

CERTIFICATION TEST REPORT

Report Number. : 4791196642-E6V1

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SC-55E, SCG28

FCC ID : A3LSMF956JPN

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax,
NFC, WPT and UWB

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

Date Of Issue:

2024-05-31

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Revision History

Rev.	Issue Date	Revisions	Revised By
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB

MODEL NUMBER: SC-55E, SCG28

SERIAL NUMBER: R3CX30KWKLK (CONDUCTED);
R3CX30KWSPF (RADIATED);

DATE TESTED: 2024-05-10 ~ 2024-05-31;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR Part 15 Subpart C	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



Yeonhee Lim
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 15.
3. KDB 558074 D01 15.247 Meas Guidance v05r02.
4. KDB 662911 D01 Multiple Transmitter Output v02r01
5. ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☒	Chamber 1(3m semi-anechoic chamber)
☒	Chamber 2(3m semi-anechoic chamber)
☒	Chamber 3(3m semi-anechoic chamber)
☐	Chamber 4(3m Full-anechoic chamber)
☐	Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 28.9 \text{ dBuV/m} &= 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} \end{aligned}$$

$$\begin{aligned} \text{AC Corrected Reading (dBuV)} &= \text{Measured Voltage (dBuV)} + \text{Extension Cord} \\ &\text{Loss (dB)} + \text{Cable Loss (dB)} \\ 44.72 \text{ dBuV} &= 34.72 \text{ dBuV} + 9.9 \text{ dB} + 0.1 \text{ dB} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.79 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.69 dB
Radiated Disturbance, 30 MHz to 1 GHz	4.07 dB
Radiated Disturbance, 1 GHz to 18 GHz	4.99 dB
Radiated Disturbance, Above 18 GHz	5.96 dB

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

4.4. DECISION RULES

Decision rule for statement(s) of conformity is based on Clause 4.4.3 in IEC Guide 115:2023.

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB. This test report addresses the DTS (BLE) operational mode.

Representative model	Difference	Derivative model
		SCG28
SC-55E	Hardware	Same as SC-55E
	Software	Different UI

The model SC-55E was used for final testing and is representative of the test results in this report.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range[MHz]	Mode	Power Mode	Output Power [dBm]	Output Power [mW]
2 402 ~ 2 480	1 Mbps (255 pkt)	Peak	10.700	11.749
		Average	10.309	10.737
	2Mbps (255 pkt)	Peak	10.740	11.858
		Average	10.204	10.481

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

**The internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.**

The radio utilizes a internal antenna, with a maximum gain of:

Frequency Band[MHz]	ANT1 Gain [dBi]	ANT2 Gain [dBi]	Correlated Chains Directional Gain[dBi]
DTS 2400 – 2483.5	-2.22	-1.78	1.01

Directional gain for the MIMO operations is determined using KDB 662911 D01 Multiple Transmitter Output section F (2)(d)(1) for *Unequal antenna gains, with equal transmit powers*. The gain is calculated using the formula for correlated transmissions across the two transmit antennas.

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ dBi.

Sample calculation for this device with $N_{ANT} = 2$

Directional gain = $10 \log[(10^{-2.22/20} + 10^{-1.78/20})^2 / 2] = 1.01$ dBi

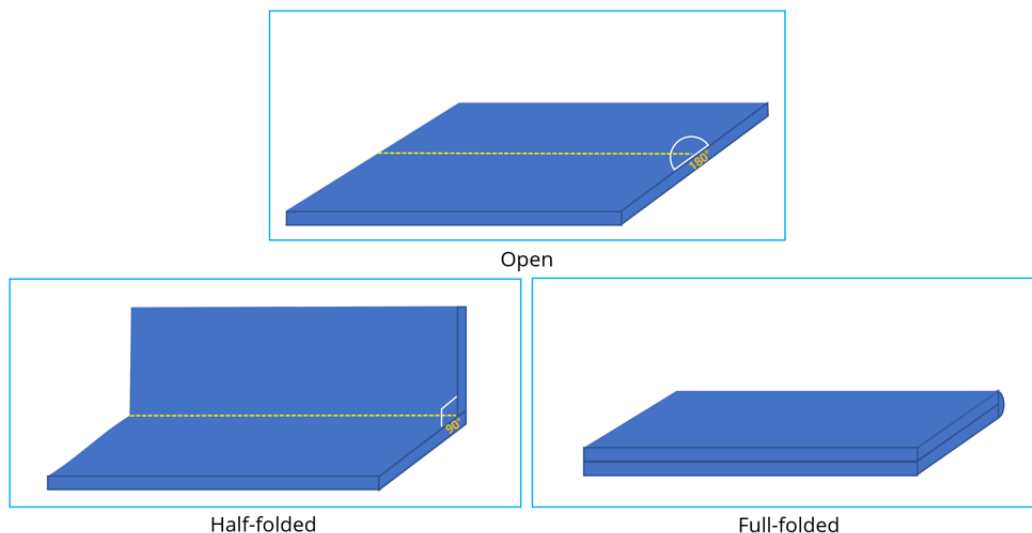
“SUB4” and “SUB3” as indicated in antenna specification are written as ANT1 and ANT2 in this report.

5.4. WORST-CASE CONFIGURATION AND MODE

Both Bluetooth LE Diversity mode have been investigated and confirmed.

The fundamentals of the EUT were investigated in three orthogonal orientations X, Y and Z. It was determined that below table's orientation was the worst-case orientation.

Worst-case	ANT1	ANT2
Axis	X	Y
Foldable condition	Half-folded	Open



For conducted power test, Diversity mode were verified and reported. Diversity mode test was performed on SISI iPA mode.

Radiated and power line conducted tests were performed with EUT connected to AC power adapter as the worst-case configuration. Radiated harmonics spurious 1~18 GHz Low/Mid/High channels, 18-26GHz were performed with the EUT set at the Diversity mode. Radiated emission below 1GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

For Radiated band-edge and spurious test, tests were performed on Diversity mode.

Due to modulation characteristics, 125 kbps data is worse than 1Mbps in the RBW 3kHz PSD setting. However, based on the RBW (1MHz) when measuring radiated spurious, the PSD of 1Mbps is higher, so 1Mbps was selected as the worst case to suit the radiation test environment. All radiated and power line conducted tests were performed attached with travel adapter for the worst-case condition mode.

Power verification

The Output Power of all data rate are all investigated, the 1 Mbps(255 pkt) and 2 Mbps(255 pkt) power is the worst case for symbol rate. All tests were performed in these two modes.

Symbol Rate [Ms/s]	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]	Symbol Rate [Ms/s]	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]
1	1 Mbps 37 pkt ANT1	2 402	9.900	2	2 Mbps 37 pkt ANT1	2 404	9.795
		2 440	9.049			2 440	8.879
		2 480	7.770			2 478	8.345
	1 Mbps 37 pkt ANT2	2 402	10.301		2 Mbps 37 pkt ANT2	2 404	10.174
		2 440	10.035			2 440	9.851
		2 480	8.498			2 478	8.734
	1 Mbps 255 pkt ANT1	2 402	9.856		2 Mbps 255 pkt ANT1	2 404	9.939
		2 440	8.981			2 440	8.819
		2 480	7.681			2 478	8.246
	1 Mbps 255 pkt ANT2	2 402	10.309		2 Mbps 255 pkt ANT2	2 404	10.204
		2 440	10.026			2 440	10.051
		2 480	8.657			2 478	8.910
1 Coded S=8	125 kbps 37 pkt ANT1	2 402	9.967	1 Coded S=2	500 kbps 37 pkt ANT1	2 402	10.154
		2 440	9.273			2 440	9.025
		2 480	7.714			2 480	7.777
	125 kbps 37 pkt ANT2	2 402	10.309		500 kbps 37 pkt ANT2	2 402	10.088
		2 440	10.199			2 440	10.178
		2 480	8.477			2 480	8.496
	125 kbps 255 pkt ANT1	2 402	9.859		500 kbps 255 pkt ANT1	2 402	10.099
		2 440	9.124			2 440	9.052
		2 480	7.656			2 480	7.684
	125 kbps 255 pkt ANT2	2 402	10.277		500 kbps 255 pkt ANT2	2 402	10.285
		2 440	10.040			2 440	9.998
		2 480	8.626			2 480	8.461

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37N9QP6H09DK3	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02111A	N/A

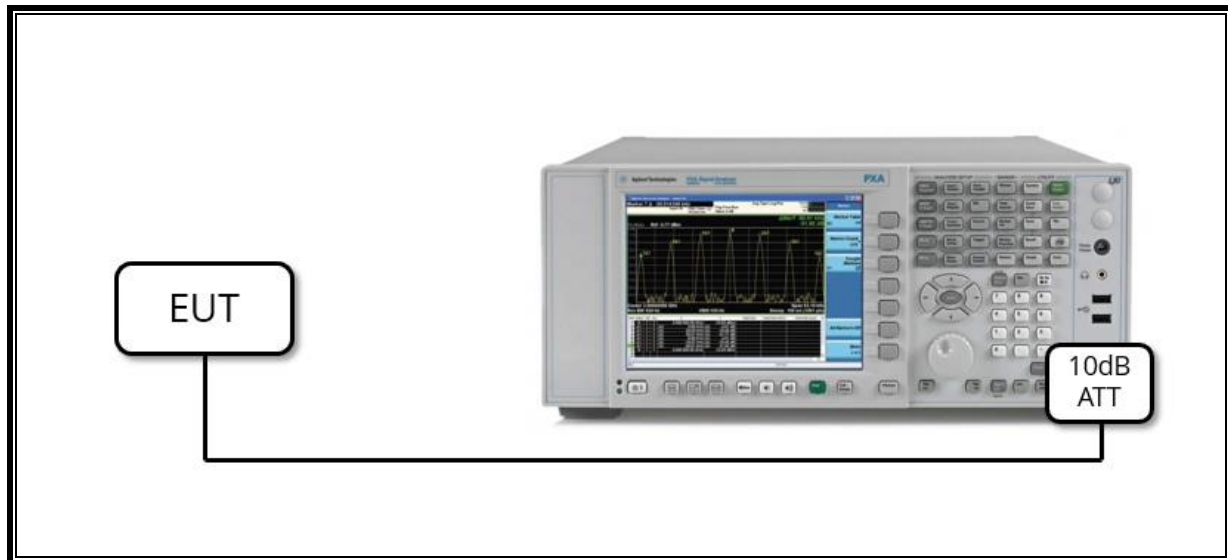
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

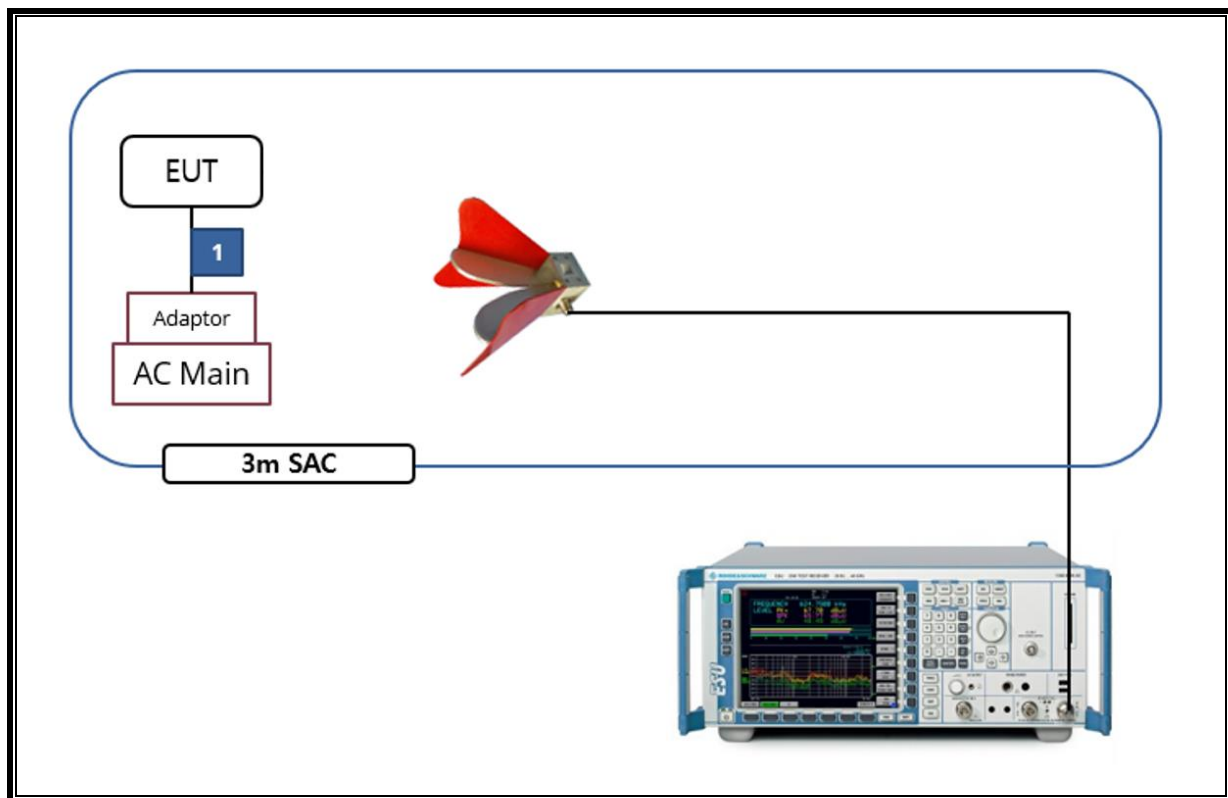
TEST SETUP

The EUT is a stand-alone unit during the tests.
Test software in hidden menu exercised the EUT to enable BLE mode.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. MEASUREMENT METHOD

6 dB BW : ANSI C63.10-2013, Section 11.8.2 Option 2

OUTPUT POWER : ANSI C63.10-2013, Section 11.9.1.1 RBW $\geq$ DTS bandwidth

POWER SPECTRAL DENSITY : ANSI C63.10-2013, Section 11.10.2 Method PKPSD (peak PSD)

Out-of-band Emissions (Conducted) : ANSI C63.10-2013, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Non-restricted Bands: ANSI C63.10-2013, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Restricted Bands : ANSI C63.10-2013, Section 11.12 Emissions in restricted frequency bands

AC Power Line Conducted Emission : ANSI C63.10-2013, Section 6.2

7. 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	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Horn, 18 GHz	ETS	3117	00168717	2024-08-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Preamplifier	ETS	3116C-PA	00168841	2024-07-25
Preamplifier, 1000 MHz	Sonoma	310N	341282	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2024-07-24
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2024-07-25
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2024-07-24
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2025-01-03
Average Power Sensor	Agilent / HP	U2000A	MY54270007	2024-07-23
Average Power Sensor	Agilent / HP	U2000A	MY54260010	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A001	2024-07-23
Attenuator	PASTERNAK	PE7087-10	A008	2024-07-27
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2024-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2024-07-24
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2024-07-23
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	2024-07-23
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	2024-07-23
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	2024-07-24
LISN	R&S	ENV-216	101837	2024-07-23
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2025-09-06
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

8. TEST RESULTS SUMMARY

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	Occupied Bandwidth(6dB)	> 500kHz	Conducted	Complies
2.1051, 15.247(d)	Band Edge / Conducted Spurious Emission	-20 dBc		Complies
15.247 (b)(3)	TX conducted output power	< 30 dBm		Complies
15.247(e)	PSD	< 8 dBm/3kHz		Complies
15.207(a)	AC Power Line conducted emissions	Section 11	Power Line conducted	Complies
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	Complies

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

Mode	On time [msec]	Period [msec]	Duty cycle x [Linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2 400 ~ 2 483.5 MHz Bands						
1 Mbps [255 pkt]	2.134	2.503	0.853	85.258	0.69	0.47
2 Mbps [255 pkt]	1.080	1.408	0.767	76.705	1.15	0.93



9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

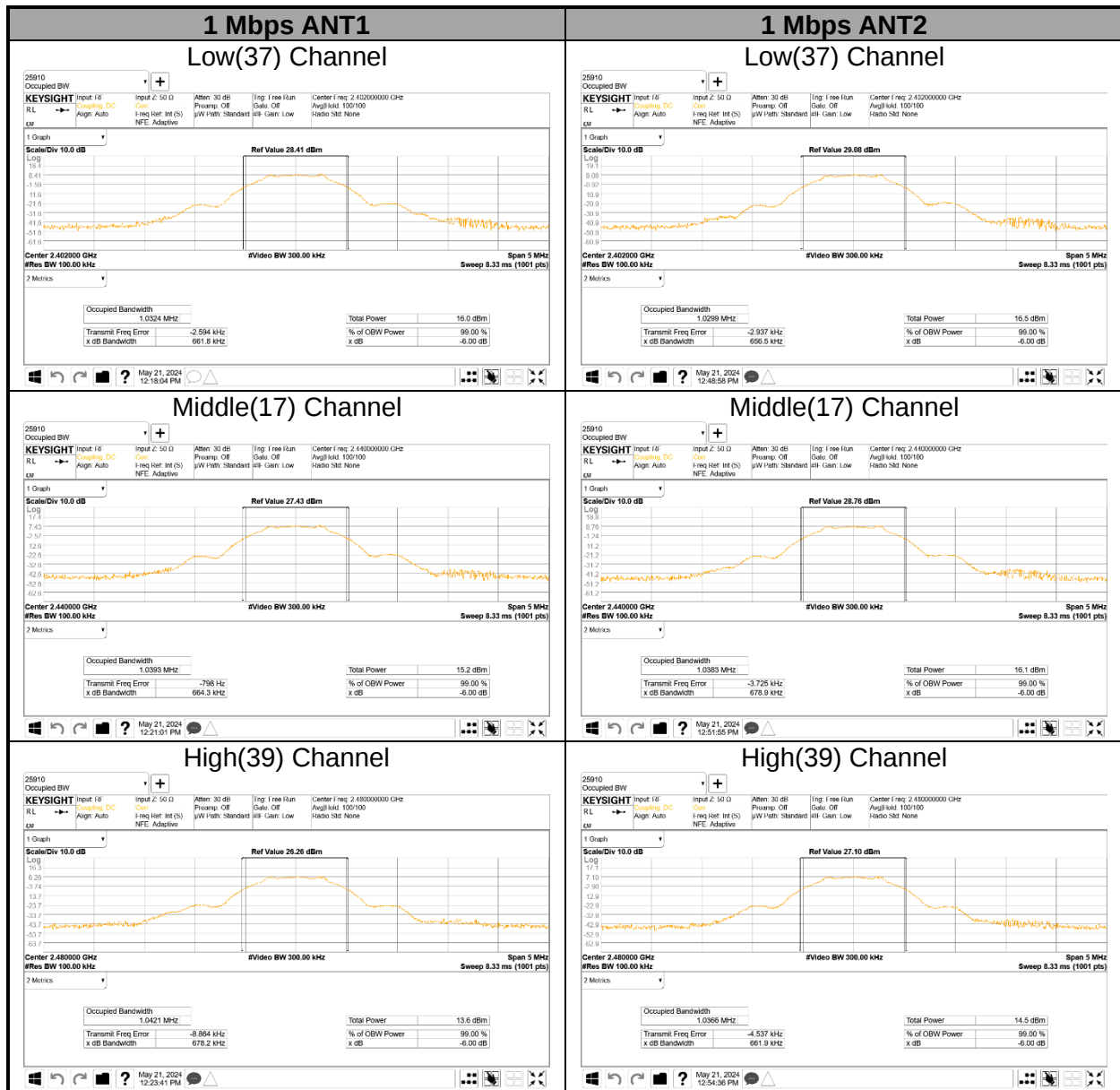
The minimum 6 dB bandwidth shall be at least 500 kHz.

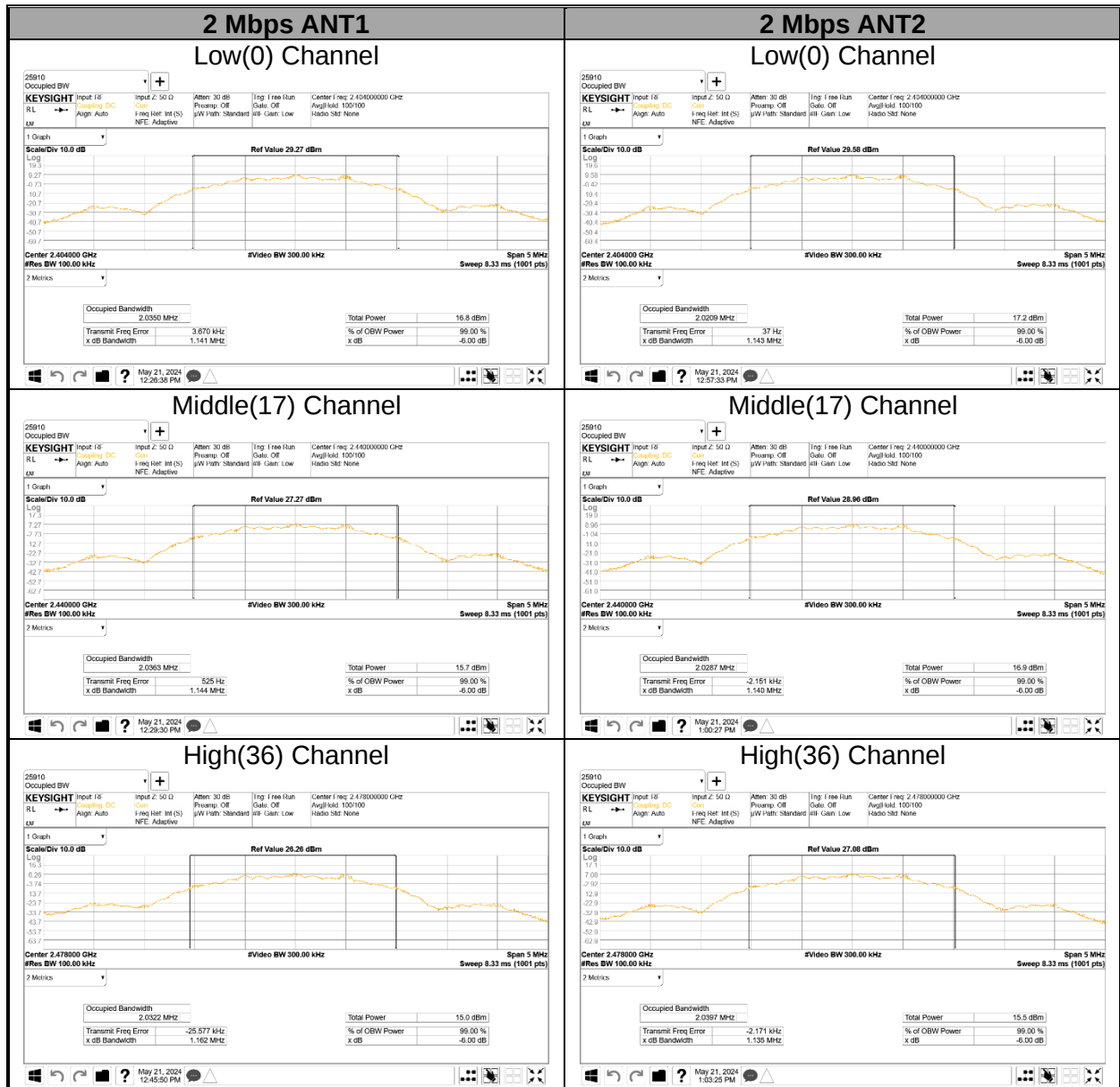
RESULTS

9.2.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
1 Mbps (255pkt)	ANT1	37	2 402	661.8	500.0
		17	2 440	664.3	
		39	2 480	678.2	
	ANT2	37	2 402	656.5	
		17	2 440	678.9	
		39	2 480	661.9	
2 Mbps (255pkt)	ANT1	0	2 404	1.141	
		17	2 440	1.144	
		36	2 478	1.162	
	ANT2	0	2 404	1.143	
		17	2 440	1.140	
		36	2 478	1.135	
Worst				656.5	500.0

9.2.2. 6 dB BANDWIDTH PLOTS





9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

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

TEST PROCEDURE

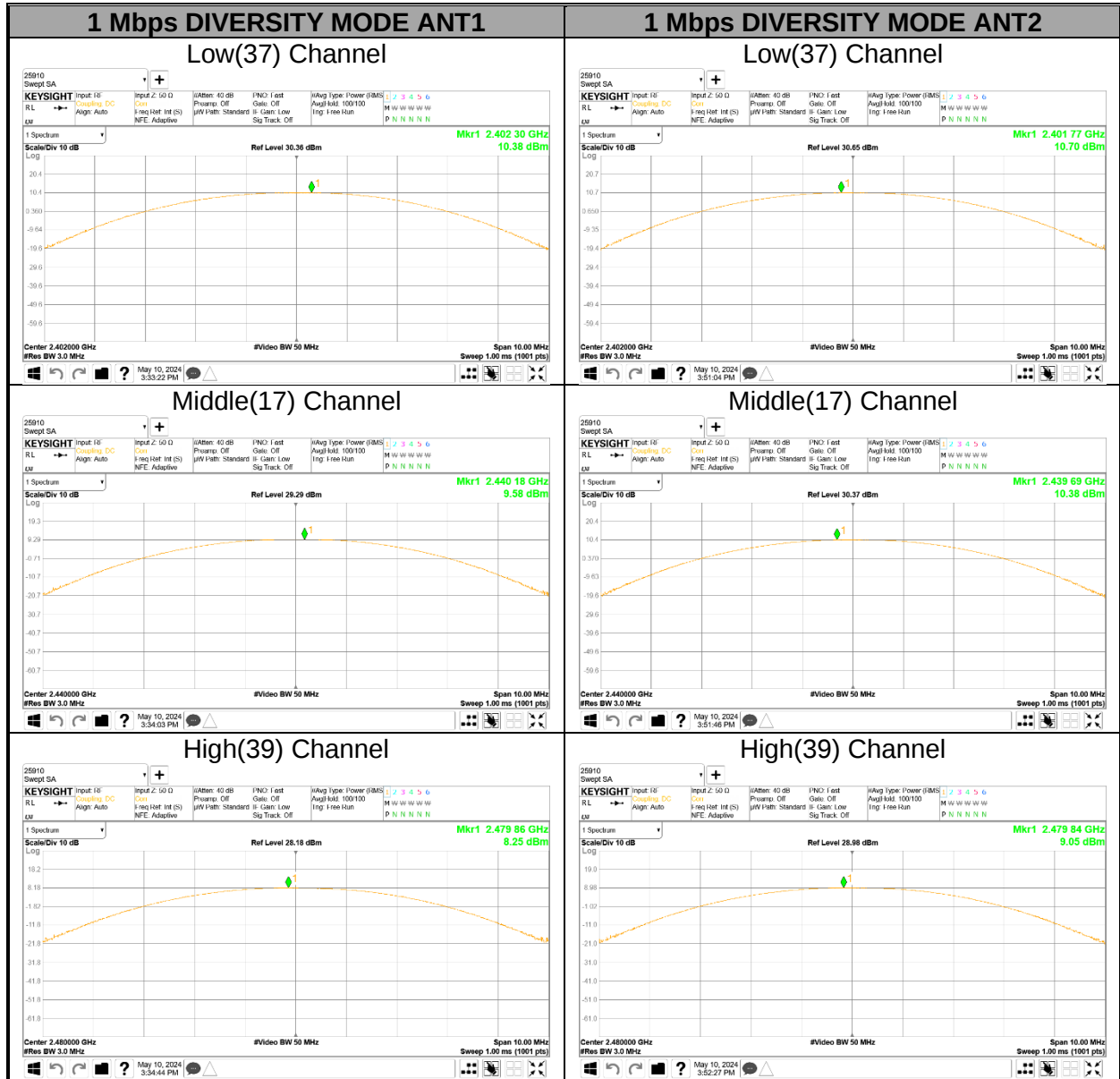
Peak power is measured using ANSI C63.10(2013) under section 11.9.1.1 utilizing spectrum analyzer(RBW $\geq$ DTS bandwidth).

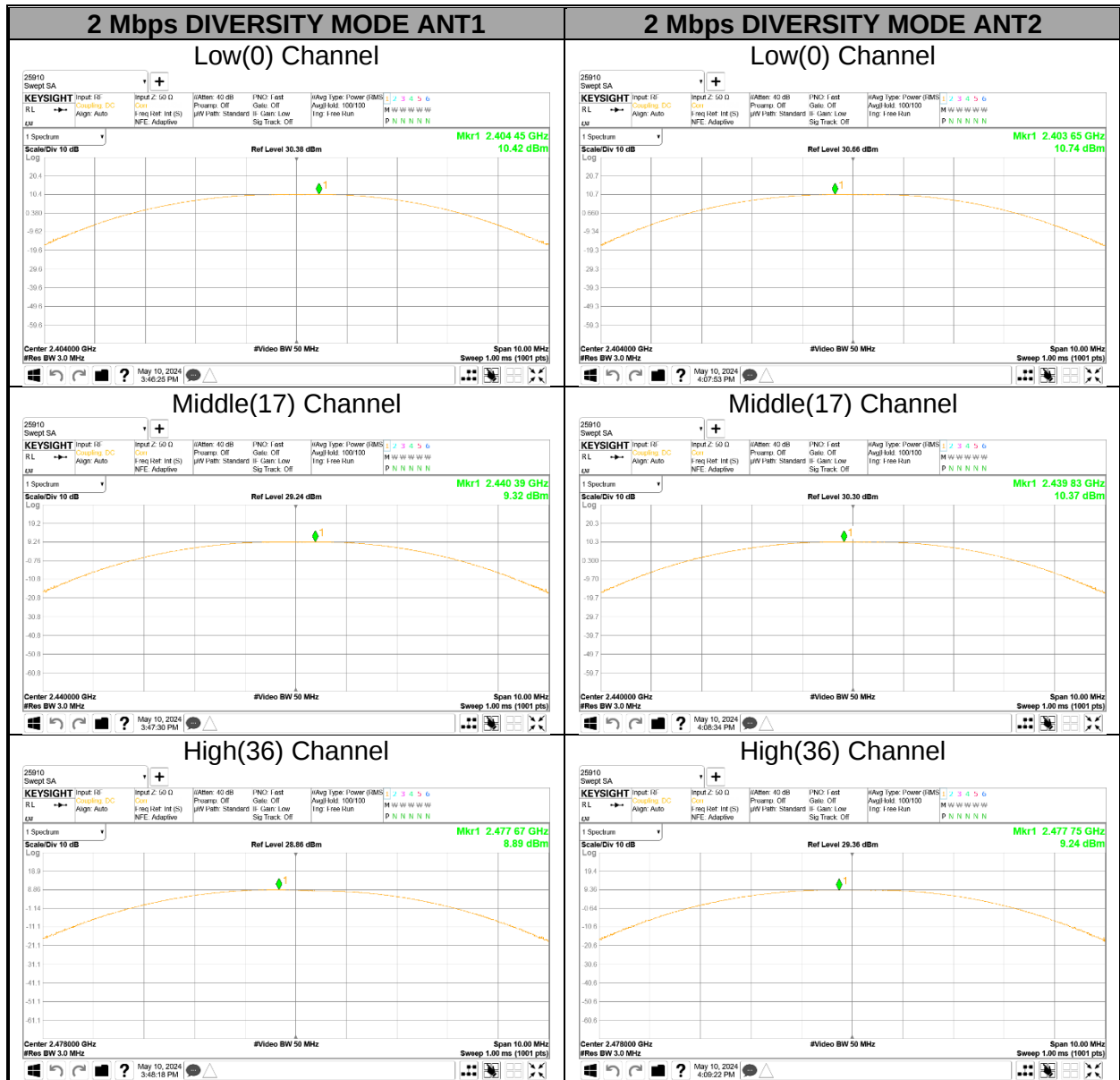
RESULTS

9.3.1. DIVERSITY MODE TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
1 Mbps (255 pkt)	ANT1	37	2 402	10.380	30.000	-19.62
		17	2 440	9.580		-20.42
		39	2 480	8.250		-21.75
	ANT2	37	2 402	10.700		-19.3
		17	2 440	10.380		-19.62
		39	2 480	9.050		-20.95
2 Mbps (255 pkt)	ANT1	0	2 404	10.420		-19.58
		17	2 440	9.320		-20.68
		36	2 478	8.890		-21.11
	ANT2	0	2 404	10.740	-19.26	
		17	2 440	10.370	-19.63	
		36	2 478	9.240	-20.76	
Worst				10.740	-19.26	

9.3.2. PEAK POWER PLOTS





9.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband RF frame average power sensor.
The cable assembly insertion loss and duty cycle correction factor were entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.4.1. DIVERSITY MODE TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
1 Mbps (255 pkt)	ANT1	37	2 402	9.856	9.673
		17	2 440	8.981	7.909
		39	2 480	7.681	5.863
	ANT2	37	2 402	10.309	10.737
		17	2 440	10.026	10.060
		39	2 480	8.657	7.340
2 Mbps (255 pkt)	ANT1	0	2 404	9.939	9.860
		17	2 440	8.819	7.619
		36	2 478	8.246	6.677
	ANT2	0	2 404	10.204	10.481
		17	2 440	10.051	10.118
		36	2 478	8.910	7.780

9.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

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.

TEST PROCEDURE

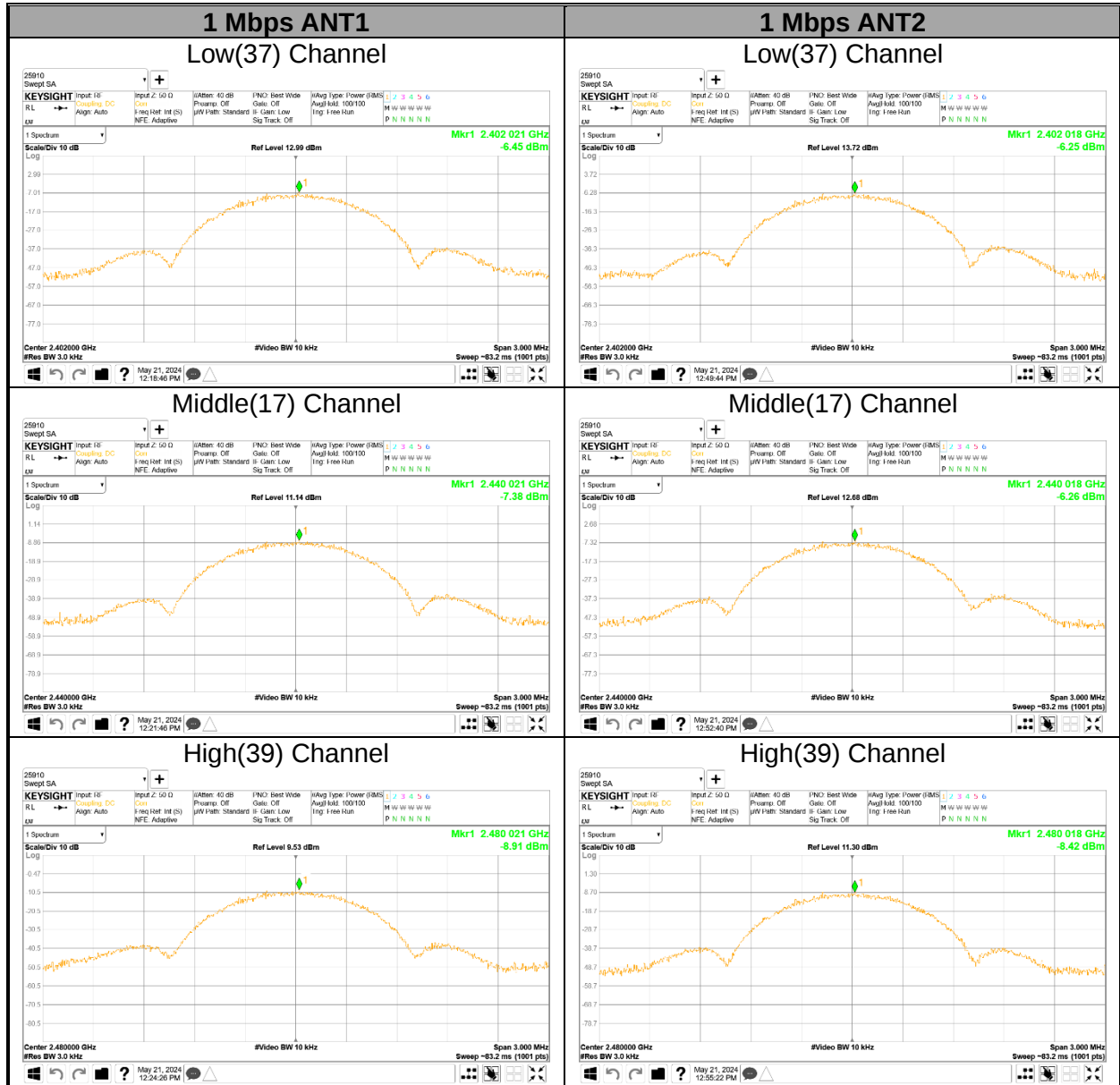
ANSI C63.10-2013, Section 11.10.2 Method PKPSD (peak PSD)

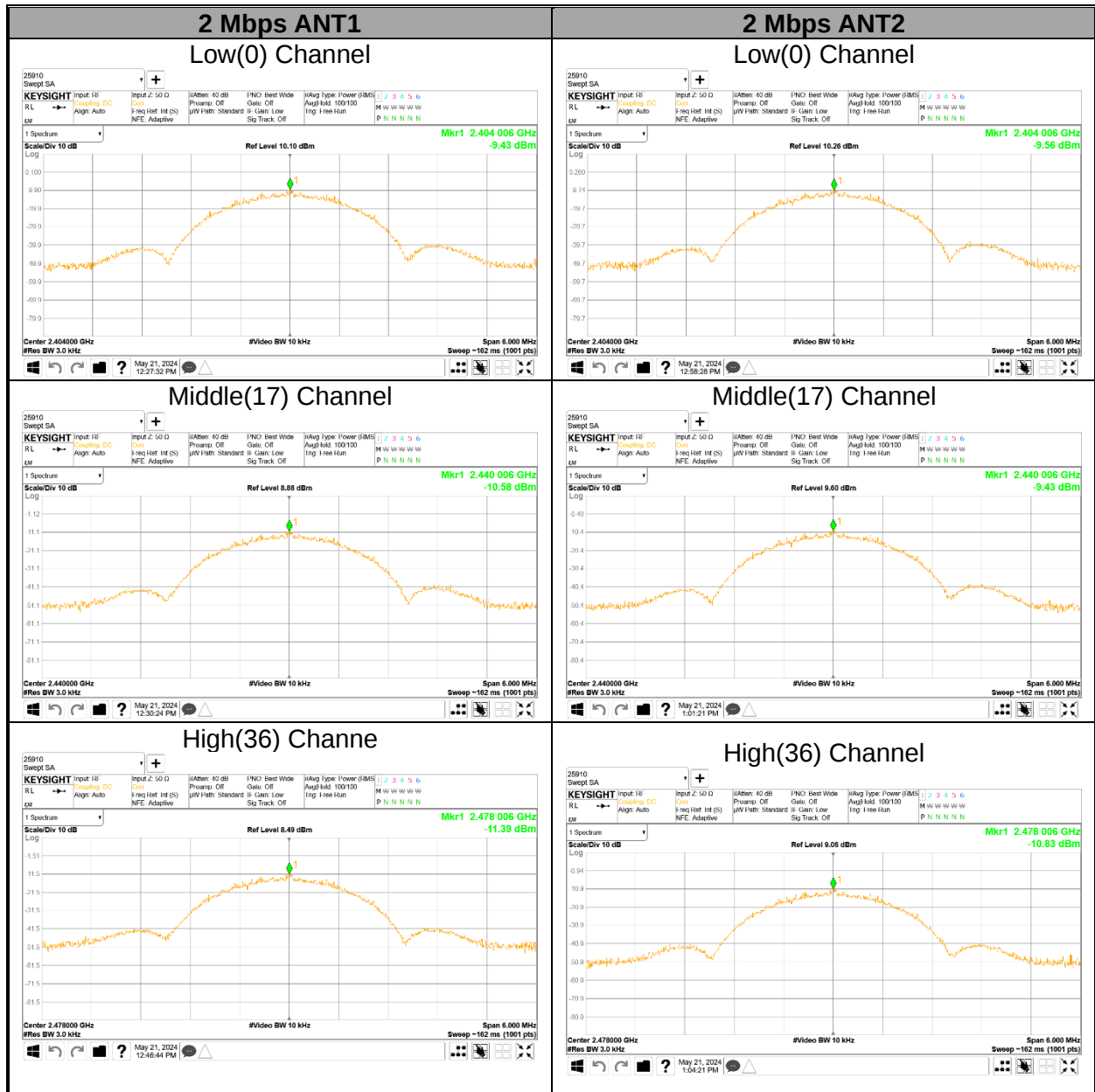
RESULTS

9.5.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
1 Mbps (255pkt)	ANT1	37	2 402	-6.45	8.00	-14.45
		17	2 440	-7.38		-15.38
		39	2 480	-8.91		-16.91
	ANT2	37	2 402	-6.25		-14.25
		17	2 440	-6.26		-14.26
		39	2 480	-8.42		-16.42
2 Mbps (255 pkt)	ANT1	0	2 404	-9.43		-17.43
		17	2 440	-10.58		-18.58
		36	2 478	-11.39		-19.39
	ANT2	0	2 404	-9.56		-17.56
		17	2 440	-9.43		-17.43
		36	2 478	-10.83		-18.83
Worst				-6.25	-14.25	

9.5.2. PSD TEST PLOTS





9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

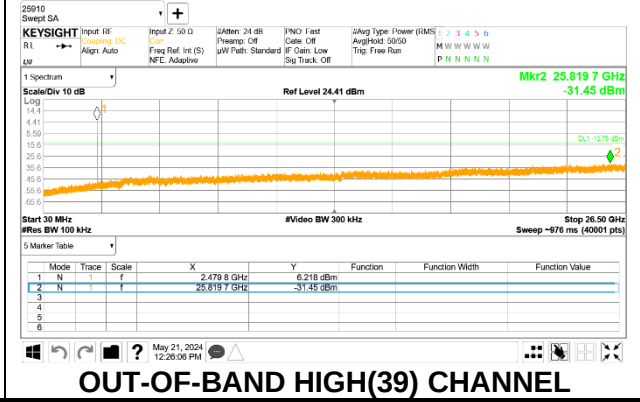
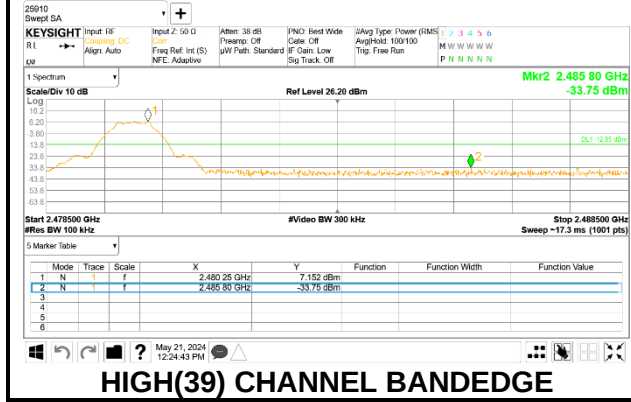
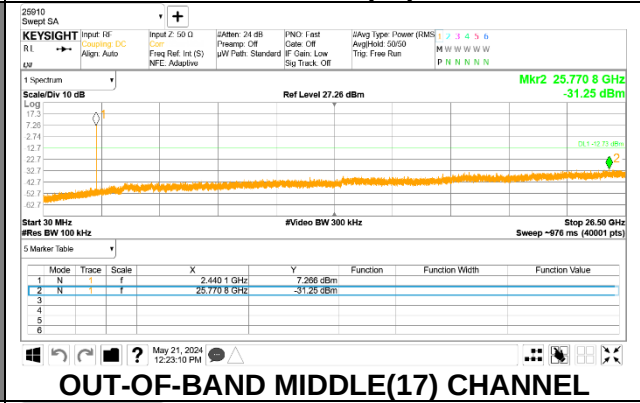
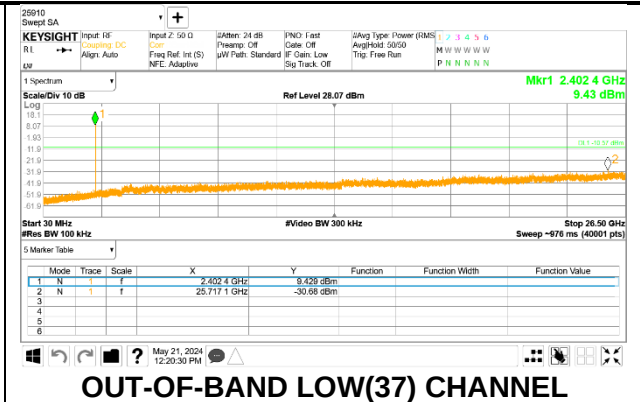
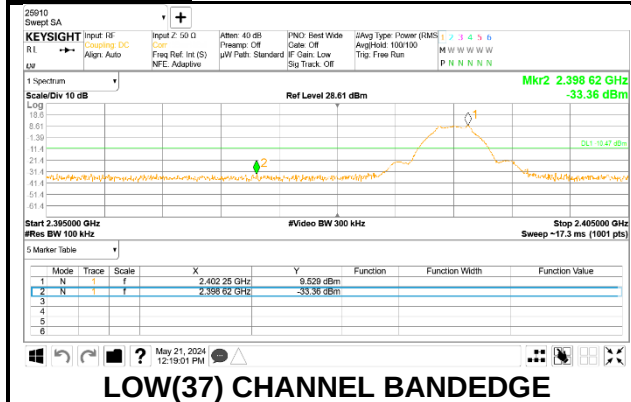
FCC §15.247 (d)

Output power was measured based on the use of a peak measurement.
Therefore, spurious emissions are required to be 20 dBc.

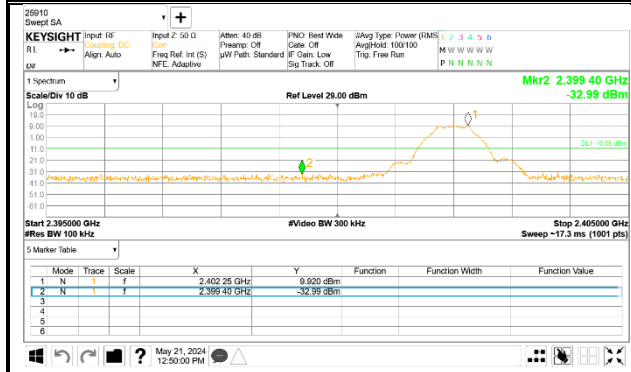
RESULTS

9.6.1. Test plot

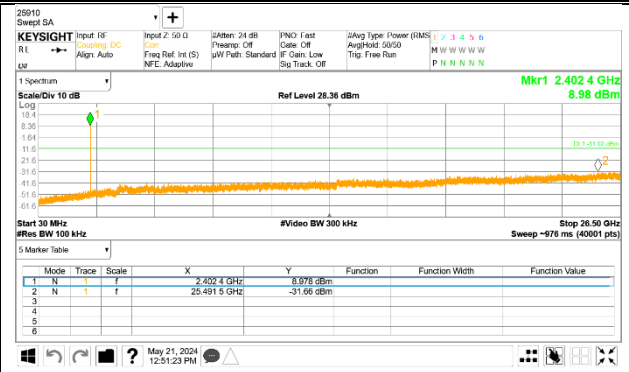
1 Mbps ANT1



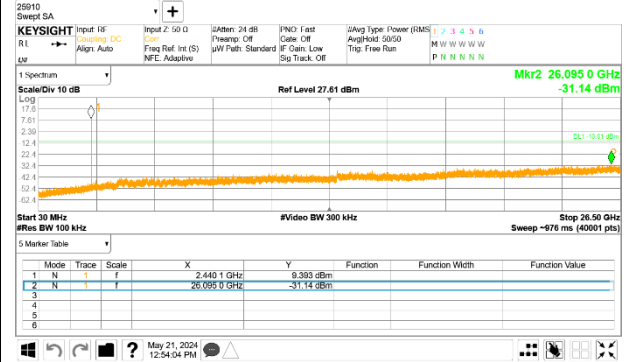
1 Mbps ANT2



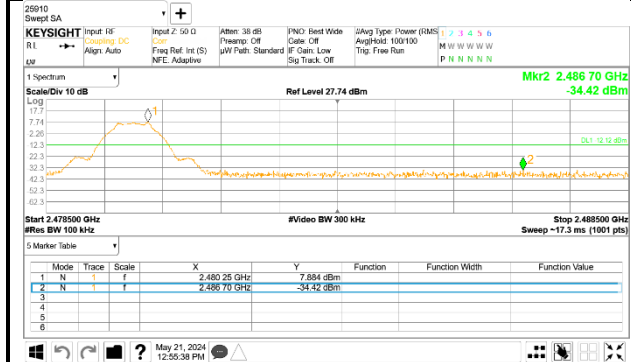
LOW(37) CHANNEL BANDEDGE



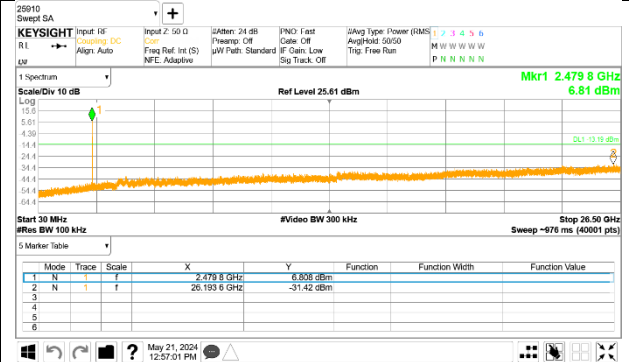
OUT-OF-BAND LOW(37) CHANNEL



OUT-OF-BAND MIDDLE(17) CHANNEL

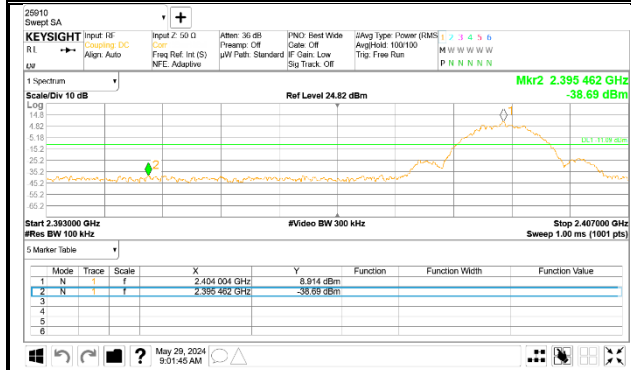


HIGH(39) CHANNEL BANDEDGE

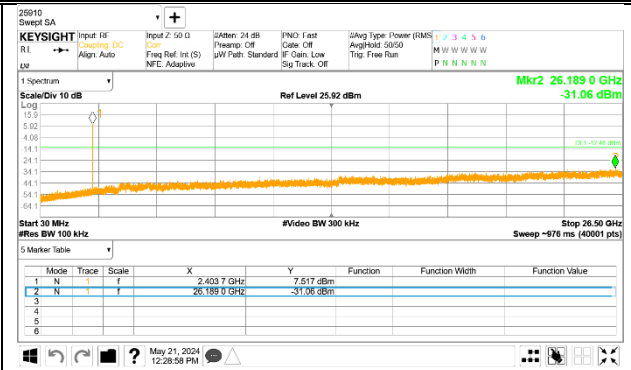


OUT-OF-BAND HIGH(39) CHANNEL

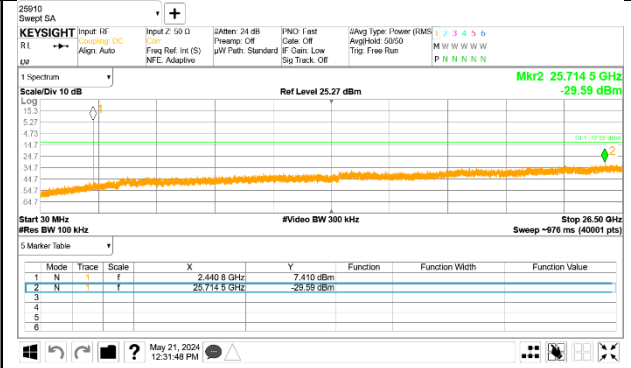
2 Mbps ANT1



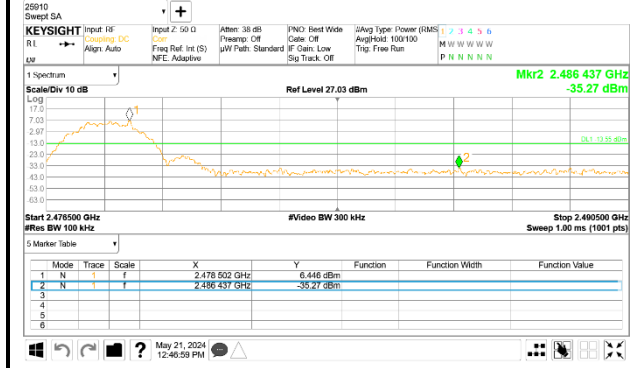
LOW(0) CHANNEL BANDEDGE



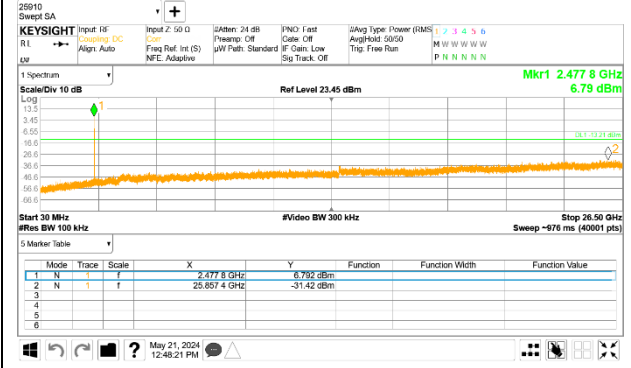
OUT-OF-BAND LOW(0) CHANNEL



OUT-OF-BAND MIDDLE(17) CHANNEL

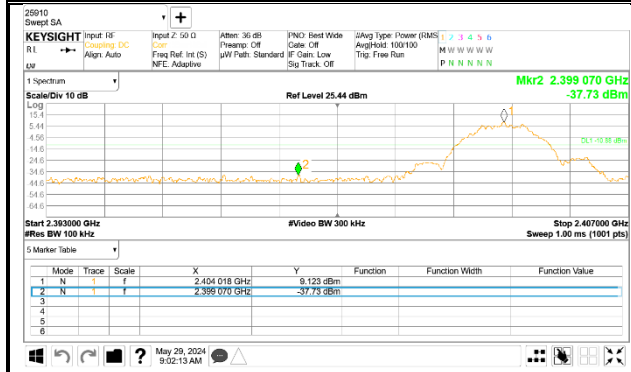


HIGH(36) CHANNEL BANDEDGE

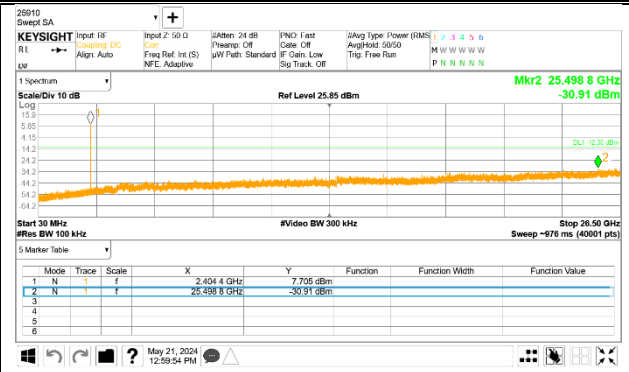


OUT-OF-BAND HIGH(36) CHANNEL

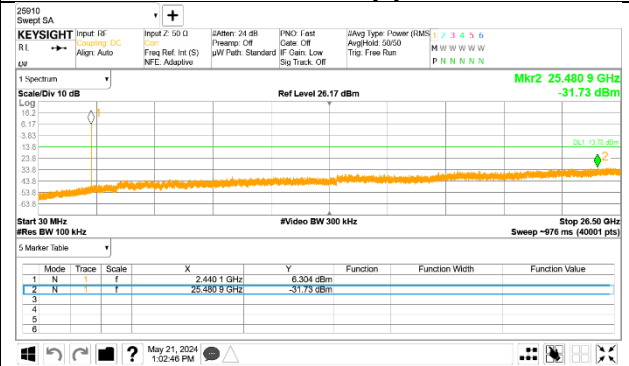
2 Mbps ANT2



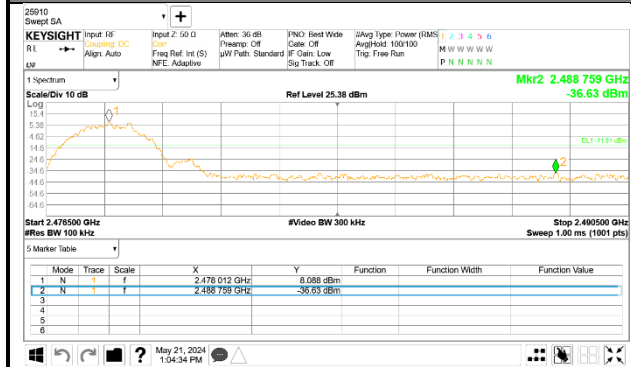
LOW(0) CHANNEL BANDEDGE



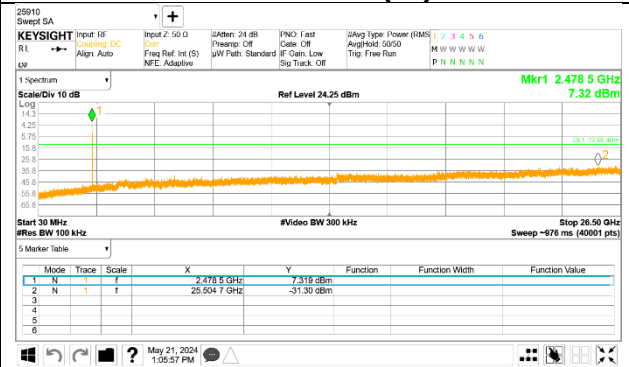
OUT-OF-BAND LOW(0) CHANNEL



OUT-OF-BAND MIDDLE(17) CHANNEL



HIGH(36) CHANNEL BANDEDGE



OUT-OF-BAND HIGH(36) CHANNEL

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for 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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restricted band-edge, Final detection of spurious harmonic emissions)
Duty cycle factor = $10 \log(1/x)$. For this sample: For 1 Mbps, DCF = $10\log(1/0.853)=0.690$ dB (Spectrum Analyzer round it up to 0.69 dB) and for 2 Mbps, DCF = $10\log(1/0.766)=1.160$ dB (Spectrum Analyzer round it up to 1.16 dB).

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.

The spectrum from 1 GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

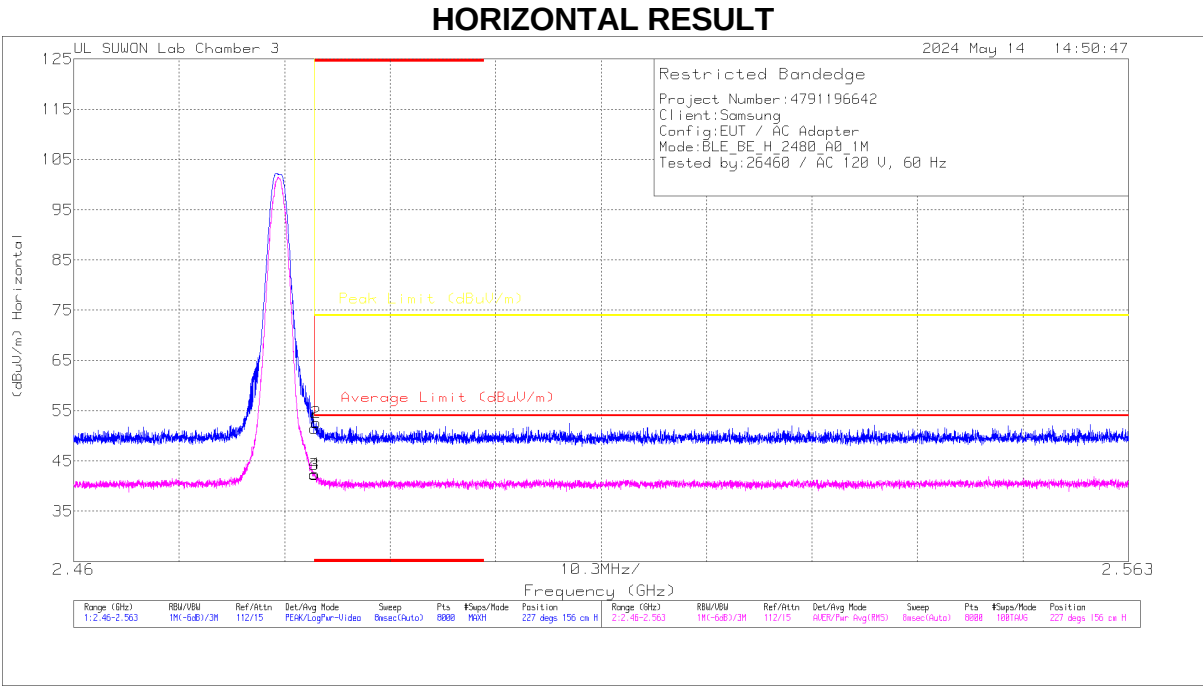
Note : Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

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

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. TX ABOVE 1 GHz BLUETOOTH LE 1 Mbps

BANDEDGE (WORST CASE: 2480 MHz)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_Factor(dB)	10dB_Path 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	* 2.4835	43.91	PK	32.4	-24.8	0	51.51	-	-	74	-22.49	227	156	H
2	* 2.48367	45.01	PK	32.4	-24.8	0	52.61	-	-	74	-21.39	227	156	H
3	* 2.4835	34.03	RMS	32.4	-24.8	.69	42.32	54	-11.68	-	-	227	156	H
4	* 2.48353	34.16	RMS	32.4	-24.8	.69	42.45	54	-11.55	-	-	227	156	H

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

BANDEDGE TEST DATA

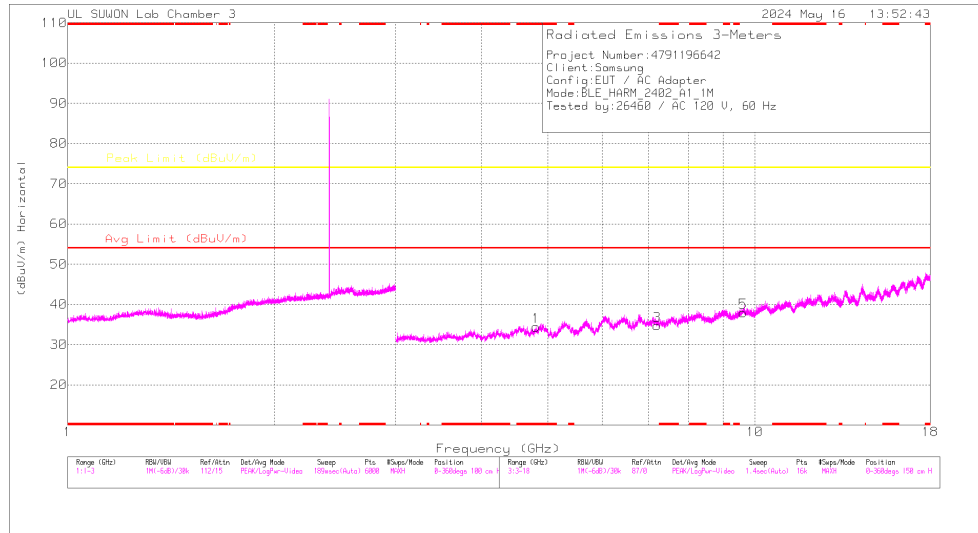
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 2.39	42.93	Pk	32.10	-24.80	0.00	50.23	-	-	74.00	-23.77	229	125	H
		* 2.3858	44.77	Pk	32.10	-24.90	0.00	51.97	-	-	74.00	-22.03	229	125	H
		* 2.39	32.11	RMS	32.10	-24.80	0.69	40.10	54.00	-13.90	-	-	229	125	H
		* 2.33682	33.39	RMS	31.90	-24.90	0.69	41.08	54.00	-12.92	-	-	229	125	H
		* 2.39	41.25	Pk	32.10	-24.80	0.00	48.55	-	-	74.00	-25.45	62	111	V
		* 2.3699	44.88	Pk	32.00	-24.80	0.00	52.08	-	-	74.00	-21.92	62	111	V
		* 2.39	31.94	RMS	32.10	-24.80	0.69	39.93	54.00	-14.07	-	-	62	111	V
		* 2.38317	33.28	RMS	32.10	-24.90	0.69	41.17	54.00	-12.83	-	-	62	111	V
		* 2.4835	43.91	Pk	32.40	-24.80	0.00	51.51	-	-	74.00	-22.49	227	156	H
		* 2.48367	45.01	Pk	32.40	-24.80	0.00	52.61	-	-	74.00	-21.39	227	156	H
2480	ANT1	* 2.4835	34.03	RMS	32.40	-24.80	0.69	42.32	54.00	-11.68	-	-	227	156	H
		* 2.48353	34.16	RMS	32.40	-24.80	0.69	42.45	54.00	-11.55	-	-	227	156	H
		* 2.4835	41.89	Pk	32.40	-24.80	0.00	49.49	-	-	74.00	-24.51	82	108	V
		2.556	44.50	Pk	32.40	-24.70	0.00	52.20	-	-	74.00	-21.80	82	108	V
		* 2.4835	32.57	RMS	32.40	-24.80	0.69	40.86	54.00	-13.14	-	-	82	108	V
		2.512	33.49	RMS	32.40	-24.80	0.69	41.78	54.00	-12.22	-	-	82	108	V
2402	ANT2	* 2.39	41.10	Pk	32.10	-24.80	0.00	48.40	-	-	74.00	-25.60	131	359	H
		* 2.37988	44.43	Pk	32.10	-24.90	0.00	51.63	-	-	74.00	-22.37	131	359	H
		* 2.39	31.34	RMS	32.10	-24.80	0.69	39.33	54.00	-14.67	-	-	131	359	H
		* 2.37122	33.34	RMS	32.00	-24.90	0.69	41.13	54.00	-12.87	-	-	131	359	H
		* 2.39	42.71	Pk	32.10	-24.80	0.00	50.01	-	-	74.00	-23.99	239	304	V
		* 2.37662	45.52	Pk	32.10	-24.80	0.00	52.82	-	-	74.00	-21.18	239	304	V
		* 2.39	31.43	RMS	32.10	-24.80	0.69	39.42	54.00	-14.58	-	-	239	304	V
		* 2.37536	33.37	RMS	32.10	-24.90	0.69	41.26	54.00	-12.74	-	-	239	304	V
		* 2.4835	42.17	Pk	32.40	-24.80	0.00	49.77	-	-	74.00	-24.23	132	375	H
		2.545	44.48	Pk	32.40	-24.60	0.00	52.28	-	-	74.00	-21.72	132	375	H
2480	ANT2	* 2.4835	31.89	RMS	32.40	-24.80	0.69	40.18	54.00	-13.82	-	-	132	375	H
		2.542	33.41	RMS	32.40	-24.70	0.69	41.80	54.00	-12.20	-	-	132	375	H
		* 2.4835	41.89	Pk	32.40	-24.80	0.00	49.49	-	-	74.00	-24.51	235	286	V
		2.551	44.81	Pk	32.40	-24.70	0.00	52.51	-	-	74.00	-21.49	235	286	V
		* 2.4835	31.77	RMS	32.40	-24.80	0.69	40.06	54.00	-13.94	-	-	235	286	V
		2.514	33.30	RMS	32.40	-24.60	0.69	41.79	54.00	-12.21	-	-	235	286	V

Note1. Pk - Peak detector, RMS - RMS detector

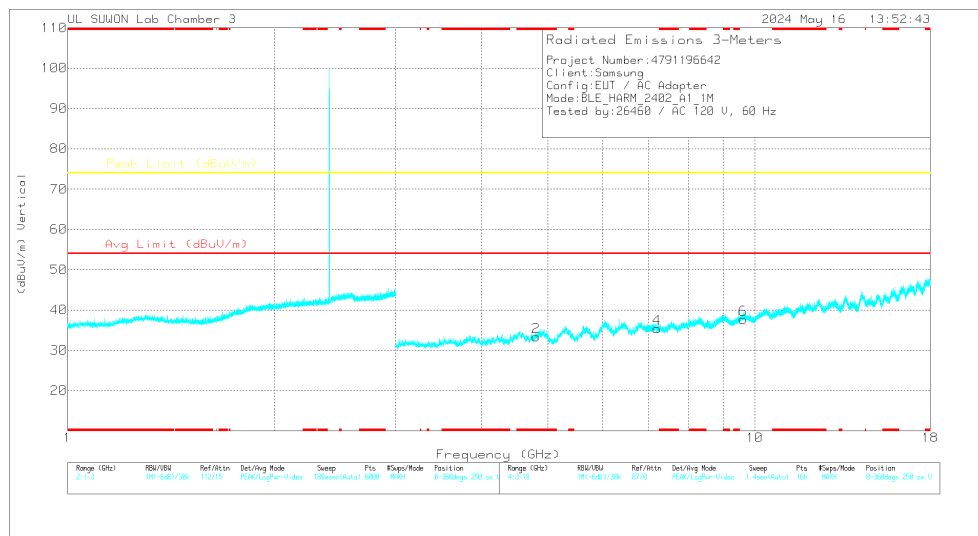
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: ANT2)

2402 MHz RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_Factor(dB)	3GHz_HP_Path Loss(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80893	40.72	PK2	34.3	-30.1	0	44.92	-	-	74	-29.08	0	100	H
* 4.80664	39.64	PK2	34.3	-30	0	43.94	-	-	74	-30.06	0	100	V
7.20488	36.18	PK2	35.8	-25.9	0	46.08	-	-	74	-27.92	0	100	H
7.20872	35.16	PK2	35.8	-25.9	0	45.06	-	-	74	-28.94	0	100	V
9.60523	32.94	PK2	36.7	-21.8	0	47.84	-	-	74	-26.16	0	100	H
9.60564	33.79	PK2	36.7	-21.8	0	48.69	-	-	74	-25.31	0	100	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

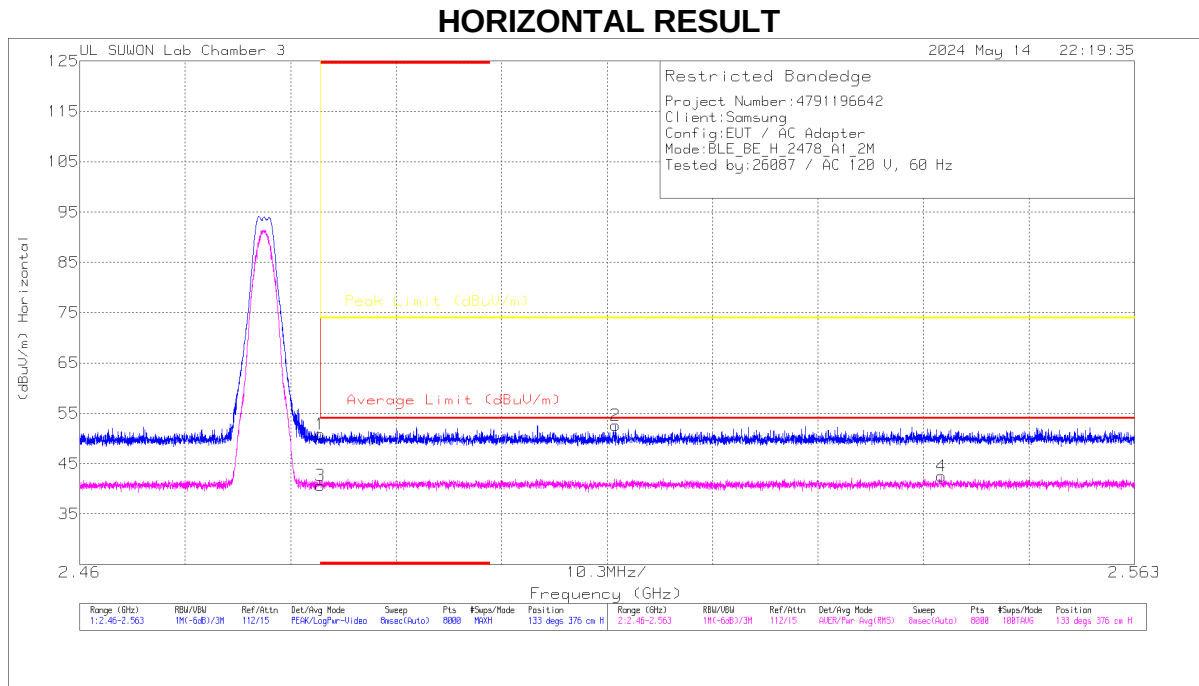
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 4.80155	39.81	PK2	34.30	-30.10	0.00	44.01	-	-	74.00	-29.99	0	100	H
		* 4.80156	39.94	PK2	34.30	-30.10	0.00	44.14	-	-	74.00	-29.86	0	100	V
		7.207	35.71	PK2	35.80	-25.90	0.00	45.61	-	-	74.00	-28.39	0	100	H
		9.610	33.09	PK2	36.70	-21.70	0.00	48.09	-	-	74.00	-25.91	0	100	H
		9.609	33.46	PK2	36.70	-21.70	0.00	48.46	-	-	74.00	-25.54	0	100	V
2440	ANT1	* 4.88373	40.30	PK2	34.20	-29.90	0.00	44.60	-	-	74.00	-29.40	0	100	H
		* 4.87958	39.77	PK2	34.20	-29.90	0.00	44.07	-	-	74.00	-29.93	0	100	V
		* 7.32009	35.33	PK2	35.80	-25.50	0.00	45.63	-	-	74.00	-28.37	0	100	H
		* 7.3199	35.43	PK2	35.80	-25.50	0.00	45.73	-	-	74.00	-28.27	0	100	V
		9.758	32.50	PK2	36.90	-21.50	0.00	47.90	-	-	74.00	-26.10	0	100	H
		9.764	32.33	PK2	36.90	-21.50	0.00	47.73	-	-	74.00	-26.27	0	100	V
2480	ANT1	* 4.96099	39.37	PK2	34.30	-30.00	0.00	43.67	-	-	74.00	-30.33	0	100	H
		* 4.96457	39.42	PK2	34.30	-30.10	0.00	43.62	-	-	74.00	-30.38	0	100	V
		* 7.44032	34.88	PK2	35.70	-25.20	0.00	45.38	-	-	74.00	-28.62	0	100	H
		* 7.44229	34.77	PK2	35.70	-25.20	0.00	45.27	-	-	74.00	-28.73	0	100	V
		9.920	32.51	PK2	37.10	-21.40	0.00	48.21	-	-	74.00	-25.79	0	100	H
		9.917	31.94	PK2	37.10	-21.30	0.00	47.74	-	-	74.00	-26.26	0	100	V
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT2	* 4.80893	40.72	PK2	34.30	-30.10	0.00	44.92	-	-	74.00	-29.08	0	100	H
		* 4.80664	39.64	PK2	34.30	-30.00	0.00	43.94	-	-	74.00	-30.06	0	100	V
		7.205	36.18	PK2	35.80	-25.90	0.00	46.08	-	-	74.00	-27.92	0	100	H
		7.209	35.16	PK2	35.80	-25.90	0.00	45.06	-	-	74.00	-28.94	0	100	V
		9.605	32.94	PK2	36.70	-21.80	0.00	47.84	-	-	74.00	-26.16	0	100	H
		9.606	33.79	PK2	36.70	-21.80	0.00	48.69	-	-	74.00	-25.31	0	100	V
2440	ANT2	* 4.88248	40.09	PK2	34.20	-30.00	0.00	44.29	-	-	74.00	-29.71	0	100	H
		* 4.87776	39.89	PK2	34.20	-29.90	0.00	44.19	-	-	74.00	-29.81	0	100	V
		* 7.32201	35.14	PK2	35.80	-25.50	0.00	45.44	-	-	74.00	-28.56	0	100	H
		* 7.32064	35.08	PK2	35.80	-25.50	0.00	45.38	-	-	74.00	-28.62	0	100	V
		9.758	33.04	PK2	36.90	-21.50	0.00	48.44	-	-	74.00	-25.56	0	100	H
		9.759	32.56	PK2	36.90	-21.50	0.00	47.96	-	-	74.00	-26.04	0	100	V
2480	ANT2	* 4.96474	39.58	PK2	34.30	-30.10	0.00	43.78	-	-	74.00	-30.22	0	100	H
		* 4.96446	39.70	PK2	34.30	-30.20	0.00	43.80	-	-	74.00	-30.20	0	100	V
		* 7.44082	35.09	PK2	35.70	-25.20	0.00	45.59	-	-	74.00	-28.41	0	100	H
		* 7.44498	35.00	PK2	35.70	-25.20	0.00	45.50	-	-	74.00	-28.50	0	100	V
		9.921	32.07	PK2	37.10	-21.40	0.00	47.77	-	-	74.00	-26.23	0	100	H
		9.923	32.70	PK2	37.10	-21.40	0.00	48.40	-	-	74.00	-25.60	0	100	V

Note1. PK2 - KDB558074 Method: Maximum Peak / MAV1 - KDB558074 Option 1 Maximum RMS Average

Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

10.2.2. TX ABOVE 1 GHz BLUETOOTH LE 2 Mbps

BANDEDGE (WORST CASE: 2478 MHz)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_Factor(dB)	10dB_Path 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	* 2.4835	43.3	Pk	32.4	-24.8	0	50.9	-	-	74	-23.1	133	376	H
2	2.51233	45	Pk	32.4	-24.8	0	52.6	-	-	74	-21.4	133	376	H
3	* 2.4835	31.94	RMS	32.4	-24.8	1.15	40.69	54	-13.31	-	-	133	376	H
4	2.54416	33.58	RMS	32.4	-24.6	1.15	42.53	54	-11.47	-	-	133	376	H

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE TEST DATA

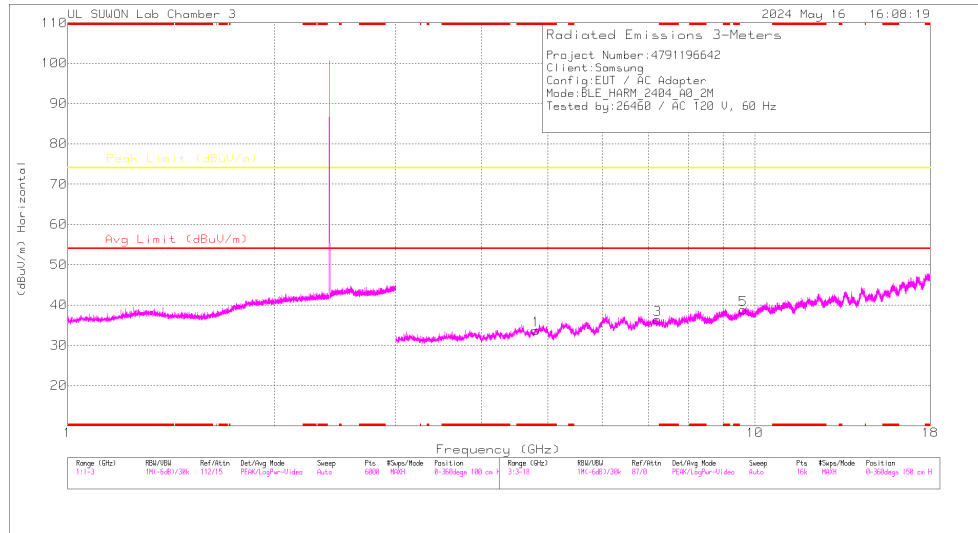
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2404	ANT1	* 2.39	41.29	Pk	32.10	-24.80	0.00	48.59	-	-	74.00	-25.41	227	142	H
		* 2.3848	44.53	Pk	32.10	-24.90	0.00	51.73	-	-	74.00	-22.27	227	142	H
		* 2.39	31.56	RMS	32.10	-24.80	1.15	40.01	54.00	-13.99	-	-	227	142	H
		* 2.31784	33.52	RMS	31.90	-24.90	1.15	41.67	54.00	-12.33	-	-	227	142	H
		* 2.39	41.81	Pk	32.10	-24.80	0.00	49.11	-	-	74.00	-24.89	228	172	V
		* 2.33196	44.47	Pk	31.90	-24.80	0.00	51.57	-	-	74.00	-22.43	228	172	V
		* 2.39	31.70	RMS	32.10	-24.80	1.15	40.15	54.00	-13.85	-	-	228	172	V
		* 2.3879	33.08	RMS	32.10	-24.80	1.15	41.53	54.00	-12.47	-	-	228	172	V
		* 2.4835	42.58	Pk	32.40	-24.80	0.00	50.18	-	-	74.00	-23.82	226	157	H
		2.551	44.68	Pk	32.40	-24.70	0.00	52.38	-	-	74.00	-21.62	226	157	H
2478	ANT1	* 2.4835	31.52	RMS	32.40	-24.80	1.15	40.27	54.00	-13.73	-	-	226	157	H
		* 2.48369	33.51	RMS	32.40	-24.80	1.15	42.26	54.00	-11.74	-	-	226	157	H
		* 2.4835	42.41	Pk	32.40	-24.80	0.00	50.01	-	-	74.00	-23.99	55	106	V
		2.525	45.34	Pk	32.40	-24.80	0.00	52.94	-	-	74.00	-21.06	55	106	V
		* 2.4835	32.44	RMS	32.40	-24.80	1.15	41.19	54.00	-12.81	-	-	55	106	V
		2.551	33.21	RMS	32.40	-24.70	1.15	42.06	54.00	-11.94	-	-	55	106	V
2404	ANT2	* 2.39	41.29	Pk	32.10	-24.80	0.00	48.59	-	-	74.00	-25.41	131	400	H
		* 2.373	45.12	Pk	32.00	-24.90	0.00	52.22	-	-	74.00	-21.78	131	400	H
		* 2.39	31.93	RMS	32.10	-24.80	1.15	40.38	54.00	-13.62	-	-	131	400	H
		* 2.3532	33.24	RMS	32.00	-24.80	1.15	41.59	54.00	-12.41	-	-	131	400	H
		* 2.39	40.93	Pk	32.10	-24.80	0.00	48.23	-	-	74.00	-25.77	237	304	V
		* 2.33792	44.53	Pk	32.00	-24.90	0.00	51.63	-	-	74.00	-22.37	237	304	V
		* 2.39	32.04	RMS	32.10	-24.80	1.15	40.49	54.00	-13.51	-	-	237	304	V
		* 2.32479	33.51	RMS	31.90	-24.80	1.15	41.76	54.00	-12.24	-	-	237	304	V
		* 2.4835	43.30	Pk	32.40	-24.80	0.00	50.90	-	-	74.00	-23.10	133	376	H
		2.512	45.00	Pk	32.40	-24.80	0.00	52.60	-	-	74.00	-21.40	133	376	H
2478	ANT2	* 2.4835	31.94	RMS	32.40	-24.80	1.15	40.69	54.00	-13.31	-	-	133	376	H
		2.544	33.58	RMS	32.40	-24.60	1.15	42.53	54.00	-11.47	-	-	133	376	H
		* 2.4835	42.41	Pk	32.40	-24.80	0.00	50.01	-	-	74.00	-23.99	233	286	V
		2.532	44.42	Pk	32.40	-24.80	0.00	52.02	-	-	74.00	-21.98	233	286	V
		* 2.4835	32.08	RMS	32.40	-24.80	1.15	40.83	54.00	-13.17	-	-	233	286	V
		2.515	33.40	RMS	32.40	-24.70	1.15	42.25	54.00	-11.75	-	-	233	286	V

Note1. Pk - Peak detector, RMS - RMS detector

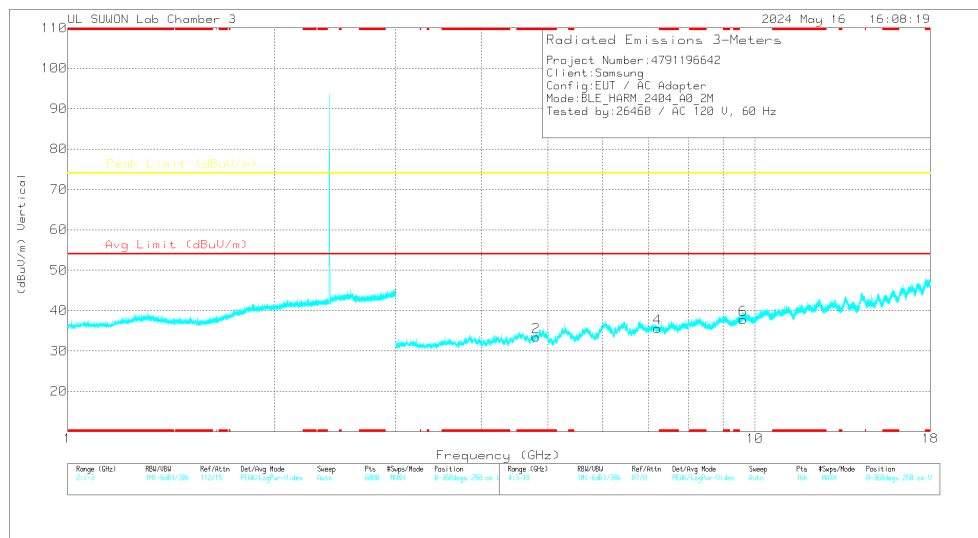
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE: ANT1)

2404 MHz RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_F actor(dB)	3GHz_HP_Path Loss(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.8089	40.09	PK2	34.3	-30.1	0	44.29	-	-	74	-29.71	0	100	H
* 4.80842	39.43	PK2	34.3	-30.1	0	43.63	-	-	74	-30.37	0	100	V
7.21082	36.44	PK2	35.8	-25.9	0	46.34	-	-	74	-27.66	0	100	H
7.21532	35.65	PK2	35.8	-25.9	0	45.55	-	-	74	-28.45	0	100	V
9.61495	33.71	PK2	36.7	-21.7	0	48.71	-	-	74	-25.29	0	100	H
9.61402	32.94	PK2	36.7	-21.7	0	47.94	-	-	74	-26.06	0	100	V

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

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

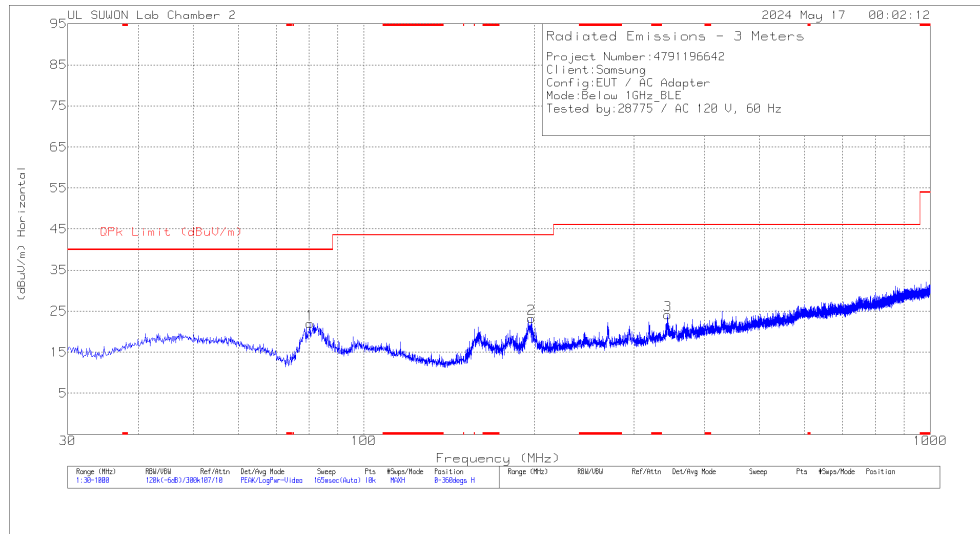
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2404	ANT1	* 4.8089	40.09	PK2	34.30	-30.10	0.00	44.29	-	-	74.00	-29.71	0	100	H
		* 4.80842	39.43	PK2	34.30	-30.10	0.00	43.63	-	-	74.00	-30.37	0	100	V
		7.211	36.44	PK2	35.80	-25.90	0.00	46.34	-	-	74.00	-27.66	0	100	H
		7.215	35.65	PK2	35.80	-25.90	0.00	45.55	-	-	74.00	-28.45	0	100	V
		9.615	33.71	PK2	36.70	-21.70	0.00	48.71	-	-	74.00	-25.29	0	100	H
		9.614	32.94	PK2	36.70	-21.70	0.00	47.94	-	-	74.00	-26.06	0	100	V
2440	ANT1	* 4.87691	39.74	PK2	34.20	-29.90	0.00	44.04	-	-	74.00	-29.96	0	100	H
		* 4.87723	39.79	PK2	34.20	-29.90	0.00	44.09	-	-	74.00	-29.91	0	100	V
		* 7.31878	35.31	PK2	35.80	-25.40	0.00	45.71	-	-	74.00	-28.29	0	100	H
		* 7.31543	35.07	PK2	35.80	-25.50	0.00	45.37	-	-	74.00	-28.63	0	100	V
		9.757	32.98	PK2	36.90	-21.50	0.00	48.38	-	-	74.00	-25.62	0	100	H
		9.759	32.50	PK2	36.90	-21.50	0.00	47.90	-	-	74.00	-26.10	0	100	V
2478	ANT1	* 4.95486	39.46	PK2	34.30	-30.00	0.00	43.76	-	-	74.00	-30.24	0	100	H
		* 4.96162	39.31	PK2	34.30	-30.10	0.00	43.51	-	-	74.00	-30.49	0	100	V
		* 7.43771	35.12	PK2	35.70	-25.20	0.00	45.62	-	-	74.00	-28.38	0	100	H
		* 7.43662	34.84	PK2	35.70	-25.20	0.00	45.34	-	-	74.00	-28.66	0	100	V
		9.908	31.95	PK2	37.10	-21.30	0.00	47.75	-	-	74.00	-26.25	0	100	H
		9.914	32.06	PK2	37.10	-21.40	0.00	47.76	-	-	74.00	-26.24	0	100	V
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2404	ANT2	* 4.80801	39.99	PK2	34.30	-30.00	0.00	44.29	-	-	74.00	-29.71	0	100	H
		* 4.80766	39.40	PK2	34.30	-30.00	0.00	43.70	-	-	74.00	-30.30	0	100	V
		7.217	35.51	PK2	35.80	-25.80	0.00	45.51	-	-	74.00	-28.49	0	100	H
		7.211	35.87	PK2	35.80	-25.90	0.00	45.77	-	-	74.00	-28.23	0	100	V
		9.616	32.95	PK2	36.70	-21.80	0.00	47.85	-	-	74.00	-26.15	0	100	H
		9.615	33.32	PK2	36.70	-21.70	0.00	48.32	-	-	74.00	-25.68	0	100	V
2440	ANT2	* 4.8809	40.05	PK2	34.20	-29.90	0.00	44.35	-	-	74.00	-29.65	0	100	H
		* 4.87986	39.60	PK2	34.20	-29.90	0.00	43.90	-	-	74.00	-30.10	0	100	V
		* 7.31676	35.42	PK2	35.80	-25.50	0.00	45.72	-	-	74.00	-28.28	0	100	H
		* 7.32467	35.26	PK2	35.80	-25.50	0.00	45.56	-	-	74.00	-28.44	0	100	V
		9.738	32.46	PK2	36.90	-21.50	0.00	47.86	-	-	74.00	-26.14	0	100	H
		9.745	32.50	PK2	36.90	-21.60	0.00	47.80	-	-	74.00	-26.20	0	100	V
2478	ANT2	* 4.95393	39.53	PK2	34.30	-30.00	0.00	43.83	-	-	74.00	-30.17	0	100	H
		* 4.95848	39.39	PK2	34.30	-30.00	0.00	43.69	-	-	74.00	-30.31	0	100	V
		* 7.43398	35.36	PK2	35.70	-25.20	0.00	45.86	-	-	74.00	-28.14	0	100	H
		* 7.43262	35.26	PK2	35.70	-25.20	0.00	45.76	-	-	74.00	-28.24	0	100	V
		9.911	32.12	PK2	37.10	-21.40	0.00	47.82	-	-	74.00	-26.18	0	100	H
		9.909	32.25	PK2	37.10	-21.40	0.00	47.95	-	-	74.00	-26.05	0	100	V

Note1. PK2 - KDB558074 Method: Maximum Peak / MAV1 - KDB558074 Option 1 Maximum RMS Average

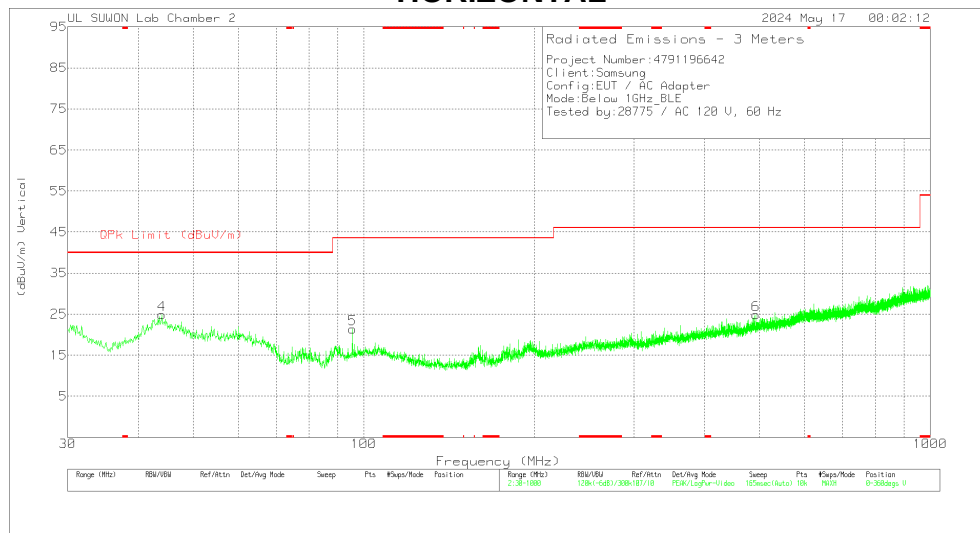
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

10.3. WORST CASE BELOW 1 GHz

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



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna_749_Factor(dB)	Below_1G_Path Loss(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	80.44	40.53	Pk	12.9	-31.4	0	22.03	40	-17.97	0-360	100	H
2	197.81	35.79	Pk	18	-30.6	0	23.19	43.52	-20.33	0-360	100	H
3	343.795	33.62	Pk	20.5	-30	0	24.12	46.02	-21.9	0-360	100	H
4	43.968	37.01	Pk	19.7	-31.8	0	24.91	40	-15.09	0-360	100	V
5	95.475	36.02	Pk	16.7	-31.3	0	21.42	43.52	-22.1	0-360	100	V
6	492.108	31.61	Pk	22.7	-29.5	0	24.81	46.02	-21.21	0-360	100	V

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

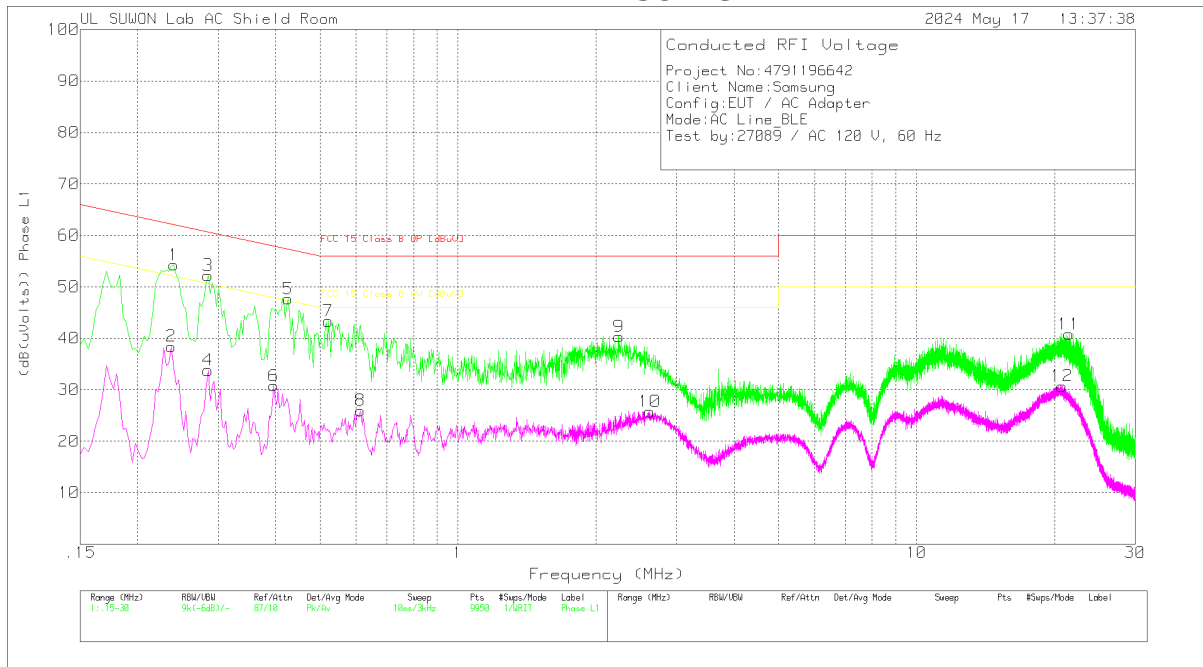
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1 [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
1	.24	44.45	Pk	9.7	.1	54.25	62.1	-7.85	-	-
2	.237	28.62	Av	9.7	.1	38.42	-	-	52.2	-13.78
3	.285	42.39	Pk	9.7	.1	52.19	60.67	-8.48	-	-
4	.285	23.99	Av	9.7	.1	33.79	-	-	50.67	-16.88
5	.426	37.76	Pk	9.8	.1	47.66	57.33	-9.67	-	-
6	.396	20.88	Av	9.8	.1	30.78	-	-	47.94	-17.16
7	.522	33.33	Pk	9.9	.1	43.33	56	-12.67	-	-
8	.612	16.04	Av	9.8	.1	25.94	-	-	46	-20.06
9	2.244	30.5	Pk	9.7	.1	40.3	56	-15.7	-	-
10	2.619	15.93	Av	9.7	.1	25.73	-	-	46	-20.27
11	21.498	30.29	Pk	10.2	.3	40.79	60	-19.21	-	-
12	20.769	20.22	Av	10.2	.3	30.72	-	-	50	-19.28

Pk - Peak detector

Av - Average detection

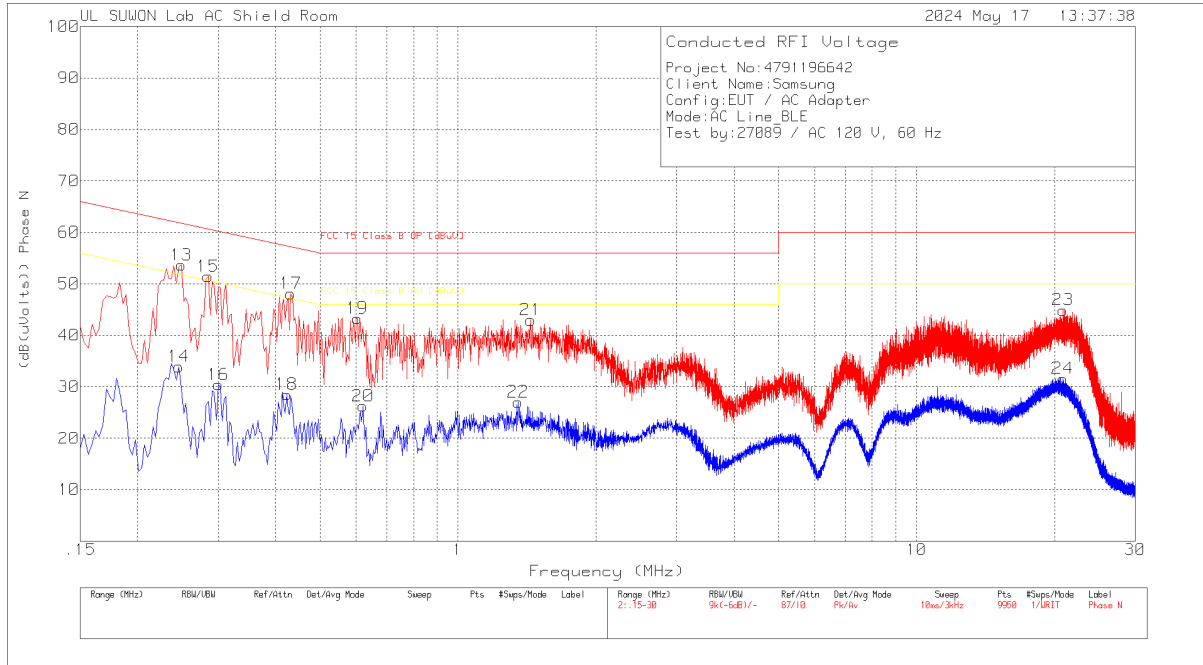
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1 [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
.24075	34.52	Qp	9.7	.1	44.32	62.07	-17.75	-	-
.28575	24.11	Qp	9.7	.1	33.91	60.65	-26.74	-	-
.42525	21.94	Qp	9.8	.1	31.84	57.34	-25.5	-	-

Qp - Quasi-Peak detector

LINE 2 RESULTS



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_N [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
13	.249	43.92	Pk	9.6	.1	53.62	61.79	-8.17	-	-
14	.246	24.21	Av	9.6	.1	33.91	-	-	51.89	-17.98
15	.285	41.65	Pk	9.7	.1	51.45	60.67	-9.22	-	-
16	.3	20.6	Av	9.7	.1	30.4	-	-	50.24	-19.84
17	.432	38.19	Pk	9.8	.1	48.09	57.21	-9.12	-	-
18	.423	18.6	Av	9.8	.1	28.5	-	-	47.39	-18.89
19	.603	33.37	Pk	9.8	.1	43.27	56	-12.73	-	-
20	.621	16.34	Av	9.8	.1	26.24	-	-	46	-19.76
21	1.44	33.17	Pk	9.7	.1	42.97	56	-13.03	-	-
22	1.353	17.23	Av	9.7	.1	27.03	-	-	46	-18.97
23	20.862	34.31	Pk	10.3	.3	44.91	60	-15.09	-	-
24	20.841	20.97	Av	10.3	.3	31.57	-	-	50	-18.43

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_N [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
.24825	36.86	Qp	9.6	.1	46.56	61.82	-15.26	-	-
.28425	23.48	Qp	9.7	.1	33.28	60.69	-27.41	-	-
.43125	17.7	Qp	9.8	.1	27.6	57.23	-29.63	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT