

TEST REPORT

Report Number: 15849238-E1V4

Applicant : LOGITECH FAR EAST LTD.
#2 Creation Rd. 4, Science-Based Ind. Park
Hsinchu, Taiwan, R.O.C.

Model : F00015

Brand : LOGITECH

FCC ID : JNZF00015

IC : 4418A-F00015

EUT Description : DIGITAL PEN

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

Date Of Issue:
2025-08-22

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-08-07	Initial Issue	---
V2	2025-08-14	Updated report number	Tina Chu
V3	2025-08-18	Updated Section 6.2, 6.3, 6.6, 12	Tina Chu
V4	2025-08-22	Updated cover page logo	Tina Chu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LOGITECH FAR EAST LTD.
#2 Creation Rd. 4, Science-Based Ind. Park
Hsinchu, Taiwan, R.O.C.

EUT DESCRIPTION: DIGITAL PEN

MODEL: F00015

BRAND: LOGITECH

SERIAL NUMBER: 2520ZBR1X8J8 (Conducted); 2520ZBU1X9D8 (Radiated)

SAMPLE RECEIPT DATE: 2025-07-14

DATE TESTED: 2025-07-14 TO 2025-07-25

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 4	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

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

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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

Approved & Released For
UL Verification Services Inc. By:



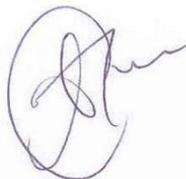
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2. TEST RESULTS SUMMARY

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

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 6.3 .1 (a)	6dB BW	Complies	None.
15.247 (b) (3)	RSS-247 6.3 .2	Output Power	Complies	None.
See Comment		Average power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 6.3 .1 (b)	PSD	Complies	None.
15.247 (d)	RSS-247 6.6	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Not Applicable	EUT is powered by batteries

3. TEST METHODOLOGY

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

- FCC 47 CFR Part 2
- FCC 47 CFR Part 15C
- *ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- KDB 558074 D01 15.247 Meas Guidance
- KDB 414788 D01 Radiated Test Site
- RSS-GEN Issue 5 + A1 + A2
- RSS-247 Issue 4

*Note: The use of ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 does not deviate from the testing procedures of ANSI C63.10-2020

4. FACILITIES AND ACCREDITATION

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

	Address	ISED CABID	ISED Company Number	FCC Registration
<input checked="" type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
<input type="checkbox"/>	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
<input type="checkbox"/>	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. DECISION RULES

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

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	1.3 dB (Pk), 0.45 dB (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22 %
Worst Case Conducted Disturbance, 9kHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9kHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.

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

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a digital pen with Bluetooth Low Energy connectivity. It is powered by a rechargeable battery. A representative USB-C cable was used during the test.

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	7.96	6.25
2404 - 2478	BLE 2Mbps	7.95	6.24

6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS

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

The radio utilizes a Dipole printed antenna on flex PCB with a maximum gain of -5.34 dBi.

Antenna brand: LOGITECH

Antenna manufacturer: Logitech Europe S.A.

Antenna model: F00015

Cable loss: 0.2dB

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was RadioTestSuite.

6.5. WORST-CASE CONFIGURATION AND MODE

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

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

EUT is a portable device, and it has one USB type C port for power. Due to applicant is only able to power the EUT via a USB cable that connected to a laptop; therefore, investigation was performed with/without laptop in two orthogonal orientations X(flatbed) and Y(Portrait), and Y(Portrait) with laptop is the worst-case orientation for all final testing.

Data rates provided by the client were:

BLE mode: 1Mbps

BLE mode: 2Mbps

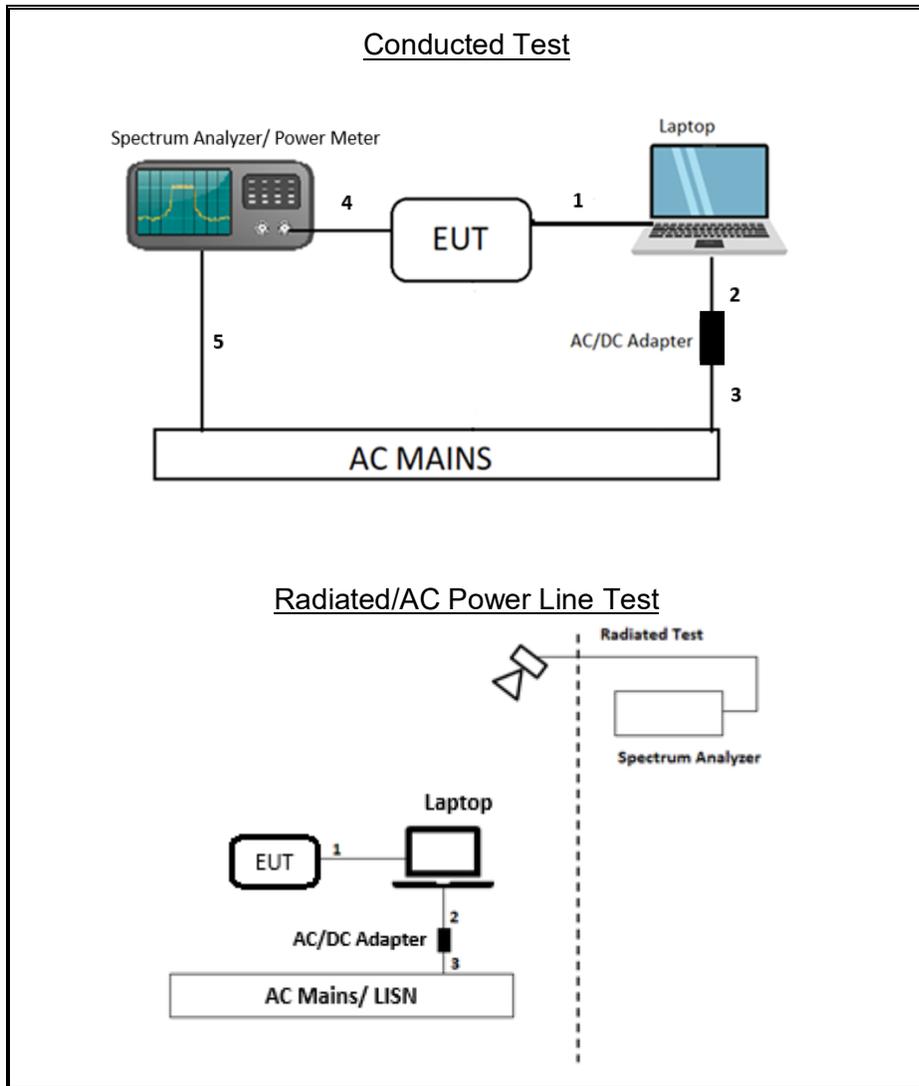
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Dell	Dell Precision 7560	5JKRK A00	DoC		
Laptop AC/DC Adapter	Flextronics	GA240PE1-00	A-0240ADU00-101	DoC		
non-replaceable rechargeable battery inside the EUT. Power Rating: 3.7 Vdc, 122 mAh, 0.46 Wh	SYNERGY	AHB390841TPLS	Not available	DoC		
I/O CABLES (CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Apple 240W USB-C Charge Cable, Model A2794	Shielded	2	EUT to Laptop
2	DC Power	1	DC	Unshielded	1.8	AC/DC Adapter to Laptop
3	AC Power	1	2-prongs	Unshielded	1.8	AC Mains to AC/DC Adapter
4	Antenna	1	SMA	Unshielded	0.8	To spectrum Analyzer
5	AC Power	1	2-prongs	Unshielded	1.5	AC Mains
I/O CABLES (RADIATED TEST/AC POWER LINE EMISSIONS)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Apple 240W USB-C Charge Cable, Model A2794	Shielded	2	EUT Connect to Laptop
2	DC Power	1	DC	Unshielded	1.8	AC/DC Adapter to Laptop
3	AC Power	1	2-prongs	Unshielded	1.8	AC Mains to AC/DC Adapter

TEST SETUP

The EUT is powered by battery. EUT connected to a test laptop during the tests. Test software exercised the radio.

SETUP DIAGRAMS



7. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10 Section 11.8.1 RBW \geq DTS BW

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

Output Power: ANSI C63.10 Section 11.9.1.2 Method PKPM1 Peak-reading power meter

Output Power: ANSI C63.10 Section 11.9.2.3.2 Measurement using gated average power meter

PSD: ANSI C63.10 Section 11.10.2 Method PKPSD (peak PSD)

Radiated emissions restricted frequency bands: ANSI C63.10 Section 11.12.1

Conducted emissions in restricted frequency bands: ANSI C63.10 Section 11.12.2

Band-edge: ANSI C63.10 Section 11.12.2.4: Peak Measurement

Band-edge: ANSI C63.10 Section 11.12.2.5: Average Measurement

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

Radiated emissions non-restricted frequency bands ANSI C63.10 Section 11.11

Radiated Spurious Emissions Below 30MHz: ANSI C63.10 Section 6.4

8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170014	2026-11-30
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2026-11-30
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	206808	2026-04-30
Filter Box	UL-FR1	RATS 1.0, 2 Amp, 8 Port	197920	2026-03-31
Antenna, Broadband Hybrid, 30MHz to 2GHz	Sunol Sciences Corp.	JB1	203089	2026-04-30
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	175953	2026-03-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	225688	2026-02-28
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	172354	2025-11-30
Amplifier 18-26.5GHz	AMPLICAL	AMP18G26.5-60	215705	2025-07-31
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	263109	2026-04-30
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90733	2026-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	257702	2026-03-31
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	238180	2025-08-31

Description	Manufacturer	Model	ID Num	Cal Due
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	171646	2026-02-28
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2026-01-31
Transient Limiter	TE	TBFL1	207996	2026-09-30
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Rev 9.5 01 May 2023	
Conducted Software	UL	UL EMC	Ver 2022.8.16	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, 10 Jun 2025	

9. ANTENNA PORT TEST RESULTS

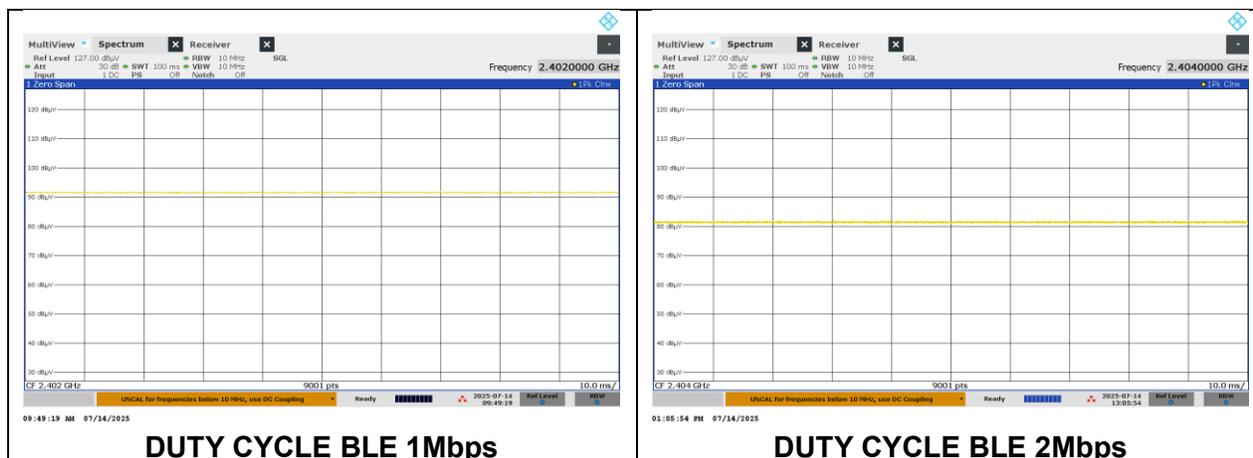
9.1. ON TIME AND DUTY CYCLE

LIMITS

Mode	ON Time T (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
BLE 1Mbps	20.00	20.00	1.000	100.0%	0.00	0.010
BLE 2Mbps	20.00	20.00	1.000	100.0%	0.00	0.010

PROCEDURE

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



9.2. 99% BANDWIDTH

LIMITS

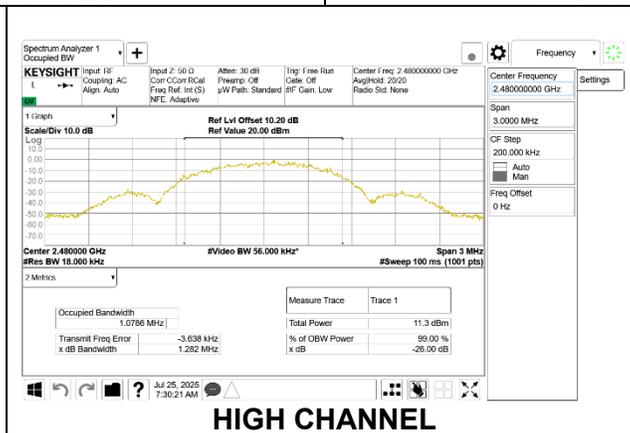
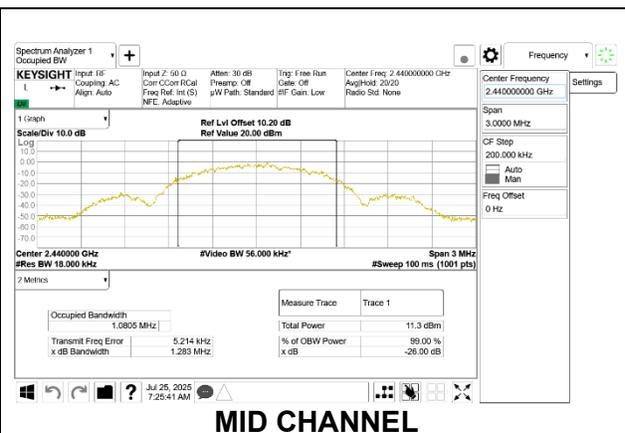
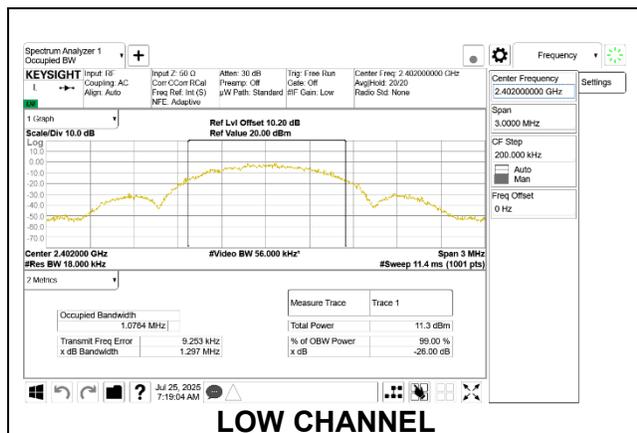
None; for reporting purposes only.

RESULTS

Tested By: 16080 ZS

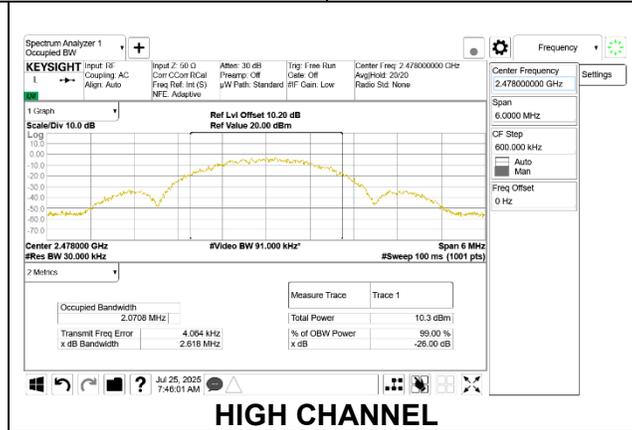
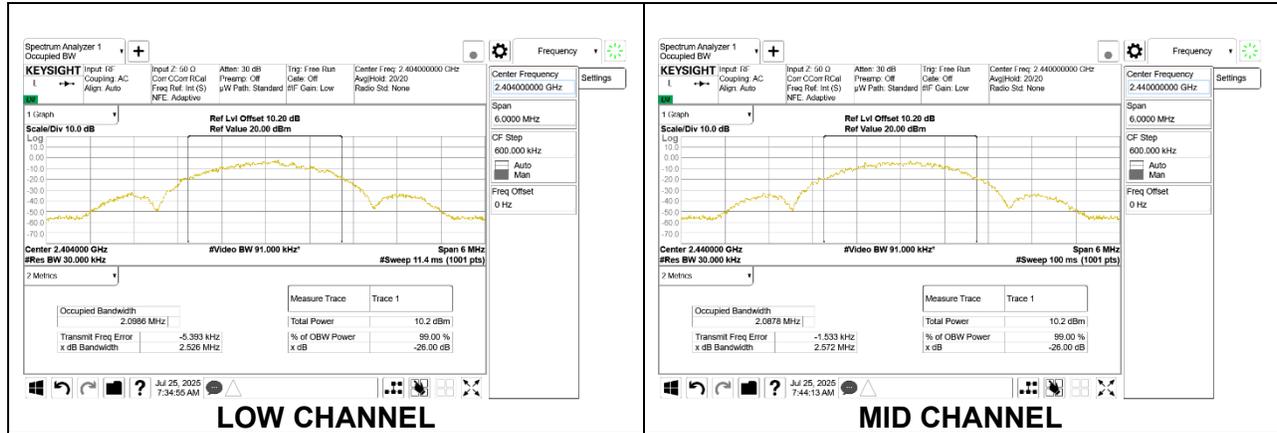
9.2.1. BLE (1Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0764
Middle	2440	1.0805
High	2480	1.0786



9.2.2. BLE (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2404	2.0986
Middle	2440	2.0878
High	2478	2.0708



9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

RSS-247 6.3 .1 (a)

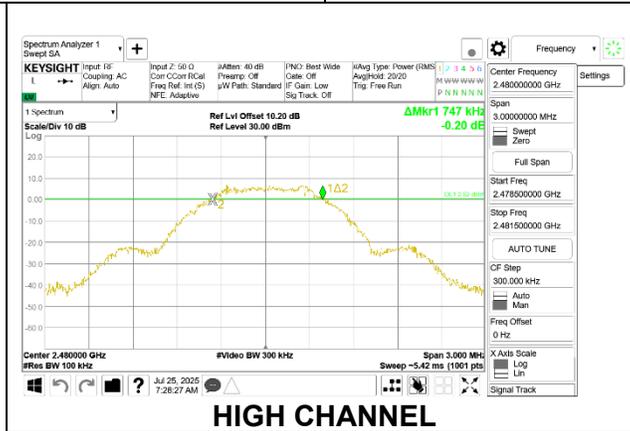
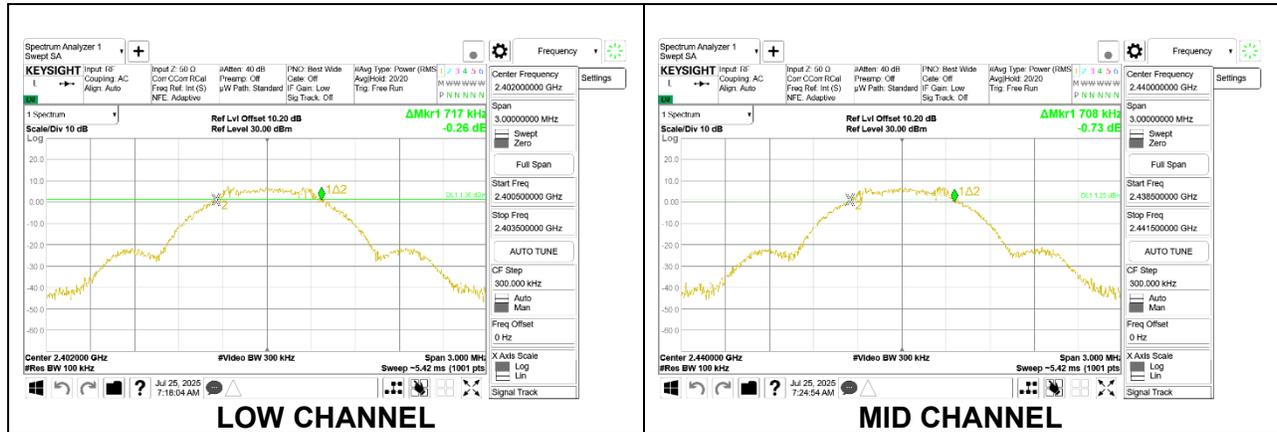
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Tested By:	16080 ZS
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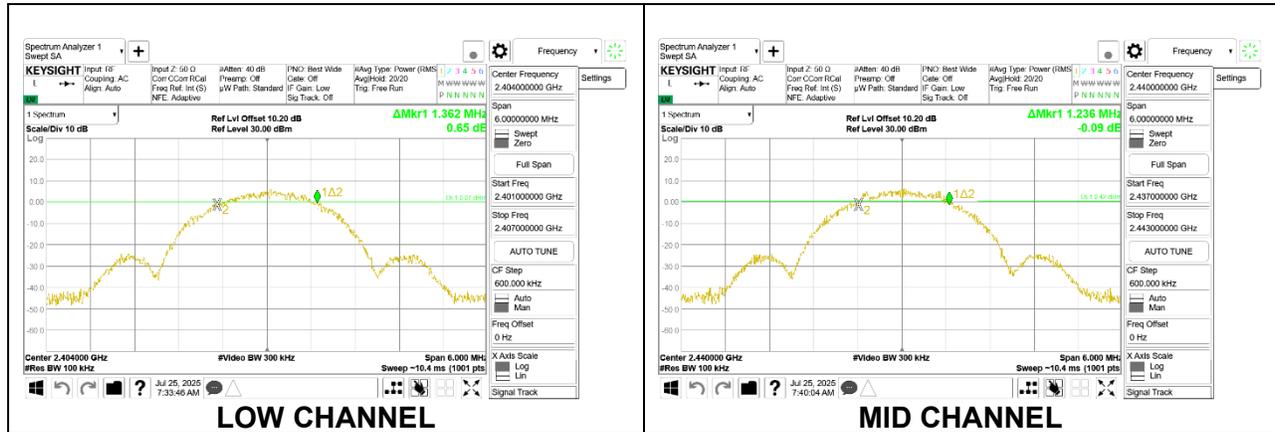
9.3.1. BLE (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.717	0.5
Middle	2440	0.708	0.5
High	2480	0.747	0.5



9.3.2. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2404	1.362	0.5
Middle	2440	1.236	0.5
High	2478	1.320	0.5



LOW CHANNEL

MID CHANNEL



HIGH CHANNEL

9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 6.3 .2

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 power output was measured on the EUT antenna port using 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:	16080ZS
Date:	2025-07-25

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	7.940	30	-22.060
Middle	2440	7.960	30	-22.040
High	2480	7.900	30	-22.100

9.4.2. BLE (2Mbps)

Tested By:	16080ZS
Date:	2025-07-25

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2404	7.930	30	-22.070
Middle	2440	7.950	30	-22.050
High	2478	7.910	30	-22.090

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

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

RESULTS

9.5.1. BLE (1Mbps)

Tested By:	16080ZS
Date:	2025-07-25

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	7.87
Middle	2440	7.90
High	2480	7.88

9.5.2. BLE (2Mbps)

Tested By:	16080ZS
Date:	2025-07-25

Channel	Frequency (MHz)	AV power (dBm)
Low	2404	7.88
Middle	2440	7.90
High	2478	7.86

9.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

RSS-247 6.3 .1 (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

Tested By:	16080 ZS
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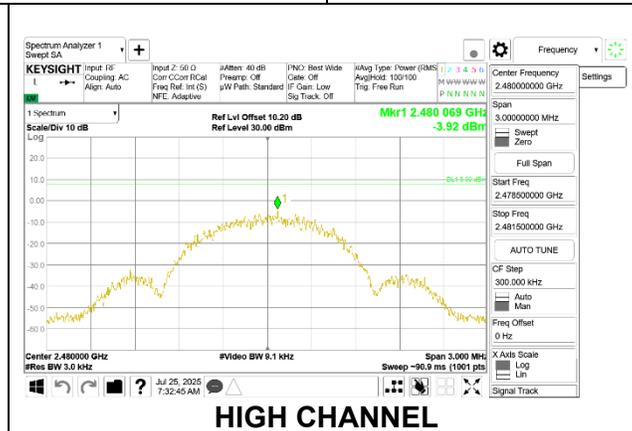
9.6.1. BLE (1Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-6.21	8	-14.21
Middle	2440	-5.31	8	-13.31
High	2480	-3.92	8	-11.92



LOW CHANNEL

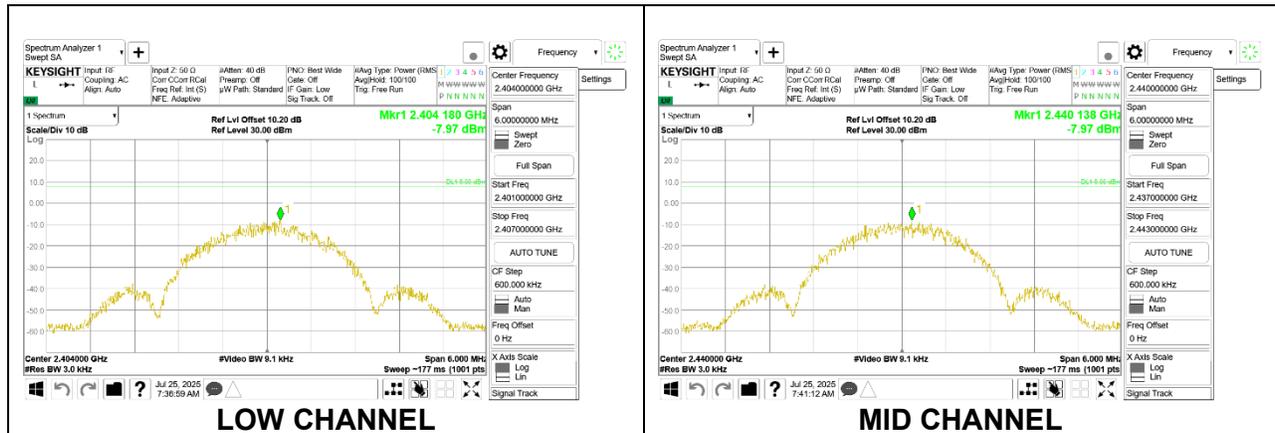
MID CHANNEL



HIGH CHANNEL

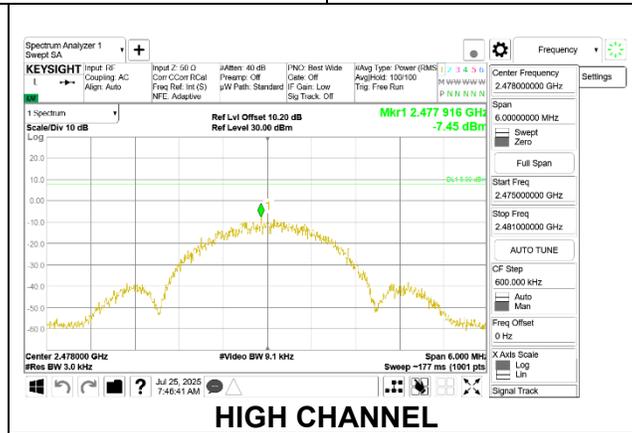
9.6.2. BLE (2Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2404	-7.97	8	-15.97
Middle	2440	-7.97	8	-15.97
High	2478	-7.45	8	-15.45



LOW CHANNEL

MID CHANNEL



HIGH CHANNEL

9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

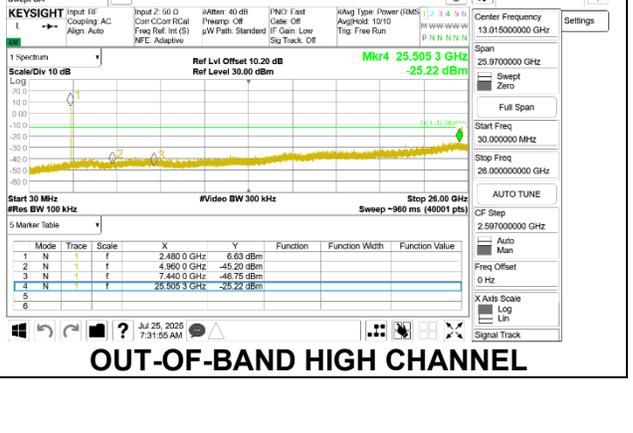
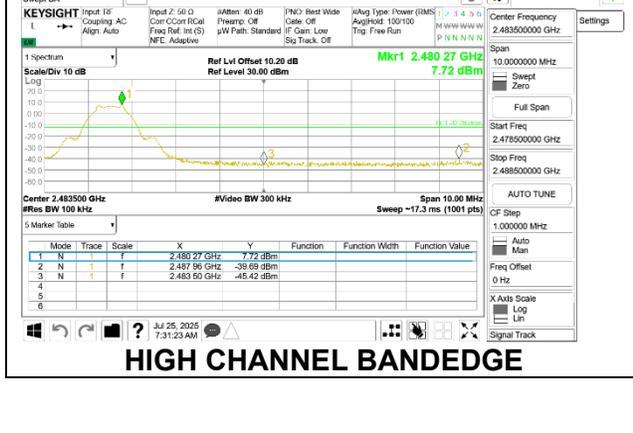
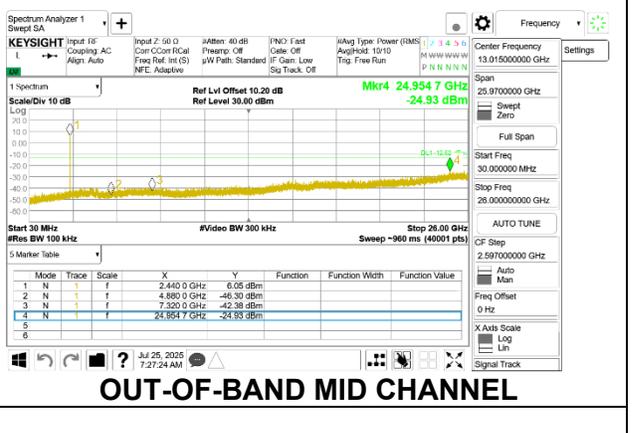
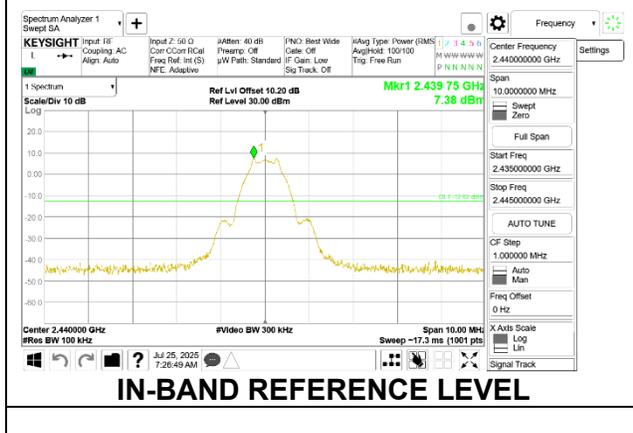
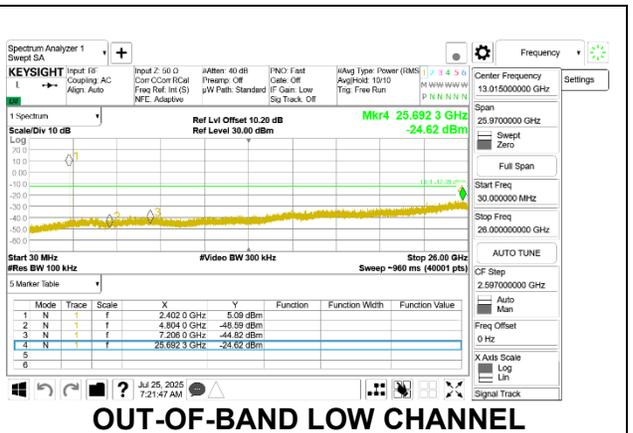
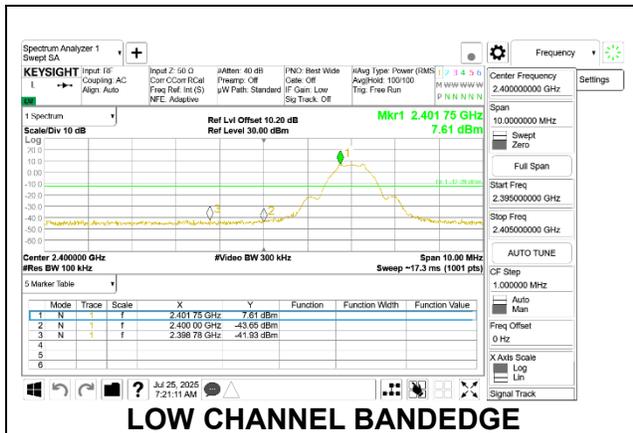
RSS-247 6.6

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

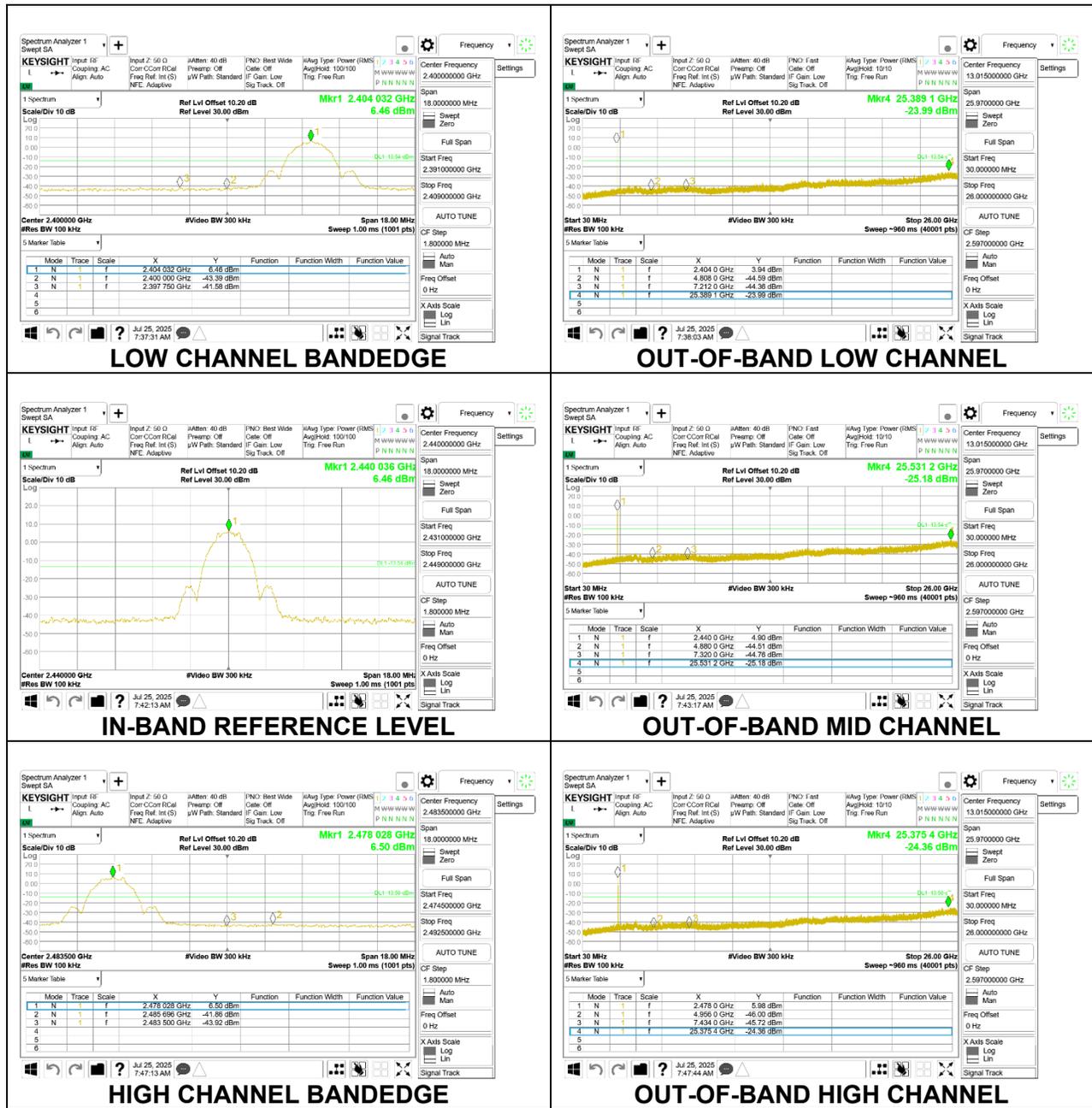
RESULTS

Tested By:	16080 ZS
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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

RSS-GEN, Section 8.9 and 8.10.

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

TEST PROCEDURE

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

For measurements below 1 GHz, the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

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

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

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to 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.

For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only. Blue color trace on plots: Parallel orientation. Green color trace on plots: Perpendicular orientation.

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

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

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

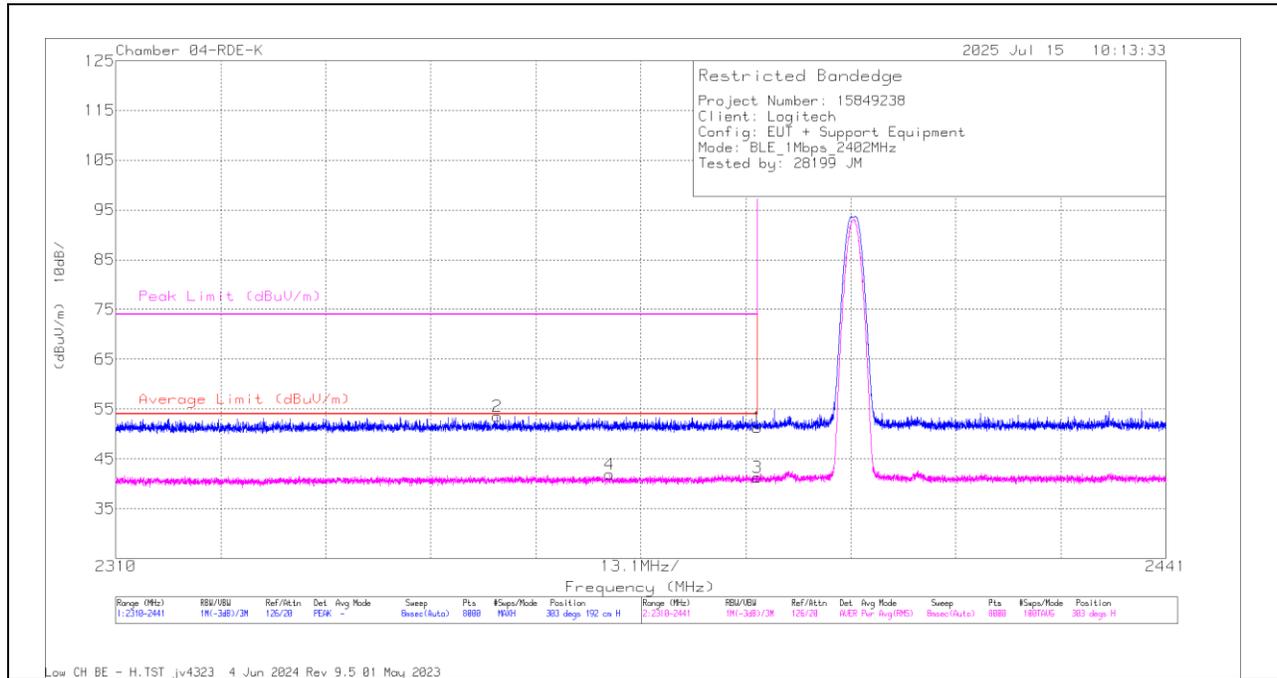
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2390	53.57	Pk	32.3	-34.6	51.27	-	-	74	-22.73	303	192	H
2	* ** 2357.608	56.07	Pk	32.2	-34.7	53.57	-	-	74	-20.43	303	192	H
3	* ** 2390	43.61	RMS	32.3	-34.6	41.31	54	-12.69	-	-	303	192	H
4	* ** 2371.61	44.44	RMS	32.2	-34.7	41.94	54	-12.06	-	-	303	192	H

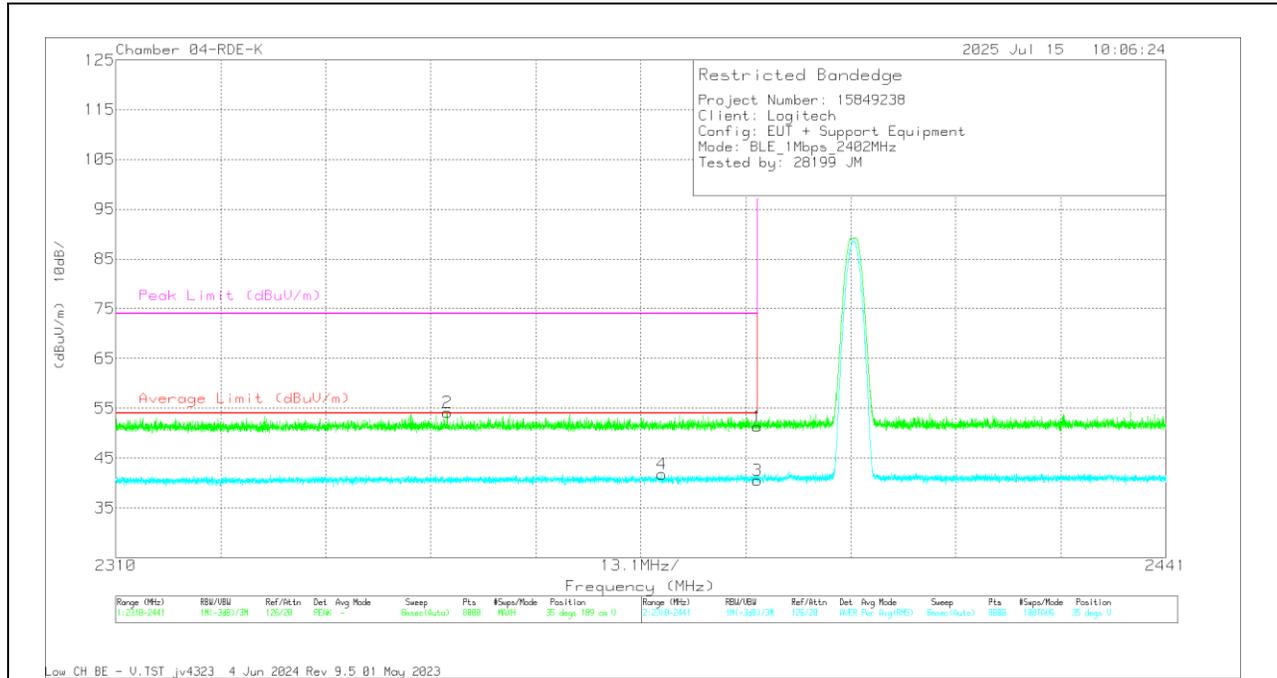
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2390	53.63	Pk	32.3	-34.6	51.33	-	-	74	-22.67	35	189	V
2	** 2351.336	56.9	Pk	32.1	-34.8	54.2	-	-	74	-19.8	35	189	V
3	* ** 2390	42.77	RMS	32.3	-34.6	40.47	54	-13.53	-	-	35	189	V
4	* ** 2378.161	44.23	RMS	32.2	-34.7	41.73	54	-12.27	-	-	35	189	V

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

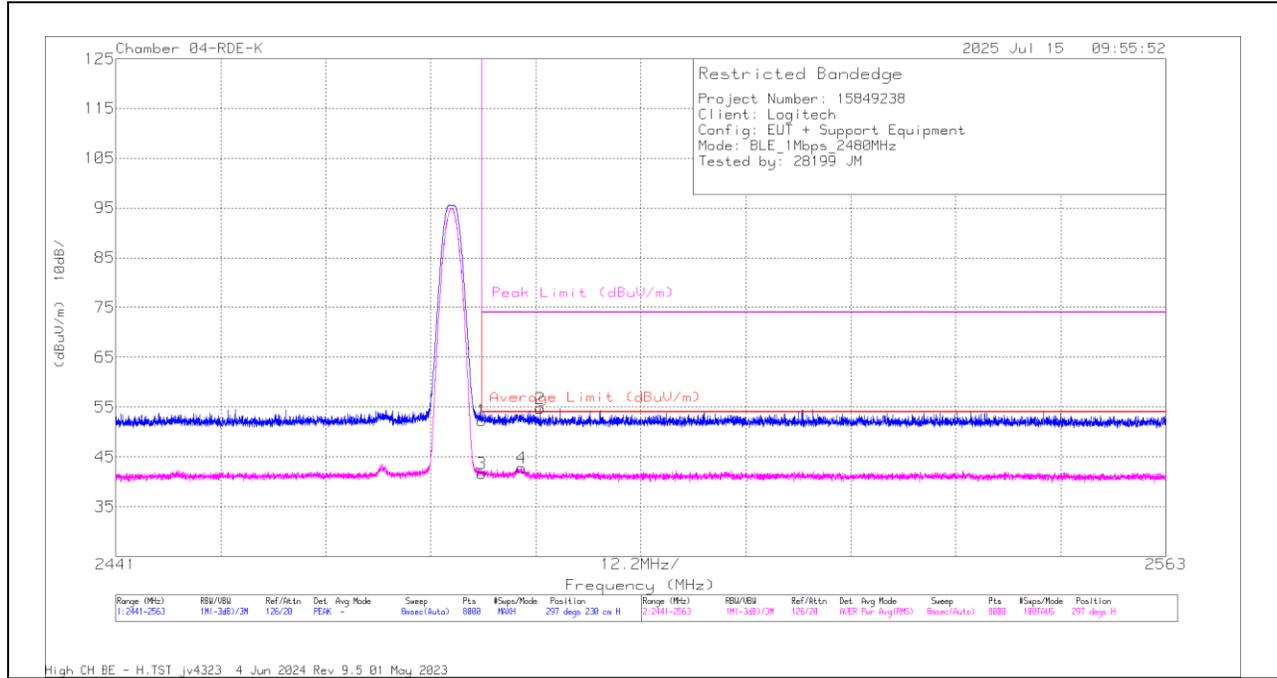
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT

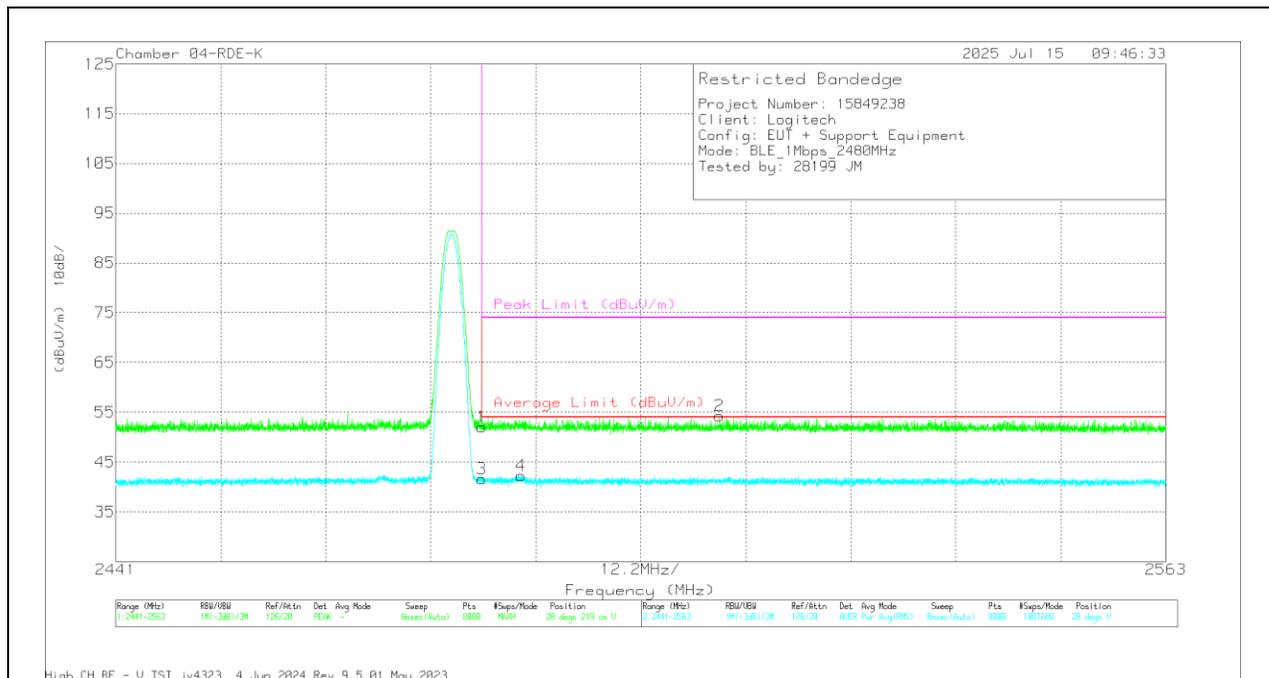


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2483.5	53.87	Pk	32.6	-34.2	52.27	-	-	74	-21.73	297	230	H
2	*** 2490.355	56.32	Pk	32.6	-34.2	54.72	-	-	74	-19.28	297	230	H
3	*** 2483.5	43.28	RMS	32.6	-34.2	41.68	54	-12.32	-	-	297	230	H
4	*** 2488.159	44.4	RMS	32.6	-34.2	42.8	54	-11.2	-	-	297	230	H

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

VERTICAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	***2483.5	53.62	Pk	32.6	-34.2	52.02	-	-	74	-21.98	28	219	V
2	**2511.129	55.86	Pk	32.6	-34.2	54.26	-	-	74	-19.74	28	219	V
3	**2483.5	43.26	RMS	32.6	-34.2	41.66	54	-12.34	-	-	28	219	V
4	***2488.098	43.84	RMS	32.6	-34.2	42.24	54	-11.76	-	-	28	219	V

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

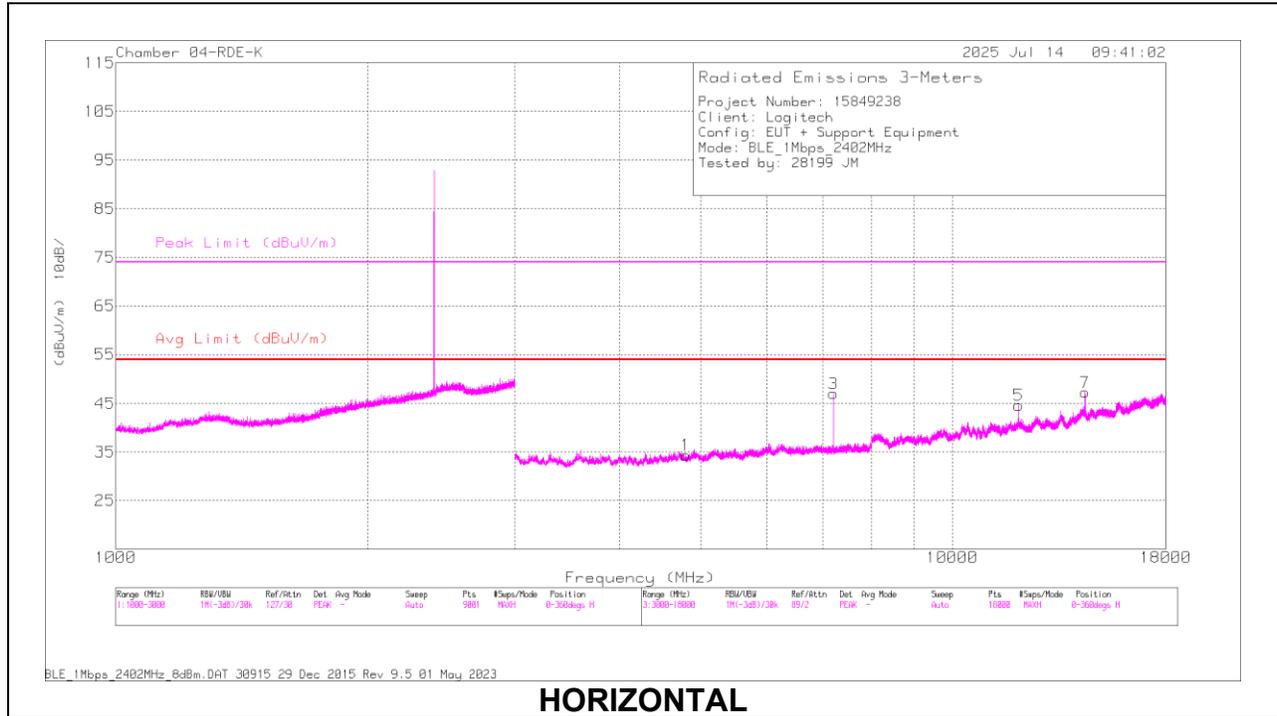
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

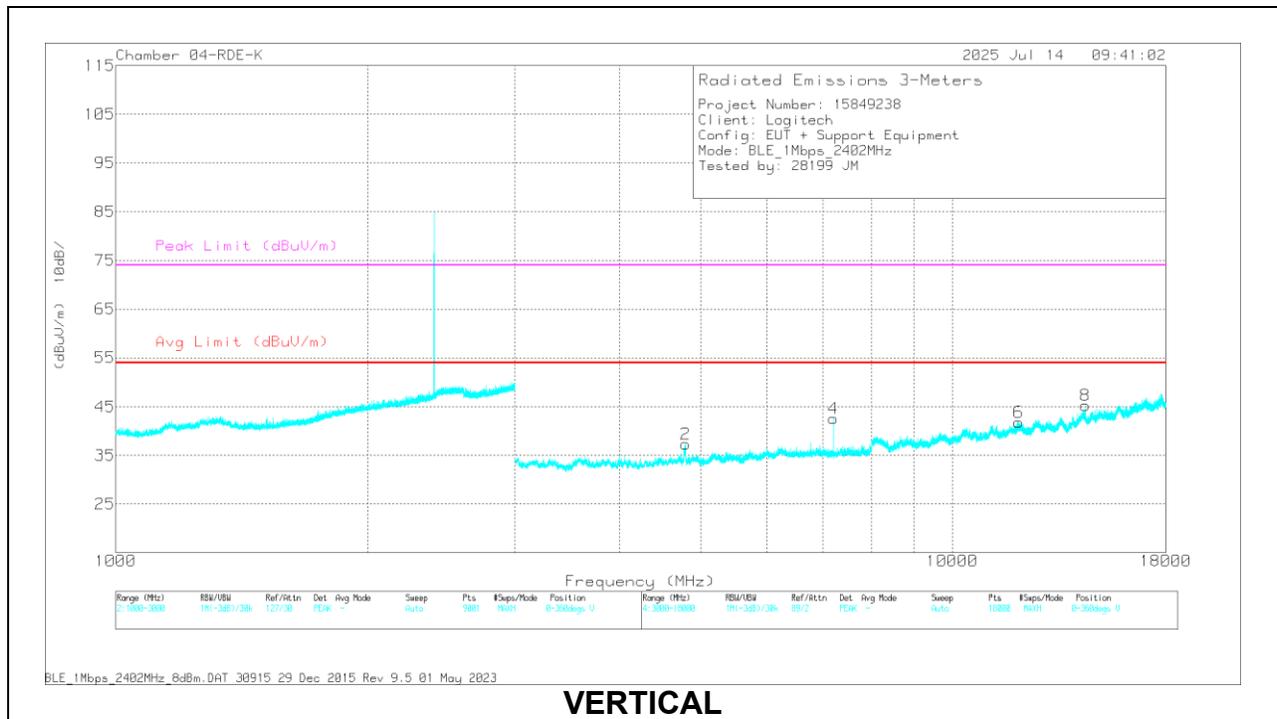
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Filtr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4804.363	51.19	PK2	34.1	-40.2	45.09	-	-	74	-28.91	125	225	H
	*** 4803.763	39.95	MAv1	34.1	-40.3	33.75	54	-20.25	-	-	125	225	H
2	*** 4804.347	50.94	PK2	34.1	-40.2	44.84	-	-	74	-29.16	44	383	V
	*** 4804.137	39.93	MAv1	34.1	-40.3	33.73	54	-20.27	-	-	44	383	V
3	7206.806	55.08	PK2	35.6	-38.2	52.48	-	-	-	-	359	241	H
4	7206.863	52.81	PK2	35.6	-38.2	50.21	-	-	-	-	292	102	V
5	*** 12008.481	48.36	PK2	38.7	-34.5	52.56	-	-	74	-21.44	126	121	H
	*** 12011.261	38.25	MAv1	38.7	-34.5	42.45	54	-11.55	-	-	126	121	H
6	*** 12007.91	46.94	PK2	38.7	-34.5	51.14	-	-	74	-22.86	334	395	V
	*** 12009.033	35.22	MAv1	38.7	-34.5	39.42	54	-14.58	-	-	334	395	V
7	14413.779	50.45	PK2	39.3	-34.4	55.35	-	-	-	-	100	200	H
8	14413.972	40.36	PK	39.3	-34.4	45.26	-	-	-	-	0-360	101	V

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

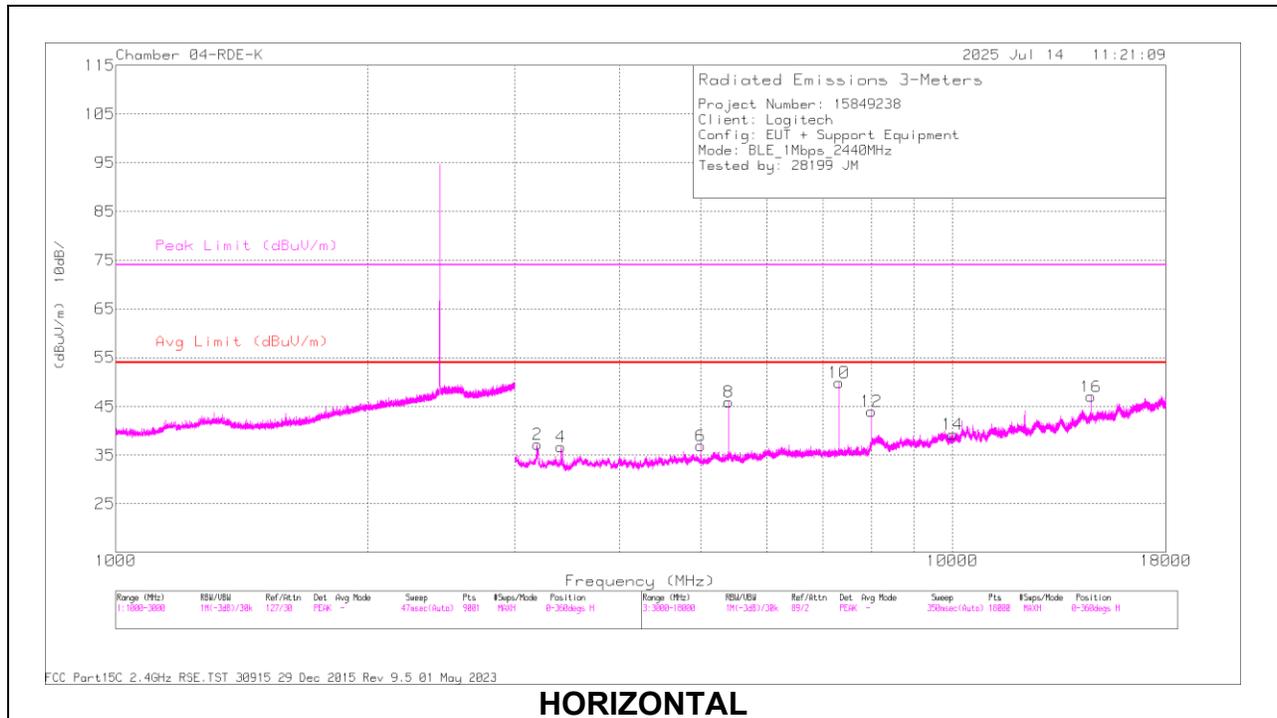
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK - Peak detector

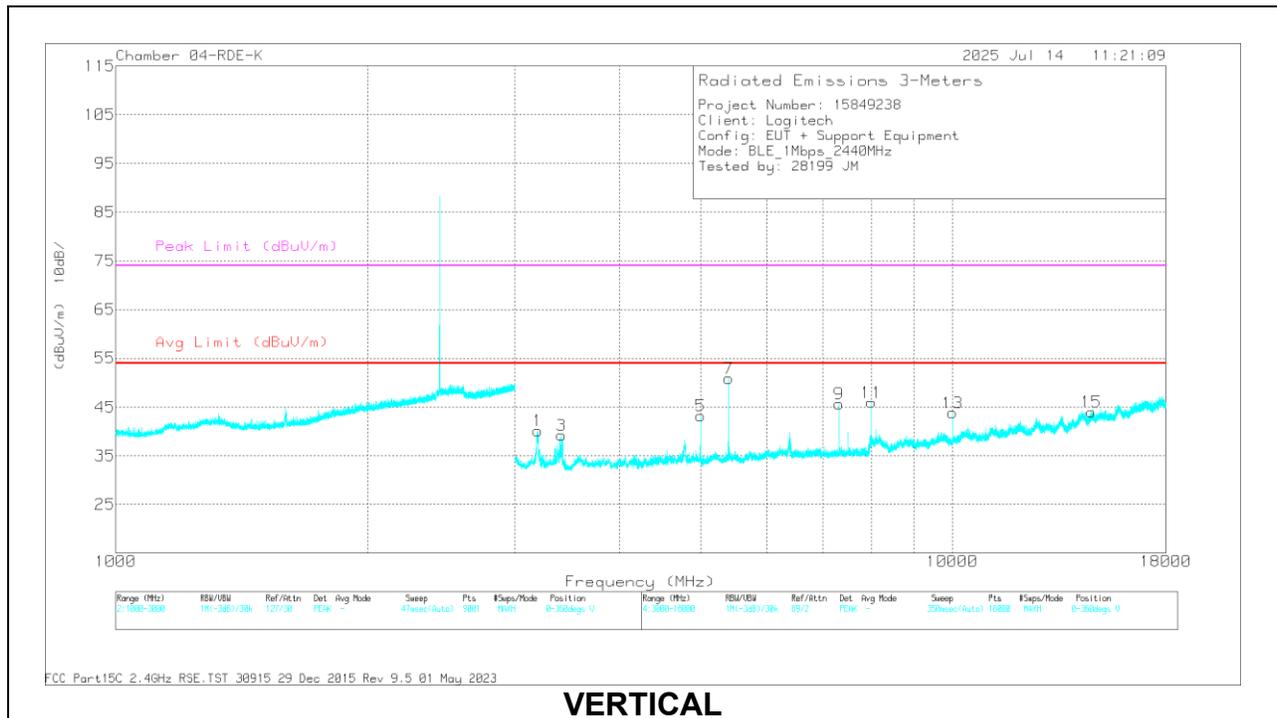
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cb/Filtr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3195.844	48.52	Pk	33.2	-41.6	40.12	-	-	-	-	0-360	101	V
2	3192.511	45.69	Pk	33.2	-41.7	37.19	-	-	-	-	0-360	200	H
3	3410.023	47.89	Pk	32.8	-41.5	39.19	-	-	-	-	0-360	200	V
4	3407.523	45.45	Pk	32.8	-41.6	36.65	-	-	-	-	0-360	200	H
5	** 4999.423	51.24	PK2	34.1	-40.2	45.14	-	-	74	-28.86	72	312	V
	** 4999.4	39.1	MAv1	34.1	-40.2	33	54	-21	-	-	72	312	V
6	** 5006.901	50.57	PK2	34.1	-40.3	44.37	-	-	74	-29.63	128	232	H
	** 5004.576	38.81	MAv1	34.1	-40.3	32.61	54	-21.39	-	-	128	232	H
7	** 5401.904	50.36	PK2	34.6	-39.8	45.16	-	-	74	-28.84	230	341	V
	** 5399.343	38.83	MAv1	34.6	-39.8	33.63	54	-20.37	-	-	230	341	V
8	** 5393.912	50.66	PK2	34.6	-39.8	45.46	-	-	74	-28.54	78	237	H
	** 5396.819	38.78	MAv1	34.6	-39.8	33.58	54	-20.42	-	-	78	237	H
9	** 7319.379	53.26	PK2	35.6	-37.8	51.06	-	-	74	-22.94	268	150	V
	** 7319.806	46.38	MAv1	35.6	-37.8	44.18	54	-9.82	-	-	268	150	V
10	** 7320.508	56.38	PK2	35.6	-37.8	54.18	-	-	74	-19.82	18	222	H
	** 7319.958	51.42	MAv1	35.6	-37.8	49.22	54	-4.78	-	-	18	222	H
11	8000.28	47.26	Pk	35.8	-37.1	45.96	-	-	-	-	0-360	200	V
12	8000.28	45.31	Pk	35.8	-37.1	44.01	-	-	-	-	0-360	200	H
13	9999.559	42.99	Pk	37.3	-36.5	43.79	-	-	-	-	0-360	200	V
14	10000.392	38.43	Pk	37.3	-36.5	39.23	-	-	-	-	0-360	200	H
15	14659.82	37.81	Pk	39.4	-33.2	44.01	-	-	-	-	0-360	200	V
16	14641.485	40.79	Pk	39.4	-33.2	46.99	-	-	-	-	0-360	101	H

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

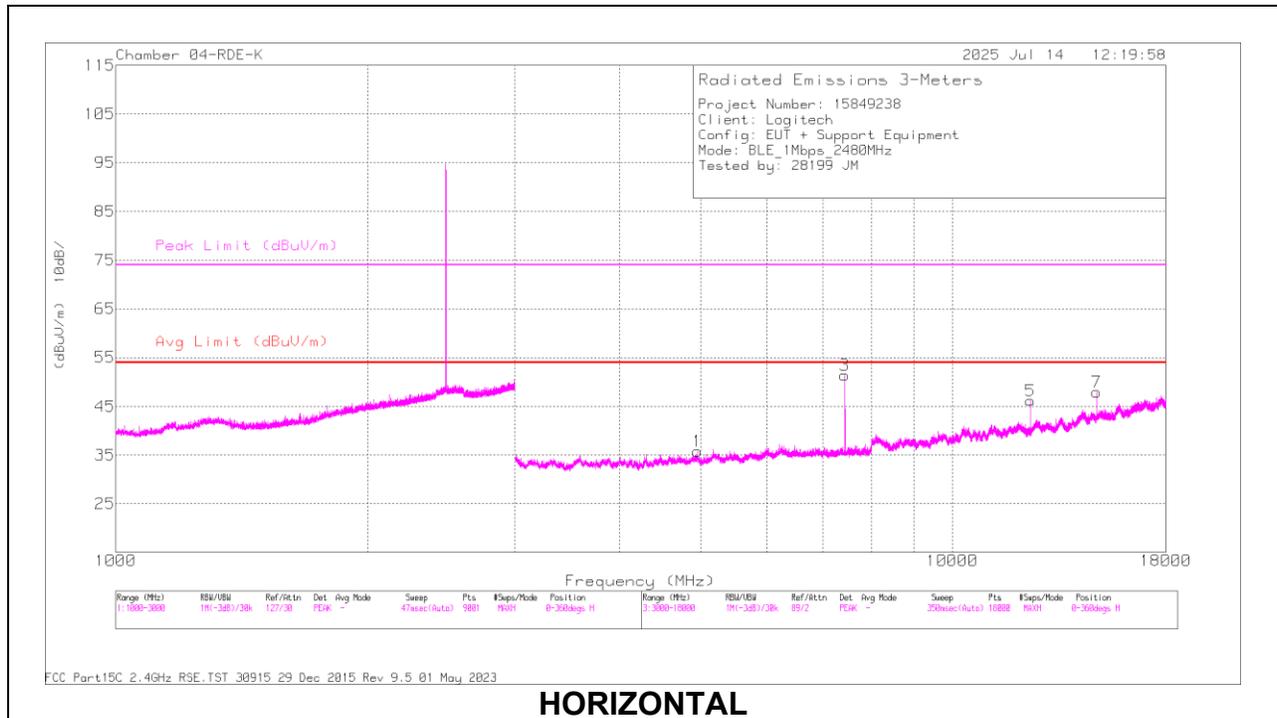
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

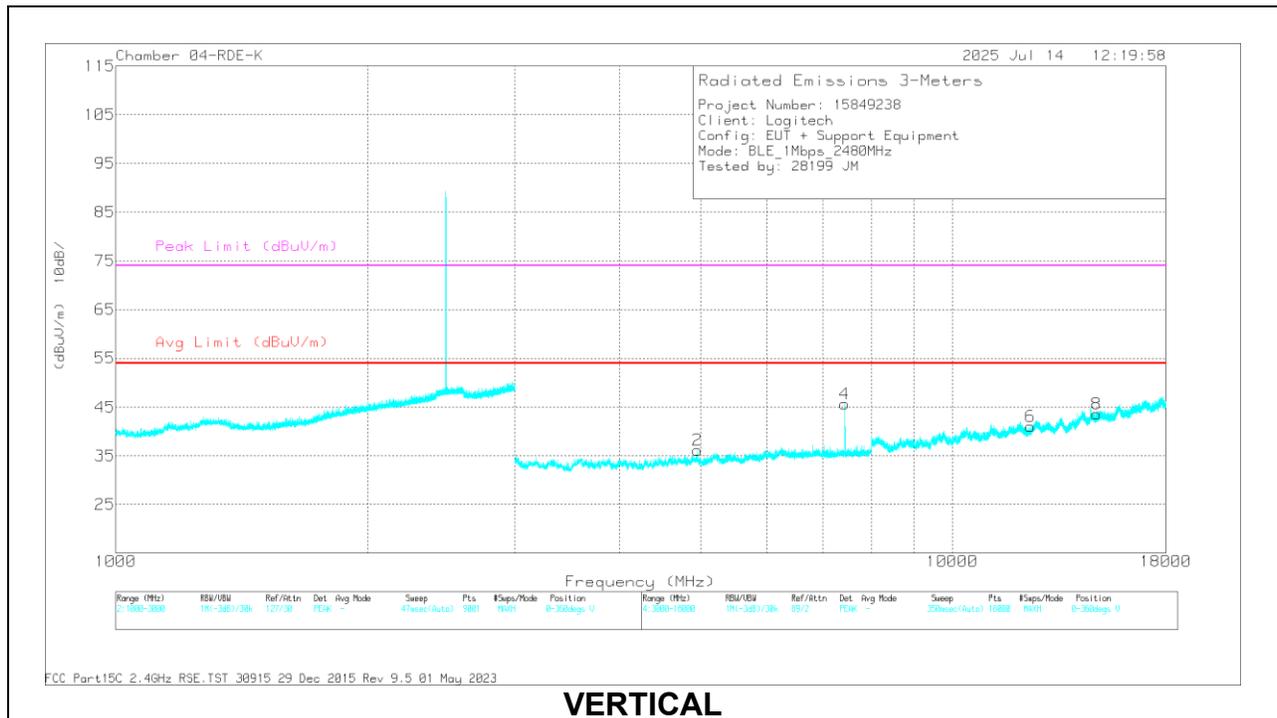
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4959.543	52.56	PK2	34.1	-40.2	46.46	-	-	74	-27.54	264	104	H
	*** 4959.898	41.87	MAv1	34.1	-40.2	35.77	54	-18.23	-	-	264	104	H
2	*** 4960.665	51.92	PK2	34.1	-40.2	45.82	-	-	74	-28.18	346	219	V
	*** 4959.997	42	MAv1	34.1	-40.2	35.9	54	-18.1	-	-	346	219	V
3	*** 7439.275	57.56	PK2	35.6	-37.6	55.56	-	-	74	-18.44	20	115	H
	*** 7440.586	52.21	MAv1	35.6	-37.6	50.21	54	-3.79	-	-	20	115	H
4	*** 7440.733	54.81	PK2	35.6	-37.6	52.81	-	-	74	-21.19	291	120	V
	*** 7439.427	48.77	MAv1	35.6	-37.6	46.77	54	-7.23	-	-	291	120	V
5	*** 12401.355	48.02	PK2	38.8	-34.3	52.52	-	-	74	-21.48	125	111	H
	*** 12401.125	39.36	MAv1	38.8	-34.3	43.86	54	-10.14	-	-	125	111	H
6	*** 12391.032	46.2	PK2	38.8	-34.2	50.8	-	-	74	-23.2	299	249	V
	*** 12390.15	33.54	MAv1	38.8	-34.2	38.14	54	-15.86	-	-	299	249	V
7	14878.999	42.32	Pk	39.6	-34	47.92	-	-	-	-	0-360	101	H
8	14883.999	38.03	Pk	39.6	-34	43.63	-	-	-	-	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

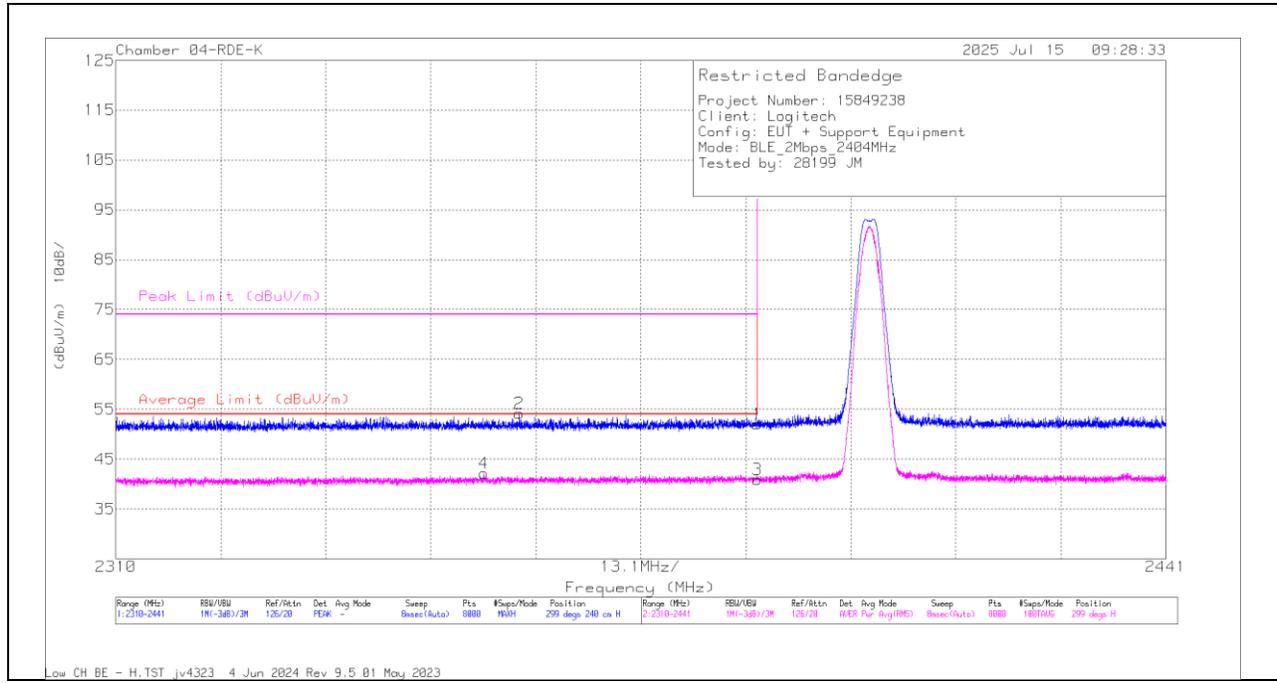
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.2.2. BLE (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

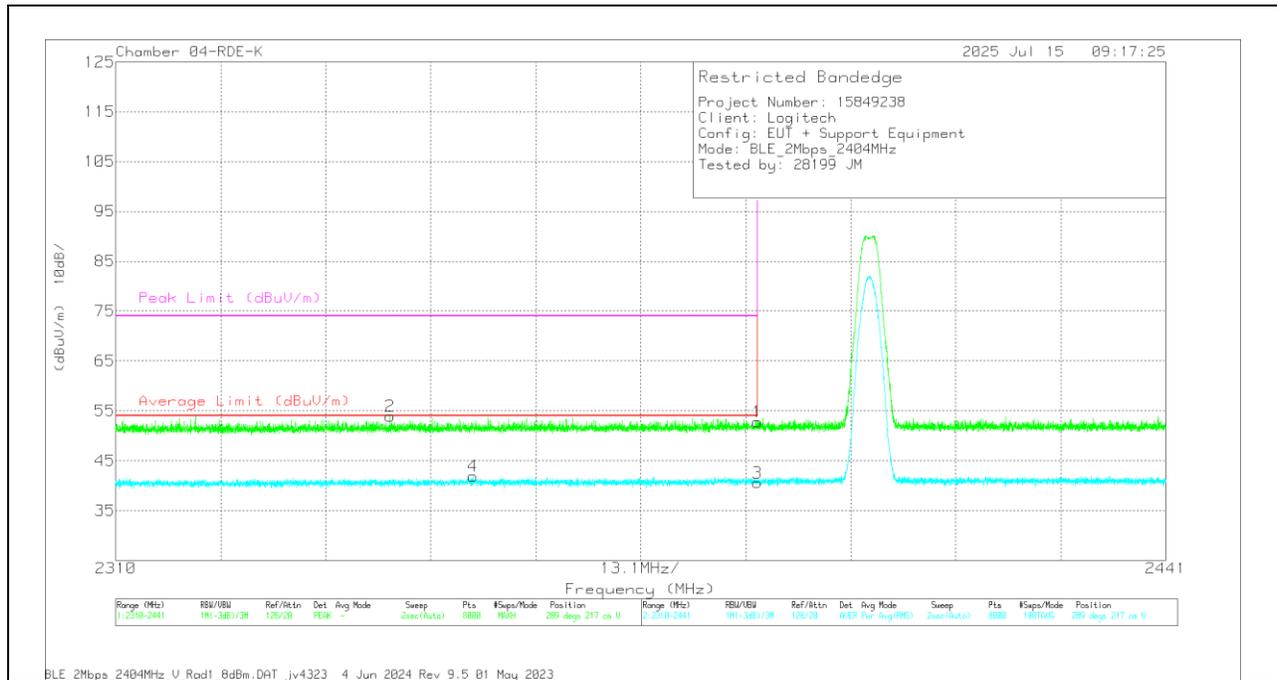


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	54.3	Pk	32.3	-34.6	52	-	-	74	-22	299	240	H
2	* 2360.343	56.69	Pk	32.2	-34.7	54.19	-	-	74	-19.81	299	240	H
3	* 2390	43.17	RMS	32.3	-34.6	40.87	54	-13.13	-	-	299	240	H
4	* 2355.921	44.62	RMS	32.2	-34.7	42.12	54	-11.88	-	-	299	240	H

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

VERTICAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	55.09	Pk	32.3	-34.6	52.79	-	-	74	-21.21	289	217	V
2	* 2344.244	56.64	Pk	32.1	-34.8	53.94	-	-	74	-20.06	289	217	V
3	* 2390	42.87	RMS	32.3	-34.6	40.57	54	-13.43	-	-	289	217	V
4	* 2354.562	44.37	RMS	32.2	-34.7	41.87	54	-12.13	-	-	289	217	V

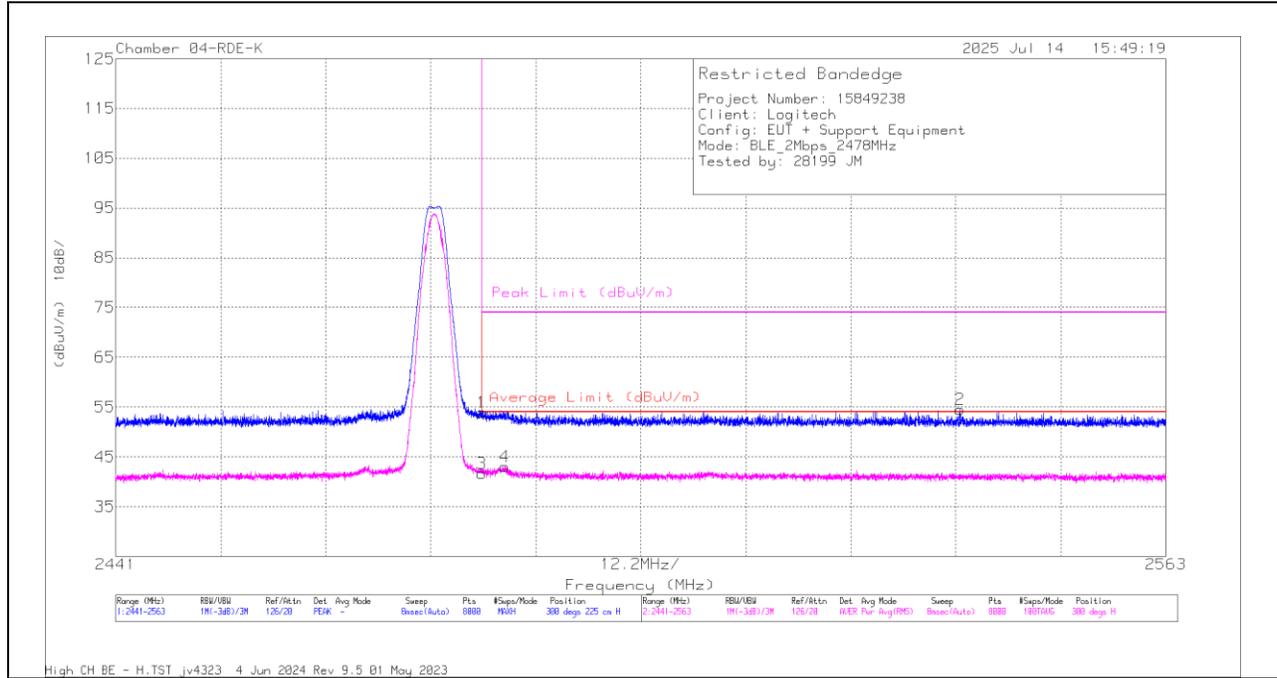
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT

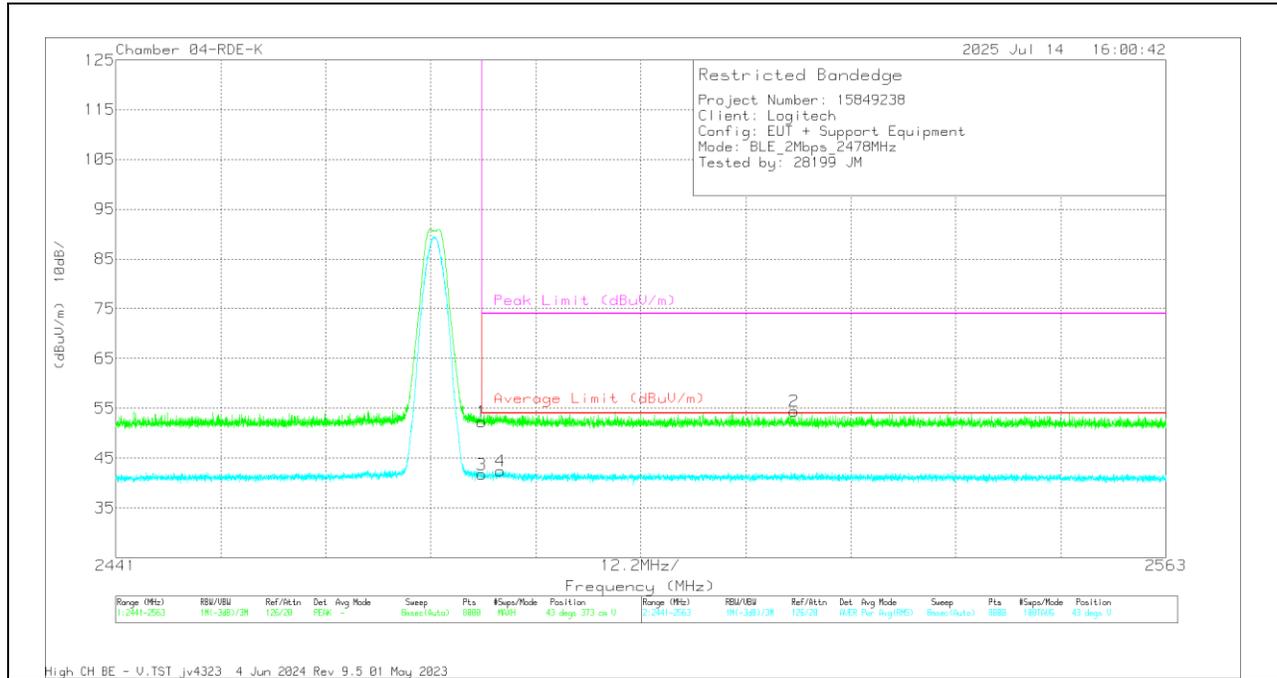


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2483.5	55.47	Pk	32.6	-34.2	53.87	-	-	74	-20.13	300	225	H
2	** 2539.055	56.11	Pk	32.5	-34.1	54.51	-	-	74	-19.49	300	225	H
3	*** 2483.5	43.26	RMS	32.6	-34.2	41.66	54	-12.34	-	-	300	225	H
4	** 2486.222	44.58	RMS	32.6	-34.2	42.98	54	-11.02	-	-	300	225	H

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

VERTICAL RESULT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2483.5	53.84	Pk	32.6	-34.2	52.24	-	-	74	-21.76	43	373	V
2	** 2519.822	55.87	Pk	32.6	-34.1	54.37	-	-	74	-19.63	43	373	V
3	*** 2483.5	43.3	RMS	32.6	-34.2	41.7	54	-12.3	-	-	43	373	V
4	** 2485.704	44.04	RMS	32.6	-34.2	42.44	54	-11.56	-	-	43	373	V

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

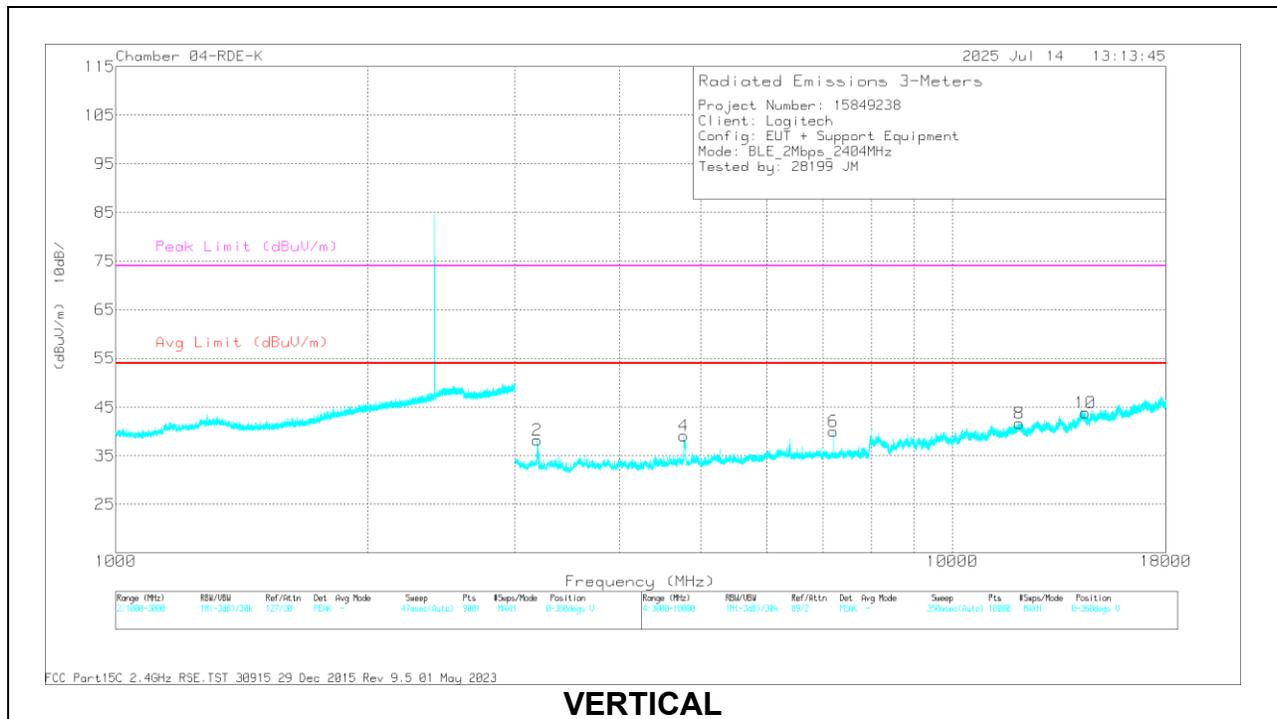
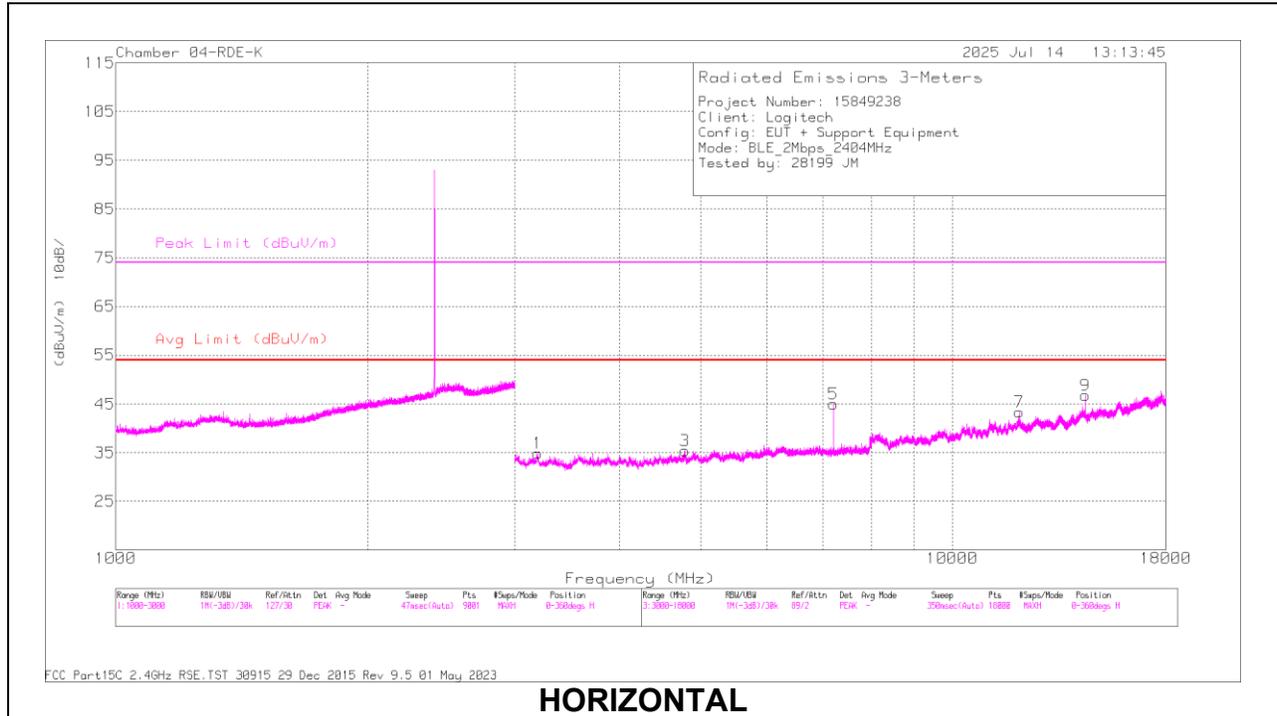
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3196.678	43.29	Pk	33.2	-41.6	34.89	-	-	-	-	0-360	200	H
2	3188.344	46.76	Pk	33.2	-41.7	38.26	-	-	-	-	0-360	200	V
3	*** 4788.931	50.52	PK2	34.2	-40.5	44.22	-	-	74	-29.78	258	132	H
	*** 4790.334	38.64	MAv1	34.2	-40.4	32.44	54	-21.56	-	-	258	132	H
4	*** 4788.544	56.12	PK2	34.2	-40.5	49.82	-	-	74	-24.18	276	269	V
	*** 4792.634	38.74	MAv1	34.2	-40.4	32.54	54	-21.46	-	-	276	269	V
5	7210.666	54.28	PK2	35.6	-38.3	51.58	-	-	-	-	19	220	H
6	7210.384	53.54	PK2	35.6	-38.2	50.94	-	-	-	-	342	116	V
7	*** 12017.892	48.57	PK2	38.7	-34.5	52.77	-	-	74	-21.23	130	217	H
	*** 12022.474	37.94	MAv1	38.8	-34.5	42.24	54	-11.76	-	-	130	217	H
8	*** 12018.088	47.01	PK2	38.7	-34.5	51.21	-	-	74	-22.79	323	378	V
	*** 12016.199	35.21	MAv1	38.7	-34.5	39.41	54	-14.59	-	-	323	378	V
9	14426.473	41.84	Pk	39.3	-34.4	46.74	-	-	-	-	0-360	101	H
10	14427.307	38.94	Pk	39.3	-34.4	43.84	-	-	-	-	0-360	101	V

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

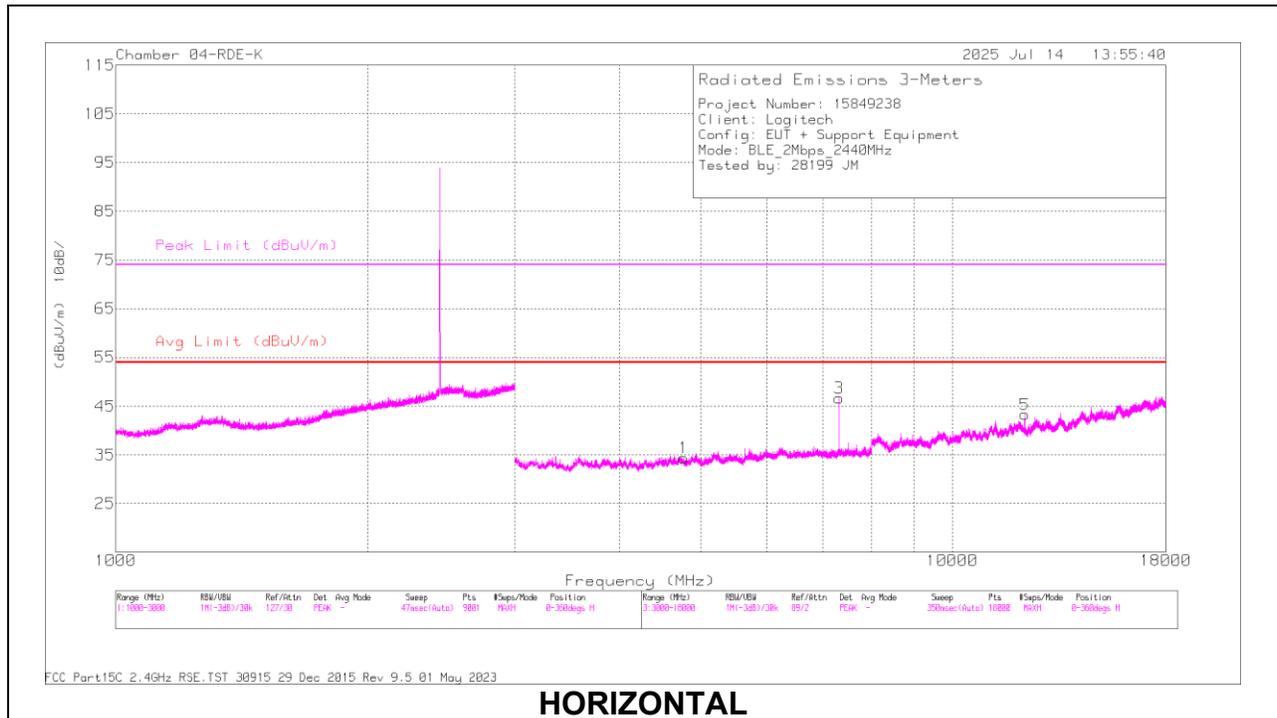
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

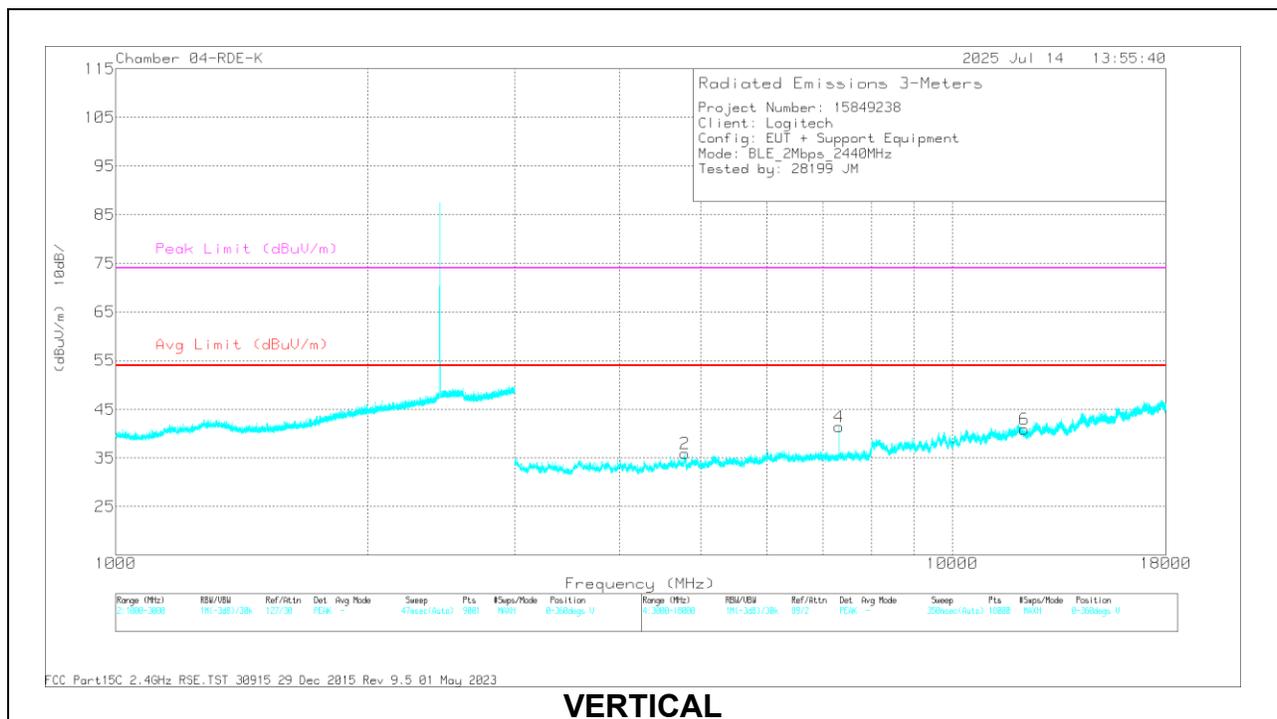
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



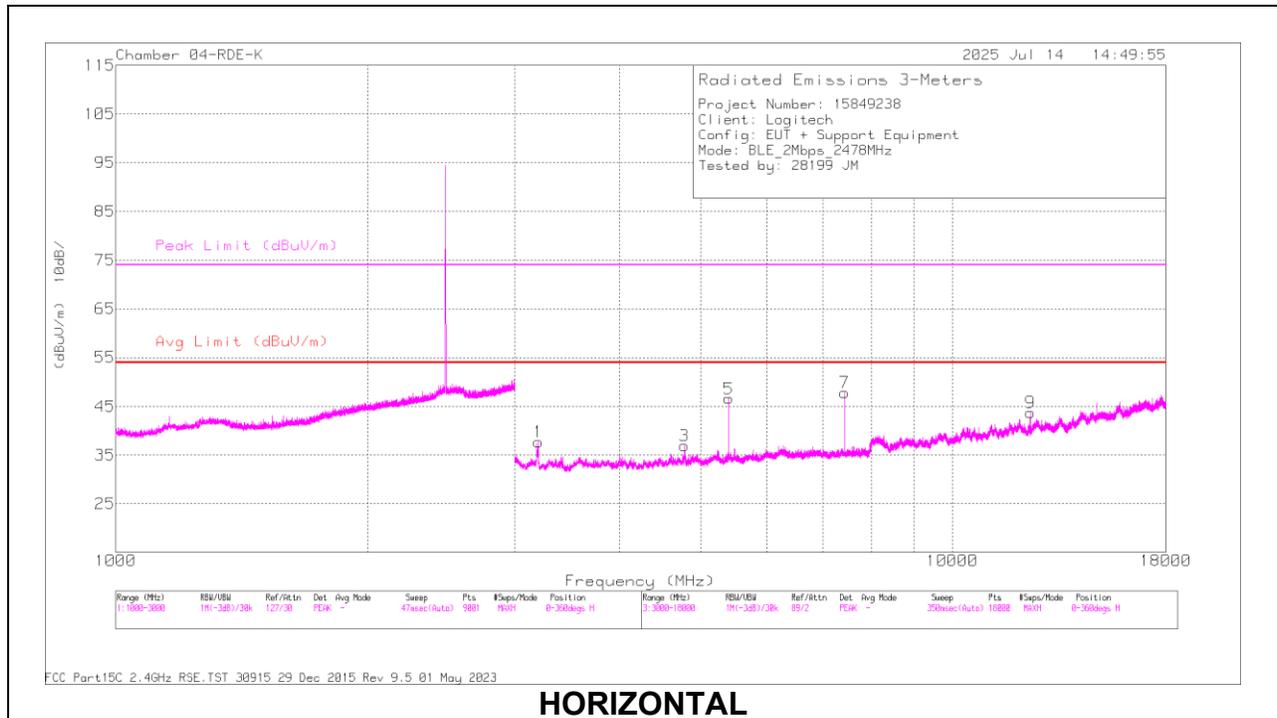
VERTICAL

RADIATED EMISSIONS

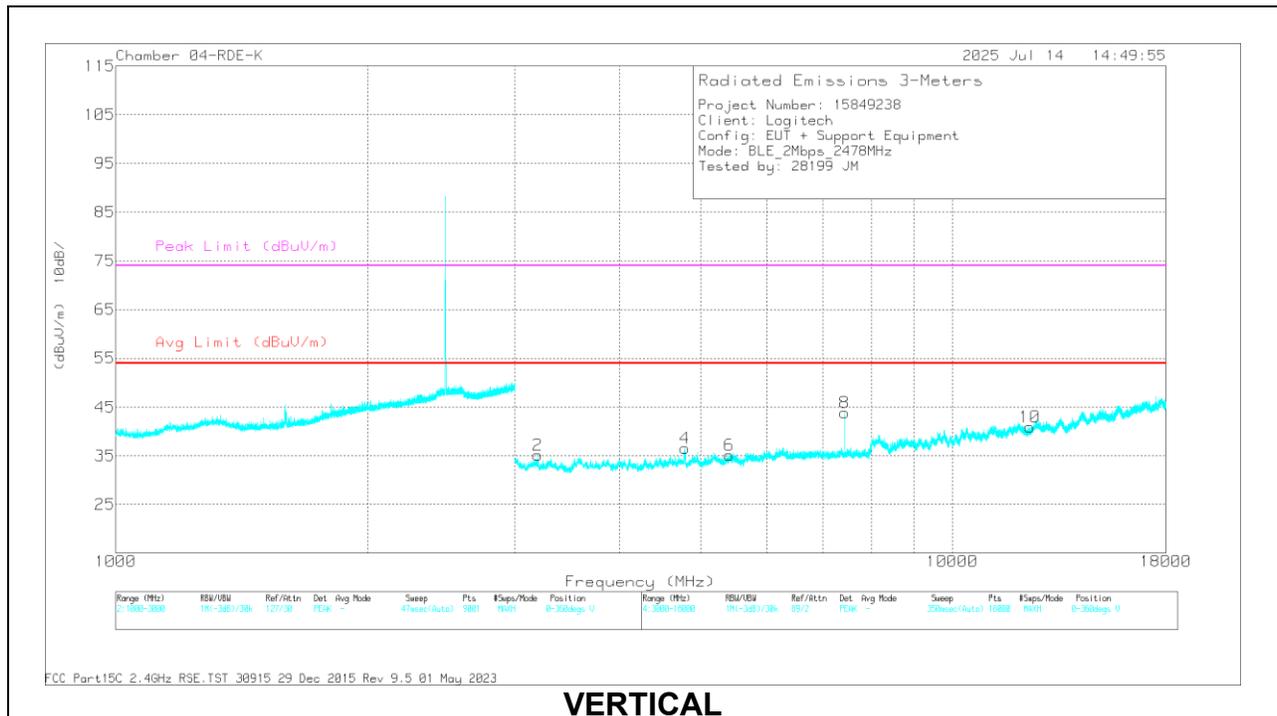
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 4780.362	52.16	PK2	34.2	-40.5	45.86	-	-	74	-28.14	144	269	H
	*** 4771.098	39.19	MAv1	34.2	-40.6	32.79	54	-21.21	-	-	144	269	H
2	*** 4790.744	54.87	PK2	34.2	-40.4	48.67	-	-	74	-25.33	272	277	V
	*** 4785.685	38.9	MAv1	34.2	-40.5	32.6	54	-21.4	-	-	272	277	V
3	*** 7321.599	55.83	PK2	35.6	-37.8	53.63	-	-	74	-20.37	14	253	H
	*** 7321.294	48.77	MAv1	35.6	-37.8	46.57	54	-7.43	-	-	14	253	H
4	*** 7318.494	53.46	PK2	35.6	-37.8	51.26	-	-	74	-22.74	108	228	V
	*** 7318.721	45.37	MAv1	35.6	-37.8	43.17	54	-10.83	-	-	108	228	V
5	*** 12202.56	47.63	PK2	38.8	-34.6	51.83	-	-	74	-22.17	146	260	H
	*** 12202.57	36.56	MAv1	38.8	-34.6	40.76	54	-13.24	-	-	146	260	H
6	*** 12203.537	46.1	PK2	38.8	-34.6	50.3	-	-	74	-23.7	119	210	V
	*** 12206.072	34.69	MAv1	38.8	-34.6	38.89	54	-15.11	-	-	119	210	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Fitr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3198.344	46.12	Pk	33.2	-41.6	37.72	-	-	-	-	0-360	200	H
2	3195.844	43.59	Pk	33.2	-41.6	35.19	-	-	-	-	0-360	200	V
3	*** 4780.81	52.23	PK2	34.2	-40.5	45.93	-	-	74	-28.07	127	173	H
	*** 4781.062	39.54	MAv1	34.2	-40.5	33.24	54	-20.76	-	-	127	173	H
4	*** 4784.893	51.41	PK2	34.2	-40.5	45.11	-	-	74	-28.89	234	305	V
	*** 4786.448	39.05	MAv1	34.2	-40.5	32.75	54	-21.25	-	-	234	305	V
5	*** 5396.138	50.42	PK2	34.6	-39.8	45.22	-	-	74	-28.78	179	375	H
	*** 5400.705	38.76	MAv1	34.6	-39.8	33.56	54	-20.44	-	-	179	375	H
6	*** 5411.293	51.44	PK2	34.6	-39.7	46.34	-	-	74	-27.66	32	295	V
	*** 5411.885	39.03	MAv1	34.6	-39.7	33.93	54	-20.07	-	-	32	295	V
7	*** 7435.522	57.19	PK2	35.6	-37.6	55.19	-	-	74	-18.81	22	125	H
	*** 7432.756	50.98	MAv1	35.6	-37.5	49.08	54	-4.92	-	-	22	125	H
8	*** 7432.494	54.28	PK2	35.6	-37.5	52.38	-	-	74	-21.62	272	169	V
	*** 7432.834	46.96	MAv1	35.6	-37.5	45.06	54	-8.94	-	-	272	169	V
9	*** 12392.445	47.63	PK2	38.8	-34.2	52.23	-	-	74	-21.77	133	126	H
	*** 12392.563	38.11	MAv1	38.8	-34.2	42.71	54	-11.29	-	-	133	126	H
10	*** 12382.267	44.9	PK2	38.8	-34.1	49.6	-	-	74	-24.4	308	148	V
	*** 12376.295	33.19	MAv1	38.8	-34	37.99	54	-16.01	-	-	308	148	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.3. TRANSMITTER WORST CASE BELOW 30MHz

SPURIOUS EMISSIONS BELOW 30MHz (WORST-CASE CONFIGURATION)



Below 30MHz Data

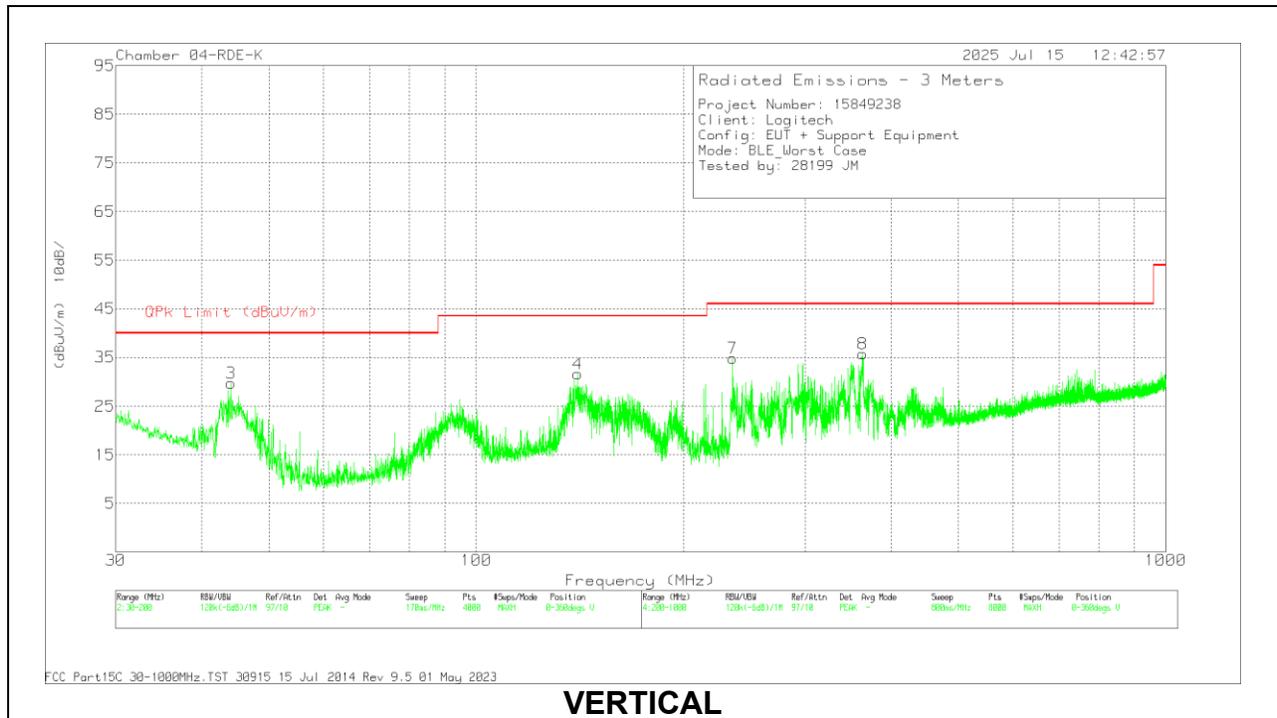
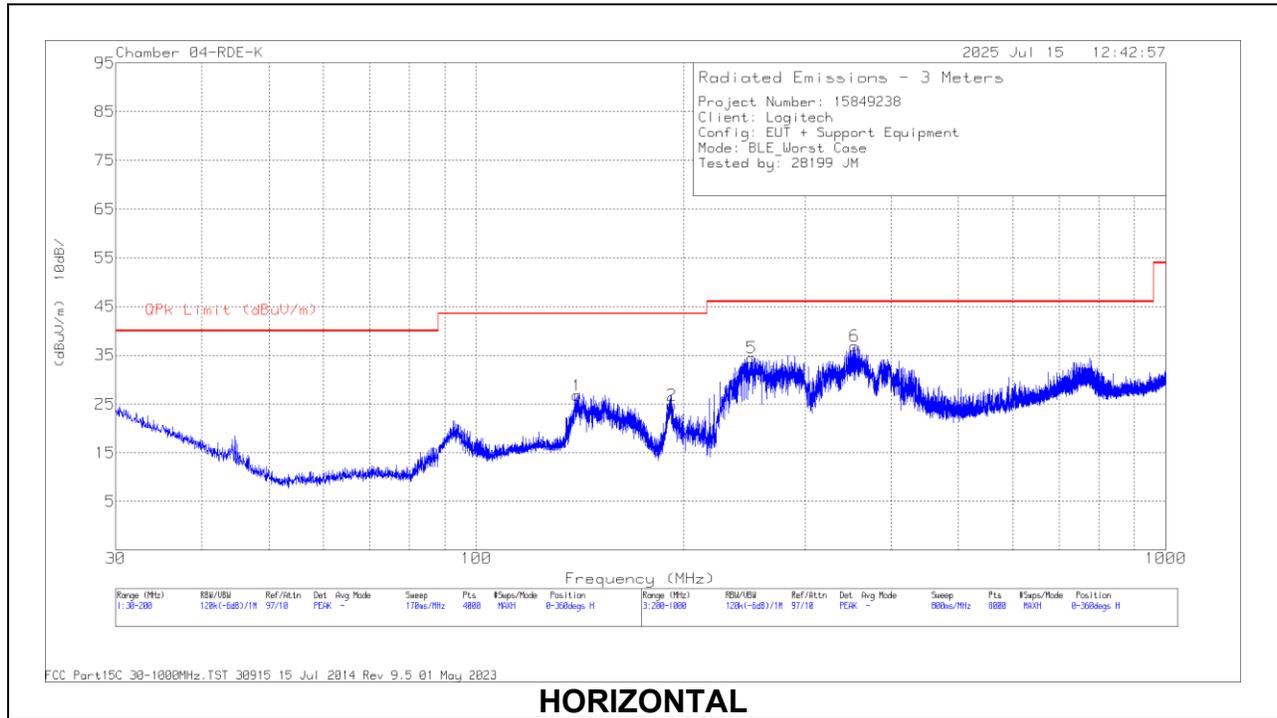
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity (Degs)
1	.0504	34.37	Pk	56.9	-32.2	-80	-20.93	53.53	-74.46	33.53	-54.46	-	-	-	-	0-360	0-Deg
4	.0676	23.83	Pk	55.9	-32	-80	-32.27	50.98	-83.25	30.98	-63.25	-	-	-	-	0-360	90-Deg
5	.26	26.58	Pk	56	-32.1	-80	-29.52	-	-	-	-	39.31	-68.83	19.31	-48.83	0-360	90-Deg
2	.2619	29.92	Pk	56	-32.1	-80	-26.18	-	-	-	-	39.25	-65.43	19.25	-45.43	0-360	0-Deg

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity (Degs)
6	.6941	20.51	Pk	56.1	-31.9	-40	4.71	30.78	-26.07	0-360	90-Deg
3	.9564	24.96	Pk	56.1	-32	-40	9.06	28.01	-18.95	0-360	0-Deg
7	1.3937	25.58	Pk	44.7	-32	-40	-1.72	24.75	-26.47	0-360	0-Deg
9	1.5361	21.28	Pk	44	-31.7	-40	-6.42	23.9	-30.32	0-360	90-Deg
10	10.4003	26.87	Pk	34.6	-31.6	-40	-10.13	29.5	-39.63	0-360	90-Deg
8	11.0154	34.32	Pk	34.6	-31.6	-40	-2.68	29.5	-32.18	0-360	0-Deg

Pk - Peak detector

10.4. TRANSMITTER WORST CASE BELOW 1 GHZ

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



Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	203089 ACF (dB/m)	Amp/CbIs (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	139.891	37.84	Pk	19.2	-30.3	26.74	43.52	-16.78	0-360	299	H
2	192.137	37.31	Pk	17.4	-30	24.71	43.52	-18.81	0-360	101	H
3	44.0711	43.69	Pk	17.2	-31.2	29.69	40	-10.31	0-360	100	V
4	140.401	42.8	Pk	19.1	-30.3	31.6	43.52	-11.92	0-360	100	V
5	* ** 250.907	46.65	Pk	17.5	-29.7	34.45	46.02	-11.57	0-360	399	H
6	347.296	35.05	Qp	20.2	-29.3	25.95	46.02	-20.07	192	190	H
7	235.405	47.47	Pk	17.2	-29.8	34.87	46.02	-11.15	0-360	199	V
8	363.121	44.05	Pk	20.9	-29.2	35.75	46.02	-10.27	0-360	101	V

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

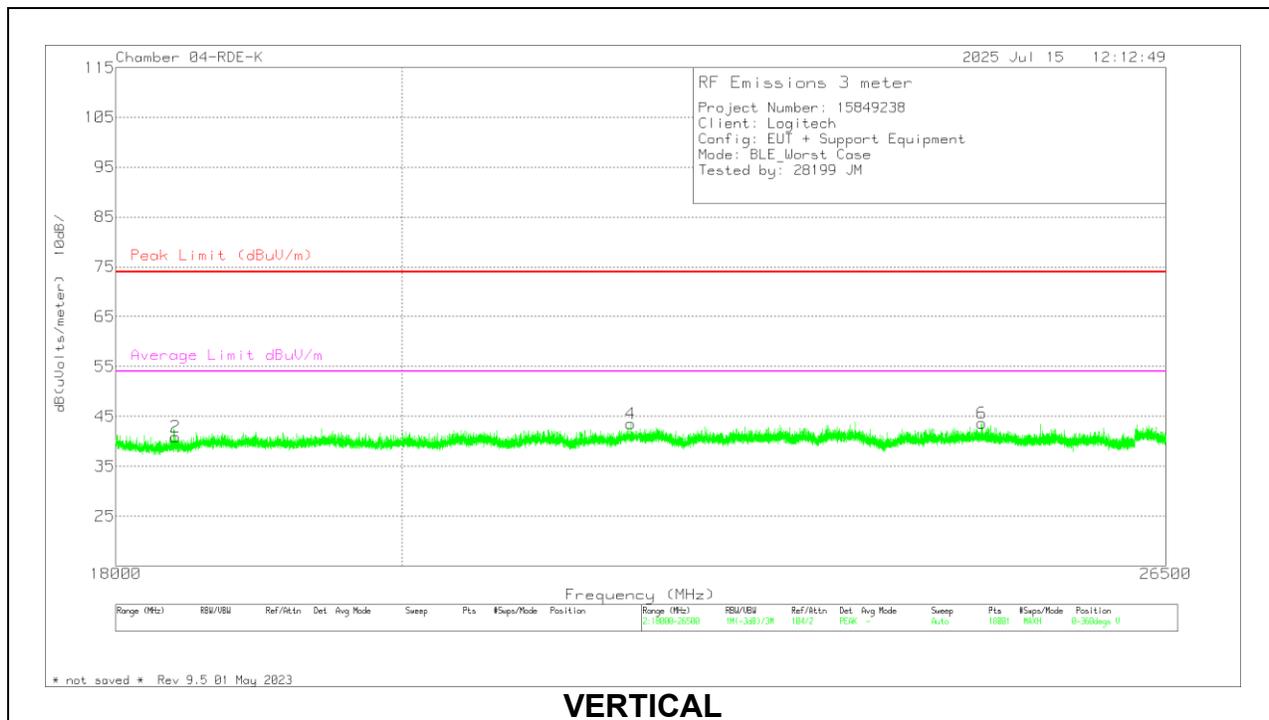
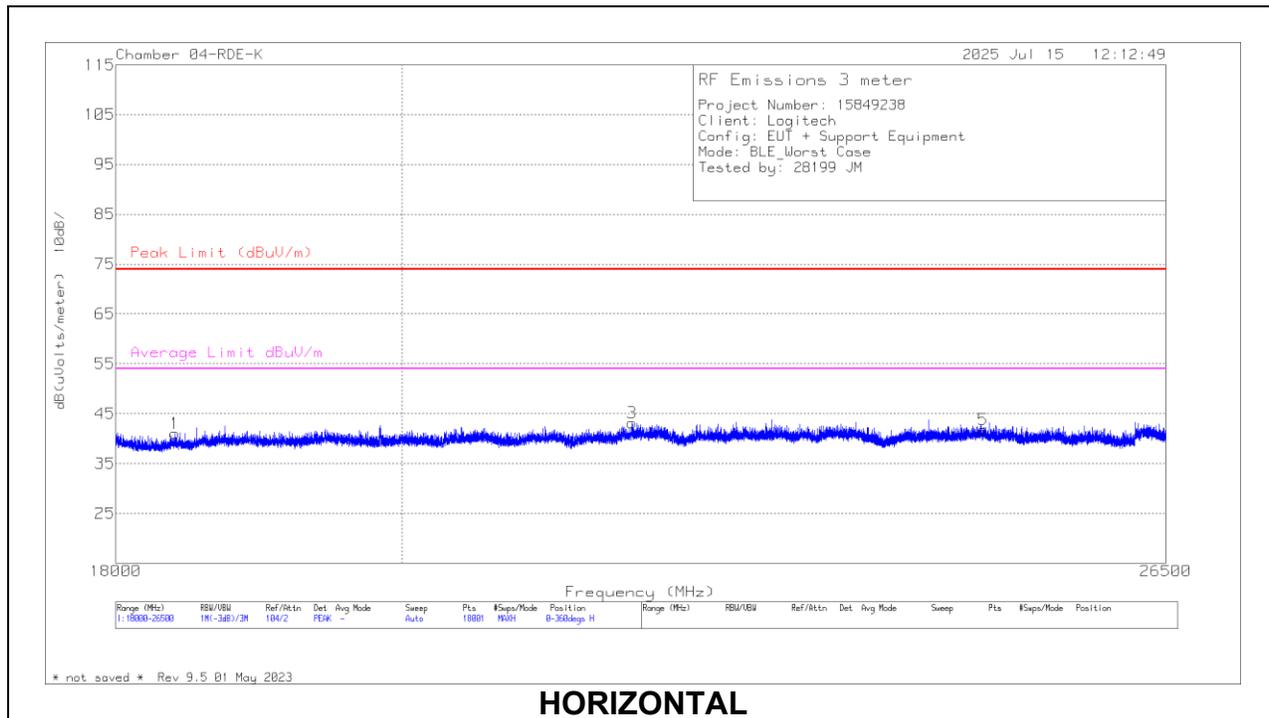
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

10.5. TRANSMITTER WORST CASE 18-26.5GHz

SPURIOUS EMISSIONS 18 TO 26.5 GHz (WORST-CASE CONFIGURATION)



18-26.5 GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	172354 ACF (dB/m)	coupler	CBL AMP (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 18396.194	52.21	Pk	32.1	-62.7	19.4	41.01	74	-32.99	-	-	0-360	200	H
2	** 18399.972	52.11	Pk	32.1	-62.7	19.4	40.91	74	-33.09	-	-	0-360	199	V
3	21770.693	50.64	Pk	32.9	-61.2	20.8	43.14	74	-30.86	-	-	0-360	101	H
4	21758.415	50.9	Pk	32.9	-61.1	20.8	43.5	74	-30.5	-	-	0-360	199	V
5	24772.608	47.82	Pk	33.8	-62	22.2	41.82	74	-32.18	-	-	0-360	200	H
6	24764.58	49.62	Pk	33.8	-62	22.2	43.62	74	-30.38	-	-	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

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

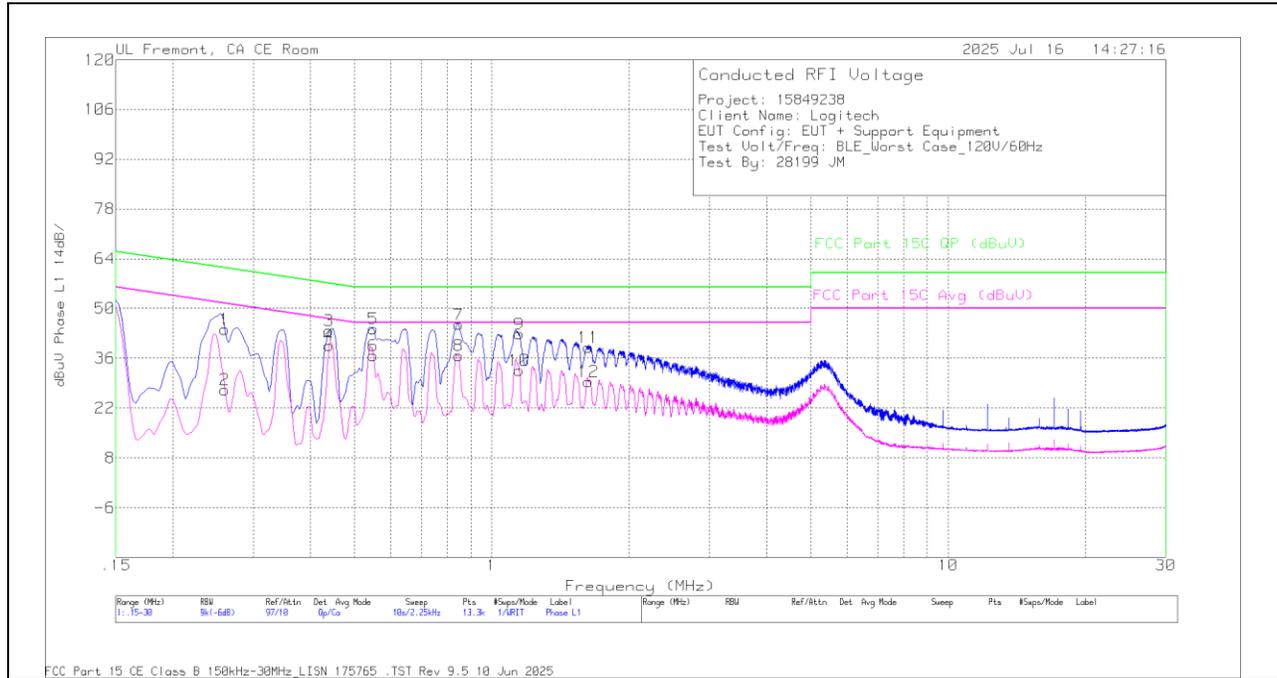
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line WITH LAPTOP

LINE 1 RESULTS



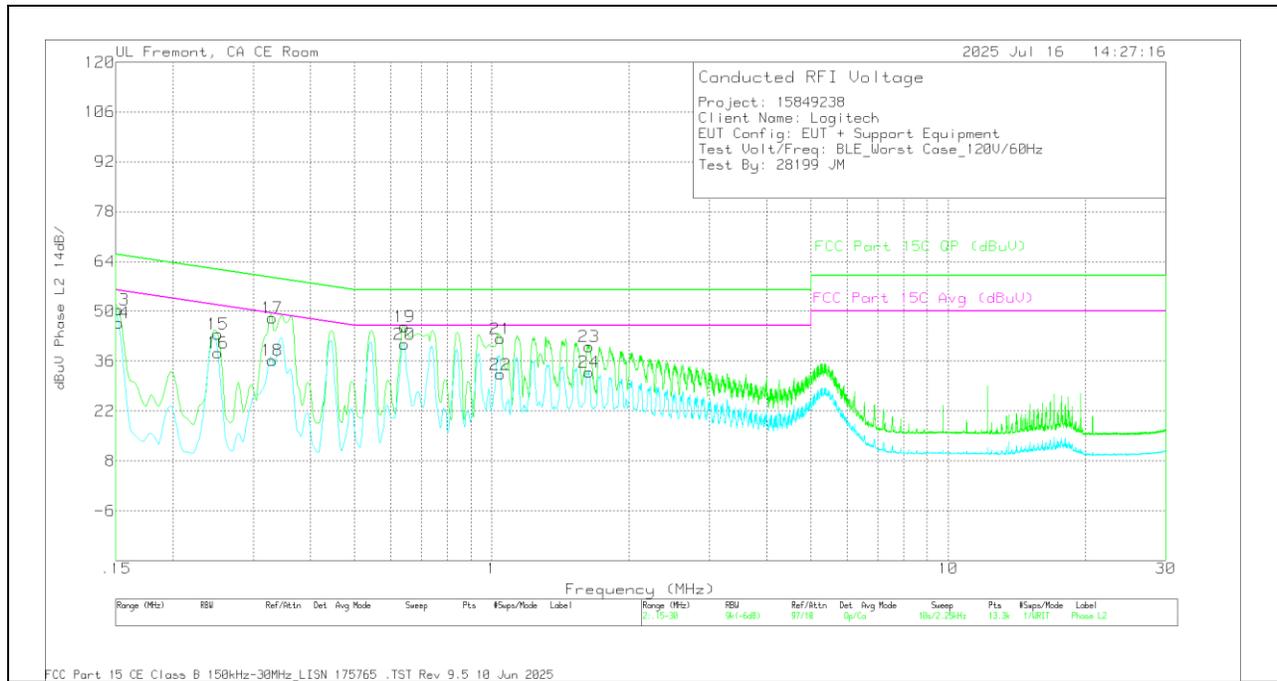
Trace Markers

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit er no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg (dBuV)	Margin (dB)	FCC Part 15C QP (dBuV)	Margin (dB)
2	.2603	7.8	Ca	9.4	0	10	27.2	51.42	-24.22	-	-
4	.4403	20.2	Ca	9.4	0	10	39.6	47.06	-7.46	-	-
6	.5505	17.51	Ca	9.3	0	10	36.81	46	-9.19	-	-
8	.8453	17.34	Ca	9.4	0	10	36.74	46	-9.26	-	-
10	1.149	13.22	Ca	9.4	0	10	32.62	46	-13.38	-	-
12	1.6283	10.04	Ca	9.4	0	10	29.44	46	-16.56	-	-
1	.2603	24.71	Qp	9.4	0	10	44.11	-	-	61.42	-17.31
3	.4403	24.43	Qp	9.4	0	10	43.83	-	-	57.06	-13.23
5	.5505	25.05	Qp	9.3	0	10	44.35	-	-	56	-11.65
7	.8453	26.05	Qp	9.4	0	10	45.45	-	-	56	-10.55
9	1.149	23.42	Qp	9.4	0	10	42.82	-	-	56	-13.18
11	1.6283	19.64	Qp	9.4	0	10	39.04	-	-	56	-16.96

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Trace Markers

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit er no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15C Avg (dBuV)	Margin (dB)	FCC Part 15C QP (dBuV)	Margin (dB)
14	.1523	27.21	Ca	9.4	.1	10	46.71	55.88	-9.17	-	-
16	.2513	18.96	Ca	9.4	0	10	38.36	51.72	-13.36	-	-
18	.33	16.91	Ca	9.3	0	10	36.21	49.45	-13.24	-	-
20	.6428	21.57	Ca	9.3	0	10	40.87	46	-5.13	-	-
22	1.0455	13	Ca	9.3	0	10	32.3	46	-13.7	-	-
24	1.6328	13.55	Ca	9.4	0	10	32.95	46	-13.05	-	-
13	.1523	30.96	Qp	9.4	.1	10	50.46	-	-	65.88	-15.42
15	.2513	24.25	Qp	9.4	0	10	43.65	-	-	61.72	-18.07
17	.33	28.8	Qp	9.3	0	10	48.1	-	-	59.45	-11.35
19	.6428	26.43	Qp	9.3	0	10	45.73	-	-	56	-10.27
21	1.0455	23	Qp	9.3	0	10	42.3	-	-	56	-13.7
23	1.6328	20.66	Qp	9.4	0	10	40.06	-	-	56	-15.94

Qp - Quasi-Peak detector
 Ca - CISPR average detection