



CERTIFICATION TEST REPORT

Report Number. : 4789867746-E1V1

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

Model : SM-T735

FCC ID : A3LSMT735

EUT Description : GSM/WCDMA/LTE Tablet + BT/BLE, DTS/UNII a/b/g/n/ac

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

Date Of Issue:

2021-04-22

Prepared by:

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ACCREDITED

Testing Laboratory

TL-637

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2021-04-22	Initial issue	Hyunsik Yun

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Tablet + BT/BLE, DTS/UNII a/b/g/n/ac
MODEL NUMBER: SM-T735
SERIAL NUMBER: R32R200DGQV (Radiated);
DATE TESTED: 2021-03-29 ~ 2021-04-22;

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 <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:

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

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

(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
Radiated Disturbance, 30 MHz to 1 GHz	4.26 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.90 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 Tablet + BT/BLE, DTS/UNII a/b/g/n/ac.
This test report addresses the WWAN receiver mode.

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 12	Communicating with Call simulator(CMW500)
LTE BAND 13	Communicating with Call simulator(CMW500)
LTE BAND 26	Communicating with Call simulator(CMW500)

5.3. WORST-CASE ORIENTATION AND MODE

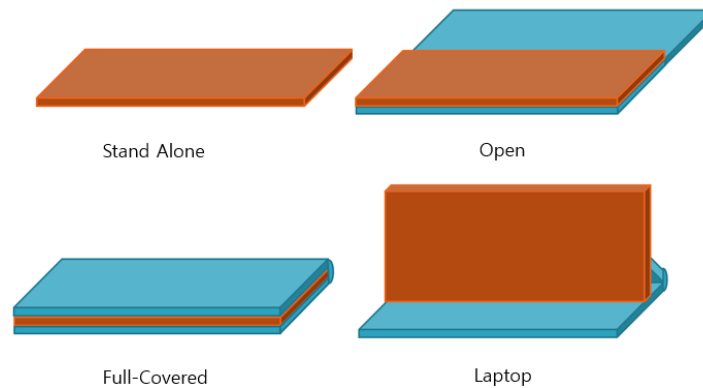
i. Worst Axis Condition

The fundamental and 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	RSE			
	X	Y	Z	Laptop
GSM850	-	-	-	O
WCDMA B5	Stand Alone	-	-	-
LTE B12	-	Stand Alone	-	-
LTE B13	Full Covered	-	-	-
LTE B26	-	Stand Alone	-	-

ii. Foldable Condition

The Fundamental of the EUT was investigated in three foldable conditions(Open, Laptop, Full-Covered).



WCDMA Band5

WCDMA Band 5 (Rx Frequency range: 871.4-891.6 MHz) is covered by GSM 850 (Rx Frequency range: 869-894 MHz) due to same frequency range. Therefore, only Mid channel was checked.

LTE Band 5

LTE Band 5 (Rx Frequency range: 869-894 MHz) is covered by LTE Band 26 (Rx Frequency range: 859-894 MHz) due to overlapping frequency range.

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.

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

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA200	R37R1XS0P35DK3	N/A
Data Cable	SAMSUNG	EP-DT725BBE	N/A	N/A

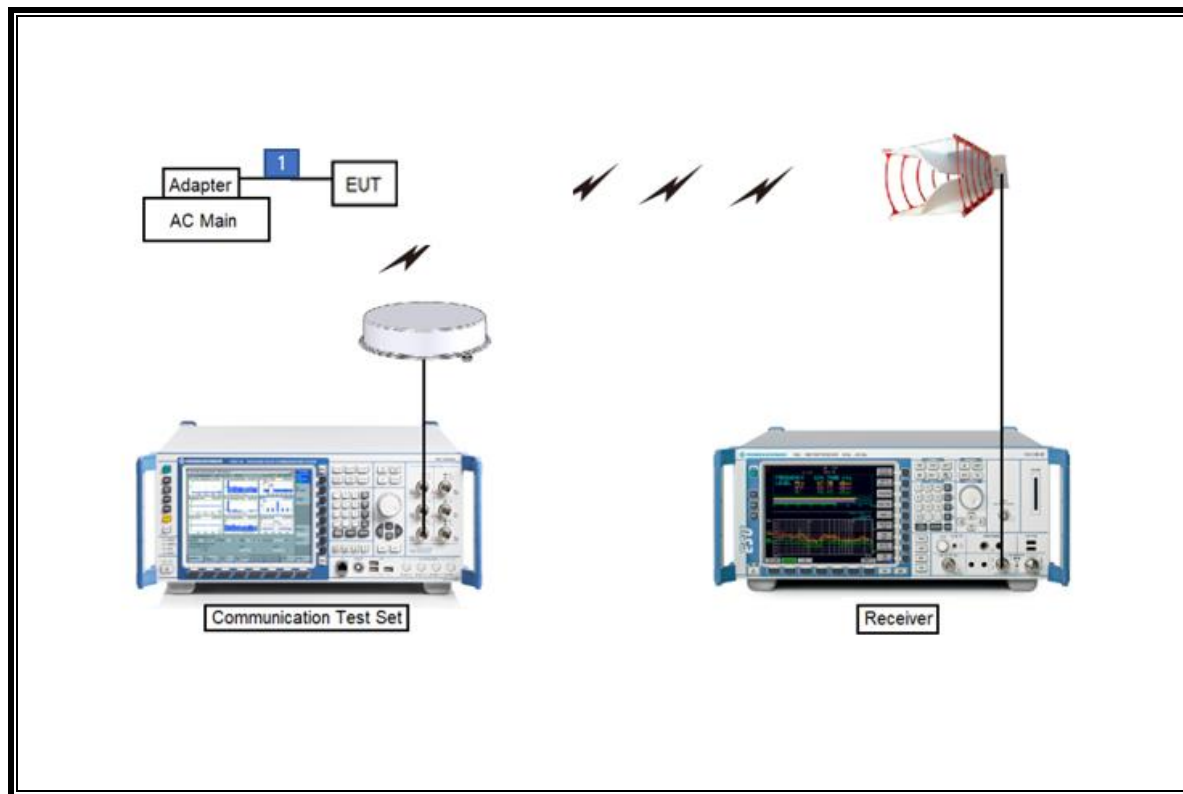
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

TEST SETUP

The EUT is 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, Horn, 40 GHz	ETS	3116C	00166155	08-04-22
Preamplifier	ETS	3116C-PA	00168841	08-06-21
Antenna, Horn, 40 GHz	ETS	3116C	00168645	08-04-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-19-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-13-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	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
Communications Test Set	R&S	CMW500	115331	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-06-21
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	2029169	08-04-21
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	PE7004-10	2	08-04-21
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:

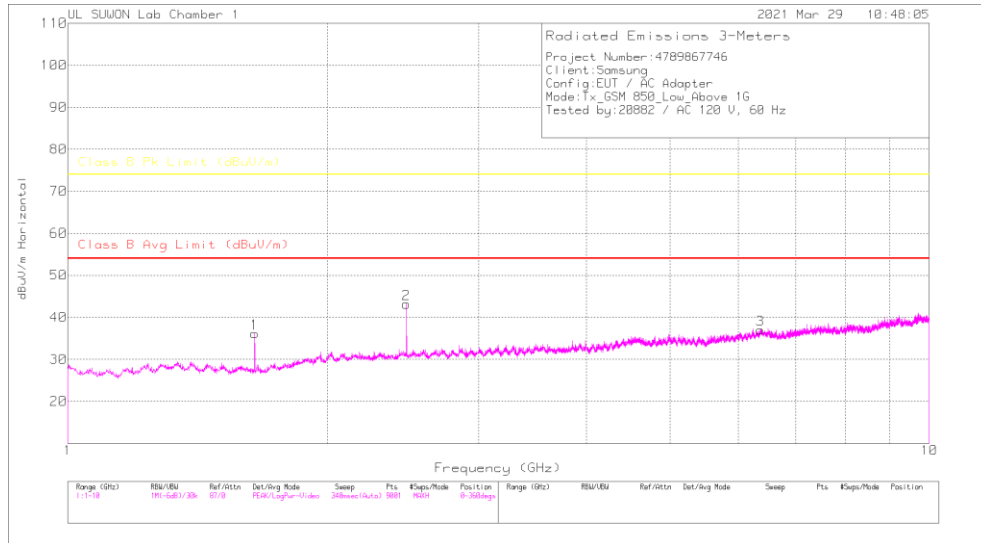
Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

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

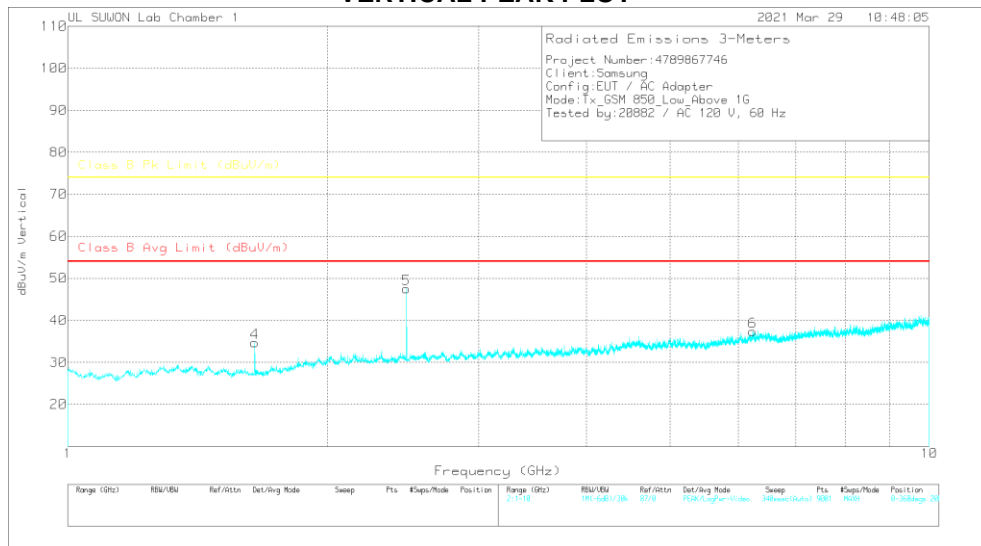
7.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

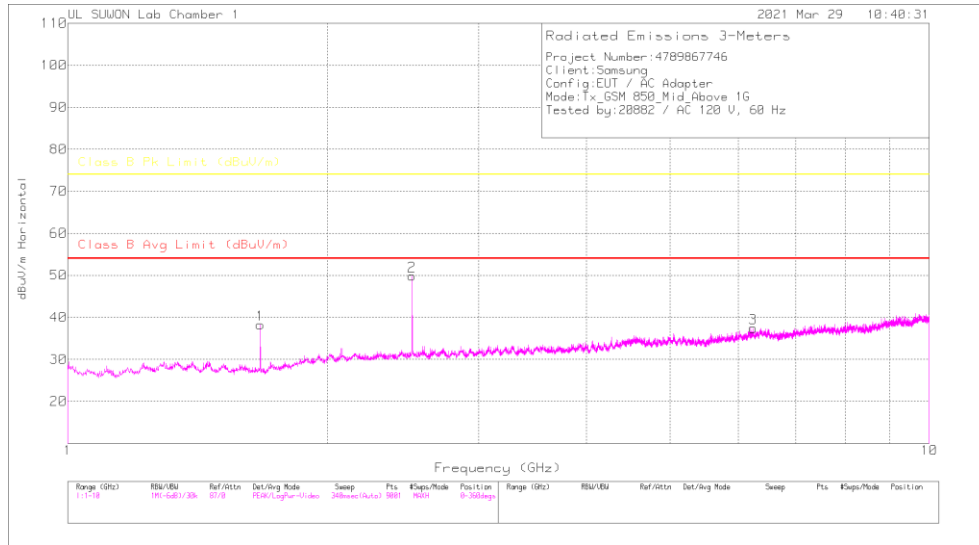
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-10Hz(dB)	1GHz_HPF	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CSPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.648	43.73	PK	28.4	-36.6	.6	36.18	-	-	74	-37.82	0-360	200	H
2	2.472	45.68	PK	31.9	-35.1	.7	43.18	-	-	74	-30.82	0-360	200	H
3	6.37	30.86	PK	35.5	-29.8	.5	37.06	-	-	74	-36.94	0-360	100	H
4	1.648	42.28	PK	28.4	-36.6	.6	34.68	-	-	74	-39.32	0-360	100	V
5	2.472	50.01	PK	31.9	-35.1	.7	47.51	-	-	74	-28.49	0-360	100	V
6	6.239	31.45	PK	35.5	-30.1	.5	37.35	-	-	74	-36.65	0-360	100	V

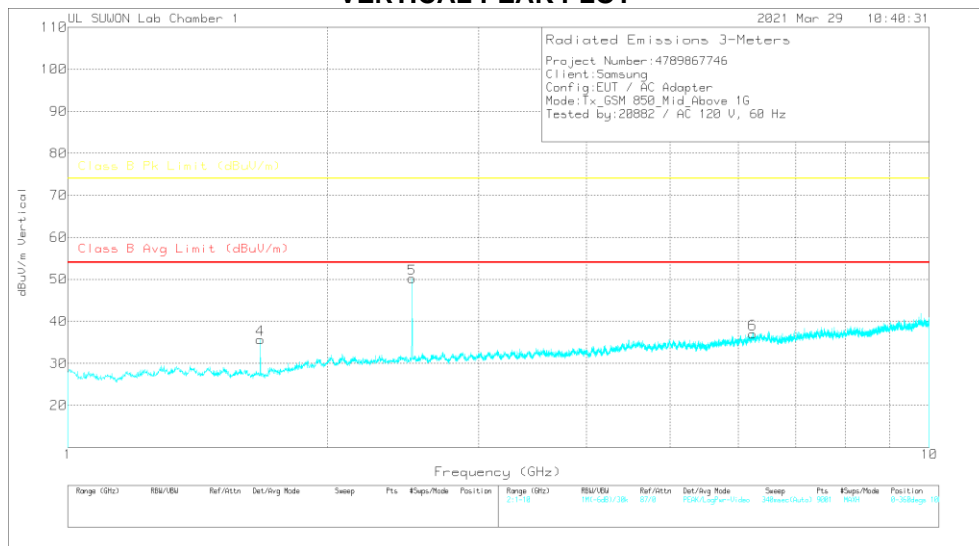
PK-Peak Detector

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

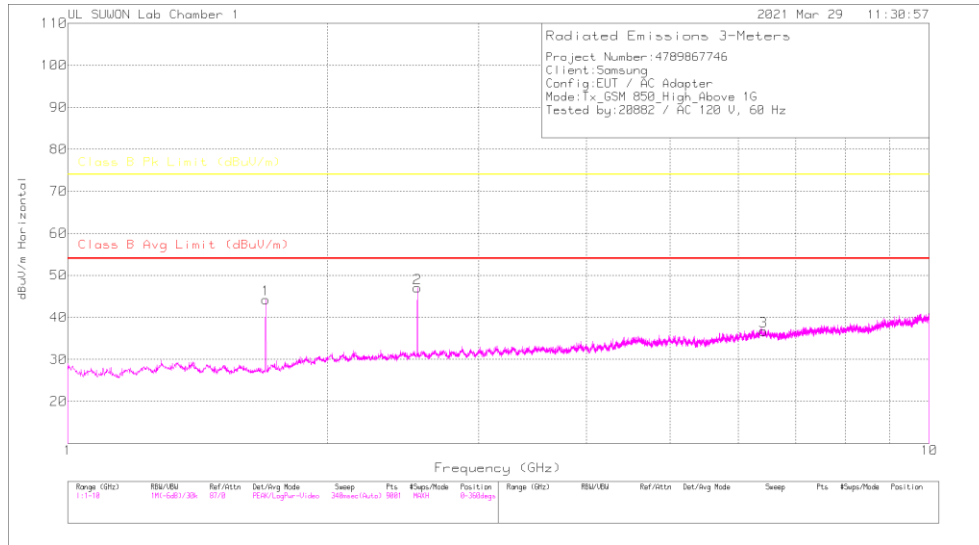
Trace Markers

Marker	Frequency (GHz)	Meas 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	1.673	46.88	PK		-36.6	.5	38.28	-	-	74	-35.72	0-360	100	H
2	2.51	52.37	PK		-35	.5	49.87	-	-	74	-24.13	0-360	200	H
3	6.248	31.53	PK		-30.1	.5	37.43	-	-	74	-36.57	0-360	200	H
4	1.673	43.26	PK		-36.6	.5	35.66	-	-	74	-38.34	0-360	200	V
5	2.509	52.69	PK		-35	.5	50.19	-	-	74	-23.81	0-360	200	V
6	6.238	31.13	PK		-30.1	.5	37.03	-	-	74	-36.97	0-360	100	V

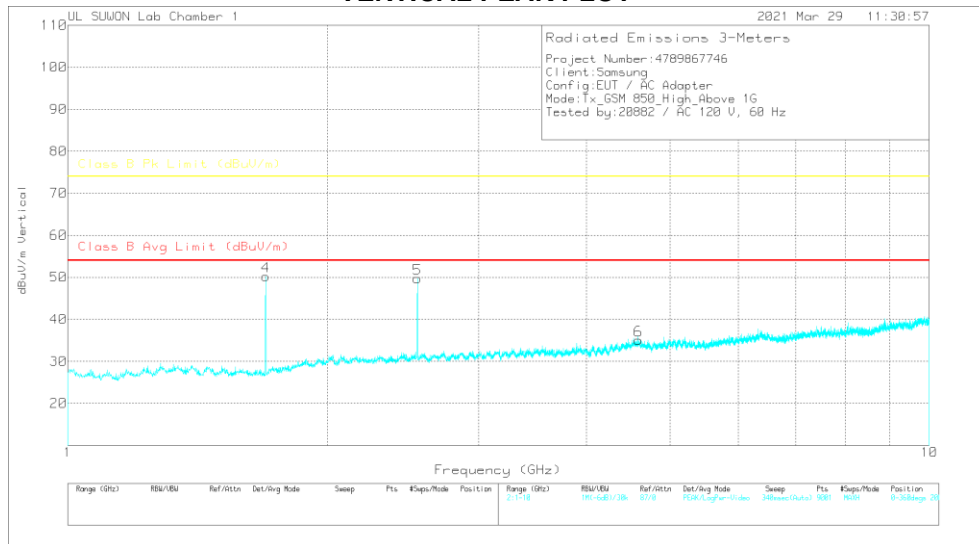
PK – Peak Detector

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

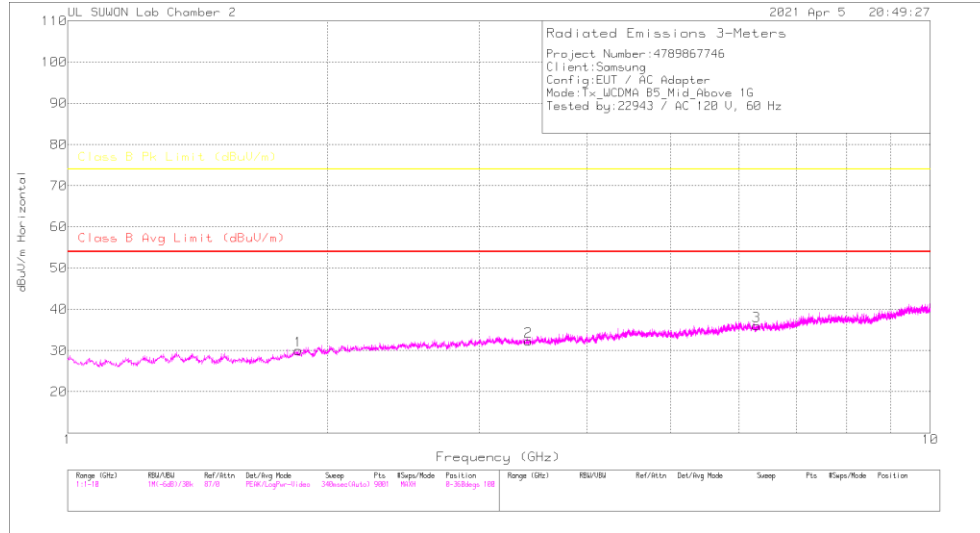
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	51.56	PK	28.6	-36.5	.6	44.26	-	-	74	-29.74	0-360	200	H
2	2.546	49.09	PK	32	-34.8	.7	46.99	-	-	74	-27.01	0-360	200	H
3	6.422	30.61	PK	35.5	-29.8	.4	36.71	-	-	74	-37.29	0-360	100	H
4	1.697	57.55	PK	28.6	-36.5	.6	50.25	-	-	74	-23.75	0-360	200	V
5	2.546	51.82	PK	32	-34.8	.7	49.72	-	-	74	-24.28	0-360	200	V
6	4.597	32.55	PK	34.2	-32.1	.4	35.05	-	-	74	-38.95	0-360	200	V

PK – Peak Detector

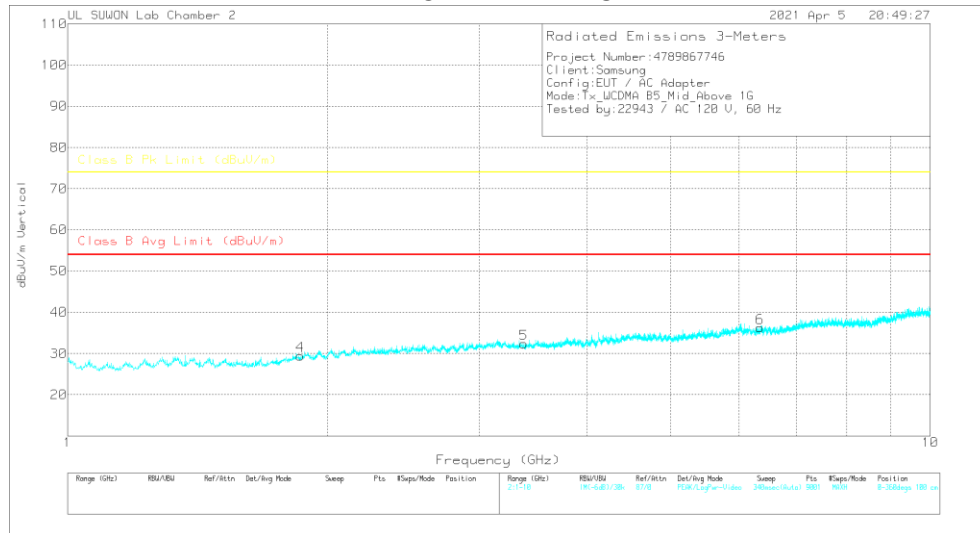
7.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

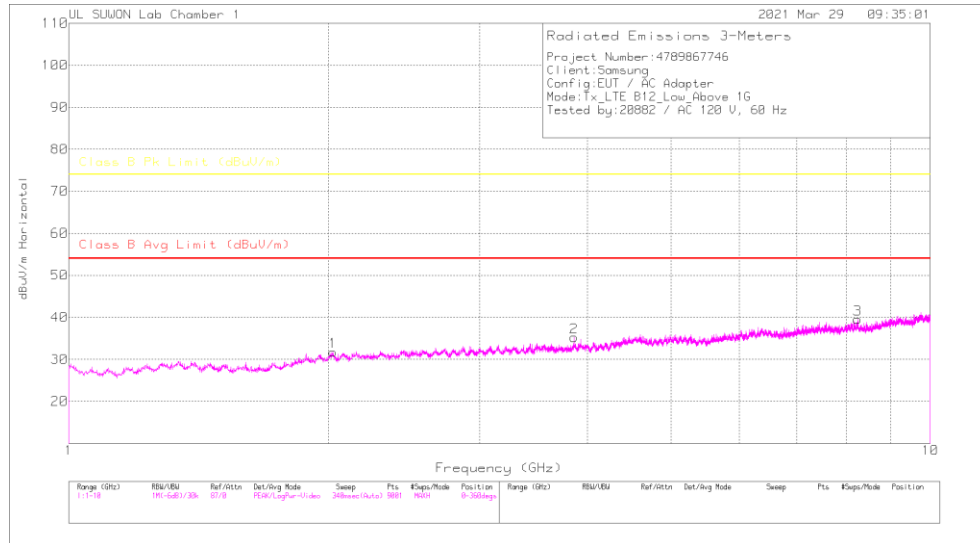
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.85	30	PK		-31	.7	30	-	-	74	-44	0-360	100	H
2	3.42	28.12	PK		-29.3	.7	32.22	-	-	74	-41.78	0-360	100	H
3	6.292	26.96	PK		-26.7	.5	36.06	-	-	74	-37.94	0-360	100	H
4	1.861	29.36	PK		-31	.7	29.46	-	-	74	-44.54	0-360	100	V
5	3.379	28.33	PK		-29.3	.7	32.43	-	-	74	-41.57	0-360	100	V
6	6.35	26.86	PK		-26.5	.5	36.26	-	-	74	-37.74	0-360	200	V

PK – Peak Detector

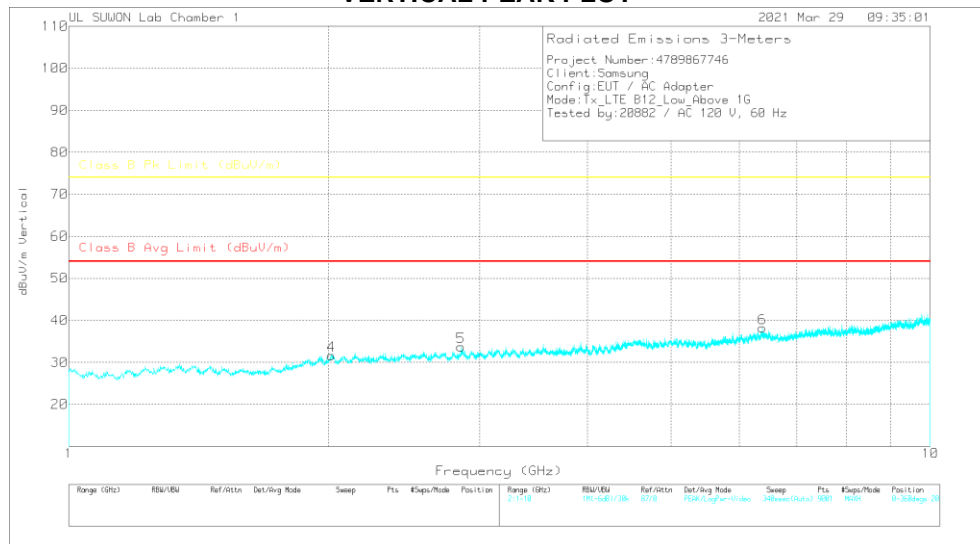
7.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

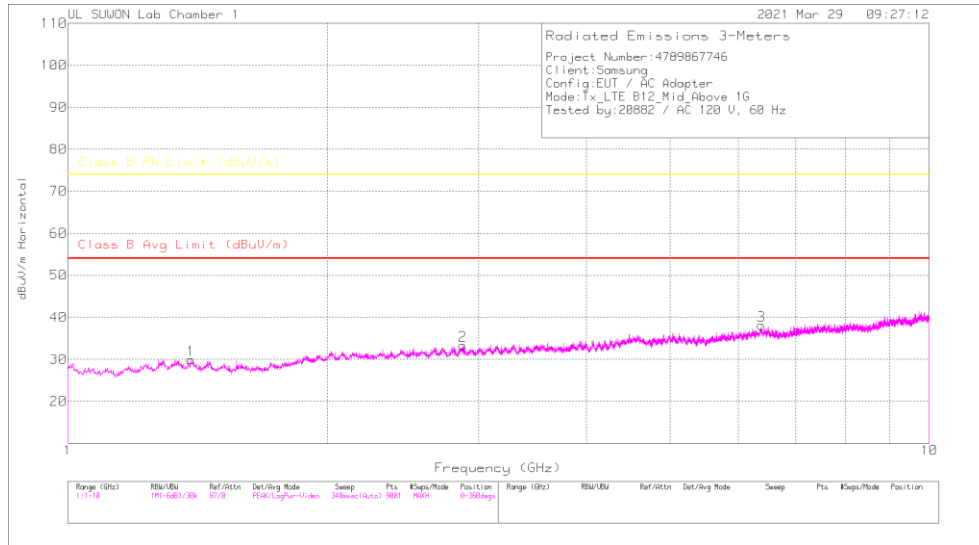
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-10GHz(dB)	1GHz_HPF	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CSPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.025	35.49	PK	31.5	-35.8	.6	31.79	-	-	74	-42.21	0-360	201	H
2	3.86	34.65	PK	33.3	-33.1	.4	35.25	-	-	74	-38.75	0-360	201	H
3	8.235	28.85	PK	36.3	-26.2	.6	39.55	-	-	74	-34.45	0-360	100	H
4	2.017	35.33	PK	31.5	-35.8	.6	31.63	-	-	74	-42.37	0-360	201	V
5	2.853	34.61	PK	32.3	-34.1	.9	33.71	-	-	74	-40.29	0-360	100	V
6	6.387	32	PK	35.5	-29.8	.5	38.2	-	-	74	-35.8	0-360	100	V

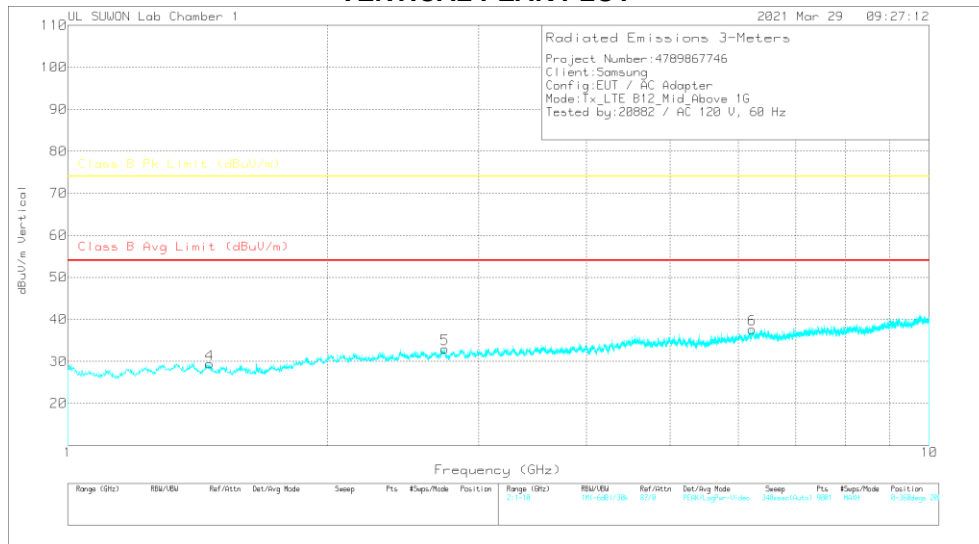
PK – Peak Detector

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

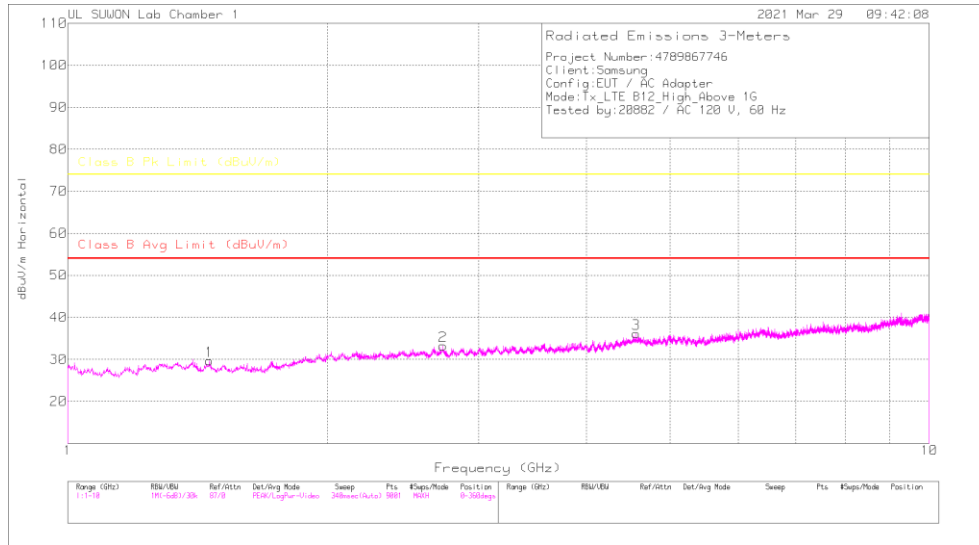
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_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	1.389	37.01	PK	29.4	-37.1	.6	29.91	-	-	74	-44.09	0-360	100	H
2	2.873	34.55	PK	32.3	-34.3	.8	33.35	-	-	74	-40.65	0-360	200	H
3	6.383	31.92	PK	35.5	-29.8	.5	38.12	-	-	74	-35.88	0-360	200	H
4	1.461	36.4	PK	29.1	-36.9	.8	29.4	-	-	74	-44.6	0-360	200	V
5	2.739	34.8	PK	32.2	-34.6	.6	33	-	-	74	-41	0-360	200	V
6	6.232	31.76	PK	35.5	-30.1	.5	37.66	-	-	74	-36.34	0-360	200	V

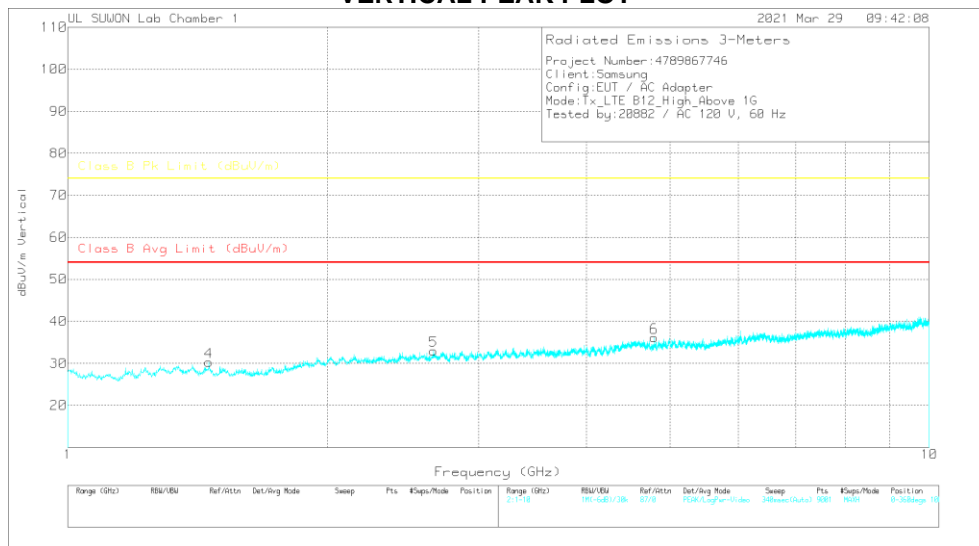
PK – Peak Detector

HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

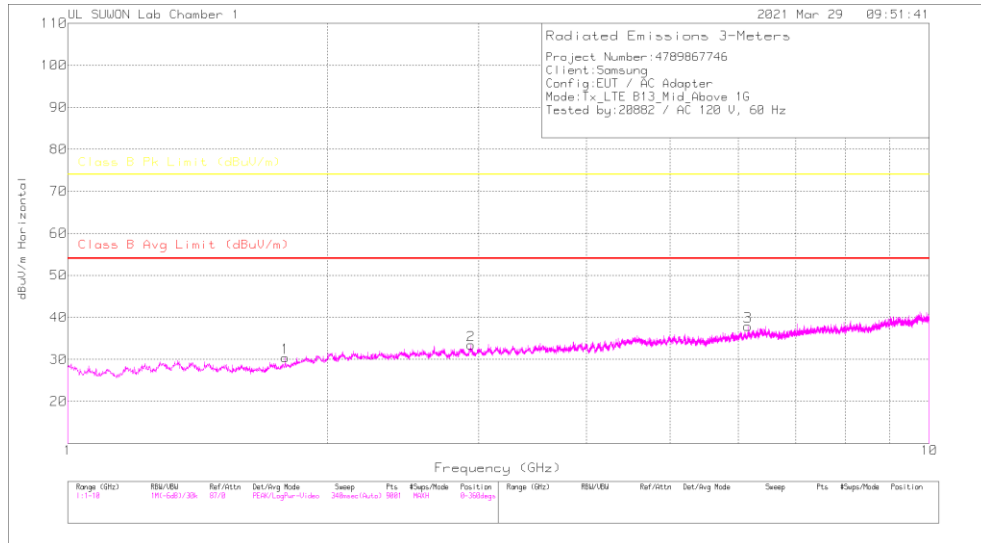
Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	3117_00168717	1-18GHz[dB]	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Avi(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.46	36.69	PK		-36.9	.8	29.69	-	-	74	-44.31	0-360	200	H
2	2.726	34.76	PK		-34.4	.8	33.26	-	-	74	-40.74	0-360	100	H
3	4.568	33.86	PK		-32.3	.4	36.16	-	-	74	-37.84	0-360	100	H
4	1.458	37.33	PK		-36.9	.8	30.33	-	-	74	-43.67	0-360	200	V
5	2.659	35.12	PK		-34.8	.6	33.02	-	-	74	-40.98	0-360	100	V
6	4.792	33.75	PK		-32.1	.4	36.15	-	-	74	-37.85	0-360	200	V

PK – Peak Detector

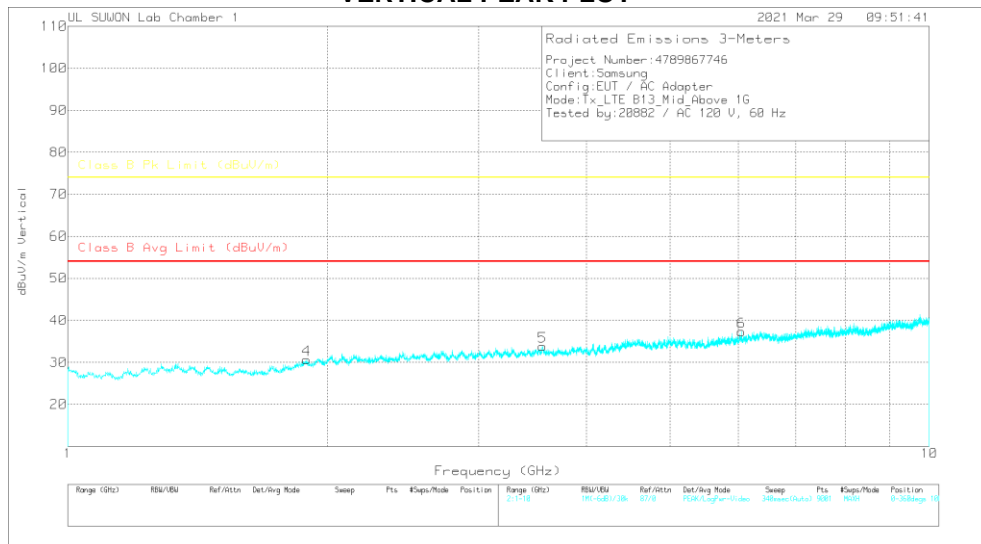
7.4. Above 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

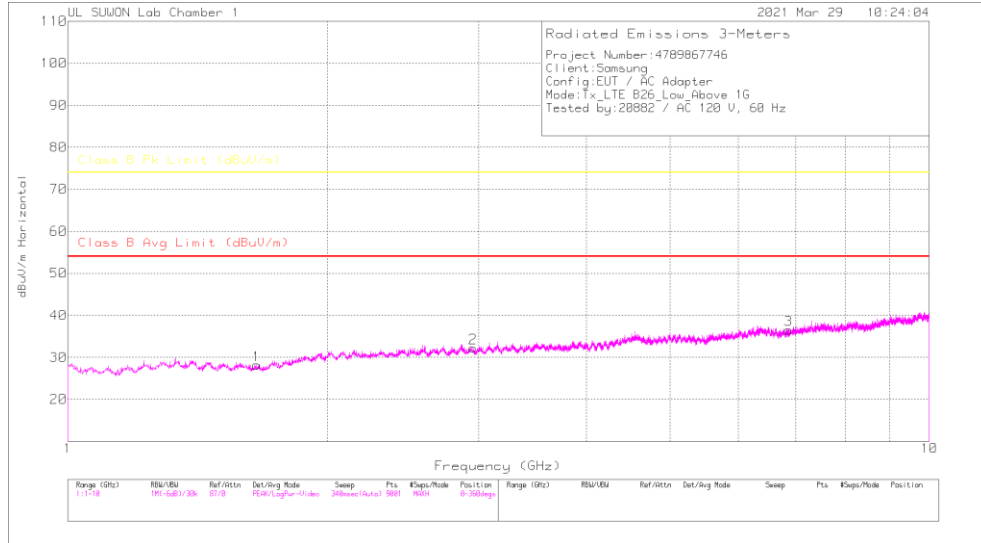
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-18GHz(dB)	1GHz_HPF	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.788	36.72	PK	29.4	-36.2	.5	30.42	-	-	74	-43.58	0-360	200	H
2	2.937	34.85	PK	32.3	-34.3	.6	33.45	-	-	74	-40.55	0-360	200	H
3	6.157	32.29	PK	35.4	-30.2	.4	37.89	-	-	74	-36.11	0-360	100	H
4	1.893	35.58	PK	30.6	-36.2	.7	30.68	-	-	74	-43.32	0-360	100	V
5	3.557	33.63	PK	33	-33.4	.6	33.83	-	-	74	-40.17	0-360	200	V
6	6.051	32.12	PK	35.3	-30.6	.5	37.32	-	-	74	-36.68	0-360	200	V

PK – Peak Detector

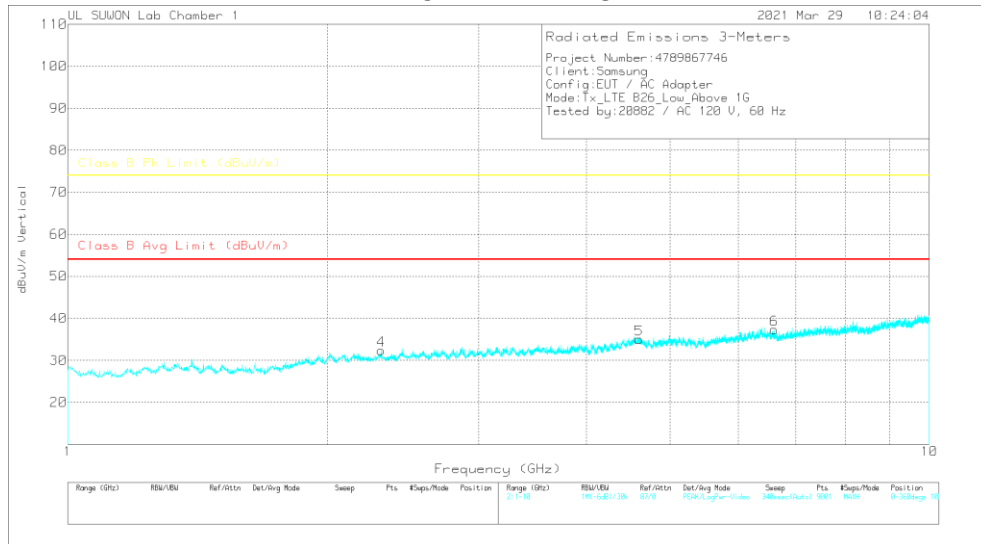
7.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

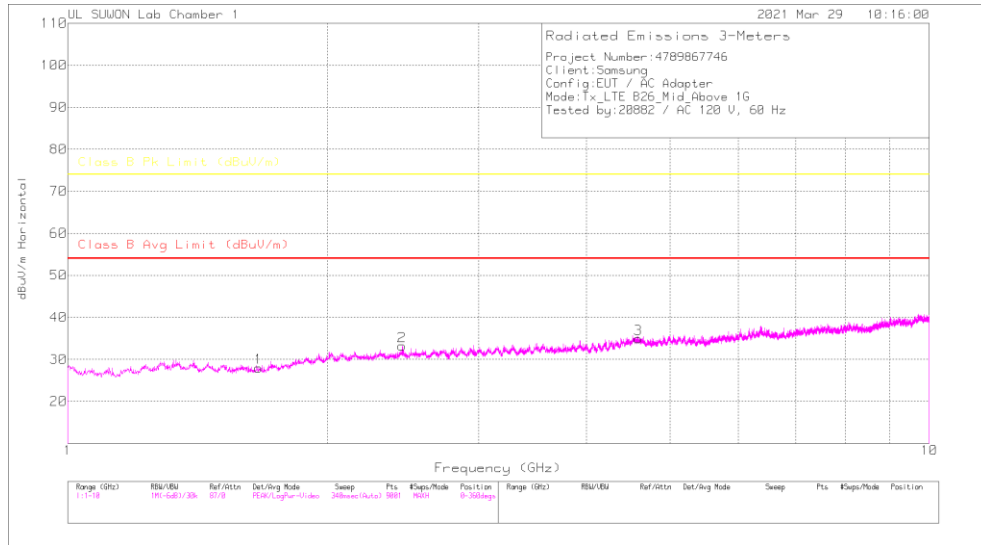
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	1-10Hz(dB)	1GHz_HPF	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CSPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.657	35.77	PK		-36.5	.5	28.17	-	-	74	-45.83	0-360	100	H
2	2.954	33.75	PK		-34.4	.6	32.25	-	-	74	-41.75	0-360	100	H
3	6.867	29.37	PK		-28.8	.4	36.57	-	-	74	-37.43	0-360	100	H
4	2.312	35.57	PK		-35.6	.8	32.37	-	-	74	-41.63	0-360	100	V
5	4.604	32.61	PK		-32.2	.4	35.01	-	-	74	-38.99	0-360	200	V
6	6.608	30.81	PK		-29.4	.5	37.31	-	-	74	-36.69	0-360	200	V

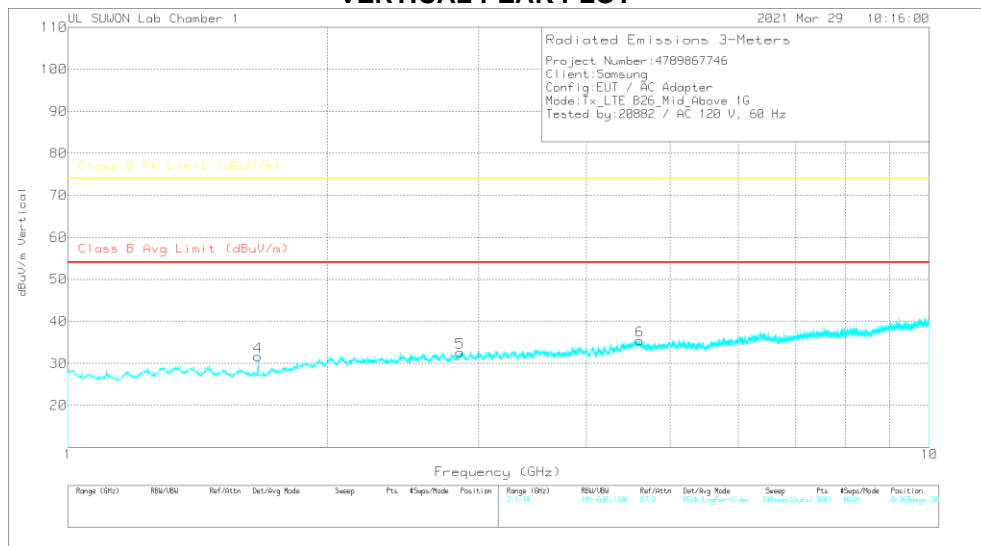
PK – Peak Detector

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

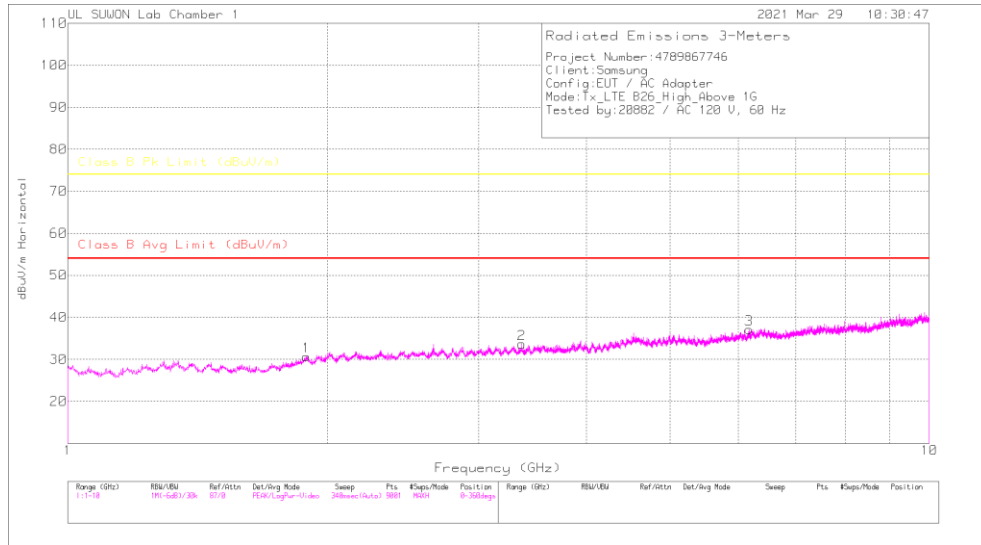
Trace Markers

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	1.666	35.6	PK	28.4	-36.5	.5	28	-	-	74	-46	0-360	200	H
2	2.443	35.58	PK	31.9	-35.1	.8	33.18	-	-	74	-40.82	0-360	200	H
3	4.596	32.5	PK	34.2	-32.2	.4	34.9	-	-	74	-39.1	0-360	200	H
4	1.662	39.23	PK	28.4	-36.5	.5	31.63	-	-	74	-42.37	0-360	200	V
5	2.853	33.53	PK	32.3	-34.1	.9	32.63	-	-	74	-41.37	0-360	200	V
6	4.612	33.17	PK	34.2	-32.3	.4	35.47	-	-	74	-38.53	0-360	200	V

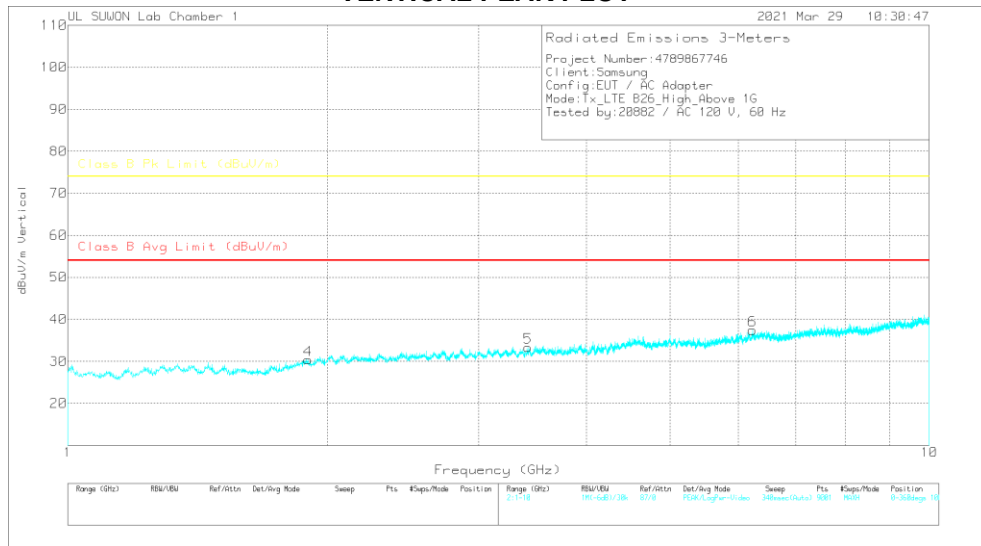
PK – Peak Detector

HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

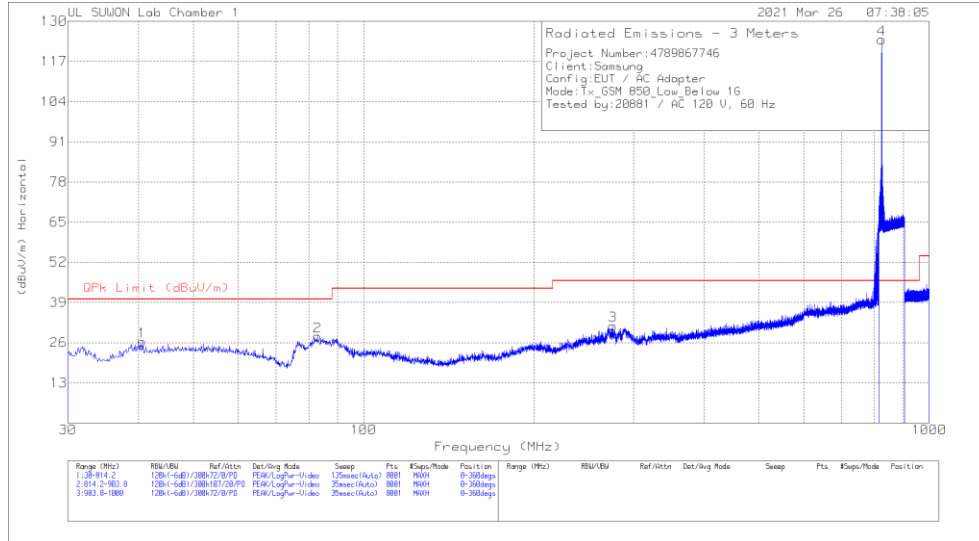
Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	3117_00168717	1-18GHz[dB]	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.891	36.49	PK		-36.1	.7	30.69	-	-	74	-43.31	0-360	100	H
2	3.367	34.36	PK		-33.9	.6	33.66	-	-	74	-40.34	0-360	100	H
3	6.178	31.53	PK		-30.2	.4	37.13	-	-	74	-36.87	0-360	100	H
4	1.901	35.18	PK		-36.2	.7	30.38	-	-	74	-43.62	0-360	100	V
5	3.42	33.65	PK		-33.6	.6	33.35	-	-	74	-40.65	0-360	100	V
6	6.234	31.55	PK		-30.1	.5	37.45	-	-	74	-36.55	0-360	200	V

PK – Peak Detector

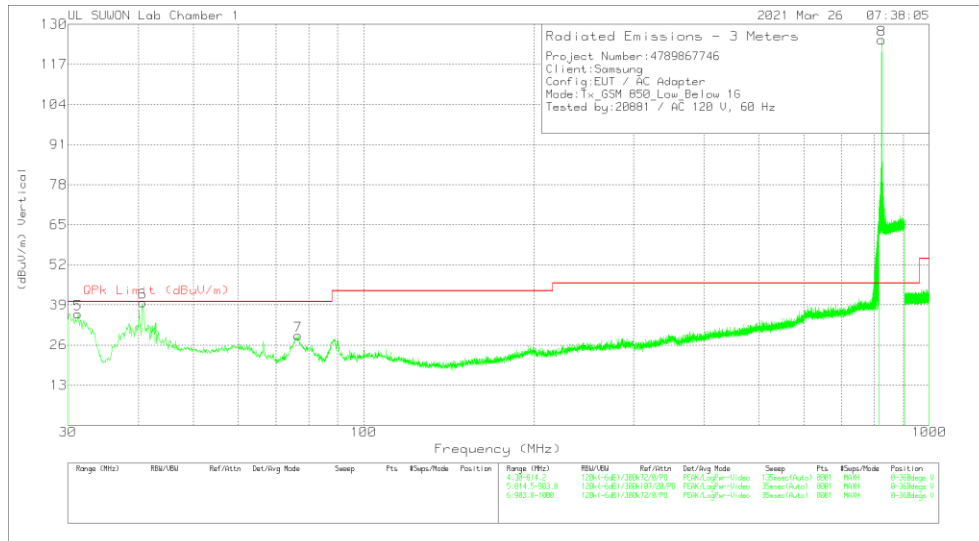
7.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.5867	5.87	Pk	18.8	1.7	26.37	40	-13.63	0-360	100	H
2	82.9335	12.24	Pk	13.3	2.5	28.04	40	-11.96	0-360	200	H
3	275.9447	8.39	Pk	18.7	4.4	31.49	46.02	-14.53	0-360	100	H
4	824.1904	89.41	Pk	27.1	7.6	124.11	46.02	78.09	0-360	100	H
5	31.2743	18.93	Pk	15.7	1.4	36.03	40	-3.97	0-360	100	V
6	40.6847	19.39	Pk	18.8	1.6	39.79	40	-.21	0-360	100	V
7	76.6599	13.87	Pk	12.9	2.3	29.07	40	-10.93	0-360	100	V
8	824.1951	90.23	Pk	27.1	7.6	124.93	46.02	78.91	0-360	100	V

Pk - Peak detector

Radiated Emissions

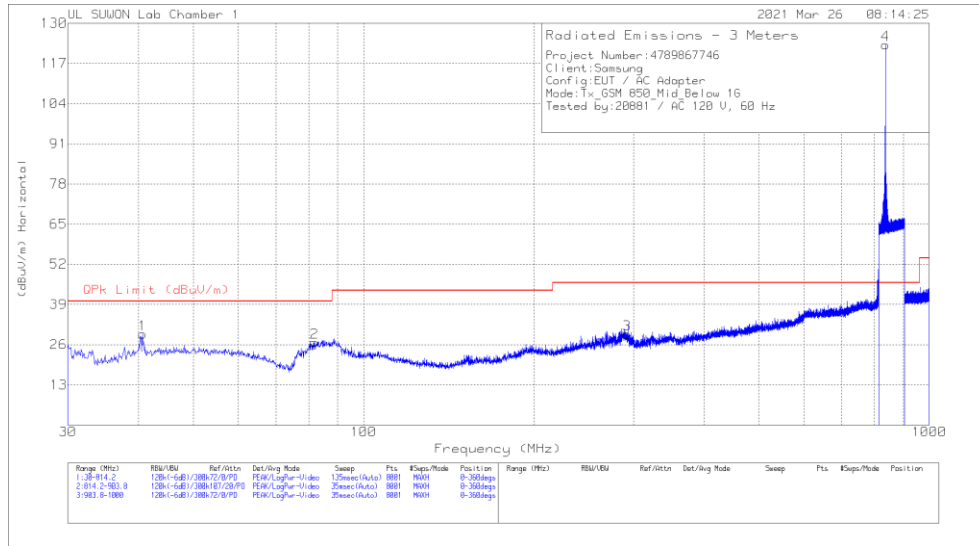
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
31.2743	11.6	Qp	15.7	1.4	28.7	40	-11.3	315	100	V
40.6847	10.92	Qp	18.8	1.6	31.32	40	-8.68	200	212	V

Qp - Quasi-Peak detector

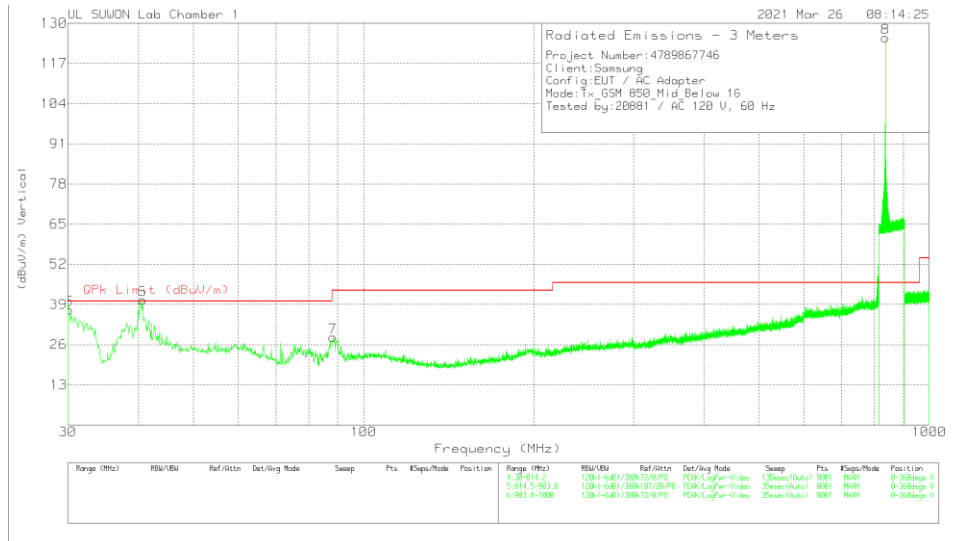
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6847	9.01	Pk	18.8	1.6	29.41	40	-10.59	0-360	200	H
2	81.8552	11.33	Pk	13	2.4	26.73	40	-13.27	0-360	200	H
3	292.3149	5.65	PK	19.1	4.6	29.35	46.02	-16.67	0-360	100	H
4	836.6	88.31	Pk	27.1	7.6	123.01	46.02	76.99	0-360	100	H
5	30.1961	19.83	Pk	15.9	1.5	37.23	40	-2.77	0-360	100	V
6	40.6847	20.05	Pk	18.8	1.6	40.45	40	.45	0-360	100	V
7	88.3249	10.59	Pk	15.3	2.5	28.39	43.52	-15.13	0-360	100	V
8	836.5358	90.62	PK	27.1	7.6	125.32	46.02	79.3	0-360	100	V

Pk - Peak detector

Radiated Emissions

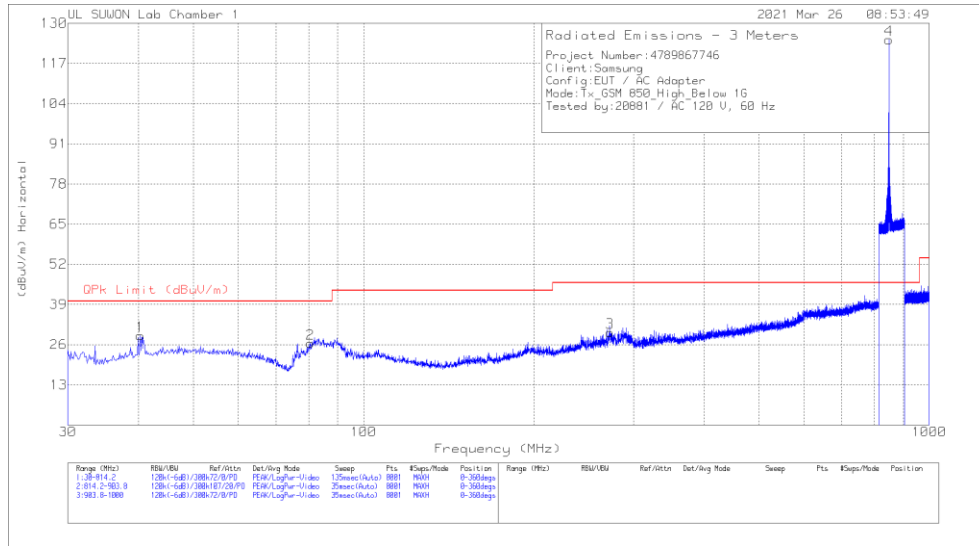
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
30.2181	14.84	Qp	15.9	1.5	32.24	40	-7.76	316	109	V
40.6847	12.95	Qp	18.8	1.6	33.35	40	-6.65	180	100	V

Qp - Quasi-Peak detector

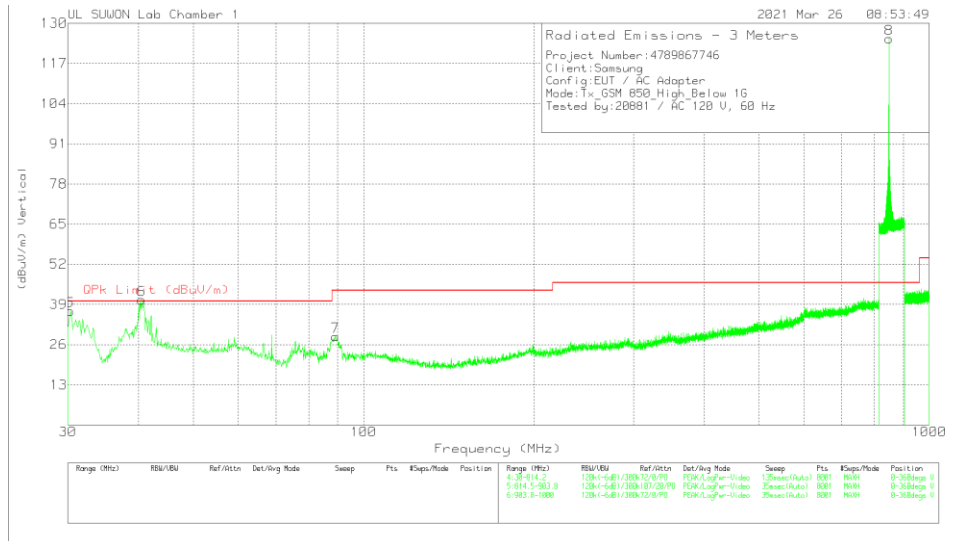
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.2926	8.43	Pk	18.8	1.7	28.93	40	-11.07	0-360	200	H
2	80.4829	11.38	Pk	12.7	2.3	26.38	40	-13.62	0-360	200	H
3	272.906	6.96	Pk	18.7	4.3	29.96	46.02	-16.06	0-360	100	H
4	848.7408	89.61	Pk	27.4	7.7	124.71	46.02	78.69	0-360	100	H
5	30.2941	19.33	Pk	15.9	1.6	36.83	40	-3.17	0-360	100	V
6	40.4887	19.88	Pk	18.8	1.8	40.48	40	.48	0-360	100	V
7	89.2071	10.42	Pk	15.6	2.6	28.62	43.52	-14.9	0-360	100	V
8	848.8597	89.86	Pk	27.4	7.7	124.96	46.02	78.94	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
30.2941	12.86	Qp	15.9	1.6	30.36	40	-9.64	293	101	V
40.4887	12.52	Qp	18.8	1.8	33.12	40	-6.88	176	103	V

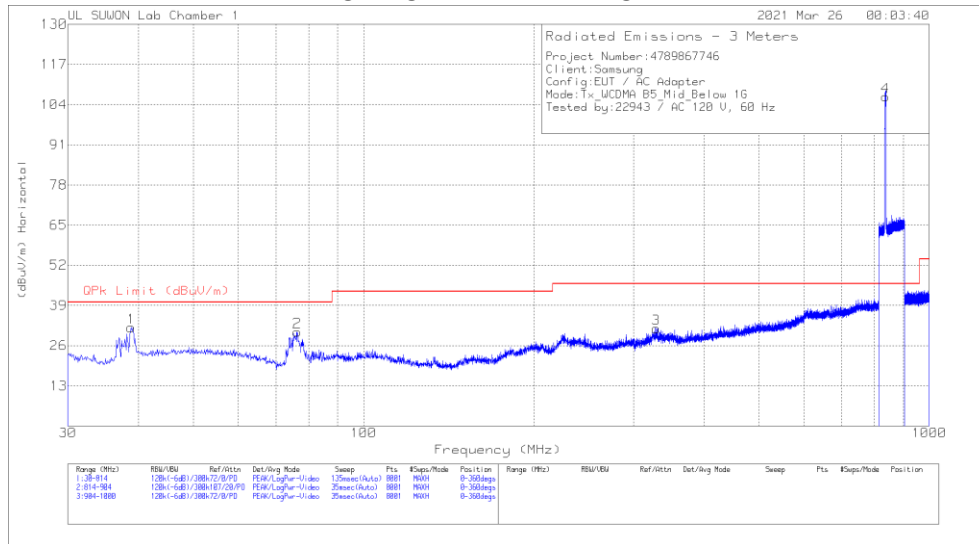
Qp - Quasi-Peak detector

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

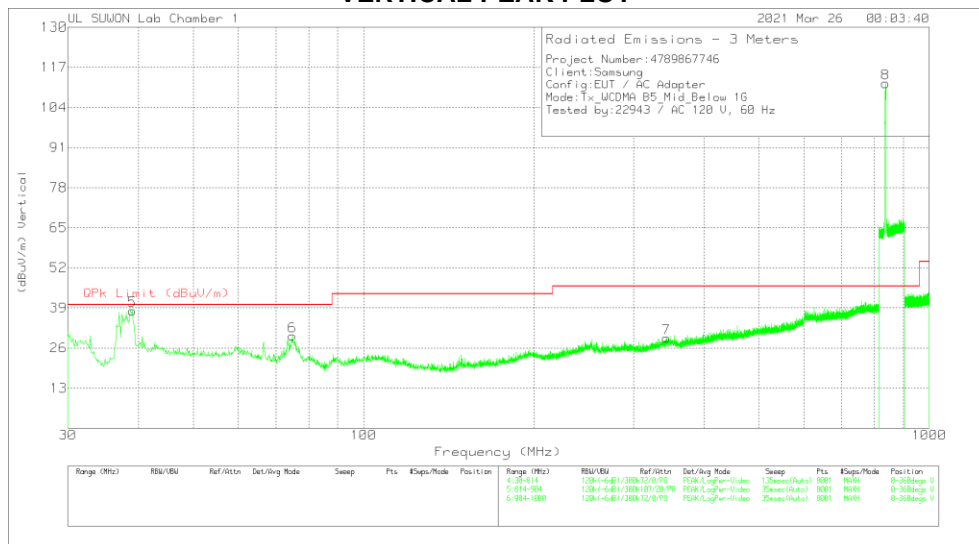
7.7. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.82	11.84	Pk	18.3	1.7	31.84	40	-8.16	0-360	300	H
2	76.354	15.16	Pk	13	2.3	30.46	40	-9.54	0-360	200	H
3	329.096	6.71	Pk	20	4.8	31.51	46.02	-14.51	0-360	100	H
4	836.6013	71.83	Pk	27.1	7.6	106.53	46.02	60.51	0-360	100	H
5	39.016	18.09	Pk	18.4	1.6	38.09	40	-1.91	0-360	100	V
6	74.884	14.31	Pk	13.4	2.2	29.91	40	-10.09	0-360	100	V
7	343.306	3.5	Pk	20.7	5	29.2	46.02	-16.82	0-360	200	V
8	837.1863	77.01	Pk	27.1	7.7	111.81	46.02	65.79	0-360	200	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
39.016	11.44	Qp	18.4	1.6	31.44	40	-8.56	145	105	V

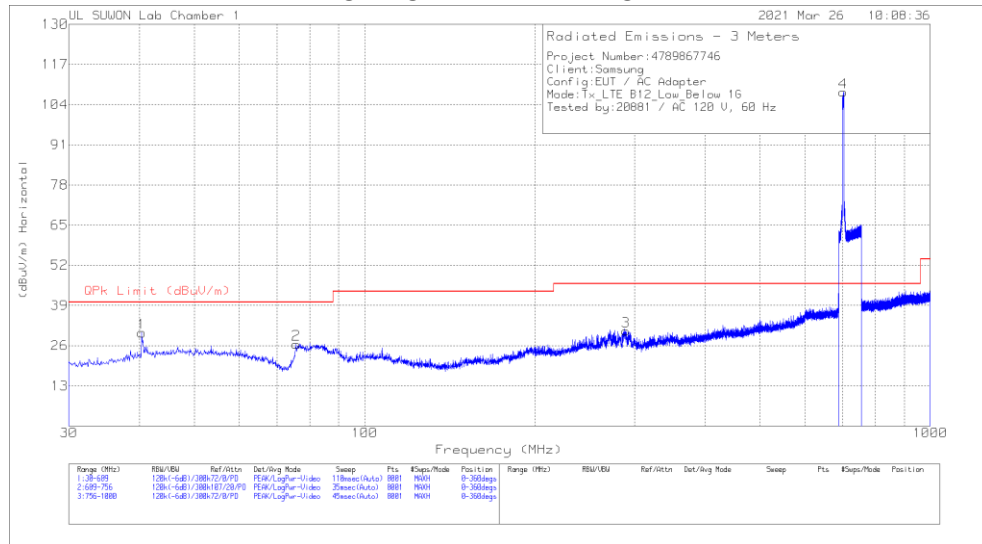
Qp - Quasi-Peak detector

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

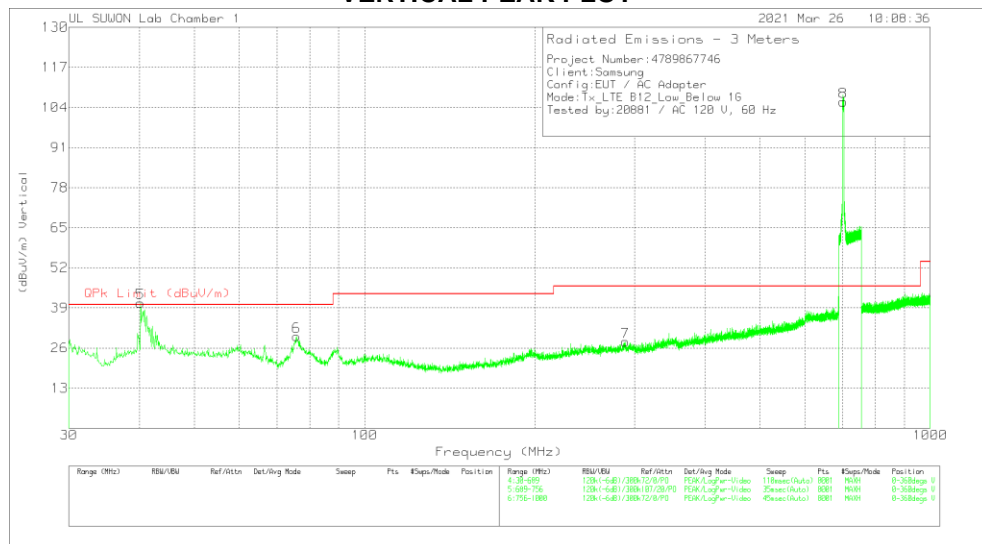
7.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.3793	9.68	Pk	18.8	1.7	30.18	40	-9.82	0-360	200	H
2	75.7181	10.97	Pk	13.2	2.3	26.47	40	-13.53	0-360	300	H
3	289.5636	7.01	Pk	19.1	4.6	30.71	46.02	-15.31	0-360	100	H
4	701.864	75.44	Pk	25.6	7	108.04	46.02	62.02	0-360	100	H
5	40.1321	20.33	Pk	18.7	1.6	40.63	40	.63	0-360	100	V
6	75.8005	14.25	Pk	13.2	2.3	29.75	40	-10.25	0-360	100	V
7	289.1518	4.5	Pk	19.1	4.4	28	46.02	-18.02	0-360	100	V
8	701.6798	73.33	Pk	25.6	6.9	105.83	46.02	59.81	0-360	100	V

Pk - Peak detector

Radiated Emissions

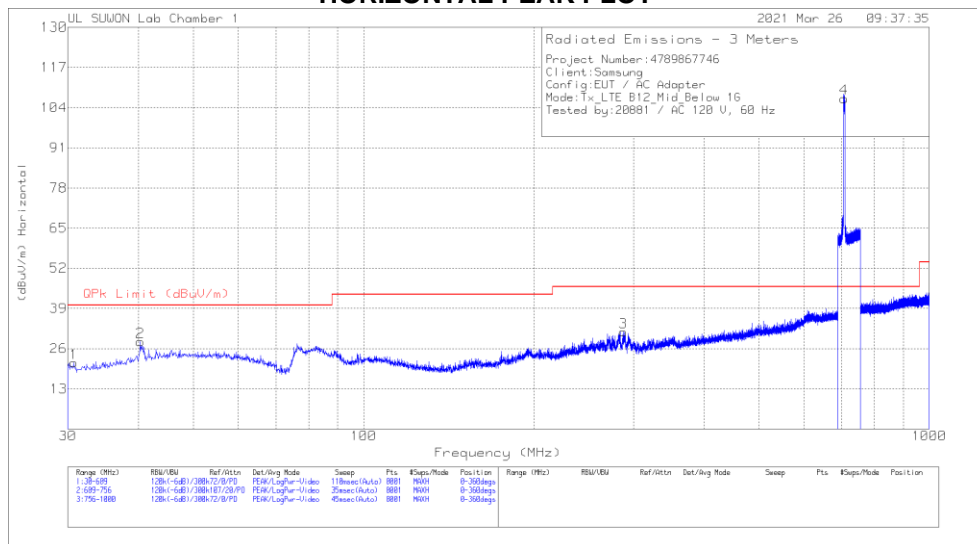
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.1321	10.05	Qp	18.7	1.6	30.35	40	-9.65	181	102	V

Qp - Quasi-Peak detector

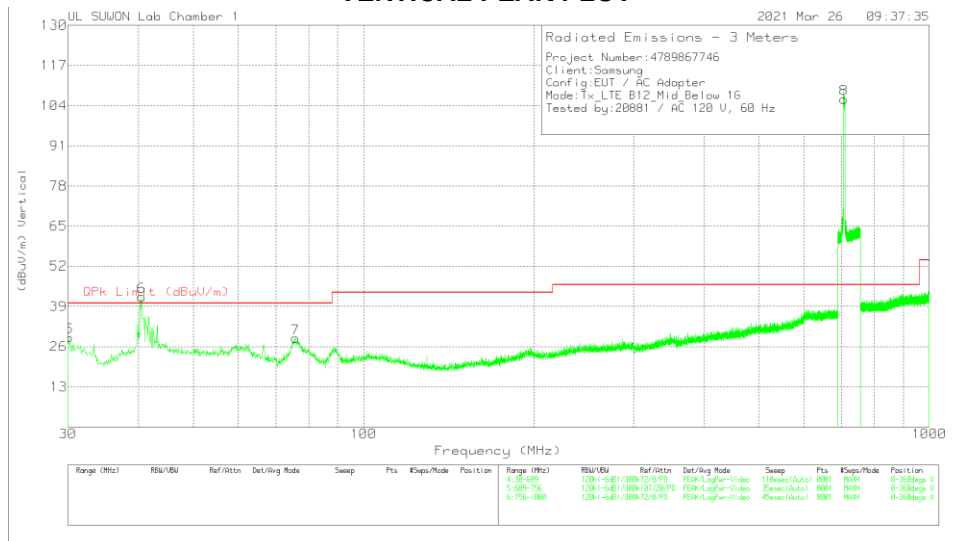
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.7414	4.12	Pk	15.8	1.5	21.42	40	-18.58	0-360	400	H
2	40.2969	7.83	Pk	18.8	1.6	28.23	40	-11.77	0-360	400	H
3	287.9161	7.79	Pk	19	4.6	31.39	46.02	-14.63	0-360	100	H
4	707.4418	74.35	Pk	25.6	7	106.95	46.02	60.93	0-360	100	H
5	30.1648	11.39	Pk	16	1.6	28.99	40	-11.01	0-360	100	V
6	40.544	21.63	Pk	18.8	1.7	42.13	40	2.13	0-360	100	V
7	75.8005	13.24	Pk	13.2	2.3	28.74	40	-11.26	0-360	100	V
8	707.1403	73.52	Pk	25.6	7	106.12	46.02	60.1	0-360	100	V

Pk - Peak detector

Radiated Emissions

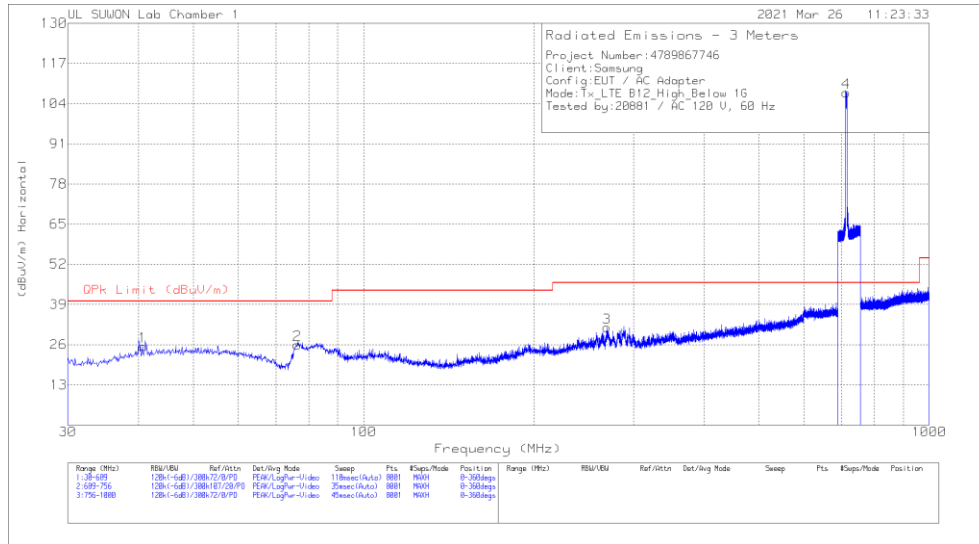
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.544	13.98	Qp	18.8	1.7	34.48	40	-5.52	206	100	V

Qp - Quasi-Peak detector

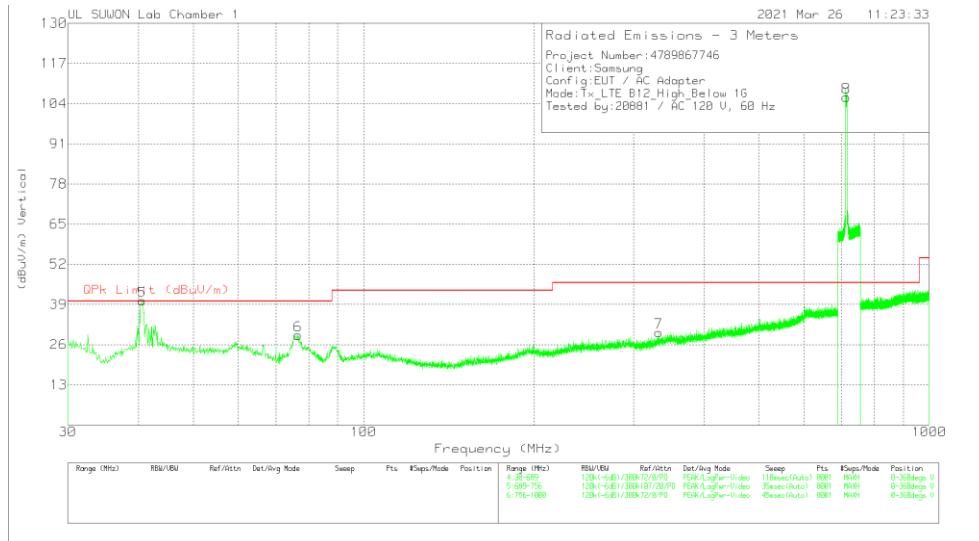
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.7088	5.05	Pk	18.8	1.6	25.45	40	-14.55	0-360	300	H
2	76.3771	10.75	Pk	13	2.2	25.95	40	-14.05	0-360	300	H
3	269.4641	8.54	PK	18.6	4.4	31.54	46.02	-14.48	0-360	100	H
4	713.6309	74.8	Pk	25.7	7.1	107.6	46.02	61.58	0-360	100	H
5	40.6264	19.77	Pk	18.8	1.6	40.17	40	.17	0-360	100	V
6	76.6243	13.73	Pk	12.9	2.4	29.03	40	-10.97	0-360	100	V
7	332.3986	4.84	Pk	20.1	5	29.94	46.02	-16.08	0-360	300	V
8	713.5723	73.26	PK	25.7	7.1	106.06	46.02	60.04	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.6264	13.32	Qp	18.8	1.6	33.72	40	-6.28	186	100	V

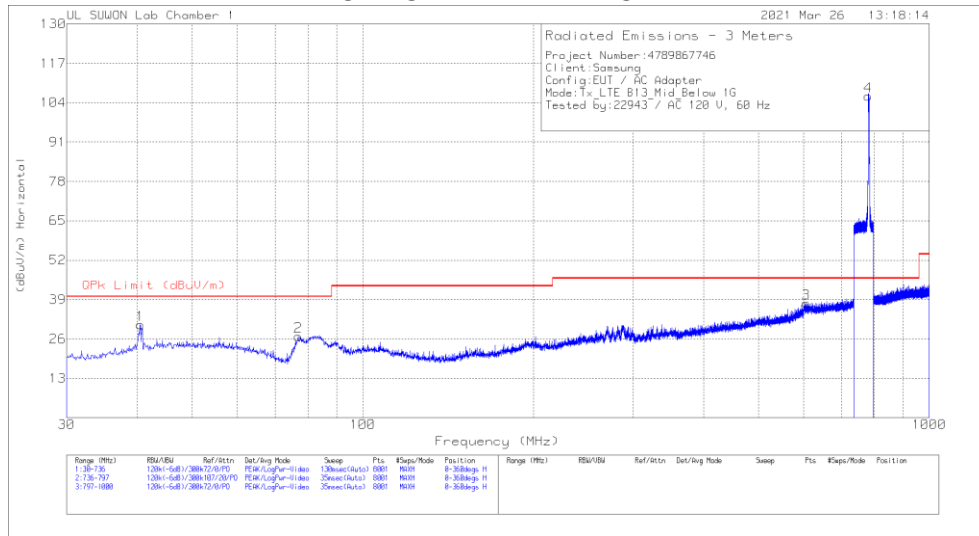
Qp - Quasi-Peak detector

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

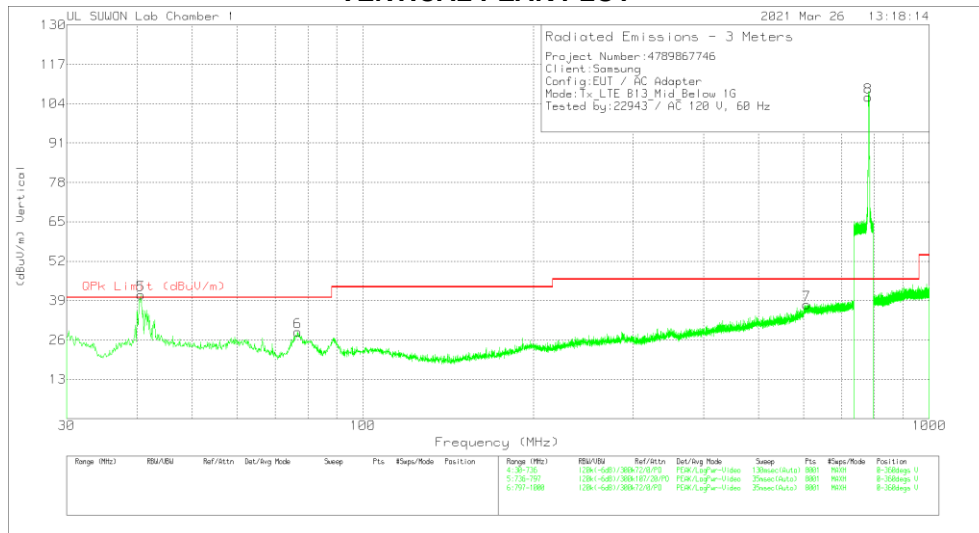
7.9. Below 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.5018	10.13	Pk	18.8	1.8	30.73	40	-9.27	0-360	200	H
2	76.8608	11.82	Pk	12.8	2.3	26.92	40	-13.08	0-360	300	H
3	606.096	6.09	Pk	25.2	6.5	37.79	46.02	-8.23	0-360	400	H
4	779.798	72.19	Pk	26.7	7.3	106.19	46.02	60.17	0-360	100	H
5	40.59	20.46	Pk	18.8	1.7	40.96	40	.96	0-360	200	V
6	76.7725	13.45	Pk	12.9	2.4	28.75	40	-11.25	0-360	100	V
7	607.508	6.15	Pk	25.2	6.4	37.75	46.02	-8.27	0-360	100	V
8	779.798	72.18	Pk	26.7	7.3	106.18	46.02	60.16	0-360	200	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_75 0	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.59	2.55	Qp	18.8	1.7	23.05	40	-16.95	196	101	V

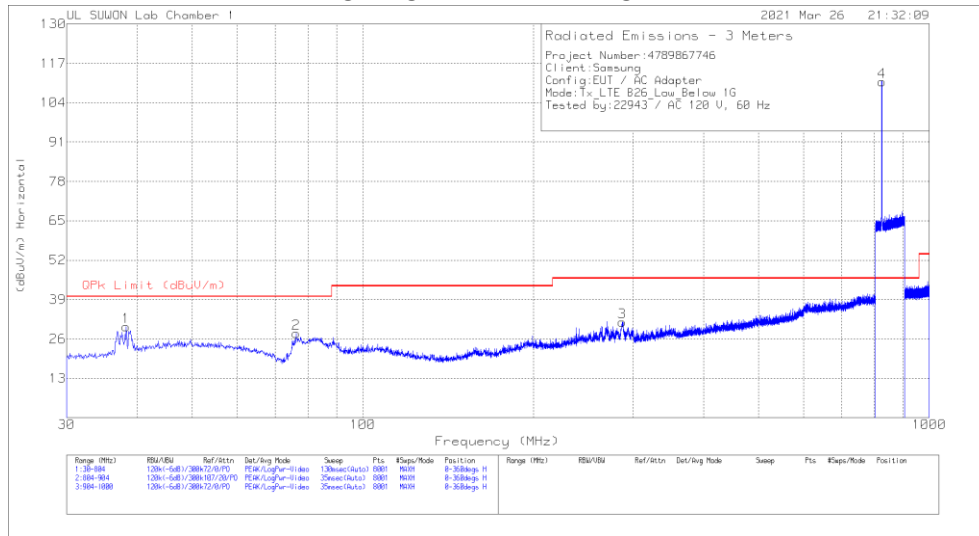
Qp - Quasi-Peak detector

Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

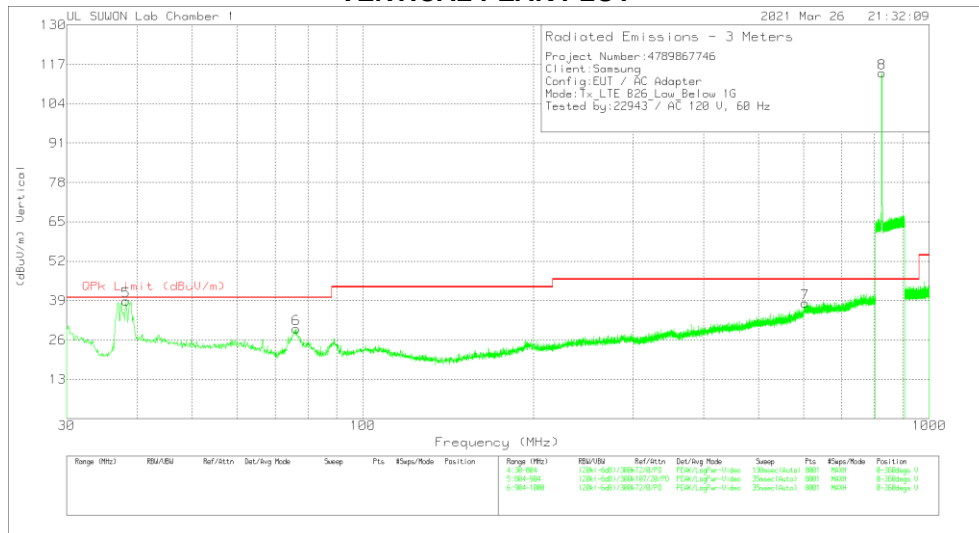
7.10. Below 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.2238	10.51	Pk	18	1.6	30.11	40	-9.89	0-360	300	H
2	76.2465	12.45	Pk	13	2.4	27.85	40	-12.15	0-360	300	H
3	287.2583	8.02	Pk	19	4.6	31.62	46.02	-14.4	0-360	100	H
4	824.9688	76.33	Pk	27.1	7.5	110.93	46.02	64.91	0-360	100	H
5	38.2238	19.35	PK	18	1.6	38.95	40	-1.05	0-360	100	V
6	76.3433	14.46	PK	13	2.3	29.76	40	-10.24	0-360	100	V
7	603.7275	6.57	PK	25.2	6.4	38.17	46.02	-7.85	0-360	200	V
8	824.9	79.47	PK	27.1	7.5	114.07	46.02	68.05	0-360	200	V

Pk - Peak detector

Radiated Emissions

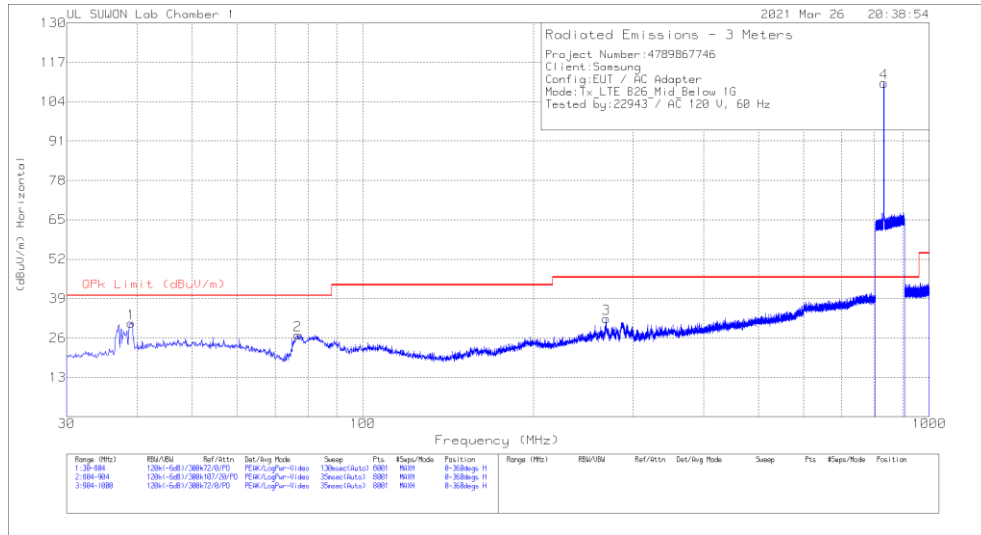
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.2238	11.21	Qp	18	1.6	30.81	40	-9.19	150	100	V

Qp - Quasi-Peak detector

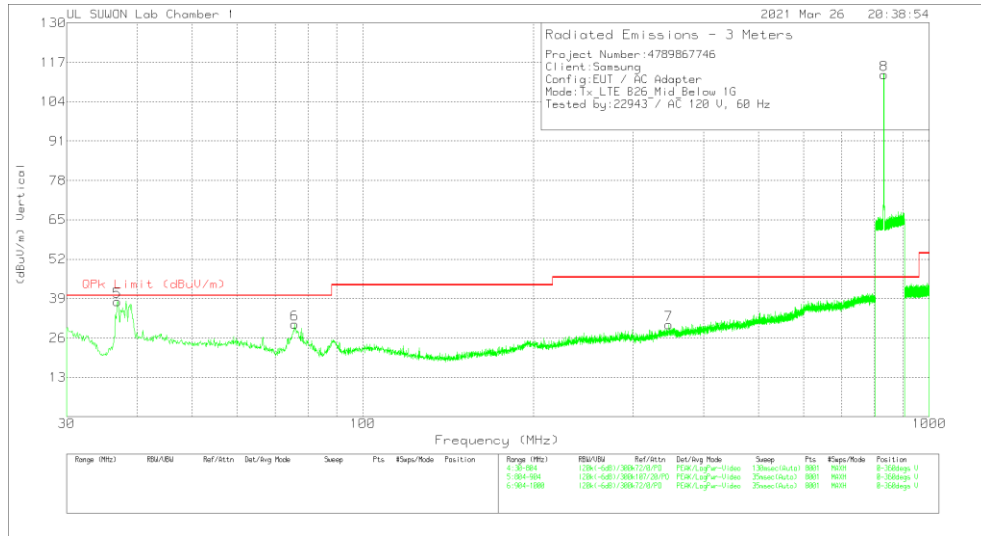
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.9978	10.91	Pk	18.4	1.6	30.91	40	-9.09	0-360	300	H
2	76.7303	11.75	Pk	12.9	2.3	26.95	40	-13.05	0-360	300	H
3	268.8758	9.56	Pk	18.6	4.3	32.46	46.02	-13.56	0-360	100	H
4	831.875	75.54	Pk	27	7.6	110.14	46.02	64.12	0-360	100	H
5	36.8693	19.08	Pk	17.4	1.5	37.98	40	-2.02	0-360	100	V
6	75.7628	15.13	Pk	13.2	2.3	30.63	40	-9.37	0-360	100	V
7	346.8563	4.54	Pk	20.9	5	30.44	46.02	-15.58	0-360	100	V
8	831.8625	78.4	Pk	27	7.6	113	46.02	66.98	0-360	100	V

Pk - Peak detector

Radiated Emissions

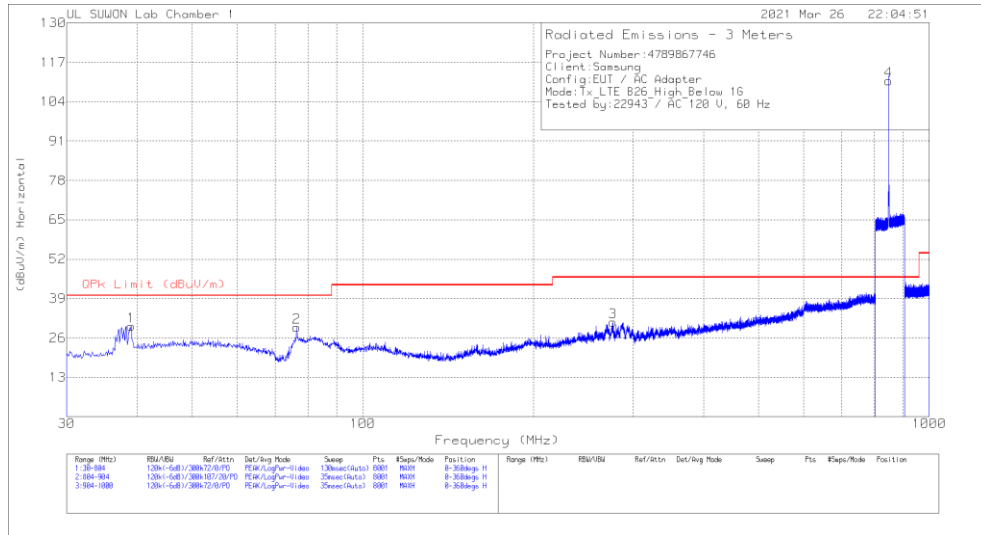
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
36.8693	15.98	Qp	17.4	1.5	34.88	40	-5.12	193	121	V

Qp - Quasi-Peak detector

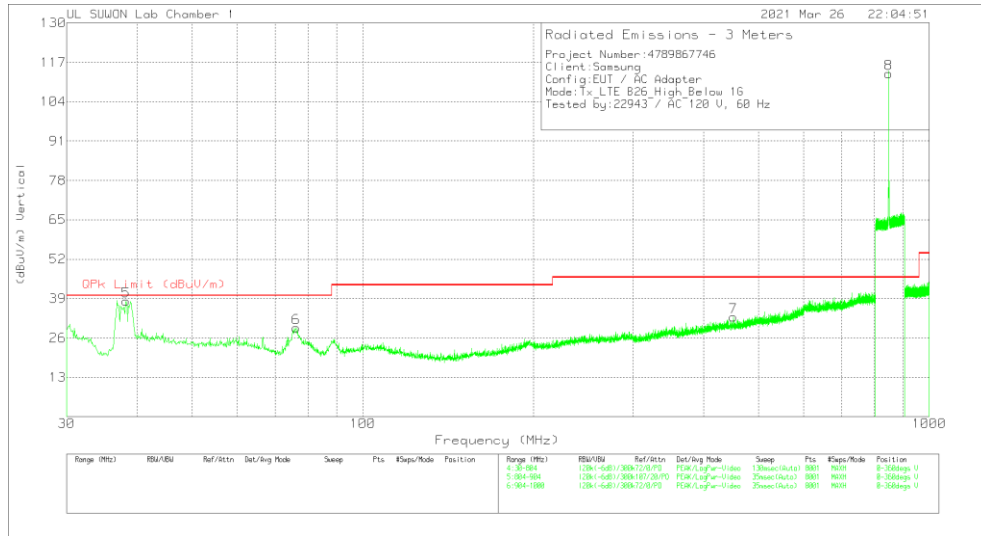
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.9978	9.96	Pk	18.4	1.6	29.96	40	-10.04	0-360	200	H
2	76.44	14.2	Pk	13	2.3	29.5	40	-10.5	0-360	200	H
3	276.2288	8.04	Pk	18.7	4.5	31.24	46.02	-14.78	0-360	100	H
4	848.7125	75.81	Pk	27.4	7.7	110.91	46.02	64.89	0-360	100	H
5	38.2238	18.6	Pk	18	1.6	38.2	40	-1.8	0-360	100	V
6	76.2465	14.03	Pk	13	2.4	29.43	40	-10.57	0-360	100	V
7	451.5398	5.31	Pk	22.2	5.5	33.01	46.02	-13.01	0-360	300	V
8	848.7625	78.17	Pk	27.4	7.7	113.27	46.02	67.25	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.2238	14.11	Qp	18	1.6	33.71	40	-6.29	189	102	V

Qp - Quasi-Peak detector

Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

END OF TEST REPORT