



Garmin International, Inc.
1200 East 151st Street
Olathe, Kansas 66062
P: 913-397-8200 F: 913-397-8282

19-Feb-26

Manufacturer: Garmin International, Inc.
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Olathe, KS 66062-3426
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Subject: SUBTEL, Chile (Resolution 737) Certification Compliance 2026
Commercial Name: fenix 8 Pro – 51mm

	Información (Information)
Tipo de equipo (Equipment type)	Portable Digital Transceiver
Marca (Brand)	Garmin 
Modelo (Model)	A04809
Tecnología o modulación (Technology or modulation)	WLAN: DSSS, OFDM, BT BR: GFSK BT EDR: $\pi/4$ -DPSK, 8-DPSK BLE/ANT: GFSK
Frecuencias (Frequencies)	WLAN, BT, BLE, ANT: 2402-2480 MHz NFC: 13.56 MHz
Ganancia de antena (dBi) (Antenna gain (dBi))	2.4GHz: -1.04 dBi
P.i.r.e. (E.I R P.)	WLAN: 20.86 dBm, 122 mW BT BR: 9.96 dBm, 9.9 mW BT EDR: 13.05 dBm, 20.2 mW BLE/ANT: 3.05 dBm, 2.0 mW NFC: -25.59 dBm, .003 mW
Módulos (Modules)	WLAN; BT BR, BT EDR, BLE, ANT

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.



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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: R15626956-E1

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

Model : A04809

FCC ID : IPH-04809

IC : 1792A-04809

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 3
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
2025-08-22

Prepared by:
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REPORT REVISION HISTORY

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2025-08-14	Initial Issue	Chandler Stanley
V2	2025-08-22	Updated FW Version	Chandler Stanley

REPORT REVISION HISTORY2

1. ATTESTATION OF TEST RESULTS6

2. TEST RESULTS SUMMARY7

3. TEST METHODOLOGY7

4. FACILITIES AND ACCREDITATION7

5. DECISION RULES AND MEASUREMENT UNCERTAINTY8

 5.1. METROLOGICAL TRACEABILITY8

 5.2. DECISION RULES.....8

 5.3. MEASUREMENT UNCERTAINTY.....8

 5.4. SAMPLE CALCULATION8

6. EQUIPMENT UNDER TEST9

 6.1. EUT DESCRIPTION9

 6.2. MAXIMUM OUTPUT POWER.....9

 6.3. DESCRIPTION OF AVAILABLE ANTENNAS9

 6.4. SOFTWARE AND FIRMWARE.....9

 6.5. WORST-CASE CONFIGURATION AND MODE.....9

 6.6. DESCRIPTION OF TEST SETUP.....10

7. MEASUREMENT METHOD.....11

8. TEST AND MEASUREMENT EQUIPMENT12

9. ANTENNA PORT TEST RESULTS15

 9.1. ON TIME AND DUTY CYCLE.....15

 9.2. 99% BANDWIDTH.....17

 9.2.1. 802.11b MODE17

 9.2.2. 802.11g MODE18

 9.2.3. 802.11n HT20 MODE19

 9.2.4. BLE (1Mbps).....20

 9.2.5. BLE (2Mbps).....21

 9.2.6. ANT22

 9.3. 6 dB BANDWIDTH.....23

 9.3.1. 802.11b MODE23

 9.3.2. 802.11g MODE24

 9.3.3. 802.11n HT20 MODE25

 9.3.4. BLE (1Mbps).....26

 9.3.5. BLE (2Mbps).....27

 9.3.6. ANT28

 9.4. OUTPUT POWER.....29

 9.4.1. 802.11b MODE29

9.4.2.	802.11g MODE	30
9.4.3.	802.11n HT20 MODE	30
9.4.4.	BLE (1Mbps).....	31
9.4.5.	BLE (2Mbps).....	31
9.4.6.	ANT	31
9.5.	AVERAGE POWER	32
9.5.1.	802.11b MODE	33
9.5.2.	802.11g MODE	33
9.5.3.	802.11n HT20 MODE	33
9.5.4.	BLE (1Mbps).....	34
9.5.5.	BLE (2Mbps).....	34
9.5.6.	ANT	34
9.6.	POWER SPECTRAL DENSITY	35
9.6.1.	802.11b MODE	36
9.6.2.	802.11g MODE	37
9.6.3.	802.11n HT20 MODE	38
9.6.4.	BLE (1Mbps).....	39
9.6.5.	BLE (2Mbps).....	40
9.6.6.	ANT	41
9.7.	CONDUCTED SPURIOUS EMISSIONS	42
9.7.1.	802.11b MODE	43
9.7.2.	802.11g MODE	44
9.7.3.	802.11n HT20 MODE	45
9.7.4.	BLE (1Mbps).....	46
9.7.5.	BLE (2Mbps).....	48
9.7.6.	ANT	50
10.	RADIATED TEST RESULTS	52
10.1.	TRANSMITTER ABOVE 1 GHz	54
10.1.1.	TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND	54
10.1.2.	TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND	68
10.1.3.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND.....	86
10.1.4.	BLE (1Mbps).....	102
10.1.5.	BLE (2Mbps).....	118
10.1.6.	ANT	130
10.2.	WORST CASE BELOW 30MHZ	144
10.2.1.	2.4 WLAN	144
10.2.2.	BLE.....	146
10.2.3.	ANT	148
10.3.	WORST CASE BELOW 1 GHZ	150
10.3.1.	2.4 WLAN	150
10.3.2.	BLE.....	152
10.3.3.	ANT	154
10.4.	WORST CASE 18-26 GHZ	156
10.4.1.	2.4 WLAN	156
10.4.2.	BLE.....	158
10.4.3.	ANT	160
11.	AC POWER LINE CONDUCTED EMISSIONS	162

11.1.	AC Power Line (WLAN).....	163
11.2.	BLE.....	165
11.3.	AC Power Line (ANT).....	167
12.	SETUP PHOTOS.....	169

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: A04809

SERIAL NUMBER: 510595432 / 8U9000023

SAMPLE RECEIPT DATE: 2025-05-07, 2025-06-03, 2025-06-16, 2025-06-20 and
2025-06-23

DATE TESTED: 2025-05-12 To 2025-08-08

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

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
Senior 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	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Compliant	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power		
See Comment		Average power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD	Compliant	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions		
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions		
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 3.

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 Durham, NC 27713, 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, WWAN (NTN, LTE Cat M1), and Global Navigation Satellite System (GNSS) receiver. This report covers full testing on the BLE, ANT/ANT+, and 2.4 GHz WLAN radios.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2472	802.11b	19.50	89.13
2412 - 2472	802.11g	21.91	155.24
2412 - 2472	802.11n HT20	21.64	145.88
2402 - 2480	ANT/ANT+	3.98	2.50
2402 - 2480	BLE 1Mbps	3.93	2.47
2402 - 2480	BLE 2Mbps	4.09	2.56

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna's gain and type, as provided by the manufacturer are as follows:
The radio utilizes a slot antenna, with a maximum gain of -1.04 dBi.

6.4. SOFTWARE AND FIRMWARE

EUT FW Version: 16.29

6.5. WORST-CASE CONFIGURATION AND MODE

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

Apart from conducted power measurements for 2.4 WLAN, all other conducted measurements were 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 channel. 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 Y-orientation. Therefore, all testing was performed with the EUT in the Y-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

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	Non-Shielded	<3m	Used for charging only

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 R15626956-EP1 for setup diagrams

7. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10-2020 Subclause -11.8.2

Occupied BW (99%): ANSI C63.10-2020 Section 6.9.3

Output Power: ANSI C63.10-2020 Subclause -11.9.1.2 Method PKPM1 Peak-reading power meter
ANSI C63.10-2020 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10-2020 Subclause -11.10.2 Method PKPSD (peak PSD)

Conducted emissions non-restricted frequency bands: ANSI C63.10-2020 Subclause -11.11 and 6.10.4

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.

8. 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.
Conducted Room 1					
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2024-09-23	2025-09-23
214284	Spectrum Analyzer	Rohde & Schwarz	FSW50	2025-03-14	2026-03-14
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
Pad II	SMA Coaxial 10dB Attenuator	CentricRF	C18S2-10	2025-05-25	2026-05-25
Pad IV	SMA Coaxial 10dB Attenuator	CentricRF	C18S2-10	2024-08-17	2025-08-17
SOFTEMI	Antenna Port Software	UL	Version 2022.8.16	NA	NA
211057	Real-Time Peak Power Sensor 50MHz to 8GHz	Boonton	RTP5000	2024-08-01	2025-08-01
Power Software	Boonton Power Analyzer	Boonton	Version 3.0.13.0	NA	NA

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					
88761	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-10-05	2025-10-05
Gain-Loss Chains					
91977	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-08-29	2025-08-29
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

Note: All equipment was in calibration at the time of testing.

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

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					
90629	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-30	2026-01-30
1-18 GHz					
135143	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-02-07	2026-02-07
18-26.5 GHz					
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-826	2023-07-20	2025-07-20
Gain-Loss Chains					
91974	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-08	2025-05-31
91976	Gain-loss string: 25-1000MHz	Various	Various	2024-05-08	2025-05-31
91979	Gain-loss string: 1-18GHz	Various	Various	2024-05-08	2025-05-31
135999	Gain-loss string: 18-40GHz	Various	Various	2024-05-08	2025-05-31
91974	Gain-loss string: 0.009-30MHz	Various	Various	2025-05-31	2026-05-31
91976	Gain-loss string: 25-1000MHz	Various	Various	2025-05-31	2026-05-31
91979	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
135999	Gain-loss string: 18-40GHz	Various	Various	2025-05-31	2026-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-08-29	2025-08-29
81018	Spectrum Analyzer	Agilent	E4446A	2024-07-31	2025-07-31
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241205	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

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

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
1-18 GHz					
89509	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-05-23	2025-05-31
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-04-09	2026-04-09
Gain-Loss Chains					
207640	Gain-loss string: 1-18GHz	Various	Various	2024-05-22	2025-05-31
207640	Gain-loss string: 1-18GHz	Various	Various	2025-06-13	2026-06-13
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-04-21	2026-04-21
90416	Spectrum Analyzer	Keysight	N9030A	2024-09-23	2025-09-23
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	2025-04-17	2026-04-17
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
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2024-08-01	2025-08-01
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-04-17	2026-04-17
236852	AC Power Source	California instruments	NA	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

9. ANTENNA PORT TEST RESULTS

NOTE: In order to reduce report size, only representative plots are shown for some tests.

9.1. ON TIME AND DUTY CYCLE

LIMITS

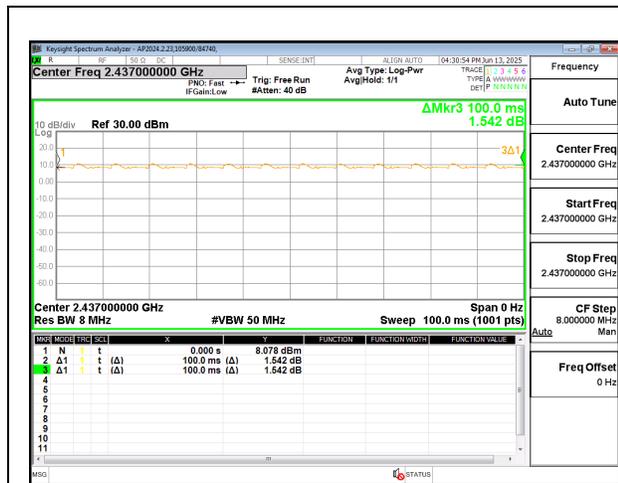
None; for reporting purposes only.

PROCEDURE

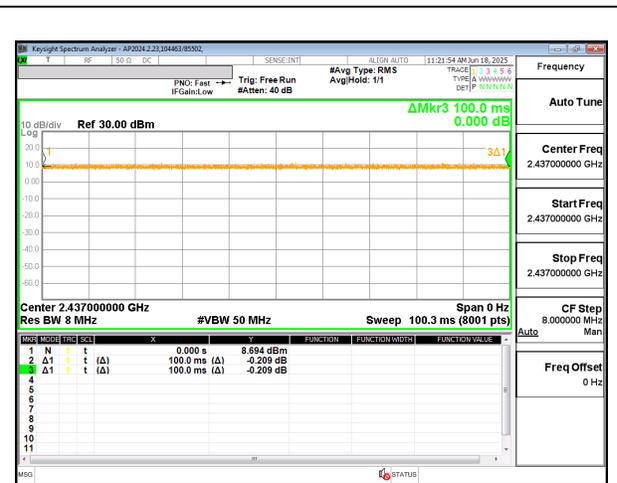
KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

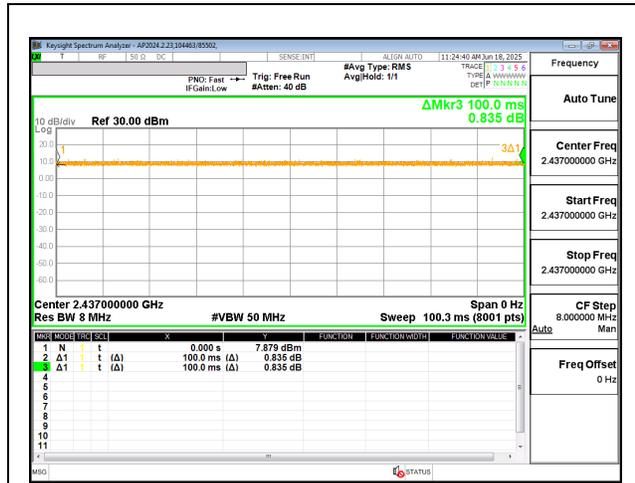
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b	100.00	100.00	1.000	100.00	0.00	0.010
802.11g	100.00	100.00	1.000	100.00	0.00	0.010
802.11n HT20	100.00	100.00	1.000	100.00	0.00	0.010
BLE 1 Mbps	100.00	100.00	1.000	100.00	0.00	0.010
BLE 2 Mbps	100.00	100.00	1.000	100.00	0.00	0.010
ANT	100.00	100.00	1.000	100.00	0.00	0.010



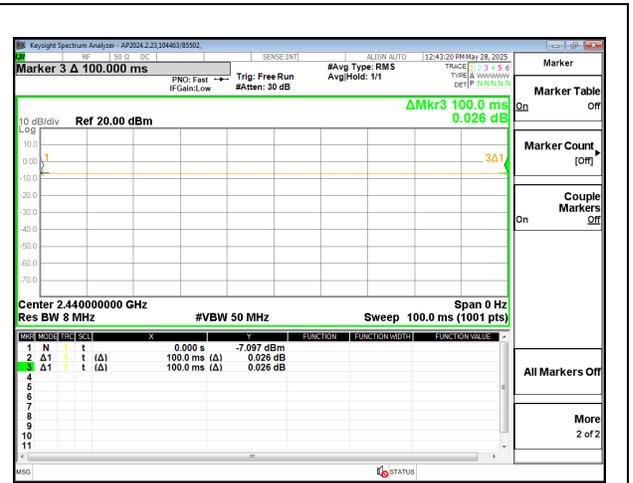
DUTY CYCLE – 11b



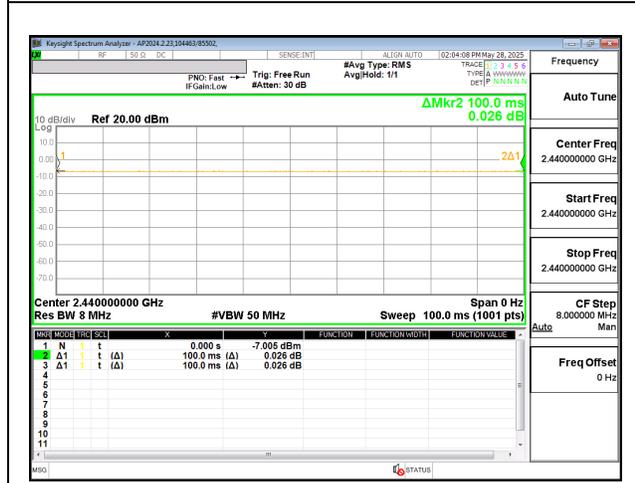
DUTY CYCLE – 11g



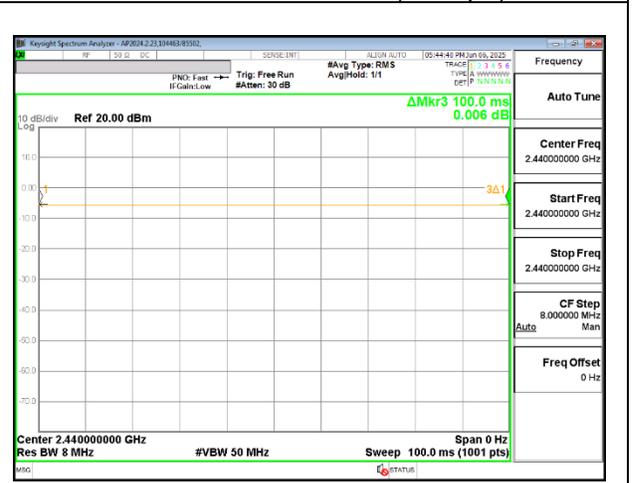
DUTY CYCLE – 11nHT20



DUTY CYCLE – BLE (1 Mbps)



DUTY CYCLE – BLE (2 Mbps)



DUTY CYCLE – ANT

9.2. 99% BANDWIDTH

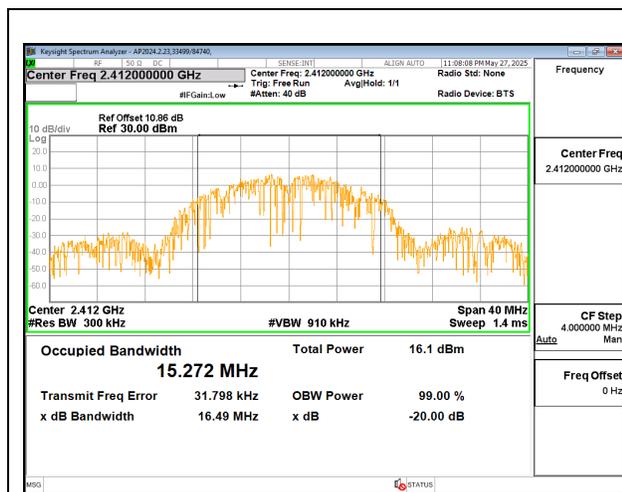
LIMITS

None; for reporting purposes only.

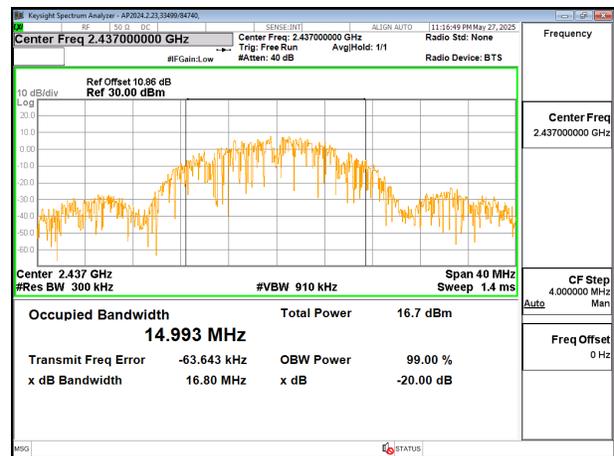
RESULTS

9.2.1. 802.11b MODE

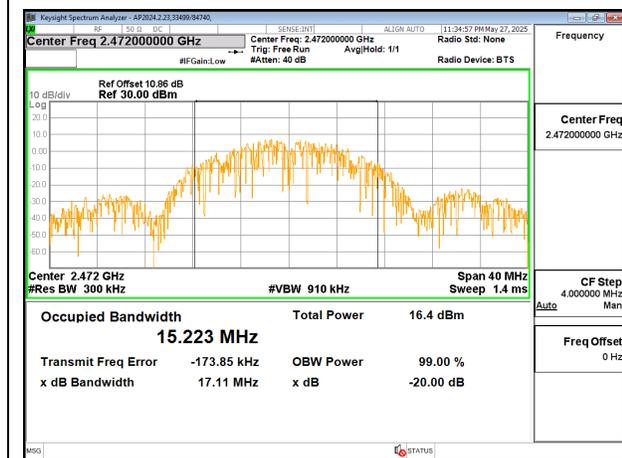
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	15.272
Mid	2437	14.993
High 13	2472	15.223



LOW CHANNEL 1



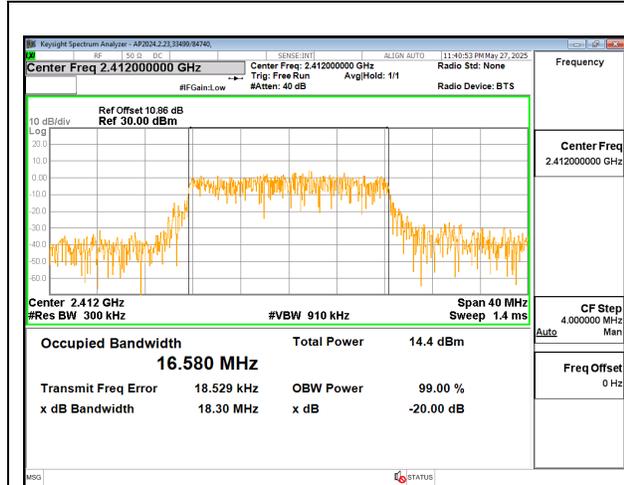
MID CHANNEL 6



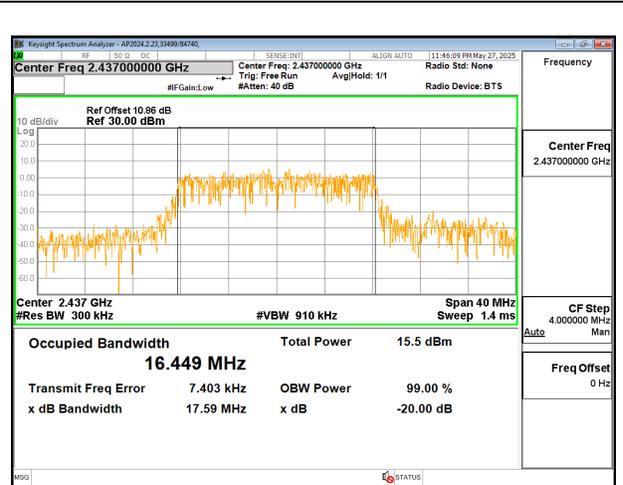
HIGH CHANNEL 13

9.2.2. 802.11g MODE

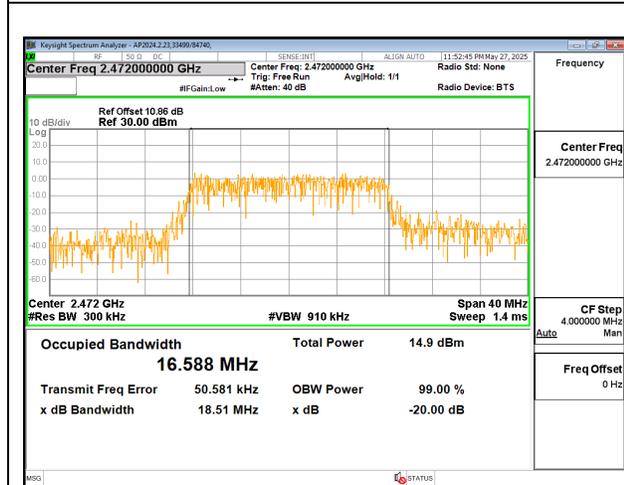
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.580
Mid	2437	16.449
High 13	2472	16.588



LOW CHANNEL 1



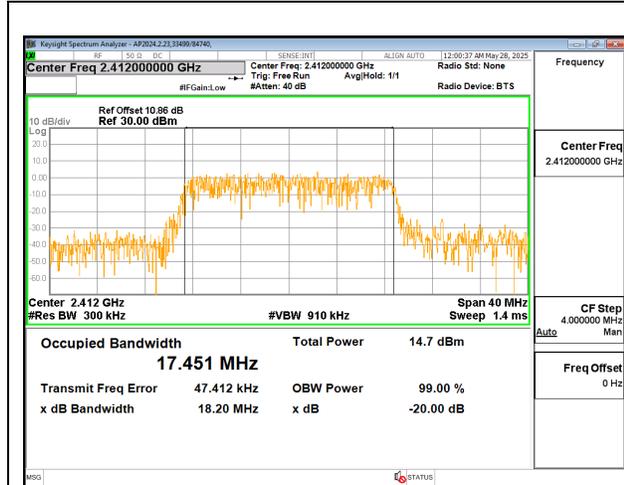
MID CHANNEL 6



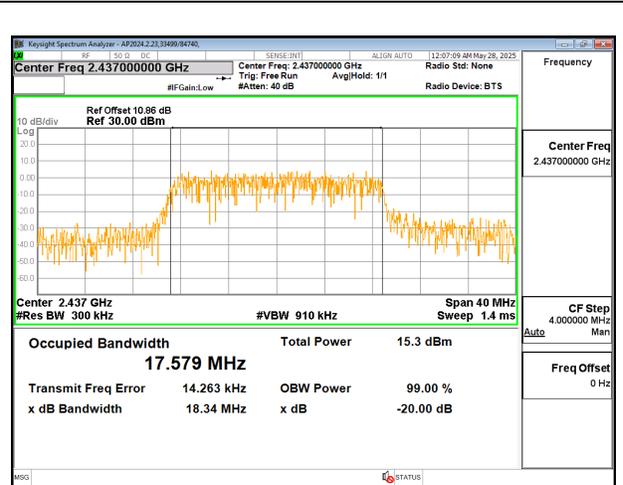
HIGH CHANNEL 13

9.2.3. 802.11n HT20 MODE

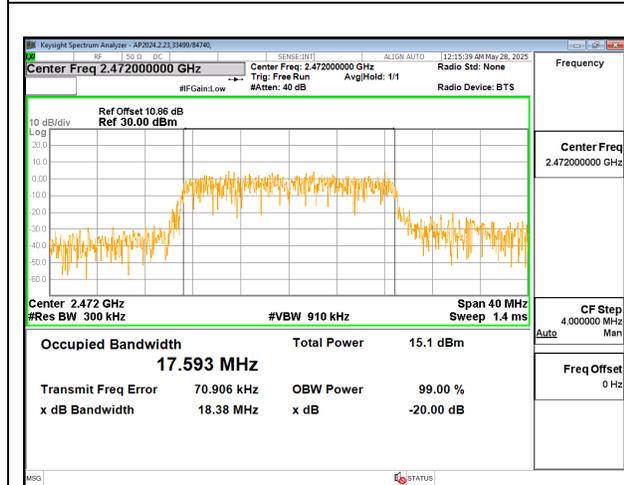
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.451
Mid	2437	17.579
High 13	2472	17.593



LOW CHANNEL 1



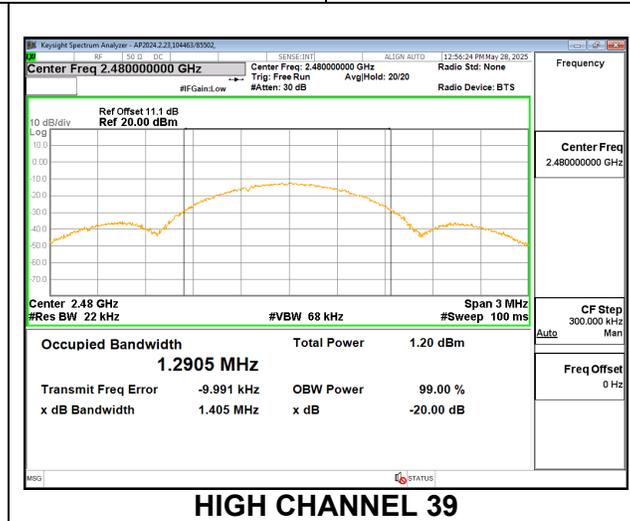
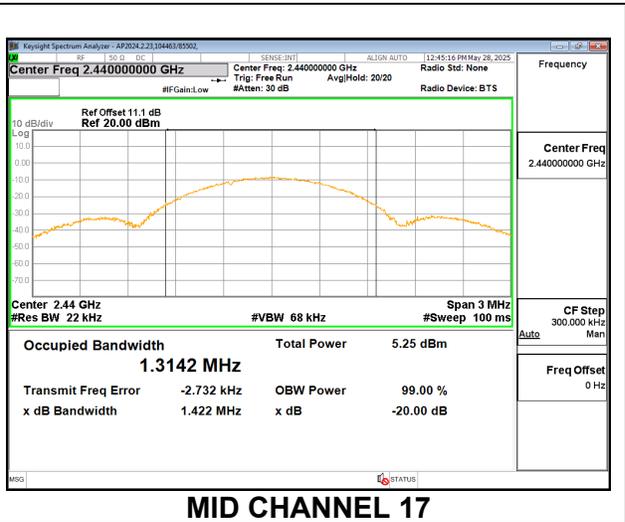
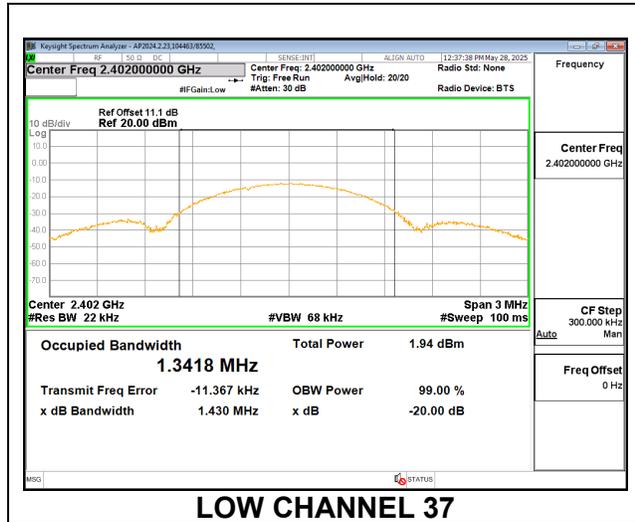
MID CHANNEL 6



HIGH CHANNEL 13

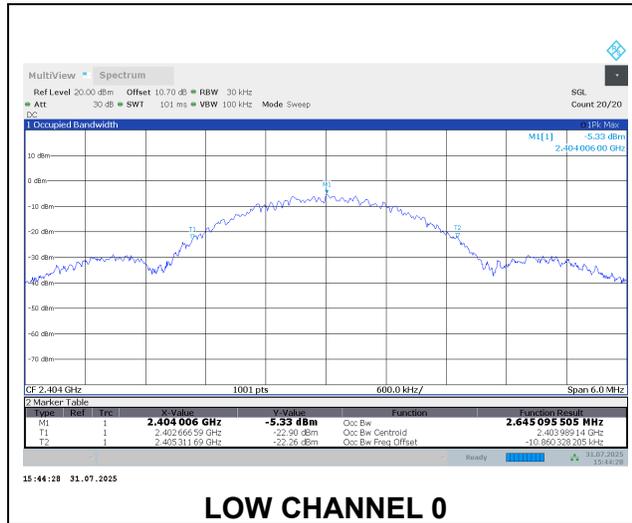
9.2.4. BLE (1Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 37	2402	1.3418
Low 0	2404	1.3739
Middle 17	2440	1.3142
High 35	2476	1.3203
High 36	2478	1.3721
High 39	2480	1.2905

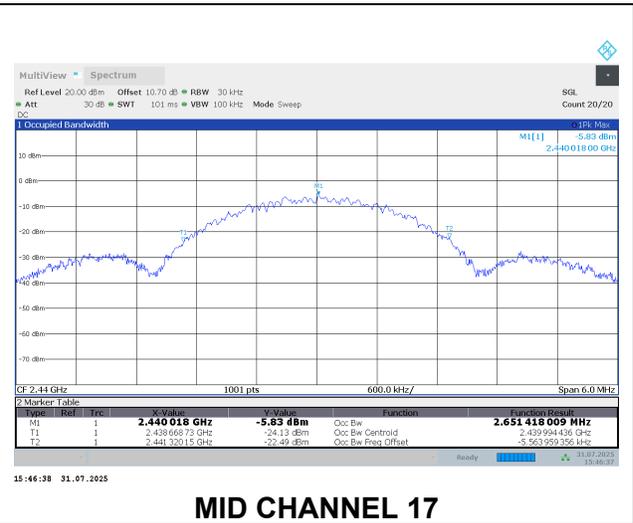


9.2.5. BLE (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 0	2404	2.6451
Middle 17	2440	2.6514
High 35	2476	2.5861
High 36	2478	2.6062



LOW CHANNEL 0



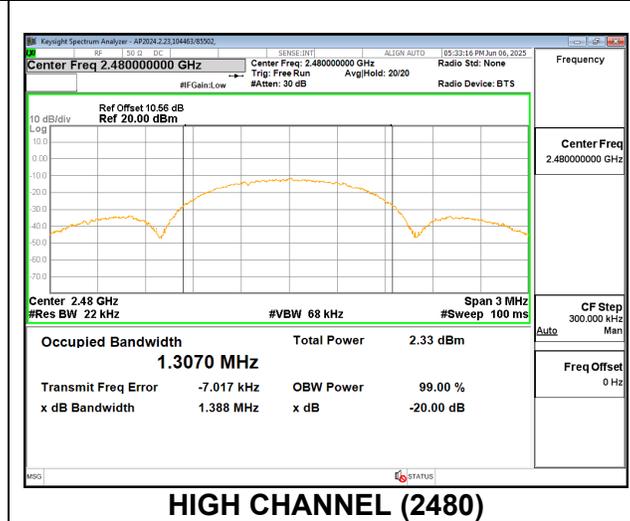
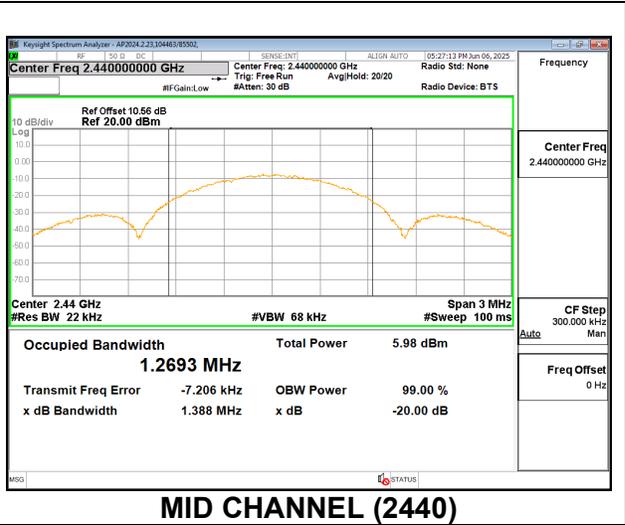
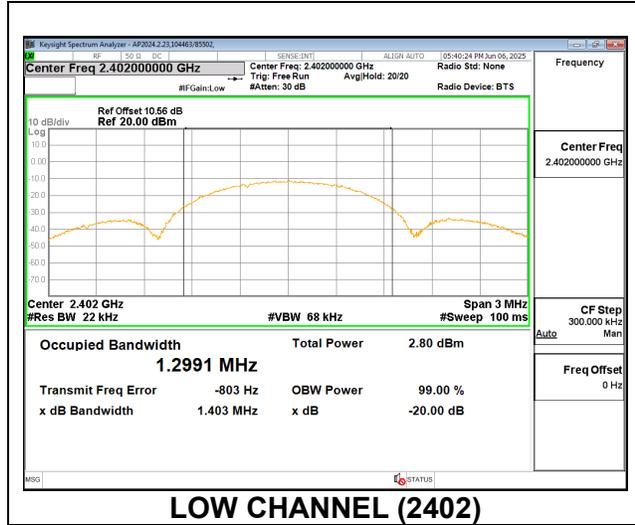
MID CHANNEL 17



HIGH CHANNEL 36

9.2.6. ANT

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.2991
Low	2404	1.2954
Middle	2440	1.2693
High	2478	1.2987
High	2480	1.3070



9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)
 RSS-247 5.2 (a)

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

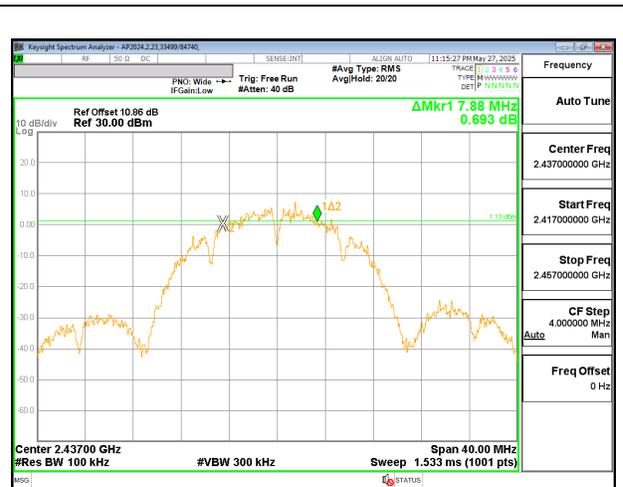
RESULTS

9.3.1. 802.11b MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	8.40	0.5
Mid	2437	7.88	0.5
High 13	2472	9.16	0.5



LOW CHANNEL 1



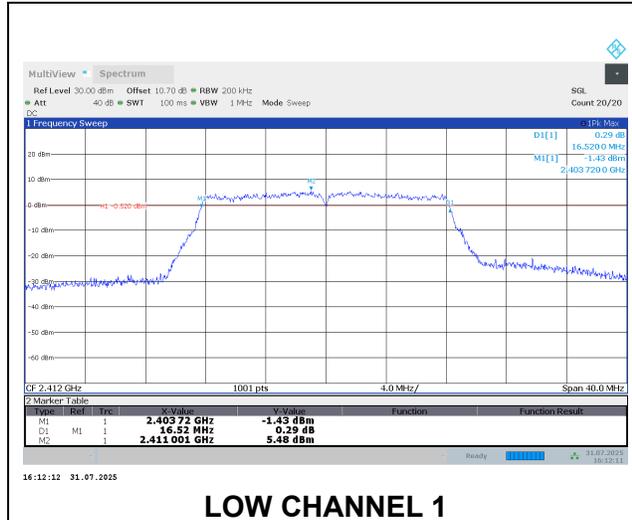
MID CHANNEL 6



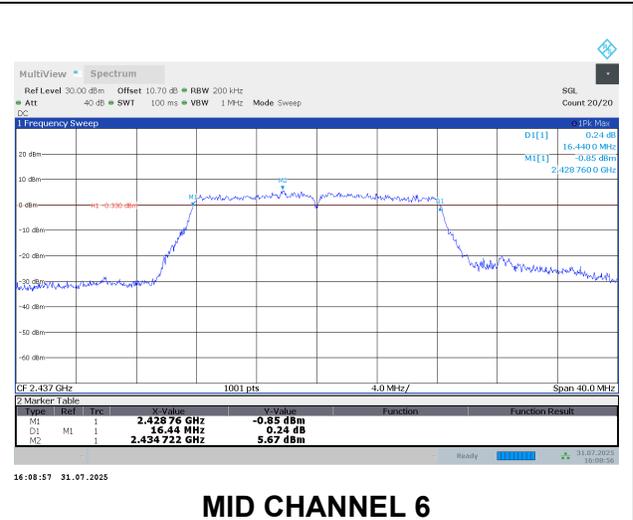
HIGH CHANNEL 13

9.3.2. 802.11g MODE

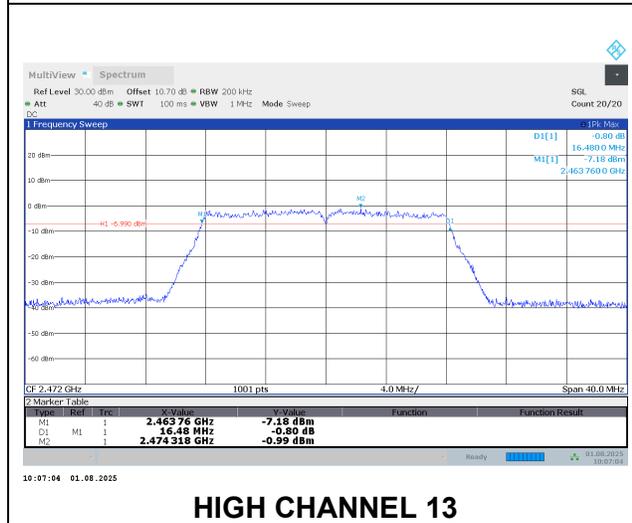
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.52	0.5
Mid	2437	16.44	0.5
High 13	2472	16.48	0.5



LOW CHANNEL 1



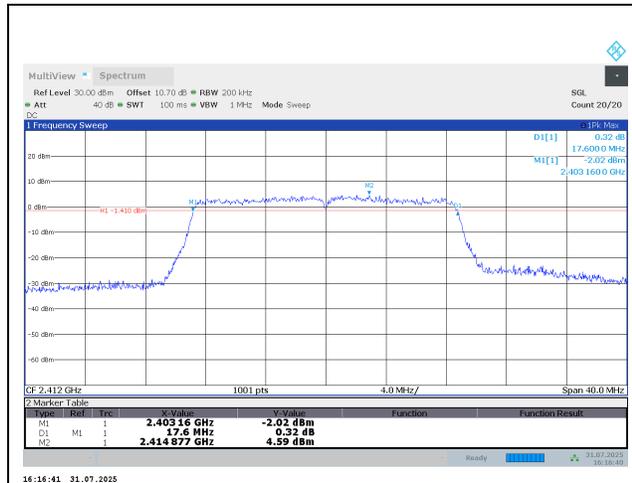
MID CHANNEL 6



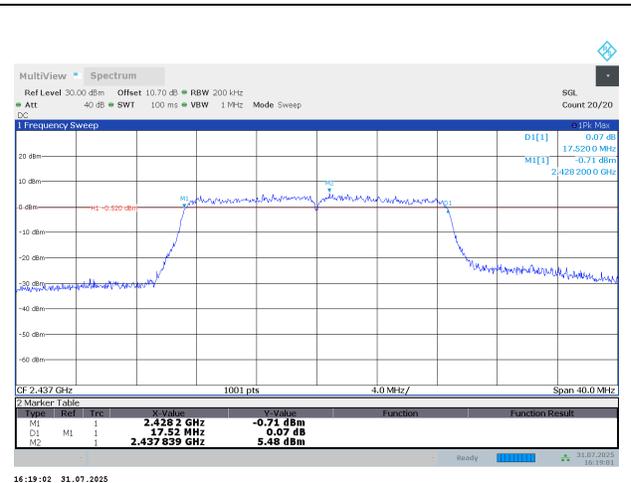
HIGH CHANNEL 13

9.3.3. 802.11n HT20 MODE

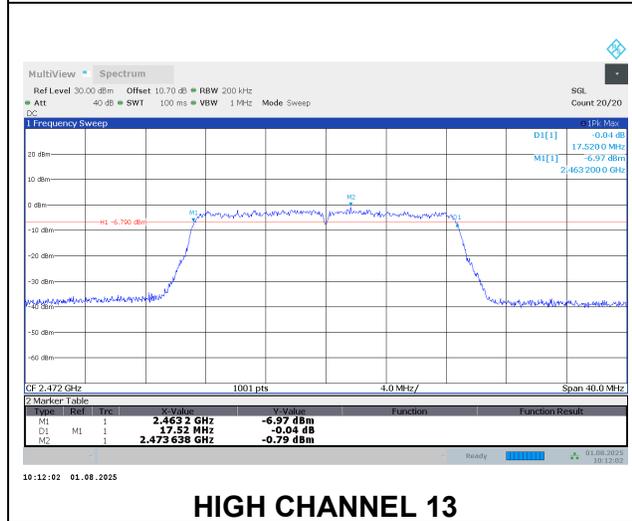
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.60	0.5
Mid	2437	17.52	0.5
High 13	2472	17.52	0.5



LOW CHANNEL 1



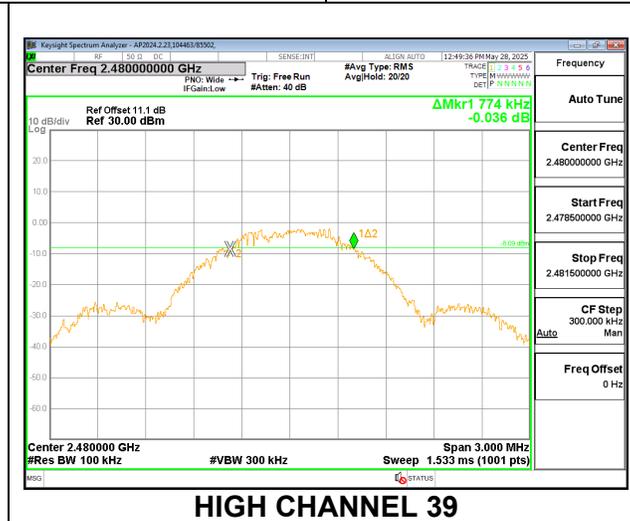
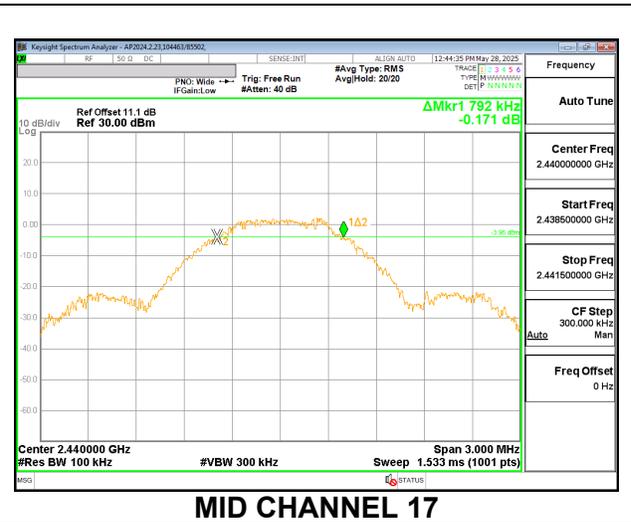
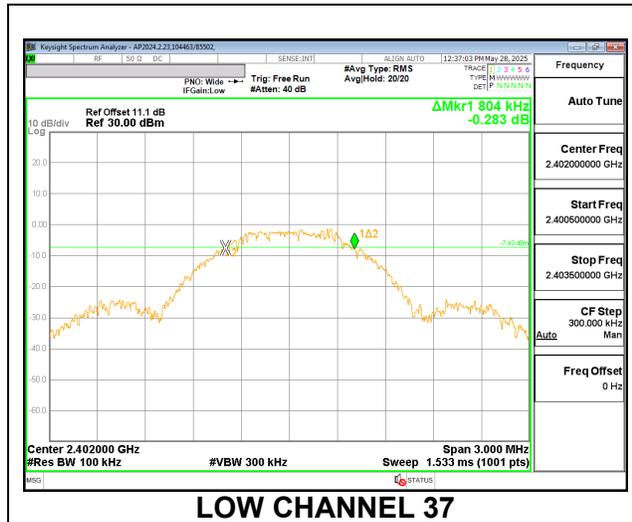
MID CHANNEL 6



HIGH CHANNEL 13

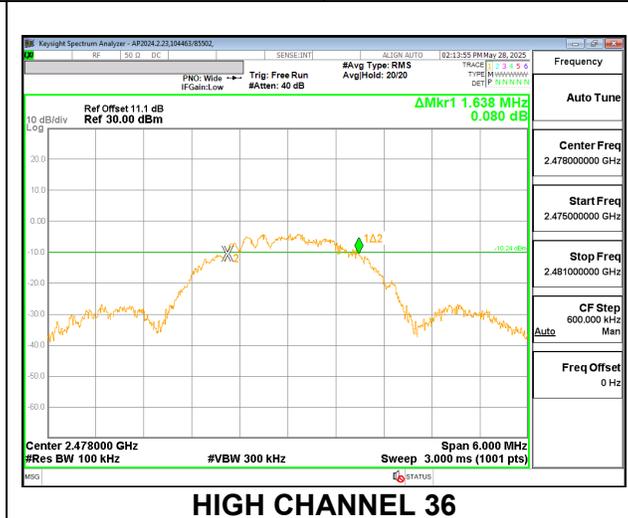
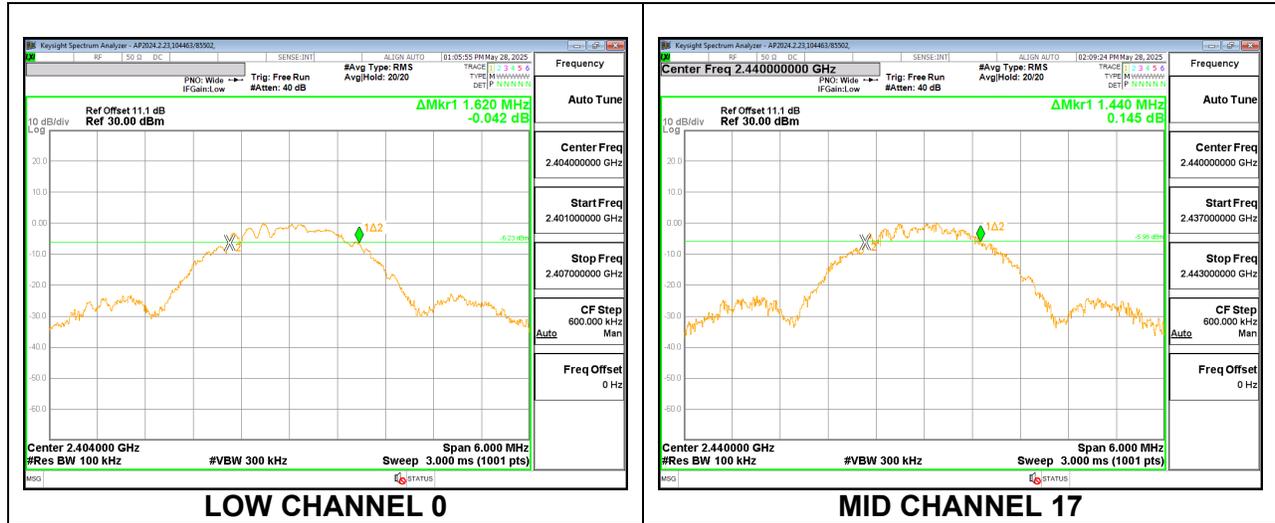
9.3.4. BLE (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 37	2402	0.804	0.5
Low 0	2404	0.798	0.5
Middle 17	2440	0.792	0.5
High 35	2476	0.813	0.5
High 36	2478	0.864	0.5
High 39	2480	0.774	0.5



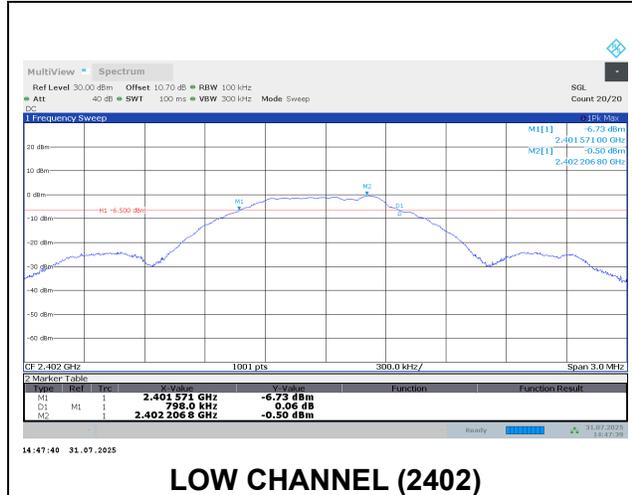
9.3.5. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 0	2404	1.620	0.5
Middle 17	2440	1.440	0.5
High 35	2476	1.434	0.5
High 36	2478	1.638	0.5

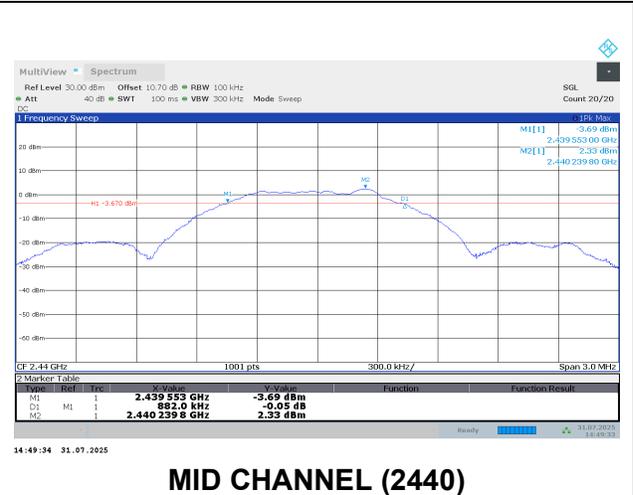


9.3.6. ANT

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.798	0.5
Low	2404	0.891	0.5
Middle	2440	0.882	0.5
High	2478	0.801	0.5
High	2480	0.939	0.5



LOW CHANNEL (2402)



MID CHANNEL (2440)



HIGH CHANNEL (2480)

9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)
 RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter.

For 2.4 WLAN, the cable assembly insertion loss of 12.37 dB (including 10 dB pad and 2.37 dB cable) was entered as an offset in the power meter.

For BLE, the cable assembly insertion loss of 10.35 dB (including 9.66 dB pad and 0.69 dB cable) was entered as an offset in the power meter.

The power output was measured on the EUT antenna port using an SMA cable and attenuator connected to a power meter via a wideband power sensor. Peak output power was read directly from power meter.

9.4.1. 802.11b MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Results

Channel	Frequency (MHz)	Measured Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	19.50	19.50	30.00	-10.50
Mid 6	2437	18.73	18.73	30.00	-11.27
High 11	2462	18.59	18.59	30.00	-11.41
High 12	2467	12.01	12.01	30.00	-17.99
High 13	2472	10.19	10.19	30.00	-19.81

9.4.2. 802.11g MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Channel	Frequency (MHz)	Measured Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	20.35	20.35	30.00	-9.65
Low 2	2417	20.88	20.88	30.00	-9.12
Mid 6	2437	21.91	21.91	30.00	-8.09
High 10	2457	20.55	20.55	30.00	-9.45
High 11	2462	19.37	19.37	30.00	-10.63
High 12	2467	15.56	15.56	30.00	-14.44
High 13	2472	15.26	15.26	30.00	-14.74

9.4.3. 802.11n HT20 MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Results

Channel	Frequency (MHz)	Measured Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	21.04	21.04	30.00	-8.96
Mid 6	2437	21.64	21.64	30.00	-8.36
High 10	2457	21.16	21.16	30.00	-8.84
High 11	2462	19.58	19.58	30.00	-10.42
High 12	2467	17.64	17.64	30.00	-12.36
High 13	2472	16.06	16.06	30.00	-13.94

9.4.4. BLE (1Mbps)

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low 37	2402	0.800	30	-29.200
Low 0	2404	3.980	30	-26.020
Middle 17	2440	3.850	30	-26.150
High 35	2476	3.520	30	-26.480
High 36	2478	-0.230	30	-30.230
High 39	2480	0.130	30	-29.870

9.4.5. BLE (2Mbps)

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low 0	2404	3.890	30	-26.110
Middle 17	2440	3.930	30	-26.070
High 35	2476	3.710	30	-26.290
High 36	2478	0.150	30	-29.850

9.4.6. ANT

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.900	30	-29.100
Low	2404	4.090	30	-25.910
Middle	2440	4.010	30	-25.990
High	2478	3.780	30	-26.220
High	2480	0.220	30	-29.780

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

The transmitter output is connected to a power meter.

For 2.4 WLAN, the cable assembly insertion loss of 12.37 dB (including 10 dB pad and 2.37 dB cable) was entered as an offset in the power meter.

For BLE and ANT, the cable assembly insertion loss of 10.35 dB (including 9.66 dB pad and 0.69 dB cable) was entered as an offset in the power meter.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband power sensor. Gated average output power was read directly from power meter.

RESULTS

9.5.1. 802.11b MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Channel	Frequency (MHz)	Power (dBm)
Low	2412	17.41
Mid	2437	16.53
High	2462	16.36
High	2467	9.67
High	2472	7.87

9.5.2. 802.11g MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Channel	Frequency (MHz)	Power (dBm)
Low	2412	14.14
Low	2417	15.01
Mid	2437	16.46
High	2457	14.57
High	2462	12.71
High	2467	8.90
High	2472	8.65

9.5.3. 802.11n HT20 MODE

Test Engineer:	104463/85502
Test Date:	2025-06-30

Channel	Frequency (MHz)	Power (dBm)
Low	2412	14.25
Mid	2437	14.86
High	2457	14.63
High	2462	12.33
High	2467	9.91
High	2472	8.67

9.5.4. BLE (1Mbps)

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	AV power (dBm)
Low 37	2402	0.416
Low 0	2404	3.675
Middle 17	2440	3.535
High 35	2476	3.189
High 36	2478	-0.666
High 39	2480	-0.244

9.5.5. BLE (2Mbps)

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	AV power (dBm)
Low 0	2404	3.554
Middle 17	2440	3.579
High 35	2476	3.372
High 36	2478	-0.232

9.5.6. ANT

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	0.535
Low	2404	3.784
Middle	2440	3.658
High	2478	3.543
High	2480	-0.139

9.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

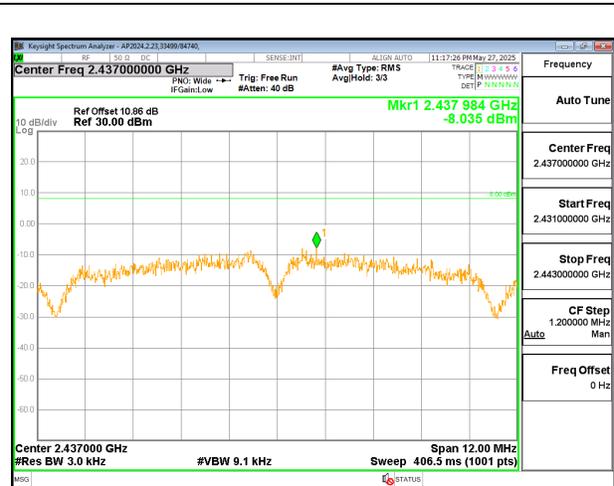
9.6.1. 802.11b MODE

PSD Results

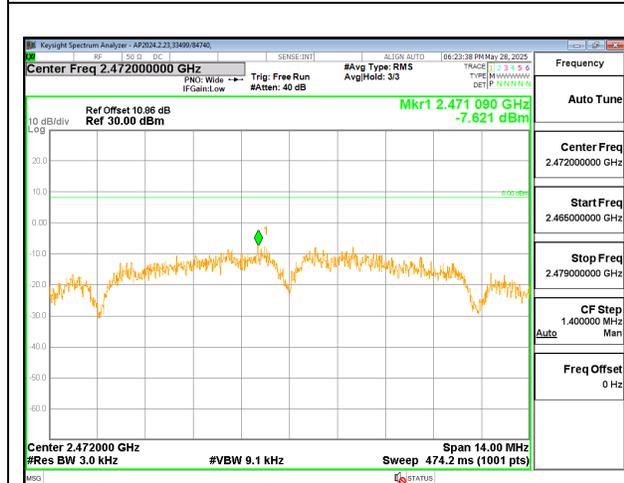
Channel	Frequency (MHz)	Meas. (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low 1	2412	-8.442	-8.44	8.0	-16.4
Mid 6	2437	-8.035	-8.04	8.0	-16.0
High 13	2472	-7.621	-7.62	8.0	-15.6



LOW CHANNEL 1



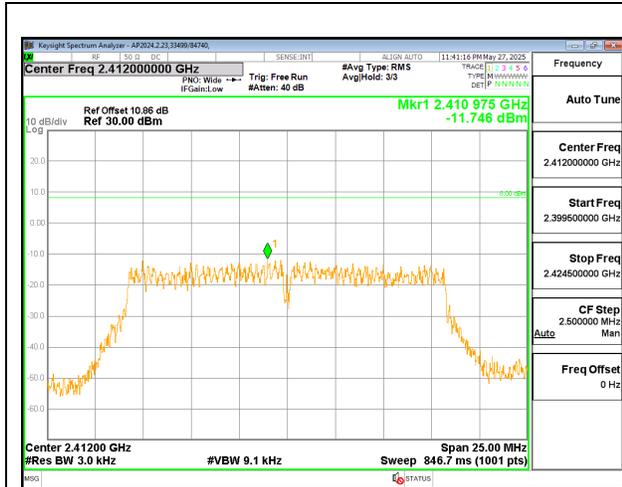
MID CHANNEL 6



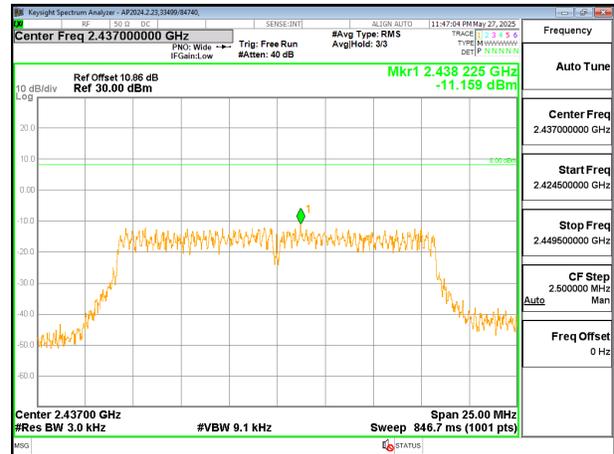
HIGH CHANNEL 13

9.6.2. 802.11g MODE

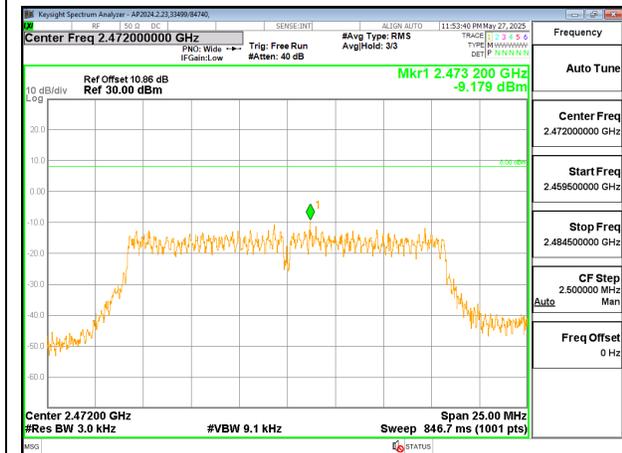
Channel	Frequency (MHz)	Meas. (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low 1	2412	-11.746	-11.75	8.0	-19.7
Mid 6	2437	-11.159	-11.16	8.0	-19.2
High 13	2472	-9.179	-9.18	8.0	-17.2



LOW CHANNEL 1



MID CHANNEL 6

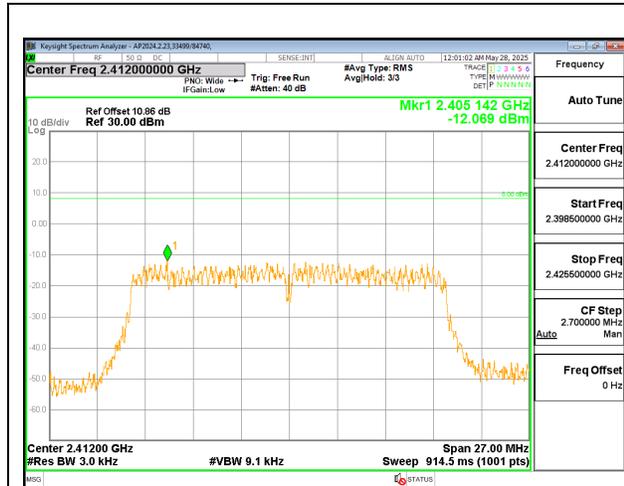


HIGH CHANNEL 13

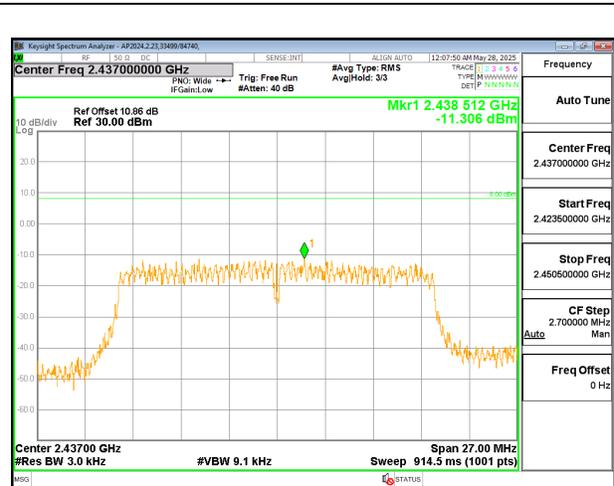
9.6.3. 802.11n HT20 MODE

PSD Results

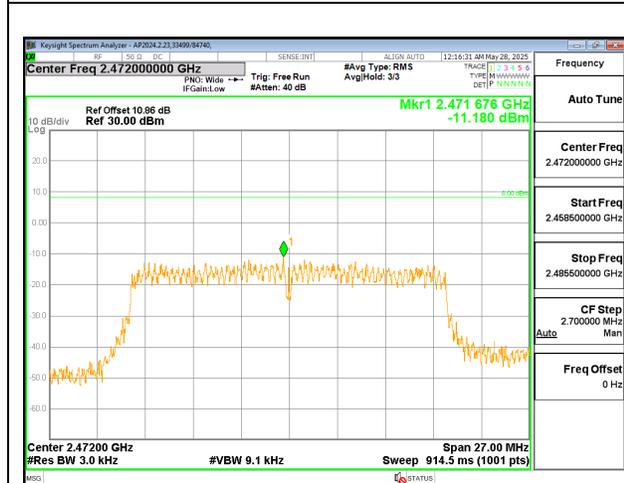
Channel	Frequency (MHz)	Meas. (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low 1	2412	-12.069	-12.07	8.0	-20.1
Mid 6	2437	-11.306	-11.31	8.0	-19.3
High 13	2472	-11.180	-11.18	8.0	-19.2



LOW CHANNEL 1



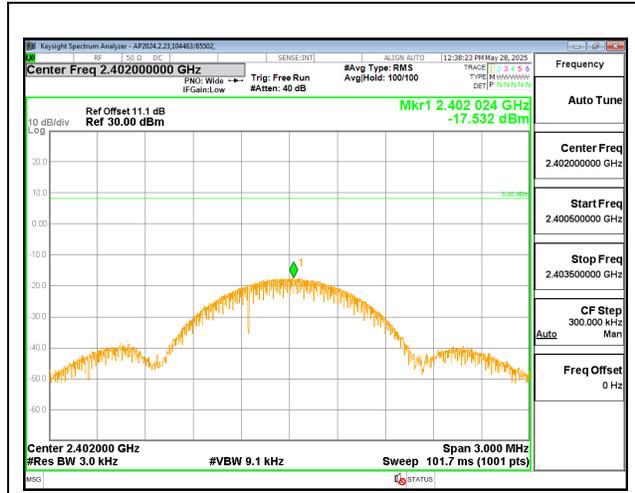
MID CHANNEL 6



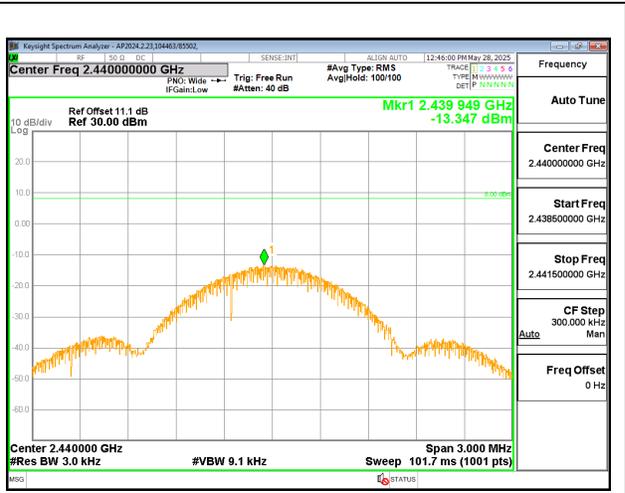
HIGH CHANNEL 13

9.6.4. BLE (1Mbps)

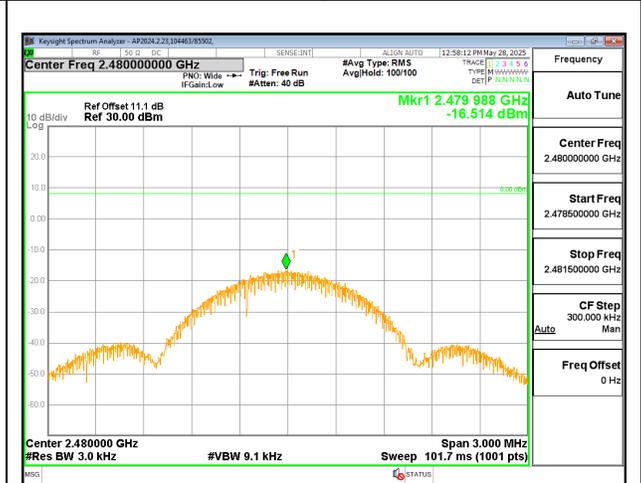
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 37	2402	-17.532	8	-25.53
Low 0	2404	-13.280	8	-21.28
Middle 17	2440	-13.347	8	-21.35
High 35	2476	-12.920	8	-20.92
High 36	2478	-17.800	8	-25.80
High 39	2480	-16.514	8	-24.51



LOW CHANNEL 37



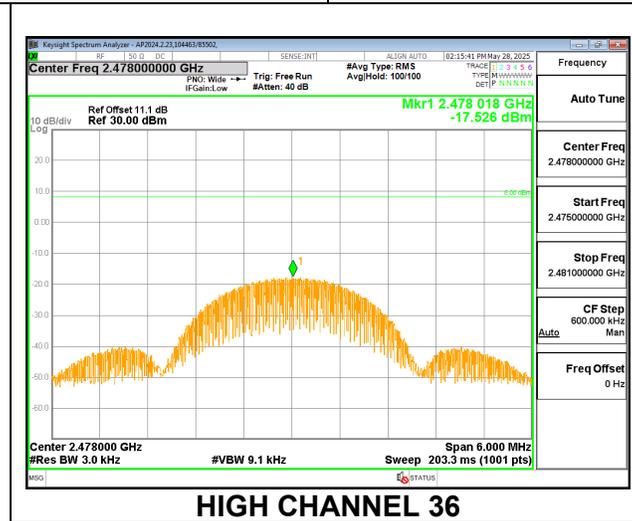
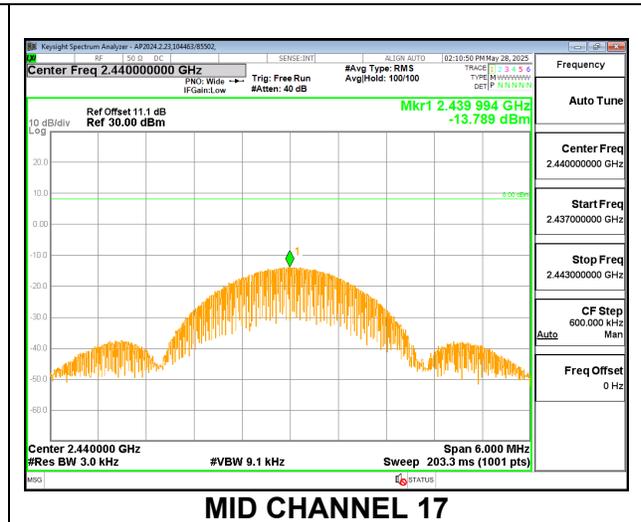
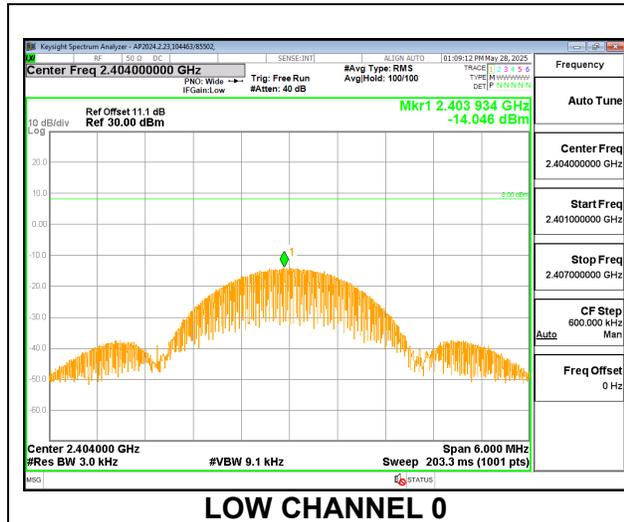
MID CHANNEL 17



HIGH CHANNEL 39

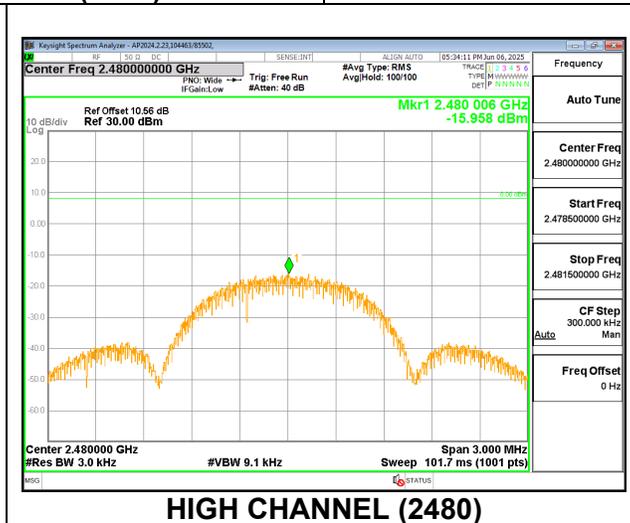
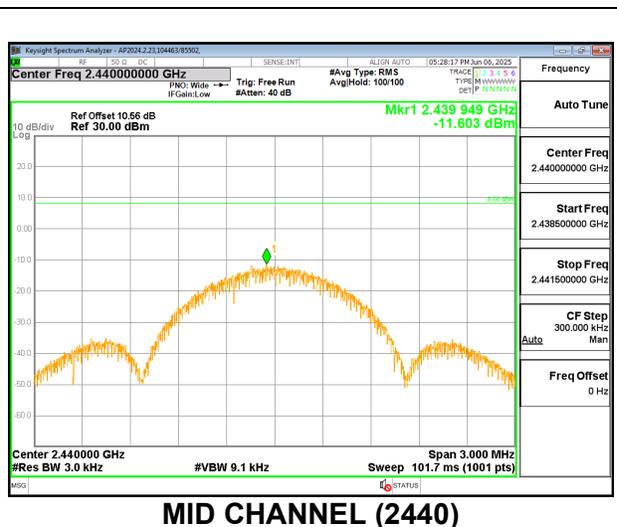
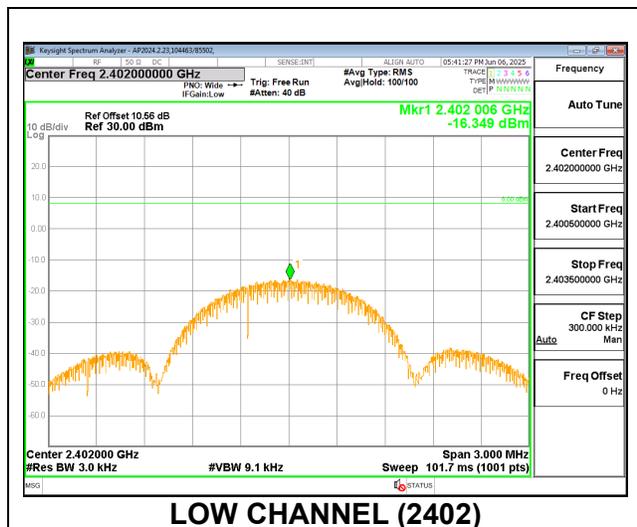
9.6.5. BLE (2Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 0	2404	-14.046	8	-22.05
Middle 17	2440	-13.789	8	-21.79
High 35	2476	-13.280	8	-21.28
High 36	2478	-17.526	8	-25.53



9.6.6. ANT

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-16.349	8	-24.35
Low	2404	-12.759	8	-20.76
Middle	2440	-11.603	8	-19.60
High	2478	-12.249	8	-20.25
High	2480	-15.958	8	-23.96



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

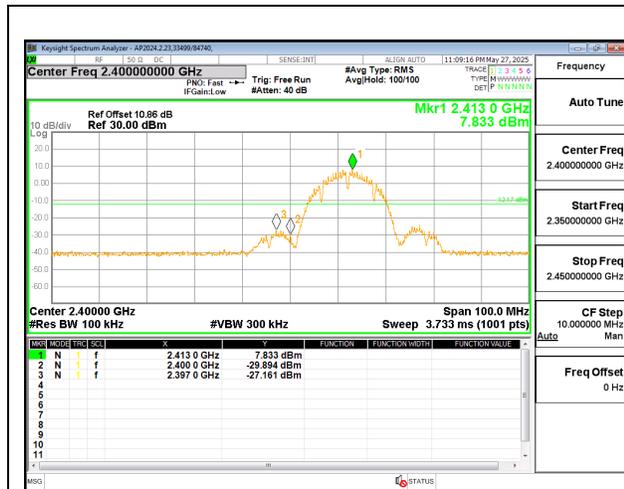
FCC §15.247 (d)
RSS-247 5.5

PROCEDURE

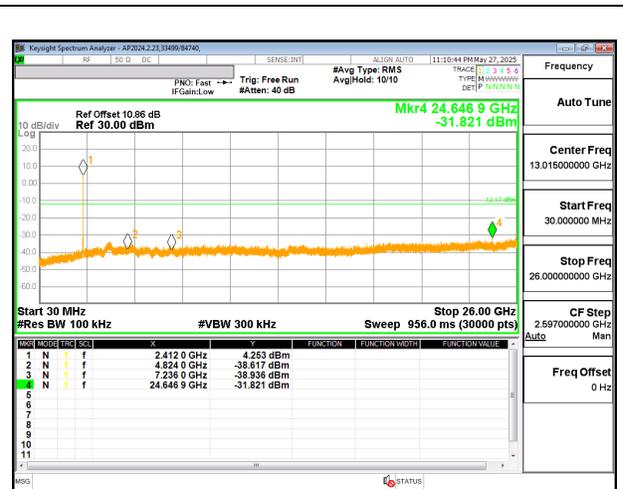
Output power was measured based on the use of a peak measurement; therefore, the required attenuation is -20 dBc.

RESULTS

9.7.1. 802.11b MODE



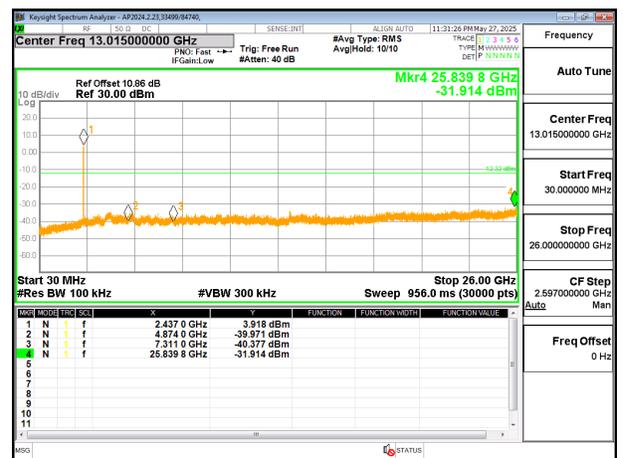
LOW CHANNEL 1 BANDEDGE



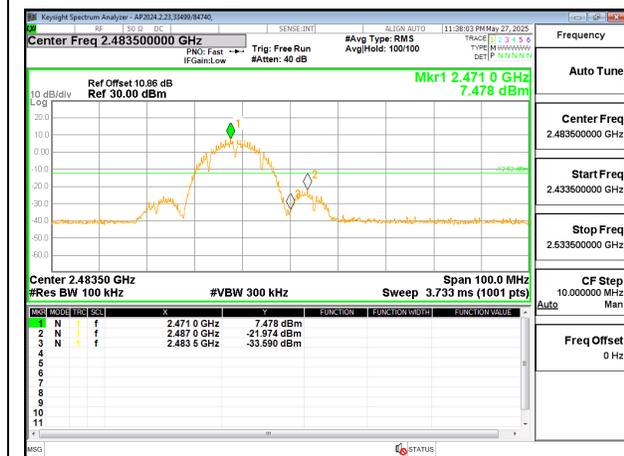
OUT-OF-BAND LOW CHANNEL 1



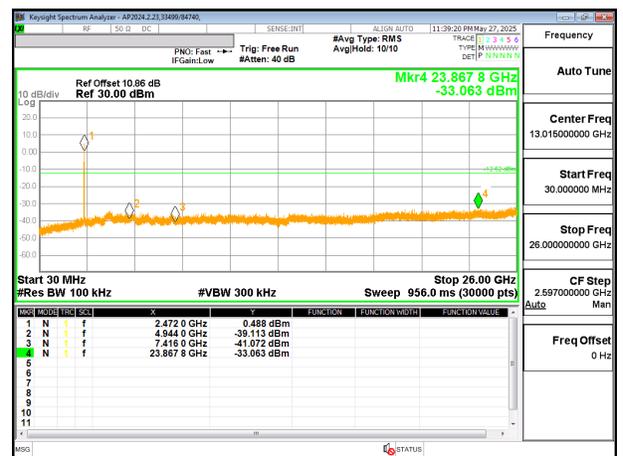
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

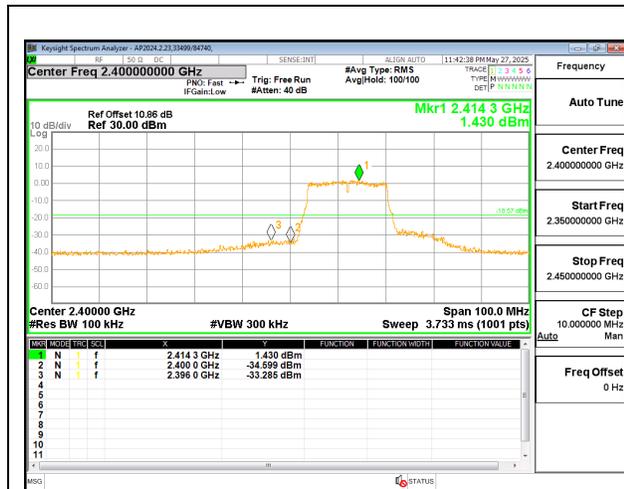


HIGH CHANNEL 13 BANDEDGE

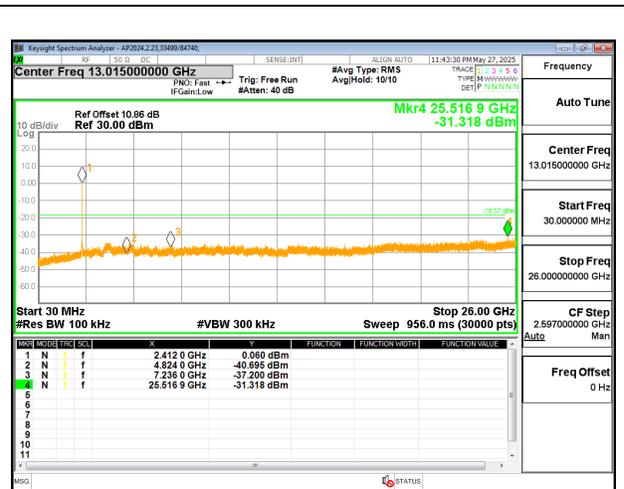


OUT-OF-BAND HIGH CHANNEL 13

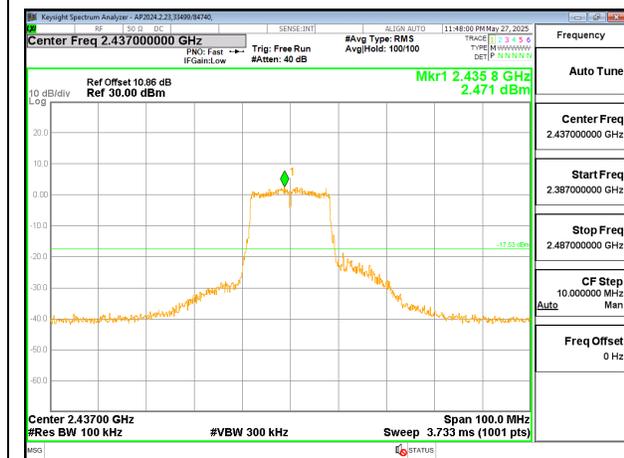
9.7.2. 802.11g MODE



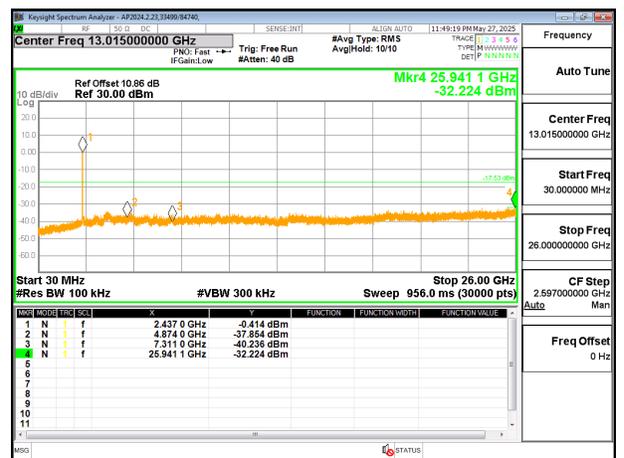
LOW CHANNEL 1 BANDEDGE



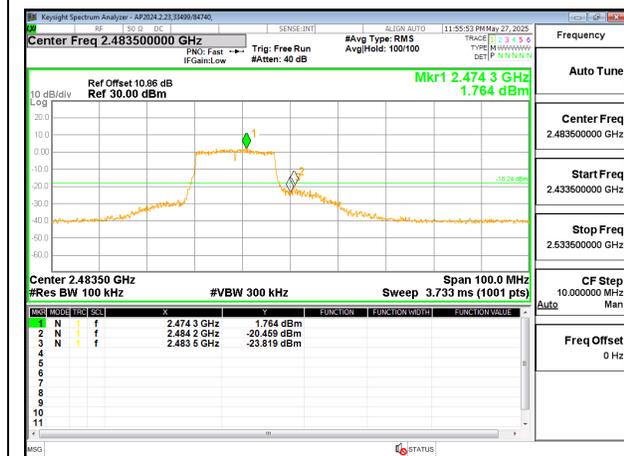
OUT-OF-BAND LOW CHANNEL 1



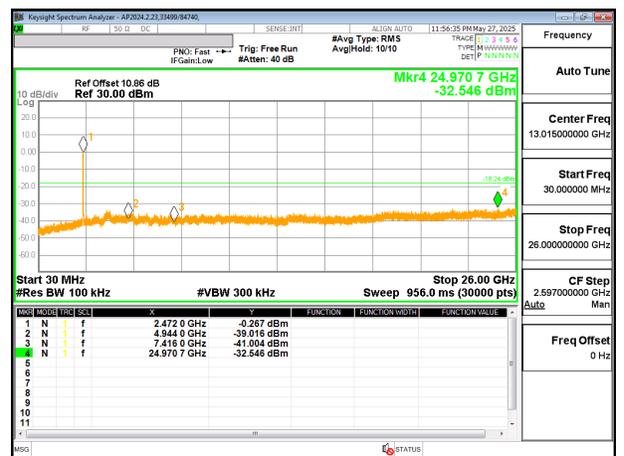
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

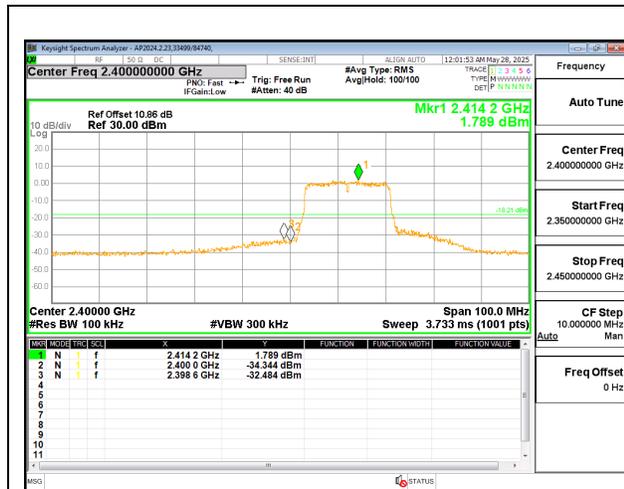


HIGH CHANNEL 13 BANDEDGE

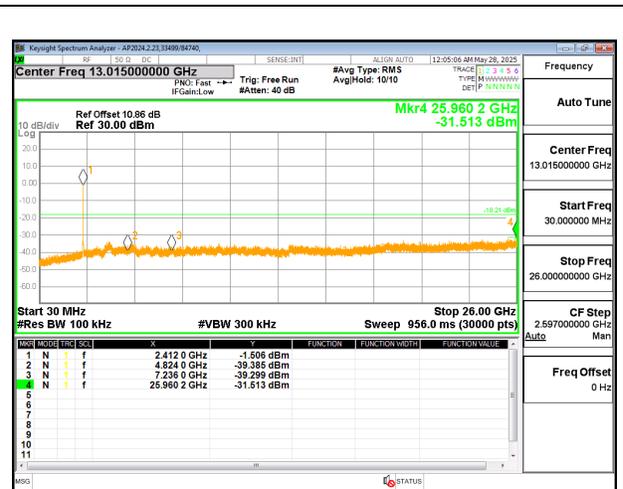


OUT-OF-BAND HIGH CHANNEL 13

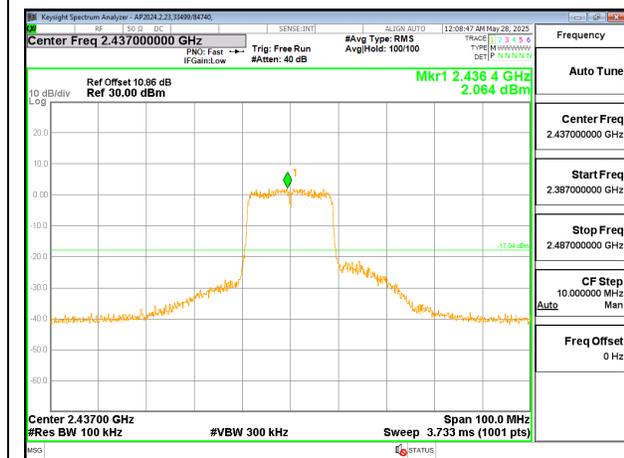
9.7.3. 802.11n HT20 MODE



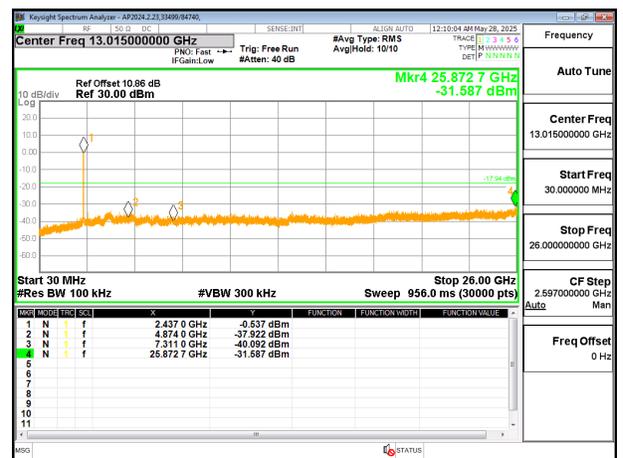
LOW CHANNEL 1 BANDEGE



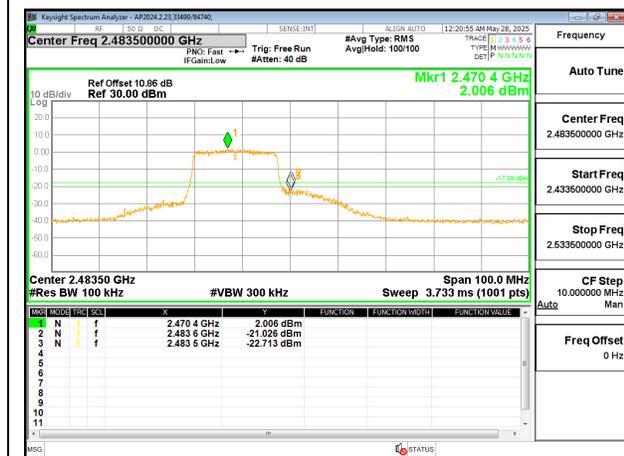
OUT-OF-BAND LOW CHANNEL 1



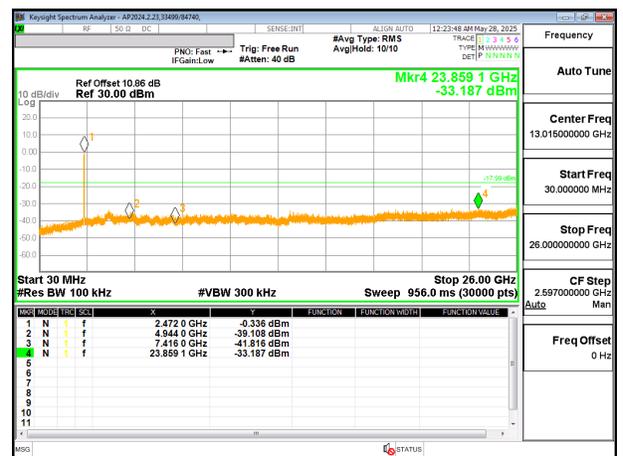
IN-BAND REFERNE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 13 BANDEGE

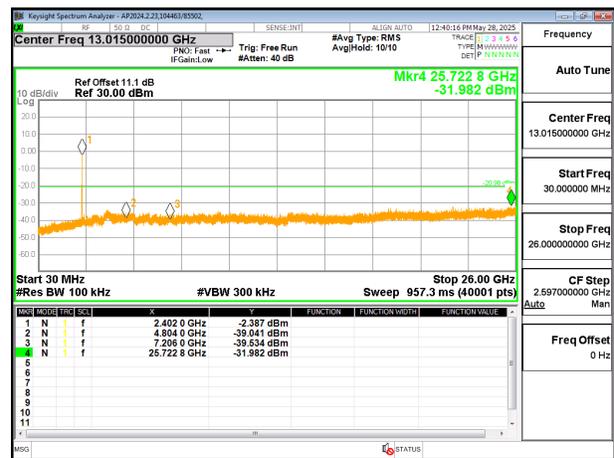


OUT-OF-BAND HIGH CHANNEL 13

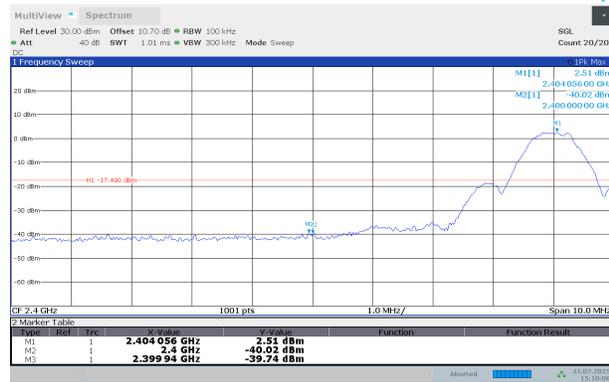
9.7.4. BLE (1Mbps)



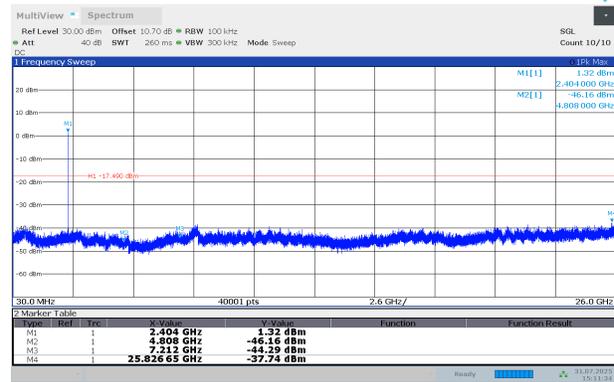
LOW CHANNEL 37 BANDEDGE



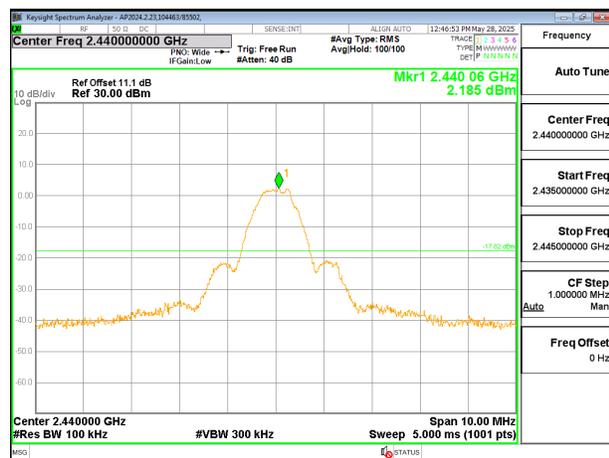
OUT-OF-BAND LOW CHANNEL 37



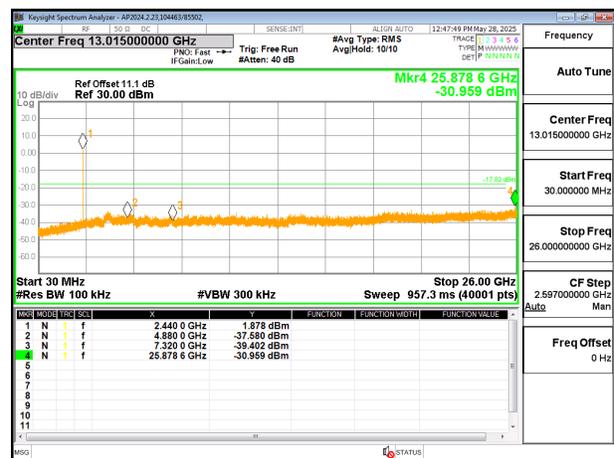
LOW CHANNEL 0 BANDEDGE



OUT-OF-BAND LOW CHANNEL 0



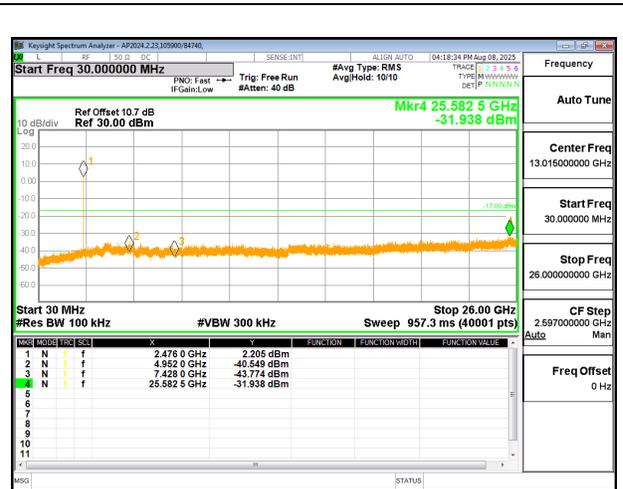
MID CHANNEL 17 IN-BAND REFERENCE LEVEL



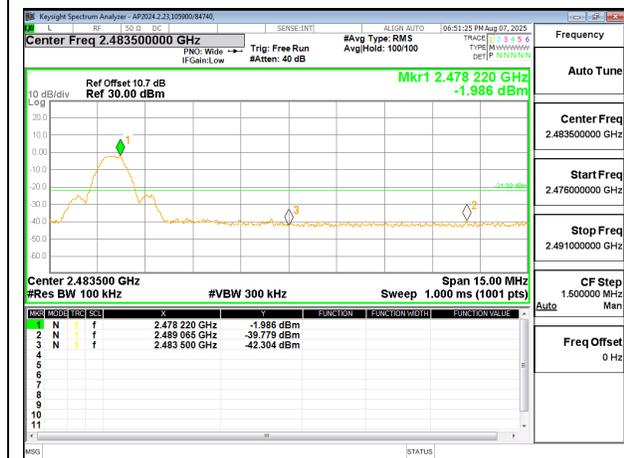
OUT-OF-BAND MID CHANNEL 17



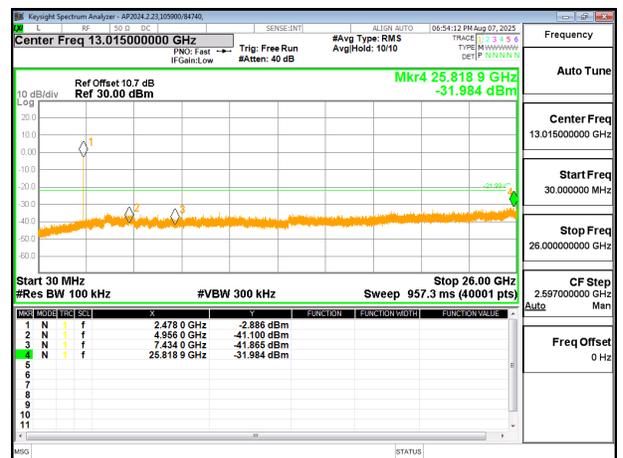
HIGH CHANNEL 35 BANDEDGE



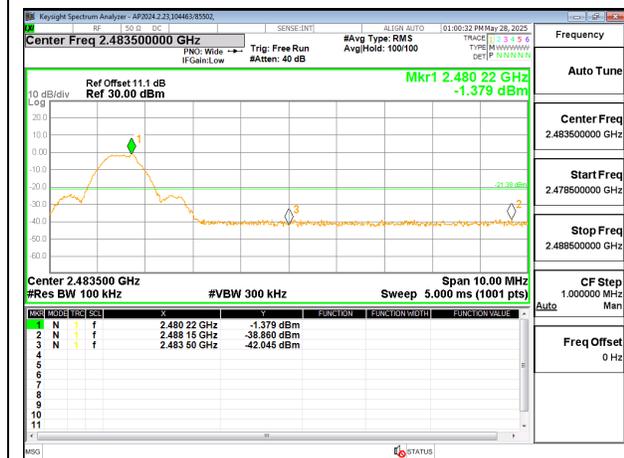
OUT-OF-BAND HIGH CHANNEL 35



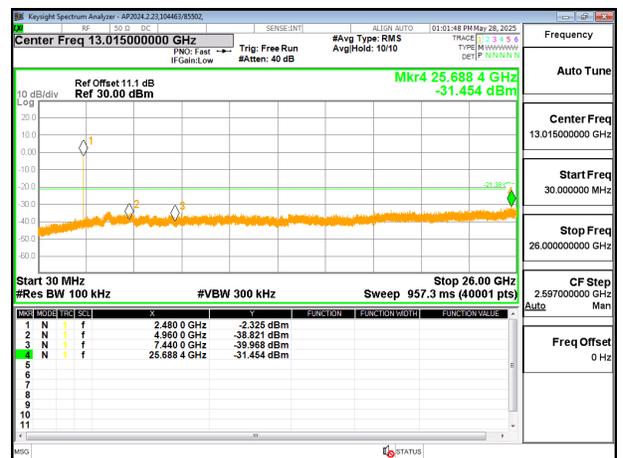
HIGH CHANNEL 36 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 36



HIGH CHANNEL 39 BANDEDGE

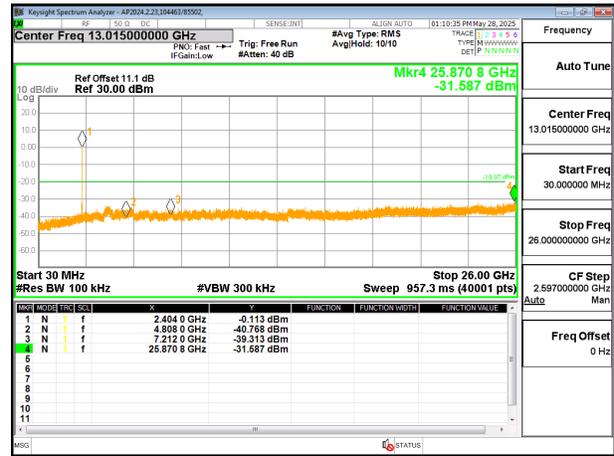


OUT-OF-BAND HIGH CHANNEL 39

9.7.5. BLE (2Mbps)



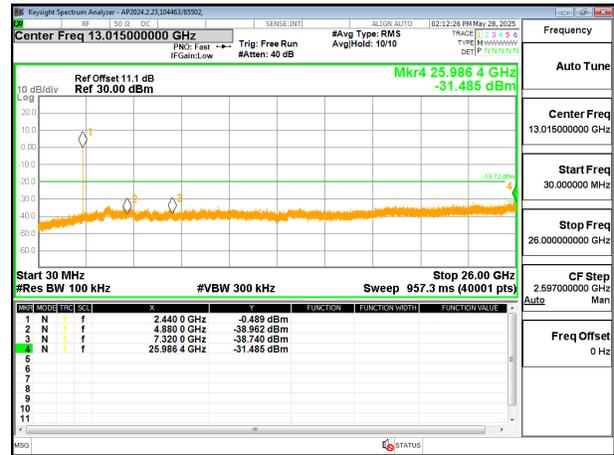
LOW CHANNEL 0 BANDEDGE



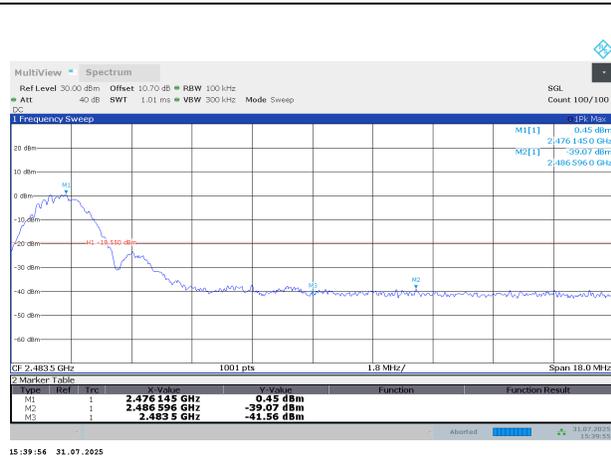
OUT-OF-BAND LOW CHANNEL 0



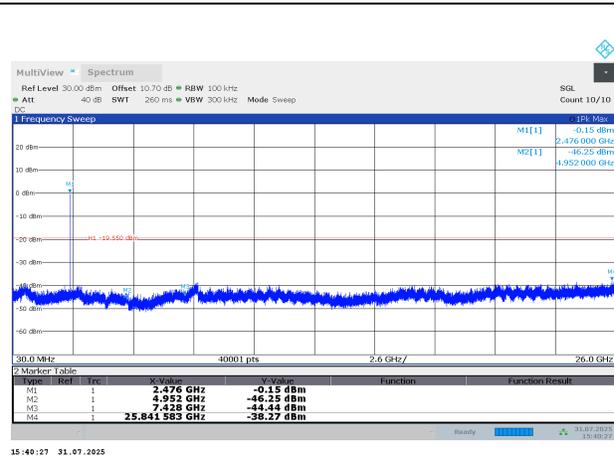
MID CHANNEL 17 IN-BAND REFERENCE LEVEL



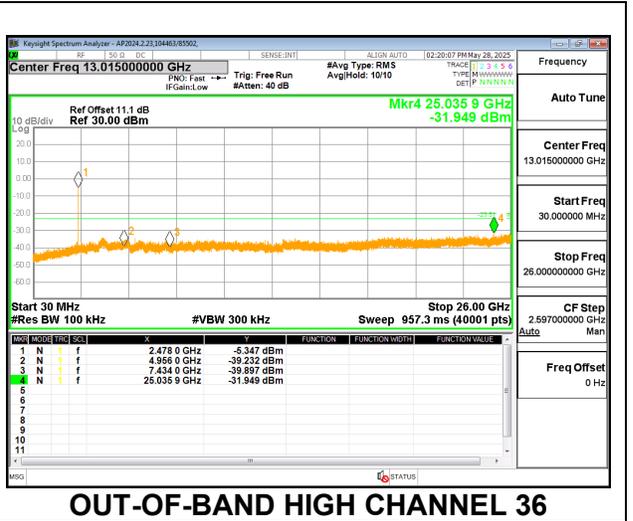
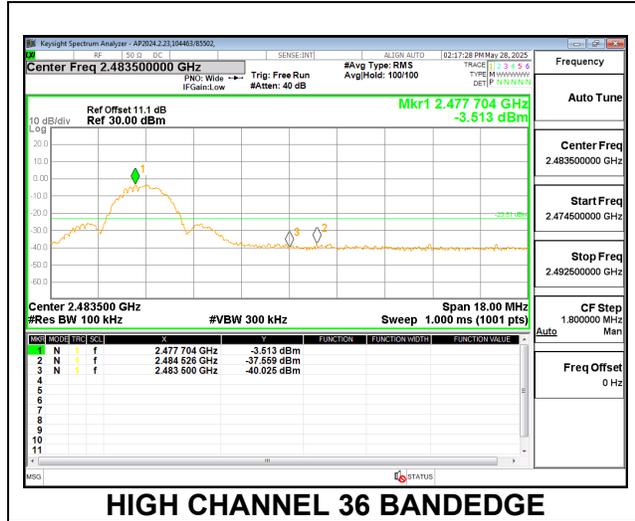
OUT-OF-BAND MID CHANNEL 17



HIGH CHANNEL 35 BANDEDGE



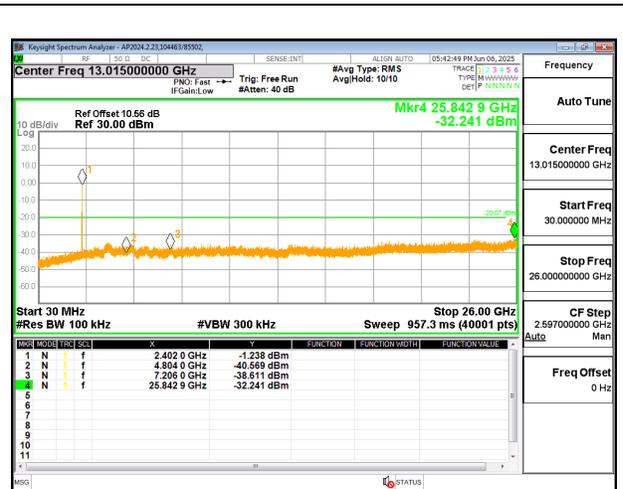
OUT-OF-BAND HIGH CHANNEL 35



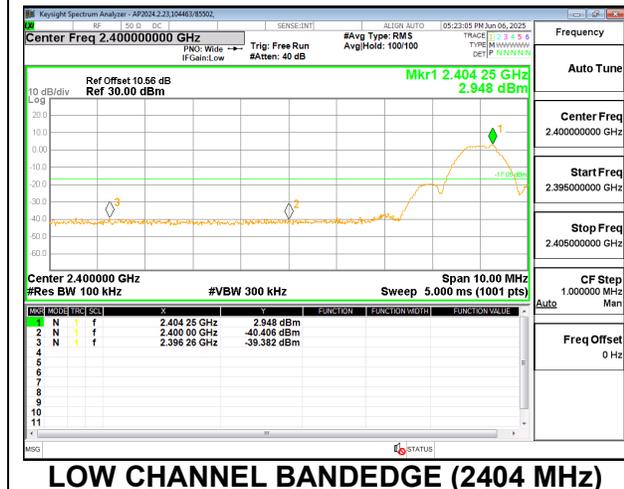
9.7.6. ANT



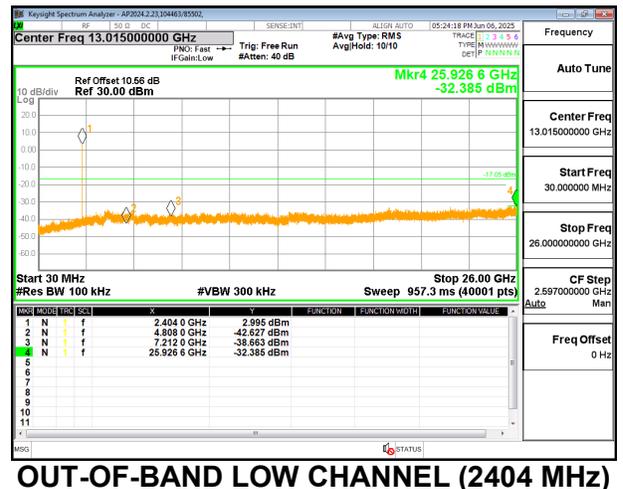
LOW CHANNEL BANDEDGE (2402 MHz)



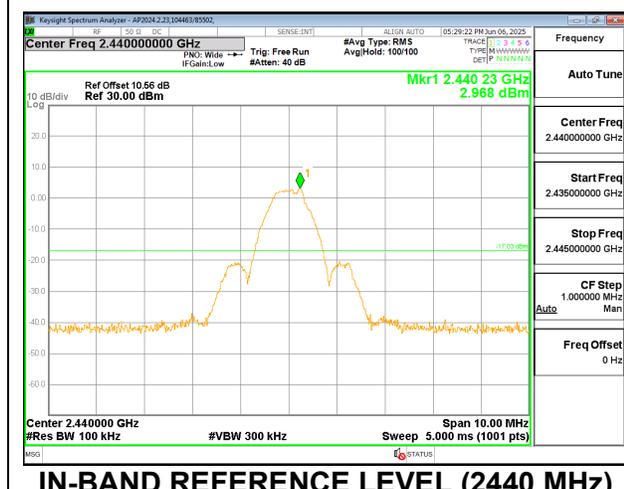
OUT-OF-BAND LOW CHANNEL (2402 MHz)



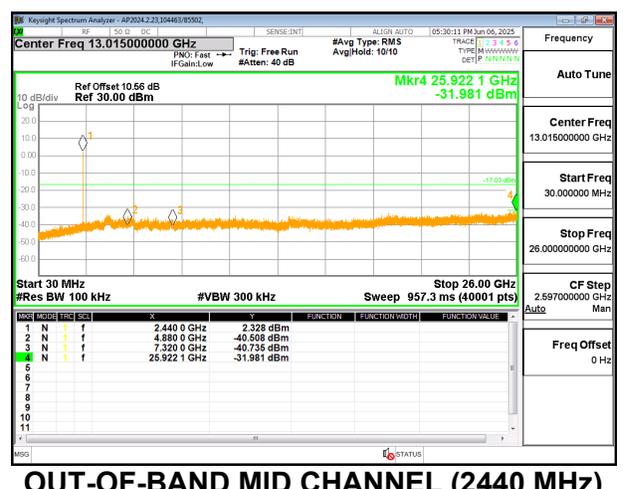
LOW CHANNEL BANDEDGE (2404 MHz)



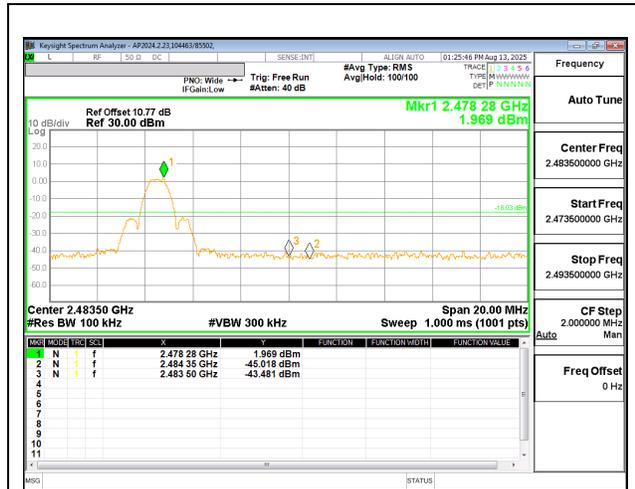
OUT-OF-BAND LOW CHANNEL (2404 MHz)



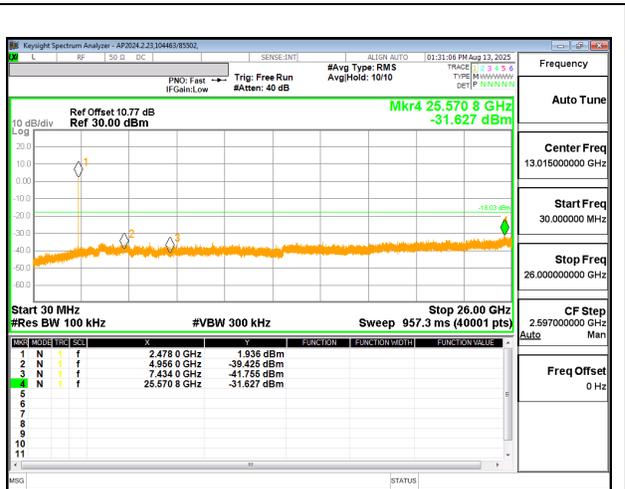
IN-BAND REFERENCE LEVEL (2440 MHz)



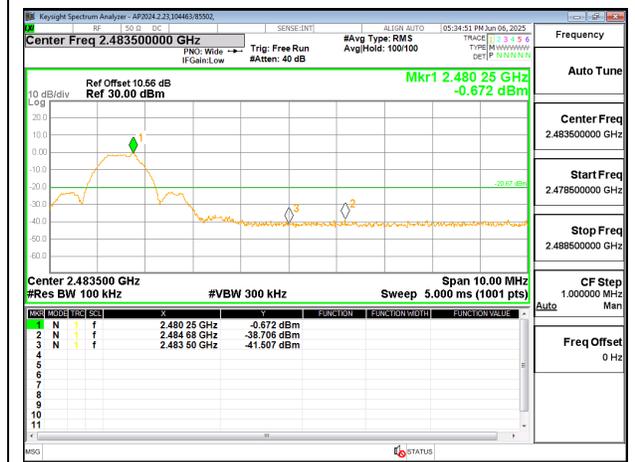
OUT-OF-BAND MID CHANNEL (2440 MHz)



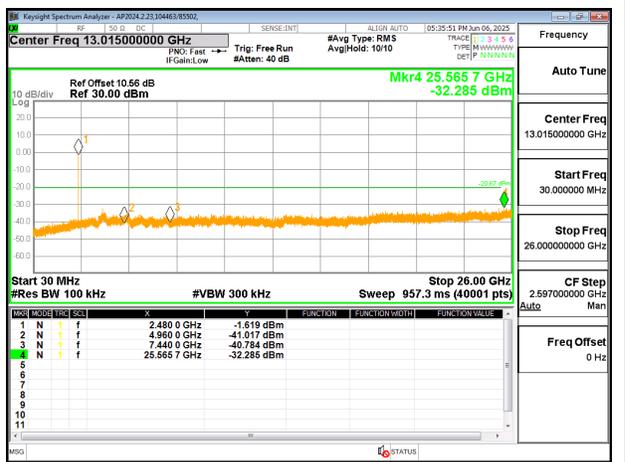
HIGH CHANNEL BANDEDGE (2478 MHz)



OUT-OF-BAND HIGH CHANNEL (2478 MHz)



HIGH CHANNEL 39 BANDEDGE (2480 MHz)



OUT-OF-BAND HIGH CHANNEL (2480 MHz)

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

RSS-GEN Clause 8.9 and 8.10

Frequency Range (kHz)	Field Strength Limit (uA/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	6.37/F(kHz) @ 300 m	-
0.490-1.705	63.7/F(kHz) @ 30 m	-
1.705 - 30	0.08 @ 30m	-
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

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

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements 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 3 MHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 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

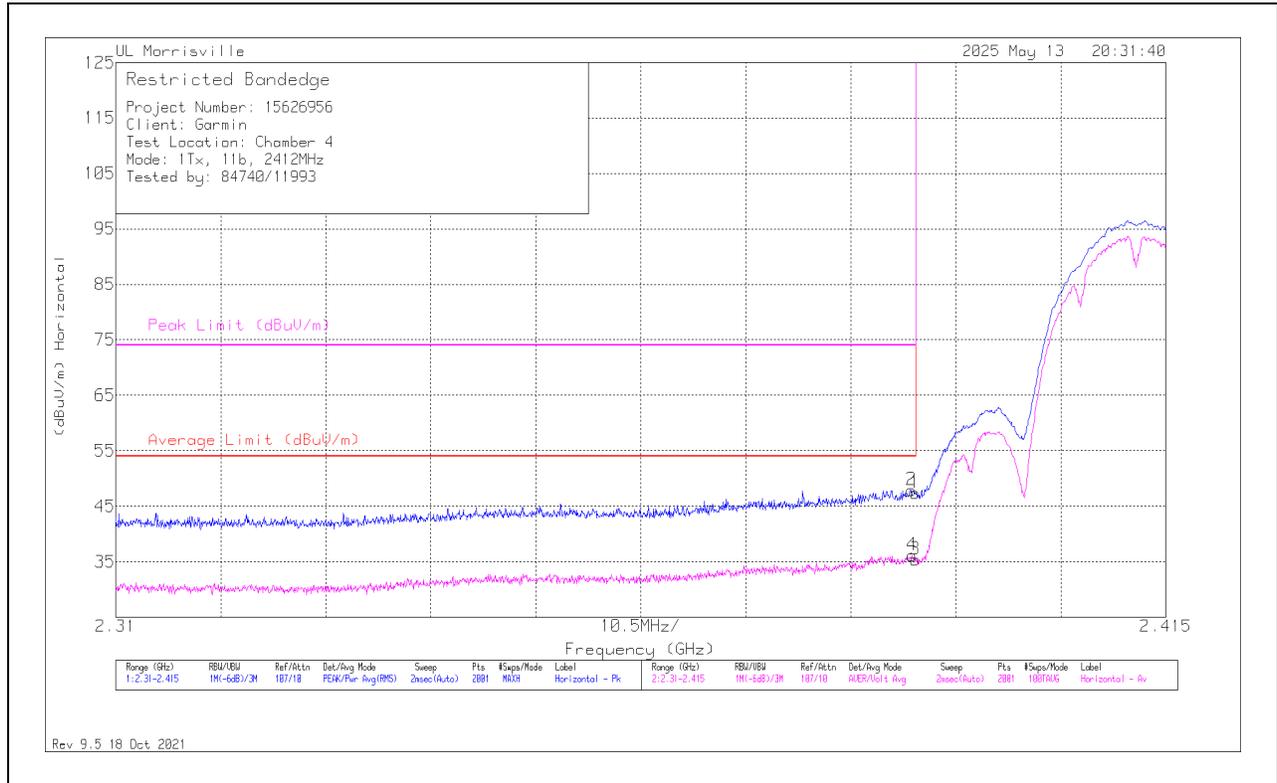
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

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, CH 1)

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	38.62	Pk	32	-23.2	47.42	-	-	74	-26.58	339	115	H
2	* ** 2.38954	39.14	Pk	32	-23.2	47.94	-	-	74	-26.06	339	115	H
3	* ** 2.38996	26.62	ADV	32	-23.2	35.42	54	-18.58	-	-	339	115	H
4	* ** 2.38959	27.38	ADV	32	-23.2	36.18	54	-17.82	-	-	339	115	H

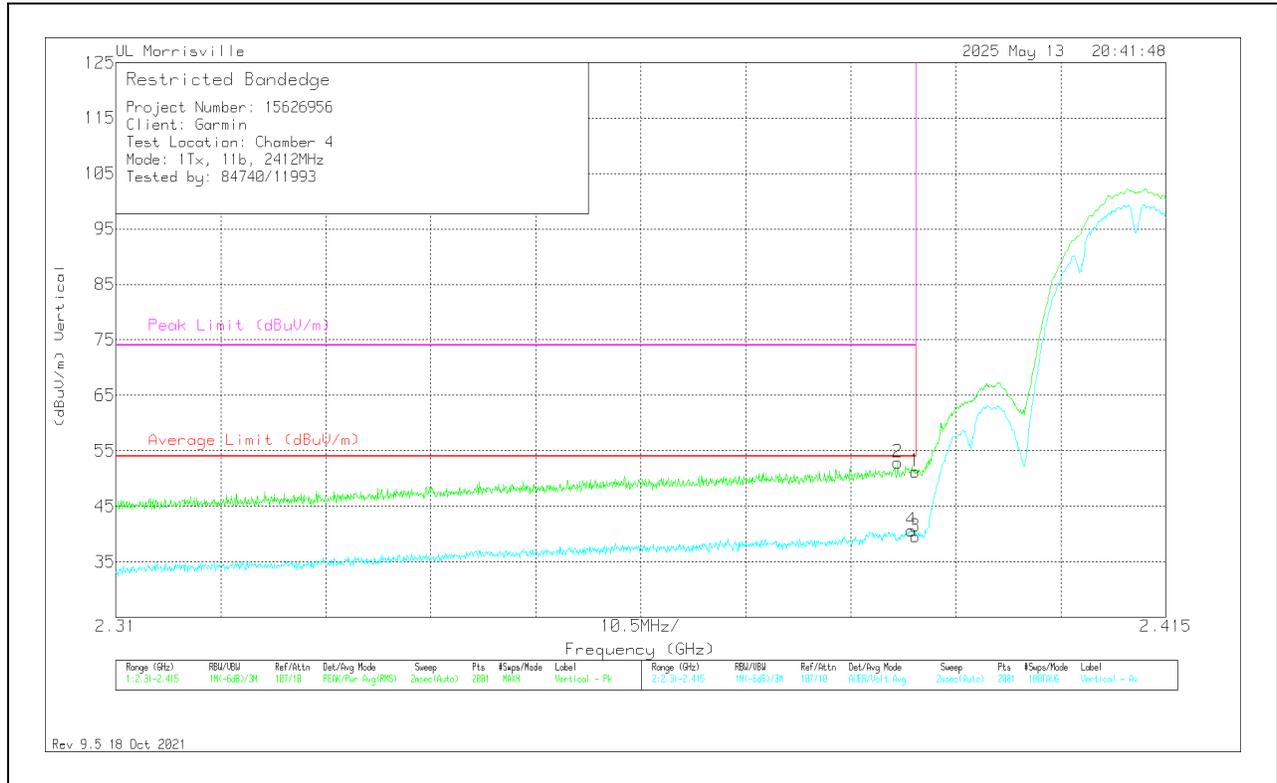
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

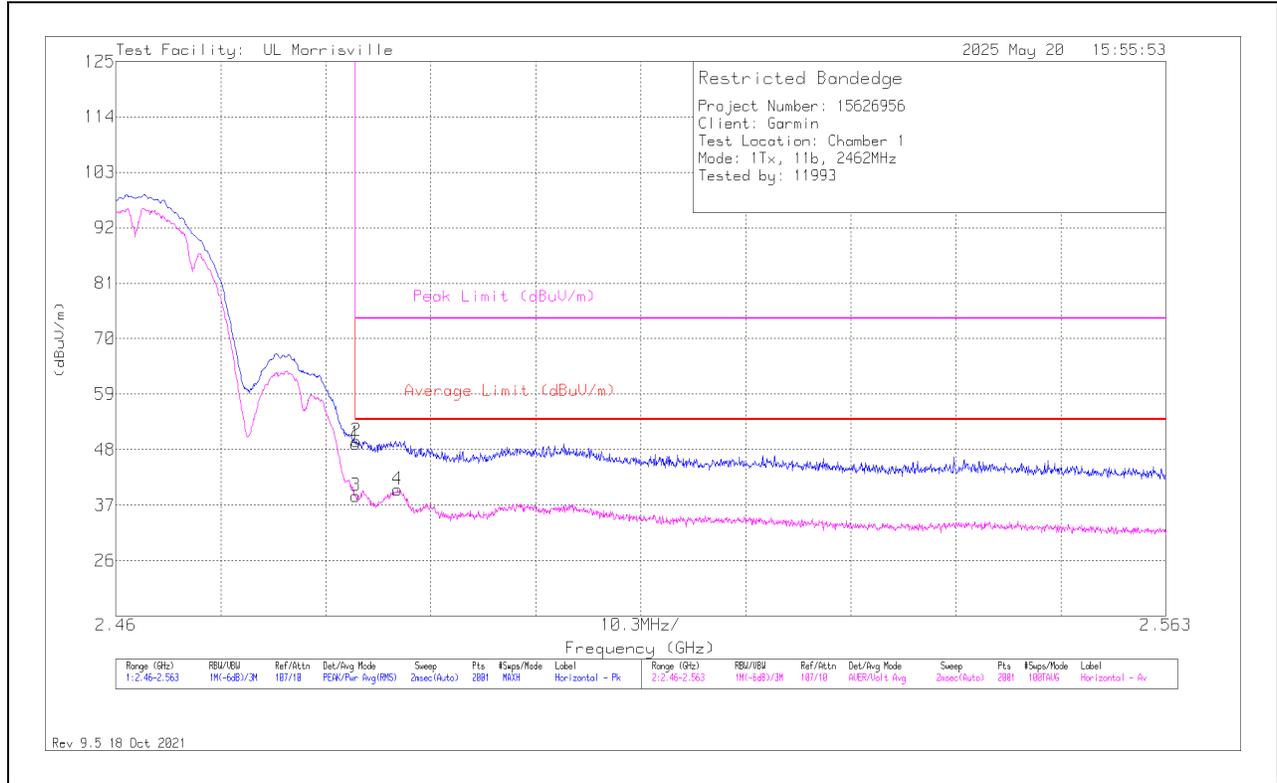


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	42.48	Pk	32	-23.2	51.28	-	-	74	-22.72	27	103	V
2	* ** 2.38817	44.08	Pk	32	-23.2	52.88	-	-	74	-21.12	27	103	V
3	* ** 2.38996	30.77	ADV	32	-23.2	39.57	54	-14.43	-	-	27	103	V
4	* ** 2.38954	31.84	ADV	32	-23.2	40.64	54	-13.36	-	-	27	103	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, CH 11)

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	40.61	Pk	32.2	-23.7	49.11	-	-	74	-24.89	282	144	H
2	* ** 2.48359	41.18	Pk	32.2	-23.7	49.68	-	-	74	-24.32	282	144	H
3	* ** 2.48354	30.26	ADV	32.2	-23.7	38.76	54	-15.24	-	-	282	144	H
4	* ** 2.48766	31.82	ADV	32.2	-24	40.02	54	-13.98	-	-	282	144	H

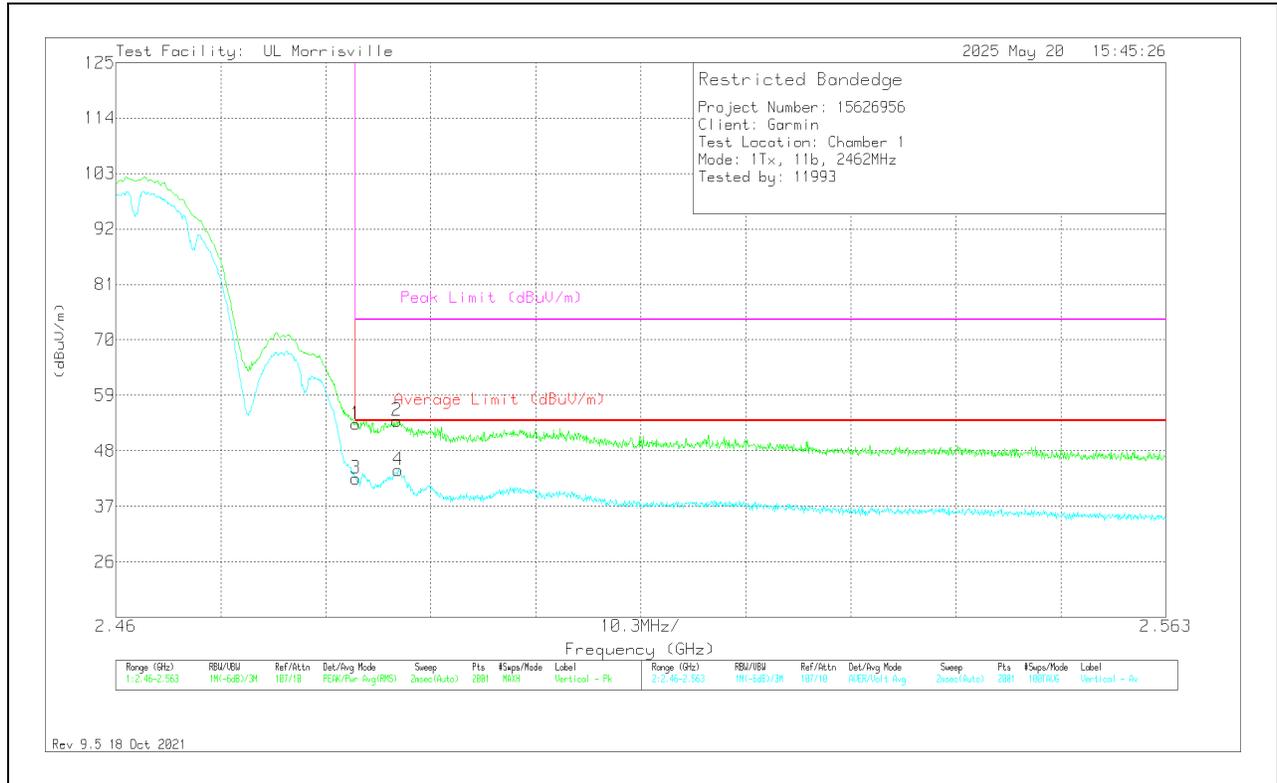
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

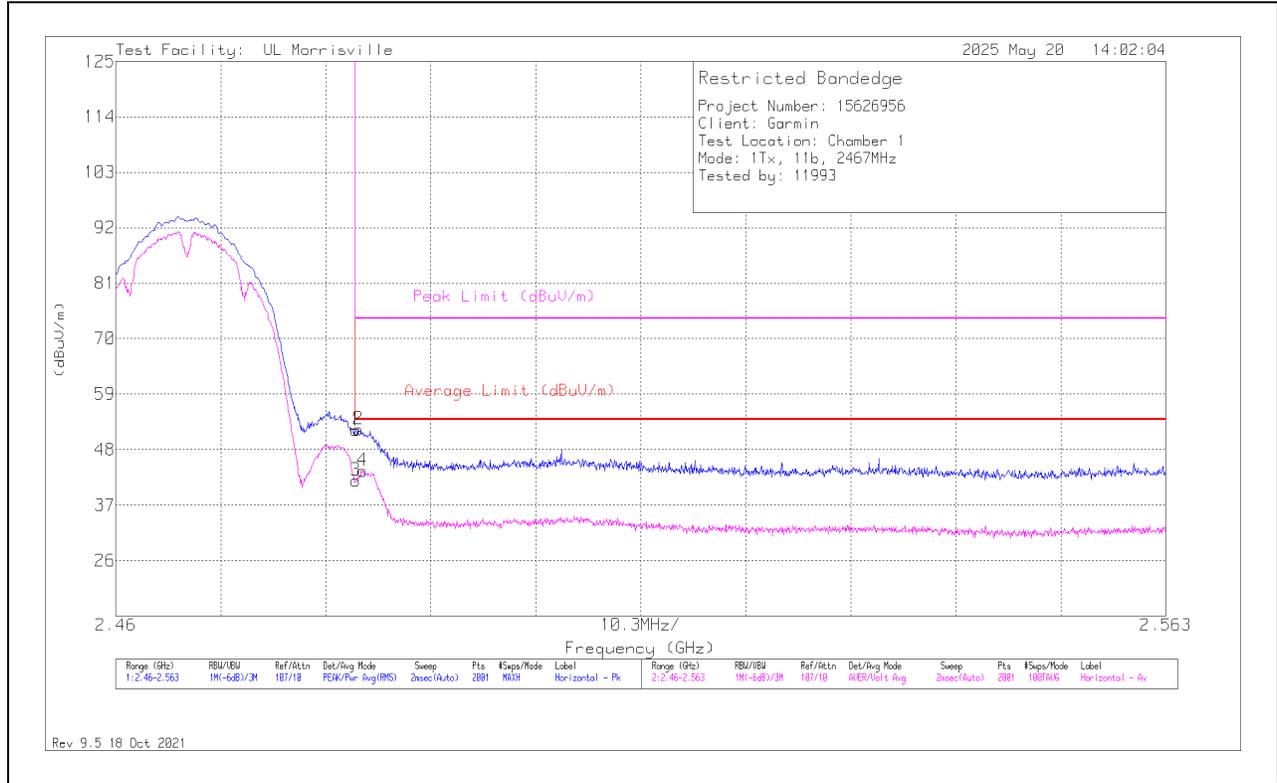


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	44.83	Pk	32.2	-23.7	53.33	-	-	74	-20.67	157	238	V
2	* ** 2.48755	45.81	Pk	32.2	-24	54.01	-	-	74	-19.99	157	238	V
3	* ** 2.48354	34	ADV	32.2	-23.7	42.5	54	-11.5	-	-	157	238	V
4	* ** 2.48771	35.93	ADV	32.2	-24	44.13	54	-9.87	-	-	157	238	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, CH 12)

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	43.32	Pk	32.2	-23.7	51.82	-	-	74	-22.18	269	139	H
2	*** 2.48379	43.49	Pk	32.2	-23.7	51.99	-	-	74	-22.01	269	139	H
3	*** 2.48354	33.32	ADV	32.2	-23.7	41.82	54	-12.18	-	-	269	139	H
4	*** 2.48421	35.42	ADV	32.2	-23.8	43.82	54	-10.18	-	-	269	139	H

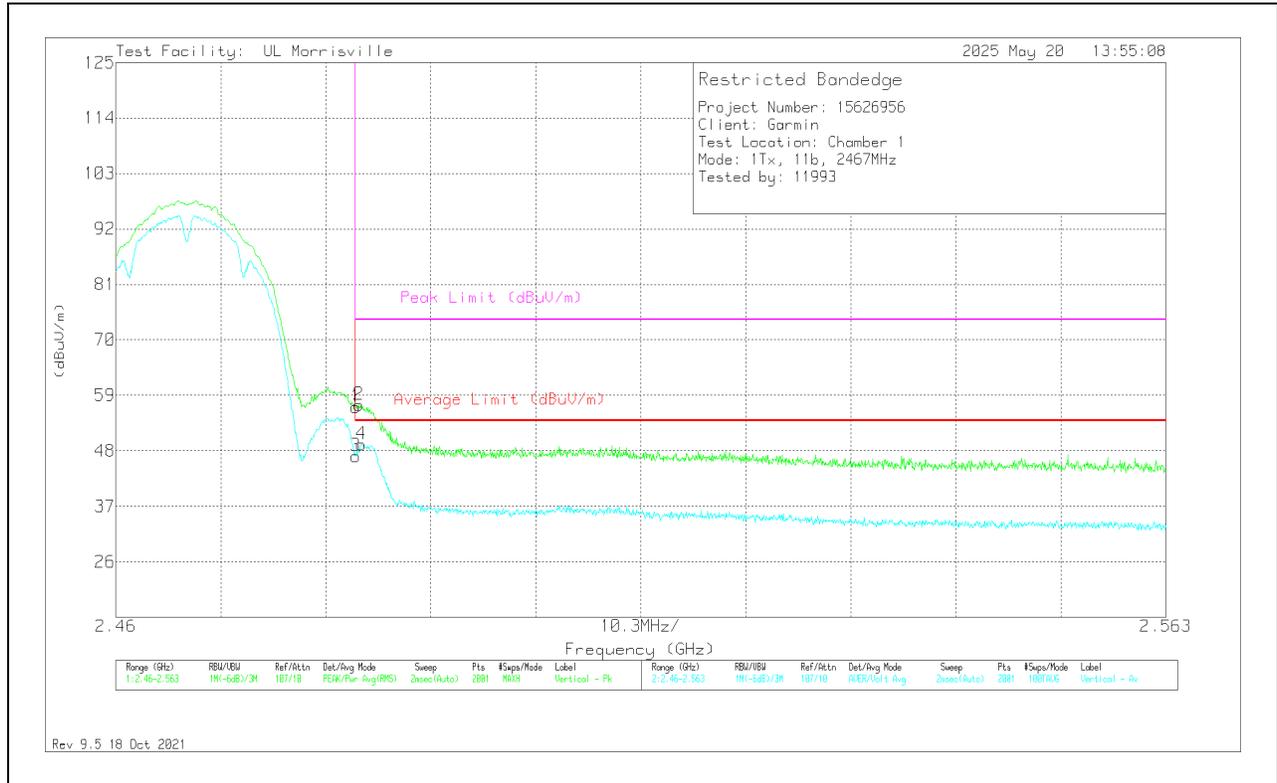
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

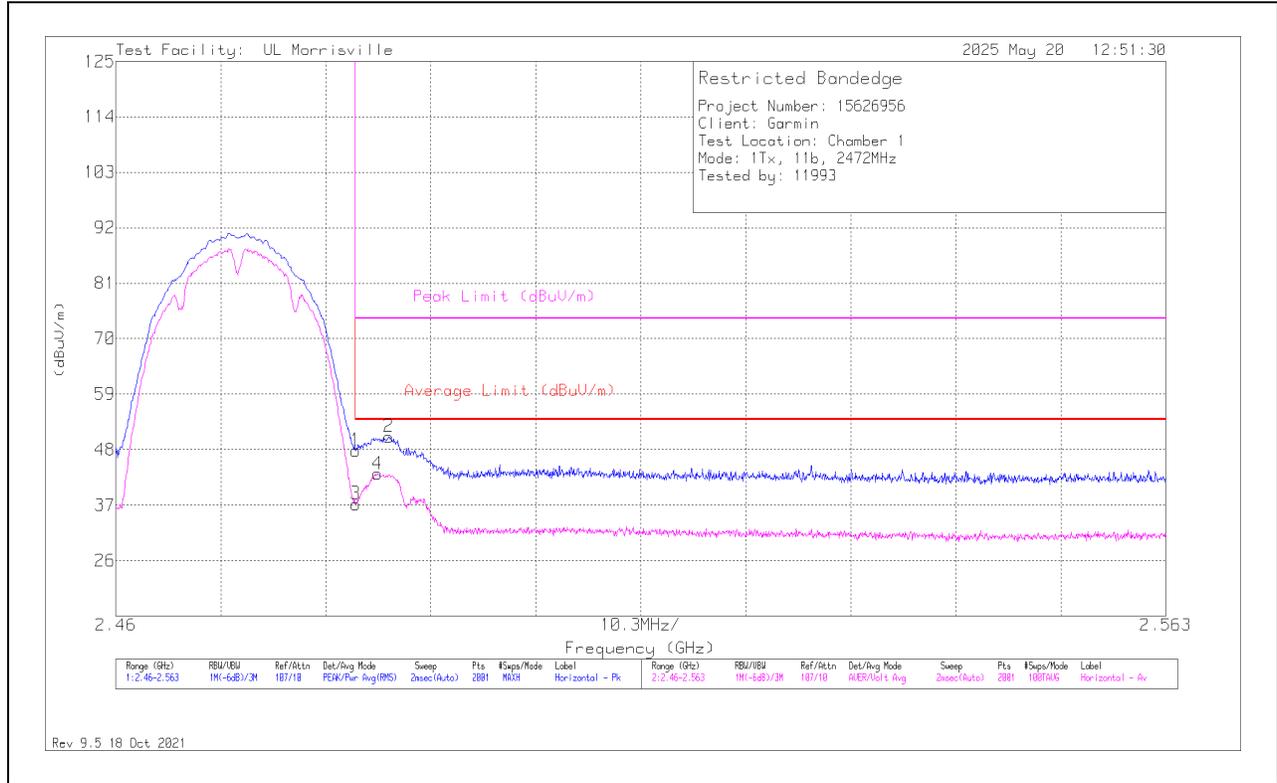


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	48.19	Pk	32.2	-23.7	56.69	-	-	74	-17.31	351	130	V
2	* ** 2.48384	48.61	Pk	32.2	-23.7	57.11	-	-	74	-16.89	351	130	V
3	* ** 2.48354	38.46	ADV	32.2	-23.7	46.96	54	-7.04	-	-	351	130	V
4	* ** 2.4841	40.84	ADV	32.2	-23.8	49.24	54	-4.76	-	-	351	130	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, CH 13)

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	39.24	Pk	32.2	-23.7	47.74	-	-	74	-26.26	277	118	H
2	* ** 2.48678	42.23	Pk	32.2	-23.9	50.53	-	-	74	-23.47	277	118	H
3	* ** 2.48354	28.71	ADV	32.2	-23.7	37.21	54	-16.79	-	-	277	118	H
4	* ** 2.4857	34.85	ADV	32.2	-23.9	43.15	54	-10.85	-	-	277	118	H

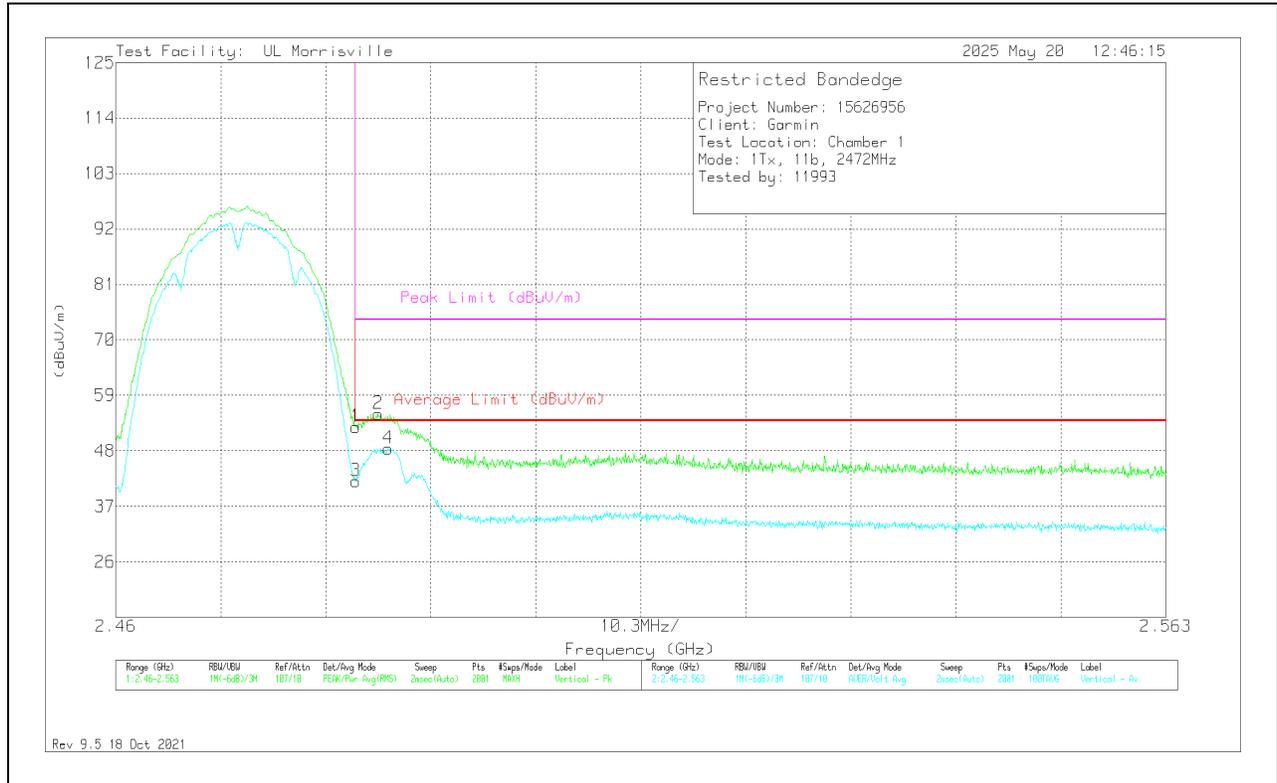
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

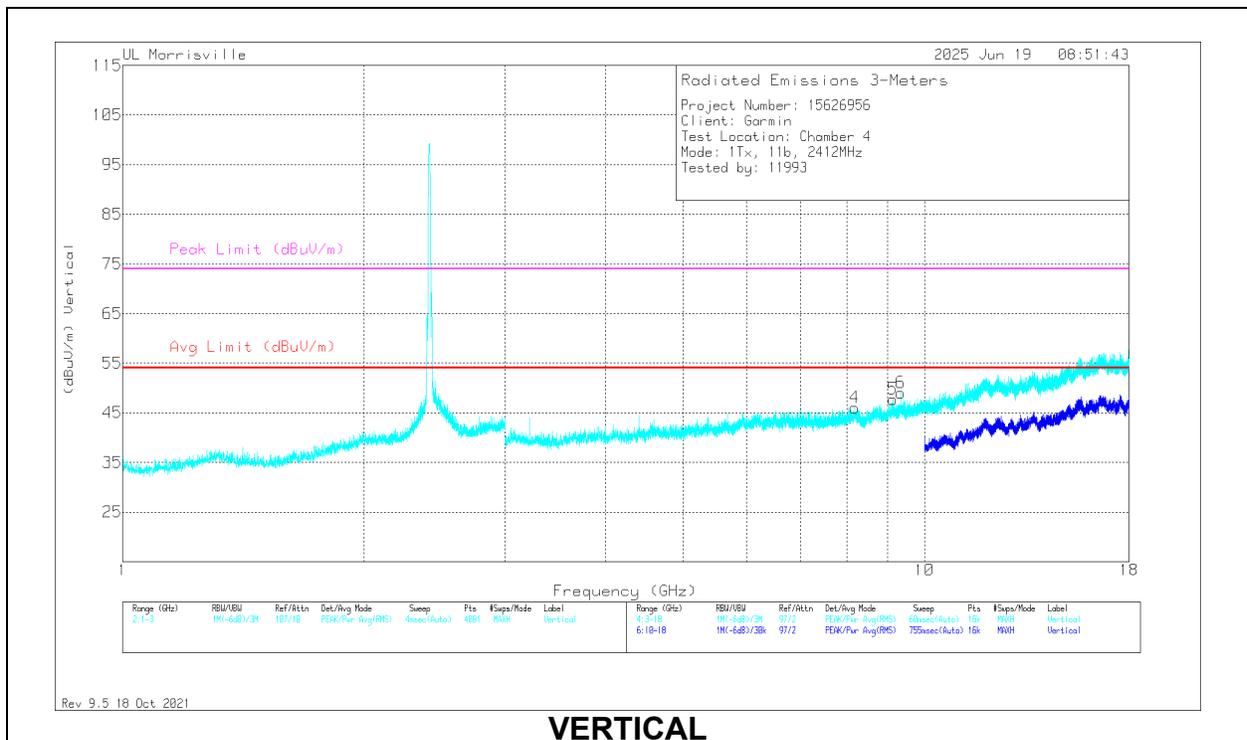
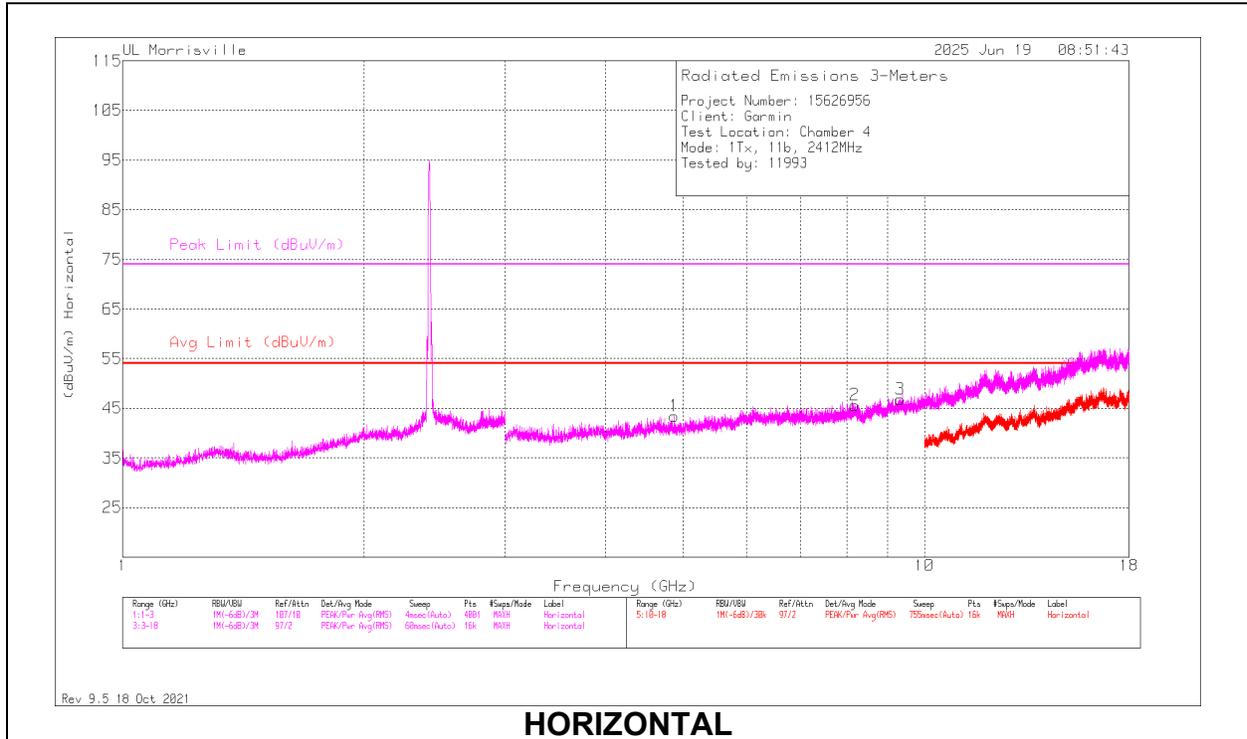


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	44.18	Pk	32.2	-23.7	52.68	-	-	74	-21.32	5	125	V
2	*** 2.48575	47.08	Pk	32.2	-23.9	55.38	-	-	74	-18.62	5	125	V
3	*** 2.48354	33.52	ADV	32.2	-23.7	42.02	54	-11.98	-	-	5	125	V
4	*** 2.48673	40.12	ADV	32.2	-23.9	48.42	54	-5.58	-	-	5	125	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, CH 1 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (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	*** 4.87406	40.66	Pk	33.9	-31.2	43.36	54	-10.64	74	-30.64	0-360	100	H
2	*** 8.19	36.12	Pk	35.7	-26.2	45.62	54	-8.38	74	-28.38	0-360	100	H
3	*** 9.32344	34.92	Pk	36.3	-24.4	46.82	54	-7.18	74	-27.18	0-360	100	H
4	*** 8.19094	36.56	Pk	35.7	-26.2	46.06	54	-7.94	74	-27.94	0-360	200	V
5	*** 9.13219	36.38	Pk	36.1	-24.8	47.68	54	-6.32	74	-26.32	0-360	200	V
6	*** 9.3371	36.43	PK2	36.4	-24.2	48.63	-	-	74	-25.37	357	270	V
	*** 9.33954	24.2	ADV	36.4	-24.2	36.4	54	-17.6	-	-	357	270	V

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

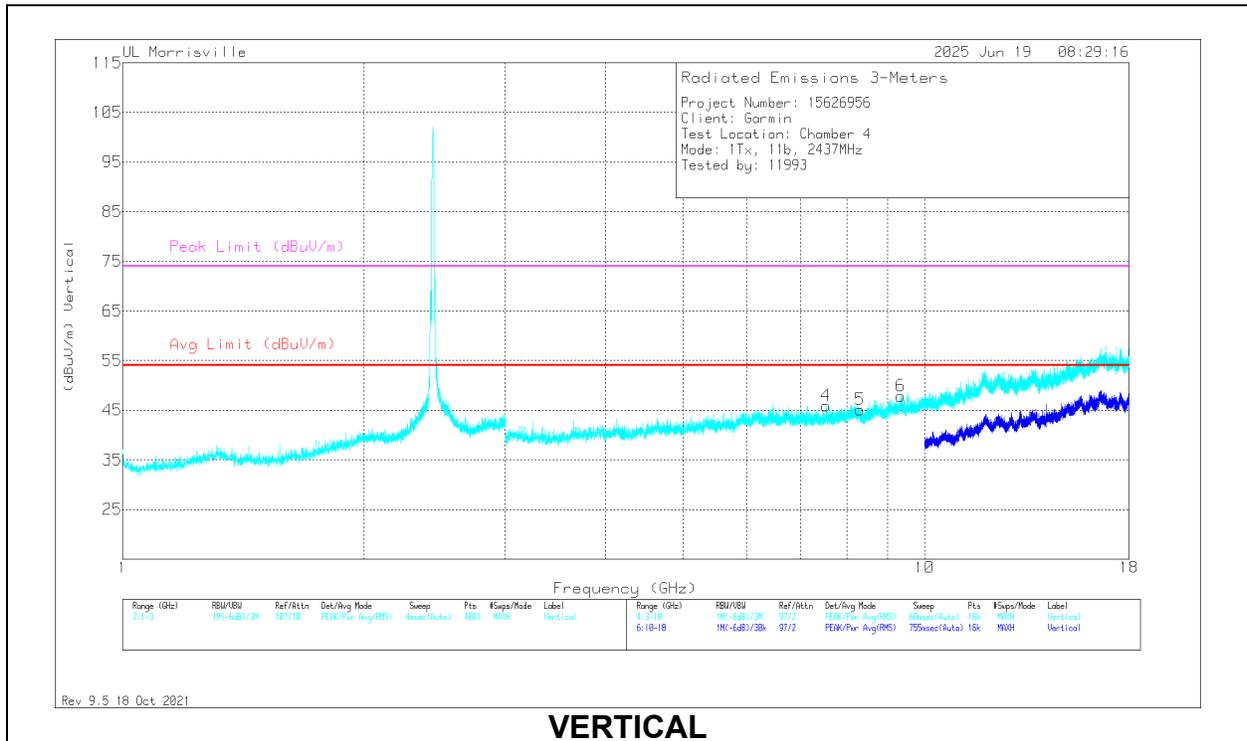
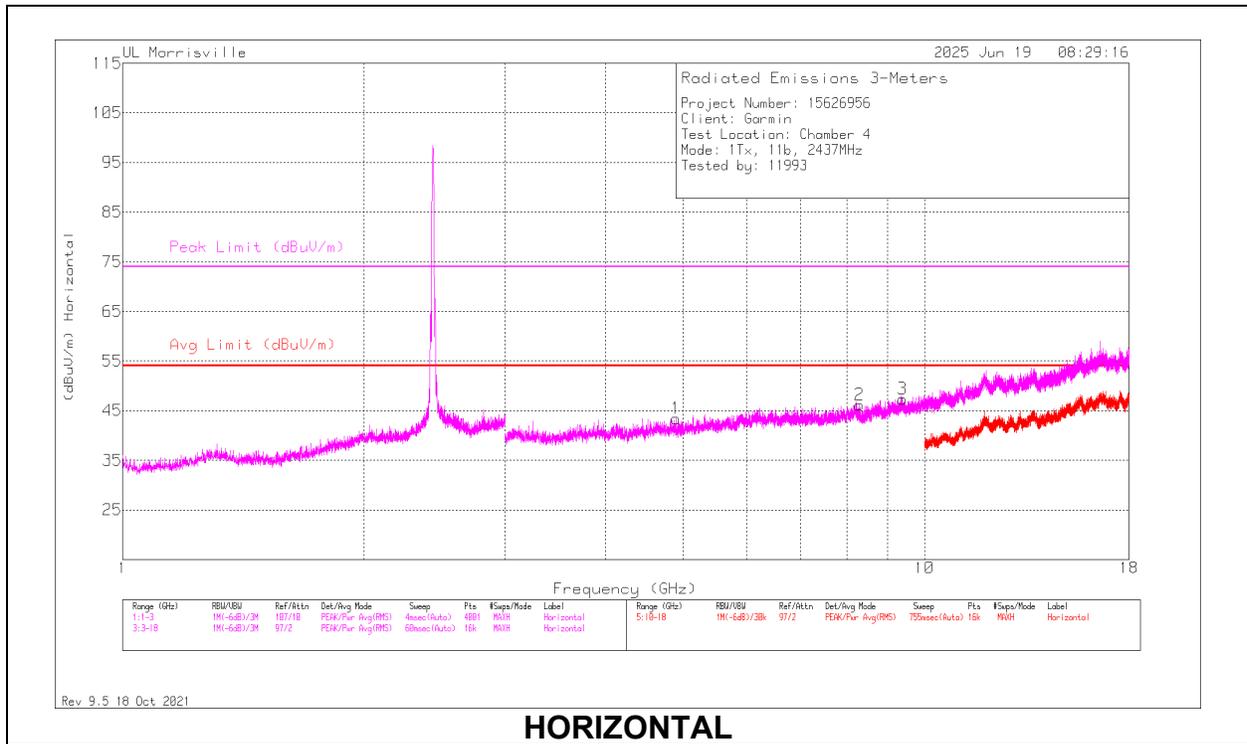
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL, CH 6 RESULTS



RADIATED EMISSIONS

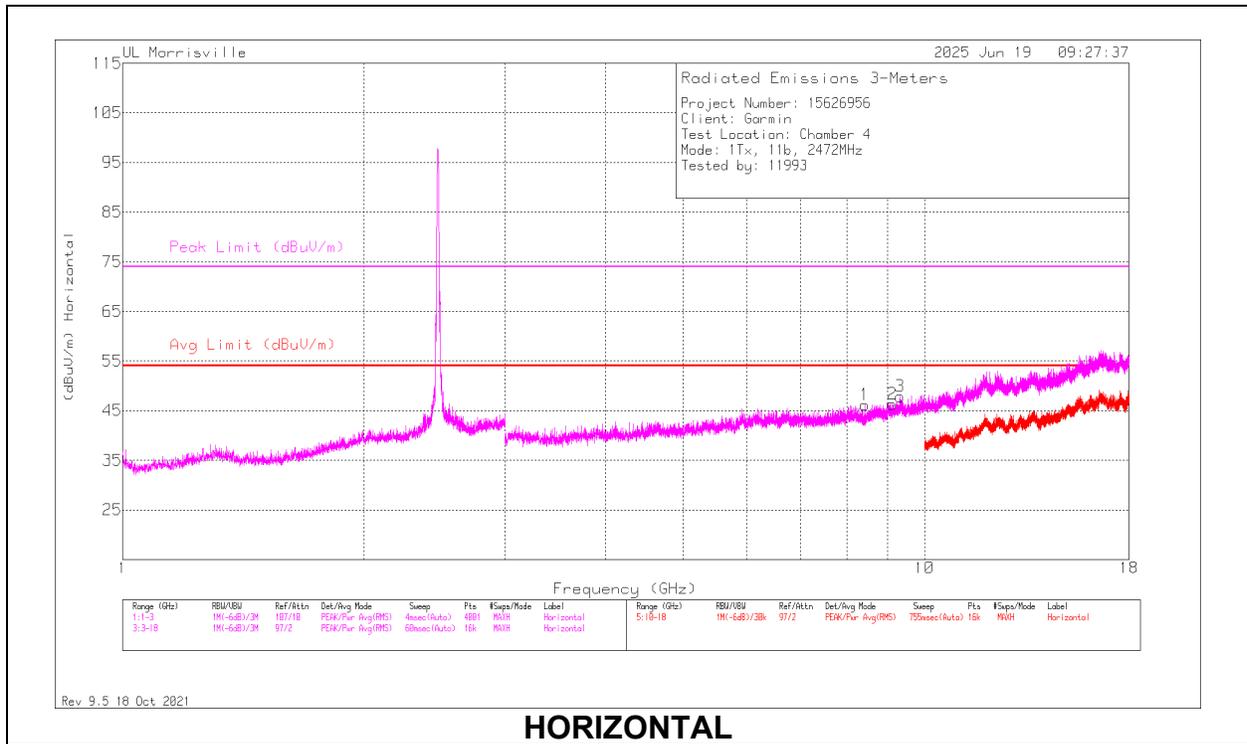
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.89563	40.53	Pk	33.8	-30.9	43.43	54	-10.57	74	-30.57	0-360	100	H
2	*** 8.29406	36.7	Pk	35.7	-26.3	46.1	54	-7.9	74	-27.9	0-360	100	H
3	*** 9.39656	35.68	Pk	36.5	-24.8	47.38	54	-6.62	74	-26.62	0-360	100	H
4	*** 7.53469	37.82	Pk	35.5	-27.4	45.92	54	-8.08	74	-28.08	0-360	200	V
5	*** 8.31563	35.71	Pk	35.7	-26.3	45.11	54	-8.89	74	-28.89	0-360	200	V
6	*** 9.34031	35.69	Pk	36.4	-24.2	47.89	54	-6.11	74	-26.11	0-360	200	V

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

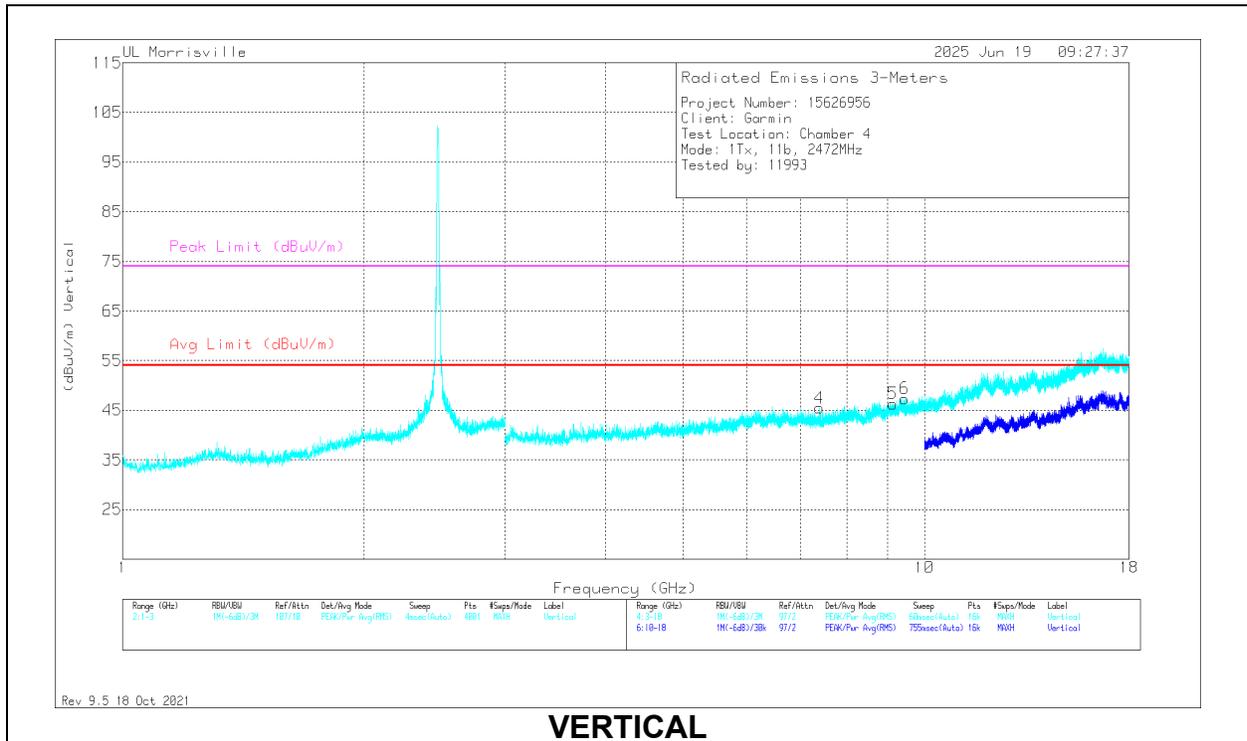
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

HIGH CHANNEL, CH 13 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (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	*** 8.42344	36.64	Pk	35.7	-26.2	46.14	54	-7.86	74	-27.86	0-360	100	H
2	*** 9.12	34.86	Pk	36.1	-24.7	46.26	54	-7.74	74	-27.74	0-360	100	H
3	*** 9.33094	35.5	Pk	36.4	-24.1	47.8	54	-6.2	74	-26.2	0-360	100	H
4	*** 7.4025	37.53	Pk	35.5	-27.6	45.43	54	-8.57	74	-28.57	0-360	200	V
5	*** 9.13406	34.99	Pk	36.1	-24.8	46.29	54	-7.71	74	-27.71	0-360	200	V
6	*** 9.44719	35.88	Pk	36.5	-25	47.38	54	-6.62	74	-26.62	0-360	200	V

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

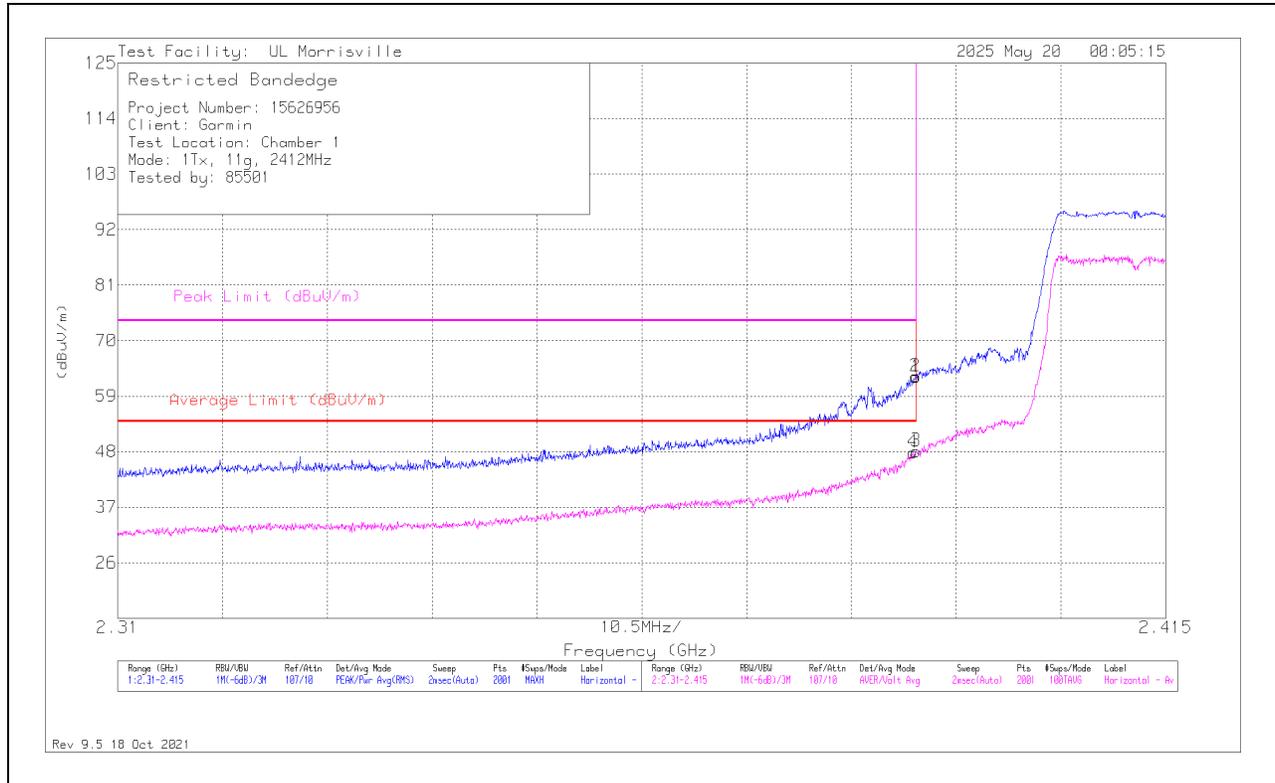
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

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

BANDEDGE (LOW CHANNEL, CH 1)

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	54.89	Pk	31.9	-24	62.79	-	-	74	-11.21	227	256	H
2	*** 2.38991	55.02	Pk	31.9	-24	62.92	-	-	74	-11.08	227	256	H
3	*** 2.38996	40.19	ADV	31.9	-24	48.09	54	-5.91	-	-	227	255	H
4	*** 2.38964	39.95	ADV	31.9	-24	47.85	54	-6.15	-	-	227	255	H

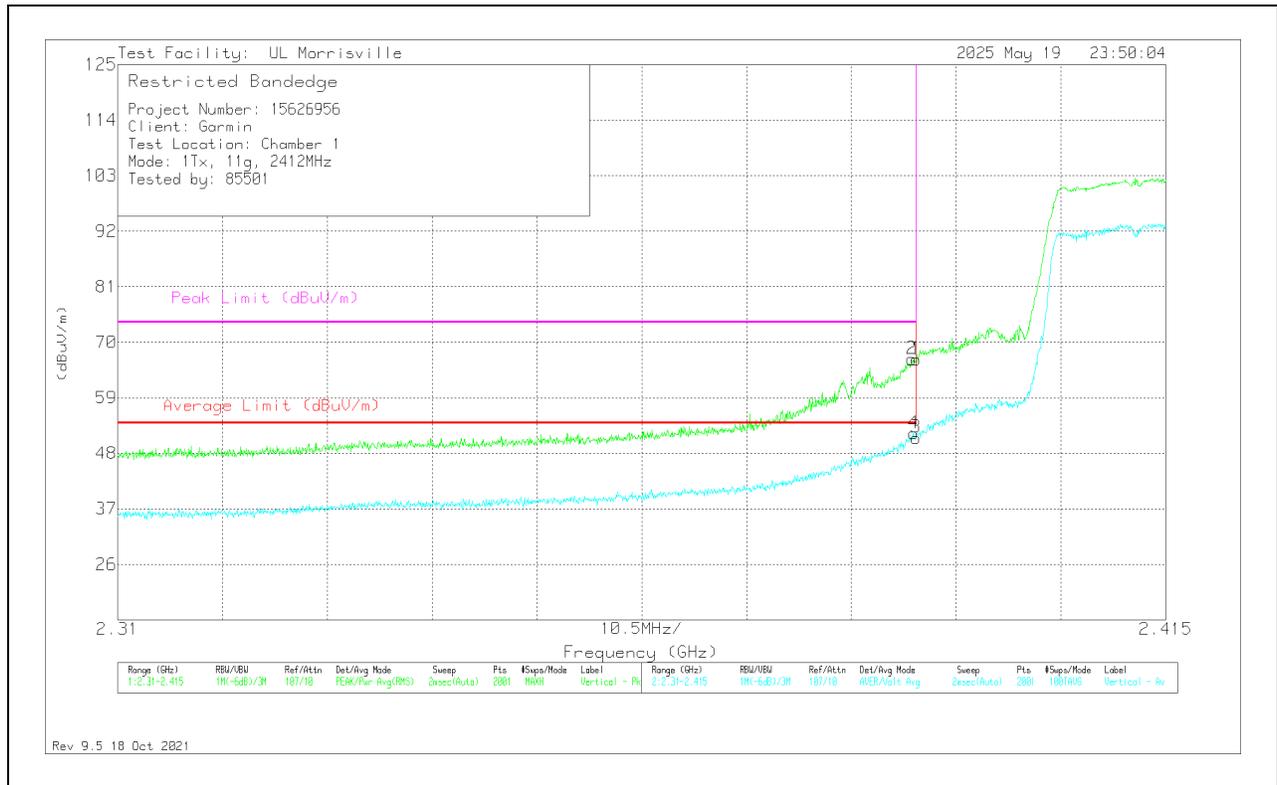
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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	58.7	Pk	31.9	-24	66.6	-	-	74	-7.4	283	285	V
2	*** 2.38954	58.76	Pk	31.9	-24	66.66	-	-	74	-7.34	283	285	V
3	*** 2.38996	43.19	ADV	31.9	-24	51.09	54	-2.91	-	-	283	285	V
4	*** 2.38975	44.03	ADV	31.9	-24	51.93	54	-2.07	-	-	283	285	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, CH 2)

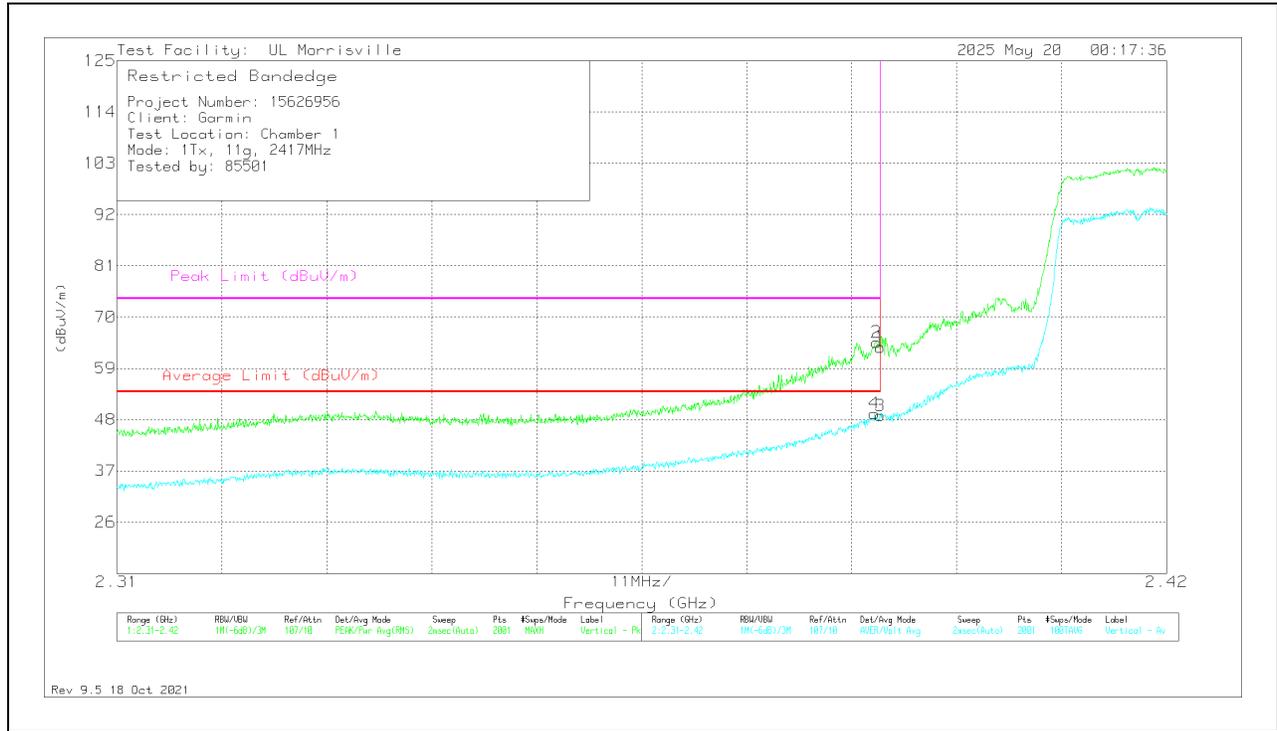
HORIZONTAL RESULT



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	*** 2.38997	54.32	Pk	31.9	-24	62.22	-	-	74	-11.78	254	317	H
2	*** 2.3897	54.89	Pk	31.9	-24	62.79	-	-	74	-11.21	254	317	H
3	*** 2.38997	38.08	ADV	31.9	-24	45.98	54	-8.02	-	-	254	317	H
4	*** 2.38937	38.74	ADV	31.9	-24	46.64	54	-7.36	-	-	254	317	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

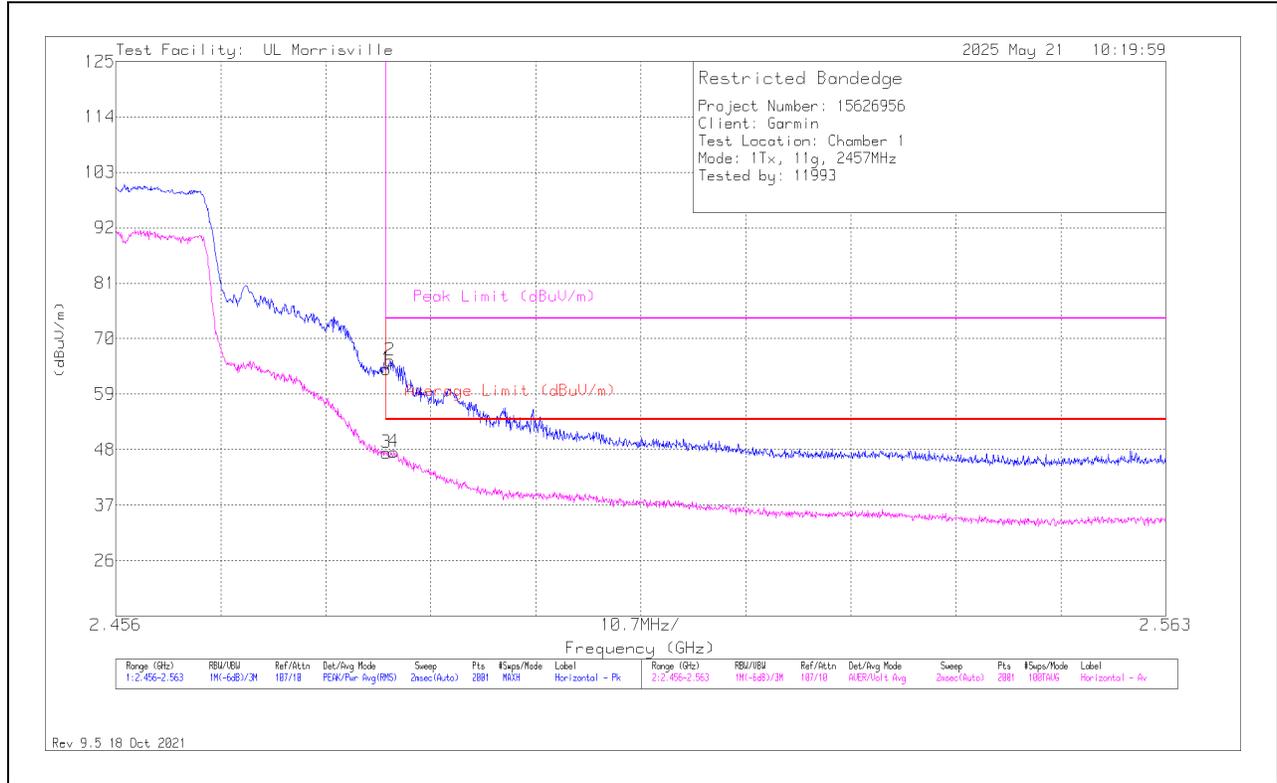


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38997	55.66	Pk	31.9	-24	63.56	-	-	74	-10.44	348	286	V
2	*** 2.38959	56.67	Pk	31.9	-24	64.57	-	-	74	-9.43	348	286	V
3	*** 2.38997	40.95	ADV	31.9	-24	48.85	54	-5.15	-	-	348	286	V
4	*** 2.38937	41.44	ADV	31.9	-24	49.34	54	-4.66	-	-	348	286	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, CH 10)

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	*** 2.48355	55.44	Pk	32.2	-23.7	63.94	-	-	74	-10.06	89	216	H
2	*** 2.48393	57.13	Pk	32.2	-23.7	65.63	-	-	74	-8.37	89	216	H
3	*** 2.48355	38.86	ADV	32.2	-23.7	47.36	54	-6.64	-	-	89	216	H
4	*** 2.48436	39.15	ADV	32.2	-23.8	47.55	54	-6.45	-	-	89	216	H

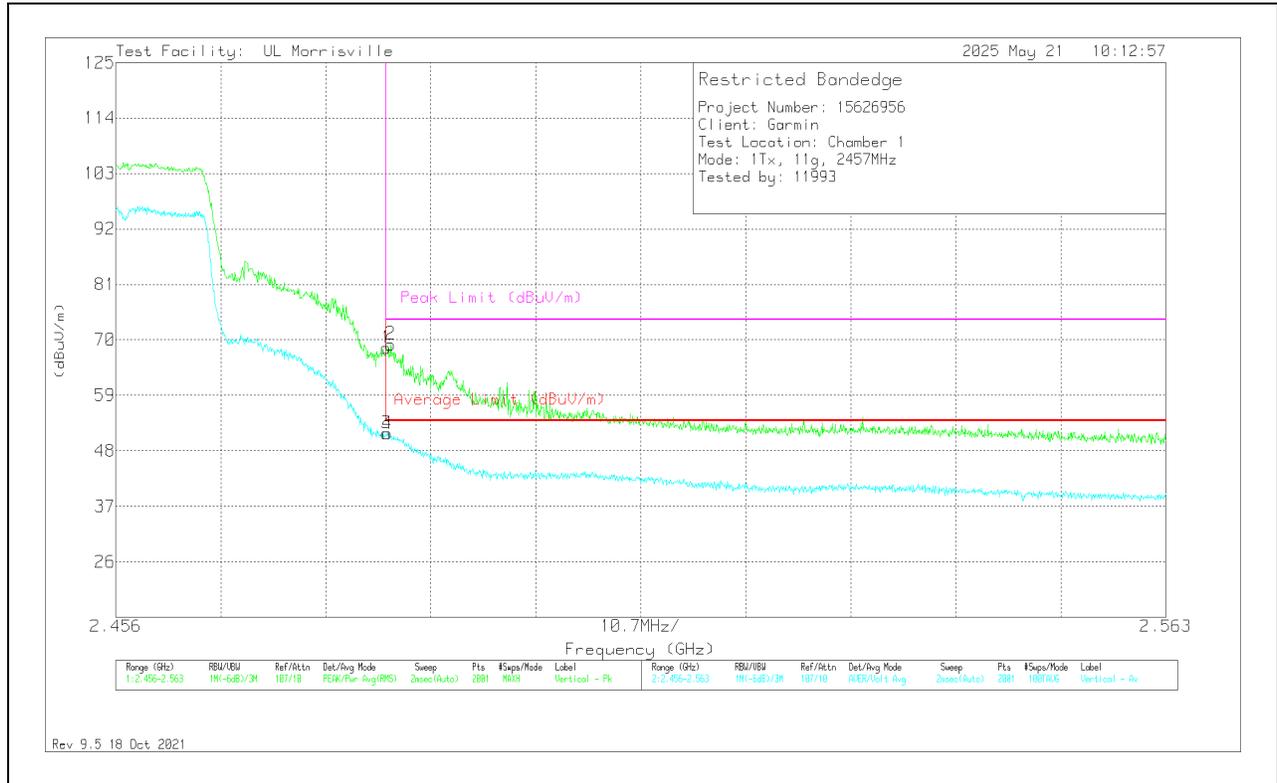
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

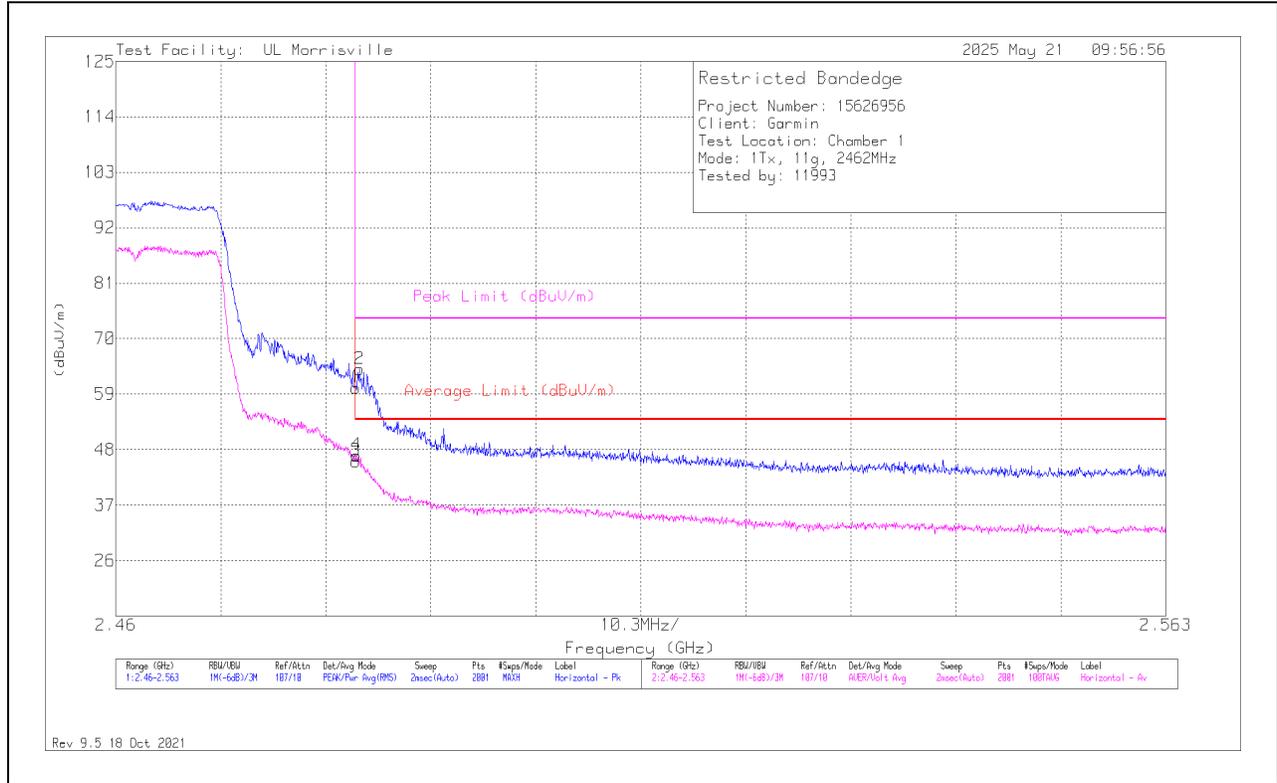


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48355	59.86	Pk	32.2	-23.7	68.36	-	-	74	-5.64	172	217	V
2	*** 2.48403	60.7	Pk	32.2	-23.8	69.1	-	-	74	-4.9	172	217	V
3	*** 2.48355	42.92	ADV	32.2	-23.7	51.42	54	-2.58	-	-	172	217	V
4	*** 2.48371	42.91	ADV	32.2	-23.7	51.41	54	-2.59	-	-	172	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

BANDEGE (HIGH CHANNEL, CH 11)

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	51.81	Pk	32.2	-23.7	60.31	-	-	74	-13.69	82	217	H
2	* ** 2.4839	55.45	Pk	32.2	-23.7	63.95	-	-	74	-10.05	82	217	H
3	* ** 2.48354	37.17	ADV	32.2	-23.7	45.67	54	-8.33	-	-	82	217	H
4	* ** 2.48359	38.27	ADV	32.2	-23.7	46.77	54	-7.23	-	-	82	217	H

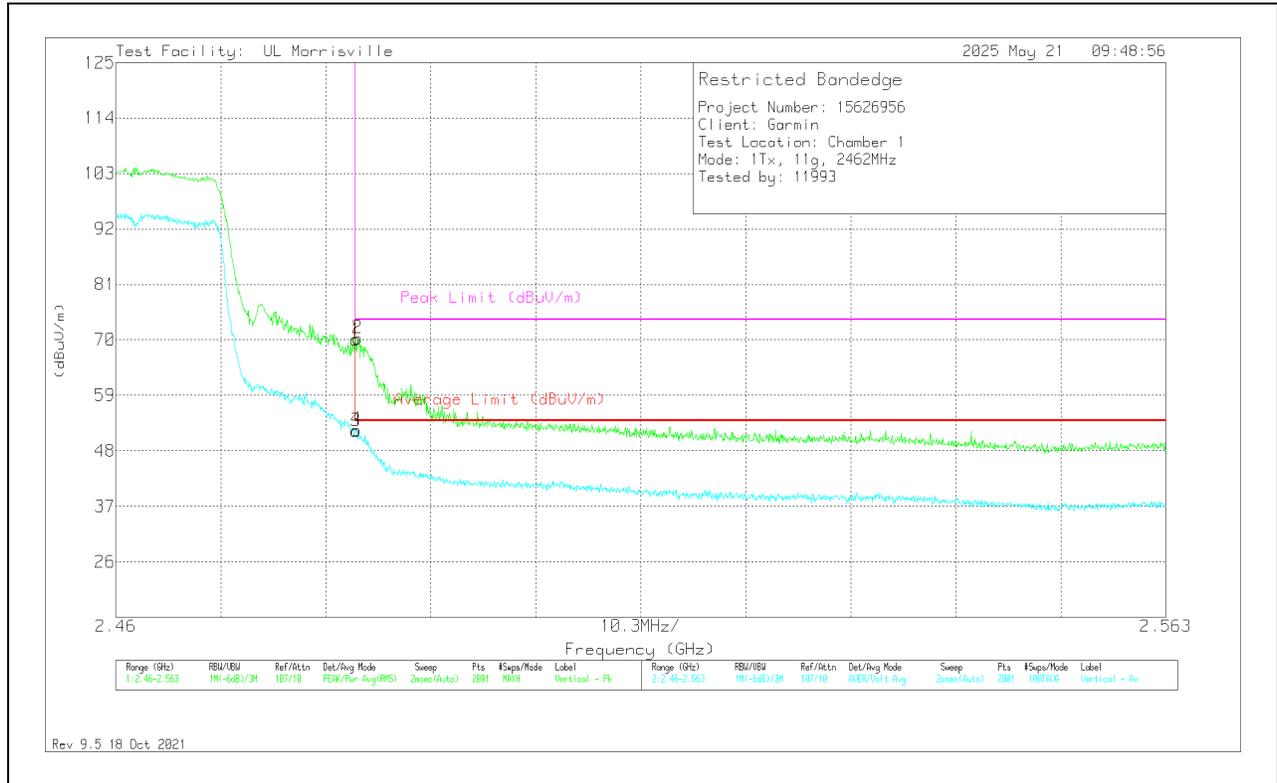
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

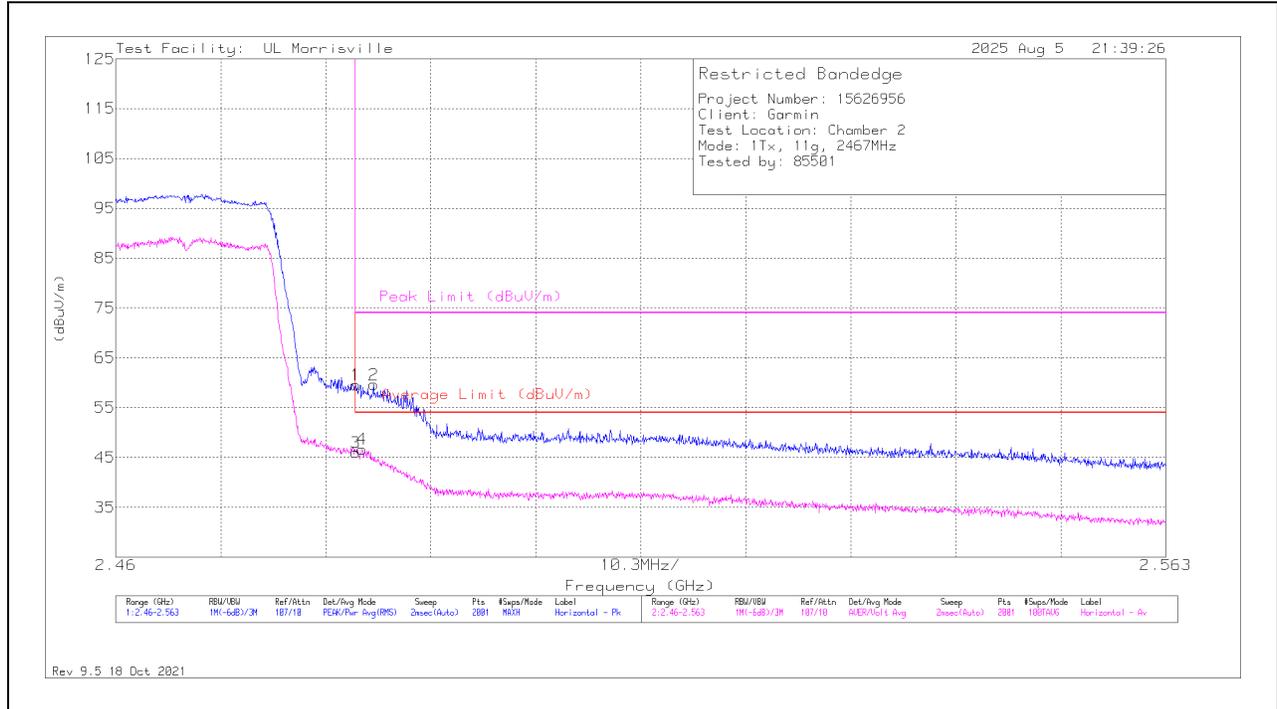


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	61.5	Pk	32.2	-23.7	70	-	-	74	-4	164	210	V
2	*** 2.48374	61.81	Pk	32.2	-23.7	70.31	-	-	74	-3.69	164	210	V
3	*** 2.48354	43.39	ADV	32.2	-23.7	51.89	54	-2.11	-	-	164	210	V
4	*** 2.48359	43.72	ADV	32.2	-23.7	52.22	54	-1.78	-	-	164	210	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

BANDEGE (HIGH CHANNEL, CH 12)

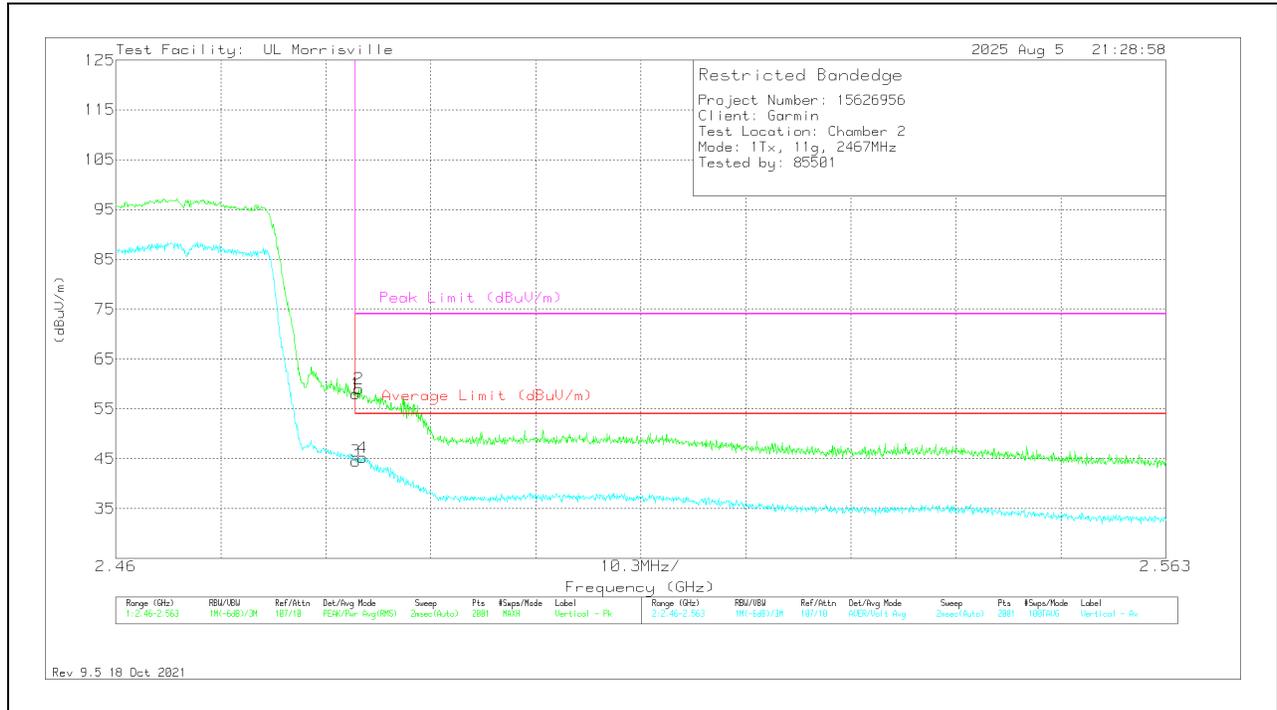
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	88761 (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	52.84	Pk	32.2	-25.5	59.54	-	-	74	-14.46	353	127	H
2	*** 2.48529	53	Pk	32.2	-25.6	59.6	-	-	74	-14.4	353	127	H
3	*** 2.48354	39.26	ADV	32.2	-25.5	45.96	54	-8.04	-	-	353	127	H
4	*** 2.48415	40.04	ADV	32.2	-25.6	46.64	54	-7.36	-	-	353	127	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

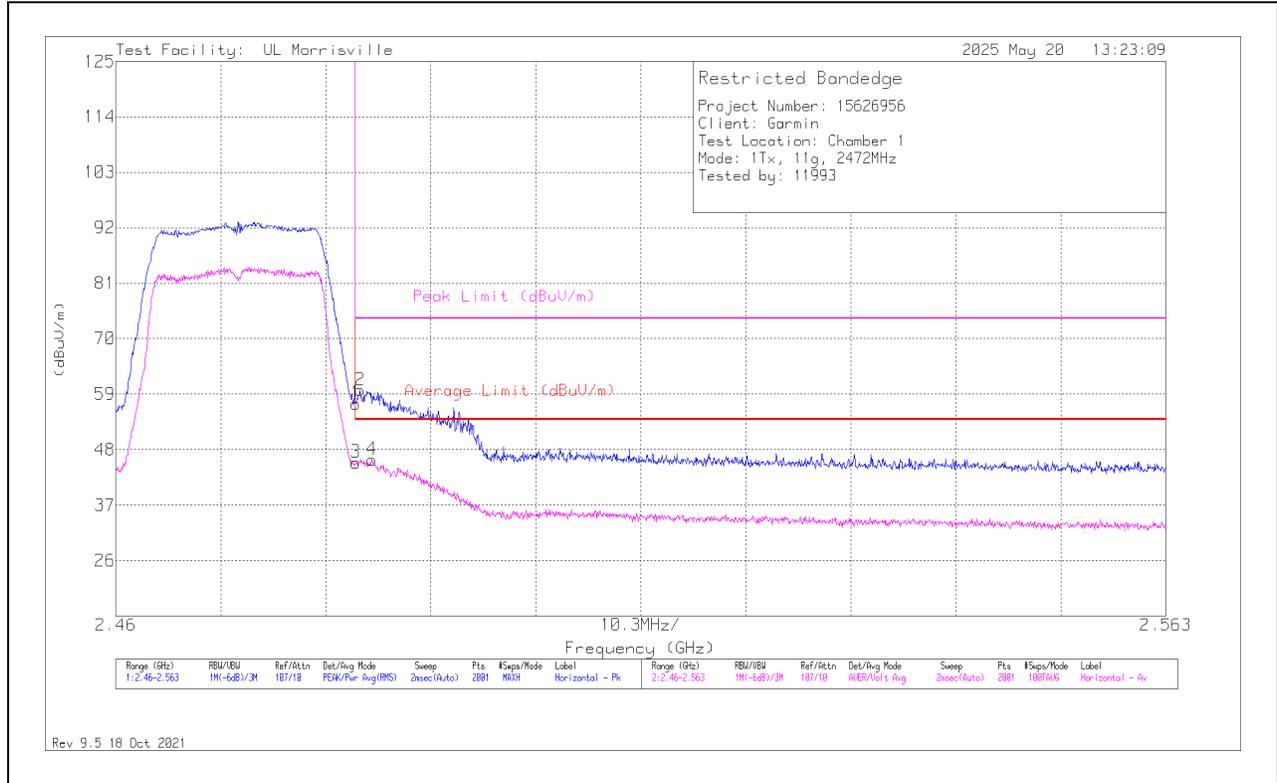


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	88761 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	51.35	Pk	32.2	-25.5	58.05	-	-	74	-15.95	6	102	V
2	* ** 2.48384	52.35	Pk	32.2	-25.5	59.05	-	-	74	-14.95	6	102	V
3	* ** 2.48354	37.81	ADV	32.2	-25.5	44.51	54	-9.49	-	-	6	102	V
4	* ** 2.48421	38.61	ADV	32.2	-25.6	45.21	54	-8.79	-	-	6	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, CH 13)

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	48.59	Pk	32.2	-23.7	57.09	-	-	74	-16.91	306	139	H
2	* ** 2.48395	51.31	Pk	32.2	-23.7	59.81	-	-	74	-14.19	306	139	H
3	* ** 2.48354	36.89	ADV	32.2	-23.7	45.39	54	-8.61	-	-	306	139	H
4	* ** 2.48513	37.6	ADV	32.2	-23.8	46	54	-8	-	-	306	139	H

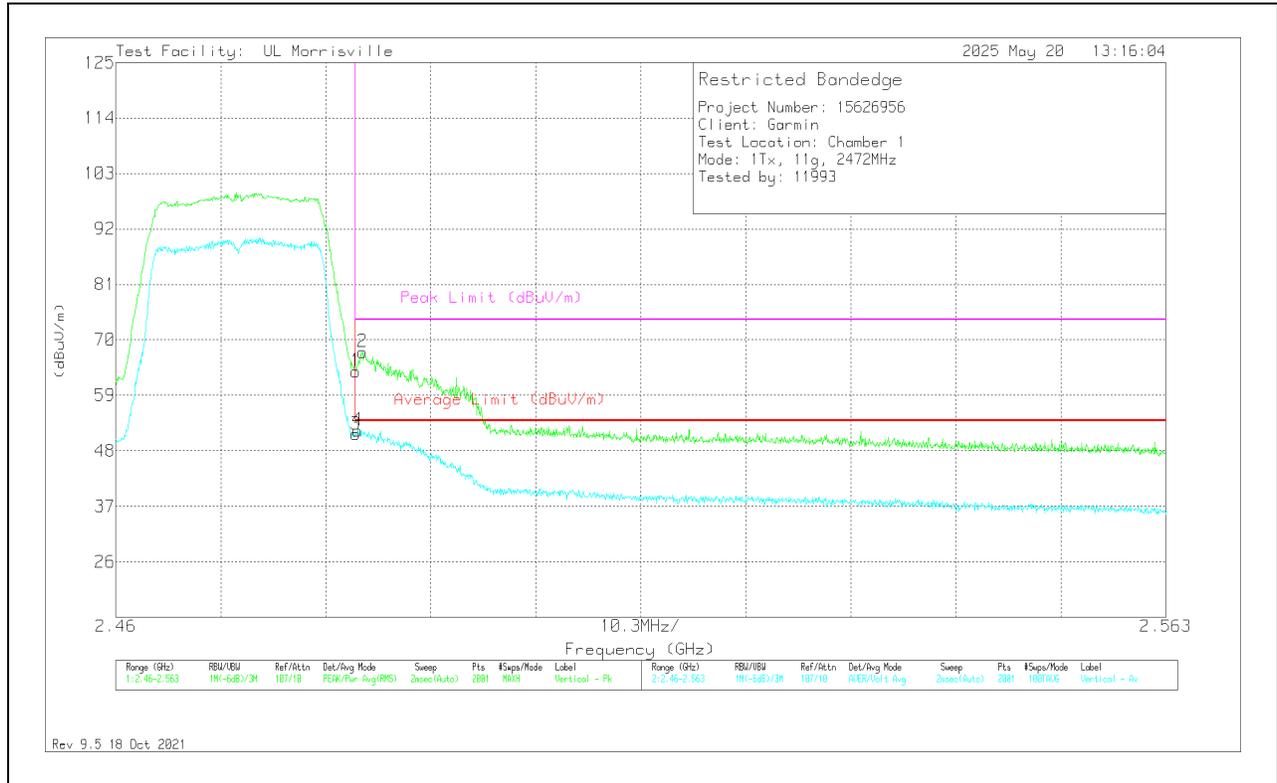
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

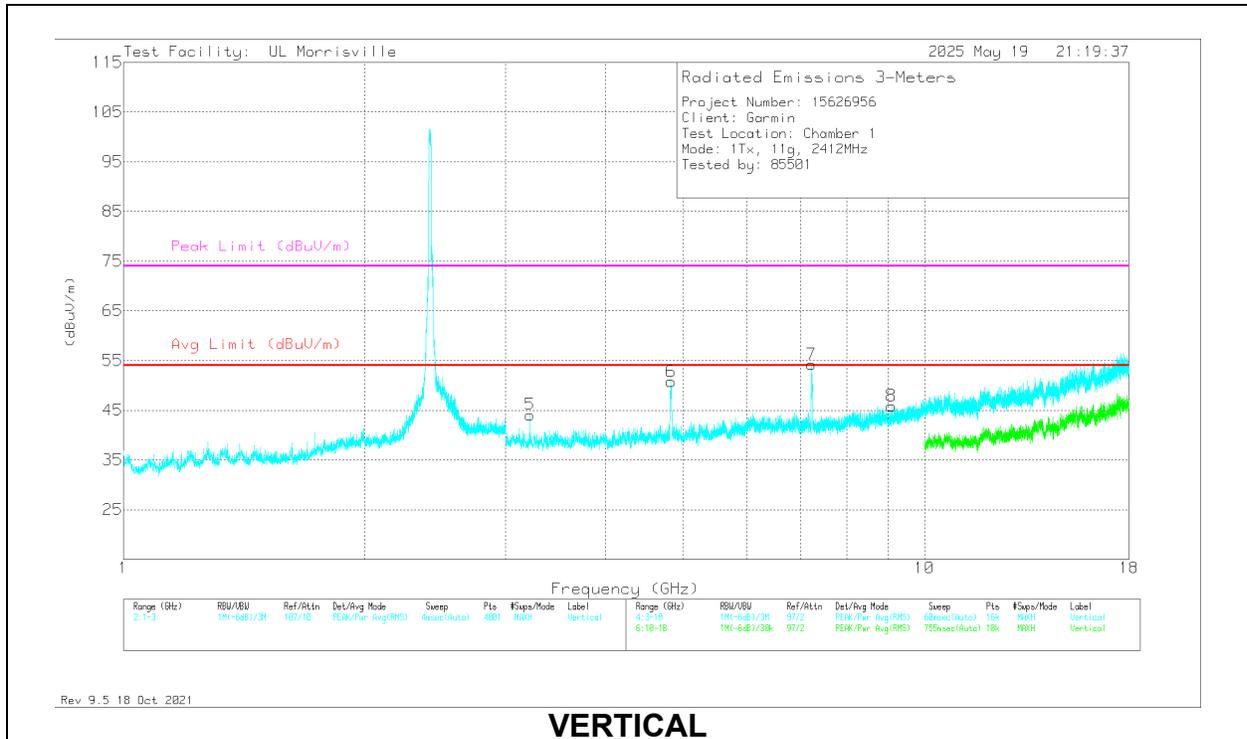
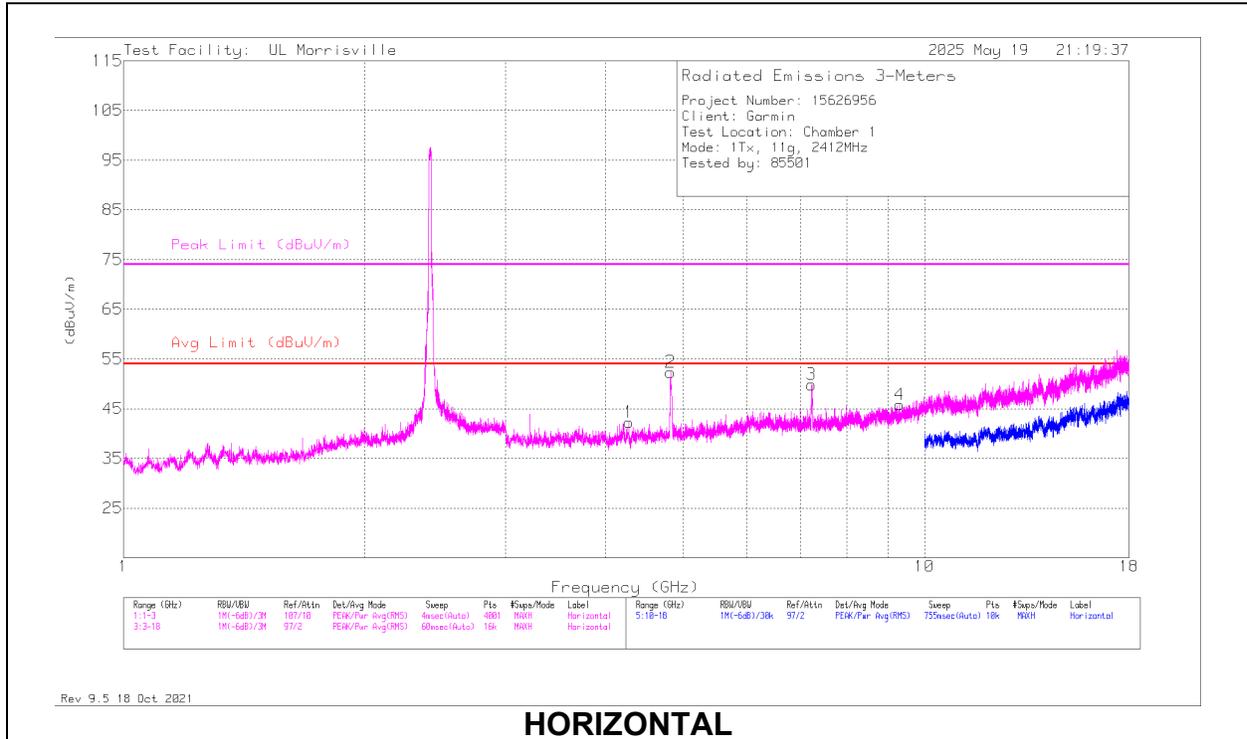


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	55.18	Pk	32.2	-23.7	63.68	-	-	74	-10.32	10	110	V
2	* ** 2.48421	59.14	Pk	32.2	-23.8	67.54	-	-	74	-6.46	10	110	V
3	* ** 2.48354	42.77	ADV	32.2	-23.7	51.27	54	-2.73	-	-	10	110	V
4	* ** 2.48374	43.49	ADV	32.2	-23.7	51.99	54	-2.01	-	-	10	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

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.27594	53.26	Pk	33.7	-44.7	42.26	54	-11.74	74	-31.74	0-360	101	H
2	*** 4.82241	69.09	PK2	33.9	-45.4	57.59	-	-	74	-16.41	43	125	H
	*** 4.82216	50.8	ADV	33.9	-45.4	39.3	54	-14.7	-	-	43	125	H
4	*** 9.30938	49.61	Pk	36.1	-39.9	45.81	54	-8.19	74	-28.19	0-360	199	H
6	*** 4.82212	67.78	PK2	33.9	-45.4	56.28	-	-	74	-17.72	254	139	V
	*** 4.82286	49.58	ADV	33.9	-45.4	38.08	54	-15.92	-	-	254	139	V
8	*** 9.09375	50.25	Pk	35.9	-40.3	45.85	54	-8.15	74	-28.15	0-360	200	V
5	3.21563	55.7	Pk	32.6	-44.2	44.1	-	-	-	-	0-360	101	V
3	7.22906	56.74	Pk	35.4	-42.3	49.84	-	-	-	-	0-360	101	H
7	7.23	61.21	Pk	35.4	-42.4	54.21	-	-	-	-	0-360	101	V

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

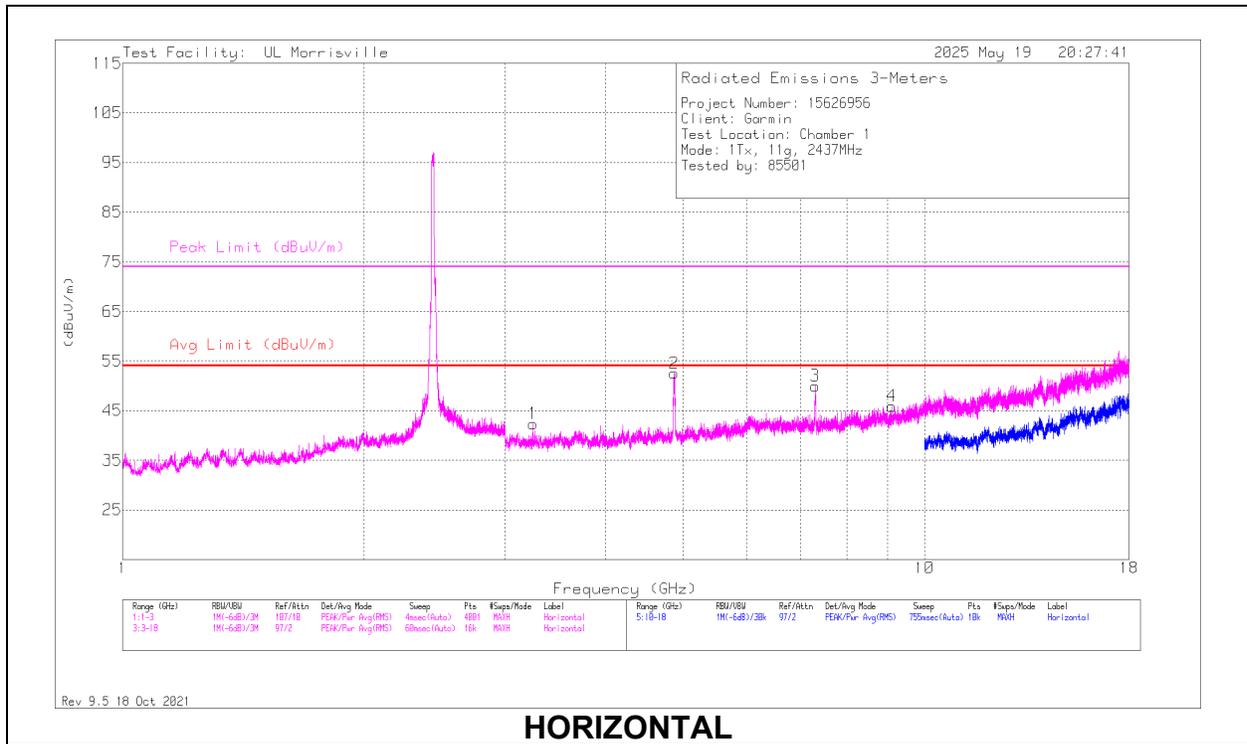
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

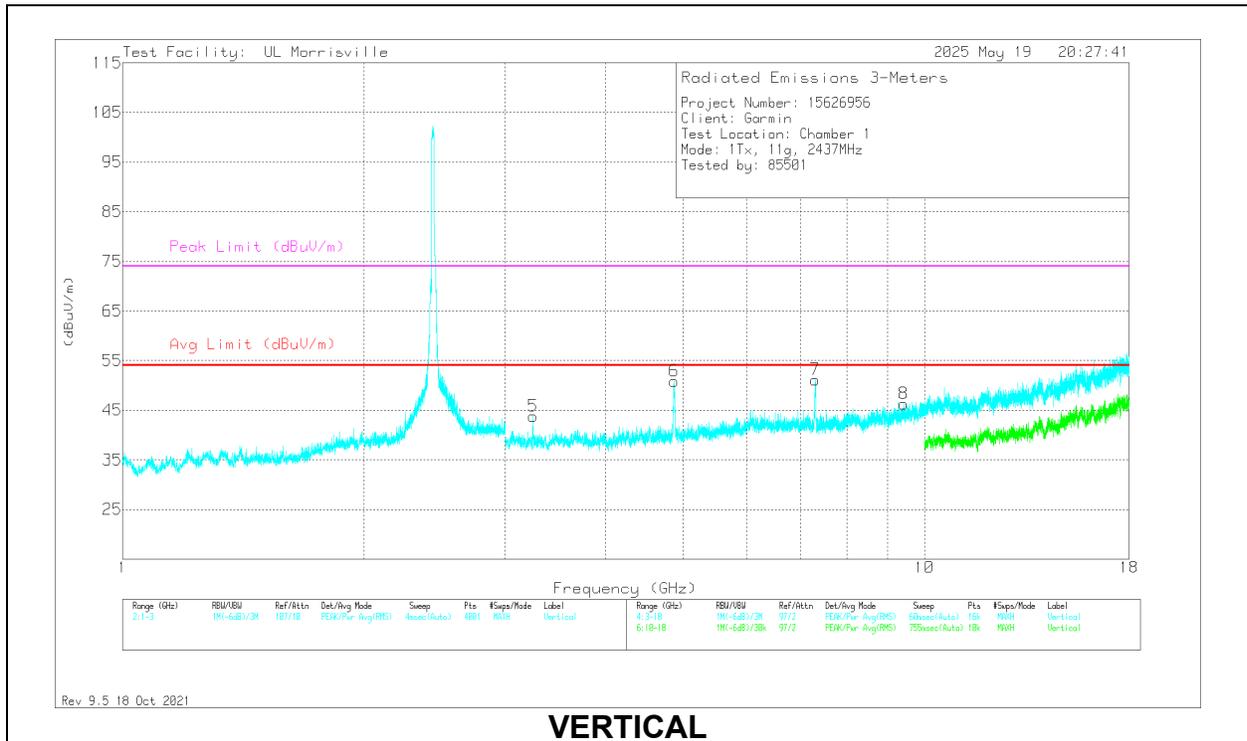
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.87709	69.68	PK2	34	-44.8	58.88	-	-	74	-15.12	43	136	H
	*** 4.87404	51.47	ADV	34	-44.8	40.67	54	-13.33	-	-	43	136	H
3	*** 7.30194	60.25	PK2	35.4	-41.9	53.75	-	-	74	-20.25	235	115	H
	*** 7.30623	46.09	ADV	35.4	-41.8	39.69	54	-14.31	-	-	235	115	H
4	*** 9.11063	50.19	PK	35.9	-40.2	45.89	54	-8.11	74	-28.11	0-360	200	H
6	*** 4.8723	64.92	PK2	34	-44.8	54.12	-	-	74	-19.88	235	134	V
	*** 4.87205	46.72	ADV	34	-44.8	35.92	54	-18.08	-	-	235	134	V
7	*** 7.30176	63.76	PK2	35.4	-41.9	57.26	-	-	74	-16.74	113	153	V
	*** 7.30995	49.35	ADV	35.4	-41.7	43.05	54	-10.95	-	-	113	153	V
8	*** 9.42188	50.04	PK	36.3	-40.1	46.24	54	-7.76	74	-27.76	0-360	200	V
1	3.24844	53.79	PK	32.7	-44.1	42.39	-	-	-	-	0-360	200	H
5	3.24844	55.19	PK	32.7	-44.1	43.79	-	-	-	-	0-360	101	V

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

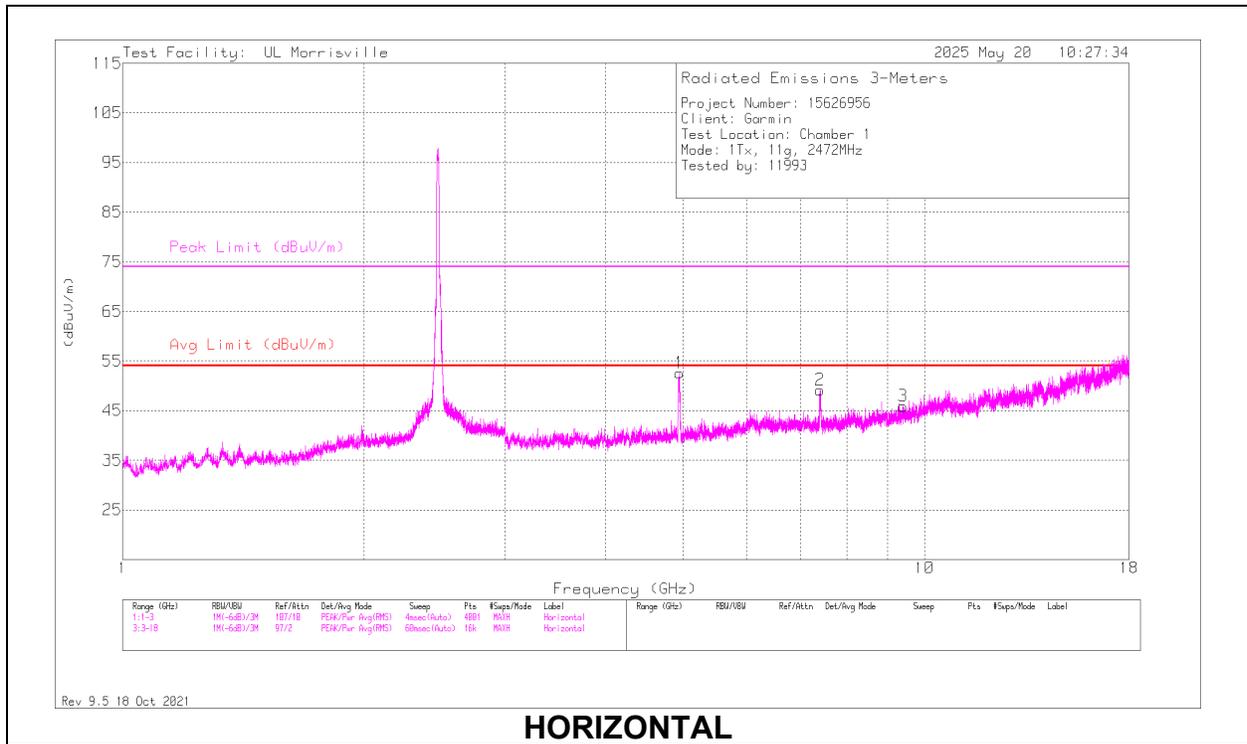
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK - Peak detector

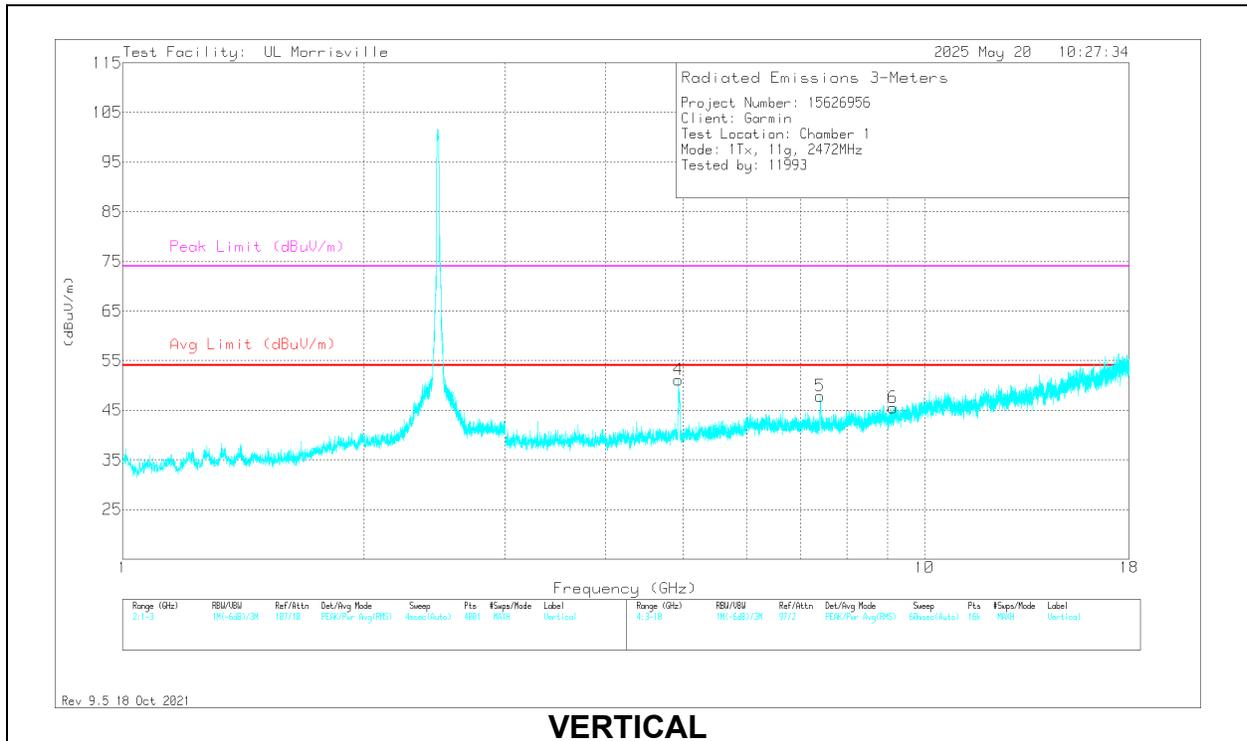
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL, CH 13 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.94387	70.26	PK2	34.1	-44.4	59.96	-	-	74	-14.04	42	113	H
	*** 4.94397	51.45	ADV	34.1	-44.4	41.15	54	-12.85	-	-	42	113	H
2	*** 7.41033	59.51	PK2	35.4	-41.3	53.61	-	-	74	-20.39	132	103	H
	*** 7.4104	46.25	ADV	35.4	-41.3	40.35	54	-13.65	-	-	132	103	H
3	*** 9.41344	49.64	Pk	36.3	-40	45.94	54	-8.06	74	-28.06	0-360	101	H
4	*** 4.94247	66.52	PK2	34.1	-44.3	56.32	-	-	74	-17.68	254	111	V
	*** 4.94232	48.24	ADV	34.1	-44.3	38.04	54	-15.96	-	-	254	111	V
5	*** 7.41094	53.79	Pk	35.4	-41.3	47.89	54	-6.11	74	-26.11	0-360	200	V
	*** 9.12938	50.12	Pk	35.9	-40.5	45.52	54	-8.48	74	-28.48	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

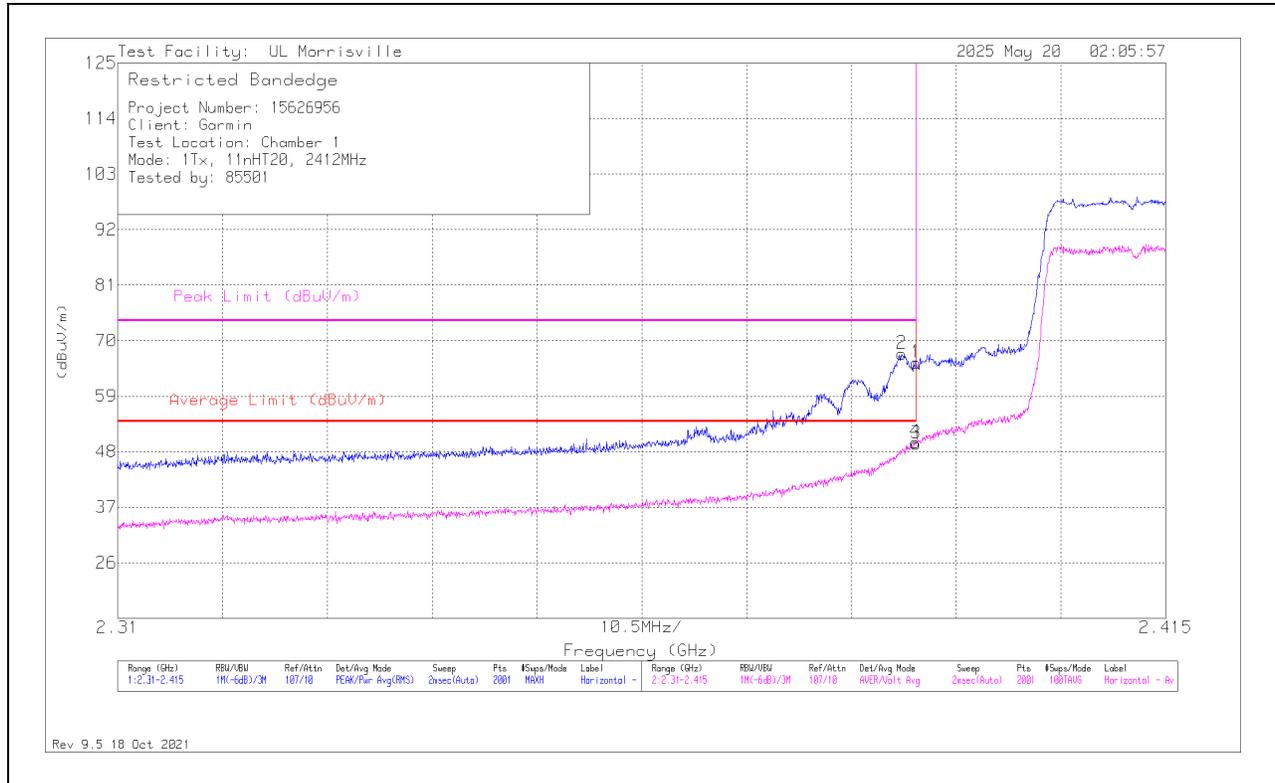
PK2 - Maximum Peak

ADV - Linear Voltage Average

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

BANDEDGE (LOW CHANNEL, CH 1)

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	57.74	Pk	31.9	-24	65.64	-	-	74	-8.36	186	160	H
2	*** 2.38854	59.52	Pk	31.9	-24	67.42	-	-	74	-6.58	186	160	H
3	*** 2.38996	41.71	ADV	31.9	-24	49.61	54	-4.39	-	-	186	160	H
4	*** 2.38991	41.97	ADV	31.9	-24	49.87	54	-4.13	-	-	186	160	H

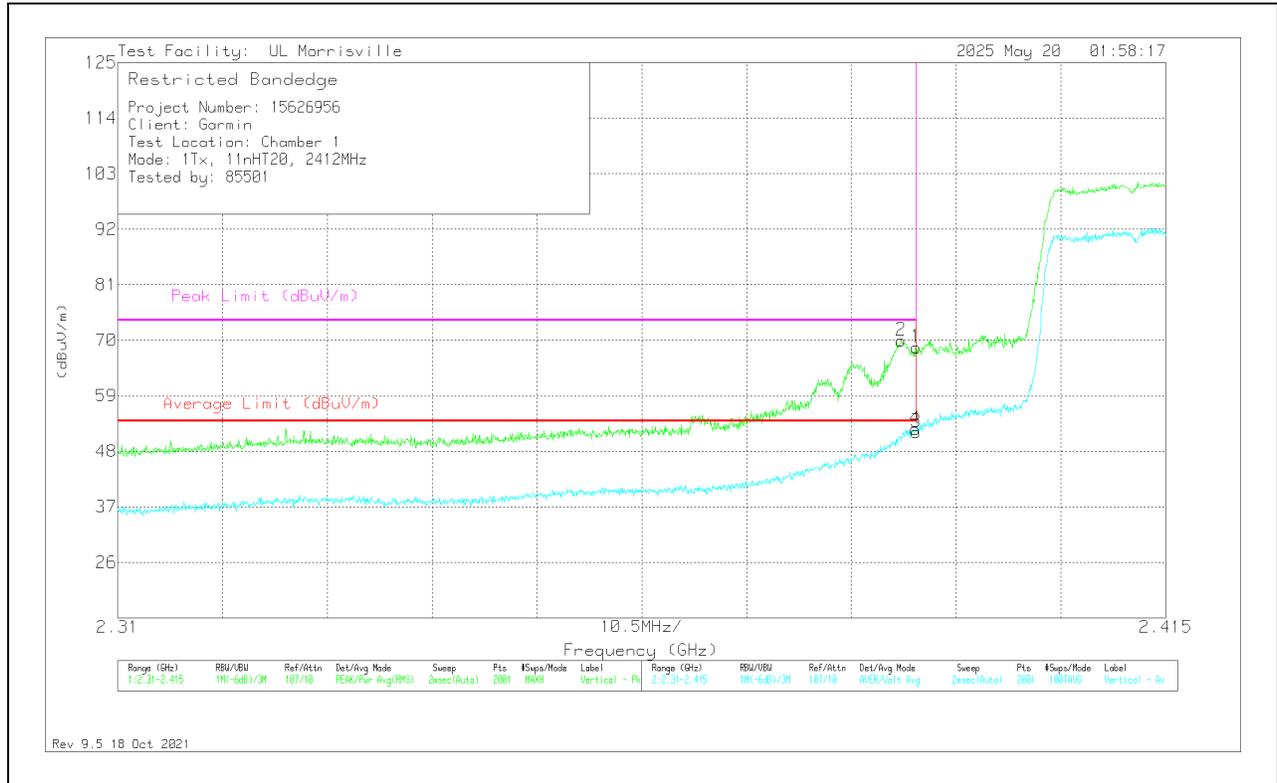
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

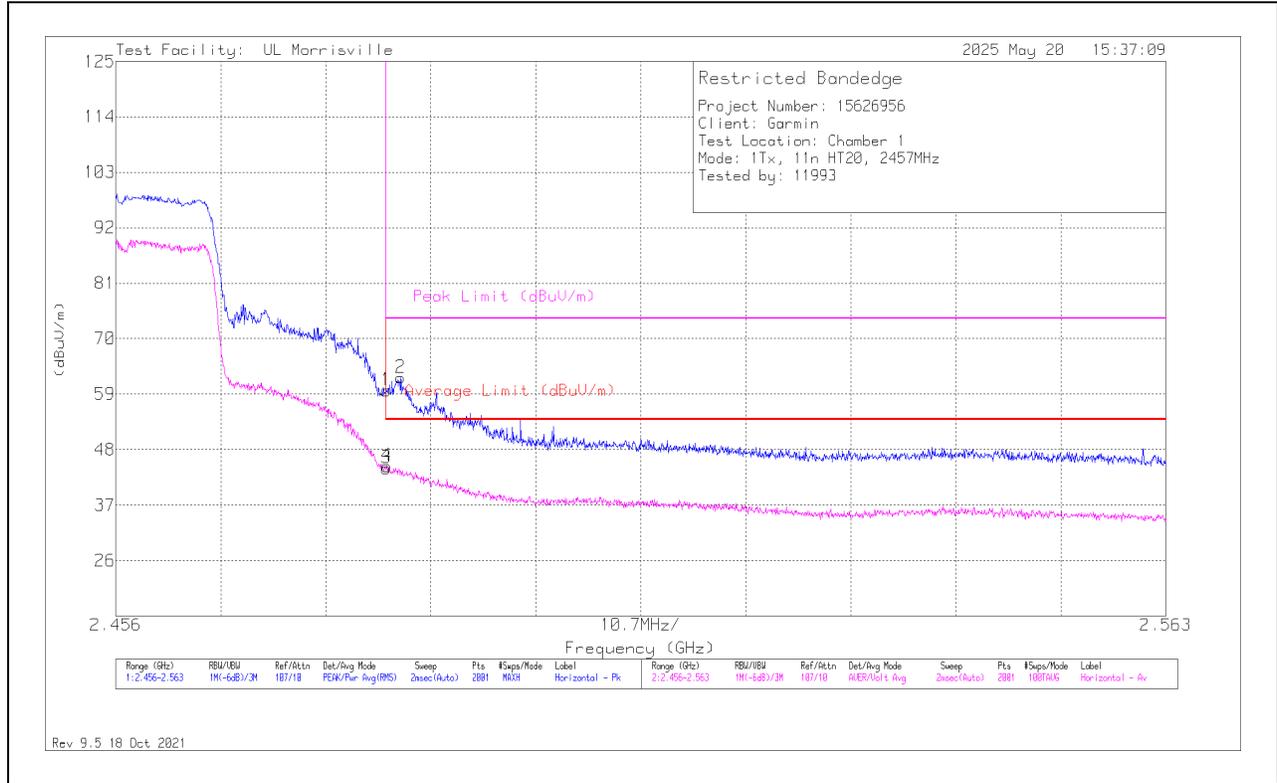


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	60.71	Pk	31.9	-24	68.61	-	-	74	-5.39	320	137	V
2	*** 2.38849	62.05	Pk	31.9	-24	69.95	-	-	74	-4.05	320	137	V
3	*** 2.38996	43.98	ADV	31.9	-24	51.88	54	-2.12	-	-	320	137	V
4	*** 2.38991	44.54	ADV	31.9	-24	52.44	54	-1.56	-	-	320	137	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, CH 10)

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	* ** 2.48355	51.22	Pk	32.2	-23.7	59.72	-	-	74	-14.28	244	227	H
2	* ** 2.48505	53.88	Pk	32.2	-23.8	62.28	-	-	74	-11.72	244	227	H
3	* ** 2.48355	35.79	ADV	32.2	-23.7	44.29	54	-9.71	-	-	244	227	H
4	* ** 2.48361	36.23	ADV	32.2	-23.7	44.73	54	-9.27	-	-	244	227	H

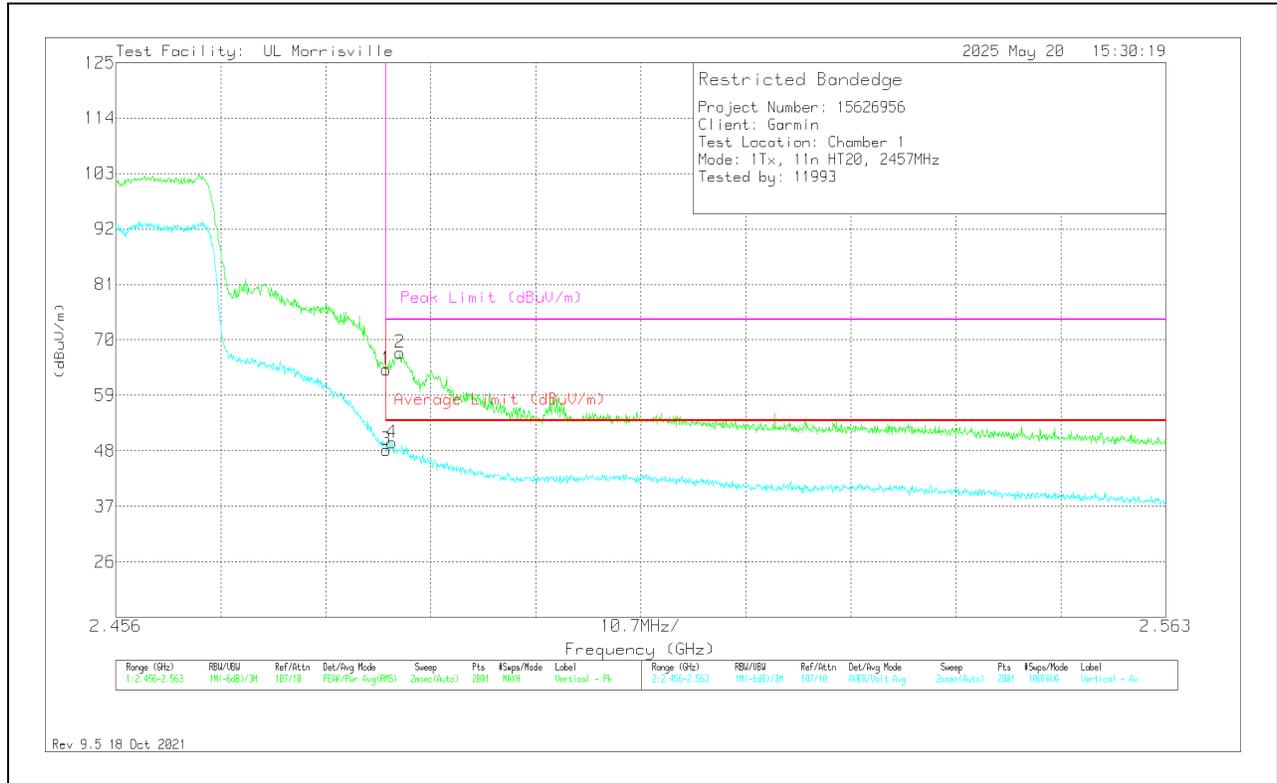
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

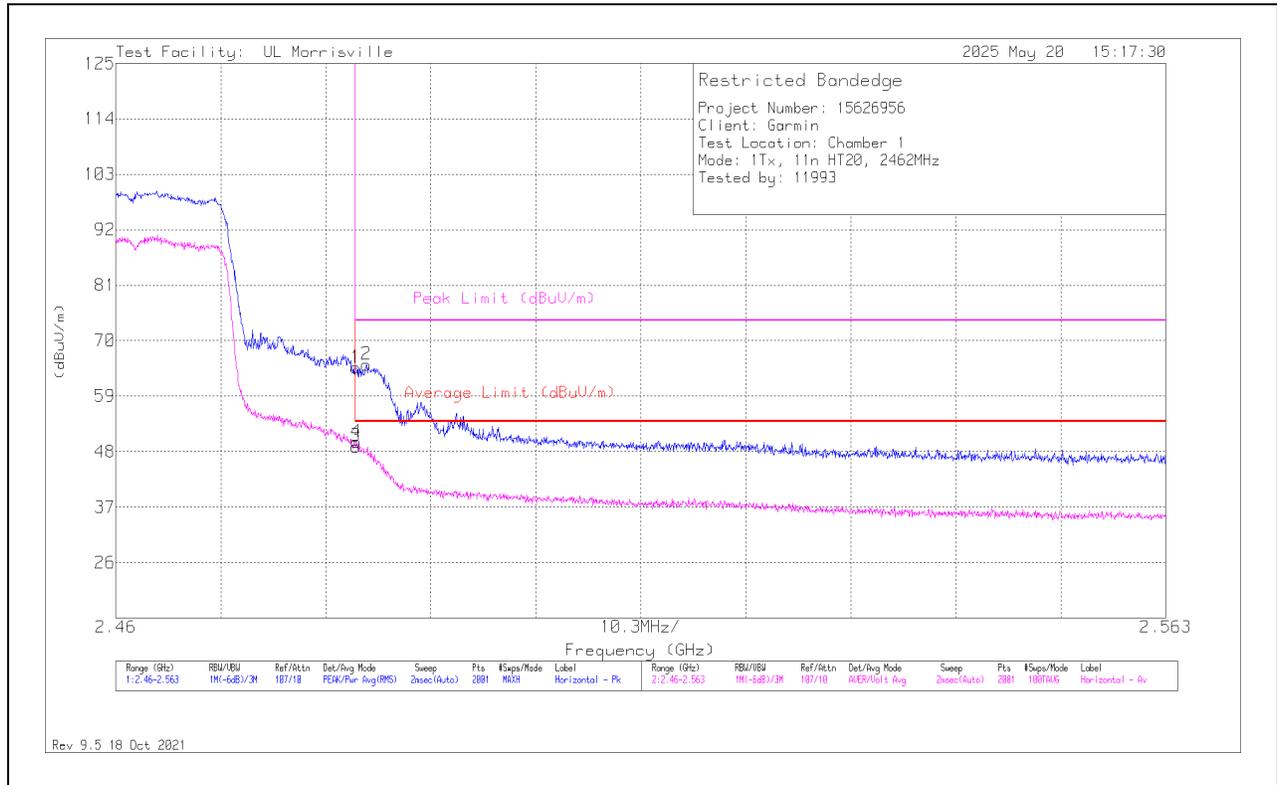


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48355	55.62	Pk	32.2	-23.7	64.12	-	-	74	-9.88	4	127	V
2	*** 2.48494	59	Pk	32.2	-23.8	67.4	-	-	74	-6.6	4	127	V
3	*** 2.48355	39.68	ADV	32.2	-23.7	48.18	54	-5.82	-	-	4	127	V
4	*** 2.48414	41.22	ADV	32.2	-23.8	49.62	54	-4.38	-	-	4	127	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, CH 11)

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	56.13	Pk	32.2	-23.7	64.63	-	-	74	-9.37	277	157	H
2	*** 2.48457	56.85	Pk	32.2	-23.8	65.25	-	-	74	-8.75	277	157	H
3	*** 2.48354	40.54	ADV	32.2	-23.7	49.04	54	-4.96	-	-	277	157	H
4	*** 2.48359	41.4	ADV	32.2	-23.7	49.9	54	-4.1	-	-	277	157	H

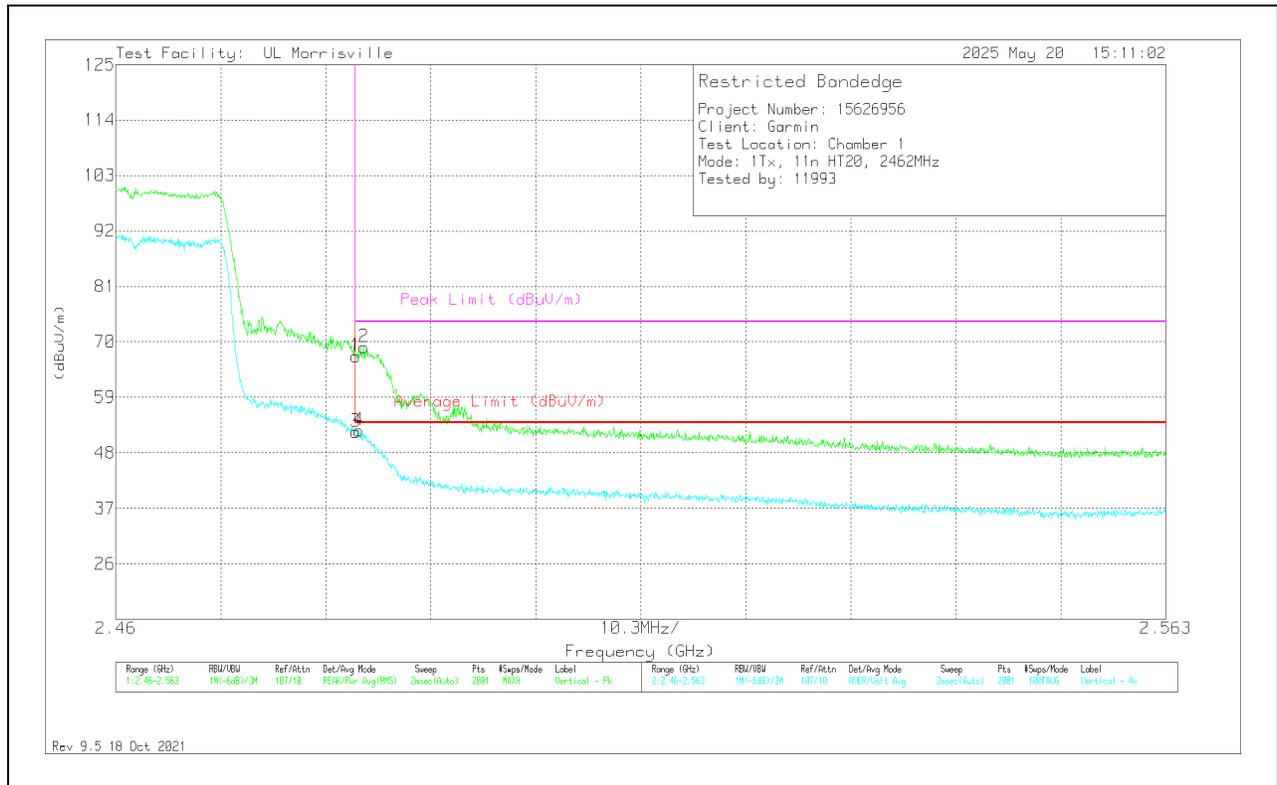
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

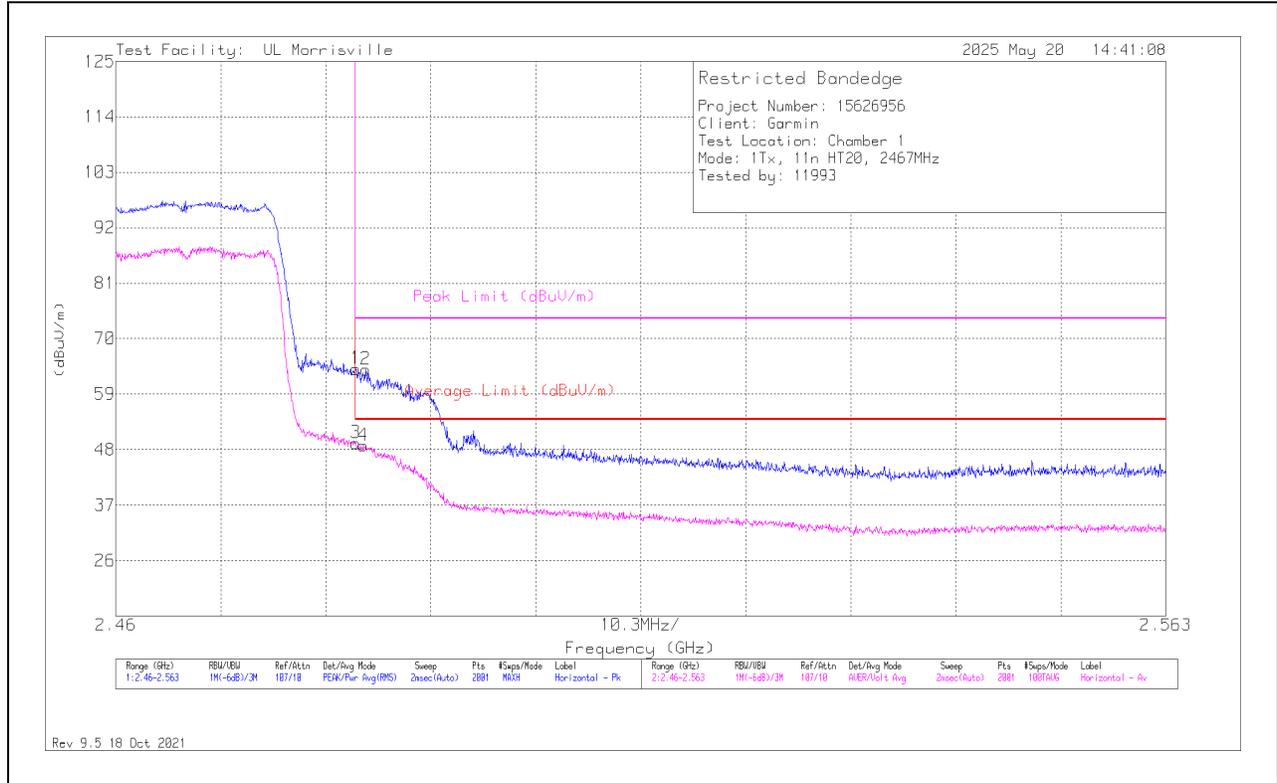


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	58.72	Pk	32.2	-23.7	67.22	-	-	74	-6.78	163	153	V
2	*** 2.48431	60.57	Pk	32.2	-23.8	68.97	-	-	74	-5.03	163	153	V
3	*** 2.48354	43.72	ADV	32.2	-23.7	52.22	54	-1.78	-	-	163	153	V
4	*** 2.48384	43.91	ADV	32.2	-23.7	52.41	54	-1.59	-	-	163	153	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, CH 12)

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	55.53	Pk	32.2	-23.7	64.03	-	-	74	-9.97	162	233	H
2	* ** 2.48451	55.47	Pk	32.2	-23.8	63.87	-	-	74	-10.13	162	233	H
3	* ** 2.48354	40.78	ADV	32.2	-23.7	49.28	54	-4.72	-	-	162	233	H
4	* ** 2.48426	40.39	ADV	32.2	-23.8	48.79	54	-5.21	-	-	162	233	H

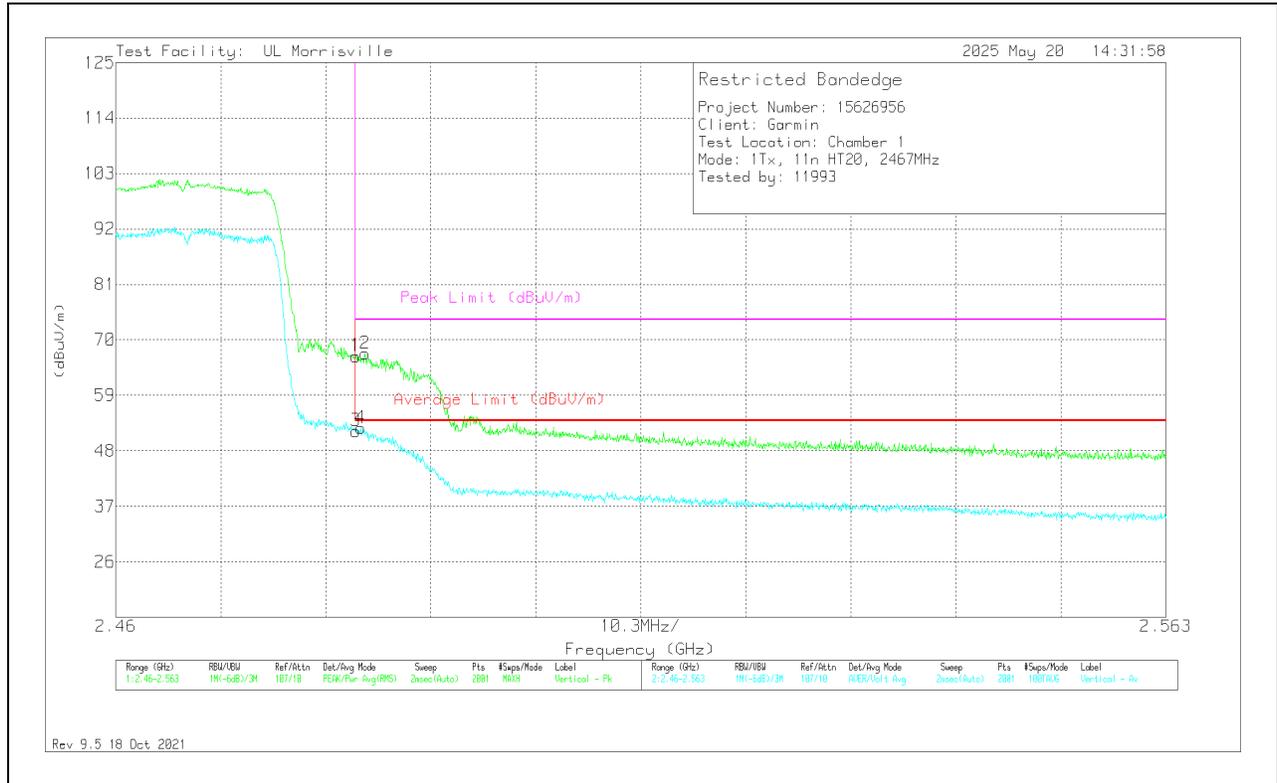
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

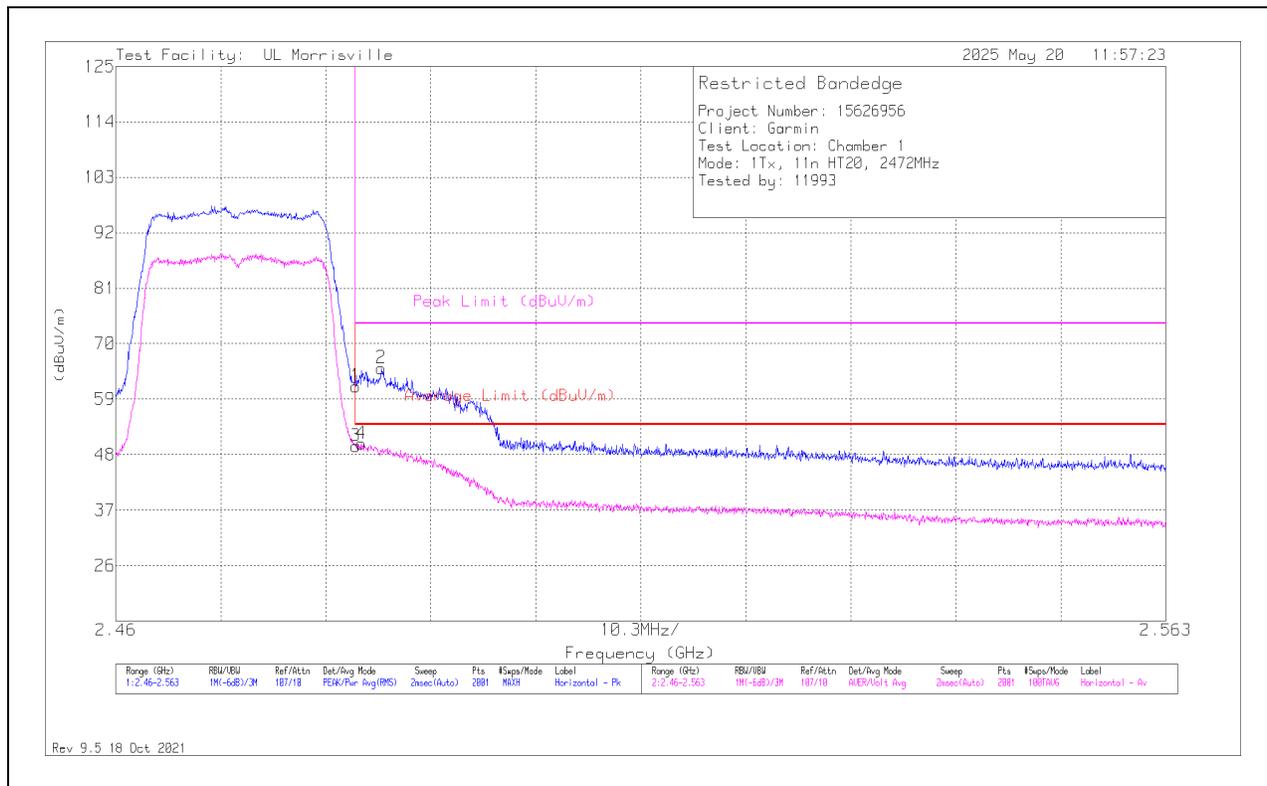


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	58.24	Pk	32.2	-23.7	66.74	-	-	74	-7.26	150	234	V
2	* ** 2.48446	58.85	Pk	32.2	-23.8	67.25	-	-	74	-6.75	150	234	V
3	* ** 2.48354	43.39	ADV	32.2	-23.7	51.89	54	-2.11	-	-	150	234	V
4	* ** 2.484	44.11	ADV	32.2	-23.8	52.51	54	-1.49	-	-	150	234	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, CH 13)

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	52.98	PK	32.2	-23.7	61.48	-	-	74	-12.52	174	171	H
2	*** 2.48606	56.84	PK	32.2	-23.9	65.14	-	-	74	-8.86	174	171	H
3	*** 2.48354	41.13	ADV	32.2	-23.7	49.63	54	-4.37	-	-	174	171	H
4	*** 2.4841	41.77	ADV	32.2	-23.8	50.17	54	-3.83	-	-	174	171	H

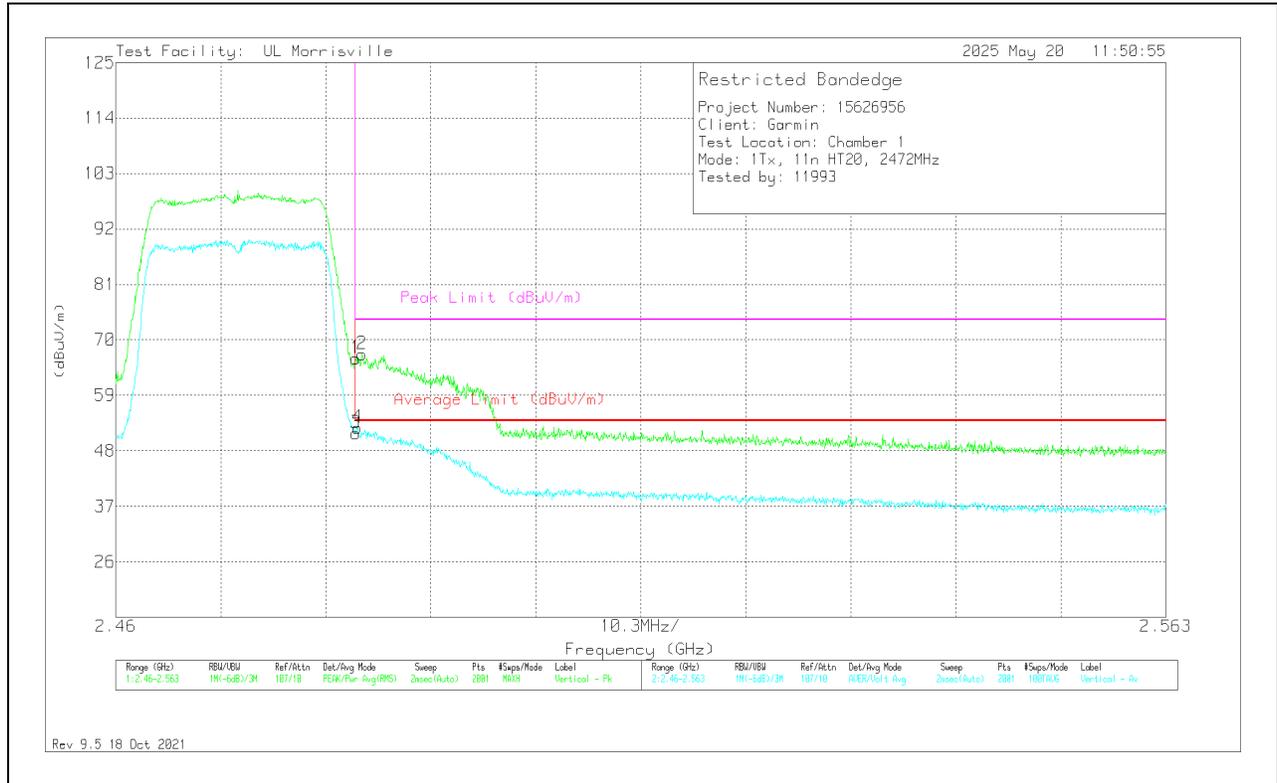
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK - Peak detector

ADV – Linear Voltage Average

VERTICAL RESULT

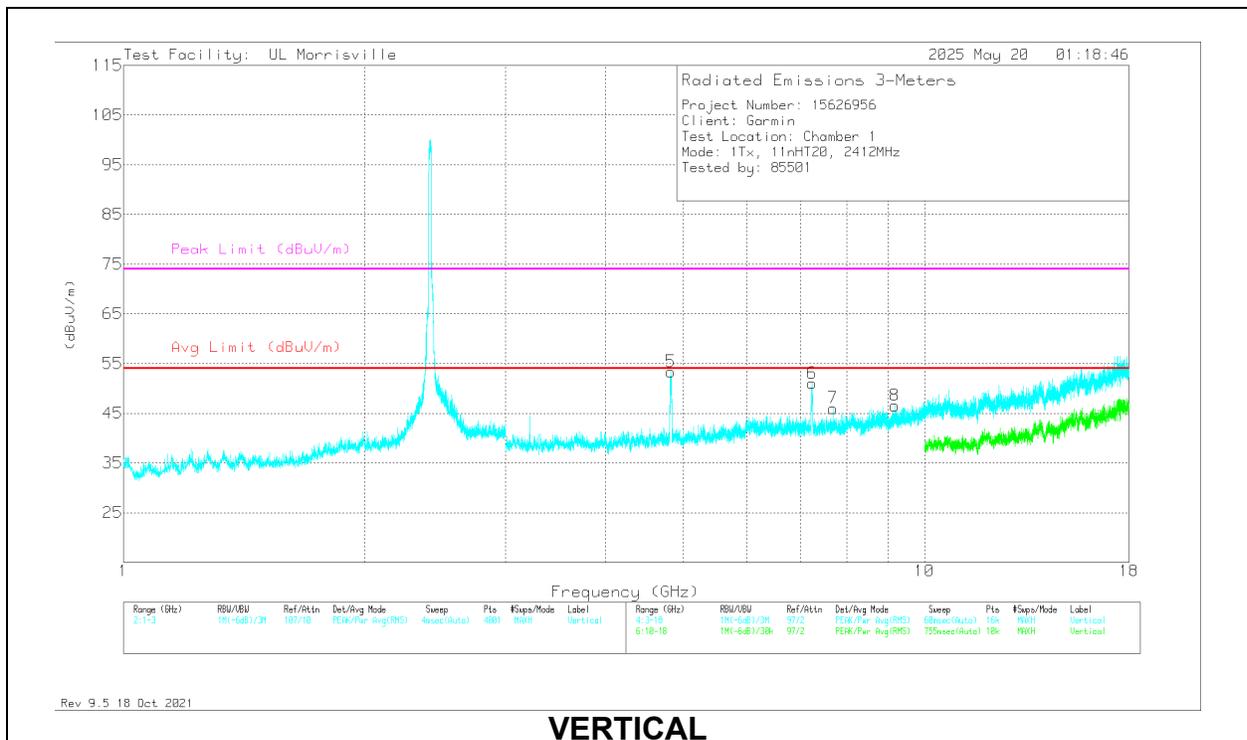
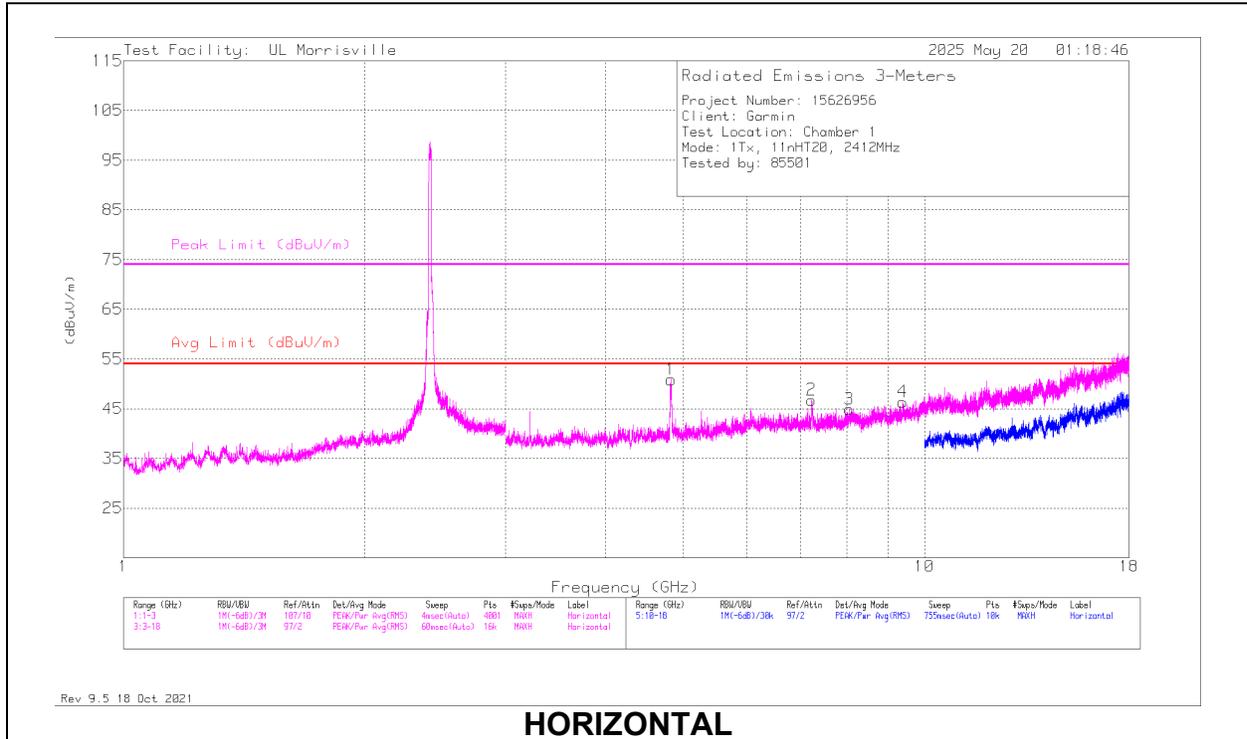


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	57.88	Pk	32.2	-23.7	66.38	-	-	74	-7.62	281	128	V
2	* ** 2.48415	58.8	Pk	32.2	-23.8	67.2	-	-	74	-6.8	281	128	V
3	* ** 2.48354	43.02	ADV	32.2	-23.7	51.52	54	-2.48	-	-	281	128	V
4	* ** 2.48369	44.03	ADV	32.2	-23.7	52.53	54	-1.47	-	-	281	128	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, CH 1 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.8235	66.42	PK2	33.9	-45.4	54.92	-	-	74	-19.08	27	130	H
	*** 4.8238	47.99	ADV	33.9	-45.4	36.49	54	-17.51	-	-	27	130	H
3	*** 8.05688	49.81	Pk	35.9	-40.8	44.91	54	-9.09	74	-29.09	0-360	101	H
4	*** 9.39469	50.08	Pk	36.3	-40	46.38	54	-7.62	74	-27.62	0-360	200	H
5	*** 4.82658	68.16	PK2	33.9	-45.2	56.86	-	-	74	-17.14	191	128	V
	*** 4.82014	49.48	ADV	33.9	-45.5	37.88	54	-16.12	-	-	191	128	V
7	*** 7.69125	51.5	Pk	35.6	-41.1	46	54	-8	74	-28	0-360	200	V
8	*** 9.17531	50.54	Pk	36	-40	46.54	54	-7.46	74	-27.46	0-360	101	V
2	7.22344	53.05	Pk	35.4	-41.7	46.75	-	-	-	-	0-360	101	H
6	7.23844	57.94	Pk	35.4	-42.3	51.04	-	-	-	-	0-360	200	V

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

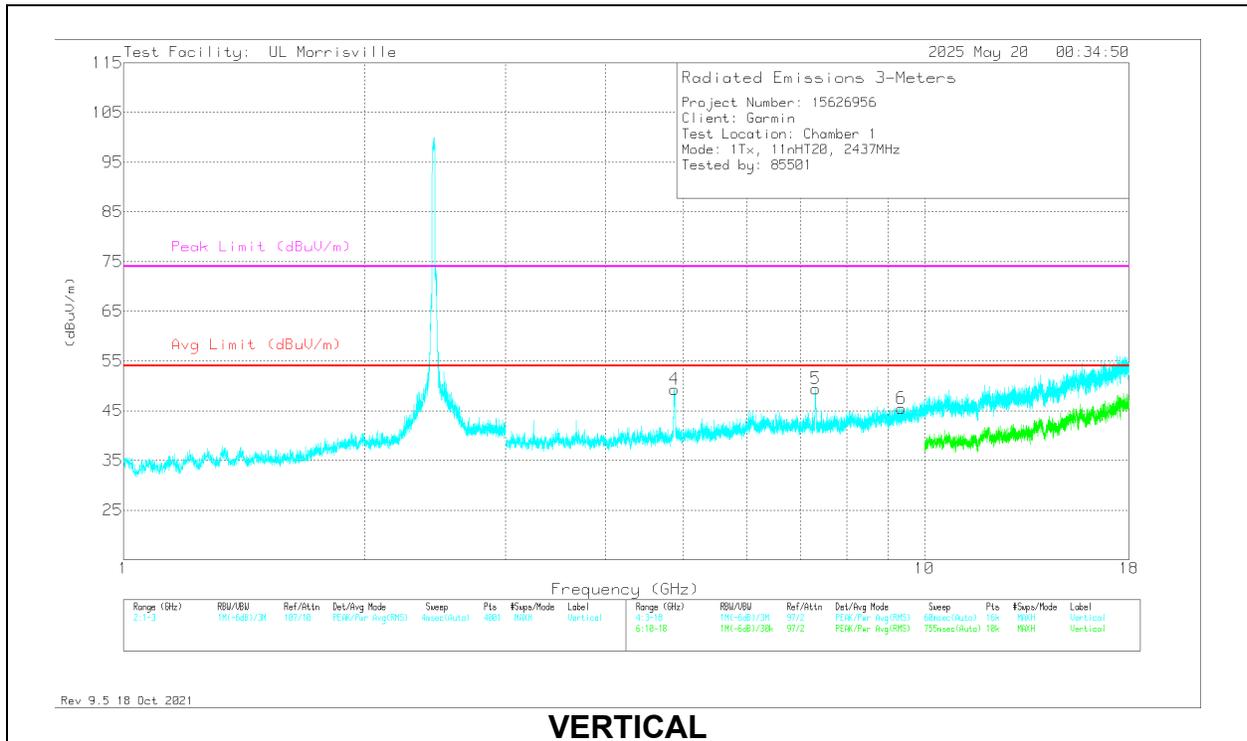
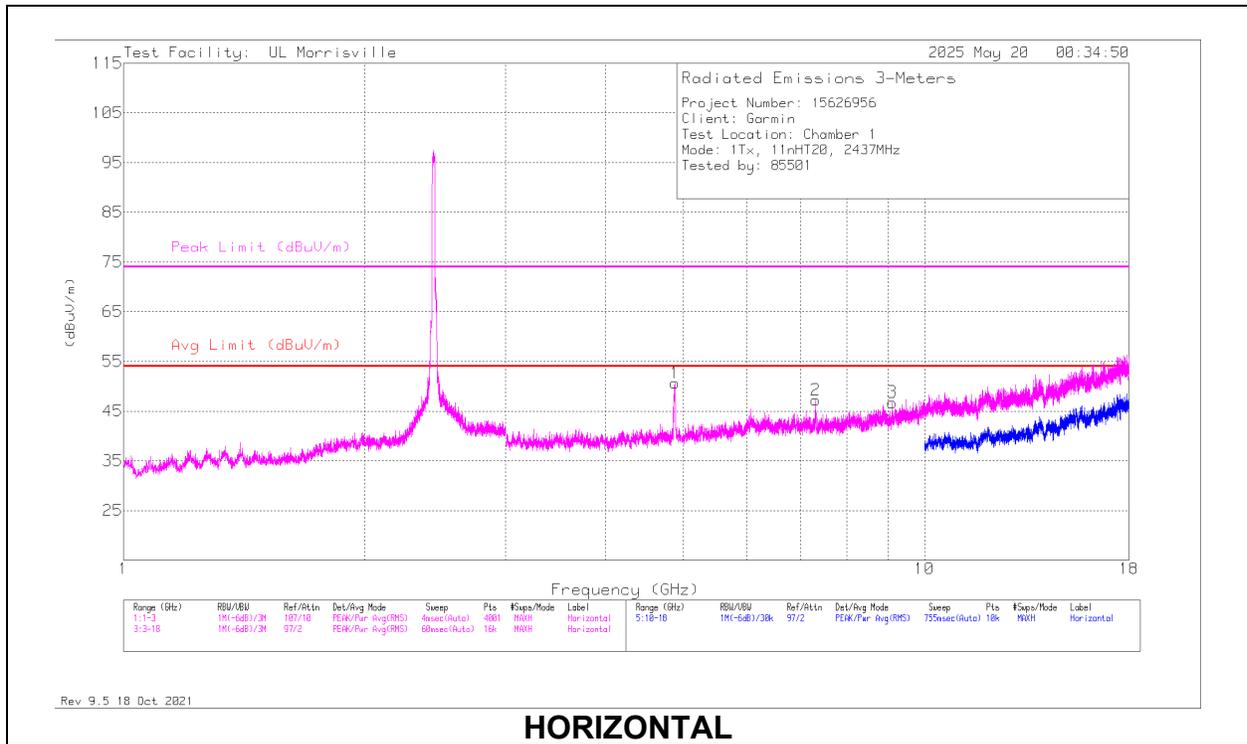
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL, CH 6 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.87354	67.3	PK2	34	-44.8	56.5	-	-	74	-17.5	11	121	H
	*** 4.87449	47.94	ADV	34	-44.8	37.14	54	-16.86	-	-	11	121	H
2	*** 7.31344	53.41	Pk	35.4	-41.6	47.21	54	-6.79	74	-26.79	0-360	200	H
	*** 9.12188	51.16	Pk	35.9	-40.3	46.76	54	-7.24	74	-27.24	0-360	101	H
4	*** 4.87214	69.03	PK2	34	-44.8	58.23	-	-	74	-15.77	188	183	V
	*** 4.87394	50.52	ADV	34	-44.8	39.72	54	-14.28	-	-	188	183	V
5	*** 7.30865	58.56	PK2	35.4	-41.7	52.26	-	-	74	-21.74	124	268	V
	*** 7.30681	44.77	ADV	35.4	-41.8	38.37	54	-15.63	-	-	124	268	V
6	*** 9.36094	49.88	Pk	36.2	-40.6	45.48	54	-8.52	74	-28.52	0-360	101	V

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

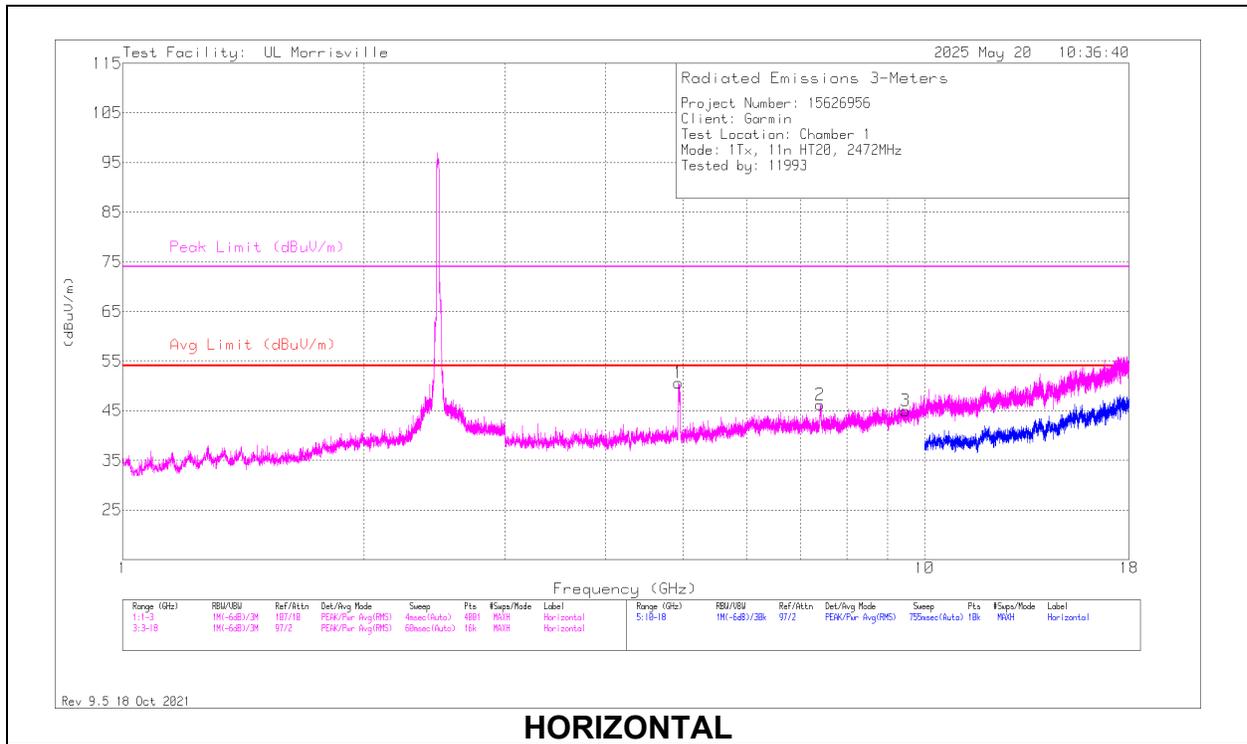
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

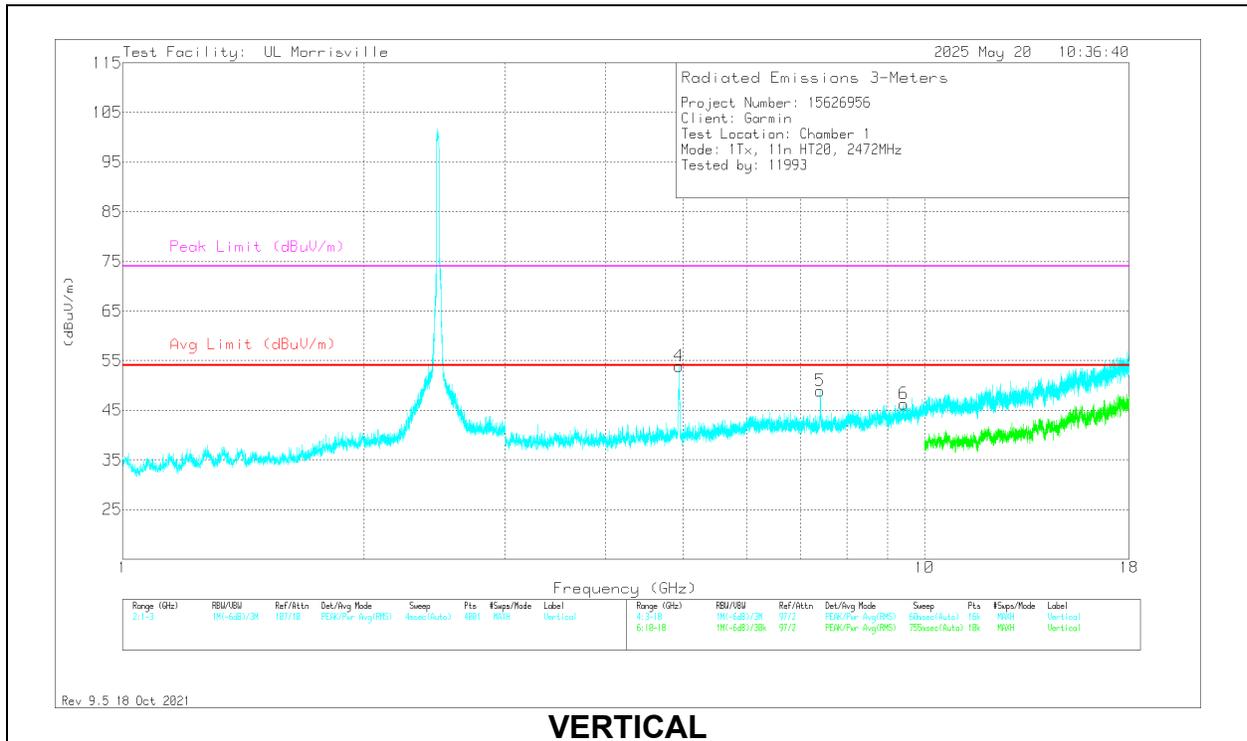
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL, CH 13 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.94297	67.65	PK2	34.1	-44.3	57.45	-	-	74	-16.55	147	153	H
	*** 4.94467	48.25	ADV	34.1	-44.4	37.95	54	-16.05	-	-	147	153	H
2	*** 7.41188	52.11	Pk	35.4	-41.3	46.21	54	-7.79	74	-27.79	0-360	200	H
	*** 9.47906	49.12	Pk	36.4	-40.6	44.92	54	-9.08	74	-29.08	0-360	200	H
4	*** 4.94137	68.12	PK2	34.1	-44.3	57.92	-	-	74	-16.08	124	127	V
	*** 4.94336	48.67	ADV	34.1	-44.3	38.47	54	-15.53	-	-	124	127	V
5	*** 7.41535	57.75	PK2	35.4	-41.2	51.95	-	-	74	-22.05	179	124	V
	*** 7.41393	43.47	ADV	35.4	-41.2	37.67	54	-16.33	-	-	179	124	V
6	*** 9.42281	50.17	Pk	36.3	-40.2	46.27	54	-7.73	74	-27.73	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

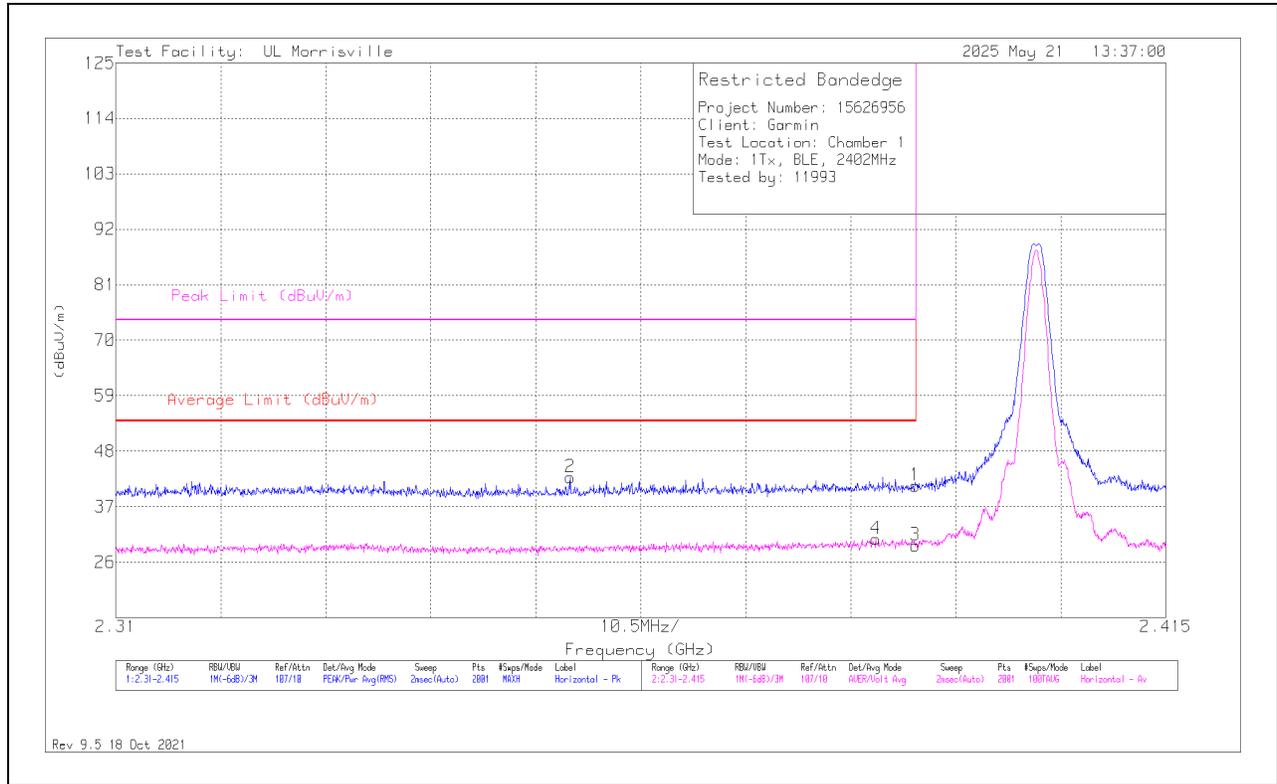
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.4. BLE (1Mbps)

BANDEDGE (LOW CHANNEL 37)

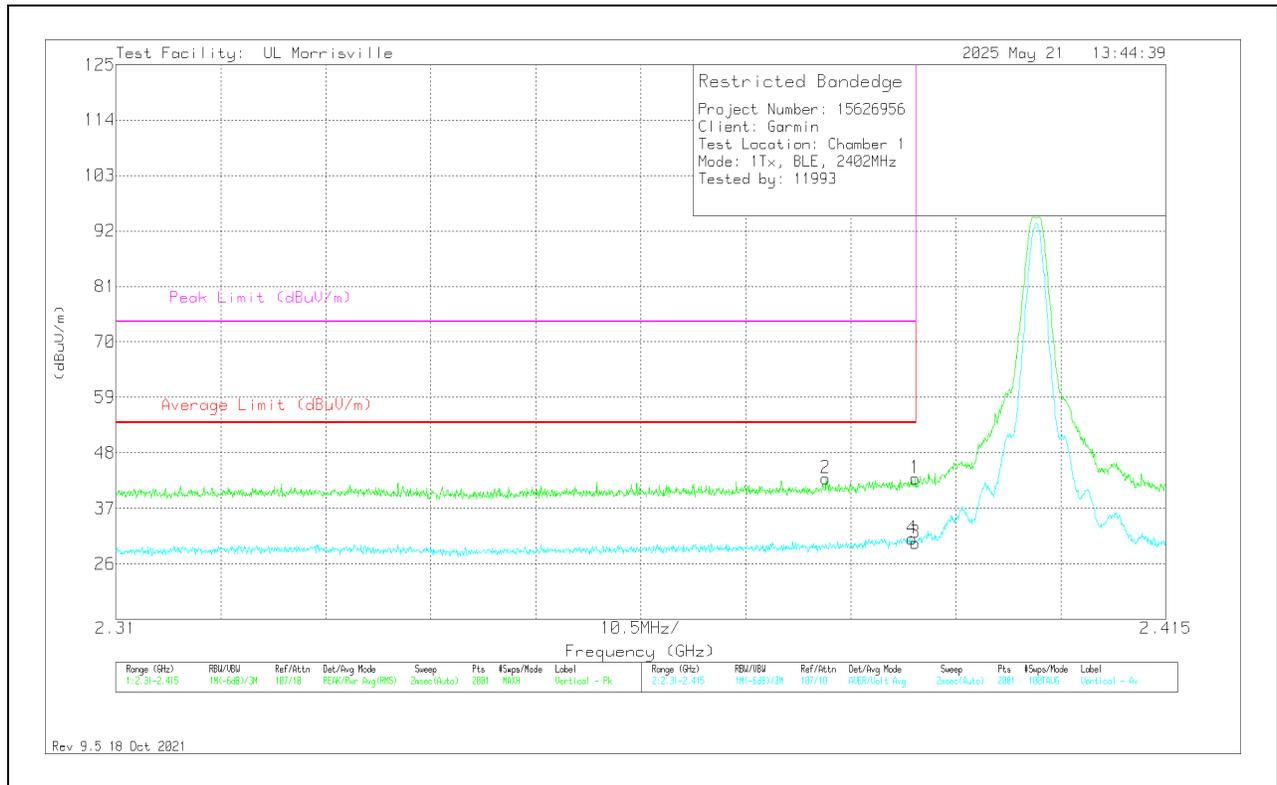
HORIZONTAL RESULT



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	33.23	Pk	31.9	-24	41.13	-	-	74	-32.87	79	202	H
2	*** 2.35547	35.5	Pk	31.8	-24.5	42.8	-	-	74	-31.2	79	202	H
3	*** 2.38996	21.42	ADV	31.9	-24	29.32	54	-24.68	-	-	79	202	H
4	*** 2.38602	22.61	ADV	31.9	-23.9	30.61	54	-23.39	-	-	79	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

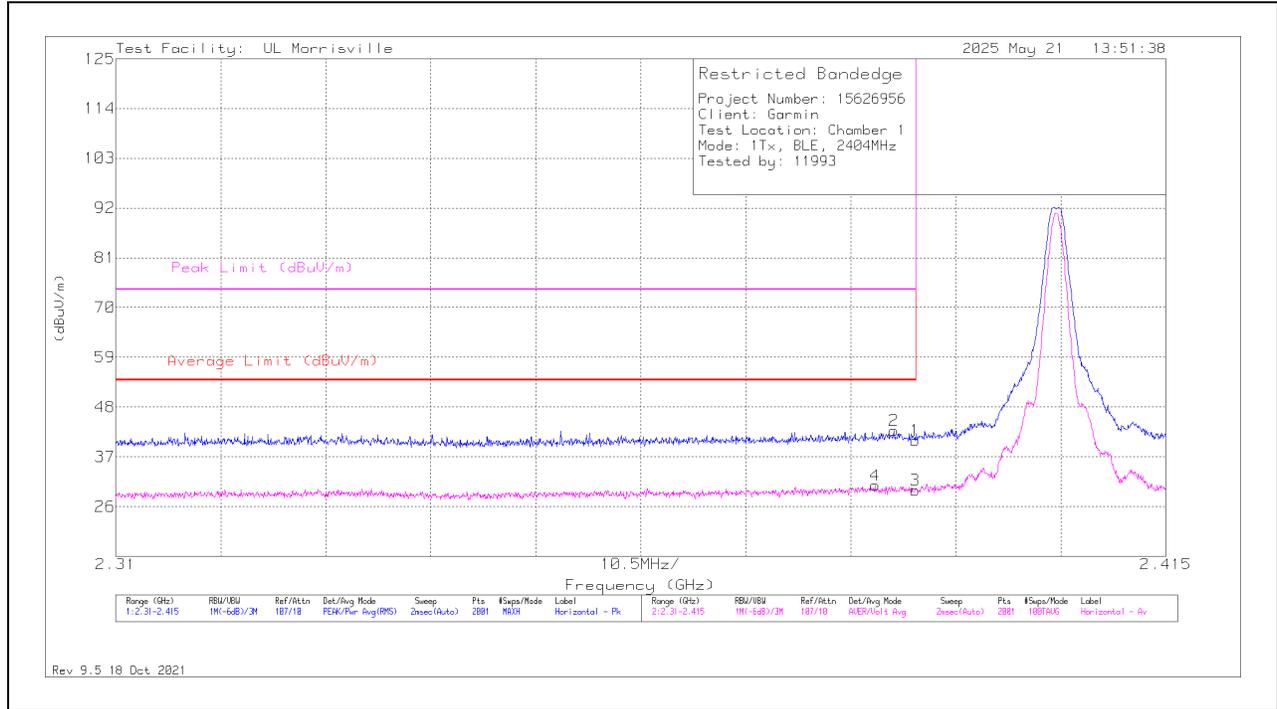


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	35.03	Pk	31.9	-24	42.93	-	-	74	-31.07	163	227	V
2	*** 2.38098	35.16	Pk	31.9	-24.1	42.96	-	-	74	-31.04	163	227	V
3	*** 2.38996	22.27	ADV	31.9	-24	30.17	54	-23.83	-	-	163	227	V
4	*** 2.38959	23.12	ADV	31.9	-24	31.02	54	-22.98	-	-	163	227	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 0)

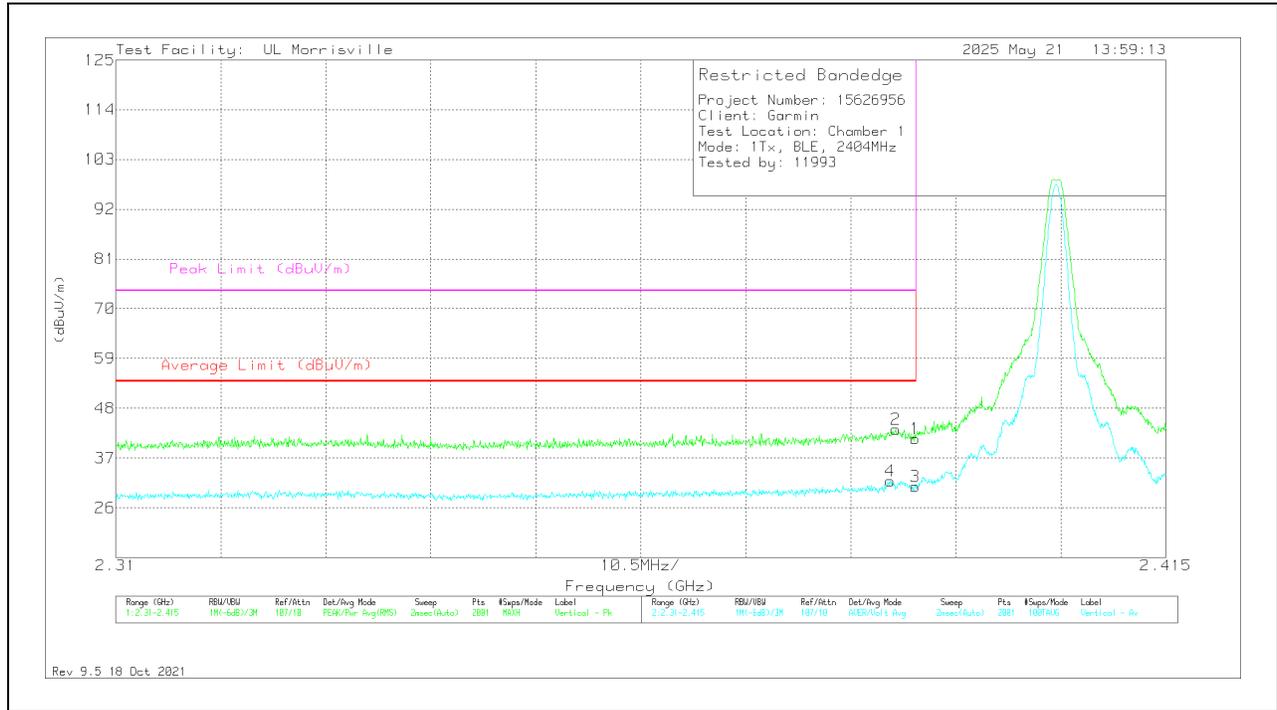
HORIZONTAL RESULT



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	32.67	Pk	31.9	-24	40.57	-	-	74	-33.43	92	208	H
2	* ** 2.38781	34.79	Pk	31.9	-23.9	42.79	-	-	74	-31.21	92	208	H
3	* ** 2.38996	21.69	ADV	31.9	-24	29.59	54	-24.41	-	-	92	208	H
4	* ** 2.38592	22.63	ADV	31.9	-23.9	30.63	54	-23.37	-	-	92	208	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

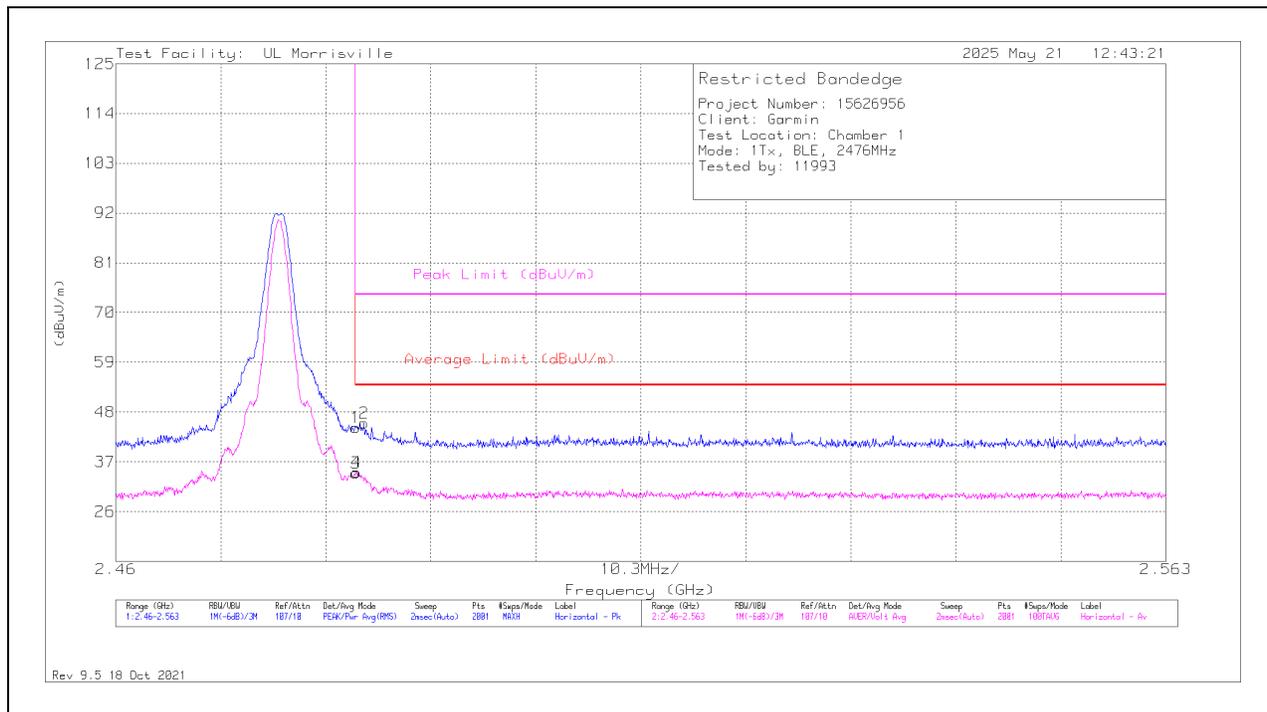


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	33.38	Pk	31.9	-24	41.28	-	-	74	-32.72	165	215	V
2	* ** 2.38802	35.4	Pk	31.9	-23.9	43.4	-	-	74	-30.6	165	215	V
3	* ** 2.38996	22.81	ADV	31.9	-24	30.71	54	-23.29	-	-	165	215	V
4	* ** 2.38744	23.96	ADV	31.9	-23.9	31.96	54	-22.04	-	-	165	215	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 35)

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	36.06	Pk	32.2	-23.7	44.56	-	-	74	-29.44	200	329	H
2	* ** 2.48436	37.18	Pk	32.2	-23.8	45.58	-	-	74	-28.42	200	329	H
3	* ** 2.48354	25.99	ADV	32.2	-23.7	34.49	54	-19.51	-	-	200	329	H
4	* ** 2.48359	26.23	ADV	32.2	-23.7	34.73	54	-19.27	-	-	200	329	H

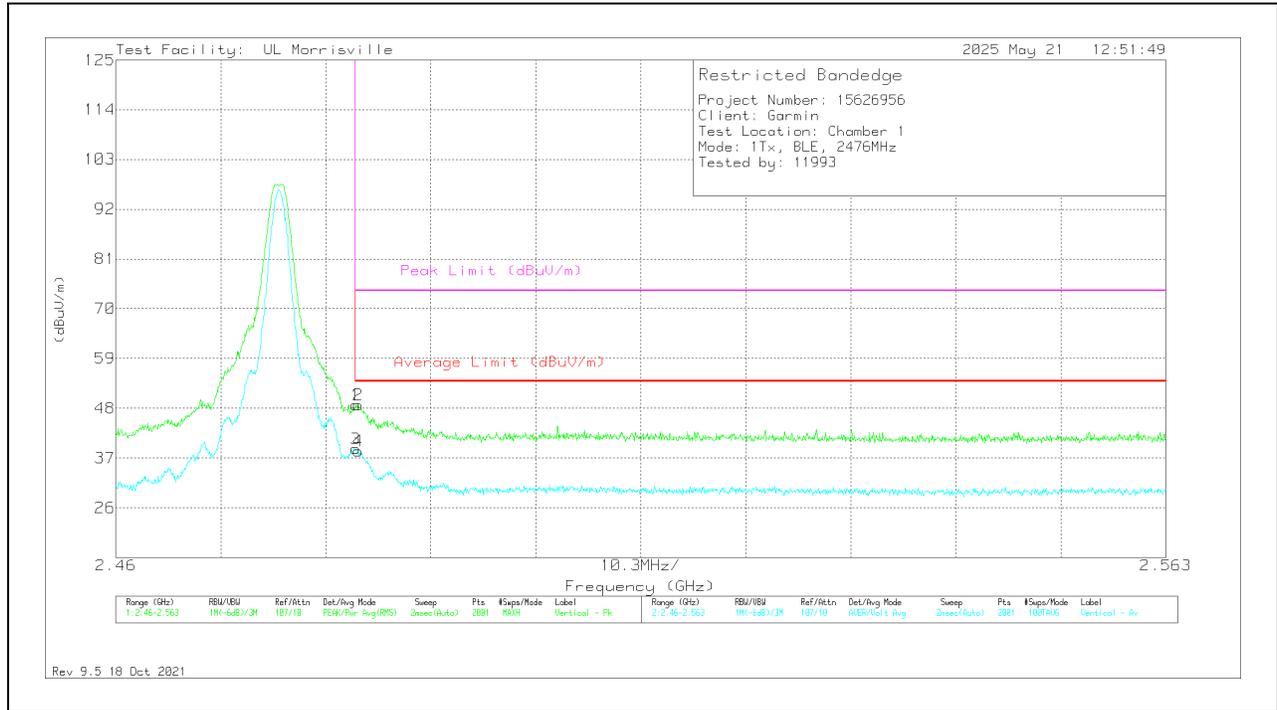
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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	40.21	Pk	32.2	-23.7	48.71	-	-	74	-25.29	160	232	V
2	*** 2.48379	40.2	Pk	32.2	-23.7	48.7	-	-	74	-25.3	160	232	V
3	*** 2.48354	30.52	ADV	32.2	-23.7	39.02	54	-14.98	-	-	160	232	V
4	*** 2.48379	30.06	ADV	32.2	-23.7	38.56	54	-15.44	-	-	160	232	V

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

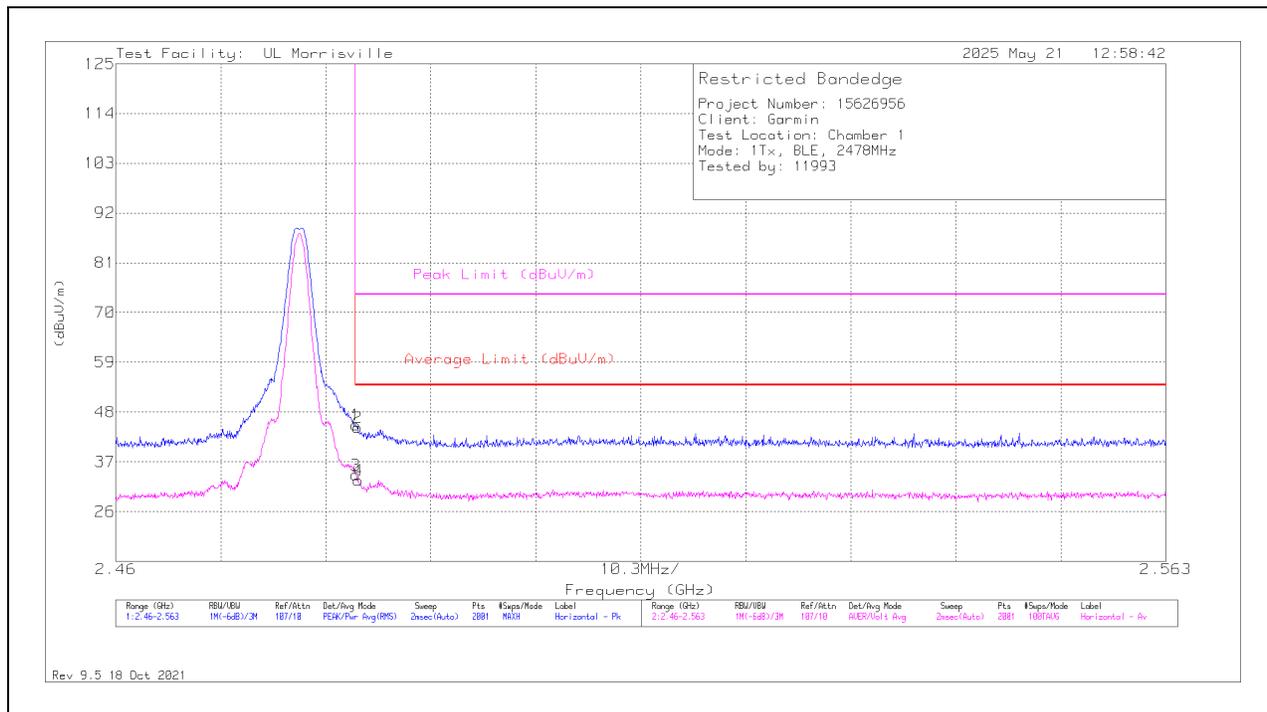
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL 36)

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	36.61	Pk	32.2	-23.7	45.11	-	-	74	-28.89	207	351	H
2	* ** 2.48374	36.04	Pk	32.2	-23.7	44.54	-	-	74	-29.46	207	351	H
3	* ** 2.48354	25.56	ADV	32.2	-23.7	34.06	54	-19.94	-	-	207	351	H
4	* ** 2.48379	24.41	ADV	32.2	-23.7	32.91	54	-21.09	-	-	207	351	H

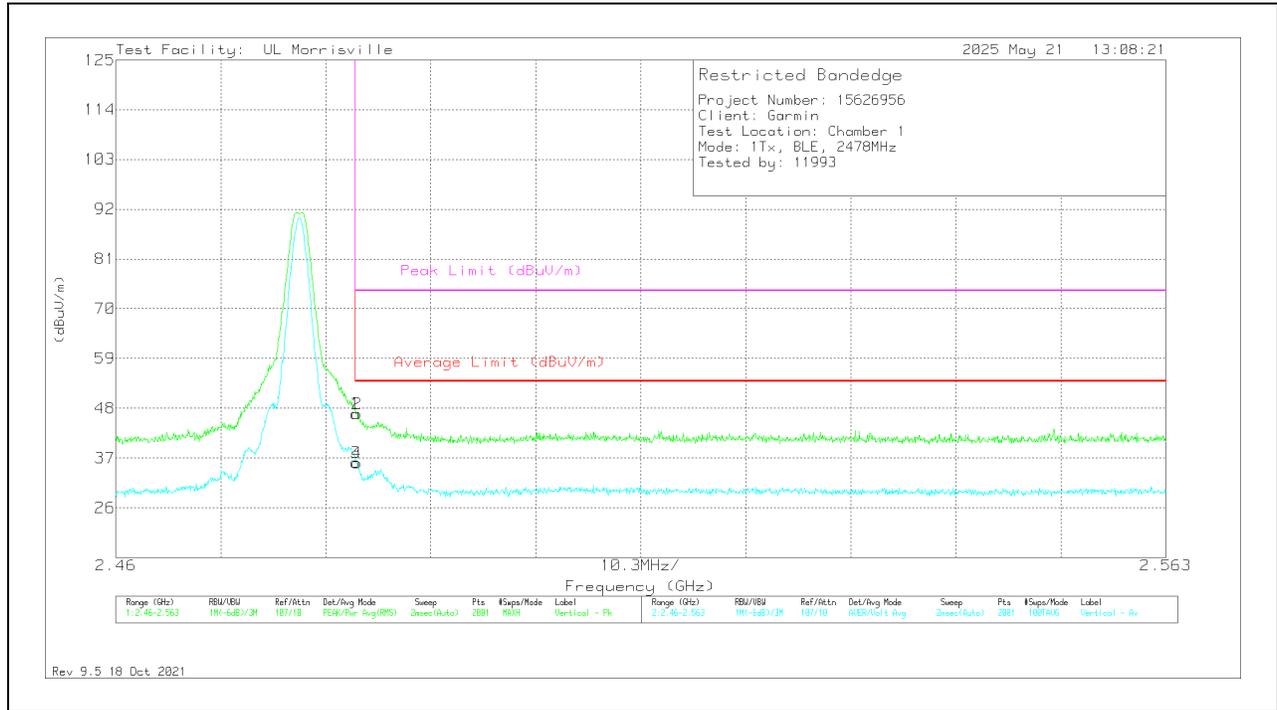
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

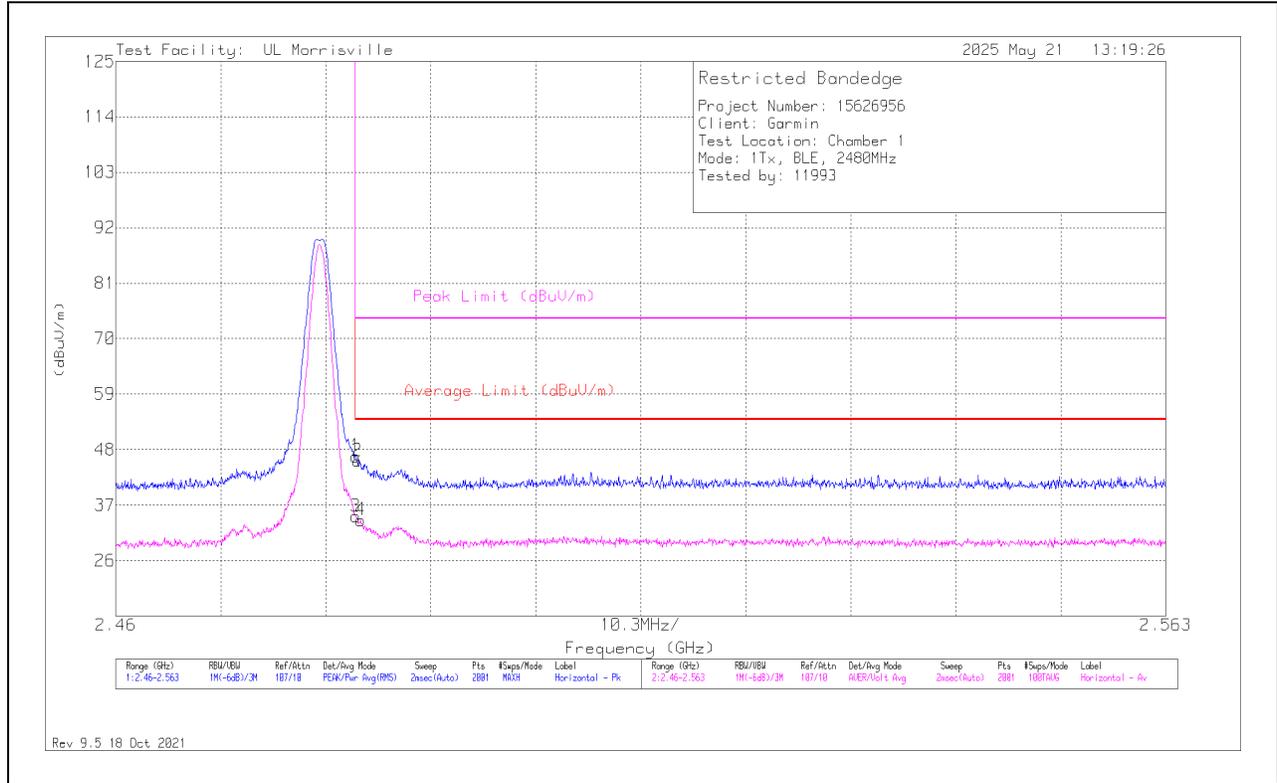


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	38.32	Pk	32.2	-23.7	46.82	-	-	74	-27.18	272	123	V
2	* ** 2.48364	38.25	Pk	32.2	-23.7	46.75	-	-	74	-27.25	272	123	V
3	* ** 2.48354	27.5	ADV	32.2	-23.7	36	54	-18	-	-	272	123	V
4	* ** 2.48364	27.41	ADV	32.2	-23.7	35.91	54	-18.09	-	-	272	123	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

BANDEGE (HIGH CHANNEL 39)

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	38.2	Pk	32.2	-23.7	46.7	-	-	74	-27.3	267	117	H
2	* ** 2.48369	37.26	Pk	32.2	-23.7	45.76	-	-	74	-28.24	267	117	H
3	* ** 2.48354	26.25	ADV	32.2	-23.7	34.75	54	-19.25	-	-	267	117	H
4	* ** 2.484	25.65	ADV	32.2	-23.8	34.05	54	-19.95	-	-	267	117	H

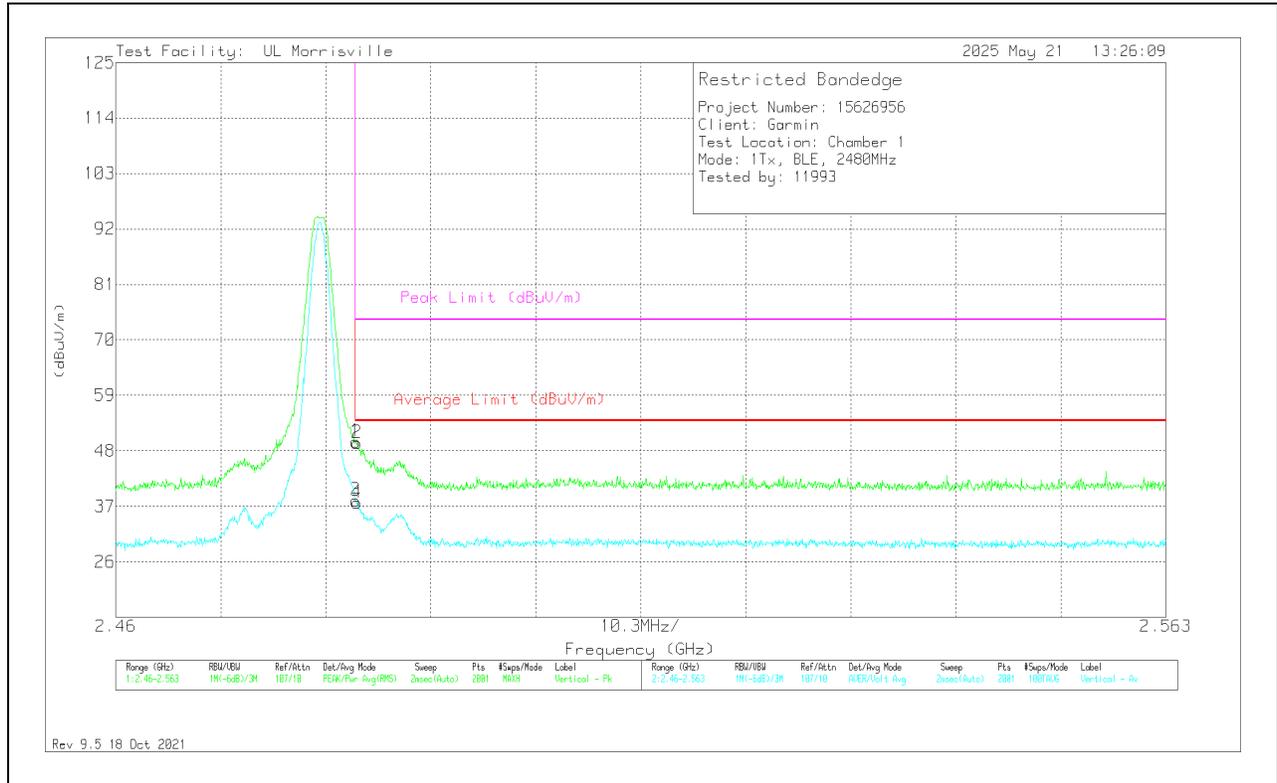
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

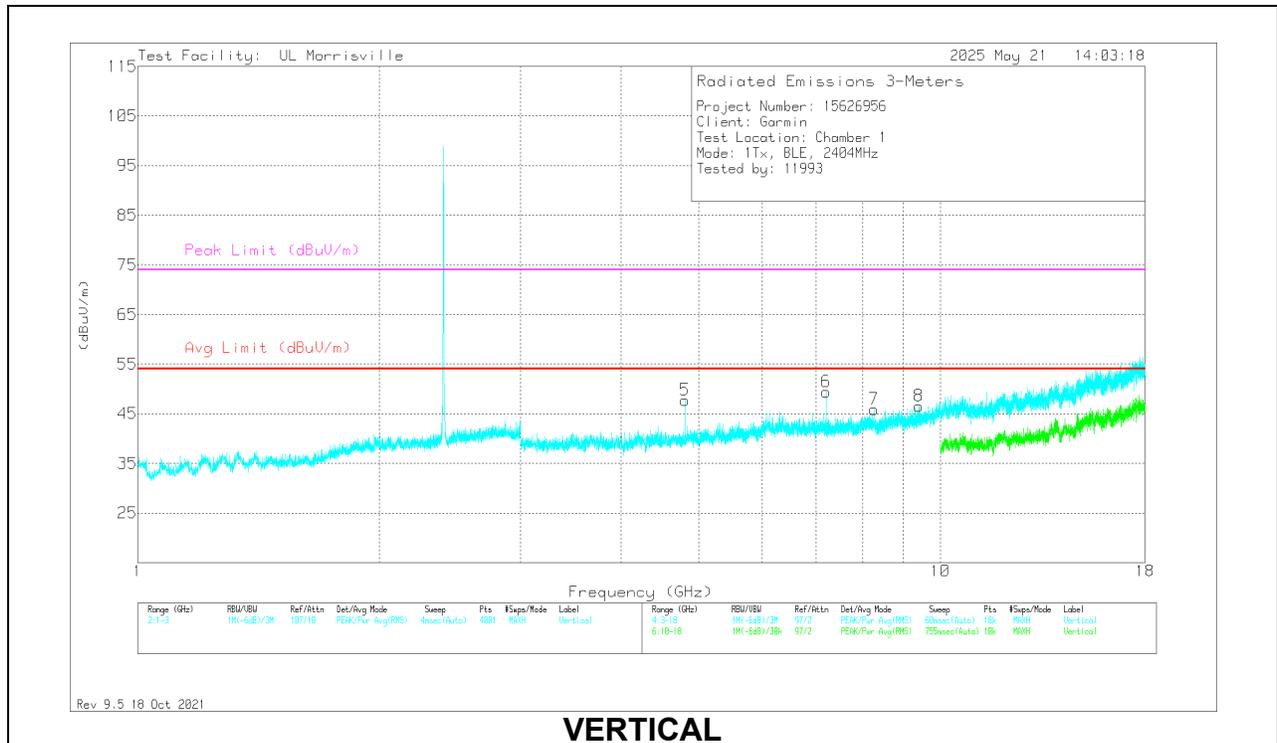
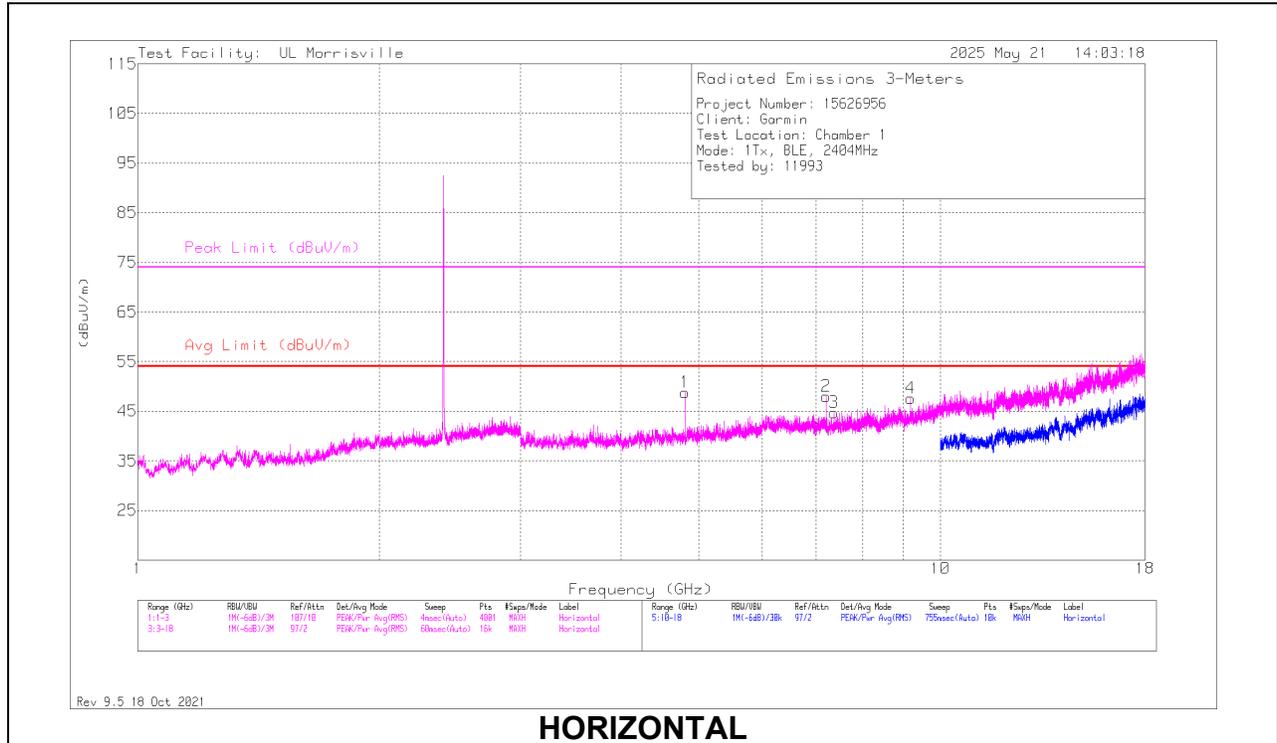


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	41.32	Pk	32.2	-23.7	49.82	-	-	74	-24.18	159	233	V
2	*** 2.48364	41.1	Pk	32.2	-23.7	49.6	-	-	74	-24.4	159	233	V
3	*** 2.48354	29.68	ADV	32.2	-23.7	38.18	54	-15.82	-	-	159	233	V
4	*** 2.48364	29.24	ADV	32.2	-23.7	37.74	54	-16.26	-	-	159	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

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL 0 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.80852	62.56	PK2	33.9	-45.7	50.76	-	-	74	-23.24	34	108	H
	*** 4.80754	49.84	ADV	33.9	-45.7	38.04	54	-15.96	-	-	34	108	H
3	*** 7.37063	50.73	Pk	35.4	-41.4	44.73	54	-9.27	74	-29.27	0-360	200	H
4	*** 9.18188	51.42	Pk	36	-39.8	47.62	54	-6.38	74	-26.38	0-360	101	H
5	*** 4.80844	59.55	Pk	33.9	-45.7	47.75	54	-6.25	74	-26.25	0-360	101	V
7	*** 8.2725	50.72	Pk	35.9	-40.7	45.92	54	-8.08	74	-28.08	0-360	200	V
8	*** 9.39938	50.62	Pk	36.3	-40.4	46.52	54	-7.48	74	-27.48	0-360	101	V
2	7.21125	55.07	Pk	35.4	-42.5	47.97	-	-	-	-	0-360	200	H
6	7.21125	56.51	Pk	35.4	-42.5	49.41	-	-	-	-	0-360	101	V

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

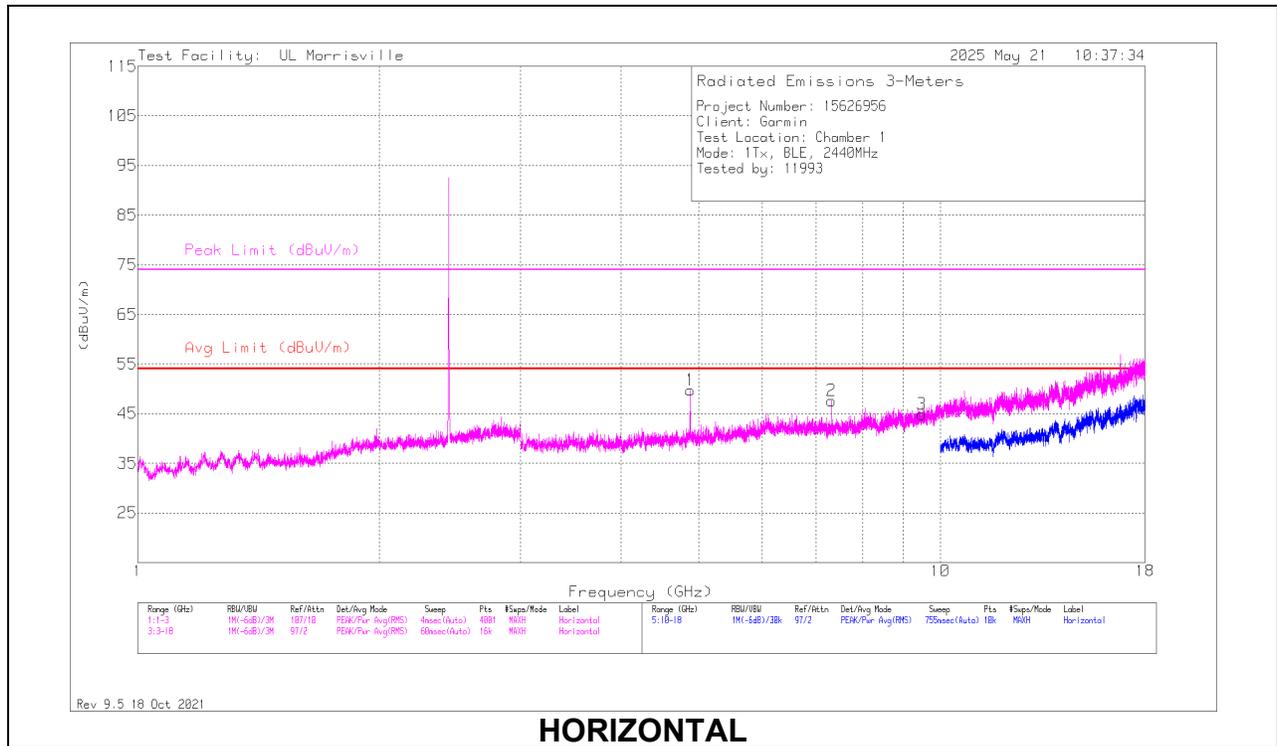
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

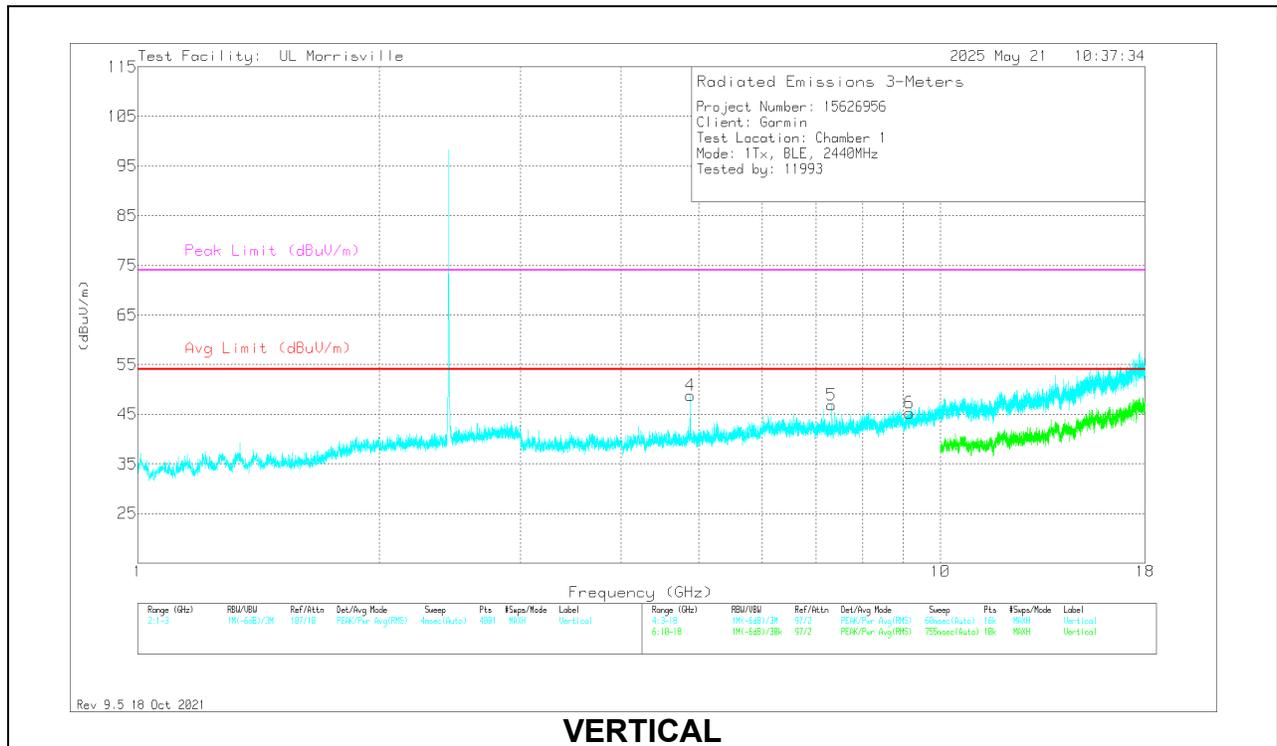
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL 17 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.88044	63.63	PK2	34	-44.7	52.93	-	-	74	-21.07	35	102	H
	*** 4.87938	51.33	ADV	34	-44.7	40.63	54	-13.37	-	-	35	102	H
2	*** 7.32094	53.95	Pk	35.4	-41.8	47.55	54	-6.45	74	-26.45	0-360	200	H
3	*** 9.48188	48.99	Pk	36.4	-40.5	44.89	54	-9.11	74	-29.11	0-360	101	H
4	*** 4.88064	63.36	PK2	34	-44.7	52.66	-	-	74	-21.34	123	302	V
	*** 4.8795	51.76	ADV	34	-44.7	41.06	54	-12.94	-	-	123	302	V
5	*** 7.32094	53.26	Pk	35.4	-41.8	46.86	54	-7.14	74	-27.14	0-360	200	V
6	*** 9.15469	49.51	Pk	35.9	-40.2	45.21	54	-8.79	74	-28.79	0-360	200	V

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

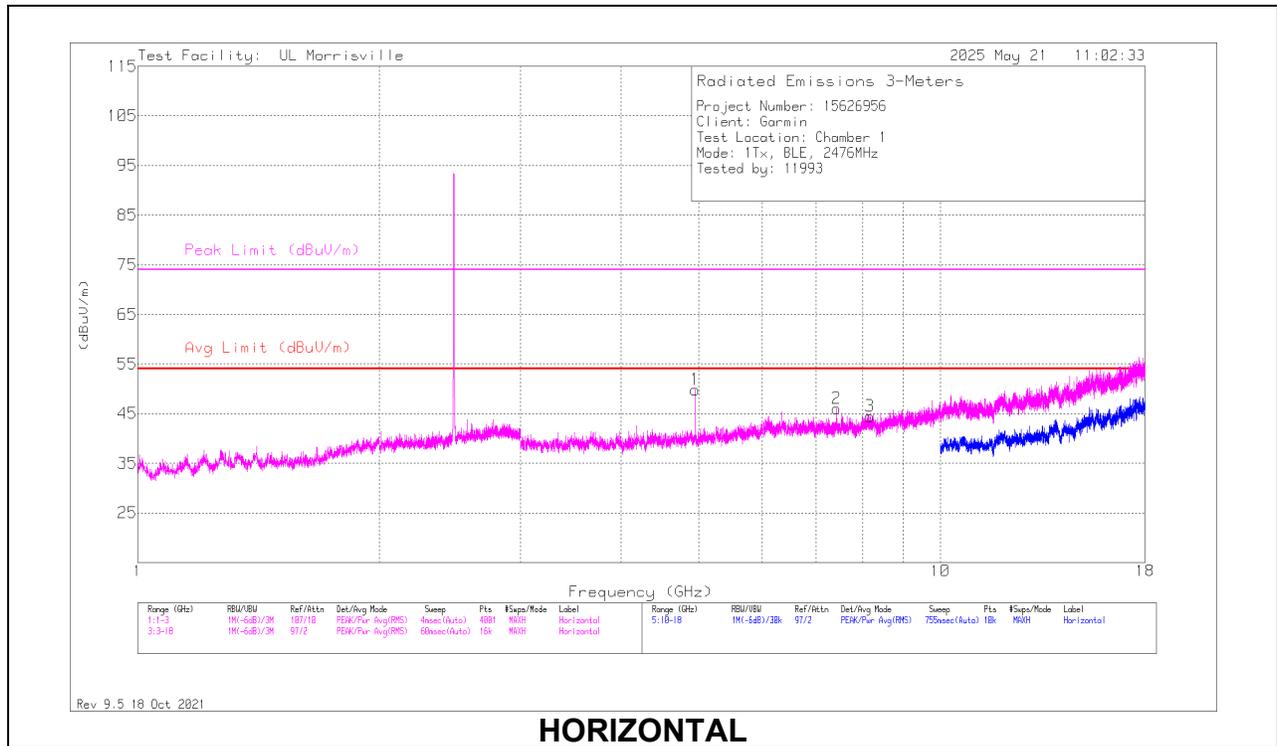
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

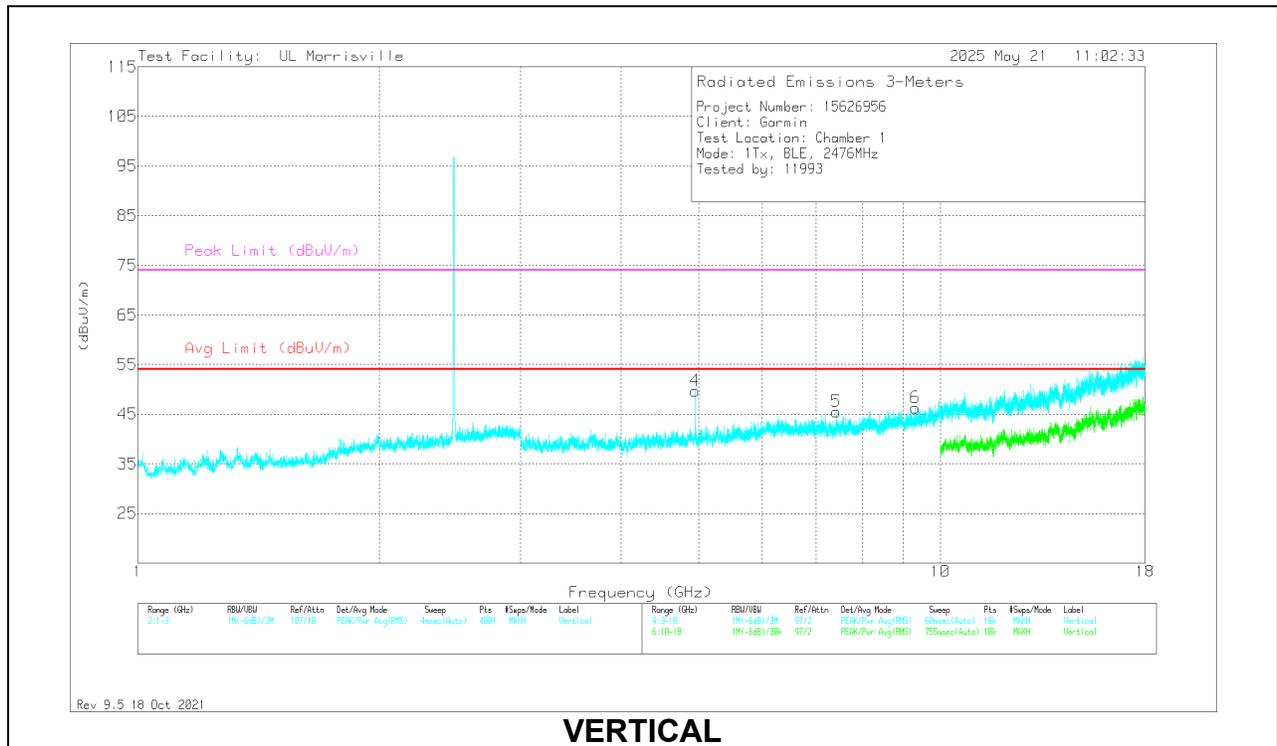
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL 35 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.95141	64.26	PK2	34.2	-44.6	53.86	-	-	74	-20.14	275	125	H
	*** 4.95147	52.92	ADV	34.2	-44.7	42.42	54	-11.58	-	-	275	125	H
2	*** 7.42875	51.7	Pk	35.4	-41.1	46	54	-8	74	-28	0-360	199	H
3	*** 8.17219	49.5	Pk	35.9	-40.9	44.5	54	-9.5	74	-29.5	0-360	199	H
4	*** 4.95143	64.7	PK2	34.2	-44.6	54.3	-	-	74	-19.7	129	331	V
	*** 4.95253	52.68	ADV	34.2	-44.7	42.18	54	-11.82	-	-	129	331	V
5	*** 7.42688	51.25	Pk	35.4	-41.2	45.45	54	-8.55	74	-28.55	0-360	200	V
6	*** 9.30938	50.06	Pk	36.1	-39.9	46.26	54	-7.74	74	-27.74	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

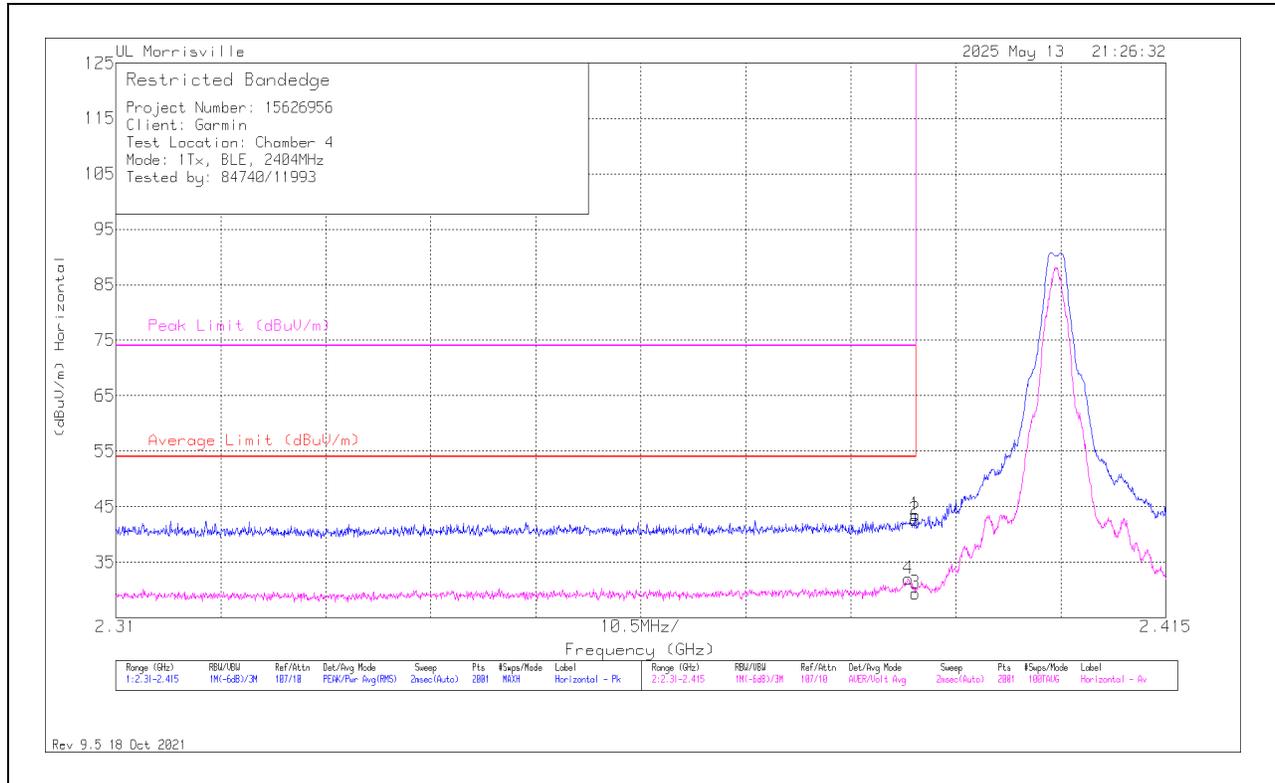
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.5. BLE (2Mbps)

BANDEDGE (LOW CHANNEL 0)

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	34.77	Pk	32	-23.2	43.57	-	-	74	-30.43	252	296	H
2	* ** 2.38991	33.86	Pk	32	-23.2	42.66	-	-	74	-31.34	252	296	H
3	* ** 2.38996	20.59	ADV	32	-23.2	29.39	54	-24.61	-	-	252	296	H
4	* ** 2.38922	23.17	ADV	32	-23.2	31.97	54	-22.03	-	-	252	296	H

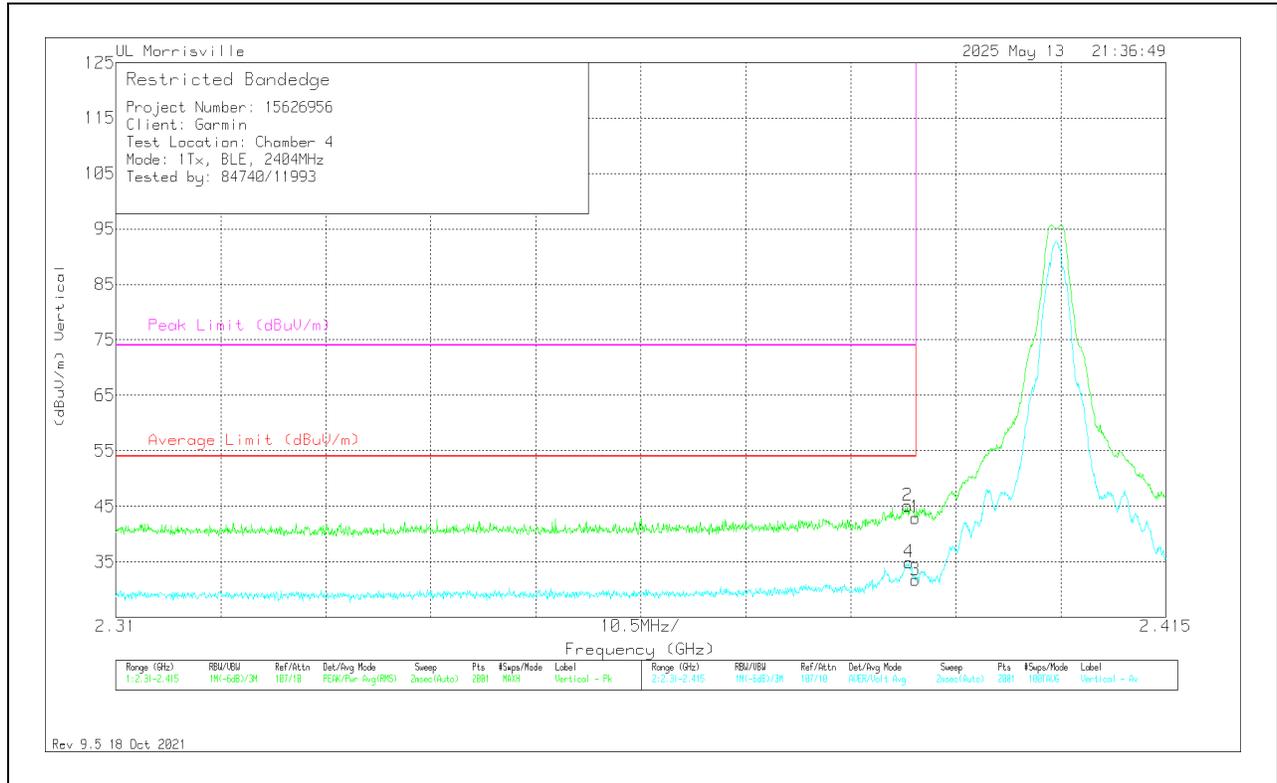
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

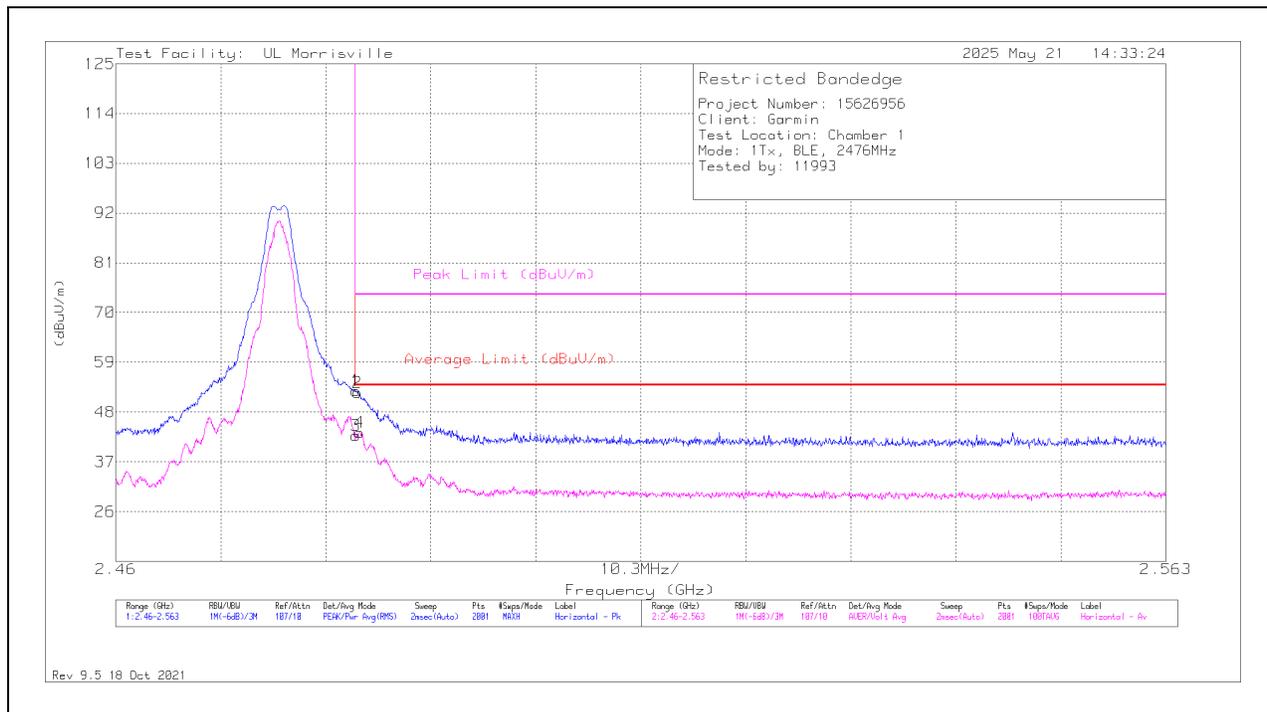


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	34.13	Pk	32	-23.2	42.93	-	-	74	-31.07	229	262	V
2	*** 2.38917	36.29	Pk	32	-23.2	45.09	-	-	74	-28.91	229	262	V
3	*** 2.38996	22.89	ADV	32	-23.2	31.69	54	-22.31	-	-	229	262	V
4	*** 2.38933	26.06	ADV	32	-23.2	34.86	54	-19.14	-	-	229	262	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 35)

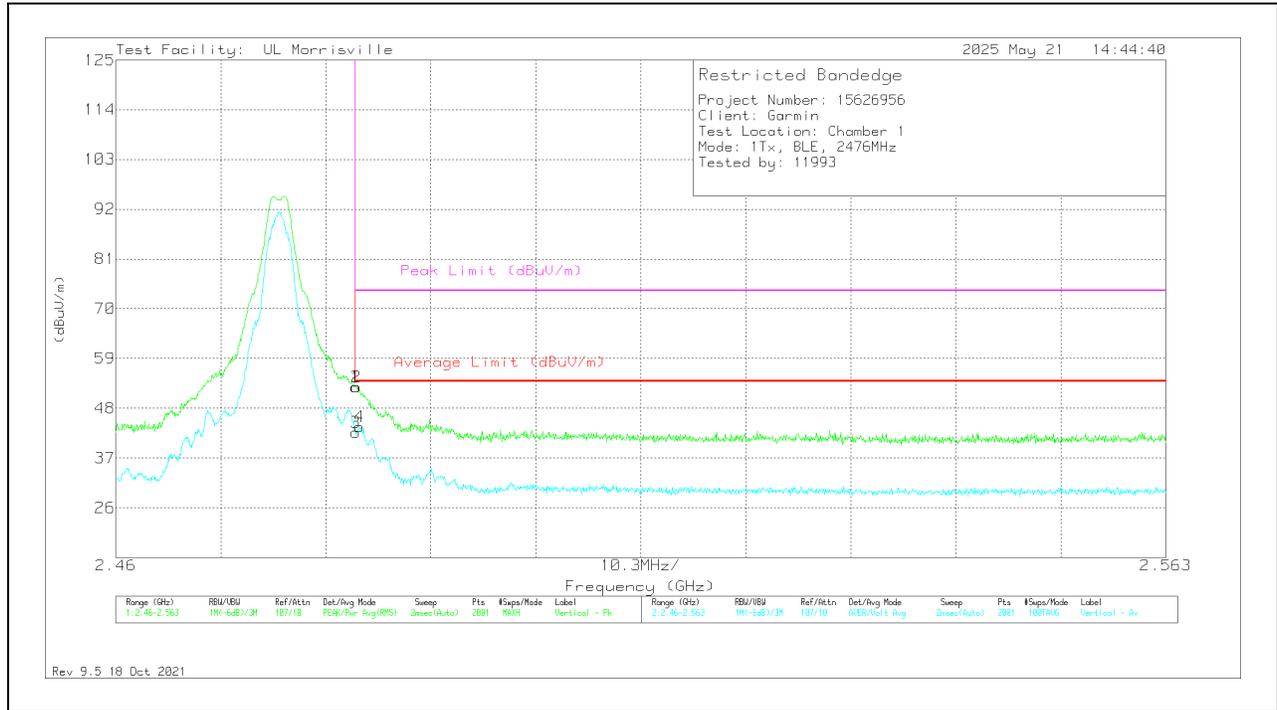
HORIZONTAL RESULT



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	44.26	Pk	32.2	-23.7	52.76	-	-	74	-21.24	268	116	H
2	* ** 2.48369	43.82	Pk	32.2	-23.7	52.32	-	-	74	-21.68	268	116	H
3	* ** 2.48354	34.27	ADV	32.2	-23.7	42.77	54	-11.23	-	-	268	116	H
4	* ** 2.4839	34.97	ADV	32.2	-23.7	43.47	54	-10.53	-	-	268	116	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

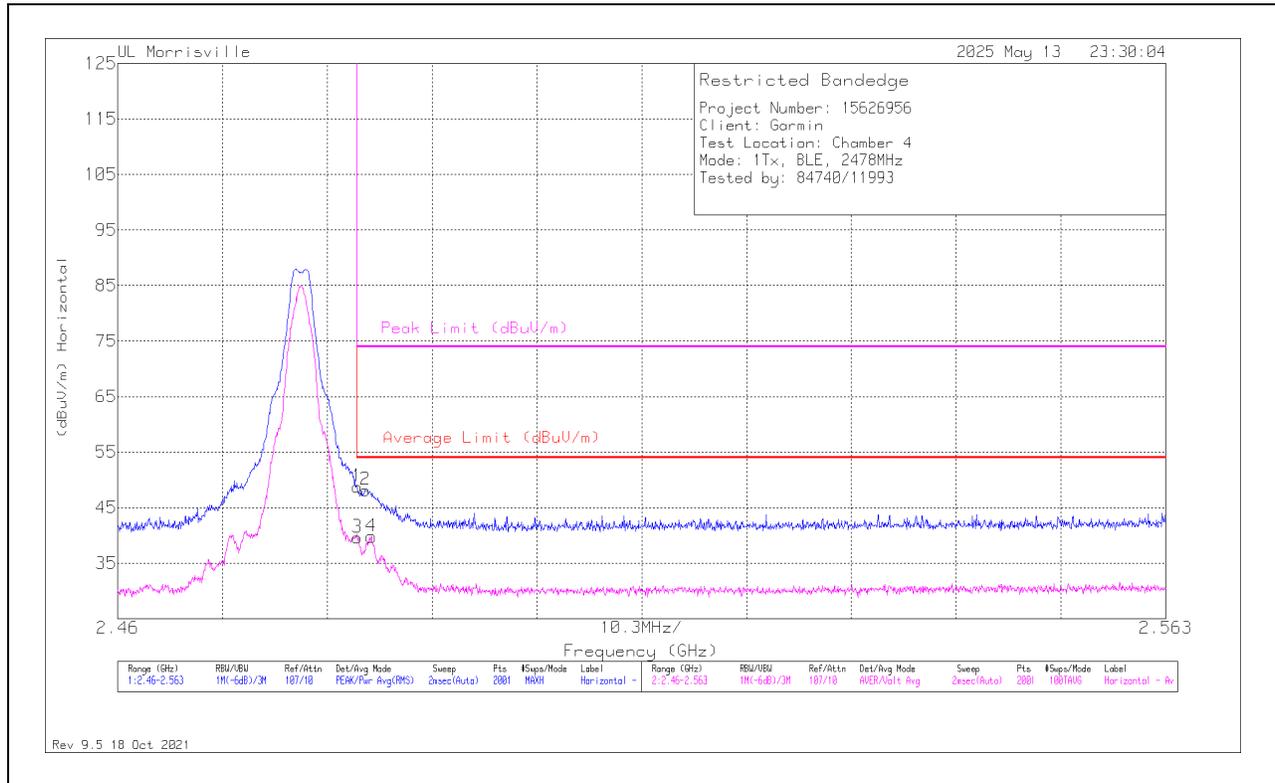


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	44.15	Pk	32.2	-23.7	52.65	-	-	74	-21.35	14	120	V
2	*** 2.48359	44.23	Pk	32.2	-23.7	52.73	-	-	74	-21.27	14	120	V
3	*** 2.48354	34.17	ADV	32.2	-23.7	42.67	54	-11.33	-	-	14	120	V
4	*** 2.4839	35.4	ADV	32.2	-23.7	43.9	54	-10.1	-	-	14	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 36)

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	39.3	Pk	32.3	-22.8	48.8	-	-	74	-25.2	166	282	H
2	*** 2.48436	38.68	Pk	32.3	-22.8	48.18	-	-	74	-25.82	166	282	H
3	*** 2.48354	30.11	ADV	32.3	-22.8	39.61	54	-14.39	-	-	166	282	H
4	*** 2.48493	30.3	ADV	32.3	-22.8	39.8	54	-14.2	-	-	166	282	H

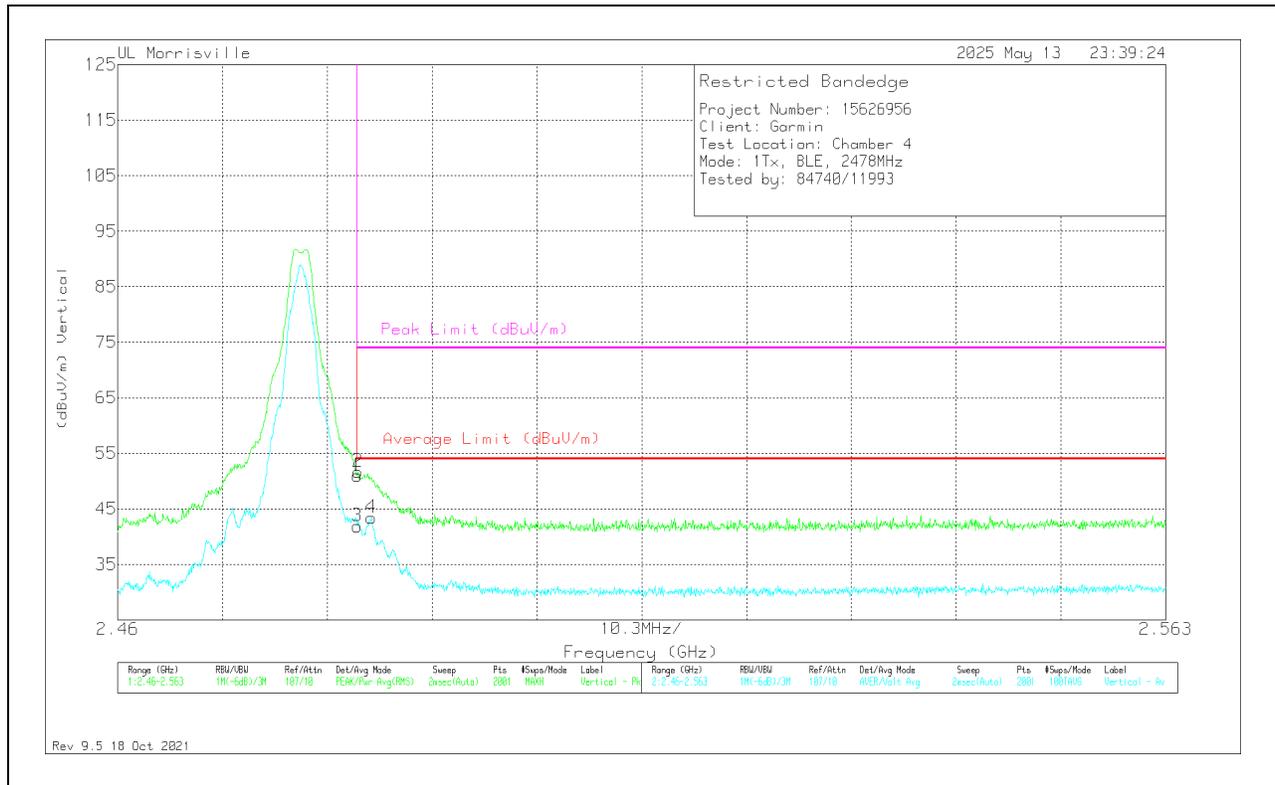
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

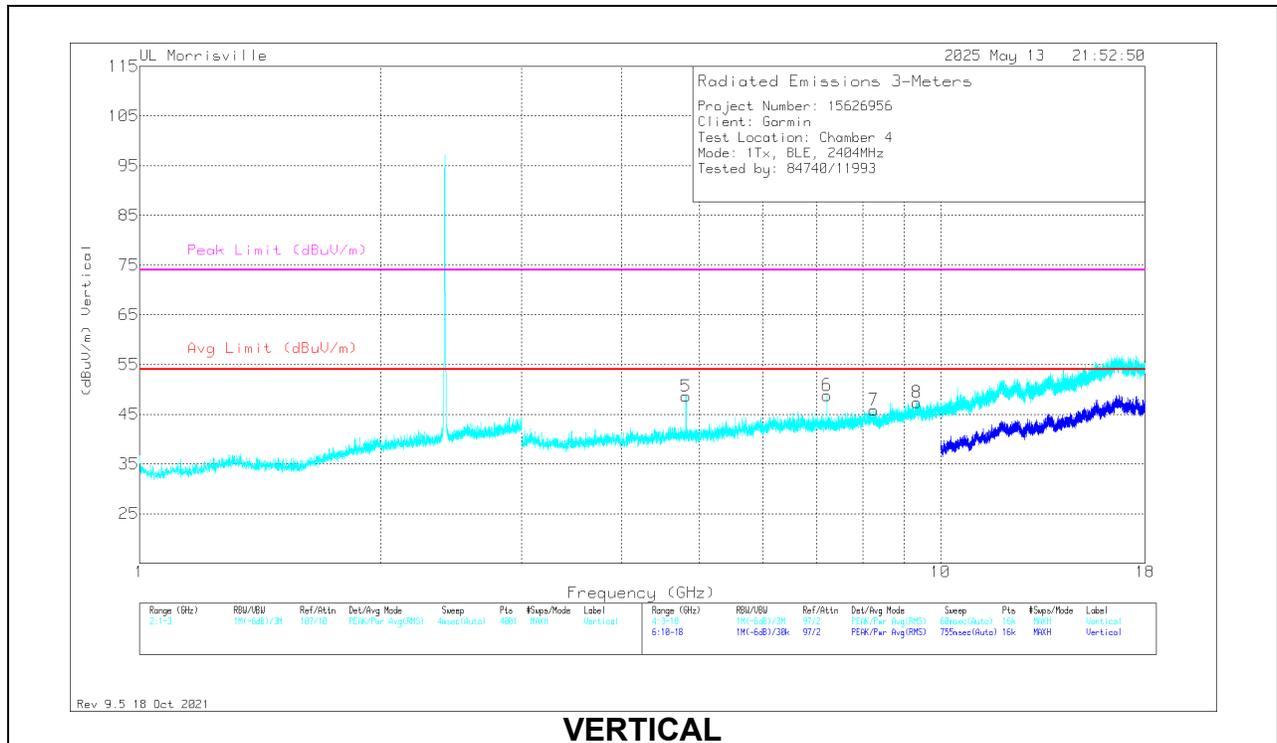
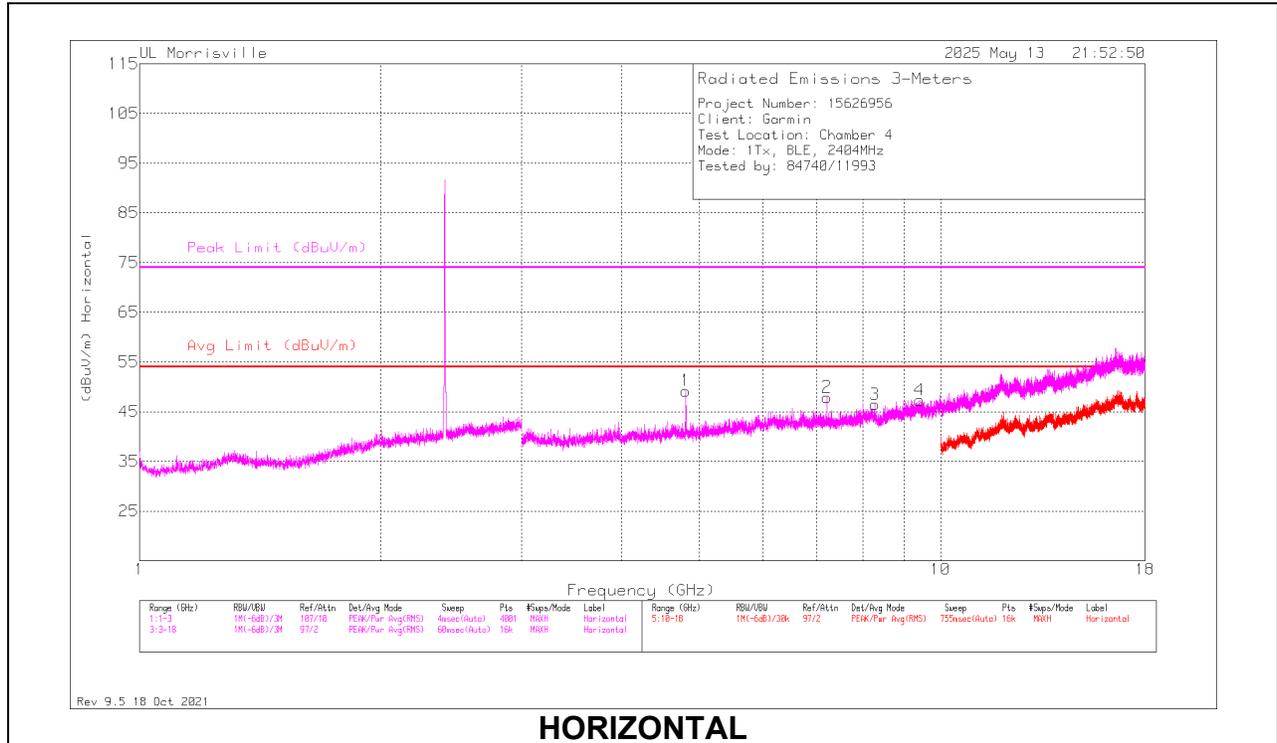


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	41.51	Pk	32.3	-22.8	51.01	-	-	74	-22.99	81	356	V
2	*** 2.48359	42.18	Pk	32.3	-22.8	51.68	-	-	74	-22.32	81	356	V
3	*** 2.48354	32.38	ADV	32.3	-22.8	41.88	54	-12.12	-	-	81	356	V
4	*** 2.48493	33.91	ADV	32.3	-22.8	43.41	54	-10.59	-	-	81	356	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 0 RESULTS

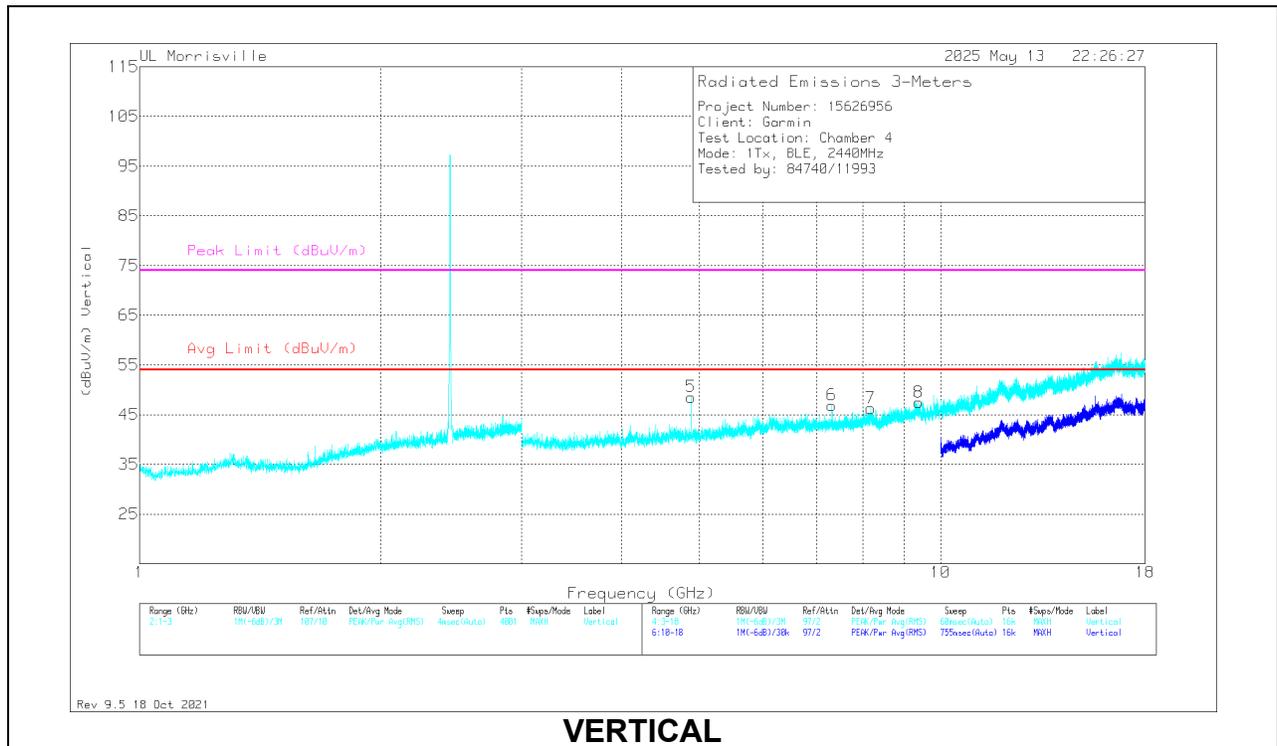
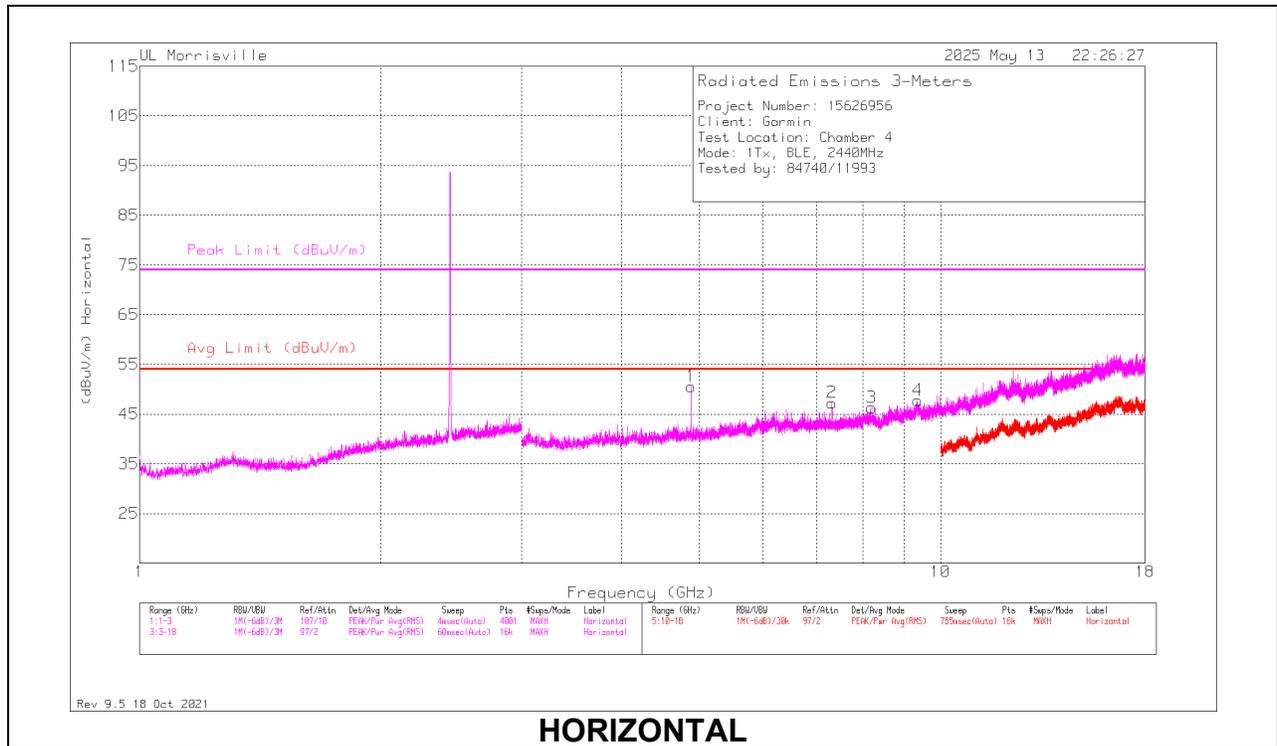


RADIATED EMISSIONS

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	* ** 4.80699	49.69	PK2	34.1	-31.3	52.49	-	-	74	-21.51	327	125	H
	* ** 4.80713	36.18	ADV	34.1	-31.3	38.98	54	-15.02	-	-	327	125	H
3	* ** 8.28281	37.03	Pk	35.8	-26.4	46.43	54	-7.57	74	-27.57	0-360	100	H
4	* ** 9.41438	35.89	Pk	36.6	-25.2	47.29	54	-6.71	74	-26.71	0-360	100	H
5	* ** 4.80897	49.55	PK2	34.1	-31.3	52.35	-	-	74	-21.65	162	107	V
	* ** 4.80711	35.87	ADV	34.1	-31.3	38.67	54	-15.33	-	-	162	107	V
7	* ** 8.25563	36.54	Pk	35.8	-26.5	45.84	54	-8.16	74	-28.16	0-360	200	V
8	* ** 9.34406	35.06	Pk	36.5	-24.2	47.36	54	-6.64	74	-26.64	0-360	200	V
6	7.21031	41.09	Pk	35.6	-27.9	48.79	-	-	-	-	0-360	200	V
2	7.21313	40.19	Pk	35.6	-27.9	47.89	-	-	-	-	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 17 RESULTS

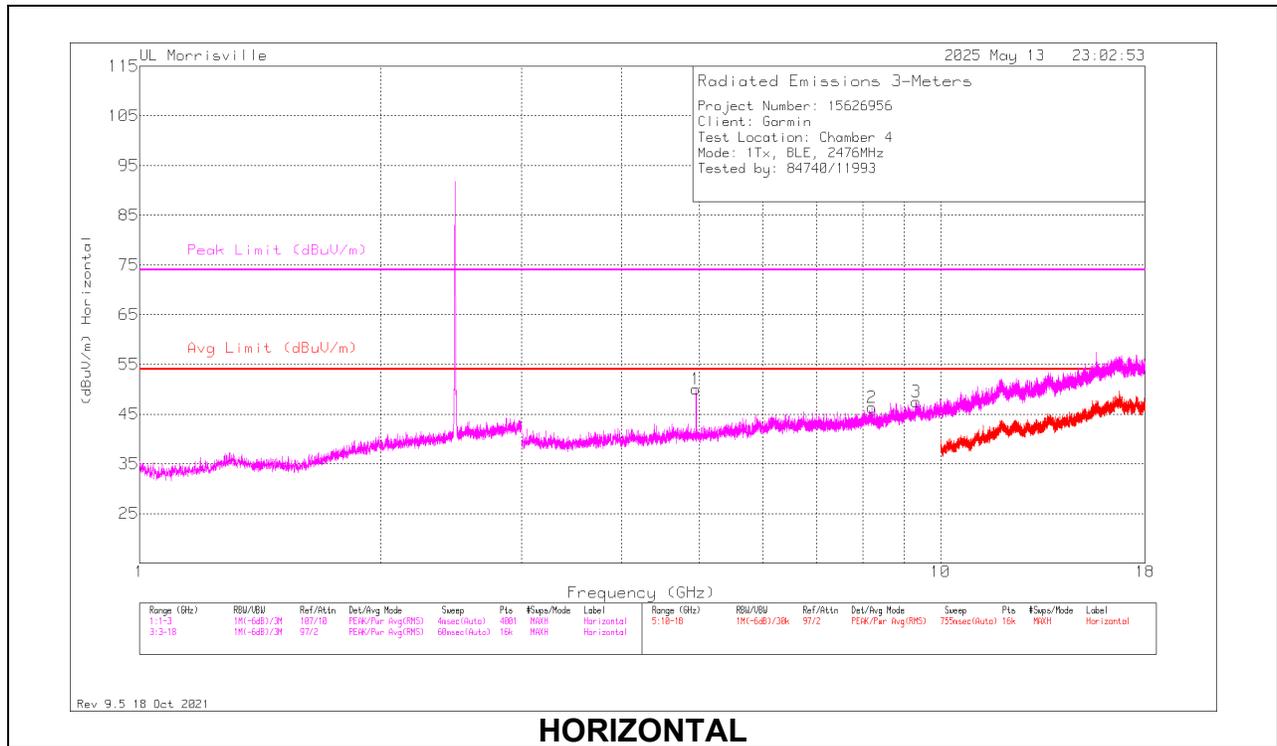


RADIATED EMISSIONS

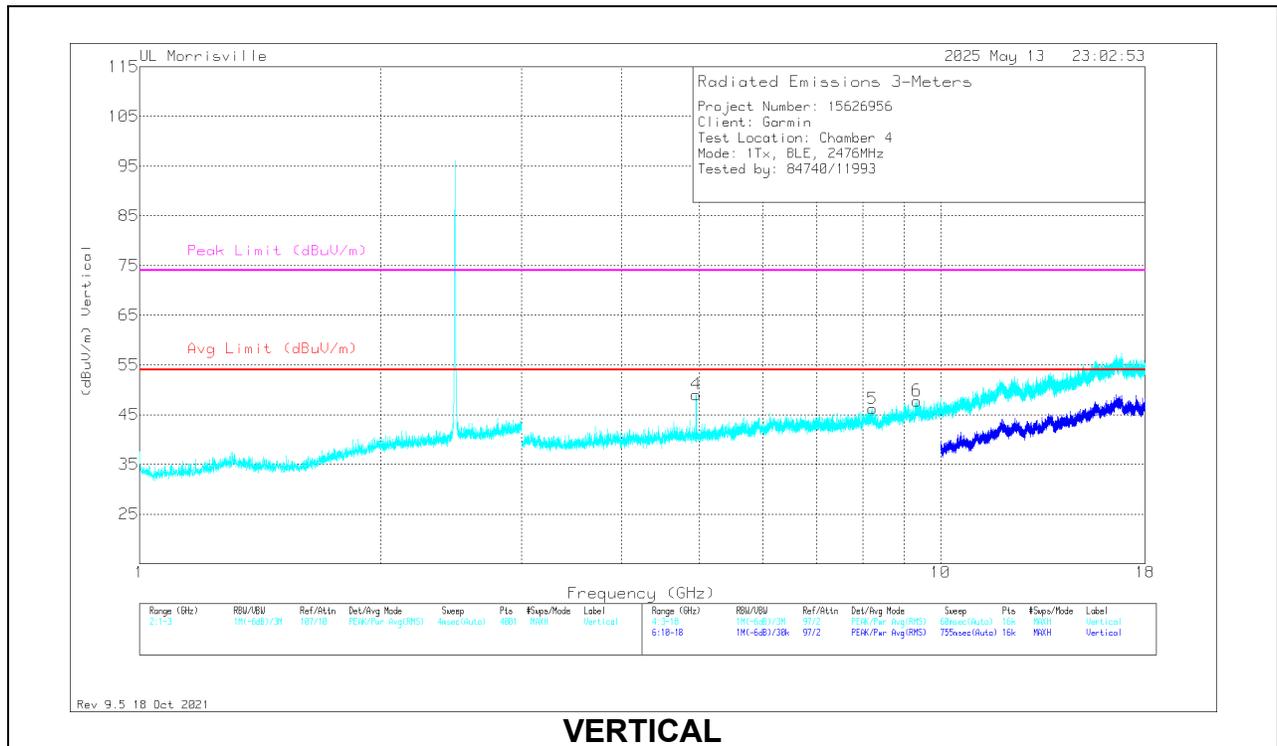
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.87903	50.04	PK2	34	-31	53.04	-	-	74	-20.96	22	110	H
	* ** 4.88092	36.21	ADV	34	-31	39.21	54	-14.79	-	-	22	110	H
2	* ** 7.31906	39.38	Pk	35.6	-27.7	47.28	54	-6.72	74	-26.72	0-360	100	H
3	* ** 8.20219	36.99	Pk	35.8	-26.5	46.29	54	-7.71	74	-27.71	0-360	100	H
4	* ** 9.36281	35.75	Pk	36.5	-24.5	47.75	54	-6.25	74	-26.25	0-360	100	H
5	* ** 4.88096	49.33	PK2	34	-31	52.33	-	-	74	-21.67	189	145	V
	* ** 4.8789	35.93	ADV	34	-31	38.93	54	-15.07	-	-	189	145	V
6	* ** 7.31813	39	Pk	35.6	-27.7	46.9	54	-7.1	74	-27.1	0-360	200	V
7	* ** 8.17781	36.88	Pk	35.8	-26.4	46.28	54	-7.72	74	-27.72	0-360	200	V
8	* ** 9.39375	35.55	Pk	36.6	-24.7	47.45	54	-6.55	74	-26.55	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 35 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

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	*** 4.95092	50.53	PK2	33.9	-31	53.43	-	-	74	-20.57	87	127	H
	*** 4.95107	37.94	ADV	33.9	-31	40.84	54	-13.16	-	-	87	127	H
2	*** 8.20406	36.91	Pk	35.8	-26.4	46.31	54	-7.69	74	-27.69	0-360	100	H
3	*** 9.32531	35.37	Pk	36.5	-24.4	47.47	54	-6.53	74	-26.53	0-360	100	H
4	*** 4.95299	48.45	PK2	33.9	-31	51.35	-	-	74	-22.65	158	329	V
	*** 4.9529	35.84	ADV	33.9	-31	38.74	54	-15.26	-	-	158	329	V
5	*** 8.22188	36.67	Pk	35.8	-26.3	46.17	54	-7.83	74	-27.83	0-360	200	V
6	*** 9.33938	35.47	Pk	36.5	-24.2	47.77	54	-6.23	74	-26.23	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

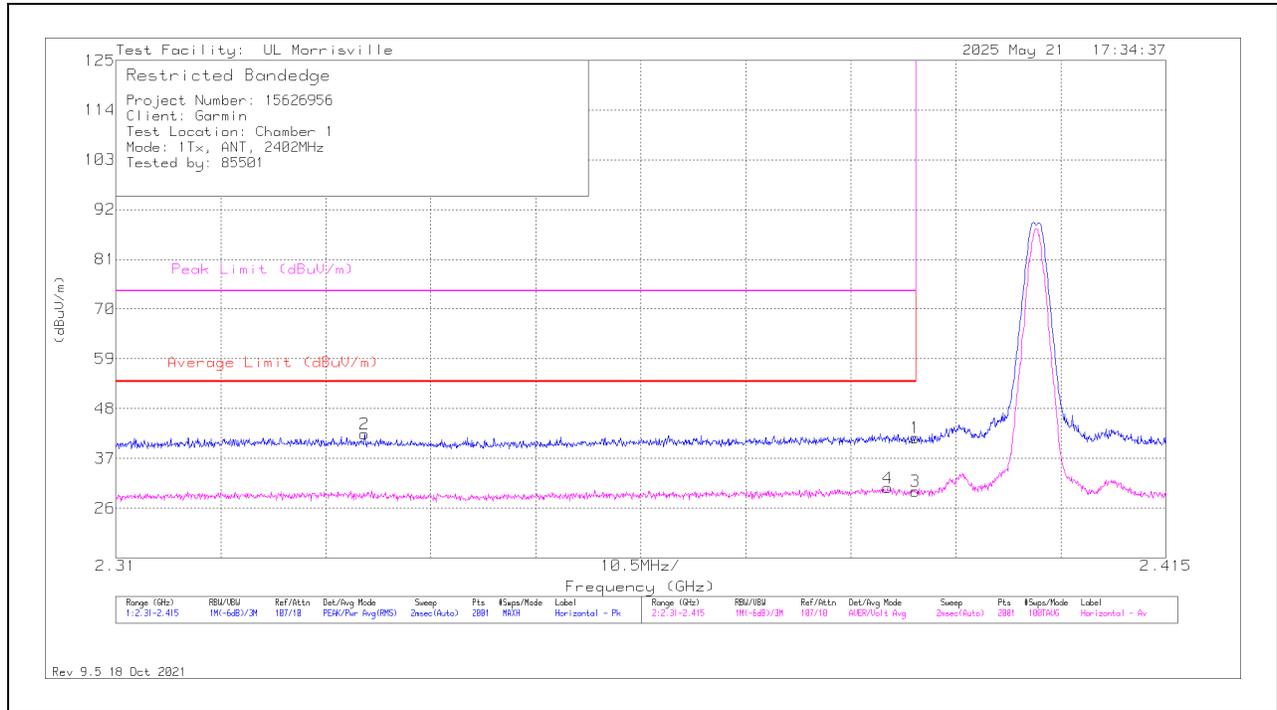
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.1.6. ANT

BANDEDGE (2402 MHz)

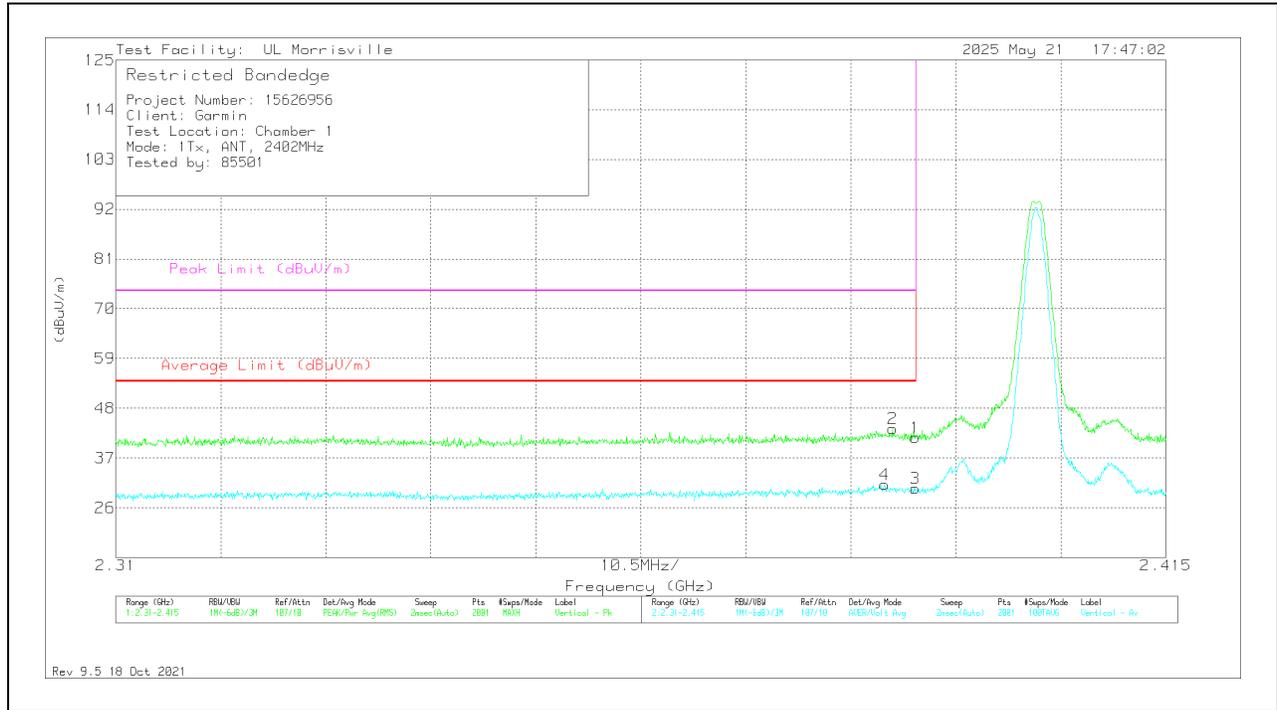
HORIZONTAL RESULT



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	222	137	H
2	*** 2.33489	34.8	Pk	31.8	-24.2	42.4	-	-	74	-31.6	222	137	H
3	*** 2.38996	21.88	ADV	31.9	-24	29.78	54	-24.22	-	-	222	137	H
4	*** 2.38718	22.48	ADV	31.9	-23.9	30.48	54	-23.52	-	-	222	137	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

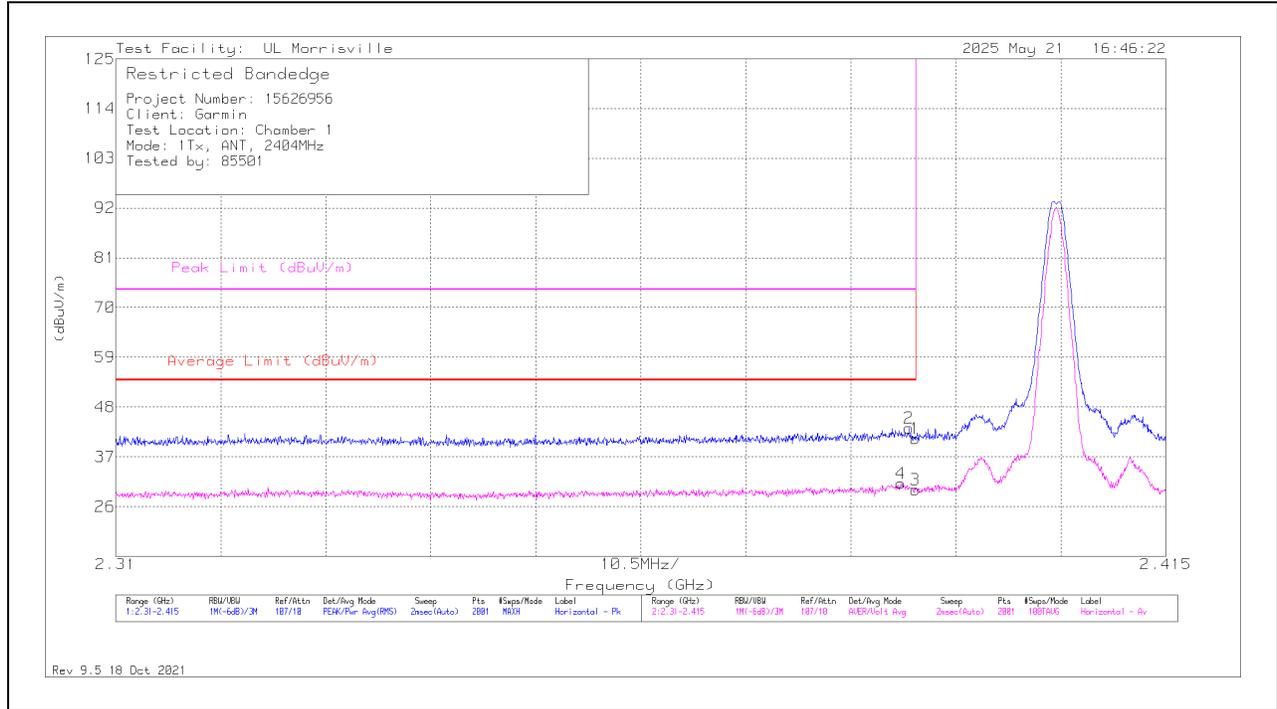


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.61	Pk	31.9	-24	41.51	-	-	74	-32.49	341	105	V
2	*** 2.3877	35.44	Pk	31.9	-23.9	43.44	-	-	74	-30.56	341	105	V
3	*** 2.38996	22.4	ADV	31.9	-24	30.3	54	-23.7	-	-	341	105	V
4	*** 2.38686	23.16	ADV	31.9	-23.9	31.16	54	-22.84	-	-	341	105	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 (2404 MHz)

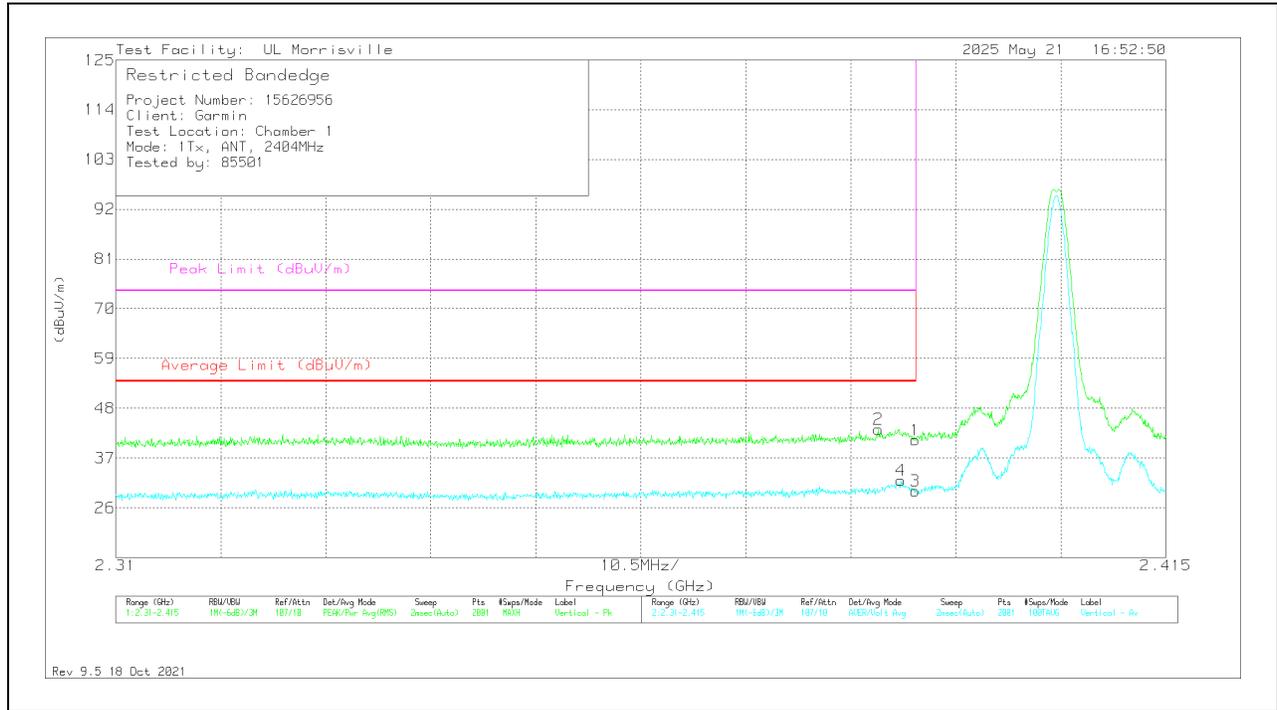
HORIZONTAL RESULT



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	33.15	Pk	31.9	-24	41.05	-	-	74	-32.95	276	116	H
2	* ** 2.38933	35.51	Pk	31.9	-24	43.41	-	-	74	-30.59	276	116	H
3	* ** 2.38996	21.79	ADV	31.9	-24	29.69	54	-24.31	-	-	276	116	H
4	* ** 2.38849	23.26	ADV	31.9	-24	31.16	54	-22.84	-	-	276	116	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

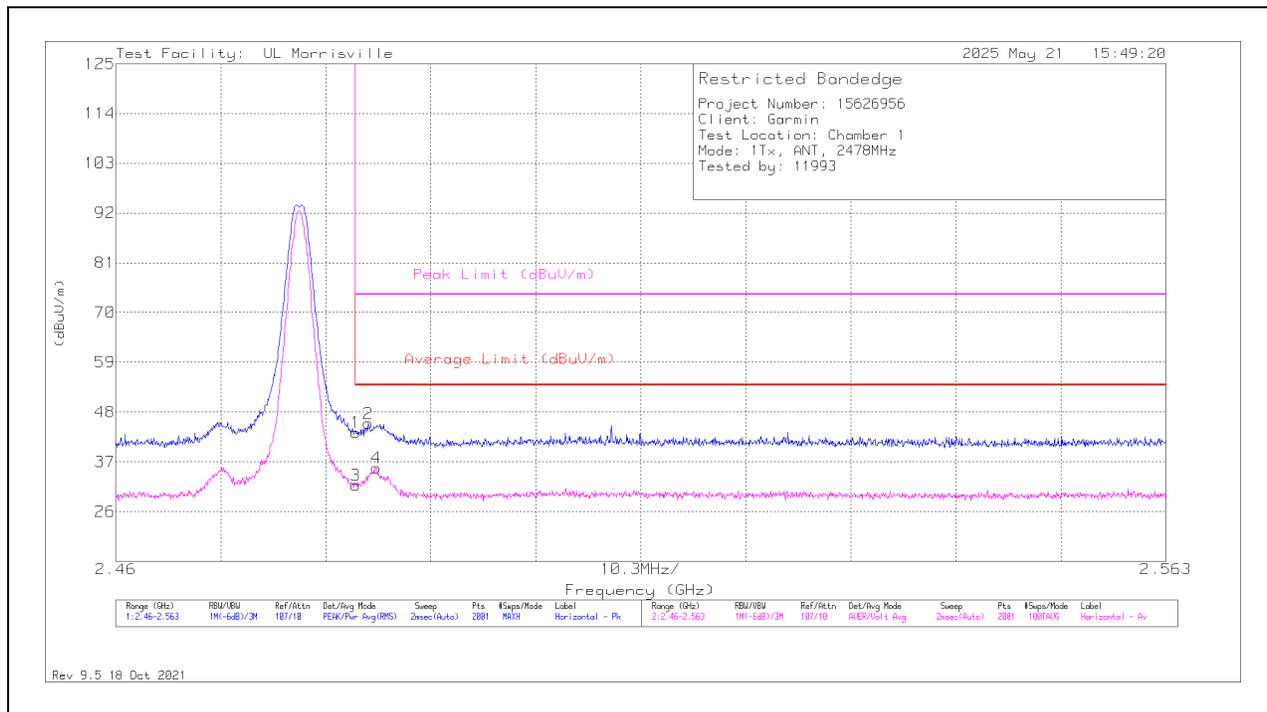


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	33.06	Pk	31.9	-24	40.96	-	-	74	-33.04	343	119	V
2	*** 2.38623	35.34	Pk	31.9	-23.9	43.34	-	-	74	-30.66	343	119	V
3	*** 2.38996	21.83	ADV	31.9	-24	29.73	54	-24.27	-	-	343	119	V
4	*** 2.38849	24.15	ADV	31.9	-24	32.05	54	-21.95	-	-	343	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 (2478 MHz)

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	34.94	Pk	32.2	-23.7	43.44	-	-	74	-30.56	246	317	H
2	* ** 2.48477	37.09	Pk	32.2	-23.8	45.49	-	-	74	-28.51	246	317	H
3	* ** 2.48354	23.24	ADV	32.2	-23.7	31.74	54	-22.26	-	-	246	317	H
4	* ** 2.48554	27.37	ADV	32.2	-23.9	35.67	54	-18.33	-	-	246	317	H

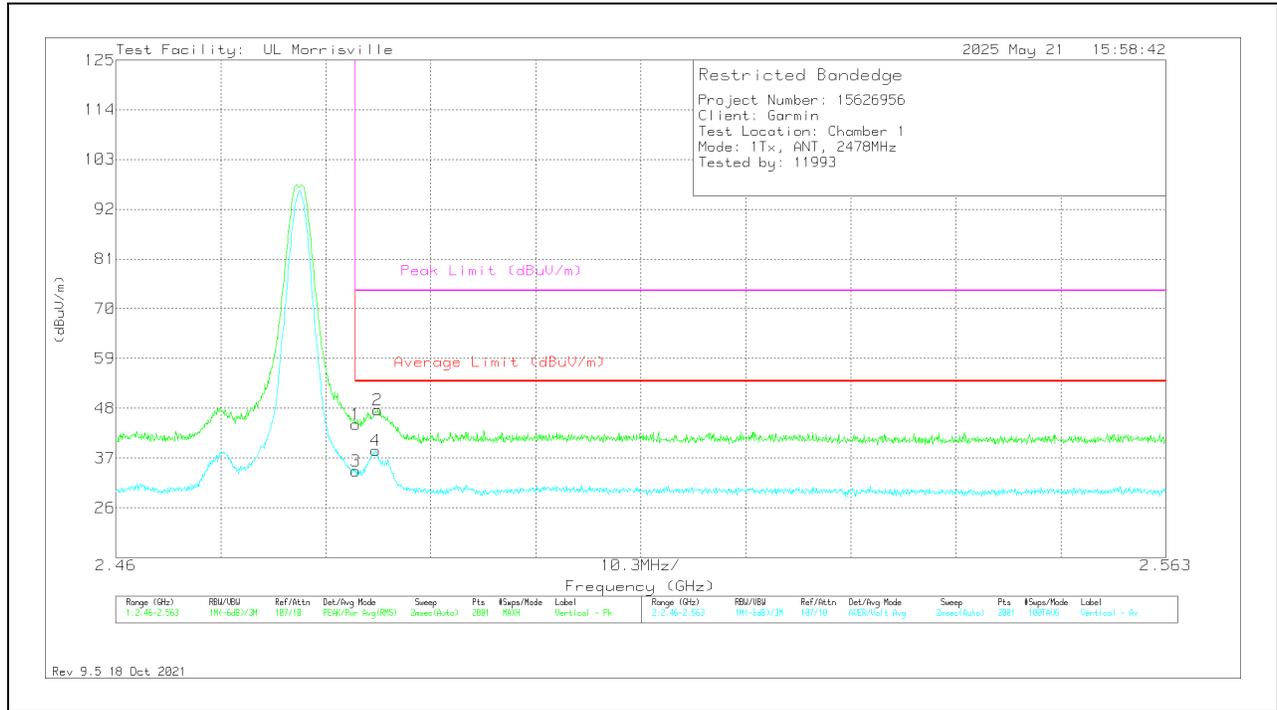
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

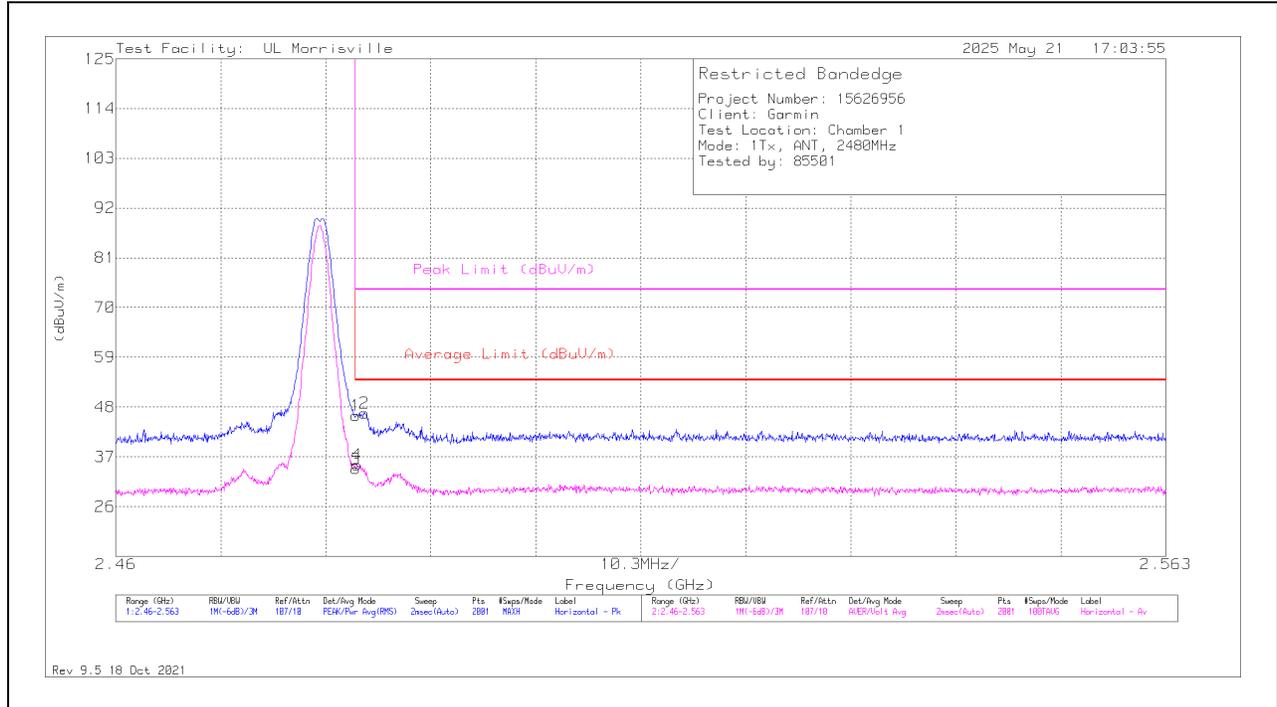


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	35.92	Pk	32.2	-23.7	44.42	-	-	74	-29.58	145	260	V
2	* ** 2.4857	39.36	Pk	32.2	-23.9	47.66	-	-	74	-26.34	145	260	V
3	* ** 2.48354	25.58	ADV	32.2	-23.7	34.08	54	-19.92	-	-	145	260	V
4	* ** 2.48549	30.42	ADV	32.2	-23.9	38.72	54	-15.28	-	-	145	260	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 (2480 MHz)

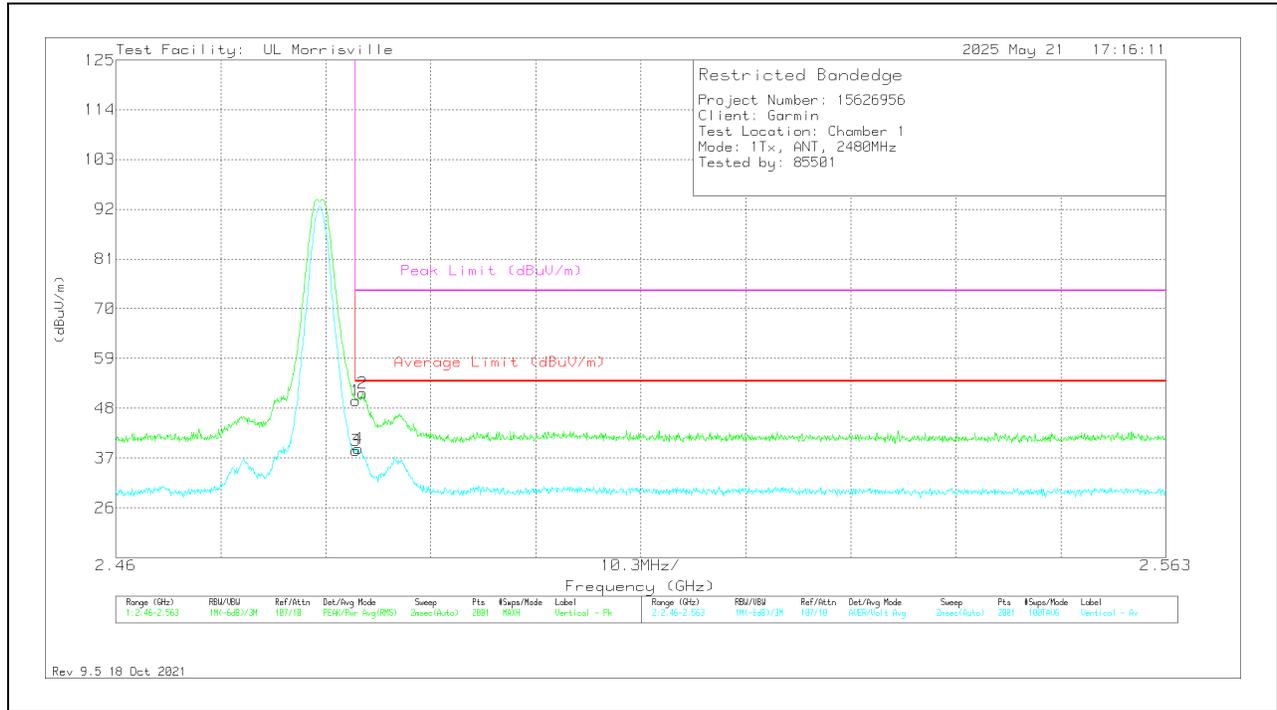
HORIZONTAL RESULT



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	37.56	Pk	32.2	-23.7	46.06	-	-	74	-27.94	245	132	H
2	* ** 2.48441	38.28	Pk	32.2	-23.8	46.68	-	-	74	-27.32	245	132	H
3	* ** 2.48354	25.83	ADV	32.2	-23.7	34.33	54	-19.67	-	-	245	132	H
4	* ** 2.48364	26.76	ADV	32.2	-23.7	35.26	54	-18.74	-	-	245	132	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

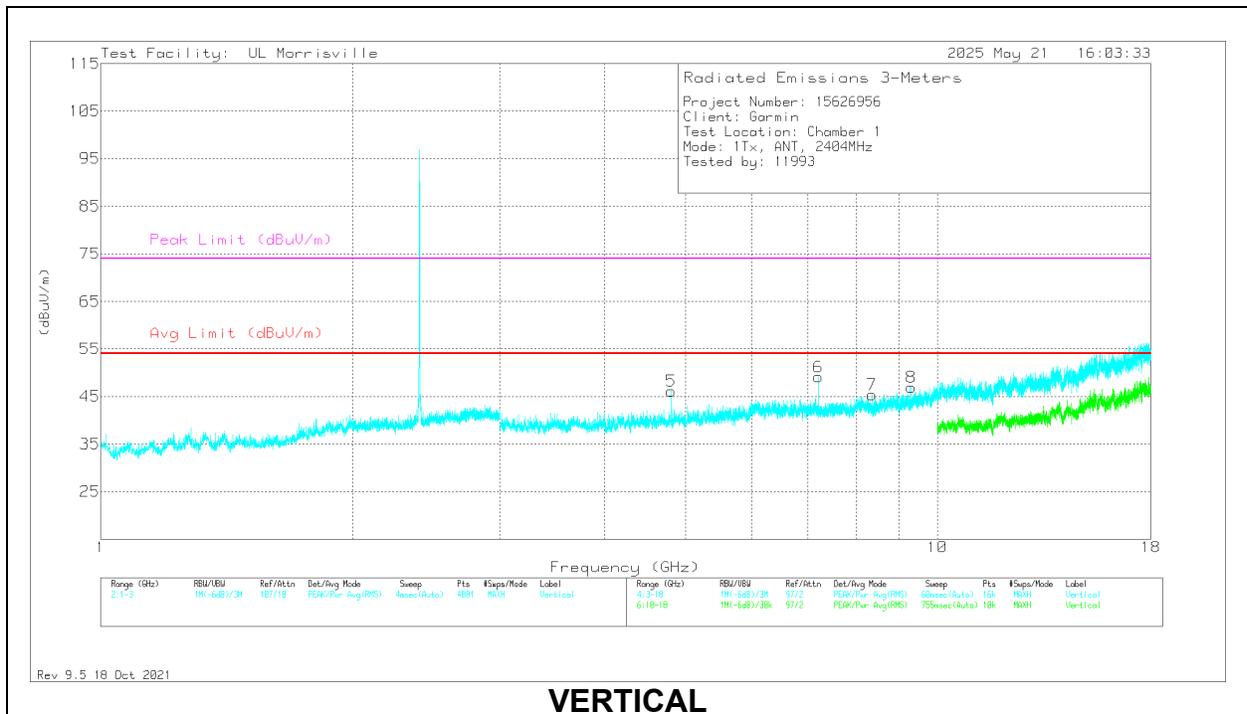
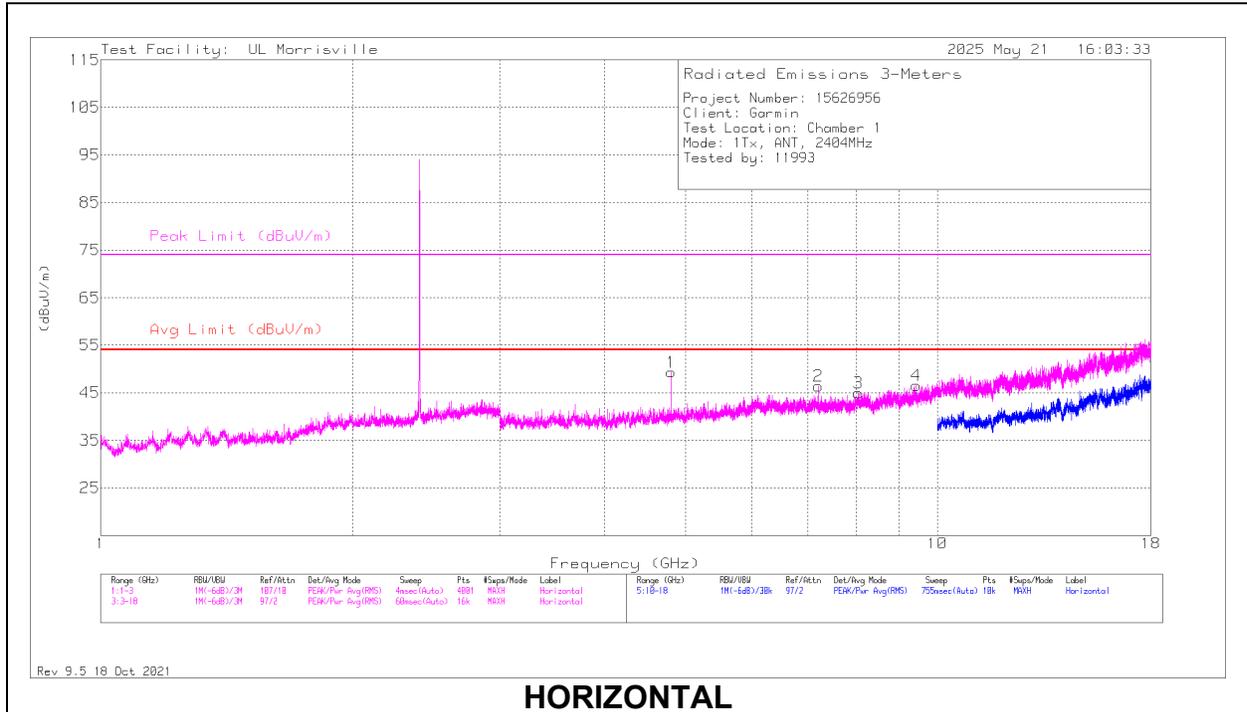


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	41.2	Pk	32.2	-23.7	49.7	-	-	74	-24.3	342	127	V
2	* ** 2.48421	42.99	Pk	32.2	-23.8	51.39	-	-	74	-22.61	342	127	V
3	* ** 2.48354	30.2	ADV	32.2	-23.7	38.7	54	-15.3	-	-	342	127	V
4	* ** 2.48379	30.61	ADV	32.2	-23.7	39.11	54	-14.89	-	-	342	127	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

2404 MHz RESULTS

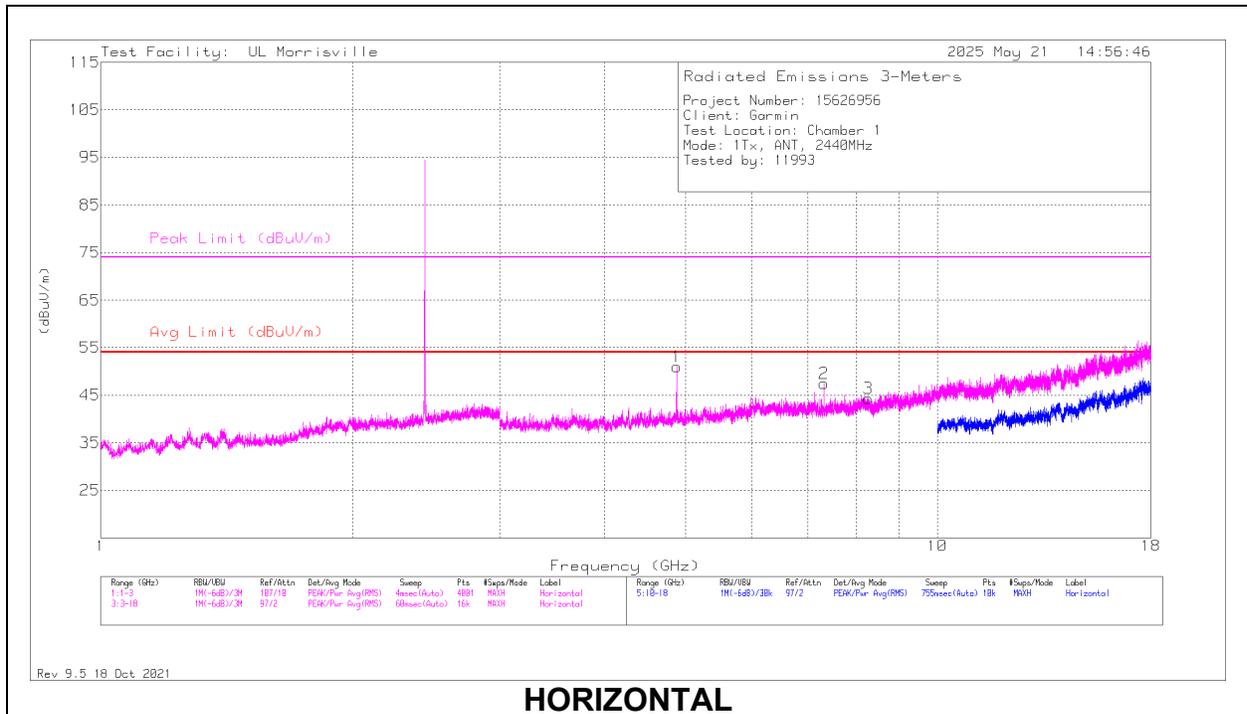


RADIATED EMISSIONS

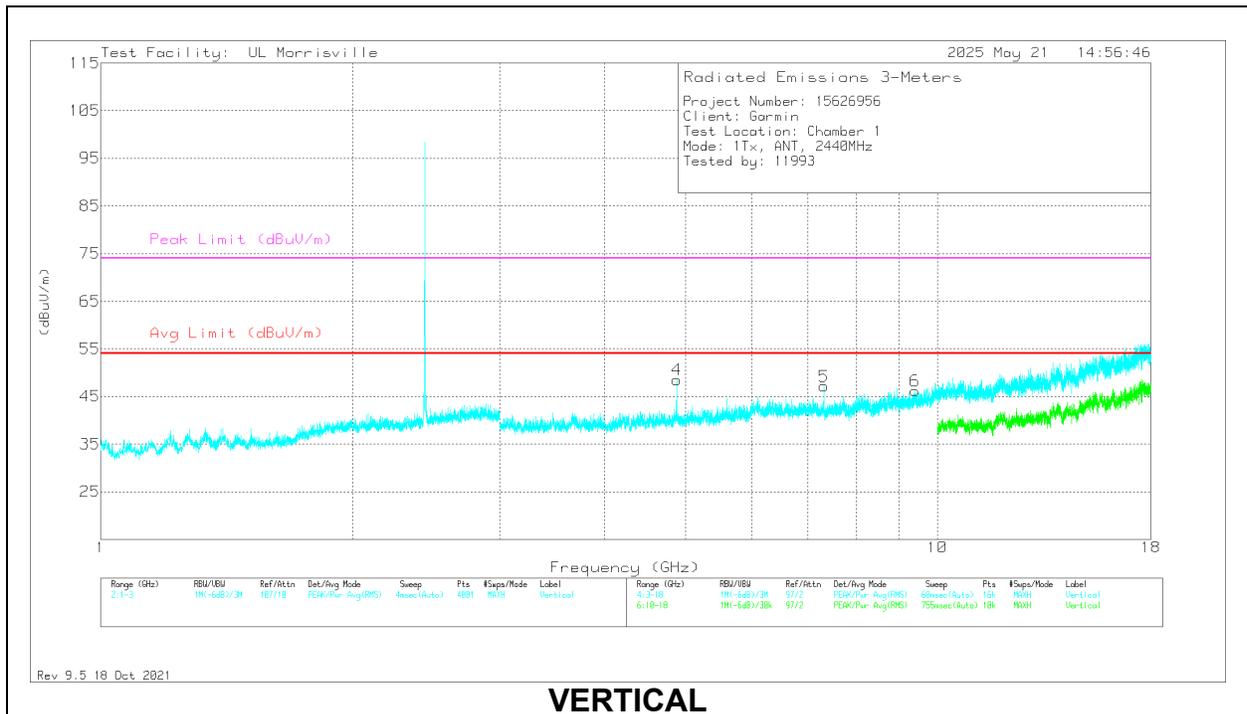
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4.80748	63.76	PK2	33.9	-45.7	51.96	-	-	74	-22.04	35	115	H
	*** 4.80852	51.37	ADV	33.9	-45.7	39.57	54	-14.43	-	-	35	115	H
3	*** 8.05125	49.77	Pk	35.9	-40.7	44.97	54	-9.03	74	-29.03	0-360	199	H
4	*** 9.43875	50.55	Pk	36.3	-40.3	46.55	54	-7.45	74	-27.45	0-360	101	H
5	*** 4.8075	57.94	Pk	33.9	-45.7	46.14	54	-7.86	74	-27.86	0-360	101	V
7	*** 8.35313	50.52	Pk	35.8	-41	45.32	54	-8.68	74	-28.68	0-360	101	V
8	*** 9.30375	51.01	Pk	36.1	-40.2	46.91	54	-7.09	74	-27.09	0-360	200	V
2	7.21125	53.54	Pk	35.4	-42.5	46.44	-	-	-	-	0-360	199	H
6	7.21125	56.2	Pk	35.4	-42.5	49.1	-	-	-	-	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

2440 MHz RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	* ** 4.8795	63.53	PK2	34	-44.7	52.83	-	-	74	-21.17	240	126	H
	* ** 4.87954	51.3	ADV	34	-44.7	40.6	54	-13.4	-	-	240	126	H
2	* ** 7.31906	53.69	Pk	35.4	-41.6	47.49	54	-6.51	74	-26.51	0-360	200	H
3	* ** 8.26594	48.96	Pk	35.9	-40.5	44.36	54	-9.64	74	-29.64	0-360	200	H
4	* ** 4.8805	61.95	PK2	34	-44.7	51.25	-	-	74	-22.75	126	133	V
	* ** 4.88055	49.86	ADV	34	-44.7	39.16	54	-14.84	-	-	126	133	V
5	* ** 7.32094	53.53	Pk	35.4	-41.8	47.13	54	-6.87	74	-26.87	0-360	200	V
6	* ** 9.40313	50.71	Pk	36.3	-40.8	46.21	54	-7.79	74	-27.79	0-360	200	V

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

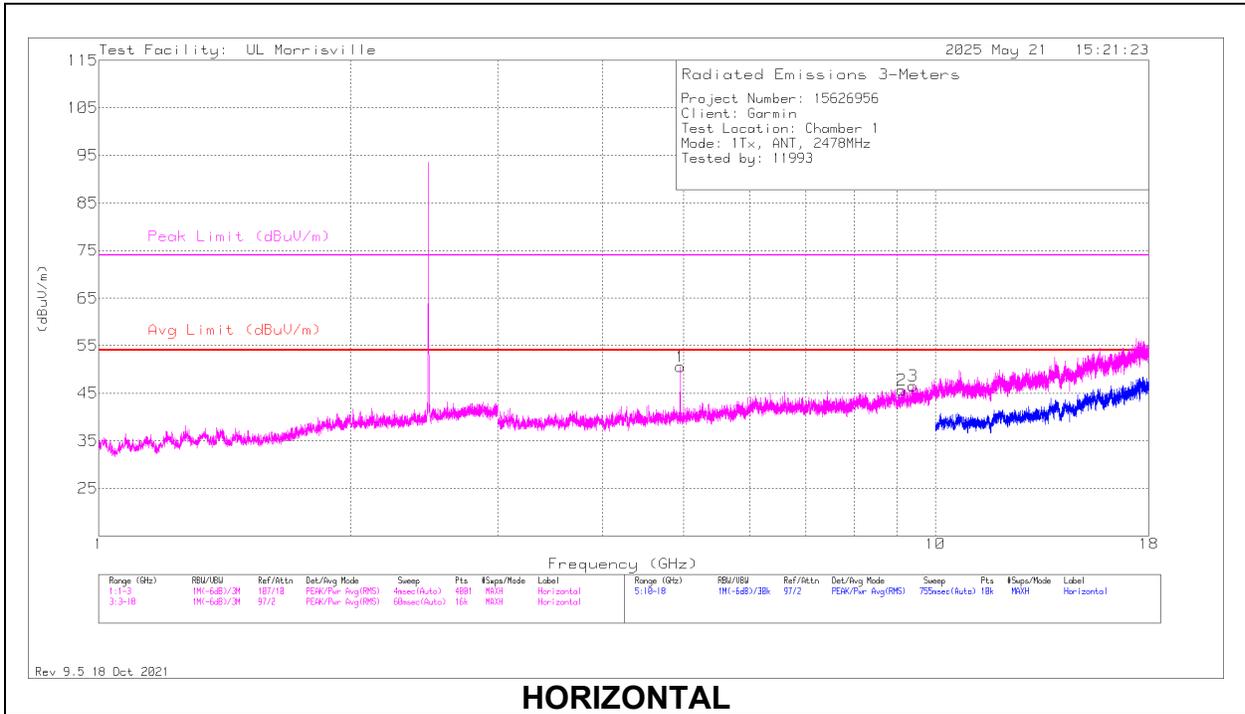
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

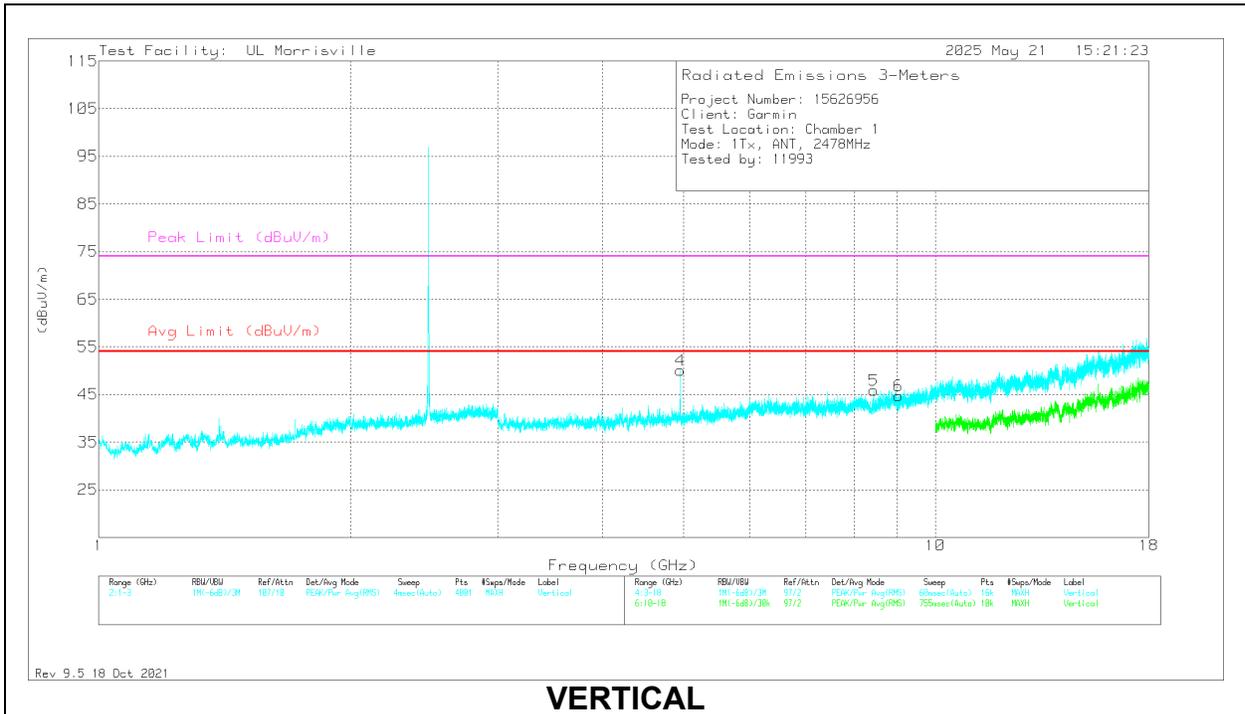
PK2 - Maximum Peak

ADV - Linear Voltage Average

2478 MHz RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	* ** 4.95647	64.02	PK2	34.2	-44.8	53.42	-	-	74	-20.58	159	197	H
	* ** 4.95648	52.64	ADV	34.2	-44.8	42.04	54	-11.96	-	-	159	197	H
2	* ** 9.11719	49.91	Pk	35.9	-40.2	45.61	54	-8.39	74	-28.39	0-360	200	H
3	* ** 9.40969	50.63	Pk	36.3	-40.4	46.53	54	-7.47	74	-27.47	0-360	200	H
4	* ** 4.95542	62.92	PK2	34.2	-44.8	52.32	-	-	74	-21.68	131	121	V
	* ** 4.95632	51.97	ADV	34.2	-44.8	41.37	54	-12.63	-	-	131	121	V
5	* ** 8.43563	50.13	Pk	35.8	-40.1	45.83	54	-8.17	74	-28.17	0-360	101	V
6	* ** 9.03469	48.44	Pk	35.8	-39.5	44.74	54	-9.26	74	-29.26	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

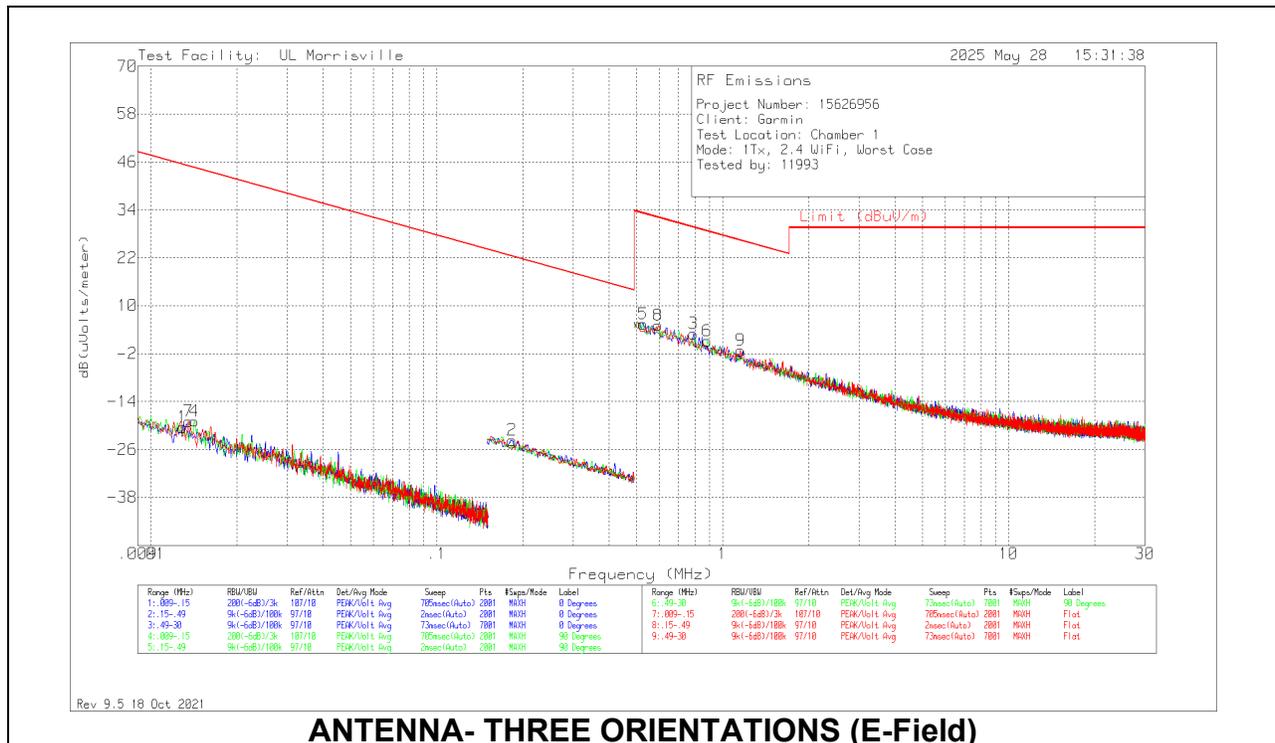
ADV - Linear Voltage Average

10.2. WORST CASE 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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.

10.2.1. 2.4 WLAN

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



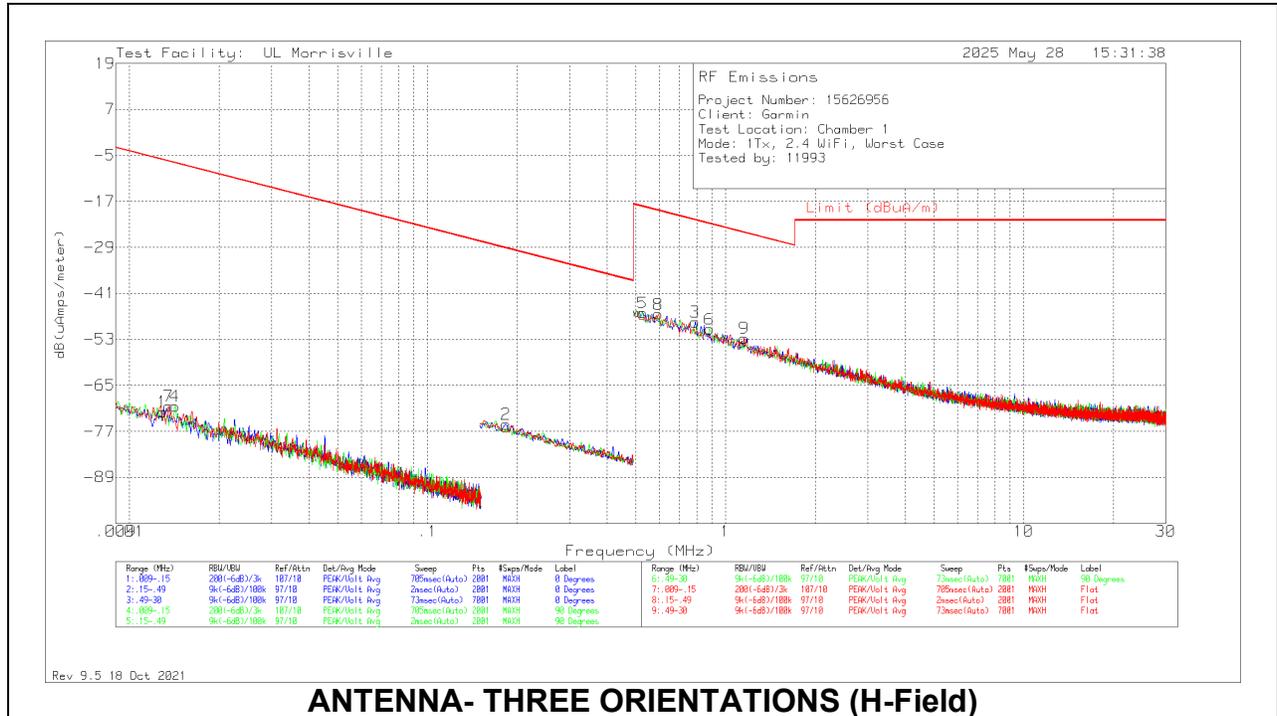
ANTENNA- THREE ORIENTATIONS (E-Field)

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (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	42.02	Pk	17.5	.1	-80	-20.38	45.39	65.39	-65.77	0-360	0 degs
7	.01354	43.7	Pk	17.2	.1	-80	-19	44.97	64.97	-63.97	0-360	Flat
4	.01418	44.1	Pk	16.9	.1	-80	-18.9	44.57	64.57	-63.47	0-360	90 degs
2	.18307	45.23	Pk	11	.1	-80	-23.67	22.35	42.35	-46.02	0-360	0 degs
5	.52584	34.26	Pk	11	.1	-40	5.36	33.19	-	-27.83	0-360	90 degs
8	.5954	33.93	Pk	11	.1	-40	5.03	32.11	-	-27.08	0-360	Flat
3	.78934	31.85	Pk	11	.1	-40	2.95	29.66	-	-26.71	0-360	0 degs
6	.88209	30.03	Pk	11	.1	-40	1.13	28.69	-	-27.56	0-360	90 degs
9	1.15613	27.53	Pk	11	.2	-40	-1.27	26.34	-	-27.61	0-360	Flat

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- THREE ORIENTATIONS (H-Field)

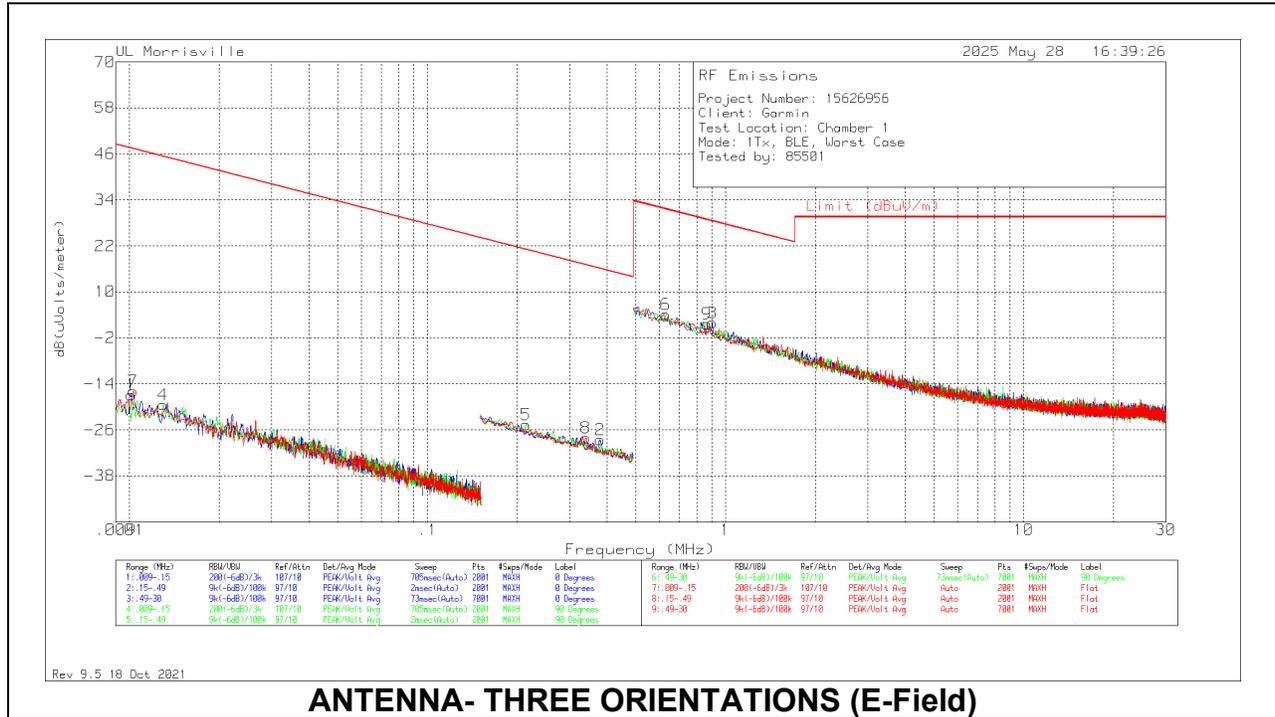
Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01291	42.02	Pk	-34	.1	-80	-71.88	-6.11	13.89	-65.77	0-360	0 degs
7	.01354	43.7	Pk	-34.3	.1	-80	-70.5	-6.53	13.47	-63.97	0-360	Flat
4	.01418	44.1	Pk	-34.6	.1	-80	-70.4	-6.93	13.07	-63.47	0-360	90 degs
2	.18307	45.23	Pk	-40.5	.1	-80	-75.17	-29.15	-9.15	-46.02	0-360	0 degs
5	.52584	34.26	Pk	-40.5	.1	-40	-46.14	-18.31	-	-27.83	0-360	90 degs
8	.5954	33.93	Pk	-40.5	.1	-40	-46.47	-19.39	-	-27.08	0-360	Flat
3	.78934	31.85	Pk	-40.5	.1	-40	-48.55	-21.84	-	-26.71	0-360	0 degs
6	.88209	30.03	Pk	-40.5	.1	-40	-50.37	-22.81	-	-27.56	0-360	90 degs
9	1.15613	27.53	Pk	-40.5	.2	-40	-52.77	-25.16	-	-27.61	0-360	Flat

Pk - Peak detector

10.2.2. BLE

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



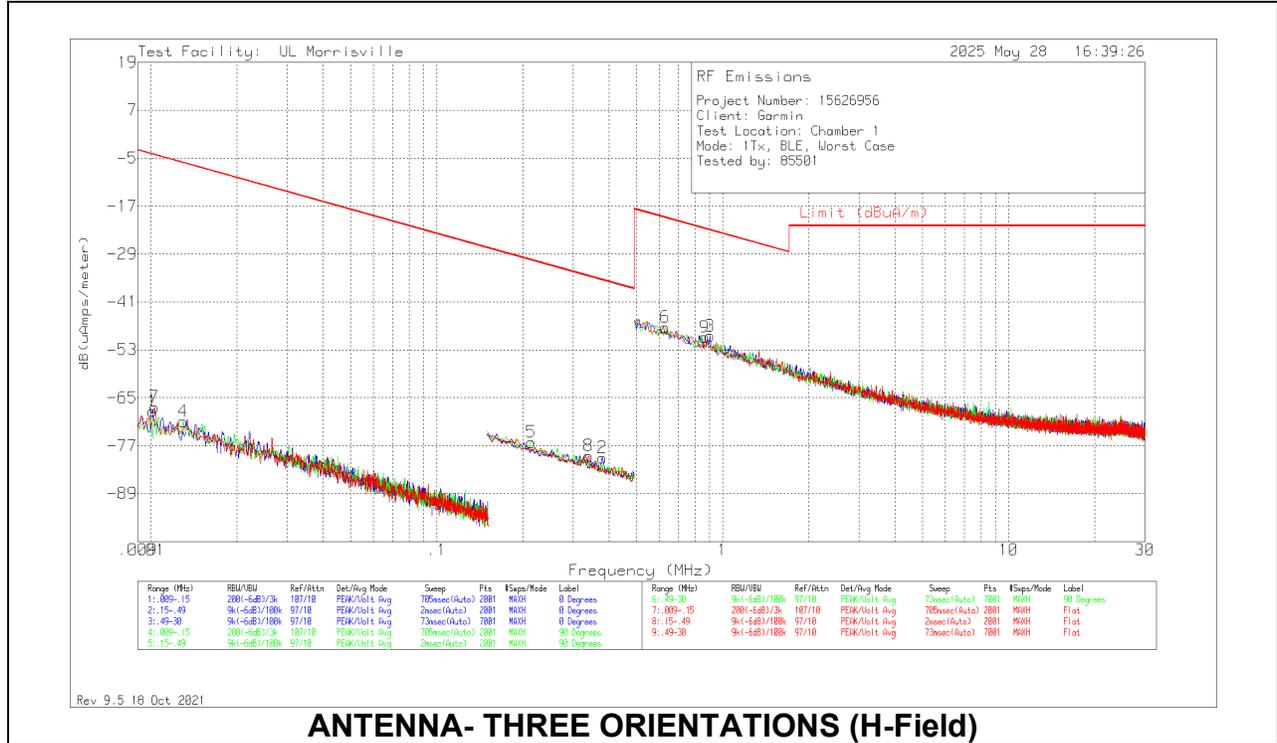
ANTENNA- THREE ORIENTATIONS (E-Field)

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (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	.01014	44.17	Pk	18.9	.1	-80	-16.83	47.49	67.49	-64.32	0-360	0 degs
7	.01028	45.18	Pk	18.8	.1	-80	-15.92	47.37	67.37	-63.29	0-360	Flat
4	.01298	43.01	Pk	17.5	.1	-80	-19.39	45.34	65.34	-64.73	0-360	90 degs
5	.21426	44.38	Pk	10.9	.1	-80	-24.62	20.99	40.99	-45.61	0-360	90 degs
8	.33989	40.94	Pk	10.9	.1	-80	-28.06	16.98	36.98	-45.04	0-360	Flat
2	.37891	40.29	Pk	11	.1	-80	-28.61	16.03	36.03	-44.64	0-360	0 degs
6	.62913	33.09	Pk	11	.1	-40	4.19	31.63	-	-27.44	0-360	90 degs
9	.86522	30.52	Pk	11	.1	-40	1.62	28.86	-	-27.24	0-360	Flat
3	.90317	30.84	Pk	11	.1	-40	1.94	28.49	-	-26.55	0-360	0 degs

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- THREE ORIENTATIONS (H-Field)

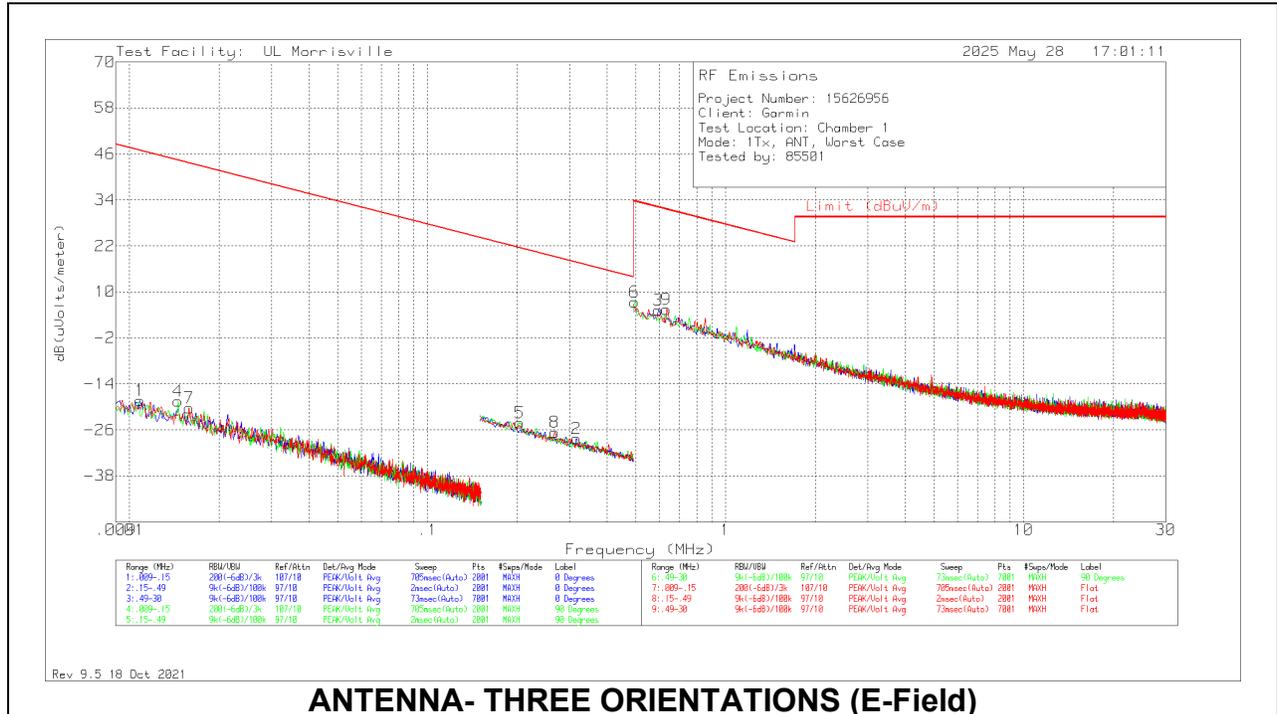
Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01014	44.17	Pk	-32.6	.1	-80	-68.33	-4.01	15.99	-64.32	0-360	0 degs
7	.01028	45.18	Pk	-32.7	.1	-80	-67.42	-4.13	15.87	-63.29	0-360	Flat
4	.01298	43.01	Pk	-34	.1	-80	-70.89	-6.16	13.84	-64.73	0-360	90 degs
5	.21426	44.38	Pk	-40.6	.1	-80	-76.12	-30.51	-10.51	-45.61	0-360	90 degs
8	.33989	40.94	Pk	-40.6	.1	-80	-79.56	-34.52	-14.52	-45.04	0-360	Flat
2	.37891	40.29	Pk	-40.5	.1	-80	-80.11	-35.47	-15.47	-44.64	0-360	0 degs
6	.62913	33.09	Pk	-40.5	.1	-40	-47.31	-19.87	-	-27.44	0-360	90 degs
9	.86522	30.52	Pk	-40.5	.1	-40	-49.88	-22.64	-	-27.24	0-360	Flat
3	.90317	30.84	Pk	-40.5	.1	-40	-49.56	-23.01	-	-26.55	0-360	0 degs

Pk - Peak detector

10.2.3. ANT

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



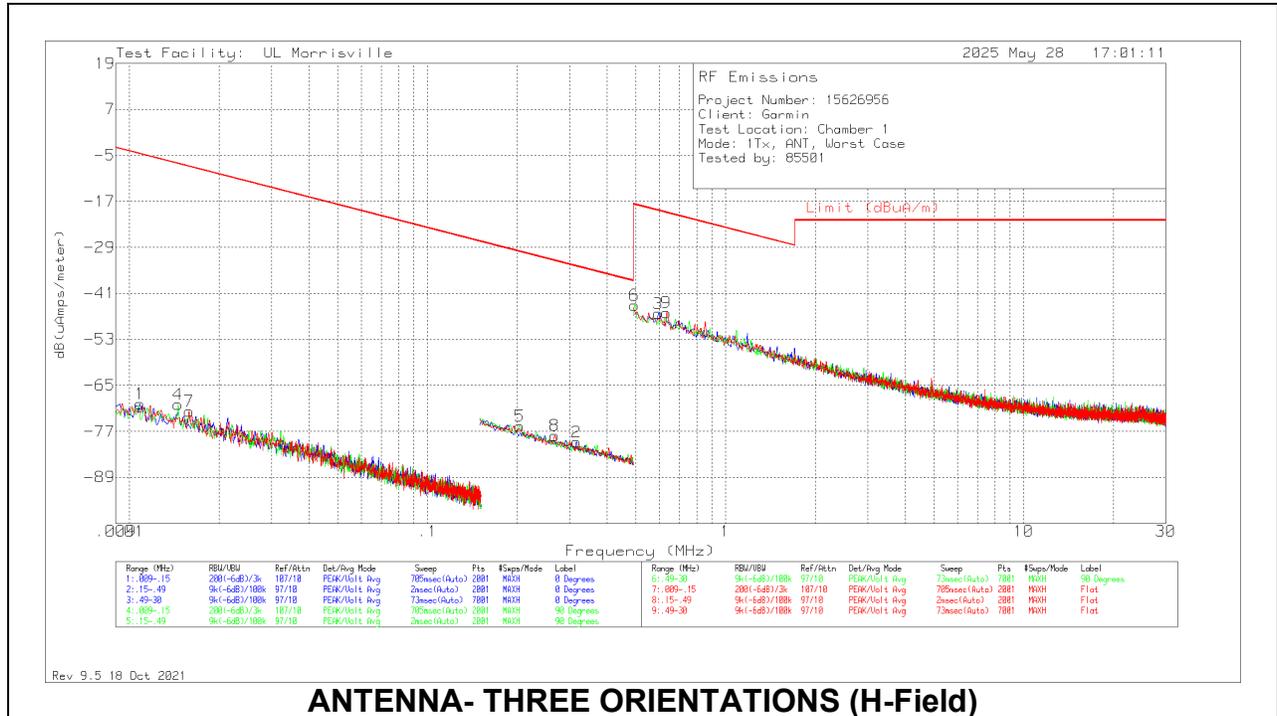
ANTENNA- THREE ORIENTATIONS (E-Field)

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	ANT (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	.01085	43.14	Pk	18.5	.1	-80	-18.26	46.9	66.9	-65.16	0-360	0 degs
4	.01454	44.7	Pk	16.7	.1	-80	-18.5	44.35	64.35	-62.85	0-360	90 degs
7	.01589	43.61	Pk	16	.1	-80	-20.29	43.58	63.58	-63.87	0-360	Flat
5	.20398	44.84	Pk	10.9	.1	-80	-24.16	21.41	41.41	-45.57	0-360	90 degs
8	.2673	42.36	Pk	10.9	.1	-80	-26.64	19.06	39.06	-45.7	0-360	Flat
2	.31643	40.69	Pk	10.9	.1	-80	-28.31	17.6	37.6	-45.91	0-360	0 degs
6	.49422	36.32	Pk	11	.1	-40	7.42	33.73	-	-26.31	0-360	90 degs
3	.5954	34.1	Pk	11	.1	-40	5.2	32.11	-	-26.91	0-360	0 degs
9	.63334	34.39	Pk	11	.1	-40	5.49	31.57	-	-26.08	0-360	Flat

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- THREE ORIENTATIONS (H-Field)

Below 30MHz Data

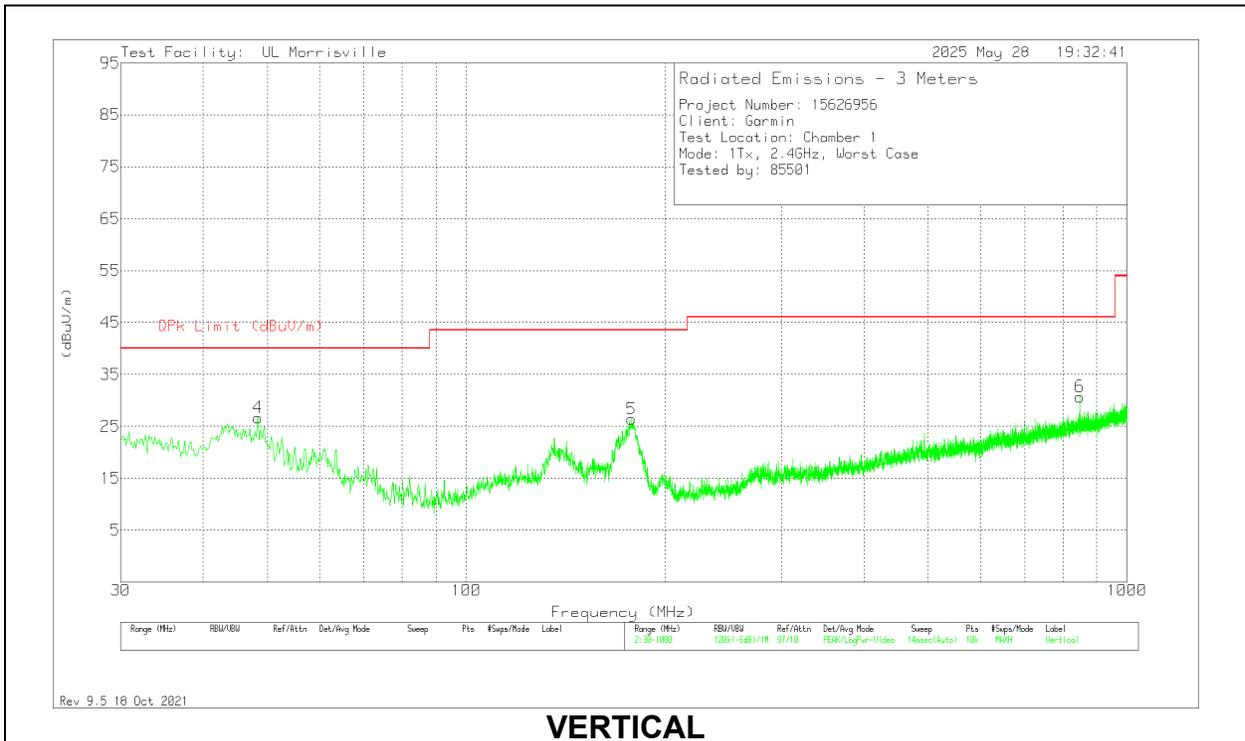
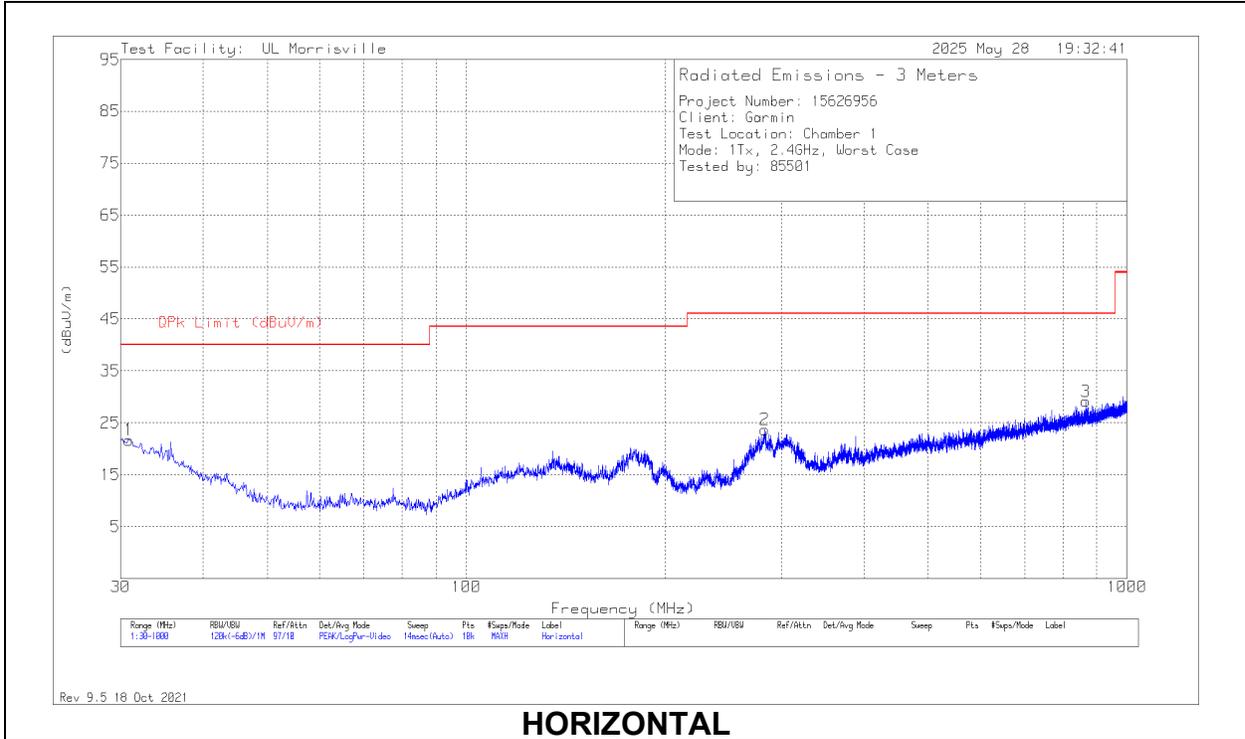
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01085	43.14	Pk	-33	.1	-80	-69.76	-4.6	15.4	-65.16	0-360	0 degs
4	.01454	44.7	Pk	-34.8	.1	-80	-70	-7.15	12.85	-62.85	0-360	90 degs
7	.01589	43.61	Pk	-35.5	.1	-80	-71.79	-7.92	12.08	-63.87	0-360	Flat
5	.20398	44.84	Pk	-40.6	.1	-80	-75.66	-30.09	-10.09	-45.57	0-360	90 degs
8	.2673	42.36	Pk	-40.6	.1	-80	-78.14	-32.44	-12.44	-45.7	0-360	Flat
2	.31643	40.69	Pk	-40.6	.1	-80	-79.81	-33.9	-13.9	-45.91	0-360	0 degs
6	.49422	36.32	Pk	-40.5	.1	-40	-44.08	-17.77	-	-26.31	0-360	90 degs
3	.5954	34.1	Pk	-40.5	.1	-40	-46.3	-19.39	-	-26.91	0-360	0 degs
9	.63334	34.39	Pk	-40.5	.1	-40	-46.01	-19.93	-	-26.08	0-360	Flat

Pk - Peak detector

10.3. WORST CASE BELOW 1 GHZ

10.3.1. 2.4 WLAN

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



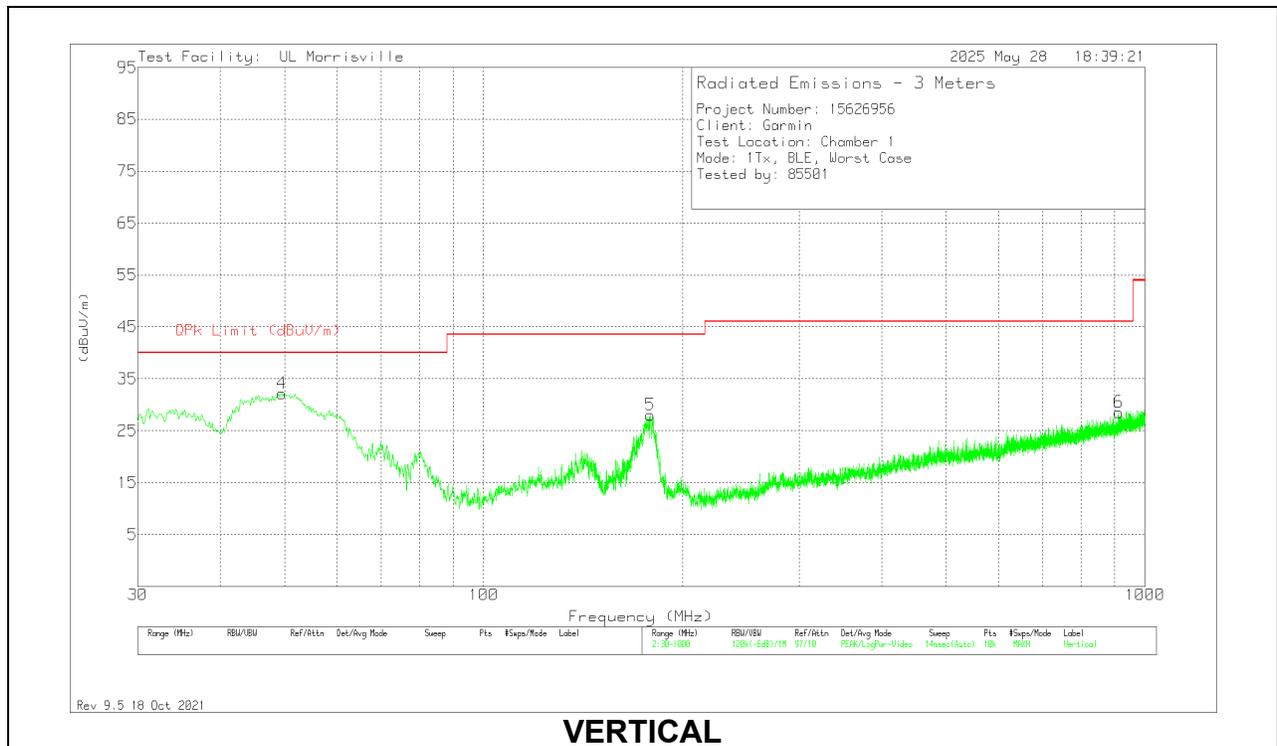
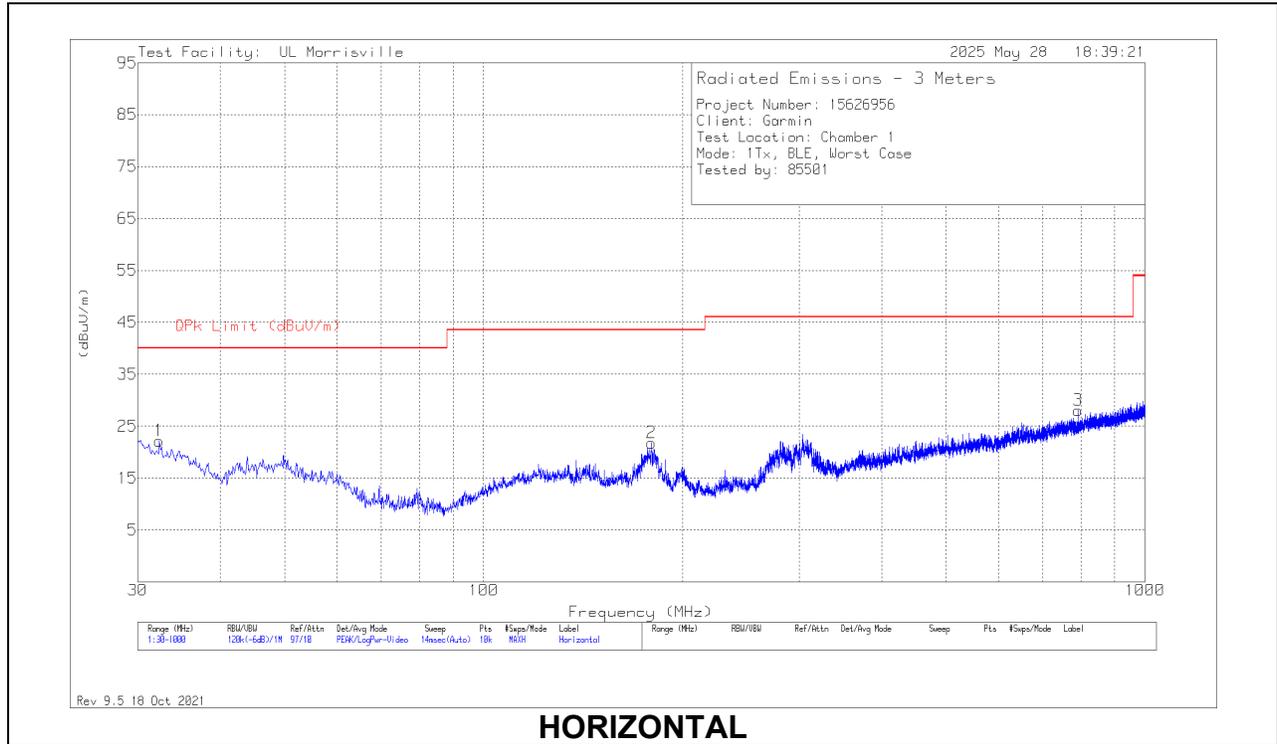
Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.873	27.29	Pk	26.2	-31.8	21.69	40	-18.31	0-360	200	H
4	48.3815	43.73	Pk	14.6	-31.7	26.63	40	-13.37	0-360	100	V
5	177.925	38.95	Pk	17.6	-30.2	26.35	43.52	-17.17	0-360	100	V
2	283.267	33.12	Pk	19.5	-29	23.62	46.02	-22.4	0-360	100	H
6	847.904	30	Pk	27.9	-27.2	30.7	46.02	-15.32	0-360	100	V
3	866.431	27.8	Pk	28.1	-26.8	29.1	46.02	-16.92	0-360	200	H

Pk - Peak detector

10.3.2. BLE

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



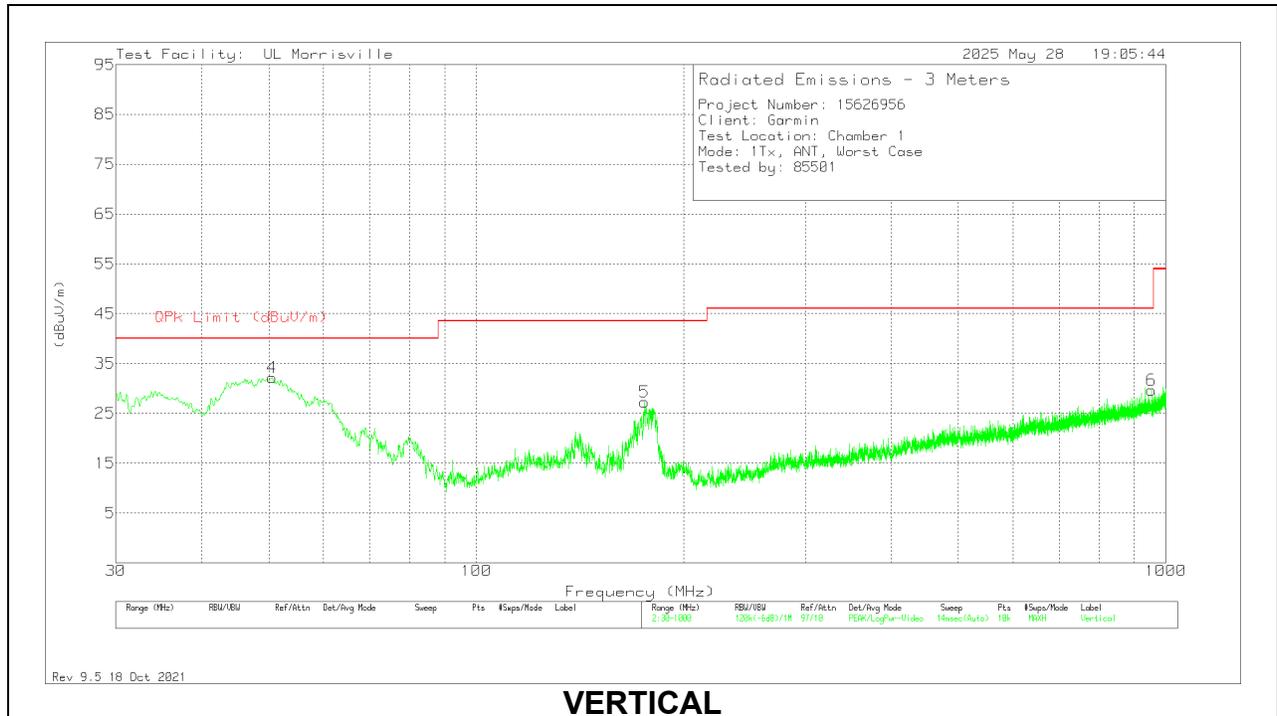
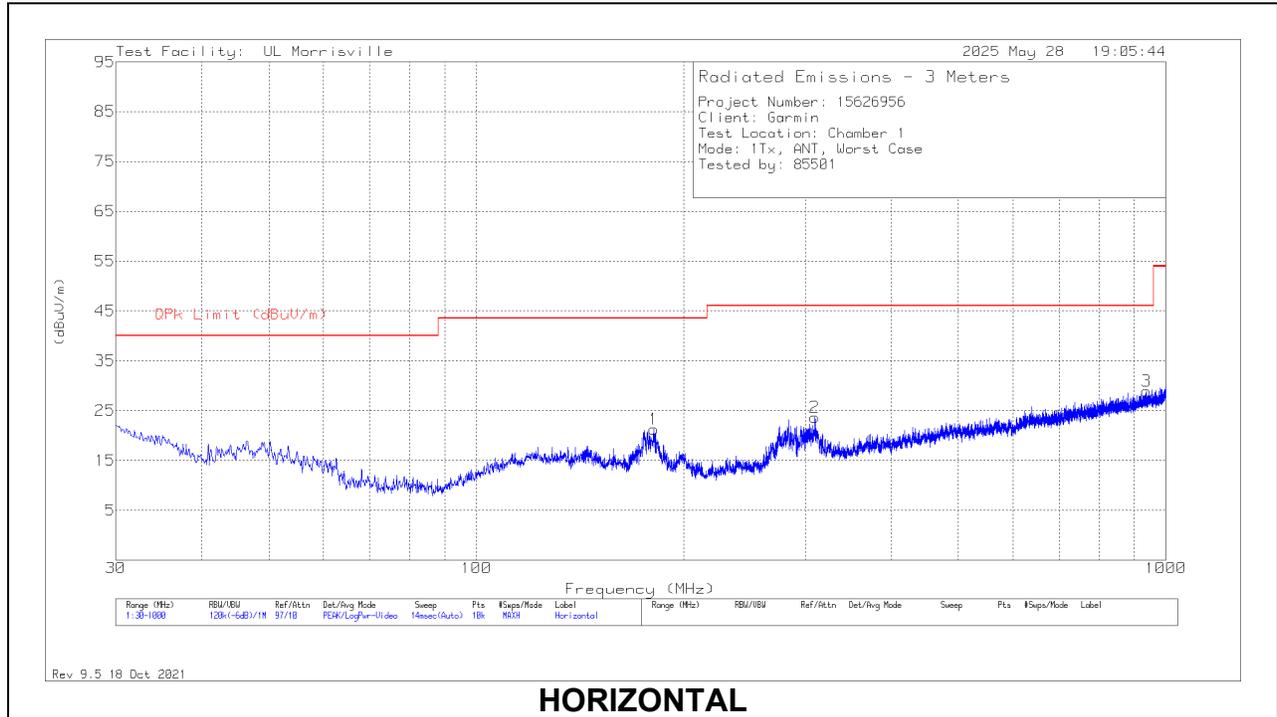
Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	32.328	28.93	Pk	25.2	-32	22.13	40	-17.87	0-360	299	H
4	49.497	49.27	Pk	14.2	-31.3	32.17	40	-7.83	0-360	100	V
5	178.701	40.83	Pk	17.6	-30.4	28.03	43.52	-15.49	0-360	100	V
2	179.283	34.86	Pk	17.6	-30.7	21.76	43.52	-21.76	0-360	199	H
3	791.353	28.39	Pk	27.4	-27.7	28.09	46.02	-17.93	0-360	299	H
6	911.73	26.7	Pk	28.4	-26.6	28.5	46.02	-17.52	0-360	100	V

Pk - Peak detector

10.3.3. ANT

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



Below 1GHz Data

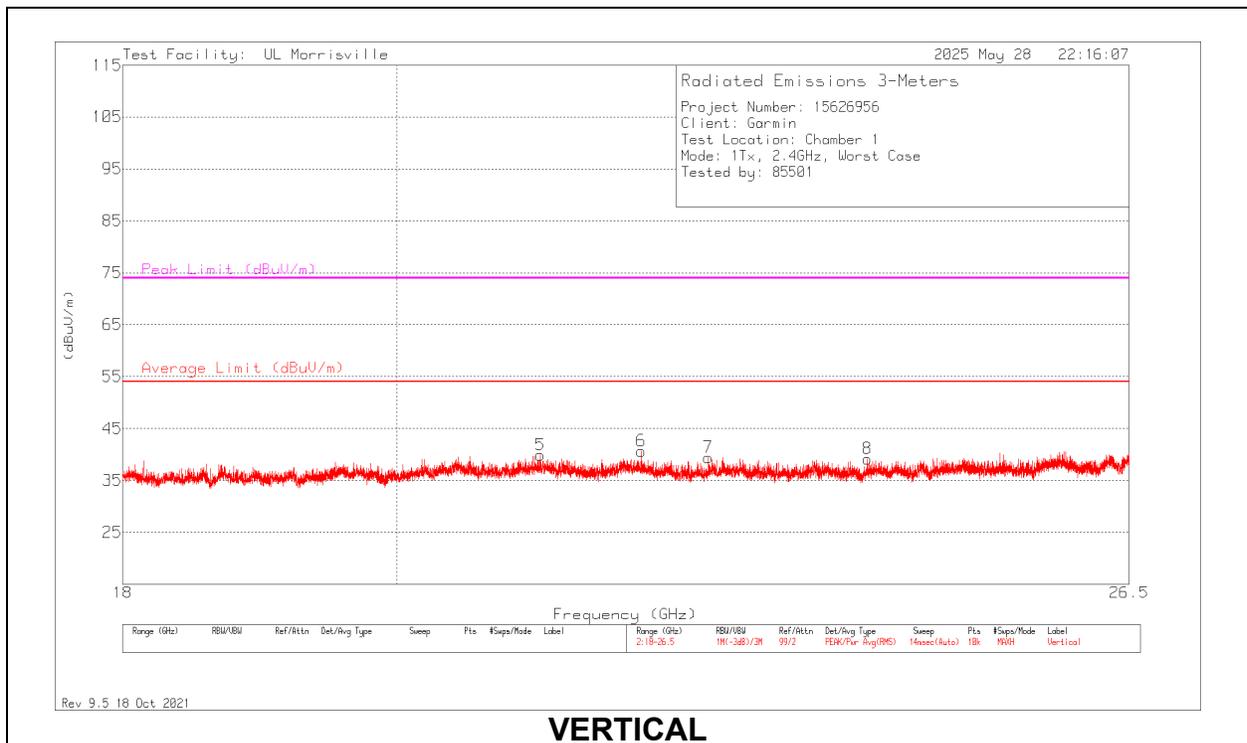
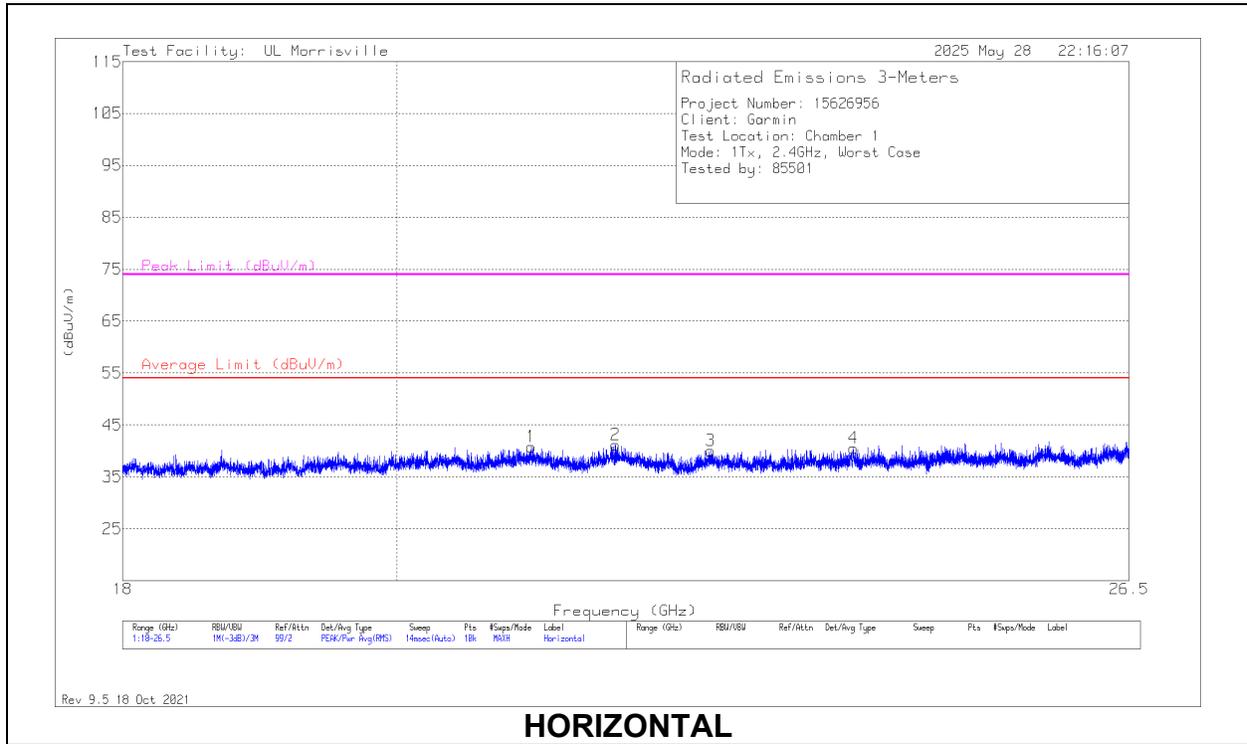
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	50.564	49.68	Pk	13.9	-31.4	32.18	40	-7.82	0-360	100	V
5	175.403	39.47	Pk	17.7	-29.9	27.27	43.52	-16.25	0-360	100	V
1	180.932	34.38	Pk	17.5	-30.6	21.28	43.52	-22.24	0-360	199	H
2	309.845	33.04	Pk	19.8	-29.2	23.64	46.02	-22.38	0-360	100	H
3	936.562	26.44	Pk	28.8	-26.3	28.94	46.02	-17.08	0-360	199	H
6	953.052	26.9	Pk	29	-26.2	29.7	46.02	-16.32	0-360	100	V

Pk - Peak detector

10.4. WORST CASE 18-26 GHZ

10.4.1. 2.4 WLAN

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



18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn (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	* ** 21.06201	47.97	Pk	32.8	-40	40.77	54	-13.23	74	-33.23	0-360	149	H
3	* ** 22.56496	46.85	Pk	33.4	-40.2	40.05	54	-13.95	74	-33.95	0-360	101	H
4	* ** 23.83923	46.52	Pk	33.9	-39.9	40.52	54	-13.48	74	-33.48	0-360	101	H
5	* ** 21.13256	47.05	Pk	32.8	-40	39.85	54	-14.15	74	-34.15	0-360	201	V
7	* ** 22.54285	46.2	Pk	33.4	-40.2	39.4	54	-14.6	74	-34.6	0-360	101	V
8	* ** 23.9659	45.17	Pk	33.8	-39.8	39.17	54	-14.83	74	-34.83	0-360	101	V
2	21.75228	47.99	Pk	33.3	-40.1	41.19	54	-12.81	74	-32.81	0-360	149	H
6	21.97075	47.48	Pk	33.4	-40.2	40.68	54	-13.32	74	-33.32	0-360	201	V

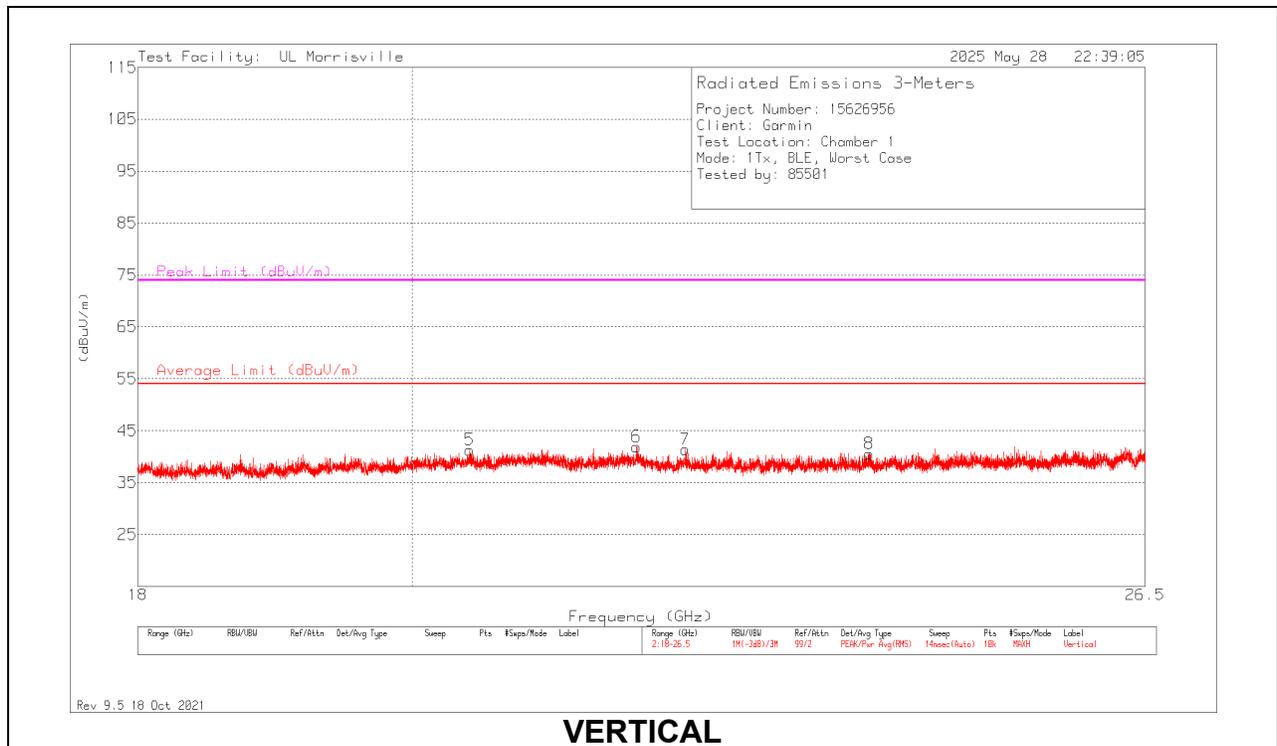
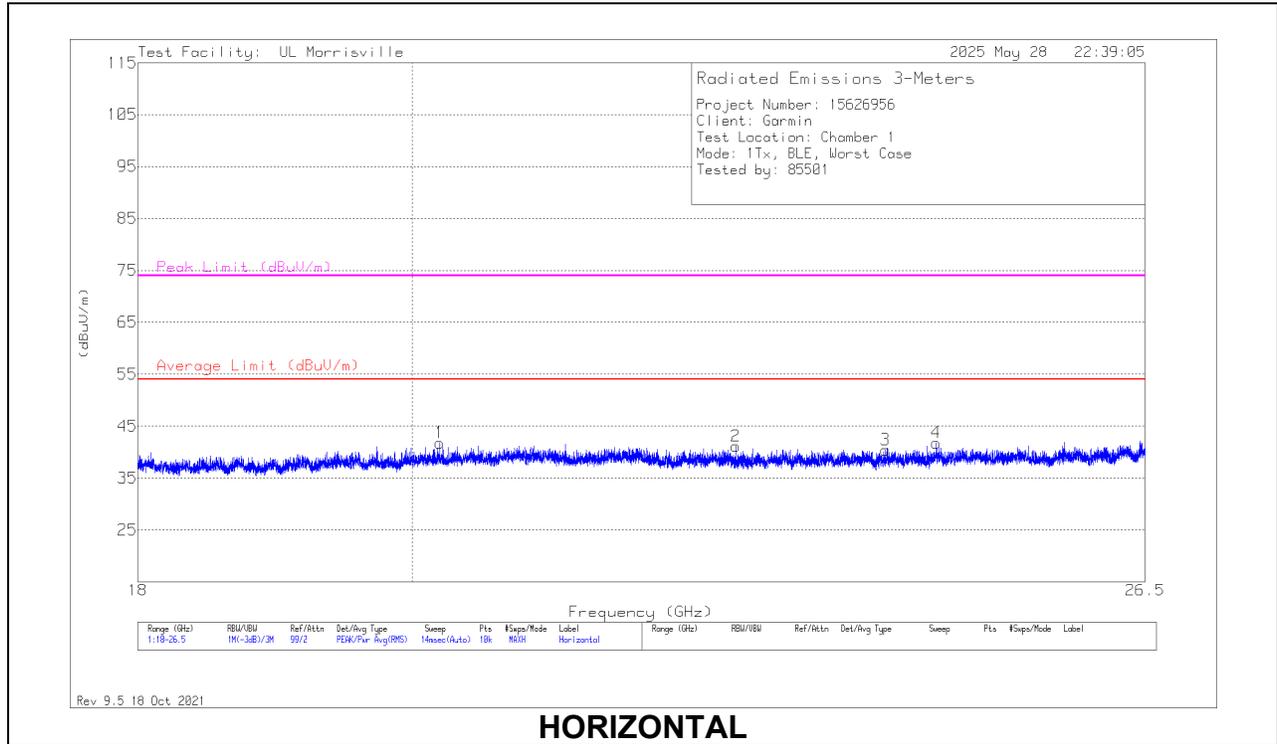
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.4.2. BLE

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



18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn (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	* ** 20.21277	49.41	Pk	32.5	-40.1	41.81	54	-12.19	74	-32.19	0-360	101	H
2	* ** 22.64741	47.9	Pk	33.4	-40.2	41.1	54	-12.9	74	-32.9	0-360	101	H
3	* ** 23.9846	46.37	Pk	33.8	-39.8	40.37	54	-13.63	74	-33.63	0-360	150	H
5	* ** 20.44569	48.58	Pk	32.8	-40.1	41.28	54	-12.72	74	-32.72	0-360	251	V
7	* ** 22.21132	48.15	Pk	33.4	-40.2	41.35	54	-12.65	74	-32.65	0-360	150	V
8	* ** 23.83583	46.49	Pk	33.9	-39.9	40.49	54	-13.51	74	-33.51	0-360	251	V
6	21.80158	48.57	Pk	33.4	-40.1	41.87	-	-	-	-	0-360	300	V
4	24.46065	47.17	Pk	34.1	-39.5	41.77	-	-	-	-	0-360	101	H

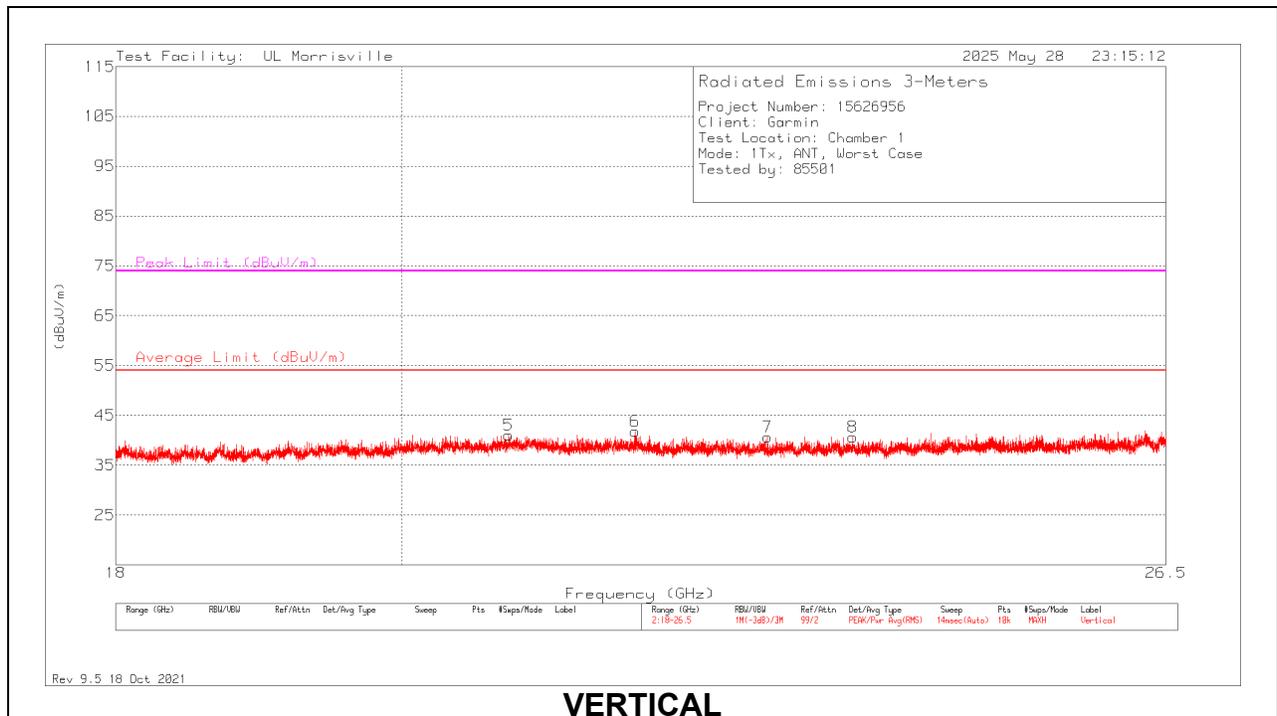
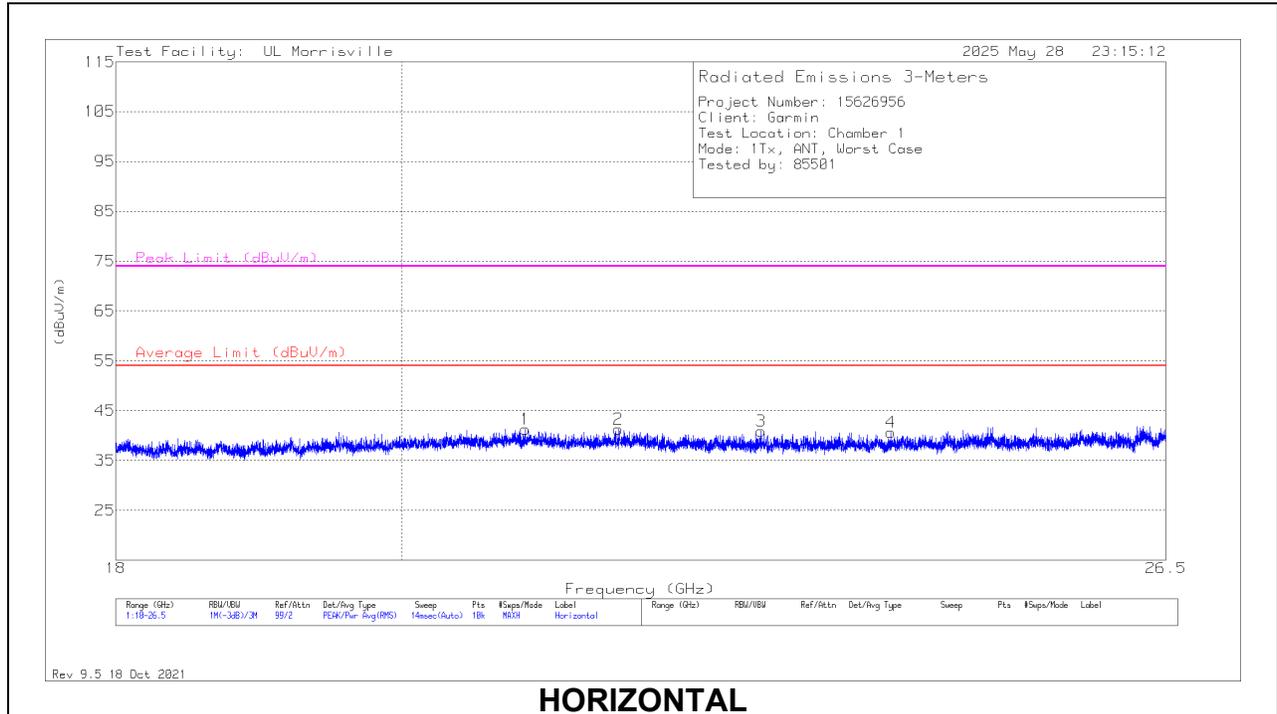
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.4.3. ANT

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



18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn (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	* ** 20.92939	48.45	Pk	32.8	-40	41.25	54	-12.75	74	-32.75	0-360	299	H
3	* ** 22.82763	47.57	Pk	33.5	-40.2	40.87	54	-13.13	74	-33.13	0-360	299	H
4	* ** 23.94804	46.64	Pk	33.8	-39.8	40.64	54	-13.36	74	-33.36	0-360	299	H
5	* ** 20.80188	48.3	Pk	32.7	-40	41	54	-13	74	-33	0-360	101	V
7	* ** 22.88459	47.32	Pk	33.5	-40.2	40.62	54	-13.38	74	-33.38	0-360	299	V
8	* ** 23.61311	46.81	Pk	33.8	-40	40.61	54	-13.39	74	-33.39	0-360	150	V
2	21.66047	48.26	Pk	33.1	-40.1	41.26	54	-12.74	74	-32.74	0-360	249	H
6	21.79648	48.46	Pk	33.4	-40.1	41.76	54	-12.24	74	-32.24	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

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)
RSS-Gen 8.8

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

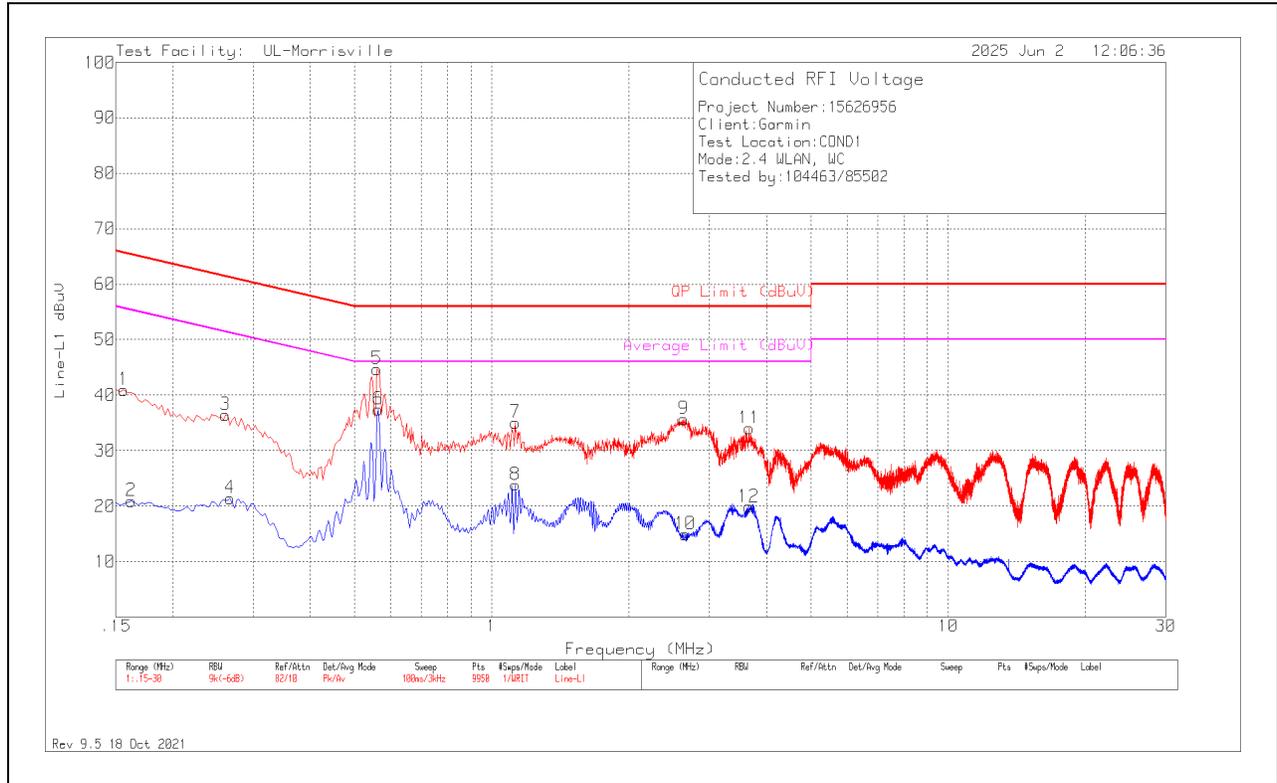
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line (WLAN)

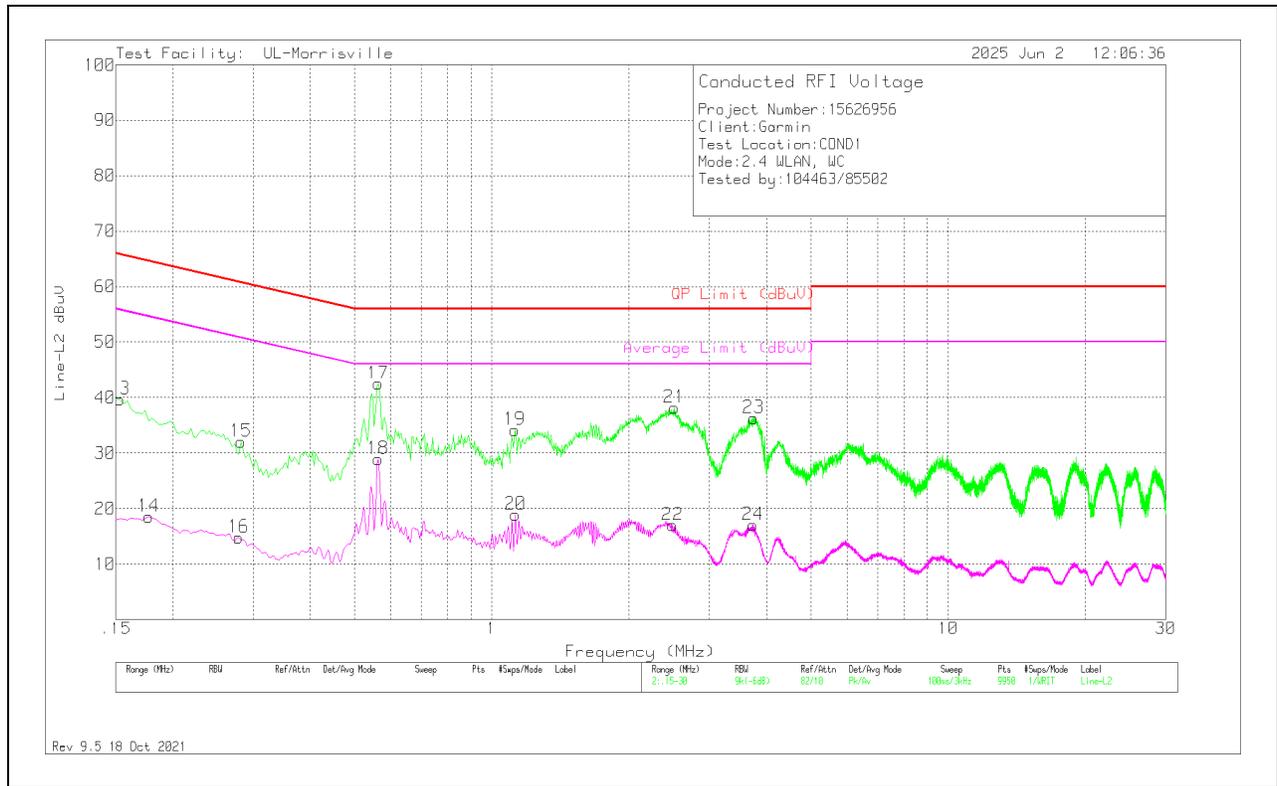
LINE 1 RESULTS



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	.156	31.01	Pk	.2	9.7	40.91	65.67	-24.76	-	-
2	.162	10.98	Av	.2	9.7	20.88	-	-	55.36	-34.48
3	.261	26.62	Pk	.1	9.7	36.42	61.4	-24.98	-	-
4	.267	11.55	Av	.1	9.7	21.35	-	-	51.21	-29.86
5	.561	35.03	Pk	0	9.7	44.73	56	-11.27	-	-
6	.564	27.68	Av	0	9.7	37.38	-	-	46	-8.62
7	1.125	25.38	Pk	0	9.7	35.08	56	-20.92	-	-
8	1.128	14.13	Av	0	9.7	23.83	-	-	46	-22.17
9	2.637	25.96	Pk	0	9.7	35.66	56	-20.34	-	-
10	2.655	5.24	Av	0	9.7	14.94	-	-	46	-31.06
12	3.651	10.13	Av	0	9.7	19.83	-	-	46	-26.17
11	3.666	24.28	Pk	0	9.7	33.98	56	-22.02	-	-

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS

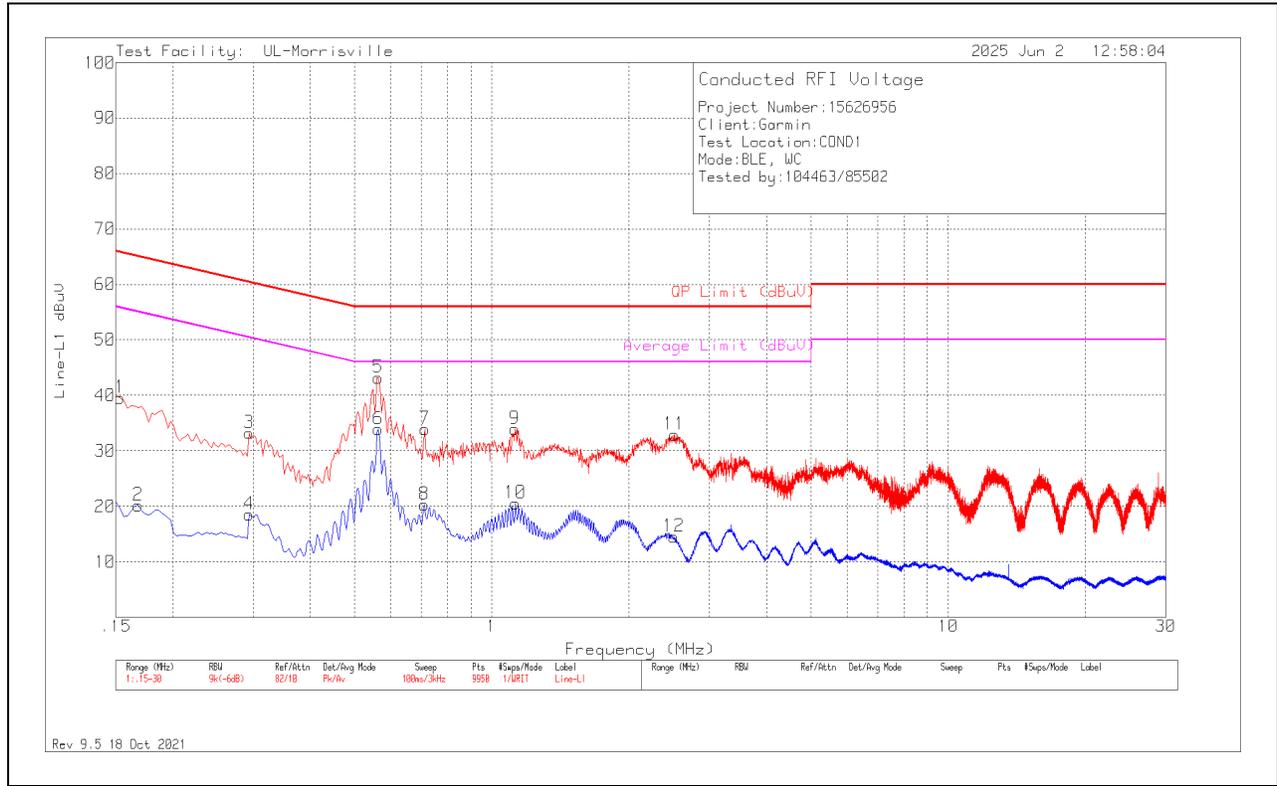


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.153	29.76	Pk	.2	9.7	39.66	65.84	-26.18	-	-
14	.177	8.63	Av	.2	9.7	18.53	-	-	54.63	-36.1
16	.279	4.93	Av	.1	9.7	14.73	-	-	50.85	-36.12
15	.282	22.2	Pk	.1	9.7	32	60.76	-28.76	-	-
17	.564	32.79	Pk	0	9.7	42.49	56	-13.51	-	-
18	.564	19.25	Av	0	9.7	28.95	-	-	46	-17.05
19	1.122	24.48	Pk	0	9.7	34.18	56	-21.82	-	-
20	1.128	9.21	Av	0	9.7	18.91	-	-	46	-27.09
22	2.49	7.26	Av	0	9.7	16.96	-	-	46	-29.04
21	2.514	28.49	Pk	0	9.7	38.19	56	-17.81	-	-
24	3.738	7.29	Av	0	9.7	16.99	-	-	46	-29.01
23	3.75	26.6	Pk	0	9.7	36.3	56	-19.7	-	-

Pk - Peak detector
 Av - Average detection

11.2. BLE

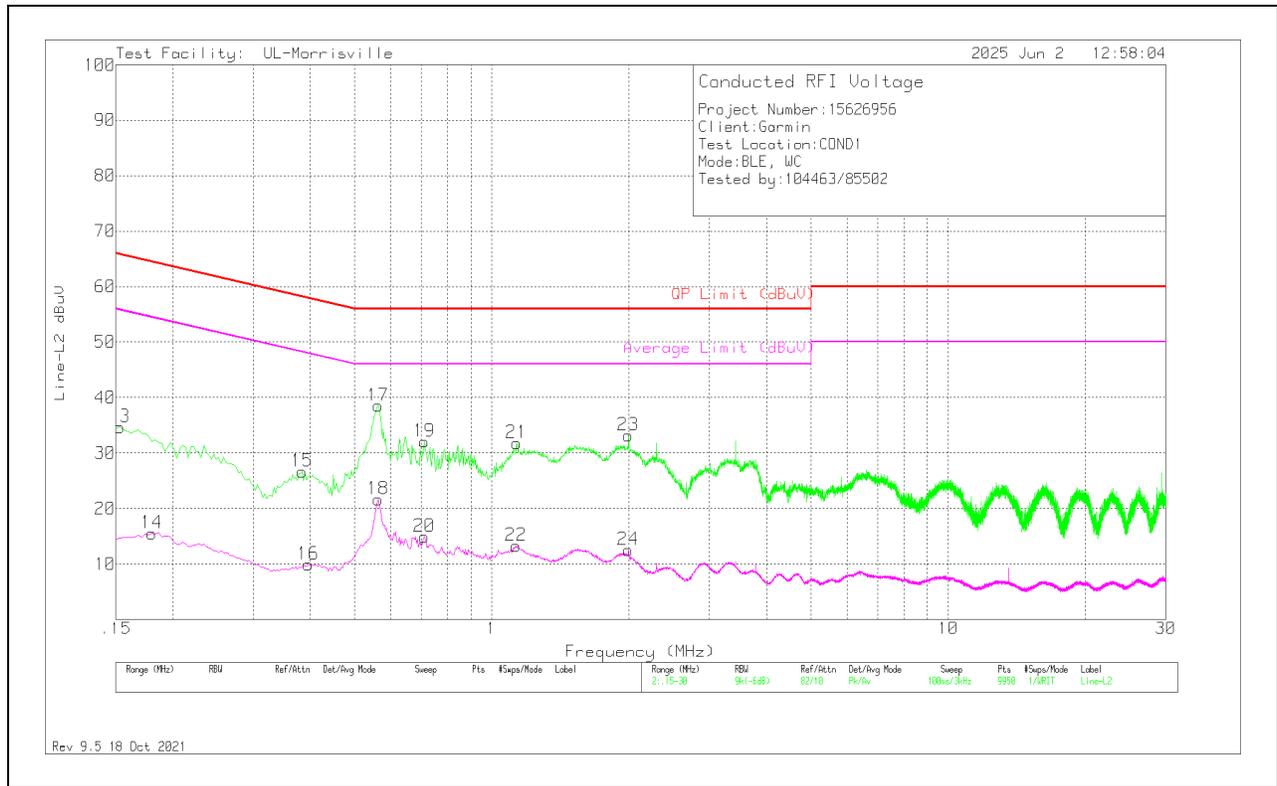
LINE 1 RESULTS



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	.153	29.62	Pk	.2	9.7	39.52	65.84	-26.32	-	-
2	.168	10.23	Av	.2	9.7	20.13	-	-	55.06	-34.93
3	.294	23.42	Pk	.1	9.7	33.22	60.41	-27.19	-	-
4	.294	8.76	Av	.1	9.7	18.56	-	-	50.41	-31.85
5	.564	33.53	Pk	0	9.7	43.23	56	-12.77	-	-
6	.564	24.16	Av	0	9.7	33.86	-	-	46	-12.14
8	.711	10.62	Av	0	9.7	20.32	-	-	46	-25.68
7	.714	24.17	Pk	0	9.7	33.87	56	-22.13	-	-
9	1.122	24.19	Pk	0	9.7	33.89	56	-22.11	-	-
10	1.128	10.85	Av	0	9.7	20.55	-	-	46	-25.45
12	2.508	4.84	Av	0	9.7	14.54	-	-	46	-31.46
11	2.511	23.26	Pk	0	9.7	32.96	56	-23.04	-	-

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS

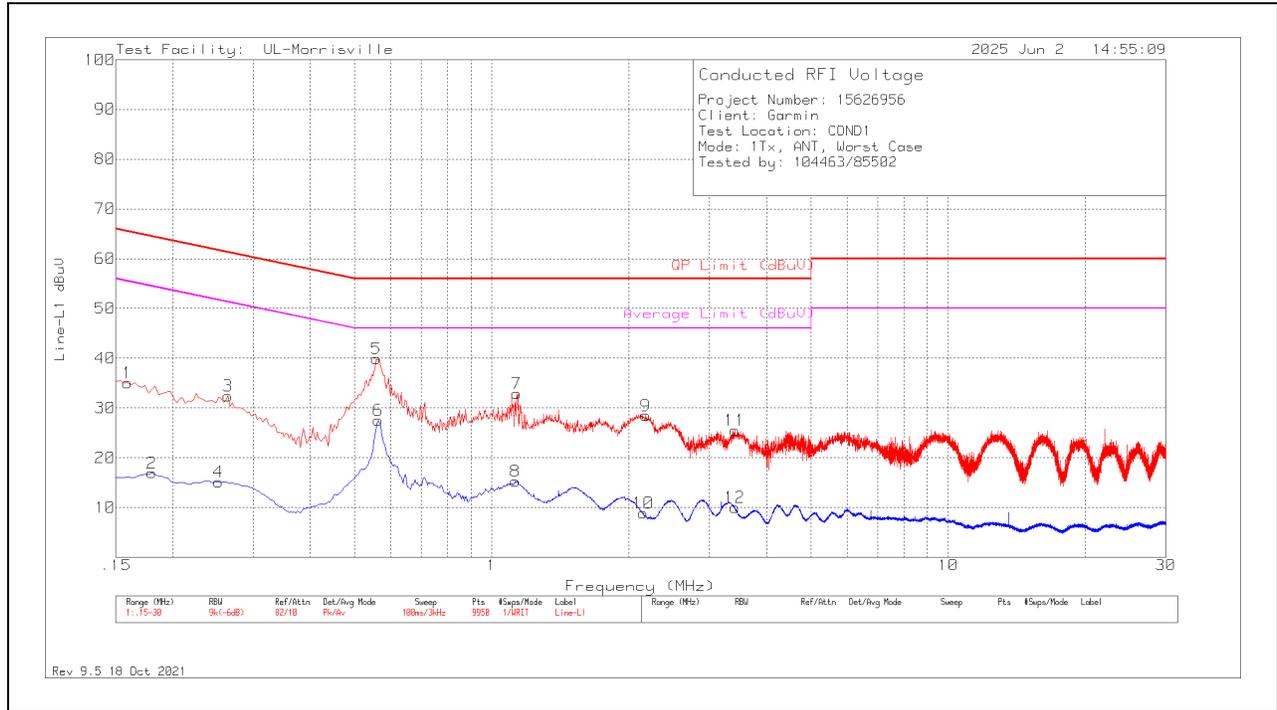


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.153	24.8	Pk	.2	9.7	34.7	65.84	-31.14	-	-
14	.18	5.6	Av	.2	9.7	15.5	-	-	54.49	-38.99
15	.384	16.9	Pk	.1	9.7	26.7	58.19	-31.49	-	-
16	.396	.13	Av	.1	9.7	9.93	-	-	47.94	-38.01
17	.564	28.79	Pk	0	9.7	38.49	56	-17.51	-	-
18	.564	11.93	Av	0	9.7	21.63	-	-	46	-24.37
19	.711	22.39	Pk	0	9.7	32.09	56	-23.91	-	-
20	.711	5.17	Av	0	9.7	14.87	-	-	46	-31.13
22	1.131	3.59	Av	0	9.7	13.29	-	-	46	-32.71
21	1.134	22.04	Pk	0	9.7	31.74	56	-24.26	-	-
23	1.992	23.45	Pk	0	9.7	33.15	56	-22.85	-	-
24	1.992	2.82	Av	0	9.7	12.52	-	-	46	-33.48

Pk - Peak detector
 Av - Average detection

11.3. AC Power Line (ANT)

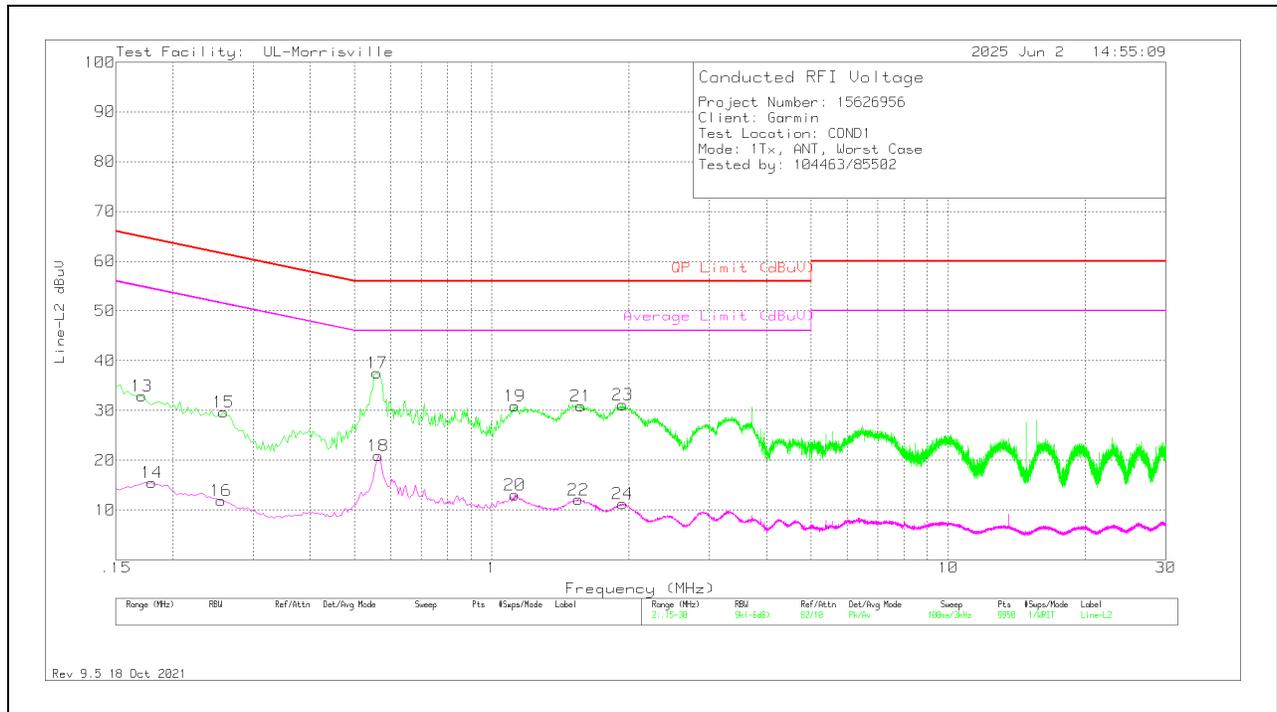
LINE 1 RESULTS



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	.159	25.18	Pk	.2	9.7	35.08	65.52	-30.44	-	-
2	.18	7.05	Av	.2	9.7	16.95	-	-	54.49	-37.54
4	.252	5.39	Av	.1	9.7	15.19	-	-	51.69	-36.5
3	.264	22.6	Pk	.1	9.7	32.4	61.3	-28.9	-	-
5	.558	30.17	Pk	0	9.7	39.87	56	-16.13	-	-
6	.564	17.79	Av	0	9.7	27.49	-	-	46	-18.51
8	1.128	5.61	Av	0	9.7	15.31	-	-	46	-30.69
7	1.134	23.18	Pk	0	9.7	32.88	56	-23.12	-	-
10	2.145	-.83	Av	0	9.7	8.87	-	-	46	-37.13
9	2.172	18.77	Pk	0	9.7	28.47	56	-27.53	-	-
11	3.405	15.82	Pk	0	9.7	25.52	56	-30.48	-	-
12	3.405	.27	Av	0	9.7	9.97	-	-	46	-36.03

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	23.02	Pk	.2	9.7	32.92	64.91	-31.99	-	-
14	.18	5.66	Av	.2	9.7	15.56	-	-	54.49	-38.93
16	.255	2.11	Av	.1	9.7	11.91	-	-	51.59	-39.68
15	.258	19.9	Pk	.1	9.7	29.7	61.5	-31.8	-	-
17	.561	27.87	Pk	0	9.7	37.57	56	-18.43	-	-
18	.564	11.17	Av	0	9.7	20.87	-	-	46	-25.13
19	1.122	21.2	Pk	0	9.7	30.9	56	-25.1	-	-
20	1.1235	3.27	Av	0	9.7	12.97	-	-	46	-33.03
22	1.548	2.37	Av	0	9.7	12.07	-	-	46	-33.93
21	1.566	21.26	Pk	0	9.7	30.96	56	-25.04	-	-
24	1.935	1.51	Av	0	9.7	11.21	-	-	46	-34.79
23	1.938	21.42	Pk	0	9.7	31.12	56	-24.88	-	-

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

Please refer to R15626956-EP1 for setup photos

END OF TEST REPORT

TEST REPORT

Report Number: R15626956-E3

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

Model : A04809

FCC ID : IPH-04809

IC : 1792A-04809

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 3
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:

2025-08-22

Prepared by:

UL LLC

12 Laboratory Dr.

Durham, NC 27713 U.S.A.

TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-08-13	Initial Issue	Chandler Stanley
V2	2025-08-22	Updated FW Version	Chandler Stanley

TABLE OF CONTENTS

REPORT REVISION HISTORY	2
TABLE OF CONTENTS	3
1. ATTESTATION OF TEST RESULTS	5
2. TEST RESULTS SUMMARY	6
3. TEST METHODOLOGY	6
4. FACILITIES AND ACCREDITATION	6
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	7
5.1. METROLOGICAL TRACEABILITY	7
5.2. DECISION RULES	7
5.3. MEASUREMENT UNCERTAINTY	7
5.4. SAMPLE CALCULATION	7
6. EQUIPMENT UNDER TEST	8
6.1. EUT DESCRIPTION	8
6.2. MAXIMUM OUTPUT POWER	8
6.3. DESCRIPTION OF AVAILABLE ANTENNAS	8
6.4. SOFTWARE AND FIRMWARE	8
6.5. WORST-CASE CONFIGURATION AND MODE	8
6.6. DESCRIPTION OF TEST SETUP	9
7. MEASUREMENT METHODS	10
8. TEST AND MEASUREMENT EQUIPMENT	11
9. ANTENNA PORT TEST RESULTS	13
9.1. 20 dB AND 99% BANDWIDTH	13
9.1.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION	13
9.1.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	14
9.1.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION	15
9.2. HOPPING FREQUENCY SEPARATION	16
9.2.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION	16
9.2.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	17
9.2.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION	17
9.3. NUMBER OF HOPPING CHANNELS	18
9.3.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION	18
9.3.2. BLUETOOTH BASIC DATA RATE QPSK MODULATION	21
9.3.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION	23
9.4. AVERAGE TIME OF OCCUPANCY	25

9.4.1.	BLUETOOTH BASIC DATA RATE GFSK MODULATION	25
9.4.2.	BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	27
9.4.3.	BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION.....	29
9.5.	<i>OUTPUT POWER</i>	31
9.5.1.	BLUETOOTH BASIC DATA RATE GFSK MODULATION	32
9.5.2.	BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	32
9.5.3.	BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION.....	32
9.6.	<i>AVERAGE POWER</i>	33
9.6.1.	BLUETOOTH BASIC DATA RATE GFSK MODULATION	34
9.6.1.	BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	34
9.6.2.	BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION.....	34
9.7.	<i>CONDUCTED SPURIOUS EMISSIONS</i>	35
9.7.1.	BLUETOOTH BASIC DATA RATE GFSK MODULATION	36
9.7.2.	BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	38
9.7.3.	BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION.....	40
10.	RADIATED TEST RESULTS	42
10.1.	<i>TRANSMITTER ABOVE 1 GHz</i>	44
10.1.1.	ON TIME AND DUTY CYCLE	44
10.1.2.	BLUETOOTH BASIC DATA RATE GFSK MODULATION	45
10.1.3.	BLUETOOTH ENHANCED DATA RATE QPSK MODULATION	55
10.1.4.	BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION.....	65
10.2.	<i>WORST CASE SPURIOUS BELOW 30MHZ</i>	75
10.3.	<i>WORST CASE SPURIOUS 30-1000MHZ</i>	77
10.4.	<i>WORST CASE SPURIOUS 18-26GHz</i>	79
11.	AC POWER LINE CONDUCTED EMISSIONS	81
11.1.	<i>AC POWER LINE</i>	82
12.	SETUP PHOTOS	84

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: A04809

SERIAL NUMBER: 510595432 / 8U9000023

SAMPLE RECEIPT DATE: 2025-05-07

DATE TESTED: 2025-05-12 To 2025-06-02

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

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 RESULTS SUMMARY

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

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

- 1) Antenna gain and type (see section 6.3)

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 11.6.
See Comment	RSS-GEN 6.7	20dB BW/99% OBW		ANSI C63.10 Sections 6.9.2 and 6.9.3
15.247 (a)(1)	RSS-247 (5.1) (b)	Hopping Frequency Separation	Compliant	None.
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Number of Hopping Channels		
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Average Time of Occupancy		
15.247 (b)(1)	RSS-247 (5.4) (b)	Output Power		
See Comment		Average Power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (d)	RSS-247 (5.5)	Conducted Spurious Emissions	Compliant	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions		
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 3.

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 Durham, NC 27713, USA	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, WWAN (NTN, LTE Cat M1), and Global Navigation Satellite System (GNSS) receiver. This report covers full testing on the BT radio.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	11.00	12.59
2402 - 2480	Enhanced DQPSK	13.18	20.80
2402 - 2480	Enhanced 8PSK	14.09	25.64

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

The radio utilizes a slot antenna, with a maximum gain of -1.04 dBi.

6.4. SOFTWARE AND FIRMWARE

EUT FW Version: 16.29

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

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	Non-Shielded	<3m	Used for charging only

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 R15626956-EP1 for setup diagrams

7. MEASUREMENT METHODS

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

Occupied BW (20dB): ANSI C63.10-2020 Section 6.9.2

Occupied BW (99%): ANSI C63.10-2020 Section 6.9.3

Carrier Frequency Separation: ANSI C63.10-2020 Section 7.8.2

Number of Hopping Frequencies: ANSI C63.10-2020 Section 7.8.3

Time of Occupancy (Dwell Time): ANSI C63.10-2020 Section 7.8.4

Output Power: ANSI C63.10-2020 Section 7.8.5

Conducted Spurious Emissions: ANSI C63.10-2020 Section 7.8.7

Conducted Band-Edge: ANSI C63.10-2020 Section 7.8.7.2 and 6.10.4

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.

8. 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.
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
Pad II	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2025-05-25	2026-05-25
Pad IV	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2025-06-06	2025-06-06
SOFTEMI	Antenna Port Software	UL	Version 2022.8.16	NA	NA
211057	Real-Time Peak Power Sensor 50MHz to 8GHz	Boonton	RTP5000	2024-08-01	2025-08-01
Power Software	Boonton Power Analyzer	Boonton	Version 3.0.13.0	NA	NA

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	2025-04-17	2026-04-17
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
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2024-08-01	2025-08-01
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-04-17	2026-04-17
236852	AC Power Source	California instruments	NA	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

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					
90629	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-30	2026-01-30
1-18 GHz					
135143	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-02-07	2026-02-07
18-26.5 GHz					
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-826	2023-07-20	2025-07-20
Gain-Loss Chains					
91974	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-08	2025-05-31
91976	Gain-loss string: 25-1000MHz	Various	Various	2024-05-08	2025-05-31
91979	Gain-loss string: 1-18GHz	Various	Various	2024-05-08	2025-05-31
135999	Gain-loss string: 18-40GHz	Various	Various	2024-05-08	2025-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-08-29	2025-08-29
81018	Spectrum Analyzer	Agilent	E4446A	2024-07-31	2025-07-31
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241205	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

Note* - All measurement equipment was in calibration at the time of testing.

9. ANTENNA PORT TEST RESULTS

9.1. 20 dB AND 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

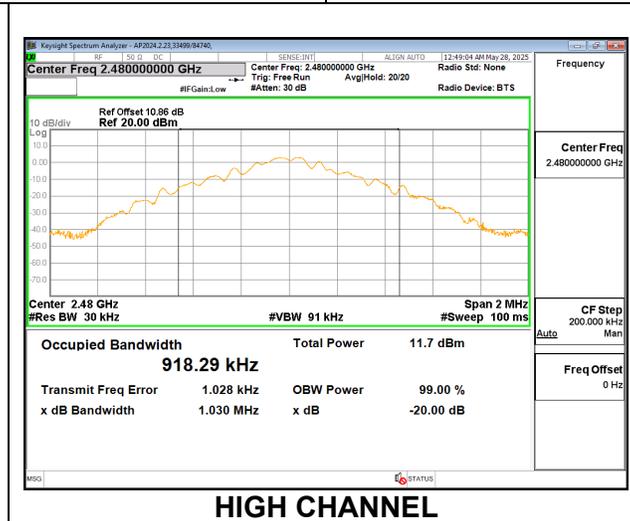
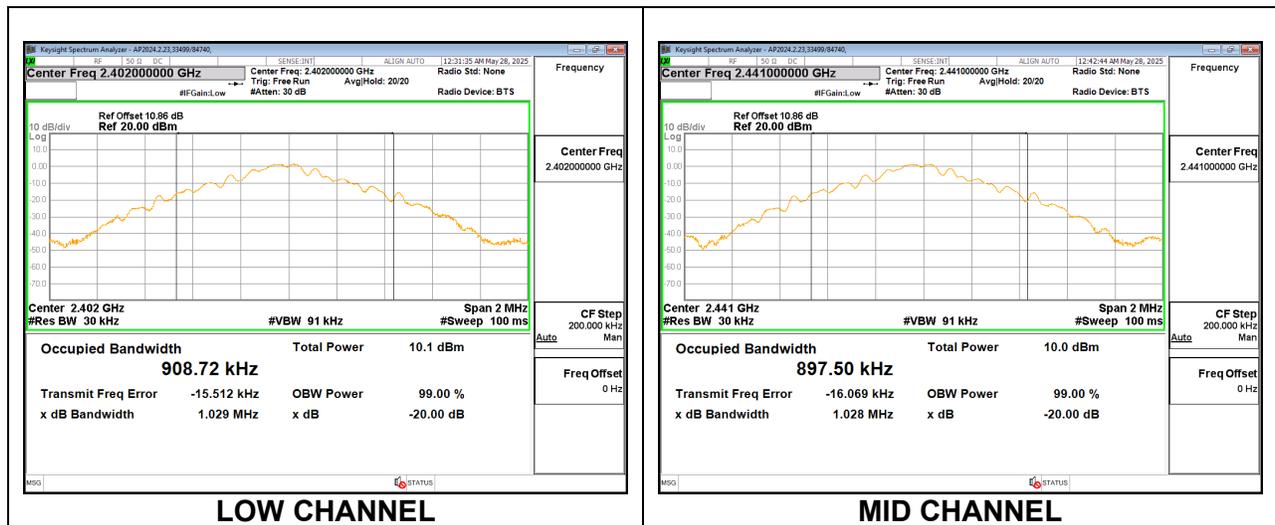
TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq 1\%$ of the 20 dB bandwidth. The VBW is set to \geq RBW. The sweep time is coupled.

RESULTS

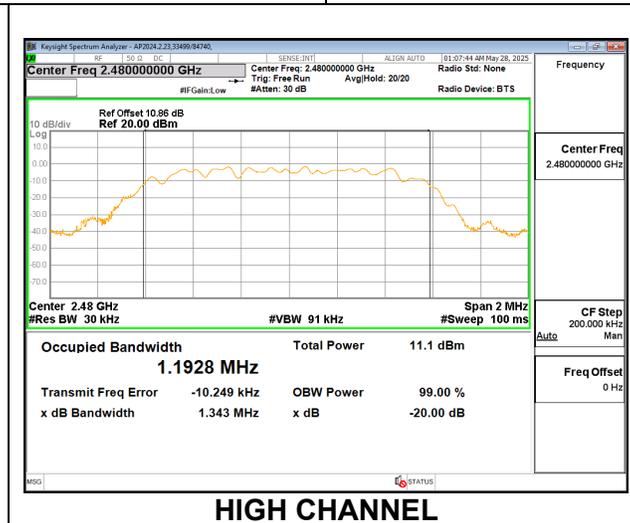
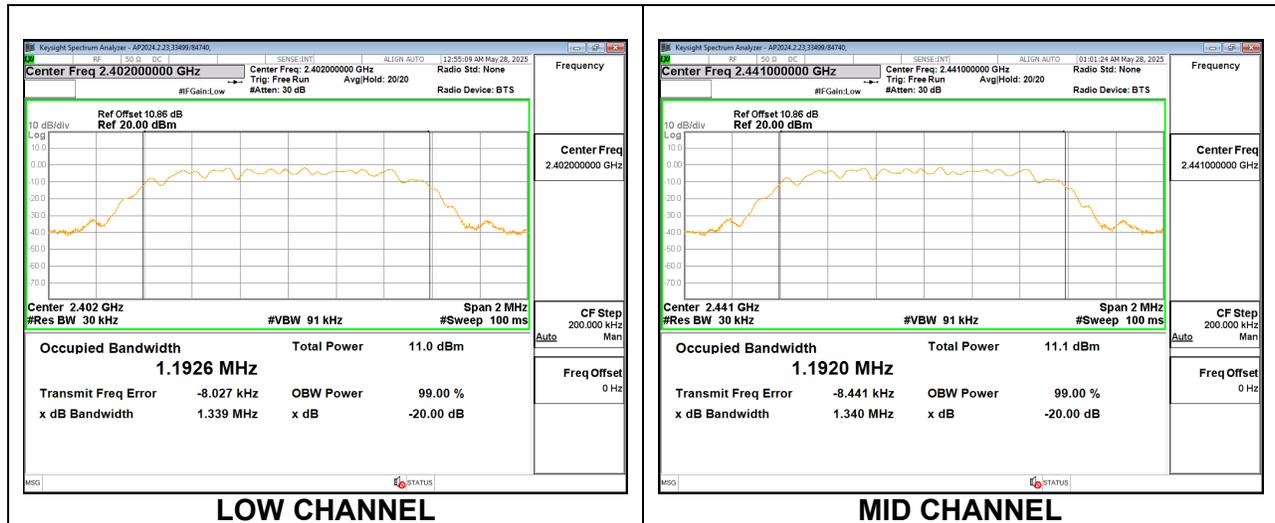
9.1.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (kHz)
Low	2402	1.029	908.72
Mid	2441	1.028	897.50
High	2480	1.030	918.29



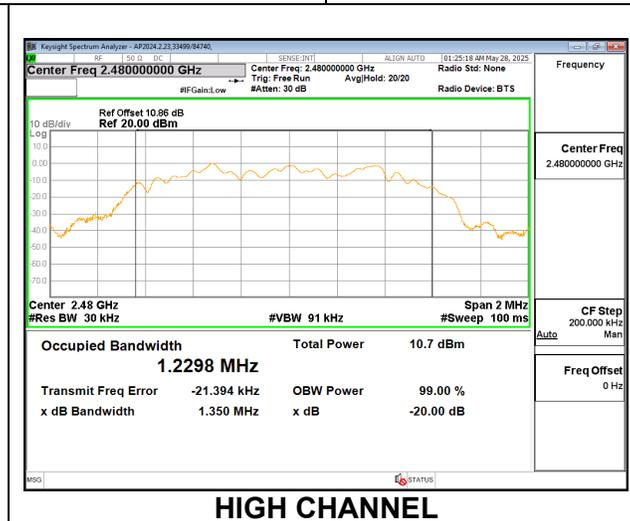
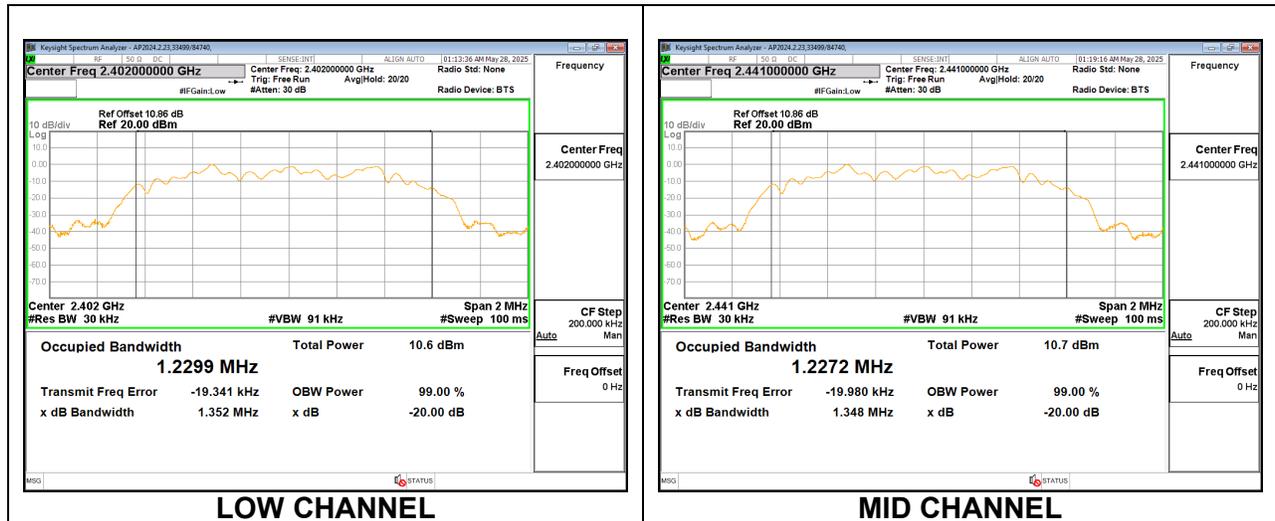
9.1.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.339	1.1926
Mid	2441	1.340	1.1920
High	2480	1.375	1.2098



9.1.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.352	1.2299
Mid	2441	1.348	1.2272
High	2480	1.350	1.2298



9.2. HOPPING FREQUENCY SEPARATION

LIMITS

FCC §15.247 (a) (1)
RSS-247 (5.1) (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to $VBW \geq RBW$. The sweep time is coupled.

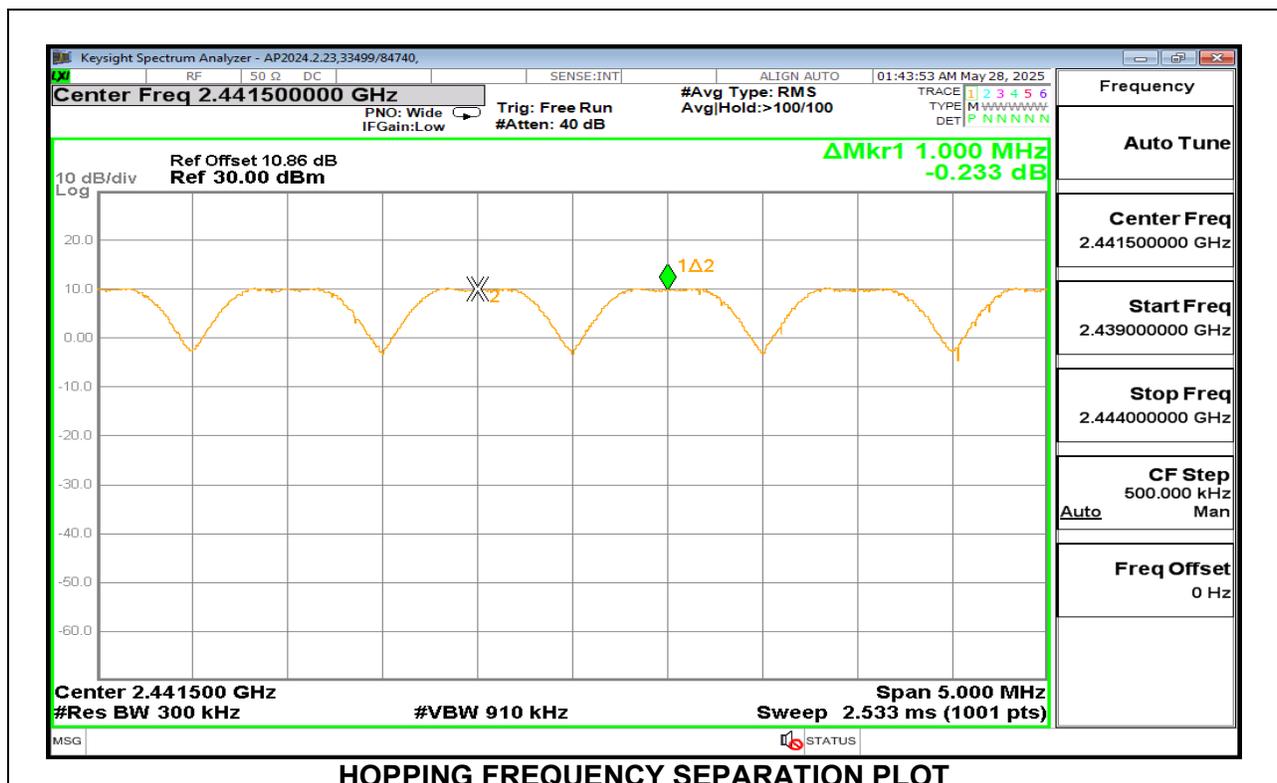
RESULTS

The largest 20 dB BW among all modes was 1.375 MHz.

$$1.375 \text{ MHz} \times (2/3) = 0.917 \text{ MHz}$$

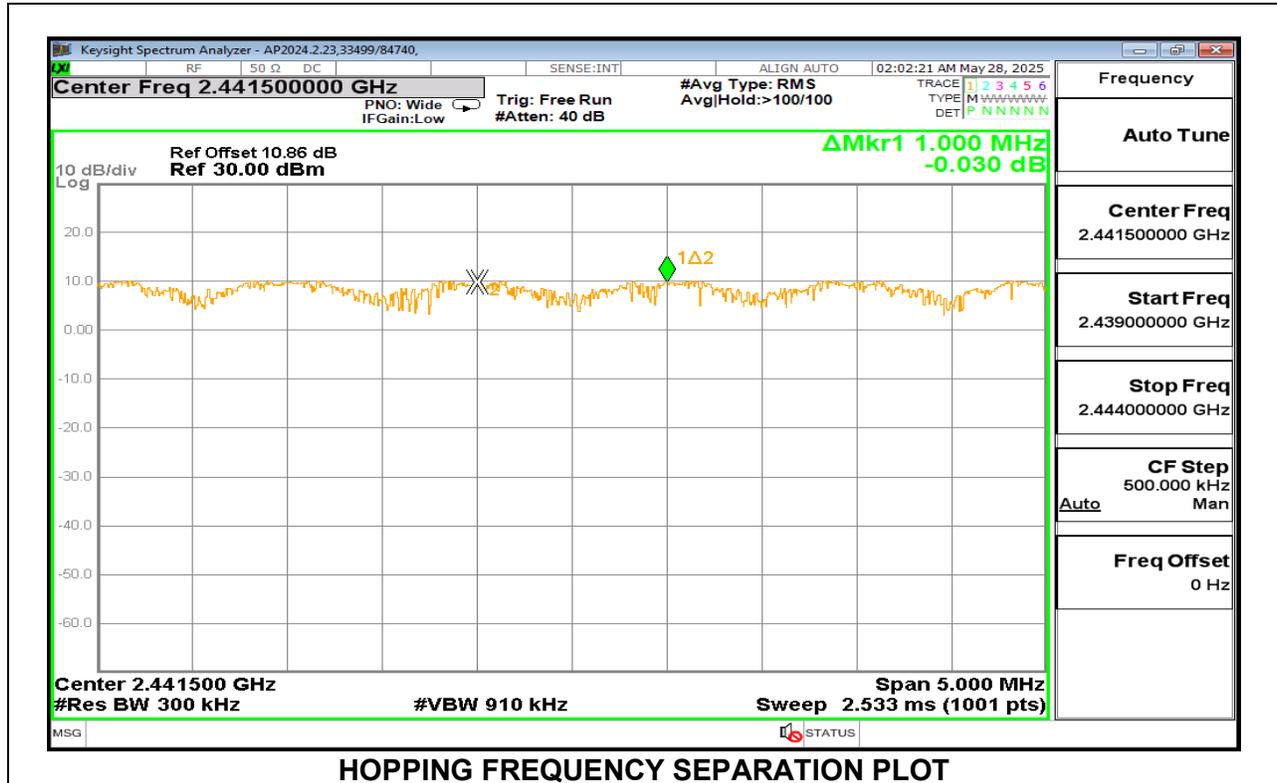
Since the separation of 1.000 MHz is greater than 0.917 MHz, the channel separation is compliant.

9.2.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

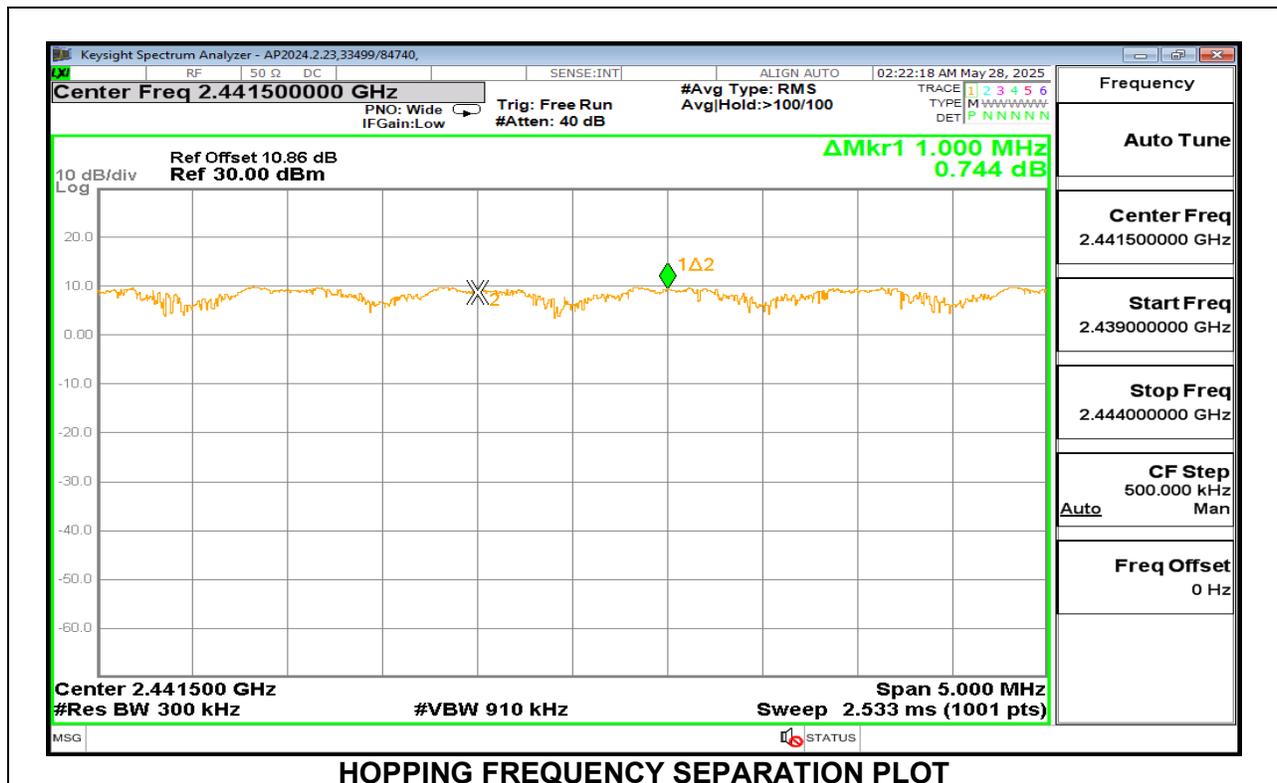


HOPPING FREQUENCY SEPARATION PLOT

9.2.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION



9.2.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION



9.3. NUMBER OF HOPPING CHANNELS

LIMITS

FCC §15.247 (a) (1) (iii)
RSS-247 (5.1) (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

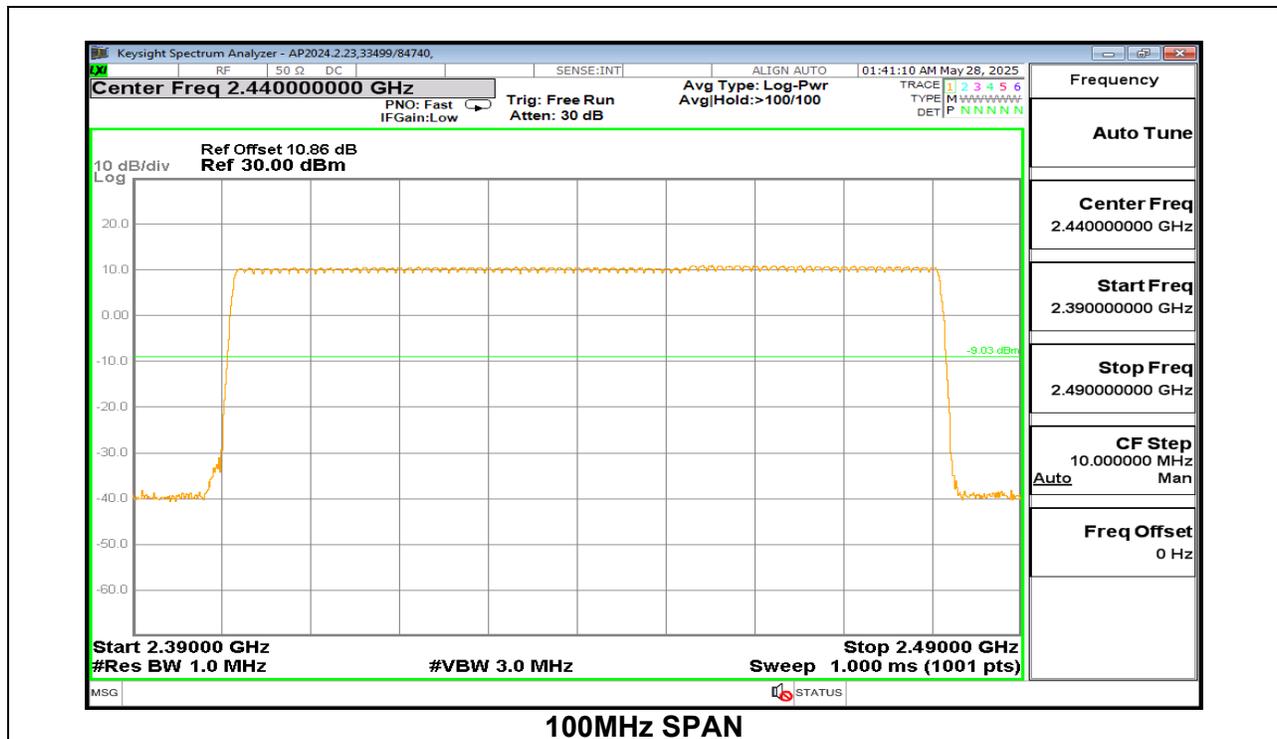
TEST PROCEDURE

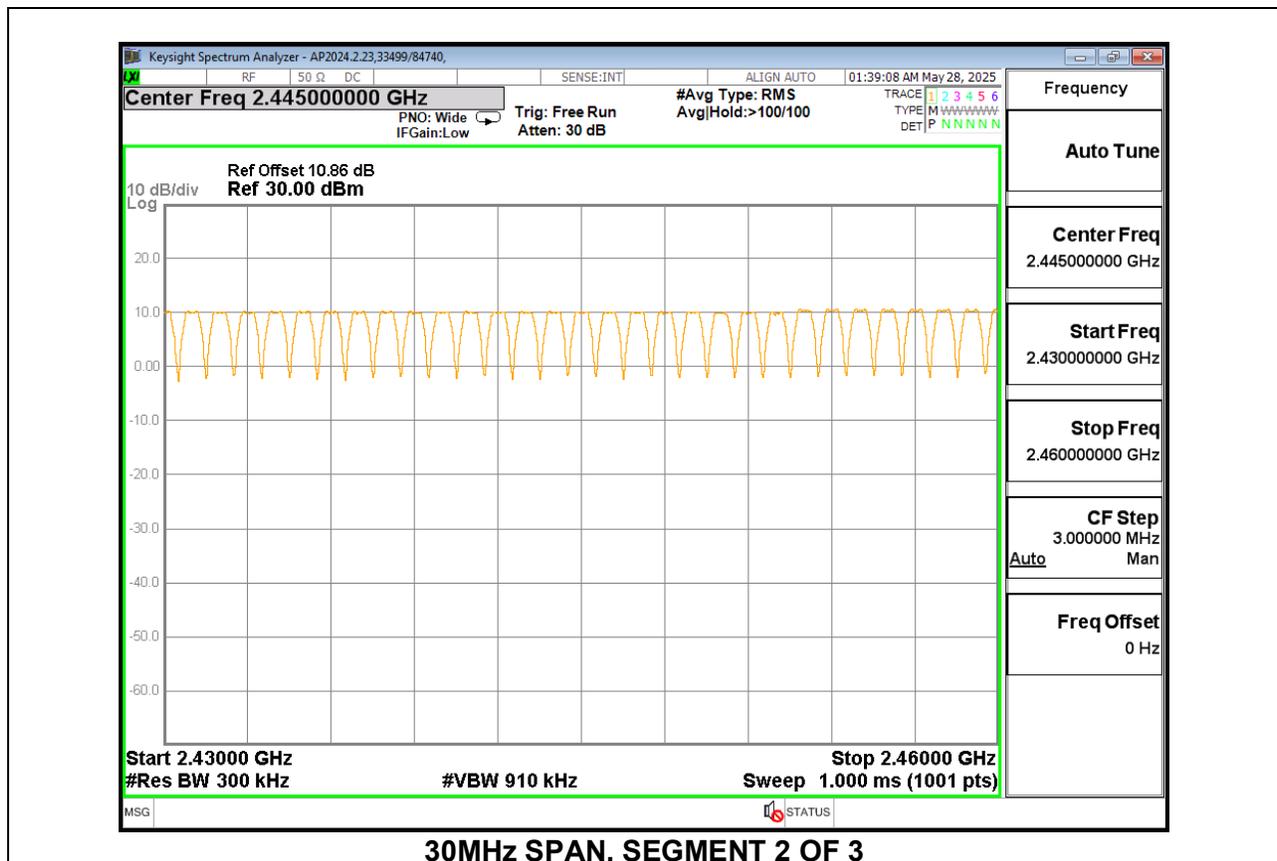
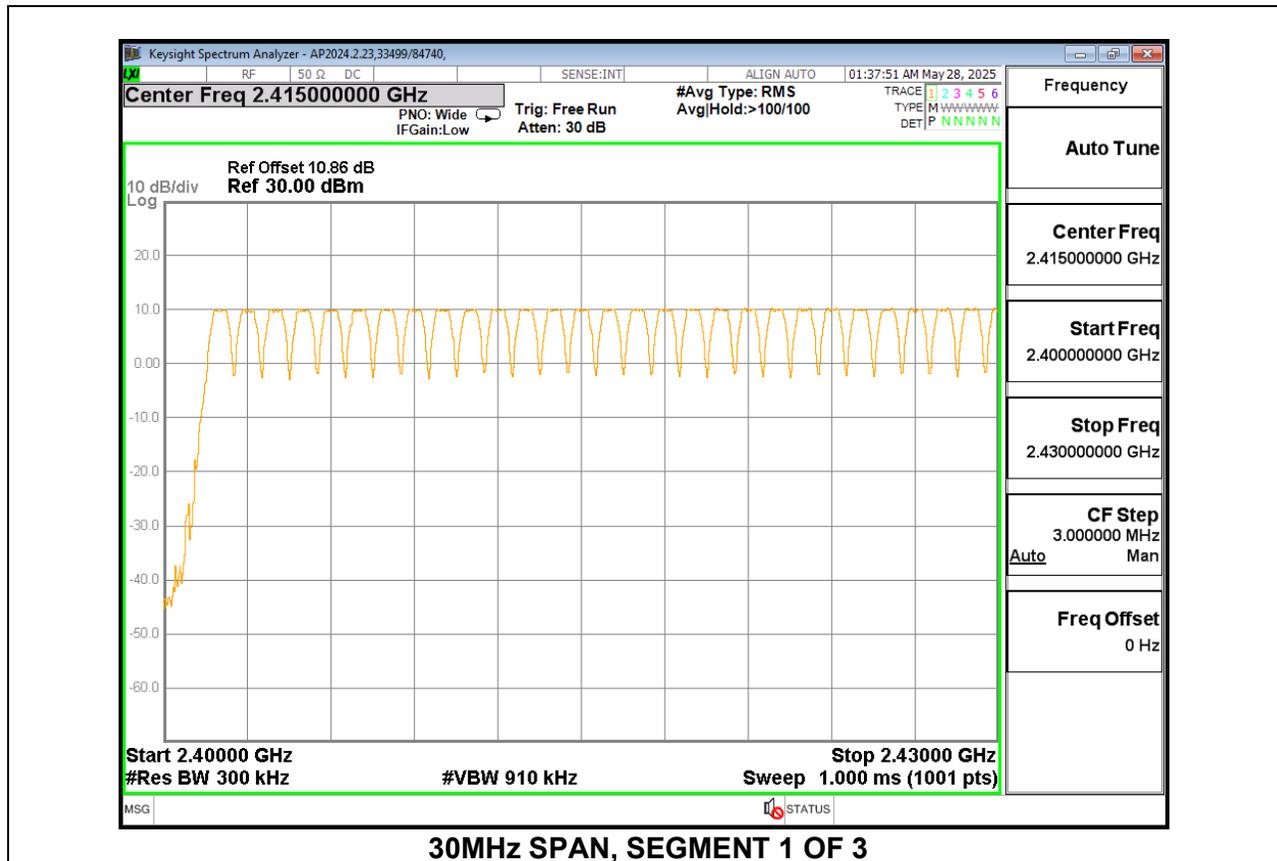
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

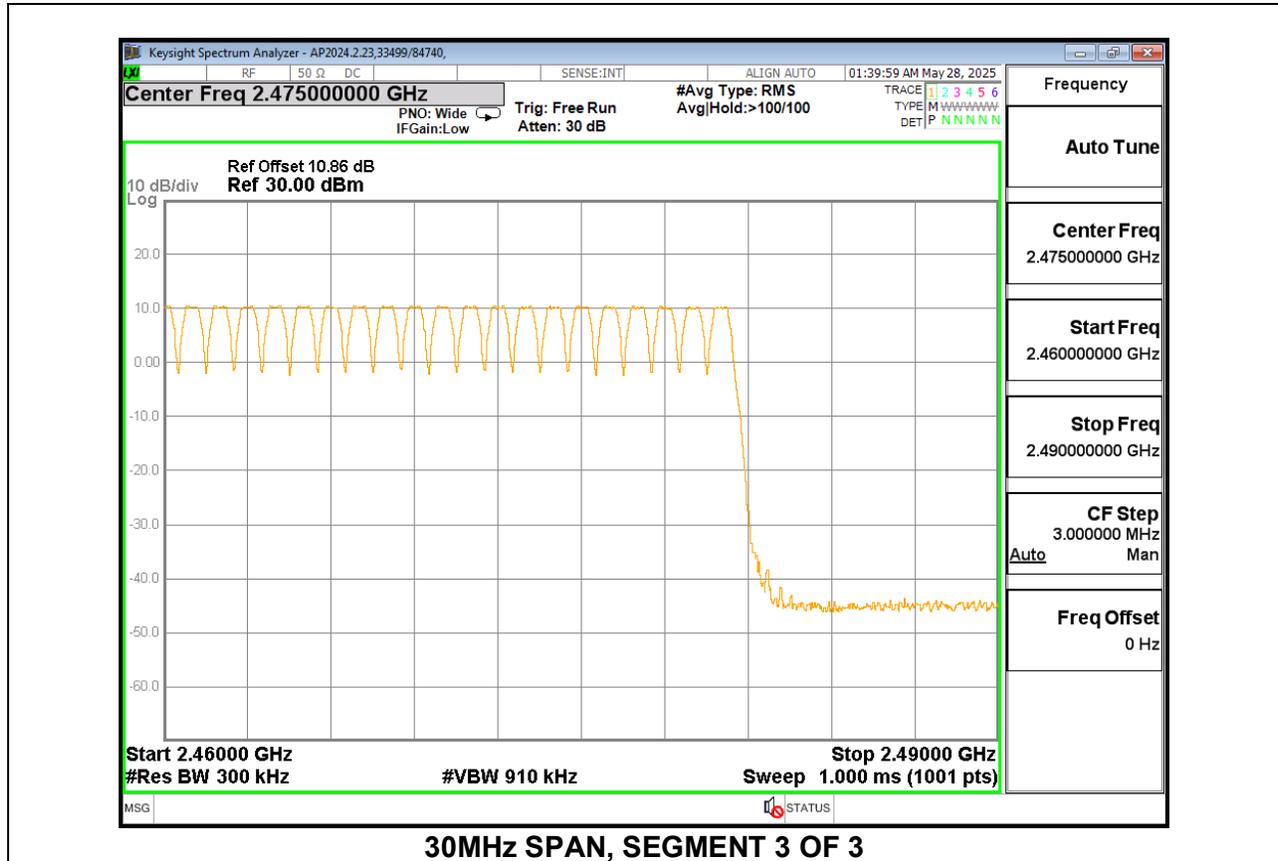
RESULTS

Normal Mode: 79 Channels Observed

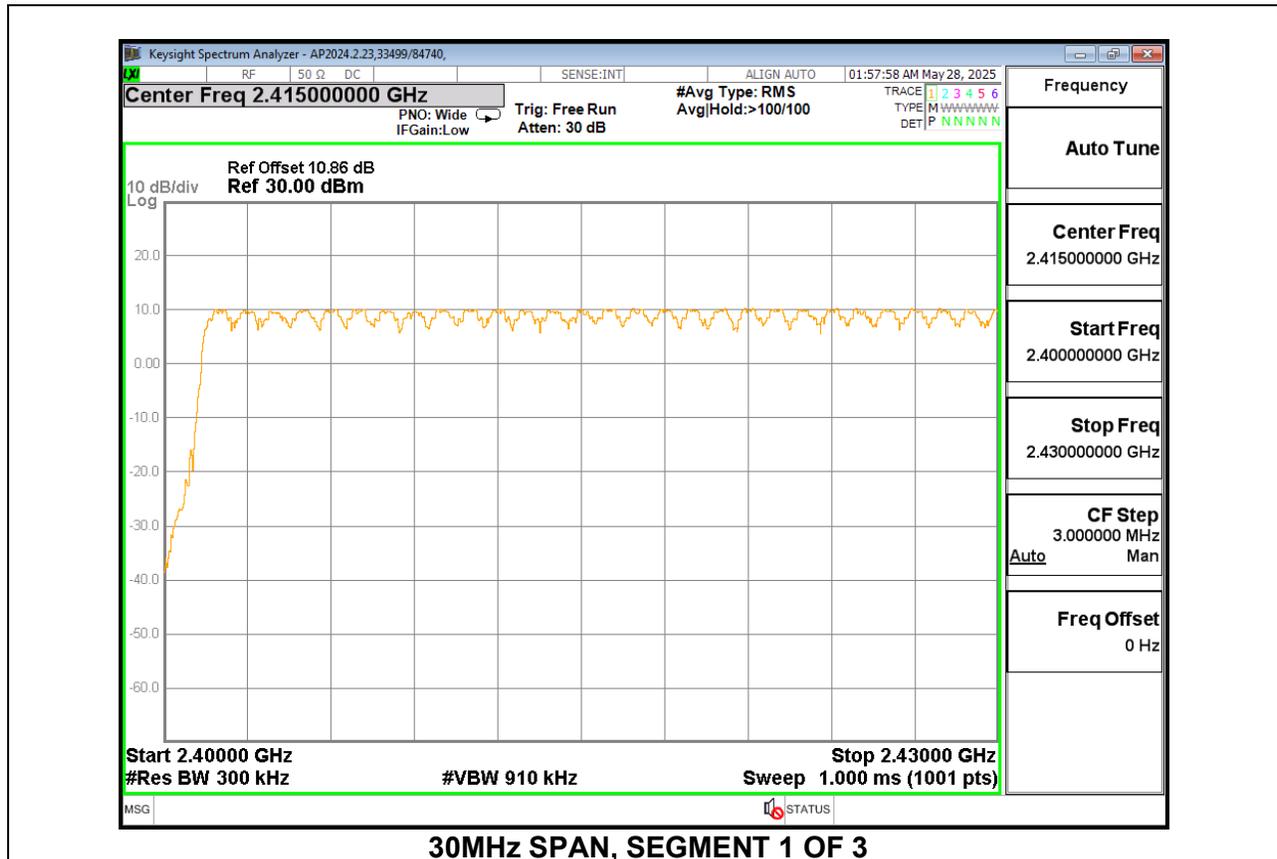
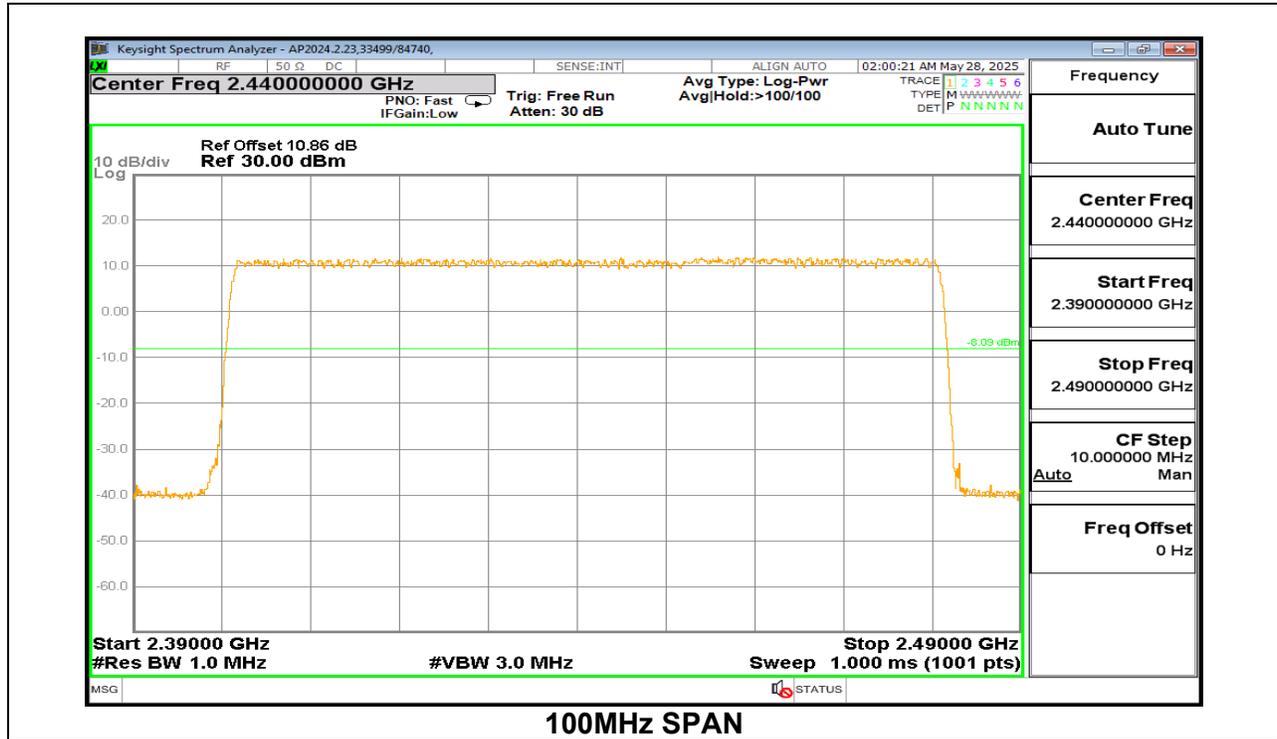
9.3.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

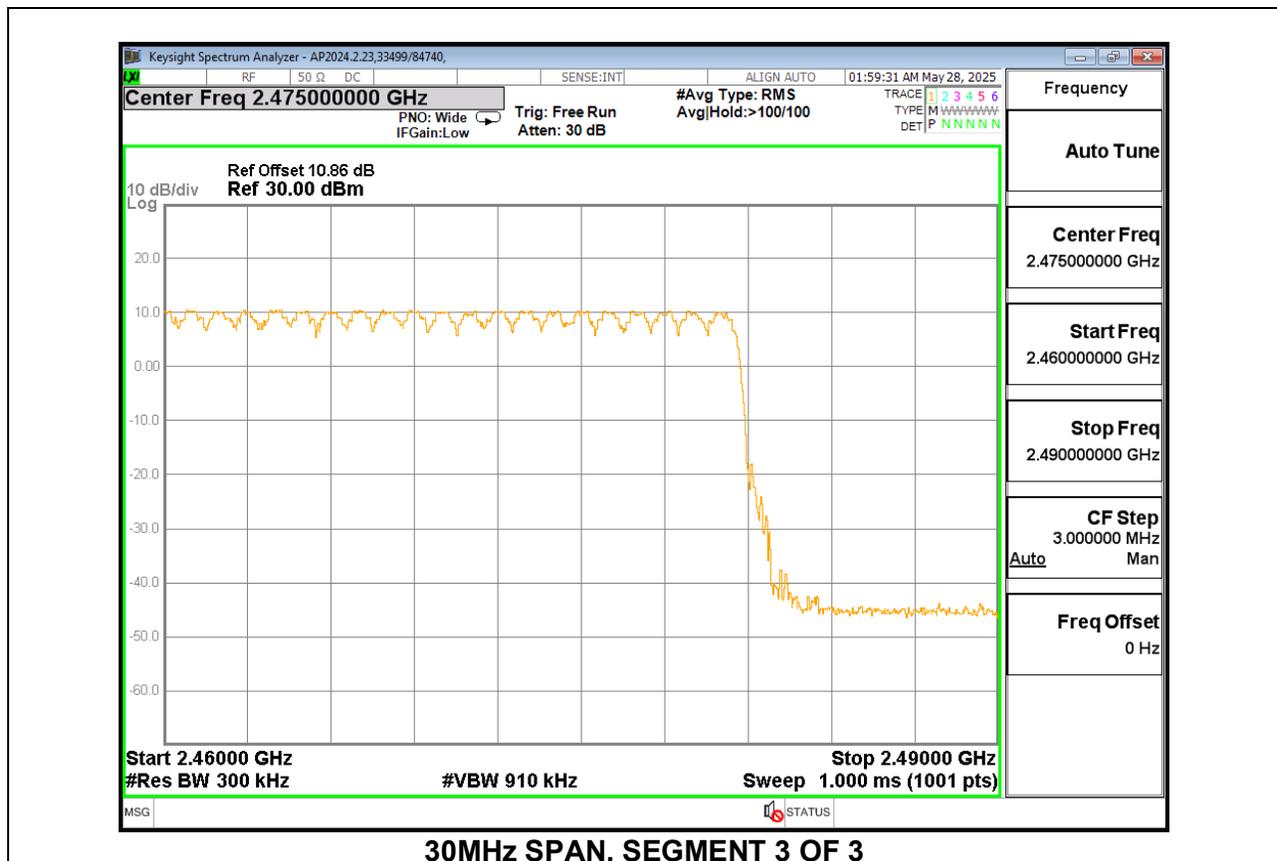
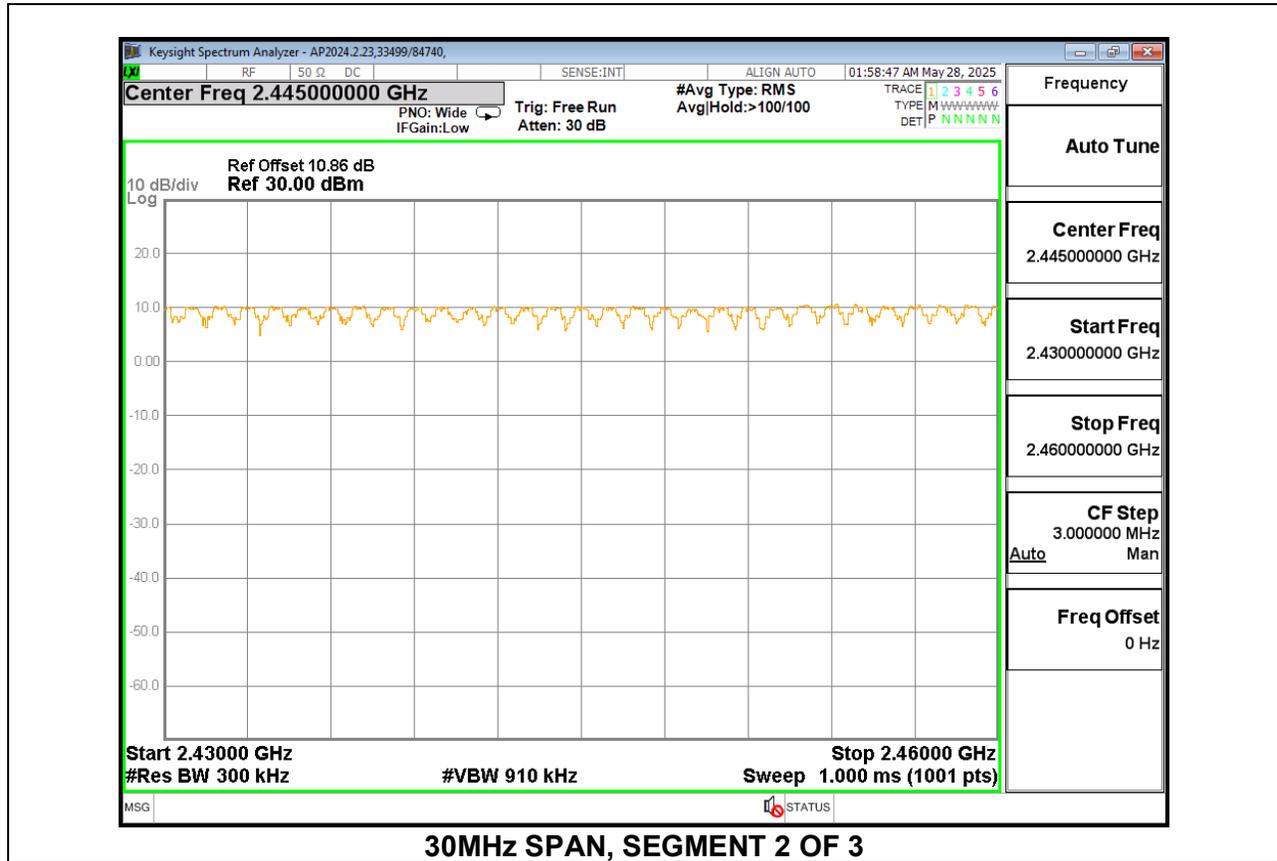




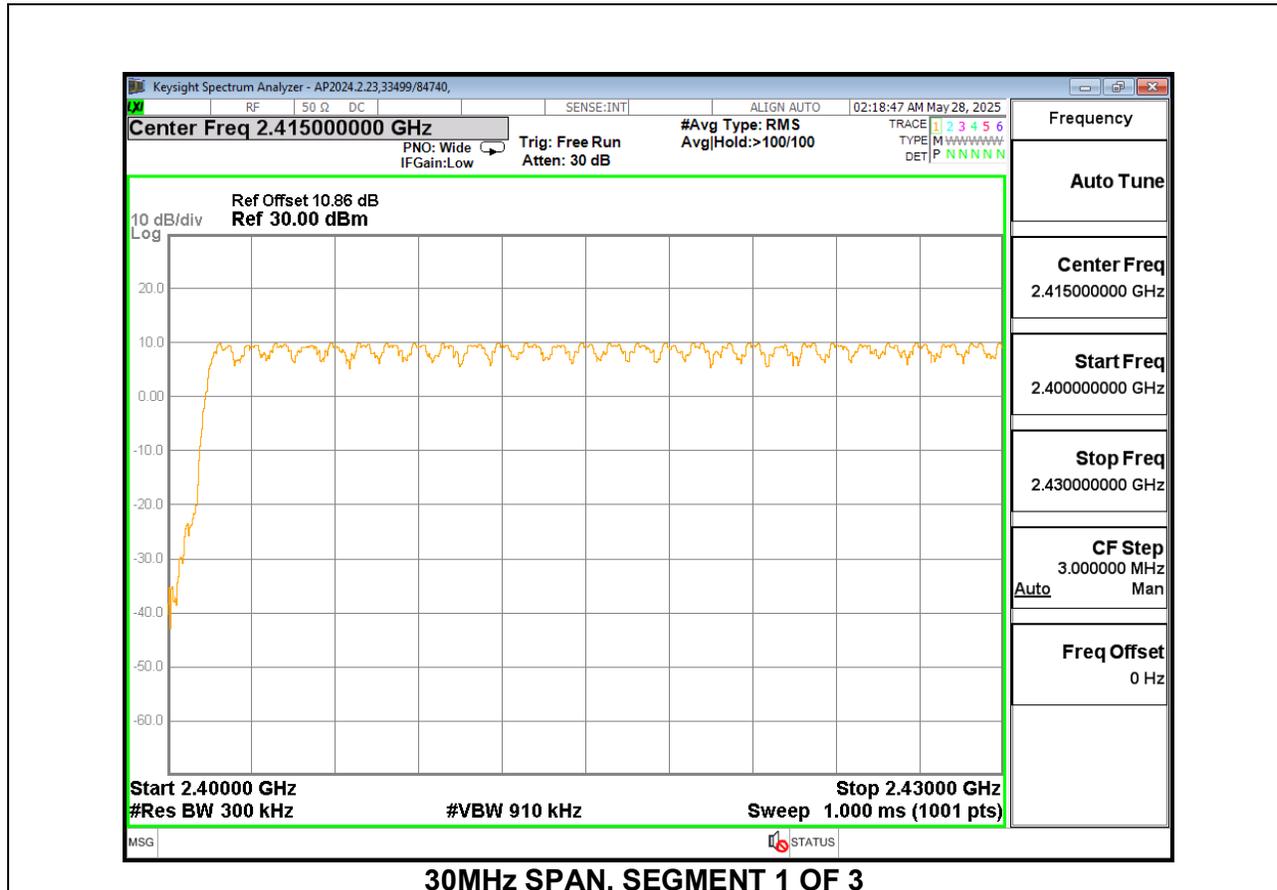
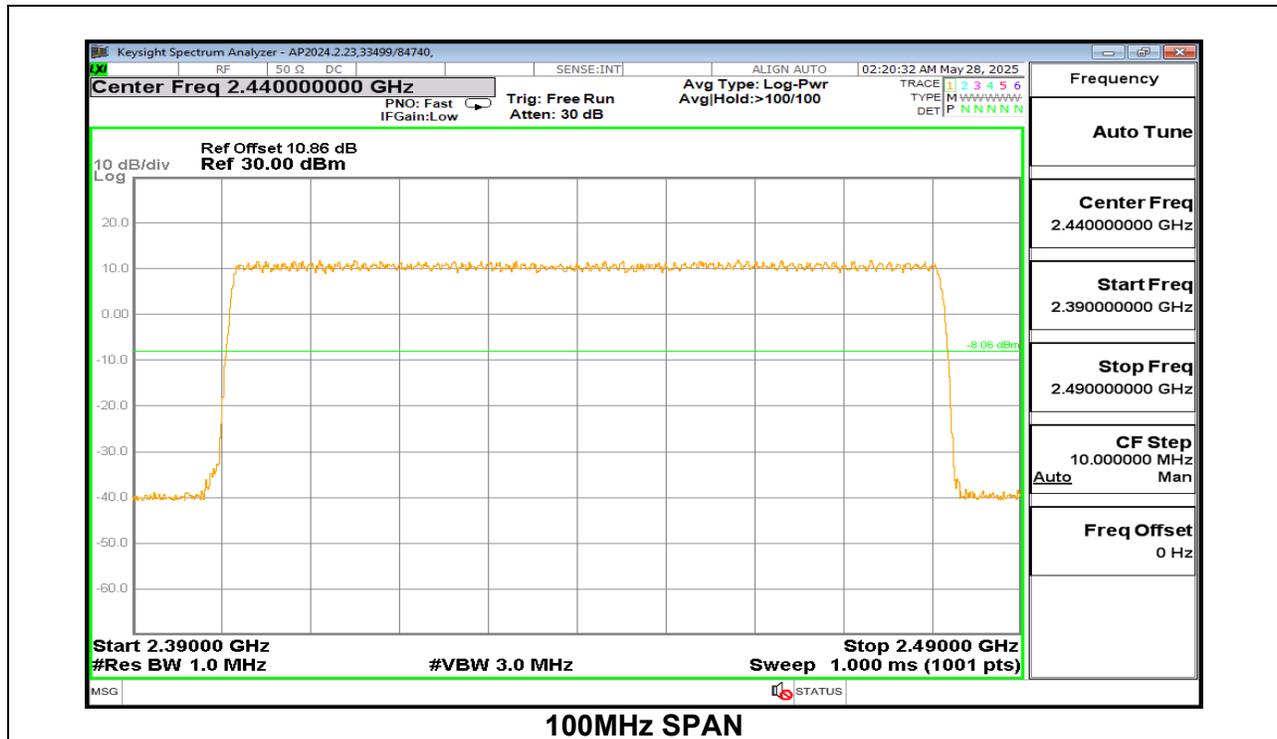


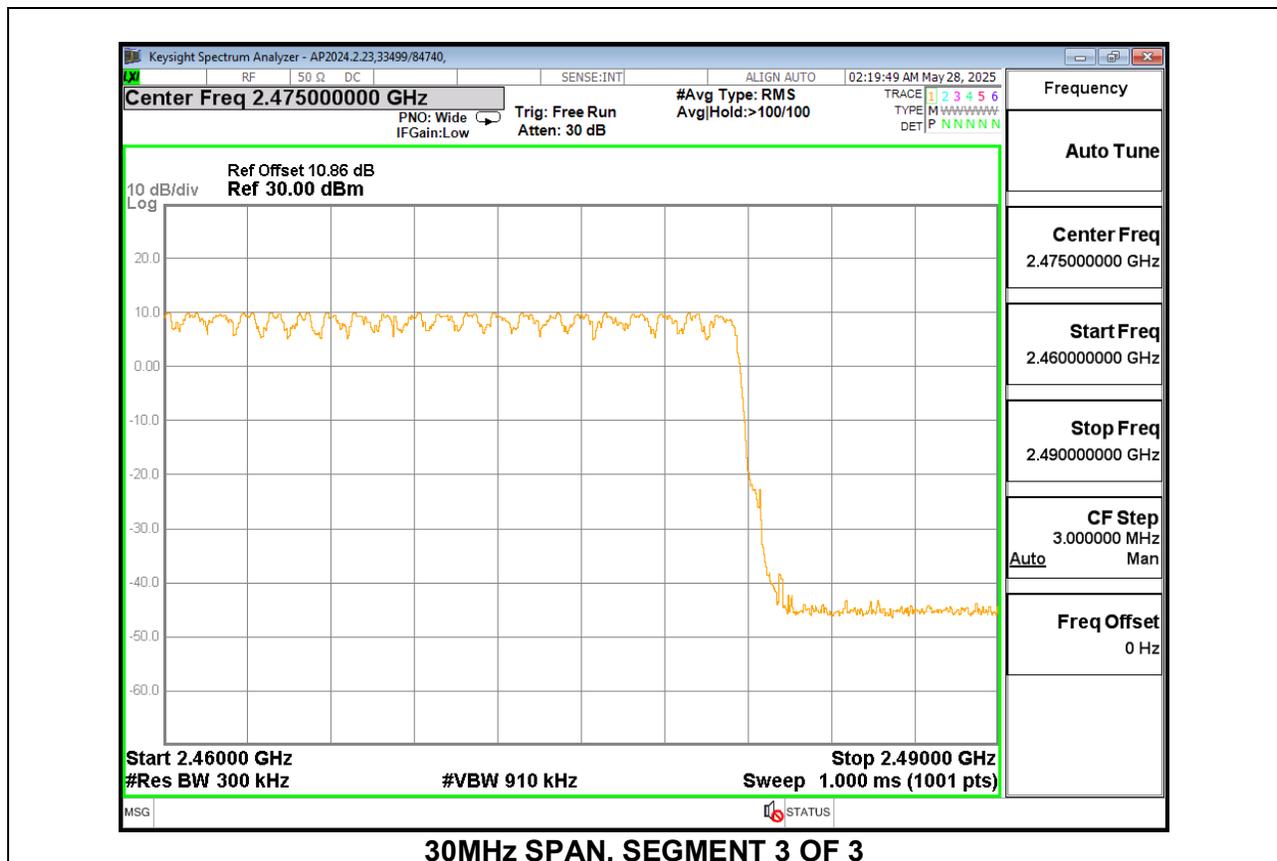
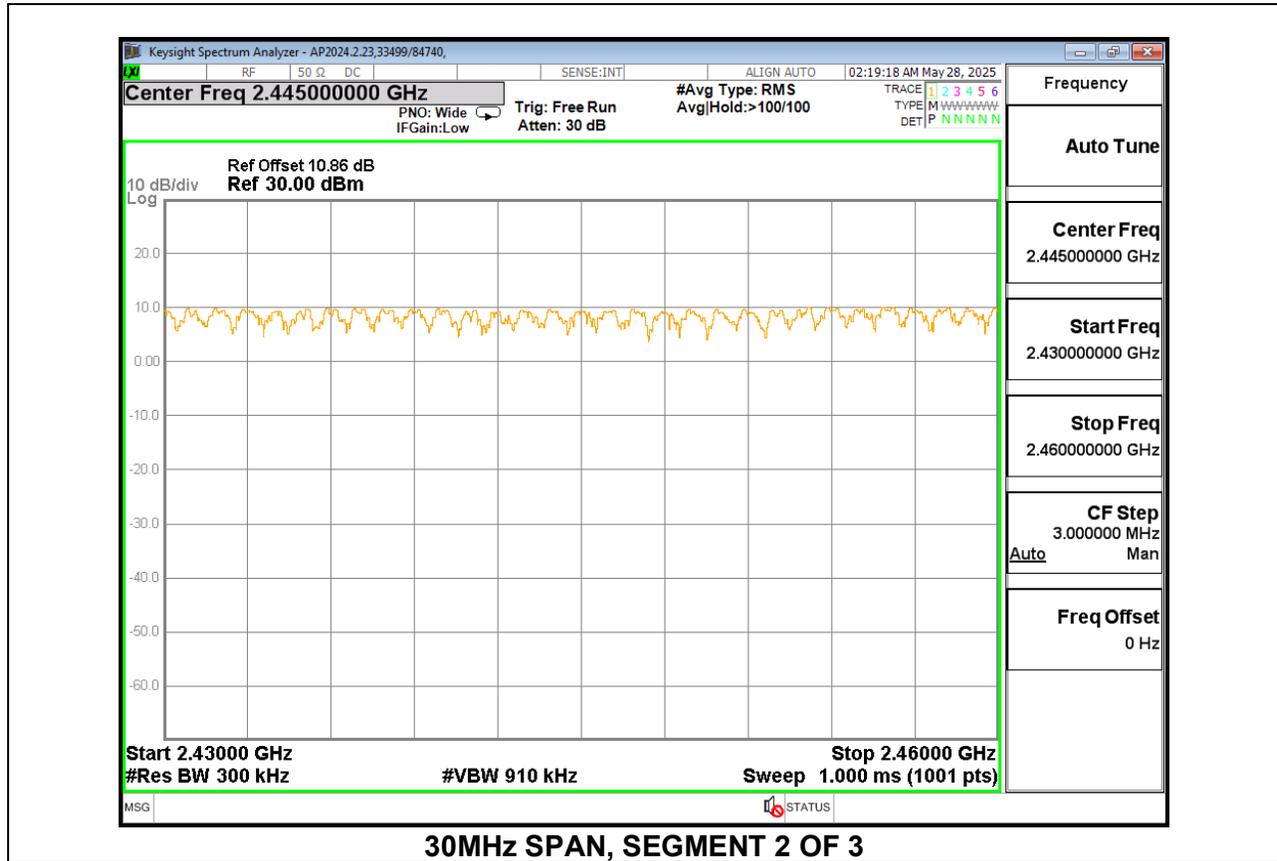
9.3.2. BLUETOOTH BASIC DATA RATE QPSK MODULATION





9.3.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION





9.4. AVERAGE TIME OF OCCUPANCY

LIMITS

FCC §15.247 (a) (1) (iii)
 RSS-247 (5.1) (d)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16-second scan, to enable resolution of each occurrence.

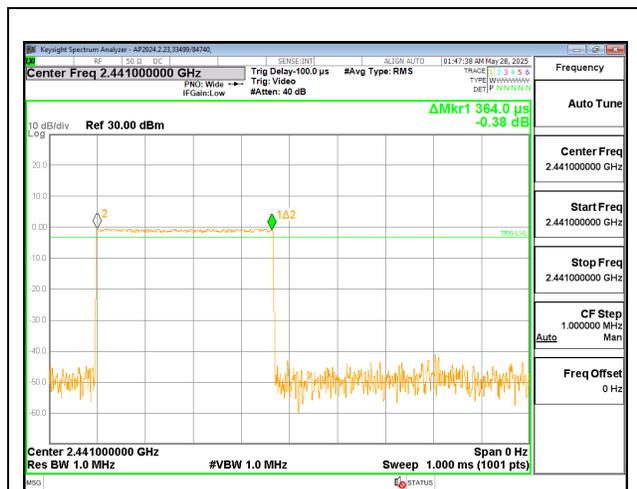
The average time of occupancy in the specified 3.16 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{ pulse width}$.

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to $10 * (\# \text{ of pulses in } 0.8 \text{ s}) * \text{ pulse width}$.

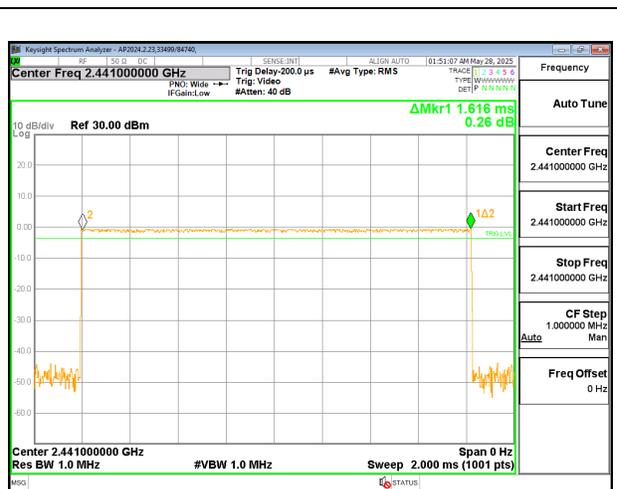
RESULTS

9.4.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

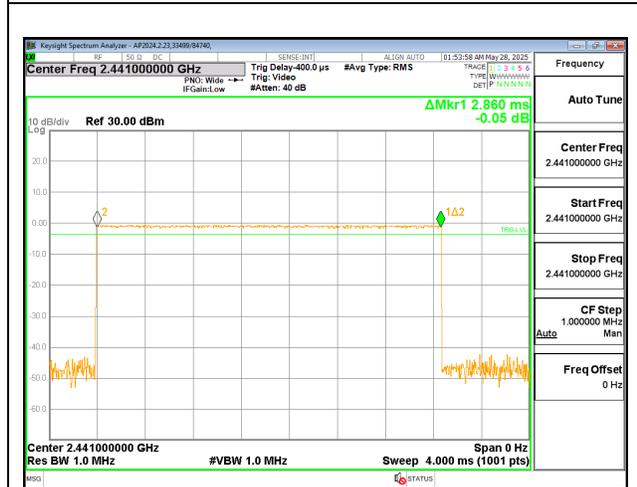
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.364	31	0.1128	0.4	-0.2872
DH3	1.616	17	0.2747	0.4	-0.1253
DH5	2.860	7	0.2002	0.4	-0.1998
GFSK AFH Mode					
DH Packet	Pulse Width (sec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.364	7.75	0.02821	0.4	-0.3718
DH3	1.616	4.25	0.06868	0.4	-0.3313
DH5	2.86	1.75	0.05005	0.4	-0.3500



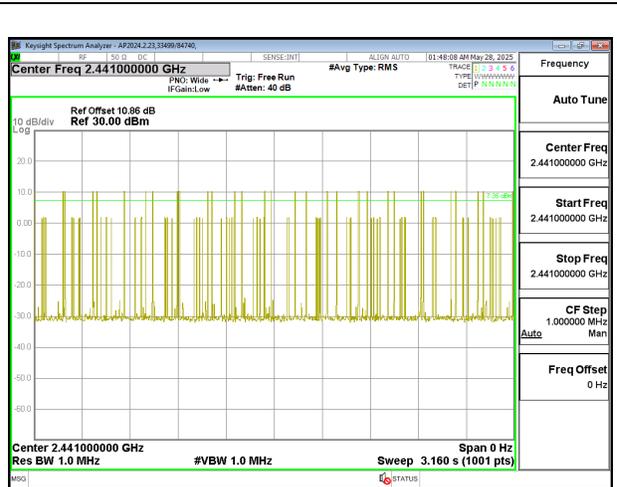
PULSE WIDTH – DH1



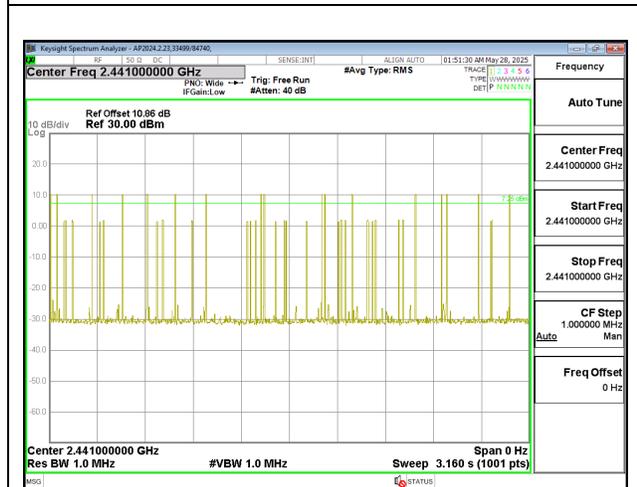
PULSE WIDTH – DH3



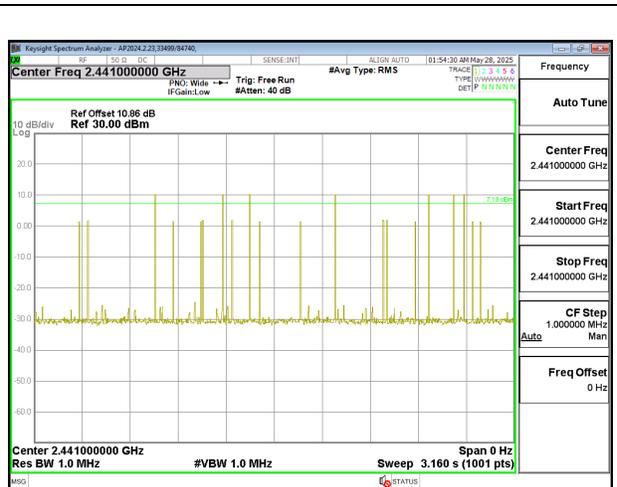
PULSE WIDTH – DH5



**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – DH1**



**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – DH3**

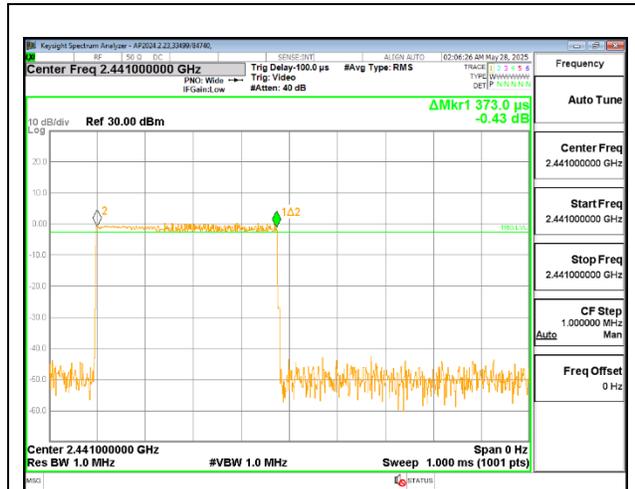


**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – DH5**

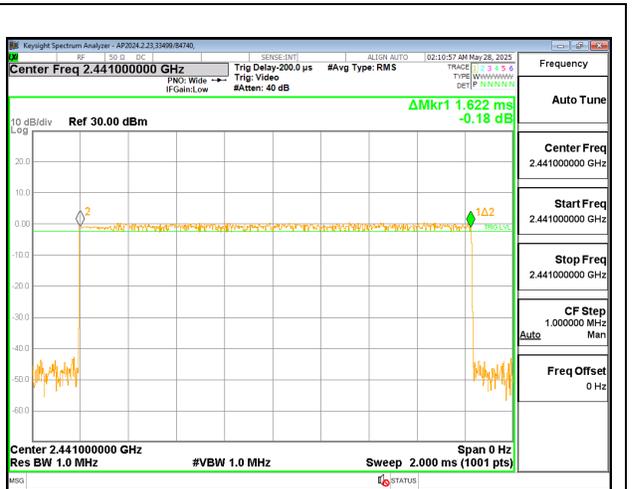
9.4.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
QPSK Normal Mode					
3DH1	0.373	32	0.11936	0.4	-0.28064
3DH3	1.622	18	0.29196	0.4	-0.10804
3DH5	2.864	11	0.31504	0.4	-0.08496

Note: for AFH(QPSK) mode, please refer to the results of AFH(GFSK) mode; the channel selection and hopping rate are the same for both EDR and Basic Rate operation, data for Basic Rate demonstrates compliance with channel occupancy when AFH is employed.



PULSE WIDTH – 3DH1



PULSE WIDTH – 3DH3



PULSE WIDTH – 3DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH1



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH3

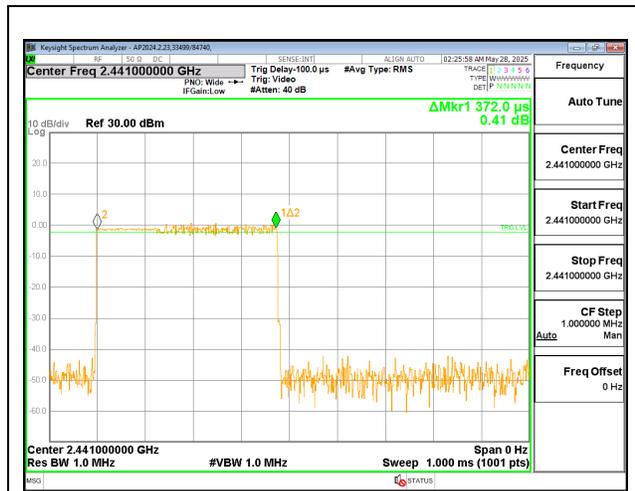


NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH5

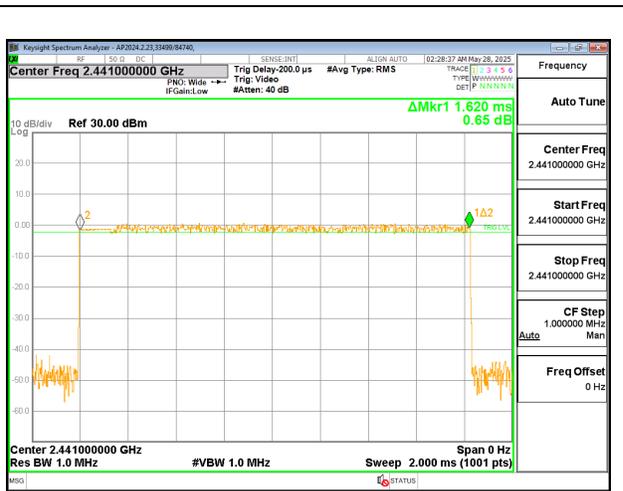
9.4.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
8PSK Normal Mode					
3DH1	0.372	33	0.12276	0.4	-0.27724
3DH3	1.620	15	0.243	0.4	-0.157
3DH5	2.864	11	0.31504	0.4	-0.08496

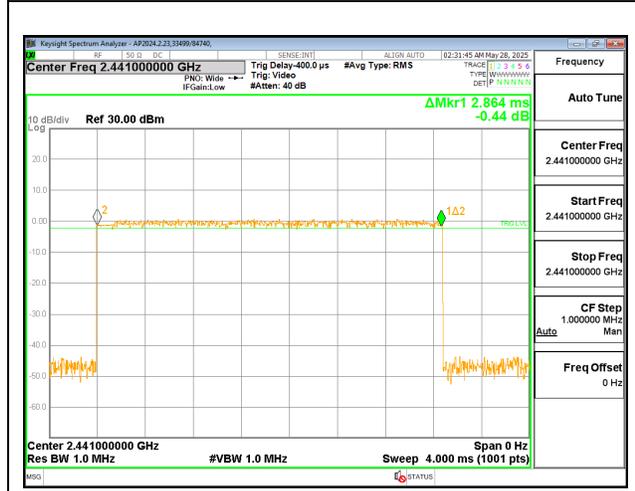
Note: for AFH(8PSK) mode, please refer to the results of AFH(GFSK) mode; the channel selection and hopping rate are the same for both EDR and Basic Rate operation, data for Basic Rate demonstrates compliance with channel occupancy when AFH is employed.



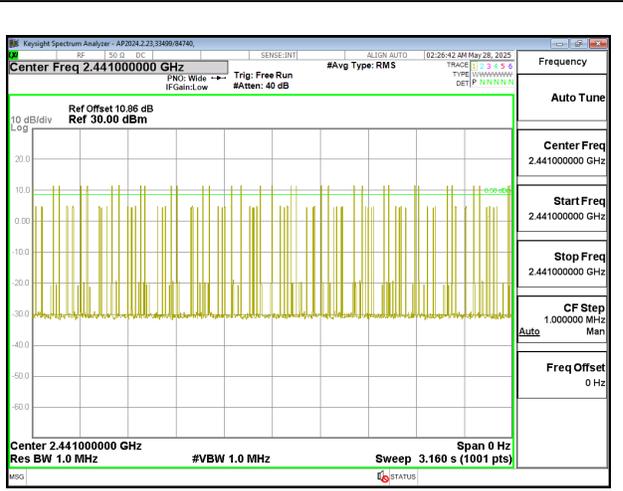
PULSE WIDTH – 3DH1



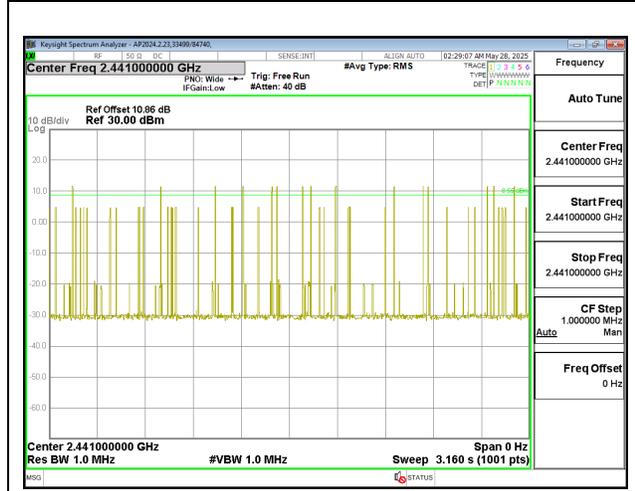
PULSE WIDTH – 3DH3



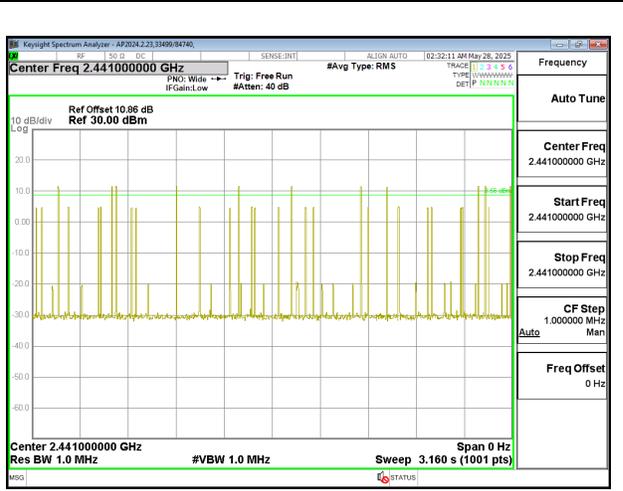
PULSE WIDTH – 3DH5



**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – 3DH1**



**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – 3DH3**



**NUMBER OF PULSES IN 3.16 SECOND
 OBSERVATION PERIOD – 3DH5**

9.5. OUTPUT POWER

LIMITS

§15.247 (b) (1)
RSS-247 (5.4) (b)

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts

TEST PROCEDURE

Measurements are performed using a wideband gated RF power meter.

The cable assembly insertion loss of 10.35 dB (including 0.69 dB cable and a 9.66 dB pad) was entered as an offset in the power meter.

The power output was measured on the EUT antenna port using an SMA cable with an attenuator connected to a power meter via a wideband power sensor. Peak output power was read directly from power meter.

RESULTS

9.5.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	10.93	21	-10.07
Middle	2441	10.94	21	-10.06
High	2480	11.00	21	-10.00

9.5.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	13.18	21	-7.82
Middle	2441	12.86	21	-8.14
High	2480	12.93	21	-8.07

9.5.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

Tested By:	105900/84740
Date:	2025-05-12

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	14.09	21	-6.91
Middle	2441	12.98	21	-8.02
High	2480	12.88	21	-8.12

9.6. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

Measurements are performed using a wideband gated RF power meter.

The cable assembly insertion loss of 10.35 dB (including 0.69 dB cable and a 9.66 dB pad) was entered as an offset in the power meter.

The power output was measured on the EUT antenna port using an SMA cable with an attenuator connected to a power meter via wideband power sensor. Gated average output power was read directly from power meter.

RESULTS

9.6.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

Tested By:	105900/84740
Date	2025-05-12

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	10.063
Middle	2441	10.054
High	2480	10.156

9.6.1. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

Tested By:	105900/84740
Date	2025-05-12

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	9.989
Middle	2441	9.578
High	2480	9.671

9.6.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

Tested By:	105900/84740
Date	2025-05-12

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	9.874
Middle	2441	9.880
High	2480	9.785

9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)
RSS-247 5.5
Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

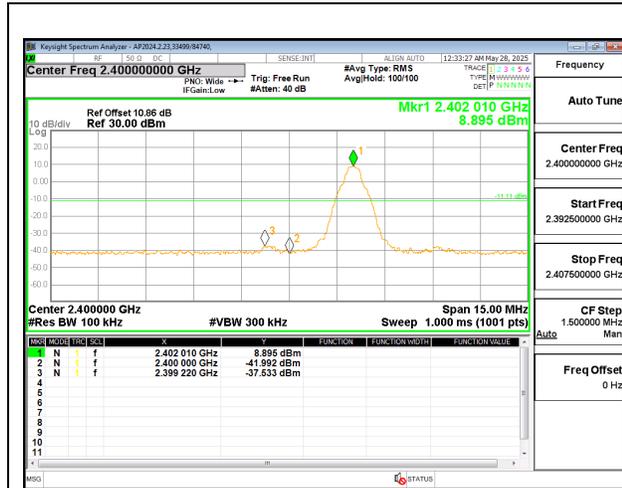
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

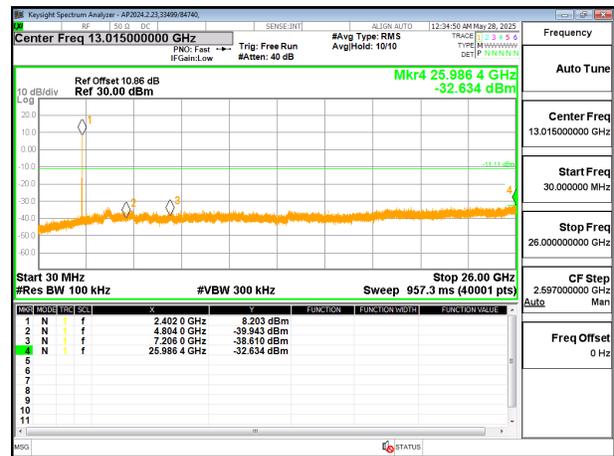
RESULTS

9.7.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

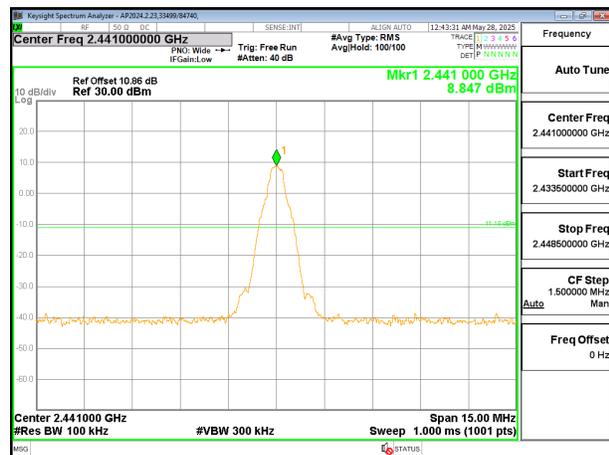
SPURIOUS EMISSIONS, NON-HOPPING



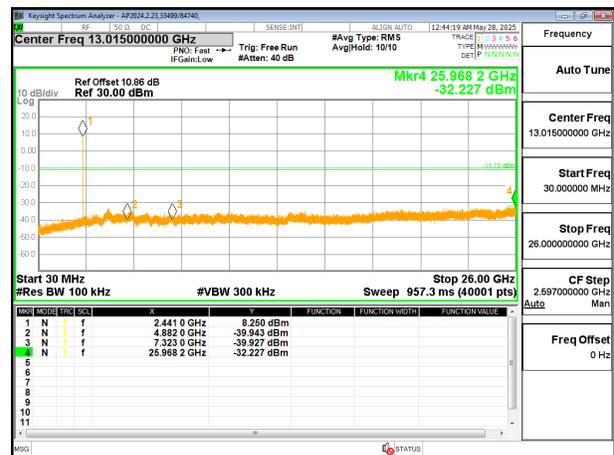
LOW CHANNEL BANDEDGE



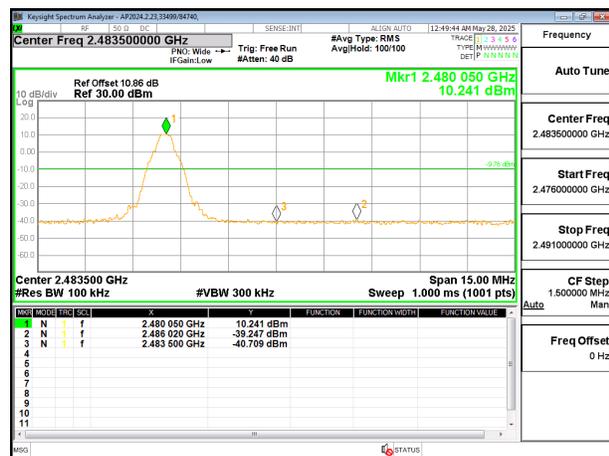
OUT-OF-BAND LOW CHANNEL



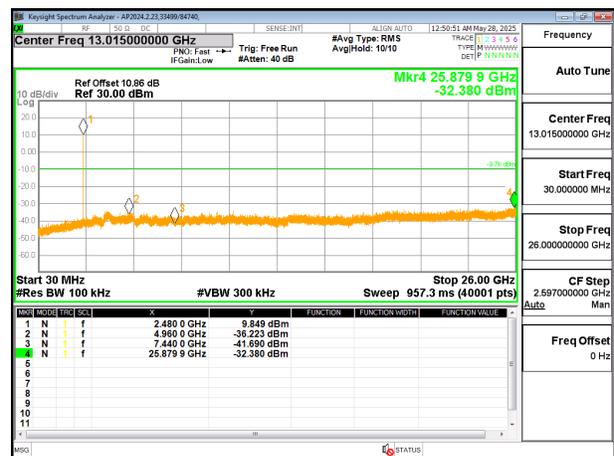
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

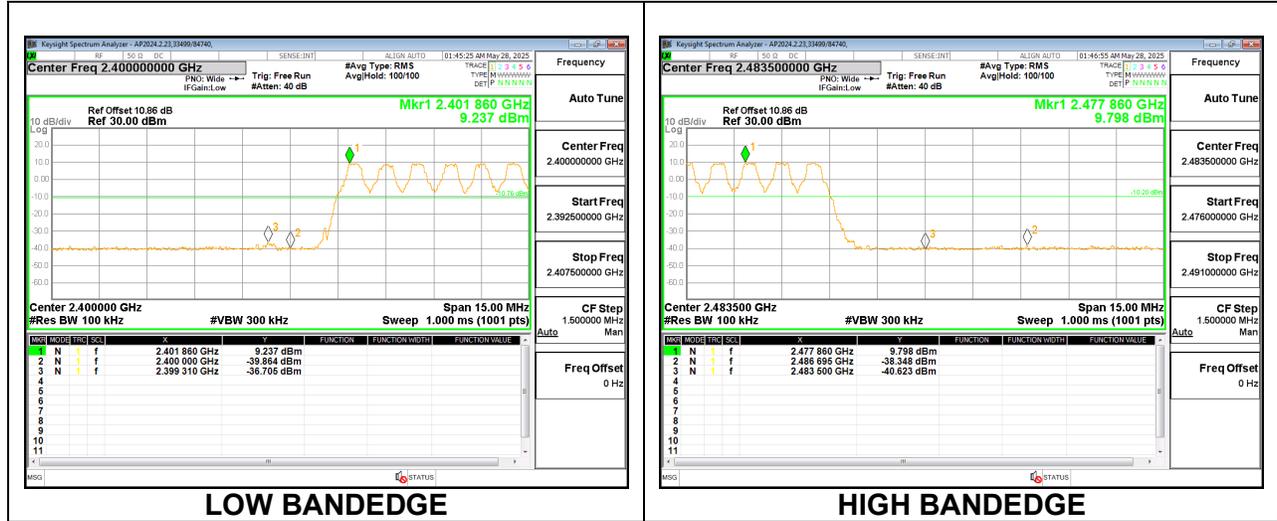


HIGH CHANNEL BANDEDGE



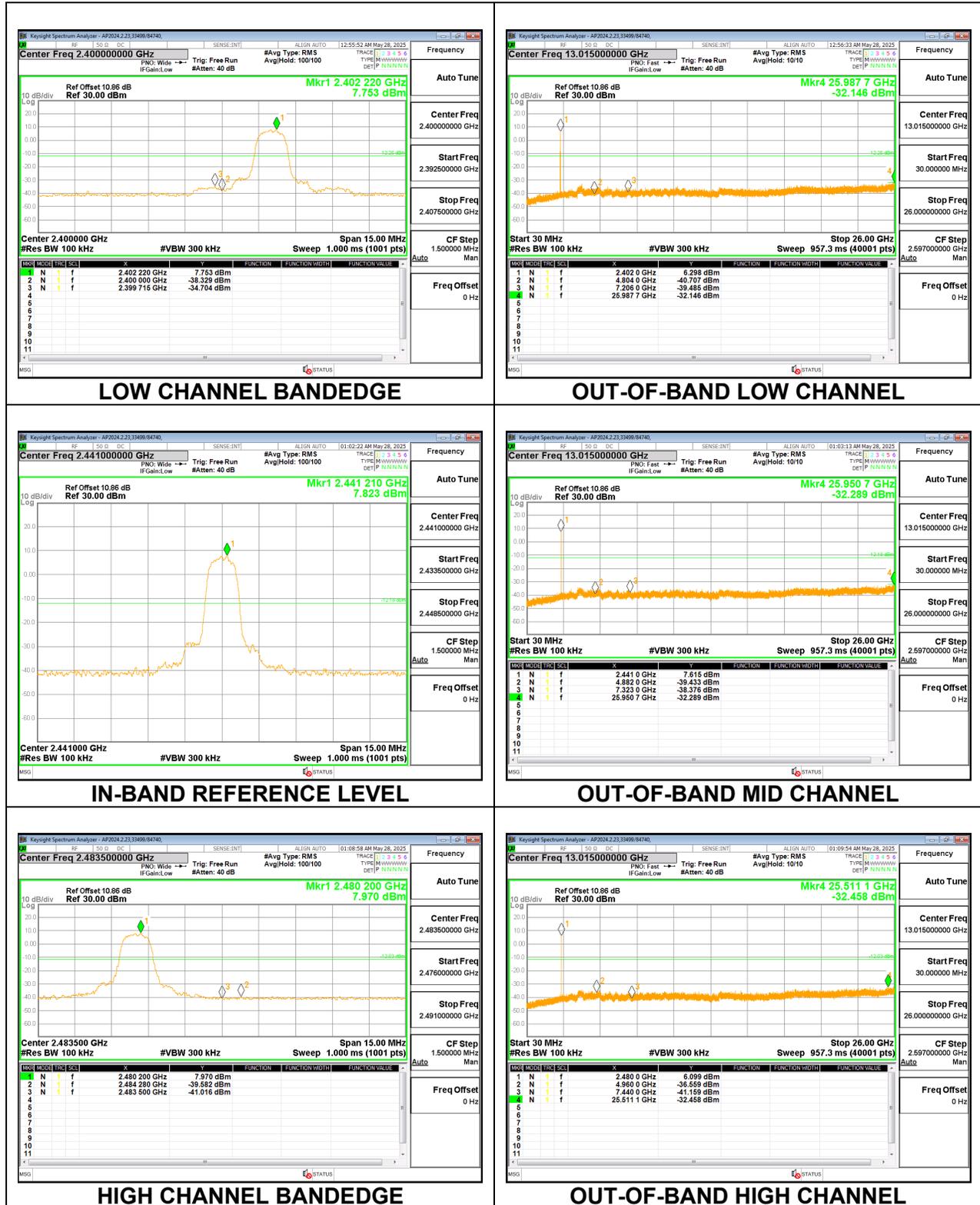
OUT-OF-BAND HIGH CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



9.7.2. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

SPURIOUS EMISSIONS, NON-HOPPING

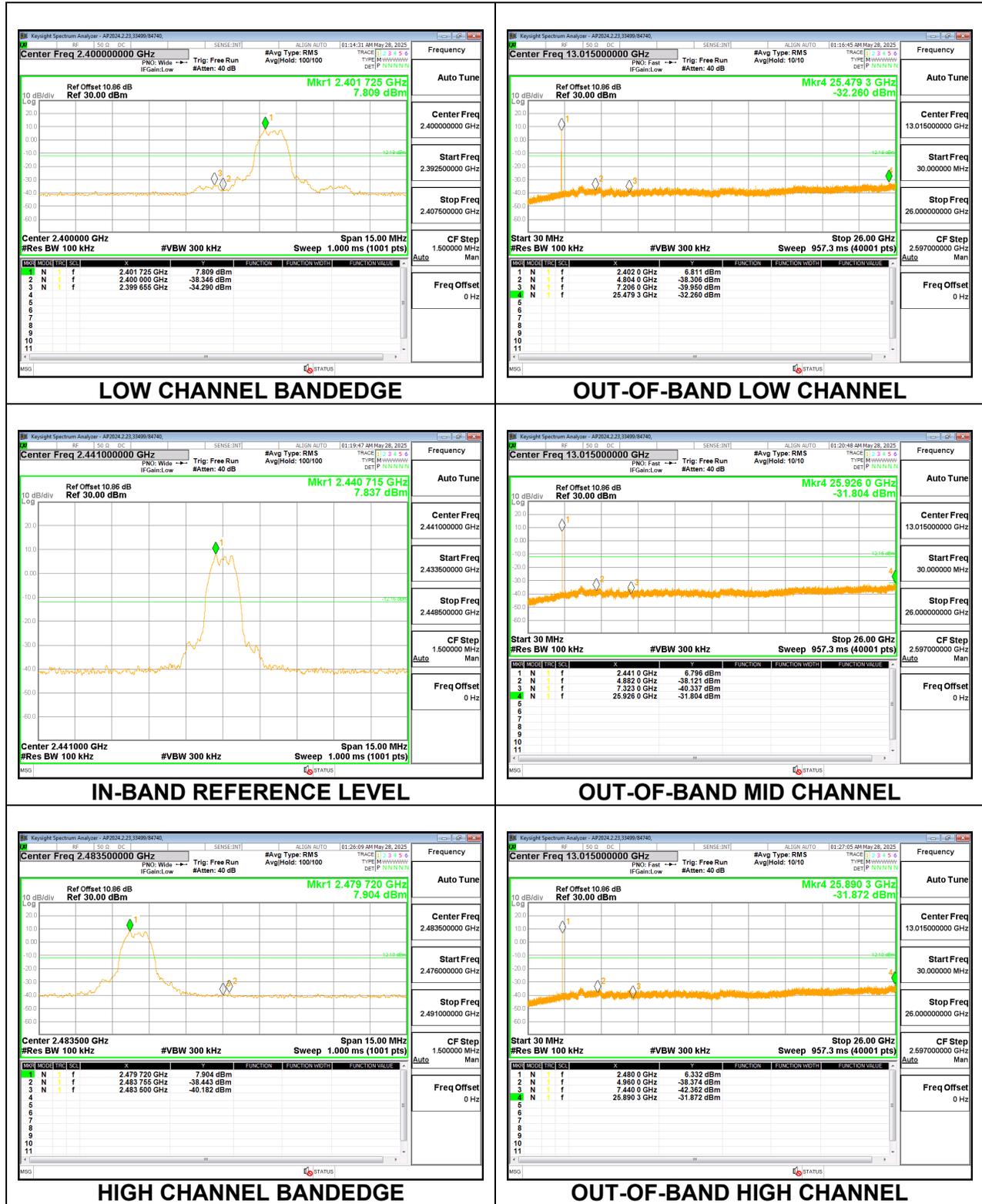


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



9.7.3. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, NON-HOPPING



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



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

RSS-GEN Clause 8.9 and 8.10

Frequency Range (kHz)	Field Strength Limit (uA/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	6.37/F(kHz) @ 300 m	-
0.490-1.705	63.7/F(kHz) @ 30 m	-
1.705 - 30	0.08 @ 30m	-
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

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

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 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).

Based 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. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

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

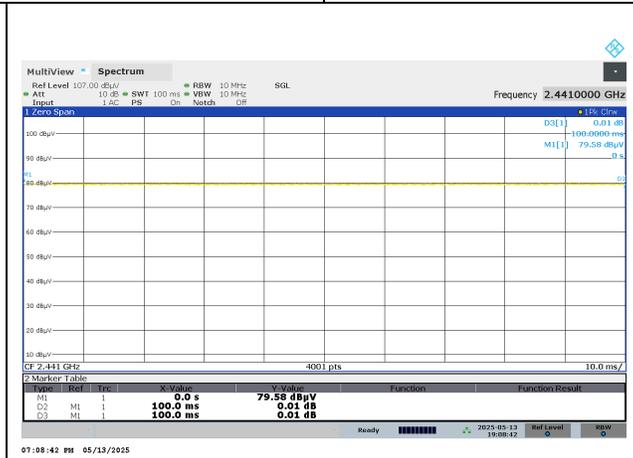
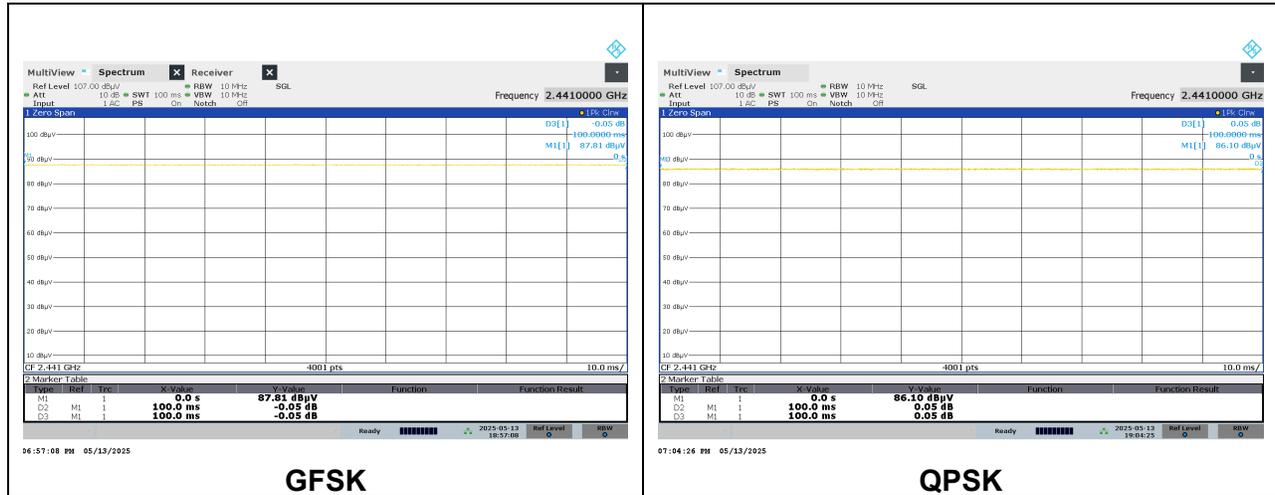
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
Bluetooth GFSK	100.000	100.000	1.000	100	0.00	0.010
Bluetooth QPSK	100.000	100.000	1.000	100	0.00	0.010
Bluetooth 8PSK	100.000	100.000	1.000	100	0.00	0.010

DUTY CYCLE PLOTS

Tested By: 85501

Test Location: Chamber 1

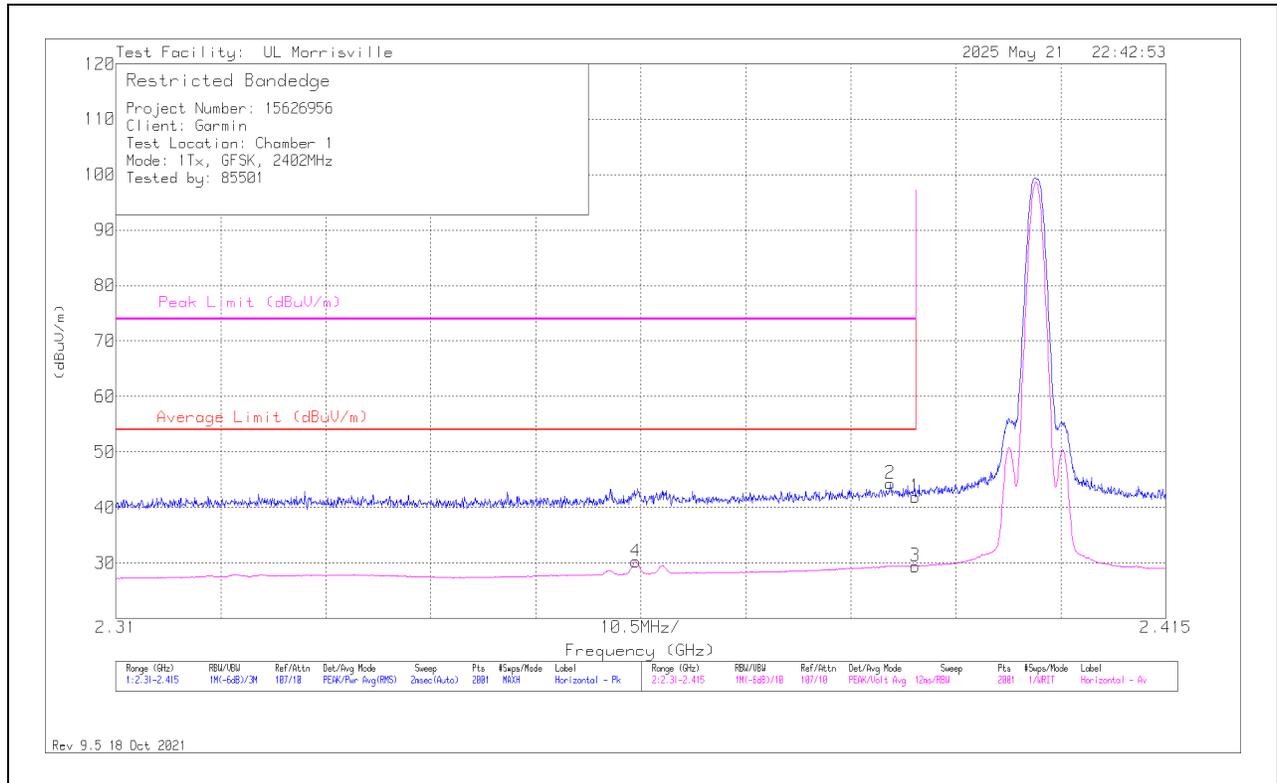


8PSK

10.1.2. BLUETOOTH BASIC DATA RATE GFSK MODULATION

BANDEDGE (LOW CHANNEL)

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	34.05	Pk	31.9	-24	41.95	-	-	74	-32.05	251	101	H
2	* ** 2.38744	36.33	Pk	31.9	-23.9	44.33	-	-	74	-29.67	251	101	H
3	* ** 2.38996	21.5	VA1T	31.9	-24	29.4	54	-24.6	-	-	251	101	H
4	* ** 2.36198	22.7	VA1T	31.9	-24.4	30.2	54	-23.8	-	-	251	101	H

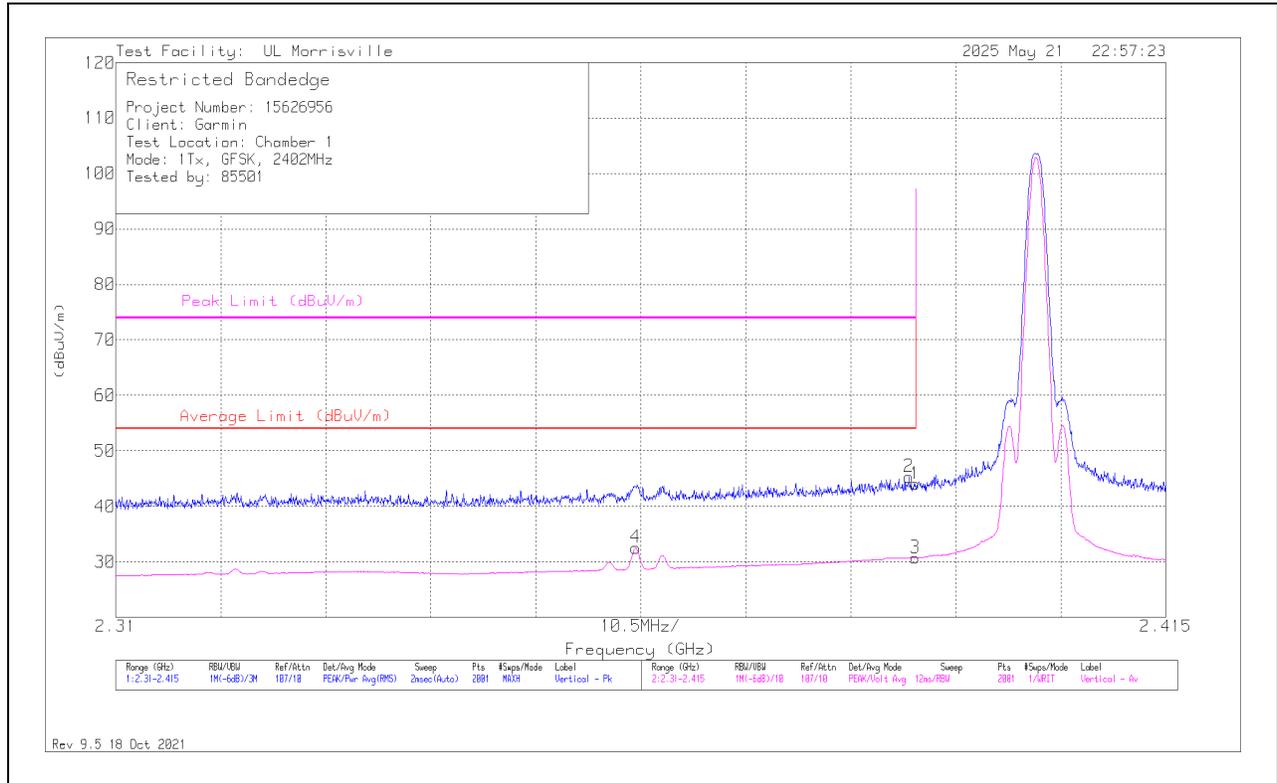
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

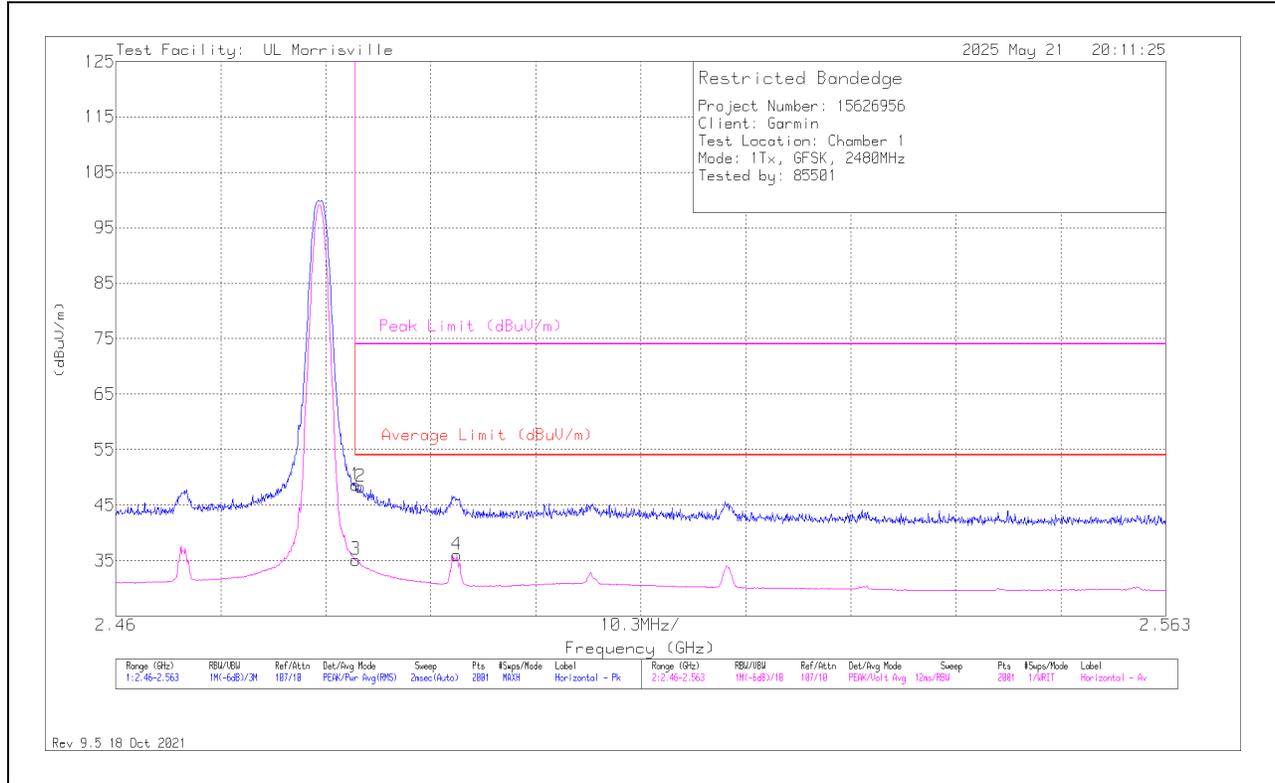


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	36.07	Pk	31.9	-24	43.97	-	-	74	-30.03	328	114	V
2	*** 2.38933	37.35	Pk	31.9	-24	45.25	-	-	74	-28.75	328	114	V
3	*** 2.38996	22.79	VA1T	31.9	-24	30.69	54	-23.31	-	-	328	114	V
4	*** 2.36198	24.96	VA1T	31.9	-24.4	32.46	54	-21.54	-	-	328	114	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

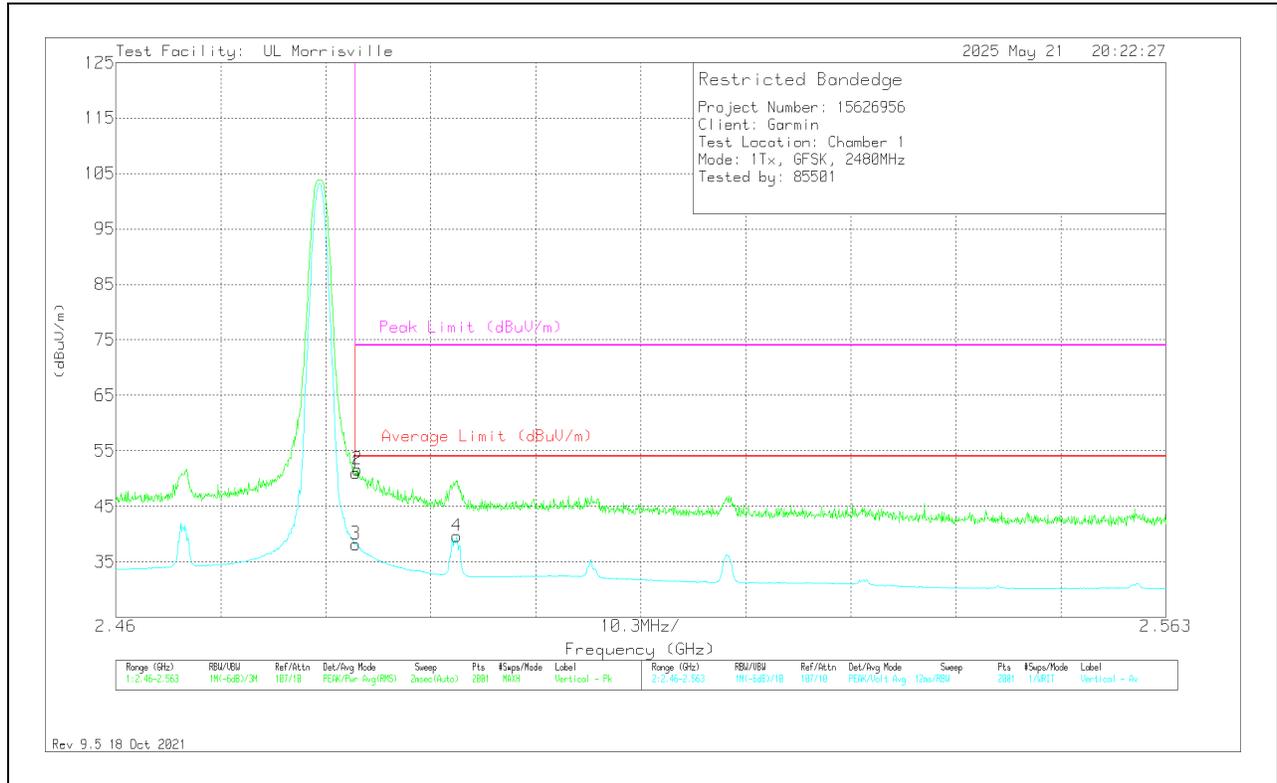
HORIZONTAL RESULT



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	40.09	Pk	32.2	-23.7	48.59	-	-	74	-25.41	248	116	H
2	*** 2.48405	39.92	Pk	32.2	-23.8	48.32	-	-	74	-25.68	248	116	H
3	*** 2.48354	26.64	VA1T	32.2	-23.7	35.14	54	-18.86	-	-	248	116	H
4	** 2.49342	28.11	VA1T	32.3	-24.4	36.01	54	-17.99	-	-	248	116	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

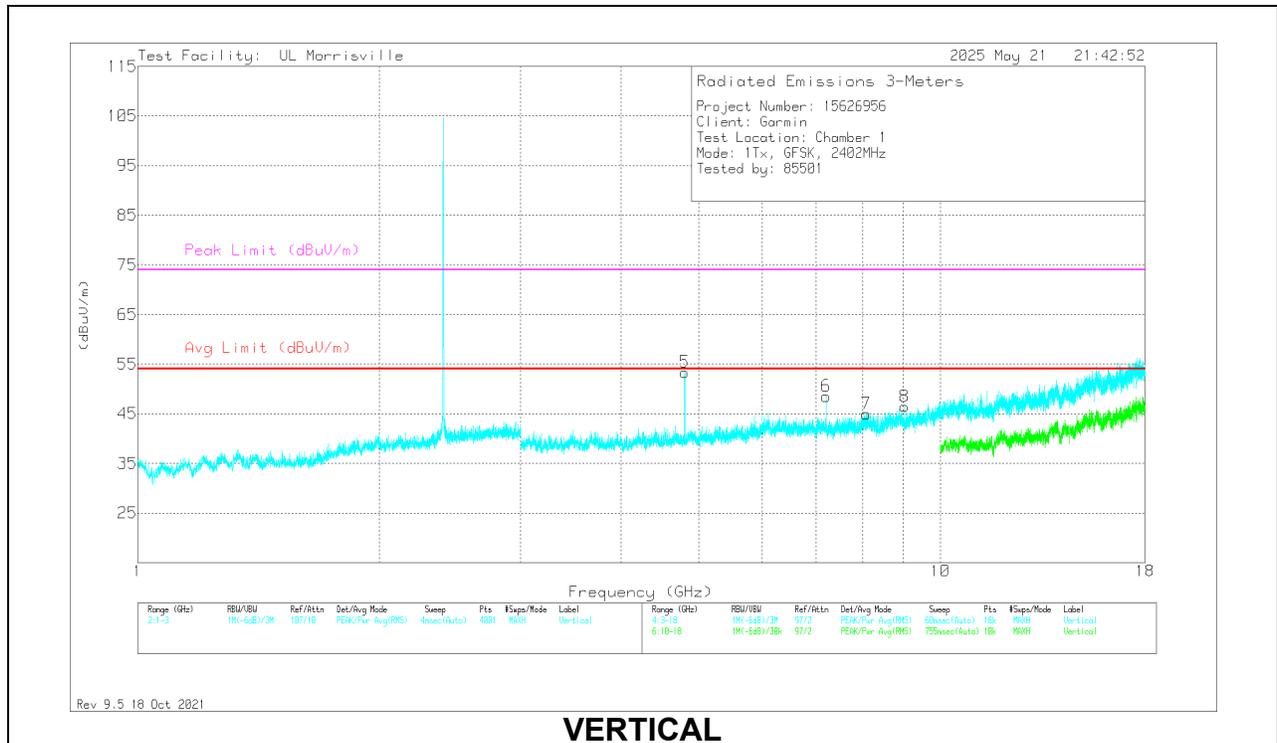
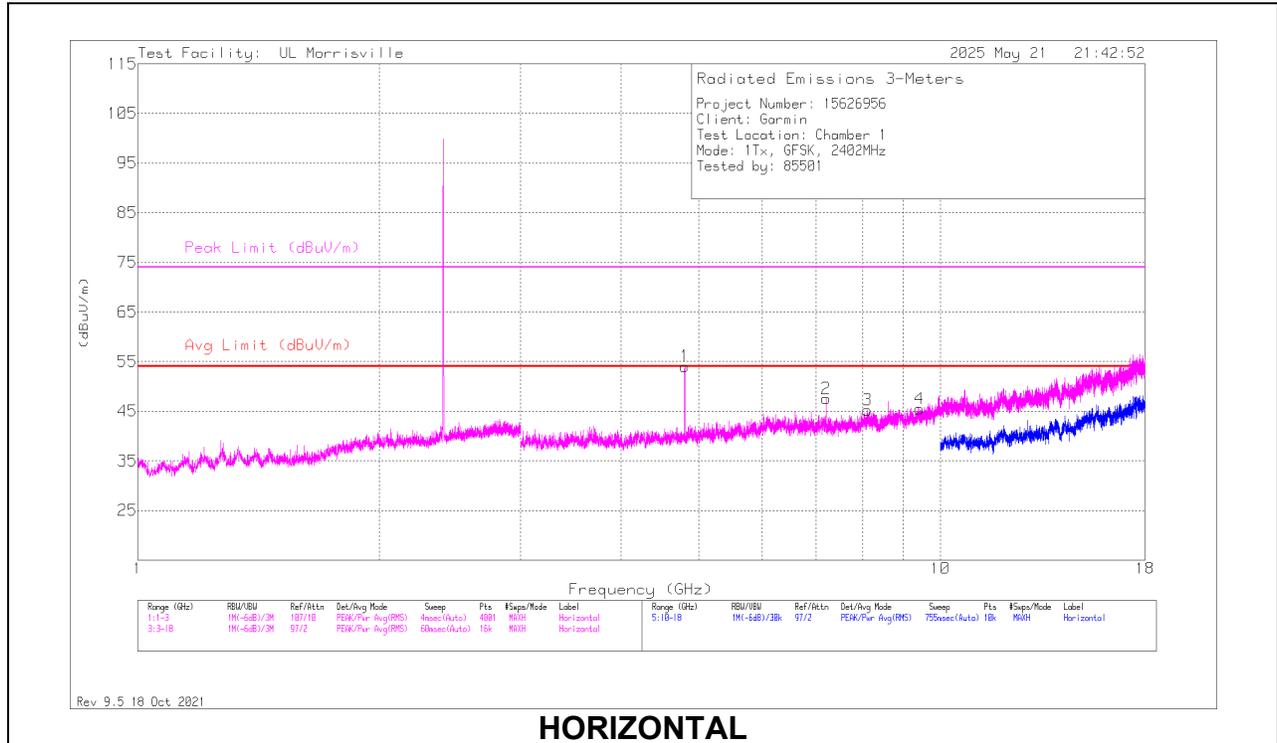


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	42.57	Pk	32.2	-23.7	51.07	-	-	74	-22.93	158	205	V
2	* ** 2.48369	43.17	Pk	32.2	-23.7	51.67	-	-	74	-22.33	158	205	V
3	* ** 2.48354	29.6	VA1T	32.2	-23.7	38.1	54	-15.9	-	-	158	205	V
4	* ** 2.49342	31.68	VA1T	32.3	-24.4	39.58	54	-14.42	-	-	158	205	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	* ** 4.80424	69.13	PK2	33.9	-45.6	57.43	-	-	74	-16.57	335	106	H
	* ** 4.80398	56.28	V1TV	33.9	-45.6	44.58	54	-9.42	-	-	335	106	H
3	* ** 8.11406	50.48	Pk	35.9	-41.2	45.18	54	-8.82	74	-28.82	0-360	200	H
4	* ** 9.42281	49.34	Pk	36.3	-40.2	45.44	54	-8.56	74	-28.56	0-360	200	H
5	* ** 4.80423	67.82	PK2	33.9	-45.6	56.12	-	-	74	-17.88	138	106	V
	* ** 4.80397	56.13	V1TV	33.9	-45.6	44.43	54	-9.57	-	-	138	106	V
7	* ** 8.08125	50.88	Pk	35.9	-41.8	44.98	54	-9.02	74	-29.02	0-360	200	V
8	* ** 9.03188	50.07	Pk	35.8	-39.4	46.47	54	-7.53	74	-27.53	0-360	101	V
2	7.20563	54.32	Pk	35.4	-42.2	47.52	-	-	-	-	0-360	200	H
6	7.20563	55.28	Pk	35.4	-42.2	48.48	-	-	-	-	0-360	200	V

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

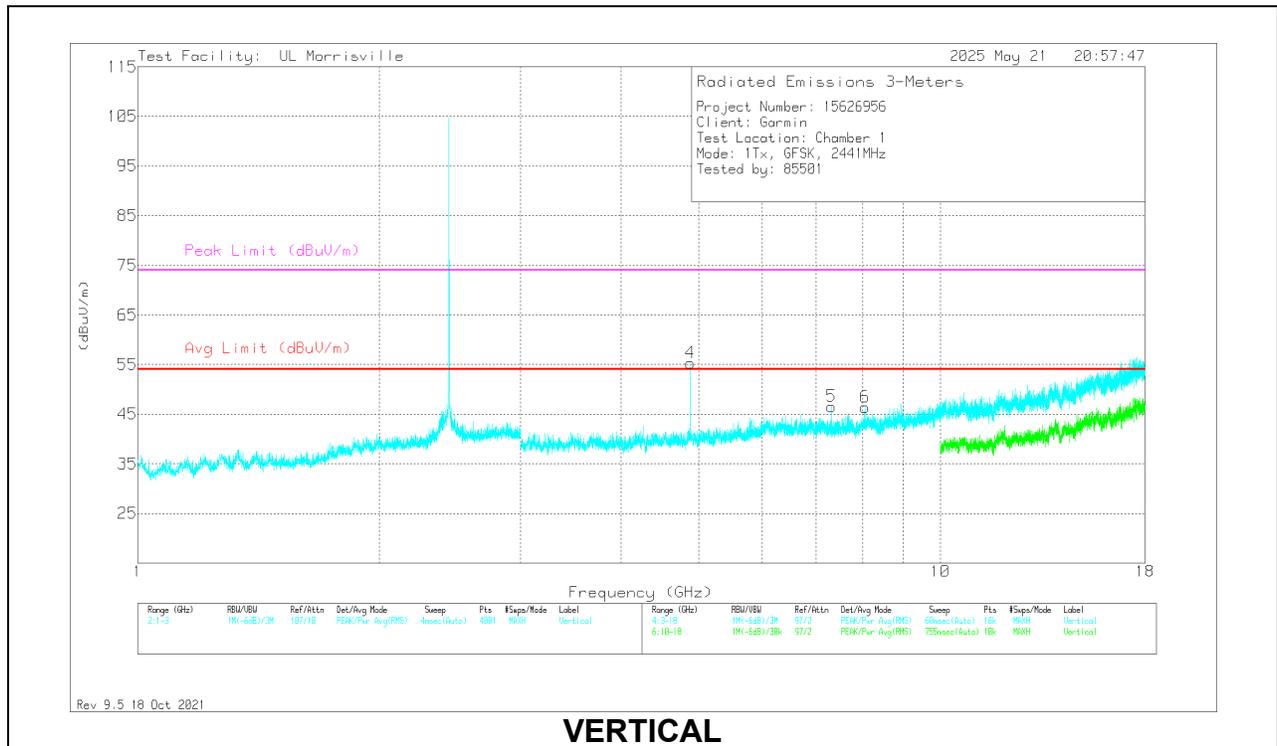
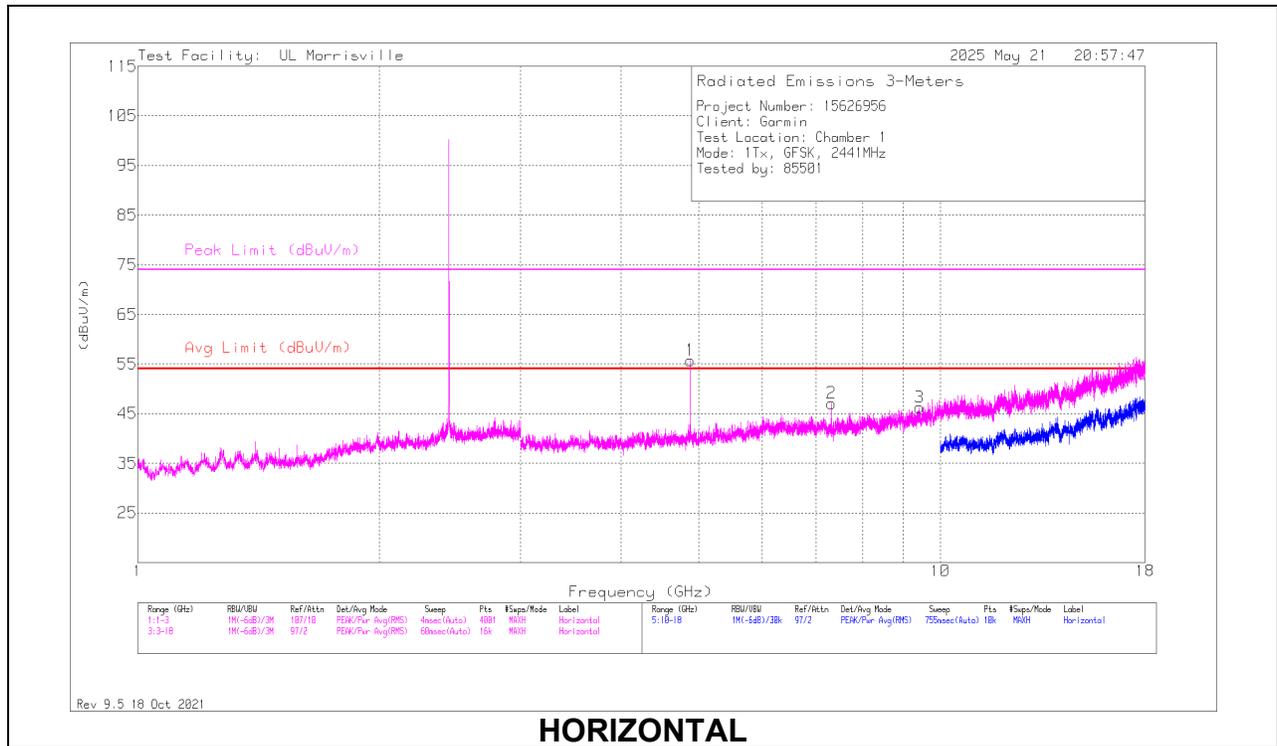
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

V1TV - $V_B=1/T_{on}$, Linear Voltage Average where: T_{on} is packet duration

MID CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.88191	70.97	PK2	34	-44.7	60.27	-	-	74	-13.73	34	104	H
	*** 4.88199	58.64	V1TV	34	-44.7	47.94	54	-6.06	-	-	34	104	H
2	*** 7.32281	53.55	Pk	35.4	-41.9	47.05	54	-6.95	74	-26.95	0-360	200	H
3	*** 9.41625	49.52	Pk	36.3	-39.6	46.22	54	-7.78	74	-27.78	0-360	101	H
4	*** 4.88163	69.83	PK2	34	-44.7	59.13	-	-	74	-14.87	117	131	V
	*** 4.88197	57.6	V1TV	34	-44.7	46.9	54	-7.1	-	-	117	131	V
5	*** 7.32375	53.12	Pk	35.4	-42	46.52	54	-7.48	74	-27.48	0-360	101	V
6	*** 8.05406	51.16	Pk	35.9	-40.6	46.46	54	-7.54	74	-27.54	0-360	200	V

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

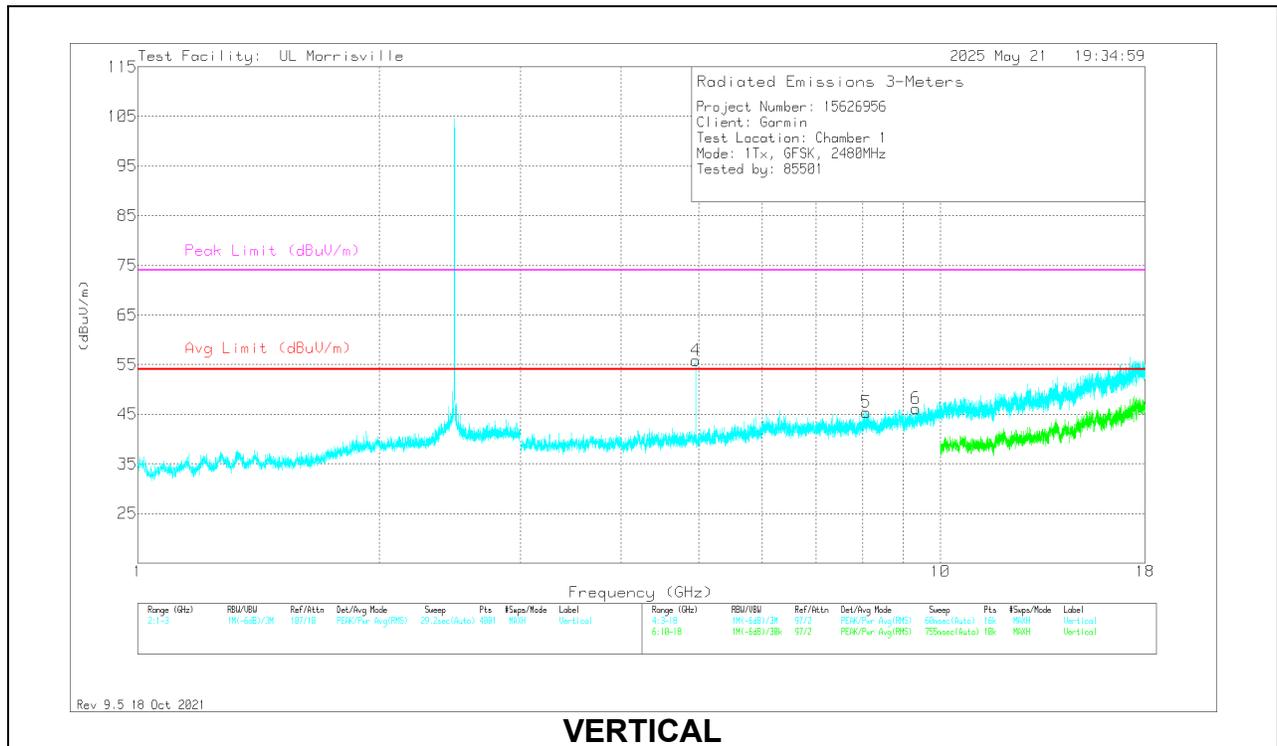
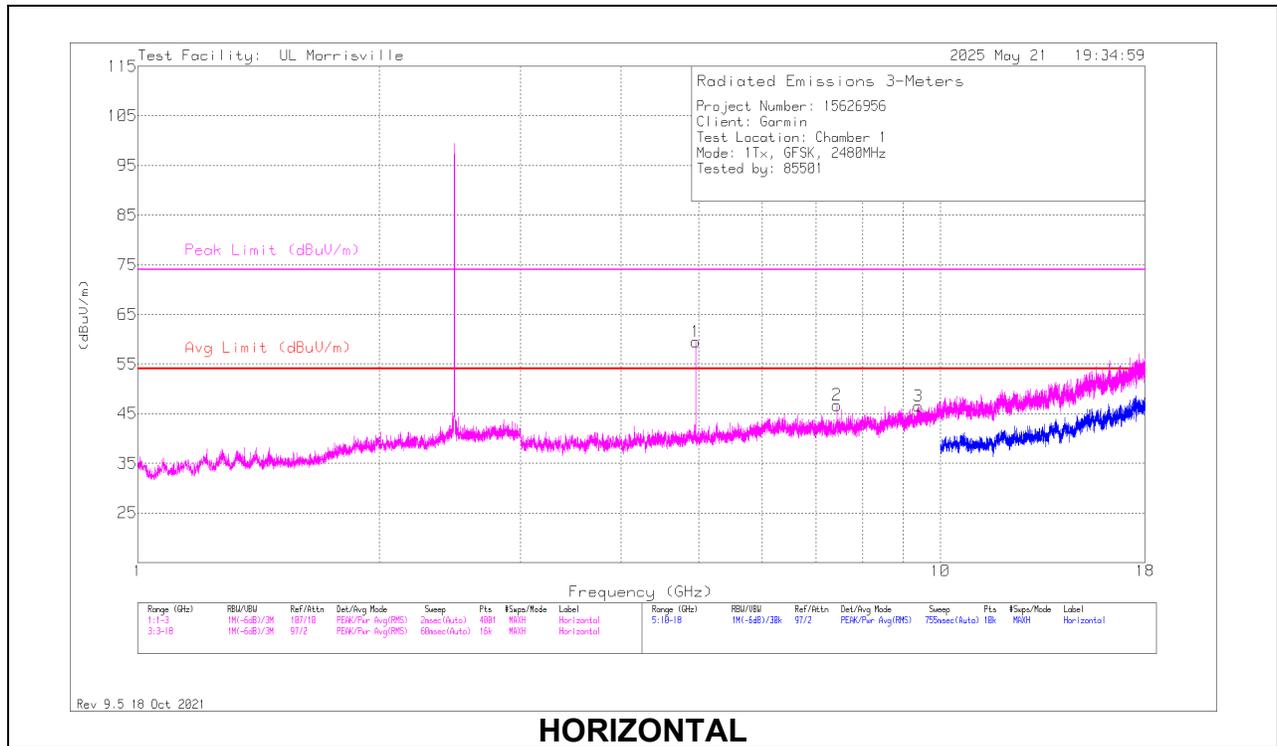
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

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

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.95954	43.05	PK2	34.2	-44.8	32.45	-	-	74	-41.55	146	128	H
	*** 4.95995	58.44	V1TV	34.2	-44.8	47.84	54	-6.16	-	-	146	128	H
2	*** 7.43906	52.32	Pk	35.4	-41	46.72	54	-7.28	74	-27.28	0-360	200	H
3	*** 9.39188	50.28	Pk	36.3	-40.1	46.48	54	-7.52	74	-27.52	0-360	200	H
4	*** 4.95976	70.15	PK2	34.2	-44.8	59.55	-	-	74	-14.45	121	131	V
	*** 4.95996	57.87	V1TV	34.2	-44.8	47.27	54	-6.73	-	-	121	131	V
5	*** 8.08875	51.32	Pk	35.9	-41.9	45.32	54	-8.68	74	-28.68	0-360	200	V
6	*** 9.32344	50.46	Pk	36.2	-40.5	46.16	54	-7.84	74	-27.84	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

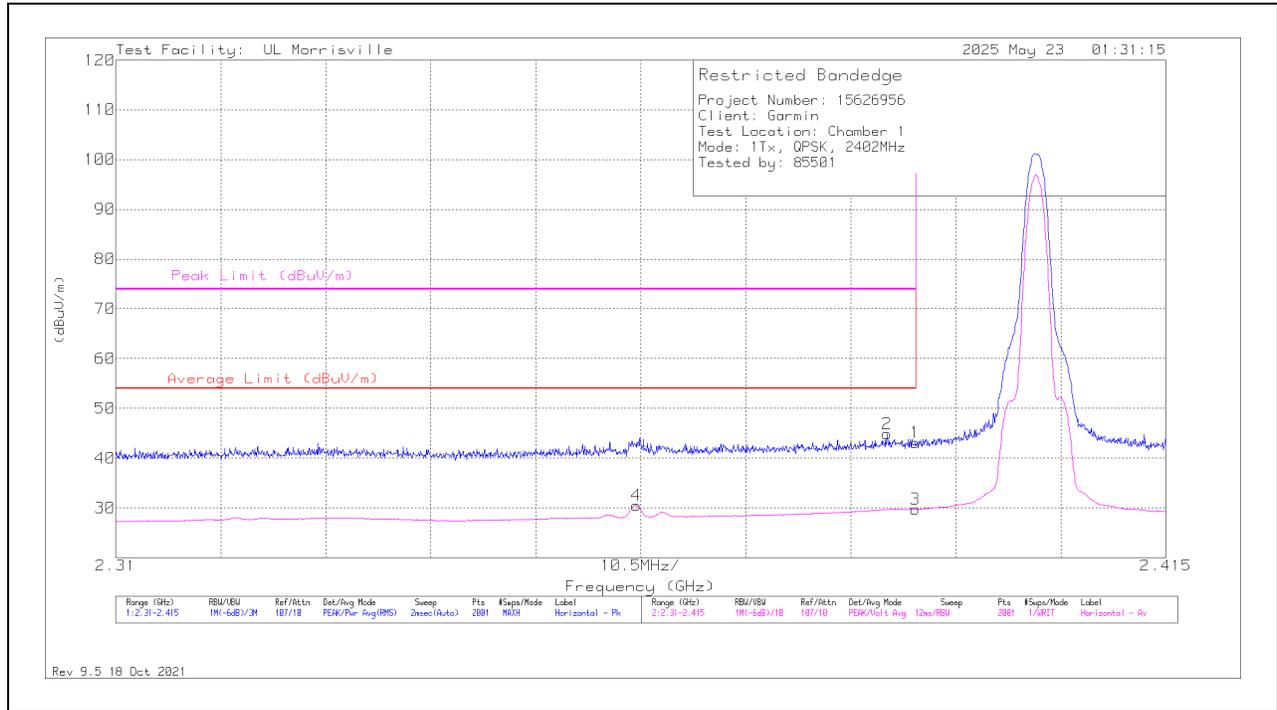
PK2 - Maximum Peak

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

10.1.3. BLUETOOTH ENHANCED DATA RATE QPSK MODULATION

BANDEDGE (LOW CHANNEL)

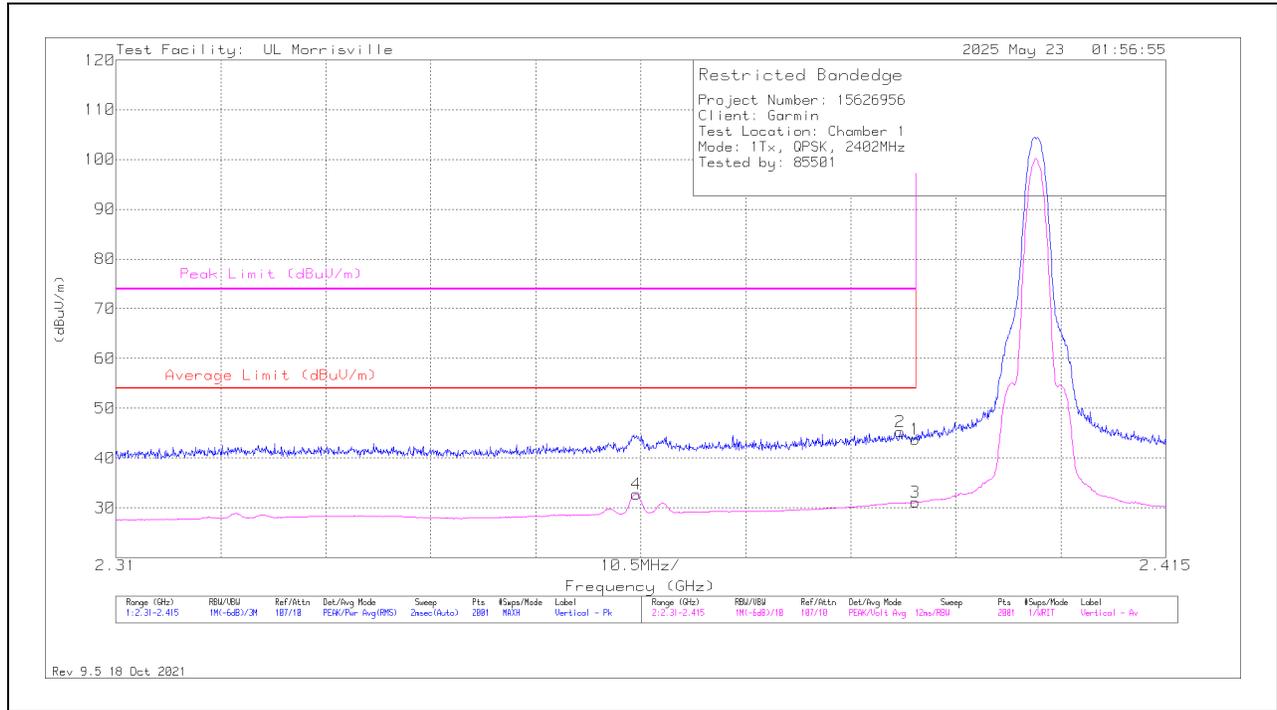
HORIZONTAL RESULT



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	35.2	Pk	31.9	-24	43.1	-	-	74	-30.9	290	101	H
2	*** 2.38712	36.88	Pk	31.9	-23.9	44.88	-	-	74	-29.12	290	101	H
3	*** 2.38996	21.85	VA1T	31.9	-24	29.75	54	-24.25	-	-	290	101	H
4	*** 2.36203	22.99	VA1T	31.9	-24.4	30.49	54	-23.51	-	-	290	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

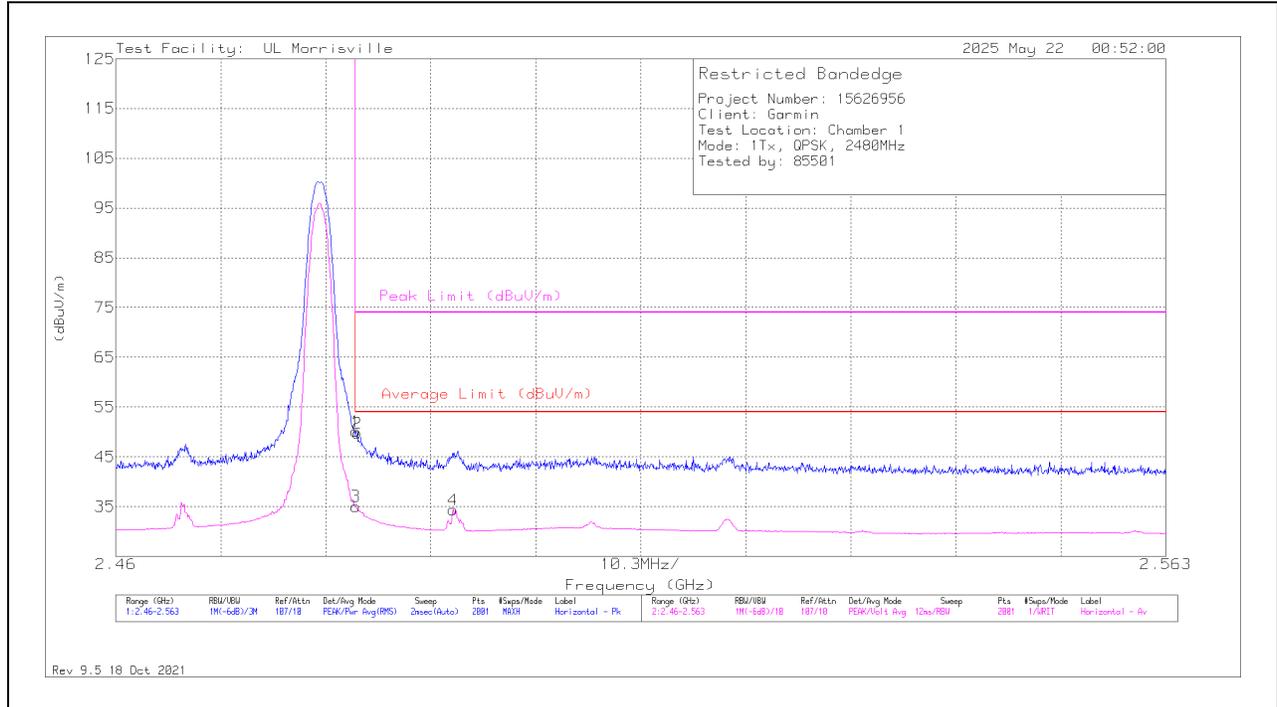


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	35.89	Pk	31.9	-24	43.79	-	-	74	-30.21	153	161	V
2	*** 2.38844	37.35	Pk	31.9	-24	45.25	-	-	74	-28.75	153	161	V
3	*** 2.38996	23.21	VA1T	31.9	-24	31.11	54	-22.89	-	-	153	161	V
4	*** 2.36203	25.29	VA1T	31.9	-24.4	32.79	54	-21.21	-	-	153	161	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

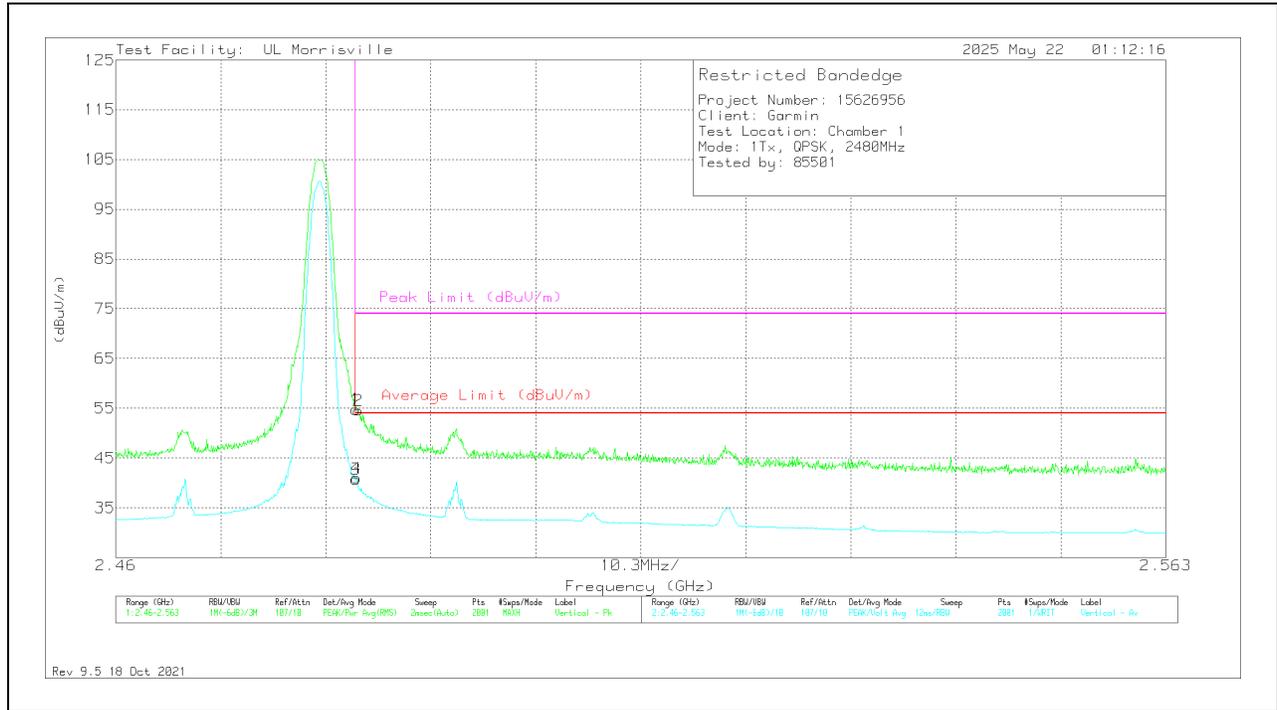
HORIZONTAL RESULT



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	41.59	Pk	32.2	-23.7	50.09	-	-	74	-23.91	254	155	H
2	*** 2.48369	41.22	Pk	32.2	-23.7	49.72	-	-	74	-24.28	254	155	H
3	*** 2.48354	26.54	VA1T	32.2	-23.7	35.04	54	-18.96	-	-	254	155	H
4	*** 2.49306	26.42	VA1T	32.3	-24.4	34.32	54	-19.68	-	-	254	155	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

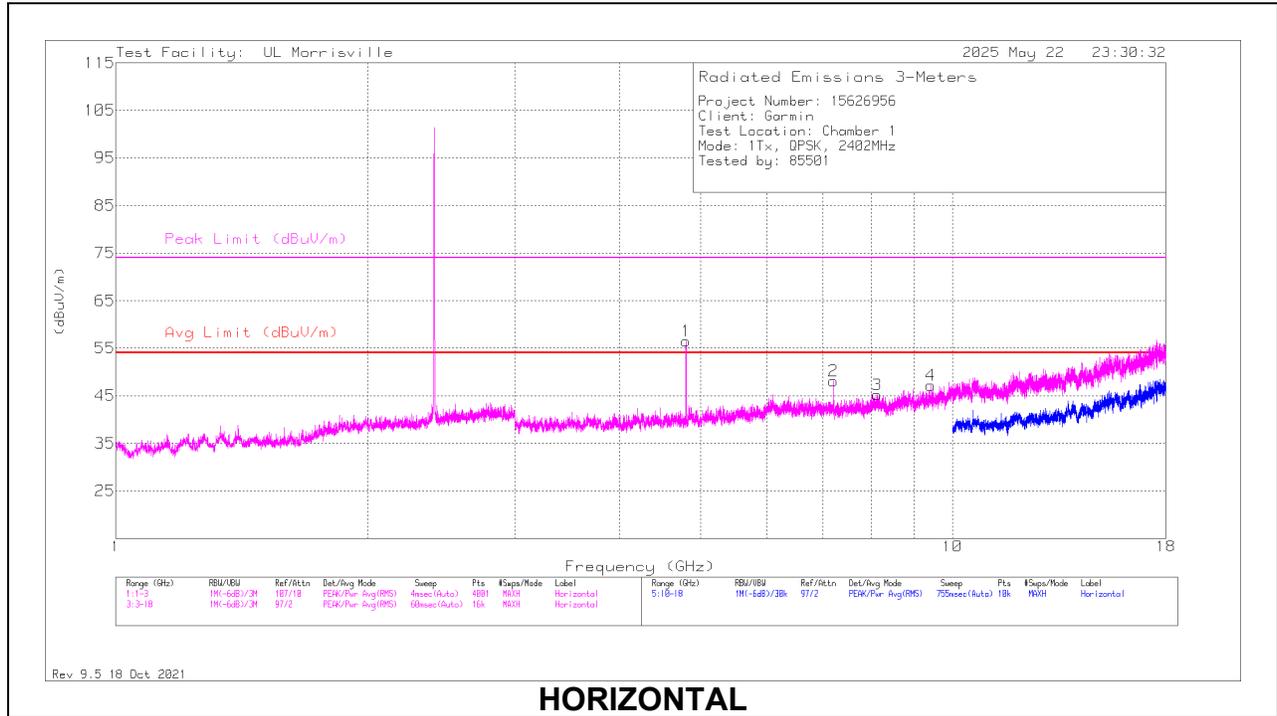


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	46.29	Pk	32.2	-23.7	54.79	-	-	74	-19.21	157	291	V
2	*** 2.48379	46.09	Pk	32.2	-23.7	54.59	-	-	74	-19.41	157	291	V
3	*** 2.48354	32.3	VA1T	32.2	-23.7	40.8	54	-13.2	-	-	157	291	V
4	*** 2.48359	32.46	VA1T	32.2	-23.7	40.96	54	-13.04	-	-	157	291	V

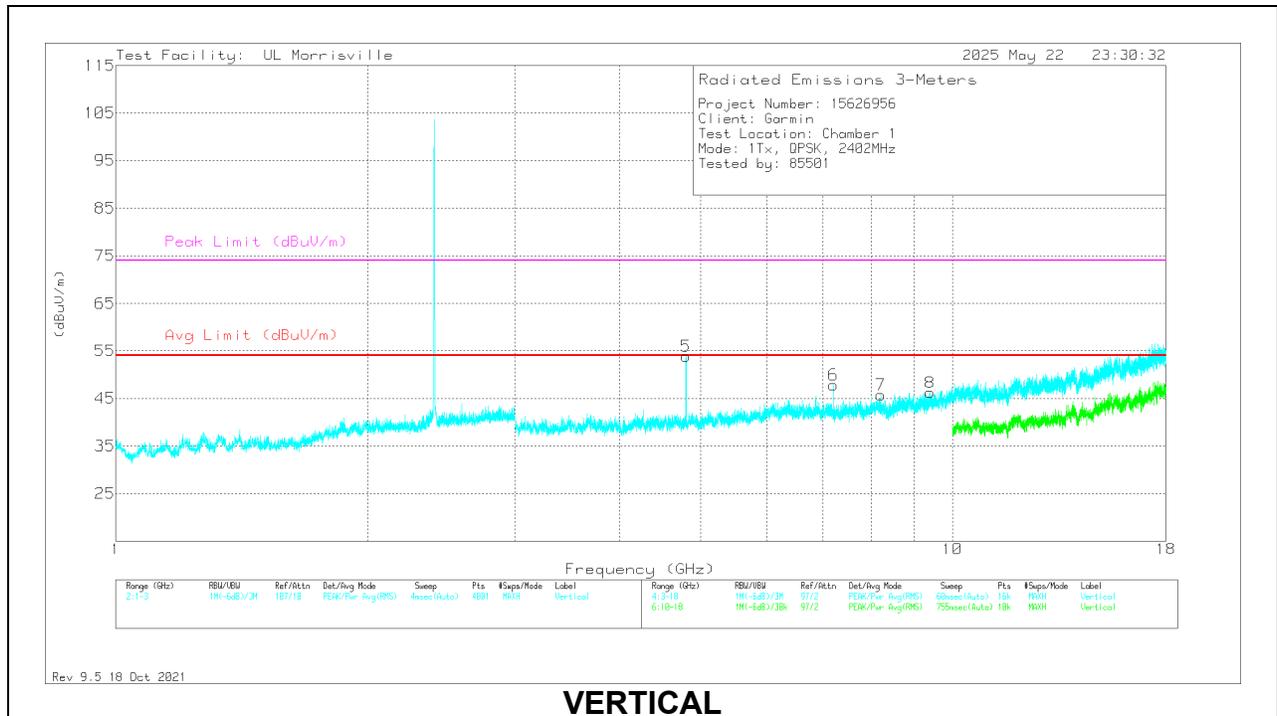
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.80365	71.34	PK2	33.9	-45.6	59.64	-	-	74	-14.36	242	101	H
	*** 4.80399	54.64	V1TV	33.9	-45.6	42.94	54	-11.06	-	-	242	101	H
3	*** 8.13	50.48	Pk	35.9	-41.2	45.18	54	-8.82	74	-28.82	0-360	200	H
4	*** 9.41719	50.62	Pk	36.3	-39.7	47.22	54	-6.78	74	-26.78	0-360	200	H
5	*** 4.80362	69.38	PK2	33.9	-45.6	57.68	-	-	74	-16.32	70	105	V
	*** 4.80395	53.13	V1TV	33.9	-45.6	41.43	54	-12.57	-	-	70	105	V
7	*** 8.21719	50.71	Pk	35.9	-40.9	45.71	54	-8.29	74	-28.29	0-360	101	V
8	*** 9.41344	49.92	Pk	36.3	-40	46.22	54	-7.78	74	-27.78	0-360	101	V
2	7.20563	54.95	Pk	35.4	-42.2	48.15	-	-	-	-	0-360	200	H
6	7.20656	54.64	Pk	35.4	-42.2	47.84	-	-	-	-	0-360	101	V

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

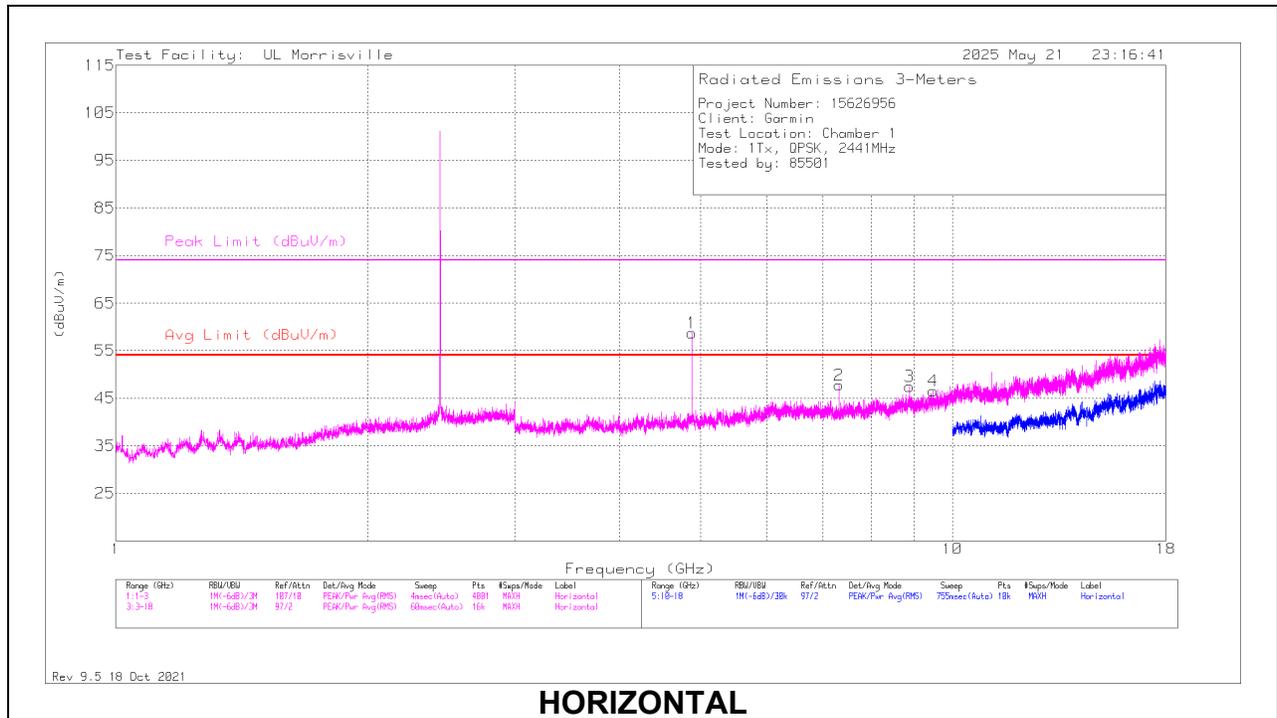
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

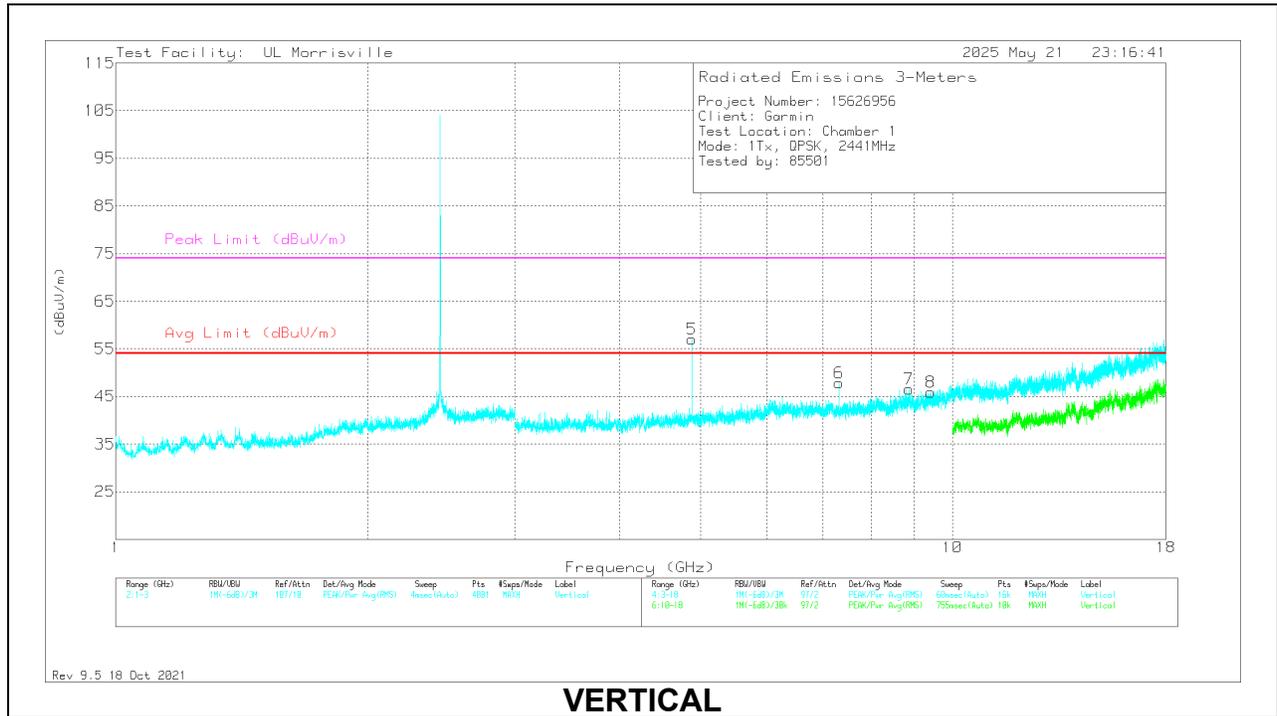
PK2 - Maximum Peak

V1TV - $V_B=1/T_{on}$, Linear Voltage Average where: T_{on} is packet duration

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	* ** 4.88205	45.89	PK2	34	-44.7	35.19	-	-	74	-38.81	237	101	H
	* ** 4.88197	55.66	V1TV	34	-44.7	44.96	54	-9.04	-	-	237	101	H
2	* ** 7.32375	54.38	Pk	35.4	-42	47.78	54	-6.22	74	-26.22	0-360	101	H
4	* ** 9.49313	50.5	Pk	36.4	-40.4	46.5	54	-7.5	74	-27.5	0-360	200	H
5	* ** 4.88216	69.96	PK2	34	-44.7	59.26	-	-	74	-14.74	138	381	V
	* ** 4.88198	53.01	V1TV	34	-44.7	42.31	54	-11.69	-	-	138	381	V
6	* ** 7.32281	54.36	Pk	35.4	-41.9	47.86	54	-6.14	74	-26.14	0-360	200	V
8	* ** 9.41625	49.24	Pk	36.3	-39.6	45.94	54	-8.06	74	-28.06	0-360	200	V
7	8.87813	50.65	Pk	35.8	-39.9	46.55	-	-	-	-	0-360	101	V
3	8.8875	51.23	Pk	35.8	-39.6	47.43	-	-	-	-	0-360	101	H

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

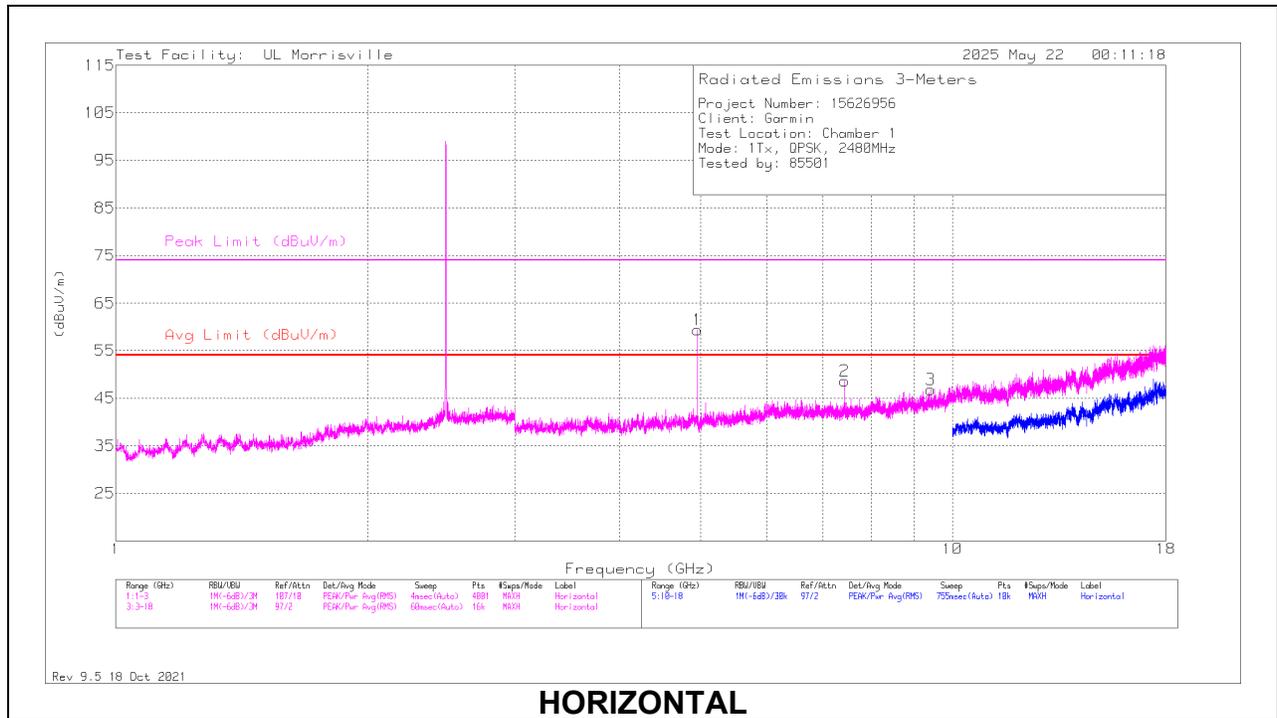
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

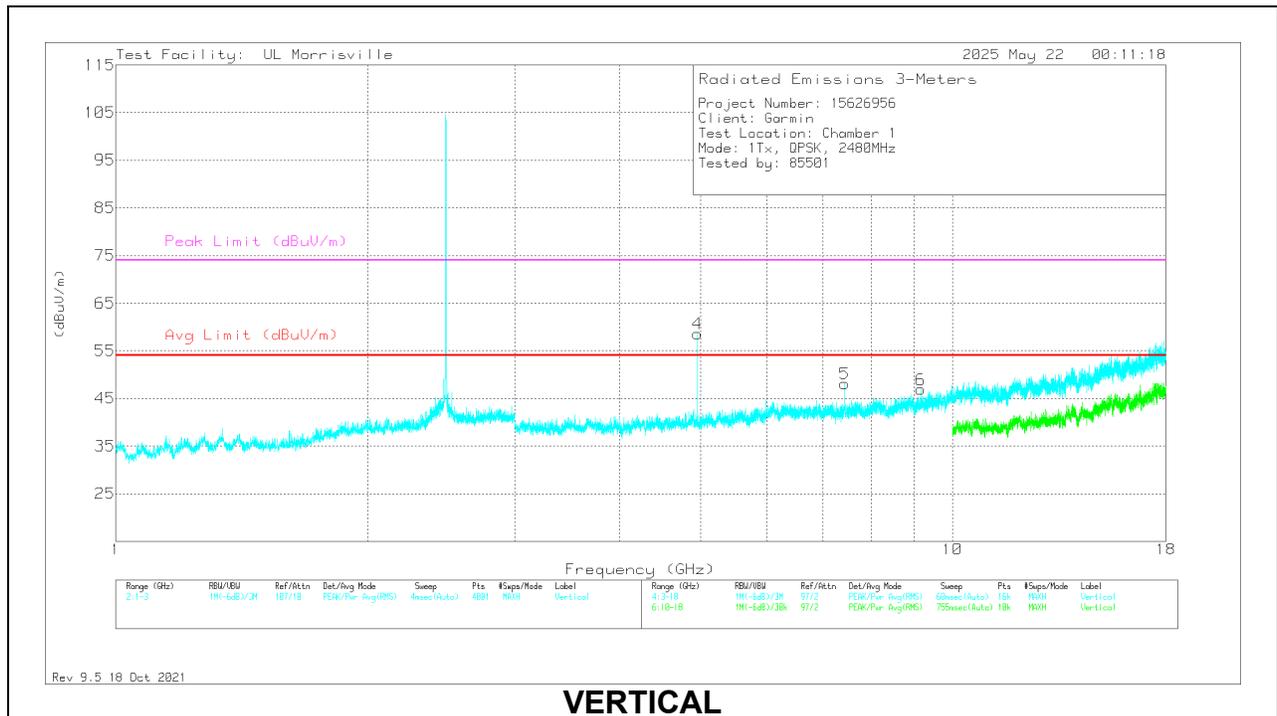
PK2 - Maximum Peak

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.95957	73.56	PK2	34.2	-44.8	62.96	-	-	74	-11.04	269	106	H
	*** 4.95997	56.26	V1TV	34.2	-44.8	45.66	54	-8.34	-	-	269	106	H
2	*** 7.43964	56.52	PK2	35.4	-41.1	50.82	-	-	74	-23.18	55	132	H
	*** 7.43995	42.61	V1TV	35.4	-41.1	36.91	54	-17.09	-	-	55	132	H
3	*** 9.41625	50.13	PK	36.3	-39.6	46.83	54	-7.17	74	-27.17	0-360	101	H
4	*** 4.95965	72.94	PK2	34.2	-44.8	62.34	-	-	74	-11.66	121	120	V
	*** 4.95995	55.6	V1TV	34.2	-44.8	45	54	-9	-	-	121	120	V
5	*** 7.43961	56.45	PK2	35.4	-41.1	50.75	-	-	74	-23.25	174	110	V
	*** 7.43998	42.35	V1TV	35.4	-41.1	36.65	54	-17.35	-	-	174	110	V
6	*** 9.16875	51.07	PK	36	-40.2	46.87	54	-7.13	74	-27.13	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

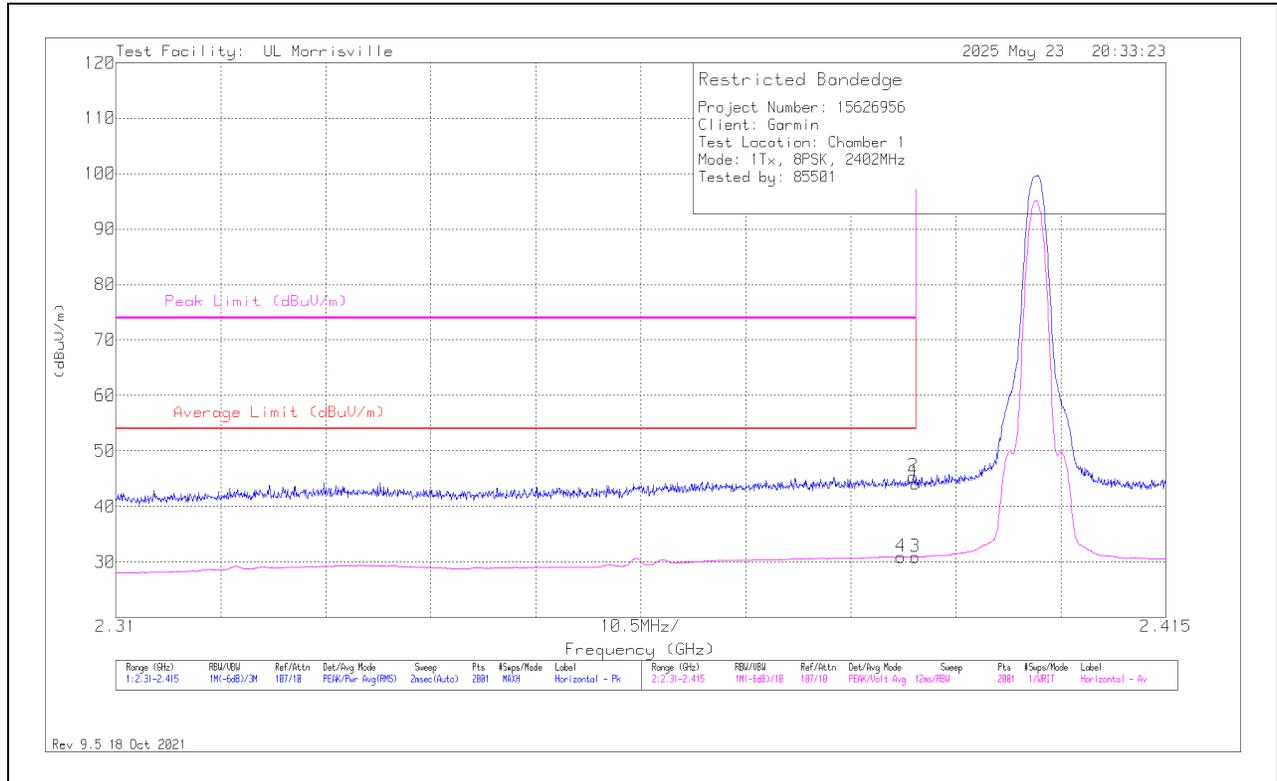
PK2 - Maximum Peak

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

10.1.4. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

BANDEDGE (LOW CHANNEL)

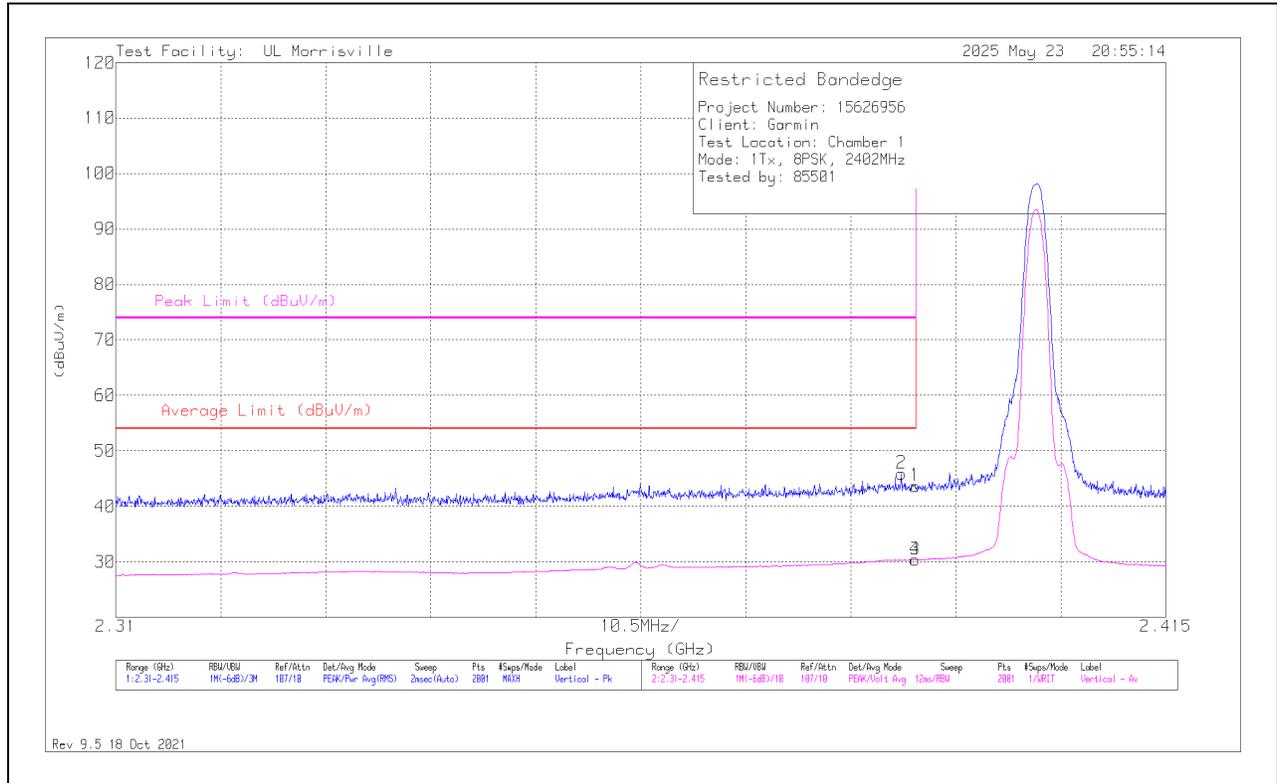
HORIZONTAL RESULT



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	36.24	Pk	31.9	-24	44.14	-	-	74	-29.86	203	131	H
2	*** 2.38975	37.46	Pk	31.9	-24	45.36	-	-	74	-28.64	203	131	H
3	*** 2.38996	22.95	VA1T	31.9	-24	30.85	54	-23.15	-	-	203	131	H
4	*** 2.38849	22.98	VA1T	31.9	-24	30.88	54	-23.12	-	-	203	131	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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	35.8	Pk	31.9	-24	43.7	-	-	74	-30.3	119	177	V
2	*** 2.38854	38.01	Pk	31.9	-24	45.91	-	-	74	-28.09	119	177	V
3	*** 2.38996	22.43	VA1T	31.9	-24	30.33	54	-23.67	-	-	119	177	V
4	*** 2.38991	22.45	VA1T	31.9	-24	30.35	54	-23.65	-	-	119	177	V

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

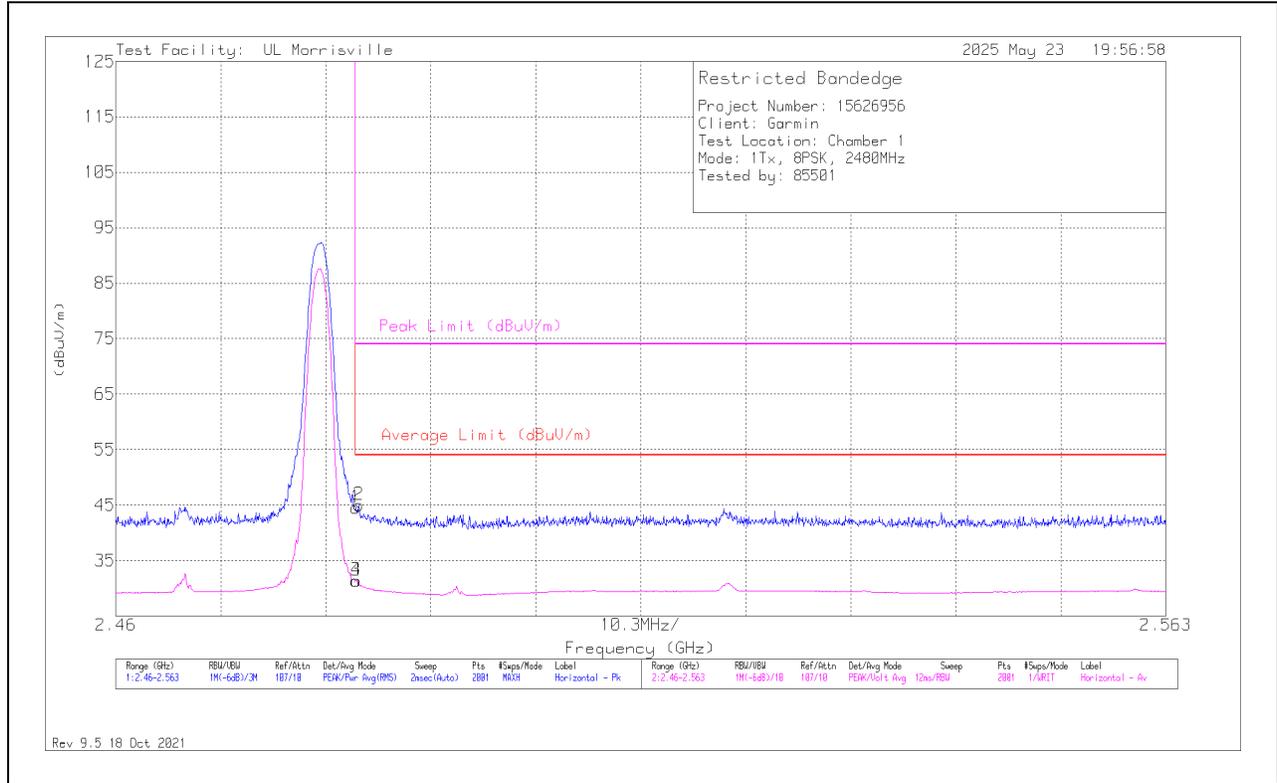
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEGE (HIGH CHANNEL)

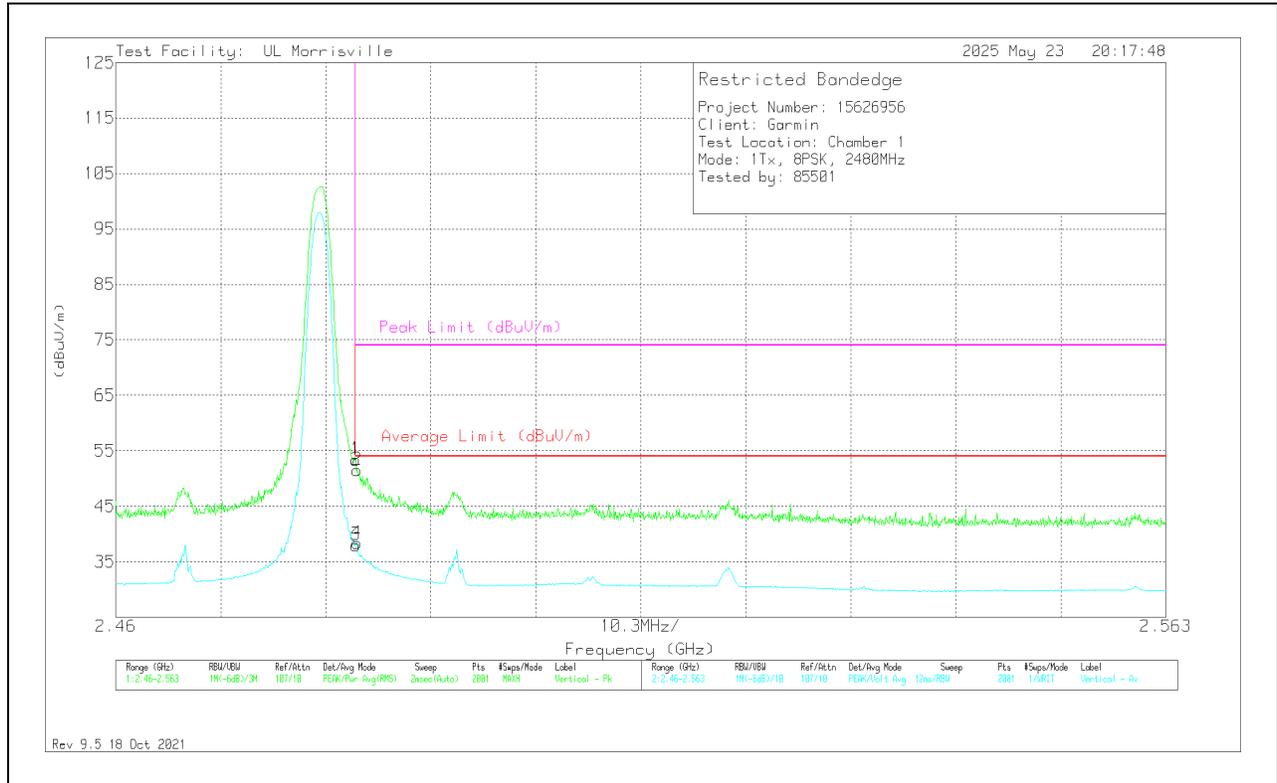
HORIZONTAL RESULT



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	35.98	Pk	32.2	-23.7	44.48	-	-	74	-29.52	242	299	H
2	*** 2.48384	36.51	Pk	32.2	-23.7	45.01	-	-	74	-28.99	242	299	H
3	*** 2.48354	22.84	VA1T	32.2	-23.7	31.34	54	-22.66	-	-	242	299	H
4	*** 2.48359	22.91	VA1T	32.2	-23.7	31.41	54	-22.59	-	-	242	299	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

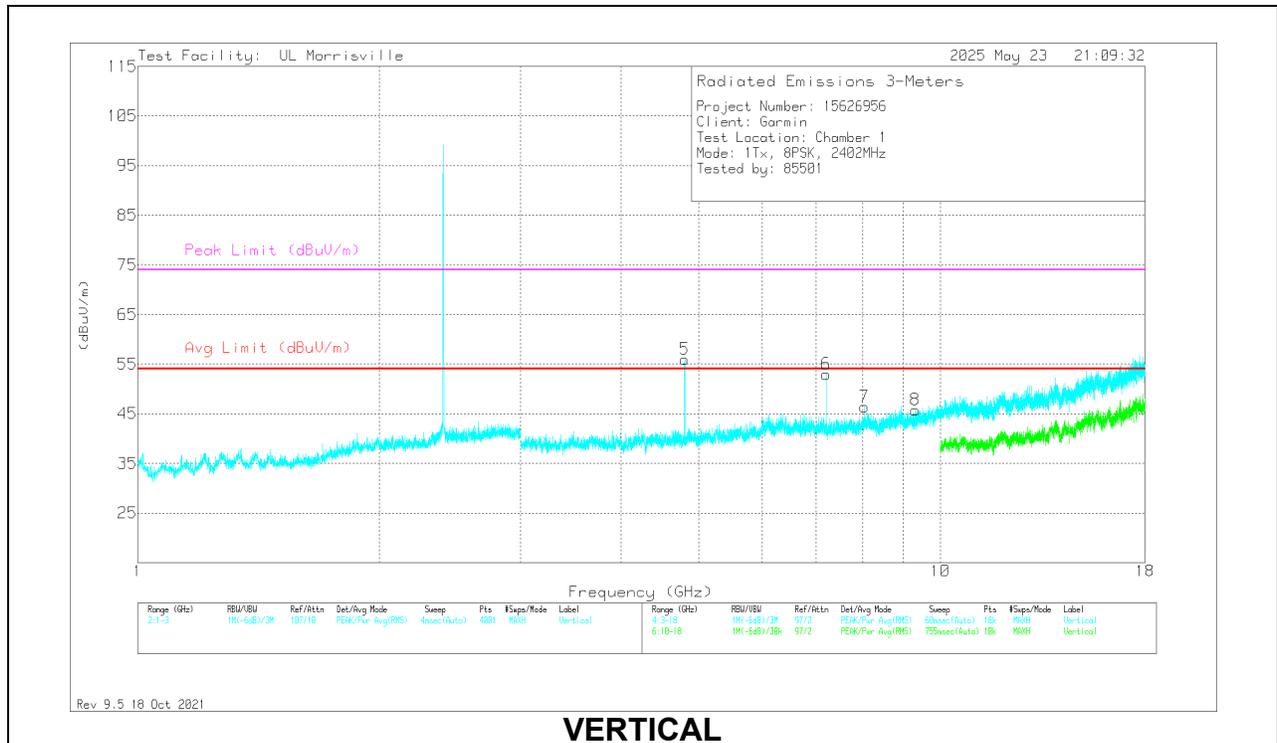
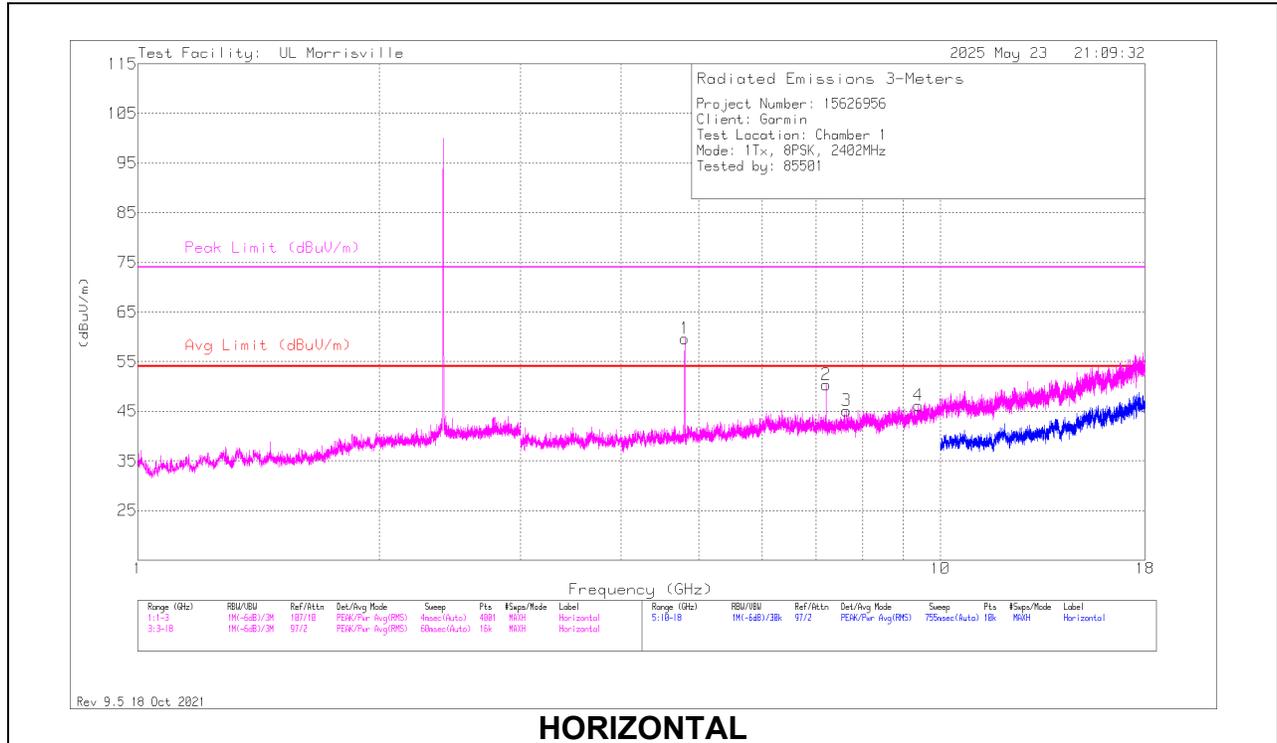


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	44.87	Pk	32.2	-23.7	53.37	-	-	74	-20.63	100	274	V
2	* ** 2.48364	43.05	Pk	32.2	-23.7	51.55	-	-	74	-22.45	100	274	V
3	* ** 2.48354	29.51	VA1T	32.2	-23.7	38.01	54	-15.99	-	-	100	274	V
4	* ** 2.48364	29.83	VA1T	32.2	-23.7	38.33	54	-15.67	-	-	100	274	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 VA1T - Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.8041	53.29	PK2	33.9	-45.6	41.59	-	-	74	-32.41	300	126	H
	*** 4.80398	57.38	V1TV	33.9	-45.6	45.68	54	-8.32	-	-	300	126	H
3	*** 7.64344	50.95	Pk	35.6	-41.4	45.15	54	-8.85	74	-28.85	0-360	199	H
4	*** 9.39	50.12	Pk	36.2	-40.2	46.12	54	-7.88	74	-27.88	0-360	101	H
5	*** 4.80402	71.37	PK2	33.9	-45.6	59.67	-	-	74	-14.33	259	106	V
	*** 4.80398	53.23	V1TV	33.9	-45.6	41.53	54	-12.47	-	-	259	106	V
7	*** 8.0475	51.43	Pk	35.9	-40.9	46.43	54	-7.57	74	-27.57	0-360	200	V
8	*** 9.31406	49.91	Pk	36.1	-40.2	45.81	54	-8.19	74	-28.19	0-360	101	V
2	7.20563	57.13	Pk	35.4	-42.2	50.33	-	-	-	-	0-360	199	H
6	7.20563	59.73	Pk	35.4	-42.2	52.93	-	-	-	-	0-360	200	V

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

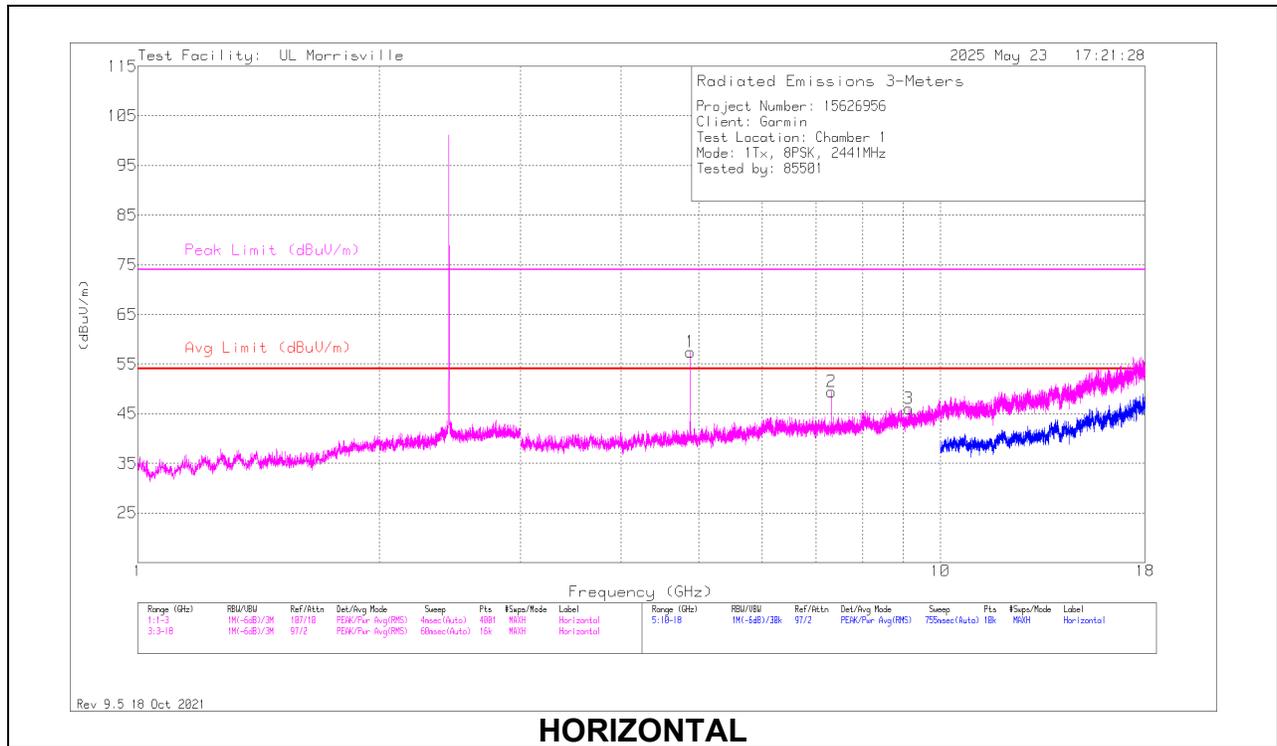
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

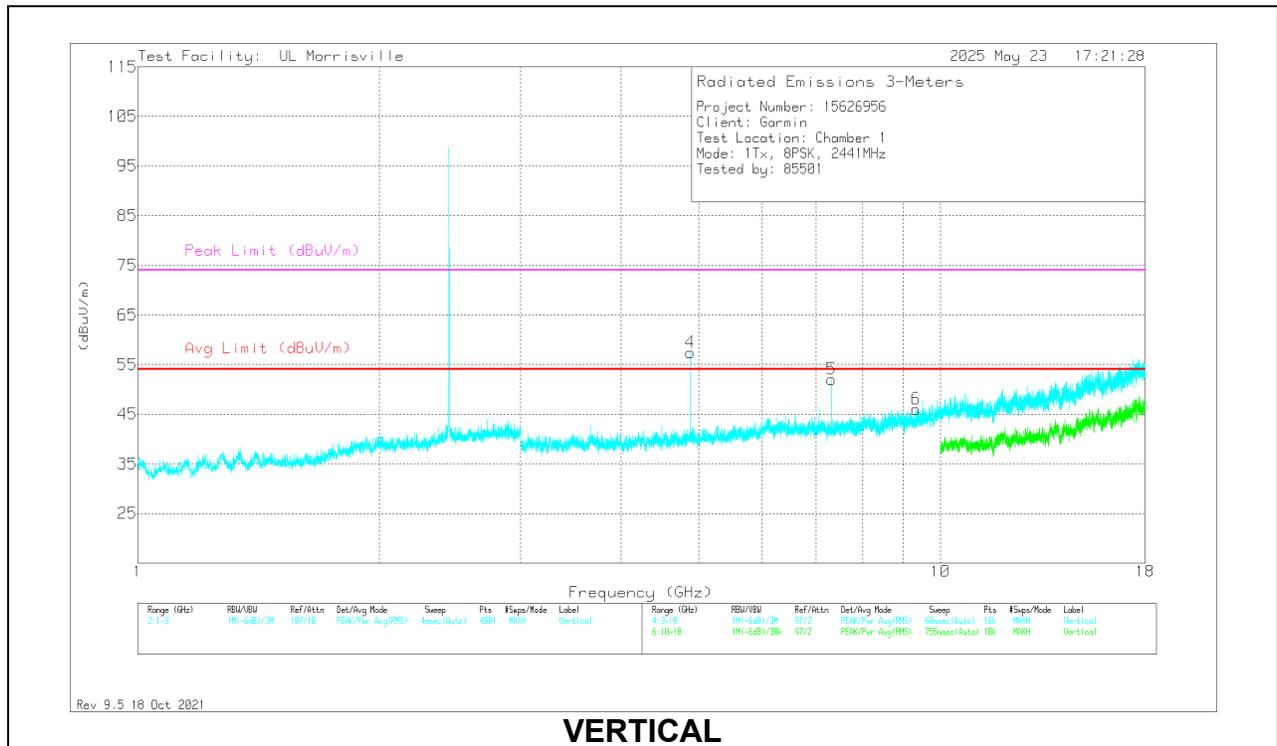
PK2 - Maximum Peak

V1TV - $V_B=1/T_{on}$, Linear Voltage Average where: T_{on} is packet duration

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	* ** 4.882	73.97	PK2	34	-44.7	63.27	-	-	74	-10.73	310	121	H
	* ** 4.88195	55.85	V1TV	34	-44.7	45.15	54	-8.85	-	-	310	121	H
2	* ** 7.32358	58.21	PK2	35.4	-42	51.61	-	-	74	-22.39	150	159	H
	* ** 7.32298	43.48	V1TV	35.4	-41.9	36.98	54	-17.02	-	-	150	159	H
3	* ** 9.14344	50.61	Pk	35.9	-40.5	46.01	54	-7.99	74	-27.99	0-360	101	H
4	* ** 4.88222	71.36	PK2	34	-44.7	60.66	-	-	74	-13.34	123	214	V
	* ** 4.88195	54	V1TV	34	-44.7	43.3	54	-10.7	-	-	123	214	V
5	* ** 7.3234	60.84	PK2	35.4	-42	54.24	-	-	74	-19.76	110	127	V
	* ** 7.32299	46.01	V1TV	35.4	-41.9	39.51	54	-14.49	-	-	110	127	V
6	* ** 9.33375	50.27	Pk	36.2	-40.5	45.97	54	-8.03	74	-28.03	0-360	101	V

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

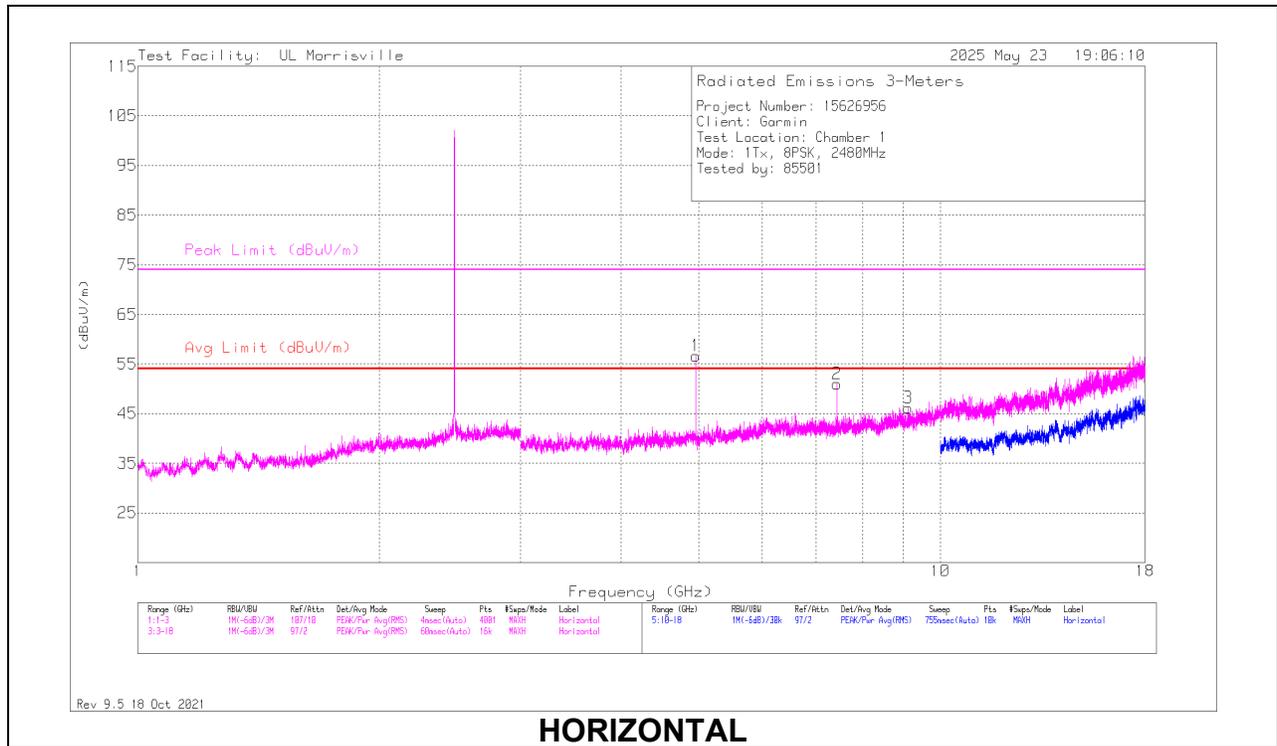
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

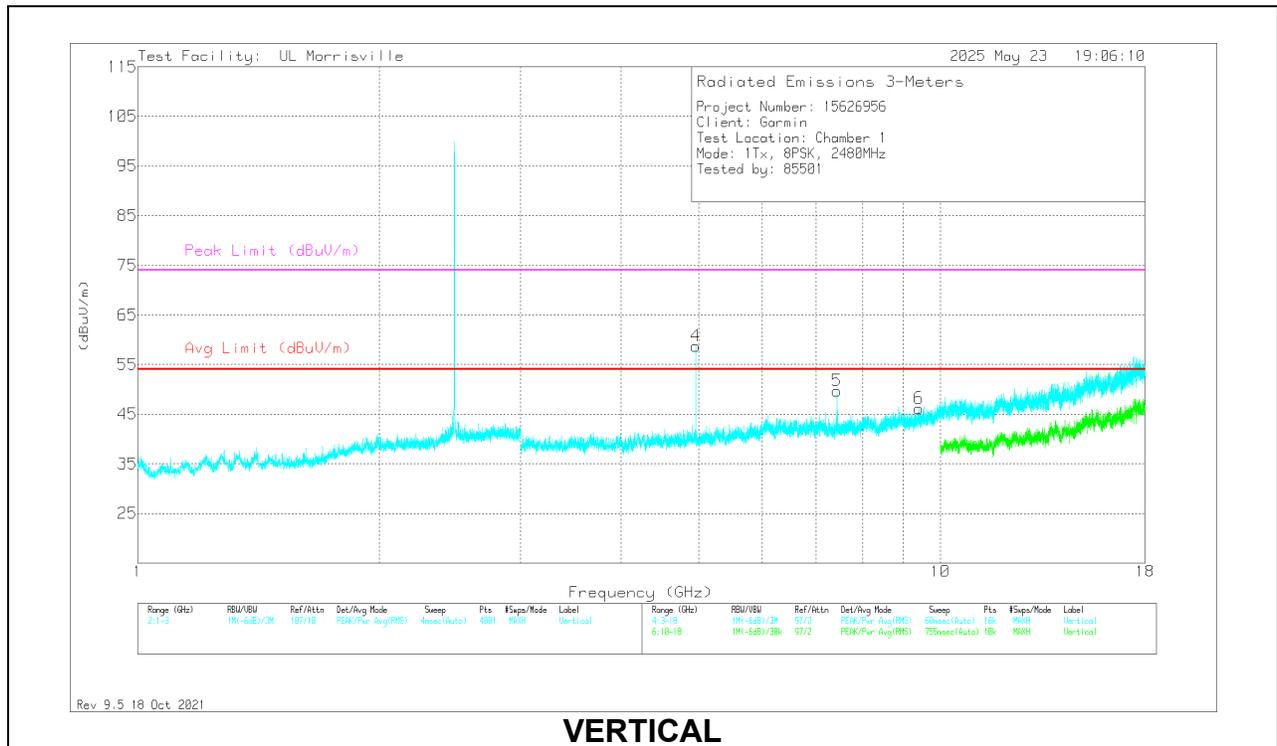
PK2 - Maximum Peak

V1TV - $V_B=1/T_{on}$, Linear Voltage Average where: T_{on} is packet duration

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	135143 (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	*** 4.96024	74.3	PK2	34.2	-44.8	63.7	-	-	74	-10.3	293	125	H
	*** 4.95997	55.83	V1TV	34.2	-44.8	45.23	54	-8.77	-	-	293	125	H
2	*** 7.44053	58.79	PK2	35.4	-41.1	53.09	-	-	74	-20.91	132	107	H
	*** 7.43996	44.15	V1TV	35.4	-41.1	38.45	54	-15.55	-	-	132	107	H
3	*** 9.12	50.56	Pk	35.9	-40.3	46.16	54	-7.84	74	-27.84	0-360	101	H
4	*** 4.95994	73.68	PK2	34.2	-44.8	63.08	-	-	74	-10.92	240	107	V
	*** 4.95997	55.24	V1TV	34.2	-44.8	44.64	54	-9.36	-	-	240	107	V
5	*** 7.44	58.65	PK2	35.4	-41.1	52.95	-	-	74	-21.05	90	129	V
	*** 7.43996	43.89	V1TV	35.4	-41.1	38.19	54	-15.81	-	-	90	129	V
6	*** 9.39938	50.23	Pk	36.3	-40.4	46.13	54	-7.87	74	-27.87	0-360	101	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

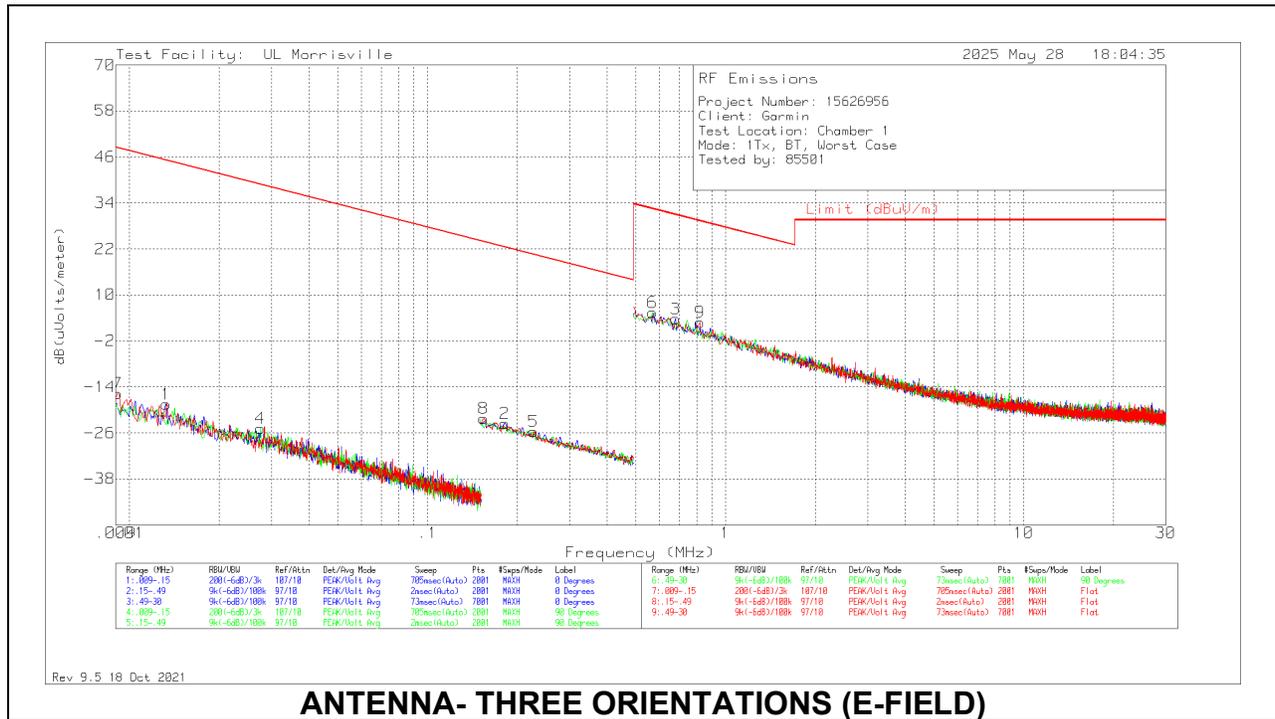
Pk - Peak detector

PK2 - Maximum Peak

V1TV - $V_B=1/T_{on}$, Linear Voltage Average where: T_{on} is packet duration

10.2. WORST CASE SPURIOUS BELOW 30MHZ

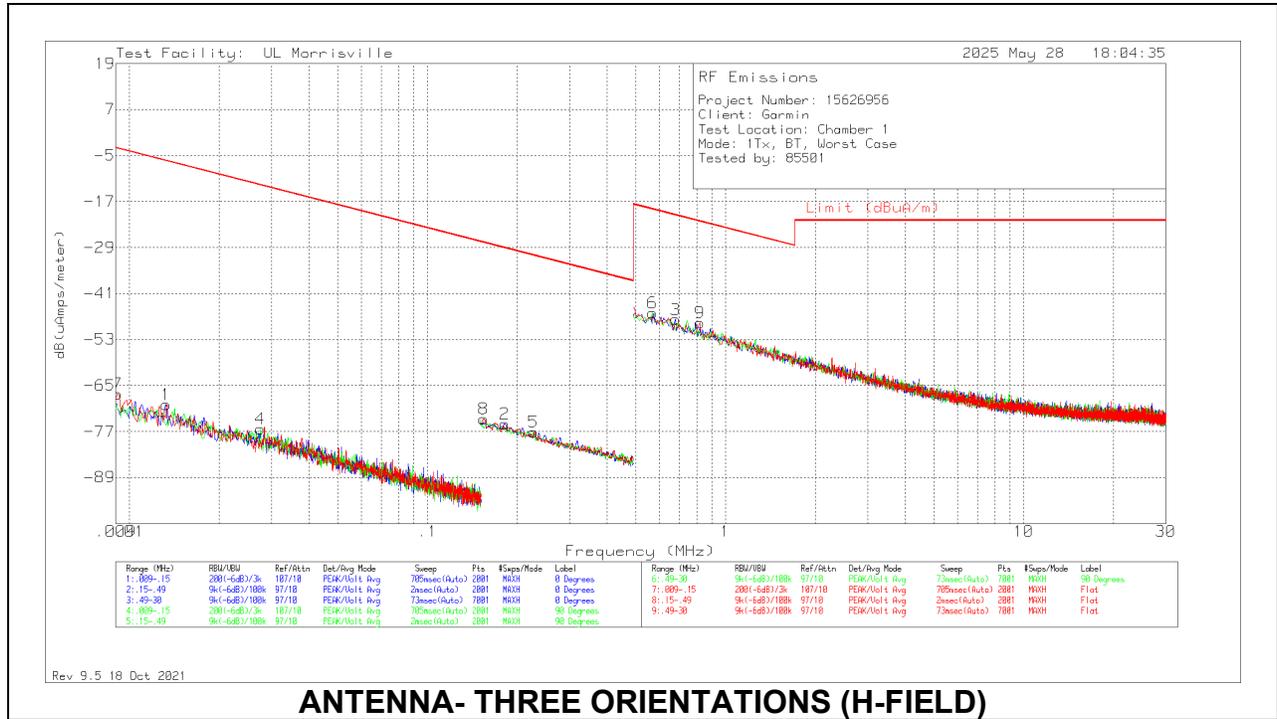
Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance 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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.



ANTENNA- THREE ORIENTATIONS (E-FIELD)

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (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
7	.00914	44.64	Pk	19.6	.1	-80	-15.66	48.38	68.38	-64.04	0-360	Flat
1	.01326	44.13	Pk	17.3	.1	-80	-18.47	45.15	65.15	-63.62	0-360	0 degs
4	.02753	41.75	Pk	13.3	.1	-80	-24.85	38.81	58.81	-63.66	0-360	90 degs
8	.15451	46.65	Pk	11	.1	-80	-22.25	23.83	43.83	-46.08	0-360	Flat
2	.18179	45.4	Pk	11	.1	-80	-23.5	22.41	42.41	-45.91	0-360	0 degs
5	.22684	43.31	Pk	10.9	.1	-80	-25.69	20.49	40.49	-46.18	0-360	90 degs
6	.5701	34.32	Pk	11	.1	-40	5.42	32.48	-	-27.06	0-360	90 degs
3	.67972	32.63	Pk	11	.1	-40	3.73	30.96	-	-27.23	0-360	0 degs
9	.81885	31.74	Pk	11	.1	-40	2.84	29.34	-	-26.5	0-360	Flat

Pk - Peak detector

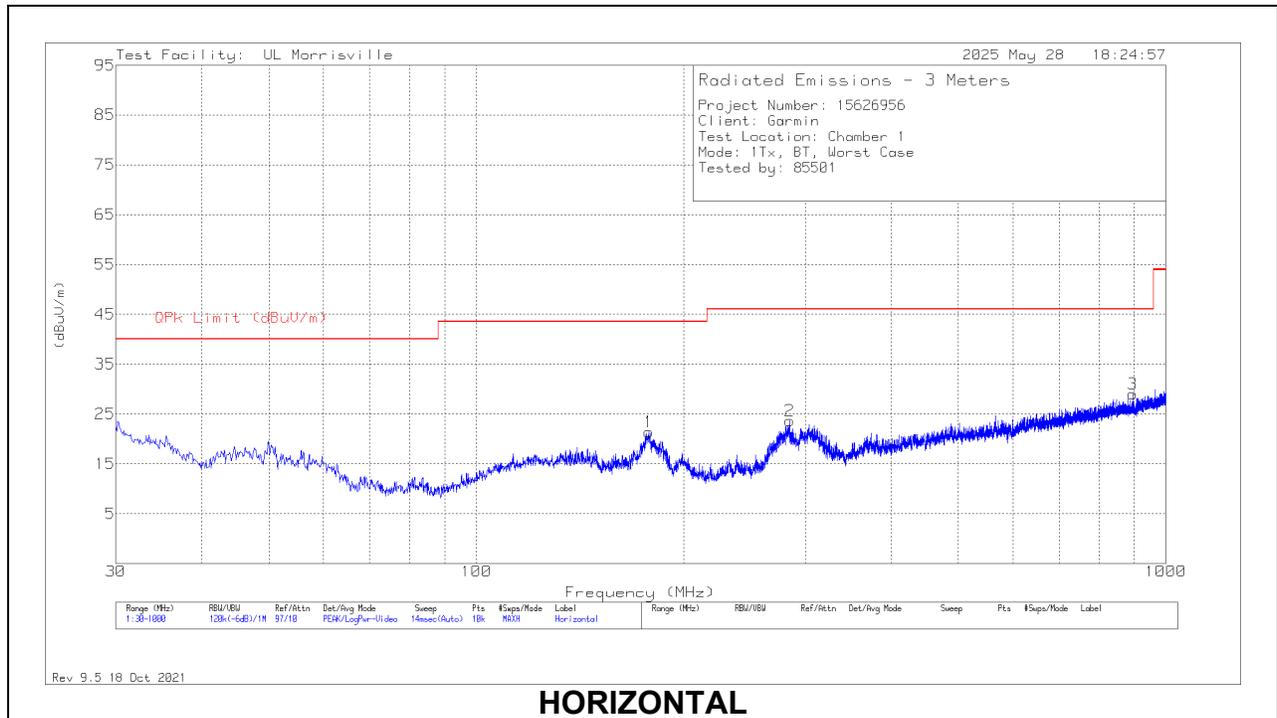


ANTENNA- THREE ORIENTATIONS (H-FIELD)

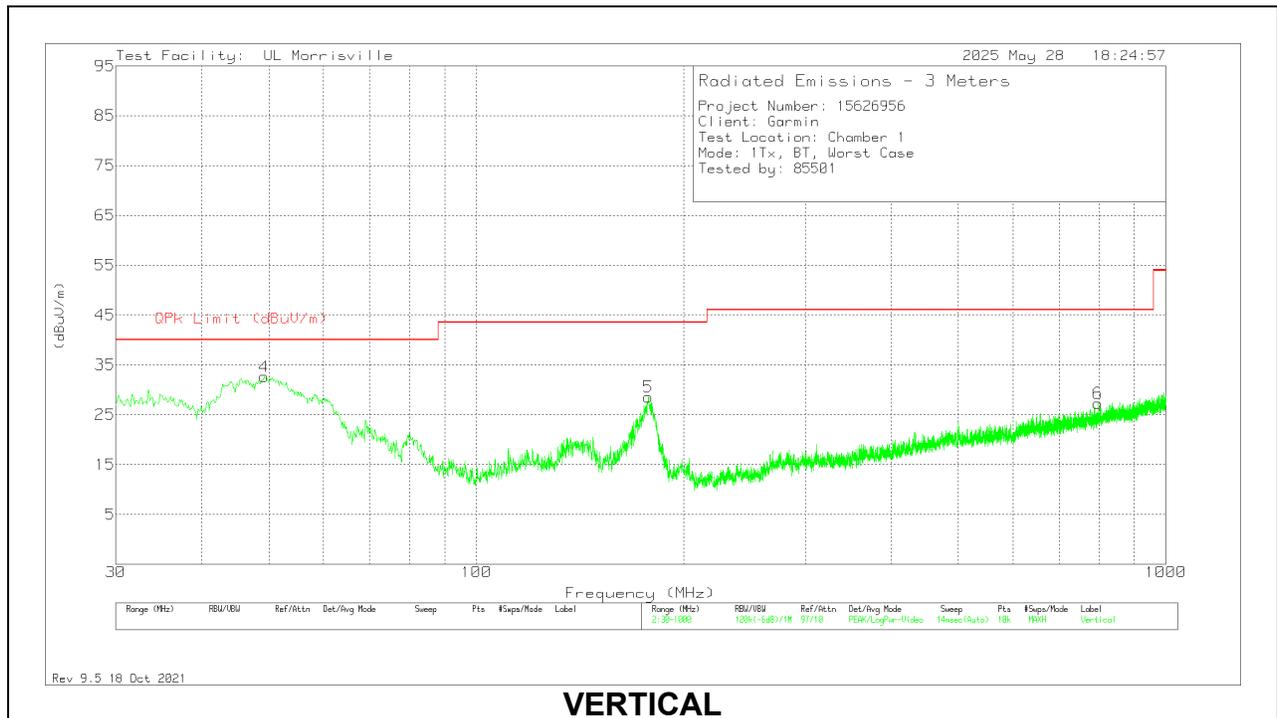
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
7	.00914	44.64	Pk	-31.9	.1	-80	-67.16	-3.12	16.88	-64.04	0-360	Flat
1	.01326	44.13	PK	-34.2	.1	-80	-69.97	-6.35	13.65	-63.62	0-360	0 degs
4	.02753	41.75	Pk	-38.2	.1	-80	-76.35	-12.69	7.31	-63.66	0-360	90 degs
8	.15451	46.65	Pk	-40.5	.1	-80	-73.75	-27.67	-7.67	-46.08	0-360	Flat
2	.18179	45.4	PK	-40.5	.1	-80	-75	-29.09	-9.09	-45.91	0-360	0 degs
5	.22684	43.31	Pk	-40.6	.1	-80	-77.19	-31.01	-11.01	-46.18	0-360	90 degs
6	.5701	34.32	Pk	-40.5	.1	-40	-46.08	-19.02	-	-27.06	0-360	90 degs
3	.67972	32.63	Pk	-40.5	.1	-40	-47.77	-20.54	-	-27.23	0-360	0 degs
9	.81885	31.74	Pk	-40.5	.1	-40	-48.66	-22.16	-	-26.5	0-360	Flat

Pk - Peak detector

10.3. WORST CASE SPURIOUS 30-1000MHZ



HORIZONTAL

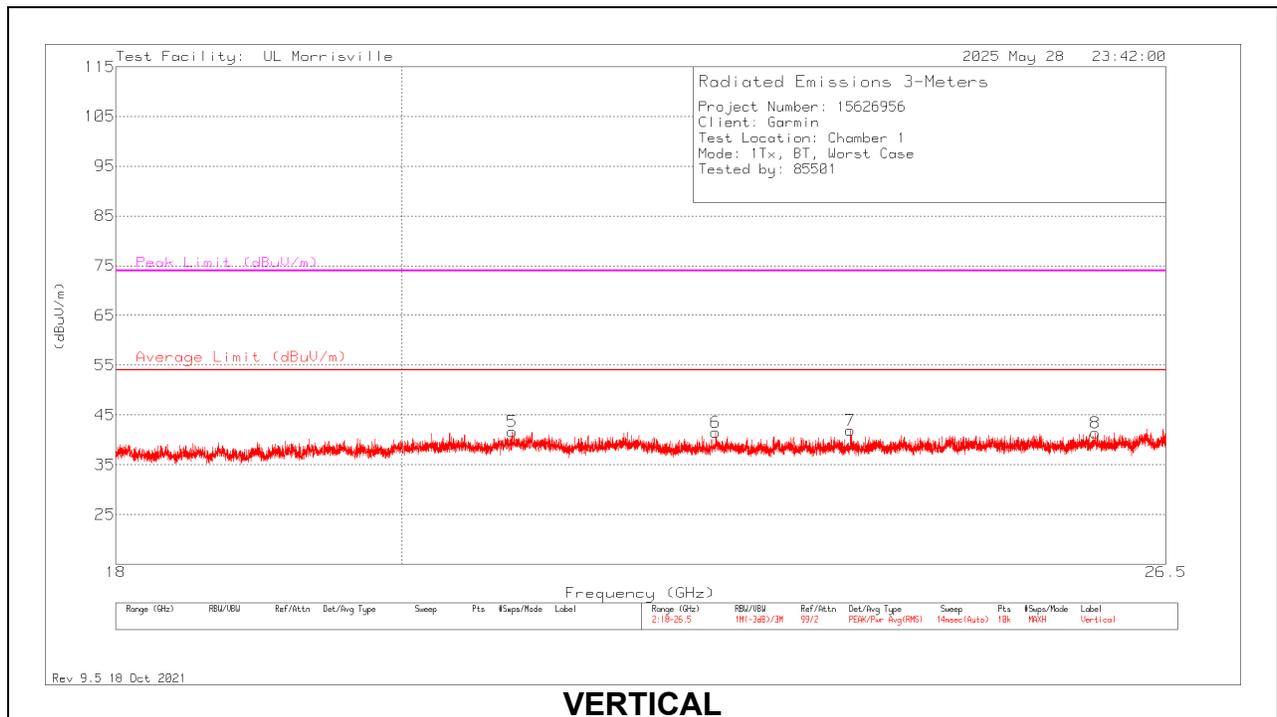
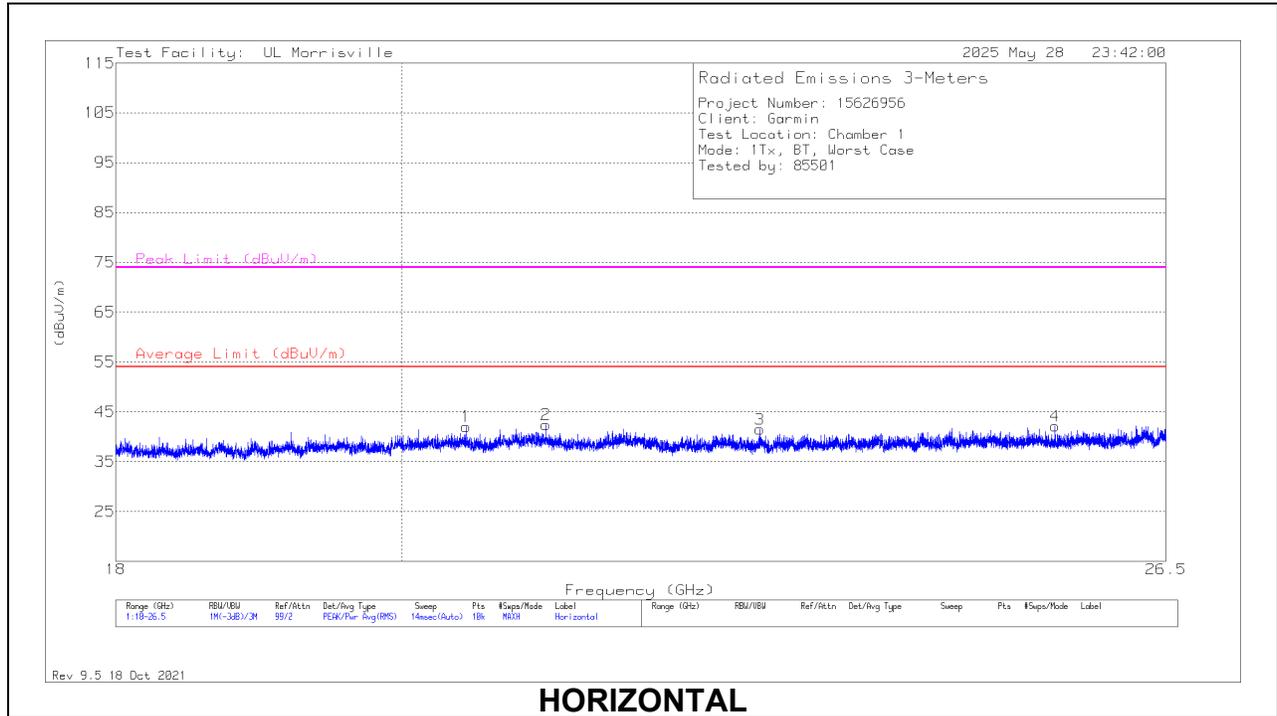


VERTICAL

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	49.206	49.71	Pk	14.3	-31.4	32.61	40	-7.39	0-360	100	V
5	177.634	41.09	Pk	17.6	-30.1	28.59	43.52	-14.93	0-360	100	V
1	177.828	34	Pk	17.6	-30.2	21.4	43.52	-22.12	0-360	200	H
2	284.625	33.84	Pk	19.5	-29.7	23.64	46.02	-22.38	0-360	99	H
6	797.27	27.17	Pk	27.5	-27.4	27.27	46.02	-18.75	0-360	100	V
3	895.337	27.54	Pk	28.2	-26.7	29.04	46.02	-16.98	0-360	299	H

Pk - Peak detector

10.4. WORST CASE SPURIOUS 18-26GHz



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn (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	* ** 20.47715	49.32	Pk	32.8	-40.1	42.02	54	-11.98	74	-31.98	0-360	200	H
2	* ** 21.09006	49.59	Pk	32.8	-40	42.39	54	-11.61	74	-31.61	0-360	101	H
3	* ** 22.81658	48.17	Pk	33.5	-40.2	41.47	54	-12.53	74	-32.53	0-360	149	H
5	* ** 20.83078	48.94	Pk	32.7	-40	41.64	54	-12.36	74	-32.36	0-360	101	V
6	* ** 22.4519	48.43	Pk	33.3	-40.2	41.53	54	-12.47	74	-32.47	0-360	150	V
7	23.59271	48.14	Pk	33.8	-40	41.94	54	-12.06	74	-32.06	0-360	101	V
4	25.44079	47	Pk	34.1	-39	42.1	54	-11.9	74	-31.9	0-360	149	H
8	25.81908	45.82	Pk	34.3	-38.7	41.42	54	-12.58	74	-32.58	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)
RSS-Gen 8.8

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 C63.4.

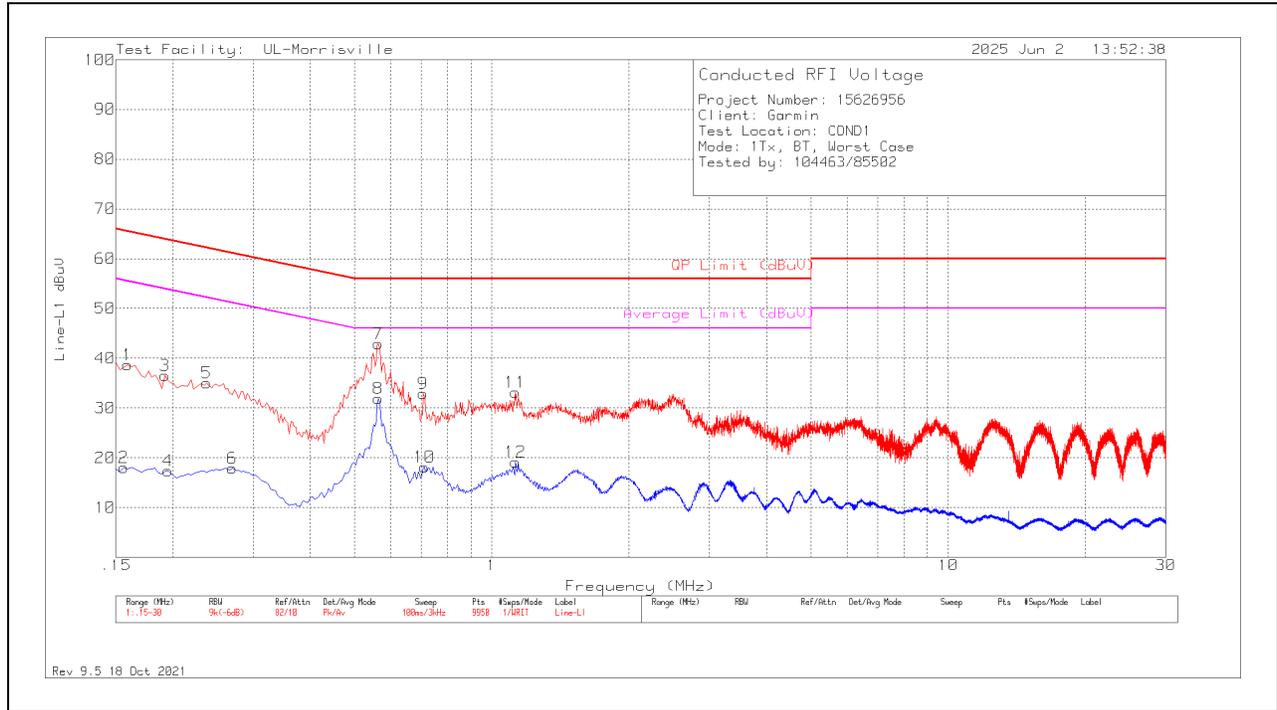
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC POWER LINE

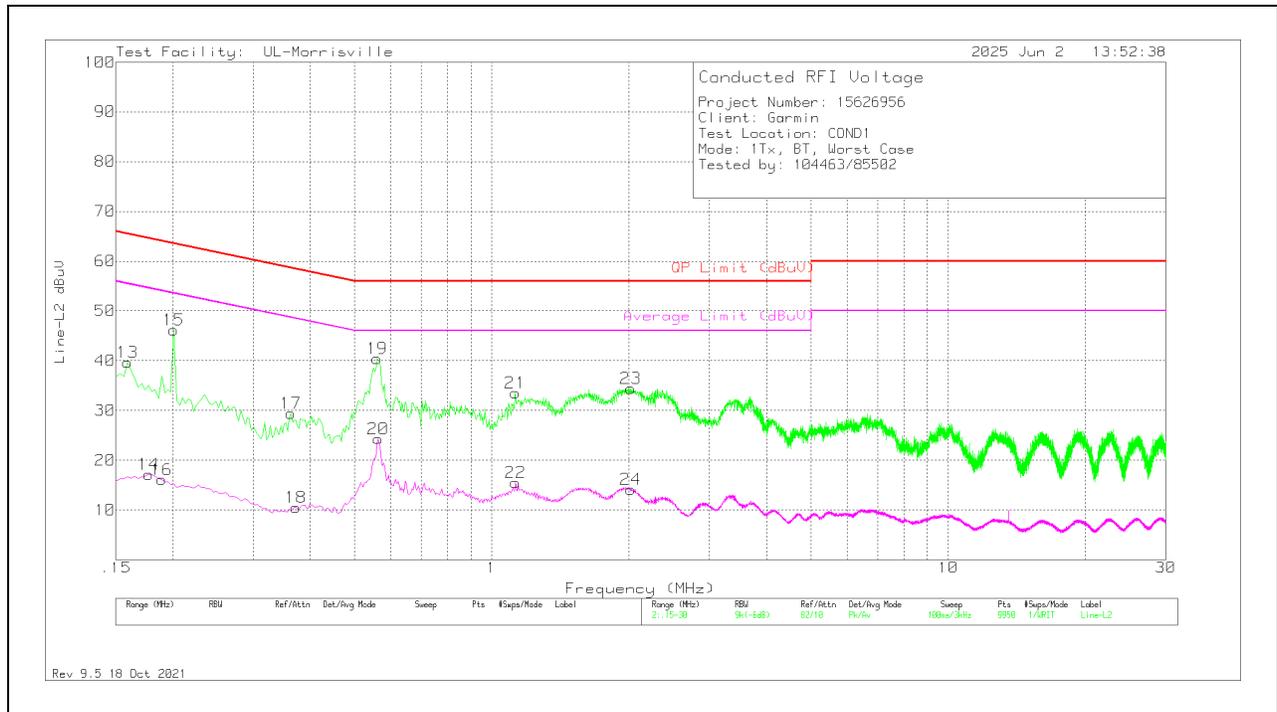
LINE 1 RESULTS



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	.156	8.16	Av	.2	9.7	18.06	-	-	55.67	-37.61
1	.159	28.8	Pk	.2	9.7	38.7	65.52	-26.82	-	-
3	.192	26.6	Pk	.2	9.7	36.5	63.95	-27.45	-	-
4	.195	7.5	Av	.2	9.7	17.4	-	-	53.82	-36.42
5	.237	25.26	Pk	.1	9.7	35.06	62.2	-27.14	-	-
6	.27	8.06	Av	.1	9.7	17.86	-	-	51.12	-33.26
7	.564	33.23	Pk	0	9.7	42.93	56	-13.07	-	-
8	.564	22.19	Av	0	9.7	31.89	-	-	46	-14.11
9	.708	23.21	Pk	0	9.7	32.91	56	-23.09	-	-
10	.711	8.45	Av	0	9.7	18.15	-	-	46	-27.85
11	1.125	23.46	Pk	0	9.7	33.16	56	-22.84	-	-
12	1.128	9.45	Av	0	9.7	19.15	-	-	46	-26.85

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	.159	29.75	Pk	.2	9.7	39.65	65.52	-25.87	-	-
14	.177	7.22	Av	.2	9.7	17.12	-	-	54.63	-37.51
16	.189	6.18	Av	.2	9.7	16.08	-	-	54.08	-38
15	.201	36.37	Pk	.1	9.7	46.17	63.57	-17.4	-	-
17	.363	19.57	Pk	.1	9.7	29.37	58.66	-29.29	-	-
18	.372	.69	Av	.1	9.7	10.49	-	-	48.46	-37.97
19	.561	30.69	Pk	0	9.7	40.39	56	-15.61	-	-
20	.564	14.63	Av	0	9.7	24.33	-	-	46	-21.67
21	1.125	23.81	Pk	0	9.7	33.51	56	-22.49	-	-
22	1.128	5.85	Av	0	9.7	15.55	-	-	46	-30.45
23	2.016	24.67	Pk	0	9.7	34.37	56	-21.63	-	-
24	2.016	4.45	Av	0	9.7	14.15	-	-	46	-31.85

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

Please refer to R15626956-EP1 for setup photos

END OF TEST REPORT

TEST REPORT

Report Number: R15626956-E2

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

Model : A04809

FCC ID : IPH-04809

IC : 1792A-04809

EUT Description : Extremity Worn Digital Transceiver

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C: 2025
RSS-210 ISSUE 11: 2024
RSS-GEN ISSUE 5 + A1 + A2: 2021

Date Of Issue:
2025-08-07

Prepared by:
UL LLC
12 Laboratory Dr.
Durham, NC 27713 U.S.A.
TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-08-07	Initial Issue	Manish Baral

TABLE OF CONTENTS

REPORT REVISION HISTORY	2
TABLE OF CONTENTS	3
1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. SUMMARY OF TEST RESULTS	5
4. FACILITIES AND ACCREDITATION	6
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	6
5.1. <i>METROLOGICAL TRACEABILITY</i>	6
5.2. <i>DECISION RULES</i>	6
5.3. <i>MEASUREMENT UNCERTAINTY</i>	7
5.4. <i>SAMPLE CALCULATION</i>	7
6. EQUIPMENT UNDER TEST	8
6.1. <i>DESCRIPTION OF EUT</i>	8
6.2. <i>MAXIMUM ELECTRIC FIELD STRENGTH</i>	8
6.3. <i>SOFTWARE AND FIRMWARE</i>	8
6.4. <i>WORST-CASE CONFIGURATION AND MODE</i>	8
6.5. <i>DESCRIPTION OF TEST SETUP</i>	9
7. TEST AND MEASUREMENT EQUIPMENT	10
8. 20dB and 99% BANDWIDTH	11
8.1. <i>Type F (CE Mode)</i>	12
9. RADIATED EMISSION TEST RESULTS	13
9.1. <i>LIMITS AND PROCEDURE</i>	13
9.2. <i>FUNDAMENTAL AND SPURIOUS EMISSIONS (<30MHz)</i>	15
9.2.1. <i>TYPE F, TAG ON</i>	15
9.3. <i>TX SPURIOUS EMISSION 30 TO 1000 MHz</i>	20
9.3.1. <i>TYPE F, WITH TAG</i>	20
10. FREQUENCY STABILITY	22
10.1. <i>Type F, CE Mode w/ Card Reader and 3 cm Separation</i>	22
11. SETUP PHOTOS	23
END OF TEST REPORT	23

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: A04809

SERIAL NUMBER: 510595432, 8U9000023

SAMPLE RECEIPT DATE: 2025-02-12, 2025-05-07, 2025-06-03, 2025-06-16, 2025-06-20, 2025-06-23

DATE TESTED: 2025-05-28 to 2025-06-26

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C: 2025	
ISED RSS-210 Issue 11: 2024	Refer to Section 3
ISED RSS-GEN Issue 5 + A1 + A2: 2021	

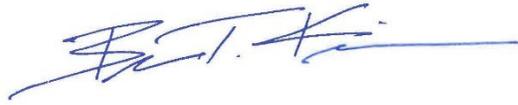
UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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:




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

Manish Baral
 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
- RSS-GEN Issue 5 + A1 + A2: 2021
- RSS-210 Issue 11:2024

3. SUMMARY OF TEST RESULTS

Requirement Description	Requirement Clause Number	Result	Remarks
Occupied Bandwidth	FCC §15.215 (c) RSS-Gen 6.7	Compliant	None
Fundamental Measurements.	FCC §15.225 (a-d) FCC §15.209 (d)		
Tx Spurious Emissions	IC RSS-210, Annex B.6 IC RSS-GEN, Section 8.9 (Transmitter)		
Frequency Stability	FCC §15.225 (e) RSS-210, Annex B.6		
AC Mains Line Conducted Emissions	FCC §15.207 IC RSS-GEN, Section 8.8	Not Performed	See Note 1

****NOTE 1:** AC Mains testing not performed. As declared by customer, EUT NFC doesn't function while in charging mode. Therefore testing not performed.

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 Durham, NC 27713, 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 an 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 the full 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	29.61

6.3. SOFTWARE AND FIRMWARE

EUT FW Version: 16.29

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, AF, and F with and without a tag were investigated to determine the worst case based on the highest power and spurious emissions. Type F 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.

Note – Charging is not a mode of operation for NFC.

6.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Power Supply	Phihong	AQ27A-59CFA	n/a	n/a
NFC Reader	Synnix Technology Co.	CL-2100R	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	USB-C	Shielded	<3m	Program EUT

SETUP DIAGRAM

Please refer to R15626956-EP1 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 1)

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					
90629	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-30	2026-01-30
Gain-Loss Chains					
**91974	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-08	2025-05-31
**91976	Gain-loss string: 25-1000MHz	Various	Various	2024-05-08	2025-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-08-29	2025-08-29
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241205	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

**NOTE: At the time of testing, all equipment was within calibration.

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Conducted Room 1					
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2024-09-23	2025-09-23
207726	Temp/Humid Chamber	Thermotron	SM-32-8200	2025-01-15	2026-01-15
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
7405	NFC Probe Kit	EMCO	9911-4442	NA	NA
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23	NA	NA

8. 20dB and 99% BANDWIDTH

LIMITS

§15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

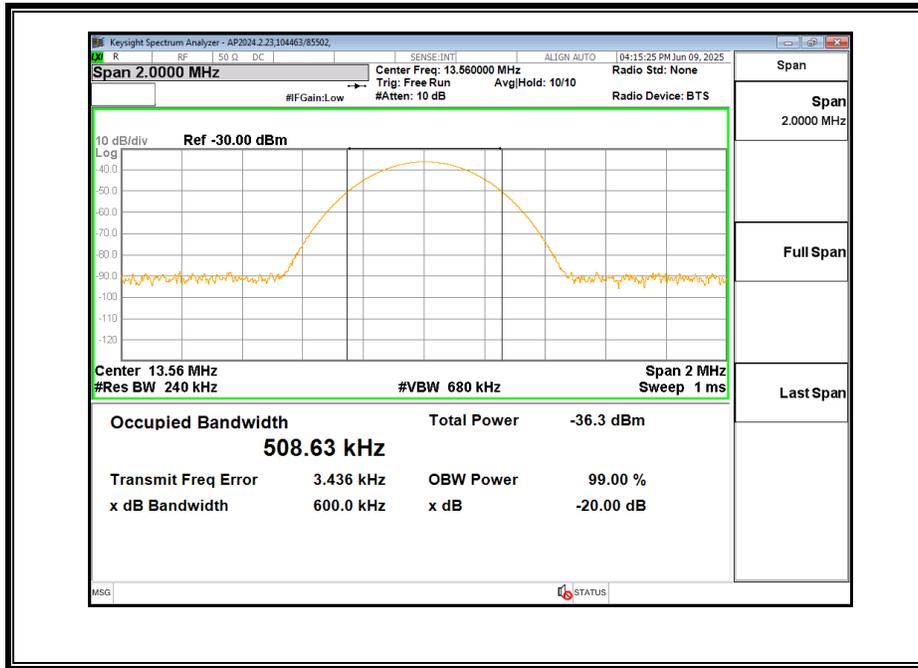
TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1-5% of the 20dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS – TAG ON

Mode	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (MHz)
Type F	13.56	600	508.63

8.1. Type F (CE Mode)



Note: Because the measured signal is CW or CW-like, adjusting the RBW per C63.10 would not be practical since the measured bandwidth will always follow the RBW.

9. RADIATED EMISSION TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMIT

FCC §15.225
 IC RSS-210, Annex B.6
 IC RSS-GEN, Section 8.9 (Transmitter)

- (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

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uA/m) at 3 m	Field Strength Limit (dBuA/m) at 3 m
0.009-0.490	6.37/F(kHz) @ 300 m	-
0.490-1.705	63.7/F(kHz) @ 30 m	-
1.705 - 30	0.08 @ 30m	-
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

** 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:

Limit (dBuV/m) = 20 log 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 $40 * \log(\text{test distance} / \text{specification distance})$.

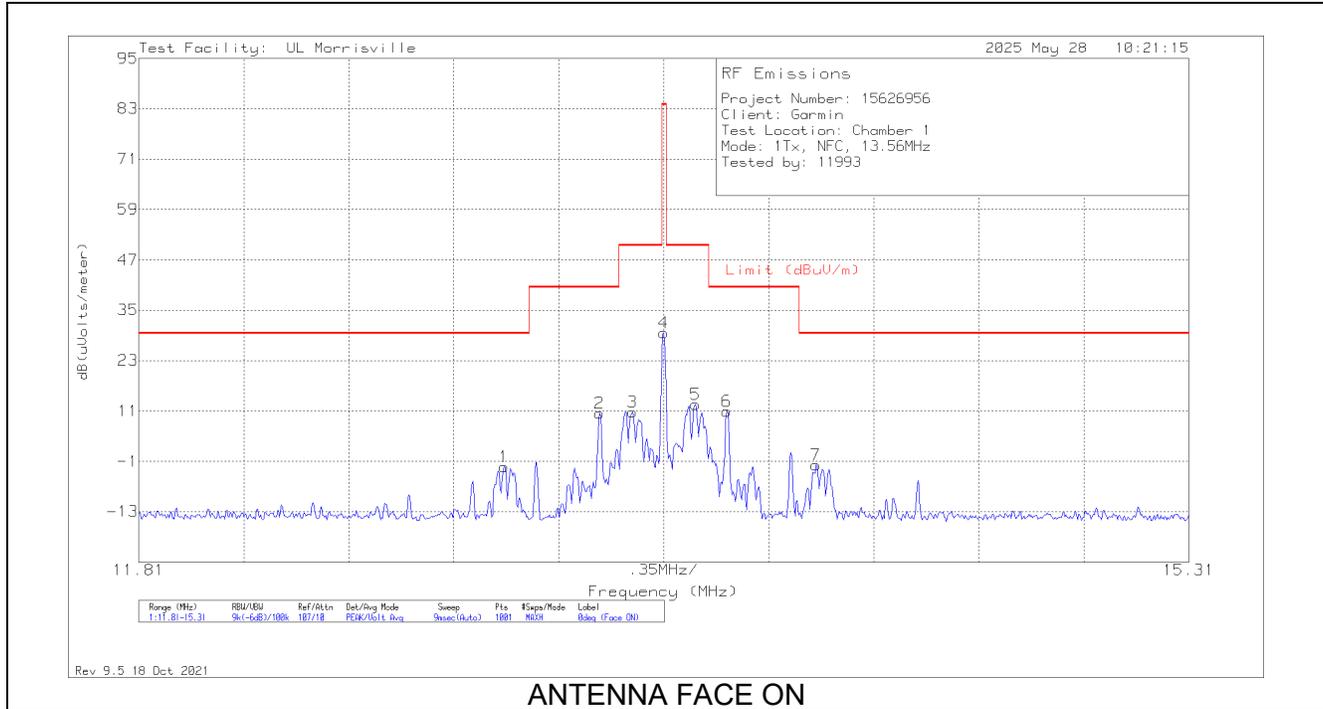
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field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

RESULTS

9.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (<30MHz)

9.2.1. TYPE F, TAG ON

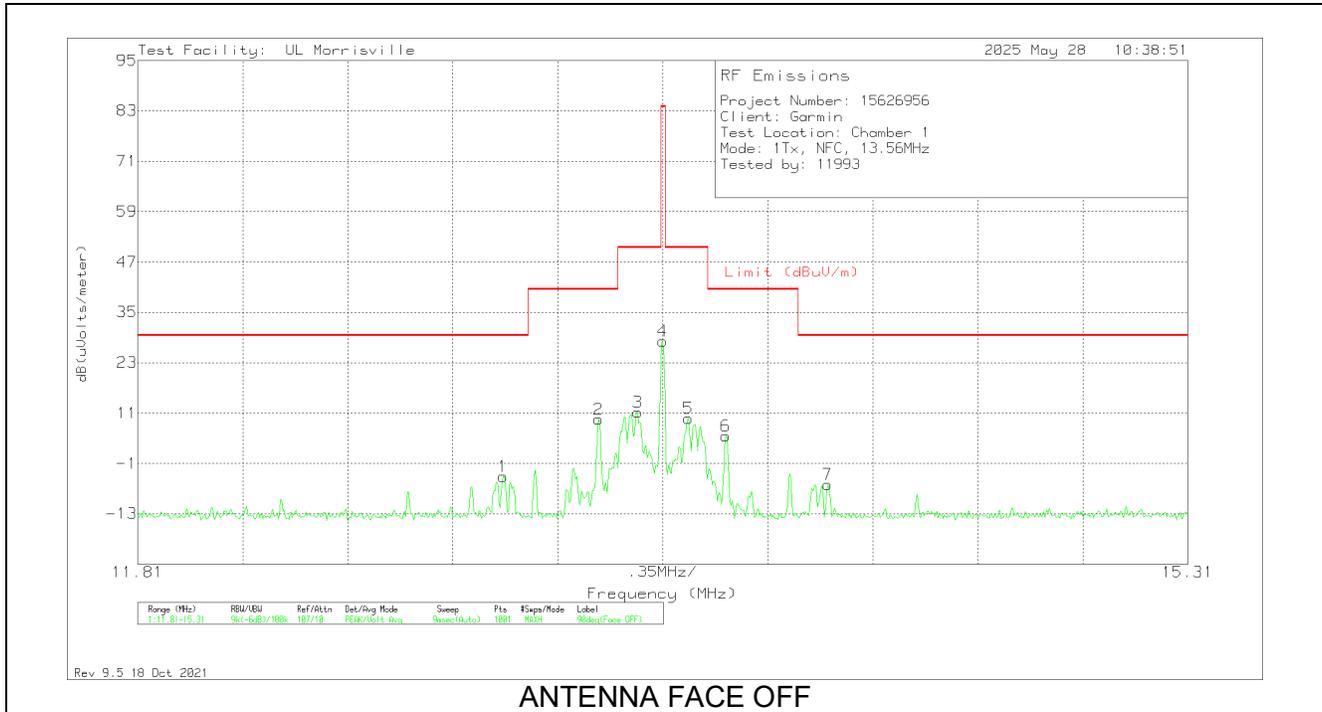
FUNDAMENTAL



ANTENNA FACE ON

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (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	13.028	26.5	Pk	10.6	.6	-40	-2.3	29.5	-31.8	349	100	0 degs
2	13.3465	39.29	Pk	10.6	.6	-40	10.49	40.5	-30.01	349	100	0 degs
3	13.455	39.6	Pk	10.6	.6	-40	10.8	50.5	-39.7	349	100	0 degs
4	13.56	58.41	Pk	10.6	.6	-40	29.61	84	-54.39	349	100	0 degs
5	13.665	41.3	Pk	10.6	.6	-40	12.5	50.5	-38	349	100	0 degs
6	13.77	39.76	Pk	10.6	.6	-40	10.96	40.5	-29.54	349	100	0 degs
7	14.0675	26.99	Pk	10.6	.6	-40	-1.81	29.5	-31.31	349	100	0 degs

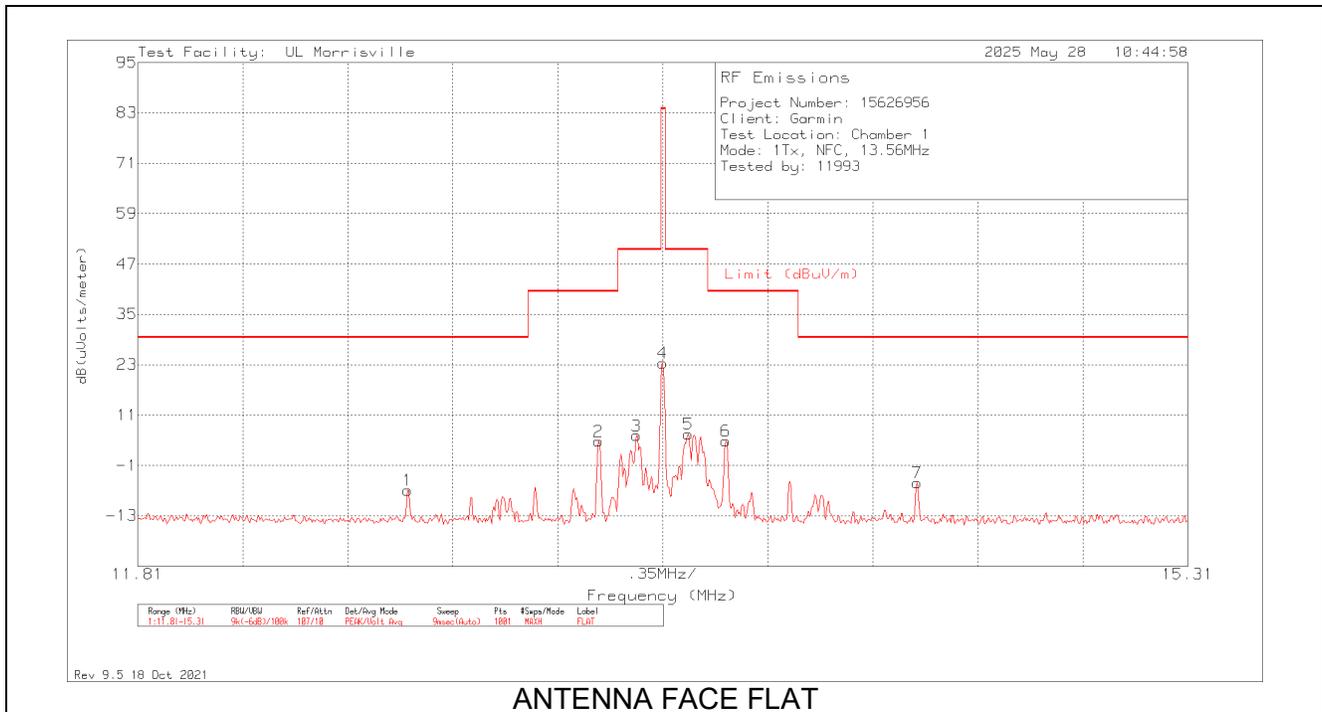
Pk - Peak detector



ANTENNA FACE OFF

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	13.028	24.76	Pk	10.6	.6	-40	-4.04	29.5	-33.54	269	90 degs
2	13.3465	38.3	Pk	10.6	.6	-40	9.5	40.5	-31	269	90 degs
3	13.476	39.99	Pk	10.6	.6	-40	11.19	50.5	-39.31	269	90 degs
4	13.56	57	Pk	10.6	.6	-40	28.2	84	-55.8	269	90 degs
5	13.644	38.49	Pk	10.6	.6	-40	9.69	50.5	-40.81	269	90 degs
6	13.77	34.32	Pk	10.6	.6	-40	5.52	40.5	-34.98	269	90 degs
7	14.1095	22.74	Pk	10.6	.6	-40	-6.06	29.5	-35.56	269	90 degs

Pk - Peak detector

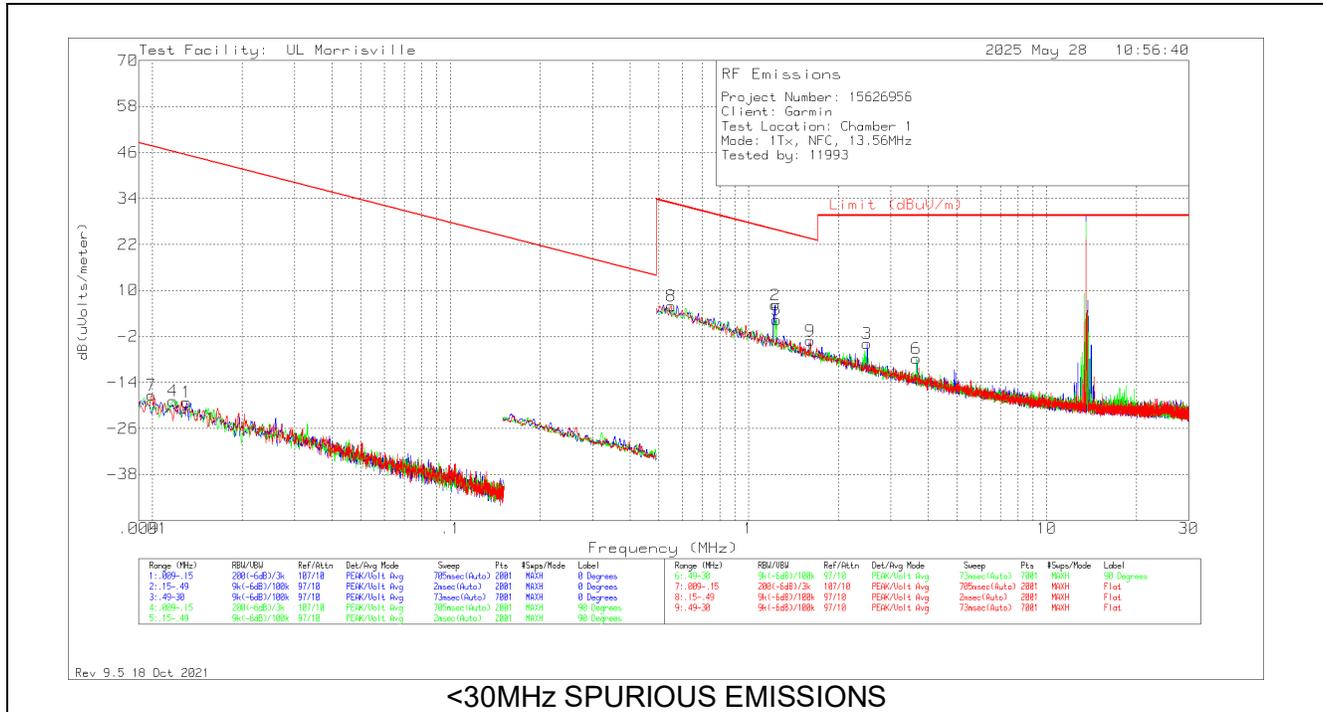


ANTENNA FACE FLAT

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	12.7095	21.91	Pk	10.6	.6	-40	-6.89	29.5	-36.39	347	Flat
2	13.3465	33.54	Pk	10.6	.6	-40	4.74	40.5	-35.76	347	Flat
3	13.4725	34.88	Pk	10.6	.6	-40	6.08	50.5	-44.42	347	Flat
4	13.56	52.21	Pk	10.6	.6	-40	23.41	84	-60.59	347	Flat
5	13.644	35.21	Pk	10.6	.6	-40	6.41	50.5	-44.09	347	Flat
6	13.77	33.56	Pk	10.6	.6	-40	4.76	40.5	-35.74	347	Flat
7	14.407	23.66	Pk	10.6	.6	-40	-5.14	29.5	-34.64	347	Flat

Pk - Peak detector

SPURIOUS EMISSION – E FIELD

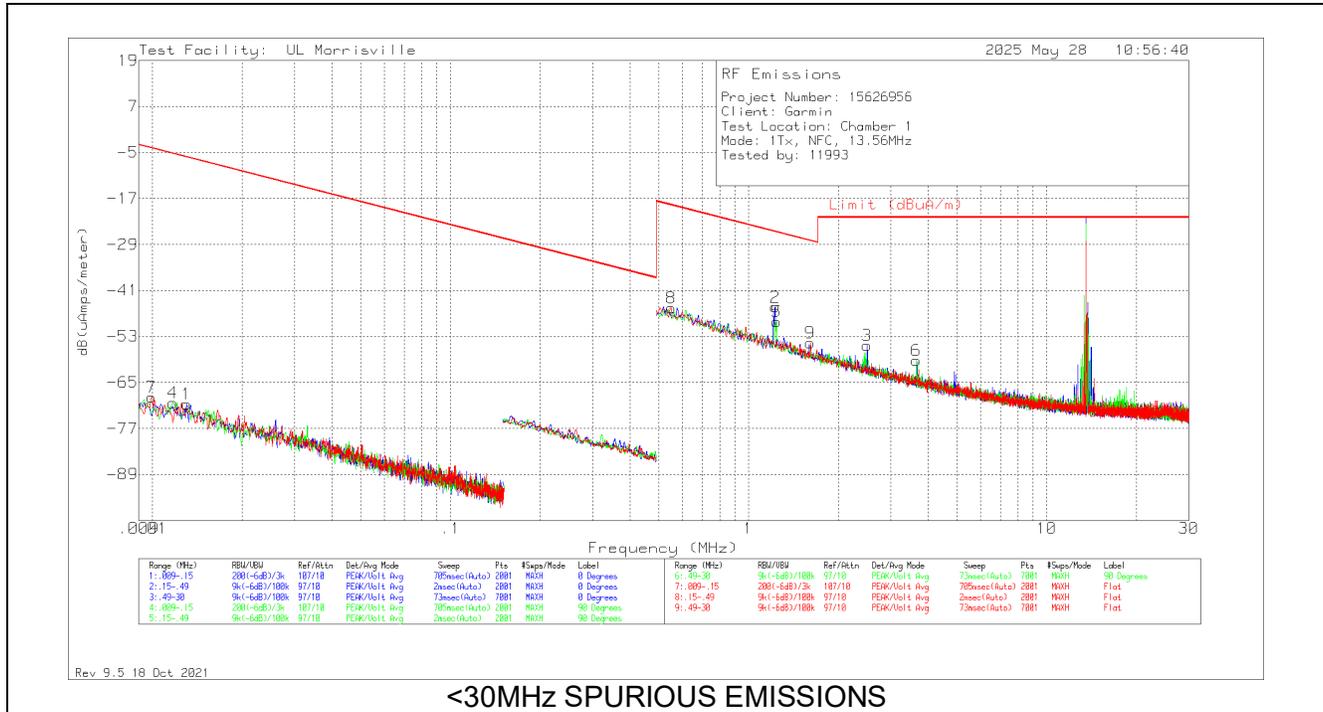


<30MHz SPURIOUS EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (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
7	.00992	43.52	Pk	19	.1	-80	-17.38	47.67	67.67	-65.05	0-360	Flat
4	.0117	43.05	Pk	18.1	.1	-80	-18.75	46.24	66.24	-64.99	0-360	90 degs
1	.01305	43.34	Pk	17.4	.1	-80	-19.16	45.29	65.29	-64.45	0-360	0 degs
8	.54902	34.85	Pk	11	.1	-40	5.95	32.81	-	-26.86	0-360	Flat
2	1.2278	34.97	Pk	11	.2	-40	6.17	25.82	-	-19.65	0-360	0 degs
5	1.24045	31.15	Pk	11	.2	-40	2.35	25.73	-	-23.38	0-360	90 degs
9	1.61146	25.58	Pk	11.1	.2	-40	-3.12	23.46	-	-26.58	0-360	Flat
3	2.50103	24.82	Pk	11.1	.2	-40	-3.88	29.54	-	-33.42	0-360	0 degs
6	3.65622	21.01	Pk	11	.3	-40	-7.69	29.54	-	-37.23	0-360	90 degs

Pk - Peak detector

SPURIOUS EMISSION – H FIELD



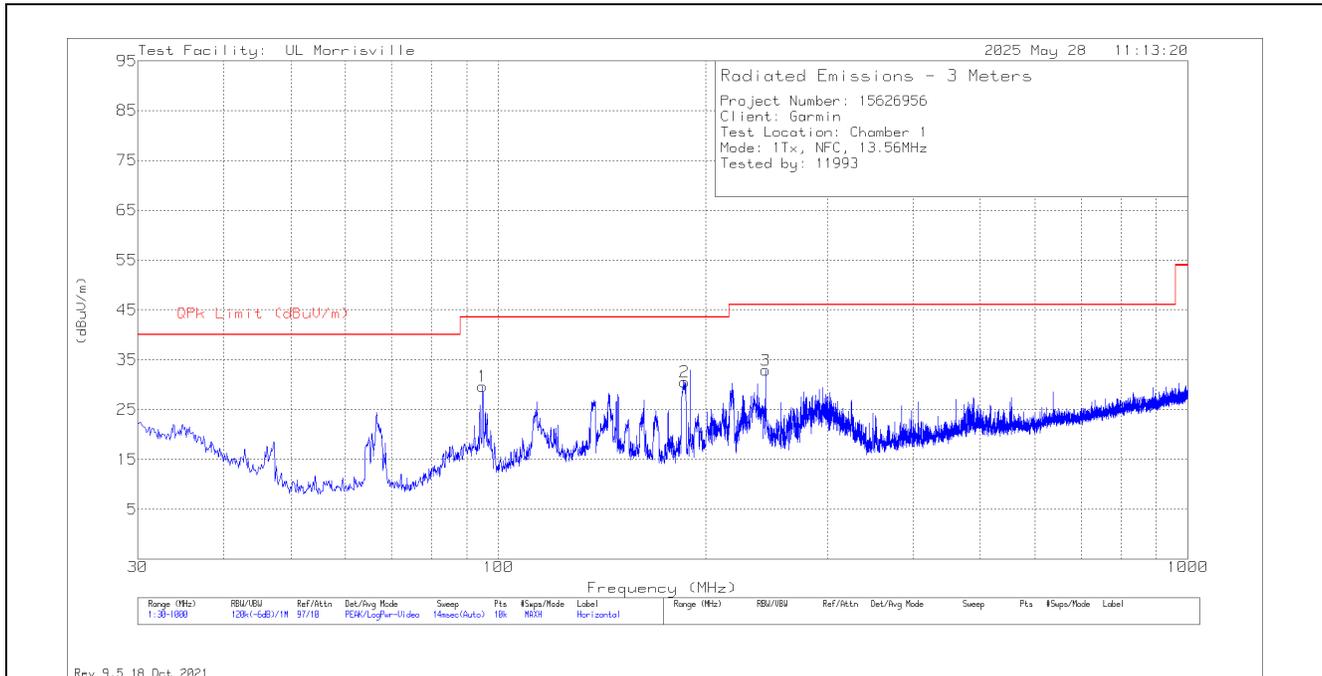
<30MHz SPURIOUS EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
7	.00992	43.52	Pk	-32.5	.1	-80	-68.88	-3.83	16.17	-65.05	0-360	Flat
4	.0117	43.05	Pk	-33.4	.1	-80	-70.25	-5.26	14.74	-64.99	0-360	90 degs
1	.01305	43.34	Pk	-34.1	.1	-80	-70.66	-6.21	13.79	-64.45	0-360	0 degs
8	.54902	34.85	Pk	-40.5	.1	-40	-45.55	-18.69	-	-26.86	0-360	Flat
2	1.2278	34.97	Pk	-40.5	.2	-40	-45.33	-25.68	-	-19.65	0-360	0 degs
5	1.24045	31.15	Pk	-40.5	.2	-40	-49.15	-25.77	-	-23.38	0-360	90 degs
9	1.61146	25.58	Pk	-40.4	.2	-40	-54.62	-28.04	-	-26.58	0-360	Flat
3	2.50103	24.82	Pk	-40.4	.2	-40	-55.38	-21.96	-	-33.42	0-360	0 degs
6	3.65622	21.01	Pk	-40.5	.3	-40	-59.19	-21.96	-	-37.23	0-360	90 degs

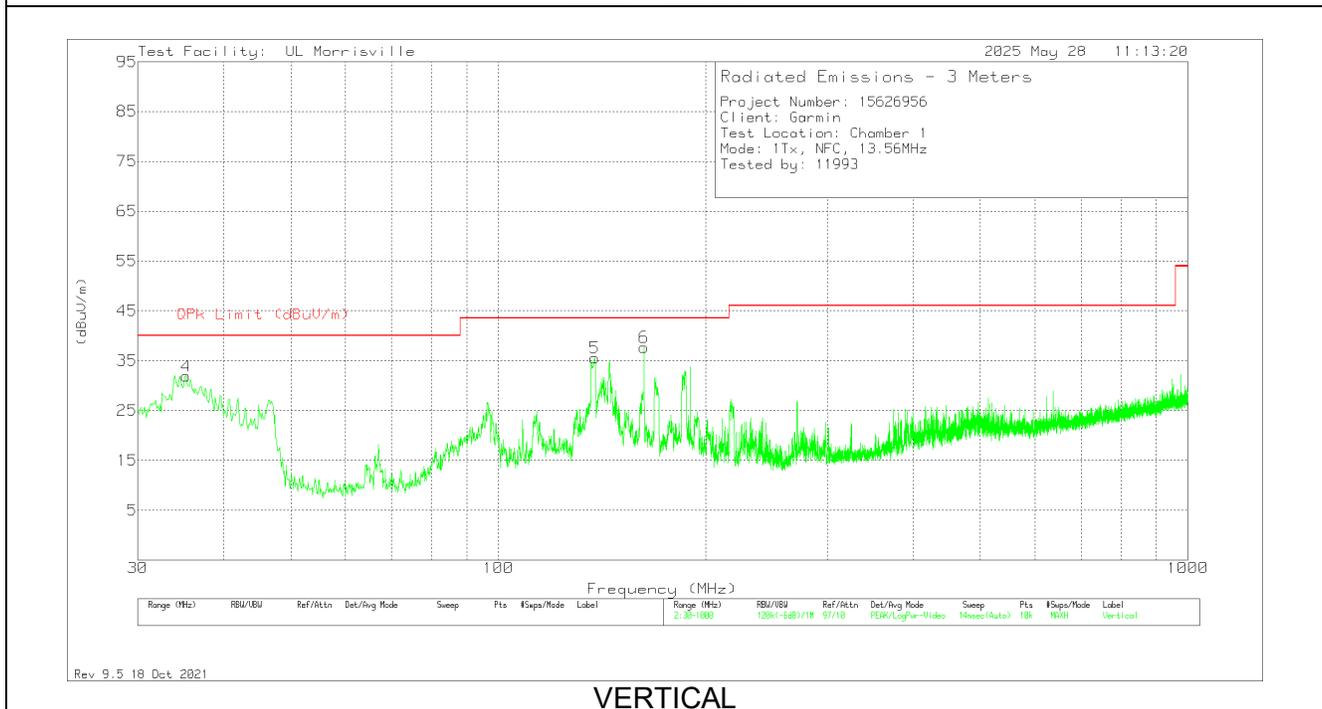
Pk - Peak detector

9.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

9.3.1. TYPE F, WITH TAG



HORIZONTAL



VERTICAL

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	35.238	40.26	Pk	23.2	-31.6	31.86	40	-8.14	0-360	100	V
1	94.893	45.51	Pk	15.2	-31	29.71	43.52	-13.81	0-360	200	H
5	138.058	46.99	Pk	19.5	-30.9	35.59	43.52	-7.93	0-360	100	V
6	162.7176	44.48	Qp	18.5	-30.1	32.88	43.52	-10.64	138	111	V
2	186.364	43.49	Pk	17.6	-30.5	30.59	43.52	-12.93	0-360	100	H
3	244.079	44.97	Pk	17.7	-29.8	32.87	46.02	-13.15	0-360	200	H

Pk - Peak detector
 Qp - Quasi-Peak detector

10. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

IC RSS-210, Annex B.6

Carrier frequency stability shall be maintained to $\pm 0.01\%$ (± 100 ppm).

TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

RESULTS

No non-compliance noted.

10.1. Type F, CE Mode w/ Card Reader and 3 cm Separation

		Limit: ± 100 ppm = 1.356 kHz								
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapse								
(Vdc)	(°C)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.91	50	13.5595071	0.157	13.5595067	0.188	13.5595060	0.241	13.5595048	0.327	± 100
3.91	40	13.5595044	0.357	13.5595045	0.353	13.5595045	0.348	13.5595044	0.360	± 100
3.91	30	13.5595052	0.299	13.5595054	0.284	13.5595056	0.270	13.5595058	0.255	± 100
3.91	20	13.5595092	0.000	13.5595097	-0.036	13.5595109	-0.120	13.5595111	-0.139	± 100
3.91	10	13.5595496	-2.973	13.5595484	-2.887	13.5595474	-2.811	13.5595460	-2.709	± 100
3.91	0	13.5595562	-3.466	13.5595561	-3.458	13.5595560	-3.451	13.5595558	-3.435	± 100
3.91	-10	13.5595506	-3.047	13.5595526	-3.197	13.5595545	-3.337	13.5595562	-3.463	± 100
3.91	-20	13.5595109	-0.125	13.5595164	-0.527	13.5595255	-1.196	13.5595351	-1.907	± 100
4.50	20	13.5595097	-0.0349	13.5595096	-0.026	13.5595095	-0.018	13.5595093	-0.001	± 100
3.35	20	13.55953389	-1.818	13.55952596	-1.233	13.5595246	-1.133	13.55952376	-1.071	± 100

Tested by: 104463/85502

Test date: 2025-06-10

NOTE: EUT was tested at 3.35 V for a low voltage condition as this is the lowest operating voltage of the EUT.

11. SETUP PHOTOS

Please refer to R15626956-EP1 for setup photos

END OF TEST REPORT



SAR EVALUATION REPORT

IEEE Std 1528-2013

For

51mm Extremity Worn Digital Transceiver

FCC ID: IPH-04809

Model Name: A04809

Report Number: 15626956-S1

Issue Date: 2025-08-12

Prepared for

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

Prepared by

**UL LLC
12 LABORATORY DR
DURHAM, NC 27713, U.S.A.
TEL: (919) 549-1400**



Revision History

Rev.	Date	Revisions	Revised By
V1	2025-08-12	Initial Issue	--

Table of Contents

1. Attestation of Test Results 5

2. Test Specification, Methods and Procedures..... 6

3. Facilities and Accreditation 7

4. Measurement System & Test Equipment..... 8

 4.1. SAR Measurement System..... 8

 4.2. SAR Scan Procedures 9

 4.3. Test Equipment..... 11

5. Measurement Uncertainty..... 12

6. Device Under Test (DUT) Information 13

 6.1. DUT Description 13

 6.2. Wireless Technologies..... 14

 6.3. General LTE SAR Test and Reporting Considerations..... 15

7. RF Exposure Conditions (Test Configurations) 16

 7.1. Standalone SAR Test Exclusion Considerations..... 16

 7.2. Required Test Configurations 16

8. Dielectric Property Measurements & System Check 17

 8.1. SAR Dielectric Property Measurements and System Checks..... 17

 8.2. System Check..... 19

9. Conducted Output Power Measurements..... 21

 9.1. LTE..... 21

 9.2. Wi-Fi 2.4GHz (DTS Band)..... 29

 9.3. Bluetooth 31

 9.4. NFC..... 33

 9.5. ANT/ANT+ 33

10. Measured and Reported (Scaled) SAR Results 34

 10.1. LTE Band 2 (20MHz Bandwidth) 35

 10.2. LTE Band 4 (20MHz Bandwidth) 35

 10.3. LTE Band 12 (10MHz Bandwidth) 35

 10.4. NTN Band 23 36

 10.5. NTN Band 255 36

 10.6. Wi-Fi (DTS Band)..... 36

 10.7. Bluetooth..... 37

 10.8. NFC..... 37

 10.9. Standalone SAR Test Exclusion Considerations & Estimated SAR 38

11. SAR Measurement Variability	39
12. Simultaneous Transmission Conditions	40
<i>Appendix A: SAR Setup Photos</i>	41
<i>Appendix B: SAR System Check Plots</i>	41
<i>Appendix C: SAR Highest Test Plots</i>	41
<i>Appendix D: Tissue Ingredients</i>	41
<i>Appendix E: Probe Certificates</i>	41
<i>Appendix F: Dipole Certificates</i>	41

1. Attestation of Test Results

Applicant Name		Garmin International Inc.			
FCC ID		IPH-04809			
Model Name		A04809			
Applicable Standards		Published RF exposure KDB procedures. IEEE Std 1528-2013			
Exposure Category		SAR Limits (W/Kg)			
		Peak spatial-average (1g of tissue)		Extremities (hands, wrists, ankles, etc.) (10g of tissue)	
General population / Uncontrolled exposure		1.6		4	
RF Exposure Conditions		Equipment Class - Highest Reported SAR (W/kg)			
		PCT	DTS	DSS	DXX
Head		0.139	0.328	0.068	0.001
Extremity		0.170	0.135	0.022	0.001
Simultaneous TX	Head	0.207	N/A	0.207	0.207
	Extremity	0.192	N/A	0.192	0.192
Date Tested		2025-04-29 to 2025-08-06			
Test Results		Complies			
<p>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 can demonstrate compliance with the requirements as documented in this report.</p> <p>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.</p> <p>The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to ensure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not considered unless noted otherwise.</p> <p>This document may not be altered or revised in any way unless done so by UL LLC and all revisions are 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, or any agency of the U.S. government.</p>					
Approved & Released By:			Prepared By:		
					
Sunghoon Kim Senior Laboratory Engineer UL Korea, Ltd. Suwon Laboratory			Lindsay Ryan Project 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
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02

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

- **TCB workshop** October 2014; RF Exposure Procedures (Other LTE Considerations)
- **TCB workshop** April 2015; RF Exposure Procedures (Overlapping LTE Bands)
- **TCB workshop** October 2015; RF Exposure Procedures (KDB 941225 D05A)
- **TCB workshop** October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- **TCB workshop** October 2016; RF Exposure Procedures (DUT Holder Perturbations)

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.

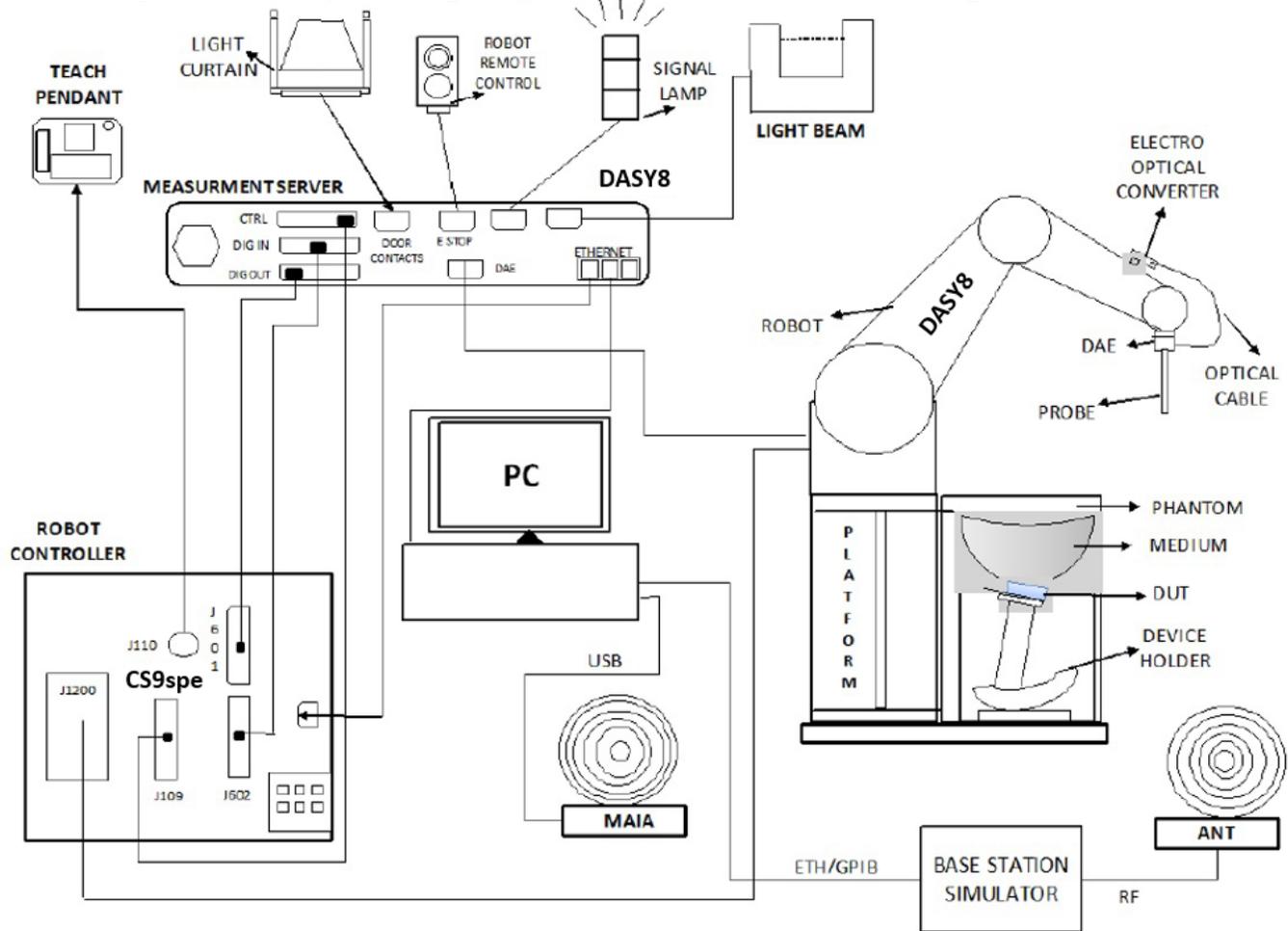
- SAR Lab 1A
- SAR Lab 2A

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building: 12 Laboratory Dr Durham, NC 27713, 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. 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	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{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 \leq 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</i> SAR 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 ¹	Keysight	E5063A	MY54100681	2024-07-31	2025-07-31
Network Analyzer ²	Keysight	E5063A	MY54100681	2025-08-01	2026-08-01
Dielectric Probe	SPEAG	DAKS-3.5	1051	2024-10-14	2025-10-14
Shorting Block	SPEAG	DAK-3.5 Short	SM DAK 200 DA	2024-10-14	2025-10-14
Dielectric Probe	SPEAG	DAKS-12	1037	2025-03-05	2026-03-05
Shorting Block	SPEAG	DAK-12 Short	2044	2025-03-05	2026-03-05

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Date	Cal. Due Date
Signal Generator ¹	Keysight	N5181A	MY50140788	2024-08-01	2025-08-01
Signal Generator ¹	Keysight	N5182B	MY51350128	2024-07-09	2025-07-09
3-Path Diode Power Sensor ¹	Rohde & Schwarz	NRP8S	112236	2024-07-12	2025-07-12
3-Path Diode Power Sensor ¹	Rohde & Schwarz	NRP8S	112237	2024-07-12	2025-07-12
RF Power Meter ¹	Keysight	N1912A	MY55136012	2024-08-02	2025-08-02
RF Power Sensor	Keysight	N1921A	MY55090025	2024-08-16	2025-08-16
RF Power Sensor ¹	Keysight	N1921A	MY55090030	2024-07-09	2025-07-30
Amplifier	Mini-Circuits	ZVA-183WA-S+	S C484802241	N/A	N/A
Directional Coupler	Mini-Circuits	ZUDC10-183+	2214	N/A	N/A
Dual Directional Coupler	Werlatone	C5100-10	92249	N/A	N/A
DC Power Supply	Miteq	PS 15V1	1990186	N/A	N/A
RF Power Source ¹	Speag	PowerSource1	4278	2024-06-17	2025-06-17
RF Power Source ²	Speag	PowerSource1	4278	2025-06-12	2026-06-12

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
E-Field Probe	SPEAG	EX3DV4	7710	2025-01-14	2026-01-14
E-Field Probe	SPEAG	EX3DV4	7711	2025-03-10	2026-03-10
Data Acquisition Electronics	SPEAG	DAE4	1714	2024-11-06	2025-11-06
Data Acquisition Electronics	SPEAG	DAE4	1715	2025-01-13	2026-01-13
System Validation Dipole	SPEAG	CLA 13	1017	2025-03-10	2026-03-10
System Validation Dipole	SPEAG	D750V3	1139	2024-10-11	2025-10-11
System Validation Dipole	SPEAG	D1640V2	359	2025-04-30	2026-04-30
System Validation Dipole	SPEAG	D1750V2	1136	2024-10-10	2025-10-10
System Validation Dipole	SPEAG	D1900V2	5d202	2024-10-11	2025-10-11
System Validation Dipole	SPEAG	D2100V2	1043	2024-10-11	2025-10-11
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
Spectrum Analyzer	Keysight	N9030A	MY54490314	2024-08-01	2025-08-01

Note(s):

1. Equipment not used past calibration due date.
2. Equipment calibrated during course of testing.

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

Back Cover	The Back Cover is not removable	
Battery Options	The rechargeable battery is not user accessible.	
Accessory	Strap 1, 2, 3. Refer to Appendix A.	
Test sample information	S/N	Notes
	3606393055	Radiated Sample #1
	3606393069	Radiated Sample #2
	510595271	Conducted Sample #1
Hardware Version	A04809	
Software Version	16.29	

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
LTE	FDD Band 2 FDD Band 4 FDD Band 12 NTN Band 23 NTN Band 255	QPSK 16QAM BPSK ¹ Does not support Carrier Aggregation (CA)	Cat eMTC M1 11.1% (QPSK) 34.4% (BPSK)
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)	100% (802.11b) ²
Bluetooth	2.4 GHz	BR, EDR, and LE	100% (GFSK) ²
ANT/ANT+	2.4GHz	GFSK	N/A ³
NFC	13.56 MHz	Type A, B, A & B, F, A & F	100% (Type F) ²

Notes:

1. NTN bands only.
2. Duty cycle is referenced from §9.
3. Measured Duty Cycle is not required due to SAR test exemption.

6.3. General LTE SAR Test and Reporting Considerations

Item	Description																																																																				
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz (BW = 60 MHz)																																																																			
		Channel Bandwidth																																																																			
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz																																																														
	Low	18700 /1860	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7																																																														
	Mid	18900 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880																																																														
	High	19100 1900	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5	19193/ 1909.3																																																														
	Band 4	Frequency range: 1710 - 1755 MHz (BW = 45 MHz)																																																																			
		Channel Bandwidth																																																																			
		20 MHz ¹	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz																																																														
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7																																																														
	Mid	20175 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5																																																														
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3																																																														
	Band 12	Frequency range: 699 – 716 MHz (BW = 17 MHz)																																																																			
		Channel Bandwidth																																																																			
		20 MHz	15 MHz	10 MHz ¹	5 MHz	3 MHz	1.4 MHz																																																														
Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7																																																															
Mid			23095 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5																																																															
High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3																																																															
LTE transmitter and antenna implementation	Refer to Appendix A.																																																																				
Maximum power reduction (MPR)	<p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table> <p>MPR Built-in by design The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values. A-MPR (additional MPR) was disabled during SAR testing</p>							Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																														
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																															
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																														
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																														
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																														
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																														
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																														
256 QAM	≥ 1						≤ 5																																																														
Power reduction	No																																																																				
Spectrum plots for RB configurations	A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																				

7. RF Exposure Conditions (Test Configurations)

7.1. Standalone SAR Test Exclusion Considerations

Since the *Dedicated Host Approach* is applied, the standalone SAR test exclusion procedure in KDB 447498 § 4.3.1 is applied in conjunction with KDB 616217 § 4.3 to determine the minimum test separation distance:

- When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.

SAR Test Exclusion Calculations

Antennas < 50mm to adjacent edges

Head

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)	Calculated Threshold Value
		dBm	mW	Back	Back
ANT/ANT+	2480	6.50	4.50	10	0.7 -EXEMPT-

Note(s):

According to KDB 447498, if the calculated threshold value is >3 then SAR testing is required. Head exposure is only required for Bluetooth as it is the only communication system supporting voice mode.

Extremity

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)	Calculated Threshold Value
		dBm	mW	Back	Back
ANT/ANT+	2480	6.50	4.50	5	1.4 -EXEMPT-

Note(s):

According to KDB 447498, if the calculated threshold value is >7.5 , then SAR testing is required.

7.2. Required Test Configurations

The table below identifies the standalone test configurations required for this device according to the findings in Section 7.1:

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN	Head	10	Front	N/A	Yes	
	Extremity	0	Back	N/A	Yes	
WLAN/BT	Head	10	Front	N/A	Yes	
	Extremity	0	Back	N/A	Yes	
NFC	Head	10	Front	N/A	Yes	
	Extremity	0	Back	N/A	Yes	
ANT/ANT+	Head	10	Front	N/A	No	1
	Extremity	0	Back	N/A	No	1

Note(s):

1. Testing not required per §7.1.

8. Dielectric Property Measurements & System Check

8.1. SAR Dielectric Property Measurements and System Checks

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within $\pm 2^\circ\text{C}$ 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 dielectric constant (ϵ_r) and conductivity (σ) of typical tissue-equivalent media recipes are expected to be within $\pm 5\%$ of the required target values; but for SAR measurement systems that have implemented the SAR error compensation algorithms documented in IEEE Std 1528-2013, to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, the tolerance for ϵ_r and σ may be relaxed to $\pm 10\%$. This is limited to frequencies ≤ 3 GHz.

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 Measurements 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	2025-06-10	Head	13	13	54.0	55.0	-1.80%	0.72	0.75	-4.27%
				12	54.0	55.0	-1.76%	0.72	0.75	-4.28%
				14	54.0	55.0	-1.87%	0.72	0.75	-4.25%
SAR 1A	2025-07-21	Head	1750	1750	42.1	40.1	5.10%	1.25	1.37	-8.69%
				1710	42.2	40.1	5.09%	1.23	1.35	-8.94%
				1780	42.1	40.0	5.10%	1.27	1.39	-8.43%
SAR 1A	2025-07-21	Head	1900	1900	41.3	40.0	3.33%	1.30	1.40	-7.21%
				1850	41.4	40.0	3.52%	1.27	1.40	-9.29%
				2000	41.2	40.0	3.00%	1.36	1.40	-2.86%
SAR 1A	2025-07-28	Head	750	750	42.3	42.0	0.81%	0.83	0.89	-7.31%
				660	42.6	42.4	0.30%	0.80	0.89	-9.53%
				800	42.2	41.7	1.21%	0.84	0.90	-6.12%
SAR 1A	2025-07-28	Head	1640	1640	40.8	40.3	1.38%	1.19	1.31	-9.25%
				1625	40.8	40.3	1.35%	1.18	1.30	-9.35%
				1665	40.8	40.2	1.45%	1.19	1.32	-9.62%
SAR 1A	2025-08-04	Head	1640	1640	42.1	40.3	4.46%	1.18	1.31	-9.79%
				1625	42.1	40.3	4.45%	1.17	1.30	-9.89%
				1665	42.0	40.2	4.51%	1.19	1.32	-9.77%
SAR 2A	2025-07-07	Head	2450	2450	39.7	39.2	1.28%	1.89	1.80	4.83%
				2400	39.9	39.3	1.54%	1.83	1.75	4.53%
				2500	39.5	39.1	0.98%	1.94	1.85	4.74%
SAR 2A	2025-07-11	Head	2450	2450	39.0	38.7	0.80%	1.84	1.80	2.33%
				2400	38.8	39.3	-1.16%	1.79	1.75	1.96%
				2500	39.0	38.5	1.35%	1.89	1.85	2.15%
SAR 2A	2025-07-15	Head	2450	2450	39.0	39.2	-0.51%	1.88	1.80	4.22%
				2400	39.2	39.3	-0.27%	1.82	1.75	3.90%
				2500	38.8	39.1	-0.81%	1.93	1.85	4.04%
SAR 2A	2025-07-29	Head	1900	1900	40.8	40.0	2.10%	1.33	1.40	-5.00%
				1920	40.8	40.0	2.08%	1.34	1.40	-4.14%
				1950	40.8	40.0	2.00%	1.36	1.40	-3.07%
SAR 2A	2025-07-29	Head	2100	2100	40.6	39.8	2.02%	1.45	1.49	-2.35%
				2000	40.7	40.0	1.82%	1.39	1.40	-0.71%
				2200	40.5	38.6	5.06%	1.52	1.62	-6.11%
SAR 2A	2025-08-05	Head	750	750	45.3	42.0	7.84%	0.84	0.89	-6.04%
				695	45.5	42.2	7.66%	0.82	0.89	-8.06%
				800	45.1	41.7	8.16%	0.85	0.90	-4.99%

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 $\pm 10\%$ 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 $\pm 10\%$	Meas. Zoom Scan	Normalize to 1 W	Target (Ref. Value)	Delta $\pm 10\%$	
SAR 1A	2025-06-10	CLA13 SN: 1017	2026-03-10	17.0	0.025	0.499	0.538	-7.28%	0.016	0.319	0.336	-4.99%	1
SAR 1A	2025-07-21	D1750V2 SN: 1136	2025-10-10	17.0	1.710	34.119	37.100	-8.04%	0.937	18.696	19.700	-5.10%	2
SAR 1A	2025-07-21	D1900V2 SN: 5d202	2025-10-11	17.0	1.900	37.910	40.200	-5.70%	1.020	20.352	21.200	-4.00%	3
SAR 1A	2025-07-28	D750V3 SN: 1139	2025-10-11	17.0	0.417	8.320	8.320	0.00%	0.278	5.547	5.410	2.53%	4
SAR 1A	2025-07-28	D1640V2 SN: 359	2026-04-30	17.0	1.740	34.718	34.200	1.51%	0.949	18.935	18.600	1.80%	
SAR 1A	2025-08-04	D1640V2 SN: 359	2026-04-30	17.0	1.620	32.323	34.200	-5.49%	0.911	18.177	18.600	-2.28%	5
SAR 2A	2025-07-07	D2450V2 SN: 963	2025-10-11	17.0	2.470	49.283	52.600	-6.31%	1.140	22.746	24.400	-6.78%	
SAR 2A	2025-07-11	D2450V2 SN: 963	2025-10-11	17.0	2.440	48.684	52.600	-7.44%	1.130	22.546	24.400	-7.60%	6
SAR 2A	2025-07-15	D2450V2 SN: 963	2025-10-11	17.0	2.510	50.081	52.600	-4.79%	1.160	23.145	24.400	-5.14%	
SAR 2A	2025-07-29	D1900V2 SN: 5d202	2025-10-11	17.0	1.960	39.107	40.200	-2.72%	1.030	20.551	21.200	-3.06%	7
SAR 2A	2025-07-29	D2100V2 SN: 1043	2025-10-11	17.0	2.070	41.302	44.200	-6.56%	1.050	20.950	22.400	-6.47%	8
SAR 2A	2025-08-05	D750V3 SN: 1139	2025-10-11	17.0	0.435	8.679	8.320	4.32%	0.293	5.846	5.410	8.06%	9

9. Conducted Output Power Measurements

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

9.1. LTE

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
256 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N _{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A

Maximum Output Power (Tune-up Limit) for LTE

For some LTE Bands, certain channel bandwidths do not support at least three non-overlapping channels. When a device supports overlapping channel assignments in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices. Please refer to section 6.3. for a detailed list of LTE test channels

- LTE Band 4 (1710-1755 MHz)
- LTE Band 12 (699-716 MHz)

LTE QPSK configuration has the highest maximum average output power per 3GPP standard.

SAR measurement is not required for 16QAM when the highest maximum output power for 16QAM is $\leq \frac{1}{2}$ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.

RF Air interface	Mode	Tune-up PowerLimit
		Main Antenna
LTE Band 2	QPSK	22.50
LTE Band 4	QPSK	22.50
LTE Band 12	QPSK	24.50
NTN n23	QPSK	22.50
NTN n255	QPSK	22.50

LTE Band 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB Offset	NB Position	Maximum Average Power (dBm)				
					18700	18900	19100	MPR	Tune-up Limit
					1860 MHz	1880 MHz	1900 MHz		
20	QPSK	1	0	Low	20.9	21.0	21.0	0	22.5
		1	3	NB7	20.9	20.9	21.0	0	22.5
		1	5	High	21.0	21.1	21.2	0	22.5
		3	0	Low	20.9	20.6	20.8	0	22.5
		3	1	NB7	20.6	20.9	20.7	0	22.5
		3	3	High	21.0	20.9	21.0	0	22.5
	16QAM	6	0	Low	21.3	21.1	21.2	0	22.5
		1	0	Low	20.5	20.6	21.2	0	22.5
		1	3	NB7	20.6	20.8	21.3	0	22.5
		1	5	High	20.6	20.7	21.2	0	22.5
		3	0	Low	21.4	21.4	20.8	0	22.5
		3	1	NB7	21.4	21.0	21.3	0	22.5
15	QPSK	3	3	High	21.5	21.5	20.8	0	22.5
		6	0	Low	20.9	21.4	21.0	0	22.5
		1	0	Low	21.0	21.1	21.0	0	22.5
		1	3	NB5	20.9	21.0	20.9	0	22.5
		1	5	High	21.1	21.2	21.0	0	22.5
		3	0	Low	20.9	21.0	20.8	0	22.5
	16QAM	3	1	NB5	21.4	20.9	20.9	0	22.5
		3	3	High	21.0	20.9	20.8	0	22.5
		6	0	Low	21.4	21.2	21.1	0	22.5
		1	0	Low	20.5	20.7	21.1	0	22.5
		1	3	NB5	20.8	20.9	21.1	0	22.5
		1	5	High	20.7	20.7	21.0	0	22.5
10	QPSK	3	0	Low	21.5	21.7	20.9	0	22.5
		3	1	NB5	21.4	22.0	20.6	0	22.5
		3	3	High	21.6	21.5	20.7	0	22.5
		6	0	Low	20.8	20.9	21.2	0	22.5
		1	0	Low	21.0	21.0	20.9	0	22.5
		1	3	NB3	20.9	20.9	20.8	0	22.5
	16QAM	1	5	High	21.0	21.1	21.0	0	22.5
		3	0	Low	21.0	21.3	20.8	0	22.5
		3	1	NB3	20.8	20.9	20.6	0	22.5
		3	3	High	21.0	20.9	20.8	0	22.5
		6	0	Low	20.4	20.4	20.1	1	21.5
		1	0	Low	20.5	20.5	21.1	0	22.5
10	16QAM	1	3	NB3	20.8	20.7	21.1	0	22.5
		1	5	High	20.7	20.6	21.0	0	22.5
		3	0	Low	21.5	21.6	20.8	0	22.5
		3	1	NB3	21.9	20.9	21.2	0	22.5
		3	3	High	21.5	21.5	20.6	0	22.5
		6	0	Low	19.1	19.3	18.8	2	20.5

LTE Band 2 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					18625	18900	19175	MPR	Tune-up Limit
					1852.5 MHz	1880 MHz	1907.5 MHz		
5	QPSK	1	0	Low	21.1	21.1	20.9	0	22.5
		1	3	NB1	20.9	20.9	20.8	0	22.5
		1	5	High	21.0	21.0	20.9	0	22.5
		3	0	Low	20.0	20.0	19.8	1	21.5
		3	1	NB1	20.4	20.1	19.9	1	21.5
		3	3	High	20.0	20.0	19.8	1	21.5
	16QAM	6	0	Low	20.4	20.4	20.0	1	21.5
		1	0	Low	20.6	20.5	21.0	0	22.5
		1	3	NB1	20.8	20.8	21.1	0	22.5
		1	5	High	20.7	20.6	20.9	0	22.5
		3	0	Low	20.5	20.5	19.8	1	21.5
		3	1	NB1	20.0	20.3	20.8	1	21.5
		3	3	High	20.5	20.5	19.6	1	21.5
		6	0	Low	19.3	18.9	18.7	2	20.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					18615	18900	19185	MPR	Tune-up Limit
					1851.5 MHz	1880 MHz	1908.5 MHz		
3	QPSK	1	0	Low	21.0	21.5	21.3	0	22.5
		1	3	Low	20.7	21.2	21.2	0	22.5
		1	5	High	21.0	21.4	21.2	0	22.5
		3	0	Low	20.1	19.7	19.6	1	21.5
		3	1	Low	20.1	19.8	20.0	1	21.5
		3	3	High	20.0	19.8	19.7	1	21.5
	16QAM	6	0	Low	19.4	19.0	18.9	2	20.5
		1	0	Low	19.5	20.2	20.0	1	21.5
		1	3	Low	19.8	20.3	20.2	1	21.5
		1	5	High	19.6	20.1	19.9	1	21.5
		3	0	Low	19.1	19.1	18.9	2	20.5
		3	1	Low	18.8	18.8	18.8	2	20.5
		3	3	High	19.2	18.9	18.7	2	20.5
		6	0	Low	18.6	18.7	18.5	2	20.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					18607	18900	19193	MPR	Tune-up Limit
					1850.7 MHz	1880 MHz	1909.3 MHz		
1.4	QPSK	1	0	Low	20.9	21.2	21.3	0	22.5
		1	3	Low	20.5	21.1	21.6	0	22.5
		1	5	High	20.9	20.9	21.2	0	22.5
		3	0	Low	20.3	20.2	19.5	1	21.5
		3	1	Low	19.9	19.7	19.9	1	21.5
		3	3	High	20.1	20.0	19.6	1	21.5
	16QAM	6	0	Low	19.2	19.2	18.9	2	20.5
		1	0	Low	19.2	19.3	20.2	1	21.5
		1	3	Low	19.2	19.4	20.2	1	21.5
		1	5	High	19.3	19.4	20.2	1	21.5
		3	0	Low	18.6	18.7	18.8	2	20.5
		3	1	Low	18.9	18.8	18.4	2	20.5
		3	3	High	18.7	18.8	18.7	2	20.5
		6	0	Low	18.7	18.8	18.7	2	20.5

LTE Band 4 Measured Results

BW (MHz)	Mode	RB Allocation	RB Offset	NB Position	Maximum Average Power (dBm)				
					20050	20175	20300	MPR	Tune-up Limit
					1720 MHz	1732.5 MHz	1745 MHz		
20	QPSK	1	0	Low	21.3	21.2	21.5	0	22.5
		1	3	NB7	21.0	20.6	21.2	0	22.5
		1	5	High	21.1	21.2	21.4	0	22.5
		3	0	Low	21.3	21.4	21.2	0	22.5
		3	1	NB7	21.3	21.3	20.9	0	22.5
		3	3	High	21.3	21.3	21.2	0	22.5
	16QAM	6	0	Low	21.6	21.3	21.5	0	22.5
		1	0	Low	21.0	20.9	21.5	0	22.5
		1	3	NB7	21.1	21.0	21.5	0	22.5
		1	5	High	21.0	20.8	21.4	0	22.5
		3	0	Low	21.8	21.8	21.3	0	22.5
		3	1	NB7	22.2	21.6	20.8	0	22.5
		3	3	High	21.8	21.7	21.1	0	22.5
		6	0	Low	21.3	21.2	21.6	0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					20025	20175	20325	MPR	Tune-up Limit
					1717.5 MHz	1732.5 MHz	1747.5 MHz		
15	QPSK	1	0	Low	21.5	21.0	21.4	0	22.5
		1	3	NB5	21.3	20.9	21.2	0	22.5
		1	5	High	21.3	21.1	21.2	0	22.5
		3	0	Low	21.3	21.1	21.2	0	22.5
		3	1	NB5	21.0	21.2	21.6	0	22.5
		3	3	High	21.3	21.0	21.2	0	22.5
	16QAM	6	0	Low	21.8	21.5	21.6	0	22.5
		1	0	Low	21.0	20.8	21.8	0	22.5
		1	3	NB5	21.1	20.9	21.6	0	22.5
		1	5	High	21.0	20.9	21.7	0	22.5
		3	0	Low	21.8	21.5	21.7	0	22.5
		3	1	NB5	22.0	20.8	21.5	0	22.5
		3	3	High	21.8	21.3	21.6	0	22.5
		6	0	Low	21.0	21.4	21.0	0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					20000	20175	20350	MPR	Tune-up Limit
					1715 MHz	1732.5 MHz	1750 MHz		
10	QPSK	1	0	Low	21.1	21.4	21.3	0	22.5
		1	3	NB3	21.0	21.2	21.1	0	22.5
		1	5	High	21.0	21.4	21.2	0	22.5
		3	0	Low	21.0	21.3	21.2	0	22.5
		3	1	NB3	21.1	21.1	21.2	0	22.5
		3	3	High	20.9	21.0	21.1	0	22.5
	16QAM	6	0	Low	20.6	20.6	20.6	1	21.5
		1	0	Low	20.6	20.7	21.2	0	22.5
		1	3	NB3	20.8	20.8	21.6	0	22.5
		1	5	High	20.7	20.8	21.3	0	22.5
		3	0	Low	21.1	21.2	22.0	0	22.5
		3	1	NB3	21.7	22.5	21.2	0	22.5
		3	3	High	21.1	21.1	22.0	0	22.5
		6	0	Low	19.6	19.6	19.1	2	20.5

LTE Band 4 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					19975	20175	20375	MPR	Tune-up Limit
					1712.5 MHz	1732.5 MHz	1752.5 MHz		
5	QPSK	1	0	Low	21.3	21.4	21.4	0	22.5
		1	3	NB1	21.2	21.3	21.2	0	22.5
		1	5	High	21.2	21.3	21.4	0	22.5
		3	0	Low	20.2	20.3	20.2	1	21.5
		3	1	NB1	20.5	20.3	20.3	1	21.5
		3	3	High	20.2	20.3	20.2	1	21.5
	16QAM	6	0	Low	20.8	20.8	20.4	1	21.5
		1	0	Low	20.9	21.3	21.5	0	22.5
		1	3	NB1	21.0	21.7	21.5	0	22.5
		1	5	High	21.0	21.4	21.4	0	22.5
		3	0	Low	20.3	21.0	20.1	1	21.5
		3	1	NB1	20.8	20.3	19.9	1	21.5
		3	3	High	20.3	21.0	20.0	1	21.5
		6	0	Low	19.4	19.2	19.0	2	20.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					19965	20175	20385	MPR	Tune-up Limit
					1711.5 MHz	1732.5 MHz	1753.5 MHz		
3	QPSK	1	0	Low	21.4	21.1	21.4	0	22.5
		1	3	Low	21.0	20.7	21.2	0	22.5
		1	5	High	21.4	21.2	21.4	0	22.5
		3	0	Low	20.5	20.1	20.7	1	21.5
		3	1	Low	20.5	20.1	20.7	1	21.5
		3	3	High	20.4	20.0	20.6	1	21.5
	16QAM	6	0	Low	19.7	19.8	19.3	2	20.5
		1	0	Low	20.4	19.5	20.6	1	21.5
		1	3	Low	20.6	19.7	20.4	1	21.5
		1	5	High	20.4	19.7	20.4	1	21.5
		3	0	Low	19.4	19.1	19.5	2	20.5
		3	1	Low	19.4	19.2	19.4	2	20.5
		3	3	High	20.2	19.1	19.6	2	20.5
		6	0	Low	19.3	18.9	18.9	2	20.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					19957	20175	20393	MPR	Tune-up Limit
					1710.7 MHz	1732.5 MHz	1754.3 MHz		
1.4	QPSK	1	0	Low	21.4	21.4	21.9	0	22.5
		1	3	Low	21.0	20.9	21.7	0	22.5
		1	5	High	21.3	21.3	21.9	0	22.5
		3	0	Low	20.7	20.6	19.9	1	21.5
		3	1	Low	20.5	20.5	19.9	1	21.5
		3	3	High	20.4	20.4	20.0	1	21.5
	16QAM	6	0	Low	19.6	19.5	19.3	2	20.5
		1	0	Low	19.7	19.6	20.5	1	21.5
		1	3	Low	19.8	19.5	20.6	1	21.5
		1	5	High	19.8	19.6	20.4	1	21.5
		3	0	Low	19.1	18.9	19.2	2	20.5
		3	1	Low	19.0	19.8	19.0	2	20.5
		3	3	High	19.1	19.0	19.2	2	20.5
		6	0	Low	19.2	18.9	18.8	2	20.5

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB Offset	NB Position	Maximum Average Power (dBm)				
					23060	23095	23130	MPR	Tune-up Limit
					704 MHz	707.5 MHz	711 MHz		
10	QPSK	1	0	Low	23.5	23.5	23.7	0	24.5
		1	3	NB3	23.4	23.3	23.5	0	24.5
		1	5	High	23.5	23.4	23.6	0	24.5
		3	0	Low	23.4	23.5	23.7	0	24.5
		3	1	NB3	23.4	23.4	23.1	0	24.5
		3	3	High	23.4	23.4	23.6	0	24.5
	16QAM	6	0	Low	22.7	22.9	22.8	1	23.5
		1	0	Low	23.7	23.0	24.0	0	24.5
		1	3	NB3	23.8	23.3	23.8	0	24.5
		1	5	High	23.7	23.0	24.0	0	24.5
		3	0	Low	23.4	23.9	23.9	0	24.5
		3	1	NB3	23.5	23.9	23.8	0	24.5
		3	3	High	23.3	23.9	23.7	0	24.5
		6	0	Low	21.2	21.2	21.3	2	22.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					23035	23095	23155	MPR	Tune-up Limit
					701.5 MHz	707.5 MHz	713.5 MHz		
5	QPSK	1	0	Low	23.6	23.6	23.5	0	24.5
		1	3	NB1	23.4	23.4	23.4	0	24.5
		1	5	High	23.4	23.4	23.5	0	24.5
		3	0	Low	22.5	22.5	22.4	1	23.5
		3	1	NB1	22.5	22.2	22.3	1	23.5
		3	3	High	22.5	22.4	22.4	1	23.5
	16QAM	6	0	Low	22.9	22.9	22.7	1	23.5
		1	0	Low	23.0	23.0	23.7	0	24.5
		1	3	NB1	23.2	23.2	23.7	0	24.5
		1	5	High	23.0	23.0	23.6	0	24.5
		3	0	Low	22.9	22.9	22.4	1	23.5
		3	1	NB1	22.8	22.9	21.9	1	23.5
		3	3	High	23.0	23.0	22.3	1	23.5
		6	0	Low	21.3	21.3	21.1	2	22.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					23025	23095	23165	MPR	Tune-up Limit
					700.5 MHz	707.5 MHz	714.5 MHz		
3	QPSK	1	0	Low	23.7	23.6	23.4	0	24.5
		1	3	Low	23.5	23.2	22.5	0	24.5
		1	5	High	23.7	23.5	23.4	0	24.5
		3	0	Low	23.0	22.6	22.5	1	23.5
		3	1	Low	22.9	22.4	22.4	1	23.5
		3	3	High	22.9	22.4	22.3	1	23.5
	16QAM	6	0	Low	21.5	21.8	21.6	2	22.5
		1	0	Low	22.9	22.0	22.4	1	23.5
		1	3	Low	22.6	22.3	22.8	1	23.5
		1	5	High	22.7	22.0	22.4	1	23.5
		3	0	Low	21.7	21.5	21.4	2	22.5
		3	1	Low	21.7	21.2	21.2	2	22.5
		3	3	High	21.8	21.5	21.3	2	22.5
		6	0	Low	21.2	21.0	21.0	2	22.5
BW (MHz)	Mode	RB Allocation	RB offset	NB Position	Maximum Average Power (dBm)				
					23017	23095	23173	MPR	Tune-up Limit
					699.7 MHz	707.5 MHz	715.3 MHz		
1.4	QPSK	1	0	Low	23.6	23.7	23.5	0	24.5
		1	3	Low	23.5	23.7	23.7	0	24.5
		1	5	High	23.6	24.0	23.5	0	24.5
		3	0	Low	22.2	22.3	22.0	1	23.5
		3	1	Low	22.4	22.5	21.8	1	23.5
		3	3	High	22.4	22.3	21.9	1	23.5
	16QAM	6	0	Low	21.9	21.6	21.7	2	22.5
		1	0	Low	22.0	22.2	22.6	1	23.5
		1	3	Low	22.0	22.3	22.8	1	23.5
		1	5	High	21.6	22.0	22.7	1	23.5
		3	0	Low	21.3	21.2	21.0	2	22.5
		3	1	Low	21.1	20.9	21.2	2	22.5
		3	3	High	21.2	21.2	21.1	2	22.5
		6	0	Low	21.3	20.7	21.0	2	22.5

NTN n23

Sub-Carrier Spacing (kHz)	Mode	SC Size	SC Offset	Maximum Average Power (dBm)				
				25501	25600	25699	MPR	Tune-up Limit
				2000.1MHz	2010MHz	2019.9MHz		
3.75	BPSK	1	0	20.7	20.5	20.6	0	22.5
		1	23	20.4	20.6	20.6	0	22.5
		1	46	20.6	20.4	20.6	0	22.5
	QPSK	1	0	20.7	20.9	20.7	0	22.5
		1	23	20.7	20.8	20.7	0	22.5
		1	46	20.7	20.7	20.7	0	22.5
Sub-Carrier Spacing (kHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				25501	25600	25699	MPR	Tune-up Limit
				2000.1MHz	2010MHz	2019.9MHz		
15	BPSK	1	0	21.1	20.9	21.1	0	22.5
		1	7	21.0	20.8	21.1	0	22.5
		1	11	21.0	21.0	21.1	0	22.5
	QPSK	1	0	21.0	21.6	21.7	0	22.5
		1	7	21.0	21.5	21.6	0	22.5
		1	11	20.9	21.6	21.6	0	22.5
		3	0	20.5	20.7	21.2	0	22.5
		3	9	20.5	20.7	20.7	0	22.5
		6	0	20.2	20.6	20.2	0	22.5
		12	0	20.5	19.0	19.1	1	21.5

NTN n255

Sub-Carrier Spacing (kHz)	Mode	SC Size	SC Offset	Maximum Average Power (dBm)				
				261505	261674	261843	MPR	Tune-up Limit
				1626.6MHz	1643.5MHz	1660.4MHz		
3.75	BPSK	1	0	20.3	20.5	20.8	0	22.5
		1	23	20.3	20.6	20.8	0	22.5
		1	46	20.2	20.6	20.8	0	22.5
	QPSK	1	0	20.4	20.7	20.9	0	22.5
		1	23	20.4	20.8	21.0	0	22.5
		1	46	20.4	20.7	20.9	0	22.5
Sub-Carrier Spacing (kHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				261505	261674	261843	MPR	Tune-up Limit
				1626.6MHz	1643.5MHz	1660.4MHz		
15	BPSK	1	0	21.3	21.4	21.3	0	22.5
		1	5	21.3	21.4	21.3	0	22.5
		1	10	21.4	21.4	21.3	0	22.5
	QPSK	1	0	21.4	21.4	21.3	0	22.5
		1	5	21.4	21.4	21.2	0	22.5
		1	10	21.4	21.3	21.3	0	22.5
		3	0	22.1	22.2	22.2	0	22.5
		3	9	22.1	22.3	22.3	0	22.5
		6	0	20.4	20.4	20.5	0	22.5
		12	0	19.1	19.2	19.1	1	21.5

9.2. 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 ≤ 1.2 W/kg.

Mode	Bandwidth	Channel	Frequency (MHz)	Tune-up PowerLimit
				Main Antenna
802.11b DSSS (SISO)	20 MHz	1	2412	18.5
		6	2437	18.5
		11	2462	18.5
		12	2467	18.0
		13	2472	17.5
802.11g OFDM (SISO)	20 MHz	1	2412	18.0
		6	2437	18.0
		11	2462	18.0
		12	2467	15.5
		13	2472	15.5
802.11n OFDM (SISO)	20 MHz	1	2412	17.0
		6	2437	17.0
		11	2462	17.0
		12	2467	15.5
		13	2472	15.5

Wi-Fi 2.4GHz Measured Results

Band	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
DSSS 2.4 GHz	802.11b	1	2412	16.7	18.5	Yes
		6	2437	16.8	18.5	
		11	2462	16.8	18.5	
		12	2467	16.1	18.0	
		13	2472	15.8	17.5	
OFDM 2.4 GHz	802.11g	1	2412	16.5	18.0	No
		6	2437	16.9	18.0	
		11	2462	16.3	18.0	
		12	2467	13.8	15.5	
	802.11n (HT20)	13	2472	13.7	15.5	
		1	2412	15.3	17.0	No
		6	2437	15.7	17.0	
		11	2462	15.1	17.0	
		12	2467	13.8	15.5	
13	2472	13.7	15.5			

Duty Factor Measured Results

Mode	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11b	100	100	100.00%	1.00

Note(s):

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

Duty Cycle Plots

802.11b



9.3. Bluetooth

Maximum Output Power (Tune-up Limit) for Bluetooth

SAR measurement is not required for the EDR and LE. When the secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode.

Band	Mode	Channel	Frequency (MHz)	Tune-up PowerLimit
				Main Antenna
				Maximum
Bluetooth 2.4 GHz	BR	0	2402	11.0
		1	2403	11.0
		39	2441	11.0
		77	2479	11.0
		78	2480	11.0
	EDR, $\pi/4$ DQPSK	0	2402	11.0
		1	2403	11.0
		39	2441	11.0
		77	2479	11.0
		78	2480	11.0
	EDR, 8-DPSK	0	2402	11.0
		1	2403	11.0
		39	2441	11.0
		78	2480	11.0
	LE	37	2402	3.5
		0	2404	6.5
		17	2440	6.5
		35	2476	6.5
		36	2478	3.0
		39	2480	2.5

Bluetooth Measured Results

Band	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
Bluetooth 2.4 GHz	BR GFSK	0	2402	9.5	11.0	Yes
		1	2403	9.4	11.0	
		39	2441	9.4	11.0	
		77	2479	9.2	11.0	
		78	2480	9.7	11.0	
	EDR, $\pi/4$ DQPSK	0	2402	9.1	11.0	No
		1	2403	9.1	11.0	
		39	2441	9.2	11.0	
		77	2479	9.3	11.0	
		78	2480	9.4	11.0	
	EDR, 8-DPSK	0	2402	9.2	11.0	No
		1	2403	9.2	11.0	
		39	2441	9.3	11.0	
		78	2480	9.2	11.0	
	LE, GFSK	37	2402	1.8	3.5	No
		0	2404	4.8	6.5	
		17	2440	4.7	6.5	
		35	2476	4.6	6.5	
		36	2478	1.3	3.0	
		39	2480	0.8	2.5	

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	100	100	100.00%	1.00

Note(s):

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

Duty Cycle Plots

GFSK



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	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
NFC	Type F	100	100	100.00%	1.00

Note(s):

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

Duty Cycle Plots

Type F



9.5. ANT/ANT+

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

Maximum tune-up tolerance limit is 6.5 dBm (GFSK). This power level qualifies for exclusion of SAR testing. Please refer to section 10.9. Standalone SAR Test Exclusion Considerations & Estimated SAR

10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for WWAN and Bluetooth = Measured SAR *Tune-up Scaling Factor
- Reported SAR(W/kg) for Wi-Fi and Bluetooth = 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 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
- Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
- For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

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. LTE Band 2 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	NB Position	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up Limit	Meas.	Meas.	Scaled	
Head	QPSK	10	Front	Strap 1	18900	1880.0	1	5	High	22.5	21.1	0.011	0.015	1
							3	3	High	22.5	20.9	0.017	0.025	
				Strap 2	18900	1880.0	3	3	High	22.5	20.9	0.012	0.017	
							Strap 3	18900	1880.0	3	3	High	22.5	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)				RB Allocation	RB offset	NB Position	Power (dBm)	
							Tune-up Limit	Meas.	Meas.				Scaled	
Extremity	QPSK	0	Back	Strap 1	18900	1880.0	1	5	High	22.5	21.1	0.069	0.095	2
							3	3	High	22.5	20.9	0.073	0.106	
				Strap 2	18900	1880.0	3	3	High	22.5	20.9	0.076	0.110	
							Strap 3	18900	1880.0	3	3	High	22.5	

10.2. LTE Band 4 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	NB Position	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up Limit	Meas.	Meas.	Scaled	
Head	QPSK	10	Front	Strap 1	20175	1732.5	1	0	Low	22.5	21.2	0.069	0.093	3
							3	0	Low	22.5	21.4	0.063	0.081	
				Strap 2	20175	1732.5	1	0	Low	22.5	21.2	0.053	0.071	
							Strap 3	20175	1732.5	1	0	Low	22.5	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)				RB Allocation	RB offset	NB Position	Power (dBm)	
							Tune-up Limit	Meas.	Meas.				Scaled	
Extremity	QPSK	0	Back	Strap 1	20175	1732.5	1	0	Low	22.5	21.2	0.105	0.142	4
							3	0	Low	22.5	21.4	0.115	0.148	
				Strap 2	20175	1732.5	3	0	Low	22.5	21.4	0.125	0.161	
							Strap 3	20175	1732.5	3	0	Low	22.5	

10.3. LTE Band 12 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	NB Position	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up Limit	Meas.	Meas.	Scaled	
Head	QPSK	10	Front	Strap 1	23095	707.5	1	0	Low	24.5	23.5	0.004	0.005	5
							3	0	Low	24.5	23.5	0.002	0.003	
							Strap 2	23095	707.5	1	0	Low	24.5	
Strap 3	23095	707.5	1	0	Low	24.5				23.5	<0.001	<0.001		
			RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	NB Position	Power (dBm)	
Tune-up Limit	Meas.	Meas.											Scaled	
Extremity	QPSK	0	Back	Strap 1	23095	707.5	1	0	Low	24.5	23.5	0.020	0.025	6
							3	0	Low	24.5	23.5	0.023	0.029	
				Strap 2	23095	707.5	3	0	Low	24.5	23.5	0.021	0.026	
							Strap 3	23095	707.5	3	0	Low	24.5	

10.4. NTN Band 23

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Head	BPSK	10	Front	Strap 1	25501	2000.1	1	0	22.5	21.1	0.095	0.131	7
					25600	2010.0	1	11	22.5	21.0	0.097	0.137	
					25699	2019.9	1	0	22.5	21.1	0.101	0.139	
				Strap 2	25699	2019.9	1	0	22.5	21.1	0.091	0.126	
				Strap 3	25699	2019.9	1	0	22.5	21.1	0.094	0.130	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
Tune-up Limit	Meas.	Meas.	Scaled										
Extremity	BPSK	0	Back	Strap 1	25501	2000.1	1	0	22.5	21.1	0.065	0.090	8
					25600	2010.0	1	11	22.5	21.0	0.061	0.086	
					25699	2019.9	1	0	22.5	21.1	0.061	0.084	
				Strap 2	25501	2000.1	1	0	22.5	21.1	0.066	0.091	
				Strap 3	25501	2000.1	1	0	22.5	21.1	0.057	0.079	

10.5. NTN Band 255

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Head	BPSK	10	Front	Strap 1	261505	1626.6	1	10	22.5	21.4	0.040	0.052	9
					261674	1643.5	1	0	22.5	21.4	0.033	0.043	
					261843	1660.4	1	0	22.5	21.3	0.066	0.087	
				Strap 2	261843	1660.4	1	0	22.5	21.3	0.062	0.082	
				Strap 3	261843	1660.4	1	0	22.5	21.3	0.084	0.111	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
Tune-up Limit	Meas.	Meas.	Scaled										
Extremity	BPSK	0	Back	Strap 1	261505	1626.6	1	10	22.5	21.4	0.092	0.119	10
					261674	1643.5	1	0	22.5	21.4	0.048	0.062	
					261843	1660.4	1	0	22.5	21.3	0.103	0.136	
				Strap 2	261843	1660.4	1	0	22.5	21.3	0.101	0.133	
				Strap 3	261843	1660.4	1	0	22.5	21.3	0.100	0.132	

10.6. Wi-Fi (DTS Band)

When the 802.11b reported SAR of the highest measured maximum output power channel is ≤ 0.8 W/kg, no further SAR testing is required. If SAR is > 0.8 W/kg and ≤ 1.2 W/kg, SAR is required for the next highest measured output power channel. Finally, if SAR is > 1.2 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 ≤ 1.2 W/kg.

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Head	802.11b	10	Front	Strap 1	6	2437	0.216	100.0%	18.5	16.8	0.222	0.328	11
				Strap 2	6	2437	0.183	100.0%	18.5	16.8	0.190	0.281	
				Strap 3	6	2437	0.196	100.0%	18.5	16.8	0.190	0.281	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		10-g SAR (W/kg)		Plot No.
Tune-up Limit	Meas.	Meas.	Scaled										
Extremity	802.11b	0	Back	Strap 1	6	2437	0.085	100.0%	18.5	16.8	0.088	0.130	12
				Strap 2	6	2437	0.097	100.0%	18.5	16.8	0.091	0.135	
				Strap 3	6	2437	0.085	100.0%	18.5	16.8	0.080	0.118	

10.7. Bluetooth

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up Limit	Meas.	Meas.	Scaled	
Head	GFSK	10	Front	Strap 1	39	2441	100.0%	11.5	9.4	0.047	0.068	13
				Strap 2	39	2441	100.0%	11.5	9.4	0.039	0.056	
				Strap 3	39	2441	100.0%	11.5	9.4	0.030	0.043	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		10-g SAR (W/kg)		Plot No.
								Tune-up Limit	Meas.	Meas.	Scaled	
Extremity	GFSK	0	Back	Strap 1	39	2441	100.0%	11.5	9.4	0.015	0.022	14
				Strap 2	39	2441	100.0%	11.5	9.4	0.015	0.022	
				Strap 3	39	2441	100.0%	11.5	9.4	0.015	0.022	

10.8. NFC

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Freq. (MHz)	Duty Cycle	Tolerance Scaling ¹	1-g SAR (W/kg)		Plot No.
								Meas.	Scaled	
Head	Type F	10	Front	Strap 1	13.56	100%	2	<0.001	<0.001	-
				Strap 2	13.56	100%	2	<0.001	<0.001	
				Strap 3	13.56	100%	2	<0.001	<0.001	
RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Accessory	Freq. (MHz)	Duty Cycle	Tolerance Scaling ¹	10-g SAR (W/kg)		Plot No.
								Meas.	Scaled	
Extremity	Type F	0	Back	Strap 1	13.56	100%	2	<0.001	<0.001	-
				Strap 2	13.56	100%	2	<0.001	<0.001	
				Strap 3	13.56	100%	2	<0.001	<0.001	

Note(s):

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

10.9. 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.

When the standalone SAR test exclusion is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

- $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}/x}] \text{ W/kg}$ for test separation distances ≤ 50 mm; where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
- 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm.

RF Air interface	RF Exposure Conditions	Frequency (GHz)	Max. tune-up tolerance Power		Min. test separation distance (mm)	SAR test exclusion Result*	Estimated 1-g SAR (W/kg)
			(dBm)	(mW)			
ANT/ANT+	Head	2.480	6.5	4.5	10	0.8	0.094

Conclusion:

*: The computed value is ≤ 3; therefore, this qualifies for Standalone 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)			
ANT/ANT+	Extremity	2.480	6.5	4.5	5	1.6	0.076

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

The simultaneous transmission possibilities for this device are listed as below.

RF Exposure Condition	Item	Capable Transmit Configurations				
Standalone	1	WWAN	+	BT	+	NFC

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			Σ 1-g SAR (W/kg)
		1	2	3	1+2+3
		WWAN	BT	NFC	
Head	Front	0.139	0.068	0.001	0.207

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			Σ 10-g SAR (W/kg)
		1	2	3	1+2+3
		WWAN	BT	NFC	
Extremity	Back	0.170	0.022	0.001	0.192

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: Tissue Ingredients

Appendix E: Probe Certificates

Appendix F: Dipole Certificates

END OF REPORT