TEST REPORT

Report Number : 14982490-E6V2

Applicant	:	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	:	A3289 (Parent Model) A3290, A3291 (Variant Models)
FCC ID	:	BCG-E8693A (Parent Model) BCG-E8694A, BCG-E8695A (Variant Models)
IC	:	579C-E8693A (Parent Model) 579C-E8694A, 579C-E8695A (Variant Models)
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E ISED RSS-247 ISSUE 3 ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
August 19, 2024

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		2024/08/08		Initial Review		Chris Xiong
V2		2024/08/19		Address TCB's questions		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: A3289 (Parent Model)
A3290, A3291 (Variant Models)

BRAND: APPLE

SERIAL NUMBER: FJWNV71QMD
L6FYCFJ49T

SAMPLE RECEIPT DATE: 2024/03/29

DATE TESTED: 2024/04/01- 2024/08/13

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Complies
ISED RSS-247 Issue 3	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

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

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

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. 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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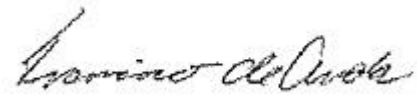
Approved & Released For
UL Verification Services Inc. By:



Francisco de Anda
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

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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 6.2.4.2	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 3.
- 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 dB
Power Spectral Density	2.47 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	1.3 (PK)0.450 (AV)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
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 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), Wireless Power Transfer (WPT) 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 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	18.98	79.07
5.8GHz Band 1TX Low Power			
5728.75 – 5846.25	802.15.4ab	11.96	15.70

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Antenna type: IFA

Frequency Range	ANT 6 (dBi)	ANT 5 (dBi)
5728.75 – 5846.25	-0.4	-3.3

Cable loss

Frequency Range	ANT 6 (dB)	ANT 5 (dB)
5728.75 – 5846.25	2.9	3.4

The cables(SMA) 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 installed during testing was 2219.0.0.100.1~40.74.46

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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 Z (Portrait) 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 2.4GHz WIFI was investigated, and no noticeable emission was found.

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

According to manufacturer inquiry approved by FCC/ISED, the models: A3289 (FCC ID: BCG-E8693A and IC ID: 579C-E8693A), A3290 (FCC ID: BCG-E8694A and IC ID: 579C-E8694A) and A3291 (FCC ID: BCG-E8695A and IC ID : 579C-E8695A) reused the data from the reference model, A3082 (FCC ID: BCG –E8692A and IC: 579C-E8692A) except for the above 1-18GHz tests documented in section 10.1.1 to 10.1.4, worst-case below 1GHz test documented in section 10.2, worst case 18-26GHz test documented in section 10.3 and worst case 26-40GHz documented in section 10.4. They were tested because of the antenna gain increase on ANT 6.

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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	Shielded	0.2	To Conducted Switch Box
3	USB	1	USB-C	Shielded	1.0	N/A
4	DC	1	DC	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	USB	1	USB-C	Shielded	1	AC/DC adapter

TEST SETUP

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

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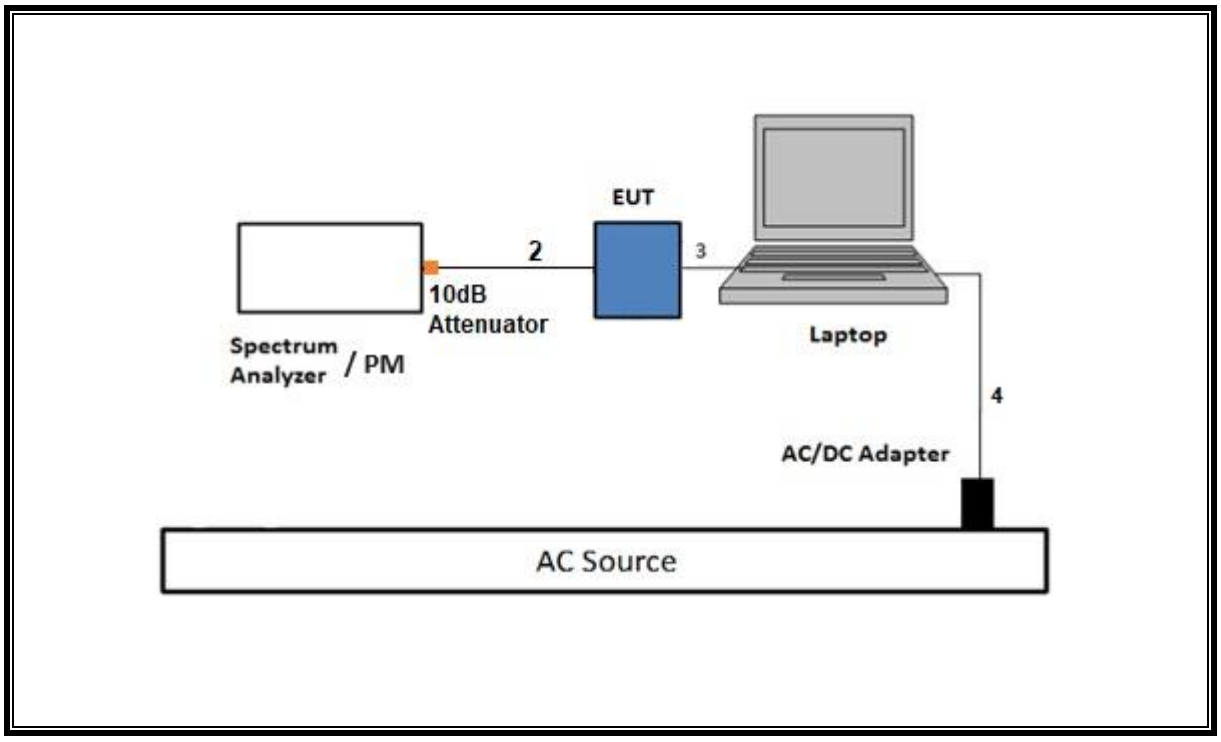
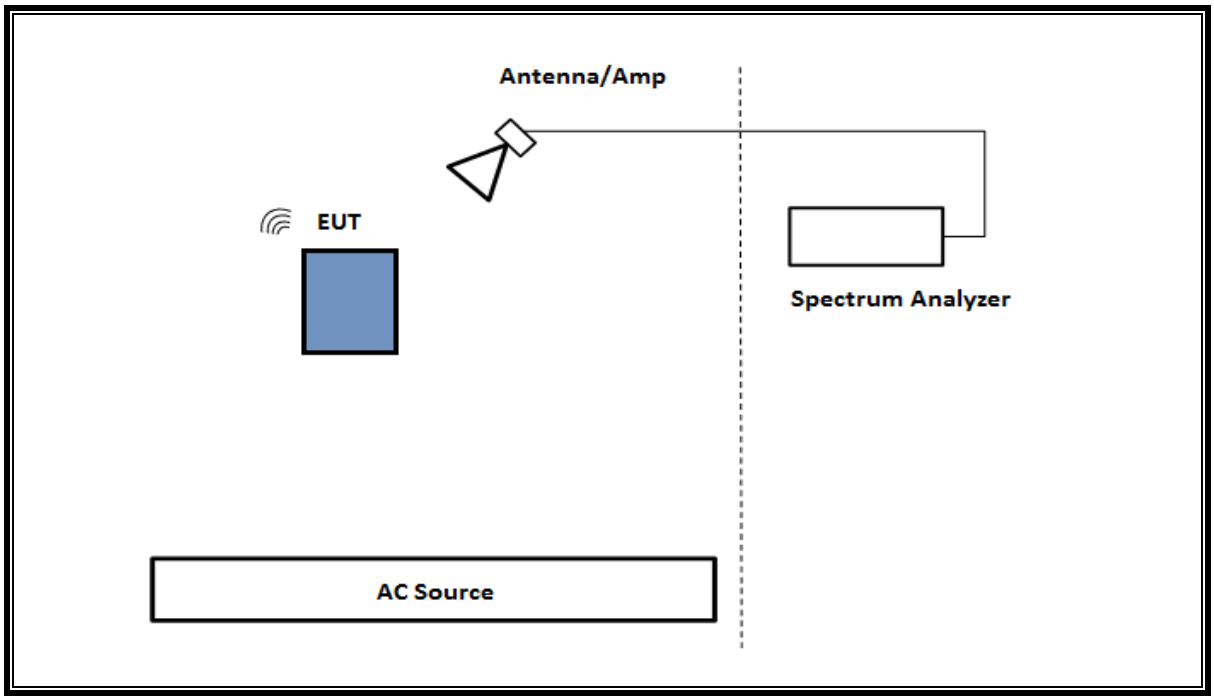
SETUP DIAGRAM FOR CONDUCTED TEST



SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz (1GHz- 40GHz)



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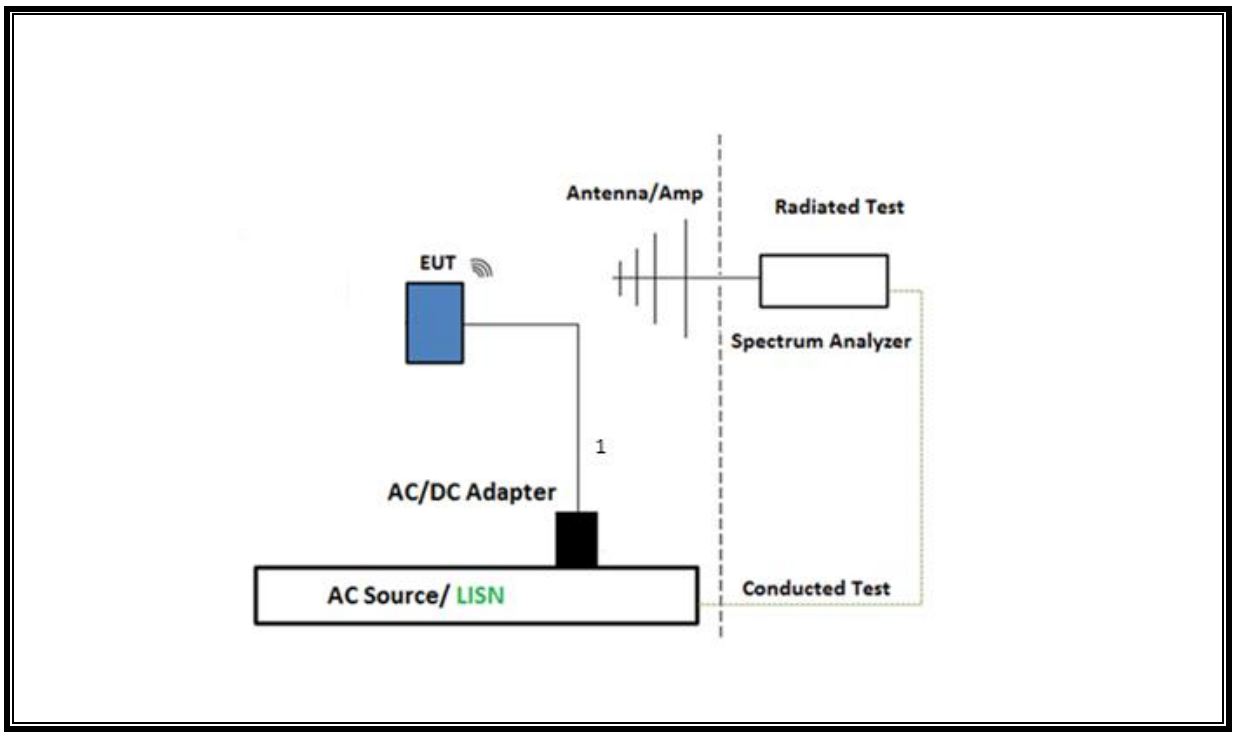
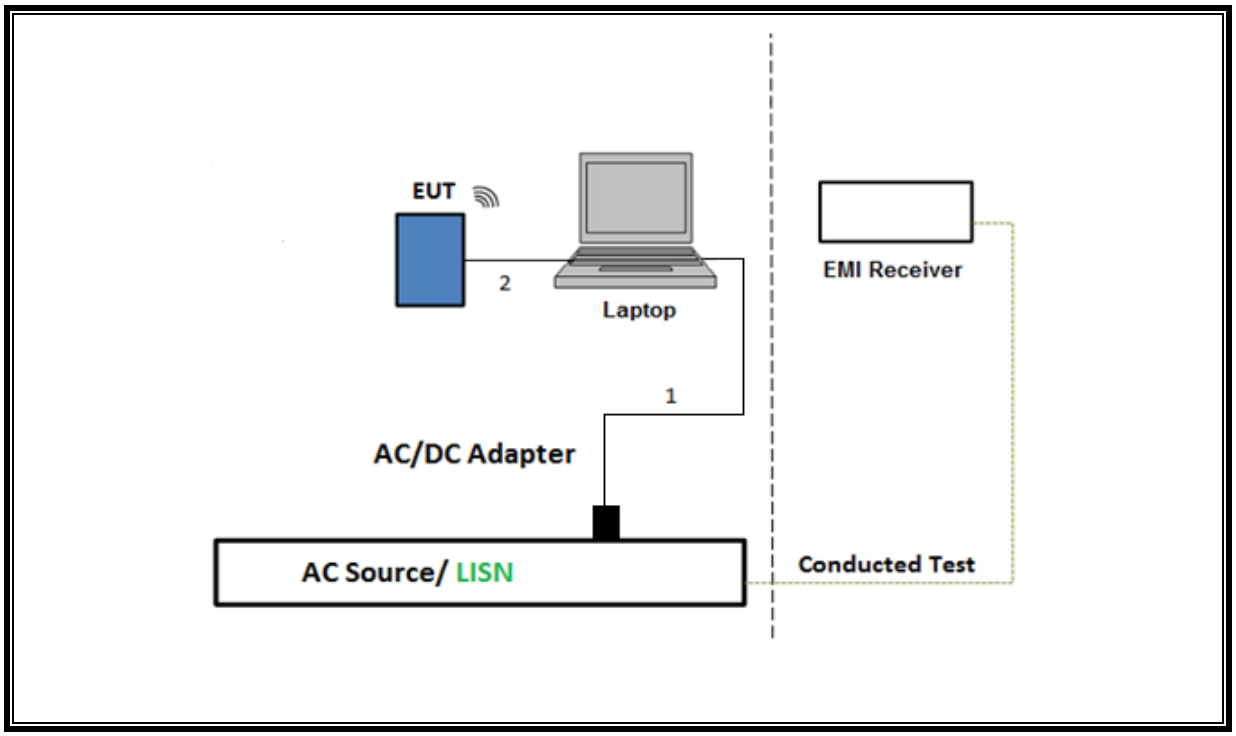
SETUP DIAGRAM FOR 30-1000MHz and AC LINE CONDUCTED TEST



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, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10 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**
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	125178	2025-01-31
Spectrum Analyzer, PXA, 3Hz to 50GHz w/Ext. Mixer	Keysight Technologies Inc	N9030A	80400	2025-02-28
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	222071	2024-11-30
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	178557	Verified Before Use
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	178558	Verified Before Use
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
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236353	2024-08-31
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169927	2025-02-28
Hybrid Antenna 30MHz-1GHz Preamp (Amplifier 9 KHz - 1 GHz)	SONOMA INSTRUMENT	310 N	202989	2025-02-28
Hybrid Antenna 30MHz-1GHz	Sunol Sciences Corp.	JB3	222008	2024-10-31
Horn Antenna 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	223083	2024-10-31
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169927	2025-02-28
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	Frankenstein	216812	2025-01-30
*Horn Antenna 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	80402	2024-07-31
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	230548	2025-02-28
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	F2A	224478	2025-01-31
Horn Antenna 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	41112	2024-10-31
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201499	2025-02-28
Horn Antenna 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	226673	2025-02-28
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231874	2024-08-30
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201498	2025-02-28
ESW, EMI TEST RECEIVER	Rohde & Schwarz	ESW44	226078	2025-02-28
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	172354	2024-10-31
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	221832	2025-03-31
*Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170013	2024-07-31
*Antenna, Passive Loop 100kHz to 30MHz	ELECTRO-METRICS	EM-6872	170015	2024-07-31
*Antenna, Horn 26.5 to 40GHz	A.R.A	MWH-2640/B	172367	2024/06/30
Link File, RF Amplifier Assembly, 26-40GHz, 65dB Gain	AMPLICAL	AMP26G40-65	172346	2025/03/14
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	230299	2025/01/31
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225079	2025/04/30

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Test Equipment List				
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	84797	2024/09/30
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225474	2025/04/30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	2025/02/28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	200784	2025/01/31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201500	2025/02/28
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	225575	2025/04/27

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	2024.2.23	
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 789033 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						
5728.75MHz index 2	2.171	5.000	0.434	43.42%	3.62	0.461

DUTY CYCLE PLOTS

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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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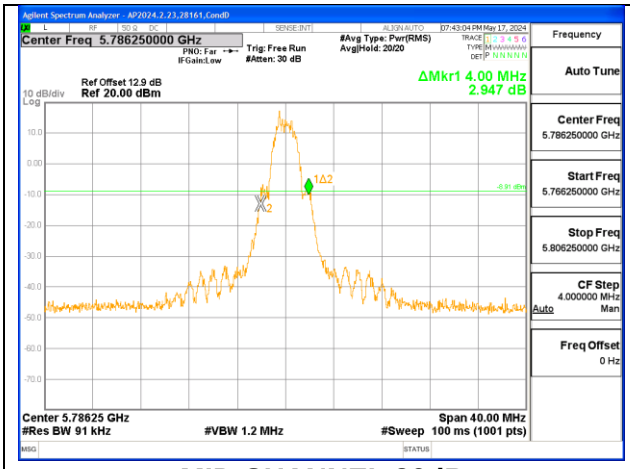
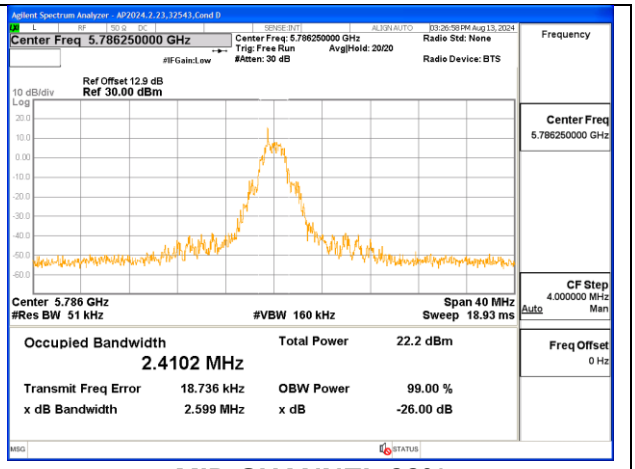
1TX Antenna 6 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	4.12	2.3810
Mid	5786.25	4.00	2.4102
High	5846.25	4.12	2.4035



MID CHANNEL 26dB



MID CHANNEL 99%

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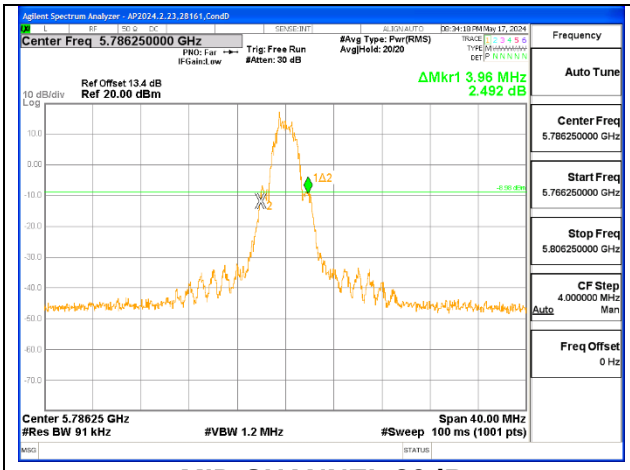
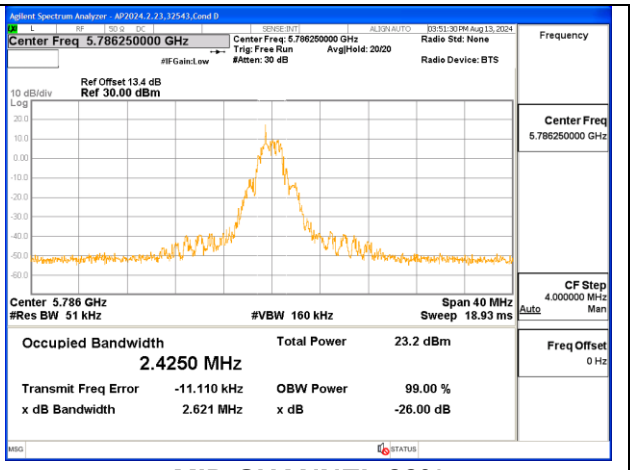
1TX Antenna 5 MODE

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	3.88	2.3995
Mid	5786.25	3.96	2.4250
High	5846.25	4.12	2.3616



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	1.338	0.5
Mid	5786.25	1.300	0.5
High	5846.25	1.267	0.5

MID CHANNEL

1TX Antenna 5 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5728.75	1.765	0.5
Mid	5786.25	1.134	0.5
High	5846.25	1.153	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.

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 b. Method PM-G.
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:	28161
Test Date:	7-10-2024

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-0.40	30.00	30.00
Mid	5786.25	-0.40	30.00	30.00
High	5846.25	-0.40	30.00	30.00

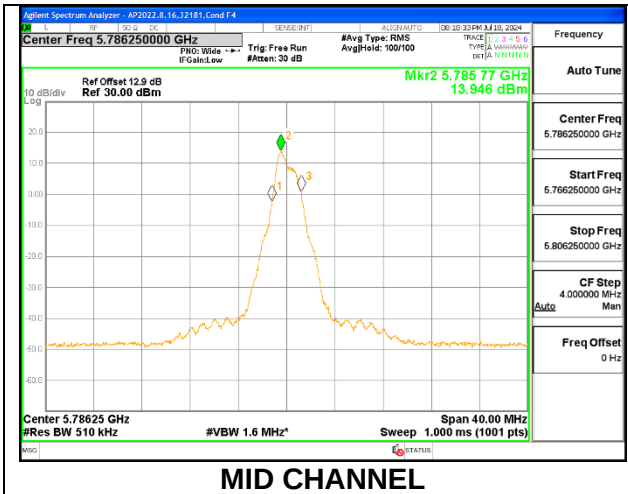
Duty Cycle CF (dB)	3.62	**Included in Calculations of Corr'd PSD**	

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	18.93	18.93	30.00	-11.07
Mid	5786.25	18.98	18.98	30.00	-11.02
High	5846.25	18.95	18.95	30.00	-11.05

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	13.762	17.382	30.00	-12.62
Mid	5786.25	13.946	17.566	30.00	-12.43
High	5846.25	14.039	17.659	30.00	-12.34



MID CHANNEL

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1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	28161
Test Date:	7-10-2024

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-3.30	30.00	30.00
Mid	5786.25	-3.30	30.00	30.00
High	5846.25	-3.30	30.00	30.00

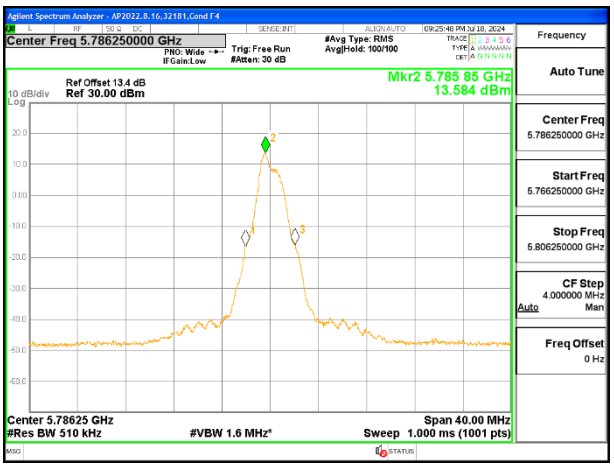
Duty Cycle CF (dB)	3.62	**Included in Calculations of Corr'd PSD**	

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	18.95	18.95	30.00	-11.05
Mid	5786.25	18.92	18.92	30.00	-11.08
High	5846.25	18.97	18.97	30.00	-11.03

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	13.597	17.217	30.00	-12.78
Mid	5786.25	13.584	17.204	30.00	-12.80
High	5846.25	13.760	17.380	30.00	-12.62



MID CHANNEL

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9.4.2. LOW POWER

1TX Antenna 6 MODE (FCC+IC)

Test Engineer:	28161
Test Date:	7-10-2024

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-0.40	30.00	30.00
Mid	5786.25	-0.40	30.00	30.00
High	5846.25	-0.40	30.00	30.00

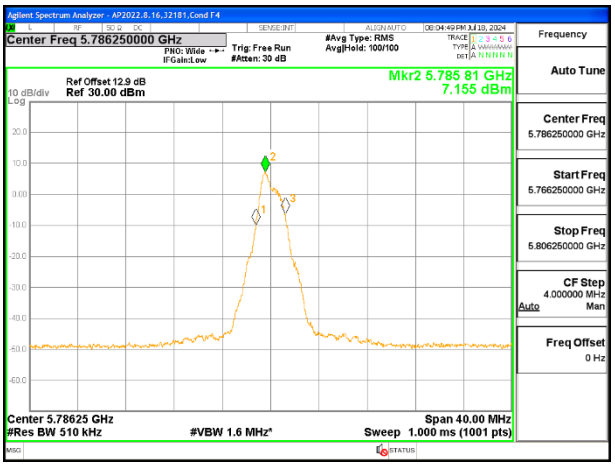
Duty Cycle CF (dB)	3.62	**Included in Calculations of Corr'd PSD**	

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	11.90	11.90	30.00	-18.10
Mid	5786.25	11.93	11.93	30.00	-18.07
High	5846.25	11.96	11.96	30.00	-18.04

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	6.787	10.407	30.00	-19.59
Mid	5786.25	7.155	10.775	30.00	-19.23
High	5846.25	7.236	10.856	30.00	-19.14



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1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	28161
Test Date:	7-13-2024

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-3.30	30.00	30.00
Mid	5786.25	-3.30	30.00	30.00
High	5846.25	-3.30	30.00	30.00

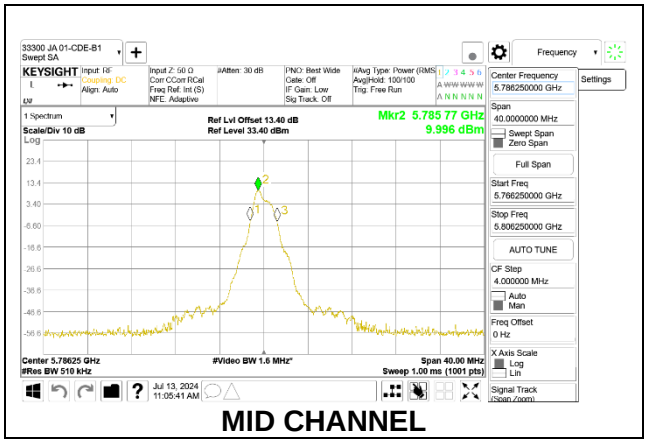
Duty Cycle CF (dB)	3.62	**Included in Calculations of Corr'd PSD**	

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	7.95	7.95	30.00	-22.05
Mid	5786.25	7.90	7.90	30.00	-22.10
High	5846.25	7.98	7.98	30.00	-22.02

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	10.040	13.660	30.00	-16.34
Mid	5786.25	9.996	13.616	30.00	-16.38
High	5846.25	10.706	14.326	30.00	-15.67



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 3 Sections
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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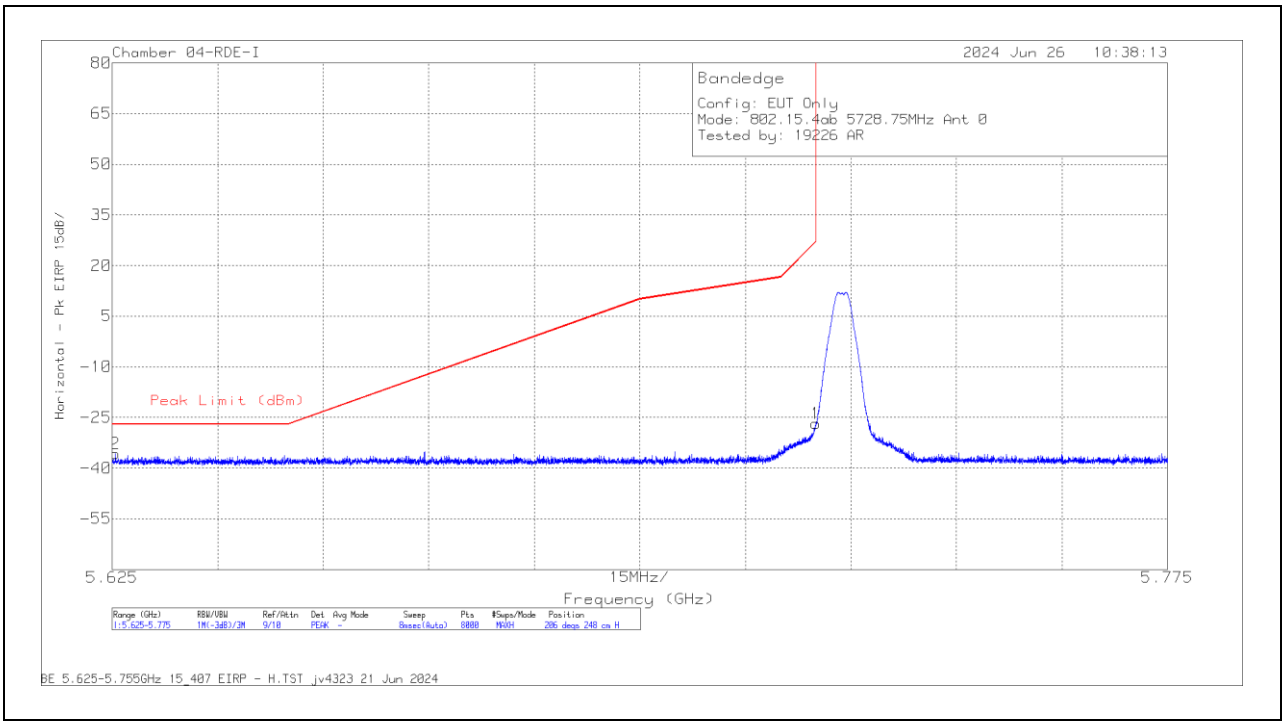
10.1. TRANSMITTER ABOVE 1 GHz

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

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.62545	-65.84	Pk	34.9	-16.6	11.8	-35.74	-27	-8.74	206	248	H
1	5.725	-56.87	Pk	34.9	-16.6	11.8	-26.77	27	-53.77	206	248	H

Pk - Peak detector

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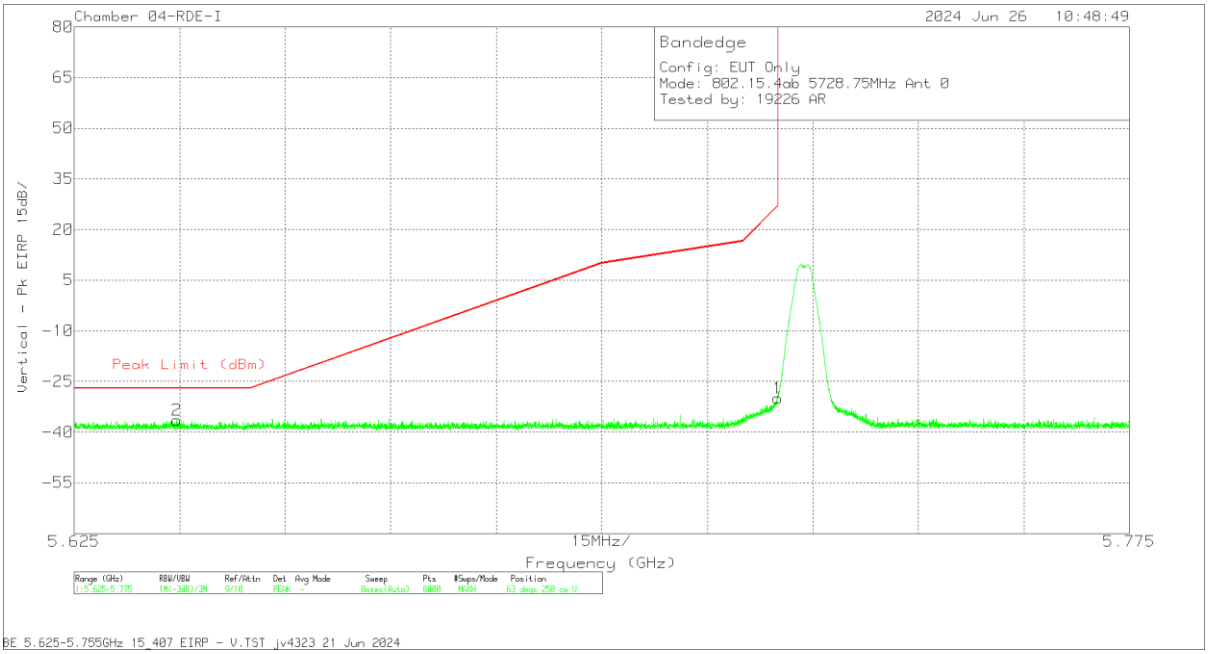
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.639627	-66.37	Pk	34.9	-16.7	11.8	-36.37	-27	-9.37	63	250	V
1	5.725	-60.04	Pk	34.9	-16.6	11.8	-29.94	27	-56.94	63	250	V

Pk - Peak detector

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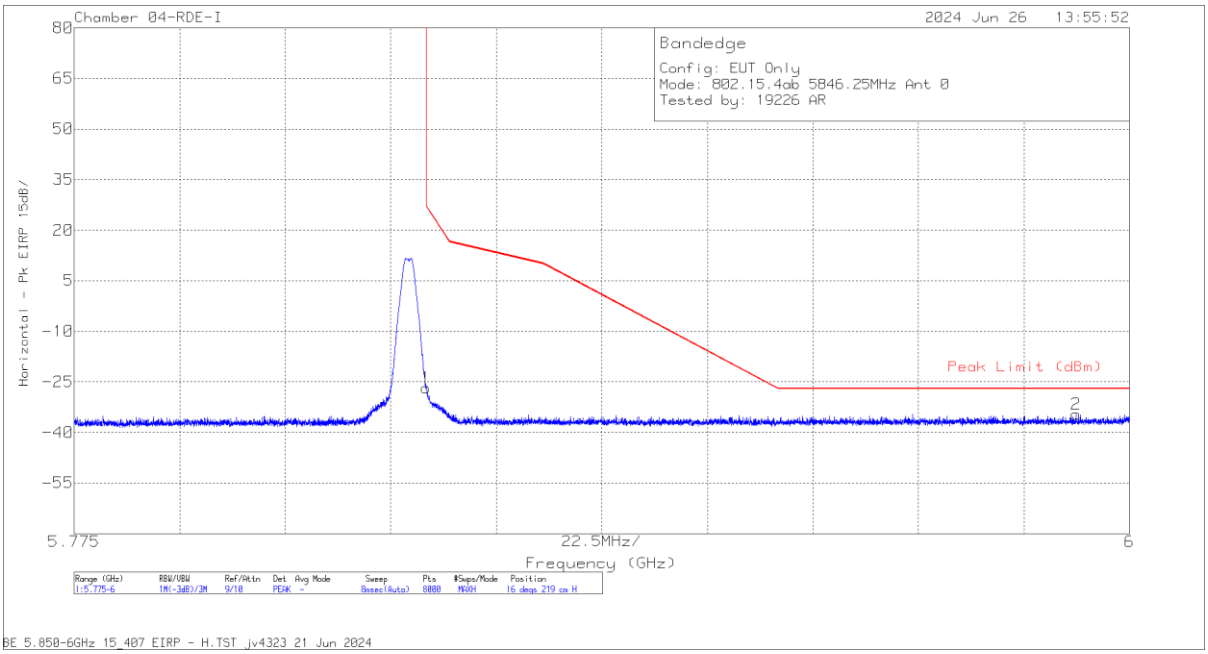
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-58.06	Pk	35	-15.5	11.8	-26.76	27	-53.76	16	219	H
2	5.988668	-66.05	Pk	35.4	-15.8	11.8	-34.65	-27	-7.65	16	219	H

Pk - Peak detector

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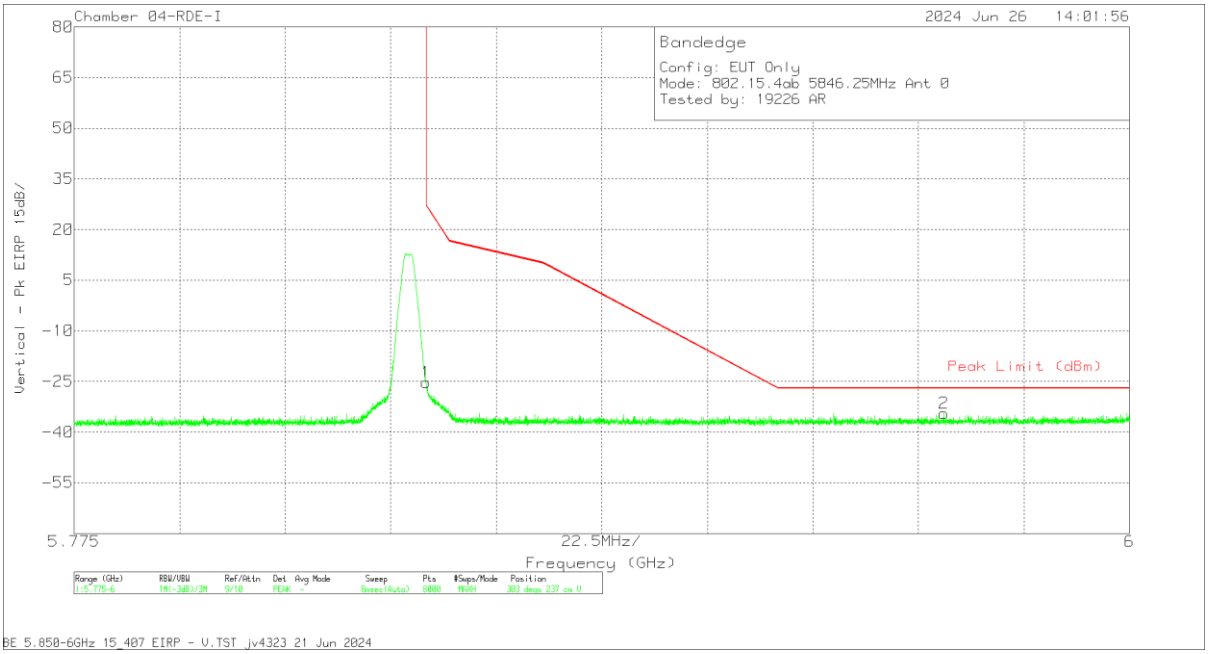
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-56.66	Pk	35	-15.5	11.8	-25.36	27	-52.36	303	237	V
2	5.960398	-65.86	Pk	35.3	-15.6	11.8	-34.36	-27	-7.36	303	237	V

Pk - Peak detector

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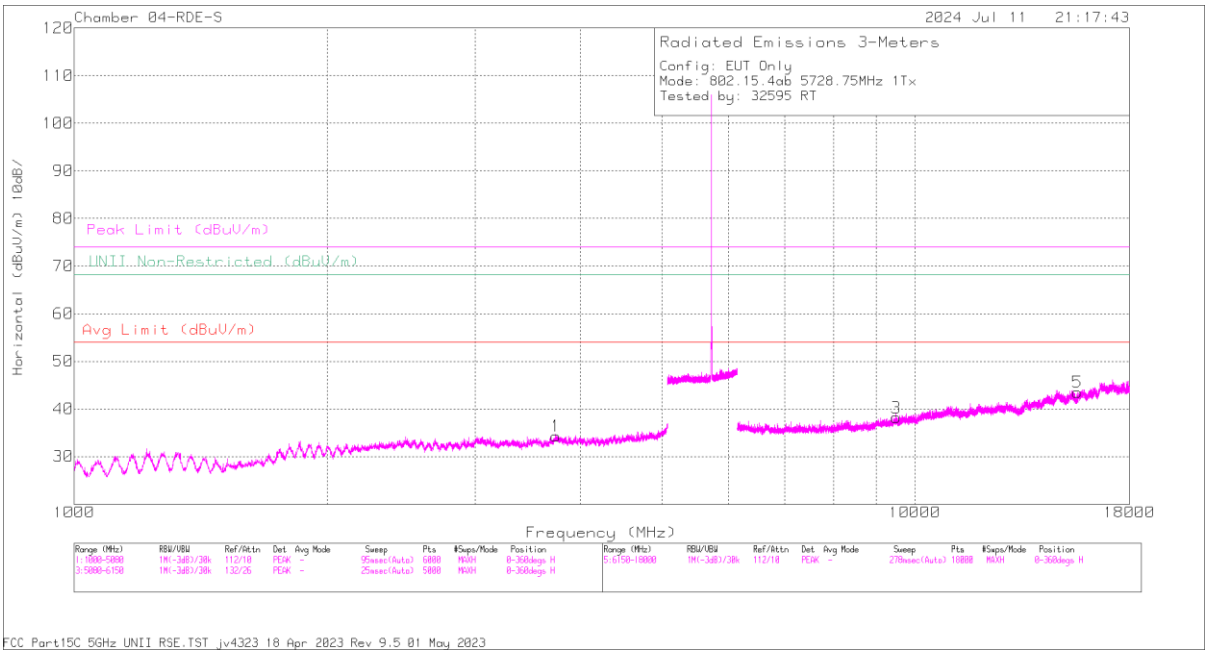
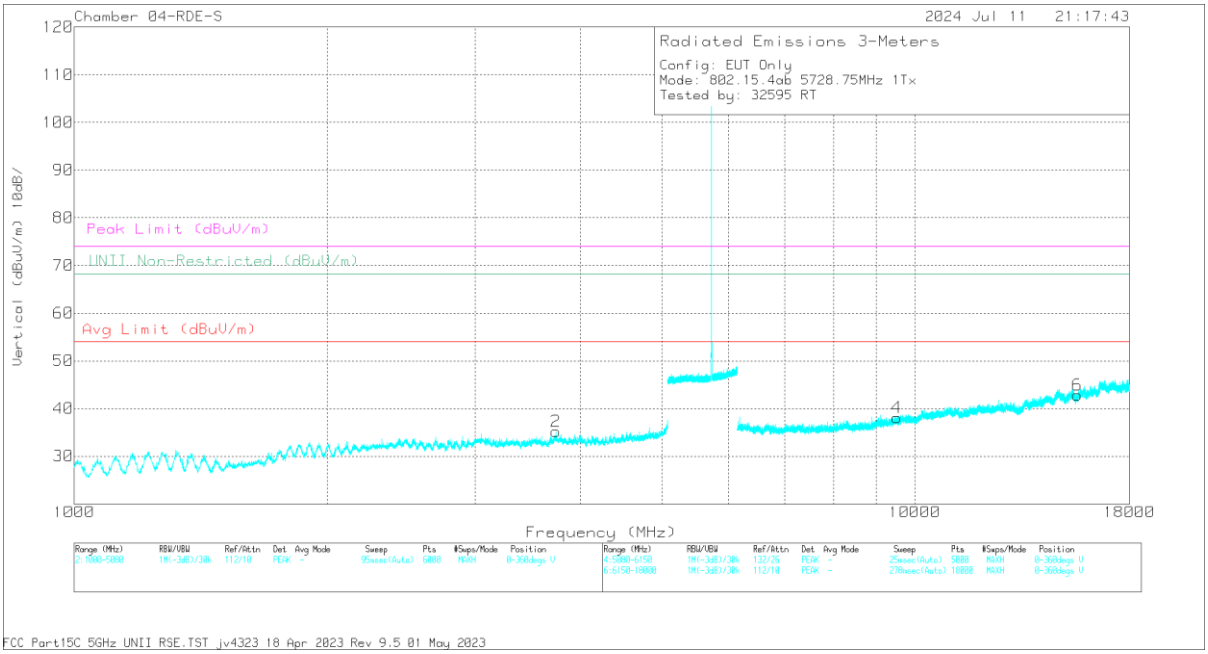
10.1.2. ANT 6, 500Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	* 3740.298	57.46	PK-U	33.3	0	-46.78	43.98			74	-30.02	-	-	88	391	H
	* 3740.316	46.02	ADR	33.3	3.62	-46.78	36.16	54	-17.84	-	-	-	-	88	391	H
2	* 3740.409	57.89	PK-U	33.3	0	-46.78	44.41	-	-	74	-29.59	-	-	304	347	V
	* 3740.643	46.28	ADR	33.3	3.62	-46.78	36.42	54	-17.58	-	-	-	-	304	347	V
5	* 15613.101	52.15	PK-U	40.1	0	-40.87	51.38	-	-	74	-22.62	-	-	280	203	H
	* 15611.745	40.54	ADR	40.1	3.62	-40.82	43.44	54	-10.56	-	-	-	-	280	203	H
6	* 15618.153	52.49	PK-U	40.2	0	-40.9	51.79	-	-	74	-22.21	-	-	84	197	V
	* 15616.974	41	ADR	40.1	3.62	-40.87	43.85	54	-10.15	-	-	-	-	84	197	V
3	9512.852	56.2	PK-U	36.6	0	-44.46	48.34	-	-	-	-	68.2	-19.86	223	211	H
4	9520.516	55.56	PK-U	36.6	0	-44.36	47.8	-	-	-	-	68.2	-20.4	171	333	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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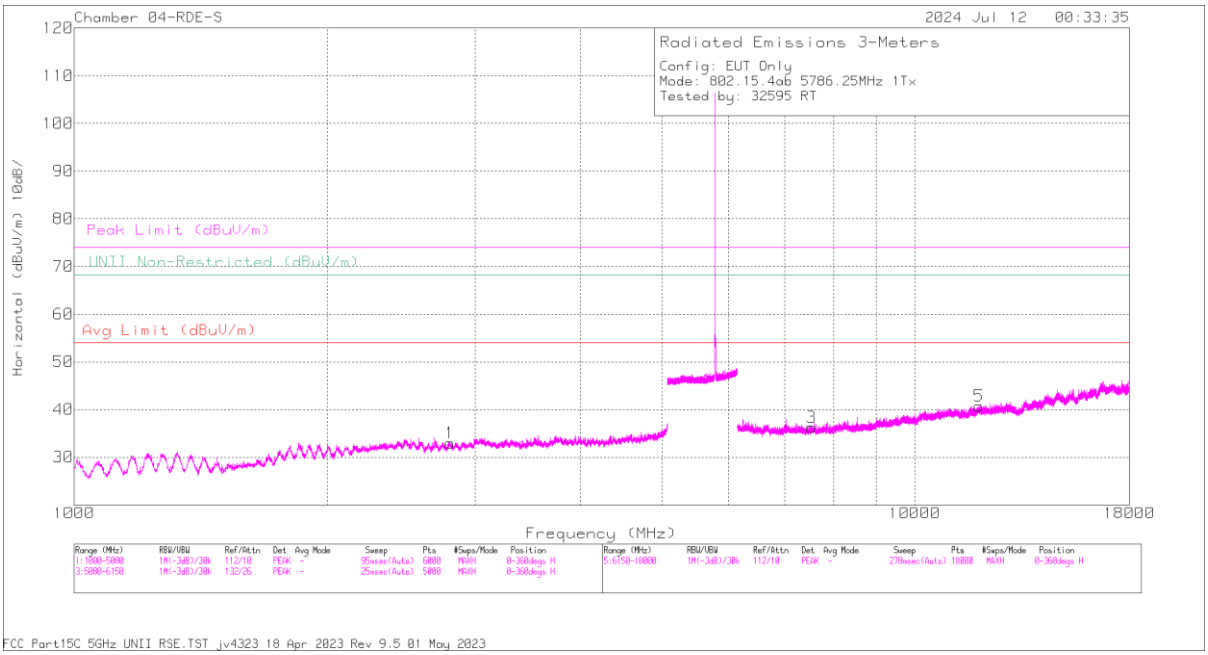
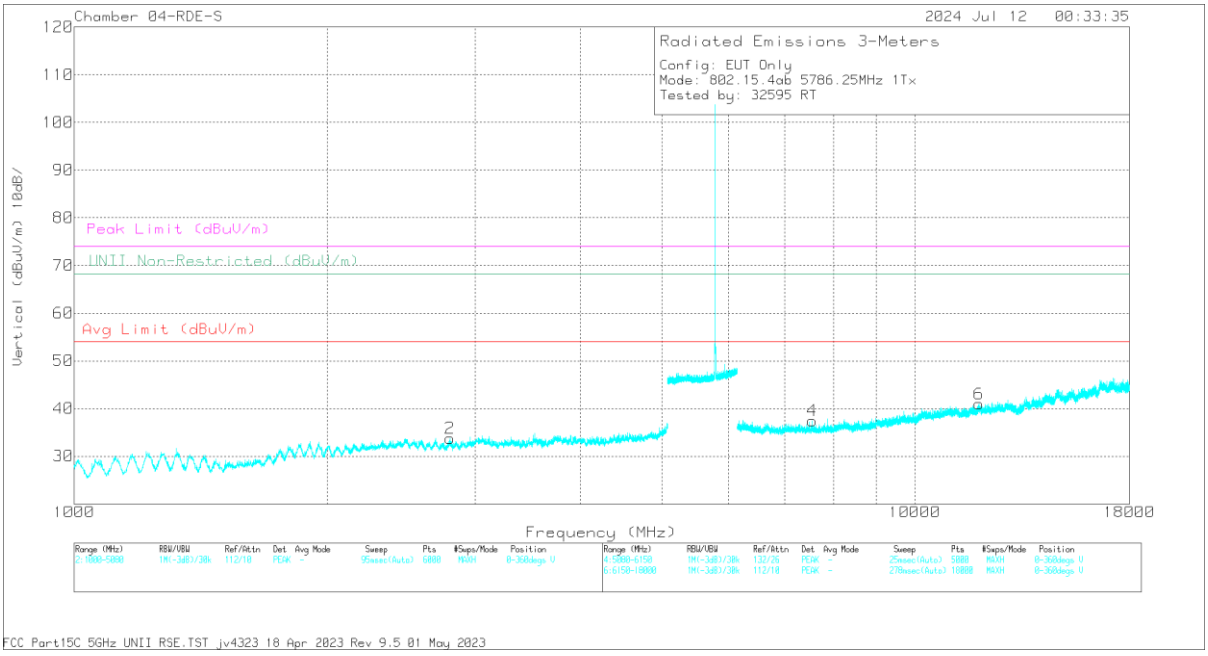
Mid CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	* 2796.564	59.33	PK-U	32.1	0	-48.35	43.08	-	-	74	-30.92	-	-	9	237	H
	* 2797.104	48.09	ADR	32.1	3.62	-48.34	35.47	54	-18.53	-	-	-	-	9	237	H
2	* 2799.951	59.31	PK-U	32.1	0	-48.27	43.14	-	-	74	-30.86	-	-	222	334	V
	* 2799.128	47.8	ADR	32.1	3.62	-48.3	35.22	54	-18.78	-	-	-	-	222	334	V
3	* 7541.604	56.22	PK-U	35.7	0	-45.36	46.56	-	-	74	-27.44	-	-	185	125	H
	* 7545.088	44.44	ADR	35.7	3.62	-45.35	38.41	54	-15.59	-	-	-	-	185	125	H
5	* 11915.779	53.12	PK-U	38.5	0	-42.21	49.41	-	-	74	-24.59	-	-	320	281	H
	* 11915.605	41.65	ADR	38.5	3.62	-42.21	41.56	54	-12.44	-	-	-	-	320	281	H
4	* 7551.67	55.66	PK-U	35.8	0	-45.28	46.18	-	-	74	-27.82	-	-	213	157	V
	* 7553.619	44.32	ADR	35.8	3.62	-45.31	38.43	54	-15.57	-	-	-	-	213	157	V
6	* 11927.683	52.99	PK-U	38.5	0	-42.28	49.21	-	-	74	-24.79	-	-	163	321	V
	* 11926.768	41.5	ADR	38.5	3.62	-42.27	41.35	54	-12.65	-	-	-	-	163	321	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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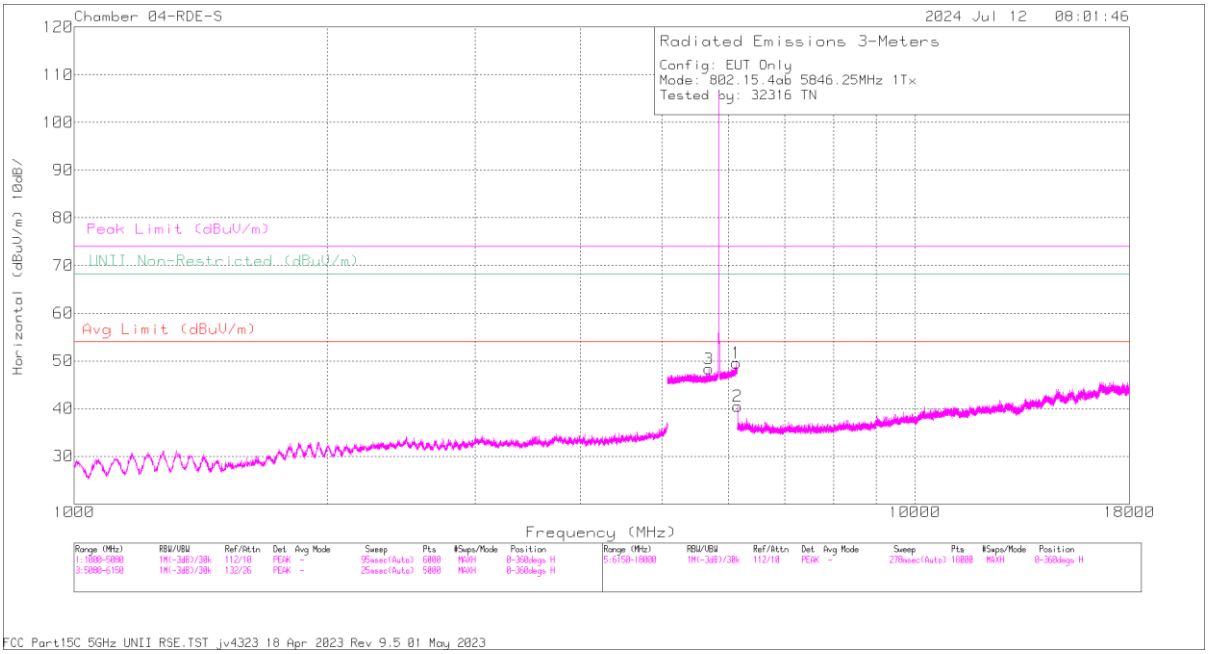
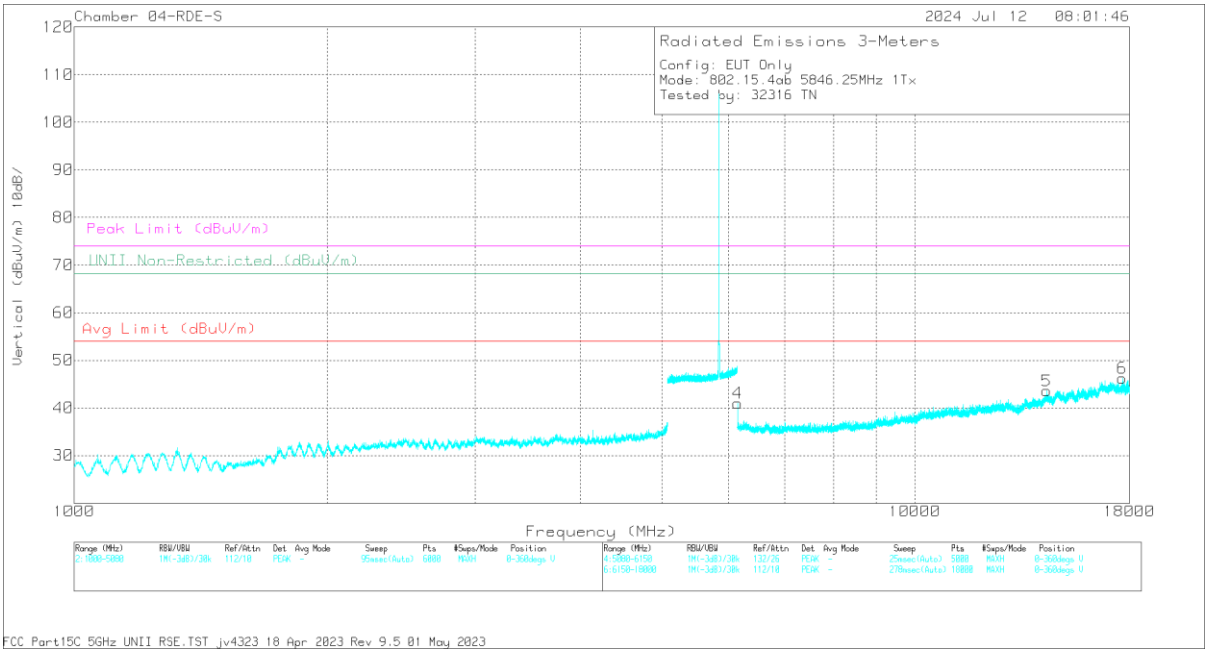
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	5692.62	58.92	PK-U	34.7	0	-36.75	56.87	-	-	-	-	68.2	-11.33	140	108	H
1	6134.512	58.21	PK-U	35.5	0	-35.85	57.86	-	-	-	-	68.2	-10.34	327	310	H
2	6153.114	57.85	PK-U	35.5	0	-44.54	48.81	-	-	-	-	68.2	-19.39	283	355	H
4	6153.951	57.97	PK-U	35.5	0	-44.57	48.9	-	-	-	-	68.2	-19.3	24	197	V
5	14356.614	55.25	PK-U	39.5	0	-42.32	52.43	-	-	-	-	68.2	-15.77	9	383	V
6	17646.965	51.64	PK-U	41.2	0	-37.78	55.06	-	-	-	-	68.2	-13.14	210	391	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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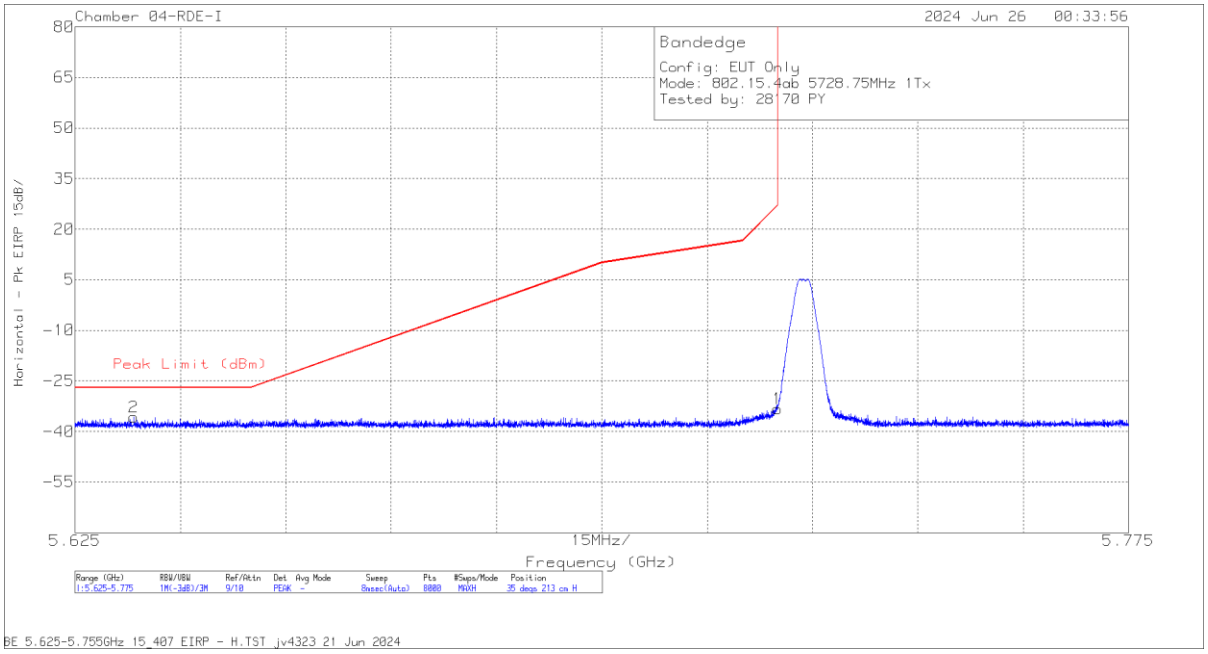
10.1.3. ANT 6, 500Kbps LOW POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	DCCF (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.633363	-65.78	Pk	34.9	-16.7	11.8	0	-35.78	-27	-8.78	35	213	H
1	5.725	-63.37	Pk	34.9	-16.6	11.8	0	-33.27	27	-60.27	35	213	H

Pk - Peak detector

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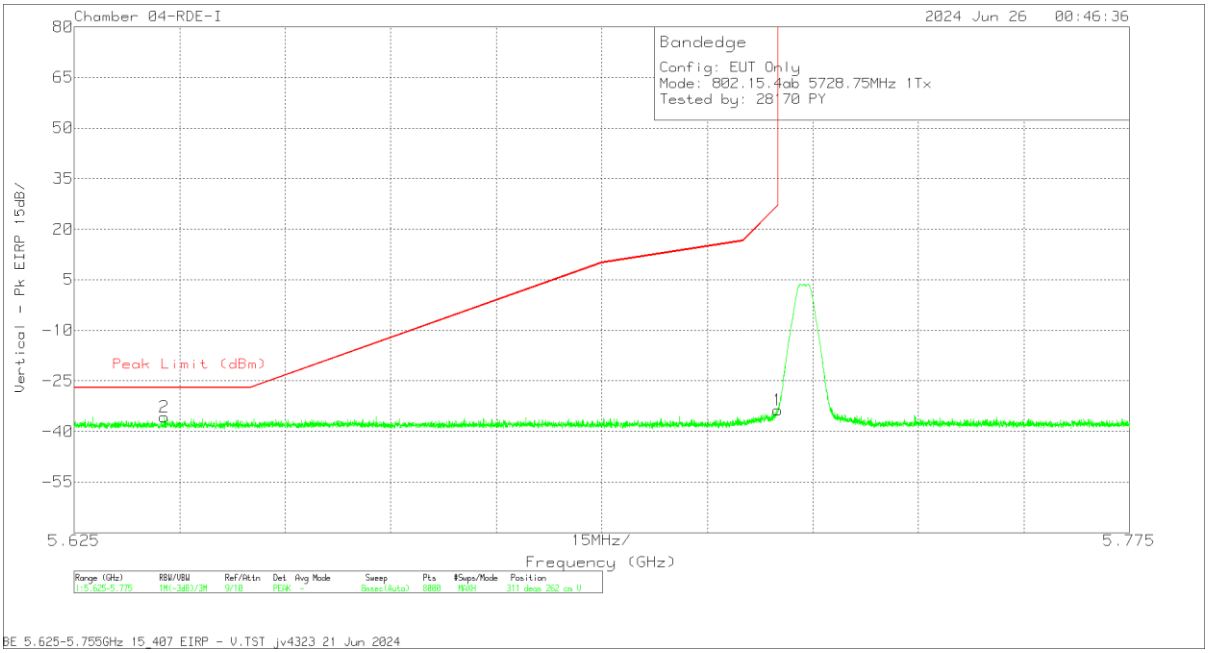
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	DCCF (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.637826	-65.83	Pk	34.9	-16.6	11.8	0	-35.73	-27	-8.73	311	262	V
1	5.725	-63.82	Pk	34.9	-16.6	11.8	0	-33.72	27	-60.72	311	262	V

Pk - Peak detector

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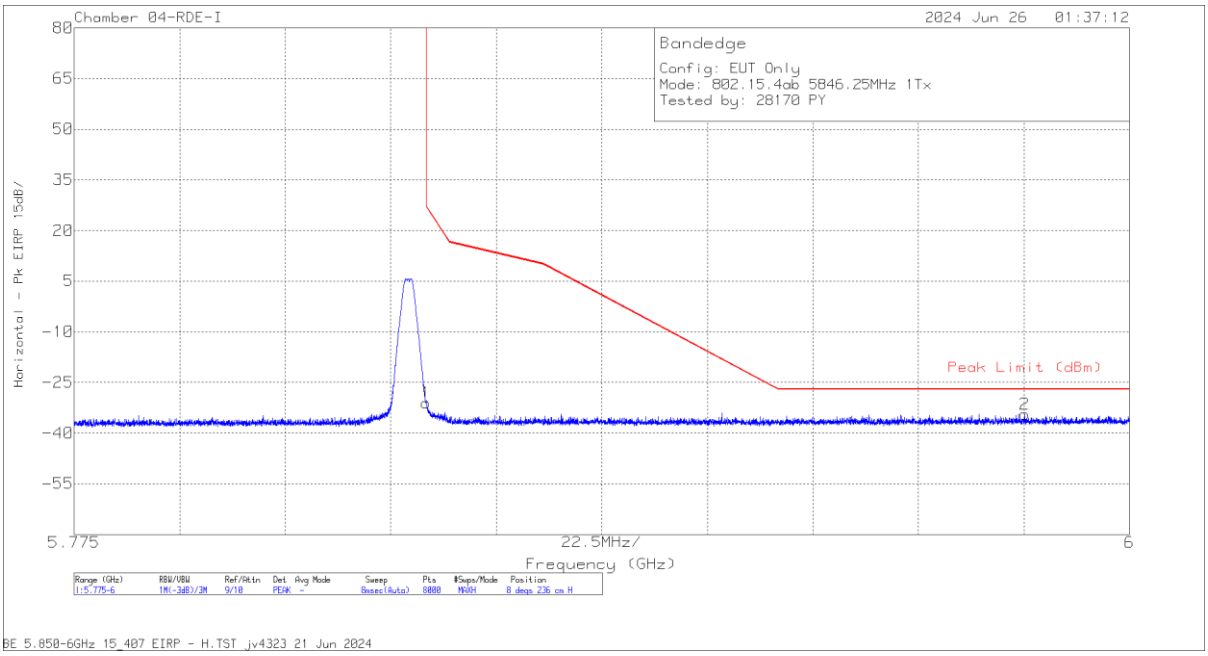
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	DCCF (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-62.34	Pk	35	-15.5	11.8	0	-31.04	27	-58.04	8	236	H
2	5.977613	-65.77	Pk	35.3	-15.7	11.8	0	-34.37	-27	-7.37	8	236	H

Pk - Peak detector

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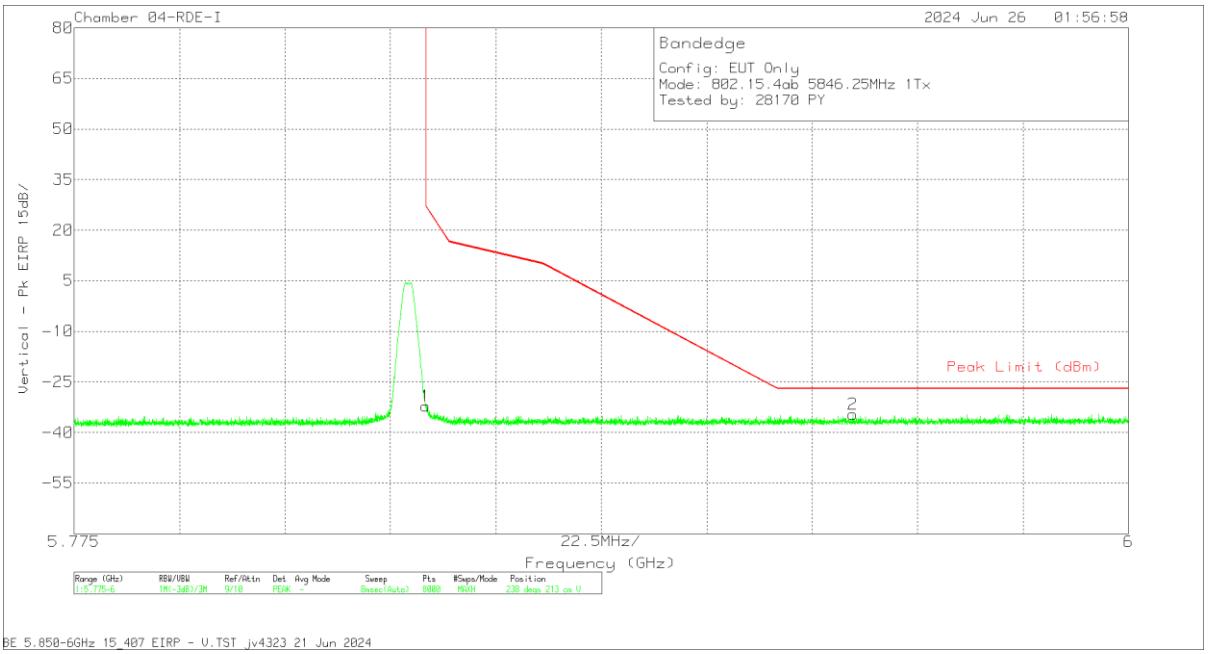
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	CBL AMP Pad(dB)	Conversion Factor (dB)	DCCF (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-63.44	Pk	35	-15.5	11.8	0	-32.14	27	-59.14	238	213	V
2	5.941158	-66.16	Pk	35.2	-15.4	11.8	0	-34.56	-27	-7.56	238	213	V

Pk - Peak detector

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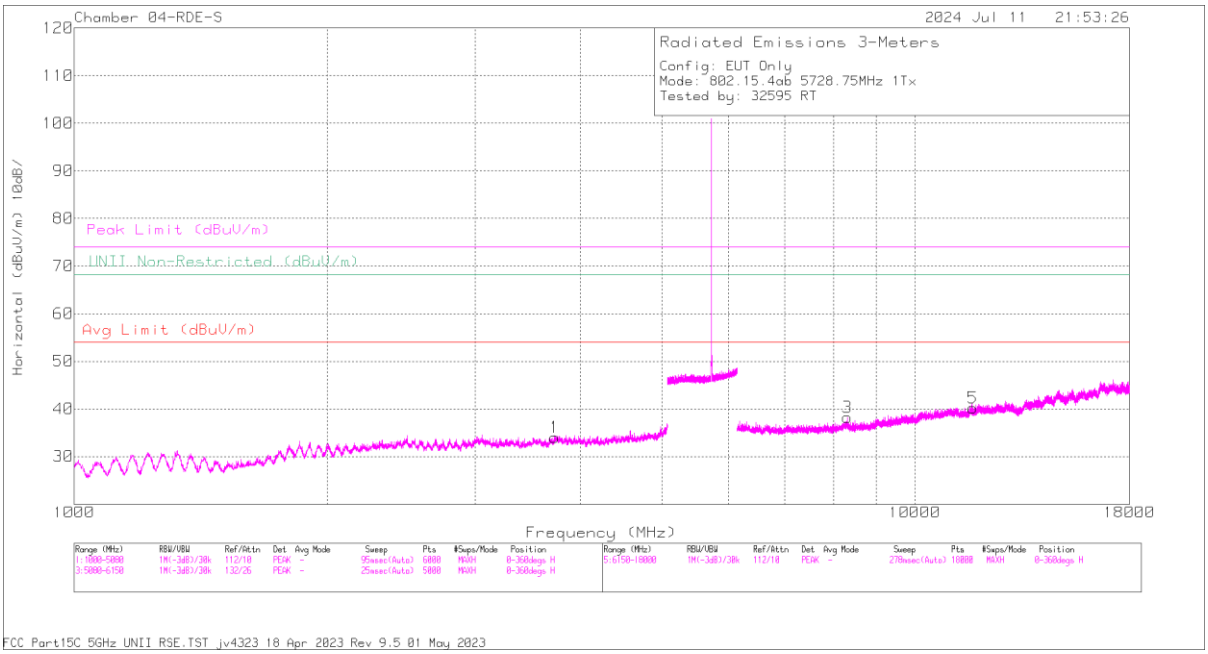
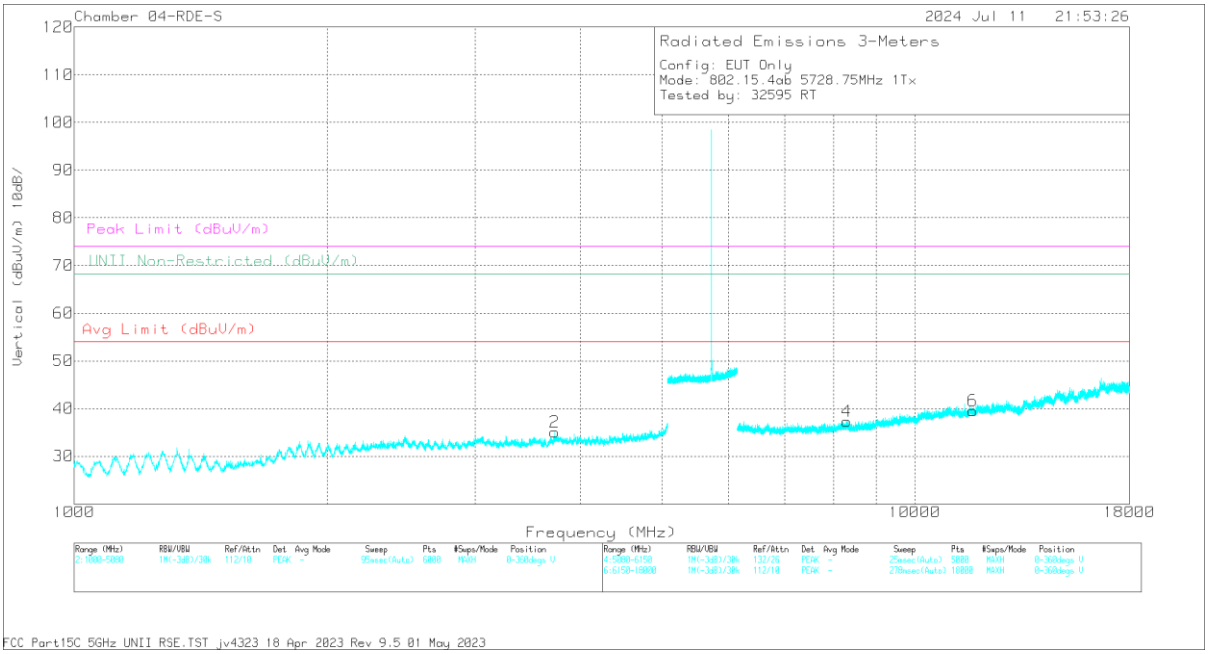
10.1.4. ANT 6, 500Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	* 3729.419	57.94	PK-U	33.3	0	-46.87	44.37	-	-	74	-29.63	-	-	168	266	H
	* 3727.367	46.09	ADR	33.3	3.62	-46.86	36.15	54	-17.85	-	-	-	-	168	266	H
2	* 3732.474	57.77	PK-U	33.3	0	-46.88	44.19	-	-	74	-29.81	-	-	32	123	V
	* 3731.283	46.25	ADR	33.3	3.62	-46.89	36.28	54	-17.72	-	-	-	-	32	123	V
3	* 8308.094	55.33	PK-U	35.8	0	-44.26	46.87	-	-	74	-27.13	-	-	285	119	H
	* 8306.279	43.81	ADR	35.8	3.62	-44.27	38.96	54	-15.04	-	-	-	-	285	119	H
5	* 11713.698	53.57	PK-U	38.2	0	-42.16	49.61	-	-	74	-24.39	-	-	101	284	H
	* 11711.235	42.32	ADR	38.2	3.62	-42.08	42.06	54	-11.94	-	-	-	-	101	284	H
4	* 8298.978	55.6	PK-U	35.8	0	-44.13	47.27	-	-	74	-26.73	-	-	291	236	V
	* 8300.682	43.8	ADR	35.8	3.62	-44.13	39.09	54	-14.91	-	-	-	-	291	236	V
6	* 11726.972	53.82	PK-U	38.3	0	-42.32	49.8	-	-	74	-24.2	-	-	50	322	V
	* 11727.198	42.38	ADR	38.3	3.62	-42.33	41.97	54	-12.03	-	-	-	-	50	322	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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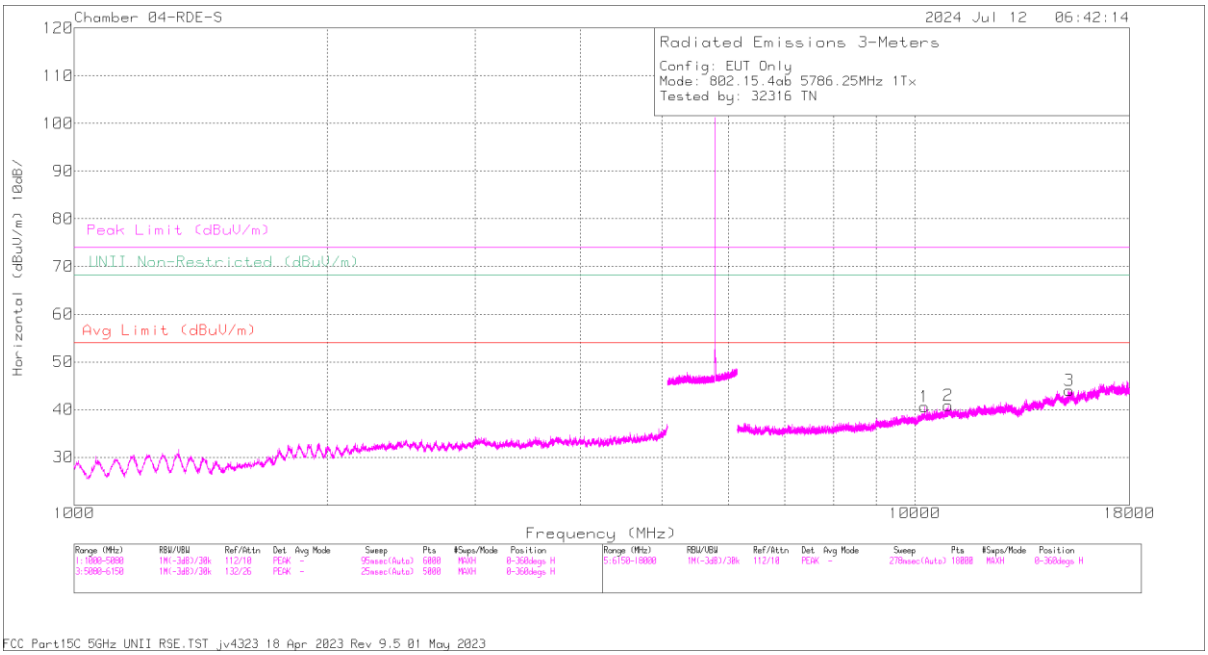
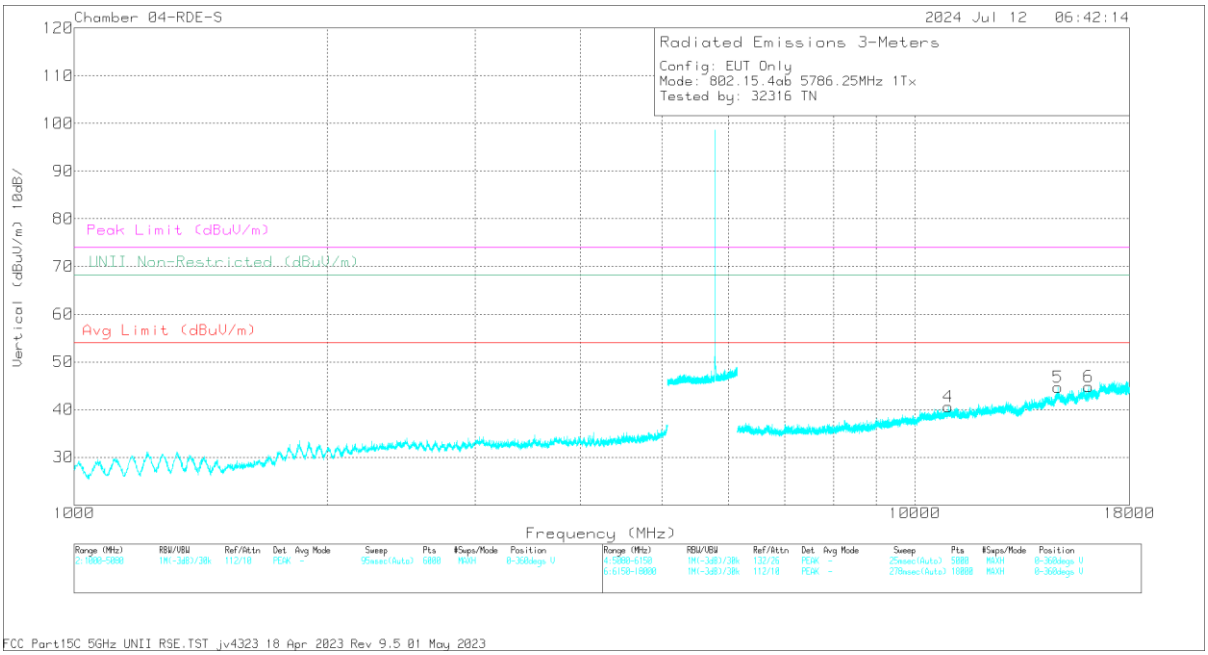
Mid CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	10267.328	55.82	PK-U	37.6	0	-44.02	49.4	-	-	-	-	68.2	-18.8	105	182	H
	10267.499	43.43	ADR	37.6	3.62	-44.02	40.63	-	-	-	-	-	-	105	182	H
4	10950.516	42.14	ADR	38	3.62	-43.25	40.51	54	-13.49	-	-	-	-	37	211	V
	10953.537	54.22	PK-U	38	0	-43.29	48.93	-	-	74	-25.07	-	-	37	211	V
2	10968.035	54.58	PK-U	38	0	-43.05	49.53	-	-	74	-24.47	-	-	224	303	H
	10968.414	42.23	ADR	38	3.62	-43.06	40.79	54	-13.21	-	-	-	-	224	303	H
5	14786.768	53.12	PK-U	40.1	0	-41.01	52.21	-	-	-	-	68.2	-15.99	289	163	V
	14789.199	41.26	ADR	40.1	3.62	-41.04	43.94	-	-	-	-	-	-	289	163	V
3	15275.452	52.88	PK-U	39.8	0	-40.33	52.35	-	-	-	-	68.2	-15.85	95	191	H
	15275.651	41.09	ADR	39.8	3.62	-40.32	44.19	-	-	-	-	-	-	95	191	H
6	16101.237	52.91	PK-U	40.7	0	-40.23	53.38	-	-	74	-20.62	-	-	2	259	V
	16101.374	40.41	ADR	40.7	3.62	-40.24	44.49	54	-9.51	-	-	-	-	2	259	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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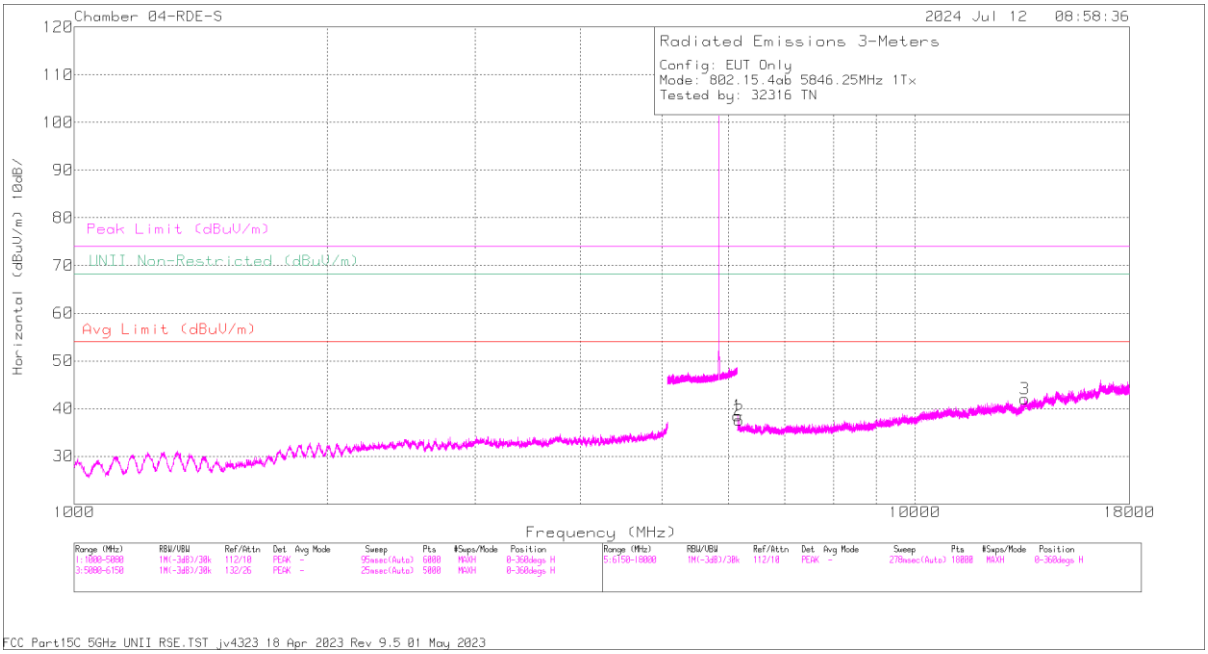
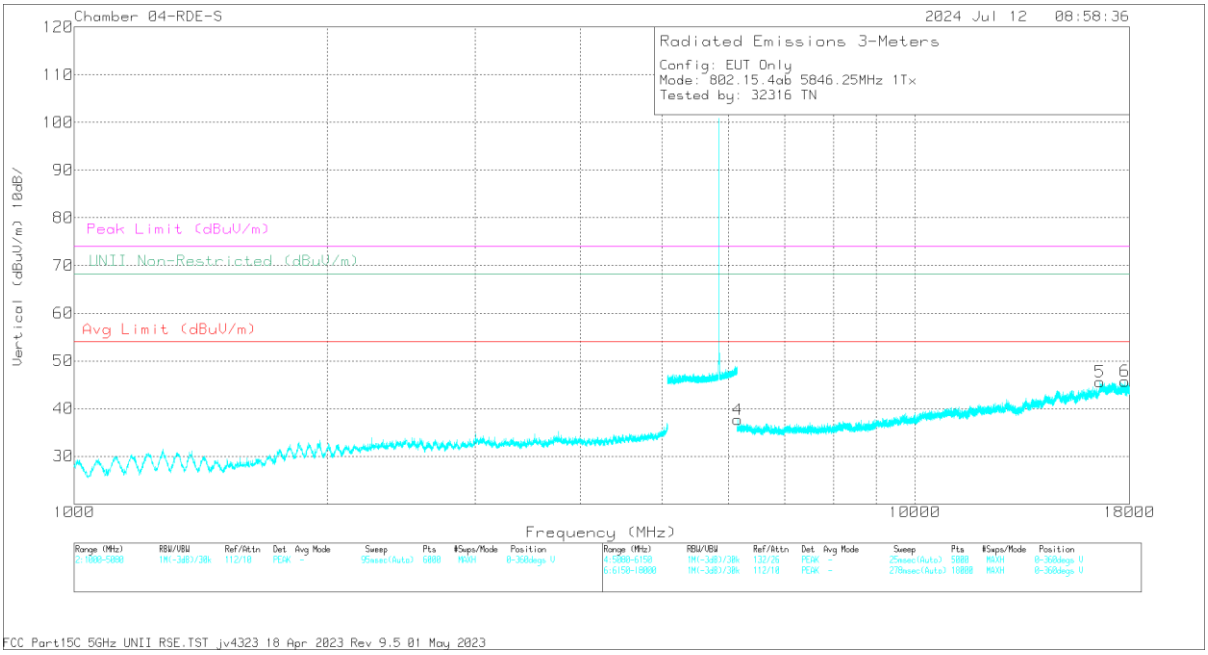
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF 3m (dB/m)	DCCF (dB)	Gain/Loss (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	6152.718	56.33	PK-U	35.5	0	-44.54	47.29	-	-	-	-	68.2	-20.91	319	135	H
	6152.85	56.19	PK-U	35.5	0	-44.54	47.15	-	-	-	-	68.2	-21.05	350	206	V
4	6152.987	44.75	ADR	35.5	3.62	-44.54	39.33	-	-	-	-	-	-	350	206	V
	6153.071	44.47	ADR	35.5	3.62	-44.54	39.05	-	-	-	-	-	-	319	135	H
2	6178.487	55.44	PK-U	35.5	0	-44.58	46.36	-	-	-	-	68.2	-21.84	12	321	H
	6178.547	43.66	ADR	35.5	3.62	-44.57	38.21	-	-	-	-	-	-	12	321	H
3	13502.844	55.28	PK-U	38.6	0	-42.12	51.76	-	-	-	-	68.2	-16.44	81	357	H
	13504.055	43.35	ADR	38.6	3.62	-42.16	43.41	-	-	-	-	-	-	81	357	H
5	16605.22	53.37	PK-U	41.5	0	-39.76	55.11	-	-	-	-	68.2	-13.09	272	319	V
	16605.865	41.42	ADR	41.5	3.62	-39.78	46.76	-	-	-	-	-	-	272	319	V
6	*17786.694	40.85	ADR	41	3.62	-38.83	46.64	54	-7.36	-	-	-	-	356	379	V
	*17787.112	53.02	PK-U	41	0	-38.82	55.2	-	-	74	-18.8	-	-	356	379	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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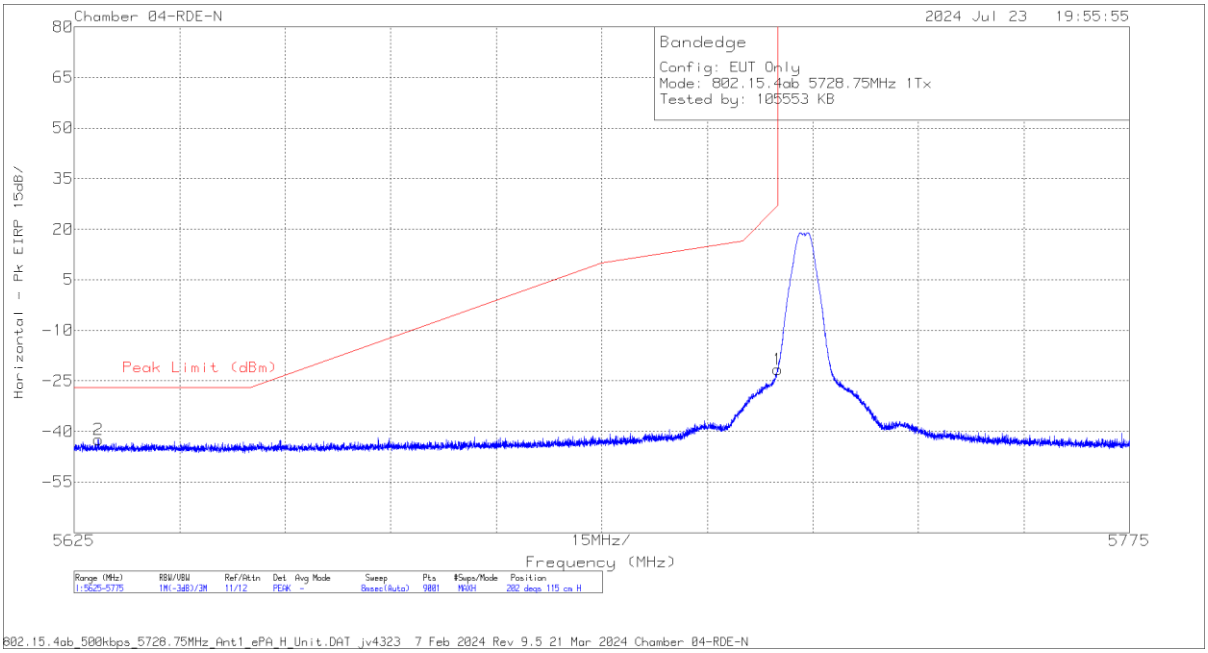
10.1.5. ANT 5, 500Kbps, HIGH POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	223083 ACF (dB/m) 3m	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5628.417	-64.73	Pk	34.6	11.8	0	-23.98	-42.31	-27	-15.31	202	115	H
1	5725	-44.07	Pk	34.7	11.8	0	-24.05	-21.62	27	-48.62	202	115	H

Pk - Peak detector

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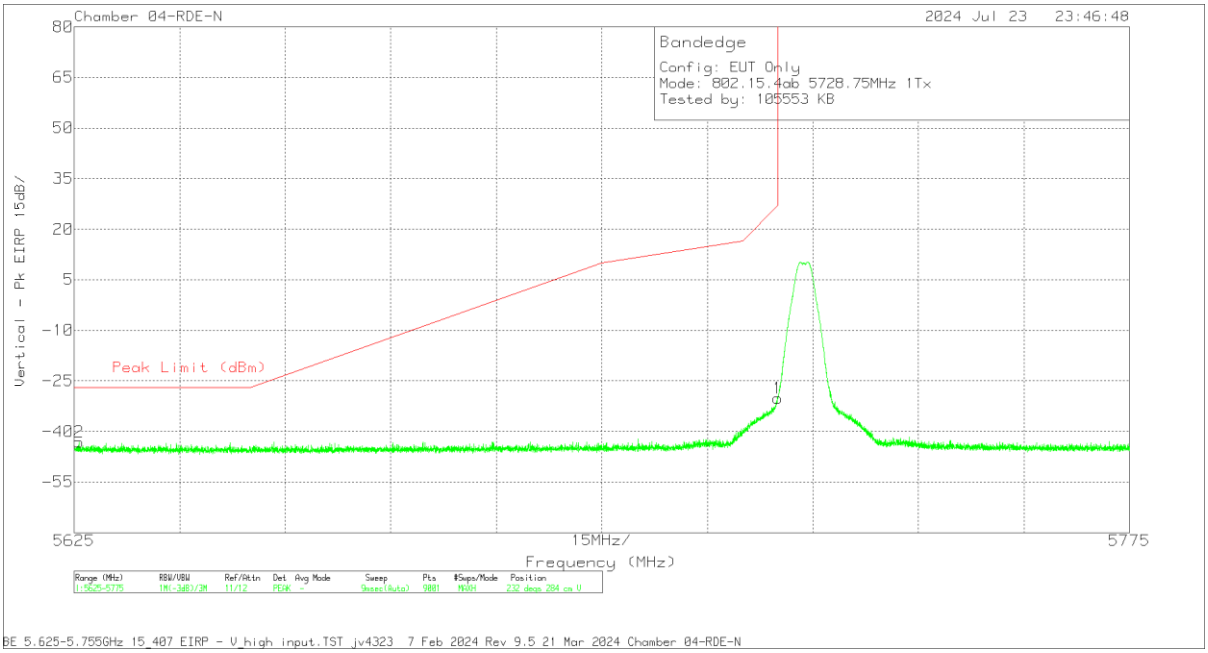
VERTICAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	223083 ACF (dB/m) 3m	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5625.667	-65.57	Pk	34.6	11.8	0	-23.93	-43.1	-27	-16.1	232	284	V
1	5725	-52.63	Pk	34.7	11.8	0	-24.05	-30.18	27	-57.18	232	284	V

Pk - Peak detector

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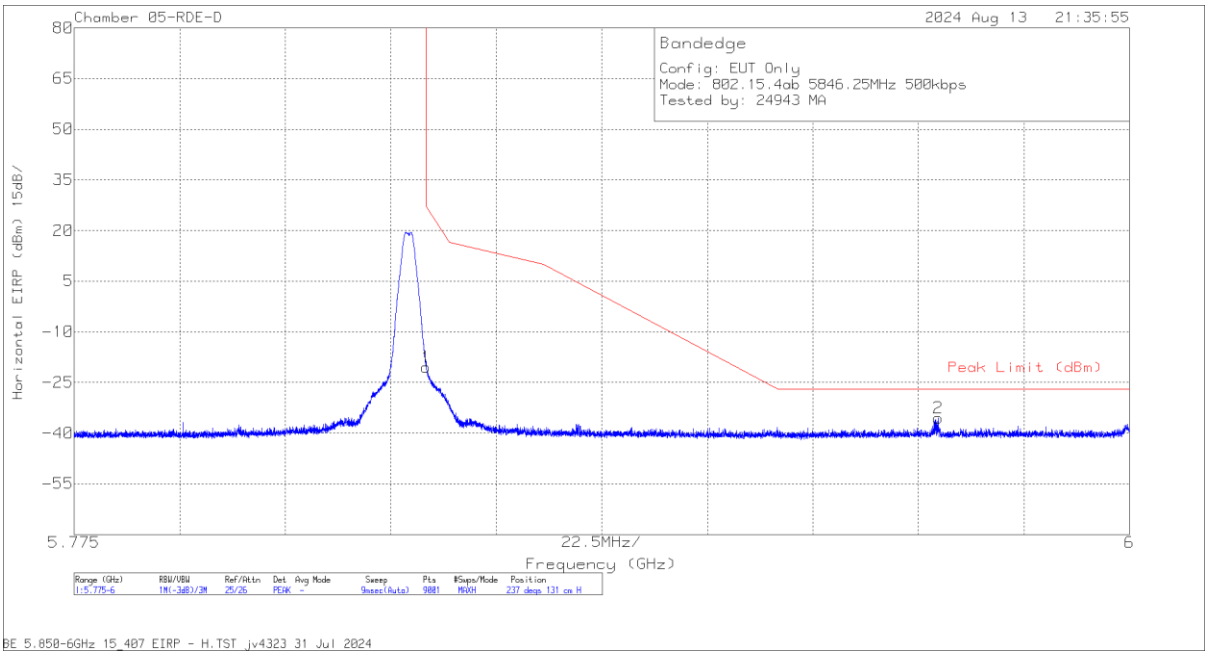
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-29.38	Pk	35.2	11.8	0	-38.04	-20.42	27	-47.42	237	131	H
2	5.959175	-45.04	Pk	35.4	11.8	0	-37.64	-35.48	-27	-8.48	237	131	H

Pk - Peak detector

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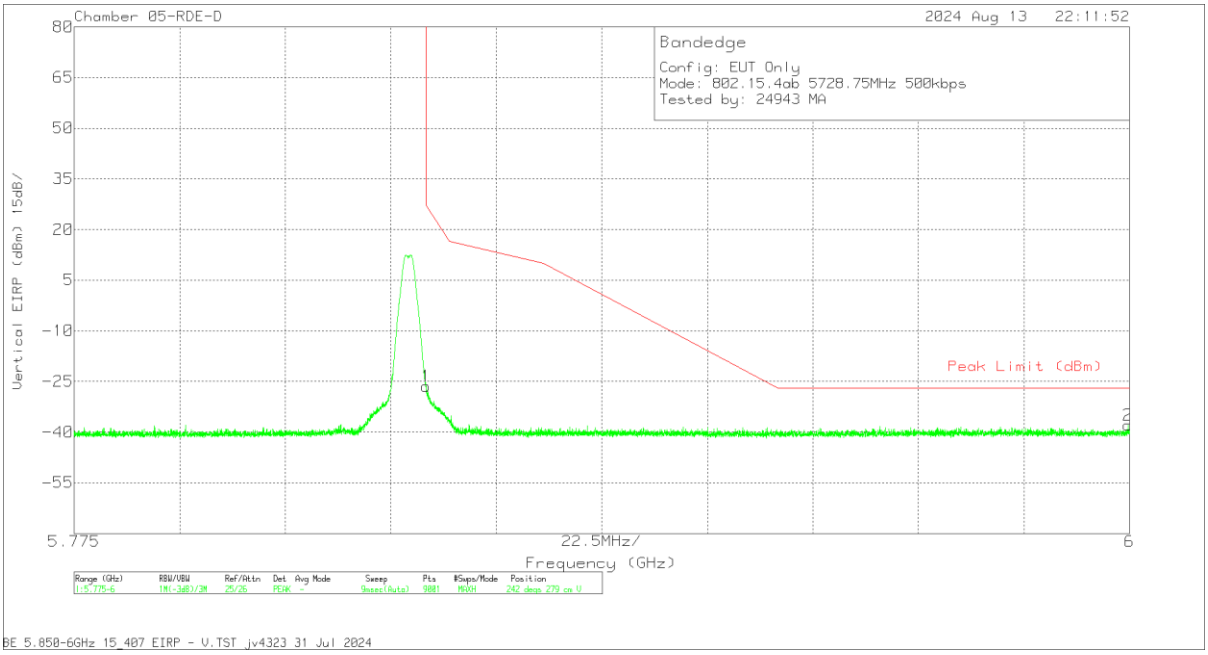
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-35.32	Pk	35.2	11.8	0	-38.04	-26.36	27	-53.36	242	279	V
2	5.999725	-47.43	Pk	35.5	11.8	0	-37.72	-37.85	-27	-10.85	242	279	V

Pk - Peak detector

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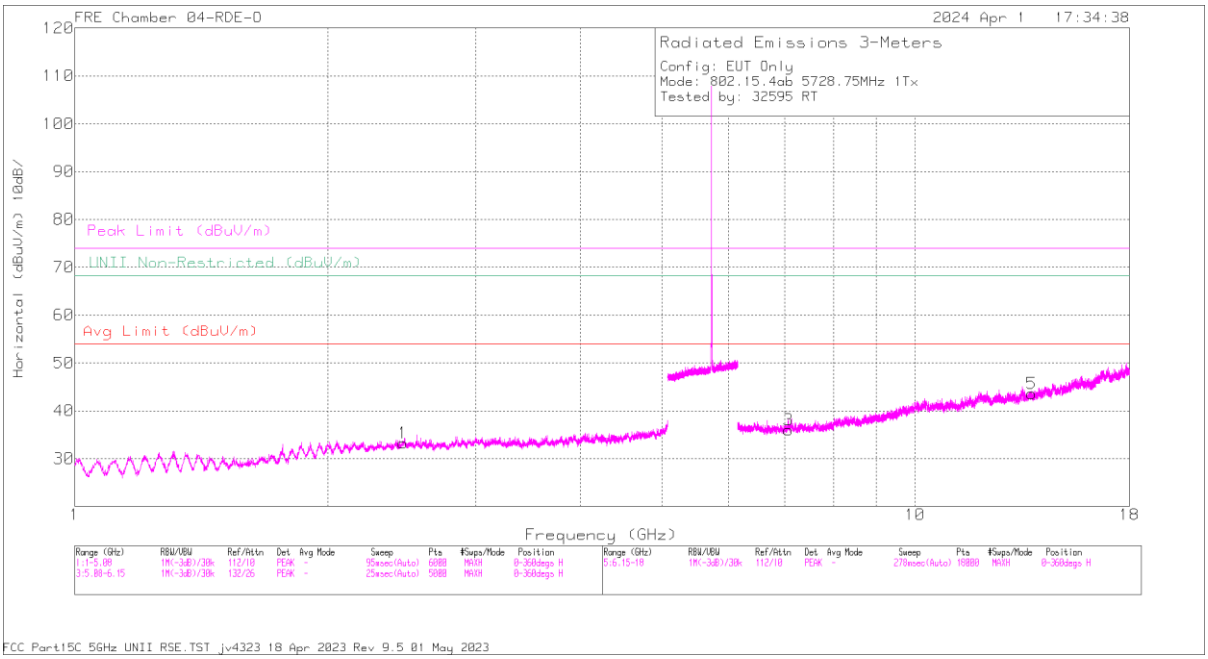
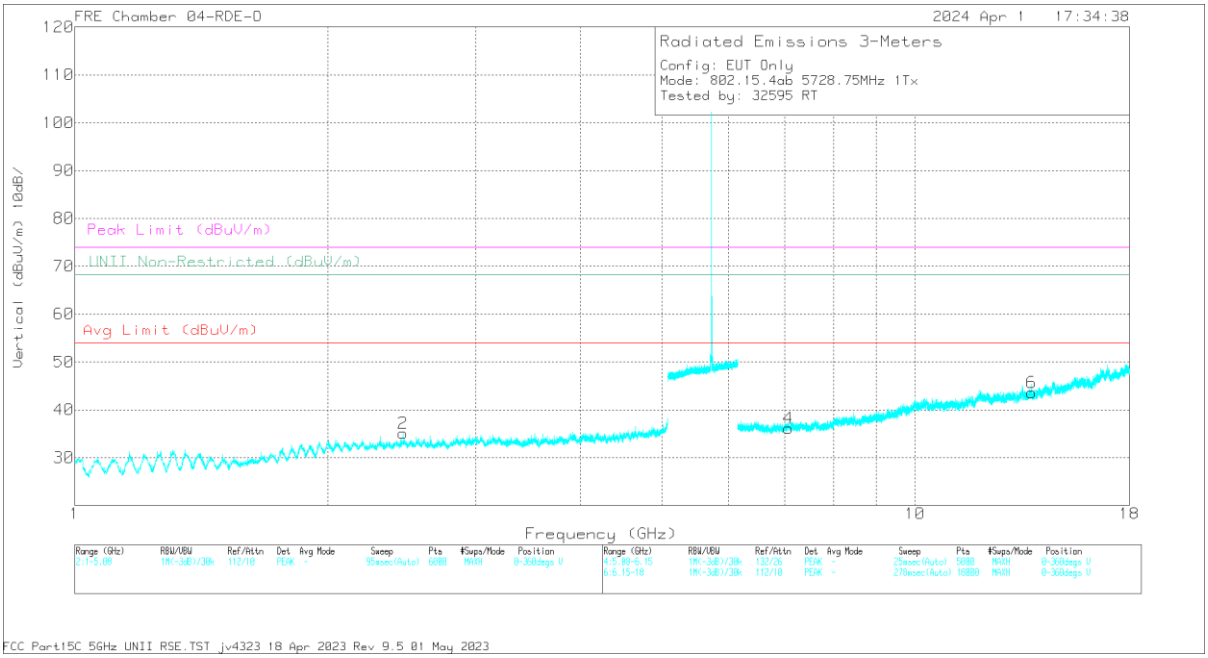
10.1.6. ANT 5, 500Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
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Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF (dB/m)	Gain/Loss (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	2.459775	57.95	PK-U	32.7	-46.72	43.93	-	-	-	-	68.2	-24.27	75	239	V
1	2.459933	57.68	PK-U	32.7	-46.71	43.67	-	-	-	-	68.2	-24.53	106	164	H
3	7.069913	52.85	PK-U	35.9	-41.88	46.87	-	-	-	-	68.2	-21.33	255	134	H
4	7.070695	52.63	PK-U	35.9	-41.83	46.7	-	-	-	-	68.2	-21.5	180	273	V
6	13.768251	52.58	PK-U	39.2	-38.4	53.38	-	-	-	-	68.2	-14.82	173	172	V
5	13.768669	52.52	PK-U	39.2	-38.4	53.32	-	-	-	-	68.2	-14.88	328	100	H

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

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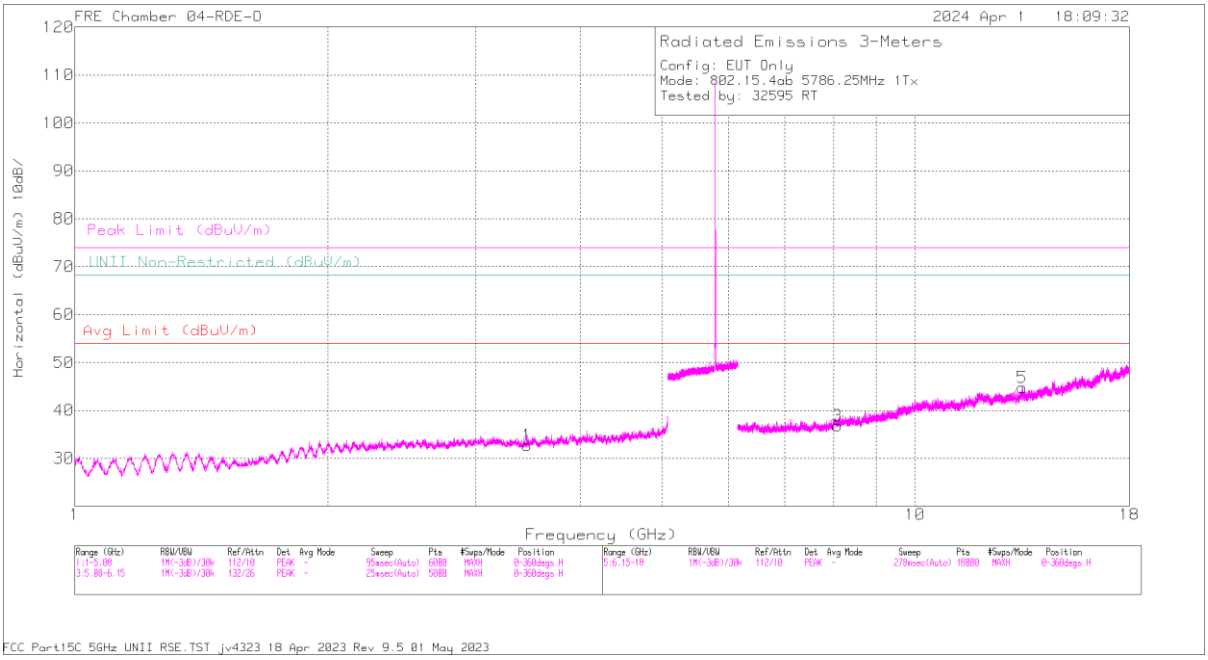
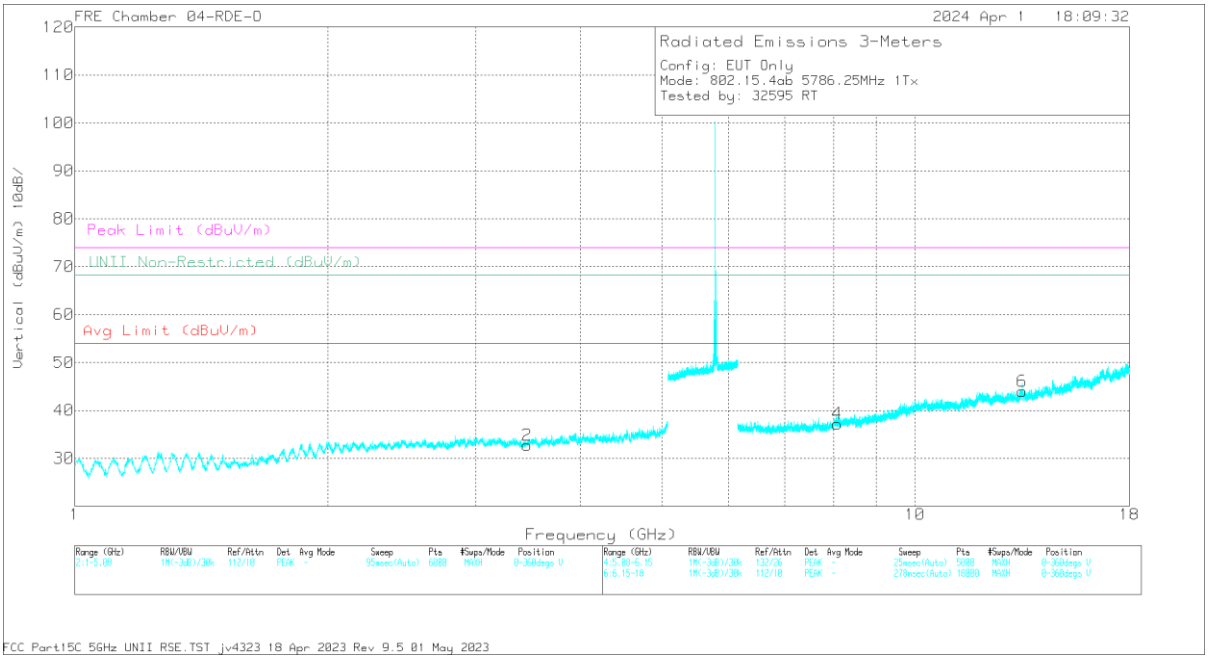
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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

Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF (dB/m)	DCCF (dB)	Gain/Loss (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	3.45431	55.19	PK-U	33.1	0	-44.8	43.49	-	-	-	-	68.2	-24.71	17	223	V
1	3.455851	55.41	PK-U	33.1	0	-44.89	43.62	-	-	-	-	68.2	-24.58	300	107	H
3	*8.08427	52.55	PK-U	36	0	-41.13	47.42	-	-	74	-26.58	-	-	311	351	H
4	*8.084914	40.9	ADR	36	3.62	-41.19	39.34	54	-14.67	-	-	-	-	89	287	V
3	*8.085065	40.9	ADR	36	3.62	-41.19	39.34	54	-14.67	-	-	-	-	311	351	H
4	*8.086827	53.06	PK-U	36	0	-41.18	47.88	-	-	74	-26.12	-	-	89	287	V
5	13.426827	53.02	PK-U	39.1	0	-37.4	54.72	-	-	-	-	68.2	-13.48	56	267	H
6	13.428567	53.02	PK-U	39.1	0	-37.5	54.62	-	-	-	-	68.2	-13.58	218	177	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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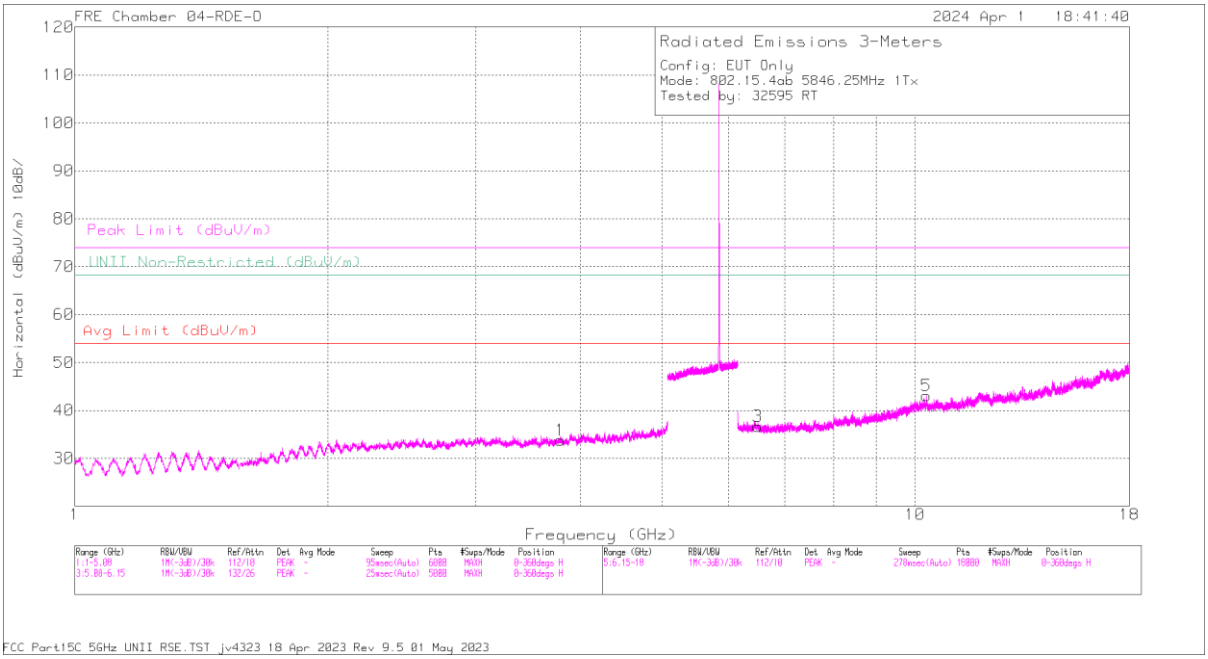
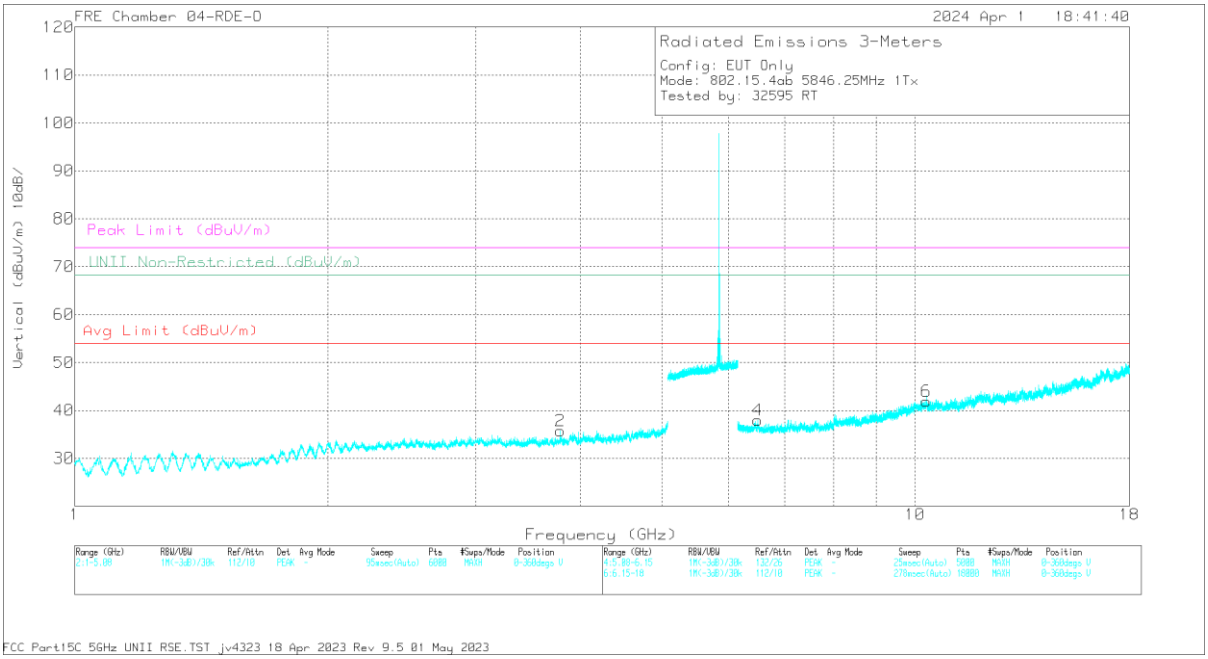
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
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Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF (dB/m)	DCCF (dB)	Gain/Loss (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	*3.783578	43.8	ADR	33.6	3.62	-44.74	36.29	54	-17.72	-	-	-	-	275	391	V
1	*3.783683	55.36	PK-U	33.6	0	-44.73	44.23	-	-	74	-29.77	-	-	355	360	H
1	*3.783699	43.8	ADR	33.6	3.62	-44.73	36.3	54	-17.71	-	-	-	-	355	360	H
2	*3.783742	55.72	PK-U	33.6	0	-44.73	44.59	-	-	74	-29.41	-	-	275	391	V
4	6.502556	53.13	PK-U	35.9	0	-42	47.03	-	-	-	-	68.2	-21.17	278	247	V
3	6.505512	53.71	PK-U	35.9	0	-41.95	47.66	-	-	-	-	68.2	-20.54	107	303	H
5	10.309797	53.73	PK-U	38.5	0	-40.02	52.21	-	-	-	-	68.2	-15.99	22	115	H
6	10.311095	53.64	PK-U	38.5	0	-39.81	52.33	-	-	-	-	68.2	-15.87	18	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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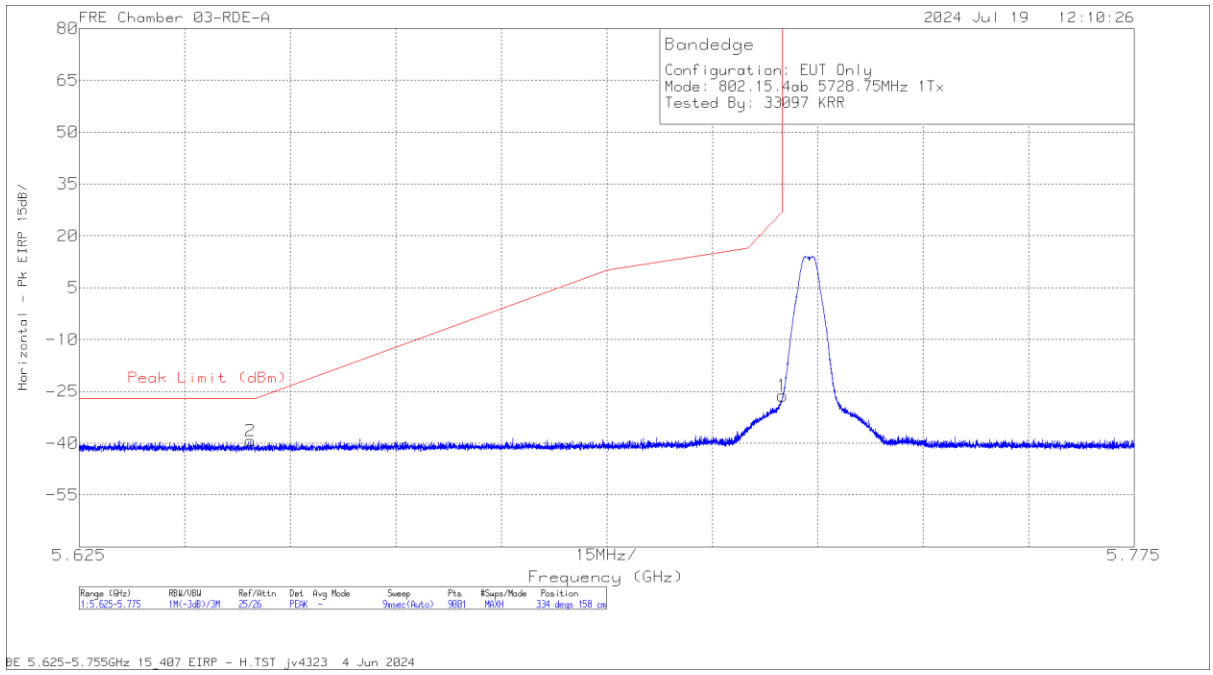
10.1.7. ANT 5, 500Kbps, LOW POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP(dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.649334	-48.22	Pk	34.4	11.8	0	-37.29	-39.31	-27	-12.31	334	158	H
1	5.725	-35.5	Pk	34.6	11.8	0	-37.13	-26.23	27	-53.23	334	158	H

Pk - Peak detector

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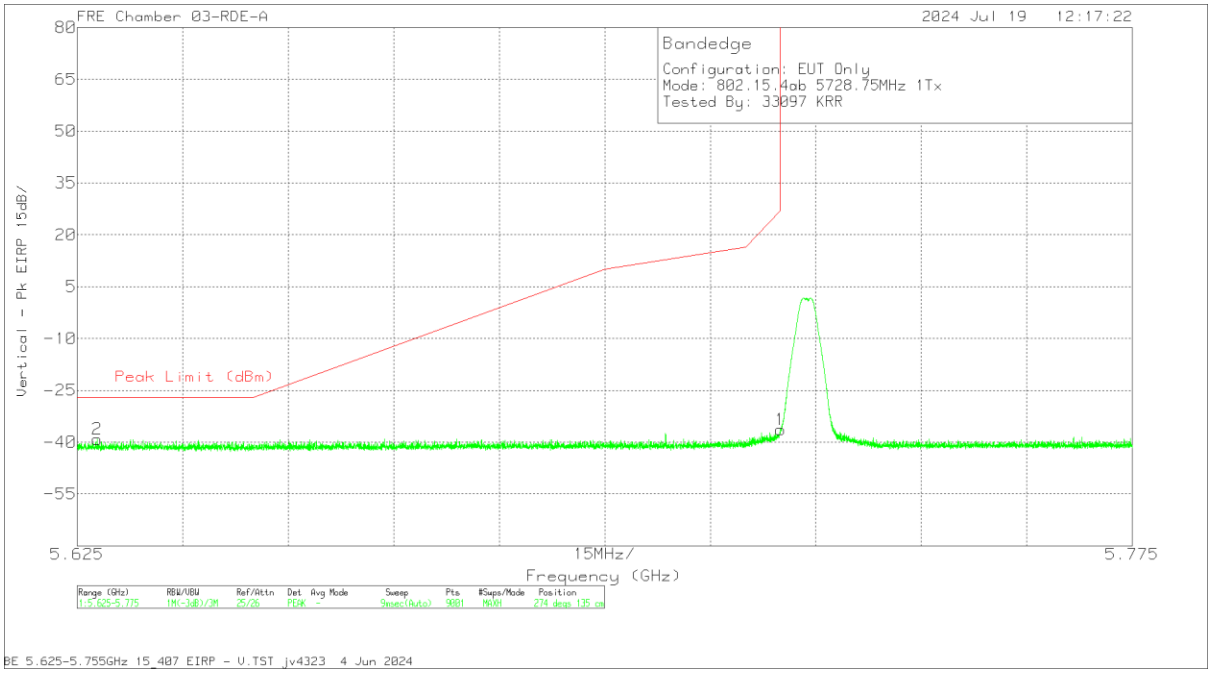
VERTICAL RESULT



Trace Markers

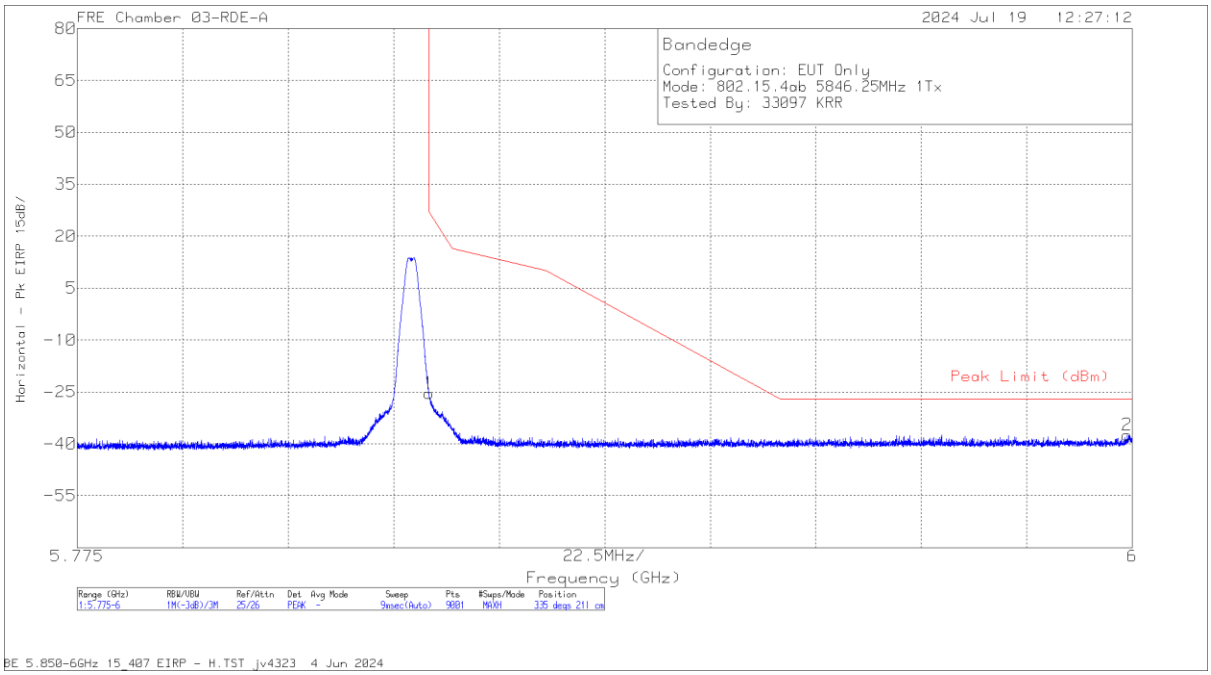
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP(dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.627817	-47.96	Pk	34.4	11.8	0	-37.41	-39.17	-27	-12.17	274	135	V
1	5.725	-45.66	Pk	34.6	11.8	0	-37.13	-36.39	27	-63.39	274	135	V

Pk - Peak detector

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

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP(dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-35.28	Pk	35	11.8	0	-36.87	-25.35	27	-52.35	335	211	H
2	5.9989	-47.92	Pk	35.3	11.8	0	-36.59	-37.41	-27	-10.41	335	211	H

Pk - Peak detector

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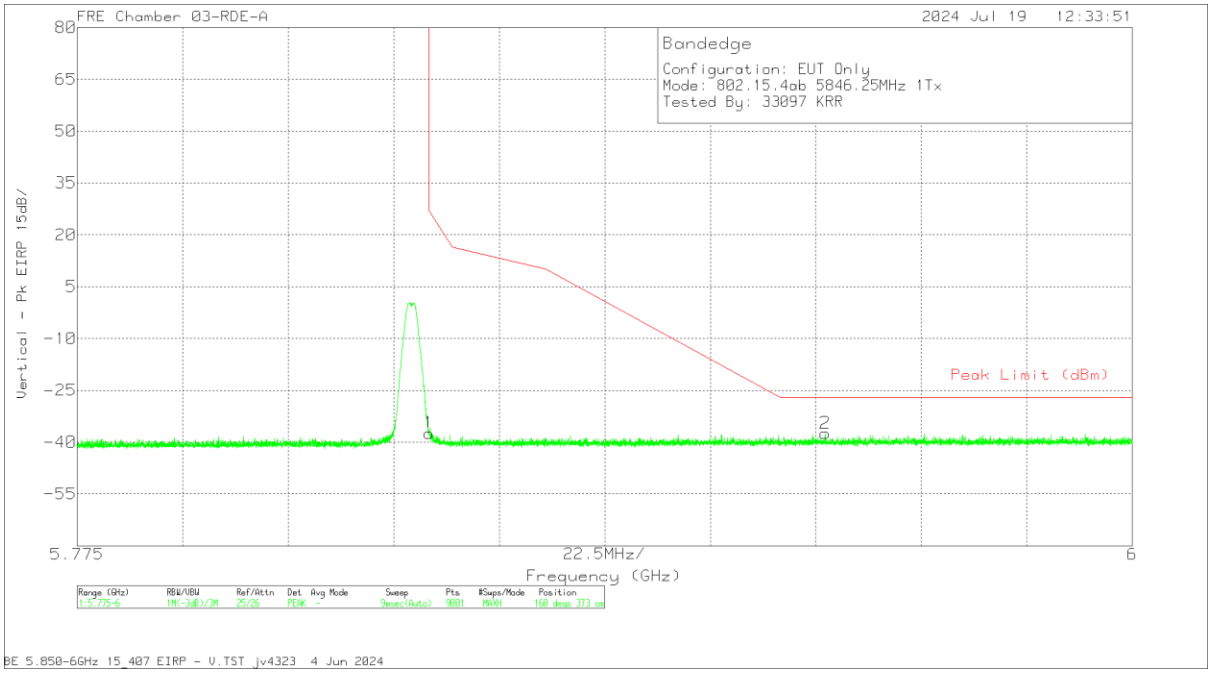
VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP(dBm)	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-47.31	Pk	35	11.8	0	-36.87	-37.38	27	-64.38	160	373	V
2	5.934525	-47.74	Pk	35.2	11.8	0	-36.69	-37.43	-27	-10.43	160	373	V

Pk - Peak detector

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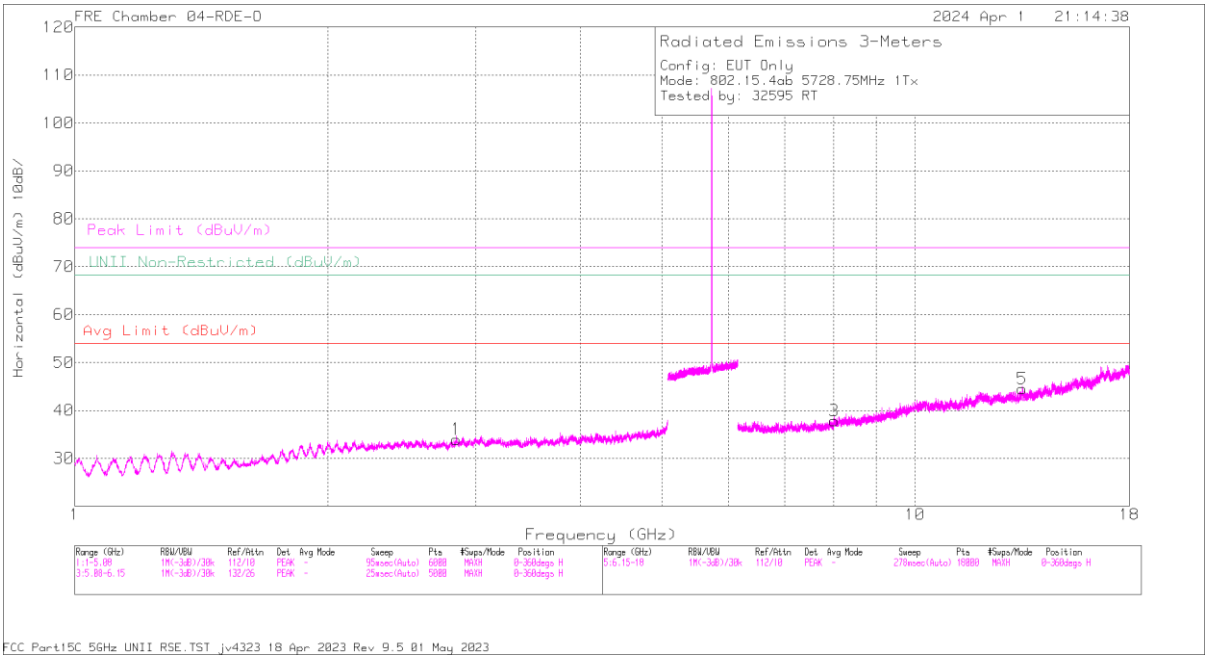
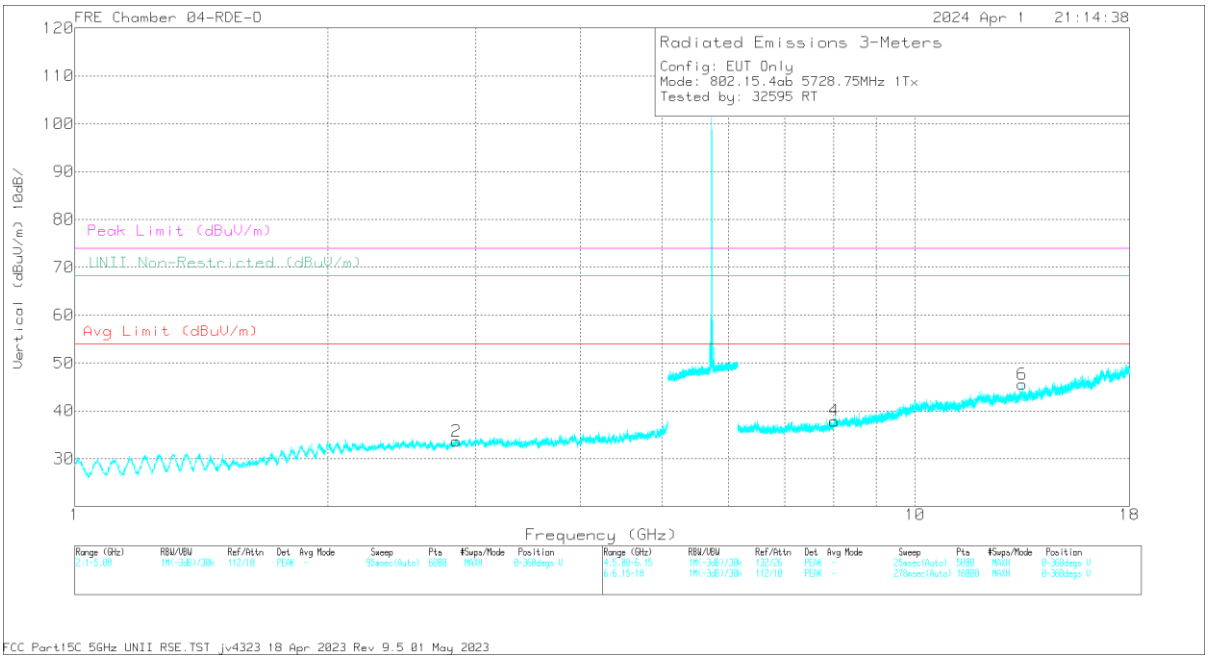
10.1.8. ANT 5, 500Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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	80402 ACF (dB/m)	DCCF (dB)	Gain/Loss (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	*2.845139	45.4	ADR	32.8	3.62	-46.1	35.73	54	-18.28	-	-	-	-	219	264	V
2	*2.846112	57.53	PK-U	32.8	0	-46.11	44.22	-	-	74	-29.78	-	-	219	264	V
1	*2.846268	57.68	PK-U	32.8	0	-46.13	44.35	-	-	74	-29.65	-	-	101	327	H
1	*2.8478	45.33	ADR	32.8	3.62	-46.2	35.56	54	-18.45	-	-	-	-	101	327	H
4	8.014319	52.79	PK-U	36.1	0	-40.9	47.99	-	-	-	-	68.2	-20.21	285	264	V
3	8.015685	52.36	PK-U	36.1	0	-40.83	47.63	-	-	-	-	68.2	-20.57	7	298	H
5	13.426666	52.77	PK-U	39.1	0	-37.4	54.47	-	-	-	-	68.2	-13.73	344	197	H
6	13.427259	53.02	PK-U	39.1	0	-37.43	54.69	-	-	-	-	68.2	-13.51	162	265	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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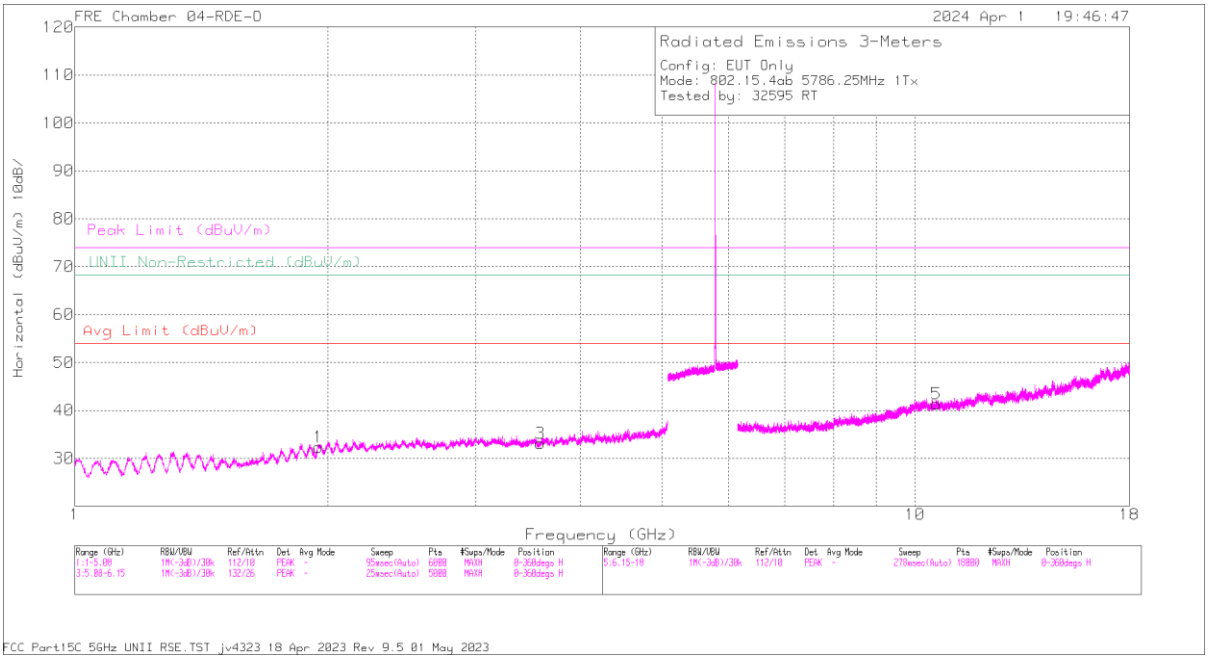
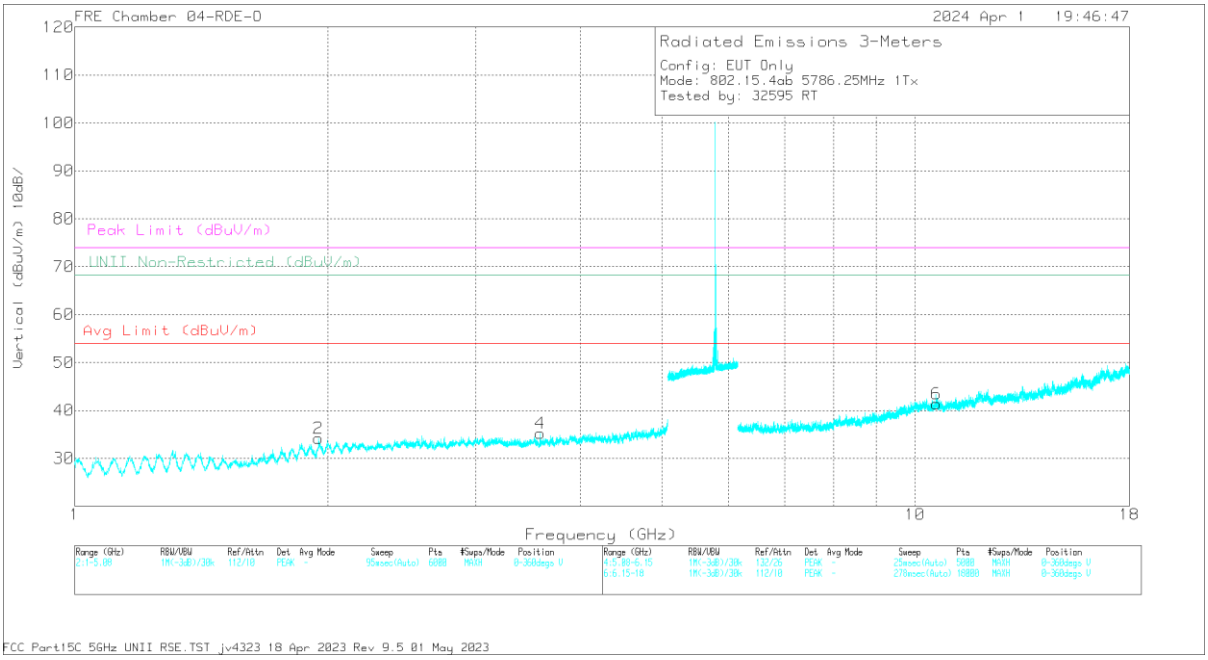
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF (dB/m)	DCCF (dB)	Gain/Loss (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	1.948792	58.1	PK-U	31.5	0	-46.6	43	-	-	-	-	68.2	-25.2	350	268	V
1	1.951136	58.14	PK-U	31.5	0	-46.61	43.03	-	-	-	-	68.2	-25.17	178	277	H
3	*3.580694	43.31	ADR	33.2	3.62	-44.93	35.21	54	-18.80	-	-	-	-	125	159	V
3	*3.581245	55.66	PK-U	33.2	0	-44.9	43.96	-	-	74	-30.04	-	-	3	130	H
4	*3.581621	55.14	PK-U	33.2	0	-44.9	43.44	-	-	74	-30.56	-	-	125	159	V
4	*3.582174	43.37	ADR	33.2	3.62	-44.88	35.32	54	-18.69	-	-	-	-	3	130	H
6	10.596474	52.86	PK-U	38.5	0	-39.65	51.71	-	-	-	-	68.2	-16.49	346	275	V
5	10.599636	52.73	PK-U	38.5	0	-39.76	51.47	-	-	-	-	68.2	-16.73	300	153	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

UL VERIFICATION SERVICES INC.
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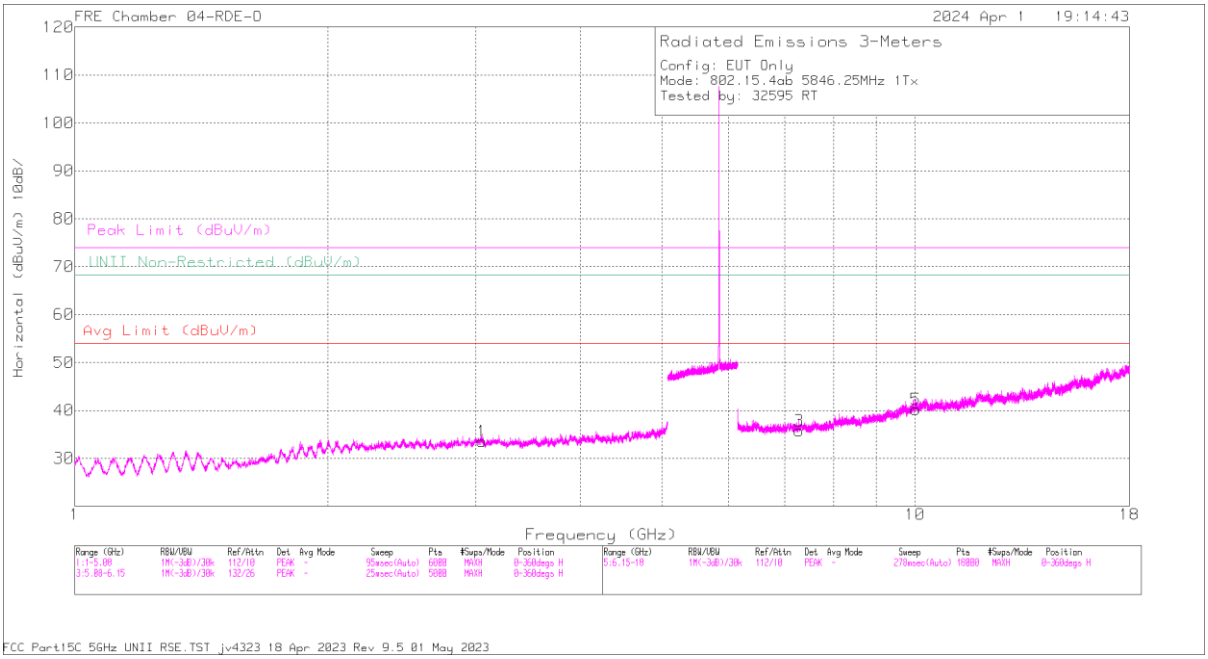
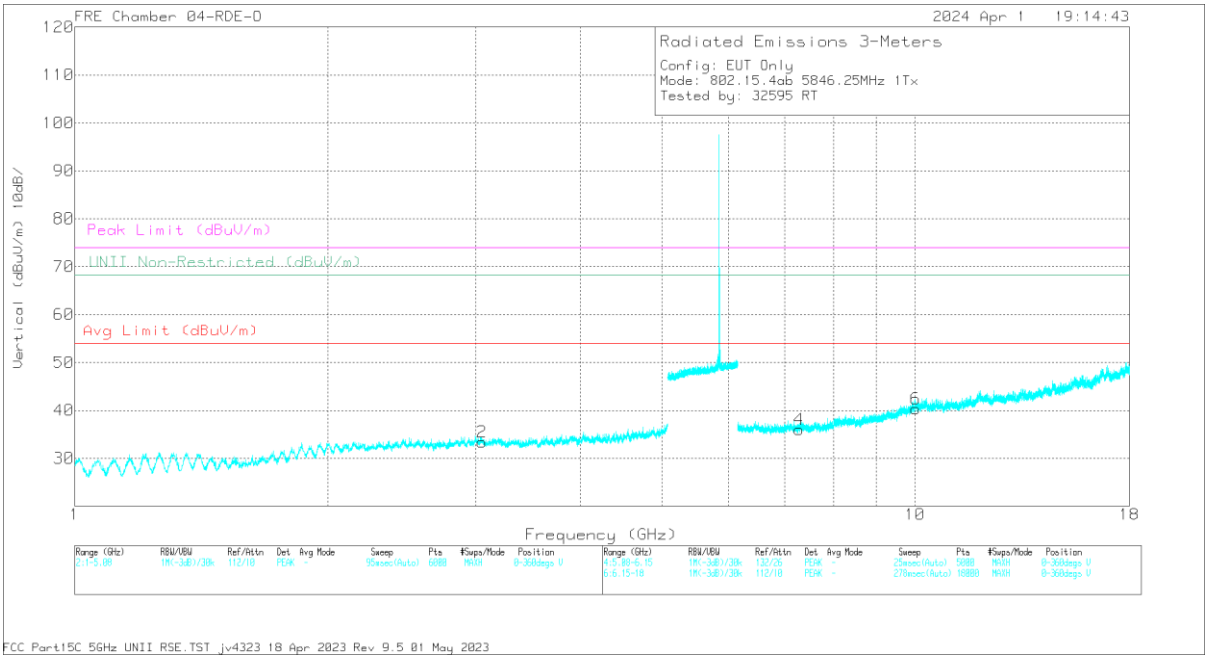
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF (dB/m)	DCCF (dB)	Gain/Loss (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	3.052004	56.59	PK-U	33.4	0	-45.3	44.69	-	-	-	-	68.2	-23.51	35	189	V
1	3.054795	56.25	PK-U	33.3	0	-45.22	44.33	-	-	-	-	68.2	-23.87	174	139	H
3	*7.278563	52.73	PK-U	35.8	0	-42	46.53	-	-	74	-27.47	-	-	312	130	H
3	*7.279575	41.13	ADR	35.8	3.62	-42	38.56	54	-15.45	-	-	-	-	312	130	H
4	*7.278692	53.44	PK-U	35.8	0	-42	47.24	-	-	74	-26.76	-	-	23	253	V
4	*7.281907	41.01	ADR	35.8	3.62	-42	38.44	54	-15.57	-	-	-	-	23	253	V
6	10.020341	53.47	PK-U	38.3	0	-40.73	51.04	-	-	-	-	68.2	-17.16	220	398	V
5	10.022373	53.09	PK-U	38.3	0	-40.9	50.49	-	-	-	-	68.2	-17.71	206	182	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

UL VERIFICATION SERVICES INC.
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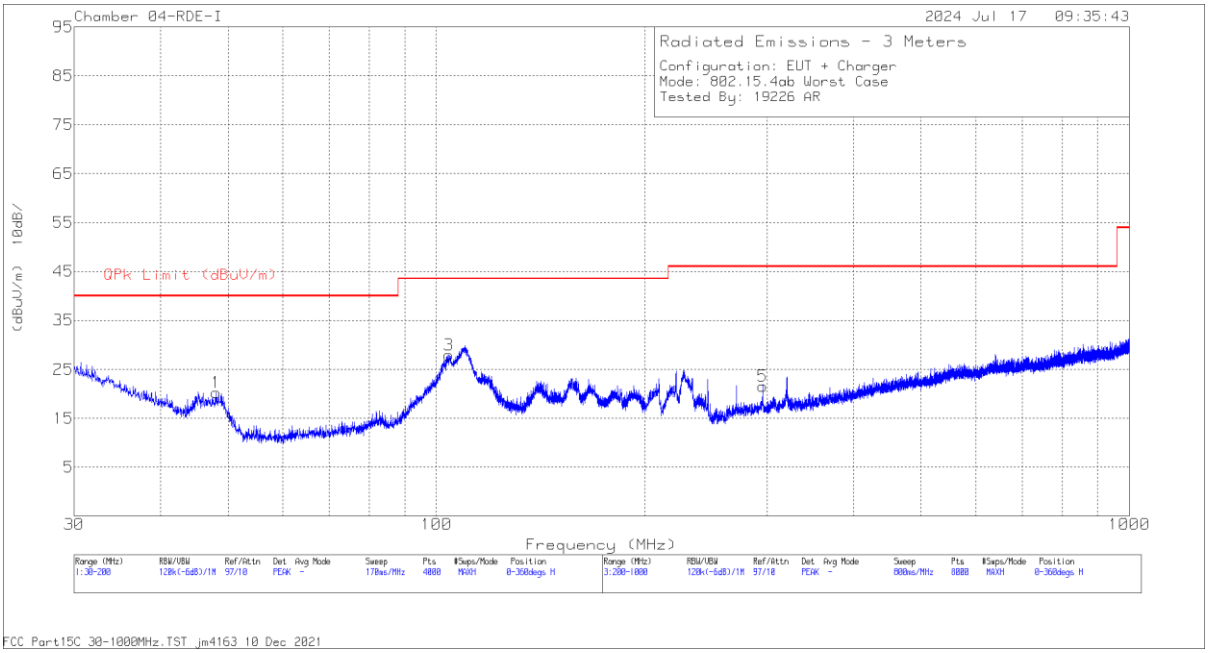
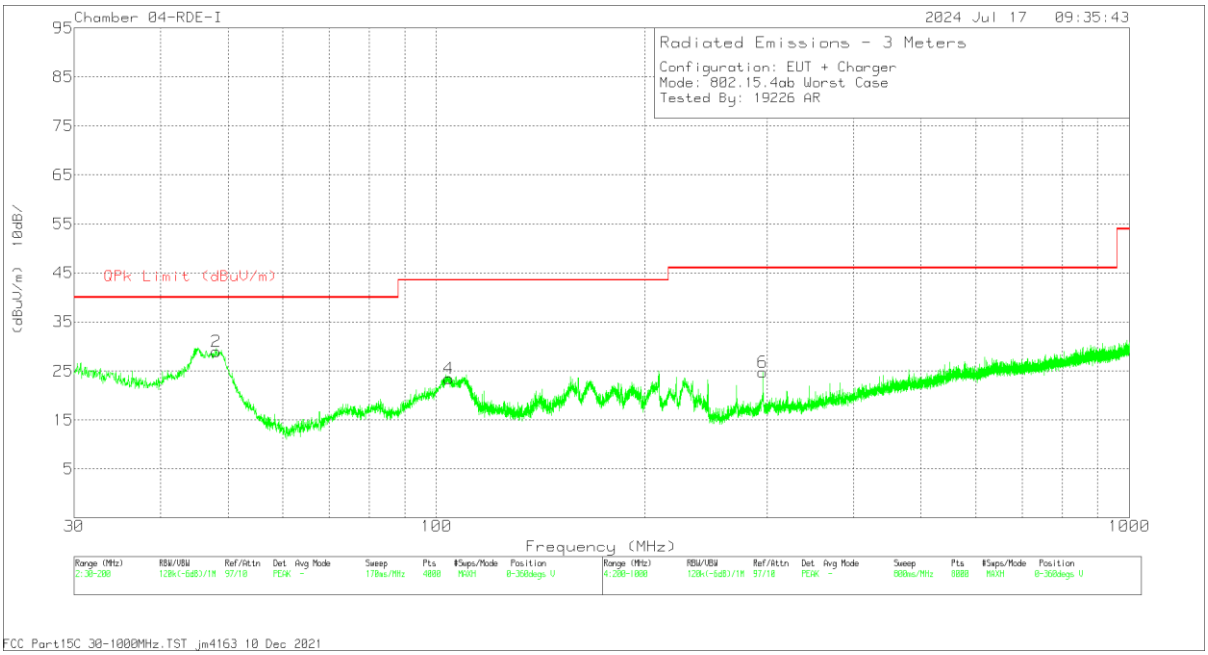
10.2. WORST CASE BELOW 1 GHz



HORIZONTAL



VERTICAL

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

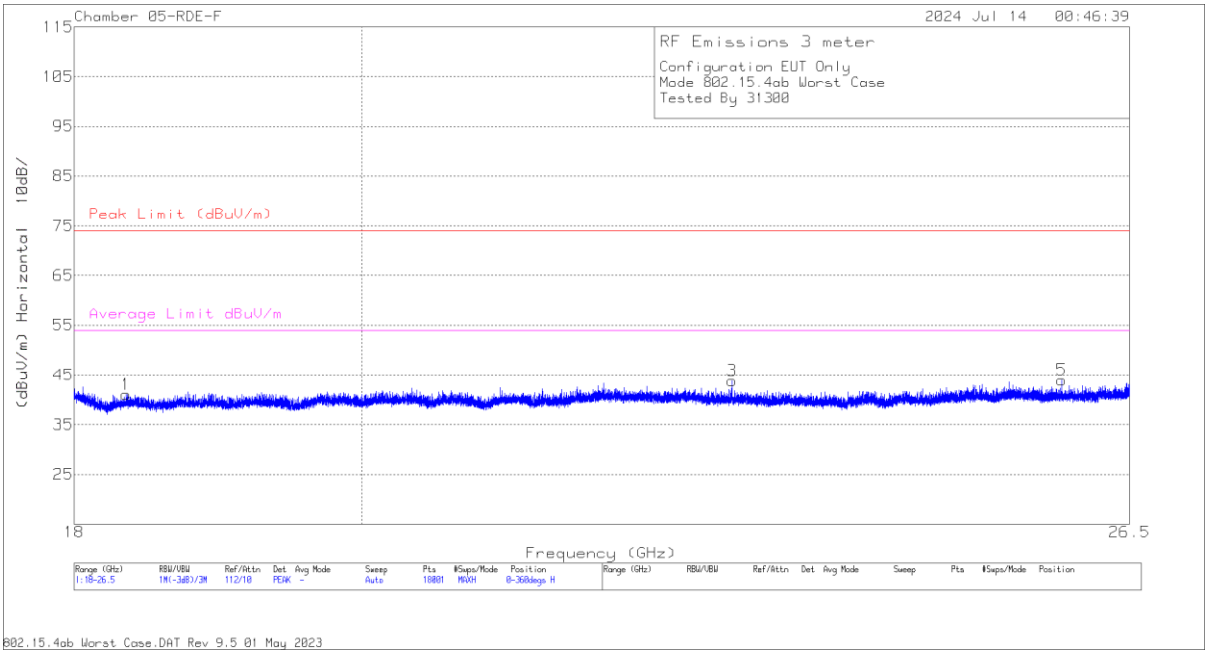
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80714 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	48.0672	44.99	Pk	15.1	-31.1	28.99	40	-11.01	0-360	100	V
1	48.1522	36.38	Pk	15	-31.1	20.28	40	-19.72	0-360	399	H
3	104.139	41.37	Pk	17.2	-30.6	27.97	43.52	-15.55	0-360	299	H
4	104.139	36.88	Pk	17.2	-30.6	23.48	43.52	-20.04	0-360	100	V
5	295.712	32.13	Pk	19.1	-29.7	21.53	46.02	-24.49	0-360	100	H
6	295.712	35.3	Pk	19.1	-29.7	24.7	46.02	-21.32	0-360	100	V

Pk - Peak detector

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

10.3. WORST CASE 18-26 GHz



HORIZONTAL

VERTICAL

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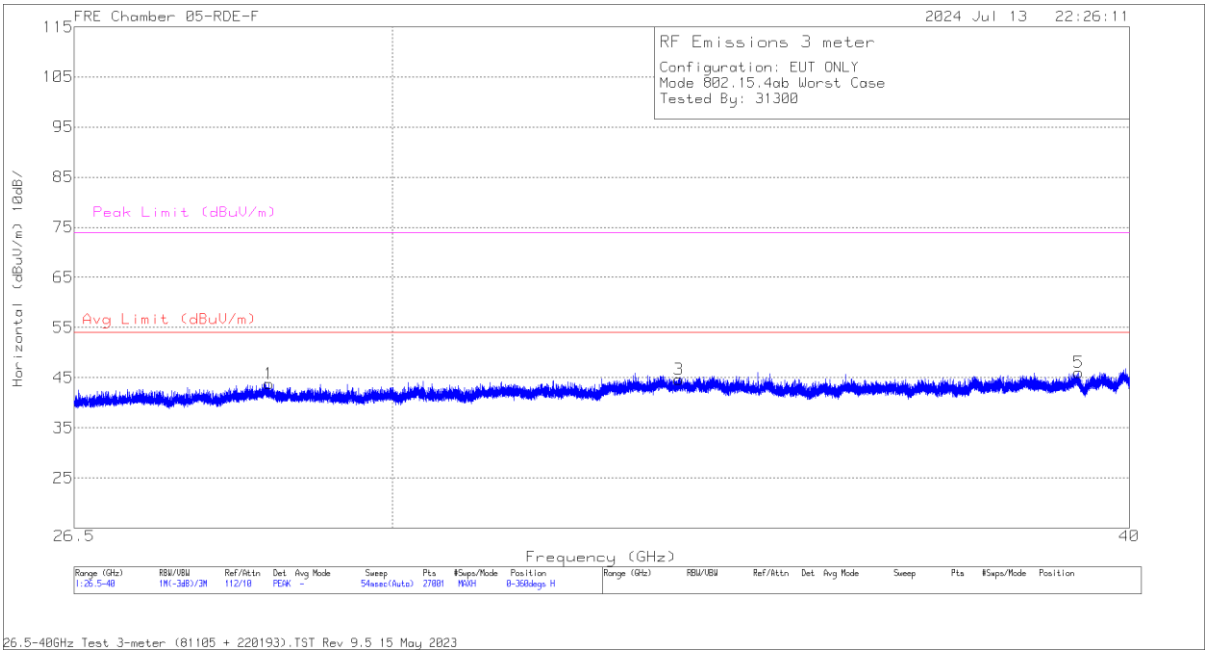
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81139 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
1	18.345194	57.83	Pk	32.4	-61.7	12.6	41.13	74	-32.87	-	-	0-360	101	V
3	22.906859	58.33	Pk	33.6	-62.2	14.1	43.83	74	-30.17	-	-	0-360	101	H
5	25.850219	55.98	Pk	34.3	-61.3	15	43.98	74	-30.02	-	-	0-360	101	H
2	18.3315	58.56	Pk	32.4	-61.7	12.6	41.86	74	-32.14	-	-	0-360	200	V
4	22.910637	56.73	Pk	33.6	-62.2	14.1	42.23	74	-31.77	-	-	0-360	200	H
6	25.85258	54.41	Pk	34.3	-61.3	15	42.41	74	-31.59	-	-	0-360	200	V

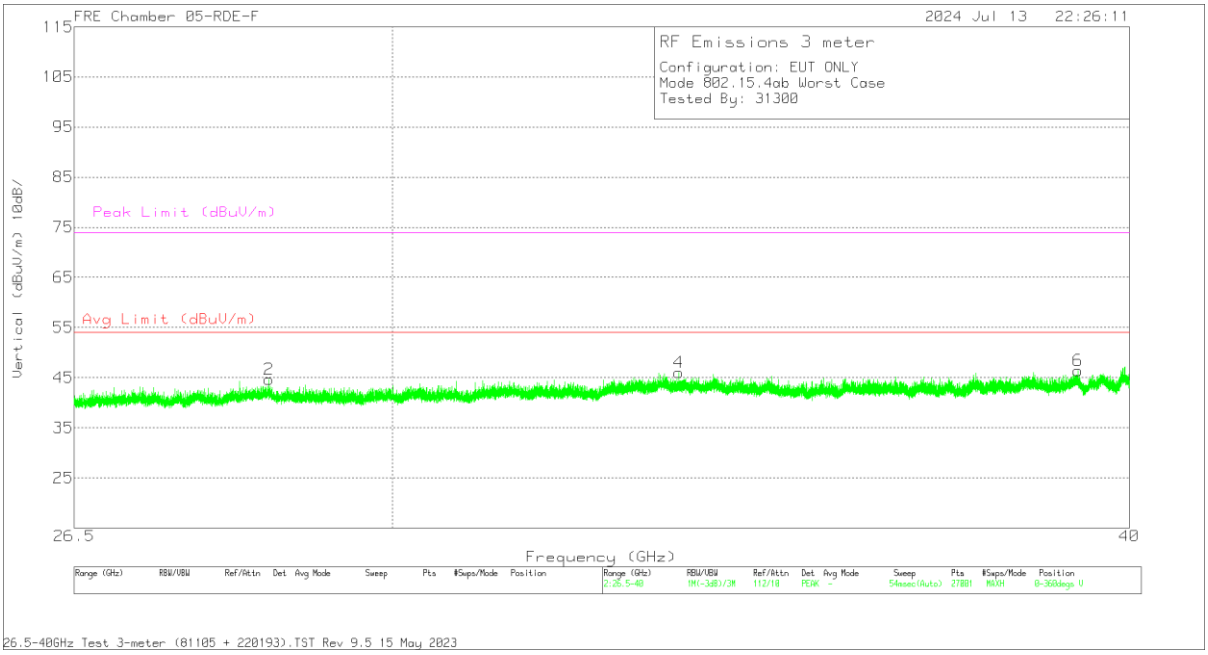
Pk - Peak detector

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

10.4. WORST CASE 26-40 GHz



HORIZONTAL



VERTICAL

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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172367 ACF (dB/m)	172346 Amp Assembly (dB)	CBL (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Average Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	28.59	56.34	Pk	36.1	-64.5	15.8	43.74	74	-30.26	54	-30.26	0-360	200	H
3	33.553	53.68	Pk	36.6	-63	17.4	44.68	74	-29.32	54	-29.32	0-360	101	H
5	39.2135	53.83	Pk	38.5	-65.2	18.9	46.03	74	-27.97	54	-27.97	0-360	101	H
2	28.595	57.25	Pk	36.1	-64.5	15.8	44.65	74	-29.35	54	-29.35	0-360	199	V
4	33.5515	55.06	Pk	36.6	-63	17.4	46.06	74	-27.94	54	-27.94	0-360	101	V
6	39.202	54.05	Pk	38.5	-65	18.9	46.45	74	-27.55	54	-27.55	0-360	101	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

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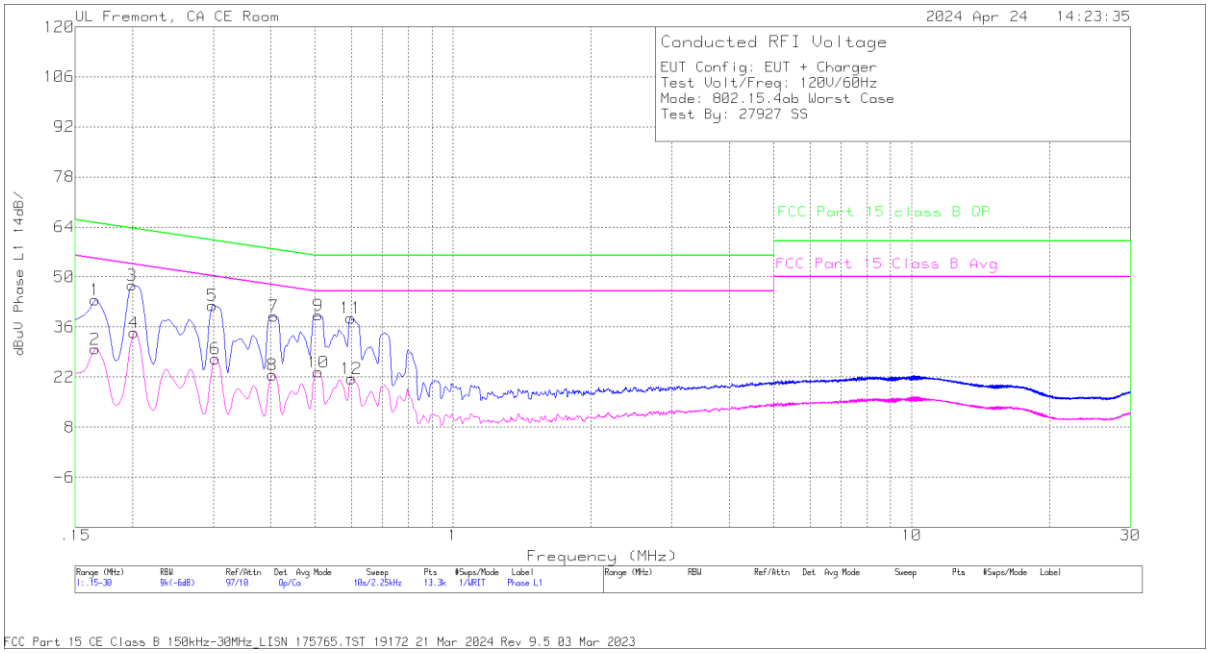
11.1. AC Power Line WITH LAPTOP

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Cbl (dB)	LISN (dB)	Trns Limiter (dB)	10 dB Pad	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1658	3.78	Ca	0	.1	9.5	10	6.46	29.84	55.17	-25.33	-	-
4	.2018	8.45	Ca	.1	0	9.4	10	6.46	34.41	53.54	-19.13	-	-
6	.303	1.19	Ca	.1	0	9.4	10	6.46	27.15	50.16	-23.01	-	-
8	.4043	-3.31	Ca	0	0	9.4	10	6.46	22.55	47.77	-25.22	-	-
10	.5078	-2.39	Ca	0	0	9.3	10	6.46	23.37	46	-22.63	-	-
12	.6	-4.33	Ca	0	0	9.4	10	6.46	21.53	46	-24.47	-	-
1	.1658	17.57	Qp	0	.1	9.5	10	6.46	43.63	-	-	65.17	-21.54
3	.1995	21.65	Qp	.1	.1	9.4	10	6.46	47.71	-	-	63.63	-15.92
5	.2985	16.05	Qp	.1	0	9.4	10	6.46	42.01	-	-	60.28	-18.27
7	.4065	13.2	Qp	0	0	9.4	10	6.46	39.06	-	-	57.72	-18.66
9	.5078	13.54	Qp	0	0	9.3	10	6.46	39.3	-	-	56	-16.7
11	.5978	12.6	Qp	0	0	9.4	10	6.46	38.46	-	-	56	-17.54

Qp - Quasi-Peak detector
Ca - CISPR average detection

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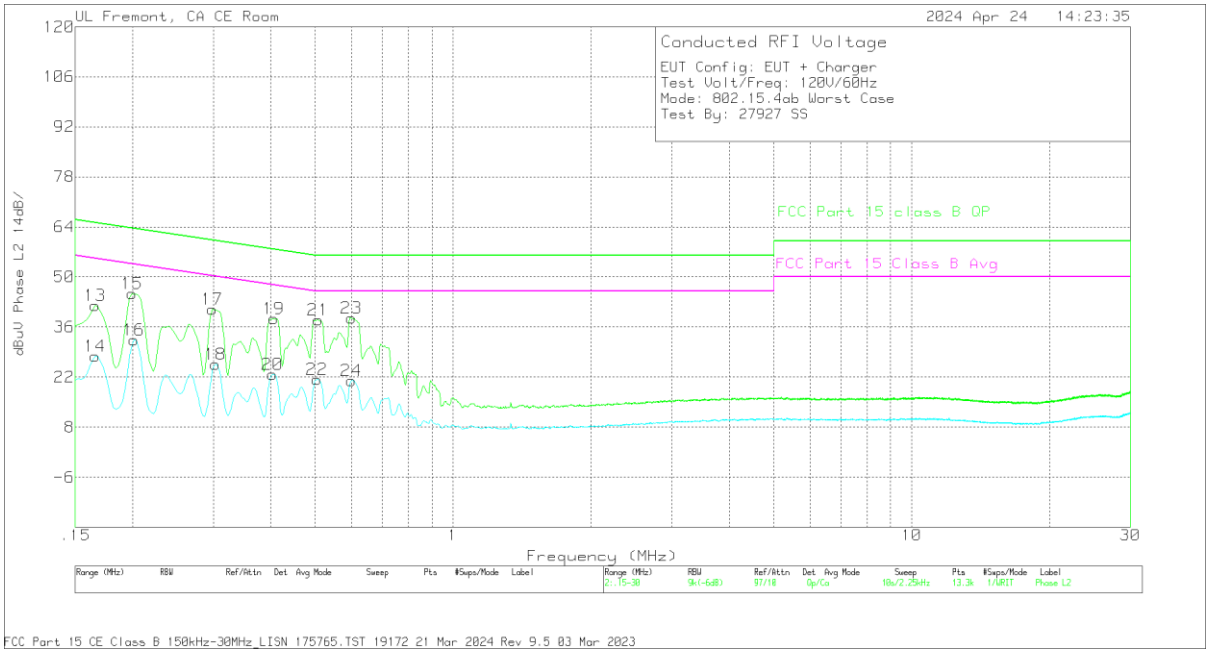
LINE 2 RESULTS



Trace Markers

Range 2: Phase L2 .15 - 30MHz													
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Cbl (dB)	LISN (dB)	Trns Limiter (dB)	10 dB Pad	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1658	1.8	Ca	0	.1	9.5	10	6.46	27.86	55.17	-27.31	-	-
16	.2018	6.38	Ca	.1	0	9.4	10	6.46	32.34	53.54	-21.2	-	-
18	.303	-.38	Ca	.1	0	9.4	10	6.46	25.58	50.16	-24.58	-	-
20	.4043	-3.22	Ca	.1	0	9.4	10	6.46	22.74	47.77	-25.03	-	-
22	.5055	-4.44	Ca	0	0	9.3	10	6.46	21.32	46	-24.68	-	-
24	.6	-4.91	Ca	.1	0	9.4	10	6.46	21.05	46	-24.95	-	-
13	.1658	15.95	Qp	0	.1	9.5	10	6.46	42.01	-	-	65.17	-23.16
15	.1995	19.35	Qp	.1	0	9.4	10	6.46	45.31	-	-	63.63	-18.32
17	.2985	14.96	Qp	.1	0	9.4	10	6.46	40.92	-	-	60.28	-19.36
19	.4065	12.39	Qp	.1	0	9.4	10	6.46	38.35	-	-	57.72	-19.37
21	.5078	12.21	Qp	0	0	9.3	10	6.46	37.97	-	-	56	-18.03
23	.6	12.61	Qp	.1	0	9.4	10	6.46	38.57	-	-	56	-17.43

Qp - Quasi-Peak detector
Ca - CISPR average detection

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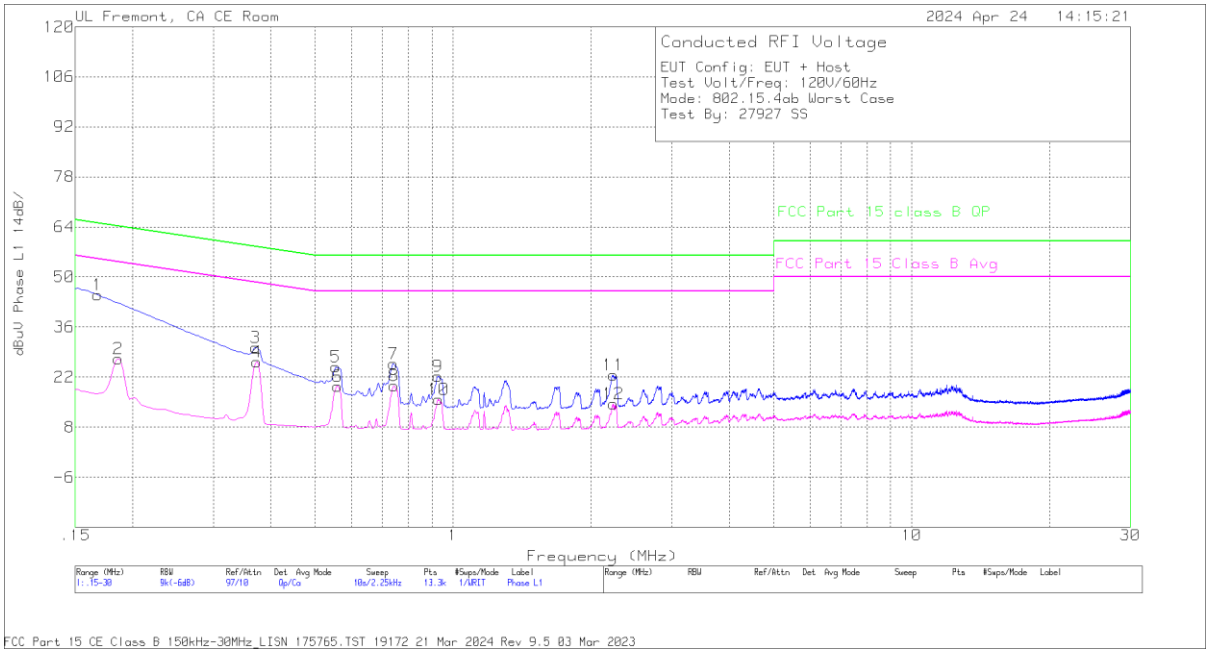
11.2. AC Power Line WITH AC/DC Adapter

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz													
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Cbl (dB)	LISN (dB)	Trns Limiter (dB)	10 dB Pad	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.186	1.12	Ca	.1	.1	9.4	10	6.46	27.18	54.21	-27.03	-	-
4	.3728	.38	Ca	0	0	9.4	10	6.46	26.24	48.44	-22.2	-	-
6	.5595	-6.37	Ca	.1	0	9.3	10	6.46	19.49	46	-26.51	-	-
8	.744	-6.39	Ca	.1	0	9.4	10	6.46	19.57	46	-26.43	-	-
10	.9308	-10.11	Ca	.1	0	9.3	10	6.46	15.75	46	-30.25	-	-
12	2.2358	-11.61	Ca	.1	0	9.5	10	6.46	14.45	46	-31.55	-	-
1	.168	18.91	Qp	0	.1	9.5	10	6.46	44.97	-	-	65.06	-20.09
3	.3705	4.49	Qp	0	0	9.4	10	6.46	30.35	-	-	58.49	-28.14
5	.555	-1.06	Qp	.1	0	9.3	10	6.46	24.8	-	-	56	-31.2
7	.7418	-.24	Qp	.1	0	9.4	10	6.46	25.72	-	-	56	-30.28
9	.9263	-3.57	Qp	.1	0	9.3	10	6.46	22.29	-	-	56	-33.71
11	2.2358	-3.45	Qp	.1	0	9.5	10	6.46	22.61	-	-	56	-33.39

Qp - Quasi-Peak detector
Ca - CISPR average detection

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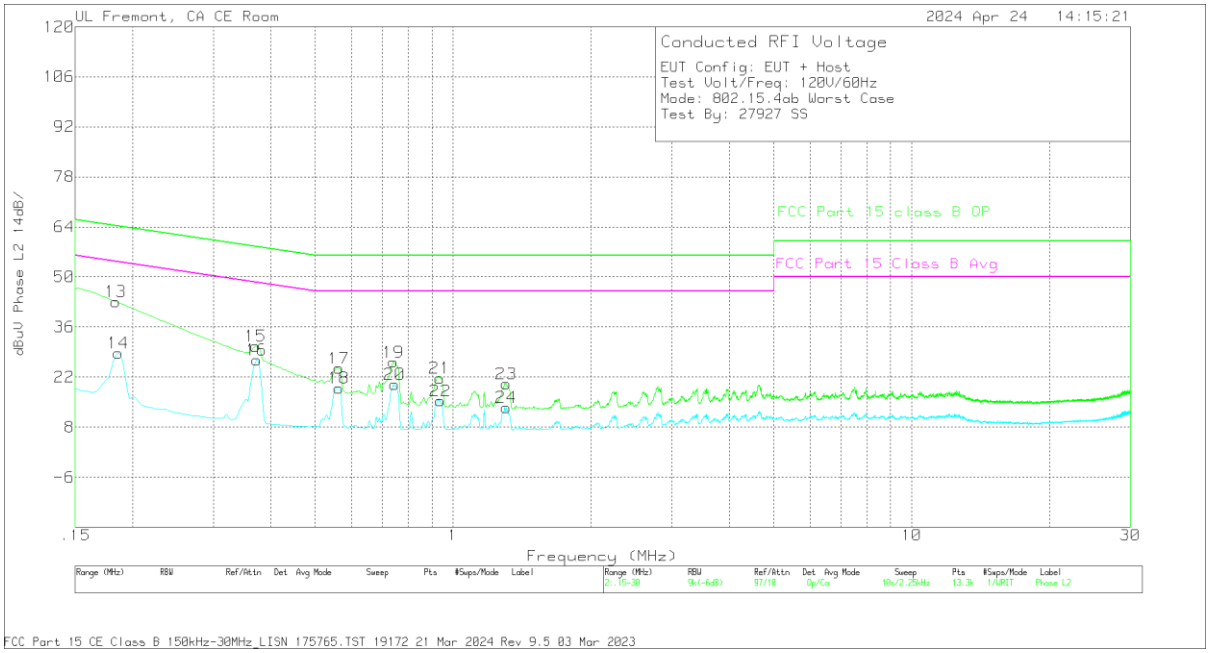
LINE 2 RESULTS



Trace Markers

Range 2: Phase L2 .15 - 30MHz													
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Cbl (dB)	LISN (dB)	Trns Limiter (dB)	10 dB Pad	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.186	2.68	Ca	.1	0	9.4	10	6.46	28.64	54.21	-25.57	-	-
16	.3728	.8	Ca	.1	0	9.4	10	6.46	26.76	48.44	-21.68	-	-
18	.564	-6.92	Ca	0	0	9.3	10	6.46	18.84	46	-27.16	-	-
20	.7463	-5.92	Ca	0	0	9.4	10	6.46	19.94	46	-26.06	-	-
22	.9398	-10.55	Ca	.1	0	9.3	10	6.46	15.31	46	-30.69	-	-
24	1.3065	-12.4	Ca	0	0	9.4	10	6.46	13.46	46	-32.54	-	-
13	.1838	17.12	Qp	.1	0	9.4	10	6.46	43.08	-	-	64.31	-21.23
15	.3705	4.73	Qp	.1	0	9.4	10	6.46	30.69	-	-	58.49	-27.8
17	.564	-1.34	Qp	0	0	9.3	10	6.46	24.42	-	-	56	-31.58
19	.7418	.3	Qp	0	0	9.4	10	6.46	26.16	-	-	56	-29.84
21	.9353	-4.1	Qp	.1	0	9.3	10	6.46	21.76	-	-	56	-34.24
23	1.3065	-5.81	Qp	0	0	9.4	10	6.46	20.05	-	-	56	-35.95

Qp - Quasi-Peak detector
Ca - CISPR average detection

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12. SETUP PHOTOS

Please refer to 14982489-EP1V1 FCC IC for setup photos

END OF TEST REPORT

UL VERIFICATION SERVICES INC.
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