

CERTIFICATION TEST REPORT

Report Number. : S-4792147620-E9V2

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

Model : SM-F971B

FCC ID : A3LSMF971B

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

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

Date Of Issue:

2026-05-18

Prepared by:

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2026-05-15	Initial issue	SunGeun Lee
V2	2026-05-18	Updated to address TCB's question	SunGeun Lee

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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/be, NFC, WPT and UWB

MODEL NUMBER: SM-F971B

SERIAL NUMBER: 9bb3df7d5d4f7ee, (CONDUCTED);
R3CL40013AX, R3CL200FLMA (RADIATED);

DATE TESTED: 2026-03-03 ~ 2026-05-15

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:



Sungeun Lee
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 DTS Meas Guidance v05r02.
4. ANSI C63.10-2020.

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. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
RF Output Power	0.70 dB
Power Spectral Density	1.99 dB
Occupied Bandwidth	0.04 %
Conducted Spurious Emissions	2.00 dB
Conducted Disturbance, 0.15 to 30 MHz	1.84 dB
Radiated Disturbance, 9 kHz to 30 MHz	2.41 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.78 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.25 dB
Radiated Disturbance, Above 18 GHz	5.07 dB

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

4.4. DECISION RULE

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/be, NFC, WPT and UWB. This test report addresses the DTS (WLAN) operational mode.

WiFi operating mode

Frequency rage	Mode	ANT 1	ANT 2
2.4 GHz (2412 MHz-2472 MHz)	802.11b SISO	TX/RX	TX/RX

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Frequency Range [MHz]	Mode	Output Power ANT1		Output Power ANT2	
		[dBm]	[mW]	[dBm]	[mW]
2412 - 2472	802.11b SISO	19.19	82.99	18.89	77.45

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.

Bands [MHz]	ANT 1 [dBi]	ANT 2 [dBi]
2 412 – 2 472	-6.99	-4.25

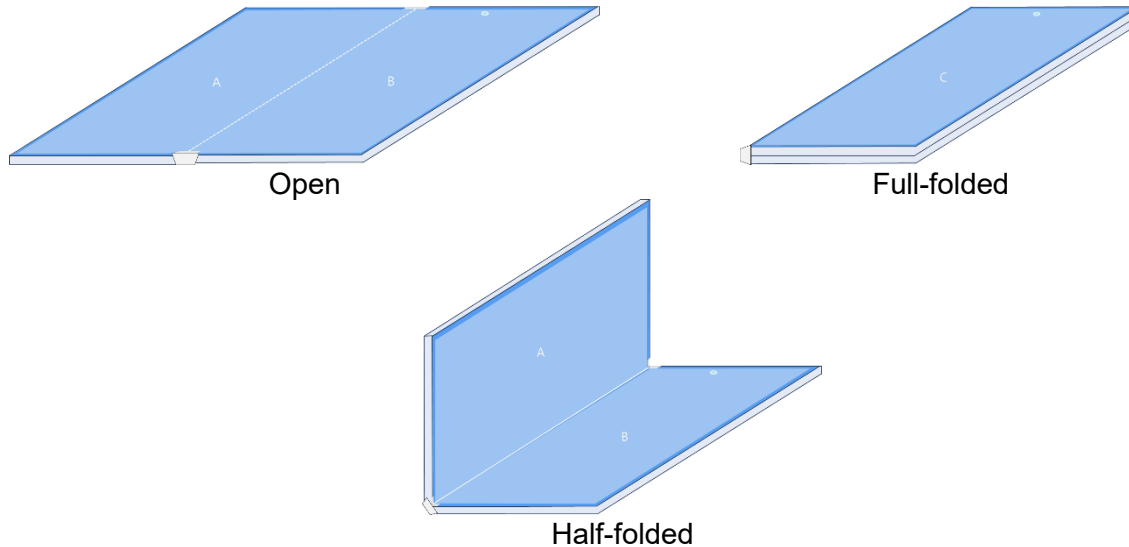
“SUB1” and “SUB5” as indicated in antenna specification are written as ANT1 and ANT2 in this report.

5.4. TESTED CHANNELS LIST

Ch.	Frequency [MHz]	11b
		SISO
1	2 412	O
6	2 437	O
11	2 462	O
12	2 467	O
13	2 472	O

5.5. WORST-CASE CONFIGURATION AND MODE

The SISO configuration has been investigated and confirmed as the worst-case for radiated band edge and spurious emission tests, since the 802.11b mode does not support MIMO operation.



ANT.	BE		RSE	
	Foldable condition	EUT axis	Foldable condition	EUT axis
ANT1	Open	Z	Half-folded	Y
ANT2	Open	X	Half-folded	Y

Band-edge measurements and spurious emissions tests were performed using the SISO configuration, as shown in the table above, representing the worst-case scenario.

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

For the radiated band edge tests, all SISO test modes were fully tested under the worst-case EUT orientation and antenna polarization conditions. Tests for opposite antenna polarization were performed only at the worst-case channel for each mode.

Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps 1TX

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-T2510	N/A	N/A
Data Cable	SAMSUNG	EP-DN980	N/A	N/A

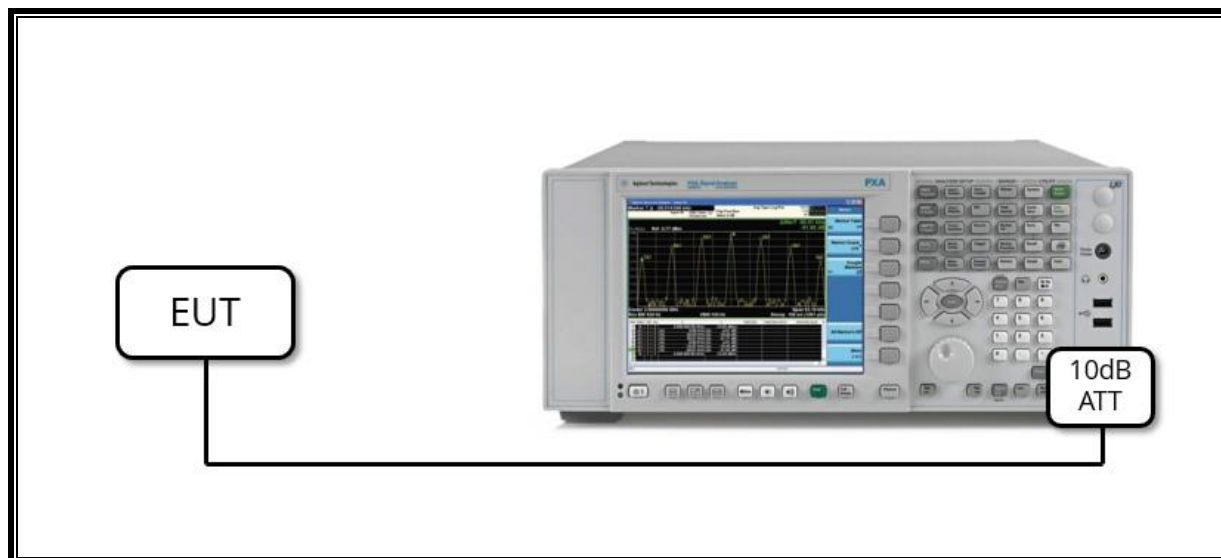
I/O CABLE

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

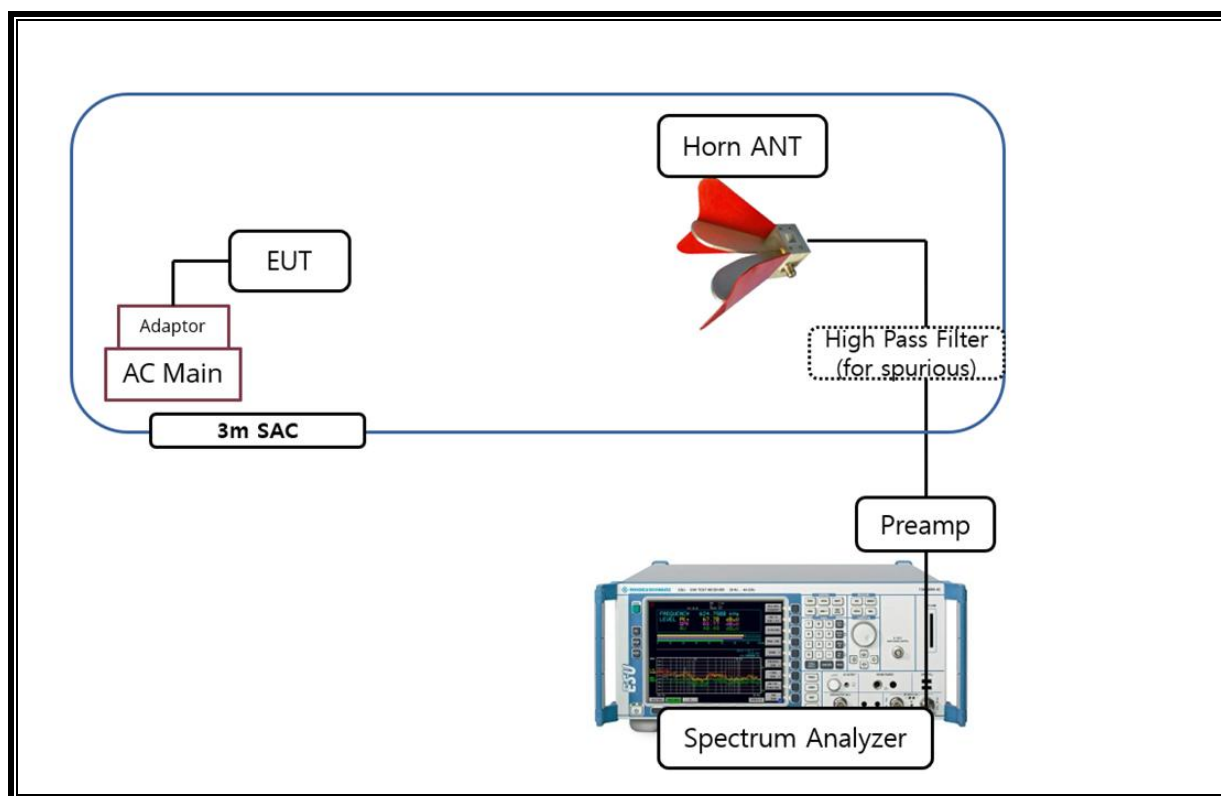
TEST SETUP

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

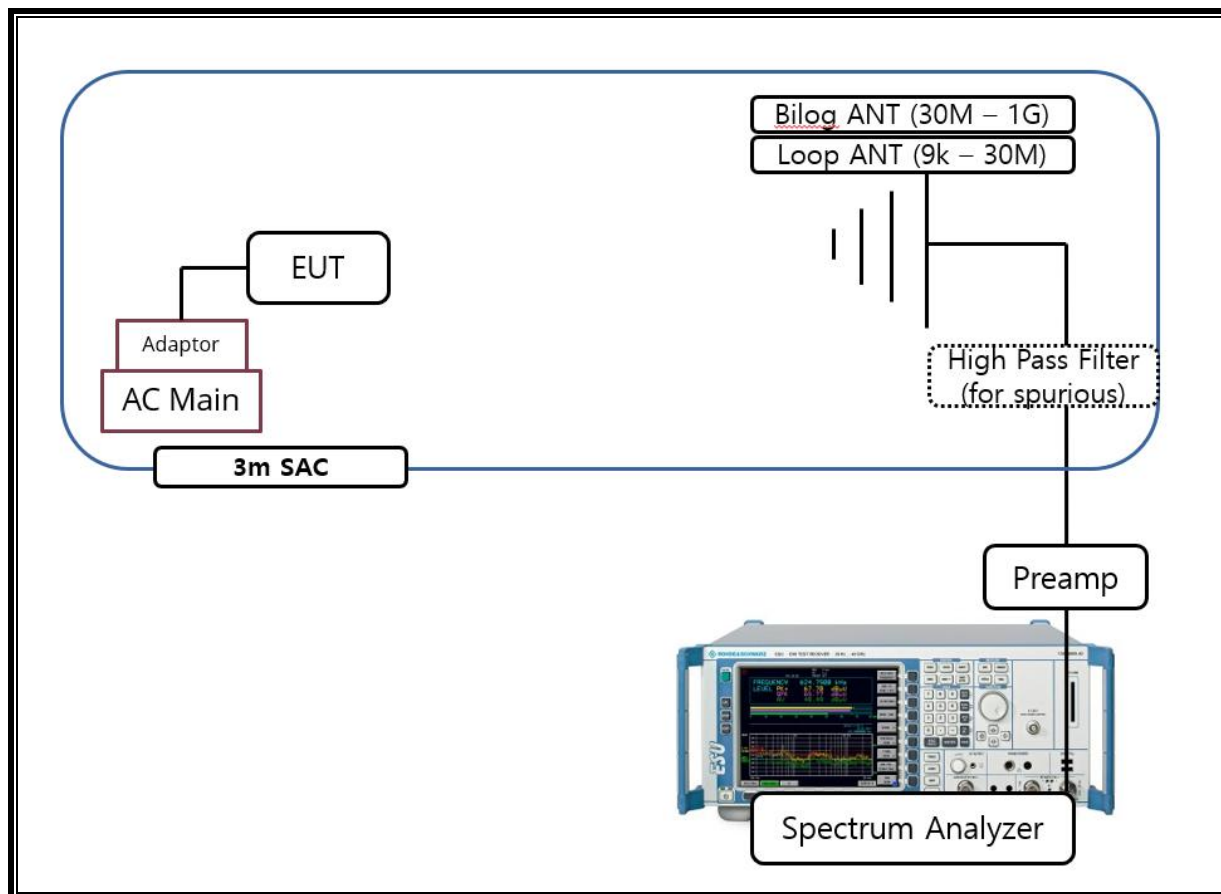
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP) Below 1GHz



6. 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	VULB 9163	750	2026-07-30
Antenna, Horn, 18 GHz	ETS	3117	00168717	2026-07-17
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2026-07-23
Preamplifier	ETS	3116C-PA	00168841	2026-07-28
Preamplifier, 1000 MHz	Sonoma	310N	341282	2026-07-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2026-07-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2026-07-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2026-12-29
RF Switching Unit	TA Engineering	TA-018S-16	SW-1	N/A
Average Power Sensor	Agilent / HP	U2000A	MY54270007	2026-07-22
Average Power Sensor	Agilent / HP	U2000A	MY54260010	2026-07-22
Attenuator	PASTERNAK	PE7087-10	A001	2026-07-22
Attenuator	PASTERNAK	PE7087-10	A008	2026-07-22
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2026-07-21
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2026-07-21
EMI Test Receive	R&S	ESW 8	101227	2026-07-17
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	2026-07-21
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	2026-07-21
High Pass Filter 6GHz	Micro-Tronics	HPS17542	21	2026-07-21
LISN	R&S	ENV216	101837	2026-07-22
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2E	100900	2027-07-24
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

7. SUMMARY TABLE

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	-30 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

8. MEASUREMENT METHOD

6 dB BW : ANSI C63.10-2020, Section 11.8.2 Option 2

OUTPUT POWER : ANSI C63.10-2020, Section 11.9.2.3.1 Method AVGPM

POWER SPECTRAL DENSITY : ANSI C63.10-2020, Section 11.10.3 & 11.10.5 Method AVGPS-1 and Method AVGPS-2

Out-of-band Emissions (Conducted) : ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Non-restricted Bands: ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Restricted Bands: ANSI C63.10-2020, Section 11.12 Emissions in restricted frequency bands

AC Power Line Conducted Emission : ANSI C63.10-2020, Section 6.2

9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

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

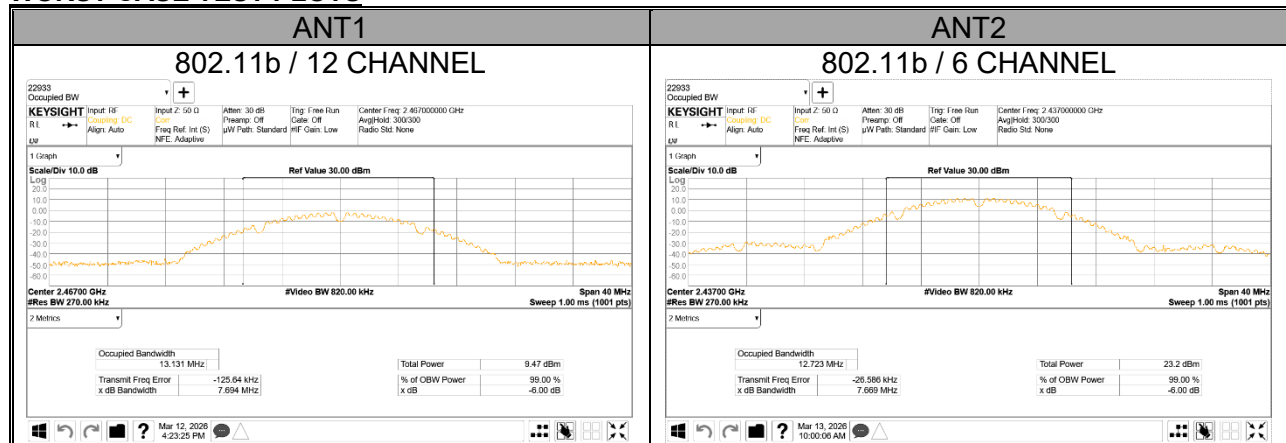
TEST PROCEDURE

Reference to ANSI C63.10 2020: The transmitter output is connected to a spectrum analyzer with the RBW set to 1-5% OBW, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

- Please refer to the next page

WORST CASE TEST PLOTS



9.2.1. TEST RESULTS

Mode	Ch.	Center Freq. [MHz]	6dB BW [MHz]		Worst MIN [MHz]	Limit [MHz]	99% BW [MHz]		Worst MAX [MHz]
			ANT1	ANT2			ANT1	ANT2	
802.11b	1	2412	8.122	8.110	7.669	0.500	13.041	12.849	13.346
	6	2437	8.052	7.669			12.387	12.723	
	11	2462	7.695	7.672			13.047	12.681	
	12	2467	7.694	8.131			13.131	13.168	
	13	2472	7.696	7.695			13.346	13.284	

9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

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

TEST PROCEDURE

Measurements perform using a wideband RF frame average power sensor. The cable assembly insertion loss and duty cycle correction factor was entered as an offset in the power sensor to allow for direct reading of power. Output power measurement was performed utilizing the 8.3.2.3 under KDB558074 D01 15.247 Meas Guidance.

ANTENNA GAIN

Bands [MHz]	ANT 1 [dBi]	ANT 2 [dBi]
2 412 - 2 472	-6.99	-4.25

Note. Since the antenna gain does not exceed 6dBi, it is not mentioned further below.

9.3.1. TEST RESULTS

Mode	Channel	Center Freq. [MHz]	Output power (dBm)		Result (dBm)
			ANT1	ANT2	Limit
802.11b	1	2412	18.87	18.53	30.00
	6	2437	18.86	18.89	
	11	2462	19.19	18.49	
	12	2467	5.22	4.38	
	13	2472	-0.75	-0.87	

9.4. 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.

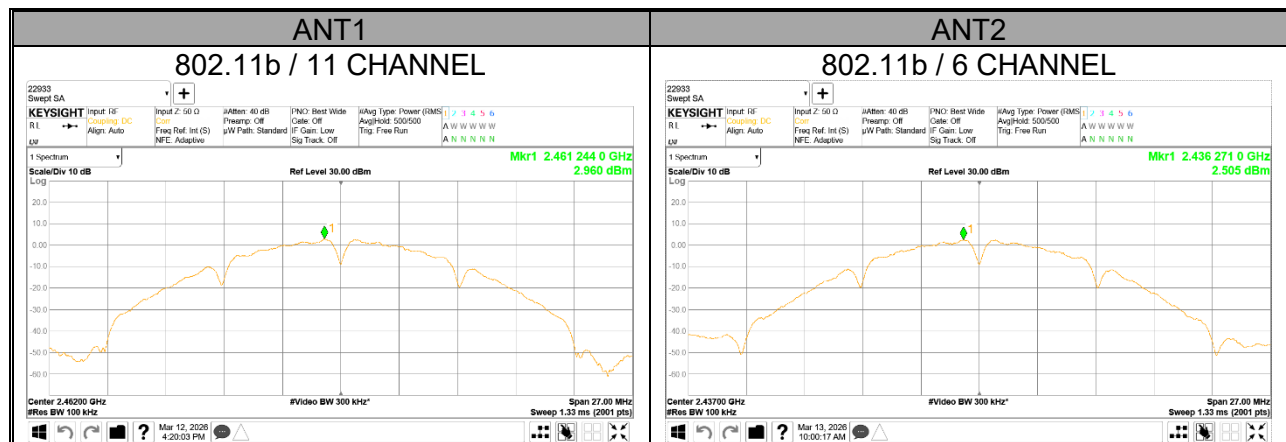
TEST PROCEDURE

Power Spectral Density was performed utilizing the section 8.4 under KDB558074 D01 15.247 Meas Guidance.

RESULTS

- Please refer to the next page

WORST CASE TEST PLOTS



9.4.1. 802.11b MODE TEST RESULTS

Mode	Channel	Freq. [MHz]	Meas PSD [dBm/100kHz]		DCCF	Corr'd PSD [dBm/100kHz]		PSD Limit [dBm/3kHz]
			ANT1	ANT2		ANT1	ANT2	
802.11b	1	2412	2.751	2.095	0.12	2.871	2.215	8.000
	6	2437	2.516	2.505	0.12	2.636	2.625	
	11	2462	2.960	2.024	0.12	3.080	2.144	
	12	2467	-11.348	-11.978	0.12	-11.228	-11.858	
	13	2472	-17.316	-17.454	0.12	-17.196	-17.334	

Calculation of Output PSD result

- 1TX : Corr'd PSD = Meas PSD + Duty Cycle CF

Note. RBW 100kHz measurement data is lower than 3kHz limit.

9.5. CONDUCTED SPURIOUS EMISSIONS

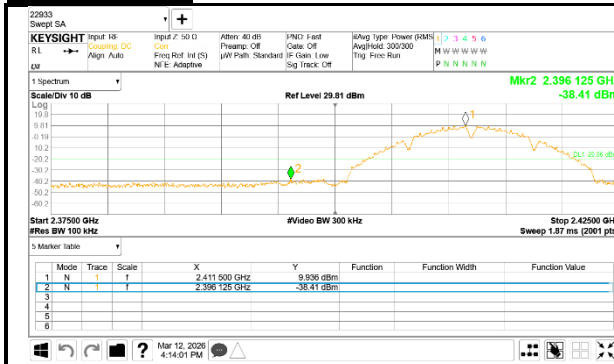
LIMITS

FCC §15.247 (d)

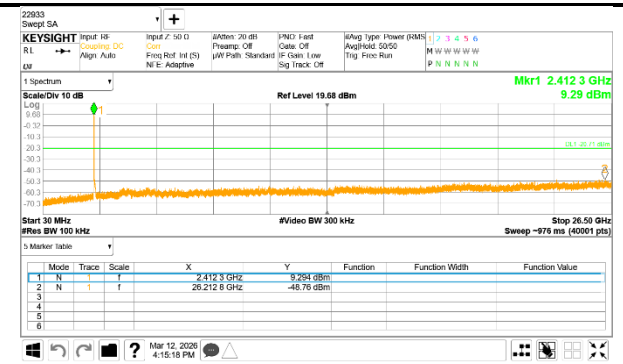
Output power was measured based on the use of average measurement, therefore the required attenuation is 30 dB.

RESULTS

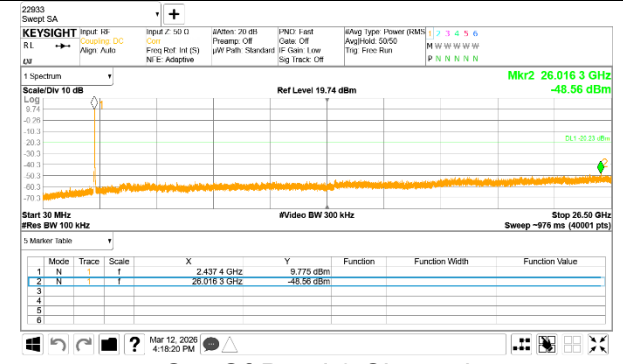
9.5.1. 802.11b MODE 1TX Antenna 1



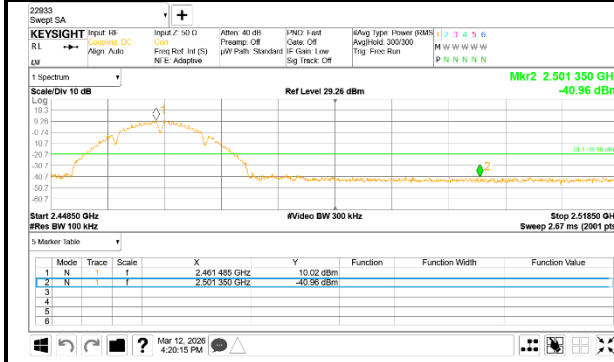
1 Channel Band-edge



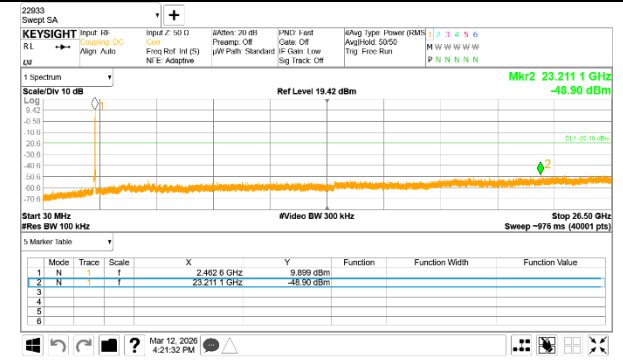
Out-Of-Band 1 Channel



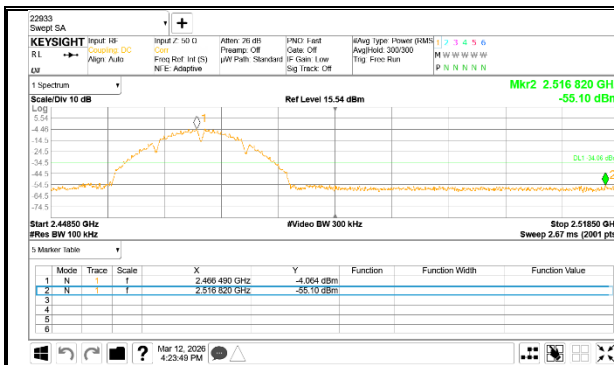
Out-Of-Band 6 Channel



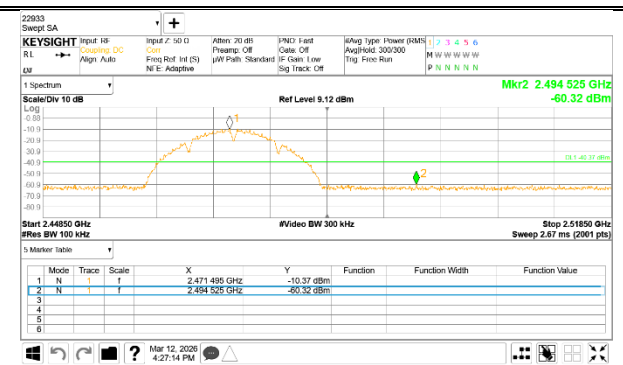
11 Channel Band-edge



Out-Of-Band 11 Channel

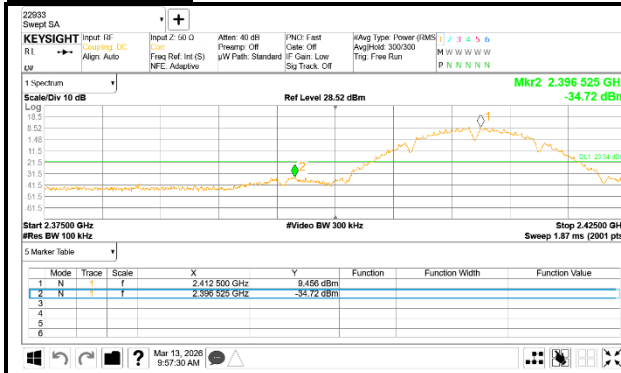


12 Channel Band-edge

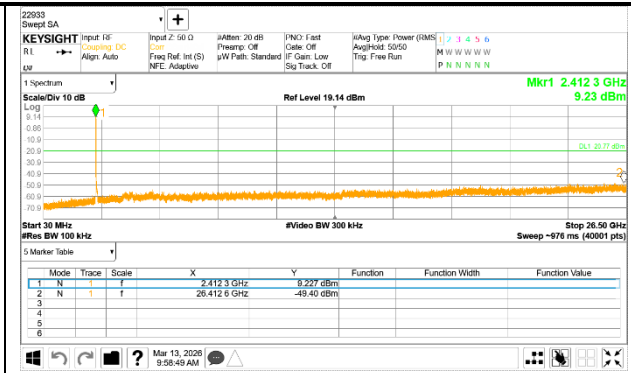


13 Channel Band-edge

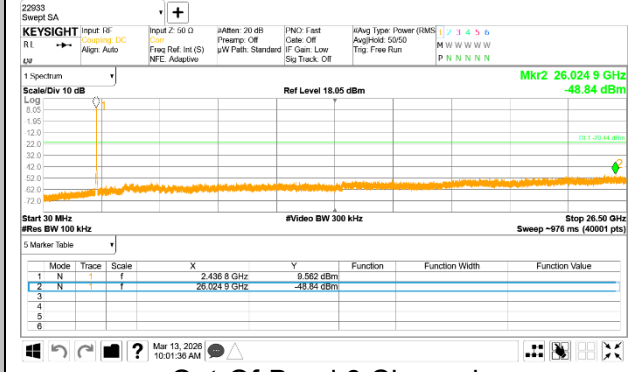
1TX Antenna 2



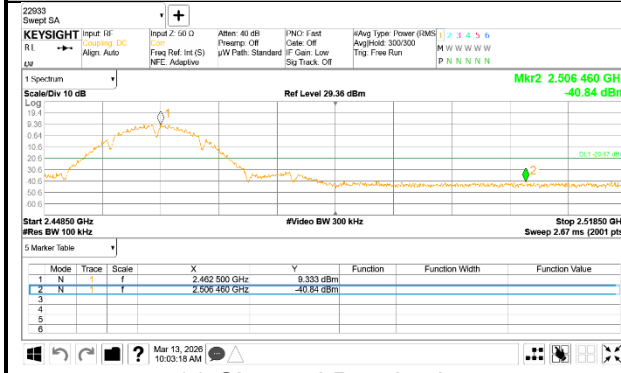
1 Channel Band-edge



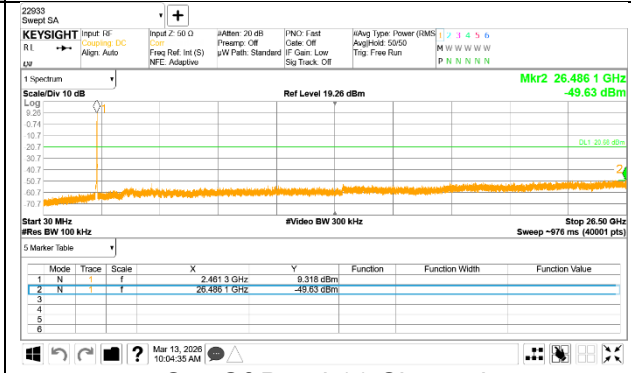
Out-Of-Band 1 Channel



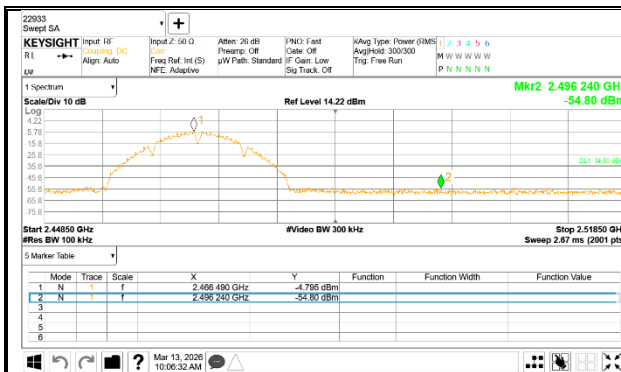
Out-Of-Band 6 Channel



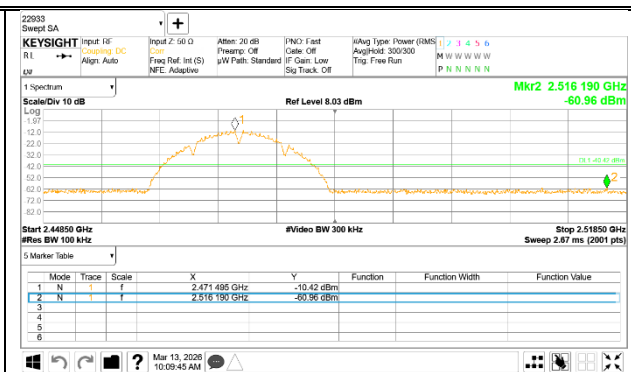
11 Channel Band-edge



Out-Of-Band 11 Channel



12 Channel Band-edge



13 Channel Band-edge

10. RADIATED TEST RESULTS

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.

FCC Part 15.205 (a) : Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	162.0125 ~	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	167.17	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	167.72 ~ 173.2	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	240 ~ 285	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	322 ~ 335.4	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	399.90 ~ 410	3345.8 ~ 3358		
		608 ~ 614	3600 ~ 4400		
		960 ~ 1240			

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1 GHz and 150 cm for above 1 GHz. 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; the video bandwidth is set to 3 MHz for peak measurements and duty cycle factor is added for average measurements. (Restricted bandedge, Final detection of spurious harmonic emissions)

Duty cycle factor = $10\log(1/x)$ For this sample:

802.11b SISO mode = 0.12 dB (97.27%)

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 each applicable 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 9 kHz to 30 MHz; no emissions were detected that were at least 20 dB below the specification limit (considering the distance correction factor).
Per FCC Part 15.31(o), test results were not reported.

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

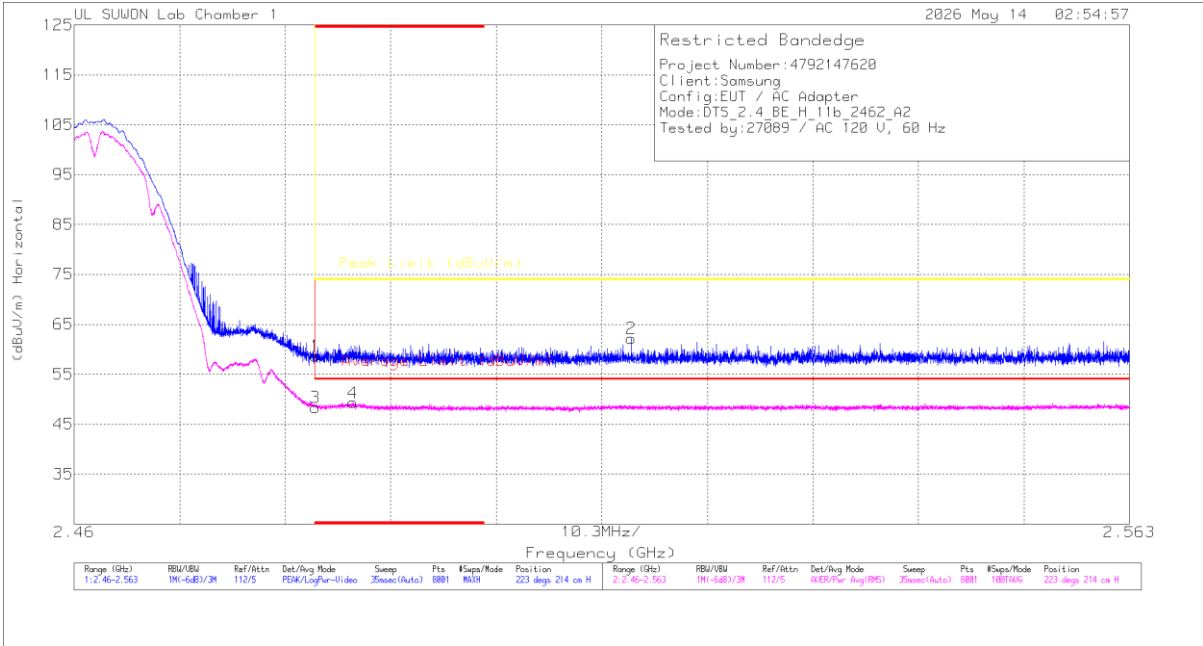
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

1TX SISO(ANT2)

BANDEDGE (WORST CASE: 1 CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	Antenna Factor (dBm)	Path Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Pk Margin (dB)	Altitude (Degs)	Height (m)	Polarity
1	* 2.48351	43	PK	32	-16.3	0	58.7	-	-	74	-15.3	223	214	H
2	2.51436	46.25	PK	32	-16.1	0	62.15	-	-	74	-11.85	223	214	H
3	* 2.48351	32.69	RMS	32	-16.3	-12	48.3	54	-5.5	-	-	223	214	H
4	* 2.48719	33.5	RMS	32	-16.2	-12	49.42	54	-4.58	-	-	223	214	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
2412	ANT1	* 2.39	43.40	Pk	31.70	-16.30	0.00	58.80	-	-	74.00	-15.20	247	383	H
		* 2.37652	45.31	Pk	31.70	-16.30	0.00	60.71	-	-	74.00	-13.29	247	383	H
		* 2.39	32.23	RMS	31.70	-16.30	0.12	47.75	54.00	-6.25	-	-	247	383	H
		* 2.38574	33.10	RMS	31.70	-16.20	0.12	48.72	54.00	-5.28	-	-	247	383	H
2462	ANT1	* 2.48351	42.15	Pk	32.00	-16.30	0.00	57.85	-	-	74.00	-16.15	301	181	H
		2.558	45.47	Pk	32.10	-16.10	0.00	61.47	-	-	74.00	-12.53	301	181	H
		* 2.48351	32.97	RMS	32.00	-16.30	0.12	48.79	54.00	-5.21	-	-	301	181	H
		2.513	33.26	RMS	32.00	-16.10	0.12	49.28	54.00	-4.72	-	-	301	181	H
		* 2.48351	42.91	Pk	32.00	-16.30	0.00	58.61	-	-	74.00	-15.39	231	238	V
		2.516	45.65	Pk	32.00	-16.20	0.00	61.45	-	-	74.00	-12.55	231	238	V
		* 2.48351	32.59	RMS	32.00	-16.30	0.12	48.41	54.00	-5.59	-	-	231	238	V
		2.512	33.12	RMS	32.00	-16.10	0.12	49.14	54.00	-4.86	-	-	231	238	V
2467	ANT1	* 2.48351	42.28	Pk	32.00	-16.30	0.00	57.98	-	-	74.00	-16.02	256	206	H
		2.513	45.25	Pk	32.00	-16.10	0.00	61.15	-	-	74.00	-12.85	256	206	H
		* 2.48351	32.48	RMS	32.00	-16.30	0.12	48.30	54.00	-5.70	-	-	256	206	H
		2.526	33.16	RMS	32.00	-16.10	0.12	49.18	54.00	-4.82	-	-	256	206	H
2472	ANT1	* 2.48351	43.00	Pk	32.00	-16.30	0.00	58.70	-	-	74.00	-15.30	299	181	H
		* 2.48411	46.06	Pk	32.00	-16.30	0.00	61.76	-	-	74.00	-12.24	299	181	H
		* 2.48351	32.52	RMS	32.00	-16.30	0.12	48.34	54.00	-5.66	-	-	299	181	H
		2.554	33.11	RMS	32.10	-16.10	0.12	49.23	54.00	-4.77	-	-	299	181	H

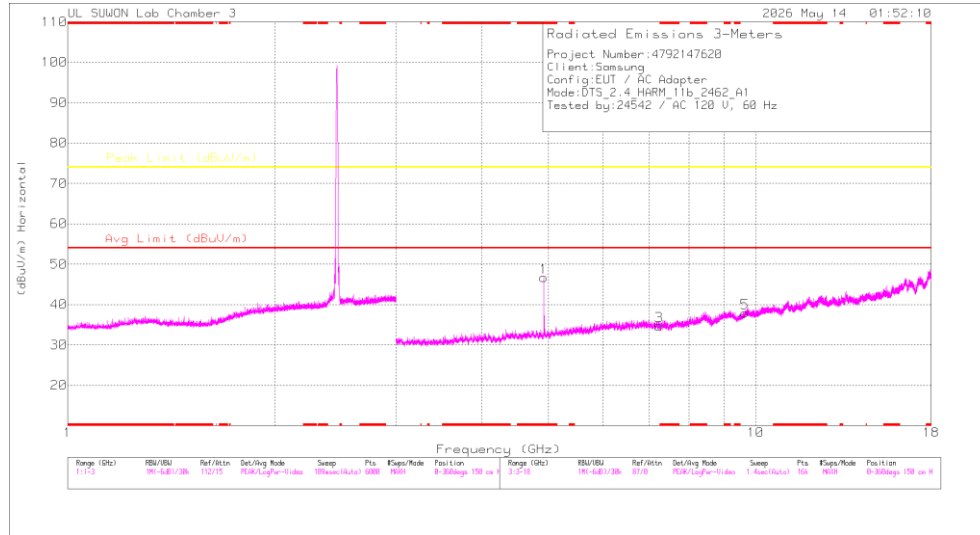
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2412	ANT2	* 2.39	41.33	Pk	31.70	-16.30	0.00	56.73	-	-	74.00	-17.27	228	221	H
		* 2.39494	45.67	Pk	31.60	-16.40	0.00	60.87	-	-	74.00	-13.13	228	221	H
		* 2.39	32.74	RMS	31.70	-16.30	0.12	48.26	54.00	-5.74	-	-	228	221	H
		* 2.3853	33.42	RMS	31.70	-16.30	0.12	48.94	54.00	-5.06	-	-	228	221	H
2462	ANT2	* 2.48351	43.00	Pk	32.00	-16.30	0.00	58.70	-	-	74.00	-15.30	223	214	H
		2.514	46.25	Pk	32.00	-16.10	0.00	62.15	-	-	74.00	-11.85	223	214	H
		* 2.48351	32.68	RMS	32.00	-16.30	0.12	48.50	54.00	-5.50	-	-	223	214	H
		* 2.48719	33.50	RMS	32.00	-16.20	0.12	49.42	54.00	-4.58	-	-	223	214	H
		* 2.48351	41.26	Pk	32.00	-16.30	0.00	56.96	-	-	74.00	-17.04	265	376	V
		2.527	45.92	Pk	32.00	-16.20	0.00	61.72	-	-	74.00	-12.28	265	376	V
		* 2.48351	32.71	RMS	32.00	-16.30	0.12	48.53	54.00	-5.47	-	-	265	376	V
		* 2.48619	33.31	RMS	32.00	-16.20	0.12	49.23	54.00	-4.77	-	-	265	376	V
2467	ANT2	* 2.48351	41.44	Pk	32.00	-16.30	0.00	57.14	-	-	74.00	-16.86	223	215	H
		2.561	45.13	Pk	32.10	-16.00	0.00	61.23	-	-	74.00	-12.77	223	215	H
		* 2.48351	32.57	RMS	32.00	-16.30	0.12	48.39	54.00	-5.61	-	-	223	215	H
		2.562	33.03	RMS	32.10	-16.00	0.12	49.25	54.00	-4.75	-	-	223	215	H
2472	ANT2	* 2.48351	41.85	Pk	32.00	-16.30	0.00	57.55	-	-	74.00	-16.45	225	165	H
		2.540	46.25	Pk	32.10	-16.10	0.00	62.25	-	-	74.00	-11.75	225	165	H
		* 2.48351	32.87	RMS	32.00	-16.30	0.12	48.69	54.00	-5.31	-	-	225	165	H
		2.557	33.07	RMS	32.10	-16.10	0.12	49.19	54.00	-4.81	-	-	225	165	H

Note1. Pk - Peak detector, RMS - RMS detector

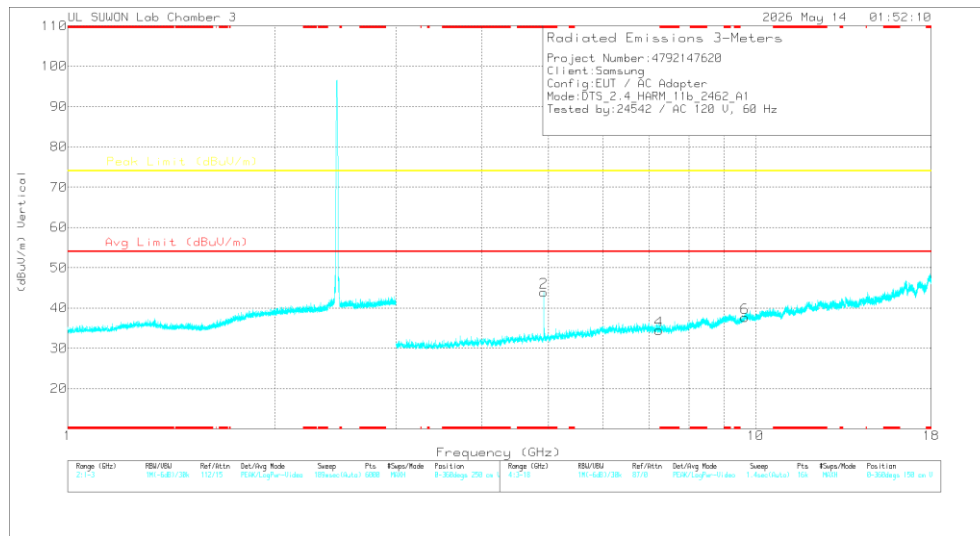
Note2. * - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: 11 CHANNEL, ANT1)

CH 11 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 Factor (dB/m)	3GHz_HP_Pat h 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
* 4.92391	46.41	PK2	34.2	-30.9	0	49.71	-	-	74	-24.29	53	123	H
* 4.92394	42.49	MAV1	34.2	-30.9	.12	45.91	54	-8.09	-	-	53	123	H
* 4.92396	45.84	PK2	34.2	-30.9	0	49.14	-	-	74	-24.86	200	349	V
* 4.92395	41.5	MAV1	34.2	-30.9	.12	44.92	54	-9.08	-	-	200	349	V
* 7.3892	33.96	PK2	35.7	-24.7	0	44.96	-	-	74	-29.04	0	100	H
* 7.3821	34.36	PK2	35.7	-24.7	0	45.36	-	-	74	-28.64	0	100	V
9.84785	32.69	PK2	37.1	-21.5	0	48.29	-	-	74	-25.71	109	100	H
9.84809	32.68	PK2	37.1	-21.5	0	48.28	-	-	74	-25.72	125	103	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

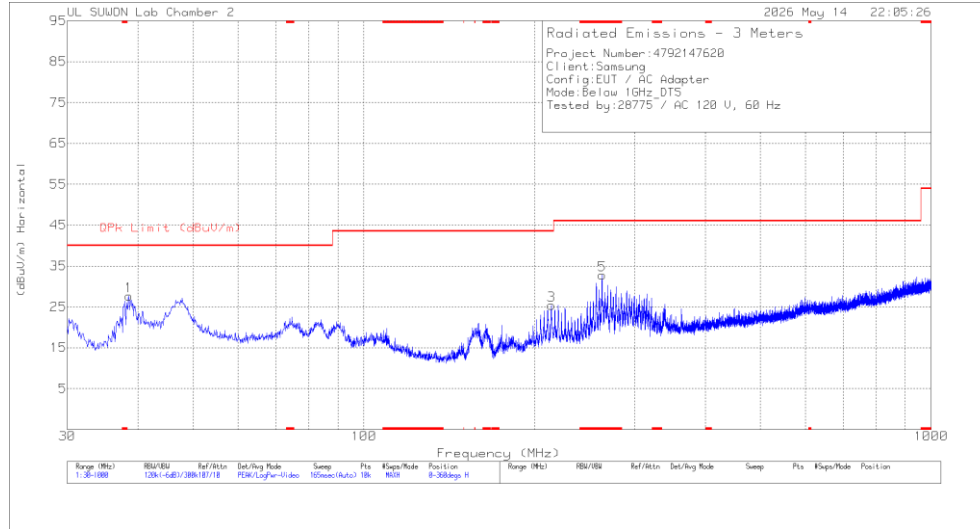
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2412	ANT1	* 4.82409	42.37	PK2	34.30	-30.10	0.00	46.57	-	-	74.00	-27.43	55	100	H
		* 4.82402	36.33	MAv1	34.30	-30.10	0.12	40.65	54.00	-13.35	-	-	55	100	H
		* 4.82409	43.16	PK2	34.30	-30.10	0.00	47.36	-	-	74.00	-26.64	125	100	V
		* 4.82398	37.40	MAv1	34.30	-30.10	0.12	41.72	54.00	-12.28	-	-	125	100	V
		7.234	34.83	PK2	35.80	-25.70	0.00	44.93	-	-	74.00	-29.07	0	100	H
		7.228	35.15	PK2	35.80	-25.70	0.00	45.25	-	-	74.00	-28.75	0	100	V
		9.648	32.63	PK2	36.80	-21.30	0.00	48.13	-	-	74.00	-25.87	114	215	H
		9.648	32.37	PK2	36.80	-21.30	0.00	47.87	-	-	74.00	-26.13	143	106	V
		* 4.87391	45.16	PK2	34.20	-30.70	0.00	48.66	-	-	74.00	-25.34	54	125	H
		* 4.87401	40.88	MAv1	34.20	-30.70	0.12	44.50	54.00	-9.50	-	-	54	125	H
2437	ANT1	* 4.87412	44.92	PK2	34.20	-30.70	0.00	48.42	-	-	74.00	-25.58	127	101	V
		* 4.87394	40.16	MAv1	34.20	-30.70	0.12	43.78	54.00	-10.22	-	-	127	101	V
		* 7.31224	34.77	PK2	35.80	-25.30	0.00	45.27	-	-	74.00	-28.73	0	100	H
		* 7.30397	34.54	PK2	35.80	-25.30	0.00	45.04	-	-	74.00	-28.96	0	100	V
		9.748	32.74	PK2	36.90	-21.30	0.00	48.34	-	-	74.00	-25.66	118	103	H
		9.748	32.66	PK2	36.90	-21.30	0.00	48.26	-	-	74.00	-25.74	130	101	V
		* 4.92391	46.41	PK2	34.20	-30.90	0.00	49.71	-	-	74.00	-24.29	53	123	H
		* 4.92394	42.49	MAv1	34.20	-30.90	0.12	45.91	54.00	-8.09	-	-	53	123	H
		* 4.92396	45.84	PK2	34.20	-30.90	0.00	49.14	-	-	74.00	-24.86	200	349	V
		* 4.92395	41.50	MAv1	34.20	-30.90	0.12	44.92	54.00	-9.08	-	-	200	349	V
2462	ANT1	* 7.3892	33.96	PK2	35.70	-24.70	0.00	44.96	-	-	74.00	-29.04	0	100	H
		* 7.3821	34.36	PK2	35.70	-24.70	0.00	45.36	-	-	74.00	-28.64	0	100	V
		9.848	32.69	PK2	37.10	-21.50	0.00	48.29	-	-	74.00	-25.71	109	100	H
		9.848	32.68	PK2	37.10	-21.50	0.00	48.28	-	-	74.00	-25.72	125	103	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
2412	ANT2	* 4.82382	39.62	PK2	34.30	-30.10	0.00	43.82	-	-	74.00	-30.18	175	236	H
		* 4.82387	30.67	MAv1	34.30	-30.10	0.12	34.99	54.00	-19.01	-	-	175	236	H
		* 4.82414	39.89	PK2	34.30	-30.10	0.00	44.09	-	-	74.00	-29.91	163	203	V
		* 4.82405	30.16	MAv1	34.30	-30.10	0.12	34.48	54.00	-19.52	-	-	163	203	V
		7.238	34.57	PK2	35.80	-25.70	0.00	44.67	-	-	74.00	-29.33	0	100	H
		7.241	35.02	PK2	35.80	-25.70	0.00	45.12	-	-	74.00	-28.88	0	100	V
		9.648	32.04	PK2	36.80	-21.30	0.00	47.54	-	-	74.00	-26.46	0	100	H
		9.652	32.09	PK2	36.80	-21.40	0.00	47.49	-	-	74.00	-26.51	0	100	V
		* 4.87401	39.97	PK2	34.20	-30.70	0.00	43.47	-	-	74.00	-30.53	178	232	H
		* 4.87407	30.73	MAv1	34.20	-30.70	0.12	34.35	54.00	-19.65	-	-	178	232	H
2437	ANT2	* 4.87381	40.53	PK2	34.20	-30.70	0.00	44.03	-	-	74.00	-29.97	162	197	V
		* 4.87392	30.92	MAv1	34.20	-30.70	0.12	34.54	54.00	-19.46	-	-	162	197	V
		* 7.30776	34.29	PK2	35.80	-25.40	0.00	44.69	-	-	74.00	-29.31	0	100	H
		* 7.31393	34.74	PK2	35.80	-25.30	0.00	45.24	-	-	74.00	-28.76	0	100	V
		9.746	32.57	PK2	36.90	-21.30	0.00	48.17	-	-	74.00	-25.83	0	100	H
		9.748	31.85	PK2	36.90	-21.30	0.00	47.45	-	-	74.00	-26.55	0	100	V
		* 4.92364	41.04	PK2	34.20	-30.90	0.00	44.34	-	-	74.00	-29.66	195	219	H
		* 4.92404	31.54	MAv1	34.20	-30.90	0.12	34.96	54.00	-19.04	-	-	195	219	H
		* 4.92393	40.83	PK2	34.20	-30.90	0.00	44.13	-	-	74.00	-29.87	158	245	V
		* 4.92405	30.99	MAv1	34.20	-30.90	0.12	34.41	54.00	-19.59	-	-	158	245	V
2462	ANT2	* 7.38399	34.56	PK2	35.70	-24.80	0.00	45.46	-	-	74.00	-28.54	0	100	H
		* 7.38473	34.80	PK2	35.70	-24.70	0.00	45.80	-	-	74.00	-28.20	0	100	V
		9.848	31.99	PK2	37.10	-21.50	0.00	47.59	-	-	74.00	-26.41	0	100	H
		9.849	32.28	PK2	37.10	-21.40	0.00	47.98	-	-	74.00	-26.02	0	100	V

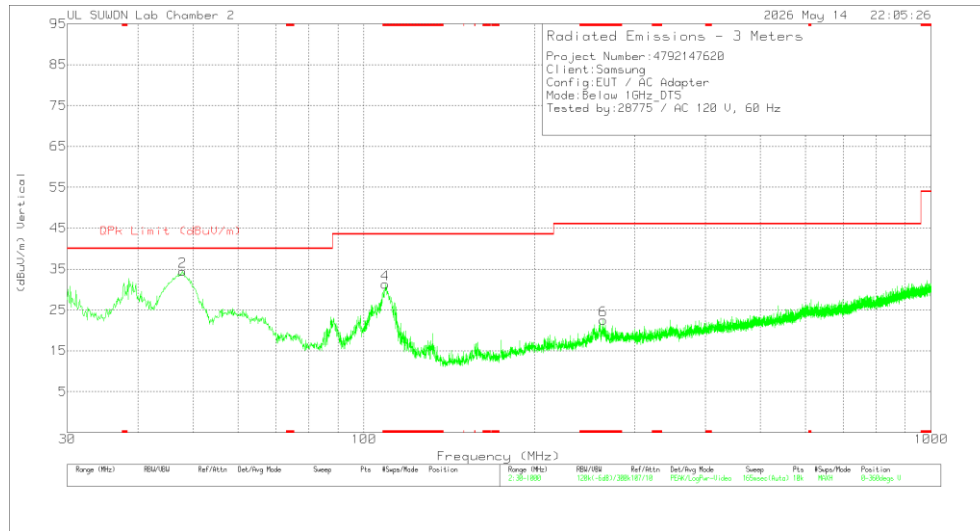
Note1. PK2 - KDB558074 Method: Maximum Peak / MAv1 - KDB558074 Option 1 Maximum RMS Average

Note2. * - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band

10.2. WORST CASE BELOW 1 GHZ



HORIZONTAL



VERTICAL

Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna_Factor (dB/m)	Below_1G_Path Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.536	41.43	Pk	18	-31.8	27.63	40	-12.37	0-360	200	H
3	214.106	39.33	Pk	16.8	-30.7	25.43	43.52	-18.09	0-360	100	H
5	* 262.897	44.92	Pk	18.4	-30.5	32.82	46.02	-13.2	0-360	100	H
2	47.945	46.35	Pk	19.8	-31.7	34.45	40	-5.55	0-360	100	V
4	* 109.055	45.35	Pk	17.3	-31.3	31.35	43.52	-12.17	0-360	100	V
6	* 264.061	34.71	Pk	18.4	-30.6	22.51	46.02	-23.51	0-360	100	V

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

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna_Factor (dB/m)	Below_1G_Path Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
47.945	34.01	Qp	19.8	-31.7	22.11	40	-17.89	252	131	V

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

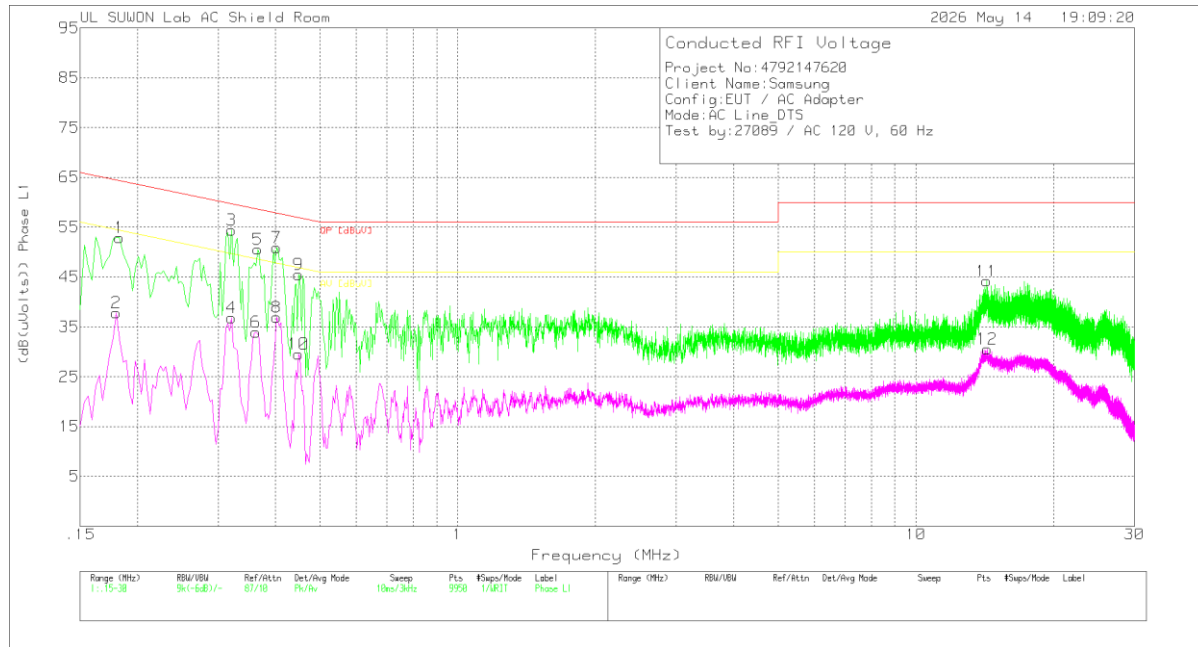
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1.1. 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 [dBuV]	QP [dBuV]	Margin [dB]	AV [dBuV]	Margin [dB]
1	.183	42.96	Pk	9.9	.1	52.96	64.35	-11.39	-	-
2	.18	27.8	Av	9.9	.1	37.8	-	-	54.49	-16.69
3	.321	44.58	Pk	9.7	.1	54.38	59.68	-5.3	-	-
4	.321	27	Av	9.7	.1	36.8	-	-	49.68	-12.88
5	.366	40.68	Pk	9.8	.1	50.58	58.59	-8.01	-	-
6	.363	23.99	Av	9.8	.1	33.89	-	-	48.66	-14.77
7	.402	41.04	Pk	9.8	.1	50.94	57.81	-6.87	-	-
8	.402	27	Av	9.8	.1	36.9	-	-	47.81	-10.91
9	.45	35.55	Pk	9.8	.1	45.45	56.88	-11.43	-	-
10	.45	19.66	Av	9.8	.1	29.56	-	-	46.88	-17.32
11	14.277	33.88	Pk	10	.3	44.18	60	-15.82	-	-
12	14.298	20.26	Av	10	.3	30.56	-	-	50	-19.44

Pk - Peak detector

Av - Average detection

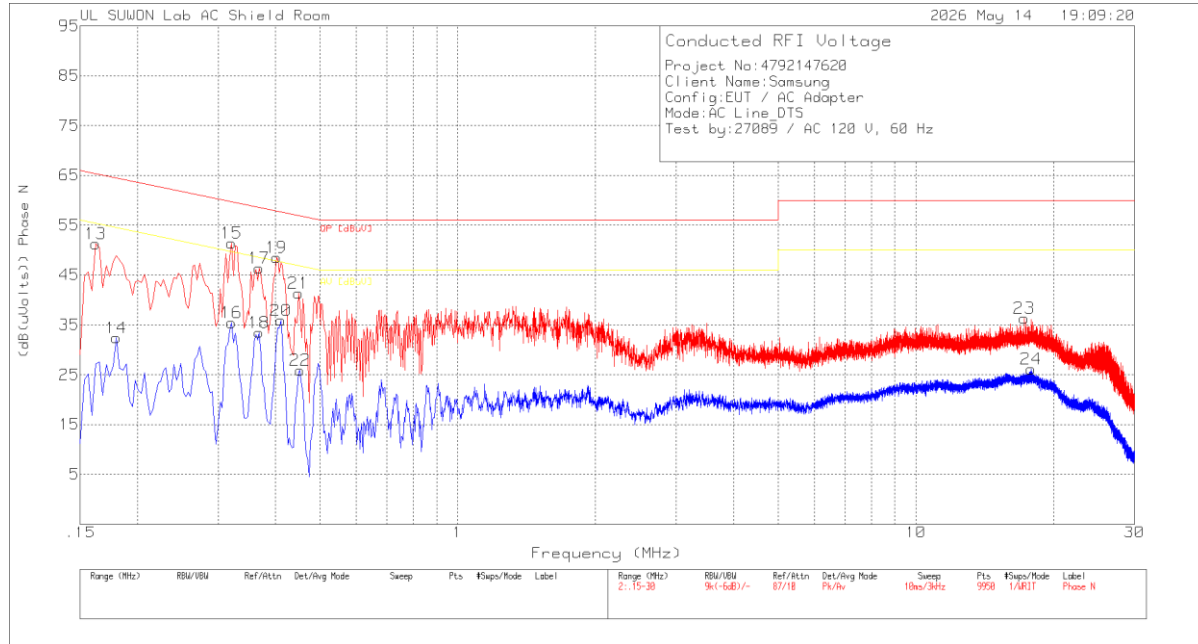
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency [MHz]	Meter Reading [dBuV]	Det	101836_Wit h EX_L1 [dB]	Cable Loss [dB]	Corrected Reading [dBuV]	QP [dBuV]	Margin [dB]	AV [dBuV]	Margin [dB]
.32025	29.31	Qp	9.7	.1	39.11	59.7	-20.59	-	-
.36525	35.78	Qp	9.8	.1	45.68	58.61	-12.93	-	-
.40275	37.68	Qp	9.8	.1	47.58	57.8	-10.22	-	-

- 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 [dBuV]	QP [dBuV]	Margin [dB]	AV [dBuV]	Margin [dB]
13	.162	41.24	Pk	9.9	.1	51.24	65.36	-14.12	-	-
14	.18	22.38	Av	9.9	.1	32.38	-	-	54.49	-22.11
15	.321	41.63	Pk	9.7	.1	51.43	59.68	-8.25	-	-
16	.321	25.69	Av	9.7	.1	35.49	-	-	49.68	-14.19
17	.369	36.45	Pk	9.8	.1	46.35	58.52	-12.17	-	-
18	.369	23.59	Av	9.8	.1	33.49	-	-	48.52	-15.03
19	.402	38.57	Pk	9.8	.1	48.47	57.81	-9.34	-	-
20	.411	25.99	Av	9.8	.1	35.89	-	-	47.63	-11.74
21	.45	31.45	Pk	9.8	.1	41.35	56.88	-15.53	-	-
22	.453	15.97	Av	9.8	.1	25.87	-	-	46.82	-20.95
23	17.244	25.85	Pk	10.2	.3	36.35	60	-23.65	-	-
24	17.835	15.66	Av	10.2	.3	26.16	-	-	50	-23.84

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 [dBuV]	QP [dBuV]	Margin [dB]	AV [dBuV]	Margin [dB]
.32175	38.82	Qp	9.7	.1	48.62	59.66	-11.04	-	-
.40275	34.23	Qp	9.8	.1	44.13	57.8	-13.67	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT