TEST REPORT

Report Number: R15701621-E3c

Applicant	:	HID Global Corp 611 Center Ridge Dr. Austin, TX 78753, USA
Model	:	40V2
FCC ID	:	JQ6-SIGNO40V2
IC	:	2236B-SIGNO40V2
EUT Description	:	Signo V2 Reader
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:
2025-06-24

Prepared by:
UL LLC
12 Laboratory Dr.
Research Triangle Park, NC 27709 U.S.A.
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CERT #0751.06

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-06-12	Initial Issue	Chandler Stanley
V2	2025-06-24	Revised Section 6.5	Chandler Stanley

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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 METHOD **10**

8. TEST AND MEASUREMENT EQUIPMENT **11**

9. ANTENNA PORT TEST RESULTS **13**

9.1. ON TIME AND DUTY CYCLE *13*

9.2. 99% BANDWIDTH *15*

9.2.1. BLE (1Mbps) 15

9.2.2. BLE (2Mbps) 16

9.3. 6 dB BANDWIDTH *17*

9.3.1. BLE (1Mbps) 17

9.3.2. BLE (2Mbps) 18

9.4. OUTPUT POWER *19*

9.4.1. BLE (1Mbps) 19

9.4.2. BLE (2Mbps) 19

9.5. AVERAGE POWER *20*

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9.5.1. BLE (1Mbps) 20
9.5.2. BLE (2Mbps) 20

9.6. POWER SPECTRAL DENSITY 21
9.6.1. BLE (1Mbps) 21
9.6.2. BLE (2Mbps) 22

9.7. CONDUCTED SPURIOUS EMISSIONS 23
9.7.1. BLE (1Mbps) 24
9.7.2. BLE (2Mbps) 25

10. RADIATED TEST RESULTS 26

10.1. LIMITS AND PROCEDURE 26

10.2. TRANSMITTER ABOVE 1 GHz 28
10.2.1. BLE (1Mbps) 28
10.2.2. BLE (2Mbps) 38

10.3. WORST CASE BELOW 30MHZ 48

10.4. WORST CASE BELOW 1 GHZ 50

10.5. WORST CASE 18-26 GHZ 52

11. AC POWER LINE CONDUCTED EMISSIONS 54

11.1.1. AC Power Line Norm 55

12. SETUP PHOTOS 57

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: HID Global Corp
611 Center Ridge Dr.
Austin, TX 78753, USA

EUT DESCRIPTION: Signo V2 Reader

MODEL: 40V2

SERIAL NUMBER: FL0P0U00V2WO40TKF8087 / FL0P0U00WOWO40TKF8087

SAMPLE RECEIPT DATE: 2025-03-10

DATE TESTED: 2025-03-11 TO 2025-04-01

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	See Section 2
ISED RSS-247 Issue 3	See Section 2
ISED RSS-GEN Issue 5 + A1 + A2	See Section 2

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

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

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

Approved & Released For
UL LLC By:

Brian Kiewra
Project Engineer
Consumer, Medical, and IT Segment
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Prepared By:

Chandler Stanley
Engineer
Consumer, Medical, and IT Segment
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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		None.
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		None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions		None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		None.

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
☐	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

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5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. DECISION RULES

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

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	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:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS
Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a smartcard reader typically installed near doorway as part of physical access system, to control access to that door and it contains BLE, 13.56 MHz RFID, and 125 kHz RFID radios. This report covers full testing of the BLE 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	BLE	0.58	1.14

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

The radio utilizes an inverted F antenna, with a maximum gain of 1.07 dBi.

6.4. SOFTWARE AND FIRMWARE

Firmware Version: 10.1

Hardware Version: Rev H

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 and data-rate with highest PSD as worst-case scenario. The EUT supports 1 and 2 Mbps.

The EUT is meant to be powered via an auxiliary device (access controller) that does not come with the product. Therefore, for AC Lines, the scan was run using a DC power supply as representative. There are two power cables that can be used to power the EUT, a terminal and pigtail cable. Through pretesting, the terminal cable was found to be worst-case and was therefore used for all testing.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit on low, middle and high channels for all data-rates.

The EUT is meant to be installed and operated in one orientation; therefore, all testing was performed with the EUT in its intended orientation.

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	Yoga 7 16IAP7	PF49WDF9	NA
USB to Type C cable	ANKER	NA	NA	NA
Data Module	HID	NA	PCB-00476	NA
Laptop	Lenovo	IdeaPad Flex 5 14IAU7	PW0DWR8R	TX2-RTL8852BE

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB	1	Type C	Unshielded	<6m	Programing cable
2	Power	1	Proprietary	Unshielded	<3m	Supplies Power

TEST SETUP

Test software exercised the radio card. For final testing, the EUT and laptop are disconnected, and the laptop is removed from the chamber.

SETUP DIAGRAMS

Please refer to R15701621-EP1c for setup diagrams

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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.

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8. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Common Equipment					
Conducted Room 1					
90411	Spectrum Analyzer	Keysight Technologies	N9030A	2024-08-01	2025-08-01
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
211056	Real-Time Peak Power Sensor 50MHz to 8GHz	Boonton	RTP5000	2024-08-01	2025-08-01
207726	Temp/Humid Chamber	Thermotron	SM-32-8200	2025-01-15	2026-01-15
91212	True RMS Multimeter	Agilent	U1232A	2024-08-01	2025-08-01
-	DC Power Supply	Keysight Technologies	E3633A	-	-
Power Software	Boonton Power Analyzer	Boonton	Version 3.0.13.0	NA	NA
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23	NA	NA
Attenuators/Cables					
246811	SMA Coaxial 10dB Attenuator	CentricRF	C18S2-20	2024-03-07	2025-03-31
CBL105	Micro-Coax UTiFLEX Cable Assembly, Low Loss	Carlisle Interconnect Technologies	UFB-197C-0-0160-300300	2024-03-01	2025-03-31

Note*: All equipment was within calibration at the time of use.

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	2025-05-23
Gain-Loss Chains					
207640	Gain-loss string: 1-18GHz	Various	Various	2024-05-22	2025-05-22
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-04-16	2025-04-16
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

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

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
70374	EMI Test Receiver	ROHDE & SCHWARZ	ESCI7	2024-07-30	2025-07-30
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2024-04-04	2025-04-04
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2024-08-01	2025-08-01
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2024-04-04	2025-04-04
236852	CW-AC Power Source	Ametek	CW2501	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

Note*: All equipment was within calibration at the time of use.

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

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-02
30-1000 MHz					
159203	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-03-05	2026-03-05
1-18 GHz					
86408	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-06-19	2025-06-19
18-26.5 GHz					
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-826	2023-07-20	2025-07-20
Gain-Loss Chains					
91975	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-10	2025-05-10
91978	Gain-loss string: 25-1000MHz	Various	Various	2024-05-10	2025-05-10
91977	Gain-loss string: 1-18GHz	Various	Various	2024-07-17	2025-07-17
136042	Gain-loss string: 18-40GHz	Various	Various	2024-05-10	2025-05-10
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2024-03-05	2025-03-31
81018	Spectrum Analyzer	Agilent	E4446A	2024-07-31	2025-07-31
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 within calibration at the time of use.

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

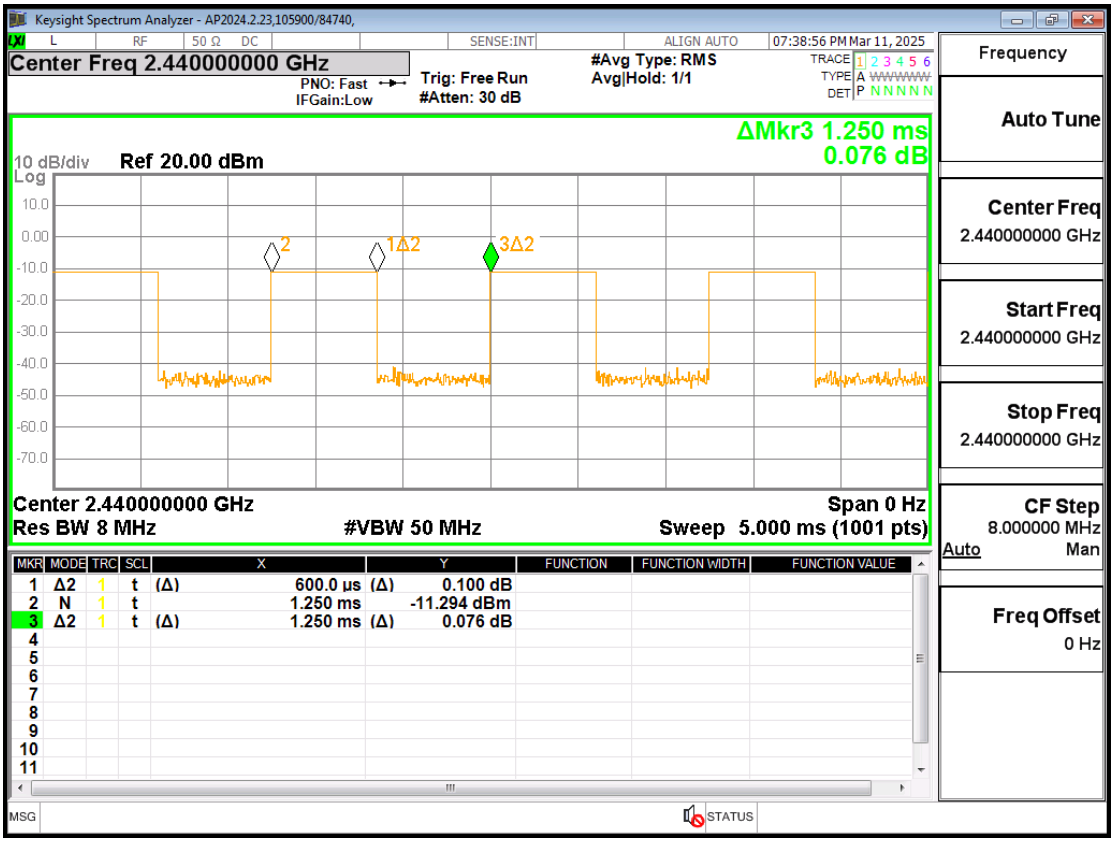
None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

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						
BLE 1 Mbps	0.600	1.250	0.480	48.00%	6.38	1.667
BLE 2 Mbps	0.308	0.624	0.494	49.36	6.13	3.247



DUTY CYCLE BLE 1 Mbps

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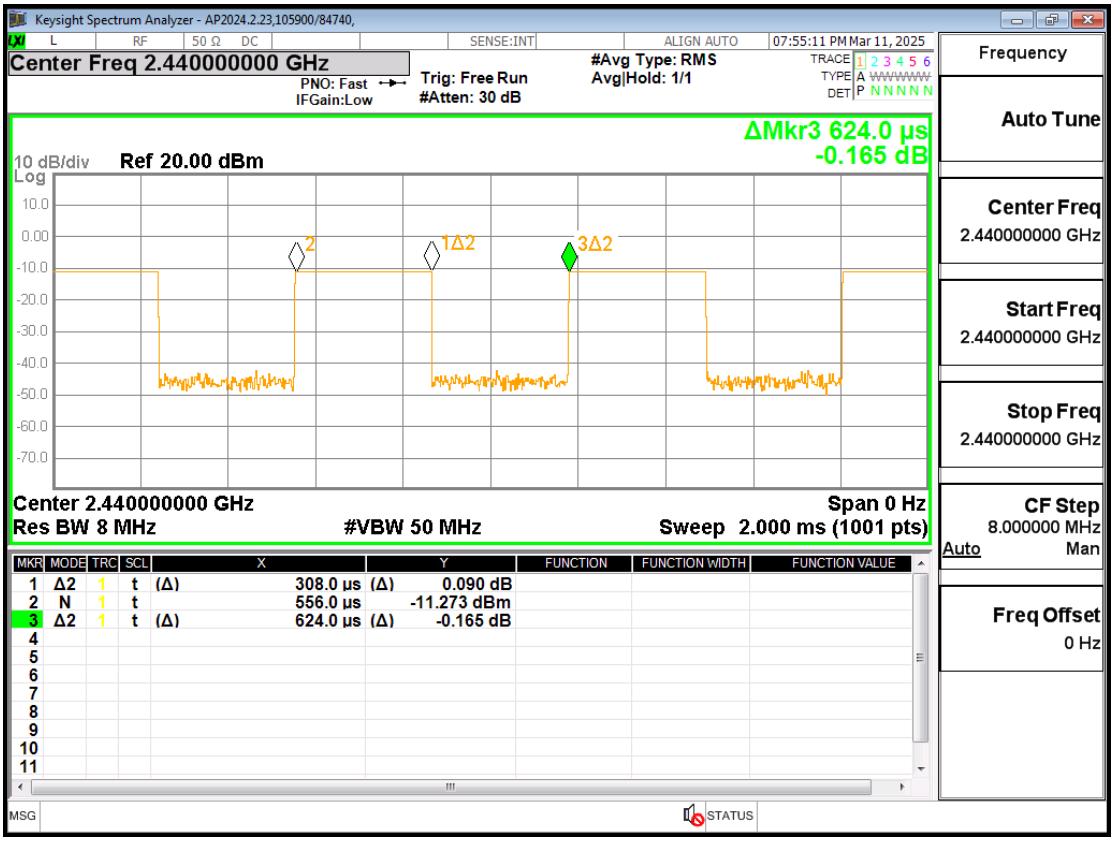

DUTY CYCLE BLE 2 Mbps

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9.2. 99% BANDWIDTH

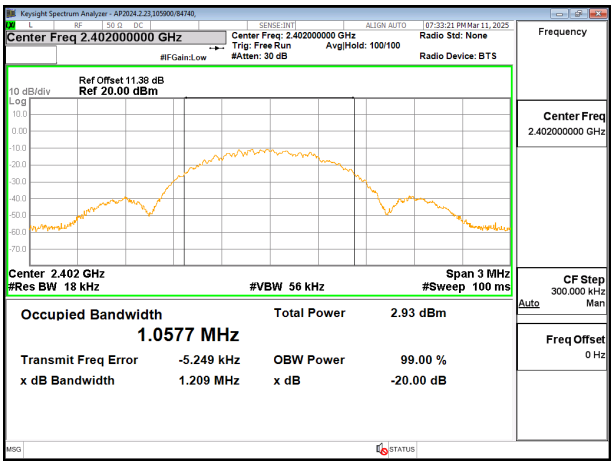
LIMITS

None; for reporting purposes only.

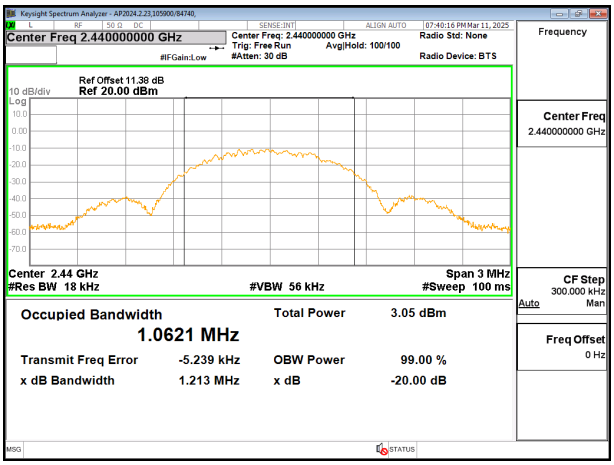
RESULTS

9.2.1. BLE (1Mbps)

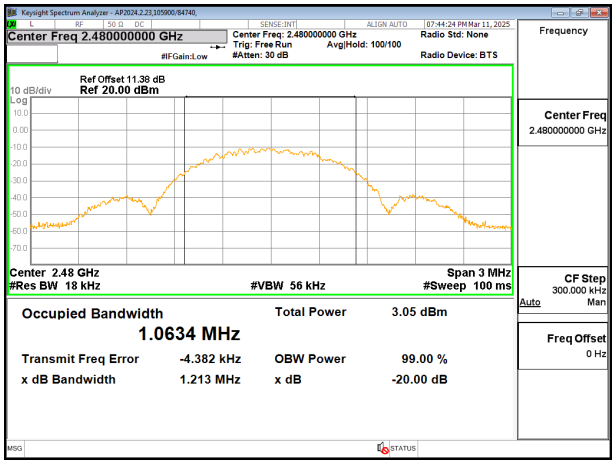
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0577
Middle	2440	1.0621
High	2480	1.0634



LOW CHANNEL



MID CHANNEL



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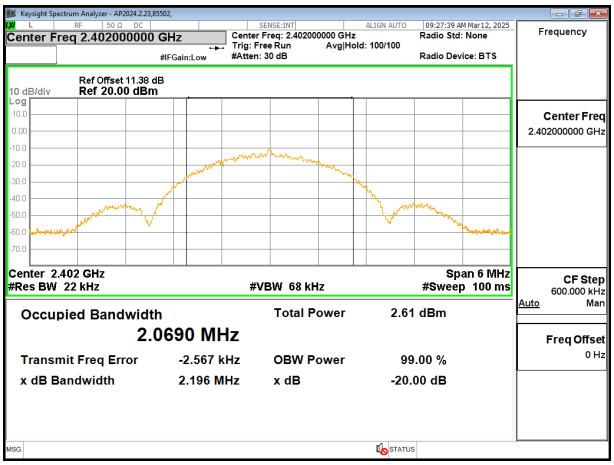
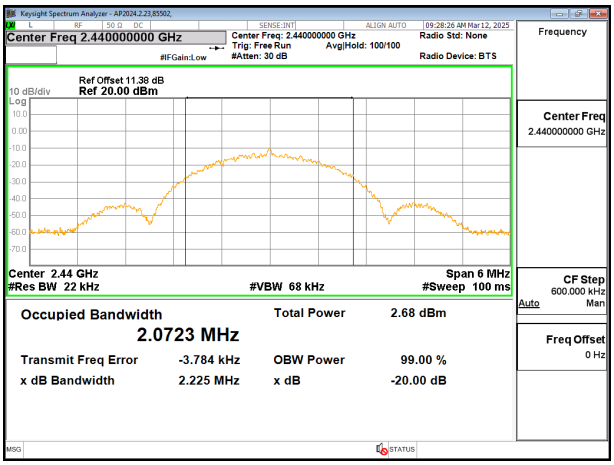
9.2.2. BLE (2Mbps)

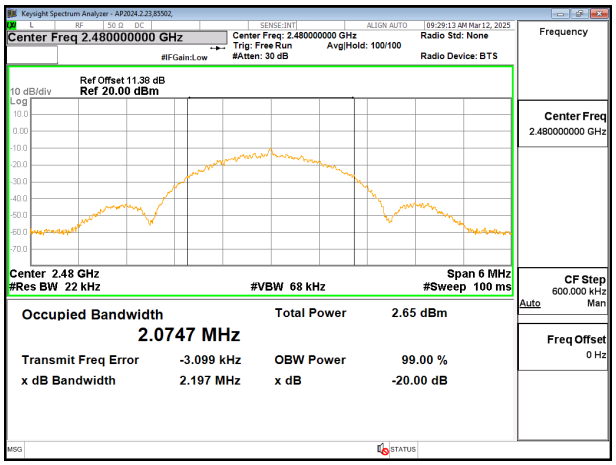
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	2.0690
Middle	2440	2.0723
High	2480	2.0747



LOW CHANNEL



MID CHANNEL



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9.3. 6 dB BANDWIDTH

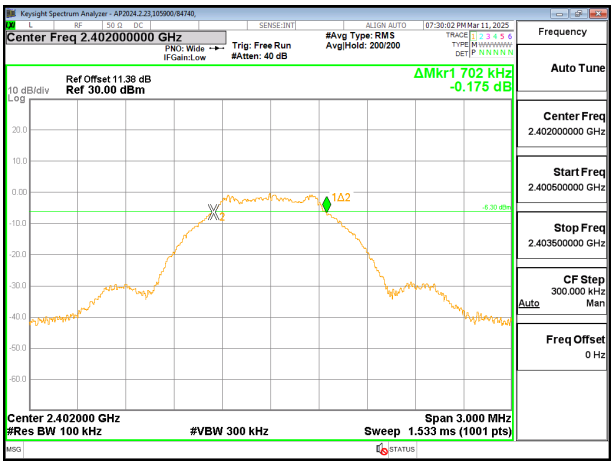
LIMITS

FCC §15.247 (a) (2)
RSS-247 5.2 (a)
The minimum 6 dB bandwidth shall be at least 500 kHz.

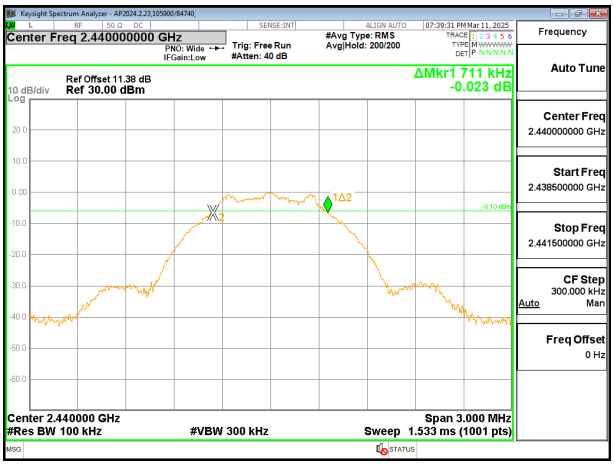
RESULTS

9.3.1. BLE (1Mbps)

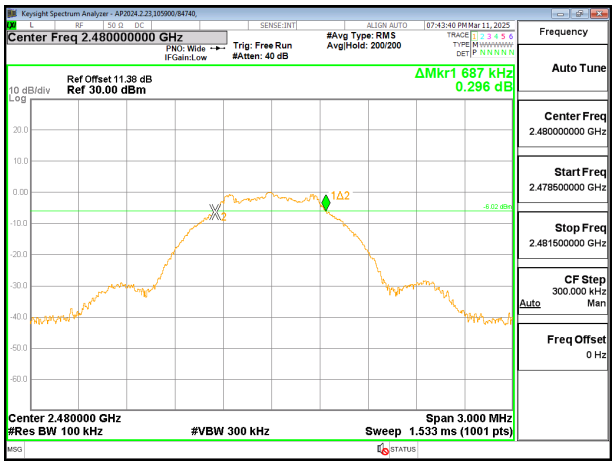
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.7020	0.5
Middle	2440	0.7110	0.5
High	2480	0.6870	0.5



LOW CHANNEL



MID CHANNEL



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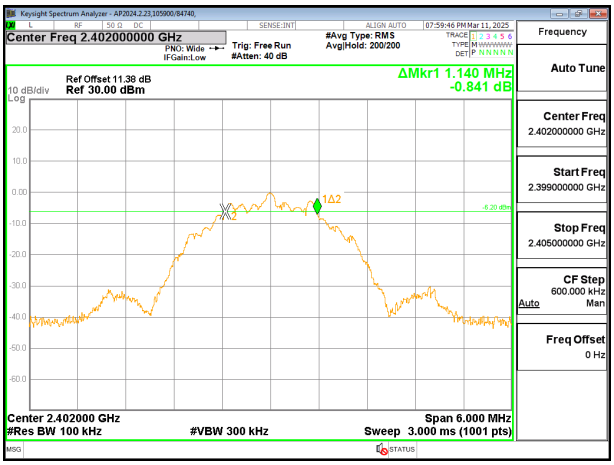
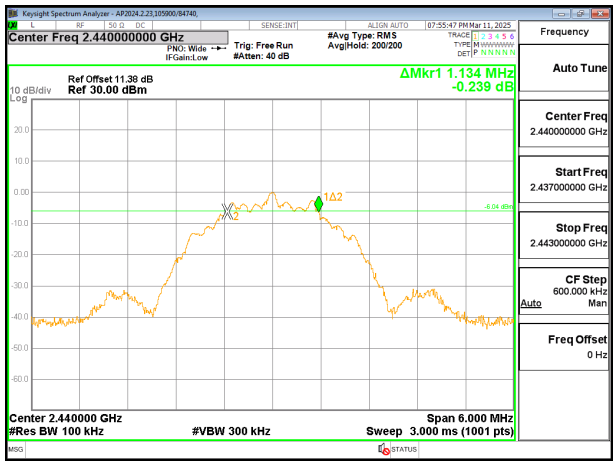
9.3.2. BLE (2Mbps)

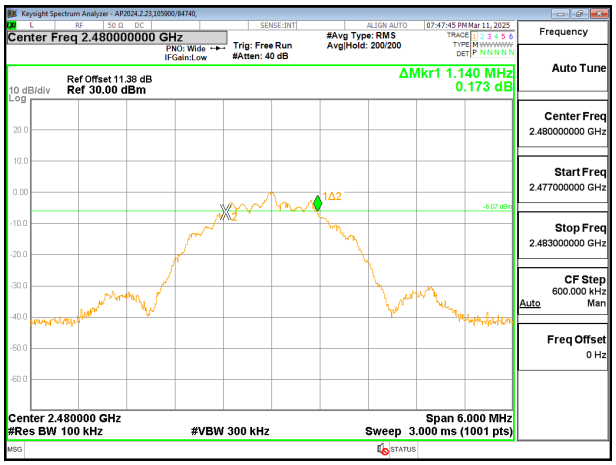
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	1.1400	0.5
Middle	2440	1.1340	0.5
High	2480	1.1400	0.5



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)
RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE
The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.38 dB (including 10.16 dB pad and 1.22 dB cable) was entered as an offset in the power.

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

RESULTS

9.4.1. BLE (1Mbps)

Tested By:	105900/84740
Date:	2025-03-17

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.530	30	-29.470
Middle	2440	0.540	30	-29.460
High	2480	0.580	30	-29.420

9.4.2. BLE (2Mbps)

Tested By:	105900/84740
Date:	2025-03-17

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.530	30	-29.470
Middle	2440	0.550	30	-29.450
High	2480	0.550	30	-29.450

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9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE
The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.38 dB (including 10.16 dB pad and 1.22 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 with 10dB attenuator connected to a power meter via wideband average power sensor. Gated average output power was read directly from power meter.

RESULTS

9.5.1. BLE (1Mbps)

Tested By:	105900/84740
Date:	2025-03-17

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	0.17
Middle	2440	0.21
High	2480	0.24

9.5.2. BLE (2Mbps)

Tested By:	105900/84740
Date:	2025-03-17

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	0.18
Middle	2440	0.2
High	2480	0.23

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9.6. POWER SPECTRAL DENSITY

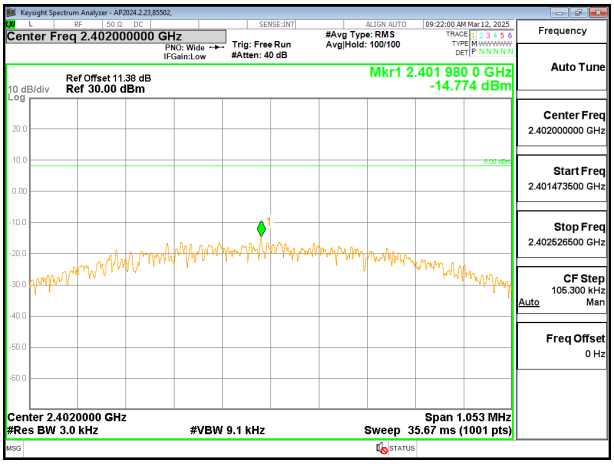
LIMITS

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.

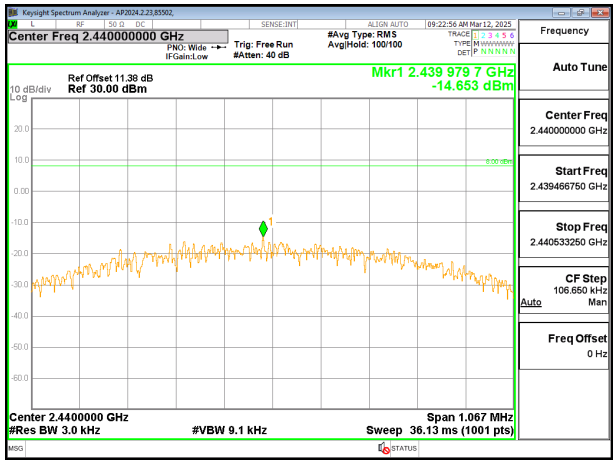
RESULTS

9.6.1. BLE (1Mbps)

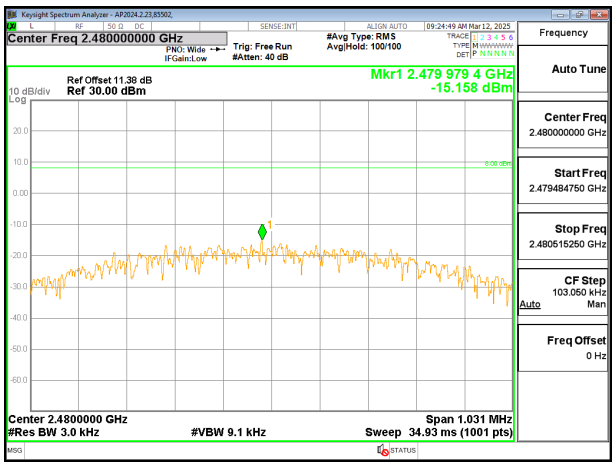
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-14.774	8	-22.774
Middle	2440	-14.653	8	-22.653
High	2480	-15.158	8	-23.158



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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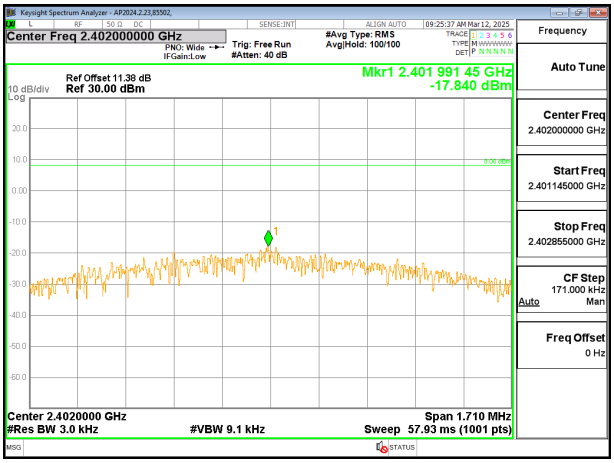
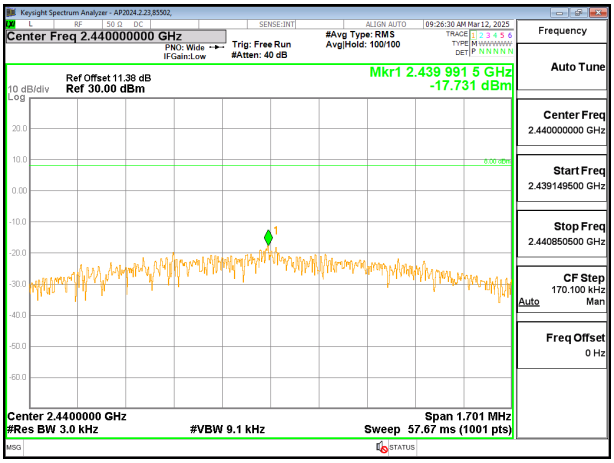
9.6.2. BLE (2Mbps)

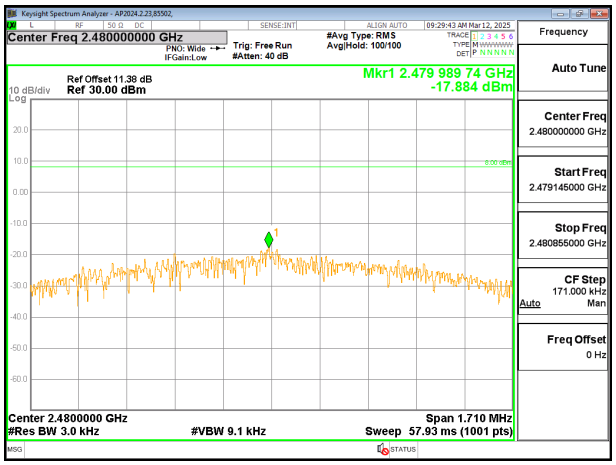
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-17.840	8	-25.840
Middle	2440	-17.731	8	-25.731
High	2480	-17.884	8	-25.884



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)
RSS-247 5.5

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

RESULTS

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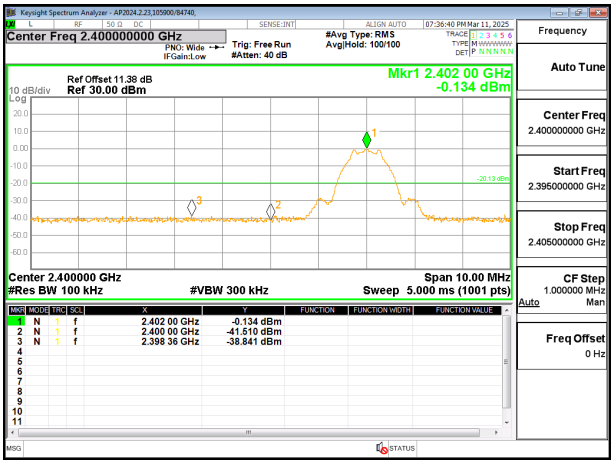
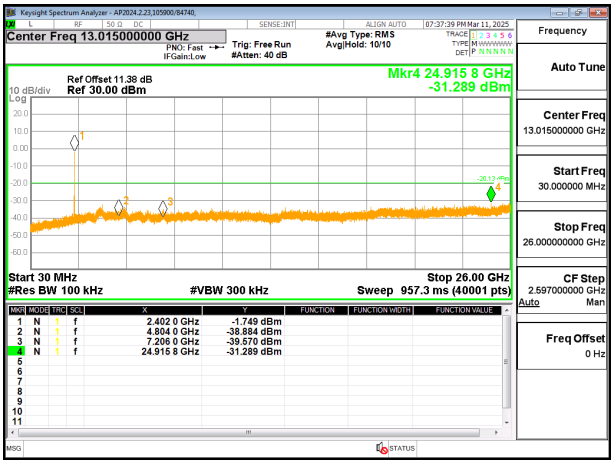
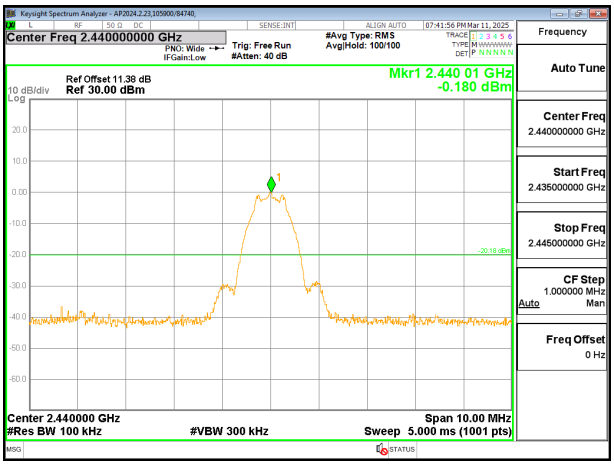
9.7.1. BLE (1Mbps)



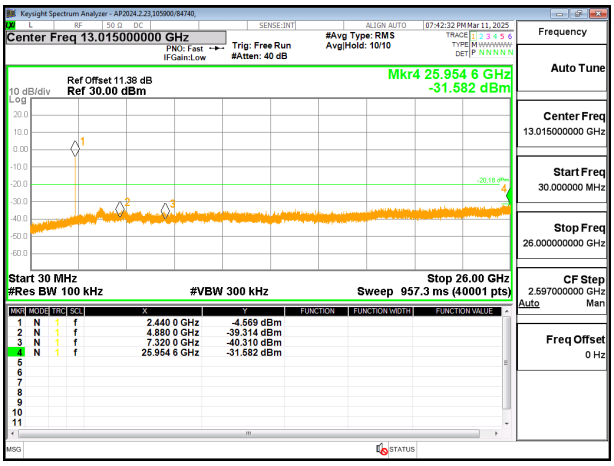
LOW CHANNEL BANDEDGE



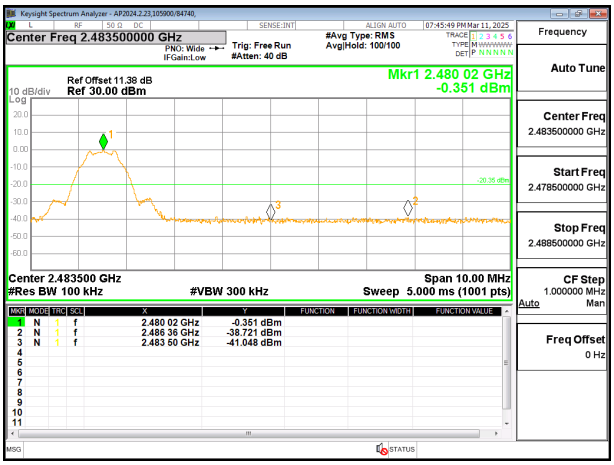
OUT-OF-BAND LOW CHANNEL



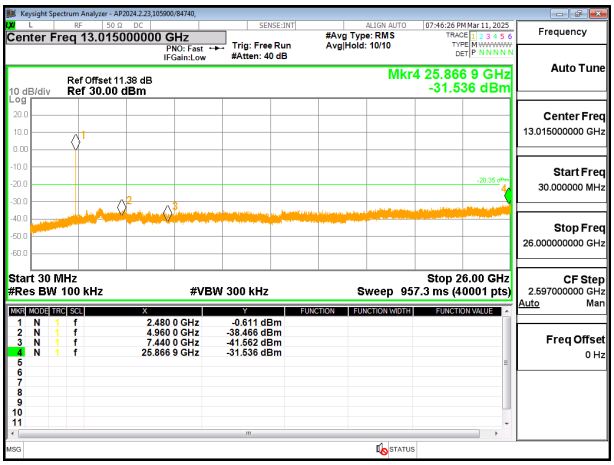
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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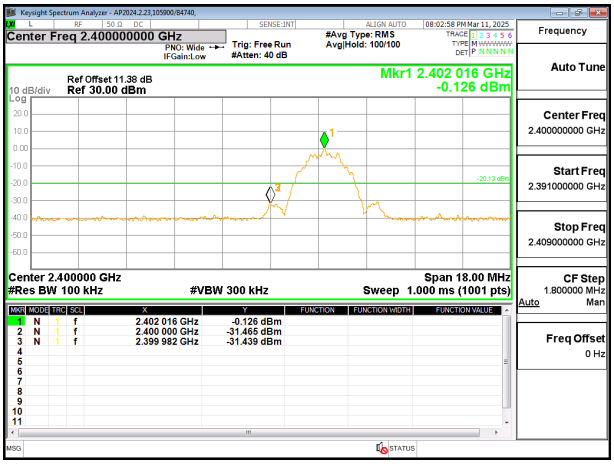
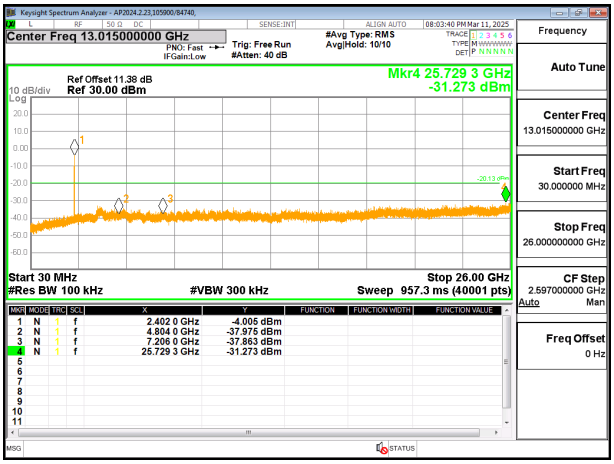
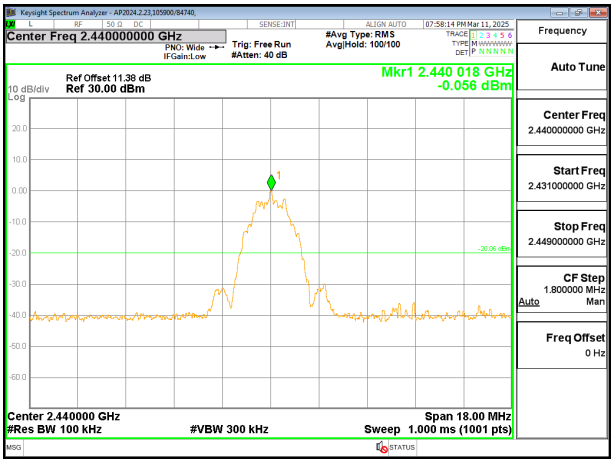
9.7.2. BLE (2Mbps)



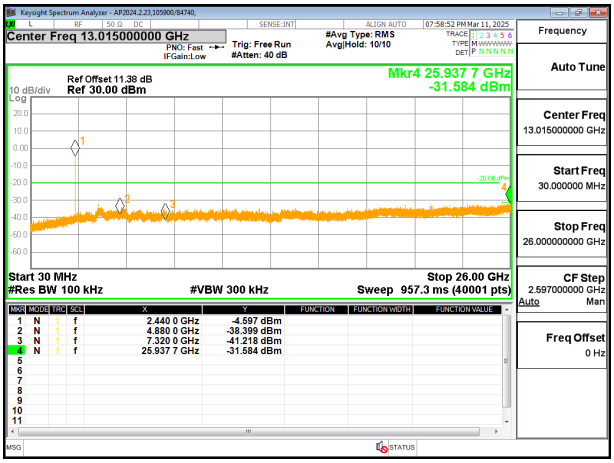
LOW CHANNEL BANDEDGE



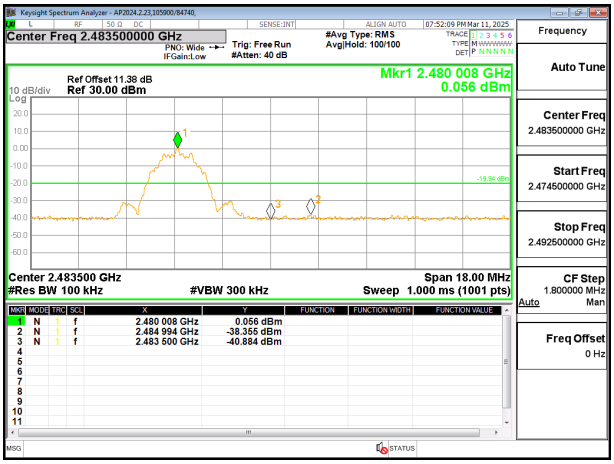
OUT-OF-BAND LOW CHANNEL



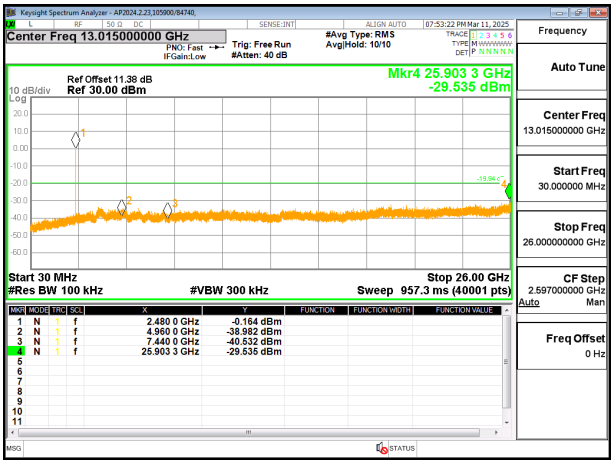
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

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.

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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.

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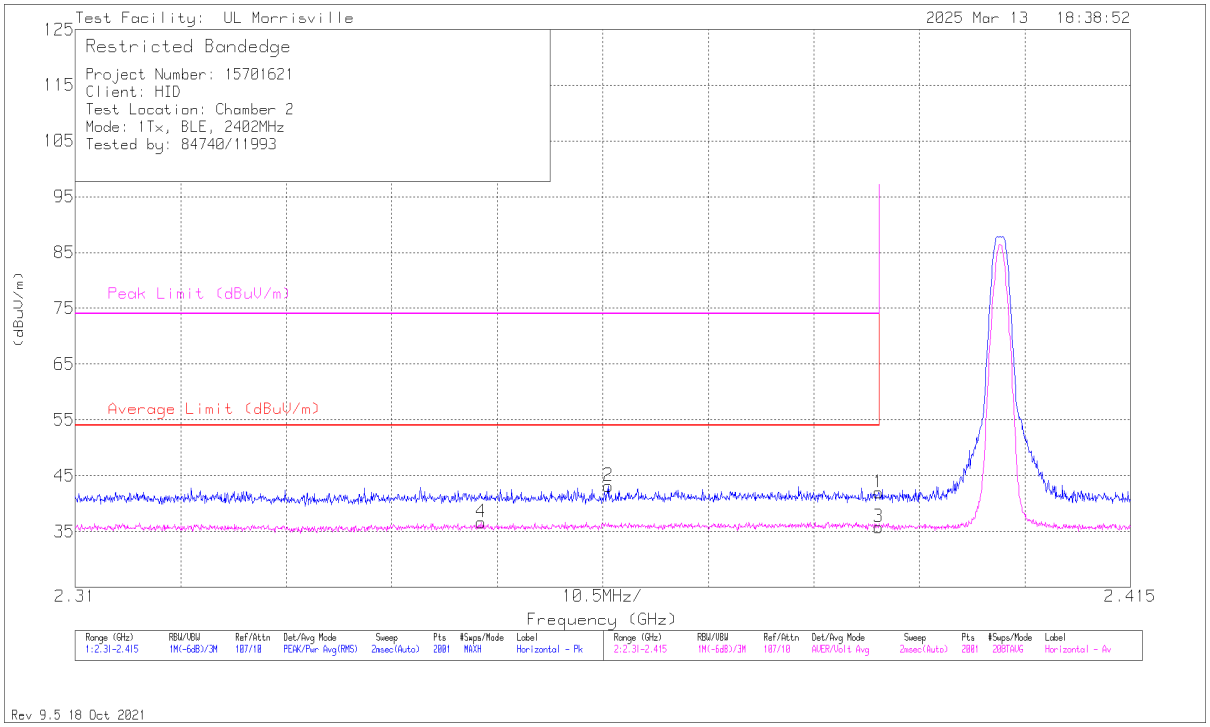
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	33.26	Pk	32.3	-23.6	0	41.96	-	-	74	-32.04	354	144	H
2	* ** 2.36308	34.56	Pk	32.2	-23.6	0	43.16	-	-	74	-30.84	354	144	H
3	* ** 2.38996	20.69	ADV	32.3	-23.6	6.38	35.77	54	-18.23	-	-	354	144	H
4	* ** 2.35037	21.69	ADV	32.1	-23.5	6.38	36.67	54	-17.33	-	-	354	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

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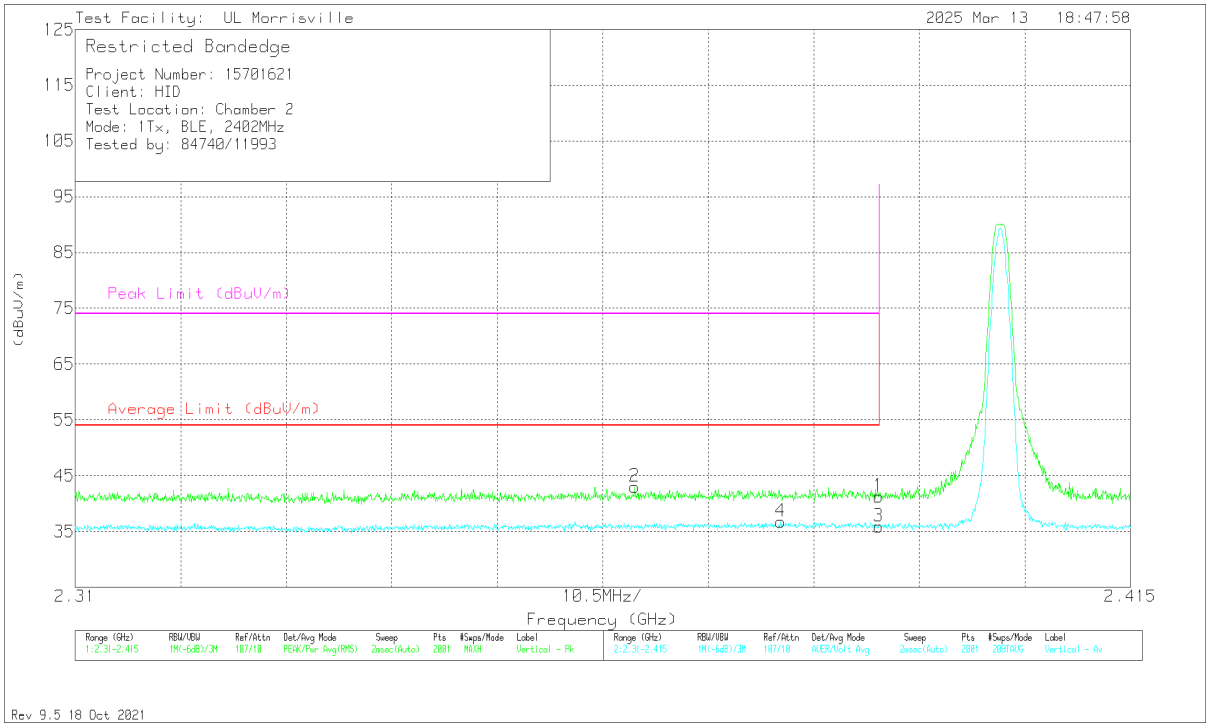
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	32.59	Pk	32.3	-23.6	0	41.29	-	-	74	-32.71	119	108	V
2	* ** 2.36565	34.44	Pk	32.2	-23.6	0	43.04	-	-	74	-30.96	119	108	V
3	* ** 2.38996	20.8	ADV	32.3	-23.6	6.38	35.88	54	-18.12	-	-	119	108	V
4	* ** 2.38019	21.69	ADV	32.2	-23.5	6.38	36.77	54	-17.23	-	-	119	108	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

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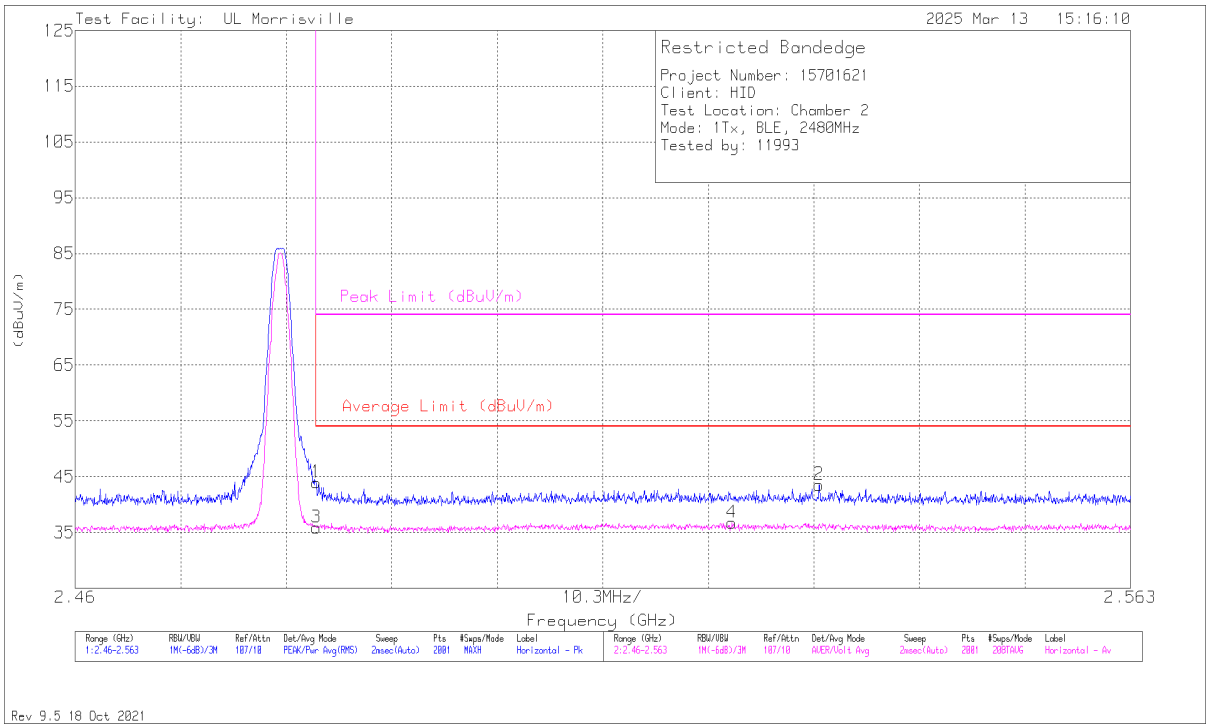
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	35.55	Pk	32.5	-24.1	0	43.95	-	-	74	-30.05	162	343	H
2	** 2.53262	35.66	Pk	32.5	-24.6	0	43.56	-	-	74	-30.44	162	343	H
3	* ** 2.48354	21.05	ADV	32.5	-24.1	6.38	35.83	54	-18.17	-	-	162	343	H
4	** 2.52412	22.42	ADV	32.5	-24.6	6.38	36.7	54	-17.3	-	-	162	343	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

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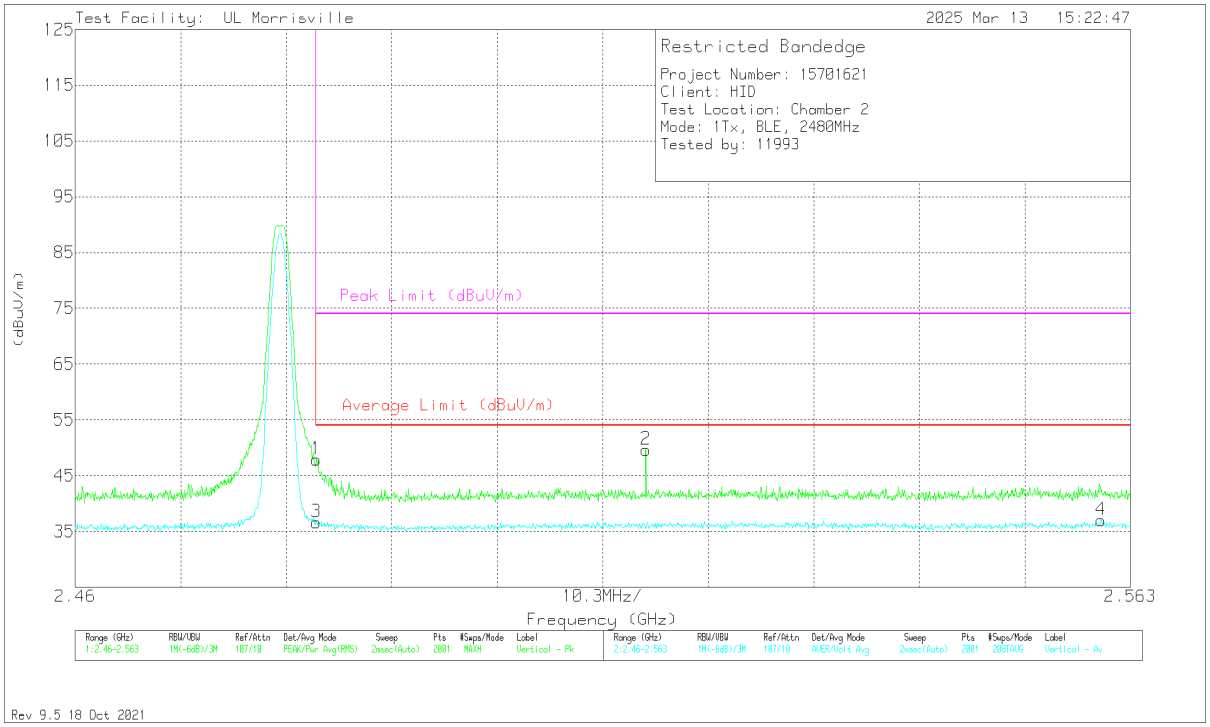
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	39.46	Pk	32.5	-24.1	0	47.86	-	-	74	-26.14	68	104	V
2	** 2.51572	41.68	Pk	32.5	-24.5	0	49.68	-	-	74	-24.32	68	104	V
3	* ** 2.48354	21.9	ADV	32.5	-24.1	6.38	36.68	54	-17.32	-	-	68	104	V
4	** 2.56012	22.65	ADV	32.5	-24.5	6.38	37.03	54	-16.97	-	-	68	104	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

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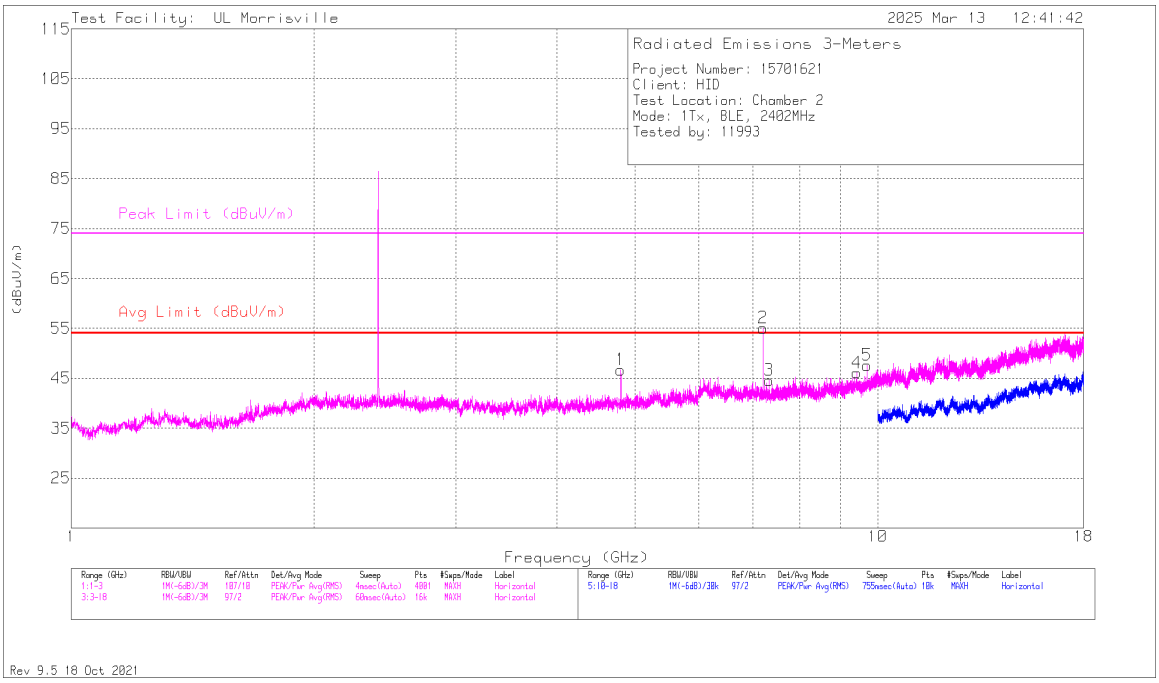
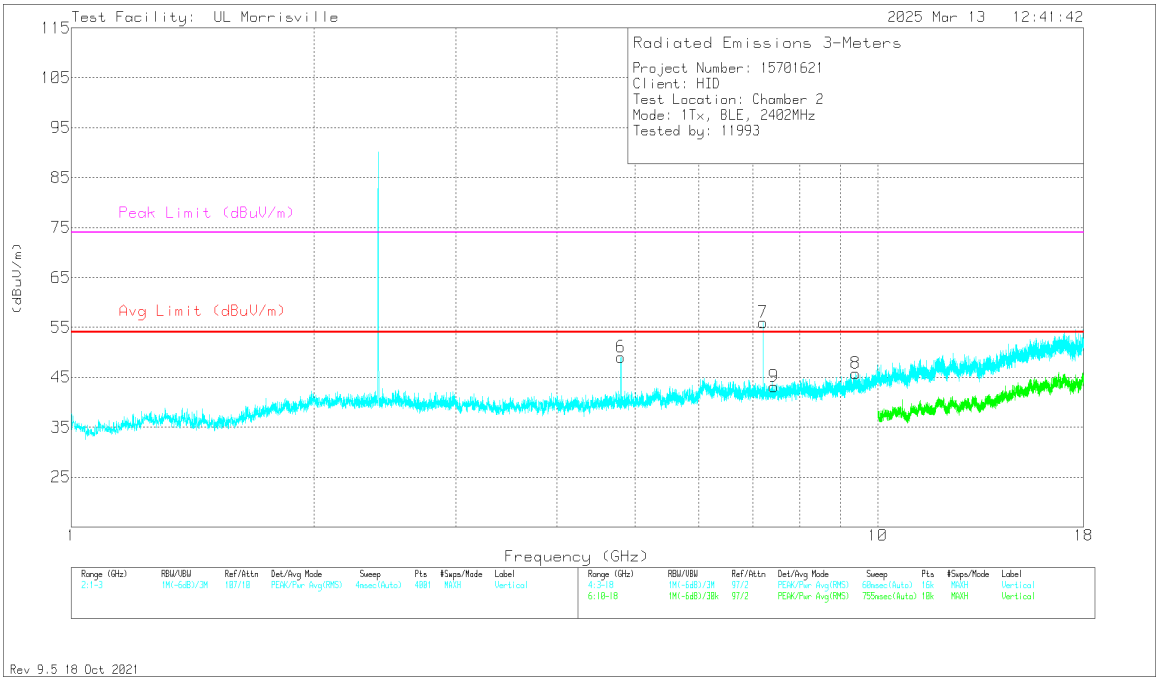
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.80281	56.35	Pk	34.2	-43.9	0	46.65	54	-7.35	74	-27.35	0-360	200	H
3	* ** 7.33125	50.59	Pk	35.6	-41.6	0	44.59	54	-9.41	74	-29.41	0-360	200	H
4	* ** 9.42281	49.88	Pk	36.2	-40	0	46.08	54	-7.92	74	-27.92	0-360	200	H
6	* ** 4.80354	61.6	PK2	34.2	-43.9	0	51.9	-	-	74	-22.1	34	113	V
	* ** 4.80376	51.09	ADV	34.2	-43.9	6.38	47.77	54	-6.23	-	-	34	113	V
8	* ** 9.39188	49.18	Pk	36.2	-39.6	0	45.78	54	-8.22	74	-28.22	0-360	199	V
9	* ** 7.43813	48.49	Pk	35.6	-41	0	43.09	54	-10.91	74	-30.91	0-360	199	V
2	7.20563	61.12	Pk	35.6	-41.7	0	55.02	-	-	-	-	0-360	101	H
7	7.20656	62.04	Pk	35.6	-41.7	0	55.94	-	-	-	-	0-360	101	V
5	9.69844	51.25	Pk	36.7	-40.4	0	47.55	-	-	-	-	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
ADV - Linear Voltage Average

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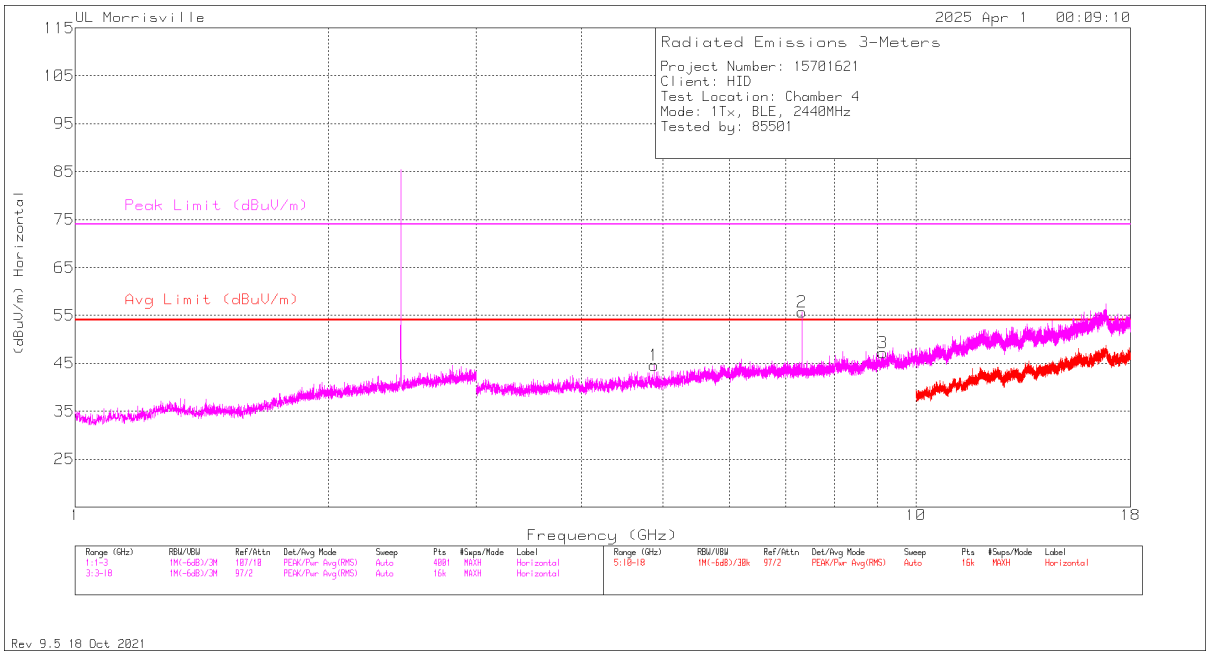
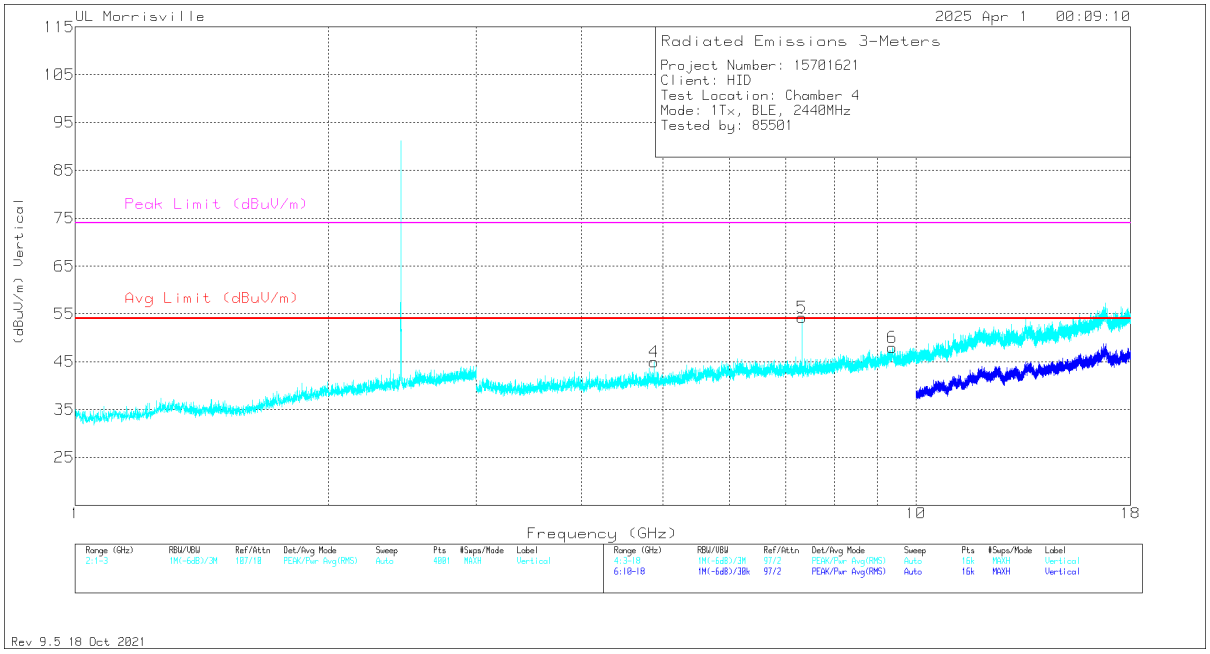
MID CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.87969	41.58	Pk	34	-31	0	44.58	54	-9.42	74	-29.42	0-360	100	H
2	* ** 7.32003	47.24	PK2	35.6	-27.7	0	55.14	-	-	74	-18.86	29	103	H
	* ** 7.32059	35.26	ADV	35.6	-27.7	6.38	49.54	54	-4.46	-	-	29	103	H
3	* ** 9.13219	35.75	Pk	36.3	-24.8	0	47.25	54	-6.75	74	-26.75	0-360	100	H
4	* ** 4.87969	42.02	Pk	34	-31	0	45.02	54	-8.98	74	-28.98	0-360	200	V
5	* ** 7.32076	49.62	PK2	35.6	-27.7	0	57.52	-	-	74	-16.48	348	128	V
	* ** 7.32071	38.04	ADV	35.6	-27.7	6.38	52.32	54	-1.68	-	-	348	128	V
6	* ** 9.37219	36.16	Pk	36.5	-24.7	0	47.96	54	-6.04	74	-26.04	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

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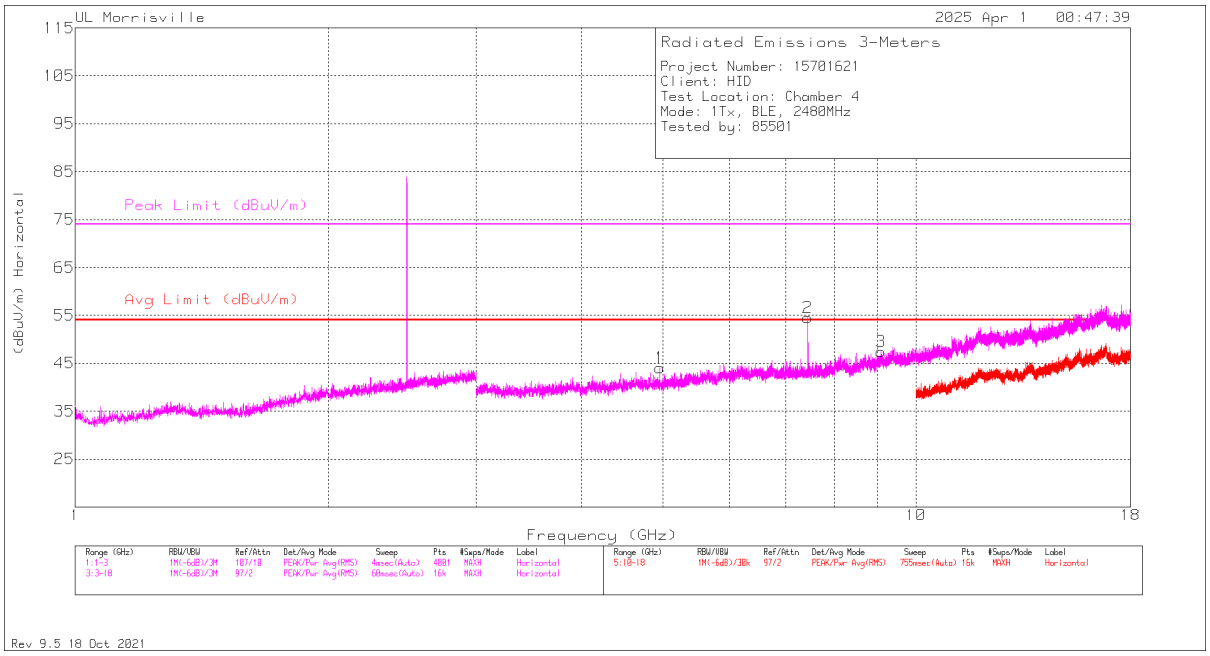
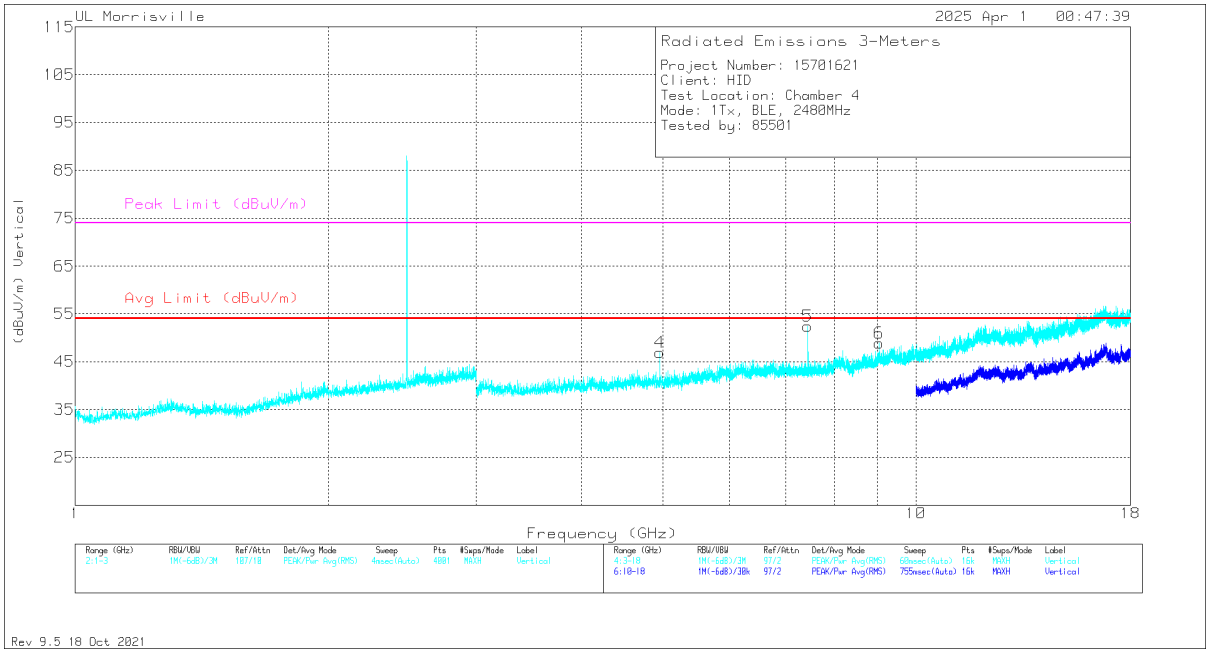
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.96031	40.96	Pk	33.9	-30.8	0	44.06	54	-9.94	74	-29.94	0-360	100	H
2	* ** 7.44086	45.72	PK2	35.7	-27.9	0	53.52	-	-	74	-20.48	31	187	H
	* ** 7.44069	33.91	ADV	35.7	-27.9	6.38	48.09	54	-5.91	-	-	31	187	H
3	* ** 9.08906	35.87	Pk	36.3	-24.7	0	47.47	54	-6.53	74	-26.53	0-360	100	H
4	* ** 4.95938	43.83	Pk	33.9	-30.8	0	46.93	54	-7.07	74	-27.07	0-360	200	V
5	* ** 7.43922	49.53	PK2	35.7	-27.9	0	57.33	-	-	74	-16.67	348	133	V
	* ** 7.44062	37.93	ADV	35.7	-27.9	6.38	52.11	54	-1.89	-	-	348	133	V
6	* ** 9.04356	35.9	PK2	36.2	-24	0	48.1	-	-	74	-25.9	181	306	V
	* ** 9.04371	23.07	ADV	36.2	-24	6.38	41.65	54	-12.35	-	-	181	306	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

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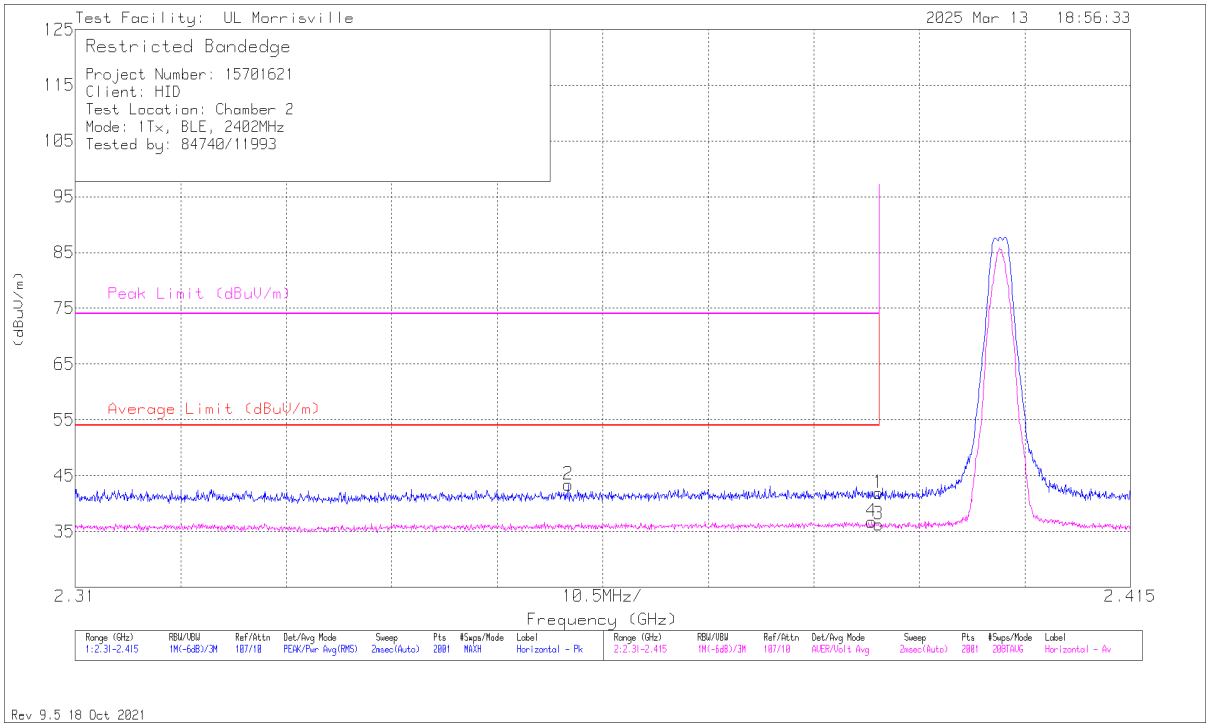
10.2.2. BLE (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	33.21	Pk	32.3	-23.6	0	41.91	-	-	74	-32.09	359	129	H
2	* ** 2.35904	34.92	Pk	32.1	-23.6	0	43.42	-	-	74	-30.58	359	129	H
3	* ** 2.38996	21.17	ADV	32.3	-23.6	6.13	36.00	54	-18.00	-	-	359	129	H
4	* ** 2.38922	21.57	ADV	32.3	-23.5	6.13	36.50	54	-17.50	-	-	359	129	H

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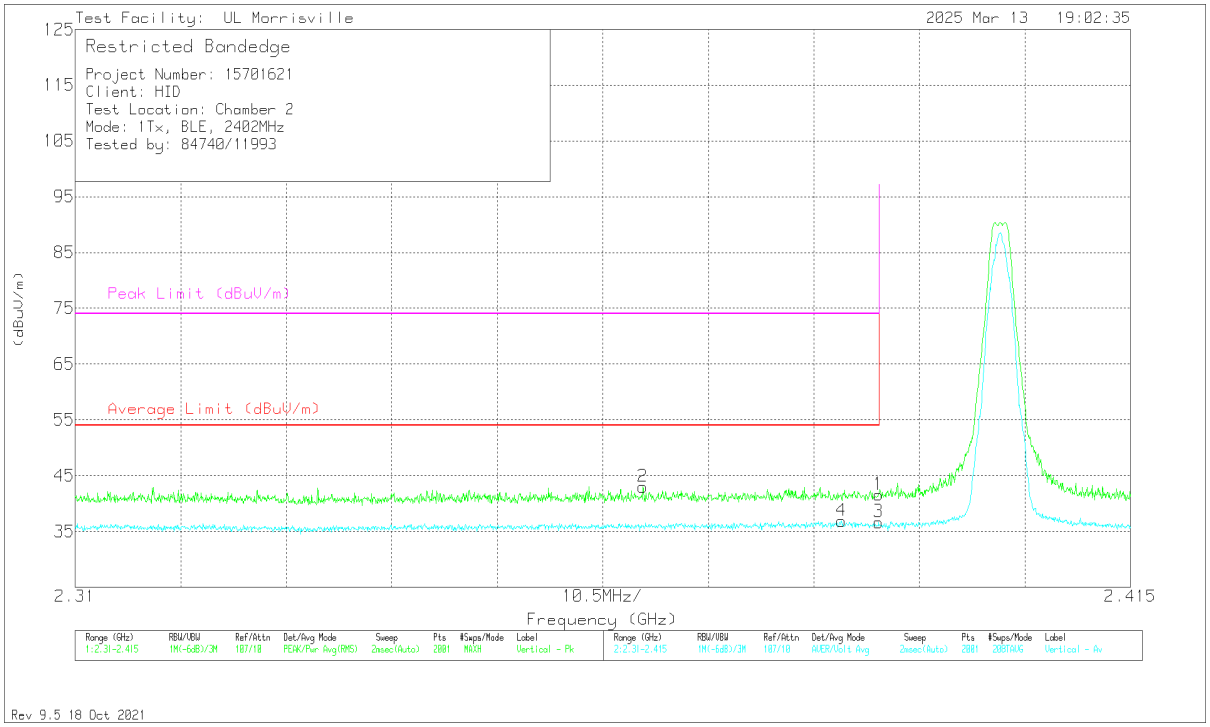
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	32.87	Pk	32.3	-23.6	0	41.57	-	-	74	-32.43	105	108	V
2	* ** 2.36649	34.36	Pk	32.2	-23.6	0	42.96	-	-	74	-31.04	105	108	V
3	* ** 2.38996	21.6	ADV	32.3	-23.6	6.13	36.43	54	-17.57	-	-	105	108	V
4	* ** 2.38623	21.65	ADV	32.2	-23.4	6.13	36.58	54	-17.42	-	-	105	108	V

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ADV - Linear Voltage Average

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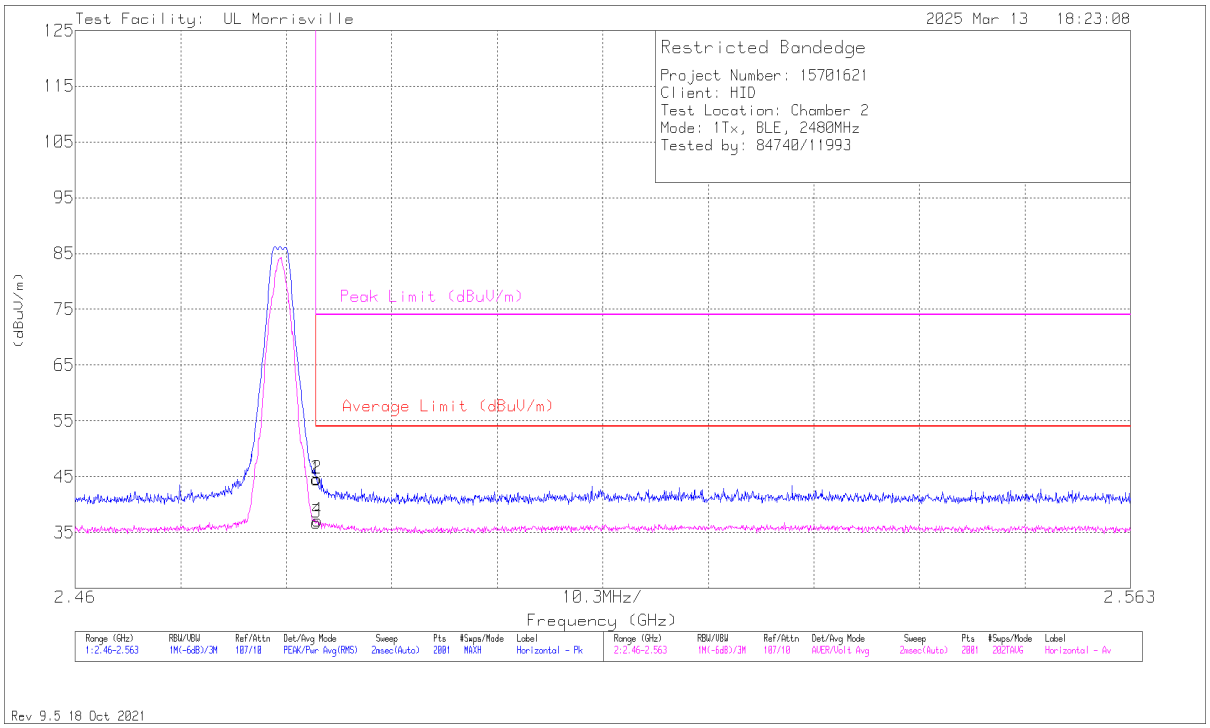
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	36.1	Pk	32.5	-24.1	0	44.5	-	-	74	-29.5	152	342	H
2	* ** 2.48359	36.29	Pk	32.5	-24.1	0	44.69	-	-	74	-29.31	152	342	H
3	* ** 2.48354	22.28	ADV	32.5	-24.1	6.13	36.81	54	-17.19	-	-	152	342	H
4	* ** 2.48364	22.56	ADV	32.5	-24.1	6.13	37.09	54	-16.91	-	-	152	342	H

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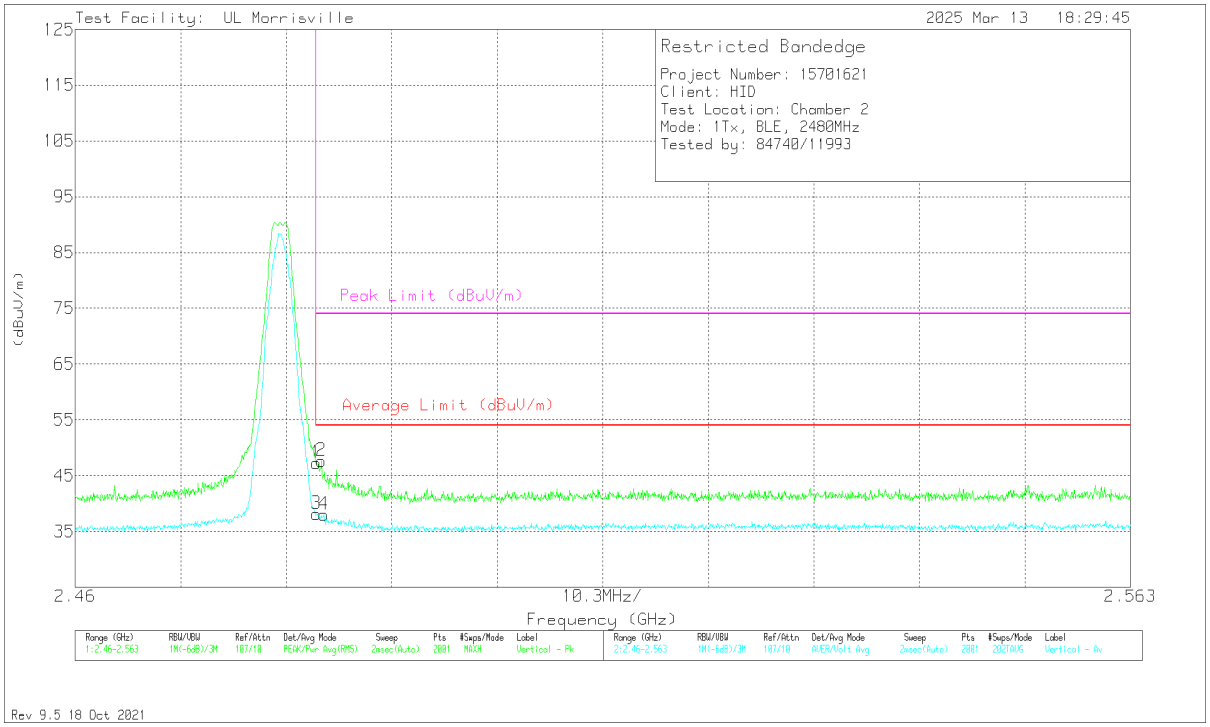
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	38.83	Pk	32.5	-24.1	0	47.23	-	-	74	-26.77	74	106	V
2	* ** 2.48405	39.39	Pk	32.5	-24.2	0	47.69	-	-	74	-26.31	74	106	V
3	* ** 2.48354	23.64	ADV	32.5	-24.1	6.13	38.17	54	-15.83	-	-	74	106	V
4	* ** 2.48426	23.59	ADV	32.5	-24.2	6.13	38.02	54	-15.98	-	-	74	106	V

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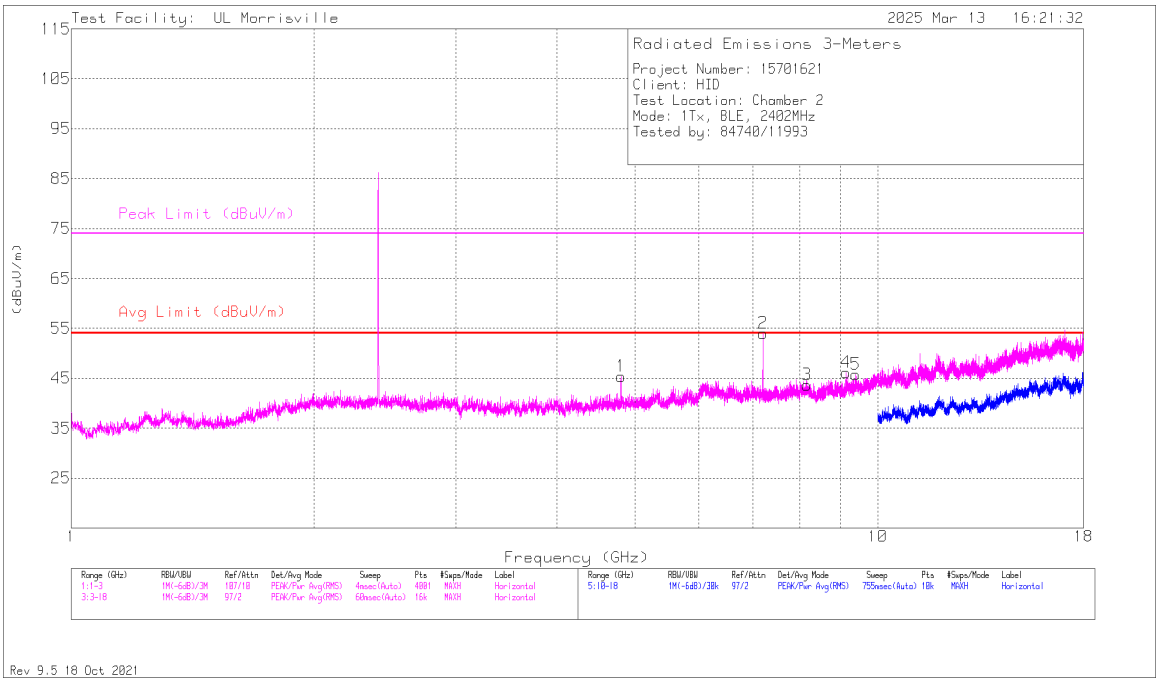
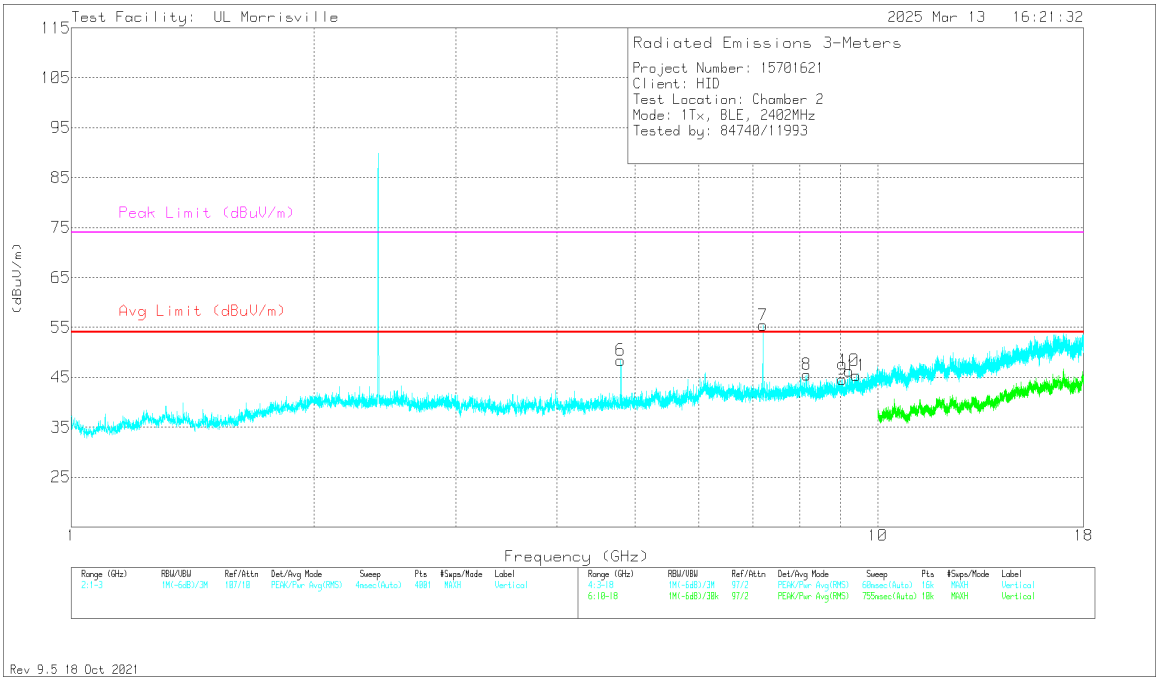
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.80469	55.02	Pk	34.2	-43.9	0	45.32	54	-8.68	74	-28.68	0-360	101	H
3	* ** 8.17688	48.22	Pk	35.8	-40.4	0	43.62	54	-10.38	74	-30.38	0-360	200	H
4	* ** 9.13125	49.77	Pk	35.9	-39.5	0	46.17	54	-7.83	74	-27.83	0-360	200	H
5	* ** 9.39	49.22	Pk	36.2	-39.7	0	45.72	54	-8.28	74	-28.28	0-360	200	H
6	* ** 4.80394	60.76	PK2	34.2	-43.9	0	51.06	-	-	74	-22.94	116	116	V
	* ** 4.80479	48.68	ADV	34.2	-43.9	6.13	45.11	54	-8.89	-	-	116	116	V
8	* ** 8.16469	50.18	Pk	35.8	-40.5	0	45.48	54	-8.52	74	-28.52	0-360	101	V
9	* ** 9.04406	48.73	Pk	35.9	-40	0	44.63	54	-9.37	74	-29.37	0-360	101	V
11	* ** 9.40219	49.01	Pk	36.2	-39.9	0	45.31	54	-8.69	74	-28.69	0-360	101	V
2	7.20469	60.14	Pk	35.6	-41.7	0	54.04	-	-	-	-	0-360	200	H
7	7.20563	61.49	Pk	35.6	-41.7	0	55.39	-	-	-	-	0-360	101	V
10	9.21469	50.31	Pk	36	-40	0	46.31	-	-	-	-	0-360	199	V

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ADV - Linear Voltage Average

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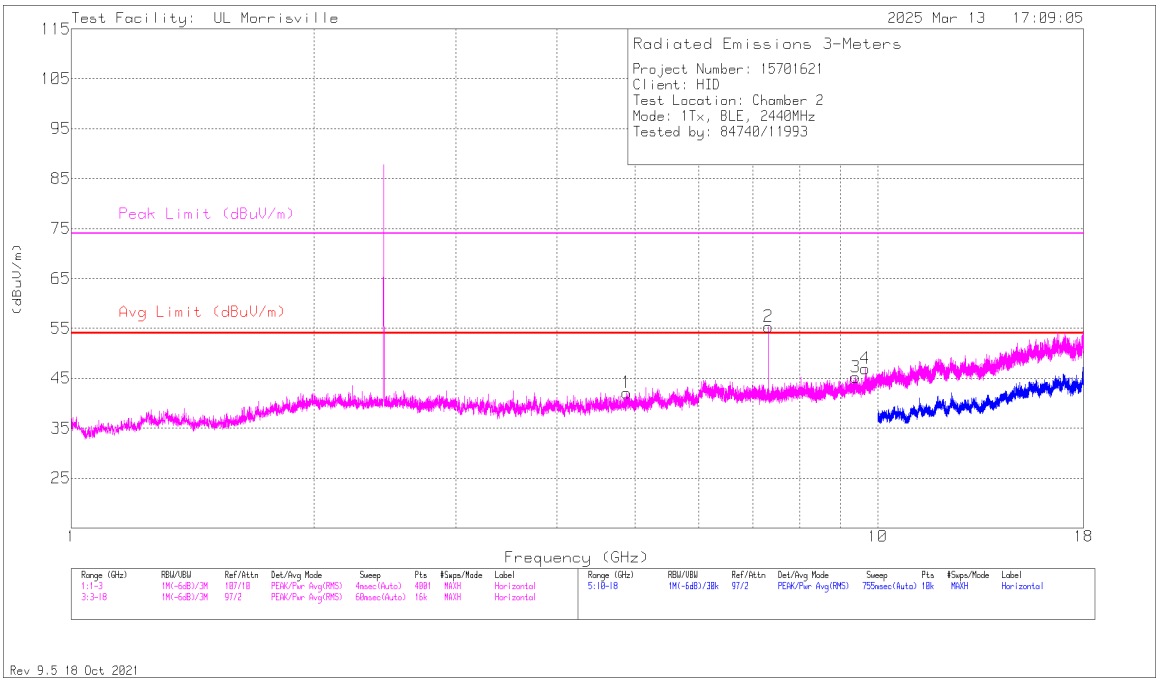
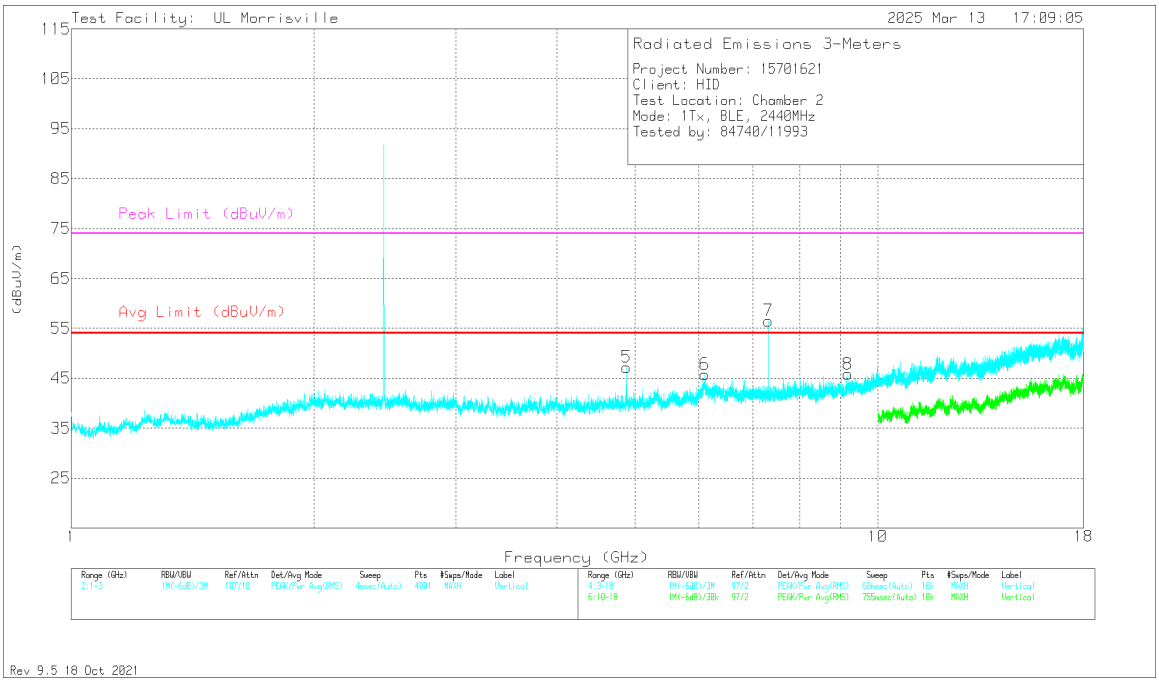
MID CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.88063	51.72	Pk	34.1	-43.7	0	42.12	54	-11.88	74	-31.88	0-360	199	H
2	* ** 7.31996	62.54	PK2	35.6	-41.8	0	56.34	-	-	74	-17.66	33	101	H
	* ** 7.31868	50.14	ADV	35.6	-41.8	6.13	50.07	54	-3.93	-	-	33	101	H
3	* ** 9.39	48.68	Pk	36.2	-39.7	0	45.18	54	-8.82	74	-28.82	0-360	199	H
5	* ** 4.88063	56.75	Pk	34.1	-43.7	0	47.15	54	-6.85	74	-26.85	0-360	101	V
7	* ** 7.32153	65.29	PK2	35.6	-41.8	0	59.09	-	-	74	-14.91	313	350	V
	* ** 7.32125	52.76	ADV	35.6	-41.8	6.13	52.69	54	-1.31	-	-	313	350	V
8	* ** 9.18094	49.22	Pk	36	-39.4	0	45.82	54	-8.18	74	-28.18	0-360	200	V
6	6.10125	51.05	Pk	35.5	-40.8	0	45.75	54	-8.25	74	-28.25	0-360	101	V
4	9.64969	50.76	Pk	36.6	-40.4	0	46.96	54	-7.04	74	-27.04	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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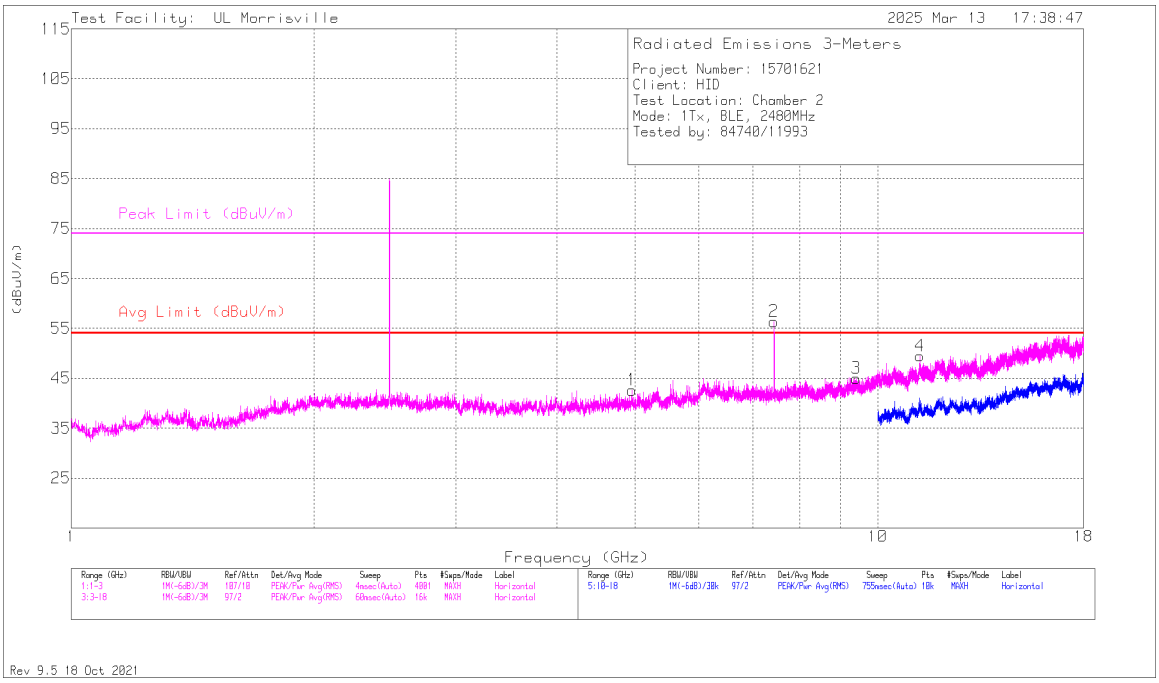
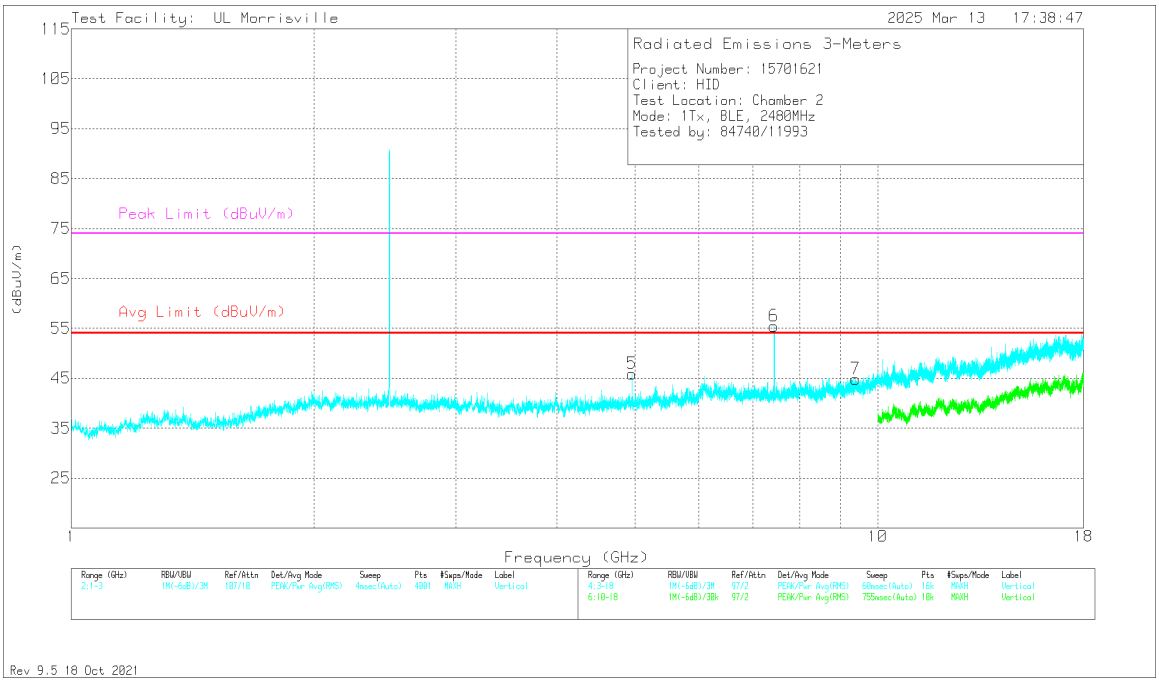
HIGH CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	86408 (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.96031	52.45	Pk	34	-43.8	0	42.65	54	-11.35	74	-31.35	0-360	199	H
2	* ** 7.43848	63.1	PK2	35.6	-41	0	57.7	-	-	74	-16.3	37	105	H
	* ** 7.43863	50.68	ADV	35.6	-41	6.13	51.41	54	-2.59	-	-	37	105	H
3	* ** 9.39938	48.52	Pk	36.2	-39.7	0	45.02	54	-8.98	74	-28.98	0-360	101	H
4	* ** 11.28768	49.95	PK2	37.8	-38.3	0	49.45	-	-	74	-24.55	95	105	H
	* ** 11.2903	37.05	ADV	37.8	-38.2	6.13	42.78	54	-11.22	-	-	95	105	H
5	* ** 4.95844	55.64	Pk	34	-43.8	0	45.84	54	-8.16	74	-28.16	0-360	101	V
6	* ** 7.44004	64.39	PK2	35.6	-41.1	0	58.89	-	-	74	-15.11	296	365	V
	* ** 7.43863	52.18	ADV	35.6	-41	6.13	52.91	54	-1.09	-	-	296	365	V
7	* ** 9.38625	48.58	Pk	36.2	-39.9	0	44.88	54	-9.12	74	-29.12	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

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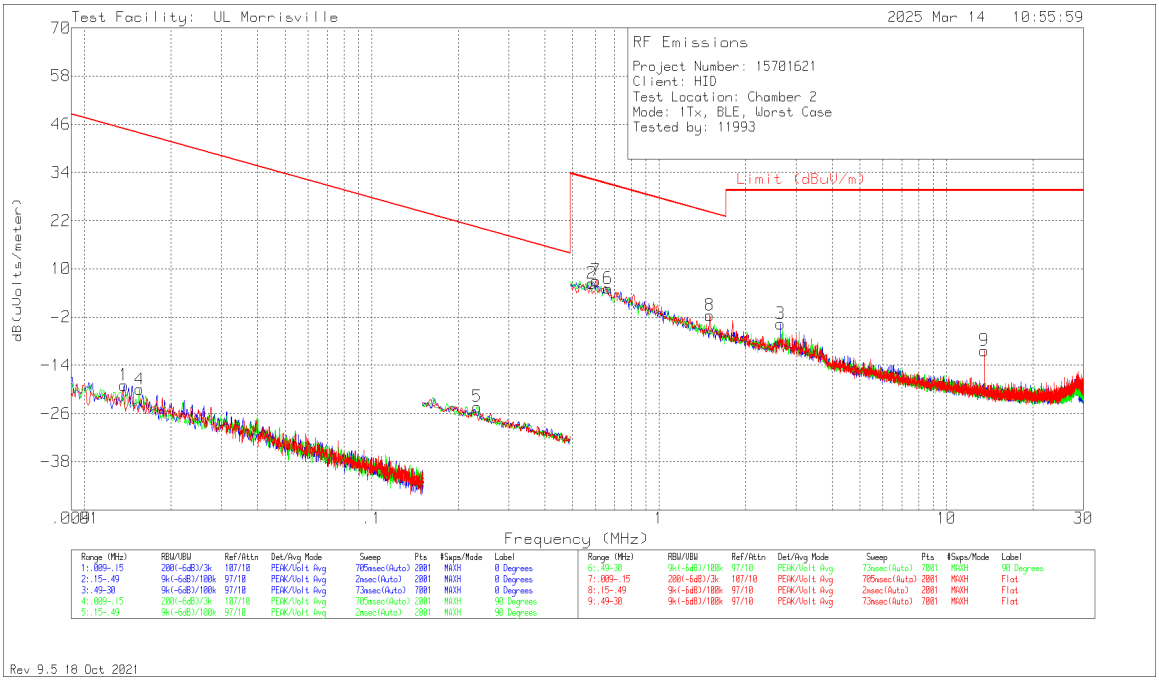
10.3. WORST CASE BELOW 30MHZ

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*Log (test distance / specification distance).

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- THREE ORIENTATIONS (E-FIELD)

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.01376	44.39	Pk	16.6	.1	-80	-18.91	44.83	64.83	-63.74	0-360	0 degs
4	.01553	44.07	Pk	15.8	.1	-80	-20.03	43.78	63.78	-63.81	0-360	90 degs
5	.23279	44.65	Pk	10.9	.1	-80	-24.35	20.26	40.26	-44.61	0-360	90 degs
2	.58275	35.31	Pk	11	.1	-40	6.41	32.29	-	-25.88	0-360	0 degs
7	.60383	35.91	Pk	11	.1	-40	7.01	31.99	-	-24.98	0-360	Flat
6	.66286	34.07	Pk	11	.1	-40	5.17	31.18	-	-26.01	0-360	90 degs
8	1.50184	27.11	Pk	11.1	.2	-40	-1.59	24.07	-	-25.66	0-360	Flat
3	2.64438	24.99	Pk	11.1	.2	-40	-3.71	29.54	-	-33.25	0-360	0 degs
9	13.5596	19.26	Pk	9.8	.6	-40	-10.34	29.54	-	-39.88	0-360	Flat

Pk - Peak detector

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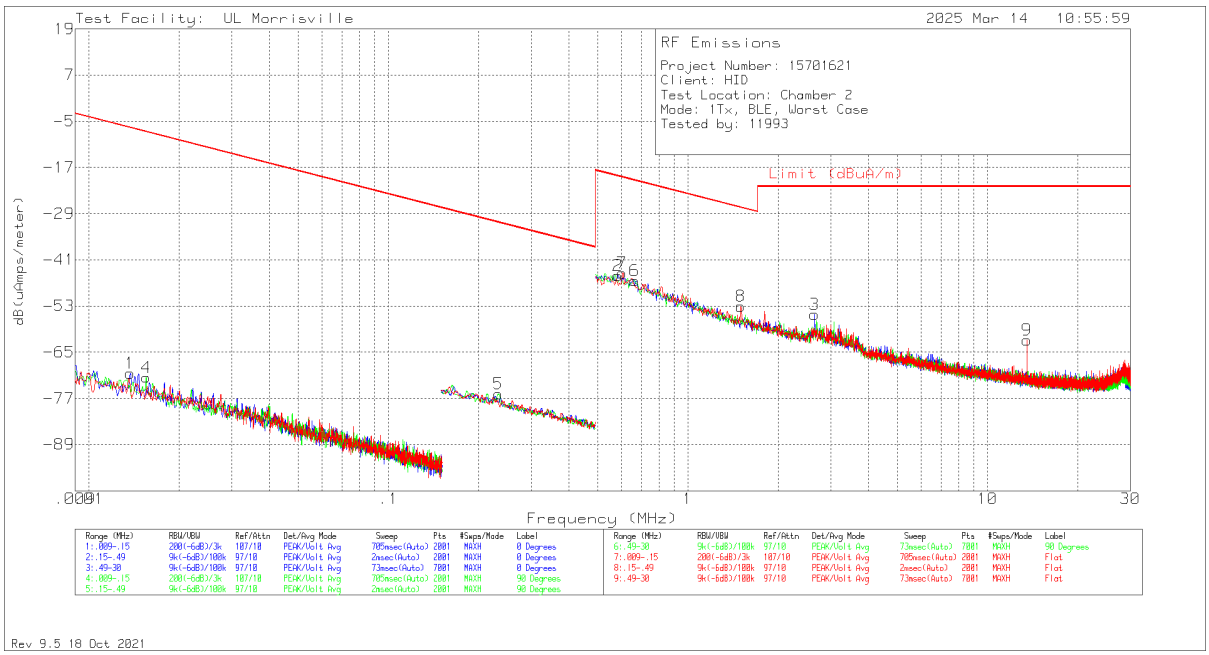

ANTENNA- THREE ORIENTATIONS (H-FIELD)

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (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	.01376	44.39	Pk	-34.9	.1	-80	-70.41	-6.67	13.33	-63.74	0-360	0 degs
4	.01553	44.07	Pk	-35.7	.1	-80	-71.53	-7.72	12.28	-63.81	0-360	90 degs
5	.23279	44.65	Pk	-40.6	.1	-80	-75.85	-31.24	-11.24	-44.61	0-360	90 degs
2	.58275	35.31	Pk	-40.5	.1	-40	-45.09	-19.21	-	-25.88	0-360	0 degs
7	.60383	35.91	Pk	-40.5	.1	-40	-44.49	-19.51	-	-24.98	0-360	Flat
6	.66286	34.07	Pk	-40.5	.1	-40	-46.33	-20.32	-	-26.01	0-360	90 degs
8	1.50184	27.11	Pk	-40.4	.2	-40	-53.09	-27.43	-	-25.66	0-360	Flat
3	2.64438	24.99	Pk	-40.4	.2	-40	-55.21	-21.96	-	-33.25	0-360	0 degs
9	13.5596	19.26	Pk	-41.7	.6	-40	-61.84	-21.96	-	-39.88	0-360	Flat

Pk - Peak detector

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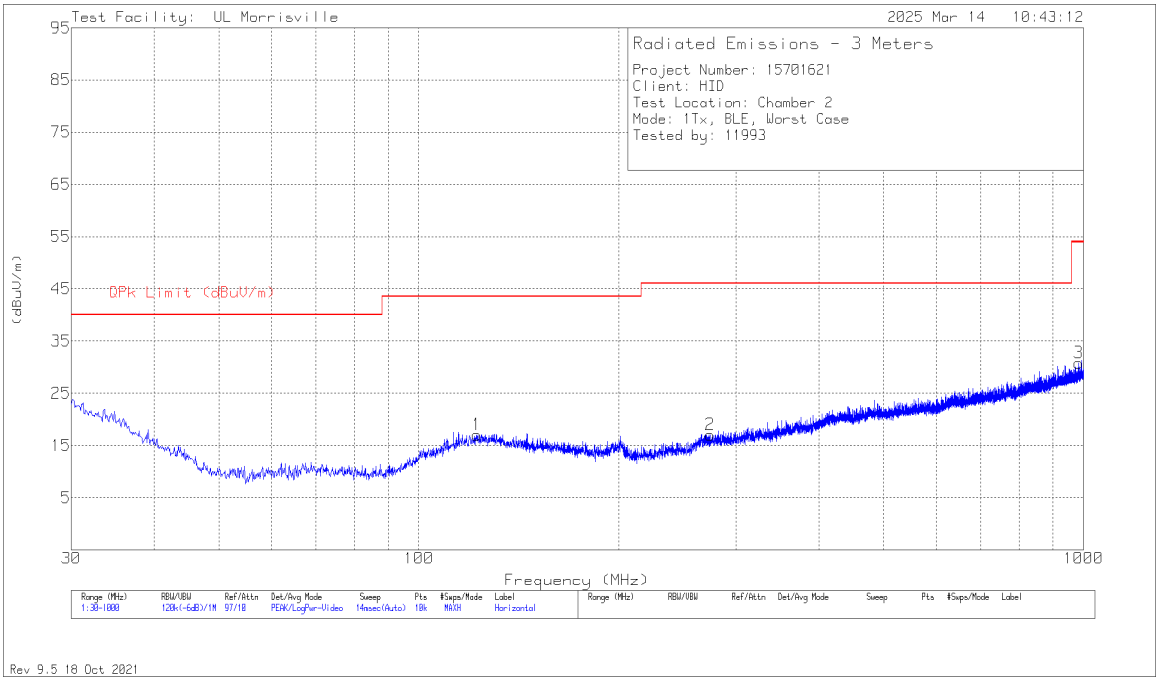
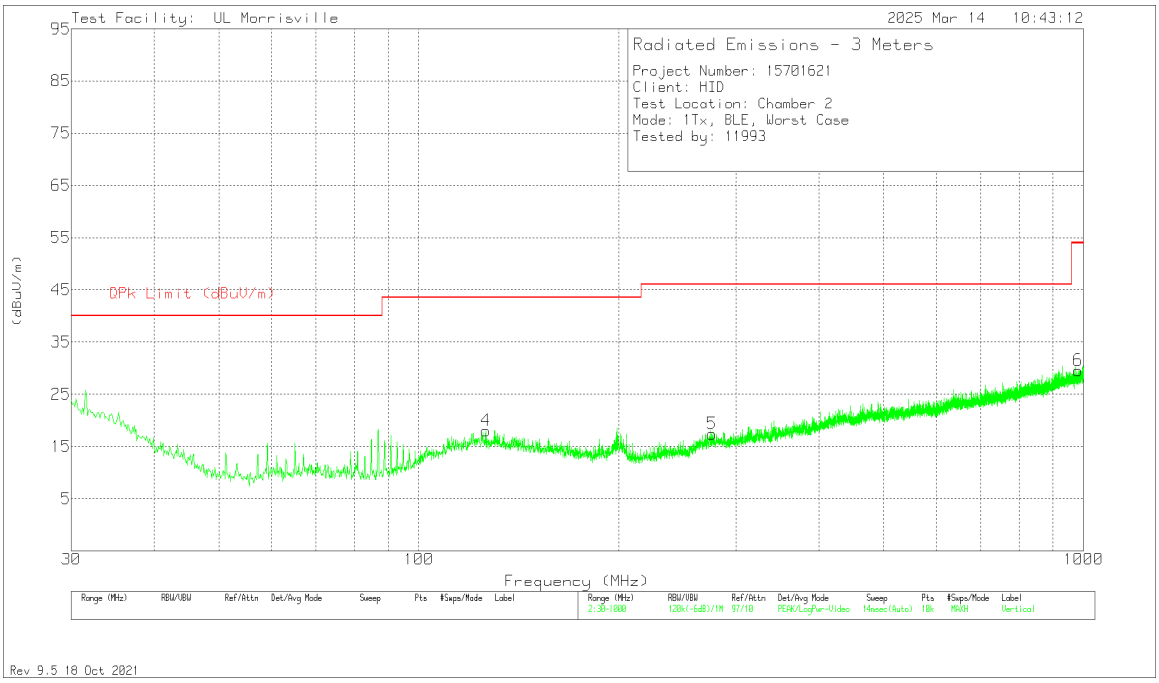
10.4. WORST CASE BELOW 1 GHZ

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



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	159203 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 122.247	27.57	Pk	20.2	-30.7	17.07	43.52	-26.45	0-360	101	H
2	* ** 274.343	26.7	Pk	19.8	-29.5	17	46.02	-29.02	0-360	299	H
3	* ** 983.898	26.11	Pk	29.8	-25.1	30.81	53.97	-23.16	0-360	299	H
4	* ** 126.127	28.11	Pk	20.4	-30.5	18.01	43.52	-25.51	0-360	299	V
5	* ** 275.992	27.04	Pk	19.8	-29.4	17.44	46.02	-28.58	0-360	299	V
6	* ** 982.055	24.89	Pk	29.8	-25.1	29.59	53.97	-24.38	0-360	199	V

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

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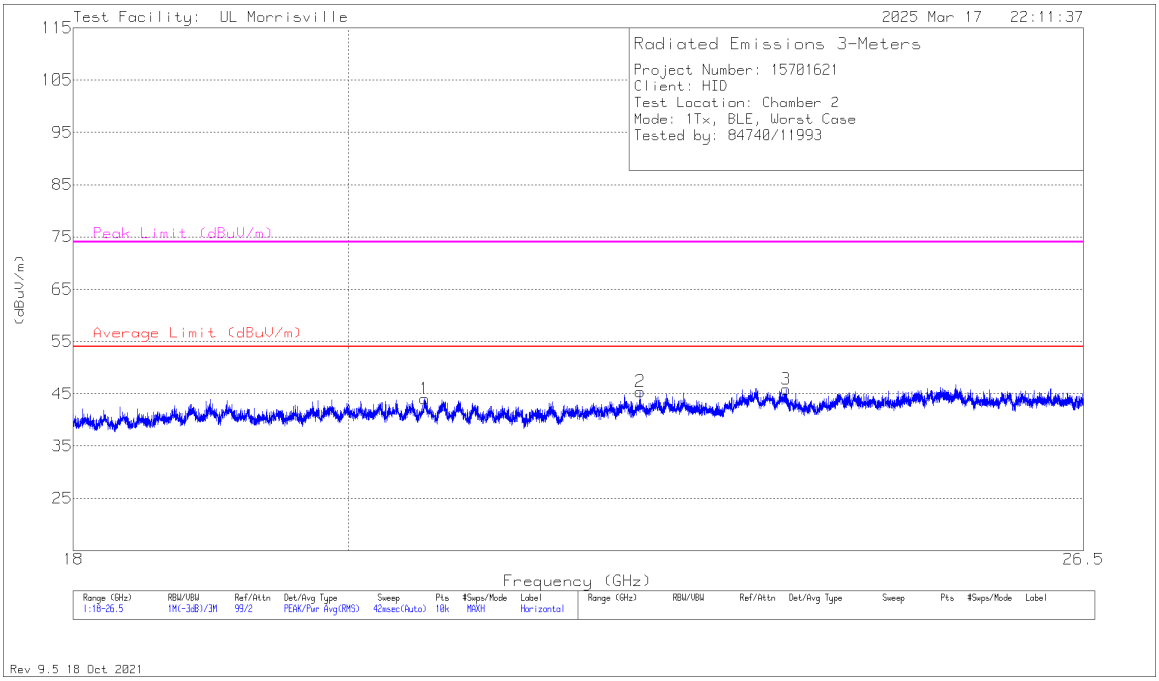
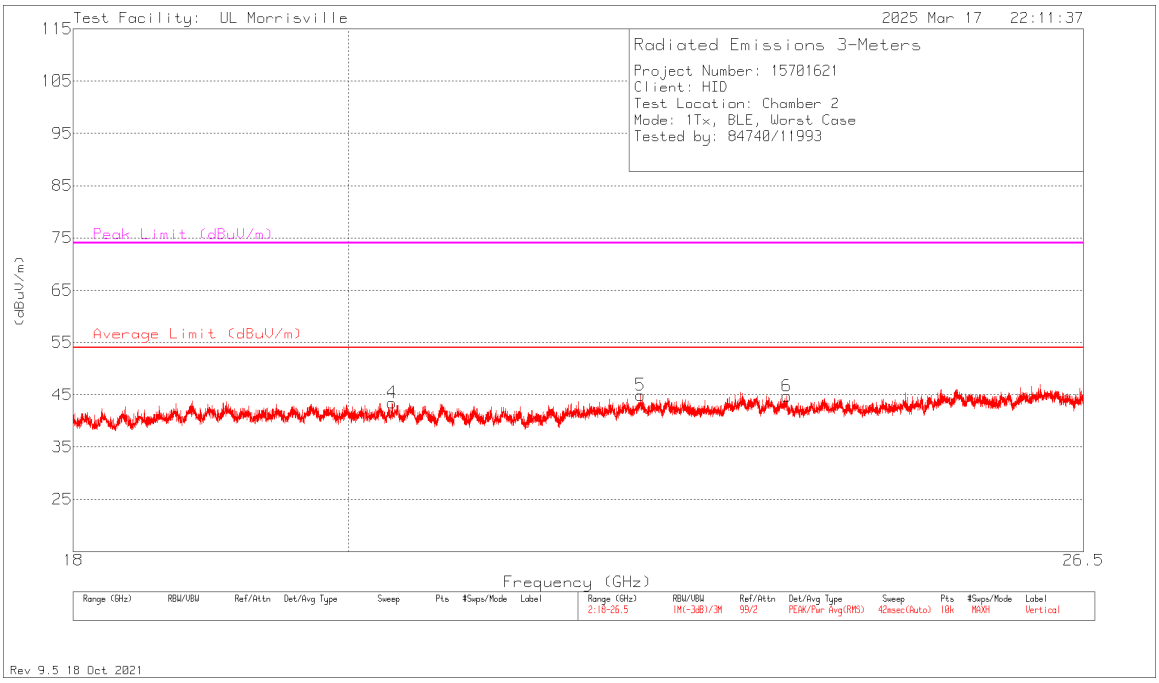
10.5. WORST CASE 18-26 GHZ

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



HORIZONTAL



VERTICAL

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18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.59309	48.03	Pk	33.7	-37.7	44.03	54	-9.97	74	-29.97	0-360	249	H
2	* ** 22.36346	49.39	Pk	34.1	-38.1	45.39	54	-8.61	74	-28.61	0-360	150	H
3	* ** 23.64854	48.67	Pk	34.6	-37.4	45.87	54	-8.13	74	-28.13	0-360	101	H
4	* ** 20.33557	47.88	Pk	33.6	-38	43.48	54	-10.52	74	-30.52	0-360	251	V
5	* ** 22.36601	48.91	Pk	34.1	-38.1	44.91	54	-9.09	74	-29.09	0-360	101	V
6	* ** 23.65448	47.53	Pk	34.5	-37.3	44.73	54	-9.27	74	-29.27	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

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11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)
RSS-Gen 8.8

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

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

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

Line conducted data is recorded for both lines.

RESULTS

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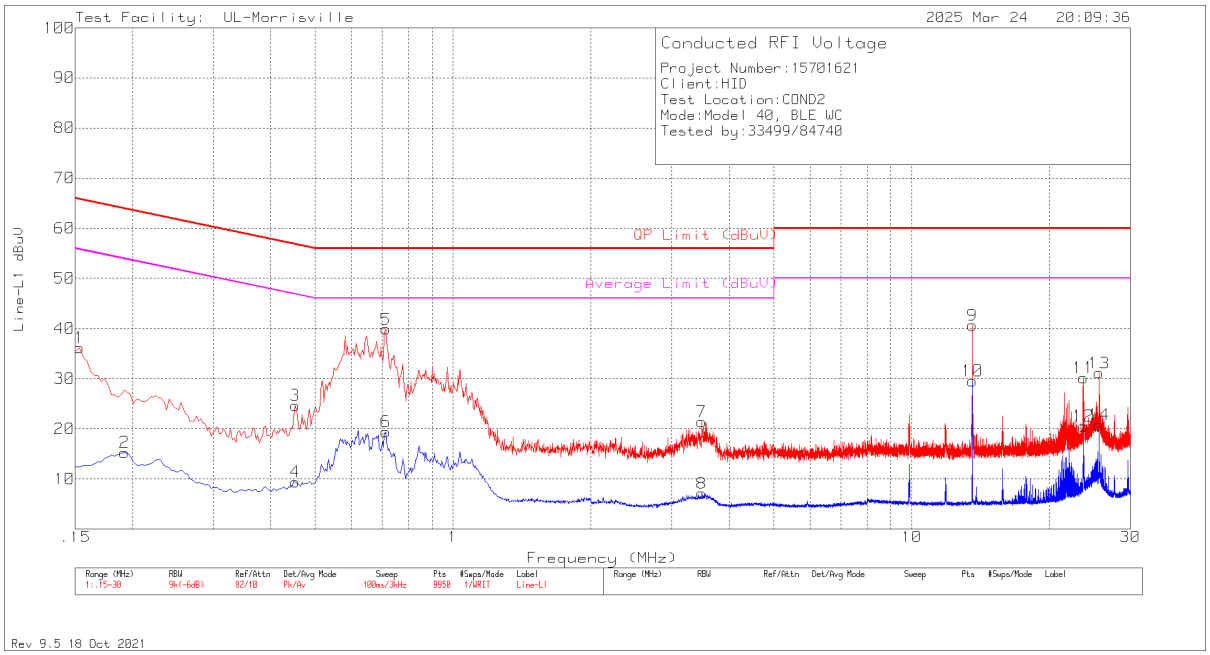
11.1.1. AC Power Line Norm

LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.153	26.2	Pk	.2	9.8	36.2	65.84	-29.64	-	-
2	.192	5.28	Av	.2	9.8	15.28	-	-	53.95	-38.67
3	.453	14.79	Pk	.1	9.8	24.69	56.82	-32.13	-	-
4	.453	-.48	Av	.1	9.8	9.42	-	-	46.82	-37.4
5	.714	30.06	Pk	0	9.8	39.86	56	-16.14	-	-
6	.714	9.59	Av	0	9.8	19.39	-	-	46	-26.61
7	3.486	11.64	Pk	0	9.8	21.44	56	-34.56	-	-
8	3.489	-2.73	Av	0	9.8	7.07	-	-	46	-38.93
9	13.563	30.52	Pk	.1	10	40.62	60	-19.38	-	-
10	13.563	19.48	Av	.1	10	29.58	-	-	50	-20.42
12	23.682	10.07	Av	.3	10.2	20.57	-	-	50	-29.43
11	23.685	19.67	Pk	.3	10.2	30.17	60	-29.83	-	-
13	25.656	20.5	Pk	.4	10.2	31.1	60	-28.9	-	-
14	25.659	10.21	Av	.4	10.2	20.81	-	-	50	-29.19

Pk - Peak detector
Av - Average detection

Markers 9 and 10 are from badge readers in the lab.

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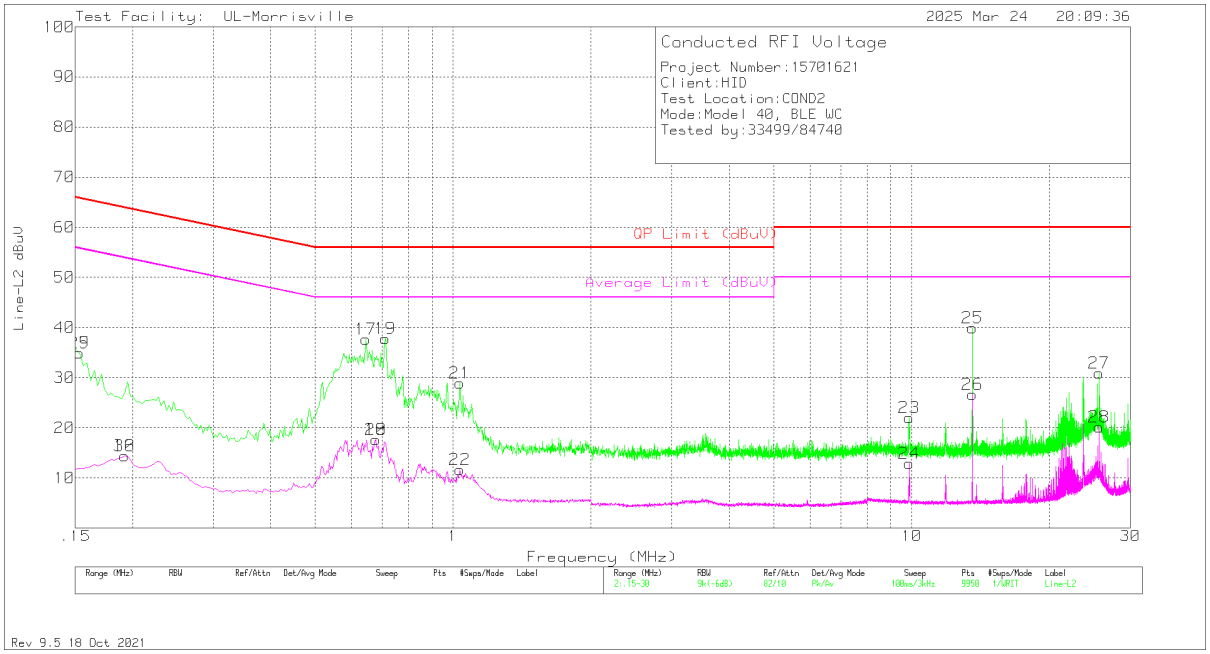
LINE 2 RESULTS



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)
15	.153	24.94	Pk	.2	9.8	34.94	65.84	-30.9	-	-
29	.153	24.94	Pk	.2	9.8	34.94	65.84	-30.9	-	-
16	.192	4.34	Av	.2	9.8	14.34	-	-	53.95	-39.61
30	.192	4.34	Av	.2	9.8	14.34	-	-	53.95	-39.61
17	.645	27.88	Pk	0	9.8	37.68	56	-18.32	-	-
18	.678	7.85	Av	0	9.8	17.65	-	-	46	-28.35
20	.678	7.85	Av	0	9.8	17.65	-	-	46	-28.35
19	.711	27.95	Pk	0	9.8	37.75	56	-18.25	-	-
21	1.035	19.06	Pk	0	9.8	28.86	56	-27.14	-	-
22	1.035	1.88	Av	0	9.8	11.68	-	-	46	-34.32
23	9.87	11.94	Pk	.1	10	22.04	60	-37.96	-	-
24	9.87	2.82	Av	.1	10	12.92	-	-	50	-37.08
25	13.563	29.87	Pk	.1	10	39.97	60	-20.03	-	-
26	13.563	16.59	Av	.1	10	26.69	-	-	50	-23.31
28	25.653	9.5	Av	.4	10.2	20.1	-	-	50	-29.9
27	25.659	20.3	Pk	.4	10.2	30.9	60	-29.1	-	-

Pk - Peak detector
Av - Average detection

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12. SETUP PHOTOS

Please refer to R15701621-EP1c for setup photos

END OF TEST REPORT

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