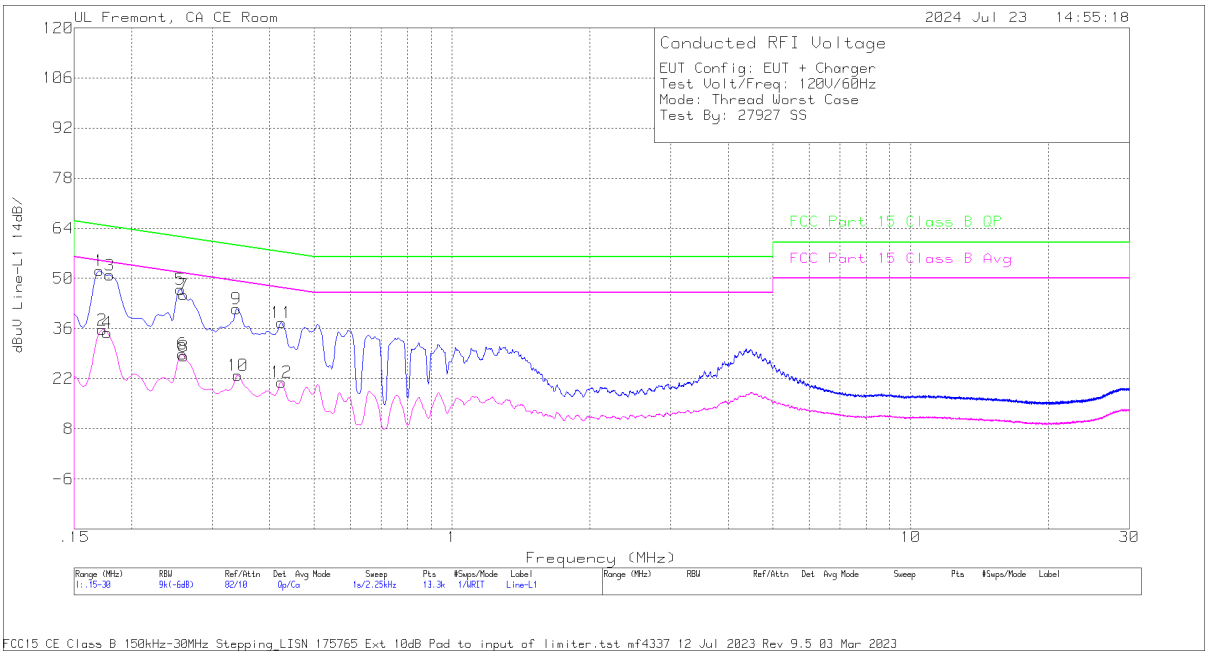
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.1. AC Power Line With AC/DC Adapter

LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av(CISPR) Margin (dB)
2	.1725	16.03	Ca	.1	0	9.5	10	35.63	-	-	54.84	-19.21
4	.177	15.18	Ca	.1	.1	9.4	10	34.78	-	-	54.63	-19.85
6	.258	9.45	Ca	0	0	9.4	10	28.85	-	-	51.5	-22.65
8	.2603	8.87	Ca	0	0	9.4	10	28.27	-	-	51.42	-23.15
10	.3413	3.59	Ca	0	0	9.4	10	22.99	-	-	49.17	-26.18
12	.4245	1.54	Ca	0	0	9.4	10	20.94	-	-	47.36	-26.42
1	.1703	32.6	Qp	.1	0	9.5	10	52.2	64.95	-12.75	-	-
3	.1793	31.28	Qp	.1	.1	9.4	10	50.88	64.52	-13.64	-	-
5	.2558	27.47	Qp	0	0	9.4	10	46.87	61.57	-14.7	-	-
7	.2603	26.03	Qp	0	0	9.4	10	45.43	61.42	-15.99	-	-
9	.339	22.11	Qp	0	0	9.4	10	41.51	59.23	-17.72	-	-
11	.4245	18.26	Qp	0	0	9.4	10	37.66	57.36	-19.7	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

UL VERIFICATION SERVICES INC.
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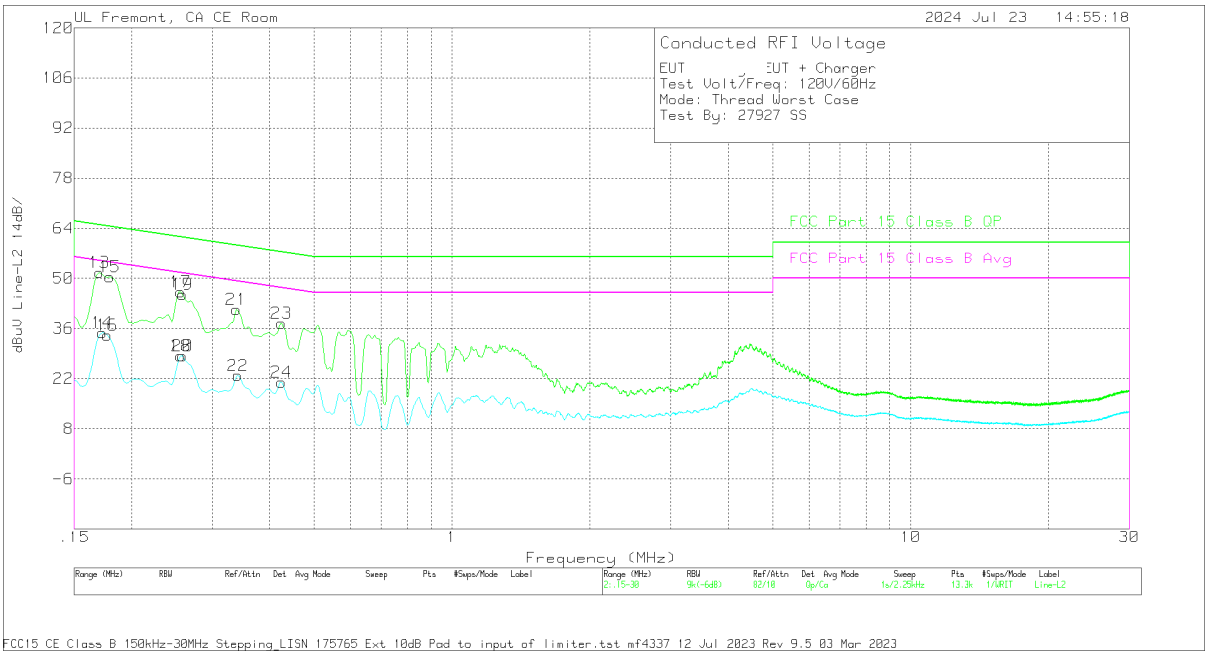
LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av(CISPR) Margin (dB)
14	.1725	15.35	Ca	0	0	9.5	10	34.85	-	-	54.84	-19.99
16	.177	14.57	Ca	0	.1	9.4	10	34.07	-	-	54.63	-20.56
18	.2558	8.9	Ca	0	0	9.4	10	28.3	-	-	51.57	-23.27
20	.258	8.89	Ca	0	0	9.4	10	28.29	-	-	51.5	-23.21
22	.3413	3.34	Ca	0	.1	9.4	10	22.84	-	-	49.17	-26.33
24	.4245	1.53	Ca	0	.1	9.4	10	21.03	-	-	47.36	-26.33
13	.1703	32.18	Qp	0	0	9.5	10	51.68	64.95	-13.27	-	-
15	.1793	30.96	Qp	0	.1	9.4	10	50.46	64.52	-14.06	-	-
17	.2558	26.9	Qp	0	0	9.4	10	46.3	61.57	-15.27	-	-
19	.258	26.18	Qp	0	0	9.4	10	45.58	61.5	-15.92	-	-
21	.339	21.79	Qp	0	.1	9.4	10	41.29	59.23	-17.94	-	-
23	.4245	18.04	Qp	0	.1	9.4	10	37.54	57.36	-19.82	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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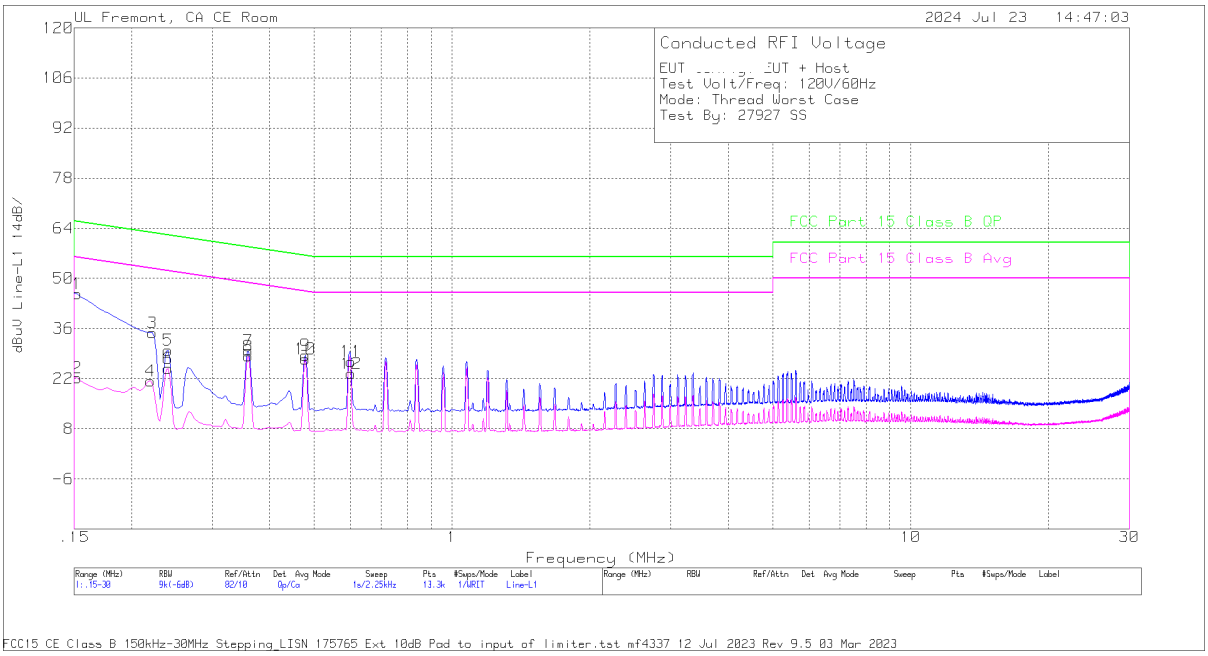
11.2. AC Power Line with Laptop

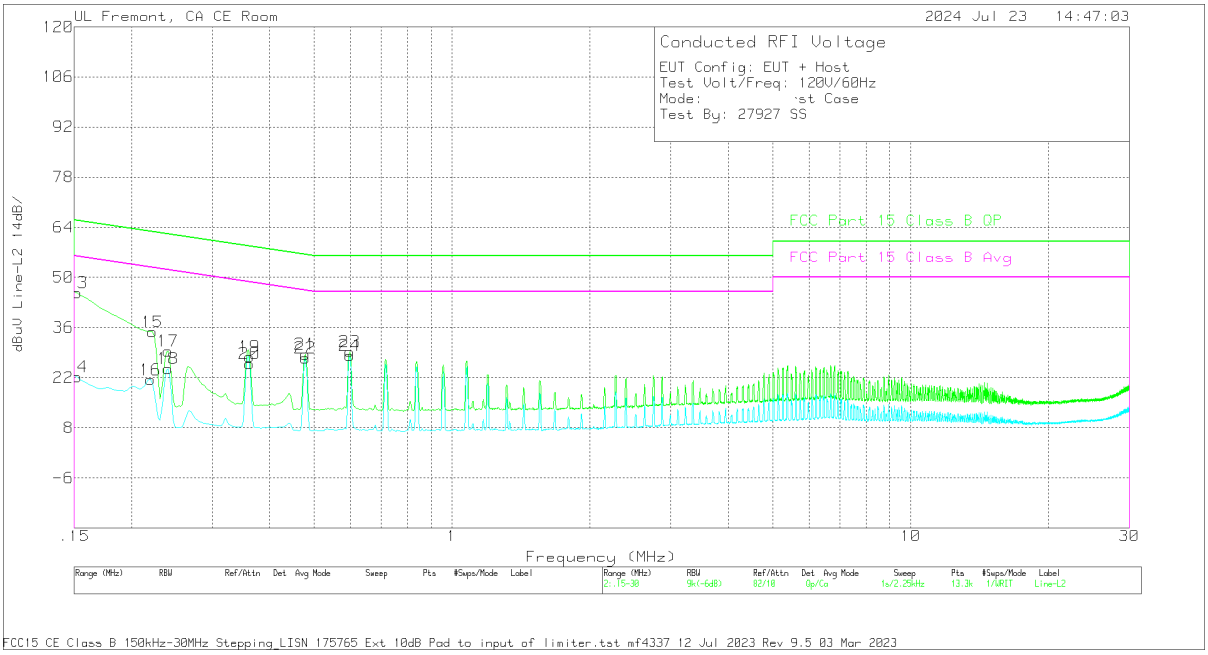
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av(CISPR) Margin (dB)
2	.1523	2.59	Ca	.1	0	9.5	10	22.19	-	-	55.88	-33.69
4	.2198	1.92	Ca	0	.1	9.4	10	21.42	-	-	52.83	-31.41
6	.24	5.52	Ca	0	0	9.4	10	24.92	-	-	52.1	-27.18
8	.3593	8.88	Ca	0	0	9.4	10	28.28	-	-	48.75	-20.47
10	.4785	8.22	Ca	0	0	9.3	10	27.52	-	-	46.37	-18.85
12	.6023	3.98	Ca	0	0	9.4	10	23.38	-	-	46	-22.62
1	.1523	26.07	Qp	.1	0	9.5	10	45.67	65.88	-20.21	-	-
3	.222	15.27	Qp	0	.1	9.4	10	34.77	62.74	-27.97	-	-
5	.24	10.49	Qp	0	0	9.4	10	29.89	62.1	-32.21	-	-
7	.3593	10.42	Qp	0	0	9.4	10	29.82	58.75	-28.93	-	-
9	.4785	9.27	Qp	0	0	9.3	10	28.57	56.37	-27.8	-	-
11	.6023	7.34	Qp	0	0	9.4	10	26.74	56	-29.26	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av(CISPR) Margin (dB)
14	.1523	2.64	Ca	.1	0	9.5	10	22.24	-	-	55.88	-33.64
16	.2198	1.93	Ca	0	.1	9.4	10	21.43	-	-	52.83	-31.4
18	.24	5.05	Ca	0	0	9.4	10	24.45	-	-	52.1	-27.65
20	.3615	6.44	Ca	0	.1	9.4	10	25.94	-	-	48.69	-22.75
22	.4785	8.16	Ca	0	0	9.3	10	27.46	-	-	46.37	-18.91
24	.5978	8.7	Ca	0	.1	9.4	10	28.2	-	-	46	-17.8
13	.1523	26.15	Qp	.1	0	9.5	10	45.75	65.88	-20.13	-	-
15	.222	15.26	Qp	0	.1	9.4	10	34.76	62.74	-27.98	-	-
17	.24	10.03	Qp	0	0	9.4	10	29.43	62.1	-32.67	-	-
19	.3615	8.31	Qp	0	.1	9.4	10	27.81	58.69	-30.88	-	-
21	.4785	9.26	Qp	0	0	9.3	10	28.56	56.37	-27.81	-	-
23	.5978	9.81	Qp	0	.1	9.4	10	29.31	56	-26.69	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

UL VERIFICATION SERVICES INC.
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12. SETUP PHOTOS

Please refer to setup photos 14982479-EP1V1

END OF TEST REPORT

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