



CERTIFICATION TEST REPORT

Report Number. : 4789582668-E1V4

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

Model : SC-54A, SCG07

FCC ID : A3LSMA516JPN

EUT Description : GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac,
ANT+ and NFC

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

Date Of Issue:
September 07, 2020

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REPORT REVISION HISTORY

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	08/26/20	Initial issue	Yeonhee Lim
V2	08/28/20	Updated to address TCB's question	Yeonhee Lim
V3	08/31/20	Updated to address TCB's question	Yeonhee Lim
V4	09/07/20	Updated to address TCB's question	Yeonhee Lim

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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, ANT+ and NFC
MODEL NUMBER: SC-54A, SCG07
SERIAL NUMBER: R3CN709MQAT (RADIATED);
DATE TESTED: AUG 18, 2020 – AUG 21, 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:



Yeonhee Lim
Suwon Lab Technician
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 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 <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
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/UNII a/b/g/n/ac, ANT+ and NFC.
 This test report addresses the WWAN operational mode.

This report covers the Samsung models SC-54A and SCG07.
 These models are identical in hardware. Basic model SC-54A was set for test.
 (see the PED document for details).

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)

Note1. For radiated emission test, except GSM850 and LTE B12 have performed at Low, Mid and High channels, rest WCDMA B5 and LTE B5 were done with middle channel only as there has no significant emission raised.

Note2. Please refer to JBP report for the AC Line test.

5.3. WORST-CASE ORIENTATION AND MODE

- Worst Axis condition:
 The radiated spurious emission were investigated in three orthogonal orientations X, Y and Z, it was determined that below orientation was worst-case orientation for each band.

Band	X	Y	Z
GSM850	-	-	O
WCDMA B5	-	-	O
LTE B5	-	-	O
LTE B12	-	-	O

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA200	R37MEFLOWRDK3	N/A
Data Cable	SAMSUNG	EP-DR140ABE	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

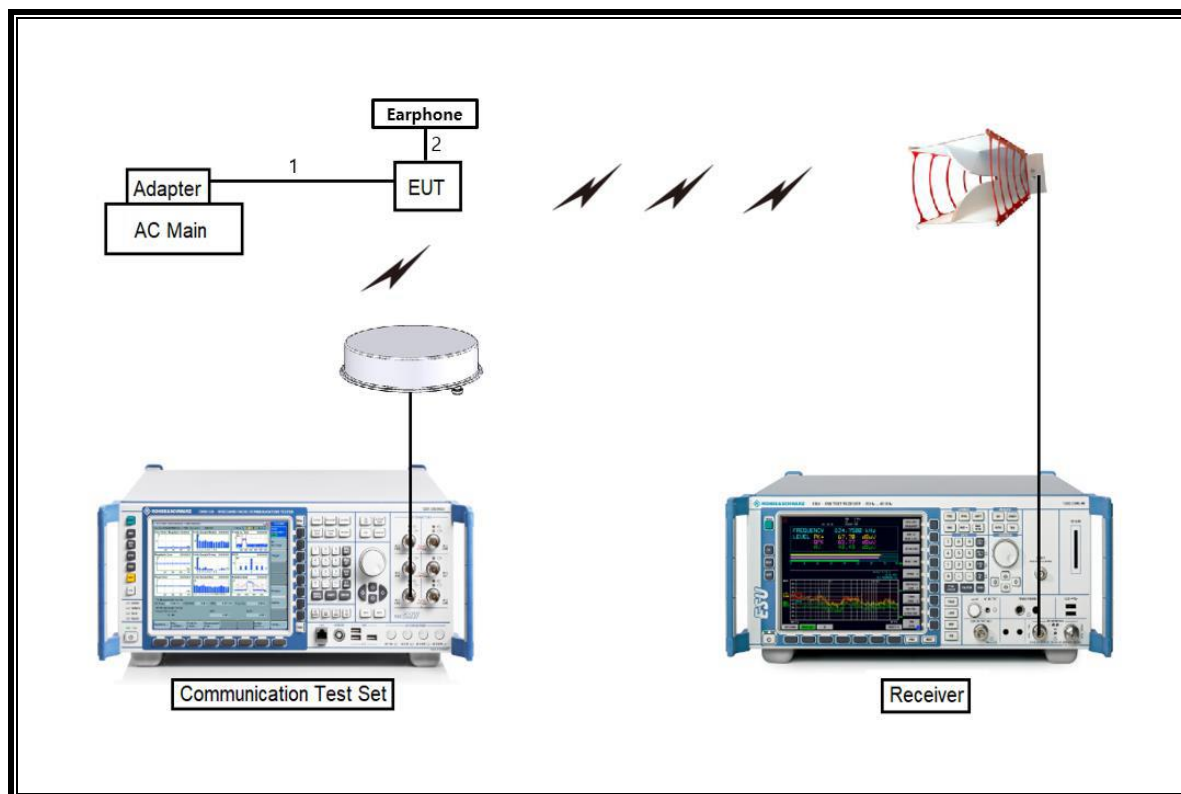
I/O CABLE

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	1.1m	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	Cal. Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	01-31-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-04-22
Preamplifier	ETS	3116C-PA	00168841	08-06-21
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845(Note1)	08-13-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749(Note1)	08-13-22
Antenna, Horn, 18 GHz	ETS	3115	00167211	07-27-22
Antenna, Horn, 18 GHz	ETS	3117	00168724	07-27-22
Communications Test Set	R&S	CMW500	115331	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-03-21
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
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-03-21
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-03-21
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	08-05-21
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	08-05-21
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	08-05-21
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	08-05-21
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	08-05-21
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	08-05-21
Attenuator	PASTERNAK	PE7087-10	A009	08-05-21
Attenuator	PASTERNAK	PE7087-10	A001	08-03-21
Attenuator	PASTERNAK	PE7087-10	A008	08-03-21
Attenuator	PASTERNAK	PE7087-10	A007	08-03-21
Attenuator	PASTERNAK	PE7395-10	A011	08-05-21
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

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:

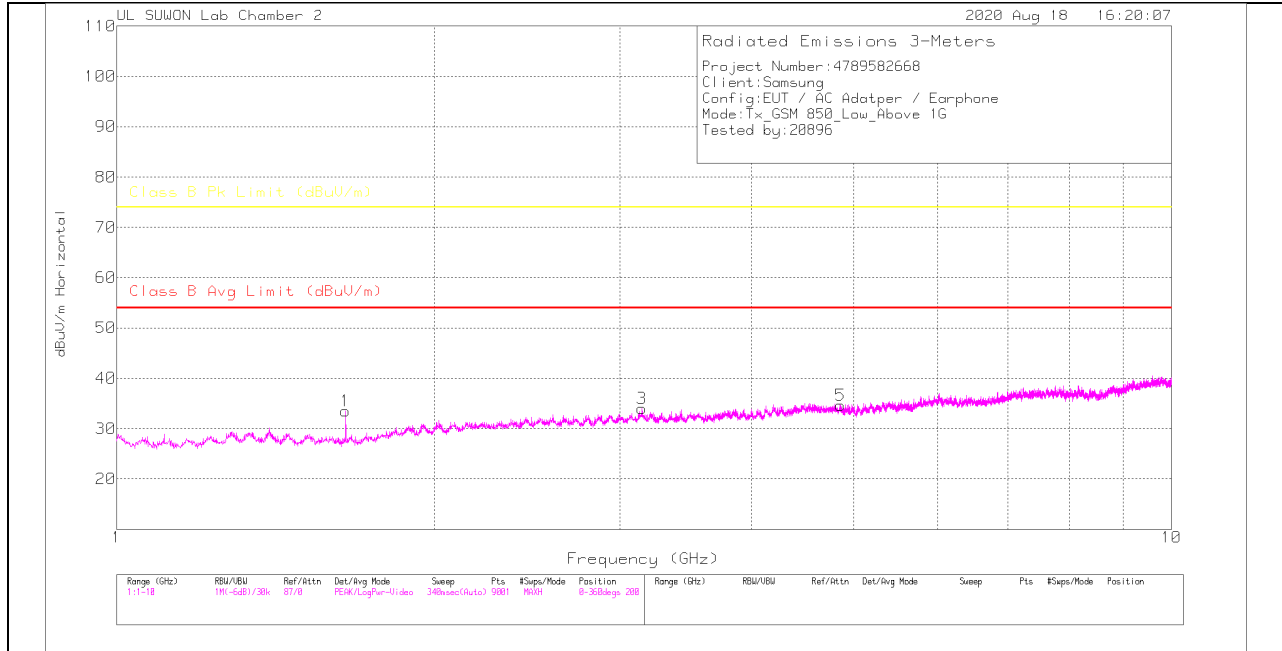
Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

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

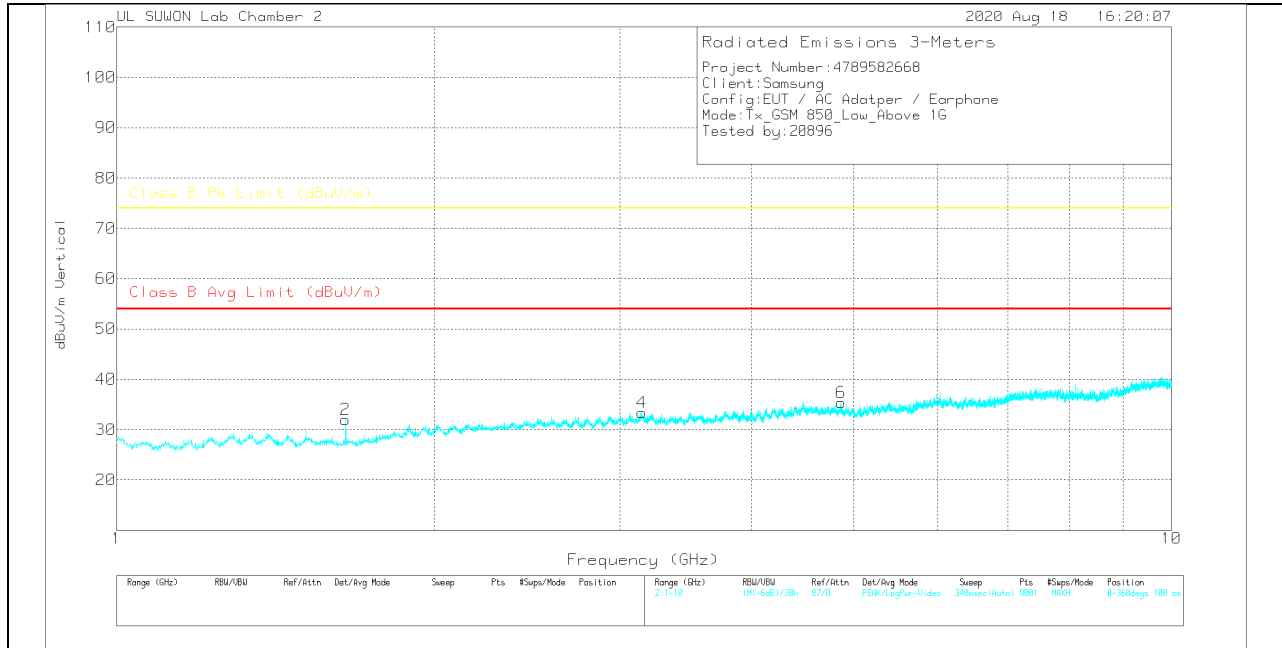
7.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

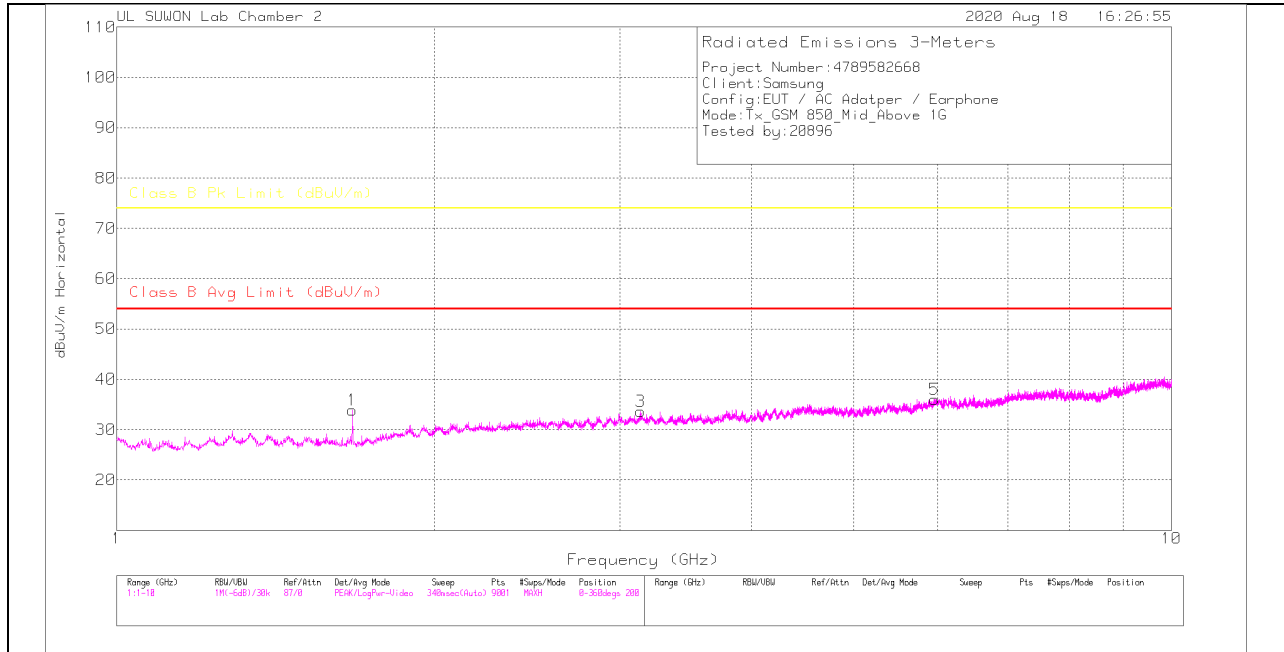
Trace Markers

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	1.648	35.65	PK	28.6	-31.4	.7	33.55	-	-	74	-40.45	0-360	100	H
3	3.146	29.92	PK	33	-29.6	.7	34.02	-	-	74	-39.98	0-360	200	H
5	4.857	27.89	PK	34.1	-27.9	.5	34.59	-	-	74	-39.41	0-360	100	H
2	1.648	34.11	PK	28.6	-31.4	.7	32.01	-	-	74	-41.99	0-360	100	V
4	3.147	29.26	PK	33	-29.6	.7	33.36	-	-	74	-40.64	0-360	100	V
6	4.859	28.82	PK	34.1	-28	.5	35.42	-	-	74	-38.58	0-360	100	V

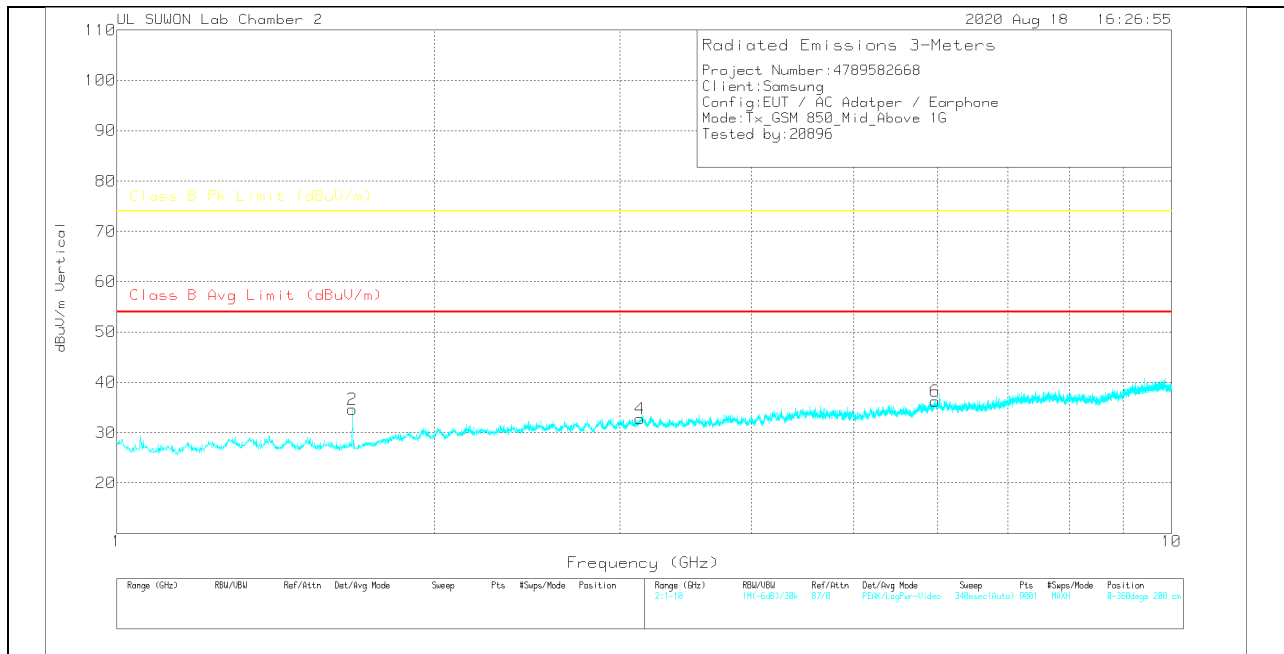
PK-Peak Detector

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

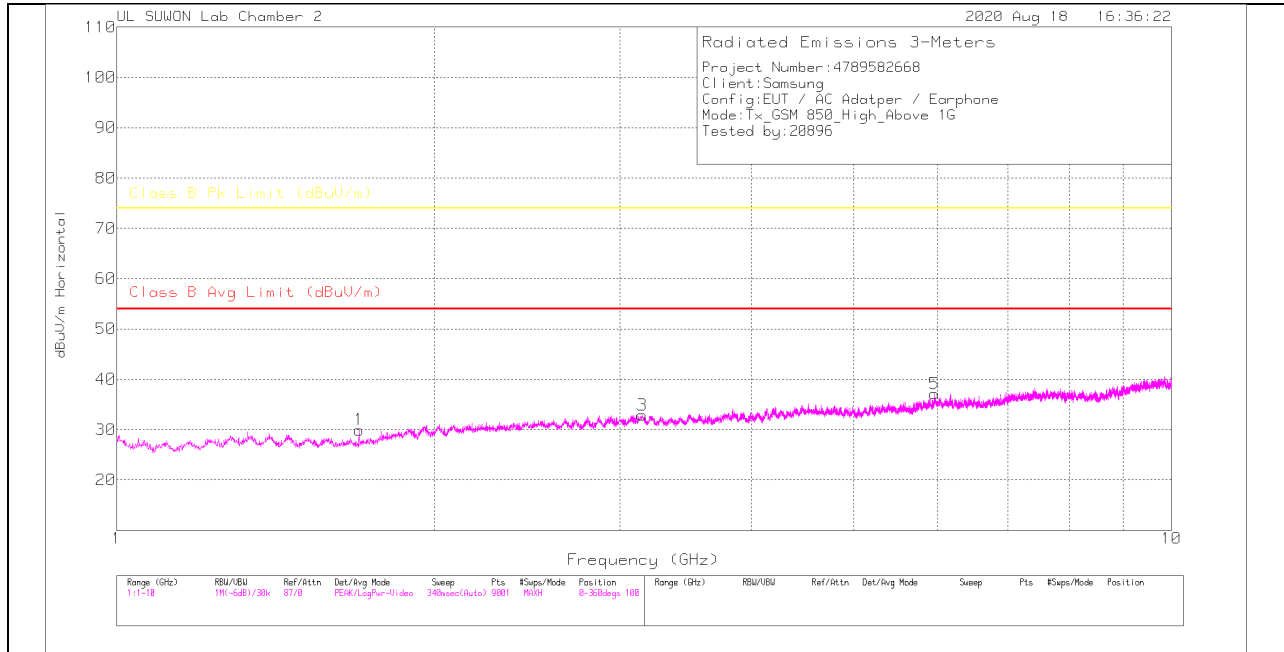
Trace Markers

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	1.673	35.86	PK	28.6	-31.3	.7	33.86	-	-	74	-40.14	0-360	100	H
3	3.14	29.54	PK	33	-29.6	.7	33.64	-	-	74	-40.36	0-360	100	H
5	5.963	27.84	PK	35.1	-27.4	.5	36.04	-	-	74	-37.96	0-360	100	H
2	1.673	36.67	PK	28.6	-31.3	.7	34.67	-	-	74	-39.33	0-360	200	V
4	3.156	28.78	PK	33	-29.7	.7	32.78	-	-	74	-41.22	0-360	100	V
6	5.969	28.18	PK	35.1	-27.5	.5	36.28	-	-	74	-37.72	0-360	200	V

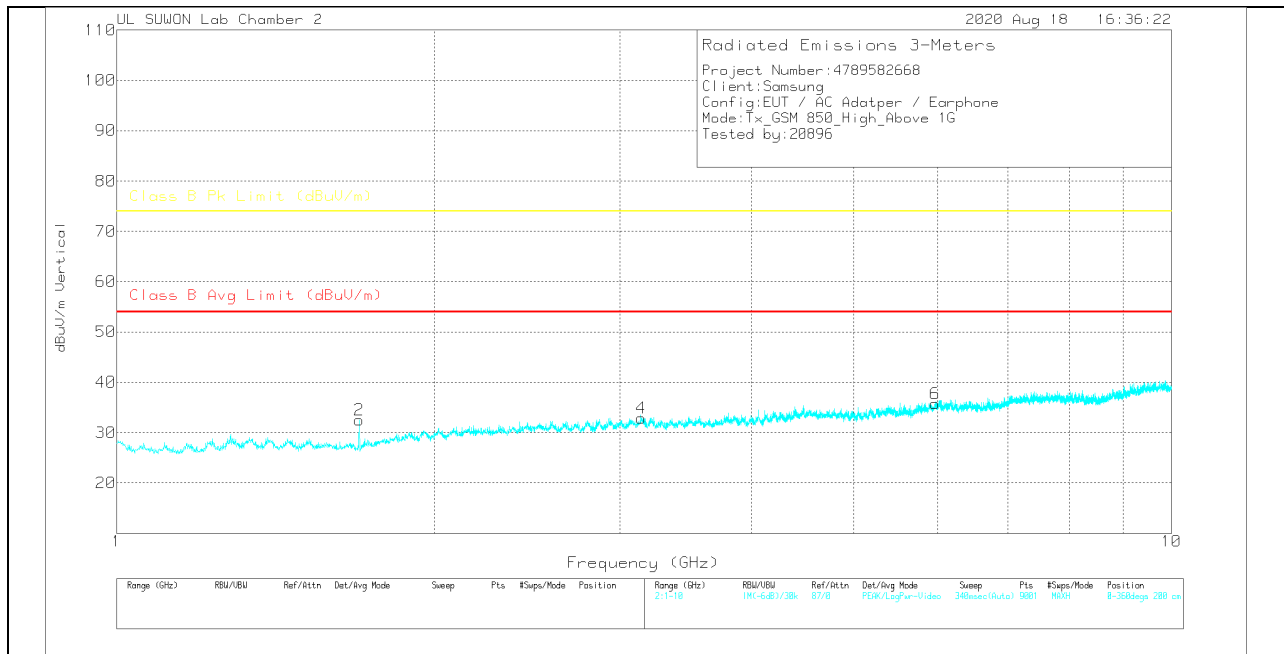
PK – Peak Detector

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

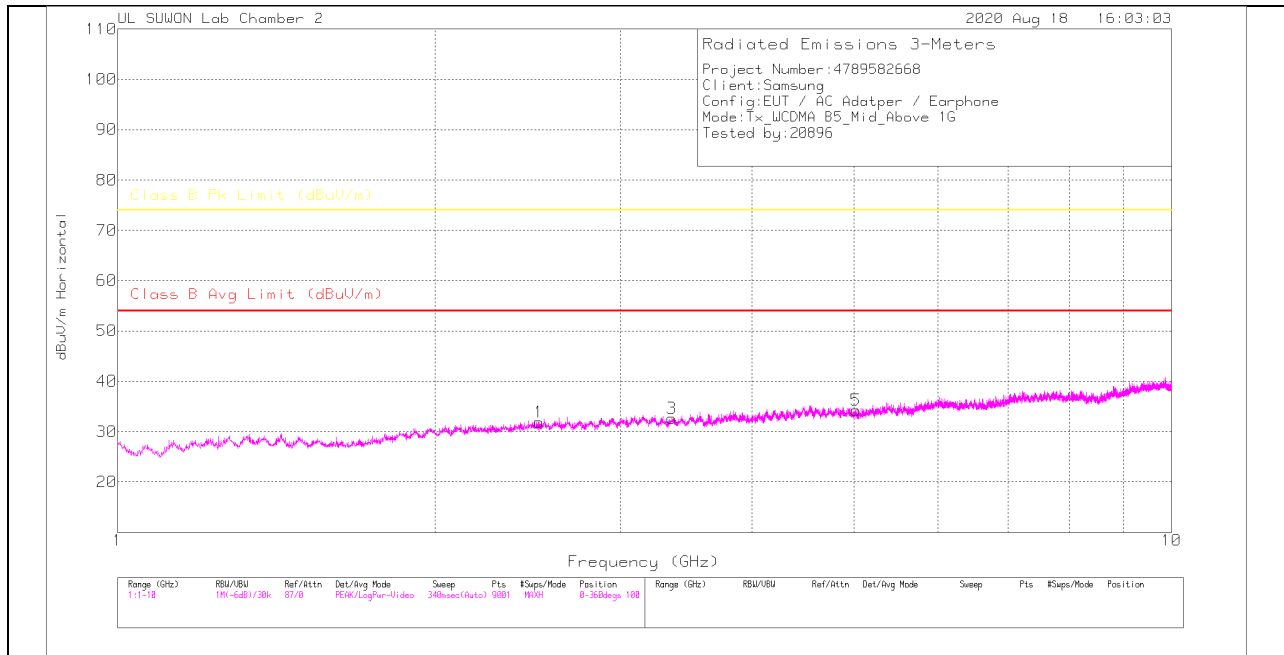
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	1.697	31.76	PK	28.7	-31.2	.7	29.96	-	-	74	-44.04	0-360	200	H
3	3.149	29.81	PK	33	-29.6	.7	32.91	-	-	74	-41.09	0-360	200	H
5	5.965	29.07	PK	35.1	-27.5	.5	37.17	-	-	74	-36.83	0-360	100	H
2	1.697	34.31	PK	28.7	-31.2	.7	32.51	-	-	74	-41.49	0-360	200	V
4	3.143	28.84	PK	33	-29.6	.7	32.94	-	-	74	-41.06	0-360	100	V
6	5.973	27.57	PK	35.1	-27.4	.5	35.77	-	-	74	-38.23	0-360	200	V

PK – Peak Detector

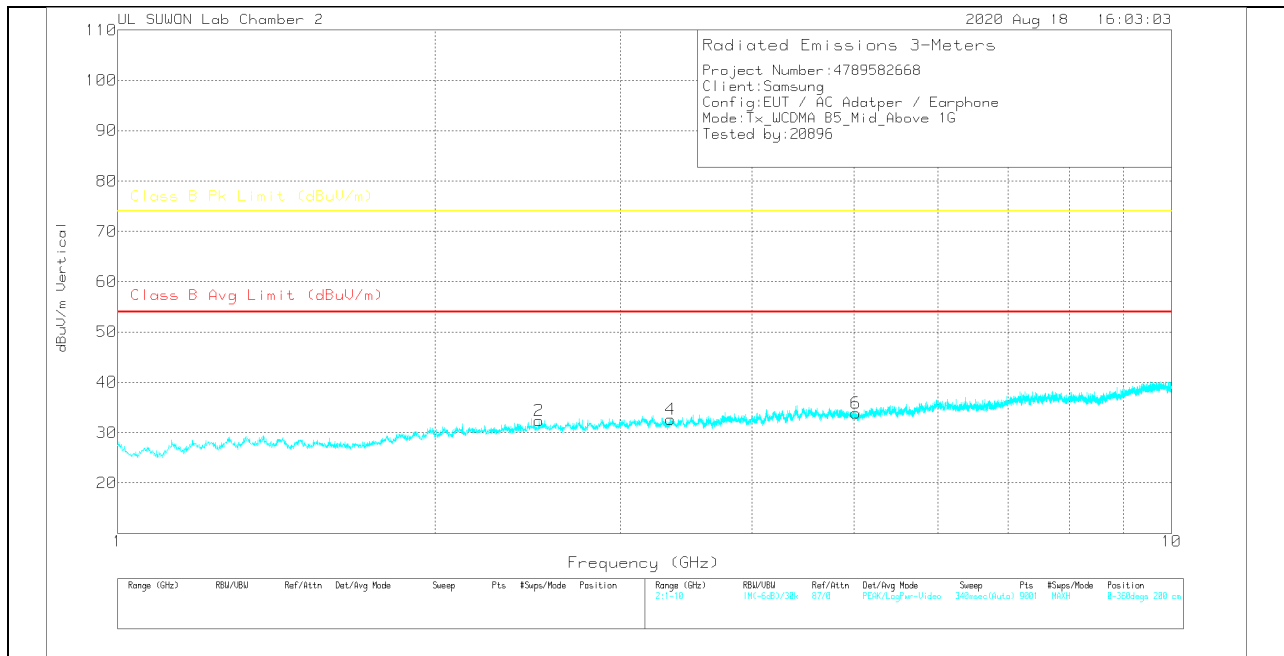
7.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

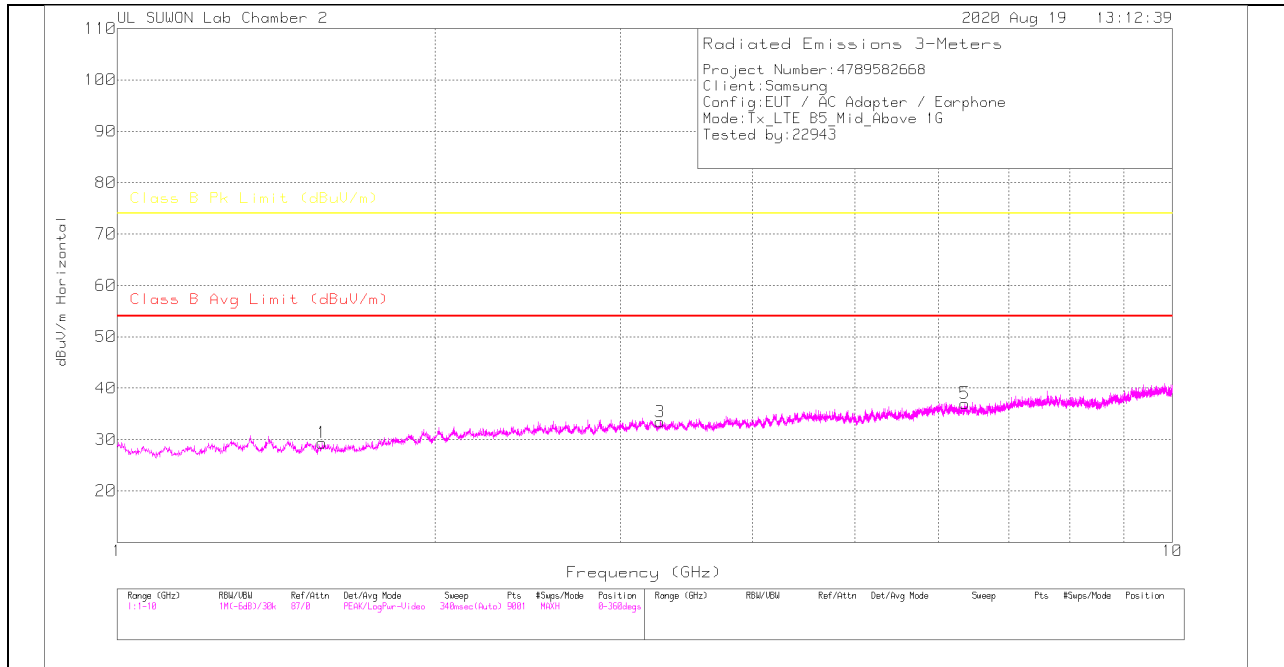
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	2.511	29.2	PK	32.1	-30.1	.7	31.9	-	-	74	-42.1	0-360	100	H
3	3.356	28.93	PK	32.7	-29.7	.7	32.63	-	-	74	-41.37	0-360	200	H
5	5.015	27.74	PK	34.2	-28.2	.5	34.24	-	-	74	-39.76	0-360	100	H
2	2.511	29.66	PK	32.1	-30.1	.7	32.36	-	-	74	-41.64	0-360	100	V
4	3.348	28.99	PK	32.7	-29.7	.7	32.69	-	-	74	-41.31	0-360	200	V
6	5.015	27.35	PK	34.2	-28.2	.5	33.85	-	-	74	-40.15	0-360	100	V

PK – Peak Detector

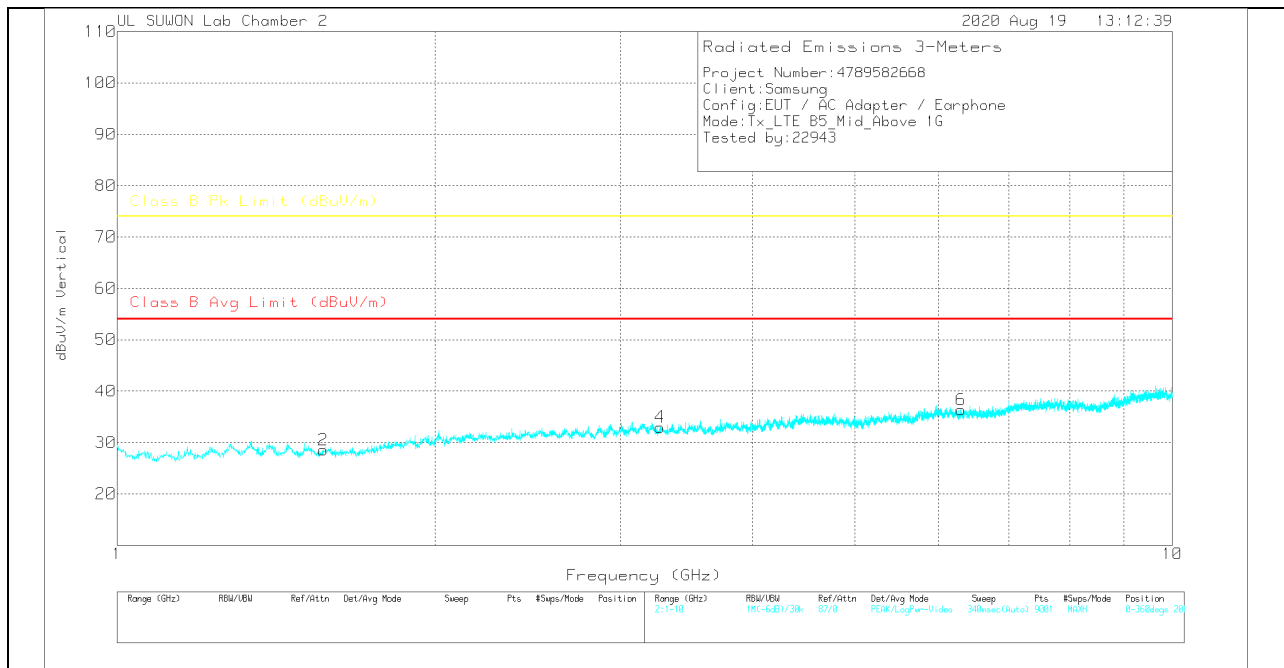
7.3. Above 1 GHz in the LTE Band 5

MID CHANNEL(881.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

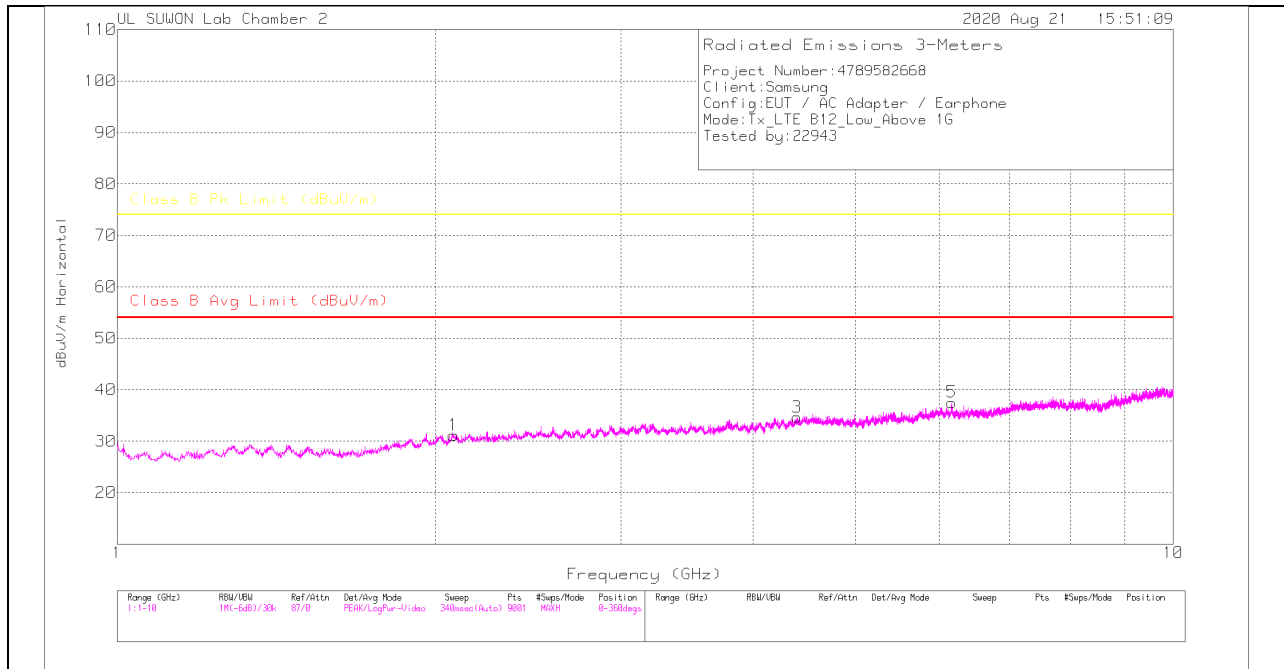
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168724	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.564	31.27	PK	28.7	-31.3	.7	29.37	-	-	74	-44.63	0-360	200	H
3	3.27	29.64	PK	32.9	-29.8	.7	33.44	-	-	74	-40.56	0-360	100	H
5	6.358	27.8	PK	35.4	-26.7	.5	37	-	-	74	-37	0-360	200	H
2	1.567	30.46	PK	28.7	-31.3	.7	28.56	-	-	74	-45.44	0-360	200	V
4	3.27	29.18	PK	32.9	-29.8	.7	32.98	-	-	74	-41.02	0-360	100	V
6	6.309	27.58	PK	35.3	-27	.5	36.38	-	-	74	-37.62	0-360	100	V

PK – Peak Detector

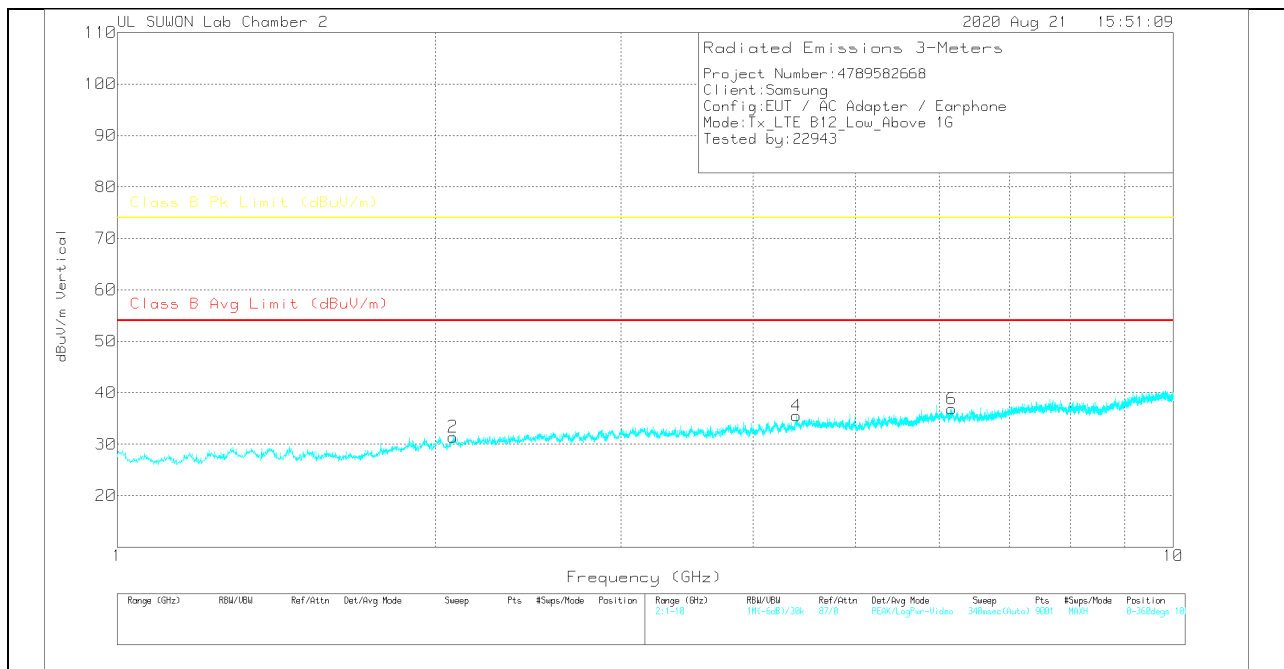
7.4. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

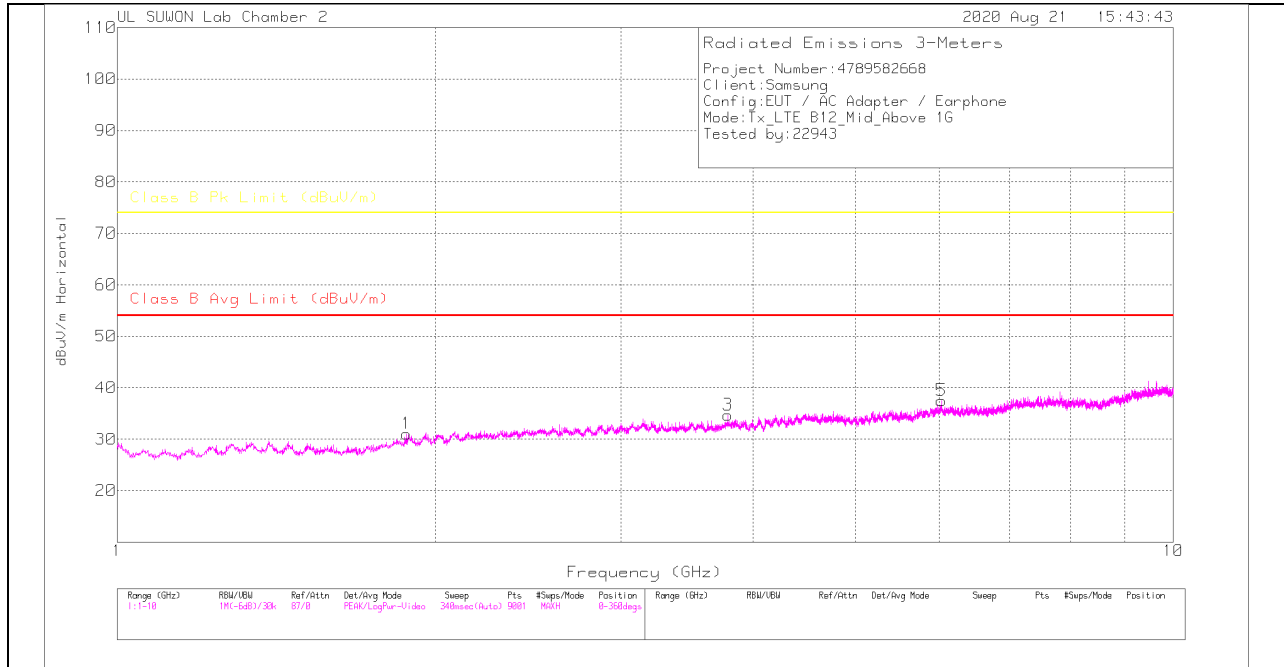
Trace Markers

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	2.081	29.76	PK	31.5	-30.7	.6	31.16	-	-	74	-42.84	0-360	100	H
3	4.405	28.85	PK	33.8	-28.5	.5	34.65	-	-	74	-39.35	0-360	100	H
5	6.169	28.44	PK	35.3	-26.7	.5	37.54	-	-	74	-36.46	0-360	100	H
2	2.08	30.02	PK	31.5	-30.7	.6	31.42	-	-	74	-42.58	0-360	200	V
4	4.399	29.93	PK	33.7	-28.6	.5	35.53	-	-	74	-35.47	0-360	200	V
6	6.172	27.85	PK	35.3	-26.8	.5	36.85	-	-	74	-37.15	0-360	200	V

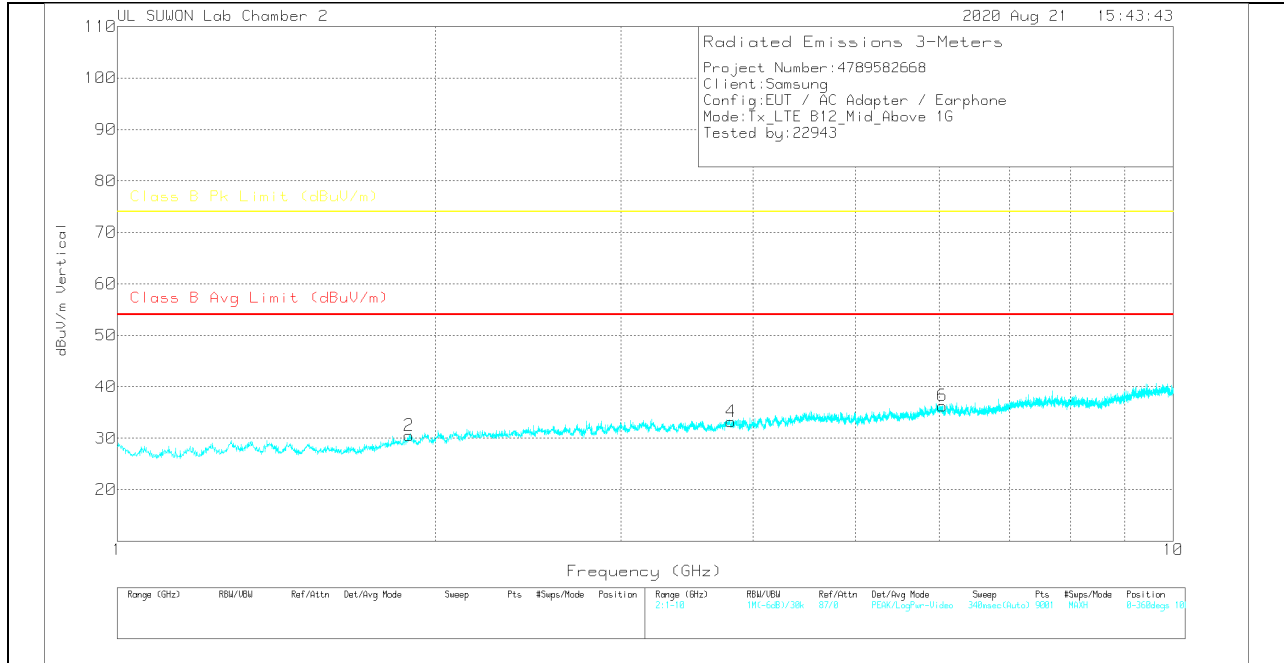
PK – Peak Detector

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

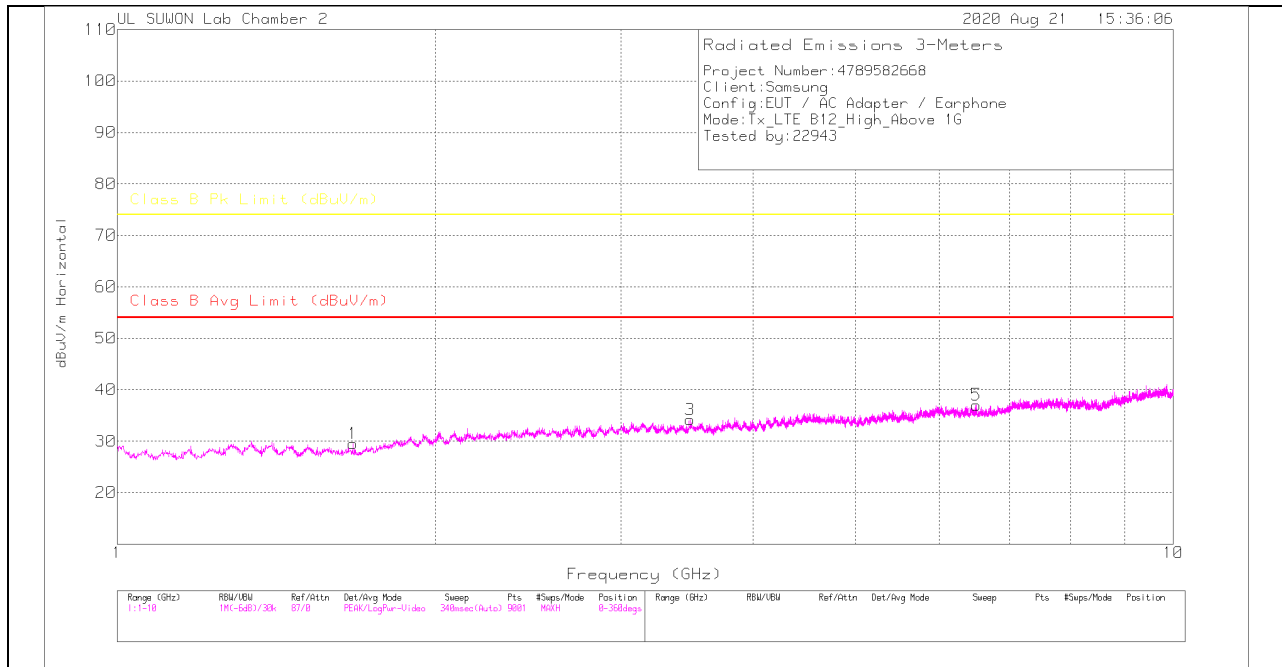
Trace Markers

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	1.878	30.76	PK	30.6	-31	.7	31.06	-	-	74	-42.94	0-360	100	H
3	3.796	29.82	PK	33.3	-29	.6	34.72	-	-	74	-39.28	0-360	200	H
5	6.033	29.09	PK	35.2	-27.3	.5	37.49	-	-	74	-36.51	0-360	100	H
2	1.89	30.02	PK	30.7	-30.9	.7	30.52	-	-	74	-43.48	0-360	200	V
4	3.811	28.23	PK	33.3	-28.9	.6	33.23	-	-	74	-40.77	0-360	100	V
6	6.046	27.92	PK	35.2	-27.3	.5	36.32	-	-	74	-37.68	0-360	200	V

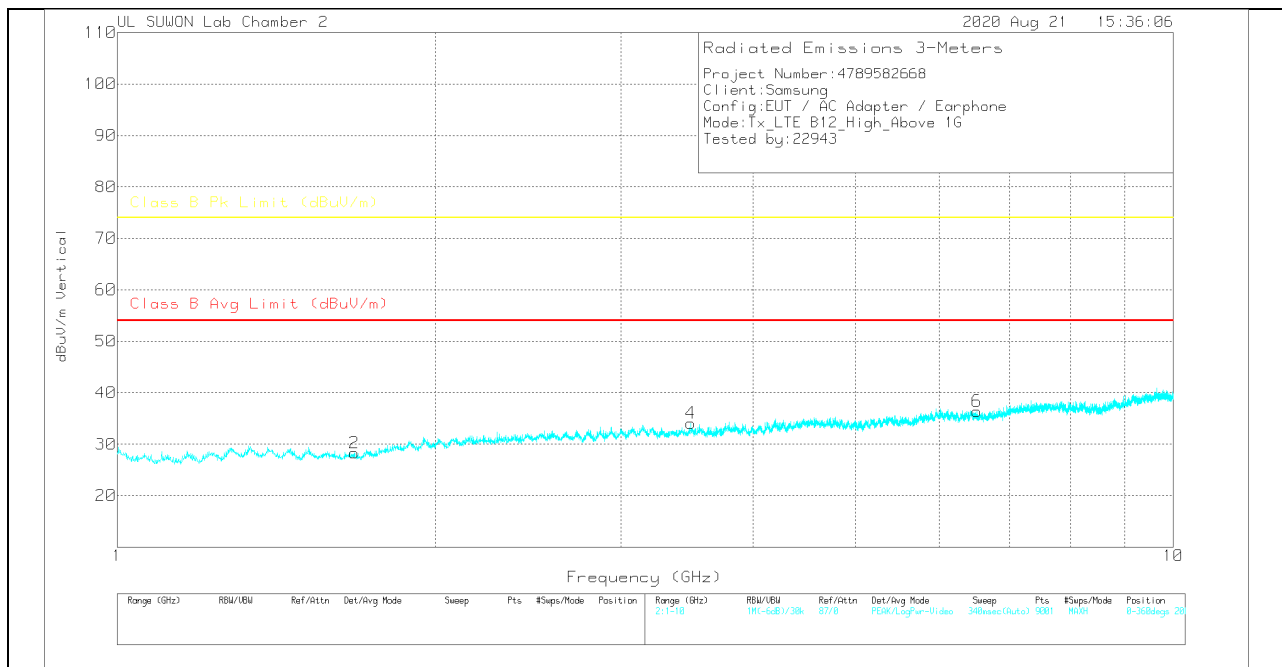
PK – Peak Detector

HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

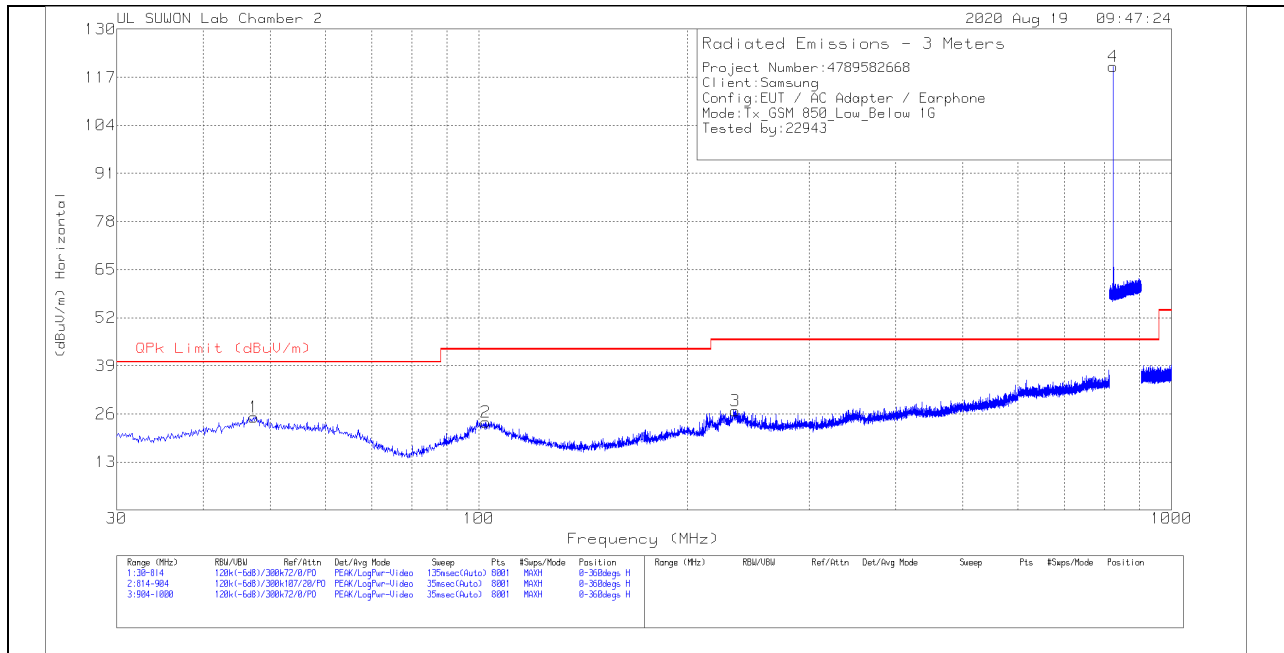
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168724	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading dBu/m	Class B Avg Limit (dBu/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.672	31.52	PK	28.6	-31.3	.7	29.52	-	-	74	-44.48	0-360	100	H
3	3.488	29.67	PK	32.8	-28.9	.6	34.17	-	-	74	-39.83	0-360	100	H
5	6.512	27.62	PK	35.4	-26.5	.5	37.02	-	-	74	-36.98	0-360	100	H
2	1.676	30.3	PK	28.6	-31.3	.7	29.52	-	-	74	-44.48	0-360	200	V
4	3.491	29.57	PK	32.8	-28.9	.6	34.07	-	-	74	-39.93	0-360	200	V
6	6.52	26.99	PK	35.4	-26.5	.5	36.39	-	-	74	-37.61	0-360	100	V

PK – Peak Detector

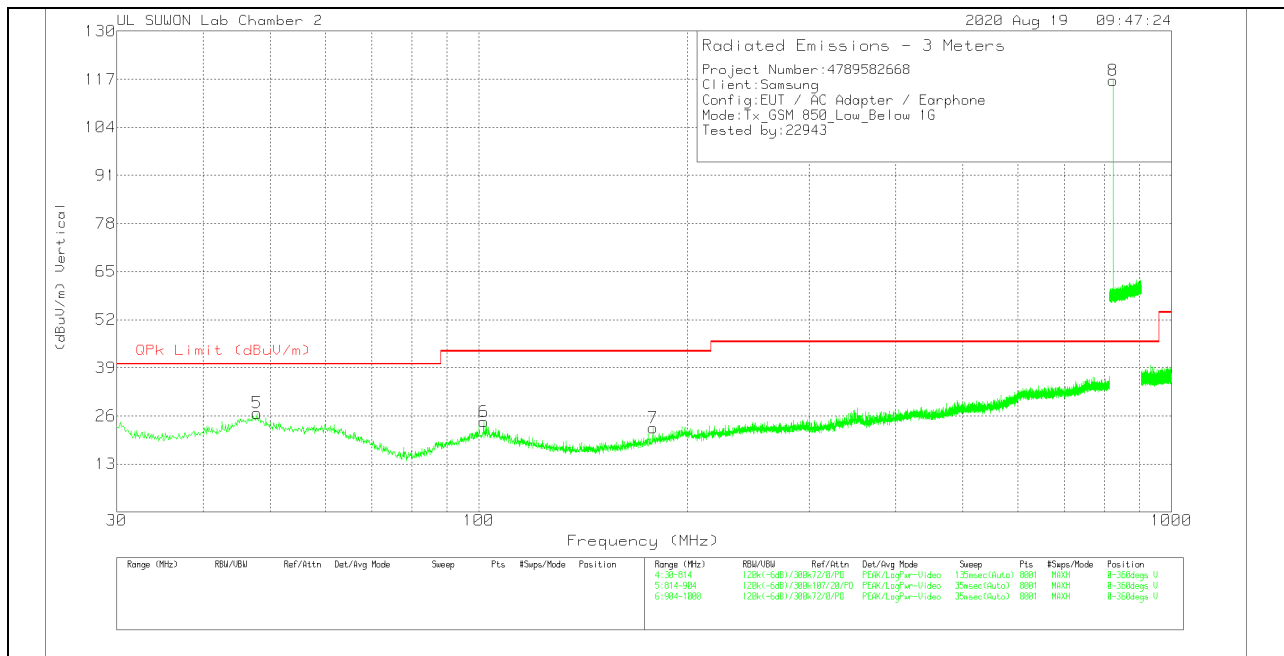
7.5. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

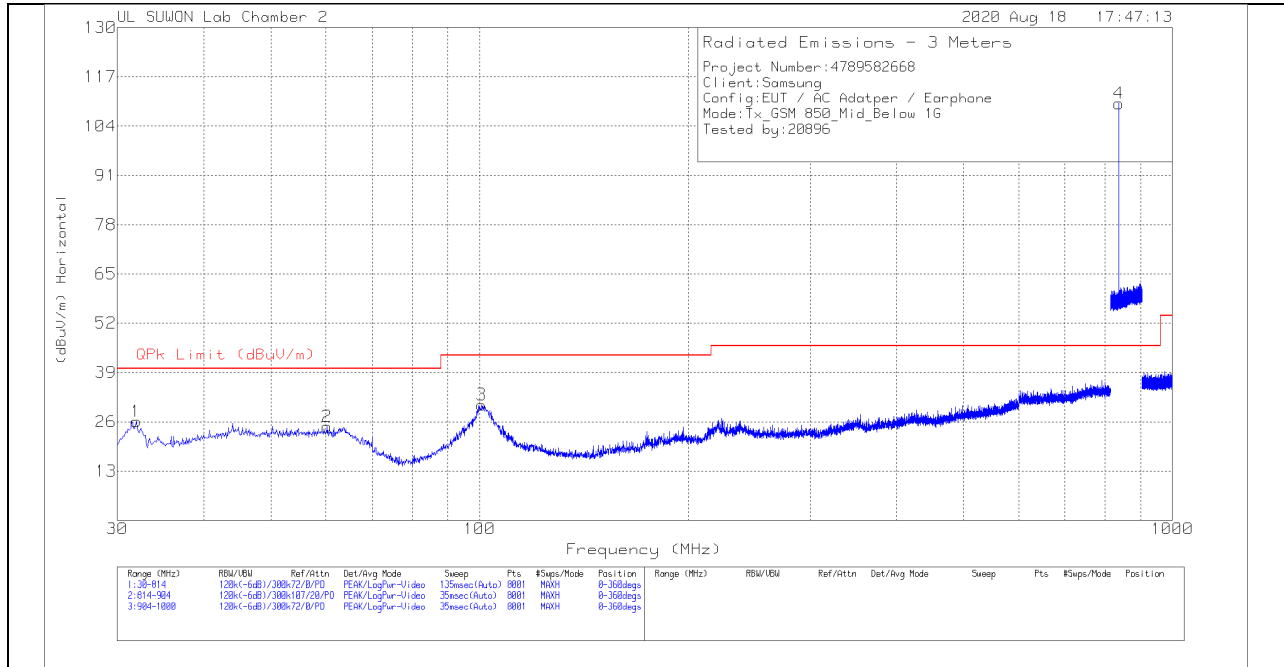
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.346	4.56	Pk	19.8	.8	25.16	40	-14.84	0-360	300	H
2	102.422	5.16	Pk	17.5	1.1	23.76	43.52	-19.76	0-360	200	H
3	234.428	7.19	Pk	17.9	1.7	26.79	46.02	-19.23	0-360	100	H
4	824.2488	89.97	Pk	26.7	3.2	119.87	46.02	73.85	0-360	100	H
5	47.836	6.06	Pk	19.9	.8	26.76	40	-13.24	0-360	100	V
6	101.638	5.91	Pk	17.5	1.1	24.51	43.52	-19.01	0-360	100	V
7	178.372	6.2	Pk	15.1	1.5	22.8	43.52	-20.72	0-360	200	V
8	824.2488	86.82	Pk	26.7	3.2	116.72	46.02	70.7	0-360	100	V

Pk - Peak detector

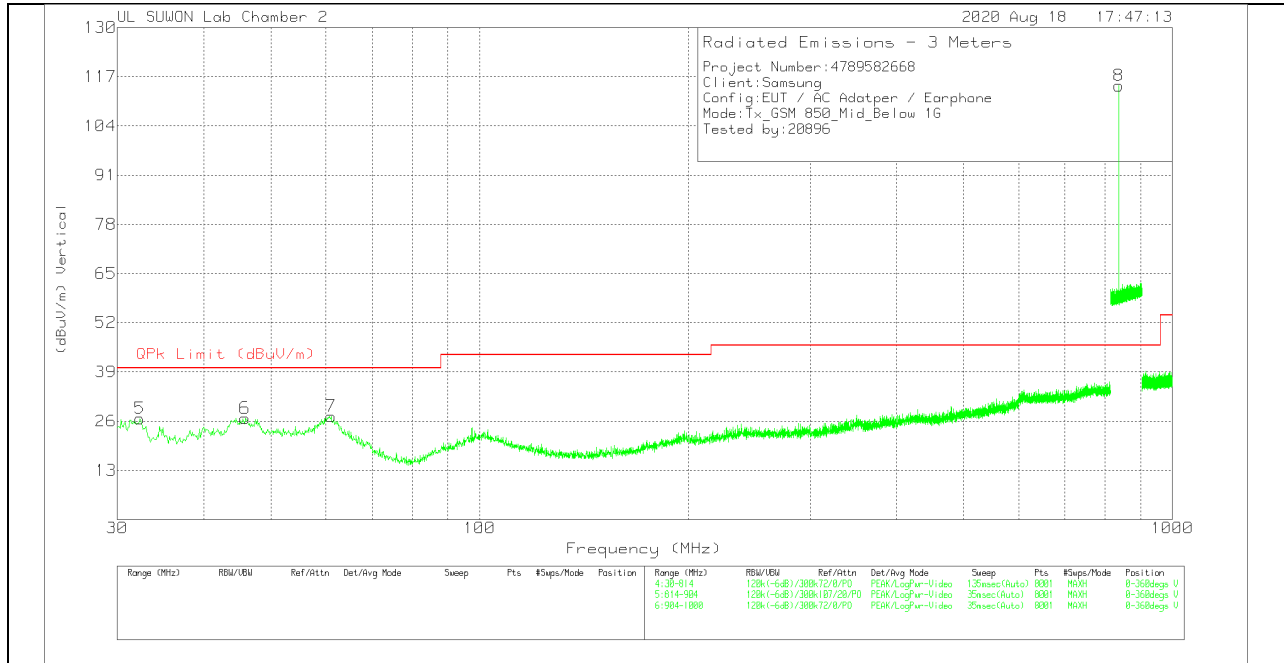
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

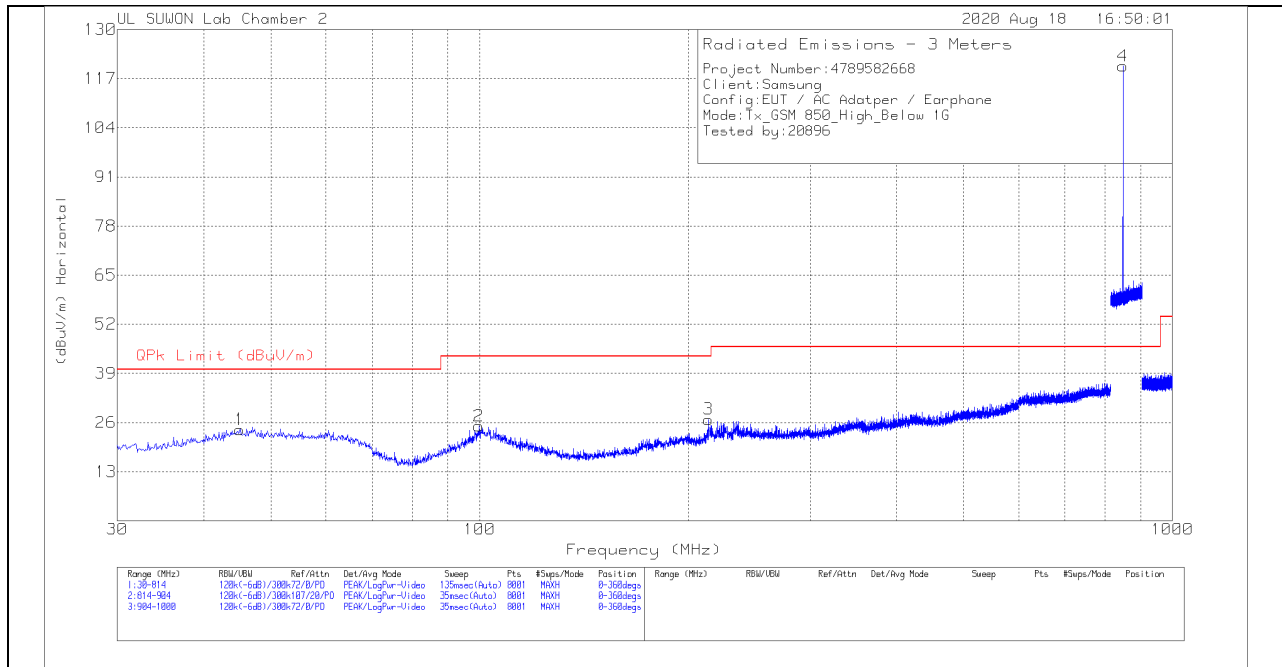
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.96	10.07	Pk	15.4	.6	26.07	40	-13.93	0-360	300	H
2	60.282	5.39	Pk	18.4	.9	24.69	40	-15.31	0-360	400	H
3	100.756	11.84	Pk	17.5	1.1	30.44	43.52	-13.08	0-360	300	H
4	836.6463	79.77	Pk	26.9	3.3	109.97	46.02	63.95	0-360	400	H
5	32.352	10.57	Pk	15.5	.6	26.67	40	-13.33	0-360	100	V
6	45.876	6.28	Pk	19.7	.8	26.78	40	-13.22	0-360	200	V
7	61.066	8.08	Pk	18.3	.9	27.28	40	-12.72	0-360	100	V
8	836.6688	84.44	Pk	26.9	3.3	114.64	46.02	68.62	0-360	200	V

Pk - Peak detector

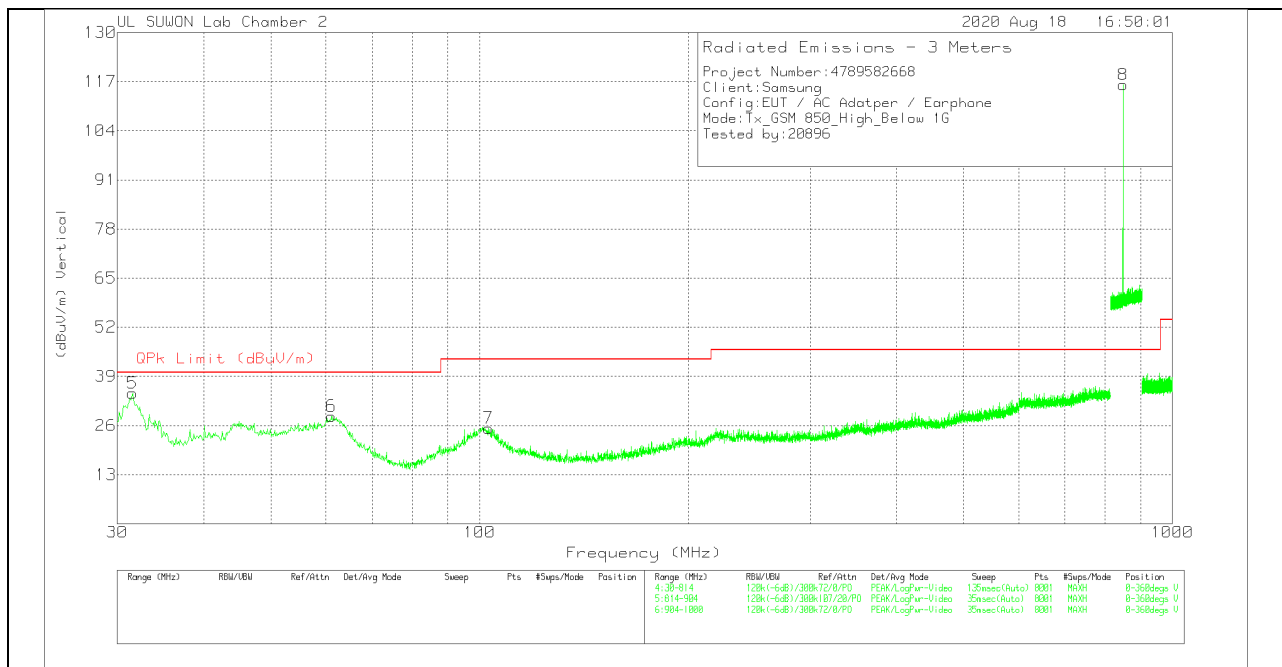
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency(MHz)	MeterReading (dBuV)	Det	VULB9163_749	Below_1G_By pass(dB)	CorrectedReading(dBuV/m)	QPk Limit (dBuV/m)	Margin(dB)	Azimuth(Degs)	Height(cm)	Polarity
1	45.092	3.7	Pk	19.6	.8	24.1	40	-15.9	0-360	400	H
2	99.776	6.56	Pk	17.4	1.1	25.06	43.52	-18.46	0-360	200	H
3	214.142	8.43	Pk	16.8	1.6	26.83	43.52	-16.69	0-360	100	H
4	848.8413	89.7	Pk	27.3	3.3	120.3	46.02	74.28	0-360	200	H
5	31.568	18.55	Pk	15.4	.6	34.55	40	-5.45	0-360	200	V
6	61.164	9.27	Pk	18.3	.9	28.47	40	-11.53	0-360	200	V
7	103.01	6.6	Pk	17.6	1.1	25.3	43.52	-18.22	0-360	200	V
8	848.8525	85.58	Pk	27.3	3.3	116.18	46.02	70.16	0-360	100	V

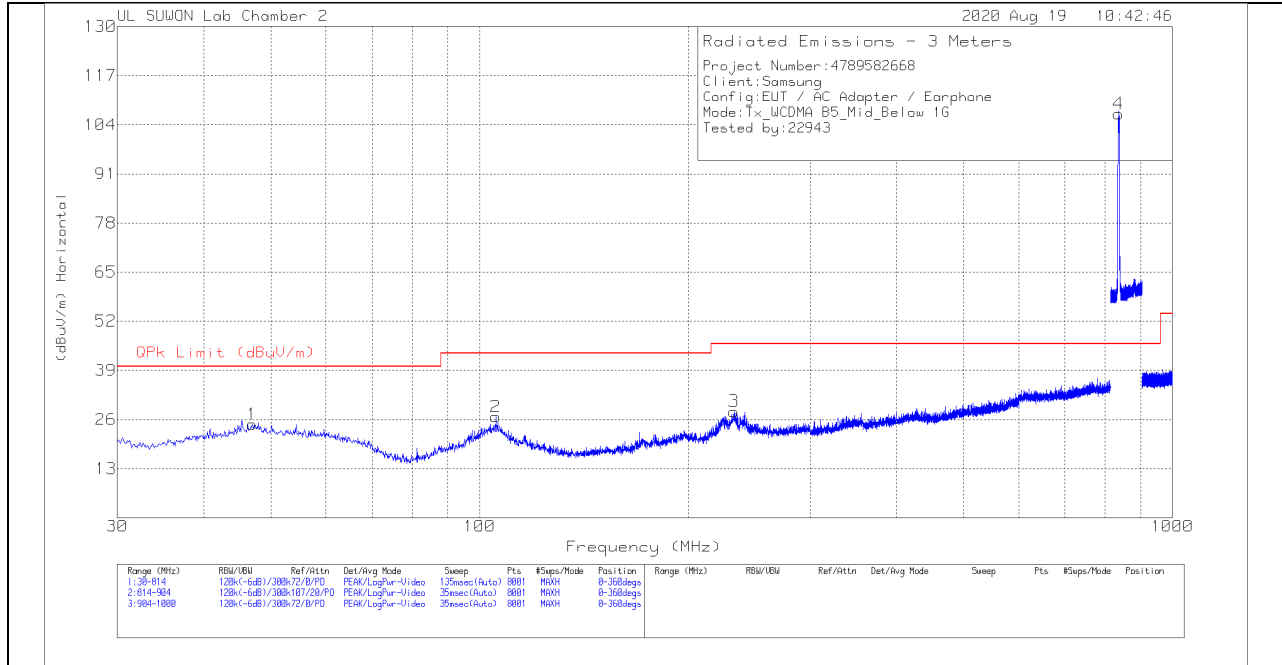
Pk - Peak detector

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

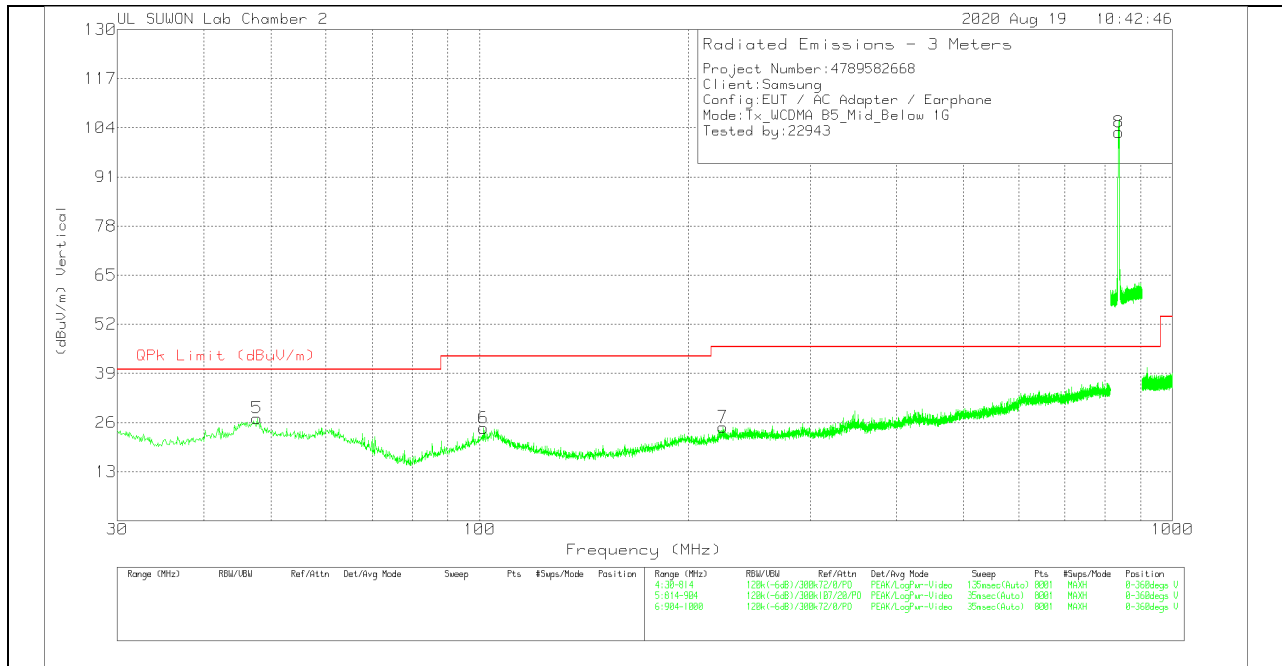
7.6. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

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	46.954	4.15	Pk	19.8	.8	24.75	40	-15.25	0-360	400	H
2	105.558	8.05	Pk	17.5	1.2	26.75	43.52	-16.77	0-360	300	H
3	232.958	8.62	Pk	17.8	1.7	28.12	46.02	-17.9	0-360	100	H
4	836.4325	76.71	Pk	26.9	3.3	106.91	46.02	60.89	0-360	100	H
5	47.738	6.45	Pk	19.9	.8	27.15	40	-12.85	0-360	200	V
6	101.344	5.94	Pk	17.5	1.1	24.54	43.52	-18.98	0-360	100	V
7	224.432	5.77	Pk	17.3	1.7	24.77	46.02	-21.25	0-360	100	V
8	836.8038	72.62	Pk	26.9	3.3	102.82	46.02	56.8	0-360	200	V

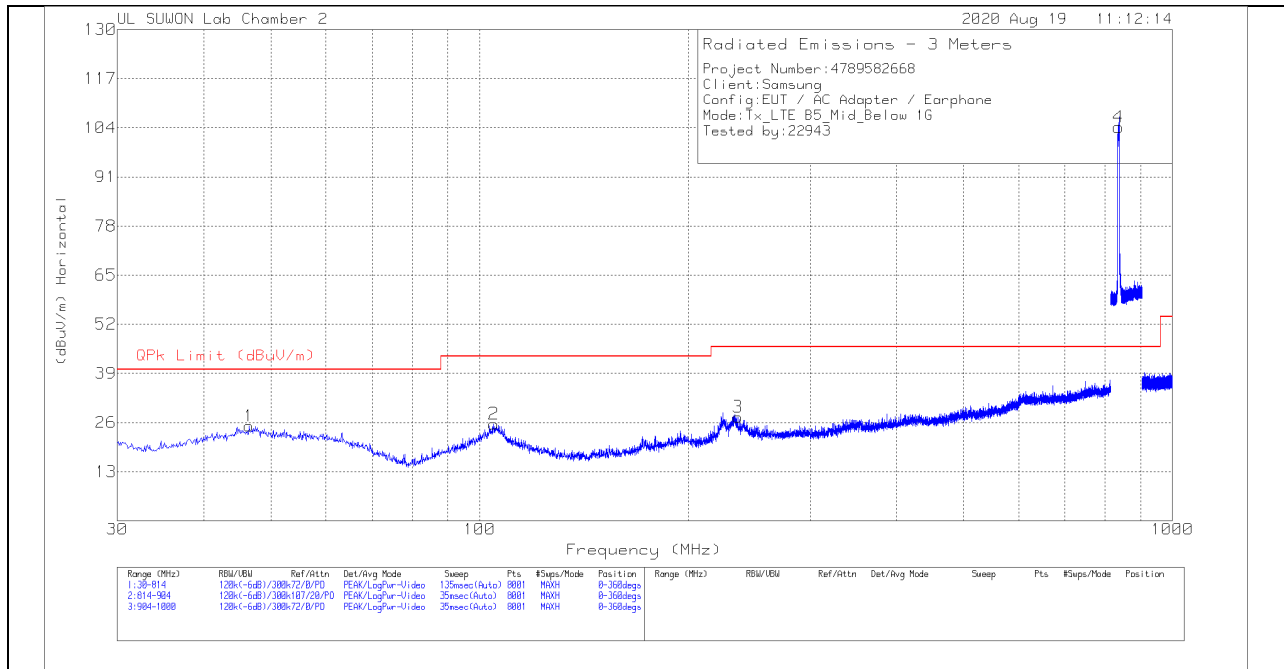
Pk - Peak detector

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

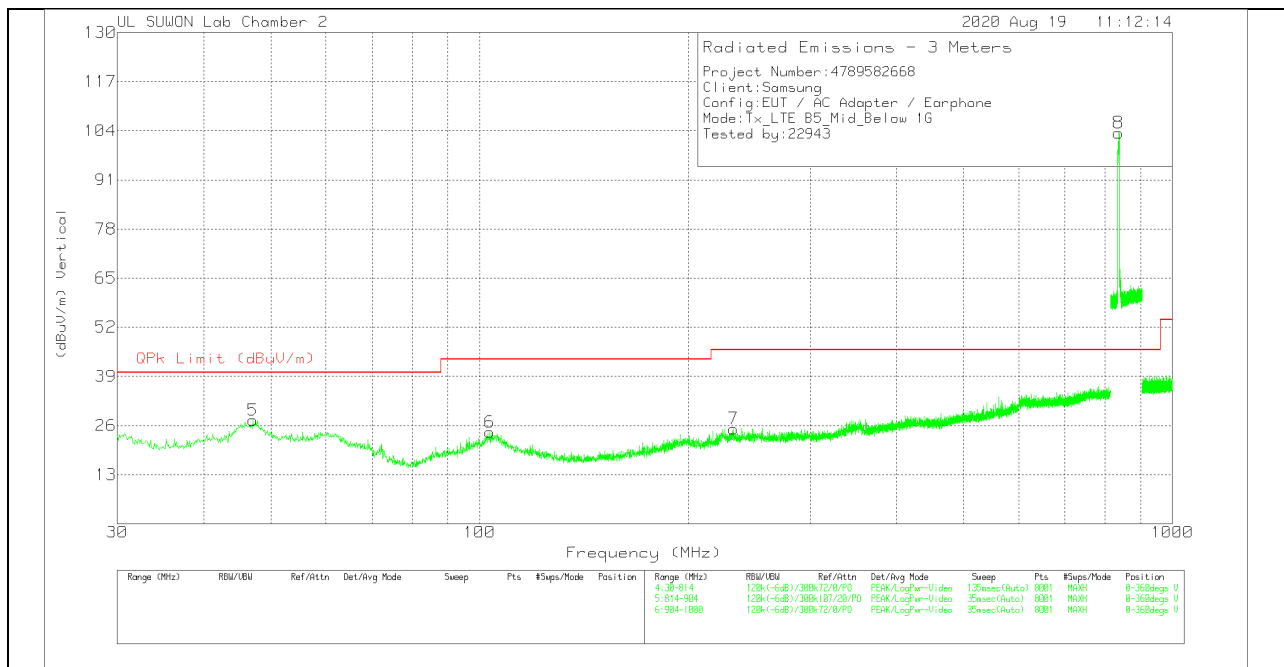
7.7. Below 1 GHz in the LTE Band 5

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	46.464	4.56	Pk	19.7	.8	25.06	40	-14.94	0-360	300	H
2	104.872	6.8	Pk	17.6	1.2	25.6	43.52	-17.92	0-360	200	H
3	235.996	7.74	Pk	18	1.7	27.44	46.02	-18.58	0-360	100	H
4	836.4438	73.95	Pk	26.9	3.3	104.15	46.02	58.13	0-360	200	H
5	47.052	6.78	Pk	19.8	.8	27.38	40	-12.62	0-360	100	V
6	103.5	5.53	Pk	17.6	1.1	24.23	43.52	-19.29	0-360	100	V
7	232.762	5.6	Pk	17.8	1.7	25.1	46.02	-20.92	0-360	100	V
8	836.3088	73.23	Pk	26.9	3.3	103.43	46.02	57.41	0-360	100	V

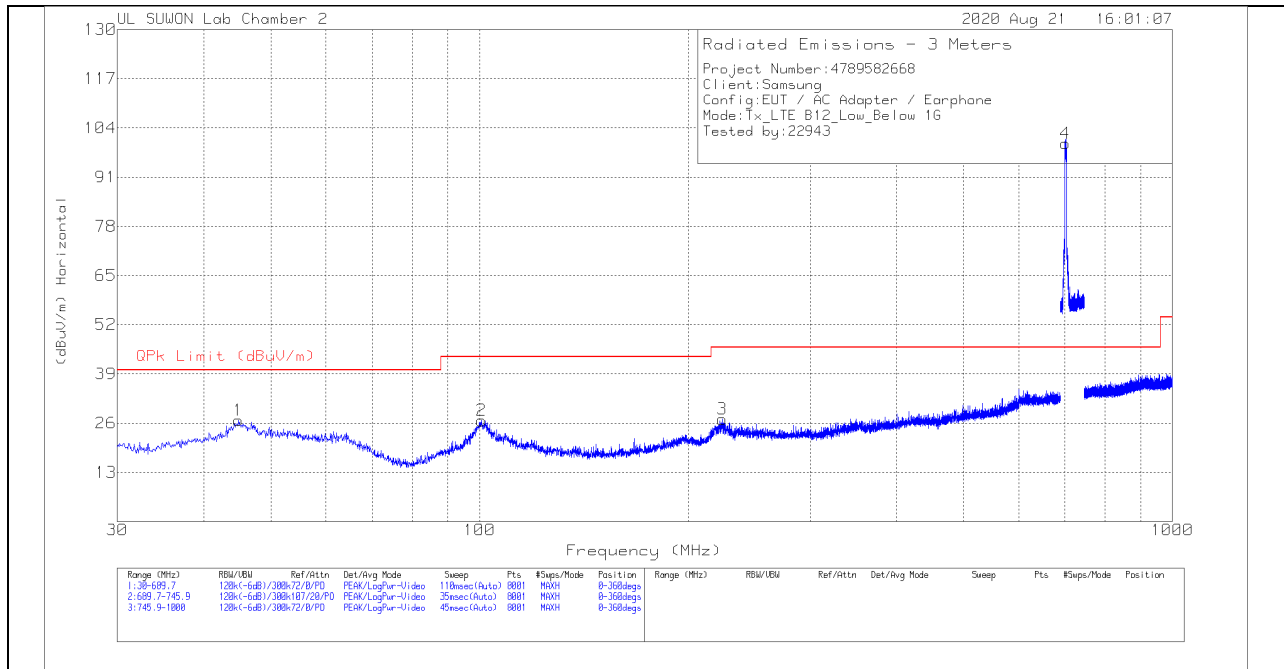
Pk - Peak detector

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

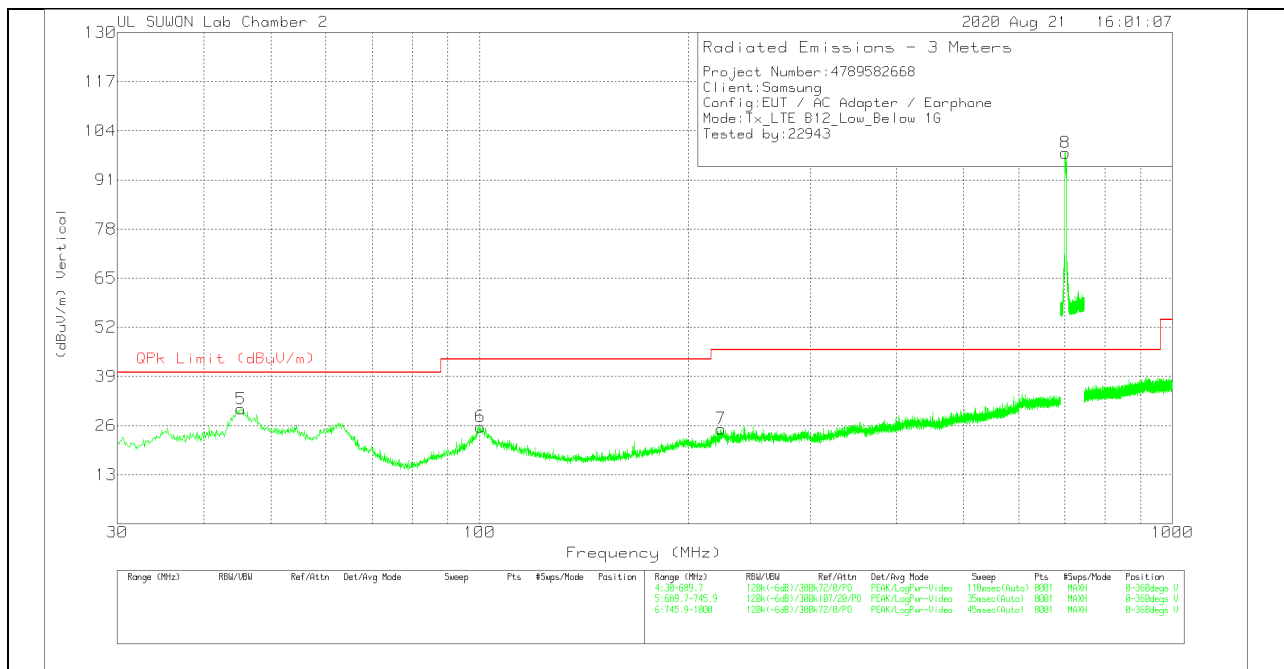
7.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

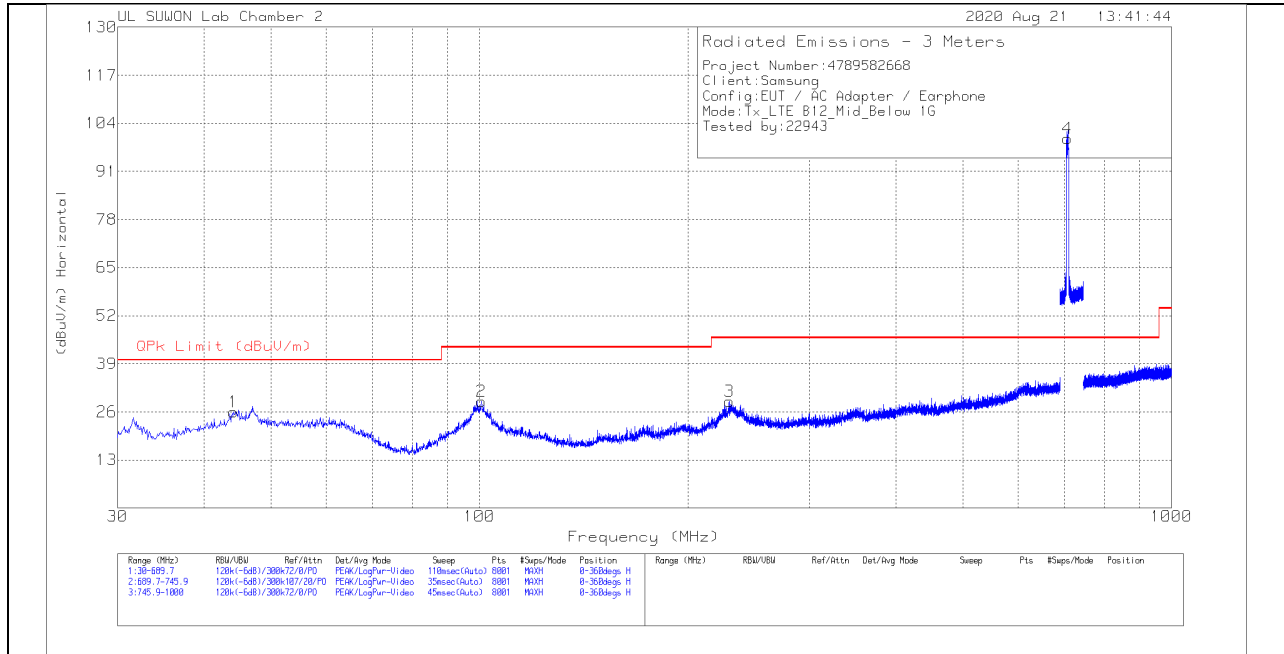
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	44.8433	6.31	Pk	19.6	.8	26.71	40	-13.29	0-360	400	H
2	100.7533	8.08	Pk	17.5	1.1	26.68	43.52	-16.84	0-360	300	H
3	224.1179	8.12	Pk	17.2	1.7	27.02	46.02	-19	0-360	100	H
4	701.3685	71.45	Pk	25.4	3	99.85	46.02	53.83	0-360	200	H
5	45.2557	9.98	Pk	19.6	.8	30.38	40	-9.62	0-360	100	V
6	100.3409	7.16	Pk	17.4	1.1	25.66	43.52	-17.86	0-360	100	V
7	223.1283	6.23	Pk	17.2	1.7	25.13	46.02	-20.89	0-360	200	V
8	701.1789	69.78	Pk	25.4	3	98.18	46.02	52.16	0-360	200	V

Pk - Peak detector

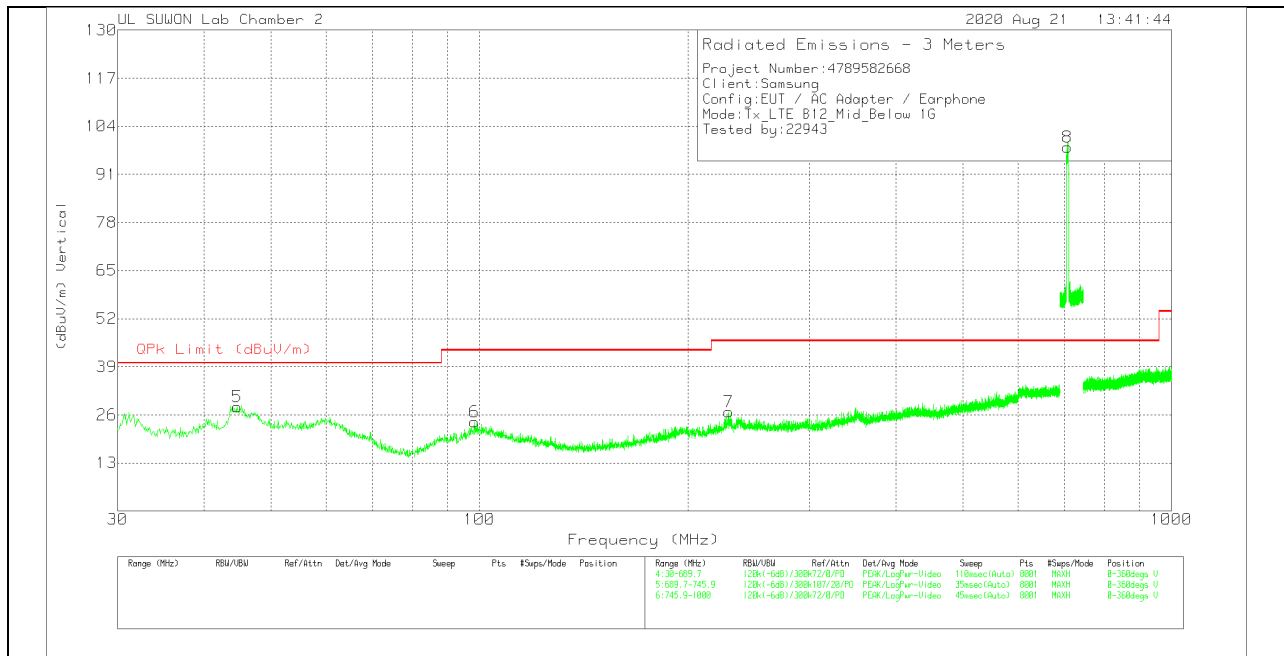
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

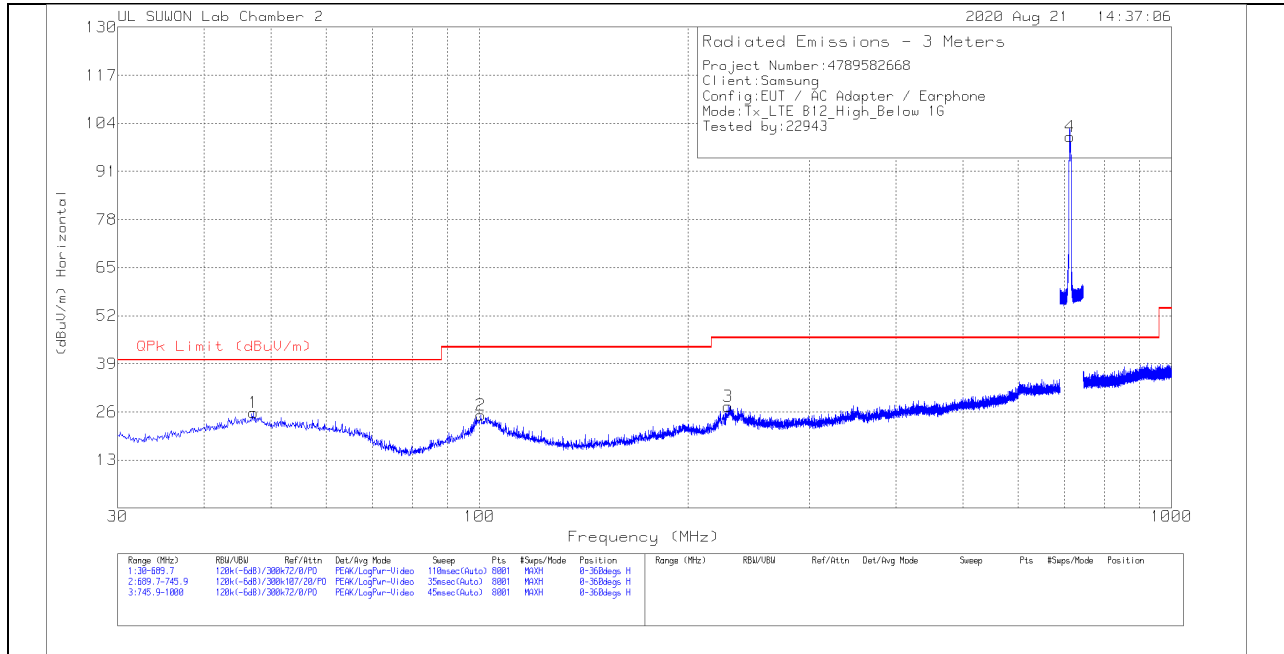
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	44.1012	5.83	Pk	19.5	.7	26.03	40	-13.97	0-360	400	H
2	100.6708	10.28	Pk	17.5	1.1	28.88	43.52	-14.64	0-360	200	H
3	229.478	9.61	Pk	17.6	1.7	28.91	46.02	-17.11	0-360	100	H
4	707.3538	71.34	Pk	25.5	3	99.84	46.02	53.82	0-360	100	H
5	44.6784	7.72	Pk	19.6	.8	28.12	40	-11.88	0-360	100	V
6	98.4443	5.9	Pk	17.2	1.1	24.2	43.52	-19.32	0-360	100	V
7	228.9832	7.6	Pk	17.5	1.7	26.8	46.02	-19.22	0-360	100	V
8	707.41	69.91	Pk	25.5	3	98.41	46.02	52.39	0-360	100	V

Pk - Peak detector

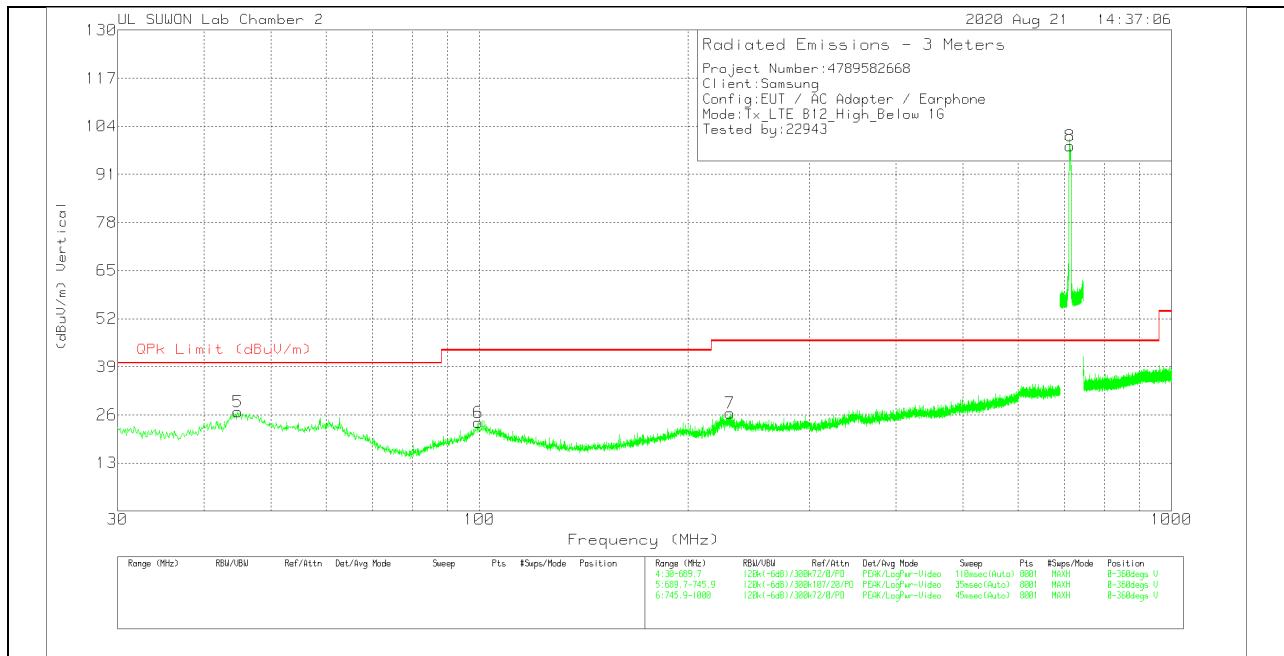
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(744.5 MHz)

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	47.1523	5.17	Pk	19.8	.8	25.77	40	-14.23	0-360	400	H
2	100.4234	6.68	Pk	17.4	1.1	25.18	43.52	-18.34	0-360	200	H
3	228.9008	8.34	Pk	17.5	1.7	27.54	46.02	-18.48	0-360	100	H
4	713.7817	71.77	Pk	25.6	3	100.37	46.02	54.35	0-360	100	H
5	44.7609	6.37	Pk	19.6	.8	26.77	40	-13.23	0-360	100	V
6	99.5163	5.44	Pk	17.4	1.1	23.94	43.52	-19.58	0-360	100	V
7	229.9728	7.23	Pk	17.6	1.7	26.53	46.02	-19.49	0-360	100	V
8	713.4024	70.11	Pk	25.6	3	98.71	46.02	52.69	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 TEST REPORT