CERTIFICATION TEST REPORT

Report Number. : 4790302422-E2V1

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

Model : SM-A136M/DSN, SM-A136M

FCC ID : A3LSMA136M

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

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

Date Of Issue:
2022-05-09

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	2022-05-09	Initial issue	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/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac.

MODEL NUMBER: SM-A136M/DS, SM-A136M

SERIAL NUMBER: R3CT206R7PM, R3CT206R5VJ (RADIATED)

DATE TESTED: 2022-04-07 ~ 2022-04-08;

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 Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. ANSI C63.4-2014

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro
☒ Chamber 1(3m semi-anechoic chamber)
☒ Chamber 2(3m semi-anechoic chamber)
☐ Chamber 3(3m semi-anechoic chamber)
☐ Chamber 4(3m Full-anechoic chamber)
☐ Chamber 5(3m Full-anechoic chamber)

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
Conducted Disturbance, 0.15 to 30 MHz	3.02 dB
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/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac.
This test report addresses the WWAN operational mode.

This report covers the Samsung models SM-A136M/DS and SM-A136M.
These models are identical in hardware except SM-A136M has single SIM tray.
With some pre-scan, model SM-A136M/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)

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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 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.

5G NR Band n5
5G NR BAND n5 (Rx Frequncy 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.

Conducted Emission Test
The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. The worst-case scenario was GSM 850.

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5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacture**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37MANQ1E72SE3	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02115A BWE	N/A
Charger	SAMSUNG	EP-TA200	R37KC6F39T1SE3	N/A
Data Cable	SAMSUNG	EP-DR140AWE	GH39-01999A	N/A
Earphone	SAMSUNG	GH59-15055A	EHS64AVFWE	N/A

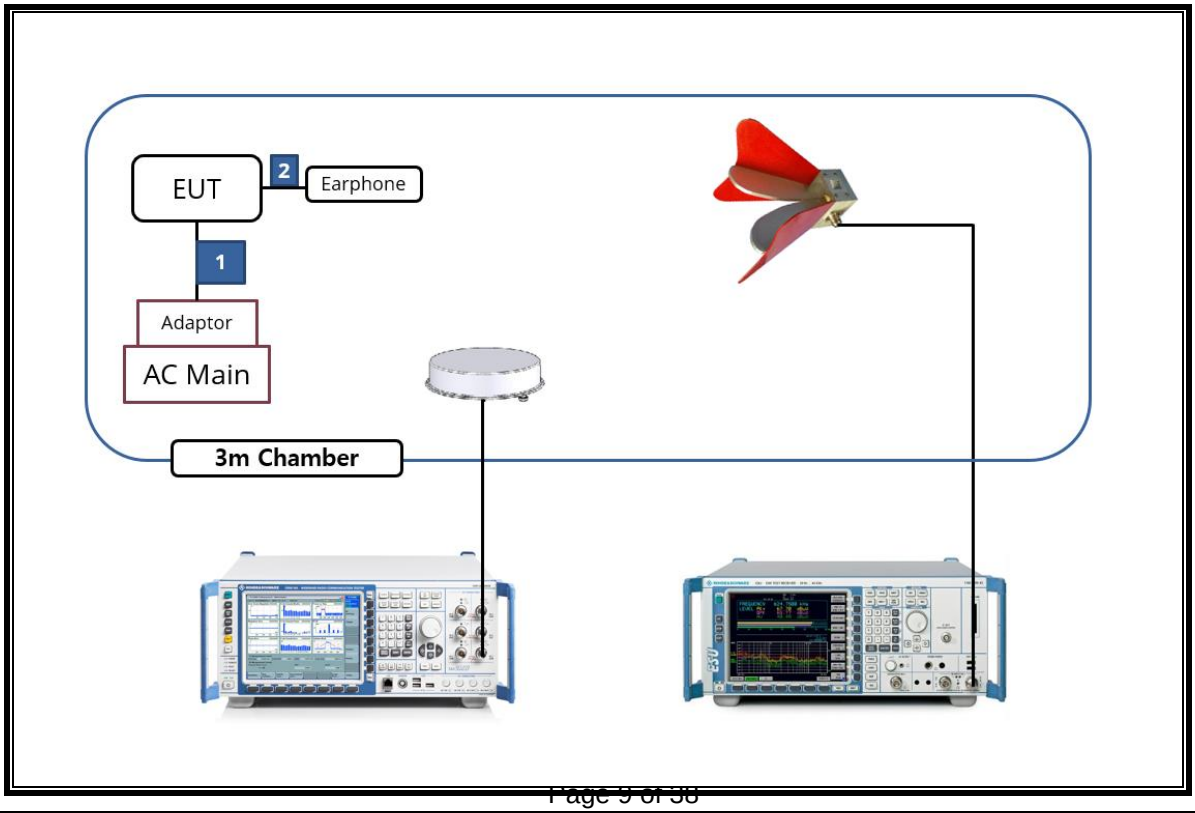
I/O CABLE

I/O Cable List						
Cable No.	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	C to C Type	Shielded	1.0 m	N/A
2	DC Power	1	A to C Type	Shielded	1.0 m	N/A
3	Audio	2	Mini-jack	Unshielded	0.7 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, 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
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.	

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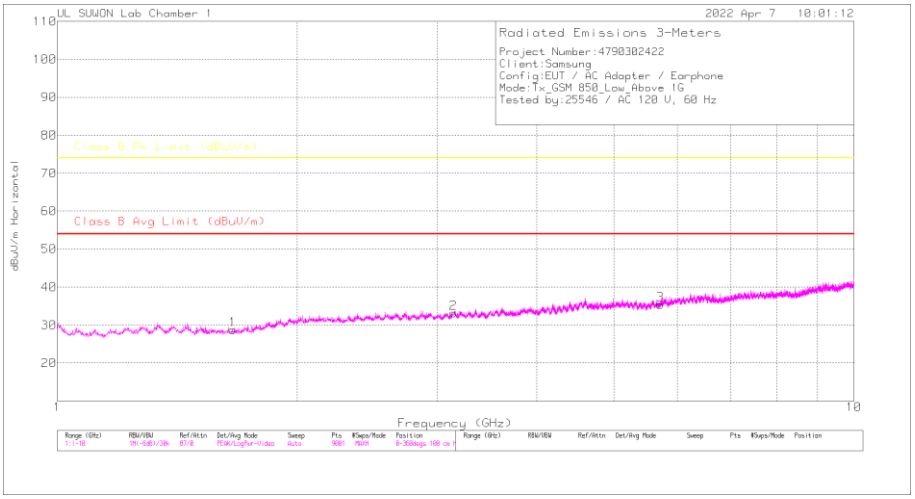
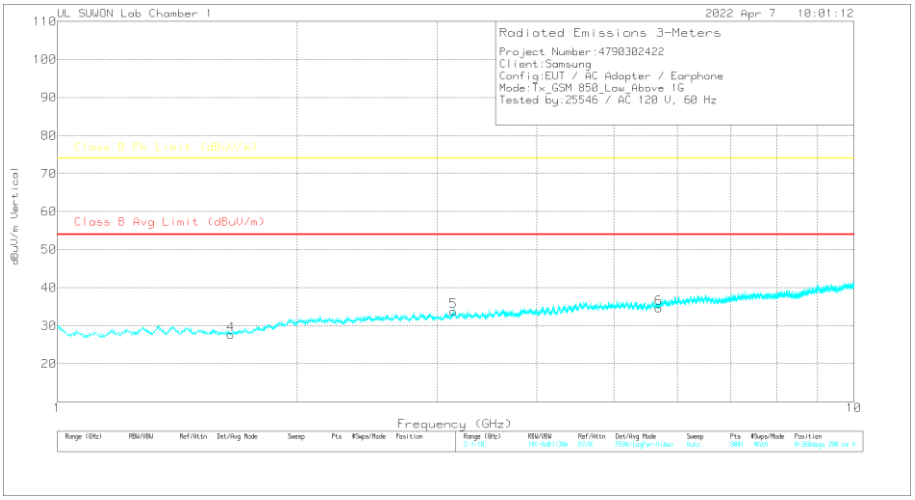
7.1.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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
1.66	43.5	Pk	28.4	-36.5	.8	36.2	-	-	74	-37.8	0	100	H
1.66	31.21	Ca	28.4	-36.5	.8	23.91	54	-30.09	-	-	0	100	H
1.652	43.09	Pk	28.4	-36.5	.8	35.79	-	-	74	-38.21	0	100	V
1.652	31.14	Ca	28.4	-36.5	.8	23.84	54	-30.16	-	-	0	100	V
3.143	40.63	Pk	32.7	-33.7	.7	40.33	-	-	74	-33.67	0	100	H
3.143	29.06	Ca	32.7	-33.7	.7	28.76	54	-25.24	-	-	0	100	H
3.143	41.6	Pk	32.7	-33.7	.7	41.3	-	-	74	-32.7	0	100	V
3.143	29.06	Ca	32.7	-33.7	.7	28.76	54	-25.24	-	-	0	100	V
5.714	38.66	Pk	34.9	-30.8	.4	43.16	-	-	74	-30.84	0	100	H
5.714	27.33	Ca	34.9	-30.8	.4	31.83	54	-22.17	-	-	0	100	H
5.691	39.15	Pk	34.8	-30.9	.4	43.45	-	-	74	-30.55	0	100	V
5.691	27.16	Ca	34.8	-30.9	.4	31.46	54	-22.54	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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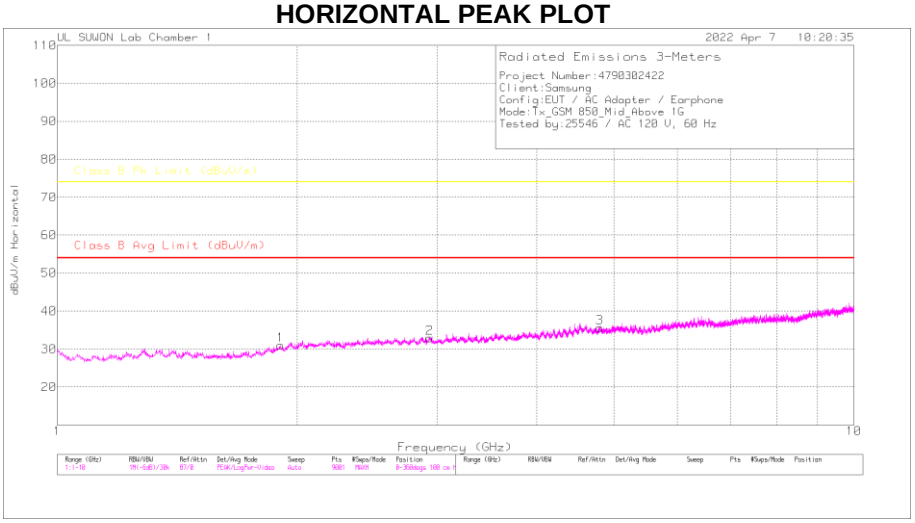
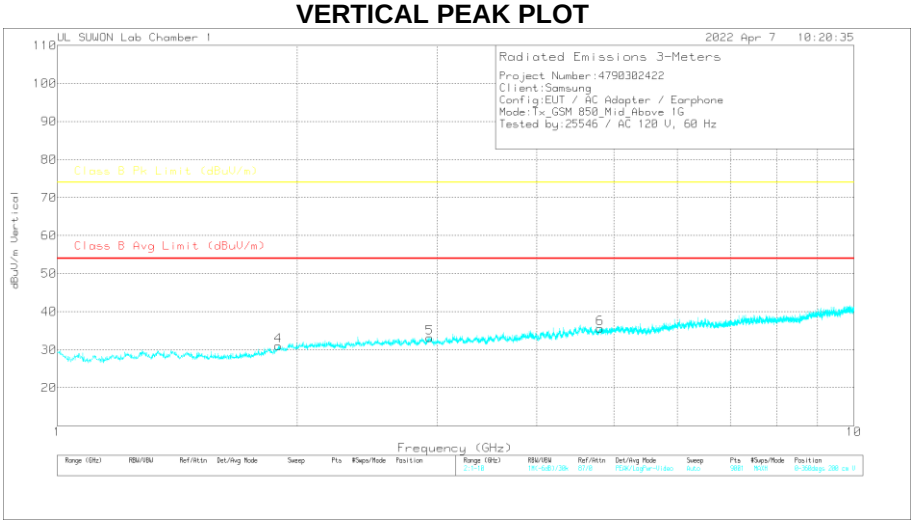
MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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
1.908	42.53	Pk	30.7	-35.9	.7	38.03	-	-	74	-35.97	0	100	H
1.908	30.61	Ca	30.7	-35.9	.7	26.11	54	-27.89	-	-	0	100	H
1.894	43.09	Pk	30.6	-35.9	.7	38.49	-	-	74	-35.51	0	100	V
1.894	30.78	Ca	30.6	-35.9	.7	26.18	54	-27.82	-	-	0	100	V
2.935	41.62	Pk	32.3	-34	.8	40.72	-	-	74	-33.28	0	100	H
2.935	29.21	Ca	32.3	-34	.8	28.31	54	-25.69	-	-	0	100	H
2.933	40.68	Pk	32.3	-34	.8	39.78	-	-	74	-34.22	0	100	V
2.933	29.12	Ca	32.3	-34	.8	28.22	54	-25.78	-	-	0	100	V
4.798	40.51	Pk	34.1	-31.8	.5	43.31	-	-	74	-30.69	0	100	H
4.798	28.88	Ca	34.1	-31.8	.5	31.68	54	-22.32	-	-	0	100	H
4.801	40.85	Pk	34.1	-31.8	.5	43.65	-	-	74	-30.35	0	100	V
4.801	28.95	Ca	34.1	-31.8	.5	31.75	54	-22.25	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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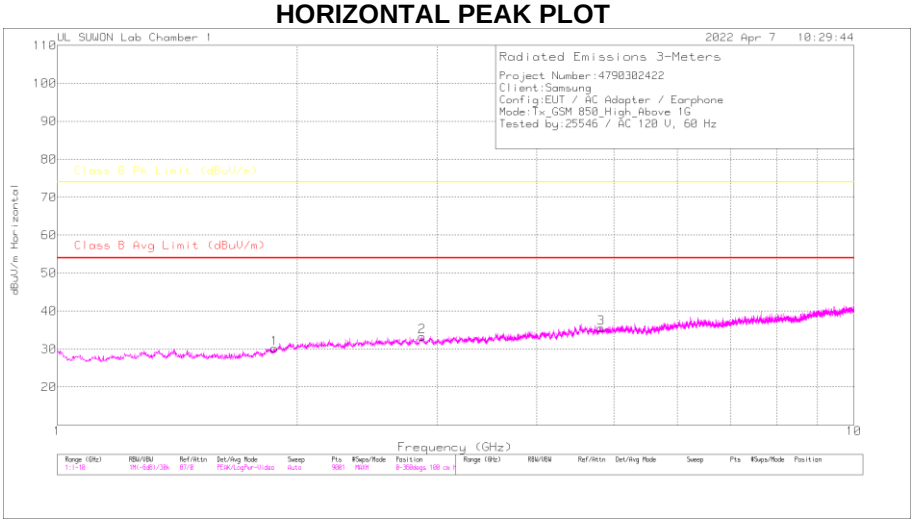
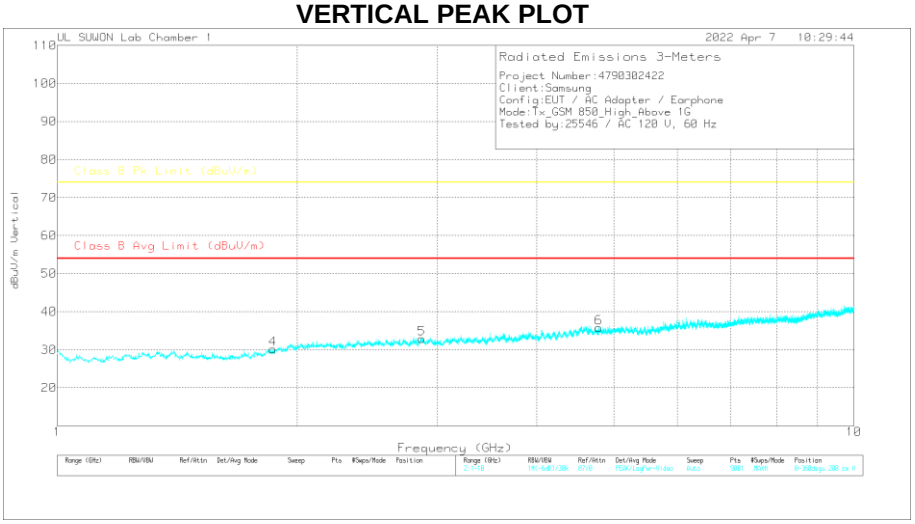
HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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
1.873	42.01	Pk	30.4	-36.1	.7	37.01	-	-	74	-36.99	360	100	H
1.873	30.17	Ca	30.4	-36.1	.7	25.17	54	-28.83	-	-	360	100	H
1.866	41.82	Pk	30.3	-36.1	.6	36.62	-	-	74	-37.38	360	100	V
1.866	30.16	Ca	30.3	-36.1	.6	24.96	54	-29.04	-	-	360	100	V
2.87	40.99	Pk	32.3	-34.1	.8	39.99	-	-	74	-34.01	360	100	H
2.87	29.13	Ca	32.3	-34.1	.8	28.13	54	-25.87	-	-	360	100	H
2.869	42.38	Pk	32.3	-34.1	.8	41.38	-	-	74	-32.62	360	100	V
2.869	29.15	Ca	32.3	-34.1	.8	28.15	54	-25.85	-	-	360	100	V
4.819	40.85	Pk	34.1	-31.7	.5	43.75	-	-	74	-30.25	360	100	H
4.819	28.54	Ca	34.1	-31.7	.5	31.44	54	-22.56	-	-	360	100	H
4.784	40.1	Pk	34.1	-31.8	.4	42.8	-	-	74	-31.2	360	100	V
4.784	28.44	Ca	34.1	-31.8	.4	31.14	54	-22.86	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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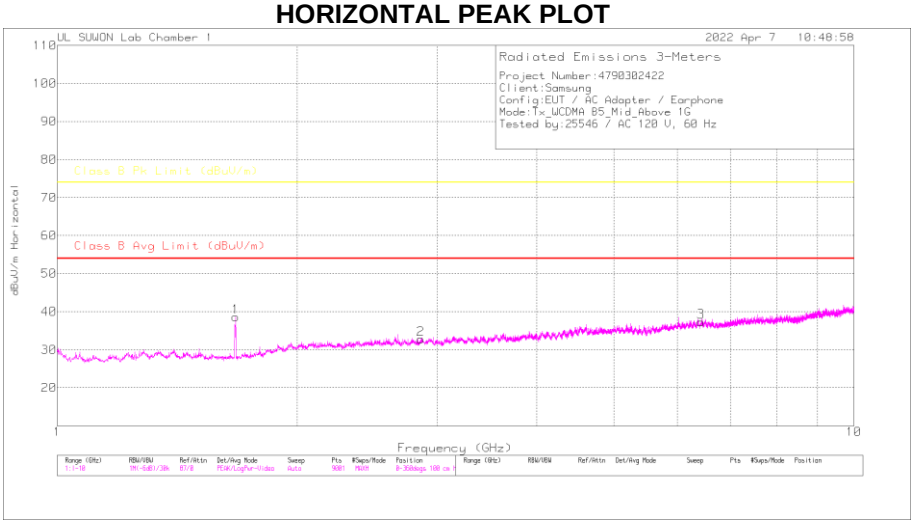
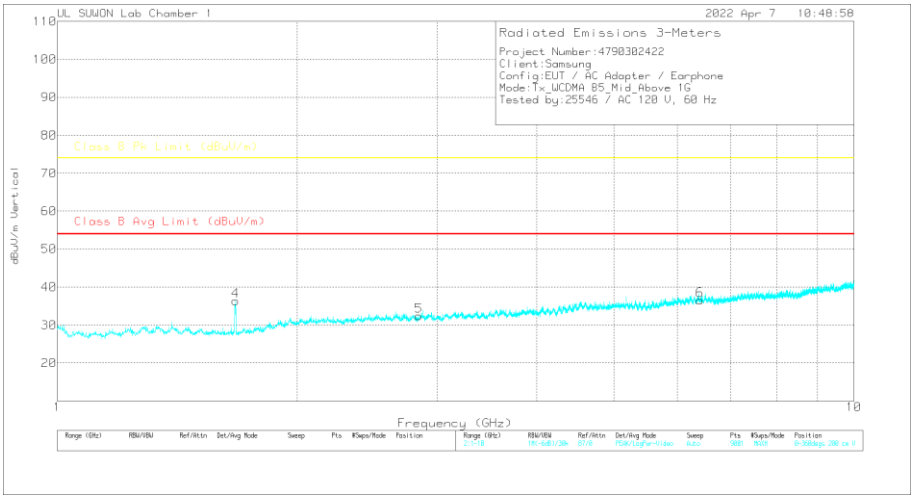
7.1.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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
1.674	45.62	Pk	28.5	-36.4	.8	38.52	-	-	74	-35.48	0	100	H
1.674	34.63	Ca	28.5	-36.4	.8	27.53	54	-26.47	-	-	0	100	H
1.674	42.72	Pk	28.5	-36.4	.8	35.62	-	-	74	-38.38	0	100	V
1.674	31.3	Ca	28.5	-36.4	.8	24.2	54	-29.8	-	-	0	100	V
2.86	41.48	Pk	32.3	-34	.8	40.58	-	-	74	-33.42	0	100	H
2.86	28.92	Ca	32.3	-34	.8	28.02	54	-25.98	-	-	0	100	H
2.86	41.41	Pk	32.3	-34	.8	40.51	-	-	74	-33.49	0	100	V
2.86	28.93	Ca	32.3	-34	.8	28.03	54	-25.97	-	-	0	100	V
6.424	38.28	Pk	35.5	-29.6	.4	44.58	-	-	74	-29.42	0	100	H
6.424	26.27	Ca	35.5	-29.6	.4	32.57	54	-21.43	-	-	0	100	H
6.424	38.32	Pk	35.5	-29.6	.4	44.62	-	-	74	-29.38	0	100	V
6.424	26.27	Ca	35.5	-29.6	.4	32.57	54	-21.43	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

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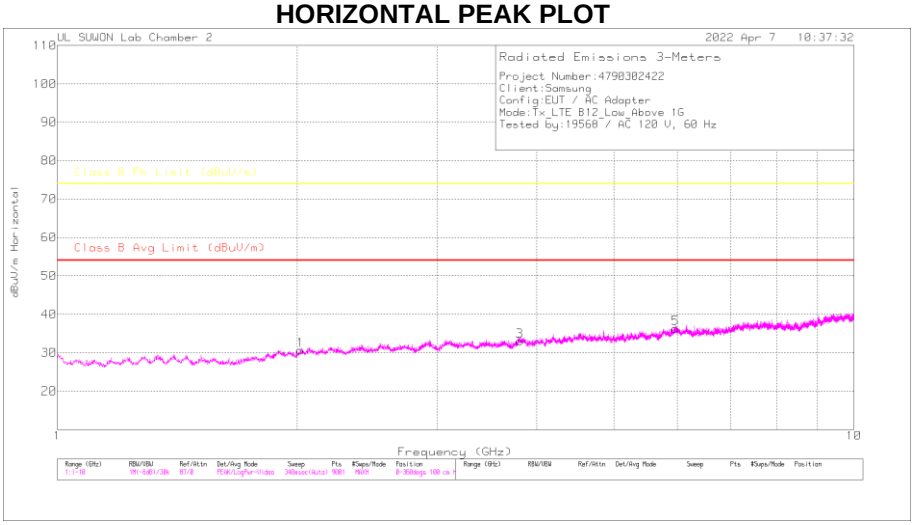
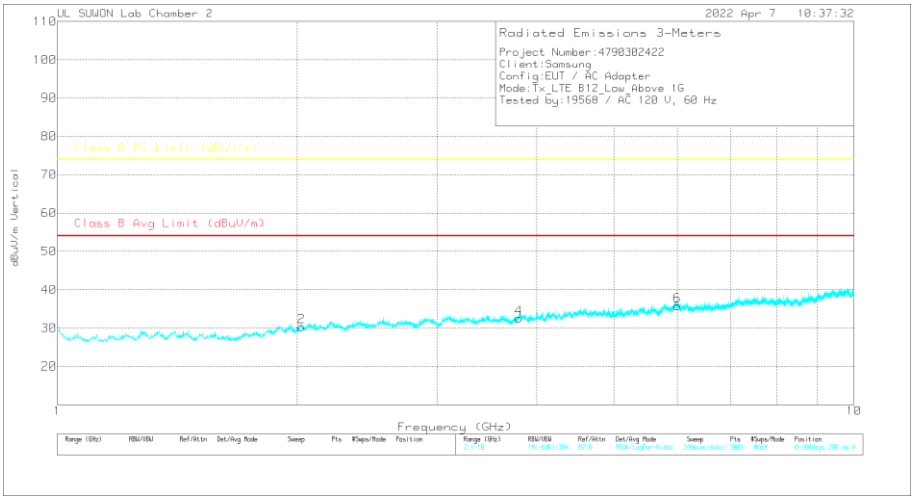
7.1.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

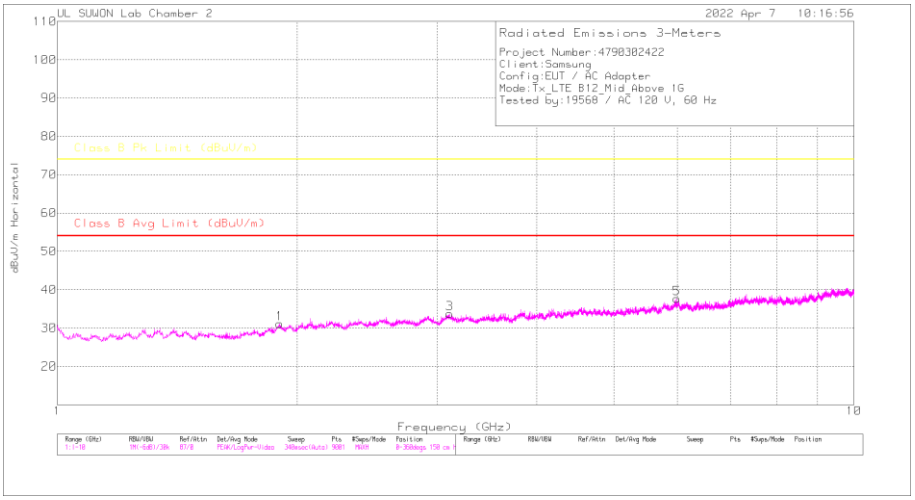
Radiated Emissions

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
2.02	38.59	Pk	31.3	-31	.5	39.39	-	-	74	-34.61	360	100	H
2.02	24.92	Ca	31.3	-31	.5	25.72	54	-28.28	-	-	360	100	H
2.026	36.8	Pk	31.3	-30.9	.5	37.7	-	-	74	-36.3	360	100	V
2.026	25.04	Ca	31.3	-30.9	.5	25.94	54	-28.06	-	-	360	100	V
3.806	36.73	Pk	33.3	-29.3	.6	41.33	-	-	74	-32.67	360	100	H
3.806	24.61	Ca	33.3	-29.3	.6	29.21	54	-24.79	-	-	360	100	H
3.796	36.44	Pk	33.3	-29.3	.5	40.94	-	-	74	-33.06	360	100	V
3.796	24.54	Ca	33.3	-29.3	.5	29.04	54	-24.96	-	-	360	100	V
5.97	35.64	Pk	35.1	-27.5	.6	43.84	-	-	74	-30.16	360	100	H
5.97	23.82	Ca	35.1	-27.5	.6	32.02	54	-21.98	-	-	360	100	H
6.003	35.8	Pk	35.2	-27.5	.5	44	-	-	74	-30	360	100	V
6.003	23.6	Ca	35.2	-27.5	.5	31.8	54	-22.2	-	-	360	100	V

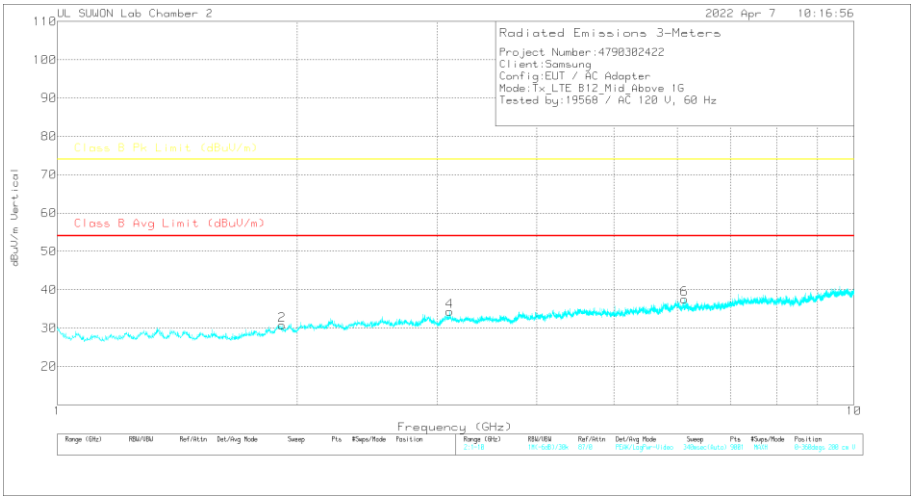
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

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
1.903	37.07	Pk	30.8	-31	.7	37.57	-	-	74	-36.43	360	100	H
1.903	25.36	Ca	30.8	-31	.7	25.86	54	-28.14	-	-	360	100	H
1.914	37.09	Pk	30.8	-31	.7	37.59	-	-	74	-36.41	360	100	V
1.914	24.96	Ca	30.8	-31	.7	25.46	54	-28.54	-	-	360	100	V
3.109	36.42	Pk	32.9	-29.7	.7	40.32	-	-	74	-33.68	360	100	H
3.109	24.37	Ca	32.9	-29.7	.7	28.27	54	-25.73	-	-	360	100	H
3.108	36.39	Pk	32.9	-29.8	.7	40.19	-	-	74	-33.81	360	100	V
3.108	24.39	Ca	32.9	-29.8	.7	28.19	54	-25.81	-	-	360	100	V
5.993	36.11	Pk	35.2	-27.5	.5	44.31	-	-	74	-29.69	360	100	H
5.993	23.78	Ca	35.2	-27.5	.5	31.98	54	-22.02	-	-	360	100	H
6.124	35.46	Pk	35.3	-27	.4	44.16	-	-	74	-29.84	360	100	V
6.124	23.28	Ca	35.3	-27	.4	31.98	54	-22.02	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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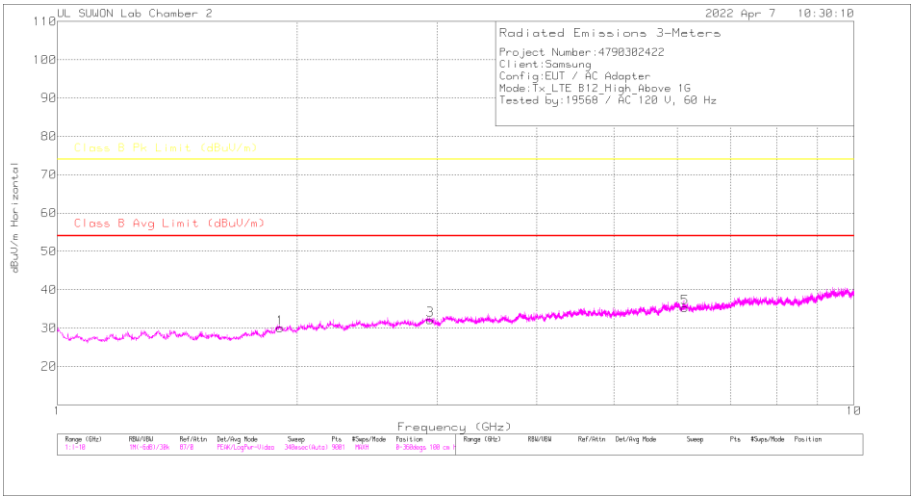
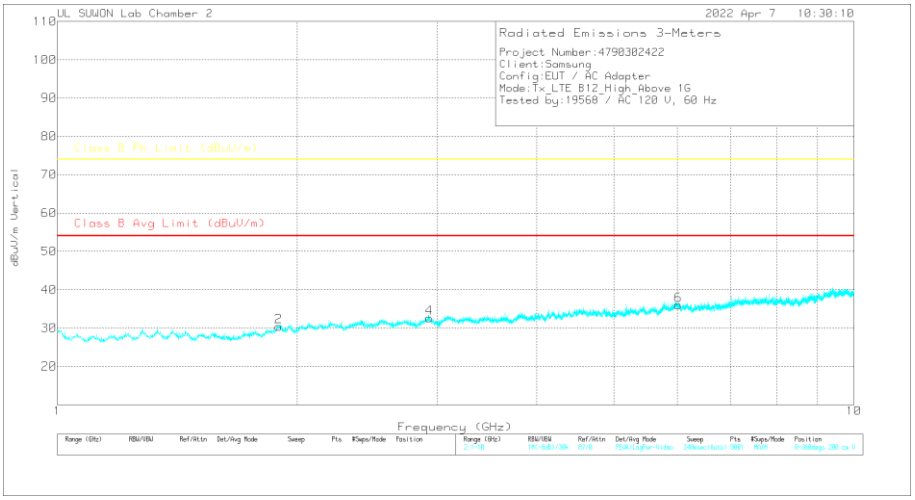
HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

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
1.905	37.63	Pk	30.8	-31	.7	38.13	-	-	74	-35.87	360	100	H
1.905	25.25	Ca	30.8	-31	.7	25.75	54	-28.25	-	-	360	100	H
1.897	37.53	Pk	30.7	-31.1	.7	37.83	-	-	74	-36.17	360	100	V
1.897	25.35	Ca	30.7	-31.1	.7	25.65	54	-28.35	-	-	360	100	V
2.939	36.34	Pk	32.5	-30.2	.8	39.44	-	-	74	-34.56	360	100	H
2.939	24.62	Ca	32.5	-30.2	.8	27.72	54	-26.28	-	-	360	100	H
2.931	36.6	Pk	32.4	-30.2	.8	39.6	-	-	74	-34.4	360	100	V
2.931	24.76	Ca	32.4	-30.2	.8	27.76	54	-26.24	-	-	360	100	V
6.135	35.07	Pk	35.3	-26.9	.4	43.87	-	-	74	-30.13	360	100	H
6.135	23.2	Ca	35.3	-26.9	.4	32	54	-22	-	-	360	100	H
6.019	36.32	Pk	35.2	-27.5	.5	44.52	-	-	74	-29.48	360	100	V
6.019	23.79	Ca	35.2	-27.5	.5	31.99	54	-22.01	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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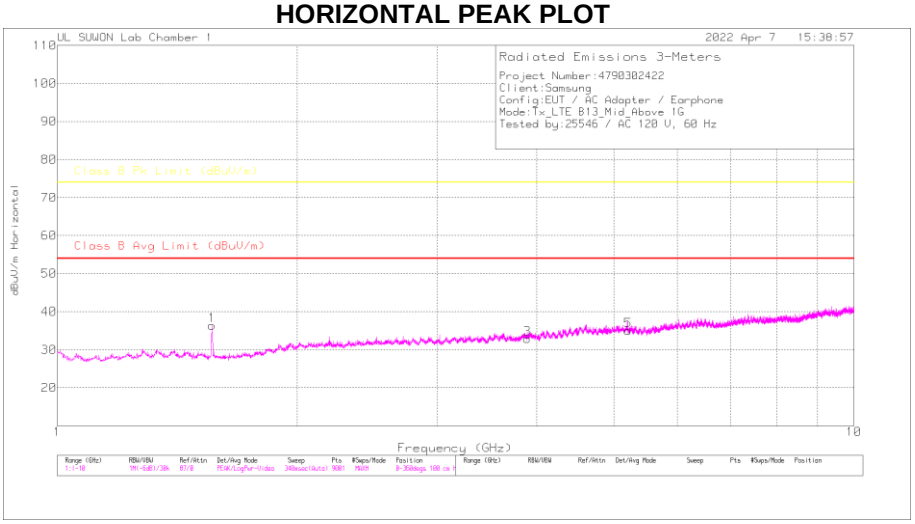
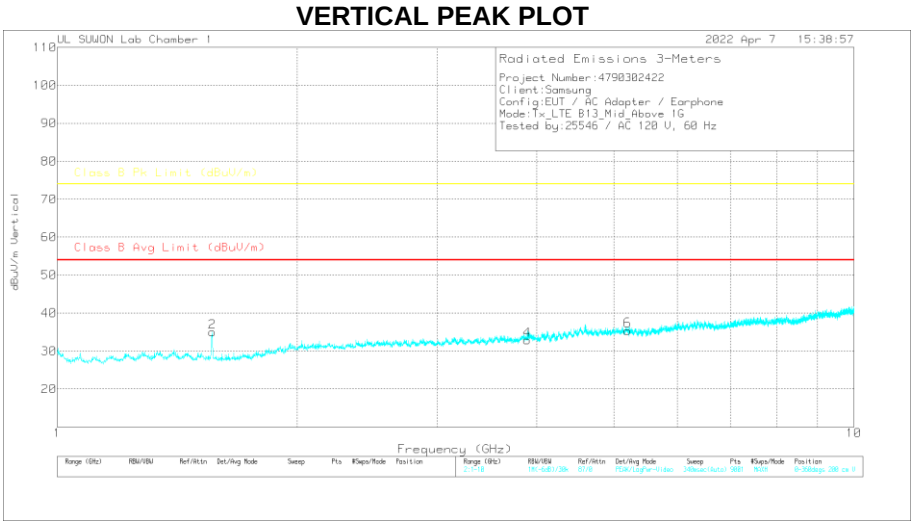
7.1.4. Above 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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
1.564	46.23	Pk	28.5	-36.5	.8	39.03	-	-	74	-34.97	0	100	H
1.564	33.72	Ca	28.5	-36.5	.8	26.52	54	-27.48	-	-	0	100	H
1.566	44.29	Pk	28.5	-36.6	.8	36.99	-	-	74	-37.01	0	100	V
1.566	31.47	Ca	28.5	-36.6	.8	24.17	54	-29.83	-	-	0	100	V
3.89	40.99	Pk	33.3	-32.8	.6	42.09	-	-	74	-31.91	0	100	H
3.89	28.16	Ca	33.3	-32.8	.6	29.26	54	-24.74	-	-	0	100	H
2.89	41.14	Pk	32.3	-33.9	.8	40.34	-	-	74	-33.66	0	100	V
2.89	28.6	Ca	32.3	-33.9	.8	27.8	54	-26.2	-	-	0	100	V
5.207	40.1	Pk	34.4	-31.4	.5	43.6	-	-	74	-30.4	0	100	H
5.207	27.48	Ca	34.4	-31.4	.5	30.98	54	-23.02	-	-	0	100	H
5.196	39.9	Pk	34.4	-31.3	.4	43.4	-	-	74	-30.6	0	100	V
5.196	27.54	Ca	34.4	-31.3	.4	31.04	54	-22.96	-	-	0	100	V

PK – Peak Detector

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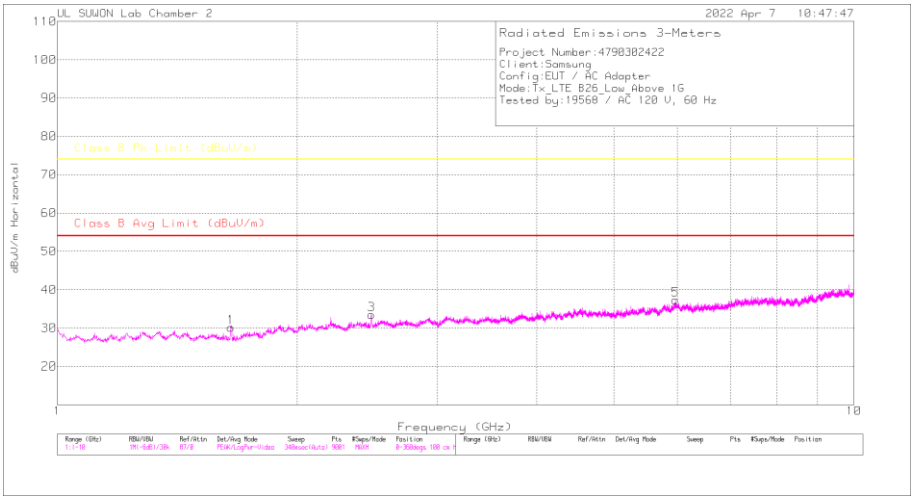
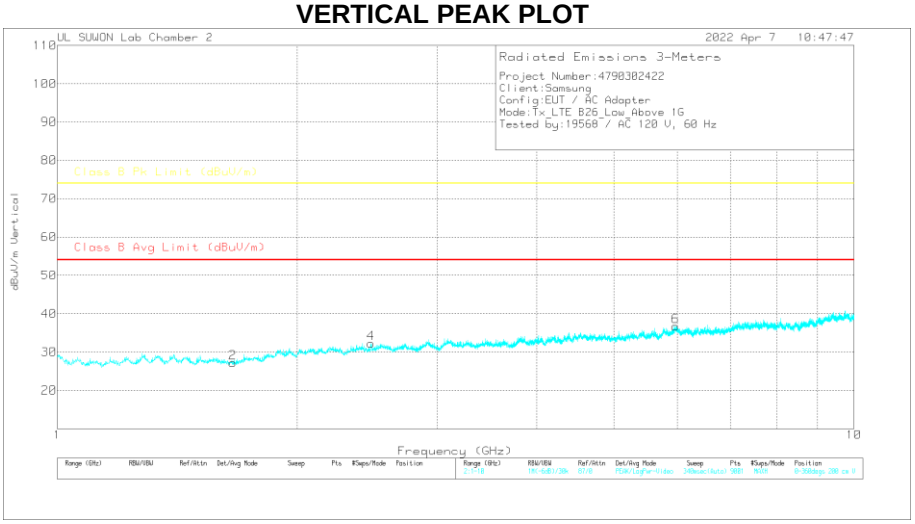
7.1.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

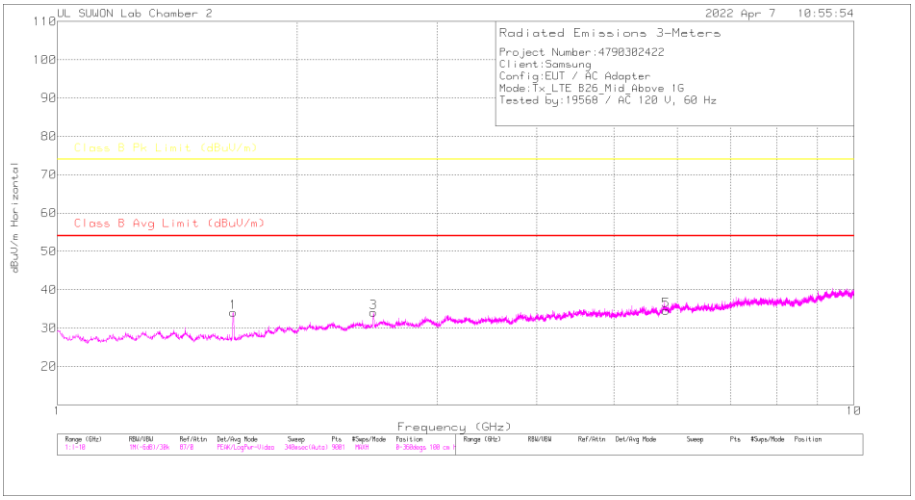
Radiated Emissions

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
1.652	38.93	Pk	28.6	-31.4	.8	36.93	-	-	74	-37.07	360	100	H
1.652	27.38	Ca	28.6	-31.4	.8	25.38	54	-28.62	-	-	360	100	H
1.66	36.23	Pk	28.6	-31.5	.8	34.13	-	-	74	-39.87	360	100	V
1.66	24.83	Ca	28.6	-31.5	.8	22.73	54	-31.27	-	-	360	100	V
2.479	36.74	Pk	32	-30.2	.8	39.34	-	-	74	-34.66	360	100	H
2.479	24.45	Ca	32	-30.2	.8	27.05	54	-26.95	-	-	360	100	H
2.477	36.02	Pk	32	-30.1	.8	38.72	-	-	74	-35.28	360	100	V
2.477	23.94	Ca	32	-30.1	.8	26.64	54	-27.36	-	-	360	100	V
5.973	36.06	Pk	35.1	-27.5	.6	44.26	-	-	74	-29.74	360	100	H
5.973	23.97	Ca	35.1	-27.5	.6	32.17	54	-21.83	-	-	360	100	H
5.969	35.95	Pk	35.1	-27.5	.6	44.15	-	-	74	-29.85	360	100	V
5.969	23.98	Ca	35.1	-27.5	.6	32.18	54	-21.82	-	-	360	100	V

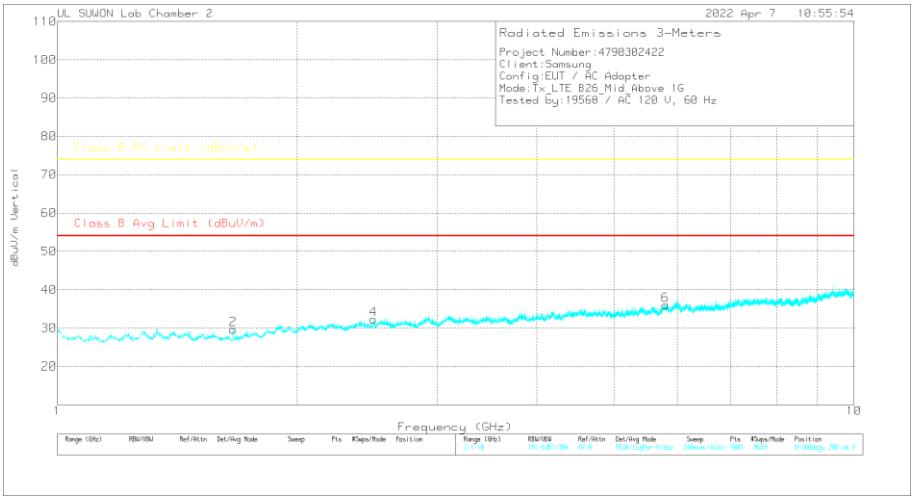
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

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
1.663	40.52	Pk	28.6	-31.4	.8	38.52	-	-	74	-35.48	360	100	H
1.663	28.75	Ca	28.6	-31.4	.8	26.75	54	-27.25	-	-	360	100	H
1.663	36.54	Pk	28.6	-31.4	.8	34.54	-	-	74	-39.46	360	100	V
1.663	24.97	Ca	28.6	-31.4	.8	22.97	54	-31.03	-	-	360	100	V
2.495	36.63	Pk	32.1	-30.1	.8	39.43	-	-	74	-34.57	360	100	H
2.495	24.65	Ca	32.1	-30.1	.8	27.45	54	-26.55	-	-	360	100	H
2.494	35.9	Pk	32.1	-30.2	.8	38.6	-	-	74	-35.4	360	100	V
2.494	23.75	Ca	32.1	-30.2	.8	26.45	54	-27.55	-	-	360	100	V
5.805	35.21	Pk	34.8	-27.1	.6	43.51	-	-	74	-30.49	360	100	H
5.805	23.14	Ca	34.8	-27.1	.6	31.44	54	-22.56	-	-	360	100	H
5.804	35.09	Pk	34.8	-27.1	.6	43.39	-	-	74	-30.61	360	100	V
5.804	23.02	Ca	34.8	-27.1	.6	31.32	54	-22.68	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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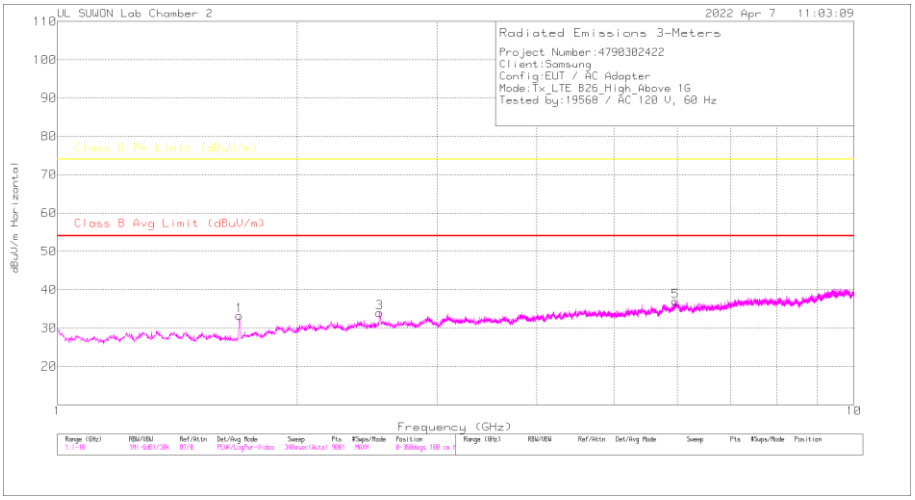
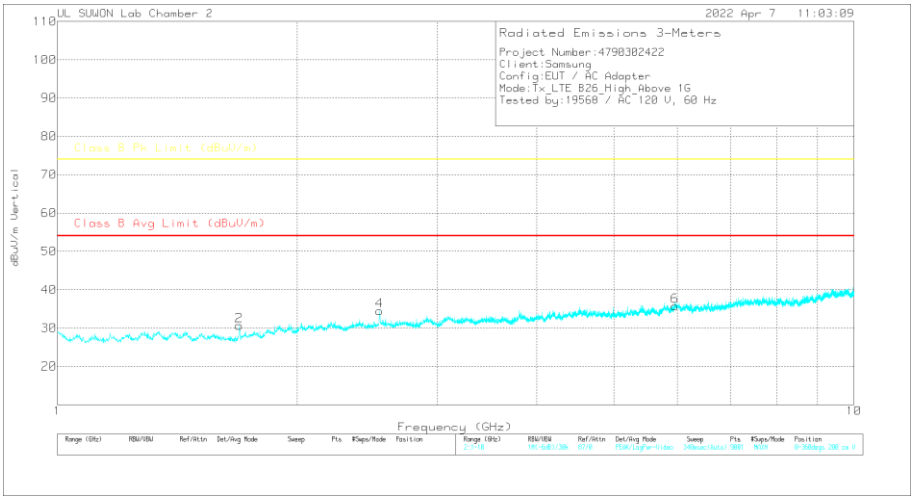
HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

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
1.693	40	Pk	28.7	-31.3	.8	38.2	-	-	74	-35.8	360	100	H
1.693	28.01	Ca	28.7	-31.3	.8	26.21	54	-27.79	-	-	360	100	H
1.692	37.39	Pk	28.7	-31.3	.8	35.59	-	-	74	-38.41	360	100	V
1.692	25.21	Ca	28.7	-31.3	.8	23.41	54	-30.59	-	-	360	100	V
2.539	38.05	Pk	32.1	-30.2	.7	40.65	-	-	74	-33.35	360	100	H
2.539	25.19	Ca	32.1	-30.2	.7	27.79	54	-26.21	-	-	360	100	H
2.54	36.8	Pk	32.1	-30.2	.7	39.4	-	-	74	-34.6	360	100	V
2.54	24.53	Ca	32.1	-30.2	.7	27.13	54	-26.87	-	-	360	100	V
5.968	35.84	Pk	35.1	-27.5	.6	44.04	-	-	74	-29.96	360	100	H
5.968	23.95	Ca	35.1	-27.5	.6	32.15	54	-21.85	-	-	360	100	H
5.962	35.74	Pk	35.1	-27.5	.5	43.84	-	-	74	-30.16	360	100	V
5.962	23.9	Ca	35.1	-27.5	.5	32	54	-22	-	-	360	100	V

Pk - Peak detector
Ca - CISPR average detection

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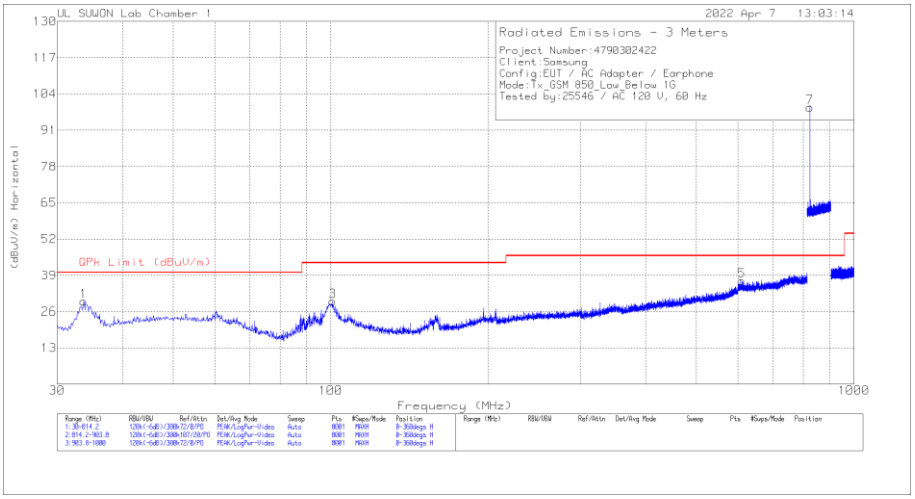
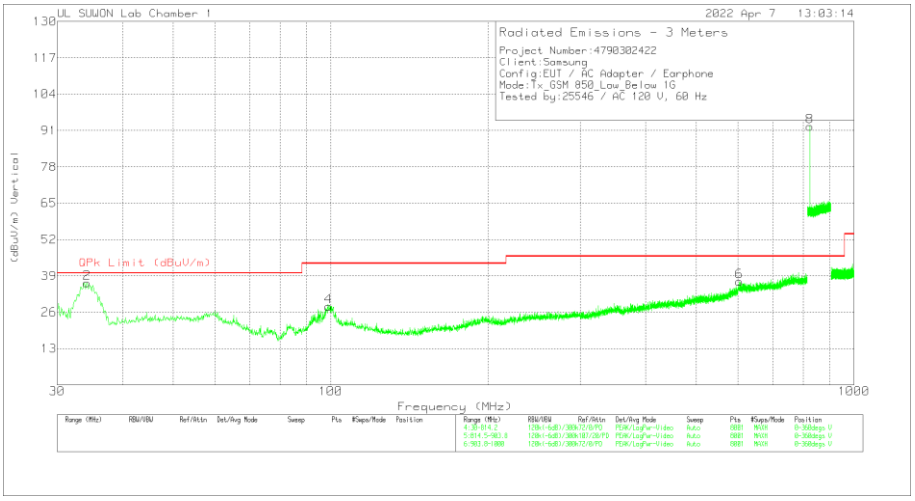
7.1.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.725	12.38	Pk	16.1	1.2	29.68	40	-10.32	0-360	200	H
3	100.7741	9.89	Pk	17.7	2.1	29.69	43.52	-13.83	0-360	200	H
5	610.7981	6.63	Pk	25.2	5.2	37.03	46.02	-8.99	0-360	100	H
7	824.2352	66.17	Pk	27.1	6	99.27	**46.02**	**53.25**	0-360	200	H
2	34.2151	18.99	Pk	16.3	1.2	36.49	40	-3.51	0-360	200	V
4	98.9116	8.59	Pk	17.4	2.1	28.09	43.52	-15.43	0-360	200	V
6	603.8384	6.7	Pk	25.2	5.1	37	46.02	-9.02	0-360	400	V
8	824.2788	59.29	Pk	27.1	6	92.39	**46.02**	**46.37**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
34.2151	16.65	Qp	16.3	1.2	34.15	40	-5.85	294	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.

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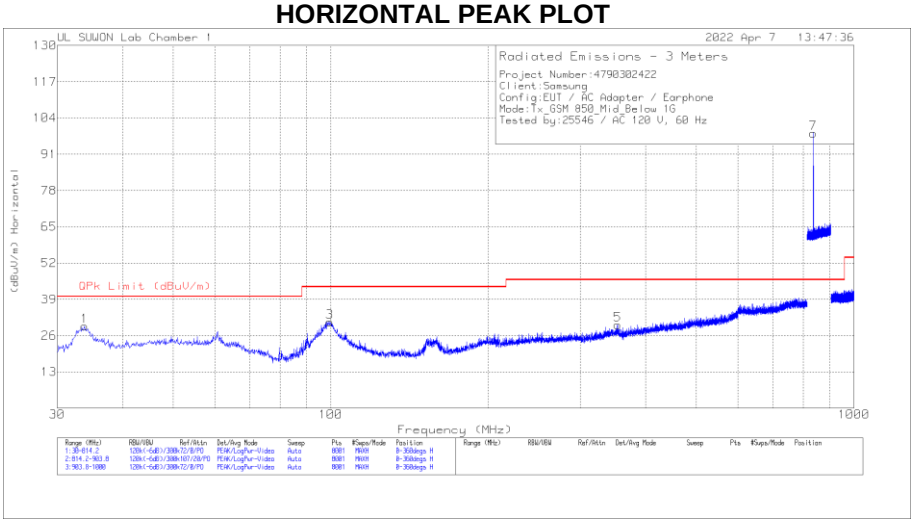
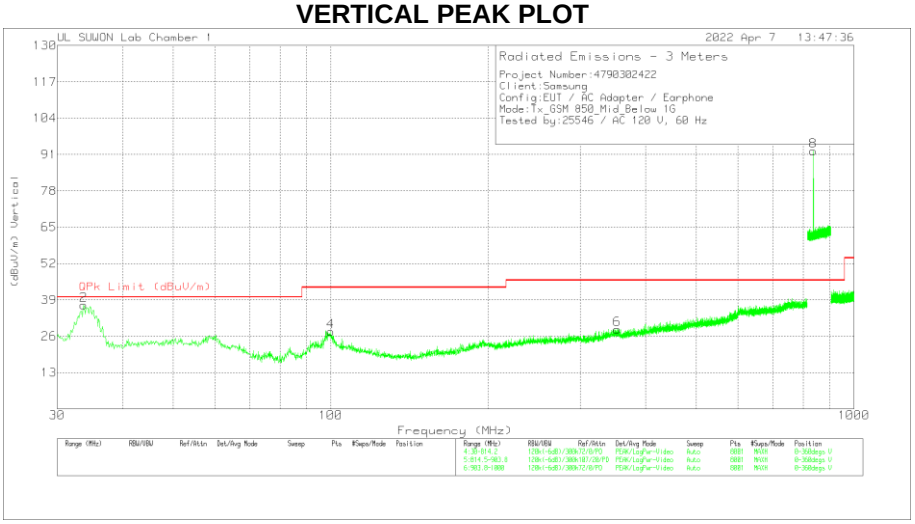
MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.823	12.22	Pk	16.1	1.1	29.42	40	-10.58	0-360	200	H
3	99.6958	11.45	Pk	17.5	2	30.95	43.52	-12.57	0-360	200	H
5	353.1884	5.11	Pk	20.9	3.9	29.91	46.02	-16.11	0-360	100	H
7	836.544	65.5	Pk	27.1	6	98.6	**46.02**	**52.58**	0-360	200	H
2	33.725	19.89	Pk	16.1	1.2	37.19	40	-2.81	0-360	200	V
4	100.0879	7.96	Pk	17.5	2.2	27.66	43.52	-15.86	0-360	200	V
6	353.0904	3.73	Pk	20.9	3.9	28.53	46.02	-17.49	0-360	400	V
8	836.6474	59.21	Pk	27.1	6	92.31	**46.02**	**46.29**	0-360	100	V

Pk - Peak detector

Radiated Emissions

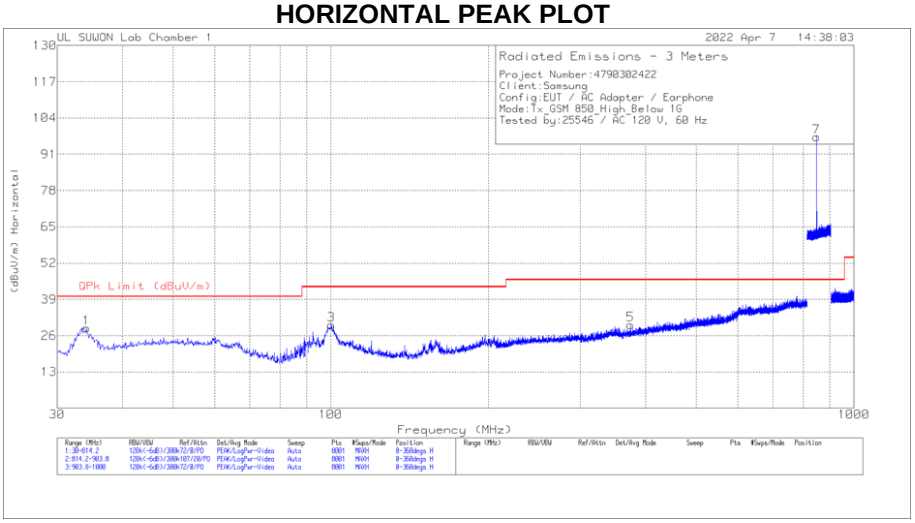
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
33.725	16.09	Qp	16.1	1.2	33.39	40	-6.61	300	101	V

Qp - Quasi-Peak detector

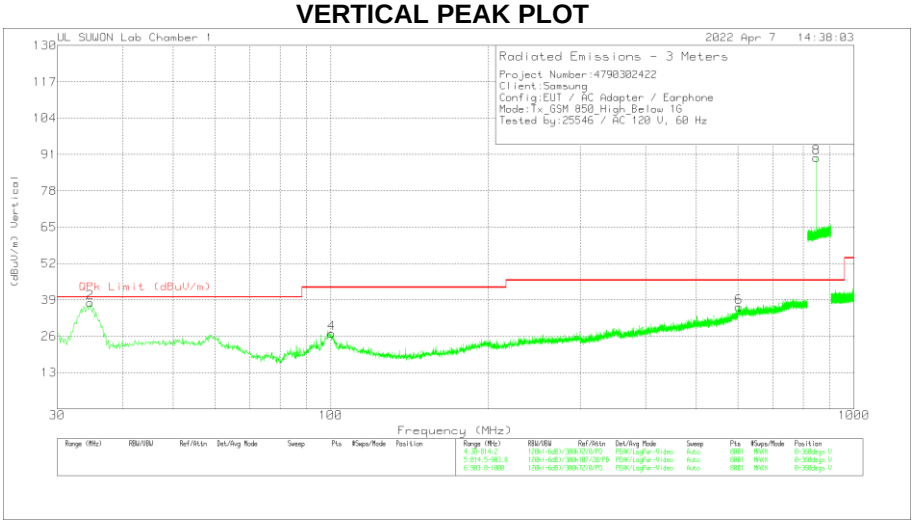
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	34.1171	11.2	Pk	16.2	1.3	28.7	40	-11.3	0-360	200	H
3	100.2839	10.15	Pk	17.6	2.1	29.85	43.52	-13.67	0-360	200	H
5	374.0678	4.97	Pk	20.9	4.1	29.97	46.02	-16.05	0-360	200	H
7	848.7632	63.73	Pk	27.4	6.1	97.23	**46.02**	**51.21**	0-360	200	H
2	34.7052	20.18	Pk	16.5	1.3	37.98	40	-2.02	0-360	200	V
4	100.48	7.32	Pk	17.6	2.1	27.02	43.52	-16.5	0-360	300	V
6	602.6621	6.27	Pk	25.2	5.1	36.57	46.02	-9.45	0-360	200	V
8	848.882	56.47	Pk	27.4	6	89.87	**46.02**	**43.85**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
34.7052	15.63	Qp	16.5	1.3	33.43	40	-6.57	298	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.

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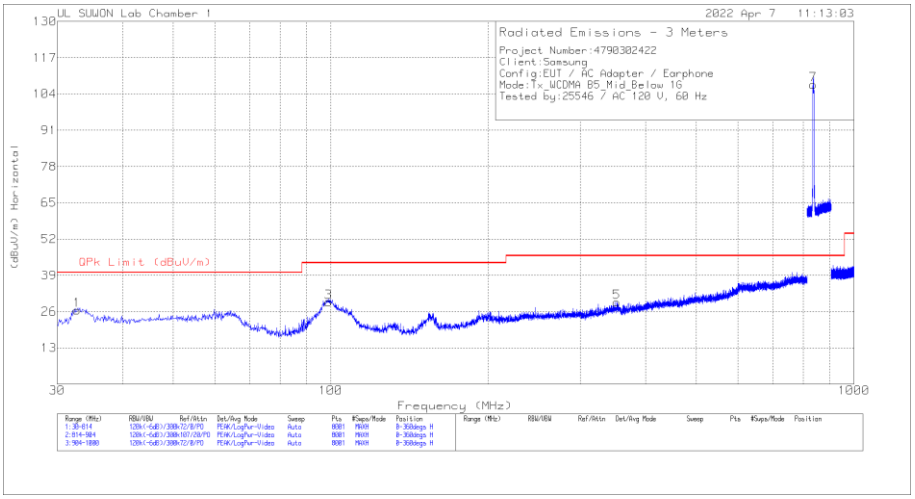
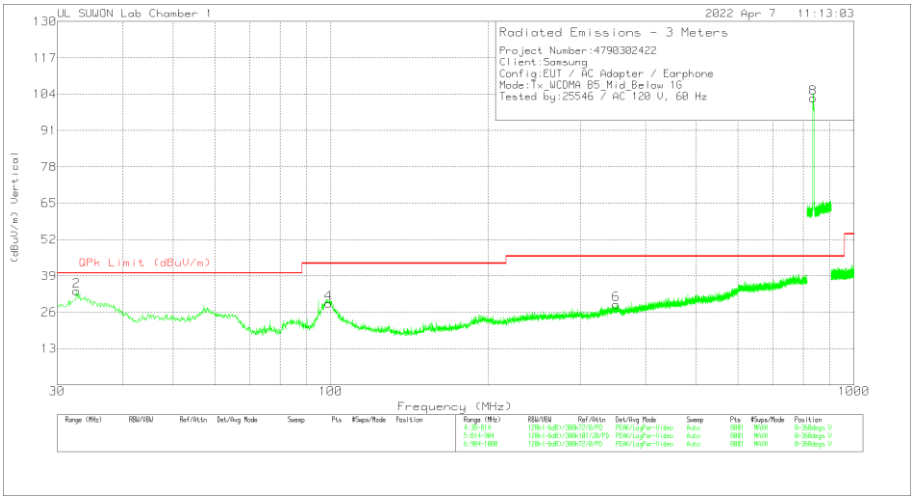
7.1.7. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	32.744	9.72	Pk	15.7	1.1	26.52	40	-13.48	0-360	100	H
3	98.894	9.89	Pk	17.4	2.1	29.39	43.52	-14.13	0-360	100	H
5	351.93	4.51	Pk	21	3.9	29.41	46.02	-16.61	0-360	100	H
7	836.41	74.24	Pk	27.1	6	107.34	**46.02**	**61.32**	0-360	200	H
2	32.646	16.78	Pk	15.7	1.2	33.68	40	-6.32	0-360	200	V
4	98.894	9.77	Pk	17.4	2.1	29.27	43.52	-14.25	0-360	200	V
6	351.538	4.01	Pk	21	3.9	28.91	46.02	-17.11	0-360	300	V
8	836.5675	69.48	Pk	27.1	6	102.58	**46.02**	**56.56**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
32.646	10.27	Qp	15.7	1.2	27.17	40	-12.83	285	146	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.

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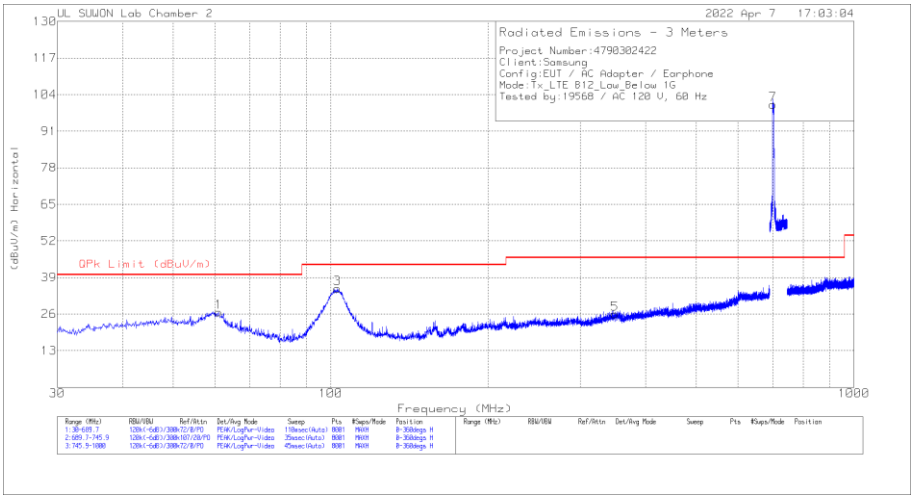
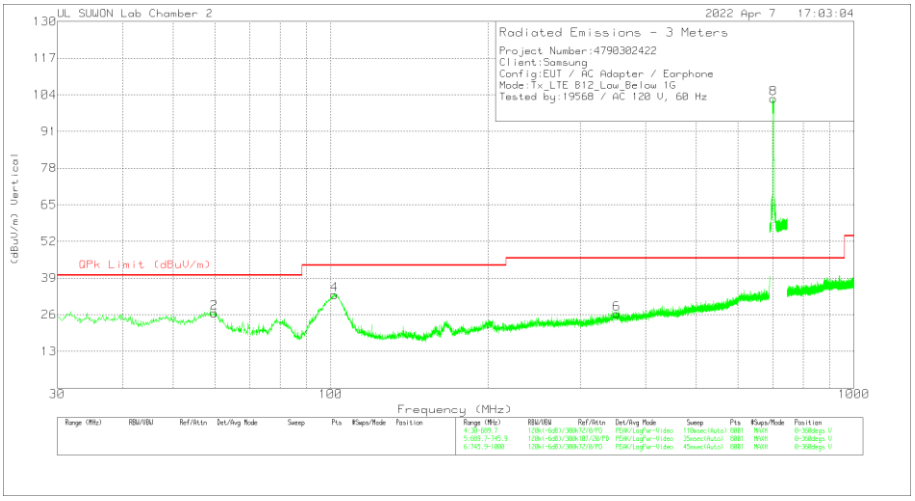
7.1.8. Below 1 GHz in the LTE Band 12

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	61.0886	7.49	Pk	18.3	.9	26.69	40	-13.31	0-360	300	H
3	102.9798	16.25	Pk	17.6	1.2	35.05	43.52	-8.47	0-360	200	H
5	349.1318	2.93	Pk	20.9	2.1	25.93	46.02	-20.09	0-360	100	H
7	700.083	71.99	Pk	25.4	3	100.39	**46.02**	**54.37**	0-360	200	H
2	59.8516	7.17	Pk	18.5	.9	26.57	40	-13.43	0-360	200	V
4	101.7428	14.45	Pk	17.5	1.1	33.05	43.52	-10.47	0-360	200	V
6	351.7706	3.18	Pk	21	2.1	26.28	46.02	-19.74	0-360	300	V
8	702.2818	74.3	Pk	25.4	3	102.7	**46.02**	**56.68**	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.

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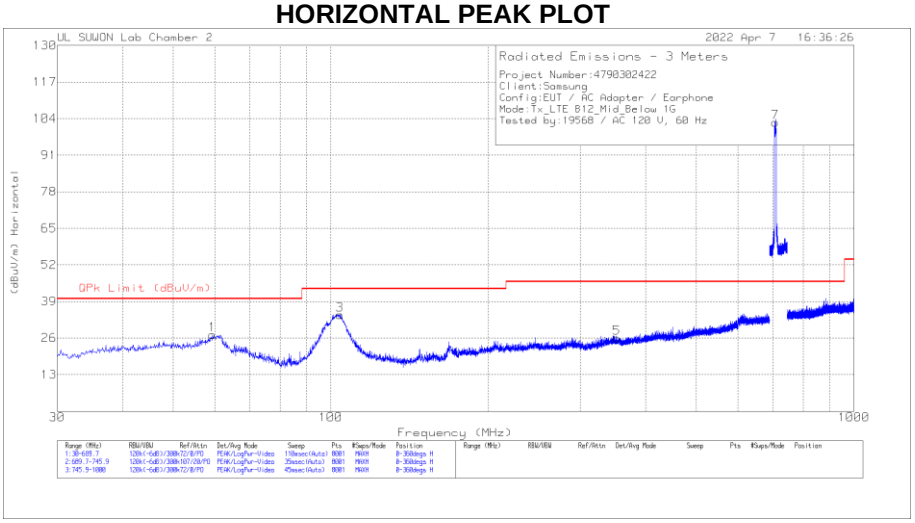
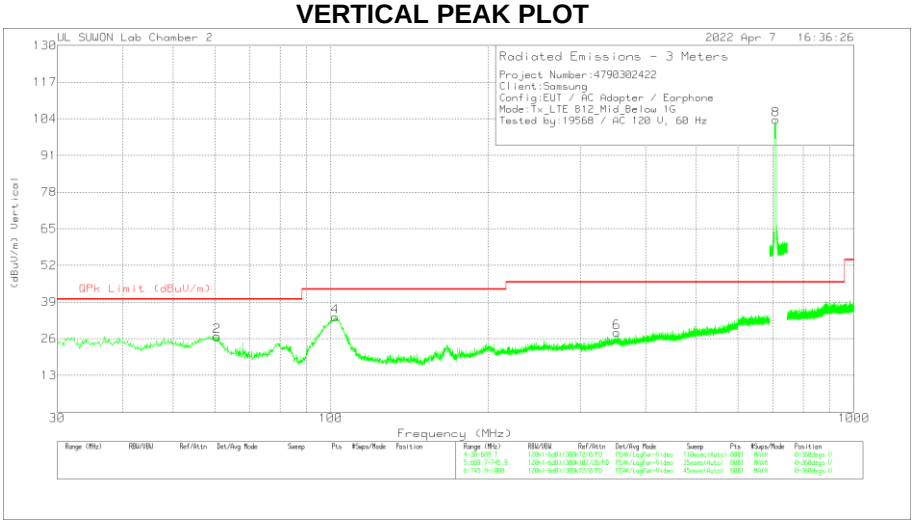
MID CHANNEL(737.5 MHz)

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	59.4393	7.62	Pk	18.6	.9	27.12	40	-12.88	0-360	200	H
3	103.9693	15.48	Pk	17.6	1.2	34.28	43.52	-9.24	0-360	200	H
5	352.2654	2.95	Pk	21	2.1	26.05	46.02	-19.97	0-360	300	H
7	708.0774	74.06	Pk	25.6	3	102.66	**46.02**	**56.64**	0-360	200	H
2	60.5938	7.44	Pk	18.4	.9	26.74	40	-13.26	0-360	400	V
4	101.9902	15.04	Pk	17.5	1.1	33.64	43.52	-9.88	0-360	200	V
6	352.1829	5.14	Pk	21	2.1	28.24	46.02	-17.78	0-360	200	V
8	708.6535	75.1	Pk	25.6	3	103.7	**46.02**	**57.68**	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.

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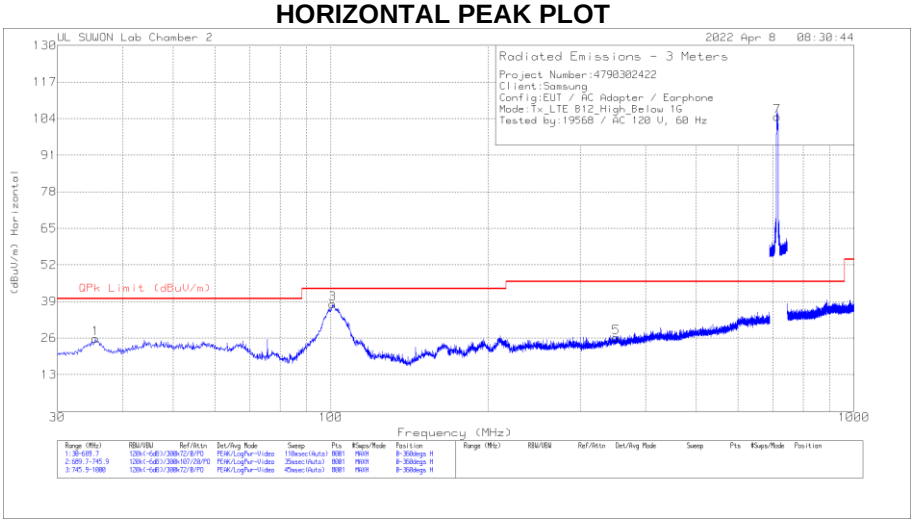
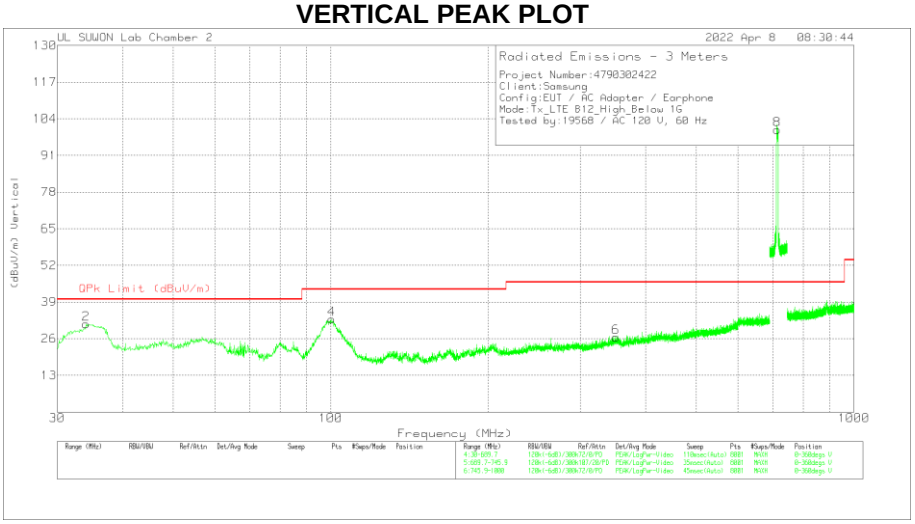
HIGH CHANNEL(744.5 MHz)

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	35.525	8.26	Pk	16.8	.7	25.76	40	-14.24	0-360	200	H
3	100.7533	19.44	Pk	17.5	1.1	38.04	43.52	-5.48	0-360	200	H
5	351.1109	3.08	Pk	21	2.1	26.18	46.02	-19.84	0-360	100	H
7	713.5358	76.01	Pk	25.6	3	104.61	**46.02**	**58.59**	0-360	200	H
2	34.0407	14.55	Pk	16	.7	31.25	40	-8.75	0-360	200	V
4	100.4234	14.38	Pk	17.4	1.1	32.88	43.52	-10.64	0-360	200	V
6	350.5337	3.42	Pk	21	2.1	26.52	46.02	-19.5	0-360	400	V
8	713.5288	71.55	Pk	25.6	3	100.15	**46.02**	**54.13**	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.

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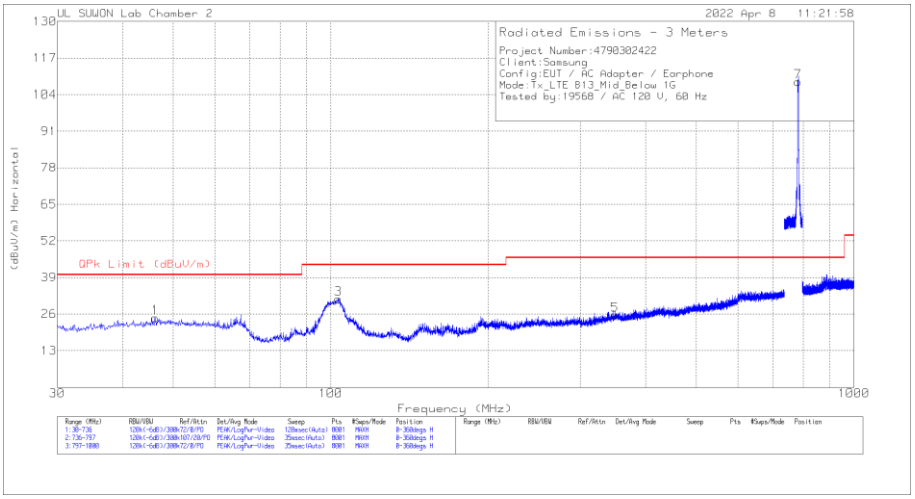
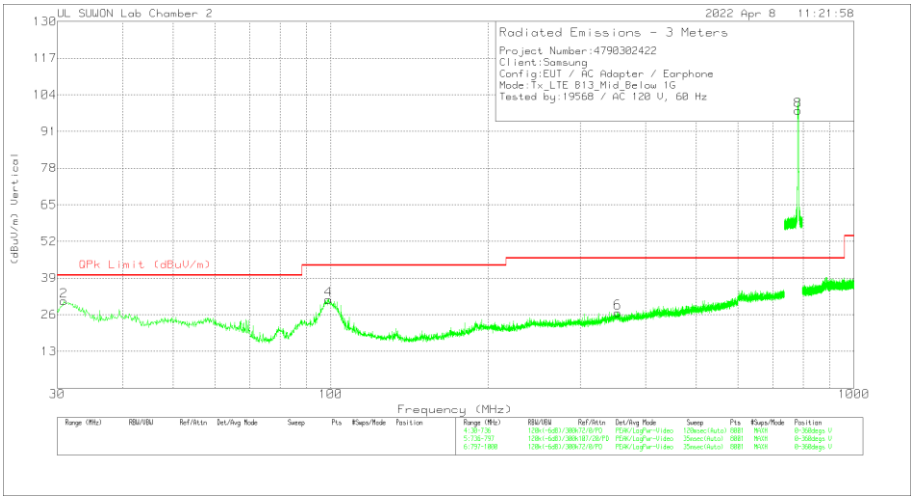
7.1.9. Below 1 GHz in the LTE Band 13

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	46.1498	4.21	Pk	19.7	.8	24.71	40	-15.29	0-360	200	H
3	103.424	12.55	Pk	17.6	1.2	31.35	43.52	-12.17	0-360	200	H
5	349.112	2.65	Pk	20.9	2.1	25.65	46.02	-20.37	0-360	100	H
7	782.0321	78.78	Pk	26.5	3.2	108.48	**46.02**	**62.46**	0-360	200	H
2	30.8825	14.91	Pk	15.4	.6	30.91	40	-9.09	0-360	200	V
4	99.0115	12.94	Pk	17.3	1.1	31.34	43.52	-12.18	0-360	200	V
6	353.2598	3.63	Pk	21	2.1	26.73	46.02	-19.29	0-360	400	V
8	782.0398	68.75	Pk	26.5	3.2	98.45	**46.02**	**52.43**	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.

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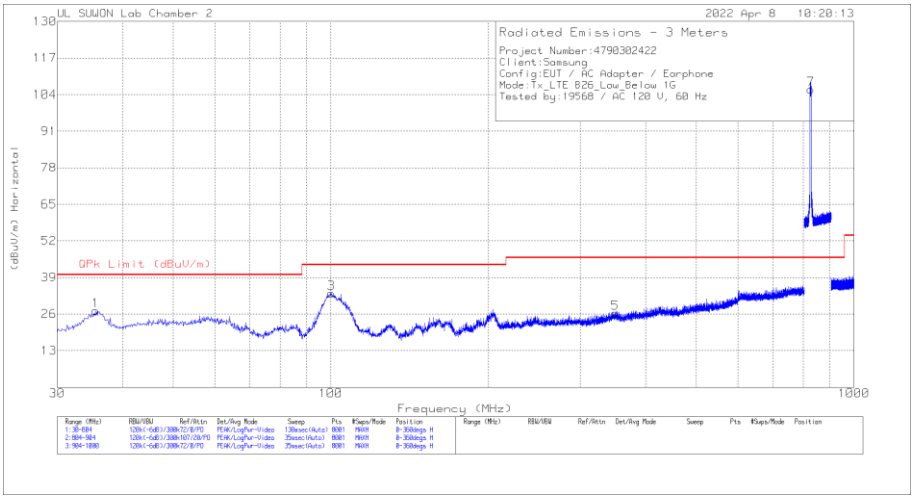
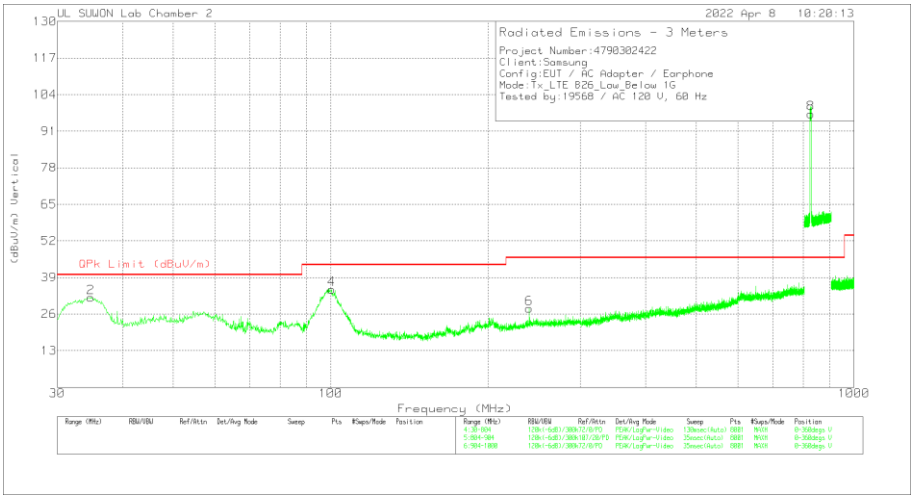
7.1.10.Below 1 GHz in the LTE Band 26

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	35.5148	9.68	Pk	16.8	.7	27.18	40	-12.82	0-360	200	H
3	100.2405	14.84	Pk	17.4	1.1	33.34	43.52	-10.18	0-360	200	H
5	349.8555	3.22	Pk	21	2.1	26.32	46.02	-19.7	0-360	100	H
7	826.5875	76	Pk	26.7	3.2	105.9	**46.02**	**59.88**	0-360	200	H
2	34.7408	14.82	Pk	16.4	.7	31.92	40	-8.08	0-360	200	V
4	100.3373	16.3	Pk	17.4	1.1	34.8	43.52	-8.72	0-360	200	V
6	239.6573	8.17	Pk	18.2	1.7	28.07	46.02	-17.95	0-360	400	V
8	826.6125	67.28	Pk	26.7	3.2	97.18	**46.02**	**51.16**	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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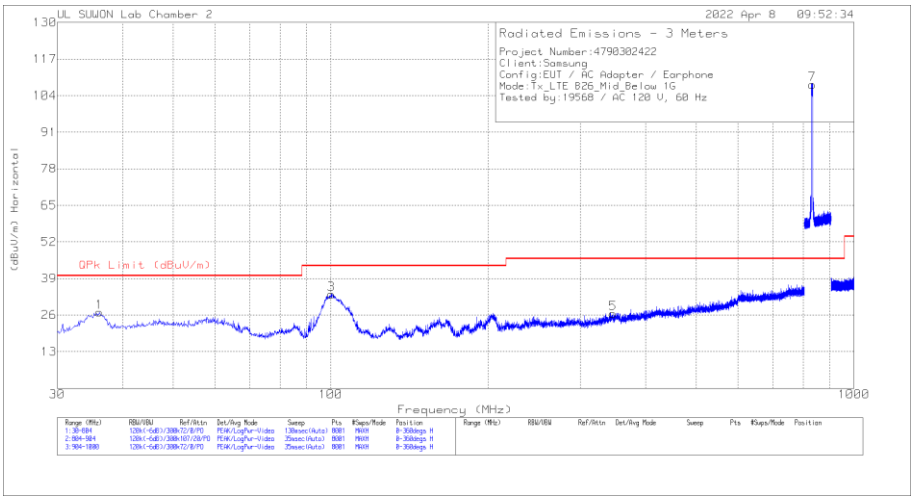
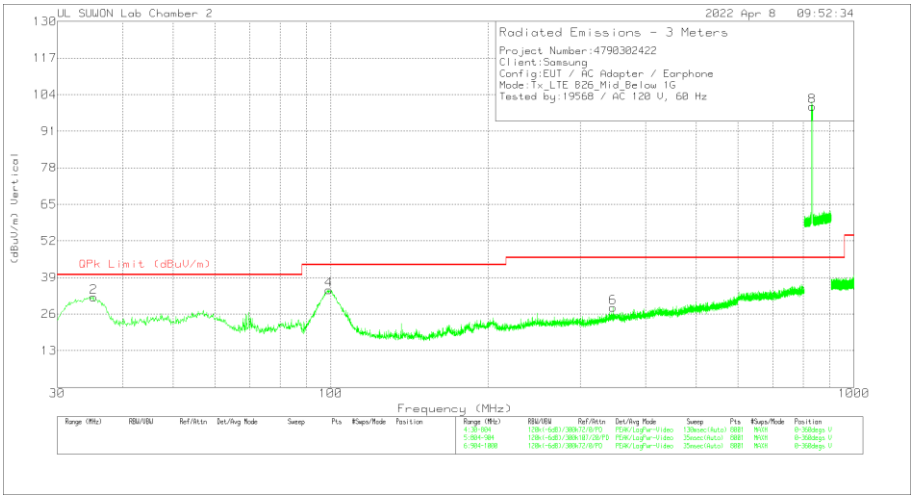
MID CHANNEL(876.5 MHz)

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	36.0953	9.35	Pk	17	.7	27.05	40	-12.95	0-360	300	H
3	100.1438	14.8	Pk	17.4	1.1	33.3	43.52	-10.22	0-360	100	H
5	346.3725	3.58	Pk	20.8	2.1	26.48	46.02	-19.54	0-360	100	H
7	831.5875	77.84	Pk	26.8	3.3	107.94	**46.02**	**61.92**	0-360	200	H
2	35.2245	14.72	Pk	16.6	.7	32.02	40	-7.98	0-360	200	V
4	99.273	16.15	Pk	17.3	1.1	34.55	43.52	-8.97	0-360	200	V
6	346.0823	5.36	Pk	20.8	2.1	28.26	46.02	-17.76	0-360	400	V
8	831.575	69.69	Pk	26.8	3.3	99.79	**46.02**	**53.77**	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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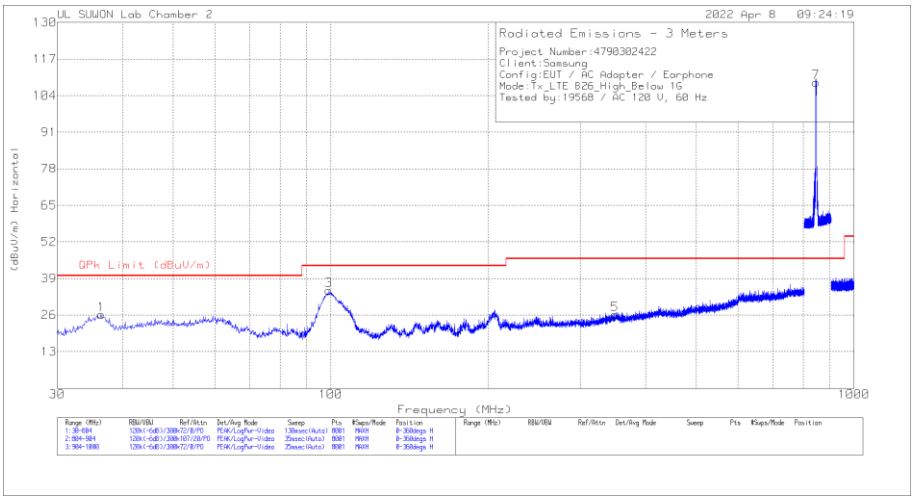
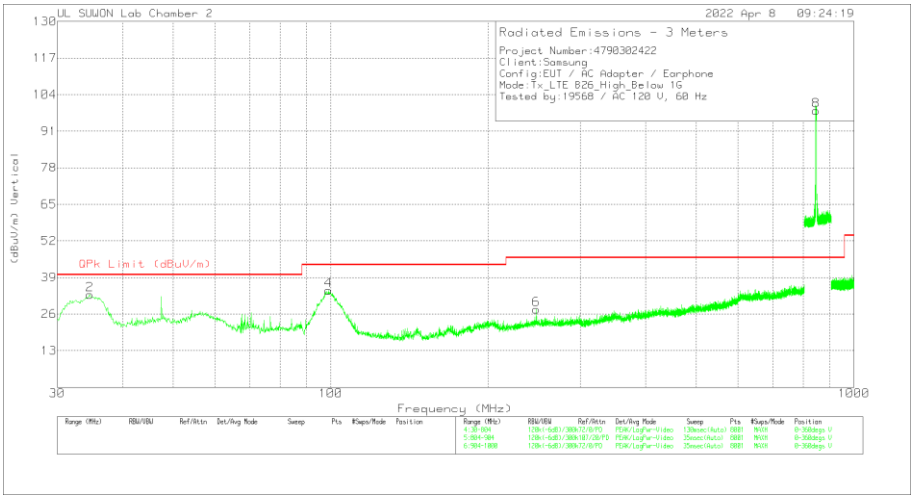
HIGH CHANNEL(892.5 MHz)

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	36.3855	8.23	Pk	17.2	.7	26.13	40	-13.87	0-360	200	H
3	99.273	16.34	Pk	17.3	1.1	34.74	43.52	-8.78	0-360	200	H
5	348.7913	3.15	Pk	20.9	2.1	26.15	46.02	-19.87	0-360	200	H
7	846.5375	78.16	Pk	27.2	3.3	108.66	**46.02**	**62.64**	0-360	200	H
2	34.644	15.86	Pk	16.3	.7	32.86	40	-7.14	0-360	100	V
4	98.9828	15.99	Pk	17.3	1.1	34.39	43.52	-9.13	0-360	100	V
6	247.2038	7.4	Pk	18.4	1.8	27.6	46.02	-18.42	0-360	100	V
8	846.4875	67.82	Pk	27.2	3.3	98.32	**46.02**	**52.3**	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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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 (MHz)	Limits (dBµV)	
	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.		

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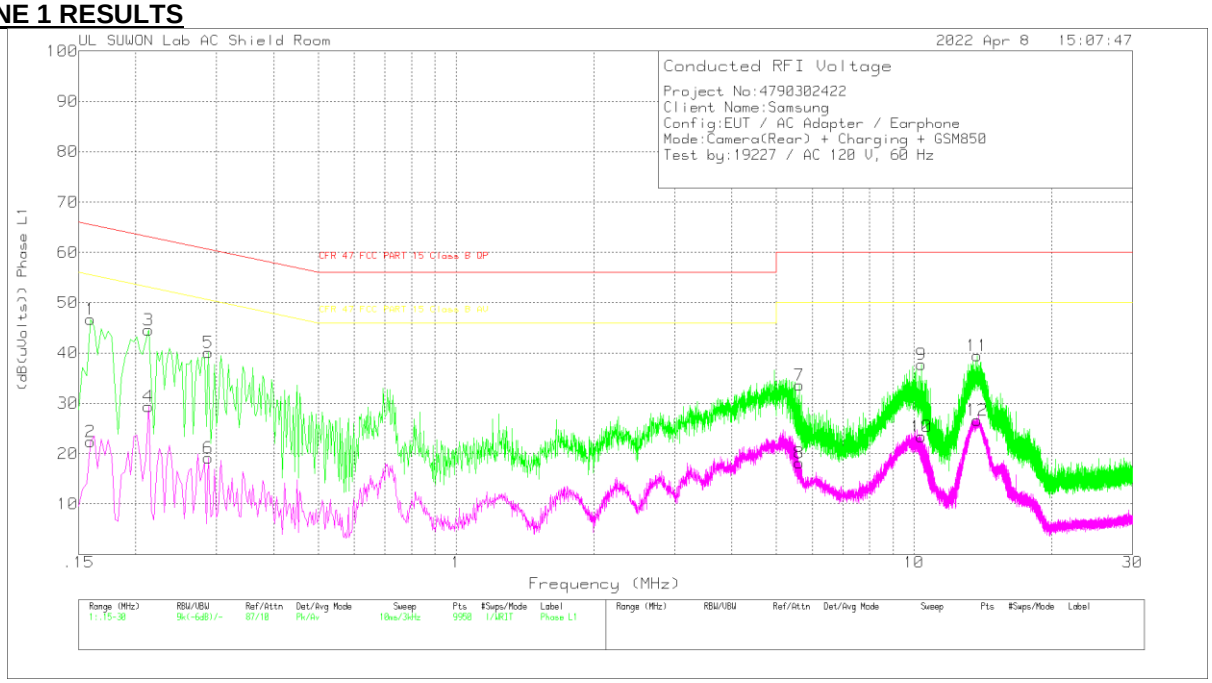
7.2.1 CONDUCTED EMISSIONS

1. USB A to C Cable

6 WORST EMISSIONS(GSM850 + Rear camera on)

Line-L1 .15 – 30 MHz

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.159	36.77	Pk	9.8	.1	46.67	65.52	-18.85	-	-
2	.159	12.48	Av	9.8	.1	22.38	-	-	55.52	-33.14
3	.213	34.63	Pk	9.8	.2	44.63	63.09	-18.46	-	-
4	.213	19.39	Av	9.8	.2	29.39	-	-	53.09	-23.7
5	.288	30.18	Pk	9.7	.2	40.08	60.58	-20.5	-	-
6	.288	9.28	Av	9.7	.2	19.18	-	-	50.58	-31.4
7	5.622	23.6	Pk	9.7	.3	33.6	60	-26.4	-	-
8	5.622	8.17	Av	9.7	.3	18.17	-	-	50	-31.83
9	10.368	27.37	Pk	9.9	.4	37.67	60	-22.33	-	-
10	10.368	13.04	Av	9.9	.4	23.34	-	-	50	-26.66
11	13.746	29.08	Pk	10	.4	39.48	60	-20.52	-	-
12	13.746	16.2	Av	10	.4	26.6	-	-	50	-23.4

Pk - Peak detector
Av - Average detection

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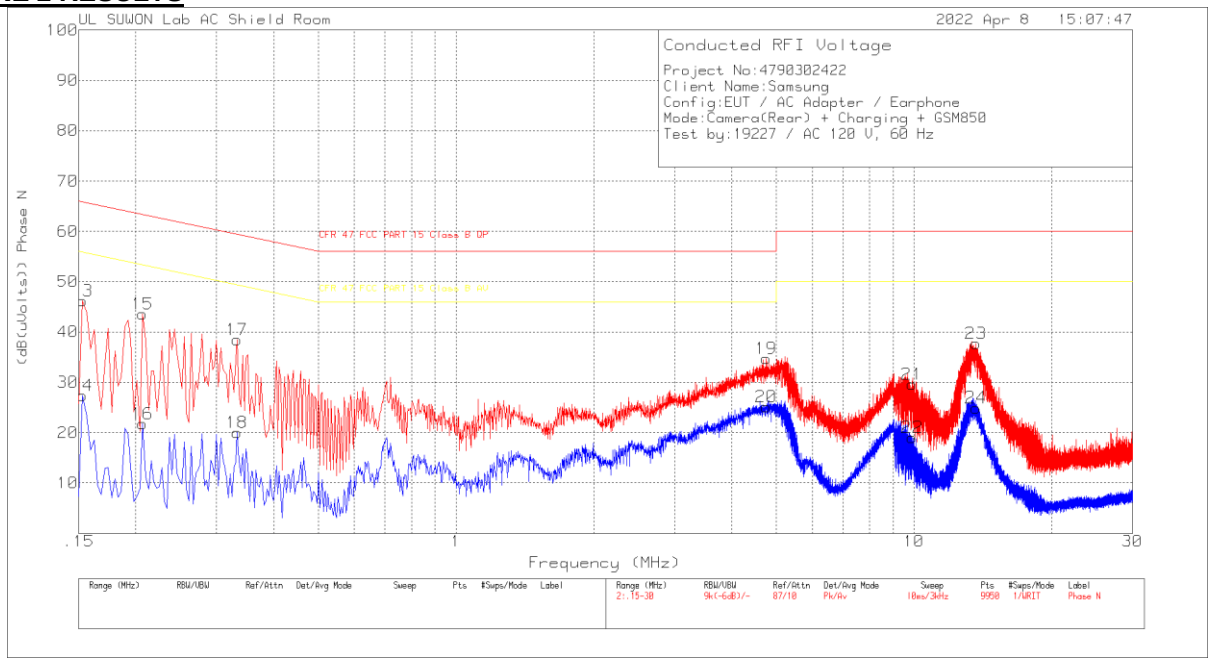
6 WORST EMISSIONS(GSM850 + Rear camera on)

Line-L2 .15 – 30 MHz

LINE 2 RESULTS



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.153	36.27	Pk	9.8	.1	46.17	65.84	-19.67	-	-
14	.153	17.42	Av	9.8	.1	27.32	-	-	55.84	-28.52
15	.207	33.58	Pk	9.8	.2	43.58	63.32	-19.74	-	-
16	.207	11.79	Av	9.8	.2	21.79	-	-	53.32	-31.53
17	.333	28.42	Pk	9.8	.2	38.42	59.38	-20.96	-	-
18	.333	10.06	Av	9.8	.2	20.06	-	-	49.38	-29.32
19	4.755	24.68	Pk	9.7	.3	34.68	56	-21.32	-	-
20	4.755	15.13	Av	9.7	.3	25.13	-	-	46	-20.87
21	9.918	19.35	Pk	9.9	.4	29.65	60	-30.35	-	-
22	9.918	8.74	Av	9.9	.4	19.04	-	-	50	-30.96
23	13.644	27.29	Pk	10	.4	37.69	60	-22.31	-	-
24	13.644	14.54	Av	10	.4	24.94	-	-	50	-25.06

Pk - Peak detector
Av - Average detection

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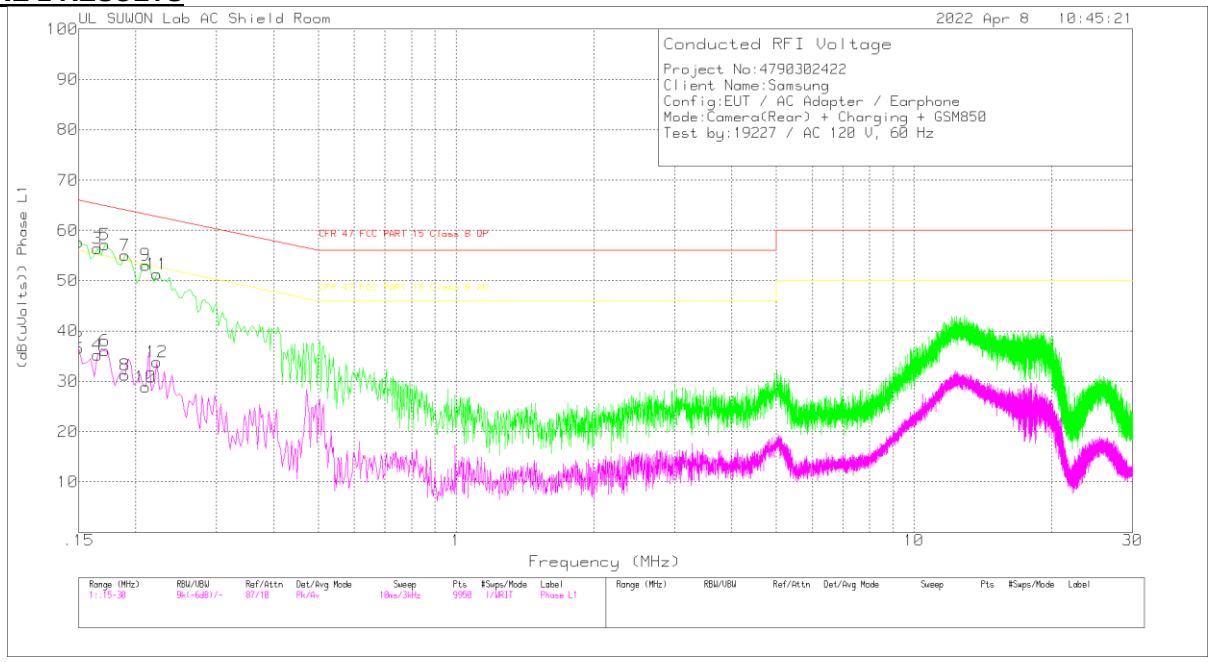
2. USB C to C Cable

6 WORST EMISSIONS(GSM850 + Rear camera on)

Line-L1 .15 – 30 MHz

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.15	47.83	Pk	9.7	.1	57.63	66	-8.37	-	-
2	.15	26.86	Av	9.7	.1	36.66	-	-	56	-19.34
3	.165	46.4	Pk	9.9	.1	56.4	65.21	-8.81	-	-
4	.165	25.18	Av	9.9	.1	35.18	-	-	55.21	-20.03
5	.171	46.96	Pk	10	.2	57.16	64.91	-7.75	-	-
6	.171	25.85	Av	10	.2	36.05	-	-	54.91	-18.86
7	.189	44.96	Pk	9.9	.2	55.06	64.08	-9.02	-	-
8	.189	21.15	Av	9.9	.2	31.25	-	-	54.08	-22.83
9	.21	43.11	Pk	9.8	.2	53.11	63.21	-10.1	-	-
10	.21	18.85	Av	9.8	.2	28.85	-	-	53.21	-24.36
11	.222	41.42	Pk	9.7	.2	51.32	62.74	-11.42	-	-
12	.222	23.99	Av	9.7	.2	33.89	-	-	52.74	-18.85

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
.15	42.54	Qp	9.7	.1	52.34	66	-13.66	-	-
.16575	40.17	Qp	9.9	.1	50.17	65.17	-15	-	-
.17025	40.36	Qp	10	.2	50.56	64.95	-14.39	-	-
.18975	38.28	Qp	9.9	.2	48.38	64.05	-15.67	-	-

Qp - Quasi-Peak detector

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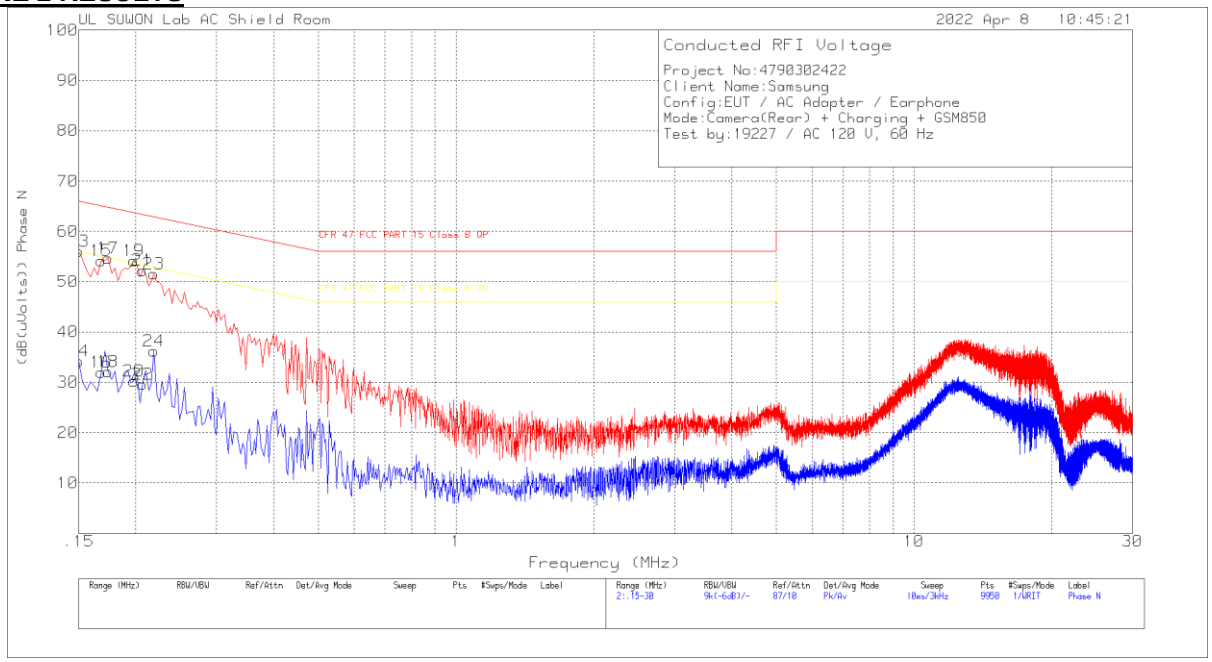
6 WORST EMISSIONS(GSM850 + Rear camera on)

Line-L2 .15 – 30 MHz

LINE 2 RESULTS



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.15	46.26	Pk	9.7	.1	56.06	66	-9.94	-	-
14	.15	24.37	Av	9.7	.1	34.17	-	-	56	-21.83
15	.168	44.04	Pk	10	.1	54.14	65.06	-10.92	-	-
16	.168	21.94	Av	10	.1	32.04	-	-	55.06	-23.02
17	.174	44.45	Pk	10	.2	54.65	64.77	-10.12	-	-
18	.174	21.87	Av	10	.2	32.07	-	-	54.77	-22.7
19	.198	44.18	Pk	9.8	.2	54.18	63.69	-9.51	-	-
20	.198	20.19	Av	9.8	.2	30.19	-	-	53.69	-23.5
21	.207	42.24	Pk	9.8	.2	52.24	63.32	-11.08	-	-
22	.207	19.62	Av	9.8	.2	29.62	-	-	53.32	-23.7
23	.219	41.53	Pk	9.8	.2	51.53	62.86	-11.33	-	-
24	.219	26.17	Av	9.8	.2	36.17	-	-	52.86	-16.69

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
.15	42.02	Qp	9.7	.1	51.82	66	-14.18	-	-
.19725	37.4	Qp	9.9	.2	47.5	63.73	-16.23	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT

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