

TEST REPORT

Report Number : 15496278-E6V3

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

Model : A3519, A3520, A3521

Brand : APPLE

FCC ID : BCG-E8951A, BCG-E8952A,
BCG-E8953A

IC : 579C-E8951A, 579C-E8952A,
579C-E8953A

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:
2025-08-19

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-08-11	Initial Issue	----
V2	2025-08-18	Addressed TCB Comments on Sections 1, 6	Benjamin Dobbins
V3	2025-08-19	Addressed TCB Comments on Appendix A	Benjamin Dobbins

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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: A3519, A3520, A3521

BRAND: APPLE

SERIAL NUMBER: J6HHCW000670000YAV (Conducted)
J6HHH8001AV0000YAQ (Conducted)
J3XKVHG144 (Radiated)
FG212CMC6M (Radiated)

SAMPLE RECEIPT DATE: 2025/02/28

DATE TESTED: 2025-04-07 – 2025-08-02

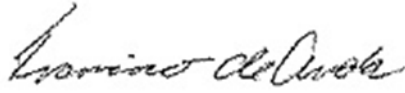
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Complies
ISED RSS-247 Issue 3	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

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 can demonstrate compliance with the requirements as documented in this report.

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

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

Approved & Released For
UL Verification Services Inc. By:



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Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:



Tony Li, Benjamin Dobbins
Lead Test Engineer, Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST RESULT SUMMARY

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

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

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

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	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:

- *ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- FCC 47 CFR Part 2
- FCC CFR 47 Part 15
- FCC KDB 414788 D01 Radiated Test Site
- FCC KDB 484596 D01 Referencing Test Data
- FCC KDB 662911 D01 Multiple Transmitter Output
- FCC KDB 789033 D02 General UNII Test Procedures New Rules
- RSS-GEN Issue 5 + A1 +A2
- RSS-247 Issue 3

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

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538 USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538 USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538 USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not considered when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	1.3 dB (Pk), 0.45 dB (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.8GHz Band 1TX, high power			
5728.75 – 5846.25	802.15.4ab	20.99	125.60
5.8GHz Band 1TX Low Power			
5728.75 – 5846.25	802.15.4ab	11.99	15.81

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Type: IFA

Frequency Range (MHz)	ANT 6 (dBi)	ANT 5 (dBi)
5725 – 5850	-0.3	-2.2

Note: antenna C0 and antenna C1 indicated in power tune-up document pertain to Ant 6 and ANT 5 of this report respectively.

The SMA Cable Loss provided by the manufacturers are as follows:

Frequency Range (MHz)	ANT 6 (dB)	ANT 5 (dB)
5725-5850	2.52	2.55

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

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 23A258.

6.5. WORST-CASE CONFIGURATION AND MODE

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

There are three indexes on this 802.15.4ab technology, with data rates of 250 Kbps on index 1, 500 Kbps on index 2, and 1000 Kbps on index 3. All data rates were investigated, and the worst case was determined based on the highest power on PSD and Index 3, with 1000 Kbps being 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 Bluetooth radio was investigated, and no noticeable emission was found.

For radiated bandedge and emissions spurious, 1000Kbps is set as the worst-case data rates for final test

6.5.1. REUSE STATEMENT AND COMPARISON TABLE

The maximum output power for reference model A3258 (FCC ID: BCG-E8947A and IC: 579C-E8947A) and variant models A3519 (FCC ID: BCG-E8960A and IC: 579C-E8960A), A3520 (FCC ID: BCG-E8961A and IC: 579C-E8961A), and A3521 (FCC ID: BCG-E8962A and IC: 579C-E8962A) are identical across all power tables for ANT6 and ANT5. The only difference is antenna gain increased on ANT6.

As there is no change in output power between parent model and variant model, all conducted data from the reference model is reused for this variant model. Spotchecks to verify output power is the same for the variant model compared reference model is included in Appendix A.

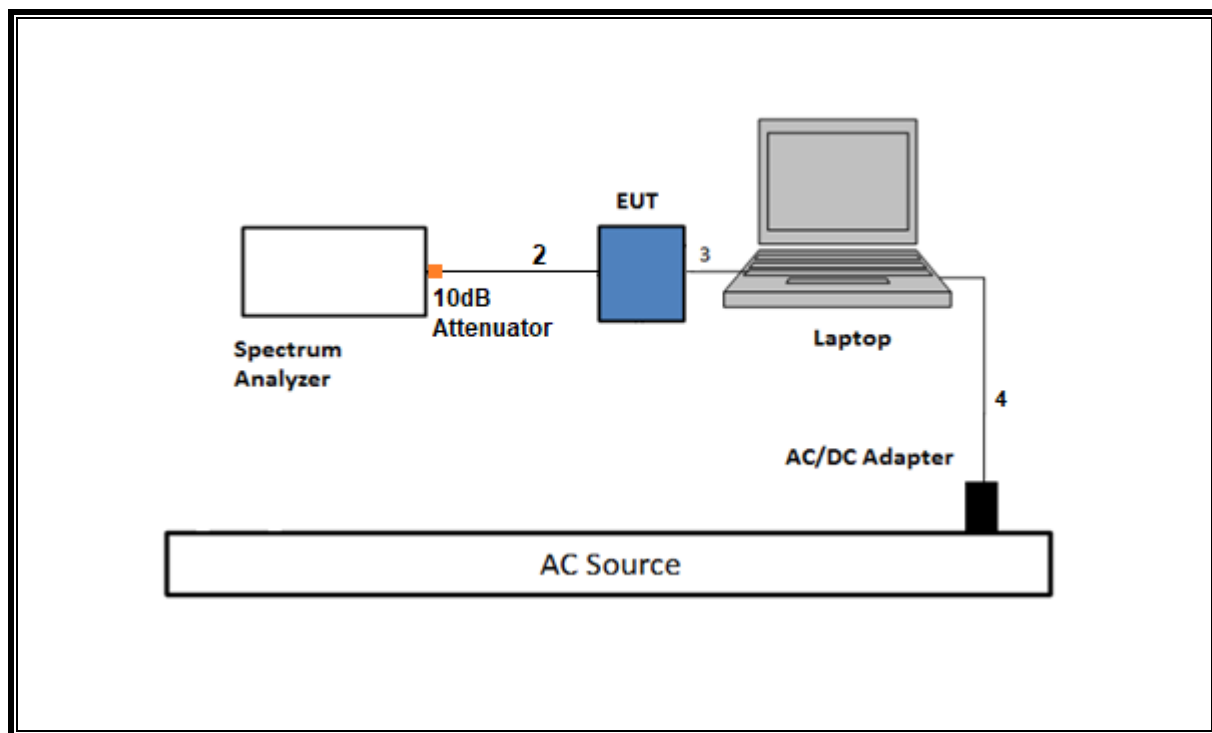
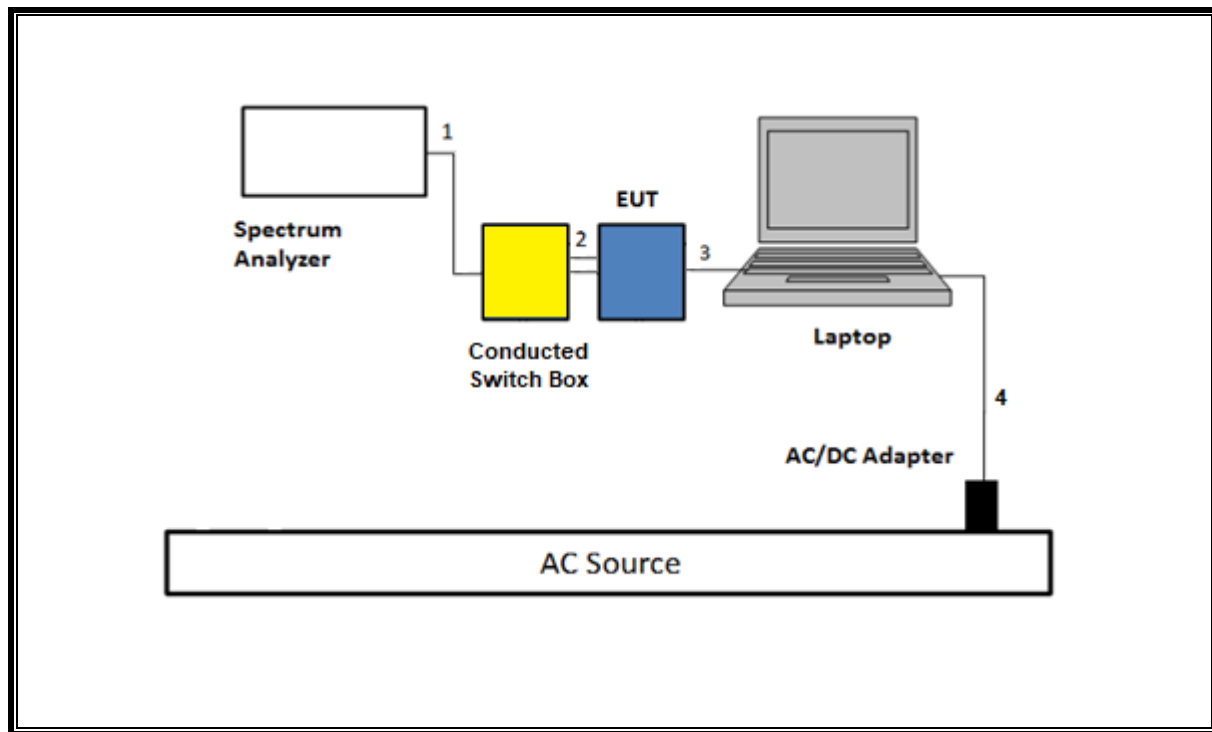
Radiated measurements are also reusing the reference model data for the antenna 5 SISO modes. Radiated measurements are repeated in full on the variant model for the band edge and spurious emissions from 30MHz to 40GHz frequency range for the antenna 6 SISO modes.

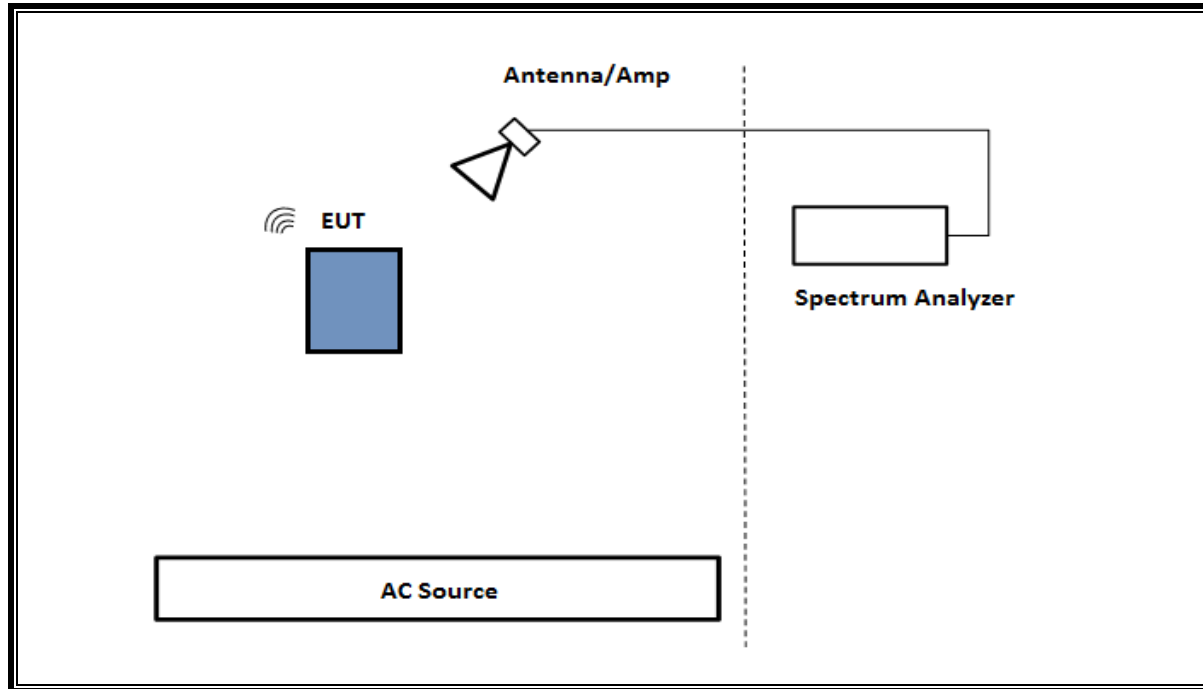
6.6. DESCRIPTION OF TEST SETUP

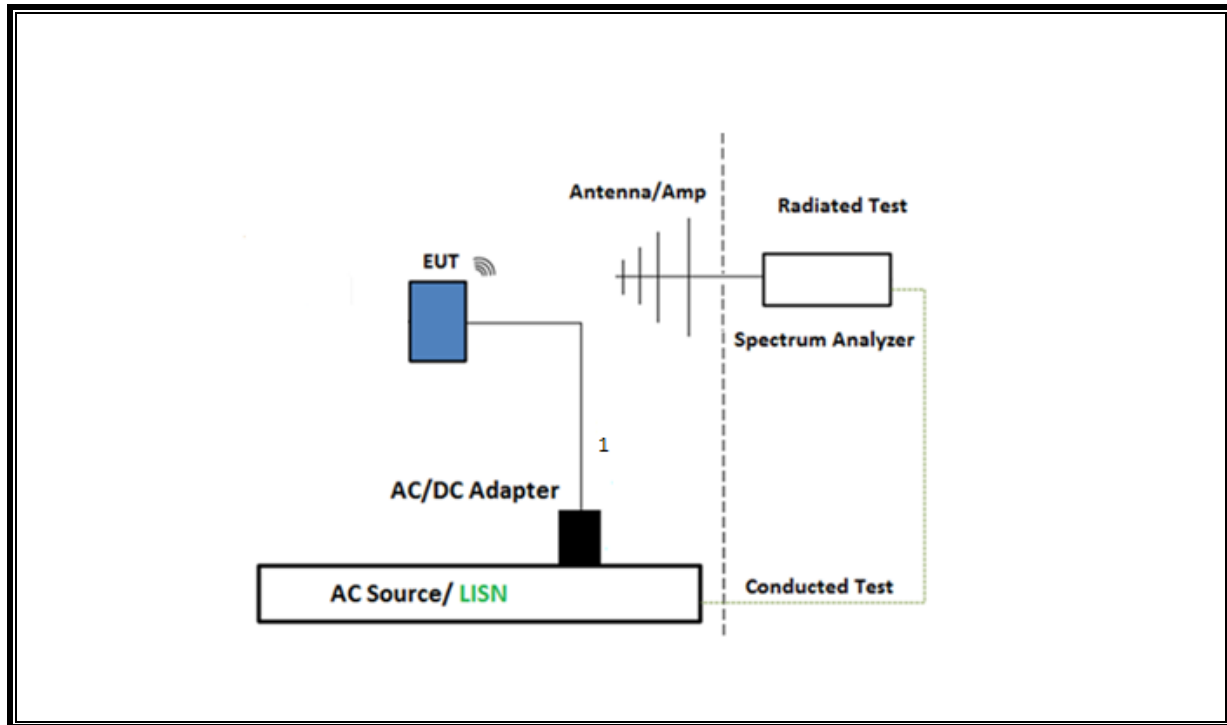
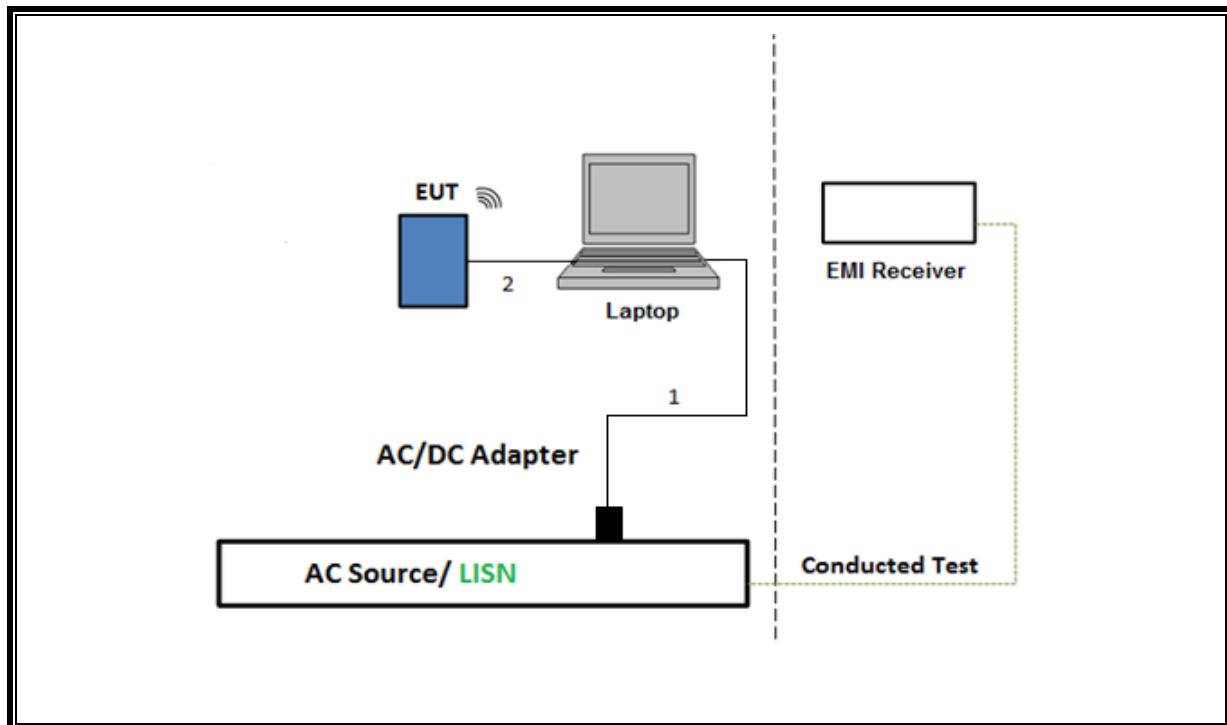
SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	Macbook Pro	C02VD7SAHV22		BCGA1708
Laptop AC/DC adapter		Liteon Technology	A1424	NSW25679		DoC
EUT AC/DC adapter		Apple	A1720	C3D8417A7R93KVPA8		DoC
Conducted Switch Box		UL	n/a	208281		N/A
10dB Fixed 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	0.2	To spectrum Analyzer
2	Antenna	1	SMA	Shielded	0.2	EUT to Switchbox
3	USB	1	USB-C	Shield	1.0	N/A
4	DC	1	DC	Shield	2.0	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	DC	1	DC	Shielded	2	N/A
2	USB	1	USB-C	Shielded	1	N/A

TEST SETUP

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

SETUP DIAGRAM FOR CONDUCTED TESTS

SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz

SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST**TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION**

7. MEASUREMENT METHOD

On Time and Duty Cycle: 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 C63.10-2020, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2020 Section 6.4

8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	ID Num	Cal Due
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	84797	2026-05-31
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RAT 2	225079	2026-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226674	2027-03-31
RF Filter Box, 1-18GHz, 6 Ports	UL-FR1	RATS 1.0	250156	2026-01-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	225683	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226673	2026-02-28
Filter Box	UL-FR1	Frankenstein	231874	2026-06-29
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	79834	2026-07-31
Filter Box	UL-FR1	Frankenstein	237597	2025-10-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	223084	2026-12-31
Filter Box	UL-FR1	Frankenstein	231875	2025-11-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	170063	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	41112	2026-10-31
Filter Box	UL-FR1	RATS	243707	2026-04-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169927	2026-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80404	2025-08-31
Filter Box	UL-FR1	RATS	226781	2026-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	226078	2026-02-28
Amplifier 9 KHz - 1 GHz	SONOMA INSTRUMENT	310N	230311	2026-5-31
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	80813	2025-09-29
Antenna, Passive Loop, 30Hz - 1MHz	Electro-Metrics	EM-6871	170014	2025-08-31
Antenna, Passive Loop, 100kHz to 30MHz	Electro-Metrics	EM-6872	170016	2025-08-31
Antenna, Horn 18-26.5GHz	A.R.A	MWH-1826/B	81139	2026-11-30
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	Amplical	AMP18G26.5-60	220194	2026-04-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	226078	2026-02-28
Antenna, Horn 26.5 to 40GHz	A.R.A.	MWH-2640/B	81105	2025-08-31
Link File, RF Amplifier Assembly, 26-40GHz, 60dB Gain	Amplical	AMP26G40-60	220193	2026-04-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201498	2026-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	N9030A	Keysight Technologies Inc	80397	2026-01-31
Conducted Switch Box	UL-FR1	CSB	245782	*2025-07-31
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90715	2026-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	81319	2026-01-31

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

*Testing is completed before equipment expiration date.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

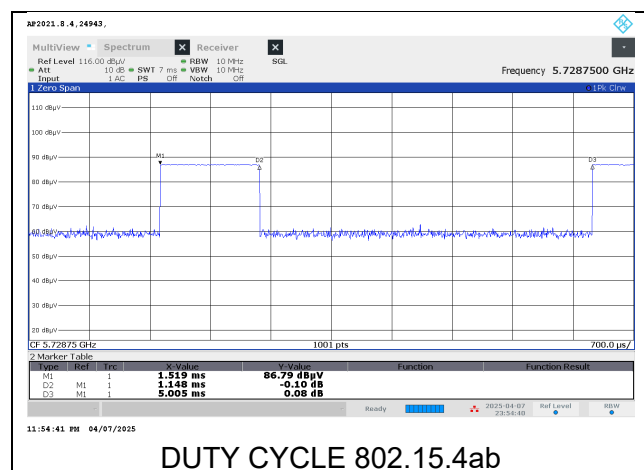
PROCEDURE

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						
5726.75MHz 1000Kbps	1.148	5.005	0.229	22.94%	6.39	0.871

DUTY CYCLE PLOTS



9.2. 99% AND 26 dB BANDWIDTH

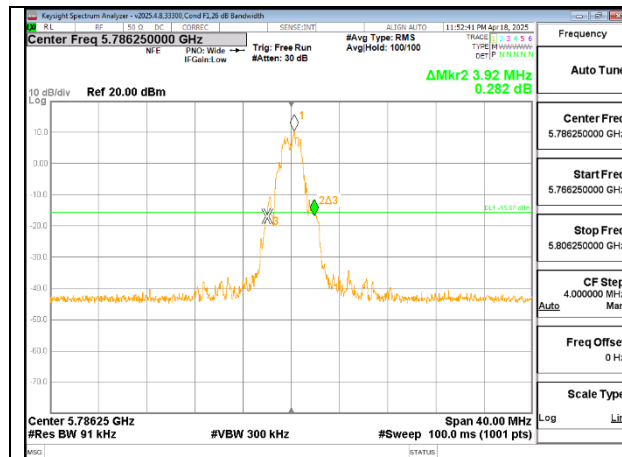
LIMITS

None; for reporting purposes only.

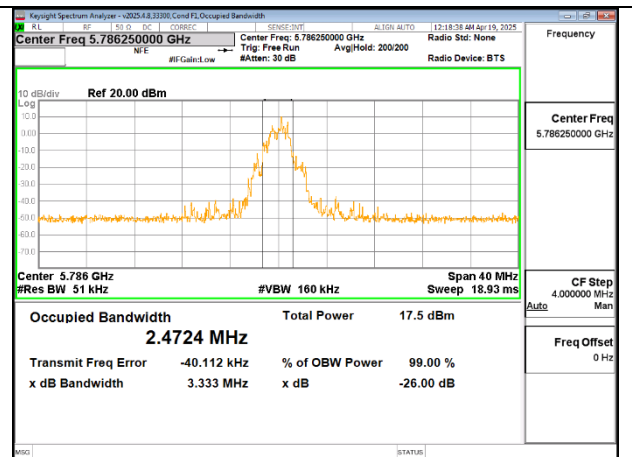
RESULTS

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

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	3.88	2.4822
Mid	5786.25	3.92	2.4724
High	5846.25	3.88	2.5186

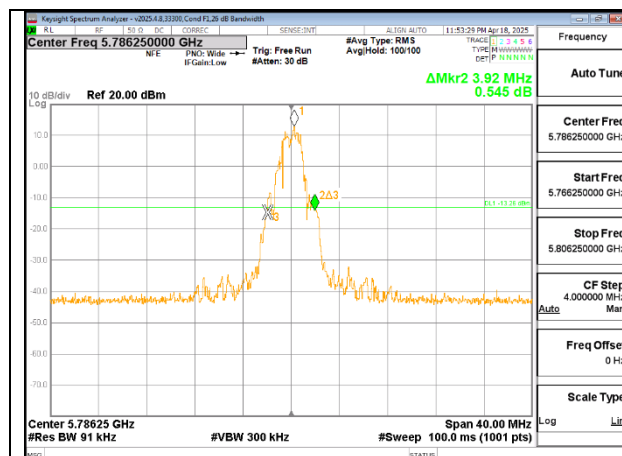


MID CHANNEL 26dB

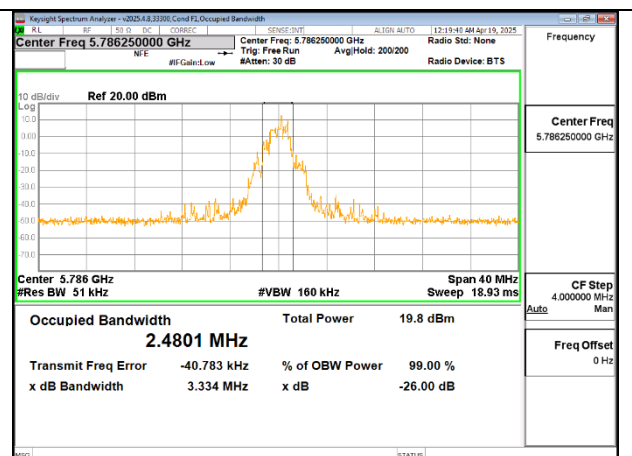


MID CHANNEL 99%

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5728.75	3.88	2.4957
Mid	5786.25	3.92	2.4801
High	5846.25	3.96	2.5037



MID CHANNEL 26dB



MID CHANNEL 99%

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.

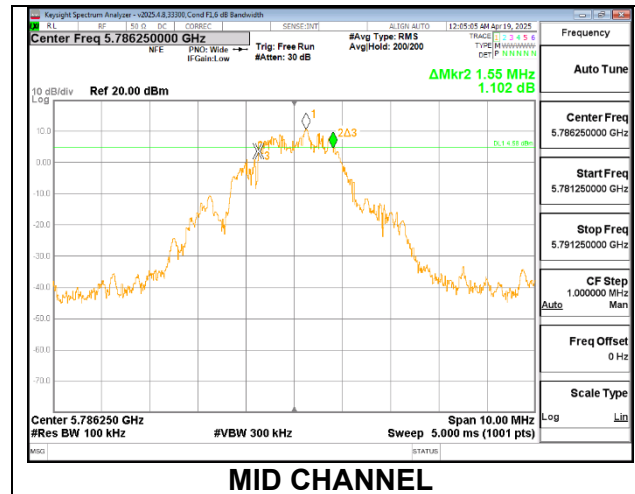
RESULTS

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.

1TX Antenna 6 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5728.75	1.54	0.5
Mid	5786.25	1.55	0.5
High	5846.25	1.60	0.5

**1TX Antenna 5 MODE**

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5728.75	1.61	0.5
Mid	5786.25	1.60	0.5
High	5846.25	1.61	0.5



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 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.

9.4.1. HIGH POWER**1TX Antenna 6 MODE (FCC+IC)**

Test Engineer:	106033/32181
Test Date:	25/07/11

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-0.3	30.00	30.00
Mid	5786.25	-0.3	30.00	30.00
High	5846.25	-0.3	30.00	30.00

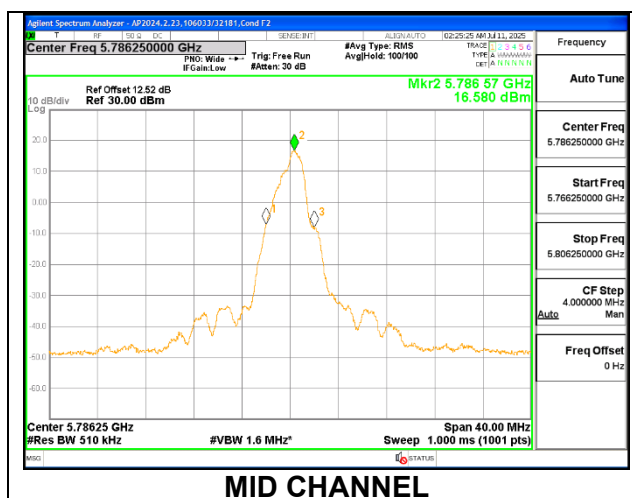
Duty Cycle CF (dB)	6.39	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	18.96	18.96	30.00	-11.04
Mid	5786.25	18.99	18.99	30.00	-11.01
High	5846.25	18.93	18.93	30.00	-11.07

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	16.492	22.882	30.00	-7.12
Mid	5786.25	16.580	22.970	30.00	-7.03
High	5846.25	16.359	22.749	30.00	-7.25



1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	106033/32181
Test Date:	2025/07/11

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-2.2	30.00	30.00
Mid	5786.25	-2.2	30.00	30.00
High	5846.25	-2.2	30.00	30.00

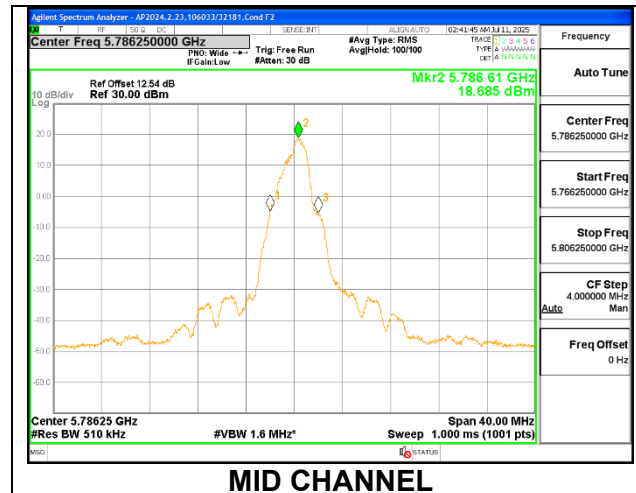
Duty Cycle CF (dB)	6.39	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	20.97	20.97	30.00	-9.03
Mid	5786.25	20.96	20.96	30.00	-9.04
High	5846.25	20.99	20.99	30.00	-9.01

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	18.522	24.912	30.00	-5.09
Mid	5786.25	18.685	25.075	30.00	-4.93
High	5846.25	18.894	25.284	30.00	-4.72



9.4.2. LOW POWER**1TX Antenna 6 MODE (FCC+IC)**

Test Engineer:	106033/32181
Test Date:	2025/07/11

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-0.3	30.00	30.00
Mid	5786.25	-0.3	30.00	30.00
High	5846.25	-0.3	30.00	30.00

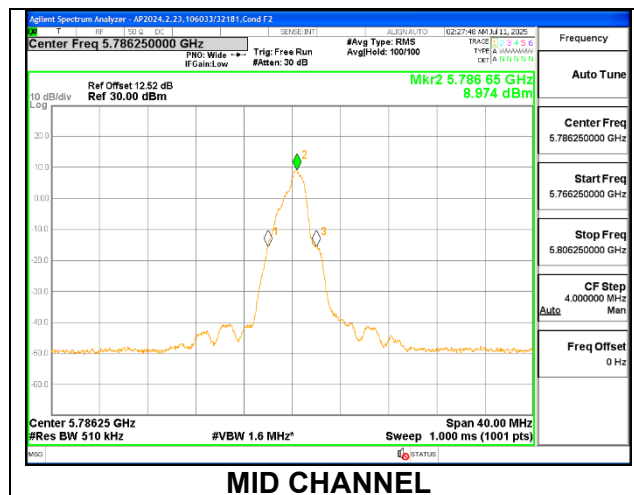
Duty Cycle CF (dB)	6.39	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	11.99	11.99	30.00	-18.01
Mid	5786.25	11.98	11.98	30.00	-18.02
High	5846.25	11.97	11.97	30.00	-18.03

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	9.105	15.495	30.00	-14.51
Mid	5786.25	8.974	15.364	30.00	-14.64
High	5846.25	9.126	15.516	30.00	-14.48



1TX Antenna 5 MODE (FCC+IC)

Test Engineer:	106033/32181
Test Date:	2025/07/11

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5728.75	-2.2	30.00	30.00
Mid	5786.25	-2.2	30.00	30.00
High	5846.25	-2.2	30.00	30.00

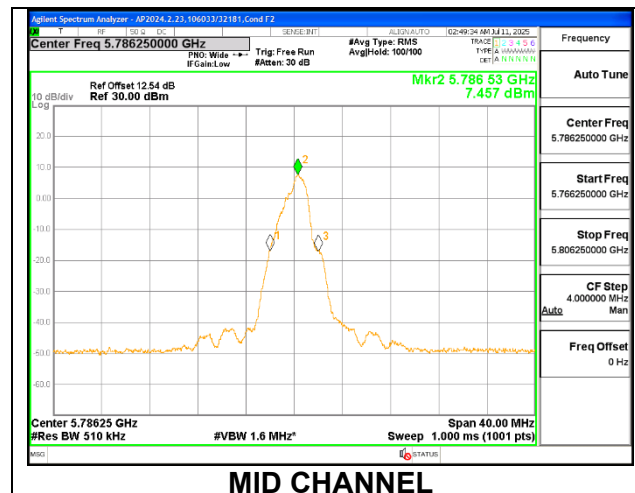
Duty Cycle CF (dB)	6.39	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5728.75	9.96	9.96	30.00	-20.04
Mid	5786.25	9.95	9.95	30.00	-20.05
High	5846.25	9.99	9.99	30.00	-20.01

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	7.415	13.805	30.00	-16.20
Mid	5786.25	7.457	13.847	30.00	-16.15
High	5846.25	7.644	14.034	30.00	-15.97



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restricted bands

FCC §15.407(b)(1-3) -Un-Restricted 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.

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.

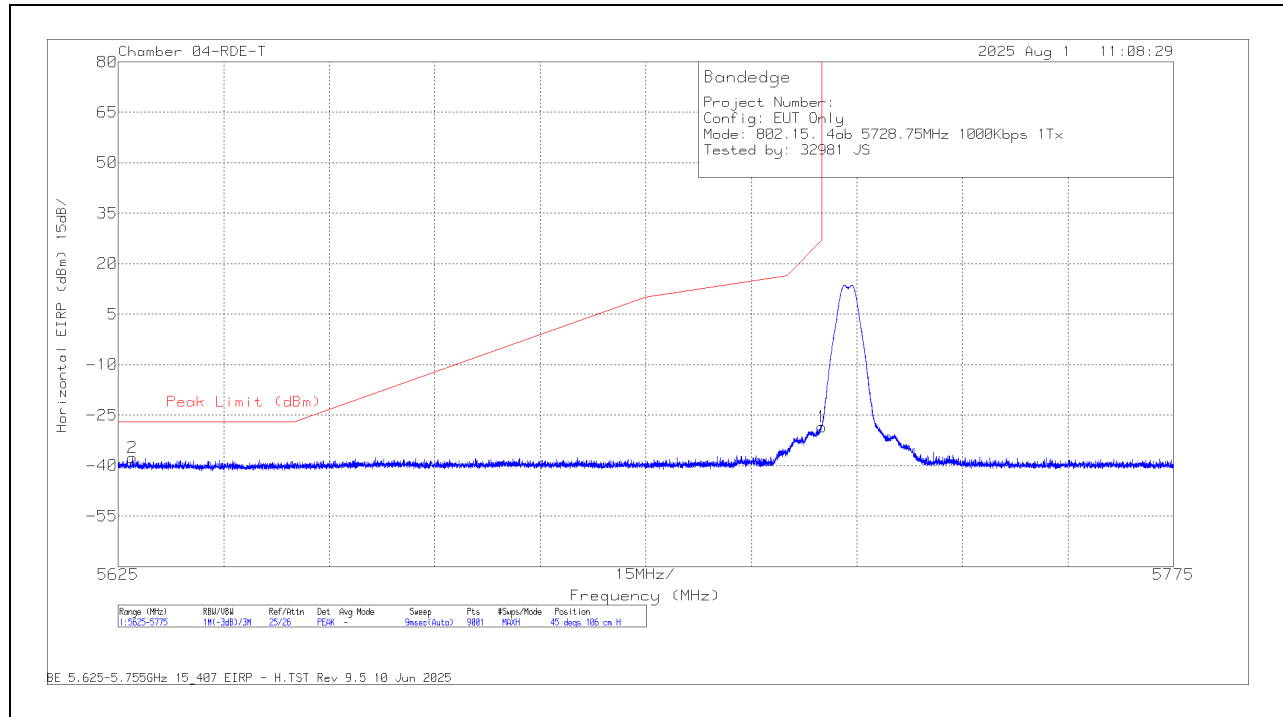
RESULTS

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. ANT 6, 1000Kbps HIGH POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

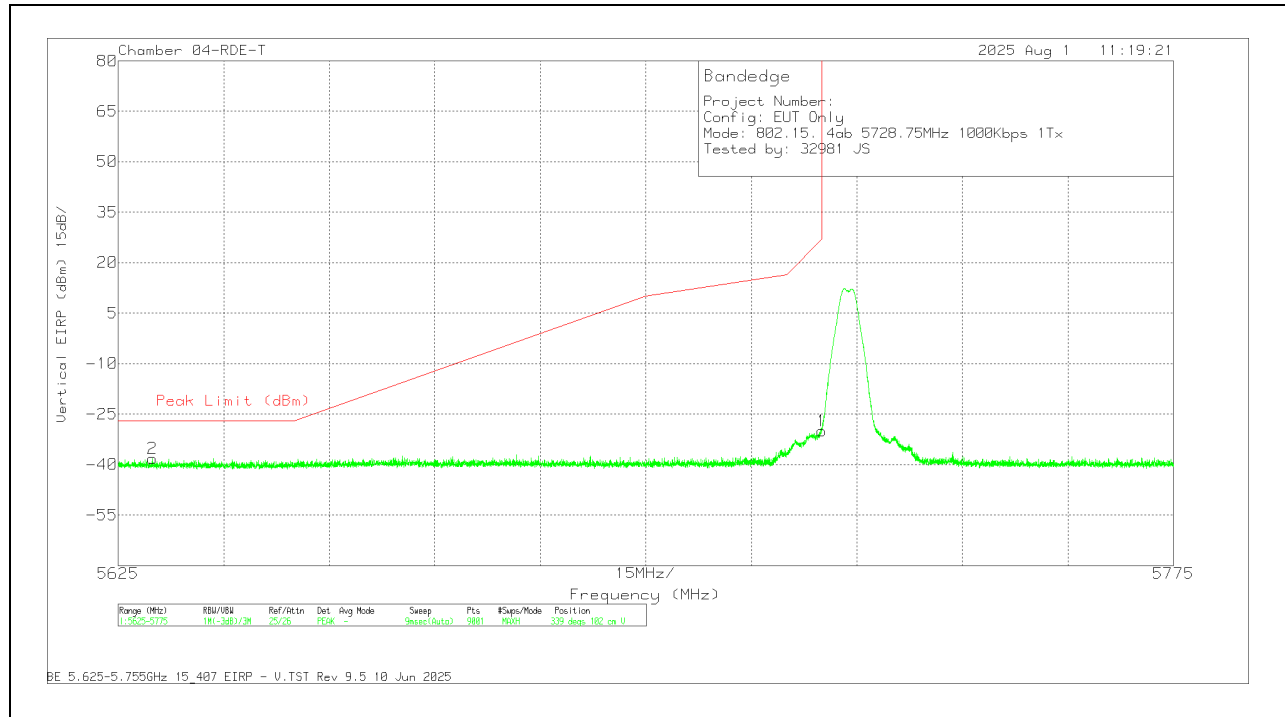
HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBm)	Det	79834 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
2	5627.05	-48.81	Pk	34.7	11.8	0	-35.39	-37.7	-27	-10.7	45	106	H
1	5725	-39.64	Pk	34.7	11.8	0	-35.3	-28.44	27	-55.44	45	106	H

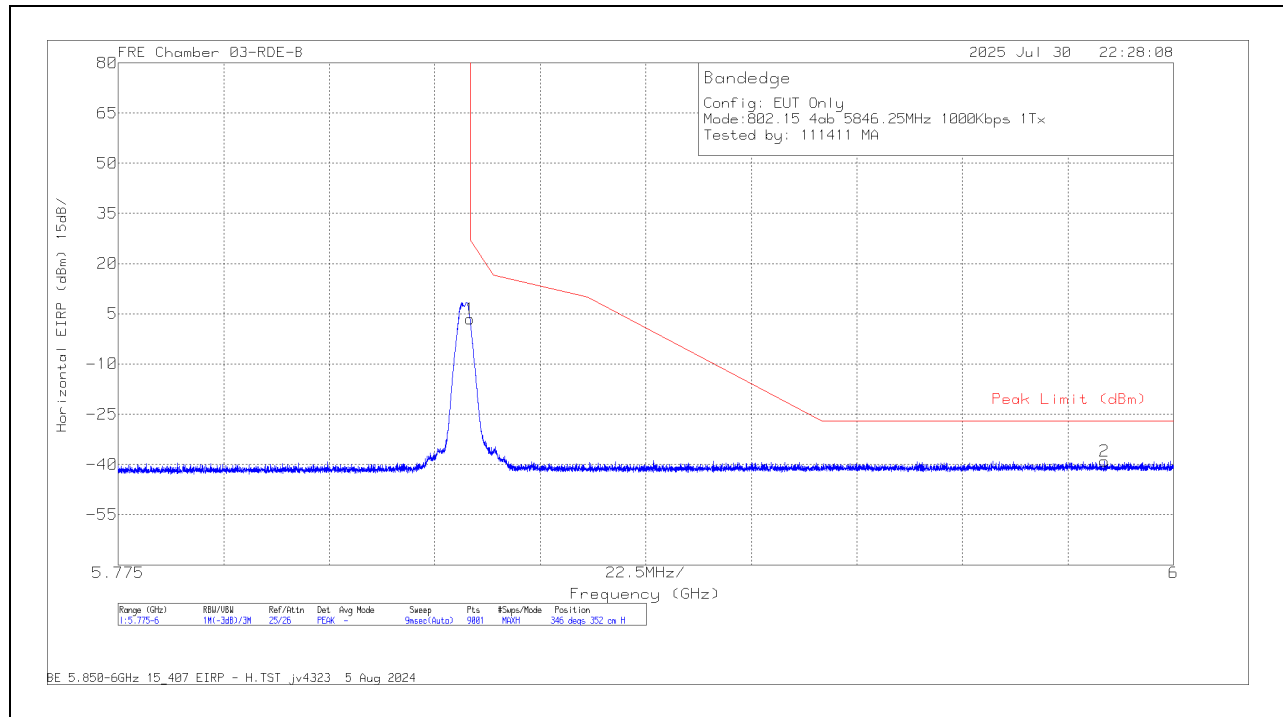
Pk - Peak detector

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBm)	Det	79834 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
2	5629.9	-49.32	Pk	34.7	11.8	0	-35.31	-38.13	-27	-11.13	339	102	V
1	5725	-41.11	Pk	34.7	11.8	0	-35.3	-29.91	27	-56.91	339	102	V

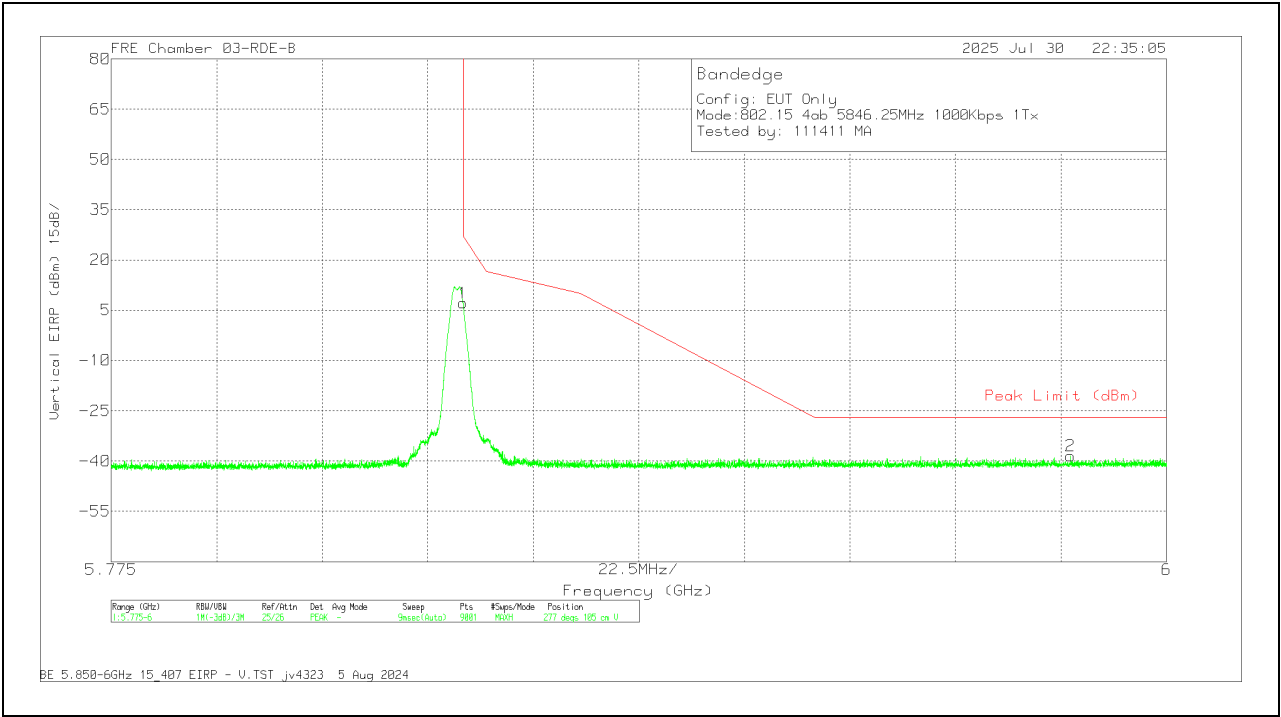
Pk - Peak detector

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 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	-4.66	Pk	34.9	11.8	0	-38.5	3.54	27	-23.46	346	352	H
2	5.985275	-47.74	Pk	35.2	11.8	0	-38.2	-38.94	-27	-11.94	346	352	H

Pk - Peak detector

VERTICAL RESULT

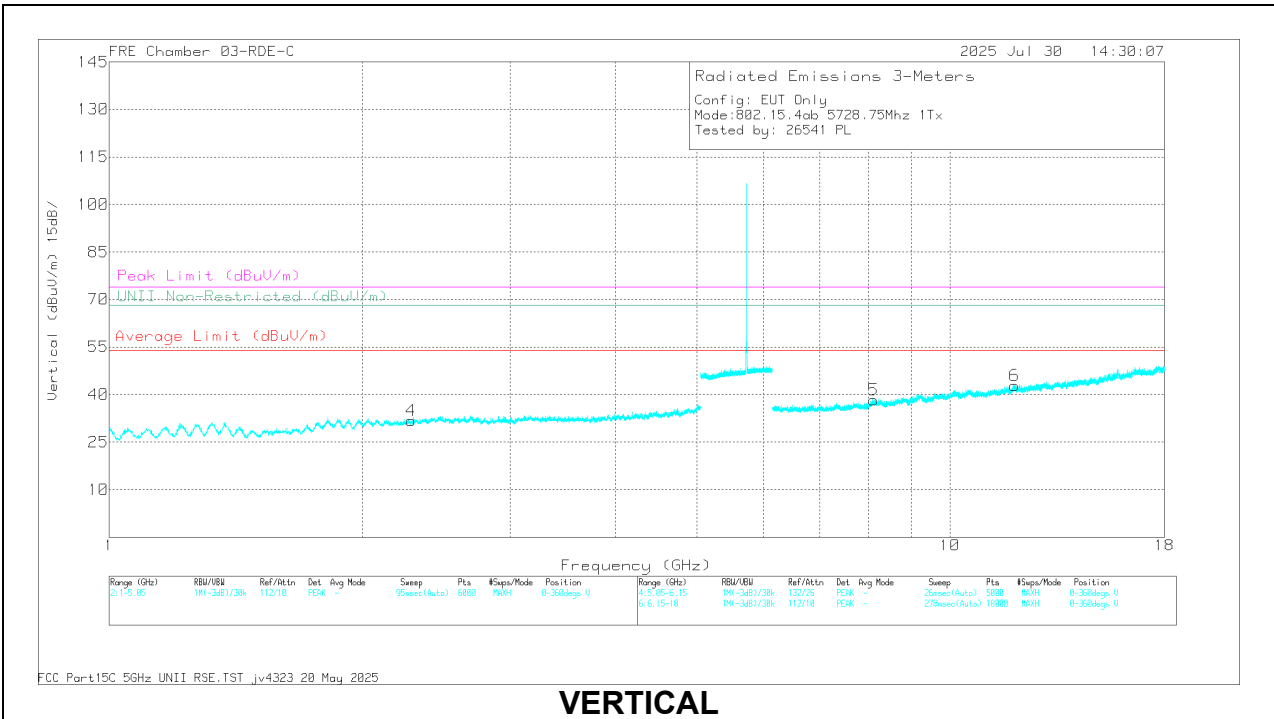
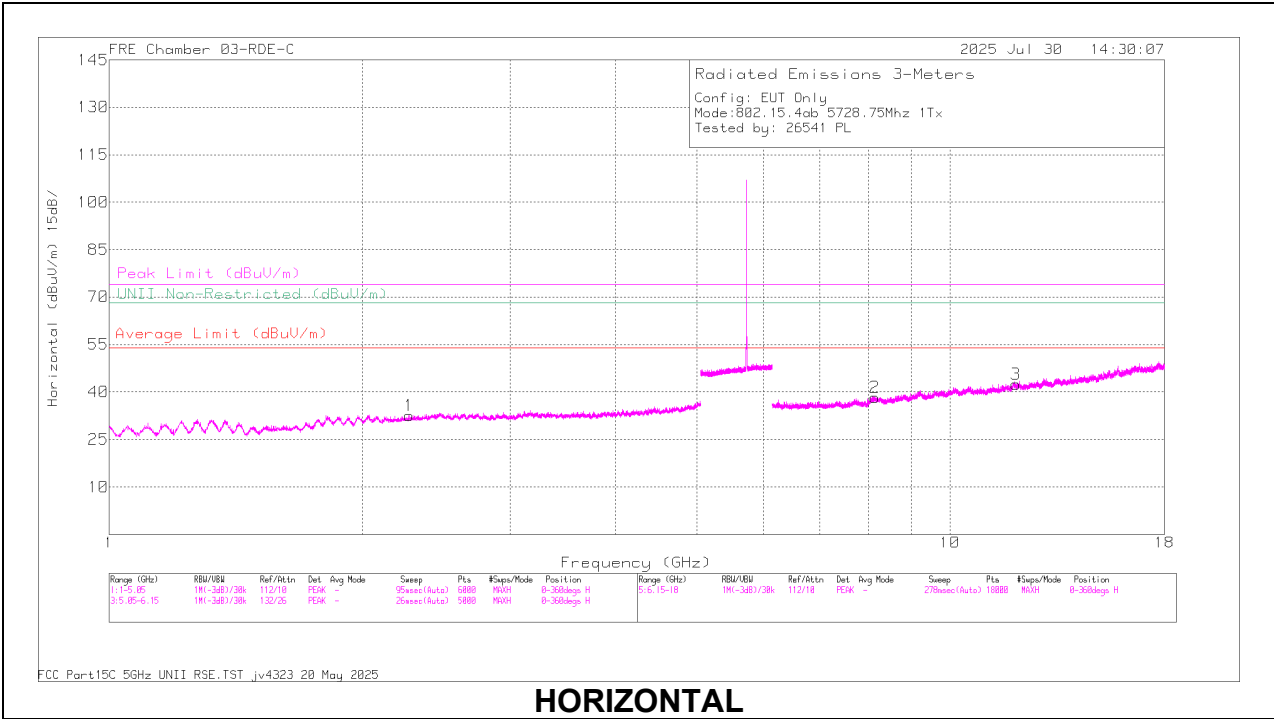


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-1.08	Pk	34.9	11.8	0	-38.5	7.12	27	-19.88	277	105	V
2	5.979575	-47.19	Pk	35.2	11.8	0	-38.2	-38.39	-27	-11.39	277	105	V

Pk - Peak detector

10.1.2. ANT 6, 1000Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

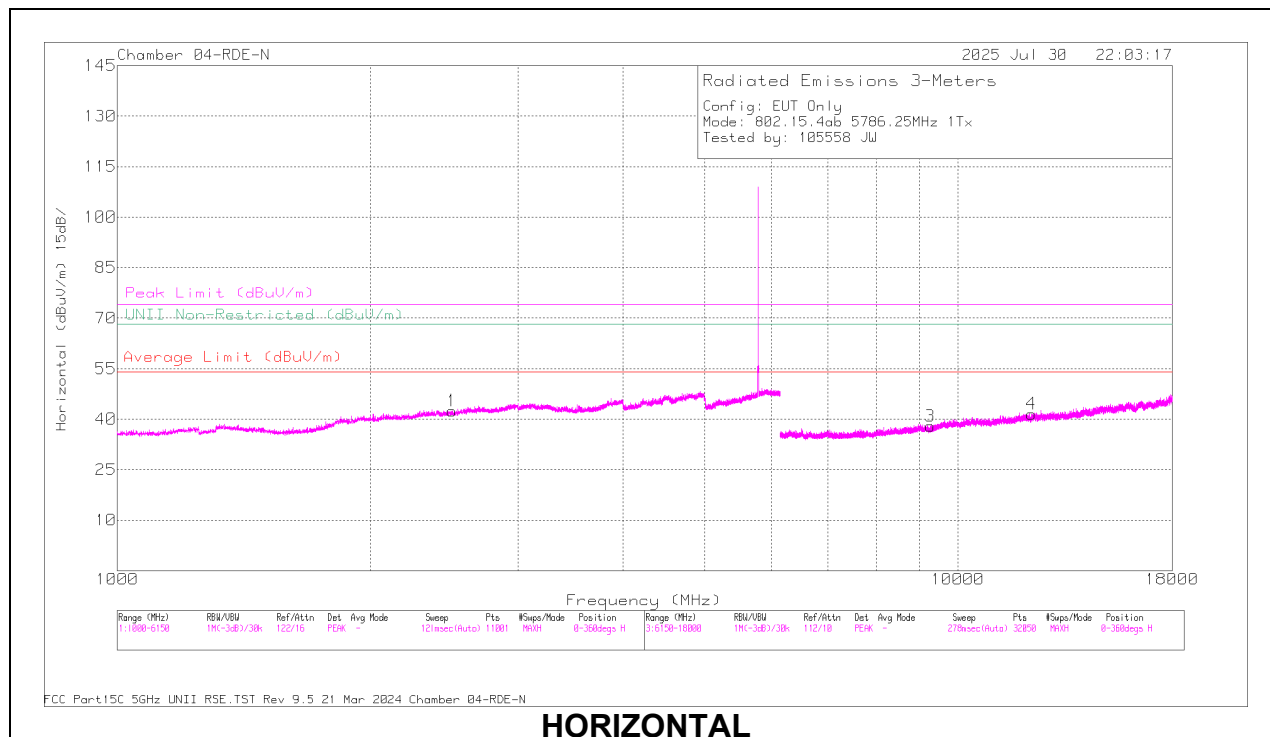
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.275781	59.44	PK-U	31.6	0	-48.93	42.11	-	-	74	-31.89	-	-	124	286	H
	* 2.27358	47.13	ADR	31.6	6.39	-48.95	36.17	54	-17.83	-	-	-	-	124	286	H
4	* 2.287836	58.9	PK-U	31.6	0	-48.93	41.57	-	-	74	-32.43	-	-	89	137	V
	* 2.284786	46.77	ADR	31.6	6.39	-48.94	35.82	54	-18.18	-	-	-	-	89	137	V
2	* 8.13917	55.99	PK-U	35.8	0	-43.68	48.11	-	-	74	-25.89	-	-	202	177	H
	* 8.139067	43.15	ADR	35.8	6.39	-43.68	41.66	54	-12.34	-	-	-	-	202	177	H
3	* 11.97886	55.41	PK-U	38.8	0	-42.1	52.11	-	-	74	-21.89	-	-	197	280	H
	* 11.976461	43.23	ADR	38.8	6.39	-42.06	46.36	54	-7.64	-	-	-	-	197	280	H
5	* 8.107577	55.17	PK-U	35.8	0	-43.59	47.38	-	-	74	-26.62	-	-	334	201	V
	* 8.111076	43.22	ADR	35.8	6.39	-43.67	41.74	54	-12.26	-	-	-	-	334	201	V
6	* 11.938617	54.9	PK-U	38.8	0	-42.36	51.34	-	-	74	-22.66	-	-	186	359	V
	* 11.936265	43	ADR	38.8	6.39	-42.35	45.84	54	-8.16	-	-	-	-	186	359	V

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

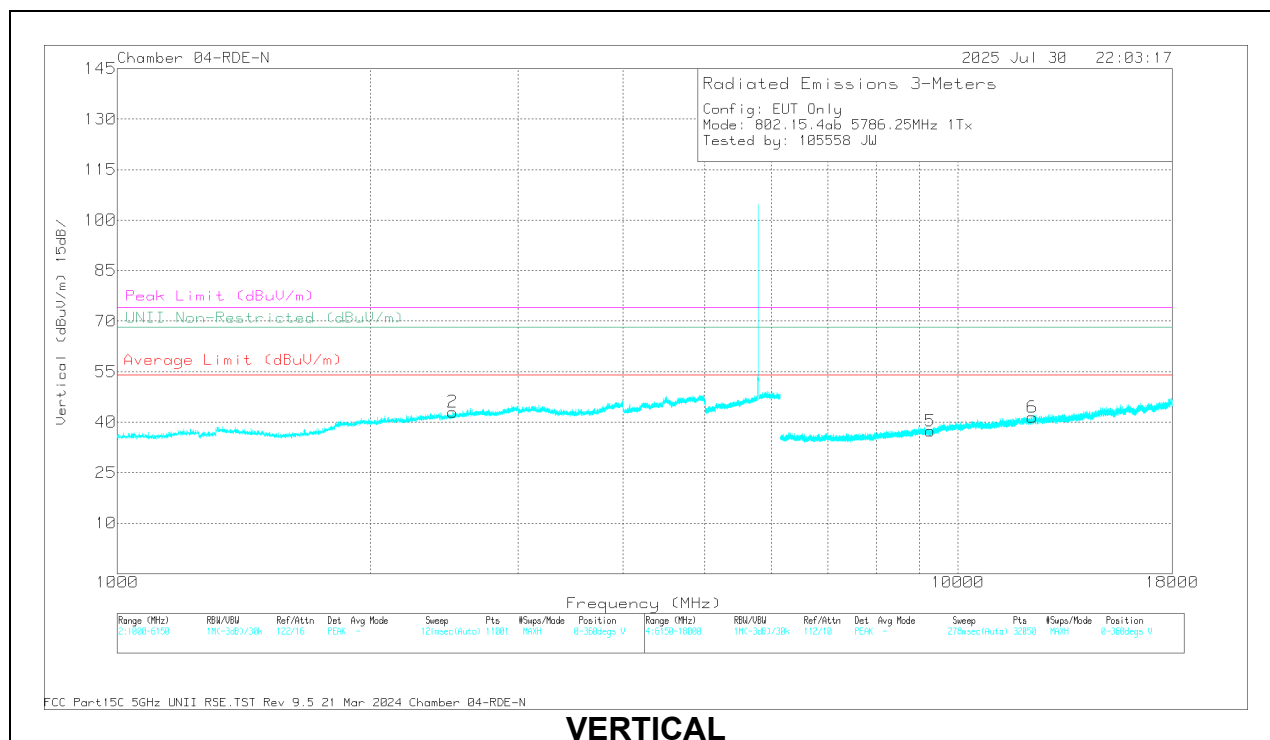
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

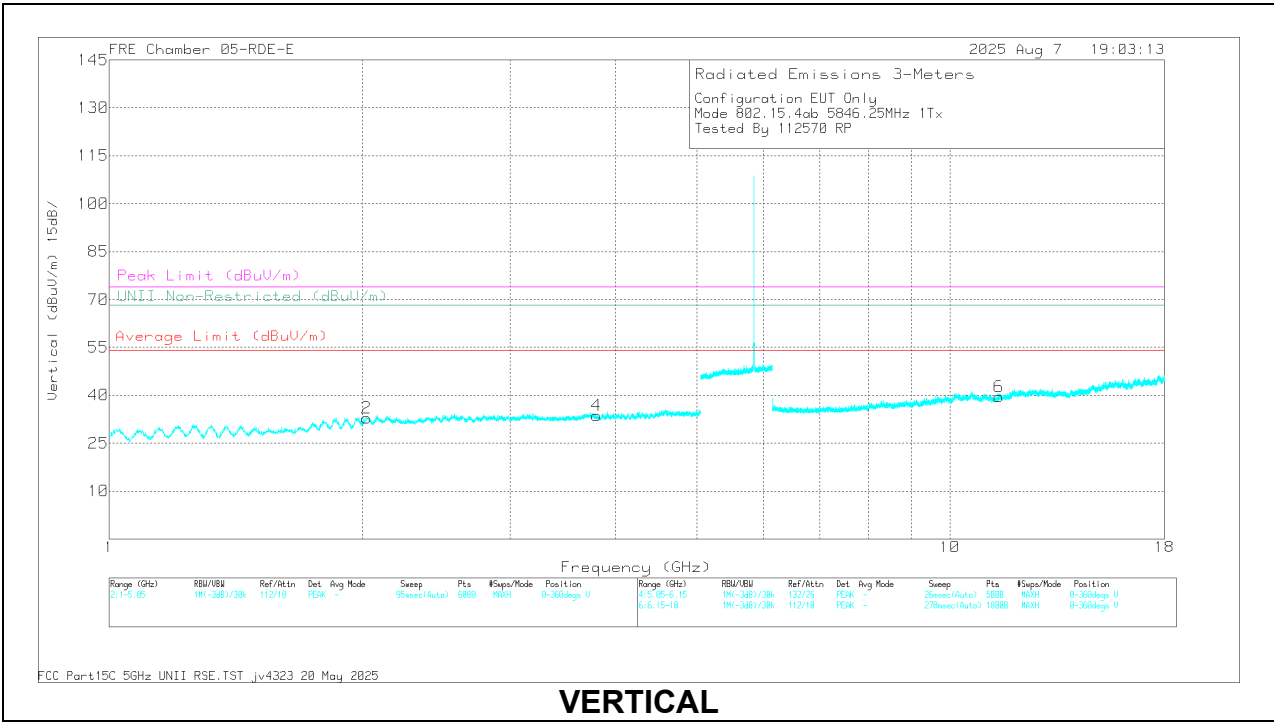
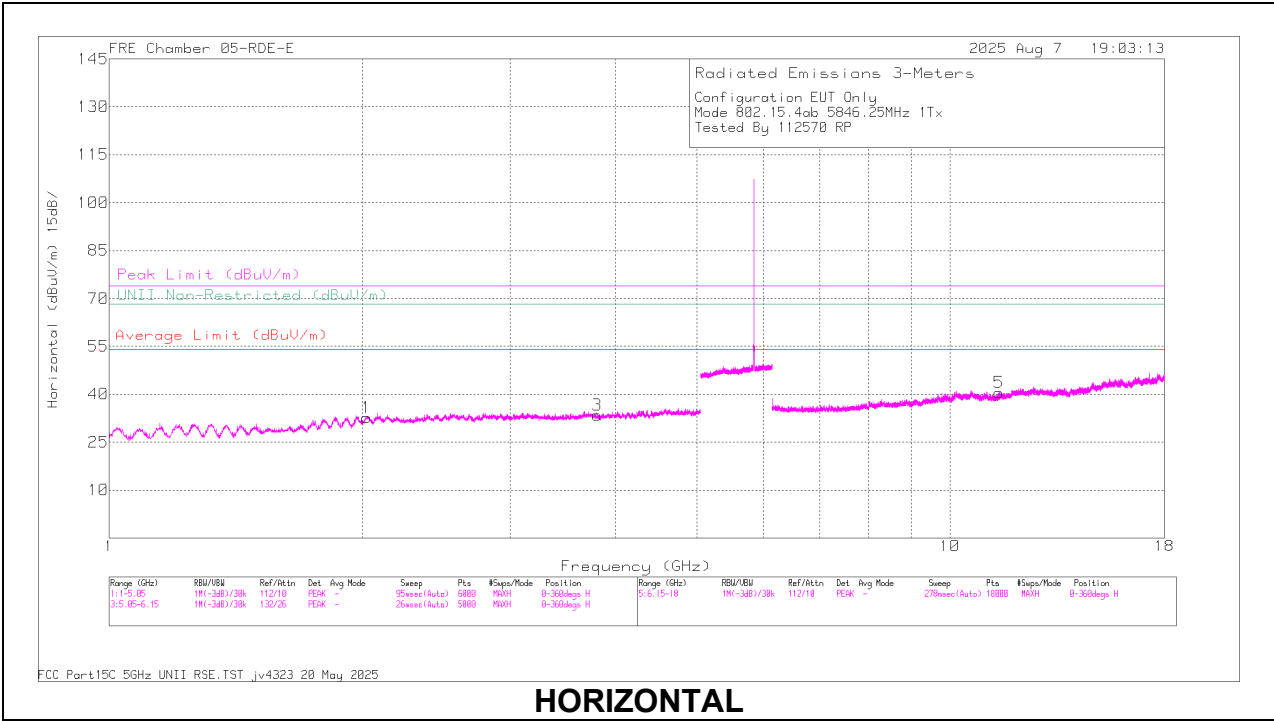
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	41112 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.47	46.31	PK-U	32.4	0	-26.42	52.29	-	-	-	-	68.2	-15.91	298	371	H
1	* 2495.015	34.14	ADR	32.4	6.39	-26.42	46.51	54	-7.49	-	-	-	-	298	371	H
2	2517.032	46.67	PK-U	32.4	0	-26.33	52.74	-	-	-	-	68.2	-15.46	44	308	V
3	9263.293	56.87	PK-U	36.5	0	-45.5	47.87	-	-	-	-	68.2	-20.33	165	155	V
4	9277.216	56.94	PK-U	36.5	0	-45.57	47.87	-	-	-	-	68.2	-20.33	77	155	H
5	* 12252.93	56.14	PK-U	38.9	0	-43.48	51.56	-	-	74	-22.44	-	-	48	269	H
5	* 12253.197	43.61	ADR	38.9	6.39	-43.48	45.42	54	-8.58	-	-	-	-	48	269	H
6	* 12281.449	55.56	PK-U	38.9	0	-43.89	50.57	-	-	74	-23.43	-	-	124	398	V
6	* 12283.885	44.01	ADR	38.9	6.39	-43.88	45.42	54	-8.58	-	-	-	-	124	398	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

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.021738	59.03	PK-U	31.7	0	-46.5	44.23	-	-	-	-	68.2	-23.97	360	101	H
3	* 3.803299	55.69	PK-U	33.4	0	-45.1	43.99	-	-	74	-30.01	-	-	360	101	H
3	* 3.803852	43.12	ADR	33.4	6.39	-45.1	37.81	54	-16.19	-	-	-	-	360	101	H

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.023825	58.63	PK-U	31.7	0	-46.4	43.93	-	-	-	-	68.2	-24.27	360	101	V
4	* 3.797252	55.54	PK-U	33.4	0	-45.2	43.74	-	-	74	-30.26	-	-	360	101	V
4	* 3.797816	43.19	ADR	33.4	6.39	-45.2	37.78	54	-16.22	-	-	-	-	360	101	V

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 11.436413	53.36	PK-U	37.8	0	-42.14	49.02	-	-	74	-24.98	-	-	360	101	H
5	* 11.435629	41.61	ADR	37.8	6.39	-42.1	43.7	54	-10.3	-	-	-	-	360	101	H

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 11.442793	53.43	PK-U	37.8	0	-42.38	48.85	-	-	74	-25.15	-	-	360	101	V
6	* 11.442206	41.6	ADR	37.8	6.39	-42.32	43.47	54	-10.53	-	-	-	-	360	101	V

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

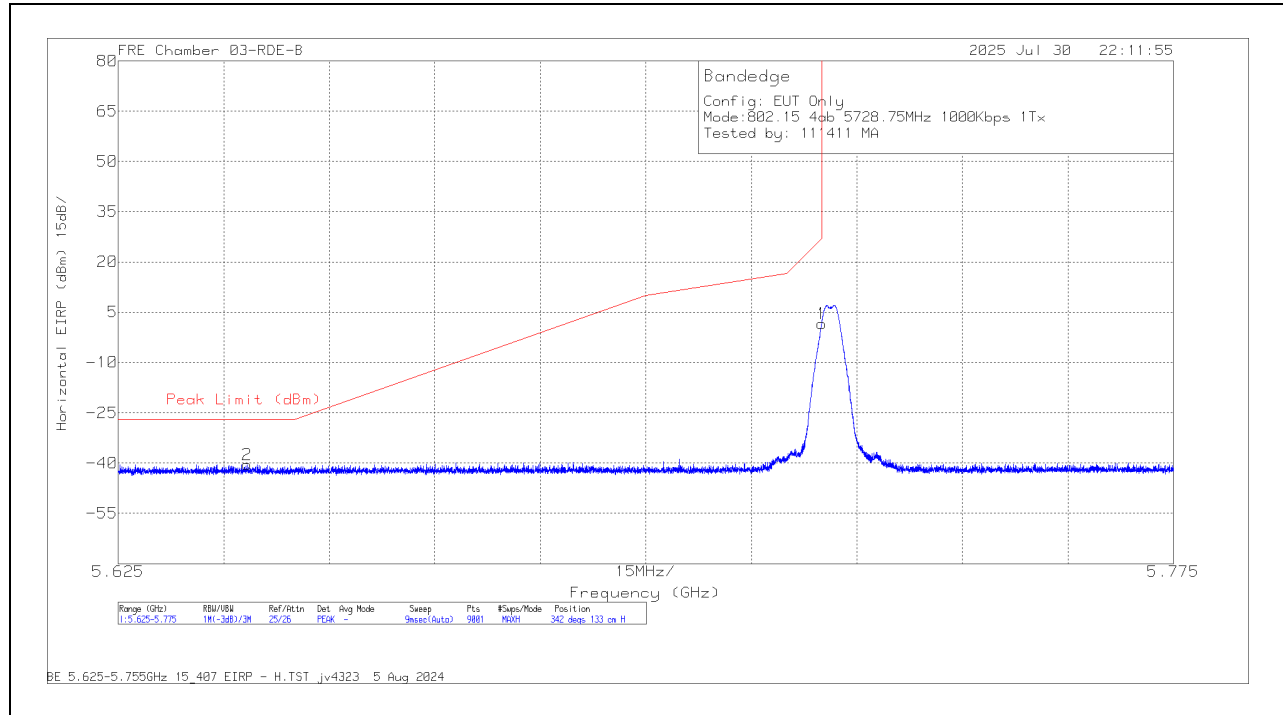
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

10.1.3. ANT 6, 1000Kbps LOW POWER BAND EDGE IN THE 5.8 GHz BAND

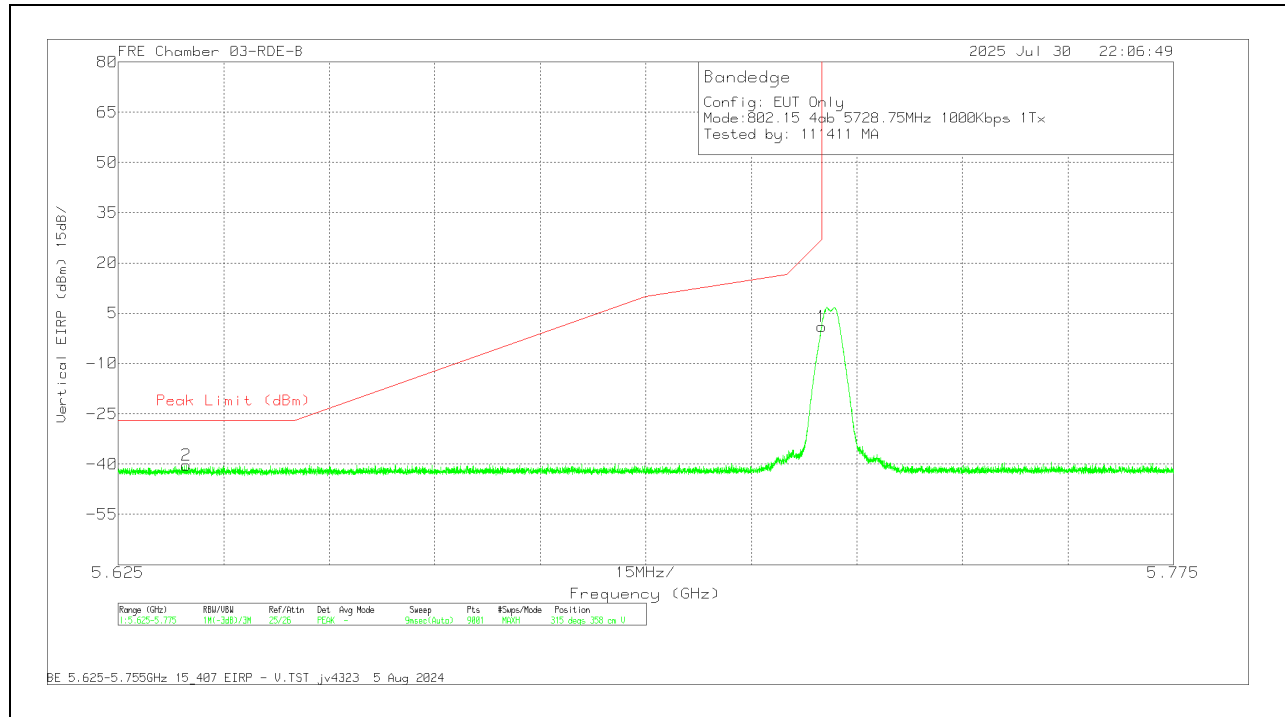
BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 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
2	5.643367	-47.73	Pk	34.5	11.8	0	-39	-40.43	-27	-13.43	342	133	H
1	5.725	-6.04	Pk	34.6	11.8	0	-38.8	1.56	27	-25.44	342	133	H

Pk - Peak detector

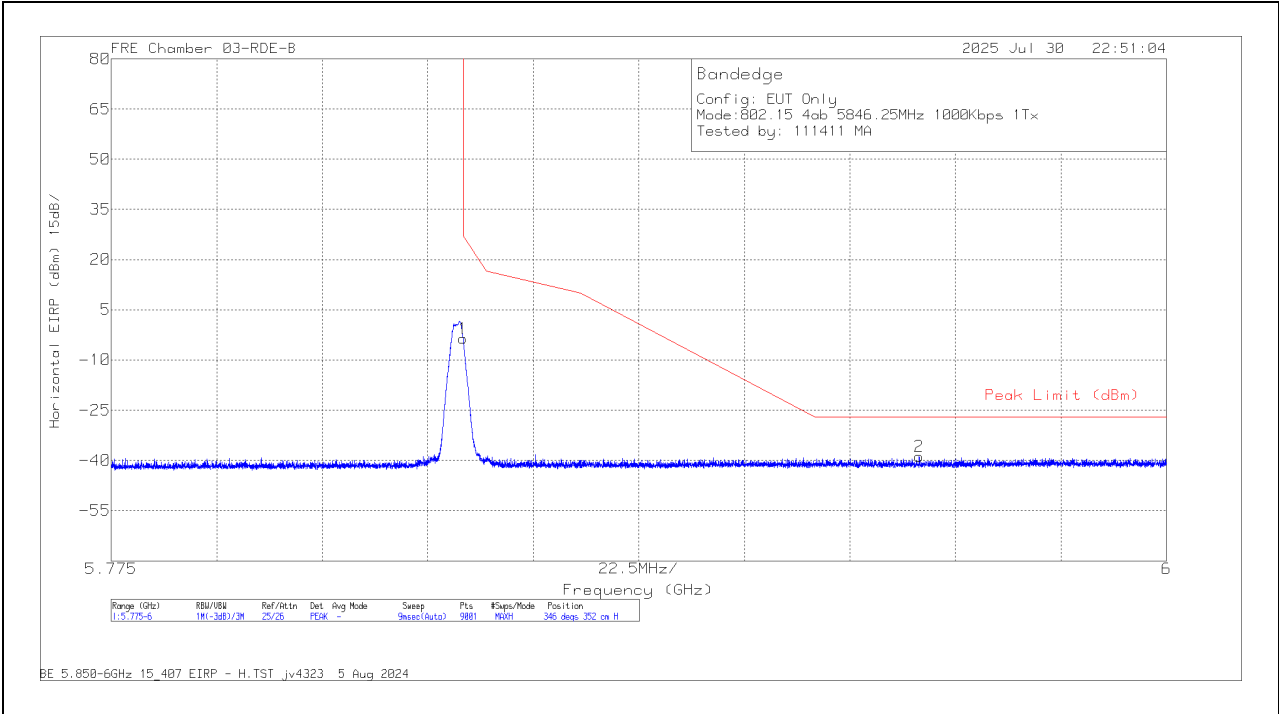
VERTICAL RESULT

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 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
2	5.634717	-47.57	Pk	34.5	11.8	0	-39	-40.27	-27	-13.27	315	358	V
1	5.725	-6.63	Pk	34.6	11.8	0	-38.8	.97	27	-26.03	315	358	V

Pk - Peak detector

BANDEDGE (HIGH CHANNEL)

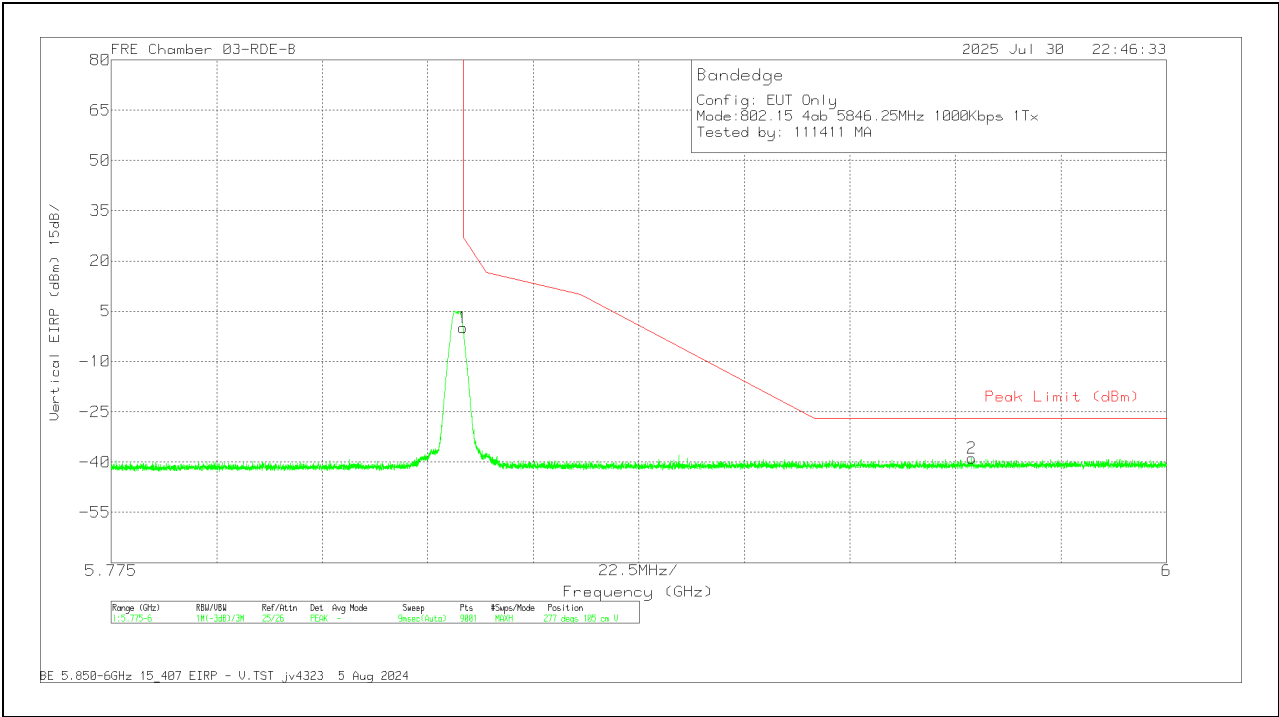
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 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	-11.76	Pk	34.9	11.8	0	-38.5	-3.56	27	-30.56	346	352	H
2	5.947275	-47.5	Pk	35.1	11.8	0	-38.3	-38.9	-27	-11.9	346	352	H

Pk - Peak detector

VERTICAL RESULT

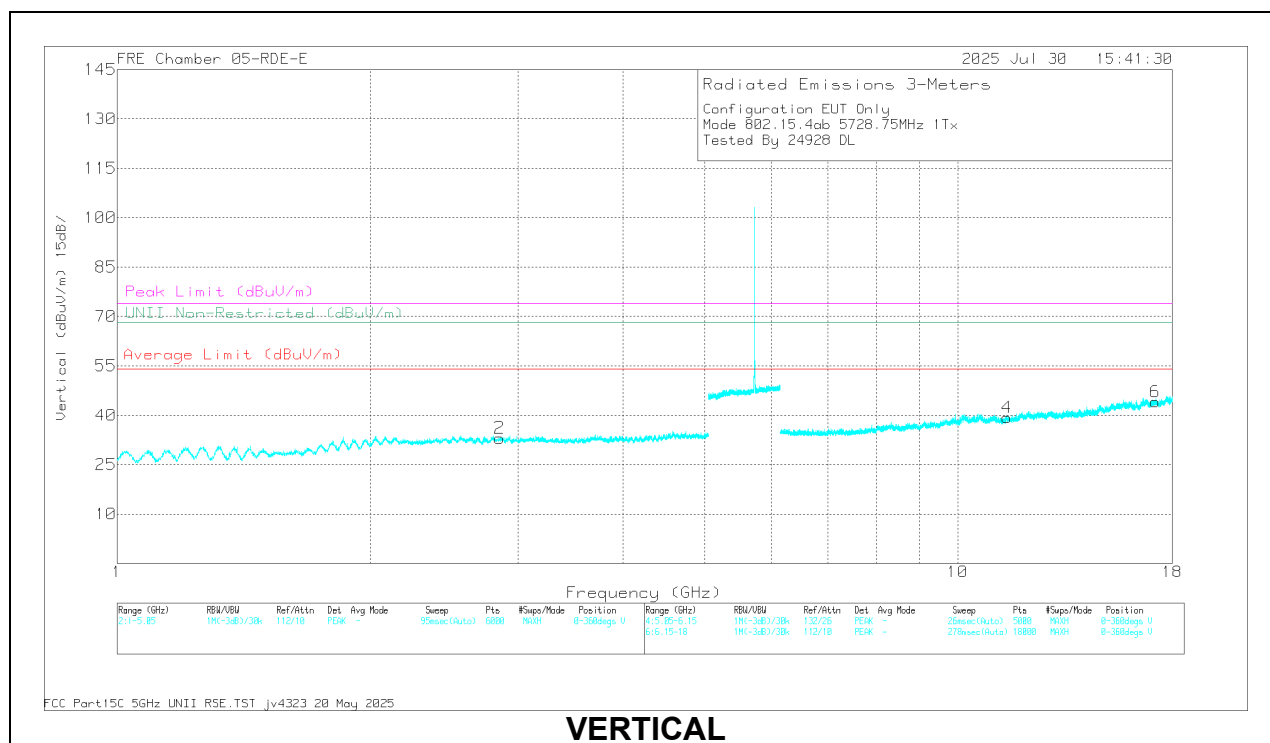
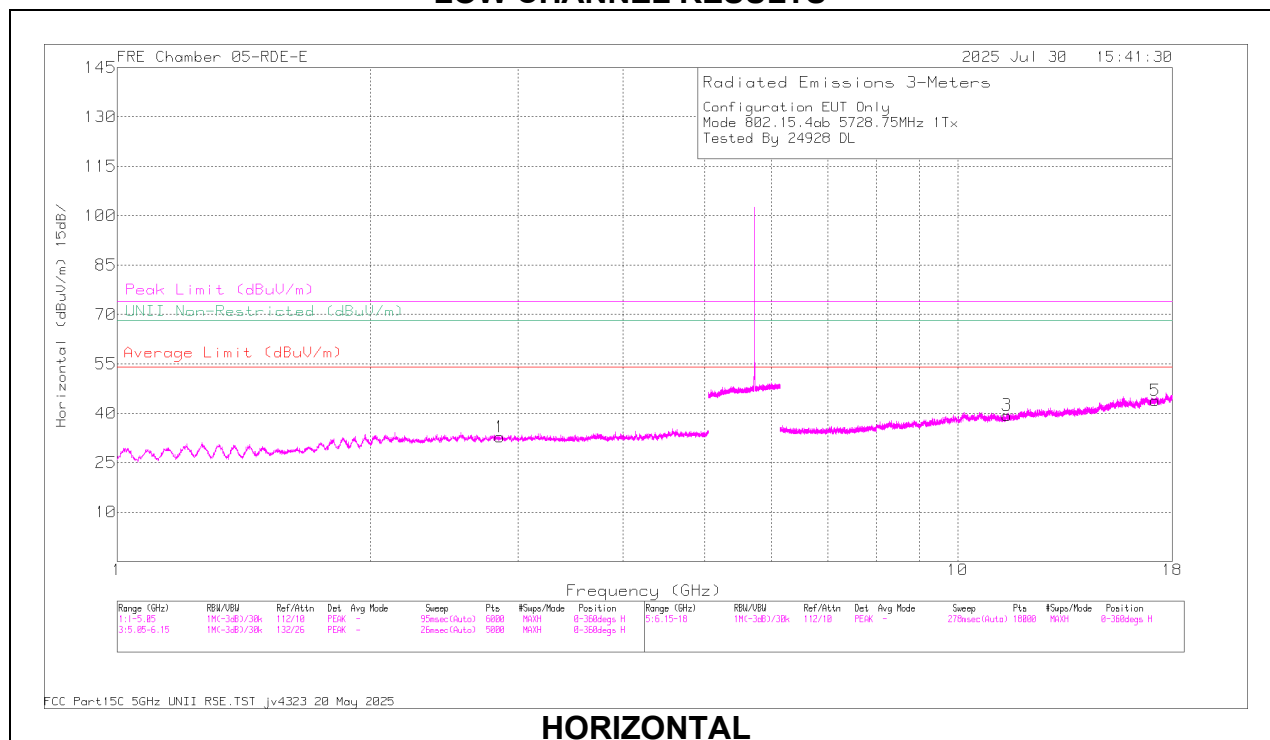


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	223084 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-8.09	Pk	34.9	11.8	0	-38.5	.11	27	-26.89	277	105	V
2	5.9585	-47.43	Pk	35.1	11.8	0	-38.25	-38.78	-27	-11.78	277	105	V

Pk - Peak detector

10.1.4. ANT 6, 1000Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

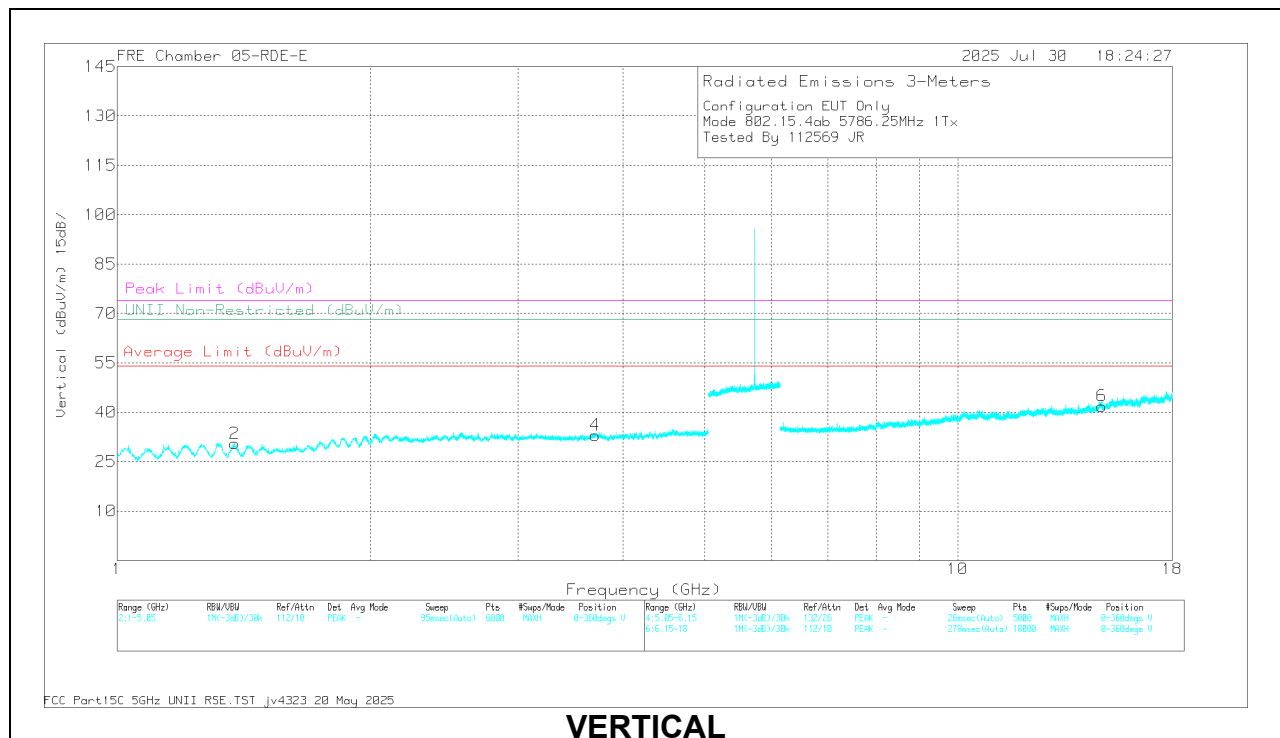
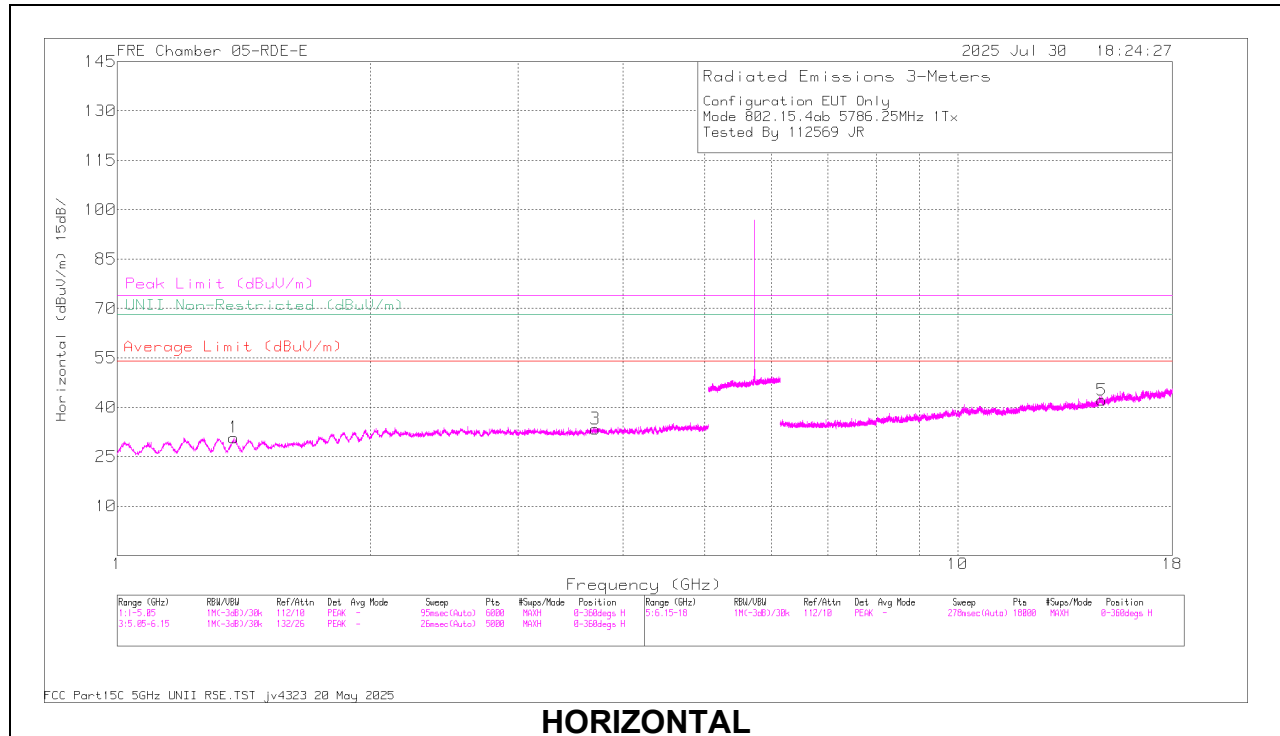
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.85081	58.42	PK-U	32.4	0	-47.28	43.54	-	-	74	-30.46	-	-	302	222	H
1	* 2.849169	45.72	ADR	32.4	6.39	-47.28	37.23	54	-16.77	-	-	-	-	302	222	H
2	* 2.847934	57.99	PK-U	32.4	0	-47.2	43.19	-	-	74	-30.81	-	-	231	195	V
2	* 2.847558	45.84	ADR	32.4	6.39	-47.2	37.43	54	-16.57	-	-	-	-	231	195	V
3	* 11.44042	53.46	PK-U	37.8	0	-42.3	48.96	-	-	74	-25.04	-	-	134	313	H
3	* 11.440042	41.15	ADR	37.8	6.39	-42.3	43.04	54	-10.96	-	-	-	-	134	313	H
5	17.179991	54.48	PK-U	41.1	0	-41.9	53.68	-	-	-	-	68.2	-14.52	111	117	H
5	17.183188	42.45	ADR	41.1	6.39	-42.02	47.92	-	-	-	-	-	-	111	117	H
4	* 11.43939	53.33	PK-U	37.8	0	-42.18	48.95	-	-	74	-25.05	-	-	75	302	V
4	* 11.440726	41.22	ADR	37.8	6.39	-42.3	43.11	54	-10.89	-	-	-	-	75	302	V
6	17.174195	54.96	PK-U	41.1	0	-41.9	54.16	-	-	-	-	68.2	-14.04	150	210	V
6	17.177332	42.33	ADR	41.1	6.39	-41.8	48.02	-	-	-	-	-	-	150	210	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

MID CHANNEL RESULTS



RADIATED EMISSIONS

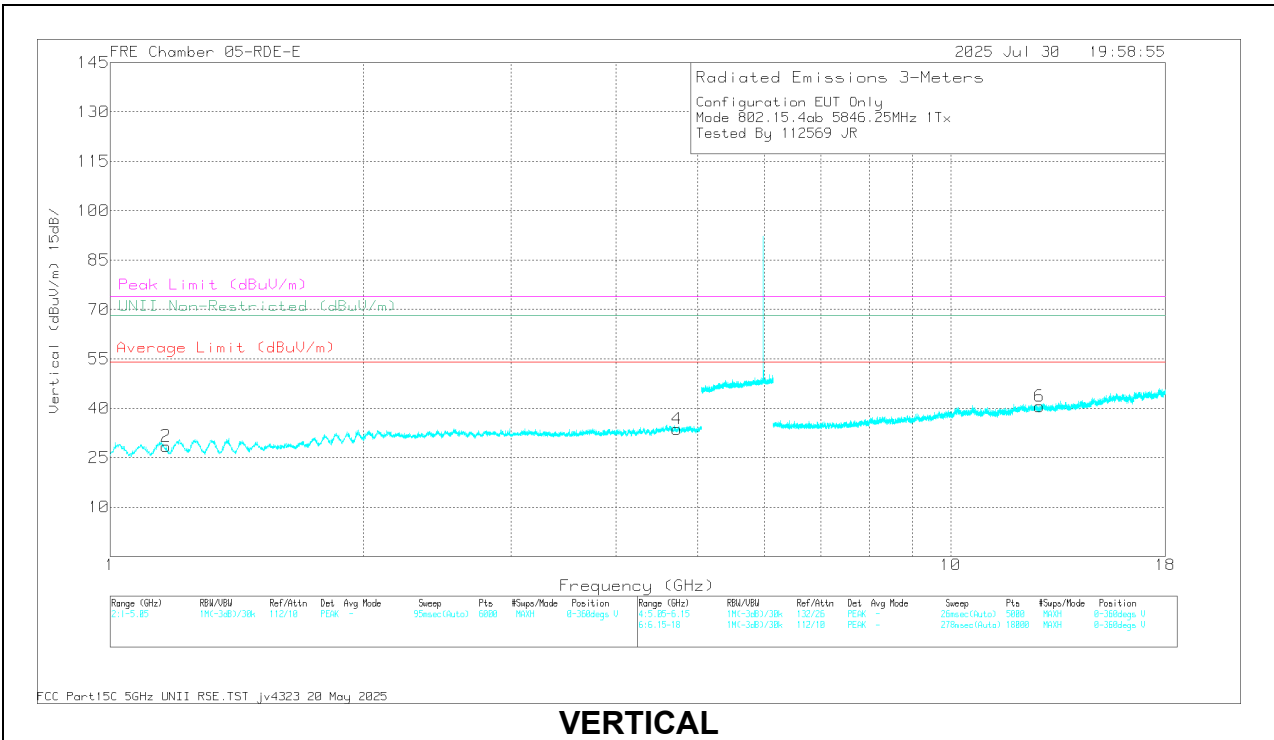
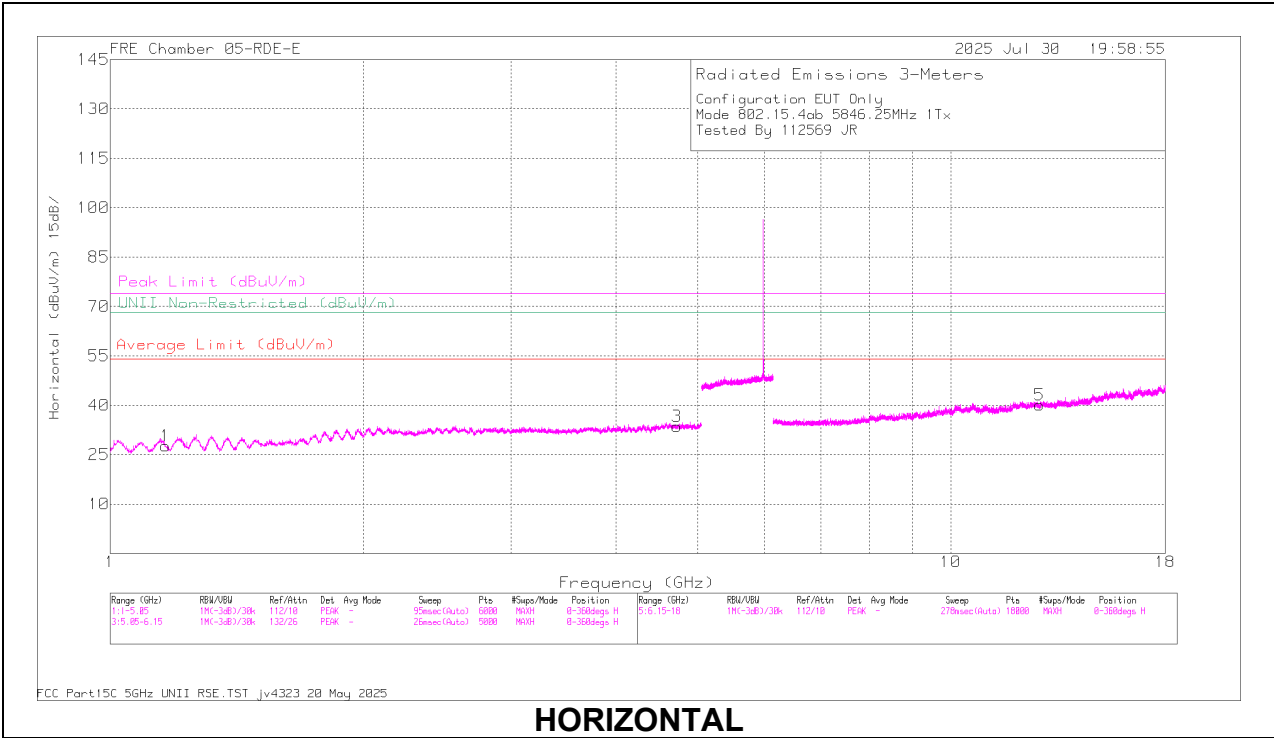
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.376515	57.82	PK-U	28.4	0	-46	40.22	-	-	74	-33.78	-	-	360	101	H
1	* 1.37751	45.78	ADR	28.4	6.39	-45.95	34.62	54	-19.38	-	-	-	-	360	101	H
3	* 3.706404	55.63	PK-U	33.3	0	-45.2	43.73	-	-	74	-30.27	-	-	360	101	H
3	* 3.703456	43.17	ADR	33.3	6.39	-45.2	37.66	54	-16.34	-	-	-	-	360	101	H
2	* 1.378968	58.2	PK-U	28.4	0	-46	40.6	-	-	74	-33.4	-	-	360	101	V
2	* 1.377294	45.66	ADR	28.4	6.39	-45.97	34.48	54	-19.52	-	-	-	-	360	101	V
4	* 3.70336	55.18	PK-U	33.3	0	-45.2	43.28	-	-	74	-30.72	-	-	360	101	V
4	* 3.703494	43.25	ADR	33.3	6.39	-45.2	37.74	54	-16.26	-	-	-	-	360	101	V
5	14.840879	54.52	PK-U	39.7	0	-42.29	51.93	-	-	-	-	68.2	-16.27	360	101	H
5	14.840907	42.25	ADR	39.7	6.39	-42.29	46.05	-	-	-	-	-	-	360	101	H
6	14.837345	54.25	PK-U	39.7	0	-42.3	51.65	-	-	-	-	68.2	-16.55	360	101	V
6	14.838697	42.24	ADR	39.7	6.39	-42.3	46.03	-	-	-	-	-	-	360	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

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80404 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.163816	56.75	PK-U	27.9	0	-46.42	38.23	-	-	74	-35.77	-	-	2	101	H
1	* 1.16194	45.03	ADR	27.9	6.39	-46.59	32.73	54	-21.27	-	-	-	-	2	101	H
3	* 4.720343	56.46	PK-U	34.5	0	-46.83	44.13	-	-	74	-29.87	-	-	2	101	H
3	* 4.720639	44.23	ADR	34.5	6.39	-46.86	38.26	54	-15.74	-	-	-	-	2	101	H
2	* 1.163228	56.74	PK-U	27.9	0	-46.48	38.16	-	-	74	-35.84	-	-	2	101	V
2	* 1.163907	44.69	ADR	27.9	6.39	-46.41	32.57	54	-21.43	-	-	-	-	2	101	V
4	* 4.725195	56.37	PK-U	34.5	0	-46.9	43.97	-	-	74	-30.03	-	-	2	101	V
4	* 4.722383	44.2	ADR	34.5	6.39	-46.9	38.19	54	-15.81	-	-	-	-	2	101	V
5	12.754677	52.98	PK-U	38.8	0	-41.5	50.28	-	-	-	-	68.2	-17.92	2	101	H
5	12.754553	40.75	ADR	38.8	6.39	-41.5	44.44	-	-	-	-	-	-	2	101	H
6	12.754918	52.84	PK-U	38.8	0	-41.5	50.14	-	-	-	-	68.2	-18.06	2	101	V
6	12.755271	40.74	ADR	38.8	6.39	-41.47	44.46	-	-	-	-	-	-	2	101	V

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

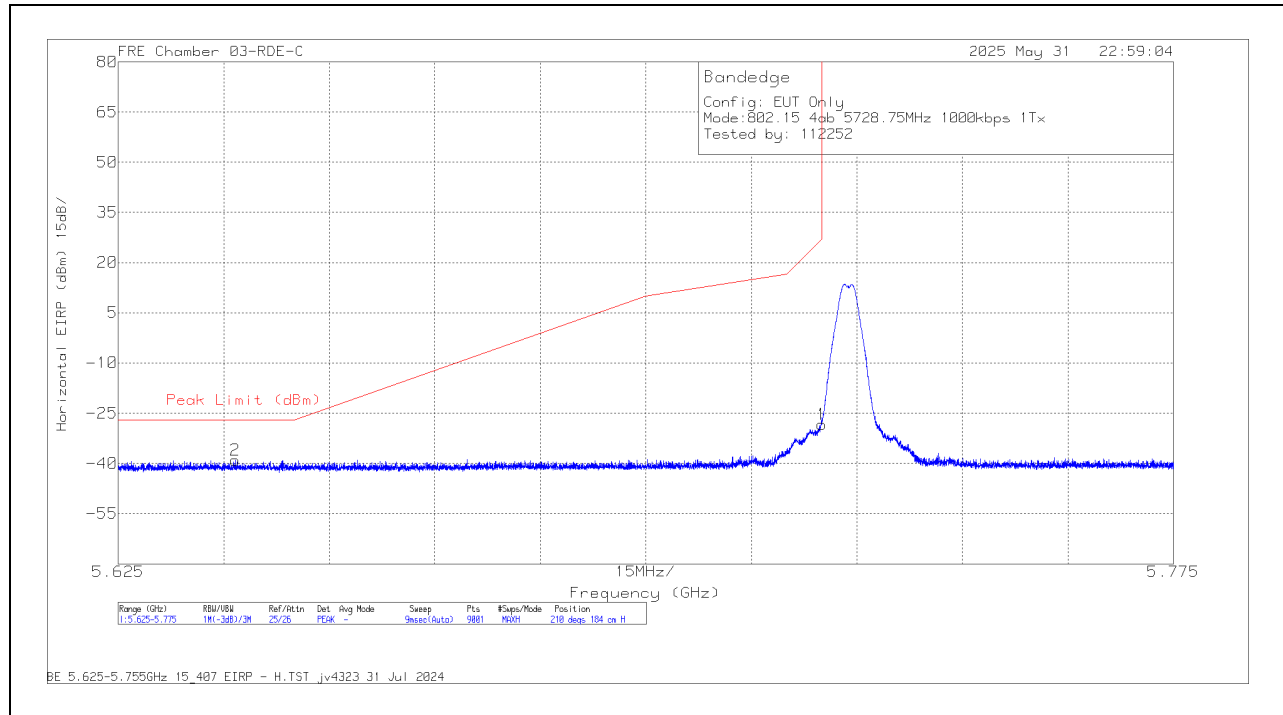
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

10.1.5. ANT 5, 1000Kbps, HIGH POWER BAND EDGE IN THE 5.8 GHz BAND

BANDEDGE (LOW CHANNEL)

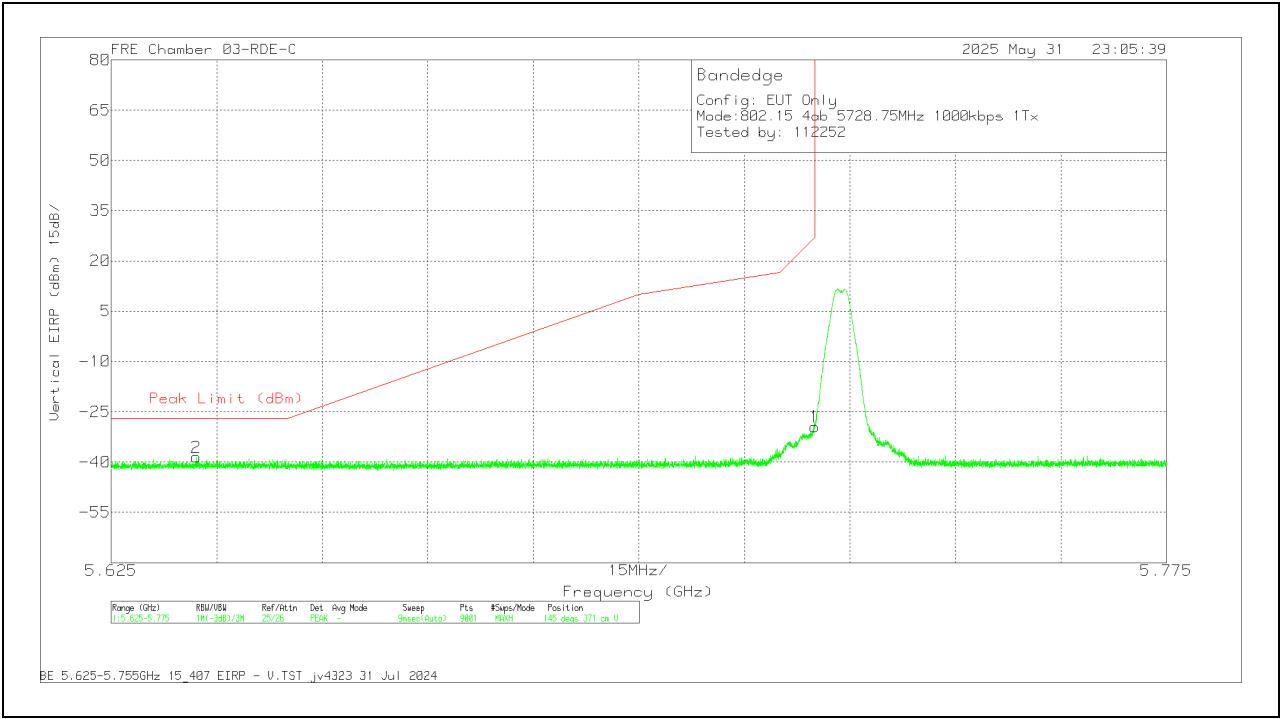
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 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	5.725	-38.3	Pk	34.9	11.8	0	-36.7	-28.3	27	-55.3	210	184	H
2	5.641634	-48.83	Pk	34.8	11.8	0	-36.84	-39.07	-27	-12.07	210	184	H

Pk - Peak detector

VERTICAL RESULT

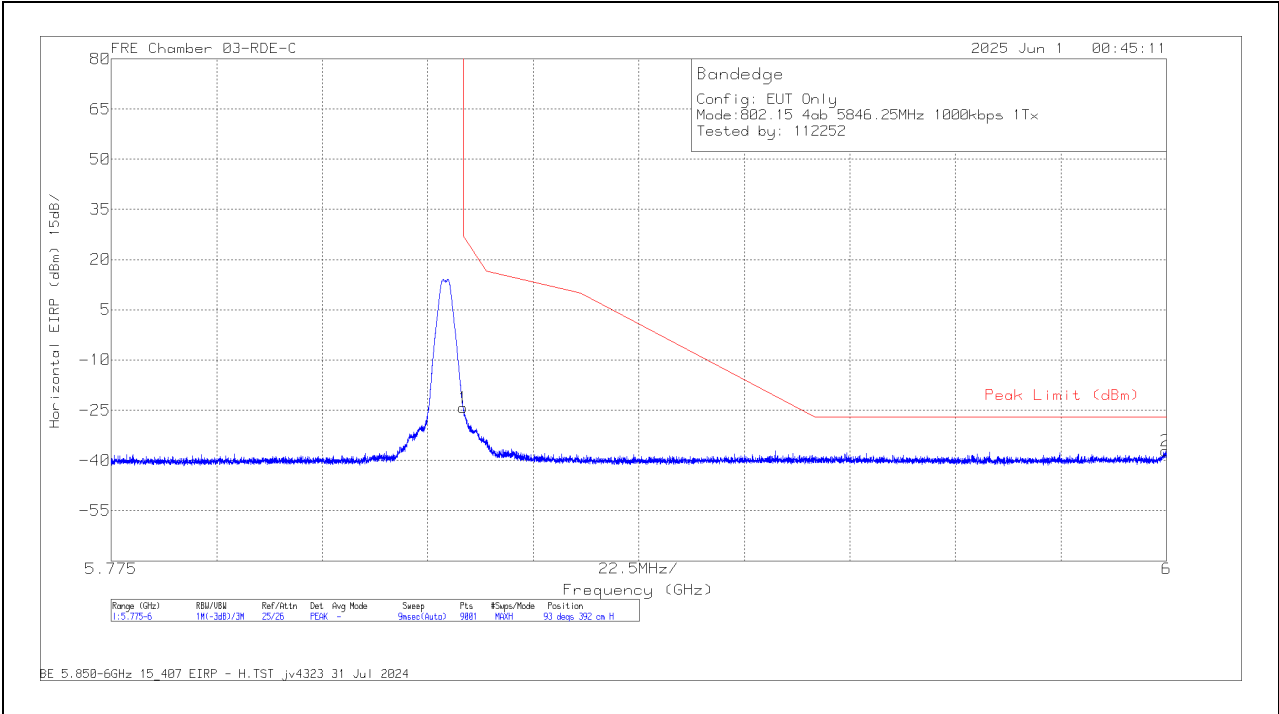


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-39.5	Pk	34.9	11.8	0	-36.7	-29.5	27	-56.5	145	371	V
2	5.637134	-48.34	Pk	34.8	11.8	0	-36.81	-38.55	-27	-11.55	145	371	V

Pk - Peak detector

BANDEDGE (HIGH CHANNEL)

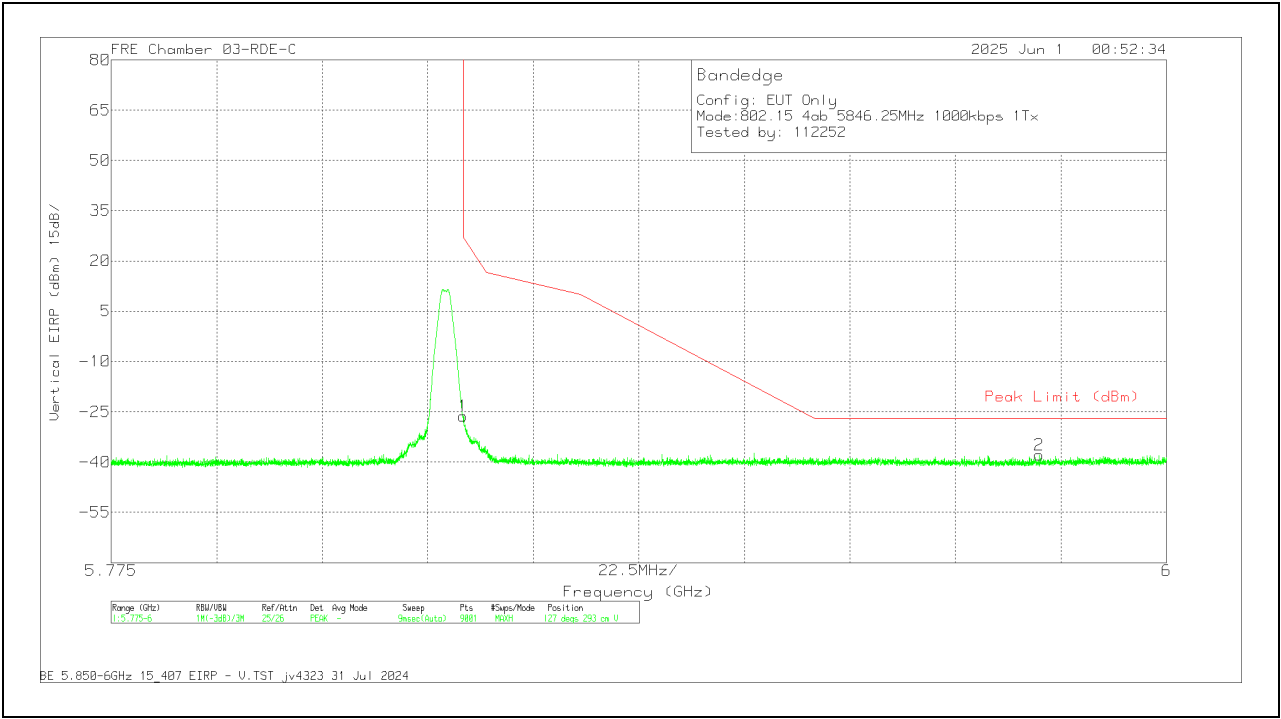
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 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	-34.87	Pk	35.1	11.8	0	-36.2	-24.17	27	-51.17	93	392	H
2	5.99985	-48.12	Pk	35.3	11.8	0	-36.19	-37.21	-27	-10.21	93	392	H

Pk - Peak detector

VERTICAL RESULT

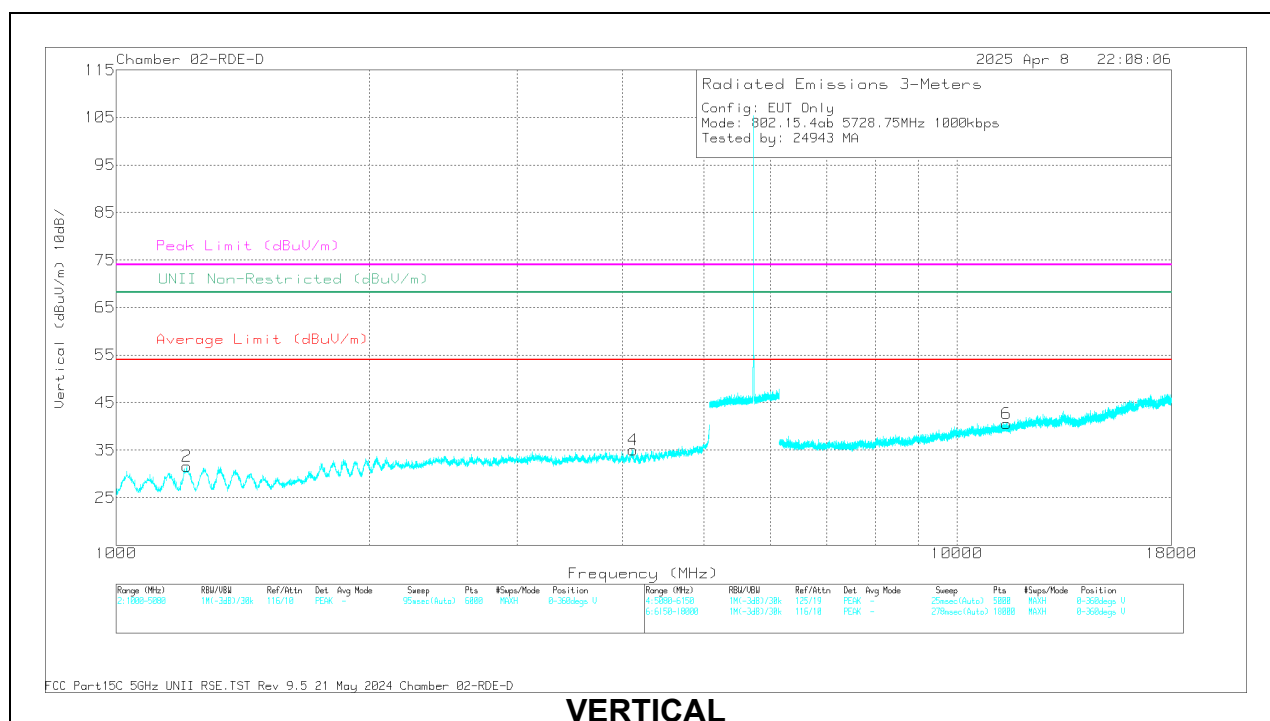
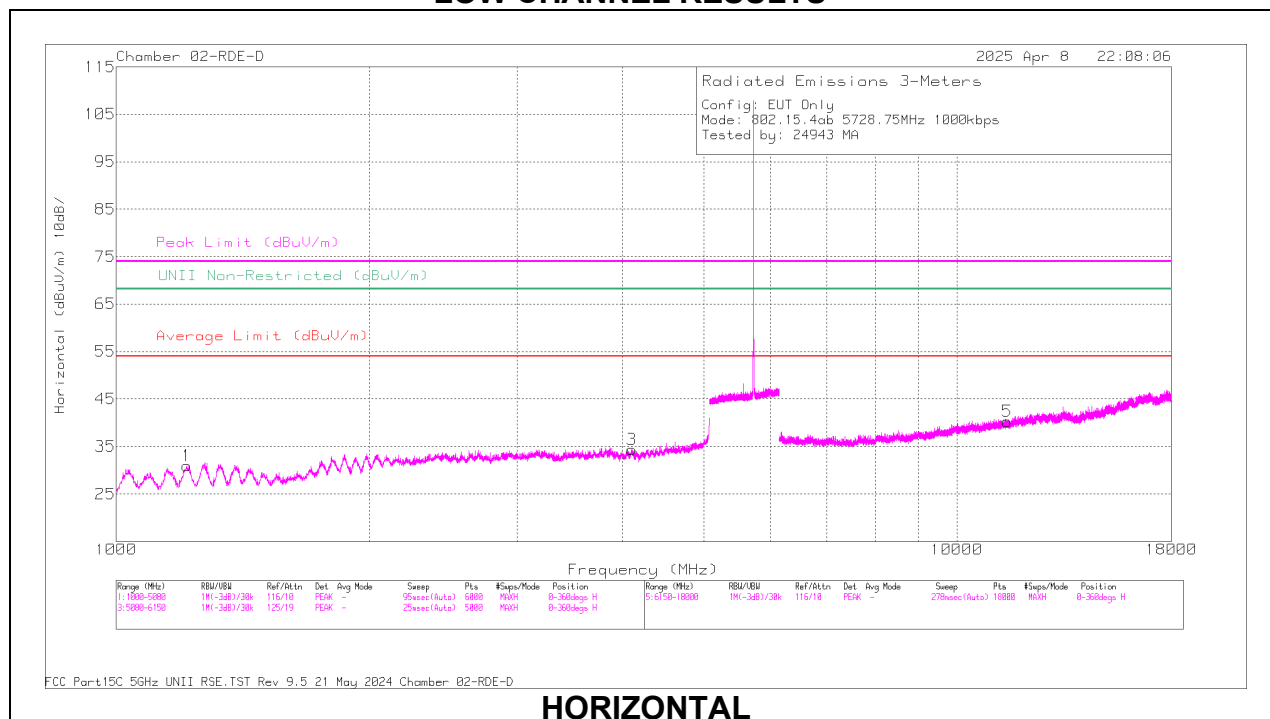


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-37.02	Pk	35.1	11.8	0	-36.2	-26.32	27	-53.32	127	293	V
2	5.9729	-48.69	Pk	35.2	11.8	0	-36.2	-37.89	-27	-10.89	127	293	V

Pk - Peak detector

10.1.6. ANT 5, 1000Kbps HIGH POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

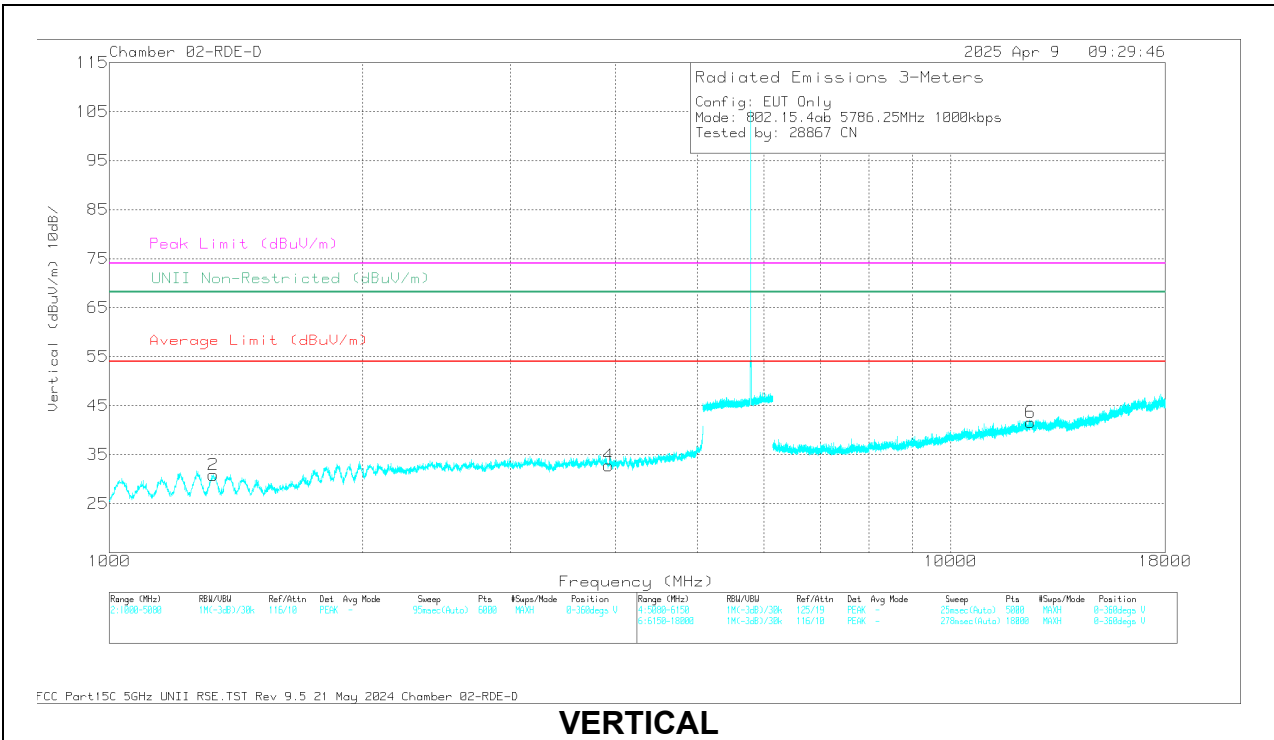
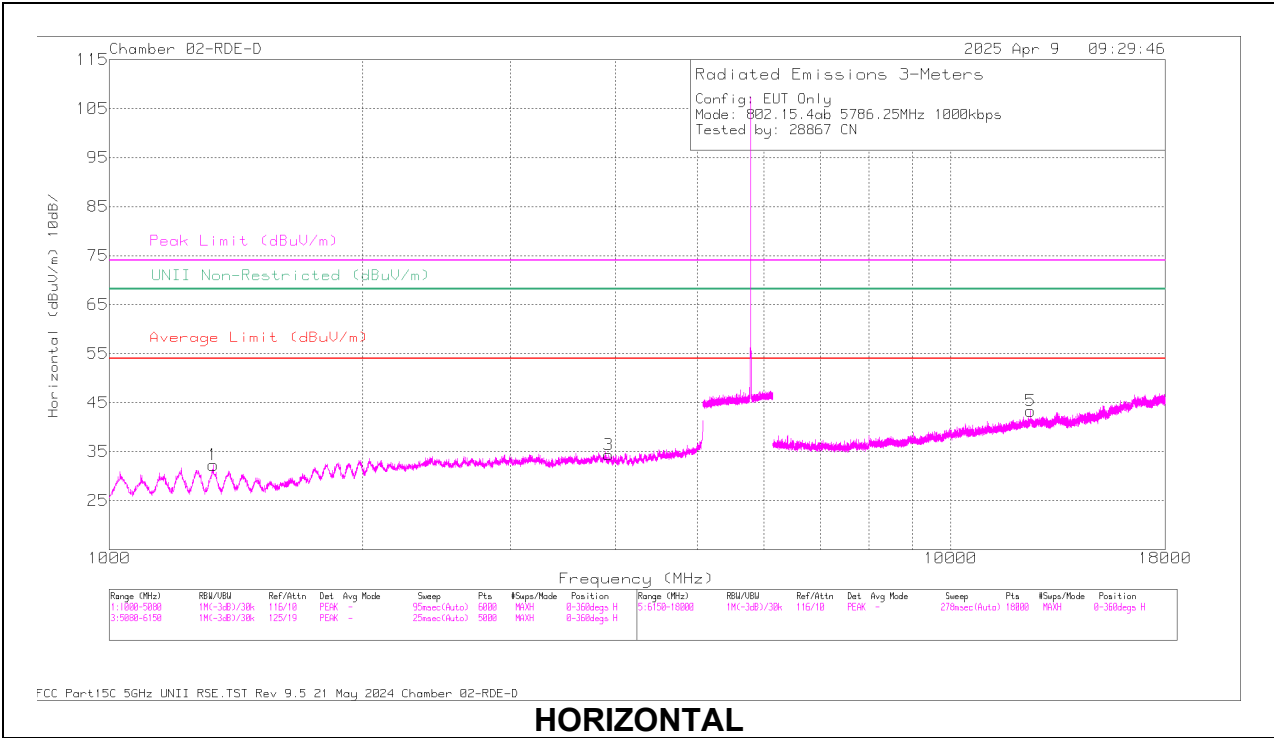
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1215.872	60.55	PK-U	28.8	-48.8	0	40.55	-	-	74	-33.45	-	-	360	101	H
	* 1212.152	48.89	ADR	28.8	-48.8	6.39	35.28	54	-18.72	-	-	-	-	360	101	H
2	* 1213.145	60.64	PK-U	28.8	-48.8	0	40.64	-	-	74	-33.36	-	-	360	199	V
	* 1215.499	48.89	ADR	28.8	-48.8	6.39	35.28	54	-18.72	-	-	-	-	360	199	V
3	* 4109.8	57.76	PK-U	33.4	-46	0	45.16	-	-	74	-28.84	-	-	360	199	H
	* 4101.9	44.9	ADR	33.4	-46.2	6.39	38.49	54	-15.51	-	-	-	-	360	199	H
4	* 4107.368	56.59	PK-U	33.4	-46	0	43.99	-	-	74	-30.01	-	-	360	101	V
	* 4105.588	44.82	ADR	33.4	-46.1	6.39	38.51	54	-15.49	-	-	-	-	360	101	V
5	* 11477.62	52.32	PK-U	38.3	-40.6	0	50.02	-	-	74	-23.98	-	-	360	199	H
	* 11480.415	40.44	ADR	38.3	-40.6	6.39	44.53	54	-9.47	-	-	-	-	360	199	H
6	* 11442.569	51.97	PK-U	38.3	-40.4	0	49.87	-	-	74	-24.13	-	-	360	101	V
	* 11469.702	40.26	ADR	38.3	-40.5	6.39	44.45	54	-9.55	-	-	-	-	360	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

MID CHANNEL RESULTS



RADIATED EMISSIONS

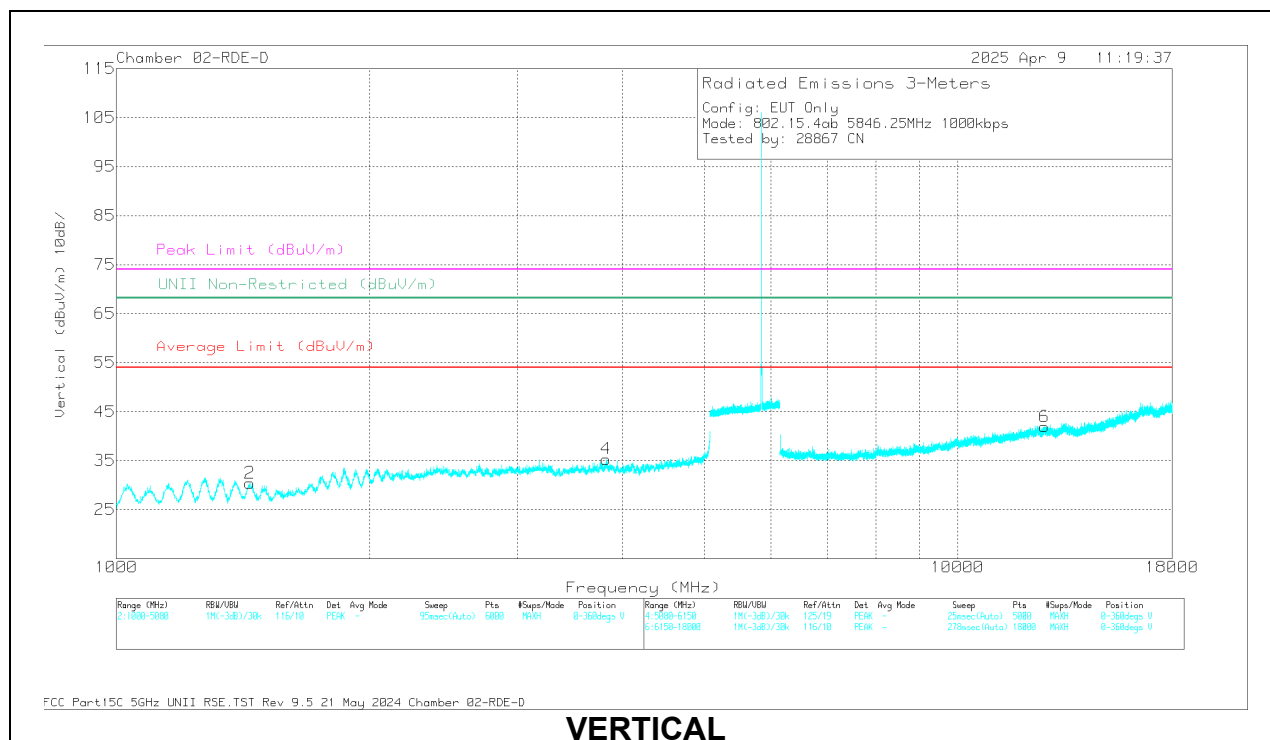
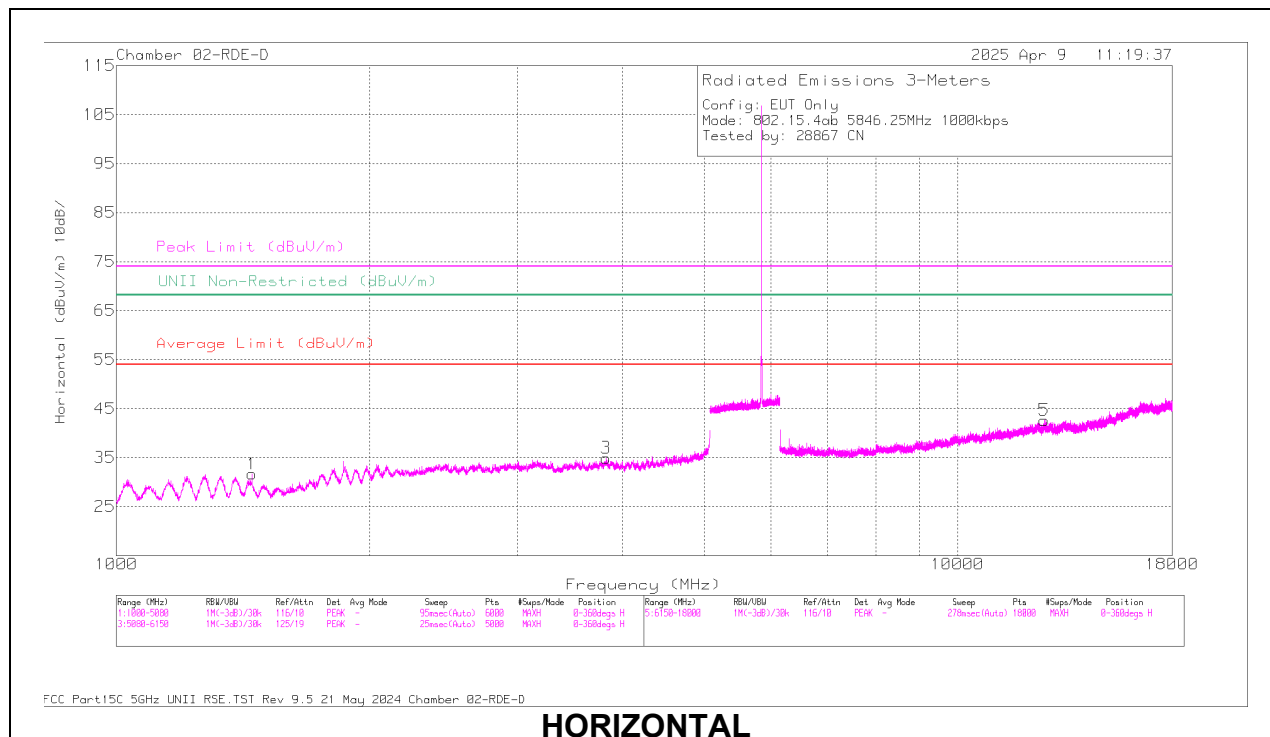
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Fitr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1329.711	60.63	PK-U	28.8	-48.9	0	40.53	-	-	74	-33.47	-	-	245	238	V
	* 1330.225	48.84	ADR	28.8	-48.9	6.39	35.13	54	-18.87	-	-	-	-	245	238	V
2	* 1330.611	61.21	PK-U	28.8	-48.9	0	41.11	-	-	74	-32.89	-	-	132	248	H
	* 1330.131	48.83	ADR	28.8	-48.9	6.39	35.12	54	-18.88	-	-	-	-	132	248	H
3	* 3935.962	55.35	PK-U	33.4	-45.7	0	43.05	-	-	74	-30.95	-	-	112	226	H
	* 3939.982	43.84	ADR	33.4	-45.6	6.39	38.03	54	-15.97	-	-	-	-	112	226	H
4	* 3931.449	55.63	PK-U	33.4	-45.5	0	43.53	-	-	74	-30.47	-	-	166	138	V
	* 3933.762	43.68	ADR	33.4	-45.7	6.39	37.77	54	-16.23	-	-	-	-	166	138	V
5	* 12473.671	52.04	PK-U	39	-39.5	0	51.54	-	-	74	-22.46	-	-	267	145	H
	* 12472.164	40.12	ADR	39	-39.7	6.39	45.81	54	-8.19	-	-	-	-	267	145	H
6	* 12457.679	51.93	PK-U	39	-39.4	0	51.53	-	-	74	-22.47	-	-	312	220	V
	* 12445.808	40.08	ADR	39	-39.2	6.39	46.27	54	-7.73	-	-	-	-	312	220	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

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Filtr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1444.025	60.48	PK-U	28.1	-48.6	0	39.98	-	-	74	-34.02	-	-	311	214	H
	* 1442.045	48.6	ADR	28.2	-48.6	6.39	34.59	54	-19.41	-	-	-	-	311	214	H
2	1434.49	60.48	PK-U	28.2	-48.6	0	40.08	-	-	-	-	68.2	-28.12	274	178	V
3	* 3823.319	56.63	PK-U	33.5	-45.6	0	44.53	-	-	74	-29.47	-	-	246	182	H
	* 3815.512	44.34	ADR	33.5	-45.7	6.39	38.53	54	-15.47	-	-	-	-	246	182	H
4	* 3818.619	56.44	PK-U	33.5	-45.5	0	44.44	-	-	74	-29.56	-	-	58	168	V
	* 3818.839	44.33	ADR	33.5	-45.5	6.39	38.72	54	-15.28	-	-	-	-	58	168	V
5	* 12679.879	51.99	PK-U	39.2	-39.4	0	51.79	-	-	74	-22.21	-	-	135	234	H
	* 12683.19	39.93	ADR	39.2	-39.3	6.39	46.22	54	-7.78	-	-	-	-	135	234	H
6	* 12665.354	52.2	PK-U	39.2	-39.5	0	51.9	-	-	74	-22.1	-	-	326	268	V
	* 12664.417	40.05	ADR	39.2	-39.8	6.39	45.84	54	-8.16	-	-	-	-	326	268	V

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

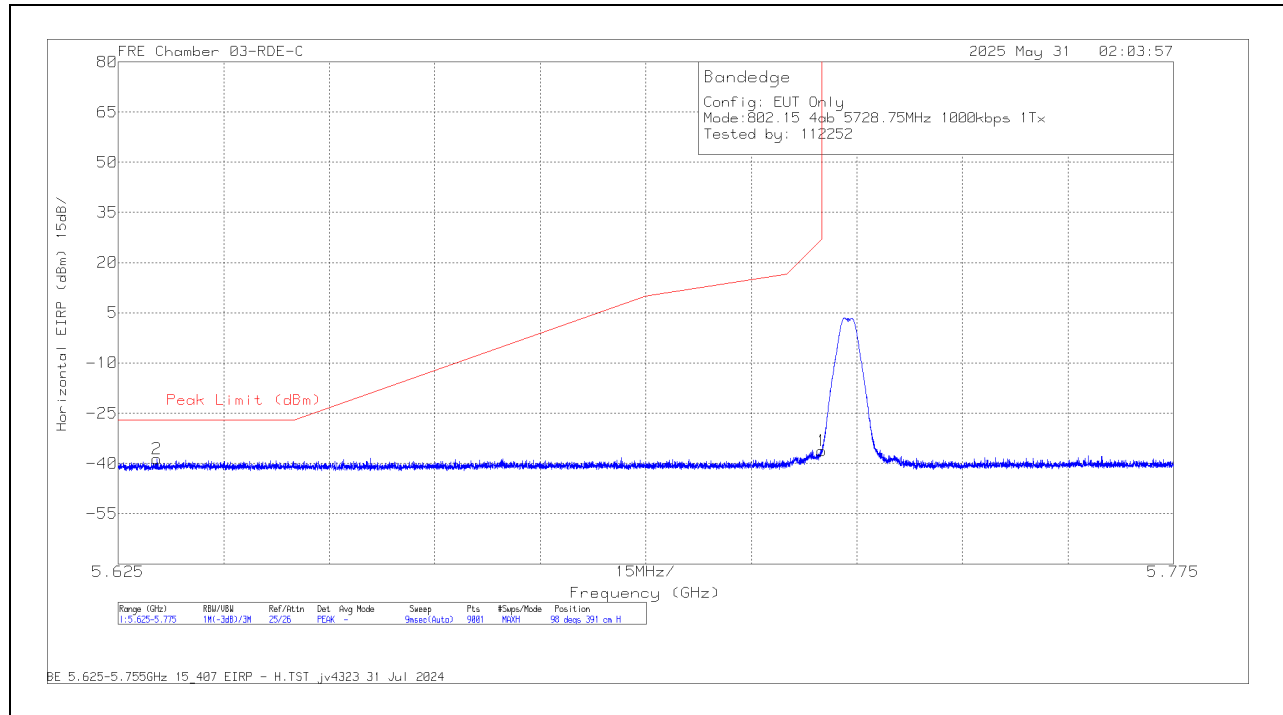
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

10.1.7. ANT 5, 1000Kbps, LOW POWER BAND EDGE IN THE 5.8 GHz BAND

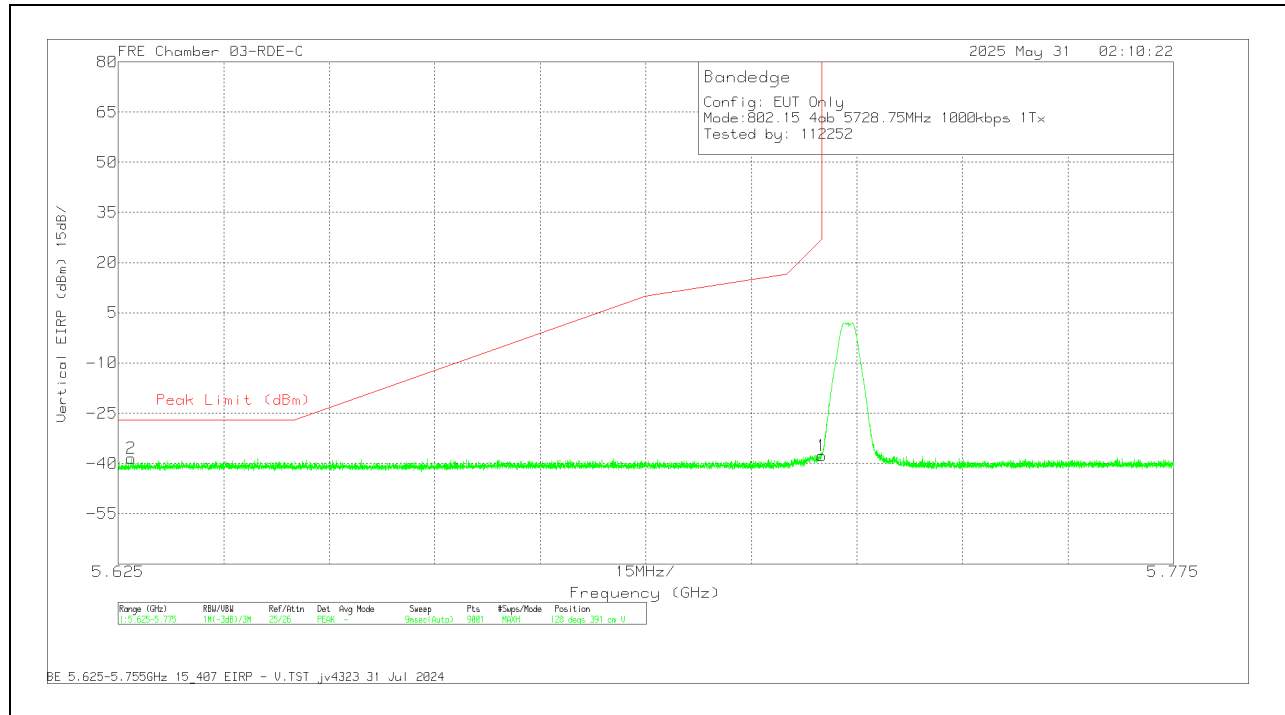
BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



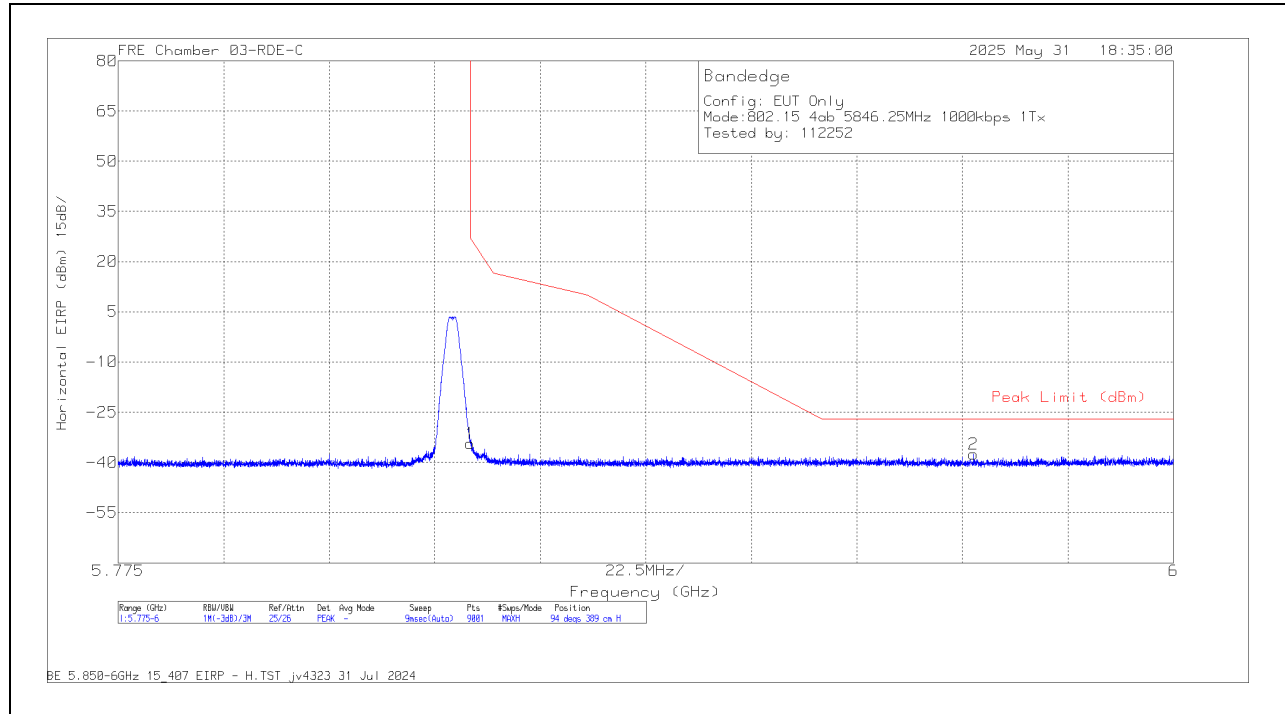
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-46.15	Pk	34.9	11.8	0	-36.7	-36.15	27	-63.15	98	391	H
2	5.630483	-48.17	Pk	34.8	11.8	0	-37	-38.57	-27	-11.57	98	391	H

Pk - Peak detector

VERTICAL RESULT

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 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	5.725	-47.74	Pk	34.9	11.8	0	-36.7	-37.74	27	-64.74	128	391	V
2	5.626833	-48.03	Pk	34.8	11.8	0	-37	-38.43	-27	-11.43	128	391	V

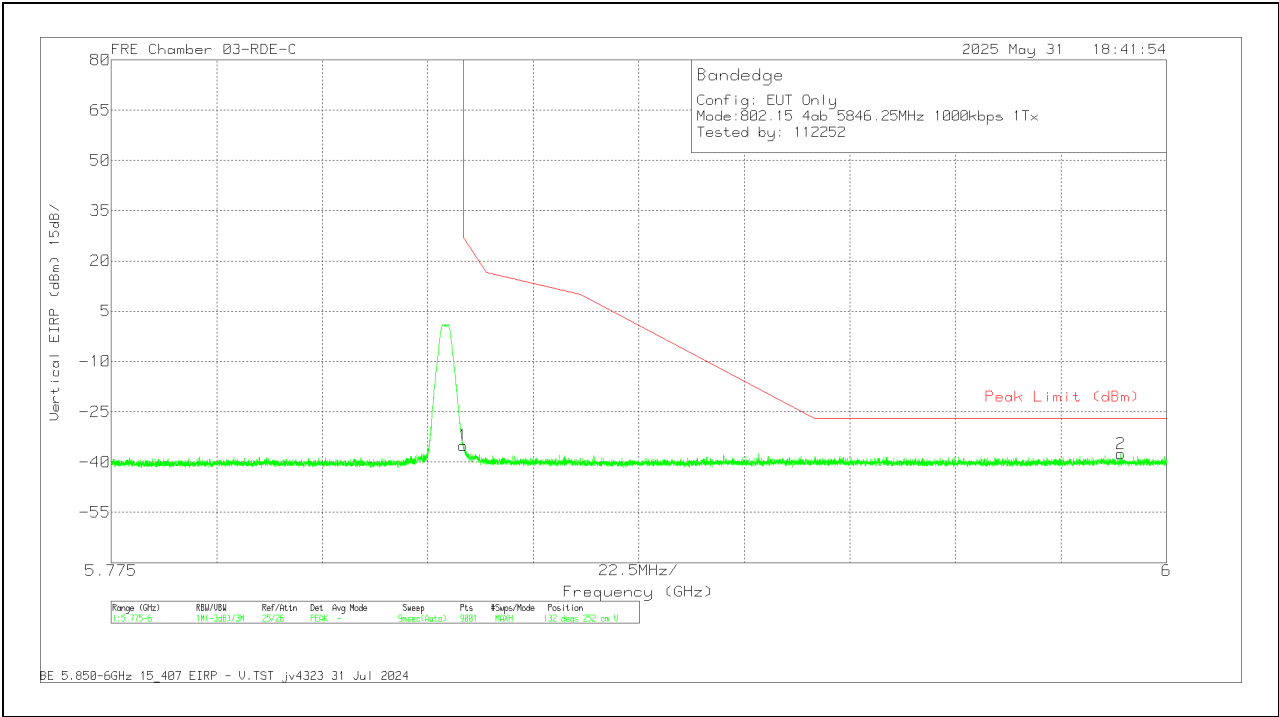
Pk - Peak detector

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 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	-45	Pk	35.1	11.8	0	-36.2	-34.3	27	-61.3	94	389	H
2	5.9574	-48.34	Pk	35.2	11.8	0	-36.24	-37.58	-27	-10.58	94	389	H

Pk - Peak detector

VERTICAL RESULT

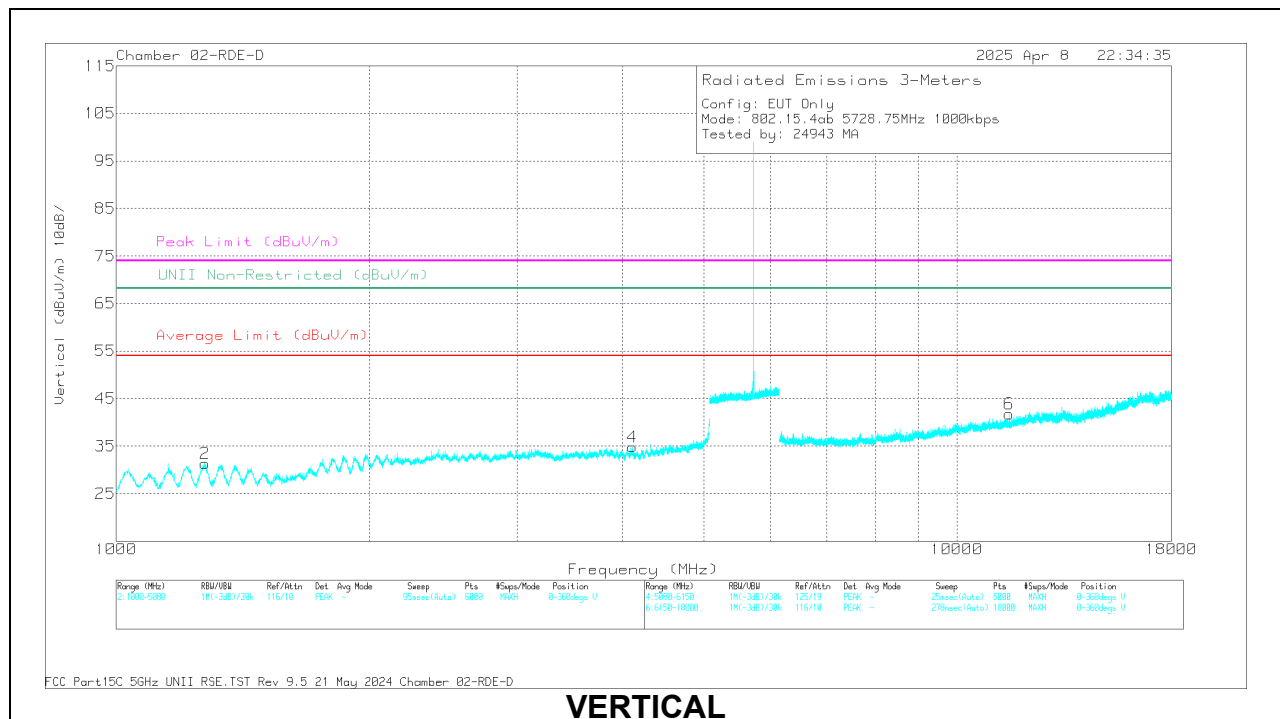
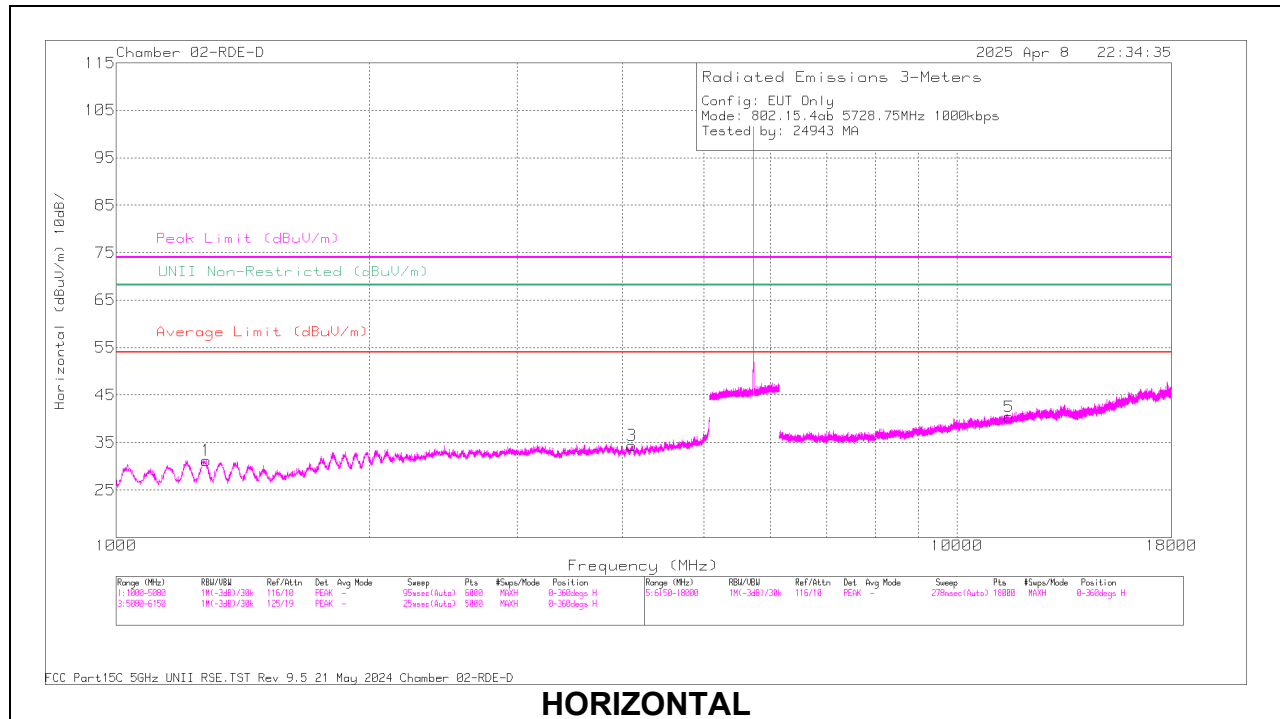


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	84797 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-45.83	Pk	35.1	11.8	0	-36.2	-35.13	27	-62.13	132	252	V
2	5.9903	-48.55	Pk	35.3	11.8	0	-36.1	-37.55	-27	-10.55	132	252	V

Pk - Peak detector

10.1.8. ANT 5, 1000Kbps LOW POWER HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

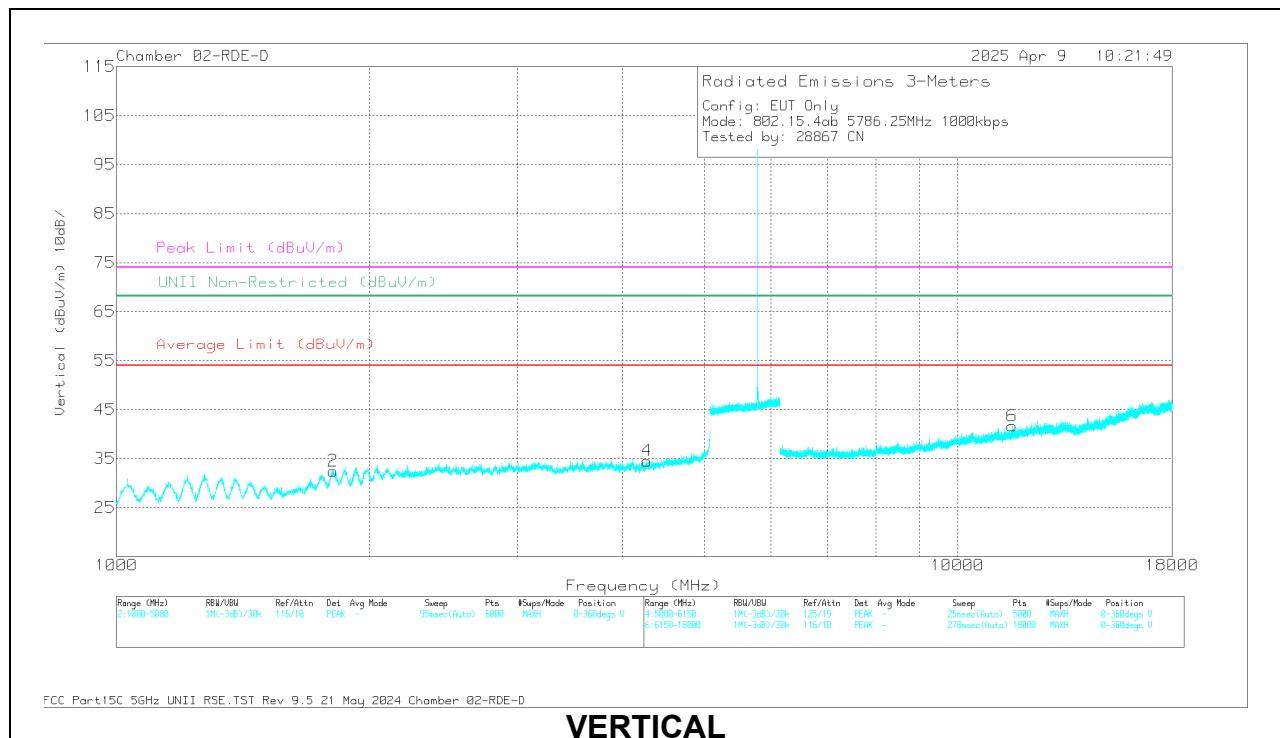
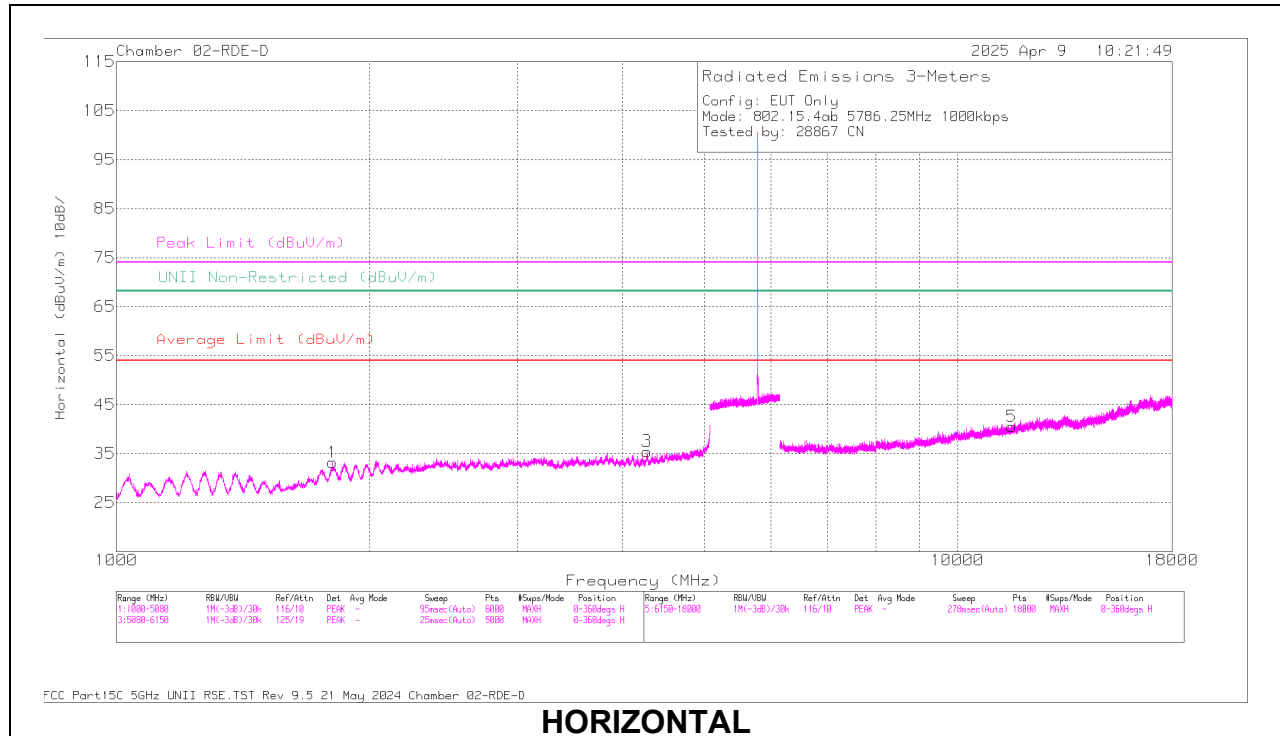
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Filtr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1267.083	60.16	PK-U	29.1	-48.9	0	40.36	-	-	74	-33.64	-	-	360	101	V
	* 1271.829	48.81	ADR	29.1	-49	6.39	35.3	54	-18.7	-	-	-	-	360	101	V
2	* 1277.643	60.34	PK-U	29.2	-48.8	0	40.74	-	-	74	-33.26	-	-	360	199	H
	* 1271.81	48.78	ADR	29.1	-49	6.39	35.27	54	-18.73	-	-	-	-	360	199	H
3	* 4102.24	56.65	PK-U	33.4	-46.2	0	43.85	-	-	74	-30.15	-	-	360	101	H
	* 4102.606	44.89	ADR	33.4	-46.2	6.39	38.48	54	-15.52	-	-	-	-	360	101	H
4	* 4101.494	56.8	PK-U	33.4	-46.2	0	44	-	-	74	-30	-	-	360	101	V
	* 4101.487	44.94	ADR	33.4	-46.2	6.39	38.53	54	-15.47	-	-	-	-	360	101	V
6	* 11529.716	52.45	PK-U	38.2	-40.3	0	50.35	-	-	74	-23.65	-	-	360	200	V
	* 11535.911	40.58	ADR	38.2	-40.3	6.39	44.87	54	-9.13	-	-	-	-	360	200	V
5	* 11522.883	52.55	PK-U	38.2	-40.2	0	50.55	-	-	74	-23.45	-	-	360	199	H
	* 11544.105	40.38	ADR	38.2	-40.2	6.39	44.77	54	-9.23	-	-	-	-	360	199	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

MID CHANNEL RESULTS



RADIATED EMISSIONS

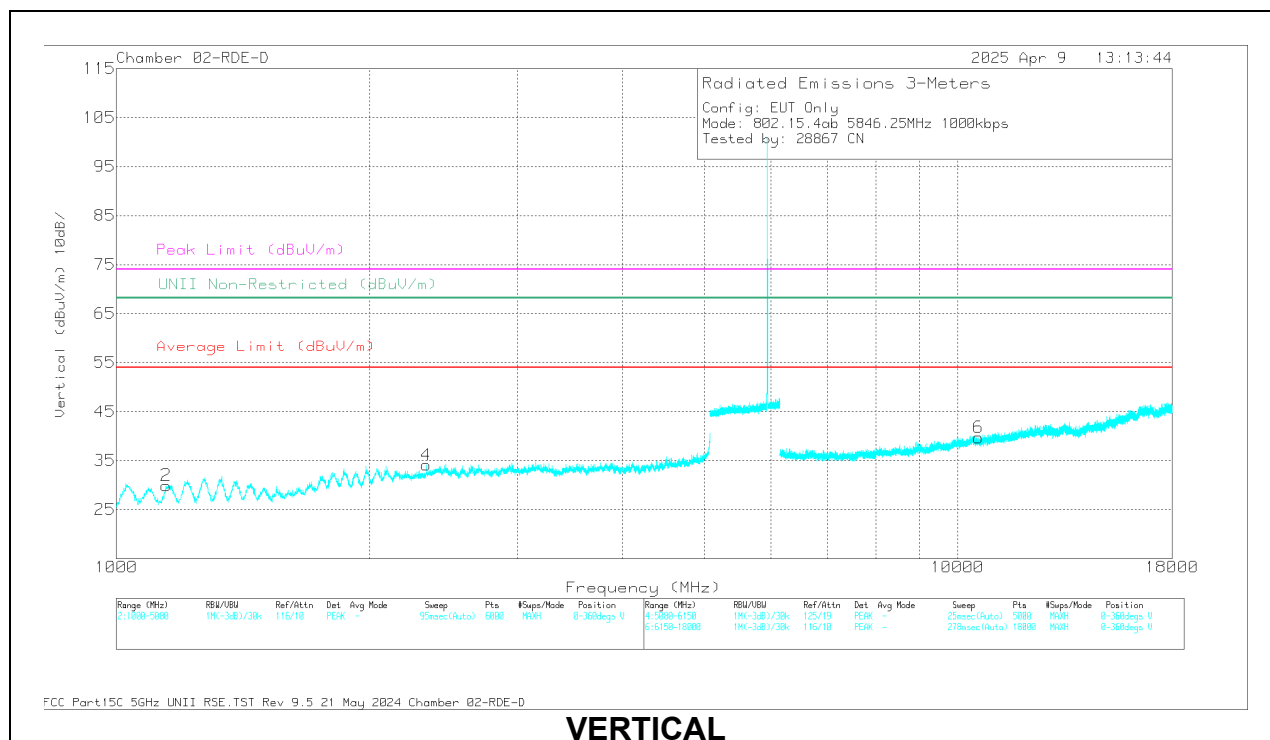
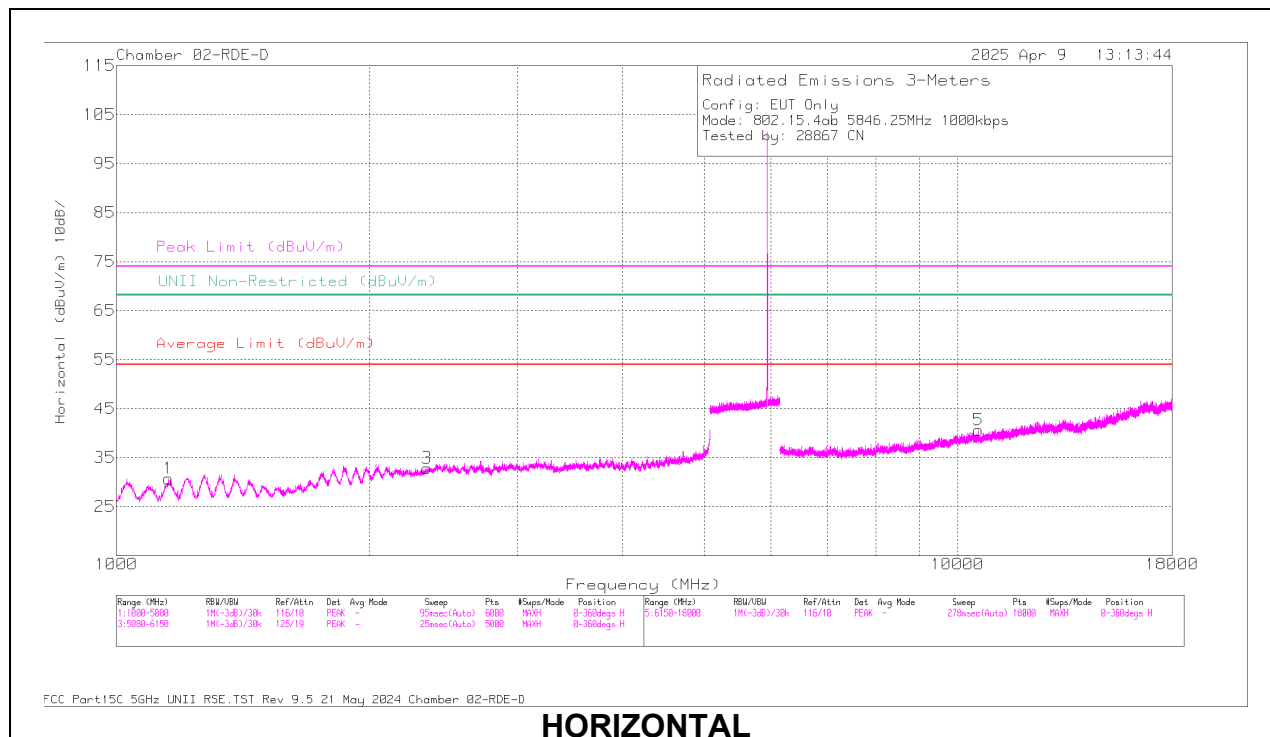
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Filtr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1809.058	60.33	PK-U	30.5	-48.5	0	42.33	-	-	-	-	68.2	-25.87	360	161	H
2	1805.878	60.16	PK-U	30.4	-48.5	0	42.06	-	-	-	-	68.2	-26.14	288	127	V
3	* 4279.748	57.43	PK-U	33.6	-46.4	0	44.63	-	-	74	-29.37	-	-	351	244	H
3	* 4276.128	44.94	ADR	33.6	-46.3	6.39	38.63	54	-15.37	-	-	-	-	351	244	H
4	* 4283.794	56.56	PK-U	33.6	-46.2	0	43.96	-	-	74	-30.04	-	-	274	148	V
4	* 4274.981	44.89	ADR	33.6	-46.3	6.39	38.58	54	-15.42	-	-	-	-	274	148	V
5	* 11618.517	52.61	PK-U	38.3	-40.3	0	50.61	-	-	74	-23.39	-	-	253	207	H
5	* 11590.273	40.16	ADR	38.3	-40.4	6.39	44.45	54	-9.55	-	-	-	-	253	207	H
6	* 11613.567	52.55	PK-U	38.3	-40.3	0	50.55	-	-	74	-23.45	-	-	313	135	V
6	* 11597.282	40.13	ADR	38.3	-40.3	6.39	44.52	54	-9.48	-	-	-	-	313	135	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

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

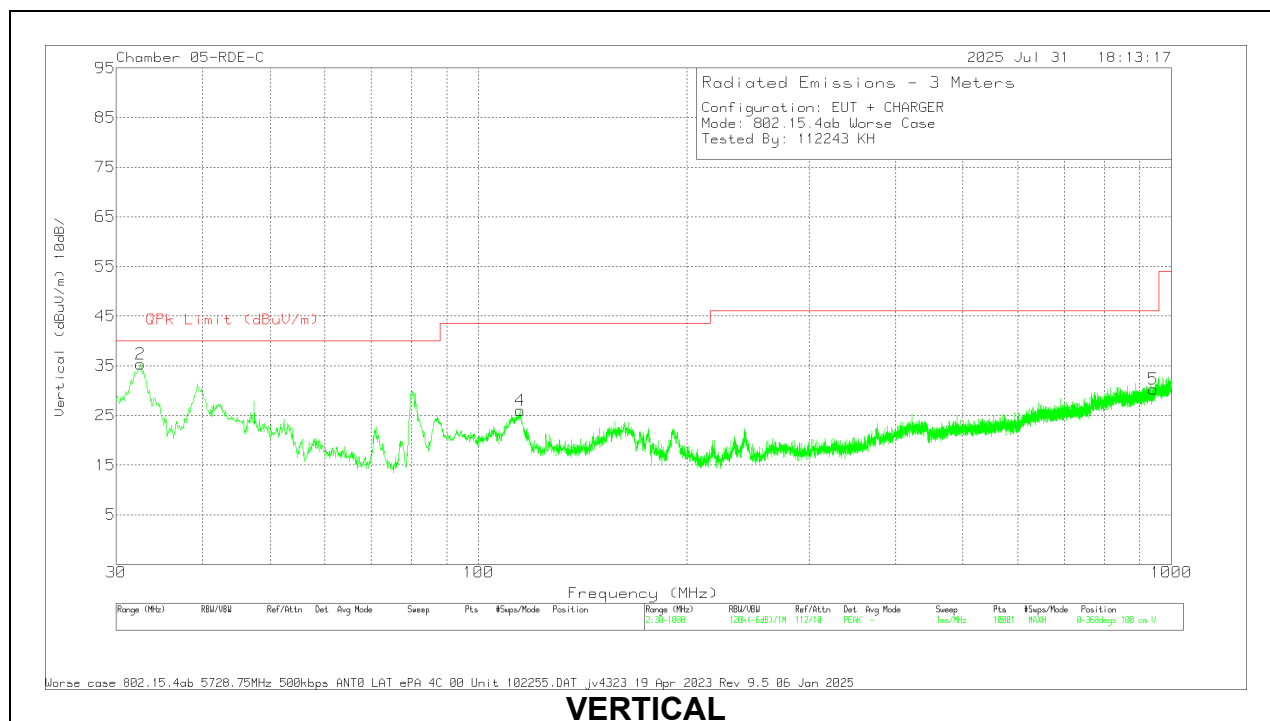
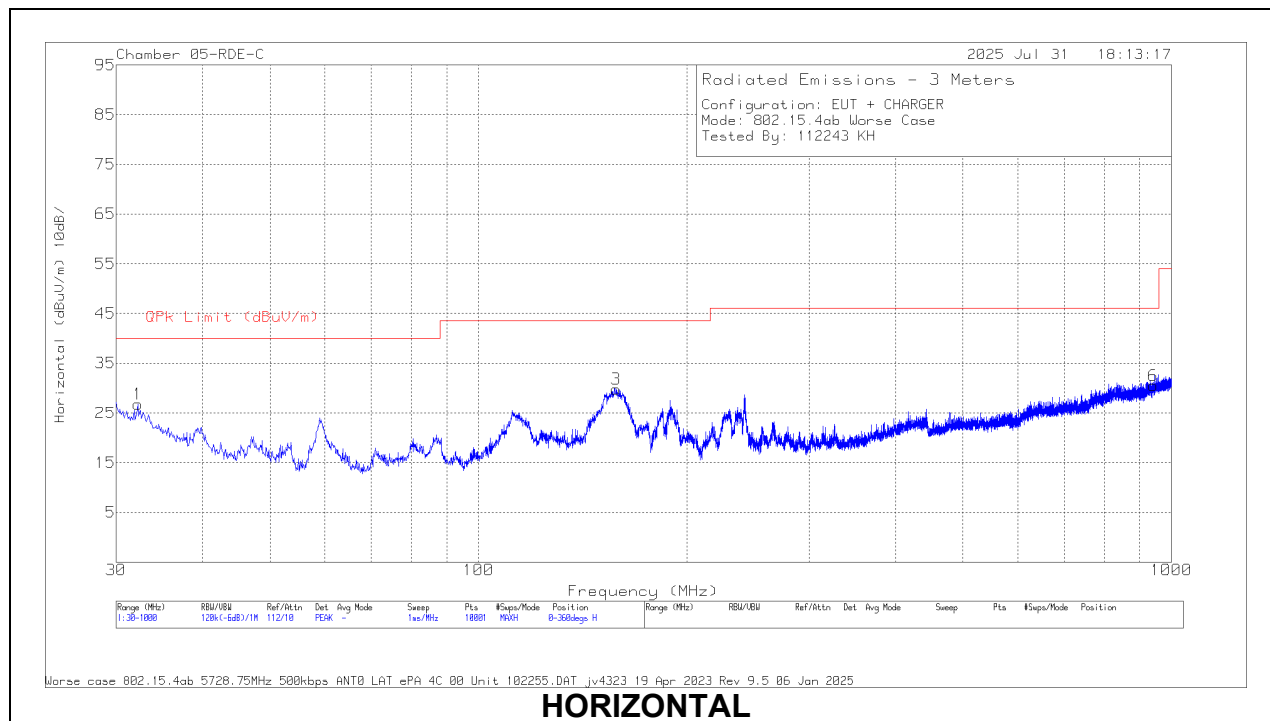
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	Amp/Cbl/Filtr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1156.169	61.22	PK-U	28	-49	0	40.22	-	-	74	-33.78	-	-	276	196	H
	* 1155.255	49.08	ADR	28	-49	6.39	34.47	54	-19.53	-	-	-	-	276	196	H
2	* 1153.941	60.74	PK-U	28	-49	0	39.74	-	-	74	-34.26	-	-	211	155	V
	* 1155.861	49.04	ADR	28	-48.9	6.39	34.53	54	-19.47	-	-	-	-	211	155	V
3	* 2340.313	59.56	PK-U	32	-48.6	0	42.96	-	-	74	-31.04	-	-	237	212	H
	* 2346.185	47.28	ADR	32	-48.5	6.39	37.17	54	-16.83	-	-	-	-	302	163	V
4	* 2353.672	59.3	PK-U	32	-48.4	0	42.9	-	-	74	-31.1	-	-	302	163	V
	* 2347.386	47.29	ADR	32	-48.5	6.39	37.18	54	-16.82	-	-	-	-	237	212	H
5	10596.491	53.02	PK-U	37.7	-41.3	0	49.42	-	-	-	-	68.2	-18.78	285	342	H
	10572.727	53.07	PK-U	37.7	-41.6	0	49.17	-	-	-	-	68.2	-19.03	192	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

10.2. WORST CASE BELOW 1 GHz



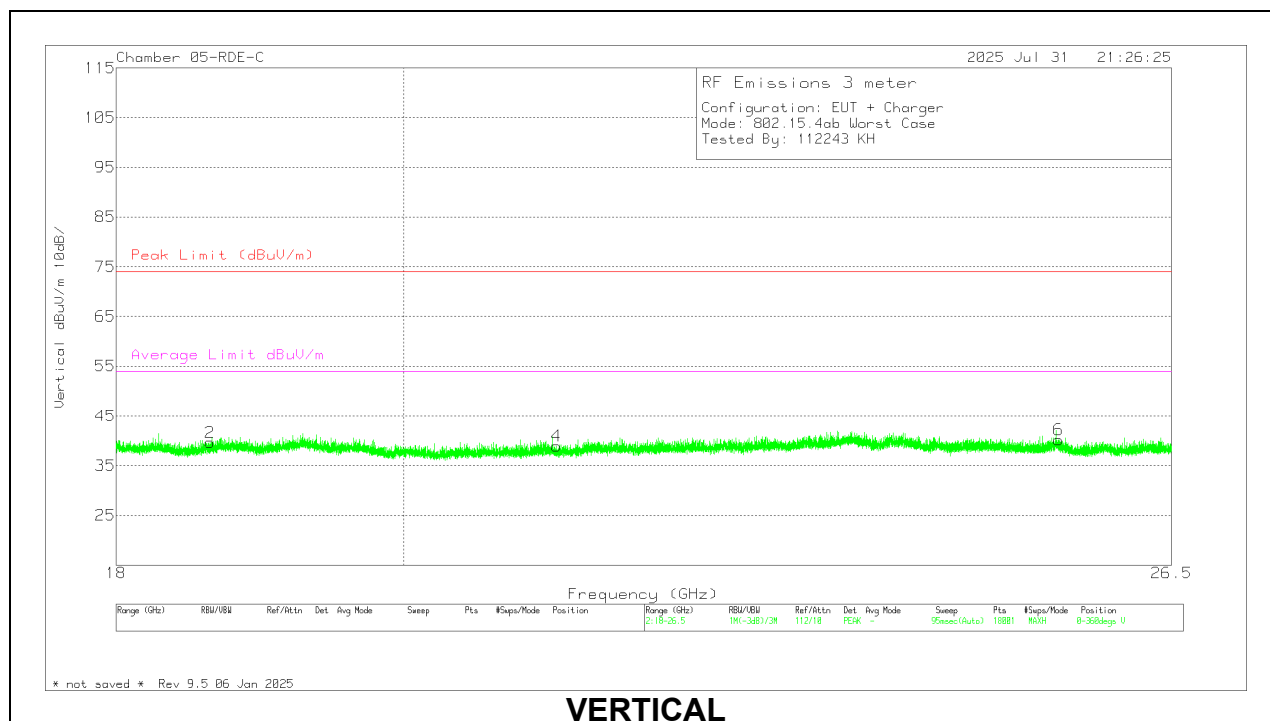
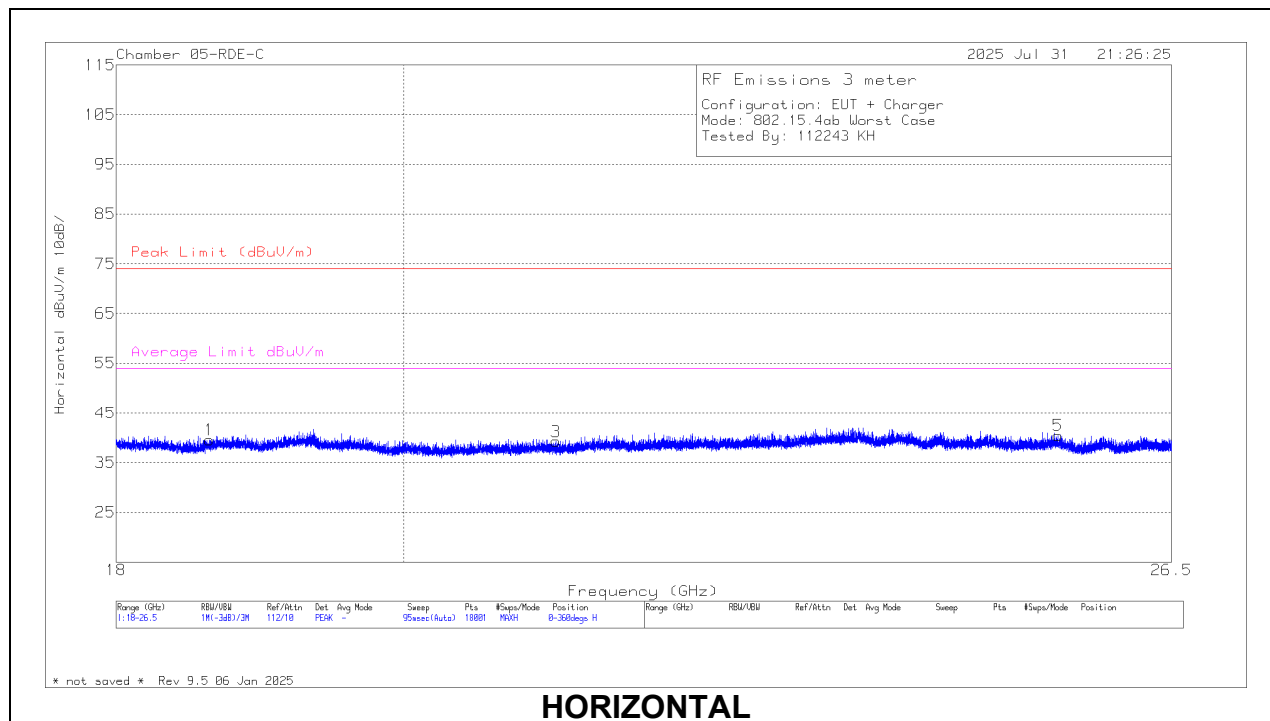
Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	171863 ACF (dB/m)	CBL AMP (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	32.231	32.81	Pk	25.2	-31.2	0	26.81	40	-13.19	0-360	198	H
2	32.522	41.4	Pk	25	-31.1	0	35.3	40	-4.7	0-360	100	V
4	114.778	37.06	Pk	19.4	-30.5	0	25.96	43.52	-17.56	0-360	100	V
3	158.137	41.83	Pk	18	-30	0	29.83	43.52	-13.69	0-360	198	H
6	941.121	29.19	Pk	28.4	-27.1	0	30.49	46.02	-15.53	0-360	399	H
5	941.412	29.12	Pk	28.4	-27.2	0	30.32	46.02	-15.7	0-360	199	V

Frequency (MHz)	Meter Reading (dBuV)	Det	171863 ACF (dB/m)	CBL AMP (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
32.4446	37.16	Qp	25.1	-31.1	3.62	34.78	40	-5.22	259	103	V

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

Qp - Quasi-Peak detector

10.3. WORST CASE 18-26 GHz

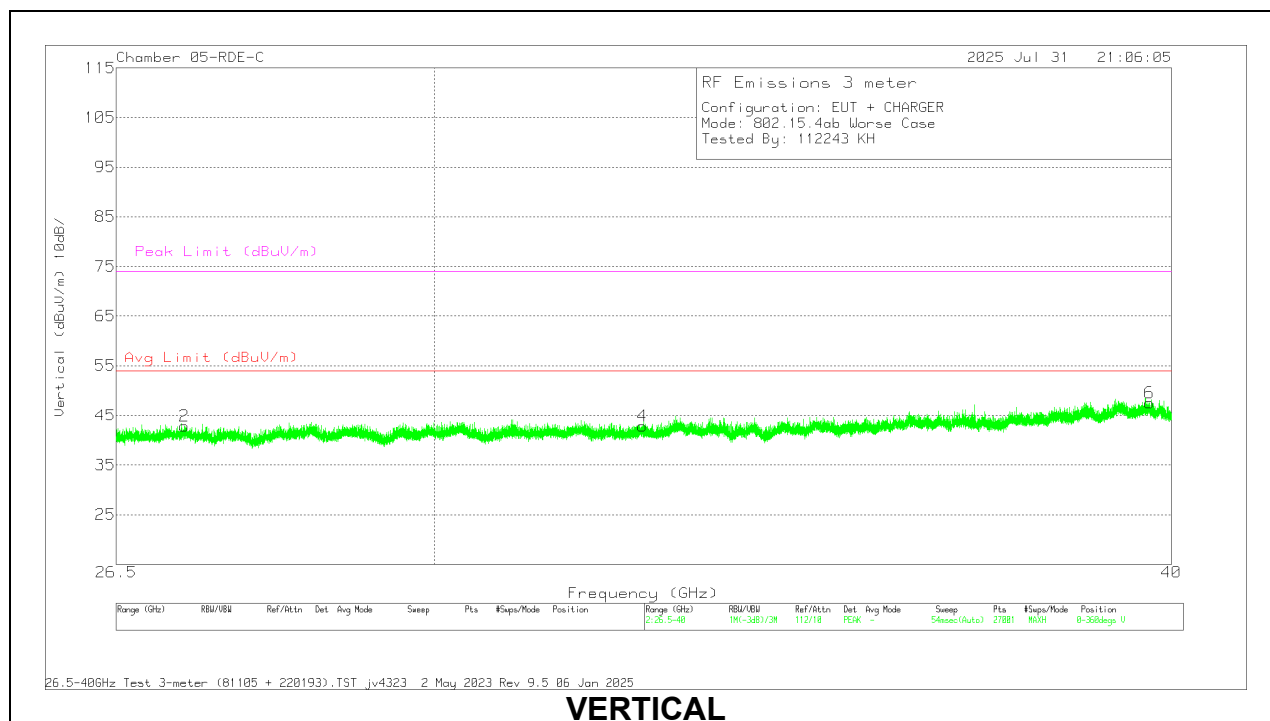
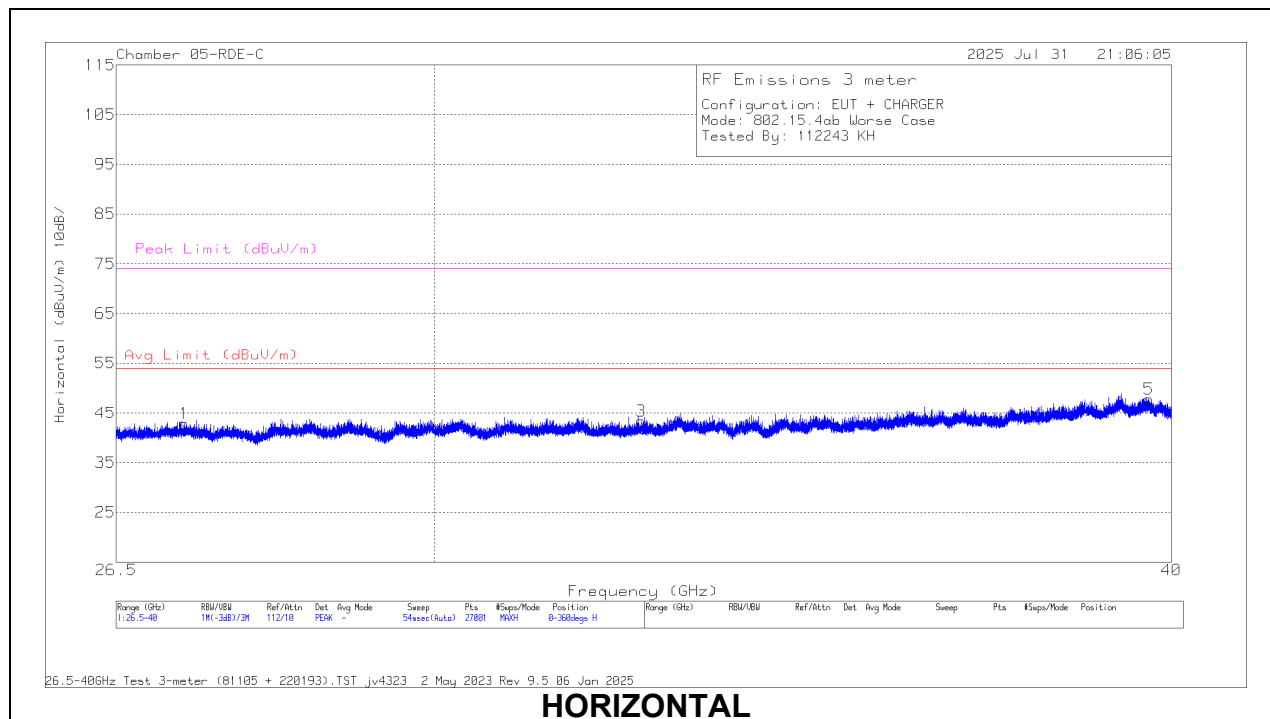
18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81139 ACF (dB/m)	CBL/AMP (dB)	Amp/Cbl/Fitr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.625222	55.93	Pk	32.6	-62.2	13.2	0	39.53	74	-34.47	-	-	0-360	199	H
2	18.628055	56.04	Pk	32.6	-62.2	13.2	0	39.64	74	-34.36	-	-	0-360	101	V
3	21.150665	54.06	Pk	33.4	-62.4	14.2	0	39.26	74	-34.74	-	-	0-360	101	H
4	21.153971	53.71	Pk	33.4	-62.4	14.2	0	38.91	74	-35.09	-	-	0-360	199	V
5	25.420024	53.23	Pk	34.3	-62.7	15.6	0	40.43	74	-33.57	-	-	0-360	101	H
6	25.42758	53	Pk	34.3	-62.7	15.6	0	40.2	74	-33.8	-	-	0-360	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

10.4. WORST CASE 26-40 GHz

26 – 40GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81105 ACF (dB/m)	CBL/AMP (dB)	Amp/Cbl/Fitr (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	27.211	57.22	Pk	35.8	-66.4	16.2	0	42.82	-	-	74	-31.18	0-360	101	H
2	27.2165	57.27	Pk	35.8	-66.4	16.2	0	42.87	-	-	74	-31.13	0-360	101	V
3	32.528	52.51	Pk	36.4	-63.5	17.9	0	43.31	-	-	74	-30.69	0-360	199	H
4	32.539	52.2	Pk	36.4	-63.6	17.9	0	42.9	-	-	74	-31.1	0-360	200	V
5	39.6475	53.94	Pk	38.6	-64.9	20.1	0	47.74	-	-	74	-26.26	0-360	101	H
6	39.661	53.75	Pk	38.6	-64.9	20.1	0	47.55	-	-	74	-26.45	0-360	200	V

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

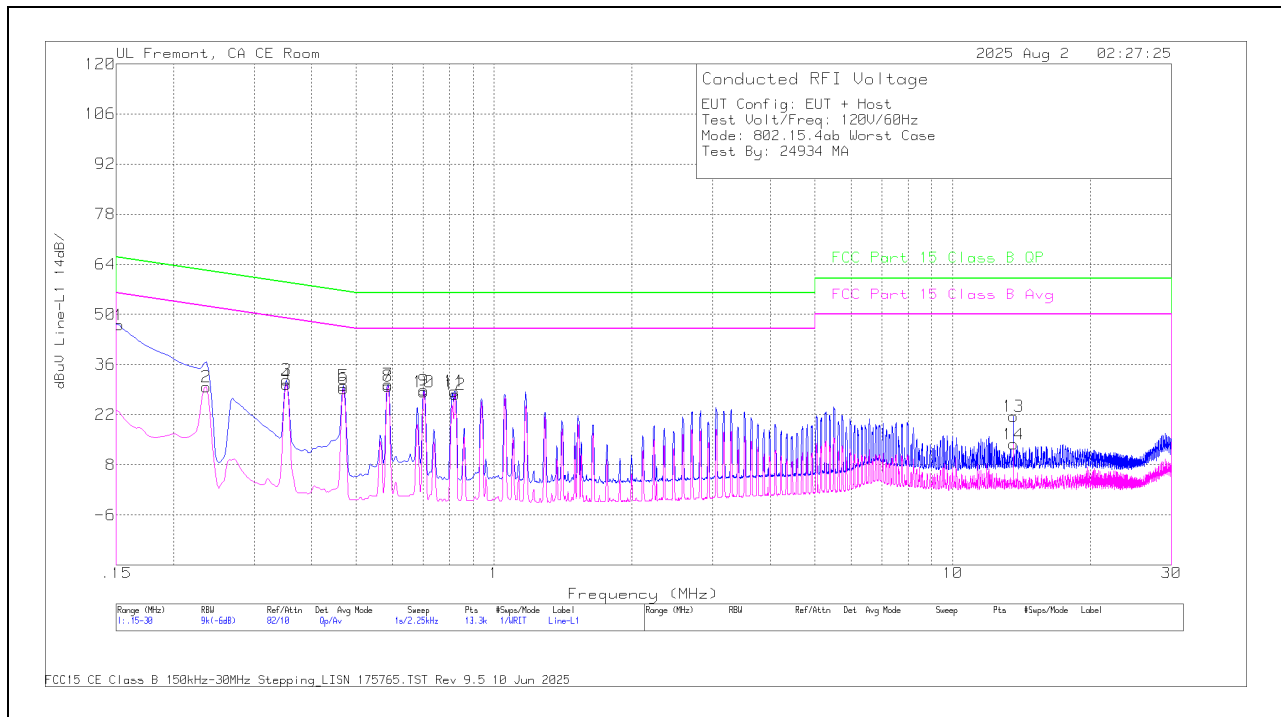
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line WITH LAPTOP

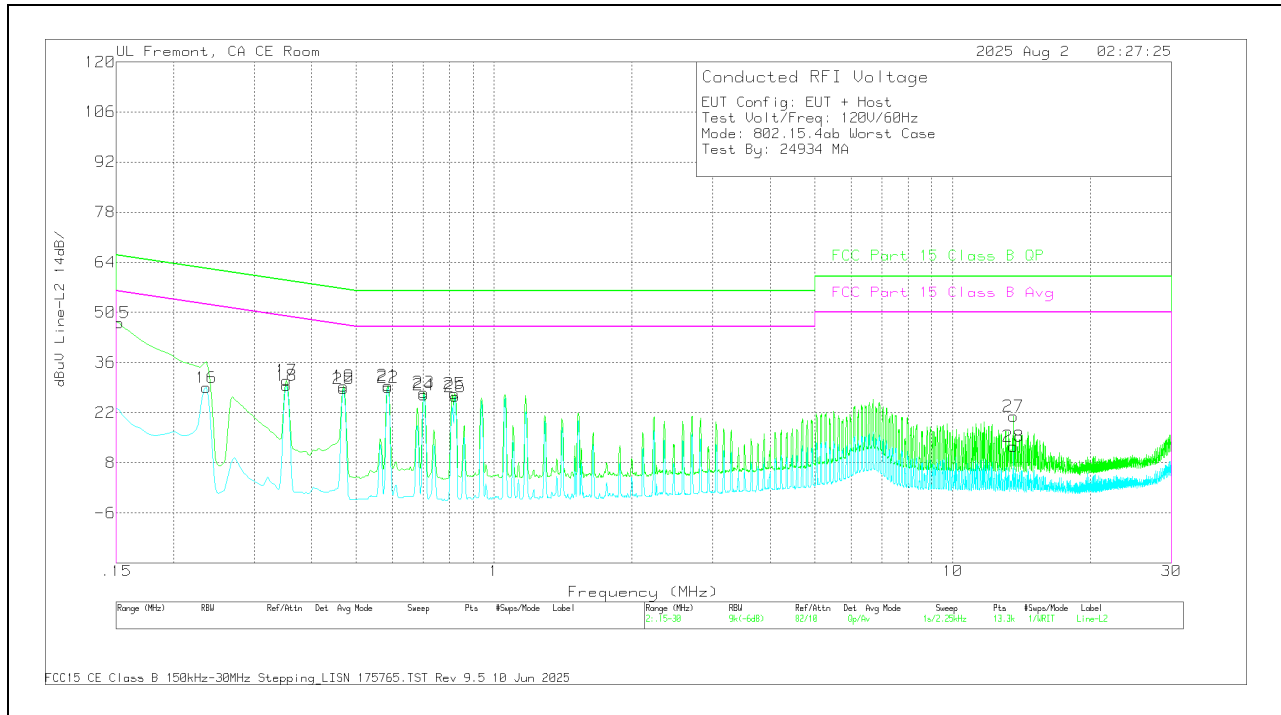
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	LISN (dB)	Line 1 C3_C1_Limiter no Pad_UL (dB)	Corrected Reading (dBUV)	FCC Part 15 Class B QP (dBUV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBUV)	Av Margin (dB)
2	.2355	20.37	Av	0	9.4	29.77	-	-	52.25	-22.48
4	.3525	21.07	Av	0	9.4	30.47	-	-	48.9	-18.43
6	.4695	19.89	Av	0	9.4	29.29	-	-	46.52	-17.23
8	.5865	20.65	Av	0	9.3	29.95	-	-	46	-16.05
10	.7035	18.99	Av	0	9.3	28.29	-	-	46	-17.71
12	.8228	18.3	Av	0	9.4	27.7	-	-	46	-18.3
14	13.56	4.13	Av	.1	9.5	13.73	-	-	50	-36.27
1	.1523	37.53	Qp	.1	9.4	47.03	65.88	-18.85	-	-
3	.3525	22.25	Qp	0	9.4	31.65	58.9	-27.25	-	-
5	.4695	20.75	Qp	0	9.4	30.15	56.52	-26.37	-	-
7	.5865	21.1	Qp	0	9.3	30.4	56	-25.6	-	-
9	.7035	19.51	Qp	0	9.3	28.81	56	-27.19	-	-
11	.8205	19.14	Qp	0	9.4	28.54	56	-27.46	-	-
13	13.56	11.9	Qp	.1	9.5	21.5	60	-38.5	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS

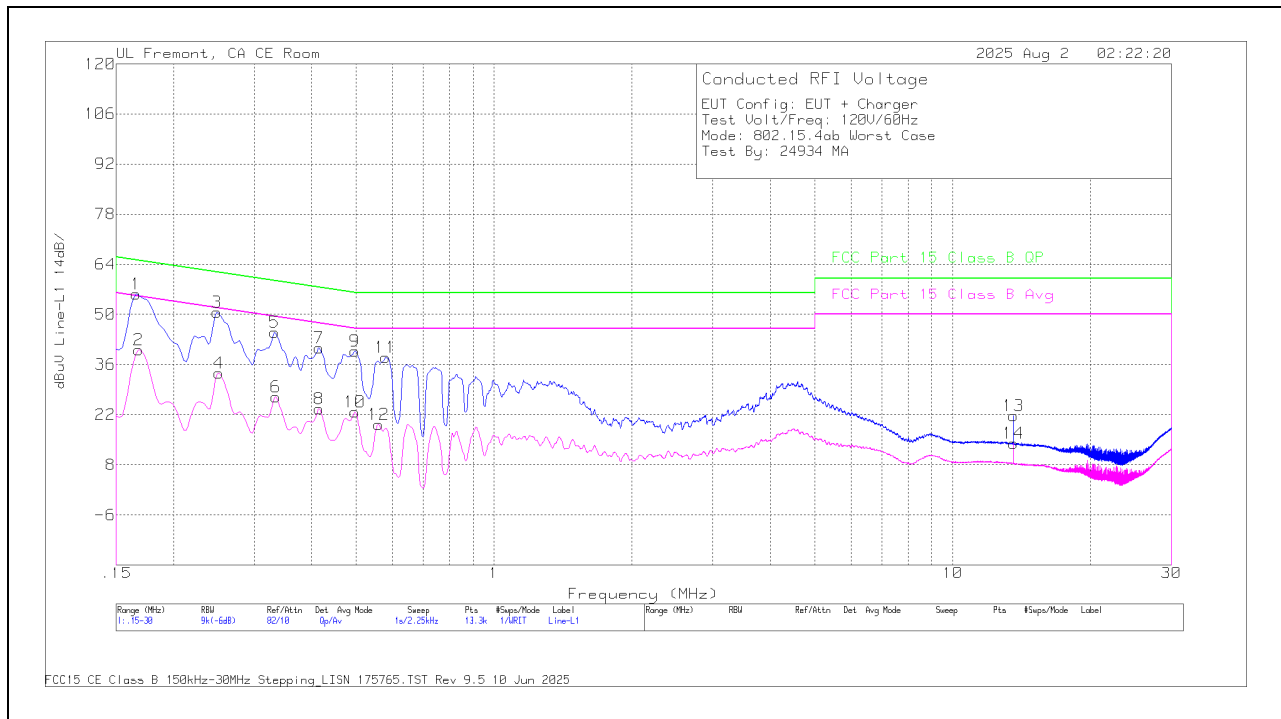


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_Limiter no Pad_UL (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av Margin (dB)
16	.2355	19.58	Av	0	9.4	28.98	-	-	52.25	-23.27
18	.3525	20.34	Av	0	9.3	29.64	-	-	48.9	-19.26
20	.4695	19.33	Av	0	9.3	28.63	-	-	46.52	-17.89
22	.5865	19.78	Av	0	9.3	29.08	-	-	46	-16.92
24	.7035	17.7	Av	0	9.3	27	-	-	46	-19
26	.8228	17.21	Av	0	9.3	26.51	-	-	46	-19.49
28	13.56	2.92	Av	.1	9.5	12.52	-	-	50	-37.48
15	.1523	37.55	Qp	.1	9.4	47.05	65.88	-18.83	-	-
17	.3525	21.67	Qp	0	9.3	30.97	58.9	-27.93	-	-
19	.4695	20.12	Qp	0	9.3	29.42	56.52	-27.1	-	-
21	.5865	20.27	Qp	0	9.3	29.57	56	-26.43	-	-
23	.7035	18.29	Qp	0	9.3	27.59	56	-28.41	-	-
25	.8205	17.96	Qp	0	9.3	27.26	56	-28.74	-	-
27	13.56	11.47	Qp	.1	9.5	21.07	60	-38.93	-	-

Qp - Quasi-Peak detector
 Ca - CISPR average detection

11.2. AC Power Line WITH AC/DC Adapter

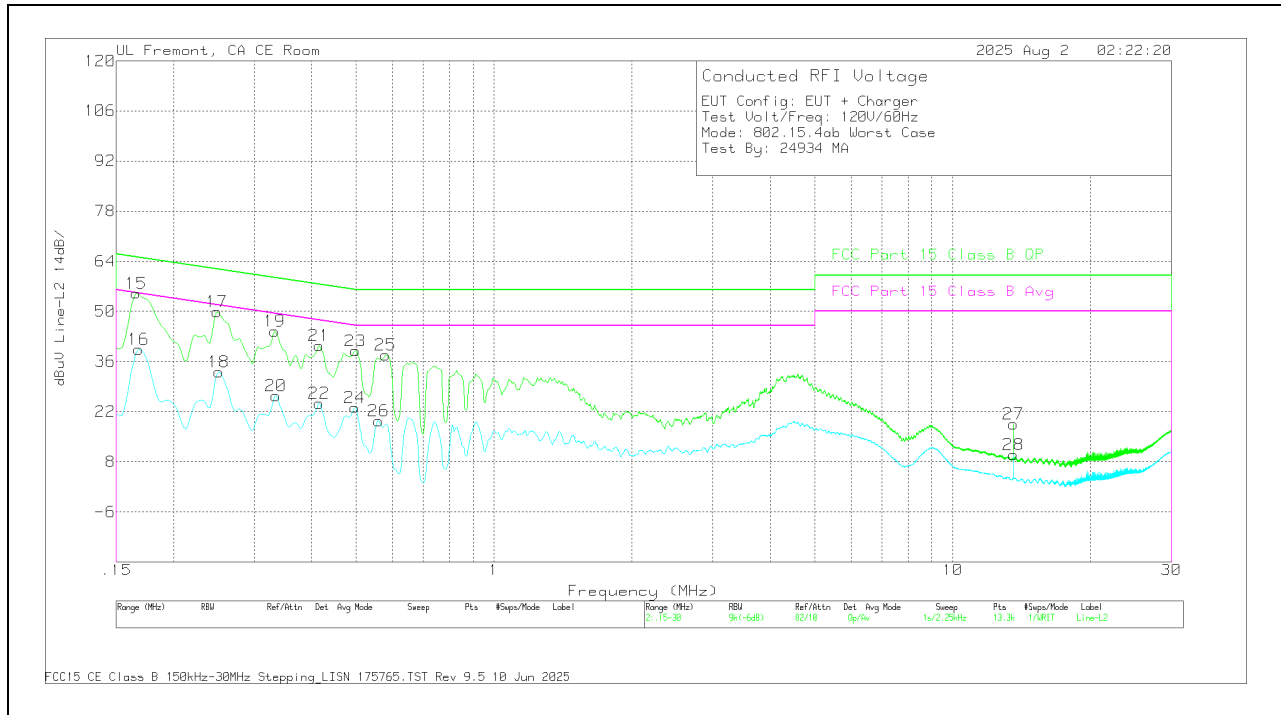
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_Li miter no Pad_UL (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av Margin (dB)
2	.168	30.65	Av	.1	9.4	40.15	-	-	55.06	-14.91
4	.2513	24.24	Av	0	9.4	33.64	-	-	51.72	-18.08
6	.3345	17.51	Av	0	9.4	26.91	-	-	49.34	-22.43
8	.4155	14.26	Av	0	9.4	23.66	-	-	47.54	-23.88
10	.4965	13.35	Av	0	9.4	22.75	-	-	46.06	-23.31
12	.5595	9.88	Av	0	9.3	19.18	-	-	46	-26.82
14	13.56	4.44	Av	.1	9.5	14.04	-	-	50	-35.96
1	.1658	46.25	Qp	.1	9.4	55.75	65.17	-9.42	-	-
3	.249	41.16	Qp	0	9.4	50.56	61.79	-11.23	-	-
5	.3323	35.62	Qp	0	9.4	45.02	59.39	-14.37	-	-
7	.4155	31.29	Qp	0	9.4	40.69	57.54	-16.85	-	-
9	.4965	30.38	Qp	0	9.4	39.78	56.06	-16.28	-	-
11	.5798	28.73	Qp	0	9.3	38.03	56	-17.97	-	-
13	13.56	12.12	Qp	.1	9.5	21.72	60	-38.28	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_Li miter no Pad_UL (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av Margin (dB)
16	.168	29.95	Av	.1	9.4	39.45	-	-	55.06	-15.61
18	.2513	23.74	Av	0	9.4	33.14	-	-	51.72	-18.58
20	.3345	17.06	Av	0	9.3	26.36	-	-	49.34	-22.98
22	.4155	15.01	Av	0	9.3	24.31	-	-	47.54	-23.23
24	.4965	13.88	Av	0	9.3	23.18	-	-	46.06	-22.88
26	.5595	10.11	Av	0	9.3	19.41	-	-	46	-26.59
28	13.56	.33	Av	.1	9.5	9.93	-	-	50	-40.07
15	.1658	45.57	Qp	.1	9.4	55.07	65.17	-10.1	-	-
17	.249	40.52	Qp	0	9.4	49.92	61.79	-11.87	-	-
19	.3323	35.15	Qp	0	9.3	44.45	59.39	-14.94	-	-
21	.4155	31.09	Qp	0	9.3	40.39	57.54	-17.15	-	-
23	.4988	29.66	Qp	0	9.3	38.96	56.02	-17.06	-	-
25	.5798	28.53	Qp	0	9.3	37.83	56	-18.17	-	-
27	13.56	8.92	Qp	.1	9.5	18.52	60	-41.48	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to 15496278-EP1V1 FCC IC for setup photos.

APPENDIX A – SPOT CHECK EVALUATION

MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3258, A3519, A3520 and A3521.

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

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3258	BCG-E8947A	579C-E8947A	-With FR2 -No B11/21 -No UL MIMO	eSIM	-
A3519	BCG-E8951A	579C-E8951A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3258
A3520	BCG-E8952A	579C-E8952A	-Without FR2 -No B14, B29, B71, B11/21 -No UL MIMO	eSIM+pSIM	A3258 and A3519
A3521	BCG-E8953A	579C-E8953A	-Without FR2 -No B14, B29, B71, B11/21, B53 -No UL MIMO, MSS	pSIM+pSIM	

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

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

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

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

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

SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3519

A3519 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3519	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8951A IC : 579C-E8951A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	High Power (ANT 5)	Avg Power (dBm)	Fundamental	High	5.84625	20.99	20.86	-0.13	-9.01	Note 1
		High Power (ANT 5)	Radiated Bandedge (dBm)	Horizontal High Bandedge	High	5.99985	-37.21	-35.91	1.30	-10.21	Note 1
		High Power (ANT 5)	Avg RSE (dBuV/m)	Vertical (1 - 18GHz)	Mid	12.445808	46.27	45.81	-0.46	-7.73	Note 1

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

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

SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3520

A3520 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3520	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8952A IC : 579C-E8952A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	High Power (ANT 5)	Avg Power (dBm)	Fundamental	High	5.84625	20.99	20.88	-0.11	-9.01	Note 1
		High Power (ANT 5)	Radiated Bandedge (dBm)	Horizontal High Bandedge	High	5.99985	-37.21	-37.48	-0.27	-10.21	Note 1
		High Power (ANT 5)	Avg RSE (dBuV/m)	Vertical (1 - 18GHz)	Mid	12.445808	46.27	44.53	-1.74	-7.73	Note 1

A3520 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3519	Sub Model: A3520	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8951A IC : 579C-E8951A	FCC ID : BCG-E8952A IC : 579C-E8952A			
NII / 802.15.4ab	5.725 - 5.825 (UNII-3)	High Power (ANT 6)	Avg RSE (dBuV/m)	Horizontal (1 - 18GHz)	Low	11.976461	46.36	44.52	-1.84	-7.64	Note 1

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

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

SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3521

A3521 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3521	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8953A IC : 579C-E8953A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	High Power (ANT 5)	Avg Power (dBm)	Fundamental	High	5.84625	20.99	20.76	-0.23	-9.01	Note 1
		High Power (ANT 5)	Radiated Bandedge (dBm)	Horizontal High Bandedge	High	5.99985	-37.21	-37.25	-0.04	-10.21	Note 1
		High Power (ANT 5)	Avg RSE (dBuV/m)	Vertical (1 - 18GHz)	Mid	12.445808	46.27	44.99	-1.28	-7.73	Note 1

A3521 SPOT CHECK RESULTS											
Equipment Class / Technology	Frequency (GHz)	Mode	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3519	Sub Model: A3521	Delta (dB)	Margin	Remarks
							FCC ID : BCG-E8951A IC : 579C-E8951A	FCC ID : BCG-E8953A IC : 579C-E8953A			
NII / 802.15.4ab	5.725 - 5.825 (UNII-3)	High Power (ANT 6)	Avg RSE (dBuV/m)	Horizontal (1 - 18GHz)	Low	11.976461	46.36	44.29	-2.07	-7.64	Note 1

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

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

END OF REPORT