



CERTIFICATION TEST REPORT

Report Number. : 4789294522-E1V2

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

Model : SM-J260MU/DS, SM-J260MU

FCC ID : A3LSMJ260MU

EUT Description : GSM/WCDMA/LTE Phone + BT/BLE, DTS b/g/n

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

Date Of Issue:

January 28, 2020

Prepared by:

UL Korea, Ltd.

26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Suwon Test Site: UL Korea, Ltd. Suwon Laboratory

218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea

TEL: (031) 337-9902

FAX: (031) 213-5433



ACCREDITED

Testing Laboratory

TL-637

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	01/20/20	Initial issue	Hyunsik Yun
V2	01/28/20	Updated to address TCB's question	Hyunsik Yun

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + BT/BLE, DTS b/g/n
MODEL NUMBER: SM-J260MU/DS, SM-J260MU
SERIAL NUMBER: R38MC08F0PL, R38MC08F0QJ (RADIATED);
DATE TESTED: JAN 08, 2020 – JAN 17, 2020;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15B	Pass

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:



Hyunsik Yun
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. ANSI C63.4, 2014

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	
<input checked="" type="checkbox"/>	Chamber 1
<input checked="" type="checkbox"/>	Chamber 2
<input type="checkbox"/>	Chamber 3

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

$EIRP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)} + \text{Substitution Antenna Factor (dBi)}$

$ERP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)}$

(Path loss = Signal generator output – PSA reading with substitution antenna)

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	2.35 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.49 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.82 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 1, Clause 4.4.2 in IEC Guide 115:2007.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

This report covers the Samsung models SM-J260MU/DS and SM-J260MU.
These models are identical in hardware except SM-J260MU has single SIM tray.
With some pre-scan, model SM-J260MU/DS was set for final test.

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 12	Communicating with Call simulator(CMW500)

5.3. WORST-CASE ORIENTATION AND MODE

For GSM850 / WCDMA B5 / LTE Band 5, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that Z orientation was worst-case orientation.

For LTE Band 12, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that X orientation was worst-case orientation.

Note : The EUT is continuously communicated with the call box during the tests. Also attached with travel adapter for the worst case condition.

LTE Band 17

LTE Band 17 (Rx Frequency range: 734-746 MHz) is covered by LTE Band 12 (Rx Frequency range: 729-746 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG		R37MC4KKQG2HM3	N/A
Data Cable	SAMSUNG	ECB-DU68WE	N/A	N/A

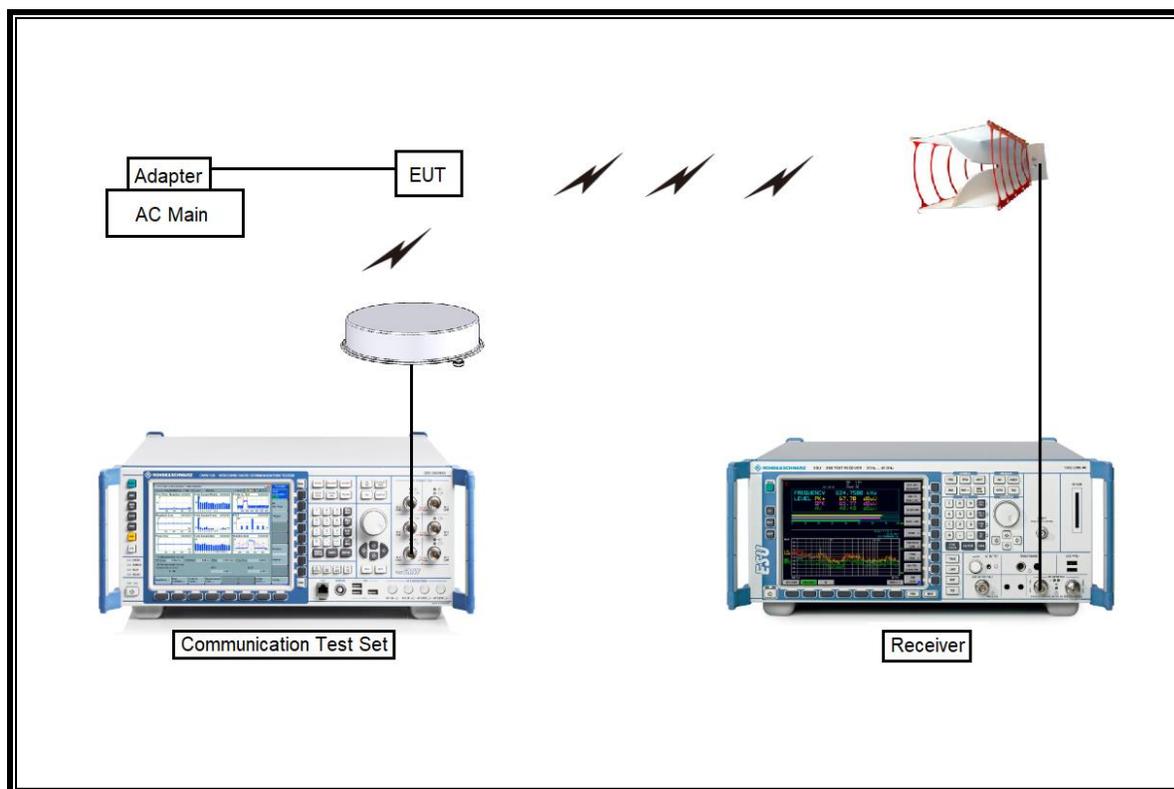
I/O CABLE

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	1.0m	N/A

TEST SETUP

The EUT is continuously communicated with the call box during the tests.

SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Next Cal. Date
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	01-30-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-13-20
Preamplifier	ETS	3116C-PA	00168841	08-08-20
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00167211	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168724	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00205959	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-04-20
Communications Test Set	R&S	CMW500	115331	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-05-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-05-20
EMI Test Receive, 44 GHz	R&S	ESW40	101590	08-06-20
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-20
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-20
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	08-05-20
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	08-05-20
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	08-05-20
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	08-05-20
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	08-05-20
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	08-05-20
Attenuator	PASTERNAK	PE7087-10	A009	08-08-20
Attenuator	PASTERNAK	PE7087-10	A001	08-08-20
Attenuator	PASTERNAK	PE7087-10	A008	08-08-20
Attenuator	PASTERNAK	PE7087-10	2	08-08-20
Attenuator	PASTERNAK	PE7395-10	A011	08-08-20
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	

7. APPLICABLE LIMITS AND TEST RESULTS

TEST PROCEDURE

ANSI C63.4: 2014

LIMIT

§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

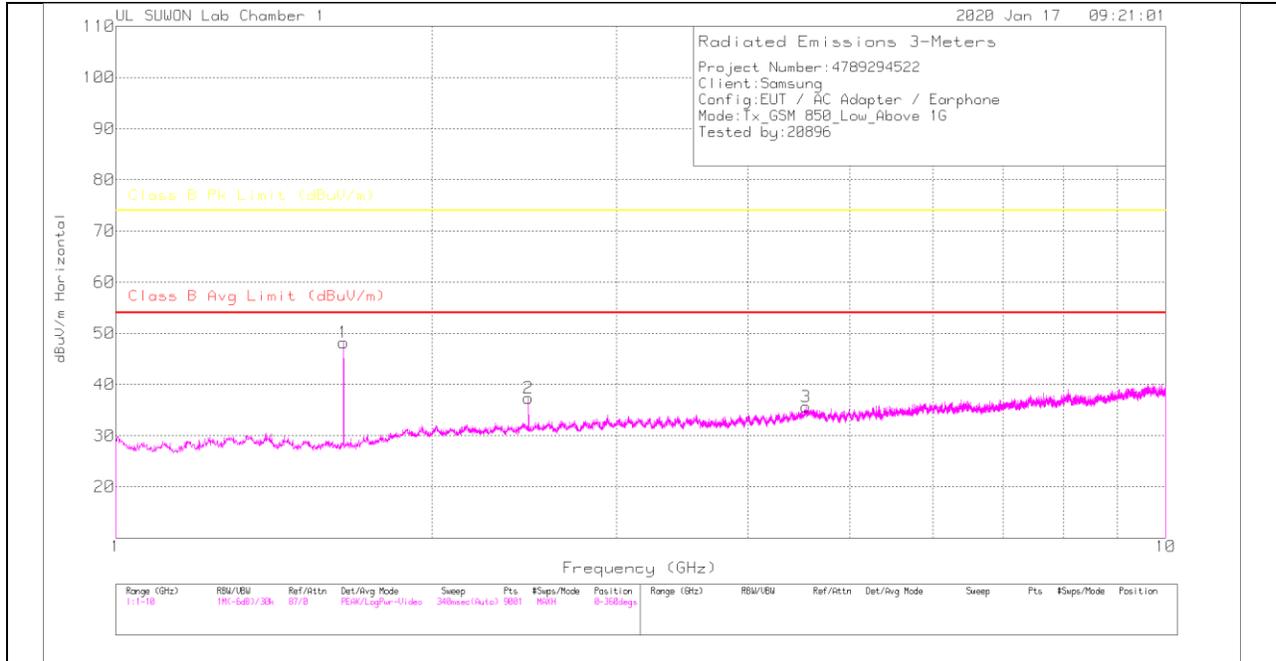
Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

Note: The lower limit shall apply at the transition frequency.

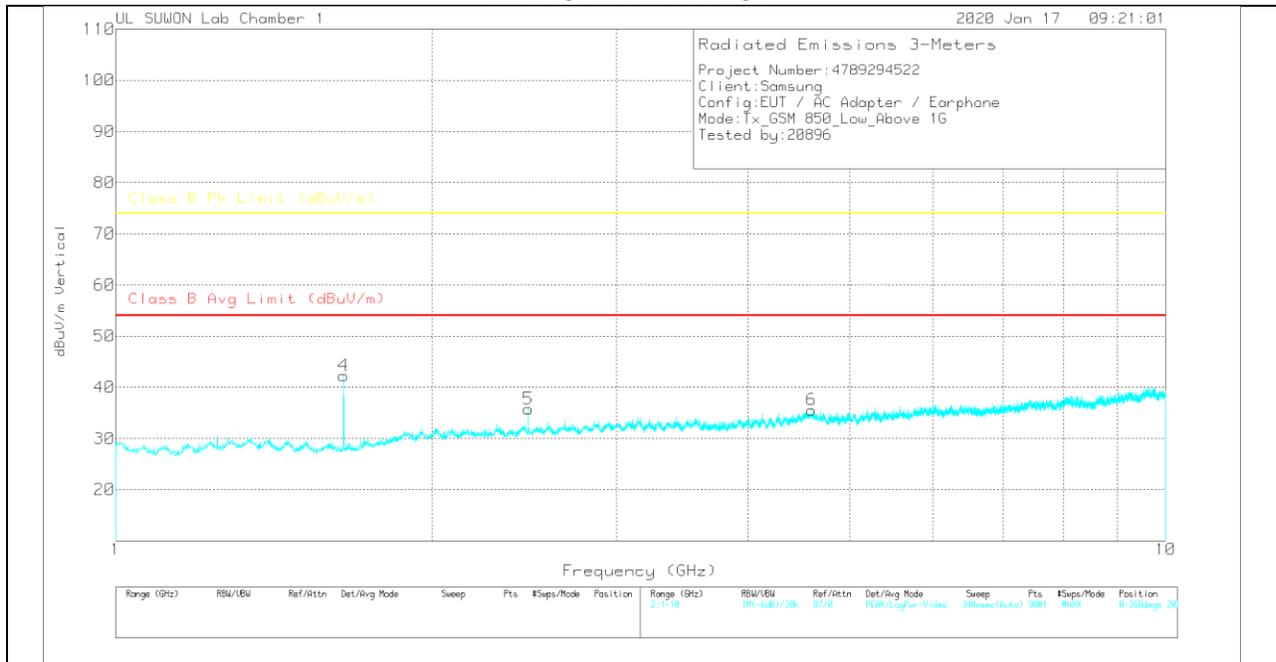
7.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

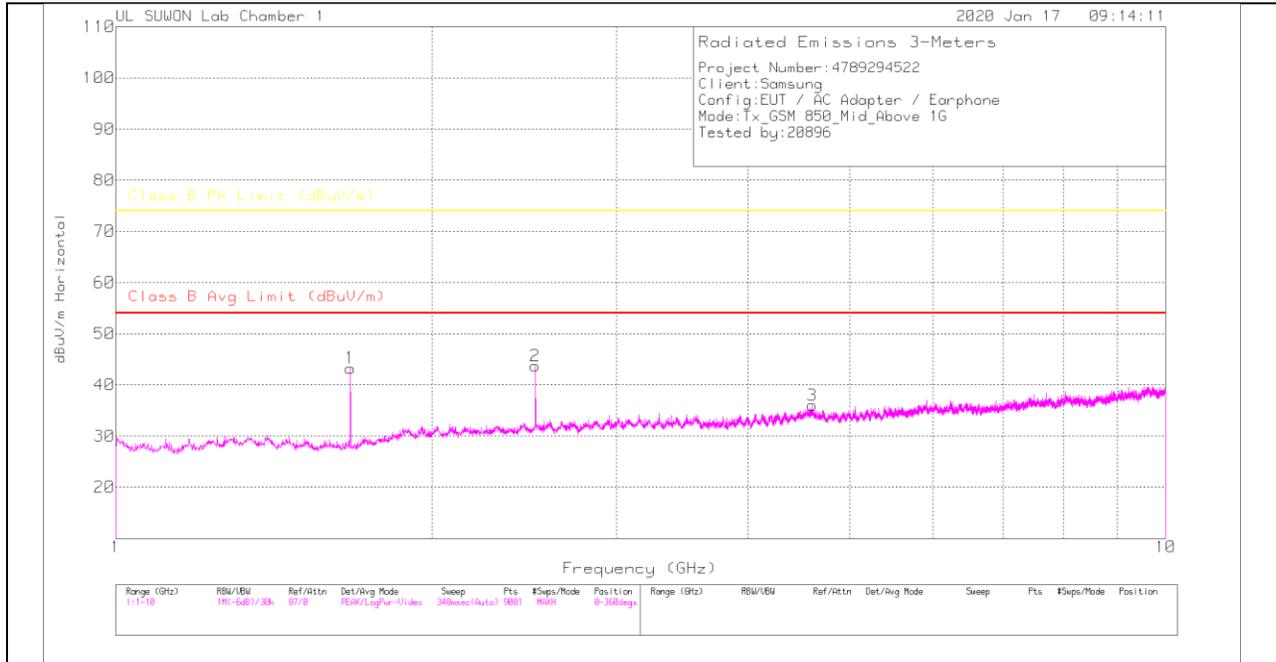
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBu/Um	Class B Avg Limit (dBu/Um)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/Um)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.648	55.61	PK	28.3	-36.3	.6	48.21	-	-	74	-25.79	0-360	200	H
2	2.473	39.43	PK	31.9	-34.7	.7	37.33	-	-	74	-36.67	0-360	100	H
3	4.544	33.02	PK	34.2	-32	.4	35.62	-	-	74	-38.38	0-360	100	H
4	1.648	49.69	PK	28.3	-36.3	.6	42.29	-	-	74	-31.71	0-360	100	V
5	2.472	37.88	PK	31.9	-34.7	.7	35.78	-	-	74	-38.22	0-360	100	V
6	4.599	32.79	PK	34.2	-31.8	.4	35.59	-	-	74	-38.41	0-360	200	V

PK – Peak Detector

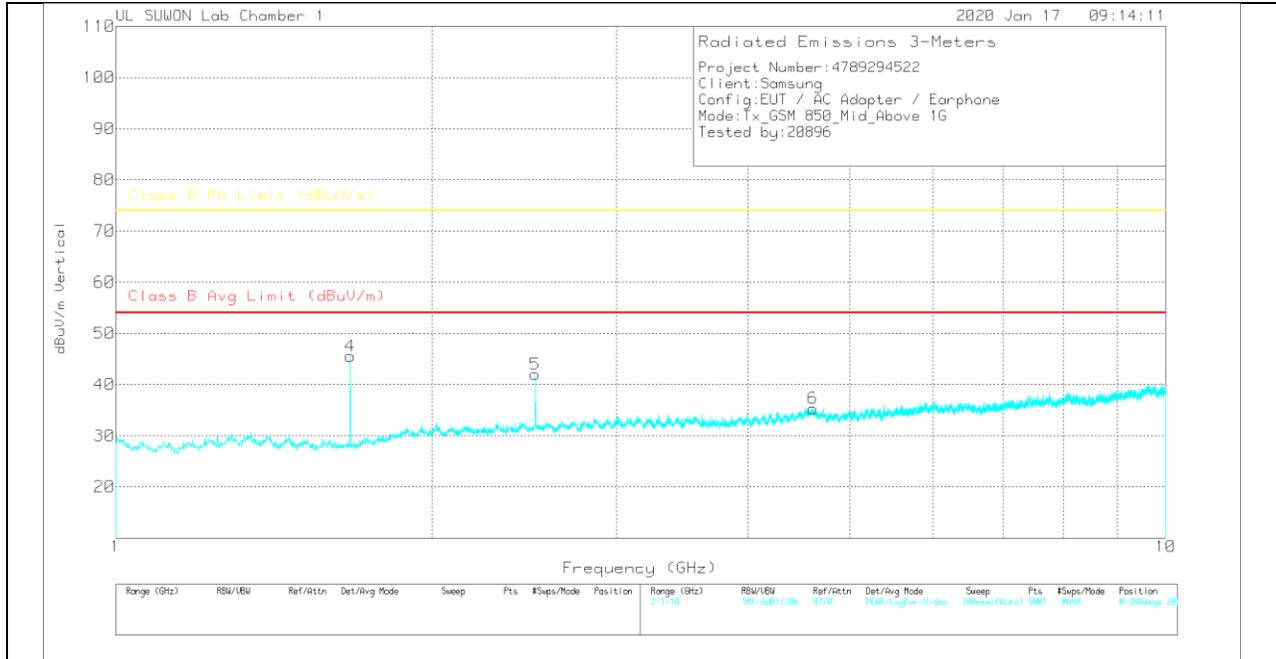
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

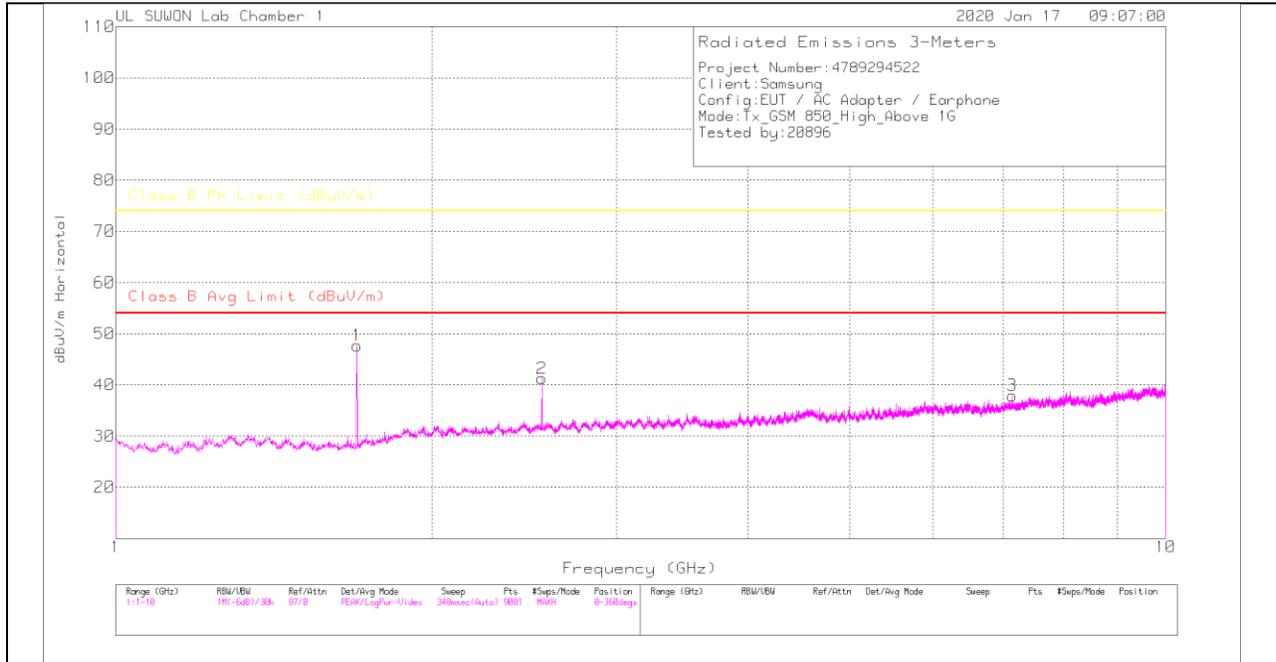
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.673	50.55	PK	28.4	-36.2	.5	43.25	-	-	74	-30.75	0-360	100	H
2	2.509	45.69	PK	32	-34.5	.5	43.69	-	-	74	-30.31	0-360	200	H
3	4.608	33.32	PK	34.2	-31.9	.4	36.02	-	-	74	-37.98	0-360	100	H
4	1.673	52.84	PK	28.4	-36.2	.5	45.54	-	-	74	-28.46	0-360	200	V
5	2.51	44.09	PK	32	-34.6	.5	41.99	-	-	74	-32.01	0-360	100	V
6	4.615	32.64	PK	34.2	-31.9	.4	35.34	-	-	74	-38.66	0-360	200	V

PK – Peak Detector

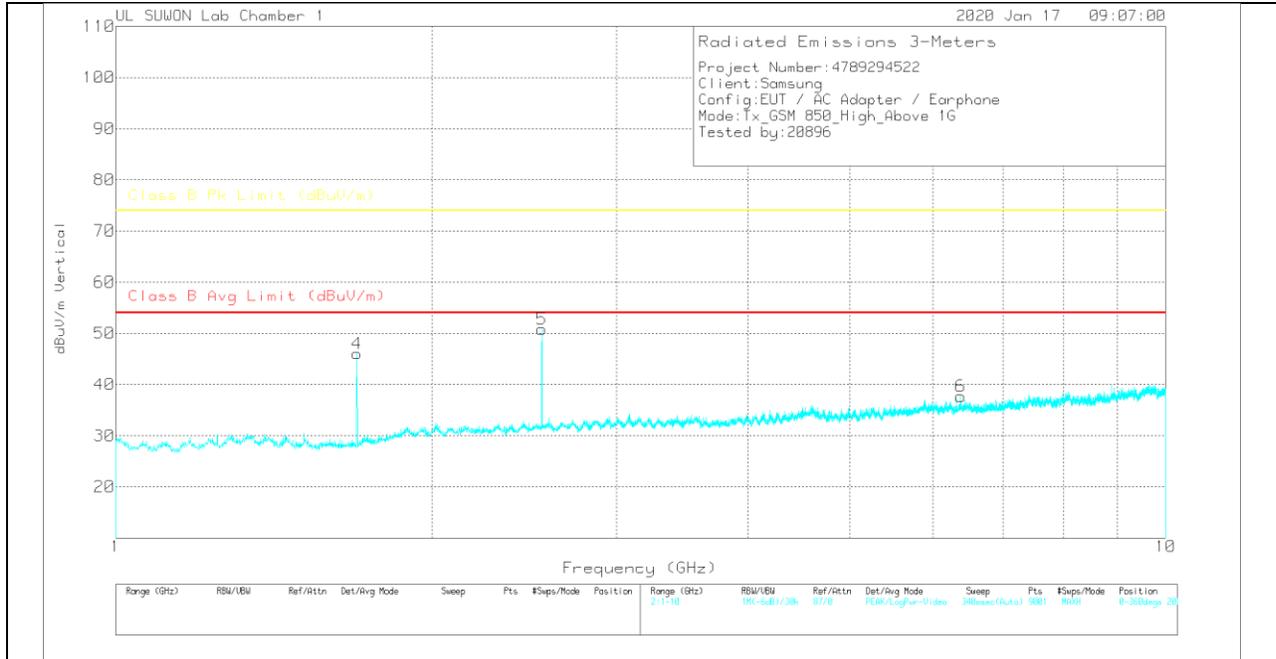
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(893.8MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	54.6	PK	28.6	-36.1	.6	47.7	-	-	74	-26.3	0-360	200	H
2	2.546	43.17	PK	32	-34.6	.7	41.27	-	-	74	-32.73	0-360	100	H
3	7.144	29.72	PK	35.8	-28.1	.5	37.92	-	-	74	-36.08	0-360	200	H
4	1.697	52.94	PK	28.6	-36.1	.6	46.04	-	-	74	-27.96	0-360	200	V
5	2.546	52.69	PK	32	-34.6	.7	50.79	-	-	74	-23.21	0-360	200	V
6	6.38	31.68	PK	35.3	-29.8	.5	37.68	-	-	74	-36.32	0-360	100	V

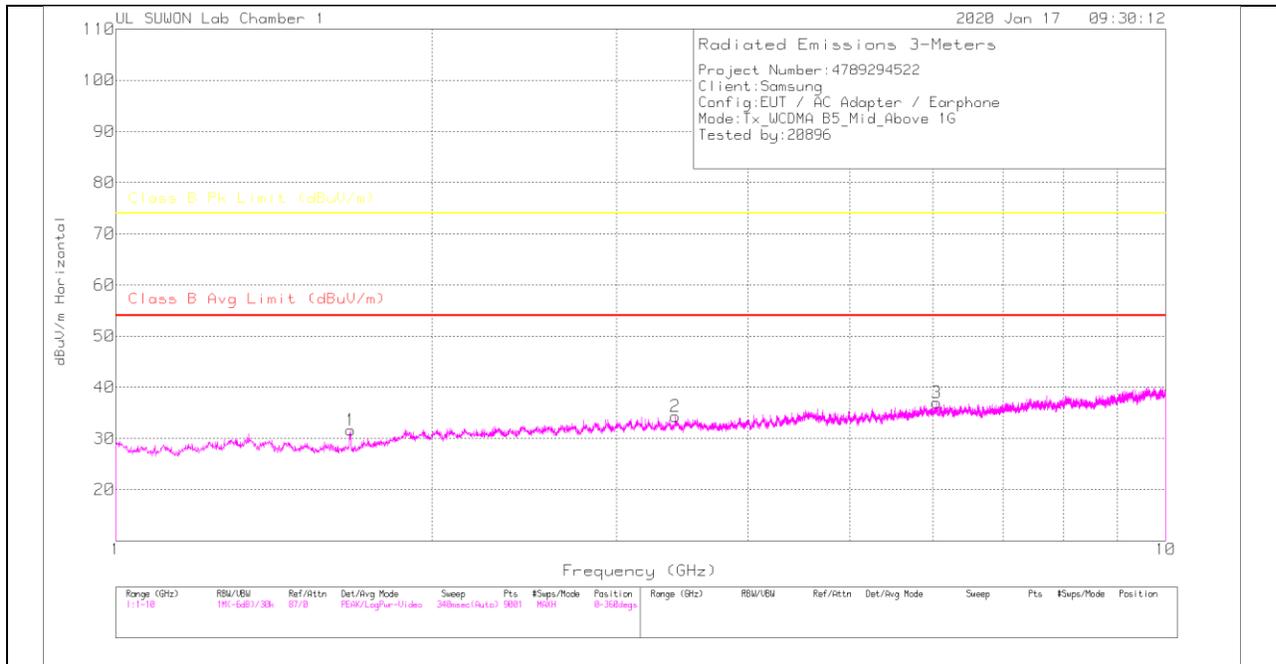
PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

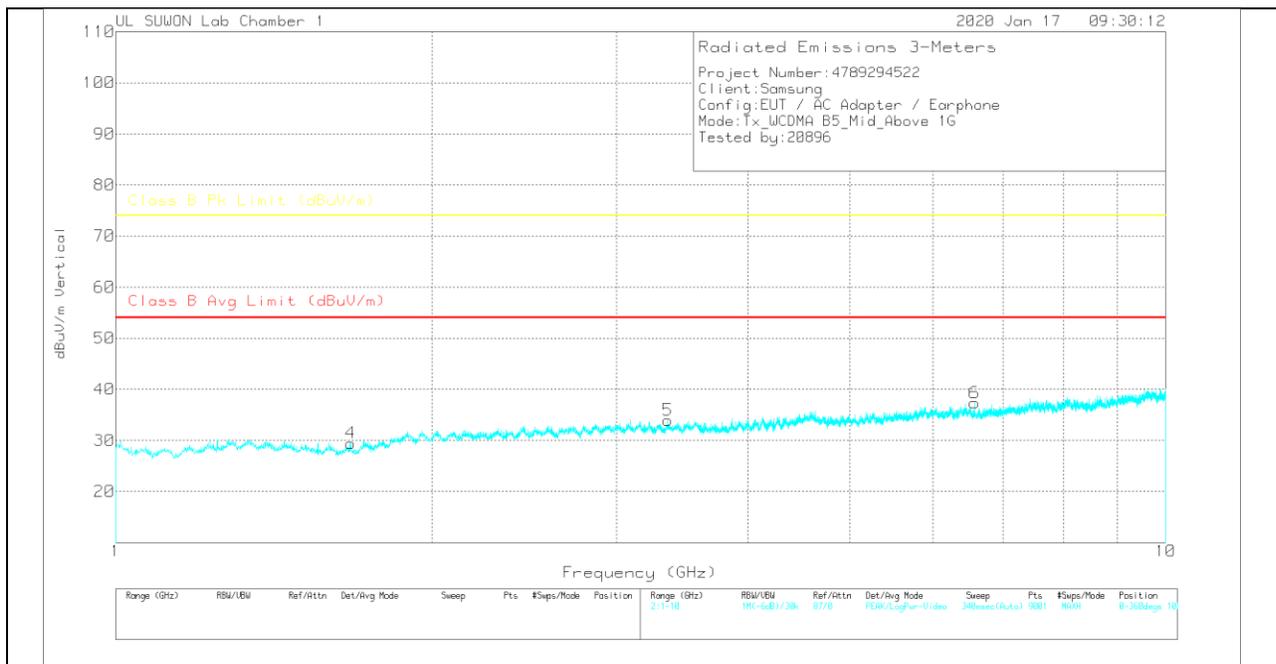
7.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.674	38.93	PK	28.4	-36.2	.5	31.63	-	-	74	-42.37	0-360	100	H
2	3.413	34.21	PK	32.7	-33.3	.7	34.31	-	-	74	-39.69	0-360	100	H
3	6.051	31.8	PK	35.2	-30.5	.5	37	-	-	74	-37	0-360	100	H
4	1.675	36.68	PK	28.4	-36.1	.5	29.48	-	-	74	-44.52	0-360	100	V
5	3.356	34.25	PK	32.6	-33.4	.5	33.95	-	-	74	-40.05	0-360	100	V
6	6.577	30.95	PK	35.4	-29.4	.4	37.35	-	-	74	-36.65	0-360	200	V

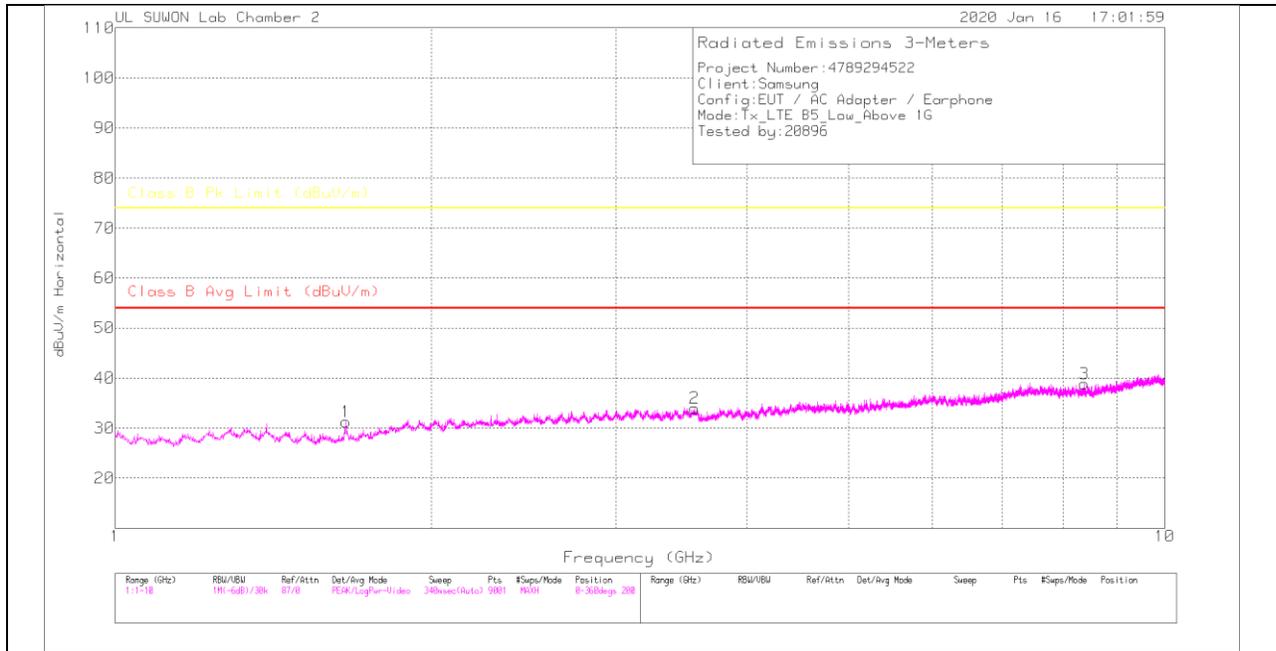
PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

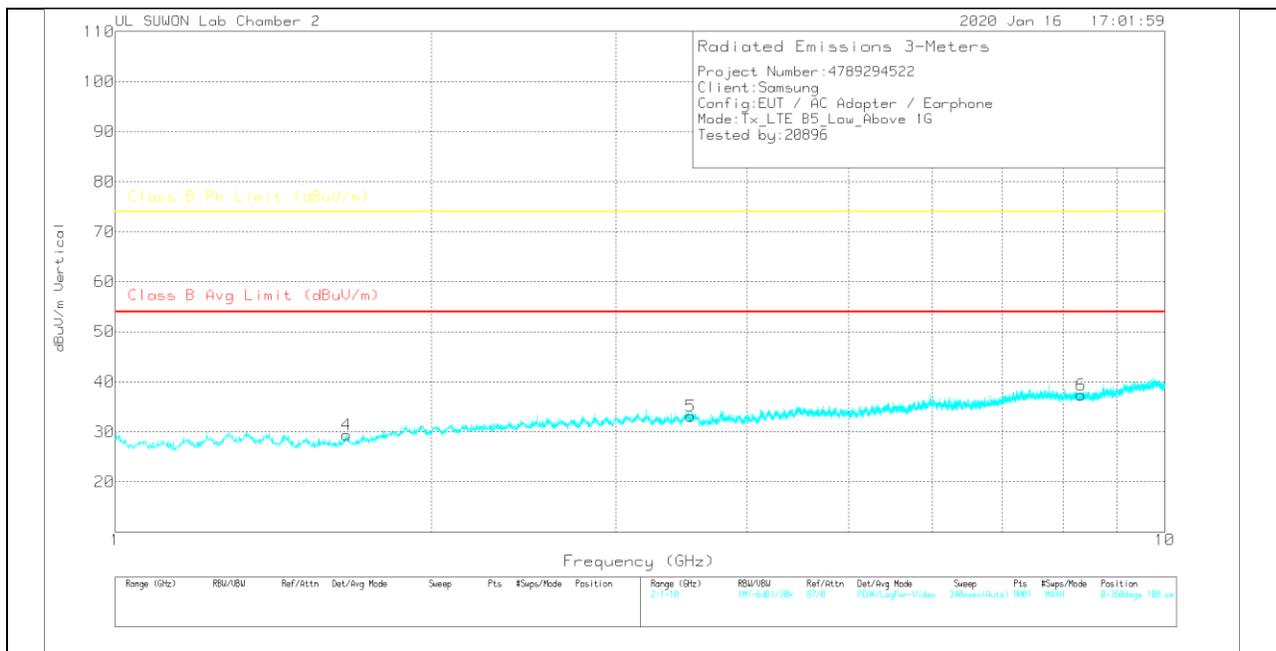
7.3. Above 1 GHz in the LTE Band 5

LOW CHANNEL(870.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

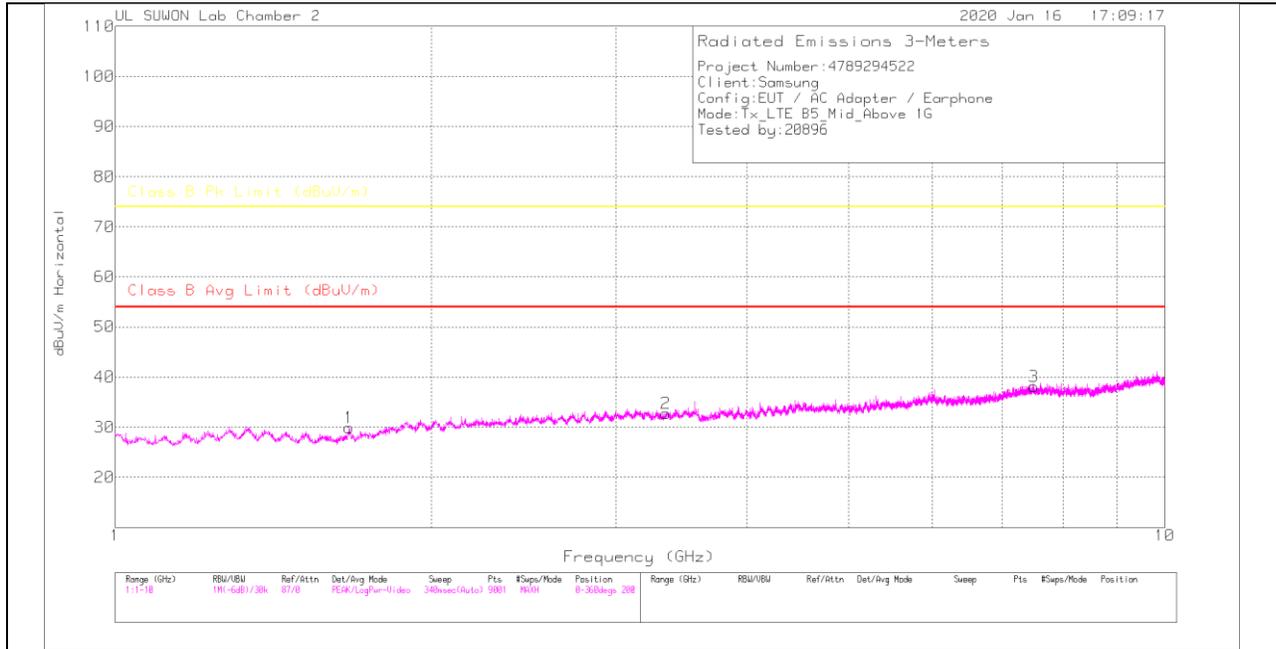
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	1.659	33.59	PK	28.4	-31.4	.7	31.29	-	-	74	-42.71	0-360	100	H
2	3.564	29.75	PK	32.7	-29.1	.6	33.95	-	-	74	-40.05	0-360	200	H
3	8.386	25.99	PK	36	-23.8	.7	38.89	-	-	74	-35.11	0-360	100	H
4	1.662	31.64	PK	28.4	-31.3	.7	29.44	-	-	74	-44.56	0-360	100	V
5	3.533	28.86	PK	32.7	-29	.6	33.16	-	-	74	-40.84	0-360	100	V
6	8.325	25	PK	36	-24.3	.7	37.4	-	-	74	-36.6	0-360	100	V

PK – Peak Detector

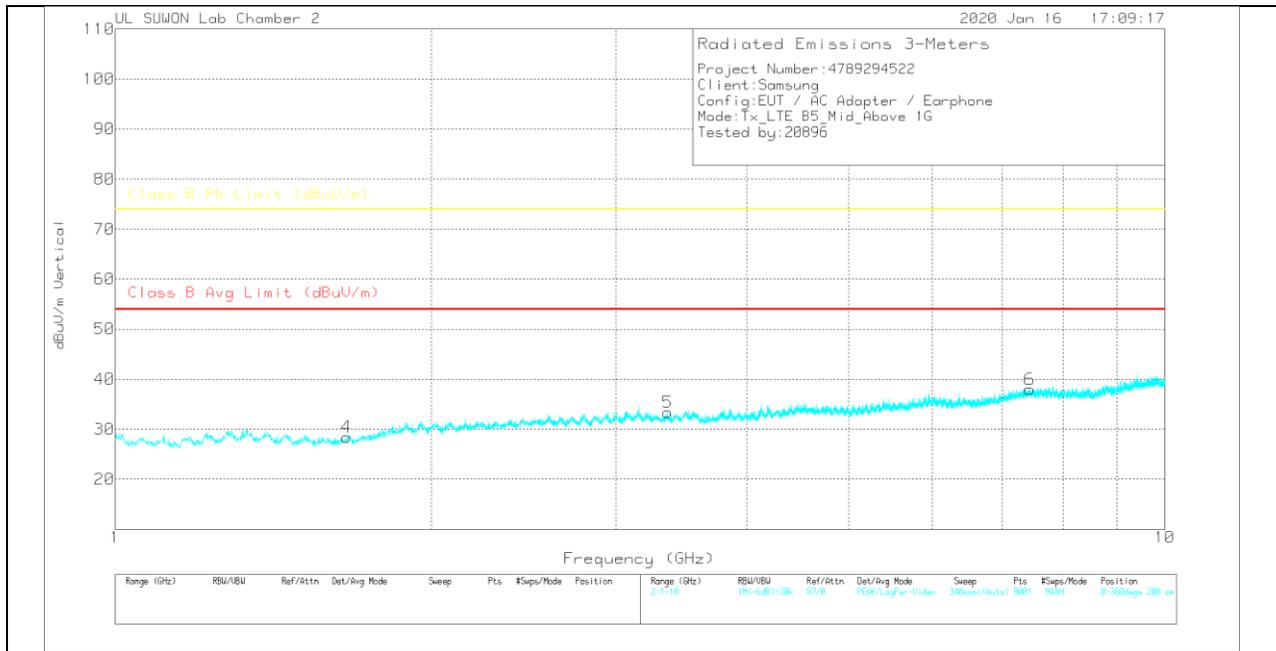
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

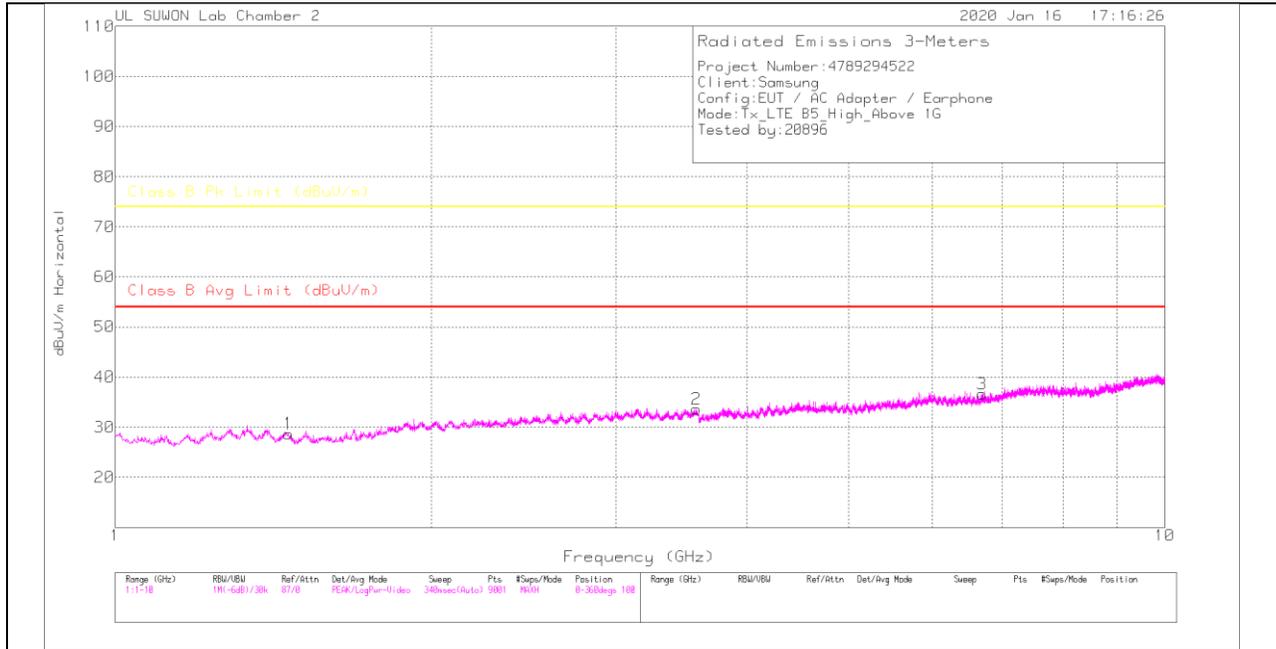
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168724	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.671	31.96	PK	28.5	-31.3	.7	29.86	-	-	74	-44.14	0-360	200	H
2	3.346	29.3	PK	32.6	-29.8	.7	32.8	-	-	74	-41.2	0-360	200	H
3	7.504	26.27	PK	36.1	-24.9	.6	38.07	-	-	74	-35.93	0-360	200	H
4	1.66	30.66	PK	28.4	-31.3	.7	28.46	-	-	74	-45.54	0-360	100	V
5	3.36	29.64	PK	32.6	-29.6	.7	33.34	-	-	74	-40.66	0-360	100	V
6	7.436	26.05	PK	36.2	-24.9	.6	37.95	-	-	74	-36.05	0-360	100	V

PK – Peak Detector

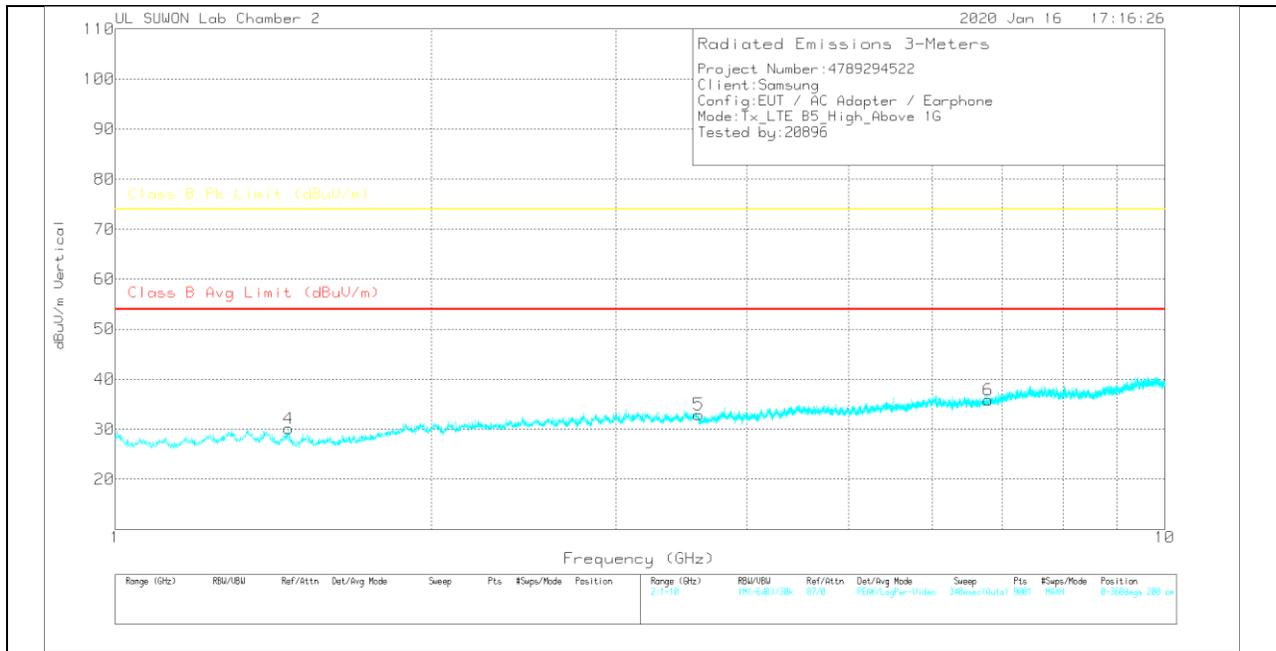
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(892.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	1.463	30.71	PK	28.9	-31.6	.7	28.71	-	-	74	-45.29	0-360	100	H
2	3.578	29.6	PK	32.7	-29.3	.6	33.6	-	-	74	-40.4	0-360	200	H
3	6.7	26.93	PK	35.4	-26.2	.5	36.63	-	-	74	-37.37	0-360	100	H
4	1.463	32.15	PK	28.9	-31.6	.7	30.15	-	-	74	-43.85	0-360	100	V
5	3.596	29.05	PK	32.7	-29.4	.6	32.95	-	-	74	-41.05	0-360	200	V
6	6.79	25.6	PK	35.5	-25.7	.5	35.9	-	-	74	-38.1	0-360	200	V

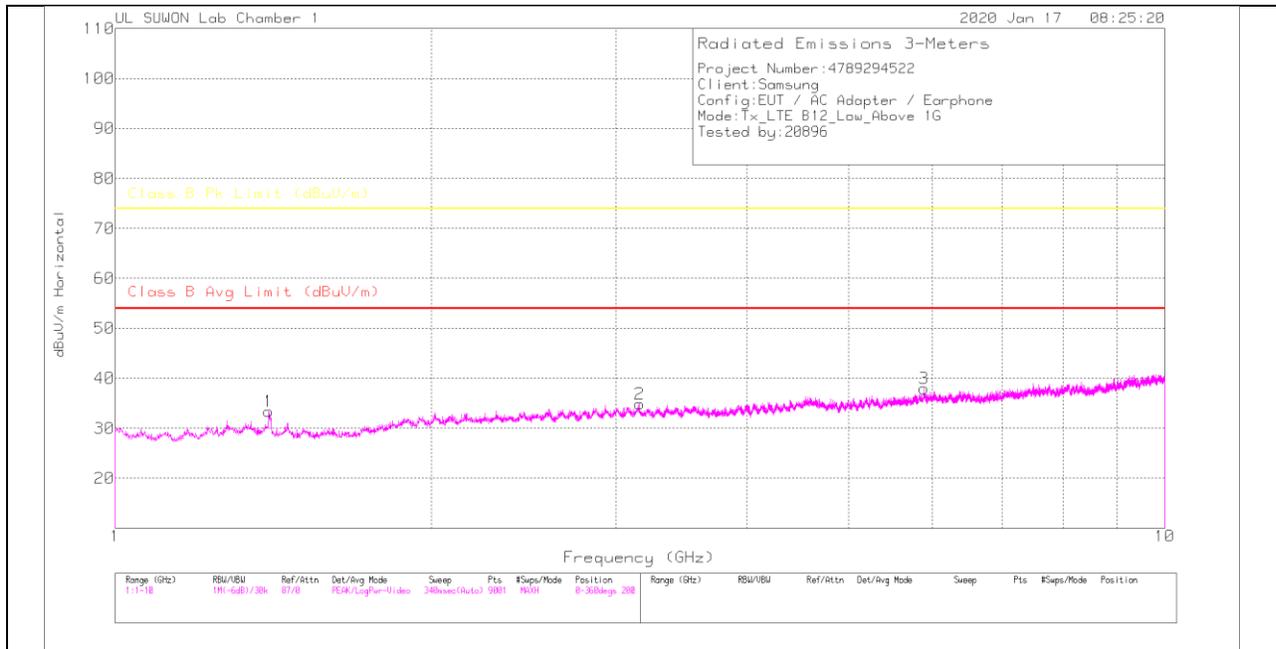
PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

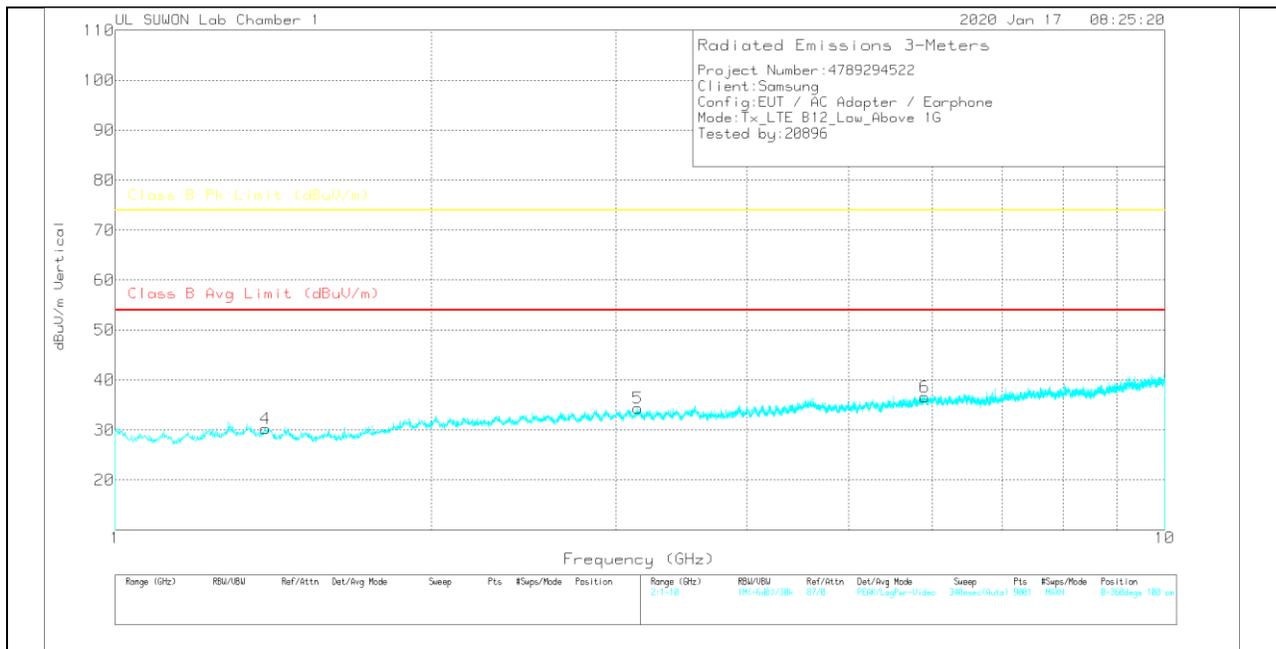
7.4. Above 1 GHz in the LTE Band 12

LOW CHANNEL(870.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

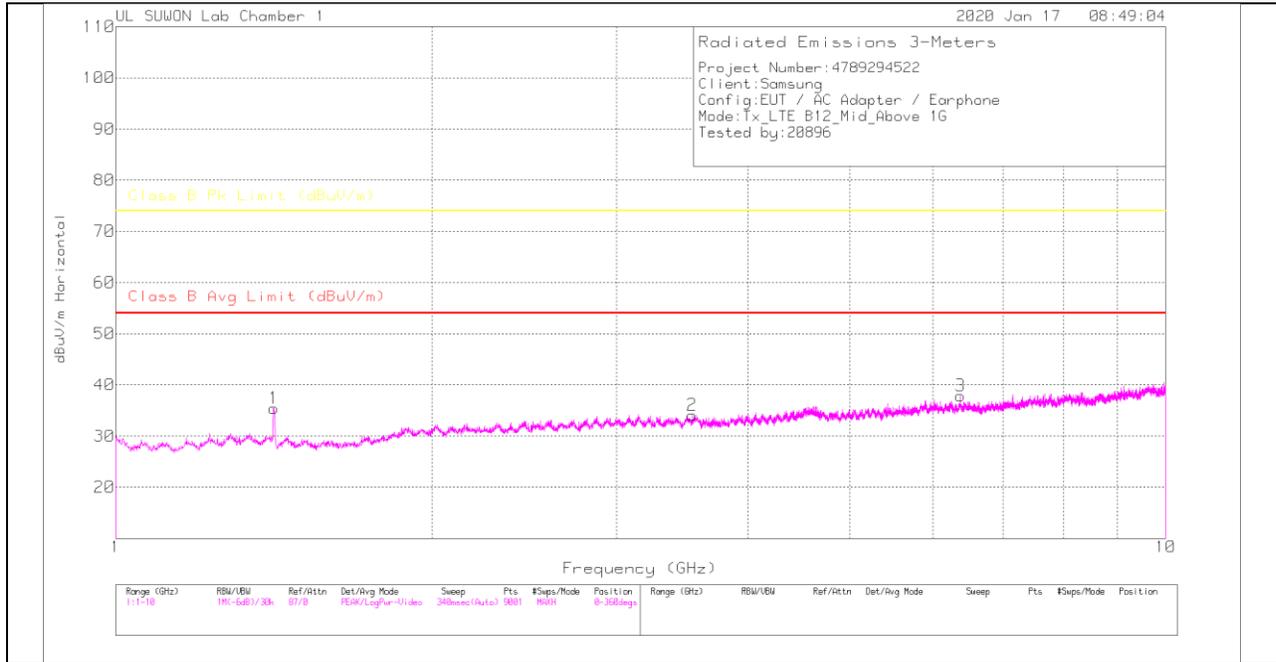
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-18GHz[dB]	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.25	38.8	PK	29.2	-37	.7	31.7	-	-	74	-42.3	0-360	200	H
2	3.066	35.28	PK	32.6	-33.6	.6	34.88	-	-	74	-39.12	0-360	100	H
3	7.621	30.38	PK	35.8	-27.5	.3	38.98	-	-	74	-35.02	0-360	200	H
4	1.25	40.13	PK	29.2	-37	.7	33.03	-	-	74	-40.97	0-360	200	V
5	2.937	35.26	PK	32.4	-34	.6	34.26	-	-	74	-39.74	0-360	200	V
6	7.692	29.89	PK	35.9	-27.2	.5	39.09	-	-	74	-34.91	0-360	200	V

PK – Peak Detector

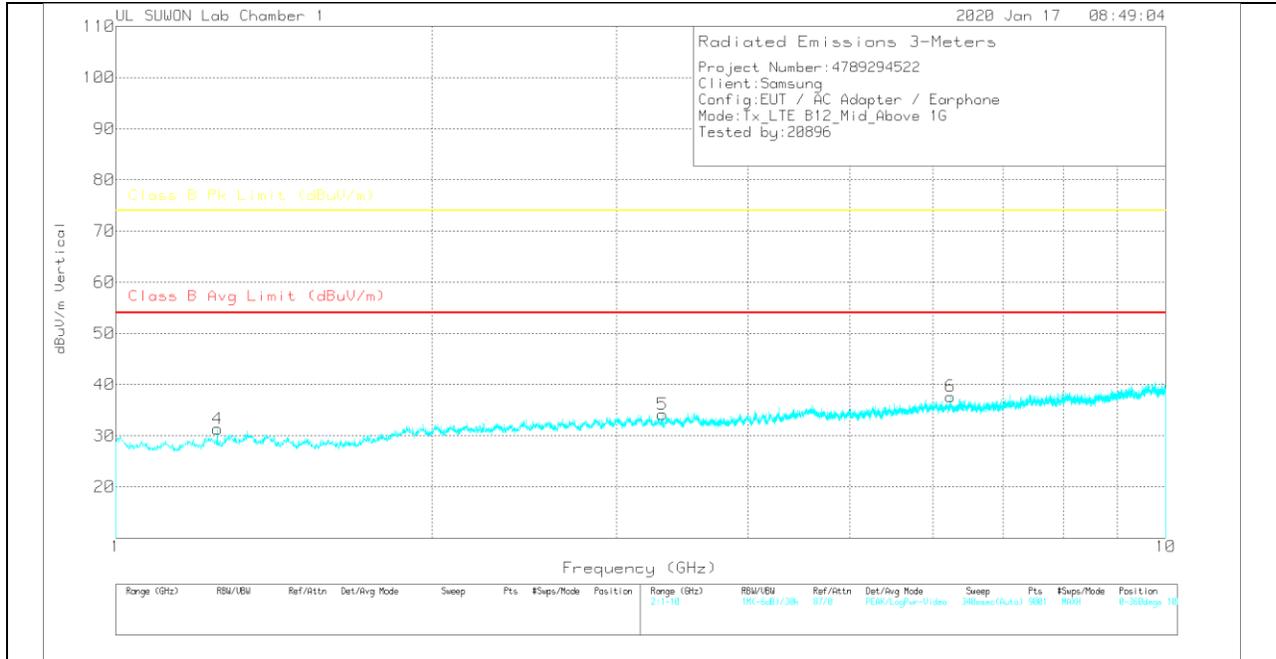
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

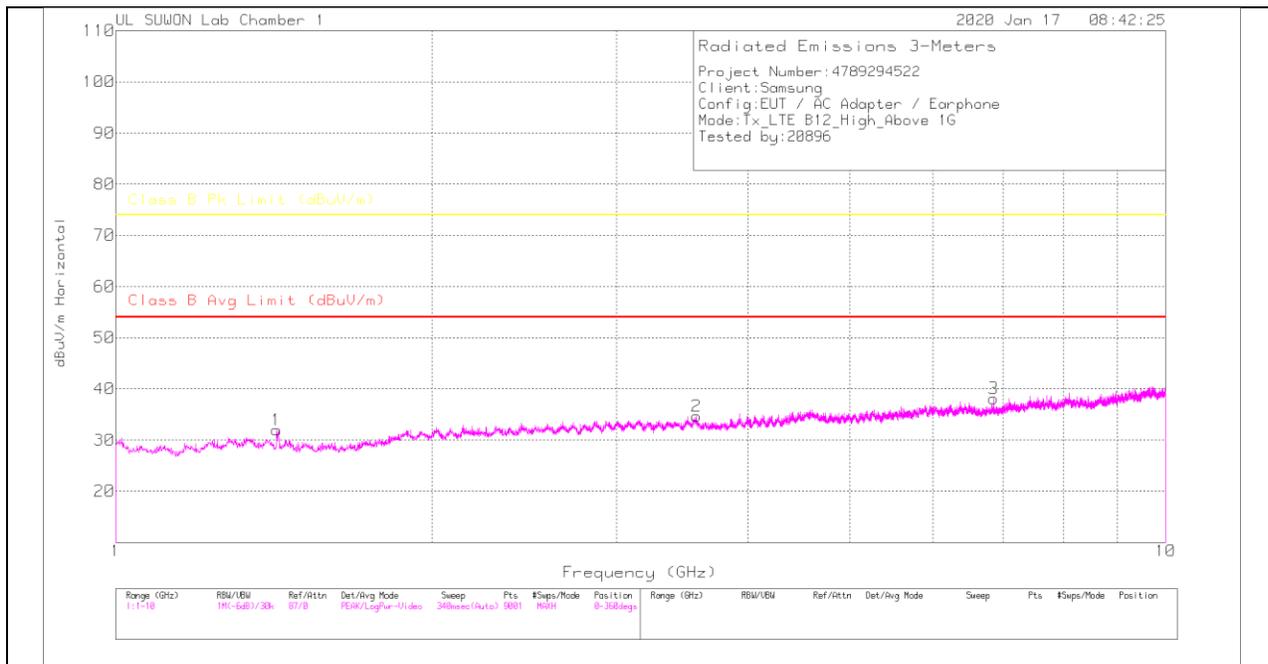
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.414	42.25	PK	29.2	-36.6	.6	35.45	-	-	74	-38.55	0-360	100	H
2	3.541	33.71	PK	33	-33.2	.6	34.11	-	-	74	-39.89	0-360	200	H
3	6.378	31.87	PK	35.3	-29.8	.5	37.87	-	-	74	-36.13	0-360	100	H
4	1.25	38.43	PK	29.2	-37	.7	31.33	-	-	74	-42.67	0-360	100	V
5	3.317	34.57	PK	32.6	-33.5	.5	34.17	-	-	74	-39.83	0-360	200	V
6	6.24	31.77	PK	35.3	-29.9	.5	37.67	-	-	74	-36.33	0-360	100	V

PK – Peak Detector

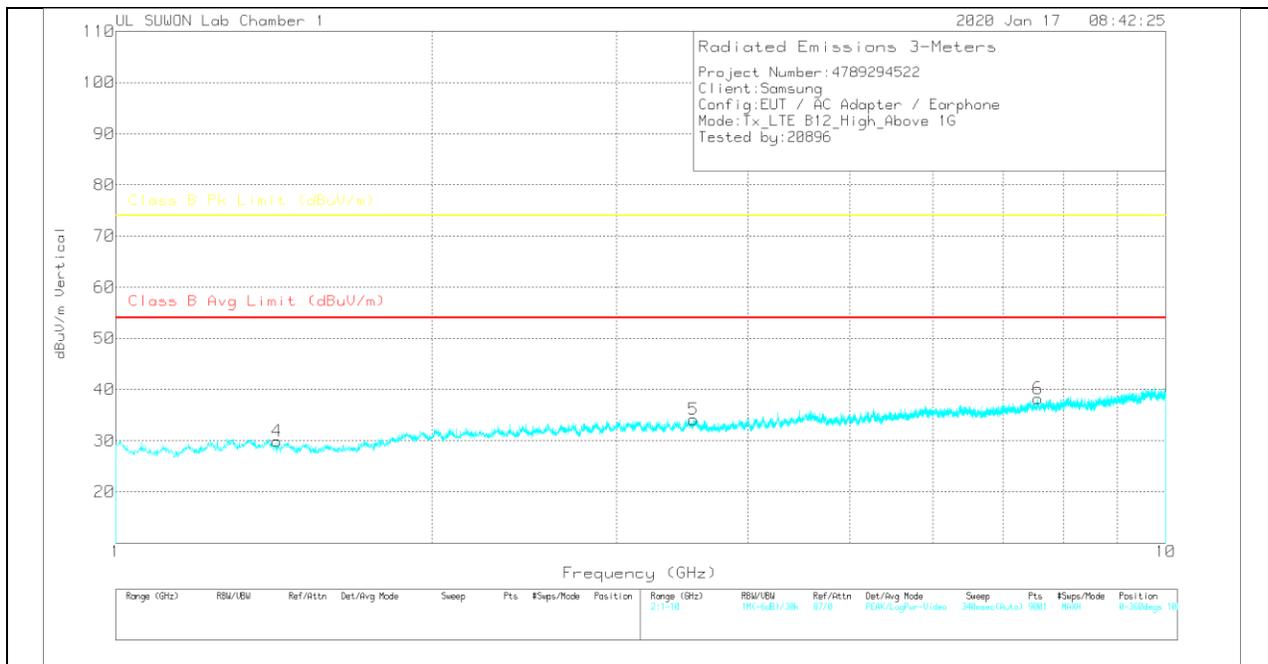
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(892.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading (dBu/m)	Class B Avg Limit (dBu/m)	AvCISPR(Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.423	38.76	PK	29.2	-36.6	.6	31.96	-	-	74	-42.04	0-360	100	H
2	3.574	34.27	PK	33.1	-33.2	.5	34.67	-	-	74	-39.33	0-360	100	H
3	6.854	30.81	PK	35.6	-28.7	.4	38.11	-	-	74	-35.89	0-360	200	H
4	1.424	36.73	PK	29.2	-36.6	.6	29.93	-	-	74	-44.07	0-360	200	V
5	3.549	33.74	PK	33	-33.2	.6	34.14	-	-	74	-39.86	0-360	200	V
6	7.559	29.33	PK	35.8	-27.6	.7	38.23	-	-	74	-35.77	0-360	100	V

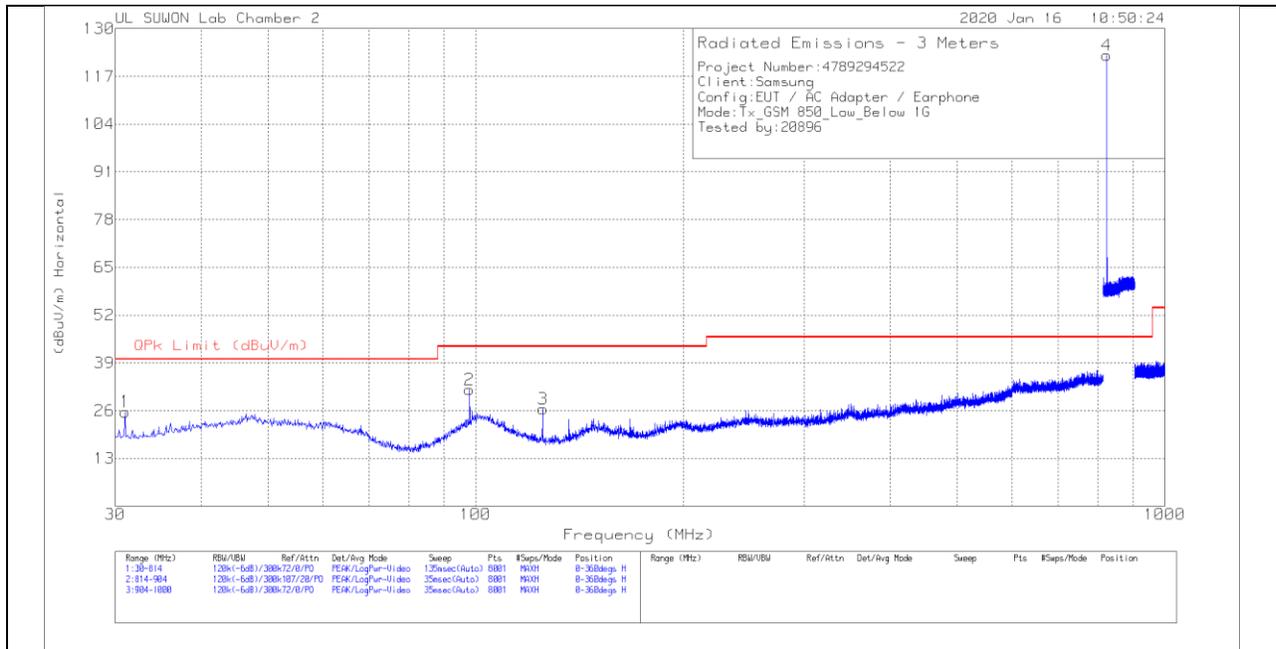
PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

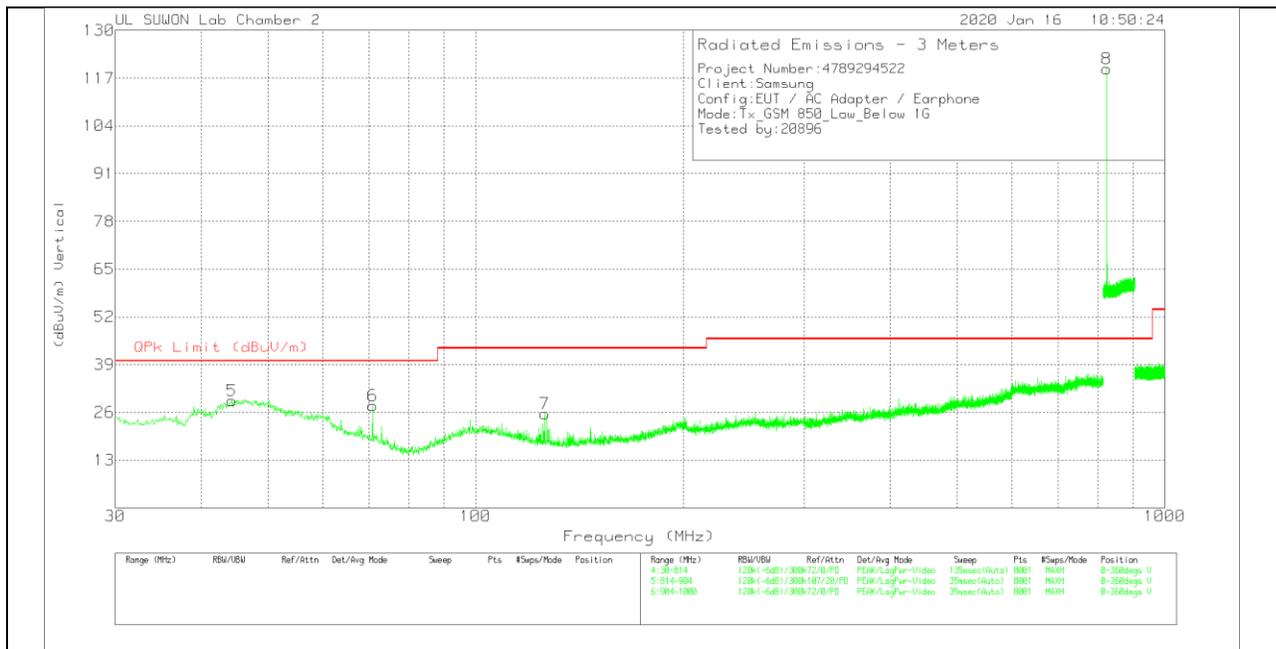
7.5. Below 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

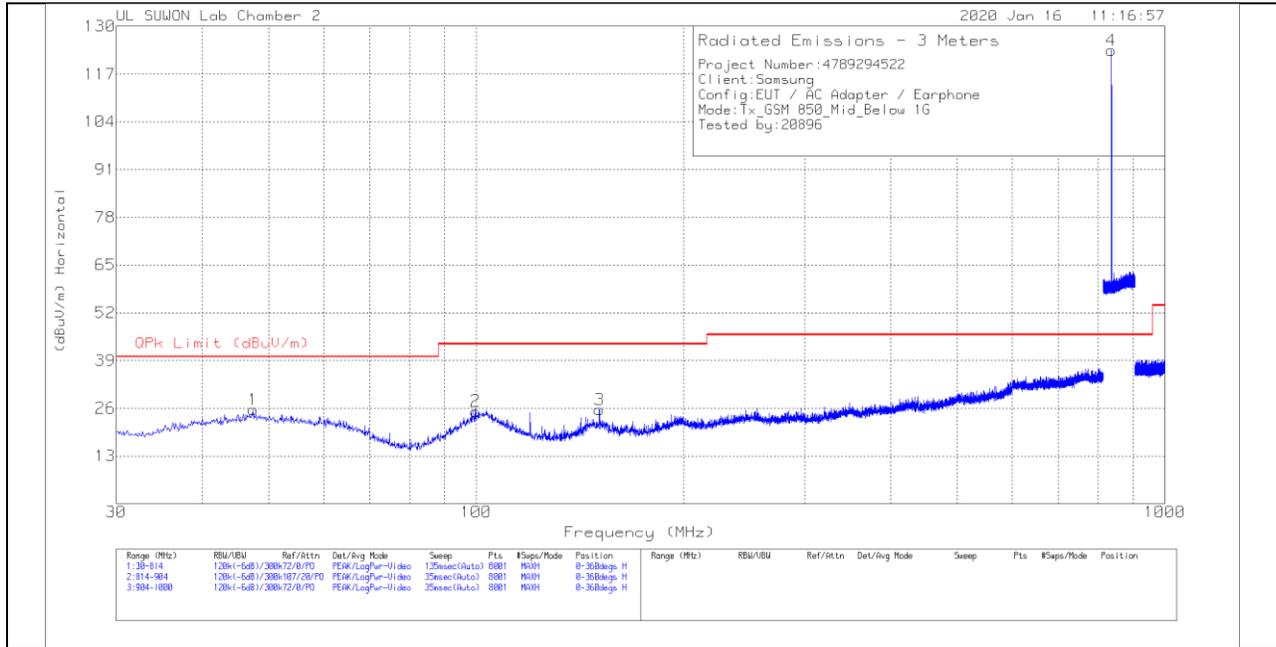
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.98	9.54	Pk	15.6	.6	25.74	40	-14.26	0-360	200	H
2	98.012	13.04	Pk	17.6	1.1	31.74	43.52	-11.78	0-360	300	H
3	125.256	10.48	Pk	14.7	1.3	26.48	43.52	-17.04	0-360	300	H
4	824.1475	92.63	Pk	26.9	3.2	122.73	46.02	76.71	0-360	100	H
5	44.308	8.66	Pk	19.7	.8	29.16	40	-10.84	0-360	100	V
6	70.866	11.84	Pk	15.1	.9	27.84	40	-12.16	0-360	200	V
7	126.04	9.8	Pk	14.6	1.3	25.7	43.52	-17.82	0-360	200	V
8	824.2263	89.39	Pk	26.9	3.2	119.49	46.02	73.47	0-360	100	V

Pk - Peak detector

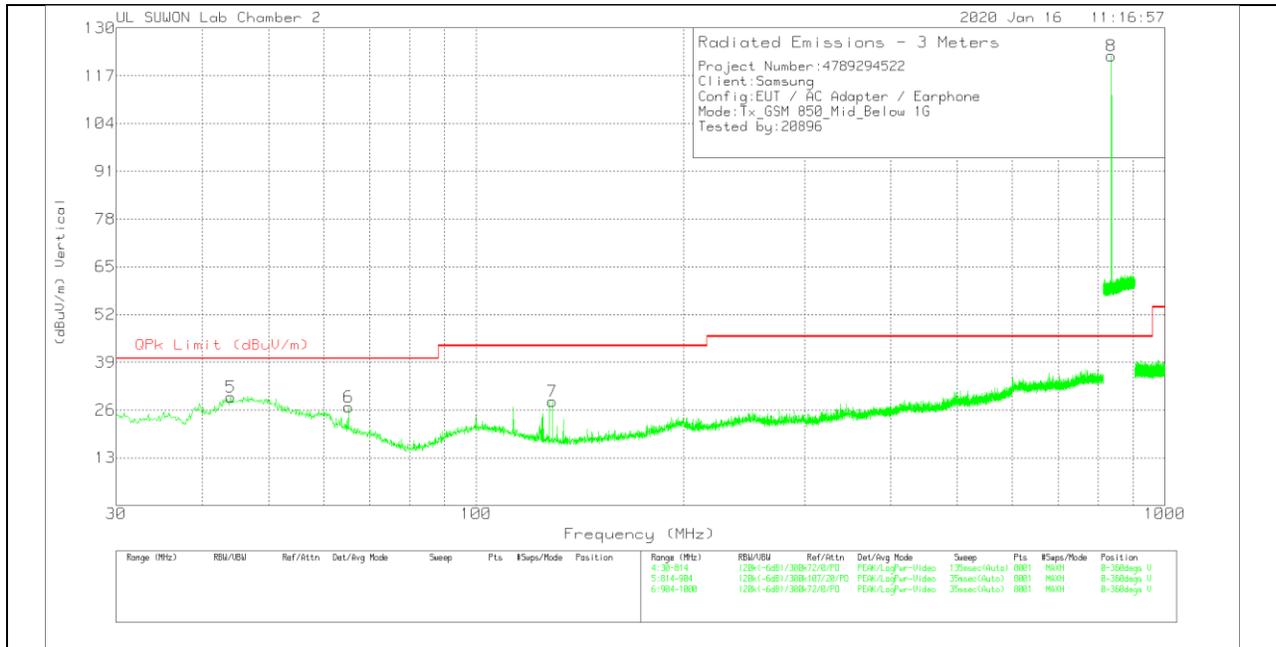
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

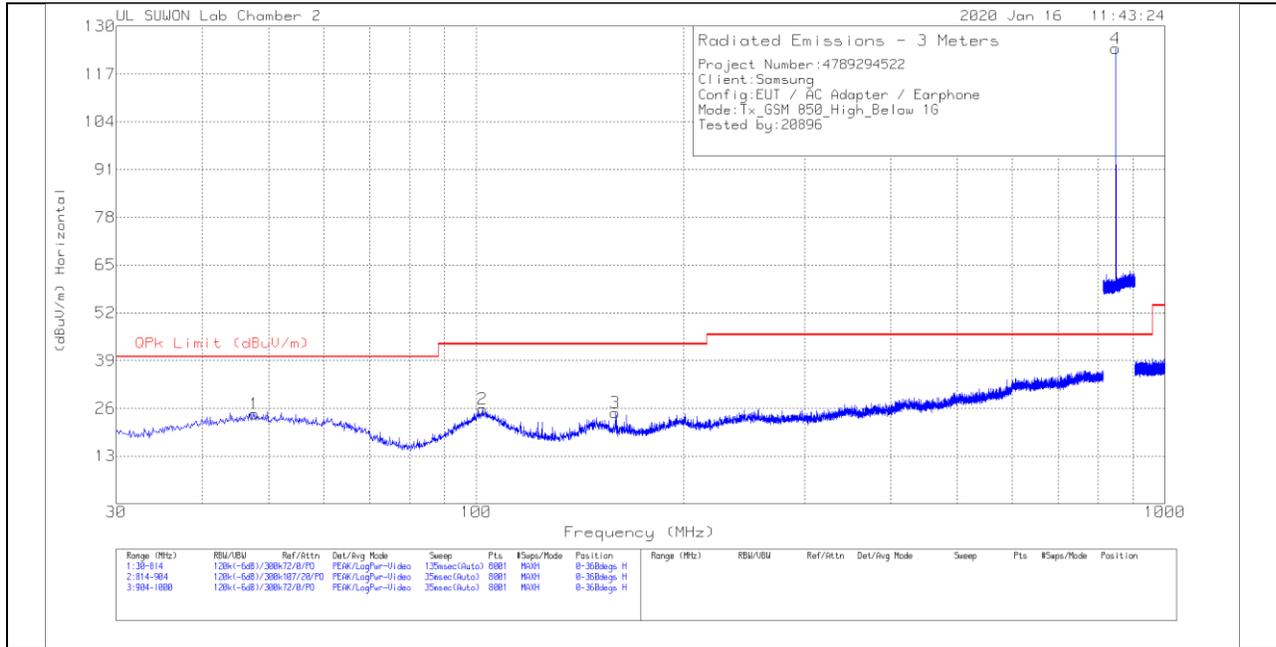
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.444	5.01	Pk	19.8	.8	25.61	40	-14.39	0-360	300	H
2	99.874	6.43	Pk	17.7	1.1	25.23	43.52	-18.29	0-360	300	H
3	150.932	10.23	Pk	14.1	1.4	25.73	43.52	-17.79	0-360	200	H
4	836.5563	93.03	Pk	27.1	3.3	123.43	46.02	77.41	0-360	100	H
5	44.014	9.11	Pk	19.7	.7	29.51	40	-10.49	0-360	100	V
6	65.182	8.82	Pk	17.1	.9	26.82	40	-13.18	0-360	200	V
7	128.98	12.63	Pk	14.4	1.3	28.33	43.52	-15.19	0-360	200	V
8	836.6013	92.09	Pk	27.1	3.3	122.49	46.02	76.47	0-360	200	V

Pk - Peak detector

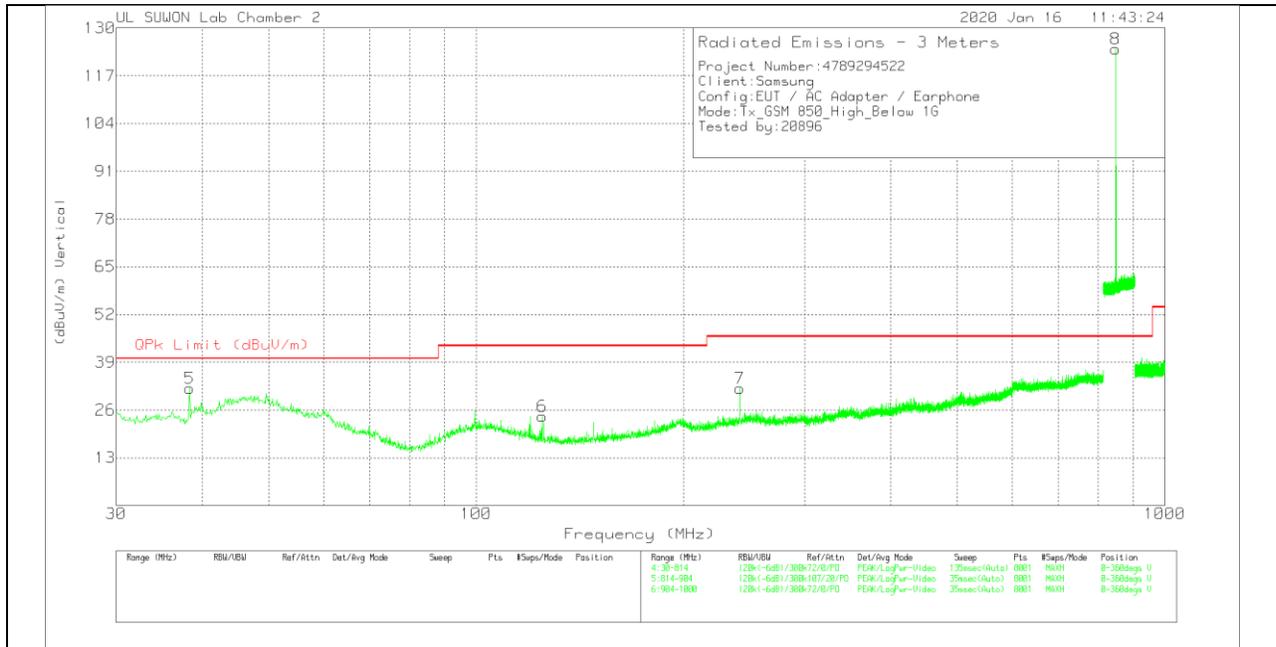
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.64	3.82	Pk	19.8	.8	24.42	40	-15.58	0-360	300	H
2	102.03	6.99	Pk	17.8	1.1	25.89	43.52	-17.63	0-360	300	H
3	159.164	8.9	Pk	14.5	1.4	24.8	43.52	-18.72	0-360	200	H
4	848.8188	93.3	Pk	27.4	3.3	124	46.02	77.98	0-360	100	H
5	38.33	13.13	Pk	18.1	.7	31.93	40	-8.07	0-360	100	V
6	124.668	8.37	Pk	14.7	1.3	24.37	43.52	-19.15	0-360	100	V
7	241.582	11.62	Pk	18.6	1.7	31.92	46.02	-14.1	0-360	200	V
8	848.875	93.54	Pk	27.4	3.3	124.24	46.02	78.22	0-360	200	V

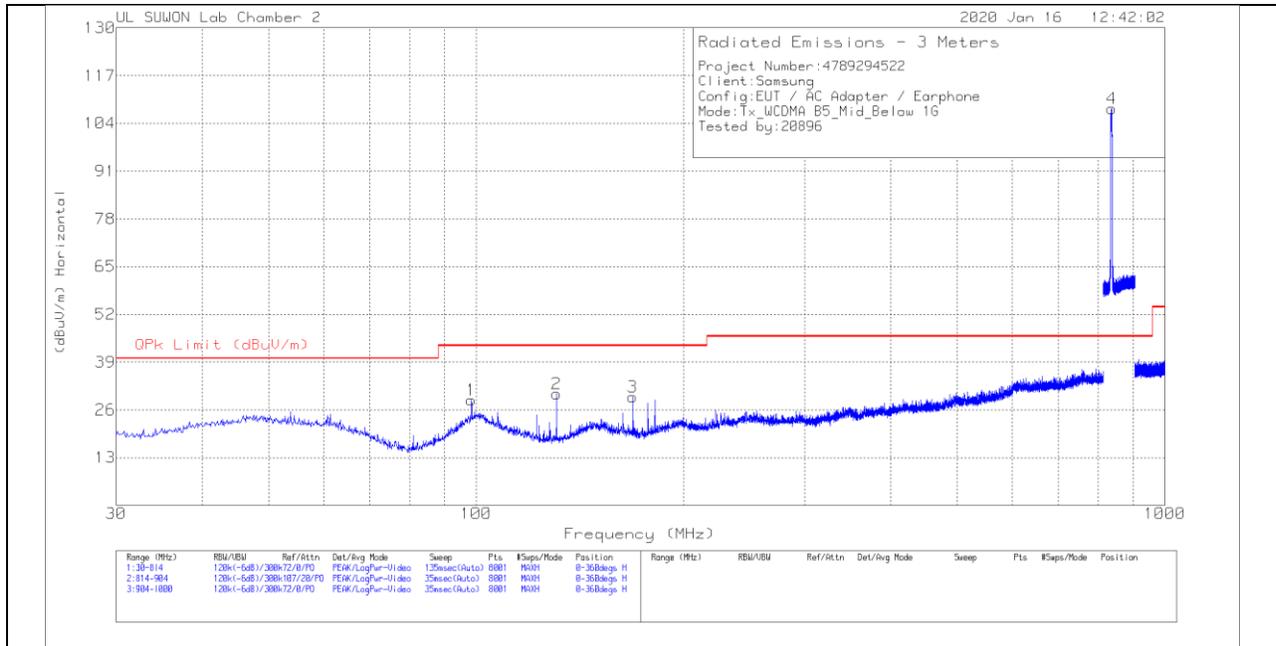
Pk - Peak detector

Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

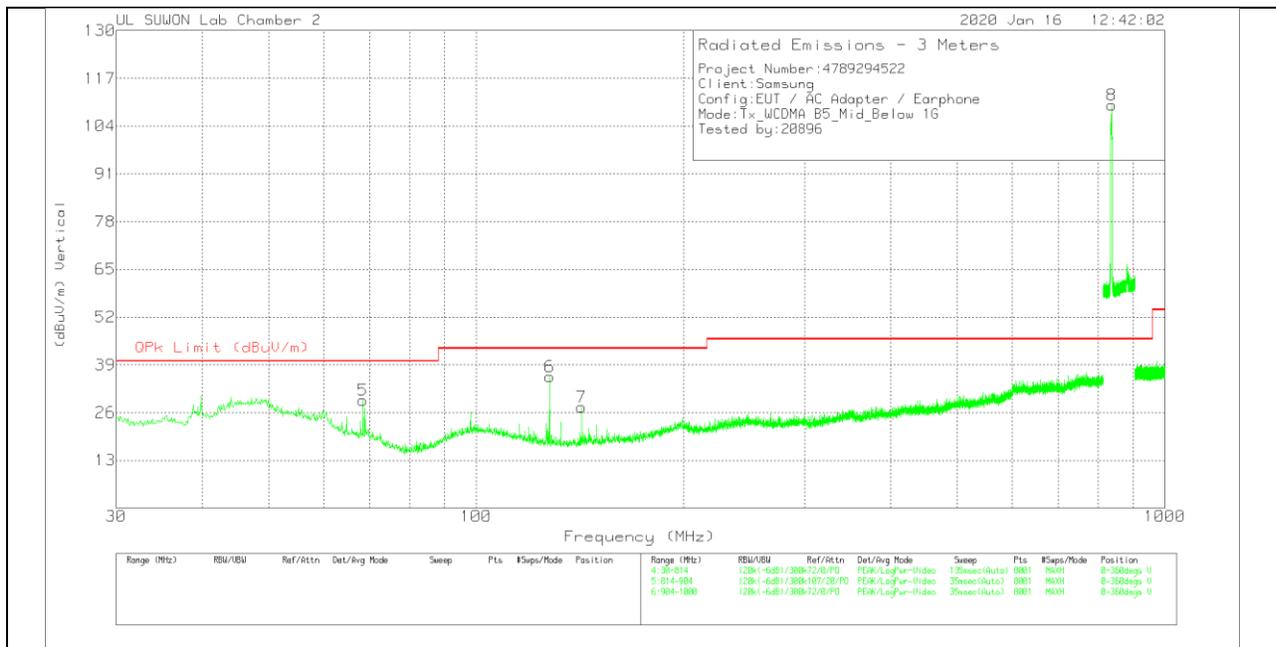
7.6. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	98.404	10.06	Pk	17.6	1.1	28.76	43.52	-14.76	0-360	300	H
2	130.842	14.85	Pk	14.2	1.3	30.35	43.52	-13.17	0-360	100	H
3	168.768	13.12	Pk	14.9	1.5	29.52	43.52	-14	0-360	300	H
4	837.265	77.57	Pk	27.1	3.3	107.97	46.02	61.95	0-360	100	H
5	68.514	12.34	Pk	16.1	.9	29.34	40	-10.66	0-360	200	V
6	127.804	19.98	Pk	14.5	1.3	35.78	43.52	-7.74	0-360	100	V
7	142.21	12.08	Pk	14.1	1.3	27.48	43.52	-16.04	0-360	200	V
8	837.2088	79.27	Pk	27.1	3.3	109.67	46.02	63.65	0-360	200	V

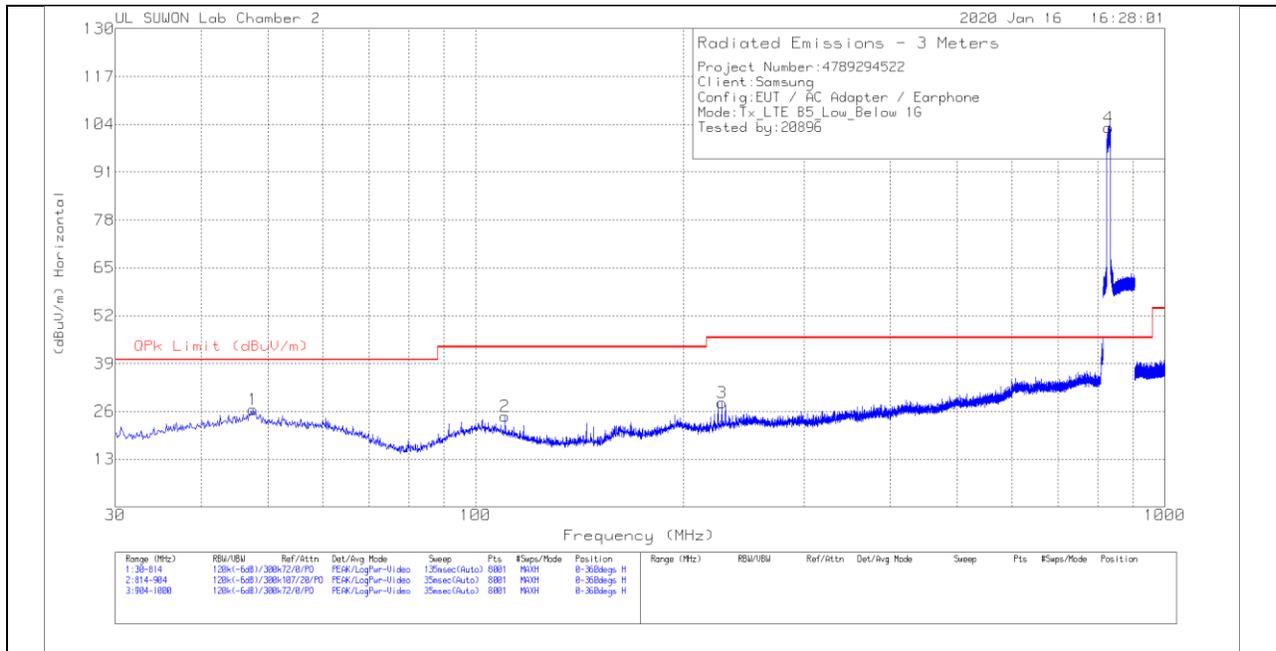
Pk - Peak detector

Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

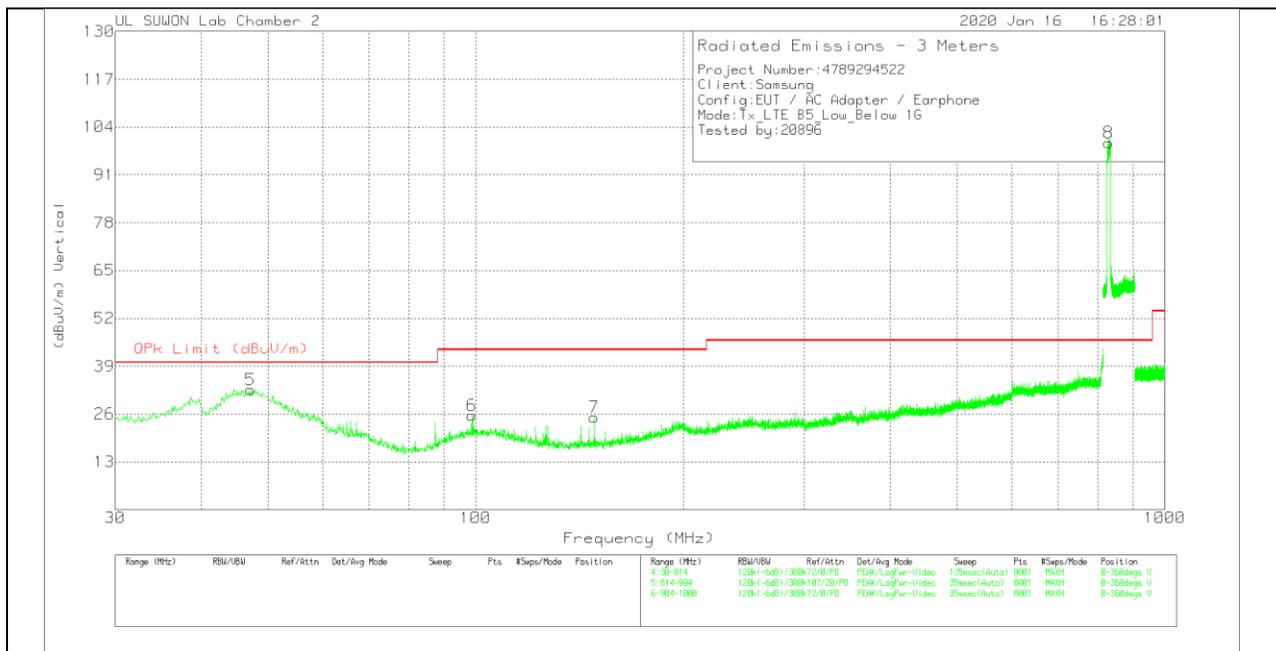
7.7. Below 1 GHz in the LTE Band 5

LOW CHANNEL(871.4MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

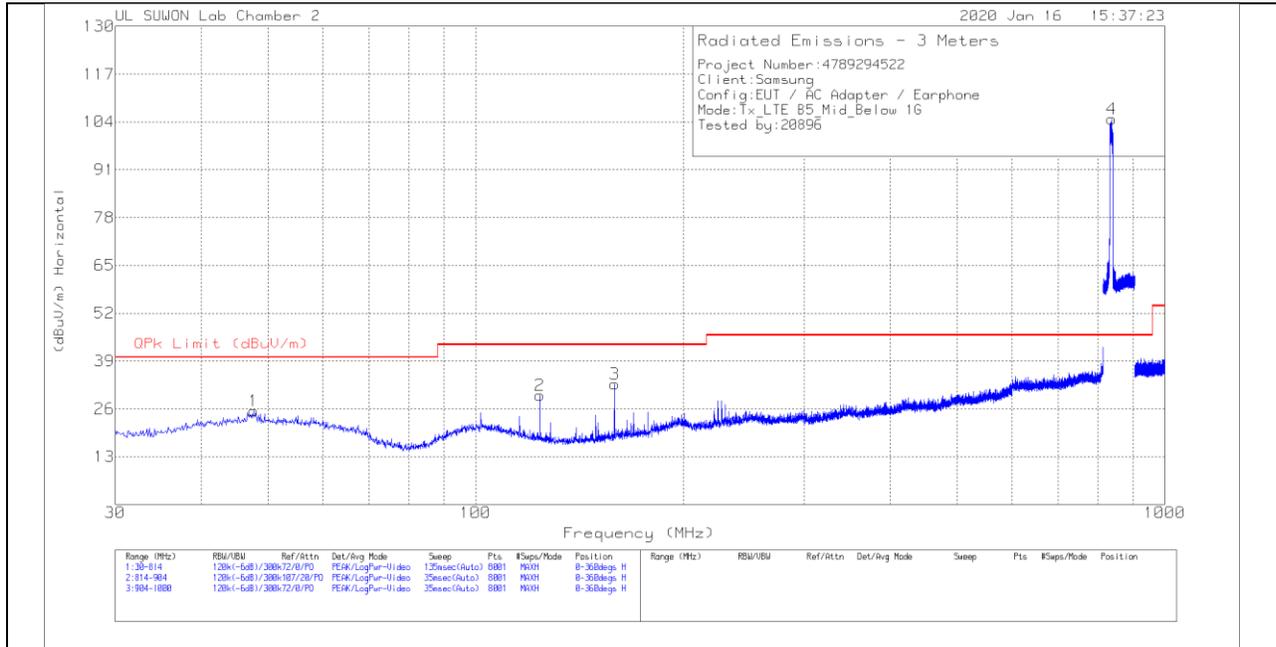
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.542	5.94	Pk	19.8	.8	26.54	40	-13.46	0-360	100	H
2	110.36	6.48	Pk	17	1.2	24.68	43.52	-18.84	0-360	200	H
3	227.666	8.52	Pk	18.2	1.7	28.42	46.02	-17.6	0-360	100	H
4	828.2988	72.9	Pk	27	3.2	103.1	46.02	57.08	0-360	100	H
5	47.15	12	Pk	19.8	.8	32.6	40	-7.4	0-360	100	V
6	98.698	6.9	Pk	17.7	1.1	25.7	43.52	-17.82	0-360	100	V
7	148.58	9.7	Pk	14	1.4	25.1	43.52	-18.42	0-360	100	V
8	829.2663	69.49	Pk	27.1	3.2	99.79	46.02	53.77	0-360	200	V

Pk - Peak detector

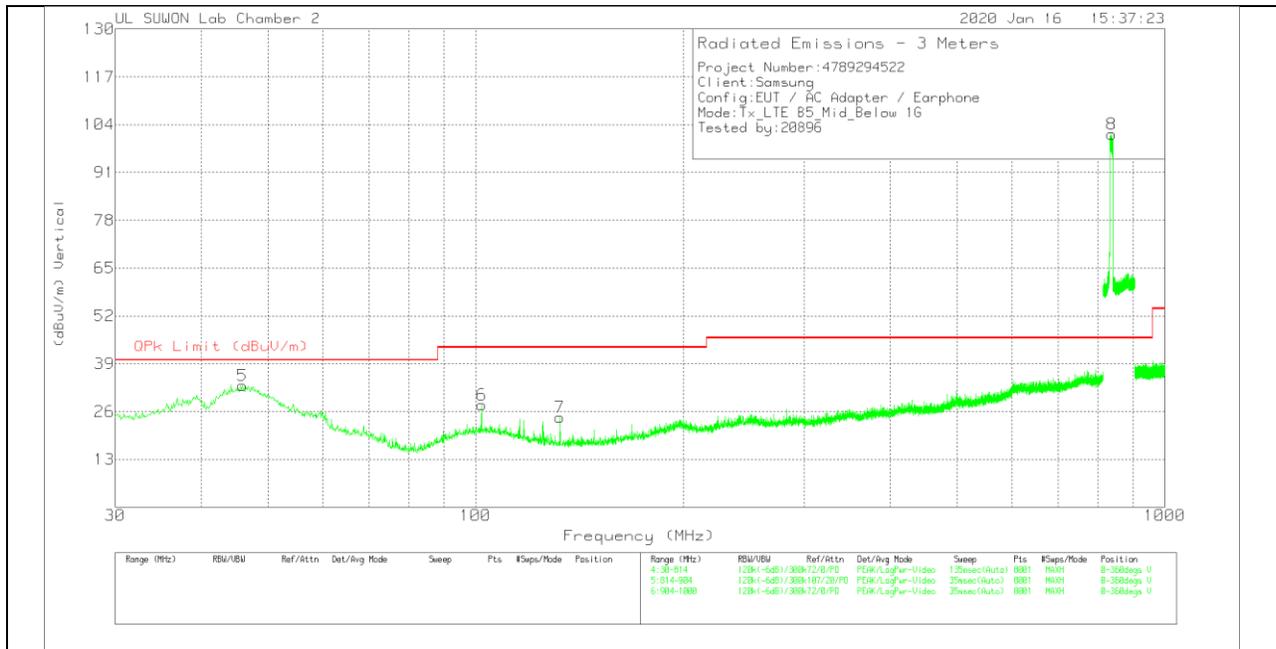
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

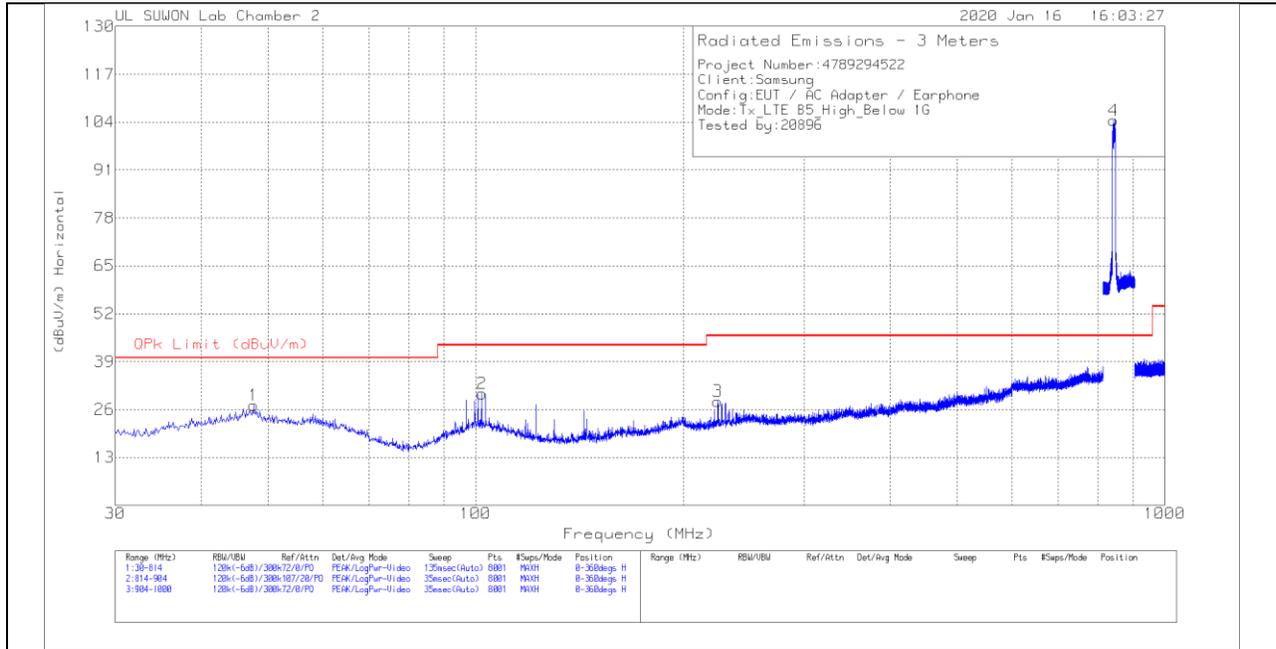
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.64	4.82	Pk	19.8	.8	25.42	40	-14.58	0-360	100	H
2	123.982	13.68	Pk	14.7	1.3	29.68	43.52	-13.84	0-360	300	H
3	159.066	16.84	Pk	14.5	1.4	32.74	43.52	-10.78	0-360	200	H
4	837.3775	74.38	Pk	27.1	3.3	104.78	46.02	58.76	0-360	100	H
5	45.876	12.6	Pk	19.7	.8	33.1	40	-6.9	0-360	100	V
6	102.03	8.91	Pk	17.8	1.1	27.81	43.52	-15.71	0-360	300	V
7	132.606	9.11	Pk	14.1	1.3	24.51	43.52	-19.01	0-360	200	V
8	837.3775	70.97	Pk	27.1	3.3	101.37	46.02	55.35	0-360	100	V

Pk - Peak detector

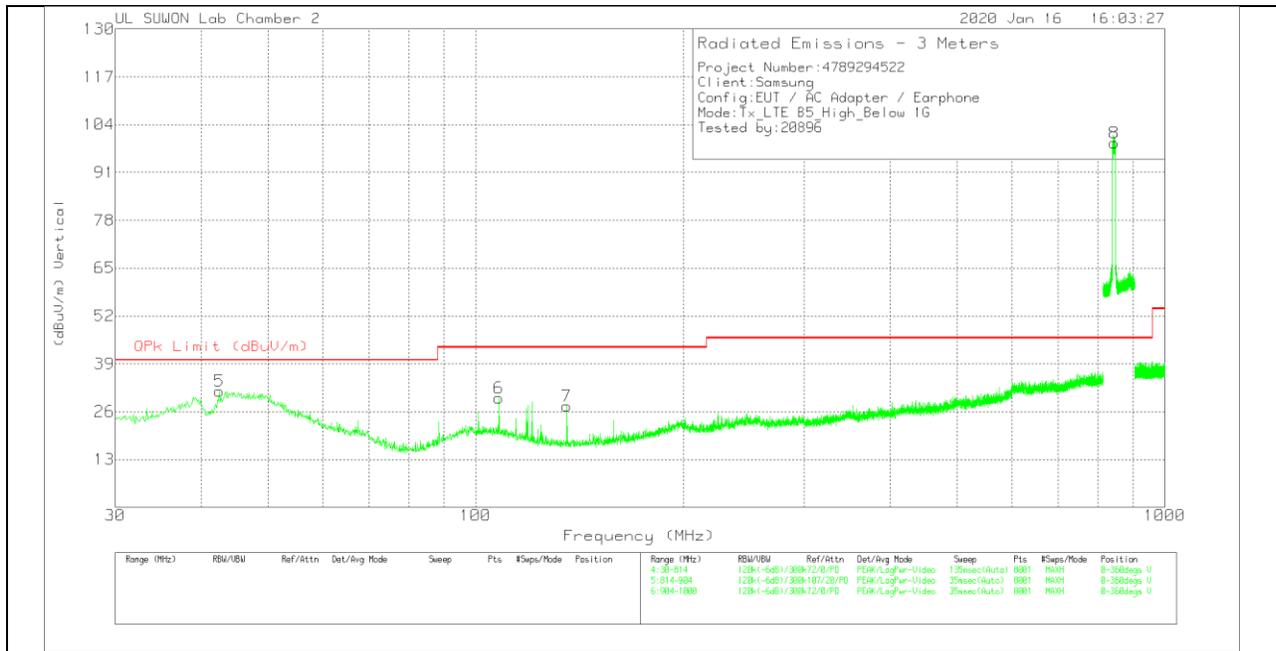
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(891.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.64	6.5	Pk	19.8	.8	27.1	40	-12.9	0-360	400	H
2	102.03	11.42	Pk	17.8	1.1	30.32	43.52	-13.2	0-360	300	H
3	224.628	8.68	Pk	17.9	1.7	28.28	46.02	-17.74	0-360	100	H
4	843.5875	73.99	Pk	27.2	3.3	104.49	46.02	58.47	0-360	100	H
5	42.446	11.52	Pk	19.3	.7	31.52	40	-8.48	0-360	100	V
6	108.106	11.13	Pk	17.4	1.2	29.73	43.52	-13.79	0-360	200	V
7	135.644	12.15	Pk	14.1	1.3	27.55	43.52	-15.97	0-360	100	V
8	843.9925	68.55	Pk	27.2	3.3	99.05	46.02	53.03	0-360	200	V

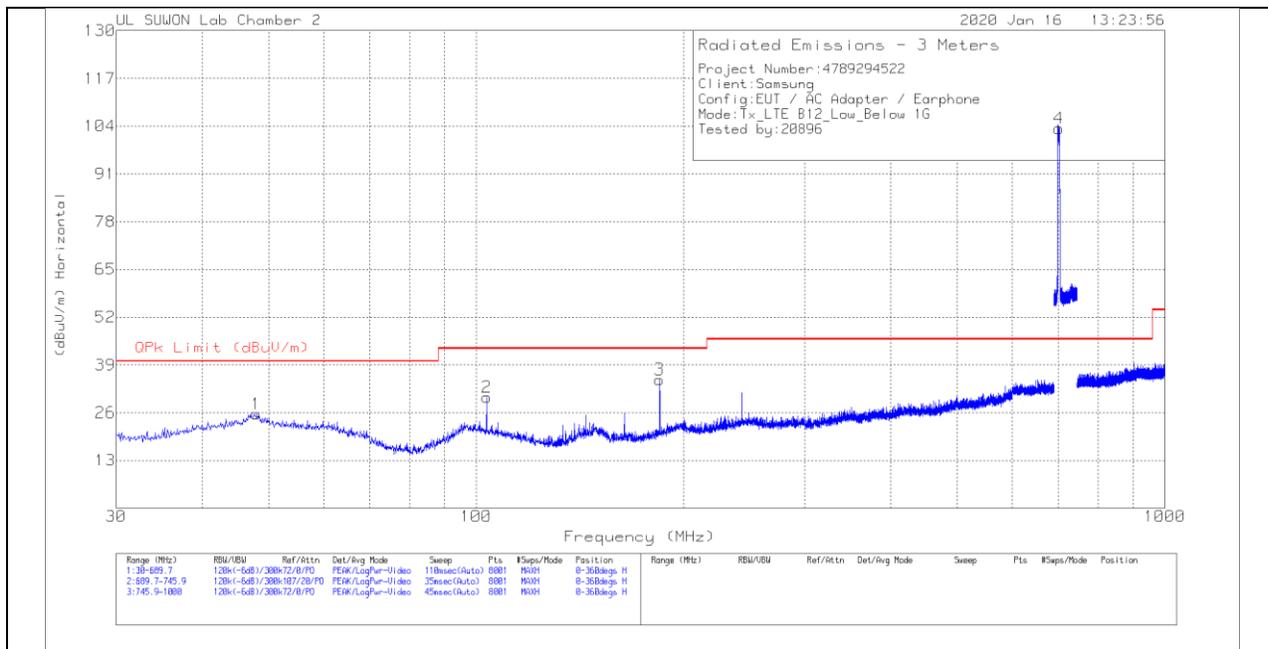
Pk - Peak detector

Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

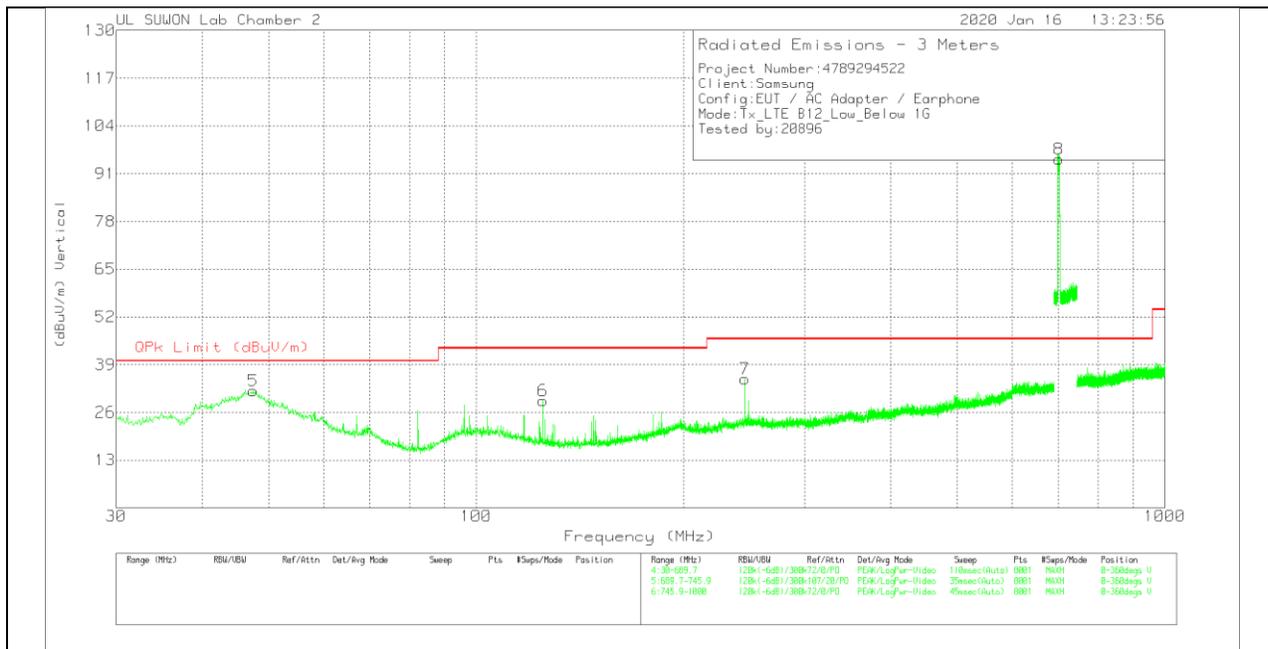
7.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

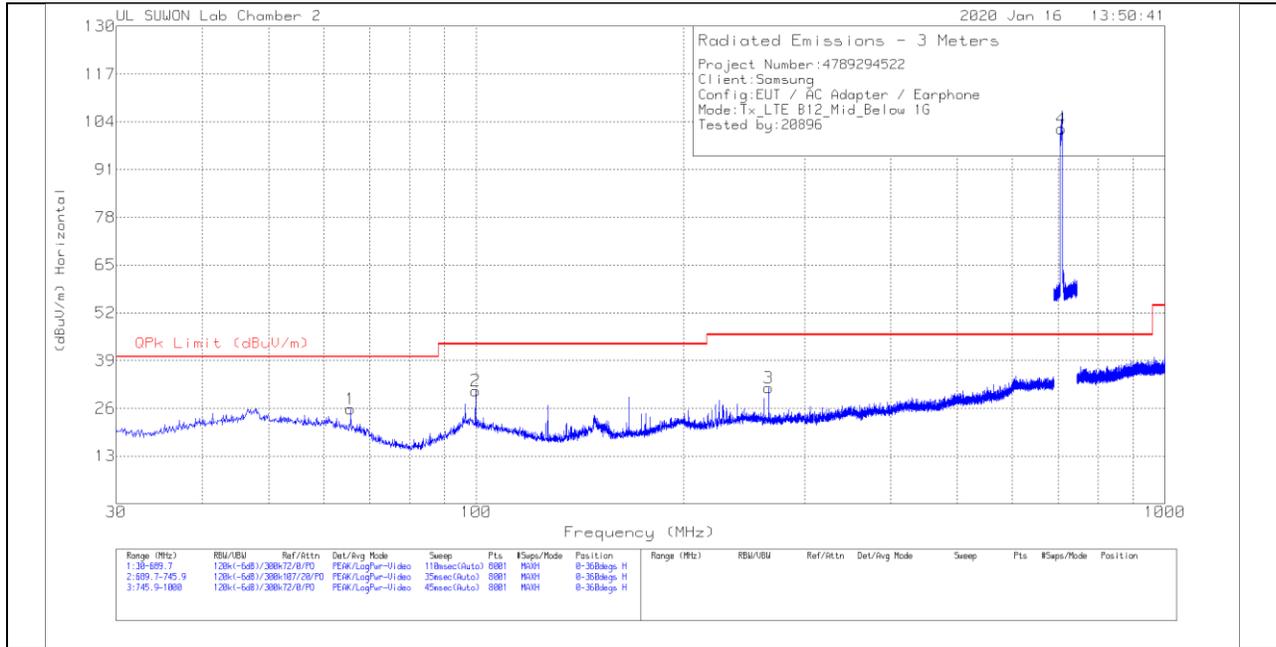
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.9769	5.04	Pk	19.8	.8	25.64	40	-14.36	0-360	300	H
2	103.557	11.37	Pk	17.7	1.1	30.17	43.52	-13.35	0-360	100	H
3	184.7006	17.26	Pk	16.3	1.5	35.06	43.52	-8.46	0-360	200	H
4	701.3545	74.76	Pk	25.6	3	103.36	46.02	57.34	0-360	100	H
5	47.4822	11.26	Pk	19.8	.8	31.86	40	-8.14	0-360	100	V
6	124.9974	13.21	Pk	14.7	1.3	29.21	43.52	-14.31	0-360	100	V
7	245.6407	14.57	Pk	18.8	1.8	35.17	46.02	-10.85	0-360	100	V
8	701.5301	66.43	Pk	25.6	3	95.03	46.02	49.01	0-360	100	V

Pk - Peak detector

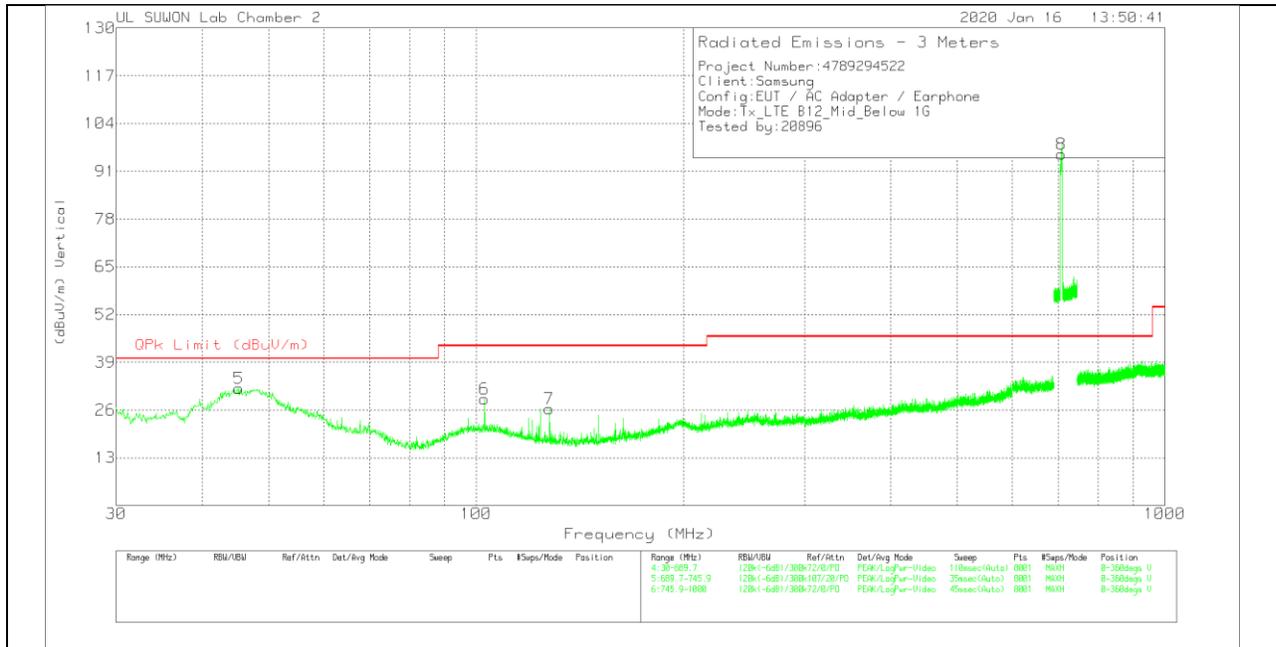
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

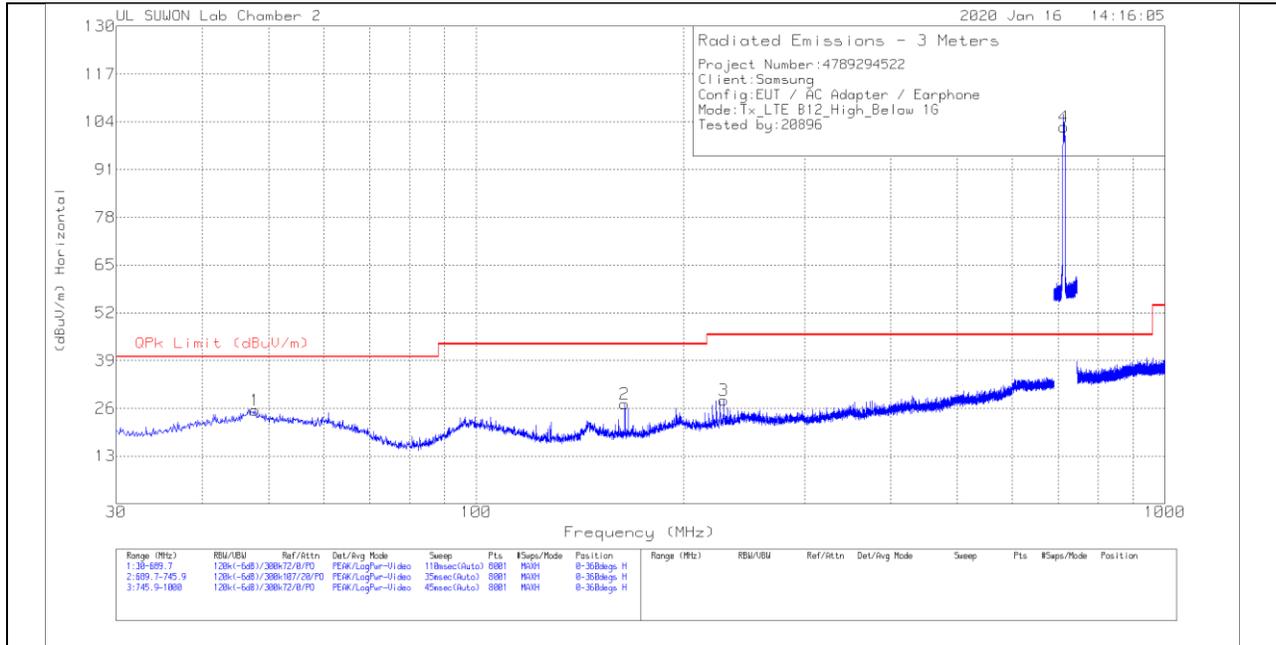
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	65.7065	7.95	Pk	17	.9	25.85	40	-14.15	0-360	100	H
2	99.7637	12.02	Pk	17.7	1.1	30.82	43.52	-12.7	0-360	400	H
3	265.6793	11.21	Pk	18.6	1.8	31.61	46.02	-14.41	0-360	200	H
4	707.5786	73.6	Pk	25.5	3	102.1	46.02	56.08	0-360	100	H
5	45.2557	11.49	Pk	19.7	.8	31.99	40	-8.01	0-360	100	V
6	102.8148	10.14	Pk	17.8	1.1	29.04	43.52	-14.48	0-360	200	V
7	127.7187	10.55	Pk	14.5	1.3	26.35	43.52	-17.17	0-360	100	V
8	707.6208	67.19	Pk	25.5	3	95.69	46.02	49.67	0-360	100	V

Pk - Peak detector

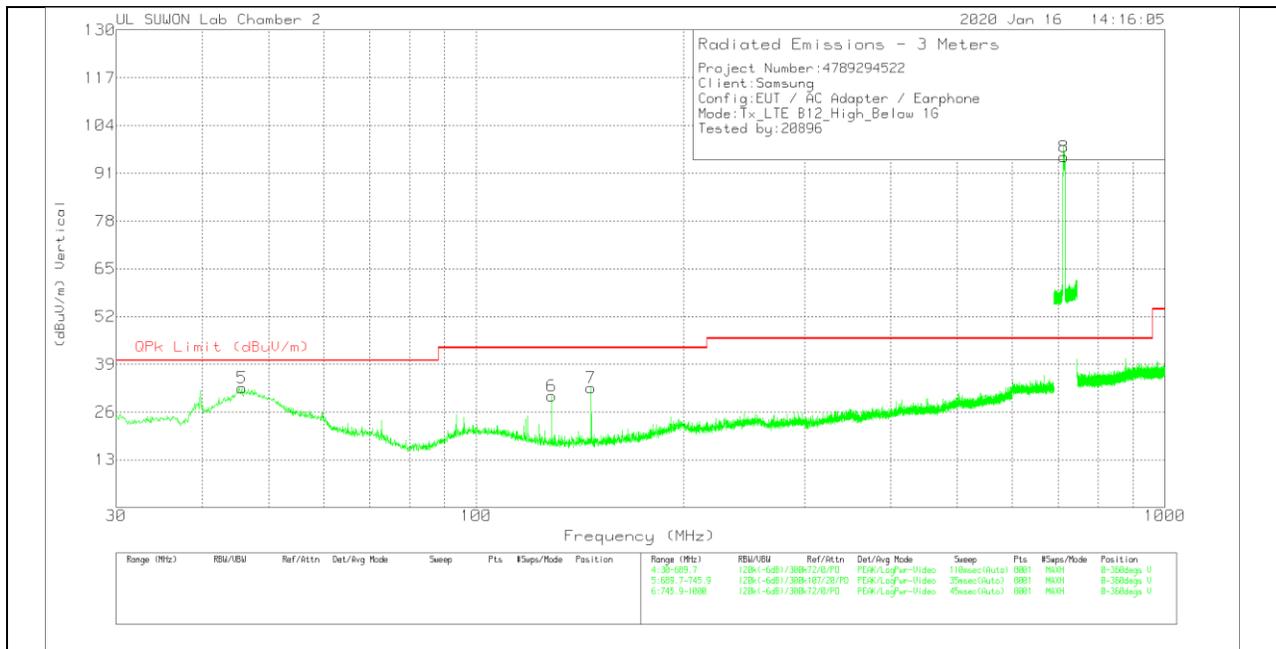
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(744.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.7295	4.95	Pk	19.8	.8	25.55	40	-14.45	0-360	100	H
2	164.3322	11.05	Pk	14.8	1.4	27.25	43.52	-16.27	0-360	200	H
3	228.8183	8.22	Pk	18.3	1.7	28.22	46.02	-17.8	0-360	100	H
4	713.571	74	Pk	25.6	3	102.6	46.02	56.58	0-360	100	H
5	45.668	12.14	Pk	19.7	.8	32.64	40	-7.36	0-360	100	V
6	128.7082	14.68	Pk	14.4	1.3	30.38	43.52	-13.14	0-360	100	V
7	146.8501	17.07	Pk	14.1	1.4	32.57	43.52	-10.95	0-360	100	V
8	713.592	66.83	Pk	25.6	3	95.43	46.02	49.41	0-360	200	V

Pk - Peak detector

Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

END OF REPORT