



CERTIFICATION TEST REPORT

Report Number. : 4790215260-E1V1

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

Model : SM-A135F/DSN

FCC ID : A3LSMA135FDSN

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

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

Date Of Issue:
2022-01-21

Prepared by:
UL Korea, Ltd.
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ACCREDITED

Testing Laboratory

TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2022-01-21	Initial issue	Yeonhee Lim

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. MEASURING INSTRUMENT CALIBRATION.....	6
4.2. SAMPLE CALCULATION.....	6
4.3. MEASUREMENT UNCERTAINTY	6
4.4. DECISION RULE	6
5. EQUIPMENT UNDER TEST	7
5.1. DESCRIPTION OF EUT.....	7
5.2. TEST MODE	7
5.3. WORST-CASE ORIENTATION AND MODE.....	7
5.4. DESCRIPTION OF TEST SETUP	8
6. TEST AND MEASUREMENT EQUIPMENT	9
7. APPLICABLE LIMITS AND TEST RESULTS	10
7.1. RADIATED EMISSIONS	10
7.1.1. Above 1 GHz in the GSM850.....	11
7.1.2. Above 1 GHz in the WCDMA Band 5.....	14
7.1.3. Above 1 GHz in the LTE Band 5	15
7.1.4. Below 1 GHz in the GSM850	18
7.1.5. Below 1 GHz in the WCDMA Band 5	21
7.1.6. Below 1 GHz in the LTE Band 5	22

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC
MODEL NUMBER: SM-A135F/DSN
SERIAL NUMBER: R3CRA0RNQLM (RADIATED)
DATE TESTED: 2022-01-17;

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	
☐	Chamber 1
☒	Chamber 2
☐	Chamber 3

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

4. 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:

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

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

(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 Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC.
This test report addresses the WWAN operational mode.

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)

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 B5	-	-	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.

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	R37N9Q14289RT3	N/A
Data Cable	SAMSUNG	EP-DN980BWE (GH39-02115A, C to C)	N/A	N/A

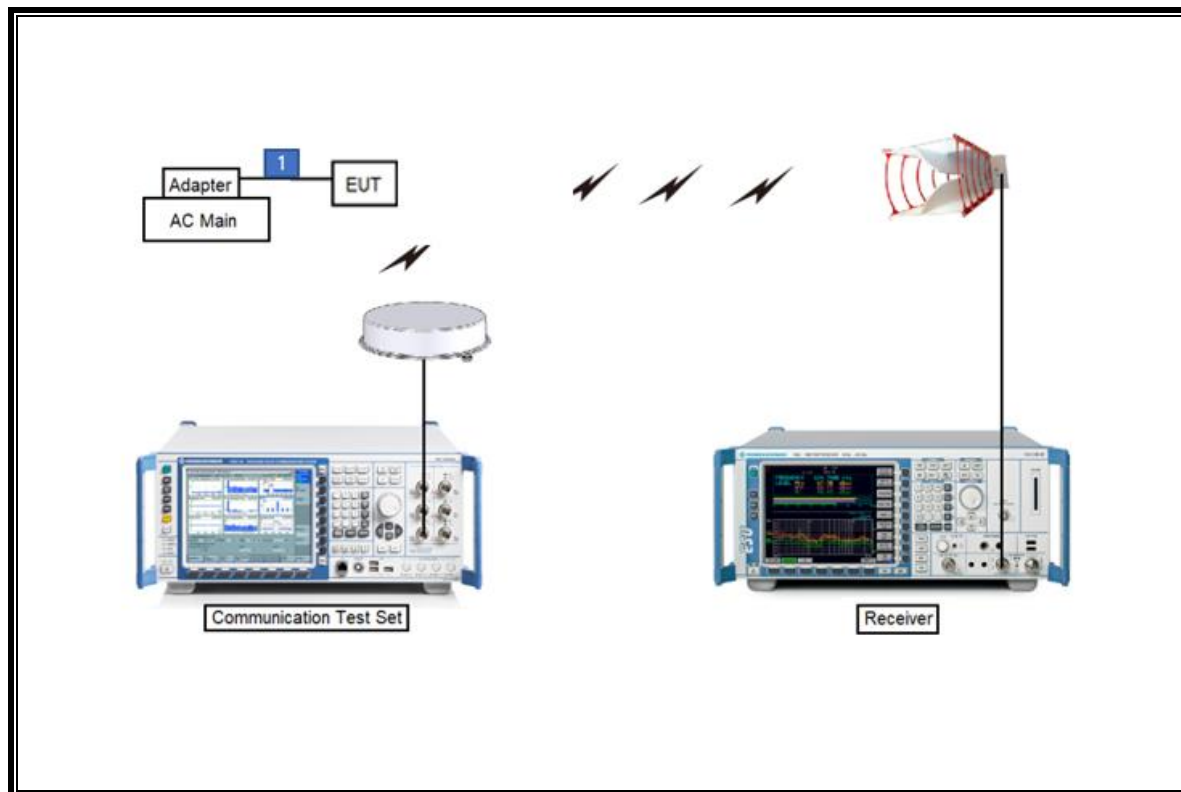
I/O CABLE

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
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

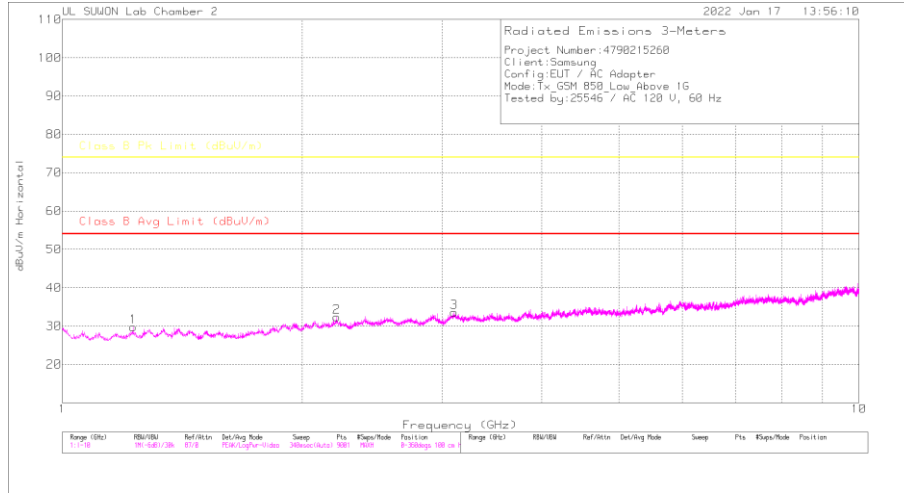
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

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.	

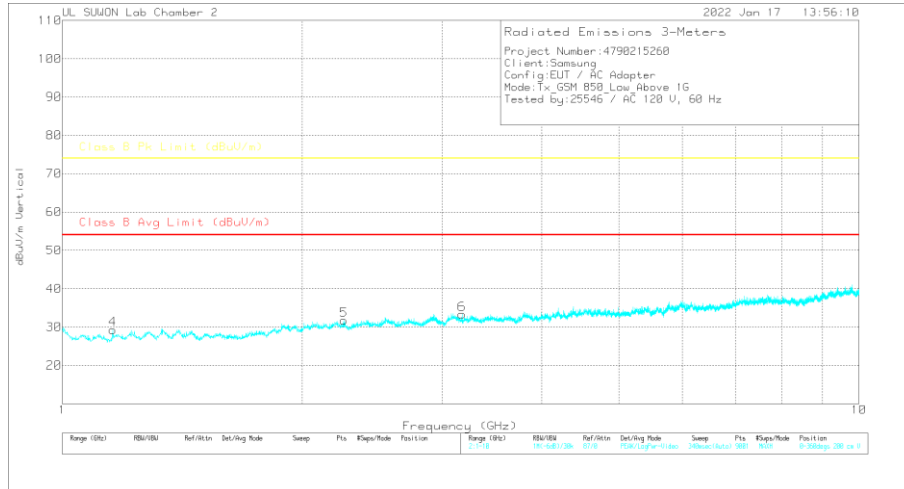
7.1.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

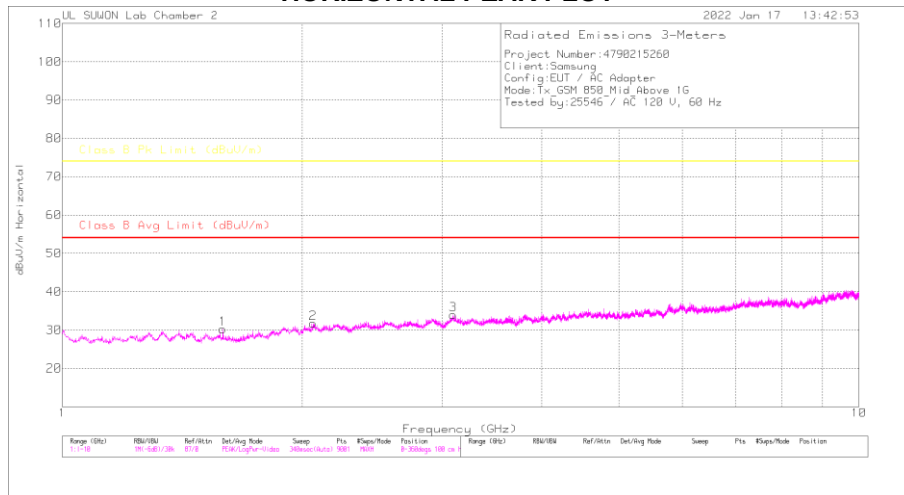
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00160724	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	1.227	31.94	PK	28.9	-32.1	1	29.74	-	-	74	-44.26	0-360	100	H
2	2.21	30.66	PK	31.7	-30.7	7	32.36	-	-	74	-41.64	0-360	100	H
3	3.105	29.82	PK	32.9	-29.8	7	33.62	-	-	74	-40.38	0-360	100	H
4	1.157	32.23	PK	28.2	-32.2	1.1	29.33	-	-	74	-44.67	0-360	200	V
5	2.256	30.17	PK	31.7	-30.7	6	31.77	-	-	74	-42.23	0-360	200	V
6	3.175	29.36	PK	33	-29.7	7	33.36	-	-	74	-40.64	0-360	200	V

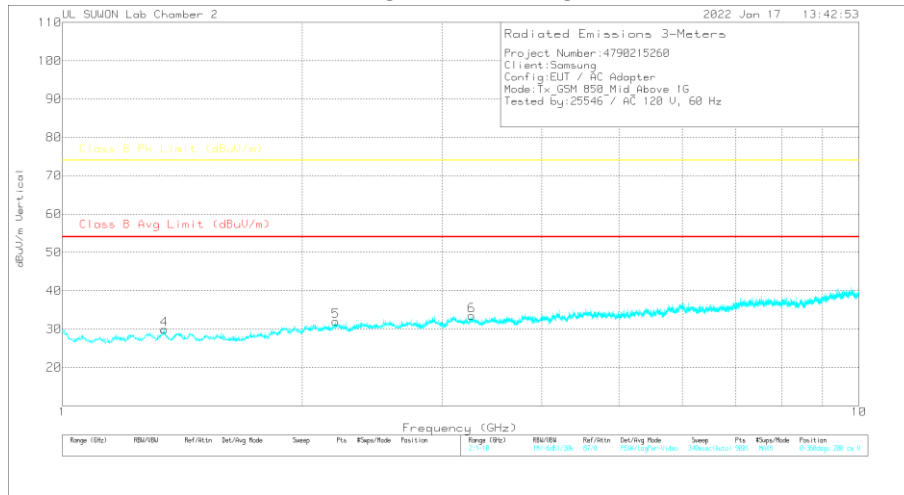
PK – Peak Detector

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

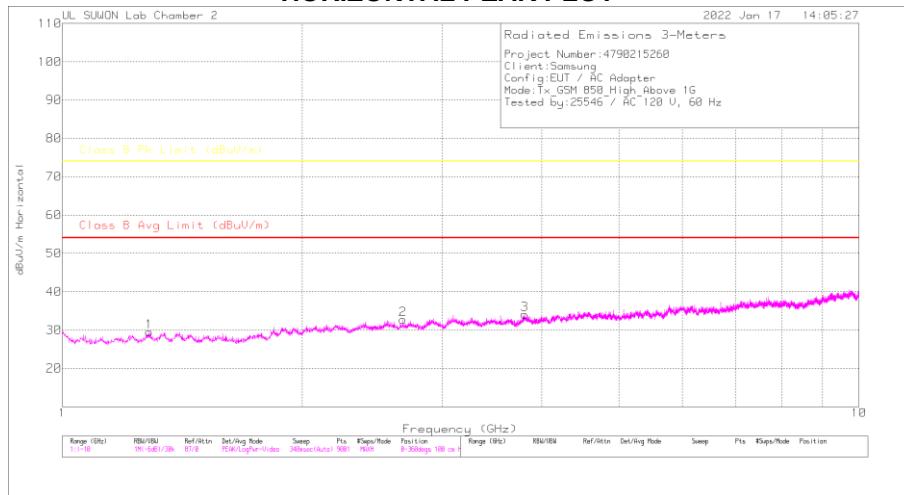
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00158724	1-18GHz(dB)	1GHz_4P(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Avg(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.59	32.31	PK	28.6	-31.5	.8	30.21	-	-	74	-43.79	0-360	100	H
2	2.066	30.56	PK	31.5	-30.8	.5	31.76	-	-	74	-42.24	0-360	100	H
3	3.094	30.33	PK	32.9	-29.9	.6	33.93	-	-	74	-40.07	0-360	100	H
4	1.343	31.28	PK	29.6	-31.8	.8	29.88	-	-	74	-44.12	0-360	200	V
5	2.204	30.08	PK	31.7	-30.6	.8	31.98	-	-	74	-42.02	0-360	200	V
6	3.266	29.93	PK	32.9	-30	.6	33.43	-	-	74	-40.57	0-360	200	V

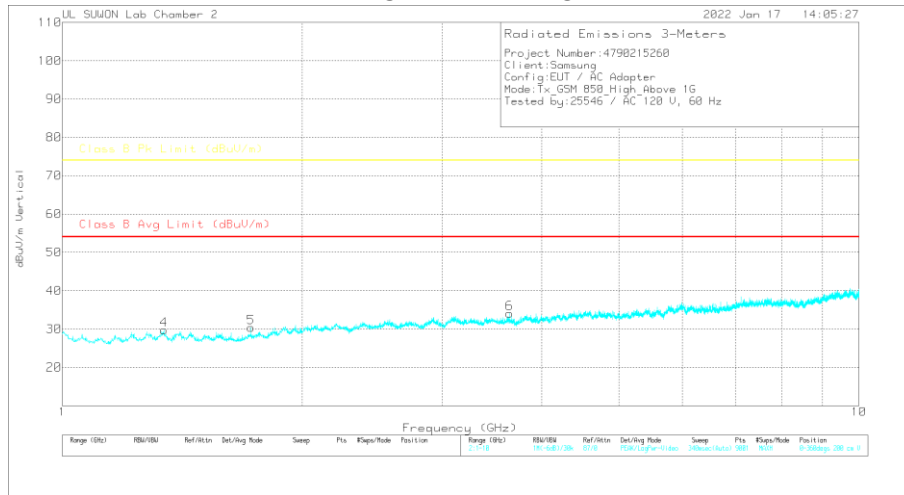
PK – Peak Detector

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

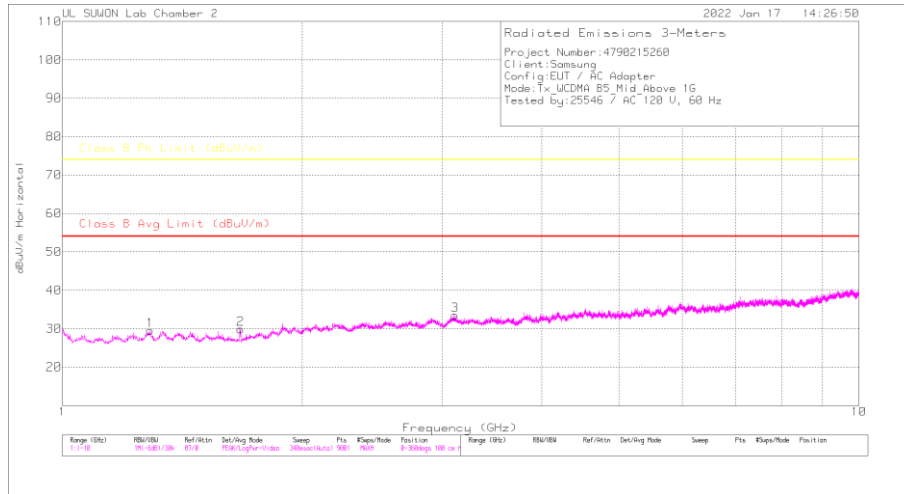
Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	3117_00158724	1-18GHz(dB)	1GHz_HPB(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Avg(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	1.286	31.2	PK	29.4	-32	.9	29.5	-	-	74	-44.5	0-360	100	H
2	2.578	29.98	PK	32.2	-30.3	.8	32.68	-	-	74	-41.32	0-360	100	H
3	3.804	29.49	PK	33.3	-29.3	.6	34.09	-	-	74	-39.91	0-360	100	H
4	1.341	31.21	PK	29.6	-31.8	.8	29.81	-	-	74	-44.19	0-360	200	V
5	1.726	31.86	PK	29	-31.3	.8	30.36	-	-	74	-43.64	0-360	200	V
6	3.644	30.15	PK	32.9	-29.7	.7	34.05	-	-	74	-39.95	0-360	200	V

PK – Peak Detector

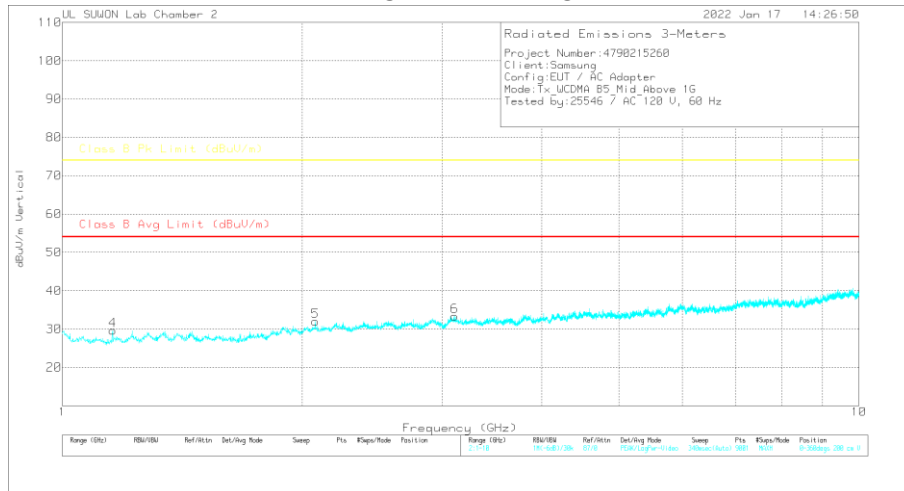
7.1.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

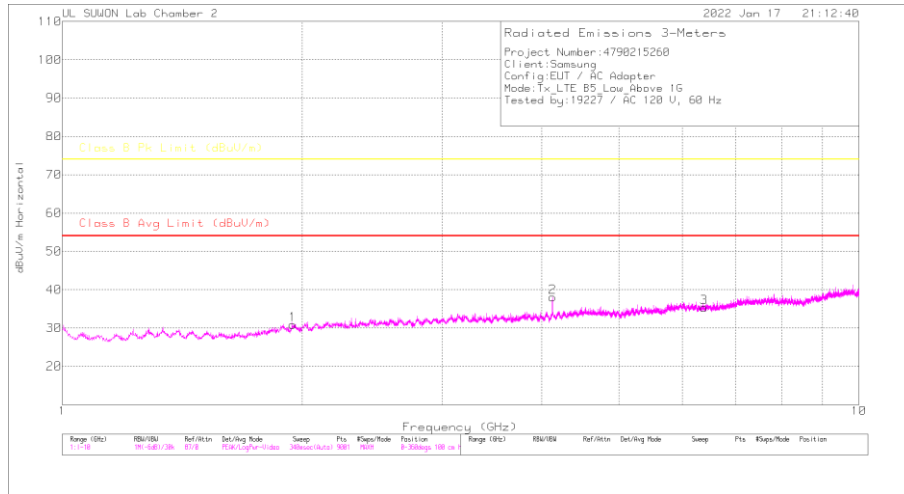
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1:18GHz(dB)	1GHz_HP(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	1.29	31.22	PK	29.4	-32	9	29.52	-	-	74	-44.48	0-360	100	H
2	1.674	31.93	PK	28.6	-31.4	8	29.93	-	-	74	-44.07	0-360	100	H
3	3.112	29.64	PK	32.9	-29.8	7	33.44	-	-	74	-40.56	0-360	100	H
4	1.157	32.56	PK	28.2	-32.2	1.1	29.66	-	-	74	-44.34	0-360	200	V
5	2.078	30.71	PK	31.5	-30.8	6	32.01	-	-	74	-41.99	0-360	200	V
6	3.109	29.46	PK	32.9	-29.7	7	33.36	-	-	74	-40.64	0-360	200	V

PK – Peak Detector

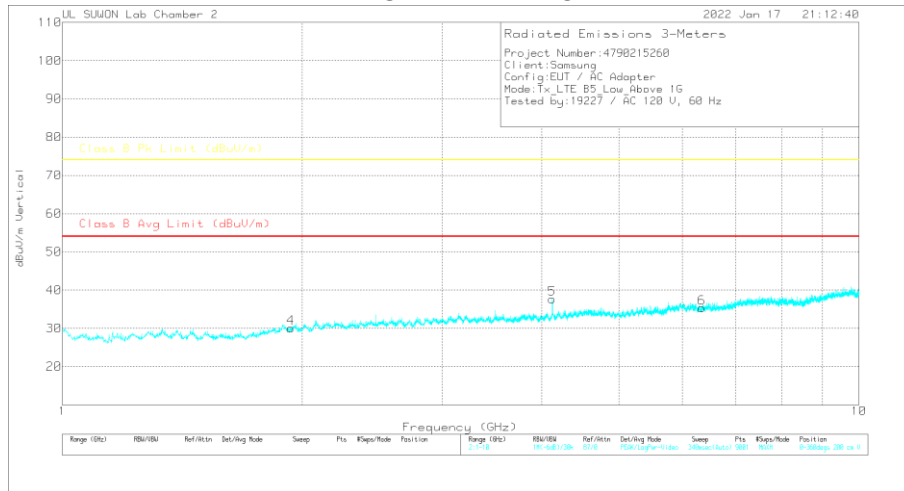
7.1.3. Above 1 GHz in the LTE Band 5

LOW CHANNEL(871.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

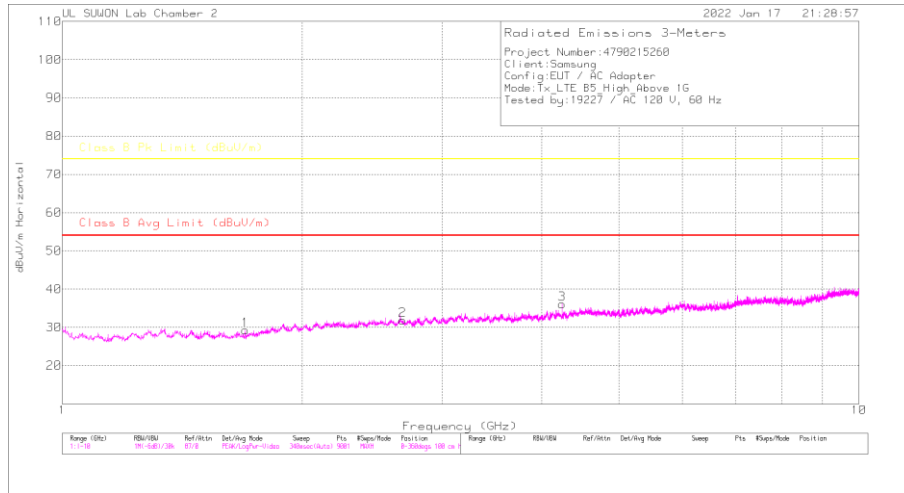
Trace Markers

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(CSFB)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Altitude (m)	Height (cm)	Polarity
1	1.947	30.22	PK	31	-31.1	.7	30.82	-	-	74	-43.18	0-360	100	H
2	4.125	32.74	PK	33.4	-28.6	.5	38.04	-	-	74	-35.96	0-360	100	H
3	6.396	26.43	PK	35.4	-26.9	.4	35.33	-	-	74	-38.67	0-360	100	H
4	1.936	29.57	PK	30.9	-31.1	.7	30.07	-	-	74	-43.93	0-360	200	V
5	4.123	32.34	PK	33.4	-28.6	.5	37.64	-	-	74	-36.36	0-360	200	V
6	6.345	26.87	PK	35.3	-27.2	.4	35.37	-	-	74	-38.63	0-360	200	V

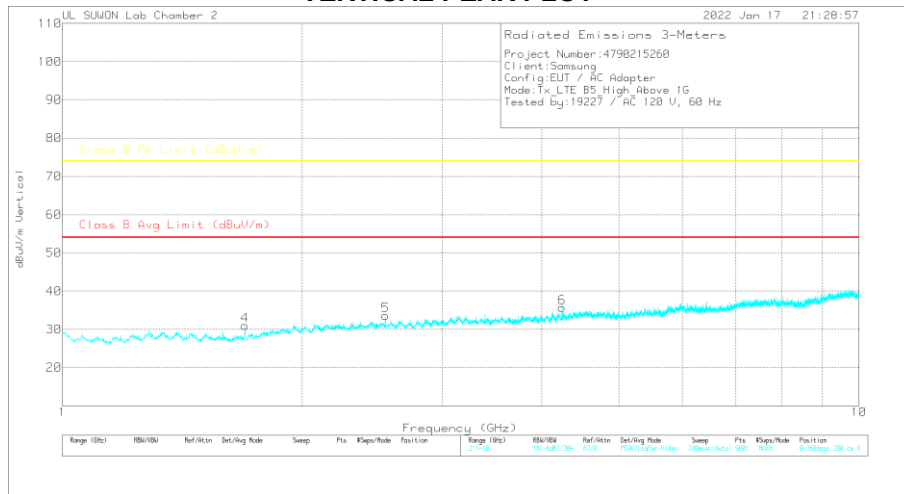
PK – Peak Detector

MID CHANNEL(881.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

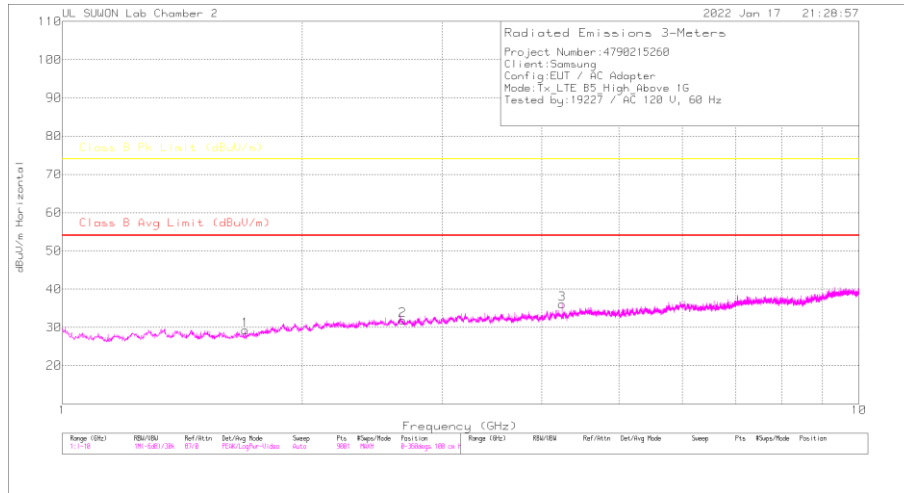
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00108724	1-18GHz(dB)	1GHz_HPB(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Ave(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	31.03	PK	28.7	-31.3	.8	29.23	-	-	74	-44.77	0-360	100	H
2	2.675	29.25	PK	32.2	-30.4	.8	31.85	-	-	74	-42.15	0-360	100	H
3	4.24	30.93	PK	33.4	-28.7	.4	36.03	-	-	74	-33.97	0-360	100	H
4	1.696	32.01	PK	28.7	-31.3	.8	31.01	-	-	74	-42.99	0-360	200	V
5	2.544	30.9	PK	32.1	-30.1	.7	33.6	-	-	74	-40.4	0-360	200	V
6	4.24	30.6	PK	33.4	-28.7	.4	35.7	-	-	74	-38.3	0-360	200	V

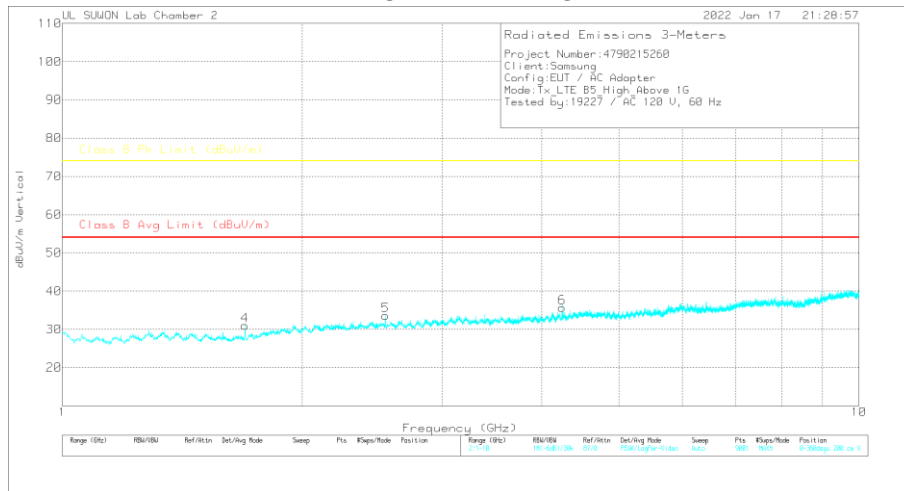
PK – Peak Detector

HIGH CHANNEL(891.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

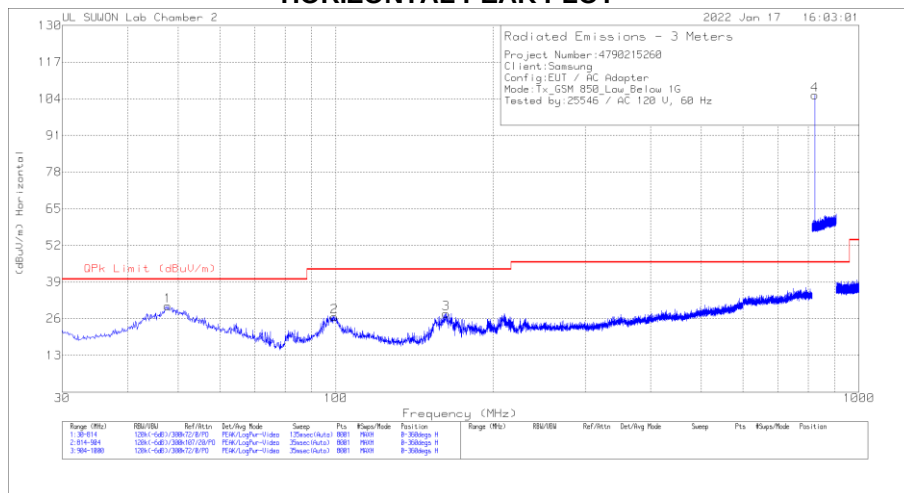
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HP(dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Av(CSPB)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Altitude (m)	Height (cm)	Polarity
1	1.697	31.03	PK	28.7	-31.3	.8	29.23	-	-	74	-44.77	0-360	100	H
2	2.675	29.25	PK	32.2	-30.4	.8	31.85	-	-	74	-42.15	0-360	100	H
3	4.24	30.93	PK	33.4	-28.7	.4	36.03	-	-	74	-37.97	0-360	100	H
4	1.696	32.01	PK	28.7	-31.3	.8	31.01	-	-	74	-42.99	0-360	200	V
5	2.544	30.9	PK	32.1	-30.1	.7	33.6	-	-	74	-40.4	0-360	200	V
6	4.24	30.6	PK	33.4	-28.7	.4	35.7	-	-	74	-38.3	0-360	200	V

PK – Peak Detector

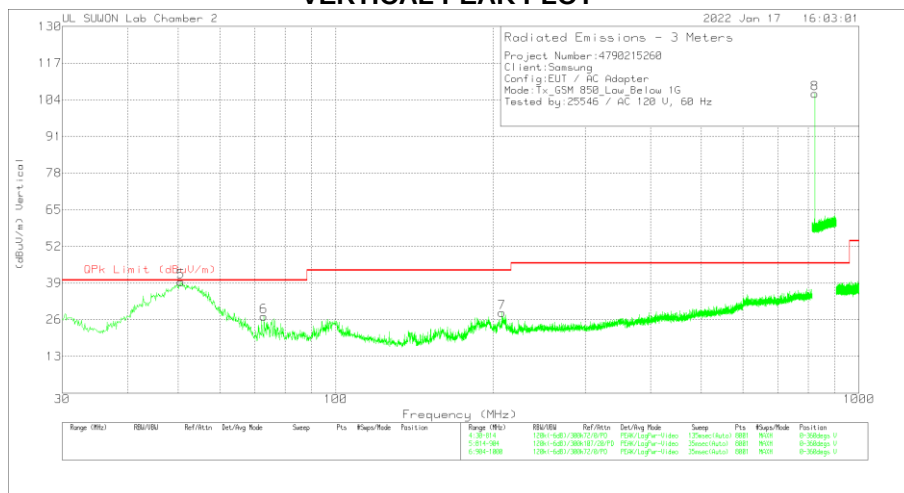
7.1.4. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Pk - Peak detector

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	47.738	9.87	Pk	19.9	.8	30.57	40	-9.43	0-360	200	H
2	99.384	8.32	Pk	17.3	1.1	26.72	43.52	-16.8	0-360	100	H
3	162.398	12.15	Pk	14.3	1.4	27.85	43.52	-15.67	0-360	100	H
4	824.26	75.36	Pk	26.7	3.2	105.26	46.02	59.24	0-360	200	H
5	50.58	18.76	Pk	19.8	.8	39.36	40	-.64	0-360	200	V
6	72.924	12.09	Pk	14	1	27.09	40	-12.91	0-360	200	V
7	207.87	10.24	Pk	16.6	1.6	28.44	43.52	-15.08	0-360	200	V
8	824.1925	76.25	Pk	26.7	3.2	106.15	46.02	60.13	0-360	100	V

Radiated Emissions

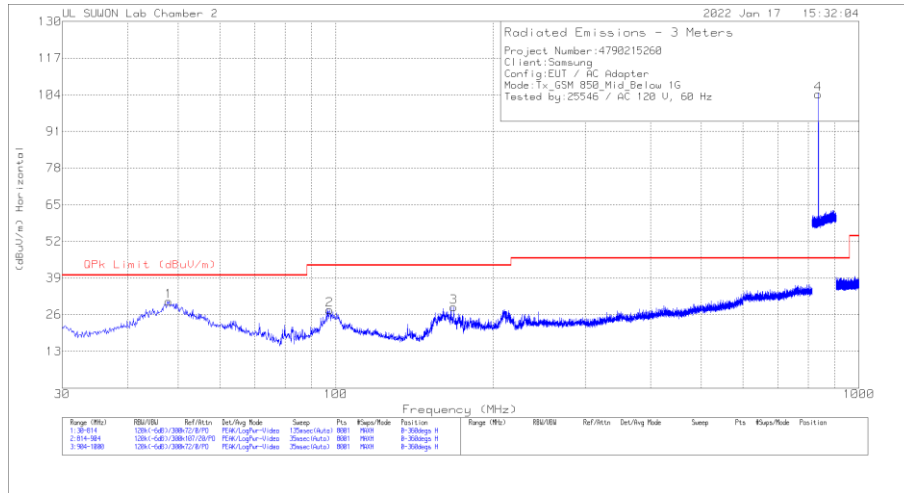
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
50.58	14.22	Qp	19.8	.8	34.82	40	-5.18	246	100	V

Qp - Quasi-Peak detector

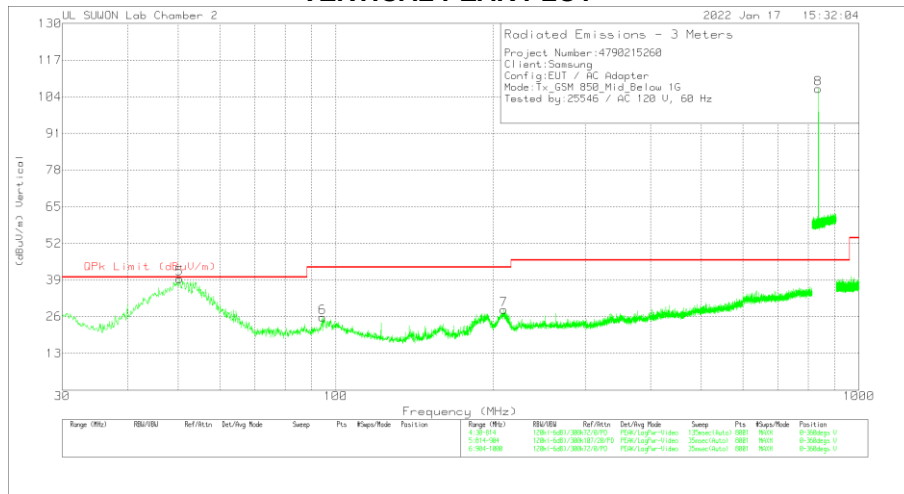
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

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	47.934	10.06	Pk	19.9	.8	30.76	40	-9.24	0-360	100	H
2	97.424	9.47	Pk	17.1	1.1	27.67	43.52	-15.85	0-360	200	H
3	167.984	12.73	Pk	14.5	1.5	28.73	43.52	-14.79	0-360	100	H
4	836.5225	73.9	Pk	26.9	3.3	104.1	46.02	58.08	0-360	300	H
5	50.286	18.74	Pk	19.9	.8	39.44	40	-.56	0-360	200	V
6	94.386	8.37	Pk	16.4	1.1	25.87	43.52	-17.65	0-360	200	V
7	209.634	10.35	Pk	16.6	1.6	28.55	43.52	-14.97	0-360	300	V
8	836.5563	76.72	Pk	26.9	3.3	106.92	46.02	60.9	0-360	100	V

Pk - Peak detector

Radiated Emissions

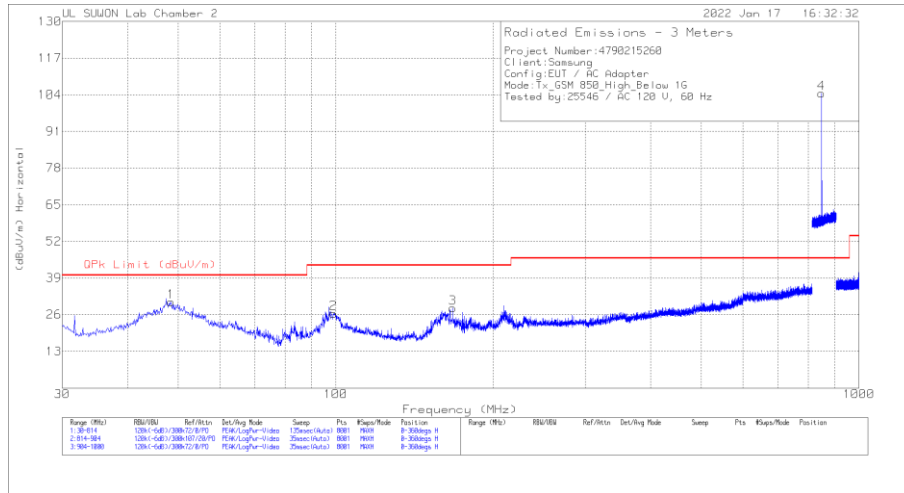
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
50.286	14.3	Qp	19.9	.8	35	40	-5	258	100	V

Qp - Quasi-Peak detector

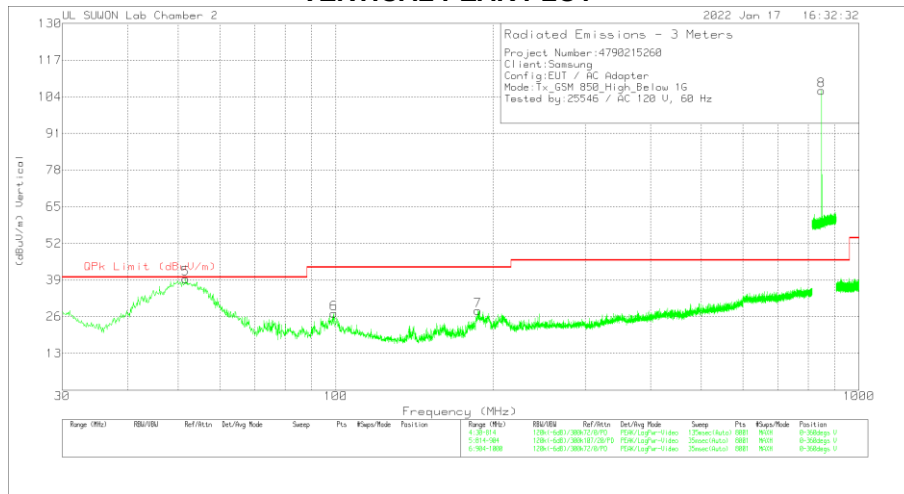
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	48.424	9.85	Pk	19.9	.8	30.55	40	-9.45	0-360	200	H
2	98.894	8	Pk	17.3	1.1	26.4	43.52	-17.12	0-360	300	H
3	167.298	12.29	Pk	14.5	1.5	28.29	43.52	-15.23	0-360	100	H
4	848.8525	73.9	Pk	27.3	3.3	104.5	46.02	58.48	0-360	300	H
5	51.658	18.91	Pk	19.7	.8	39.41	40	-5.59	0-360	200	V
6	99.09	8.75	Pk	17.3	1.1	27.15	43.52	-16.37	0-360	200	V
7	186.702	10.71	Pk	16	1.5	28.21	43.52	-15.31	0-360	200	V
8	848.8075	75.65	Pk	27.3	3.3	106.25	46.02	60.23	0-360	100	V

Pk - Peak detector

Radiated Emissions

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
51.658	13.66	Qp	19.7	.8	34.16	40	-5.84	260	100	V

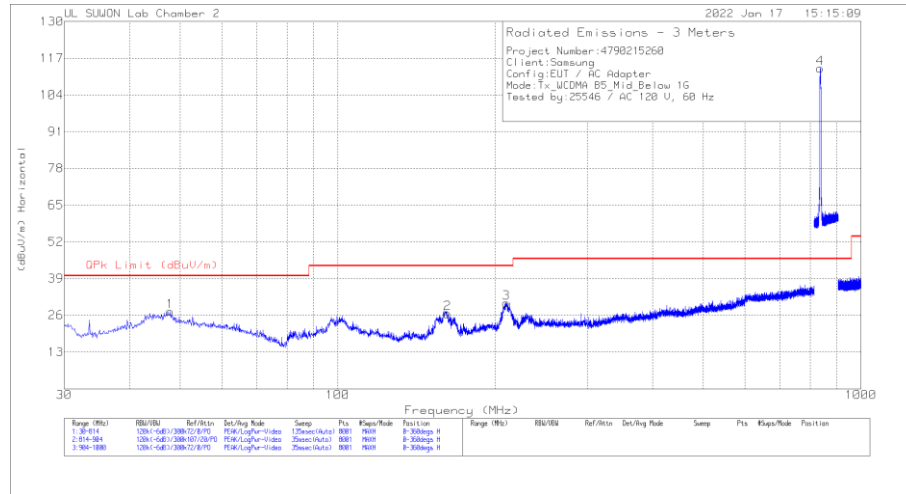
Qp - Quasi-Peak detector

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

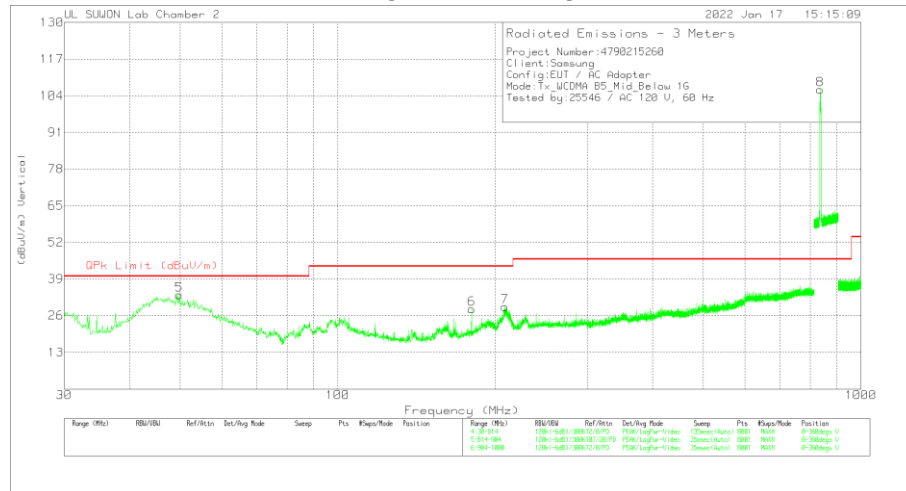
7.1.5. Below 1 GHz in the WCDMA Band 5

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	47.836	6.62	Pk	19.9	.8	27.32	40	-12.68	0-360	200	H
2	162.104	10.87	Pk	14.3	1.4	26.57	43.52	-16.95	0-360	100	H
3	210.026	12.08	Pk	16.6	1.6	30.28	43.52	-13.24	0-360	100	H
4	836.2525	83.24	Pk	26.9	3.3	113.44	46.02	67.42	0-360	200	H
5	49.796	12.73	Pk	19.9	.8	33.43	40	-6.57	0-360	200	V
6	180.234	11.5	Pk	15.3	1.5	28.3	43.52	-15.22	0-360	300	V
7	208.752	10.97	Pk	16.6	1.6	29.17	43.52	-14.35	0-360	200	V
8	835.87	75.98	Pk	26.9	3.3	106.18	46.02	60.16	0-360	100	V

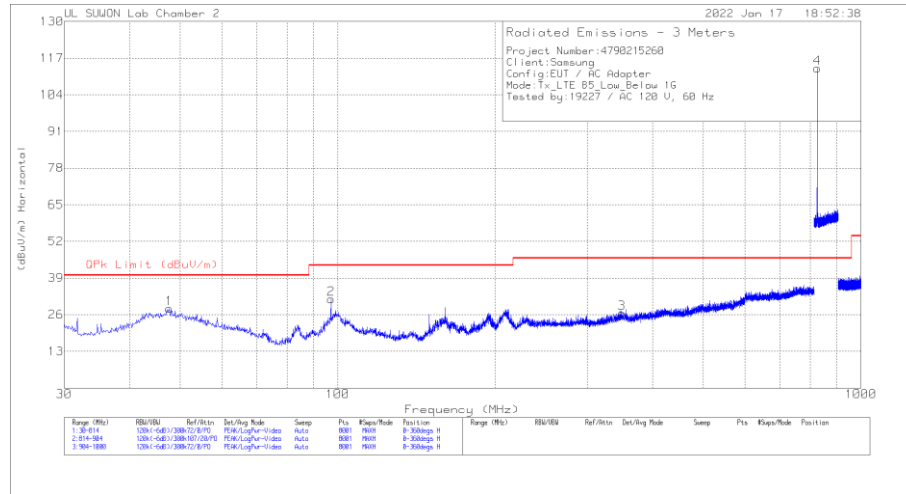
Pk - Peak detector

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

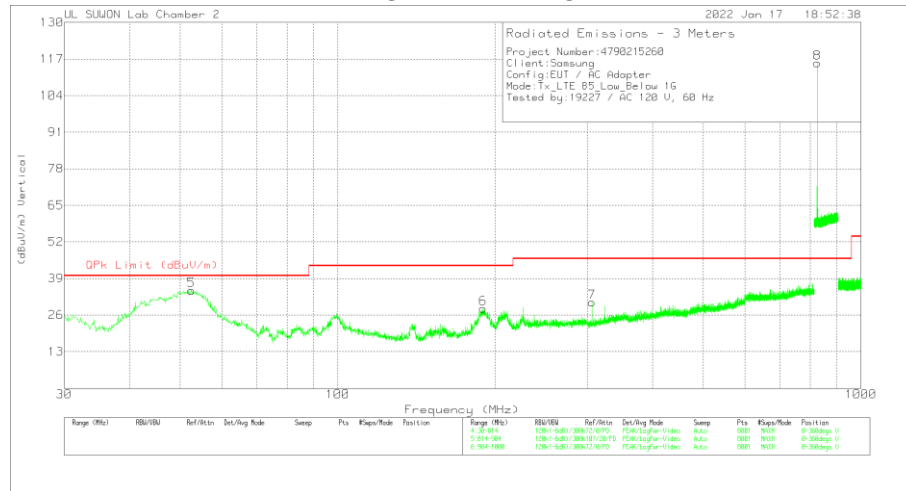
7.1.6. Below 1 GHz in the LTE Band 5

LOW CHANNEL(871.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

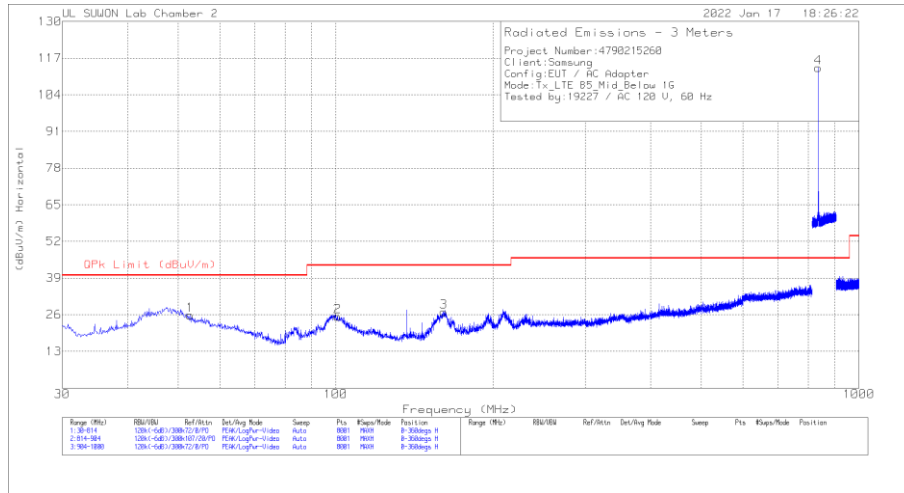
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.64	7.44	Pk	19.9	.8	28.14	40	-11.86	0-360	300	H
2	97.13	13.4	Pk	17	1.1	31.5	43.52	-12.02	0-360	200	H
3	349.186	3.43	Pk	21	2.1	26.53	46.02	-19.49	0-360	200	H
4	825.205	83.5	Pk	26.7	3.2	113.4	46.02	67.38	0-360	300	H
5	52.54	14.4	Pk	19.6	.8	34.8	40	-5.2	0-360	200	V
6	189.642	10.39	Pk	16.4	1.6	28.39	43.52	-15.13	0-360	200	V
7	305.968	9.24	Pk	19.2	2	30.44	46.02	-15.58	0-360	200	V
8	825.0813	85.75	Pk	26.7	3.2	115.65	46.02	69.63	0-360	100	V

Pk - Peak detector

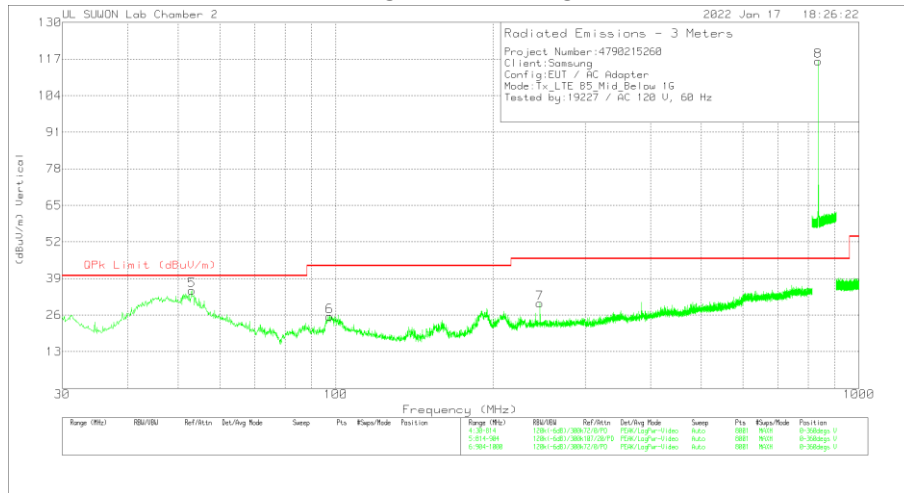
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

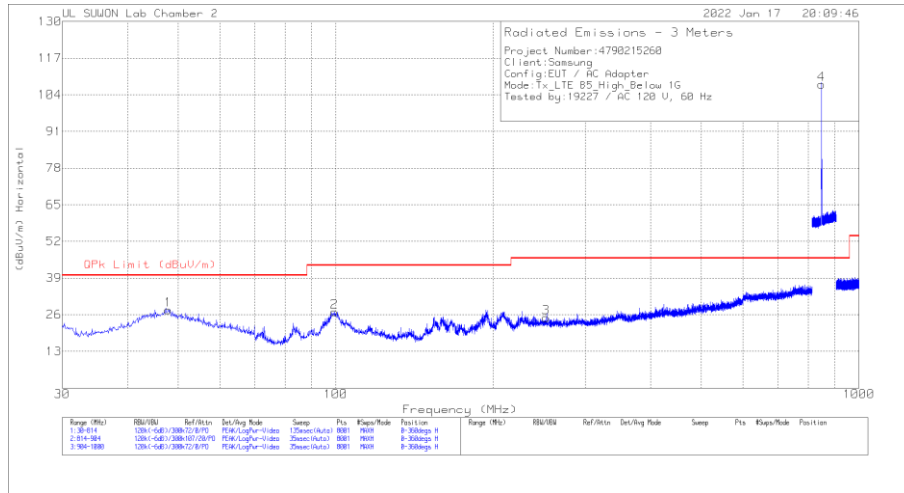
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	52.638	5.44	PK	19.6	.8	25.84	40	-14.16	0-360	300	H
2	100.756	6.72	PK	17.5	1.1	25.32	43.52	-18.2	0-360	100	H
3	160.928	11.27	PK	14.3	1.4	26.97	43.52	-16.55	0-360	100	H
4	836.0388	83.39	PK	26.9	3.3	113.59	46.02	67.57	0-360	300	H
5	53.128	14.27	PK	19.6	.8	34.67	40	-5.33	0-360	200	V
6	97.326	7.35	PK	17.1	1.1	25.55	43.52	-17.97	0-360	200	V
7	245.698	9.91	PK	18.4	1.8	30.11	46.02	-15.91	0-360	200	V
8	836.05	86.04	PK	26.9	3.3	116.24	46.02	70.22	0-360	100	V

PK - Peak detector

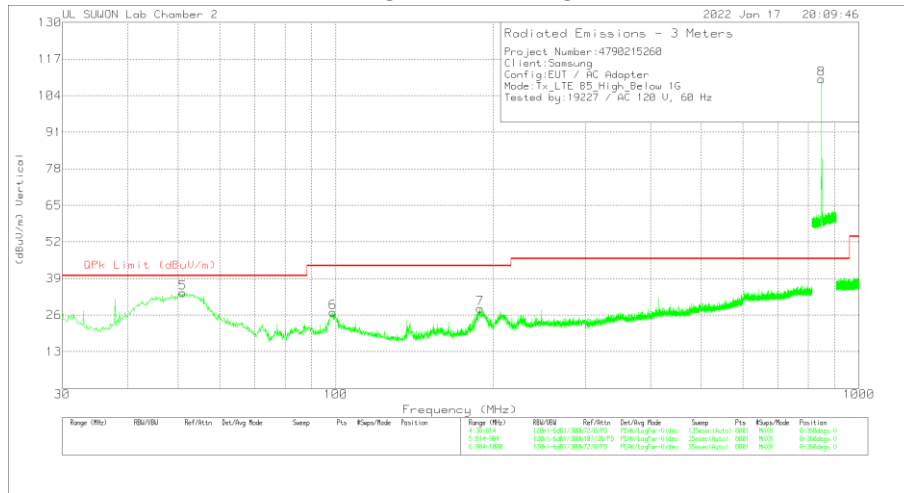
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(891.5 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	47.836	7.02	Pk	19.9	.8	27.72	40	-12.28	0-360	200	H
2	99.482	8.57	Pk	17.3	1.1	26.97	43.52	-16.55	0-360	100	H
3	252.362	4.69	Pk	18.4	1.8	24.89	46.02	-21.13	0-360	300	H
4	848.3238	77.01	Pk	27.3	3.3	107.61	46.02	61.59	0-360	300	H
5	50.972	13.21	Pk	19.8	.8	33.81	40	-6.19	0-360	300	V
6	98.698	8.55	Pk	17.3	1.1	26.95	43.52	-16.57	0-360	200	V
7	188.858	10.5	Pk	16.3	1.6	28.4	43.52	-15.12	0-360	200	V
8	848.0875	79.32	Pk	27.3	3.3	109.92	46.02	63.9	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.

END OF TEST REPORT