TEST REPORT

Report Number : 14523740-E6V3

Applicant	:	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	:	A2848
Brand	:	APPLE
FCC ID	:	BCG-E8435A
IC	:	579C-E8435A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
July 27, 2023

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

ACCREDITED
CERT #0751.05

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	7/17/2023	Initial Issue	Chin Pang
V2	7/21/2023	Address TCB's questions section 8, 9	Chin Pang
V3	7/27/2023	Address page 61 & 71, confirm power on page 33-36(retest data look the same), 53-56 (retest data look the same)	Chin Pang

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TABLE OF CONTENTS

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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: A2848

BRAND: APPLE

SERIAL NUMBER: C07GQU0010S00003PJ (Conducted)
C07GTH0012C00003PJ (Conducted)
LVMPXQW46R (Radiated)

SAMPLE RECEIPT DATE: FEBRUARY 14 – JUNE 20, 2023

DATE TESTED: MARCH 30 – JULY 27, 2023

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

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

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

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

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Approved & Released For
UL Verification Services Inc. By:

Chin Pang
Senior Lab 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 RESULT SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 12.2.
See Comment	RSS-GEN 6.7	26dB BW/99% OBW	Reporting purposes only	Per ANSI C63.10 Sections 6.9.2 and 6.9.3
15.407 (e)	RSS-247 6.2.4.1	6 dB BW	complies	None.
15.407 (a) (1-4), (h) (1)	RSS-247 6.2	Output Power	complies	None.
15.407 (a) (1-3, 5)	RSS-247 6.2	PSD	complies	None.
15.209, 15.205, 15.407 (b)	RSS-GEN 8.9, 8.10, RSS-247 6.2	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 15.407
- FCC CFR 47 Part 15
- FCC KDB 662911 D01 v02r01
- FCC KDB 789033 D02 v02r01
- ANSI C63.10-2013
- RSS-GEN Issue 5 + A1 +A2
- RSS-247 Issue 2.
- KDB 414788 D01 Radiated Test Site v01r01

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
Power Spectral Density	2.466
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	1.2%
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
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 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 multimedia functions (music, application support, and video),cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC, NB UNII, 802.15.4, 802.15.4ab-NB and MSS technologies. The rechargeable battery is not user accessible.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.8 GHz BAND (FCC)

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.8GHz Band 1TX, high power			
5728.75 – 5846.25	802.15.4ab	20.48	111.69
5.8GHz Band 1TX Low Power			
5728.75 – 5846.25	802.15.4ab	16.16	41.30

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:
The radio utilizes Cable loss is 2.85 dB.

Frequency Range	ANT 6 (Core 0)	ANT 5 (Core 1)
5728.75 – 5846.25	-5.20	-3.6

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 23_10_663

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6.5. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z on Ant 6 (ANT 0) and Ant 5 (ANT 1). It was determined that Y (Landscape) orientation was the worst-case orientation for Ant 6 and ANT 5.

There are 3 index on this 802.15.4ab technology with data rate on index 1, 250Kbps, index 2, 500Kbps and index 3, 1000Kbps. All data rate was investigated and the worst case was determined based on the highest power on PSD and Index 2, 500Kbps determined to be the worst case.

For radiated harmonics spurious below 1GHz, 1-18GHz L/M/H channels, 18-40GHz, and power line conducted emissions were performed with the EUT set at the worst-case scenario.

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. There were no emissions found below 30MHz within 20dB of the limit.

Simultaneous transmission with the Bluetooth was investigated, and no noticeable emission was found.

For radiated bandedge and emssions spurious, 500Kbps is set as the worst-case data rates for final test

Note: Note: In the Radiated Plots and emissions data, ANT0=ANT6 and ANT1=ANT5.
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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
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	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.

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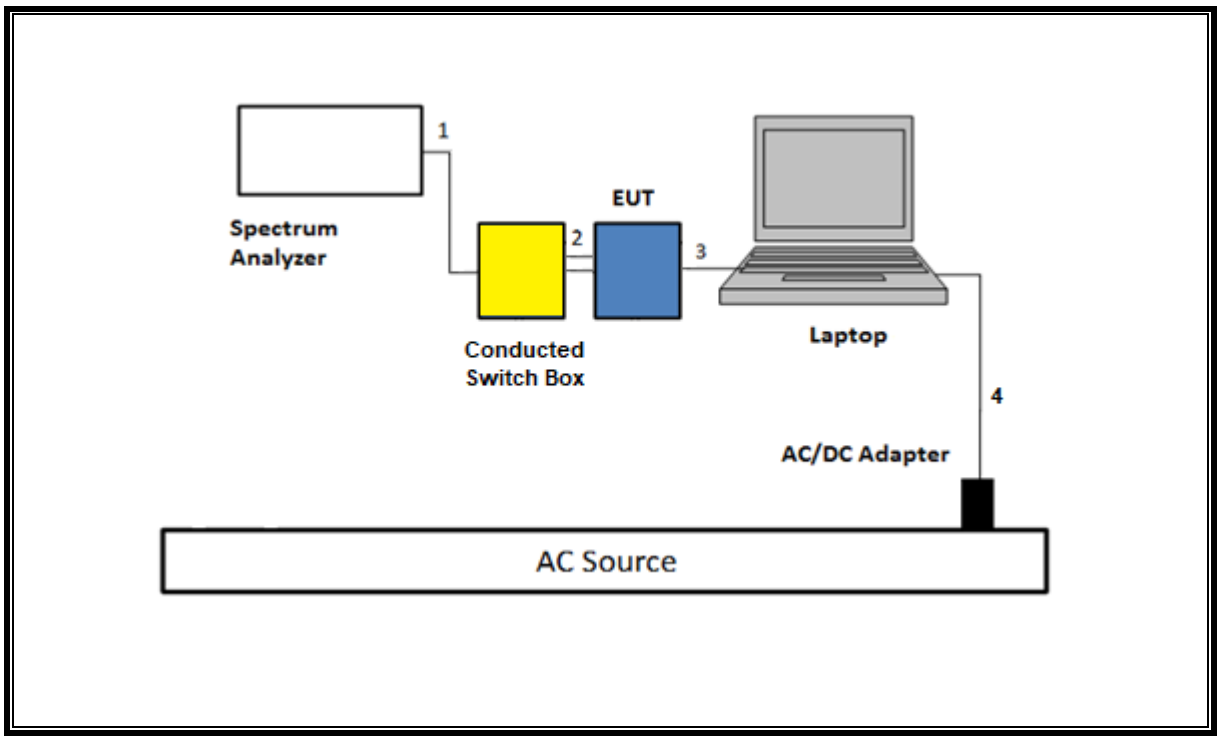
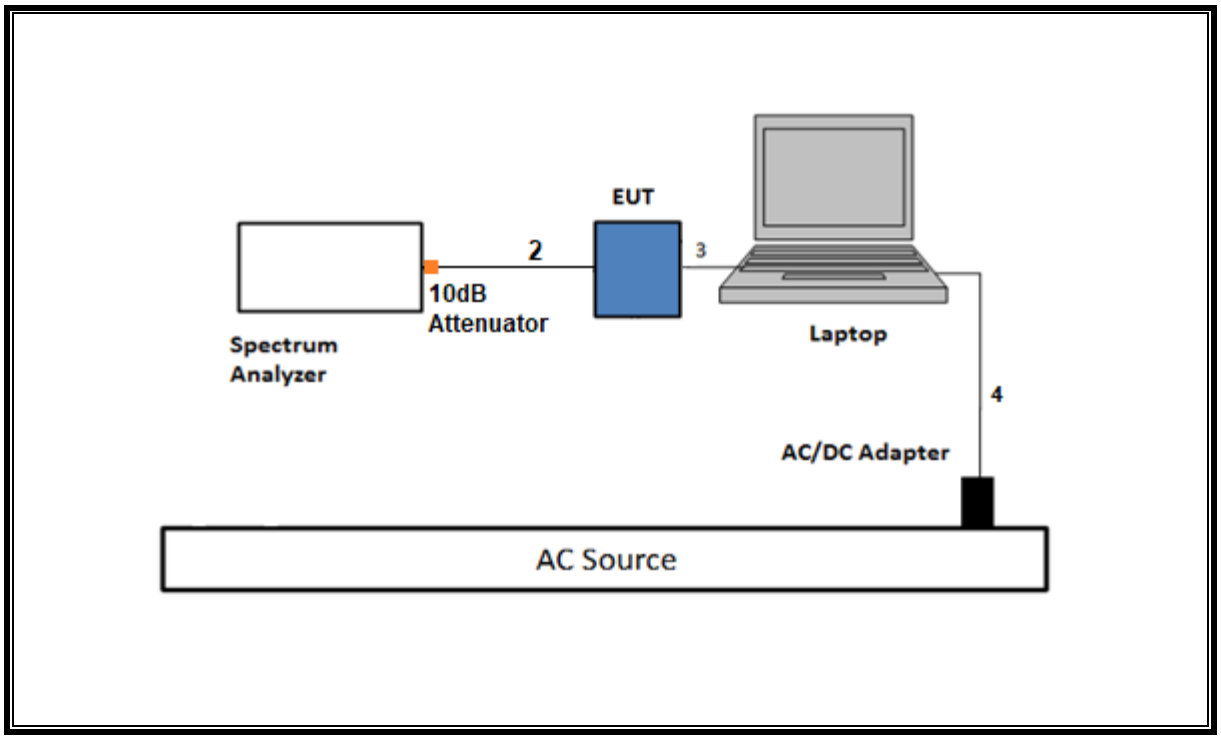
SETUP DIAGRAM FOR CONDUCTED TESTS





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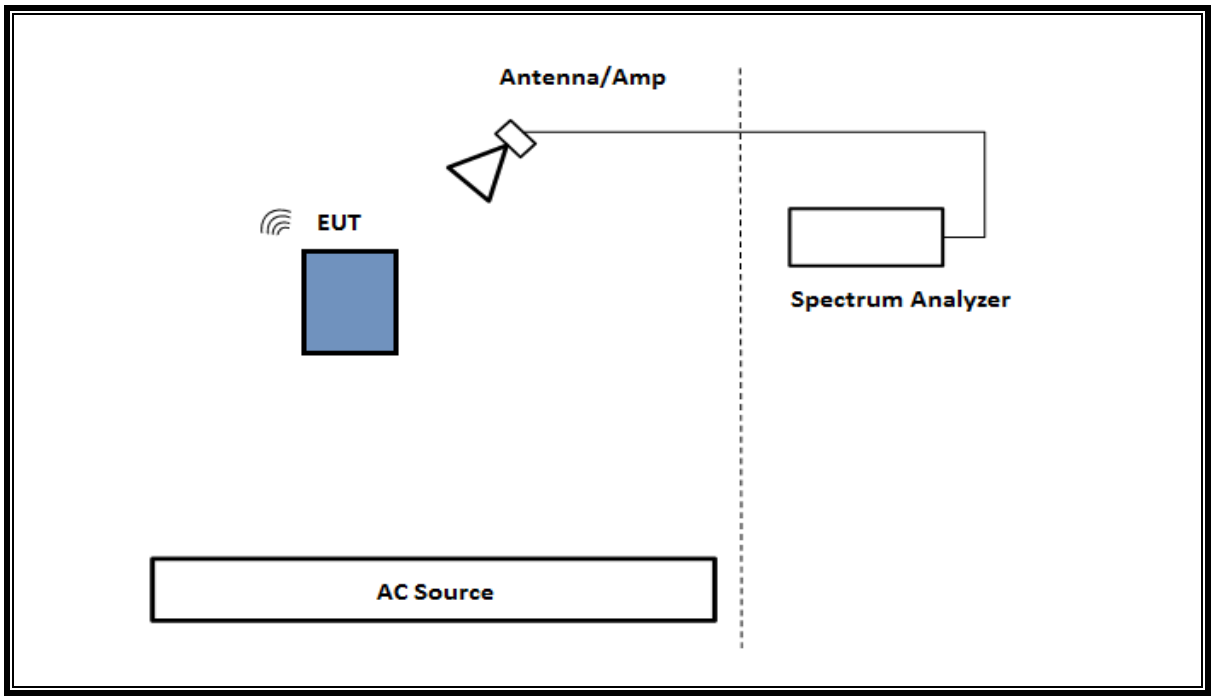
SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz



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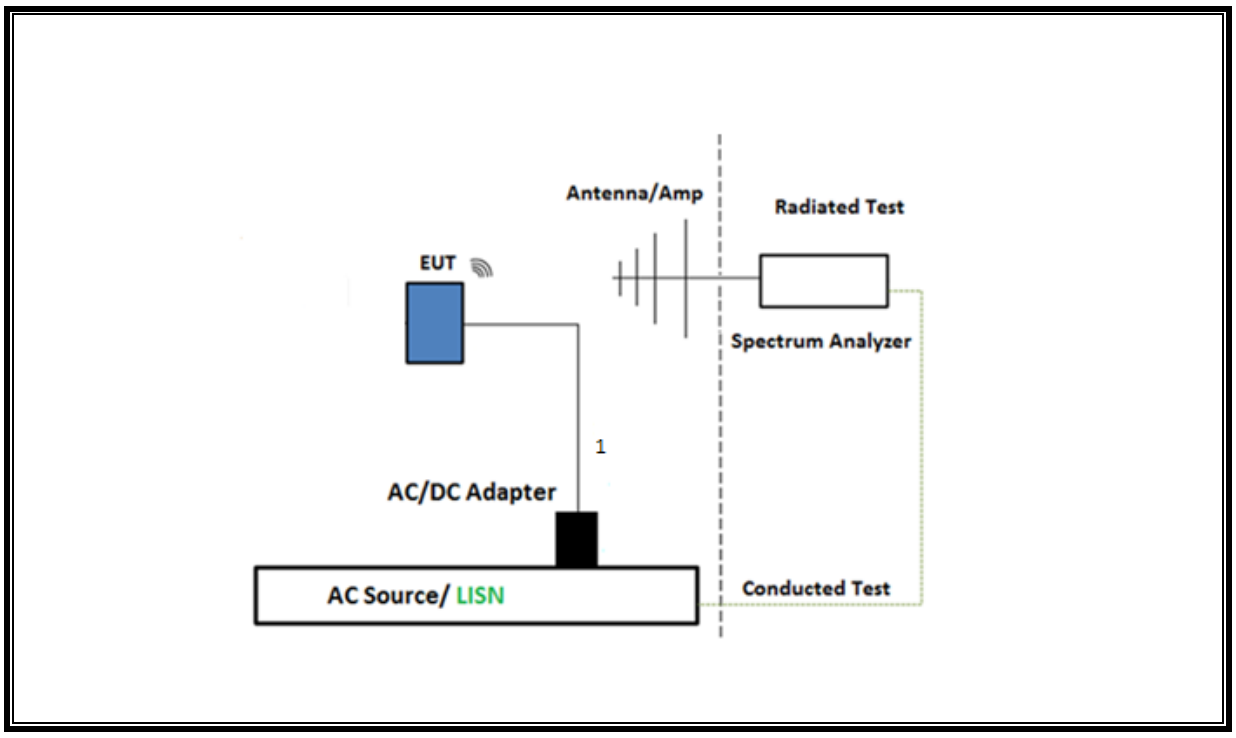
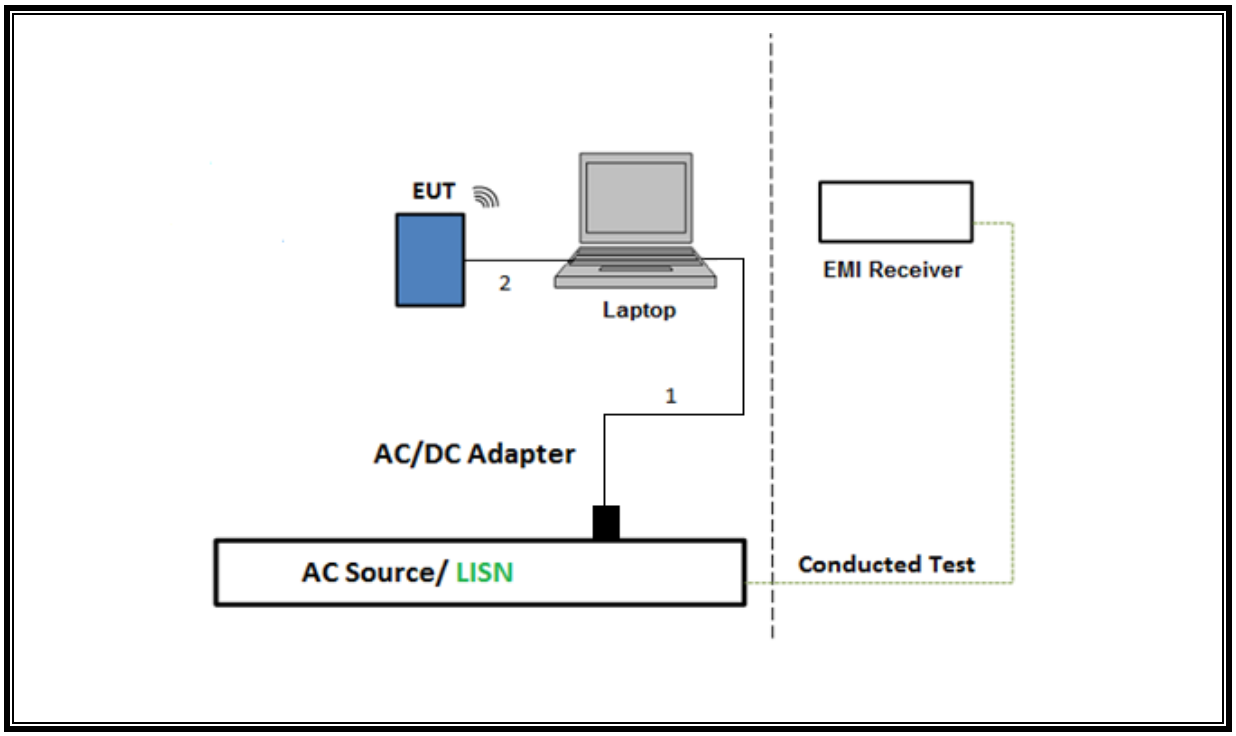
SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION



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7. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 789033 D02 v02r01, Section B.

6 dB Emission BW: KDB 789033 D02 v02r01, Section C.2

26 dB Emission BW: KDB 789033 D02 v02r01, Section C.1

99% Occupied BW: KDB 789033 D02 v02r01, Section D.

Conducted Output Power: KDB 789033 D02 v02r01

Power Spectral Density: KDB 789033 D02 v02r01, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, and G.5.

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

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

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8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	80707	04/28/2023	04/28/2022
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231874	04/19/2024	04/19/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	230299	01/12/2024	01/12/2023
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	206807	02/28/2024	02/28/2023
RF Filter Box 1-18GHz	UL-FR	NA	206359	08/13/2023	08/13/2022
Antenna, Horn 1-18GHz	ETS Lindgren	3117	200896	02/28/2024	02/28/2023
RF Filter Box, 1-18GHz	UL-FR1	NA	173528	12/22/2023	12/22/2022
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	230311	04/13/2024	04/13/2023
*Antenna Horn, 18 to 26.5GHz	ARA	MWH-1826/B	172353	06/01/2023	06/01/2022
RF Filter Box	UL-FR1	N/A	172938	08/16/2023	08/16/2022
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	221832	02/29/2024	02/29/2023
Power Meter, P-series single channel	Keysight	N1912A	90630	01/31/2024	01/31/2023
EMI Test Receiver	Rohde & Schwarz	ESW44	169937	02/29/2024	02/29/2023
EMI Test Receiver	Rohde & Schwarz	ESW44	191429	02/29/2024	02/29/2023
Power Sensor	Keysight	N1921A	90391	01/31/2024	01/31/2023
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170013	07/28/2023	07/28/2022
Antenna, Passive Loop 100KHz to 30MHz	ETS-Lindgren	EM-6872	170015	07/28/2023	07/28/2022
*Antenna, Horn 26.5 to 40GHz	ARA	MWH-2640/B	81105	07/11/2023	07/11/2022
EMI Receiver	Rohde & Schwarz	ESW44	201502	02/29/2024	02/29/2023
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	170063	02/29/2024	02/29/2023
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	204041	08/24/2023	08/24/2022
Spectrum Analyzer, PSA, 3Hz to 26.5GHz	Keysight Technologies Inc	E4440A	81311	02/29/2024	02/29/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80397	02/28/2024	02/28/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	85214	02/28/2024	02/28/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A-544	87738	02/28/2024	02/28/2023
*Conducted Switch Box	N/A	CSB	221008	06/21/2023	06/21/2022
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	Verified/Characterized before use	
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236355	Verified/Characterized before use	
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90756	01/31/2024	01/31/2023
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	90389	01/31/2024	01/31/2023
Link File, RF Amplifier Assembly, 26-40GHz, 65dB Gain	AMPLICAL	AMP26G40-65	221834	02/29/2024	02/29/2023

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TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	222740	08/31/2023	08/31/2022
RF Filter Box 1-18GHz 12 Port	UL-FR1	Frankenstein	217255	08/23/2023	08/23/202
EMI Test Receiver	Rohde & Schwarz	ESW44	201500	02/29/2024	01/12/2023
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	200897	03/31/2024	03/31/2023
Filter Box, 1-18GHz 12 Port	UL-FR1	Frankenstein	216812	09/17/2023	09/17/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	02/29/2024	02/29/2023

AC Line Conducted					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	02/29/2024	02/29/2023
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	01/31/2024	01/31/2023
Transient Limiter	TE	TBFL1	207996	07/15/2023	07/15/2022
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, May 1 , 2023		
Conducted Software	UL	UL EMC	2020.8.16		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023		

*Testing is completed before equipment expiration date.

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

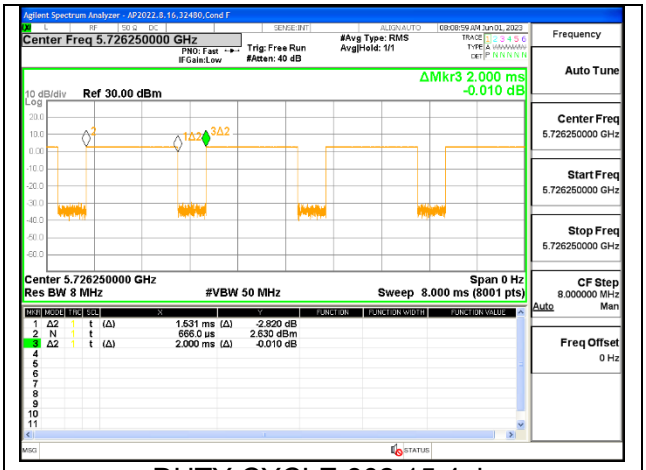
PROCEDURE

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)
802.15.4ab						
5726.25MHz	1.531	2.000	0.766	76.55%	1.16	0.653

DUTY CYCLE PLOTS



DUTY CYCLE 802.15.4ab

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9.2. 99% AND 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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

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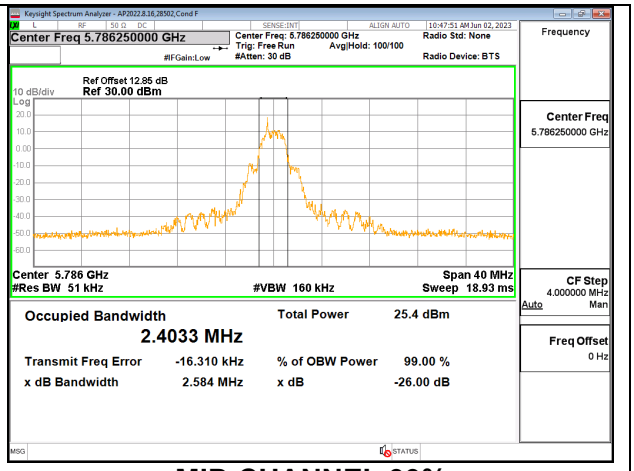
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	4.120	2.4134
Mid	5786.25	4.200	2.4033
High	5846.25	4.120	2.4169

MID CHANNEL 26dB



MID CHANNEL 99%

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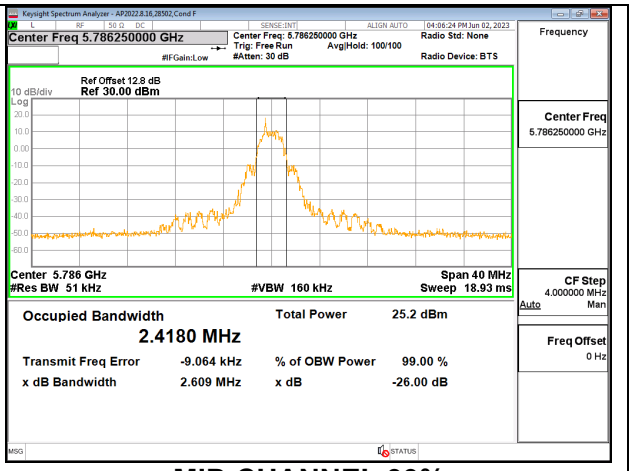
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	4.080	2.3631
Mid	5786.25	4.160	2.4180
High	5846.25	4.200	2.4480

MID CHANNEL 26dB



MID CHANNEL 99%

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9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

RSS-247 6.2.4.1

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.

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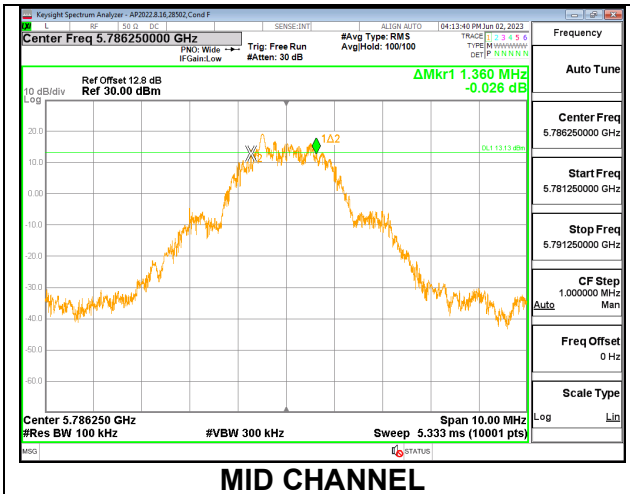
1TX Antenna 6 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5728.75	1.402	0.5
Mid	5786.25	1.171	0.5
High	5846.25	1.343	0.5

MID CHANNEL

1TX Antenna 5 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5728.75	1.239	0.5
Mid	5786.25	1.360	0.5
High	5846.25	1.338	0.5



MID CHANNEL

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9.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407

Band 5.725-5.85 GHz

The maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

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RSS-247

Band 5.725-5.85 GHz

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3 a. Method PM.
The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F.

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

DIRECTIONAL ANTENNA GAIN

For 1 TX:

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

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9.4.1. HIGH POWER

1TX Antenna 6 MODE (FCC+IC)

Test Engineer:	44366
Test Date:	6/18/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-5.20	30.00	30.00
Mid	5786.25	-5.20	30.00	30.00
High	5846.25	-5.20	30.00	30.00

Duty Cycle CF (dB)	1.16	**Included in Calculations of Corr'd Power and PSD**

Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	19.27	20.43	30.00	-9.57
Mid	5786.25	19.31	20.47	30.00	-9.53
High	5846.25	19.21	20.37	30.00	-9.63

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5728.75	17.311	18.471	30.00	-11.53
Mid	5786.25	16.822	17.982	30.00	-12.02
High	5846.25	17.374	18.534	30.00	-11.47

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1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	44366
Test Date:	6/18/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-3.60	30.00	30.00
Mid	5786.25	-3.60	30.00	30.00
High	5846.25	-3.60	30.00	30.00

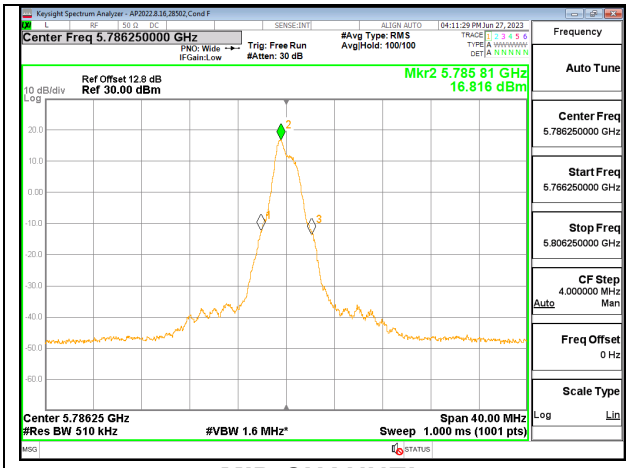
Duty Cycle CF (dB)	1.16	**Included in Calculations of Corr'd Power and PSD**

Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	19.32	20.48	30.00	-9.52
Mid	5786.25	19.28	20.44	30.00	-9.56
High	5846.25	19.18	20.34	30.00	-9.66

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5728.75	17.227	18.387	30.00	-11.61
Mid	5786.25	16.816	17.976	30.00	-12.02
High	5846.25	17.395	18.555	30.00	-11.45



MID CHANNEL

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9.4.2. LOW POWER

1TX Antenna 6 MODE (FCC+IC)

Test Engineer:	44366
Test Date:	6/18/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-5.20	30.00	30.00
Mid	5786.25	-5.20	30.00	30.00
High	5846.25	-5.20	30.00	30.00

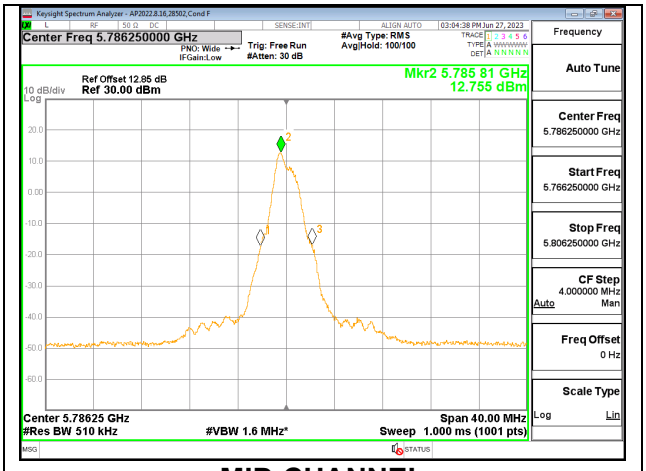
Duty Cycle CF (dB)	1.16	**Included in Calculations of Corr'd Power and PSD**

Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	14.95	16.11	30.00	-13.89
Mid	5786.25	15.00	16.16	30.00	-13.84
High	5846.25	14.97	16.13	30.00	-13.87

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5728.75	13.333	14.493	30.00	-15.51
Mid	5786.25	12.755	13.915	30.00	-16.09
High	5846.25	13.310	14.470	30.00	-15.53



MID CHANNEL

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1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	44366
Test Date:	6/18/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-3.60	30.00	30.00
Mid	5786.25	-3.60	30.00	30.00
High	5846.25	-3.60	30.00	30.00

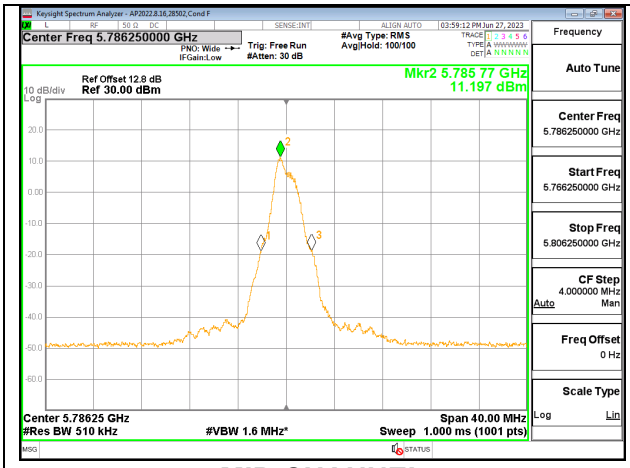
Duty Cycle CF (dB)	1.16	**Included in Calculations of Corr'd Power and PSD**

Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	12.98	14.14	30.00	-15.86
Mid	5786.25	13.05	14.21	30.00	-15.79
High	5846.25	13.01	14.17	30.00	-15.83

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5728.75	11.477	12.637	30.00	-17.36
Mid	5786.25	11.197	12.357	30.00	-17.64
High	5846.25	11.680	12.840	30.00	-17.16



MID CHANNEL

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10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restriced bands
FCC §15.407(b)(1-3) -Un-Restriced bands
RSS 247 Issue 2 Sections
6.2.3.2 (for 5470-5600 MHz and 5650-5725 MHz bands)
6.2.4.2 (for 5725-5850 MHz band)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
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 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 5 GHz bands.

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.

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For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only. Blue color trace on plots: Parallel orientation. Green color trace on plots: Perpendicular orientation.

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.

RESULTS

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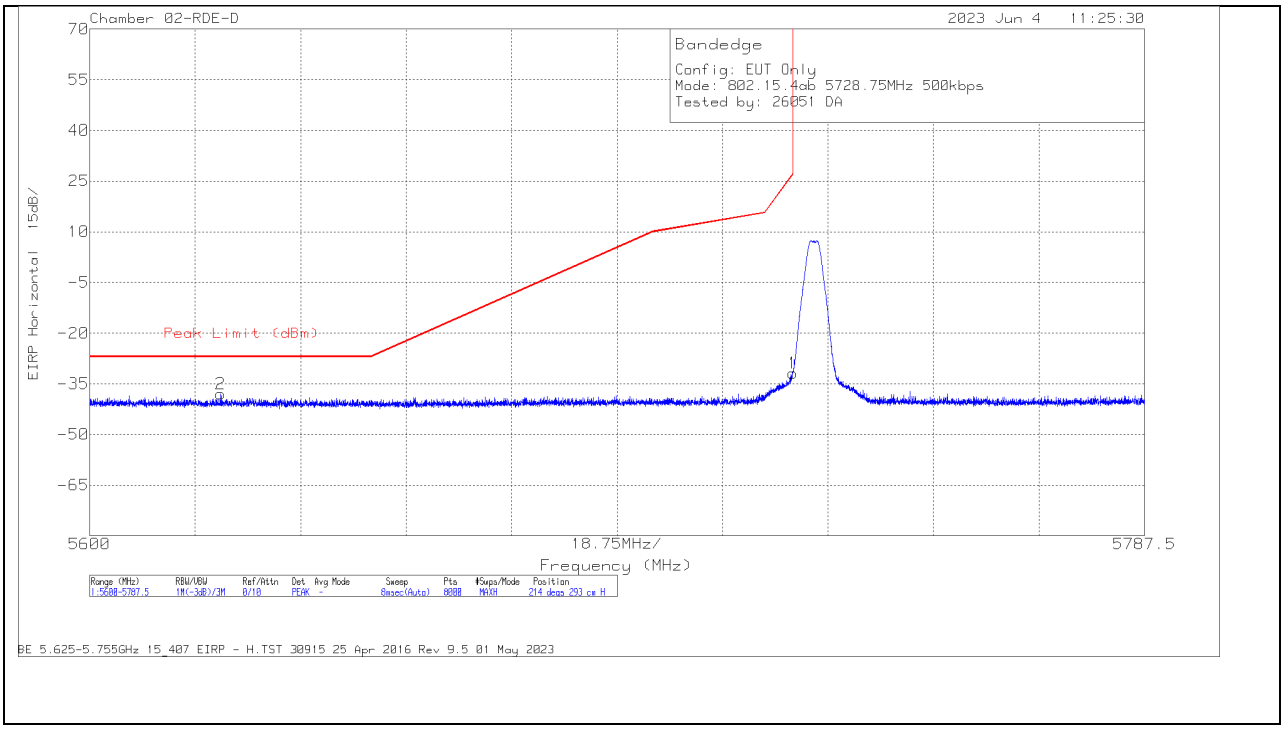
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. ANT 6, 500Kbps HIGH POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBm)	Det	200896 ACF(dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5623.323	-67.85	Pk	34.4	-16.4	11.8	-38.05	-27	-11.05	214	293	H
1	5725	-61.65	Pk	34.6	-16.6	11.8	-31.85	27	-58.85	214	293	H

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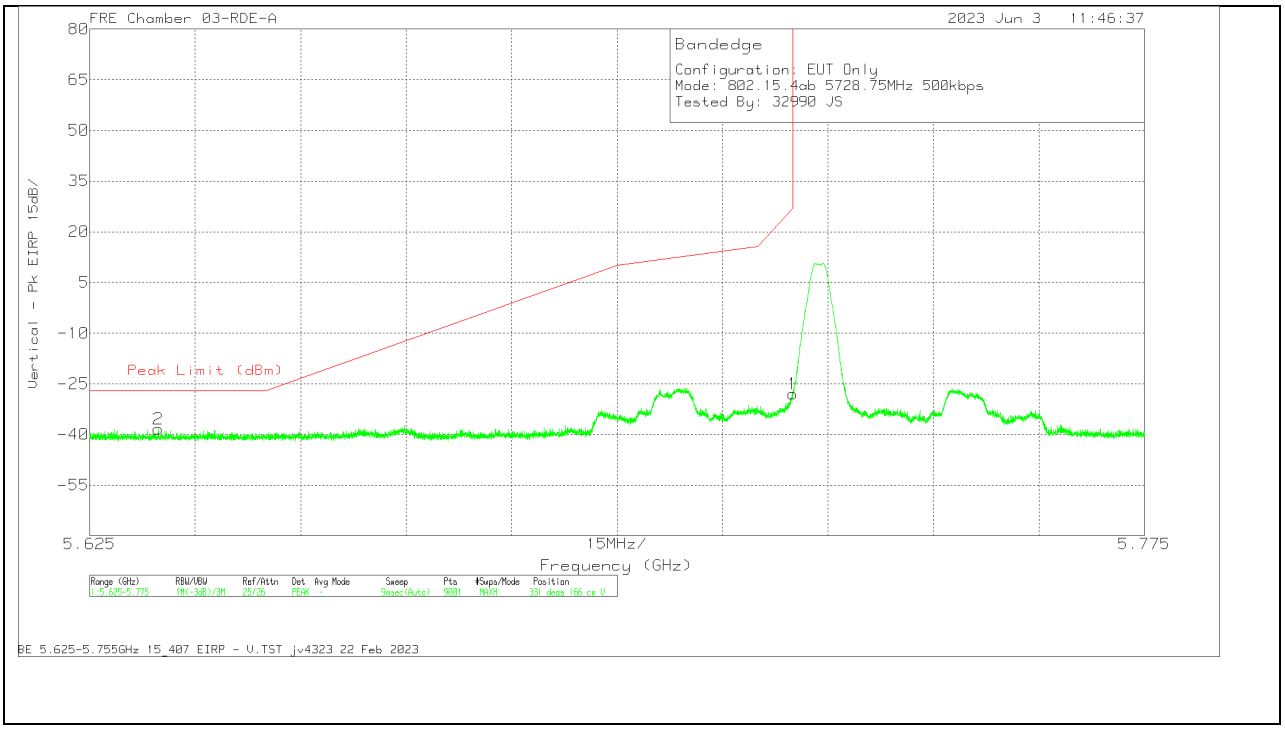
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.63475	-47.35	Pk	35.2	11.8	0	-37.94	-38.29	-27	-11.29	331	166	V
1	5.725	-37.23	Pk	35.2	11.8	0	-37.78	-28.01	27	-55.01	331	166	V

Pk - Peak detector

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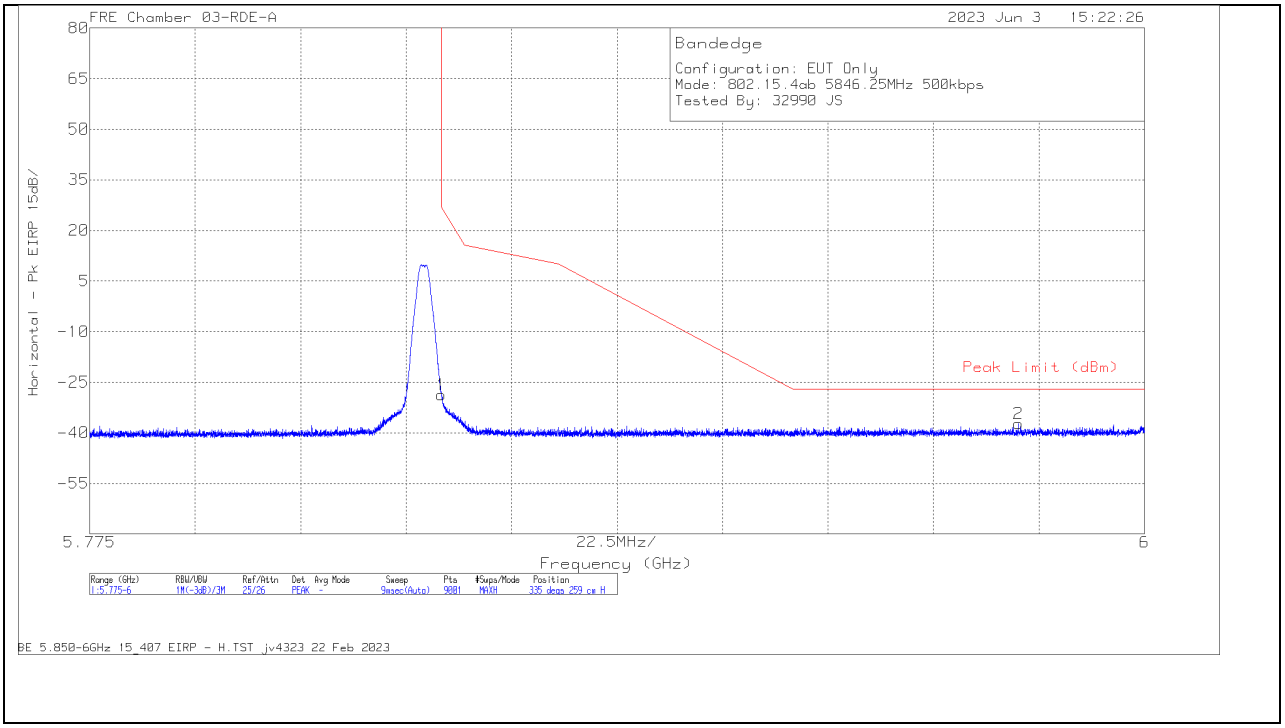
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-38.31	Pk	35.2	11.8	0	-37.49	-28.8	27	-55.8	335	259	H
2	5.97315	-47.16	Pk	35.4	11.8	0	-37.25	-37.21	-27	-10.21	335	259	H

Pk - Peak detector

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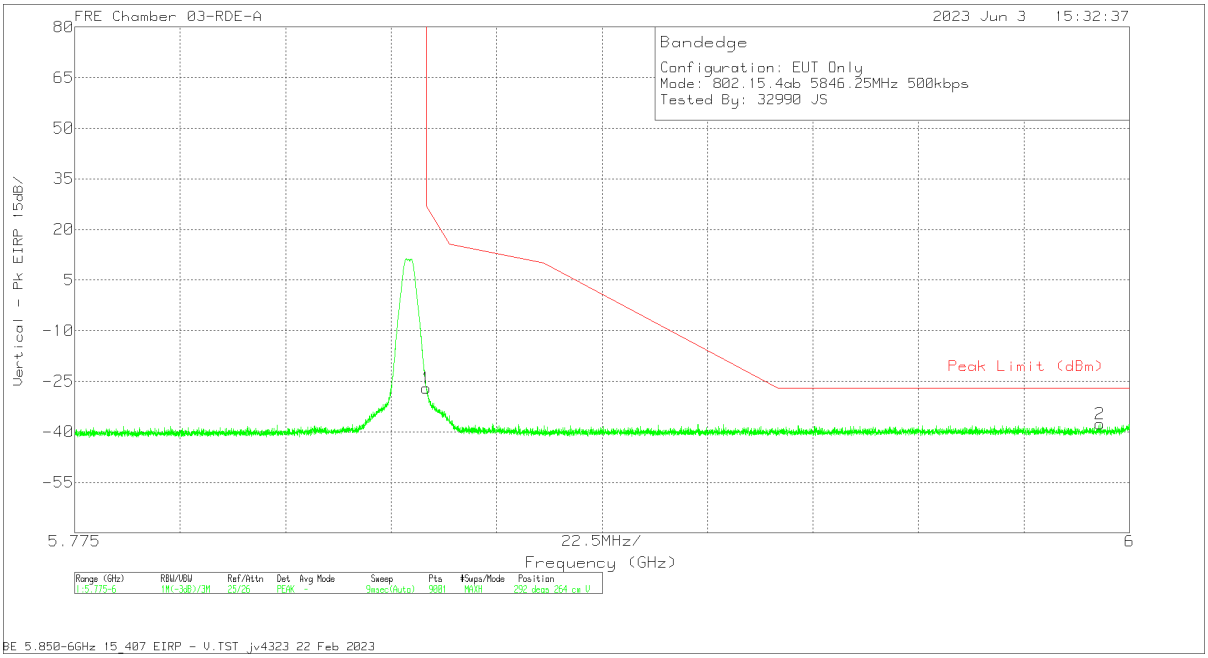
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-36.59	Pk	35.2	11.8	0	-37.49	-27.08	27	-54.08	292	264	V
2	5.99375	-47.66	Pk	35.5	11.8	0	-37.22	-37.58	-27	-10.58	292	264	V

Pk - Peak detector

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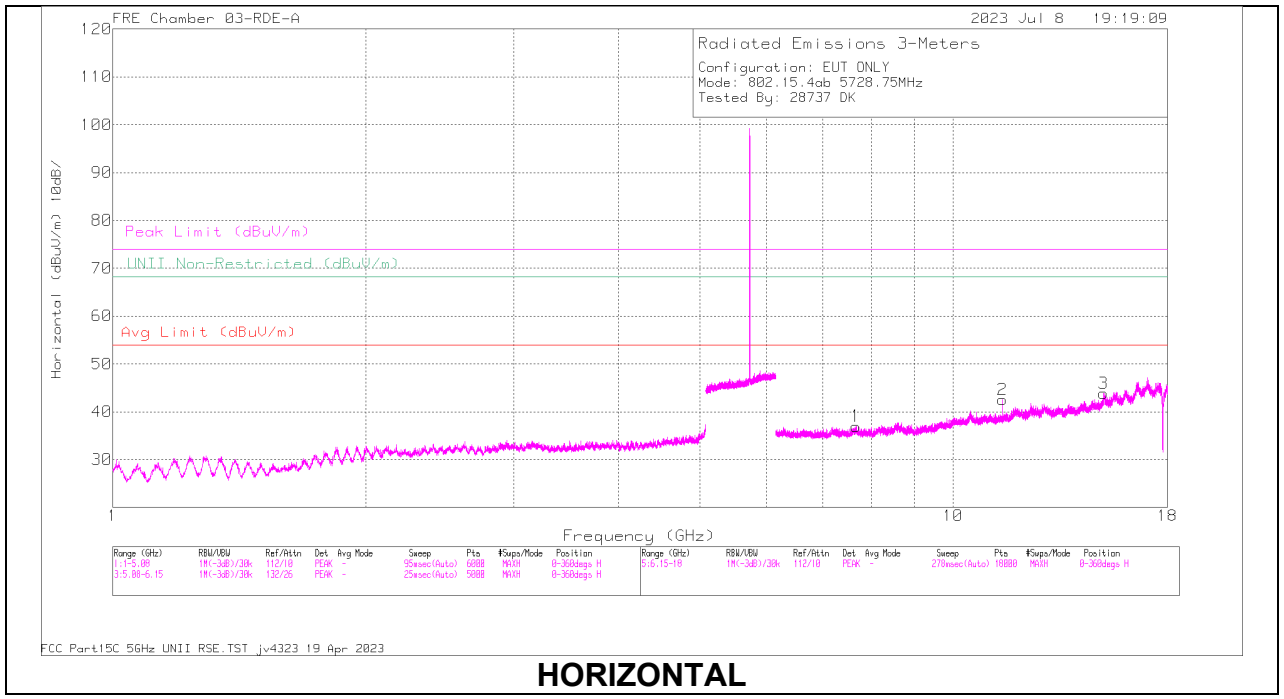
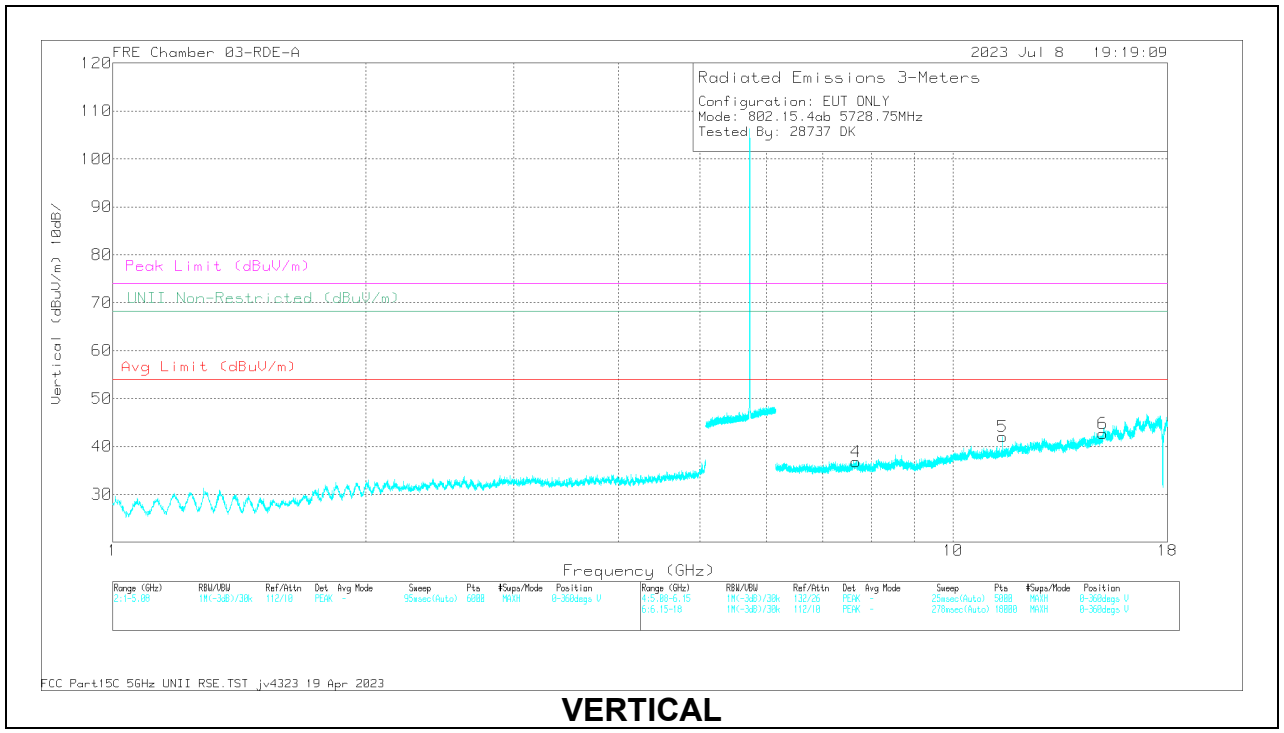
10.1.2. ANT 6, 500Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 7.670726	54.94	PK-U	35.7	-45.7		44.94	-	-	74	-29.06	-	-	360	101	H
	* 7.668281	41.67	ADR	35.7	-45.66	1.16	32.87	54	-21.13	-	-	-	-	360	101	H
2	* 11.456207	54.36	PK-U	37.8	-45.04		47.12	-	-	74	-26.88	-	-	360	101	H
	* 11.45654	41.51	ADR	37.8	-45.04	1.16	35.43	54	-18.57	-	-	-	-	360	101	H
4	* 7.666044	54.93	PK-U	35.7	-45.65		44.98	-	-	74	-29.02	-	-	360	198	V
	* 7.665205	41.63	ADR	35.7	-45.62	1.16	32.87	54	-21.13	-	-	-	-	360	198	V
5	* 11.456734	53.98	PK-U	37.8	-45.04		46.74	-	-	74	-27.26	-	-	360	101	V
	* 11.45643	40.88	ADR	37.8	-45.04	1.16	34.8	54	-19.2	-	-	-	-	360	101	V
6	15.083798	54.27	PK-U	39.7	-44.11		49.86	-	-	-	-	68.2	-18.34	360	101	V
3	15.106229	53.65	PK-U	39.8	-43.14		50.31	-	-	-	-	68.2	-17.89	360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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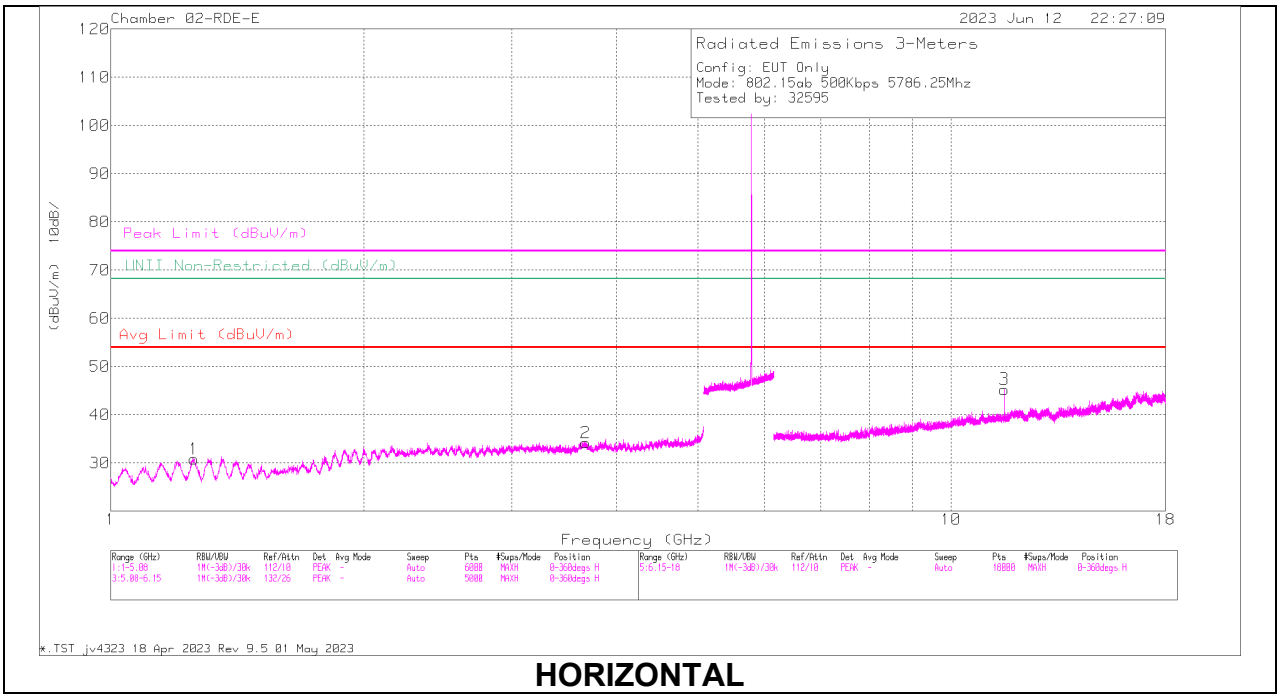
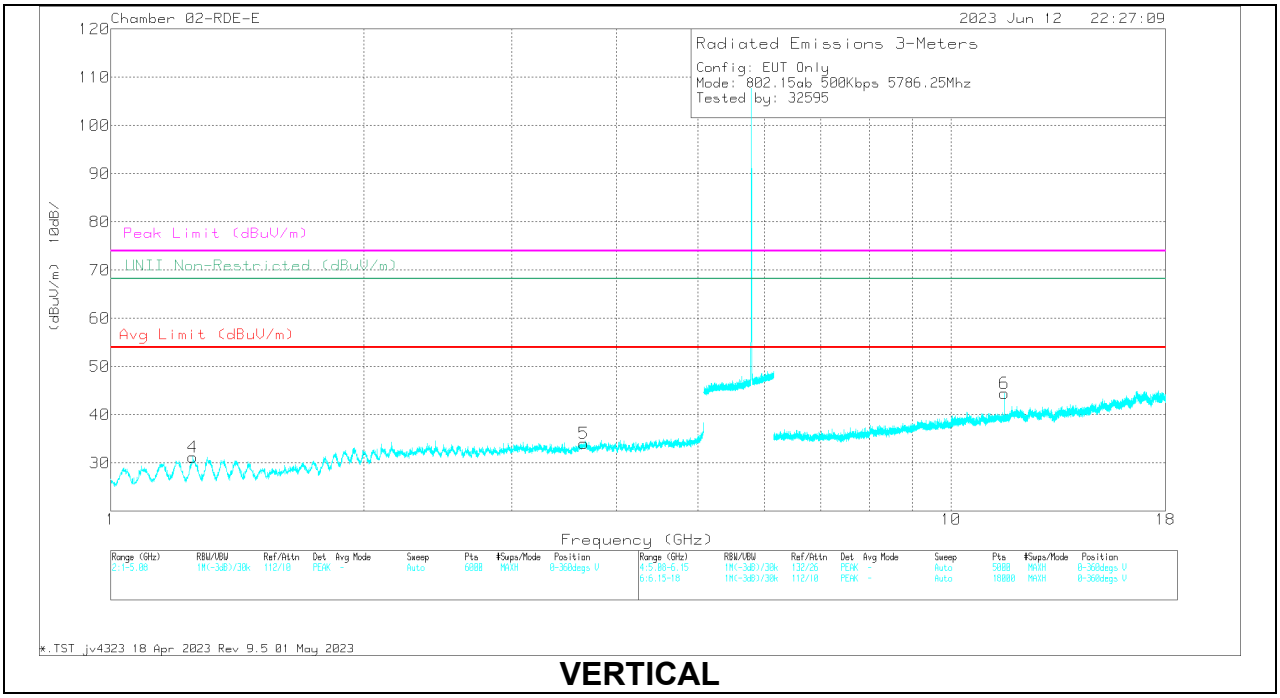
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.254889	61.47	PK-U	29	-49.52		40.95	-	-	74	-33.05	193	328	H
	* 1.253655	49.89	ADR	29	-49.53	1.16	30.52	54	-23.48	-	-	193	328	H
2	* 3.674428	56.97	PK-U	33.4	-45.98		44.39	-	-	74	-29.61	291	248	H
	* 3.672286	45.08	ADR	33.4	-45.99	1.16	33.65	54	-20.351	-	-	291	248	H
4	* 1.255928	61.37	PK-U	29	-49.5		40.87	-	-	74	-33.13	273	283	V
	* 1.253832	49.97	ADR	29	-49.54	1.16	30.59	54	-23.41	-	-	273	283	V
5	* 3.656894	56.69	PK-U	33.4	-46.03		44.06	-	-	74	-29.94	189	342	V
	* 3.655577	45.48	ADR	33.4	-46.06	1.16	33.98	54	-20.02	-	-	189	342	V
3	* 11.573071	57.18	PK-U	38.3	-42.4		53.08	-	-	74	-20.92	265	195	H
	* 11.572943	47.23	ADR	38.3	-42.4	1.16	44.29	54	-9.71	-	-	265	195	H
6	* 11.573138	57.06	PK-U	38.3	-42.39		52.97	-	-	74	-21.03	265	103	V
	* 11.573083	46.61	ADR	38.3	-42.4	1.16	43.67	54	-10.33	-	-	265	103	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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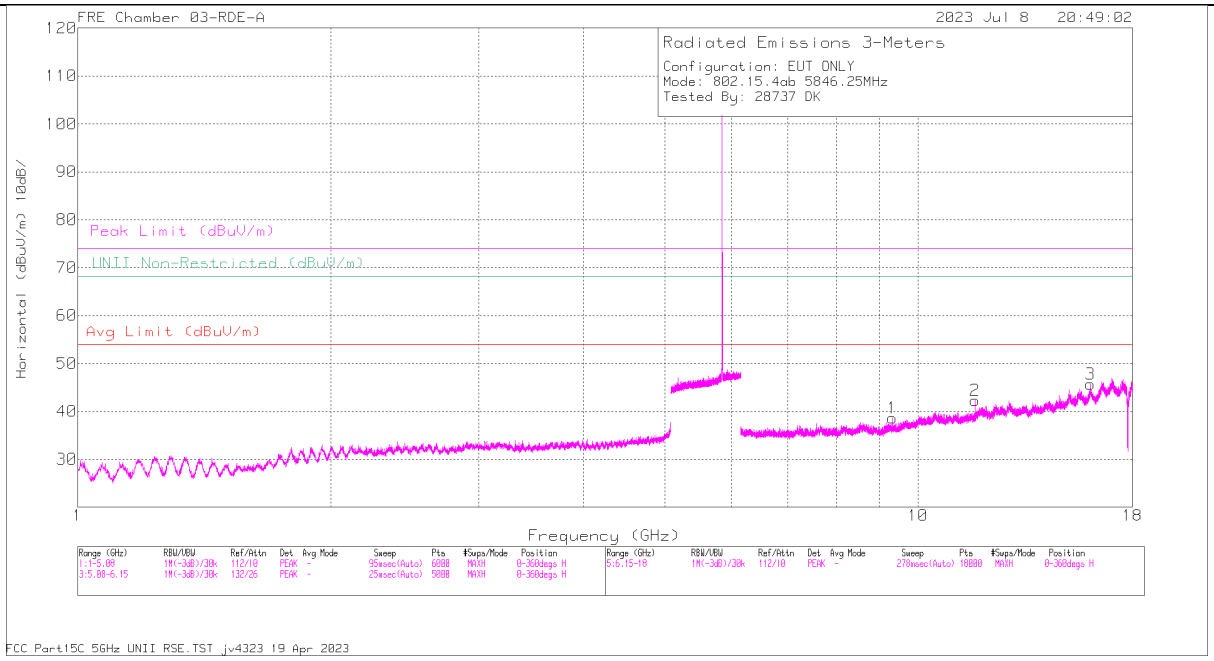
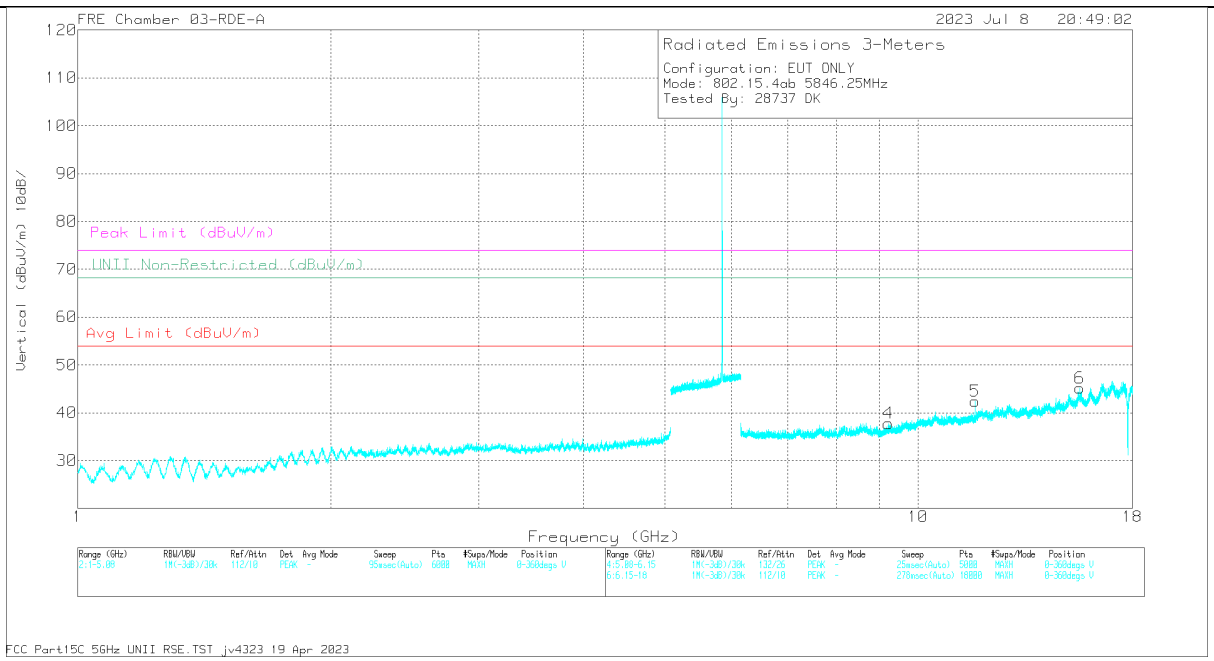
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 9.321515	55.81	PK-U	36.2	-46.01		46	-	-	74	-28	-	-	0	198	H
	* 9.321013	41.88	ADR	36.2	-46.05	1.16	33.19	54	-20.81	-	-	-	-	0	198	H
2	* 11.689789	54.98	PK-U	38.1	-44.8		48.28	-	-	74	-25.72	-	-	0	198	H
	* 11.691864	40.9	ADR	38.1	-44.77	1.16	35.39	54	-18.61	-	-	-	-	0	198	H
3	* 16.03585	53.74	PK-U	40.5	-43.36		50.88	-	-	74	-23.12	-	-	0	101	H
	* 16.033093	40.49	ADR	40.5	-43.38	1.16	38.77	54	-15.23	-	-	-	-	0	101	H
4	* 11.692729	54.76	PK-U	38.1	-44.78		48.08	-	-	74	-25.92	-	-	0	101	V
	* 11.691554	41.77	ADR	38.1	-44.77	1.16	36.26	54	-17.74	-	-	-	-	0	101	V
5	* 15.577934	54	PK-U	40.2	-42.65		51.55	-	-	74	-22.45	-	-	0	101	V
	* 15.575998	39.98	ADR	40.2	-42.71	1.16	38.63	54	-15.37	-	-	-	-	0	101	V
6	9.220459	55	PK-U	36	-45.89		45.11	-	-	-	-	68.2	-23.09	0	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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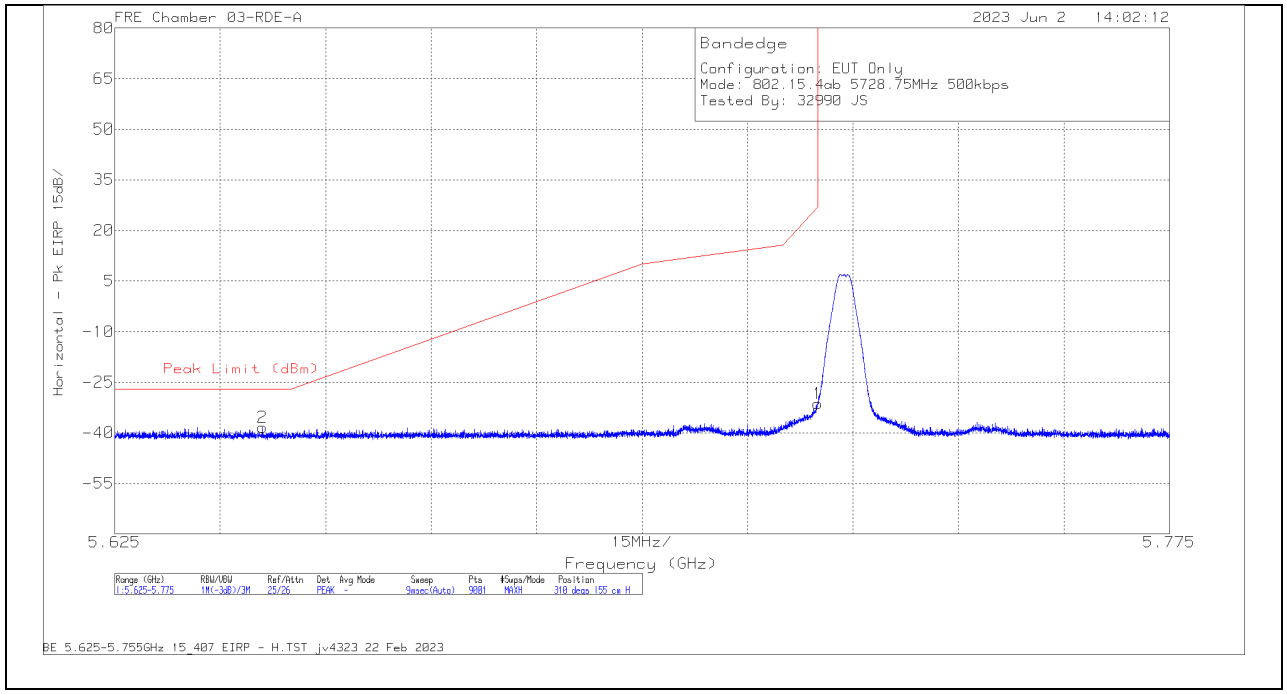
10.1.3. ANT 6, 500Kbps LOW POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.646	-47.44	Pk	35.2	11.8	0	-37.92	-38.36	-27	-11.36	310	155	H
1	5.725	-40.6	Pk	35.2	11.8	0	-37.78	-31.38	27	-58.38	310	155	H

Pk - Peak detector

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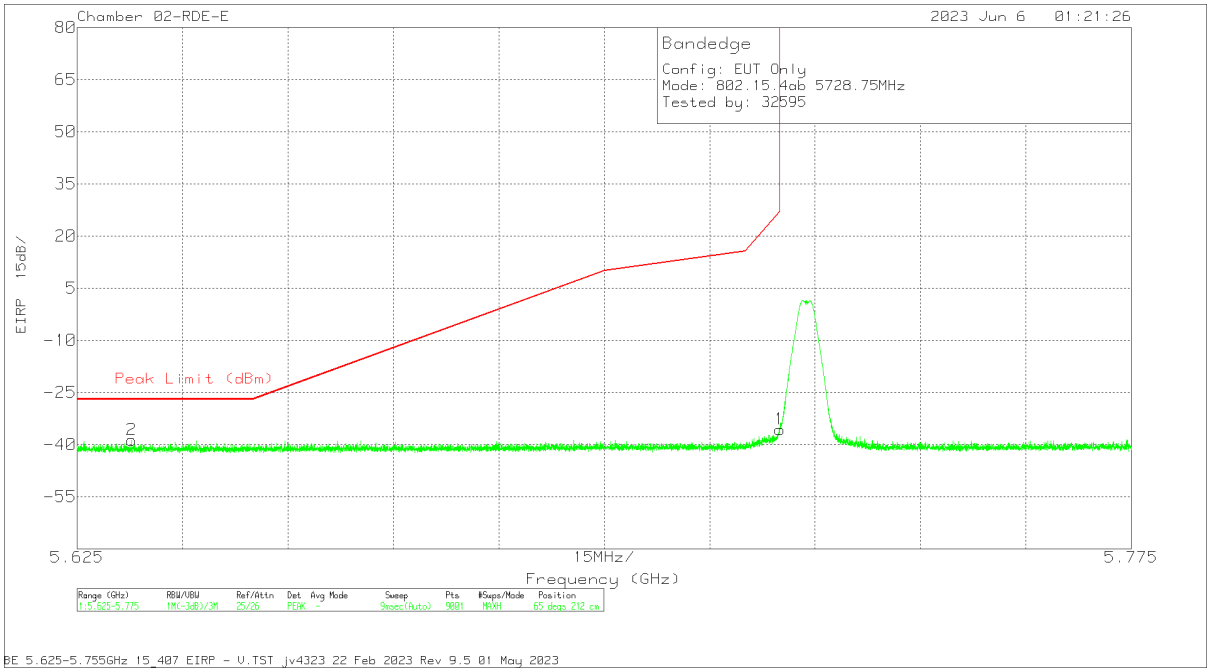
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206807 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.632767	-47.88	Pk	34.5	11.8	0	-37.08	-38.66	-27	-11.66	65	212	V
1	5.725	-45.26	Pk	34.6	11.8	0	-36.76	-35.62	27	-62.62	65	212	V

Pk - Peak detector

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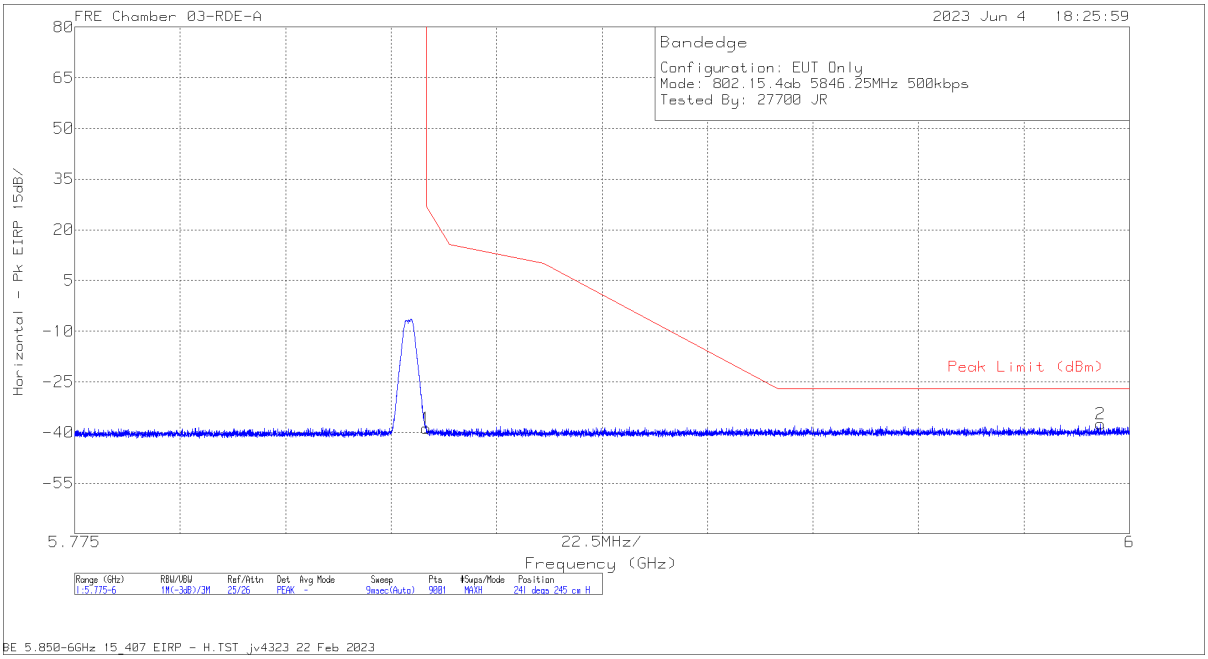
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-48.17	Pk	35.2	11.8	0	-37.49	-38.66	27	-65.66	241	245	H
2	5.9938	-47.48	Pk	35.5	11.8	0	-37.22	-37.4	-27	-10.4	241	245	H

Pk - Peak detector

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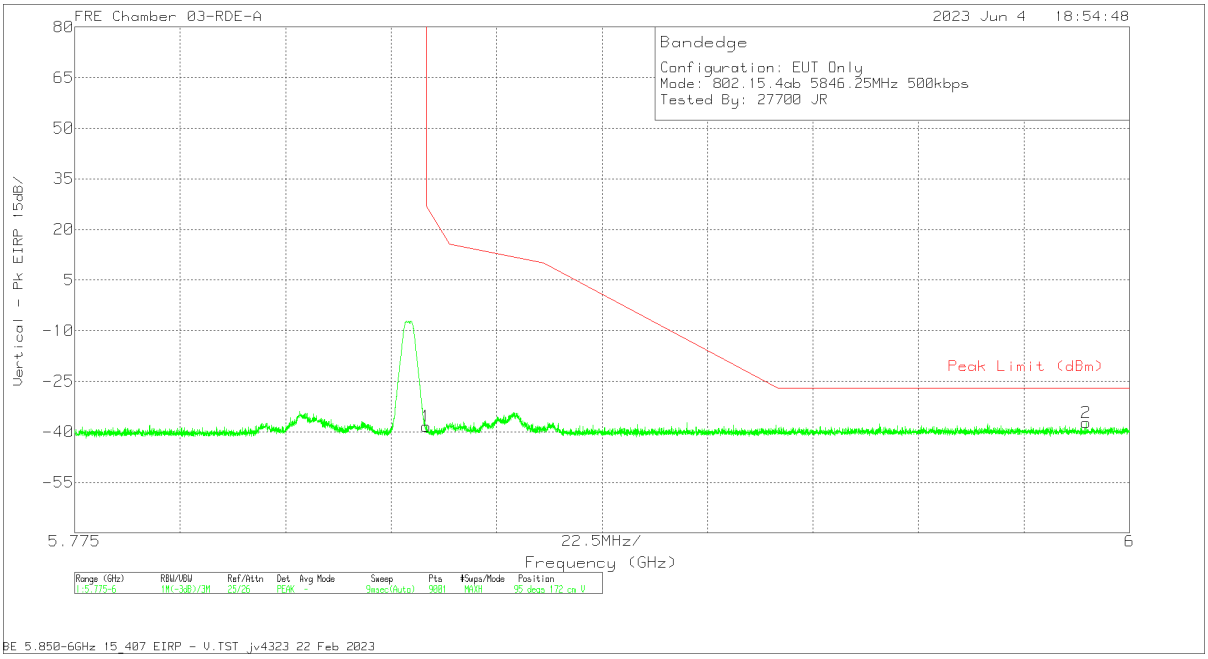
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-47.94	Pk	35.2	11.8	0	-37.49	-38.43	27	-65.43	95	172	V
2	5.990775	-47.3	Pk	35.4	11.8	0	-37.23	-37.33	-27	-10.33	95	172	V

Pk - Peak detector

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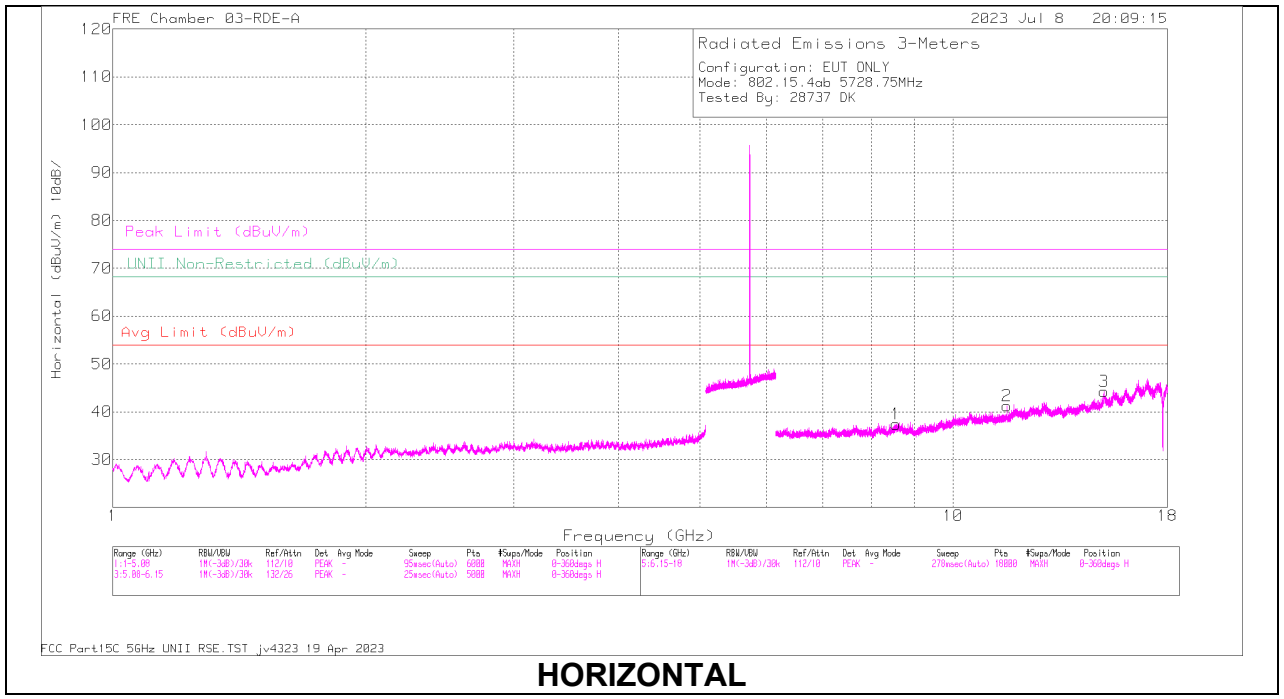
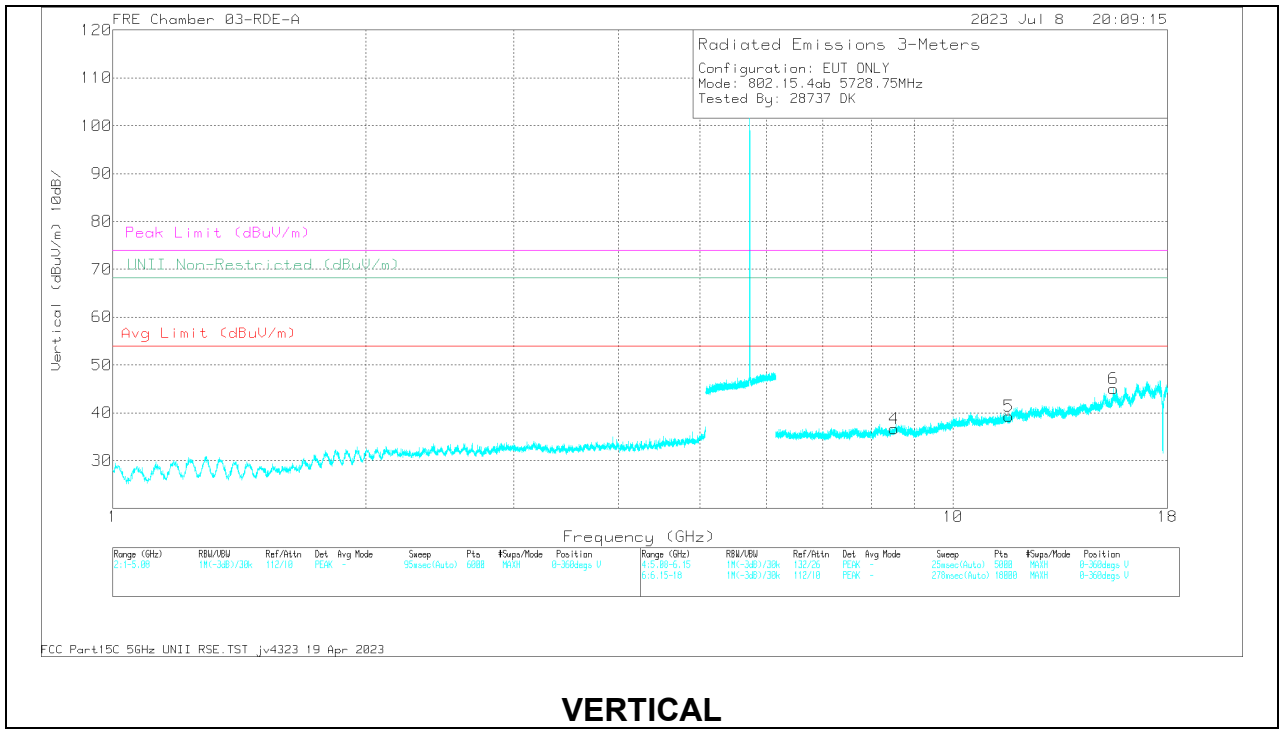
10.1.4. ANT 6, 500Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW 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	200897 ACF (dB) 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Pola
2	* 11.602153	53.84	PK-U	37.9	-44.54		47.2	-	-	74	-26.8	-	-	360	101	H
	* 11.600652	40.47	ADR	37.9	-44.52	1.16	35.01	54	-18.99	-	-	-	-	360	101	H
5	* 11.665283	54.73	PK-U	38	-44.72		48.01	-	-	74	-25.99	-	-	360	200	V
	* 11.665637	40.75	ADR	38	-44.71	1.16	35.2	54	-18.8	-	-	-	-	360	200	V
6	* 15.517068	53.9	PK-U	40.2	-42.75		51.35	-	-	74	-22.65	-	-	360	200	V
	* 15.517219	40.35	ADR	40.2	-42.74	1.16	38.97	54	-15.03	-	-	-	-	360	200	V
4	8.512149	53.89	PK-U	35.7	-45.6		43.99	-	-	-	-	68.2	-24.21	360	200	V
1	8.550873	54.09	PK-U	35.7	-44.93		44.86	-	-	-	-	68.2	-23.34	360	206	H
3	15.123008	53.57	PK-U	39.8	-42.41		50.96	-	-	-	-	68.2	-17.24	360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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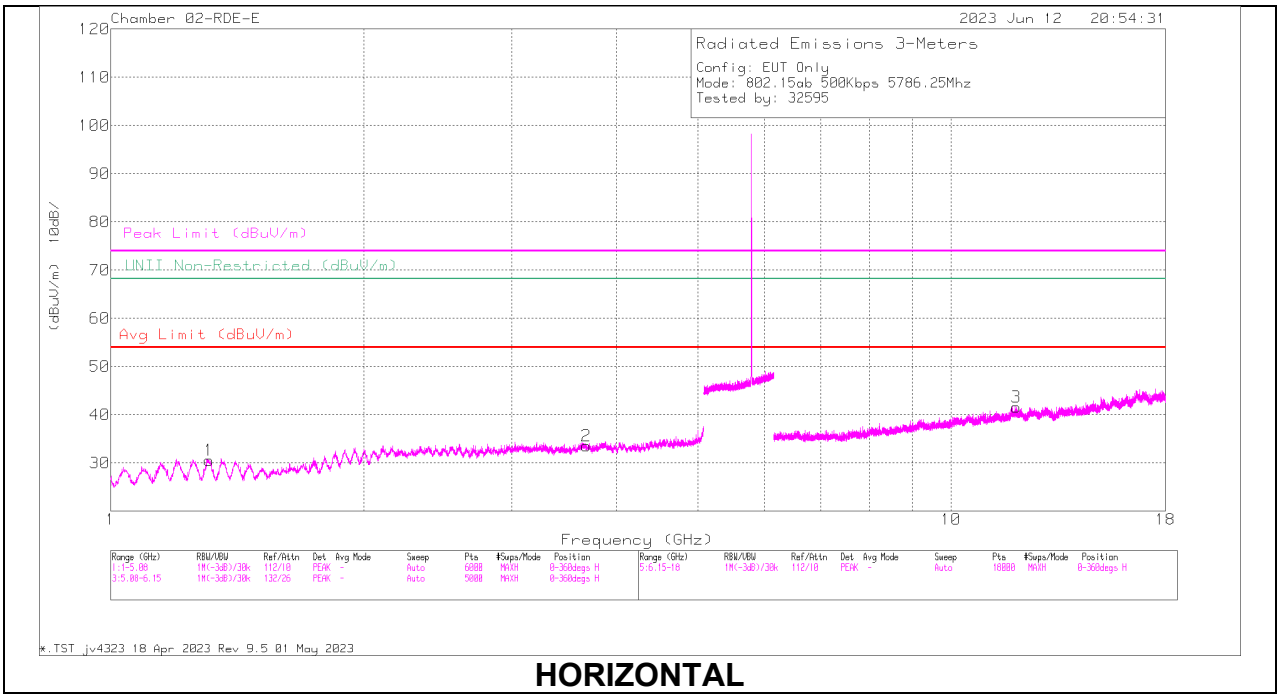
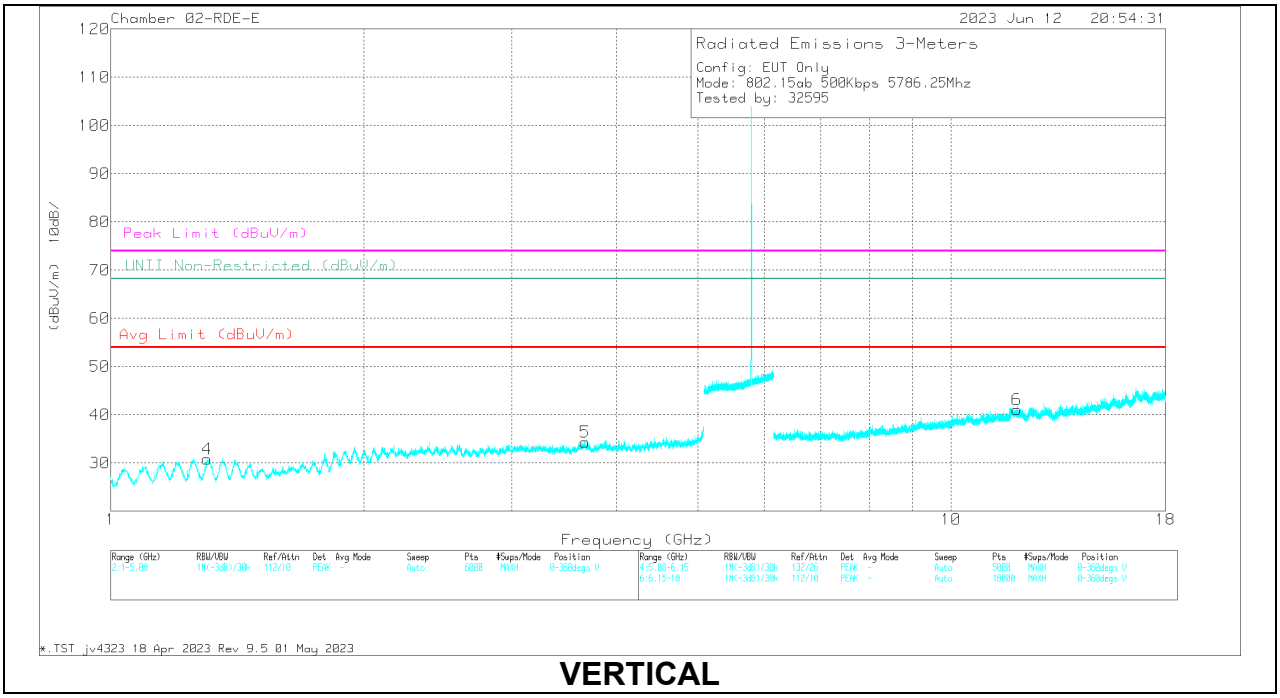
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polar
1	* 1.310863	61.79	PK-U	29	-49.45		41.34	-	-	74	-32.66	203	334	H
	* 1.3072	49.75	ADR	29	-49.49	1.16	30.42	54	-23.58	-	-	203	334	H
2	* 3.68156	56.37	PK-U	33.5	-45.97		43.9	-	-	74	-30.1	181	189	H
	* 3.681438	44.78	ADR	33.5	-45.97	1.16	33.47	54	-20.53	-	-	181	189	H
4	* 1.303036	61.23	PK-U	29	-49.48		40.75	-	-	74	-33.25	236	317	V
	* 1.303919	49.84	ADR	29	-49.48	1.16	30.52	54	-23.48	-	-	236	317	V
5	* 3.668972	57.08	PK-U	33.4	-46.02		44.46	-	-	74	-29.54	111	200	V
	* 3.667269	45.17	ADR	33.4	-46.05	1.16	33.68	54	-20.32	-	-	111	200	V
3	* 11.969156	54.07	PK-U	38.8	-42.77		50.1	-	-	74	-23.9	188	303	H
	* 11.969229	42.53	ADR	38.8	-42.77	1.16	39.72	54	-14.28	-	-	188	303	H
6	* 11.974874	54.69	PK-U	38.8	-42.78		50.71	-	-	74	-23.29	273	244	V
	* 11.976755	42.65	ADR	38.8	-42.78	1.16	39.83	54	-14.17	-	-	273	244	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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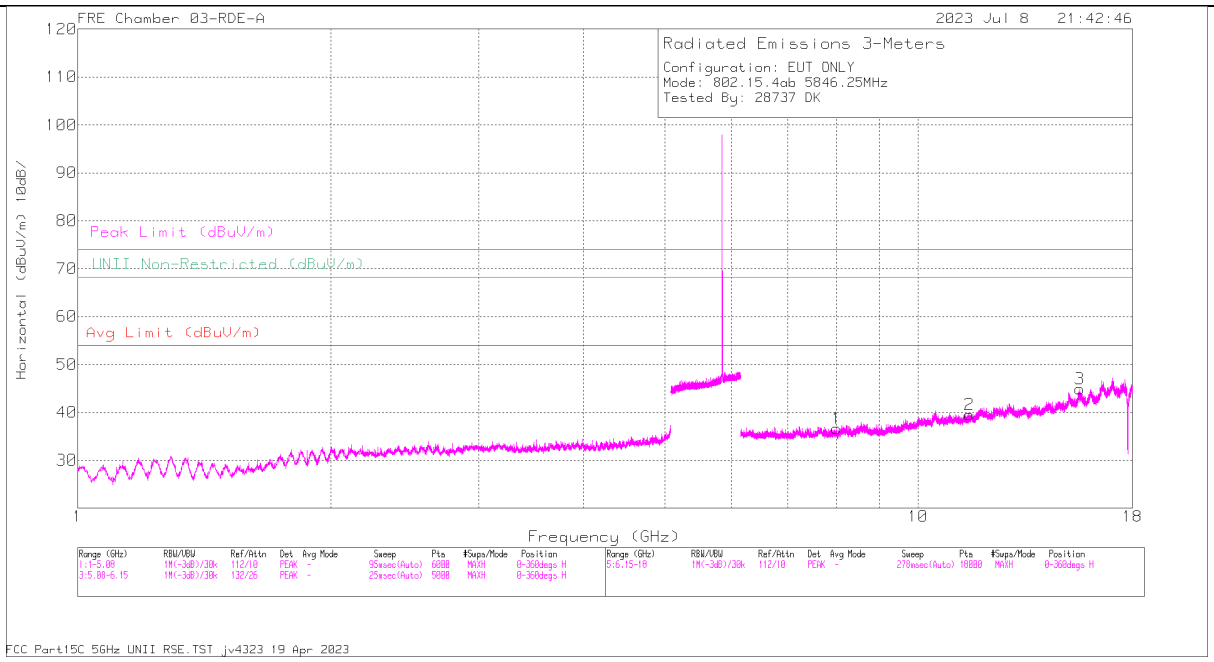
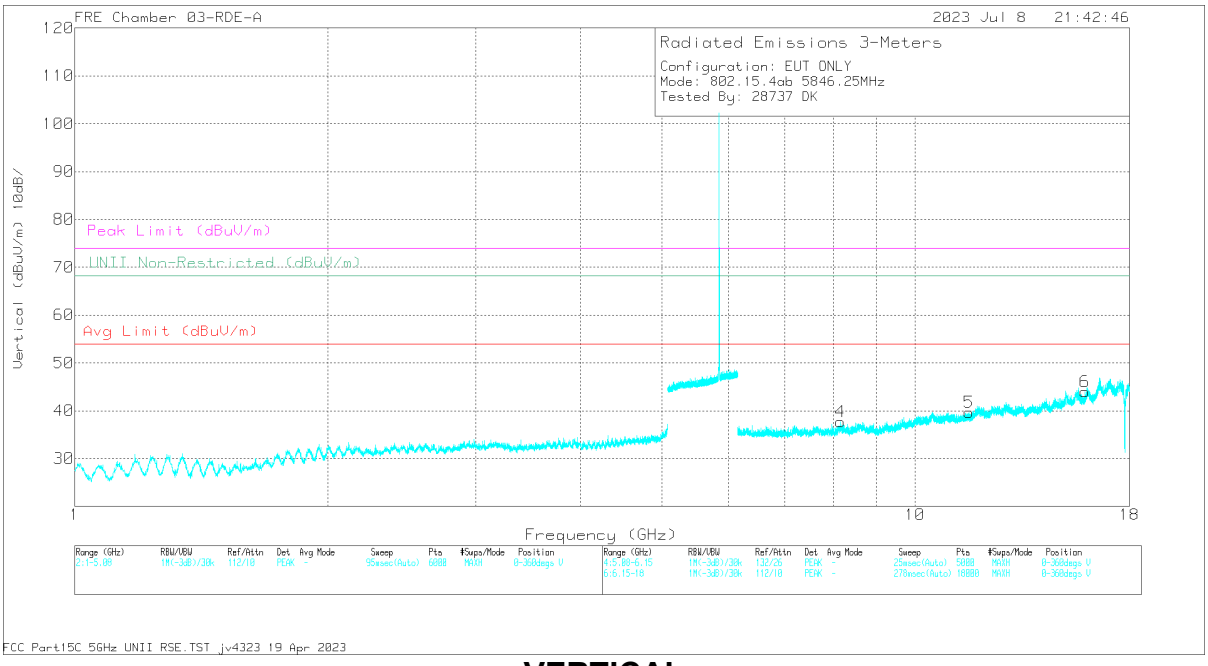
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 11.511951	54.22	PK-U	37.8	-44.68		47.34	-	-	74	-26.66	-	-	1	199	H
	* 11.513217	40.71	ADR	37.8	-44.65	1.16	35.02	54	-18.98	-	-	-	-	1	199	H
3	* 15.592261	53.55	PK-U	40.2	-42.6		51.15	-	-	74	-22.85	-	-	1	101	H
	* 15.592168	39.87	ADR	40.2	-42.59	1.16	38.64	54	-15.36	-	-	-	-	1	101	H
4	* 8.148657	55.42	PK-U	35.7	-45.34		45.78	-	-	74	-28.22	-	-	1	201	V
	* 8.149083	41.24	ADR	35.7	-45.33	1.16	32.77	54	-21.23	-	-	-	-	1	201	V
5	* 11.598548	54.06	PK-U	37.9	-44.49		47.47	-	-	74	-26.53	-	-	1	201	V
	* 11.597274	40.44	ADR	37.9	-44.5	1.16	35.00	54	-19.00	-	-	-	-	1	201	V
6	* 15.937057	53.58	PK-U	40.5	-44.14		49.94	-	-	74	-24.06	-	-	1	101	V
	* 15.937597	40.49	ADR	40.5	-44.14	1.16	38.01	54	-15.99	-	-	-	-	1	101	V
1	8.002242	55.6	PKFH	35.7	-46.18		45.12	-	-	-	-	68.2	-23.08	1	201	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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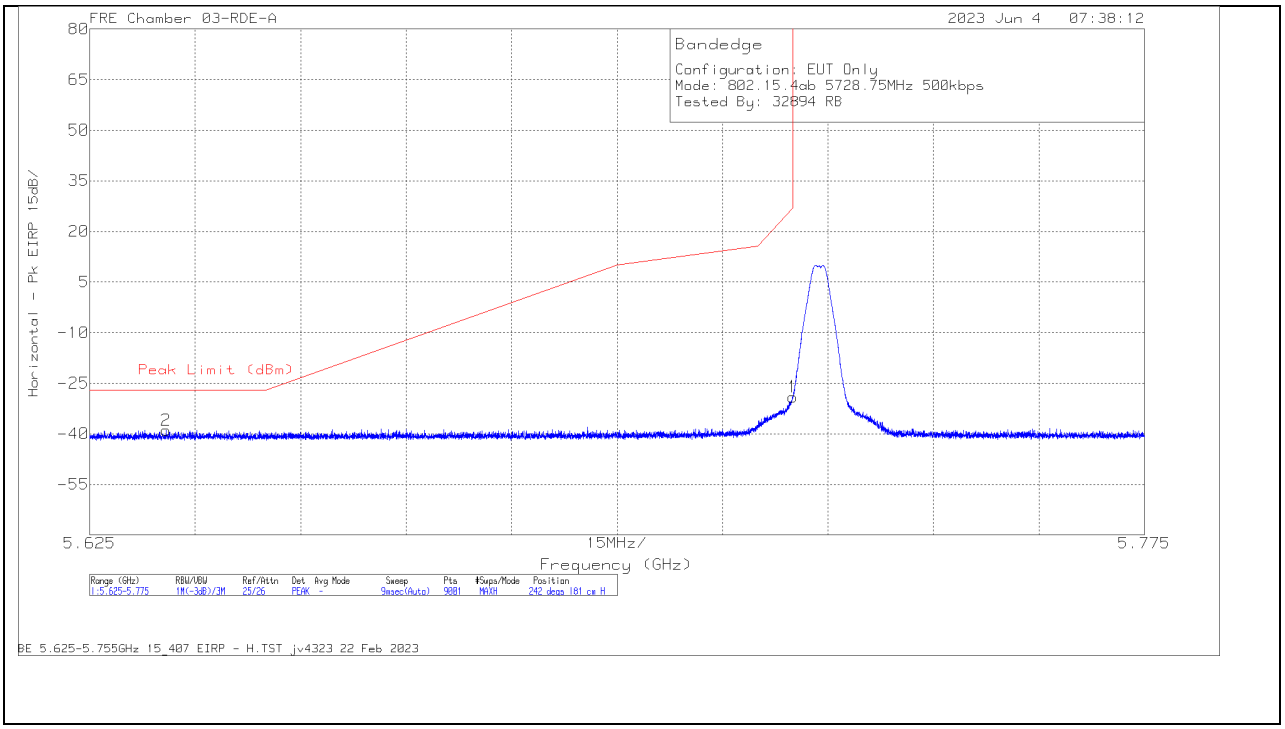
10.1.5. ANT 5, 500Kbps, HIGH POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.63585	-48	Pk	35.2	11.8	0	-37.93	-38.93	-27	-11.93	242	181	H
1	5.725	-38.23	Pk	35.2	11.8	0	-37.78	-29.01	27	-56.01	242	181	H

Pk - Peak detector

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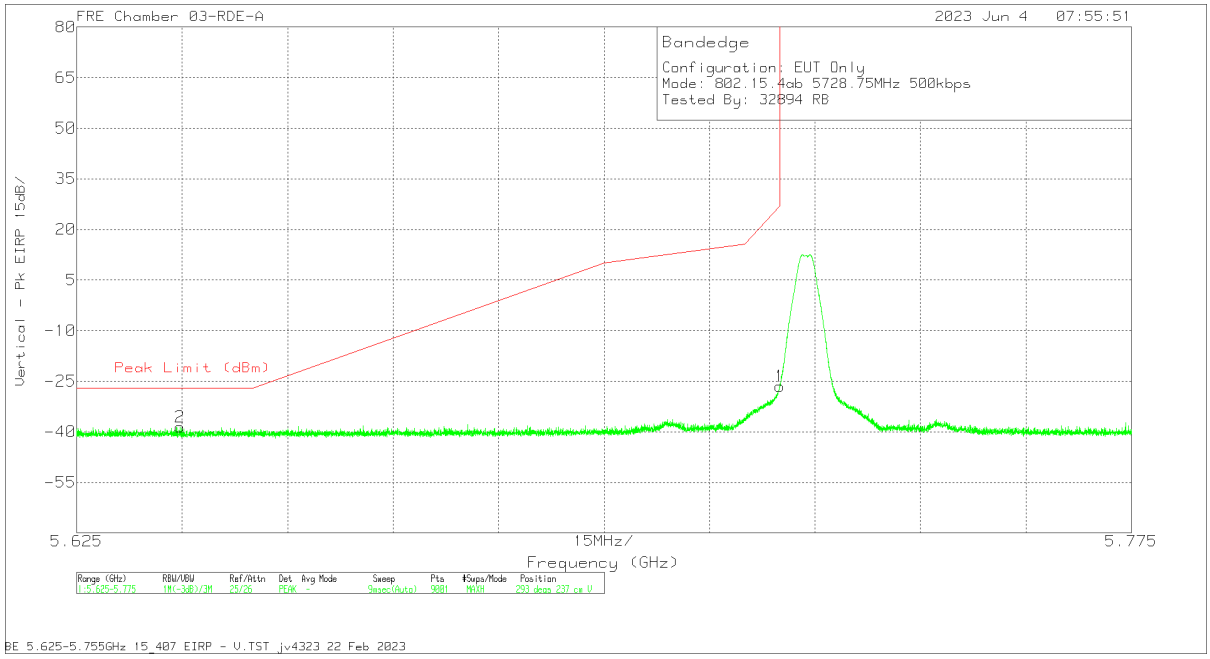
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.639717	-47.66	Pk	35.2	11.8	0	-37.97	-38.63	-27	-11.63	293	237	V
1	5.725	-35.75	Pk	35.2	11.8	0	-37.78	-26.53	27	-53.53	293	237	V

Pk - Peak detector

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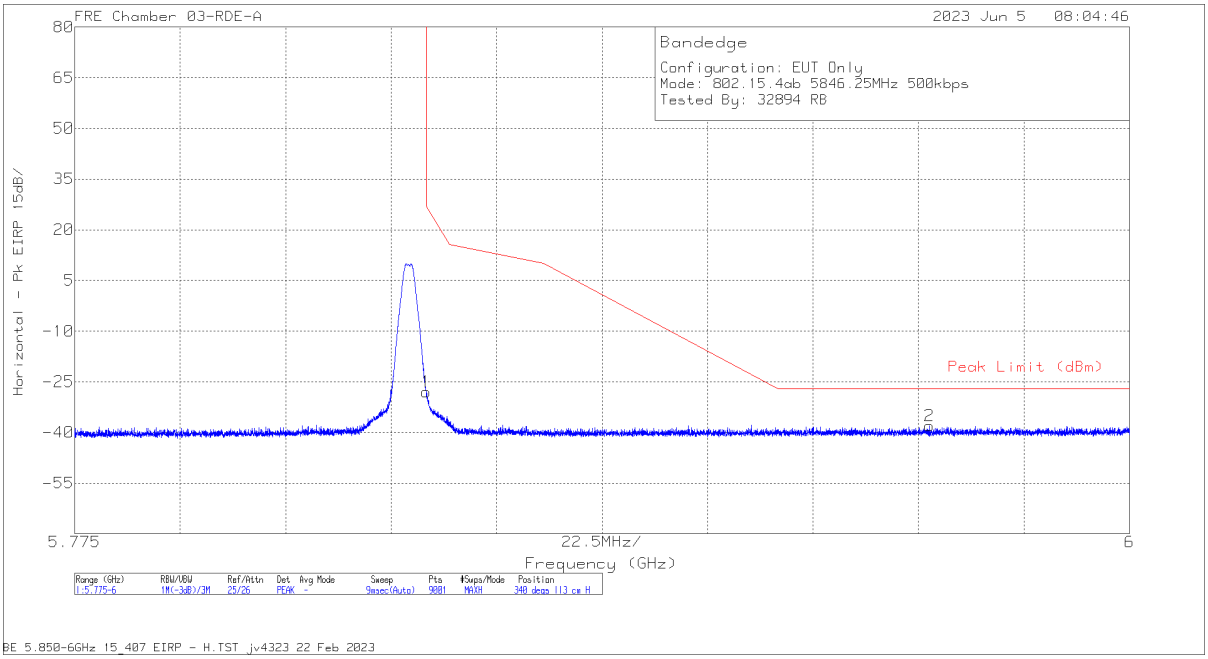
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-37.48	Pk	35.2	11.8	0	-37.49	-27.97	27	-54.97	340	113	H
2	5.957375	-48	Pk	35.4	11.8	0	-37.25	-38.05	-27	-11.05	340	113	H

Pk - Peak detector

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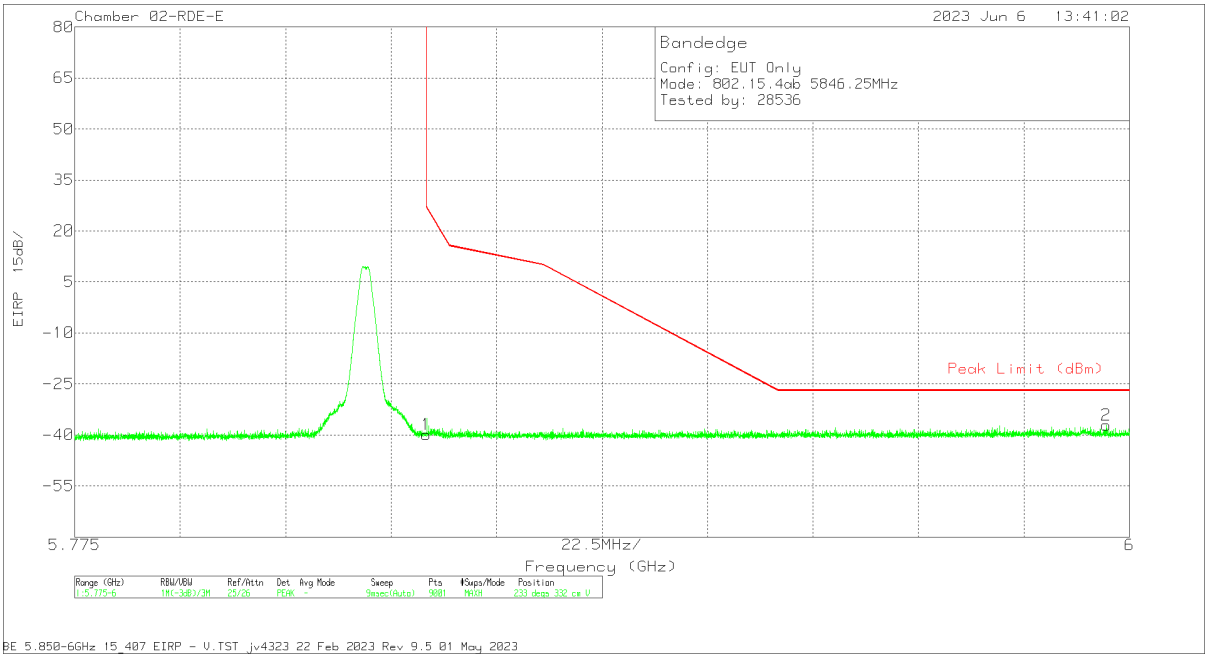
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206807 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-50.25	Pk	34.9	11.8	0	-36.3	-39.85	27	-66.85	233	332	V
2	5.9951	-48.37	Pk	35.2	11.8	0	-35.8	-37.17	-27	-10.17	233	332	V

Pk - Peak detector

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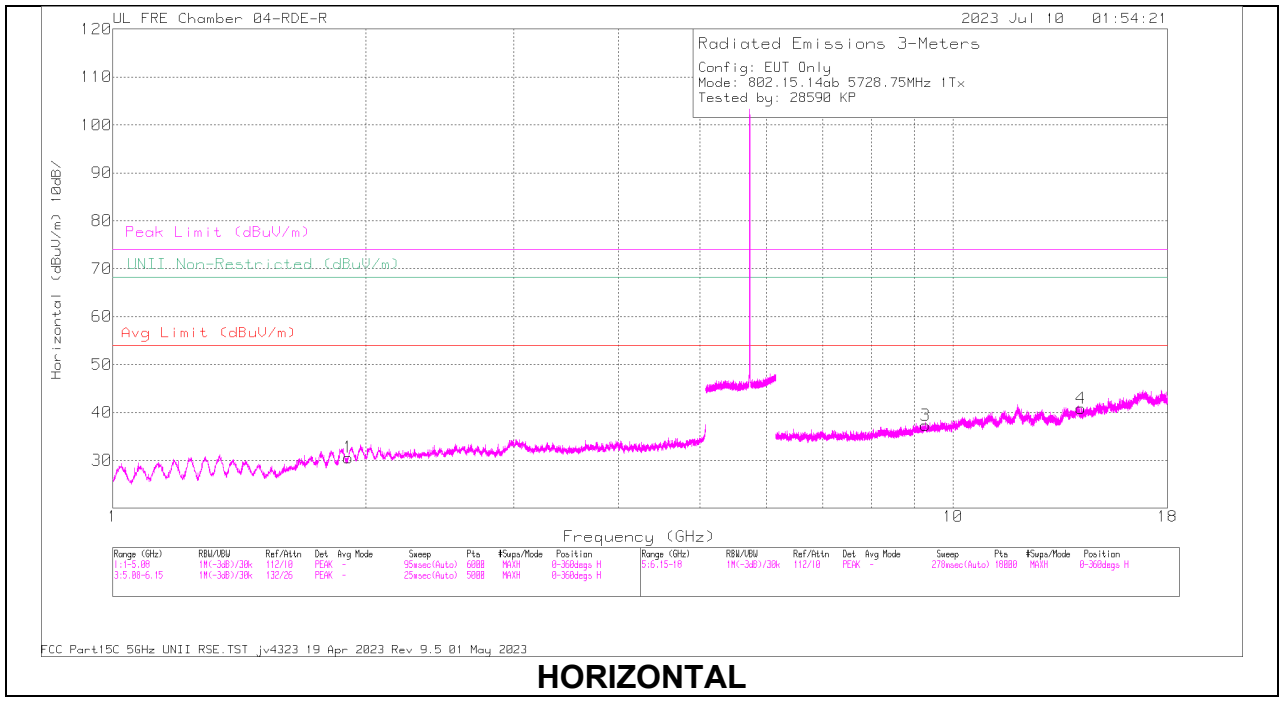
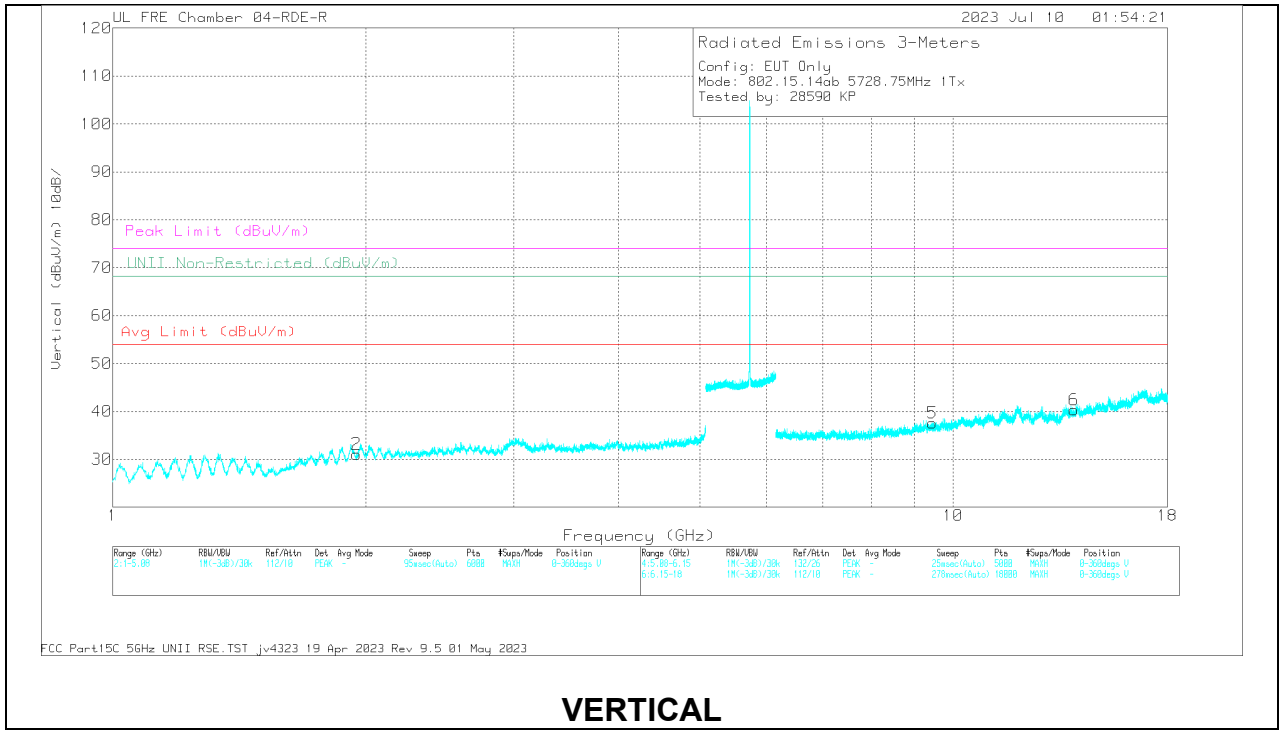
10.1.6. ANT 5, 500Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 9.445435	56.58	PK-U	36.4	-45.77		47.21	-	-	74	-26.79	-	-	133	201	V
	* 9.444336	44.91	ADR	36.4	-45.75	1.16	36.72	54	-17.28	-	-	-	-	133	201	V
1	1.910078	61.08	PK-U	31.4	-50.37		42.11	-	-	-	-	68.2	-26.09	133	118	H
2	1.947214	59.88	PK-U	31.5	-50.34		41.04	-	-	-	-	68.2	-27.16	133	201	V
3	9.280654	55.99	PK-U	36.2	-45.42		46.77	-	-	-	-	68.2	-21.43	133	100	H
6	13.928627	54.26	PK-U	38.6	-44.2		48.66	-	-	-	-	68.2	-19.54	133	200	V
4	14.191742	55.04	PK-U	38.8	-43.78		50.06	-	-	-	-	68.2	-18.14	133	100	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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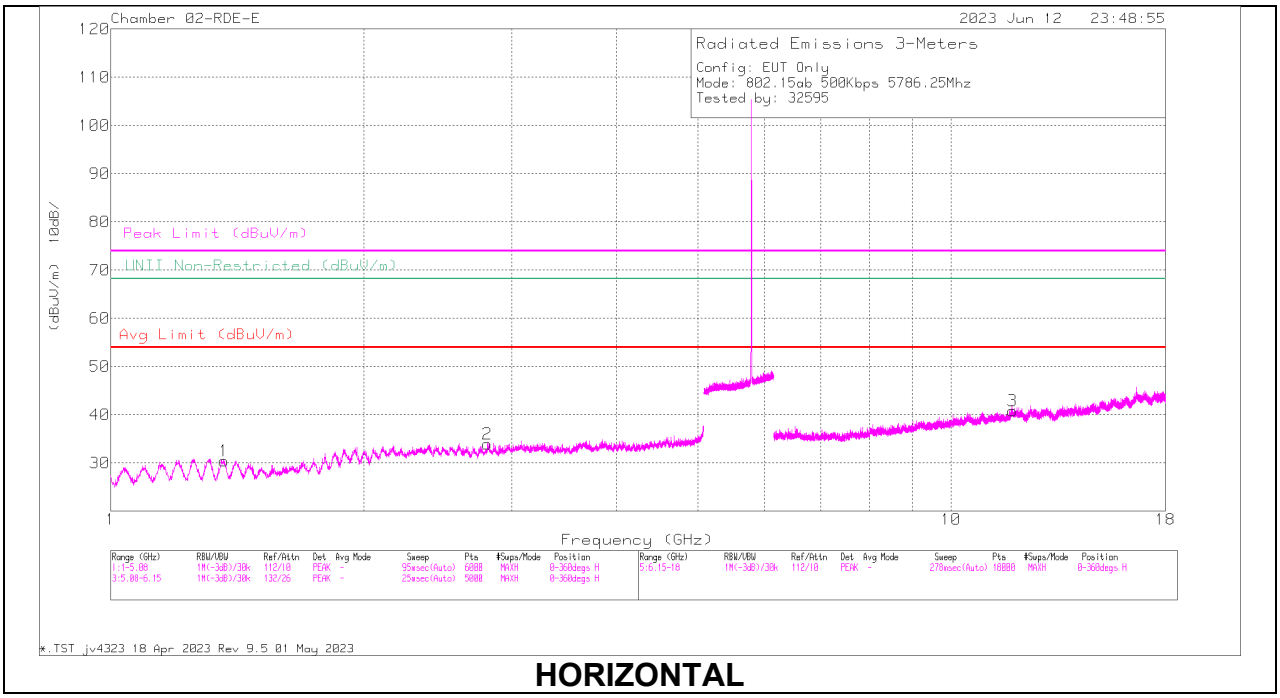
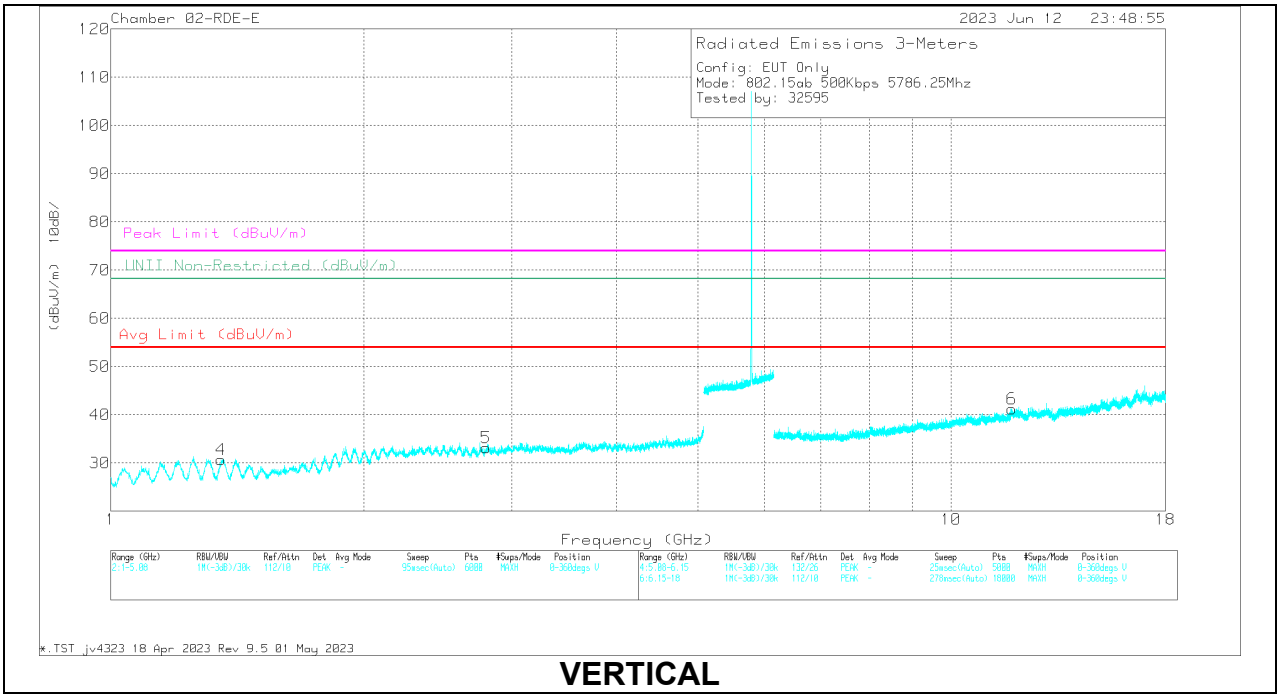
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.364292	61.48	PK-U	28.9	-49.42		40.96	-	-	74	-33.04	49	371	H
	* 1.363454	49.6	ADR	28.9	-49.42	1.16	30.24	54	-23.76	-	-	49	371	H
2	* 2.807186	59.94	PK-U	32.3	-48.39		43.85	-	-	74	-30.15	178	104	H
	* 2.805613	47.91	ADR	32.2	-48.41	1.16	32.86	54	-21.14	-	-	178	104	H
4	* 1.356028	61.39	PK-U	28.9	-49.46		40.83	-	-	74	-33.17	284	308	V
	* 1.355501	49.71	ADR	28.9	-49.46	1.16	30.31	54	-23.69	-	-	284	308	V
5	* 2.792839	58.79	PK-U	32.2	-48.37		42.62	-	-	74	-31.38	351	200	V
	* 2.793443	47.37	ADR	32.2	-48.36	1.16	32.37	54	-21.63	-	-	351	200	V
3	* 11.8427	53.58	PK-U	38.6	-43.07		49.11	-	-	74	-24.89	70	191	H
	* 11.842924	41.79	ADR	38.6	-43.07	1.16	38.48	54	-15.52	-	-	70	191	H
6	* 11.813798	53.25	PK-U	38.6	-42.69		49.16	-	-	74	-24.84	233	248	V
	* 11.813538	41.96	ADR	38.6	-42.68	1.16	39.04	54	-14.96	-	-	233	248	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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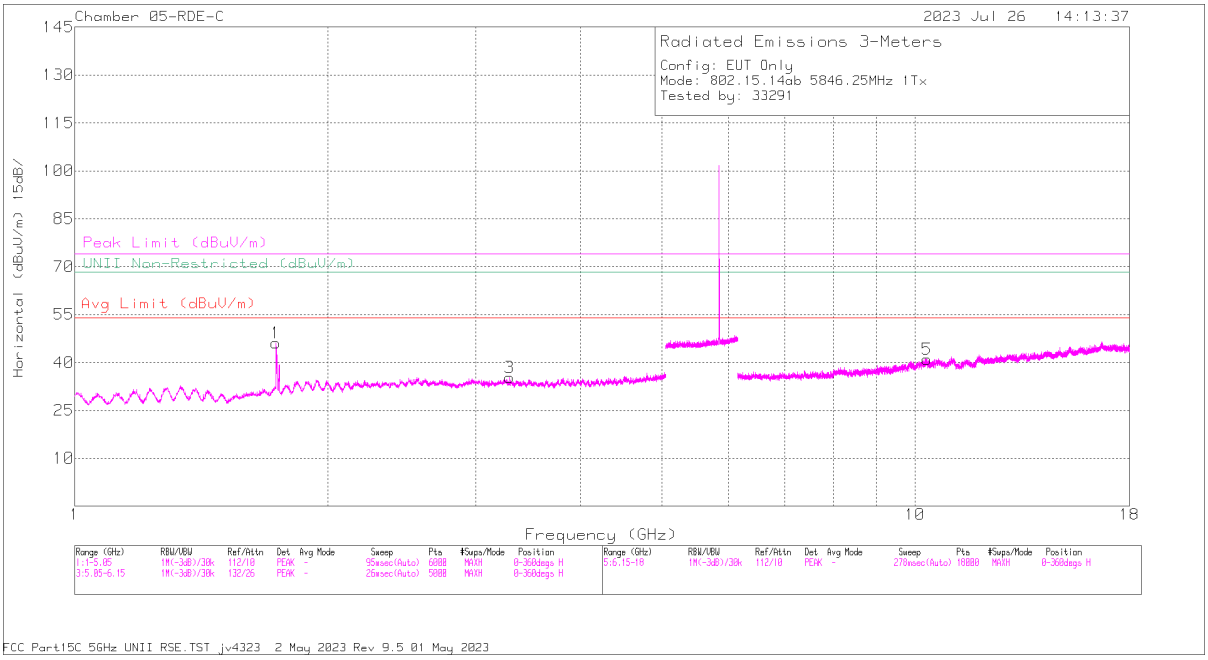
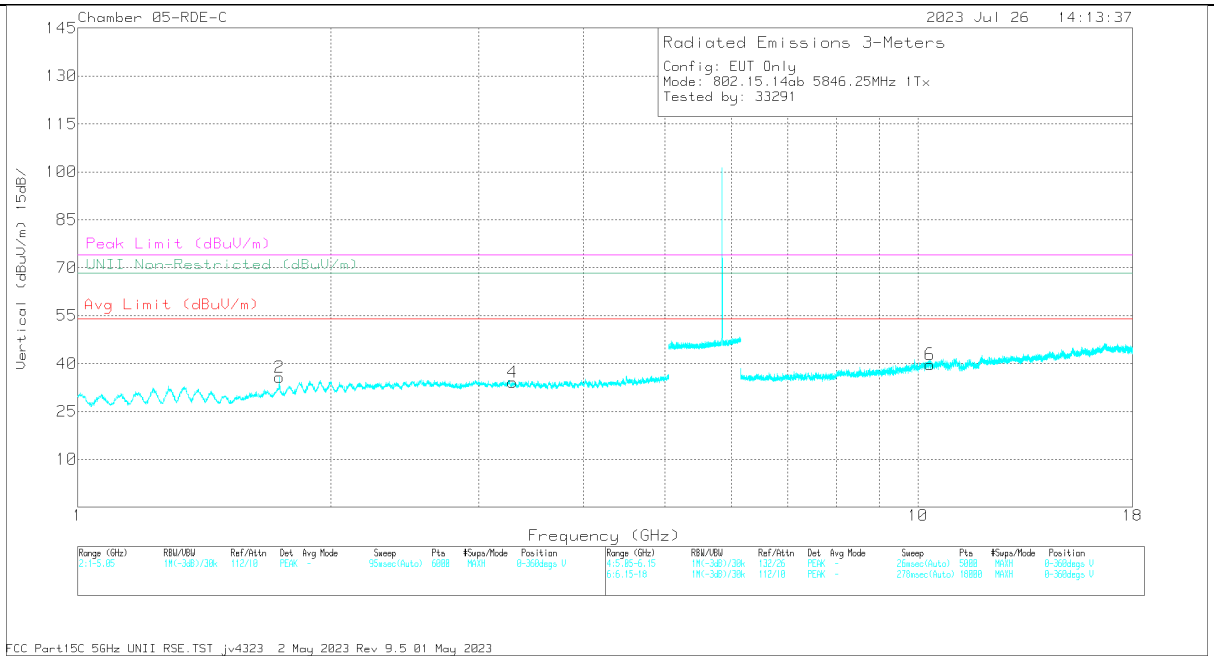
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Polarity	Frequency (GHz)	Meter Reading (dBuV)	Det	81887 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.737703	61.83	PK-U	30	-48.81	43.02	68.2	-25.18	24	137	H
2	1.737741	61.15	PK-U	30	-48.81	42.34	68.2	-25.86	301	102	V
3	3.294631	58.02	PK-U	33	-47.31	43.71	68.2	-24.49	250	205	H
4	3.297153	58.24	PK-U	33	-47.33	43.91	68.2	-24.29	174	363	V
5	10.33952	58.66	PK-U	37.8	-46.02	50.44	68.2	-17.76	346	313	H
6	10.34104	58.47	PK-U	37.8	-46.04	50.23	68.2	-17.97	314	195	V

PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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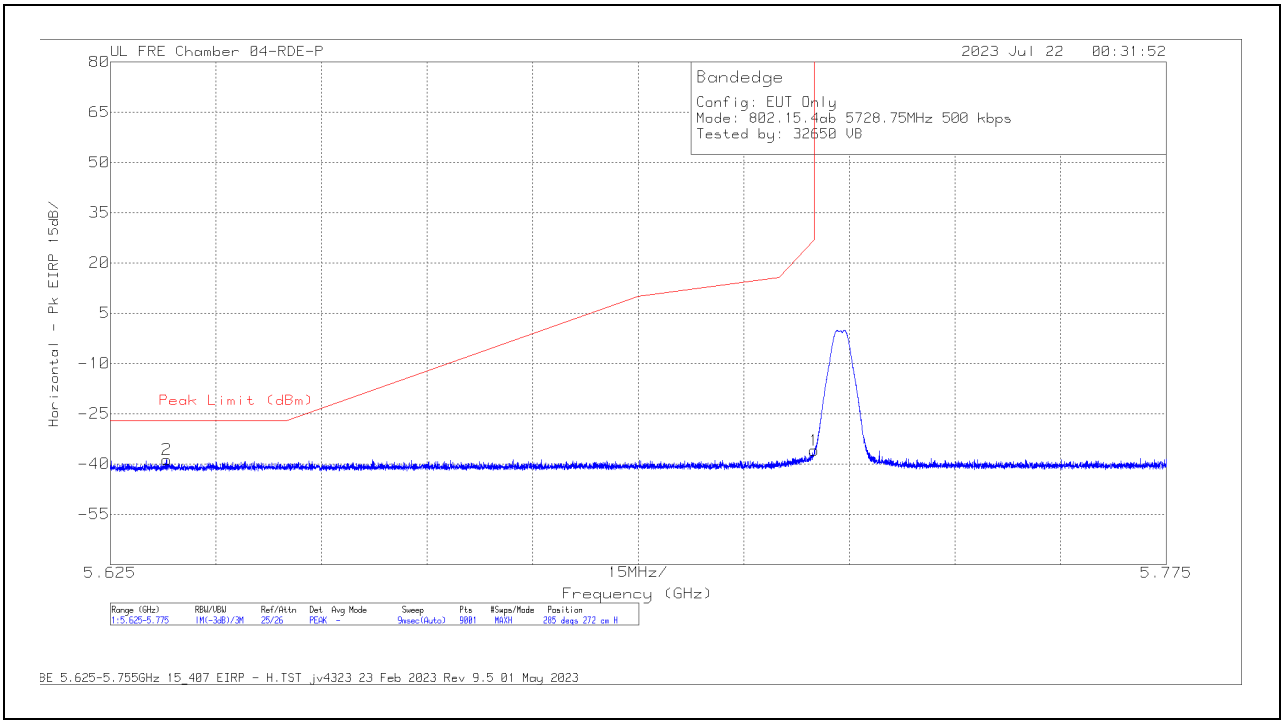
10.1.7. ANT 5, 500Kbps, LOW POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	222740 ACF(dB) - 3mH	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.633067	-47.62	Pk	34.4	11.8	0	-37.23	-38.65	-27	-11.65	285	272	H
1	5.725	-45.2	Pk	34.5	11.8	0	-37.07	-35.97	27	-62.97	285	272	H

Pk - Peak detector

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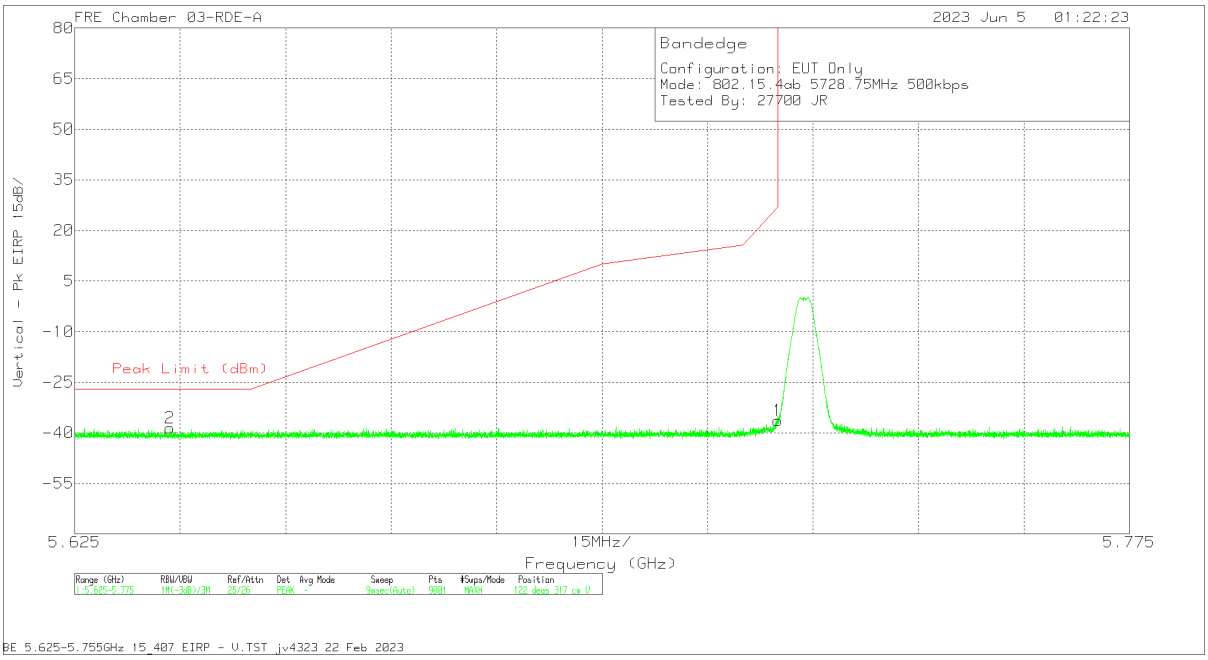
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.63855	-47.61	Pk	35.2	11.8	0	-37.96	-38.57	-27	-11.57	122	317	V
1	5.725	-45.54	Pk	35.2	11.8	0	-37.78	-36.32	27	-63.32	122	317	V

Pk - Peak detector

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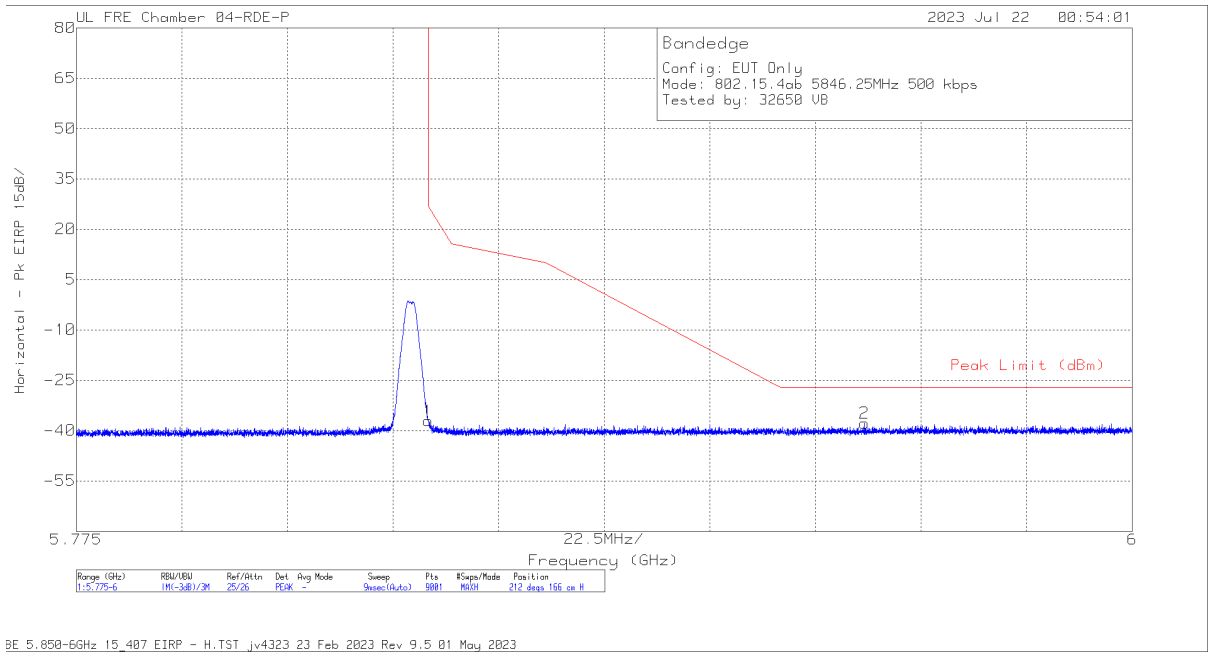
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	222740 ACF(dB) - 3mH	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-47.01	Pk	34.7	11.8	0	-36.6	-37.11	27	-64.11	212	166	H
2	5.942925	-48.17	Pk	34.9	11.8	0	-36.29	-37.76	-27	-10.76	212	166	H

Pk - Peak detector

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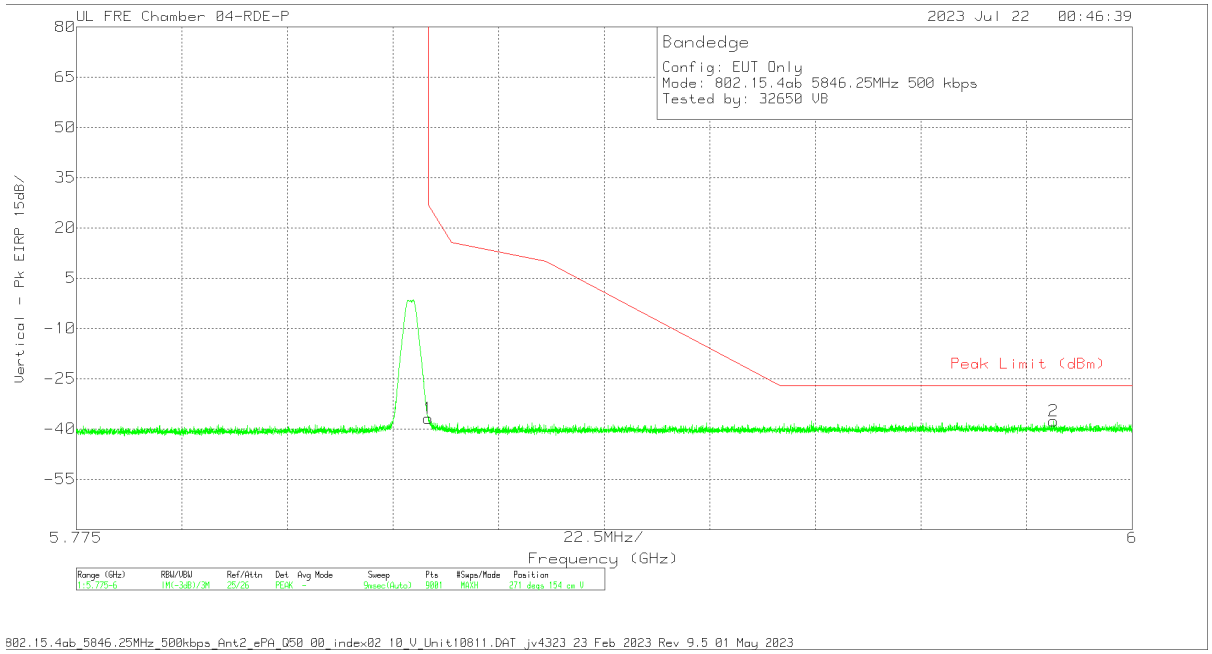
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	222740 ACF(dB) - 3mH	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-46.69	Pk	34.7	11.8	0	-36.6	-36.79	27	-63.79	271	154	V
2	5.983275	-48.2	Pk	35	11.8	0	-36.13	-37.53	-27	-10.53	271	154	V

Pk - Peak detector

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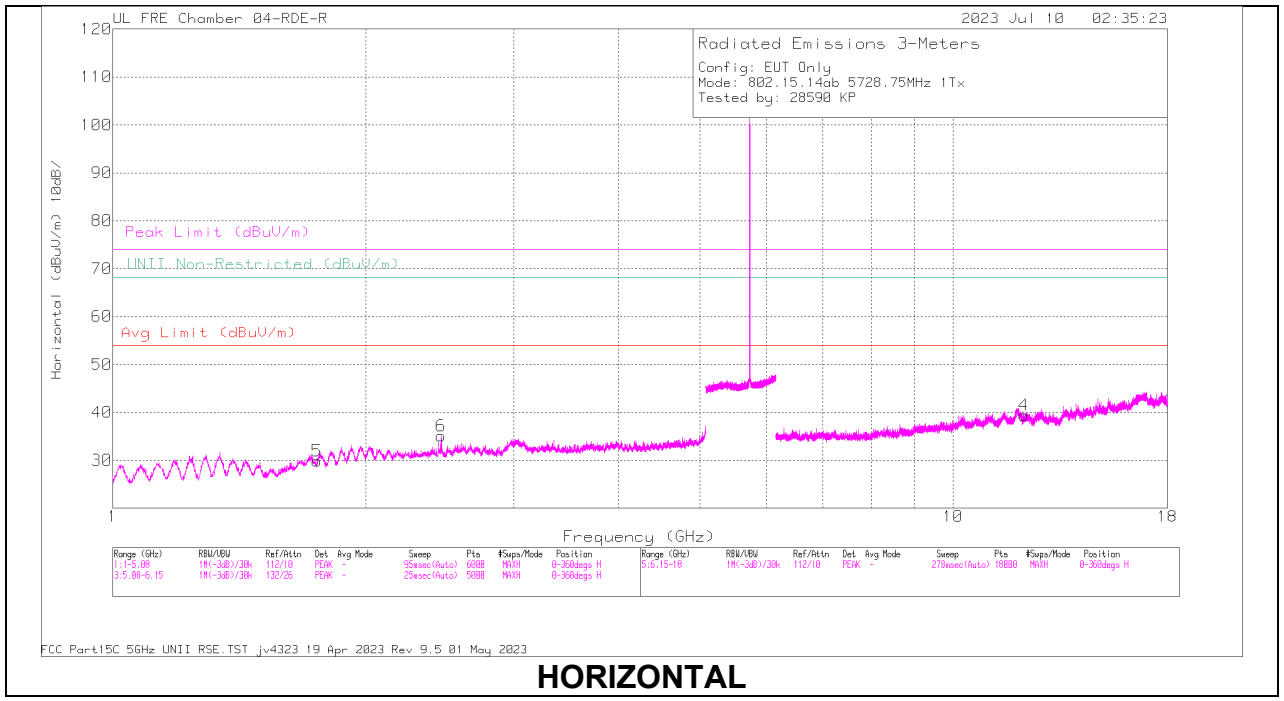
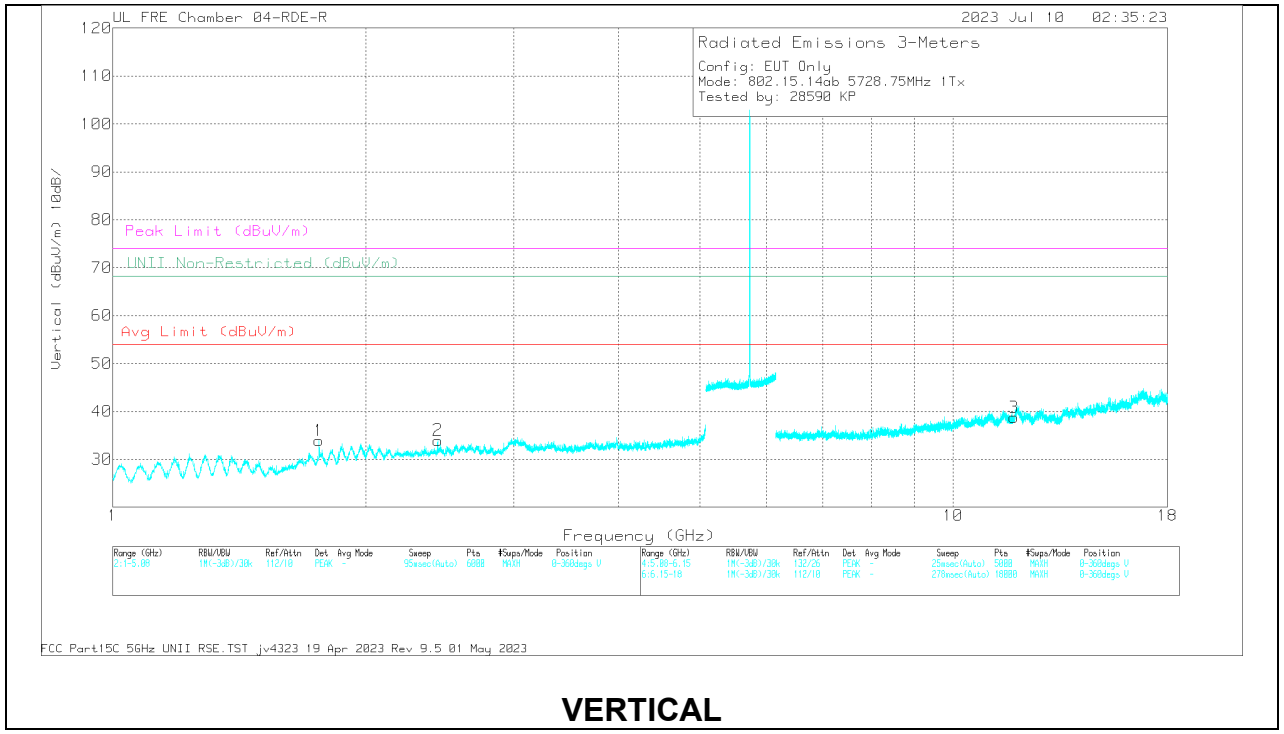
10.1.8. ANT 5, 500Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 12.147505	54.14	PK-U	38.7	-44		48.84	-	-	74	-25.16	-	-	174	200	H
	* 12.14667	42.64	ADR	38.7	-44.01	1.16	38.49	54	-15.51	-	-	-	-	174	200	H
3	* 11.813462	54.86	PK-U	38.4	-44.25		49.01	-	-	74	-24.99	-	-	256	394	V
	* 11.813572	43.4	ADR	38.4	-44.25	1,16	38.71	54	-15.29	-	-	-	-	256	394	V
5	1.750058	60.37	PK-U	30	-49.83		40.54	-	-	-	-	68.2	-27.66	9	257	H
1	1.761232	61.13	PK-U	30.1	-49.92		41.31	-	-	-	-	68.2	-26.89	80	219	V
2	2.43518	60.25	PK-U	31.8	-50.06		41.99	-	-	-	-	68.2	-26.21	251	297	V
6	2.459511	60.99	PK-U	31.9	-49.85		43.04	-	-	-	-	68.2	-25.16	174	229	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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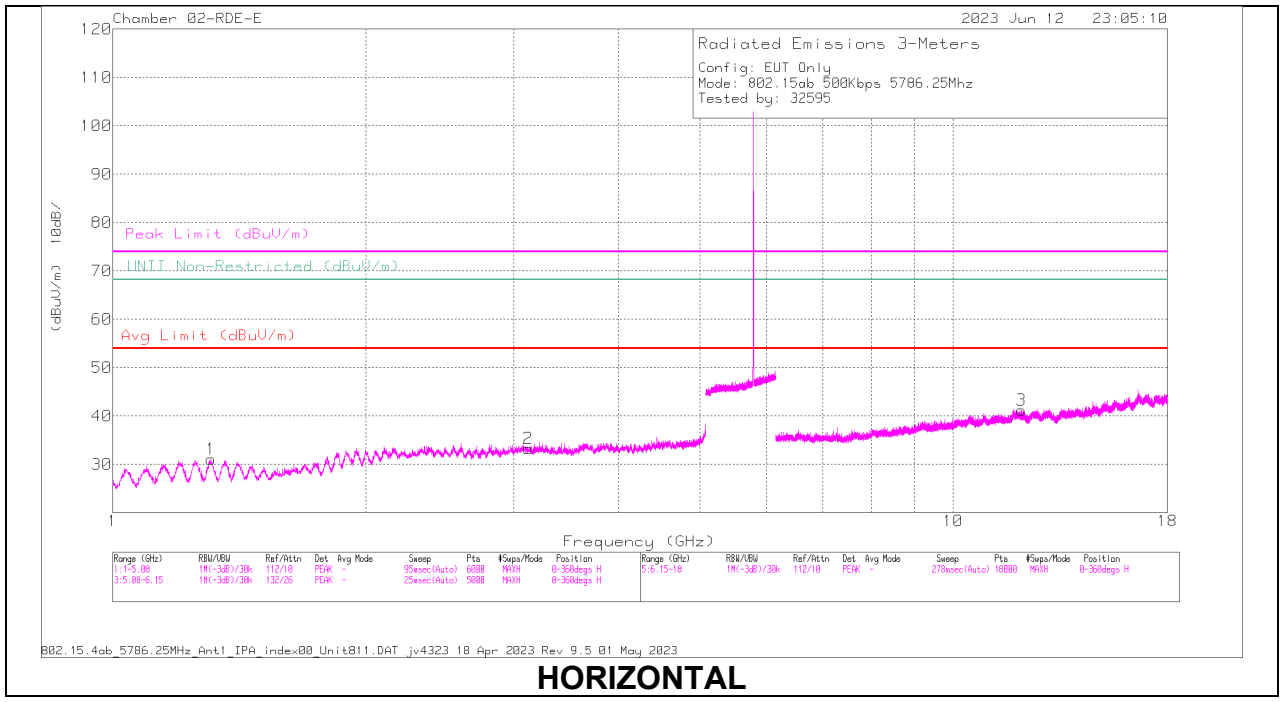
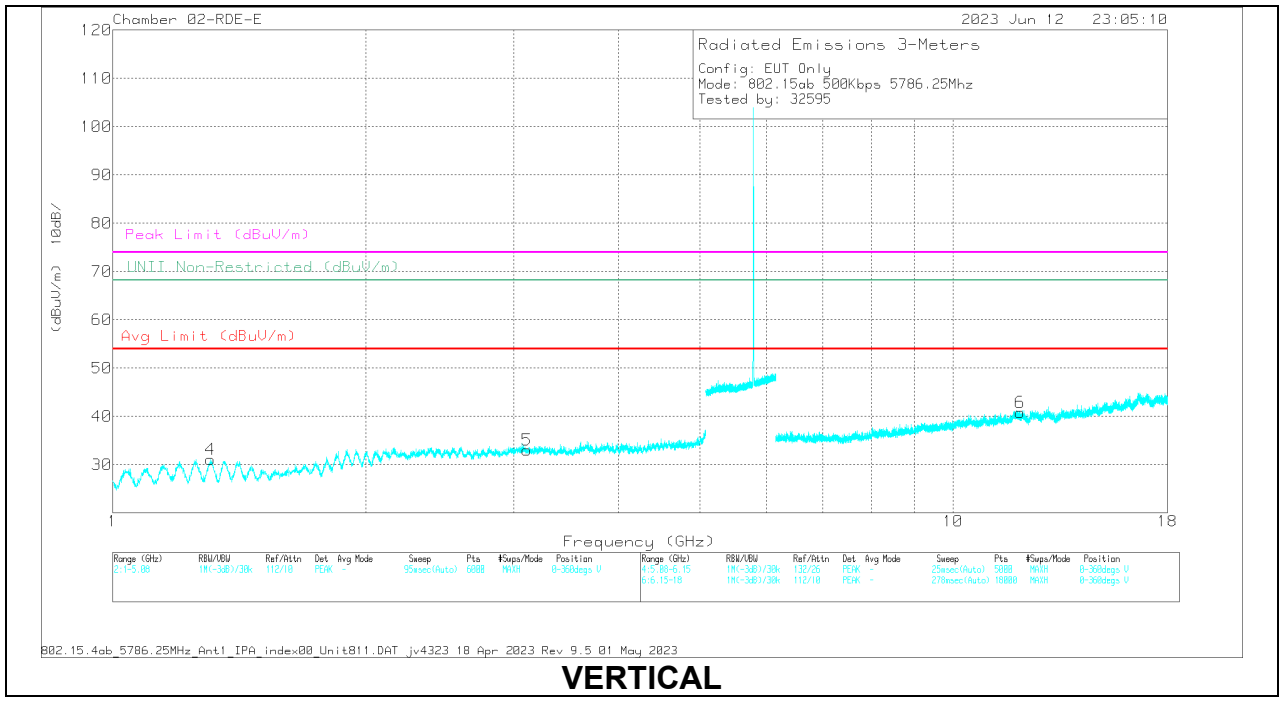
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.3054	61.6	PK-U	29	-49.47		41.13	-	-	74	-32.87	-	-	39	395	H
	* 1.307917	49.86	ADR	29	-49.48	1.16	30.54	54	-23.46	-	-	-	-	39	395	H
4	* 1.307427	61.58	PK-U	29	-49.49		41.09	-	-	74	-32.91	-	-	186	190	V
	* 1.304937	50.12	ADR	29	-49.47	1.16	30.81	54	-23.19	-	-	-	-	186	190	V
3	* 12.058685	54.31	PK-U	38.9	-43.06		50.15	-	-	74	-23.85	-	-	111	127	H
	* 12.057969	42.77	ADR	38.9	-43.07	1.16	39.76	54	-14.24	-	-	-	-	111	127	H
6	* 12.018657	54.21	PK-U	38.8	-42.9		50.11	-	-	74	-23.89	-	-	15	299	V
	* 12.018618	42.86	ADR	38.8	-42.9	1.16	39.92	54	-14.08	-	-	-	-	15	299	V
5	3.107807	57.55	PK-U	33.1	-47.26		43.39	-	-	-	-	68.2	-24.81	13	360	V
2	3.123156	57.73	PK-U	33.1	-47.36		43.47	-	-	-	-	68.2	-24.73	162	337	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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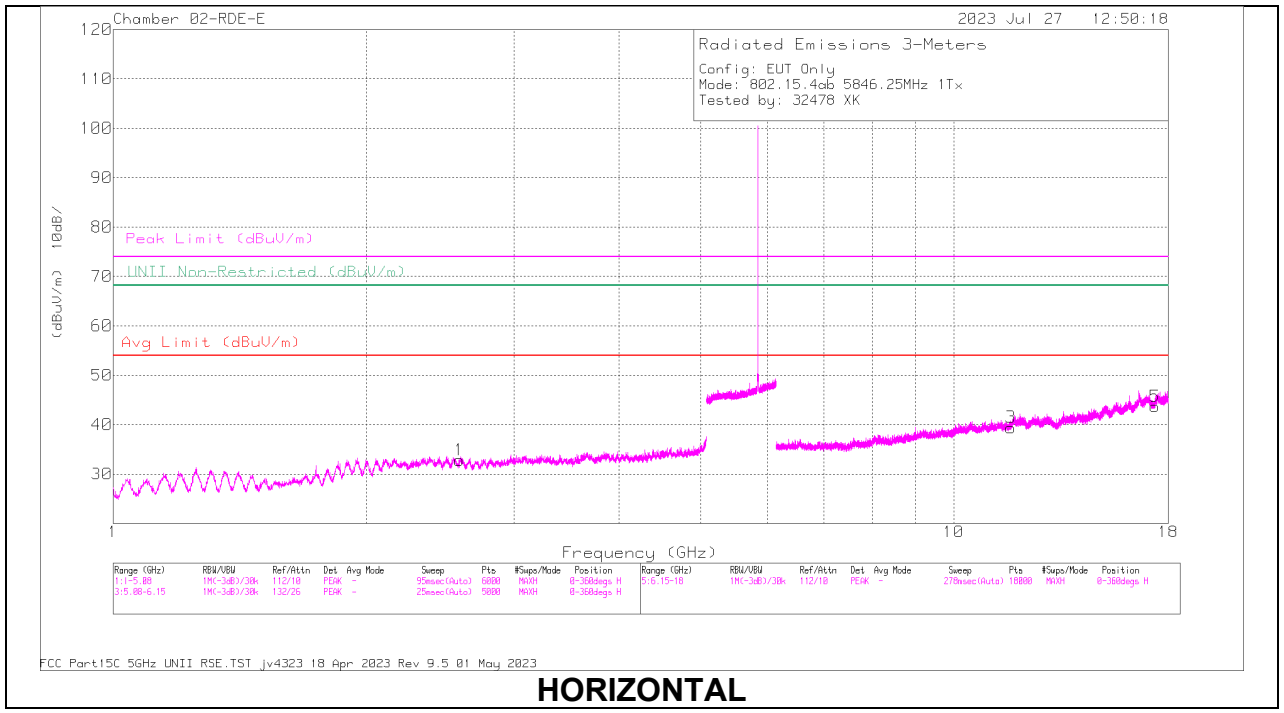
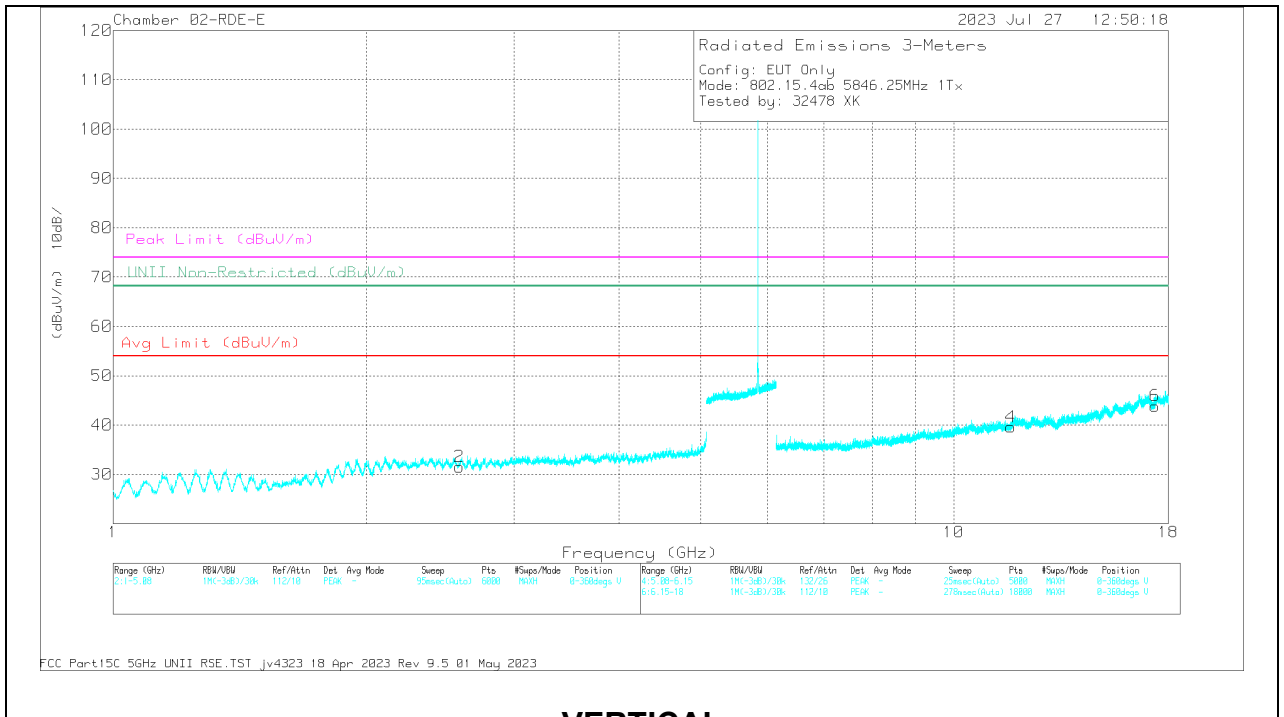
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 11.6962	54.82	PK-U	38.5	-42.94		50.38	-	-	74	-23.62	-	-	55	231	H
	* 11.694561	43.2	ADR	38.5	-42.93	1.16	39.93	54	-14.07	-	-	-	-	55	231	H
4	* 11.693661	54.92	PK-U	38.5	-42.92		50.5	-	-	74	-23.5	-	-	238	274	V
	* 11.692714	43.31	ADR	38.5	-42.92	1.16	40.05	54	-13.95	-	-	-	-	238	274	V
2	2.57807	59.25	PK-U	32.4	-48.87		42.78	-	-	-	-	68.2	-25.42	0	289	V
1	2.583376	59.47	PK-U	32.4	-48.88		42.99	-	-	-	-	68.2	-25.21	69	201	H
5	17.356895	54.29	PK-U	41.4	-41.09		54.6	-	-	-	-	68.2	-13.6	64	183	H
6	17.357099	54.17	PK-U	41.4	-41.09		54.48	-	-	-	-	68.2	-13.72	132	392	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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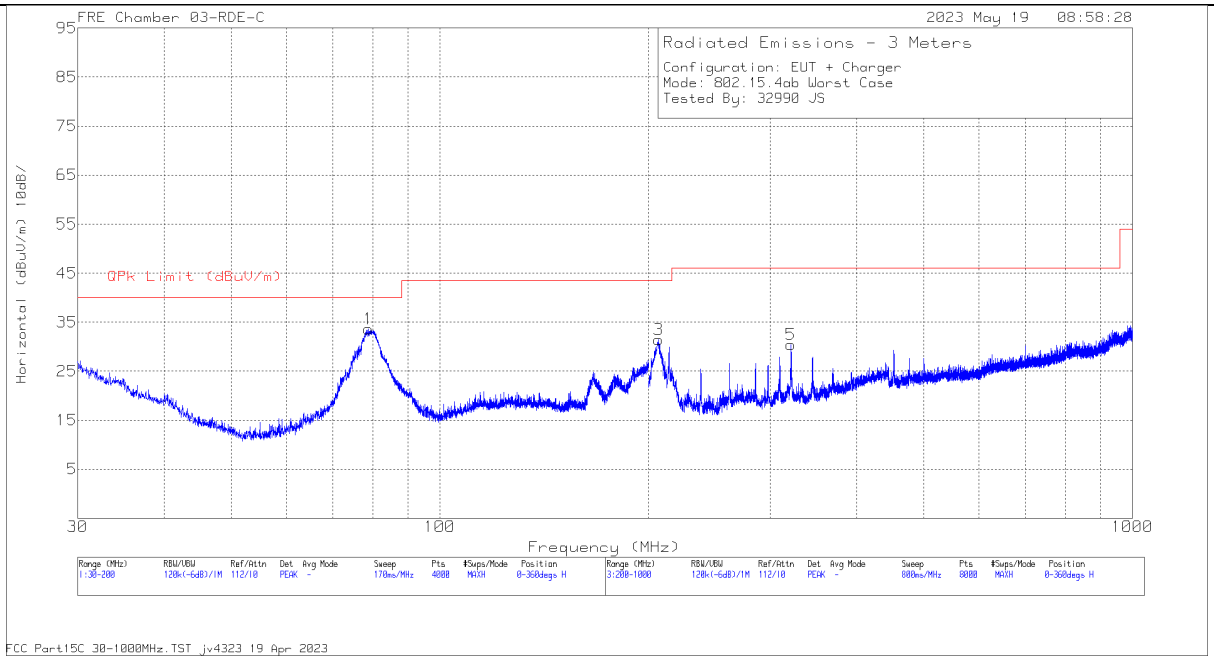
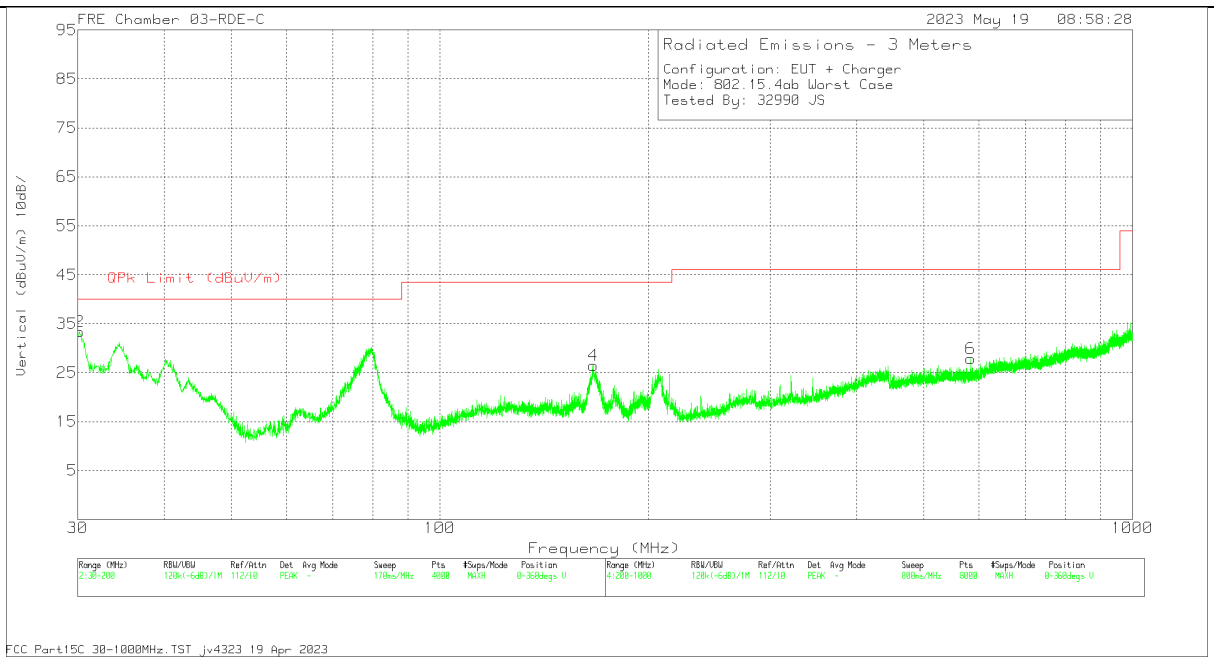
10.2. WORST CASE BELOW 1 GHz



HORIZONTAL



VERTICAL

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Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	235174 ACF (dB) 10m H	Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 166.63	39.05	Pk	17.9	-30.5	26.45	43.52	-17.07	0-360	103	V
2	30.17	38.35	Pk	26.7	-31.7	33.35	40	-6.65	0-360	103	V
	30.17	34.11	Qp	26.7	-31.7	29.11	40	-10.89	137	110	V
1	78.8877	51.11	Pk	13.5	-31	33.61	40	-6.39	0-360	198	H
	78.8877	47.55	Qp	13.5	-31	30.05	40	-9.95	227	211	H
3	207.001	44.74	Pk	16.7	-30	31.44	43.52	-12.08	0-360	199	H
5	321.516	40.09	Pk	19.9	-29.6	30.39	46.02	-15.63	0-360	103	H
6	583.75	32.13	Pk	24.4	-28.6	27.93	46.02	-18.09	0-360	198	V

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

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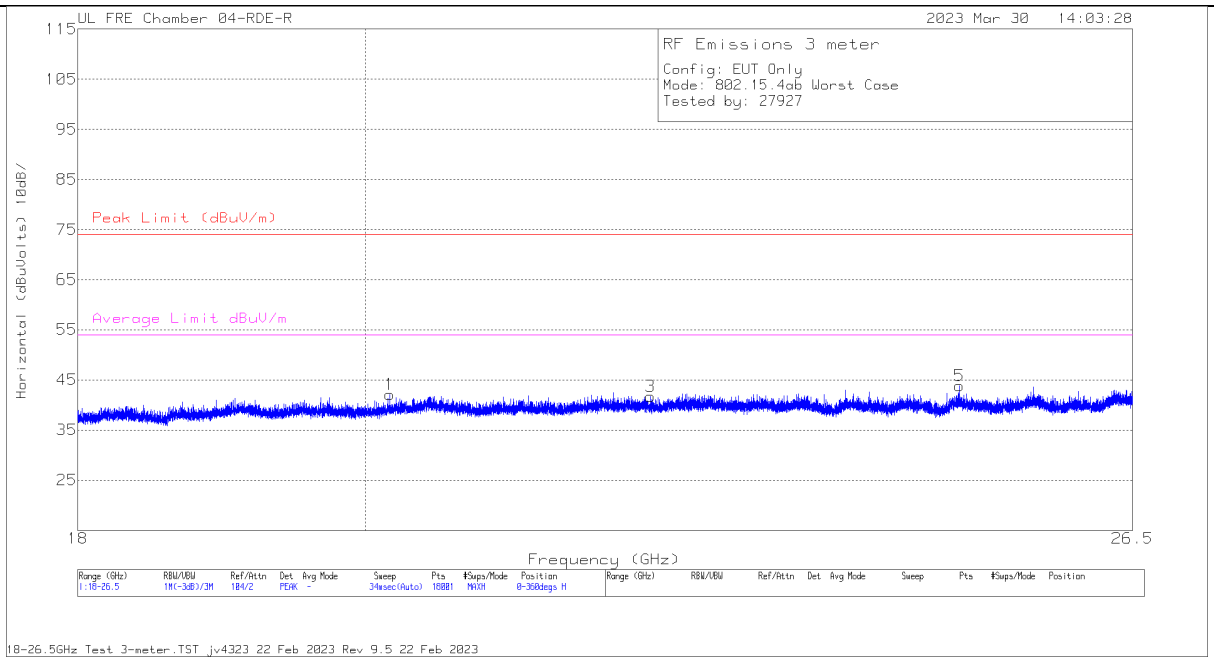
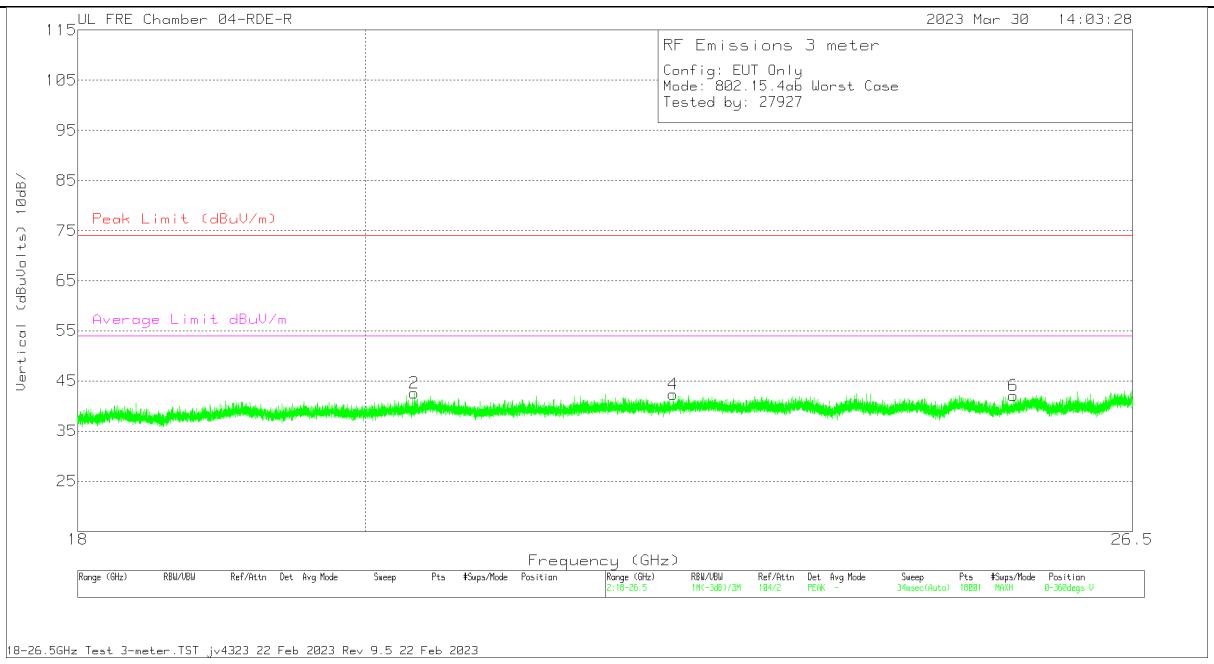
10.3. WORST CASE 18-26 GHz



HORIZONTAL



VERTICAL

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18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172353 ACF (dB) - 3mH	171583 Amp Assembly (dB)	Cables (dB)	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	20.183555	56.86	Pk	33.1	-63.9	16	42.06	74	-31.94	54	-11.94	0-360	99	H
2	20.362527	57.25	Pk	33.3	-64	16	42.55	74	-31.45	54	-11.45	0-360	99	V
3	22.206081	56.77	Pk	33.8	-65.5	16.7	41.77	74	-32.23	54	-12.33	0-360	99	H
4	22.393553	57.43	Pk	33.8	-65.6	16.7	42.33	74	-31.67	54	-11.67	0-360	99	V
5	24.868941	55.95	Pk	34.6	-64.4	17.7	43.85	74	-30.15	54	-10.15	0-360	99	H
6	25.365247	53.54	Pk	34.6	-63.9	17.9	42.14	74	-31.86	54	-11.86	0-360	99	V

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

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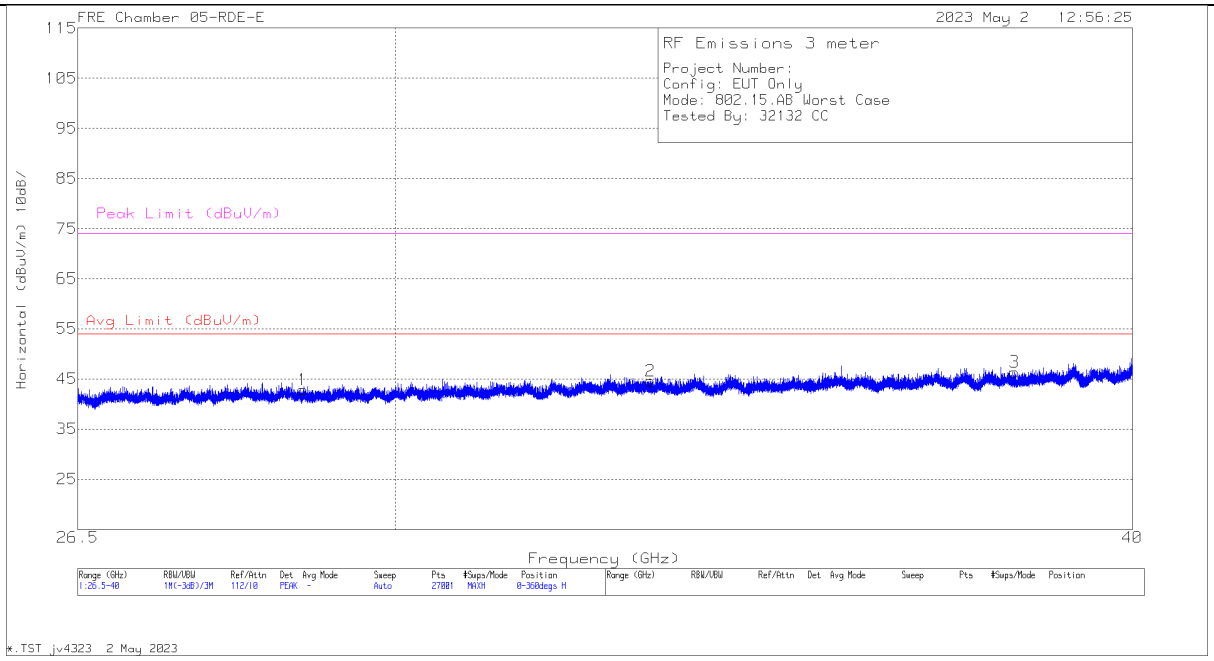
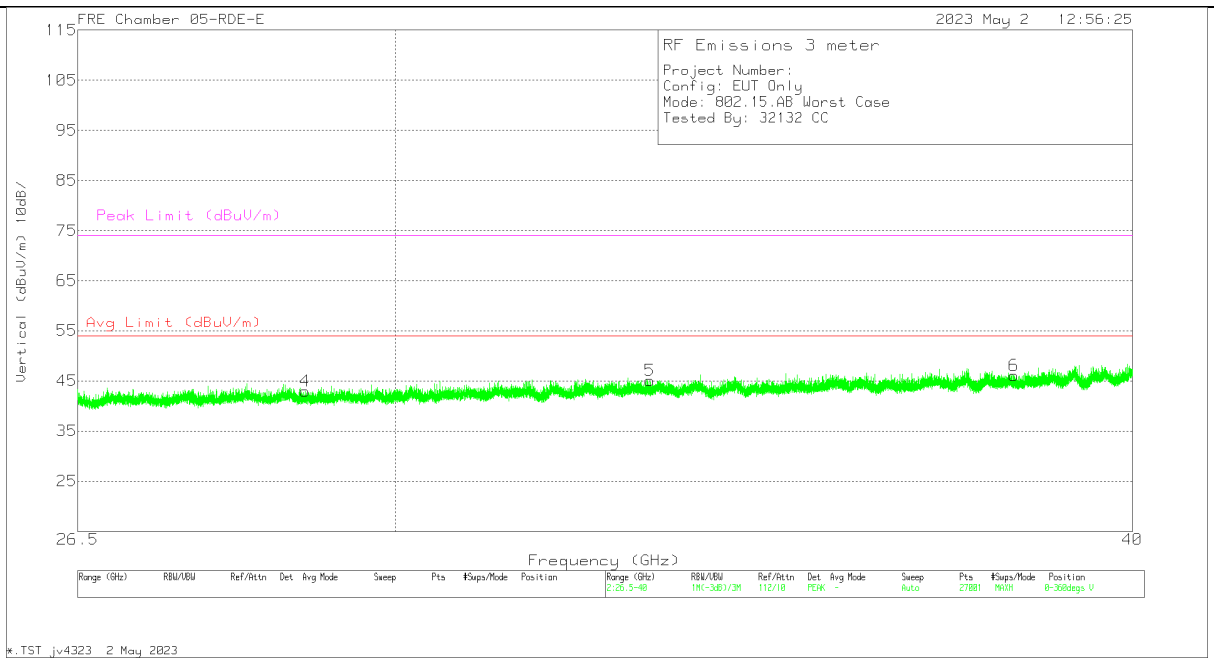
10.4. WORST CASE 26-40 GHz



HORIZONTAL



VERTICAL

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26 – 40GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF (dB/m)	amp/cbl (dB)	CBL/ SWITCH	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	28.9355	55.34	Pk	36.1	-65.2	16.6	42.84	54	-11.16	74	-31.16	0-360	199	H
4	28.9585	55.52	Pk	36.1	-65.2	16.6	43.02	54	-10.98	74	-30.98	0-360	101	V
5	33.1315	55.49	Pk	37.1	-65.2	17.7	45.09	54	-8.91	74	-28.91	0-360	199	V
2	33.137	54.96	Pk	37.1	-65.2	17.7	44.56	54	-9.44	74	-29.44	0-360	199	H
6	38.196	54.54	Pk	38	-65.9	19.5	46.14	54	-7.86	74	-27.86	0-360	101	V
3	38.204	54.81	Pk	38	-65.9	19.5	46.41	54	-7.59	74	-27.59	0-360	101	H

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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

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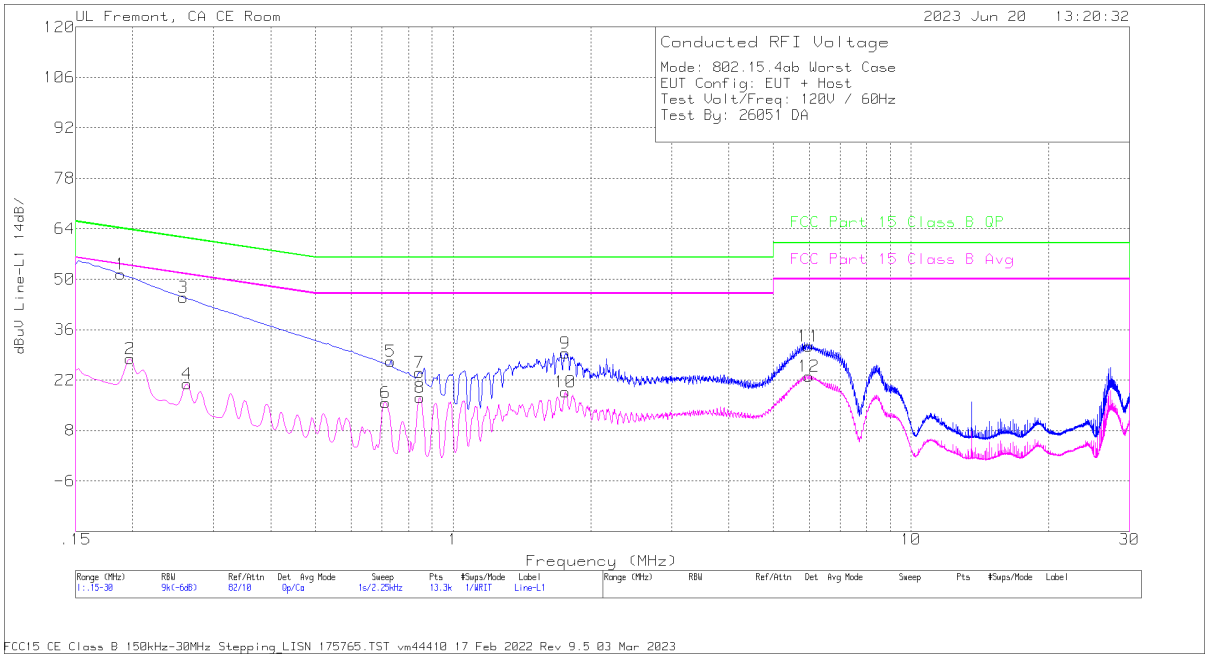
11.1. AC Power Line WITH LAPTOP

LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L1_LISN.csv dB	C1&C3 cable path loss dB	207996 Limiter with short cabl 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	.1973	18.47	Ca	0	0	9.4	27.87	-	-	53.73	-25.86
4	.2625	11.62	Ca	0	0	9.3	20.92	-	-	51.35	-30.43
6	.7125	6.37	Ca	0	.1	9.3	15.77	-	-	46	-30.23
8	.8475	7.78	Ca	0	.1	9.3	17.18	-	-	46	-28.82
10	1.7588	9.37	Ca	0	.1	9.3	18.77	-	-	46	-27.23
12	5.9865	13.66	Ca	0	.1	9.3	23.06	-	-	50	-26.94
1	.1883	41.98	Qp	0	0	9.4	51.38	64.11	-12.73	-	-
3	.258	35.64	Qp	0	0	9.3	44.94	61.5	-16.56	-	-
5	.7305	17.76	Qp	0	.1	9.3	27.16	56	-28.84	-	-
7	.8453	14.74	Qp	0	.1	9.3	24.14	56	-31.86	-	-
9	1.7588	20.12	Qp	0	.1	9.3	29.52	56	-26.48	-	-
11	5.9753	21.94	Qp	0	.1	9.3	31.34	60	-28.66	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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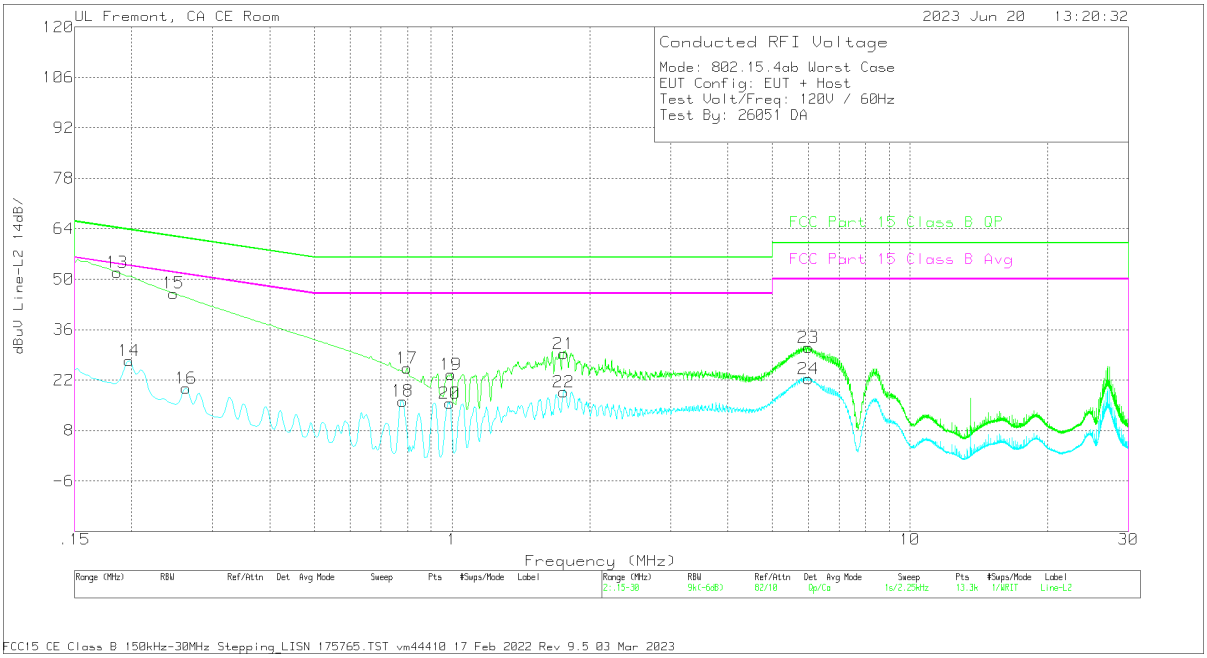
LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L2_LISN dB	C2&C3 cable path loss dB	207996 Limiter with short cabl 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	.1973	18.01	Ca	0	0	9.4	27.41	-	-	53.73	-26.32
16	.2625	10.45	Ca	0	0	9.3	19.75	-	-	51.35	-31.6
18	.78	6.79	Ca	0	.1	9.3	16.19	-	-	46	-29.81
20	.9893	6.25	Ca	0	.1	9.3	15.65	-	-	46	-30.35
22	1.752	9.38	Ca	0	.1	9.3	18.78	-	-	46	-27.22
24	5.9955	13.04	Ca	0	.1	9.3	22.44	-	-	50	-27.56
13	.186	42.48	Qp	0	0	9.4	51.88	64.21	-12.33	-	-
15	.2468	36.79	Qp	0	0	9.3	46.09	61.87	-15.78	-	-
17	.798	15.99	Qp	0	.1	9.3	25.39	56	-30.61	-	-
19	.996	14.16	Qp	0	.1	9.3	23.56	56	-32.44	-	-
21	1.752	19.96	Qp	0	.1	9.3	29.36	56	-26.64	-	-
23	5.9955	21.62	Qp	0	.1	9.3	31.02	60	-28.98	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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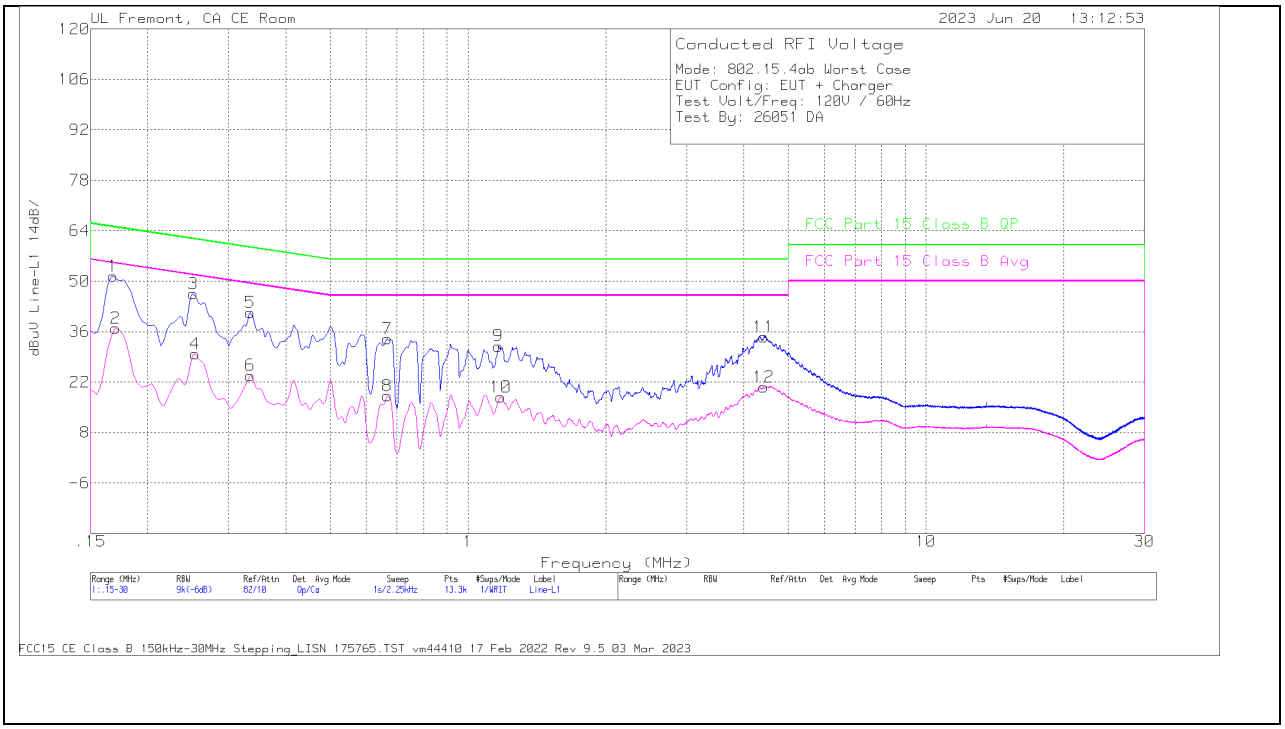
11.2. AC Power Line WITH AC/DC Adapter

LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L1_LISN.csv dB	C1&C3 cable path loss dB	207996 Limiter with short cabl 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	.1703	27.49	Ca	0	0	9.4	36.89	-	-	54.95	-18.06
4	.2535	20.49	Ca	0	0	9.3	29.79	-	-	51.64	-21.85
6	.3345	14.54	Ca	0	0	9.3	23.84	-	-	49.34	-25.5
8	.6675	8.74	Ca	0	.1	9.3	18.14	-	-	46	-27.86
10	1.1805	8.45	Ca	0	.1	9.3	17.85	-	-	46	-28.15
12	4.4228	11.2	Ca	0	.1	9.3	20.6	-	-	46	-25.4
1	.168	41.97	Qp	0	0	9.4	51.37	65.06	-13.69	-	-
3	.2513	37.24	Qp	0	0	9.3	46.54	61.72	-15.18	-	-
5	.3345	32	Qp	0	0	9.3	41.3	59.34	-18.04	-	-
7	.6675	24.53	Qp	0	.1	9.3	33.93	56	-22.07	-	-
9	1.1659	22.61	Qp	0	.1	9.3	32.01	56	-23.99	-	-
11	4.4295	25.06	Qp	0	.1	9.3	34.46	56	-21.54	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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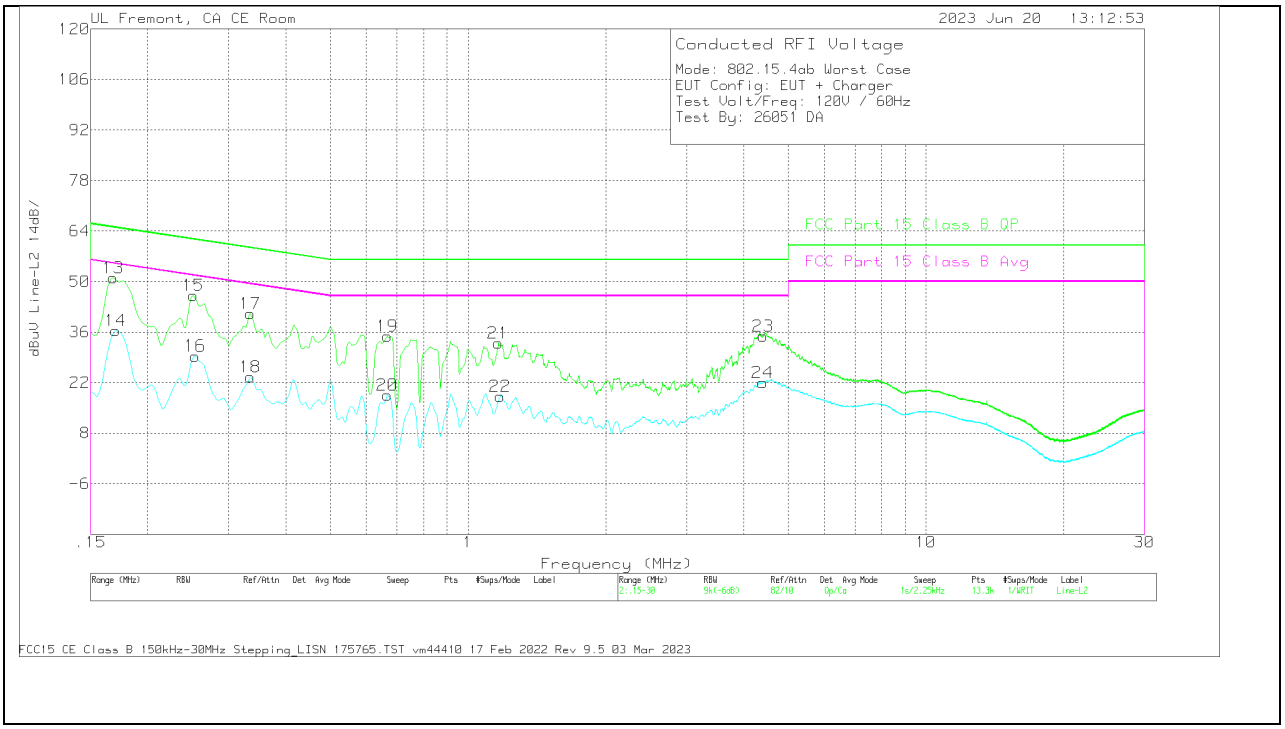
LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L2_LISN dB	C2&C3 cable path loss dB	207996 Limiter with short cabl 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	.1703	27.05	Ca	0	0	9.4	36.45	-	-	54.95	-18.5
16	.2535	20.1	Ca	0	0	9.3	29.4	-	-	51.64	-22.24
18	.3345	14.31	Ca	0	0	9.3	23.61	-	-	49.34	-25.73
20	.6675	9.09	Ca	0	.1	9.3	18.49	-	-	46	-27.51
22	1.176	8.74	Ca	0	.1	9.3	18.14	-	-	46	-27.86
24	4.4025	12.56	Ca	0	.1	9.3	21.96	-	-	46	-24.04
13	.168	41.69	Qp	0	0	9.4	51.09	65.06	-13.97	-	-
15	.2513	36.83	Qp	0	0	9.3	46.13	61.72	-15.59	-	-
17	.3345	31.82	Qp	0	0	9.3	41.12	59.34	-18.22	-	-
19	.6675	25.45	Qp	0	.1	9.3	34.85	56	-21.15	-	-
21	1.1659	23.54	Qp	0	.1	9.3	32.94	56	-23.06	-	-
23	4.4048	25.4	Qp	0	.1	9.3	34.8	56	-21.2	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

END OF TEST REPORT

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12. SETUP PHOTOS

Please refer to 14523740-EP1V1 FCC IC for setup photos

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