CERTIFICATION TEST REPORT

Report Number. : 4790215265-E1V2

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-A135M/DS, SM-A135M
FCC ID	:	A3LSMA135M
EUT Description	:	GSM/WCDMA/LTE Phone + BT/BLE and DTS/UNII a/b/g/n/ac
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART B

Date Of Issue:
2022-02-16

Prepared by:
UL Korea, Ltd.
26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Suwon Test Site: UL Korea, Ltd. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea
TEL: (031) 337-9902
FAX: (031) 213-5433

IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2022-02-08	Initial issue	Yeonhee Lim
V2	2022-02-16	Updated to address TCB's question	Yeonhee Lim

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_15B(04)
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

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UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_15B(04)
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE Phone + BT/BLE and DTS/UNII a/b/g/n/ac
MODEL NUMBER:	SM-A135M/DS, SM-A135M
SERIAL NUMBER:	R38RB00DXFZ(RADIATED)
DATE TESTED:	2022-01-19 ~ 2022-01-24;

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:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – 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.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

This report covers the Samsung models SM-A135M/DS and SM-A135M.
These models are identical in hardware except SM-A135M has single SIM tray.
With some pre-scan, model SM-A135M/DS was set for final test.

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 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 Band 5
WCDMA Band 5(Rx Frequncy 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.

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

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5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA200	R37NATQGS55DK3	N/A
Data Cable	SAMSUNG	EP- DR140AWE	N/A	N/A

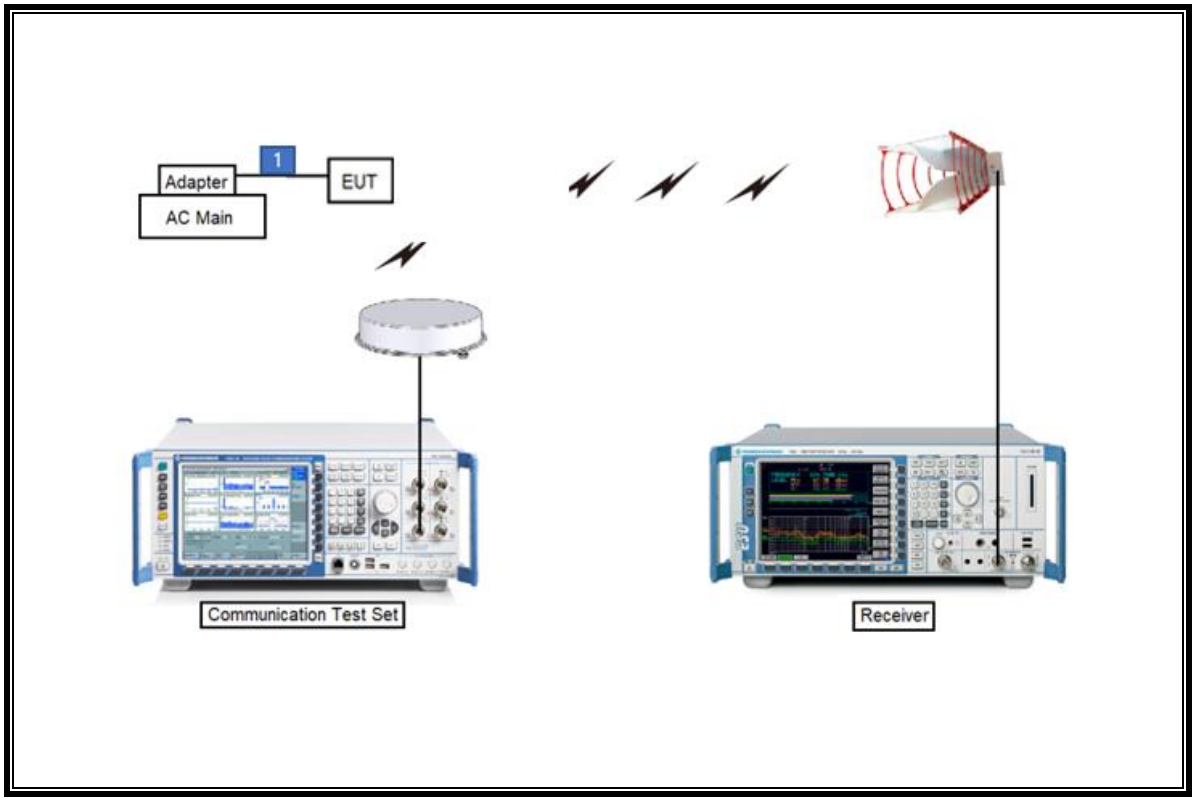
I/O CABLE

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
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
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	2023-01-07
DC Power Supply	Agilent / HP	E3640A	MY54226395	2022-08-02
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
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2022-08-04
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2022-08-04
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2022-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2022-08-02
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	PASTERNACK	PE7087-10	A009	2022-08-03
Attenuator	PASTERNACK	PE7087-10	A001	2022-08-03
Attenuator	PASTERNACK	PE7087-10	A008	2022-08-03
Attenuator	PASTERNACK	PE7004-10	2	2022-08-02
Attenuator	PASTERNACK	PE7395-10	A011	2022-08-03
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
Temperature Chamber	ESPEC	SH-642	93001109	2022-08-02
Power Splitter	MINI-CIRCUITS	WA1534	UL003	2023-01-11
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2023-01-11

UL Software			
Description	**Manufacturer**	**Model**	**Version**
Antenna port test software	UL	CLT	Ver 3.4
Radiated software	UL	UL EMC	Ver 9.5

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4-2014

LIMIT

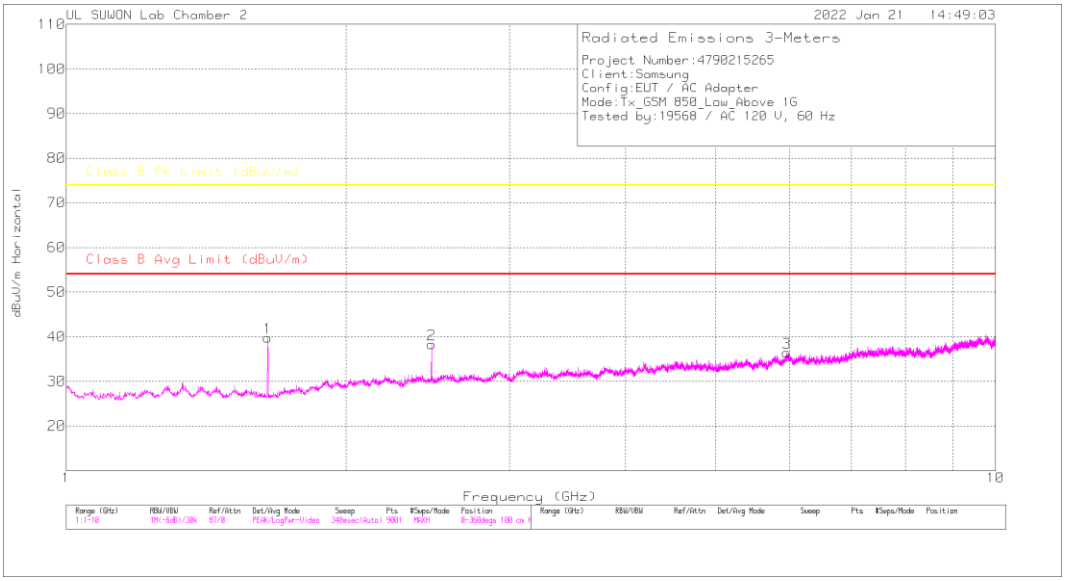
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dBµV/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.	

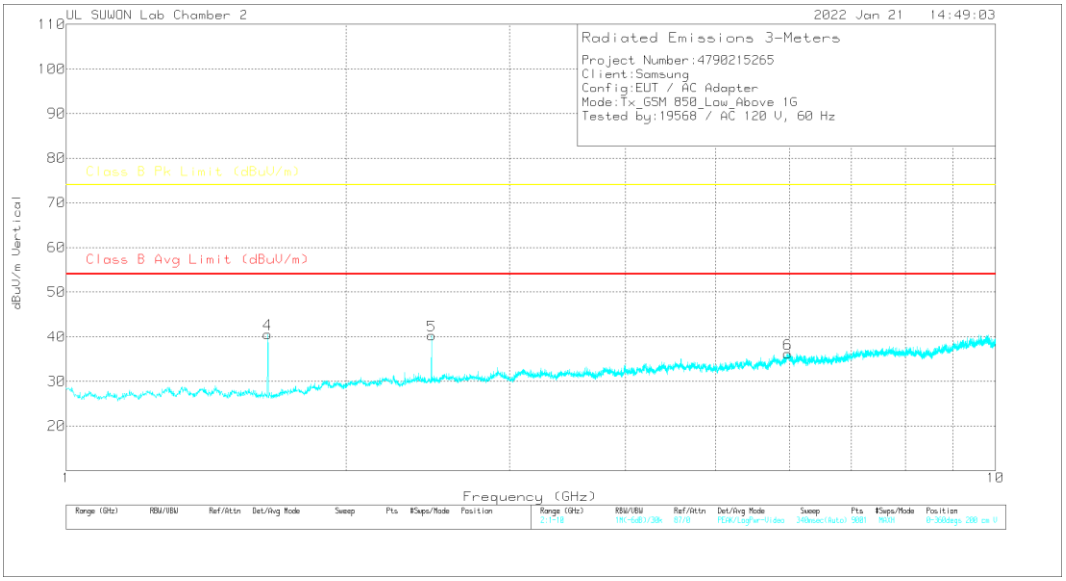
7.1.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_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	1.648	41.76	PK	28.6	-31.4	.8	39.76	-	-	74	-34.24	0-360	100	H
2	2.472	35.64	PK	32	-30.2	.8	38.24	-	-	74	-35.76	0-360	100	H
3	5.959	28.33	PK	35.1	-27.5	.5	36.43	-	-	74	-37.57	0-360	100	H
4	1.648	42.58	PK	28.6	-31.4	.8	40.58	-	-	74	-33.42	0-360	200	V
5	2.472	37.69	PK	32	-30.2	.8	40.29	-	-	74	-33.71	0-360	200	V
6	5.977	27.98	PK	35.1	-27.5	.6	36.18	-	-	74	-37.82	0-360	200	V

PK – Peak Detector

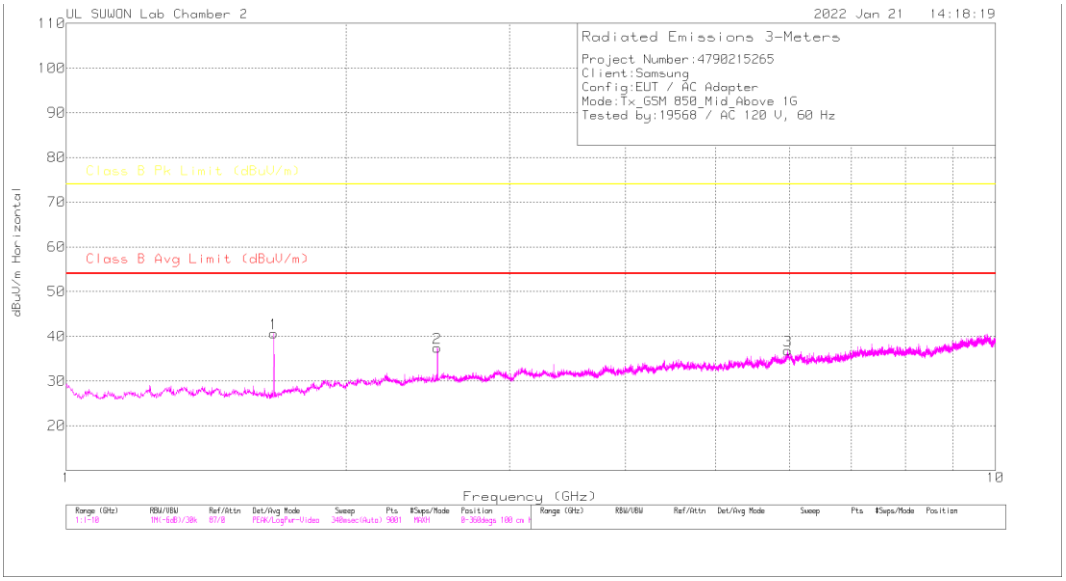
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.648	44.81	Pk	28.6	-31.4	.8	42.81	-	-	74	-31.19	227	174	H
1.648	28.2	Ca	28.6	-31.4	.8	26.2	54	-27.8	-	-	227	174	H
1.648	43.73	Pk	28.6	-31.4	.8	41.73	-	-	74	-32.27	136	207	V
1.648	27.78	Ca	28.6	-31.4	.8	25.78	54	-28.22	-	-	136	207	V
2.472	39.44	Pk	32	-30.2	.8	42.04	-	-	74	-31.96	310	215	H
2.472	24.36	Ca	32	-30.2	.8	26.96	54	-27.04	-	-	310	215	H
2.472	39.74	Pk	32	-30.2	.8	42.34	-	-	74	-31.66	137	145	V
2.472	24.55	Ca	32	-30.2	.8	27.15	54	-26.85	-	-	137	145	V
5.959	35.23	Pk	35.1	-27.5	.5	43.33	-	-	74	-30.67	360	100	H
5.959	23.52	Ca	35.1	-27.5	.5	31.62	54	-22.38	-	-	360	100	H
5.977	35.99	Pk	35.1	-27.5	.6	44.19	-	-	74	-29.81	360	100	V
5.977	23.66	Ca	35.1	-27.5	.6	31.86	54	-22.14	-	-	360	100	V

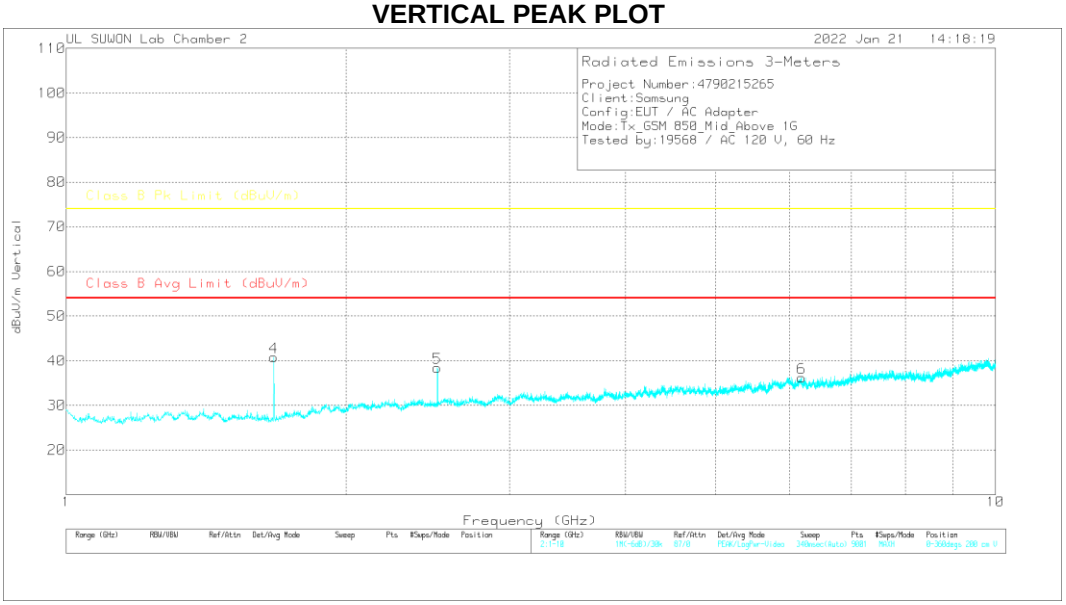
Pk - Peak detector
Ca - CISPR average detection

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	1.673	42.62	PK	28.6	-31.4	.8	40.62	-	-	74	-33.38	0-360	100	H
2	2.509	34.88	PK	32.1	-30.3	.8	37.48	-	-	74	-36.52	0-360	100	H
3	5.976	28.59	PK	35.1	-27.5	.6	36.79	-	-	74	-37.21	0-360	100	H
4	1.673	42.76	PK	28.6	-31.4	.8	40.76	-	-	74	-33.24	0-360	200	V
5	2.509	35.8	PK	32.1	-30.3	.8	38.4	-	-	74	-35.6	0-360	200	V
6	6.188	27.33	PK	35.3	-26.9	.5	36.23	-	-	74	-37.77	0-360	200	V

PK – Peak Detector

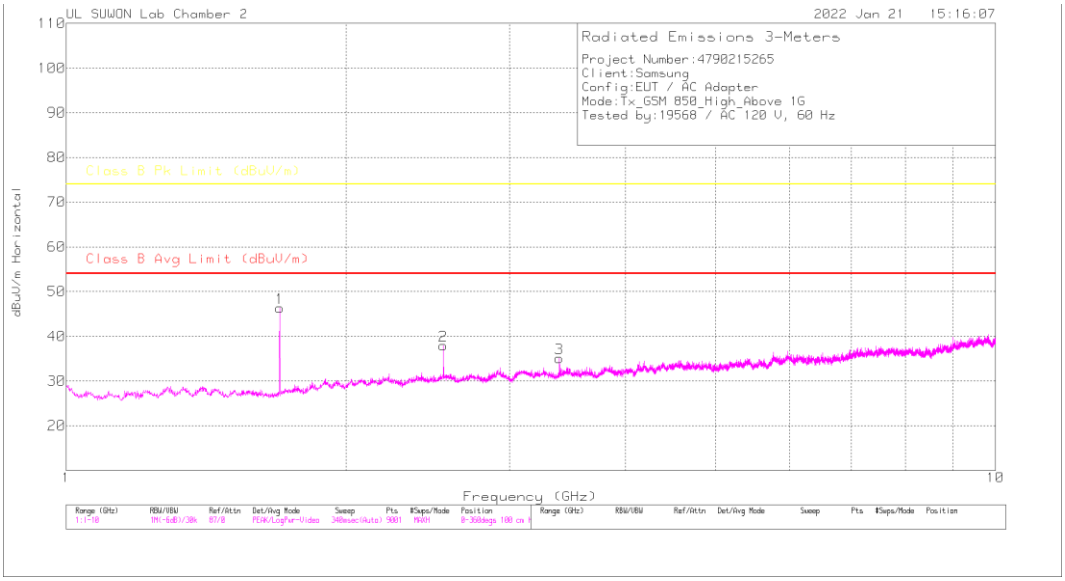
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.673	45.84	Pk	28.6	-31.4	.8	43.84	-	-	74	-30.16	224	152	H
1.673	29.15	Ca	28.6	-31.4	.8	27.15	54	-26.85	-	-	224	152	H
1.673	47.75	Pk	28.6	-31.4	.8	45.75	-	-	74	-28.25	181	263	V
1.673	30.64	Ca	28.6	-31.4	.8	28.64	54	-25.36	-	-	181	263	V
2.509	37.16	Pk	32.1	-30.3	.8	39.76	-	-	74	-34.24	310	209	H
2.509	23.76	Ca	32.1	-30.3	.8	26.36	54	-27.64	-	-	310	209	H
2.509	38.1	Pk	32.1	-30.3	.8	40.7	-	-	74	-33.3	242	100	V
2.509	23.89	Ca	32.1	-30.3	.8	26.49	54	-27.51	-	-	242	100	V
5.976	35.9	Pk	35.1	-27.5	.6	44.1	-	-	74	-29.9	360	100	H
5.976	23.82	Ca	35.1	-27.5	.6	32.02	54	-21.98	-	-	360	100	H
6.188	34.43	Pk	35.3	-26.9	.5	43.33	-	-	74	-30.67	360	100	V
6.188	22.91	Ca	35.3	-26.9	.5	31.81	54	-22.19	-	-	360	100	V

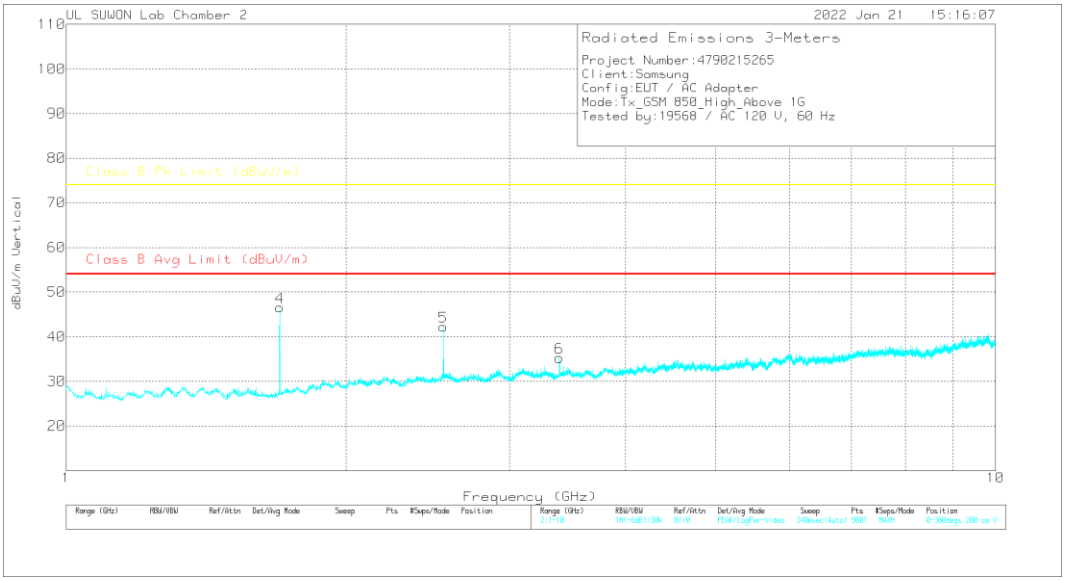
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	48.12	PK	28.7	-31.3	.8	46.32	-	-	74	-27.68	0-360	100	H
2	2.546	35.38	PK	32.1	-30.2	.7	37.98	-	-	74	-36.02	0-360	100	H
3	3.395	31.18	PK	32.7	-29.5	.7	35.08	-	-	74	-38.92	0-360	100	H
4	1.697	48.37	PK	28.7	-31.3	.8	46.57	-	-	74	-27.43	0-360	200	V
5	2.546	39.68	PK	32.1	-30.2	.7	42.28	-	-	74	-31.72	0-360	200	V
6	3.395	31.37	PK	32.7	-29.5	.7	35.27	-	-	74	-38.73	0-360	200	V

PK – Peak Detector

Radiated Emissions

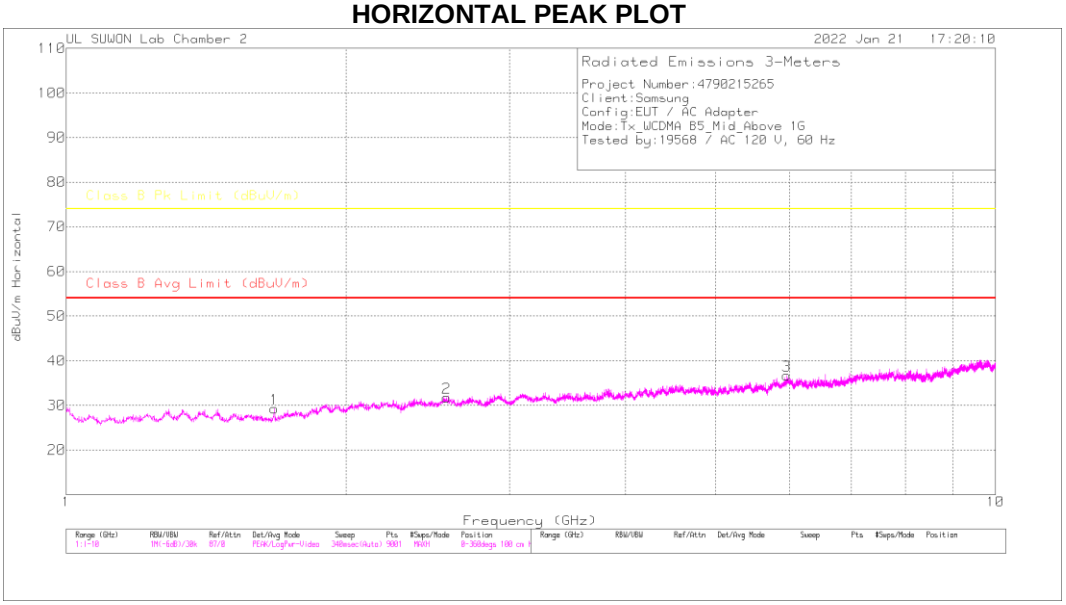
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.697	38	Pk	28.7	-31.3	.8	36.2	-	-	74	-37.8	182	100	H
1.697	25.14	Ca	28.7	-31.3	.8	23.34	54	-30.66	-	-	182	100	H
1.697	37.55	Pk	28.7	-31.3	.8	35.75	-	-	74	-38.25	184	101	V
1.697	25.04	Ca	28.7	-31.3	.8	23.24	54	-30.76	-	-	184	101	V
2.546	41.13	Pk	32.1	-30.2	.7	43.73	-	-	74	-30.27	310	252	H
2.546	26	Ca	32.1	-30.2	.7	28.6	54	-25.4	-	-	310	252	H
2.546	35.96	Pk	32.1	-30.2	.7	38.56	-	-	74	-35.44	167	109	V
2.546	24.08	Ca	32.1	-30.2	.7	26.68	54	-27.32	-	-	167	109	V
3.395	40.26	Pk	32.7	-29.5	.7	44.16	-	-	74	-29.84	177	239	H
3.395	24.99	Ca	32.7	-29.5	.7	28.89	54	-25.11	-	-	177	239	H
3.395	36.4	Pk	32.7	-29.5	.7	40.3	-	-	74	-33.7	288	153	V
3.395	23.32	Ca	32.7	-29.5	.7	27.22	54	-26.78	-	-	288	153	V

Pk - Peak detector
Ca - CISPR average detection

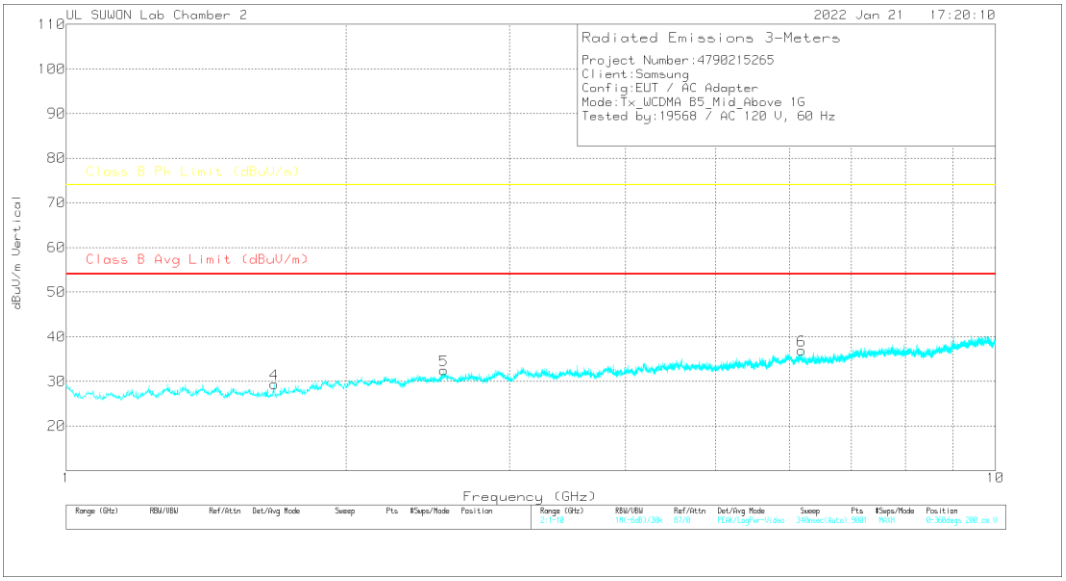
7.1.2. Above 1 GHz in the WCDMA Band 5

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 (cm)	Polarity
1	1.675	31.24	PK	28.6	-31.4	.8	29.24	-	-	74	-44.76	0-360	100	H
2	2.565	29.04	PK	32.2	-30.2	.7	31.74	-	-	74	-42.26	0-360	100	H
3	5.963	28.47	PK	35.1	-27.5	.6	36.67	-	-	74	-37.33	0-360	100	H
4	1.675	31.4	PK	28.6	-31.4	.8	29.4	-	-	74	-44.6	0-360	200	V
5	2.55	29.66	PK	32.2	-30.1	.7	32.46	-	-	74	-41.54	0-360	200	V
6	6.185	28.12	PK	35.3	-26.9	.4	36.92	-	-	74	-37.08	0-360	200	V

PK – Peak Detector

Radiated Emissions

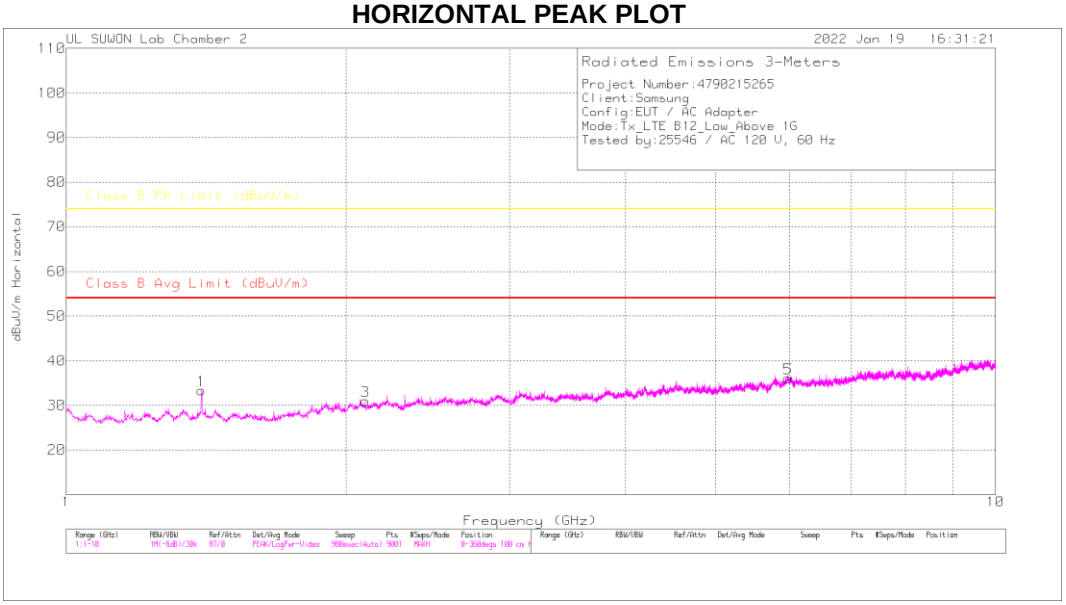
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.675	36.41	Pk	28.6	-31.4	.8	34.41	-	-	74	-39.59	360	100	H
1.675	24.7	Ca	28.6	-31.4	.8	22.7	54	-31.3	-	-	360	100	H
1.675	38.29	Pk	28.6	-31.4	.8	36.29	-	-	74	-37.71	360	100	V
1.675	25.29	Ca	28.6	-31.4	.8	23.29	54	-30.71	-	-	360	100	V
2.565	36.04	Pk	32.2	-30.2	.7	38.74	-	-	74	-35.26	360	100	H
2.565	24.18	Ca	32.2	-30.2	.7	26.88	54	-27.12	-	-	360	100	H
2.55	37.23	Pk	32.2	-30.1	.7	40.03	-	-	74	-33.97	360	100	V
2.55	24.23	Ca	32.2	-30.1	.7	27.03	54	-26.97	-	-	360	100	V
5.963	35.62	Pk	35.1	-27.5	.6	43.82	-	-	74	-30.18	360	100	H
5.963	23.65	Ca	35.1	-27.5	.6	31.85	54	-22.15	-	-	360	100	H
6.185	34.98	Pk	35.3	-26.9	.4	43.78	-	-	74	-30.22	360	100	V
6.185	22.97	Ca	35.3	-26.9	.4	31.77	54	-22.23	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

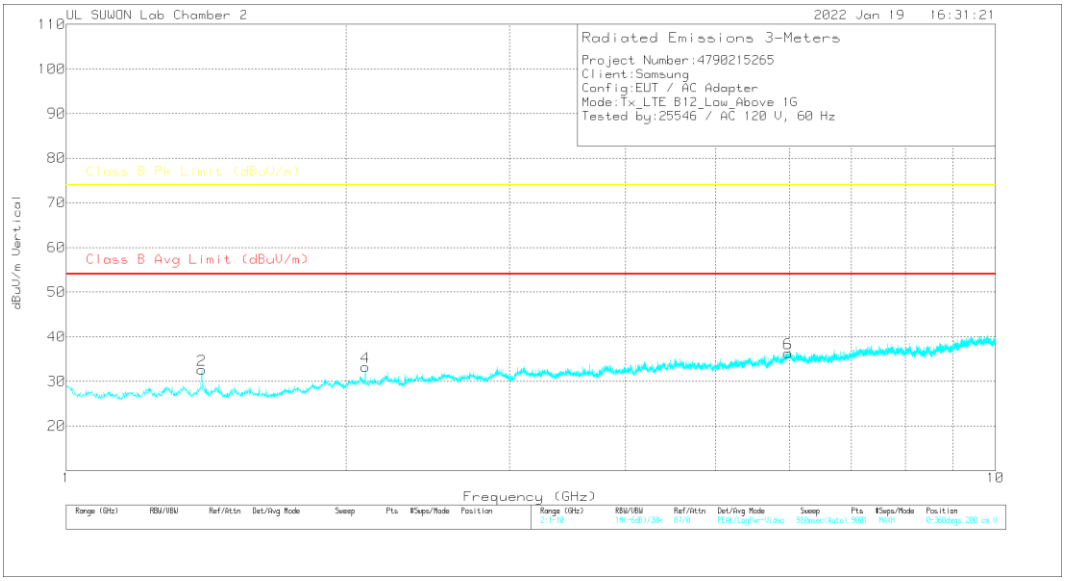
7.1.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	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	1.398	34.99	PK	29.4	-31.8	.8	33.39	-	-	74	-40.61	0-360	100	H
3	2.099	29.44	PK	31.6	-30.7	.6	30.94	-	-	74	-43.06	0-360	100	H
5	5.982	27.92	PK	35.1	-27.5	.6	36.12	-	-	74	-37.88	0-360	100	H
2	1.399	34.18	PK	29.4	-31.8	.8	32.58	-	-	74	-41.42	0-360	200	V
4	2.098	31.67	PK	31.6	-30.7	.6	33.17	-	-	74	-40.83	0-360	200	V
6	5.982	28.13	PK	35.1	-27.5	.6	36.33	-	-	74	-37.67	0-360	200	V

PK – Peak Detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.398	39.17	Pk	29.4	-31.8	.8	37.57	-	-	74	-36.43	229	139	H
1.398	26.59	Ca	29.4	-31.8	.8	24.99	54	-29.01	-	-	229	139	H
1.399	42.27	Pk	29.4	-31.8	.8	40.67	-	-	74	-33.33	316	132	V
1.399	32.27	Ca	29.4	-31.8	.8	30.67	54	-23.33	-	-	316	132	V
2.099	36.76	Pk	31.6	-30.7	.6	38.26	-	-	74	-35.74	360	100	H
2.099	24.33	Ca	31.6	-30.7	.6	25.83	54	-28.17	-	-	360	100	H
2.098	39.51	Pk	31.6	-30.7	.6	41.01	-	-	74	-32.99	141	100	V
2.098	26.41	Ca	31.6	-30.7	.6	27.91	54	-26.09	-	-	141	100	V
5.982	36.26	Pk	35.1	-27.5	.6	44.46	-	-	74	-29.54	360	100	H
5.982	23.83	Ca	35.1	-27.5	.6	32.03	54	-21.97	-	-	360	100	H
5.982	37.16	Pk	35.1	-27.5	.6	45.36	-	-	74	-28.64	360	100	V
5.982	24.02	Ca	35.1	-27.5	.6	32.22	54	-21.78	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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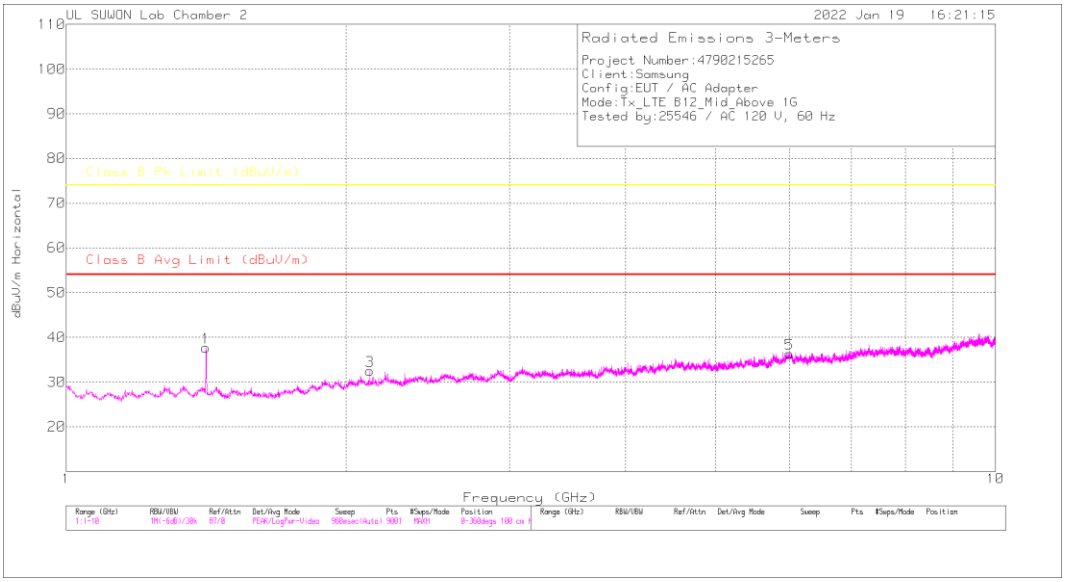
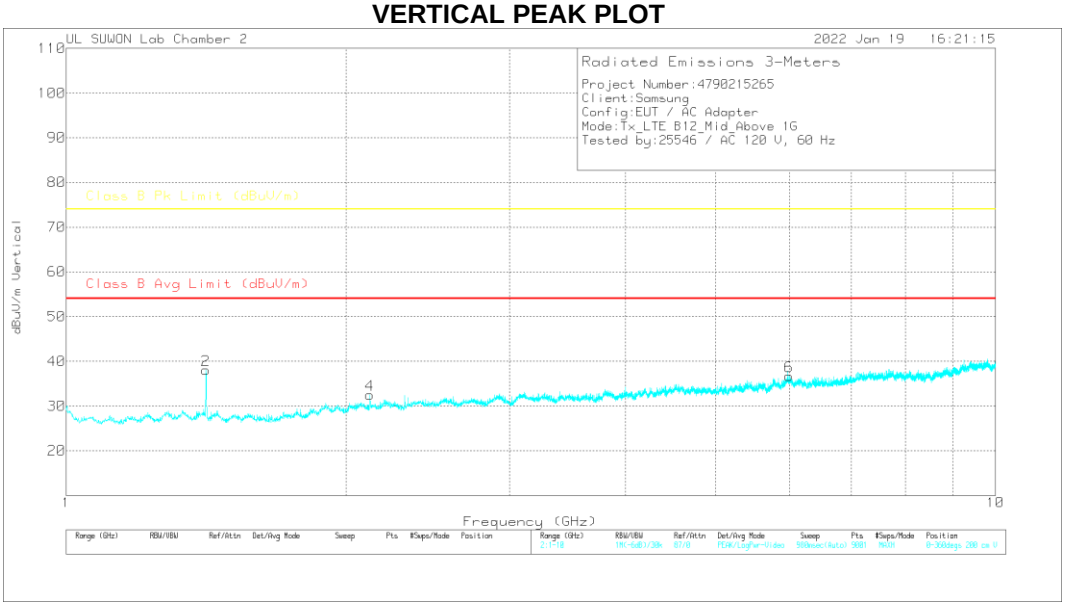
MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.414	39.28	PK	29.4	-31.8	.8	37.68	-	-	74	-36.32	0-360	100	H
3	2.122	30.75	PK	31.7	-30.6	.6	32.45	-	-	74	-41.55	0-360	100	H
5	5.999	28.15	PK	35.2	-27.5	.5	36.35	-	-	74	-37.65	0-360	100	H
2	1.414	39.68	PK	29.4	-31.8	.8	38.08	-	-	74	-35.92	0-360	200	V
4	2.123	30.79	PK	31.7	-30.6	.6	32.49	-	-	74	-41.51	0-360	200	V
6	5.995	28.45	PK	35.2	-27.5	.5	36.65	-	-	74	-37.35	0-360	200	V

PK – Peak Detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.414	37.58	Pk	29.4	-31.8	.8	35.98	-	-	74	-38.02	122	101	H
1.414	25.43	Ca	29.4	-31.8	.8	23.83	54	-30.17	-	-	122	101	H
1.414	37.77	Pk	29.4	-31.8	.8	36.17	-	-	74	-37.83	164	102	V
1.414	25.36	Ca	29.4	-31.8	.8	23.76	54	-30.24	-	-	164	102	V
2.122	36.13	Pk	31.7	-30.6	.6	37.83	-	-	74	-36.17	53	118	H
2.122	23.98	Ca	31.7	-30.6	.6	25.68	54	-28.32	-	-	53	118	H
2.122	35.81	Pk	31.7	-30.6	.6	37.51	-	-	74	-36.49	32	106	V
2.122	23.98	Ca	31.7	-30.6	.6	25.68	54	-28.32	-	-	32	106	V
5.999	36.38	Pk	35.2	-27.5	.5	44.58	-	-	74	-29.42	0	100	H
5.999	23.88	Ca	35.2	-27.5	.5	32.08	54	-21.92	-	-	0	100	H
5.999	36.81	Pk	35.2	-27.5	.5	45.01	-	-	74	-28.99	0	100	V
5.999	23.89	Ca	35.2	-27.5	.5	32.09	54	-21.91	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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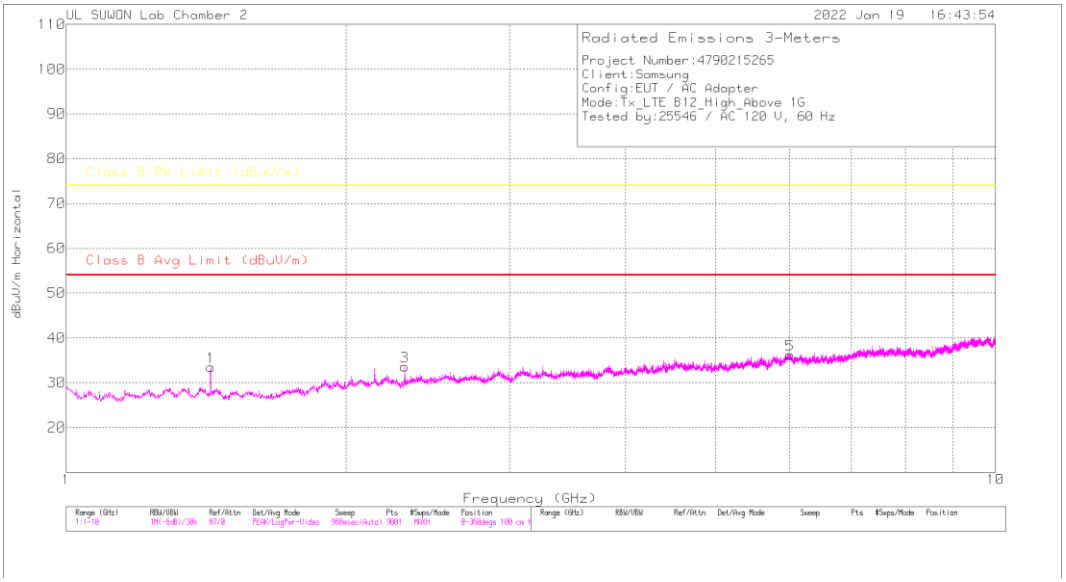
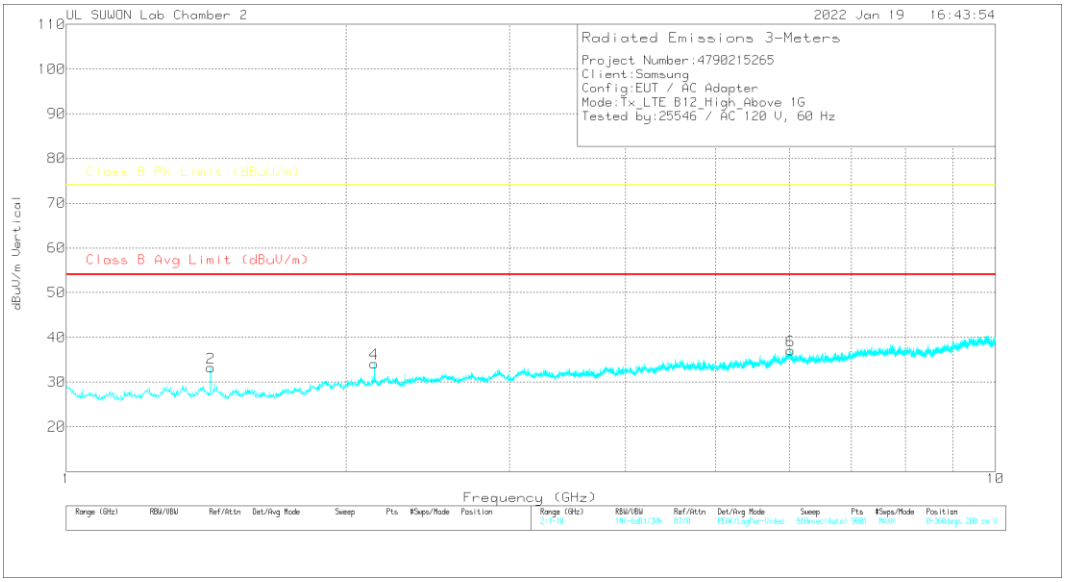
HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.43	35.14	PK	29.3	-31.8	.8	33.44	-	-	74	-40.56	0-360	100	H
3	2.314	32.04	PK	31.7	-30.8	.6	33.54	-	-	74	-40.46	0-360	100	H
5	6.012	27.99	PK	35.2	-27.5	.5	36.19	-	-	74	-37.81	0-360	100	H
2	1.43	34.9	PK	29.3	-31.8	.8	33.2	-	-	74	-40.8	0-360	200	V
4	2.146	32.35	PK	31.7	-30.6	.7	34.15	-	-	74	-39.85	0-360	200	V
6	6.021	28.81	PK	35.2	-27.4	.5	37.11	-	-	74	-36.89	0-360	200	V

PK – Peak Detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.43	44.95	Pk	29.3	-31.8	.8	43.25	-	-	74	-30.75	230	109	H
1.43	33.66	Ca	29.3	-31.8	.8	31.96	54	-22.04	-	-	230	109	H
1.43	43.45	Pk	29.3	-31.8	.8	41.75	-	-	74	-32.25	318	130	V
1.43	31.9	Ca	29.3	-31.8	.8	30.2	54	-23.8	-	-	318	130	V
2.314	37.24	Pk	31.7	-30.8	.6	38.74	-	-	74	-35.26	314	145	H
2.314	26.31	Ca	31.7	-30.8	.6	27.81	54	-26.19	-	-	314	145	H
2.146	41.03	Pk	31.7	-30.6	.7	42.83	-	-	74	-31.17	174	219	V
2.146	28.66	Ca	31.7	-30.6	.7	30.46	54	-23.54	-	-	174	219	V
6.012	36.46	Pk	35.2	-27.5	.5	44.66	-	-	74	-29.34	22	100	H
6.012	24.1	Ca	35.2	-27.5	.5	32.3	54	-21.7	-	-	22	100	H
6.021	36.13	Pk	35.2	-27.4	.5	44.43	-	-	74	-29.57	64	100	V
6.021	24.14	Ca	35.2	-27.4	.5	32.44	54	-21.56	-	-	64	100	V

Pk - Peak detector
Ca - CISPR average detection

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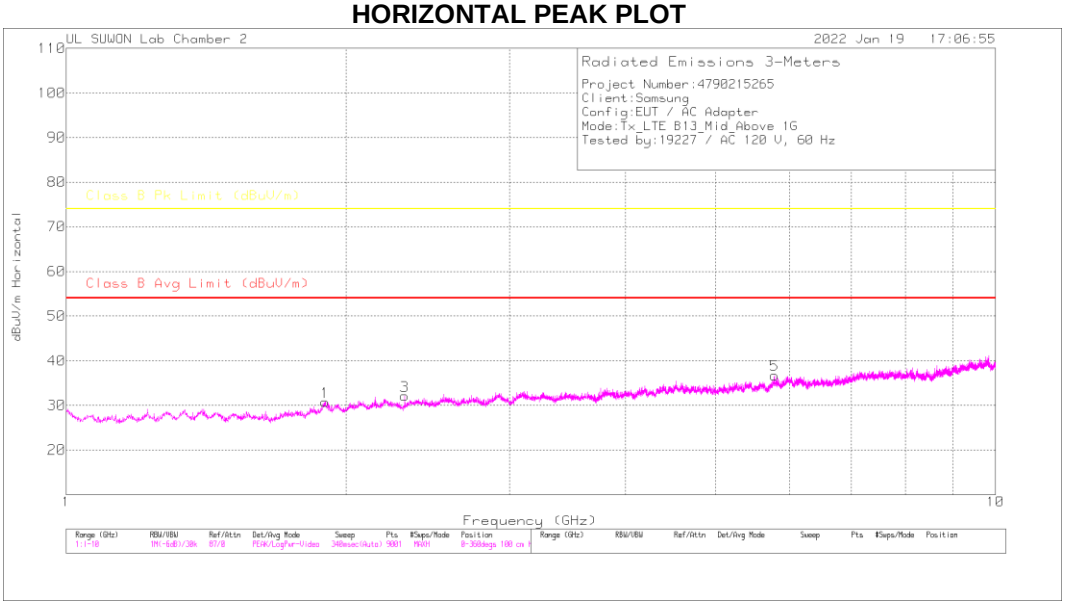
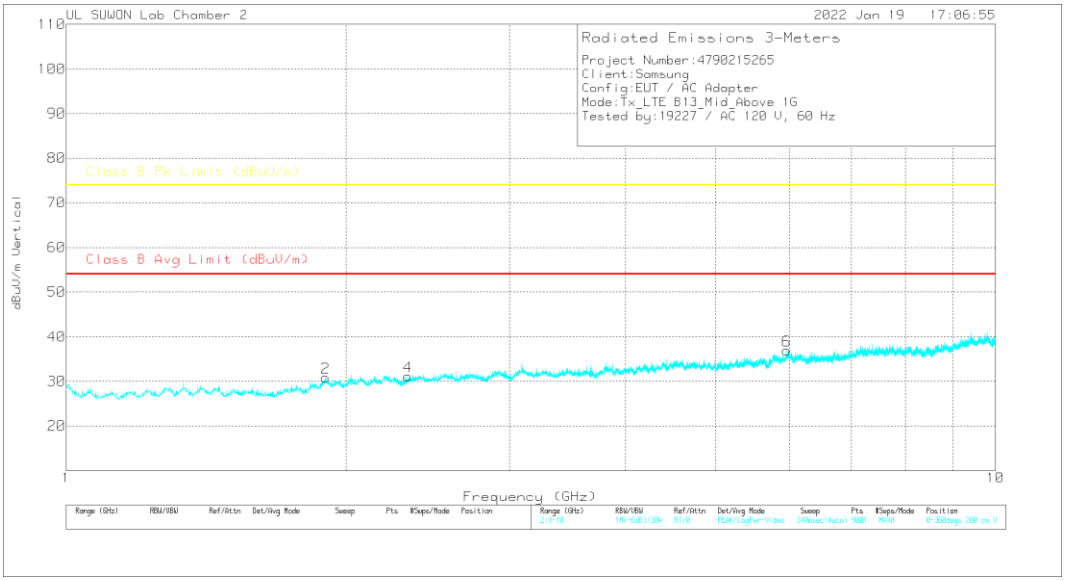
7.1.4. Above 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_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	1.899	30.4	PK	30.7	-31	.7	30.8	-	-	74	-43.2	0-360	100	H
3	2.313	30.5	PK	31.7	-30.7	.6	32.1	-	-	74	-41.9	0-360	100	H
5	5.785	28.55	PK	34.8	-27.2	.6	36.75	-	-	74	-37.25	0-360	100	H
2	1.902	30.32	PK	30.8	-31	.7	30.82	-	-	74	-43.18	0-360	200	V
4	2.331	29.46	PK	31.8	-30.7	.6	31.16	-	-	74	-42.84	0-360	200	V
6	5.962	28.84	PK	35.1	-27.5	.5	36.94	-	-	74	-37.06	0-360	200	V

PK – Peak Detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.899	38.12	Pk	30.7	-31	.7	38.52	-	-	74	-35.48	0	100	H
1.899	24.55	Ca	30.7	-31	.7	24.95	54	-29.05	-	-	0	100	H
1.902	37.51	Pk	30.8	-31	.7	38.01	-	-	74	-35.99	0	100	V
1.902	24.7	Ca	30.8	-31	.7	25.2	54	-28.8	-	-	0	100	V
2.313	37.82	Pk	31.7	-30.7	.6	39.42	-	-	74	-34.58	0	100	H
2.313	24.28	Ca	31.7	-30.7	.6	25.88	54	-28.12	-	-	0	100	H
2.331	37.93	Pk	31.8	-30.7	.6	39.63	-	-	74	-34.37	0	100	V
2.331	24.51	Ca	31.8	-30.7	.6	26.21	54	-27.79	-	-	0	100	V
5.785	36.73	Pk	34.8	-27.2	.6	44.93	-	-	74	-29.07	0	100	H
5.785	23.3	Ca	34.8	-27.2	.6	31.5	54	-22.5	-	-	0	100	H
5.962	36.97	Pk	35.1	-27.5	.5	45.07	-	-	74	-28.93	0	100	V
5.962	23.43	Ca	35.1	-27.5	.5	31.53	54	-22.47	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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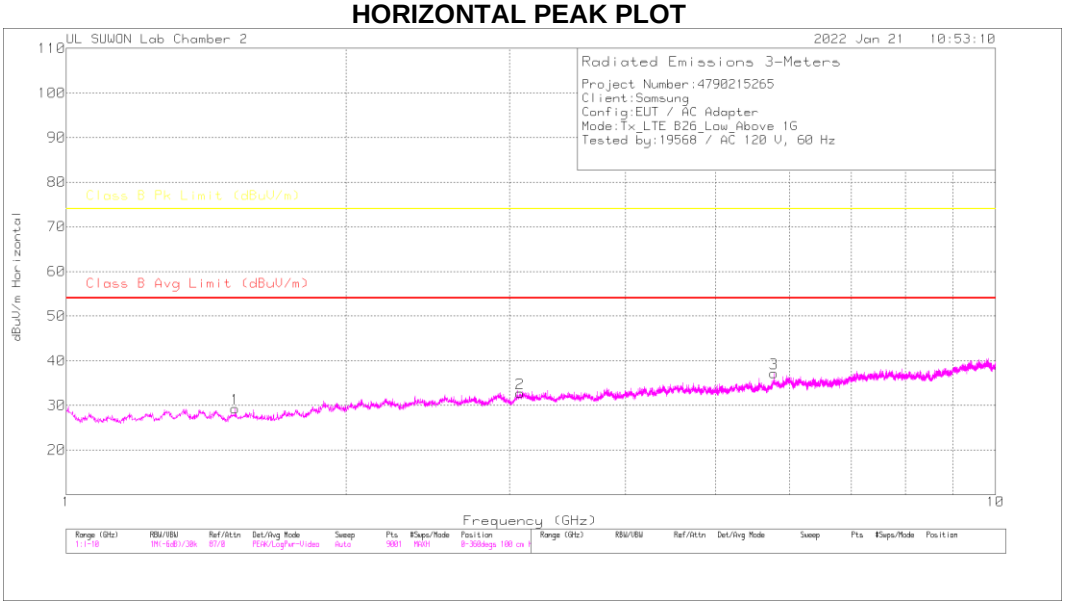
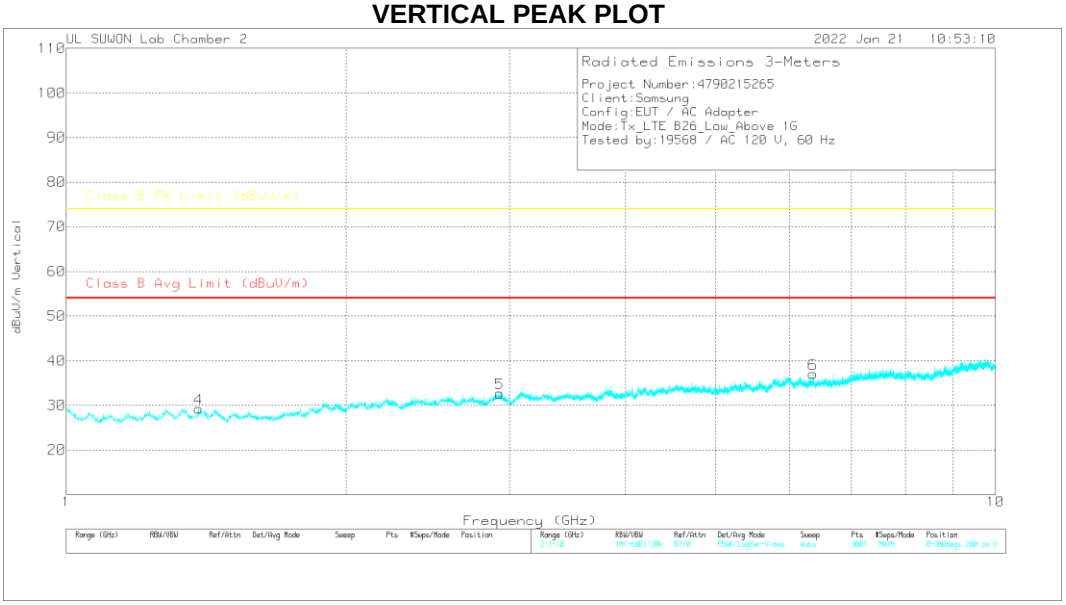
7.1.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	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	1.52	31.12	PK	28.9	-31.5	.8	29.32	-	-	74	-44.68	0-360	100	H
2	3.079	29.34	PK	32.8	-30	.6	32.74	-	-	74	-41.26	0-360	100	H
3	5.777	28.98	PK	34.8	-27.2	.6	37.18	-	-	74	-36.82	0-360	100	H
4	1.388	30.79	PK	29.5	-31.8	.8	29.29	-	-	74	-44.71	0-360	200	V
5	2.925	29.57	PK	32.4	-30.1	.8	32.67	-	-	74	-41.33	0-360	200	V
6	6.362	28.27	PK	35.4	-27	.4	37.07	-	-	74	-36.93	0-360	200	V

PK – Peak Detector

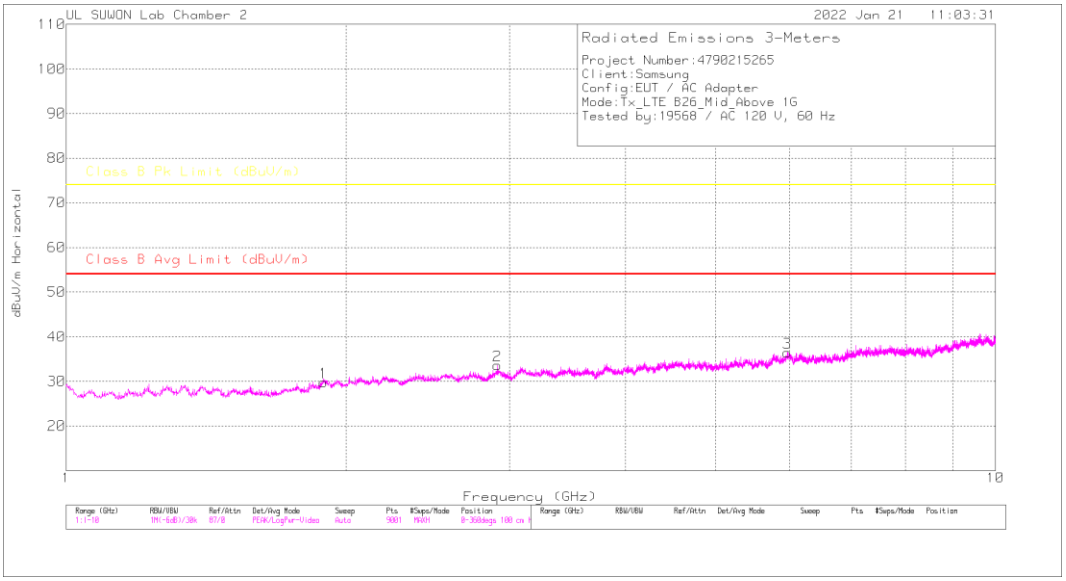
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.52	37.82	Pk	28.9	-31.5	.8	36.02	-	-	74	-37.98	0	100	H
1.52	25.31	Ca	28.9	-31.5	.8	23.51	54	-30.49	-	-	0	100	H
1.388	37.23	Pk	29.5	-31.8	.8	35.73	-	-	74	-38.27	0	100	V
1.388	25.19	Ca	29.5	-31.8	.8	23.69	54	-30.31	-	-	0	100	V
3.079	37.26	Pk	32.8	-30	.6	40.66	-	-	74	-33.34	0	100	H
3.079	24.44	Ca	32.8	-30	.6	27.84	54	-26.16	-	-	0	100	H
2.925	36.24	Pk	32.4	-30.1	.8	39.34	-	-	74	-34.66	0	100	V
2.925	24.62	Ca	32.4	-30.1	.8	27.72	54	-26.28	-	-	0	100	V
5.777	35.19	Pk	34.8	-27.2	.6	43.39	-	-	74	-30.61	0	100	H
5.777	23.38	Ca	34.8	-27.2	.6	31.58	54	-22.42	-	-	0	100	H
6.362	35.9	Pk	35.4	-27	.4	44.7	-	-	74	-29.3	0	100	V
6.362	23.07	Ca	35.4	-27	.4	31.87	54	-22.13	-	-	0	100	V

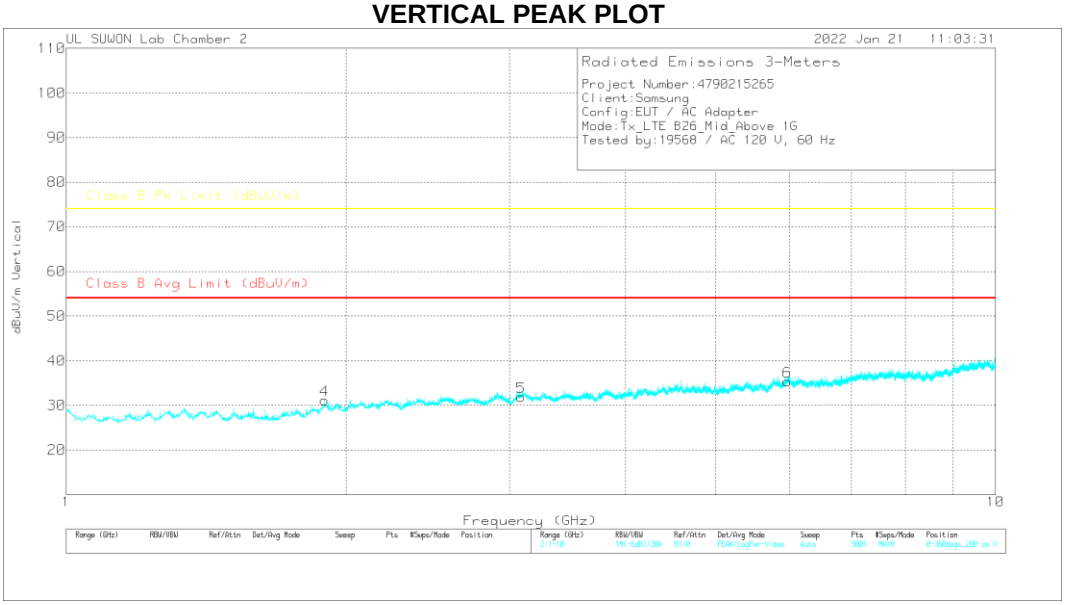
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.892	29.5	PK	30.7	-31.1	.7	29.8	-	-	74	-44.2	0-360	100	H
2	2.912	30.47	PK	32.4	-30.1	.8	33.57	-	-	74	-40.43	0-360	100	H
3	5.973	28.28	PK	35.1	-27.5	.6	36.48	-	-	74	-37.52	0-360	100	H
4	1.898	30.87	PK	30.7	-31.1	.7	31.17	-	-	74	-42.83	0-360	200	V
5	3.087	28.4	PK	32.8	-29.9	.6	31.9	-	-	74	-42.1	0-360	200	V
6	5.97	27.16	PK	35.1	-27.5	.6	35.36	-	-	74	-38.64	0-360	200	V

PK – Peak Detector

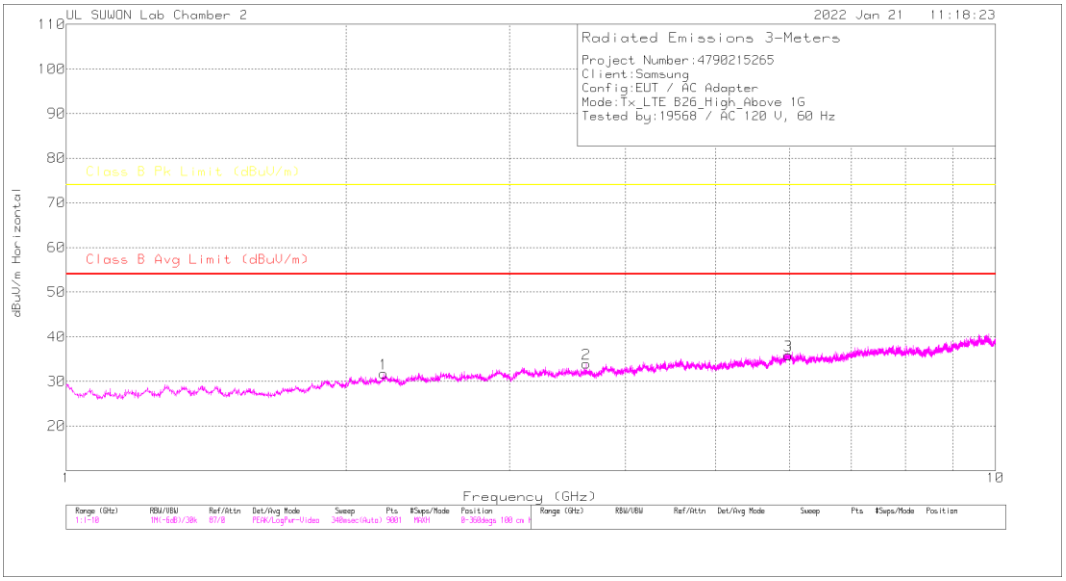
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.892	37.69	Pk	30.7	-31.1	.7	37.99	-	-	74	-36.01	0	100	H
1.892	25.55	Ca	30.7	-31.1	.7	25.85	54	-28.15	-	-	0	100	H
1.898	38.21	Pk	30.7	-31.1	.7	38.51	-	-	74	-35.49	0	100	V
1.898	25.5	Ca	30.7	-31.1	.7	25.8	54	-28.2	-	-	0	100	V
2.912	37.03	Pk	32.4	-30.1	.8	40.13	-	-	74	-33.87	0	100	H
2.912	24.86	Ca	32.4	-30.1	.8	27.96	54	-26.04	-	-	0	100	H
3.087	36.89	Pk	32.8	-29.9	.6	40.39	-	-	74	-33.61	0	100	V
3.087	24.7	Ca	32.8	-29.9	.6	28.2	54	-25.8	-	-	0	100	V
5.973	35.94	Pk	35.1	-27.5	.6	44.14	-	-	74	-29.86	0	100	H
5.973	24.04	Ca	35.1	-27.5	.6	32.24	54	-21.76	-	-	0	100	H
5.97	35.81	Pk	35.1	-27.5	.6	44.01	-	-	74	-29.99	0	100	V
5.97	23.99	Ca	35.1	-27.5	.6	32.19	54	-21.81	-	-	0	100	V

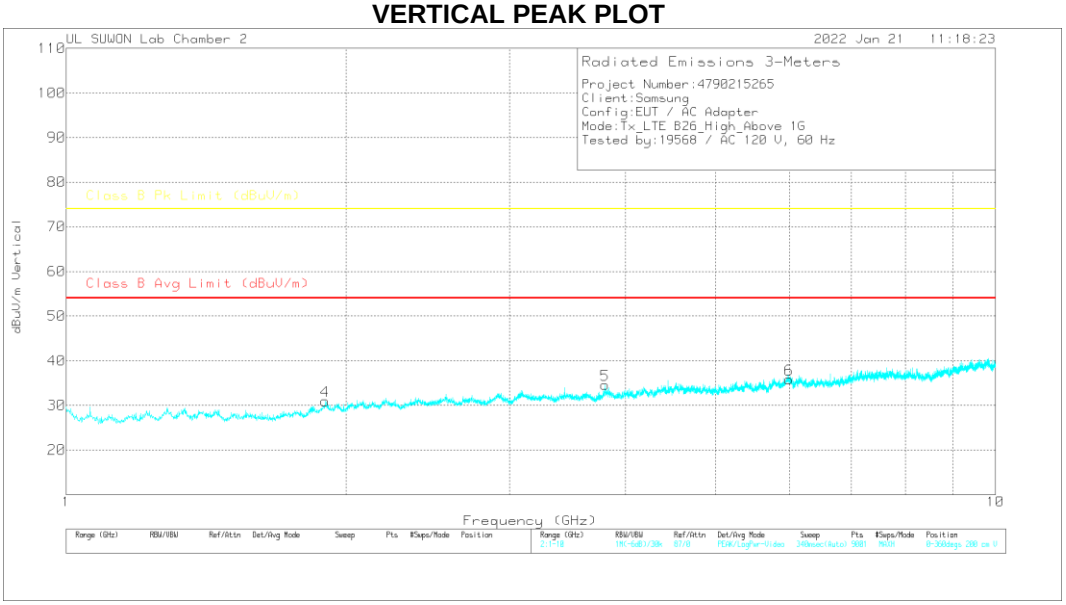
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.196	29.99	PK	31.7	-30.6	.7	31.79	-	-	74	-42.21	0-360	100	H
2	3.628	30.05	PK	32.8	-29.6	.7	33.95	-	-	74	-40.05	0-360	100	H
3	5.986	27.71	PK	35.1	-27.5	.5	35.81	-	-	74	-38.19	0-360	100	H
4	1.9	30.44	PK	30.8	-31	.7	30.94	-	-	74	-43.06	0-360	200	V
5	3.799	30.14	PK	33.3	-29.3	.5	34.64	-	-	74	-39.36	0-360	200	V
6	5.992	27.76	PK	35.1	-27.5	.5	35.86	-	-	74	-38.14	0-360	200	V

PK – Peak Detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Mar gin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.196	37.17	Pk	31.7	-30.6	.7	38.97	-	-	74	-35.03	0	100	H
2.196	24.63	Ca	31.7	-30.6	.7	26.43	54	-27.57	-	-	0	100	H
1.9	37.5	Pk	30.8	-31	.7	38	-	-	74	-36	0	100	V
1.9	25.43	Ca	30.8	-31	.7	25.93	54	-28.07	-	-	0	100	V
3.628	36.8	Pk	32.8	-29.6	.7	40.7	-	-	74	-33.3	0	100	H
3.628	24.41	Ca	32.8	-29.6	.7	28.31	54	-25.69	-	-	0	100	H
3.799	36.65	Pk	33.3	-29.3	.5	41.15	-	-	74	-32.85	0	100	V
3.799	24.55	Ca	33.3	-29.3	.5	29.05	54	-24.95	-	-	0	100	V
5.986	36.05	Pk	35.1	-27.5	.5	44.15	-	-	74	-29.85	0	100	H
5.986	23.87	Ca	35.1	-27.5	.5	31.97	54	-22.03	-	-	0	100	H
5.992	35.96	Pk	35.1	-27.5	.5	44.06	-	-	74	-29.94	0	100	V
5.992	23.68	Ca	35.1	-27.5	.5	31.78	54	-22.22	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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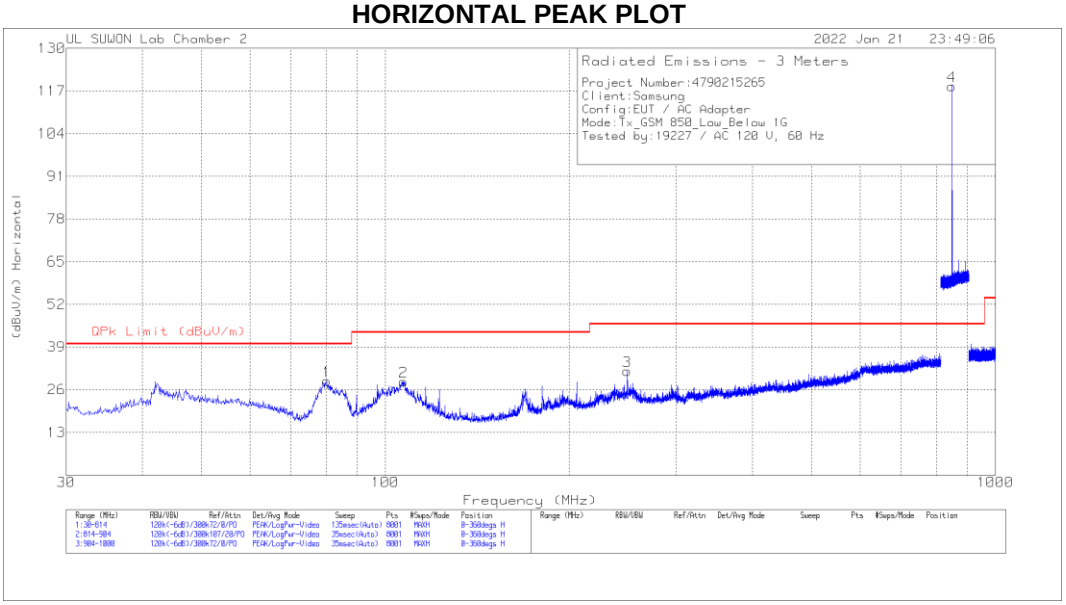
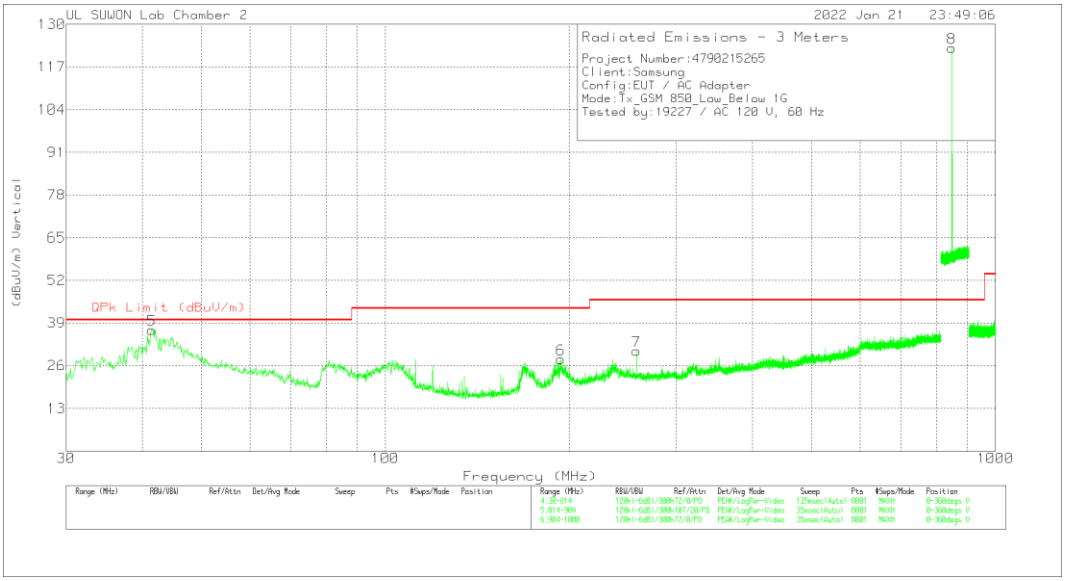
7.1.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	80.176	15.16	Pk	12.5	1	28.66	40	-11.34	0-360	100	H
2	107.126	9.92	Pk	17.4	1.2	28.52	43.52	-15	0-360	200	H
3	249.324	11.52	Pk	18.4	1.8	31.72	46.02	-14.3	0-360	100	H
4	848.8525	87.9	Pk	27.3	3.3	118.5	**46.02**	**72.48**	0-360	300	H
5	41.466	17.16	Pk	19	.7	36.86	40	-3.14	0-360	100	V
6	193.954	9.35	Pk	17.1	1.6	28.05	43.52	-15.47	0-360	100	V
7	258.242	10.21	Pk	18.5	1.8	30.51	46.02	-15.51	0-360	100	V
8	848.8525	92.27	Pk	27.3	3.3	122.87	**46.02**	**76.85**	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
41.466	-.64	Qp	19	.7	19.06	40	-20.94	298	395	H

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.

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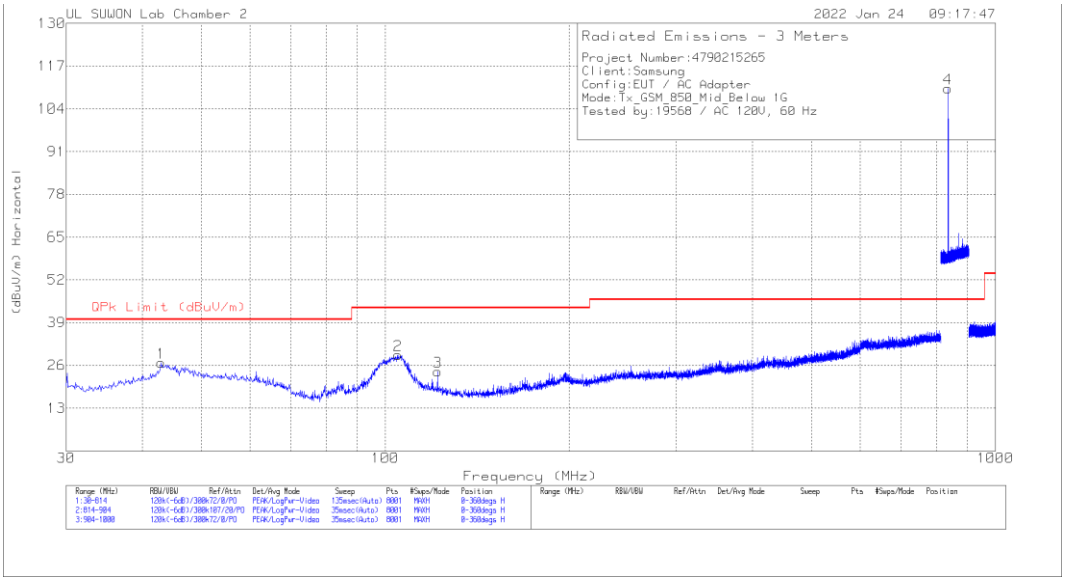
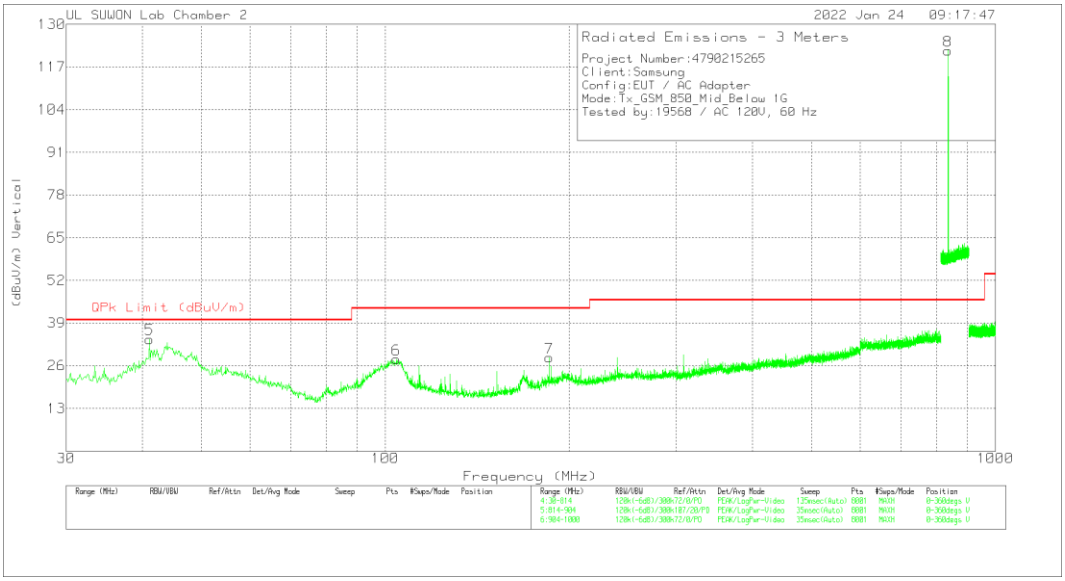
MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

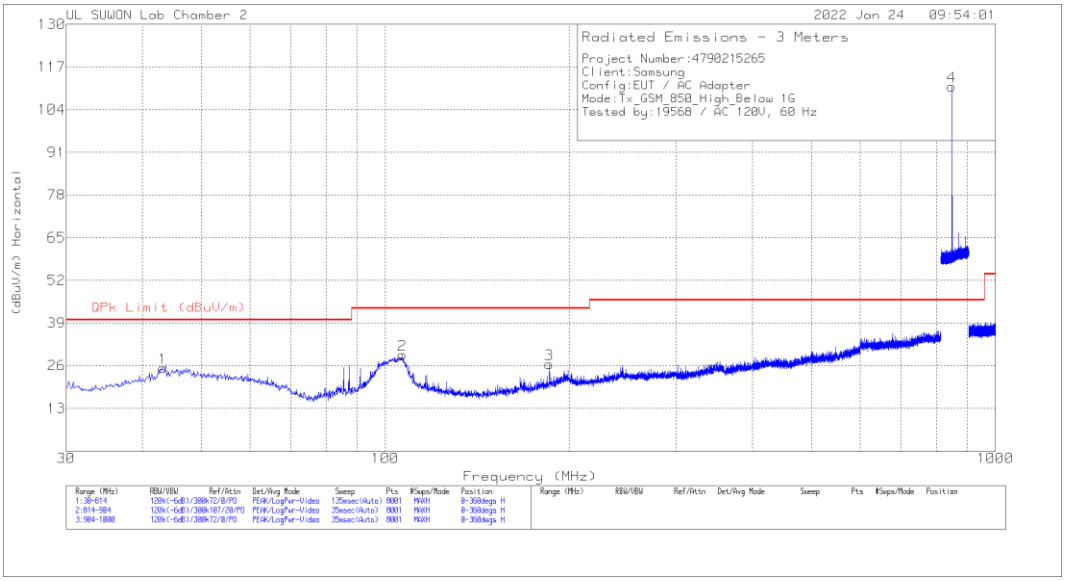
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	42.936	6.68	Pk	19.3	.8	26.78	40	-13.22	0-360	200	H
2	104.97	10.35	Pk	17.6	1.2	29.15	43.52	-14.37	0-360	200	H
3	121.826	7.68	Pk	15.1	1.3	24.08	43.52	-19.44	0-360	100	H
4	836.5788	80.02	Pk	26.9	3.3	110.22	**46.02**	**64.2**	0-360	300	H
5	41.074	14.53	Pk	18.9	.7	34.13	40	-5.87	0-360	100	V
6	104.284	9.13	Pk	17.6	1.2	27.93	43.52	-15.59	0-360	100	V
7	185.722	11.03	Pk	15.9	1.5	28.43	43.52	-15.09	0-360	100	V
8	836.635	91.71	Pk	26.9	3.3	121.91	**46.02**	**75.89**	0-360	100	V

Pk - Peak detector

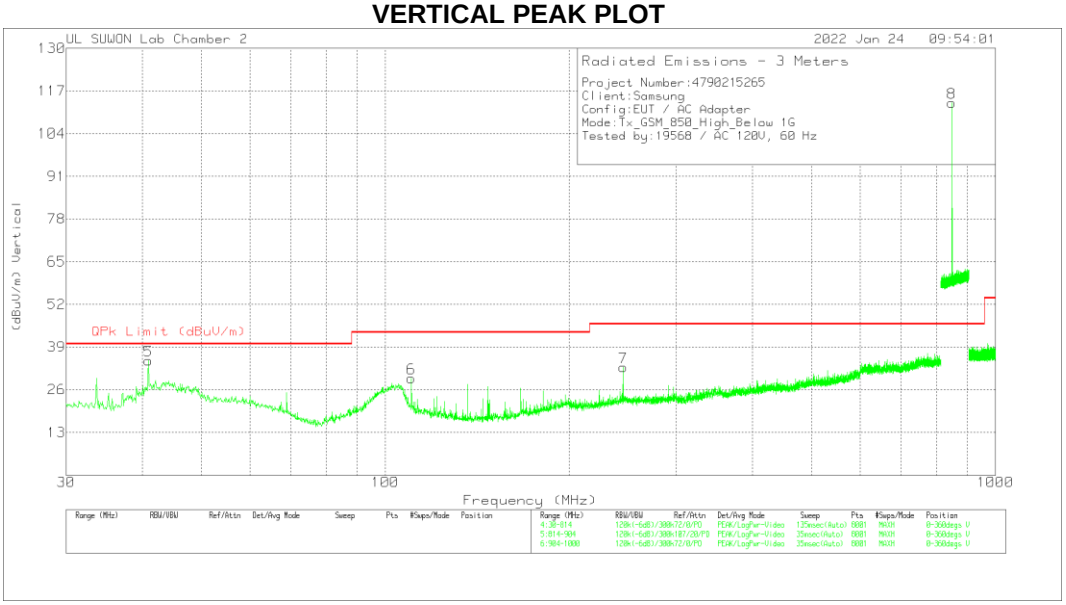
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	43.23	5.23	Pk	19.3	.8	25.33	40	-14.67	0-360	200	H
2	106.734	10.67	Pk	17.4	1.2	29.27	43.52	-14.25	0-360	100	H
3	185.82	9.06	Pk	15.9	1.5	26.46	43.52	-17.06	0-360	300	H
4	848.8075	80.5	Pk	27.3	3.3	111.1	**46.02**	**65.08**	0-360	300	H
5	40.878	15.34	Pk	18.9	.7	34.94	40	-5.06	0-360	100	V
6	110.36	11.49	Pk	16.8	1.2	29.49	43.52	-14.03	0-360	100	V
7	245.306	12.69	Pk	18.4	1.8	32.89	46.02	-13.13	0-360	100	V
8	848.8638	82.73	Pk	27.3	3.3	113.33	**46.02**	**67.31**	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
40.878	-1.84	Qp	18.9	.7	17.76	40	-22.24	110	366	H

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.

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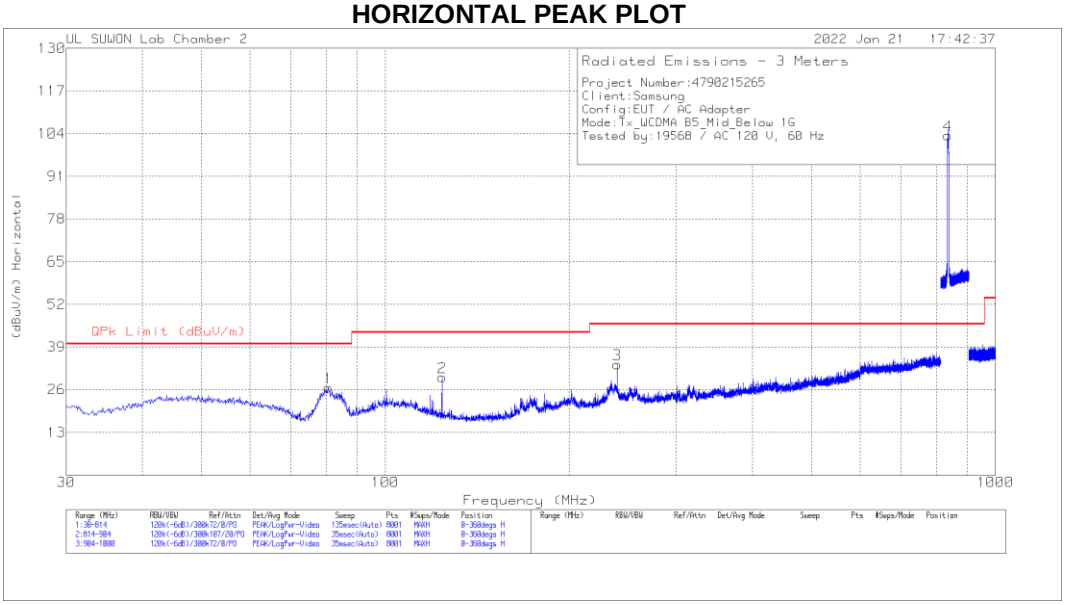
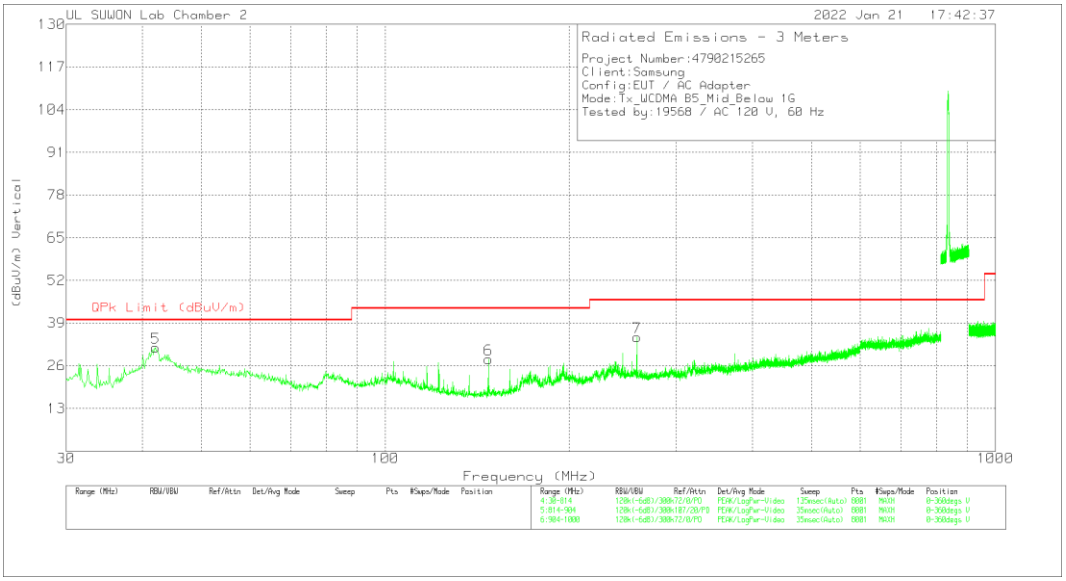
7.1.7. Below 1 GHz in the WCDMA Band 5

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	80.666	13.12	Pk	12.6	1	26.72	40	-13.28	0-360	100	H
2	123.884	13.57	Pk	14.9	1.3	29.77	43.52	-13.75	0-360	100	H
3	239.916	13.79	Pk	18.2	1.8	33.79	46.02	-12.23	0-360	100	H
4	836.5	73.21	Pk	26.9	3.3	103.41	**46.02**	**57.39**	0-360	200	H
5	42.054	11.7	Pk	19.1	.7	31.5	40	-8.5	0-360	200	V
6	147.6	12.84	Pk	13.8	1.4	28.04	43.52	-15.48	0-360	200	V
7	258.438	14.35	Pk	18.5	1.8	34.65	46.02	-11.37	0-360	300	V

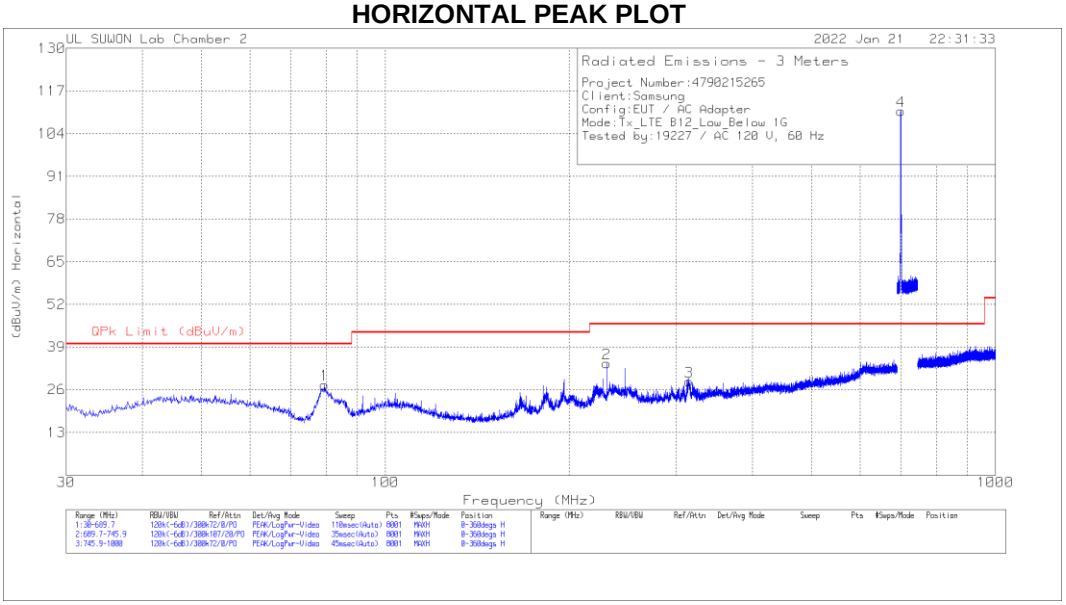
Pk - Peak detector

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

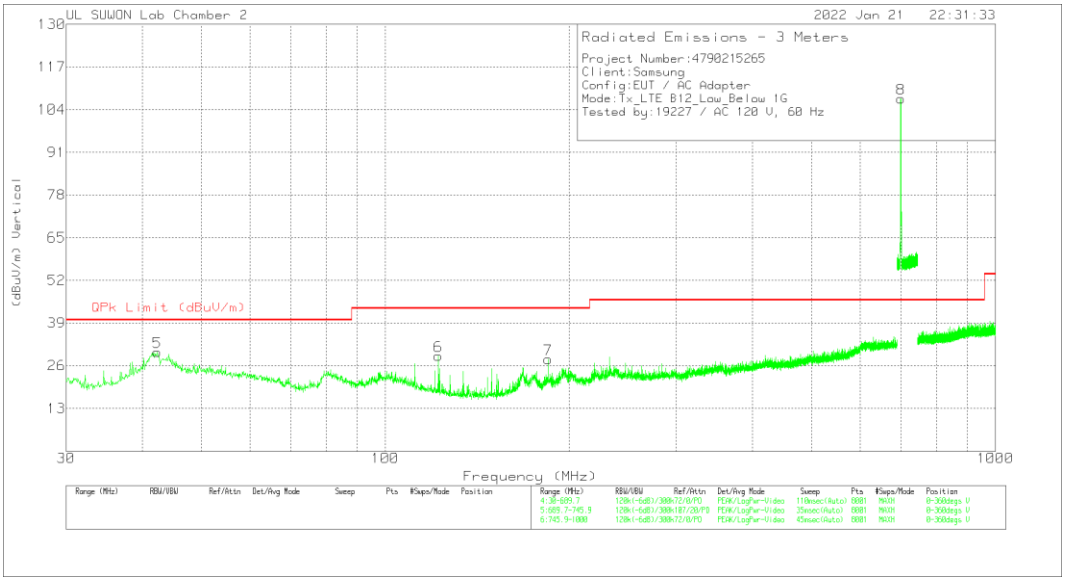
7.1.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

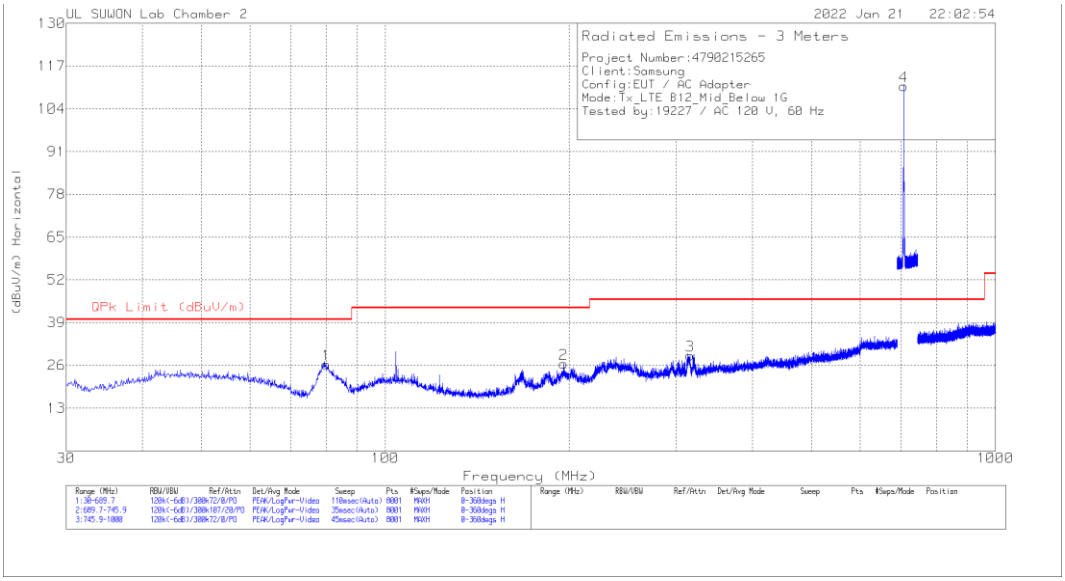
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	79.4778	14.17	Pk	12.4	1	27.57	40	-12.43	0-360	100	H
2	230.6325	14.76	Pk	17.6	1.7	34.06	46.02	-11.96	0-360	100	H
3	314.5798	7.04	Pk	19.4	2	28.44	46.02	-17.58	0-360	100	H
4	699.7247	82.55	Pk	25.4	3	110.95	**46.02**	**64.93**	0-360	200	H
5	42.287	10.3	Pk	19.2	.7	30.2	40	-9.8	0-360	200	V
6	122.2761	12.6	Pk	15.1	1.3	29	43.52	-14.52	0-360	200	V
7	184.8655	10.69	Pk	15.8	1.5	27.99	43.52	-15.53	0-360	200	V
8	699.7528	78.99	Pk	25.4	3	107.39	**46.02**	**61.37**	0-360	100	V

Pk - Peak detector

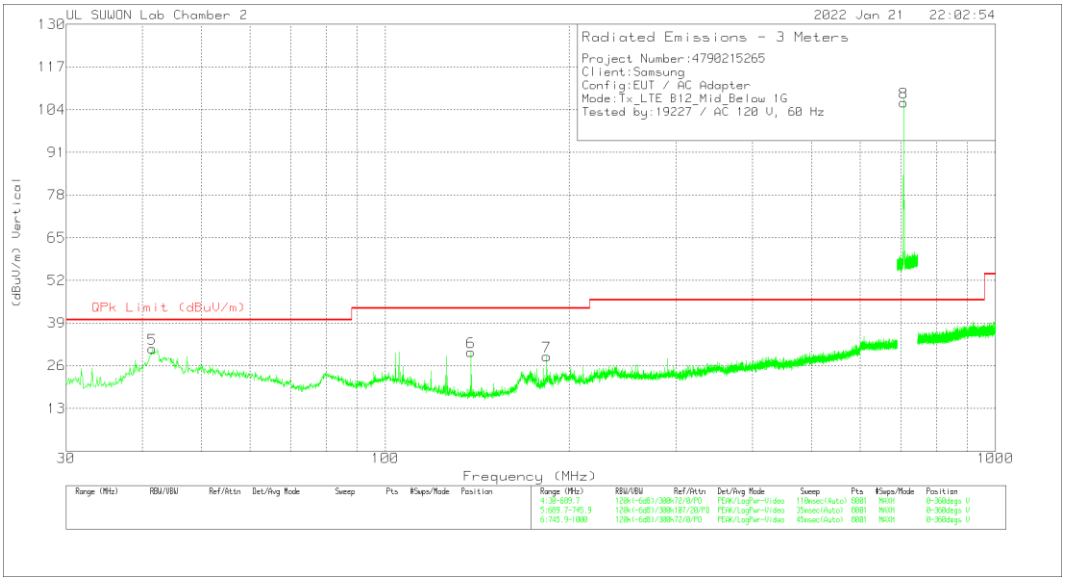
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

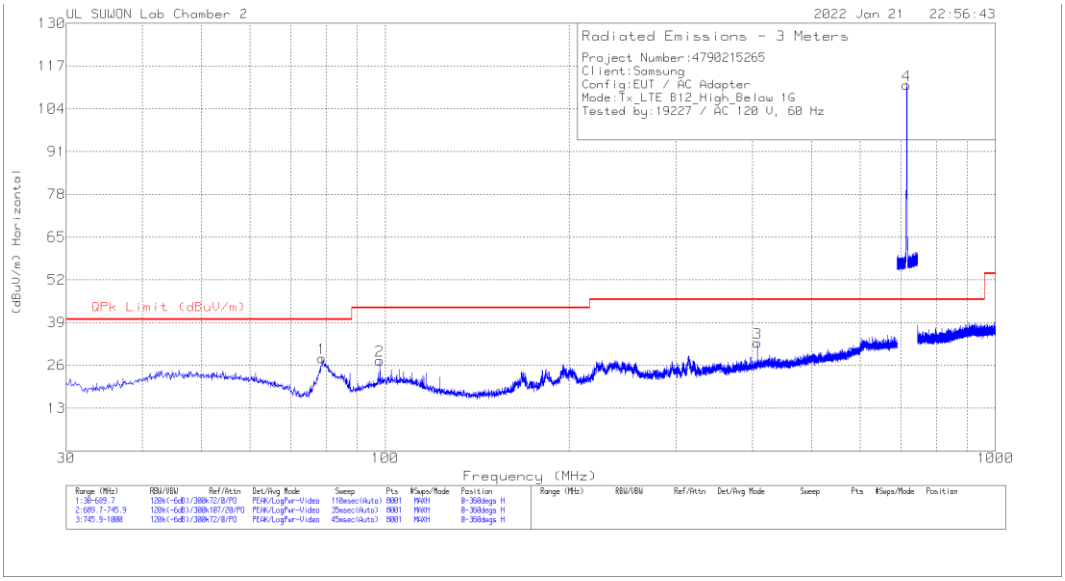
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	79.9726	12.75	Pk	12.5	1	26.25	40	-13.75	0-360	100	H
2	195.998	7.47	Pk	17.4	1.6	26.47	43.52	-17.05	0-360	100	H
3	315.9817	7.6	Pk	19.4	2	29	46.02	-17.02	0-360	100	H
4	707.7683	82.26	Pk	25.6	3	110.86	**46.02**	**64.84**	0-360	200	H
5	41.5448	11.49	Pk	19	.7	31.19	40	-8.81	0-360	200	V
6	138.2739	15.09	Pk	13.8	1.3	30.19	43.52	-13.33	0-360	300	V
7	183.9584	11.68	Pk	15.7	1.5	28.88	43.52	-14.64	0-360	200	V
8	707.4452	77.73	Pk	25.5	3	106.23	**46.02**	**60.21**	0-360	100	V

Pk - Peak detector

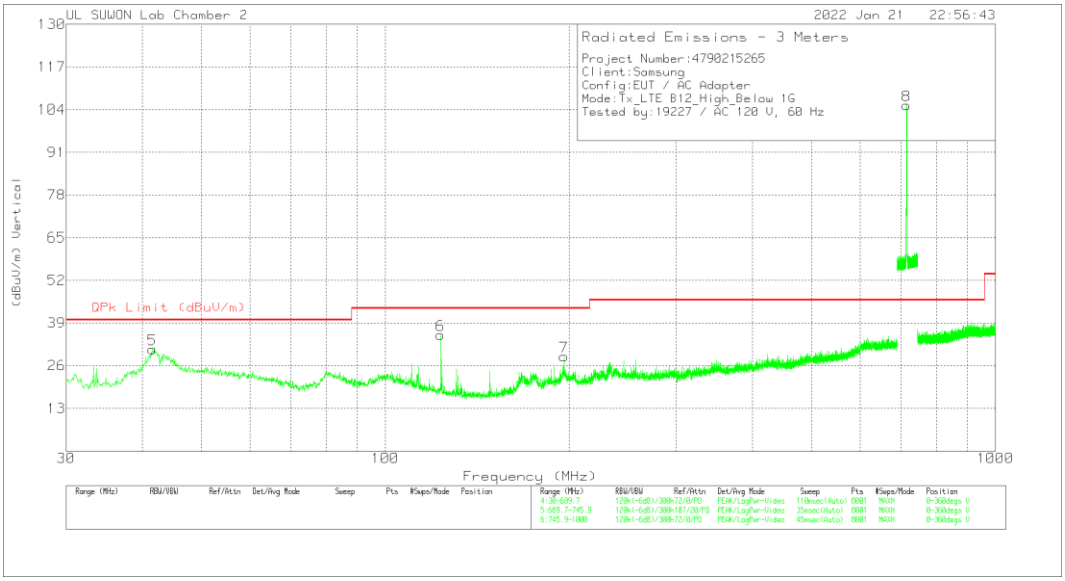
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

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	78.7356	14.72	Pk	12.4	1	28.12	40	-11.88	0-360	100	H
2	98.032	9.24	Pk	17.2	1.1	27.54	43.52	-15.98	0-360	100	H
3	407.4332	8.91	Pk	21.6	2.3	32.81	46.02	-13.21	0-360	100	H
4	715.257	82.62	Pk	25.6	3	111.22	**46.02**	**65.2**	0-360	200	H
5	41.5448	11.38	Pk	19	.7	31.08	40	-8.92	0-360	200	V
6	123.1832	19.12	Pk	15	1.3	35.42	43.52	-8.1	0-360	200	V
7	196.2454	9.81	Pk	17.4	1.6	28.81	43.52	-14.71	0-360	300	V
8	715.1024	76.71	Pk	25.6	3	105.31	**46.02**	**59.29**	0-360	100	V

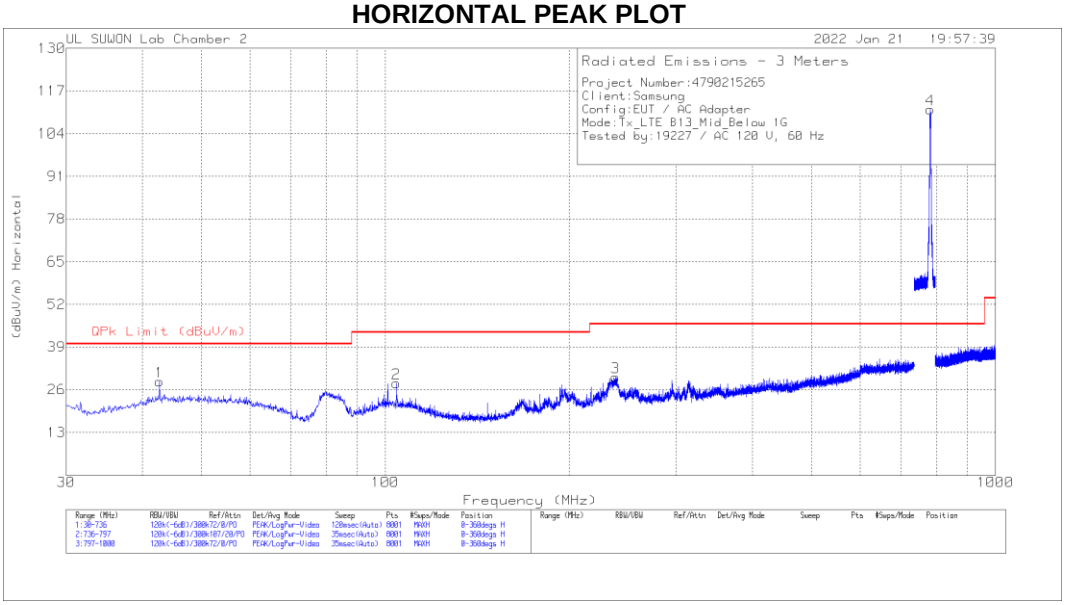
Pk - Peak detector

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

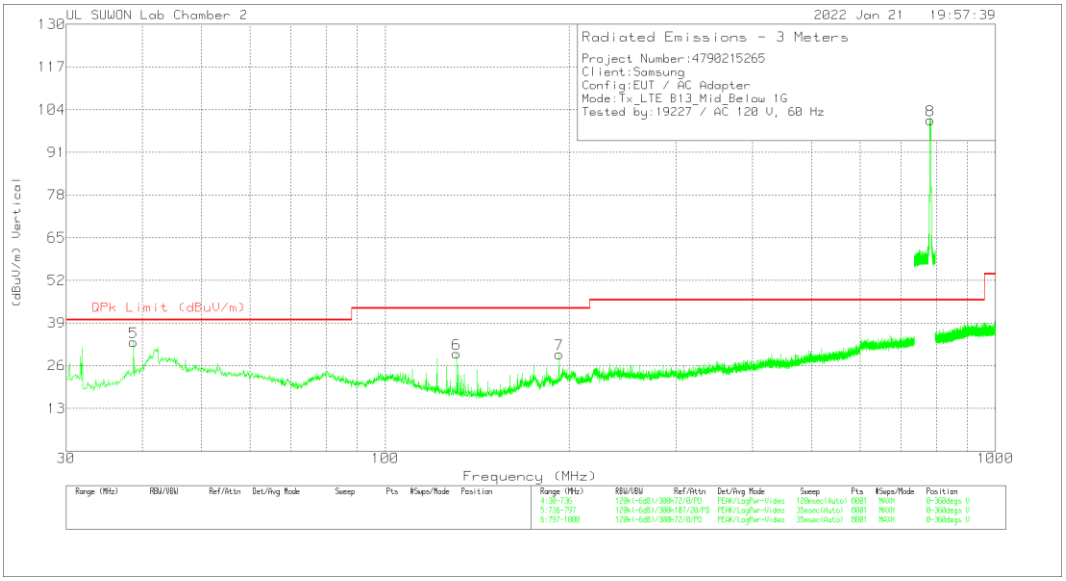
7.1.9. Below 1 GHz in the LTE Band 13

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	42.6198	8.58	Pk	19.2	.7	28.48	40	-11.52	0-360	100	H
2	104.3065	9.26	Pk	17.6	1.2	28.06	43.52	-15.46	0-360	200	H
3	238.5348	10	Pk	18.1	1.7	29.8	46.02	-16.22	0-360	100	H
4	782.4363	81.72	Pk	26.5	3.2	111.42	**46.02**	**65.4**	0-360	200	H
5	38.6485	14.35	Pk	18.2	.7	33.25	40	-6.75	0-360	200	V
6	130.8698	14.3	Pk	14.1	1.3	29.7	43.52	-13.82	0-360	200	V
7	192.6448	11.16	Pk	16.8	1.6	29.56	43.52	-13.96	0-360	200	V
8	782.5964	71.16	Pk	26.5	3.2	100.86	**46.02**	**54.84**	0-360	100	V

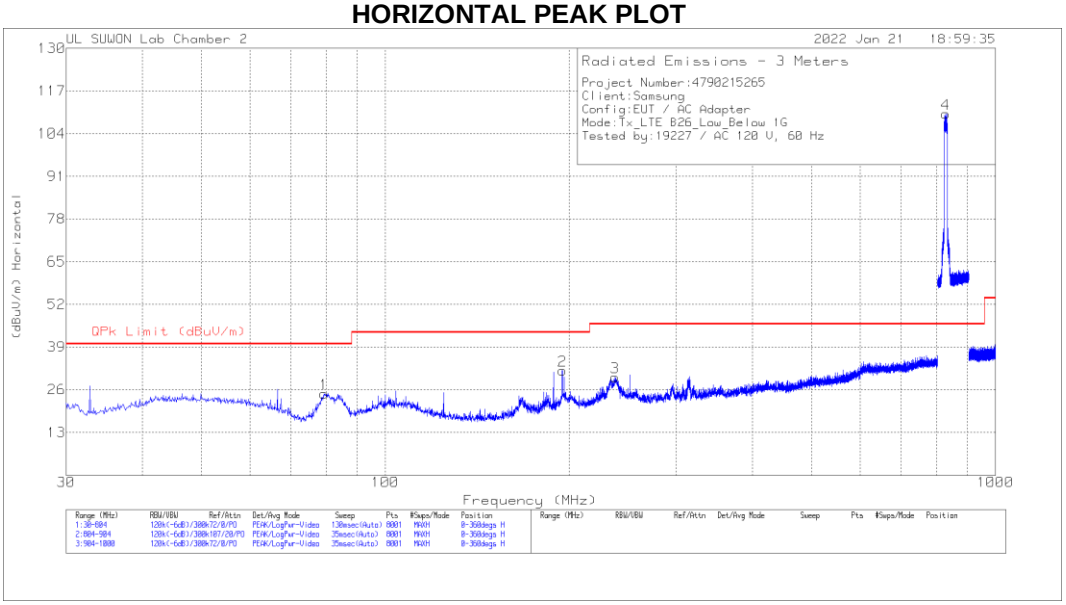
Pk - Peak detector

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

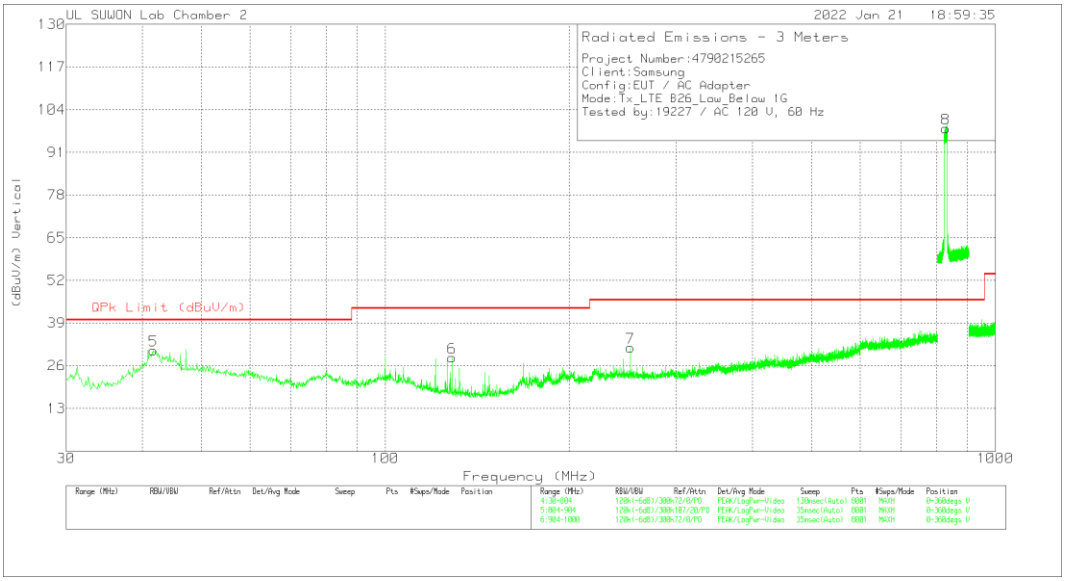
7.1.10.Below 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

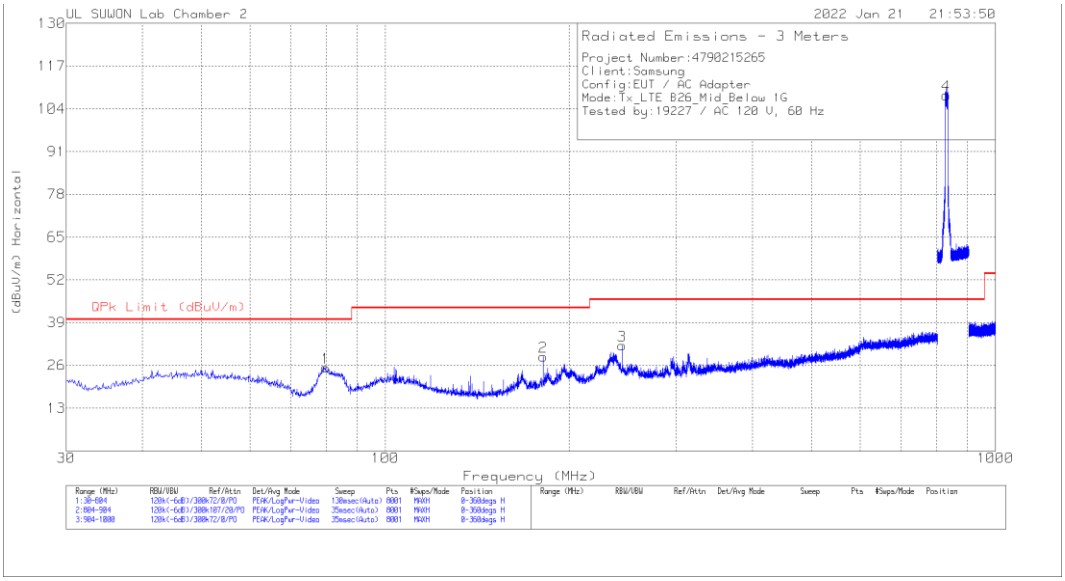
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	79.3425	11.44	Pk	12.4	1	24.84	40	-15.16	0-360	200	H
2	195.0555	12.95	Pk	17.3	1.6	31.85	43.52	-11.67	0-360	100	H
3	237.9158	10.09	Pk	18.1	1.7	29.89	46.02	-16.13	0-360	100	H
4	828.8	80.04	Pk	26.8	3.2	110.04	**46.02**	**64.02**	0-360	200	H
5	41.7068	10.93	Pk	19	.7	30.63	40	-9.37	0-360	200	V
6	128.685	12.85	Pk	14.4	1.3	28.55	43.52	-14.97	0-360	200	V
7	252.138	11.27	Pk	18.4	1.8	31.47	46.02	-14.55	0-360	300	V
8	828.9875	68.24	Pk	26.8	3.2	98.24	**46.02**	**52.22**	0-360	100	V

Pk - Peak detector

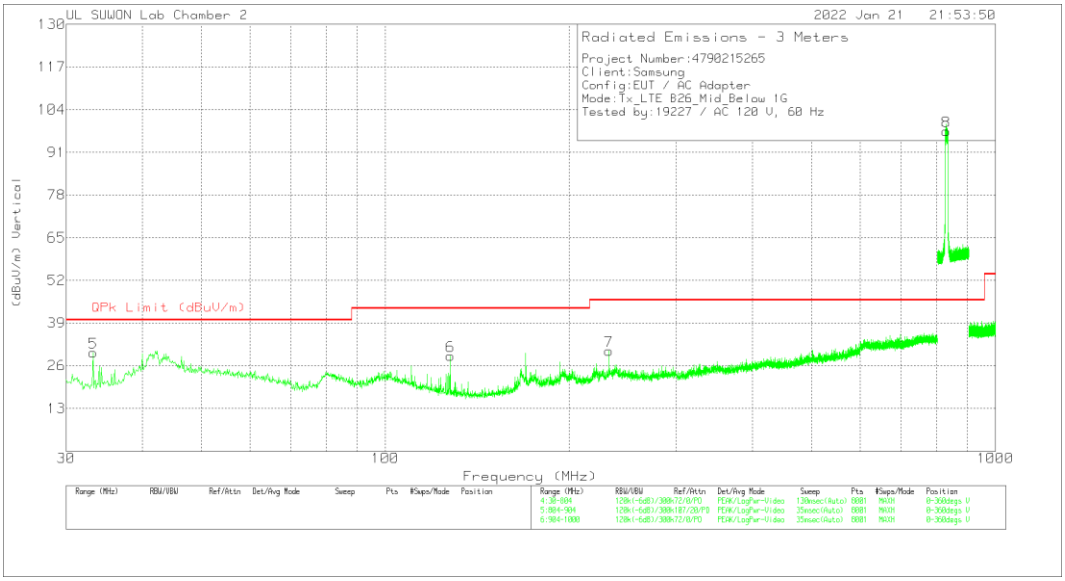
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

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	79.923	11.82	Pk	12.5	1	25.32	40	-14.68	0-360	200	H
2	181.5105	11.74	Pk	15.5	1.5	28.74	43.52	-14.78	0-360	200	H
3	244.4948	11.85	Pk	18.4	1.8	32.05	46.02	-13.97	0-360	100	H
4	831.4625	78.01	Pk	26.8	3.3	108.11	**46.02**	**62.09**	0-360	200	H
5	33.1928	13.65	Pk	15.7	.7	30.05	40	-9.95	0-360	100	V
6	127.911	13.27	Pk	14.5	1.3	29.07	43.52	-14.45	0-360	100	V
7	232.5945	10.98	Pk	17.8	1.7	30.48	46.02	-15.54	0-360	100	V
8	831.225	67.32	Pk	26.8	3.3	97.42	**46.02**	**51.4**	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.

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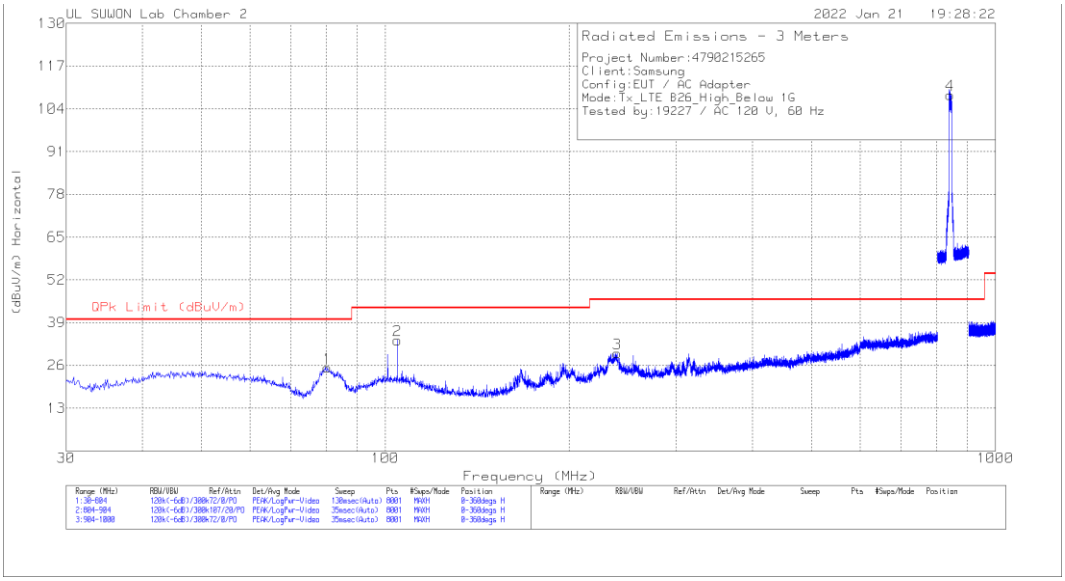
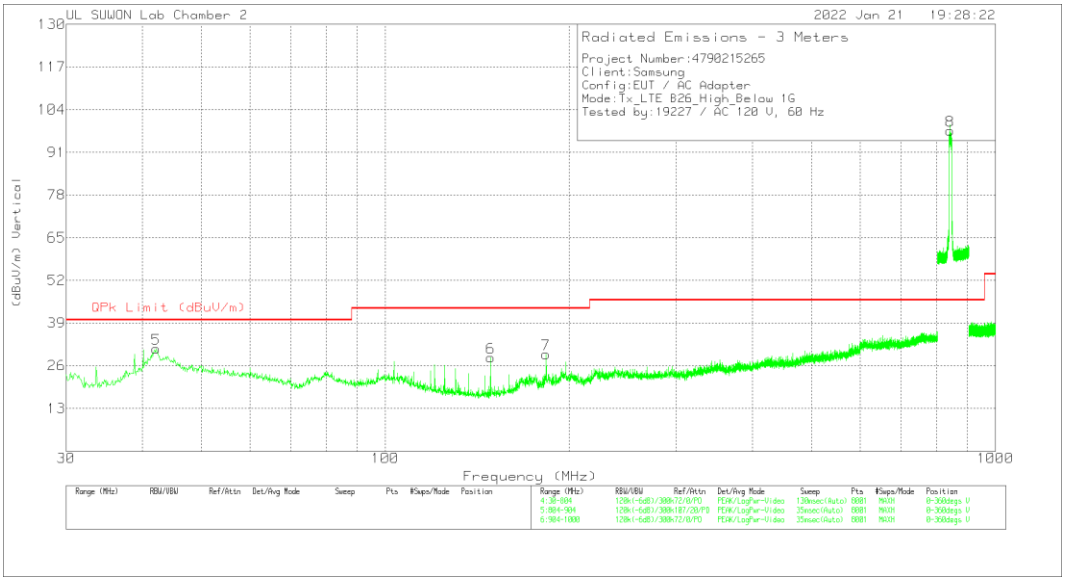
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

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	80.4068	11.88	Pk	12.5	1	25.38	40	-14.62	0-360	100	H
2	104.691	14.83	Pk	17.6	1.2	33.63	43.52	-9.89	0-360	100	H
3	239.8508	9.81	Pk	18.2	1.7	29.71	46.02	-16.31	0-360	100	H
4	843.725	77.87	Pk	27.1	3.3	108.27	**46.02**	**62.25**	0-360	200	H
5	42.0938	11.39	Pk	19.1	.7	31.19	40	-8.81	0-360	200	V
6	148.809	13.32	Pk	13.8	1.4	28.52	43.52	-15	0-360	200	V
7	183.5423	12.25	Pk	15.7	1.5	29.45	43.52	-14.07	0-360	200	V
8	843.5125	67.27	Pk	27.1	3.3	97.67	**46.02**	**51.65**	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.

7.2. CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4-2014

LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range	Limits (dBμV)	
(MHz)	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

RESULT - Not tested.

Please refer to the test report(LBE20210912_SM-A135M-DS_EMC+Test+Report_FCC_Cer) for the conducted emission test results.
The report contains test results including receiver mode.

END OF TEST REPORT