CERTIFICATION TEST REPORT

Report Number. : 4789739083-E4V2

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-M625F/DS, SM-E625F/DS
FCC ID	:	A3LSMM625F
EUT Description	:	GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
January 11, 2021

Prepared by:
UL Korea, Ltd.
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Suwon Test Site: UL Korea, LTD. Suwon Laboratory
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Suwon-si, Gyeonggi-do, 16675, Korea
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IAS ACCREDITED
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	01/06/21	Initial issue	Sungeun Lee
V2	01/11/21	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 Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC
MODEL:	SM-M625F/DS, SM-E625F/DS
SERIAL NUMBER:	R38NB02PGTK (CONDUCTED); R38NB02PGWB (RADIATED);
DATE TESTED:	NOV 30, 2020 – JAN 05, 2021;

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:

Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:

Sungeun Lee
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 15.247 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
☒ Chamber 2
☐ Chamber 3

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

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. DECISION RULES

Decision rule for statement(s) of conformity is based on Procedure 1, Clause 4.4.2 in IEC Guide 115:2007.

4.4. 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	3.01 dB
Radiated Disturbance, 30 MHz to 1 GHz	4.26 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.90 dB
Radiated Disturbance, 18 GHz to 40 GHz	5.49 dB

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

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 and NFC.
This test report addresses the DTS (BLE) operational mode.

This report covers the Samsung models SM-M625F/DS and SM-E625F/DS.
These models are identical in hardware except SM-E625F/DS has other Software name.
With some pre-scan, model SM-M625F/DS was set for final test.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range [MHz]	Mode	Power Mode	Output Power [dBm]	Output Power [mW]
2 402 ~ 2 480	500 kbps	Peak	7.990	6.295
		Average	7.495	5.617
	2Mbps	Peak	8.090	6.442
		Average	7.359	5.443

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

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

The radio utilizes an internal antenna, with a maximum gain of -5.50 dBi.

5.4. 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.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

Power verification

The Output Power of all data rate are all investigated, 500 kbps (37 pkt) and 2 Mbps (37 pkt) power is the worst case for symbol rate. All tests were performed in these two modes.

Symbol Rate [Ms/s]	Mode	Frequency [MHz]	Conducted Burst Avg [dBm]	Symbol Rate [Ms/s]	Mode	Frequency [MHz]	Conducted Burst Avg [dBm]
1	1Mbps (37 pkt)	2402	5.441	2	**2Mbps (37 pkt)**	2402	5.407
		2440	7.197			2440	7.122
		2480	7.449			**2480**	**7.359**
	1Mbps (255 pkt)	2402	5.401		2Mbps (255 pkt)	2402	5.359
		2440	7.141			2440	7.098
		2480	7.376			2480	7.301
	125 kbps (37 pkt)	2402	5.434				
		2440	7.190				
		2480	7.386				
	125 kbps (255 pkt)	2402	5.397				
		2440	7.138				
		2480	7.378				
	500 kbps (37 pkt)	2402	5.536				
		2440	7.265				
		2480	**7.495**				
	500 kbps (255 pkt)	2402	5.482				
		2440	7.236				
		2480	7.448				

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37MAVSOLC7DK3	N/A
Data Cable	SAMSUNG	EP-DA705BBE	N/A	N/A
Earphone	SAMSUNG	EHS61ASFBE	N/A	N/A

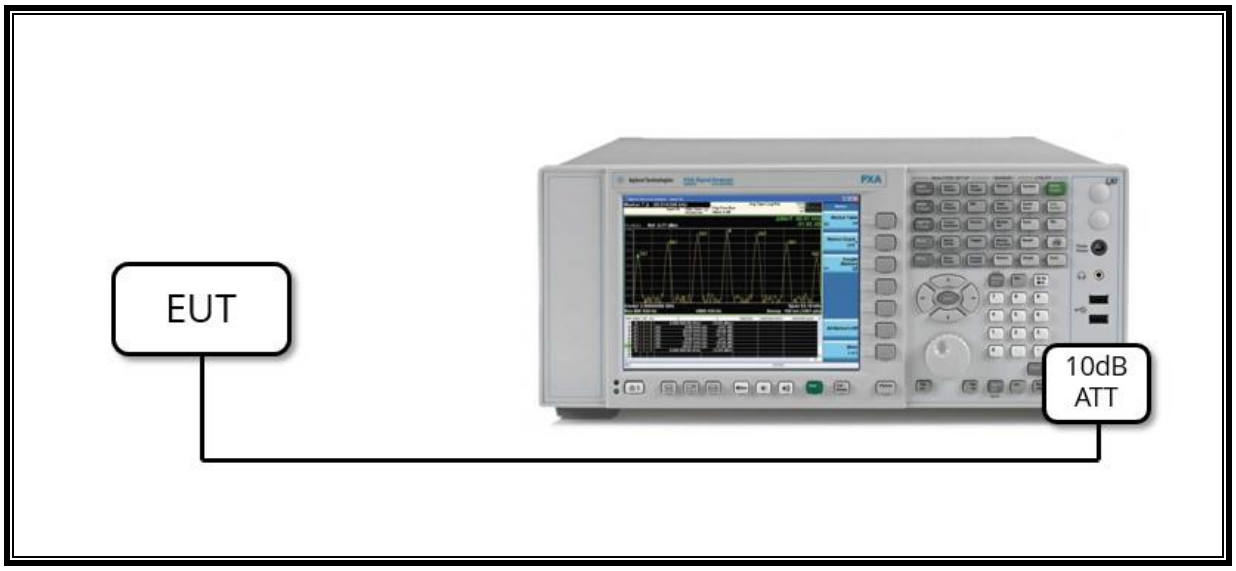
I/O CABLE

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
2	Audio	2	Mini-Jack	Unshielded	1.2 m	N/A

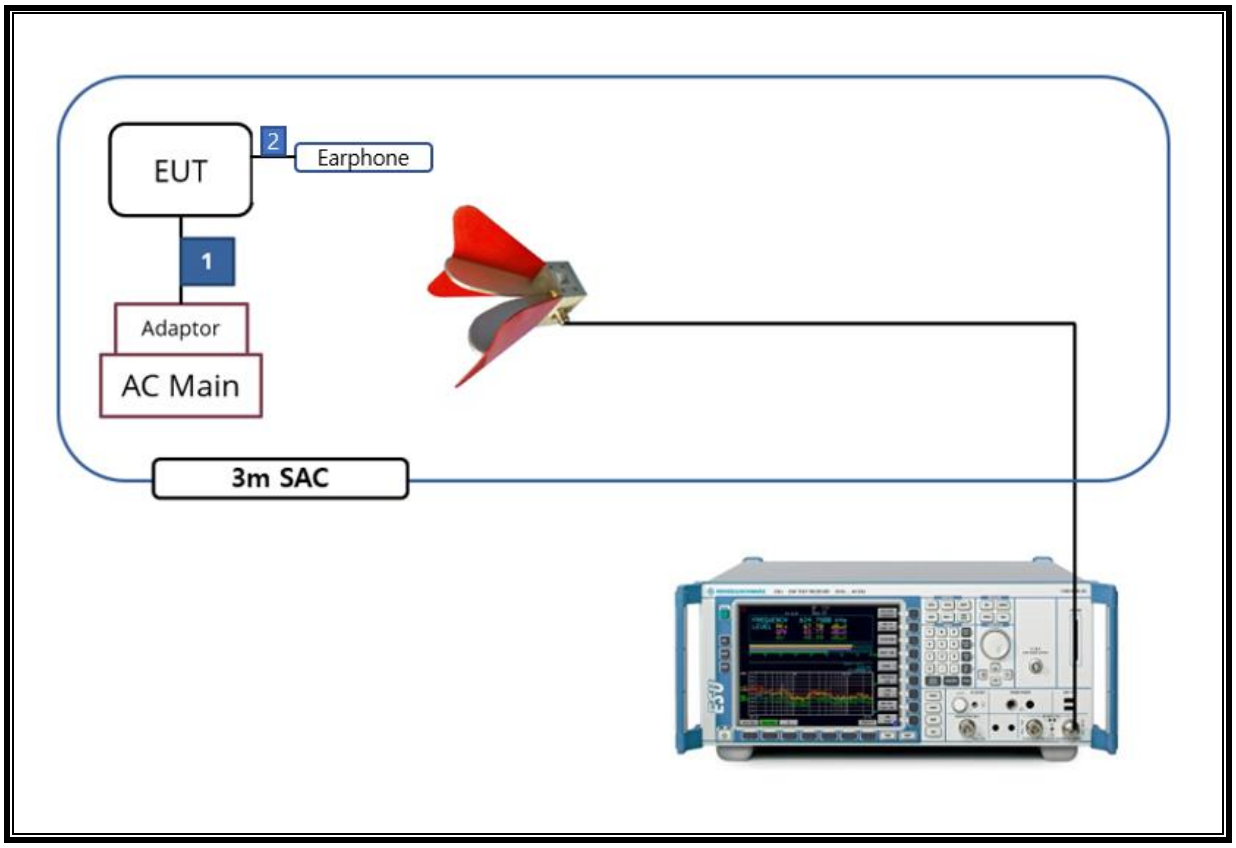
TEST SETUP

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

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. MEASUREMENT METHOD

6 dB BW : KDB 558074 D01 v05r02, Section 8.2.

OUTPUT POWER : KDB 558074 D01 v05r02, Section 8.3.1.1

POWER SPECTRAL DENSITY : KDB 558074 D01 v05r02, Section 8.4.

Out-of-band Emissions (Conducted) : KDB 558074 D01 v05r02, Section 8.5.

Out-of-band Emissions in Non-restricted Bands: KDB 558074 D01 v05r02, Section 8.5.

Out-of-band Emissions in Restricted Bands : KDB 558074 D01 v05r02, Section 8.6.

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	08-19-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-13-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-13-22
Antenna, Horn, 18 GHz	ETS	3115	00167211	07-27-22
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-15-22
Antenna, Horn, 18 GHz	ETS	3117	00168724	07-27-22
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-15-22
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-04-22
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Preamplifier	ETS	3116C-PA	00168841	08-06-21
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-06-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-03-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-03-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-04-21
Spectrum Analyzer, 44 GHz	Keysight	N9030B	MY57143717	01-20-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-05-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-05-21
Spectrum Analyzer, 43.5 GHz	R&S	FSW43	104089	08-06-21
Average Power Sensor	Agilent / HP	U2000	MY54270007	08-05-21
Attenuator	PASTERNACK	PE7087-10	A001	08-03-21
Attenuator	PASTERNACK	PE7087-10	A008	08-03-21
Attenuator	PASTERNACK	PE7004-10	2	08-04-21
Attenuator	PASTERNACK	PE7087-10	A009	08-03-21
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-03-21
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-03-21
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-03-21
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	08-03-21
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	08-03-21
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	08-04-21
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	08-03-21
High Pass Filter 3GHz	Micro-Tronics	HPM17543	015	08-03-21
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	08-04-21
High Pass Filter 6GHz	Micro-Tronics	HPS17542	009	08-03-21
High Pass Filter 6GHz	Micro-Tronics	HPS17542	016	08-03-21
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	08-04-21
LISN	R&S	ENV-216	101837	08-06-21
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	10-02-21

UL Software			
Description	**Manufacturer**	**Model**	**Version**
Radiated software	UL	UL EMC	Ver 9.5
AC Line Conducted software	UL	UL EMC	Ver 9.5

8. TEST RESULTS SUMMARY

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	Occupied Band width (6dB)	>500KHz	Conducted	Pass
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247 (b)(3)	TX conducted output power	<30dBm		Pass
15.247 (e)	PSD	<8dBm		Pass
15.207 (a)	AC Power Line conducted emissions	Section 10	Power Line conducted	Pass
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	Pass

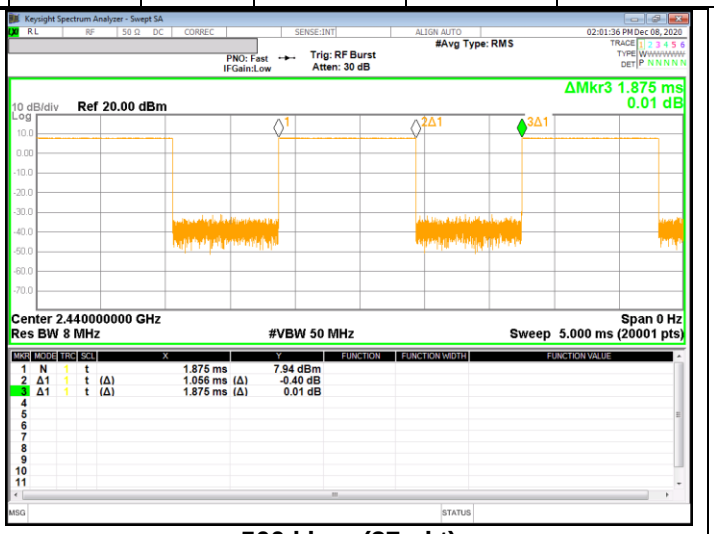
9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

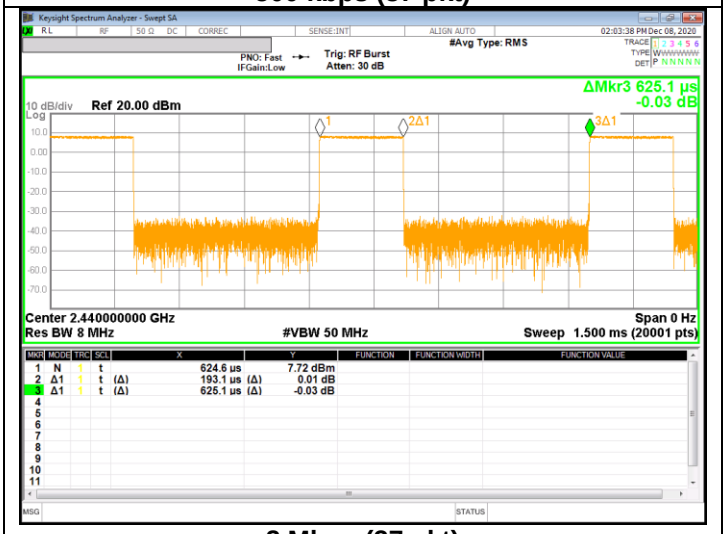
LIMITS

None; for reporting purposes only.

Mode	On time [msec]	Period [msec]	Duty cycle x [Linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2 400 ~ 2 483.5 MHz Bands						
BLE 500 kbps [37pkt]	1.056	1.875	0.56	56.32	2.49	0.95
BLE 2 Mbps [37pkt]	0.193	0.625	0.31	30.86	5.10	5.18



500 kbps (37 pkt)



2 Mbps (37 pkt)

9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

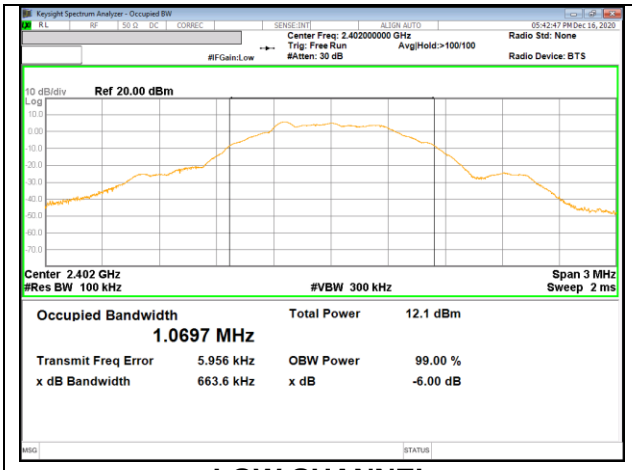
RSS-247 5.2 (a)

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

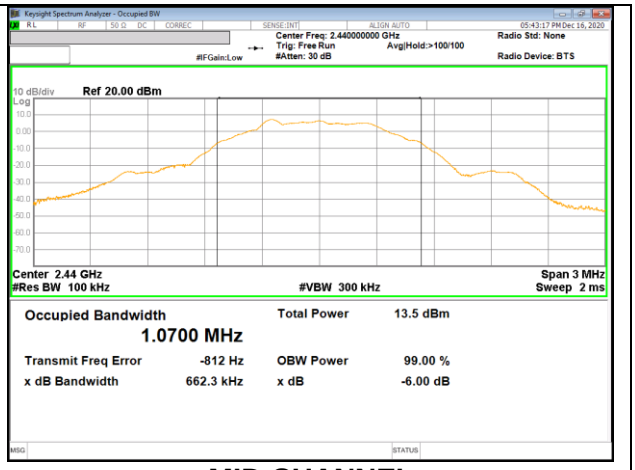
RESULTS

9.2.1. BLE (500 kbps)

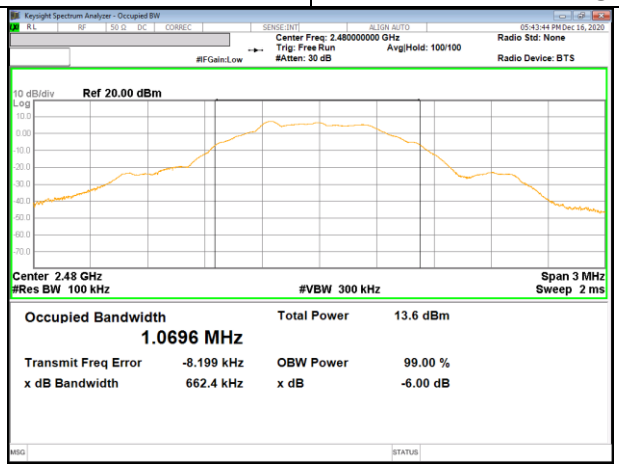
Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
Low	2 402	663.6	500.0
Mid	2 440	**662.3**	500.0
High	2 480	662.4	500.0
Worst		**662.3**	500.0



LOW CHANNEL



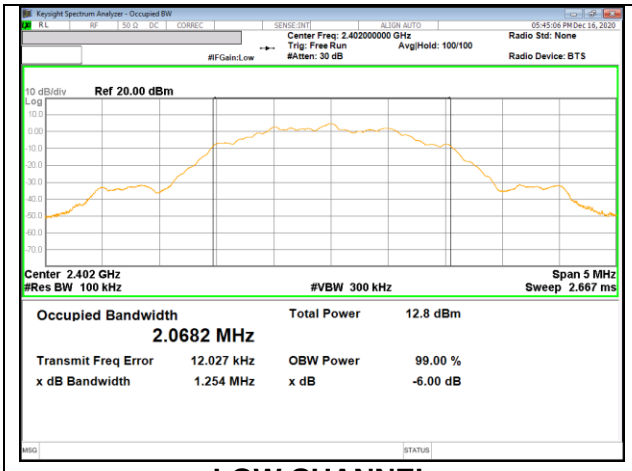
MID CHANNEL



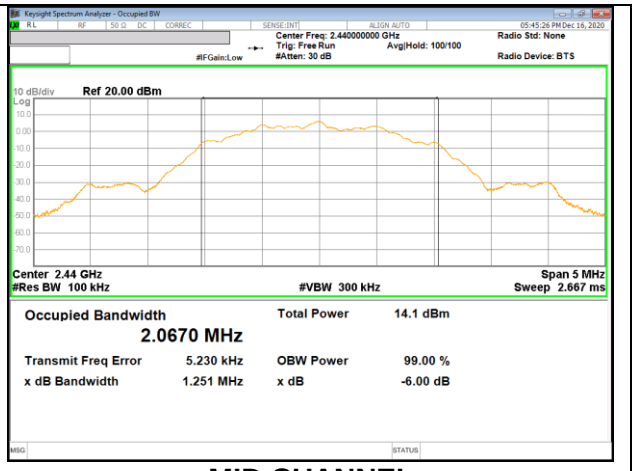
HIGH CHANNEL

9.2.2. BLE (2Mbps)

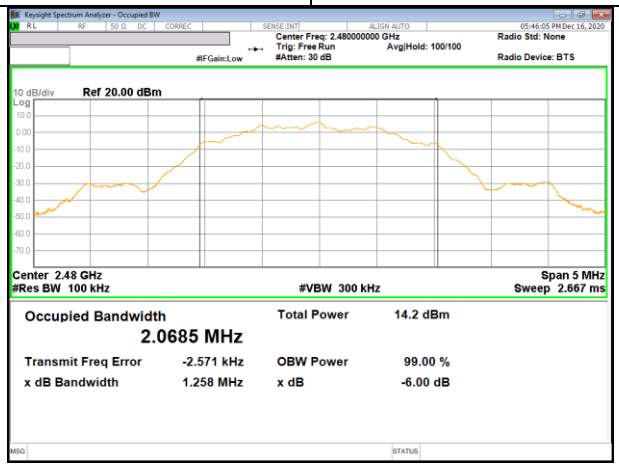
Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
Low	2 402	1254.0	500.0
Mid	2 440	**1251.0**	500.0
High	2 480	1258.0	500.0
Worst		**1251.0**	500.0



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

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

TEST PROCEDURE

Peak power is measured using ANSI C63.10(2013) under section 11.9.1.1 utilizing spectrum analyzer.

RESULTS

- 500 kbps

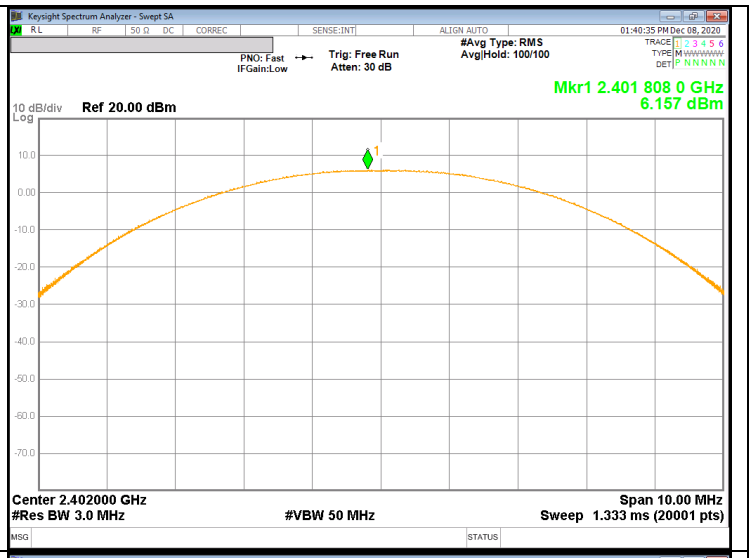
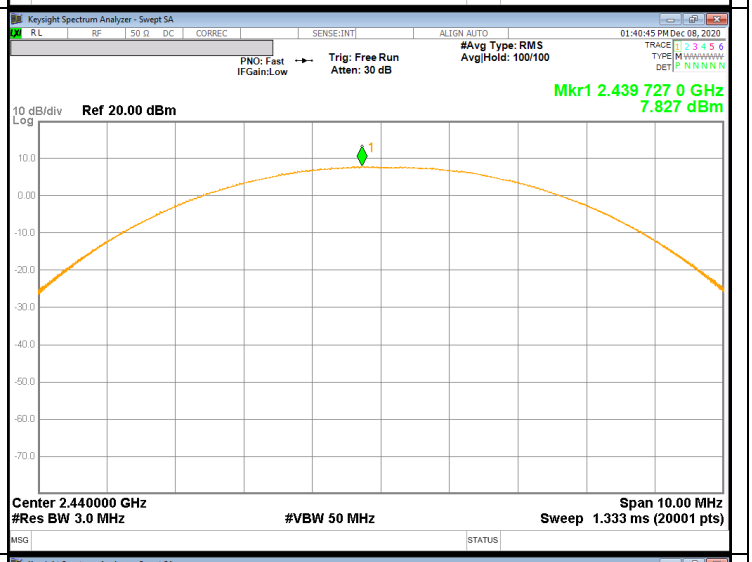
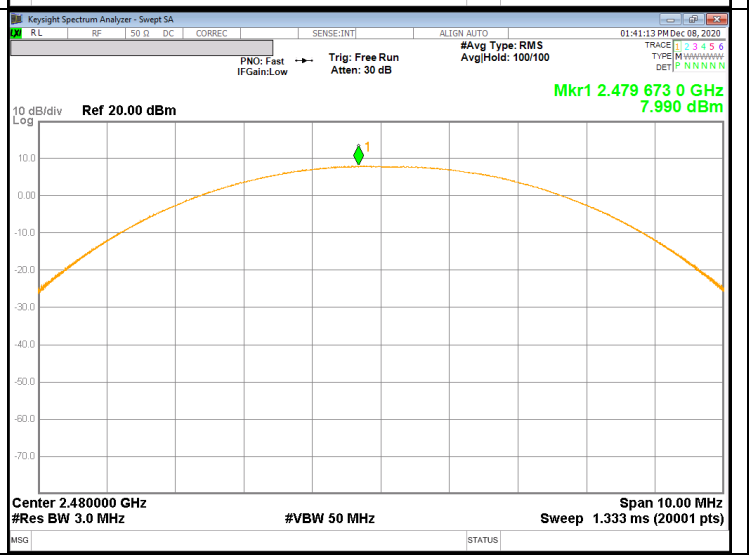
Channel	Frequency [MHz]	Peak Power [dBm]	Limit [dBm]	Margin [dB]
Low	2402	6.157	30.000	-23.843
Mid	2440	7.827	30.000	-22.173
High	2480	**7.990**	30.000	**-22.010**
Worst		**7.990**	30.000	**-22.010**

- 2 Mbps

Channel	Frequency [MHz]	Peak Power [dBm]	Limit [dBm]	Margin [dB]
Low	2402	6.361	30.000	-23.639
Mid	2440	7.973	30.000	-22.027
High	2480	**8.090**	30.000	**-21.910**
Worst		**8.090**	30.000	**-21.910**

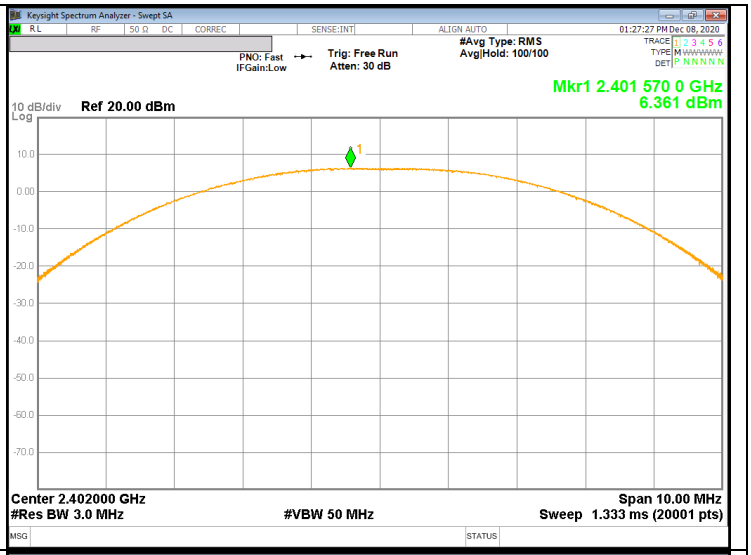
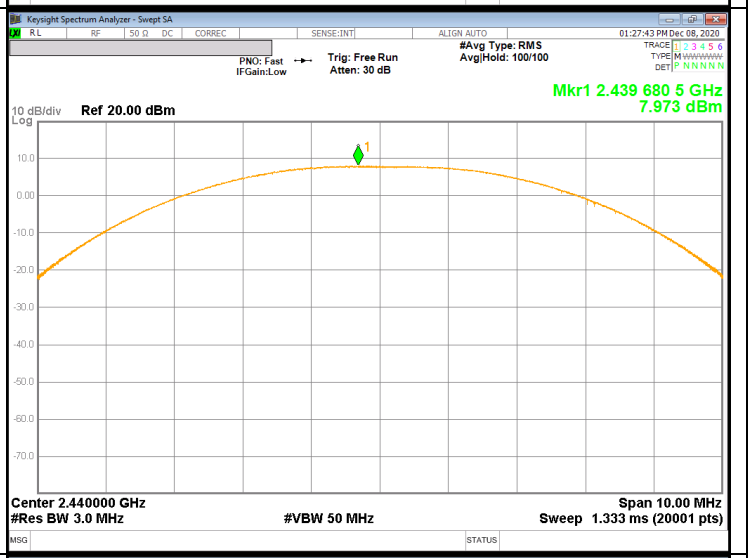
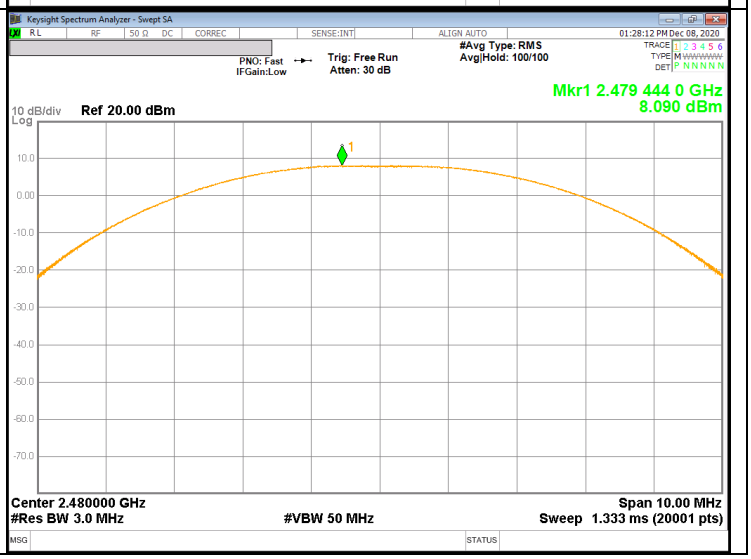
9.3.1. BLE (500 kbps)

PEAK OUTPUT POWER PLOTS

Low Ch.	
Middle Ch.	
High Ch.	

9.3.2. BLE (2 Mbps)

PEAK OUTPUT POWER PLOTS

Low Ch.	
Middle Ch.	
High Ch.	

9.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE
The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss was entered as an offset in the power meter to allow for direct reading of power. The duty factor already has been added.

- 500 kbps

Channel	Frequency [MHz]	AV Power [dBm]	AV Power [mW]
Low	2402	5.536	3.578
Mid	2440	7.265	5.327
High	2480	7.495	5.617

- 2 Mbps

Channel	Frequency [MHz]	AV Power [dBm]	AV Power [mW]
Low	2402	5.407	3.473
Mid	2440	7.122	5.155
High	2480	7.359	5.444

9.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

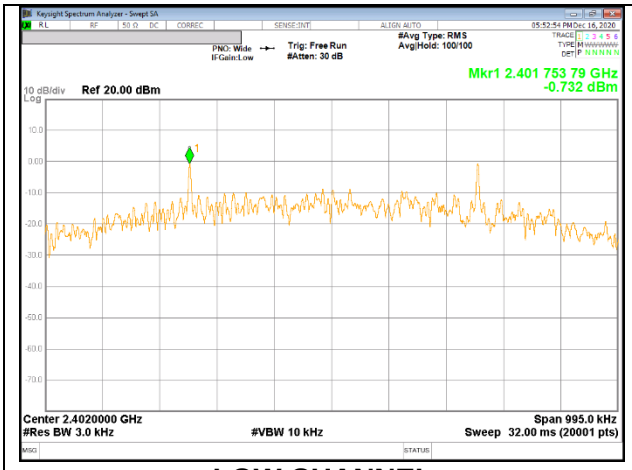
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

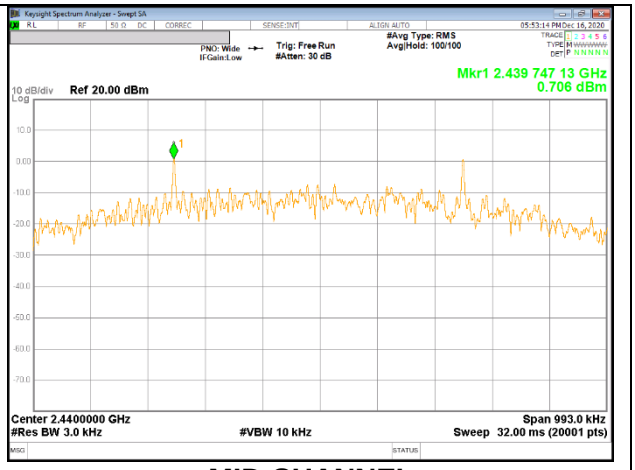
RESULTS

9.5.1. BLE (500 kbps)

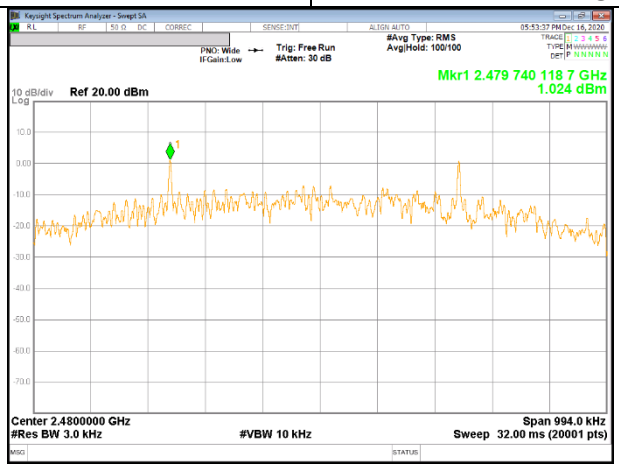
Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
Low	2402	-0.732	8.000	-8.732
Mid	2440	0.706	8.000	-7.294
High	2480	1.024	8.000	-6.976



LOW CHANNEL



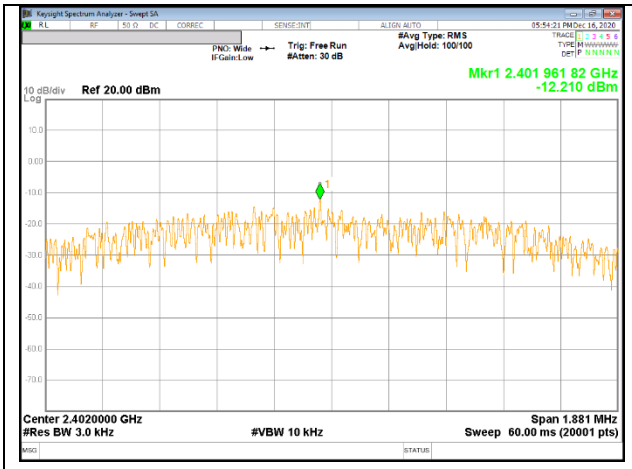
MID CHANNEL



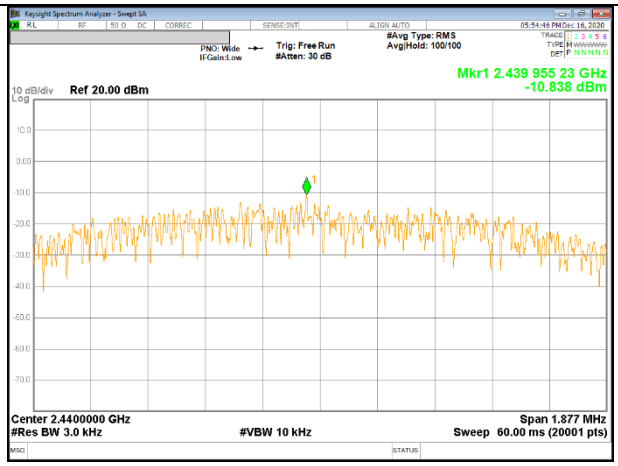
HIGH CHANNEL

9.5.2. BLE (2Mbps)

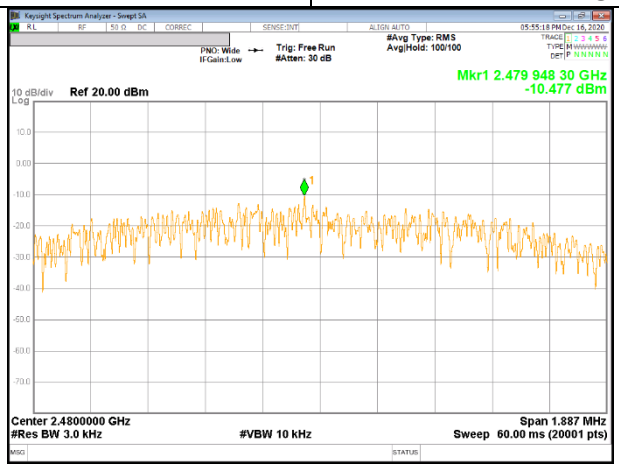
Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
Low	2402	-12.210	8.000	-20.210
Mid	2440	-10.838	8.000	-18.838
High	2480	-10.477	8.000	-18.477



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

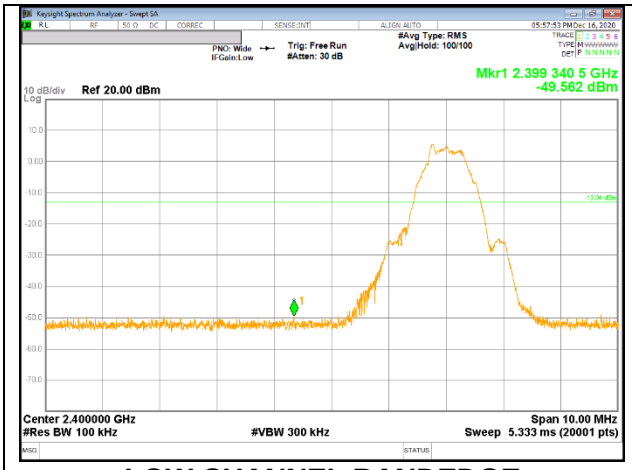
FCC §15.247 (d)

RSS-247 5.5

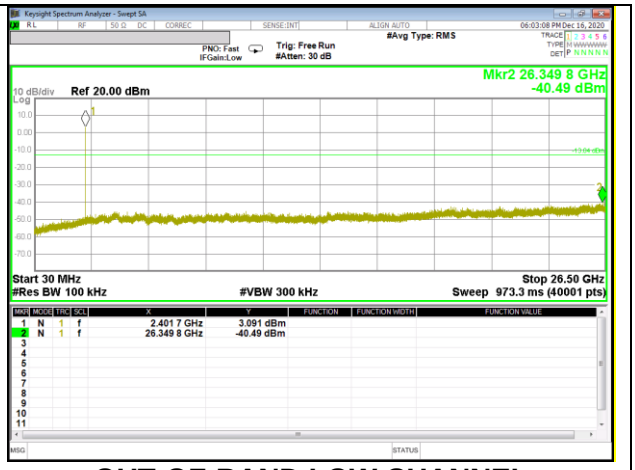
Output power was measured based on the use of a peak measurement. therefore, spurious emissions are required to be 20 dBc.

RESULTS

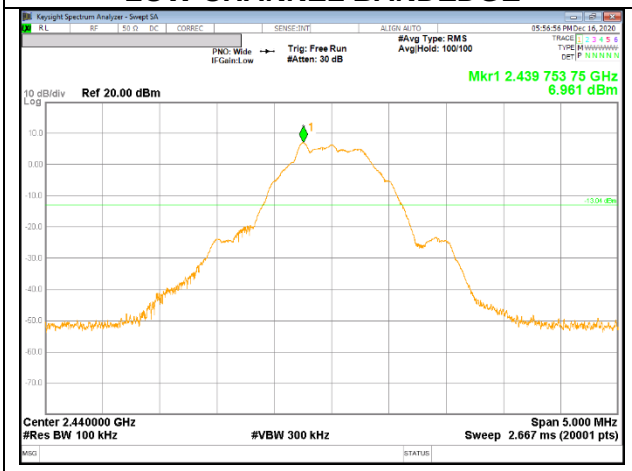
9.6.1. BLE (500 kbps)



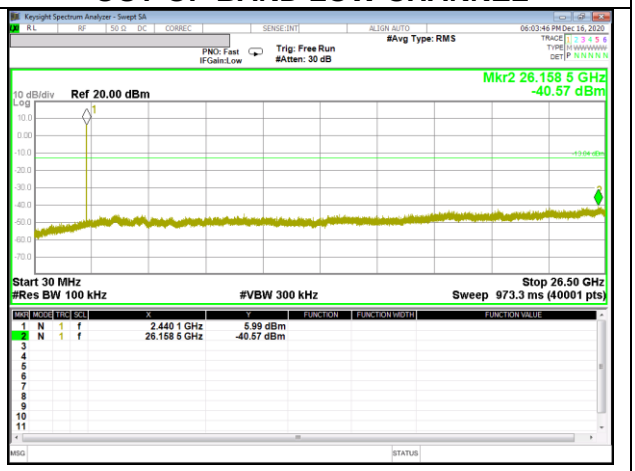
LOW CHANNEL BANDEDGE



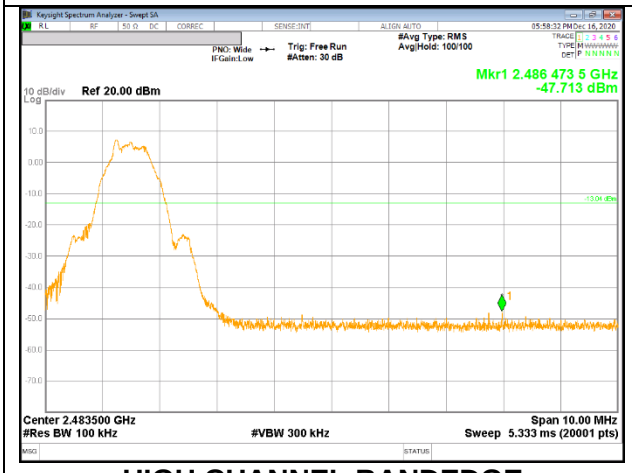
OUT-OF-BAND LOW CHANNEL



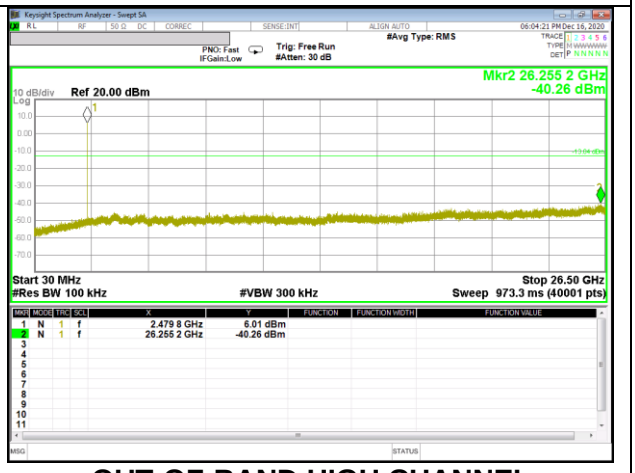
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

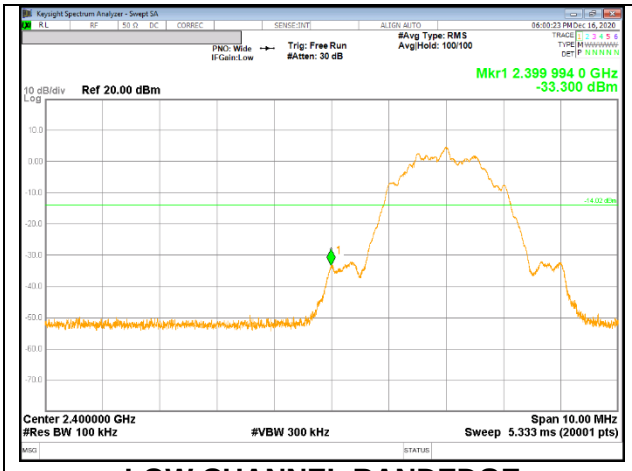


HIGH CHANNEL BANDEDGE

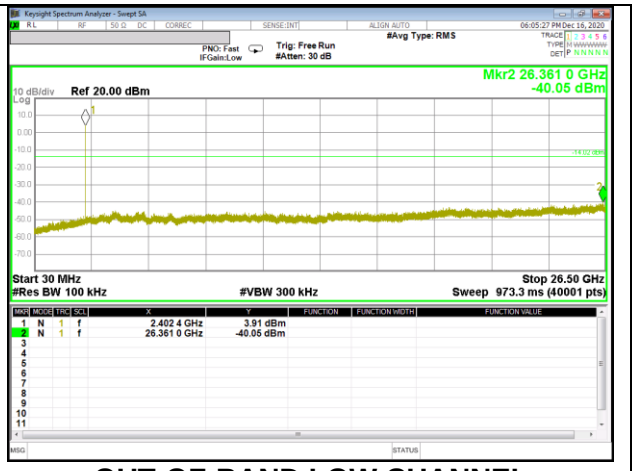


OUT-OF-BAND HIGH CHANNEL

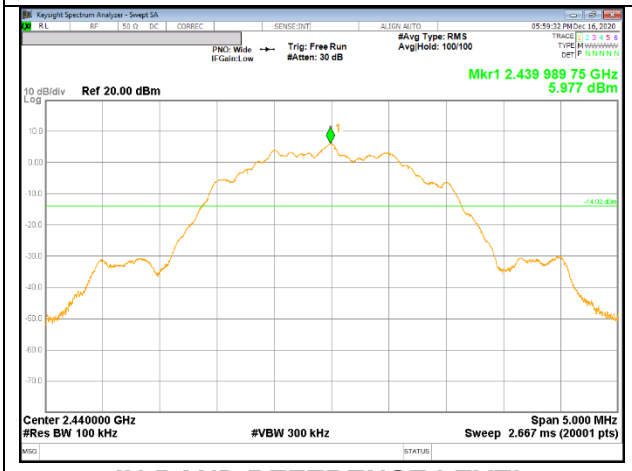
9.6.2. BLE (2 Mbps)



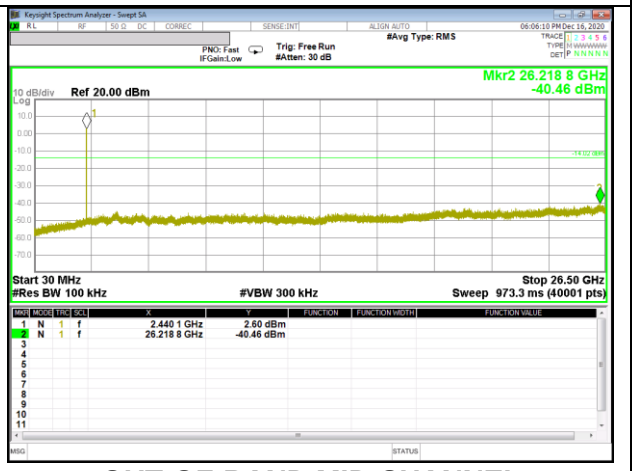
LOW CHANNEL BANDEDGE



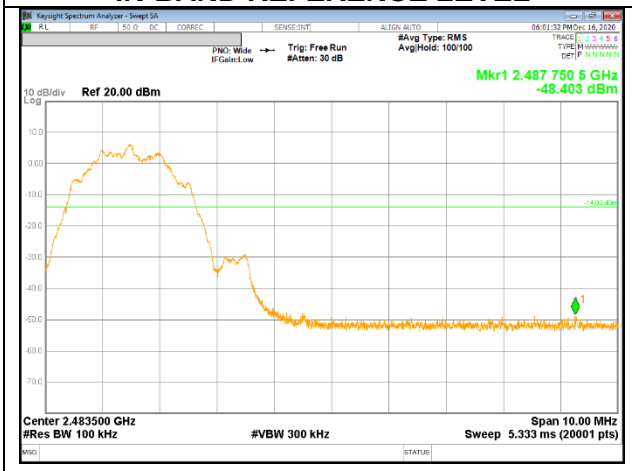
OUT-OF-BAND LOW CHANNEL



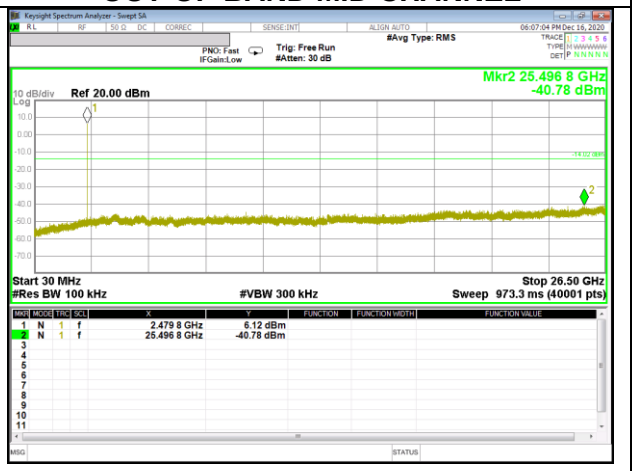
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restriced bandedge, Final detection of spurious harmonic emissions)Duty cycle factor = 10 log (1/x). For this sample: For 500 kbps, DCF = 10log(1/0.563)=2.493 dB
(Spectrum Analyzer round it up to 2.5 dB) and for 2Mbps, DCF = 10log(1/0.309)=5.103 dB
(Spectrum Analyzer round it up to 5.1 dB)

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

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

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

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

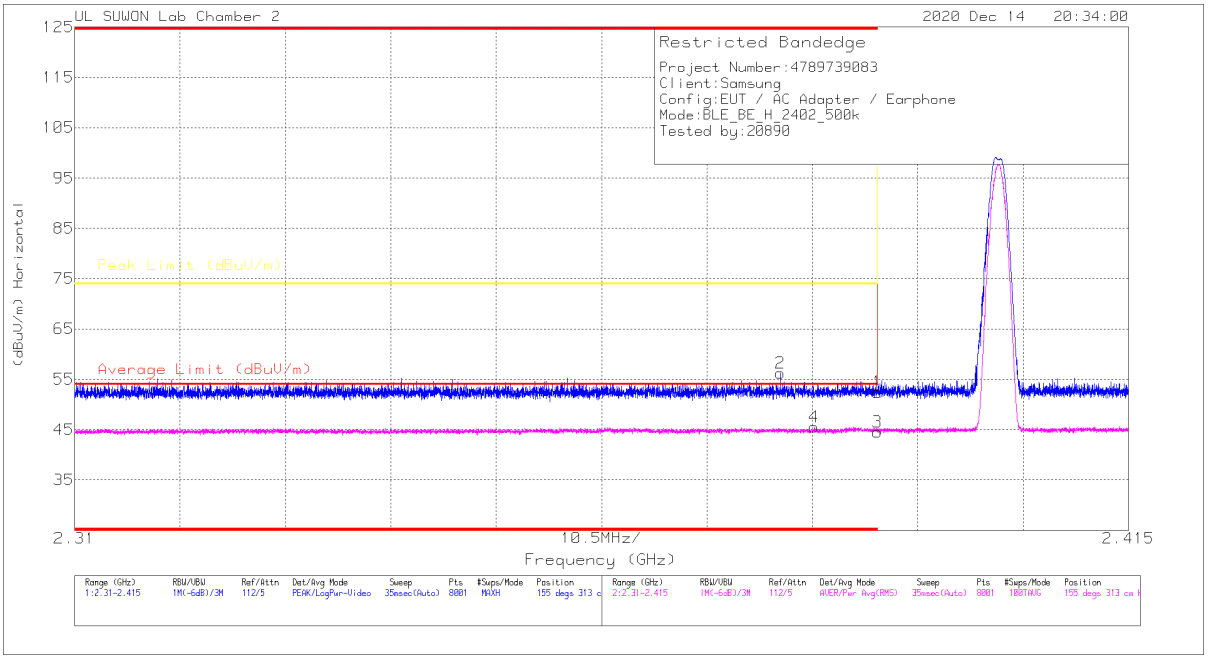
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field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

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (500 kbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	40.84	Pk	31.9	-20.3	0	52.44	-	-	74	-21.56	155	313	H
2	* 2.3803	44.67	Pk	31.9	-20.3	0	56.27	-	-	74	-17.73	155	313	H
3	* 2.39	30.46	RMS	31.9	-20.3	2.5	44.56	54	-9.44	-	-	155	313	H
4	* 2.3837	31.49	RMS	31.9	-20.4	2.5	45.49	54	-8.51	-	-	155	313	H

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

VERTICAL RESULT

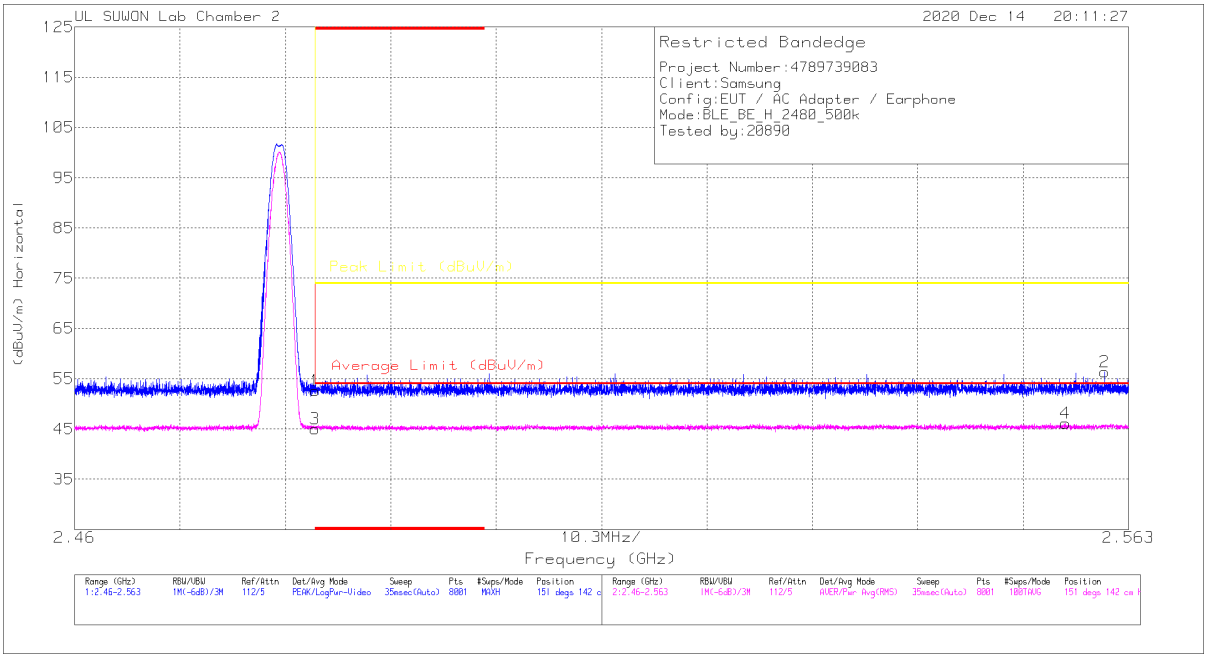
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	40.59	Pk	31.9	-20.3	0	52.19	-	-	74	-21.81	205	359	V
2	* 2.33444	44.12	Pk	31.8	-20.5	0	55.42	-	-	74	-18.58	205	359	V
3	* 2.39	30.54	RMS	31.9	-20.3	2.5	44.64	54	-9.36	-	-	205	359	V
4	* 2.3761	31.47	RMS	31.9	-20.3	2.5	45.57	54	-8.43	-	-	205	359	V

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

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT

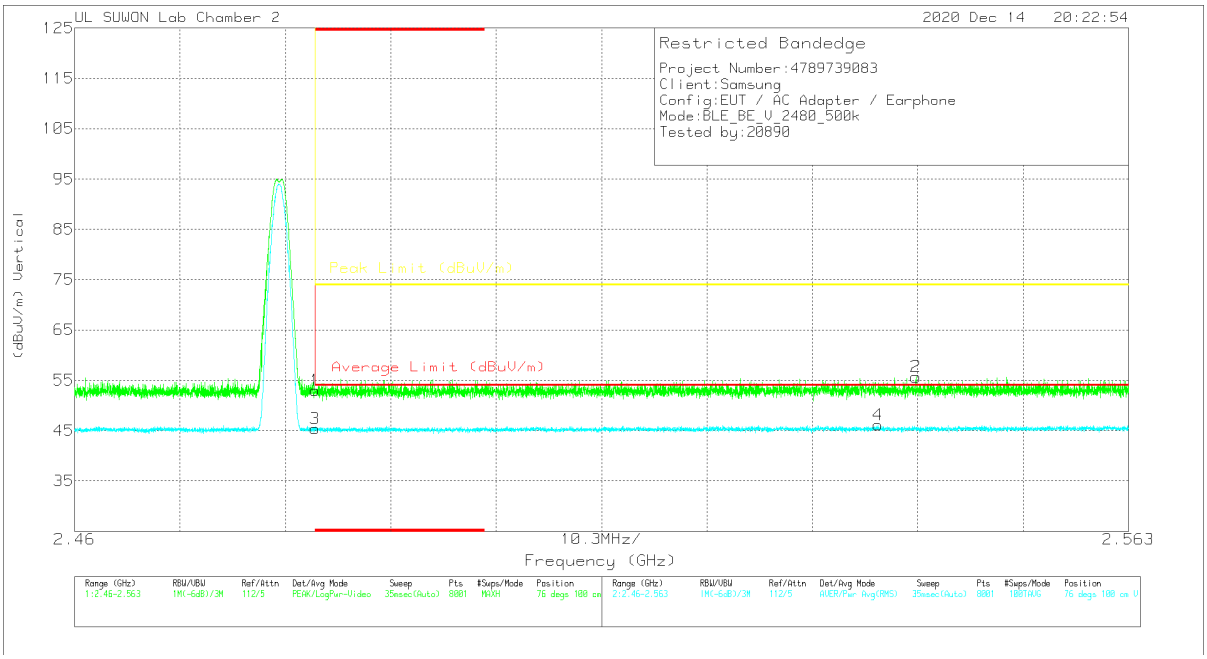


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	40.85	Pk	32	-20.2	0	52.65	-	-	74	-21.35	151	142	H
2	2.56067	44.13	Pk	32.2	-20	0	56.33	-	-	74	-17.67	151	142	H
3	* 2.48351	30.77	RMS	32	-20.2	2.5	45.07	54	-8.93	-	-	151	142	H
4	2.55685	31.58	RMS	32.2	-20.1	2.5	46.18	54	-7.82	-	-	151	142	H

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

VERTICAL RESULT



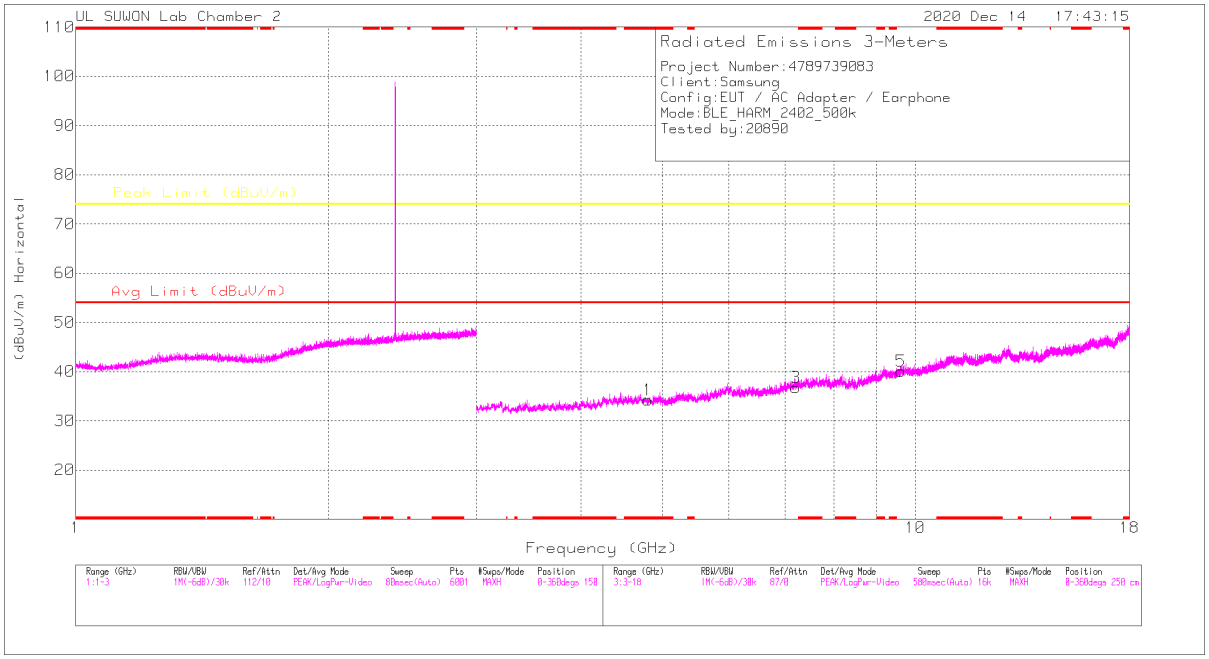
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	41.2	Pk	32	-20.2	0	53	-	-	74	-21	76	100	V
2	2.54222	43.68	Pk	32.1	-20.1	0	55.68	-	-	74	-18.32	76	100	V
3	* 2.48351	31.14	RMS	32	-20.2	2.5	45.44	54	-8.56	-	-	76	100	V
4	2.5385	31.51	RMS	32.1	-20	2.5	46.11	54	-7.89	-	-	76	100	V

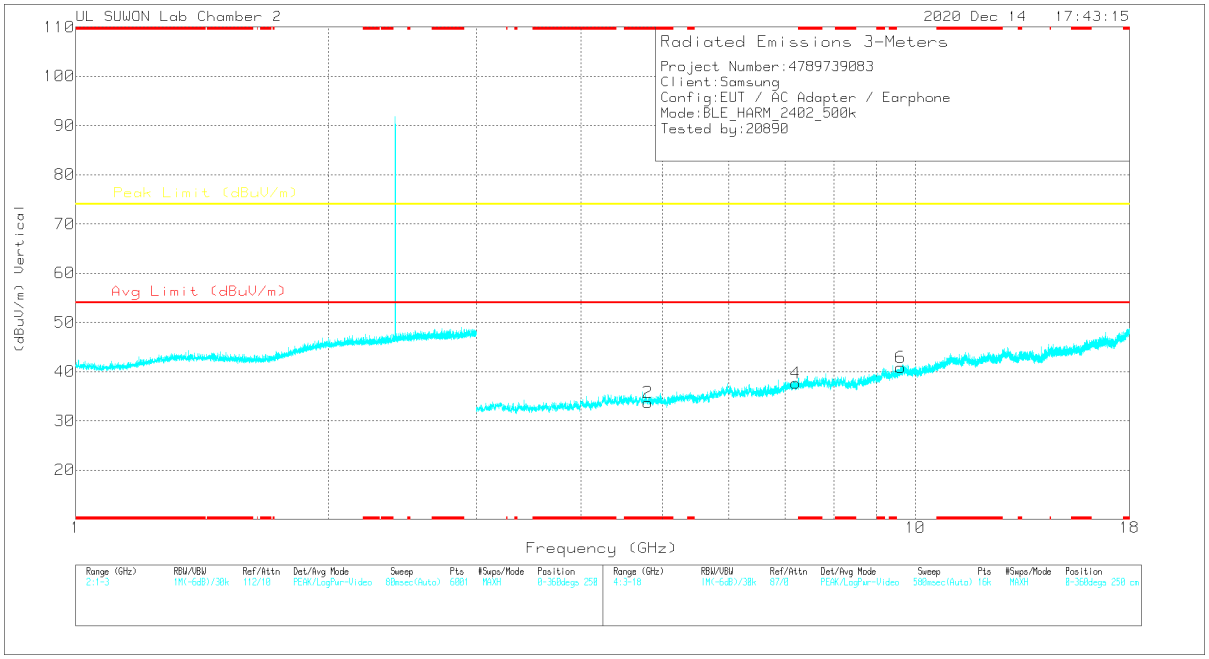
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.80457	27.87	PK	34.1	-27.7	0	34.27	-	-	74	-39.73	0-360	150	H
3	7.2063	25.43	PK	36.2	-24.9	0	36.73	-	-	74	-37.27	0-360	150	H
5	9.60896	23.86	PK	37	-20.8	0	40.06	-	-	74	-33.94	0-360	250	H
2	* 4.80457	27.36	PK	34.1	-27.7	0	33.76	-	-	74	-40.24	0-360	250	V
4	7.2063	26.36	PK	36.2	-24.9	0	37.66	-	-	74	-36.34	0-360	150	V
6	9.60802	24.6	PK	37	-20.8	0	40.8	-	-	74	-33.2	0-360	250	V

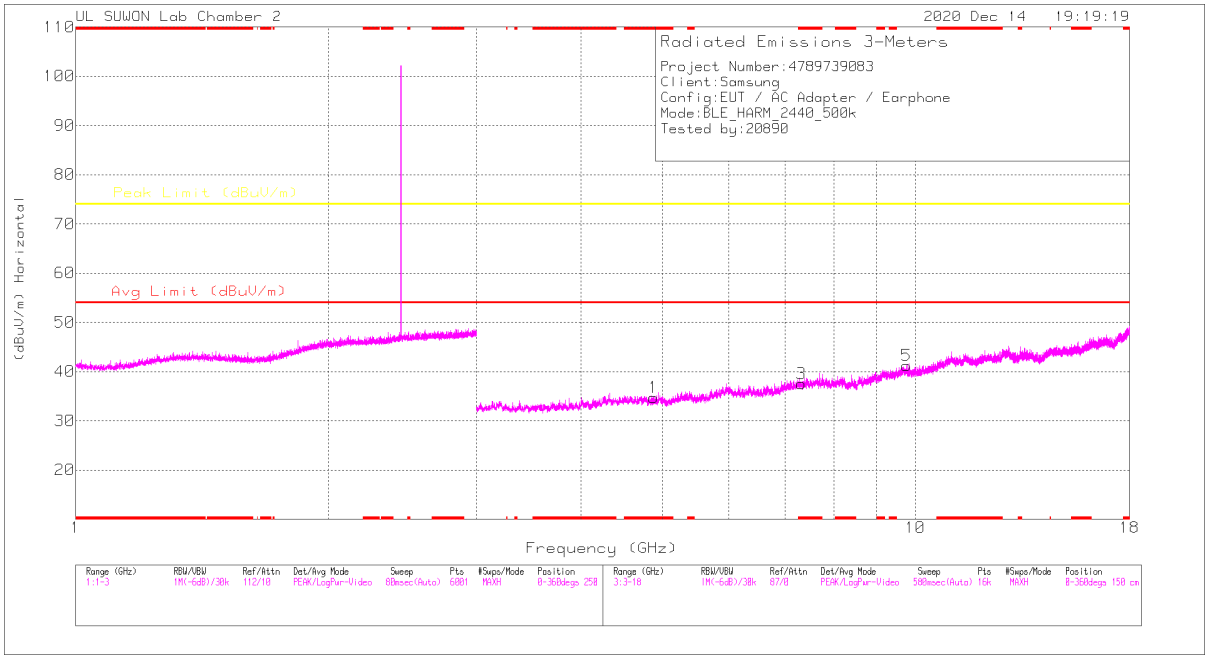
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

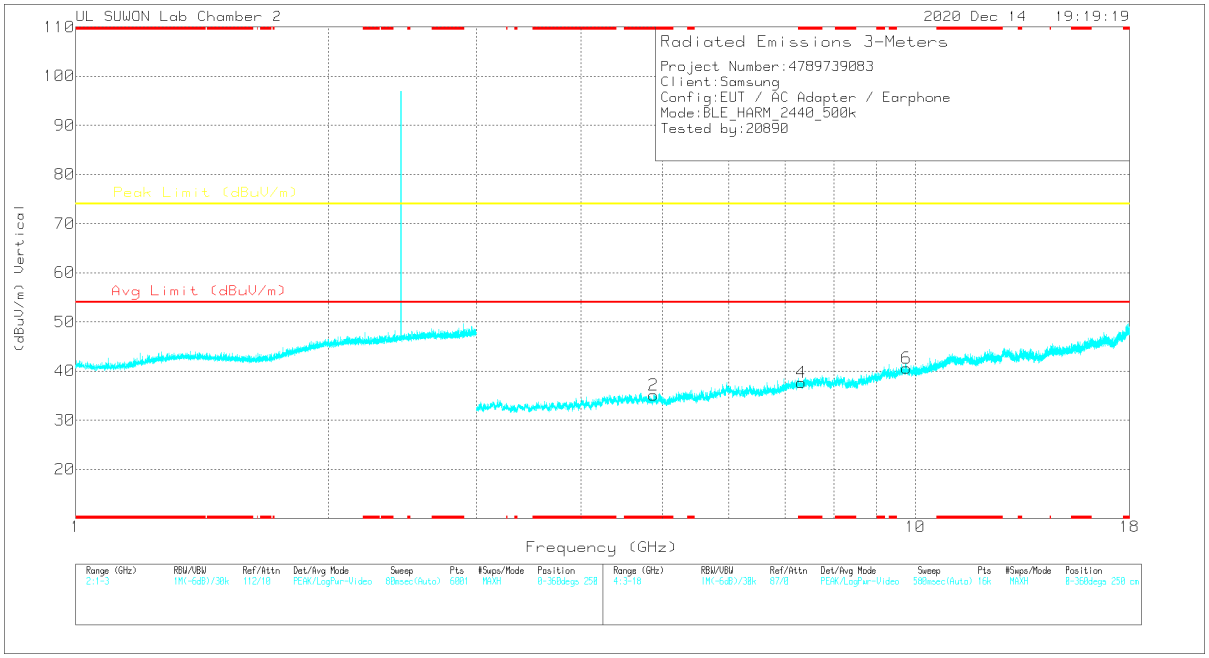
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80641	36.91	PK2	34.1	-27.8	0	43.21	-	-	74	-30.79	360	100	H
* 4.81066	37.13	PK2	34.1	-27.8	0	43.43	-	-	74	-30.57	360	100	V
7.21004	35.71	PK2	36.2	-24.9	0	47.01	-	-	74	-26.99	360	100	H
7.20477	35.04	PK2	36.2	-25	0	46.24	-	-	74	-27.76	360	100	V
9.60684	33.33	PK2	37	-20.8	0	49.53	-	-	74	-24.47	360	100	H
9.61481	33.14	PK2	37	-20.8	0	49.34	-	-	74	-24.66	360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.88238	28.15	PK	34.1	-27.5	0	34.75	-	-	74	-39.25	0-360	150	H
3	* 7.31879	26.06	PK	36.1	-24.6	0	37.56	-	-	74	-36.44	0-360	150	H
5	9.76176	24.54	PK	37.2	-20.5	0	41.24	-	-	74	-32.76	0-360	250	H
2	* 4.88144	28.55	PK	34.1	-27.5	0	35.15	-	-	74	-38.85	0-360	150	V
4	* 7.3216	26.1	PK	36.1	-24.6	0	37.6	-	-	74	-36.4	0-360	250	V
6	9.75895	23.83	PK	37.2	-20.5	0	40.53	-	-	74	-33.47	0-360	250	V

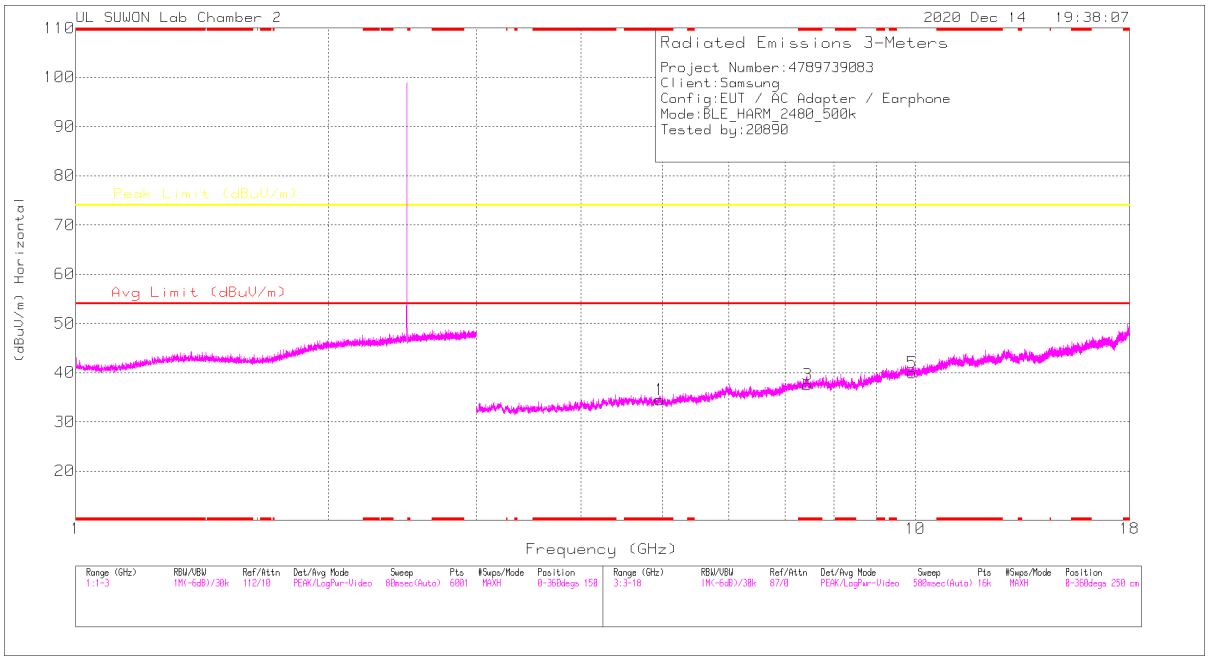
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

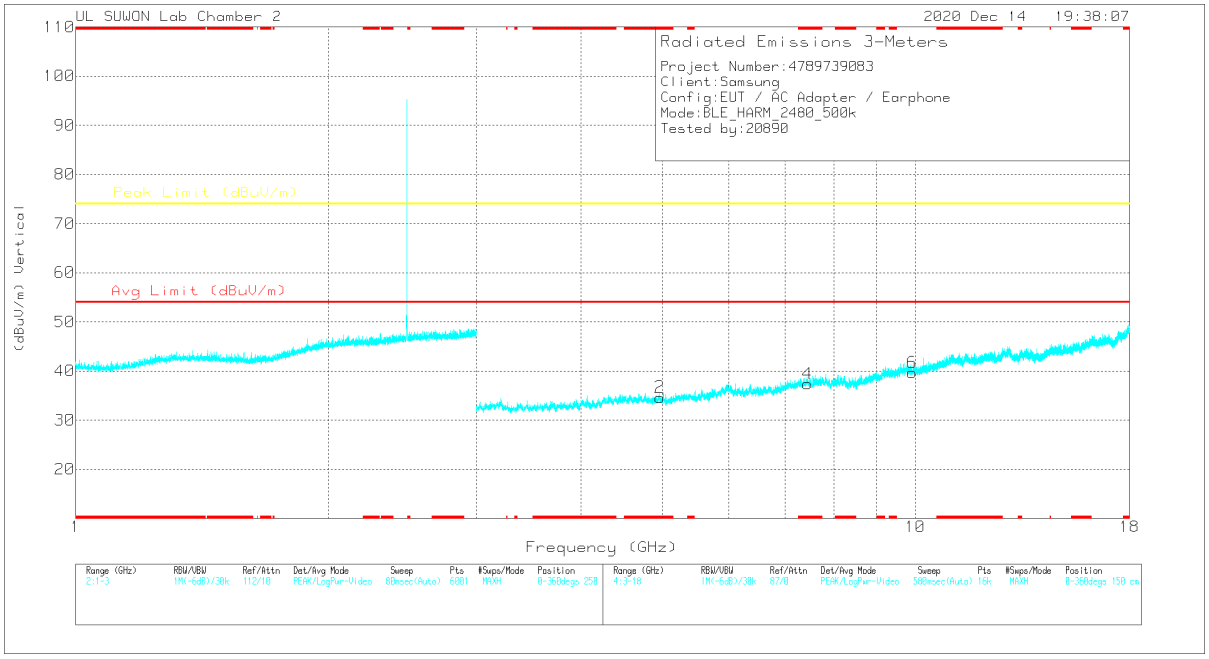
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87547	36.47	PK2	34.1	-27.7	0	42.87	-	-	74	-31.13	360	100	H
* 4.88661	36.98	PK2	34.1	-27.5	0	43.58	-	-	74	-30.42	360	100	V
* 7.32518	35.95	PK2	36.1	-24.6	0	47.45	-	-	74	-26.55	360	100	H
* 7.31763	35.71	PK2	36.1	-24.6	0	47.21	-	-	74	-26.79	360	100	V
9.7672	32.67	PK2	37.2	-20.5	0	49.37	-	-	74	-24.63	360	100	H
9.75498	33.19	PK2	37.2	-20.4	0	49.99	-	-	74	-24.01	360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.96019	27.14	PK	34.1	-26.8	0	34.44	-	-	74	-39.56	0-360	250	H
3	* 7.44066	25.11	PK	36	-23.6	0	37.51	-	-	74	-36.49	0-360	250	H
5	9.92019	22.9	PK	37.4	-20.3	0	40	-	-	74	-34	0-360	250	H
2	* 4.96019	27.36	PK	34.1	-26.8	0	34.66	-	-	74	-39.34	0-360	250	V
4	* 7.44019	25.01	PK	36	-23.6	0	37.41	-	-	74	-36.59	0-360	250	V
6	9.92019	22.6	PK	37.4	-20.3	0	39.7	-	-	74	-34.3	0-360	150	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

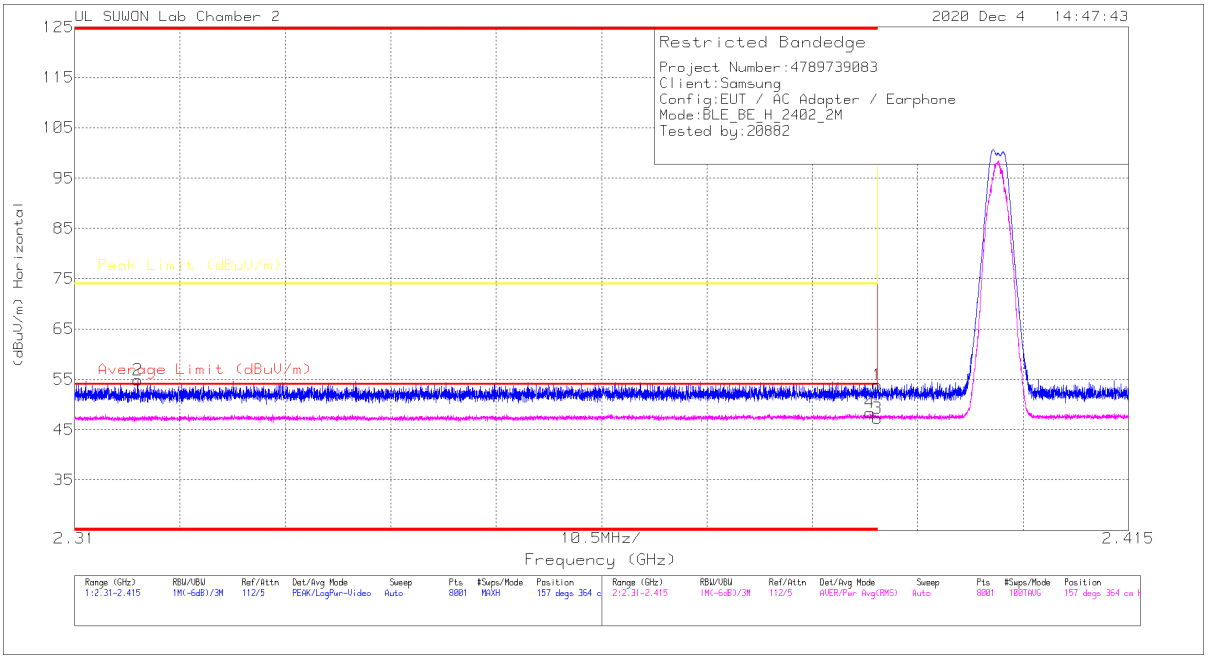
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.95548	36.43	PK2	34.1	-26.9	0	43.63	-	-	74	-30.37	360	100	H
* 4.95165	36.91	PK2	34.1	-26.8	0	44.21	-	-	74	-29.79	360	100	V
* 7.43502	34.78	PK2	36	-23.5	0	47.28	-	-	74	-26.72	360	100	H
* 7.43805	34.57	PK2	36	-23.6	0	46.97	-	-	74	-27.03	360	100	V
9.91064	31.84	PK2	37.4	-20.5	0	48.74	-	-	74	-25.26	360	100	H
9.92355	32.27	PK2	37.4	-20.4	0	49.27	-	-	74	-24.73	360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

10.2.2. BLE (2 Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

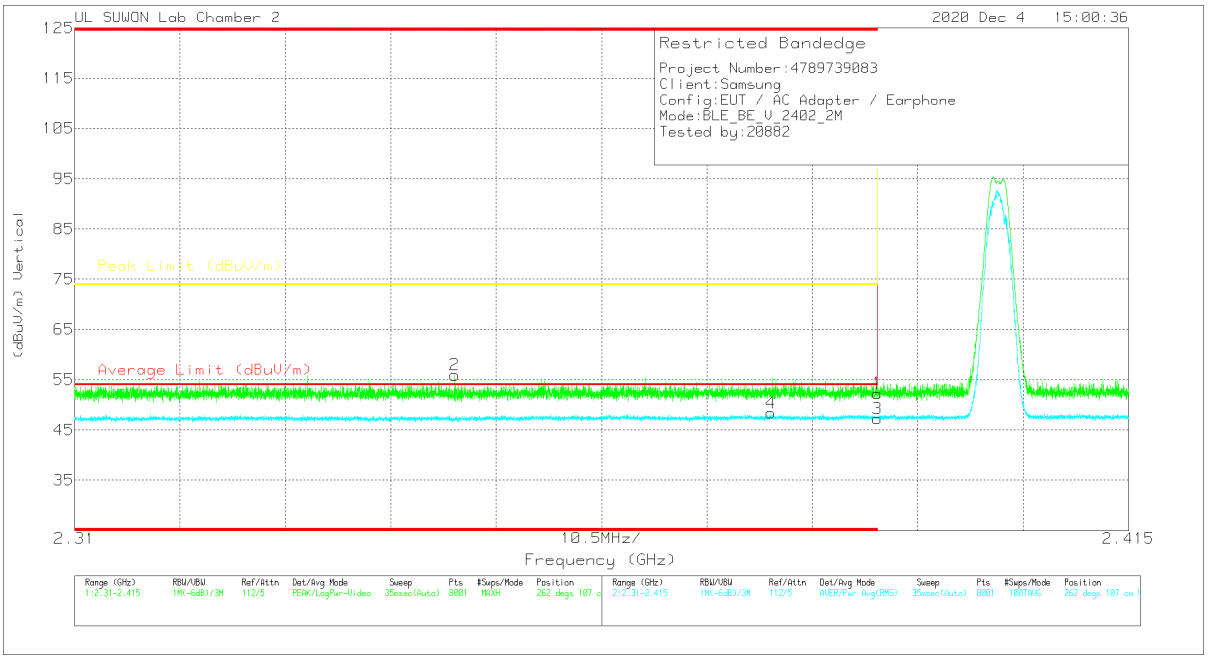


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	42.23	Pk	31.9	-20.3	0	53.83	-	-	74	-20.17	157	364	H
2	* 2.31627	43.61	Pk	31.7	-20.5	0	54.81	-	-	74	-19.19	157	364	H
3	* 2.39	30.47	RMS	31.9	-20.3	5.14	47.21	54	-6.79	-	-	157	364	H
4	* 2.38924	31.61	RMS	31.9	-20.3	5.14	48.35	54	-5.65	-	-	157	364	H

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

VERTICAL RESULT



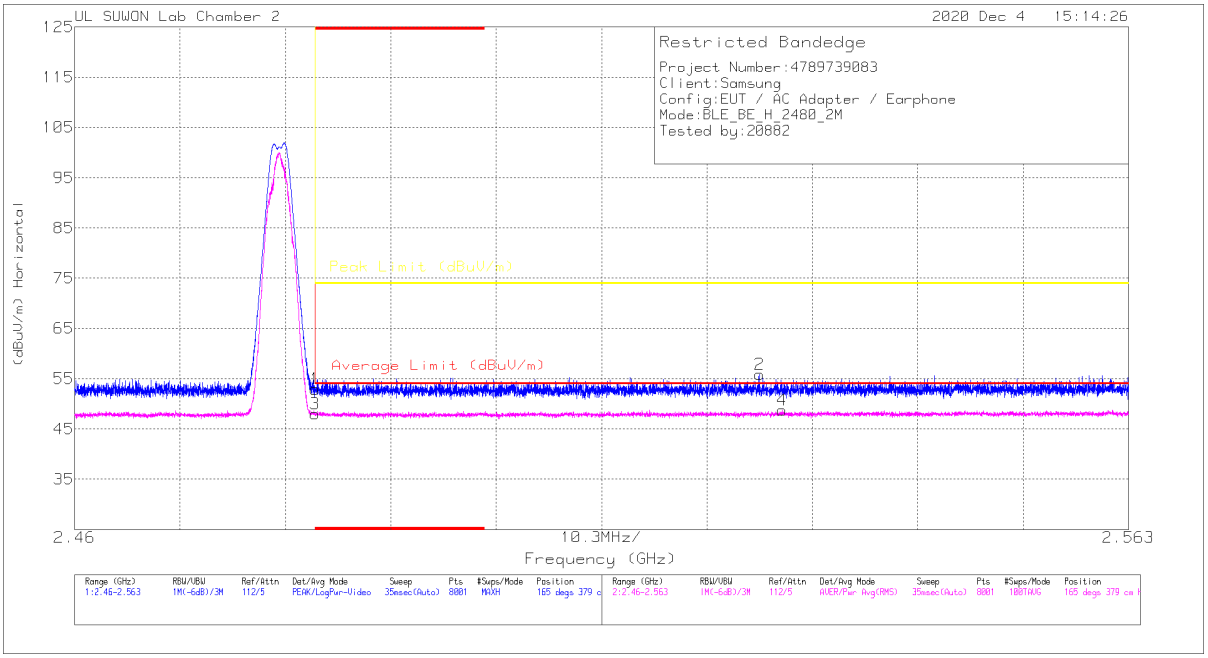
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	40.71	Pk	31.9	-20.3	0	52.31	-	-	74	-21.69	262	107	V
2	* 2.34789	44.73	Pk	31.8	-20.6	0	55.93	-	-	74	-18.07	262	107	V
3	* 2.39	30.5	RMS	31.9	-20.3	5.14	47.24	54	-6.76	-	-	262	107	V
4	* 2.37937	31.68	RMS	31.9	-20.3	5.14	48.42	54	-5.58	-	-	262	107	V

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

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT

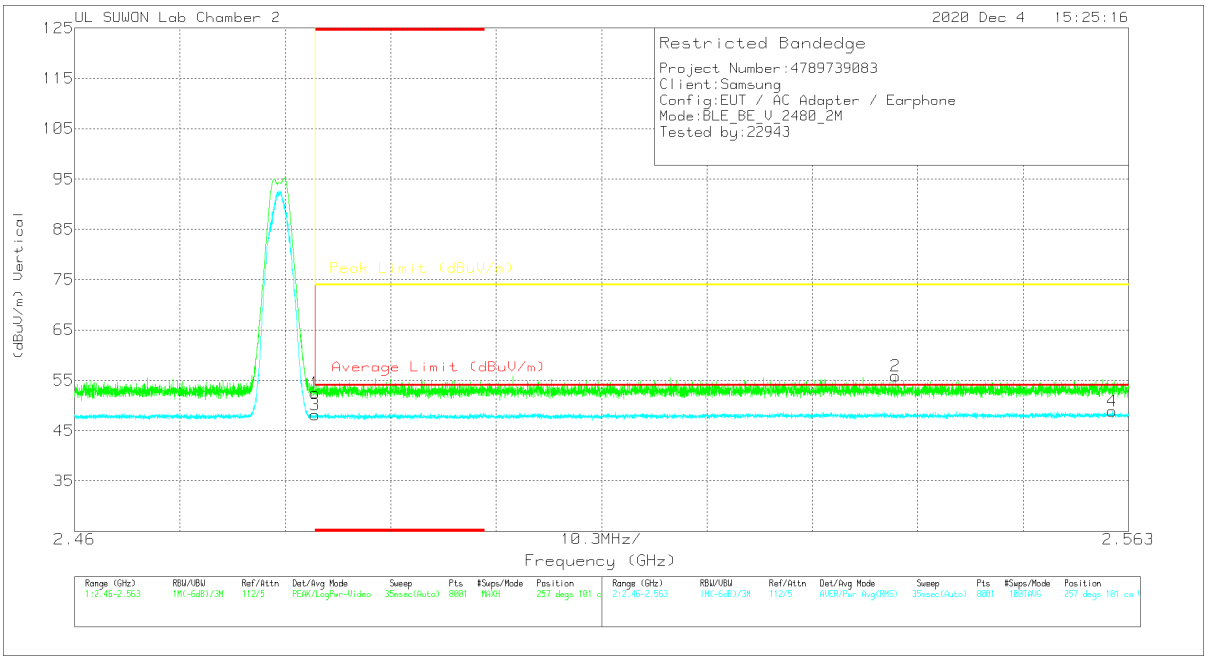


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	41.14	Pk	32	-20.2	0	52.94	-	-	74	-21.06	165	379	H
2	2.52696	43.9	Pk	32.1	-20.1	0	55.9	-	-	74	-18.1	165	379	H
3	* 2.48351	31.05	RMS	32	-20.2	5.14	47.99	54	-6.01	-	-	165	379	H
4	2.52913	31.52	RMS	32.1	-20	5.14	48.76	54	-5.24	-	-	165	379	H

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

VERTICAL RESULT



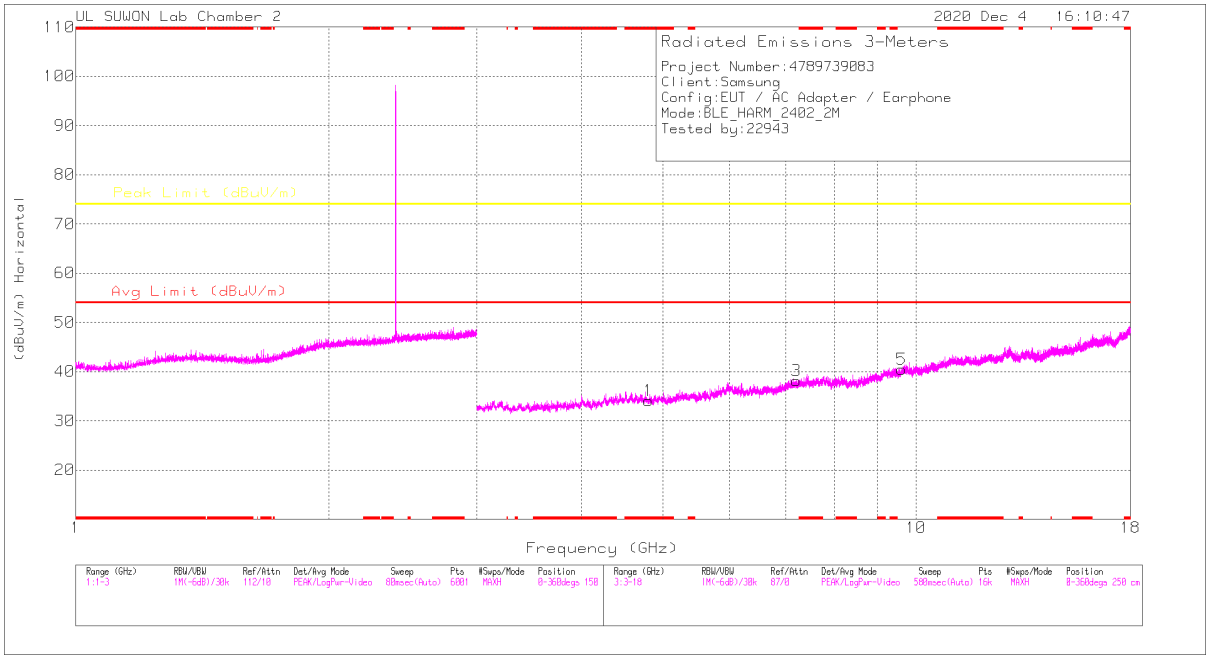
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	40.74	Pk	32	-20.2	0	52.54	-	-	74	-21.46	257	101	V
2	2.54024	43.96	Pk	32.1	-20.2	0	55.86	-	-	74	-18.14	257	101	V
3	* 2.48351	31.2	RMS	32	-20.2	5.14	48.14	54	-5.86	-	-	257	101	V
4	2.5614	31.5	RMS	32.2	-20	5.14	48.84	54	-5.16	-	-	257	101	V

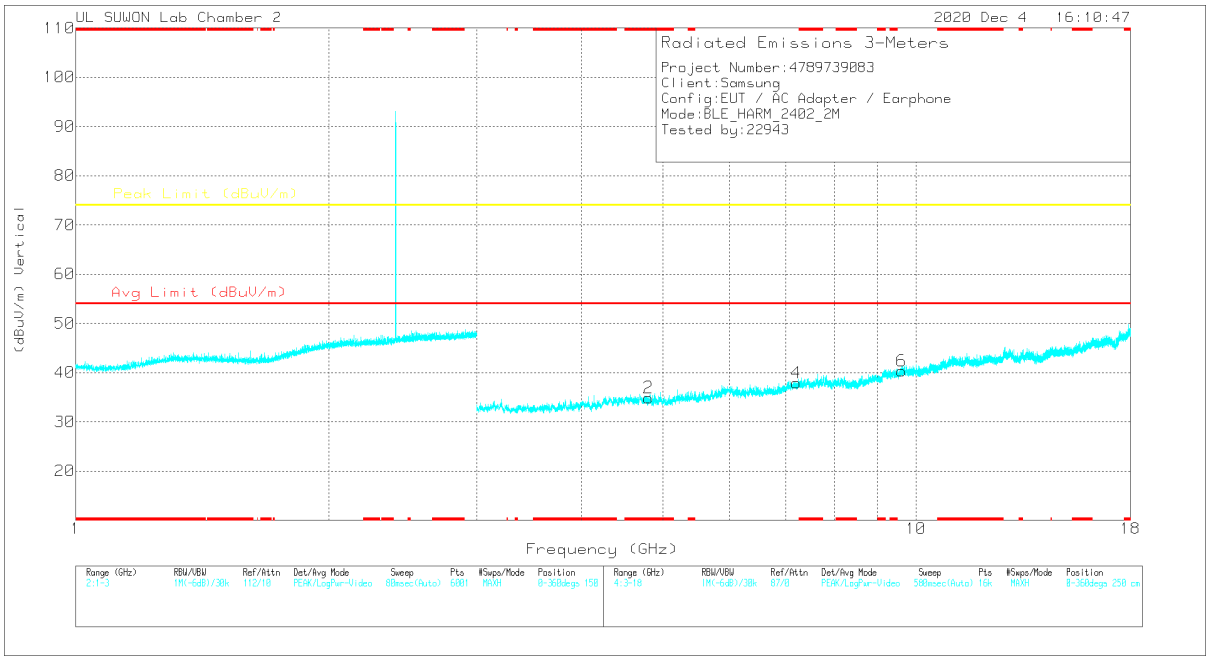
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.80457	27.73	PK	34.1	-27.7	0	34.13	-	-	74	-39.87	0-360	250	H
3	7.20536	26.96	PK	36.2	-25	0	38.16	-	-	74	-35.84	0-360	150	H
5	9.6099	24.2	PK	37	-20.8	0	40.4	-	-	74	-33.6	0-360	150	H
2	* 4.8027	28.51	PK	34.1	-27.7	0	34.91	-	-	74	-39.09	0-360	250	V
4	7.2063	26.58	PK	36.2	-24.9	0	37.88	-	-	74	-36.12	0-360	150	V
6	9.61083	24.13	PK	37	-20.8	0	40.33	-	-	74	-33.67	0-360	250	V

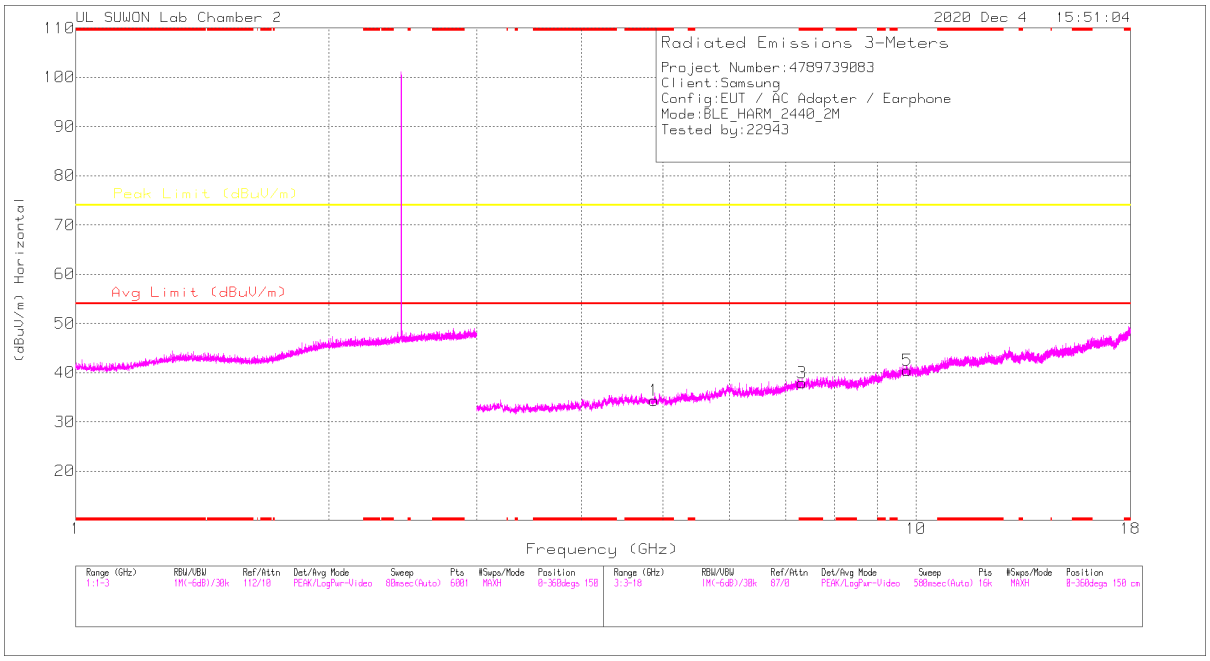
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

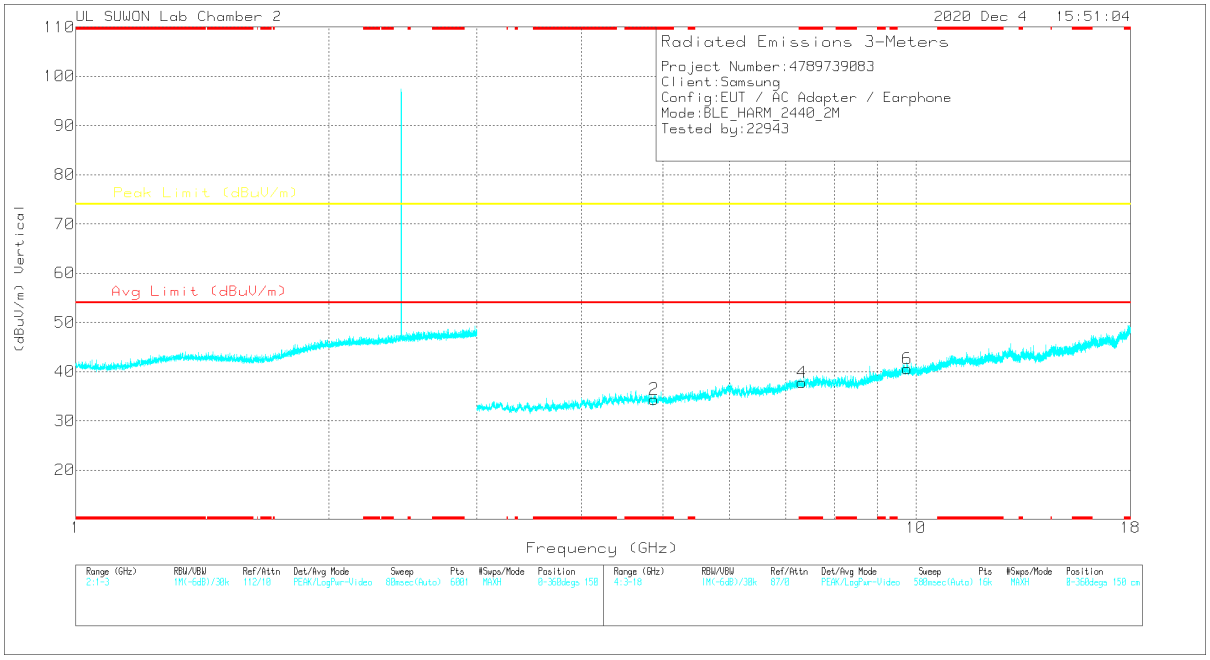
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80582	36.72	PK2	34.1	-27.8	0	43.02	-	-	74	-30.98	360	100	H
* 4.80288	37.24	PK2	34.1	-27.7	0	43.64	-	-	74	-30.36	360	100	V
7.20498	35.52	PK2	36.2	-25	0	46.72	-	-	74	-27.28	360	100	H
7.20624	36.02	PK2	36.2	-24.9	0	47.32	-	-	74	-26.68	360	100	V
9.60751	33.27	PK2	37	-20.9	0	49.37	-	-	74	-24.63	360	100	H
9.60862	32.91	PK2	37	-20.8	0	49.11	-	-	74	-24.89	360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.87957	27.94	PK	34.1	-27.7	0	34.34	-	-	74	-39.66	0-360	150	H
3	* 7.32067	26.39	PK	36.1	-24.6	0	37.89	-	-	74	-36.11	0-360	250	H
5	9.76082	23.8	PK	37.2	-20.5	0	40.5	-	-	74	-33.5	0-360	150	H
2	* 4.87957	28	PK	34.1	-27.7	0	34.4	-	-	74	-39.6	0-360	150	V
4	* 7.31879	26.25	PK	36.1	-24.6	0	37.75	-	-	74	-36.25	0-360	150	V
6	9.7627	23.81	PK	37.2	-20.4	0	40.61	-	-	74	-33.39	0-360	250	V

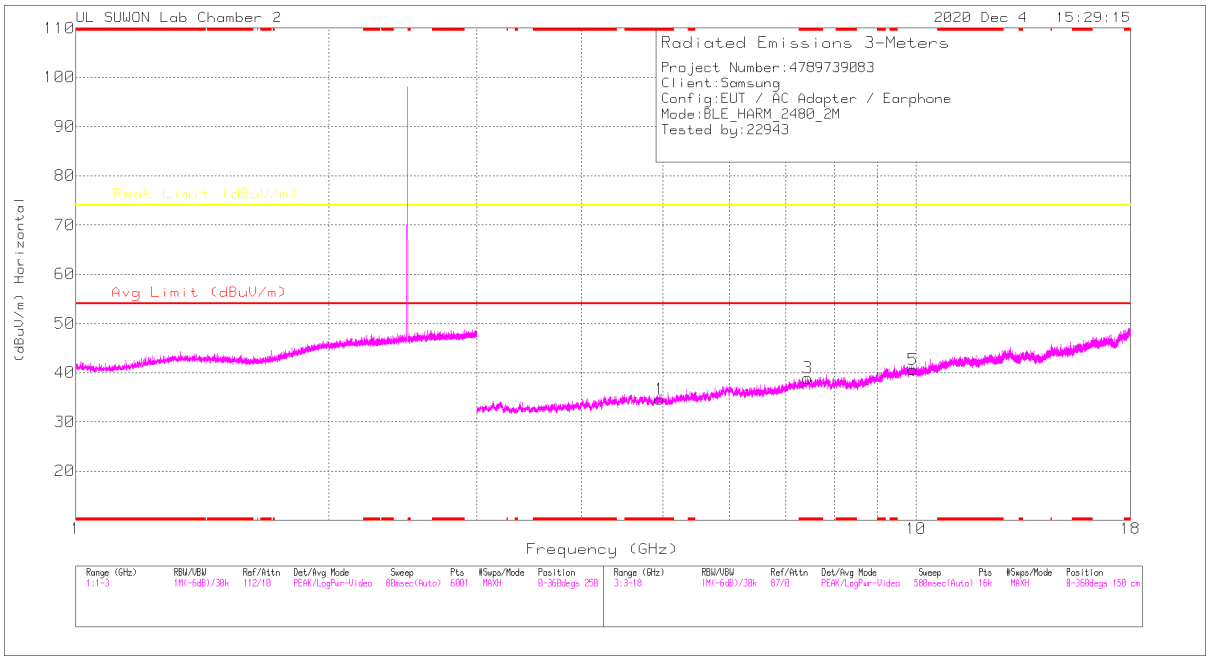
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

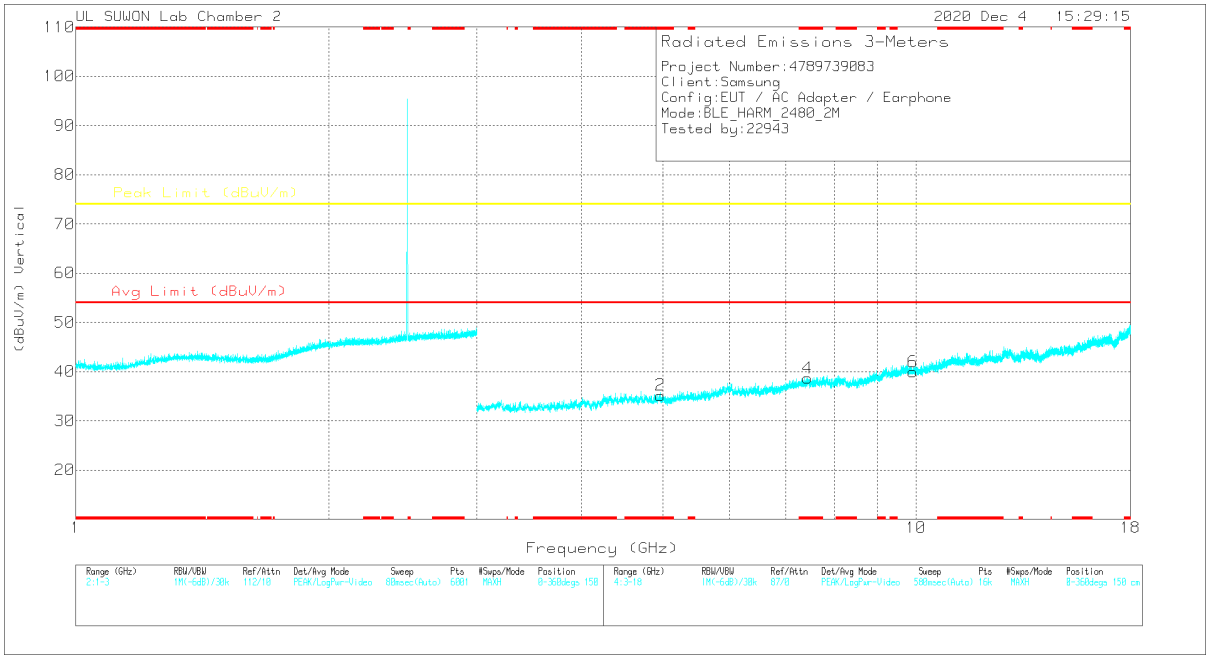
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87906	37.12	PK2	34.1	-27.7	0	43.52	-	-	74	-30.48	360	100	H
* 4.87912	37.37	PK2	34.1	-27.7	0	43.77	-	-	74	-30.23	360	100	V
* 7.31985	35.66	PK2	36.1	-24.6	0	47.16	-	-	74	-26.84	360	100	H
* 7.32121	35.52	PK2	36.1	-24.6	0	47.02	-	-	74	-26.98	360	100	V
9.75991	33.64	PK2	37.2	-20.5	0	50.34	-	-	74	-23.66	360	100	H
9.76062	32.64	PK2	37.2	-20.5	0	49.34	-	-	74	-24.66	360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
1	* 4.95831	27.26	PK	34.1	-26.8	0	34.56	-	-	74	-39.44	0-360	250	H
3	* 7.43785	26.47	PK	36	-23.6	0	38.87	-	-	74	-35.13	0-360	250	H
5	9.91925	23.53	PK	37.4	-20.4	0	40.53	-	-	74	-33.47	0-360	250	H
2	* 4.96019	27.87	PK	34.1	-26.8	0	35.17	-	-	74	-38.83	0-360	250	V
4	* 7.43785	26.22	PK	36	-23.6	0	38.62	-	-	74	-35.38	0-360	250	V
6	9.91925	22.94	PK	37.4	-20.4	0	39.94	-	-	74	-34.06	0-360	150	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

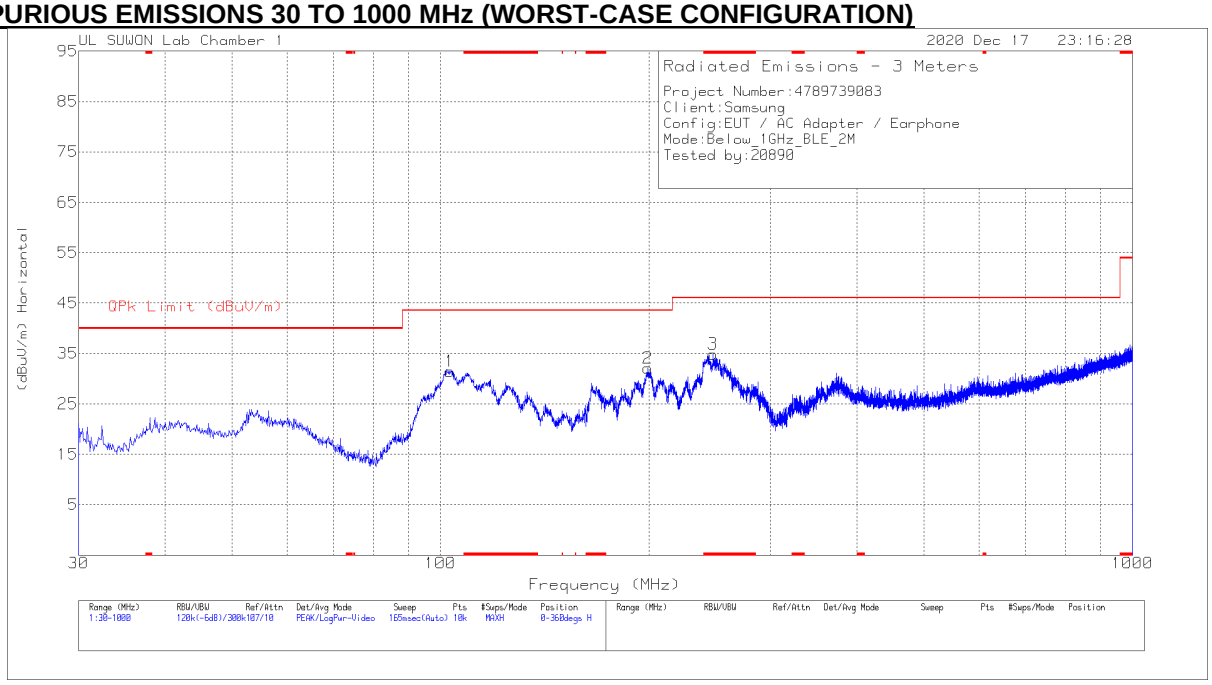
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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
* 4.95855	36.35	PK2	34.1	-26.8	0	43.65	-	-	74	-30.35	360	100	H
* 4.95926	36.03	PK2	34.1	-26.8	0	43.33	-	-	74	-30.67	360	100	V
* 7.44008	35.61	PK2	36	-23.7	0	47.91	-	-	74	-26.09	360	100	H
* 7.43959	35.78	PK2	36	-23.7	0	48.08	-	-	74	-25.92	360	100	V
9.91984	32.33	PK2	37.4	-20.4	0	49.33	-	-	74	-24.67	360	100	H
9.92095	32.59	PK2	37.4	-20.3	0	49.69	-	-	74	-24.31	360	100	V

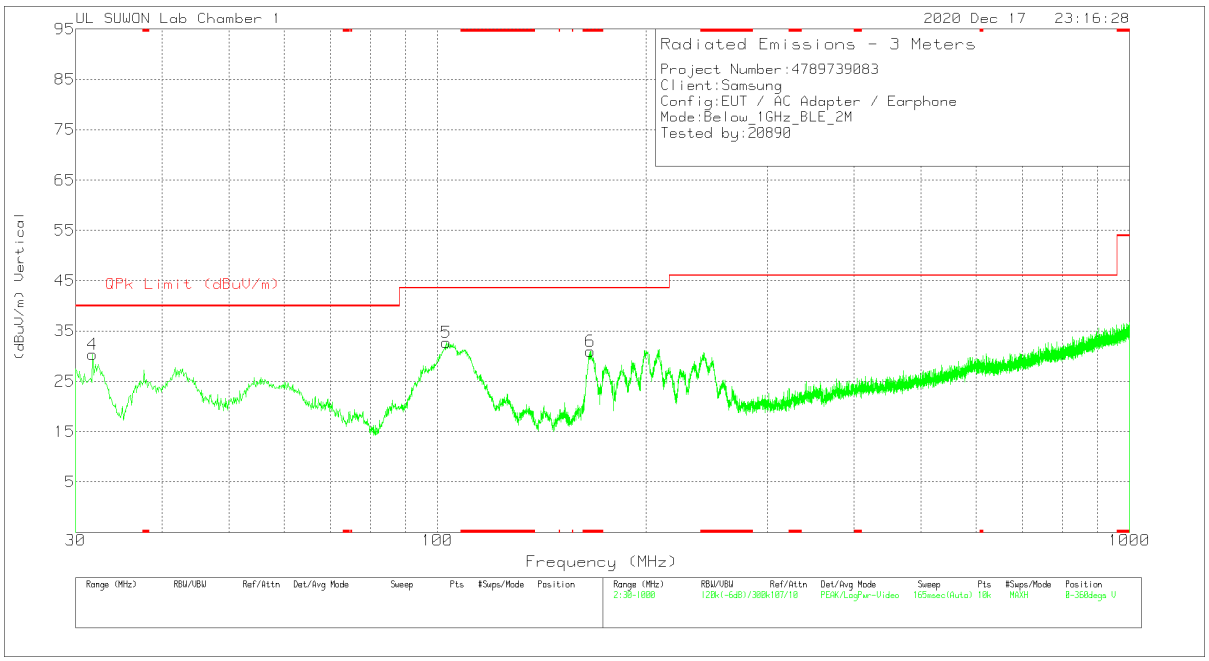
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

10.3. WORST CASE BELOW 1 GHZ

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



HORIZONTAL



VERTICAL

Below 1GHz Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	103.138	43.3	Pk	17.7	-29.5	31.5	43.52	-12.02	0-360	300	H
2	199.362	43.3	Pk	17.3	-28.5	32.1	43.52	-11.42	0-360	200	H
3	* 247.571	44.4	Pk	18.5	-28	34.9	46.02	-11.12	0-360	100	H
4	31.746	45.47	Pk	15.6	-30.7	30.37	40	-9.63	0-360	100	V
5	103.041	44.63	Pk	17.7	-29.6	32.73	43.52	-10.79	0-360	100	V
6	* 166.382	45.26	Pk	14.5	-28.8	30.96	43.52	-12.56	0-360	100	V

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

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

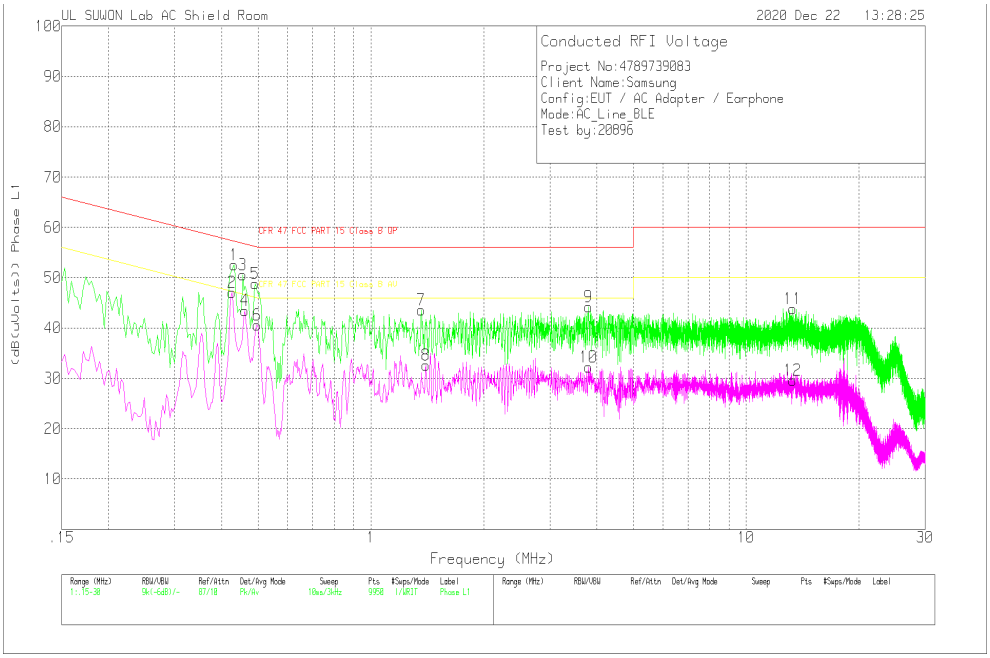
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

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_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	.432	42.4	Pk	9.9	.2	52.5	57.21	-4.71	-	-
2	.426	36.97	Av	9.9	.2	47.07	-	-	47.33	-.26
3	.456	40.4	Pk	9.9	.2	50.5	56.77	-6.27	-	-
4	.462	33.41	Av	9.9	.2	43.51	-	-	46.66	-3.15
5	.492	38.76	Pk	9.9	.2	48.86	56.13	-7.27	-	-
6	.498	30.45	Av	9.9	.2	40.55	-	-	46.03	-5.48
7	1.362	33.49	Pk	9.8	.3	43.59	56	-12.41	-	-
8	1.401	22.51	Av	9.8	.3	32.61	-	-	46	-13.39
9	3.801	34.13	Pk	9.8	.3	44.23	56	-11.77	-	-
10	3.798	22.15	Av	9.8	.3	32.25	-	-	46	-13.75
11	13.305	33.44	Pk	10	.4	43.84	60	-16.16	-	-
12	13.296	19.26	Av	10	.4	29.66	-	-	50	-20.34

Pk - Peak detector
Av - Average detection

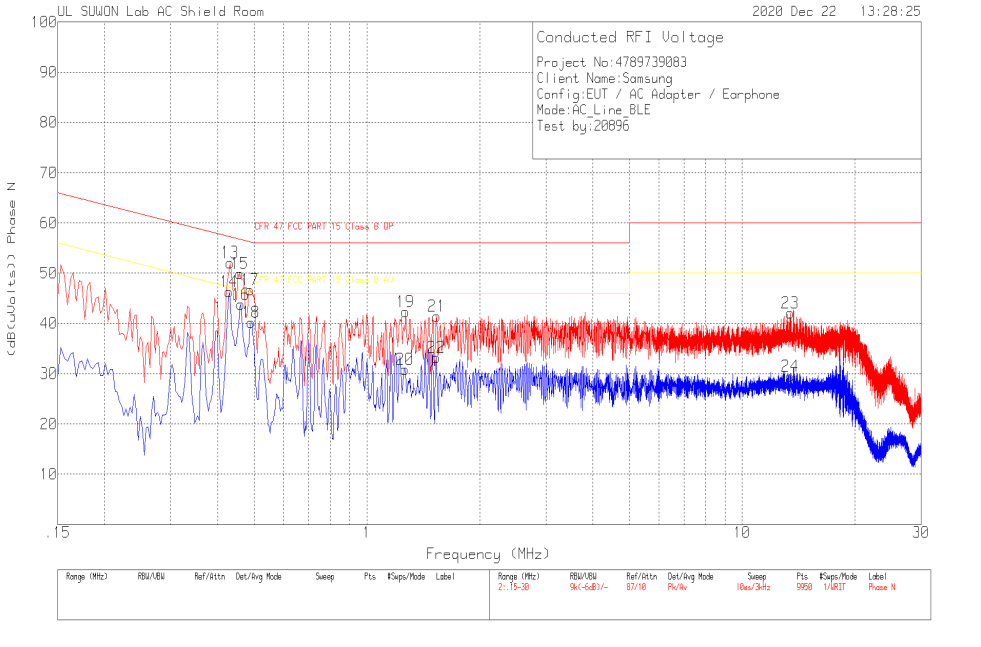
Quasi-Peak Emissions

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)
.43275	36.48	Qp	9.9	.2	46.58	57.2	-10.62	-	-
.42675	28.71	Qp	9.9	.2	38.81	57.32	-18.51	-	-
.45675	37.39	Qp	9.9	.2	47.49	56.75	-9.26	-	-
.46125	36.6	Qp	9.9	.2	46.7	56.67	-9.97	-	-
.49125	28.96	Qp	9.9	.2	39.06	56.15	-17.09	-	-
.49875	27.84	Qp	9.9	.2	37.94	56.02	-18.08	-	-

Qp - Quasi-Peak detector

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	.432	42.01	Pk	9.9	.2	52.11	57.21	-5.1	-	-
14	.429	36.21	Av	9.9	.2	46.31	-	-	47.27	-.96
15	.459	39.85	Pk	9.9	.2	49.95	56.71	-6.76	-	-
16	.462	33.77	Av	9.9	.2	43.87	-	-	46.66	-2.79
17	.489	36.62	Pk	9.9	.2	46.72	56.18	-9.46	-	-
18	.492	30.1	Av	9.9	.2	40.2	-	-	46.13	-5.93
19	1.269	32.21	Pk	9.8	.3	42.31	56	-13.69	-	-
20	1.263	20.78	Av	9.8	.3	30.88	-	-	46	-15.12
21	1.536	31.33	Pk	9.8	.3	41.43	56	-14.57	-	-
22	1.53	23.08	Av	9.8	.3	33.18	-	-	46	-12.82
23	13.431	31.55	Pk	10.1	.4	42.05	60	-17.95	-	-
24	13.431	18.96	Av	10.1	.4	29.46	-	-	50	-20.54

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)
.43275	35.3	Qp	9.9	.2	45.4	57.2	-11.8	-	-
.42975	31.47	Qp	9.9	.2	41.57	57.26	-15.69	-	-
.45825	38.41	Qp	9.9	.2	48.51	56.72	-8.21	-	-
.46125	35.78	Qp	9.9	.2	45.88	56.67	-10.79	-	-
.48975	25.02	Qp	9.9	.2	35.12	56.17	-21.05	-	-
.49275	22.79	Qp	9.9	.2	32.89	56.12	-23.23	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT