



CERTIFICATION TEST REPORT

Report Number. : 4790160849-E1V2

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

Model : SM-A536E/DS, SM-A536E

FCC ID : A3LSMA536E

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac and
NFC

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

Date Of Issue:

2022-01-07

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	2021-12-29	Initial issue	Yeonhee Lim
V2	2022-01-07	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/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC
MODEL NUMBER: SM-A536E/DS, SM-A536E
SERIAL NUMBER: R3CRA0RNQLM (RADIATED)
DATE TESTED: 2021-12-22 ~ 2021-12-29;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15B	Complies

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Korea, Ltd. By:



Seokhwan Hong
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:



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 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	4.05 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.78 dB

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

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2007.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC. This test report addresses the WWAN operational mode.

This report covers the Samsung models SM-A536E/DS and SM-A536E. These models are identical in hardware except SM-A536E has single SIM tray. With some pre-scan, model SM-A536E/DS was set for final test.

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
	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

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

Band	Worst Case		
	X	Y	Z
GSM 850	-	-	O
WCDMA B5	-	-	O
LTE B12	-	-	O
LTE B13	-	-	O
LTE B26	-	-	O

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 and maximum tune-up limit is higher than WCDMA Band5. 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, same maximum tune-up limit and same channel bandwidth.

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.

5G NR Band n5

5G NR BAND n5 (Rx Frequency range: 869-894 MHz) is covered by GSM 850(Rx Frequency range: 869-894 MHz) due to same frequency range and maximum tune-up limit is higher than 5G NR BAND n5.

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-TA800	R37N3MAH988DK3	N/A
Data Cable	SAMSUNG	EP- DN980	N/A	N/A

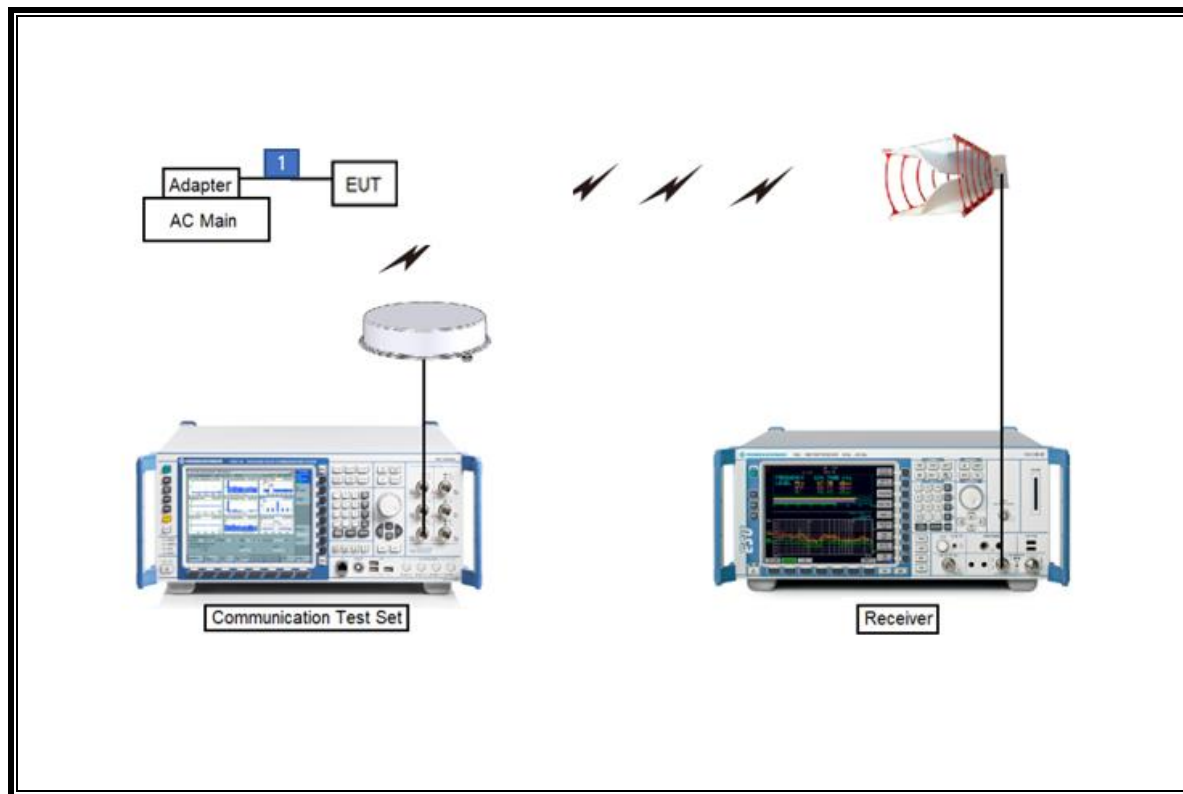
I/O CABLE

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, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	2023-02-08
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2022-08-04
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2023-10-13
Preamplifier	ETS	3116C-PA	00168841	2022-08-04
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2022-08-19
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2022-08-13
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2022-08-13
Antenna, Horn, 18 GHz	ETS	3115	00167211	2022-07-27
Antenna, Horn, 18 GHz	ETS	3115	00161451	2022-08-15
Antenna, Horn, 18 GHz	ETS	3117	00168724	2022-07-27
Antenna, Horn, 18 GHz	ETS	3117	00168717	2022-08-15
Communications Test Set	R&S	CMW500	169796	2022-01-27
Preamplifier, 1000 MHz	Sonoma	310N	341282	2022-08-02
Preamplifier, 1000 MHz	Sonoma	310N	370599	2022-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2022-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	2022-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029168	2022-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2022-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2022-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2022-08-02
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	2022-08-03
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2022-08-02
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2022-08-03
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2022-08-02
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2022-08-03
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2022-08-02
Attenuator	PASTERNAK	PE7087-10	A009	2022-08-03
Attenuator	PASTERNAK	PE7087-10	A001	2022-08-03
Attenuator	PASTERNAK	PE7087-10	A008	2022-08-03
Attenuator	PASTERNAK	PE7004-10	2	2022-08-02
Attenuator	PASTERNAK	PE7395-10	A011	2022-08-03
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2022-08-02
LISN	R&S	ENV-216	101836	2022-08-05
LISN	R&S	ENV-216	101837	2022-08-05
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58120110	2022-01-13
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

7.1. RADIATED EMISSIONS

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:

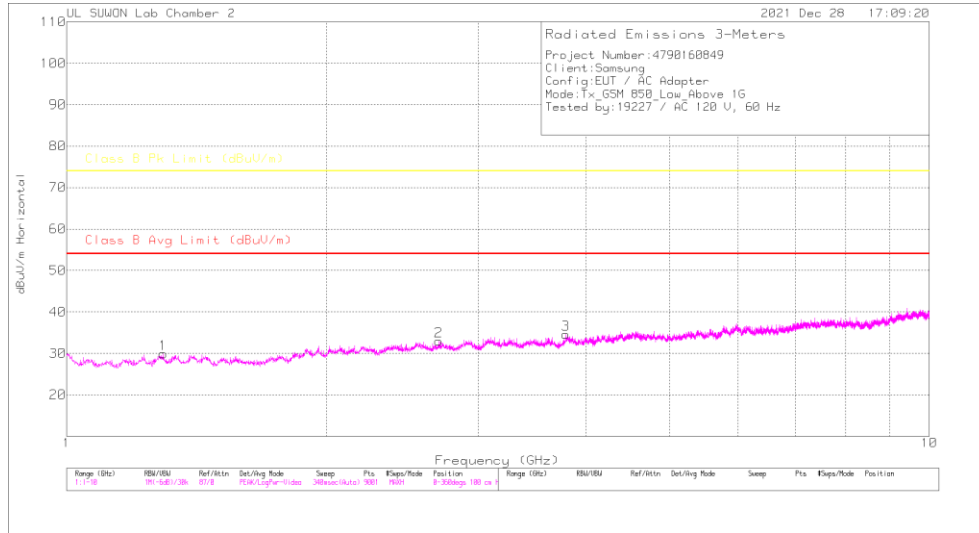
Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

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

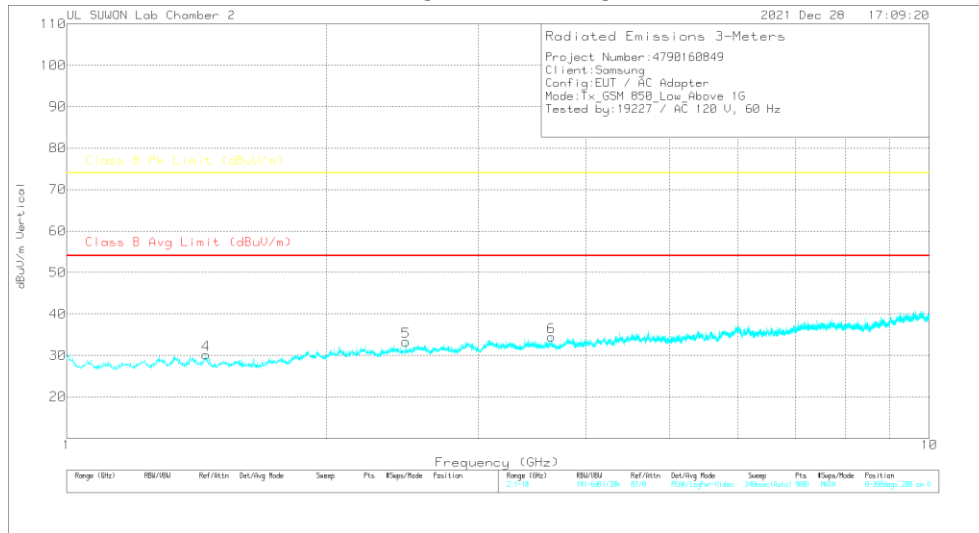
7.1.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

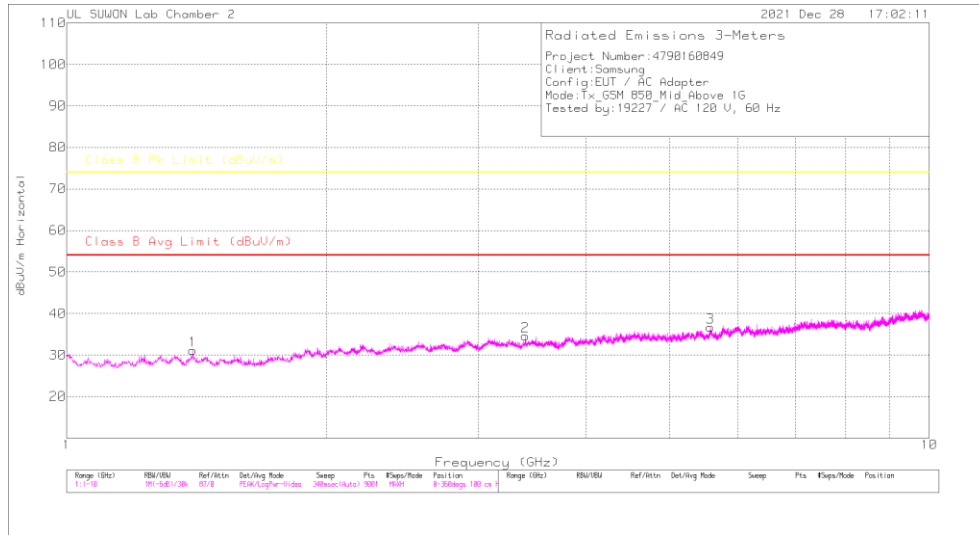
Trace Markers

Marker	Frequency (GHz)	Mass Reading (dBuV)	Det	3117_00160849	1-18GHz(dB)	1GHz_HR(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	1.294	31.67	PK	29.4	-32	.8	29.67	-	-	74	-44.13	0-360	100	H
2	2.701	30.28	PK	32.2	-30.2	.7	32.98	-	-	74	-41.02	0-360	100	H
3	3.792	30.14	PK	33.3	-29.3	.5	34.64	-	-	74	-39.36	0-360	100	H
4	1.45	31.89	PK	29.2	-31.7	.8	30.19	-	-	74	-43.81	0-360	200	V
5	2.472	30.69	PK	32	-30.2	.8	33.29	-	-	74	-40.71	0-360	200	V
6	3.649	30.7	PK	32.9	-29.7	.6	34.5	-	-	74	-39.5	0-360	200	V

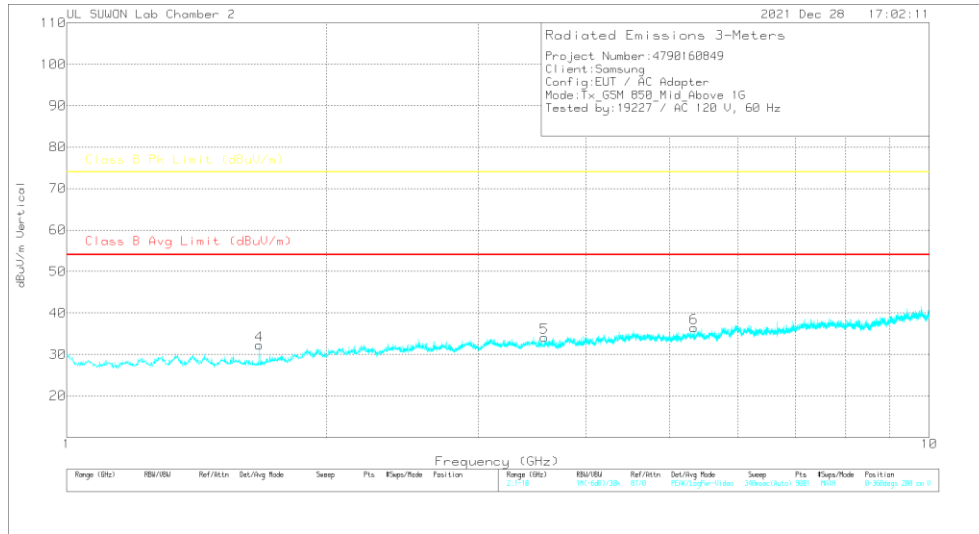
PK - Peak Detector

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

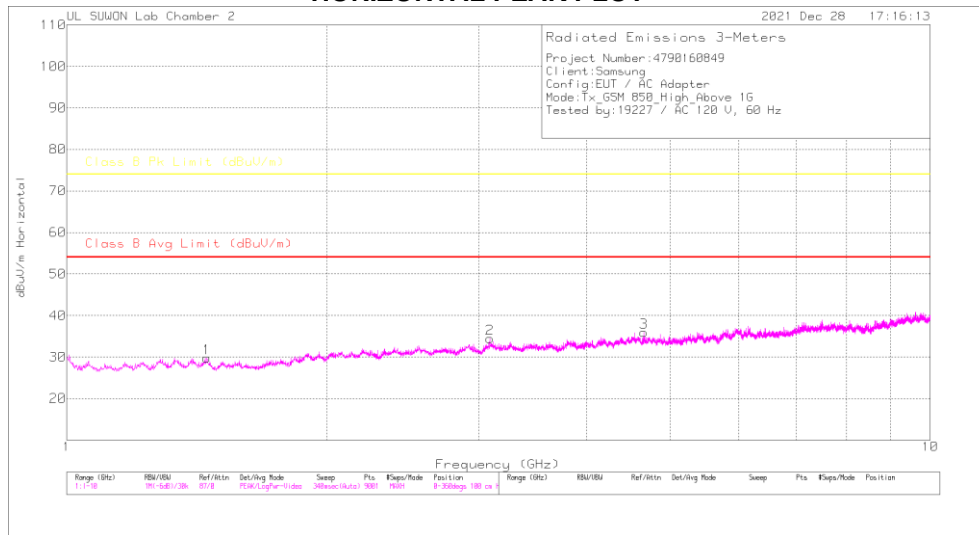
Trace Markers

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	1.4	32.76	PK	29.4	-31.8	.8	31.16	-	-	74	-42.84	0-360	100	H
2	3.404	30.64	PK	32.7	-29.4	.6	34.54	-	-	74	-39.46	0-360	100	H
3	5.578	29.4	PK	34.6	-27.8	.5	36.7	-	-	74	-37.3	0-360	100	H
4	1.673	34.22	PK	28.6	-31.4	.8	32.22	-	-	74	-41.78	0-360	200	V
5	3.58	30.09	PK	32.8	-29.4	.6	34.09	-	-	74	-39.91	0-360	200	V
6	5.335	29.92	PK	34.5	-28.5	.5	36.42	-	-	74	-37.58	0-360	200	V

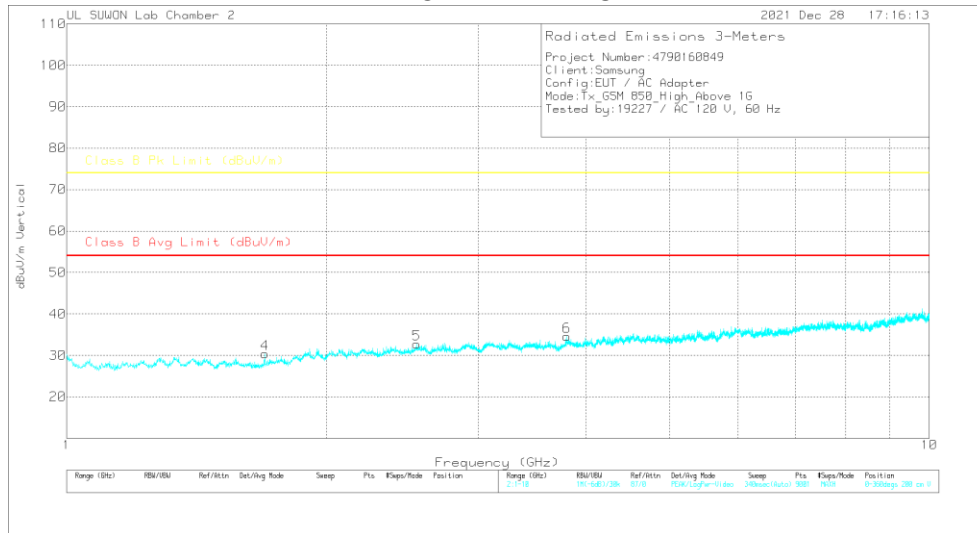
PK – Peak Detector

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

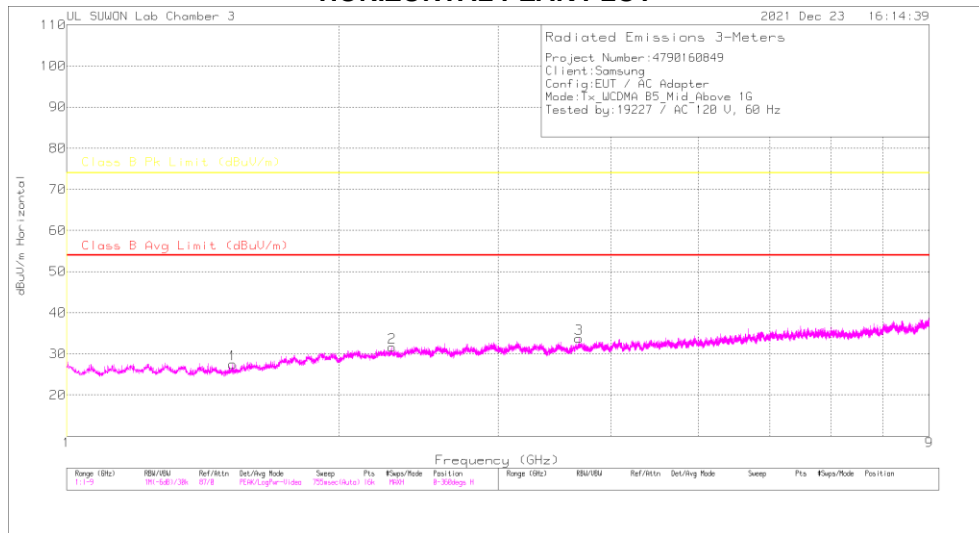
Marker	Frequency (GHz)	Meter Reading (dBu)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading (dBu/m)	Class B Avg Limit (dBu/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBu/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.453	31.58	PK	29.2	-31.8	.8	29.78	-	-	74	-44.22	0-360	100	H
2	3.09	30.91	PK	32.9	-29.9	.6	34.51	-	-	74	-39.49	0-360	100	H
3	4.658	30.57	PK	34.1	-29.1	.4	35.97	-	-	74	-38.03	0-360	100	H
4	1.697	32.19	PK	28.7	-31.3	.8	30.39	-	-	74	-43.61	0-360	200	V
5	2.546	30.16	PK	32.1	-30.2	.7	32.76	-	-	74	-41.24	0-360	200	V
6	3.801	30.06	PK	33.3	-29.3	.5	34.56	-	-	74	-39.44	0-360	200	V

PK – Peak Detector

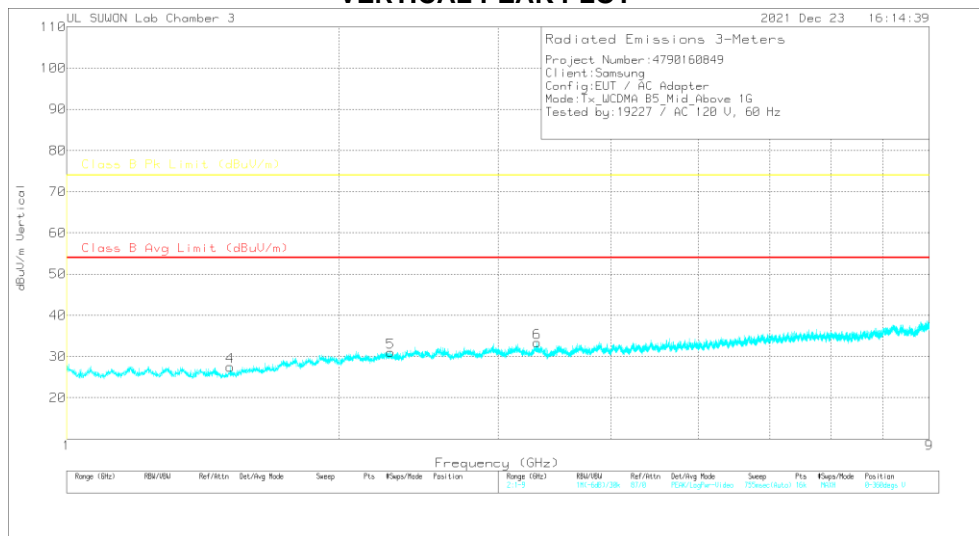
7.1.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

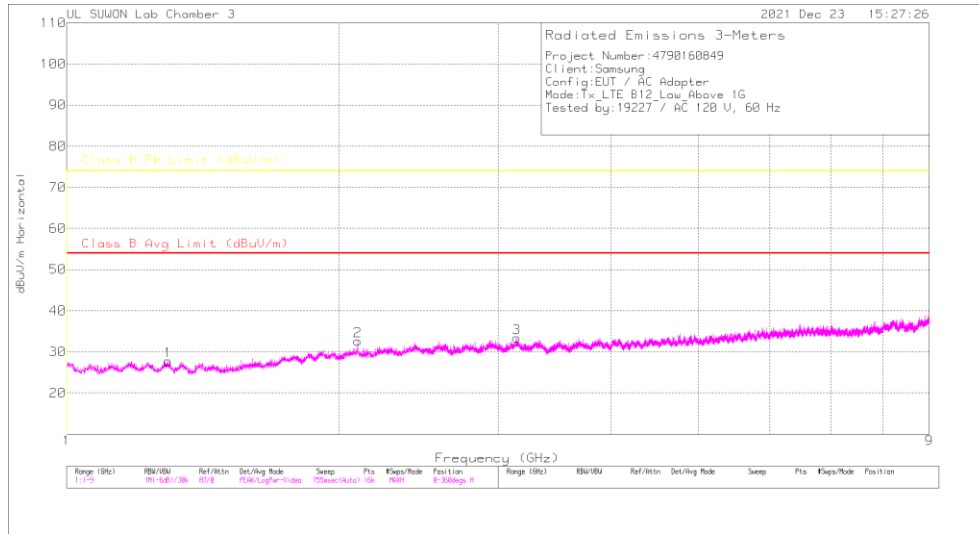
Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	3117_00218957	1-18Hz[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.527	34.37	PK	28.4	-36	.7	27.47	-	-	74	-46.53	0-360	100	H
2	2.29	33.36	PK	32.4	-34.8	.7	31.66	-	-	74	-42.34	0-360	100	H
3	3.687	32.79	PK	33.7	-33.3	.6	33.79	-	-	74	-40.21	0-360	100	H
4	1.5165	34.27	PK	28.4	-36	.8	27.47	-	-	74	-46.53	0-360	200	V
5	2.281	32.84	PK	32.3	-34.8	.7	31.04	-	-	74	-42.96	0-360	200	V
6	3.313	33.04	PK	33.4	-33.8	.7	33.34	-	-	74	-40.66	0-360	200	V

PK – Peak Detector

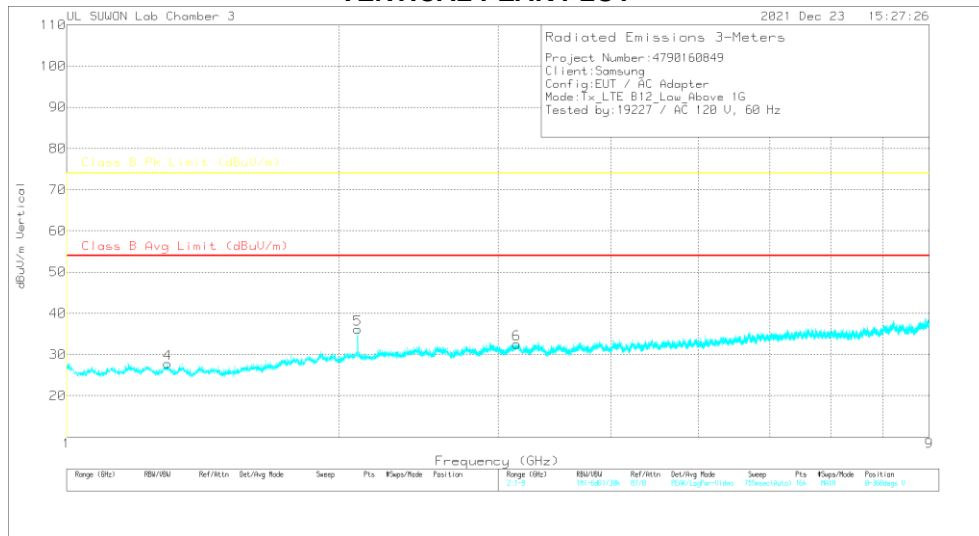
7.1.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

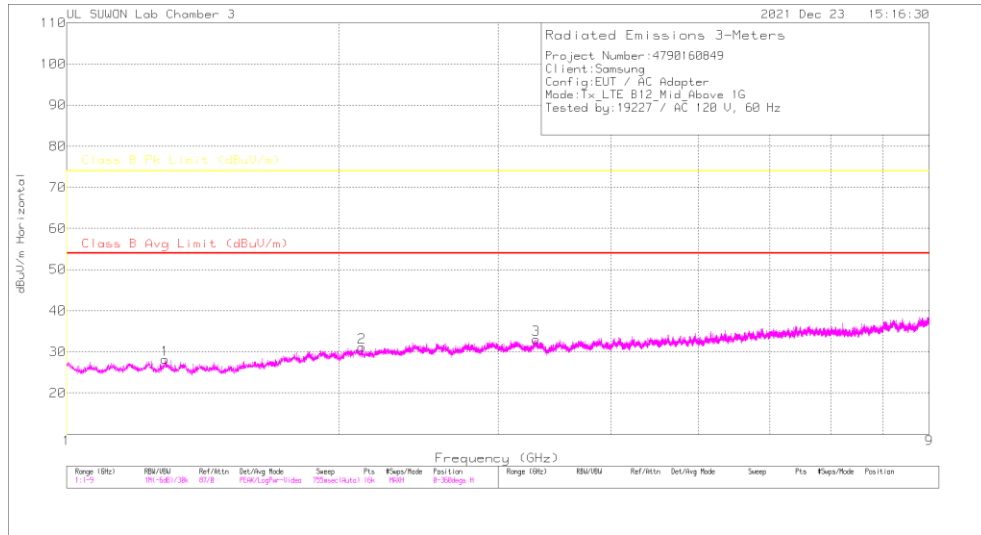
Trace Markers

Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	3117_00218957	-1.18GHz(dB)	1GHz_HPB(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.2955	34.52	PK	28.8	-36.4	.8	27.72	-	-	74	-46.28	0-360	99	H
2	2.0995	35.3	PK	32	-35.3	.6	32.6	-	-	74	-41.4	0-360	99	H
3	3.145	33.36	PK	33.4	-34.1	.7	33.36	-	-	74	-40.64	0-360	99	H
4	1.293	34.61	PK	28.8	-36.4	.8	27.81	-	-	74	-46.19	0-360	200	V
5	2.099	38.73	PK	32	-35.2	.6	36.13	-	-	74	-37.87	0-360	200	V
6	3.145	32.48	PK	33.4	-34.1	.7	32.48	-	-	74	-41.52	0-360	200	V

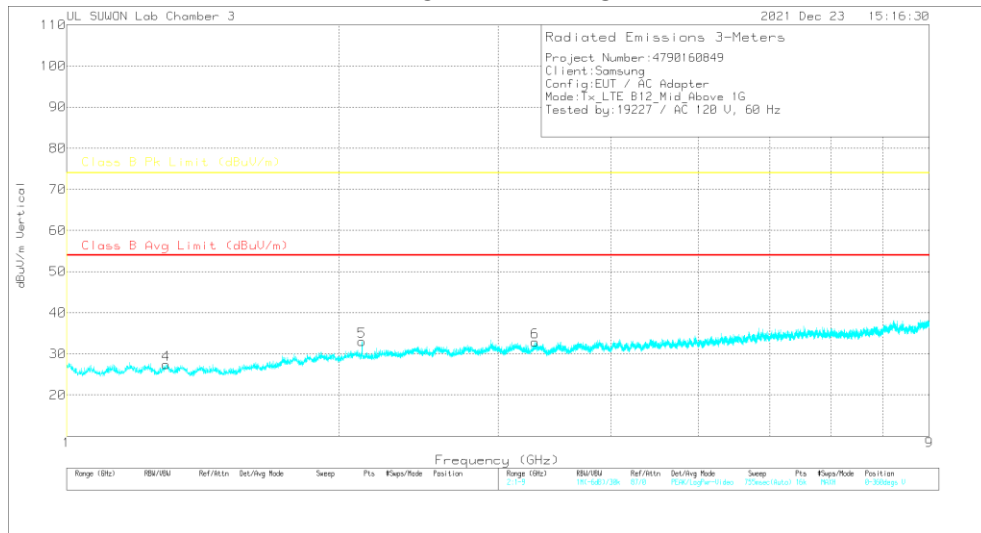
PK – Peak Detector

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

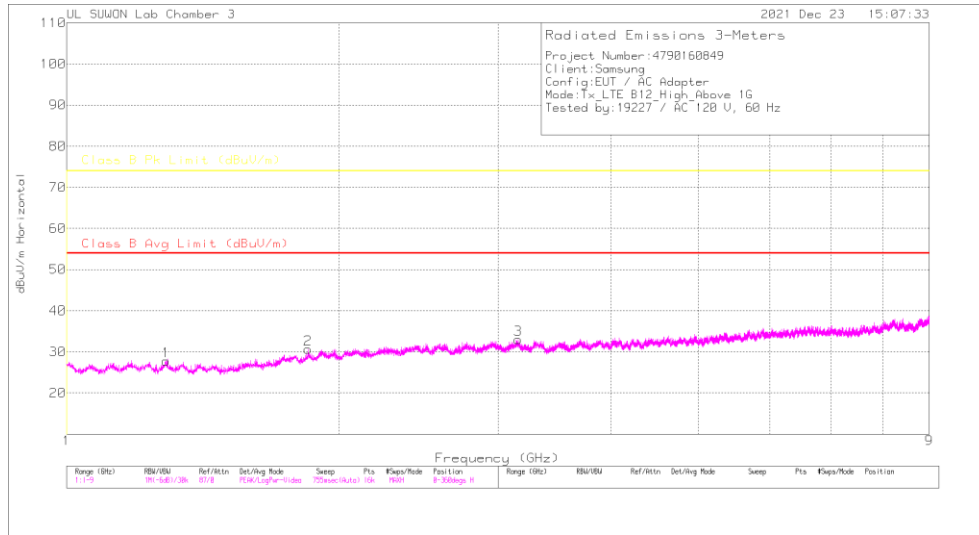
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.284	34.96	PK	28.8	-36.4	.8	28.16	-	-	74	-45.84	0-360	100	H
2	2.122	33.57	PK	32	-35.1	.7	31.17	-	-	74	-42.83	0-360	100	H
3	3.3065	32.7	PK	33.4	-33.8	.7	33	-	-	74	-41	0-360	100	H
4	1.2875	34.2	PK	28.8	-36.4	.8	27.4	-	-	74	-46.6	0-360	200	V
5	2.122	35.45	PK	32	-35.1	.7	33.05	-	-	74	-40.95	0-360	200	V
6	3.2985	32.5	PK	33.4	-33.7	.7	32.9	-	-	74	-41.1	0-360	200	V

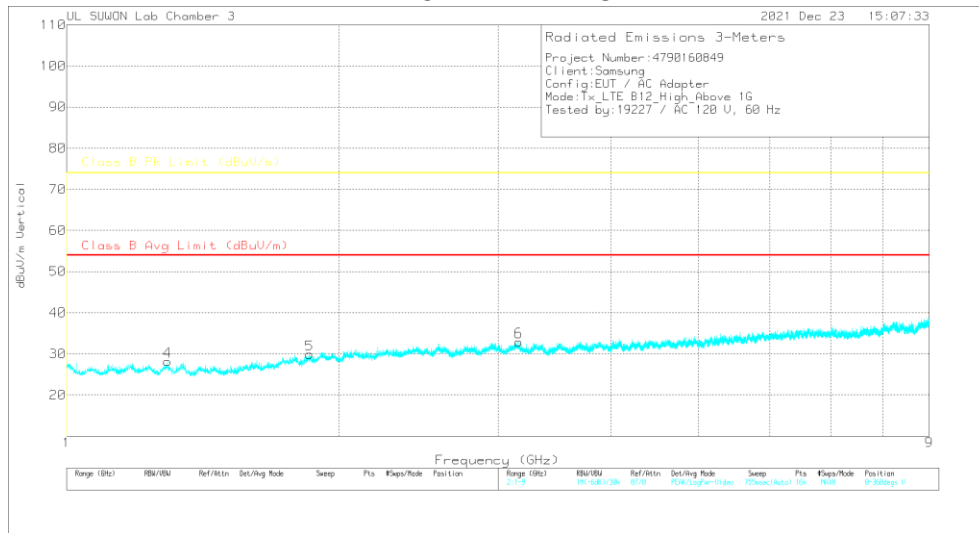
PK – Peak Detector

HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

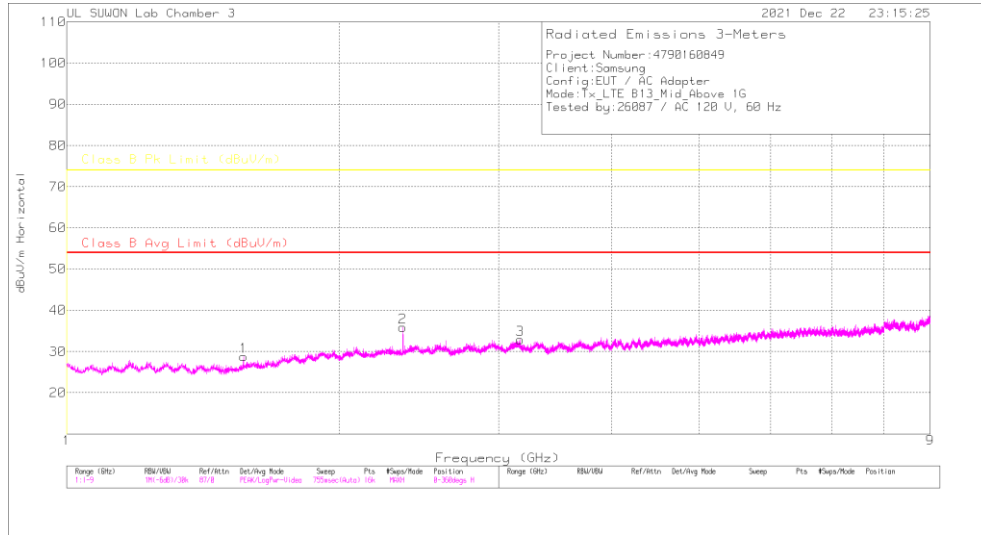
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.2885	34.59	PK	28.8	-36.4	.8	27.79	-	-	74	-46.21	0-360	100	H
2	1.8495	34.19	PK	31.2	-35.5	.7	30.59	-	-	74	-43.41	0-360	100	H
3	3.158	32.95	PK	33.4	-34	.7	33.06	-	-	74	-40.94	0-360	100	H
4	1.2325	35.01	PK	28.8	-35.4	.8	28.21	-	-	74	-45.79	0-360	200	V
5	1.856	33.51	PK	31.2	-35.5	.7	29.91	-	-	74	-44.09	0-360	200	V
6	3.164	32.95	PK	33.4	-34.1	.7	32.95	-	-	74	-41.05	0-360	200	V

PK – Peak Detector

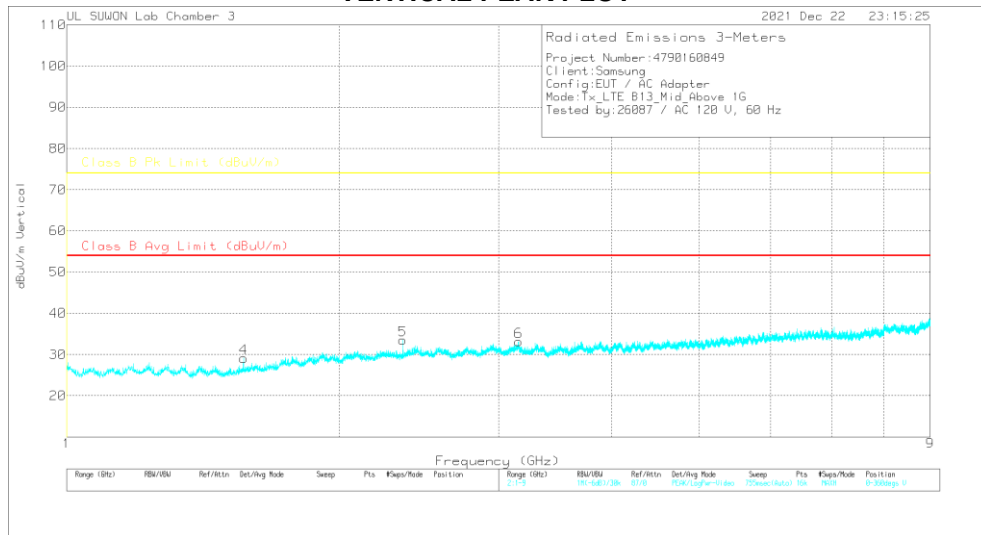
7.1.4. Above 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

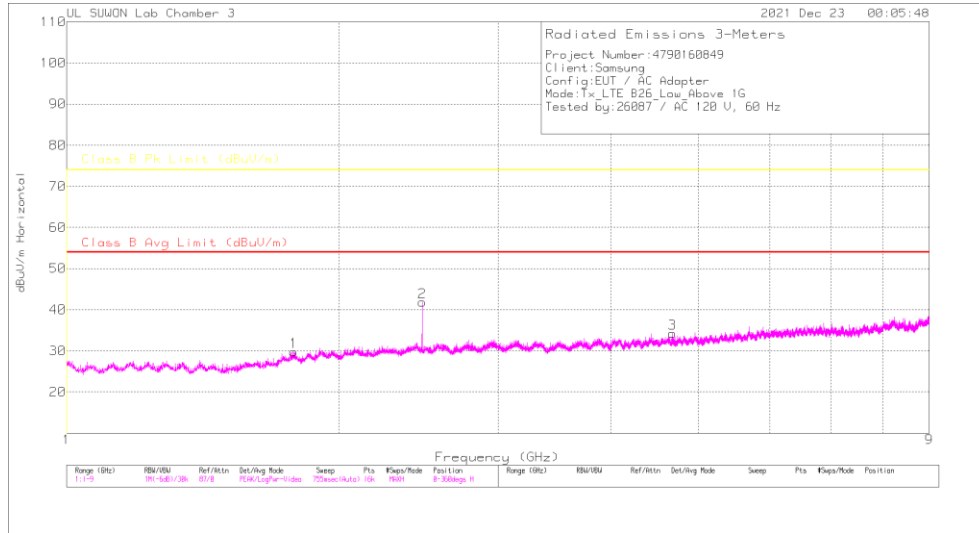
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18GHz(dB)	1GHz_HPK(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.5685	35.42	PK	28.6	-35.9	.7	28.82	-	-	74	-45.18	0-360	200	H
2	2.3525	37.61	PK	32.6	-35	.7	35.91	-	-	74	-38.09	0-360	200	H
3	3.171	33.02	PK	33.4	-34.2	.7	32.92	-	-	74	-41.08	0-360	200	H
4	1.568	35.69	PK	28.6	-35.9	.7	29.09	-	-	74	-44.91	0-360	99	V
5	2.352	35.18	PK	32.6	-35	.7	33.48	-	-	74	-40.52	0-360	99	V
6	3.158	33.06	PK	33.4	-34	.7	33.16	-	-	74	-40.84	0-360	99	V

PK – Peak Detector

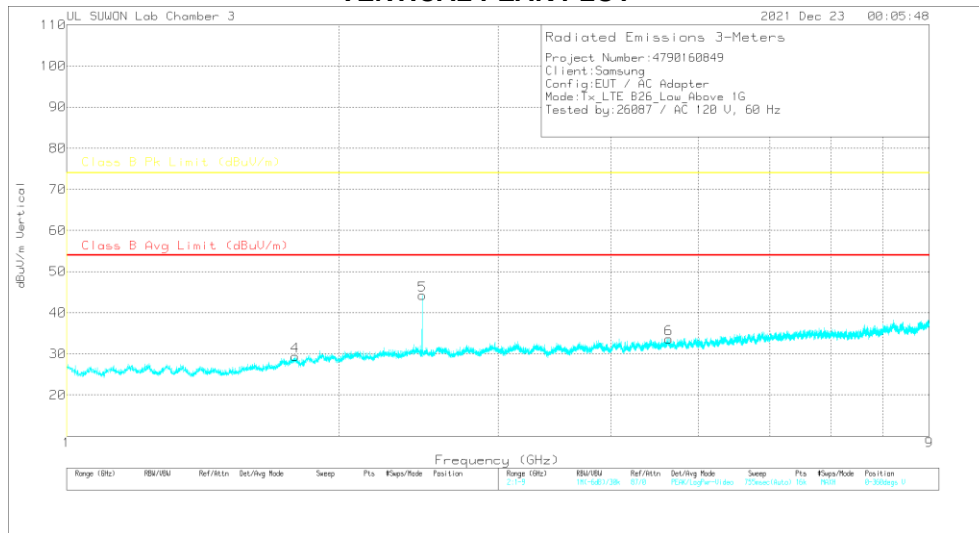
7.1.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

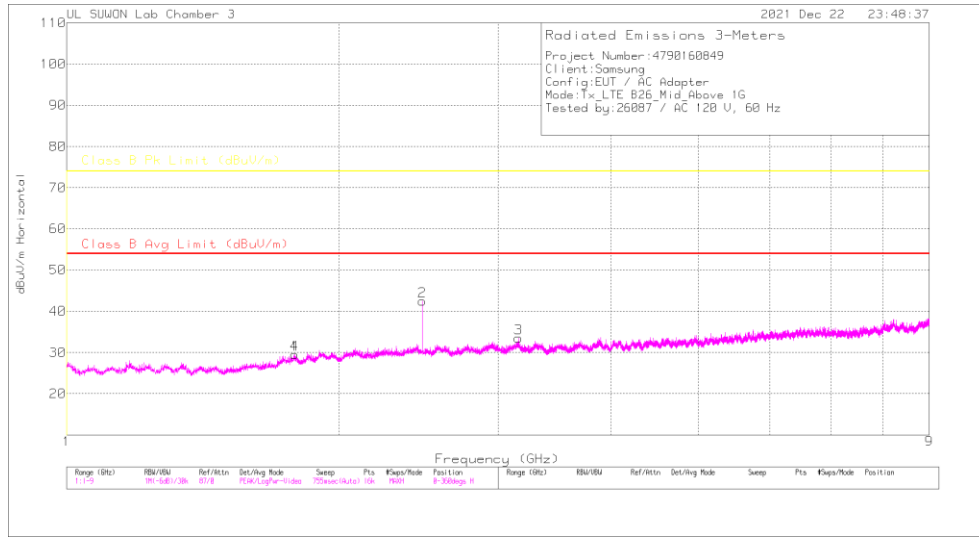
Trace Markers

Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	3117_00218957	1-18GHz[dB]	1GHz_HR[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.7835	34.13	PK		30.7	-35.7	29.83	-	-	74	-44.17	0-360	200	H
2	2.4735	43.39	PK		32.9	-35.1	41.89	-	-	74	-32.11	0-360	200	H
3	4.579	30.76	PK		34.5	-31.5	32.26	-	-	74	-39.74	0-360	200	H
4	1.79	33.62	PK		30.8	-35.7	29.42	-	-	74	-44.58	0-360	99	V
5	2.4735	45.68	PK		32.9	-35.1	44.18	-	-	74	-29.82	0-360	99	V
6	4.6385	30.39	PK		34.5	-31.7	33.69	-	-	74	-40.31	0-360	99	V

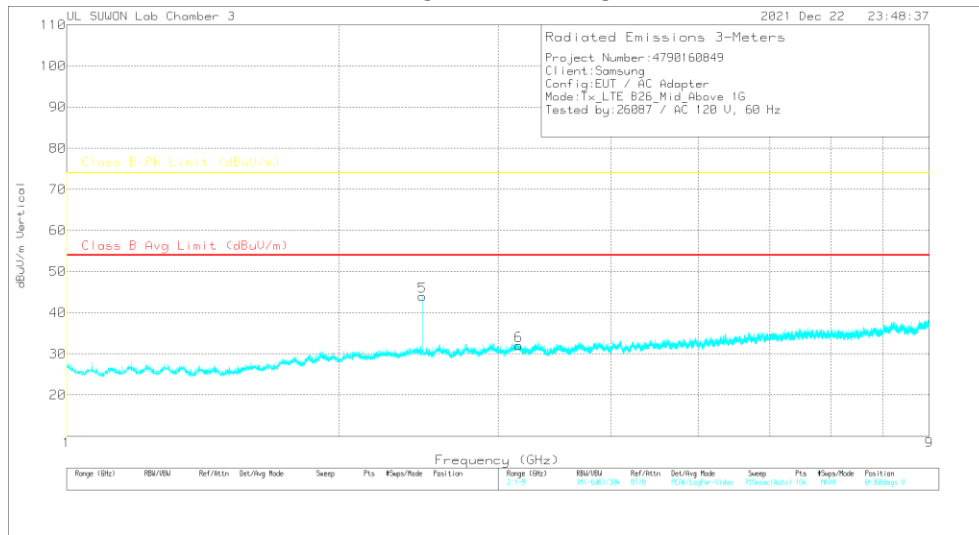
PK – Peak Detector

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

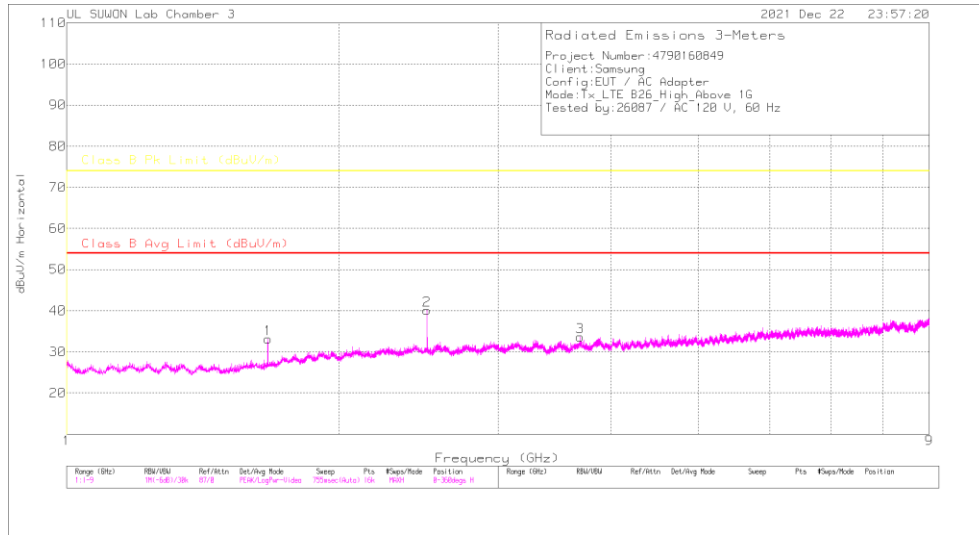
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.7885	33.74	PK	30.8	-35.7	.7	29.54	-	-	74	-44.46	0-360	200	H
2	2.474	43.93	PK	32.9	-35	.7	42.53	-	-	74	-31.47	0-360	200	H
3	3.1605	33.44	PK	33.4	-34	.7	33.54	-	-	74	-40.46	0-360	200	H
4	1.7885	33.74	PK	30.8	-35.7	.7	29.54	-	-	74	-44.46	0-360	200	H
5	2.4745	45.35	PK	32.9	-35	.7	43.95	-	-	74	-30.05	0-360	99	V
6	3.1635	31.98	PK	33.4	-34.1	.7	31.98	-	-	74	-42.02	0-360	99	V

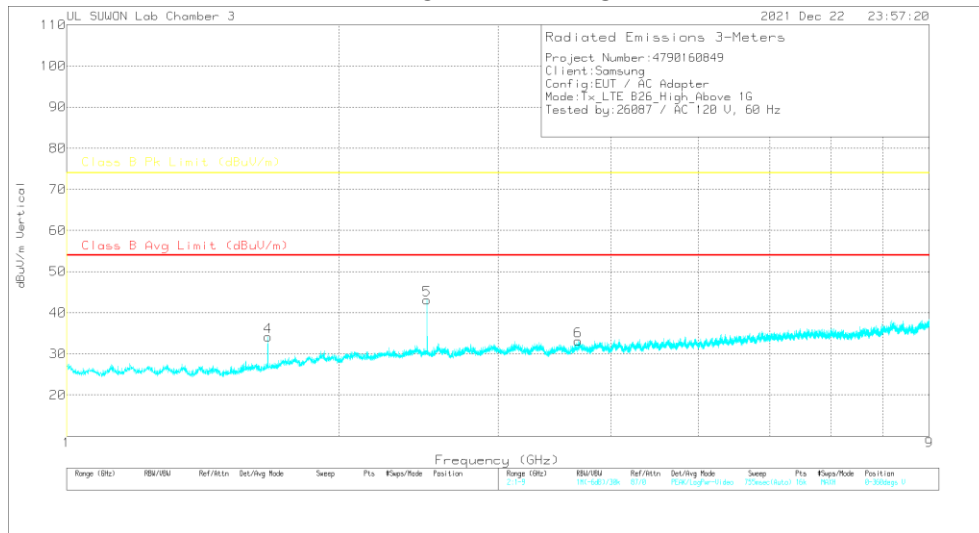
PK - Peak Detector

HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

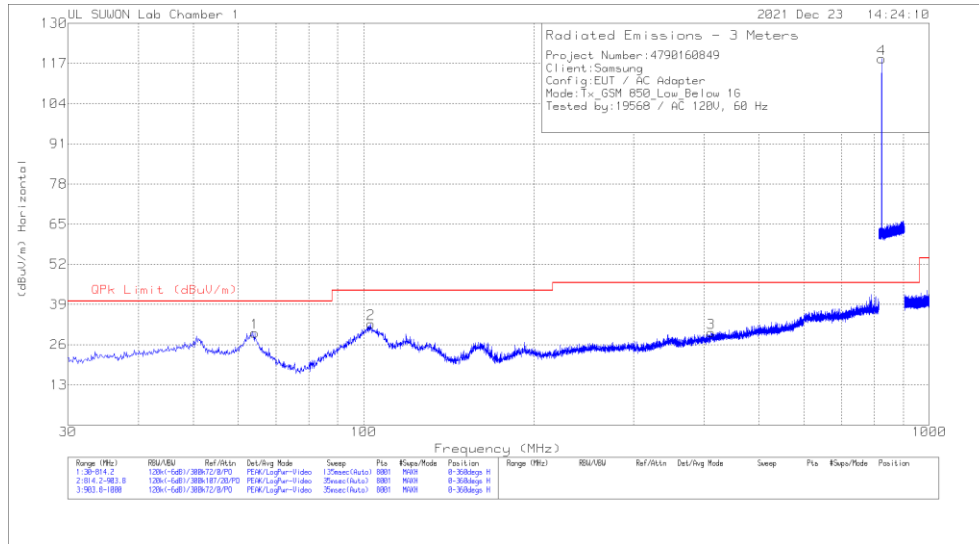
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.6695	38.66	PK	29.6	-35.8	.7	33.16	-	-	74	-40.84	0-360	200	H
2	2.504	41.47	PK	32.9	-34.9	.7	40.17	-	-	74	-33.83	0-360	200	H
3	3.6985	32.63	PK	33.7	-33.3	.6	33.63	-	-	74	-40.37	0-360	200	H
4	1.6695	39.64	PK	23.6	-35.8	.7	34.14	-	-	74	-39.86	0-360	99	V
5	2.5045	44.3	PK	32.9	-34.8	.7	43.1	-	-	74	-31.9	0-360	99	V
6	3.682	32.18	PK	33.7	-33.3	.6	33.18	-	-	74	-40.82	0-360	99	V

PK – Peak Detector

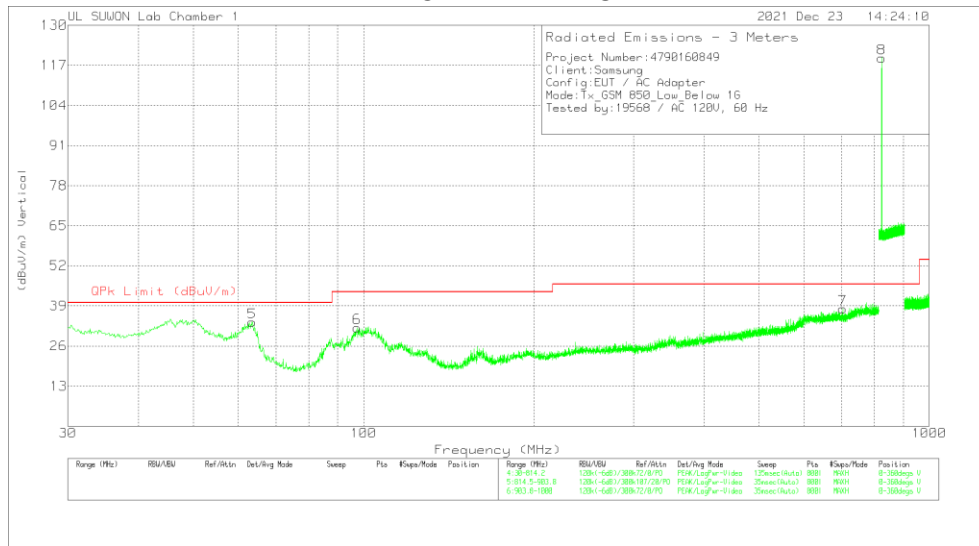
7.1.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

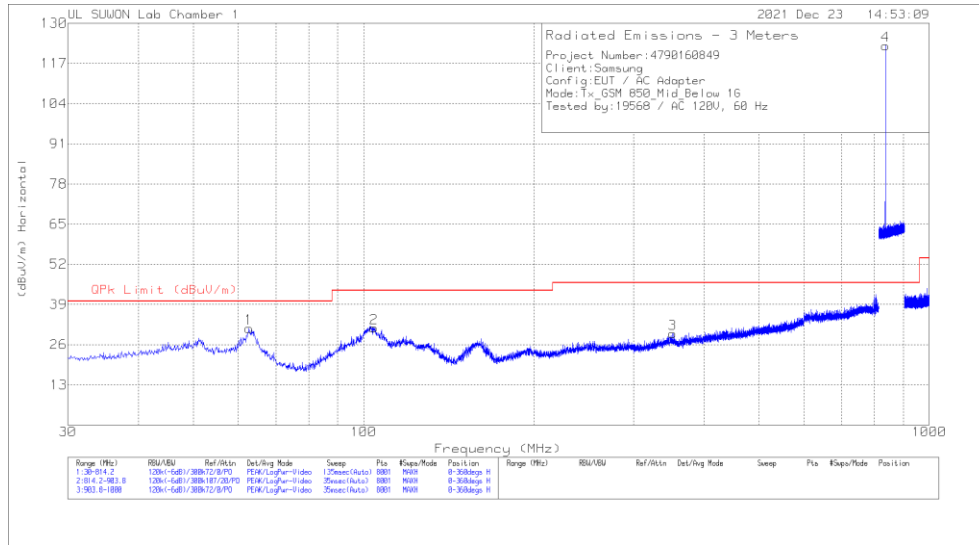
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	64.2107	10.71	Pk	17.4	1.7	29.81	40	-10.19	0-360	300	H
2	103.0286	12.77	Pk	17.7	2.3	32.77	43.52	-10.75	0-360	200	H
3	411.5133	3.98	Pk	21.7	4.2	29.88	46.02	-16.14	0-360	100	H
4	824.1904	85.41	Pk	27.1	6	118.51	46.02	72.49	0-360	200	H
5	63.5246	14.39	Pk	17.6	1.7	33.69	40	-6.31	0-360	200	V
6	97.4412	12.63	Pk	17.2	2.1	31.93	43.52	-11.59	0-360	200	V
7	703.3337	6.91	Pk	25.6	5.5	38.01	46.02	-8.01	0-360	200	V
8	824.1672	86.21	Pk	27.1	6	119.31	46.02	73.29	0-360	100	V

Pk - Peak detector

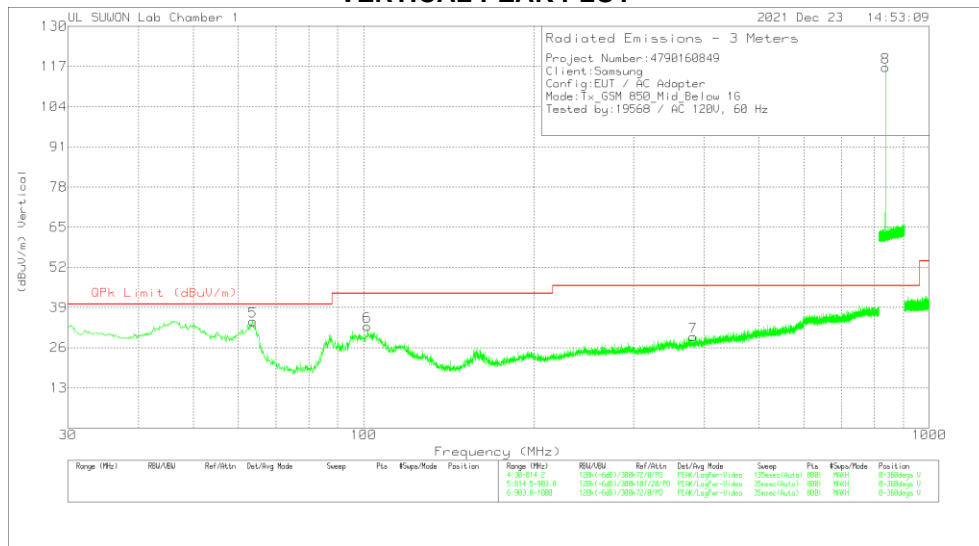
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

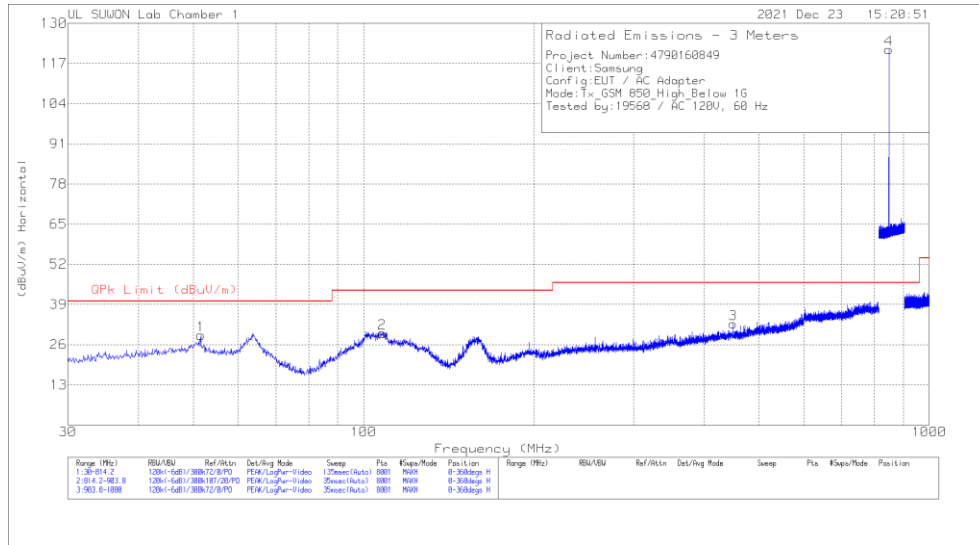
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	62.7404	11.69	Pk	17.9	1.7	31.29	40	-8.71	0-360	300	H
2	104.401	11.49	Pk	17.7	2.2	31.39	43.52	-12.13	0-360	200	H
3	351.9141	4.64	Pk	21	3.9	29.54	46.02	-16.48	0-360	100	H
4	836.5776	89.64	PK	27.1	6	122.74	46.02	76.72	0-360	200	H
5	63.7206	15.19	Pk	17.6	1.7	34.49	40	-5.51	0-360	200	V
6	101.5583	13.15	Pk	17.7	2.1	32.95	43.52	-10.57	0-360	200	V
7	382.694	4.24	Pk	21.1	4.2	29.54	46.02	-16.48	0-360	400	V
8	836.6139	83.61	PK	27.1	6	116.71	46.02	70.69	0-360	100	V

Pk - Peak detector

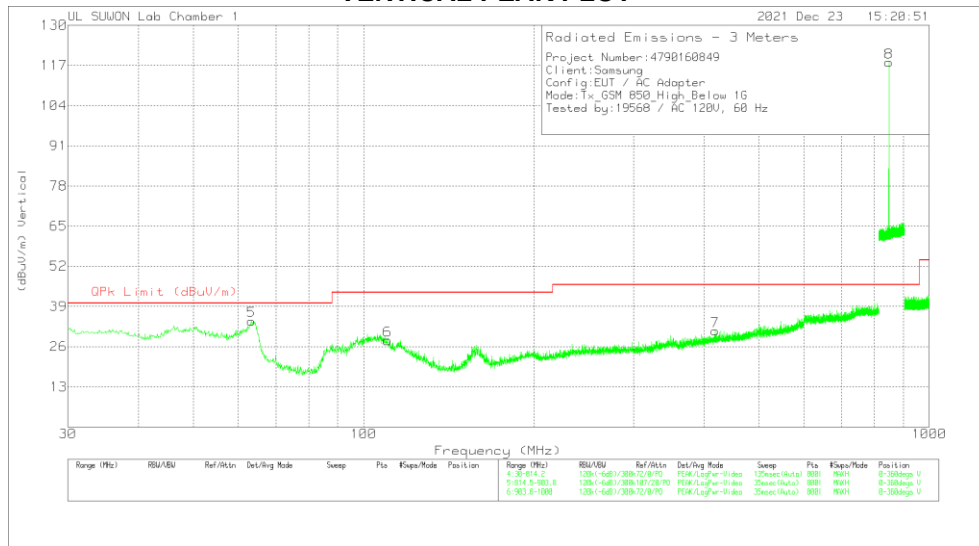
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(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	51.5655	7.83	Pk	19.7	1.5	29.03	40	-10.97	0-360	300	H
2	107.9299	9.98	Pk	17.5	2.2	29.68	43.52	-13.84	0-360	200	H
3	450.3312	6.03	Pk	22.2	4.5	32.73	46.02	-13.29	0-360	100	H
4	848.7968	87.98	Pk	27.4	6.1	121.48	46.02	75.46	0-360	200	H
5	63.3285	14.91	Pk	17.7	1.7	34.31	40	-5.69	0-360	200	V
6	110.2825	8.72	Pk	17.1	2.2	28.02	43.52	-15.5	0-360	200	V
7	418.277	4.87	Pk	21.9	4.3	31.07	46.02	-14.95	0-360	200	V
8	848.7816	84.51	Pk	27.4	6.1	118.01	46.02	71.99	0-360	100	V

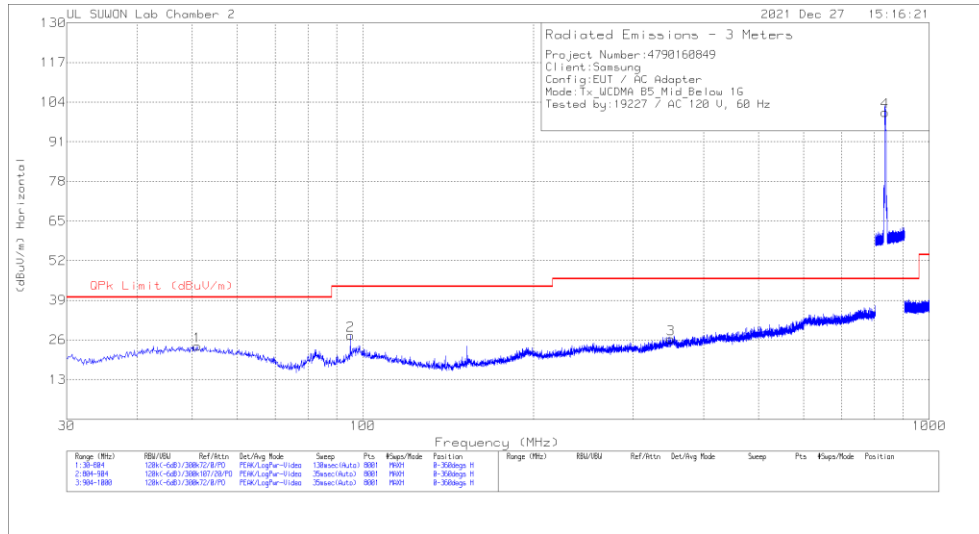
Pk - Peak detector

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

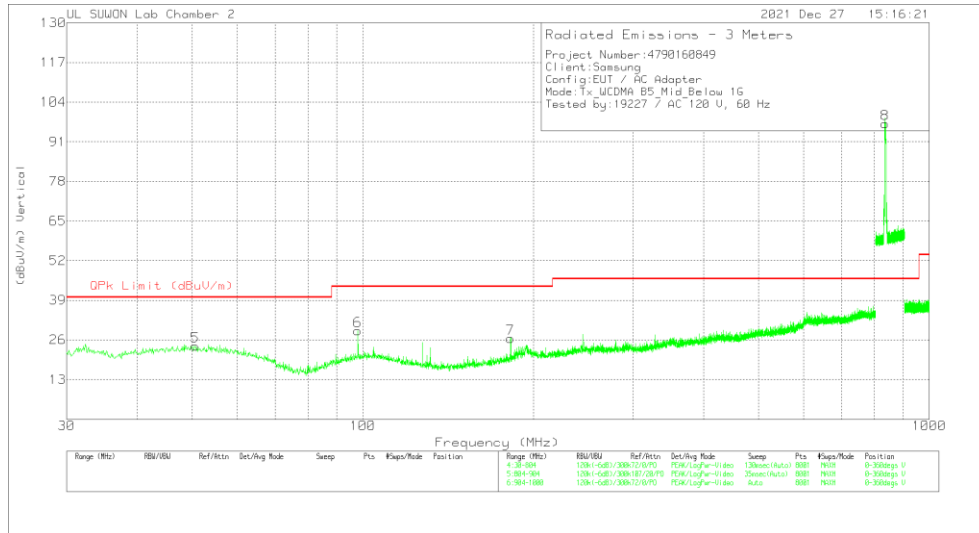
7.1.7. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.9948	3.38	Pk	19.8	.8	23.98	40	-16.02	0-360	200	H
2	95.1128	9.88	Pk	16.5	1.1	27.48	43.52	-16.04	0-360	400	H
3	350.1458	3.2	Pk	21	2.1	26.3	46.02	-19.72	0-360	300	H
4	836.5625	70.51	Pk	26.9	3.3	100.71	46.02	54.69	0-360	100	H
5	50.6078	3.3	Pk	19.8	.8	23.9	40	-16.1	0-360	100	V
6	98.0153	10.72	Pk	17.2	1.1	29.02	43.52	-14.5	0-360	100	V
7	182.3813	9.48	Pk	15.5	1.5	26.48	43.52	-17.04	0-360	100	V
8	836.65	66.79	Pk	26.9	3.3	96.99	46.02	50.97	0-360	300	V

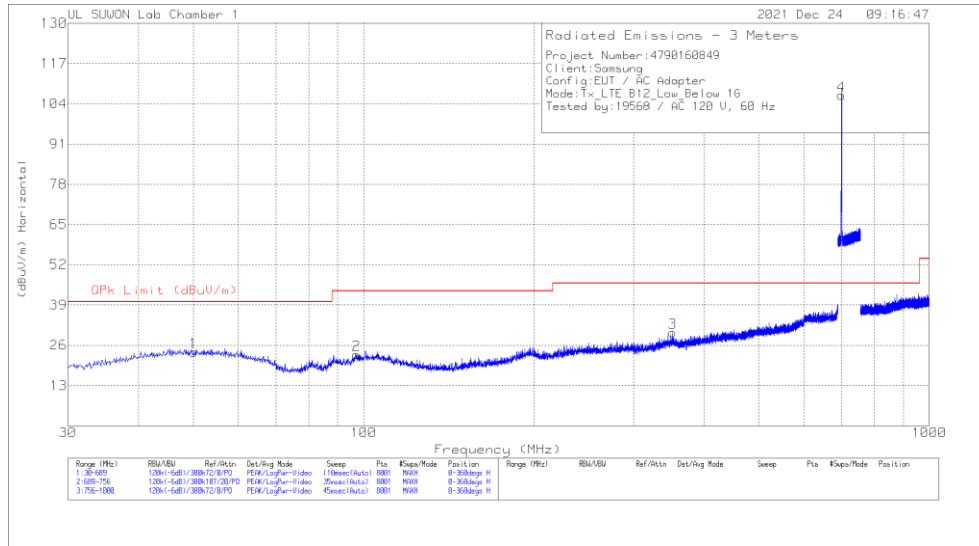
Pk - Peak detector

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

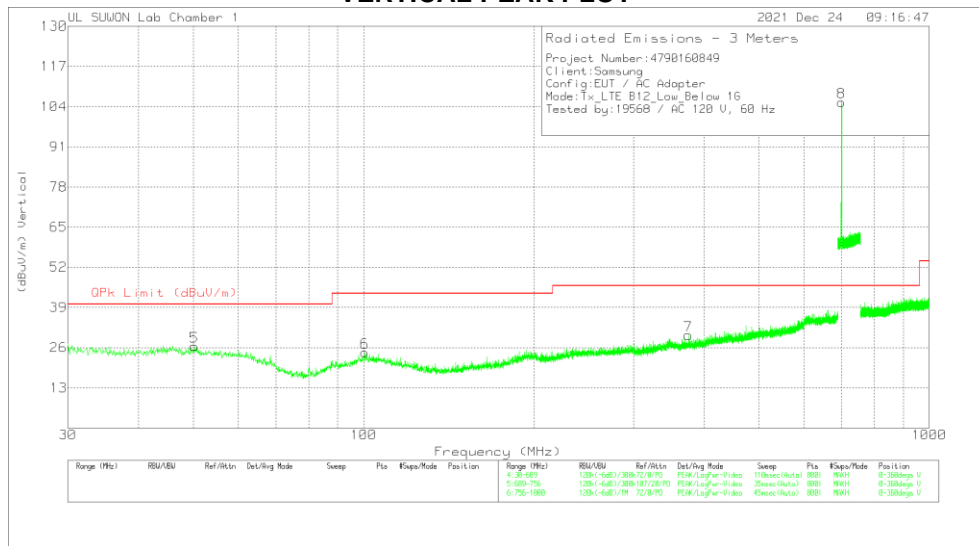
7.1.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

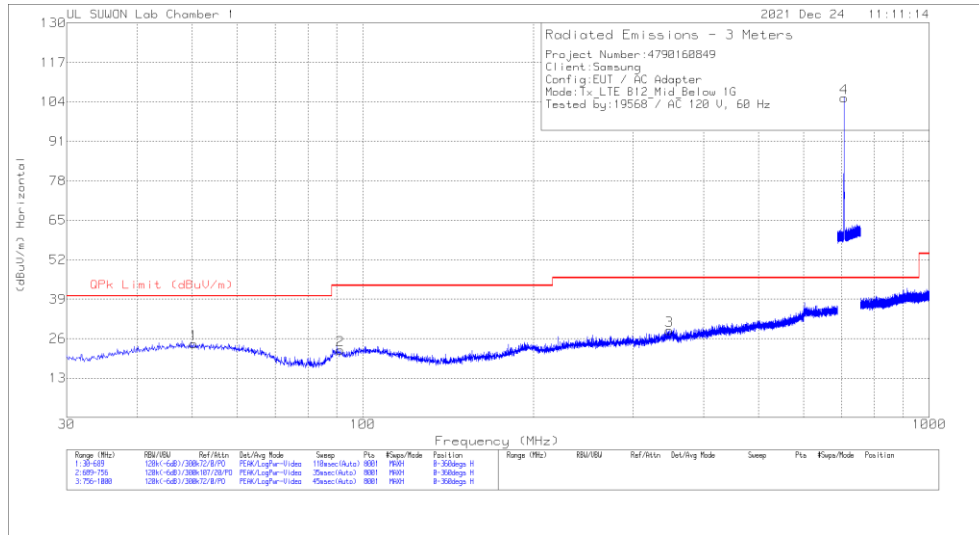
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.0171	2.42	Pk	19.9	1.5	23.82	40	-16.18	0-360	100	H
2	97.1356	3.89	Pk	17.1	2	22.99	43.52	-20.53	0-360	100	H
3	351.6744	5.23	Pk	21	3.9	30.13	46.02	-15.89	0-360	200	H
4	699.5525	75.61	Pk	25.6	5.5	106.71	46.02	60.69	0-360	200	H
5	50.1819	5.04	PK	19.9	1.5	26.44	40	-13.56	0-360	200	V
6	100.513	4.77	Pk	17.6	2.1	24.47	43.52	-19.05	0-360	200	V
7	375.0689	5.11	Pk	20.9	4	30.01	46.02	-16.01	0-360	200	V
8	699.5693	74.34	Pk	25.6	5.5	105.44	46.02	59.42	0-360	100	V

Pk - Peak detector

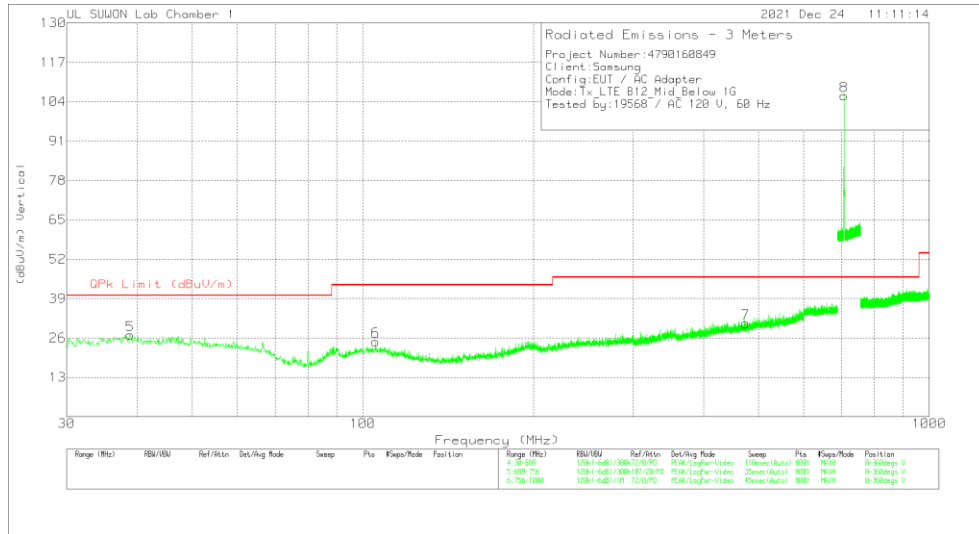
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

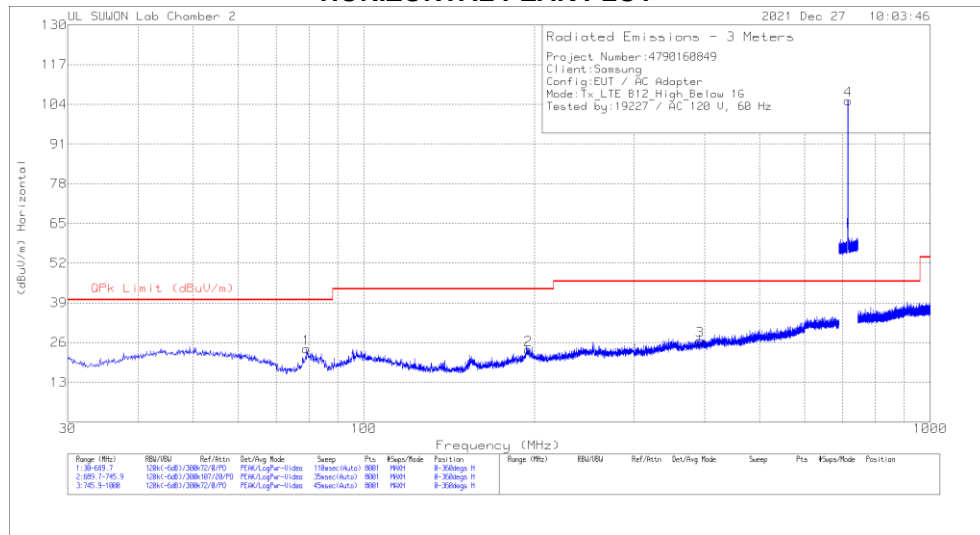
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.2643	2.9	Pk	19.9	1.5	24.3	40	-15.7	0-360	300	H
2	91.2046	4.31	Pk	16	2	22.31	43.52	-21.21	0-360	200	H
3	347.8851	3.83	PK	20.9	3.9	28.63	46.02	-17.39	0-360	200	H
4	707.5506	74.07	Pk	25.7	5.6	105.37	46.02	59.35	0-360	200	H
5	38.8141	7.41	Pk	18.3	1.3	27.01	40	-12.99	0-360	200	V
6	105.3731	5.09	Pk	17.7	2.1	24.89	43.52	-18.63	0-360	400	V
7	474.0013	3.83	Pk	22.5	4.5	30.83	46.02	-15.19	0-360	200	V
8	707.7349	74.71	Pk	25.7	5.5	105.91	46.02	59.89	0-360	100	V

Pk - Peak detector

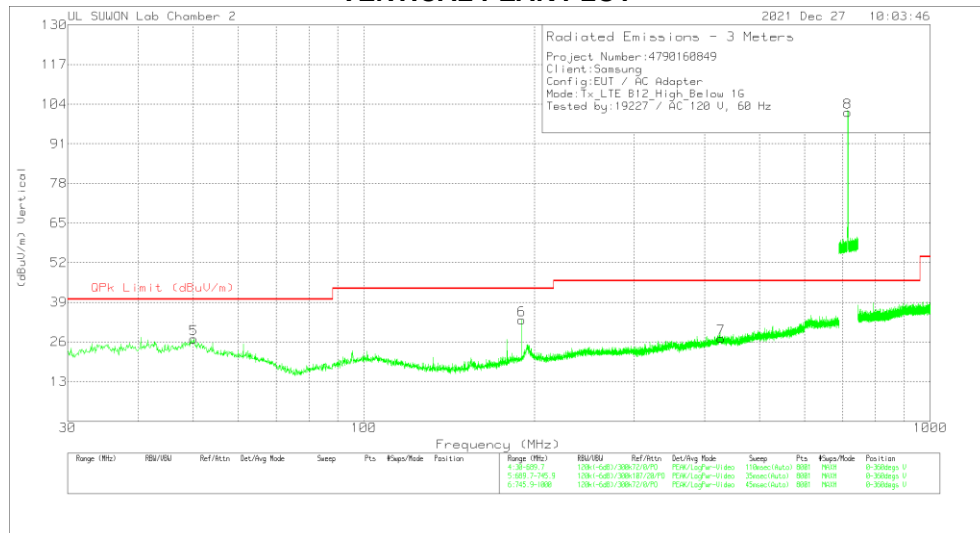
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

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	79.2304	10.54	Pk	12.4	1	23.94	40	-16.06	0-360	100	H
2	195.2559	4.65	Pk	17.3	1.6	23.55	43.52	-19.97	0-360	100	H
3	392.3424	3.27	Pk	21.1	2.2	26.57	46.02	-19.45	0-360	300	H
4	715.7487	76.65	Pk	25.6	3	105.25	46.02	59.23	0-360	200	H
5	50.121	6.26	Pk	19.9	.8	26.96	40	-13.04	0-360	200	V
6	190.0607	15.2	Pk	16.4	1.6	33.2	43.52	-10.32	0-360	200	V
7	427.719	2.79	Pk	22.1	2.3	27.19	46.02	-18.83	0-360	400	V
8	715.3342	72.72	Pk	25.6	3	101.32	46.02	55.3	0-360	100	V

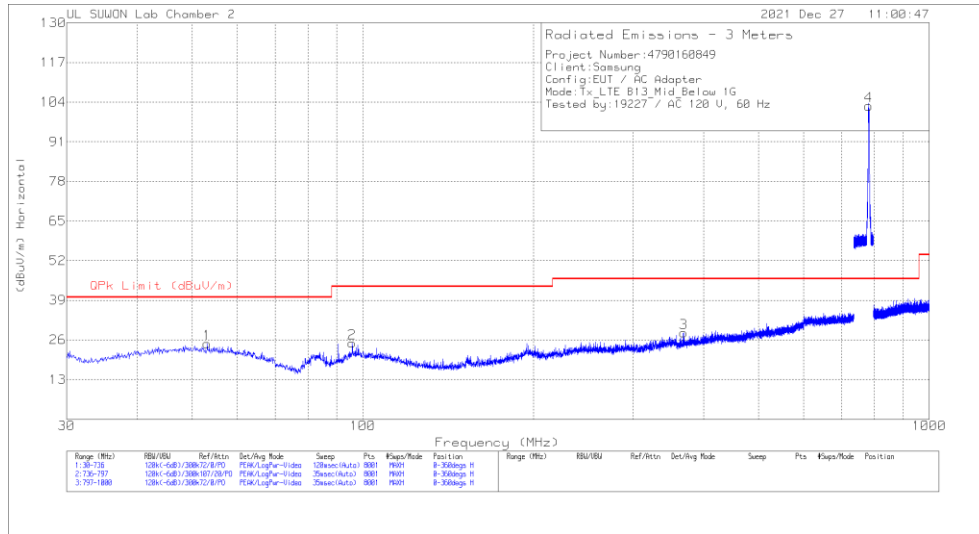
Pk - Peak detector

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

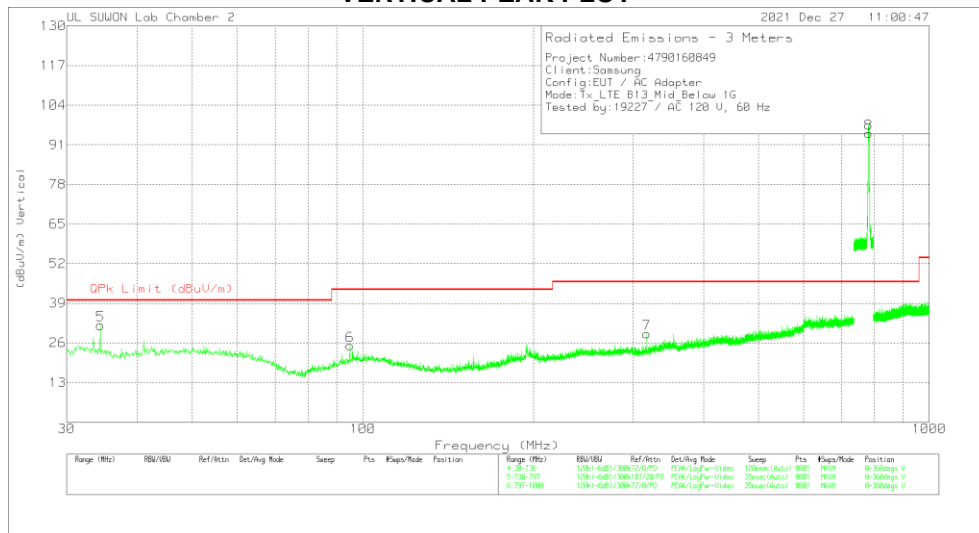
7.1.9. Below 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	53.1215	4.33	Pk	19.6	.8	24.73	40	-15.27	0-360	300	H
2	95.7463	7.19	Pk	16.7	1.1	24.99	43.52	-18.53	0-360	200	H
3	368.2623	5.7	Pk	20.5	2.2	28.4	46.02	-17.62	0-360	100	H
4	782.2838	73.03	Pk	26.5	3.2	102.73	46.02	56.71	0-360	200	H
5	34.4125	14.88	Pk	16.2	.7	31.78	40	-8.22	0-360	200	V
6	94.8638	7.49	Pk	16.5	1.1	25.09	43.52	-18.43	0-360	200	V
7	317.2538	7.66	Pk	19.4	2	29.06	46.02	-16.96	0-360	300	V
8	782.5201	65.09	Pk	26.5	3.2	94.79	46.02	48.77	0-360	100	V

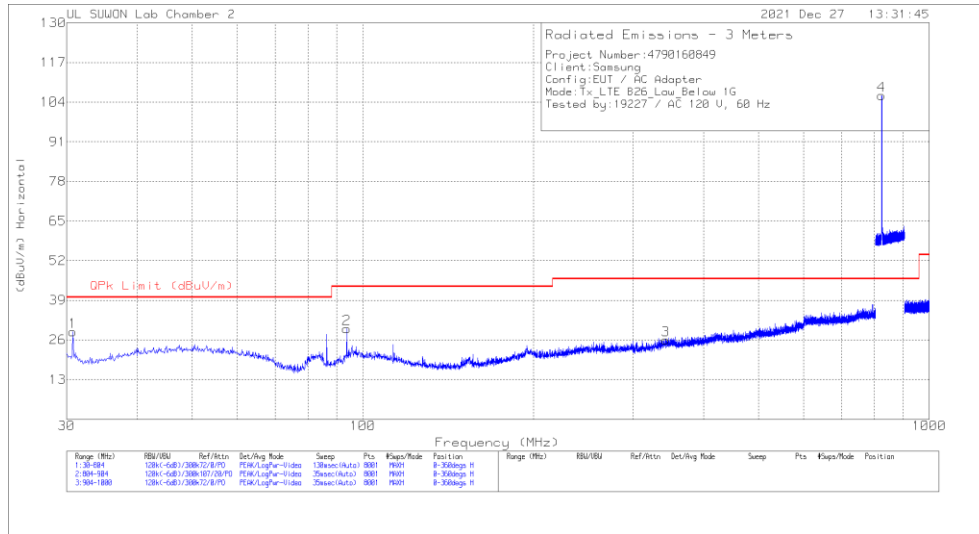
Pk - Peak detector

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

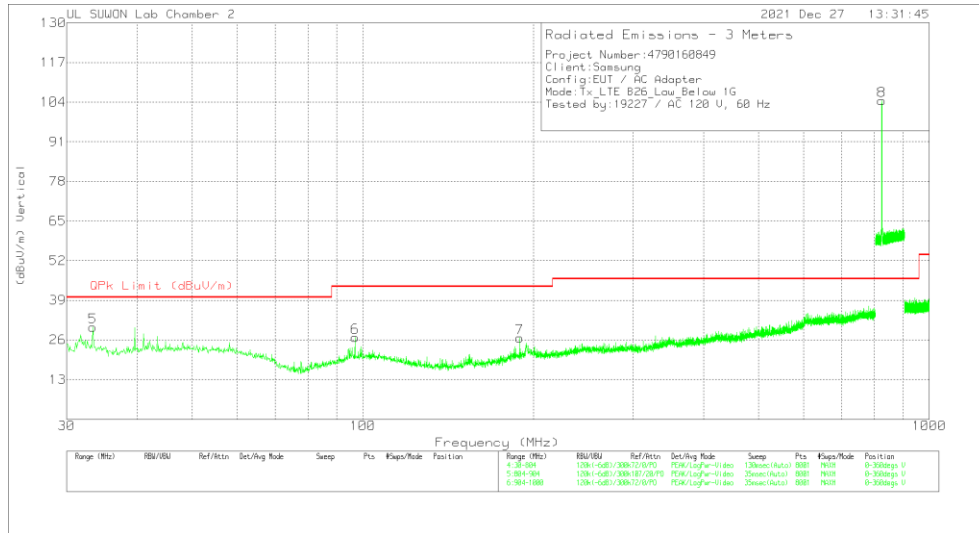
7.1.10. Below 1 GHz in the LTE Band 26

LOW CHANNEL (860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

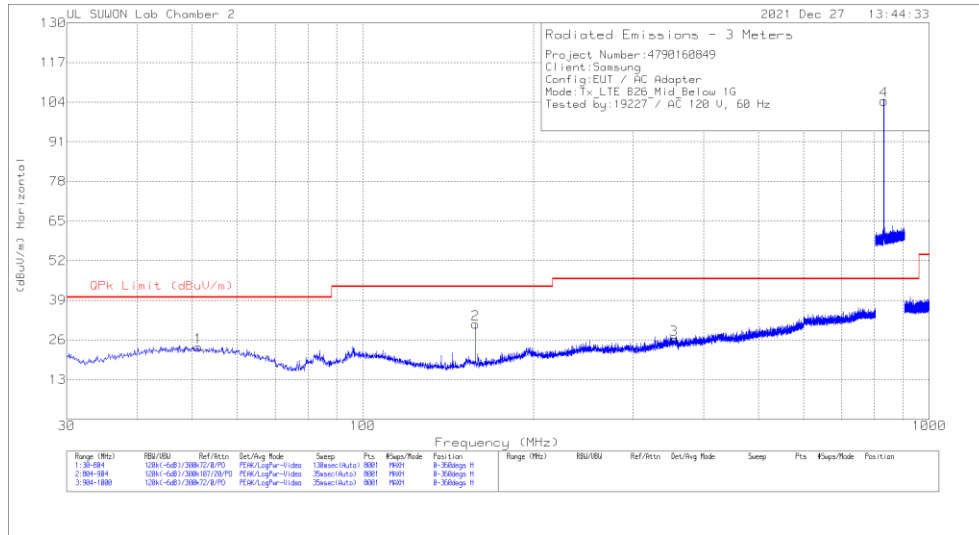
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.774	12.54	Pk	15.5	.6	28.64	40	-11.36	0-360	100	H
2	93.6615	12.23	Pk	16.3	1.1	29.63	43.52	-13.89	0-360	200	H
3	342.8895	3.35	Pk	20.6	2.1	26.05	46.02	-19.97	0-360	200	H
4	824.5375	76.27	Pk	26.7	3.2	106.17	46.02	60.15	0-360	200	H
5	33.3863	13.73	Pk	15.8	.7	30.23	40	-9.77	0-360	200	V
6	96.8543	8.75	Pk	17	1.1	26.85	43.52	-16.67	0-360	200	V
7	189.3473	8.71	Pk	16.3	1.6	26.61	43.52	-16.91	0-360	200	V
8	824.6625	74.64	Pk	26.7	3.2	104.54	46.02	58.52	0-360	100	V

Pk - Peak detector

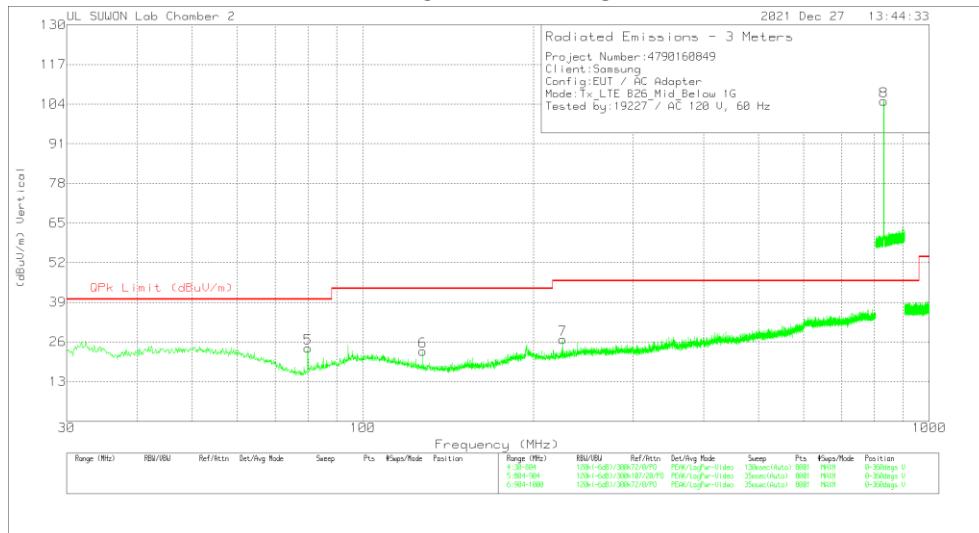
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

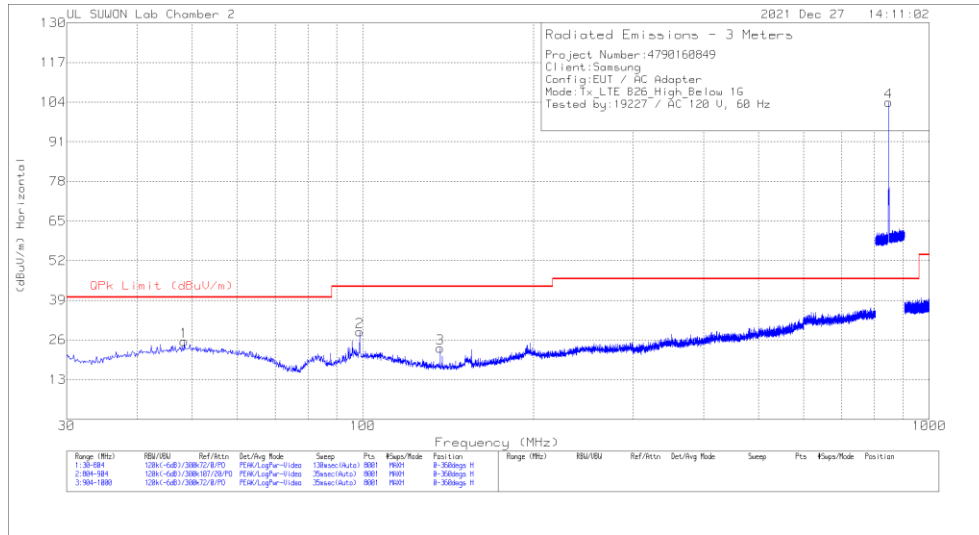
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	51.1883	3.1	Pk	19.8	.8	23.7	40	-16.3	0-360	300	H
2	158.1938	15.72	Pk	14.1	1.4	31.22	43.52	-12.3	0-360	100	H
3	354.306	3.08	Pk	21	2.1	26.18	46.02	-19.84	0-360	100	H
4	831.675	74.31	Pk	26.8	3.3	104.41	46.02	58.39	0-360	200	H
5	80.0198	10.47	Pk	12.5	1	23.97	40	-16.03	0-360	300	V
6	127.6208	7.18	Pk	14.5	1.3	22.98	43.52	-20.54	0-360	200	V
7	225.2415	7.79	Pk	17.3	1.7	26.79	46.02	-19.23	0-360	300	V
8	831.5375	74.83	Pk	26.8	3.3	104.93	46.02	58.91	0-360	100	V

Pk - Peak detector

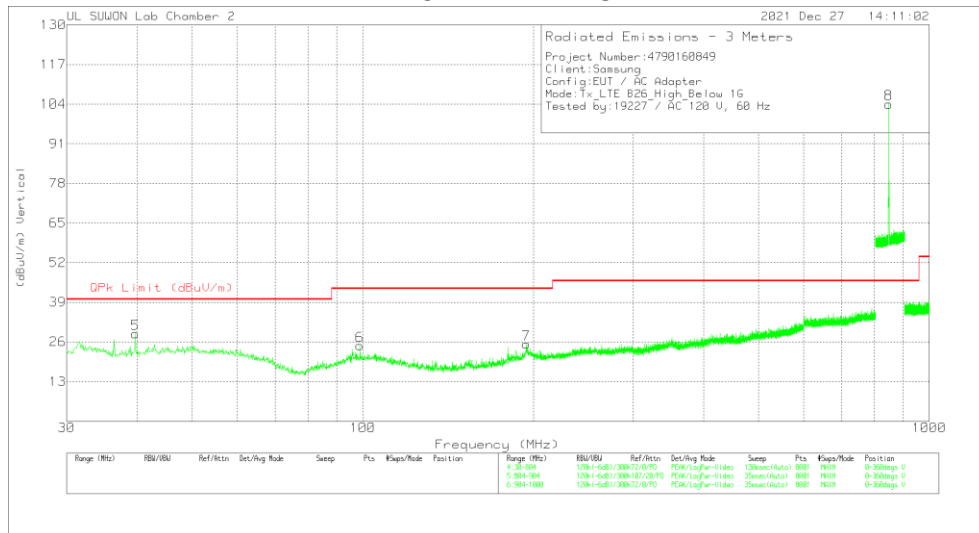
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	48.3825	4.73	Pk	19.9	.8	25.43	40	-14.57	0-360	100	H
2	98.6925	10.34	Pk	17.3	1.1	28.74	43.52	-14.78	0-360	200	H
3	137.0055	8.13	Pk	13.8	1.3	23.23	43.52	-20.29	0-360	100	H
4	848.2875	73.32	Pk	27.3	3.3	103.92	46.02	57.9	0-360	200	H
5	39.675	9.46	Pk	18.5	.7	28.66	40	-11.34	0-360	200	V
6	98.7893	6.37	Pk	17.3	1.1	24.77	43.52	-18.75	0-360	200	V
7	194.3783	6.48	Pk	17.2	1.6	25.28	43.52	-18.24	0-360	200	V
8	848.2	73.47	Pk	27.3	3.3	104.07	46.02	58.05	0-360	100	V

Pk - 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