CERTIFICATION TEST REPORT

Report Number. : 4790716492-E3V1

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-A145FB/DS
FCC ID	:	A3LSMA145F
EUT Description	:	GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac.
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
2023-02-13

Prepared by:
UL Korea, Ltd.
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Suwon Test Site: UL Korea, LTD. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu
Suwon-si, Gyeonggi-do, 16675, Korea
TEL: (031) 337-9902
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IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2023-02-13	Initial issue	Myeongjun Kwon

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218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac.
MODEL NUMBER:	SM-A145FB/DS
SERIAL NUMBER:	R38T90084BB (CONDUCTED); R38T90076XE, R38T90085AH, R38T90083KP(RADIATED);
DATE TESTED:	2023-01-25 ~ 2023-02-10;

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 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:

Myeongjun Kwon
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. KDB 558074 D01 DTS Meas Guidance v05r02.
4. 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. 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:

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

AC Corrected Reading (dBuV) = Measured Voltage (dBuV) + Extension Cord Loss (dB) + Cable Loss (dB)
44.72 dBuV = 34.72 dBuV + 9.9 dB + 0.1 dB

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	2.80 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.69 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.92 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.06 dB
Radiated Disturbance, Above 18 GHz	6.02 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 Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.

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5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac
This test report addresses the DTS (WLAN) operational mode.

WiFi operating mode

Frequency rage	Mode	ANT 1
2.4GHz (2412 MHz ~ 2472 MHz)	802.11b SISO	TX/RX
	802.11g SISO	TX/RX
	802.11n(HT20) SISO	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 [dBm]	Output Power [mW]
2412 - 2472	802.11b SISO	15.82	38.19
	802.11g SISO	15.62	36.48
	802.11n(HT20) SISO	15.35	34.28

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 Gain [dBi]
2 412 ~ 2 472	-4.51

5.4. TESTED CHANNELS LIST

Ch.	Frequency [MHz]	11b [SISO]	11g [SISO]	11n(HT20) [SISO]
1	2 412	O	O	O
2	2 417	O	O	O
6	2 437	O	O	O
10	2 457		O	O
11	2 462	O	O	O
12	2 467	O	O	O
13	2 472	O	O	O

5.5. WORST-CASE CONFIGURATION AND 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.

Radiated emission above 1GHz was performed with the EUT set to transmit low/mid/High Channels.

Worst case of antenna axis: X

Based on the baseline scan, the worst-case data rates were:
802.11b mode: 1 Mbps 1TX
802.11g mode: 6 Mbps 1TX
802.11n HT20 mode: MCS0 1TX

All radiated and power line conducted tests were performed attached with travel adapter for the worst-case condition mode.

Test case configuration for 802.11b, g, n HT20 modes :

SISO Target[dBm]				
Ch.	Freq.	802.11b	802.11g	802.11n HT20
1	2412	14	14	14
2	2417	15.5	15.5	15.5
6	2437	15.5	15.5	15.5
10	2457		15.5	15.5
11	2462	15.5	14	14
12	2467	15	11	11
13	2472	15	4	4

Radiated Band-Edge, Conducted Band-Edge
Radiated Band-Edge, Radiated Spurious Emission, Conducted Band-Edge, Conducted Spurious Emission, PSD
Radiated Spurious Emission, Conducted Spurious Emission, PSD

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacture**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA200	R37NS8Q7J35DK3	N/A
Data Cable	SAMSUNG	EP-DR140AWE	GH39-02134A	N/A
Charger	SAMSUNG	EP-TA800	R37T2H82D29SEA	N/A
Data Cable	SAMSUNG	EP-DN980BWE	GH39-02115A	N/A
Earphone	SAMSUNG	EHS61ASFBE	GH59-15063A	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
2	Audio	2	Mini-jack	Unshielded	0.7 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.

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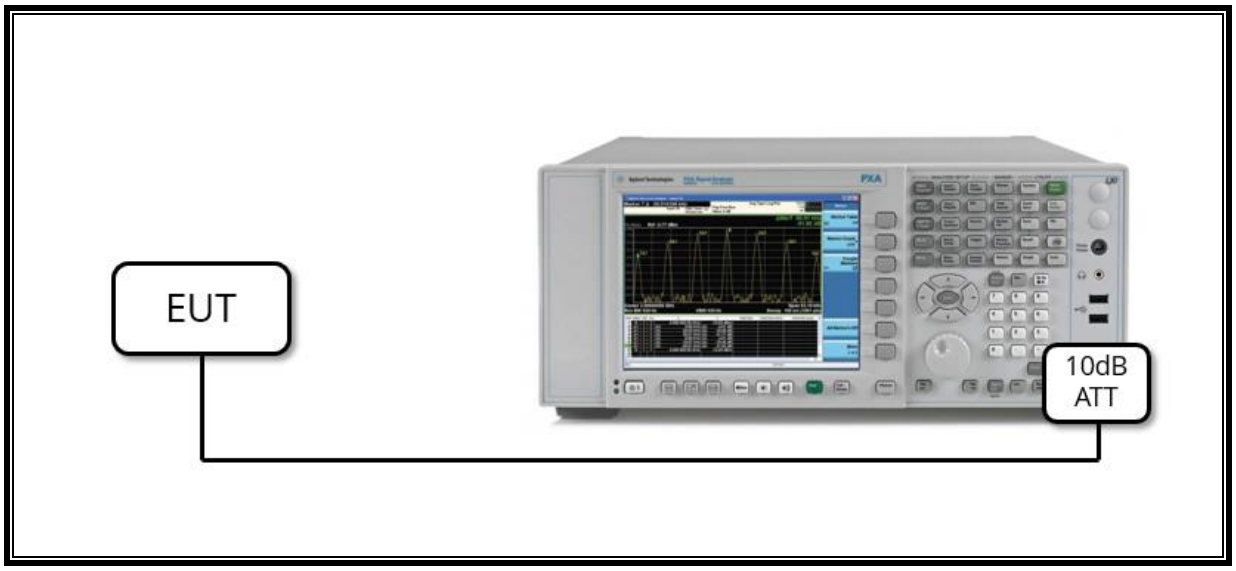
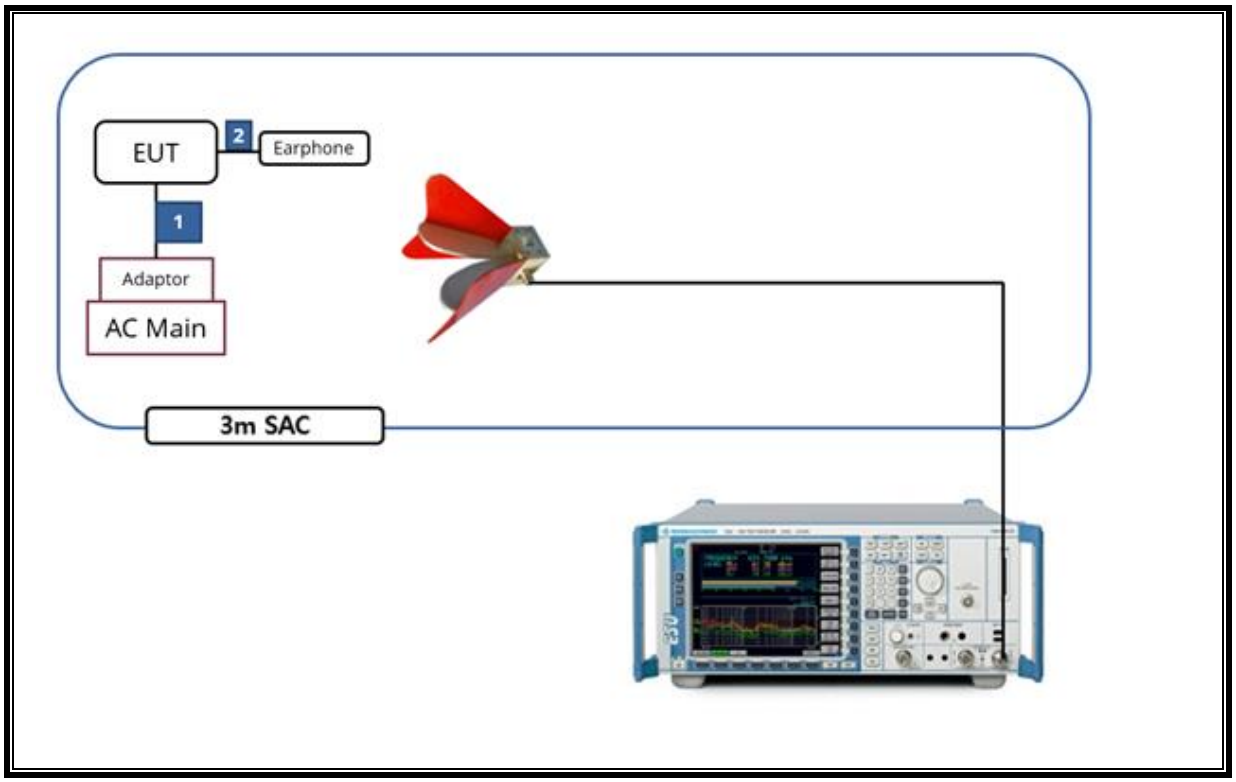
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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 11.9.2.3.1 Method AVGPM

POWER SPECTRAL DENSITY : ANSI C63.10-2013, Section 11.10.3 & 11.10.5 Method AVGPSD-1 and Method AVGPSD-2

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, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Horn, 18 GHz	ETS	3115	00167211	2024-08-04
Antenna, Horn, 18 GHz	ETS	3115	00161451	2024-08-21
Antenna, Horn, 18 GHz	ETS	3117	00168724	2024-08-04
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	2023-08-04
Preamplifier, 1000 MHz	Sonoma	310N	341282	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2023-08-01
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2023-08-01
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2023-08-03
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2023-08-01
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY60070693	2024-01-09
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2024-01-09
Average Power Sensor	Agilent / HP	U2000A	MY54270007	2023-08-03
Average Power Sensor	Agilent / HP	U2000A	MY54260010	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A001	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A008	2023-08-03
Attenuator	PASTERNACK	PE7004-10	2	2023-08-01
Attenuator	PASTERNACK	PE7087-10	A009	2023-08-03
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2023-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2023-07-29
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	2023-08-02
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	2023-08-01
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	2023-08-02
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	2023-08-01
High Pass Filter 6GHz	Micro-Tronics	HPS17542	009	2023-08-02
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	2023-08-01
LISN	R&S	ENV-216	101837	2023-08-04
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06

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. 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

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

Mode	On Time [ms]	Period [ms]	Duty Cycle X [Linear]	Duty Cycle X [%]	Duty Cycle Correction Factor[dB]	1/T Minimum VBW[kHz]
802.11b SISO	8.611	8.641	0.997	99.653	-	0.12
802.11g SISO	2.783	2.827	0.984	98.444	-	0.36
802.11n(HT20) SISO	2.593	2.632	0.985	98.518	-	0.39

Note. According to ANSI C63.10 Section 11.6, do not apply the Duty Cycle Correction Factor judging that a duty cycle of greater than or equal to 98% is continuous signal.

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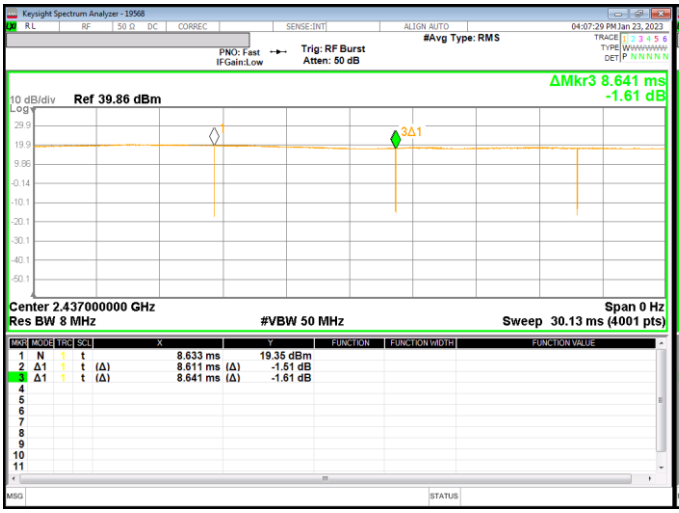
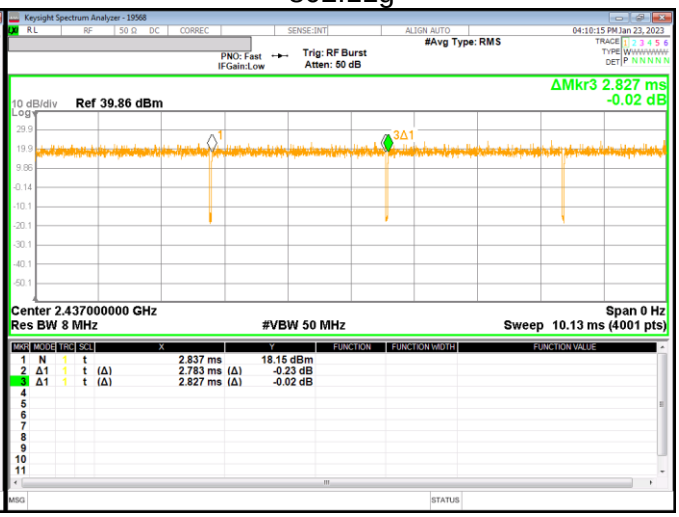
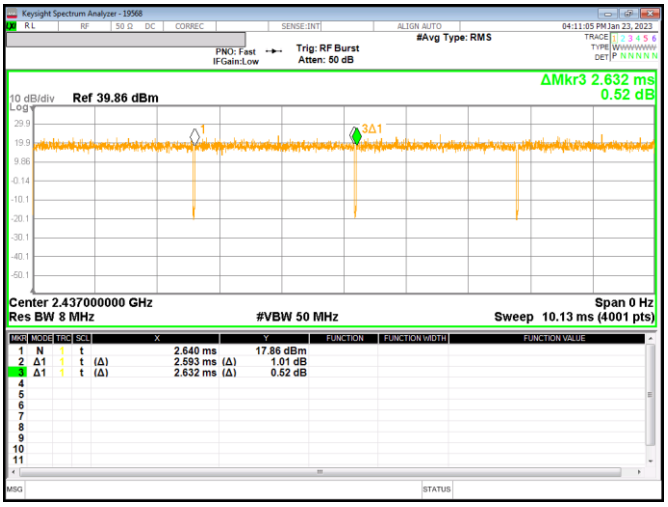
802.11b



802.11g



802.11n HT20



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 KDB 558074 D01 15.247 Meas Guidance: The transmitter output is connected to a spectrum analyzer with the RBW set to100 kHz, the VBW >= 3 x RBW, peak detector and max hold.

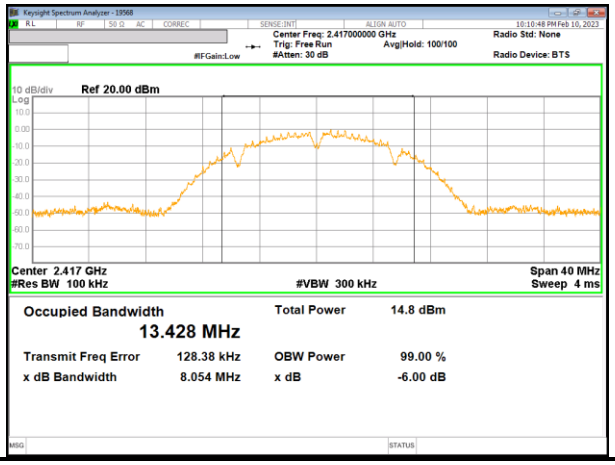
RESULTS

- Please refer to the next page

WORST CASE TEST PLOTS

ANT1

802.11b / 2 CHANNEL



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9.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
		ANT 1	
1	2 412	9.031	0.5
2	2 417	**8.054**	
6	2 437	8.574	
11	2 462	8.574	
12	2 467	8.560	
13	2 472	8.567	
Worst		**8.054**	

9.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
		ANT 1	
1	2 412	15.450	0.5
2	2 417	13.550	
6	2 437	13.820	
10	2 457	15.040	
11	2 462	**12.550**	
12	2 467	15.690	
13	2 472	15.700	
Worst		**12.550**	

9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
		ANT 1	
1	2 412	15.030	0.5
2	2 417	15.100	
6	2 437	15.410	
10	2 457	**14.990**	
11	2 462	15.050	
12	2 467	15.850	
13	2 472	16.000	
Worst		**14.990**	

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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.

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9.3.1. TEST RESULTS

- 802.11b,g,n mode

Mode	Channel	Frequency [MHz]	Average Power [dBm]	Power Limit [dBm]
802.11b	1	2 412	14.06	30.00
	2	2 417	15.23	
	6	2 437	15.82	
	11	2 462	15.21	
	12	2 467	15.07	
	13	2 472	15.05	
Worst Case			15.82	
802.11g	1	2 412	13.90	
	2	2 417	15.43	
	6	2 437	15.33	
	10	2 457	15.62	
	11	2 462	14.53	
	12	2 467	11.32	
	13	2 472	4.38	
Worst Case			15.62	
802.11n HT20	1	2 412	14.07	
	2	2 417	15.32	
	6	2 437	15.20	
	10	2 457	15.35	
	11	2 462	14.08	
	12	2 467	11.14	
	13	2 472	4.03	
Worst Case			15.35	

- Calculation of Output Power result
Average Power = Meas. Power + Duty Cycle CF

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 section8.4 under KDB558074 D01 15.247 Meas Guidance.

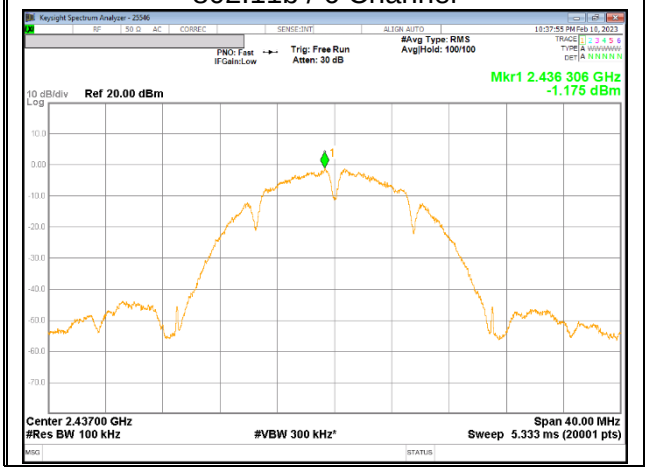
RESULTS

- Please refer to the next page

WORST CASE TEST PLOTS

ANT 1

802.11b / 6 Channel



9.4.1. 802.11b/g/n HT20 MODE TEST RESULTS

Mode	Channel	Frequency [MHz]	Meas PSD [dBm/100kHz]	DCCF	Total Corr'd PSD [dBm/100kHz]	PSD Limit [dBm/3kHz]
802.11b	1	2 412	-3.378	-	-3.378	8.00Note
	2	2 417	-2.277	-	-2.277	
	6	2 437	**-1.175**	-	**-1.175**	
	11	2 462	-2.006	-	-2.006	
	12	2 467	-1.981	-	-1.981	
	13	2 472	-1.724	-	-1.724	
802.11g	1	2 412	-5.906	-	-5.906	
	2	2 417	-3.395	-	-3.395	
	6	2 437	-3.727	-	-3.727	
	10	2 457	-3.493	-	-3.493	
	11	2 462	-5.541	-	-5.541	
	12	2 467	-8.293	-	-8.293	
	13	2 472	-15.153	-	-15.153	
802.11n HT20	1	2 412	-6.210	-	-6.210	
	2	2 417	-4.151	-	-4.151	
	6	2 437	-3.976	-	-3.976	
	10	2 457	-3.094	-	-3.094	
	11	2 462	-5.396	-	-5.396	
	12	2 467	-7.915	-	-7.915	
	13	2 472	-15.782	-	-15.782	

- Calculation of Output PSD result
- 1TX : Corr'd PSD = Meas PSD + Duty Cycle CF
Note1. RBW 100kHz measurement data is lower than 3kHz limit.

9.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

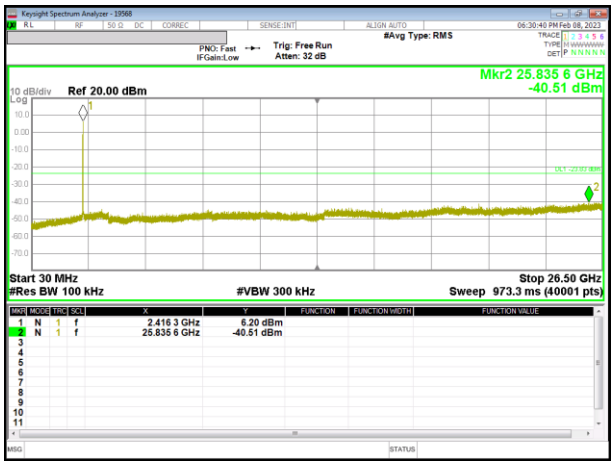
FCC §15.247 (d)

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

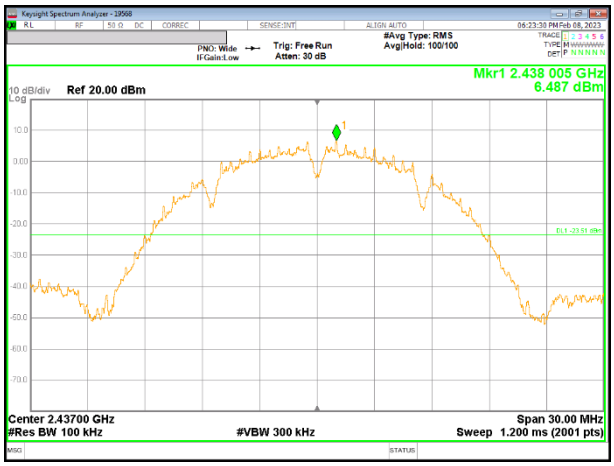
RESULTS

9.5.1. 802.11b MODE

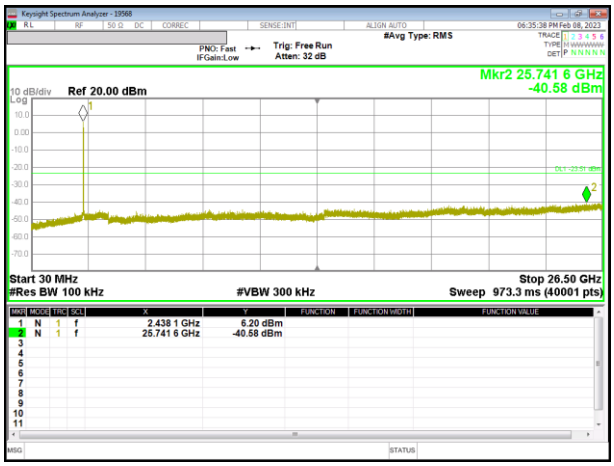
2 Channel Band-edge



Out-Of-Band 2 Channel

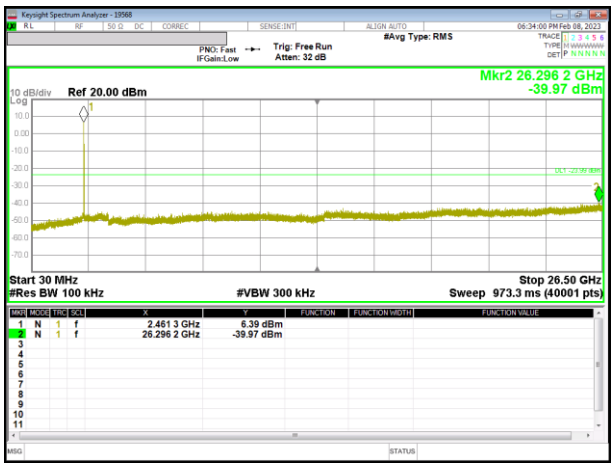


In-Band Reference Level



Out-Of-Band 6 Channel

11 Channel Band-edge



Out-Of-Band 11 Channel

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_15C(04)
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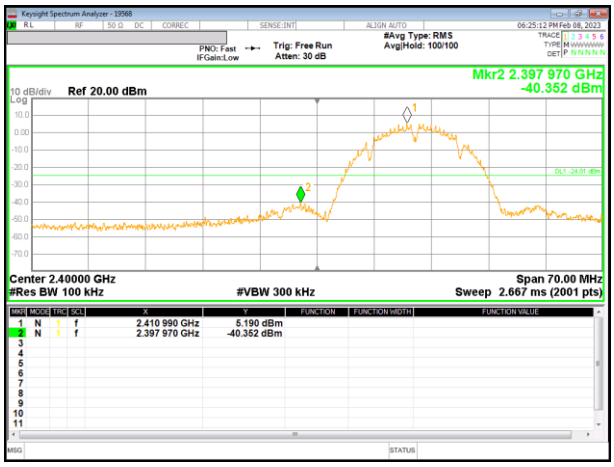
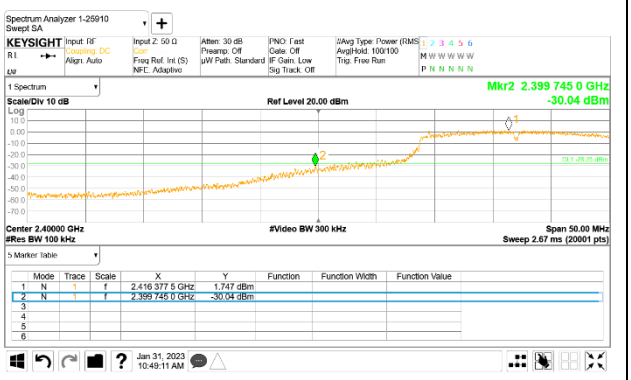


1 Channel Band-edge

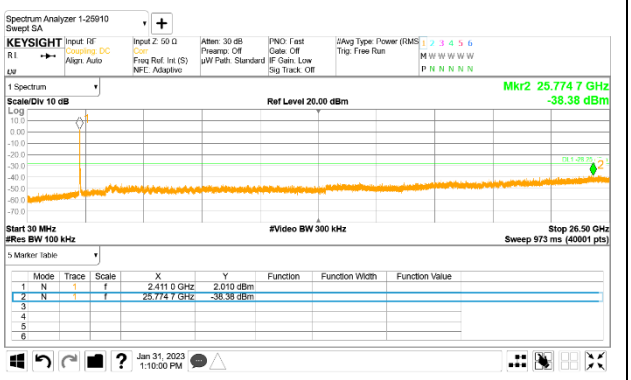
12 Channel Band-edge

13 Channel Band-edge

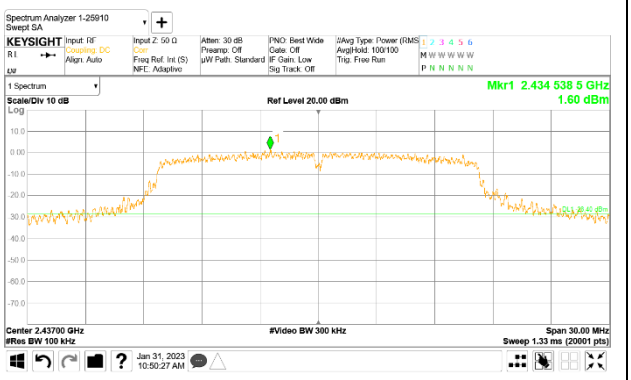
9.5.2. 802.11g MODE



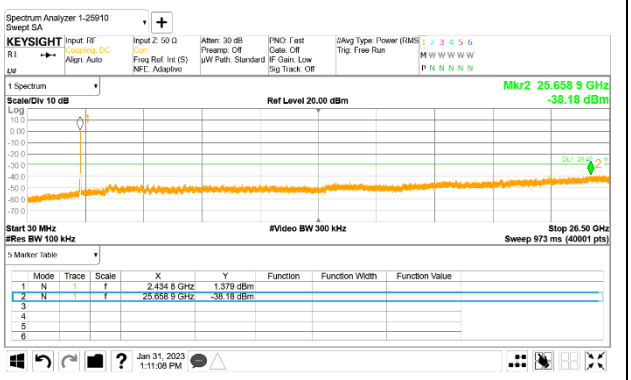
2 Channel Band-edge



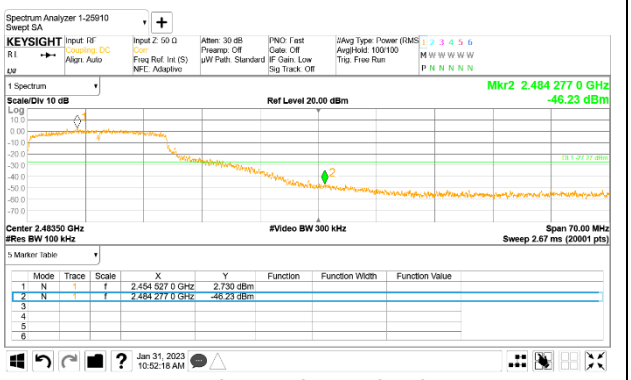
Out-Of-Band 2 Channel



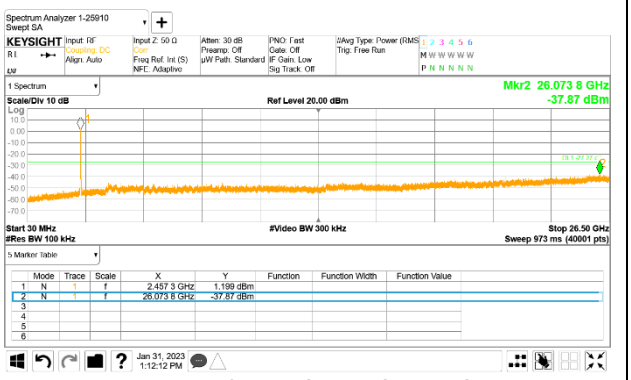
In-Band Reference Level



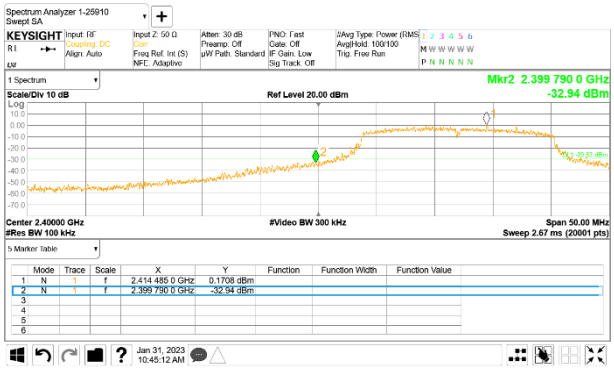
Out-Of-Band 6 Channel



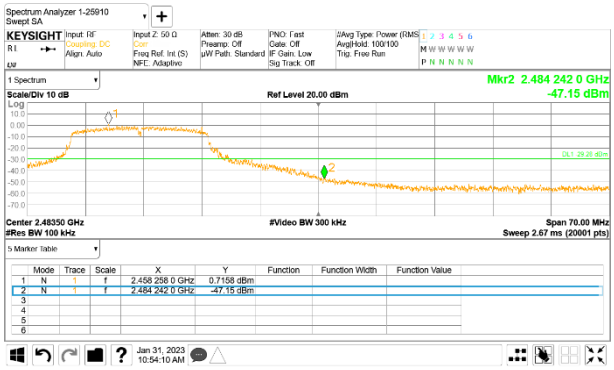
10 Channel Band-edge



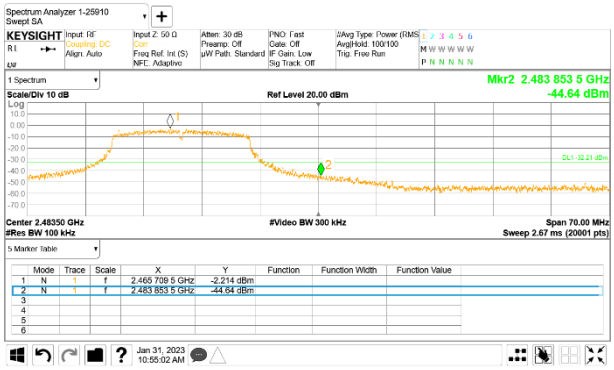
Out-Of-Band 10 Channel



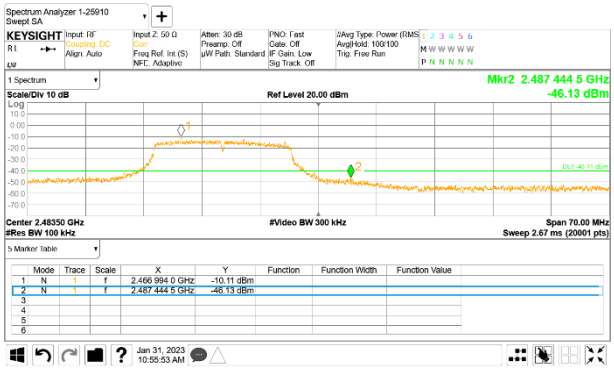
1 Channel Band-edge



11 Channel Band-edge

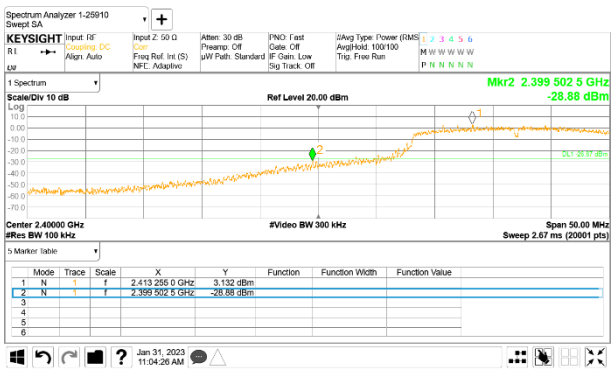


12 Channel Band-edge

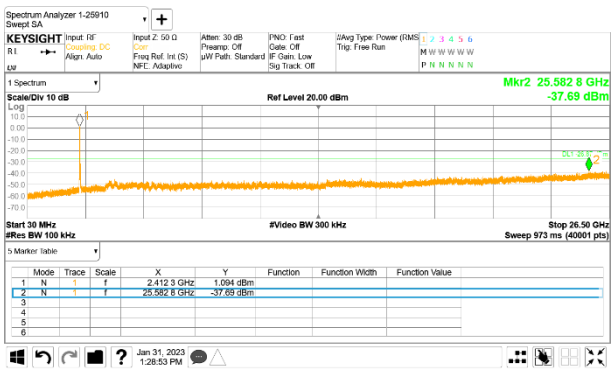


13 Channel Band-edge

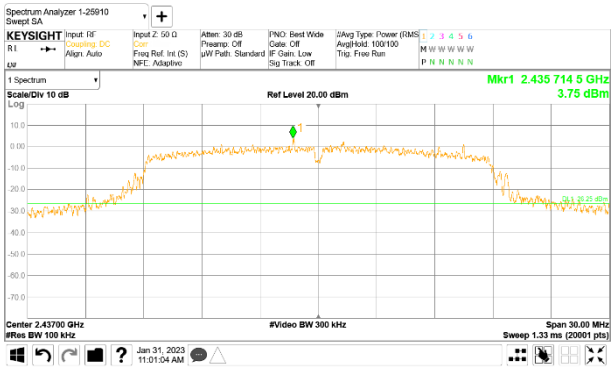
9.5.3. 802.11n HT20 MODE



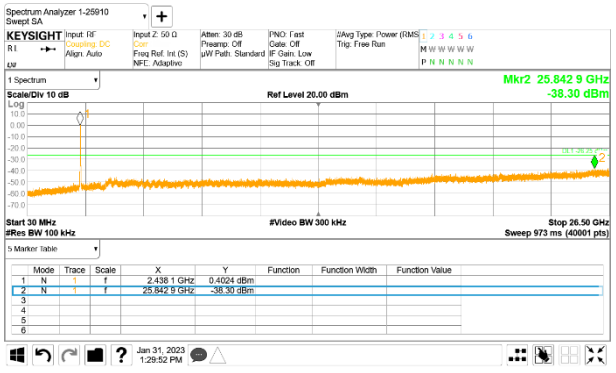
2 Channel Band-edge



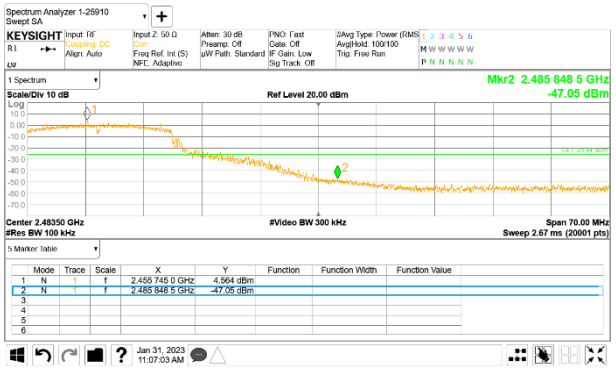
Out-Of-Band 2 Channel



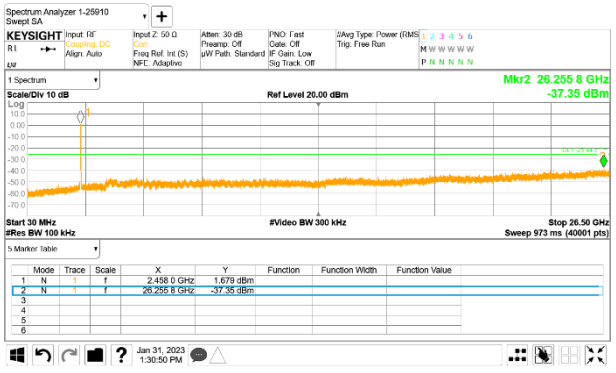
In-Band Reference Level



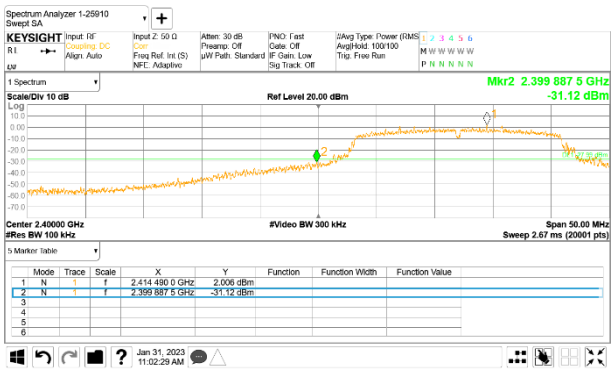
Out-Of-Band 6 Channel



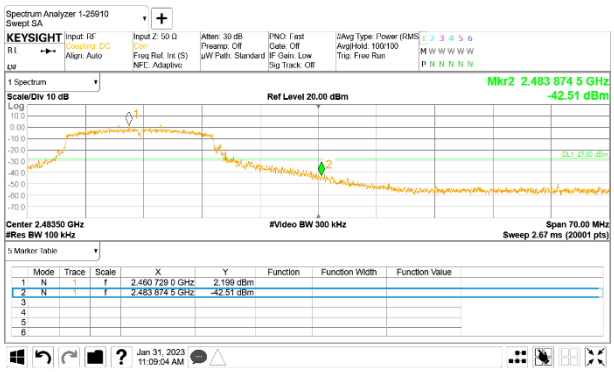
10 Channel Band-edge



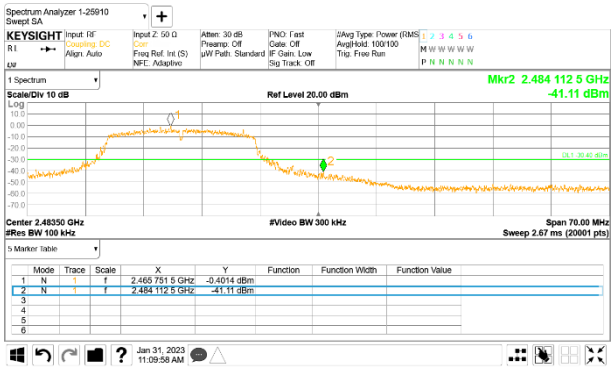
Out-Of-Band 10 Channel



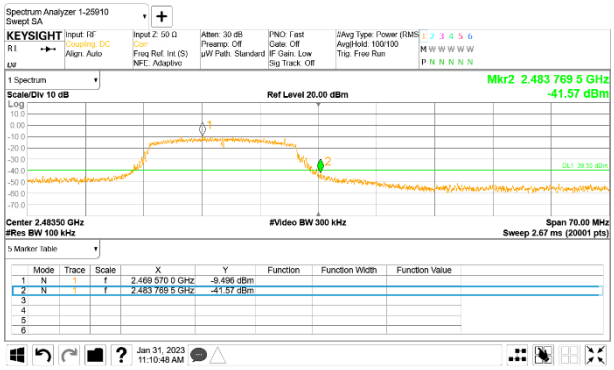
1 Channel Band-edge



11 Channel Band-edge



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 add duty cycle factor for average measurements.
(Restriced bandedge, Final detection of spurious harmonic emissions)

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

802.11b SISO mode = 0 dB (duty cycle > 98%);
802.11g SISO mode = 0 dB (duty cycle > 98%);
802.11n(HT20) SISO mode = 0 dB (duty cycle > 98%);

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 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 area 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.

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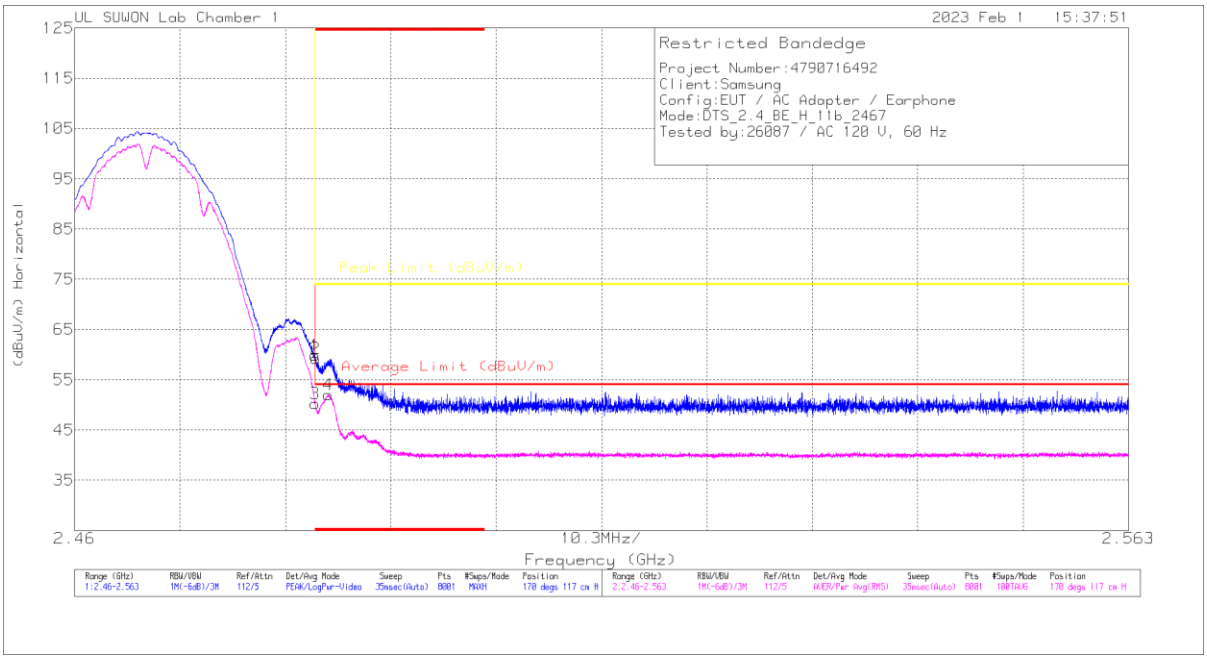
10.1. TRANSMITTER ABOVE 1 GHz

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

BANDEDGE(WORST CASE: 12 CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB_ATT(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	* 2.48351	55.99	Pk	32.2	-28.3	0	59.89	-	-	74	-14.11	170	117	H
2	* 2.48355	55.34	Pk	32.2	-28.3	0	59.24	-	-	74	-14.76	170	117	H
3	* 2.48351	46.3	RMS	32.2	-28.3	0	50.2	54	-3.8	-	-	170	117	H
4	* 2.48476	48.08	RMS	32.2	-28.3	0	51.98	54	-2.02	-	-	170	117	H

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

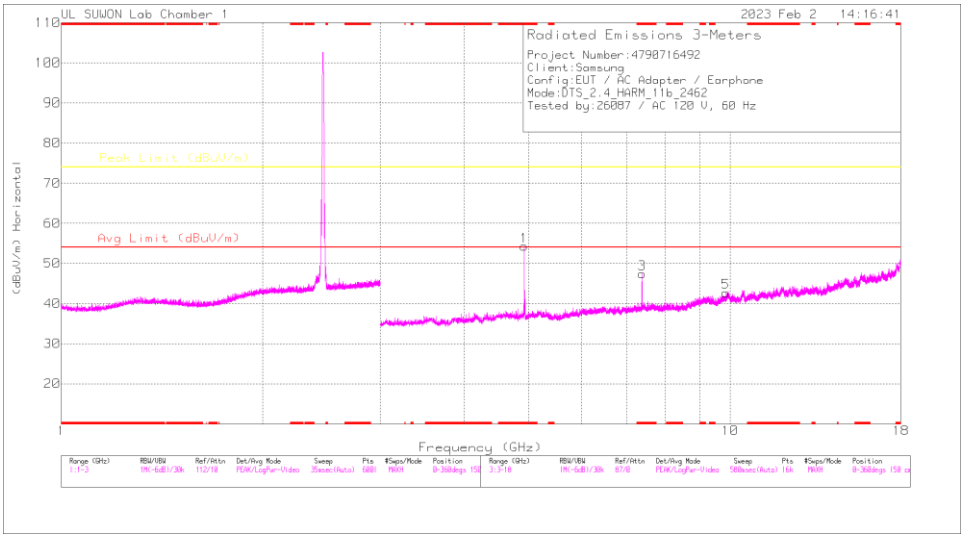
BANDEDGE TEST DATA

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	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	49.42	Pk	31.90	-28.40	0.00	52.92	-	-	74.00	-21.08	195	101	H
		* 2.3871	50.45	Pk	31.90	-28.40	0.00	53.95	-	-	74.00	-20.05	195	101	H
		* 2.39	38.97	RMS	31.90	-28.40	0.00	42.47	54.00	-11.53	-	-	195	100	H
		* 2.3866	41.11	RMS	31.90	-28.40	0.00	44.61	54.00	-9.39	-	-	195	100	H
		* 2.39	49.17	Pk	31.90	-28.40	0.00	52.67	-	-	74.00	-21.33	209	131	V
		* 2.38707	53.08	Pk	31.90	-28.40	0.00	56.58	-	-	74.00	-17.42	209	131	V
		* 2.39	40.91	RMS	31.90	-28.40	0.00	44.41	54.00	-9.59	-	-	209	131	V
		* 2.38632	46.43	RMS	31.90	-28.40	0.00	49.93	54.00	-4.07	-	-	209	131	V
2417	ANT1	* 2.39	47.12	Pk	31.90	-28.40	0.00	50.62	-	-	74.00	-23.38	202	100	H
		* 2.38945	49.30	Pk	31.90	-28.40	0.00	52.80	-	-	74.00	-21.20	202	100	H
		* 2.39	37.68	RMS	31.90	-28.40	0.00	41.18	54.00	-12.82	-	-	202	100	H
		* 2.38998	37.98	RMS	31.90	-28.40	0.00	41.48	54.00	-12.52	-	-	202	100	H
		* 2.39	47.78	Pk	31.90	-28.40	0.00	51.28	-	-	74.00	-22.72	287	108	V
		* 2.38862	49.70	Pk	31.90	-28.50	0.00	53.10	-	-	74.00	-20.90	287	108	V
		* 2.39	38.90	RMS	31.90	-28.40	0.00	42.40	54.00	-11.60	-	-	287	108	V
		* 2.38998	39.32	RMS	31.90	-28.40	0.00	42.82	54.00	-11.18	-	-	287	108	V
2462	ANT1	* 2.48351	52.89	Pk	32.20	-28.30	0.00	56.79	-	-	74.00	-17.21	169	118	H
		* 2.48369	54.29	Pk	32.20	-28.30	0.00	58.19	-	-	74.00	-15.81	169	118	H
		* 2.48351	46.08	RMS	32.20	-28.30	0.00	49.98	54.00	-4.02	-	-	169	118	H
		* 2.48464	46.21	RMS	32.20	-28.30	0.00	50.11	54.00	-3.89	-	-	169	118	H
		* 2.48351	51.32	Pk	32.20	-28.30	0.00	55.22	-	-	74.00	-18.78	63	111	V
		* 2.48424	52.95	Pk	32.20	-28.30	0.00	56.85	-	-	74.00	-17.15	63	111	V
		* 2.48351	43.10	RMS	32.20	-28.30	0.00	47.00	54.00	-7.00	-	-	63	111	V
		* 2.48454	43.96	RMS	32.20	-28.30	0.00	47.86	54.00	-6.14	-	-	63	111	V
2467	ANT1	* 2.48351	55.99	Pk	32.20	-28.30	0.00	59.89	-	-	74.00	**-14.11**	170	117	H
		* 2.48355	55.34	Pk	32.20	-28.30	0.00	59.24	-	-	74.00	-14.76	170	117	H
		* 2.48351	46.30	RMS	32.20	-28.30	0.00	50.20	54.00	-3.80	-	-	170	117	H
		* 2.48476	48.08	RMS	32.20	-28.30	0.00	51.98	54.00	**-2.02**	-	-	170	117	H
		* 2.48351	53.08	Pk	32.20	-28.30	0.00	56.98	-	-	74.00	-17.02	71	173	V
		* 2.48477	54.78	Pk	32.20	-28.30	0.00	58.68	-	-	74.00	-15.32	71	173	V
		* 2.48351	45.23	RMS	32.20	-28.30	0.00	49.13	54.00	-4.87	-	-	71	173	V
		* 2.48478	47.31	RMS	32.20	-28.30	0.00	51.21	54.00	-2.79	-	-	71	173	V
2472	ANT1	* 2.48351	51.29	Pk	32.20	-28.30	0.00	55.19	-	-	74.00	-18.81	178	120	H
		* 2.48524	55.21	Pk	32.20	-28.30	0.00	59.11	-	-	74.00	-14.89	178	120	H
		* 2.48351	41.90	RMS	32.20	-28.30	0.00	45.80	54.00	-8.20	-	-	178	120	H
		* 2.48487	47.70	RMS	32.20	-28.30	0.00	51.60	54.00	-2.40	-	-	178	120	H
		* 2.48351	50.53	Pk	32.20	-28.30	0.00	54.43	-	-	74.00	-19.57	71	173	V
		* 2.48505	54.93	Pk	32.20	-28.30	0.00	58.83	-	-	74.00	-15.17	71	173	V
		* 2.48351	42.04	RMS	32.20	-28.30	0.00	45.94	54.00	-8.06	-	-	71	173	V
		* 2.48476	47.21	RMS	32.20	-28.30	0.00	51.11	54.00	-2.89	-	-	71	173	V

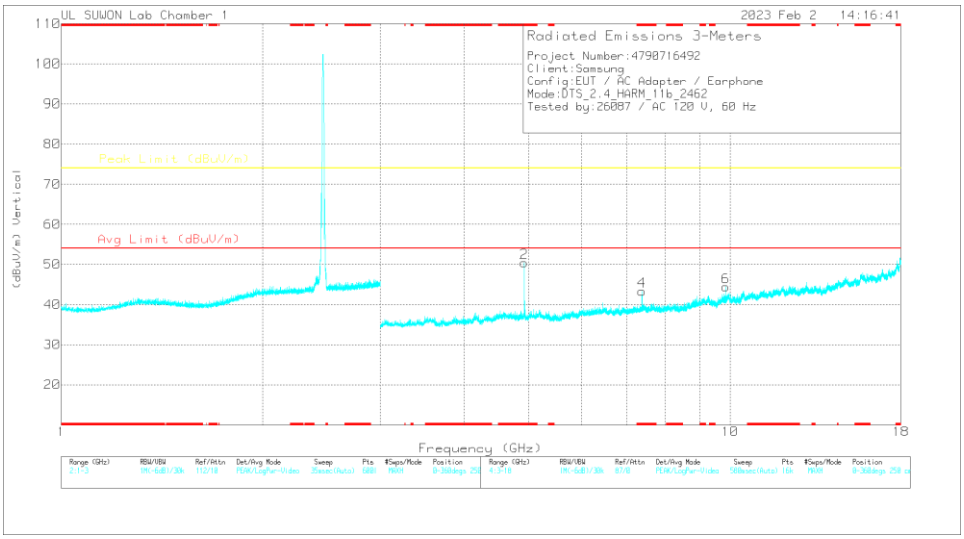
Note1. Pk - Peak detector, RMS - RMS detectior
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE: 11 CHANNEL)

CH11 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	3117_0016871 7	3GHz_HP(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
* 4.92397	52.89	PK2	34.2	-33.1	0	53.99	-	-	74	-20.01	169	130	H
* 4.92397	48.95	MAv1	34.2	-33.1	0	50.05	54	-3.95	-	-	169	130	H
* 4.92401	51.18	PK2	34.2	-33.1	0	52.28	-	-	74	-21.72	93	128	V
* 4.92401	46.54	MAv1	34.2	-33.1	0	47.64	54	-6.36	-	-	93	128	V
* 7.38517	47.26	PK2	35.6	-29.9	0	52.96	-	-	74	-21.04	181	109	H
* 7.38507	40.56	MAv1	35.6	-29.9	0	46.26	54	-7.74	-	-	181	109	H
* 7.38497	46.36	PK2	35.6	-29.9	0	52.06	-	-	74	-21.94	130	118	V
* 7.38503	38.24	MAv1	35.6	-29.9	0	43.94	54	-10.06	-	-	130	118	V
9.84822	40.77	PK2	37.5	-27.2	0	51.07	-	-	74	-22.93	195	295	H
9.84777	41.76	PK2	37.5	-27.2	0	52.06	-	-	74	-21.94	186	132	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	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
2417	ANT1	* 4.83402	52.77	PK2	34.20	-33.30	0.00	53.67	-	-	74.00	-20.33	190	104	H
		* 4.834	49.04	MAv1	34.20	-33.30	0.00	49.94	54.00	-4.06	-	-	190	104	H
		* 4.83402	51.28	PK2	34.20	-33.30	0.00	52.18	-	-	74.00	-21.82	81	124	V
		* 4.83399	46.17	MAv1	34.20	-33.30	0.00	47.07	54.00	-6.93	-	-	81	124	V
		* 7.25148	47.73	PK2	35.70	-30.20	0.00	53.23	-	-	74.00	-20.77	155	101	H
		* 7.25188	40.88	MAv1	35.70	-30.20	0.00	46.38	54.00	-7.62	-	-	155	101	H
		* 7.25116	46.47	PK2	35.70	-30.20	0.00	51.97	-	-	74.00	-22.03	237	113	V
		* 7.25014	38.64	MAv1	35.70	-30.20	0.00	44.14	54.00	-9.86	-	-	237	113	V
		9.668	40.18	PK2	37.20	-26.90	0.00	50.48	-	-	74.00	-23.52	199	256	H
		9.668	40.28	PK2	37.20	-26.90	0.00	50.58	-	-	74.00	-23.42	190	109	V
2437	ANT1	* 4.87394	52.31	PK2	34.20	-33.00	0.00	53.51	-	-	74.00	-20.49	181	128	H
		* 4.87398	48.39	MAv1	34.20	-33.00	0.00	49.59	54.00	-4.41	-	-	181	128	H
		* 4.87408	50.25	PK2	34.20	-33.00	0.00	51.45	-	-	74.00	-22.55	89	118	V
		* 4.87398	45.47	MAv1	34.20	-33.00	0.00	46.67	54.00	-7.33	-	-	89	118	V
		* 7.31015	49.04	PK2	35.70	-30.20	0.00	54.54	-	-	74.00	**-19.46**	169	142	H
		* 7.31019	42.67	MAv1	35.70	-30.20	0.00	48.17	54.00	-5.83	-	-	169	142	H
		* 7.312	46.94	PK2	35.70	-30.20	0.00	52.44	-	-	74.00	-21.56	131	115	V
		* 7.3101	39.68	MAv1	35.70	-30.20	0.00	45.18	54.00	-8.82	-	-	131	115	V
		9.748	39.96	PK2	37.30	-26.80	0.00	50.46	-	-	74.00	-23.54	200	100	H
		9.748	40.46	PK2	37.30	-26.80	0.00	50.96	-	-	74.00	-23.04	189	110	V
2462	ANT1	* 4.92397	52.89	PK2	34.20	-33.10	0.00	53.99	-	-	74.00	-20.01	169	130	H
		* 4.92397	48.95	MAv1	34.20	-33.10	0.00	50.05	54.00	**-3.95**	-	-	169	130	H
		* 4.92401	51.18	PK2	34.20	-33.10	0.00	52.28	-	-	74.00	-21.72	93	128	V
		* 4.92401	46.54	MAv1	34.20	-33.10	0.00	47.64	54.00	-6.36	-	-	93	128	V
		* 7.38517	47.26	PK2	35.60	-29.90	0.00	52.96	-	-	74.00	-21.04	181	109	H
		* 7.38507	40.56	MAv1	35.60	-29.90	0.00	46.26	54.00	-7.74	-	-	181	109	H
		* 7.38497	46.36	PK2	35.60	-29.90	0.00	52.06	-	-	74.00	-21.94	130	118	V
		* 7.38503	38.24	MAv1	35.60	-29.90	0.00	43.94	54.00	-10.06	-	-	130	118	V
		9.848	40.77	PK2	37.50	-27.20	0.00	51.07	-	-	74.00	-22.93	195	295	H
		9.848	41.76	PK2	37.50	-27.20	0.00	52.06	-	-	74.00	-21.94	186	132	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

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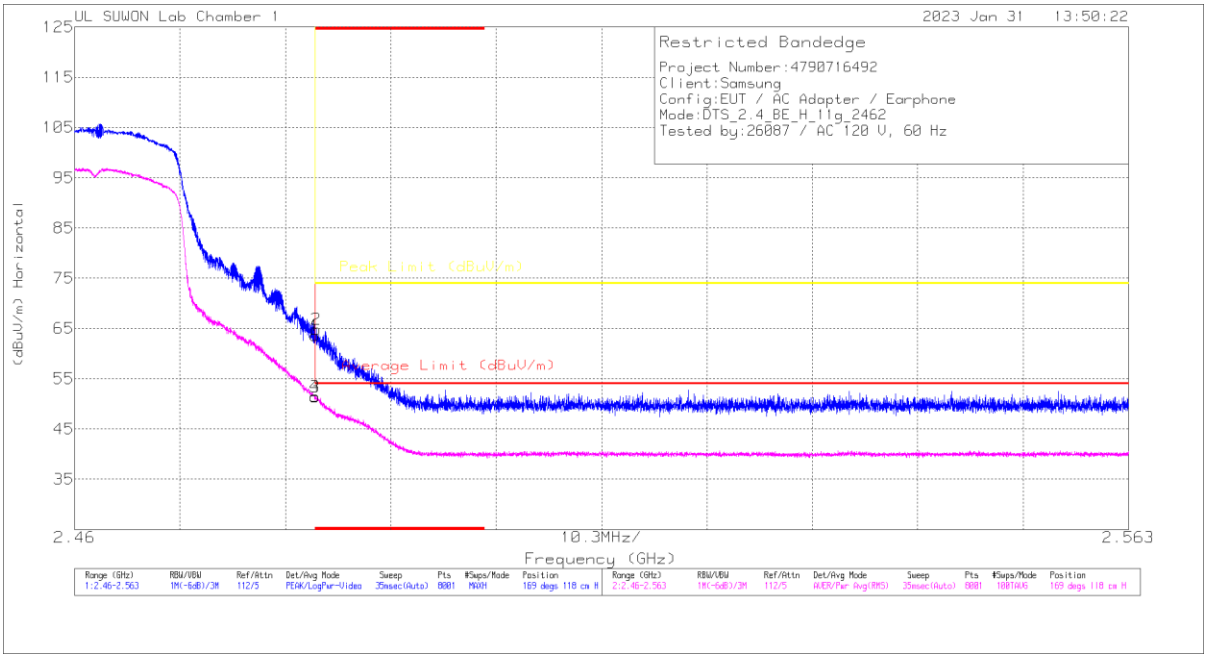
10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

BANDEDGE (WORST CASE: 11 CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB_ATT(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	* 2.48351	59.73	Pk	32.2	-28.3	0	63.63	-	-	74	-10.37	169	118	H
2	* 2.4836	60.95	Pk	32.2	-28.3	0	64.85	-	-	74	-9.15	169	118	H
3	* 2.48351	47.51	RMS	32.2	-28.3	0	51.41	54	-2.59	-	-	169	118	H
4	* 2.48352	47.65	RMS	32.2	-28.3	0	51.55	54	-2.45	-	-	169	118	H

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

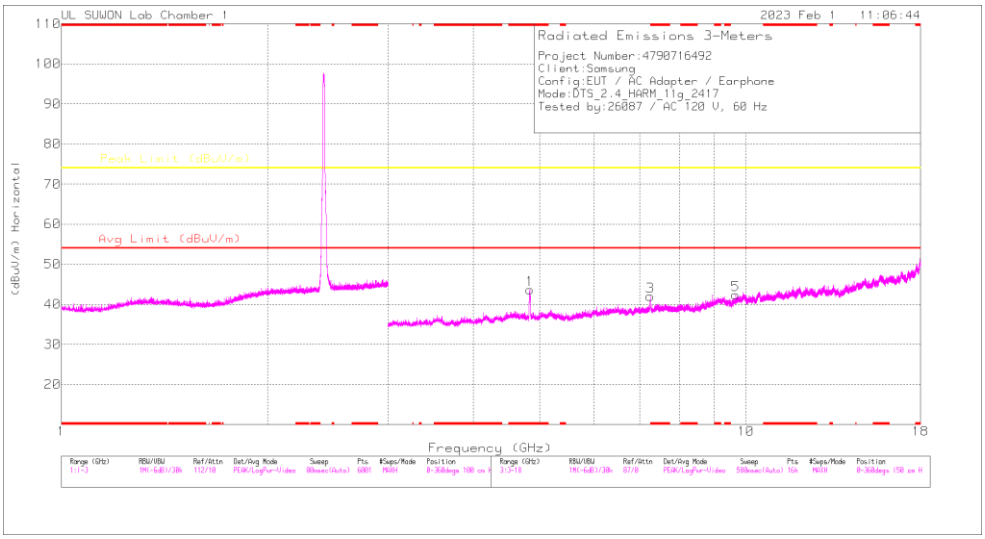
BANDEDGE TEST DATA

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	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	55.82	Pk	31.90	-28.40	0.00	59.32	-	-	74.00	-14.68	168	125	H
		* 2.38954	57.16	Pk	31.90	-28.40	0.00	60.66	-	-	74.00	-13.34	168	125	H
		* 2.39	44.14	RMS	31.90	-28.40	0.00	47.64	54.00	-6.36	-	-	168	125	H
		* 2.38996	44.08	RMS	31.90	-28.40	0.00	47.58	54.00	-6.42	-	-	168	125	H
		* 2.39	57.39	Pk	31.90	-28.40	0.00	60.89	-	-	74.00	-13.11	206	129	V
		* 2.38908	58.31	Pk	31.90	-28.40	0.00	61.81	-	-	74.00	-12.19	206	129	V
		* 2.39	44.62	RMS	31.90	-28.40	0.00	48.12	54.00	-5.88	-	-	206	129	V
		* 2.38991	44.96	RMS	31.90	-28.40	0.00	48.46	54.00	-5.54	-	-	206	129	V
2417	ANT1	* 2.39	46.95	Pk	31.90	-28.40	0.00	50.45	-	-	74.00	-23.55	31	109	H
		* 2.33804	49.62	Pk	31.80	-28.40	0.00	53.02	-	-	74.00	-20.98	31	109	H
		* 2.39	37.28	RMS	31.90	-28.40	0.00	40.78	54.00	-13.22	-	-	31	109	H
		* 2.38991	37.52	RMS	31.90	-28.40	0.00	41.02	54.00	-12.98	-	-	31	109	H
		* 2.39	57.39	Pk	31.90	-28.40	0.00	60.89	-	-	74.00	-13.11	209	129	V
		* 2.38997	58.41	Pk	31.90	-28.40	0.00	61.91	-	-	74.00	-12.09	209	129	V
		* 2.39	43.99	RMS	31.90	-28.40	0.00	47.49	54.00	-6.51	-	-	209	129	V
		* 2.38975	43.63	RMS	31.90	-28.40	0.00	47.13	54.00	-6.87	-	-	209	129	V
2457	ANT1	* 2.48351	57.37	Pk	32.20	-28.30	0.00	61.27	-	-	74.00	-12.73	169	100	H
		* 2.48444	59.59	Pk	32.20	-28.30	0.00	63.49	-	-	74.00	-10.51	169	100	H
		* 2.48351	45.46	RMS	32.20	-28.30	0.00	49.36	54.00	-4.64	-	-	169	100	H
		* 2.48354	45.85	RMS	32.20	-28.30	0.00	49.75	54.00	-4.25	-	-	169	100	H
		* 2.48351	56.68	Pk	32.20	-28.30	0.00	60.58	-	-	74.00	-13.42	63	111	V
		* 2.48454	57.75	Pk	32.20	-28.30	0.00	61.65	-	-	74.00	-12.35	63	111	V
		* 2.48351	43.72	RMS	32.20	-28.30	0.00	47.62	54.00	-6.38	-	-	63	111	V
		* 2.48354	44.02	RMS	32.20	-28.30	0.00	47.92	54.00	-6.08	-	-	63	111	V
2462	ANT1	* 2.48351	59.73	Pk	32.20	-28.30	0.00	63.63	-	-	74.00	-10.37	169	118	H
		* 2.4836	60.95	Pk	32.20	-28.30	0.00	64.85	-	-	74.00	-9.15	169	118	H
		* 2.48351	47.51	RMS	32.20	-28.30	0.00	51.41	54.00	-2.59	-	-	169	118	H
		* 2.48352	47.65	RMS	32.20	-28.30	0.00	51.55	54.00	**-2.45**	-	-	169	118	H
		* 2.48351	58.57	Pk	32.20	-28.30	0.00	62.47	-	-	74.00	-11.53	63	111	V
		* 2.4845	58.55	Pk	32.20	-28.30	0.00	62.45	-	-	74.00	-11.55	63	111	V
		* 2.48351	45.04	RMS	32.20	-28.30	0.00	48.94	54.00	-5.06	-	-	63	111	V
		* 2.48355	45.32	RMS	32.20	-28.30	0.00	49.22	54.00	-4.78	-	-	63	111	V
2467	ANT1	* 2.48351	56.61	Pk	32.20	-28.30	0.00	60.51	-	-	74.00	-13.49	195	186	H
		* 2.48445	60.34	Pk	32.20	-28.30	0.00	64.24	-	-	74.00	-9.76	195	186	H
		* 2.48351	47.02	RMS	32.20	-28.30	0.00	50.92	54.00	-3.08	-	-	195	186	H
		* 2.48352	47.46	RMS	32.20	-28.30	0.00	51.36	54.00	-2.64	-	-	195	186	H
		* 2.48351	55.35	Pk	32.20	-28.30	0.00	59.25	-	-	74.00	-14.75	63	113	V
		* 2.48453	57.69	Pk	32.20	-28.30	0.00	61.59	-	-	74.00	-12.41	63	113	V
		* 2.48351	44.06	RMS	32.20	-28.30	0.00	47.96	54.00	-6.04	-	-	63	113	V
		* 2.48364	45.04	RMS	32.20	-28.30	0.00	48.94	54.00	-5.06	-	-	63	113	V
2472	ANT1	* 2.48351	61.55	Pk	32.20	-28.30	0.00	65.45	-	-	74.00	-8.55	193	142	H
		* 2.48354	62.79	Pk	32.20	-28.30	0.00	66.69	-	-	74.00	**-7.31**	193	142	H
		* 2.48351	47.46	RMS	32.20	-28.30	0.00	51.36	54.00	-2.64	-	-	193	142	H
		* 2.48363	46.86	RMS	32.20	-28.30	0.00	50.76	54.00	-3.24	-	-	193	142	H
		* 2.48351	59.98	Pk	32.20	-28.30	0.00	63.88	-	-	74.00	-10.12	64	132	V
		* 2.48352	60.18	Pk	32.20	-28.30	0.00	64.08	-	-	74.00	-9.92	64	132	V
		* 2.48351	44.80	RMS	32.20	-28.30	0.00	48.70	54.00	-5.30	-	-	64	132	V
		* 2.48352	45.09	RMS	32.20	-28.30	0.00	48.99	54.00	-5.01	-	-	64	132	V

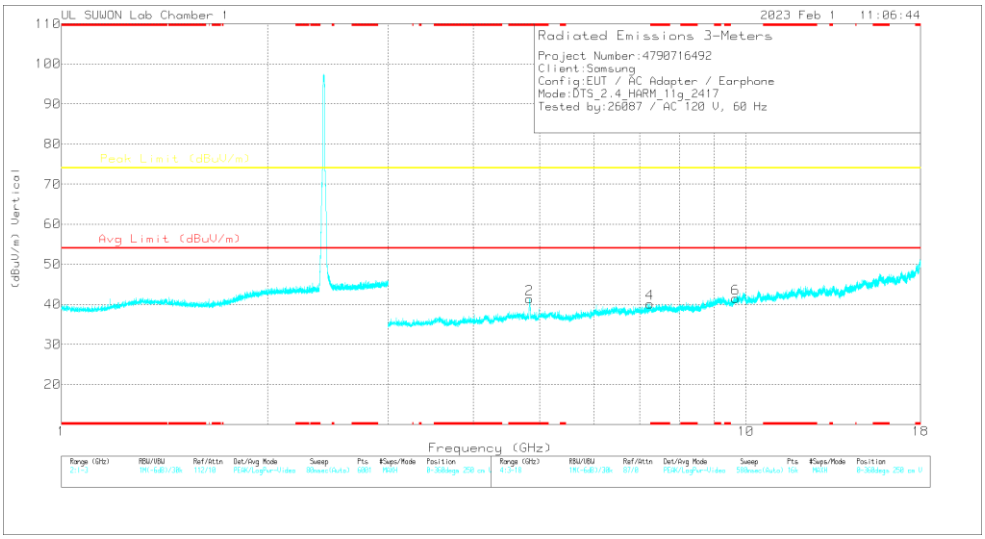
Note1. Pk - Peak detector, RMS - RMS detectior
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: 2 CHANNEL)

CH 2 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	3117_0016871 7	3GHz_HP(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
* 4.83903	54.46	PK2	34.2	-33.3	0	55.36	-	-	74	-18.64	177	104	H
* 4.83411	42.97	MAv1	34.2	-33.3	0	43.87	54	-10.13	-	-	177	104	H
* 4.83666	51.28	PK2	34.2	-33.3	0	52.18	-	-	74	-21.82	88	111	V
* 4.8342	39.67	MAv1	34.2	-33.3	0	40.57	54	-13.43	-	-	88	111	V
* 7.25465	48.62	PK2	35.7	-30.2	0	54.12	-	-	74	-19.88	172	100	H
* 7.25485	35.16	MAv1	35.7	-30.2	0	40.66	54	-13.34	-	-	172	100	H
7.24557	43.81	PK2	35.7	-30.2	0	49.31	-	-	74	-24.69	0	100	V
9.65847	40.01	PK2	37.2	-26.7	0	50.51	-	-	74	-23.49	196	244	H
9.66788	40.47	PK2	37.2	-26.9	0	50.77	-	-	74	-23.23	186	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	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
2417	ANT1	* 4.83903	54.46	PK2	34.20	-33.30	0.00	55.36	-	-	74.00	**-18.64**	177	104	**H**
		* 4.83411	42.97	MAv1	34.20	-33.30	0.00	43.87	54.00	**-10.13**	-	-	177	104	**H**
		* 4.83666	51.28	PK2	34.20	-33.30	0.00	52.18	-	-	74.00	-21.82	88	111	**V**
		* 4.8342	39.67	MAv1	34.20	-33.30	0.00	40.57	54.00	-13.43	-	-	88	111	**V**
		* 7.25465	48.62	PK2	35.70	-30.20	0.00	54.12	-	-	74.00	-19.88	172	100	**H**
		* 7.25485	35.16	MAv1	35.70	-30.20	0.00	40.66	54.00	-13.34	-	-	172	100	**H**
		7.246	43.81	PK2	35.70	-30.20	0.00	49.31	-	-	74.00	-24.69	0	100	**V**
		9.658	40.01	PK2	37.20	-26.70	0.00	50.51	-	-	74.00	-23.49	196	244	**H**
		9.668	40.47	PK2	37.20	-26.90	0.00	50.77	-	-	74.00	-23.23	186	100	**V**
2437	ANT1	* 4.86961	52.28	PK2	34.20	-33.00	0.00	53.48	-	-	74.00	-20.52	176	102	**H**
		* 4.87395	41.01	MAv1	34.20	-33.00	0.00	42.21	54.00	-11.79	-	-	176	102	**H**
		* 4.87535	49.60	PK2	34.20	-33.00	0.00	50.80	-	-	74.00	-23.20	89	120	**V**
		* 4.87393	38.13	MAv1	34.20	-33.00	0.00	39.33	54.00	-14.67	-	-	89	120	**V**
		* 7.30004	49.37	PK2	35.70	-30.20	0.00	54.87	-	-	74.00	-19.13	168	111	**H**
		* 7.30692	36.28	MAv1	35.70	-30.30	0.00	41.68	54.00	-12.32	-	-	168	111	**H**
		* 7.30079	47.18	PK2	35.70	-30.20	0.00	52.68	-	-	74.00	-21.32	133	107	**V**
		* 7.30653	34.08	MAv1	35.70	-30.20	0.00	39.58	54.00	-14.42	-	-	133	107	**V**
		9.748	40.62	PK2	37.30	-26.80	0.00	51.12	-	-	74.00	-22.88	168	113	**H**
		9.748	40.80	PK2	37.30	-26.80	0.00	51.30	-	-	74.00	-22.70	188	113	**V**
2457	ANT1	* 4.91889	51.24	PK2	34.20	-33.00	0.00	52.44	-	-	74.00	-21.56	175	129	**H**
		* 4.91394	39.30	MAv1	34.20	-33.00	0.00	40.50	54.00	-13.50	-	-	175	129	**H**
		* 4.91894	49.55	PK2	34.20	-33.00	0.00	50.75	-	-	74.00	-23.25	93	128	**V**
		* 4.91394	36.94	MAv1	34.20	-33.00	0.00	38.14	54.00	-15.86	-	-	93	128	**V**
		* 7.37541	47.06	PK2	35.70	-30.00	0.00	52.76	-	-	74.00	-21.24	163	100	**H**
		* 7.37141	35.08	MAv1	35.70	-30.00	0.00	40.78	54.00	-13.22	-	-	163	100	**H**
		* 7.37674	45.02	PK2	35.70	-30.00	0.00	50.72	-	-	74.00	-23.28	171	100	**V**
		* 7.37124	33.12	MAv1	35.70	-30.00	0.00	38.82	54.00	-15.18	-	-	171	100	**V**
		9.828	39.90	PK2	37.50	-26.90	0.00	50.50	-	-	74.00	-23.50	192	253	**H**
		9.828	41.09	PK2	37.50	-26.90	0.00	51.69	-	-	74.00	-22.31	183	125	**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

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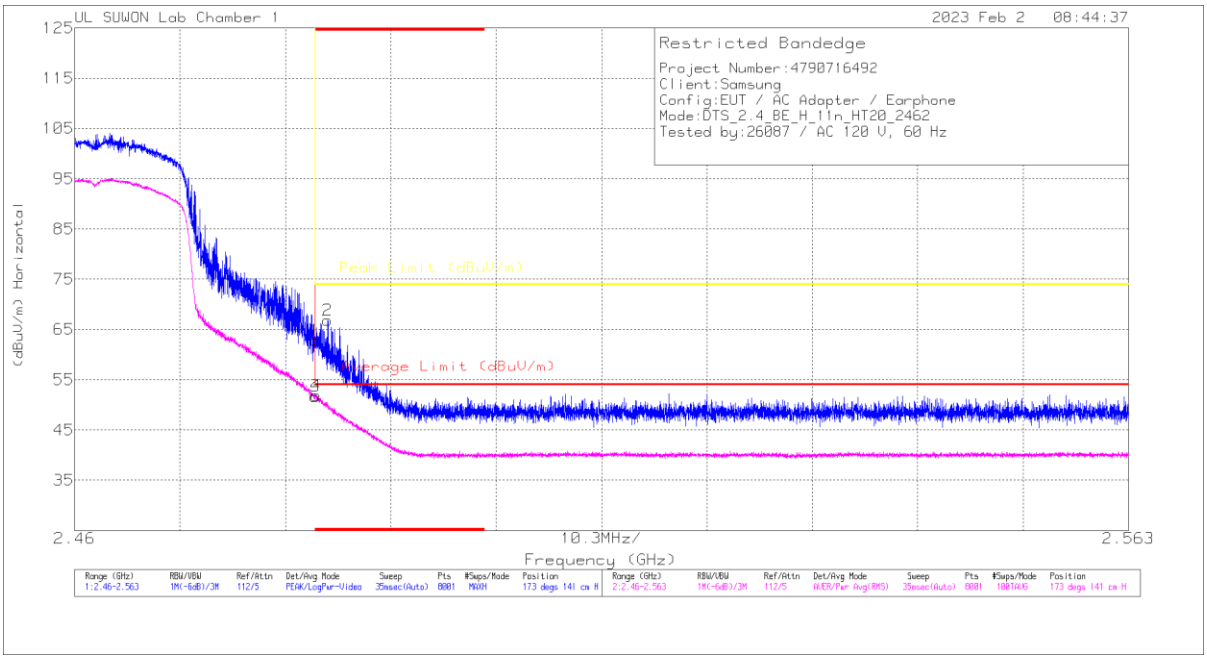
10.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

BANDEDGE (WORST CASE: 11 CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB_ATT(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	* 2.48351	58.95	Pk	32.2	-28.3	0	62.85	-	-	74	-11.15	173	141	H
2	* 2.48472	62.9	Pk	32.2	-28.3	0	66.8	-	-	74	-7.2	173	141	H
3	* 2.48351	47.79	RMS	32.2	-28.3	0	51.69	54	-2.31	-	-	173	141	H
4	* 2.48359	47.97	RMS	32.2	-28.3	0	51.87	54	-2.13	-	-	173	141	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	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	58.92	Pk	31.90	-28.40	0.00	62.42	-	-	74.00	-11.58	169	123	H
		* 2.38994	59.06	Pk	31.90	-28.40	0.00	62.56	-	-	74.00	-11.44	169	123	H
		* 2.39	45.06	RMS	31.90	-28.40	0.00	48.56	54.00	-5.44	-	-	169	123	H
		* 2.38994	45.11	RMS	31.90	-28.40	0.00	48.61	54.00	-5.39	-	-	169	123	H
		* 2.39	58.79	Pk	31.90	-28.40	0.00	62.29	-	-	74.00	-11.71	207	130	V
		* 2.38998	61.48	Pk	31.90	-28.40	0.00	64.98	-	-	74.00	-9.02	207	130	V
		* 2.39	46.45	RMS	31.90	-28.40	0.00	49.95	54.00	-4.05	-	-	207	130	V
		* 2.38996	47.04	RMS	31.90	-28.40	0.00	50.54	54.00	-3.46	-	-	207	130	V
2417	ANT1	* 2.39	60.35	Pk	31.90	-28.40	0.00	63.85	-	-	74.00	-10.15	123	170	H
		* 2.38945	61.88	Pk	31.90	-28.40	0.00	65.38	-	-	74.00	-8.62	123	170	H
		* 2.39	46.10	RMS	31.90	-28.40	0.00	49.60	54.00	-4.40	-	-	123	170	H
		* 2.3895	46.63	RMS	31.90	-28.40	0.00	50.13	54.00	-3.87	-	-	123	170	H
		* 2.39	61.62	Pk	31.90	-28.40	0.00	65.12	-	-	74.00	-8.88	49	164	V
		* 2.38962	62.68	Pk	31.90	-28.40	0.00	66.18	-	-	74.00	-7.82	49	164	V
		* 2.39	46.55	RMS	31.90	-28.40	0.00	50.05	54.00	-3.95	-	-	49	164	V
		* 2.38996	47.89	RMS	31.90	-28.40	0.00	51.39	54.00	-2.61	-	-	49	164	V
2457	ANT1	* 2.48351	62.56	Pk	32.20	-28.30	0.00	66.46	-	-	74.00	-7.54	167	100	H
		* 2.48543	63.72	Pk	32.20	-28.30	0.00	67.62	-	-	74.00	-6.38	167	100	H
		* 2.48351	45.57	RMS	32.20	-28.30	0.00	49.47	54.00	-4.53	-	-	167	100	H
		* 2.48427	46.03	RMS	32.20	-28.30	0.00	49.93	54.00	-4.07	-	-	167	100	H
		* 2.48351	59.97	Pk	32.20	-28.30	0.00	63.87	-	-	74.00	-10.13	65	111	V
		* 2.48547	63.16	Pk	32.20	-28.30	0.00	67.06	-	-	74.00	-6.94	65	111	V
		* 2.48351	44.44	RMS	32.20	-28.30	0.00	48.34	54.00	-5.66	-	-	65	111	V
		* 2.48357	44.88	RMS	32.20	-28.30	0.00	48.78	54.00	-5.22	-	-	65	111	V
2462	ANT1	* 2.48351	58.95	Pk	32.20	-28.30	0.00	62.85	-	-	74.00	-11.15	173	141	H
		* 2.48472	62.90	Pk	32.20	-28.30	0.00	66.80	-	-	74.00	-7.20	173	141	H
		* 2.48351	47.79	RMS	32.20	-28.30	0.00	51.69	54.00	-2.31	-	-	173	141	H
		* 2.48359	47.97	RMS	32.20	-28.30	0.00	51.87	54.00	**-2.13**	-	-	173	141	H
		* 2.48351	57.86	Pk	32.20	-28.30	0.00	61.76	-	-	74.00	-12.24	70	108	V
		* 2.48355	63.25	Pk	32.20	-28.30	0.00	67.15	-	-	74.00	-6.85	70	108	V
		* 2.48351	46.34	RMS	32.20	-28.30	0.00	50.24	54.00	-3.76	-	-	70	108	V
		* 2.48359	46.77	RMS	32.20	-28.30	0.00	50.67	54.00	-3.33	-	-	70	108	V
2467	ANT1	* 2.48351	61.09	Pk	32.20	-28.30	0.00	64.99	-	-	74.00	-9.01	177	120	H
		* 2.48485	62.86	Pk	32.20	-28.30	0.00	66.76	-	-	74.00	-7.24	177	120	H
		* 2.48351	46.97	RMS	32.20	-28.30	0.00	50.87	54.00	-3.13	-	-	177	120	H
		* 2.48356	47.31	RMS	32.20	-28.30	0.00	51.21	54.00	-2.79	-	-	177	120	H
		* 2.48351	61.21	Pk	32.20	-28.30	0.00	65.11	-	-	74.00	-8.89	71	176	V
		* 2.48511	62.50	Pk	32.20	-28.30	0.00	66.40	-	-	74.00	-7.60	71	176	V
		* 2.48351	47.45	RMS	32.20	-28.30	0.00	51.35	54.00	-2.65	-	-	71	176	V
		* 2.48378	47.45	RMS	32.20	-28.30	0.00	51.35	54.00	-2.65	-	-	71	176	V
2472	ANT1	* 2.48351	62.65	Pk	32.20	-28.30	0.00	66.55	-	-	74.00	-7.45	164	140	H
		* 2.48354	63.80	Pk	32.20	-28.30	0.00	67.70	-	-	74.00	**-6.30**	164	140	H
		* 2.48351	47.18	RMS	32.20	-28.30	0.00	51.08	54.00	-2.92	-	-	164	140	H
		* 2.4837	47.22	RMS	32.20	-28.30	0.00	51.12	54.00	-2.88	-	-	164	140	H
		* 2.48351	59.69	Pk	32.20	-28.30	0.00	63.59	-	-	74.00	-10.41	86	130	V
		* 2.48354	62.13	Pk	32.20	-28.30	0.00	66.03	-	-	74.00	-7.97	86	130	V
		* 2.48351	46.52	RMS	32.20	-28.30	0.00	50.42	54.00	-3.58	-	-	86	130	V
		* 2.48357	45.85	RMS	32.20	-28.30	0.00	49.75	54.00	-4.25	-	-	86	130	V

Note1. Pk - Peak detector, RMS - RMS detectior
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

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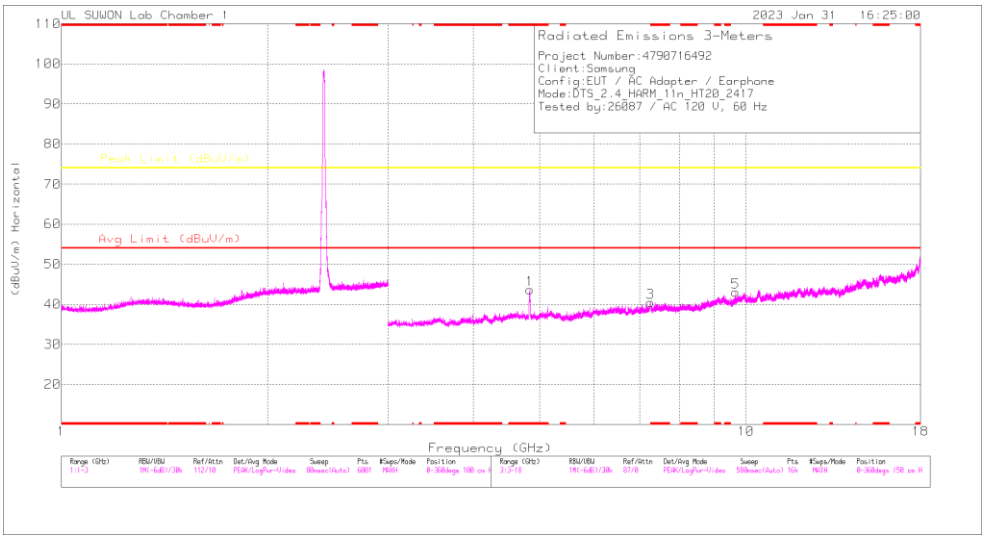
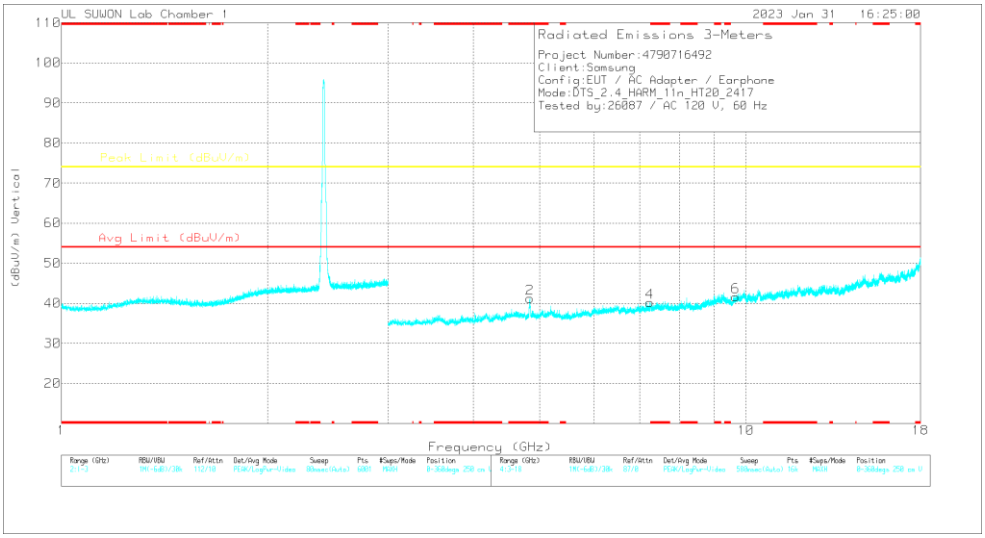
HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: 2 CHANNEL)
CH 2 RESULTS



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	3117_0016871 7	3GHz_HP(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
* 4.83433	54.49	PK2	34.2	-33.3	0	55.39	-	-	74	-18.61	171	104	H
* 4.83385	42.54	MAv1	34.2	-33.3	0	43.44	54	-10.56	-	-	171	104	H
* 4.83481	50.44	PK2	34.2	-33.3	0	51.34	-	-	74	-22.66	87	109	V
* 4.83395	38.66	MAv1	34.2	-33.3	0	39.56	54	-14.44	-	-	87	109	V
* 7.25507	49.19	PK2	35.7	-30.2	0	54.69	-	-	74	-19.31	155	103	H
* 7.25389	35.51	MAv1	35.7	-30.2	0	41.01	54	-12.99	-	-	155	103	H
7.24627	43.06	PK2	35.7	-30.2	0	48.56	-	-	74	-25.44	0	100	V
9.66774	40.71	PK2	37.2	-26.9	0	51.01	-	-	74	-22.99	195	260	H
9.66864	40.6	PK2	37.2	-26.9	0	50.9	-	-	74	-23.1	171	104	V

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

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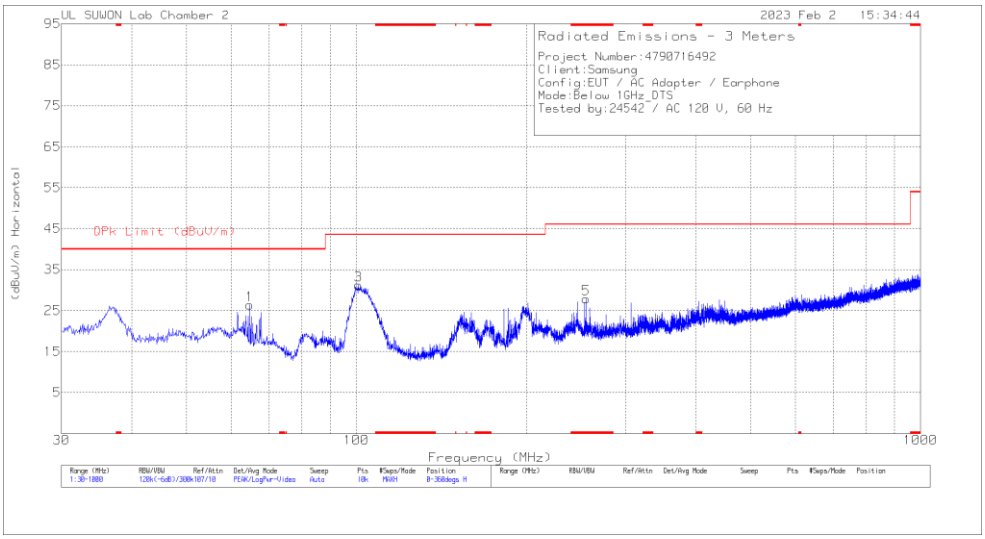
HARMONICS AND SPURIOUS EMISSIONS TEST DATA

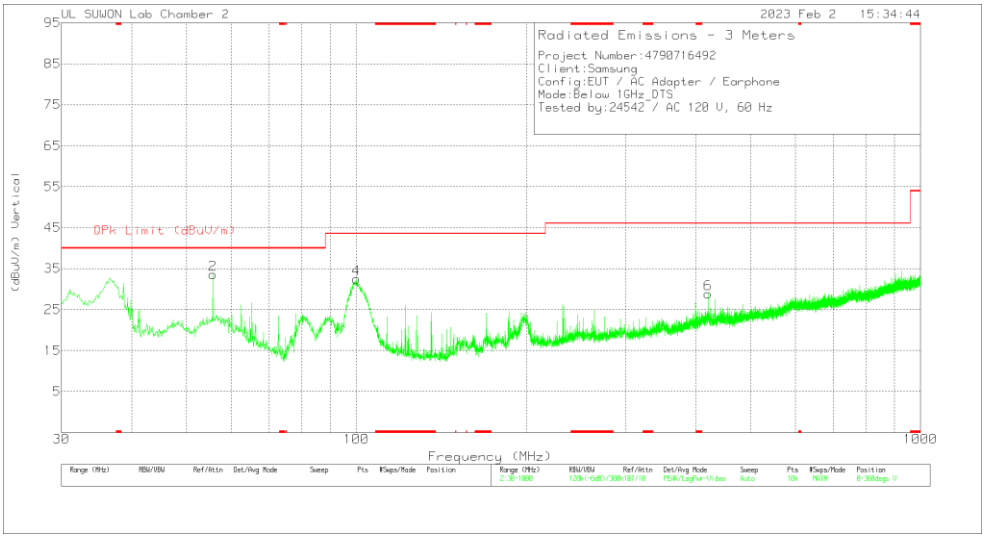
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2417	ANT1	* 4.83433	54.49	PK2	34.20	-33.30	0.00	55.39	-	-	74.00	**-18.61**	171	104	**H**
		* 4.83385	42.54	MAv1	34.20	-33.30	0.00	43.44	54.00	**-10.56**	-	-	171	104	**H**
		* 4.83481	50.44	PK2	34.20	-33.30	0.00	51.34	-	-	74.00	-22.66	87	109	**V**
		* 4.83395	38.66	MAv1	34.20	-33.30	0.00	39.56	54.00	-14.44	-	-	87	109	**V**
		* 7.25507	49.19	PK2	35.70	-30.20	0.00	54.69	-	-	74.00	-19.31	155	103	**H**
		* 7.25389	35.51	MAv1	35.70	-30.20	0.00	41.01	54.00	-12.99	-	-	155	103	**H**
		7.246	43.06	PK2	35.70	-30.20	0.00	48.56	-	-	74.00	-25.44	0	100	**V**
		9.668	40.71	PK2	37.20	-26.90	0.00	51.01	-	-	74.00	-22.99	195	260	**H**
		9.669	40.60	PK2	37.20	-26.90	0.00	50.90	-	-	74.00	-23.10	171	104	**V**
2437	ANT1	* 4.87675	52.34	PK2	34.20	-33.00	0.00	53.54	-	-	74.00	-20.46	177	177	**H**
		* 4.87384	40.14	MAv1	34.20	-33.00	0.00	41.34	54.00	-12.66	-	-	177	177	**H**
		* 4.87425	50.25	PK2	34.20	-33.00	0.00	51.45	-	-	74.00	-22.55	89	121	**V**
		* 4.87405	37.66	MAv1	34.20	-33.00	0.00	38.86	54.00	-15.14	-	-	89	121	**V**
		* 7.29971	49.69	PK2	35.70	-30.20	0.00	55.19	-	-	74.00	-18.81	168	100	**H**
		* 7.30669	35.98	MAv1	35.70	-30.30	0.00	41.38	54.00	-12.62	-	-	168	100	**H**
		* 7.3045	46.62	PK2	35.70	-30.20	0.00	52.12	-	-	74.00	-21.88	132	103	**V**
		* 7.30698	33.69	MAv1	35.70	-30.30	0.00	39.09	54.00	-14.91	-	-	132	103	**V**
		9.748	40.26	PK2	37.30	-26.80	0.00	50.76	-	-	74.00	-23.24	169	101	**H**
		9.748	40.96	PK2	37.30	-26.80	0.00	51.46	-	-	74.00	-22.54	187	107	**V**
2457	ANT1	* 4.91488	51.66	PK2	34.20	-33.00	0.00	52.86	-	-	74.00	-21.14	176	125	**H**
		* 4.91396	39.30	MAv1	34.20	-33.00	0.00	40.50	54.00	-13.50	-	-	176	125	**H**
		* 4.9171	48.97	PK2	34.20	-33.00	0.00	50.17	-	-	74.00	-23.83	89	129	**V**
		* 4.9151	36.76	MAv1	34.20	-33.00	0.00	37.96	54.00	-16.04	-	-	89	129	**V**
		* 7.37521	49.28	PK2	35.70	-30.00	0.00	54.98	-	-	74.00	-19.02	168	100	**H**
		* 7.37241	35.03	MAv1	35.70	-30.00	0.00	40.73	54.00	-13.27	-	-	168	100	**H**
		* 7.37521	44.54	PK2	35.70	-30.00	0.00	50.24	-	-	74.00	-23.76	171	103	**V**
		* 7.37045	32.25	MAv1	35.70	-30.00	0.00	37.95	54.00	-16.05	-	-	171	103	**V**
		9.828	39.93	PK2	37.50	-26.90	0.00	50.53	-	-	74.00	-23.47	168	107	**H**
		9.828	41.38	PK2	37.50	-26.90	0.00	51.98	-	-	74.00	-22.02	188	109	**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. WORST CASE BELOW 1 GHZ



HORIZONTAL



VERTICAL

Below 1GHz DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	64.726	39.99	Pk	17.4	-31	0	26.39	40	-13.61	0-360	100	H
3	100.81	44.31	Pk	17.5	-30.6	0	31.21	43.52	-12.31	0-360	200	H
5	* 255.331	38.51	Pk	18.7	-29.3	0	27.91	46.02	-18.11	0-360	100	H
2	55.705	45.25	Pk	19.5	-31.2	0	33.55	40	-6.45	0-360	100	V
4	99.937	45.72	Pk	17.4	-30.6	0	32.52	43.52	-11	0-360	100	V
6	419.94	35.59	Pk	21.7	-28.4	0	28.89	46.02	-17.13	0-360	200	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

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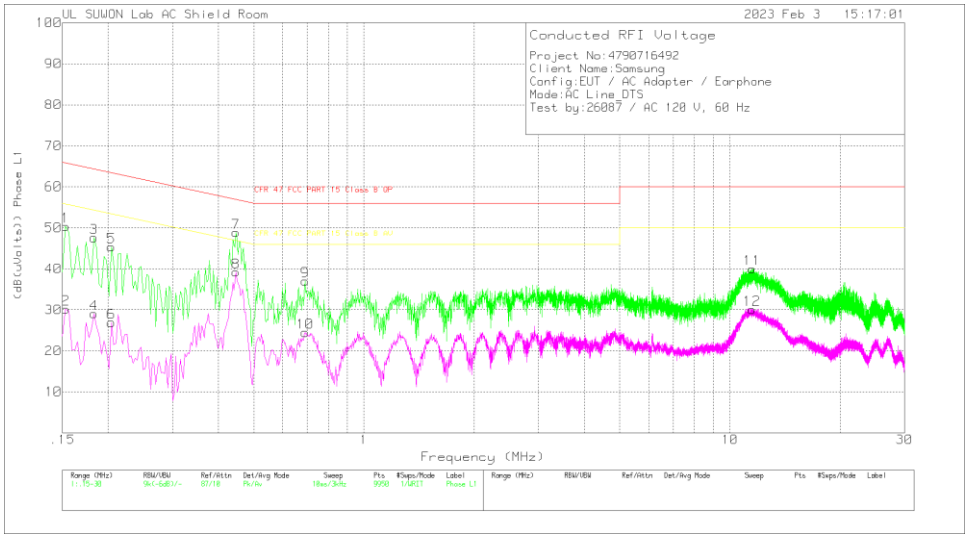
11.1.1. AC Power Line (USB C to C Cable)

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.153	40.48	Pk	9.8	.1	50.38	65.84	-15.46	-	-
2	.153	20.32	Av	9.8	.1	30.22	-	-	55.84	-25.62
3	.183	37.41	Pk	10	.2	47.61	64.35	-16.74	-	-
4	.183	18.86	Av	10	.2	29.06	-	-	54.35	-25.29
5	.204	35.26	Pk	9.9	.2	45.36	63.45	-18.09	-	-
6	.204	16.84	Av	9.9	.2	26.94	-	-	53.45	-26.51
7	.447	38.76	Pk	9.9	.2	48.86	56.93	-8.07	-	-
8	.447	29.12	Av	9.9	.2	39.22	-	-	46.93	-7.71
9	.69	26.93	Pk	9.9	.2	37.03	56	-18.97	-	-
10	.69	14.4	Av	9.9	.2	24.5	-	-	46	-21.5
11	11.487	29.72	Pk	10	.3	40.02	60	-19.98	-	-
12	11.481	19.79	Av	10	.3	30.09	-	-	50	-19.91

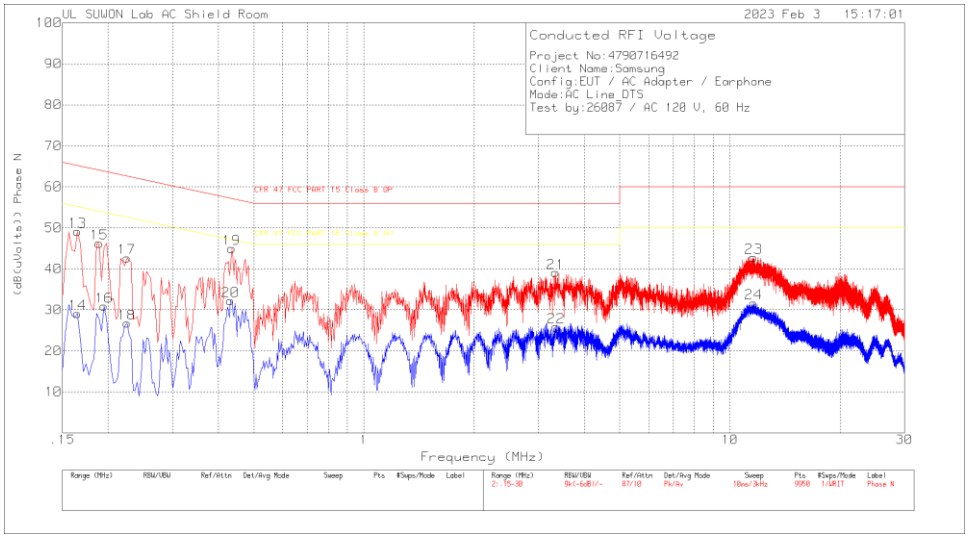
Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
.44625	28.44	Qp	9.9	.2	38.54	56.94	-18.4	-	-

LINE 2 RESULTS



Trace Markers

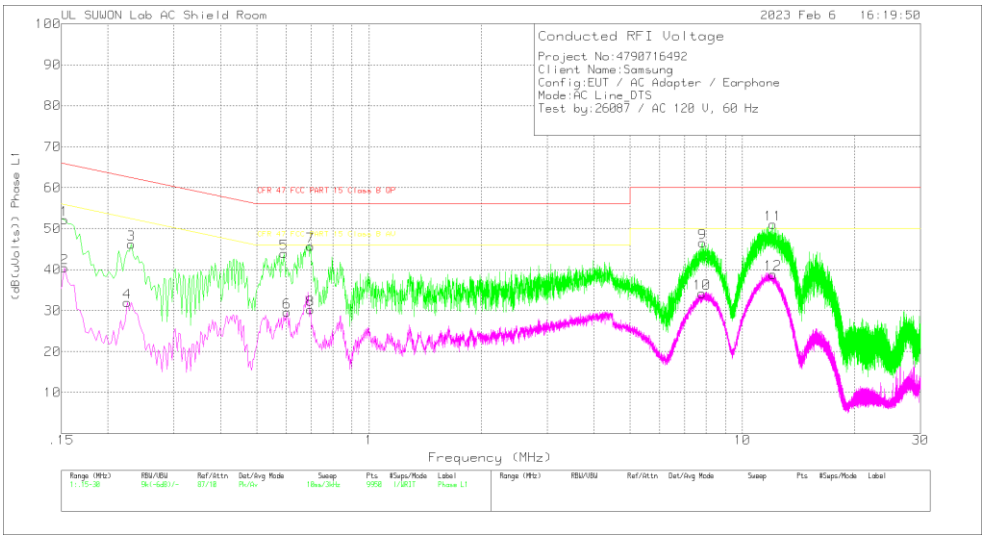
Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.165	39.04	Pk	10	.1	49.14	65.21	-16.07	-	-
14	.165	18.99	Av	10	.1	29.09	-	-	55.21	-26.12
15	.189	36.06	Pk	10	.2	46.26	64.08	-17.82	-	-
16	.195	20.79	Av	9.9	.2	30.89	-	-	53.82	-22.93
17	.225	32.71	Pk	9.8	.2	42.71	62.63	-19.92	-	-
18	.225	16.74	Av	9.8	.2	26.74	-	-	52.63	-25.89
19	.435	34.85	Pk	9.9	.2	44.95	57.16	-12.21	-	-
20	.432	22.15	Av	9.9	.2	32.25	-	-	47.21	-14.96
21	3.339	28.99	Pk	9.8	.3	39.09	56	-16.91	-	-
22	3.348	15.75	Av	9.8	.3	25.85	-	-	46	-20.15
23	11.61	32.5	Pk	10	.3	42.8	60	-17.2	-	-
24	11.613	21.38	Av	10	.3	31.68	-	-	50	-18.32

Pk - Peak detector
Av - Average detection

11.1.2. AC Power Line (USB A to C Cable)

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.153	42.33	Pk	9.8	.1	52.23	65.84	-13.61	-	-
2	.153	30.58	Av	9.8	.1	40.48	-	-	55.84	-15.36
3	.231	36.26	Pk	9.7	.2	46.16	62.41	-16.25	-	-
4	.225	22.11	Av	9.7	.2	32.01	-	-	52.63	-20.62
5	.591	33.9	Pk	9.8	.2	43.9	56	-12.1	-	-
6	.603	19.67	Av	9.8	.2	29.67	-	-	46	-16.33
7	.696	35.7	Pk	9.8	.2	45.7	56	-10.3	-	-
8	.696	20.26	Av	9.8	.2	30.26	-	-	46	-15.74
9	7.83	36.43	Pk	9.8	.3	46.53	60	-13.47	-	-
10	7.794	24.07	Av	9.8	.3	34.17	-	-	50	-15.83
11	12.081	40.84	Pk	9.9	.3	51.04	60	-8.96	-	-
12	12.084	28.7	Av	9.9	.3	38.9	-	-	50	-11.1

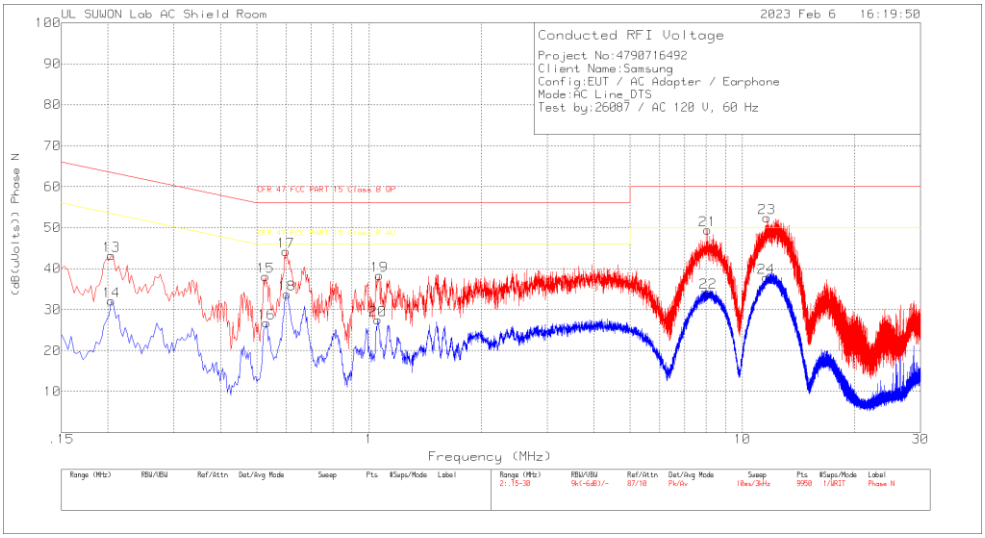
Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
12.0818	32.86	Qp	9.9	.3	43.06	60	-16.94	-	-

LINE 2 RESULTS



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.204	33.19	Pk	9.8	.2	43.19	63.45	-20.26	-	-
14	.204	22.11	Av	9.8	.2	32.11	-	-	53.45	-21.34
15	.528	28.04	Pk	9.9	.2	38.14	56	-17.86	-	-
16	.531	16.64	Av	9.9	.2	26.74	-	-	46	-19.26
17	.6	34.09	Pk	9.9	.2	44.19	56	-11.81	-	-
18	.603	23.75	Av	9.8	.2	33.75	-	-	46	-12.25
19	1.065	28.31	Pk	9.7	.3	38.31	56	-17.69	-	-
20	1.056	17.54	Av	9.7	.3	27.54	-	-	46	-18.46
21	8.064	39.33	Pk	9.8	.3	49.43	60	-10.57	-	-
22	8.1	24.16	Av	9.8	.3	34.26	-	-	50	-15.74
23	11.634	42.18	Pk	9.9	.3	52.38	60	-7.62	-	-
24	11.598	27.68	Av	9.9	.3	37.88	-	-	50	-12.12

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
11.6342	34.73	Qp	9.9	.3	44.93	60	-15.07	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT

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