

TEST REPORT

Report Number: R15701621-E1e

Applicant : HID Global Corporation
611 Center Ridge Dr
Austin, TX 78753, USA

Model : 40TV2

FCC ID : JQ6-SIGNO40TV2

IC : 2236B-SIGNO40TV2

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:

2025-07-03

Prepared by:

UL LLC

12 Laboratory Dr.

Research Triangle Park, NC 27709 U.S.A.

TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-06-10	Initial Issue	Manish Baral
V2	2025-07-03	Revised Section 6.5, fixed DC section	Chandler Stanley

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: Signo V2 Reader

MODEL: 40TV2

SERIAL NUMBER: 40TTKS-00-000000, 40TTKS-00-000000

SAMPLE RECEIPT DATE: 2025-03-10 and 2025-03-17

DATE TESTED: 2025-03-12 TO 2025-3-24

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

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

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

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

Approved & Released
For UL LLC By:

Prepared By:



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



Manish Baral
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 47 CFR Part 2, FCC 47 CFR Part 15, ANSI C63.10-2020, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, 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	

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

Signo Reader is a smartcard reader typically installed near doorway as part of physical access system, to control access to that door. A user will approach the door and present a BLE or RFID credentials to the reader with intention of entering the door. The reader will read the credential and send its data to a connected access control panel, which determine whether or not grant the user access to the door. Optionally, a personal identification number (PIN) may also be required, in which case the user will enter the PIN on the reader's keypad. The EUT supports the following technologies:

Wireless technologies	Frequency Band(s)	Operating mode(s)
NFC	13.56MHz	Type A 106, 212, 424 & 848 Kbps
	125KHz	4 Kbps
Bluetooth	2.4 GHz	LE 1 & 2 Mbps
Notes: 1. The EUT operated in a 1x1 SISO mode. 2. The EUT only supports 1 type(s) of NFC tag.		

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 1Mbps	-1.04	0.79
2402 - 2480	BLE 2Mbps	-1.05	0.79

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Type	Frequency Range (MHz)	Maximum Gain (dBi)
Inverted F	2402-2480	-1.83

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 10.1

The test utility software used during testing was Rev H

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz and above 18GHz were performed with the EUT set to transmit at the channel with highest PSD as worst-case scenario. All PSD was taken at max power.

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.

Radiated emissions between 1GHz and 18GHz were performed on the data-rate with the highest power and PSD on low, middle and high channels. Band edge was performed on both data-rates: 125 kbps and 1 Mbps.

The EUT only operates in one orientation, vertical. Therefore, all final radiated measurements were made with the EUT in the default position, where the EUT is standing up.

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 15701621-EP1e 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

8. TEST AND MEASUREMENT EQUIPMENT

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

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

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
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

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
18-40 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
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 in calibration during time of testing

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

Test Equipment Used - Wireless Conducted Attenuators, Cables, and Couplers

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Attenuators/Cables					
246811	SMA Coaxial 10dB Attenuator	CentricRF	C18S2-20	2024-03-07	2025-03-31
CBL105	SMA Cable	Carlisle Interconnect Technologies	UFB-197C-0-0160-300300	2025-03-07	2026-03-07

Note – All equipment was in calibration during time of testing

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	ESC17	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 in calibration during time of testing

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

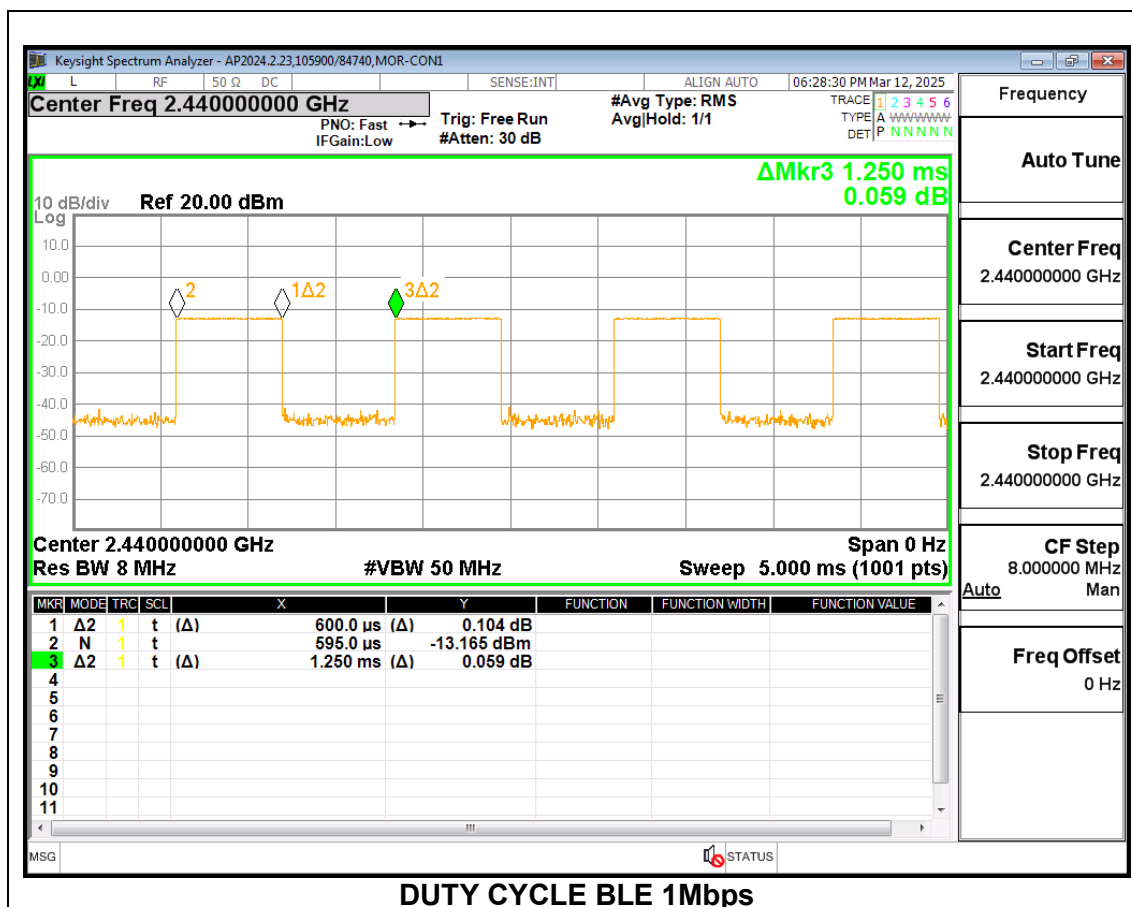
PROCEDURE

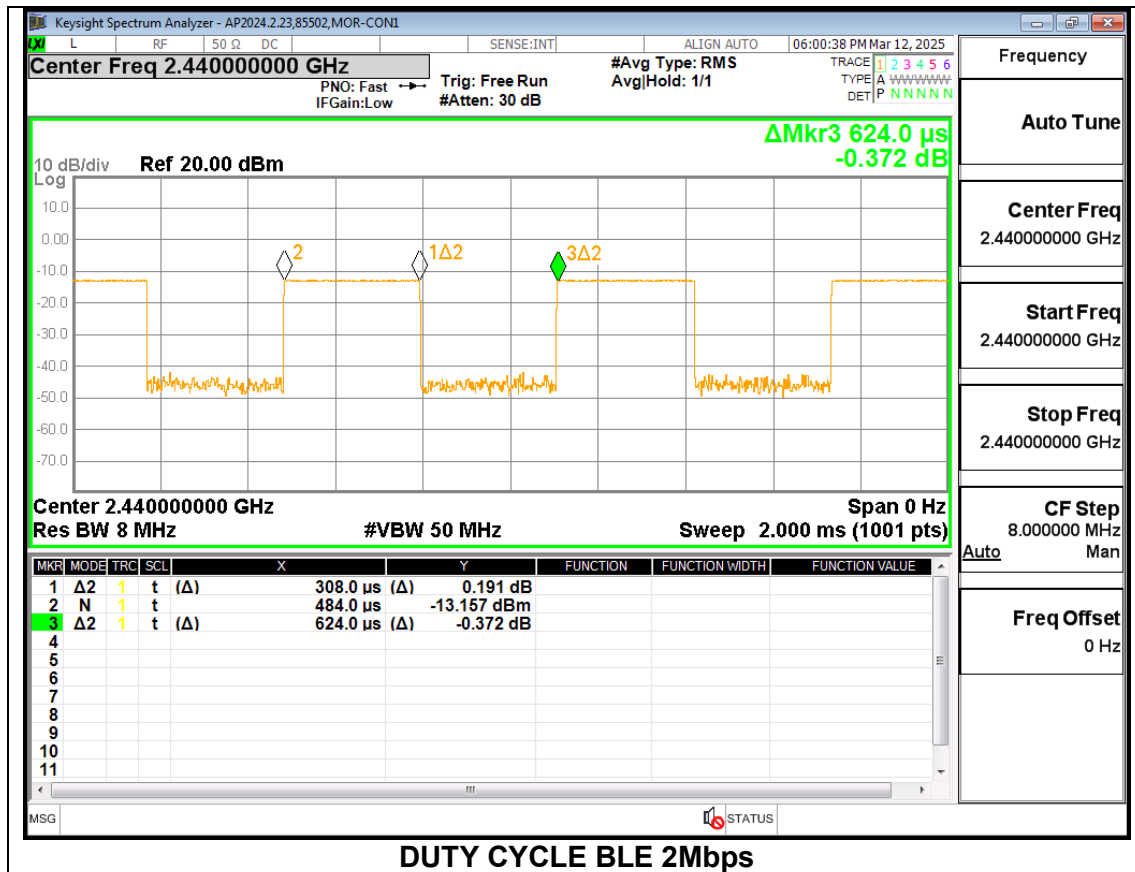
KDB 558074 Zero-Span Spectrum Analyzer Method.

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

DUTY CYCLE PLOTS





9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.2.1. BLE (1Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0573
Middle	2440	1.0617
High	2480	1.0631



9.2.2. BLE (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	2.0554
Middle	2440	2.0626
High	2480	2.0632



9.3. 6 dB BANDWIDTH

LIMITS

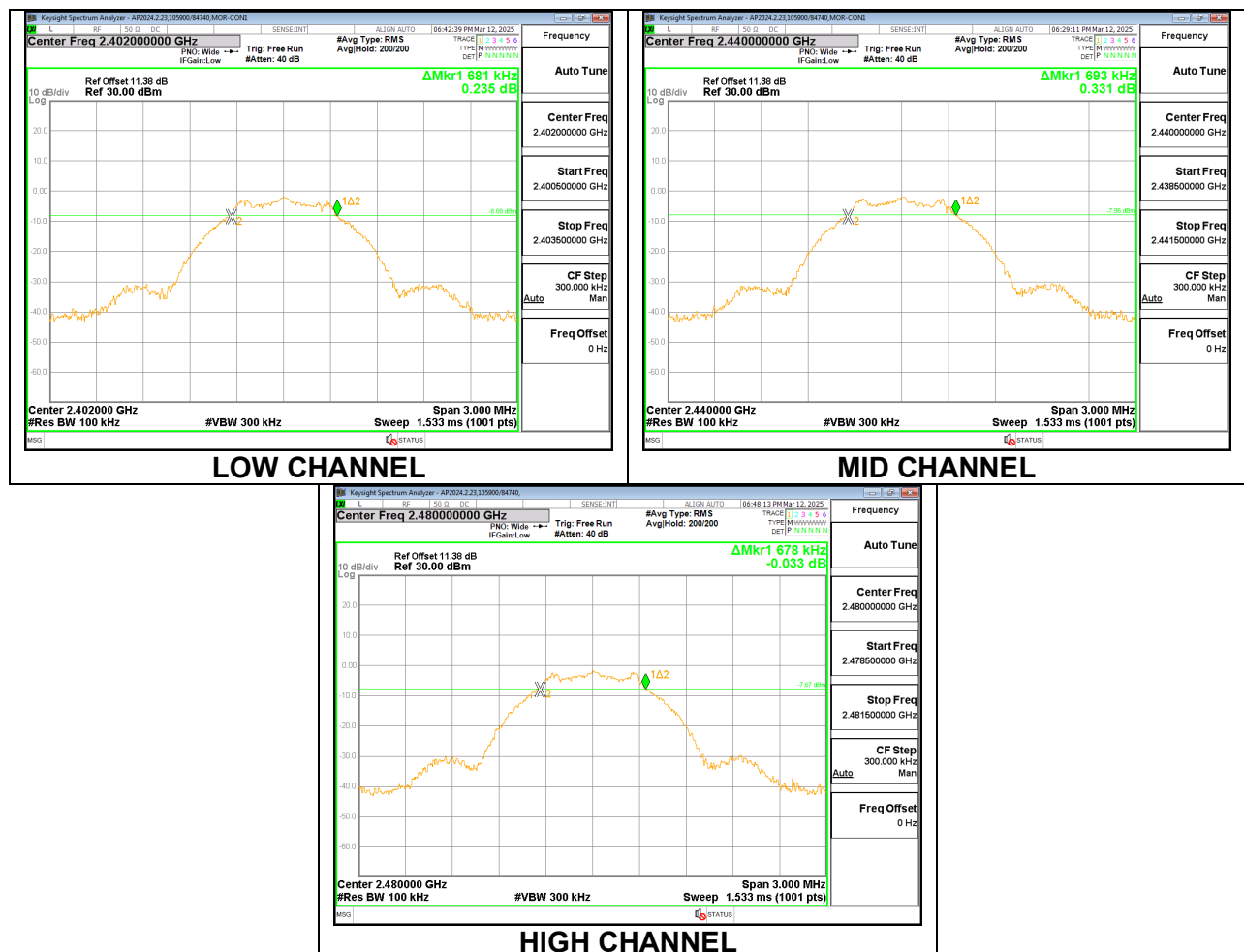
FCC §15.247 (a) (2)
RSS-247 5.2 (a)

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

RESULTS

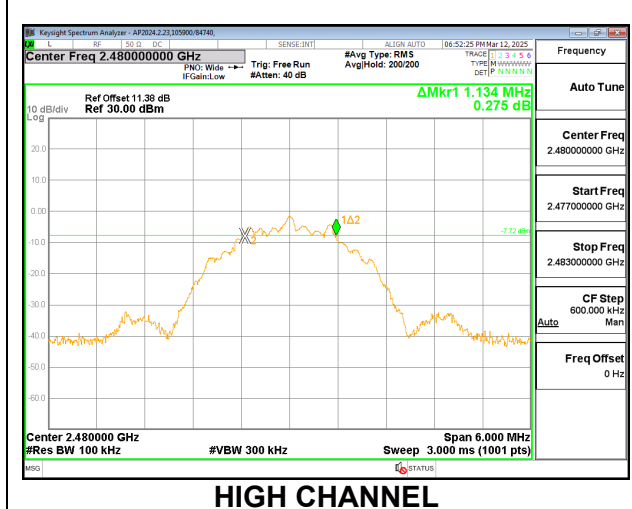
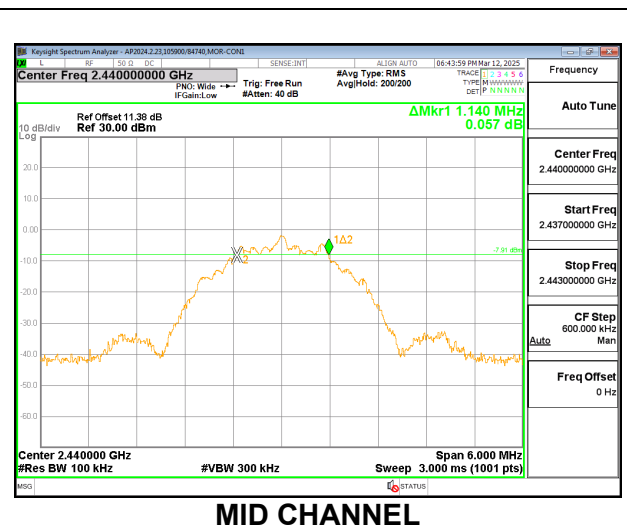
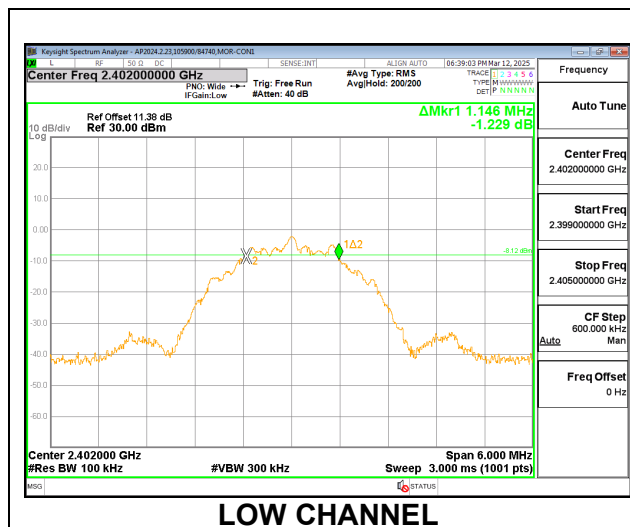
9.3.1. BLE (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.6810	0.5
Middle	2440	0.6930	0.5
High	2480	0.6780	0.5



9.3.2. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	1.1460	0.5
Middle	2440	1.1400	0.5
High	2480	1.1340	0.5



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 1.22 dB EUT cable and 10.16 dB attenuation pad) was entered as an offset in the power meter.

The power output was measured on the EUT antenna port using SMA cable 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:	3/12/2025

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-1.860	30	-31.860
Middle	2440	-1.540	30	-31.540
High	2480	-1.040	30	-31.040

9.4.2. BLE (2Mbps)

Tested By:	105900/84740
Date:	3/12/2025

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-1.900	30	-31.900
Middle	2440	-1.530	30	-31.530
High	2480	-1.050	30	-31.050

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 1.22 dB EUT cable and 10.16 dB attenuation pad) 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 average power sensor. Gated average output power was read directly from power meter.

RESULTS

9.5.1. BLE (1Mbps)

Tested By:	105900/84740
Date:	3/12/2025

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	-2.42
Middle	2440	-1.89
High	2480	-1.39

9.5.2. BLE (2Mbps)

Tested By:	105900/84740
Date:	3/12/2025

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	-2.24
Middle	2440	-1.9
High	2480	-1.39

9.6. POWER SPECTRAL DENSITY

LIMITS

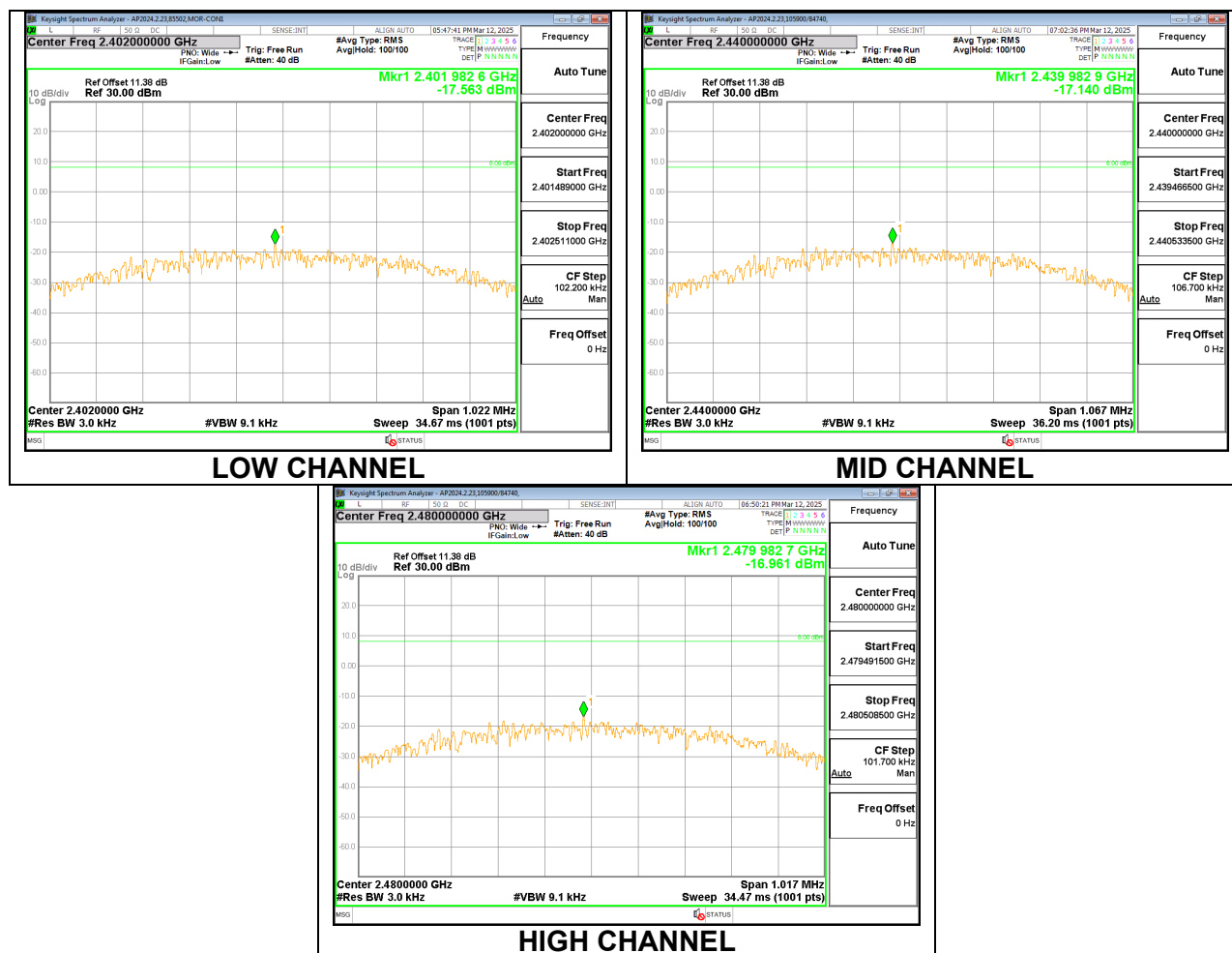
FCC §15.247 (e)
RSS-247 (5.2) (b)

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

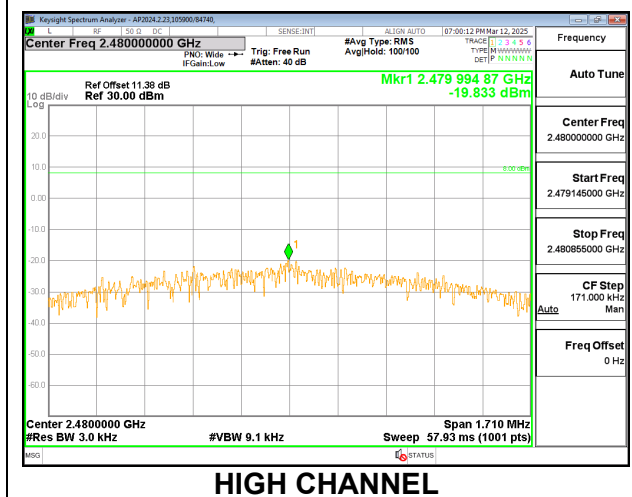
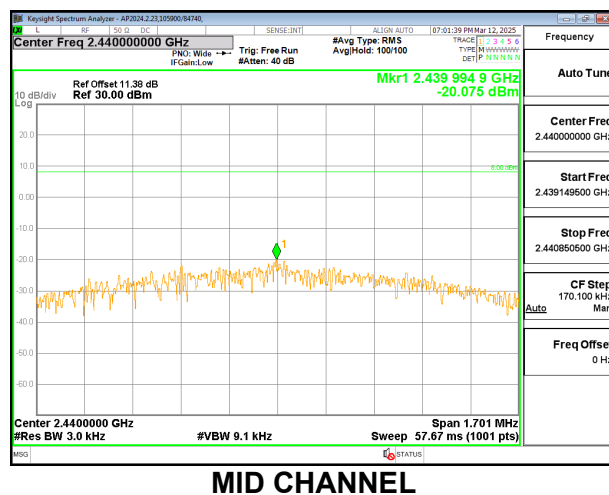
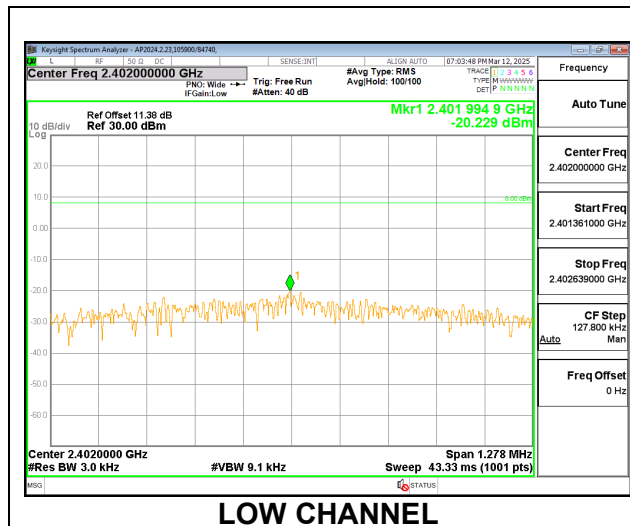
9.6.1. BLE (1Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-17.56	8	-25.56
Middle	2440	-17.14	8	-25.14
High	2480	-16.69	8	-24.69



9.6.2. BLE (2Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-20.23	8	-28.23
Middle	2440	-20.08	8	-28.08
High	2480	-19.83	8	-27.83



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

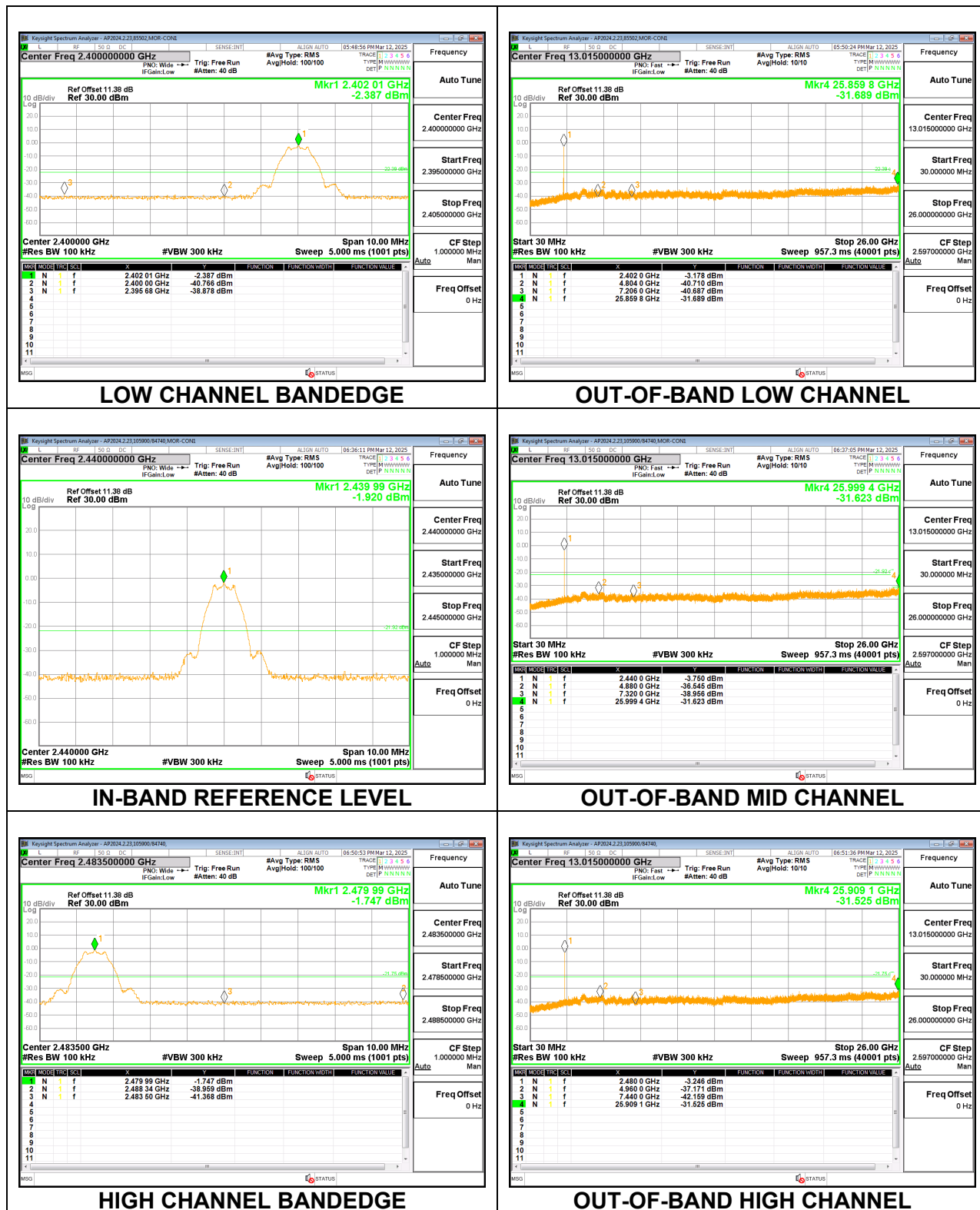
FCC §15.247 (d)

RSS-247 5.5

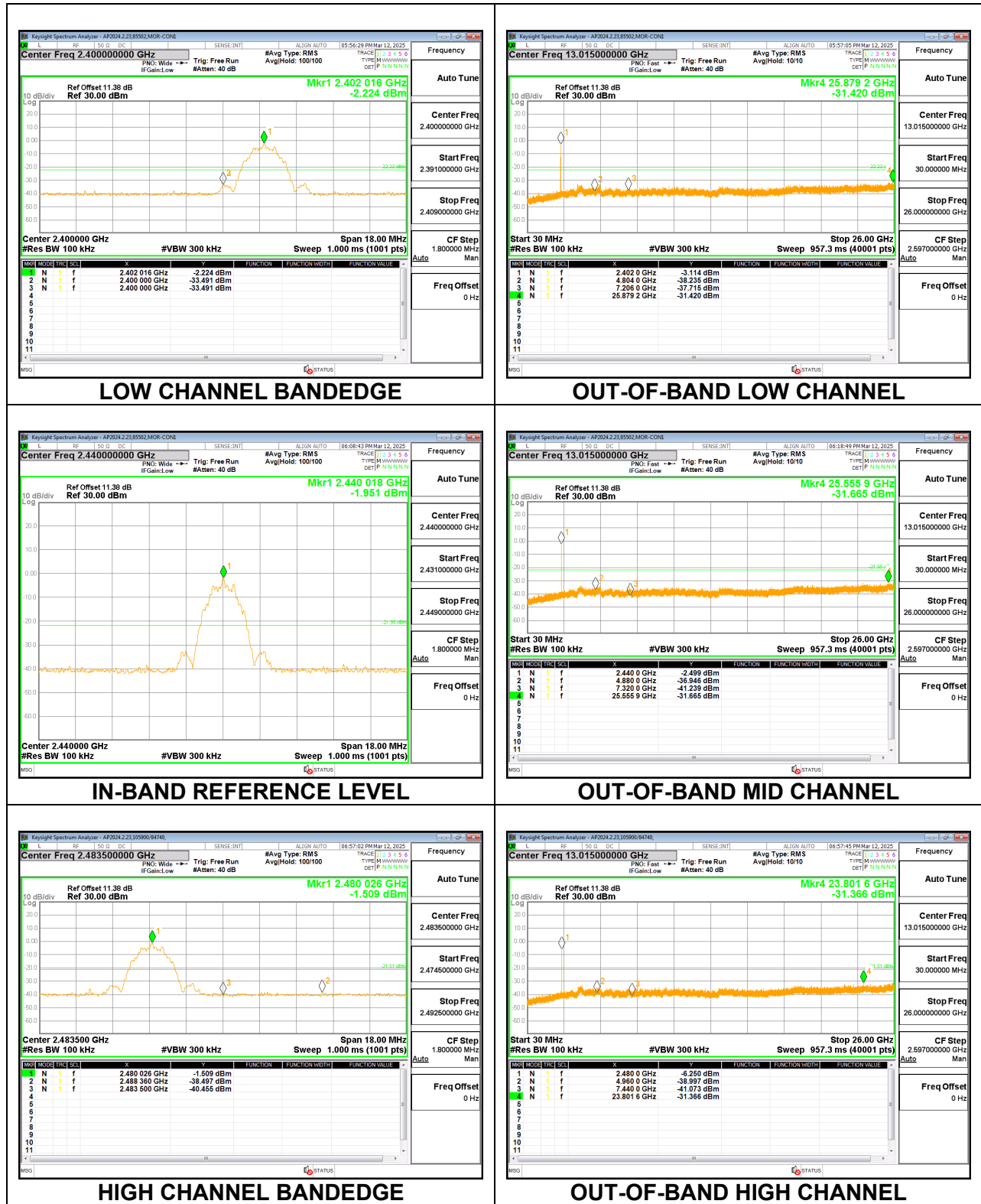
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dBc.

RESULTS

9.7.1. BLE (1Mbps)



9.7.2. BLE (2Mbps)



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 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 linear voltage average measurements.

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

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

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

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

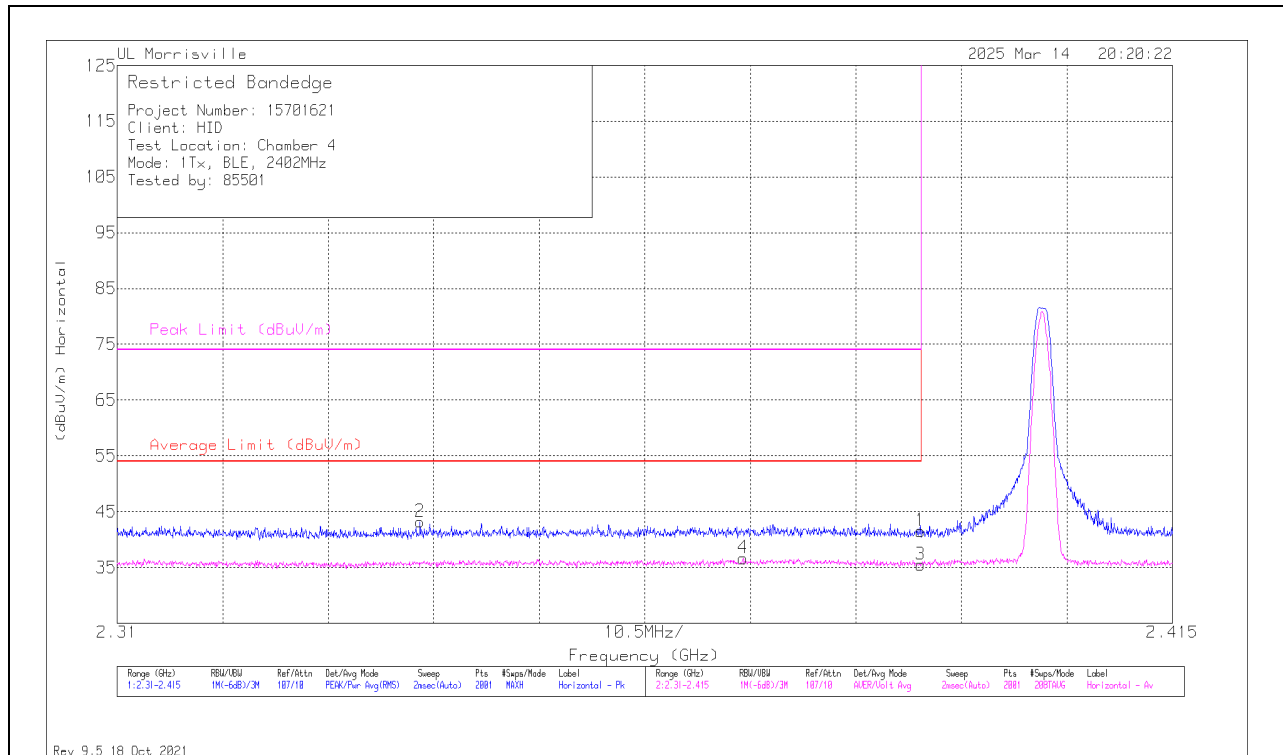
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	32.67	Pk	32	-23.2	0	41.47	-	-	74	-32.53	224	189	H
2	* ** 2.34014	34.4	Pk	31.9	-23.1	0	43.2	-	-	74	-30.8	224	189	H
3	* ** 2.38996	20.27	ADV	32	-23.2	6.38	35.45	54	-18.55	-	-	224	189	H
4	* ** 2.37227	21.34	ADV	31.9	-23	6.38	36.62	54	-17.38	-	-	224	189	H

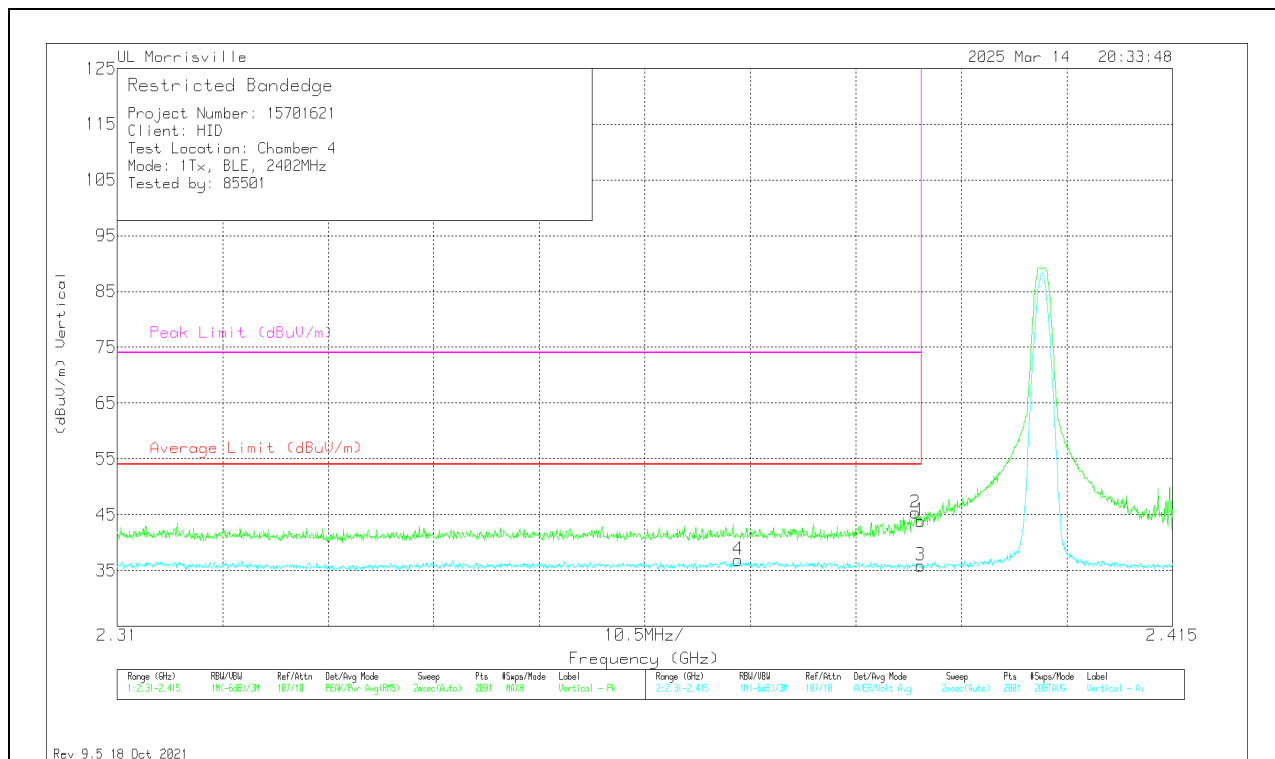
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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)	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	35.06	Pk	32	-23.2	0	43.86	-	-	74	-30.14	60	125	V
2	* ** 2.38943	36.54	Pk	32	-23.2	0	45.34	-	-	74	-28.66	60	125	V
3	* ** 2.38996	20.68	ADV	32	-23.2	6.38	35.86	54	-18.14	-	-	60	125	V
4	* ** 2.37179	21.59	ADV	31.9	-23	6.38	36.87	54	-17.13	-	-	60	125	V

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

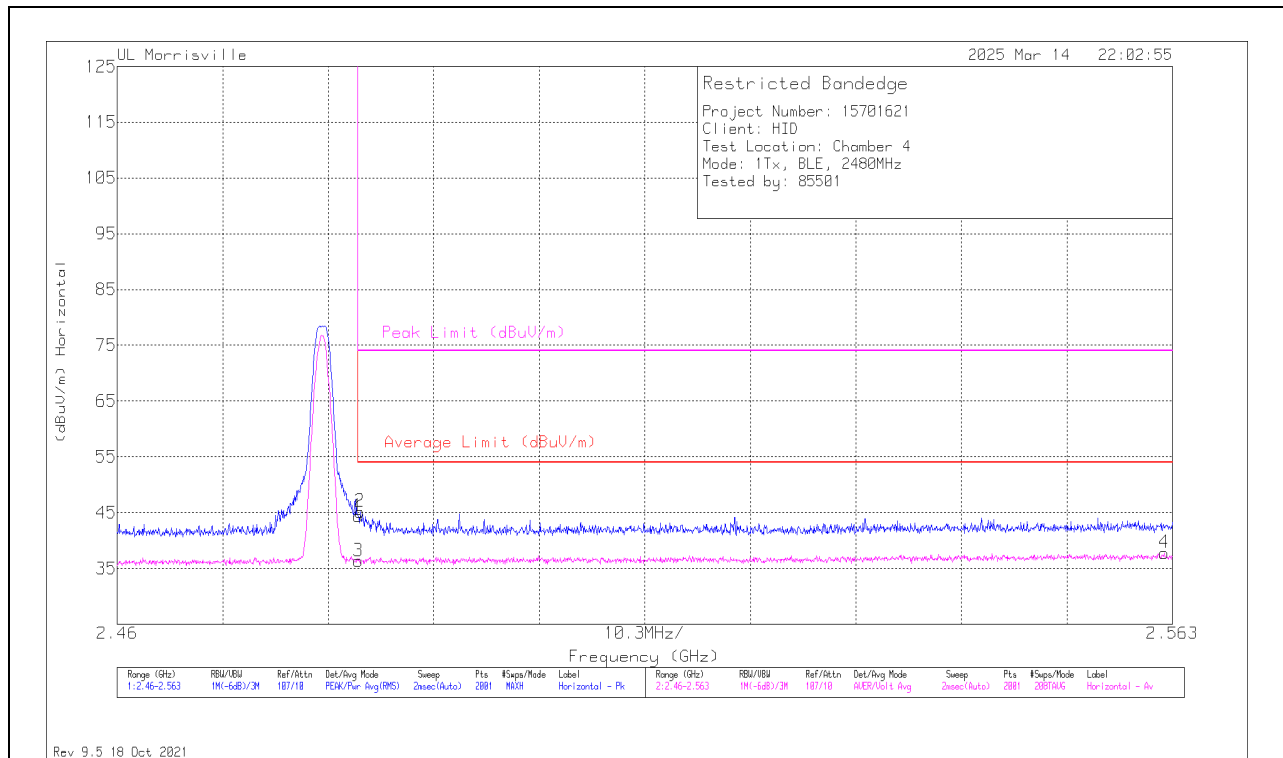
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	34.83	Pk	32.3	-22.8	0	44.33	-	-	74	-29.67	327	251	H
2	* ** 2.48369	35.67	Pk	32.3	-22.8	0	45.17	-	-	74	-28.83	327	251	H
3	* ** 2.48354	20.44	ADV	32.3	-22.8	6.38	36.32	54	-17.68	-	-	327	251	H
4	** 2.56218	21.47	ADV	32.5	-22.6	6.38	37.75	54	-16.25	-	-	327	251	H

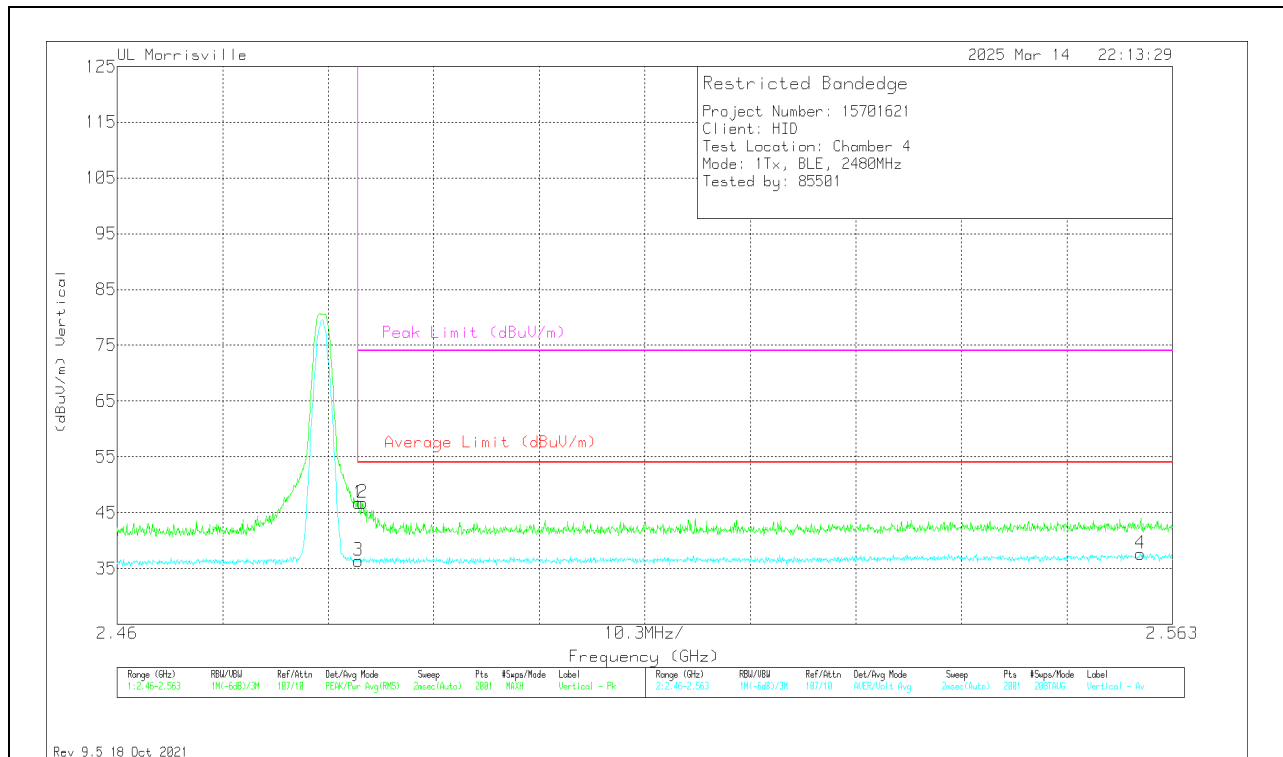
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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)	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	37.22	Pk	32.3	-22.8	0	46.72	-	-	74	-27.28	298	257	V
2	* ** 2.48395	37.29	Pk	32.3	-22.8	0	46.79	-	-	74	-27.21	298	257	V
3	* ** 2.48354	20.5	ADV	32.3	-22.8	6.38	36.38	54	-17.62	-	-	298	257	V
4	** 2.55986	21.25	ADV	32.5	-22.5	6.38	37.63	54	-16.37	-	-	298	257	V

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

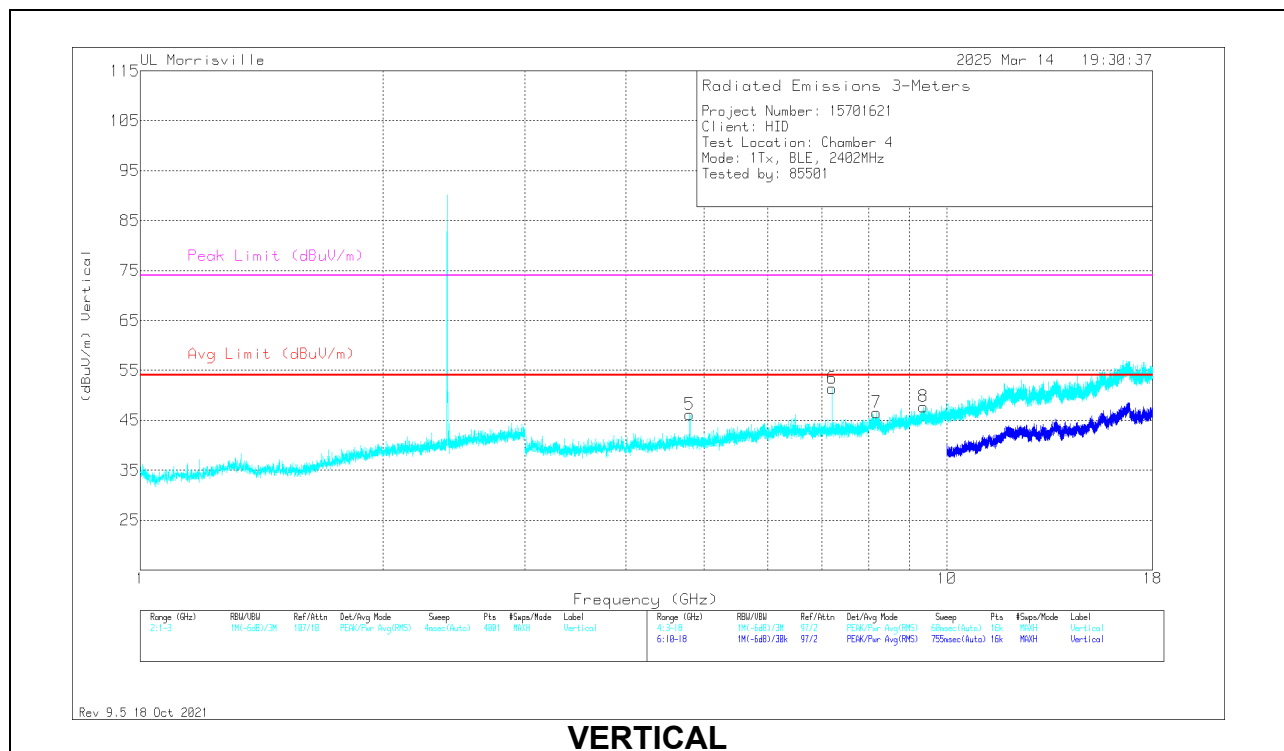
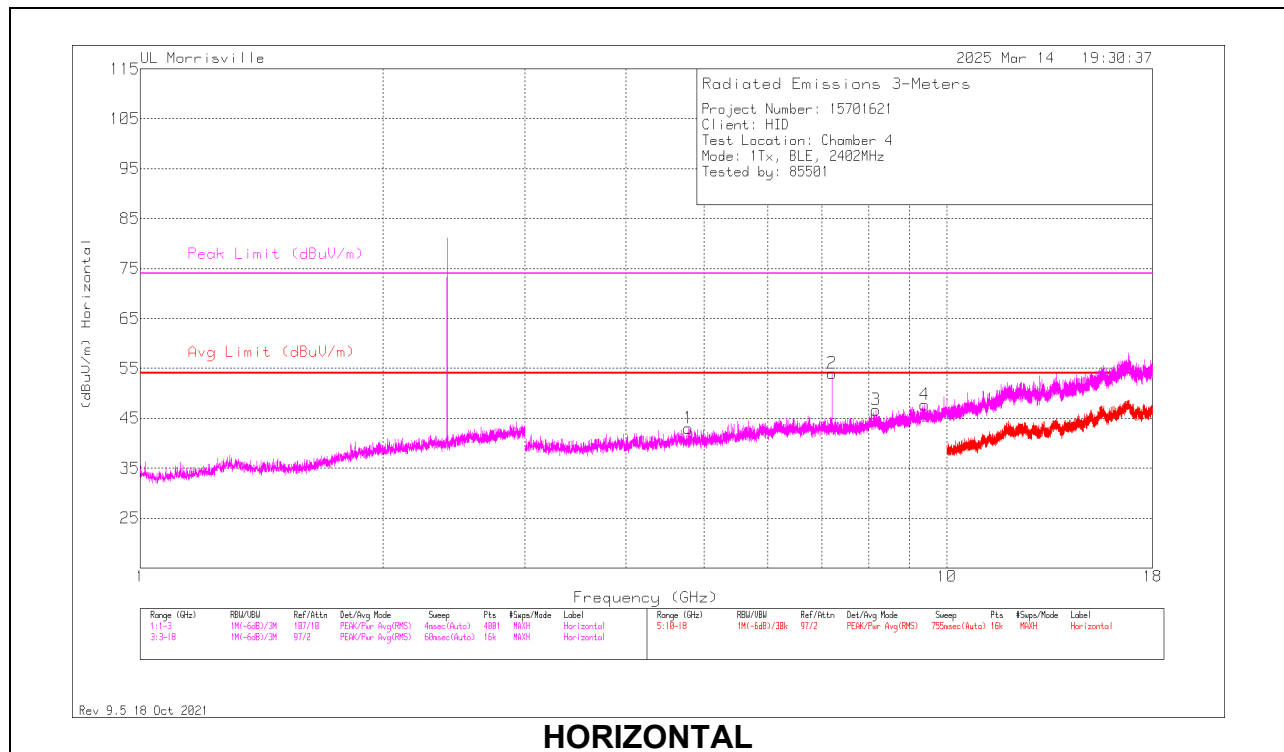
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

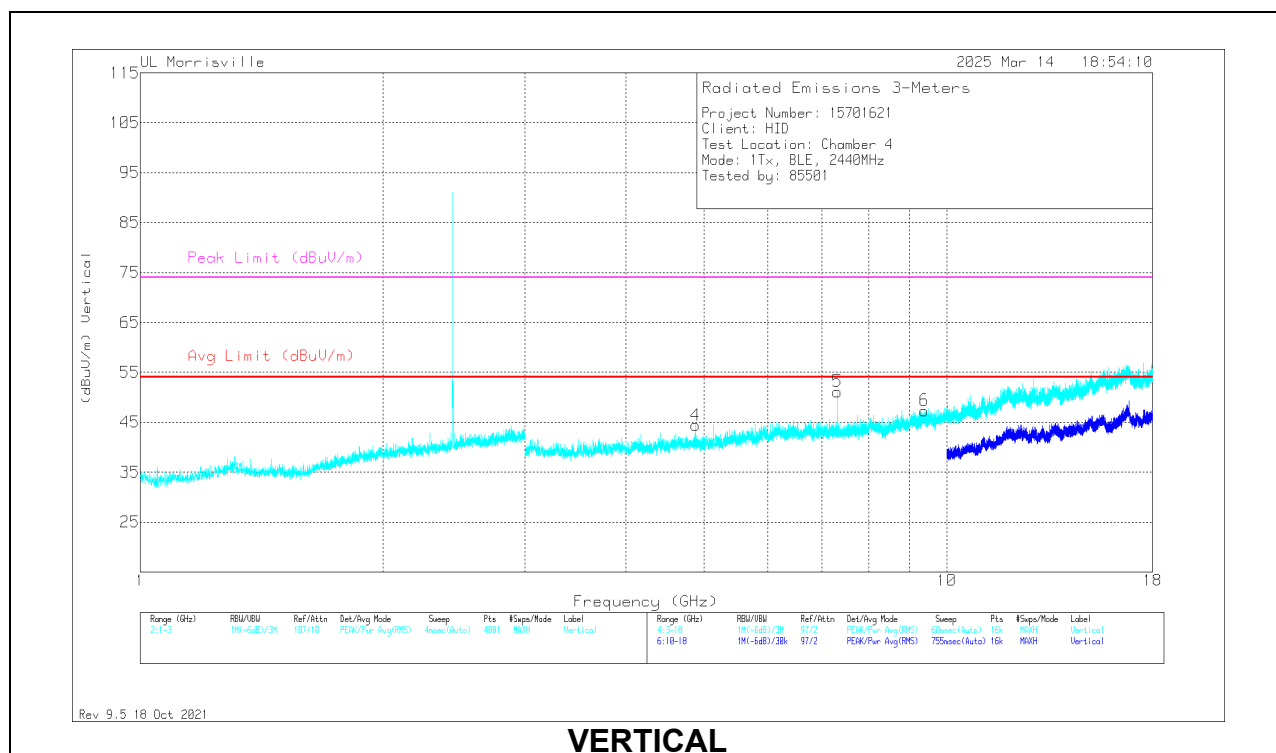
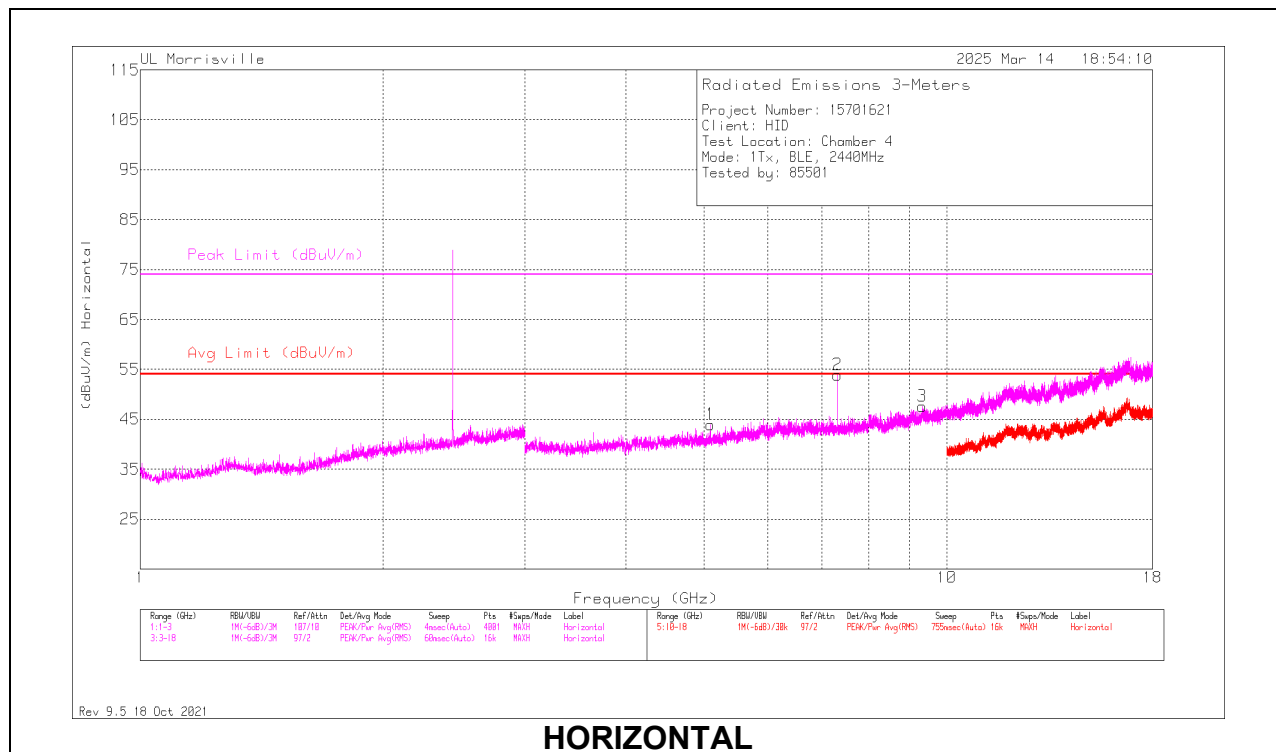
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.78406	40.09	Pk	34.1	-31.2	0	42.99	54	-11.01	74	-31.01	0-360	100	H
3	* ** 8.17781	37.25	Pk	35.8	-26.4	0	46.65	54	-7.35	74	-27.35	0-360	100	H
4	* ** 9.39469	35.85	Pk	36.6	-24.7	0	47.75	54	-6.25	74	-26.25	0-360	100	H
5	* ** 4.80281	43.46	Pk	34.1	-31.4	0	46.16	54	-7.84	74	-27.84	0-360	200	V
7	* ** 8.18063	37.05	Pk	35.8	-26.3	0	46.55	54	-7.45	74	-27.45	0-360	200	V
8	* ** 9.36188	35.71	Pk	36.5	-24.5	0	47.71	54	-6.29	74	-26.29	0-360	200	V
2	7.20563	46.08	Pk	35.6	-27.7	0	53.98	-	-	-	-	0-360	100	H
6	7.20656	43.64	Pk	35.6	-27.8	0	51.44	-	-	-	-	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

MID CHANNEL RESULTS



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	* ** 5.0925	41.15	Pk	34.1	-31.3	0	43.95	54	-10.05	74	-30.05	0-360	100	H
2	* ** 7.32069	48.59	PK2	35.6	-27.7	0	56.49	-	-	74	-17.51	231	108	H
	* ** 7.31944	36.98	ADV	35.6	-27.7	6.38	51.26	54	-2.74	-	-	231	108	H
3	* ** 9.32531	35.51	Pk	36.5	-24.4	0	47.61	54	-6.39	74	-26.39	0-360	100	H
4	* ** 4.88063	41.38	Pk	34	-31	0	44.38	54	-9.62	74	-29.62	0-360	200	V
5	* ** 7.32063	47.09	PK2	35.6	-27.7	0	54.99	-	-	74	-19.01	280	356	V
	* ** 7.31931	35.31	ADV	35.6	-27.7	6.38	49.59	54	-4.41	-	-	280	356	V
6	* ** 9.3825	35.6	Pk	36.6	-24.9	0	47.3	54	-6.7	74	-26.7	0-360	200	V

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

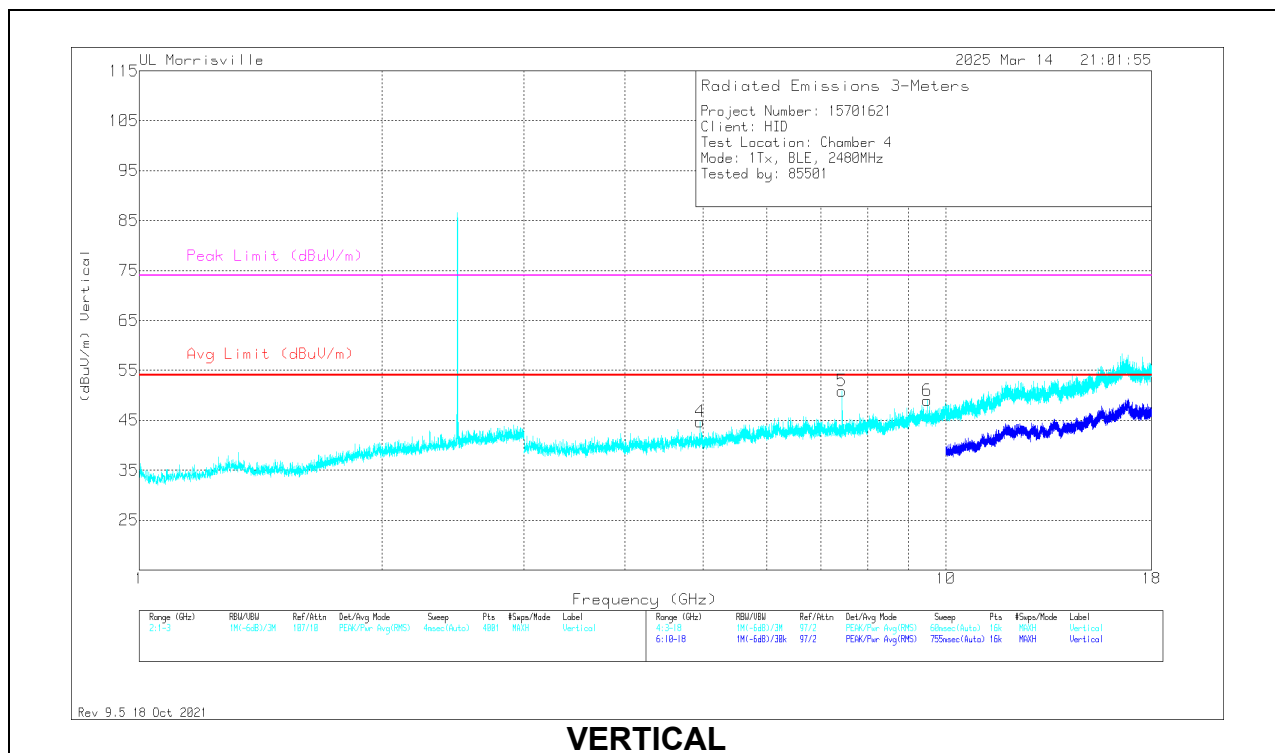
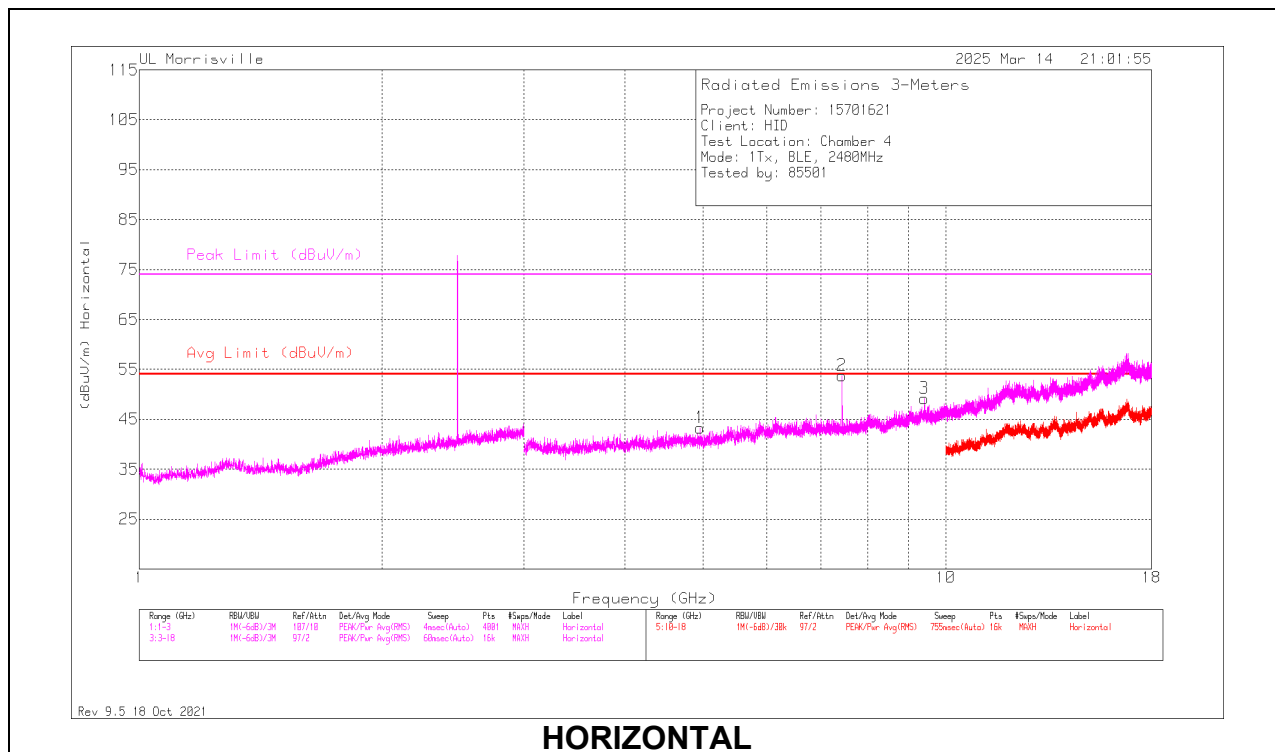
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL RESULTS



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	40.2	Pk	33.9	-30.8	0	43.3	54	-10.7	74	-30.7	0-360	200	H
2	* ** 7.44066	48.47	PK2	35.7	-27.9	0	56.27	-	-	74	-17.73	238	134	H
	* ** 7.44059	36.74	ADV	35.7	-27.9	6.38	50.92	54	-3.08	-	-	238	134	H
3	* ** 9.39994	37.37	PK2	36.6	-25	0	48.97	-	-	74	-25.03	0	191	H
	* ** 9.40277	24.46	ADV	36.6	-25.2	6.38	42.24	54	-11.76	-	-	0	191	H
4	* ** 4.95938	41.64	Pk	33.9	-30.8	0	44.74	54	-9.26	74	-29.26	0-360	100	V
5	* ** 7.43915	48.94	PK2	35.7	-27.9	0	56.74	-	-	74	-17.26	51	128	V
	* ** 7.44057	36.93	ADV	35.7	-27.9	6.38	51.11	54	-2.89	-	-	51	128	V
6	* ** 9.49284	37.28	PK2	36.7	-25.1	0	48.88	-	-	74	-25.12	276	220	V
	* ** 9.49268	24.17	ADV	36.7	-25.1	6.38	42.15	54	-11.85	-	-	276	220	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

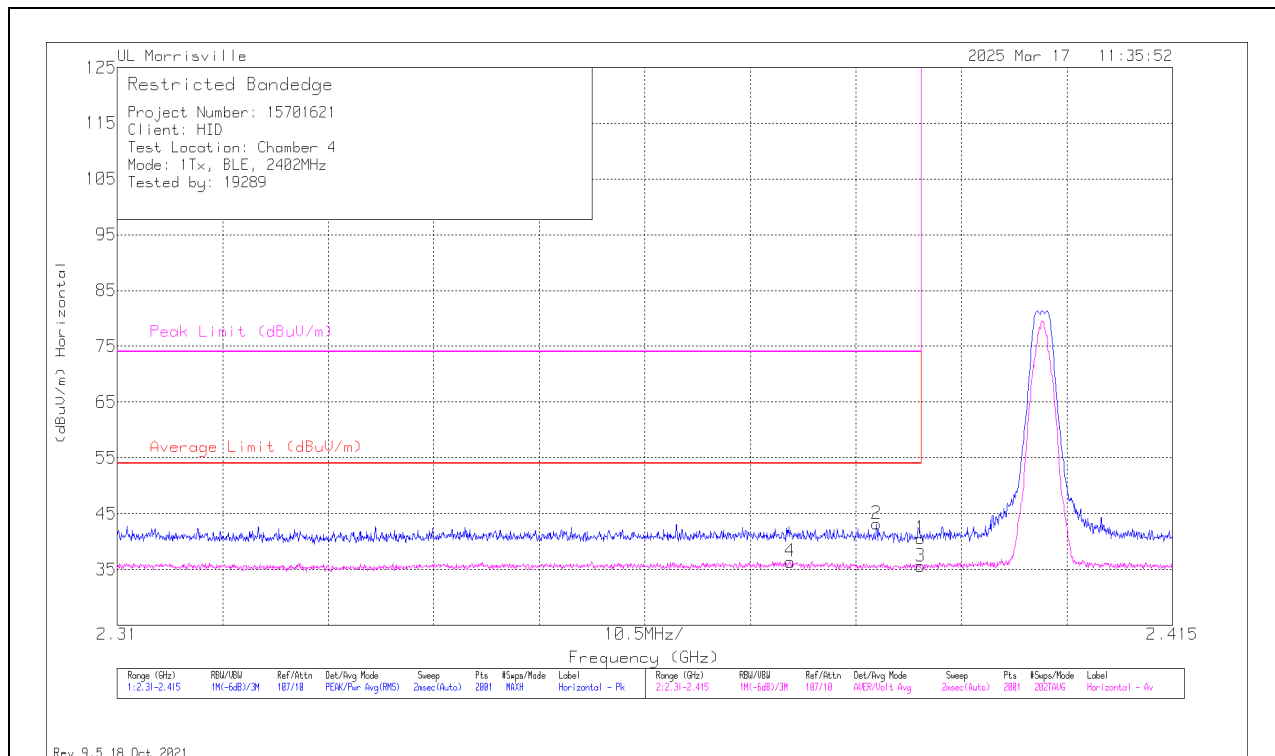
ADV - Linear Voltage Average

10.2.2. BLE (2Mbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (dB/m)	Gain/Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.38996	31.77	Pk	32	-23.2	0	40.57	-	-	74	-33.43	263	375	H
2	*** 2.38555	34.4	Pk	32	-23.2	0	43.2	-	-	74	-30.8	263	375	H
3	*** 2.38996	20.64	ADV	32	-23.2	6.13	35.57	54	-18.43	-	-	263	375	H
4	*** 2.37694	21.19	ADV	32	-22.9	6.13	36.42	54	-17.58	-	-	263	375	H

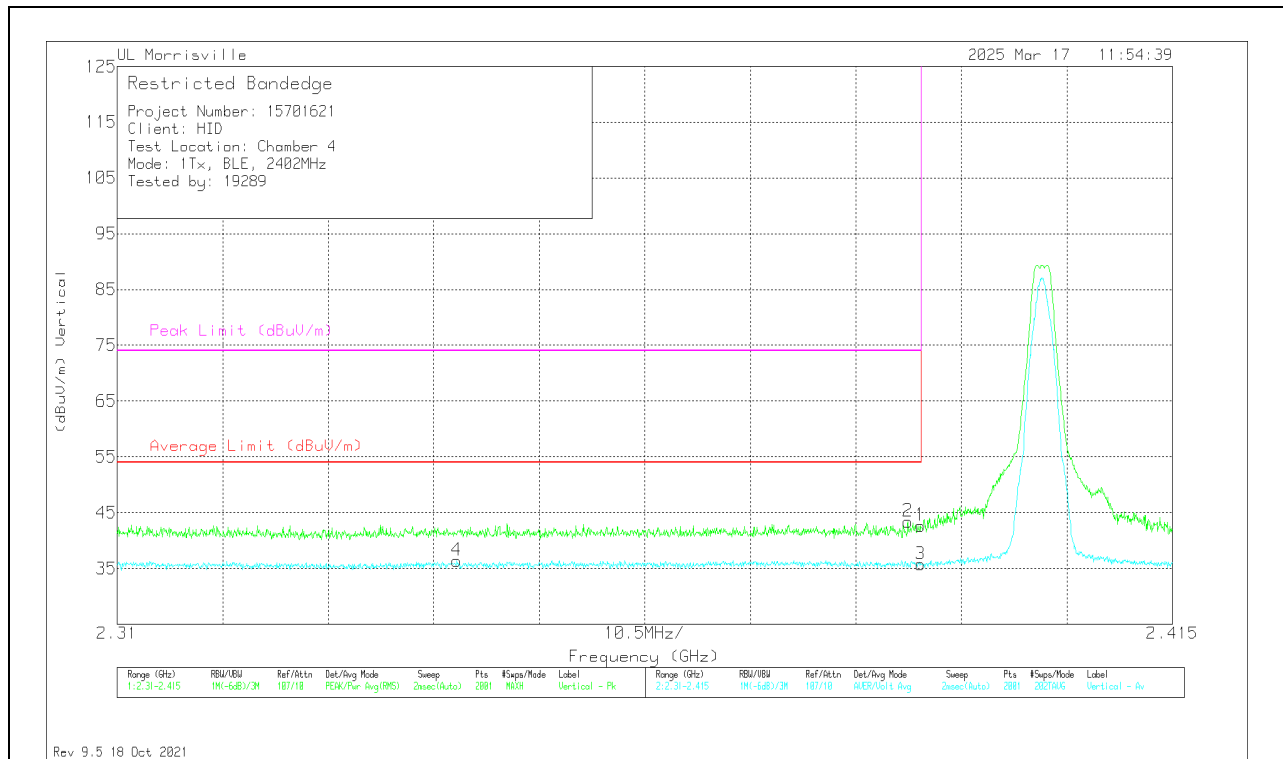
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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)	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	33.81	Pk	32	-23.2	0	42.61	-	-	74	-31.39	91	335	V
2	*** 2.3887	34.55	Pk	32	-23.2	0	43.35	-	-	74	-30.65	91	335	V
3	*** 2.38996	20.77	ADV	32	-23.2	6.13	35.7	54	-18.3	-	-	91	335	V
4	*** 2.34381	21.3	ADV	31.9	-22.9	6.13	36.43	54	-17.57	-	-	91	335	V

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

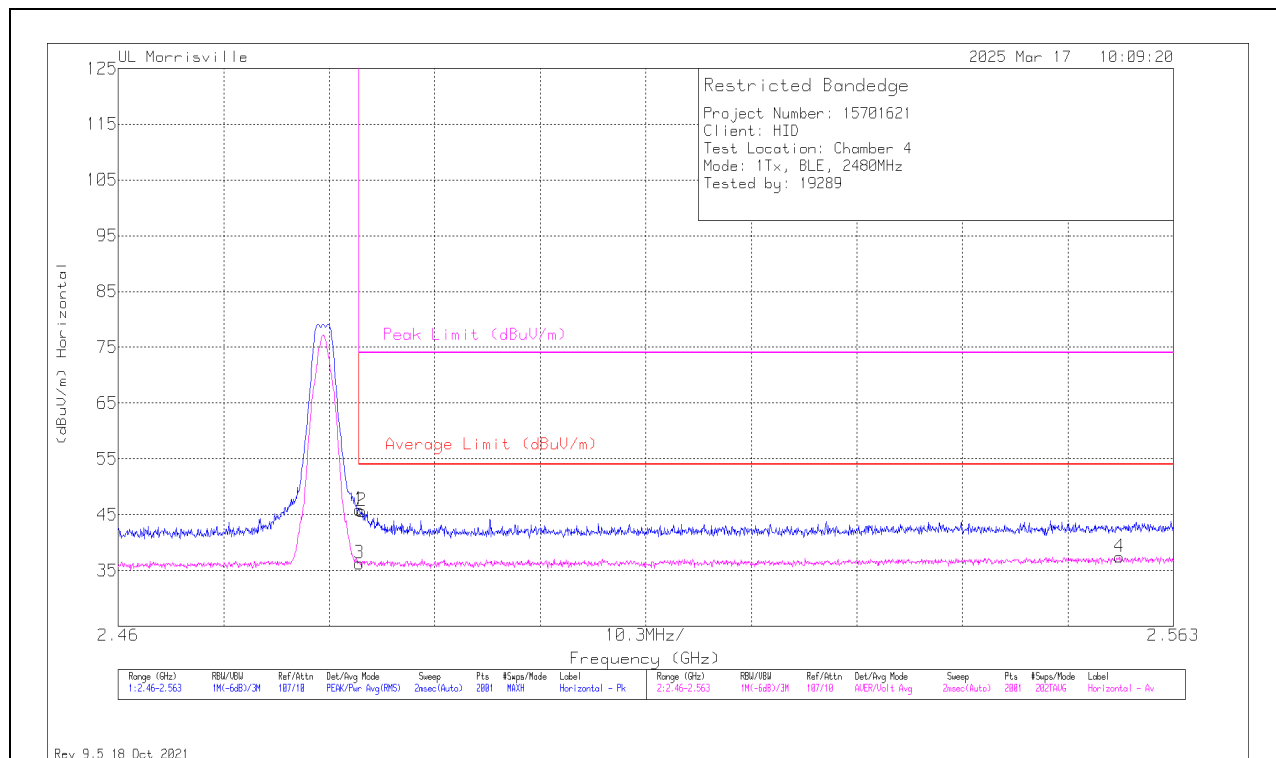
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	89509 ACF (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	36.42	Pk	32.3	-22.8	0	45.92	-	-	74	-28.08	171	331	H
2	* ** 2.48379	36.11	Pk	32.3	-22.8	0	45.61	-	-	74	-28.39	171	331	H
3	* ** 2.48354	20.66	ADV	32.3	-22.8	6.13	36.29	54	-17.71	-	-	171	331	H
4	** 2.55775	21.31	ADV	32.5	-22.5	6.13	37.44	54	-16.56	-	-	171	331	H

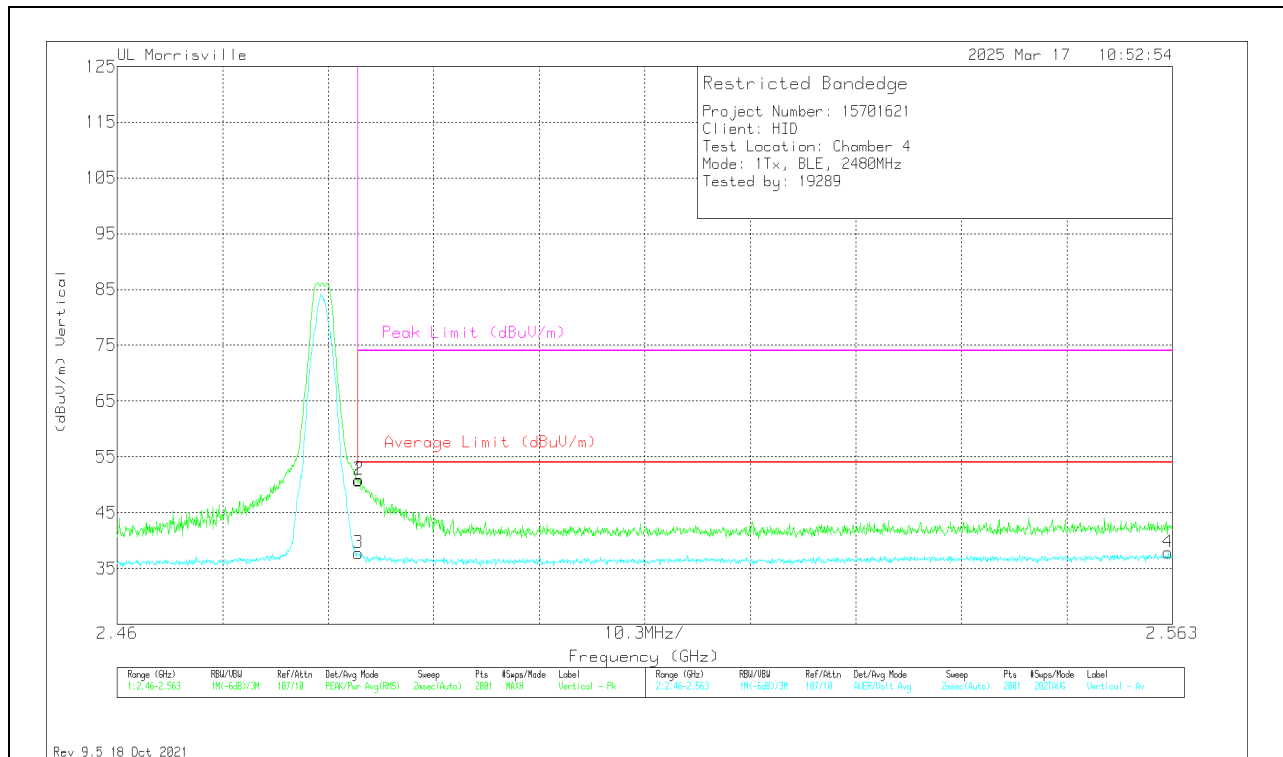
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - 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)	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	41.3	Pk	32.3	-22.8	0	50.8	-	-	74	-23.2	99	121	V
2	*** 2.48359	41.42	Pk	32.3	-22.8	0	50.92	-	-	74	-23.08	99	121	V
3	*** 2.48354	22.08	ADV	32.3	-22.8	6.13	37.71	54	-16.29	-	-	99	121	V
4	** 2.56259	21.8	ADV	32.5	-22.6	6.13	37.83	54	-16.17	-	-	99	121	V

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

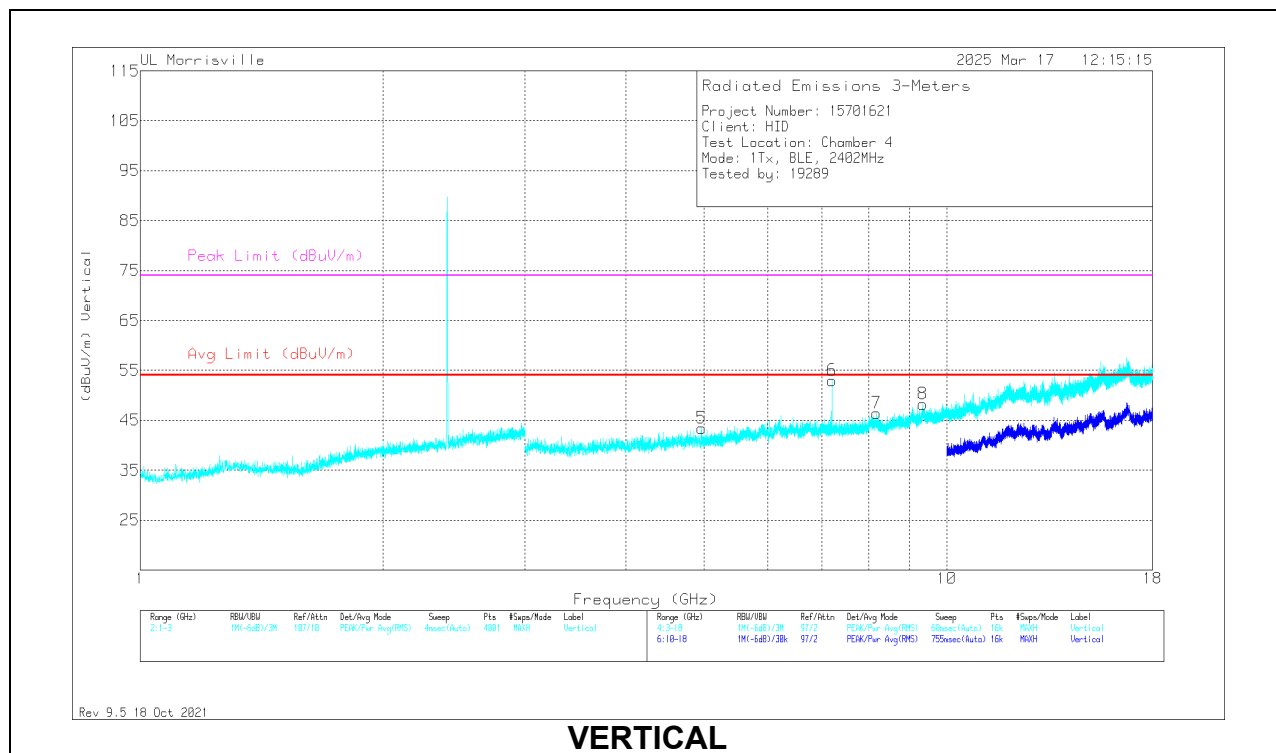
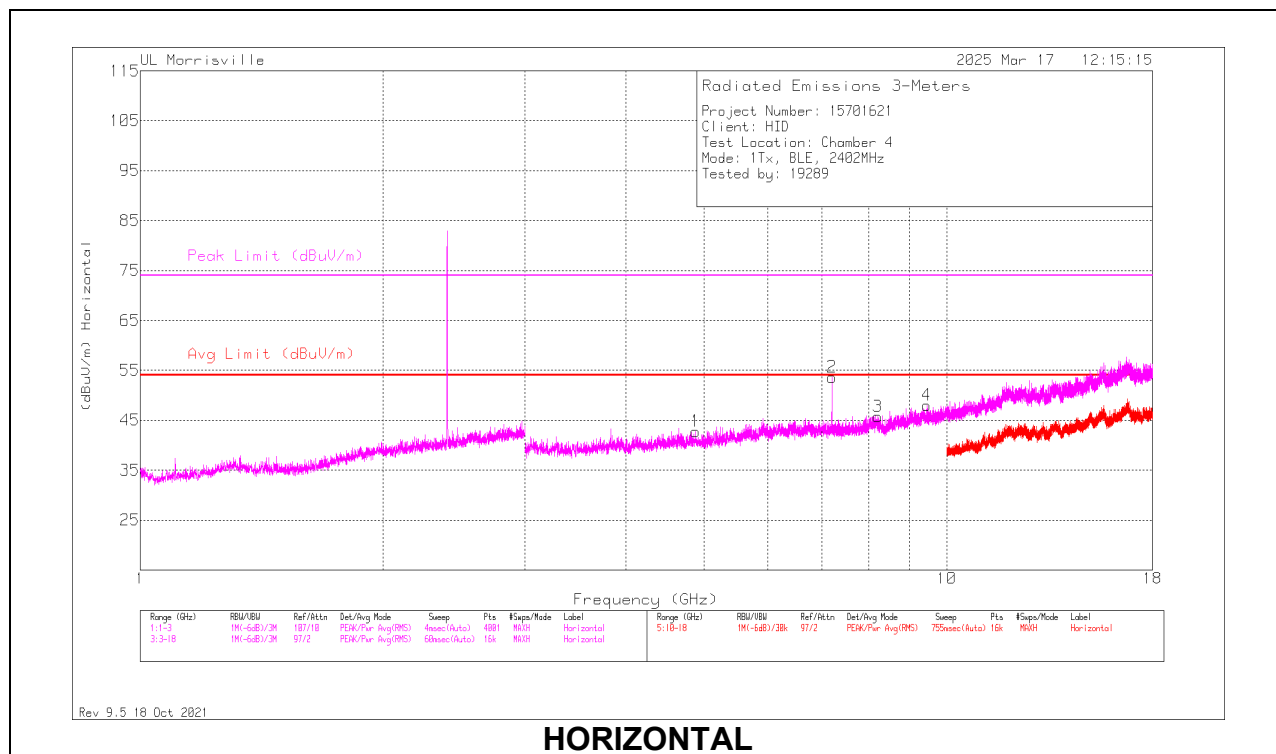
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



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	* ** 4.88063	39.73	Pk	34	-31	0	42.73	54	-11.27	74	-31.27	0-360	100	H
3	* ** 8.21438	36.1	Pk	35.8	-26.2	0	45.7	54	-8.3	74	-28.3	0-360	100	H
4	* ** 9.44594	37.19	PK2	36.7	-25.1	0	48.79	-	-	74	-25.21	135	257	H
	* ** 9.44893	24.48	ADV	36.7	-25.1	6.13	42.21	54	-11.79	-	-	135	257	H
5	* ** 4.96594	40	Pk	34	-30.6	0	43.4	54	-10.6	74	-30.6	0-360	200	V
7	* ** 8.18719	36.8	Pk	35.8	-26.2	0	46.4	54	-7.6	74	-27.6	0-360	200	V
8	* ** 9.33436	36.57	PK2	36.5	-24.2	0	48.87	-	-	74	-25.13	200	232	V
	* ** 9.33513	24.06	ADV	36.5	-24.2	6.13	42.49	54	-11.51	-	-	200	232	V
2	7.20563	45.72	Pk	35.6	-27.7	0	53.62	-	-	-	-	0-360	100	H
6	7.20563	45.01	Pk	35.6	-27.7	0	52.91	-	-	-	-	0-360	200	V

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

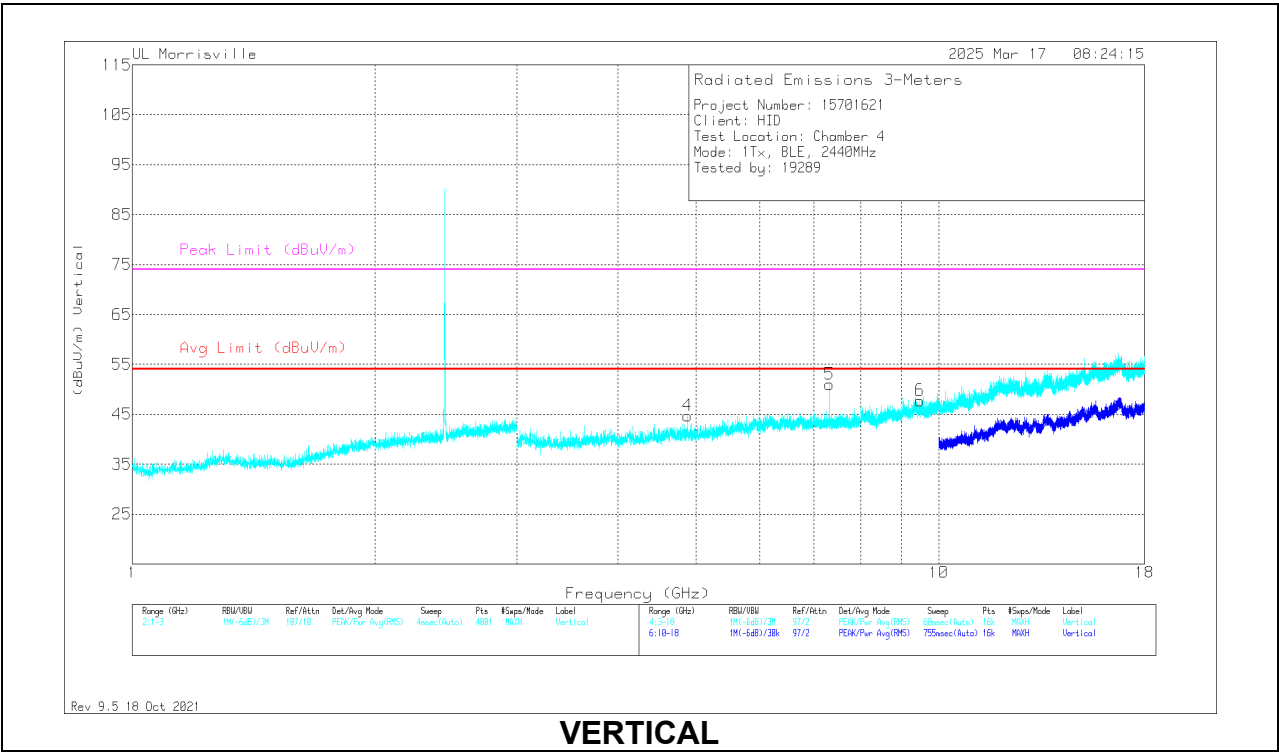
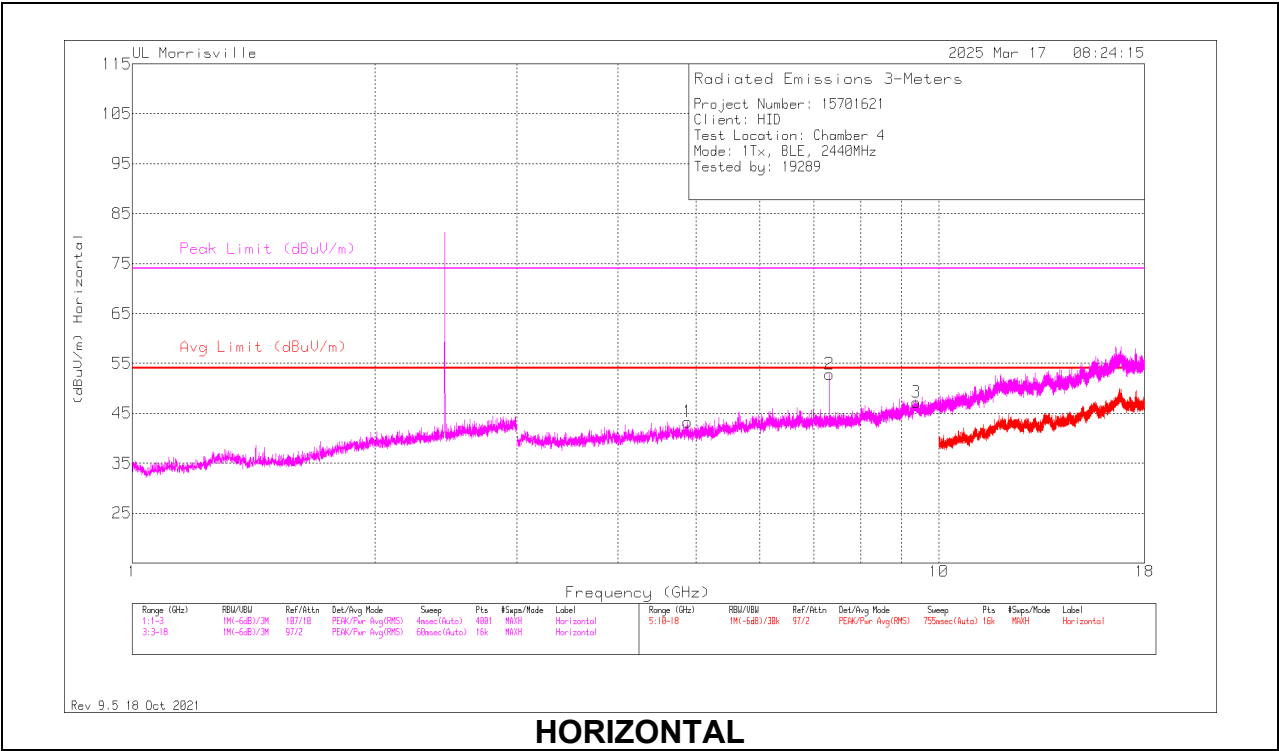
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL RESULTS



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	* ** 4.88063	40.3	Pk	34	-31	0	43.3	54	-10.7	74	-30.7	0-360	100	H
2	* ** 7.31997	45.81	PK2	35.6	-27.7	0	53.71	-	-	74	-20.29	77	109	H
	* ** 7.3186	33.25	ADV	35.6	-27.7	6.13	47.28	54	-6.72	-	-	77	109	H
3	* ** 9.3825	35.48	Pk	36.6	-24.9	0	47.18	54	-6.82	74	-26.82	0-360	100	H
4	* ** 4.87969	41.67	Pk	34	-31	0	44.67	54	-9.33	74	-29.33	0-360	200	V
5	* ** 7.31848	49.1	PK2	35.6	-27.7	0	57	-	-	74	-17	317	379	V
	* ** 7.32129	36.97	ADV	35.6	-27.7	6.13	51	54	-3	-	-	317	379	V
6	* ** 9.47906	36.57	Pk	36.7	-25.5	0	47.77	54	-6.23	74	-26.23	0-360	200	V

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

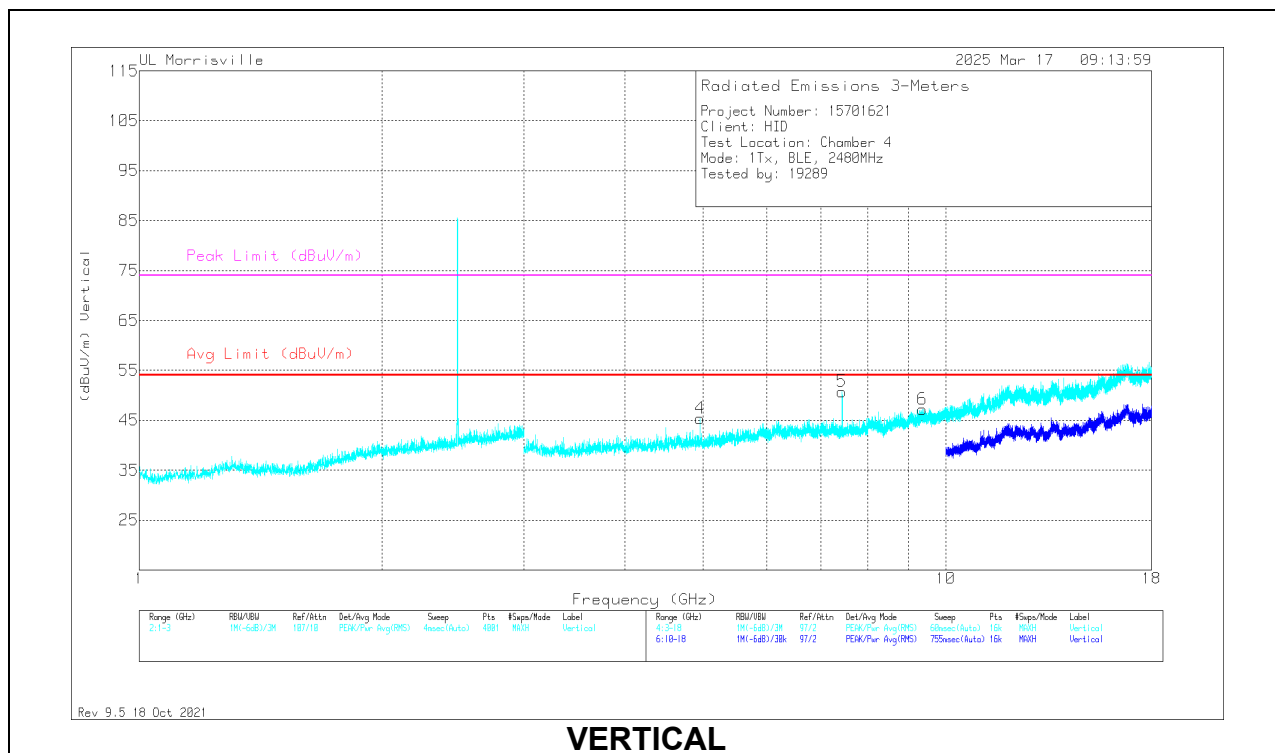
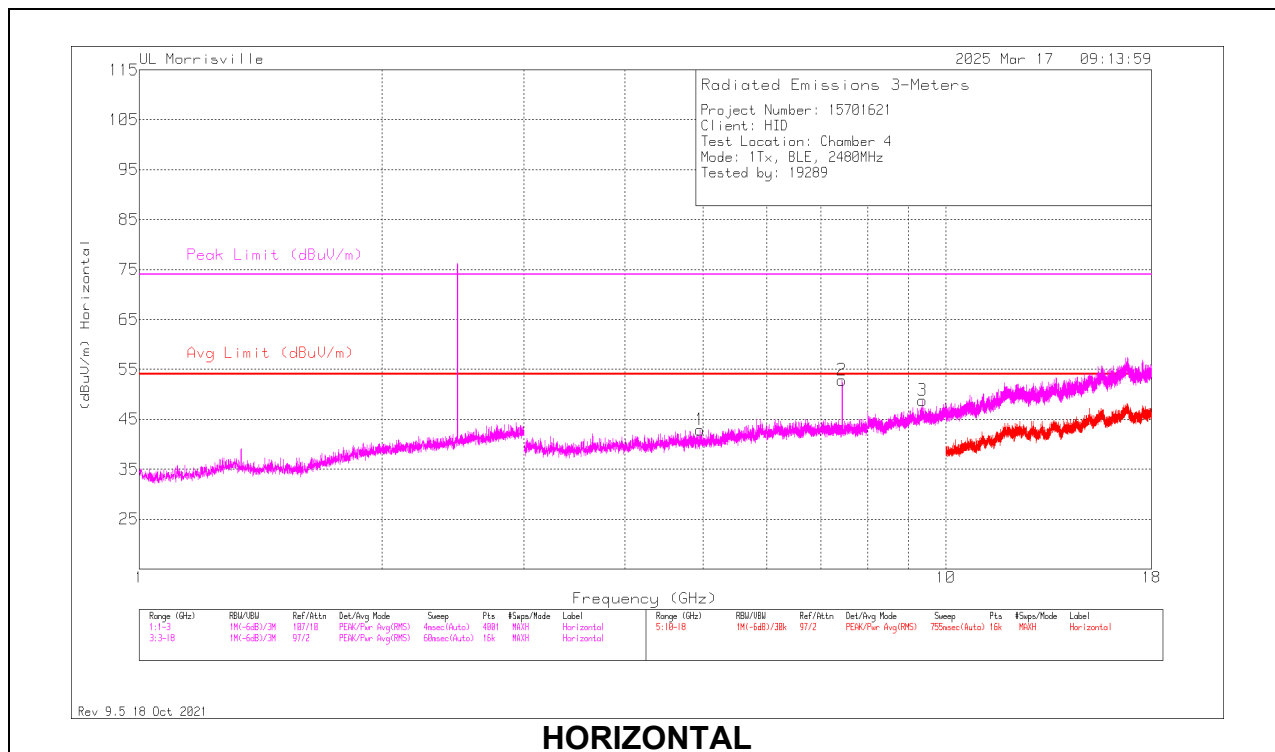
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL RESULTS



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	* ** 4.95938	39.79	Pk	33.9	-30.8	0	42.89	54	-11.11	74	-31.11	0-360	100	H
2	* ** 7.43995	45.69	PK2	35.7	-27.9	0	53.49	-	-	74	-20.51	83	115	H
	* ** 7.44122	33.77	ADV	35.7	-27.9	6.13	47.7	54	-6.3	-	-	83	115	H
3	* ** 9.36235	37.16	PK2	36.5	-24.5	0	49.16	-	-	74	-24.84	266	206	H
	* ** 9.36159	24.48	ADV	36.5	-24.5	6.13	42.61	54	-11.39	-	-	266	206	H
4	* ** 4.95844	42.39	Pk	33.9	-30.9	0	45.39	54	-8.61	74	-28.61	0-360	200	V
5	* ** 7.44142	46.79	PK2	35.7	-27.9	0	54.59	-	-	74	-19.41	286	329	V
	* ** 7.441	33.61	ADV	35.7	-27.9	6.13	47.54	54	-6.46	-	-	286	329	V
6	* ** 9.35156	35.11	Pk	36.5	-24.4	0	47.21	54	-6.79	74	-26.79	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

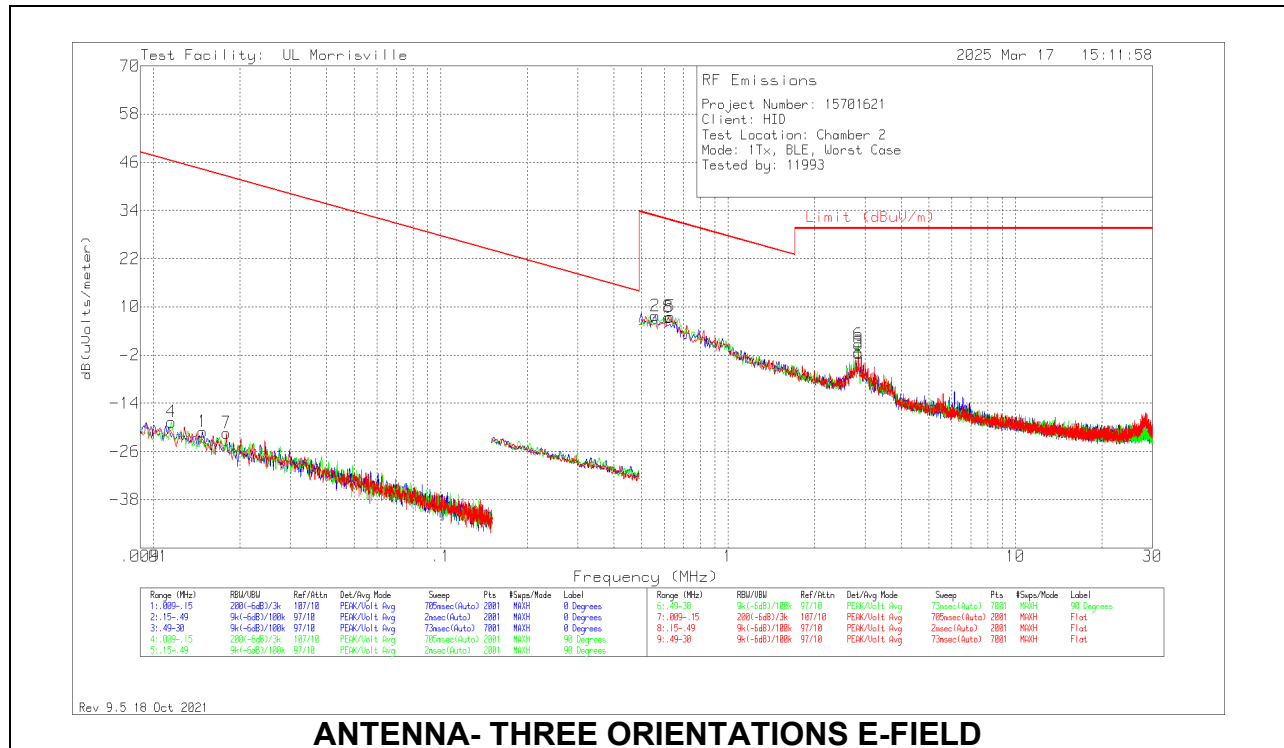
Pk - Peak detector

PK2 - Maximum Peak

ADV - Linear Voltage Average

10.3. WORST CASE BELOW 30MHZ

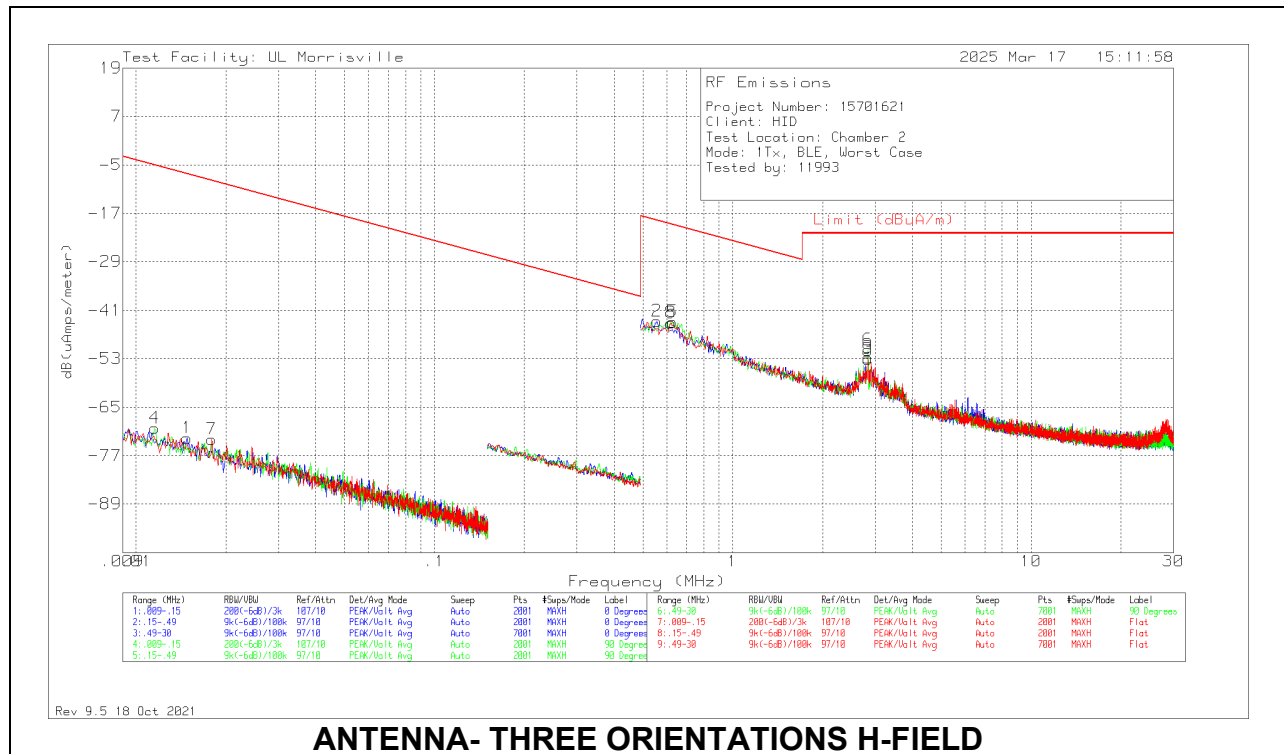
SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



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
4	.01156	43.71	Pk	17.5	.1	-80	-18.69	46.35	66.35	-65.04	0-360	90 degs
1	.01482	42.68	Pk	16.1	.1	-80	-21.12	44.19	64.19	-65.31	0-360	0 degs
7	.01795	43.65	Pk	14.8	.1	-80	-21.45	42.53	62.53	-63.98	0-360	Flat
2	.55746	36.68	Pk	11	.1	-40	7.78	32.68	-	-24.9	0-360	0 degs
8	.6207	36.28	Pk	11	.1	-40	7.38	31.75	-	-24.37	0-360	Flat
5	.62913	36.49	Pk	11	.1	-40	7.59	31.63	-	-24.04	0-360	90 degs
3	2.83831	27.49	Pk	11.1	.2	-40	-1.21	29.54	-	-30.75	0-360	0 degs
6	2.83831	29.34	Pk	11.1	.2	-40	.64	29.54	-	-28.9	0-360	90 degs
9	2.83831	27.11	Pk	11.1	.2	-40	-1.59	29.54	-	-31.13	0-360	Flat

Pk - Peak detector



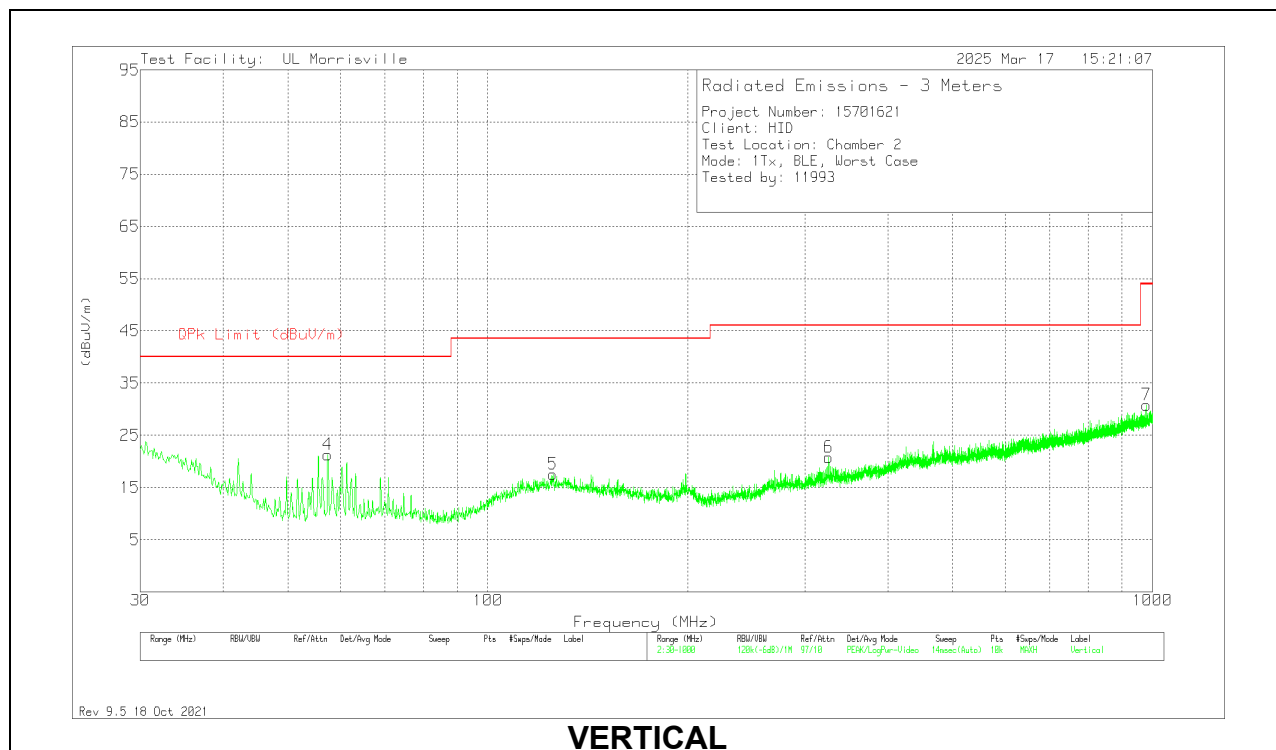
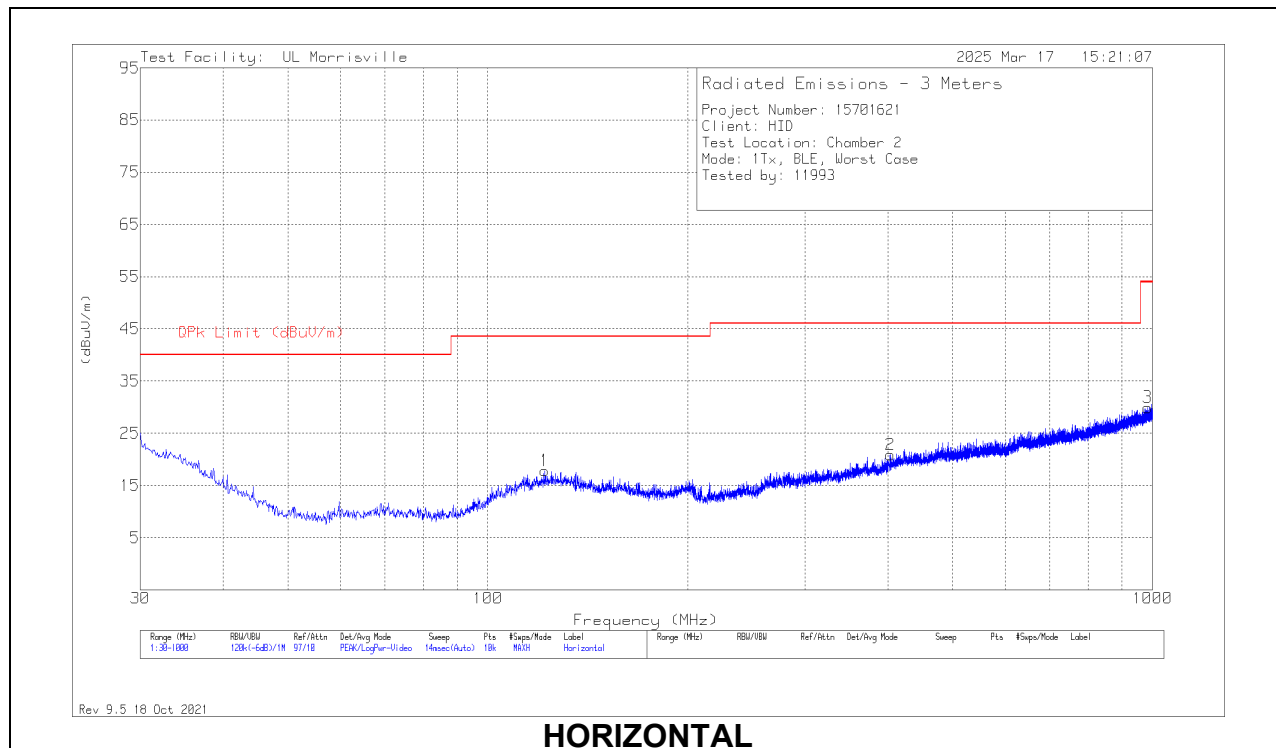
Below 30MHz Data

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
4	.01156	43.71	Pk	-34	.1	-80	-70.19	-5.15	14.85	-65.04	0-360	90 degs
1	.01482	42.68	Pk	-35.4	.1	-80	-72.62	-7.31	12.69	-65.31	0-360	0 degs
7	.01795	43.65	Pk	-36.7	.1	-80	-72.95	-8.97	11.04	-63.98	0-360	Flat
2	.55746	36.68	Pk	-40.5	.1	-40	-43.72	-18.82	-	-24.9	0-360	0 degs
8	.6207	36.28	Pk	-40.5	.1	-40	-44.12	-19.75	-	-24.37	0-360	Flat
5	.62913	36.49	Pk	-40.5	.1	-40	-43.91	-19.87	-	-24.04	0-360	90 degs
3	2.83831	27.49	Pk	-40.4	.2	-40	-52.71	-21.96	-	-30.75	0-360	0 degs
6	2.83831	29.34	Pk	-40.4	.2	-40	-50.86	-21.96	-	-28.9	0-360	90 degs
9	2.83831	27.11	Pk	-40.4	.2	-40	-53.09	-21.96	-	-31.13	0-360	Flat

Pk - Peak detector

10.4. WORST CASE BELOW 1 GHZ

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



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	* ** 121.762	28.33	Pk	20.2	-30.7	17.83	43.52	-25.69	0-360	399	H
2	* ** 403.644	27.45	Pk	22.3	-28.9	20.85	46.02	-25.17	0-360	101	H
3	* ** 982.928	25.18	Pk	29.8	-25.1	29.88	53.97	-24.09	0-360	399	H
5	* ** 125.254	27.7	Pk	20.4	-30.6	17.5	43.52	-26.02	0-360	199	V
6	* ** 325.753	29.45	Pk	20.5	-29.2	20.75	46.02	-25.27	0-360	199	V
7	* ** 979.63	26.31	Pk	29.7	-25.2	30.81	53.97	-23.16	0-360	101	V
4	57.451	38.78	Pk	13.8	-31.3	21.28	-	-	0-360	101	V

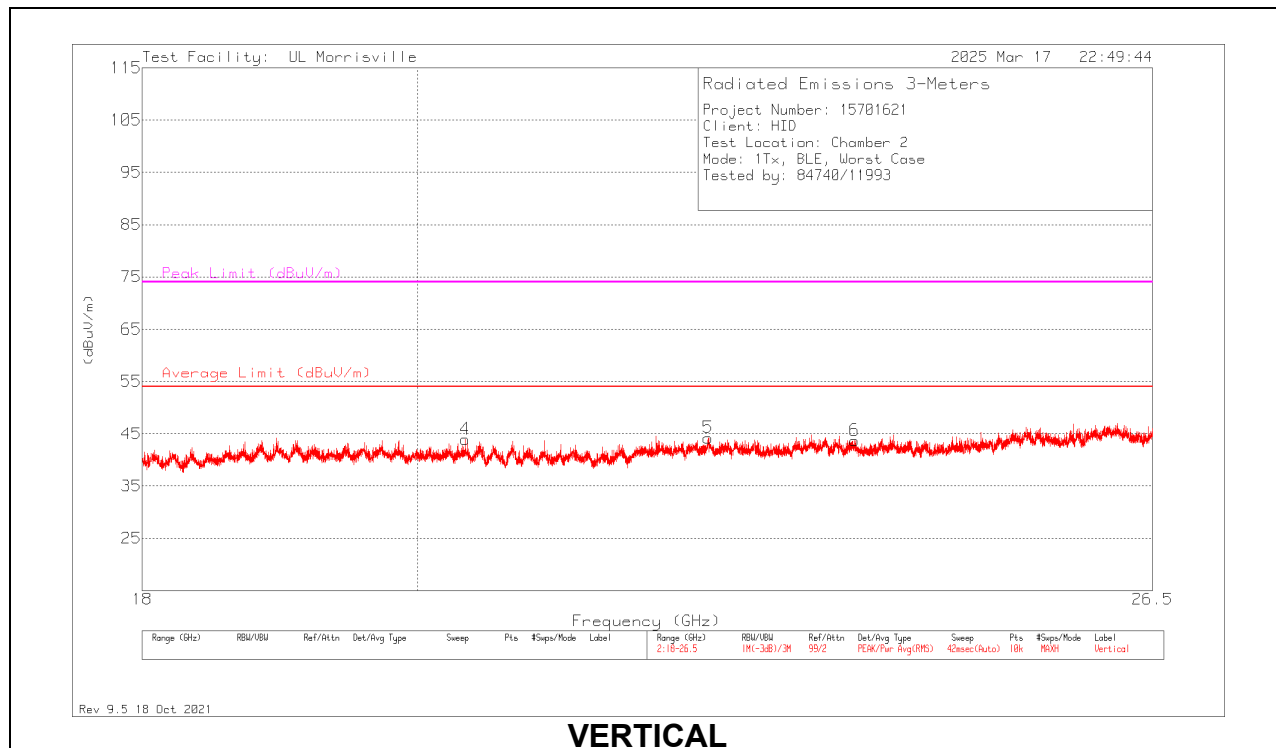
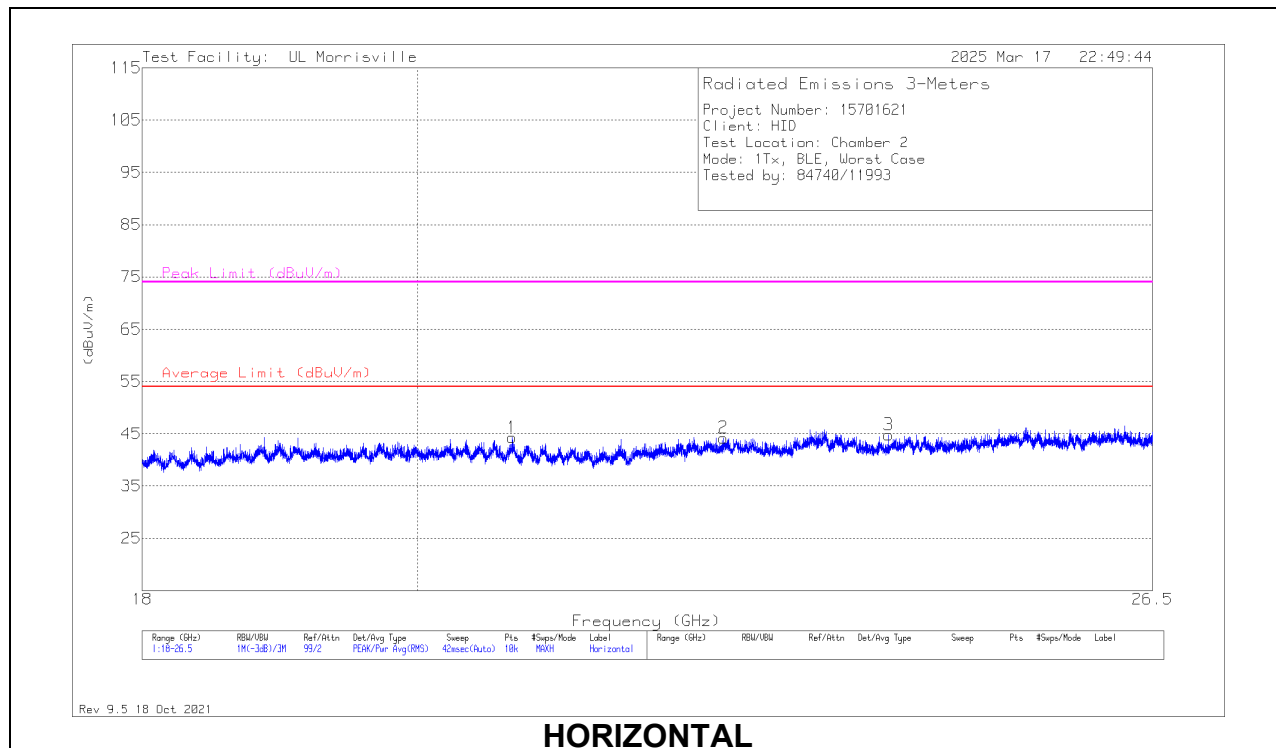
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

10.5. WORST CASE 18-26 GHZ

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



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	* ** 20.73843	48.28	Pk	33.5	-37.5	44.28	54	-9.72	74	-29.72	0-360	101	H
2	* ** 22.485	48.01	Pk	34.2	-38	44.21	54	-9.79	74	-29.79	0-360	101	H
3	* ** 23.9528	47.48	Pk	34.5	-37.2	44.78	54	-9.22	74	-29.22	0-360	299	H
4	* ** 20.37041	47.94	Pk	33.6	-37.6	43.94	54	-10.06	74	-30.06	0-360	299	V
5	* ** 22.35411	48.13	Pk	34.1	-38	44.23	54	-9.77	74	-29.77	0-360	299	V
6	* ** 23.64514	46.52	Pk	34.6	-37.4	43.72	54	-10.28	74	-30.28	0-360	299	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 C63.10.

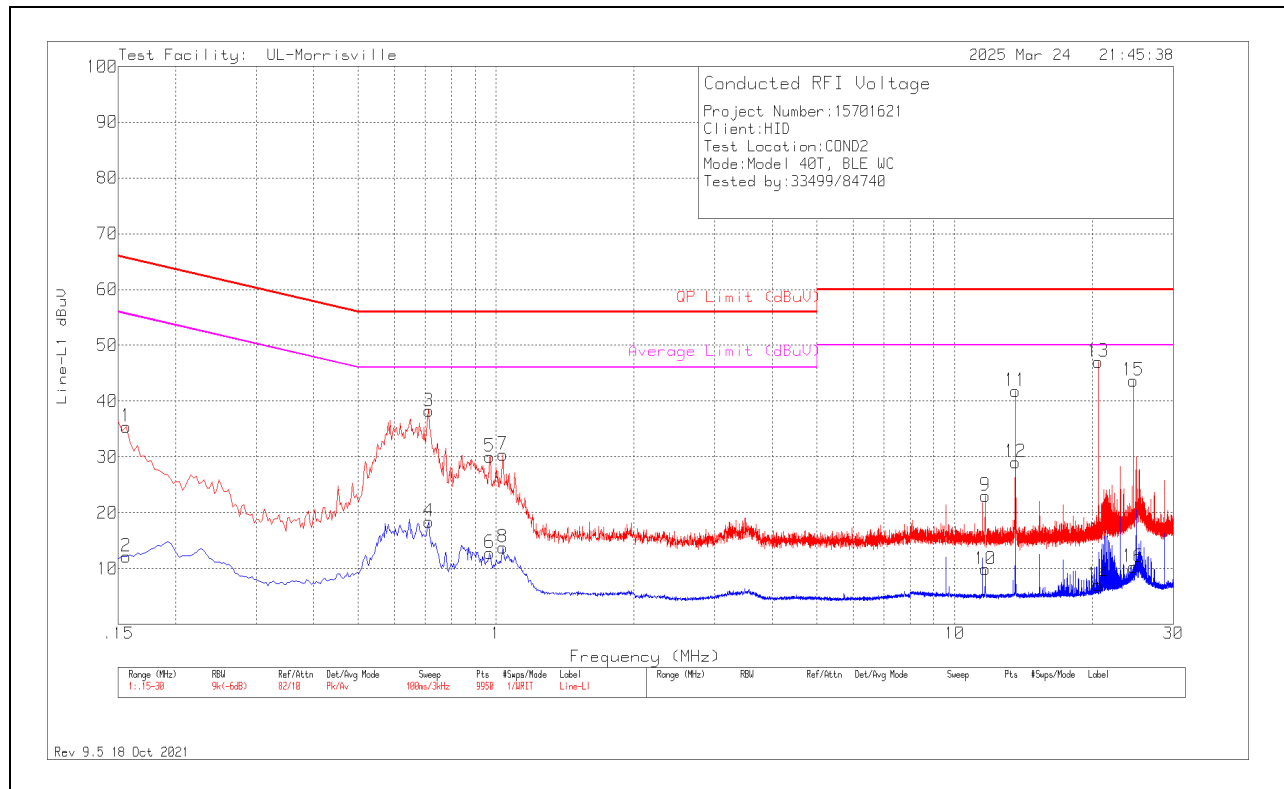
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both lines.

RESULTS

11.1. AC Power Line Norm

LINE 1 RESULTS



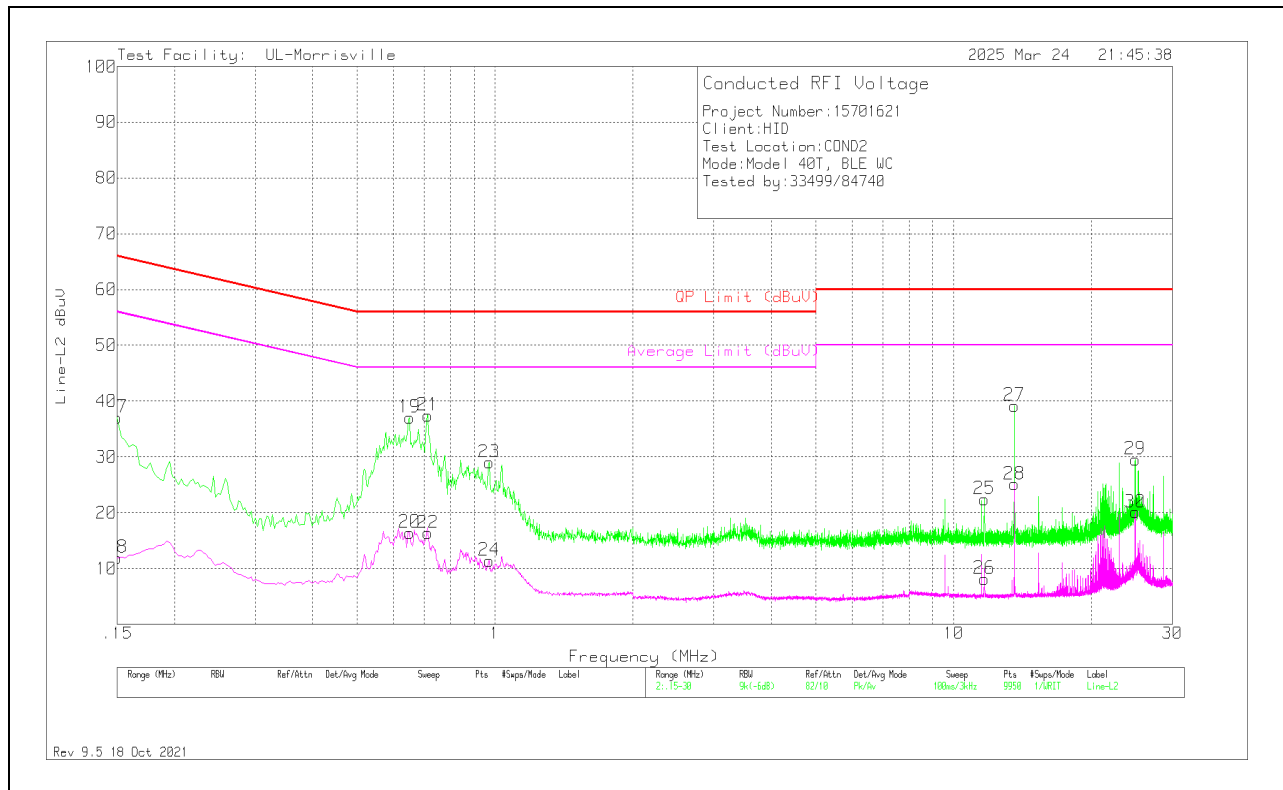
Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading (dBuV)	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	25.41	Pk	.2	9.8	35.41	65.67	-30.26	-	-
2	.156	2.11	Av	.2	9.8	12.11	-	-	55.67	-43.56
3	.714	28.43	Pk	0	9.8	38.23	56	-17.77	-	-
4	.714	8.55	Av	0	9.8	18.35	-	-	46	-27.65
5	.969	20.22	Pk	0	9.8	30.02	56	-25.98	-	-
6	.969	2.93	Av	0	9.8	12.73	-	-	46	-33.27
7	1.035	20.64	Pk	0	9.8	30.44	56	-25.56	-	-
8	1.035	3.95	Av	0	9.8	13.75	-	-	46	-32.25
10	11.661	-28	Av	.1	10	9.82	-	-	50	-40.18
9	11.679	12.9	Pk	.1	10	23	60	-37	-	-
11	13.56	31.67	Pk	.1	10	41.77	60	-18.23	-	-
12	13.563	18.93	Av	.1	10	29.03	-	-	50	-20.97
13	20.571	36.67	Pk	.3	10.1	47.07	60	-12.93	-	-
14	20.571	-3.35	Av	.3	10.1	7.05	-	-	50	-42.95
15	24.519	33.14	Pk	.3	10.2	43.64	60	-16.36	-	-
16	24.519	-21	Av	.3	10.2	10.29	-	-	50	-39.71

Pk - Peak detector

Av - Average detection

Markers 11 and 12 are from badge readers in the lab.

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)
17	.15	26.94	Pk	.3	9.8	37.04	66	-28.96	-	-
18	.15	1.82	Av	.3	9.8	11.92	-	-	56	-44.08
19	.651	27.26	Pk	0	9.8	37.06	56	-18.94	-	-
20	.651	6.55	Av	0	9.8	16.35	-	-	46	-29.65
21	.714	27.6	Pk	0	9.8	37.4	56	-18.6	-	-
22	.714	6.53	Av	0	9.8	16.33	-	-	46	-29.67
23	.972	19.18	Pk	0	9.8	28.98	56	-27.02	-	-
24	.972	1.63	Av	0	9.8	11.43	-	-	46	-34.57
25	11.685	12.3	Pk	.1	10	22.4	60	-37.6	-	-
26	11.685	-2.01	Av	.1	10	8.09	-	-	50	-41.91
27	13.56	29.1	Pk	.1	10	39.2	60	-20.8	-	-
28	13.563	14.99	Av	.1	10	25.09	-	-	50	-24.91
29	24.876	18.92	Pk	.4	10.2	29.52	60	-30.48	-	-
30	24.876	9.48	Av	.4	10.2	20.08	-	-	50	-29.92

Pk - Peak detector

Av - Average detection

Markers 27 and 28 are from badge readers in the lab.

12. SETUP PHOTOS

Please refer to 15701621-EP1e for setup photos

END OF TEST REPORT