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13-Feb-26

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Subject: SUBTEL, Chile (Resolution 737) Certification Compliance 2026
Commercial Name: Forerunner 570, 47mm

	Información (Information)
Tipo de equipo (Equipment type)	Portable Digital Transceiver
Marca (Brand)	Garmin 
Modelo (Model)	A04911
Tecnología o modulación (Technology or modulation)	ASK for NFC / GFSK for ANT/ GFSK for BTBR / $\pi/4$ -DQPSK, 8DPSK for BTEDR / GFSK for BLE/ DSSS for 802.11b / OFDM for 802.11g/n
Frecuencias (Frequencies)	13.56 MHz / 2402-2480 MHz / 2402-2480 MHz / 2402-2480 MHz / 2402-2480 MHz / 2412-2462 MHz
Ganancia de antena (dBi) (Antenna gain (dBi))	ANT 0.84 dBi / 802.15.1 0.84 dBi / 802.15.1 0.84 dBi / BLE 0.84 dBi / 802.11b/g/n 0.84 dBi
P.i.r.e. (E.I R P.)	-66.71 dBm, 0.00 mW / 5.55 dBm, 3.58 mW / 10.68 dBm, 11.69 mW / 12.24 dBm, 16.74 mW / 5.59 dBm, 3.62 mW / 22.15 dBm, 164.05 mW
Módulos (Modules)	NFC, ANT, BTBR, BTEDR, BLE, WiFi

As all measurements for NFC are made in radiated mode to comply with the field strength limits, gain information is not required to be noted in the reports or any additional documentation.

Declaration of Conformity Statement: the equipment previously identified complies with the provisions established in the Technical Standard for Small Range Equipment, approved by Exempt Resolution No.1,985 of 2017, of the Undersecretary of Telecommunications.

Declaración de conformidad: El equipo anteriormente identificado cumple con las disposiciones establecidas en la Norma Técnica para Equipos de Corto Alcance, aprobada mediante la Resolución Exenta N° 1.985 de 2017, de la Subsecretaría de Telecomunicaciones.

TEST REPORT

Report Number: R15605213-E4

Applicant : Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

Model : A04911

FCC ID : IPH-04911

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C: 2025

Date Of Issue:
2025-04-09

Prepared by:
UL LLC
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Research Triangle Park, NC 27709 U.S.A.
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
v1	2025-04-09	Initial Issue	Chandler Stanley

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

EUT DESCRIPTION: Extremity Worn Digital Transceiver

MODEL: A04911

SERIAL NUMBER: 3497995537, 3497995201

SAMPLE RECEIPT DATE: 2024-12-17

DATE TESTED: 2024-12-27 to 2025-01-06

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C: 2025	Refer to Section 3

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

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

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released
For UL LLC By:



Brian Kiewra
Project Engineer
Consumer, Medical and IT Segment
UL LLC

Prepared By:



Chandler Stanley
Engineer
Consumer, Medical and IT Segment
UL LLC

2. TEST METHODOLOGY

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

- ANSI C63.10-2020
- FCC 47 CFR Part 2
- FCC 47 CFR Part 15C

3. SUMMARY OF TEST RESULTS

Requirement Description	Requirement Clause Number	Result	Remarks
Occupied Bandwidth	FCC §15.215 (c)	Not Performed	See Note 1
Fundamental Measurements.	FCC §15.225 (a-d) FCC §15.209 (d)	Compliant	None
Tx Spurious Emissions			
Frequency Stability	FCC §15.225 (e)	Not Performed	See Note 1
AC Mains Line Conducted Emissions	FCC §15.207	Compliant	None

Note 1: This test report covers radiated testing on a depopulated version of a certified product, resulting in a C2PC. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance to the FCC requirements.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number #0751.06, 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
<input type="checkbox"/>	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
<input checked="" type="checkbox"/>	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

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}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is a Extremity Worn Digital Transceiver with BT, BLE, ANT+, 802.11b/g/n 2.4GHz WLAN, NFC, and Global Navigation Satellite System (GNSS) receiver. This report covers radiated testing of the NFC radio.

6.2. MAXIMUM ELECTRIC FIELD STRENGTH

The transmitter has a maximum peak radiated electric field strength at 30m as follows:

Fundamental Frequency (MHz)	E-Field (dBuV/m)
13.56	28.52

6.3. SOFTWARE AND FIRMWARE

The software version installed during testing was 3.51.

6.4. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated under three orthogonal orientations X, Y, and Z. The Z orientation was determined to be the worst-case orientation. Therefore, all final radiated testing was performed with the EUT in the Z orientation.

In addition, Type A, B, AB, F, and AF with and without a tag were investigated to determine the worst case based on the highest power and spurious emissions. Type B with a tag was determined to be the worst case and therefore selected for all final tests.

The distance between the EUT and NFC reader was also investigated, and the worst-case condition occurs when the NFC reader and EUT are separated by 3cm; therefore, all final radiated testing was performed with the EUT and NFC reader separated by 3cm.

6.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adaptor	Garmin/Phihong	AQ27A-59CFA	N/A	N/A
NFC Reader	Synnix Technology Co.	CL-2100R	N/A	N/A
Laptop	Lenovo	T14	PF4FKVYQ	N/A

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Proprietary	1	USB-C	Shielded	<3m	Program/Charge EUT

SETUP DIAGRAM

Please refer to R15605213-EP3 for setup diagrams

7. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-02
30-1000 MHz					
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-02	2026-01-02
Gain-Loss Chains					
207638	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-22	2025-05-22
207639	Gain-loss string: 25-1000MHz	Various	Various	2024-05-22	2025-05-22
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-04-16	2025-04-16
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2024-04-04	2025-04-04
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2024-08-01	2025-08-01
70374	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2024-7-30	2025-7-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2024-04-04	2025-04-04
PS216	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Miscellaneous (if needed)					
84681	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2024-04-04	2025-04-04

8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

FCC §15.225

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:

$$\text{Limit (dBuV/m)} = 20 \log \text{limit (uV/m)}$$

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

ANSI C63.10 - 2020

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 9kHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

Note: For all Below 30MHz test data, all measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were $40 * \text{Log}(\text{test distance} / \text{specification distance})$

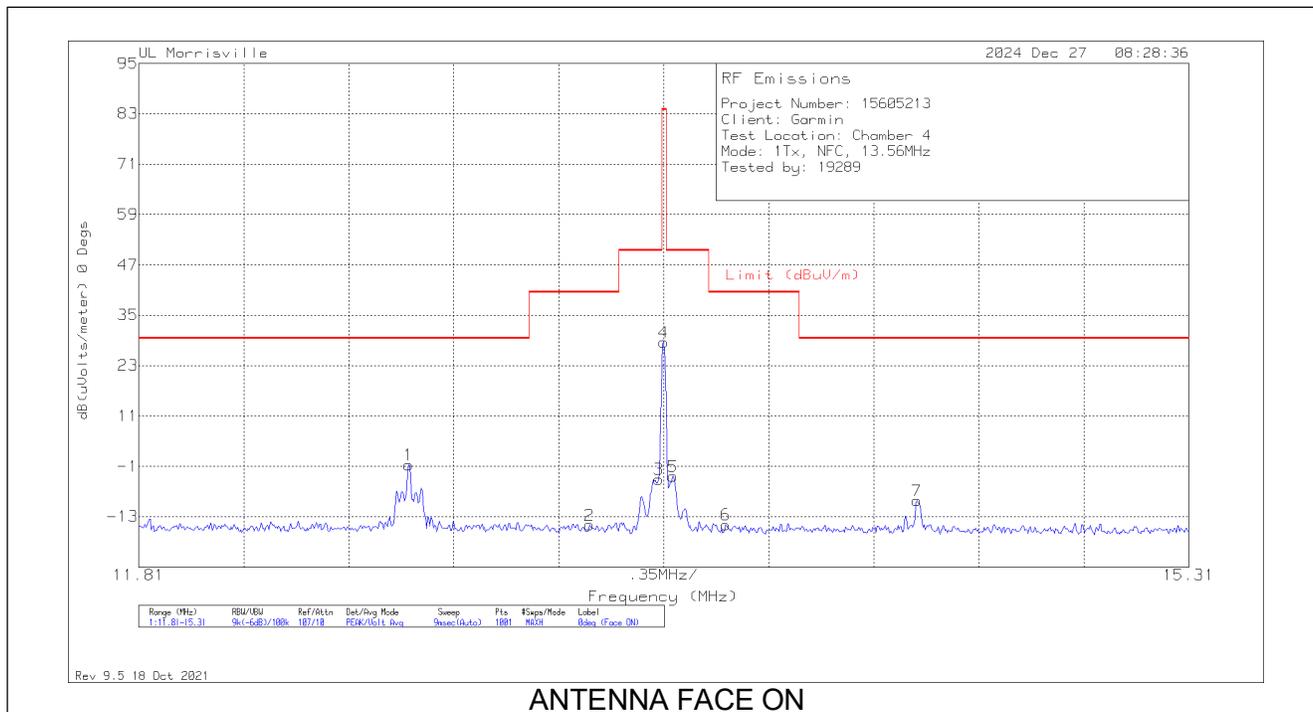
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

RESULTS

8.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (<30MHz)

8.2.1. TYPE B, TAG ON

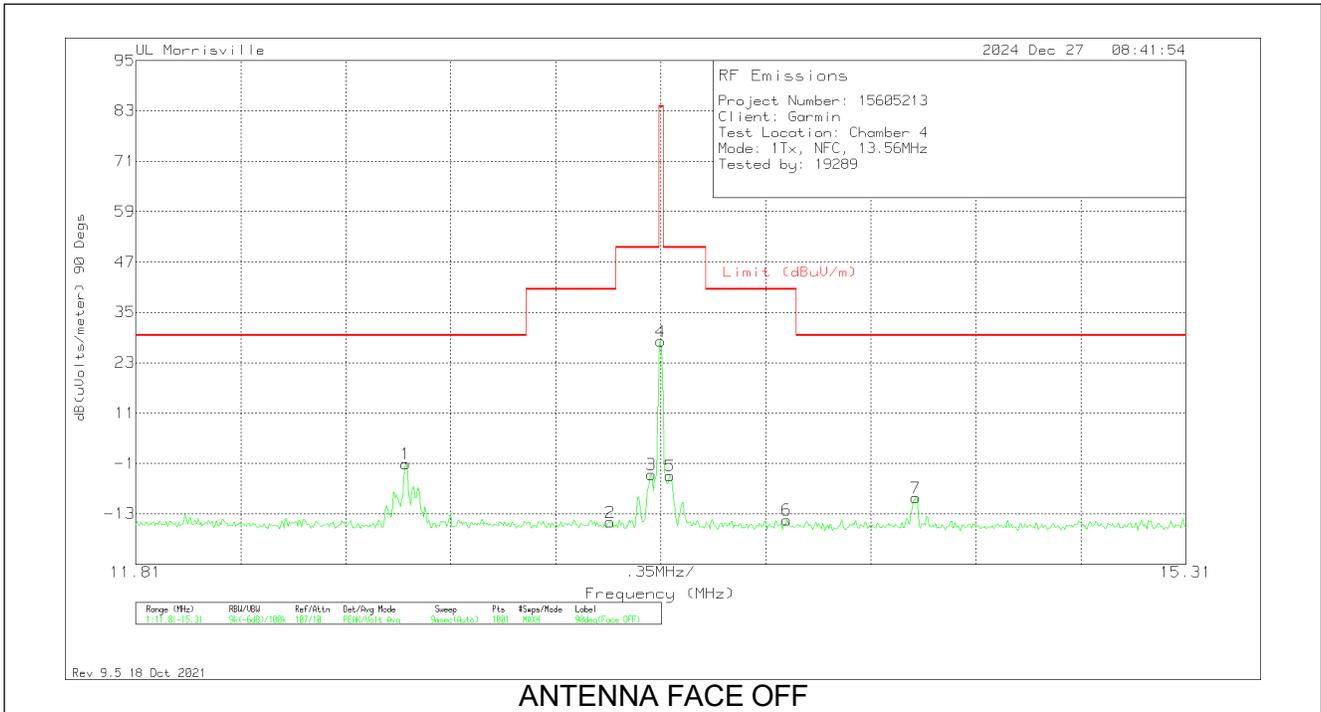
FUNDAMENTAL



ANTENNA FACE ON

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	12.7095	28.98	Pk	9.9	.5	-40	-62	29.5	-30.12	358	100	0 degs
2	13.3115	14.68	Pk	9.8	.5	-40	-15.02	40.5	-55.52	358	100	0 degs
3	13.5425	25.63	Pk	9.8	.5	-40	-4.07	50.5	-54.57	358	100	0 degs
4	13.56	58.22	Pk	9.8	.5	-40	28.52	84	-55.48	358	100	0 degs
5	13.5915	26.27	Pk	9.8	.5	-40	-3.43	50.5	-53.93	358	100	0 degs
6	13.7665	14.82	Pk	9.7	.5	-40	-14.98	40.5	-55.48	358	100	0 degs
7	14.4035	20.58	Pk	9.7	.5	-40	-9.22	29.5	-38.72	358	100	0 degs

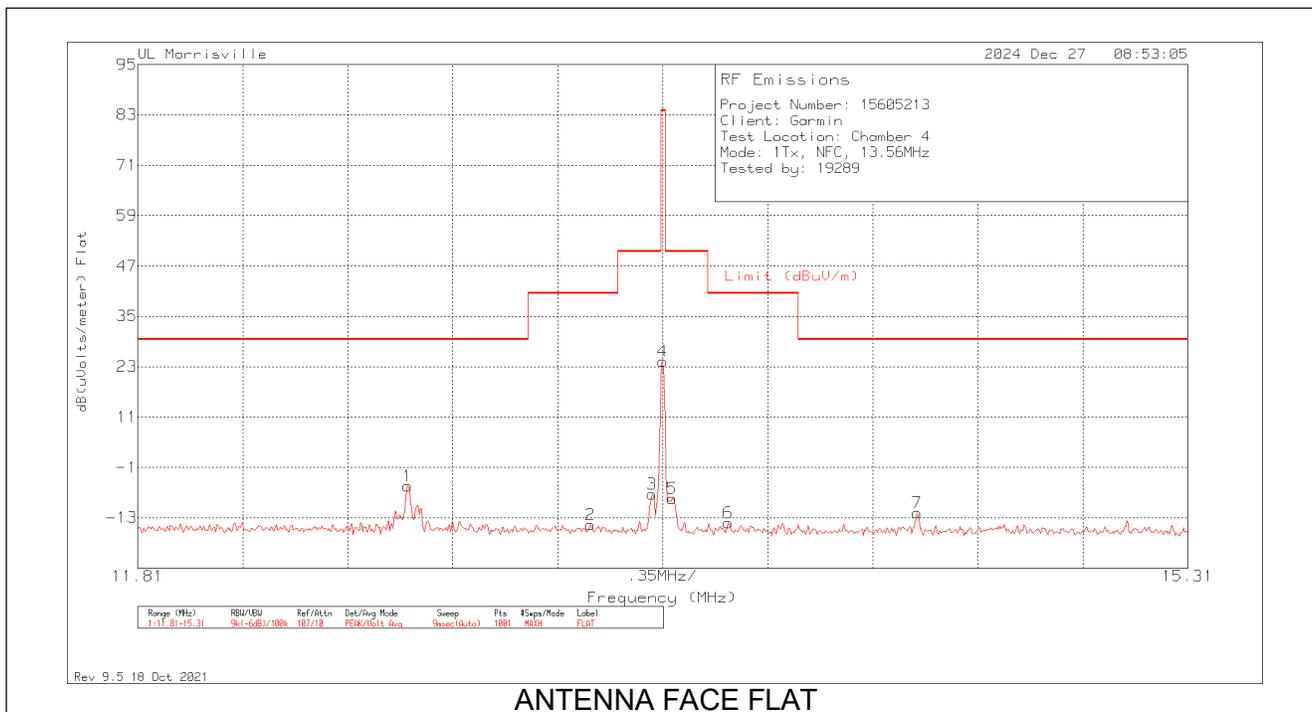
Pk - Peak detector



ANTENNA FACE OFF

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	12.7095	28.5	Pk	9.9	.5	-40	-1.1	29.5	-30.6	85	100	90 degs
2	13.392	14.68	Pk	9.8	.5	-40	-15.02	40.5	-55.52	85	100	90 degs
3	13.5285	26.08	Pk	9.8	.5	-40	-3.62	50.5	-54.12	85	100	90 degs
4	13.56	57.77	Pk	9.8	.5	-40	28.07	84	-55.93	85	100	90 degs
5	13.5915	25.69	Pk	9.8	.5	-40	-4.01	50.5	-54.51	85	100	90 degs
6	13.98	15.31	Pk	9.7	.5	-40	-14.49	40.5	-54.99	85	100	90 degs
7	14.4105	20.59	Pk	9.7	.5	-40	-9.21	29.5	-38.71	85	100	90 degs

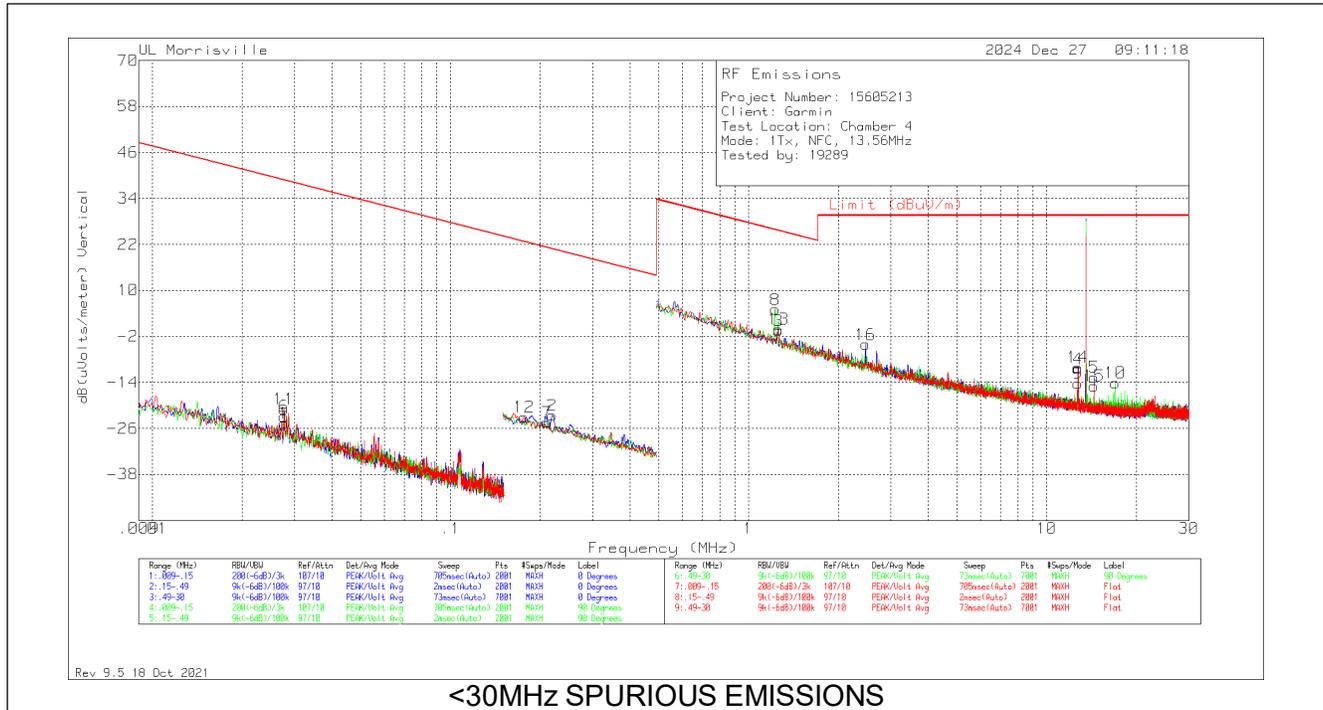
Pk - Peak detector



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	12.7095	24.22	Pk	9.9	.5	-40	-5.38	29.5	-34.88	4	100	Flat
2	13.3185	15	Pk	9.8	.5	-40	-14.7	40.5	-55.2	4	100	Flat
3	13.525	22.35	Pk	9.8	.5	-40	-7.35	50.5	-57.85	4	100	Flat
4	13.56	53.94	Pk	9.8	.5	-40	24.24	84	-59.76	4	100	Flat
5	13.5915	21.35	Pk	9.8	.5	-40	-8.35	50.5	-58.85	4	100	Flat
6	13.777	15.62	Pk	9.7	.5	-40	-14.18	40.5	-54.68	4	100	Flat
7	14.407	17.93	Pk	9.7	.5	-40	-11.87	29.5	-41.37	4	100	Flat

Pk - Peak detector

SPURIOUS EMISSION – E FIELD



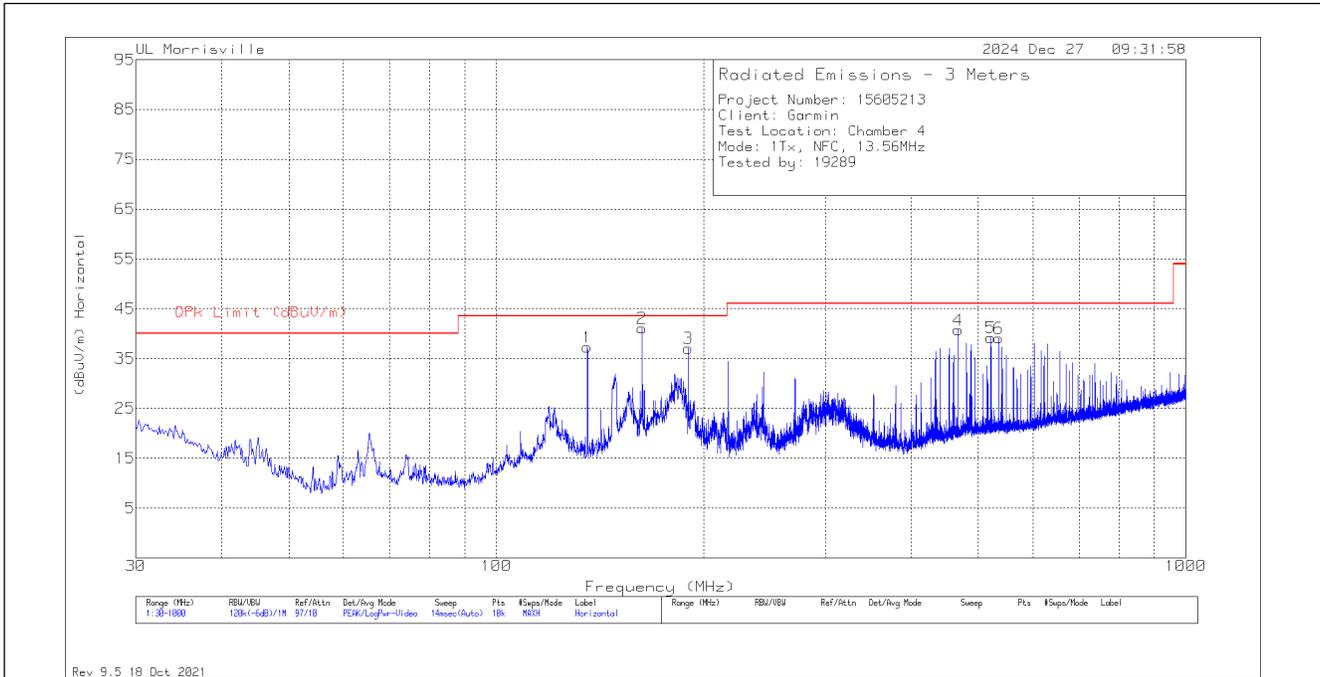
<30MHz SPURIOUS EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.0276	41.93	Pk	13.3	.1	-80	-24.67	38.79	58.79	-63.46	0-360	0 degs
6	.02767	43.7	Pk	13.3	.1	-80	-22.9	38.76	58.76	-61.66	0-360	90 degs
11	.02767	45.72	Pk	13.3	.1	-80	-20.88	38.76	58.76	-59.64	0-360	Flat
12	.17644	45.85	Pk	11	.1	-80	-23.05	22.67	42.67	-45.72	0-360	Flat
7	.21137	44.57	Pk	10.9	.1	-80	-24.43	21.1	41.1	-45.53	0-360	90 degs
2	.21953	46.38	Pk	10.9	.1	-80	-22.62	20.77	40.77	-43.39	0-360	0 degs
8	1.2278	33.82	Pk	11	.2	-40	5.02	25.82	-	-20.8	0-360	90 degs
3	1.25731	28.29	Pk	11	.2	-40	-.51	25.62	-	-26.13	0-360	0 degs
13	1.25731	28.66	Pk	11	.2	-40	-.14	25.62	-	-25.76	0-360	Flat
16	2.4673	24.61	Pk	11.1	.2	-40	-4.09	29.54	-	-33.63	0-360	0 degs
14	12.70375	19.54	Pk	9.9	.5	-40	-10.06	29.54	-	-39.6	0-360	Flat
9	12.7164	15.36	Pk	9.9	.5	-40	-14.24	29.54	-	-43.78	0-360	90 degs
4	12.75434	19.16	Pk	9.9	.5	-40	-10.44	29.54	-	-39.98	0-360	0 degs
15	14.4028	14.95	Pk	9.7	.5	-40	-14.85	29.54	-	-44.39	0-360	Flat
5	14.40702	17.13	Pk	9.7	.5	-40	-12.67	29.54	-	-42.21	0-360	0 degs
10	16.97034	16.04	Pk	9.4	.5	-40	-14.06	29.54	-	-43.6	0-360	90 degs

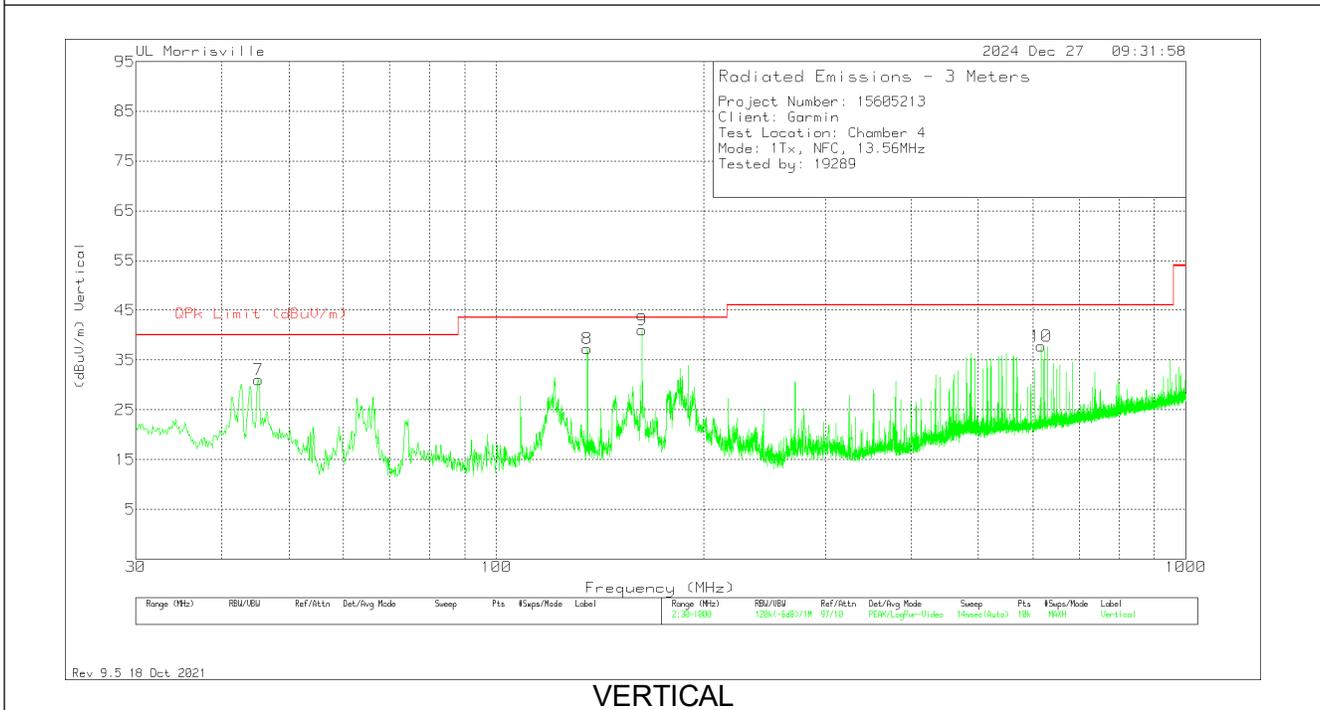
Pk - Peak detector

8.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

8.3.1. TYPE B, WITH TAG



HORIZONTAL



VERTICAL

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90628 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	45.1805	46.61	Pk	16.4	-32	31.01	40	-8.99	0-360	100	V
1	135.536	48.85	Pk	19.6	-31.2	37.25	43.52	-6.27	0-360	100	H
8	135.536	48.9	Pk	19.6	-31.2	37.3	43.52	-6.22	0-360	100	V
2	162.71398	52.16	Qp	18.4	-31.1	39.46	43.52	-4.06	192	165	H
9	162.71182	52.94	Qp	18.4	-31.1	40.24	43.52	-3.28	310	107	V
3	189.856	50.67	Pk	17.3	-30.9	37.07	43.52	-6.45	0-360	100	H
4	467.26209	42.16	Qp	23.4	-29.7	35.86	46.02	-10.16	200	111	H
5	521.499	44.9	Pk	23.9	-29.6	39.2	46.02	-6.82	0-360	100	H
6	535.079	44.21	Pk	24.2	-29.3	39.11	46.02	-6.91	0-360	100	H
10	616.462	41.67	Pk	25.2	-29.1	37.77	46.02	-8.25	0-360	100	V

Pk - Peak detector

Qp - Quasi-Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

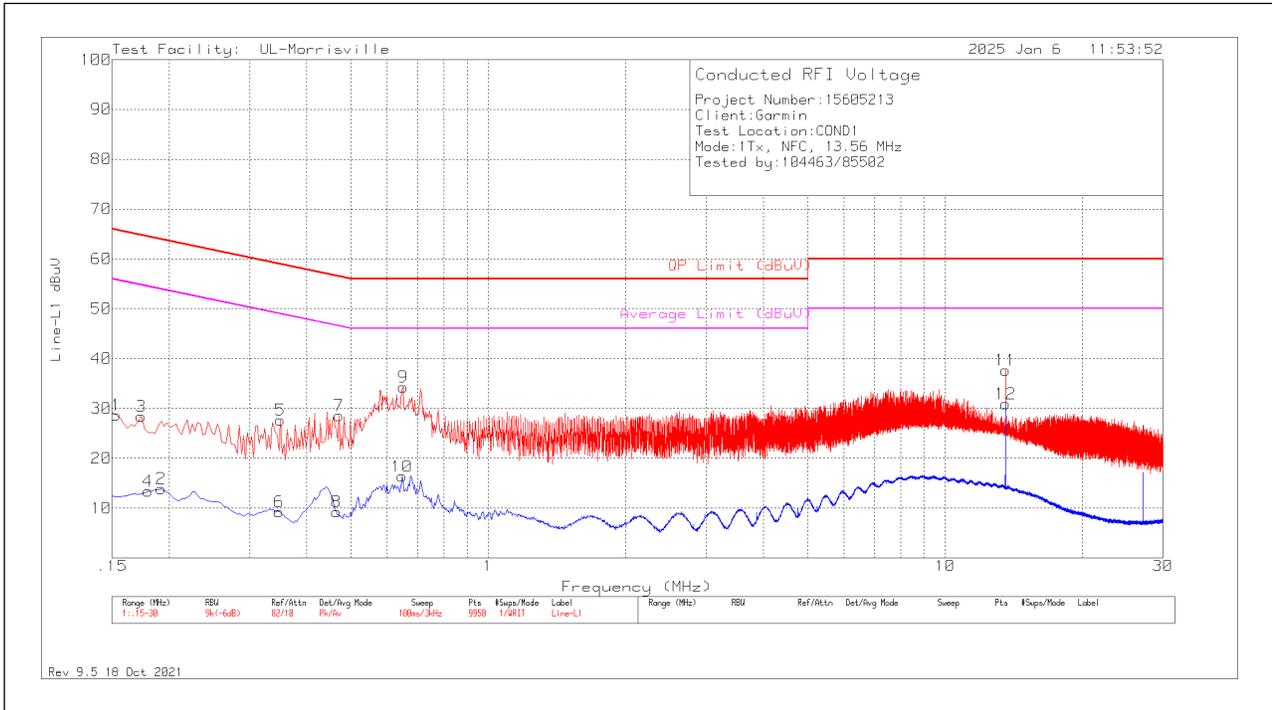
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both lines.

RESULTS

9.1. AC POWER LINE NORM

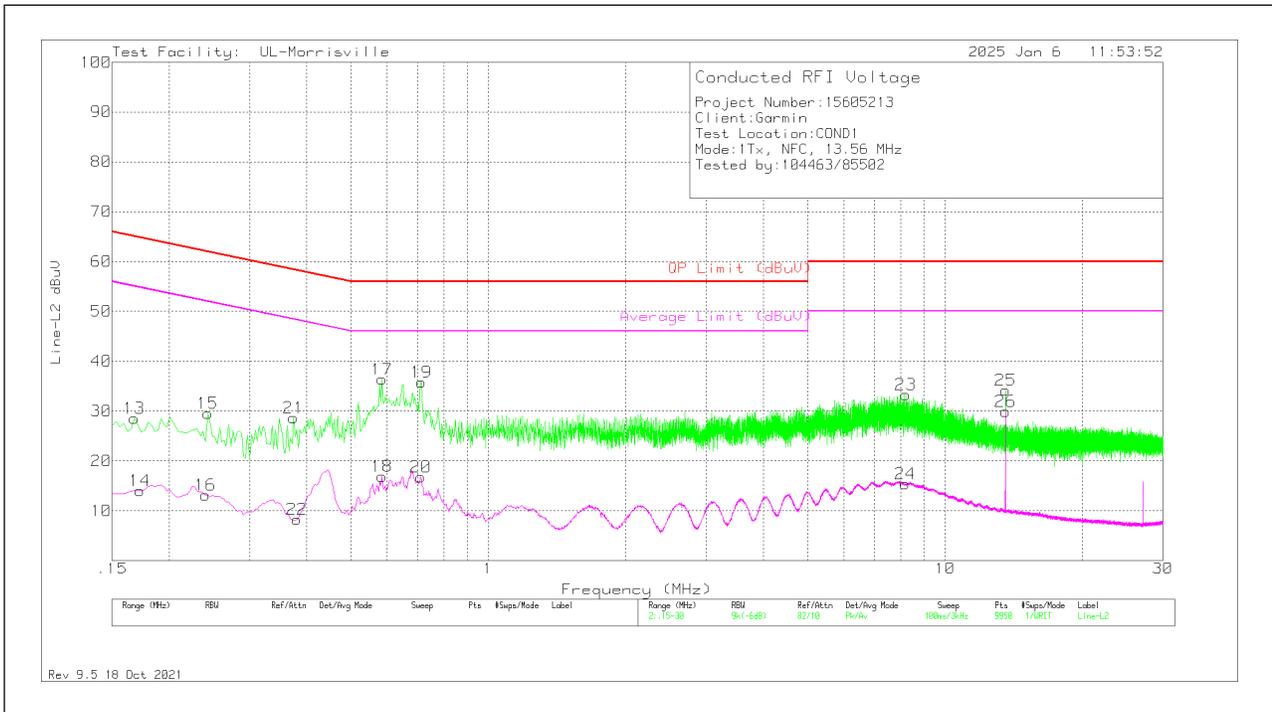
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.153	18.68	Pk	.2	9.8	28.68	65.84	-37.16	-	-
3	.174	18.4	Pk	.2	9.8	28.4	64.77	-36.37	-	-
4	.18	3.42	Av	.2	9.8	13.42	-	-	54.49	-41.07
2	.192	3.88	Av	.2	9.8	13.88	-	-	53.95	-40.07
6	.348	-.65	Av	.1	9.8	9.25	-	-	49.01	-39.76
5	.351	17.71	Pk	.1	9.8	27.61	58.94	-31.33	-	-
8	.465	-.58	Av	0	9.8	9.22	-	-	46.6	-37.38
7	.471	18.73	Pk	0	9.8	28.53	56.5	-27.97	-	-
10	.648	6.53	Av	0	9.8	16.33	-	-	46	-29.67
9	.651	24.5	Pk	0	9.8	34.3	56	-21.7	-	-
11	13.56	27.62	Pk	.1	10	37.72	60	-22.28	-	-
12	13.56	20.79	Av	.1	10	30.89	-	-	50	-19.11

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.168	18.57	Pk	.2	9.8	28.57	65.06	-36.49	-	-
14	.1725	4.04	Av	.2	9.8	14.04	-	-	54.84	-40.8
16	.24	3.23	Av	.1	9.8	13.13	-	-	52.1	-38.97
15	.243	19.66	Pk	.1	9.8	29.56	61.99	-32.43	-	-
21	.375	18.74	Pk	.1	9.8	28.64	58.39	-29.75	-	-
22	.381	-1.6	Av	.1	9.8	8.3	-	-	48.26	-39.96
17	.585	26.56	Pk	0	9.8	36.36	56	-19.64	-	-
18	.585	7.14	Av	0	9.8	16.94	-	-	46	-29.06
20	.711	6.99	Av	0	9.8	16.79	-	-	46	-29.21
19	.714	25.97	Pk	0	9.8	35.77	56	-20.23	-	-
24	8.19	5.25	Av	.1	10	15.35	-	-	50	-34.65
23	8.193	23.24	Pk	.1	10	33.34	60	-26.66	-	-
25	13.56	24.11	Pk	.1	10	34.21	60	-25.79	-	-
26	13.56	19.86	Av	.1	10	29.96	-	-	50	-20.04

Pk - Peak detector
 Av - Average detection

10. SETUP PHOTOS

Please refer to R1560213-EP3 for setup photos

END OF TEST REPORT

TEST REPORT

Report Number: R15605213-E5

Applicant : Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

Model : A04911

FCC ID : IPH-04911

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
2025-04-09

Prepared by:
UL LLC
12 Laboratory Dr.
Research Triangle Park, NC 27709 U.S.A.
TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
v1	2025-04-09	Initial Issue	Chandler Stanley

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

EUT DESCRIPTION: Extremity Worn Digital Transceiver

MODEL: A04911

SERIAL NUMBER: 3497995537 / 3497995201 / 3497652312 / 3497652376 /
3497652378

SAMPLE RECEIPT DATE: 2024-12-17

DATE TESTED: 2024-12-17 to 2025-01-31

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Refer to Section 2

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

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

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released
For UL LLC By:

Prepared By:



Michael Antola
Senior Staff Engineer
Consumer, Medical and IT Segment
UL LLC

Chandler Stanley
Engineer
Consumer, Medical and IT Segment
UL LLC

2. TEST RESULTS SUMMARY

This report contains info provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

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

- 1) Antenna gain and type (see section 6.3)
- 2) Worst-case data rates (see section 6.5)

FCC Clause	Requirement	Result	Comment
See Comment	Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	99% OBW	Not Performed	See Note 1
15.247 (a) (2)	6dB BW		
15.247 (b) (3)	Output Power		
See Comment	Average power		
15.247 (e)	PSD		
15.247 (d)	Conducted Spurious Emissions	Compliant	None
15.209, 15.205	Radiated Emissions		
15.207	AC Mains Conducted Emissions		

Note 1: This test report covers radiated testing on a depopulated version of a certified product, resulting in a C2PC. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance to the FCC requirements.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC 47 CFR Part 2, FCC 47 CFR Part 15, ANSI C63.10-2020, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, 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
<input type="checkbox"/>	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
<input checked="" type="checkbox"/>	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

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	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%
Time	3.39%

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is an extremity worn digital transceiver with BT, BLE, ANT/ANT+, 802.11b/g/n 2.4GHz WLAN, NFC, and Global Navigation Satellite System (GNSS) receiver. This report covers radiated testing on the ANT/ANT+, BLE, and 2.4GHz WLAN radios.

6.2. MAXIMUM OUTPUT POWER

This test report covers radiated testing on a depopulated version of a certified product, resulting in a C2PC. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance to the FCC requirements, including ensuring the EUT power is never higher than what is declared on the original certification grant.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:
The radio utilizes an antenna with the following type and maximum gain:

Type	Frequency Range (MHz)	Maximum Gain (dBi)
Bezel Antenna	2402-2480	0.84

6.4. SOFTWARE AND FIRMWARE

Software Version: 3.95

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest PSD as worst-case scenario.

For 2.4 WLAN, PSD was taken at the mid channel power setting (highest) for all channels.

Power is not distributed equally among all channels and therefore radiated spurious emissions between 1GHz and 18GHz were performed on mid channel and the highest power low and high channels. Band edge scans were performed on all inner/outer channels up to mid channel power.

The fundamental of the EUT was investigated in three orthogonal axes, X, Y, and Z. The worst-case orientation was determined to be the X orientation. Therefore, all testing was performed with the EUT in the X orientation.

The client has elected to declare an operational duty cycle of 13% for ANT/ANT+ resulting in a duty cycle correction factor of -17.72dB. FAQ#3a from the KDB 558074 was used to determine the linear voltage average emissions for ANT/ANT+.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adaptor	Garmin/Phihong	AQ27A-59CFA	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Proprietary	1	4 pin Proprietary	Shielded	<3m	Program/Charge EUT

TEST SETUP

EUT was configured using its own built-in push buttons prior to testing. For final emissions testing, the EUT was connected to AC mains.

SETUP DIAGRAMS

Please refer to R15605213-EP4 for setup diagrams

7. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Common Equipment					
Conducted Room 1					
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2024-09-23	2025-09-23
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
211057	Real-Time Peak Power Sensor 50MHz to 8GHz	Boonton	RTP5000	2024-08-01	2025-08-01
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23	NA	NA
Attenuators					
226562	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2024-04-11	2025-04-11

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
1-18 GHz					
86408	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-06-19	2025-06-19
Gain-Loss Chains					
91977	Gain-loss string: 1-18GHz	Various	Various	2024-07-17	2025-07-17
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-03-05	2025-03-05
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
200540	Environmental Meter	Fisher Scientific	15-077-963	2023-07-19	2025-07-19

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-02
30-1000 MHz					
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-02	2026-01-02
1-18 GHz					
89509	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-05-23	2025-05-23
18-26.5 GHz					
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-826	2023-07-20	2025-07-20
Gain-Loss Chains					
207638	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-22	2025-05-22
207639	Gain-loss string: 25-1000MHz	Various	Various	2024-05-22	2025-05-22
207640	Gain-loss string: 1-18GHz	Various	Various	2024-05-22	2025-05-22
225795	Gain-loss string: 18-40GHz	Various	Various	2024-05-22	2025-05-22
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-04-16	2025-04-16
81018	Spectrum Analyzer	Agilent	E4446A	2024-07-31	2025-07-31
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2024-04-04	2025-04-04
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2024-08-01	2025-08-01
70374	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2024-07-30	2025-07-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2024-04-04	2025-04-04
PS216	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
84681	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2024-04-04	2025-04-04

8. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10-2020 Section 11.6

Radiated emissions restricted frequency bands: ANSI C63.10-2020 Subclause -11.12.1 and 6.10.5

General radiated emissions: ANSI C63.10 Subclause - 6.3-6.6

AC Power-line conducted emissions: ANSI C63.10-2020, Section 6.2.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

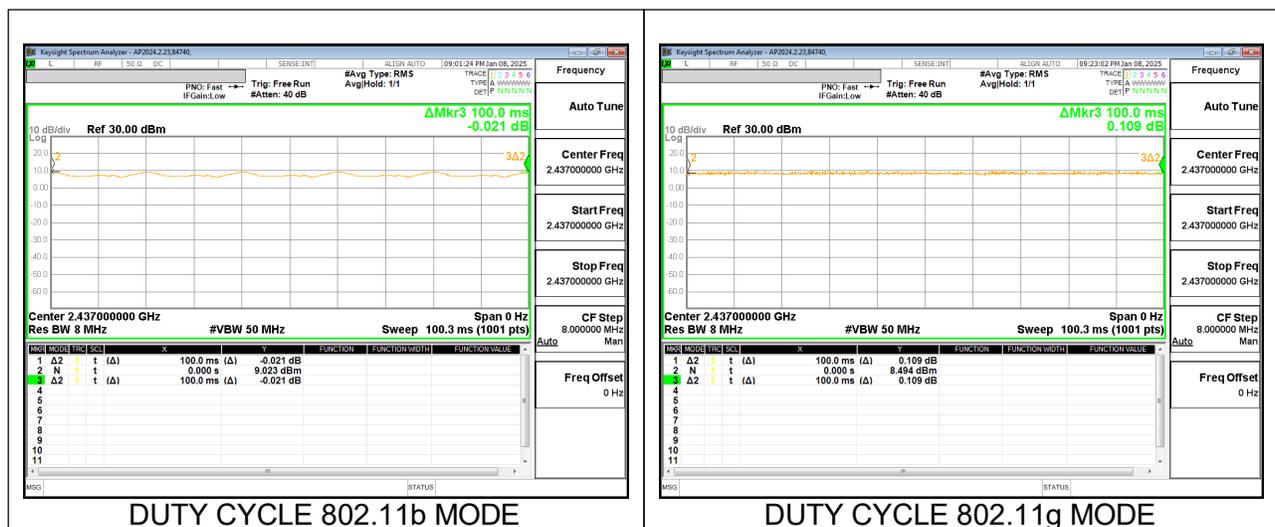
None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

Mode	ON Time B (ms)	Period (ms)	Duty Cycle x (linear)	Duty Cycle (%)	Voltage Duty Cycle Correction Factor (dB)	RMS Duty Cycle Correction Factor (dB)
802.11b	100.00	100.00	1.000	100.00	0.00	0.00
802.11g	100.00	100.00	1.000	100.00	0.00	0.00
802.11n HT20	100.00	100.00	1.000	100.00	0.00	0.00
ANT/ANT+	100.00	100.00	1.000	100.00	0.00	0.00
BLE 1Mbps	100.00	100.00	1.000	100.00	0.00	0.00
BLE 2Mbps	100.00	100.00	1.000	100.00	0.00	0.00

The client has declared an operational duty cycle of 13% for ANT/ANT+.
 ANT/ANT+ DCCF = $20\log(0.13) = -17.72\text{dB}$





10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements 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 3MHz 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 linear voltage average measurements. For ANT, FAQ#3a from the KDB 558074 was used to determine the linear voltage average emissions.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to low, middle, and high channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest PSD was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

3D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

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

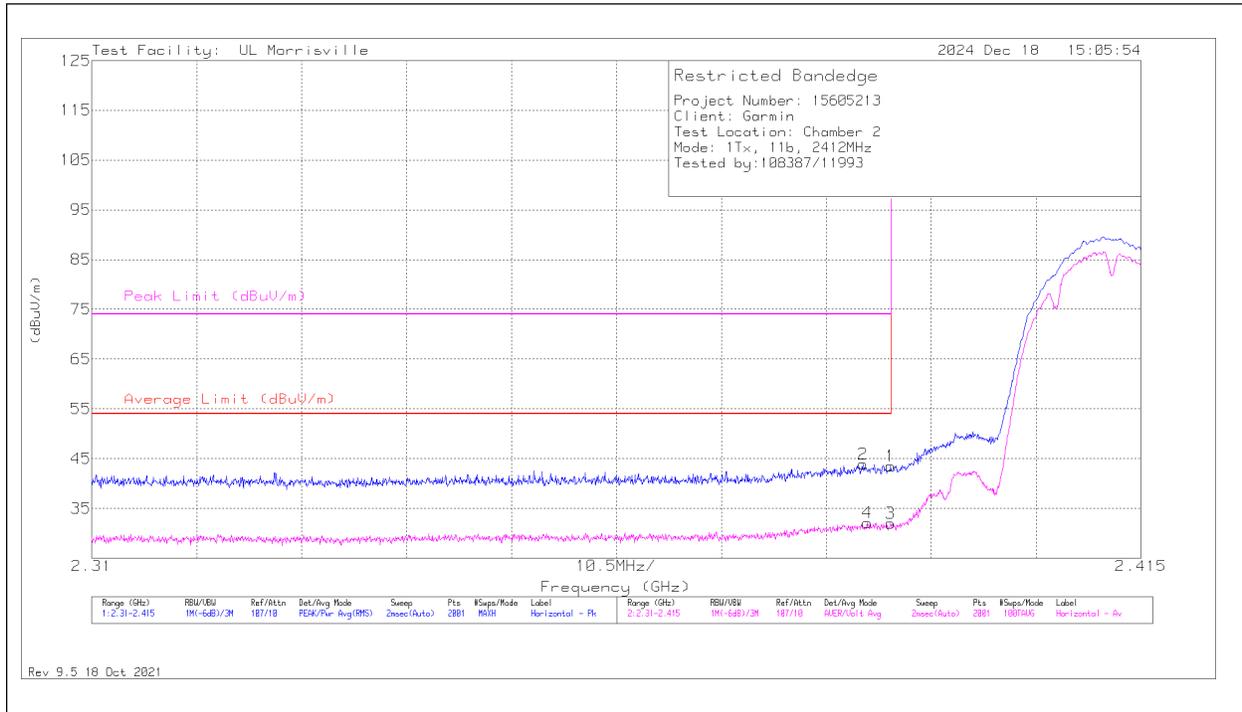
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2412MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	34.81	Pk	32.3	-23.6	43.51	-	-	74	-30.49	269	124	H
2	*** 2.38718	35.12	Pk	32.2	-23.4	43.92	-	-	74	-30.08	269	124	H
3	*** 2.38996	23.32	ADV	32.3	-23.6	32.02	54	-21.98	-	-	269	124	H
4	*** 2.38765	23.28	ADV	32.3	-23.4	32.18	54	-21.82	-	-	269	124	H

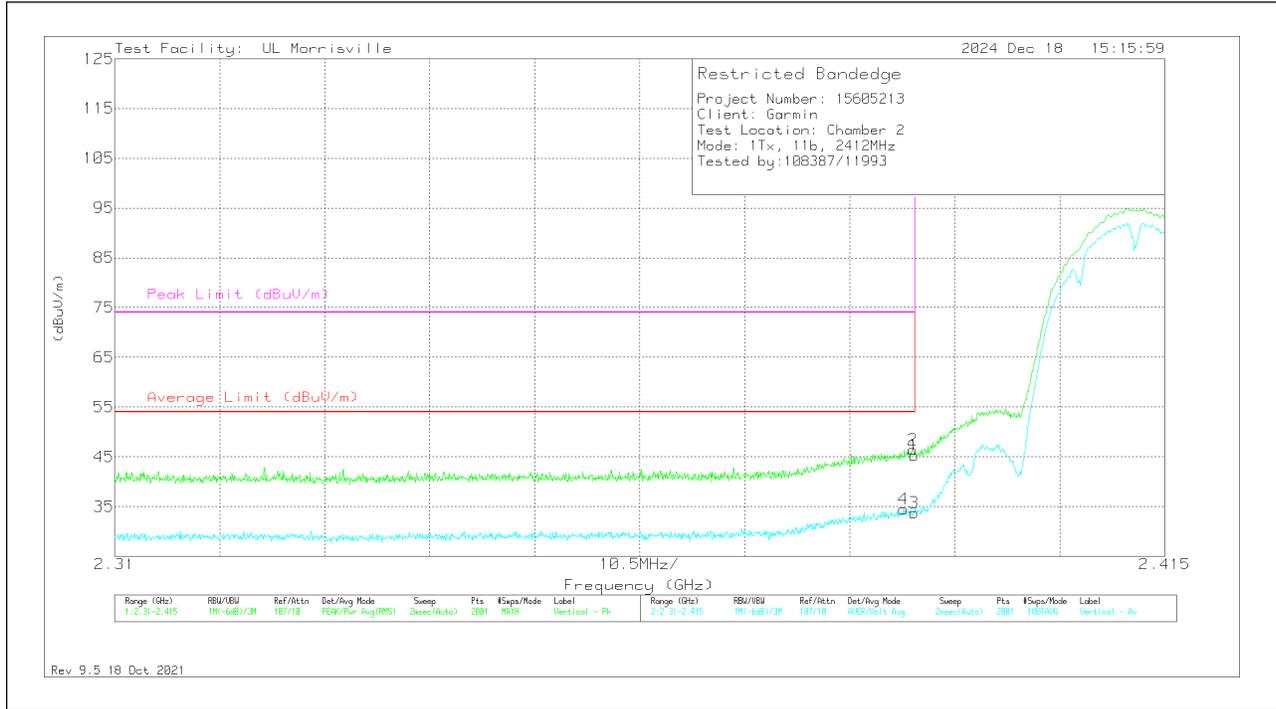
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	36.56	Pk	32.3	-23.6	45.26	-	-	74	-28.74	332	111	V
2	* ** 2.3898	37.65	Pk	32.3	-23.5	46.45	-	-	74	-27.55	332	111	V
3	* ** 2.38996	25.09	ADV	32.3	-23.6	33.79	54	-20.21	-	-	332	111	V
4	* ** 2.38886	25.69	ADV	32.3	-23.5	34.49	54	-19.51	-	-	332	111	V

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

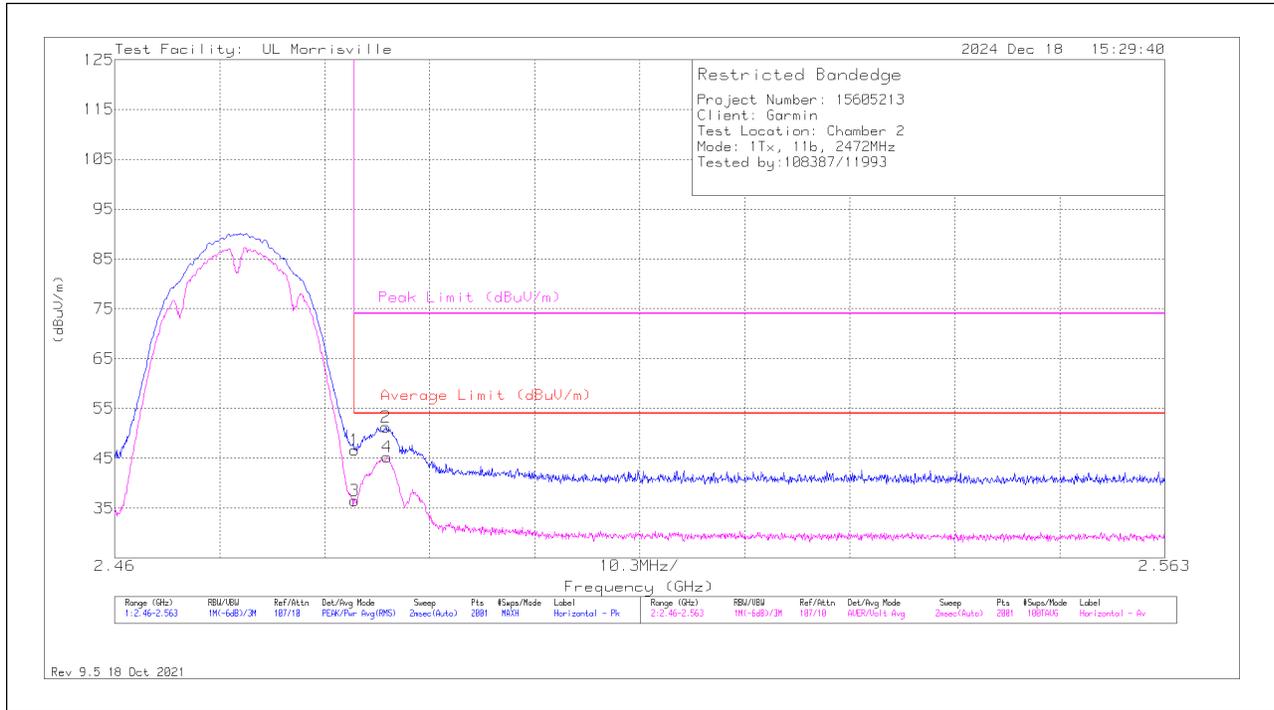
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2472MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	38.22	Pk	32.5	-24.1	46.62	-	-	74	-27.38	251	115	H
2	*** 2.48657	43.03	Pk	32.5	-24.2	51.33	-	-	74	-22.67	251	115	H
3	*** 2.48354	28.16	ADV	32.5	-24.1	36.56	54	-17.44	-	-	251	115	H
4	*** 2.48673	36.93	ADV	32.5	-24.2	45.23	54	-8.77	-	-	251	115	H

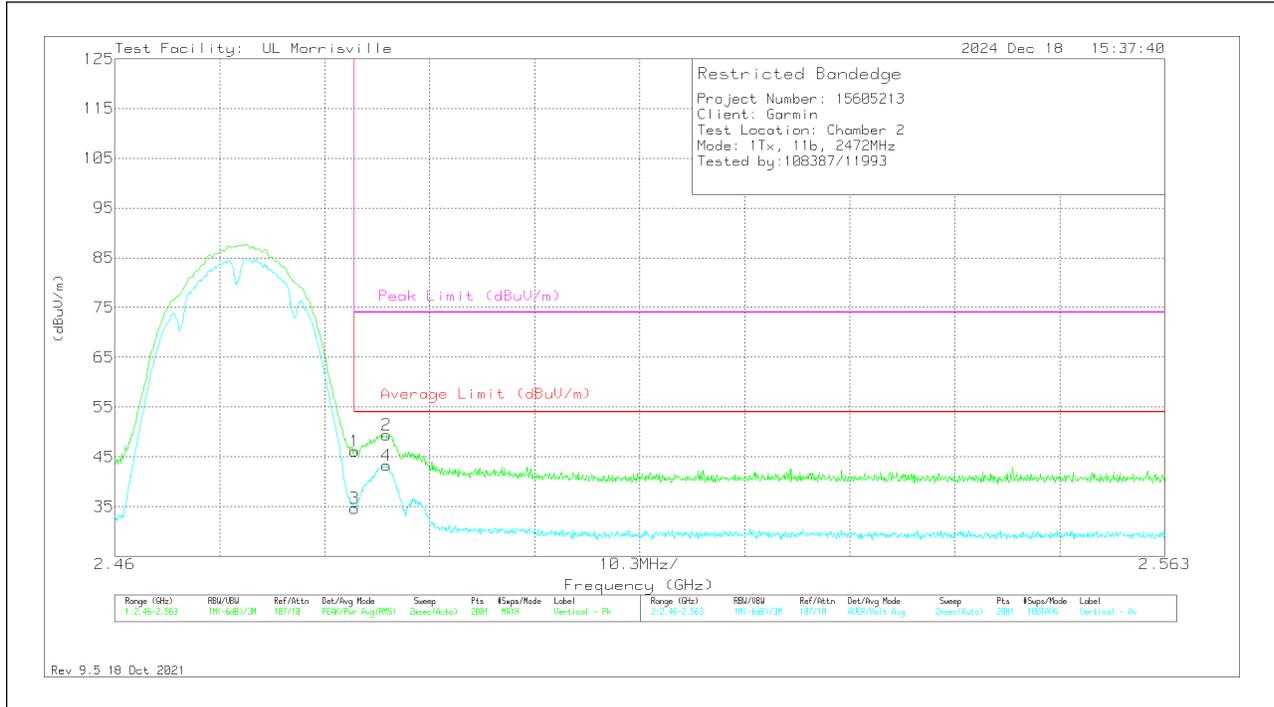
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	37.73	Pk	32.5	-24.1	46.13	-	-	74	-27.87	255	113	V
2	*** 2.48668	41.07	Pk	32.5	-24.2	49.37	-	-	74	-24.63	255	113	V
3	*** 2.48354	26.24	ADV	32.5	-24.1	34.64	54	-19.36	-	-	255	113	V
4	*** 2.48668	35.02	ADV	32.5	-24.2	43.32	54	-10.68	-	-	255	113	V

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

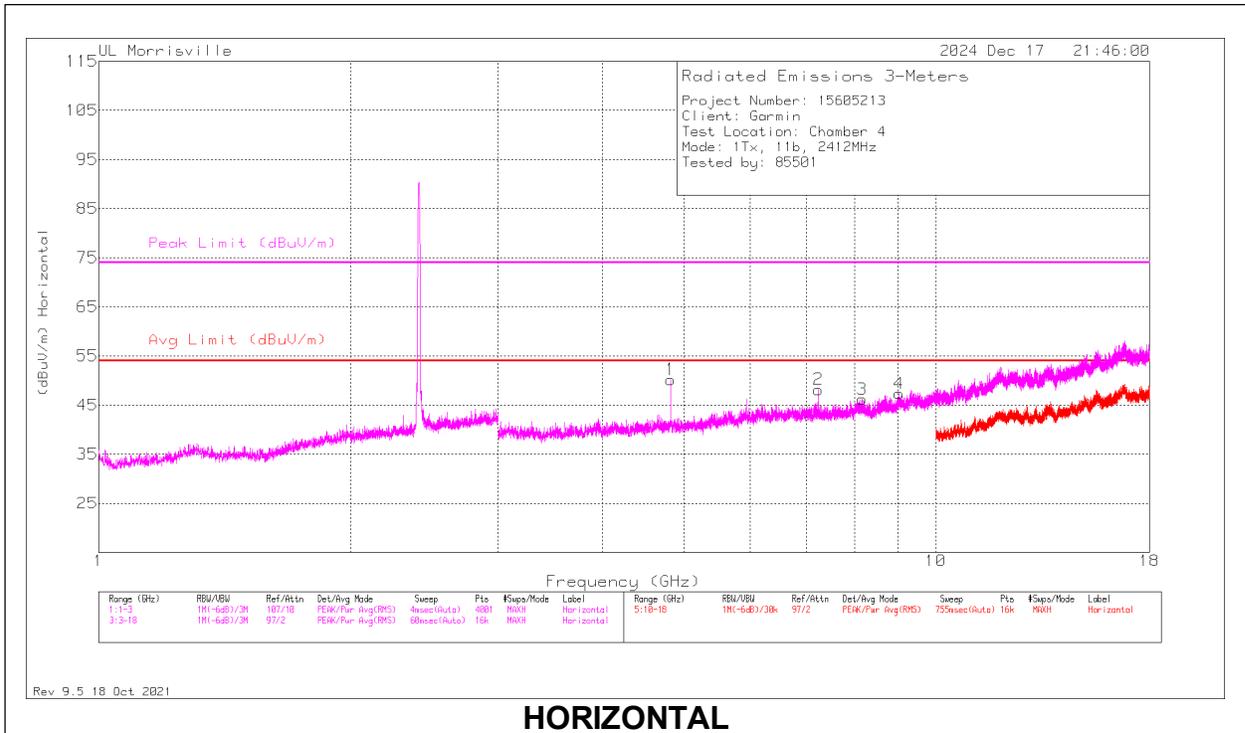
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

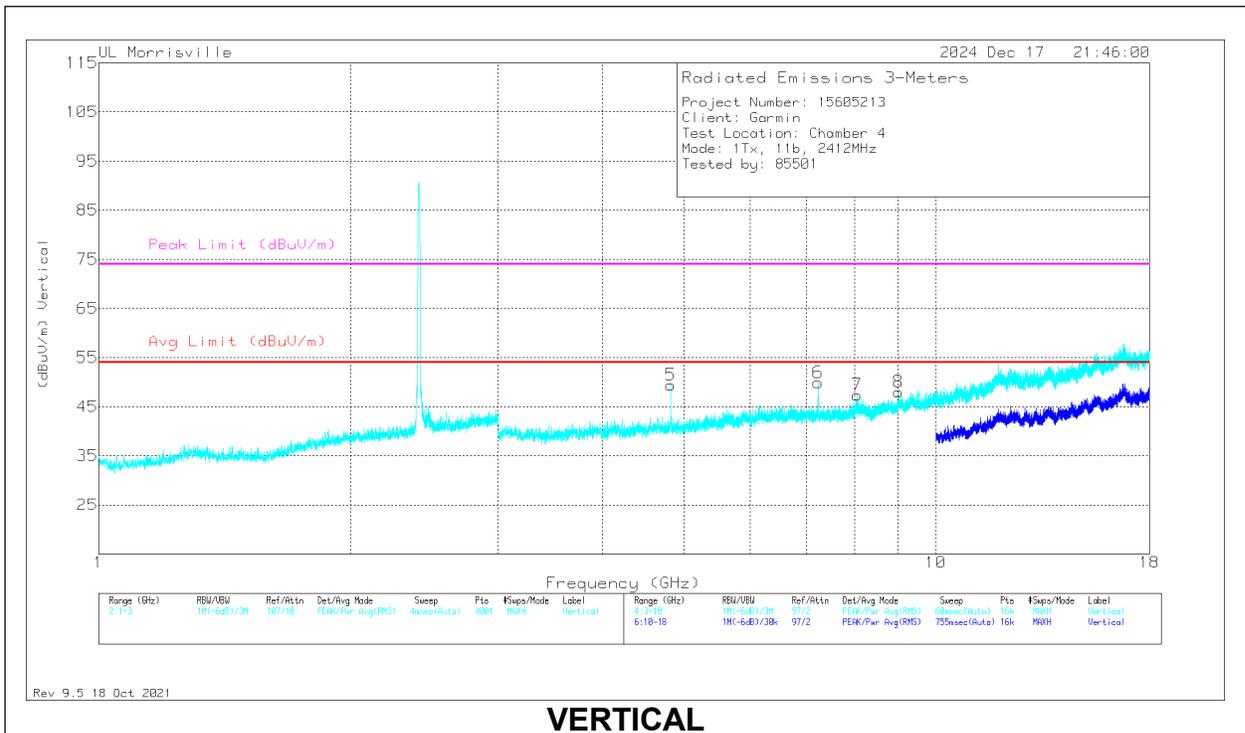
ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.82414	49.36	PK2	34.1	-31.1	52.36	-	-	74	-21.64	96	101	H
	*** 4.82401	43.47	ADV	34.1	-31.1	46.47	54	-7.53	-	-	96	101	H
3	*** 8.16281	36.98	Pk	35.8	-26.6	46.18	54	-7.82	74	-27.82	0-360	100	H
4	*** 9.045	35.12	Pk	36.2	-24	47.32	54	-6.68	74	-26.68	0-360	100	H
5	*** 4.82402	48.13	PK2	34.1	-31.1	51.13	-	-	74	-22.87	173	188	V
	*** 4.82396	43.07	ADV	34.1	-31.1	46.07	54	-7.93	-	-	173	188	V
7	*** 8.05688	38.66	Pk	35.8	-27.1	47.36	54	-6.64	74	-26.64	0-360	200	V
8	*** 9.0188	36.14	PK2	36.2	-24.2	48.14	-	-	74	-25.86	198	334	V
	*** 9.01907	23.78	ADV	36.2	-24.2	35.78	54	-18.22	-	-	198	334	V
6	7.23375	41.92	Pk	35.6	-27.6	49.92	-	-	-	-	0-360	200	V
2	7.23469	40.18	Pk	35.6	-27.6	48.18	-	-	-	-	0-360	100	H

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

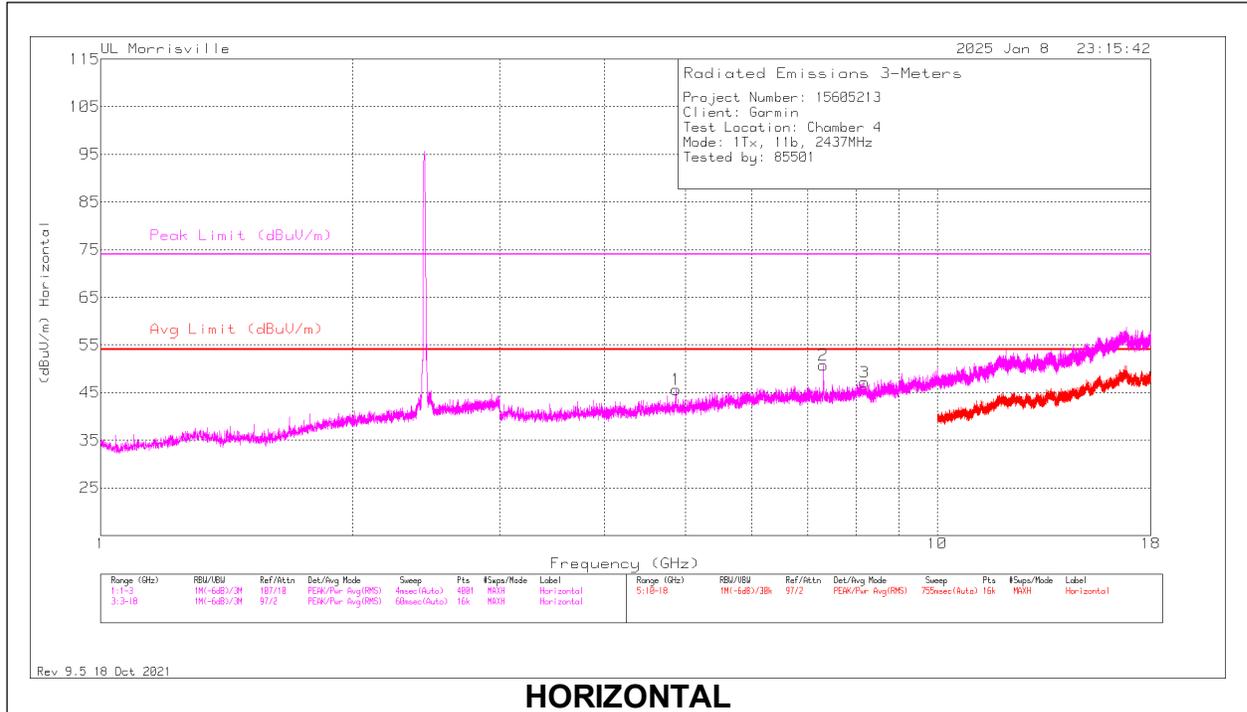
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

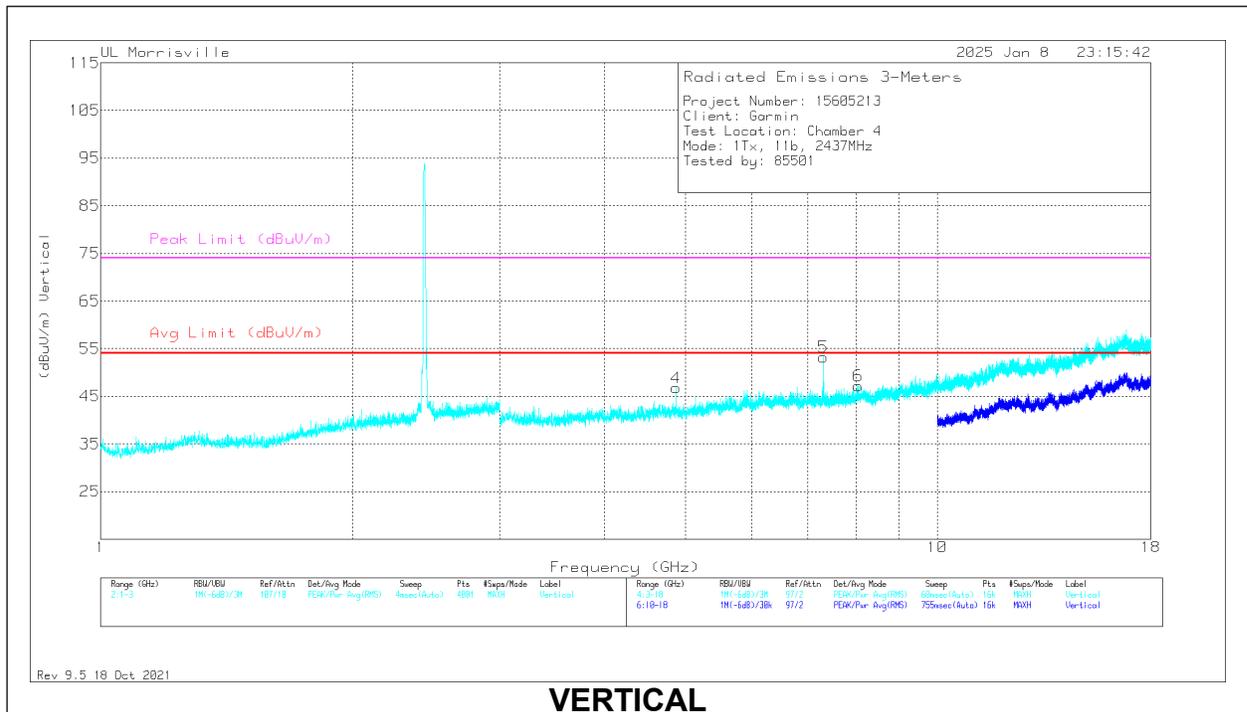
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.87594	42.68	Pk	34	-31.1	45.58	54	-8.42	74	-28.42	0-360	100	H
2	*** 7.31136	45.38	PK2	35.7	-27.5	53.58	-	-	74	-20.42	187	102	H
	*** 7.31178	37.99	ADV	35.7	-27.6	46.09	54	-7.91	-	-	187	102	H
3	*** 8.19	37.54	Pk	35.8	-26.2	47.14	54	-6.86	74	-26.86	0-360	100	H
4	*** 4.87406	43.84	Pk	34.1	-31.2	46.74	54	-7.26	74	-27.26	0-360	200	V
5	*** 7.31141	47.07	PK2	35.7	-27.5	55.27	-	-	74	-18.73	315	104	V
	*** 7.31008	40.83	ADV	35.7	-27.5	49.03	54	-4.97	-	-	315	104	V
6	*** 8.04188	38.65	Pk	35.8	-27.2	47.25	54	-6.75	74	-26.75	0-360	200	V

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

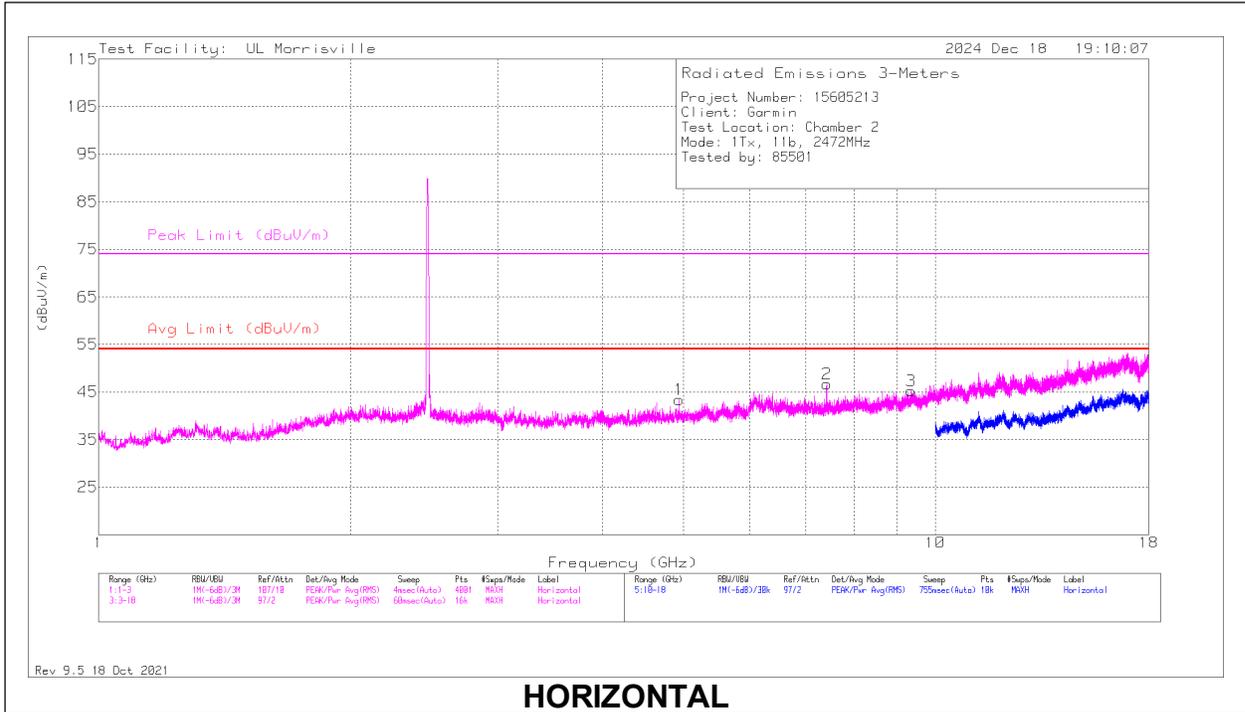
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

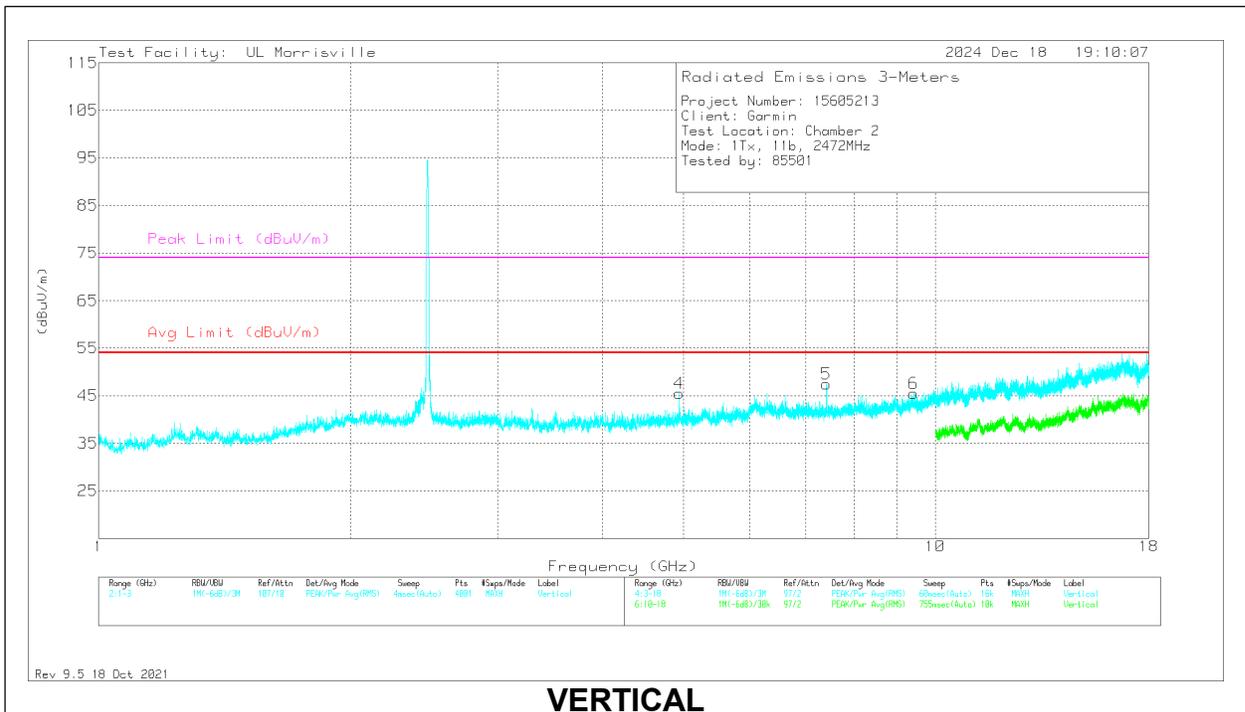
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.94344	52.95	Pk	34	-43.5	43.45	54	-10.55	74	-30.55	0-360	200	H
2	** 7.4175	52.16	Pk	35.6	-41.1	46.66	54	-7.34	74	-27.34	0-360	101	H
3	*** 9.36188	48.75	Pk	36.1	-39.6	45.25	54	-8.75	74	-28.75	0-360	101	H
4	*** 4.94344	55	Pk	34	-43.5	45.5	54	-8.5	74	-28.5	0-360	101	V
5	*** 7.41563	52.87	Pk	35.6	-41	47.47	54	-6.53	74	-26.53	0-360	101	V
6	*** 9.42281	49.28	Pk	36.2	-40	45.48	54	-8.52	74	-28.52	0-360	200	V

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

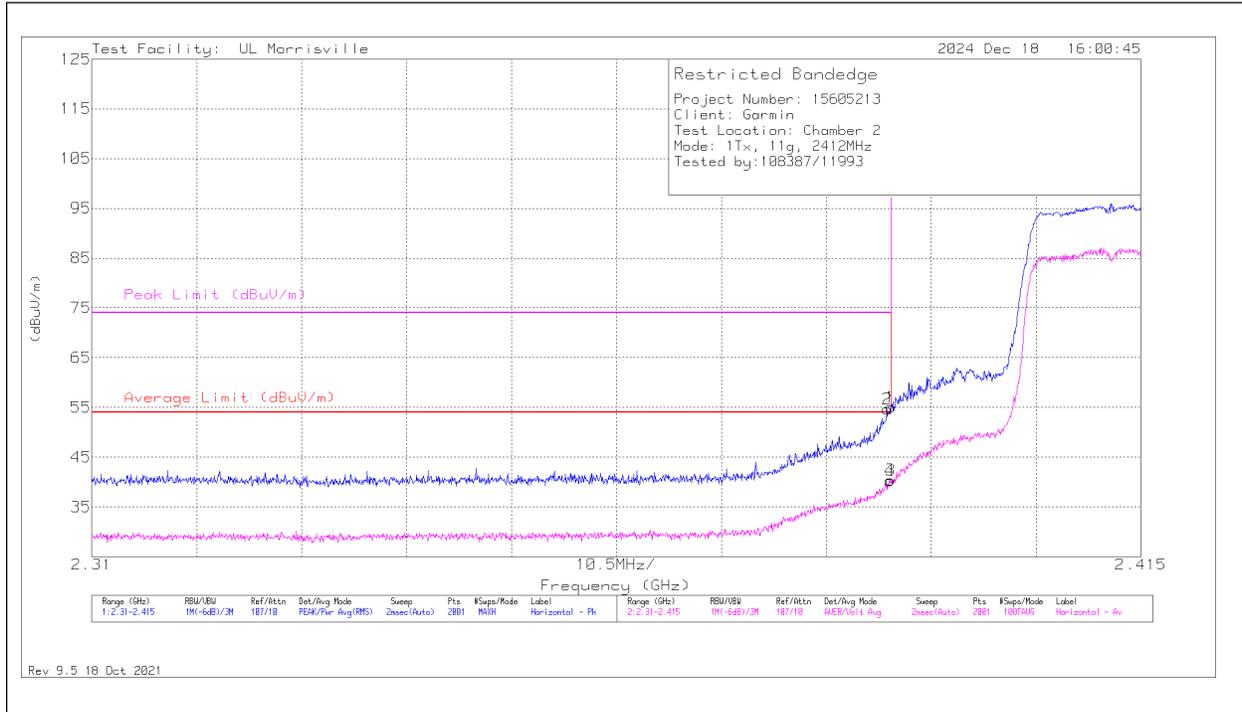
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2412MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	46.29	Pk	32.3	-23.6	54.99	-	-	74	-19.01	248	115	H
2	*** 2.38964	45.85	Pk	32.3	-23.5	54.65	-	-	74	-19.35	248	115	H
3	*** 2.38996	31.71	ADV	32.3	-23.6	40.41	54	-13.59	-	-	248	115	H
4	*** 2.38985	31.48	ADV	32.3	-23.5	40.28	54	-13.72	-	-	248	115	H

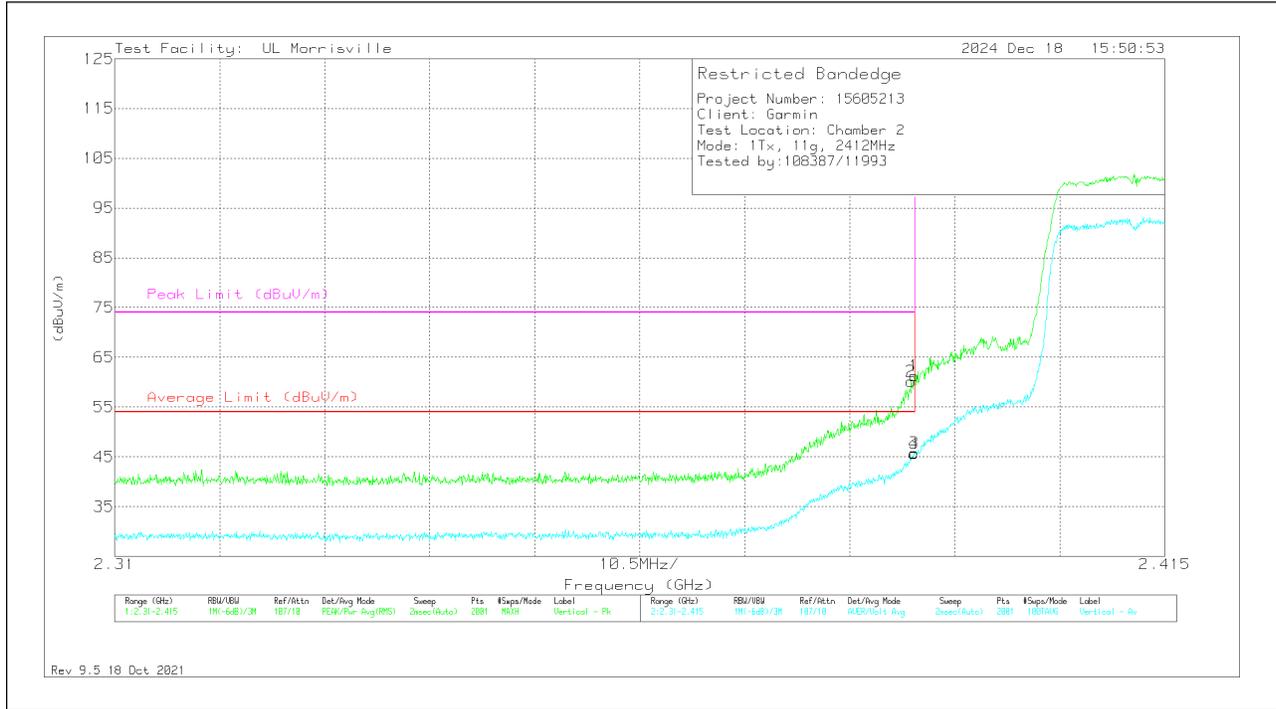
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	52.56	Pk	32.3	-23.6	61.26	-	-	74	-12.74	337	110	V
2	*** 2.38964	51.36	Pk	32.3	-23.5	60.16	-	-	74	-13.84	337	110	V
3	*** 2.38996	37.08	ADV	32.3	-23.6	45.78	54	-8.22	-	-	337	109	V
4	*** 2.38991	36.79	ADV	32.3	-23.5	45.59	54	-8.41	-	-	337	109	V

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

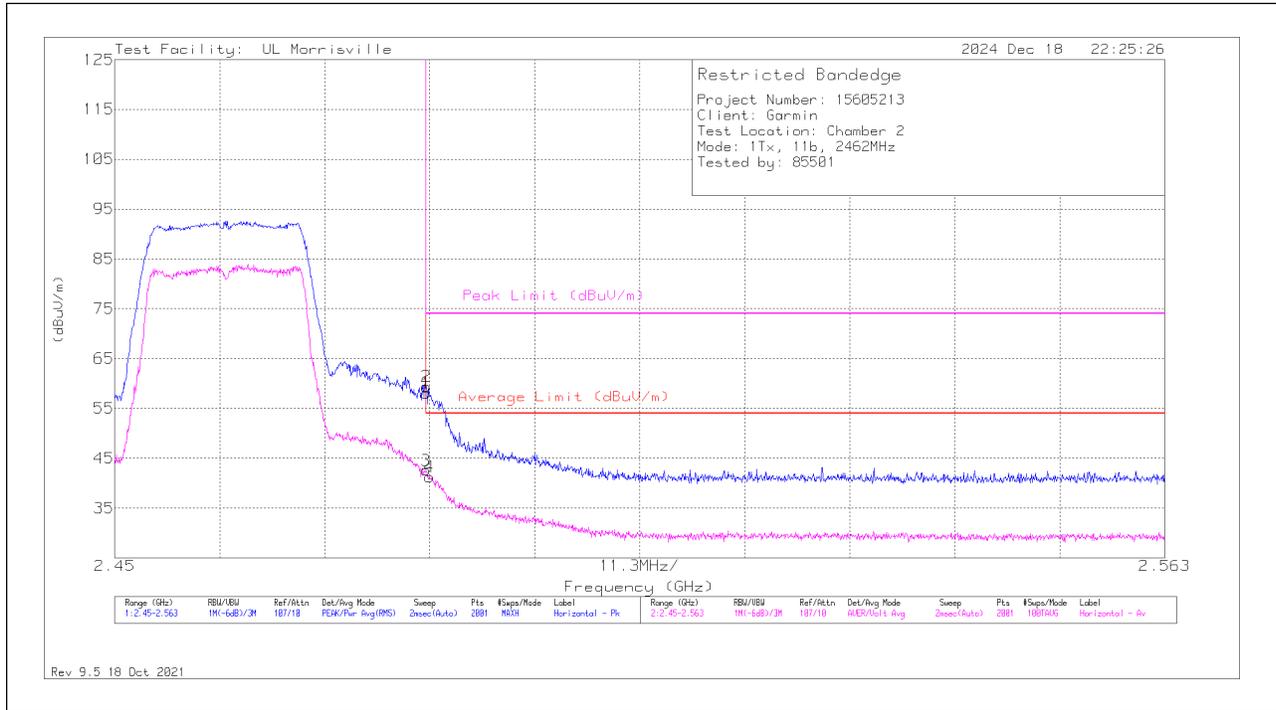
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2462MHz)

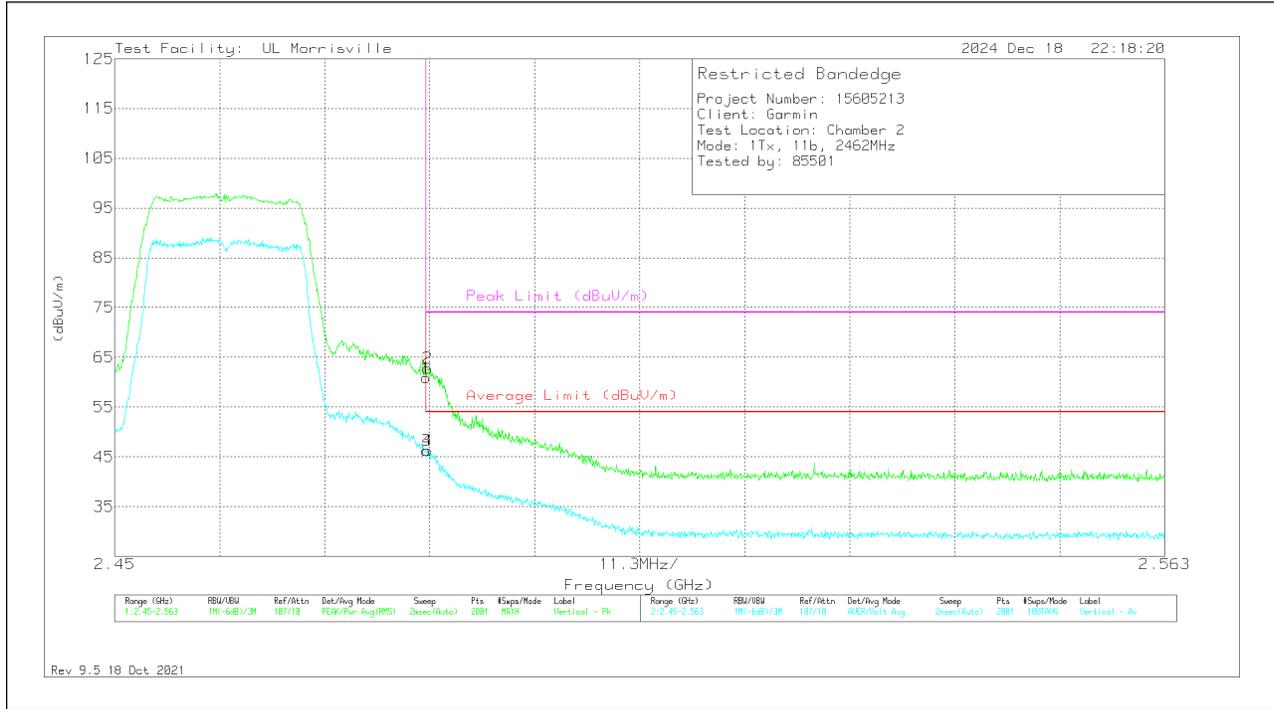
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	49.63	Pk	32.5	-24.1	58.03	-	-	74	-15.97	245	389	H
2	* ** 2.48356	51.02	Pk	32.5	-24.1	59.42	-	-	74	-14.58	245	389	H
3	* ** 2.4835	34.18	ADV	32.5	-24.1	42.58	54	-11.42	-	-	245	389	H
4	* ** 2.4839	32.93	ADV	32.5	-24.2	41.23	54	-12.77	-	-	245	389	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	52.46	Pk	32.5	-24.1	60.86	-	-	74	-13.14	340	126	V
2	* ** 2.48367	54.42	Pk	32.5	-24.1	62.82	-	-	74	-11.18	340	126	V
3	* ** 2.4835	37.89	ADV	32.5	-24.1	46.29	54	-7.71	-	-	340	126	V
4	* ** 2.48367	37.91	ADV	32.5	-24.1	46.31	54	-7.69	-	-	340	126	V

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

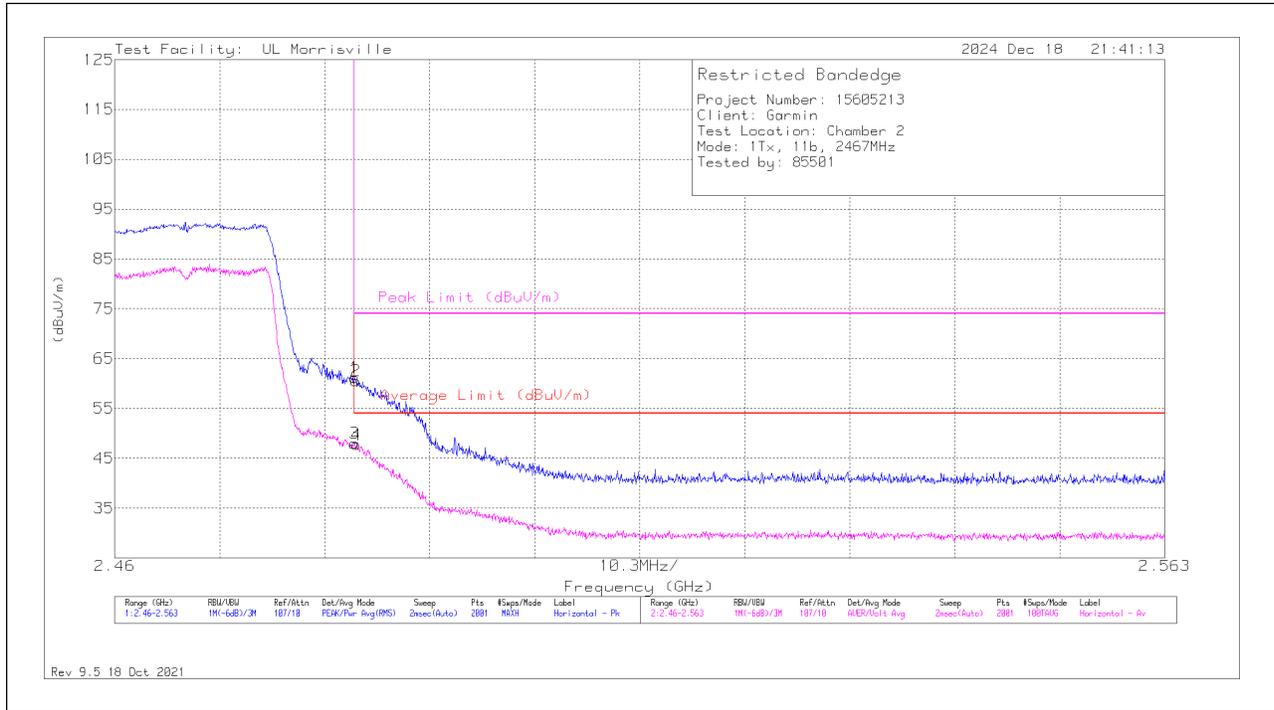
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2467MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	52.76	Pk	32.5	-24.1	61.16	-	-	74	-12.84	257	107	H
2	*** 2.48364	52.12	Pk	32.5	-24.1	60.52	-	-	74	-13.48	257	107	H
3	*** 2.48354	39.59	ADV	32.5	-24.1	47.99	54	-6.01	-	-	257	107	H
4	*** 2.48369	39.31	ADV	32.5	-24.1	47.71	54	-6.29	-	-	257	107	H

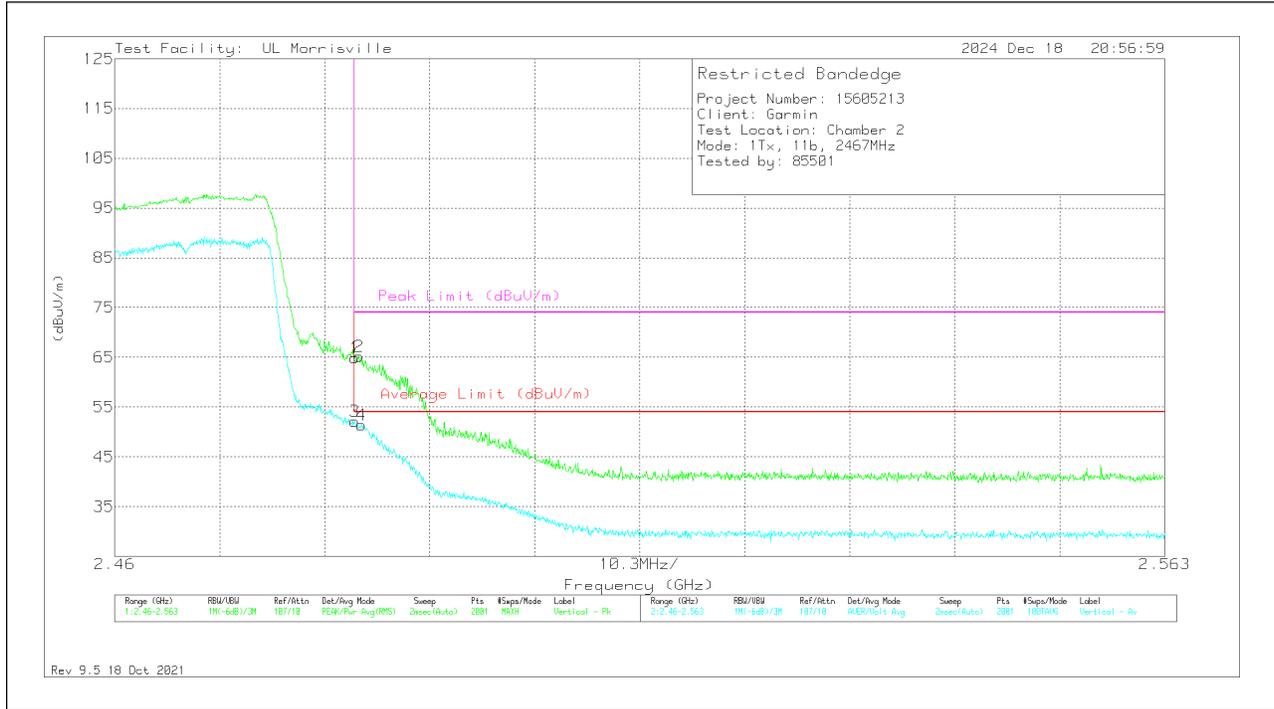
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	56.56	Pk	32.5	-24.1	64.96	-	-	74	-9.04	330	103	V
2	*** 2.48395	56.83	Pk	32.5	-24.2	65.13	-	-	74	-8.87	330	103	V
3	*** 2.48354	43.79	ADV	32.5	-24.1	52.19	54	-1.81	-	-	330	102	V
4	*** 2.48421	43.06	ADV	32.5	-24.2	51.36	54	-2.64	-	-	330	102	V

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

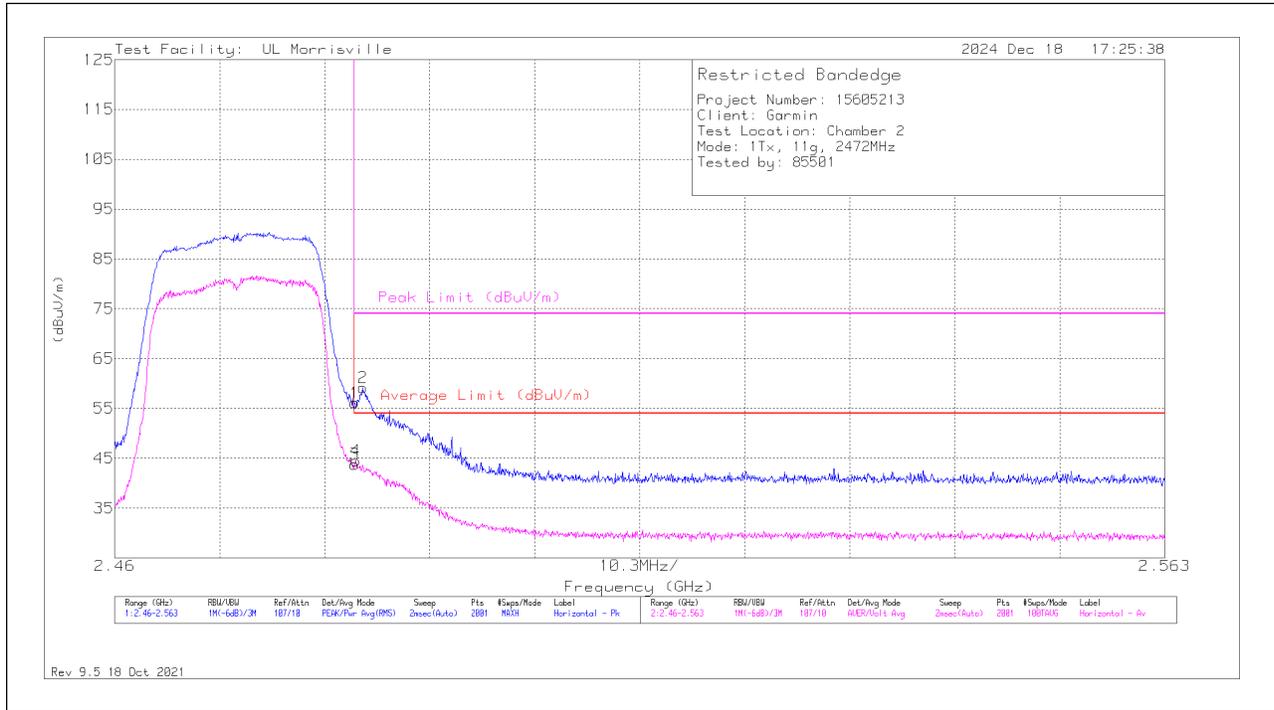
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2472MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	47.7	Pk	32.5	-24.1	56.1	-	-	74	-17.9	217	236	H
2	*** 2.48436	50.88	Pk	32.5	-24.2	59.18	-	-	74	-14.82	217	236	H
3	*** 2.48354	35.36	ADV	32.5	-24.1	43.76	54	-10.24	-	-	217	236	H
4	*** 2.48364	36.07	ADV	32.5	-24.1	44.47	54	-9.53	-	-	217	236	H

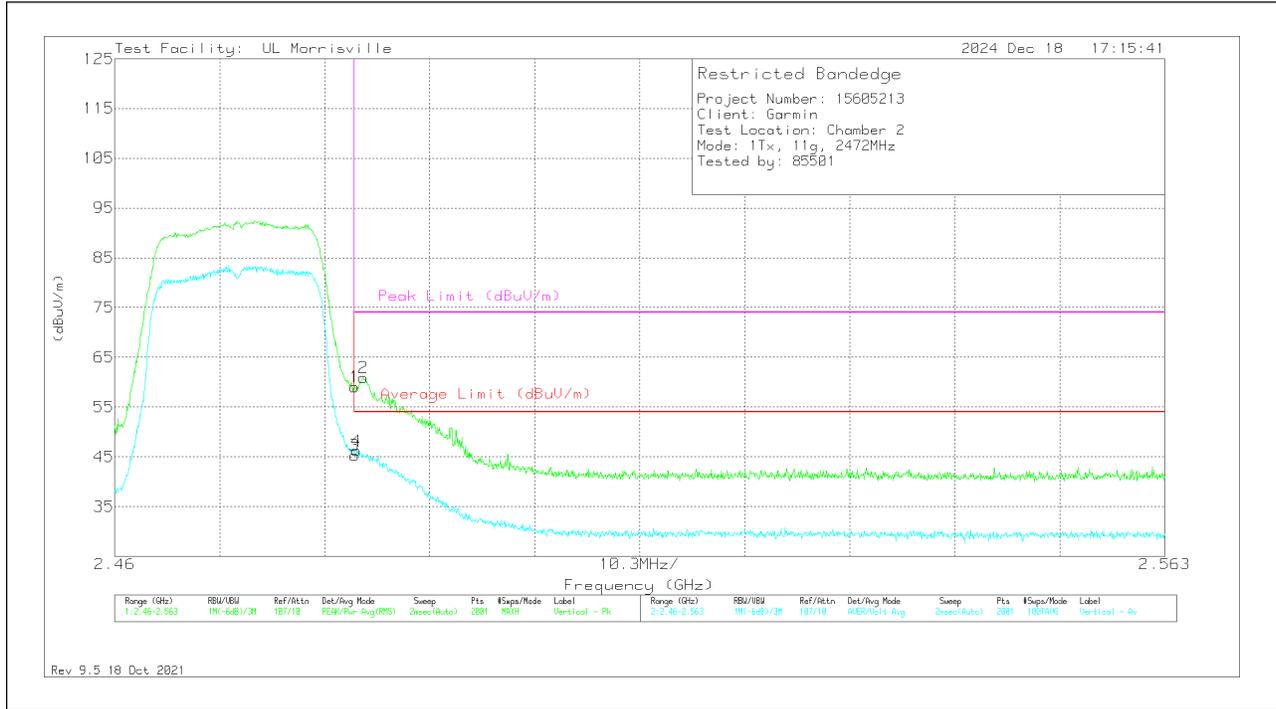
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	50.65	Pk	32.5	-24.1	59.05	-	-	74	-14.95	154	228	V
2	*** 2.48441	52.62	Pk	32.5	-24.2	60.92	-	-	74	-13.08	154	228	V
3	*** 2.48354	36.84	ADV	32.5	-24.1	45.24	54	-8.76	-	-	154	228	V
4	*** 2.48374	37.81	ADV	32.5	-24.1	46.21	54	-7.79	-	-	154	228	V

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

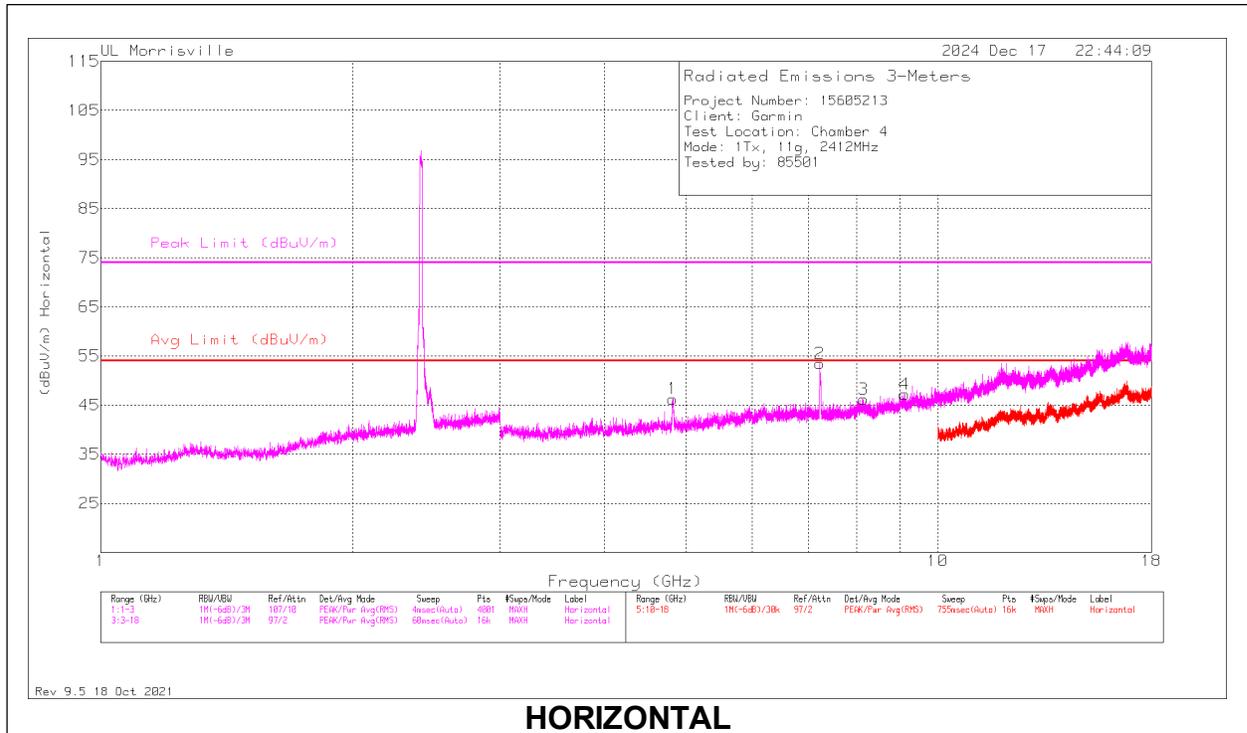
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

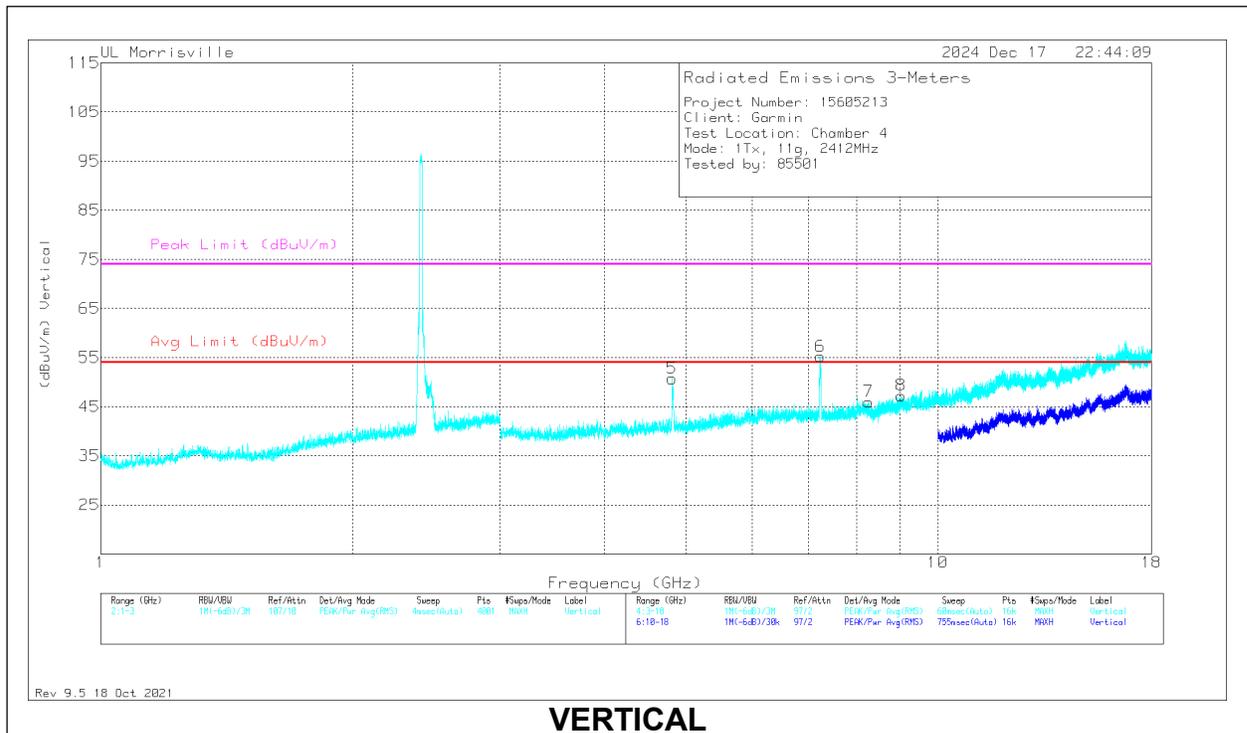
ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.82063	43.36	Pk	34.1	-31.2	46.26	54	-7.74	74	-27.74	0-360	100	H
3	*** 8.14875	37.38	Pk	35.8	-27	46.18	54	-7.82	74	-27.82	0-360	100	H
4	*** 9.12563	35.6	Pk	36.3	-24.7	47.2	54	-6.8	74	-26.8	0-360	100	H
5	*** 4.81752	46.98	PK2	34.1	-31.2	49.88	-	-	74	-24.12	206	258	V
	*** 4.8176	33.33	ADV	34.1	-31.2	36.23	54	-17.77	-	-	206	258	V
7	*** 8.26406	36.51	Pk	35.8	-26.3	46.01	54	-7.99	74	-27.99	0-360	200	V
8	*** 9.04031	35.18	Pk	36.2	-24.1	47.28	54	-6.72	74	-26.72	0-360	200	V
2	7.22906	45.35	Pk	35.6	-27.5	53.45	-	-	-	-	0-360	100	H
6	7.24125	47.13	Pk	35.6	-27.5	55.23	-	-	-	-	0-360	200	V

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

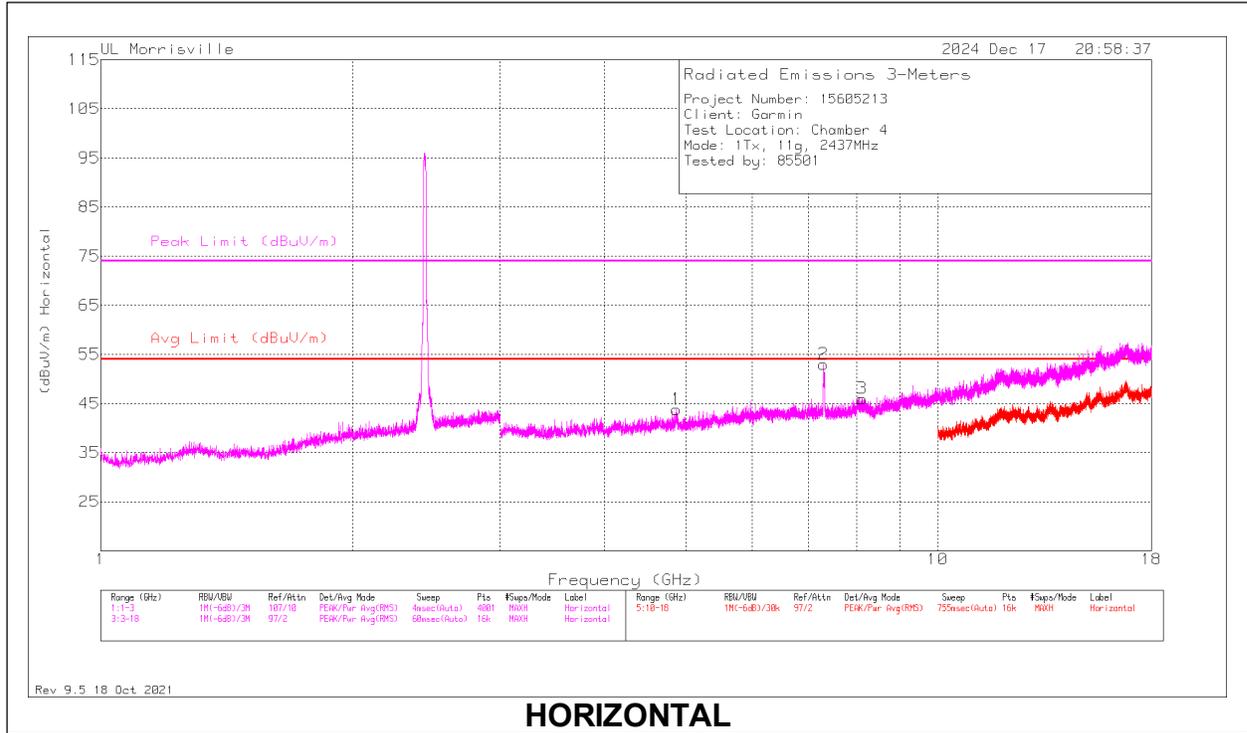
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

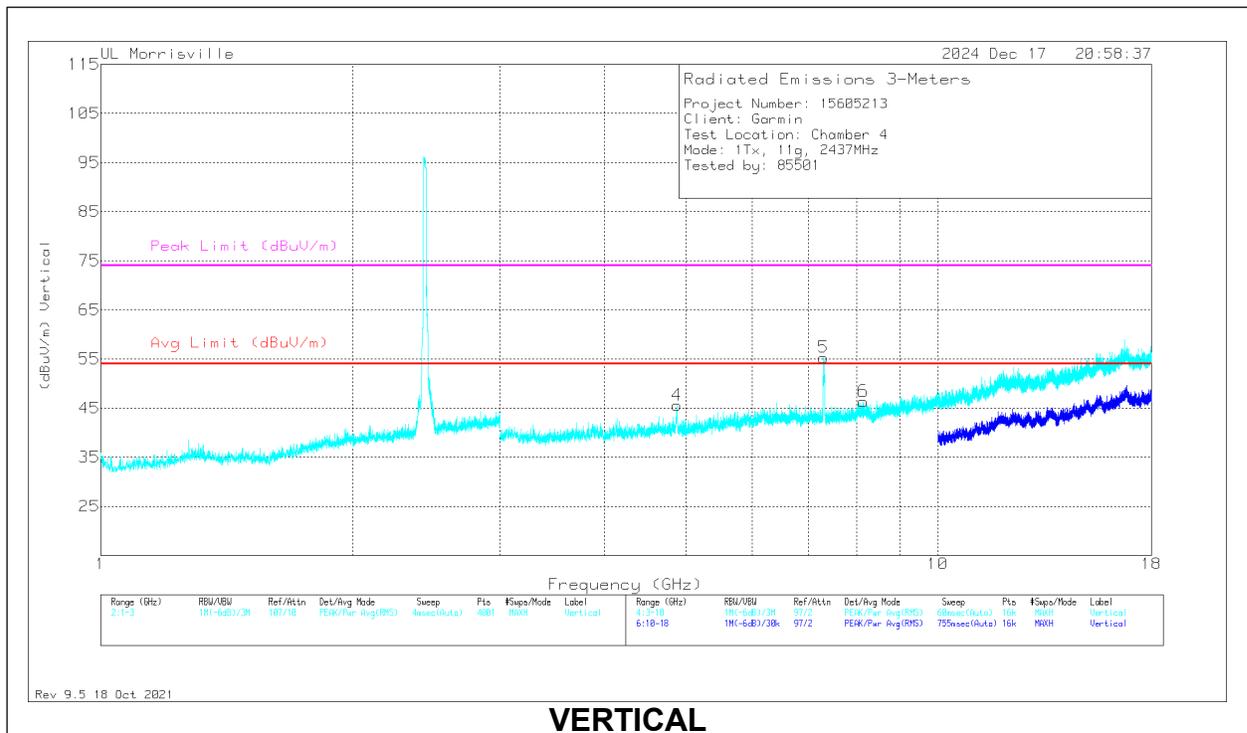
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.87219	41.01	Pk	34.1	-31.3	43.81	54	-10.19	74	-30.19	0-360	100	H
2	*** 7.3064	49.34	PK2	35.7	-27.4	57.64	-	-	74	-16.36	298	117	H
	*** 7.30437	36.21	ADV	35.7	-27.4	44.51	54	-9.49	-	-	298	117	H
3	*** 8.11781	36.91	Pk	35.8	-26.7	46.01	54	-7.99	74	-27.99	0-360	100	H
4	*** 4.88344	42.57	Pk	34	-31	45.57	54	-8.43	74	-28.43	0-360	200	V
5	*** 7.30781	52.76	PK2	35.7	-27.4	61.06	-	-	74	-12.94	0	123	V
	*** 7.30639	39.76	ADV	35.7	-27.4	48.06	54	-5.94	-	-	0	123	V
6	*** 8.145	37.57	Pk	35.8	-27	46.37	54	-7.63	74	-27.63	0-360	200	V

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

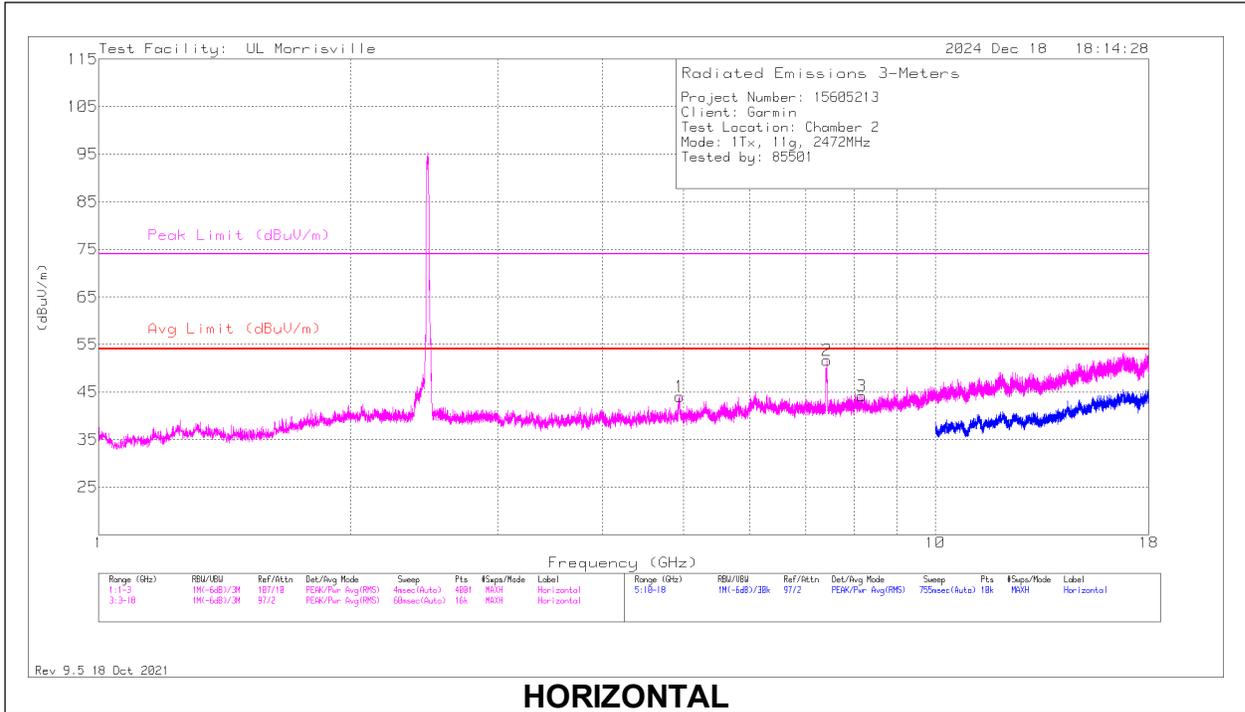
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

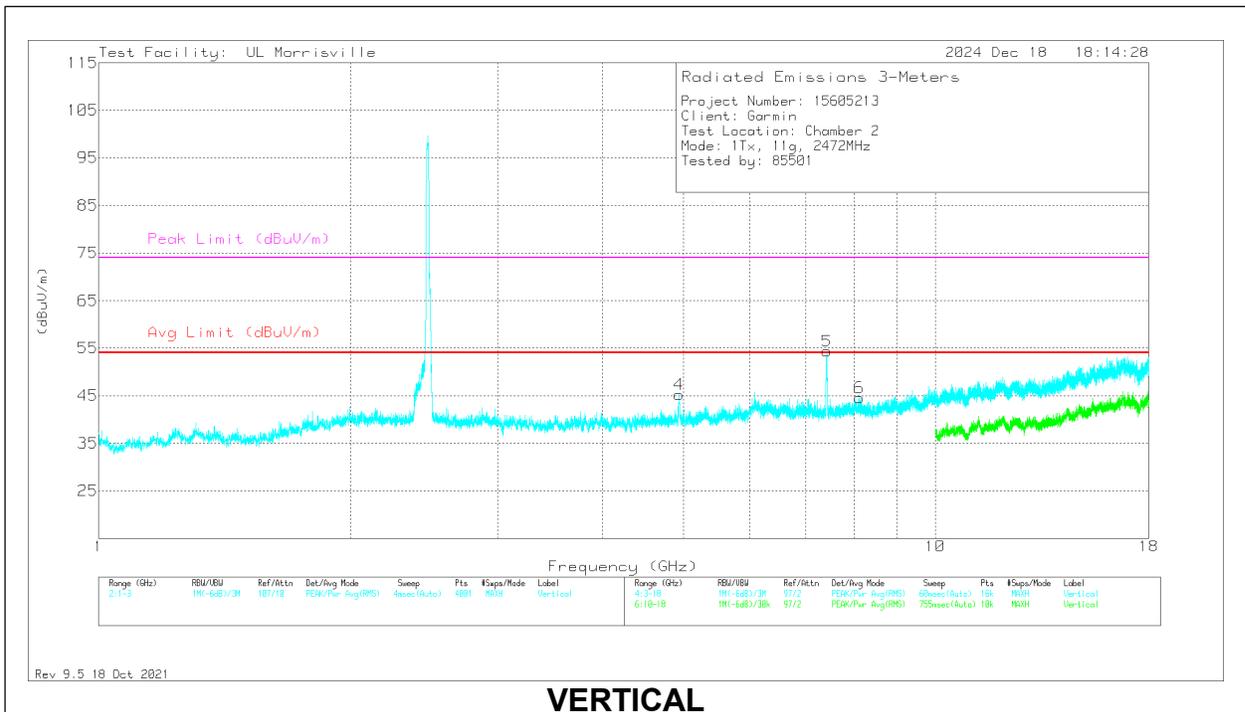
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.94625	53.66	Pk	34	-43.6	44.06	54	-9.94	74	-29.94	0-360	199	H
2	*** 7.4174	60.92	PK2	35.6	-41.1	55.42	-	-	74	-18.58	164	138	H
	*** 7.42018	48.15	ADV	35.6	-41.3	42.45	54	-11.55	-	-	164	138	H
3	*** 8.16656	48.84	Pk	35.8	-40.4	44.24	54	-9.76	74	-29.76	0-360	101	H
4	*** 4.9425	54.84	Pk	34	-43.6	45.24	54	-8.76	74	-28.76	0-360	101	V
5	*** 7.4193	62.94	PK2	35.6	-41.2	57.34	-	-	74	-16.66	6	112	V
	*** 7.41837	49.6	ADV	35.6	-41.2	44	54	-10	-	-	6	112	V
6	*** 8.11594	49.82	Pk	35.8	-41	44.62	54	-9.38	74	-29.38	0-360	199	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

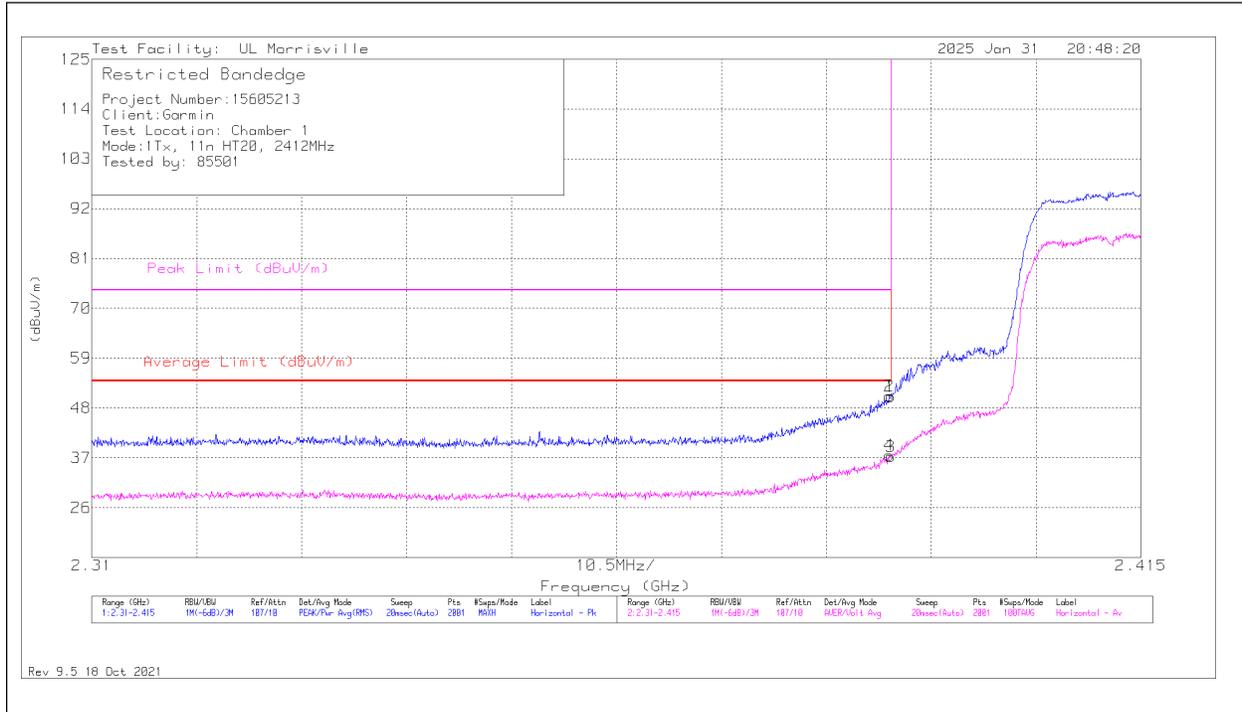
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2412MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	42.57	Pk	31.9	-24	50.47	-	-	74	-23.53	54	111	H
2	* ** 2.3898	42.72	Pk	31.9	-24	50.62	-	-	74	-23.38	54	111	H
3	* ** 2.38996	29.34	ADV	31.9	-24	37.24	54	-16.76	-	-	54	111	H
4	* ** 2.3898	29.73	ADV	31.9	-24	37.63	54	-16.37	-	-	54	111	H

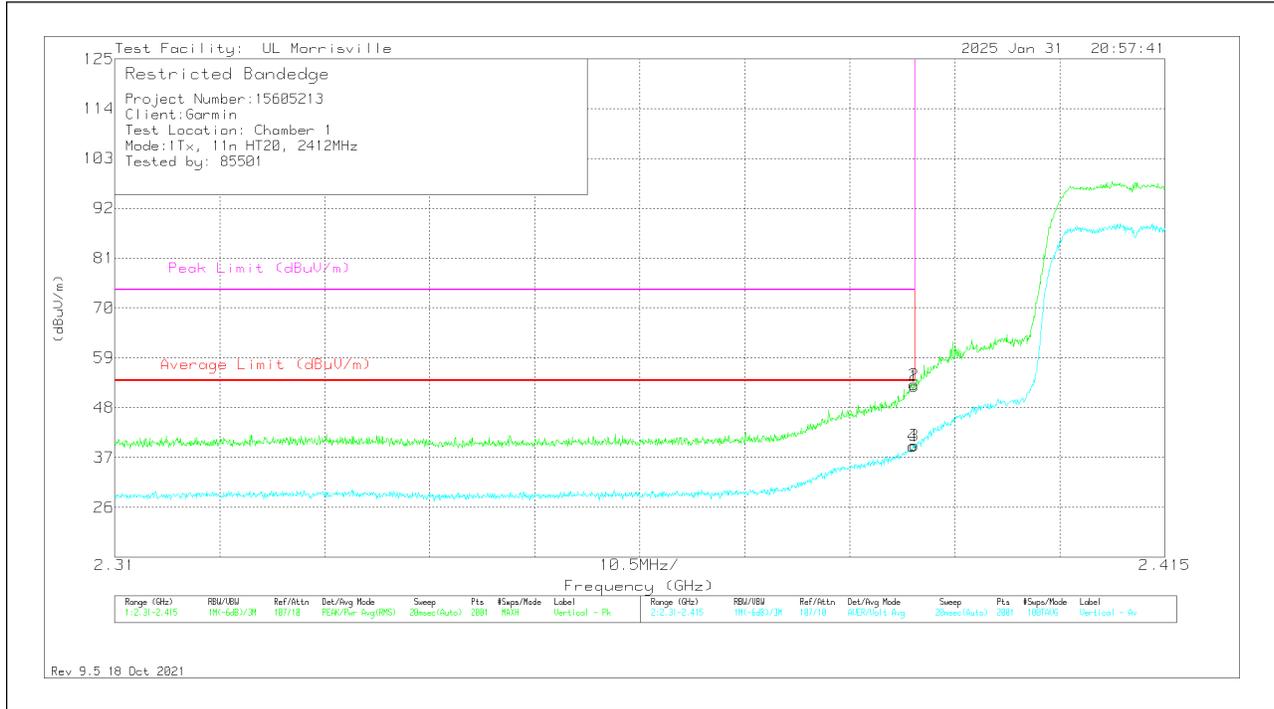
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULTS



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	44.83	Pk	31.9	-24	52.73	-	-	74	-21.27	271	117	V
2	*** 2.38991	45.16	Pk	31.9	-24	53.06	-	-	74	-20.94	271	117	V
3	*** 2.38996	31.69	ADV	31.9	-24	39.59	54	-14.41	-	-	271	117	V
4	*** 2.3898	31.55	ADV	31.9	-24	39.45	54	-14.55	-	-	271	117	V

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

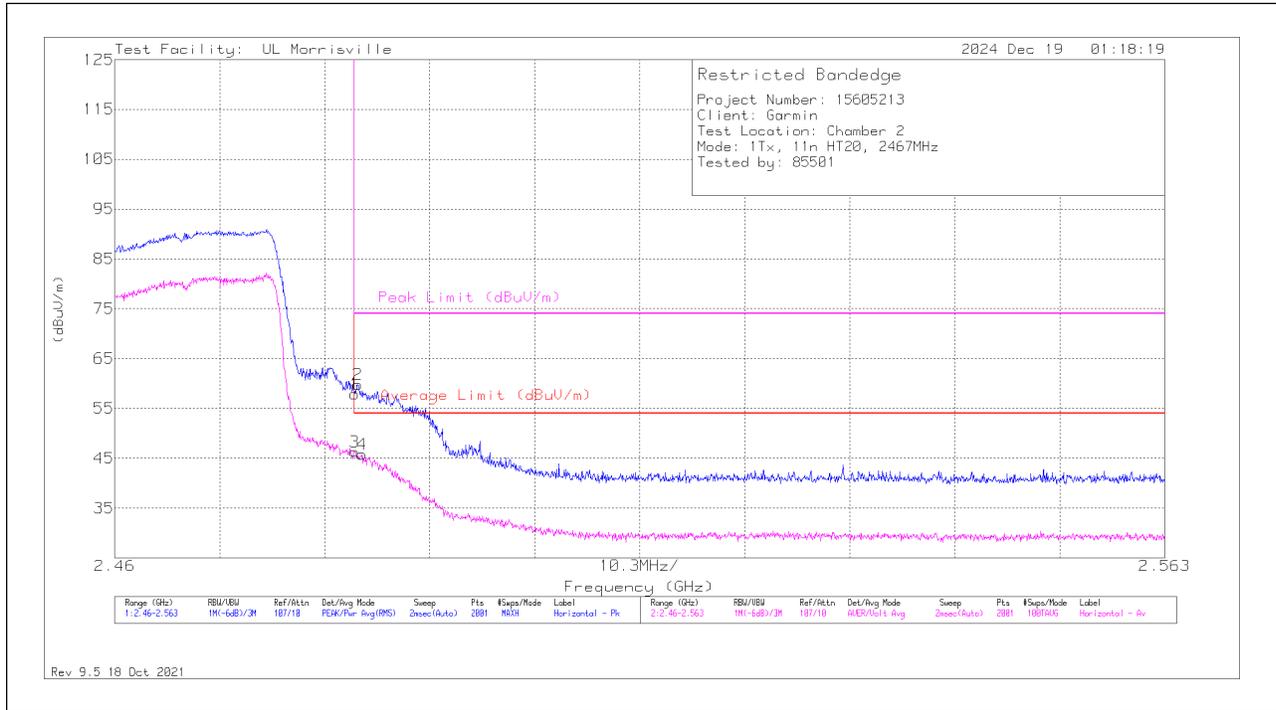
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2467MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	49.53	Pk	32.5	-24.1	57.93	-	-	74	-16.07	246	381	H
2	*** 2.48384	51.46	Pk	32.5	-24.2	59.76	-	-	74	-14.24	246	381	H
3	*** 2.48354	37.93	ADV	32.5	-24.1	46.33	54	-7.67	-	-	246	381	H
4	*** 2.48426	37.52	ADV	32.5	-24.2	45.82	54	-8.18	-	-	246	381	H

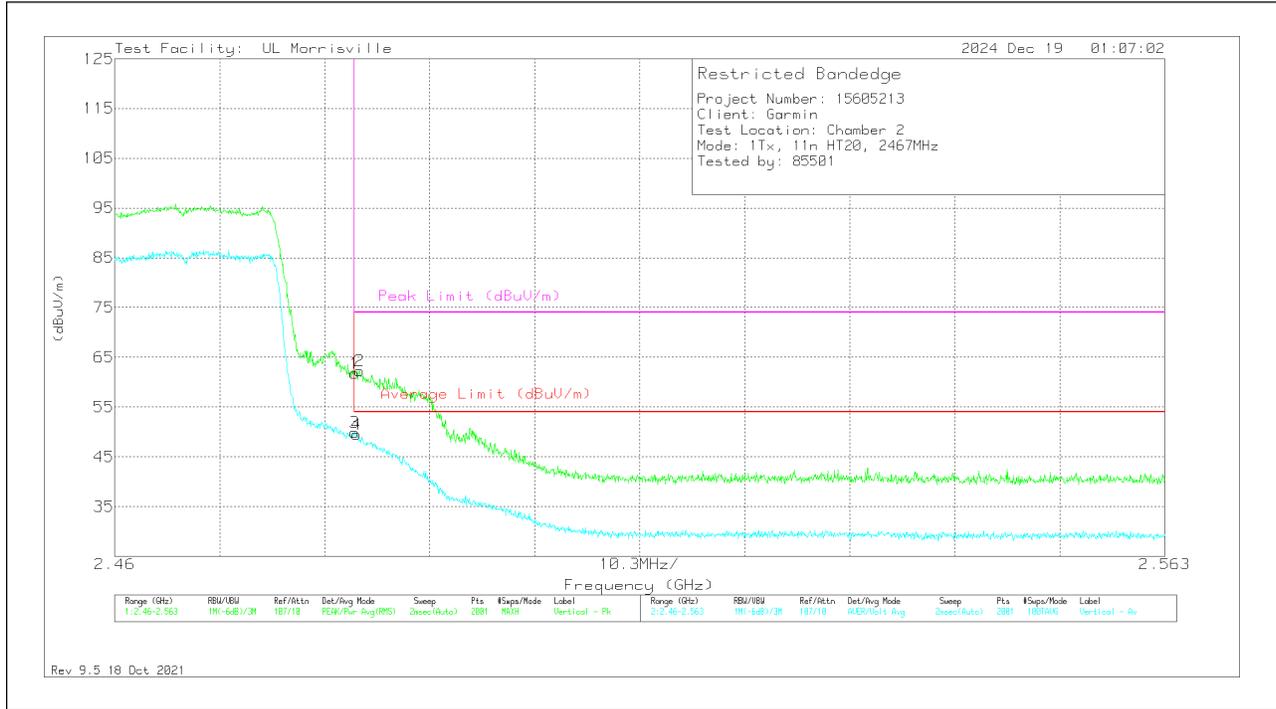
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	53.37	Pk	32.5	-24.1	61.77	-	-	74	-12.23	343	106	V
2	*** 2.484	54.02	Pk	32.5	-24.2	62.32	-	-	74	-11.68	343	106	V
3	*** 2.48354	41.54	ADV	32.5	-24.1	49.94	54	-4.06	-	-	343	106	V
4	*** 2.48374	41.07	ADV	32.5	-24.1	49.47	54	-4.53	-	-	343	106	V

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

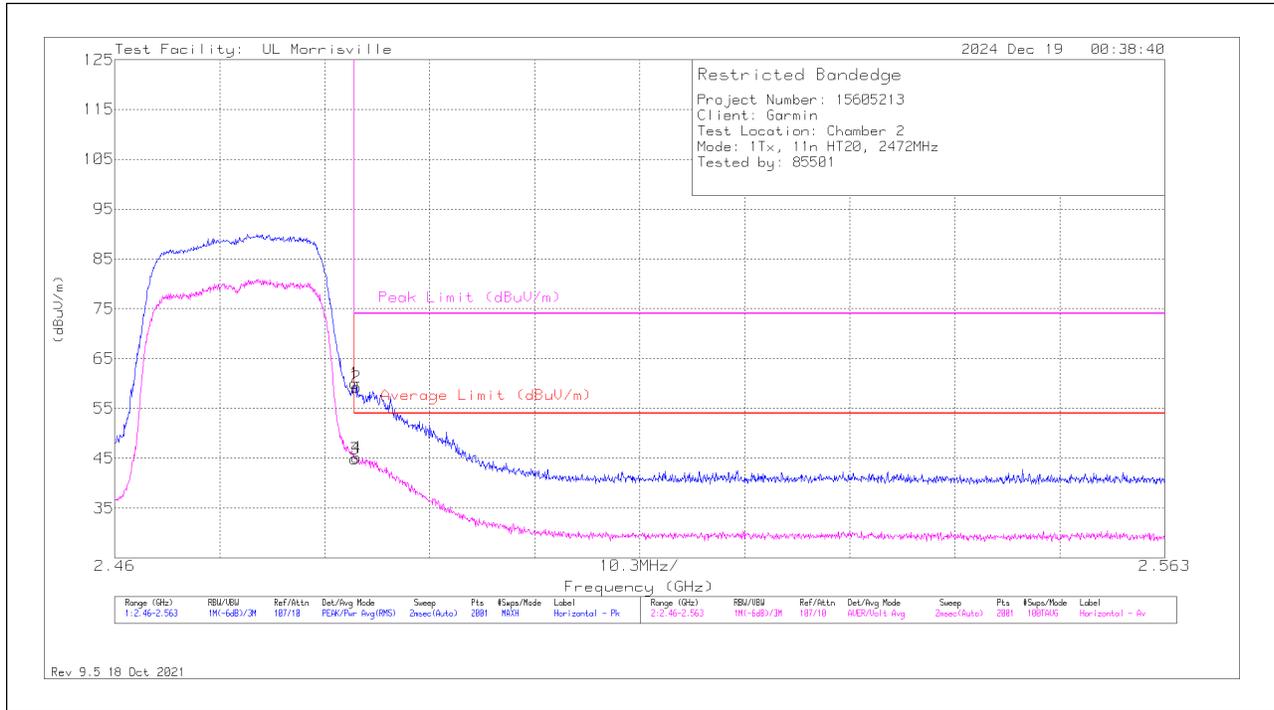
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2472MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	51.63	Pk	32.5	-24.1	60.03	-	-	74	-13.97	256	388	H
2	*** 2.48374	50.86	Pk	32.5	-24.1	59.26	-	-	74	-14.74	256	388	H
3	*** 2.48354	36.51	ADV	32.5	-24.1	44.91	54	-9.09	-	-	256	388	H
4	*** 2.48374	36.75	ADV	32.5	-24.1	45.15	54	-8.85	-	-	256	388	H

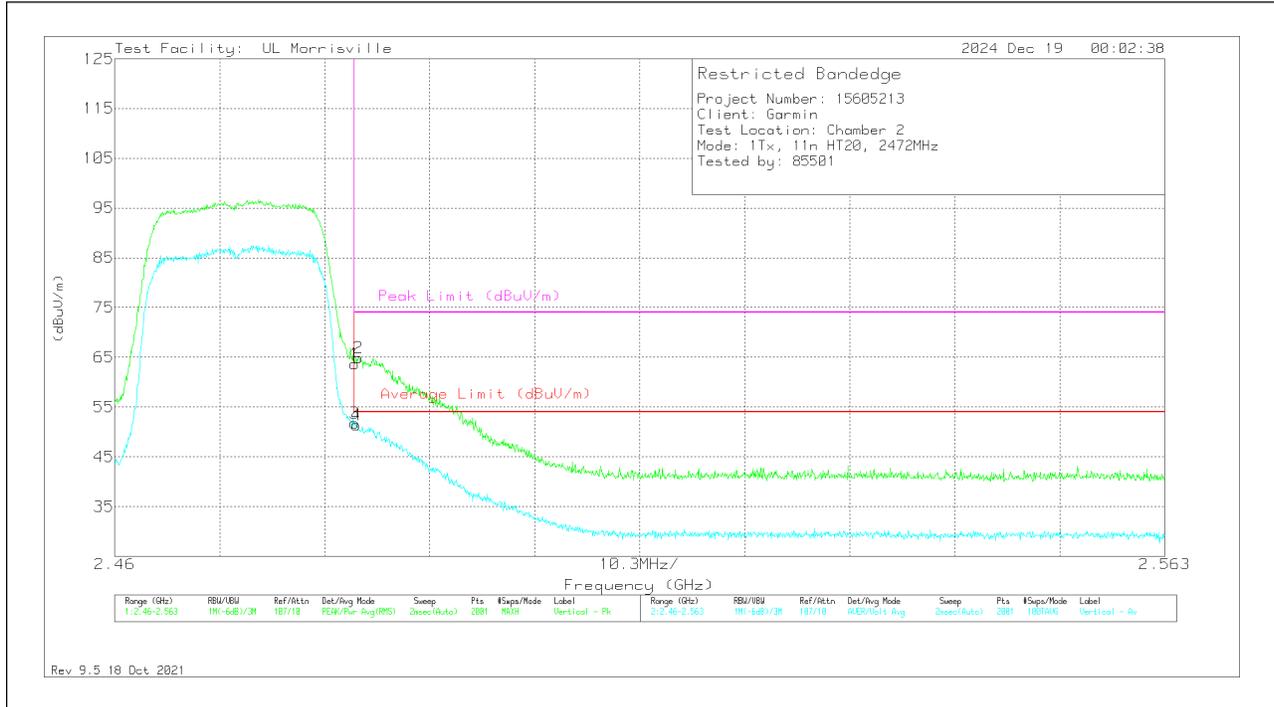
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	55.27	Pk	32.5	-24.1	63.67	-	-	74	-10.33	331	107	V
2	** 2.4839	56.67	Pk	32.5	-24.2	64.97	-	-	74	-9.03	331	107	V
3	*** 2.48354	43.36	ADV	32.5	-24.1	51.76	54	-2.24	-	-	331	107	V
4	*** 2.48369	42.99	ADV	32.5	-24.1	51.39	54	-2.61	-	-	331	107	V

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

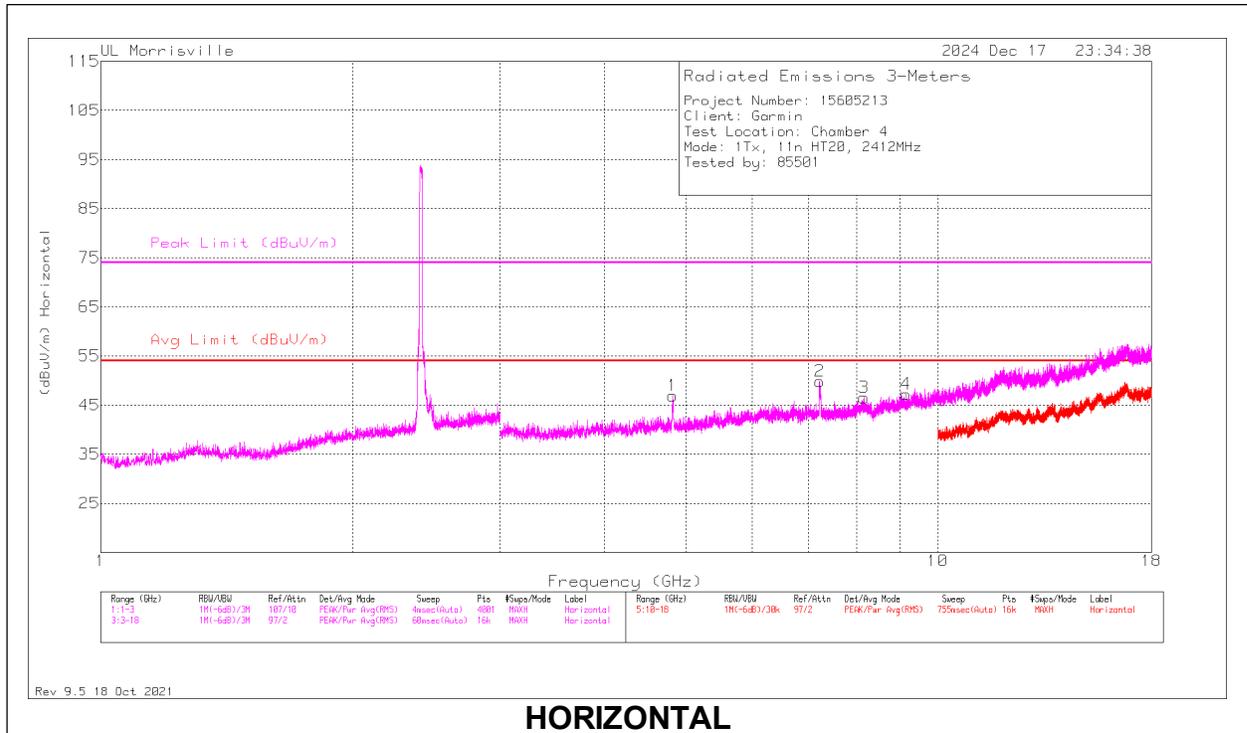
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

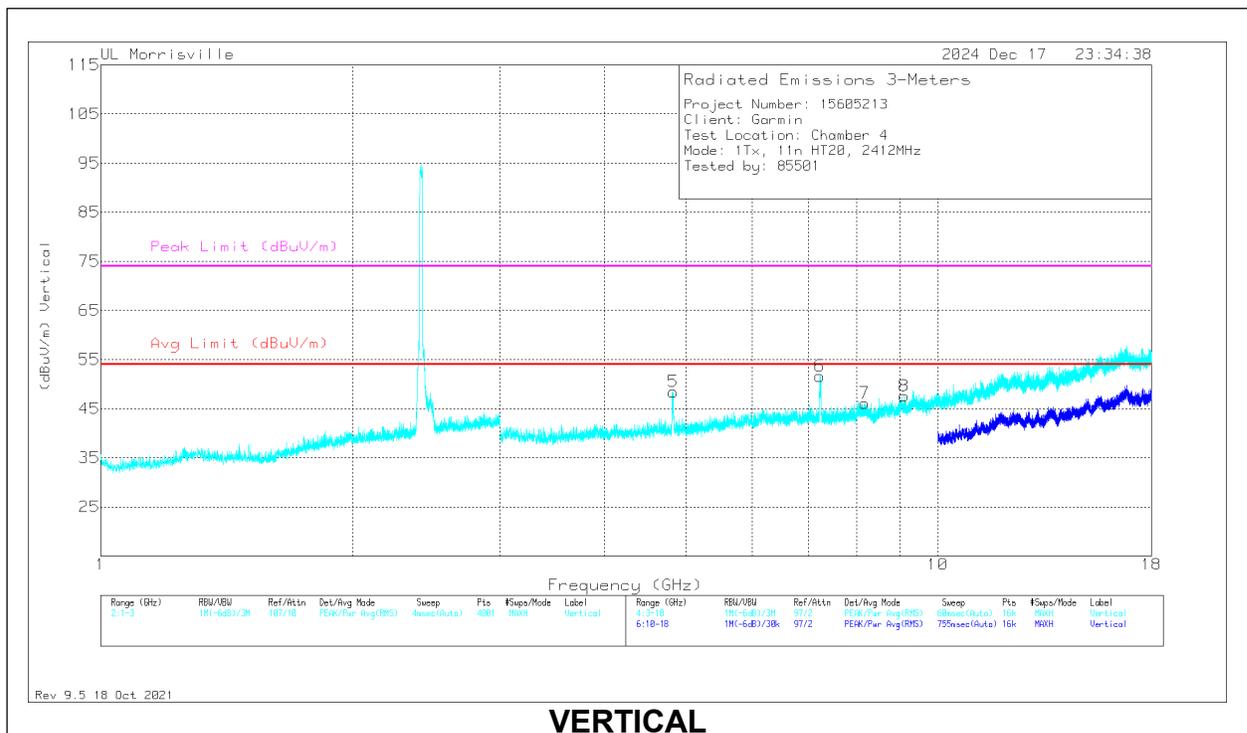
ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.8225	43.92	Pk	34.1	-31.1	46.92	54	-7.08	74	-27.08	0-360	100	H
3	*** 8.15906	37.33	Pk	35.8	-26.6	46.53	54	-7.47	74	-27.47	0-360	100	H
4	*** 9.16969	36.25	Pk	36.3	-25.3	47.25	54	-6.75	74	-26.75	0-360	100	H
5	*** 4.82676	49.27	PK2	34.1	-31.1	52.27	-	-	74	-21.73	108	130	V
	*** 4.82705	35.35	ADV	34.1	-31.1	38.35	54	-15.65	-	-	108	130	V
7	*** 8.1825	36.52	Pk	35.8	-26.2	46.12	54	-7.88	74	-27.88	0-360	200	V
8	*** 9.12188	36	Pk	36.3	-24.7	47.6	54	-6.4	74	-26.4	0-360	200	V
2	7.23	41.74	Pk	35.6	-27.5	49.84	-	-	-	-	0-360	100	H
6	7.23	43.53	Pk	35.6	-27.5	51.63	-	-	-	-	0-360	200	V

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

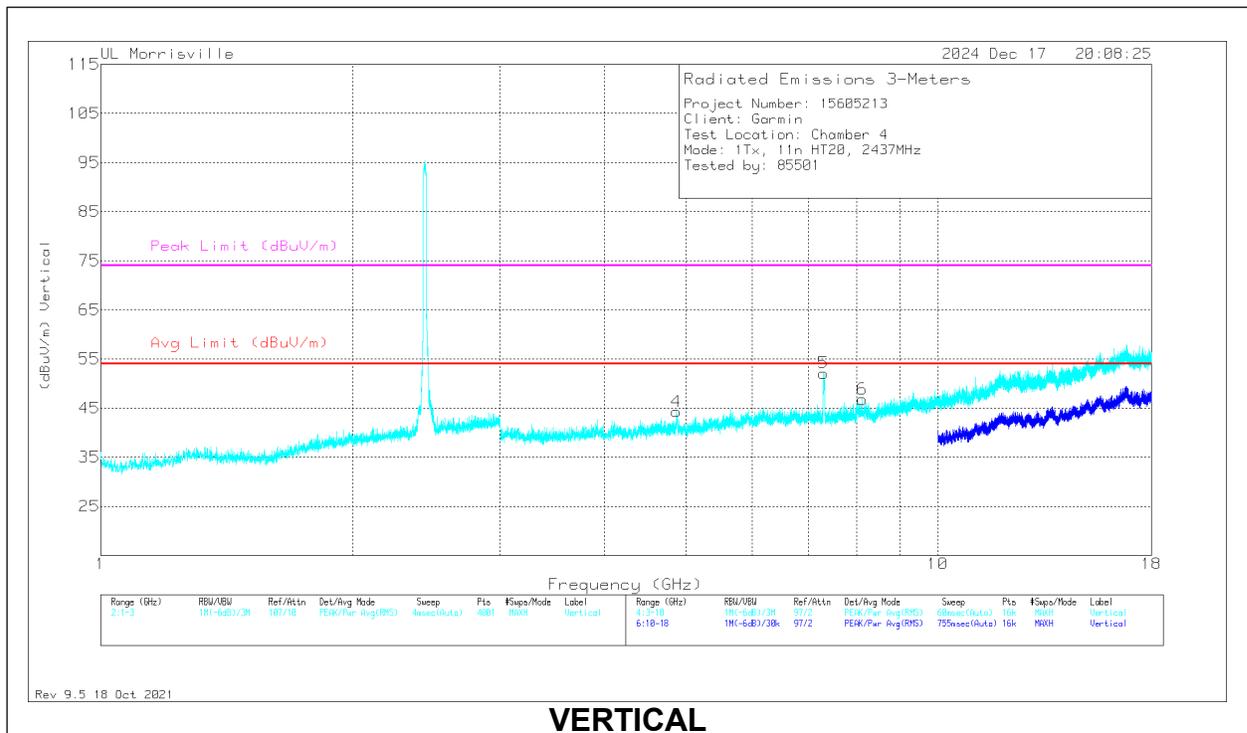
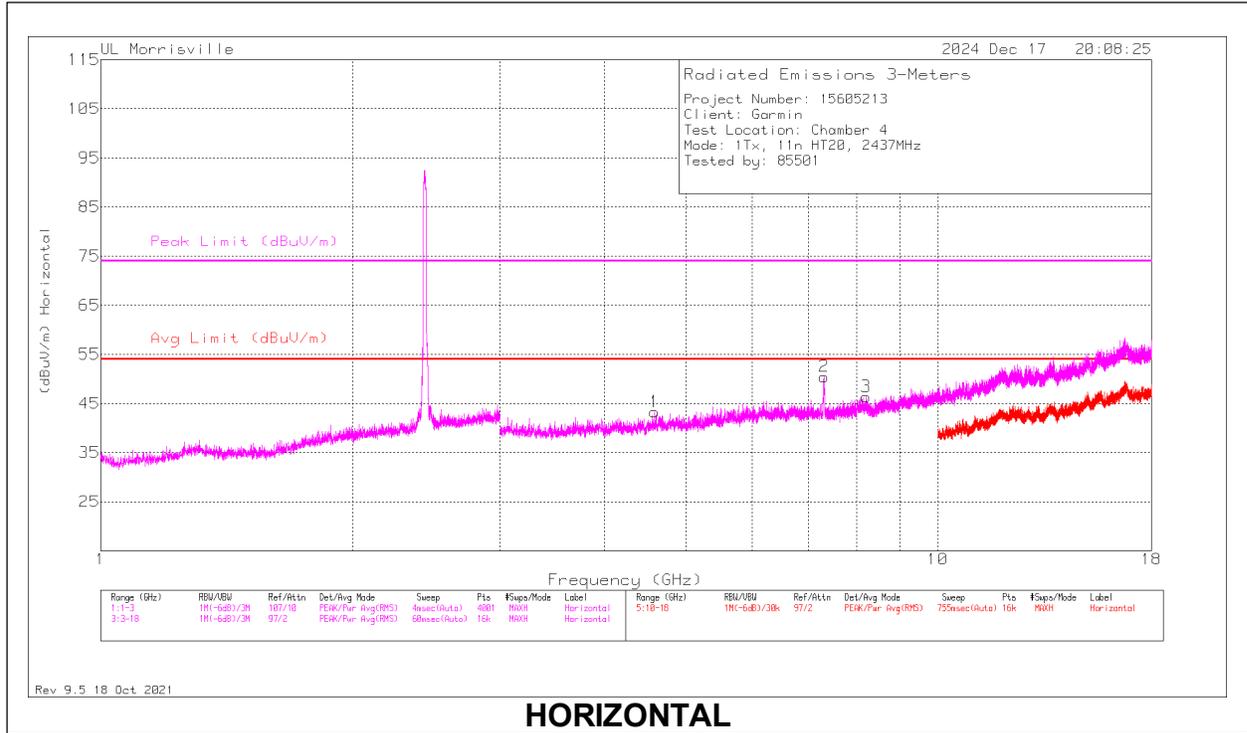
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.58813	40.58	Pk	34.1	-31.4	43.28	54	-10.72	74	-30.72	0-360	100	H
2	*** 7.30949	49.28	PK2	35.7	-27.5	57.48	-	-	74	-16.52	300	115	H
	*** 7.30999	34.11	ADV	35.7	-27.5	42.31	54	-11.69	-	-	300	115	H
3	*** 8.20969	36.87	Pk	35.8	-26.3	46.37	54	-7.63	74	-27.63	0-360	100	H
4	*** 4.87406	41.36	Pk	34.1	-31.2	44.26	54	-9.74	74	-29.74	0-360	200	V
5	*** 7.30254	46.64	PK2	35.7	-27.4	54.94	-	-	74	-19.06	264	225	V
	*** 7.30287	32.32	ADV	35.7	-27.4	40.62	54	-13.38	-	-	264	225	V
6	*** 8.12344	37.79	Pk	35.8	-26.8	46.79	54	-7.21	74	-27.21	0-360	200	V

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

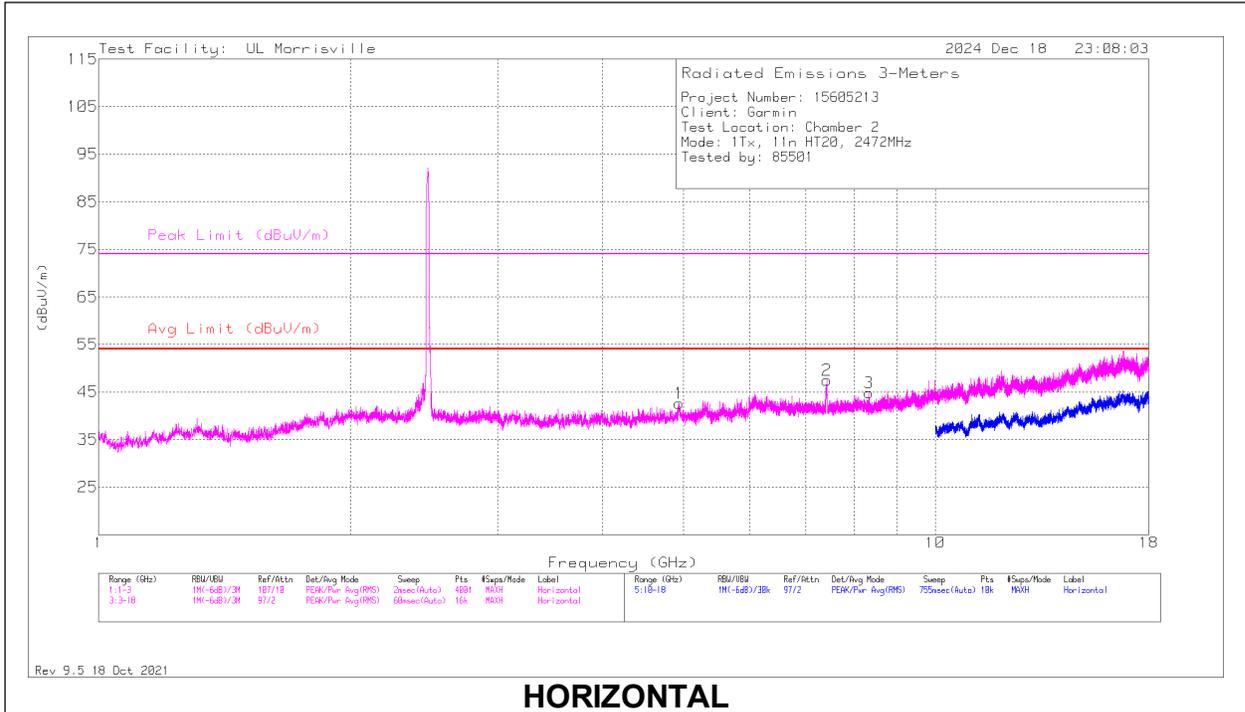
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

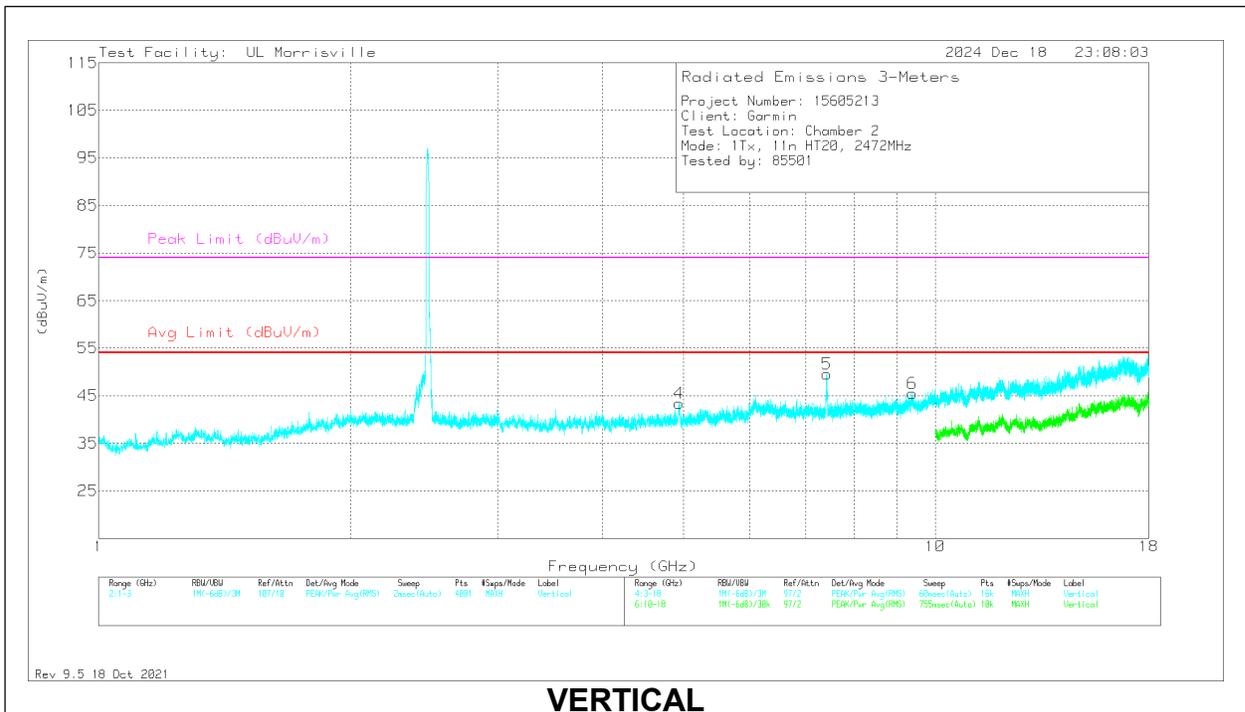
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.94344	52.08	Pk	34	-43.5	42.58	54	-11.42	74	-31.42	0-360	101	H
2	*** 7.42313	53.25	Pk	35.6	-41.4	47.45	54	-6.55	74	-26.55	0-360	199	H
3	*** 8.33438	49.7	Pk	35.8	-40.7	44.8	54	-9.2	74	-29.2	0-360	199	H
4	*** 4.94344	52.95	Pk	34	-43.5	43.45	54	-10.55	74	-30.55	0-360	101	V
5	*** 7.41826	58.12	PK2	35.6	-41.1	52.62	-	-	74	-21.38	21	104	V
	*** 7.41763	45.01	ADV	35.6	-41.1	39.51	54	-14.49	-	-	21	104	V
6	*** 9.39469	48.75	Pk	36.2	-39.5	45.45	54	-8.55	74	-28.55	0-360	199	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

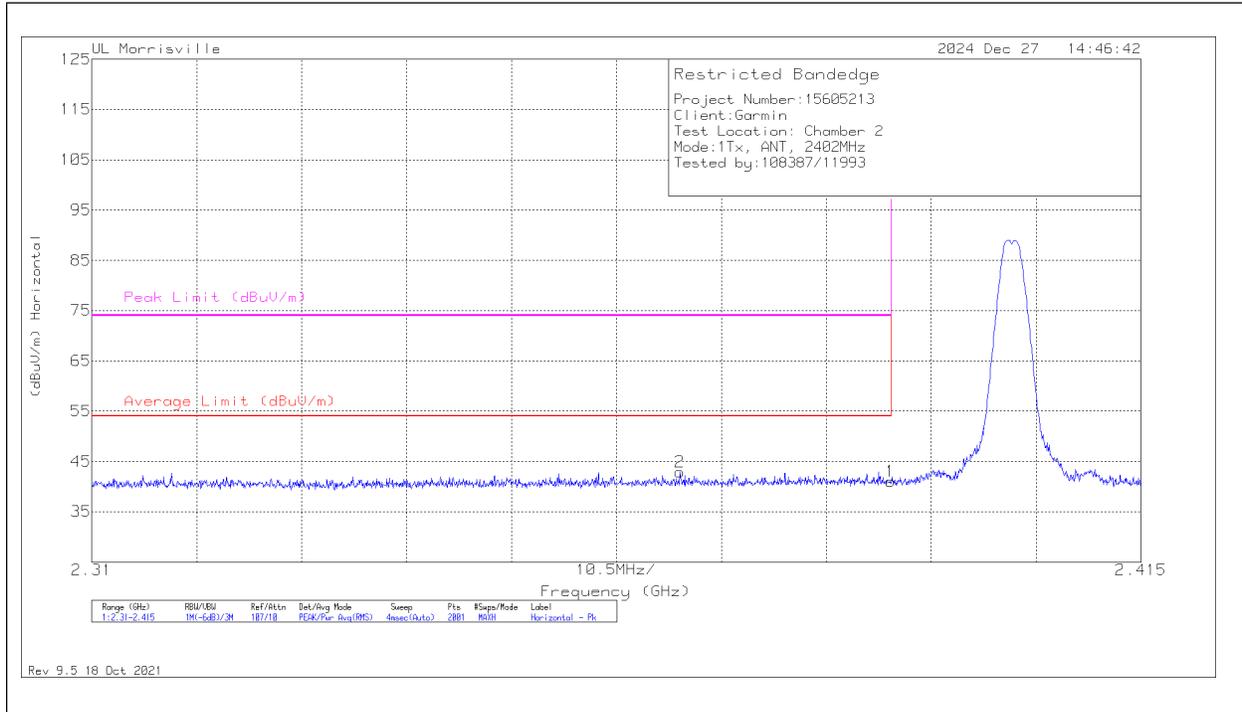
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.4. TX ABOVE 1 GHz ANT/ANT+ MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2402MHz)

HORIZONTAL RESULT



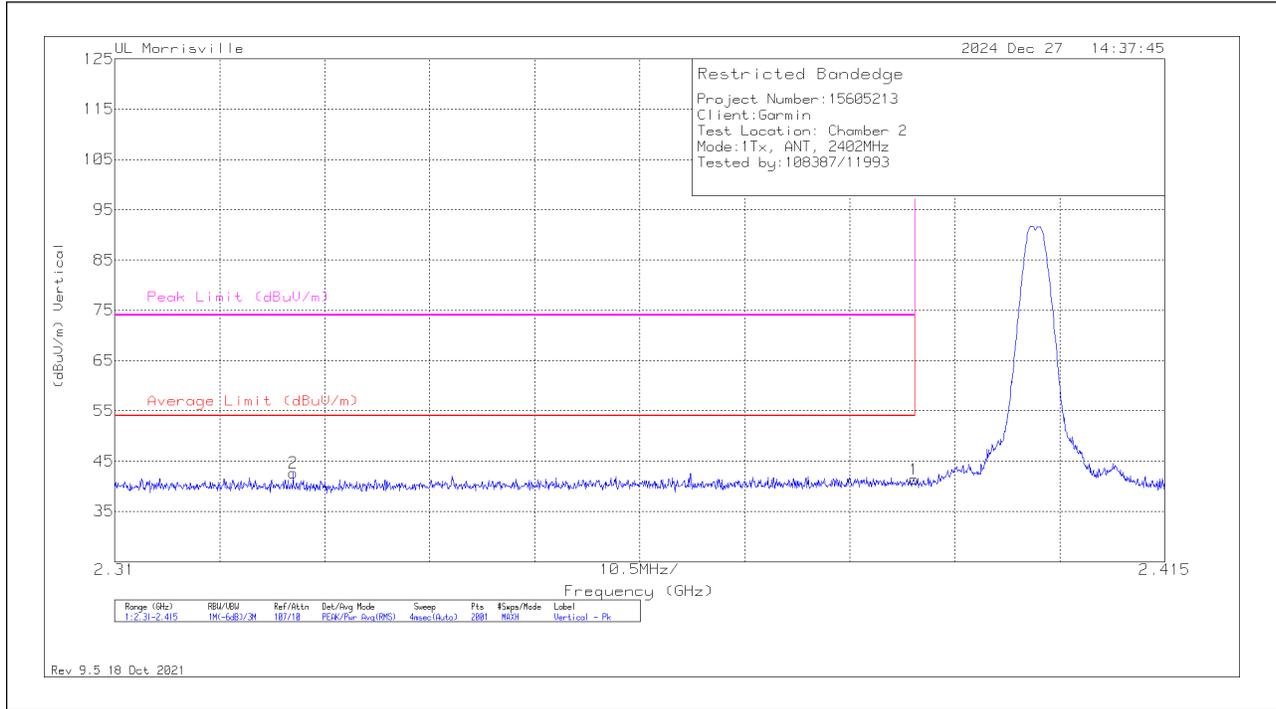
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	32.38	Pk	32.3	-23.6	0	41.08	-	-	74	-32.92	232	103	H
	*** 2.38996	32.38	Pk	32.3	-23.6	-17.72	23.36	54	-30.64	-	-	232	103	H
2	*** 2.36885	34.36	Pk	32.2	-23.6	0	42.96	-	-	74	-31.04	232	103	H
	*** 2.36885	34.36	Pk	32.2	-23.6	-17.72	25.24	54	-28.76	-	-	232	103	H

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

VERTICAL RESULT

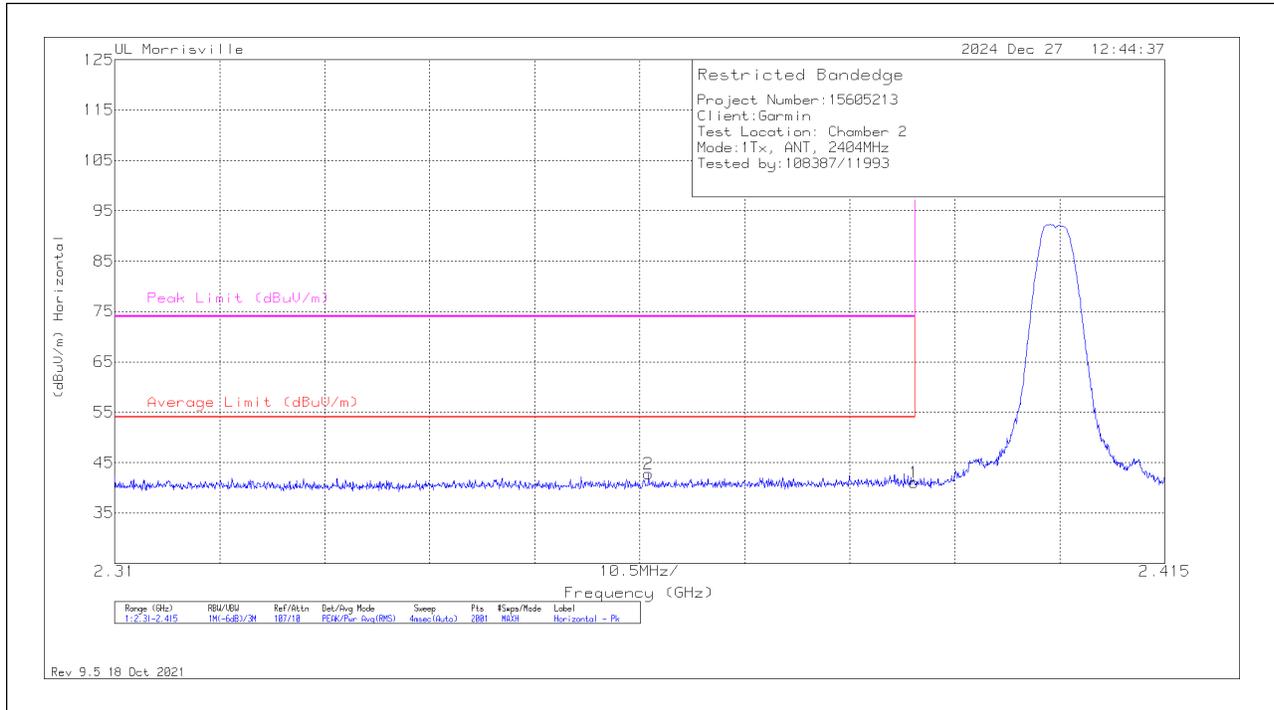


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	32.67	Pk	32.3	-23.6	0	41.37	-	-	74	-32.63	340	132	V
	*** 2.38996	32.67	Pk	32.3	-23.6	-17.72	23.65	54	-30.35	-	-	340	132	V
2	*** 2.32785	34.05	Pk	32.1	-23.5	0	42.65	-	-	74	-31.35	340	132	V
	*** 2.32785	34.05	Pk	32.1	-23.5	-17.72	24.93	54	-29.07	-	-	340	132	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

BANDEDGE (LOW CHANNEL, 2404MHz)

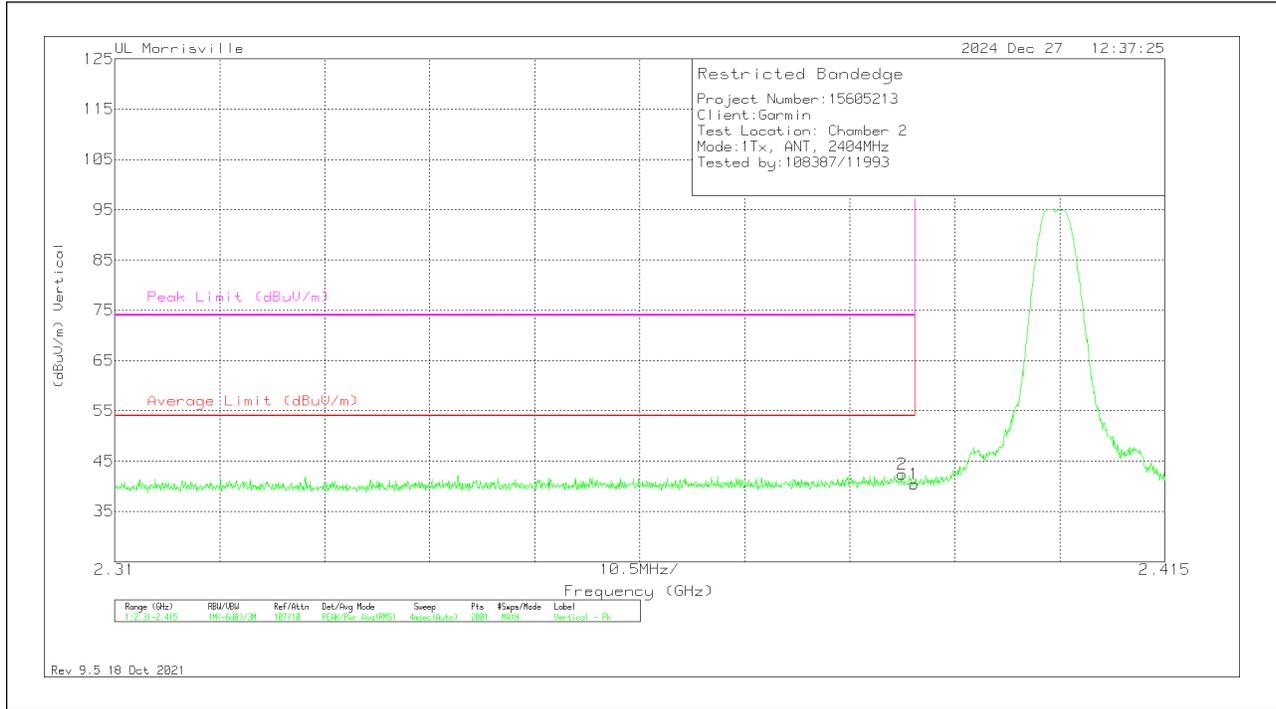
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	32.32	Pk	32.3	-23.6	0	41.02	-	-	74	-32.98	236	104	H
	* ** 2.38996	32.32	Pk	32.3	-23.6	-17.72	23.3	54	-30.7	-	-	236	104	H
2	* ** 2.36339	34.24	Pk	32.2	-23.6	0	42.84	-	-	74	-31.16	236	104	H
	* ** 2.36339	34.24	Pk	32.2	-23.6	-17.72	25.12	54	-28.88	-	-	236	104	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

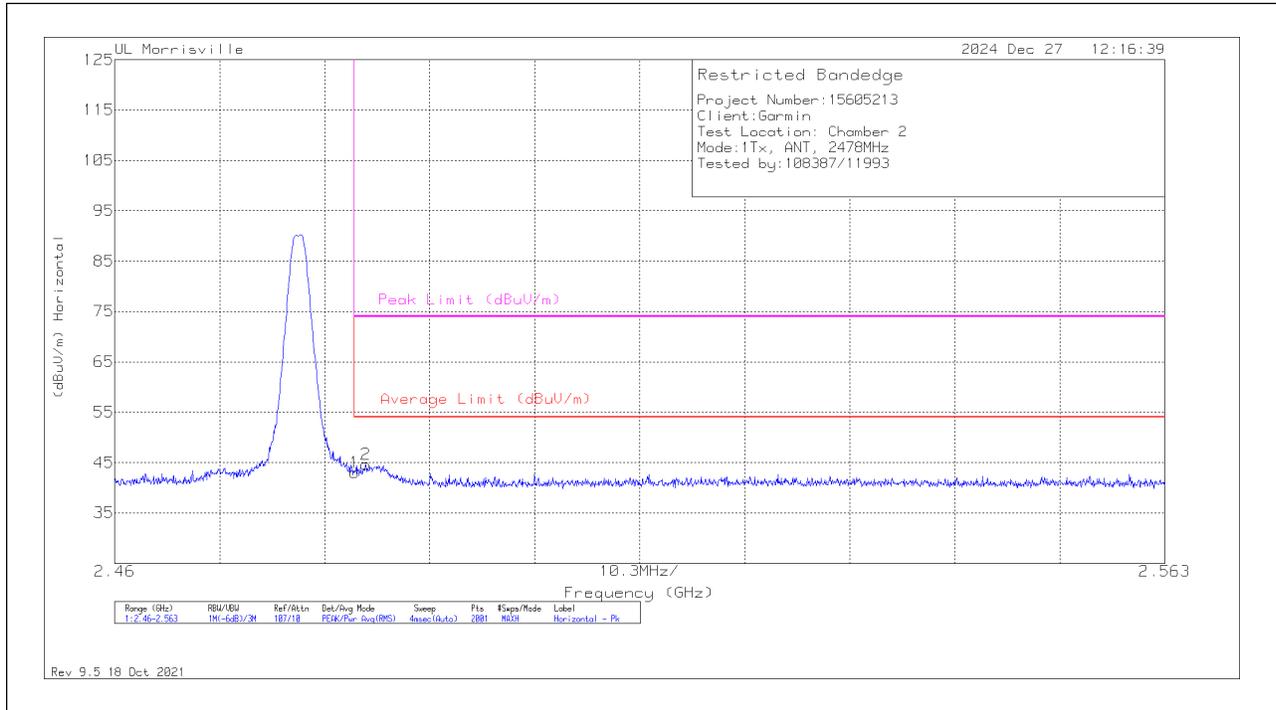


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	31.73	Pk	32.3	-23.6	0	40.43	-	-	74	-33.57	340	126	V
	*** 2.38996	31.73	Pk	32.3	-23.6	-17.72	22.71	54	-31.29	-	-	340	126	V
2	*** 2.38875	33.61	Pk	32.3	-23.5	0	42.41	-	-	74	-31.59	340	126	V
	*** 2.38875	33.61	Pk	32.3	-23.5	-17.72	24.69	54	-29.31	-	-	340	126	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

BANDEDGE (HIGH CHANNEL, 2478MHz)

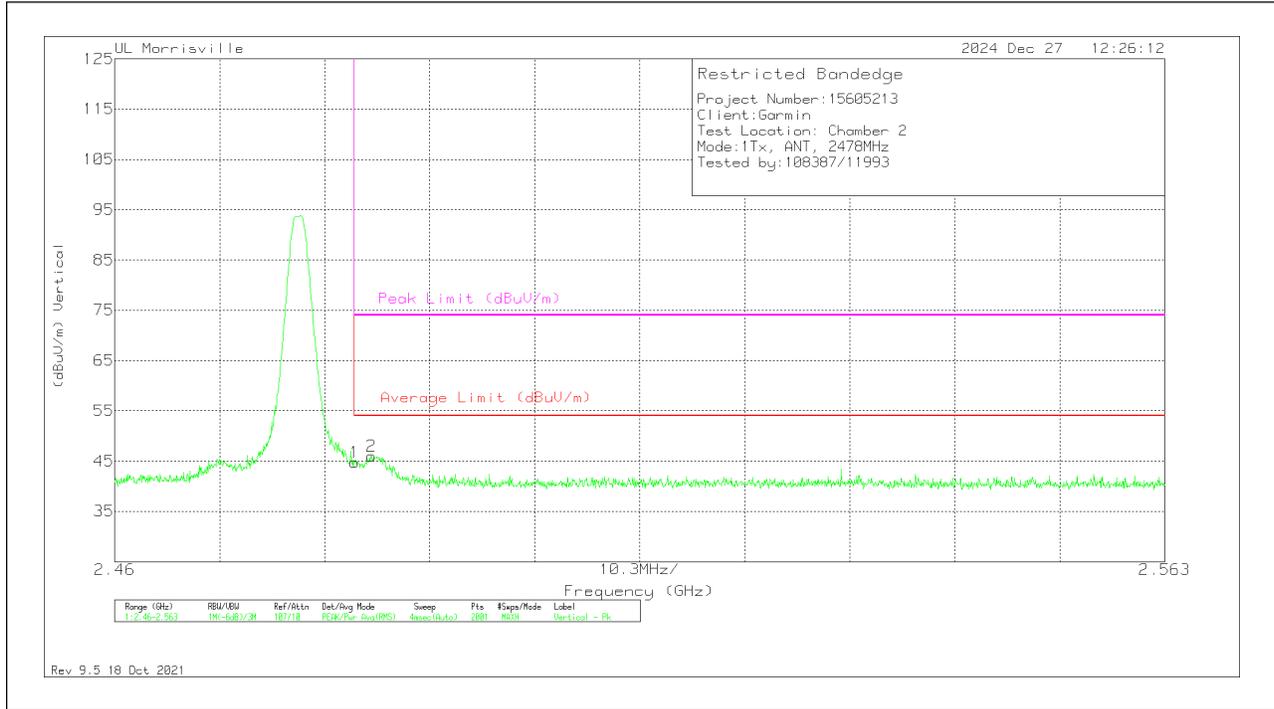
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	34.63	Pk	32.5	-24.1	0	43.03	-	-	74	-30.97	234	117	H
	*** 2.48354	34.63	Pk	32.5	-24.1	-17.72	25.31	54	-28.69	-	-	234	117	H
2	*** 2.48462	36.39	Pk	32.5	-24.2	0	44.69	-	-	74	-29.31	234	117	H
	*** 2.48462	36.39	Pk	32.5	-24.2	-17.72	26.97	54	-27.03	-	-	234	117	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

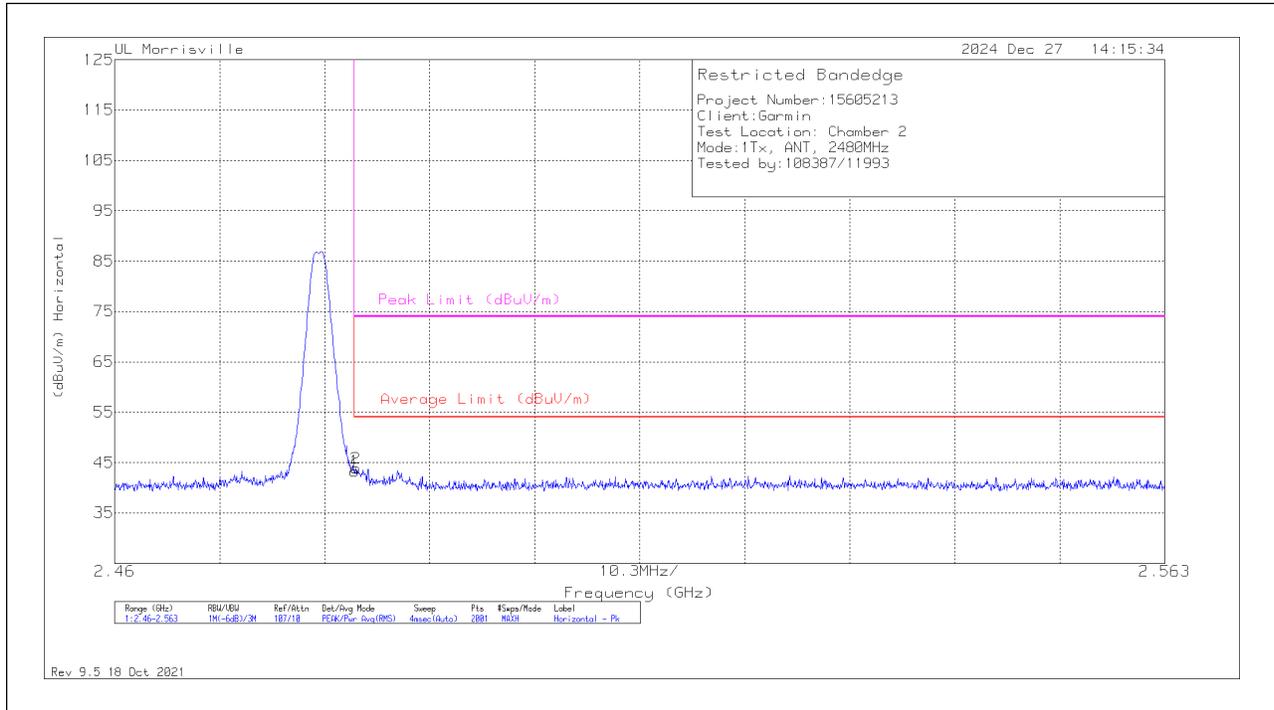


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	36.41	Pk	32.5	-24.1	0	44.81	-	-	74	-29.19	335	103	V
	*** 2.48354	36.41	Pk	32.5	-24.1	-17.72	27.09	54	-26.91	-	-	335	103	V
2	*** 2.48518	37.76	Pk	32.5	-24.2	0	46.06	-	-	74	-27.94	335	103	V
	*** 2.48518	37.76	Pk	32.5	-24.2	-17.72	28.34	54	-25.66	-	-	335	103	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

BANDEDGE (HIGH CHANNEL, 2480MHz)

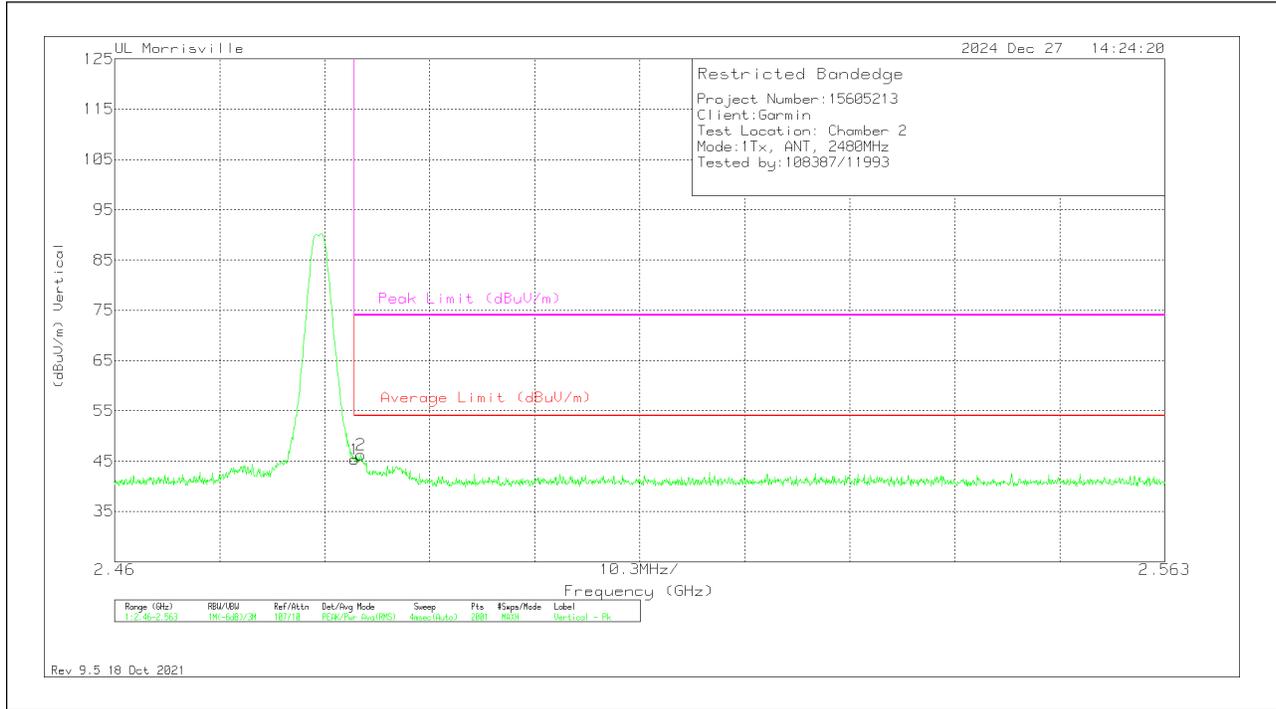
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	34.92	Pk	32.5	-24.1	0	43.32	-	-	74	-30.68	238	117	H
	*** 2.48354	34.92	Pk	32.5	-24.1	-17.72	25.6	54	-28.4	-	-	238	117	H
2	*** 2.48364	35.45	Pk	32.5	-24.1	0	43.85	-	-	74	-30.15	238	117	H
	*** 2.48364	35.45	Pk	32.5	-24.1	-17.72	26.13	54	-27.87	-	-	238	117	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

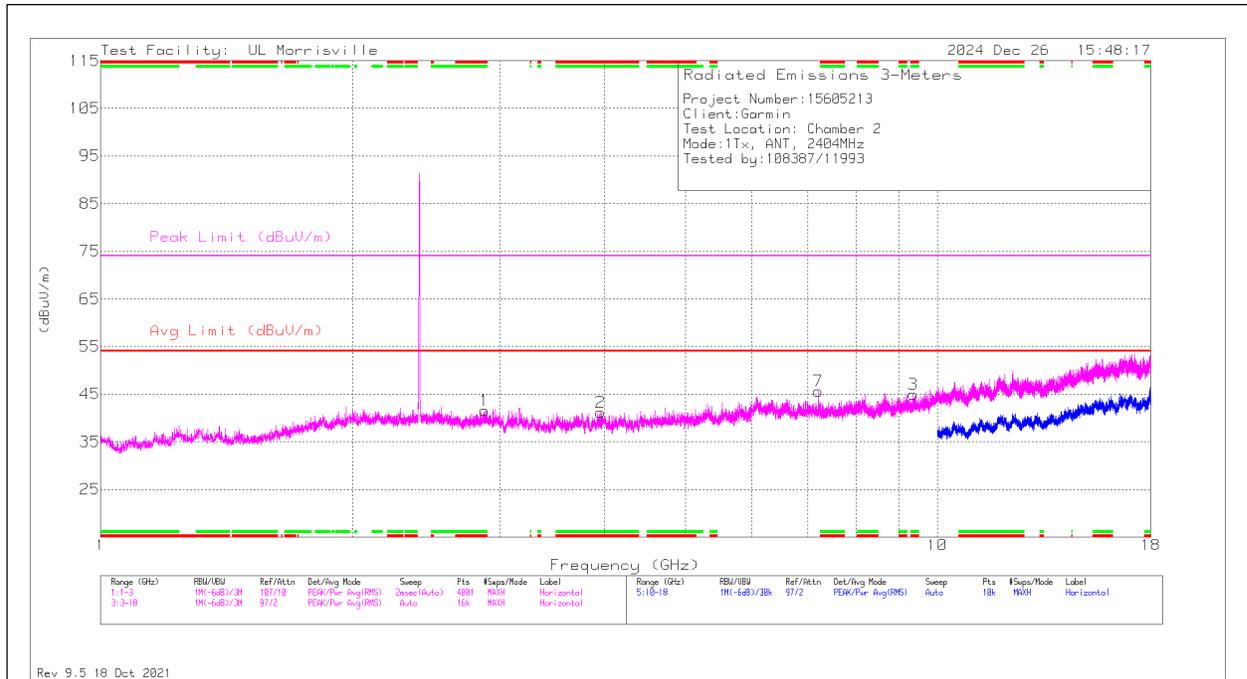


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	36.94	Pk	32.5	-24.1	0	45.34	-	-	74	-28.66	337	103	V
	*** 2.48354	36.94	Pk	32.5	-24.1	-17.72	27.62	54	-26.38	-	-	337	103	V
2	*** 2.48415	37.95	Pk	32.5	-24.2	0	46.25	-	-	74	-27.75	337	103	V
	*** 2.48415	37.95	Pk	32.5	-24.2	-17.72	28.53	54	-25.47	-	-	337	103	V

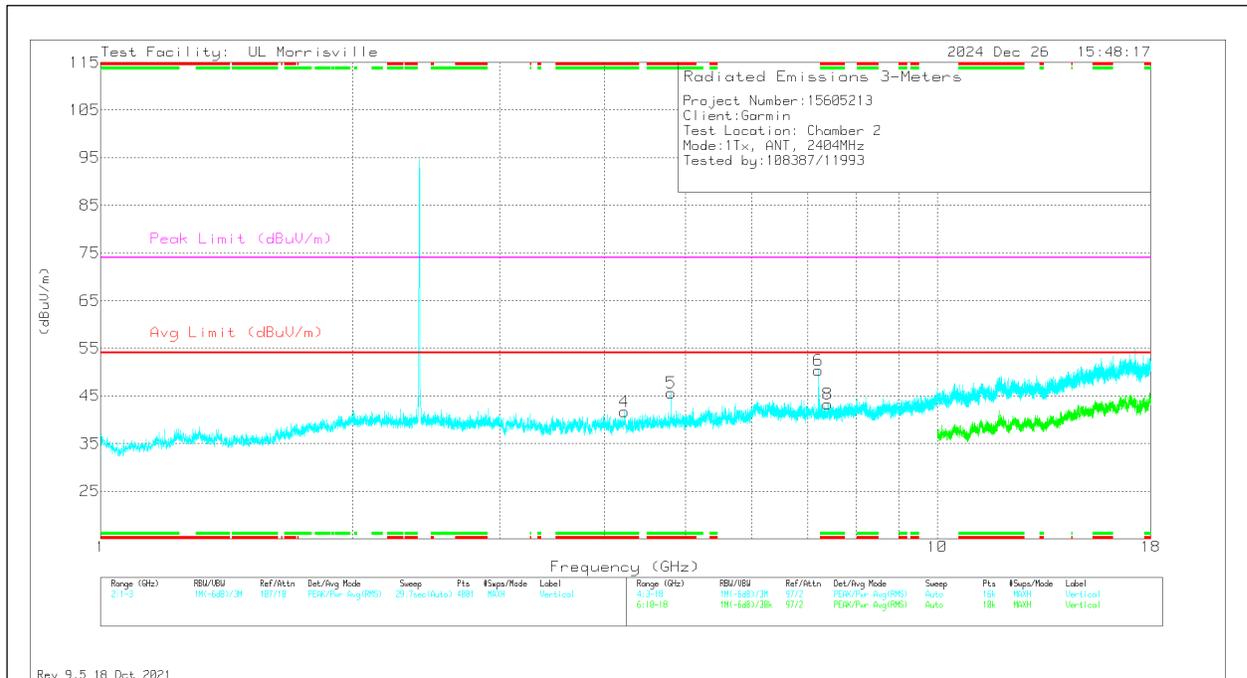
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

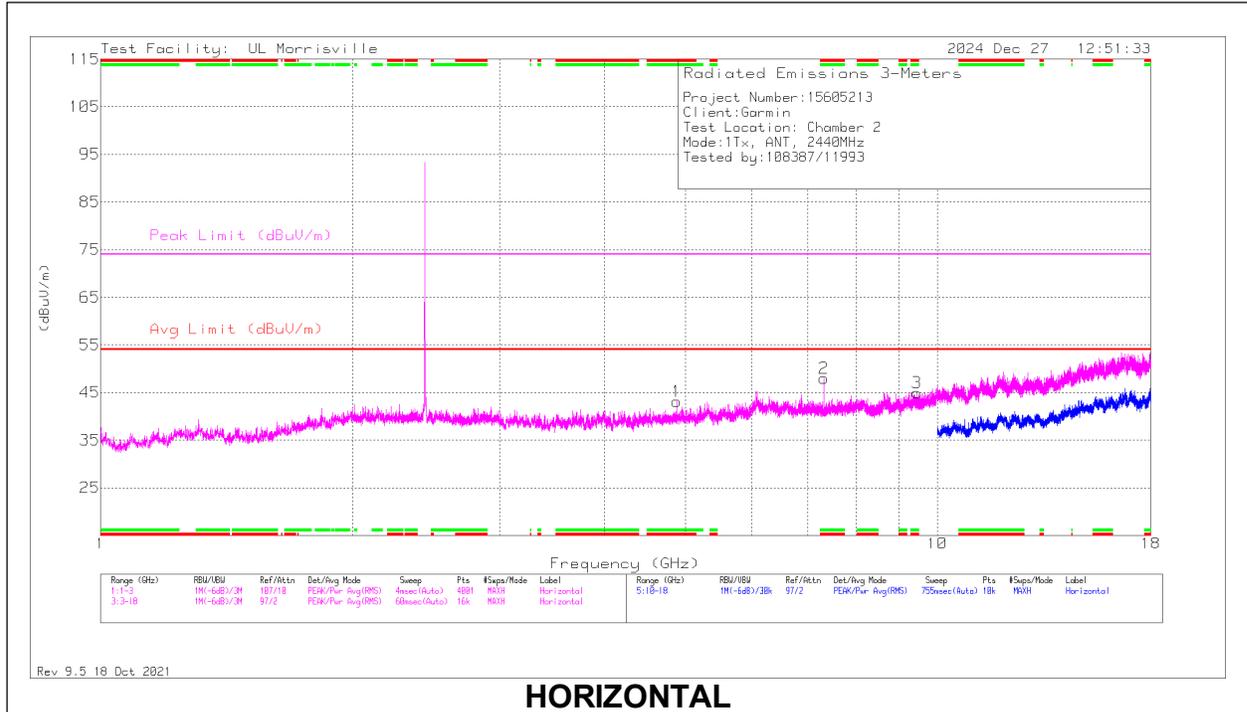
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.877	34.42	Pk	32.7	-25.5	41.62	54	-12.38	74	-32.38	0-360	199	H
2	*** 3.95813	52.88	Pk	33.4	-45.1	41.18	54	-12.82	74	-32.82	0-360	101	H
3	*** 9.35906	48.44	Pk	36.1	-39.6	44.94	54	-9.06	74	-29.06	0-360	101	H
4	*** 4.22813	52.83	Pk	33.4	-44.5	41.73	54	-12.27	74	-32.27	0-360	101	V
5	*** 4.80844	55.28	Pk	34.2	-43.8	45.68	54	-8.32	74	-28.32	0-360	200	V
8	*** 7.39313	48.91	Pk	35.6	-41.2	43.31	54	-10.69	74	-30.69	0-360	101	V
6	7.20938	56.45	Pk	35.6	-41.7	50.35	-	-	-	-	0-360	101	V
7	7.21031	51.7	Pk	35.6	-41.7	45.6	-	-	-	-	0-360	199	H

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

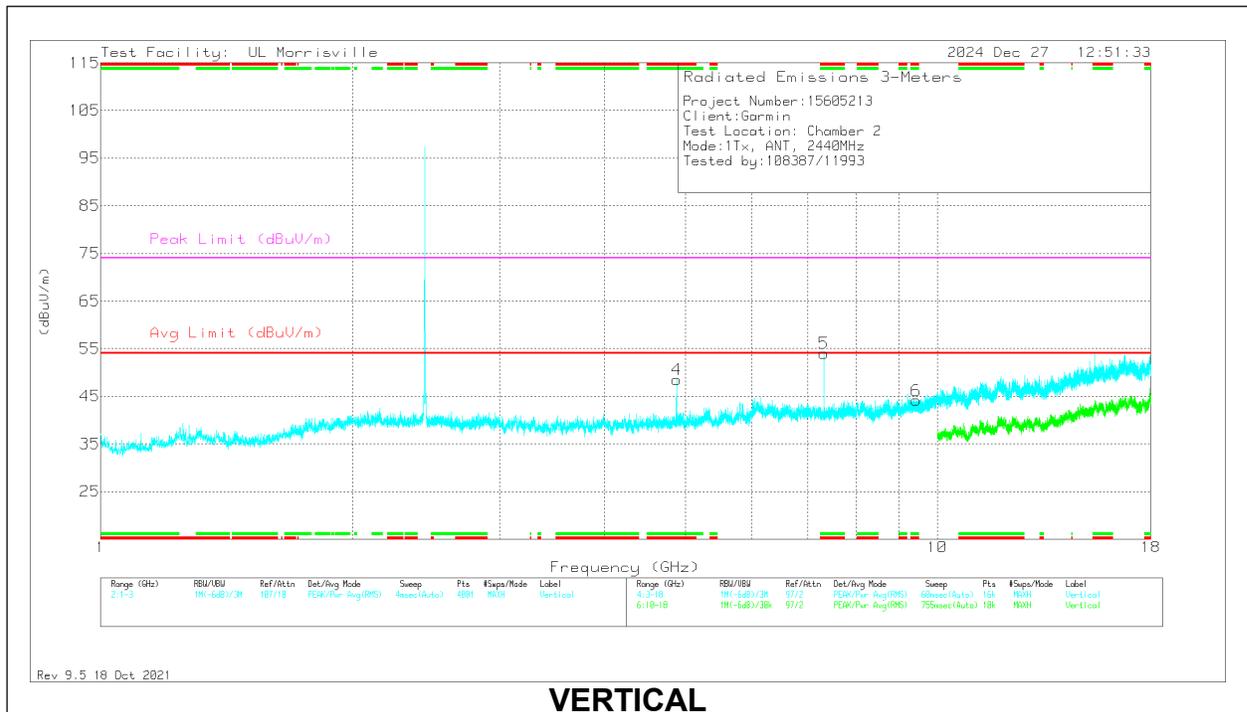
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

MID CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.87969	52.7	Pk	34.1	-43.7	0	43.1	54	-10.9	74	-30.9	0-360	199	H
2	*** 7.32	54.17	Pk	35.6	-41.8	0	47.97	54	-6.03	74	-26.03	0-360	101	H
3	*** 9.45469	48.93	Pk	36.3	-40.3	0	44.93	54	-9.07	74	-29.07	0-360	199	H
4	*** 4.8795	60.93	PK2	34.1	-43.7	0	51.33	-	-	74	-22.67	204	325	V
	*** 4.8795	60.93	PK2	34.1	-43.7	-17.72	33.61	54	-20.39	-	-	204	325	V
5	*** 7.31935	61.1	PK2	35.6	-41.8	0	54.9	-	-	74	-19.1	352	119	V
	*** 7.31935	61.1	PK2	35.6	-41.8	-17.72	37.18	54	-16.82	-	-	352	119	V
6	*** 9.44531	48.22	Pk	36.3	-40.4	0	44.12	54	-9.88	74	-29.88	0-360	199	V

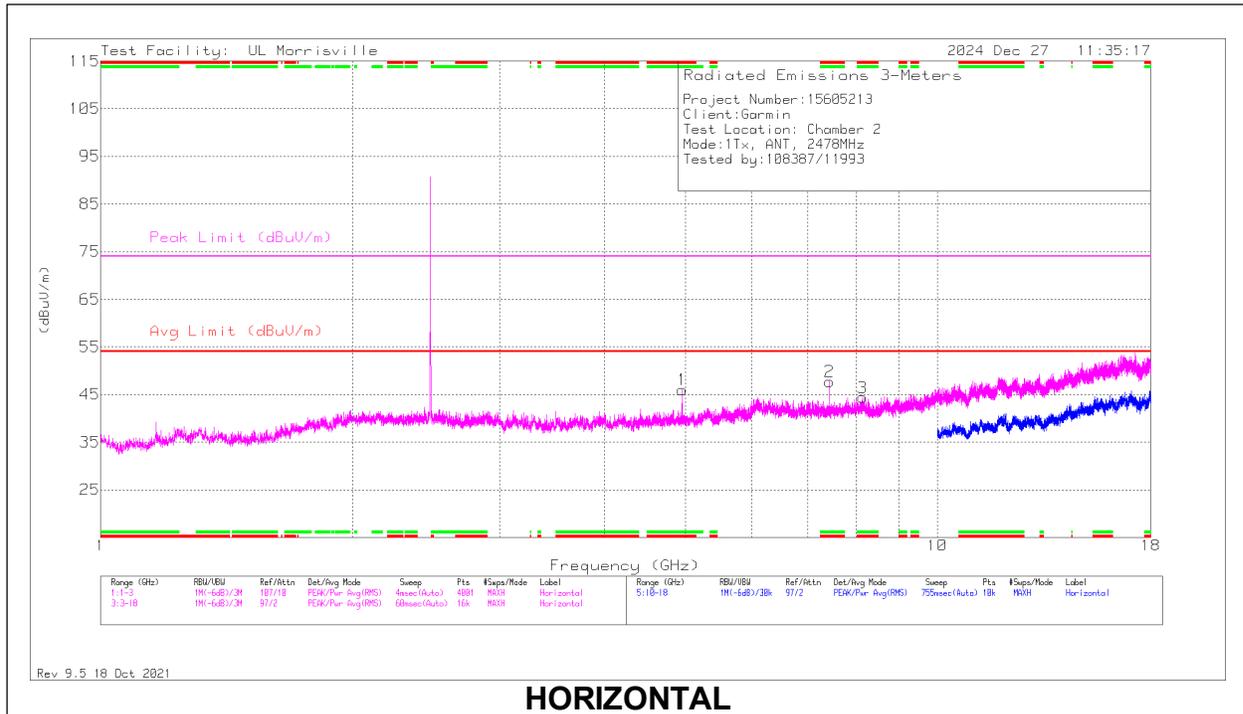
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

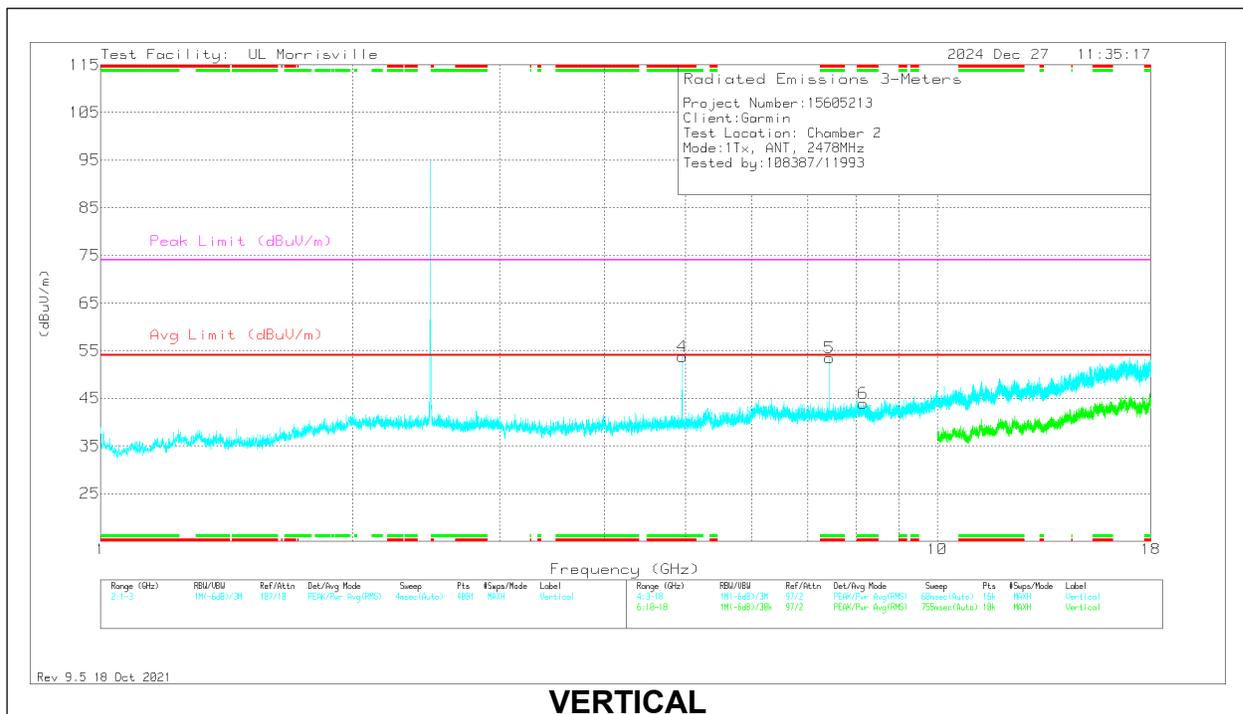
Pk - Peak detector

PK2 - Maximum Peak

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.95563	55.72	Pk	34	-43.7	0	46.02	54	-7.98	74	-27.98	0-360	200	H
2	*** 7.43438	53.2	Pk	35.6	-41.1	0	47.7	54	-6.3	74	-26.3	0-360	101	H
3	*** 8.1375	49.28	Pk	35.8	-40.7	0	44.38	54	-9.62	74	-29.62	0-360	200	H
4	*** 4.95544	61.07	PK2	34	-43.7	0	51.37	-	-	74	-22.63	203	359	V
	*** 4.95544	61.07	PK2	34	-43.7	-17.72	33.65	54	-20.35	-	-	203	359	V
5	*** 7.43338	60.23	PK2	35.6	-41.1	0	54.73	-	-	74	-19.27	31	105	V
	*** 7.43338	60.23	PK2	35.6	-41.1	-17.72	37.01	54	-16.99	-	-	31	105	V
6	*** 8.15344	48.86	Pk	35.8	-40.7	0	43.96	54	-10.04	74	-30.04	0-360	199	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

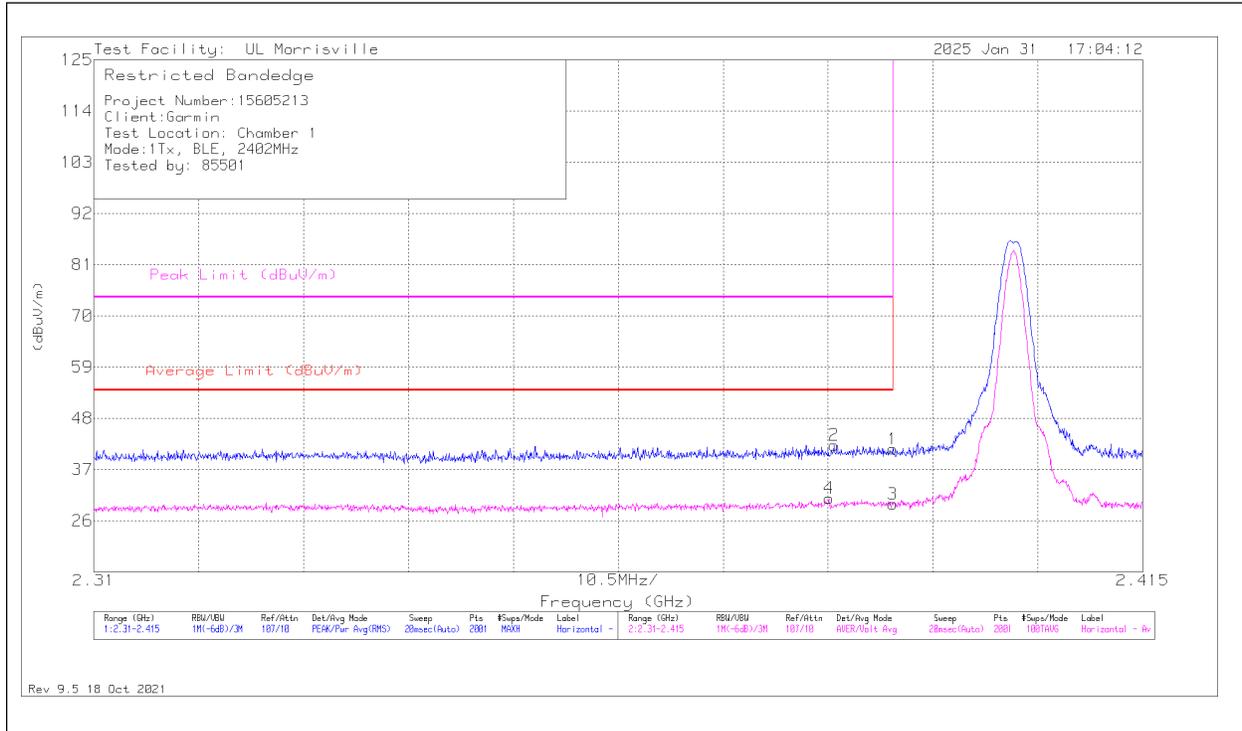
Pk - Peak detector

PK2 - Maximum Peak

10.1.5. TX ABOVE 1 GHz BLE 1Mbps MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2402MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.48	Pk	31.9	-24	41.38	-	-	74	-32.62	247	387	H
2	*** 2.38408	34.34	Pk	31.9	-24	42.24	-	-	74	-31.76	247	387	H
3	*** 2.38996	21.68	ADV	31.9	-24	29.58	54	-24.42	-	-	247	387	H
4	*** 2.38361	22.93	ADV	31.9	-24	30.83	54	-23.17	-	-	247	387	H

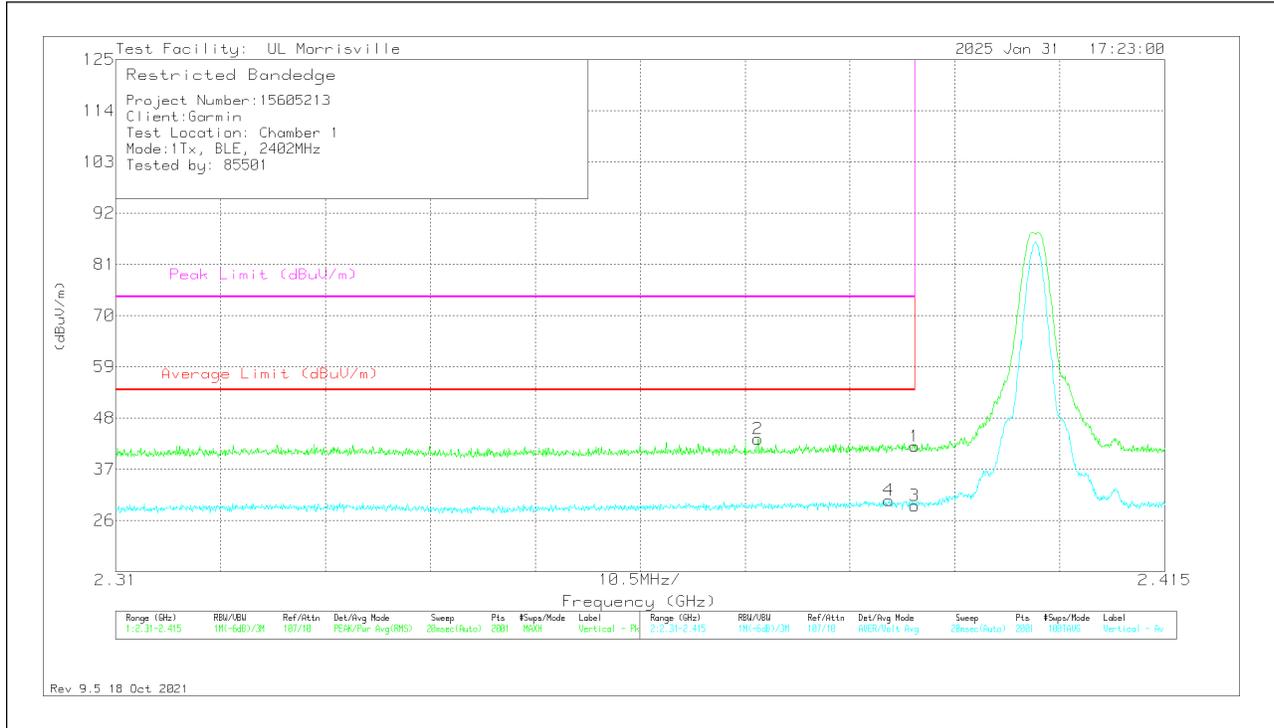
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	34.01	Pk	31.9	-24	41.91	-	-	74	-32.09	150	234	V
2	*** 2.37426	35.9	Pk	31.9	-24.3	43.5	-	-	74	-30.5	150	234	V
3	*** 2.38996	21.25	ADV	31.9	-24	29.15	54	-24.85	-	-	150	233	V
4	*** 2.38739	22.3	ADV	31.9	-23.9	30.3	54	-23.7	-	-	150	233	V

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

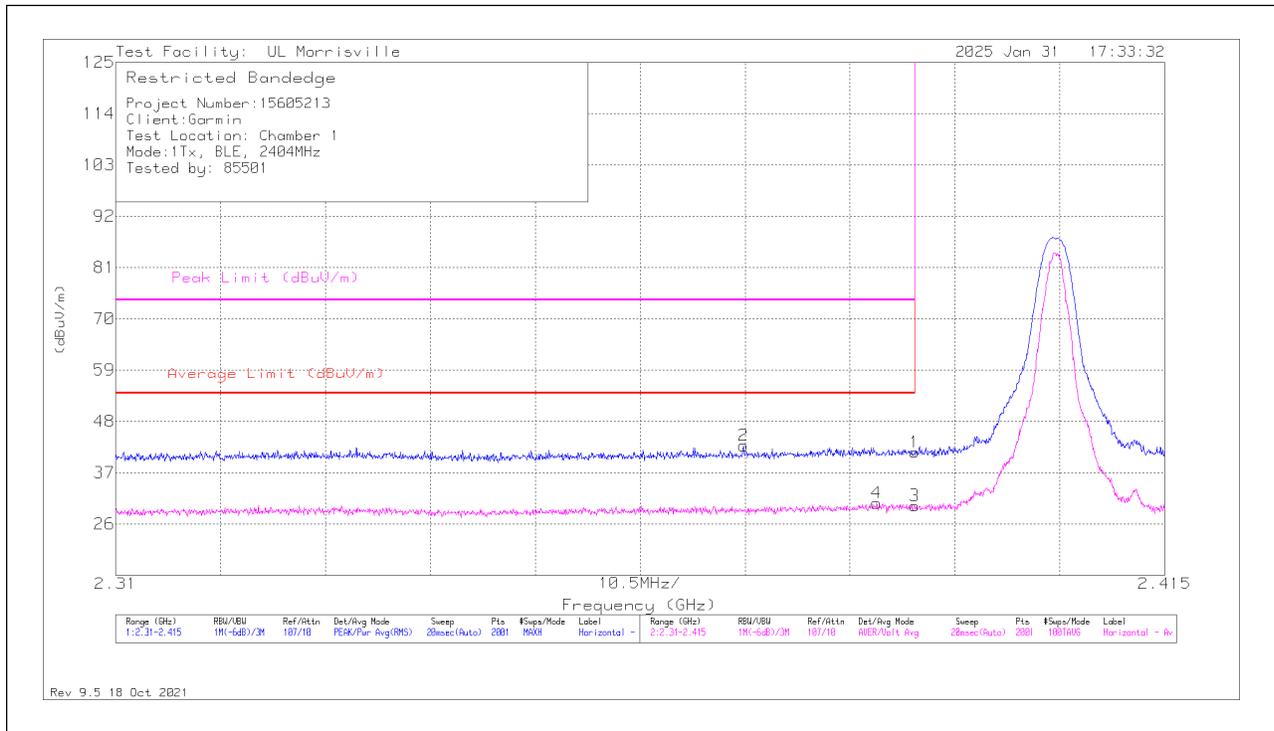
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (LOW CHANNEL, 2404MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.49	Pk	31.9	-24	41.39	-	-	74	-32.61	61	215	H
2	*** 2.37284	35.21	Pk	31.9	-24.3	42.81	-	-	74	-31.19	61	215	H
3	*** 2.38996	21.97	ADV	31.9	-24	29.87	54	-24.13	-	-	61	215	H
4	*** 2.38618	22.49	ADV	31.9	-23.9	30.49	54	-23.51	-	-	61	215	H

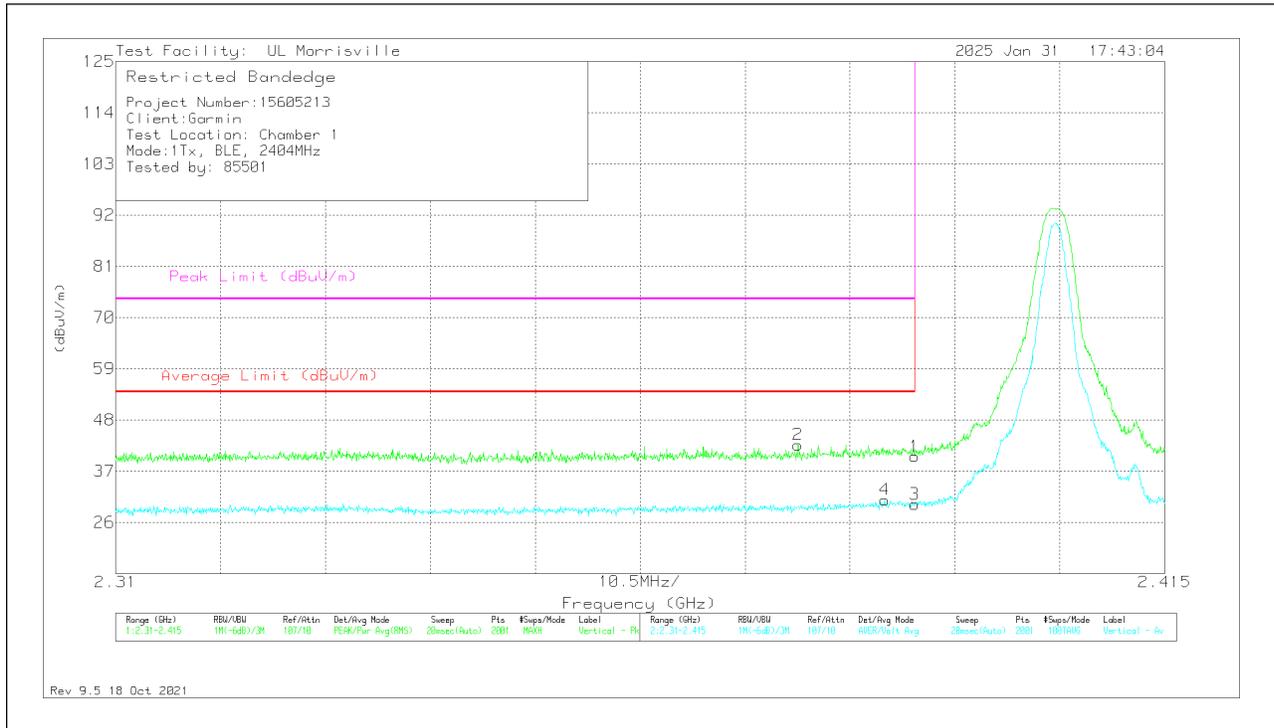
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

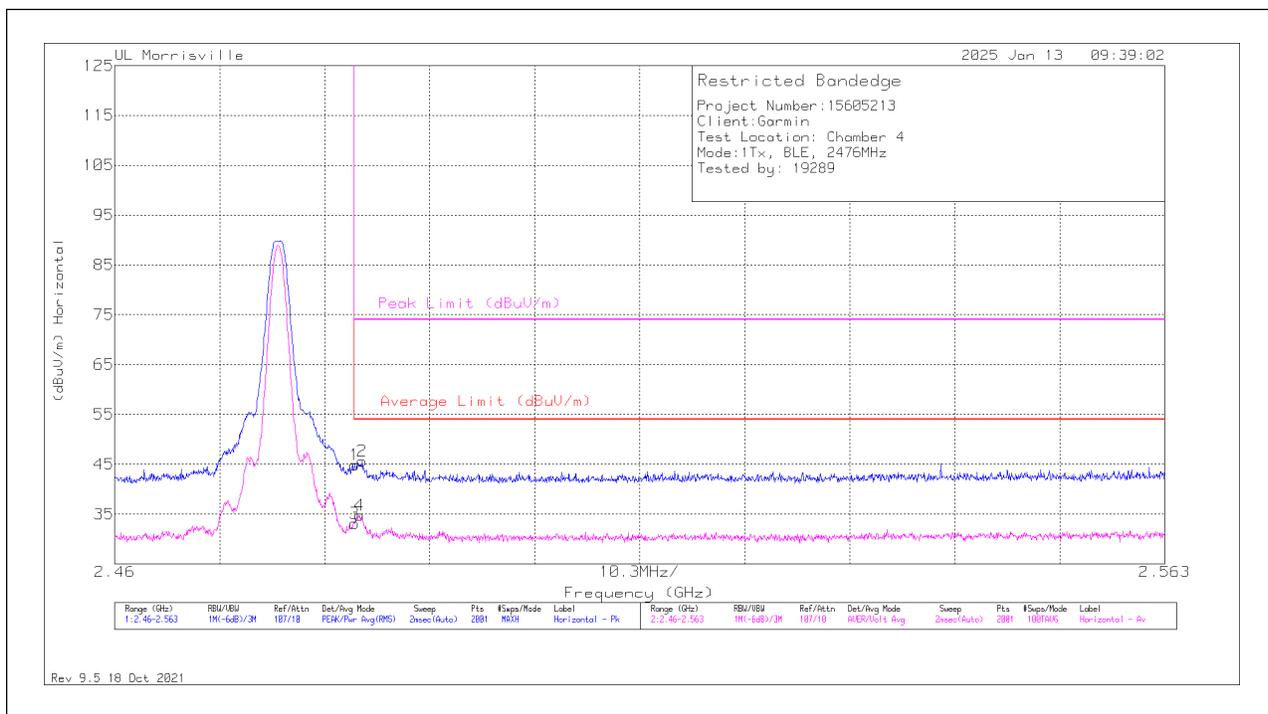


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	32.28	Pk	31.9	-24	40.18	-	-	74	-33.82	149	195	V
2	*** 2.3783	34.97	Pk	31.9	-24.2	42.67	-	-	74	-31.33	149	195	V
3	*** 2.38996	21.98	ADV	31.9	-24	29.88	54	-24.12	-	-	149	195	V
4	*** 2.38697	22.86	ADV	31.9	-23.9	30.86	54	-23.14	-	-	149	195	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2476MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	35.35	Pk	32.3	-22.8	44.85	-	-	74	-29.15	153	123	H
2	*** 2.48426	36.19	Pk	32.3	-22.8	45.69	-	-	74	-28.31	153	123	H
3	*** 2.48354	23.64	ADV	32.3	-22.8	33.14	54	-20.86	-	-	153	123	H
4	*** 2.48405	25.28	ADV	32.3	-22.8	34.78	54	-19.22	-	-	153	123	H

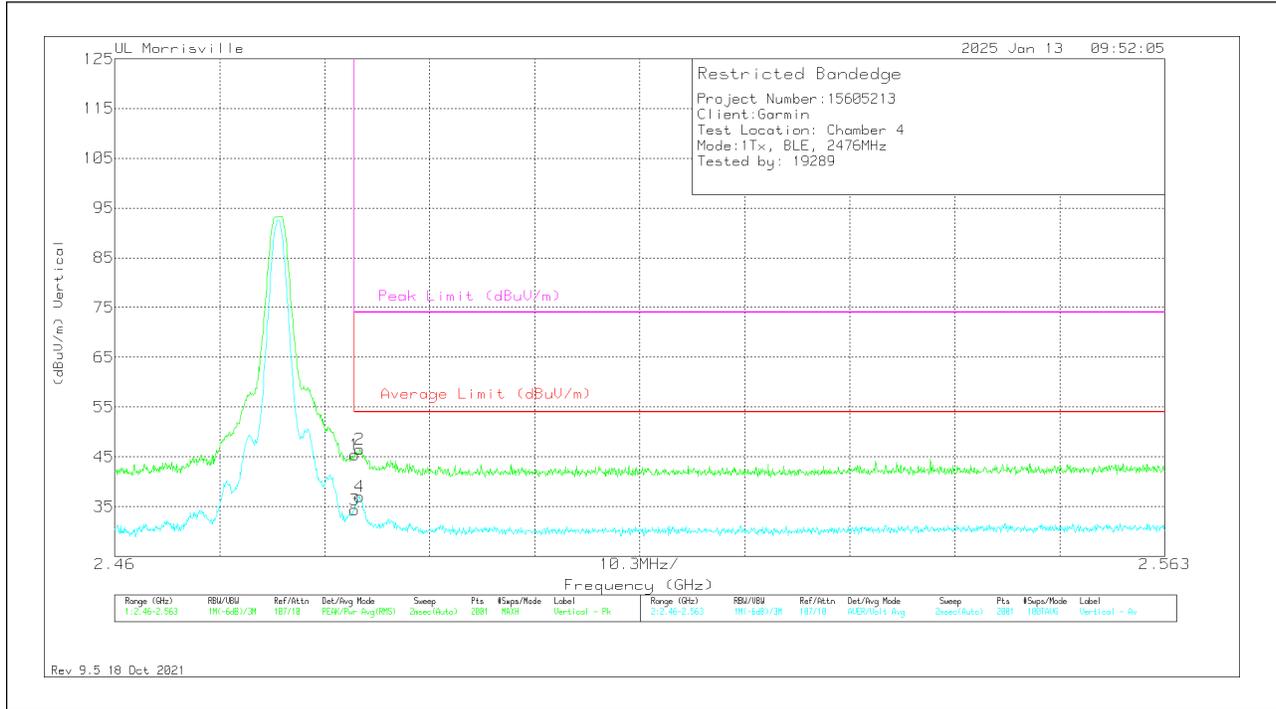
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	35.85	PK	32.3	-22.8	45.35	-	-	74	-28.65	341	120	V
2	*** 2.48405	36.98	Pk	32.3	-22.8	46.48	-	-	74	-27.52	341	120	V
3	*** 2.48354	24.83	ADV	32.3	-22.8	34.33	54	-19.67	-	-	341	120	V
4	*** 2.484	27.46	ADV	32.3	-22.8	36.96	54	-17.04	-	-	341	120	V

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

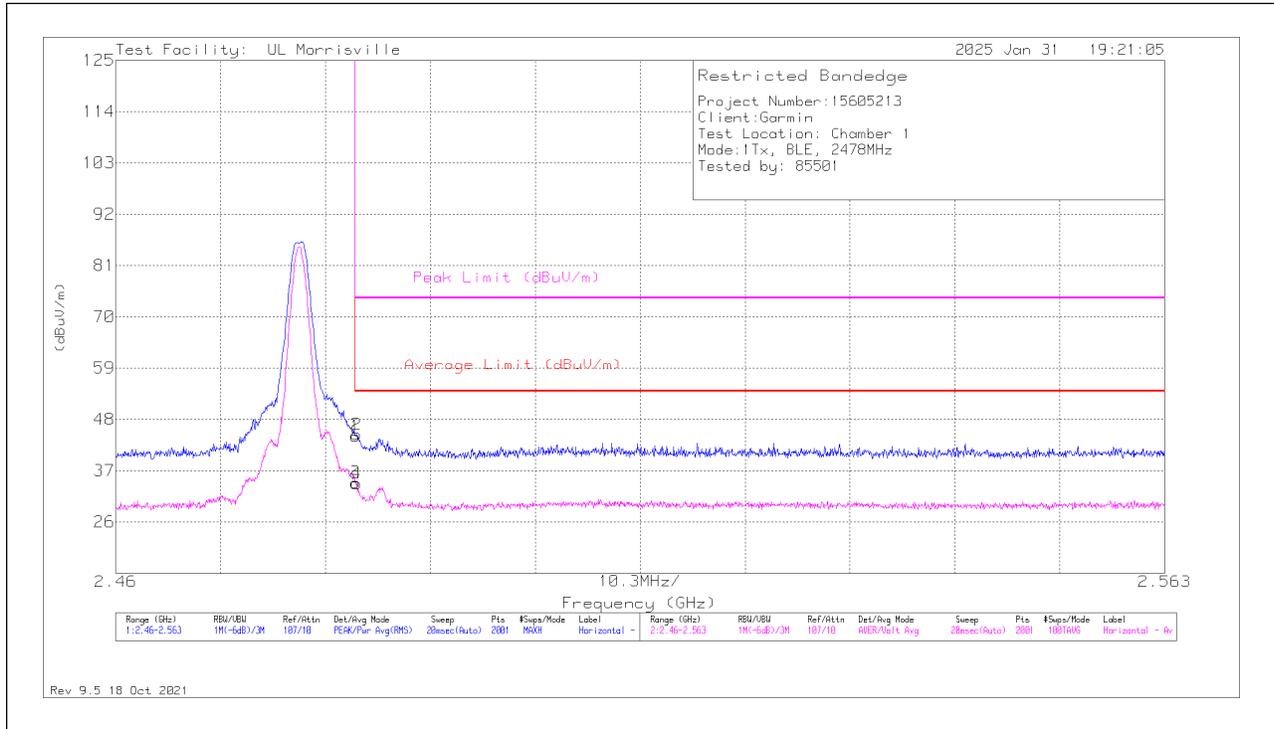
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2478MHz)

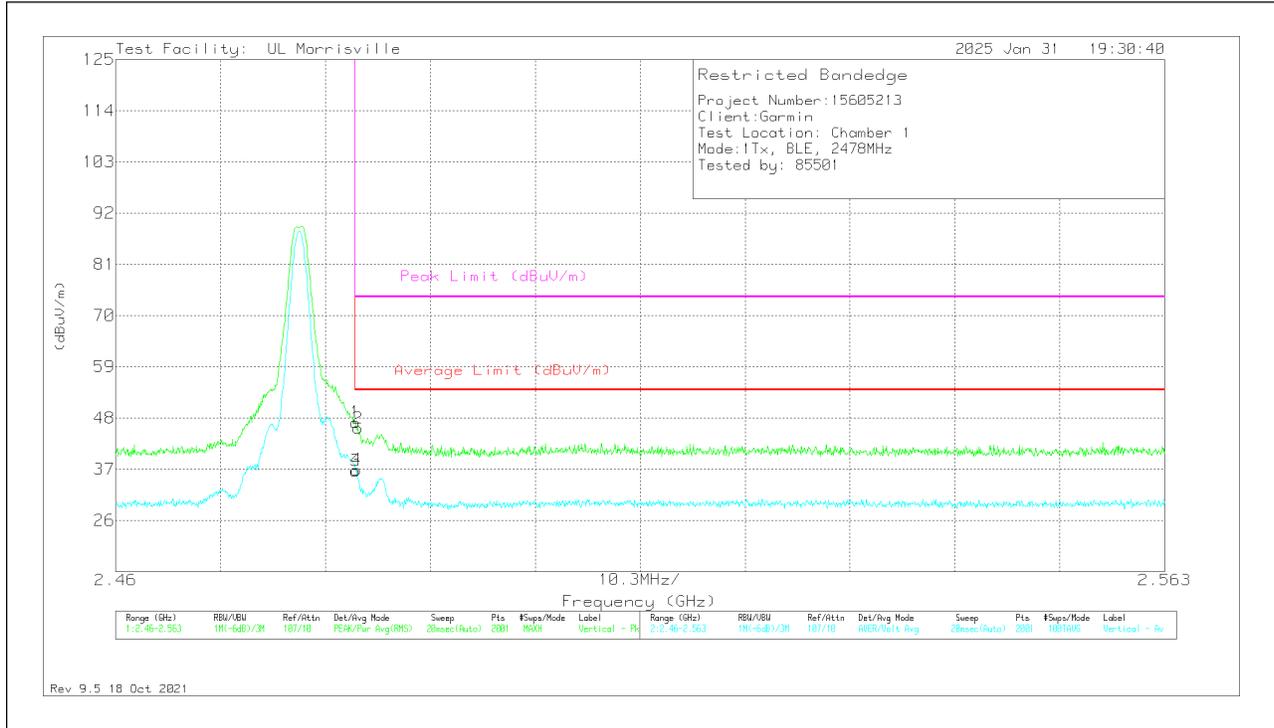
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	35.91	Pk	32.2	-23.7	44.41	-	-	74	-29.59	194	265	H
2	* ** 2.48364	36.24	Pk	32.2	-23.7	44.74	-	-	74	-29.26	194	265	H
3	* ** 2.48354	25.97	ADV	32.2	-23.7	34.47	54	-19.53	-	-	194	265	H
4	* ** 2.48364	25.74	ADV	32.2	-23.7	34.24	54	-19.76	-	-	194	265	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	38.55	Pk	32.2	-23.7	47.05	-	-	74	-26.95	7	119	V
2	*** 2.48379	37.29	Pk	32.2	-23.7	45.79	-	-	74	-28.21	7	119	V
3	*** 2.48354	28.16	ADV	32.2	-23.7	36.66	54	-17.34	-	-	7	119	V
4	*** 2.48364	28.34	ADV	32.2	-23.7	36.84	54	-17.16	-	-	7	119	V

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

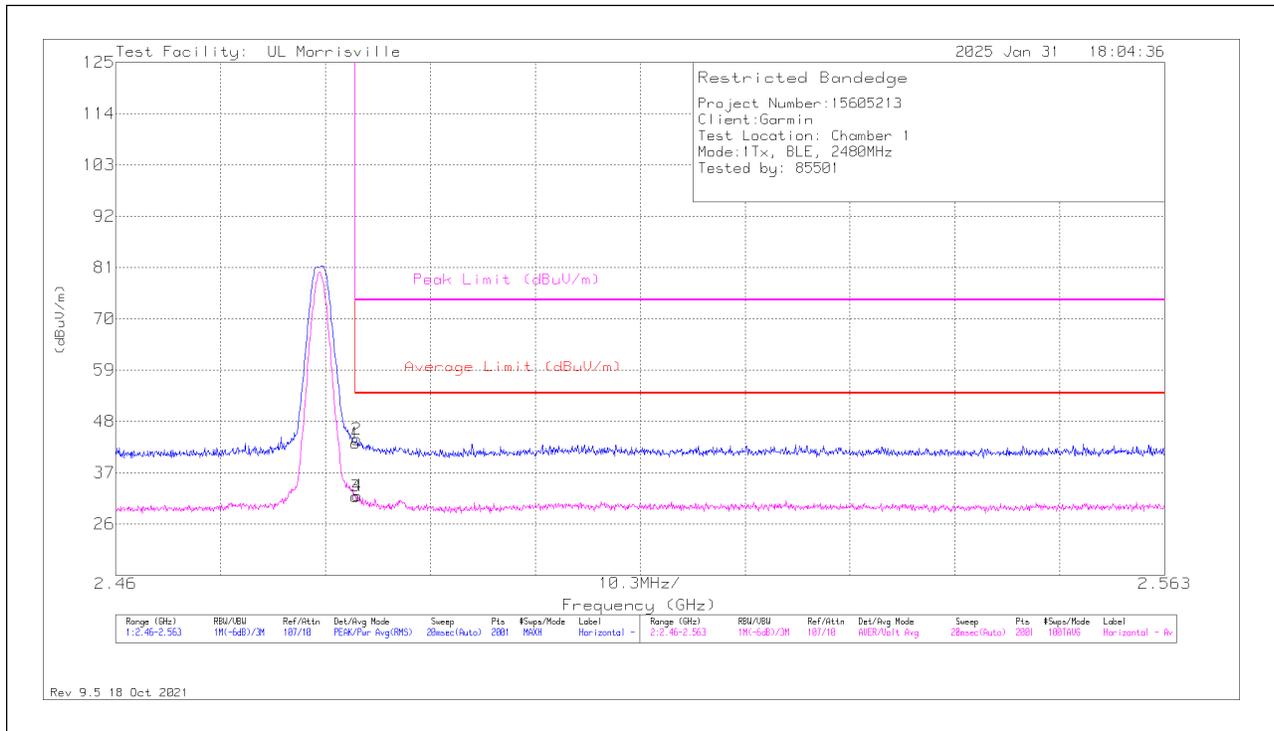
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2480MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	34.74	Pk	32.2	-23.7	43.24	-	-	74	-30.76	74	280	H
2	* ** 2.48369	35.67	Pk	32.2	-23.7	44.17	-	-	74	-29.83	74	280	H
3	* ** 2.48354	23.44	ADV	32.2	-23.7	31.94	54	-22.06	-	-	74	280	H
4	* ** 2.48374	23.51	ADV	32.2	-23.7	32.01	54	-21.99	-	-	74	280	H

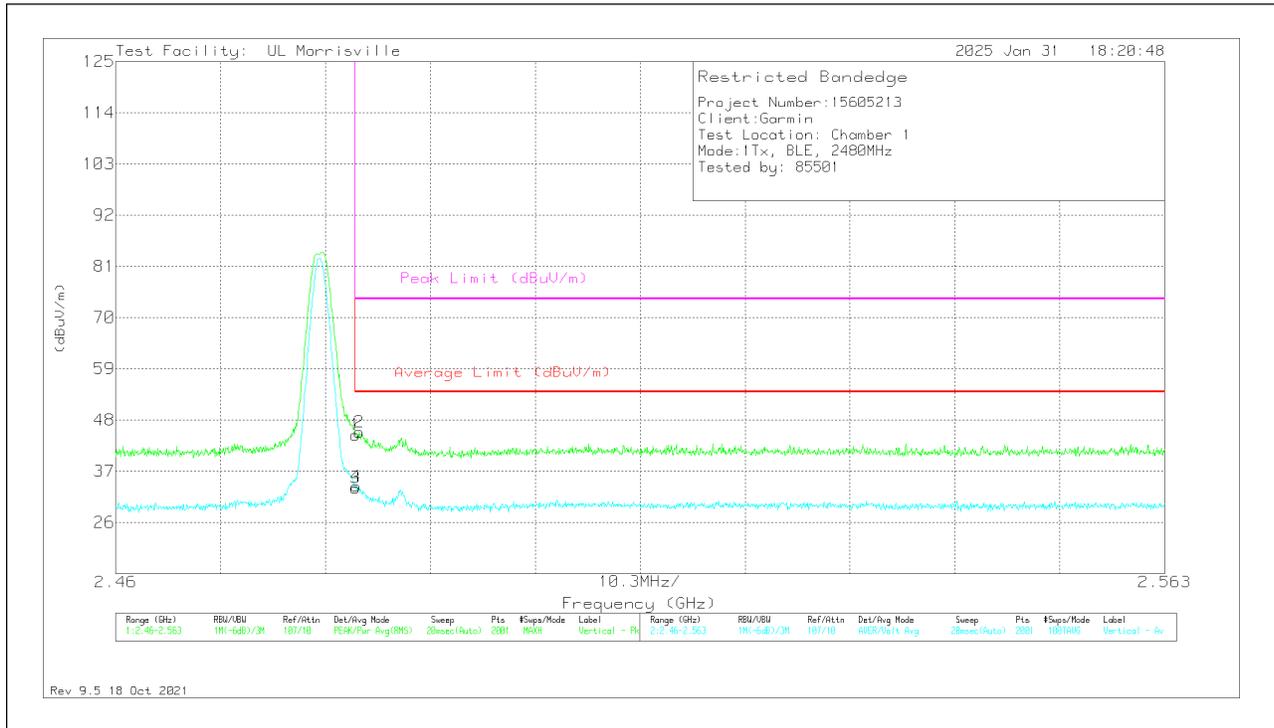
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	36.31	Pk	32.2	-23.7	44.81	-	-	74	-29.19	134	154	V
2	** 2.4839	36.88	Pk	32.2	-23.7	45.38	-	-	74	-28.62	134	154	V
3	*** 2.48354	24.91	ADV	32.2	-23.7	33.41	54	-20.59	-	-	134	154	V
4	*** 2.48359	25.24	ADV	32.2	-23.7	33.74	54	-20.26	-	-	134	154	V

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

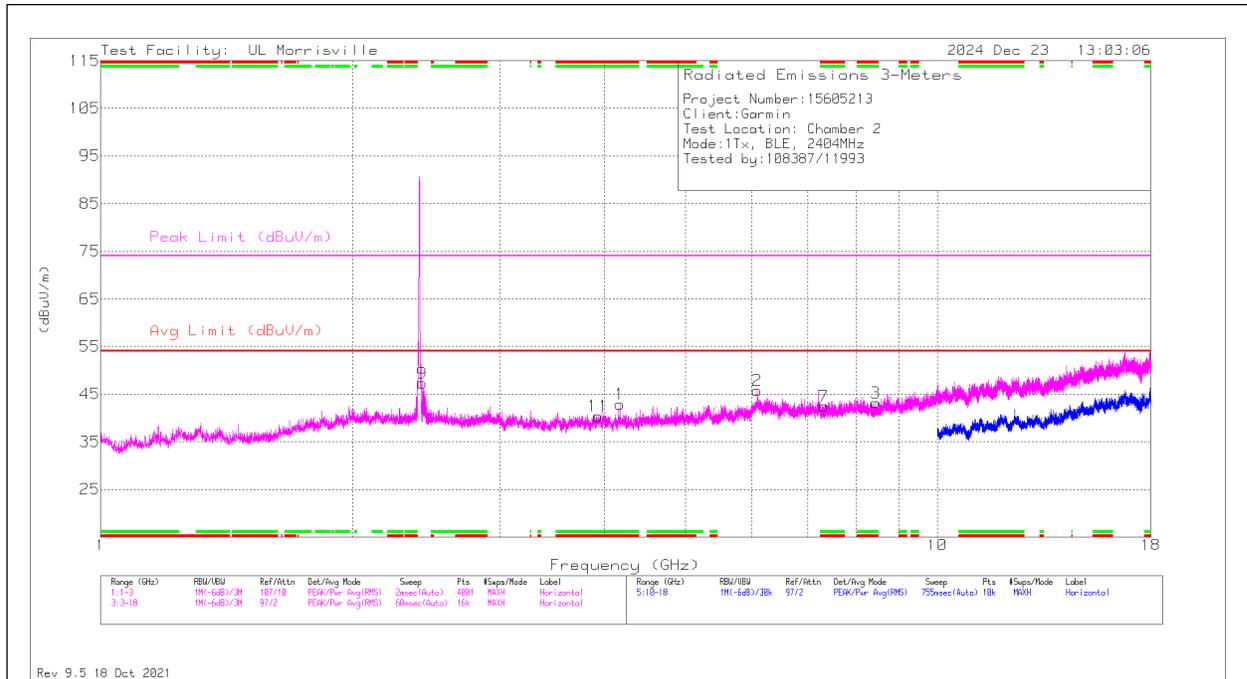
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

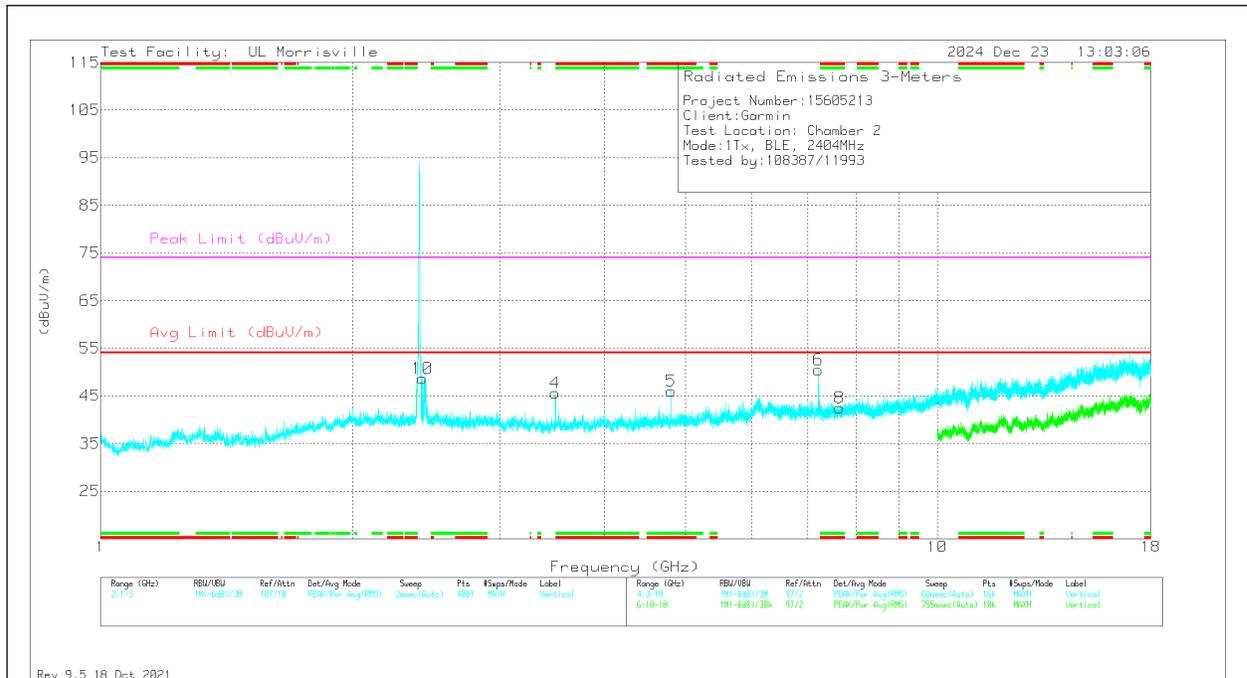
ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.17469	54.69	Pk	33.4	-45.2	42.89	54	-11.11	74	-31.11	0-360	199	H
3	* ** 8.43938	47.8	Pk	35.8	-40.4	43.2	54	-10.8	74	-30.8	0-360	101	H
7	* ** 7.32188	48.62	Pk	35.6	-41.8	42.42	54	-11.58	74	-31.58	0-360	101	H
11	* ** 3.93375	51.84	Pk	33.4	-44.9	40.34	54	-13.66	74	-33.66	0-360	101	H
5	* ** 4.80722	59.37	PK2	34.2	-43.8	49.77	-	-	74	-24.23	75	286	V
	* ** 4.80737	42.3	ADV	34.2	-43.8	32.7	54	-21.3	-	-	75	286	V
8	* ** 7.64438	47.89	Pk	35.7	-41.1	42.49	54	-11.51	74	-31.51	0-360	199	V
10	2.4235	40.18	Pk	32.3	-23.8	48.68	-	-	-	-	0-360	101	V
9	2.4245	38.77	Pk	32.3	-23.8	47.27	-	-	-	-	0-360	199	H
4	3.49594	57.5	Pk	32.7	-44.6	45.6	-	-	-	-	0-360	101	V
2	6.0975	51.09	Pk	35.5	-40.8	45.79	-	-	-	-	0-360	199	H
6	7.21125	56.68	Pk	35.6	-41.8	50.48	-	-	-	-	0-360	101	V

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

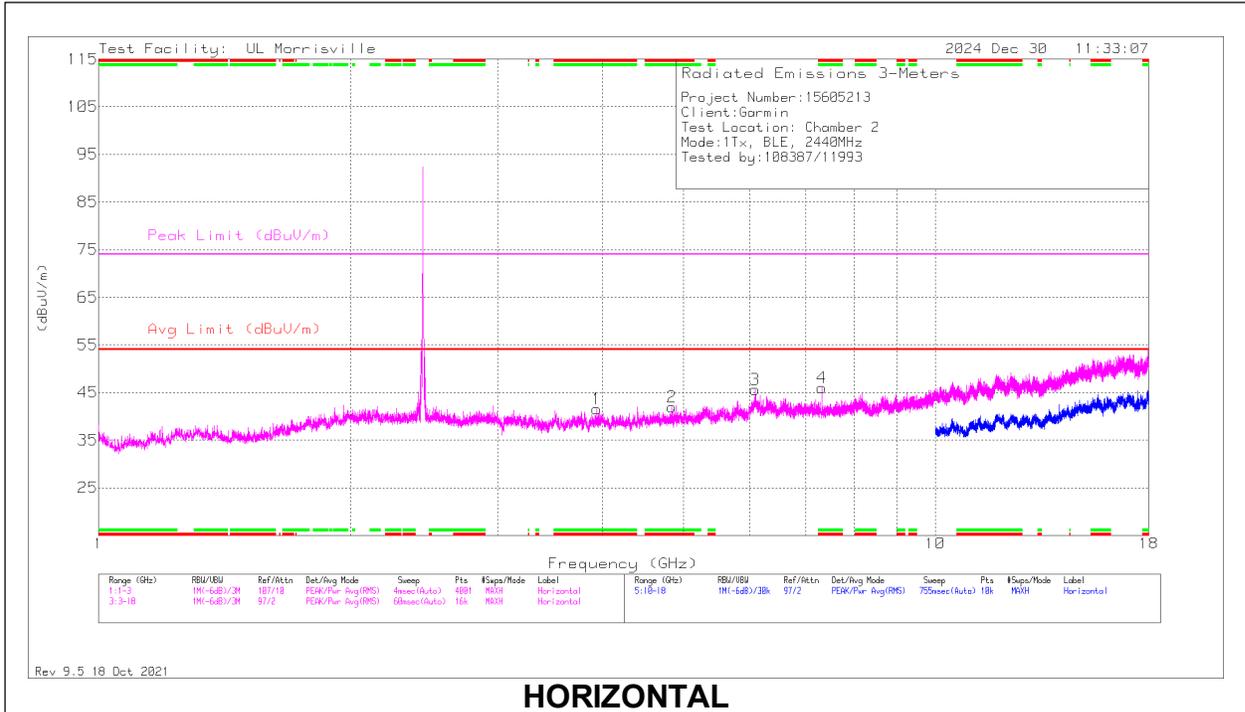
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

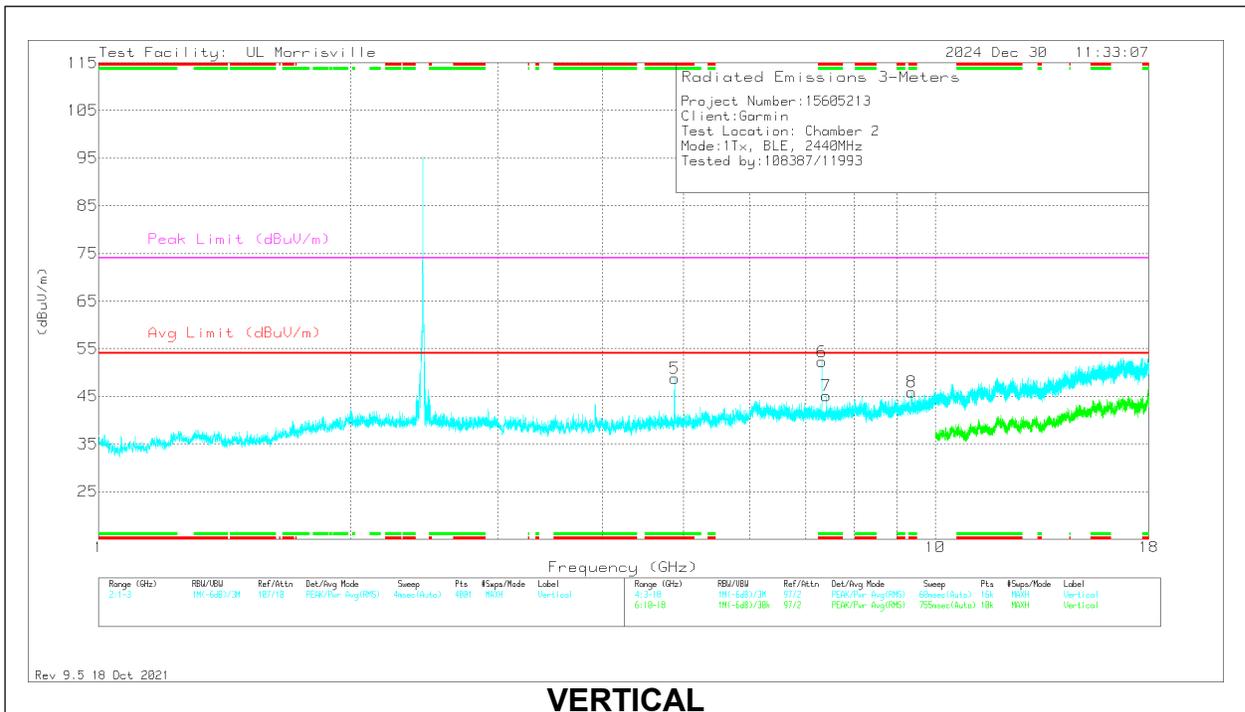
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.9375	53.04	Pk	33.4	-44.9	41.54	54	-12.46	74	-32.46	0-360	101	H
2	*** 4.845	51.89	Pk	34.1	-44	41.99	54	-12.01	74	-32.01	0-360	101	H
4	*** 7.32094	52.25	Pk	35.6	-41.8	46.05	54	-7.95	74	-27.95	0-360	101	H
5	*** 4.87954	61.11	PK2	34.1	-43.7	51.51	-	-	74	-22.49	56	114	V
	*** 4.87931	45.85	ADV	34.1	-43.7	36.25	54	-17.75	-	-	56	114	V
6	*** 7.32004	61.42	PK2	35.6	-41.8	55.22	-	-	74	-18.78	358	119	V
	*** 7.31936	45.06	ADV	35.6	-41.8	38.86	54	-15.14	-	-	358	119	V
7	*** 7.40531	50.37	Pk	35.6	-40.9	45.07	54	-8.93	74	-28.93	0-360	101	V
8	*** 9.37688	49.57	Pk	36.2	-39.9	45.87	54	-8.13	74	-28.13	0-360	200	V
3	6.09188	50.92	Pk	35.5	-40.8	45.62	54	-8.38	74	-28.38	0-360	200	H

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

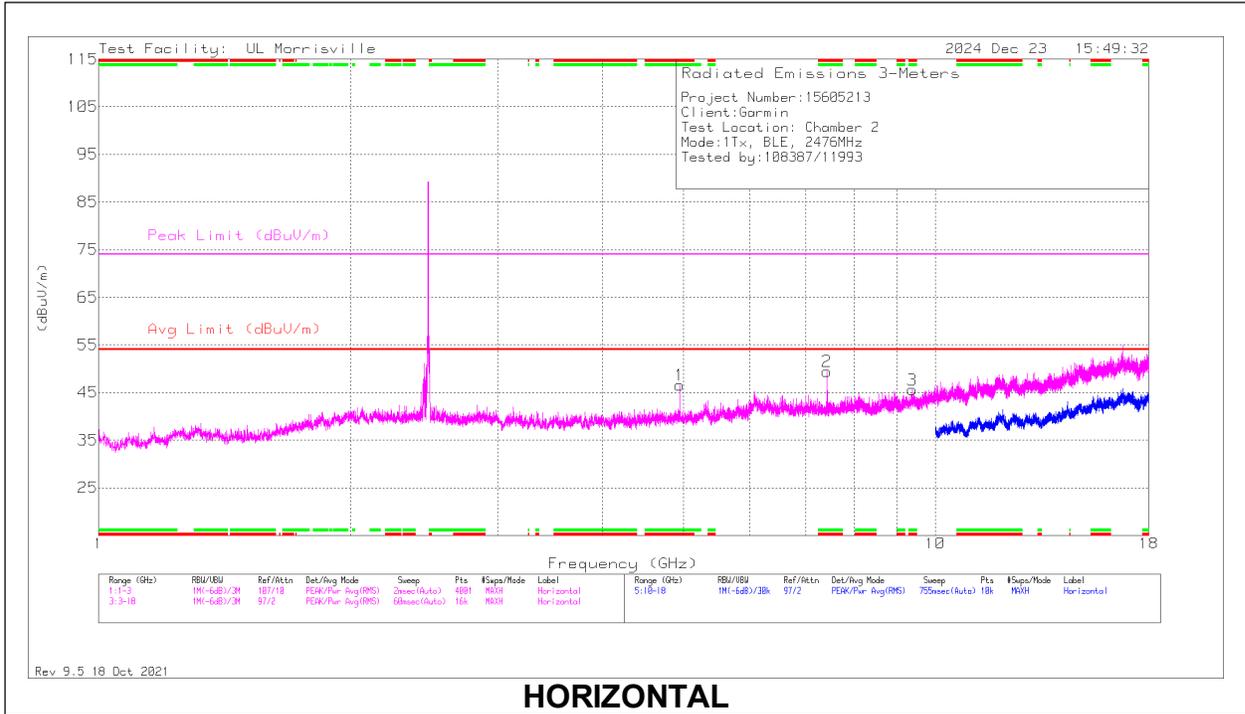
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

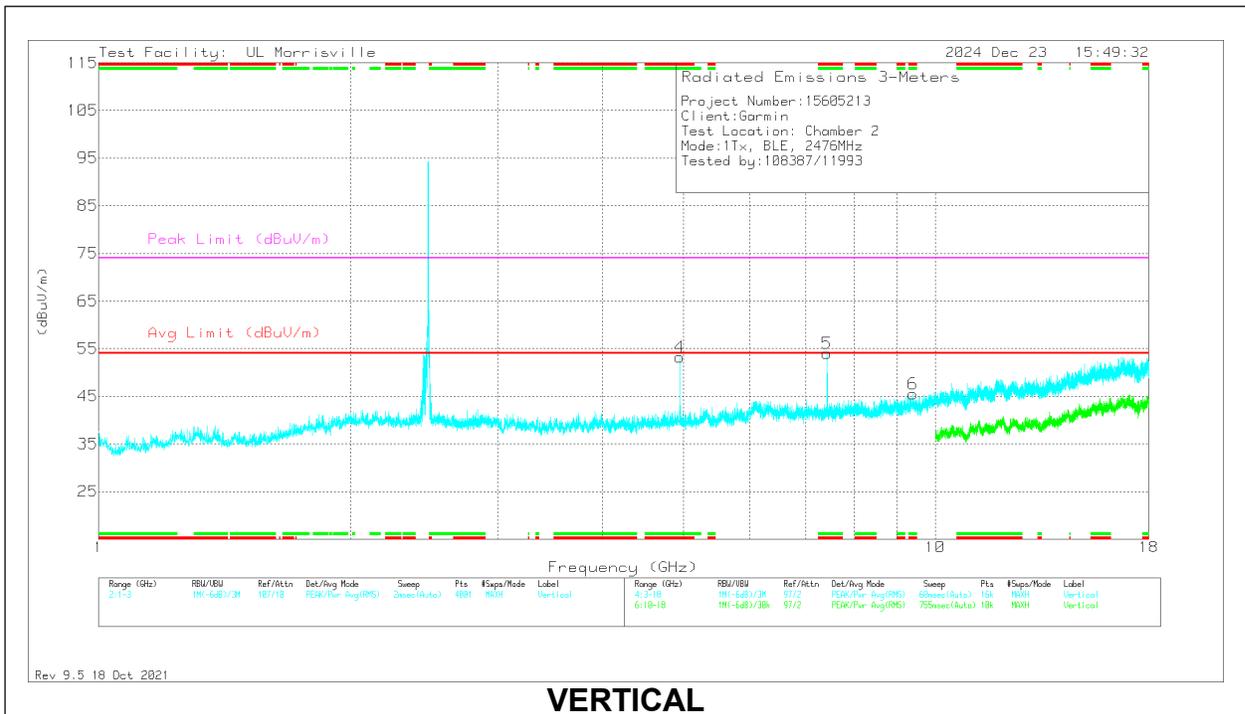
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.95188	56.23	Pk	34	-43.7	46.53	54	-7.47	74	-27.47	0-360	101	H
2	*** 7.42888	58.42	PK2	35.6	-41.3	52.72	-	-	74	-21.28	169	113	H
	*** 7.42725	44.08	ADV	35.6	-41.4	38.28	54	-15.72	-	-	169	113	H
3	*** 9.39	49.06	Pk	36.2	-39.7	45.56	54	-8.44	74	-28.44	0-360	200	H
4	*** 4.95178	65.86	PK2	34	-43.7	56.16	-	-	74	-17.84	217	316	V
	*** 4.95195	50.64	ADV	34	-43.7	40.94	54	-13.06	-	-	217	316	V
5	*** 7.42878	61.15	PK2	35.6	-41.3	55.45	-	-	74	-18.55	32	119	V
	*** 7.42751	46.77	ADV	35.6	-41.4	40.97	54	-13.03	-	-	32	119	V
6	*** 9.39938	49.04	Pk	36.2	-39.7	45.54	54	-8.46	74	-28.46	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

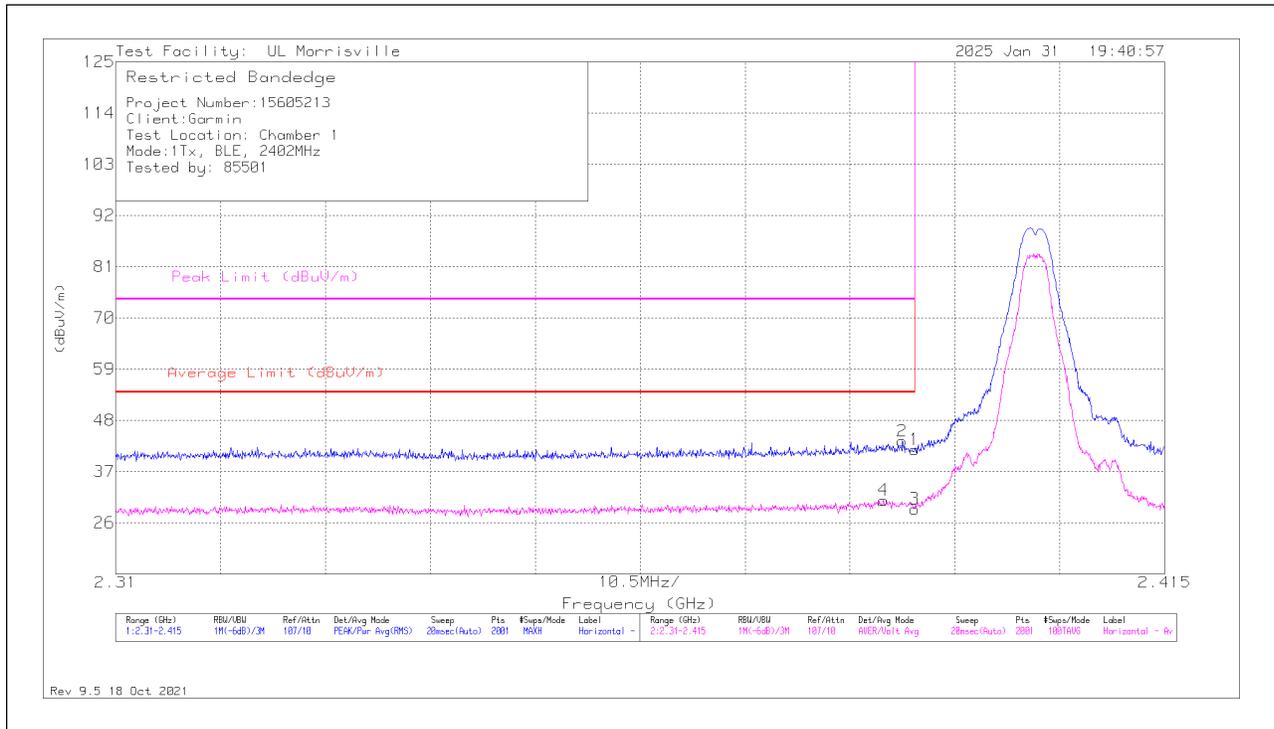
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.6. TX ABOVE 1 GHz BLE 2Mbps MODE IN THE 2.4 GHz BAND

BANDEDGE (LOW CHANNEL, 2402MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	33.8	Pk	31.9	-24	41.7	-	-	74	-32.3	216	273	H
2	* ** 2.38875	35.61	Pk	31.9	-24	43.51	-	-	74	-30.49	216	273	H
3	* ** 2.38996	21.07	ADV	31.9	-24	28.97	54	-25.03	-	-	216	273	H
4	* ** 2.38686	22.84	ADV	31.9	-23.9	30.84	54	-23.16	-	-	216	273	H

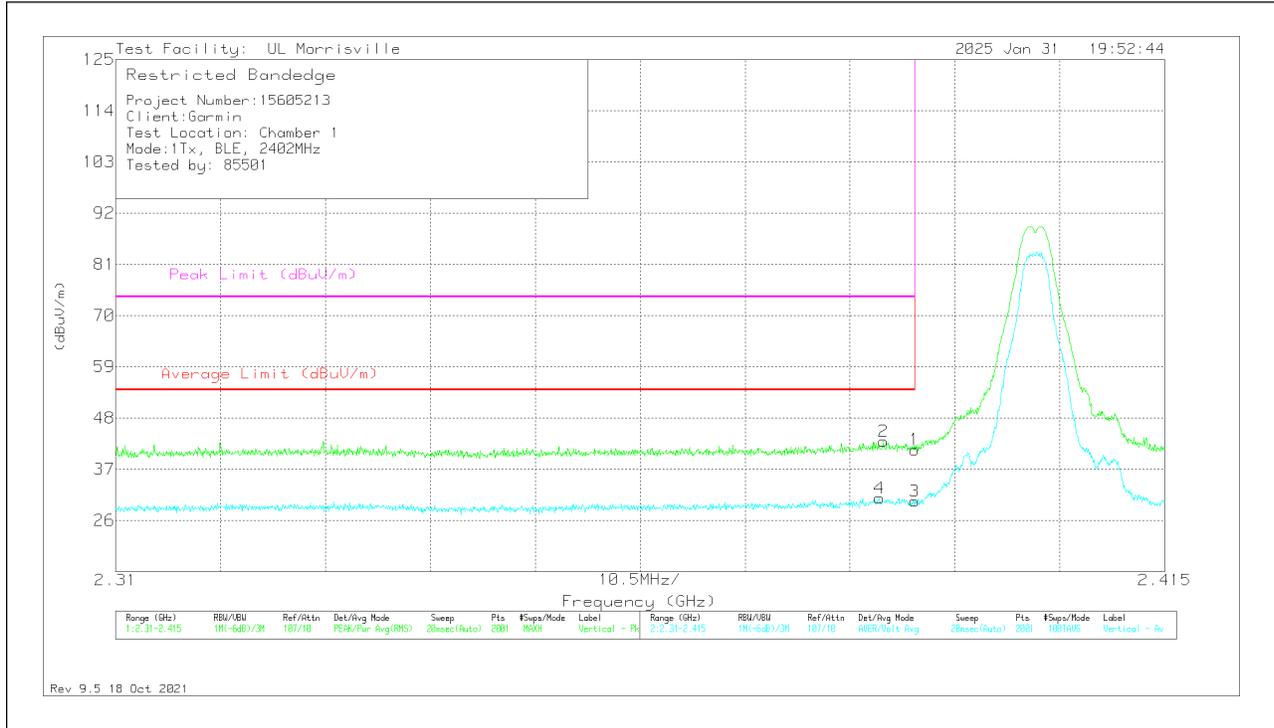
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.25	Pk	31.9	-24	41.15	-	-	74	-32.85	343	110	V
2	*** 2.38686	34.99	Pk	31.9	-23.9	42.99	-	-	74	-31.01	343	110	V
3	*** 2.38996	22.2	ADV	31.9	-24	30.1	54	-23.9	-	-	343	110	V
4	*** 2.38644	22.77	ADV	31.9	-23.9	30.77	54	-23.23	-	-	343	110	V

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

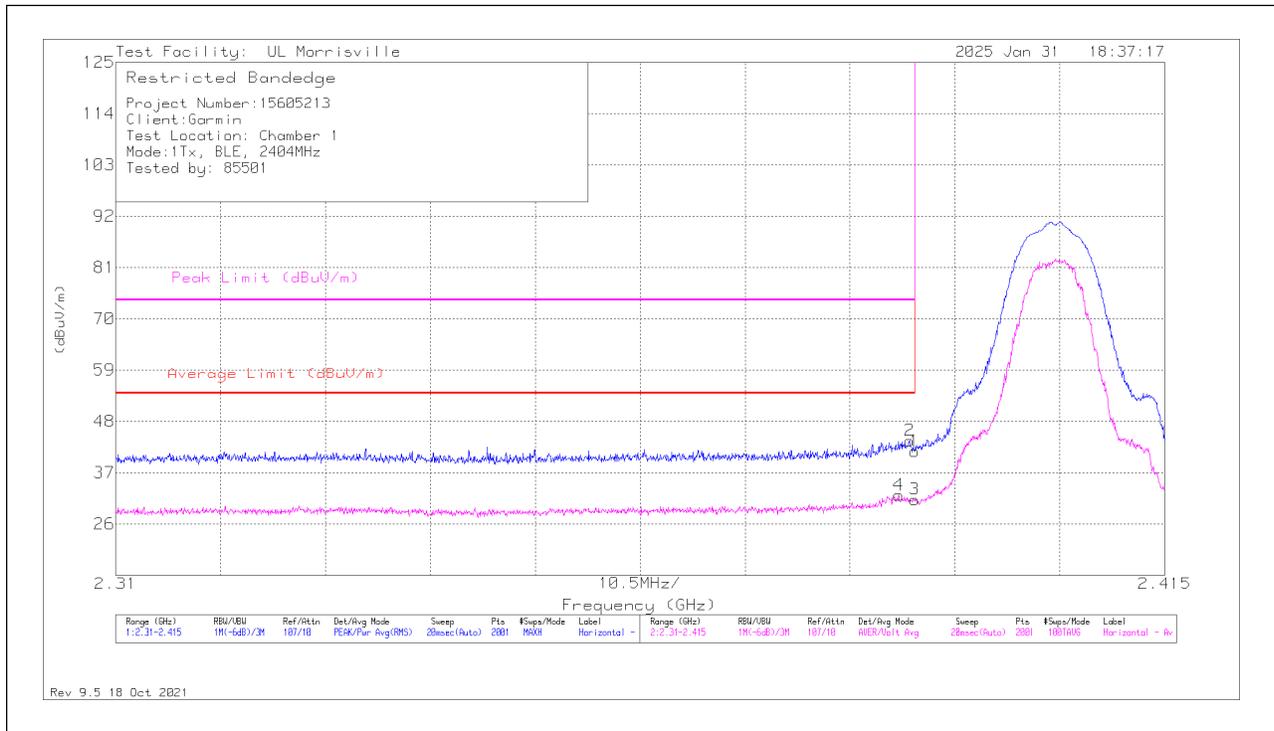
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (LOW CHANNEL, 2404MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.66	Pk	31.9	-24	41.56	-	-	74	-32.44	198	202	H
2	*** 2.38949	35.98	Pk	31.9	-24	43.88	-	-	74	-30.12	198	202	H
3	*** 2.38996	23.37	ADV	31.9	-24	31.27	54	-22.73	-	-	198	202	H
4	*** 2.38838	24.28	ADV	31.9	-24	32.18	54	-21.82	-	-	198	202	H

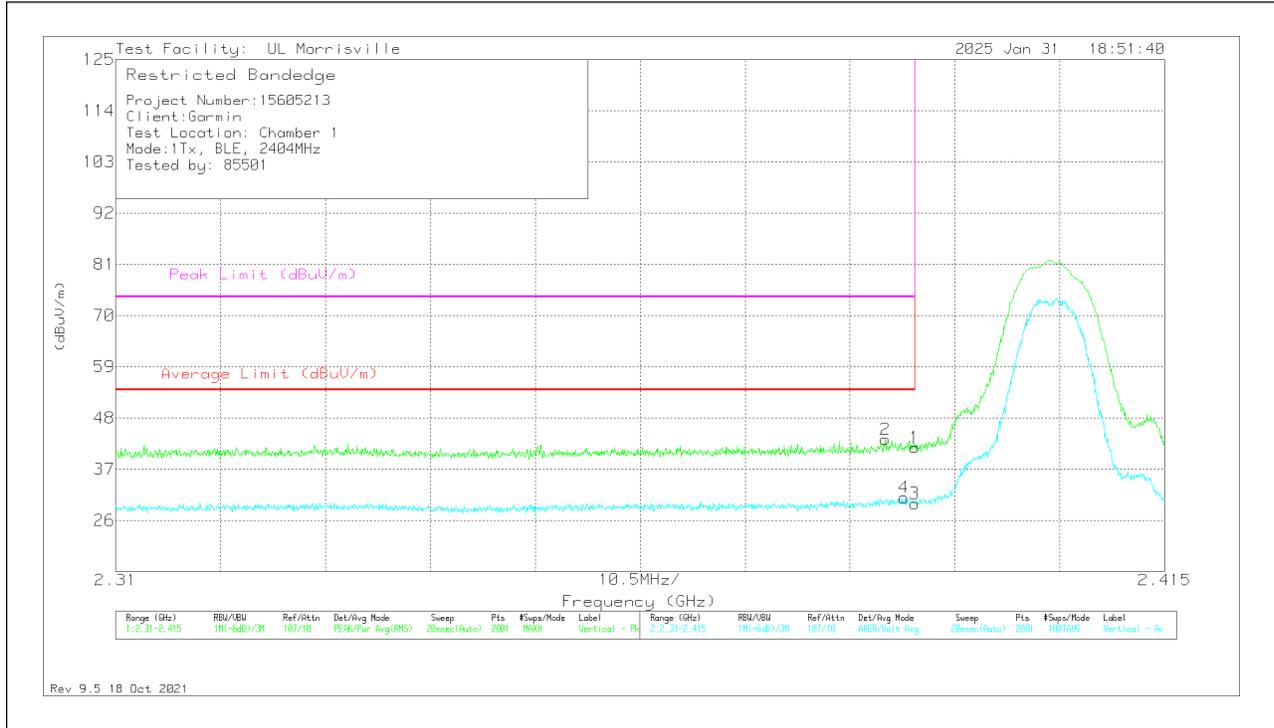
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

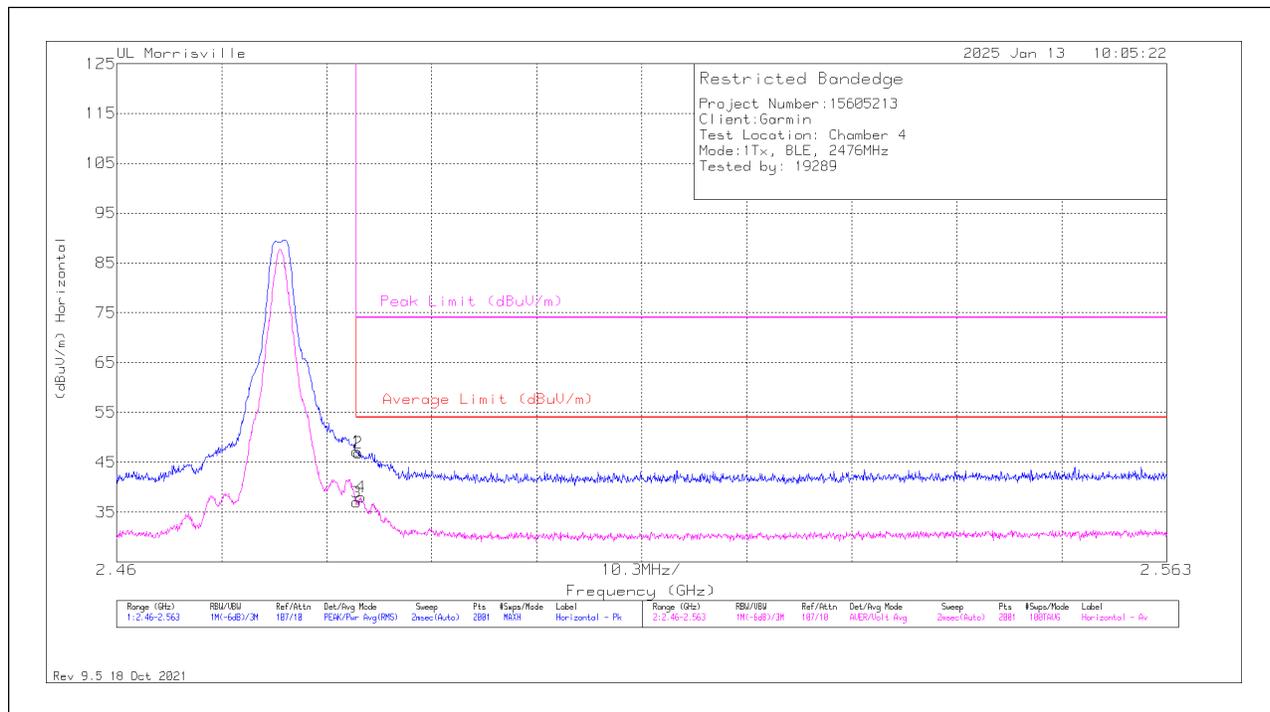


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.74	Pk	31.9	-24	41.64	-	-	74	-32.36	314	377	V
2	*** 2.38702	35.38	Pk	31.9	-23.9	43.38	-	-	74	-30.62	314	377	V
3	*** 2.38996	21.73	ADV	31.9	-24	29.63	54	-24.37	-	-	314	377	V
4	*** 2.38891	22.97	ADV	31.9	-24	30.87	54	-23.13	-	-	314	377	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2476MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	37.61	Pk	32.3	-22.8	47.11	-	-	74	-26.89	72	122	H
2	*** 2.48369	37.43	Pk	32.3	-22.8	46.93	-	-	74	-27.07	72	122	H
3	*** 2.48354	27.45	ADV	32.3	-22.8	36.95	54	-17.05	-	-	72	122	H
4	*** 2.48395	28.5	ADV	32.3	-22.8	38	54	-16	-	-	72	122	H

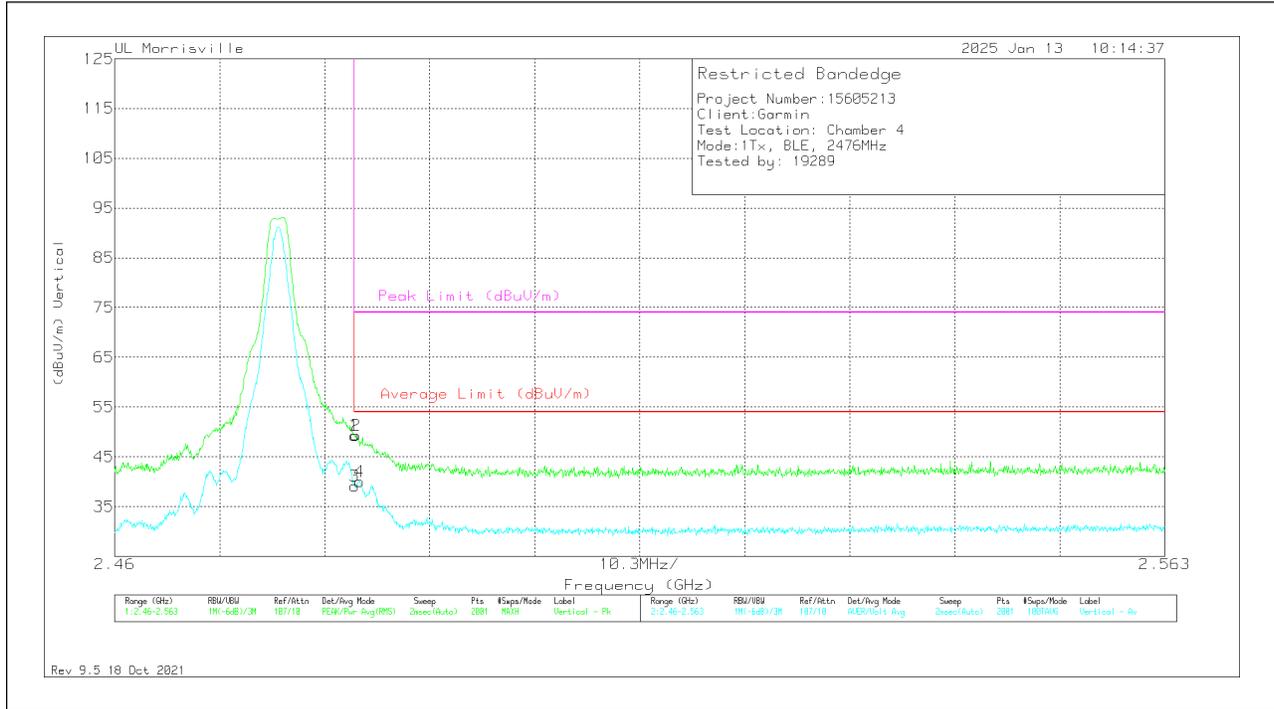
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	39.77	Pk	32.3	-22.8	49.27	-	-	74	-24.73	341	121	V
2	* ** 2.48364	39.83	Pk	32.3	-22.8	49.33	-	-	74	-24.67	341	121	V
3	* ** 2.48354	29.66	ADV	32.3	-22.8	39.16	54	-14.84	-	-	341	121	V
4	* ** 2.48405	30.55	ADV	32.3	-22.8	40.05	54	-13.95	-	-	341	121	V

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

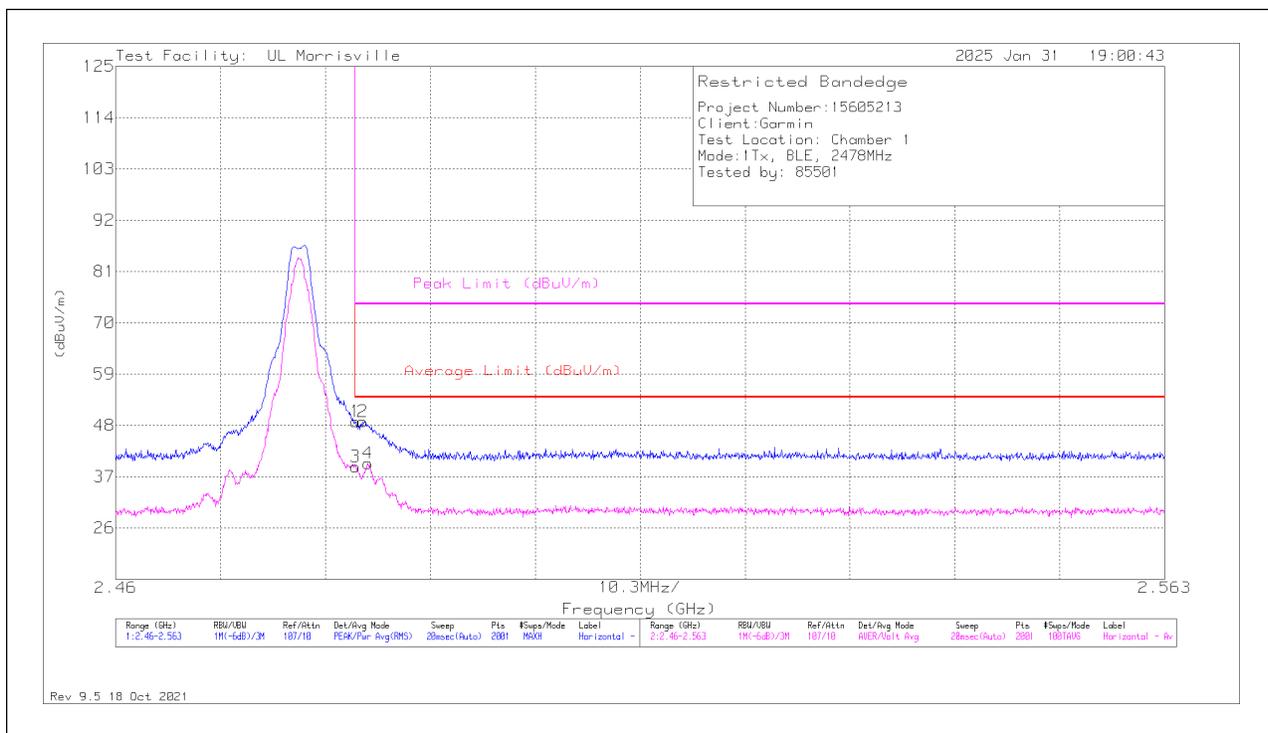
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2478MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	40.3	Pk	32.2	-23.7	48.8	-	-	74	-25.2	220	289	H
2	*** 2.48426	40.4	Pk	32.2	-23.8	48.8	-	-	74	-25.2	220	289	H
3	*** 2.48354	30.65	ADV	32.2	-23.7	39.15	54	-14.85	-	-	220	288	H
4	*** 2.48477	31.46	ADV	32.2	-23.8	39.86	54	-14.14	-	-	220	288	H

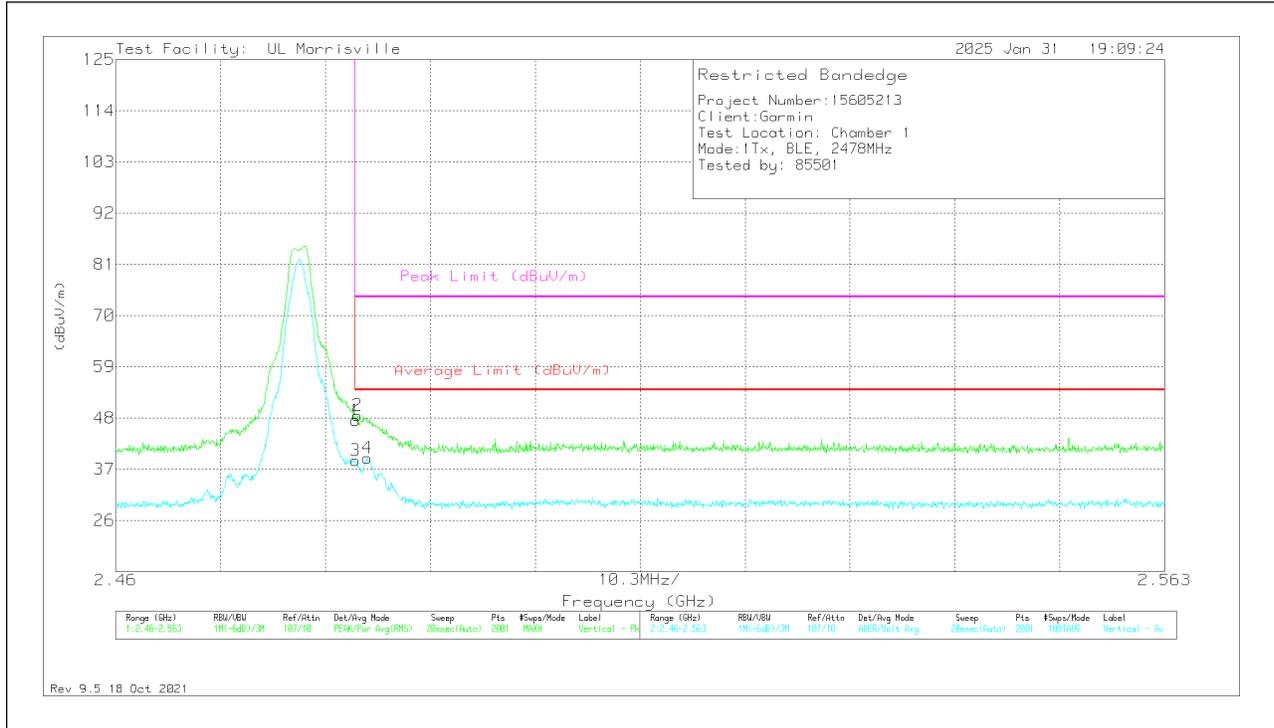
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	39.02	Pk	32.2	-23.7	47.52	-	-	74	-26.48	112	217	V
2	*** 2.48374	40.04	Pk	32.2	-23.7	48.54	-	-	74	-25.46	112	217	V
3	*** 2.48354	30.36	ADV	32.2	-23.7	38.86	54	-15.14	-	-	112	217	V
4	*** 2.48472	31.03	ADV	32.2	-23.8	39.43	54	-14.57	-	-	112	217	V

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

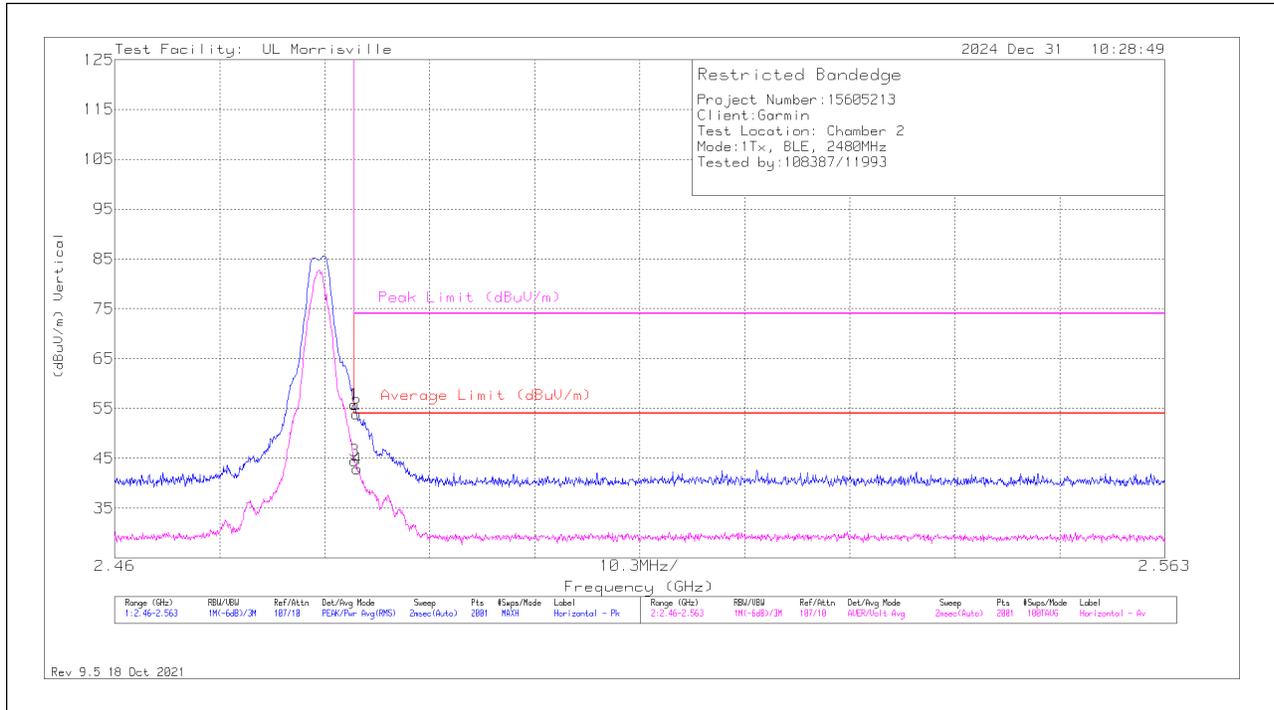
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL, 2480MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	47.38	Pk	32.5	-24.1	55.78	-	-	74	-18.22	206	133	H
2	*** 2.48374	45.5	Pk	32.5	-24.1	53.9	-	-	74	-20.1	206	133	H
3	*** 2.48354	36.07	ADV	32.5	-24.1	44.47	54	-9.53	-	-	206	133	H
4	*** 2.48379	34.54	ADV	32.5	-24.1	42.94	54	-11.06	-	-	206	133	H

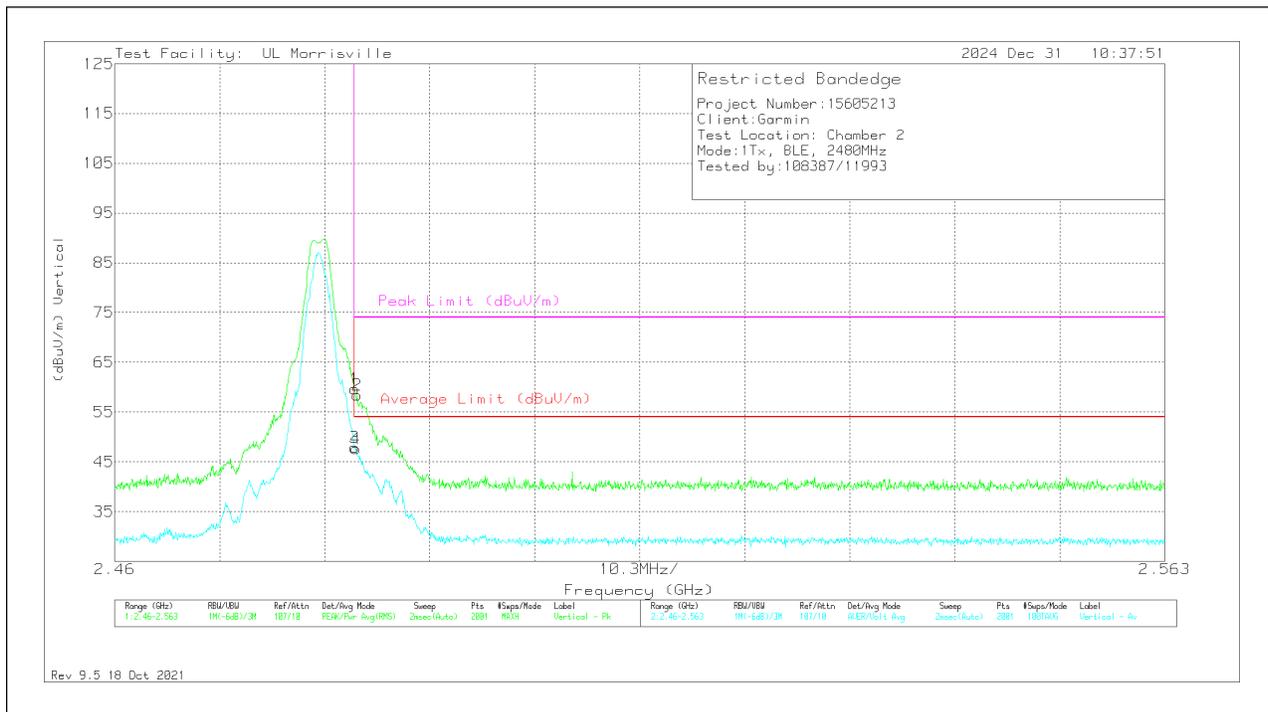
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	51.25	Pk	32.5	-24.1	59.65	-	-	74	-14.35	4	101	V
2	* ** 2.48379	50.02	Pk	32.5	-24.1	58.42	-	-	74	-15.58	4	101	V
3	* ** 2.48354	39.46	ADV	32.5	-24.1	47.86	54	-6.14	-	-	4	101	V
4	* ** 2.48364	39.24	ADV	32.5	-24.1	47.64	54	-6.36	-	-	4	101	V

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

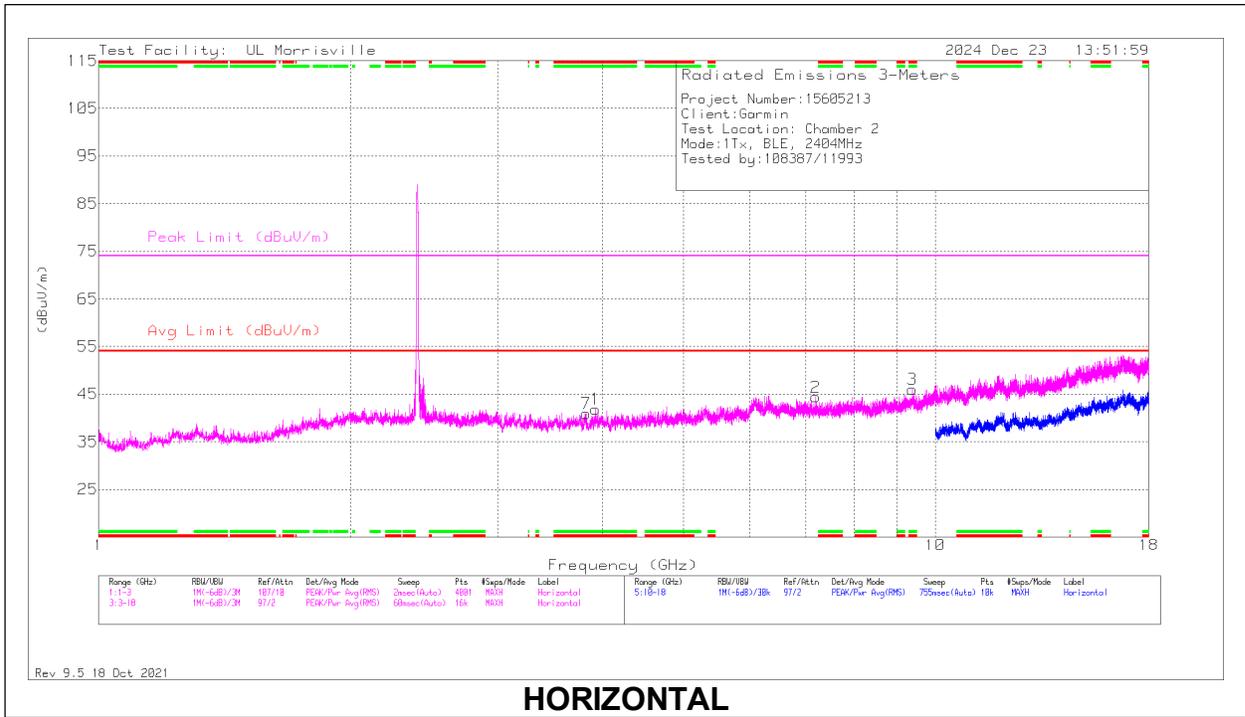
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

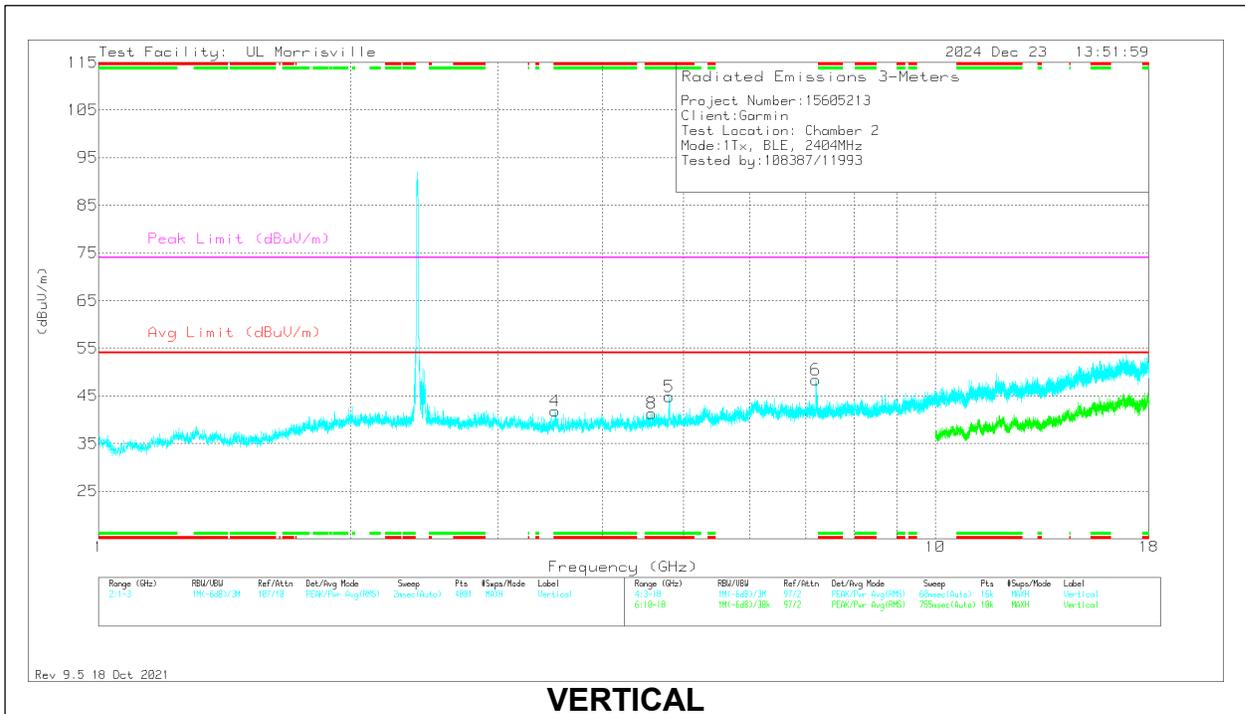
ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



HORIZONTAL



VERTICAL

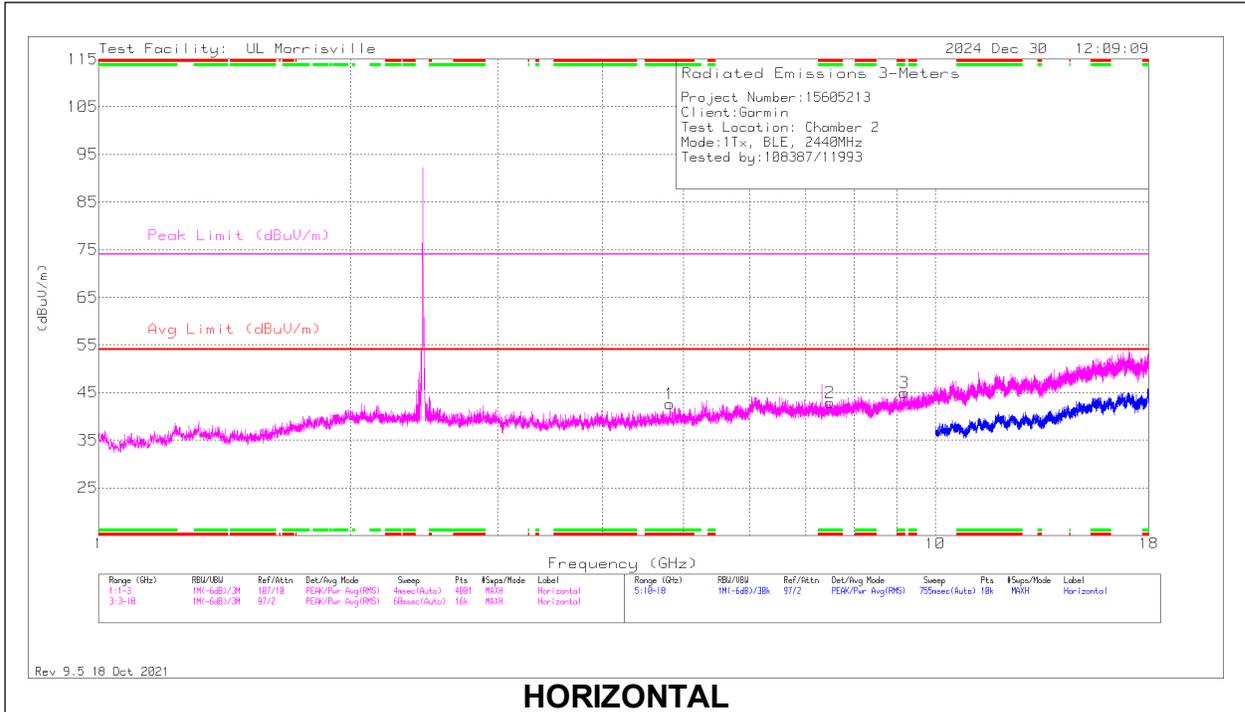
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.92438	52.93	Pk	33.4	-44.5	41.83	54	-12.17	74	-32.17	0-360	101	H
3	*** 9.38438	49.85	Pk	36.2	-40	46.05	54	-7.95	74	-27.95	0-360	199	H
7	*** 3.82406	51.8	Pk	33.3	-44.2	40.9	54	-13.1	74	-33.1	0-360	101	H
4	*** 3.51375	53.37	Pk	32.7	-44.2	41.87	54	-12.13	74	-32.13	0-360	101	V
5	*** 4.80656	54.42	Pk	34.2	-43.8	44.82	54	-9.18	74	-29.18	0-360	200	V
8	*** 4.58344	51.51	Pk	34	-44.2	41.31	54	-12.69	74	-32.69	0-360	101	V
2	7.20094	50.38	Pk	35.6	-41.6	44.38	-	-	-	-	0-360	199	H
6	7.20188	54.4	Pk	35.6	-41.6	48.4	-	-	-	-	0-360	101	V

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

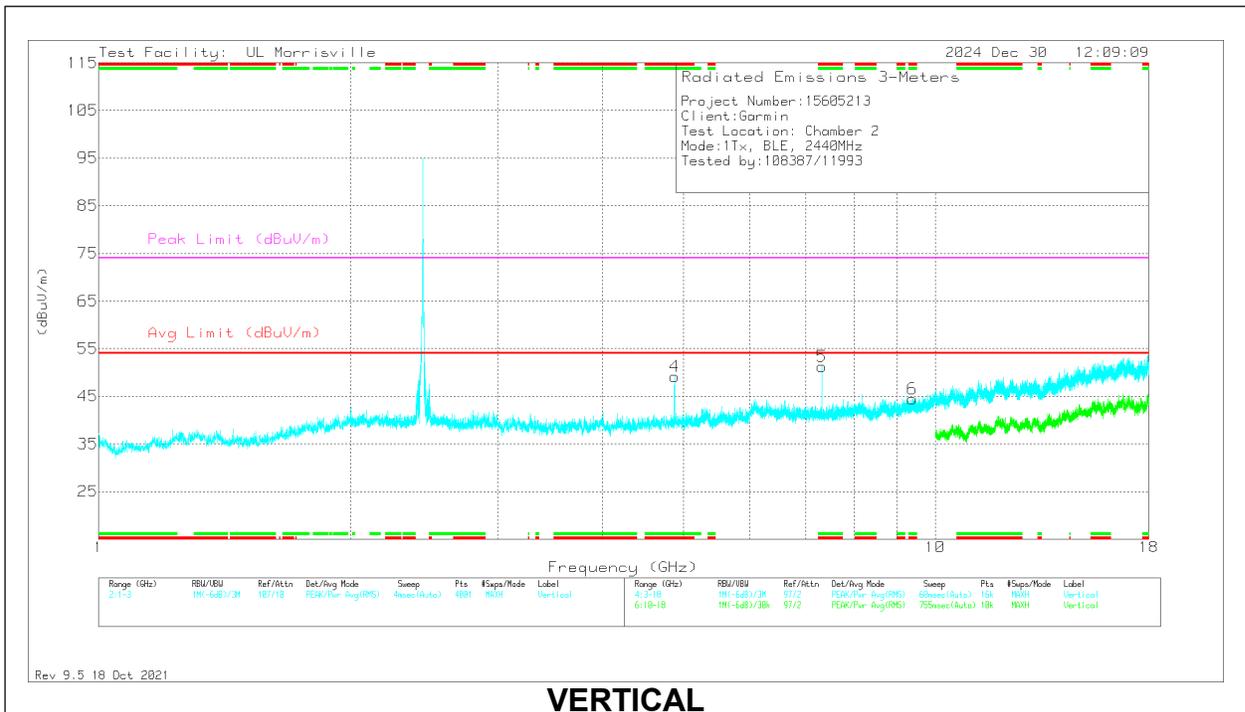
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

MID CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.81969	52.1	Pk	34.2	-43.7	42.6	54	-11.4	74	-31.4	0-360	101	H
2	*** 7.48594	48.17	Pk	35.7	-41	42.87	54	-11.13	74	-31.13	0-360	101	H
3	*** 9.18188	48.41	Pk	36	-39.4	45.01	54	-8.99	74	-28.99	0-360	101	H
4	*** 4.87912	61.65	PK2	34.1	-43.7	52.05	-	-	74	-21.95	211	152	V
	*** 4.87892	45.55	ADV	34.1	-43.7	35.95	54	-18.05	-	-	211	152	V
5	*** 7.32001	60.57	PK2	35.6	-41.8	54.37	-	-	74	-19.63	357	111	V
	*** 7.3217	42.43	ADV	35.6	-41.8	36.23	54	-17.77	-	-	357	111	V
6	*** 9.39281	47.8	Pk	36.2	-39.6	44.4	54	-9.6	74	-29.6	0-360	200	V

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

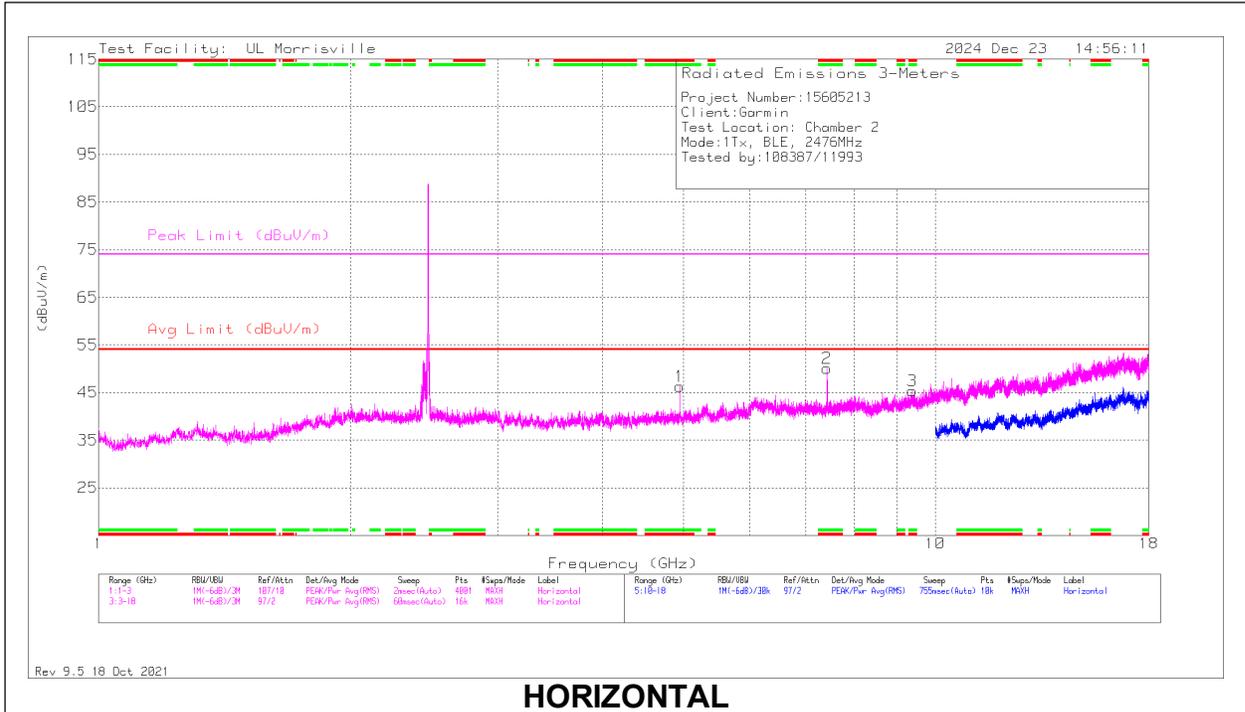
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

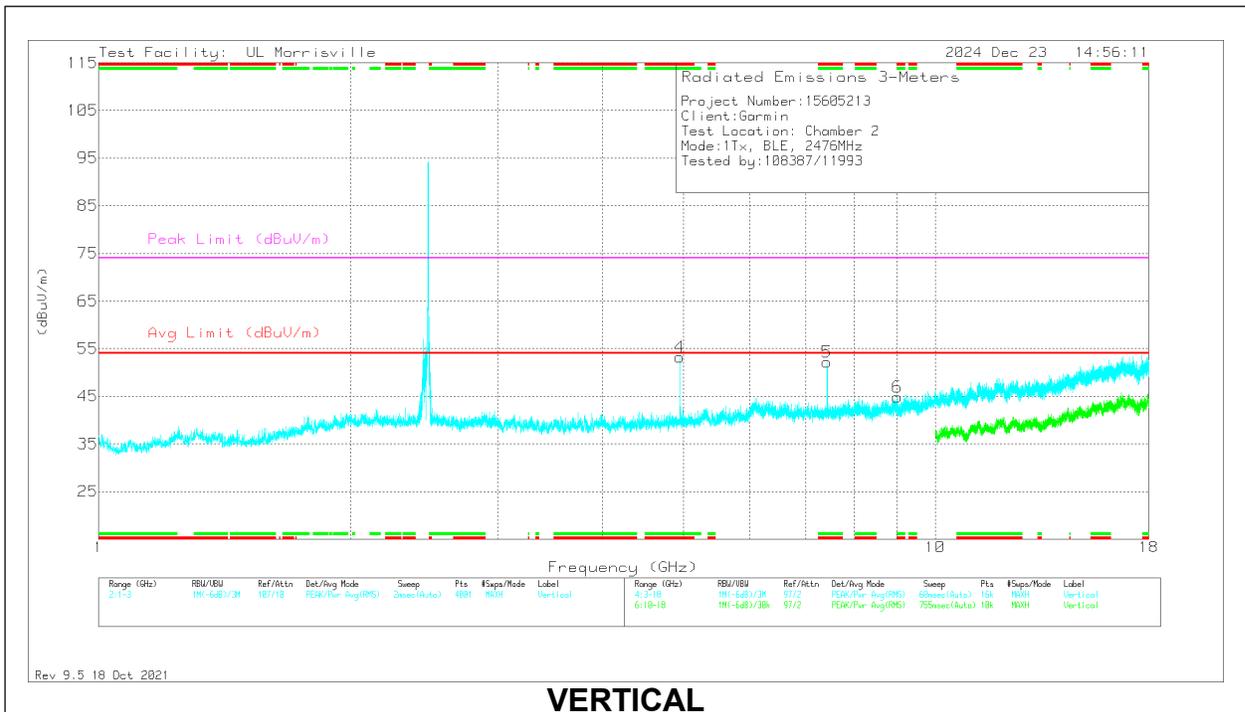
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.95094	55.99	Pk	34	-43.7	46.29	54	-7.71	74	-27.71	0-360	199	H
2	*** 7.42801	58.13	PK2	35.6	-41.3	52.43	-	-	74	-21.57	163	135	H
	*** 7.42729	40.88	ADV	35.6	-41.4	35.08	54	-18.92	-	-	163	135	H
3	*** 9.39375	48.65	Pk	36.2	-39.5	45.35	54	-8.65	74	-28.65	0-360	101	H
4	*** 4.95117	65.25	PK2	34	-43.7	55.55	-	-	74	-18.45	68	356	V
	*** 4.95149	48.37	ADV	34	-43.7	38.67	54	-15.33	-	-	68	356	V
5	*** 7.42816	61.68	PK2	35.6	-41.3	55.98	-	-	74	-18.02	28	115	V
	*** 7.4293	43.1	ADV	35.6	-41.3	37.4	54	-16.6	-	-	28	115	V
6	*** 9.01031	48.73	Pk	35.9	-39.8	44.83	54	-9.17	74	-29.17	0-360	199	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

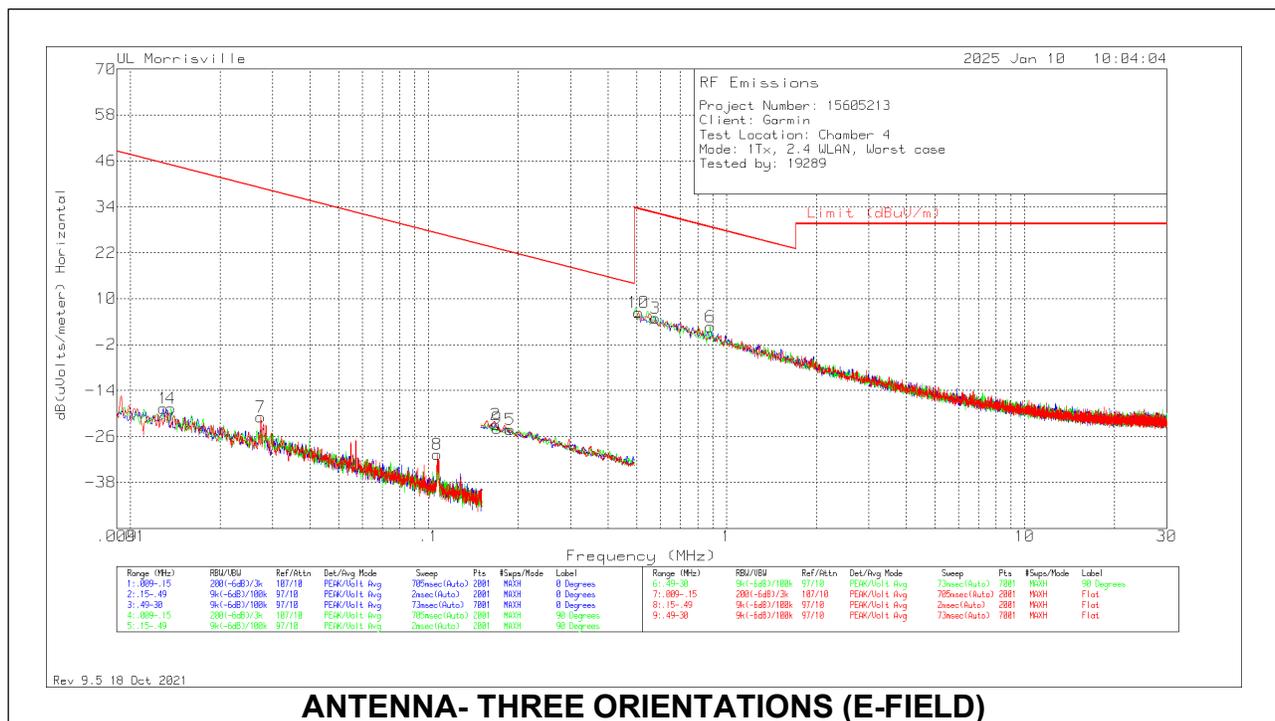
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.2. WORST CASE SPURIOUS BELOW 30MHZ

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

10.2.1. 2.4 WLAN

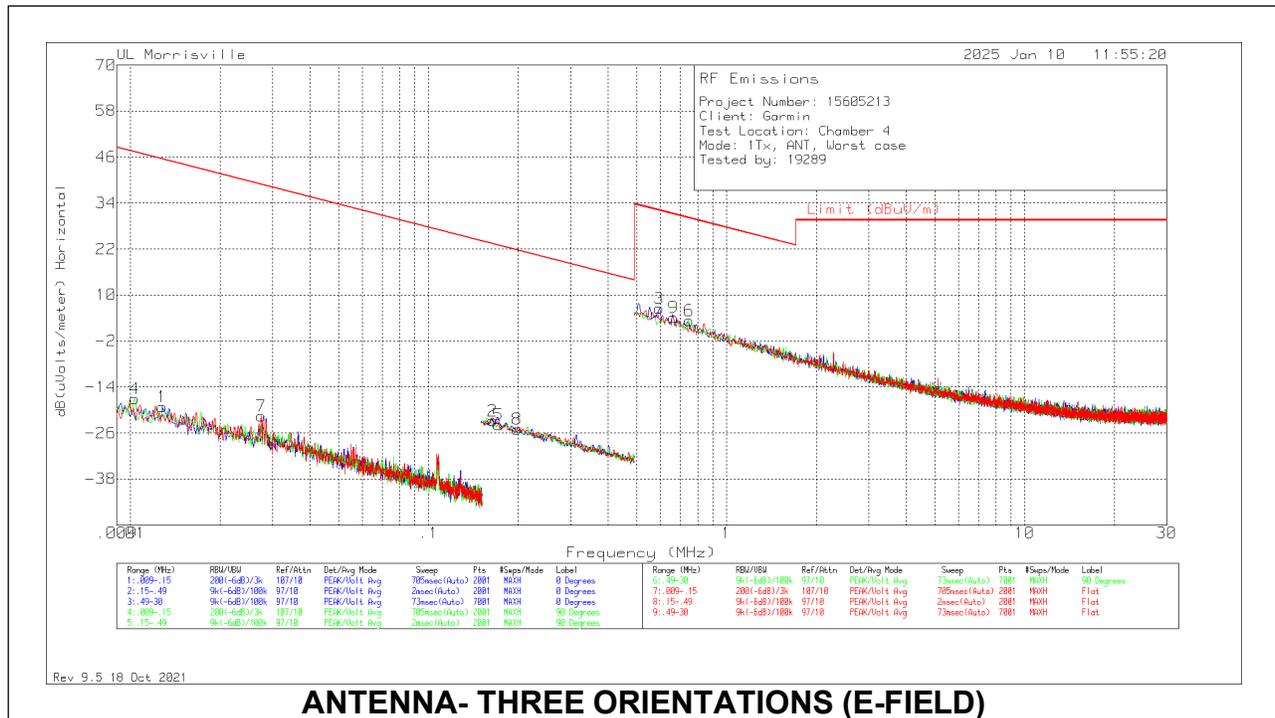


ANTENNA- THREE ORIENTATIONS (E-FIELD)

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01291	44.19	Pk	17	.1	-80	-18.71	45.39	65.39	-64.1	0-360	0 degs
4	.01369	44.61	Pk	16.6	.1	-80	-18.69	44.88	64.88	-63.57	0-360	90 degs
7	.02739	45.63	Pk	13.3	.1	-80	-20.97	38.85	58.85	-59.82	0-360	Flat
8	.10684	38.07	Pk	11.1	.1	-80	-30.73	27.03	-	-57.76	0-360	Flat
2	.16794	46.06	Pk	11	.1	-80	-22.84	23.1	43.1	-45.94	0-360	0 degs
9	.16972	44.98	Pk	11	.1	-80	-23.92	23.01	43.01	-46.93	0-360	Flat
5	.18825	44.68	Pk	11	.1	-80	-24.22	22.11	42.11	-46.33	0-360	90 degs
10	.50686	35.32	Pk	11	.1	-40	6.42	33.51	-	-27.09	0-360	Flat
3	.57854	33.78	Pk	11	.1	-40	4.88	32.36	-	-27.48	0-360	0 degs
6	.88209	31.52	Pk	11	.2	-40	2.72	28.69	-	-25.97	0-360	90 degs

Pk - Peak detector

10.2.2. ANT/ANT+

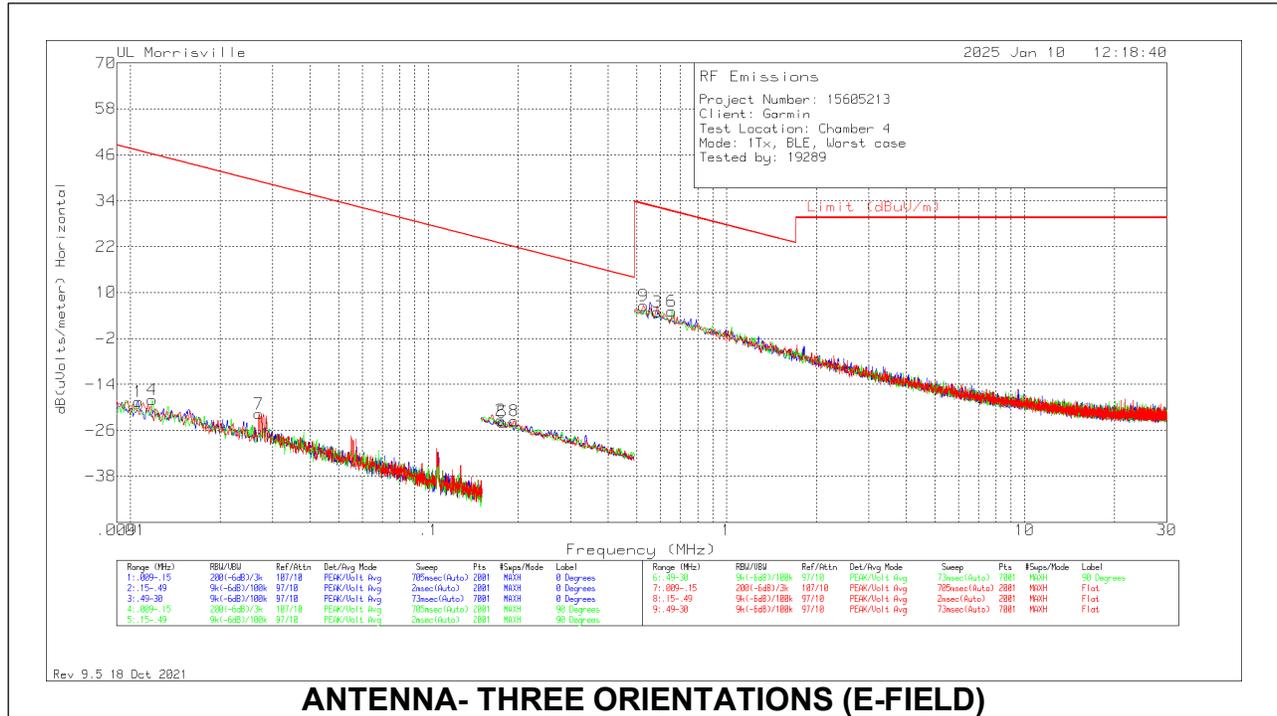


ANTENNA- THREE ORIENTATIONS (E-FIELD)

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
4	.01035	44.82	Pk	18	.1	-80	-17.08	47.31	67.31	-64.39	0-360	90 degs
1	.01276	43.73	Pk	17	.1	-80	-19.17	45.49	65.49	-64.66	0-360	0 degs
7	.02746	45.02	Pk	13.3	.1	-80	-21.58	38.83	58.83	-60.41	0-360	Flat
2	.16411	46.1	Pk	11	.1	-80	-22.8	23.3	43.3	-46.1	0-360	0 degs
5	.17108	45.08	Pk	11	.1	-80	-23.82	22.94	42.94	-46.76	0-360	90 degs
8	.19811	43.92	Pk	11	.1	-80	-24.98	21.67	41.67	-46.65	0-360	Flat
3	.5954	35.39	Pk	11	.1	-40	6.49	32.11	-	-25.62	0-360	0 degs
9	.66286	32.99	Pk	11	.2	-40	4.19	31.18	-	-26.99	0-360	Flat
6	.74718	32.14	Pk	11	.2	-40	3.34	30.14	-	-26.8	0-360	90 degs

Pk - Peak detector

10.2.3. BLE

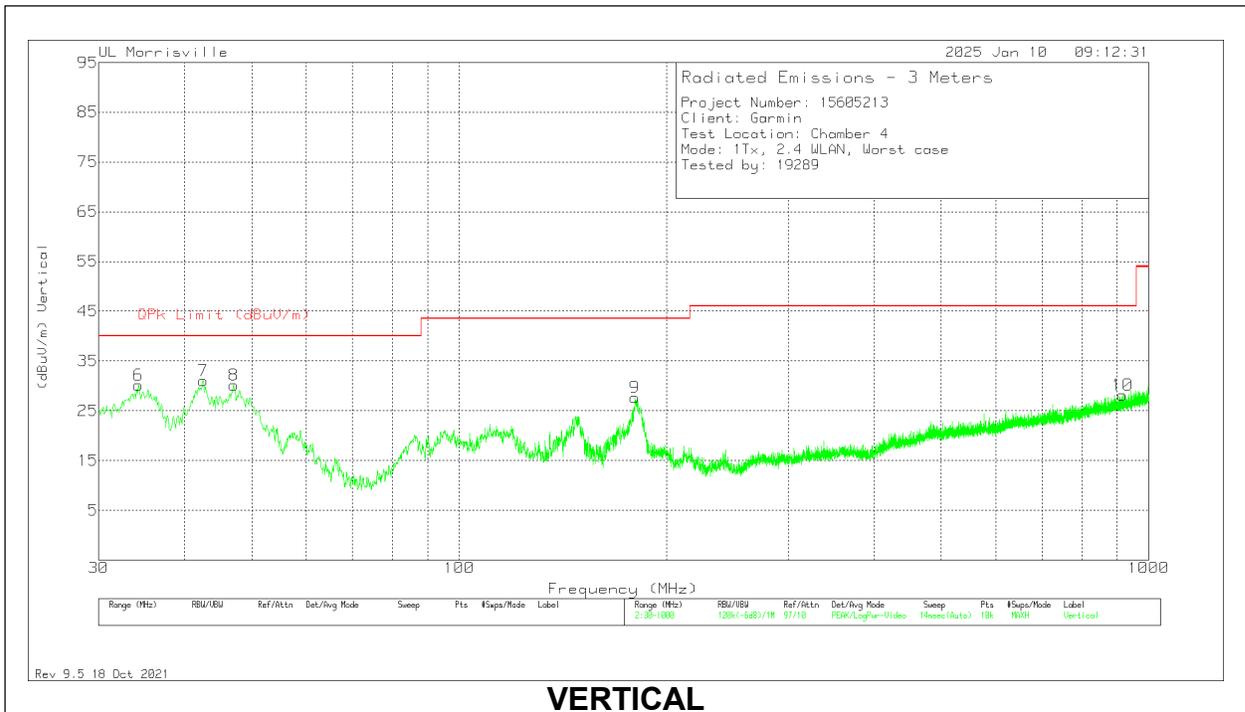
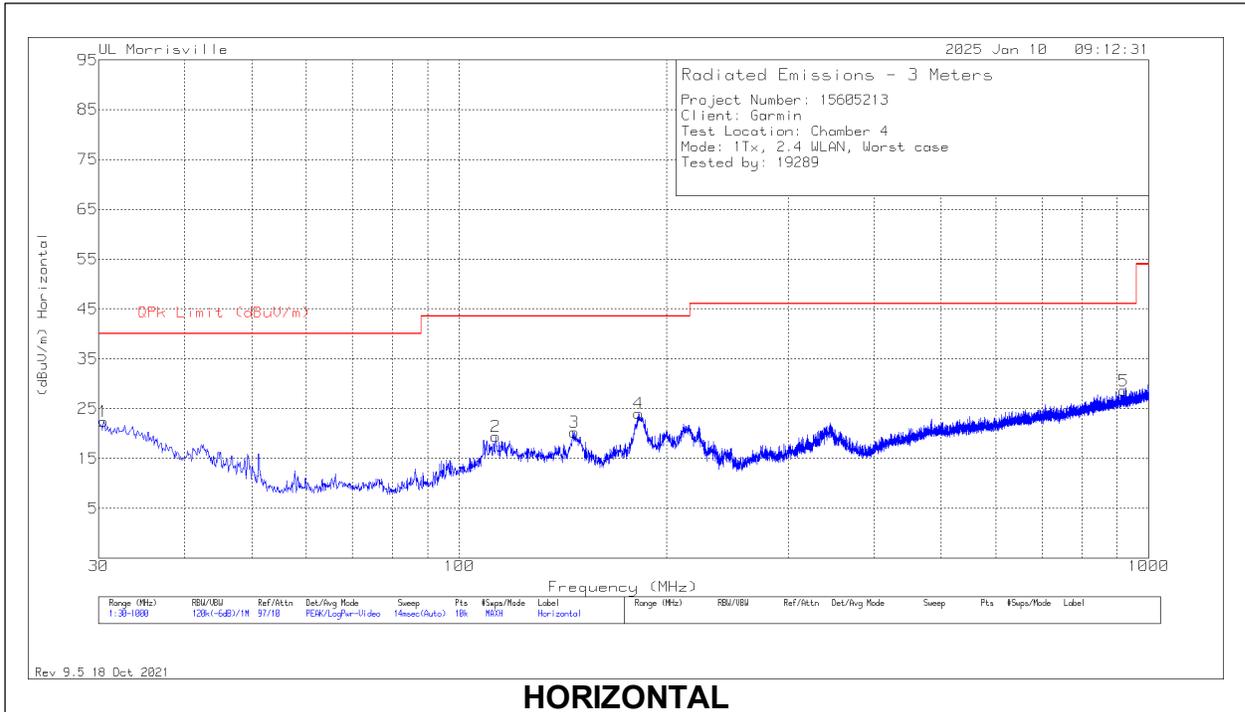


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01063	43.53	Pk	17.9	.1	-80	-18.47	47.07	67.07	-65.54	0-360	0 degs
4	.01184	44.52	Pk	17.4	.1	-80	-17.98	46.14	66.14	-64.12	0-360	90 degs
7	.02696	44.93	Pk	13.3	.1	-80	-21.67	38.99	58.99	-60.66	0-360	Flat
2	.1744	45.54	Pk	11	.1	-80	-23.36	22.77	42.77	-46.13	0-360	0 degs
5	.17737	45.11	Pk	11	.1	-80	-23.79	22.63	42.63	-46.42	0-360	90 degs
8	.19386	45.35	Pk	11	.1	-80	-23.55	21.85	41.85	-45.4	0-360	Flat
9	.52794	35.52	Pk	11	.1	-40	6.62	33.15	-	-26.53	0-360	Flat
3	.58697	33.79	Pk	11	.1	-40	4.89	32.23	-	-27.34	0-360	0 degs
6	.65442	33.88	Pk	11	.2	-40	5.08	31.29	-	-26.21	0-360	90 degs

Pk - Peak detector

10.3. WORST CASE SPURIOUS BELOW 1 GHZ

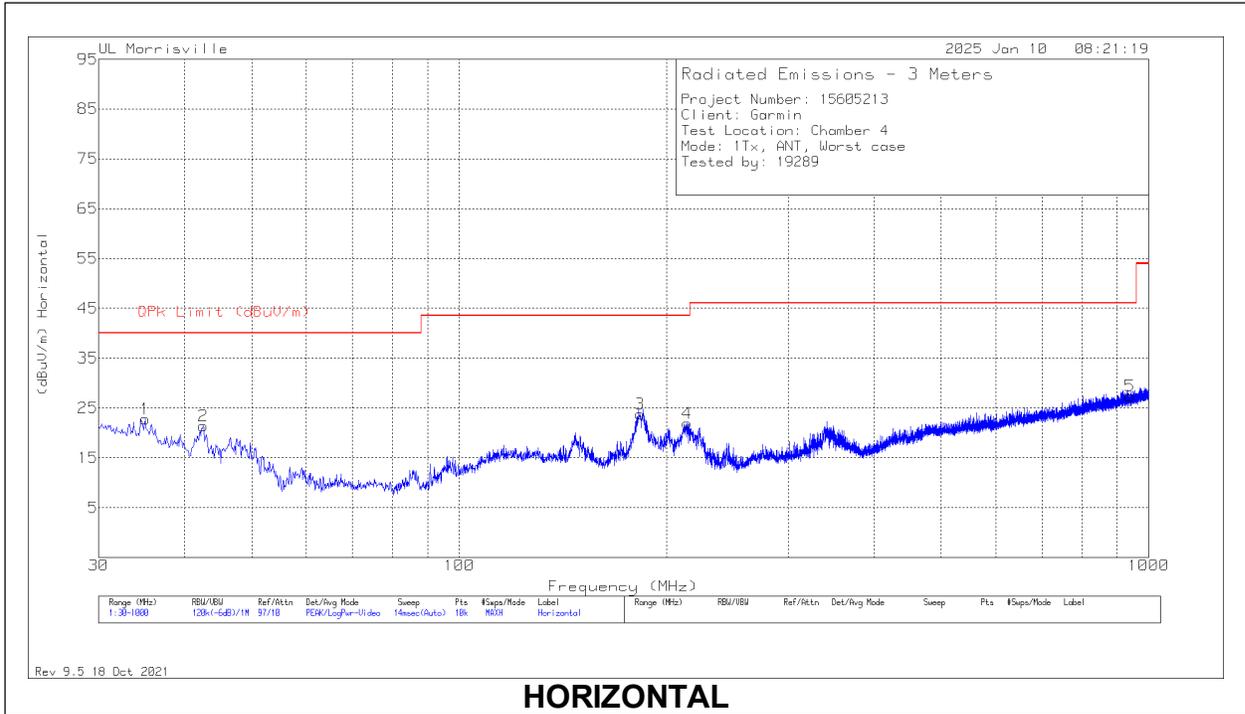
10.3.1. 2.4 WLAN



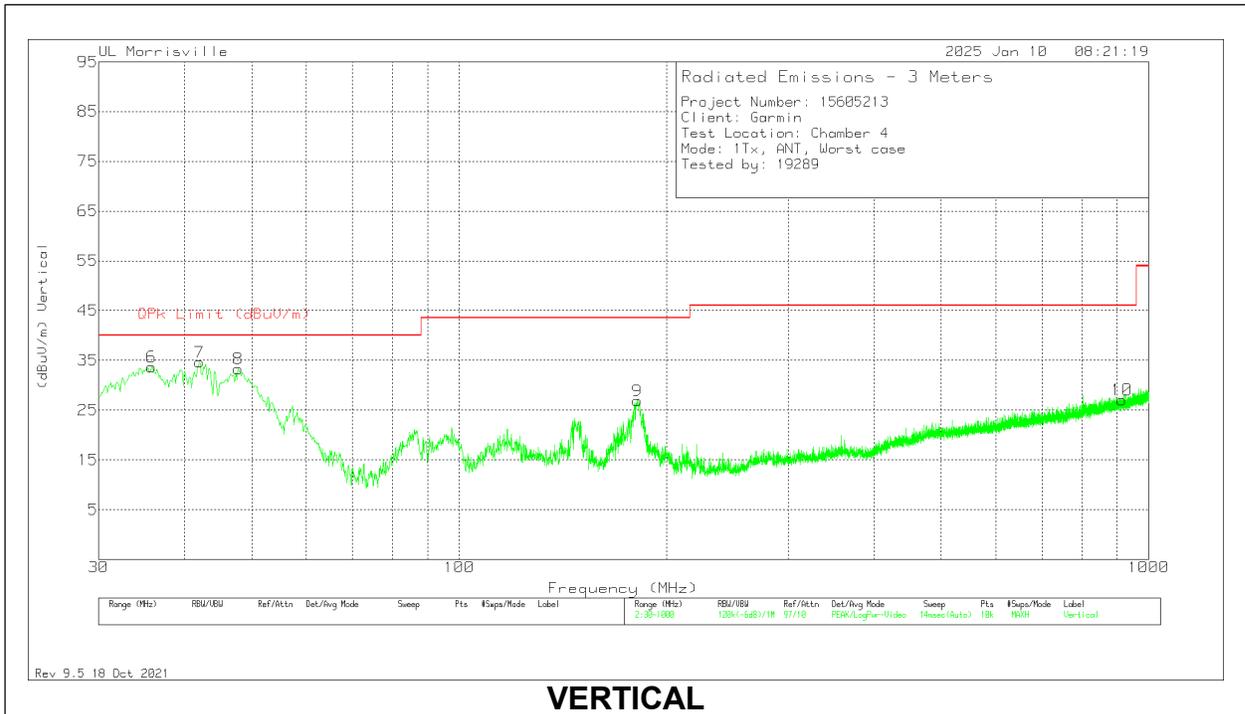
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90628 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.485	27.97	Pk	26.5	-32.1	22.37	40	-17.63	0-360	200	H
6	34.268	38.28	Pk	24	-32.1	30.18	40	-9.82	0-360	100	V
7	42.513	44.87	Pk	18.2	-32	31.07	40	-8.93	0-360	100	V
8	47.072	46.72	Pk	15.3	-31.9	30.12	40	-9.88	0-360	100	V
2	112.935	31.36	Pk	19.3	-31.3	19.36	43.52	-24.16	0-360	300	H
3	146.788	32.45	Pk	18.8	-31	20.25	43.52	-23.27	0-360	200	H
9	179.865	41.25	Pk	17.3	-30.9	27.65	43.52	-15.87	0-360	100	V
4	182.193	37.71	Pk	17.2	-30.9	24.01	43.52	-19.51	0-360	100	H
10	916.483	26.91	Pk	28.4	-27.1	28.21	46.02	-17.81	0-360	100	V
5	919.296	27.1	Pk	28.5	-27	28.6	46.02	-17.42	0-360	100	H

Pk - Peak detector

10.3.2. ANT/ANT+



HORIZONTAL



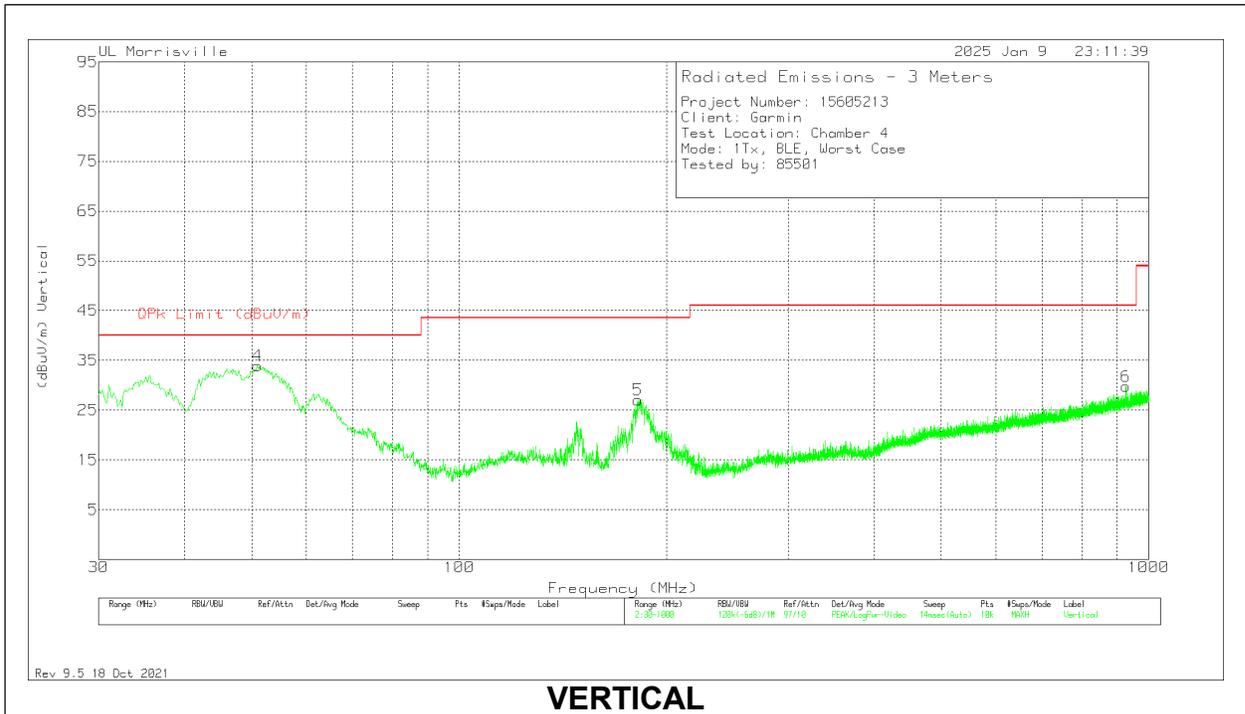
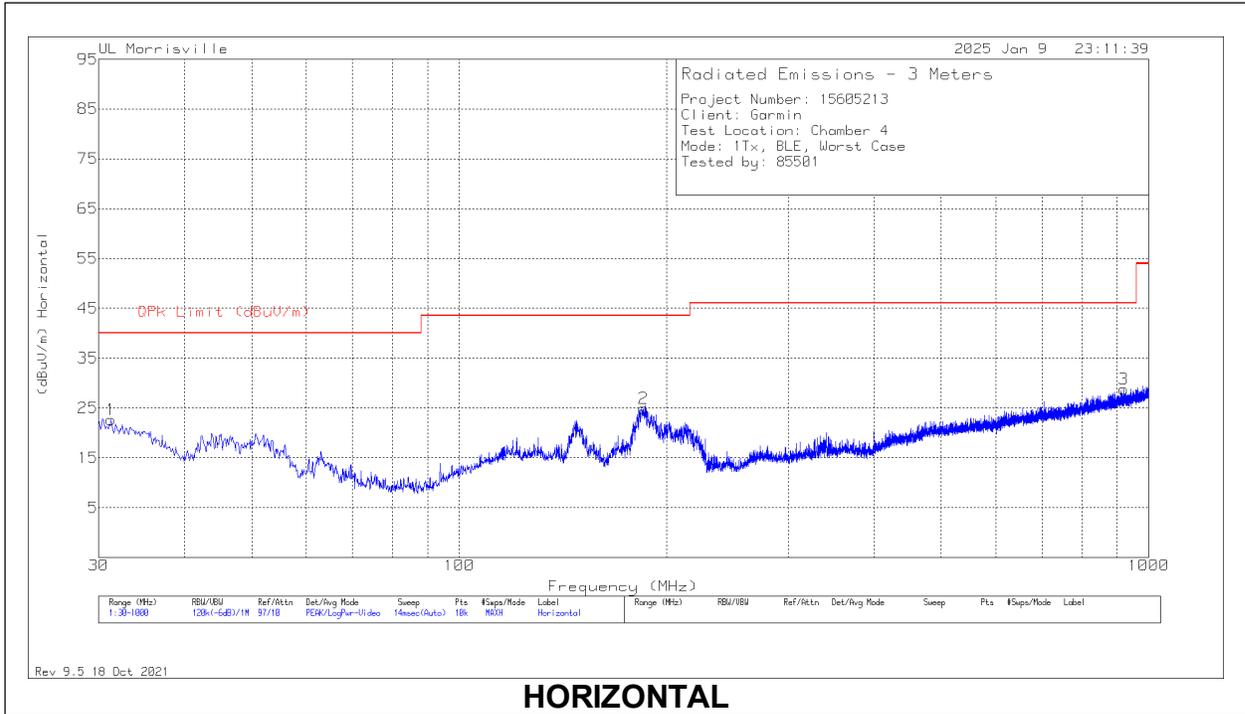
VERTICAL

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90628 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	35.044	31.36	Pk	23.5	-32.1	22.76	40	-17.24	0-360	300	H
6	35.82	42.76	Pk	23	-32.1	33.66	40	-6.34	0-360	100	V
7	48.148	46.41	Qp	14.8	-31.9	29.31	40	-10.69	117	103	V
2	42.513	35.18	Pk	18.2	-32	21.38	40	-18.62	0-360	100	H
8	47.848	50.19	Pk	15	-31.9	33.29	40	-6.71	0-360	100	V
9	181.417	40.56	Pk	17.2	-30.9	26.86	43.52	-16.66	0-360	100	V
3	182.969	37.45	Pk	17.1	-30.8	23.75	43.52	-19.77	0-360	100	H
4	214.106	36.06	Pk	16.6	-30.7	21.96	43.52	-21.56	0-360	100	H
10	913.864	25.76	Pk	28.4	-27.1	27.06	46.02	-18.96	0-360	100	V
5	939.084	25.61	Pk	28.6	-26.8	27.41	46.02	-18.61	0-360	200	H

Pk - Peak detector

Qp - Quasi-Peak detector

10.3.3. BLE

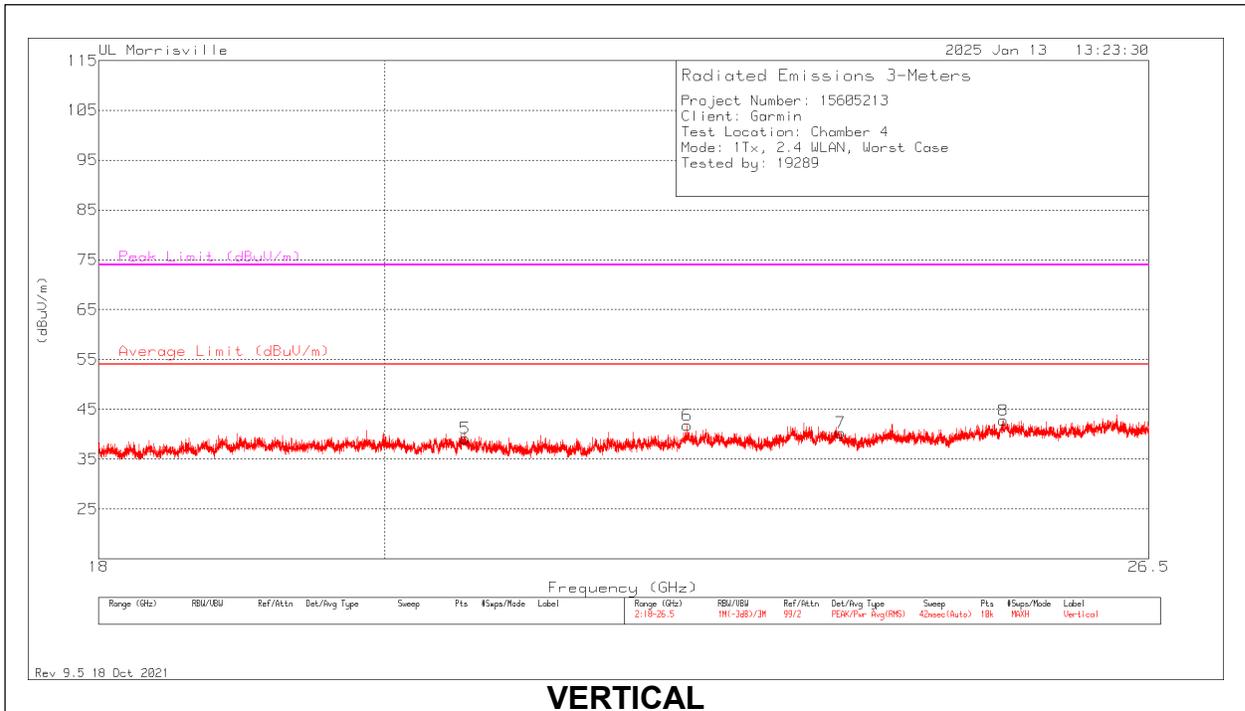
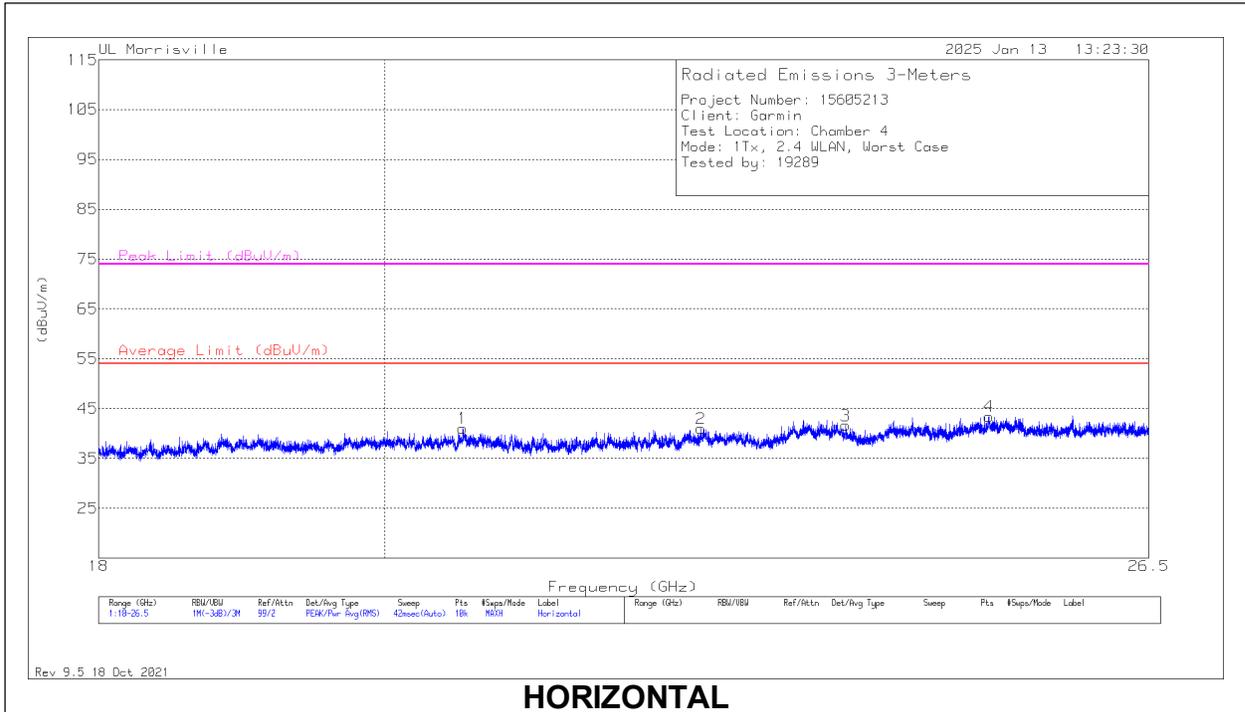


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90628 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.261	28.75	Pk	26	-32.1	22.65	40	-17.35	0-360	100	H
4	50.952	51.92	Pk	13.9	-31.9	33.92	40	-6.08	0-360	100	V
5	181.805	40.7	Pk	17.2	-30.9	27	43.52	-16.52	0-360	100	V
2	184.909	38.56	Pk	17.1	-30.8	24.86	43.52	-18.66	0-360	200	H
3	919.684	27.42	Pk	28.4	-27	28.82	46.02	-17.2	0-360	300	H
6	926.668	28.24	Pk	28.5	-27	29.74	46.02	-16.28	0-360	200	V

Pk - Peak detector

10.4. WORST CASE SPURIOUS 18-26 GHZ

10.4.1. 2.4 WLAN



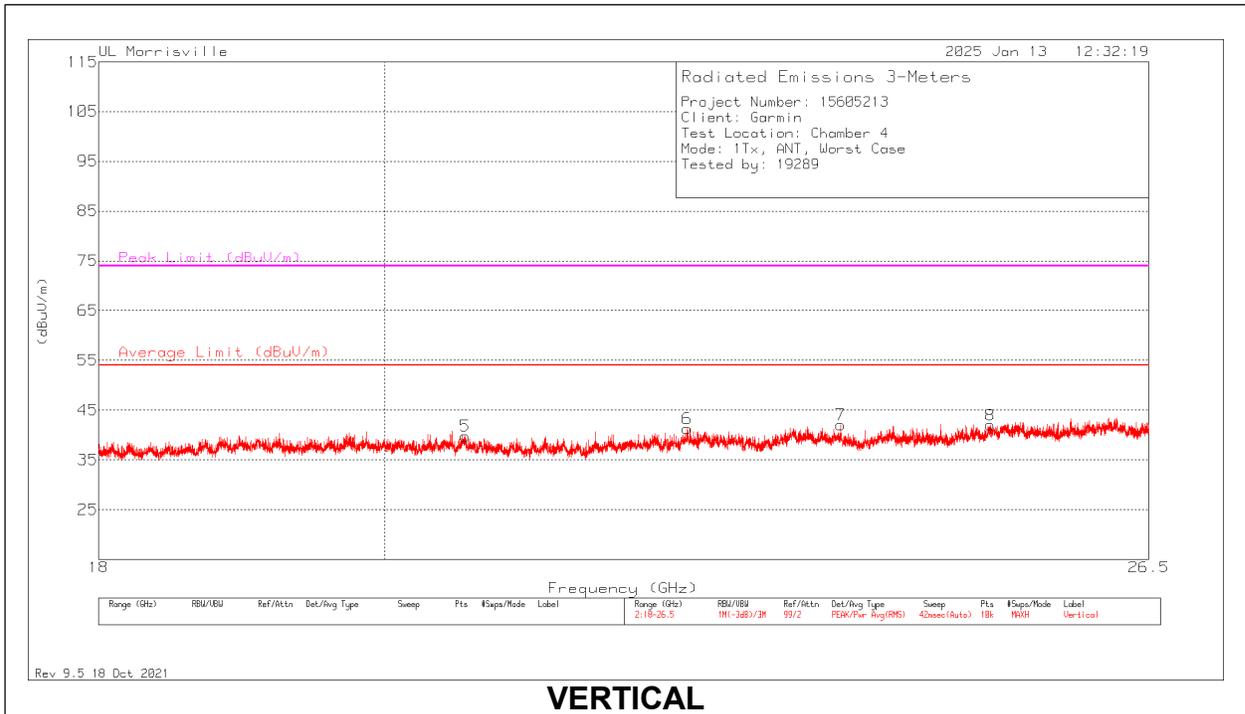
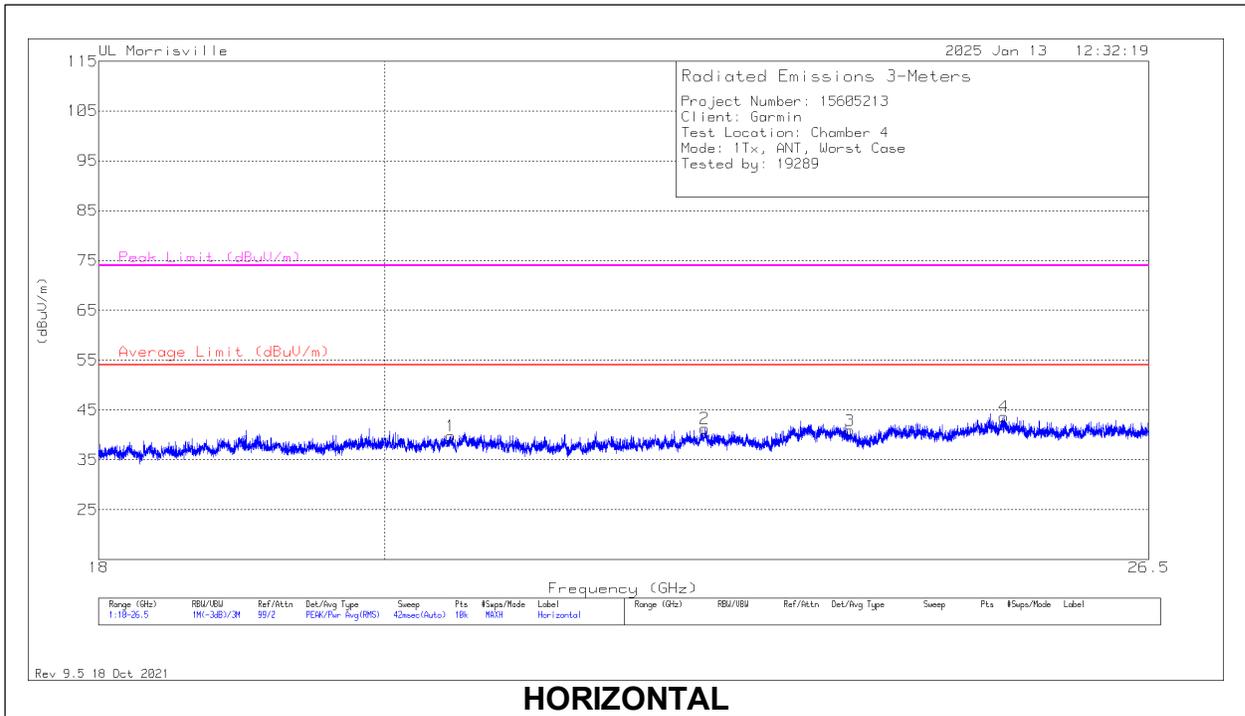
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 20.58204	47.83	Pk	33.7	-40.5	41.03	54	-12.97	74	-32.97	0-360	150	H
2	*** 22.46885	46.27	Pk	34.2	-39.5	40.97	54	-13.03	74	-33.03	0-360	150	H
3	*** 23.69868	45.39	Pk	34.5	-38.3	41.59	54	-12.41	74	-32.41	0-360	100	H
5	*** 20.60244	46	Pk	33.7	-40.5	39.2	54	-14.8	74	-34.8	0-360	250	V
6	*** 22.35921	47.65	Pk	34.1	-40	41.75	54	-12.25	74	-32.25	0-360	150	V
7	*** 23.65703	44.28	Pk	34.5	-38.5	40.28	54	-13.72	74	-33.72	0-360	250	V
4	24.98375	44.17	Pk	35.3	-36.1	43.37	-	-	-	-	0-360	100	H
8	25.11804	43.83	Pk	35.6	-36.7	42.73	-	-	-	-	0-360	300	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.4.2. ANT/ANT+



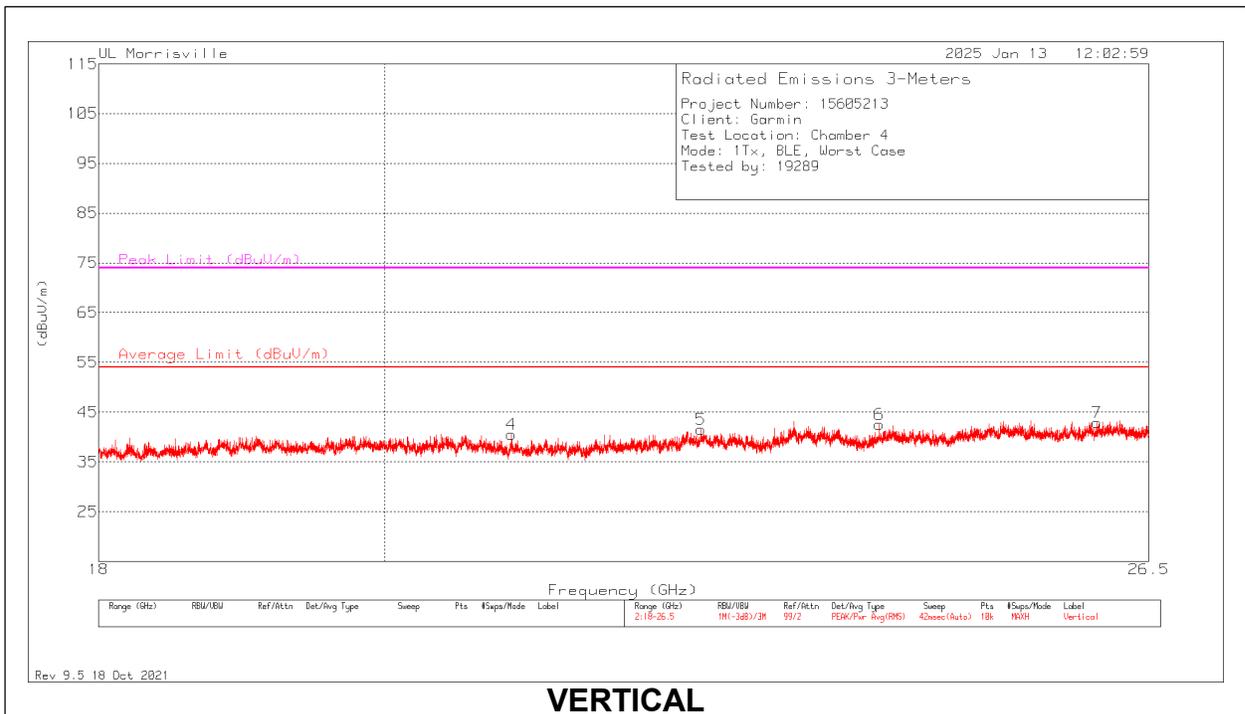
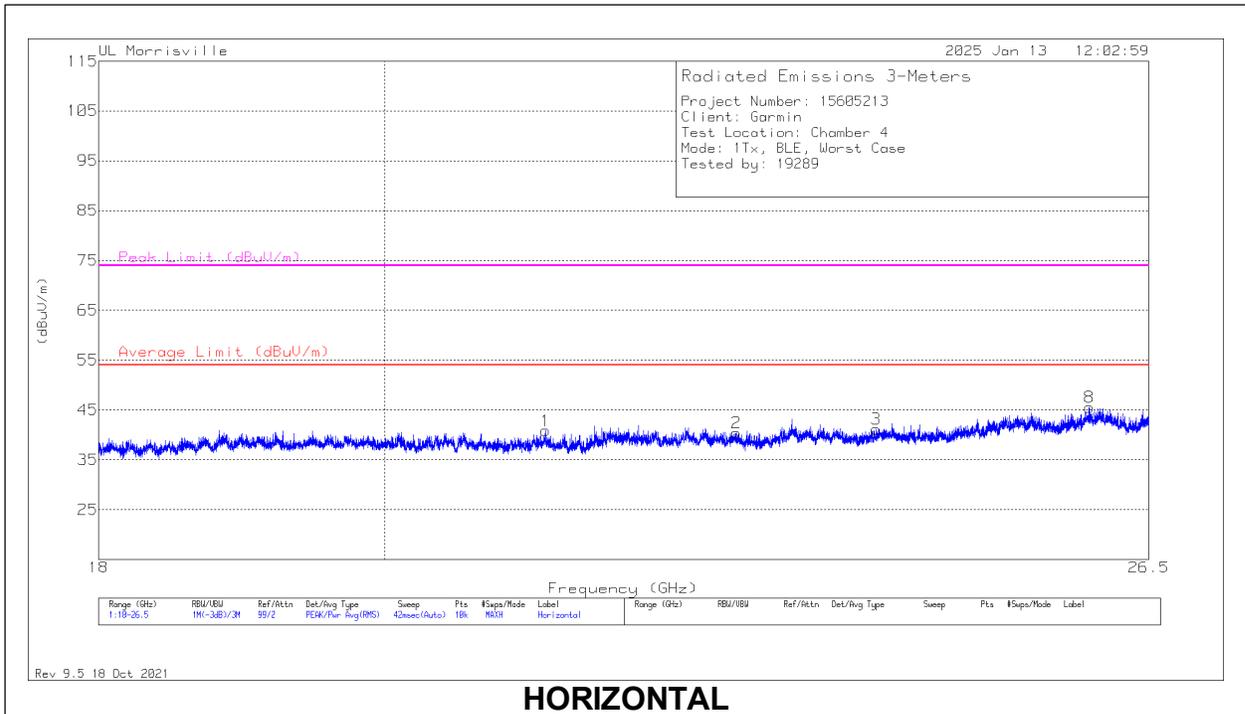
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 20.4945	46.79	Pk	33.7	-40.7	39.79	54	-14.21	74	-34.21	0-360	250	H
2	*** 22.50115	46.64	Pk	34.2	-39.6	41.24	54	-12.76	74	-32.76	0-360	250	H
3	*** 23.73863	44.75	Pk	34.5	-38.4	40.85	54	-13.15	74	-33.15	0-360	100	H
5	*** 20.60074	46.42	Pk	33.7	-40.3	39.82	54	-14.18	74	-34.18	0-360	250	V
6	*** 22.35496	47.16	Pk	34.1	-40	41.26	54	-12.74	74	-32.74	0-360	300	V
7	*** 23.65448	46.12	Pk	34.5	-38.6	42.02	54	-11.98	74	-31.98	0-360	150	V
8	24.99565	43.27	Pk	35.3	-36.6	41.97	-	-	-	-	0-360	250	V
-	25.12654	44.61	Pk	35.6	-36.6	43.61	-	-	-	-	0-360	100	H

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.4.3. BLE



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 21.22203	47.74	Pk	33.6	-40.5	40.84	54	-13.16	74	-33.16	0-360	100	H
2	*** 22.76547	46.21	Pk	34.1	-39.9	40.41	54	-13.59	74	-33.59	0-360	200	H
3	*** 23.96725	44.91	Pk	34.5	-38.3	41.11	54	-12.89	74	-32.89	0-360	150	H
4	*** 20.9543	47.34	Pk	33.5	-40.3	40.54	54	-13.46	74	-33.46	0-360	200	V
5	*** 22.47225	46.93	Pk	34.2	-39.6	41.53	54	-12.47	74	-32.47	0-360	300	V
6	*** 23.997	45.61	Pk	34.5	-37.6	42.51	54	-11.49	74	-31.49	0-360	200	V
8	25.92971	45.83	Pk	35.3	-35.6	45.53	-	-	-	-	0-360	100	H
7	25.9977	43.66	Pk	35.3	-36.1	42.86	-	-	-	-	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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.

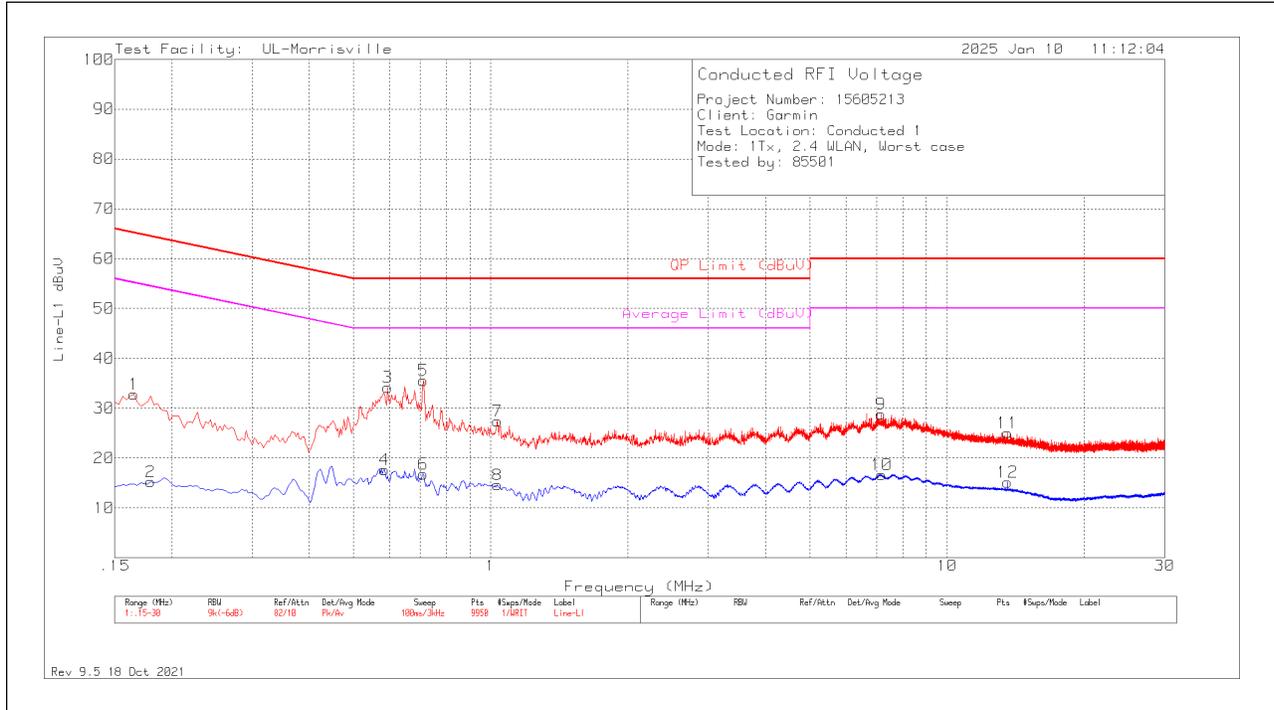
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both lines.

11.1. AC POWER LINE

11.1.1. 2.4 WLAN

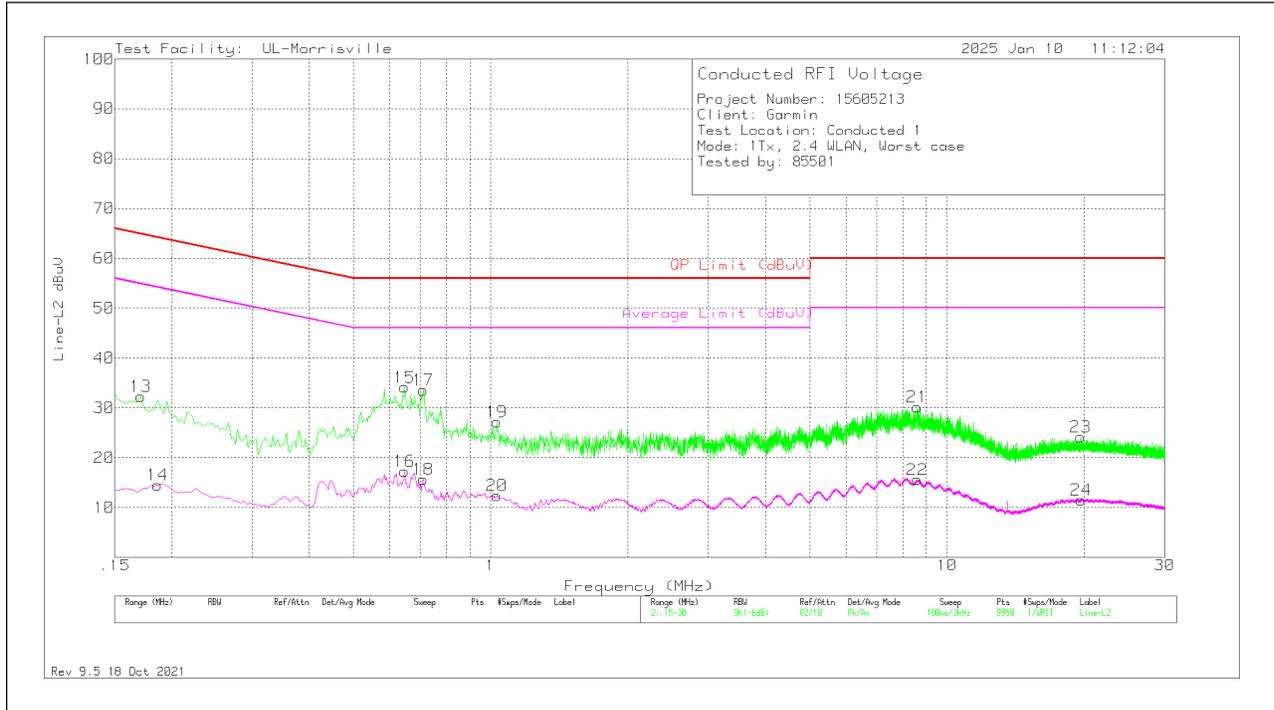
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.165	22.77	Pk	.2	9.8	32.77	65.21	-32.44	-	-
2	.18	5.21	Av	.2	9.8	15.21	-	-	54.49	-39.28
4	.585	7.84	Av	0	9.8	17.64	-	-	46	-28.36
3	.594	24.33	Pk	0	9.8	34.13	56	-21.87	-	-
5	.711	25.75	Pk	0	9.8	35.55	56	-20.45	-	-
6	.711	7	Av	0	9.8	16.8	-	-	46	-29.2
7	1.035	17.62	Pk	0	9.8	27.42	56	-28.58	-	-
8	1.035	4.78	Av	0	9.8	14.58	-	-	46	-31.42
9	7.17	18.81	Pk	.1	9.9	28.81	60	-31.19	-	-
10	7.179	6.69	Av	.1	9.9	16.69	-	-	50	-33.31
11	13.563	14.98	Pk	.1	10	25.08	60	-34.92	-	-
12	13.563	5.06	Av	.1	10	15.16	-	-	50	-34.84

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS

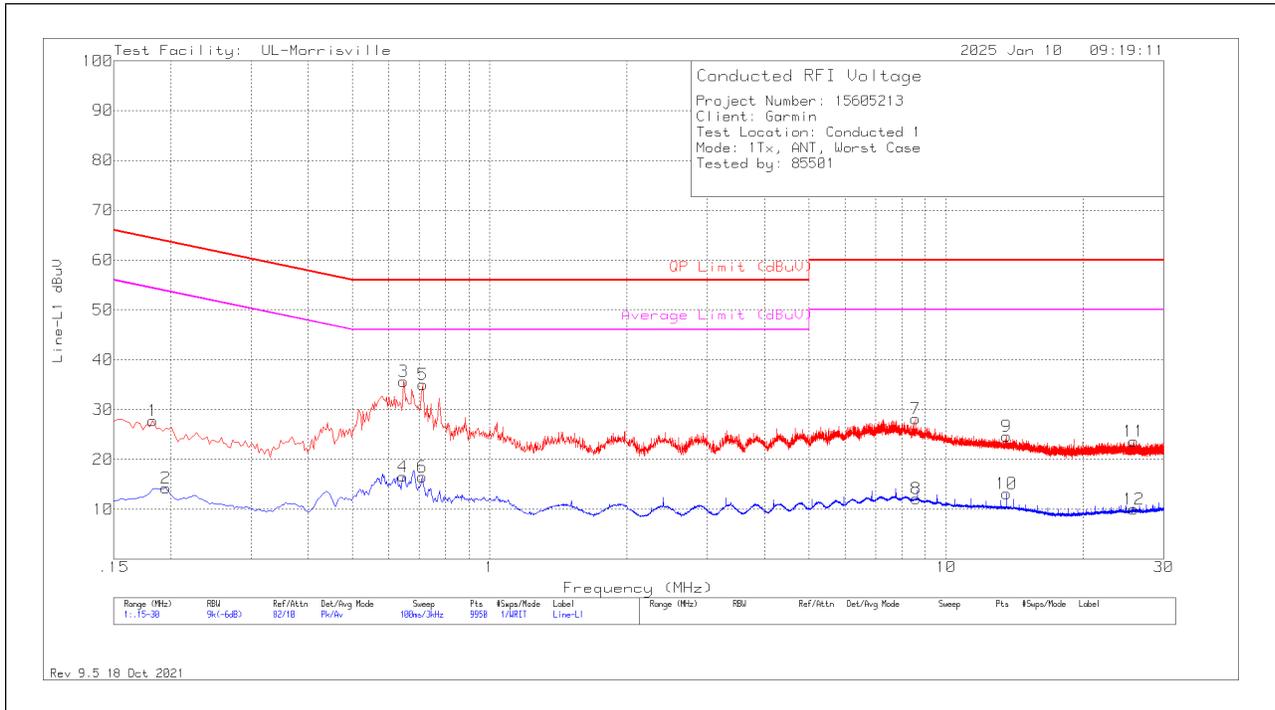


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.171	22.26	Pk	.2	9.8	32.26	64.91	-32.65	-	-
14	.186	4.49	Av	.2	9.8	14.49	-	-	54.21	-39.72
15	.648	24.3	Pk	0	9.8	34.1	56	-21.9	-	-
16	.648	7.43	Av	0	9.8	17.23	-	-	46	-28.77
17	.711	23.78	Pk	0	9.8	33.58	56	-22.42	-	-
18	.711	5.87	Av	0	9.8	15.67	-	-	46	-30.33
19	1.032	17.4	Pk	0	9.8	27.2	56	-28.8	-	-
20	1.032	2.63	Av	0	9.8	12.43	-	-	46	-33.57
21	8.589	20.1	Pk	.1	10	30.2	60	-29.8	-	-
22	8.598	5.48	Av	.1	10	15.58	-	-	50	-34.42
23	19.638	13.85	Pk	.2	10.1	24.15	60	-35.85	-	-
24	19.65	1.24	Av	.2	10.1	11.54	-	-	50	-38.46

Pk - Peak detector
 Av - Average detection

11.1.2. ANT/ANT+

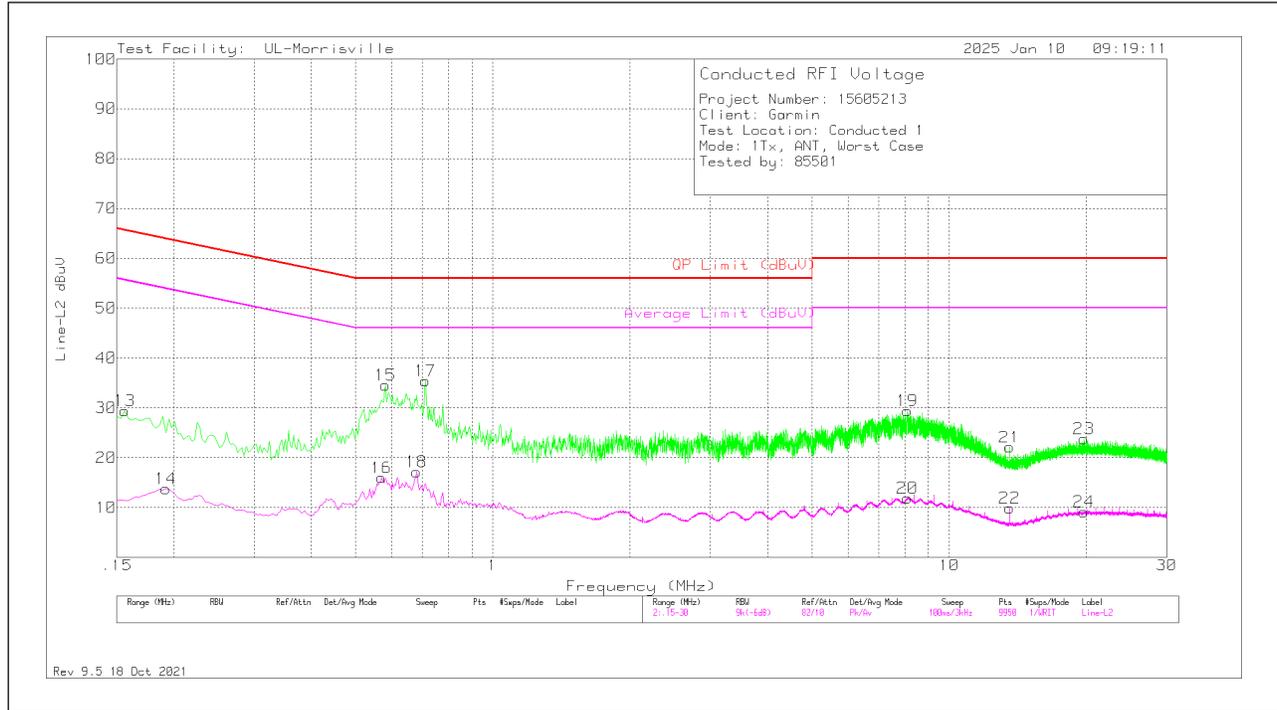
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.183	17.8	Pk	.2	9.8	27.8	64.35	-36.55	-	-
2	.195	4.27	Av	.2	9.8	14.27	-	-	53.82	-39.55
4	.645	6.77	Av	0	9.8	16.57	-	-	46	-29.43
3	.648	25.89	Pk	0	9.8	35.69	56	-20.31	-	-
6	.711	6.72	Av	0	9.8	16.52	-	-	46	-29.48
5	.714	25.29	Pk	0	9.8	35.09	56	-20.91	-	-
7	8.58	18.08	Pk	.1	10	28.18	60	-31.82	-	-
8	8.589	2.07	Av	.1	10	12.17	-	-	50	-37.83
9	13.557	14.53	Pk	.1	10	24.63	60	-35.37	-	-
10	13.56	3.02	Av	.1	10	13.12	-	-	50	-36.88
12	25.785	-.62	Av	.4	10.2	9.98	-	-	50	-40.02
11	25.815	13.07	Pk	.4	10.2	23.67	60	-36.33	-	-

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS

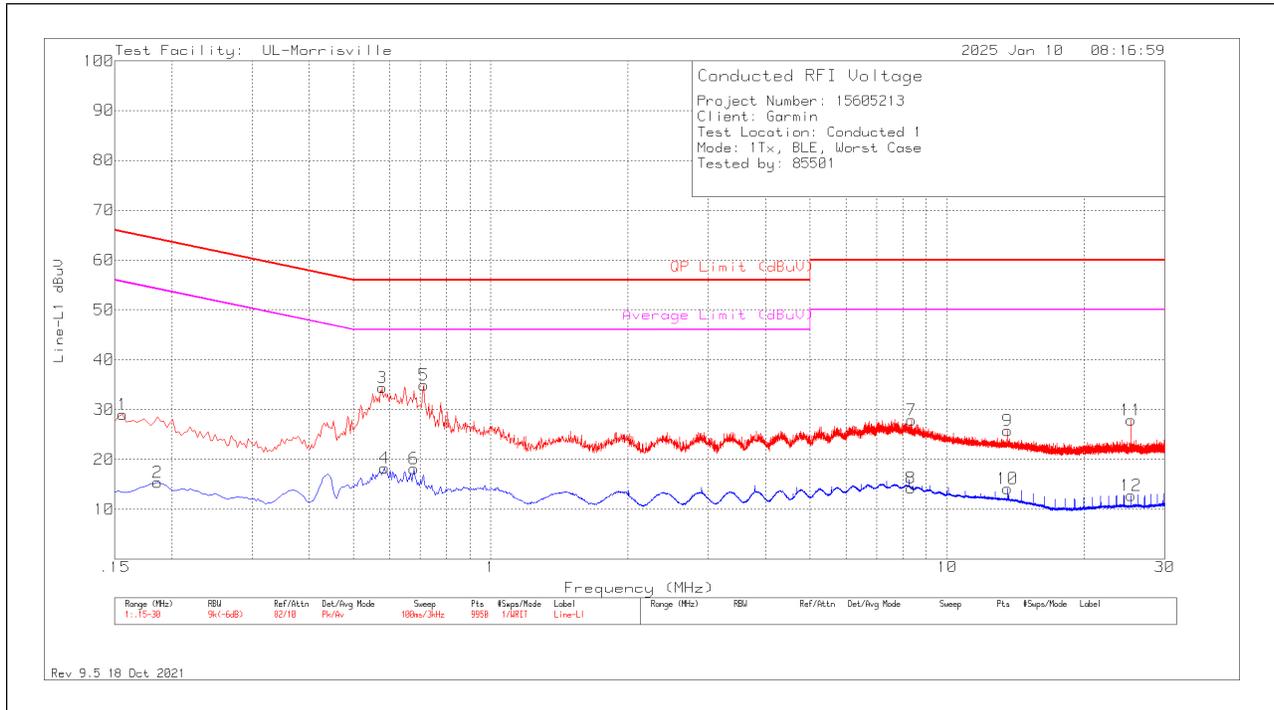


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.156	19.4	Pk	.2	9.8	29.4	65.67	-36.27	-	-
14	.192	3.72	Av	.2	9.8	13.72	-	-	53.95	-40.23
16	.57	6.16	Av	0	9.8	15.96	-	-	46	-30.04
15	.582	24.75	Pk	0	9.8	34.55	56	-21.45	-	-
18	.681	7.34	Av	0	9.8	17.14	-	-	46	-28.86
17	.711	25.58	Pk	0	9.8	35.38	56	-20.62	-	-
20	8.094	1.83	Av	.1	10	11.93	-	-	50	-38.07
19	8.112	19.3	Pk	.1	10	29.4	60	-30.6	-	-
22	13.56	-2.24	Av	.1	10	9.86	-	-	50	-40.14
21	13.563	11.99	Pk	.1	10	22.09	60	-37.91	-	-
24	19.713	-1.21	Av	.2	10.1	9.09	-	-	50	-40.91
23	19.743	13.51	Pk	.2	10.1	23.81	60	-36.19	-	-

Pk - Peak detector
 Av - Average detection

11.1.3. BLE

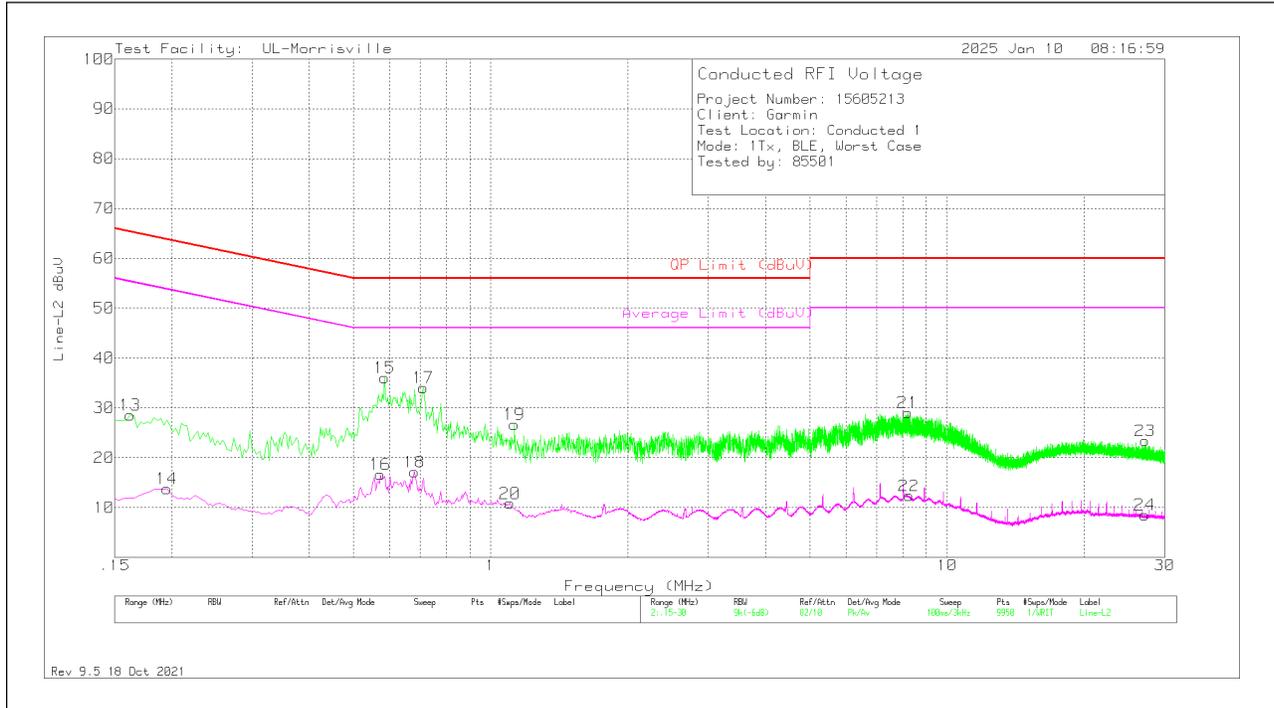
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	19.05	Pk	.2	9.8	29.05	65.67	-36.62	-	-
2	.186	5.44	Av	.2	9.8	15.44	-	-	54.21	-38.77
3	.579	24.65	Pk	0	9.8	34.45	56	-21.55	-	-
4	.585	8.52	Av	0	9.8	18.32	-	-	46	-27.68
6	.678	8.32	Av	0	9.8	18.12	-	-	46	-27.88
5	.714	25.15	Pk	0	9.8	34.95	56	-21.05	-	-
8	8.337	4.21	Av	.1	10	14.31	-	-	50	-35.69
7	8.358	17.8	Pk	.1	10	27.9	60	-32.1	-	-
9	13.56	15.66	Pk	.1	10	25.76	60	-34.24	-	-
10	13.563	4	Av	.1	10	14.1	-	-	50	-35.9
11	25.284	17.26	Pk	.4	10.2	27.86	60	-32.14	-	-
12	25.296	2.15	Av	.4	10.2	12.75	-	-	50	-37.25

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.162	18.58	Pk	.2	9.8	28.58	65.36	-36.78	-	-
14	.195	3.79	Av	.2	9.8	13.79	-	-	53.82	-40.03
16	.573	6.8	Av	0	9.8	16.6	-	-	46	-29.4
15	.585	26.22	Pk	0	9.8	36.02	56	-19.98	-	-
18	.681	7.29	Av	0	9.8	17.09	-	-	46	-28.91
17	.711	24.27	Pk	0	9.8	34.07	56	-21.93	-	-
20	1.101	1.02	Av	0	9.8	10.82	-	-	46	-35.18
19	1.128	16.89	Pk	0	9.8	26.69	56	-29.31	-	-
21	8.214	18.95	Pk	.1	10	29.05	60	-30.95	-	-
22	8.244	2.23	Av	.1	10	12.33	-	-	50	-37.67
24	27.15	-2.11	Av	.4	10.2	8.49	-	-	50	-41.51
23	27.165	12.75	Pk	.4	10.2	23.35	60	-36.65	-	-

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

Please refer to R15605213-EP4 for setup photos

END OF TEST REPORT

TEST REPORT

Report Number: R15605213-E6

Applicant : Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

Model : A04911

FCC ID : IPH-04911

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
2025-04-09

Prepared by:
UL LLC
12 Laboratory Dr.
Research Triangle Park, NC 27709 U.S.A.
TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-04-09	Initial Issue	Chandler Stanley

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Garmin International Inc.
1200 East 151st Street
Olathe, KS 66062-3426, USA

EUT DESCRIPTION: Extremity Worn Digital Transceiver

MODEL: A04911

SERIAL NUMBER: 3497995537, 3497995201

SAMPLE RECEIPT DATE: 2024-12-17

DATE TESTED: 2024-12-26 to 2025-01-15

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Refer to Section 2

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

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

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released
For UL LLC By:



Mike Antola
Sr. Staff Engineer
Consumer, Medical and IT Segment
UL LLC

Prepared By:



Chandler Stanley
Engineer
Consumer, Medical and IT Segment
UL LLC

2. TEST RESULTS SUMMARY

This report contains info provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

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

- 1) Antenna gain and type (see section 6.3)
- 2) Worst-case data rates (see section 6.5)

FCC Clause	Requirement	Result	Comment
See Comment	Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 11.6.
See Comment	20dB BW/99% OBW	Not Performed	See Note 1
15.247 (a)(1)	Hopping Frequency Separation		
15.247 (a)(1)(iii)	Number of Hopping Channels		
15.247 (a)(1)(iii)	Average Time of Occupancy		
15.247 (b)(1)	Output Power		
See Comment	Average Power		
15.247 (d)	Conducted Spurious Emissions		
15.209, 15.205	Radiated Emissions	Compliant	None
15.207	AC Mains Conducted Emissions		

Note 1: This test report covers radiated testing on a depopulated version of a certified product, resulting in a C2PC. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance to the FCC requirements.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC 47 CFR Part 2, FCC 47 CFR Part 15, ANSI C63.10-2020, KDB 558074 D01 15.247 Meas Guidance v05r02, and KDB 414788 D01 Radiated Test Site v01r01.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, 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
<input type="checkbox"/>	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
<input checked="" type="checkbox"/>	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

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	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%
Time	3.39%

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is an extremity worn digital transceiver with BT, BLE, ANT/ANT+, 802.11b/g/n 2.4GHz WLAN, NFC, and Global Navigation Satellite System (GNSS) receiver. This report covers radiated testing on the BT radio.

6.2. MAXIMUM OUTPUT POWER

This test report covers radiated testing on a depopulated version of a certified product, resulting in a C2PC. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance to the FCC requirements, including ensuring the EUT power is never higher than what is declared on the original certification grant.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:
The radio utilizes an antenna with the following type and maximum gain:

Type	Frequency Range (MHz)	Maximum Gain (dBi)
Bezel Antenna	2402-2480	0.84

6.4. SOFTWARE AND FIRMWARE

The software version installed on radiated units during testing was 3.95.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel and mode with the highest average output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, and Z. The worst-case orientation was determined to be the X-orientation; therefore, all testing was performed with the EUT in the X-orientation.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adaptor	Garmin/Phihong	AQ27A-59CFA	N/A	N/A
Laptop	Lenovo	T14	PF4FKVYQ	N/A

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Proprietary	1	USB-C	Shielded	<3m	Program/Charge EUT

TEST SETUP

EUT was configured using its own built-in push buttons prior to testing. For final emissions testing, the EUT was connected to AC mains.

SETUP DIAGRAMS

Please refer to R15605213-EP4 for setup diagrams

7. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Common Equipment					
Conducted Room 1					
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2024-09-23	2025-09-23
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
SOFTEMI	Antenna Port Software	UL	Version 2022.8.16	NA	NA
Attenuators					
226562	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2024-04-11	2025-04-11

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
1-18 GHz					
86408	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-06-19	2025-06-19
Gain-Loss Chains					
91977	Gain-loss string: 1-18GHz	Various	Various	2024-07-17	2025-07-17
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-03-05	2025-03-05
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
200540	Environmental Meter	Fisher Scientific	15-077-963	2023-07-19	2025-07-19

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-02
30-1000 MHz					
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-02	2026-01-02
1-18 GHz					
89509	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-05-23	2025-05-23
18-26.5 GHz					
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-826	2023-07-20	2025-07-20
Gain-Loss Chains					
207638	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-22	2025-05-22
207639	Gain-loss string: 25-1000MHz	Various	Various	2024-05-22	2025-05-22
207640	Gain-loss string: 1-18GHz	Various	Various	2024-05-22	2025-05-22
225795	Gain-loss string: 18-40GHz	Various	Various	2024-05-22	2025-05-22
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-04-16	2025-04-16
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2024-04-04	2025-04-04
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2024-08-01	2025-08-01
70374	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2024-07-30	2025-07-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2024-04-04	2025-04-04
PS216	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Miscellaneous (if needed)					
84681	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2024-04-04	2025-04-04

8. MEASUREMENT METHODS

On Time and Duty Cycle: ANSI C63.10-2020 Section 11.6

Radiated Band-edge: ANSI C63.10-2020 Section 6.10.5

Radiated Spurious Emissions: ANSI C63.10-2020 Sections 6.3 to 6.6 and 7.8.8

AC Power Line Conducted Emissions: ANSI C63.10-2020, Section 6.2.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

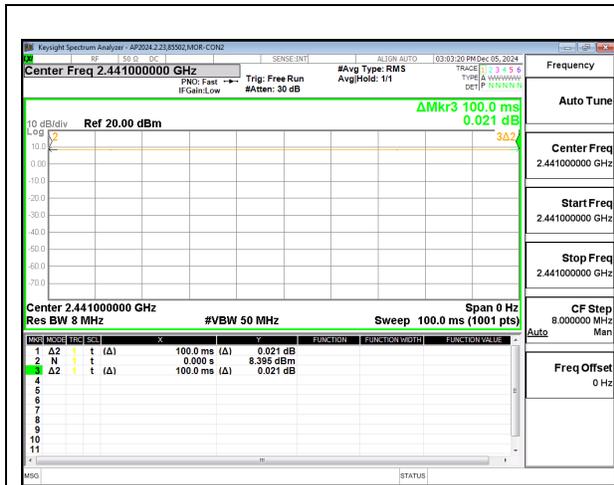
LIMITS

None; for reporting purposes only.

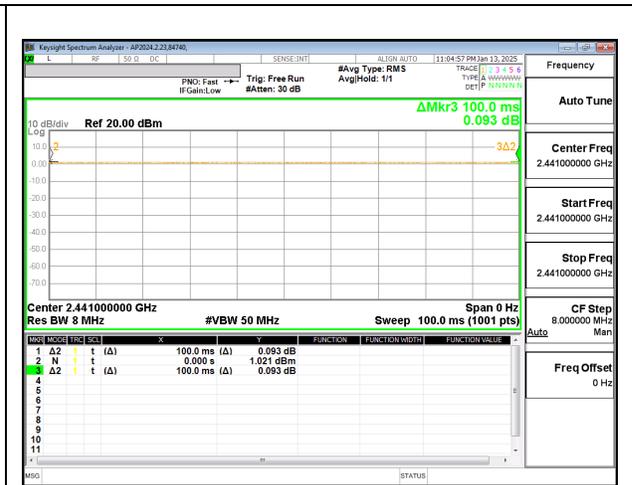
PROCEDURE

ANSI C63.10, Section 11.6: Zero-Span Spectrum Analyzer Method.

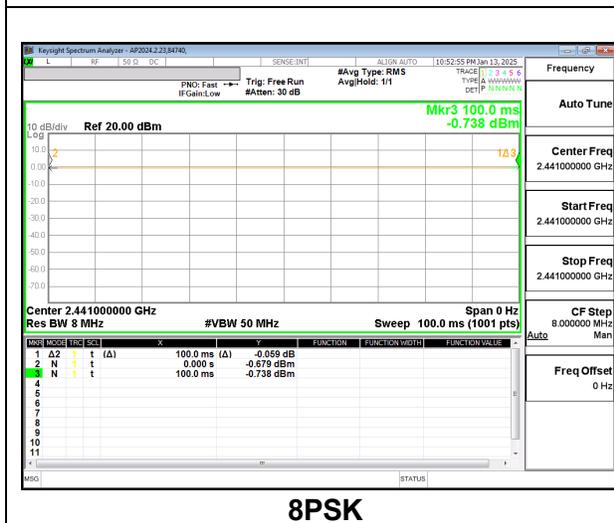
Mode	ON Time B (ms)	Period (ms)	Duty Cycle x (lineari)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
GFSK	100.00	100.00	1.000	100.00	0.00	0.010
QPSK	100.00	100.00	1.000	100.00	0.00	0.010
8PSK	100.00	100.00	1.000	100.00	0.00	0.010



GFSK



QPSK



8PSK

Intentionally Left Blank

10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements 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 3MHz 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. Reduced VBW method of averaging was used of 1/Ton where Ton = on time of the signal. For this testing, the on time was approximately 2.9 ms which yields a minimum VBW of 345 Hz.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

3D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

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

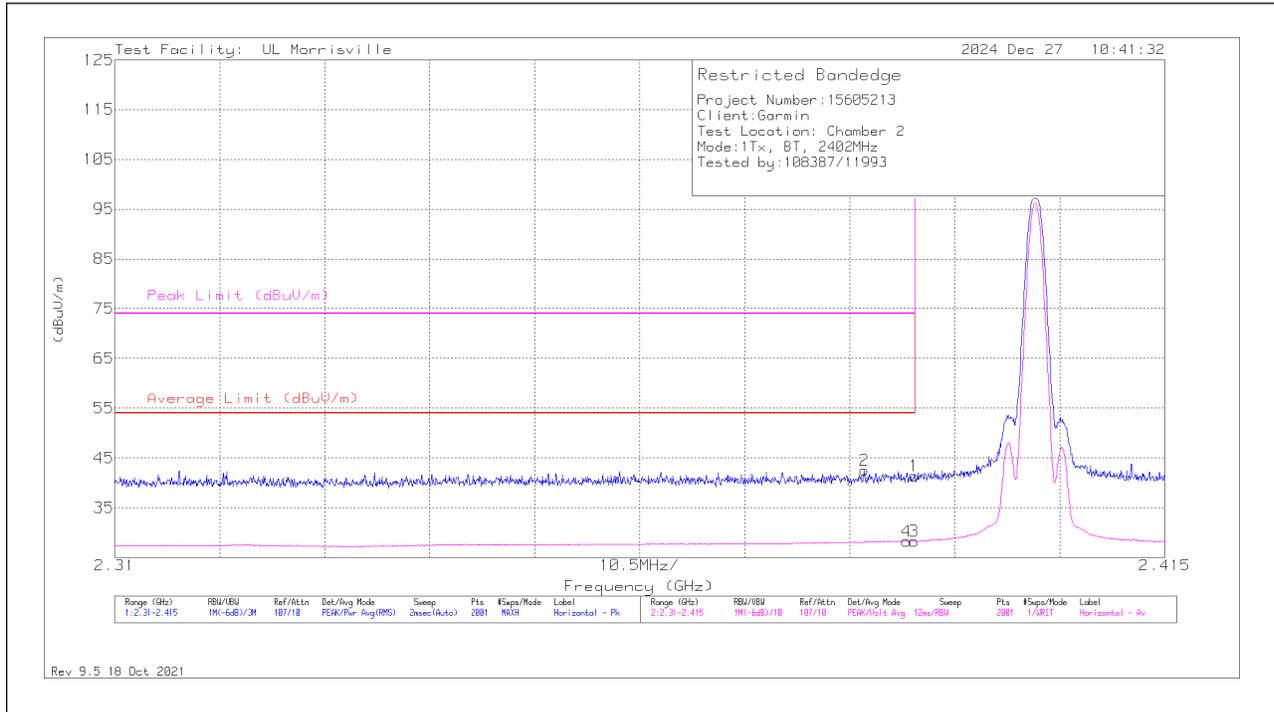
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

BANDEDGE (LOW CHANNEL)

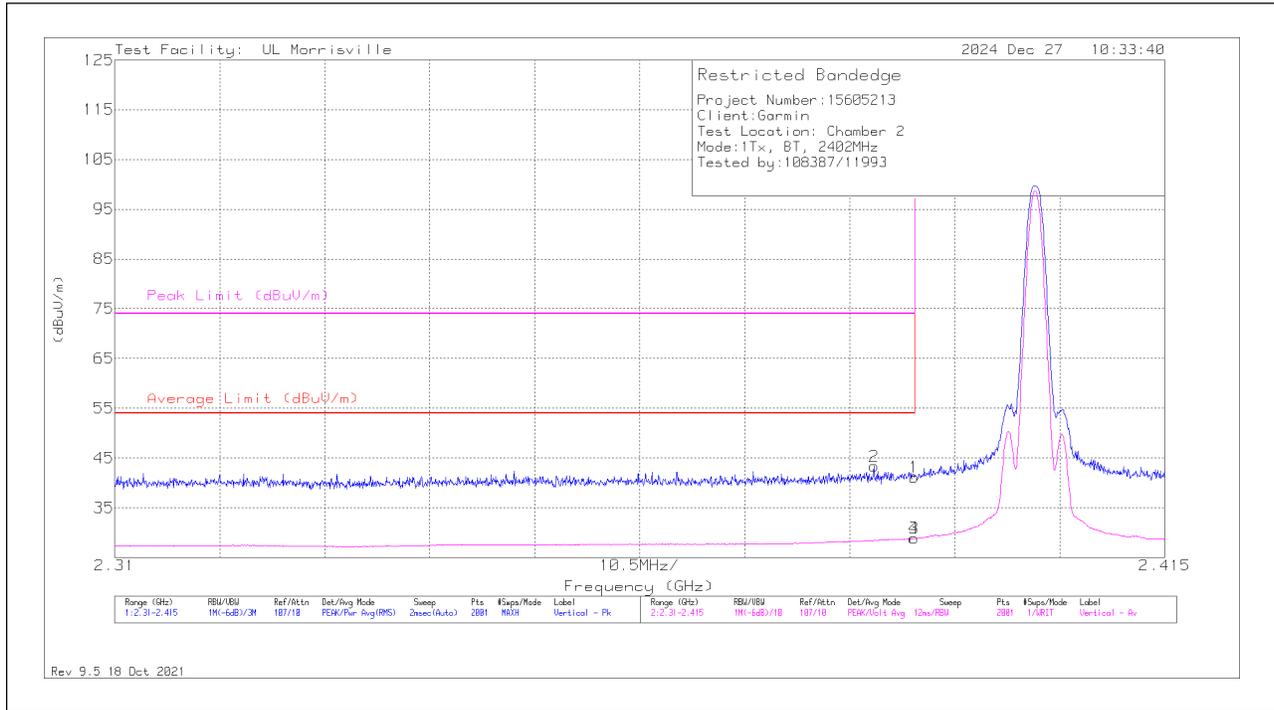
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	32.71	Pk	32.3	-23.6	41.41	54	-12.59	74	-32.59	231	103	H
2	*** 2.38497	33.81	Pk	32.2	-23.5	42.51	54	-11.49	74	-31.49	231	103	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

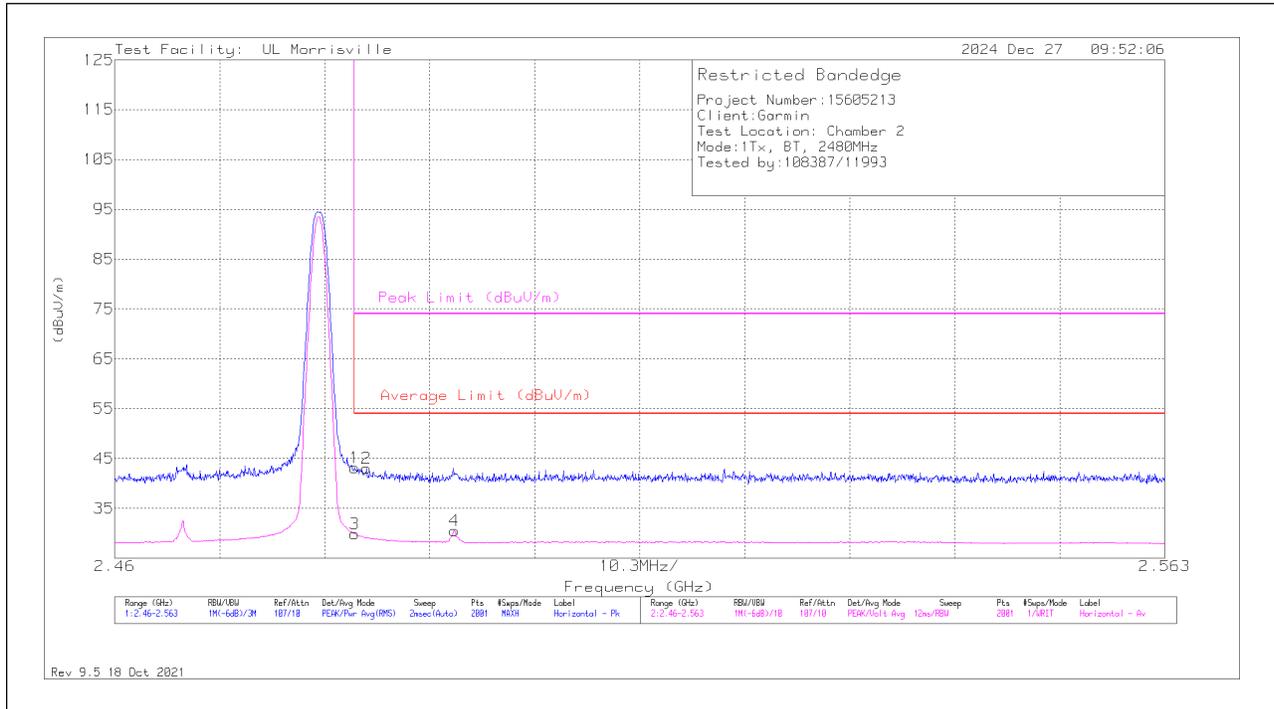


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	32.42	Pk	32.3	-23.6	41.12	54	-12.88	74	-32.88	331	134	V
2	*** 2.38592	34.53	Pk	32.2	-23.4	43.33	54	-10.67	74	-30.67	331	134	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

BANDEDGE (HIGH CHANNEL)

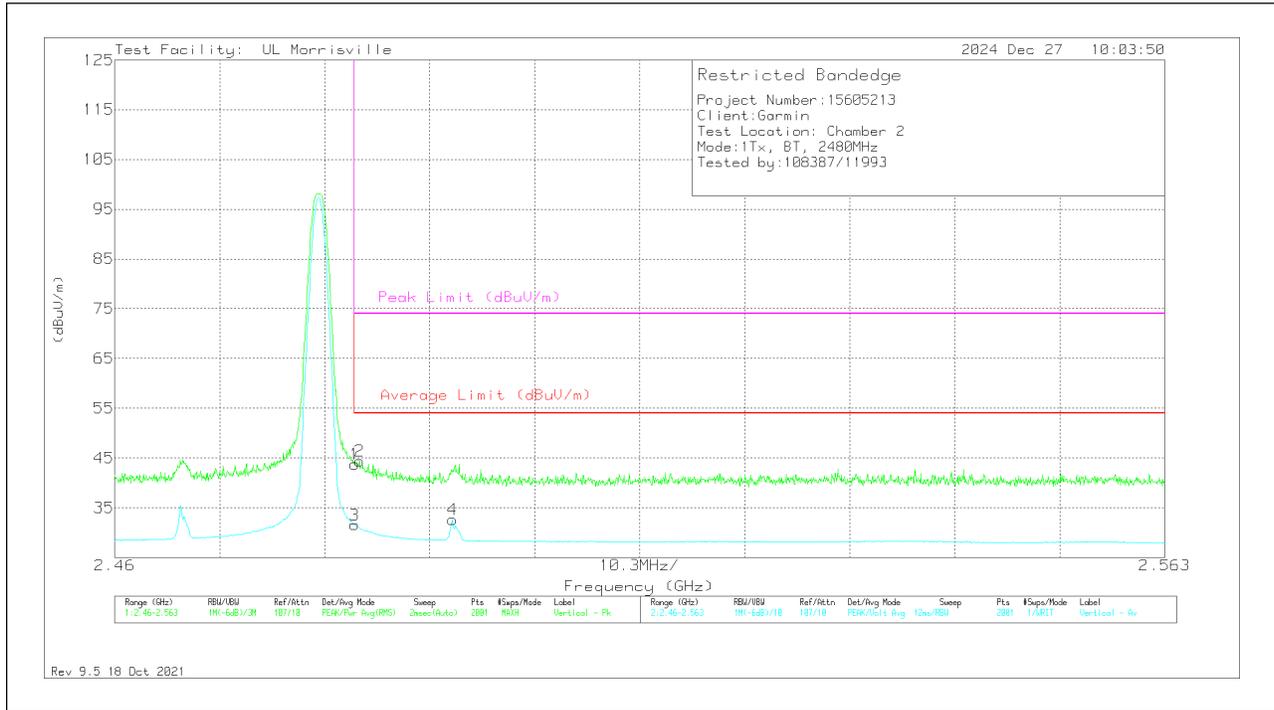
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	34.73	Pk	32.5	-24.1	43.13	54	-10.87	74	-30.87	238	116	H
2	* ** 2.48472	34.73	Pk	32.5	-24.2	43.03	54	-10.97	74	-30.97	238	116	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

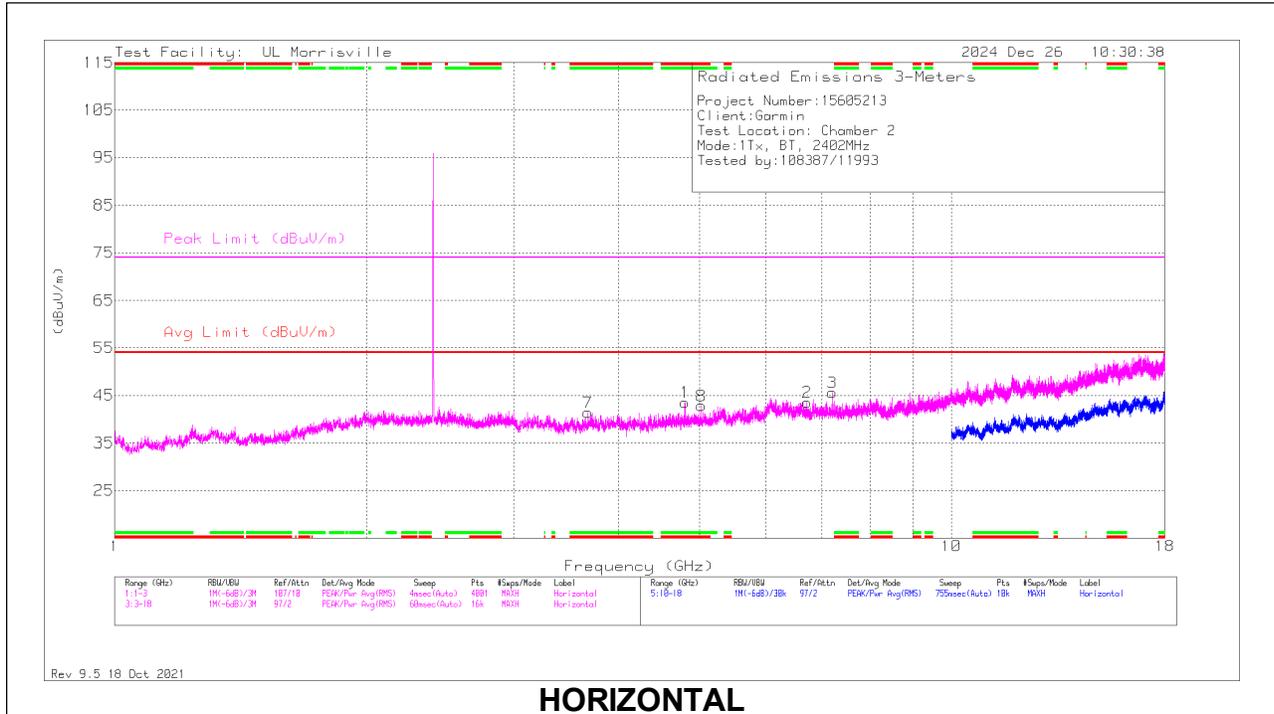


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	35.34	Pk	32.5	-24.1	43.74	54	-10.26	74	-30.26	339	103	V
2	* ** 2.484	36.14	Pk	32.5	-24.2	44.44	54	-9.56	74	-29.56	339	103	V

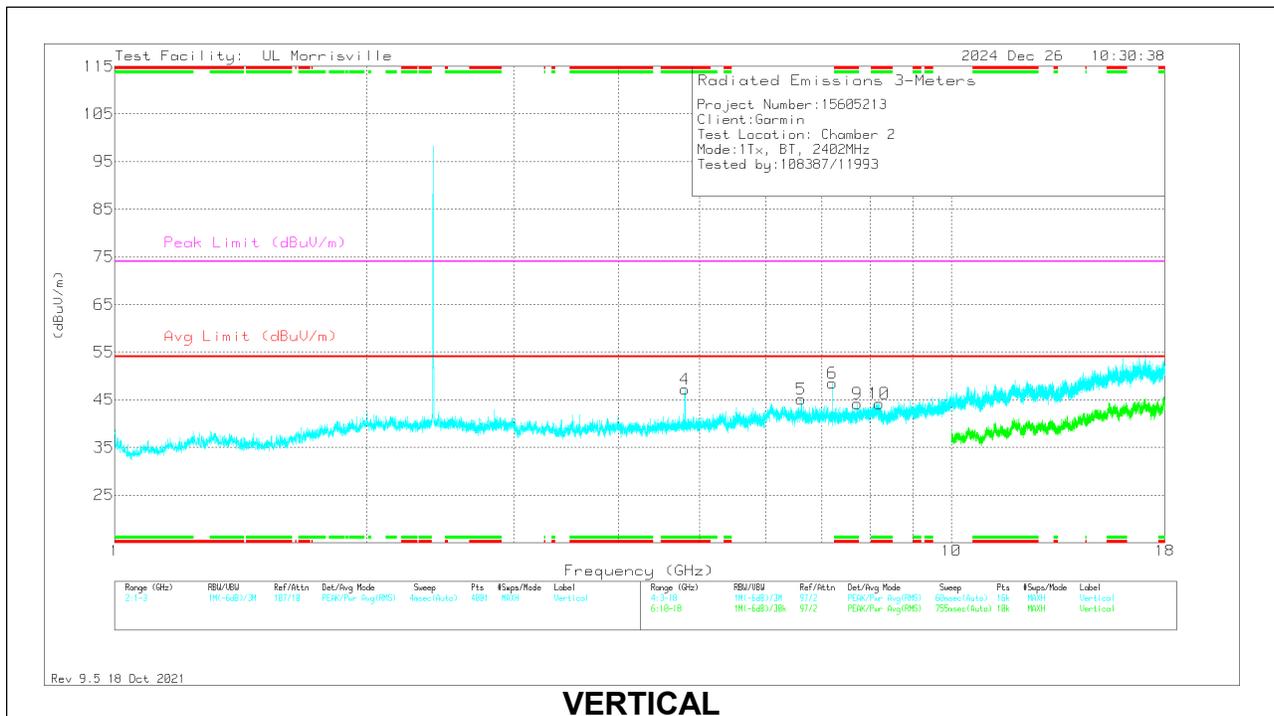
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

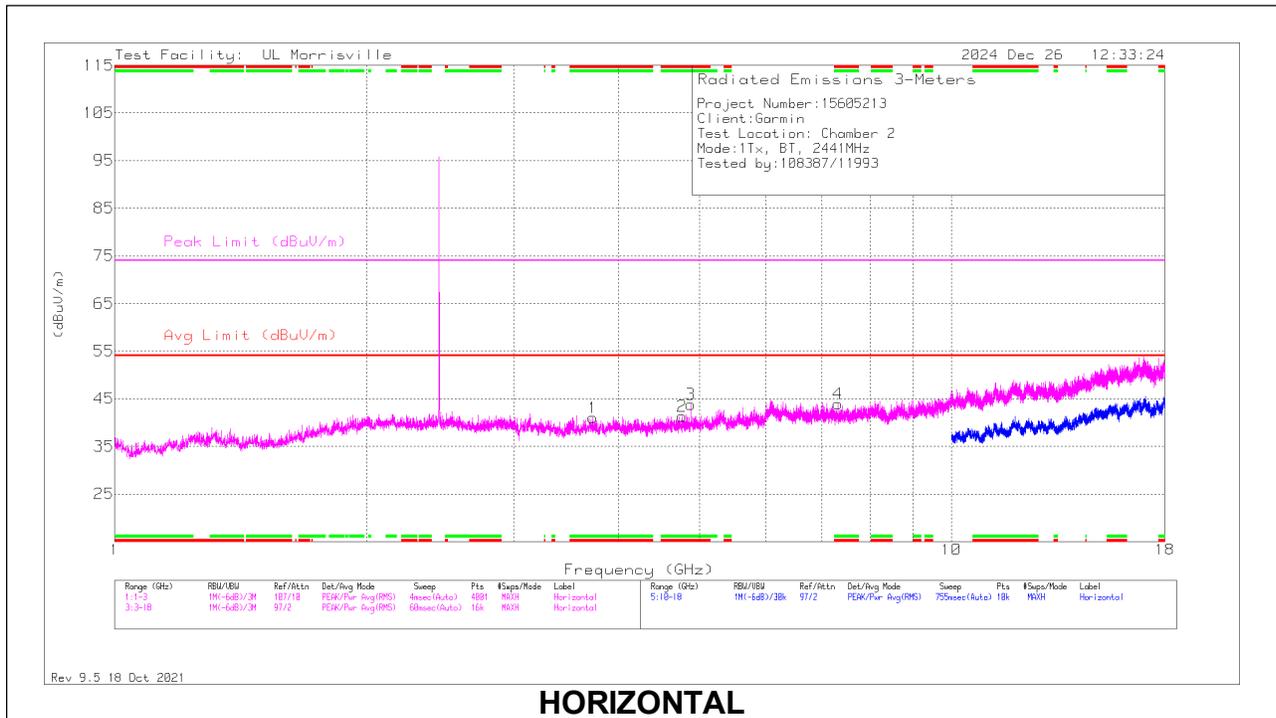
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.80375	53.25	Pk	34.2	-43.9	43.55	54	-10.45	74	-30.45	0-360	101	H
7	*** 3.67969	52.78	Pk	33.1	-44.5	41.38	54	-12.62	74	-32.62	0-360	101	H
8	*** 5.02781	52.11	Pk	34.1	-43.4	42.81	54	-11.19	74	-31.19	0-360	101	H
4	*** 4.80375	56.92	Pk	34.2	-43.9	47.22	54	-6.78	74	-26.78	0-360	101	V
9	*** 7.71563	49.42	Pk	35.7	-40.9	44.22	54	-9.78	74	-29.78	0-360	101	V
10	*** 8.20219	49.27	Pk	35.8	-40.9	44.17	54	-9.83	74	-29.83	0-360	200	V
5	6.61594	50.06	Pk	35.6	-40.6	45.06					0-360	200	V
2	6.72469	49.88	Pk	35.6	-41.9	43.58					0-360	199	H
3	7.20563	51.67	Pk	35.6	-41.7	45.57					0-360	101	H
6	7.20563	54.63	Pk	35.6	-41.7	48.53					0-360	101	V

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

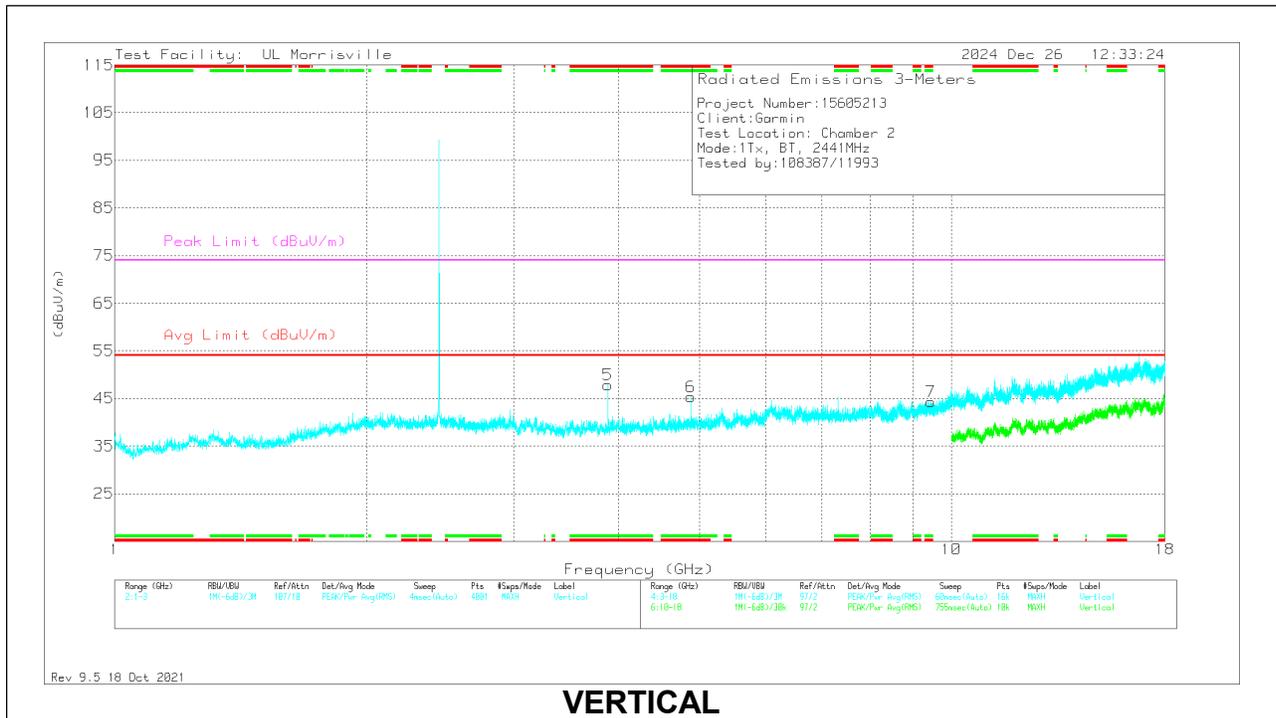
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.73125	52.18	Pk	33.2	-44.4	40.98	54	-13.02	74	-33.02	0-360	200	H
2	*** 4.76719	51.06	Pk	34.2	-44	41.26	54	-12.74	74	-32.74	0-360	101	H
3	*** 4.8825	53.38	Pk	34.1	-43.7	43.78	54	-10.22	74	-30.22	0-360	101	H
4	*** 7.32375	50.11	Pk	35.6	-41.8	43.91	54	-10.09	74	-30.09	0-360	101	H
5	*** 3.88406	58.95	Pk	33.4	-44.5	47.85	54	-6.15	74	-26.15	0-360	101	V
6	*** 4.8825	54.91	Pk	34.1	-43.7	45.31	54	-8.69	74	-28.69	0-360	101	V
7	*** 9.45563	48.37	Pk	36.3	-40.3	44.37	54	-9.63	74	-29.63	0-360	101	V

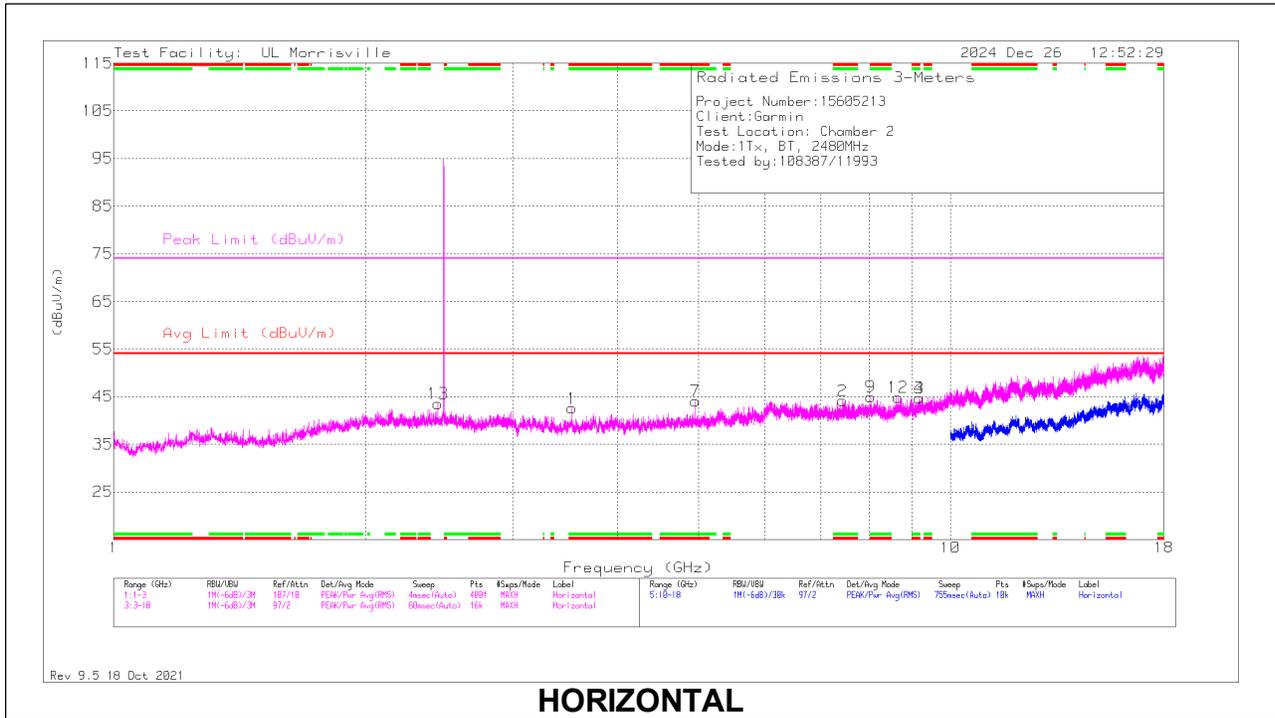
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

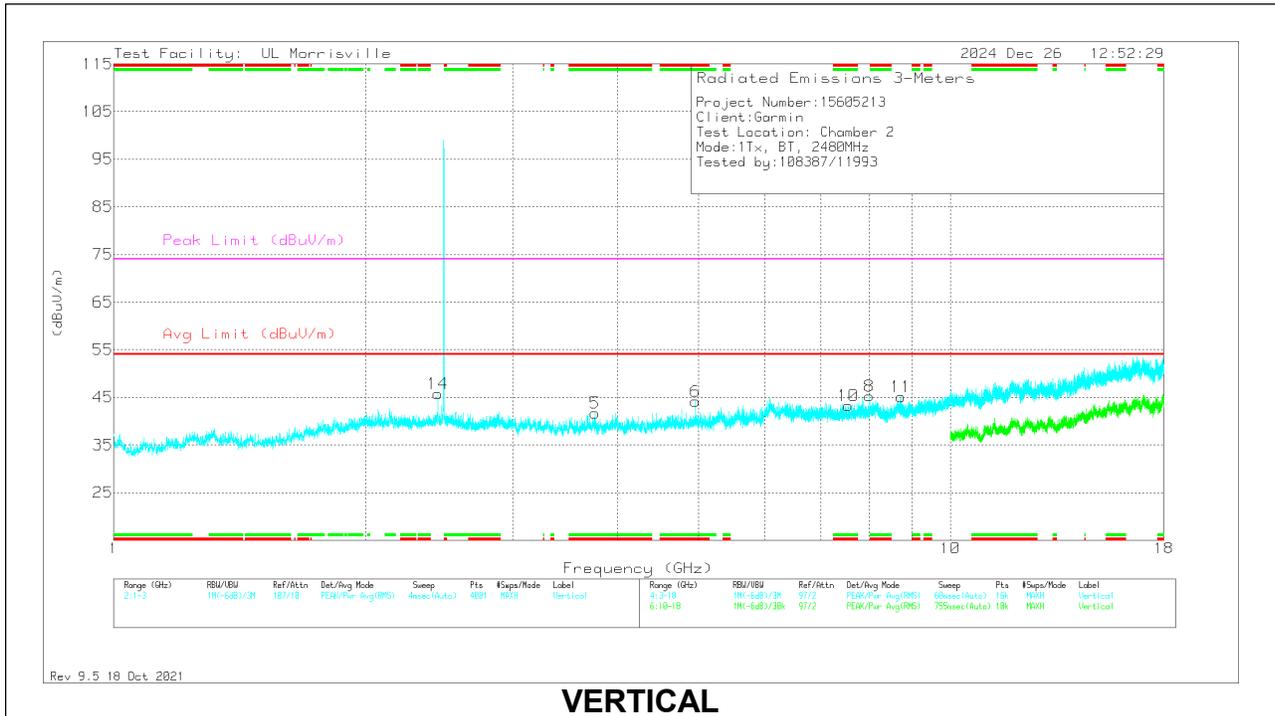
Pk - Peak detector

PK2 - Maximum Peak

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.52875	53.75	Pk	32.8	-44	42.55	54	-11.45	74	-31.45	0-360	200	H
2	*** 7.44094	49.63	Pk	35.6	-41.1	44.13	54	-9.87	74	-29.87	0-360	200	H
3	*** 9.17625	48.24	Pk	36	-39.5	44.74	54	-9.26	74	-29.26	0-360	200	H
4	*** 9.17625	48.24	Pk	36	-39.5	44.74	54	-9.26	74	-29.26	0-360	200	H
7	*** 4.96031	53.86	Pk	34	-43.8	44.06	54	-9.94	74	-29.94	0-360	101	H
9	*** 8.03344	49.96	Pk	35.8	-40.8	44.96	54	-9.04	74	-29.04	0-360	101	H
5	*** 3.76219	52.45	Pk	33.2	-44	41.65	54	-12.35	74	-32.35	0-360	200	V
6	*** 4.95938	53.93	Pk	34	-43.8	44.13	54	-9.87	74	-29.87	0-360	200	V
10	*** 7.55156	49.04	Pk	35.7	-41.5	43.24	54	-10.76	74	-30.76	0-360	200	V
13	2.44	34.71	Pk	32.4	-23.6	-	-	-	-	-30.49	0-360	100	H
14	2.4405	36.99	Pk	32.4	-23.6	-	-	-	-	-28.21	0-360	101	V
8	8.00625	50.09	Pk	35.9	-40.7	-	-	-	-	-28.71	0-360	200	V
12	8.65594	49.32	Pk	35.8	-40.3	-	-	-	-	-29.18	0-360	200	H
11	8.73	49.53	Pk	35.9	-40.3	-	-	-	-	-28.87	0-360	200	V

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

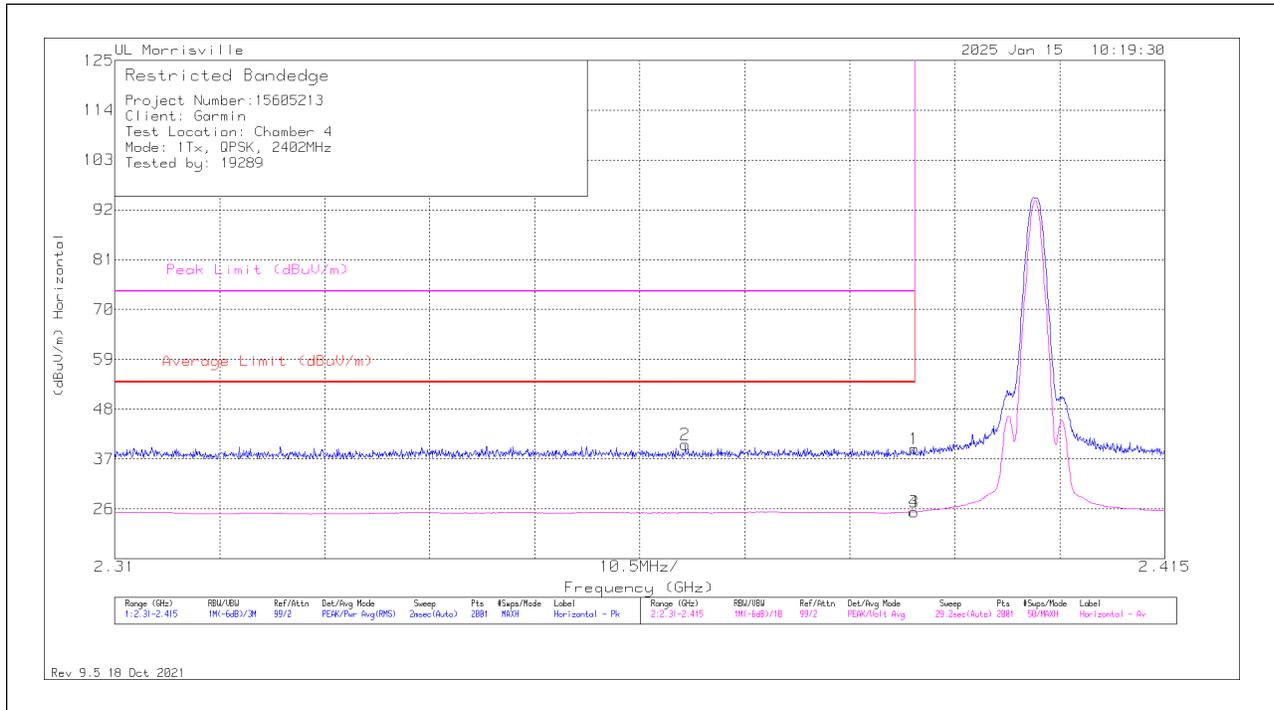
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.1.2. BLUETOOTH BASIC DATA RATE QPSK MODULATION

BANDEDGE (LOW CHANNEL)

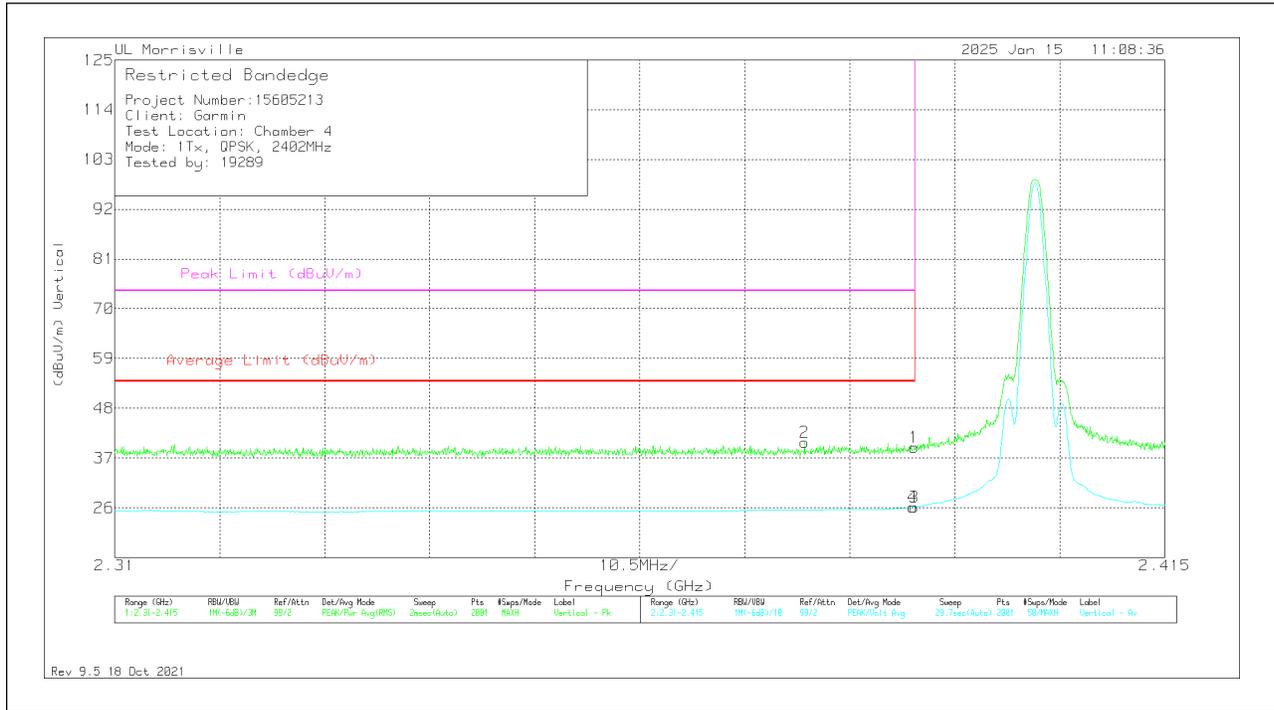
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	30.49	Pk	32	-23.2	39.29	54	-14.71	74	-34.71	83	113	H
2	*** 2.36707	31.31	Pk	31.9	-23	40.21	54	-13.79	74	-33.79	83	113	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

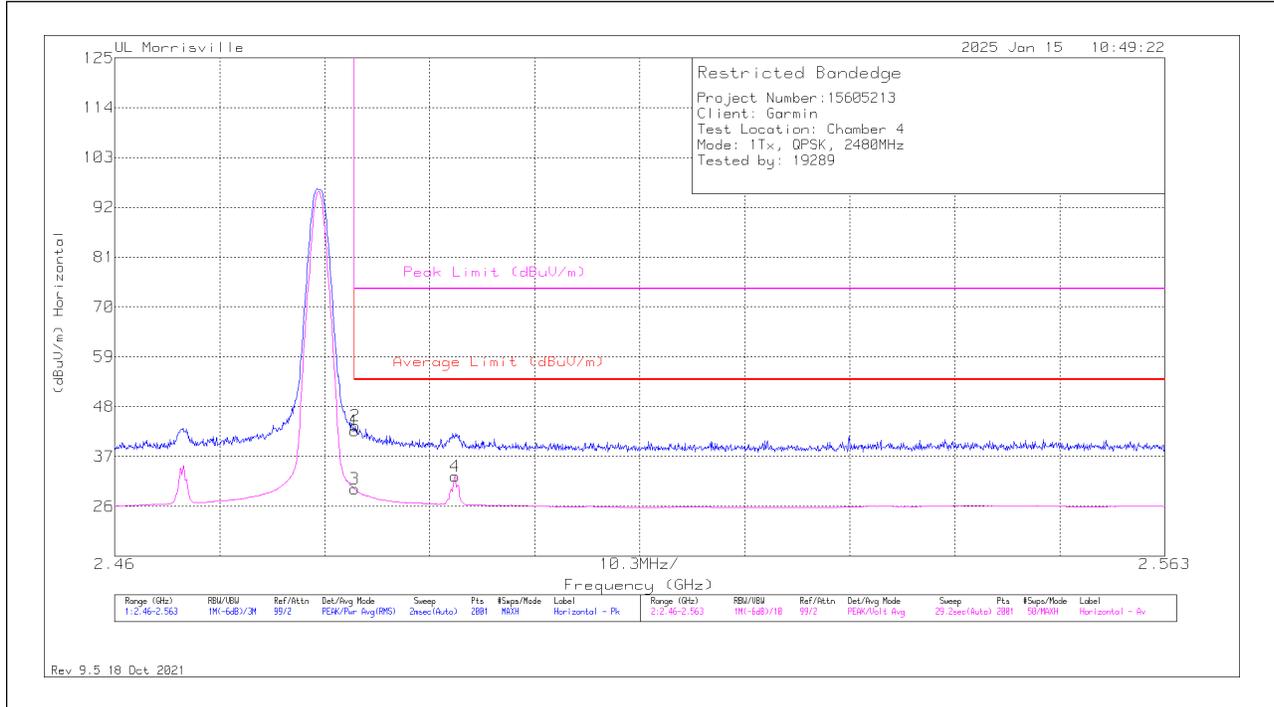


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	30.61	Pk	32	-23.2	39.41	54	-14.59	74	-34.59	27	104	V
2	* ** 2.37899	31.52	Pk	32	-23	40.52	54	-13.48	74	-33.48	27	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

BANDEDGE (HIGH CHANNEL)

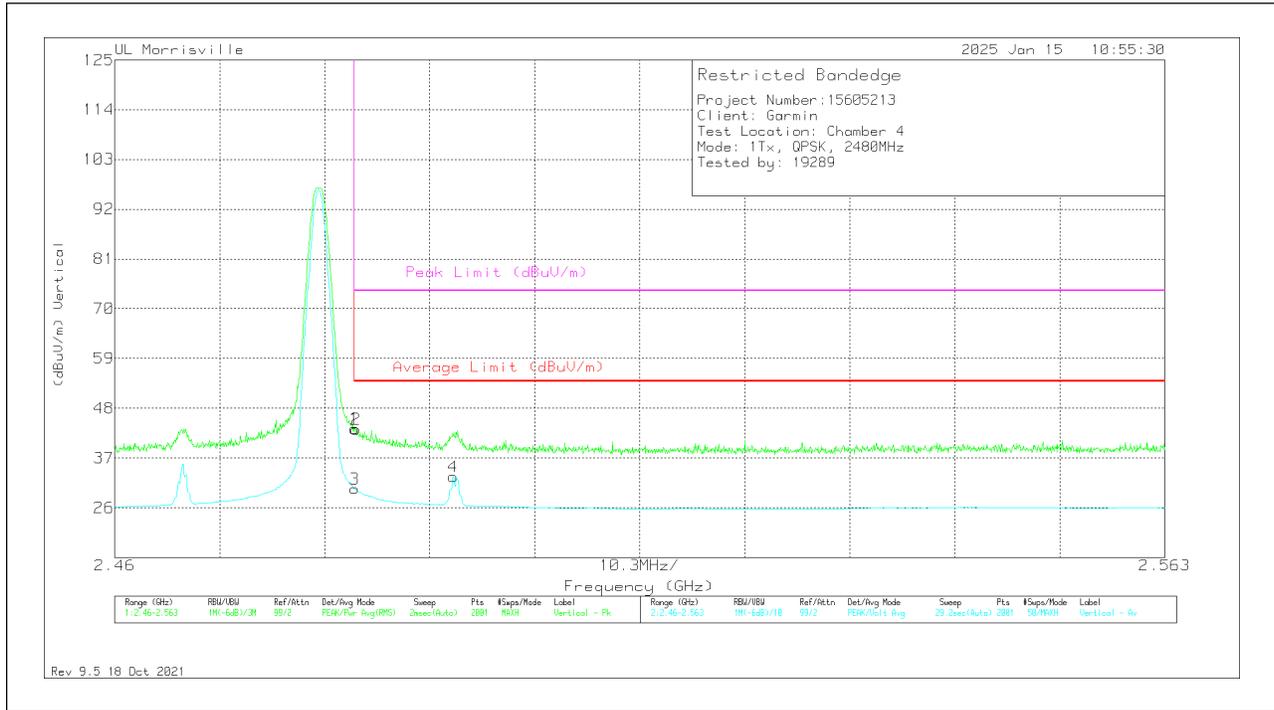
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	33.2	Pk	32.3	-22.8	42.7	54	-11.3	74	-31.3	87	116	H
2	* ** 2.48359	34.23	Pk	32.3	-22.8	43.73	54	-10.27	74	-30.27	87	116	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

VERTICAL RESULT

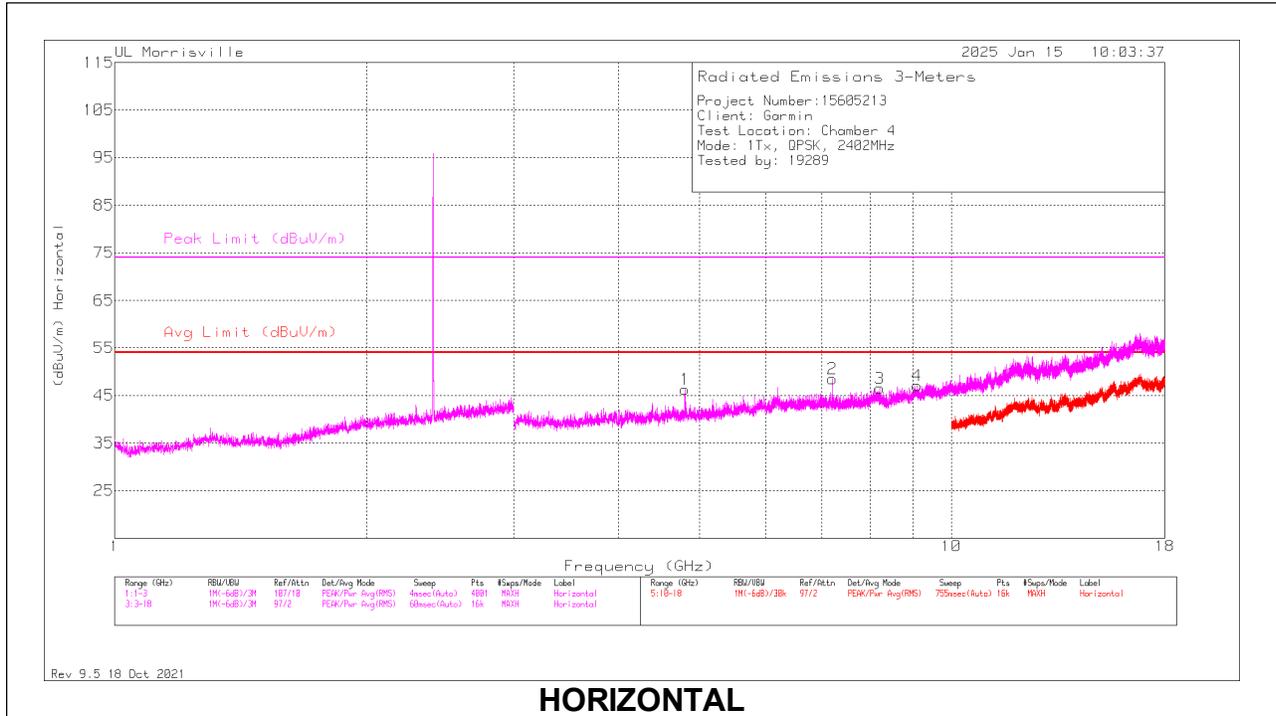


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	34.05	Pk	32.3	-22.8	43.55	54	-10.45	74	-30.45	87	116	V
2	*** 2.48364	33.84	Pk	32.3	-22.8	43.34	54	-10.66	74	-30.66	87	116	V

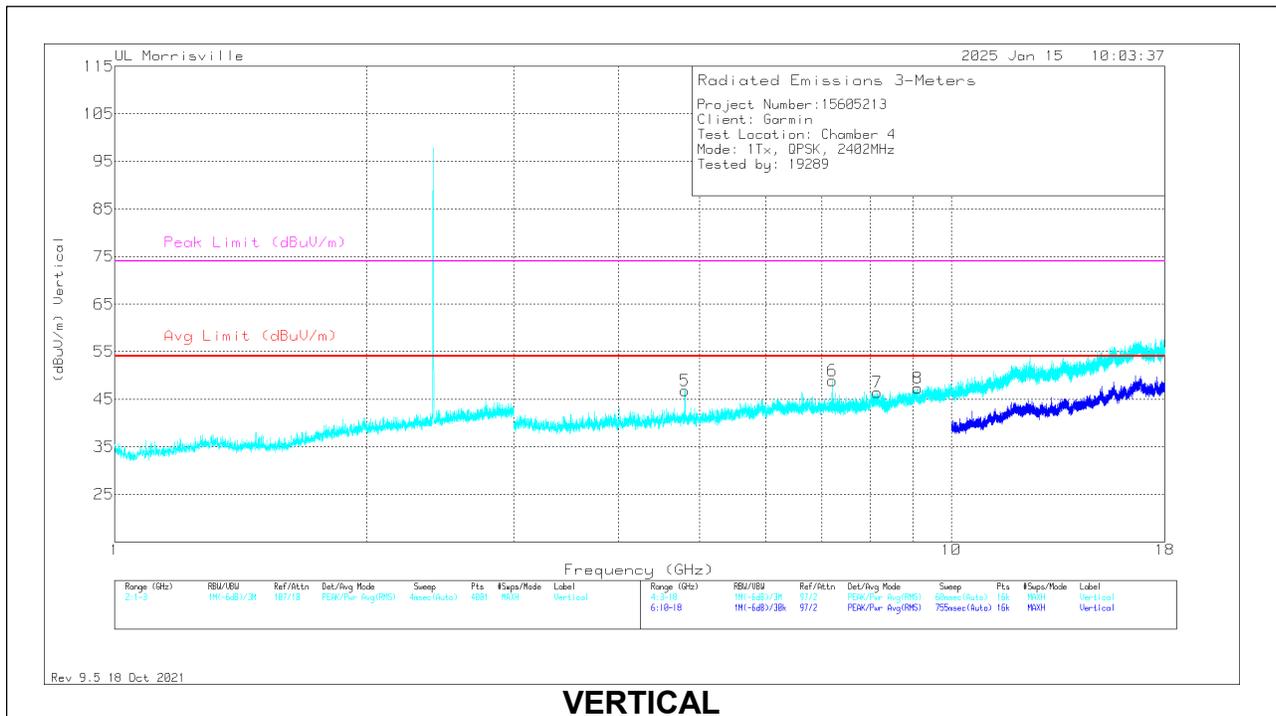
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

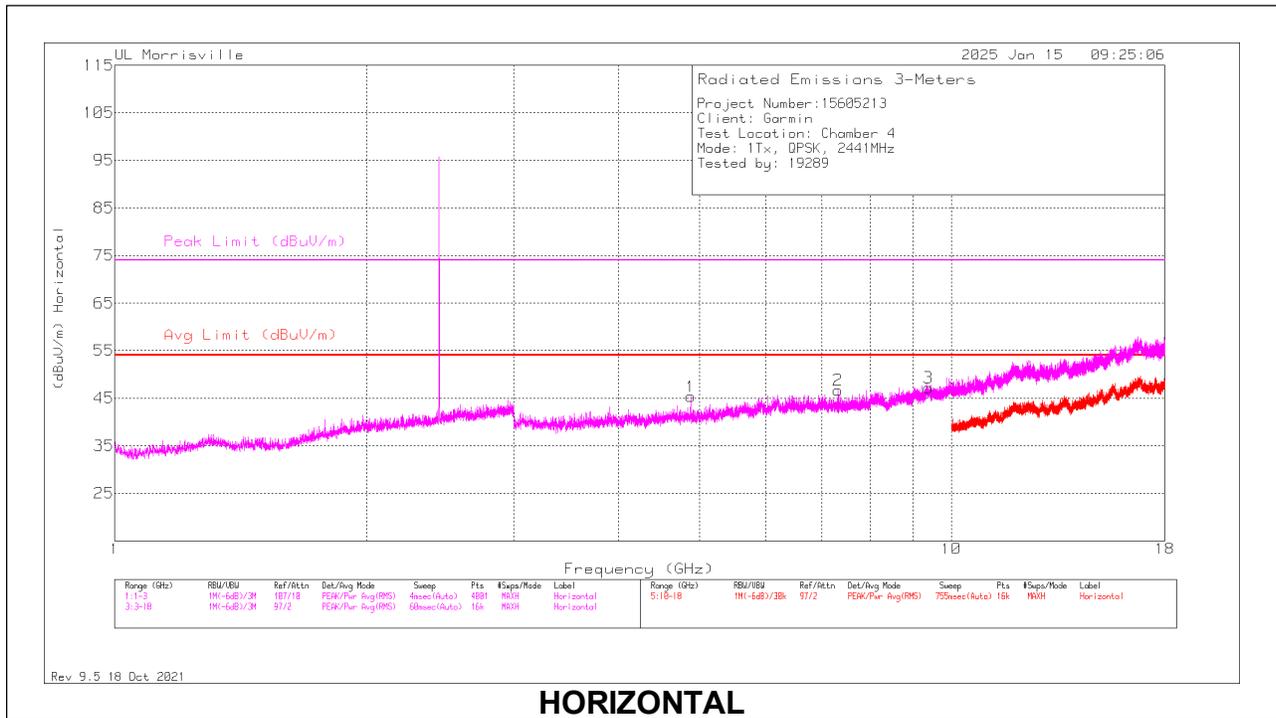
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.80375	43.58	Pk	34.1	-31.4	46.28	54	-7.72	74	-27.72	0-360	100	H
3	* ** 8.21906	36.98	Pk	35.8	-26.3	46.48	54	-7.52	74	-27.52	0-360	100	H
4	* ** 9.10313	35.29	Pk	36.3	-24.5	47.09	54	-6.91	74	-26.91	0-360	100	H
5	* ** 4.80375	44.08	Pk	34.1	-31.4	46.78	54	-7.22	74	-27.22	0-360	200	V
7	* ** 8.16188	37.23	Pk	35.8	-26.6	46.43	54	-7.57	74	-27.57	0-360	200	V
8	* ** 9.12563	35.77	Pk	36.3	-24.7	47.37	54	-6.63	74	-26.63	0-360	200	V
2	7.20563	40.62	Pk	35.6	-27.7	48.52	-	-	-	-	0-360	100	H
6	7.20563	41.01	Pk	35.6	-27.7	48.91	-	-	-	-	0-360	200	V

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

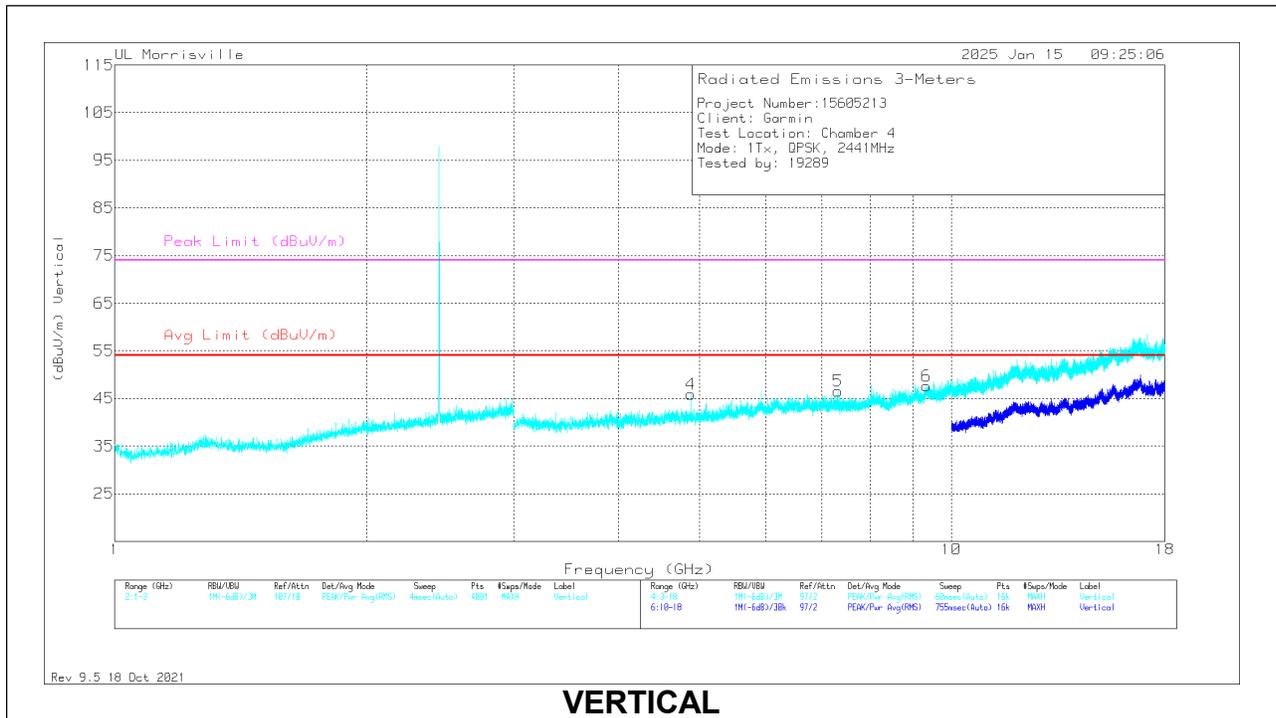
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

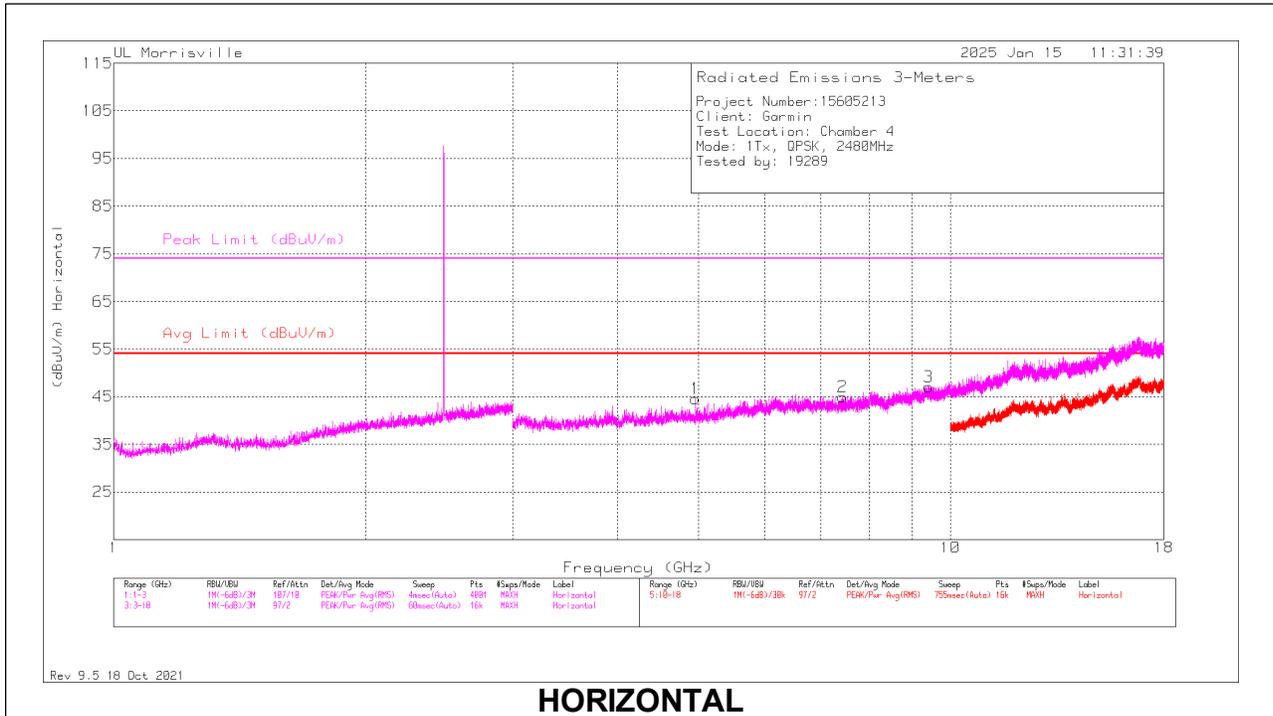
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.88156	42.3	Pk	34	-31	45.3	54	-8.7	74	-28.7	0-360	100	H
2	*** 7.32281	38.82	Pk	35.6	-27.7	46.72	54	-7.28	74	-27.28	0-360	100	H
3	*** 9.39	35.43	Pk	36.6	-24.8	47.23	54	-6.77	74	-26.77	0-360	100	H
4	*** 4.88156	42.92	Pk	34	-31	45.92	54	-8.08	74	-28.08	0-360	200	V
5	*** 7.32281	38.67	Pk	35.6	-27.7	46.57	54	-7.43	74	-27.43	0-360	200	V
6	*** 9.34781	35.45	Pk	36.5	-24.3	47.65	54	-6.35	74	-26.35	0-360	200	V

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

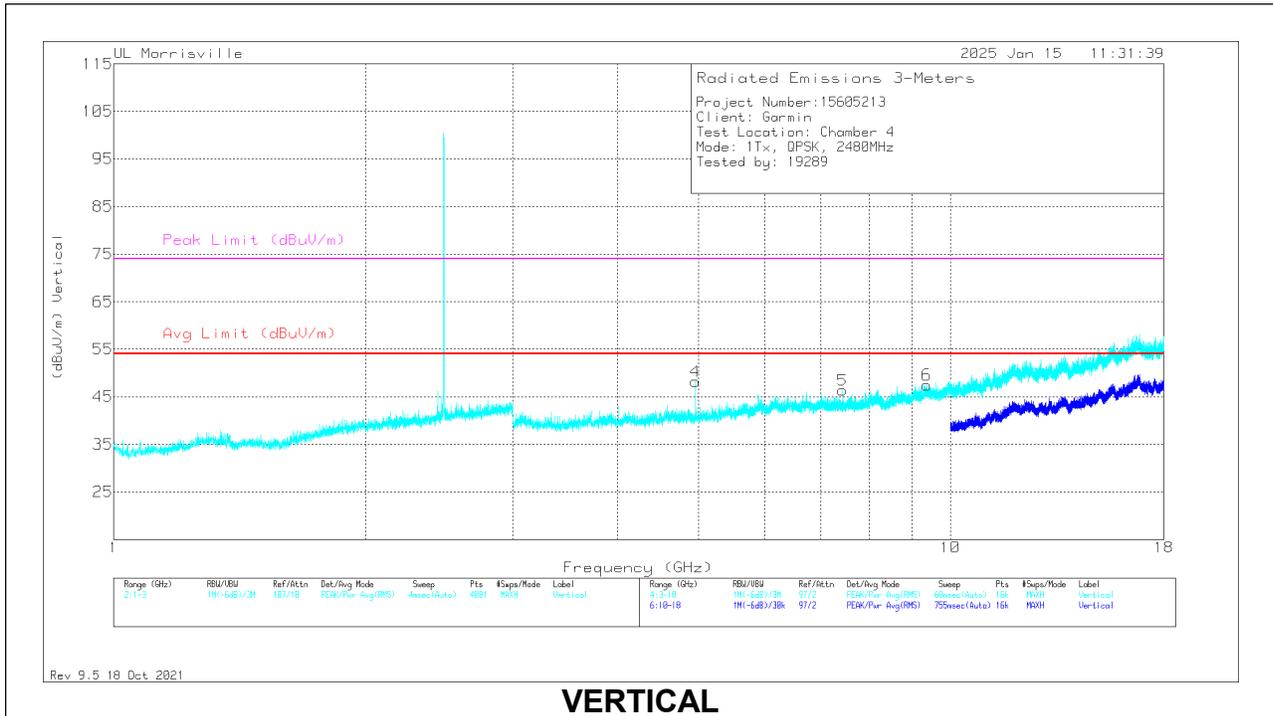
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.96031	41.52	Pk	33.9	-30.8	44.62	54	-9.38	74	-29.38	0-360	100	H
2	*** 7.44094	37.14	Pk	35.7	-27.9	44.94	54	-9.06	74	-29.06	0-360	100	H
3	*** 9.4275	35.36	Pk	36.7	-25	47.06	54	-6.94	74	-26.94	0-360	100	H
4	*** 4.95965	47.23	PK2	33.9	-30.8	50.33	-	-	74	-23.67	171	152	V
	*** 4.96001	38.05	V1TV	33.9	-30.8	41.15	54	-12.85	-	-	171	152	V
5	*** 7.44	38.55	Pk	35.7	-27.9	46.35	54	-7.65	74	-27.65	0-360	200	V
6	*** 9.37313	35.61	Pk	36.5	-24.7	47.41	54	-6.59	74	-26.59	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

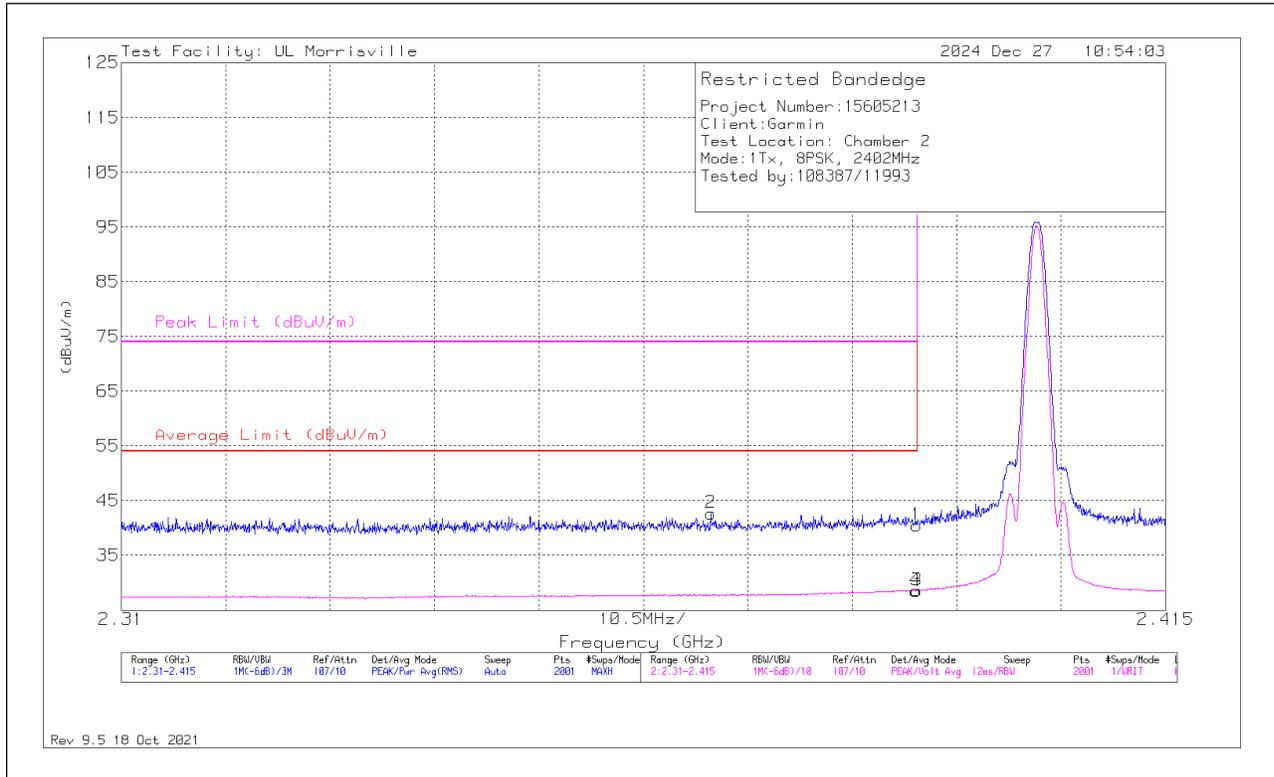
PK2 - Maximum Peak

V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration

10.1.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



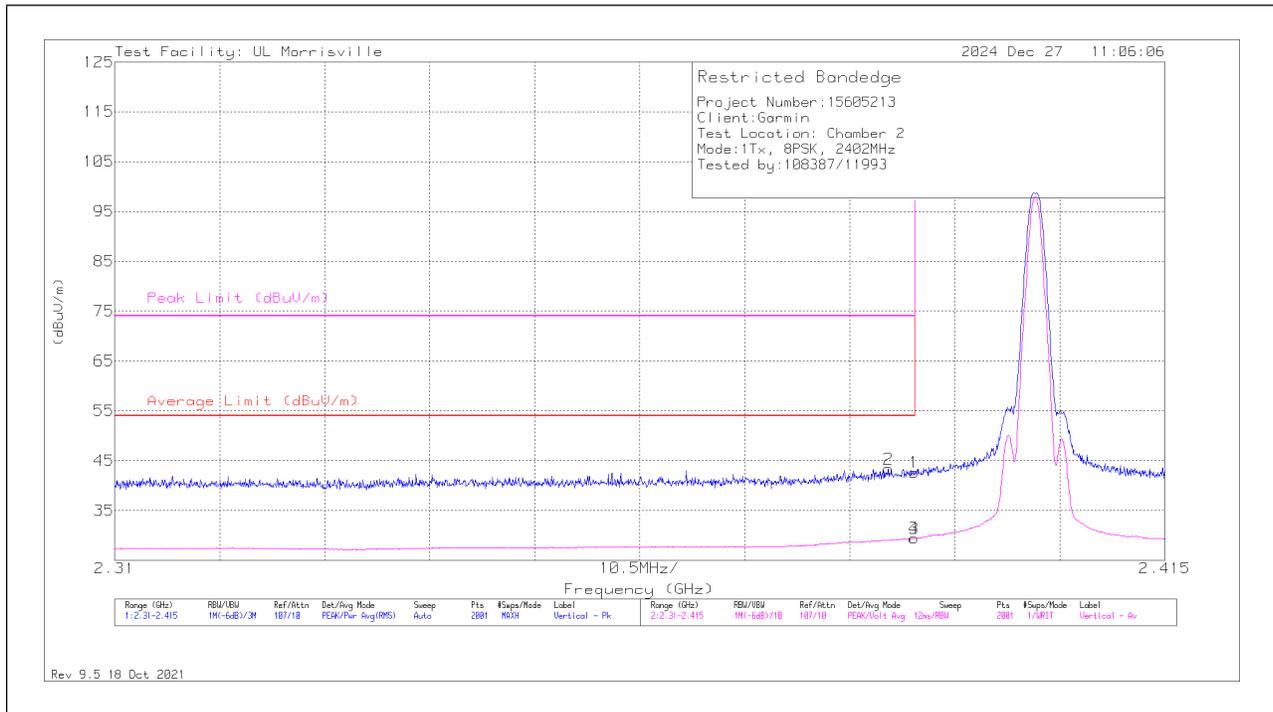
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	31.83	Pk	32.3	-23.6	40.53	54	-13.47	74	-33.47	234	102	H
2	*** 2.36927	34.1	Pk	32.2	-23.6	42.7	54	-11.30	74	-31.3	234	102	H

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.92	Pk	32.3	-23.6	42.62	54	-11.38	74	-31.38	340	132	V
2	*** 2.38739	34.53	Pk	32.2	-23.4	43.33	54	-10.67	74	-30.67	340	132	V

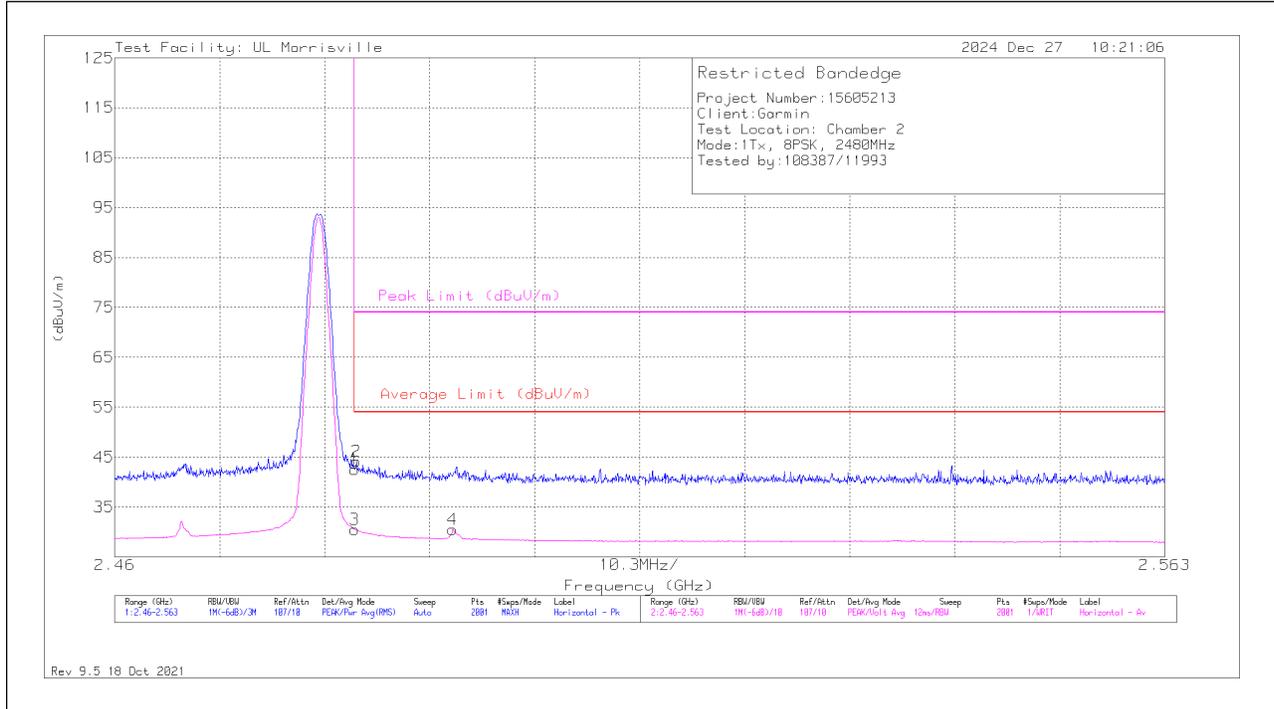
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



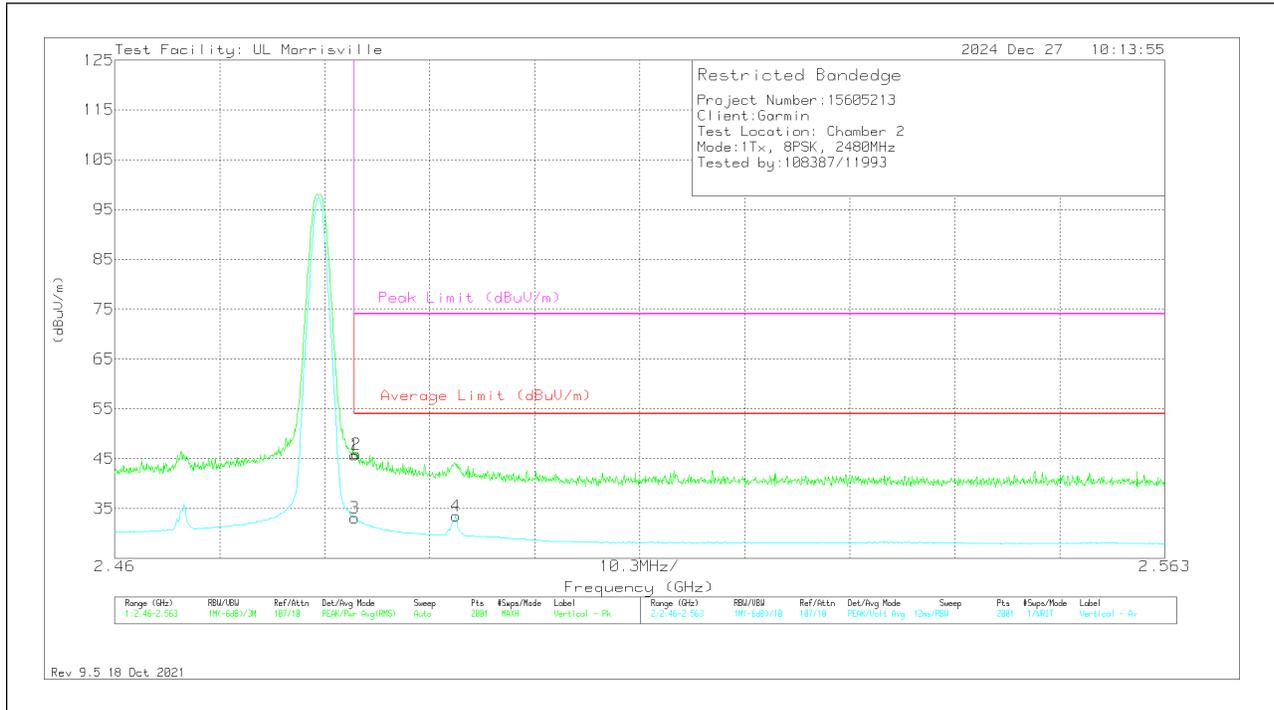
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	34.15	Pk	32.5	-24.1	42.55	54	-11.45	74	-31.45	236	117	H
2	*** 2.48369	35.79	Pk	32.5	-24.1	44.19	54	-9.81	74	-29.81	236	117	H

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	37.3	Pk	32.5	-24.1	45.7	54	-8.3	74	-28.3	346	102	V
2	*** 2.48369	37.55	Pk	32.5	-24.1	45.95	54	-8.05	74	-28.05	346	102	V

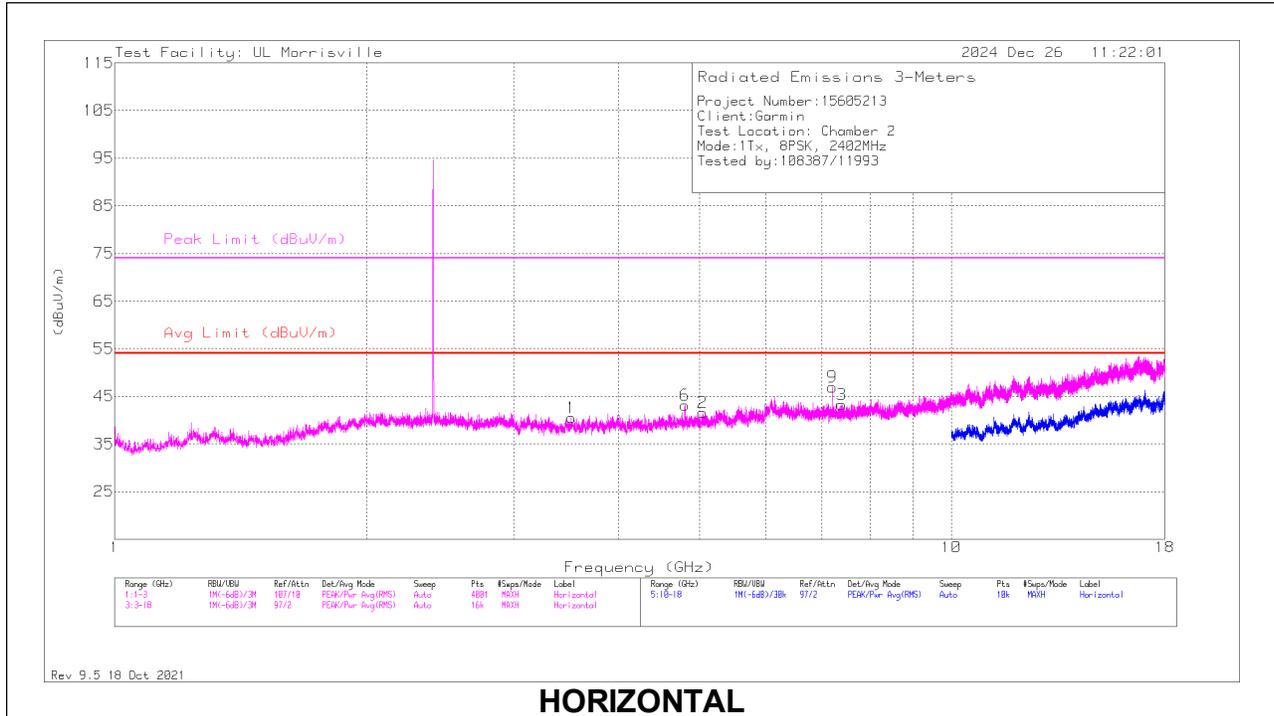
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

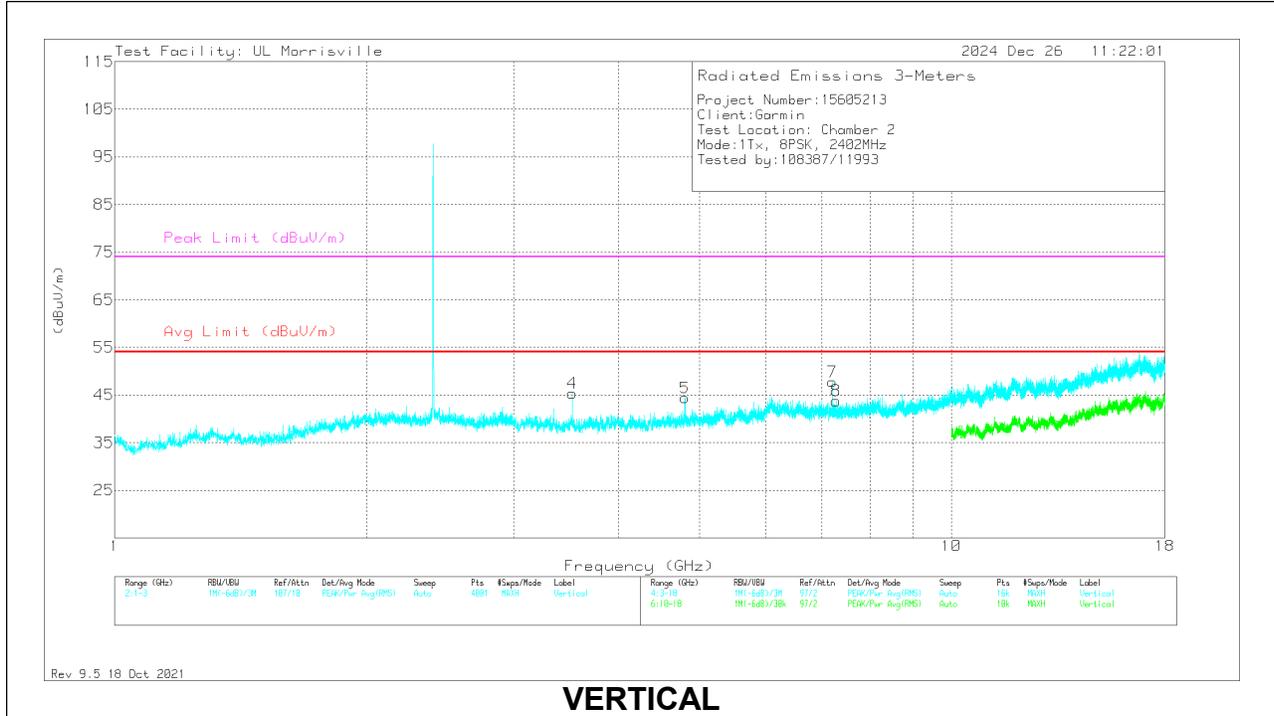
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL

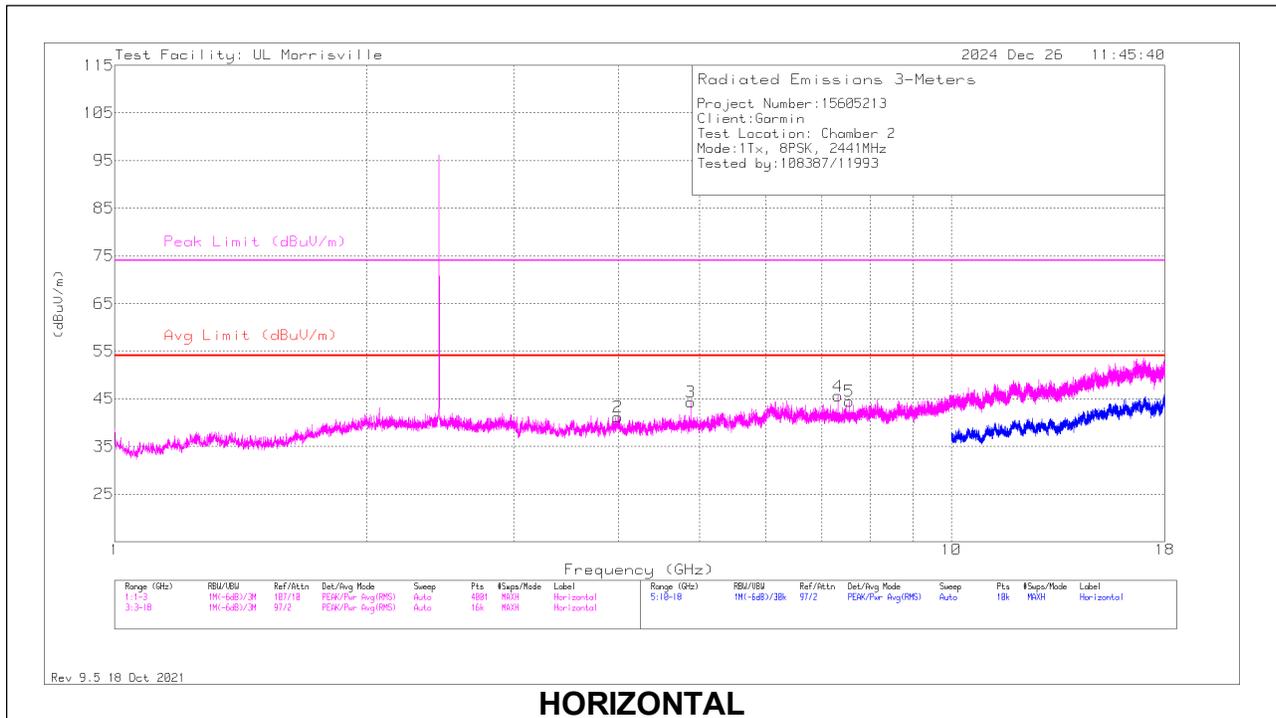


VERTICAL

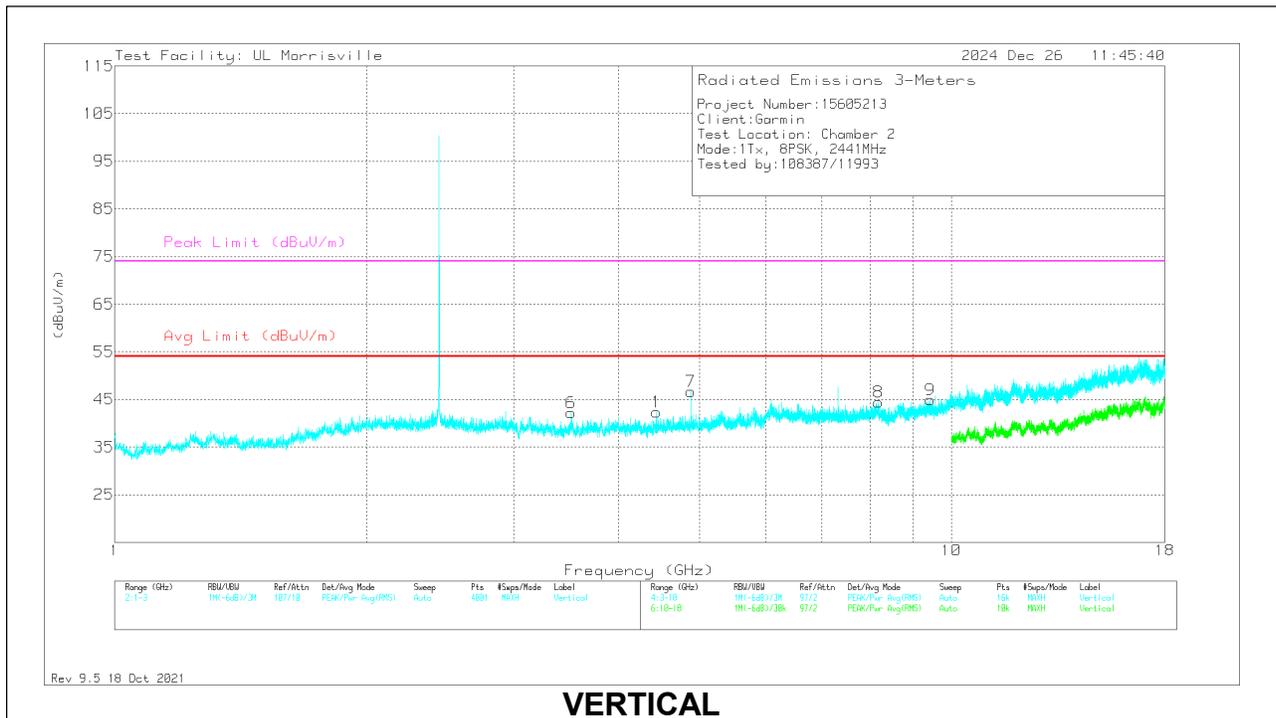
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.51469	52.01	Pk	32.7	-44.2	40.51	54	-13.49	74	-33.49	0-360	200	H
2	*** 5.04844	51.25	Pk	34.1	-43.8	41.55	54	-12.45	74	-32.45	0-360	101	H
3	*** 7.39125	48.89	Pk	35.6	-41.2	43.29	54	-10.71	74	-30.71	0-360	101	H
6	*** 4.80375	52.84	Pk	34.2	-43.9	43.14	54	-10.86	74	-30.86	0-360	200	H
4	*** 3.525	56.61	Pk	32.8	-44	45.41	54	-8.59	74	-28.59	0-360	200	V
5	*** 4.80375	54.09	Pk	34.2	-43.9	44.39	54	-9.61	74	-29.61	0-360	101	V
8	*** 7.28625	49.61	Pk	35.6	-41.4	43.81	54	-10.19	74	-30.19	0-360	200	V
9	7.20563	53.06	Pk	35.6	-41.7	46.96	-	-	-	-	0-360	101	H
7	7.20656	53.88	Pk	35.6	-41.7	47.78	-	-	-	-	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

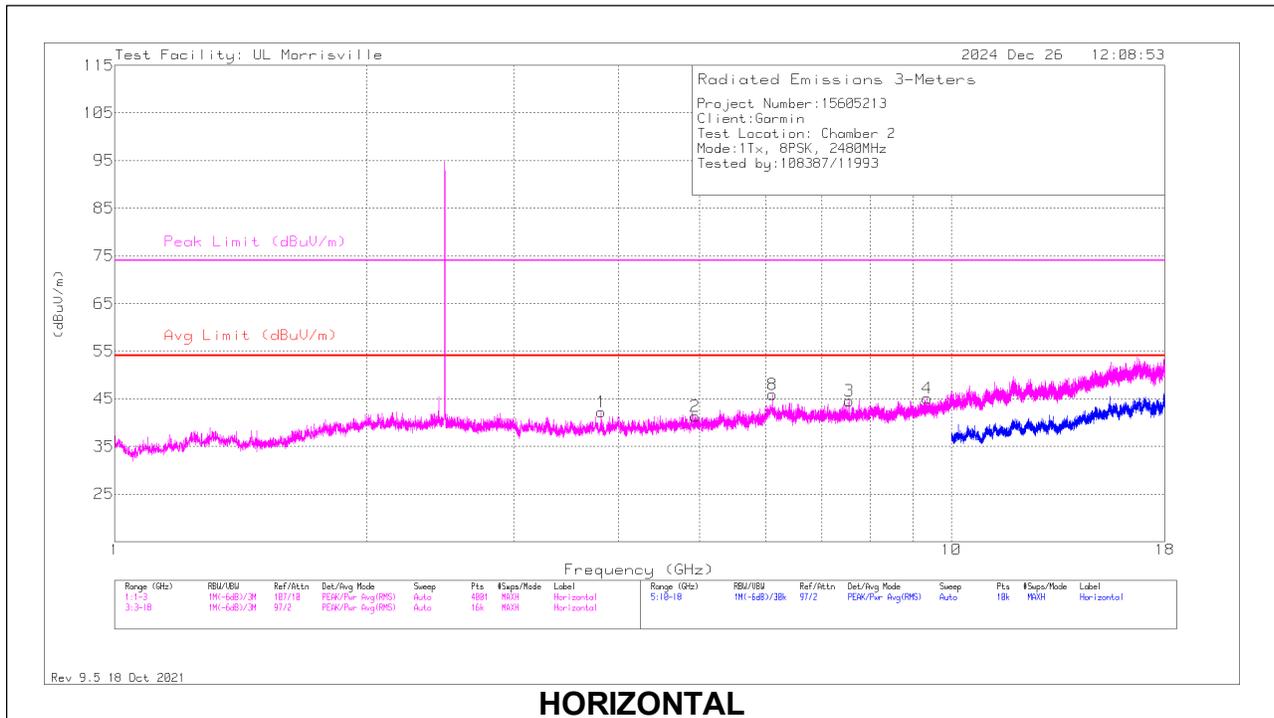
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*** 3.99375	52.17	Pk	33.4	-44.4	41.17	54	-12.83	74	-32.83	0-360	200	H
3	*** 4.8825	53.93	Pk	34.1	-43.7	44.33	54	-9.67	74	-29.67	0-360	101	H
4	*** 7.32281	51.76	Pk	35.6	-41.8	45.56	54	-8.44	74	-28.44	0-360	101	H
5	*** 7.55438	50.24	Pk	35.7	-41.5	44.44	54	-9.56	74	-29.56	0-360	101	H
6	*** 3.51375	53.69	Pk	32.7	-44.2	42.19	54	-11.81	74	-31.81	0-360	200	V
7	*** 4.8825	56.26	Pk	34.1	-43.7	46.66	54	-7.34	74	-27.34	0-360	101	V
8	*** 8.18531	49.23	Pk	35.8	-40.6	44.43	54	-9.57	74	-29.57	0-360	101	V
9	*** 9.43688	48.91	Pk	36.3	-40.3	44.91	54	-9.09	74	-29.09	0-360	200	V
1	4.44563	53.04	Pk	33.8	-44.5	42.34	-	-	-	-	0-360	200	V

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

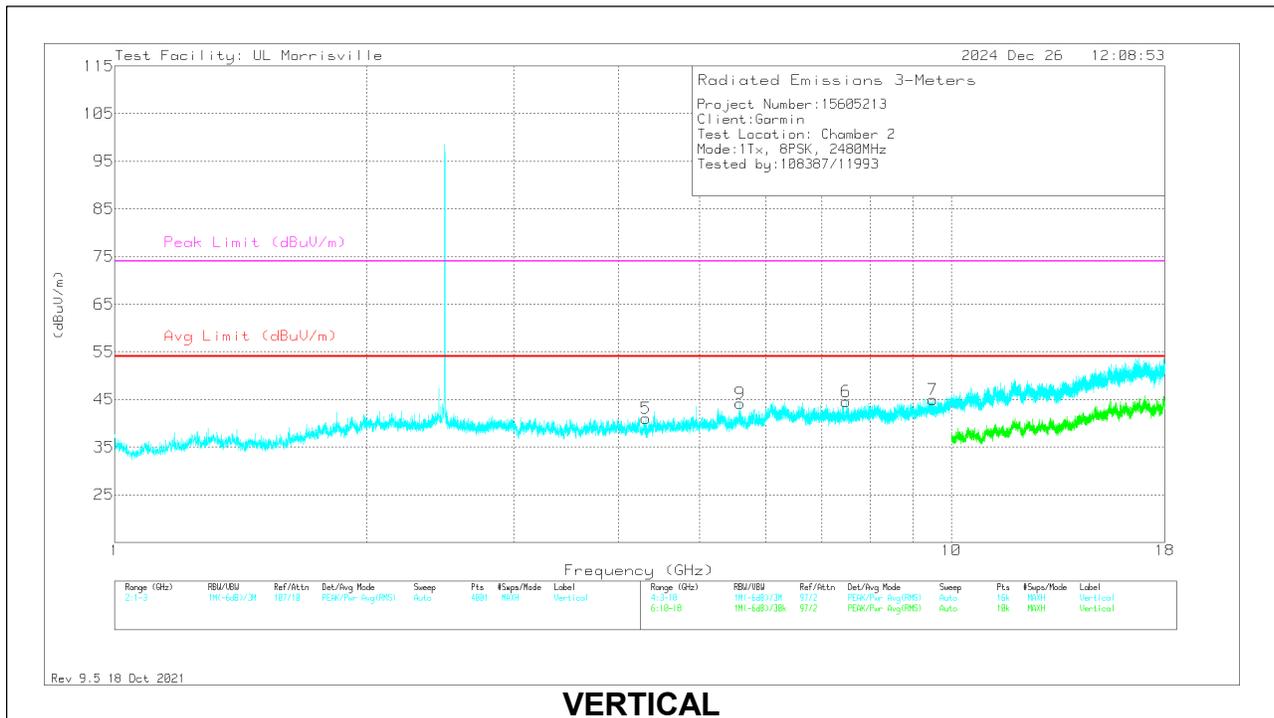
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.81656	52.48	Pk	33.3	-43.6	42.18	54	-11.82	74	-31.82	0-360	199	H
2	*** 4.94531	50.92	Pk	34	-43.6	41.32	54	-12.68	74	-32.68	0-360	101	H
3	*** 7.5525	50.35	Pk	35.7	-41.5	44.55	54	-9.45	74	-29.45	0-360	199	H
4	*** 9.36188	48.6	Pk	36.1	-39.6	45.1	54	-8.9	74	-28.9	0-360	101	H
5	*** 4.31344	52.18	Pk	33.5	-44.6	41.08	54	-12.92	74	-32.92	0-360	200	V
6	*** 7.48125	49.91	Pk	35.7	-41	44.61	54	-9.39	74	-29.39	0-360	200	V
9	5.59219	52.29	Pk	34.6	-42.7	44.19	-	-	-	-	0-360	200	V
8	6.11156	51.64	Pk	35.5	-41.3	45.84	-	-	-	-	0-360	101	H
7	9.50063	48.24	Pk	36.4	-39.7	44.94	-	-	-	-	0-360	101	V

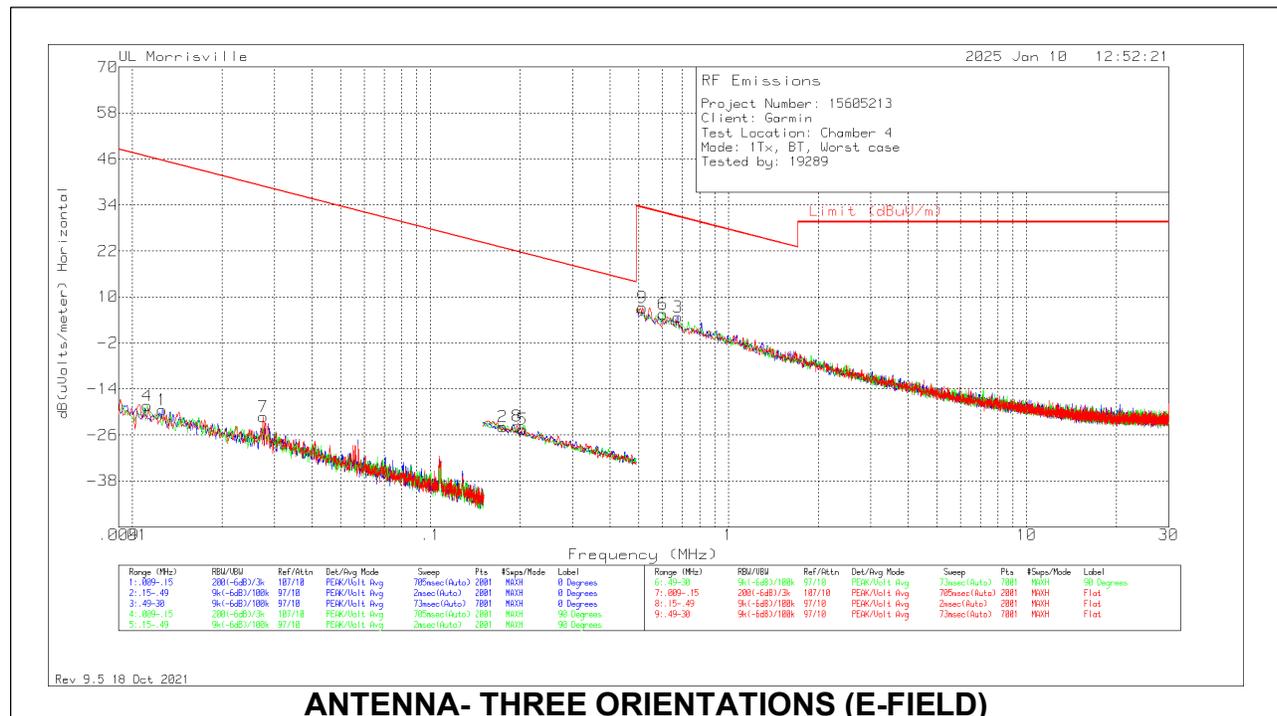
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.2. WORST CASE SPURIOUS BELOW 30MHZ

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

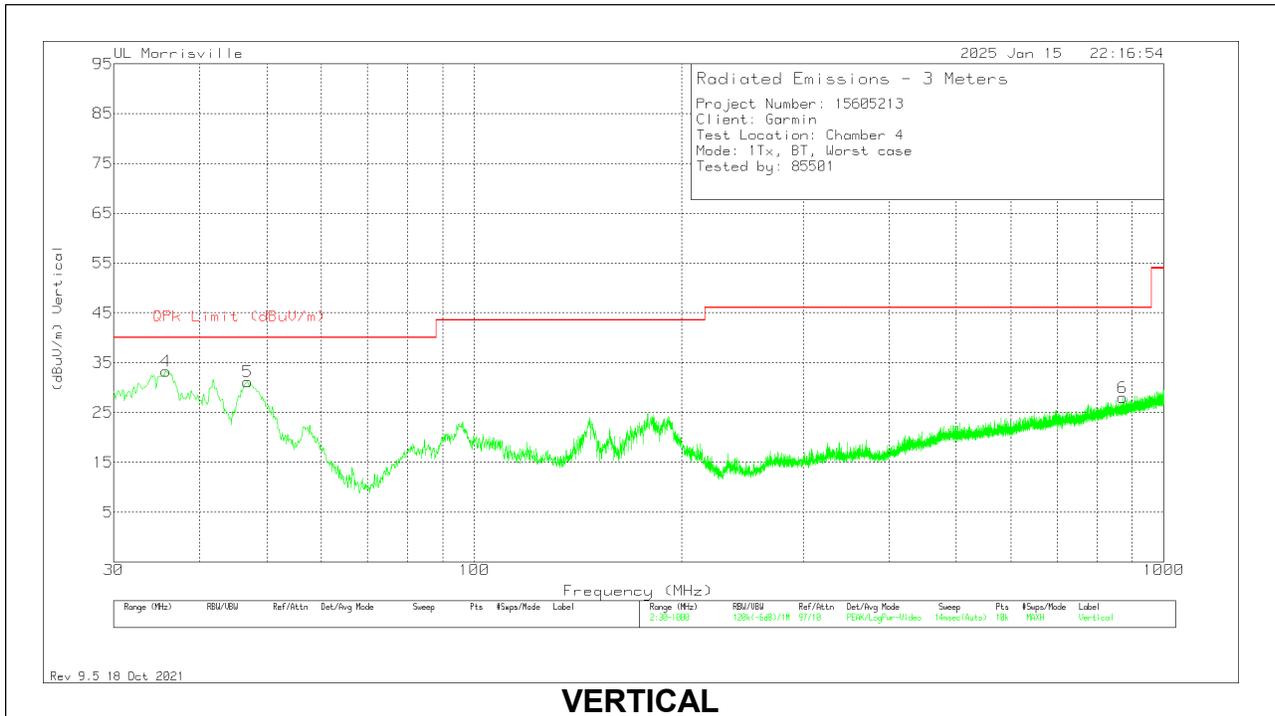
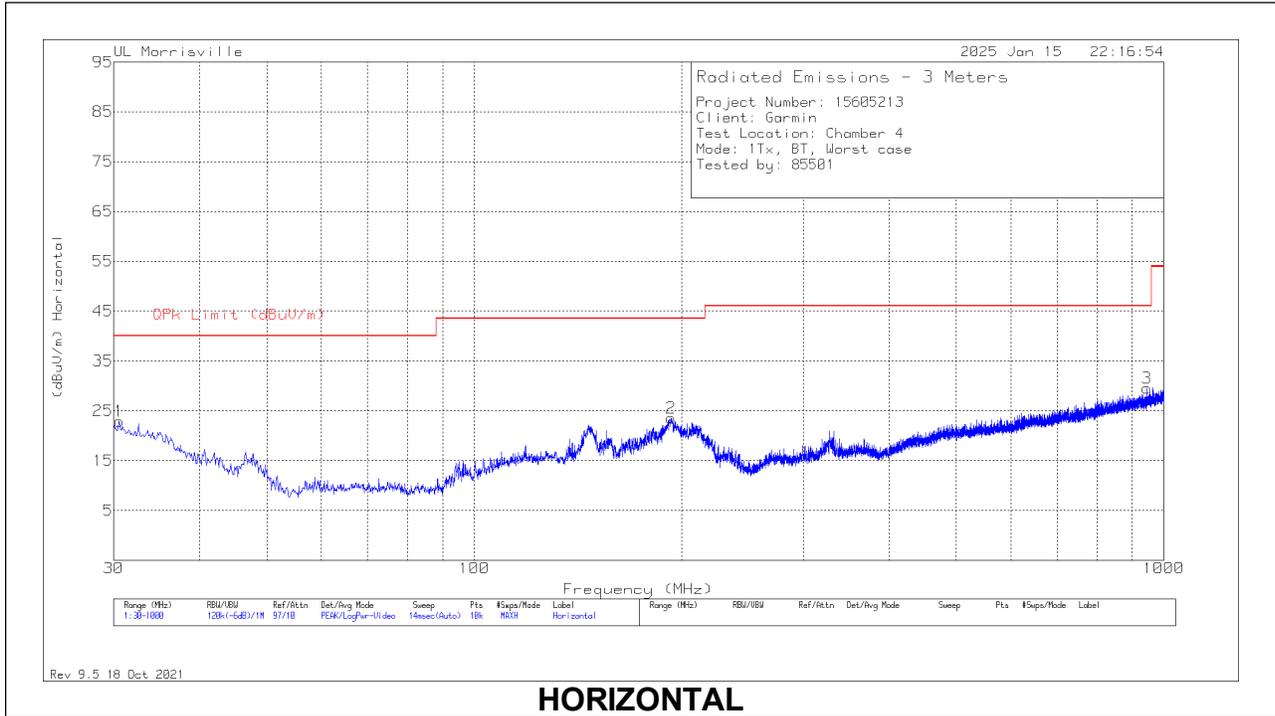


ANTENNA- THREE ORIENTATIONS (E-FIELD)

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
4	.0112	43.81	Pk	17.7	.1	-80	-18.39	46.62	-65.01	0-360	90 degs
1	.01262	43.34	Pk	17.1	.1	-80	-19.46	45.58	-65.04	0-360	0 degs
7	.02746	45.3	Pk	13.3	.1	-80	-21.3	38.83	-60.13	0-360	Flat
2	.1744	45.1	Pk	11	.1	-80	-23.8	22.77	-46.57	0-360	0 degs
8	.19531	45.2	Pk	11	.1	-80	-23.7	21.79	-45.49	0-360	Flat
5	.20355	44.47	Pk	10.9	.1	-80	-24.53	21.43	-45.96	0-360	90 degs
9	.5153	36.07	Pk	11	.1	-40	7.17	33.36	-26.19	0-360	Flat
6	.60383	34.53	Pk	11	.1	-40	5.63	31.99	-26.36	0-360	90 degs
3	.6755	33.54	Pk	11	.2	-40	4.74	31.01	-26.27	0-360	0 degs

Pk - Peak detector

10.3. WORST CASE SPURIOUS 30-1000MHZ



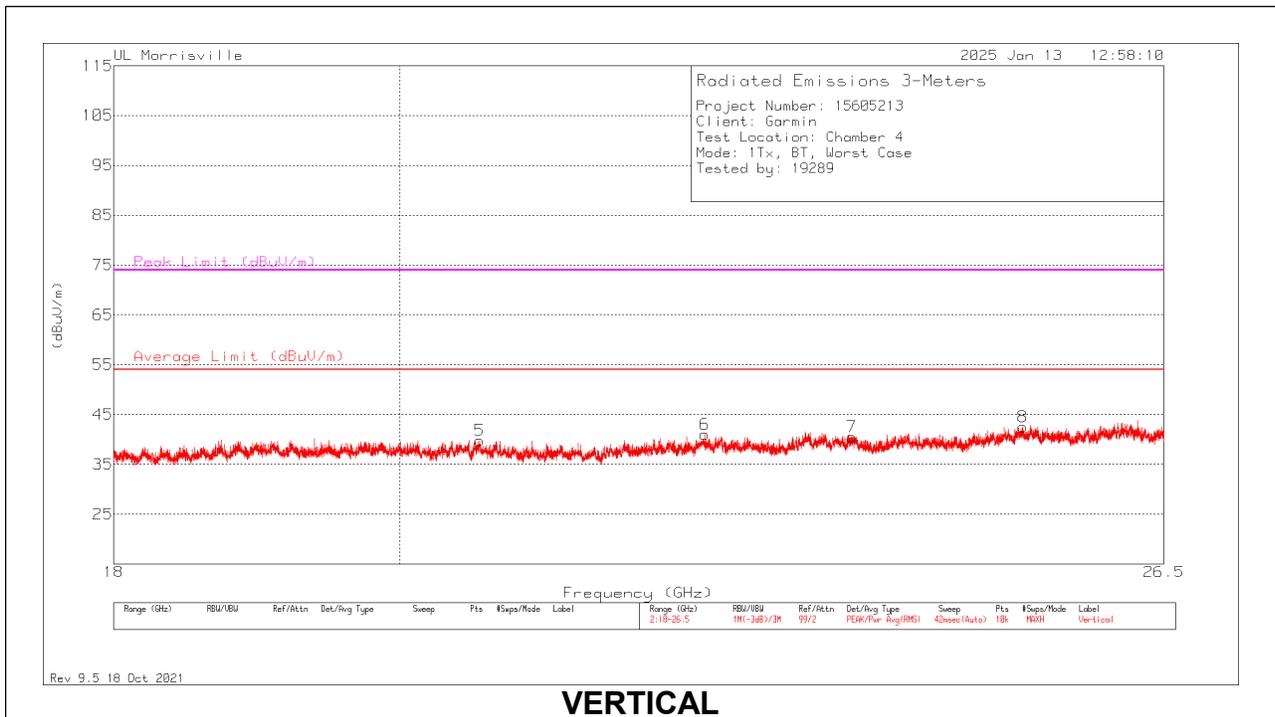
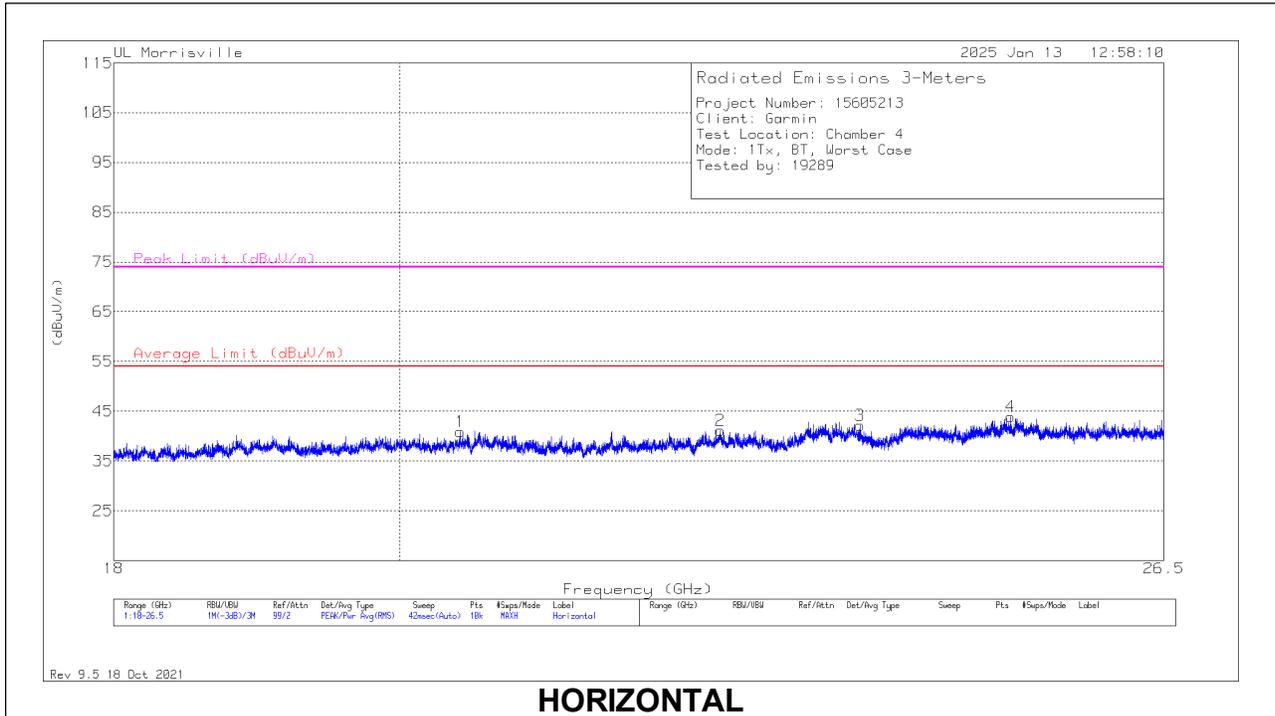
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90628 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.582	28.54	Pk	26.5	-32.1	22.94	40	-17.06	0-360	200	H
4	35.723	42.29	Pk	23.1	-32.1	33.29	40	-6.71	0-360	100	V
5	46.878	47.78	Pk	15.4	-32	31.18	40	-8.82	0-360	100	V
2	192.8145	36.61	Pk	17.7	-30.8	23.51	43.52	-20.01	0-360	100	H
6	871.669	27.58	Pk	28	-27.6	27.98	46.02	-18.04	0-360	100	V
3	945.486	27.61	Pk	28.6	-26.7	29.51	46.02	-16.51	0-360	300	H

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.4. WORST CASE SPURIOUS 18-26GHz



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 20.44946	47.85	Pk	33.6	-40.5	40.95	54	-13.05	74	-33.05	0-360	100	H
2	*** 22.5071	46.37	Pk	34.2	-39.4	41.17	54	-12.83	74	-32.83	0-360	150	H
3	*** 23.69698	46.09	Pk	34.5	-38.4	42.19	54	-11.81	74	-31.81	0-360	100	H
5	*** 20.59734	46.29	Pk	33.7	-40.2	39.79	54	-14.21	74	-34.21	0-360	300	V
6	*** 22.37876	47.18	Pk	34.1	-40.2	41.08	54	-12.92	74	-32.92	0-360	150	V
7	*** 23.62559	44.35	Pk	34.6	-38.4	40.55	54	-13.45	74	-33.45	0-360	200	V
4	25.04665	45.14	Pk	35.4	-36.6	43.94	-	-	-	--	0-360	100	H
8	25.16138	43.4	Pk	35.6	-36.5	42.5	-	-	-	-	0-360	250	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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

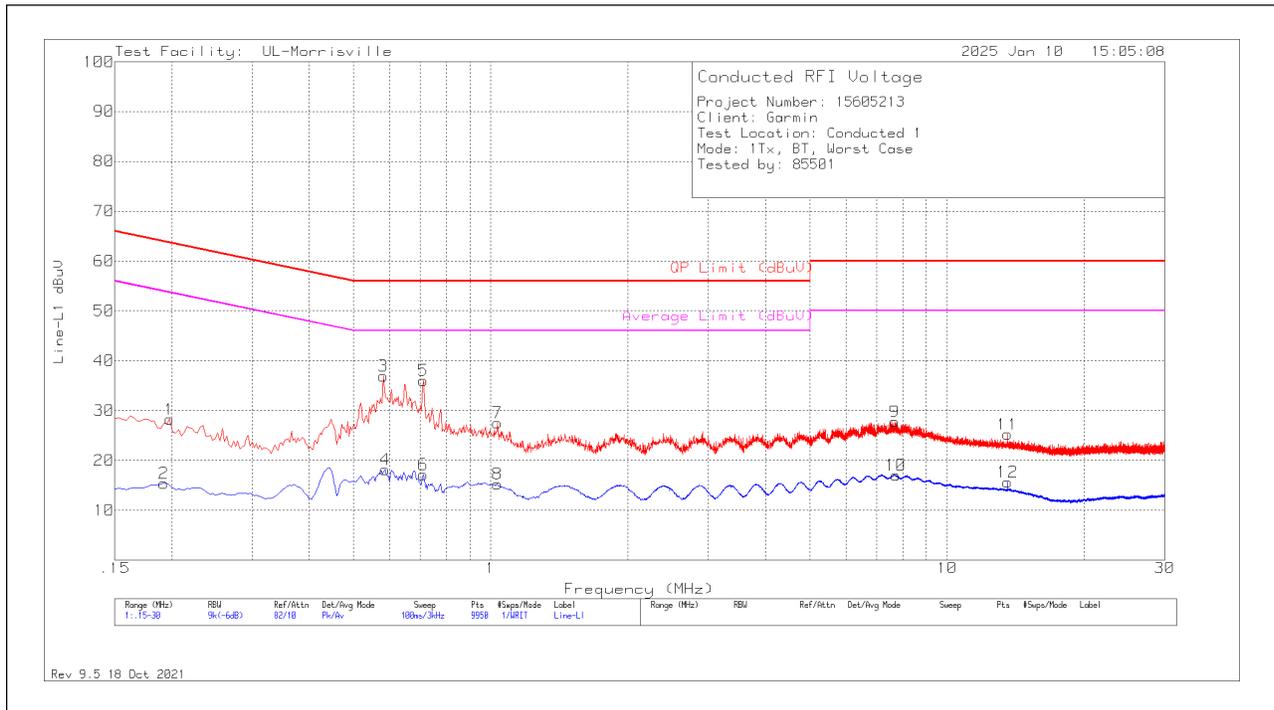
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

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 lines.

11.1. AC POWER LINE

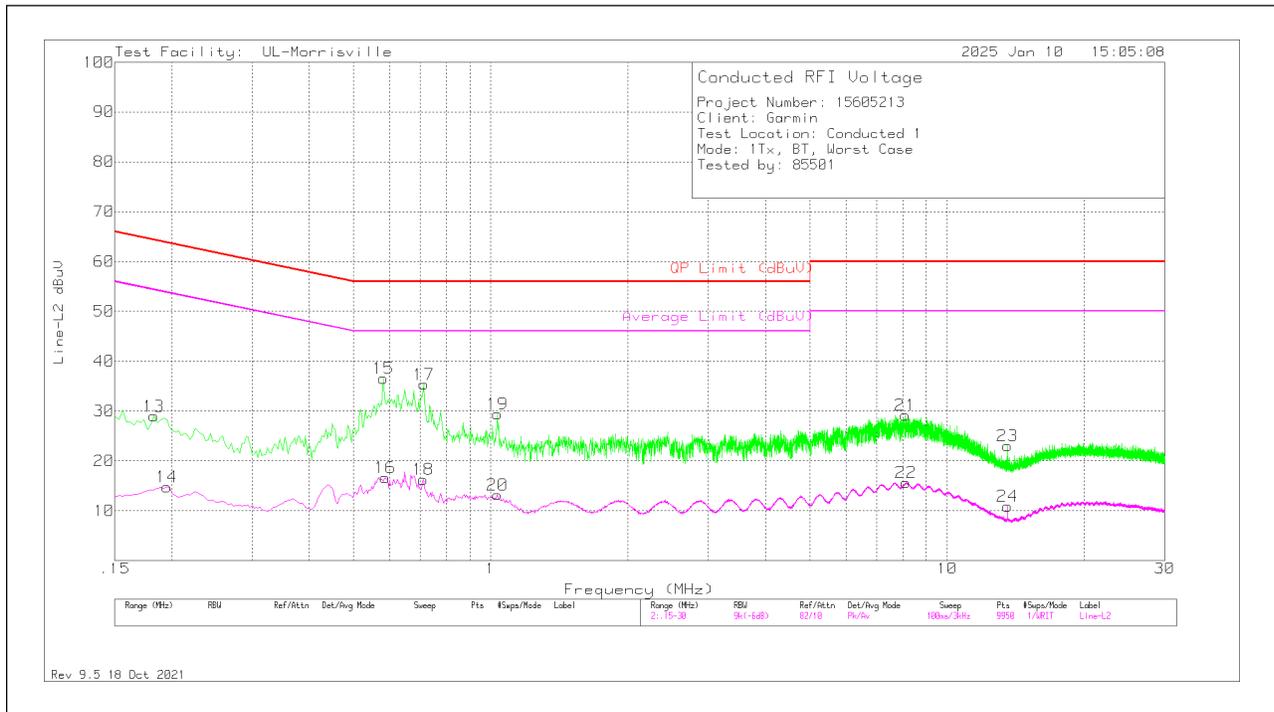
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
2	.192	5.43	Av	.2	9.8	15.43	-	-	53.95	-38.52
1	.198	18.22	Pk	.2	9.8	28.22	63.69	-35.47	-	-
3	.582	27.16	Pk	0	9.8	36.96	56	-19.04	-	-
4	.588	8.36	Av	0	9.8	18.16	-	-	46	-27.84
5	.711	26.29	Pk	0	9.8	36.09	56	-19.91	-	-
6	.711	7.35	Av	0	9.8	17.15	-	-	46	-28.85
7	1.035	17.75	Pk	0	9.8	27.55	56	-28.45	-	-
8	1.035	5.51	Av	0	9.8	15.31	-	-	46	-30.69
9	7.686	17.63	Pk	.1	10	27.73	60	-32.27	-	-
10	7.716	6.9	Av	.1	10	17	-	-	50	-33
11	13.56	15.12	Pk	.1	10	25.22	60	-34.78	-	-
12	13.56	5.54	Av	.1	10	15.64	-	-	50	-34.36

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.183	18.97	Pk	.2	9.8	28.97	64.35	-35.38	-	-
14	.195	4.73	Av	.2	9.8	14.73	-	-	53.82	-39.09
15	.582	26.73	Pk	0	9.8	36.53	56	-19.47	-	-
16	.588	6.86	Av	0	9.8	16.66	-	-	46	-29.34
18	.711	6.44	Av	0	9.8	16.24	-	-	46	-29.76
17	.714	25.55	Pk	0	9.8	35.35	56	-20.65	-	-
19	1.035	19.57	Pk	0	9.8	29.37	56	-26.63	-	-
20	1.035	3.39	Av	0	9.8	13.19	-	-	46	-32.81
21	8.106	19.02	Pk	.1	10	29.12	60	-30.88	-	-
22	8.133	5.53	Av	.1	10	15.63	-	-	50	-34.37
23	13.56	12.96	Pk	.1	10	23.06	60	-36.94	-	-
24	13.563	.79	Av	.1	10	10.89	-	-	50	-39.11

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

Please refer to R15605213-EP4 for setup photos.

END OF TEST REPORT



SAR EVALUATION REPORT

IEEE Std 1528-2013

For
Extremity Worn Digital Transceiver

FCC ID: IPH-04911
Model Name: A04911

Report Number: R15605213-S1
Issue Date: 2025-03-25

Prepared for
Garmin International Inc.
1200 E 151st St
Olathe, KS 66062-3426, USA

Prepared by
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12 LABORATORY DR
RTP, NC 27709, U.S.A.
TEL: (919) 549-1400



Revision History

Rev.	Date	Revisions	Revised By
V1	2025-03-04	Initial Issue	--
V2	2025-03-18	Updated NFC operating modes in §6.2 and ANT/ANT+ tune-up in §9.3.	Lindsay Ryan
V3	2025-03-21	Added Class II Permissive Change note to §1.	Lindsay Ryan
V4	2025-03-25	Updated BLE tune-up for Ch 36, 37, and 39.	Lindsay Ryan

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1. Attestation of Test Results

Applicant Name	Garmin International Inc.		
FCC ID	IPH-04911		
Model Name	A04911		
Applicable Standards	Published RF exposure KDB procedures IEEE Std 1528-2013		
Exposure Category	SAR Limits (W/Kg)		
	Extremities (hands, wrists, ankles, etc.) (10g of tissue)		
General population / Uncontrolled exposure	4.0		
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)		
	DTS	DSS	DXX
Extremity	0.149	0.168	0.000
Date Tested	2025-01-13 to 2025-01-17		
Test Results	Pass		

Class II Permissive Change Note:

The intent of the Class II Permissive Change is to cover SAR testing on A04911, a depopulated version of a certified model A0490 (please reference R15607127-S1 FCC SAR Report); model A04911 is otherwise electrically identical to A04907. Conducted output power was therefore referenced from A04907 in R15607127-S1; however, A04911 was utilized for all radiated SAR testing. It is the responsibility of the end product manufacturer to provide the certification reports to show full compliance, including ensuring that the A04911 power never exceeds that which was declared in the original certification grant.

UL LLC 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.

This report contains data provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

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

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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, or any agency of the U.S. Government.

Approved & Released By:	Prepared By:
	
Devin Chang Senior Test Engineer UL Verification Services Inc.	Lindsay Ryan Engineer UL LLC

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE Std 1528-2013 the following FCC Published RF exposure [KDB](#) procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02

In addition to the above, the following information was used:

- [TCB Workshop](#) October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- [TCB Workshop](#) October 2016; RF Exposure Procedures (DUT Holder Perturbations)
- [TCB Workshop](#) April 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))

3. Facilities and Accreditation

UL LLC is accredited by A2LA, cert. # 0751.06 for all testing performed within the scope of this report. Testing was performed at the locations noted below.

The test sites and measurement facilities used to collect data are located at 2800 Perimeter Park Dr, Morrisville, NC, USA.

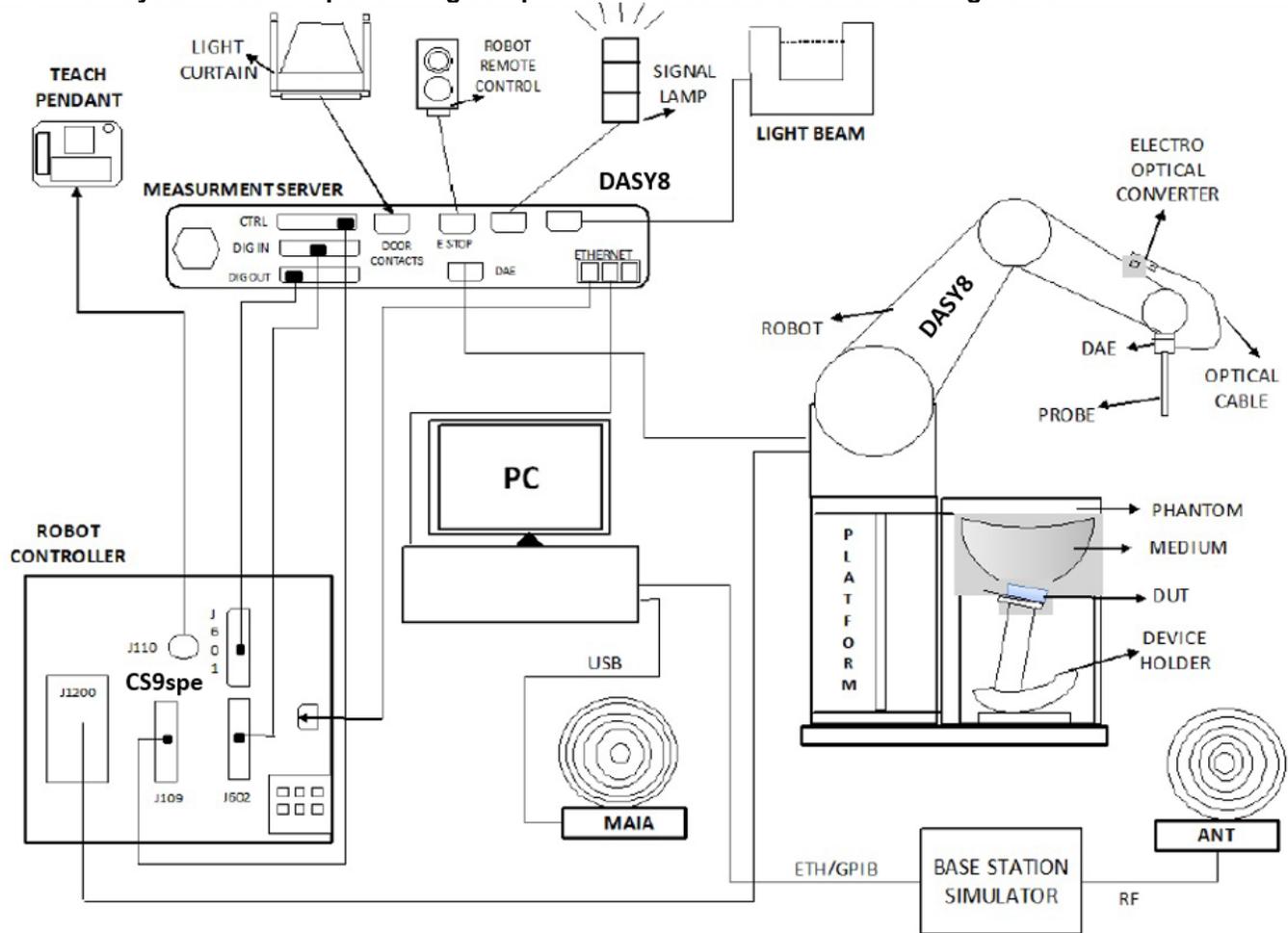
- SAR Lab 1A
- SAR Lab 2B

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
<input checked="" type="checkbox"/>	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A	US0067	27265	825374

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win10 and the DASY8¹ software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

¹ DASY8 software used: DASY16.4.0.5005 and older generations.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEC/IEEE 62209-1528, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$			≤ 2 GHz: ≤ 8 mm $2 - 3$ GHz: ≤ 5 mm*	$3 - 4$ GHz: ≤ 5 mm* $4 - 6$ GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	$3 - 4$ GHz: ≤ 4 mm $4 - 5$ GHz: ≤ 3 mm $5 - 6$ GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	$3 - 4$ GHz: ≤ 3 mm $4 - 5$ GHz: ≤ 2.5 mm $5 - 6$ GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	$3 - 4$ GHz: ≥ 28 mm $4 - 5$ GHz: ≥ 25 mm $5 - 6$ GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported SAR</i> from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

4.3. Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations, and is traceable to recognized national standards.

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Date	Cal. Due Date
Network Analyzer	Keysight	E5063A	MY54100681	2024-07-31	2025-07-31
Dielectric Probe	SPEAG	DAKS-3.5	1147	2024-03-11	2025-03-11
Shorting Block	SPEAG	DAK-3.5 Short	SM DAK 200 DB	2024-03-11	2025-03-11
Dielectric Probe	SPEAG	DAKS-12	1037	2024-03-11	2025-03-11
Shorting Block	SPEAG	DAK-12 Short	2044	2024-03-11	2025-03-11
Thermometer	Fisher Scientific	15-078-181	1817705017	2023-03-30	2025-03-30

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Date	Cal. Due Date
Signal Generator	Keysight	N5181A	MY50140788	2024-08-01	2025-08-01
3-Path Diode Power Sensor	Rohde & Schwarz	NRP8S	112236	2024-07-12	2025-07-12
3-Path Diode Power Sensor	Rohde & Schwarz	NRP8S	112237	2024-07-12	2025-07-12
RF Power Meter	Keysight	N1912A	MY55136012	2024-08-02	2025-08-02
RF Power Sensor	Keysight	N1921A	MY55090025	2024-08-16	2025-08-16
RF Power Sensor	Keysight	N1921A	MY55090030	2024-07-09	2025-07-09
Amplifier	Mini-Circuits	ZVA-183WA-S+	S C484802241	N/A	N/A
Directional Coupler	Mini-Circuits	ZJDC10-183+	2214	NA	NA
Dual Directional Coupler	Werlatone	C5100-10	92249	N/A	N/A
DC Power Supply	Miteq	PS 15V1	1990186	N/A	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Date	Cal. Due Date
E-Field Probe	SPEAG	EX3DV4	7709	2024-11-11	2025-11-11
Data Acquisition Electronics	SPEAG	DAE4	1714	2024-11-06	2025-11-06
System Validation Dipole	SPEAG	CLA13	1017	2024-03-07	2025-03-07
System Validation Dipole	SPEAG	D2450V2	963	2024-10-11	2025-10-11
Environmental Indicator	Fisher Scientific	Traceable	240072452	2024-01-24	2026-01-24

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Date	Cal. Due Date
RF Power Meter	Boonton Electronics	RTP5000	211058	2024-08-01	2025-08-01

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	This is an extremity wrist-worn wearable device.	
Back Cover	The Back Cover is not removable	
Battery Options	The rechargeable battery is not user accessible.	
Test sample information	<p style="text-align: center;">S/N</p> <p>497652312</p> <p>497995528</p>	<p style="text-align: center;">Notes</p> <p>Conducted Sample #1</p> <p>Radiated Sample #1</p>
Hardware Version	Rev V3	
Software Version	3.95	

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)	100.0% (802.11b) ¹
Bluetooth	2.4 GHz	BR, EDR, LE	N/A ²
ANT/ANT+	2.4 GHz	GFSK	N/A ²
NFC	13.56 MHz	Type A, B, AB, F, AF	100% (Type A) ¹

Notes:

1. Duty cycle for Wi-Fi and NFC is referenced from §9.
2. Measured Duty Cycle is not required due to SAR test exemption

7. RF Exposure Conditions (Test Configurations)

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required
WLAN	Extremity (Hand/Wrist)	0	Back	N/A	Yes
BT	Extremity (Hand/Wrist)	0	Back	N/A	No ¹
ANT/ANT+	Extremity (Hand/Wrist)	0	Back	N/A	No ¹
NFC	Extremity (Hand/Wrist)	0	Back	N/A	Yes

Note(s):

1. Exempt from SAR testing

SAR Test Exclusion Calculations for WLAN

Antennas < 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)	Calculated Threshold Value
		dBm	mW		
Bluetooth	2480	10.00	10.00	5	3.1 -EXEMPT-
ANT/ANT+	2478	5.00	3.16	5	1 -EXEMPT-

Note(s):

According to KDB 447498, if the calculated threshold value is >7.5 then SAR testing is required. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

The methodology used to determine the SAR correction is described in IEEE Std 1528-2013. The methodology was conducted over a frequency range of 30 MHz to 6000 MHz, but it is implemented over the 300 MHz to 6000 MHz frequency range. The methodology was also studied for permittivity (ϵ_r) and conductivity (σ) ranges of ± 20%, but ranges of ± 10% have been chosen. Given that the change in dielectric parameters influences the conversion factor of the probe, this influence will be small if a ± 10% range is used.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

Dielectric Property Results:

Liquid Check										
SAR Lab	Date	Tissue Type	Band (MHz)	Freq. (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
SAR 1A	2025-01-14	Head	13	13	54.2	55.0	-1.47%	0.72	0.75	-4.67%
				12	54.2	55.0	-1.45%	0.71	0.75	-4.68%
				14	54.2	55.0	-1.53%	0.72	0.75	-4.65%
SAR 2B	2025-01-15	Head	2450	2450	40.1	39.2	2.40%	1.73	1.80	-3.83%
				2400	40.2	39.3	2.30%	1.69	1.75	-3.52%
				2500	40.1	39.1	2.38%	1.77	1.85	-4.70%

8.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was recorded and the results are normalized to 1 W input power.

System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within ±10% of the manufacturer calibrated dipole SAR target. Refer to Appendix B for the SAR System Check Plots.

System Check													
SAR Lab	Date	Dipole Type & Serial Number	Dipole Cal. Due Date	Input Power (dBm)	Measured results for 1-g SAR				Measured results for 10-g SAR				Plot No.
					Meas. Zoom Scan	Normalize to 1 W	Target (Ref. Value)	Delta ±10%	Meas. Zoom Scan	Normalize to 1 W	Target (Ref. Value)	Delta ±10%	
SAR 1A	2025-01-14	CLA13 SN: 1017	2025-03-07	16.0	0.021	0.527	0.551	-4.27%	0.013	0.327	0.344	-5.07%	1
SAR 2B	2025-01-15	D2450V2 SN: 963	2025-10-11	17.0	2.550	50.879	52.600	-3.27%	1.210	24.143	24.400	-1.05%	2

9. Conducted Output Power Measurements

Tune-Up Power Limits provided by the manufacturer are used to scale measured SAR values.

9.1. Wi-Fi 2.4GHz (DTS Band)

Maximum Output Power (Tune-up Limit) for Wi-Fi 2.4 GHz

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11b/g/n mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 3 W/kg.

Mode	Bandwidth	Channel	Frequency (MHz)	Tune-up PowerLimit (dBm)
				Main Antenna
802.11b	20 MHz	1	2412	14.00
		2	2417	14.00
		3	2422	14.00
		4	2427	14.00
		5	2432	14.00
		6	2437	14.00
		7	2442	14.00
		8	2447	14.00
		9	2452	14.00
		10	2457	14.00
		11	2462	14.00
		12	2467	14.00
		13	2472	14.00
802.11g	20 MHz	1	2412	17.00
		2	2417	17.00
		3	2422	17.00
		4	2427	17.00
		5	2432	17.00
		6	2437	17.00
		7	2442	17.00
		8	2447	17.00
		9	2452	17.00
		10	2457	17.00
		11	2462	17.00
		12	2467	15.00
		13	2472	13.00
802.11n	20 MHz	1	2412	15.50
		2	2417	15.50
		3	2422	15.50
		4	2427	15.50
		5	2432	15.50
		6	2437	15.50
		7	2442	15.50
		8	2447	15.50
		9	2452	15.50
		10	2457	15.50
		11	2462	15.50
		12	2467	15.50
		13	2472	12.50

Wi-Fi 2.4GHz Measured Results

Band	Mode	Ch #	Freq. (MHz)	Main Antenna Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
DSSS 2.4 GHz	802.11b	1	2412	12.8	14.0	Yes
		6	2437	13.5	14.0	
		11	2462	13.5	14.0	
		13	2472	12.6	14.0	

Note(s):

Conducted output power data is referenced from R15607127-S1.

Duty Factor Measured Results

Mode	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11b	100	100	100.0%	1.00

Note(s):

Duty Cycle = (T on / period) * 100%

Duty Cycle plots

802.11b



9.2. Bluetooth

Maximum Output Power (Tune-up Limit) for Bluetooth

Band	Mode	Channel	Frequency (MHz)	Tune-up PowerLimit (dBm)
				Main Antenna
Bluetooth 2.4 GHz	BR	0	2402	10.0
		39	2441	10.0
		78	2480	10.0
	EDR, $\pi/4$ DQPSK	0	2402	9.5
		39	2441	9.5
		78	2480	9.5
	EDR, 8-DPSK	0	2402	9.0
		39	2441	9.0
		78	2480	9.0
	LE	37	2402	0.0
		0	2404	5.0
		17	2440	5.0
		35	2476	5.0
		39	2480	0.0

9.3. ANT/ANT+

Maximum Output Power (Tune-up Limit) for ANT/ANT+

Band	Mode	Frequency (MHz)	Tune-up PowerLimit (dBm)
			Main Antenna
ANT/ANT+	GFSK	2402	1.0
		2404	5.0
		2440	5.0
		2478	5.0
		2480	1.0

9.4. NFC

Conducted output power cannot be measured for NFC, therefore a 2 dB scaling factor shall be used to account for potential variations between samples.

Duty Factor Measured Results

Mode	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
Type A	100.000	100.000	100.0%	1.00

Note(s):

Duty Cycle = (T on / period) * 100%

Duty Cycle plots

Type A



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for Wi-Fi = Measured SAR * Tune-up scaling factor * Duty Cycle scaling factor
- Duty Cycle scaling factor = 1 / Duty cycle (%)

KDB 447498 D01 General RF Exposure Guidance:

Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the initial test position(s) by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The initial test position(s) is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the reported SAR for the initial test position is:

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions are tested.
 - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
 - When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required test channels are considered.
 - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

To determine the initial test position, Area Scans were performed to determine the position with the *Maximum Value of SAR (measured)*. The position that produced the highest *Maximum Value of SAR* is considered the worst case position; thus used as the initial test position.

10.1. Wi-Fi (DTS Band)

When the 802.11b reported SAR of the highest measured maximum output power channel is ≤ 2.0 W/kg, no further SAR testing is required. If SAR is > 2.0 W/kg and ≤ 3.0 W/kg, SAR is required for the next highest measured output power channel. Finally, if SAR is > 3.0 W/kg, SAR is required for the third channel.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 3.0 W/kg.

RF Exposure Conditions	Mode	Power State	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (10g W/kg)	Duty Cycle	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Extremity	802.11b	Default	0	Back	6	2437	0.129	100.0%	14.0	13.5	0.133	0.149	1

Adjusted SAR for 802.11g mode

802.11b Max. Power		802.11g Max. Power		Worst SAR for 802.11b (W/kg)	Adjusted SAR for 802.11g (W/kg)
dBm	mW	dBm	mW		
14.0	25	17.0	50	0.133	0.265

10.2. NFC

RF Exposure Conditions	Mode	Dist. (mm)	Freq. (MHz)	Duty Cycle	Tolerance Scaling ¹ (dB)	Test Position	10-g SAR (W/kg)		Plot No.
							Meas.	Scaled	
Extremity	Type A	0	13.56	100%	2	Back	0.000	0.000	2

Note:

Conducted output power measurements for NFC are not practical, therefore a 2 dB scaling factor shall be used to account for potential variations between samples.

10.3. Standalone SAR Test Exclusion Considerations & Estimated SAR

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$, for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

RF Air interface	RF Exposure Conditions	Frequency (GHz)	Max. tune-up tolerance Power		Min. test separation distance (mm)	SAR test exclusion Result*	Estimated 10-g SAR (W/kg)
			(dBm)	(mW)			
Bluetooth	Extremity	2.480	10.00	10.00	5	3.1	0.168
ANT/ANT+	Extremity	2.478	5.00	3.16	5	0.9	0.053

Conclusion:

*: The computed value is ≤ 7.5 ; therefore, this qualifies for Standalone SAR test exclusion.

11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.8 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the **ratio of largest to smallest SAR** for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Note(s):

Repeated measurement is not required since the original highest measured SAR is < 0.8 W/kg (1-g) or 2 W/kg (10-g) .

12. Simultaneous Transmission Conditions

Simultaneous Transmission is not supported.

Appendixes

Refer to separated files for the following appendixes.

Appendix A: SAR Setup Photos

Appendix B: SAR System Check Plots

Appendix C: SAR Highest Test Plots

Appendix D: SAR Tissue Ingredients

Appendix E: SAR Probe Certificates

Appendix F: SAR Dipole Certificates

END OF REPORT

2025-01-14 System Performance Check Report CLA-13 - SN1017

Summary

Dipole	CLA-13 - SN1017		
Frequency [MHz]	13.0		
Phantom Section TSL	Flat Head Simulating Liquid	Dev. Peak [%]	n/a
Power [dBm]	16.0	Iso. Error [%]	2.5

Exposure Conditions

Dipole Distance [mm]	0	TSL Permittivity	54.2
Conversion Factor	15.55	TSL Conductivity [S/m]	0.72

Hardware Setup

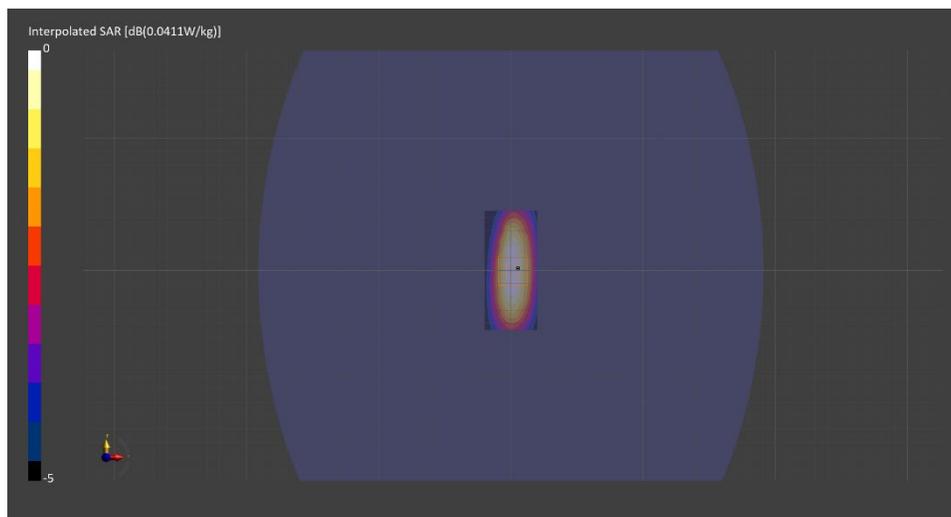
Probe Calibration Date	EX3DV4 - SN7709 2024-11-11	Phantom	ELI V8.0 (20deg probe tilt) - SN2081
DAE Calibration Date	DAE4 Sn1714 2024-11-06	TSL Meas. Date	HBBL4-250V3 2025-01-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
M2/M1 [%]		75.9
Dist 3dB Peak [mm]		15.6

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.022	0.021
psSAR10g [W/Kg]	0.018	0.013
Power Drift [dB]	N/A	-0.05



2025-01-15 System Performance Check Report D2450V2 - SN963

Summary

Dipole	D2450V2 - SN963		
Frequency [MHz]	2450.0		
Phantom Section TSL	Flat Head Simulating Liquid	Dev. Peak [%]	-4.4
Power [dBm]	17.0	Iso. Error [%]	0.8

Exposure Conditions

Dipole Distance [mm]	10	TSL Permittivity	40.1
Conversion Factor	7.73	TSL Conductivity [S/m]	1.73

Hardware Setup

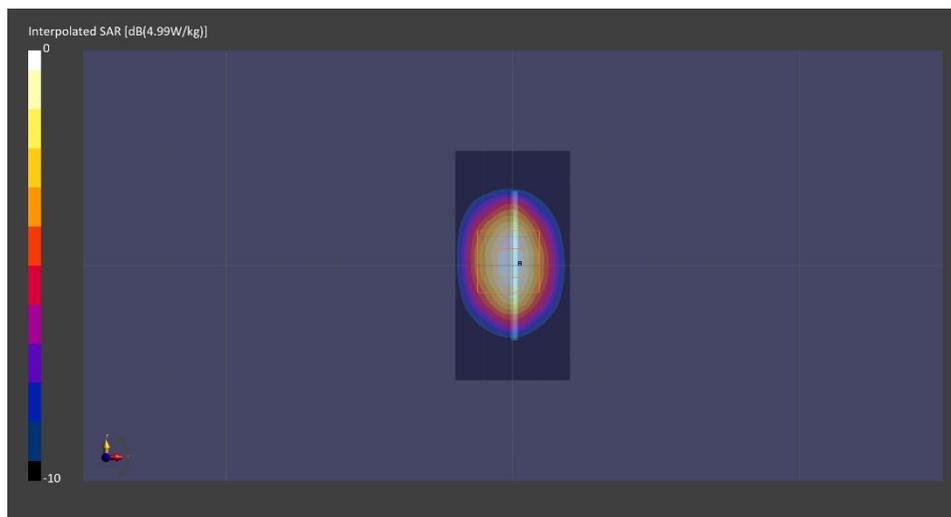
Probe Calibration Date	EX3DV4 - SN7709 2024-11-11	Phantom	ELI V5.0 (20deg probe tilt) - SN1196
DAE Calibration Date	DAE4 Sn1714 2024-11-06	TSL Meas. Date	HBBL-600-10000 2025-01-15

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
M2/M1 [%]		82.1
Dist 3dB Peak [mm]		9.1

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.56	2.55
psSAR10g [W/Kg]	1.19	1.21
Power Drift [dB]	-0.05	0.01



Measurement Report for WLAN 2.4GHz, BACK

Exposure Conditions

Band	WLAN 2.4GHz	TSL Permittivity	39.8
Frequency [MHz] Channel Number	2437.000 6	TSL Conductivity [S/m]	1.73
Group UID	WLAN 10415-AAA	Phantom Section TSL	Flat Head Simulating Liquid
Conversion Factor	7.73	Test Distance [mm]	0.00
Communication Configuration	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)		

Hardware Setup

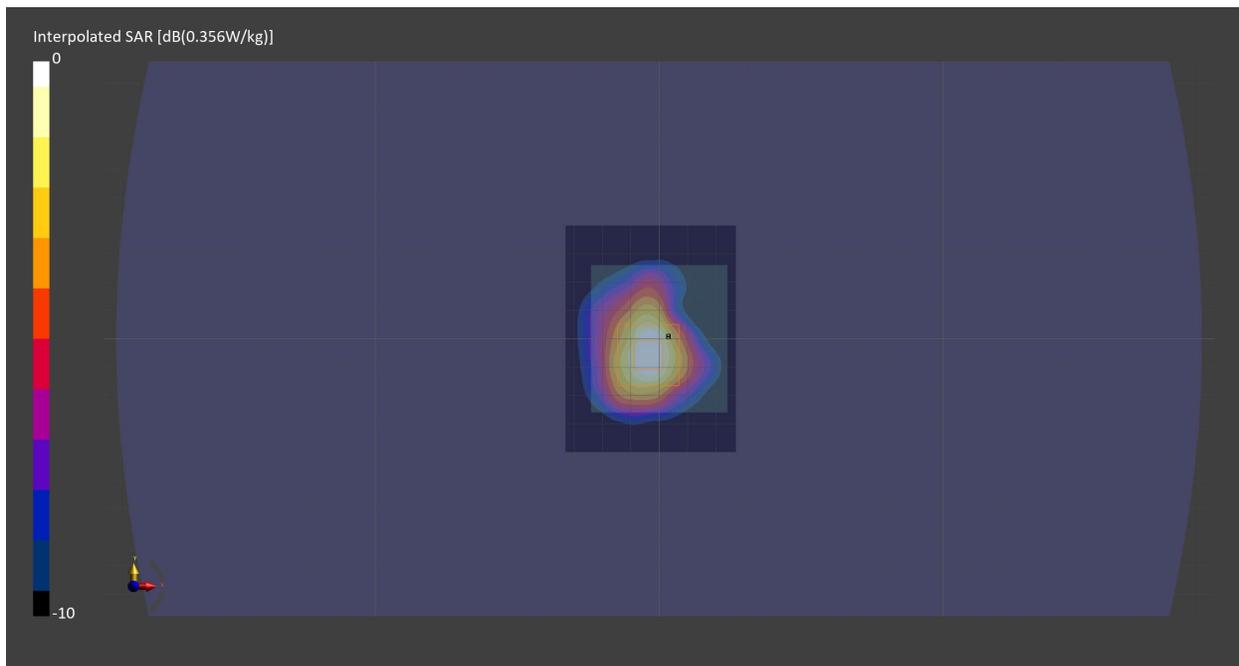
Probe Calibration Date	EX3DV4 - SN7709 2024-11-11	Phantom	ELI V5.0 (20deg probe tilt) - SN1196
DAE Calibration Date	DAE4 Sn1714 2024-11-06	TSL	HBBL-600-10000

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	60.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
M2/M1 [%]		83.3
Dist 3dB Peak [mm]		8.0

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.279	0.285
psSAR10g [W/Kg]	0.129	0.133
Power Drift [dB]	-0.01	0.09



Measurement Report for Custom Band, BACK, NFC

Exposure Conditions

Band	Custom Band	TSL Permittivity	54.2
Frequency [MHz] Channel Number	13.600 13600	TSL Conductivity [S/m]	0.72
Group UID	CW 0--	Phantom Section TSL	Flat Head Simulating Liquid
Conversion Factor	15.55	Test Distance [mm]	0.00
Communication Configuration	CW		

Hardware Setup

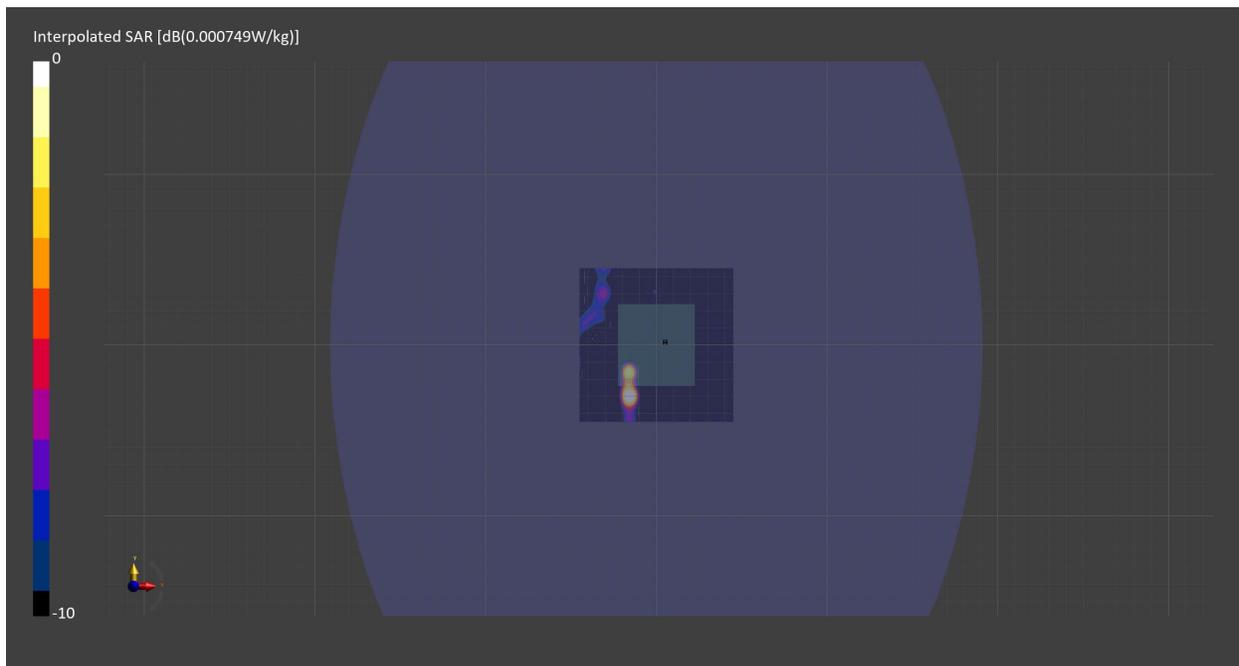
Probe Calibration Date	EX3DV4 - SN7709 2024-11-11	Phantom	ELI V8.0 (20deg probe tilt) - SN2081
DAE Calibration Date	DAE4 Sn1714 2024-11-06	TSL	HBBL4-250V3

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	30.6 x 30.6 x 31.2
Grid Steps [mm]	15.0 x 15.0	1.8 x 1.8 x 1.2
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
M2/M1 [%]		
Dist 3dB Peak [mm]		

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0	0
psSAR10g [W/Kg]	0	0
Power Drift [dB]	N/A	N/A



Head Tissue Simulating Liquids

Application	Specific absorption rate according to standards (e.g., IEC 62209-x, IEEE 1528)		
Packaging	Plastic container of 10 liters with nozzle		
Life Time	Life time and stability of the liquid depend on usage, storage, and handling of tissue simulating liquid		
Options	Tissue simulating liquids for frequencies outside the below listed ranges are available upon request (please contact info@speag.swiss)		
Head Tissue	Parameters according to IEEE 1528 / IEC 62209-1/ IEC 62209-2 / FCC KDB 865664		
Narrow-Band Solutions (±5% Tolerance)	Product	Test Frequency (MHz)	Main Ingredients
	HSL300V2	300	Water, Sugar
	HSL450V2	450	Water, Sugar
	HSL750V2	750	Water, Sugar
	HSL900V2	835, 900	Water, Sugar
Broad-Band Solutions (±5% Tolerance)	Product	Test Frequency (MHz)	Main Ingredients
	HBBL1350-1850V3	1450 - 1800	Water, Tween
	HBBL1550-1950V3	1750 - 1850	Water, Tween
	HBBL1900-3800V3	1950 - 3000	Water, Tween
	HBBL3500-5800V5	3500 - 5800	Water, Oil
Broad-Band Solutions (±10% Tolerance)	Product	Test Frequency (MHz)	Main Ingredients
	HBBL4-250V3	4 - 250	Water, Tween
	HBBL1350-1850V3	1300 - 1850	Water, Tween
	HBBL1550-1950V3	1550 - 1950	Water, Tween
	HBBL1900-3800V3	1900 - 3800	Water, Tween
	HBBL600-10000V6	600 - 10000	Water, Oil

Measurement Certificate / Material Test

Item Name	Head Tissue Simulating Liquid (HBBL600-10000V6)
Product No.	SL AAH U16 BD (Batch: 180208-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

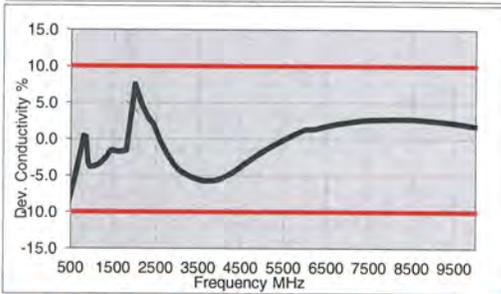
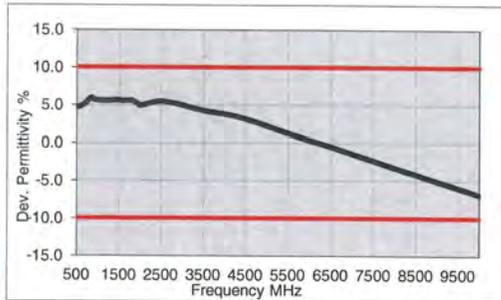
Ambient Condition 22°C ; 30% humidity
 TSL Temperature 22°C
 Test Date 8-Feb-18
 Operator WM

Additional Information

TSL Density
 TSL Heat-capacity

Results

f [MHz]	Measured			Target		Diff.to Target [%]	
	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	44.1	20.3	0.90	41.7	0.90	5.8	0.3
825	44.1	19.9	0.91	41.6	0.91	6.0	0.4
835	44.1	19.7	0.92	41.5	0.91	6.1	0.9
850	44.0	19.4	0.92	41.5	0.92	6.0	0.4
900	43.9	18.7	0.94	41.5	0.97	5.8	-3.1
1400	42.9	14.9	1.16	40.6	1.18	5.7	-1.6
1450	42.8	14.7	1.18	40.5	1.20	5.7	-1.7
1600	42.6	14.2	1.26	40.3	1.28	5.7	-1.9
1625	42.6	14.1	1.28	40.3	1.30	5.8	-1.4
1640	42.6	14.1	1.29	40.3	1.31	5.8	-1.2
1650	42.5	14.1	1.29	40.2	1.31	5.6	-1.8
1700	42.4	14.0	1.32	40.2	1.34	5.6	-1.6
1750	42.3	13.9	1.35	40.1	1.37	5.5	-1.5
1800	42.3	13.8	1.38	40.0	1.40	5.7	-1.4
1810	42.3	13.8	1.39	40.0	1.40	5.7	-0.7
1825	42.3	13.7	1.40	40.0	1.40	5.7	0.0
1850	42.2	13.7	1.41	40.0	1.40	5.5	0.7
1900	42.1	13.6	1.44	40.0	1.40	5.3	2.9
1950	42.0	13.6	1.47	40.0	1.40	5.0	5.0
2000	42.0	13.5	1.51	40.0	1.40	5.0	7.9
2050	41.9	13.5	1.54	39.9	1.44	5.0	6.6
2100	41.8	13.5	1.57	39.8	1.49	5.0	5.4
2150	41.8	13.5	1.61	39.7	1.53	5.2	5.0
2200	41.7	13.4	1.64	39.6	1.58	5.2	3.9
2250	41.6	13.4	1.68	39.6	1.62	5.2	3.6
2300	41.6	13.4	1.72	39.5	1.67	5.4	3.2
2350	41.5	13.4	1.76	39.4	1.71	5.4	2.9
2400	41.4	13.5	1.80	39.3	1.76	5.4	2.5
2450	41.4	13.5	1.84	39.2	1.80	5.6	2.2
2500	41.3	13.5	1.88	39.1	1.85	5.5	1.4
2550	41.2	13.5	1.92	39.1	1.91	5.4	0.6
2600	41.1	13.6	1.96	39.0	1.96	5.4	-0.2
3500	39.6	14.1	2.75	37.9	2.91	4.3	-5.5
3700	39.2	14.3	2.94	37.7	3.12	4.1	-5.7



5200	36.7	15.9	4.61	36.0	4.66	1.9	-1.0
5250	36.6	16.0	4.67	35.9	4.71	1.8	-0.9
5300	36.5	16.0	4.72	35.9	4.76	1.7	-0.7
5500	36.1	16.2	4.96	35.6	4.96	1.3	-0.1
5600	35.9	16.3	5.08	35.5	5.07	1.1	0.2
5700	35.7	16.4	5.19	35.4	5.17	0.9	0.5
5800	35.6	16.5	5.31	35.3	5.27	0.8	0.8
6000	35.2	16.6	5.55	35.1	5.48	0.4	1.3
6500	34.3	17.1	6.18	34.5	6.07	-0.5	1.8
7000	33.4	17.5	6.81	33.9	6.65	-1.4	2.3
7500	32.5	17.8	7.43	33.3	7.24	-2.3	2.7
8000	31.7	18.1	8.06	32.7	7.84	-3.2	2.8
8500	30.8	18.4	8.68	32.1	8.45	-4.2	2.8
9000	30.0	18.6	9.31	31.5	9.08	-5.1	2.6
9500	29.1	18.8	9.93	31.0	9.71	-5.9	2.2
10000	28.3	19.0	10.55	30.4	10.36	-6.9	1.8

Measurement Certificate / Material Test

Item Name	Head Tissue Simulating Liquid (HBBL4-250V3)
Product No.	SL AAH 005 AD (Batch: 211221-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation

Validation results were within $\pm 2.5\%$ towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

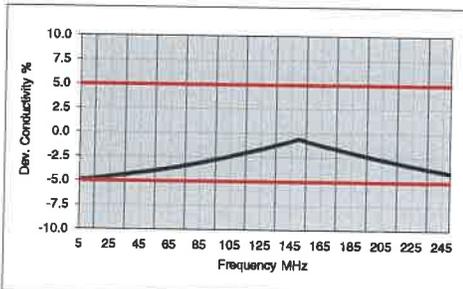
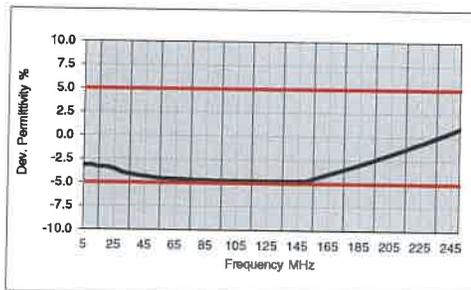
Test Condition

Ambient	Environment temperatur (22 \pm 3) $^{\circ}$ C and humidity < 70%.
TSL Temperature	22 $^{\circ}$ C
Test Date	7-Jan-22
Operator	JML

Additional Information

TSL Density	1.042 g/cm ³
TSL Heat-capacity	3.574 kJ/(kg \cdot K)

f [MHz]	Measured			Target		Diff.to-Target [%]	
	ϵ'	ϵ''	sigma	eps	sigma	$\Delta\epsilon$	$\Delta\sigma$
5	53.7	2584.30	0.71	55.5	0.75	-3.2	-4.9
10	53.7	1282.57	0.71	55.5	0.75	-3.2	-4.9
15	53.5	855.85	0.71	55.3	0.75	-3.4	-4.8
20	53.3	642.50	0.71	55.1	0.75	-3.3	-4.7
25	53.1	514.52	0.72	55.0	0.75	-3.5	-4.6
30	52.9	429.24	0.72	55.0	0.75	-3.9	-4.5
35	52.7	368.38	0.72	54.9	0.75	-4.1	-4.4
40	52.5	322.73	0.72	54.8	0.75	-4.2	-4.2
45	52.3	287.27	0.72	54.7	0.75	-4.3	-4.1
50	52.1	258.93	0.72	54.6	0.75	-4.4	-4.0
55	52.0	235.78	0.72	54.4	0.75	-4.5	-3.9
60	51.8	216.52	0.72	54.3	0.75	-4.6	-3.8
65	51.7	200.24	0.72	54.2	0.75	-4.6	-3.7
70	51.6	188.31	0.73	54.1	0.75	-4.6	-3.6
75	51.5	174.24	0.73	54.0	0.75	-4.7	-3.4
80	51.4	163.70	0.73	53.9	0.75	-4.7	-3.3
85	51.2	154.40	0.73	53.8	0.75	-4.7	-3.1
90	51.1	148.15	0.73	53.7	0.75	-4.7	-2.9
95	51.0	138.77	0.73	53.5	0.75	-4.7	-2.8
100	50.9	132.14	0.74	53.4	0.75	-4.7	-2.6
105	50.8	126.15	0.74	53.3	0.76	-4.7	-2.4
110	50.7	120.71	0.74	53.2	0.76	-4.7	-2.2
115	50.6	115.75	0.74	53.1	0.76	-4.7	-2.1
120	50.5	111.21	0.74	53.0	0.76	-4.7	-1.9
125	50.4	107.03	0.74	52.9	0.76	-4.7	-1.7
130	50.3	103.18	0.75	52.8	0.76	-4.7	-1.5
135	50.1	99.62	0.75	52.6	0.76	-4.7	-1.3
140	50.0	96.32	0.75	52.5	0.76	-4.7	-1.1
145	49.9	93.24	0.75	52.4	0.76	-4.7	-0.8
150	49.8	90.38	0.75	52.3	0.76	-4.7	-0.6
155	49.7	87.70	0.76	52.1	0.76	-4.5	-0.8
160	49.6	85.20	0.76	51.8	0.77	-4.2	-1.0
165	49.5	82.84	0.76	51.8	0.77	-4.0	-1.2
170	48.4	80.83	0.76	51.4	0.77	-3.7	-1.4
175	49.4	78.55	0.76	51.1	0.78	-3.5	-1.6
180	49.3	76.58	0.77	50.9	0.78	-3.2	-1.8
185	49.2	74.72	0.77	50.7	0.78	-3.0	-2.0
190	49.1	72.96	0.77	50.4	0.79	-2.7	-2.2
195	49.0	71.29	0.77	50.2	0.79	-2.4	-2.3
200	48.9	69.71	0.78	50.0	0.80	-2.1	-2.5
205	48.8	68.20	0.78	49.7	0.80	-1.9	-2.7
210	48.7	66.77	0.78	49.5	0.80	-1.6	-2.8
215	48.6	65.41	0.78	49.3	0.81	-1.3	-3.0
220	48.6	64.10	0.78	49.0	0.81	-1.0	-3.2
225	48.5	62.86	0.79	48.8	0.81	-0.7	-3.3
230	48.4	61.67	0.79	48.6	0.82	-0.4	-3.5
235	48.3	60.54	0.79	48.3	0.82	0.0	-3.6
240	48.2	59.45	0.79	48.1	0.82	0.3	-3.8
245	48.1	58.41	0.80	47.9	0.83	0.6	-3.9
250	48.1	57.41	0.80	47.6	0.83	0.9	-4.1





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Multilateral Agreement for the recognition of calibration certificates**

Accreditation No.: **SCS 0108**

Client

UL

Research Triangle Park, USA

Certificate No.

EX-7709_Nov24

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:7709**

Calibration procedure(s) **QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6,
QA CAL-25.v8
Calibration procedure for dosimetric E-field probes**

Calibration date **November 11, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3) °C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-24 (No. 217-04036/04037)	Mar-25
Power sensor NRP-Z91	SN: 103244	26-Mar-24 (No. 217-04036)	Mar-25
OCP DAK-3.5 (weighted)	SN: 1249	23-Sep-24 (OCP-DAK3.5-1249_Sep24)	Sep-25
OCP DAK-12	SN: 1016	24-Sep-24 (OCP-DAK12-1016_Sep24)	Sep-25
Reference 20 dB Attenuator	SN: CC2552 (20x)	26-Mar-24 (No. 217-04046)	Mar-25
DAE4	SN: 660	23-Feb-24 (No. DAE4-660_Feb24)	Feb-25
Reference Probe EX3DV4	SN: 7349	03-Jun-24 (No. EX3-7349_Jun24)	Jun-25

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-24)	In house check: Jun-26
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-24)	In house check: Jun-26
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-24)	In house check: Jun-26
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-24)	In house check: Jun-26
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Sep-24)	In house check: Sep-26

	Name	Function	Signature
Calibrated by	Krešimir Franjić	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	

Issued: November 11, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 0108**

Glossary

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices – Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

Parameters of Probe: EX3DV4 - SN:7709

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k = 2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.67	0.76	0.65	±10.1%
DCP (mV) ^B	101.9	103.6	104.5	±4.7%

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Max Unc ^E k = 2
0	CW	X	0.00	0.00	1.00	0.00	130.4	±1.8%	±4.7%
		Y	0.00	0.00	1.00		126.8		
		Z	0.00	0.00	1.00		123.0		
10352	Pulse Waveform (200Hz, 10%)	X	1.62	61.12	6.78	10.00	60.0	±3.2%	±9.6%
		Y	1.63	61.10	6.59		60.0		
		Z	1.57	60.79	6.57		60.0		
10353	Pulse Waveform (200Hz, 20%)	X	0.76	60.00	5.02	6.99	80.0	±2.1%	±9.6%
		Y	0.82	60.00	4.94		80.0		
		Z	46.00	80.00	11.00		80.0		
10354	Pulse Waveform (200Hz, 40%)	X	0.11	133.32	0.70	3.98	95.0	±2.2%	±9.6%
		Y	24.00	72.00	7.00		95.0		
		Z	0.08	129.98	0.71		95.0		
10355	Pulse Waveform (200Hz, 60%)	X	8.93	158.89	27.35	2.22	120.0	±1.7%	±9.6%
		Y	11.82	153.13	10.97		120.0		
		Z	9.65	157.53	24.90		120.0		
10387	QPSK Waveform, 1 MHz	X	0.71	64.37	12.72	1.00	150.0	±3.8%	±9.6%
		Y	0.72	63.79	11.95		150.0		
		Z	0.58	62.31	11.36		150.0		
10388	QPSK Waveform, 10 MHz	X	1.46	65.59	14.06	0.00	150.0	±1.3%	±9.6%
		Y	1.42	64.91	13.55		150.0		
		Z	1.32	64.49	13.22		150.0		
10396	64-QAM Waveform, 100 kHz	X	1.56	63.00	15.42	3.01	150.0	±1.4%	±9.6%
		Y	1.72	64.37	15.62		150.0		
		Z	1.57	63.11	15.15		150.0		
10399	64-QAM Waveform, 40 MHz	X	2.93	66.08	15.07	0.00	150.0	±1.8%	±9.6%
		Y	2.91	65.87	14.80		150.0		
		Z	2.81	65.63	14.68		150.0		
10414	WLAN CCDF, 64-QAM, 40 MHz	X	3.97	65.66	15.24	0.00	150.0	±3.4%	±9.6%
		Y	4.01	65.58	15.09		150.0		
		Z	3.83	65.37	14.93		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Linearization parameter uncertainty for maximum specified field strength.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Parameters of Probe: EX3DV4 - SN:7709

Sensor Model Parameters

	C1 fF	C2 fF	α V ⁻¹	T1 ms V ⁻²	T2 ms V ⁻¹	T3 ms	T4 V ⁻²	T5 V ⁻¹	T6
x	12.1	88.65	34.31	0.92	0.00	4.90	0.00	0.00	1.00
y	13.2	95.01	33.20	3.59	0.00	4.90	0.53	0.00	1.00
z	11.2	80.95	33.20	1.65	0.00	4.90	0.19	0.00	1.00

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle	77.1°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

Note: Measurement distance from surface can be increased to 3–4 mm for an *Area Scan* job.

Parameters of Probe: EX3DV4 - SN:7709

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc ^H (k = 2)
13	55.0	0.75	15.55	16.83	15.88	0.00	1.25	±13.3%
450	43.5	0.87	11.94	11.94	11.94	0.16	1.30	±13.3%
750	41.9	0.89	10.11	9.78	9.88	0.34	1.27	±11.0%
900	41.5	0.97	9.47	9.16	9.25	0.34	1.27	±11.0%
1750	40.1	1.37	8.63	8.35	8.44	0.34	1.27	±11.0%
1900	40.0	1.40	8.34	8.07	8.15	0.34	1.27	±11.0%
2100	39.8	1.49	8.42	8.15	8.23	0.34	1.27	±11.0%
2300	39.5	1.67	8.03	7.77	7.85	0.35	1.27	±11.0%
2450	39.2	1.80	7.73	7.48	7.56	0.35	1.27	±11.0%
2600	39.0	1.96	7.81	7.56	7.63	0.35	1.27	±11.0%
3300	38.2	2.71	7.16	6.93	7.00	0.35	1.27	±13.1%
3500	37.9	2.91	7.11	6.88	6.95	0.35	1.27	±13.1%
3700	37.7	3.12	7.13	6.90	6.97	0.35	1.27	±13.1%
3900	37.5	3.32	6.98	6.75	6.82	0.35	1.27	±13.1%
4100	37.2	3.53	6.86	6.63	6.70	0.36	1.27	±13.1%
4200	37.1	3.63	6.81	6.58	6.65	0.36	1.27	±13.1%
4400	36.9	3.84	6.69	6.47	6.54	0.36	1.27	±13.1%
4600	36.7	4.04	6.54	6.32	6.39	0.36	1.27	±13.1%
4800	36.4	4.25	6.55	6.34	6.41	0.36	1.27	±13.1%
4950	36.3	4.40	6.45	6.24	6.30	0.35	1.27	±13.1%
5250	35.9	4.71	6.23	6.03	6.09	0.32	1.27	±13.1%
5400	35.8	4.86	5.91	5.72	5.78	0.30	1.27	±13.1%
5600	35.5	5.07	5.75	5.56	5.62	0.28	1.27	±13.1%
5750	35.4	5.22	5.72	5.54	5.60	0.27	1.27	±13.1%
5850	35.2	5.32	5.77	5.59	5.64	0.26	1.27	±13.1%

^C Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–9 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.

^F The probes are calibrated using tissue simulating liquids (TSL) that deviate for ϵ and σ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10% if SAR correction is applied.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.

^H The stated uncertainty is the total calibration uncertainty (k = 2) of Norm-ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

Parameters of Probe: EX3DV4 - SN:7709

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc ^H (k = 2)
6500	34.5	6.07	5.69	5.50	5.56	0.20	1.27	±18.6%

^C Frequency validity at 6.5 GHz is -600/+700 MHz, and ±700 MHz at or above 7 GHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

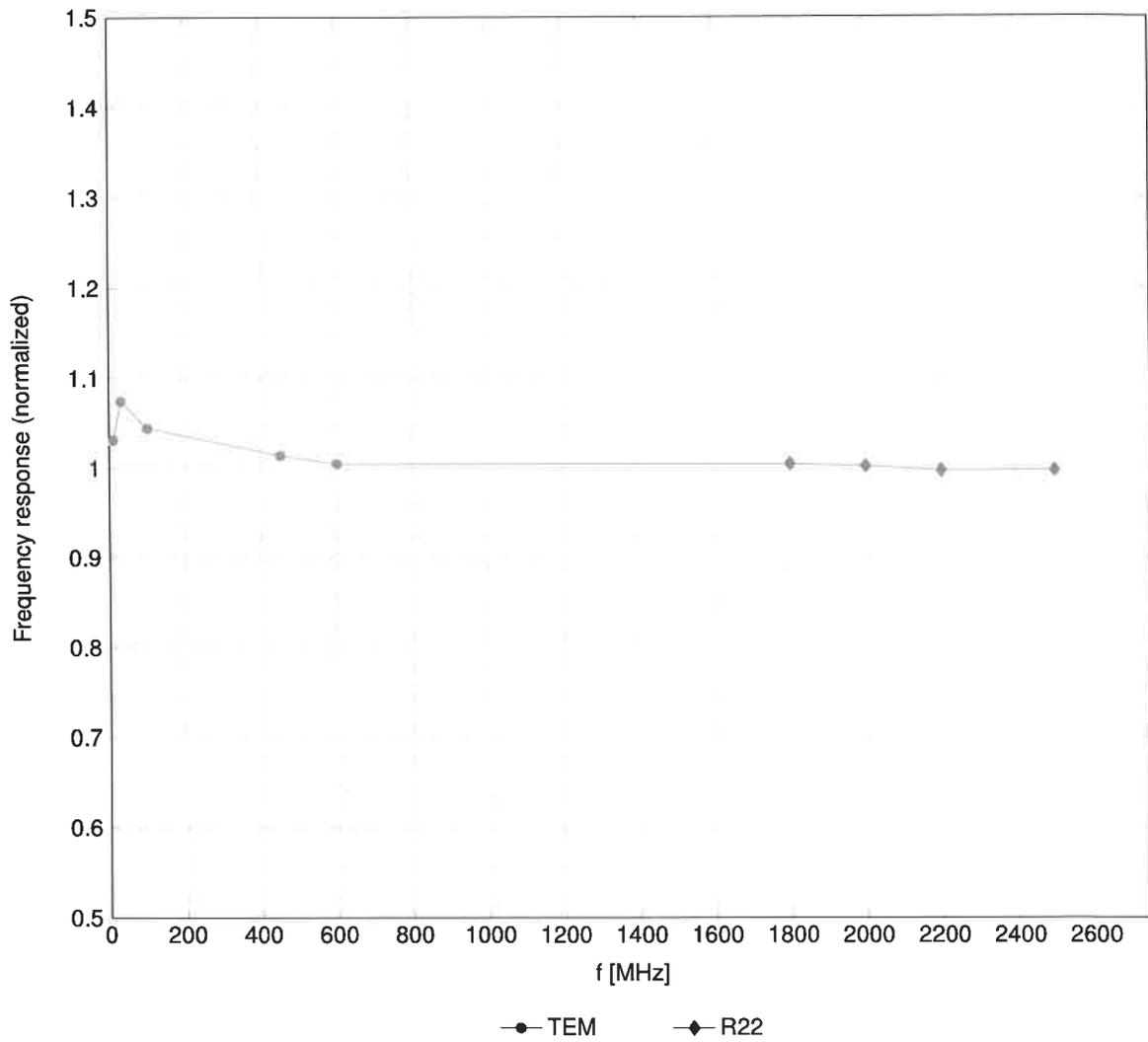
^F The probes are calibrated using tissue simulating liquids (TSL) that deviate for ϵ and σ by less than ±10% from the target values (typically better than ±6%) and are valid for TSL with deviations of up to ±10%.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz; below ±2% for frequencies between 3–6 GHz; and below ±4% for frequencies between 6–10 GHz at any distance larger than half the probe tip diameter from the boundary.

^H The stated uncertainty is the total calibration uncertainty (k = 2) of Norm-ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

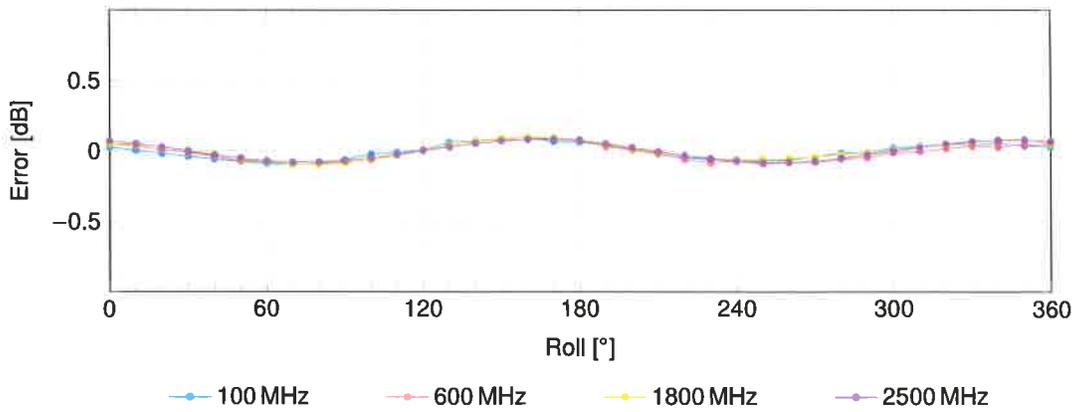
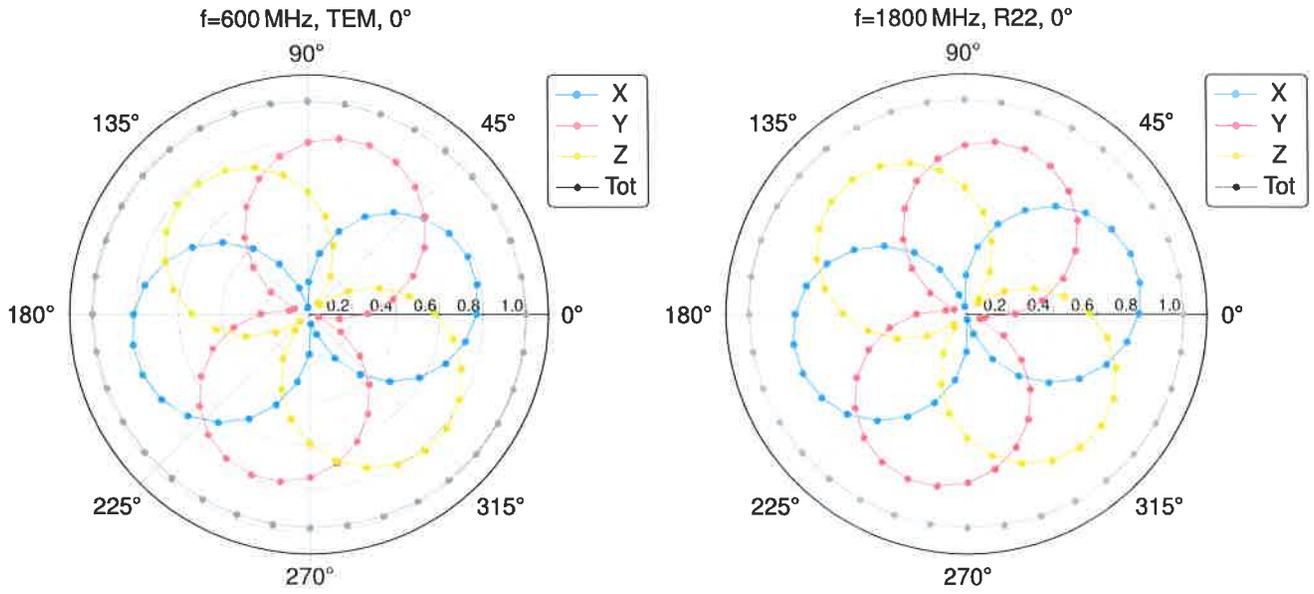
Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide:R22)



Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

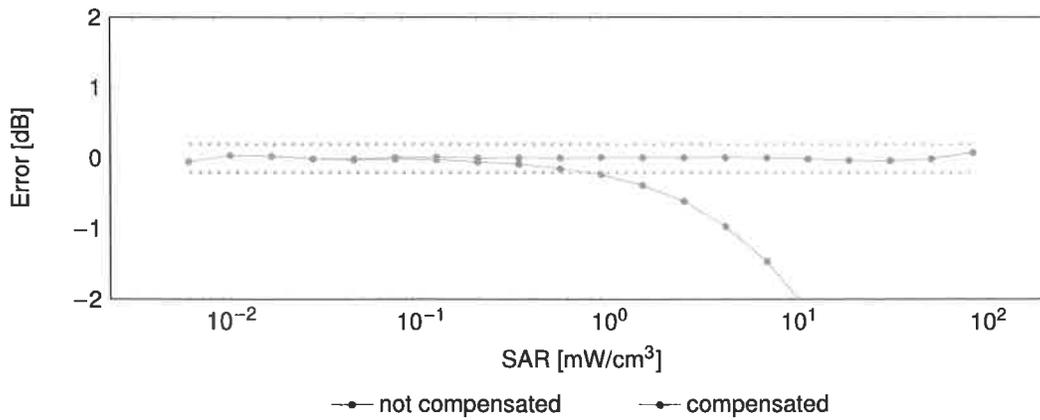
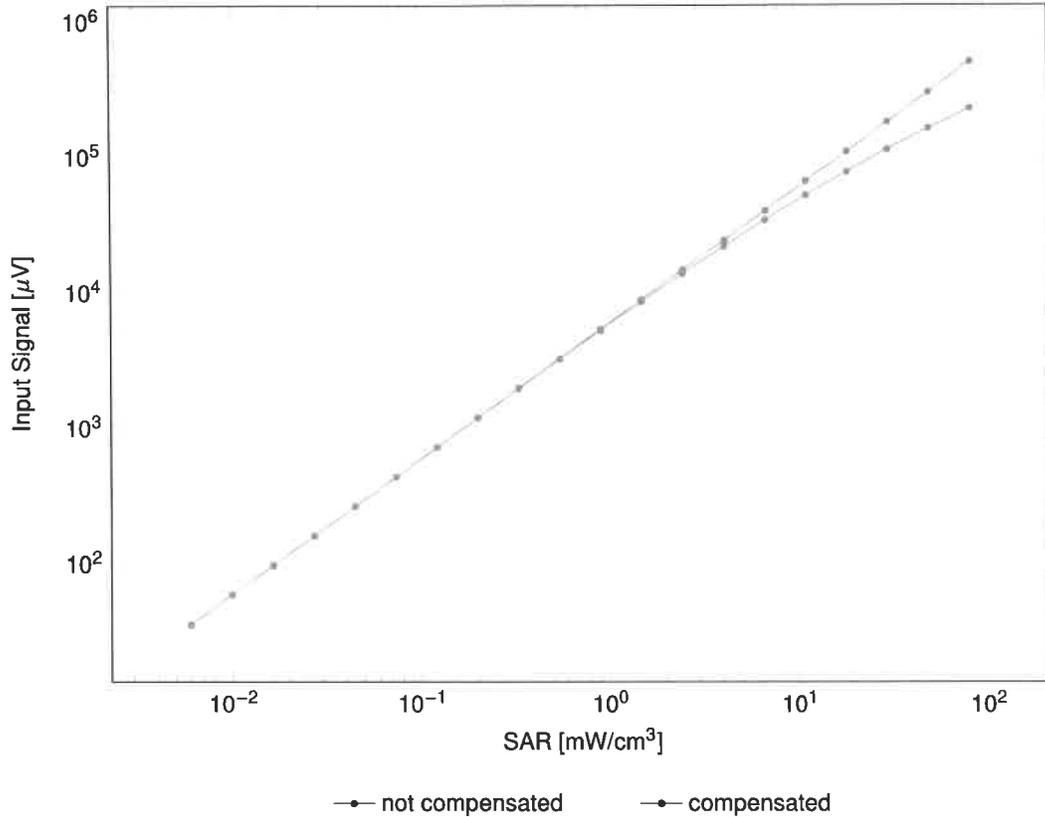
Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

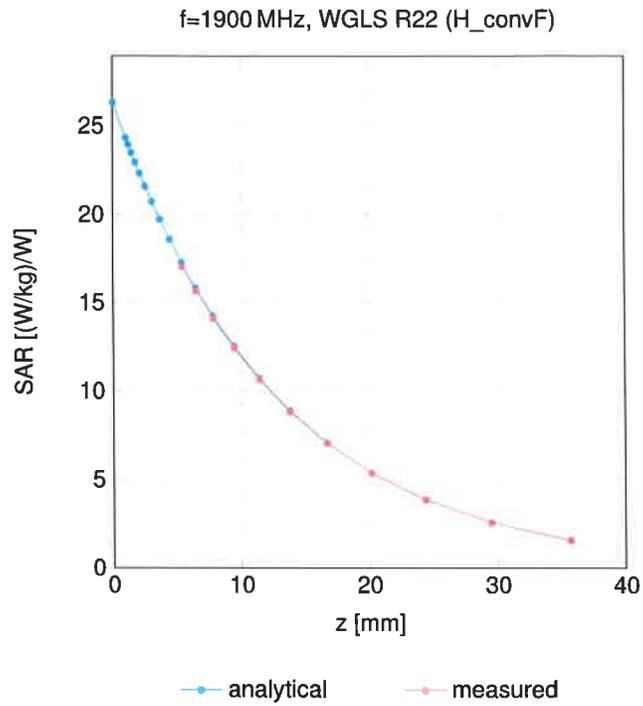
Dynamic Range f(SAR_{head})

(TEM cell, f_{eval} = 1900MHz)



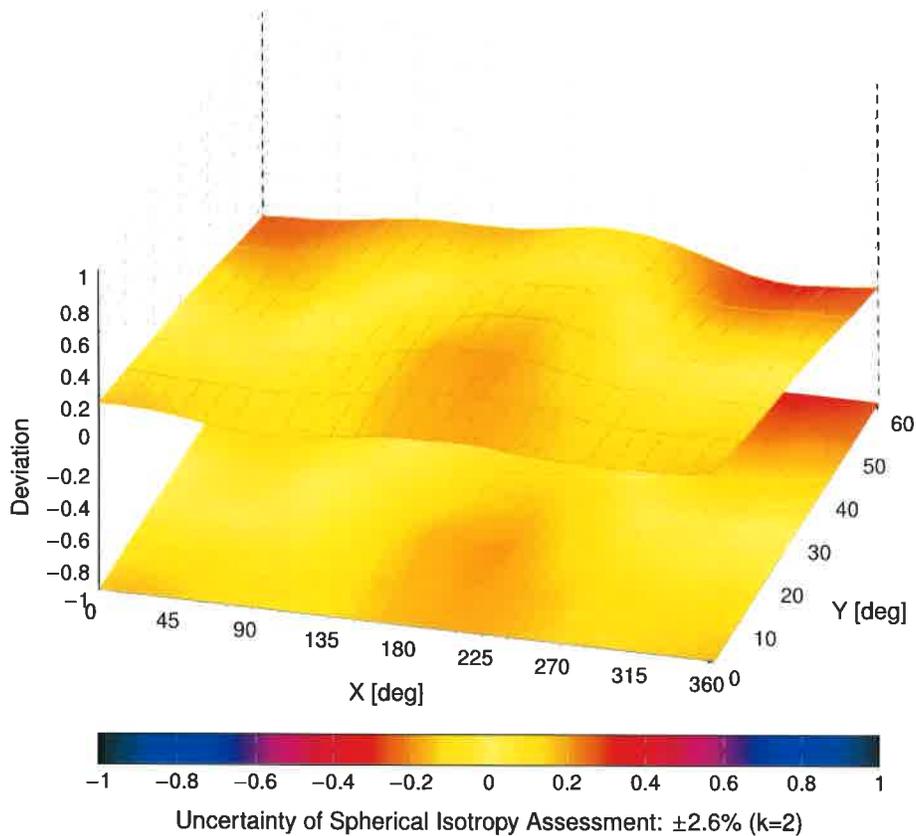
Uncertainty of Linearity Assessment: ±0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), f = 900 MHz



Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^F k = 2
0		CW	CW	0.00	±4.7
10010	CAB	SAR Validation (Square, 100 ms, 10 ms)	Test	10.00	±9.6
10011	CAC	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.6
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	±9.6
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	±9.6
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	±9.6
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	±9.6
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	±9.6
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9.6
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	±9.6
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	±9.6
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	±9.6
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.6
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.6
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.6
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	±9.6
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	±9.6
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	±9.6
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	±9.6
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	±9.6
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.6
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6
10062	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6
10063	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	±9.6
10064	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6
10065	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6
10066	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	±9.6
10067	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.6
10068	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6
10069	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	±9.6
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	±9.6
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	±9.6
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	±9.6
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	±9.6
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.6
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	±9.6
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	±9.6
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	±9.6
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	±9.6
10098	CAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	±9.6
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	±9.6
10100	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	±9.6
10101	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10102	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10103	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	±9.6
10104	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.6
10105	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	±9.6
10108	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	±9.6
10109	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10110	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	±9.6
10111	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.6

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k = 2
10112	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6
10113	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10114	CAE	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	±9.6
10115	CAE	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±9.6
10116	CAE	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	±9.6
10117	CAE	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	±9.6
10118	CAE	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	±9.6
10119	CAE	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±9.6
10140	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10141	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6
10142	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10143	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6
10144	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	±9.6
10145	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6
10146	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6
10147	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±9.6
10149	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10150	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10151	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	±9.6
10152	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10153	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±9.6
10154	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±9.6
10155	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10156	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±9.6
10157	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10158	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10159	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±9.6
10160	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	±9.6
10161	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10162	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	±9.6
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	±9.6
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	±9.6
10169	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	±9.6
10170	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10171	AAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	±9.6
10172	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	±9.6
10173	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10174	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10175	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	±9.6
10176	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10177	CAJ	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±9.6
10178	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10179	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10180	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10181	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±9.6
10182	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10183	AAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10184	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10185	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	±9.6
10186	AAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	±9.6
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10189	AAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	±9.6
10194	CAE	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	±9.6
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	±9.6
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	±9.6
10197	CAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	±9.6
10198	CAE	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	±9.6
10219	CAE	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	±9.6
10220	CAE	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6
10221	CAE	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6
10222	CAE	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±9.6
10223	CAE	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6
10224	CAE	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6

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10225	CAC	UMTS-FDD (HSPA+)	WCDMA	5.97	±9.6
10226	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6
10227	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6
10228	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6
10229	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10230	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10231	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6
10232	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10233	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10234	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6
10235	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10236	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10237	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6
10238	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10239	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10240	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6
10241	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6
10242	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6
10243	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6
10244	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10245	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±9.6
10246	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6
10247	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6
10248	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6
10249	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6
10250	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6
10251	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6
10252	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6
10253	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±9.6
10254	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±9.6
10255	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	±9.6
10256	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±9.6
10257	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6
10258	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±9.6
10259	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6
10260	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6
10261	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±9.6
10262	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	±9.6
10263	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	±9.6
10264	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6
10265	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10266	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±9.6
10267	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6
10268	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10269	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6
10270	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	±9.6
10274	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	±9.6
10275	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	±9.6
10277	CAA	PHS (QPSK)	PHS	11.81	±9.6
10278	CAA	PHS (QPSK, BW 884 MHz, Rolloff 0.5)	PHS	11.81	±9.6
10279	CAA	PHS (QPSK, BW 884 MHz, Rolloff 0.38)	PHS	12.18	±9.6
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	±9.6
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	±9.6
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	±9.6
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	±9.6
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	±9.6
10297	AAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±9.6
10298	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±9.6
10299	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±9.6
10300	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10301	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC)	WiMAX	12.03	±9.6
10302	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	±9.6
10303	AAA	IEEE 802.16e WiMAX (31:15, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	12.52	±9.6
10304	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	11.86	±9.6
10305	AAA	IEEE 802.16e WiMAX (31:15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	±9.6
10306	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	±9.6

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k = 2
10307	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	±9.6
10308	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, PUSC)	WiMAX	14.46	±9.6
10309	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	±9.6
10310	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	±9.6
10311	AAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	±9.6
10313	AAA	iDEN 1:3	iDEN	10.51	±9.6
10314	AAA	iDEN 1:6	iDEN	13.48	±9.6
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	±9.6
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10317	AAE	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	±9.6
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	±9.6
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±9.6
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	±9.6
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	±9.6
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	±9.6
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	±9.6
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	±9.6
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	±9.6
10400	AAF	IEEE 802.11ac WiFi (20 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	±9.6
10401	AAF	IEEE 802.11ac WiFi (40 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	±9.6
10402	AAF	IEEE 802.11ac WiFi (80 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	±9.6
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	±9.6
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±9.6
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	±9.6
10410	AAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	±9.6
10414	AAA	WLAN CCDF, 64-QAM, 40 MHz	Generic	8.54	±9.6
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	±9.6
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10417	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	WLAN	8.14	±9.6
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	WLAN	8.19	±9.6
10422	AAD	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	±9.6
10423	AAD	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	±9.6
10424	AAD	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	±9.6
10425	AAD	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	±9.6
10426	AAD	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	±9.6
10427	AAD	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	±9.6
10430	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	±9.6
10431	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6
10432	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10433	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10434	AAB	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	±9.6
10435	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10447	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±9.6
10448	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	±9.6
10449	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	±9.6
10450	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	±9.6
10451	AAB	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	±9.6
10453	AAE	Validation (Square, 10 ms, 1 ms)	Test	10.00	±9.6
10456	AAD	IEEE 802.11ac WiFi (160 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	±9.6
10457	AAB	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	±9.6
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	±9.6
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	±9.6
10460	AAB	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	±9.6
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	±9.6
10463	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10465	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10466	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10467	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10468	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10469	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10470	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10471	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^F k = 2
10472	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10473	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10474	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10475	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10477	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10478	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10480	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	±9.6
10481	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10482	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	±9.6
10483	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	±9.6
10484	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	±9.6
10485	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	±9.6
10486	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	±9.6
10487	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	±9.6
10488	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	±9.6
10489	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10490	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	±9.6
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10494	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10495	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	±9.6
10496	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10497	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10498	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	±9.6
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	±9.6
10500	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10501	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	±9.6
10502	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	±9.6
10503	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	±9.6
10504	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10505	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10506	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10507	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	±9.6
10508	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	±9.6
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	±9.6
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	±9.6
10512	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10513	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	±9.6
10514	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	±9.6
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10518	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10519	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	±9.6
10520	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	±9.6
10521	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	±9.6
10522	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10523	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	±9.6
10524	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	±9.6
10525	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.36	±9.6
10526	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.42	±9.6
10527	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.21	±9.6
10528	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.36	±9.6
10529	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.36	±9.6
10531	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 99pc duty cycle)	WLAN	8.43	±9.6
10532	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10533	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.38	±9.6
10534	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.45	±9.6
10535	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6
10536	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.6
10537	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6
10538	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.54	±9.6
10540	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.39	±9.6

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10541	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.46	±9.6
10542	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.65	±9.6
10543	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.65	±9.6
10544	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6
10545	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10546	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.35	±9.6
10547	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.49	±9.6
10548	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.37	±9.6
10550	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.38	±9.6
10551	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.50	±9.6
10552	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.42	±9.6
10553	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6
10554	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6
10555	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
10556	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6
10557	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.52	±9.6
10558	AAE	IEEE 802.11ac WiFi (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.61	±9.6
10560	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.73	±9.6
10561	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.56	±9.6
10562	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.69	±9.6
10563	AAE	IEEE 802.11ac WiFi (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.77	±9.6
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	±9.6
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	±9.6
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	±9.6
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	±9.6
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	±9.6
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	±9.6
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10585	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10586	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10587	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10588	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10589	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10590	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10591	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS0, 90pc duty cycle)	WLAN	8.63	±9.6
10592	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10593	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS2, 90pc duty cycle)	WLAN	8.64	±9.6
10594	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10595	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS4, 90pc duty cycle)	WLAN	8.74	±9.6
10596	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS5, 90pc duty cycle)	WLAN	8.71	±9.6
10597	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS6, 90pc duty cycle)	WLAN	8.72	±9.6
10598	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS7, 90pc duty cycle)	WLAN	8.50	±9.6
10599	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS0, 90pc duty cycle)	WLAN	8.79	±9.6
10600	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10601	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS2, 90pc duty cycle)	WLAN	8.82	±9.6
10602	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS3, 90pc duty cycle)	WLAN	8.94	±9.6
10603	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS4, 90pc duty cycle)	WLAN	9.03	±9.6
10604	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS5, 90pc duty cycle)	WLAN	8.76	±9.6
10605	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS6, 90pc duty cycle)	WLAN	8.97	±9.6
10606	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
10607	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 90pc duty cycle)	WLAN	8.64	±9.6
10608	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.77	±9.6

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10609	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±9.6
10610	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.78	±9.6
10611	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10612	AAD	IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10613	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.94	±9.6
10614	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.59	±9.6
10615	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10616	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.82	±9.6
10617	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.81	±9.6
10618	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.58	±9.6
10619	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.86	±9.6
10620	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±9.6
10621	AAD	IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10622	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.68	±9.6
10623	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
10624	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.96	±9.6
10625	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.96	±9.6
10626	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10627	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10628	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±9.6
10629	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10630	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.72	±9.6
10631	AAD	IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.81	±9.6
10632	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10633	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.83	±9.6
10634	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.80	±9.6
10635	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.6
10636	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10637	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10638	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.86	±9.6
10639	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10640	AAE	IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)	WLAN	8.98	±9.6
10641	AAE	IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)	WLAN	9.06	±9.6
10642	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)	WLAN	9.06	±9.6
10643	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.89	±9.6
10644	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)	WLAN	9.05	±9.6
10645	AAE	IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)	WLAN	9.11	±9.6
10646	AAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10647	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	±9.6
10652	AAF	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	±9.6
10653	AAF	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6
10654	AAE	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	±9.6
10655	AAF	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±9.6
10658	AAB	Pulse Waveform (200Hz, 10%)	Test	10.00	±9.6
10659	AAB	Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6
10660	AAB	Pulse Waveform (200Hz, 40%)	Test	3.98	±9.6
10661	AAB	Pulse Waveform (200Hz, 60%)	Test	2.22	±9.6
10662	AAB	Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	±9.6
10671	AAC	IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.6
10672	AAC	IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.57	±9.6
10673	AAC	IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.78	±9.6
10674	AAC	IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10675	AAC	IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.90	±9.6
10676	AAC	IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10677	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.73	±9.6
10678	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.78	±9.6
10679	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.89	±9.6
10680	AAC	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±9.6
10681	AAC	IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.62	±9.6
10682	AAC	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±9.6
10683	AAC	IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10684	AAC	IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.26	±9.6
10685	AAC	IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10686	AAC	IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.28	±9.6

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10687	AAC	IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.45	±9.6
10688	AAC	IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)	WLAN	8.29	±9.6
10689	AAC	IEEE 802.11ax (20 MHz, MCS6, 99pc duty cycle)	WLAN	8.55	±9.6
10690	AAC	IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10691	AAC	IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.25	±9.6
10692	AAC	IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)	WLAN	8.29	±9.6
10693	AAC	IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle)	WLAN	8.25	±9.6
10694	AAC	IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle)	WLAN	8.57	±9.6
10695	AAC	IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.78	±9.6
10696	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±9.6
10697	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.61	±9.6
10698	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.89	±9.6
10699	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.82	±9.6
10700	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.73	±9.6
10701	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.86	±9.6
10702	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.70	±9.6
10703	AAC	IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10704	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.56	±9.6
10705	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN	8.69	±9.6
10706	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN	8.66	±9.6
10707	AAC	IEEE 802.11ax (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.32	±9.6
10708	AAC	IEEE 802.11ax (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10709	AAC	IEEE 802.11ax (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10710	AAC	IEEE 802.11ax (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.29	±9.6
10711	AAC	IEEE 802.11ax (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.39	±9.6
10712	AAC	IEEE 802.11ax (40 MHz, MCS5, 99pc duty cycle)	WLAN	8.67	±9.6
10713	AAC	IEEE 802.11ax (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.33	±9.6
10714	AAC	IEEE 802.11ax (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.26	±9.6
10715	AAC	IEEE 802.11ax (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.45	±9.6
10716	AAC	IEEE 802.11ax (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.30	±9.6
10717	AAC	IEEE 802.11ax (40 MHz, MCS10, 99pc duty cycle)	WLAN	8.48	±9.6
10718	AAC	IEEE 802.11ax (40 MHz, MCS11, 99pc duty cycle)	WLAN	8.24	±9.6
10719	AAC	IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.81	±9.6
10720	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.87	±9.6
10721	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.76	±9.6
10722	AAC	IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.55	±9.6
10723	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10724	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.90	±9.6
10725	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10726	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.72	±9.6
10727	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.66	±9.6
10728	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.65	±9.6
10729	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)	WLAN	8.64	±9.6
10730	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)	WLAN	8.67	±9.6
10731	AAC	IEEE 802.11ax (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10732	AAC	IEEE 802.11ax (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.46	±9.6
10733	AAC	IEEE 802.11ax (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.40	±9.6
10734	AAC	IEEE 802.11ax (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.25	±9.6
10735	AAC	IEEE 802.11ax (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.33	±9.6
10736	AAC	IEEE 802.11ax (80 MHz, MCS5, 99pc duty cycle)	WLAN	8.27	±9.6
10737	AAC	IEEE 802.11ax (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.36	±9.6
10738	AAC	IEEE 802.11ax (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.42	±9.6
10739	AAC	IEEE 802.11ax (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.29	±9.6
10740	AAC	IEEE 802.11ax (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.48	±9.6
10741	AAC	IEEE 802.11ax (80 MHz, MCS10, 99pc duty cycle)	WLAN	8.40	±9.6
10742	AAC	IEEE 802.11ax (80 MHz, MCS11, 99pc duty cycle)	WLAN	8.43	±9.6
10743	AAC	IEEE 802.11ax (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.94	±9.6
10744	AAC	IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)	WLAN	9.16	±9.6
10745	AAC	IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.93	±9.6
10746	AAC	IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle)	WLAN	9.11	±9.6
10747	AAC	IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle)	WLAN	9.04	±9.6
10748	AAC	IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle)	WLAN	8.93	±9.6
10749	AAC	IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle)	WLAN	8.90	±9.6
10750	AAC	IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.79	±9.6
10751	AAC	IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10752	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.6

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10753	AAC	IEEE 802.11ax (160 MHz, MCS10, 90pc duty cycle)	WLAN	9.00	±9.6
10754	AAC	IEEE 802.11ax (160 MHz, MCS11, 90pc duty cycle)	WLAN	8.94	±9.6
10755	AAC	IEEE 802.11ax (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.64	±9.6
10756	AAC	IEEE 802.11ax (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.77	±9.6
10757	AAC	IEEE 802.11ax (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.77	±9.6
10758	AAC	IEEE 802.11ax (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.69	±9.6
10759	AAC	IEEE 802.11ax (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.58	±9.6
10760	AAC	IEEE 802.11ax (160 MHz, MCS5, 99pc duty cycle)	WLAN	8.49	±9.6
10761	AAC	IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.58	±9.6
10762	AAC	IEEE 802.11ax (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±9.6
10763	AAC	IEEE 802.11ax (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.53	±9.6
10764	AAC	IEEE 802.11ax (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.54	±9.6
10765	AAC	IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle)	WLAN	8.54	±9.6
10766	AAC	IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle)	WLAN	8.51	±9.6
10767	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	±9.6
10768	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10769	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10770	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10771	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10772	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	±9.6
10773	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	±9.6
10774	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10775	AAF	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10776	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10778	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	±9.6
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	±9.6
10780	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10781	AAF	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10782	AAE	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	±9.6
10783	AAG	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10784	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	±9.6
10785	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±9.6
10786	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	±9.6
10787	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	±9.6
10788	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10789	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	±9.6
10790	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10791	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	±9.6
10792	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	±9.6
10793	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	±9.6
10794	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10795	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	±9.6
10796	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10797	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	±9.6
10798	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10799	AAF	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10801	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10802	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	±9.6
10803	AAF	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10805	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±9.6
10809	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10810	AAF	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10812	AAF	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10817	AAG	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10818	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	±9.6
10820	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	±9.6
10821	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10822	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10823	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	±9.6
10824	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	±9.6
10825	AAF	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10827	AAF	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±9.6
10828	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	±9.6

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10829	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	±9.6
10830	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	±9.6
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	±9.6
10832	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	±9.6
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10834	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	±9.6
10835	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10836	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	±9.6
10837	AAF	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	±9.6
10839	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10840	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	±9.6
10841	AAF	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	±9.6
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	±9.6
10844	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10846	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10854	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10856	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	±9.6
10858	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10859	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10860	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10861	AAF	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	±9.6
10863	AAF	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10864	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10865	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10866	AAF	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10868	AAF	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	±9.6
10869	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10870	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	±9.6
10871	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10872	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	±9.6
10873	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10874	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10875	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10876	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	±9.6
10877	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	±9.6
10878	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10879	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	±9.6
10880	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	±9.6
10881	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10882	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	±9.6
10883	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	±9.6
10884	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	±9.6
10885	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10886	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10887	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10888	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	±9.6
10889	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	±9.6
10890	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	±9.6
10891	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	±9.6
10892	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10897	AAE	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±9.6
10898	AAC	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10899	AAB	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10900	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10901	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10902	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10903	AAD	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10904	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10905	AAD	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10906	AAD	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10907	AAE	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	±9.6
10908	AAC	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6
10909	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	±9.6
10910	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±9.6

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k = 2
10911	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6
10912	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10913	AAD	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10914	AAC	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	±9.6
10915	AAD	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±9.6
10916	AAD	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±9.6
10917	AAD	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±9.6
10918	AAE	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±9.6
10919	AAC	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±9.6
10920	AAB	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±9.6
10921	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10922	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	±9.6
10923	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10924	AAD	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10925	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	±9.6
10926	AAD	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±9.6
10927	AAD	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±9.6
10928	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10929	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10930	AAC	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±9.6
10931	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10932	AAC	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10933	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10934	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10935	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±9.6
10936	AAD	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±9.6
10937	AAD	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	±9.6
10938	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±9.6
10939	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	±9.6
10940	AAC	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	±9.6
10941	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±9.6
10942	AAC	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±9.6
10943	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	±9.6
10944	AAD	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	±9.6
10945	AAD	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±9.6
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±9.6
10947	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±9.6
10948	AAC	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±9.6
10949	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±9.6
10950	AAC	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±9.6
10951	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	±9.6
10952	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	±9.6
10953	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	±9.6
10954	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	±9.6
10955	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	±9.6
10956	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	±9.6
10957	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	±9.6
10958	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	±9.6
10959	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	±9.6
10960	AAE	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	±9.6
10961	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	±9.6
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	±9.6
10963	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	±9.6
10964	AAE	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	±9.6
10965	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	±9.6
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	±9.6
10967	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	±9.6
10968	AAD	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	±9.6
10972	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	±9.6
10973	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	±9.6
10974	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	±9.6
10978	AAA	ULLA BDR	ULLA	1.16	±9.6
10979	AAA	ULLA HDR4	ULLA	8.58	±9.6
10980	AAA	ULLA HDR8	ULLA	10.32	±9.6
10981	AAA	ULLA HDRp4	ULLA	3.19	±9.6
10982	AAA	ULLA HDRp8	ULLA	3.43	±9.6

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k = 2
10983	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.31	±9.6
10984	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.42	±9.6
10985	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.54	±9.6
10986	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.50	±9.6
10987	AAC	5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.53	±9.6
10988	AAB	5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.38	±9.6
10989	AAC	5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.33	±9.6
10990	AAB	5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.52	±9.6
11003	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	10.24	±9.6
11004	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	10.73	±9.6
11005	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.70	±9.6
11006	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.55	±9.6
11007	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.46	±9.6
11008	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.51	±9.6
11009	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.76	±9.6
11010	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.95	±9.6
11011	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.96	±9.6
11012	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.68	±9.6
11013	AAB	IEEE 802.11be (320 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
11014	AAB	IEEE 802.11be (320 MHz, MCS2, 99pc duty cycle)	WLAN	8.45	±9.6
11015	AAB	IEEE 802.11be (320 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6
11016	AAB	IEEE 802.11be (320 MHz, MCS4, 99pc duty cycle)	WLAN	8.44	±9.6
11017	AAB	IEEE 802.11be (320 MHz, MCS5, 99pc duty cycle)	WLAN	8.41	±9.6
11018	AAB	IEEE 802.11be (320 MHz, MCS6, 99pc duty cycle)	WLAN	8.40	±9.6
11019	AAB	IEEE 802.11be (320 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
11020	AAB	IEEE 802.11be (320 MHz, MCS8, 99pc duty cycle)	WLAN	8.27	±9.6
11021	AAB	IEEE 802.11be (320 MHz, MCS9, 99pc duty cycle)	WLAN	8.46	±9.6
11022	AAB	IEEE 802.11be (320 MHz, MCS10, 99pc duty cycle)	WLAN	8.36	±9.6
11023	AAB	IEEE 802.11be (320 MHz, MCS11, 99pc duty cycle)	WLAN	8.09	±9.6
11024	AAB	IEEE 802.11be (320 MHz, MCS12, 99pc duty cycle)	WLAN	8.42	±9.6
11025	AAB	IEEE 802.11be (320 MHz, MCS13, 99pc duty cycle)	WLAN	8.37	±9.6
11026	AAB	IEEE 802.11be (320 MHz, MCS0, 99pc duty cycle)	WLAN	8.39	±9.6

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **UL**
Research Triangle Park, USA

Certificate No. **CLA13-1017_Mar24**

CALIBRATION CERTIFICATE

Object **CLA13 - SN: 1017**

Calibration procedure(s) **QA CAL-15.v11
Calibration Procedure for SAR Validation Sources below 700 MHz**

Calibration date: **March 07, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	30-Mar-23 (No. 217-03804/03805)	Mar-24
Power sensor NRP-Z91	SN: 103244	30-Mar-23 (No. 217-03804)	Mar-24
Power sensor NRP-Z91	SN: 103245	30-Mar-23 (No. 217-03805)	Mar-24
Reference 20 dB Attenuator	SN: CC2552 (20x)	30-Mar-23 (No. 217-03809)	Mar-24
Type-N mismatch combination	SN: 310982 / 06327	30-Mar-23 (No. 217-03810)	Mar-24
Reference Probe EX3DV4	SN: 3877	10-Jan-24 (No. EX3-3877_Jan24)	Jan-25
DAE4	SN: 654	15-Jan-24 (No. DAE4-654_Jan24)	Jan-25

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter NRP2	SN: 107193	08-Nov-21 (in house check Dec-22)	In house check: Dec-24
Power sensor NRP-Z91	SN: 100922	15-Dec-09 (in house check Dec-22)	In house check: Dec-24
Power sensor NRP-Z91	SN: 100418	01-Jan-04 (in house check Dec-22)	In house check: Dec-24
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-22)	In house check: Jun-24
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-22)	In house check: Oct-24

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature 
Approved by:	Name Sven Kühn	Function Technical Manager	Signature 

Issued: March 8, 2024

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Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:* The source is mounted in a touch configuration below the center marking of the flat phantom.
- Return Loss:* This parameter is measured with the source positioned under the liquid filled phantom (as described in the measurement condition clause). The Return Loss ensures low reflected power. No uncertainty required.
- SAR measured:* SAR measured at the stated antenna input power.
- SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	ELI4 Flat Phantom	Shell thickness: 2 ± 0.2 mm
EUT Positioning	Touch Position	
Zoom Scan Resolution	$dx, dy = 4.0$ mm, $dz = 1.4$ mm	Graded Ratio = 1.4 (Z direction)
Frequency	13 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	55.0	0.75 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	53.5 ± 6 %	0.72 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	1 W input power	0.537 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	0.551 W/kg ± 18.4 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	1 W input power	0.335 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	0.344 W/kg ± 18.0 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.3 Ω + 6.7 j Ω
Return Loss	- 21.9 dB

Additional EUT Data

Manufactured by	SPEAG
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Test Laboratory: SPEAG, Zurich, Switzerland

DUT: CLA13; Type: CLA13; Serial: CLA13 - SN: 1017

Communication System: UID 0 - CW; Frequency: 13 MHz

Medium parameters used: $f = 13$ MHz; $\sigma = 0.72$ S/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3877; ConvF(15.33, 15.33, 15.33) @ 13 MHz; Calibrated: 10.01.2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 15.01.2024
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: TP:2034
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7501)

CLA Calibration for HSL-LF Tissue/CLA-13, touch configuration, Pin=1W/Zoom Scan, dist=1.4mm (8x10x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 31.00 V/m; Power Drift = -0.01 dB

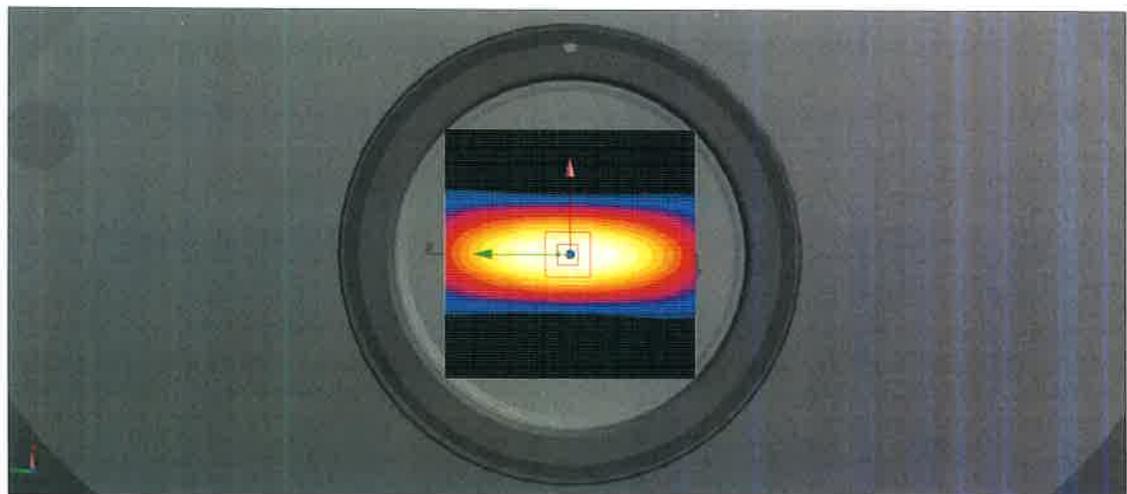
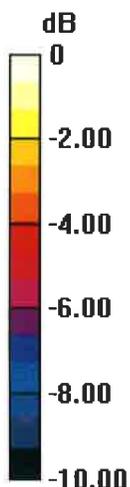
Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.537 W/kg; SAR(10 g) = 0.335 W/kg

Smallest distance from peaks to all points 3 dB below = 25.8 mm

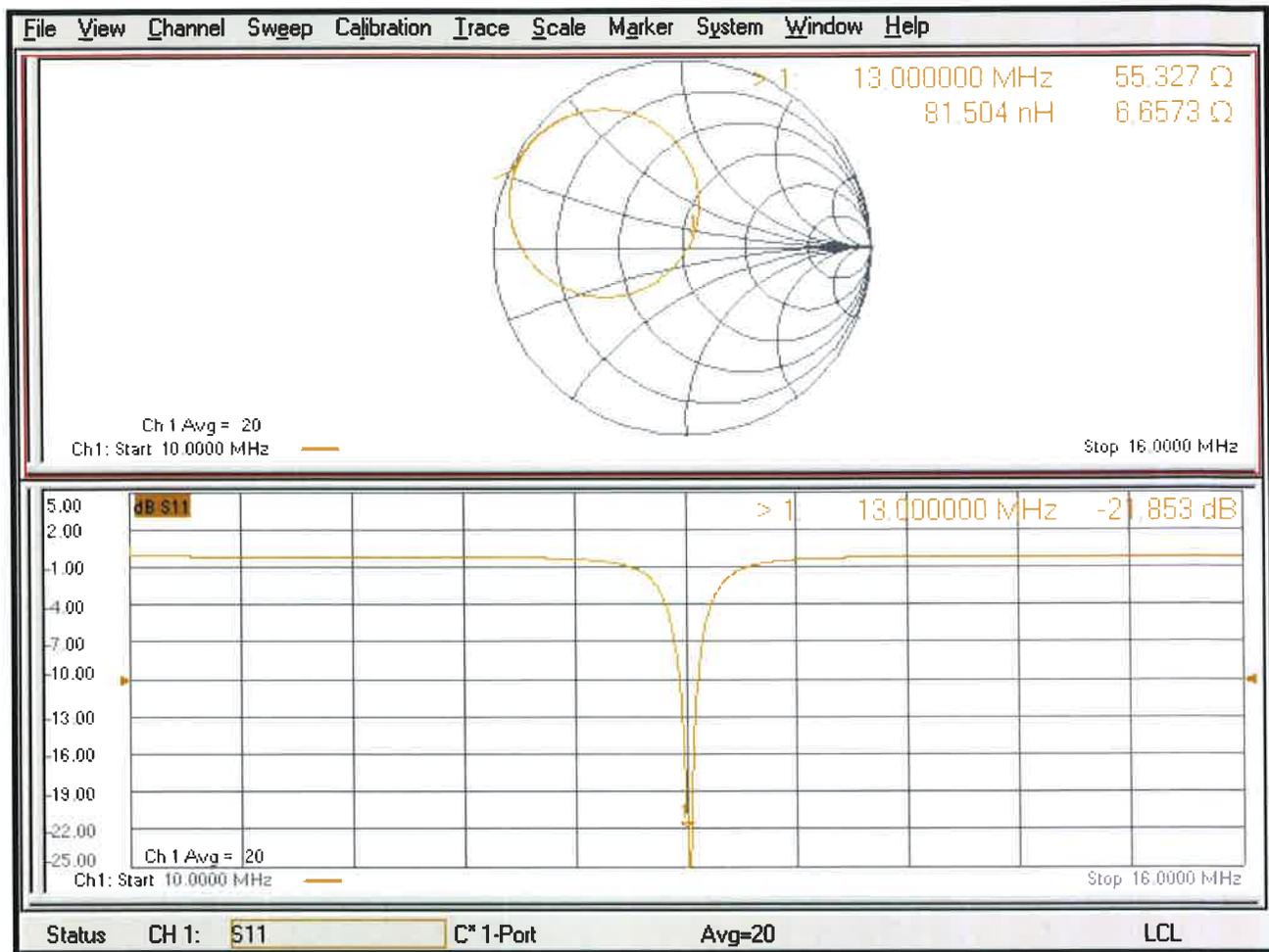
Ratio of SAR at M2 to SAR at M1 = 77.8%

Maximum value of SAR (measured) = 0.790 W/kg



0 dB = 0.790 W/kg = -1.02 dBW/kg

Impedance Measurement Plot for Head TSL





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Multilateral Agreement for the recognition of calibration certificates**

Accreditation No.: **SCS 0108**

Client **UL**
Research Triangle Park, USA

Certificate No. **D2450V2-963_Oct24**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 963**

Calibration procedure(s) **QA CAL-05.v12
Calibration Procedure for SAR Validation Sources between 0.7 - 3 GHz**

Calibration date **October 11, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%. Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Cal
Power Sensor R&S NRP-33T	SN: 100967	28-Mar-24 (No. 217-04038)	Mar-25
Power Sensor R&S NRP18A	SN: 101859	22-Jul-24 (No. 4030A315008547)	Jul-25
Spectrum Analyzer R&S FSV40	SN: 101832	25-Jan-24 (No. 4030-315007551)	Jan-25
Mismatch; Short [S4188] Attenuator [S4423]	SN: 1152	28-Mar-24 (No. 217-04050)	Mar-25
OCP DAK-12	SN: 1016	24-Sep-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sep-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	03-Jun-24 (No. EX3-7349_Jun24)	Jun-25
DAE4ip	SN: 1836	10-Jan-24 (No. DAE4ip-1836_Jan24)	Jan-25

Secondary Standards	ID	Check Date (in house)	Scheduled Check
ACAD Source Box	SN: 1000	28-May-24 (No. 675-ACAD_Source_Box-240528)	May-25
Signal Generator R&S SMB100A	SN: 182081	28-May-24 (No. 675-CAL16-S4588-240528)	May-25
Mismatch; SMA	SN: 1102	22-May-24 (No. 675-Mismatch_SMA-240522)	May-25

	Name	Function	Signature
Calibrated by	Krešimir Franjić	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	

Issued: October 14, 2024

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Accreditation No.: **SCS 0108**

Glossary

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation

- DASYS System Handbook

Methods Applied and Interpretation of Parameters

- *Measurement Conditions*: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL*: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss*: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay*: One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured*: SAR measured at the stated antenna input power.
- *SAR normalized*: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters*: The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY8 Module SAR	16.4.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with spacer
Zoom Scan Resolution	dx, dy = 5mm, dz = 1.5mm	Graded Ratio = 1.5 mm (Z direction)
Frequency	2450MHz \pm 1MHz	

Head TSL parameters at 2450 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2)°C	37.7 \pm 6%	1.82 mho/m \pm 6%
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL at 2450 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR for nominal Head TSL parameters	24 dBm input power	13.2 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	52.6 W/kg \pm 17.0% (k = 2)

SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR for nominal Head TSL parameters	24 dBm input power	6.14 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.4 W/kg \pm 16.5% (k = 2)

Appendix (Additional assessments outside the scope of SCS 0108)**Antenna Parameters with Head TSL at 2450 MHz**

Impedance	55.2 Ω + 2.7 j Ω
Return Loss	-25.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.16 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured. The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard. No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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System Performance Check Report

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
D2450V2 - SN963	2450	HSL	24

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	10		CW, 0--	2450, 0	7.24	1.82	37.7

Hardware Setup

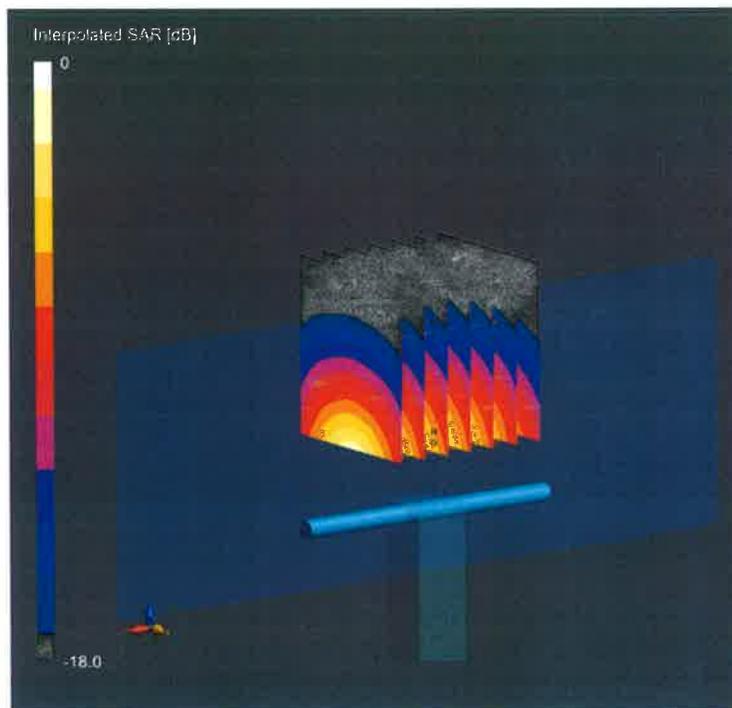
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Center	HSL, 2024-10-11	EX3DV4 - SN7349, 2024-06-03	DAE4ip Sn1836, 2024-01-10

Scans Setup

	Zoom Scan
Grid Extents [mm]	30 x 30 x 30
Grid Steps [mm]	5.0 x 5.0 x 1.5
Sensor Surface [mm]	1.4
Graded Grid	Yes
Grading Ratio	1.5
MAIA	N/A
Surface Detection	VMS + 6p
Scan Method	Measured

Measurement Results

	Zoom Scan
Date	2024-10-11
psSAR1g [W/Kg]	13.2
psSAR10g [W/Kg]	6.14
Power Drift [dB]	0.01
Power Scaling	Disabled
Scaling Factor [dB]	
TSL Correction	Positive / Negative



0 dB = 27.3 W/Kg

Impedance Measurement Plot for Head TSL

