

TEST REPORT

Report Number: 16064952-E6V2

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

Model : A3447 (Parent)
A3719, A3720, A3721 (Variants)

Brand : APPLE

FCC ID : BCG-E9188A (Parent)
BCG-E9198A, BCG-E9203A, BCG-E9204A (Variants)

IC : 579C-E9188A (Parent Model)
579C-E9198A, 579C-E9203A, 579C-E9204A (Variants)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART E
ISED RSS-247 Issue 4
ISED RSS-GEN Issue 5 + A1 + A2

Date Of Issue:
2026-07-29

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



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2026-07-08	Initial Review	Thu Chan
V2	2026-07-29	Updated: Cover Page Sections 6.2, 6.3, 6.5, 8.4, 9.1, 9.5, 10.1, 10.2	Christopher Chan

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. TEST RESULT SUMMARY	6
3. TEST METHODOLOGY	7
4. FACILITIES AND ACCREDITATION	7
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	8
5.1. METROLOGICAL TRACEABILITY	8
5.2. DECISION RULES	8
5.3. MEASUREMENT UNCERTAINTY	8
5.4. SAMPLE CALCULATION	8
6. EQUIPMENT UNDER TEST	9
6.1. EUT DESCRIPTION	9
6.2. MAXIMUM OUTPUT POWER	9
6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS	9
6.4. SOFTWARE AND FIRMWARE	9
6.5. WORST-CASE CONFIGURATION AND MODE	10
6.6. DESCRIPTION OF TEST SETUP	11
7. TEST AND MEASUREMENT EQUIPMENT	14
8. ANTENNA PORT TEST RESULTS	15
8.1. ON TIME AND DUTY CYCLE	15
8.2. 26 dB AND 99% BANDWIDTH	16
8.3. 6 dB BANDWIDTH	17
8.4. OUTPUT POWER AND PSD	18
9. RADIATED TEST RESULTS	20
STATE A	22
9.1. TRANSMITTER ABOVE 1 GHz	22
9.1.1. LOW BANDEDGE	22
9.1.2. HIGH BANDEDGE	23
9.1.3. HARMONICS AND SPURIOUS EMISSIONS – HIGH POWER	24
9.2. WORST CASE BELOW 1 GHz	27
9.3. WORST CASE 18-26 GHz	29
9.4. WORST CASE 26-40 GHz	31
STATE B	33
9.5. TRANSMITTER ABOVE 1 GHz	33
9.5.1. LOW BANDEDGE	33
9.5.2. HIGH BANDEDGE	34
9.5.3. HARMONICS AND SPURIOUS EMISSIONS – HIGH POWER	35
9.6. WORST CASE BELOW 1 GHz	37

9.7.	WORST CASE 18-26 GHz.....	39
9.8.	WORST CASE 26-40 GHz.....	41
10.	AC POWERLINE CONDUCTED EMISSIONS	43
10.1.	AC POWER LINE WITH LAPTOP	44
10.2.	AC POWER LINE WITH AC/DC ADAPTER	46
11.	SETUP PHOTOS	48
12.	SPOT CHECK EVALUATION	48
12.1.	MODEL DIFFERENCES	48
12.2.	SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3719	49
12.3.	SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3720	49
12.4.	SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3721	49

1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.
Model	A3447 (Parent) A3719, A3720, A3721 (Variants)
Brand	APPLE
FCC ID	BCG-E9188A (Parent) BCG-E9198A, BCG-E9203A, BCG-E9204A (Variants)
IC	579C-E9188A (Parent) 579C-E9198A, 579C-E9203A, 579C-E9204A (Variants)
EUT Description	SMARTPHONE
Serial Number	C07HQ0000H50001B5H, C07HTH000DS0001B59, C07HTU0005K0001B56, C07HTF0003Z0001B57, C07HTG0028A0001P0R (Conducted) K2DLVM4C2D, J0C02TN797, XK3Y27V221, LK7YPYTXF7, D1620034QF (Radiated)
Sample Receipt Date	2026-02-19
Date Tested	2026-02-19 to 2026-07-24
Applicable Standards	FCC 47 CFR Part 15 Subpart E ISED RSS-247 Issue 4 ISED RSS-GEN Issue 5 + A1 + A2
Test Results	COMPLIES
<p>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.</p> <p>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.</p> <p>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.</p>	
Approved & Released By:	Prepared & Reviewed By:
	
Thu Chan Staff Engineer UL Verification Services Inc.	Christopher Chan Laboratory Supervisor 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)

Requirement Description	Requirement Clause Number (FCC)	Result
Duty Cycle	-	Reporting purposes only
26dB BW/99% OBW	-	Reporting purposes only
6 dB BW	15.407 (e)	Complies
Output Power	15.407 (a) (3)	Complies
PSD	15.407 (a) (3)	Complies
Radiated Emissions	15.209, 15.205, 15.407 (b)	Complies
AC Mains Conducted Emissions	15.207	Complies

Requirement Description	Requirement Clause Number (ISED)	Result
Duty Cycle	-	Reporting purposes only
26dB BW/99% OBW	RSS-GEN 6.7	Complies
6 dB BW	RSS-247 7.3.4.2	Complies
Output Power	RSS-247 7.3	Complies
PSD	RSS-247 7.3	Complies
Radiated Emissions	RSS-GEN 8.9, 8.10, RSS-247 7.3	Complies
AC Mains Conducted Emissions	RSS-Gen 8.8	Complies

3. TEST METHODOLOGY

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

- FCC 47 CFR Part 2
- FCC 47 CFR Part 15E
- FCC KDB 662911 D01 Multiple Transmitter Output
- FCC KDB 789033 D02 General UNII Test Procedures New Rules
- FCC KDB 484596 D01 Referencing Test Data
- FCC KDB 414788 D01 Radiated Test Site
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
- RSS-GEN Issue 5 + A1 +A2
- RSS-247 Issue 4

4. FACILITIES AND ACCREDITATION

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

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

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. DECISION RULES

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

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.47 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	1.30 (Peak), 0.45 (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.2%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
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.

The EUT is considered a “Foldable Smartphone” and can be operated in two unique operating states – phone “fully closed” (State A) and phone “fully open” (State B). The test results of both operating states are reported.

This report covers the 802.15.4ab UNII-3 band.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Bandwidth (MHz)	Antenna	Configuration	Output Power (dBm)	Output Power (mW)
5728.75 - 5846.25	802.15.4ab	2.5	Ant 6	High Power	20.95	124.45
				Low Power	15.58	36.14
			Ant 5	High Power	20.48	111.69
				Low Power	15.59	36.22

6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS

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

State A

Frequency Range (MHz)	Antenna Type	Antenna Peak Gain		Cable Loss	
		ANT 6 (dBi)	ANT 5 (dBi)	ANT 6 (db)	ANT 5 (dB)
5728.75 - 5846.25	PIFA	-0.7	1.4	-2.06	-2.88

State B

Frequency Range (MHz)	Antenna Type	Antenna Peak Gain		Cable Loss	
		ANT 6 (dBi)	ANT 5 (dBi)	ANT 6 (db)	ANT 5 (dB)
5728.75 - 5846.25	PIFA	-0.4	1.9	-2.06	-2.88

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 Software and Firmware version used at test is FT: 24A343

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 on State A. Y (Landscape) orientation was the worst-case orientation for ANT 6 and ANT 5 on State B.

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 1, 500Kbps determined to be the worst case.

The output power between State A and State B is identical; therefore, only a single conducted test result is presented. Where applicable, the higher antenna gain of the two States has been used to assess compliance.

For radiated tests, full testing was performed on both State A and State B due to differences in antenna gain between the two states.

For AC line conducted emissions only the worst-case test results are included in this report.

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.

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

All simultaneous transmission combinations have been investigated, and no signal emissions were observed.

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

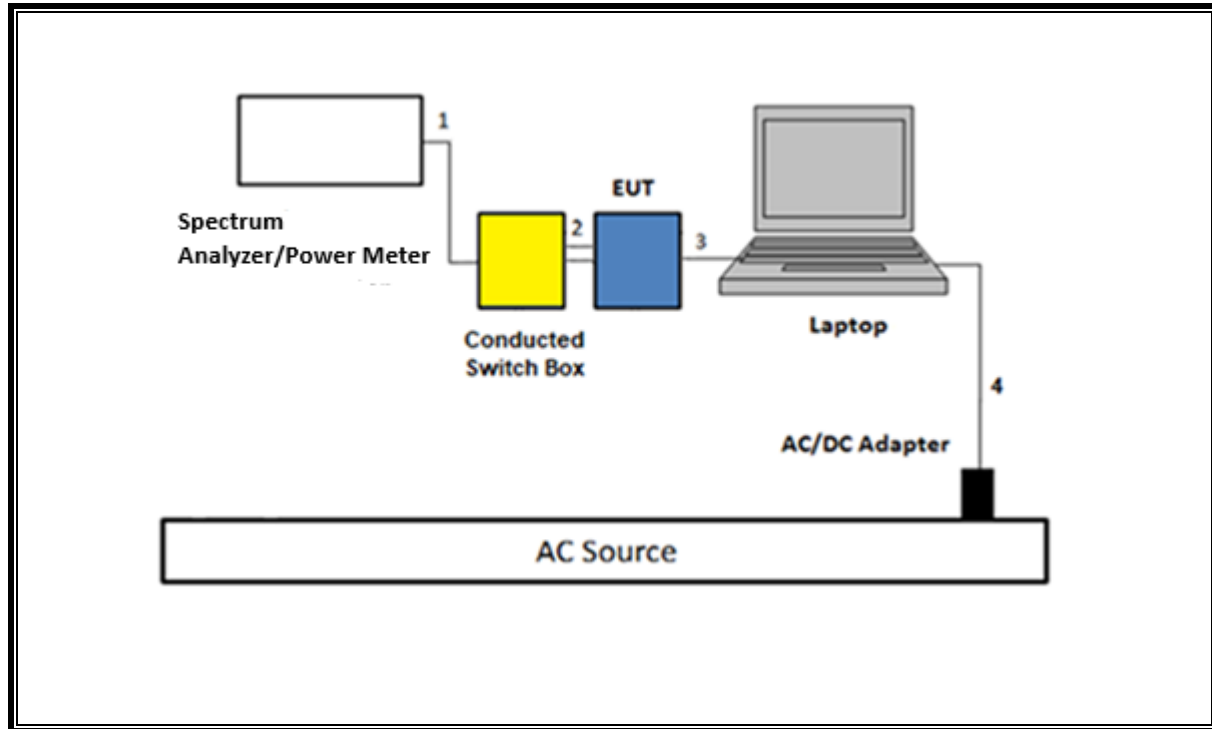
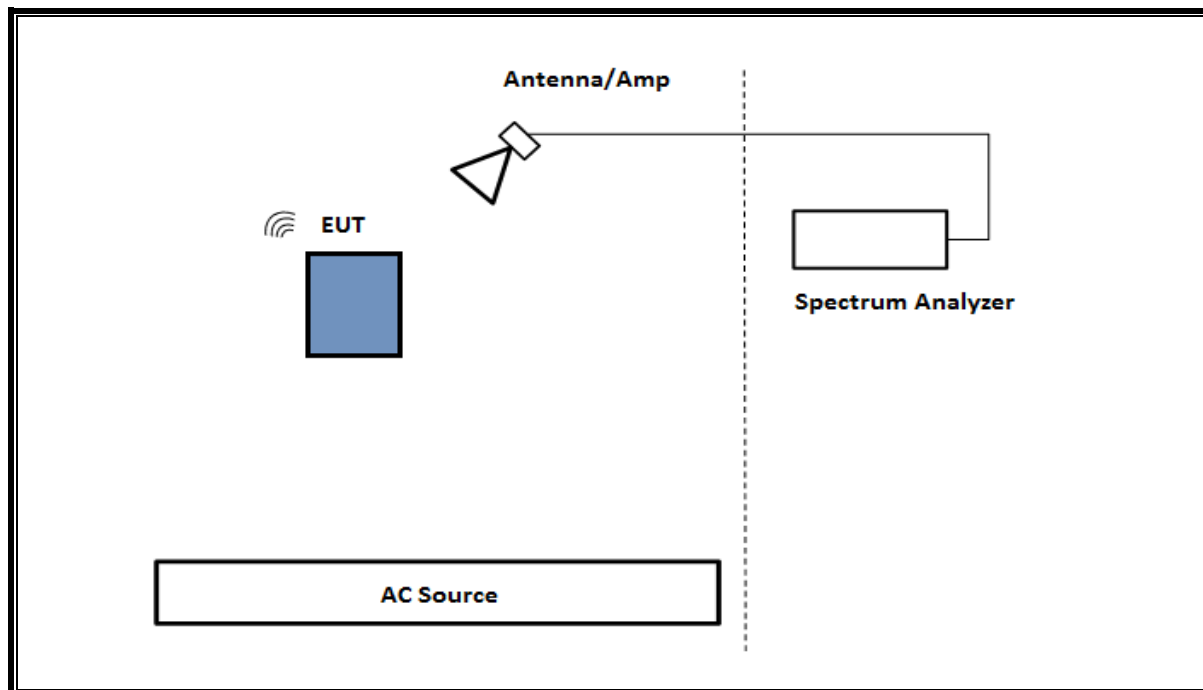
Plots included in the report are representative of the method and settings parameters used for the test.

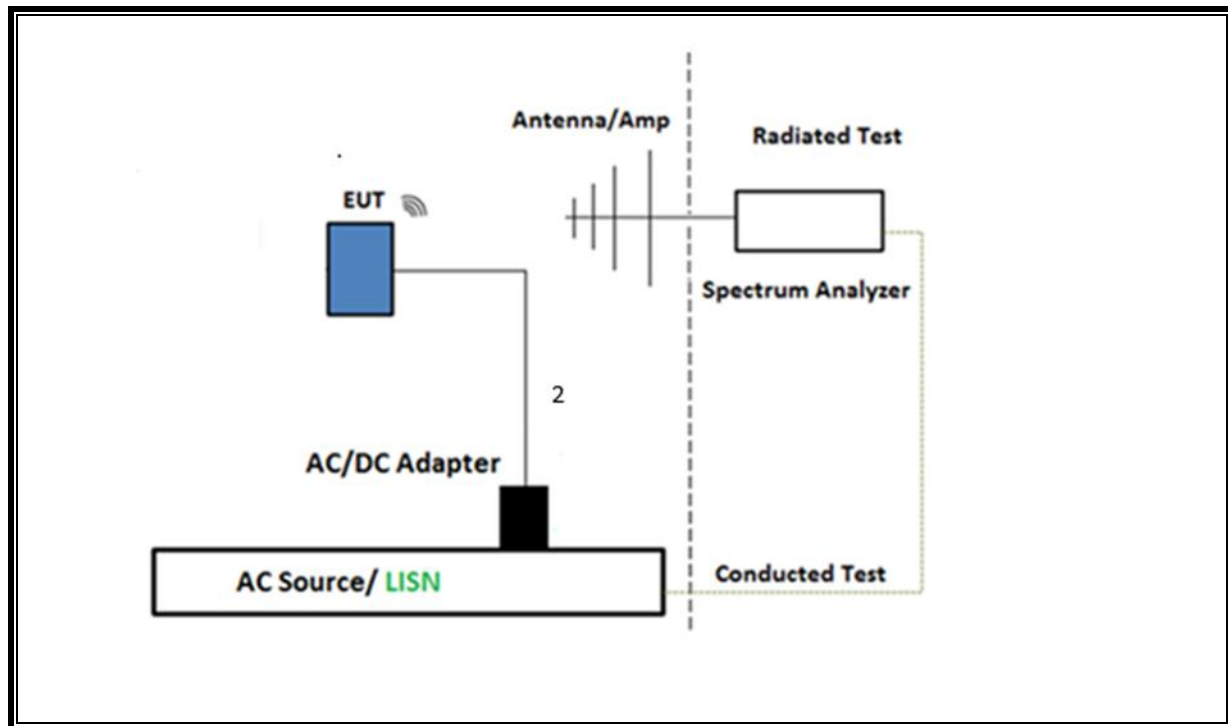
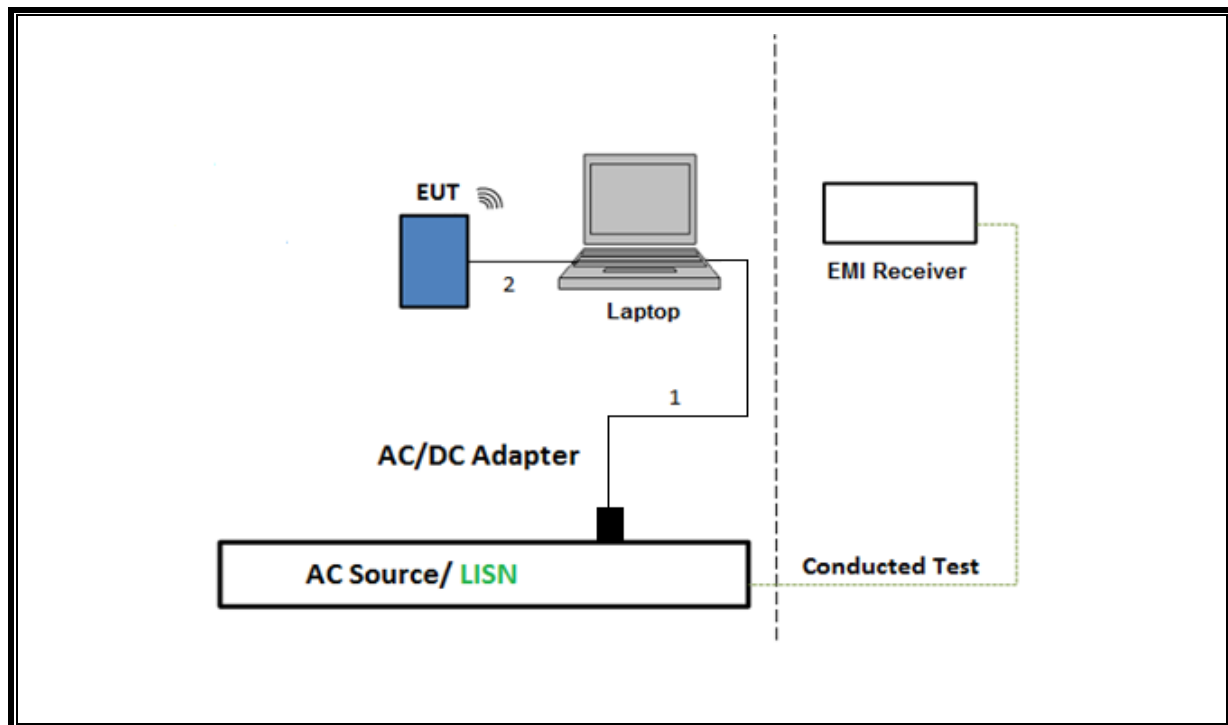
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Description	Description	Description	Description	Description	Description
Laptop	Laptop	Laptop	Laptop	Laptop	Laptop	Laptop
Laptop AC/DC adapter	Laptop AC/DC adapter	Laptop AC/DC adapter	Laptop AC/DC adapter	Laptop AC/DC adapter	Laptop AC/DC adapter	Laptop AC/DC adapter
EUT AC/DC adapter	EUT AC/DC adapter	EUT AC/DC adapter	EUT AC/DC adapter	EUT AC/DC adapter	EUT AC/DC adapter	EUT AC/DC adapter
Conducted Switch Box	Conducted Switch Box	Conducted Switch Box	Conducted Switch Box	Conducted Switch Box	Conducted Switch Box	Conducted Switch Box
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	2	SMA	Shielded	0.2	EUT to Switchbox
3	USB	1	USB-C	Shielded	1.0	N/A
4	DC	1	DC	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	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. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	ID Num	Cal Due
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80707	2027-08-31
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	RATS 1.0	171875	2027-03-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	245268	2027-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	222740	2027-09-30
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	RATS 1.0	171389	2027-03-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201497	2027-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226672	2028-03-31
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231876	2027-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201497	2027-02-28
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226673	2028-03-31
Filter Box	UL-FR1	Frankenstein, 1 Amp, 12 Port	231874	2026-06-29
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2027-02-28
Antenna, Passive Loop, 30Hz - 1MHz	Electro-Metrics	EM-6871	170014	2027-09-30
Antenna, Passive Loop, 100kHz to 30MHz	Electro-Metrics	EM-6872	170016	2027-09-30
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	224489	*2026-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	191428	2027-02-28
Amplifier 9 KHz - 1 GHz	SONOMA INSTRUMENT	310N	230311	*2026-05-30
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	204045	2027-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2027-02-28
Antenna, Horn 18-26.5GHz	A.R.A	MWH-1826/B	81139	2027-10-31
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	Ampical	AMP18G26.5-60	220194	2027-10-31
Antenna, Horn 26.5-40GHz	A.R.A	MWH-2640/B	172366	2027-05-31
Link File, RF Amplifier Assembly, 26.5-40GHz, 65dB Gain	Ampical	AMP26G40-65	172345	2027-05-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	226078	2027-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	N9030A	Keysight Technologies Inc	80397	2027-01-31
Spectrum Analyzer, PXA, 3Hz to 44GHz	N9030A	Keysight Technologies Inc	125179	2027-01-31
Conducted Switch Box	UL-FR1	CSB	245782	2026-10-31
Conducted Switch Box	UL-FR1	CSB	208281	2026-10-31
AC Line Conducted				
Description	Manufacturer	Model	ID Num	Cal Due
EMI Test Receiver	Rohde & Schwarz	ESCI 7	82297	2027-02-28
Transient Limiter / Attenuator	Tekbox	TBFL1	207996	2026-12-30
LISN	Fischer Custom Communications, Inc.	FCC-LISN-50/250-25-2-01-480V	175765	2027-01-31
UL AUTOMATION SOFTWARE				
Conducted Software	UL	Station Tool	V2026.6.0	
Radiated Software	UL	UL EMC	Ver 9.5, Aug 25, 2025	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Aug 25, 2025	

*Testing was completed before equipment calibration due date.

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

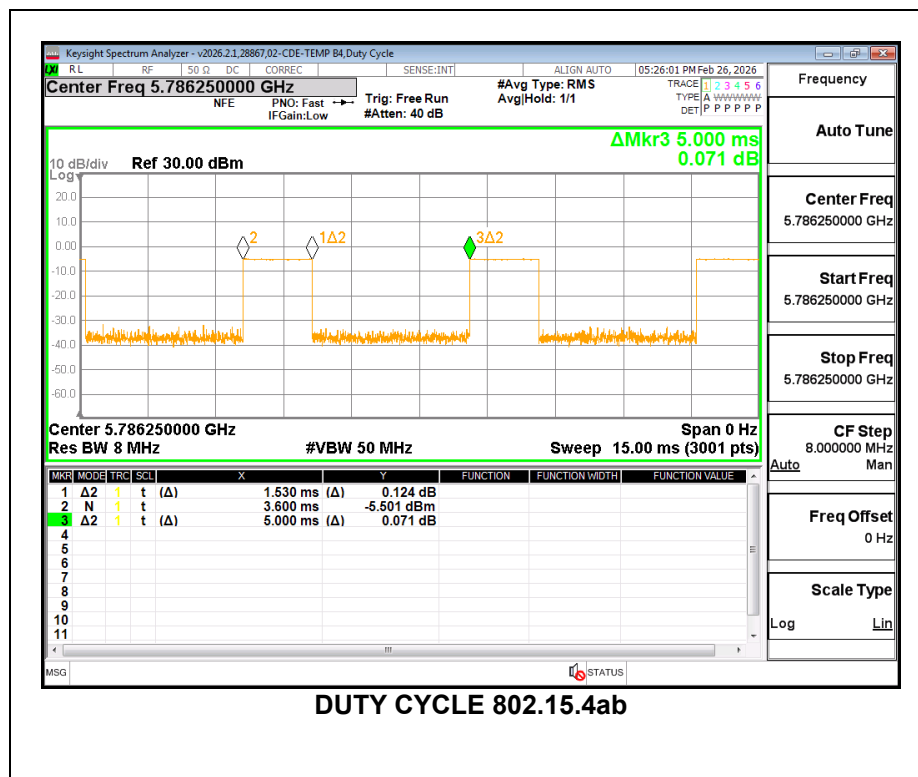
None; for reporting purposes only.

TEST PROCEDURE

ANSI C63.10, Subclause 12.2.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time T (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.15.4ab						
5728.75MHz (UNII-3)	1.530	5.000	0.306	30.6	5.14	0.654



8.2. 26 dB AND 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

99% Bandwidth: ANSI C63.10 Subclause - 6.9.3

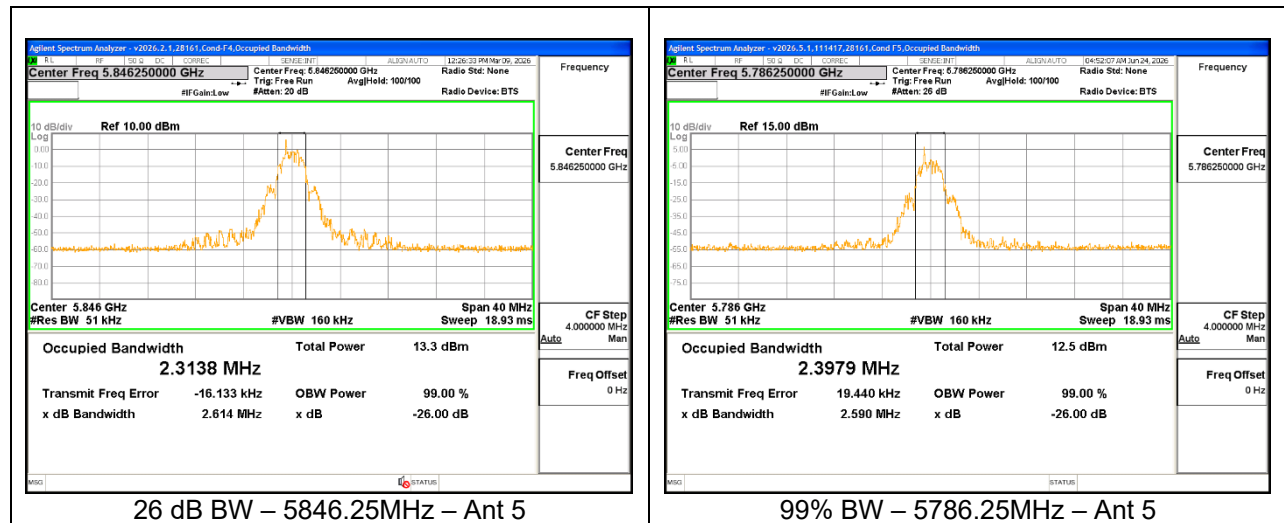
26dB Bandwidth: ANSI C63.10 Subclause -12.5.2

RESULTS

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

802.15.4ab	Frequency (MHz)	Channel Number	26 dB Bandwidth (MHz)		99% Bandwidth (MHz)	
			Ant 6	Ant 5	Ant 6	Ant 5
High Power	5728.75	Low	2.592	2.572	2.3515	2.3325
	5786.25	Mid	2.576	2.59	2.3698	2.3979
	5846.25	High	2.599	2.614	2.3401	2.3138

WORST MAXIMUM PLOT



8.3. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

RSS-247 7.3.4.2

The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

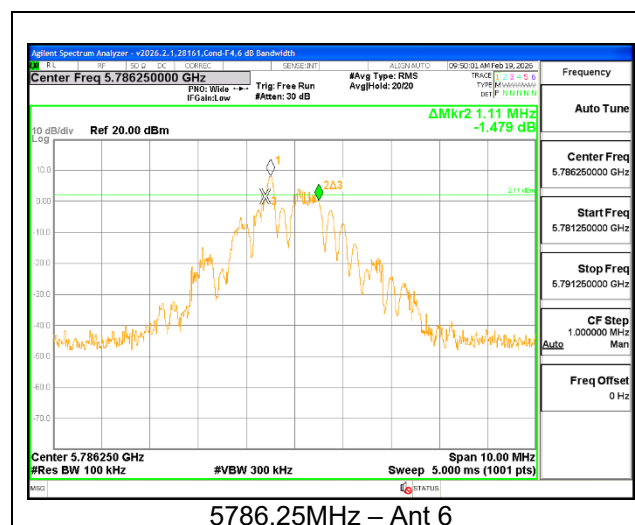
ANSI C63.10 Subclause -12.5.1

RESULTS

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

802.15.4ab	Frequency (MHz)	Channel Number	6 dB Bandwidth (MHz)	
			ANT 6	ANT 5
High Power	5728.75	Low	1.17	1.23
	5786.25	Mid	1.11	1.22
	5846.25	High	1.18	1.12

WORST MINIMUM PLOT



8.4. 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

7.3.4.3

Equipment operating in the band 5725-5850 shall comply with the following power limits:

- a. the maximum conducted output power shall not exceed 1 W; and
- b. the maximum output power spectral density shall not exceed 30 dBm/500 kHz.

When using transmitting antennas with a directional gain exceeding 6 dBi, the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

TEST PROCEDURE

Conducted Output Power: ANSI C63.10 Subclause -12.4.3.2 (Method PM-G)

Power Spectral Density: ANSI C63.10 Subclause -12.6 (KDB 789033 D02, Section F)

DIRECTIONAL ANTENNA GAIN

For 1 TX:

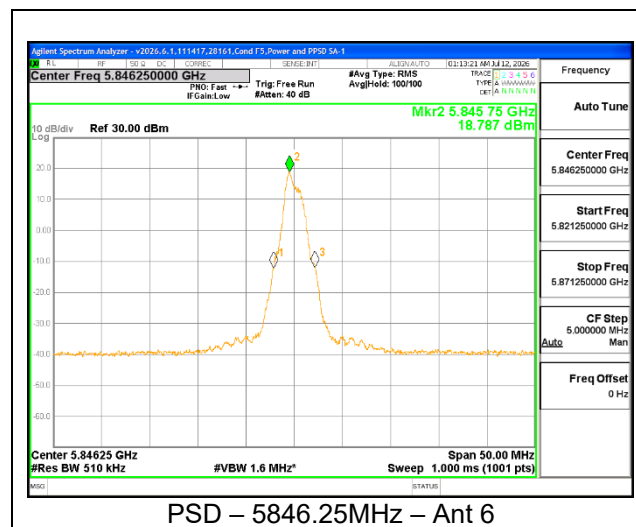
There is only one transmitter output therefore the directional gain is equal to the antenna gain

RESULTS

802.15.4ab (5728.75 - 5846.25MHz)	
Ant 6 (dBi)	-0.4
Ant 5 (dBi)	1.9

Mode	Power Config.	Freq (MHz)	Ch. #	Duty Cycle (dB)	Power Limit (dBm)		Output Power (Gated) (dBm)		Total Corrected Power (dBm)		PSD Limit (dBm/500kHz)		PSD (dBm/500kHz)		Total Corrected PSD (dBm/500kHz)	
					Ant 6	Ant 5	Ant 6	Ant 5	Ant 6	Ant 5	Ant 6	Ant 5	Ant 6	Ant 5	Ant 6	Ant 5
802.15.4ab	High	5728.75	Low	5.14	30	30	20.92	20.45	20.92	20.45	30	30	18.540	17.899	23.680	23.039
		5786.25	Mid				20.95	20.41	20.95	20.41			18.677	17.833	23.817	22.973
		5846.25	High				20.89	20.48	20.89	20.48			18.787	18.212	23.927	23.352
	Low	5728.75	Low				15.58	15.59	15.58	15.59			12.292	12.463	17.432	17.603
		5786.25	Mid				15.51	15.54	15.51	15.54			12.566	12.499	17.706	17.639
		5846.25	High				15.55	15.56	15.55	15.56			12.242	12.499	17.382	17.639

WORST PSD PLOT



9. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restricted bands
FCC §15.407(b)(1-3) -Un-Restricted bands

RSS 247 Issue 4 Sections

7.3.1.3 (for 5150-5250 MHz band)
7.3.4.4 (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

Radiated emissions restricted frequency bands	ANSI C63.10 Subclause -12.7.2
Radiated emissions non-restricted frequency bands	ANSI C63.10 Subclause -12.7.3
Radiated Spurious Emissions Below 30MHz	ANSI C63.10 Subclause 6.4

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz and 1.5 meters 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 in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

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.

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

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.

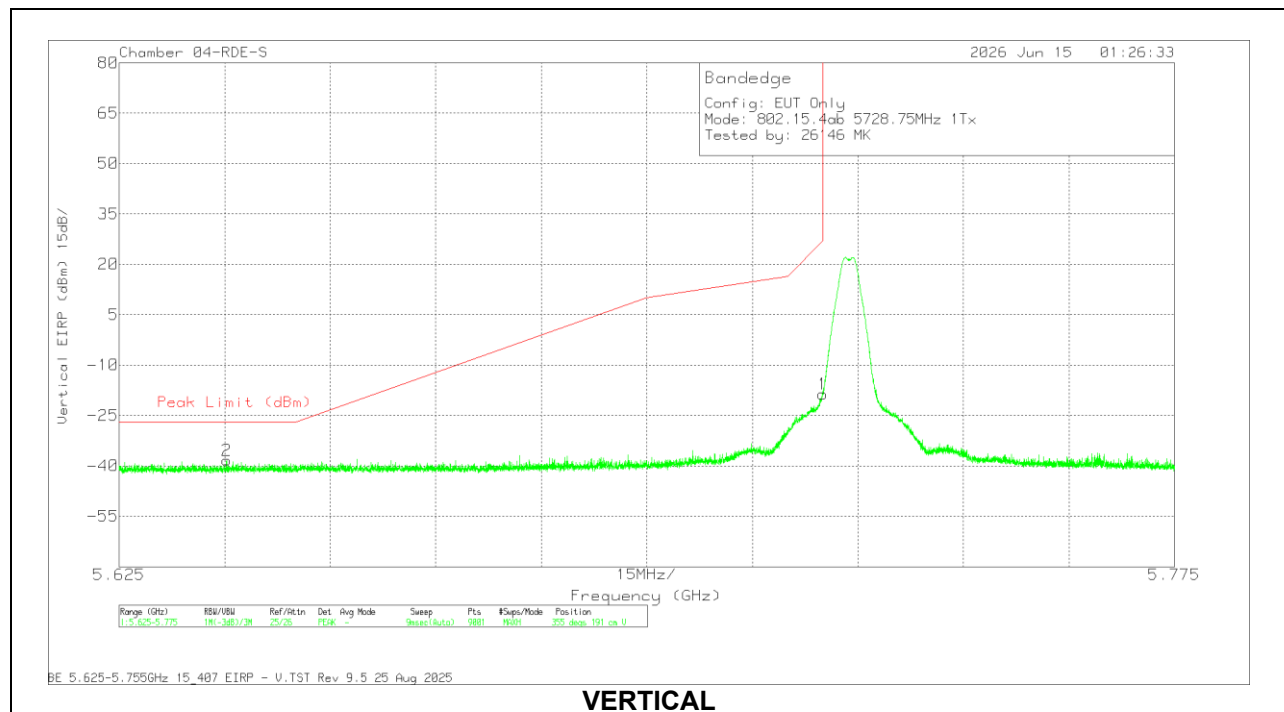
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

RESULTS

STATE A**9.1. TRANSMITTER ABOVE 1 GHz****9.1.1. LOW BANDEGE**

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DCCF (dB)	Conversion Factor (dB)	Correct Reading EIRP (dBm)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
High Power	5728.75	6	5.725	-33.15	Pk	34.9	-37.45	0	11.8	-23.9	27	-50.9	333	215	H
			5.632383	-48.06	Pk	34.7	-37.64	0	11.8	-39.2	-27	-12.2	333	215	H
			5.725	-27.91	Pk	34.9	-37.45	0	11.8	-18.66	27	-45.66	355	191	V
			5.640267	-47.2	Pk	34.7	-37.59	0	11.8	-38.29	-27	-11.29	355	191	V
		5	5.725	-36.74	Pk	34.7	-33.9	0	11.8	-24.14	27	-51.14	99	199	H
			5.642833	-52.28	Pk	34.6	-33.9	0	11.8	-39.78	-27	-12.78	99	199	H
			5.725	-38.83	Pk	34.7	-33.9	0	11.8	-26.23	27	-53.23	53	152	V
			5.634507	-52.75	Pk	34.6	-33.9	0	11.8	-40.25	-27	-13.25	53	152	V
Low Power	5728.75	6	5.725	-37.95	Pk	34.9	-37.45	0	11.8	-28.7	27	-55.7	154	233	H
			5.6402	-47.37	Pk	34.7	-37.59	0	11.8	-38.46	-27	-11.46	154	233	H
			5.725	-32.17	Pk	34.9	-37.45	0	11.8	-22.92	27	-49.92	176	189	V
			5.647684	-48.1	Pk	34.7	-37.6	0	11.8	-39.2	-27	-12.2	176	189	V
		5	5.725	-40.02	Pk	34.7	-33.9	0	11.8	-27.42	27	-54.42	99	199	H
			5.64799	-52.12	Pk	34.6	-34	0	11.8	-39.72	-27	-12.72	99	199	H
			5.725	-42.2	Pk	34.7	-33.9	0	11.8	-29.6	27	-56.6	53	152	V
			5.630757	-53.01	Pk	34.6	-33.9	0	11.8	-40.51	-27	-13.51	53	152	V

Pk - Peak detector

WORST-CASE BANDEGE (LOW CHANNEL)**VERTICAL****Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	200785 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	-27.91	Pk	34.9	11.8	0	-37.45	-18.66	27	-45.66	355	191	V
2	5.640267	-47.2	Pk	34.7	11.8	0	-37.59	-38.29	-27	-11.29	355	191	V

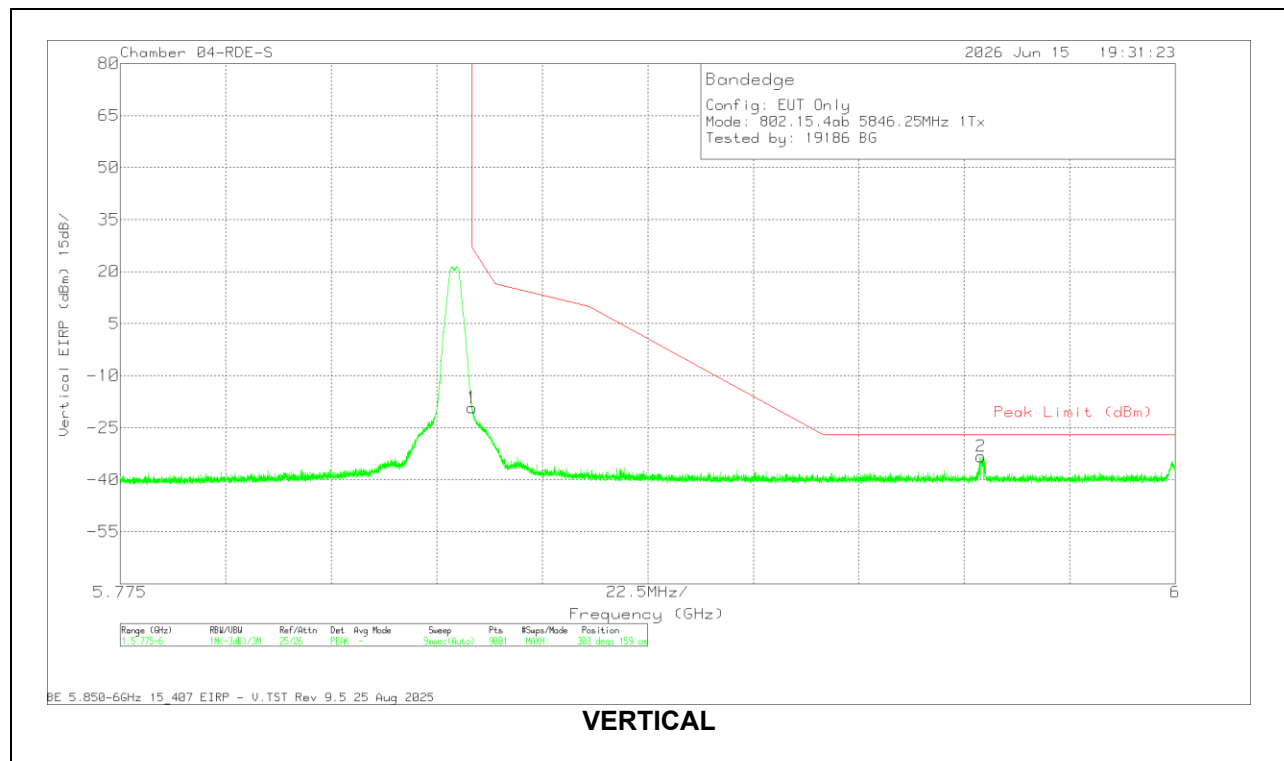
Pk - Peak detector

9.1.2. HIGH BANDEDGE

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DCCF (dB)	Conversion Factor (dB)	Correct Reading EIRP (dBm)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
High Power	5846.25	6	5.85	-34.96	Pk	35.2	-37.23	0	11.8	-25.19	27	-52.19	334	253	H
			5.93195	-47.77	Pk	35.4	-37	0	11.8	-37.57	-27	-10.57	334	253	H
			5.85	-29.01	Pk	35.2	-37.23	0	11.8	-19.24	27	-46.24	303	159	V
			5.958625	-43.6	Pk	35.4	-36.9	0	11.8	-33.3	-27	-6.3	303	159	V
		5	5.85	-36.19	Pk	35	-33.7	0	11.8	-23.09	27	-50.09	101	188	H
			5.999413	-51.58	Pk	35.2	-33.6	0	11.8	-38.18	-27	-11.18	101	188	H
			5.85	-39.49	Pk	35	-33.7	0	11.8	-26.39	27	-53.39	38	176	V
			5.999385	-52.54	Pk	35.2	-33.6	0	11.8	-39.14	-27	-12.14	38	176	V
Low Power	5846.25	6	5.85	-39.4	Pk	35.2	-37.23	0	11.8	-29.63	27	-56.63	334	253	H
			5.999425	-47.69	Pk	35.4	-36.97	0	11.8	-37.46	-27	-10.46	334	253	H
			5.85	-32.95	Pk	35.2	-37.23	0	11.8	-23.18	27	-50.18	303	159	V
			5.958925	-47.03	Pk	35.4	-36.9	0	11.8	-36.73	-27	-9.73	303	159	V
		5	5.85	-39.42	Pk	35	-33.7	0	11.8	-26.32	27	-53.32	101	187	H
			5.98127	-52.57	Pk	35.2	-33.6	0	11.8	-39.17	-27	-12.17	101	187	H
			5.85	-42.92	Pk	35	-33.7	0	11.8	-29.82	27	-56.82	38	176	V
			5.958429	-51.8	Pk	35.1	-33.7	0	11.8	-38.6	-27	-11.6	38	176	V

Pk - Peak detector

WORST-CASE BANDEDGE (HIGH CHANNEL)



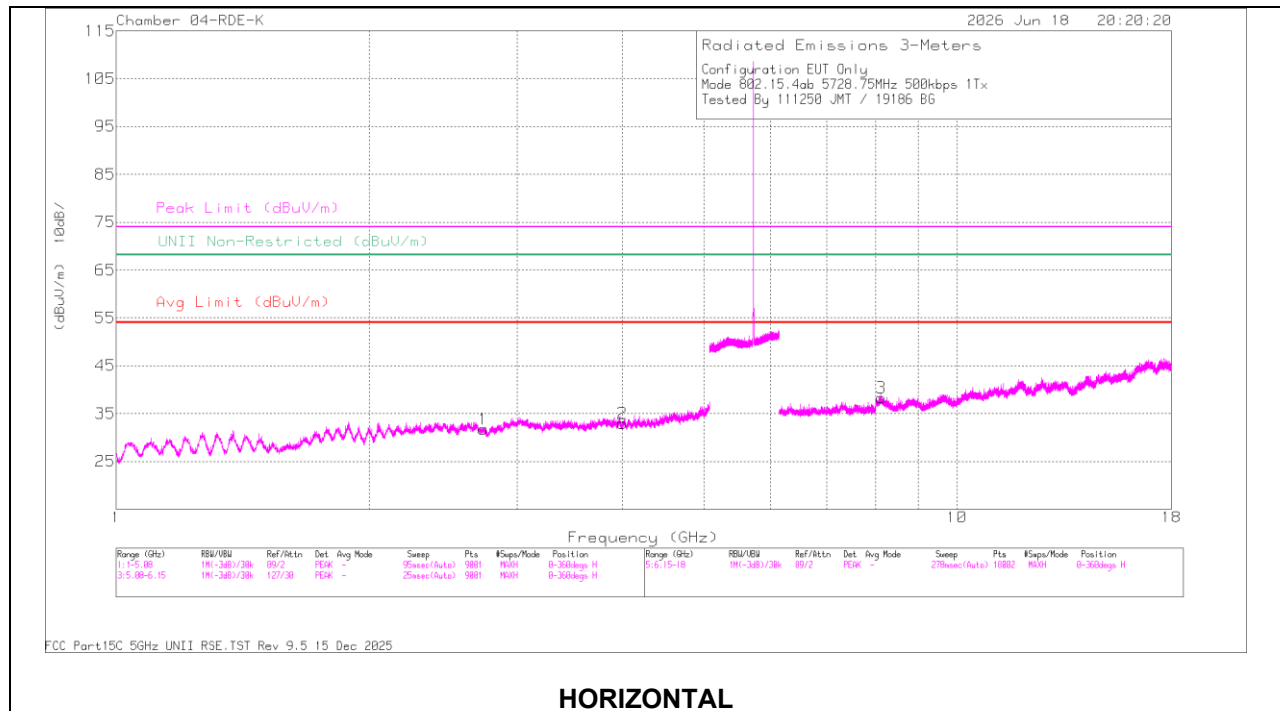
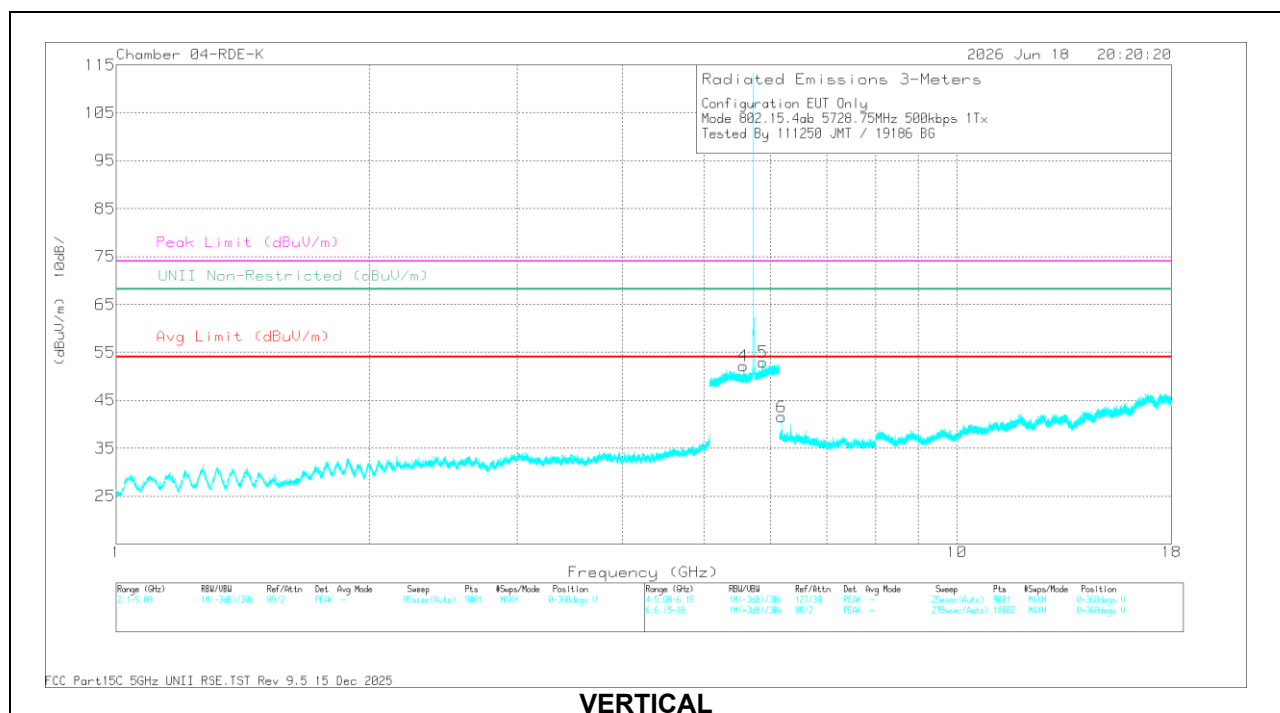
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	200785 ACF (dB/m)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-29.01	Pk	35.2	11.8	-37.23	-19.24	27	-46.24	303	159	V
2	5.958625	-43.6	Pk	35.4	11.8	-36.9	-33.3	-27	-6.3	303	159	V

Pk - Peak detector

9.1.3. HARMONICS AND SPURIOUS EMISSIONS – HIGH POWER

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	DCCF (dB)	Amp/Cb/ Ftr/Pad (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
500Kbps	5728.75	6	* 2.741162	54.54	PK-U	31.7	0	-43.4	42.84	-	-	74	-31.16	0	200	H
			* 2.741207	41.85	ADR	31.7	5.14	-43.4	35.29	54	-18.71	-	-	0	200	H
			* 4.018618	52.18	PK-U	33.3	0	-41.7	43.78	-	-	74	-30.22	0	200	H
			* 4.02108	40.06	ADR	33.3	5.14	-41.7	36.8	54	-17.2	-	-	0	200	H
			* 8.135377	49.52	PK-U	36	0	-37.7	47.82	-	-	74	-26.18	0	101	H
			* 8.151686	37.48	ADR	35.9	5.14	-37.8	40.72	54	-13.28	-	-	0	101	H
			6.188711	54.55	PK-U	35.3	0	-38.5	51.35	-	-	68.2	-16.85	46	138	V
			6.189146	41.9	ADR	35.3	5.14	-38.5	43.84	-	-	-	-	46	138	V
			5.574487	56.65	PK-U	34.6	0	-30.5	60.75	-	-	68.2	-7.45	45	176	V
			5.574727	44.9	ADR	34.6	5.14	-30.5	54.14	-	-	-	-	45	176	V
			5.881725	45.07	ADR	35.2	5.14	-29.9	55.51	-	-	-	-	56	167	V
			5.881751	56.6	PK-U	35.2	0	-29.9	61.9	-	-	68.2	-6.3	56	167	V
		5	* 2.291219	43.1	ADR	31.8	5.14	-44.8	35.24	54	-18.76	-	-	360	199	H
			* 3.815916	52.15	PK-U	33.5	0	-41.8	43.85	-	-	74	-30.15	360	199	H
			* 3.852867	39.97	ADR	33.4	5.14	-41.7	36.81	54	-17.19	-	-	360	199	H
			* 2.323638	54.85	PK-U	31.9	0	-44.6	42.15	-	-	74	-31.85	360	199	V
			* 2.295032	43.15	ADR	31.8	5.14	-44.8	35.29	54	-18.71	-	-	360	199	V
			* 3.81808	52.38	PK-U	33.5	0	-41.8	44.08	-	-	74	-29.92	360	199	V
			* 3.814267	39.94	ADR	33.5	5.14	-41.8	36.78	54	-17.22	-	-	360	199	V
			2.303378	55.23	PK-U	31.8	0	-44.7	42.33	-	-	68.2	-25.87	360	199	H
			6.189204	39.28	ADR	35.3	5.14	-38.5	41.22	-	-	-	-	47	177	H
			6.189417	51.78	PK-U	35.3	0	-38.5	48.58	-	-	68.2	-19.62	47	177	H
			9.599952	48.56	PK-U	36.7	0	-36.8	48.46	-	-	68.2	-19.74	47	101	V
			9.603703	36.27	ADR	36.7	5.14	-36.9	41.21	-	-	-	-	47	101	V
	5786.25	6	* 3.743398	39.77	ADR	33.4	5.14	-41.8	36.51	54	-17.49	-	-	360	101	H
			* 3.75061	52.43	PK-U	33.4	0	-41.8	44.03	-	-	74	-29.97	360	101	H
			* 7.597499	48.82	PK-U	35.9	0	-37.7	47.02	-	-	74	-26.98	351	102	H
			* 7.603534	36.31	ADR	35.9	5.14	-37.7	39.65	54	-14.35	-	-	351	102	H
			6.246556	42.02	ADR	35.4	5.14	-38.9	43.66	-	-	-	-	11	101	V
			6.24664	54.45	PK-U	35.4	0	-38.9	50.95	-	-	68.2	-17.25	11	101	V
			9.726037	48.83	PK-U	36.8	0	-36.7	48.93	-	-	68.2	-19.27	351	199	H
			9.742688	36.34	ADR	36.8	5.14	-36.8	41.48	-	-	-	-	351	199	H
			5.632104	56.68	PK-U	34.5	0	-30.3	60.88	-	-	68.2	-7.32	59	199	V
			5.63229	45.3	ADR	34.5	5.14	-30.3	54.64	-	-	-	-	59	199	V
		5	5.939305	44.81	ADR	35.3	5.14	-29.9	55.35	-	-	-	-	351	112	V
			5.939794	56.33	PK-U	35.3	0	-29.9	61.73	-	-	68.2	-6.47	351	112	V
			* 11.989994	46.79	PK-U	38.6	0	-34.7	50.69	-	-	74	-23.31	63	200	H
			* 11.989474	34.83	ADR	38.6	5.14	-34.7	43.87	54	-10.13	-	-	63	200	H
			* 11.97468	46.48	PK-U	38.7	0	-34.8	50.38	-	-	74	-23.62	21	101	V
			* 11.996433	34.56	ADR	38.6	5.14	-34.5	43.8	54	-10.2	-	-	21	101	V
			3.013672	41.54	ADR	32.8	5.14	-42.5	36.98	-	-	-	-	360	200	V
			3.019458	53.83	PK-U	32.8	0	-42.5	44.13	-	-	68.2	-24.07	360	200	V
			3.019836	41.44	ADR	32.9	5.14	-42.5	36.98	-	-	-	-	360	101	H
			3.021871	54.24	PK-U	32.9	0	-42.5	44.64	-	-	68.2	-23.56	360	101	H
		6	6.246246	51.83	PK-U	35.4	0	-38.9	48.33	-	-	68.2	-19.87	63	275	H
			6.246366	39.42	ADR	35.4	5.14	-38.9	41.06	-	-	-	-	63	275	H
			6.246443	50.81	PK-U	35.4	0	-38.9	47.31	-	-	68.2	-20.89	21	205	V
			6.24667	38.32	ADR	35.4	5.14	-38.9	39.96	-	-	-	-	21	205	V
			5.692034	59.1	PK-U	35	0	-35.05	59.05	-	-	68.2	-9.15	10	299	H
			5.69233	47.14	ADR	35	5.14	-35.05	52.23	-	-	-	-	10	299	H
			5.692376	49.86	ADR	35	5.14	-35.05	54.95	-	-	-	-	66	177	V
			5.692952	60.62	PK-U	35	0	-35.05	60.57	-	-	68.2	-7.63	66	177	V
			5.999373	46.61	ADR	35.3	5.14	-34.83	52.22	-	-	-	-	26	304	H
			5.999396	59.98	PK-U	35.3	0	-34.83	60.45	-	-	68.2	-7.75	63	179	V
		5	5.999508	49.33	ADR	35.3	5.14	-34.84	54.93	-	-	-	-	63	179	V
			6.000109	58.67	PK-U	35.3	0	-34.84	59.13	-	-	68.2	-9.07	26	304	H
			6.152807	61.87	PK-U	35.4	0	-43.53	53.74	-	-	68.2	-14.46	13	111	V
			6.152977	47.18	ADR	35.4	5.14	-43.53	44.19	-	-	-	-	31	269	H
			6.152984	51.42	ADR	35.4	5.14	-43.53	48.43	-	-	-	-	13	111	V
			6.152998	58.07	PK-U	35.4	0	-43.53	49.94	-	-	68.2	-18.26	31	269	H
			* 12.598444	47.44	PK-U	39	0	-34.5	51.94	-	-	74	-22.06	327	198	H
			* 12.624761	34.88	ADR	39.1	5.14	-34.5	44.62	54	-9.38	-	-	327	198	H
			* 4.551755	51.71	PK-U	33.9	0	-41.1	44.51	-	-	74	-29.49	327	101	H
			* 4.555466	39.7	ADR	33.9	5.14	-41.1	37.64	54	-16.36	-	-	327	101	H
			* 4.558497	39.65	ADR	34	5.14	-41.1	37.69	54	-16.31	-	-	327	101	V
			* 4.576792	51.93	PK-U	34	0	-41.1	44.83	-	-	74	-29.17	327	101	V
			13.16073	34.77	ADR	39	5.14	-34.6	44.31	-	-	-	-	327	199	V
			13.160917	47.01	PK-U	39	0	-34.5	51.51	-	-	68.2	-16.69	327	199	V
			6.152863	50.88	PK-U	35.3	0	-38.6	47.58	-	-	68.2	-20.62	327	108	V
			6.153012	39.29	ADR	35.3	5.14	-38.6	41.13	-	-	-	-	327	108	V
			6.153054	43.1	ADR	35.3	5.14	-38.6	44.94	-	-	-	-	40	207	H
			6.153133	53.83	PK-U	35.3	0	-38.6	50.53	-	-	68.2	-17.67	40	207	H

WORST-CASE HARMONICS AND SPURIOUS EMISSIONS

Radiated Emissions

Frequency (GHz)	Meas Reading (dBuV)	Det	20dB06 ACF (dBm)	Amp/Cat/Fr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNI Non-Restricted (dBuV/m)	PK Margin (dB)	Admth (Deps)	Height (m)	Polarity
* 2.741162	54.54	PK-U	31.7	-43.4	0	-42.84	-	-	74	-31.16	-	-	0	200	H
* 2.741207	41.85	ADR	31.7	-43.4	5.14	-35.29	54	-18.71	-	-	-	-	0	200	H
* 4.018618	52.18	PK-U	33.3	-41.7	0	43.78	-	-	74	-30.22	-	-	0	200	H
* 4.02108	40.06	ADR	33.3	-41.7	5.14	38.6	54	-17.2	-	-	-	-	0	200	H
* 8.135377	49.52	PK-U	38	-37.7	0	47.82	-	-	74	-26.18	-	-	0	101	H
* 8.151886	37.48	ADR	35.9	-37.8	5.14	40.72	54	-13.28	-	-	-	-	0	101	H
6.188711	54.55	PK-U	35.3	-38.5	0	51.35	-	-	-	-	68.2	-16.85	46	138	V
6.189146	41.9	ADR	35.3	-38.5	5.14	43.84	-	-	-	-	-	-	46	138	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

Frequency (GHz)	Meas Reading (dBuV)	Det	20dB06 ACF (dBm)	Amp/Cat/Fr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNI Non-Restricted (dBuV/m)	PK Margin (dB)	Admth (Deps)	Height (m)	Polarity
5.574487	55.65	PK-U	34.6	-30.5	0	60.75	-	-	-	-	68.2	-7.45	45	176	V
5.574727	44.9	ADR	34.6	-30.5	5.14	54.14	-	-	-	-	-	-	45	176	V
5.881725	45.07	ADR	35.2	-29.9	5.14	55.51	-	-	-	-	-	-	56	167	V
5.881751	56.6	PK-U	35.2	-29.9	0	61.8	-	-	-	-	68.2	-8.3	56	167	V

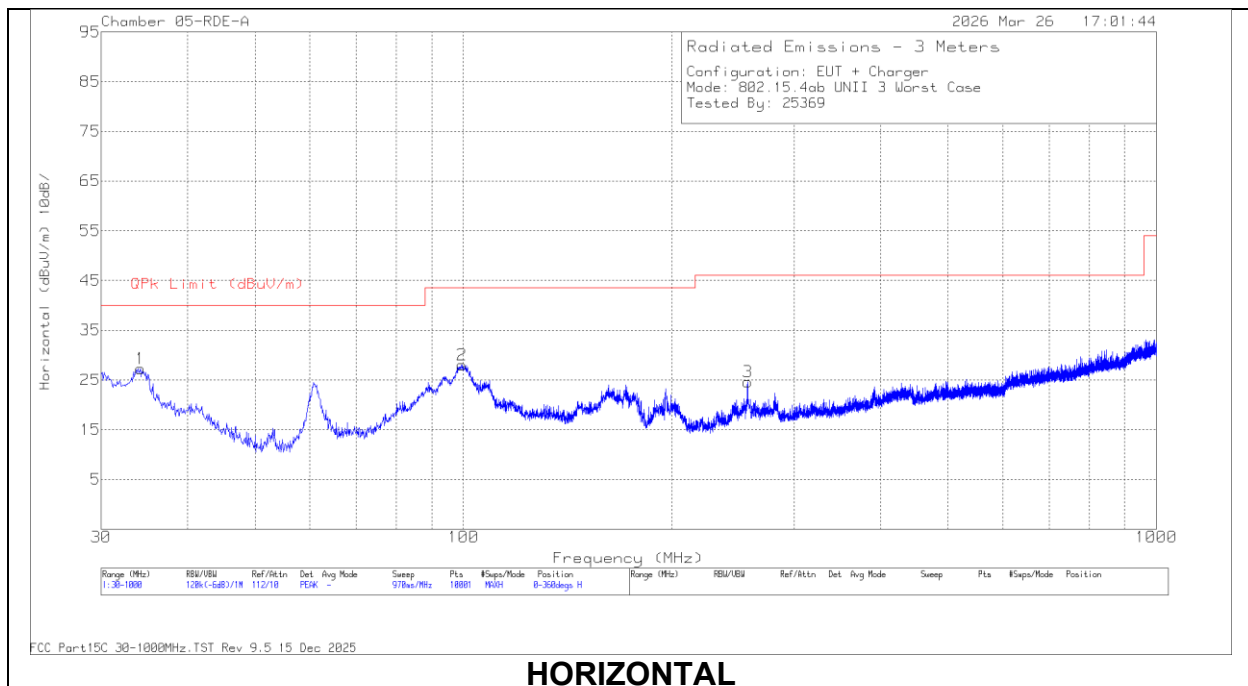
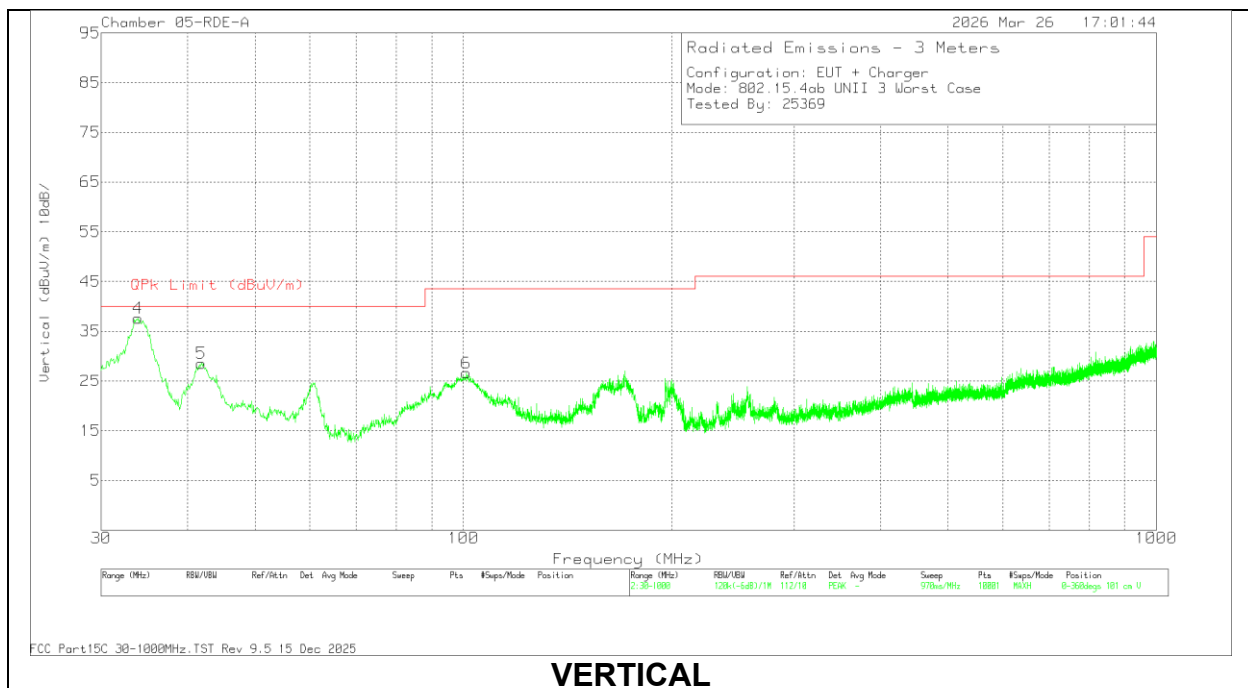
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

9.2. WORST CASE BELOW 1 GHz

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



Below 1GHz Data**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	204045 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 256.98	37.93	Pk	17.6	-30.9	24.63	46.02	-21.39	0-360	100	H
4	33.88	45.72	Pk	24.2	-32.3	37.62	40	-2.38	0-360	101	V
1	34.171	35.57	Pk	24	-32.3	27.27	40	-12.73	0-360	299	H
5	41.834	42.37	Pk	18.3	-32.1	28.57	40	-11.43	0-360	101	V
2	99.549	43.51	Pk	16.2	-31.7	28.01	43.52	-15.51	0-360	299	H
6	101.004	41.68	Pk	16.6	-31.7	26.58	43.52	-16.94	0-360	101	V

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

Pk - Peak detector

Radiated Emissions

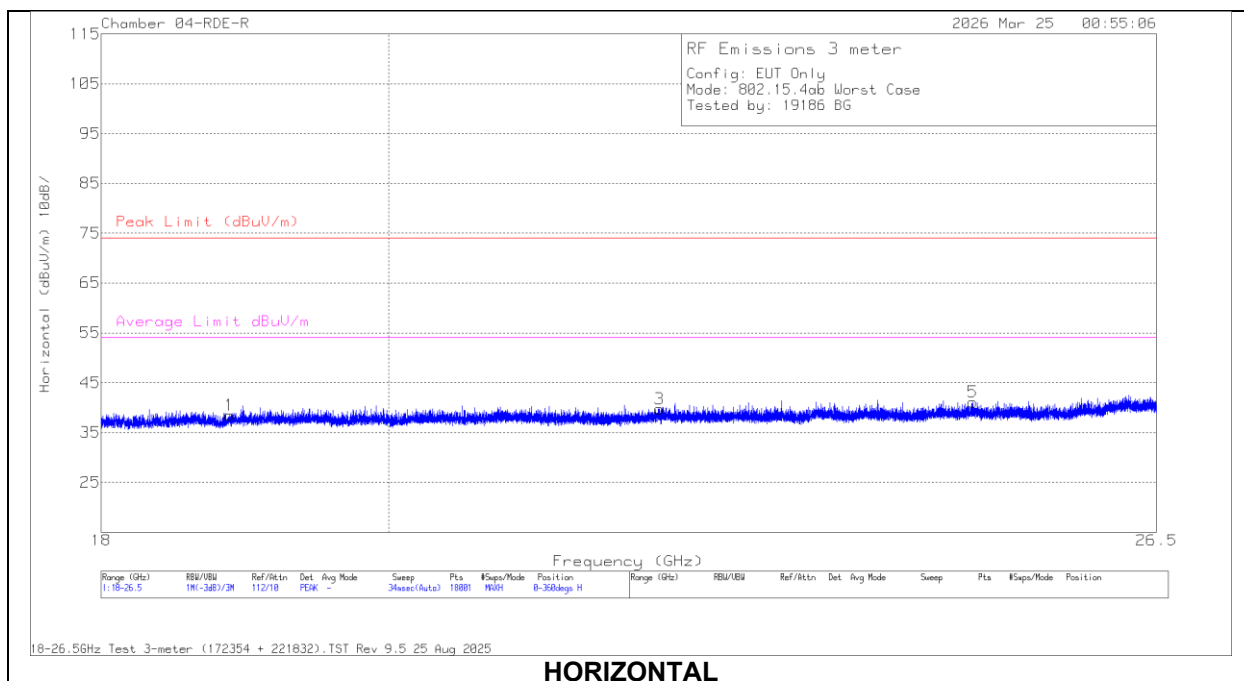
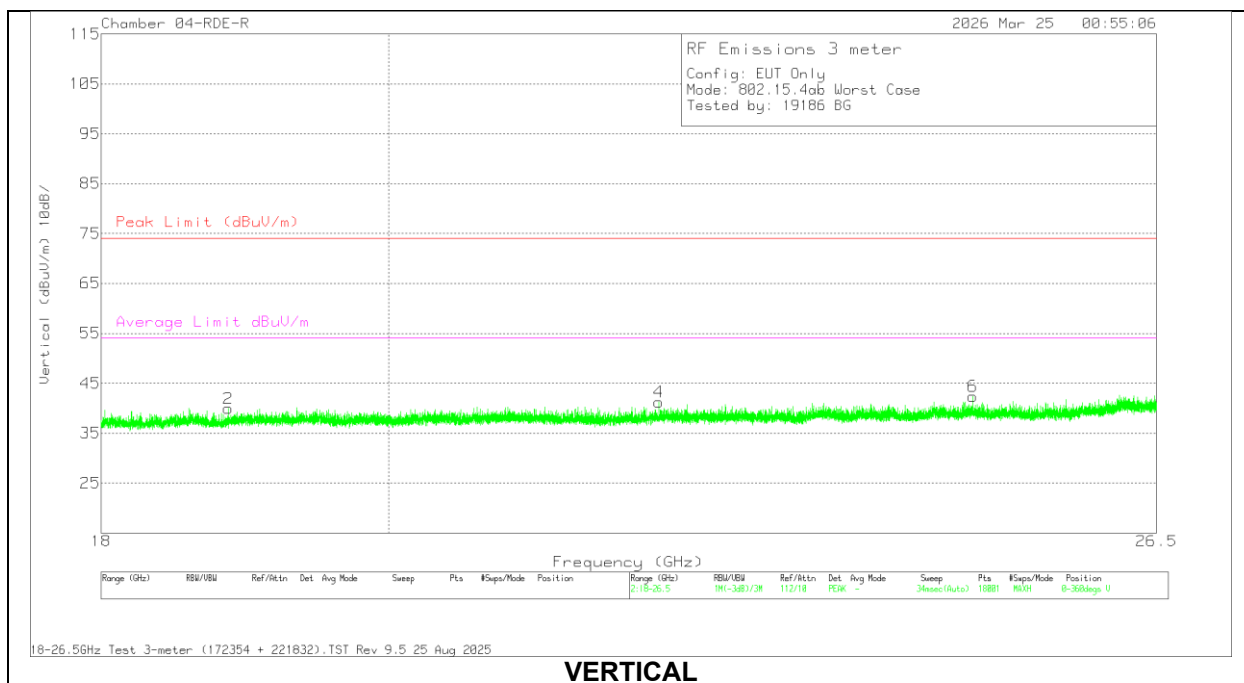
Frequency (MHz)	Meter Reading (dBuV)	Det	204045 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 257.438	38.22	Qp	17.6	-30.9	24.92	46.02	-21.1	101	101	H
33.9436	42.11	Qp	24.1	-32.3	33.91	40	-6.09	61	100	V
34.4152	30.86	Qp	23.8	-32.3	22.36	40	-17.64	18	187	H
42.0343	40.8	Qp	18.2	-32.1	26.9	40	-13.1	254	106	V
99.6784	33.24	Qp	16.2	-31.7	17.74	43.52	-25.78	101	299	H
100.727	31.45	Qp	16.5	-31.7	16.25	43.52	-27.27	22	104	V

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

Qp - Quasi-Peak detector

9.3. WORST CASE 18-26 GHz

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

**HORIZONTAL****VERTICAL**

18 – 26GHz Data**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172354 3m AF (dB/m)	18-26GHz Amp (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	* 18.865583	53.14	Pk	32.3	-62.9	15.9	38.44	74	-35.56	-	-	0-360	99	H
2	* 18.859916	54.73	Pk	32.3	-63	15.9	39.93	74	-34.07	-	-	0-360	99	V
3	* 22.085193	51.24	Pk	33.1	-61.8	17.2	39.74	74	-34.26	-	-	0-360	99	H
4	* 22.083304	52.74	Pk	33.1	-61.8	17.2	41.24	74	-32.76	-	-	0-360	99	V
5	24.77308	50.94	Pk	33.8	-62.1	18.5	41.14	74	-32.86	-	-	0-360	99	H
6	24.772608	52.15	Pk	33.8	-62.1	18.5	42.35	74	-31.65	-	-	0-360	99	V

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

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	172354 3m AF (dB/m)	18-26GHz Amp (dB)	Cables (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	PK Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 18.856943	43.61	ADR	32.3	-63	15.9	5.14	33.95	54	-20.05	-	-	0	100	V
* 18.85913	55.22	PK-U	32.3	-63	15.9	0	40.42	-	-	74	-33.58	0	100	V
* 18.863725	55.36	PK-U	32.3	-62.9	15.9	0	40.66	-	-	74	-33.34	0	100	H
* 18.863739	43.71	ADR	32.3	-62.9	15.9	5.14	34.15	54	-19.85	-	-	0	100	H
* 22.08242	53.28	PK-U	33.1	-61.8	17.2	0	41.78	-	-	74	-32.22	0	100	H
* 22.082623	53.08	PK-U	33.1	-61.8	17.2	0	41.58	-	-	74	-32.42	0	100	V
* 22.082788	41.62	ADR	33.1	-61.8	17.2	5.14	35.26	54	-18.74	-	-	0	100	H
* 22.084842	41.61	ADR	33.1	-61.8	17.2	5.14	35.25	54	-18.75	-	-	0	100	V
24.771888	52.31	PK-U	33.8	-62.1	18.5	0	42.51	-	-	68.2	-25.69	0	100	V
24.773579	52.33	PK-U	33.8	-62.1	18.5	0	42.53	-	-	68.2	-25.67	0	100	H

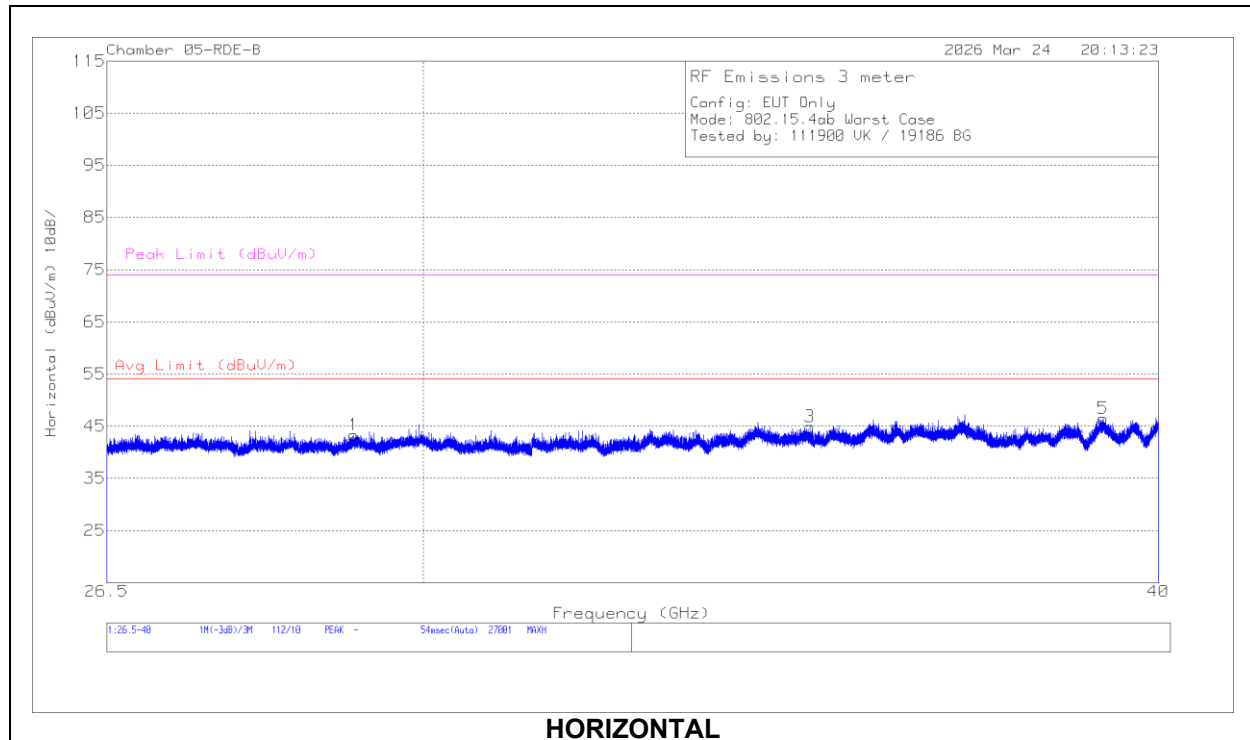
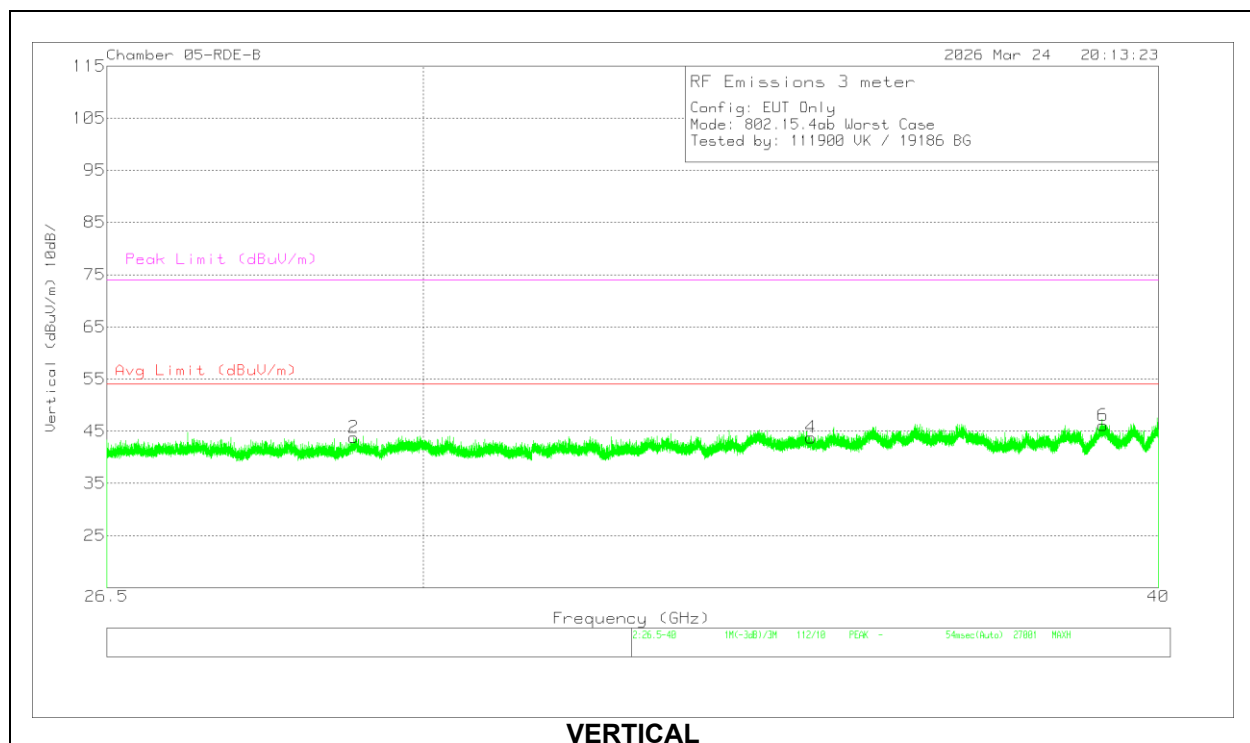
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

9.4. WORST CASE 26-40 GHz

SPURIOUS EMISSIONS 26-40 GHz (WORST-CASE CONFIGURATION) STATE A



26 – 40GHz Data**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172366 ACF (dB/m)	CBL/AMP (dB)	Cbl (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	29.192	60.97	Pk	36.1	-71.2	17.4	0	43.27	-	-	74	-30.73	0-360	199	H
2	29.194	61.52	Pk	36.1	-71.2	17.4	0	43.82	-	-	74	-30.18	0-360	200	V
3	34.8965	62.23	Pk	37.1	-73.5	19	0	44.83	-	-	74	-29.17	0-360	101	H
4	34.9135	61.19	Pk	37.1	-73.5	19	0	43.79	-	-	74	-30.21	0-360	200	V
5	* 39.142	58.36	Pk	38.2	-70.1	20	0	46.46	-	-	74	-27.54	0-360	199	H
6	* 39.143	58	Pk	38.2	-70.1	20	0	46.1	-	-	74	-27.9	0-360	101	V

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

Radiated Emissions

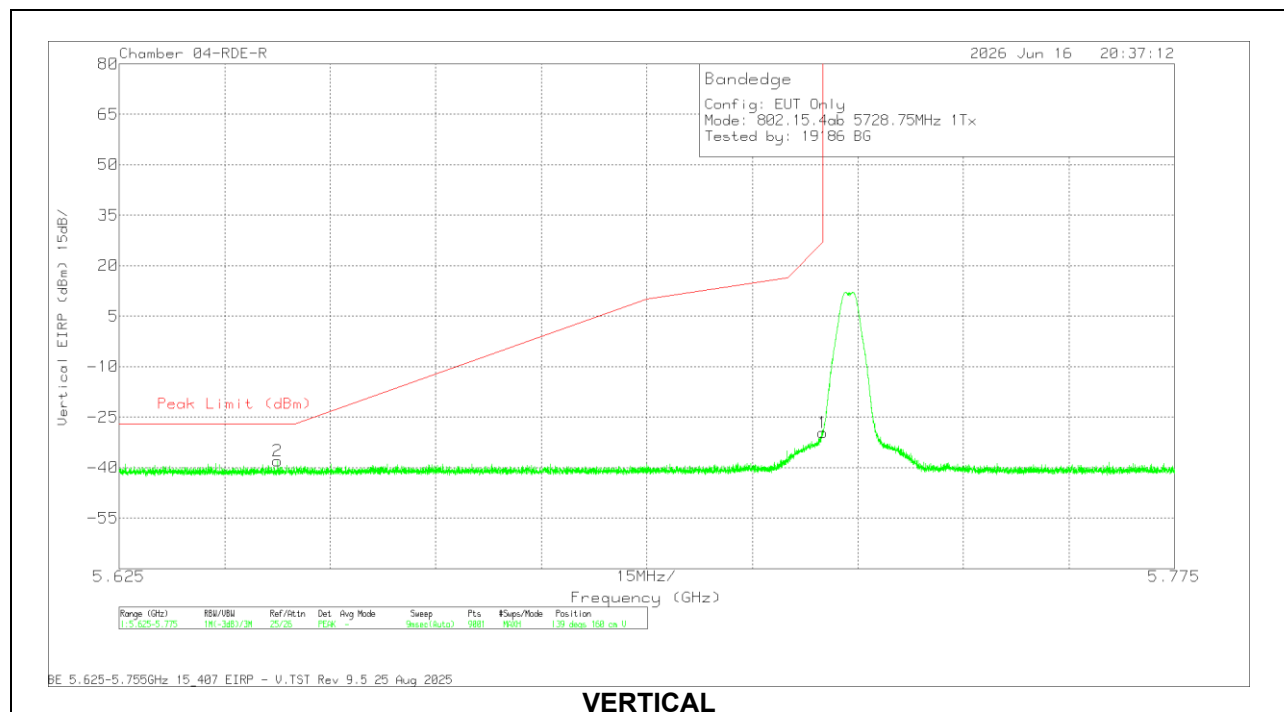
Frequency (GHz)	Meter Reading (dBuV)	Det	172366 ACF (dB/m)	CBL/AMP (dB)	Cbl (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 39.142775	60.28	PK-U	38.2	-70.1	20	0	43.38	-	-	74	-25.62	0	199	H
* 39.141332	48.32	ADR	38.2	-70	20	5.14	41.66	54	-12.34	-	-	0	199	H
* 39.14414	60.37	PK-U	38.2	-70.1	20	0	48.47	-	-	74	-25.53	0	101	V
* 39.142083	48.3	ADR	38.2	-70.1	20	5.14	41.54	54	-12.46	-	-	0	101	V
29.192468	62.95	PK-U	36.1	-71.2	17.4	0	45.25	-	-	68.2	-22.95	0	199	H
29.194257	63.61	PK-U	36.1	-71.2	17.4	0	45.91	-	-	68.2	-22.29	0	199	V
34.897724	63.87	PK-U	37.1	-73.5	19	0	46.47	-	-	68.2	-21.73	0	101	H
34.912662	63.97	PK-U	37.1	-73.5	19	0	46.57	-	-	68.2	-21.63	0	199	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

STATE B**9.5. TRANSMITTER ABOVE 1 GHz****9.5.1. LOW BANDEGE**

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DCCF (dB)	Conversion Factor (dB)	Correct Reading EIRP (dBm)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
High Power	5728.75	6	5.725	-32.83	Pk	34.9	-37.45	0	11.8	-23.58	27	-50.58	324	194	H
			5.635217	-47.97	Pk	34.7	-37.64	0	11.8	-39.11	-27	-12.11	324	194	H
			5.725	-28.4	Pk	34.9	-37.45	0	11.8	-19.15	27	-46.15	355	210	V
			5.637167	-47.79	Pk	34.7	-37.64	0	11.8	-38.93	-27	-11.93	355	210	V
		5	5.725	-32.73	Pk	34.9	-36.82	0	11.8	-22.85	27	-49.85	206	179	H
			5.643734	-47.84	Pk	34.8	-36.9	0	11.8	-38.14	-27	-11.14	206	179	H
			5.725	-35.66	Pk	34.9	-36.82	0	11.8	-25.78	27	-52.78	139	160	V
			5.635217	-48.18	Pk	34.8	-36.92	0	11.8	-38.5	-27	-11.5	139	160	V
Low Power	5728.75	6	5.725	-38.03	Pk	34.9	-37.45	0	11.8	-28.78	27	-55.78	147	183	H
			5.636017	-48.42	Pk	34.7	-37.65	0	11.8	-39.57	-27	-12.57	147	183	H
			5.725	-33.17	Pk	34.9	-37.45	0	11.8	-23.92	27	-50.92	183	202	V
			5.626833	-47.88	Pk	34.7	-37.62	0	11.8	-39	-27	-12	183	202	V
		5	5.725	-35.47	Pk	34.9	-36.82	0	11.8	-25.59	27	-52.59	206	179	H
			5.649467	-48.43	Pk	34.8	-36.88	0	11.8	-38.71	-27	-11.71	206	179	H
			5.725	-39.56	Pk	34.9	-36.82	0	11.8	-29.68	27	-56.68	139	160	V
			5.647517	-47.74	Pk	34.8	-36.88	0	11.8	-38.02	-27	-11.02	139	160	V

Pk - Peak detector

WORST-CASE BANDEGE (LOW CHANNEL)**VERTICAL****Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	80430 ACF (dB/m)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-39.56	Pk	34.9	11.8	-36.82	-29.68	27	-56.68	139	160	V
2	5.647517	-47.74	Pk	34.8	11.8	-36.88	-38.02	-27	-11.02	139	160	V

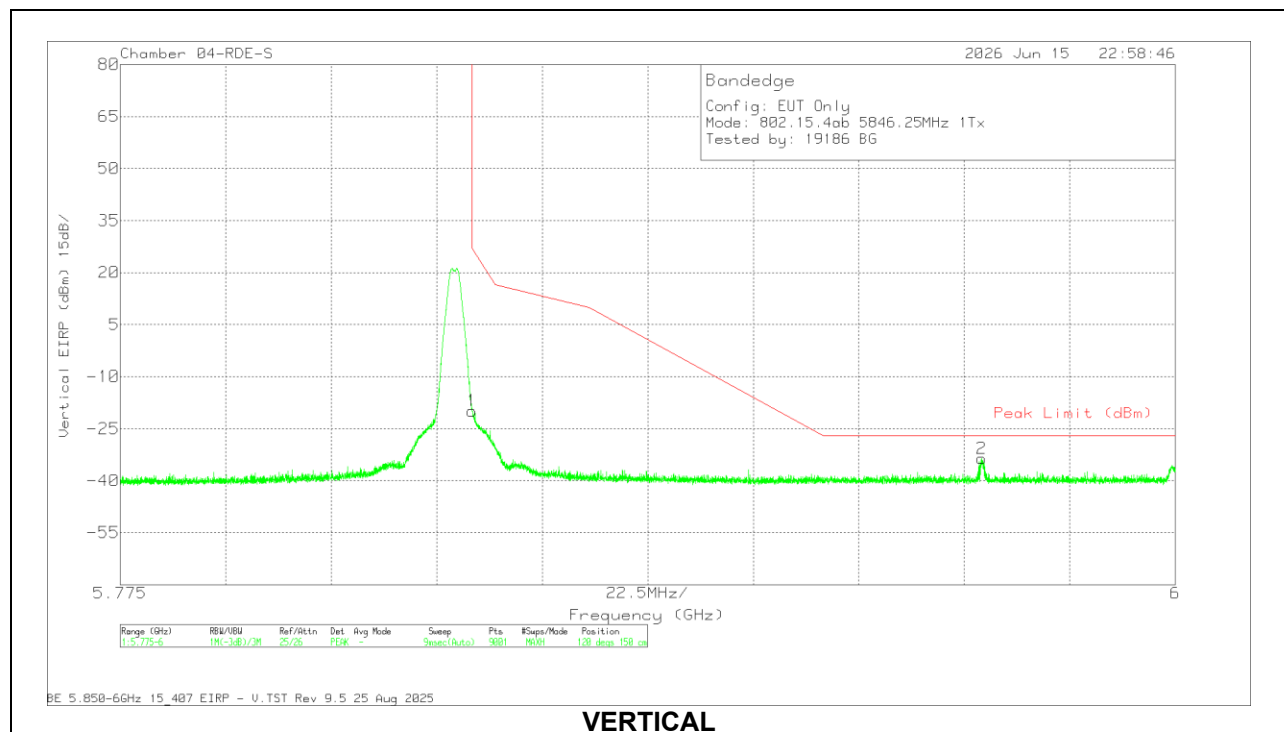
Pk - Peak detector

9.5.2. HIGH BANDEDGE

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	DCCF (dB)	Conversion Factor (dB)	Correct Reading EIRP (dBm)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
High Power	5846.25	6	5.85	-34.46	Pk	35.2	-37.23	0	11.8	-24.69	27	-51.69	146	172	H
			5.9584	-47.94	Pk	35.4	-36.89	0	11.8	-37.63	-27	-10.63	146	172	H
			5.85	-29.64	Pk	35.2	-37.23	0	11.8	-19.87	27	-46.87	120	150	V
			5.9587	-43.89	Pk	35.4	-36.9	0	11.8	-33.59	-27	-6.59	120	150	V
		5	5.85	-32.3	Pk	35.3	-36.69	0	11.8	-21.89	27	-48.89	206	170	H
			5.95895	-47.28	Pk	35.6	-36.68	0	11.8	-36.56	-27	-9.56	206	170	H
			5.85	-37.26	Pk	35.3	-36.69	0	11.8	-26.85	27	-53.85	133	143	V
			5.99975	-48.46	Pk	35.6	-36.61	0	11.8	-37.67	-27	-10.67	133	143	V
Low Power	5846.25	6	5.85	-38.26	Pk	35.2	-37.23	0	11.8	-28.49	27	-55.49	146	172	H
			5.9703	-47.81	Pk	35.4	-36.9	0	11.8	-37.51	-27	-10.51	146	172	H
			5.85	-32.27	Pk	35.2	-37.23	0	11.8	-22.5	27	-49.5	120	150	V
			5.999225	-47.07	Pk	35.4	-36.97	0	11.8	-36.84	-27	-9.84	120	150	V
		5	5.85	-35.97	Pk	35.3	-36.69	0	11.8	-25.56	27	-52.56	206	170	H
			5.98335	-48.2	Pk	35.6	-36.65	0	11.8	-37.45	-27	-10.45	206	170	H
			5.85	-40.95	Pk	35.3	-36.69	0	11.8	-30.54	27	-57.54	133	143	V
			5.9878	-48.03	Pk	35.6	-36.63	0	11.8	-37.26	-27	-10.26	133	143	V

Pk - Peak detector

WORST-CASE BANDEDGE (HIGH CHANNEL)



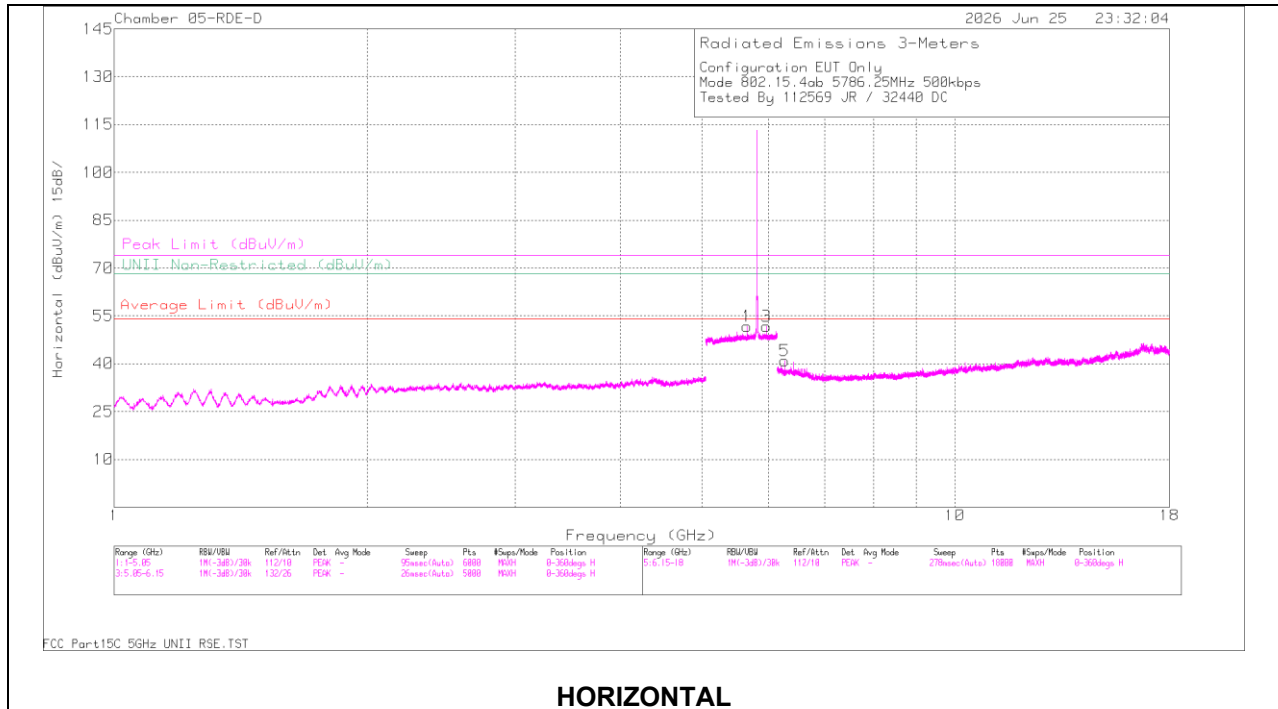
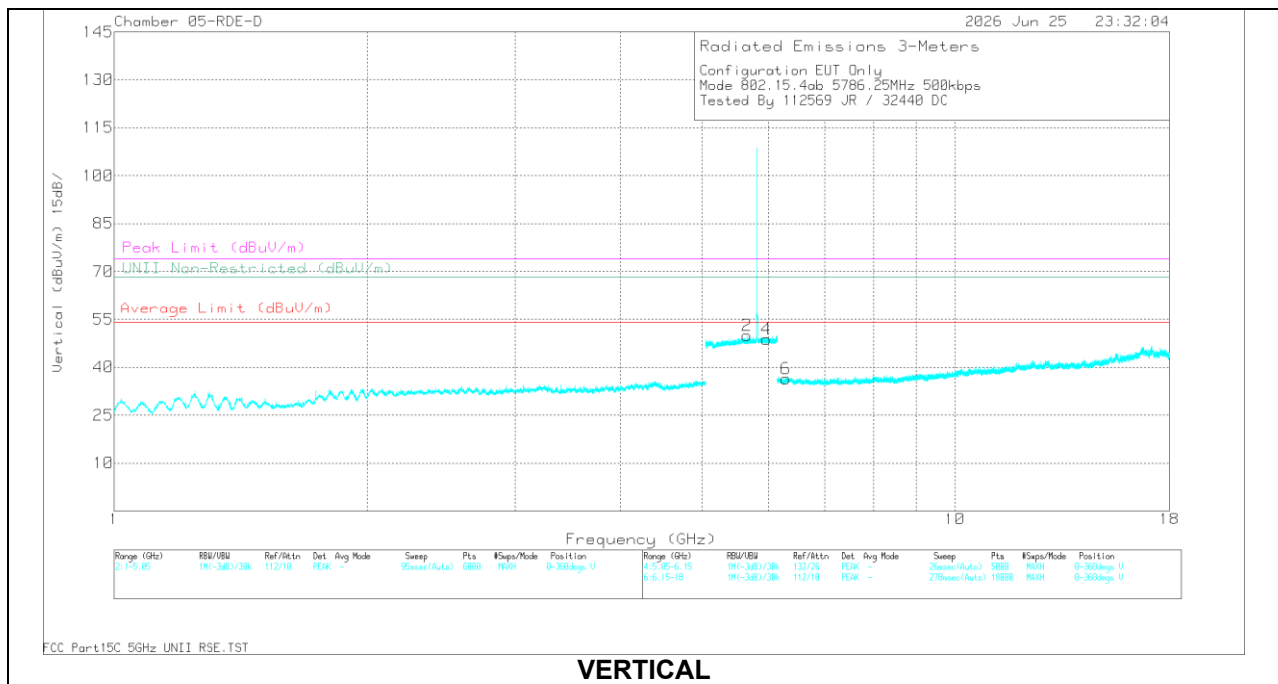
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	200785 ACF (dB/m)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-29.64	Pk	35.2	11.8	-37.23	-19.87	27	-46.87	120	150	V
2	5.9587	-43.89	Pk	35.4	11.8	-36.9	-33.59	-27	-6.59	120	150	V

Pk - Peak detector

9.5.3. HARMONICS AND SPURIOUS EMISSIONS – HIGH POWER

802.15.4ab	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cb/ Fltr/Pad (dB)	DCCF (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
500Kbps	5728.75	6	5.571848	61.63	PK-U	35	-38.1	0	58.53	-	-	68.2	-9.67	311	131	H
			5.572144	51.02	ADR	35	-38.09	5.14	53.07	-	-	-	-	311	131	H
			5.878994	61.17	PK-U	35.4	-37.3	0	59.27	-	-	68.2	-8.93	306	167	H
			5.879474	50.11	ADR	35.4	-37.3	5.14	53.35	-	-	-	-	306	167	H
			5.572976	59.45	PK-U	35	-38	0	56.45	-	-	68.2	-11.75	12	191	V
			5.572376	48.24	ADR	35	-38.06	5.14	50.32	-	-	-	-	12	191	V
			5.898546	59.39	PK-U	35.4	-37.2	0	57.59	-	-	68.2	-10.61	12	101	V
			5.879562	47.22	ADR	35.4	-37.3	5.14	50.46	-	-	-	-	12	101	V
			6.186893	61.57	PK-U	35.9	-45.4	0	52.07	-	-	68.2	-16.13	327	176	H
			6.186506	48.94	ADR	35.9	-45.4	5.14	44.58	-	-	-	-	327	176	H
			6.186893	61.57	PK-U	35.9	-45.4	0	52.07	-	-	68.2	-16.13	311	152	V
			6.186506	48.94	ADR	35.9	-45.4	5.14	44.58	-	-	-	-	311	152	V
		5	5.574615	59.17	PK-U	34.9	-35.08	0	58.99	-	-	68.2	-9.21	358	159	V
			5.574632	48.04	ADR	34.9	-35.08	5.14	53	-	-	-	-	80	206	H
			5.574727	47.78	ADR	34.9	-35.08	5.14	52.74	-	-	-	-	358	159	V
			5.574952	59.27	PK-U	34.9	-35.09	0	59.08	-	-	68.2	-9.12	80	206	H
			5.881555	58.32	PK-U	35.2	-34.9	0	58.62	-	-	68.2	-9.58	34	131	V
			5.88177	59.03	PK-U	35.2	-34.9	0	59.33	-	-	68.2	-8.87	94	166	H
			5.881778	47.39	ADR	35.2	-34.9	5.14	52.83	-	-	-	-	94	166	H
			5.882011	46.41	ADR	35.2	-34.9	5.14	51.85	-	-	-	-	34	131	V
			6.169376	57.01	PK-U	35.4	-43.49	0	48.92	-	-	68.2	-19.28	89	189	H
			6.189011	43.59	ADR	35.4	-43.48	5.14	40.65	-	-	-	-	43	214	V
	5786.25	6	6.189047	45.32	ADR	35.4	-43.48	5.14	42.38	-	-	-	-	89	189	H
			6.189895	55.56	PK-U	35.4	-43.47	0	47.49	-	-	68.2	-20.71	43	214	V
			5.661992	59.78	PK-U	35	-35.07	0	59.71	-	-	68.2	-8.49	331	106	H
			5.662135	58.94	PK-U	35	-35.07	0	58.87	-	-	68.2	-9.33	61	195	V
			5.662312	48.61	ADR	35	-35.07	5.14	53.68	-	-	-	-	331	106	H
			5.662351	47.11	ADR	35	-35.07	5.14	52.18	-	-	-	-	61	195	V
			5.969406	48.48	ADR	35.3	-34.86	5.14	54.06	-	-	-	-	13	162	H
			5.969431	46.33	ADR	35.3	-34.86	5.14	51.91	-	-	-	-	65	158	V
			5.970574	59.29	PK-U	35.3	-34.86	0	59.73	-	-	68.2	-8.47	13	162	H
			5.980111	58.5	PK-U	35.3	-34.83	0	58.97	-	-	68.2	-9.23	65	158	V
		5	6.276463	47.18	ADR	35.4	-43.69	5.14	44.03	-	-	-	-	20	149	H
			6.276703	59.04	PK-U	35.4	-43.67	0	50.77	-	-	68.2	-17.43	20	149	H
			6.289699	42.17	ADR	35.4	-43.59	5.14	39.12	-	-	-	-	191	266	V
			6.299655	54.64	PK-U	35.4	-43.6	0	46.44	-	-	68.2	-21.76	191	266	V
			2.02428	47.22	ADR	31.6	-47.67	5.14	36.29	-	-	-	-	360	101	H
			2.025174	59.02	PK-U	31.6	-47.67	0	42.95	-	-	68.2	-25.25	360	101	H
			2.025846	47.13	ADR	31.6	-47.67	5.14	36.2	-	-	-	-	360	200	V
			2.029579	59.05	PK-U	31.6	-47.67	0	42.98	-	-	68.2	-25.22	360	200	V
			3.029793	43.78	ADR	32.9	-45.53	5.14	36.29	-	-	-	-	360	200	V
			3.031093	43.81	ADR	32.9	-45.54	5.14	36.31	-	-	-	-	360	200	H
5846.25	6	3.036746	55.92	PK-U	32.9	-45.57	0	43.25	-	-	68.2	-24.95	360	200	V	
		3.066599	56.03	PK-U	33	-45.56	0	43.47	-	-	68.2	-24.73	360	200	H	
		10.340748	42.44	ADR	37.4	-43.45	5.14	41.53	-	-	-	-	360	200	H	
		10.351686	54.49	PK-U	37.4	-43.35	0	48.54	-	-	68.2	-19.66	360	200	H	
		10.35503	54.67	PK-U	37.4	-43.44	0	48.63	-	-	68.2	-19.57	360	101	V	
		10.364688	42.5	ADR	37.4	-43.21	5.14	41.83	-	-	-	-	360	101	V	
		* 3.905271	56.7	PK-U	33.4	-46	0	44.1	-	-	74	-29.9	360	101	H	
		* 3.904751	44.67	ADR	33.4	-46.02	5.14	37.19	54	-16.81	-	-	360	101	H	
		* 3.902501	56.5	PK-U	33.4	-46.1	0	43.8	-	-	74	-30.2	359	101	V	
		* 3.906134	44.65	ADR	33.4	-46	5.14	37.19	54	-16.81	-	-	359	101	V	
	5	* 11.524287	54.87	PK-U	38.2	-42.23	0	50.84	-	-	74	-23.16	359	101	H	
		* 11.529279	42.35	ADR	38.2	-42.27	5.14	43.42	54	-10.58	-	-	359	101	H	
		* 11.540257	54.47	PK-U	38.2	-42.3	0	50.37	-	-	74	-23.63	359	101	V	
		* 11.534053	42.15	ADR	38.2	-42.2	5.14	43.29	54	-10.71	-	-	359	101	V	
		6.153099	47.64	ADR	35.8	-44.69	5.14	43.89	-	-	-	-	352	155	H	
		6.153826	59.39	PK-U	35.8	-44.62	0	50.57	-	-	68.2	-17.63	352	155	H	
		6.184035	58.01	PK-U	35.9	-44.7	0	49.21	-	-	68.2	-18.99	59	248	V	
		6.197769	44.3	ADR	35.9	-44.7	5.14	40.64	-	-	-	-	59	248	V	
		* 3.78625	58.08	PK-U	33.4	-46.77	0	44.71	-	-	74	-29.29	1	101	H	
		* 3.798417	45.73	ADR	33.4	-46.66	5.14	37.61	54	-16.39	-	-	1	101	H	
* 3.806572	58.13	PK-U	33.4	-46.6	0	44.93	-	-	74	-29.07	1	101	V			
* 3.801552	45.83	ADR	33.4	-46.64	5.14	37.73	54	-16.27	-	-	1	101	V			
5.69218	49.68	ADR	35	-37.02	5.14	52.8	-	-	-	-	33	386	H			
5.692403	47.69	ADR	35	-37.04	5.14	50.79	-	-	-	-	311	244	V			
5.6927	60.87	PK-U	35	-37.07	0	58.8	-	-	68.2	-9.4	33	386	H			
5.695795	58.99	PK-U	35	-36.98	0	57.01	-	-	68.2	-11.19	311	244	V			
6.295759	61.15	PK-U	35.9	-44.7	0	52.35	-	-	68.2	-15.85	48	106	H			
6.306617	43.82	ADR	35.9	-44.76	5.14	40.1	-	-	-	-	274	166	V			
6.306706	48.89	ADR	35.9	-44.77	5.14	45.16	-	-	-	-	48	106	H			
6.307626	56.87	PK-U	35.9	-44.8	0	47.97	-	-	68.2	-20.23	274	166	V			

WORST-CASE HARMONICS AND SPURIOUS EMISSIONS**Radiated Emissions**

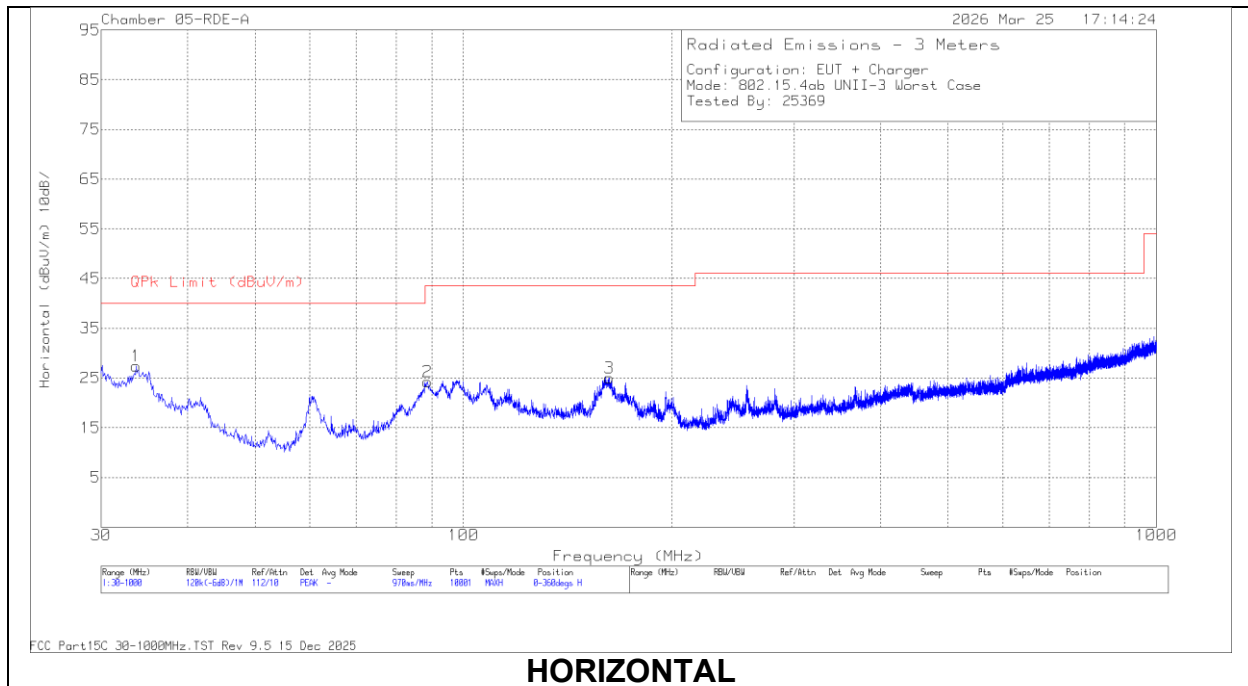
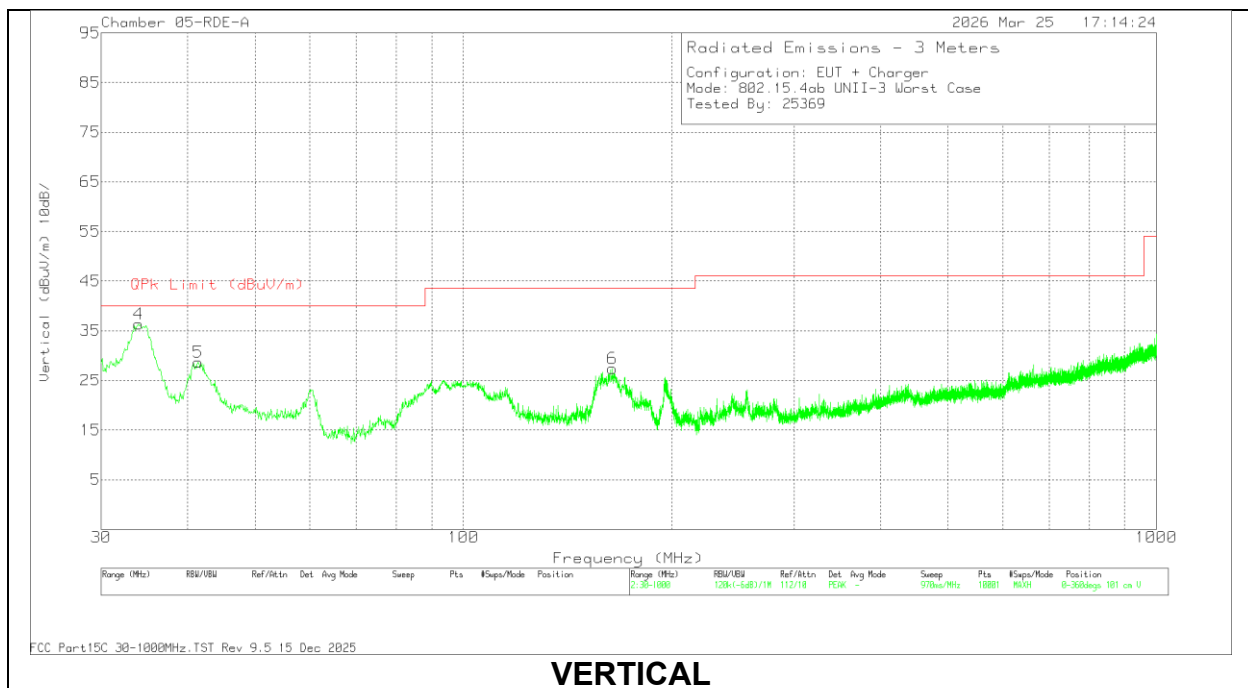
Frequency (GHz)	Meter Reading (dBuV)	Det	81887 ACF (dB/m)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5.661992	59.78	PK-U	35	0	-35.07	59.71	68.2	-8.49	331	106	H
5.662135	58.94	PK-U	35	0	-35.07	58.87	68.2	-9.33	61	195	V
5.662312	46.61	ADR	35	5.14	-35.07	53.68	-	-	331	106	H
5.662351	47.11	ADR	35	5.14	-35.07	52.18	-	-	61	195	V
5.969406	48.48	ADR	35.3	5.14	-34.86	54.06	-	-	13	162	H
5.969431	46.33	ADR	35.3	5.14	-34.86	51.91	-	-	65	158	V
5.970574	59.29	PK-U	35.3	0	-34.86	59.73	68.2	-8.47	13	162	H
5.980111	58.5	PK-U	35.3	0	-34.83	58.97	68.2	-9.23	65	158	V
6.276463	47.18	ADR	35.4	5.14	-43.69	44.03	-	-	20	149	H
6.276703	59.04	PK-U	35.4	0	-43.67	50.77	68.2	-17.43	20	149	H
6.289699	42.17	ADR	35.4	5.14	-43.59	39.12	-	-	191	266	V
6.296655	54.64	PK-U	35.4	0	-43.6	46.44	68.2	-21.76	191	266	V

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

9.6. WORST CASE BELOW 1 GHz

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



Below 1GHz Data**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	204045 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 162.308	38.17	Pk	18.2	-31.4	24.97	43.52	-18.55	0-360	199	H
6	* 163.957	40.62	Pk	18.1	-31.3	27.42	43.52	-16.1	0-360	101	V
1	33.686	35.36	Pk	24.3	-32.3	27.36	40	-12.64	0-360	199	H
4	33.977	44.51	Pk	24.1	-32.3	36.31	40	-3.69	0-360	101	V
5	41.446	42.2	Pk	18.6	-32.1	28.7	40	-11.3	0-360	101	V
2	88.782	42.47	Pk	13.5	-31.7	24.27	43.52	-19.25	0-360	299	H

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

Pk - Peak detector

Radiated Emissions

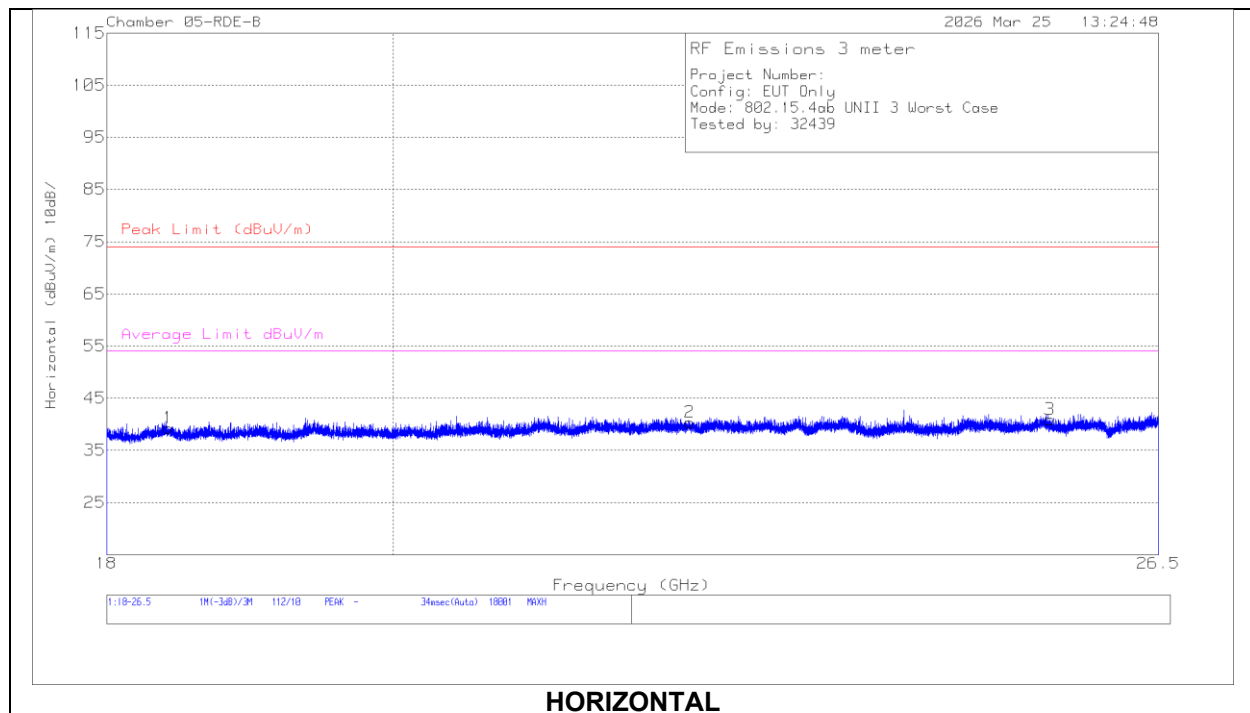
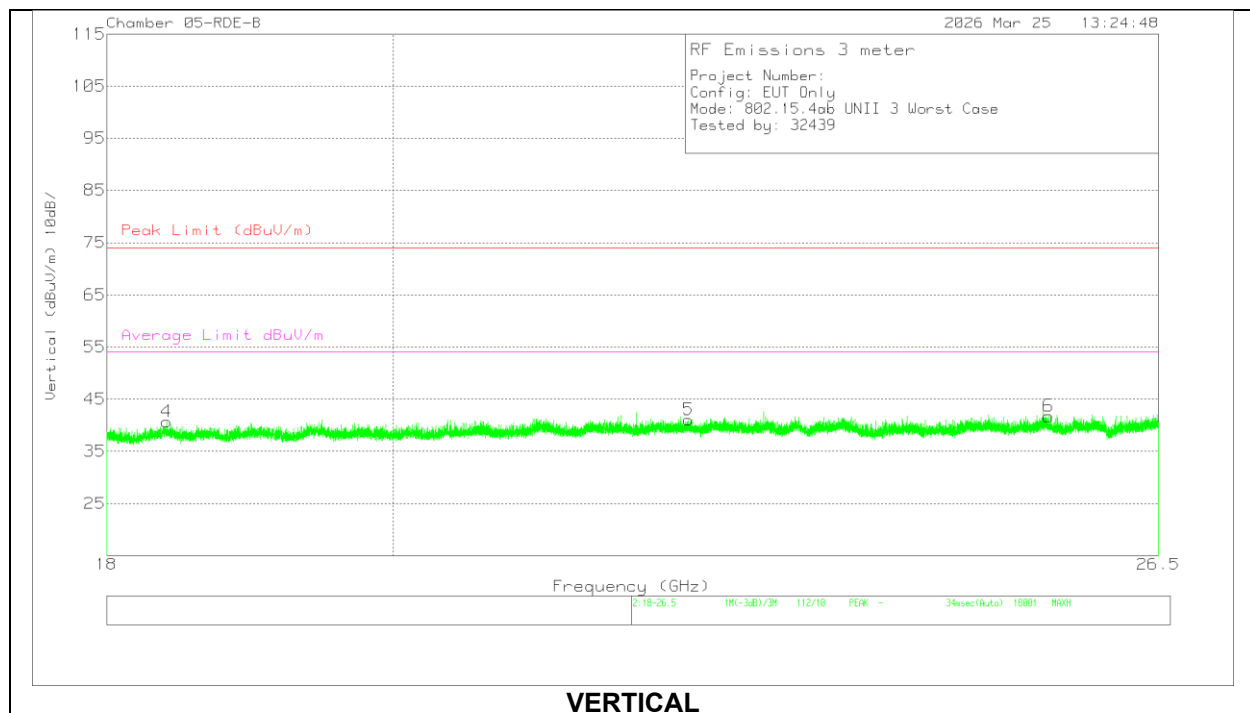
Frequency (MHz)	Meter Reading (dBuV)	Det	204045 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 162.08	34.79	Qp	18.2	-31.4	21.59	43.52	-21.93	305	192	H
* 163.473	37.57	Qp	18.2	-31.3	24.47	43.52	-19.05	98	103	V
33.9181	28.91	Qp	24.2	-32.3	20.81	40	-19.19	4	186	H
33.9624	40.72	Qp	24.1	-32.3	32.52	40	-7.48	260	103	V
41.6606	37.56	Qp	18.4	-32.1	23.86	40	-16.14	253	113	V
88.6905	38.44	Qp	13.5	-31.7	20.24	43.52	-23.28	119	205	H

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

Qp - Quasi-Peak detector

9.7. WORST CASE 18-26 GHz

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



18 – 26GHz Data**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172363 ACF (dB/m)	CBL/AMP (dB)	Cbl (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.412722	57.26	Pk	32.1	-63.4	13.3	0	39.26	74	-34.74	0-360	101	H
2	22.304304	55.37	Pk	33.1	-63	14.9	0	40.37	74	-33.63	0-360	200	H
3	25.46158	53.67	Pk	33.9	-62.6	15.9	0	40.87	74	-33.13	0-360	101	H
4	18.40375	58.67	Pk	32.1	-63.4	13.3	0	40.67	74	-33.33	0-360	101	V
5	22.294387	56.06	Pk	33.1	-63	14.9	0	41.06	74	-32.94	0-360	101	V
6	25.450719	54.53	Pk	33.9	-62.6	15.9	0	41.73	74	-32.27	0-360	200	V

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	172363 ACF (dB/m)	CBL/AMP (dB)	Cbl (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
* 18.404797	59.74	PK-U	32.1	-63.4	13.3	0	41.74	74	-32.26	-	-	360	101	V
* 18.404875	47.19	ADR	32.1	-63.4	13.3	5.14	34.33	-	-	54	-19.67	360	101	V
* 18.411025	59.57	PK-U	32.1	-63.4	13.3	0	41.57	74	-32.43	-	-	360	101	H
* 18.414121	47.16	ADR	32.1	-63.4	13.3	5.14	34.3	-	-	54	-19.7	360	101	H
* 22.294461	45.25	ADR	33.1	-63	14.9	5.14	35.39	-	-	54	-18.61	360	101	V
* 22.296593	57.45	PK-U	33.1	-63	14.9	0	42.45	74	-31.55	-	-	360	101	V
* 22.304931	45.33	ADR	33.1	-63	14.9	5.14	35.47	-	-	54	-18.53	360	200	H
* 22.306887	57.69	PK-U	33.1	-63	14.9	0	42.69	74	-31.31	-	-	360	200	H
25.451956	55.9	PK-U	33.9	-62.6	15.9	0	43.1	68.2	-25.1	-	-	360	199	V
25.464074	56.53	PK-U	33.9	-62.7	15.9	0	43.63	68.2	-24.57	-	-	360	101	H

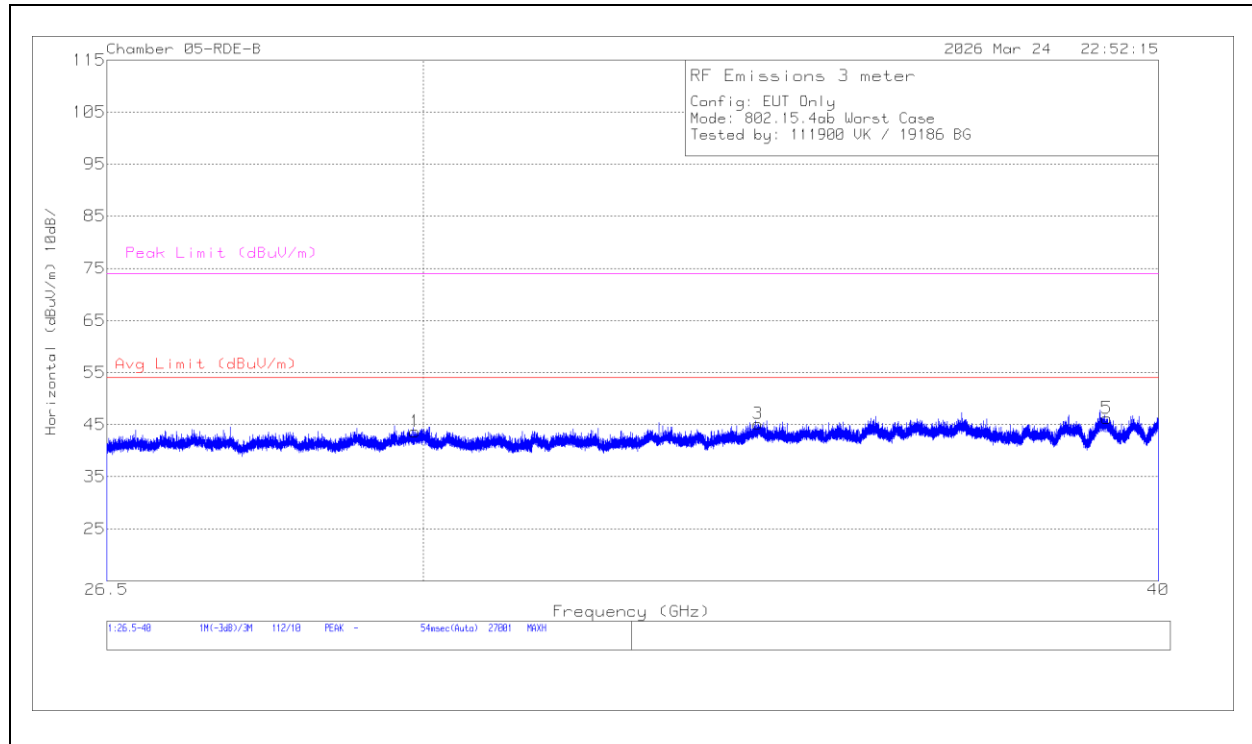
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

9.8. WORST CASE 26-40 GHz

SPURIOUS EMISSIONS 26-40 GHz (WORST-CASE CONFIGURATION) STATE B

HORIZONTAL



VERTICAL



26 – 40GHz Data**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172366 ACF (dB/m)	CBL/AMP (dB)	Cbl (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	29.9005	60.14	Pk	36.4	-70.2	17.3	0	43.64	74	-30.36	0-360	199	H
2	29.911	60.56	Pk	36.4	-70.2	17.3	0	44.06	74	-29.94	0-360	101	V
3	34.1975	61.58	Pk	37.2	-72.4	18.8	0	45.18	74	-28.82	0-360	199	H
4	34.1915	61.8	Pk	37.2	-72.4	18.8	0	45.4	74	-28.6	0-360	101	V
5	* 39.199	58.41	Pk	38.2	-70.4	20	0	46.21	74	-27.79	0-360	101	H
6	* 39.191	58.14	Pk	38.2	-70.3	20	0	46.04	74	-27.96	0-360	101	V

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

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	172366 ACF (dB/m)	CBL/AMP (dB)	Cbl (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
* 39.197547	61.04	PK-U	38.2	-70.4	20	0	48.84	-	-	74	-25.16	2	101	H
* 39.199117	48.54	ADR	38.2	-70.4	20	5.14	41.48	54	-12.52	-	-	2	101	H
* 39.191914	60.39	PK-U	38.2	-70.4	20	0	48.19	-	-	74	-25.81	2	101	V
* 39.189783	48.51	ADR	38.2	-70.3	20	5.14	41.55	54	-12.45	-	-	2	101	V
29.898776	62.96	PK-U	36.4	-70.2	17.3	0	46.46	-	-	68.2	-21.74	2	199	H
29.911364	62.41	PK-U	36.4	-70.2	17.3	0	45.91	-	-	68.2	-22.29	2	101	V
34.190588	63.41	PK-U	37.2	-72.4	18.8	0	47.01	-	-	68.2	-21.19	2	101	V
34.195474	63.24	PK-U	37.2	-72.4	18.8	0	46.84	-	-	68.2	-21.36	2	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

10. AC POWERLINE 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

ANSI C63.10, Section 6.2

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.

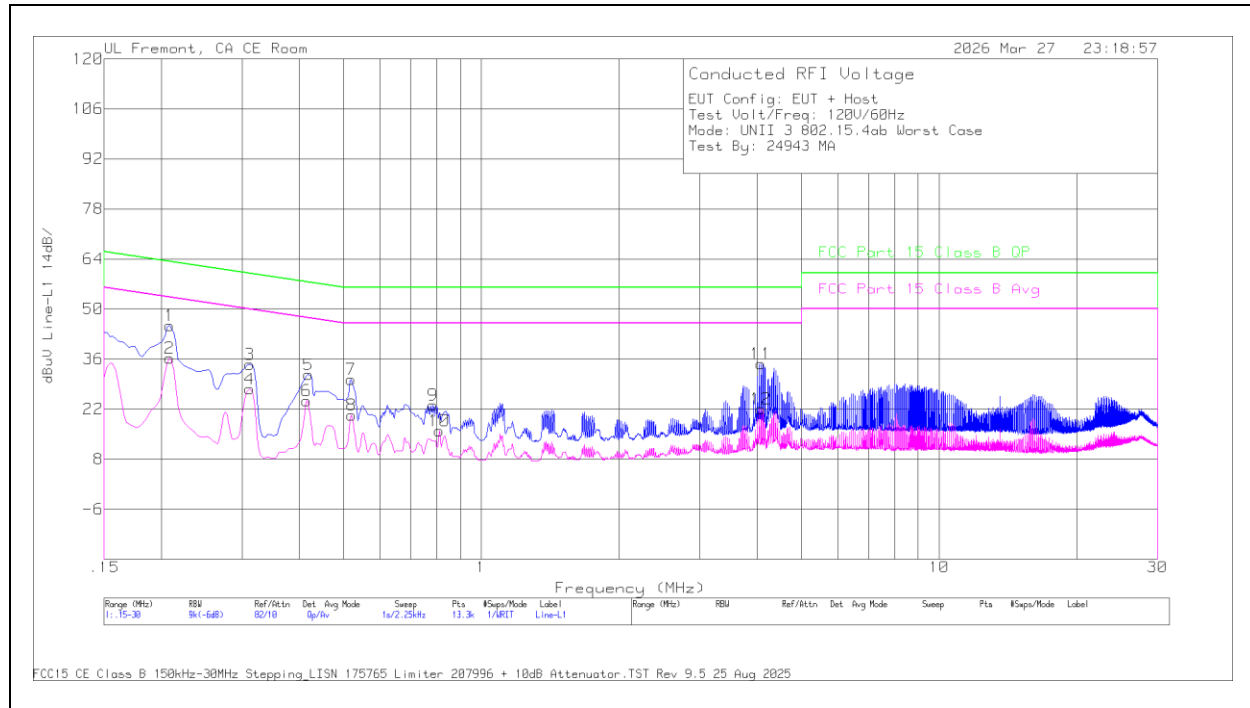
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both HOT (L1) and NEUTRAL (L2) lines.

RESULTS

10.1. AC POWER LINE WITH LAPTOP

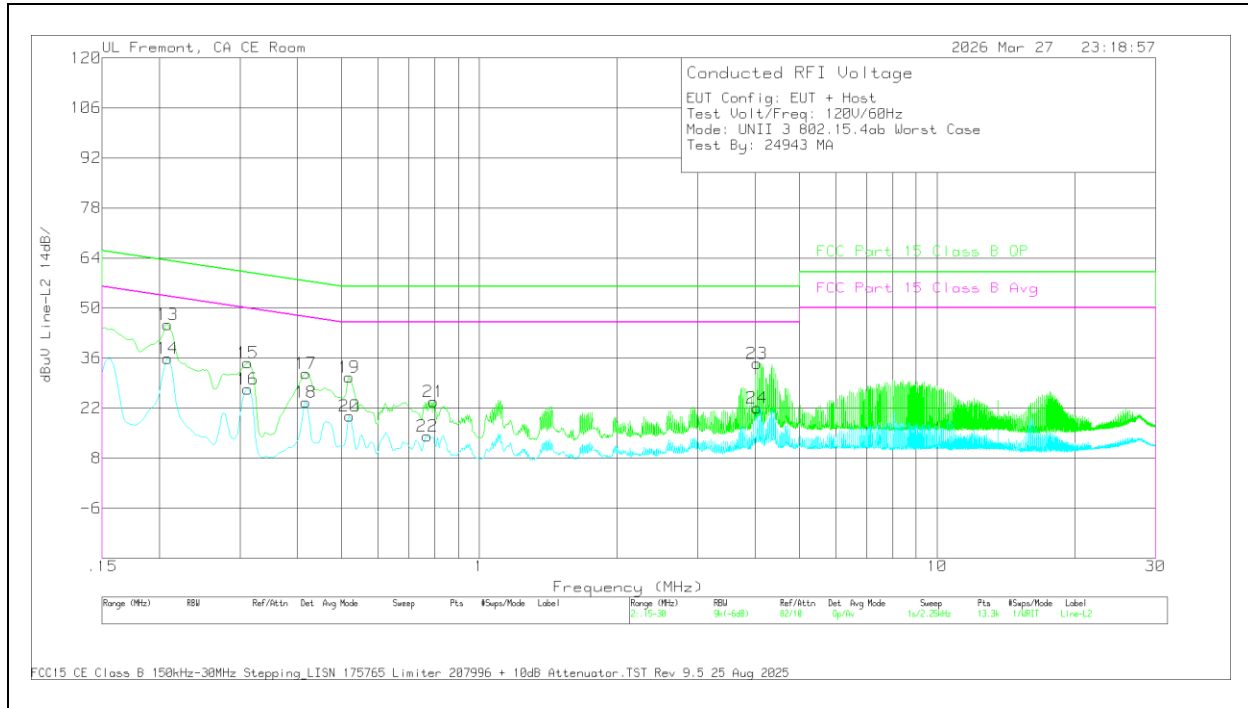
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_plus Limiter (dB)	Attenuator (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	.2085	16.93	Av	0	9.4	9.9	36.23	-	-	53.26	-17.03
4	.312	8.28	Av	0	9.4	9.9	27.58	-	-	49.92	-22.34
6	.4155	5.09	Av	0	9.3	9.9	24.29	-	-	47.54	-23.25
8	.5213	1.06	Av	0	9.3	9.9	20.26	-	-	46	-25.74
10	.8093	-3.25	Av	0	9.3	9.9	15.95	-	-	46	-30.05
12	4.083	2.8	Av	0	9.4	9.9	22.1	-	-	46	-23.9
1	.2085	26.05	Qp	0	9.4	9.9	45.35	63.26	-17.91	-	-
3	.312	15.26	Qp	0	9.4	9.9	34.56	59.92	-25.36	-	-
5	.4189	12.4	Qp	0	9.3	9.9	31.6	57.47	-25.87	-	-
7	.519	11.14	Qp	0	9.3	9.9	30.34	56	-25.66	-	-
9	.7845	3.77	Qp	0	9.4	9.9	23.07	56	-32.93	-	-
11	4.083	15.42	Qp	0	9.4	9.9	34.72	56	-21.28	-	-

Qp - Quasi-Peak detector

Av - Average detection

LINE 2 RESULTS

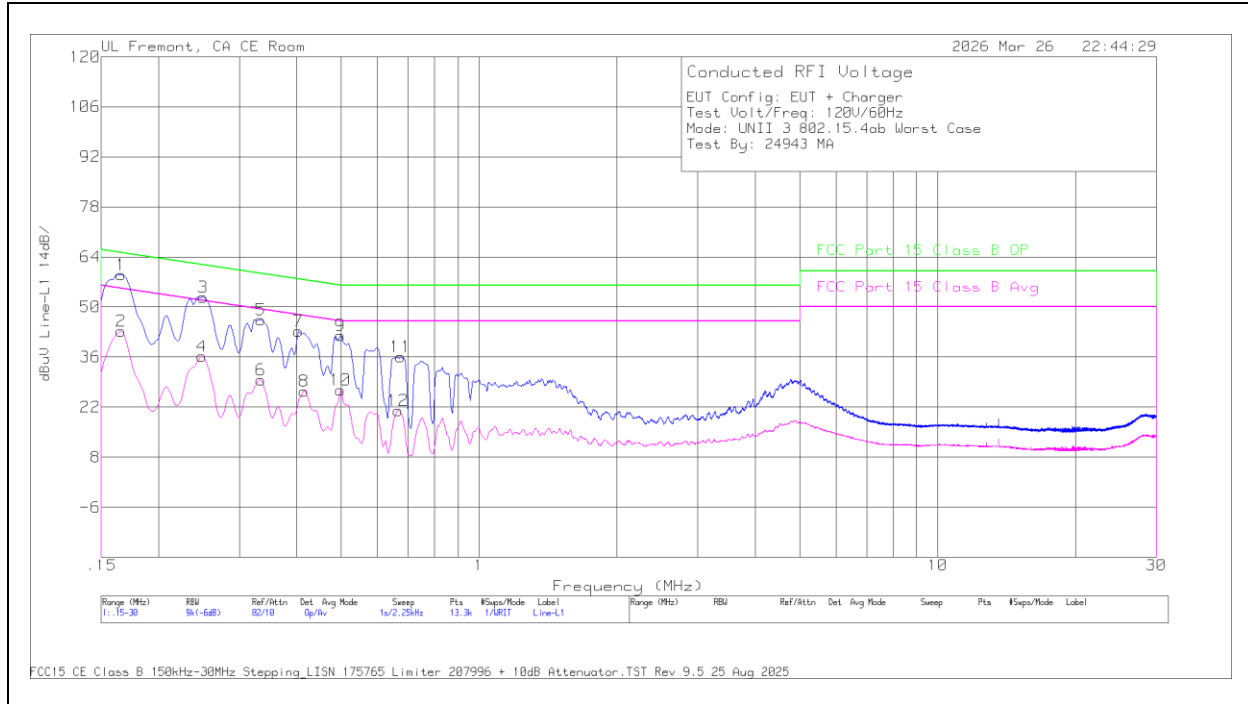
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_plus Limiter (dB)	Attenuator (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av Margin (dB)
14	.2085	16.63	Av	0	9.4	9.9	35.93	-	-	53.26	-17.33
16	.312	8	Av	0	9.4	9.9	27.3	-	-	49.92	-22.62
18	.4178	4.45	Av	0	9.3	9.9	23.65	-	-	47.49	-23.84
20	.5213	.6	Av	0	9.3	9.9	19.8	-	-	46	-26.2
22	.7688	-5.16	Av	0	9.4	9.9	14.14	-	-	46	-31.86
24	4.0425	2.79	Av	0	9.4	9.9	22.09	-	-	46	-23.91
13	.2085	26.04	Qp	0	9.4	9.9	45.34	63.26	-17.92	-	-
15	.312	15.3	Qp	0	9.4	9.9	34.6	59.92	-25.32	-	-
17	.4178	12.55	Qp	0	9.3	9.9	31.75	57.49	-25.74	-	-
19	.519	11.39	Qp	0	9.3	9.9	30.59	56	-25.41	-	-
21	.7935	4.54	Qp	0	9.4	9.9	23.84	56	-32.16	-	-
23	4.0425	15.19	Qp	0	9.4	9.9	34.49	56	-21.51	-	-

Qp - Quasi-Peak detector

Av - Average detection

10.2. AC POWER LINE WITH AC/DC ADAPTER

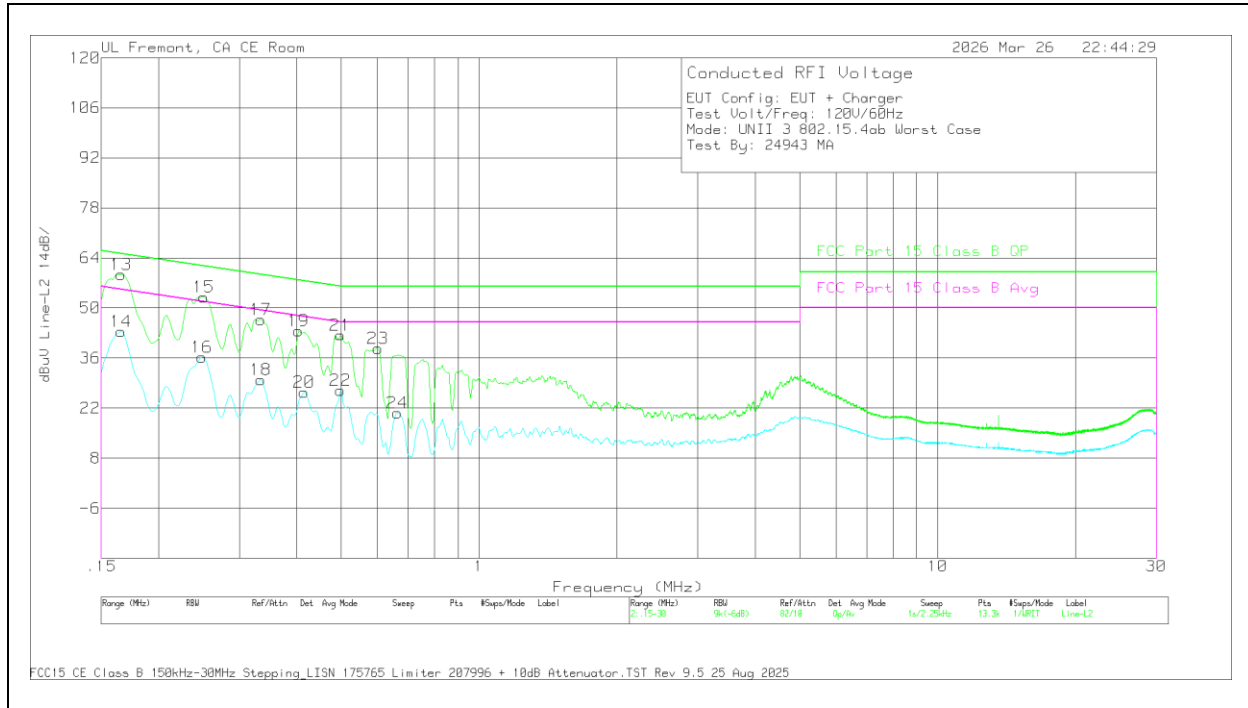
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_plus Limiter (dB)	Attenuator (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	.1658	23.8	Av	.1	9.4	9.9	43.2	-	-	55.17	-11.97
4	.249	16.87	Av	0	9.4	9.9	36.17	-	-	51.79	-15.62
6	.3345	10.4	Av	0	9.3	9.9	29.6	-	-	49.34	-19.74
8	.4155	7.29	Av	0	9.3	9.9	26.49	-	-	47.54	-21.05
10	.4988	7.52	Av	0	9.3	9.9	26.72	-	-	46.02	-19.3
12	.6664	1.57	Av	0	9.4	10	20.97	-	-	46	-25.03
1	.1658	39.58	Qp	.1	9.4	9.9	58.98	65.17	-6.19	-	-
3	.2501	33.42	Qp	0	9.4	9.9	52.72	61.75	-9.03	-	-
5	.3345	27.23	Qp	0	9.3	9.9	46.43	59.34	-12.91	-	-
7	.4043	24.03	Qp	0	9.3	9.9	43.23	57.77	-14.54	-	-
9	.4988	22.84	Qp	0	9.3	9.9	42.04	56.02	-13.98	-	-
11	.6743	16.64	Qp	0	9.4	10	36.04	56	-19.96	-	-

Qp - Quasi-Peak detector

Av - Average detection

LINE 2 RESULTS

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_plus Limiter (dB)	Attenuator (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av Margin (dB)
14	.1658	24.09	Av	.1	9.4	9.9	43.49	-	-	55.17	-11.68
16	.249	17.01	Av	0	9.4	9.9	36.31	-	-	51.79	-15.48
18	.3345	10.57	Av	0	9.4	9.9	29.87	-	-	49.34	-19.47
20	.4155	7.21	Av	0	9.3	9.9	26.41	-	-	47.54	-21.13
22	.4988	7.69	Av	0	9.3	9.9	26.89	-	-	46.02	-19.13
24	.6641	1.22	Av	0	9.4	10	20.62	-	-	46	-25.38
13	.1658	40.01	Qp	.1	9.4	9.9	59.41	65.17	-5.76	-	-
15	.2513	33.83	Qp	0	9.4	9.9	53.13	61.72	-8.59	-	-
17	.3345	27.46	Qp	0	9.4	9.9	46.76	59.34	-12.58	-	-
19	.4043	24.35	Qp	0	9.3	9.9	43.55	57.77	-14.22	-	-
21	.4988	23.25	Qp	0	9.3	9.9	42.45	56.02	-13.57	-	-
23	.6023	19.36	Qp	0	9.4	9.9	38.66	56	-17.34	-	-

Qp - Quasi-Peak detector

Av - Average detection

11. SETUP PHOTOS

Please refer to 16064952-EP1 for setup photos.

12. SPOT CHECK EVALUATION

12.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3447, A3719, A3720 and A3721. These models are very similar, with only the following differences.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3447	BCG-E9188A	579C-E9188A	-With FR2 -No B11, B21	eSIM	-
A3719	BCG-E9198A	579C-E9198A	-Without FR2 -Added B11, B21		A3447
A3720	BCG-E9203A	579C-E9203A	-Without FR2 -No LTE/5GNR B14, B29, B71, B11, B21		
A3721	BCG-E9204A	579C-E9204A	-Without FR2 -No LTE/5GNR B14, B29, B71, B11, B21, B53 -No MSS		

Note:

- All Models use the same System, Cellular and Connectivity radio electrical schematics.
- Removal of LTE/ 5GNR bands on models either done by software or de-population of related components. Please refer to data reuse test plan for details.
- All Models use the same Applications Processor and PMU.
- All Models use the same UICC hardware/software interface.
- All Models run the same Baseband firmware and iOS software.

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

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

Where: d_{dB} deviation from Reference data, V_{dB} variant spot check level, and R_{dB} measurement level

12.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3719

A3719 SPOT CHECK RESULTS													
Equipment Class / Technology	Frequency (GHz)	Configuration	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3447	Sub Model: A3719	Delta (dB)	Margin	Remarks
									FCC ID : BCG-E9188A IC : 579C-E9188A	FCC ID : BCG-E9198A IC : 579C-E9198A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	--	High Power (Ant 6)	500kbps	Avg. Power (dBm)	Fundamental	Mid	5.78625	20.95	20.94	-0.01	-9.05	Note 1
		State A	High Power (Ant 6)	500kbps	Pk Radiated Bandedge (dBm)	Vertical High Bandedge	High	5.95863	-33.30	-34.92	-1.62	-6.30	Note 1
		State A	High Power (Ant 6)	500kbps	Peak RSE (dBuV/m)	Vertical 1 to 18G	Low	5.881751	61.90	59.53	-2.37	-6.30	Note 1

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

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

12.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3720

A3720 SPOT CHECK RESULTS													
Equipment Class / Technology	Frequency (GHz)	Configuration	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3447	Sub Model: A3720	Delta (dB)	Margin	Remarks
									FCC ID : BCG-E9188A IC : 579C-E9188A	FCC ID : BCG-E9203A IC : 579C-E9203A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	--	High Power (Ant 6)	500kbps	Avg Power (dBm)	Fundamental	Mid	5.78625	20.95	20.94	-0.01	-9.05	Note 1
		State A	High Power (Ant 6)	500kbps	Pk Radiated Bandedge (dBm)	Vertical High Bandedge	High	5.95863	-33.30	-34.36	-1.06	-6.30	Note 1
		State A	High Power (Ant 6)	500kbps	Peak RSE (dBuV/m)	Vertical 1 to 18G	Low	5.881751	61.90	59.48	-2.42	-6.30	Note 1

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

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

12.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3721

A3721 SPOT CHECK RESULTS													
Equipment Class / Technology	Frequency (GHz)	Configuration	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3447	Sub Model: A3721	Delta (dB)	Margin	Remarks
									FCC ID : BCG-E9188A IC : 579C-E9188A	FCC ID : BCG-E9204A IC : 579C-E9204A			
NII / 802.15.4ab	5.725 - 5.825 UNII-3	--	High Power (Ant 6)	500kbps	Avg Power (dBm)	Fundamental	Mid	5.78625	20.95	20.92	-0.03	-9.05	Note 1
		State A	High Power (Ant 6)	500kbps	Pk Radiated Bandedge (dBm)	Vertical High Bandedge	High	5.95863	-33.30	-34.58	-1.28	-6.30	Note 1
		State A	High Power (Ant 6)	500kbps	Peak RSE (dBuV/m)	Vertical 1 to 18G	Low	5.881751	61.90	59.40	-2.50	-6.30	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.