CERTIFICATION TEST REPORT

Report Number. : 4790976580-E1V2

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SC-51E, SCG25
FCC ID	:	A3LSMS921JPN
EUT Description	:	GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC and WPT.
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART B

Date Of Issue:
2024-01-31

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	2024-01-19	Initial issue	Yeonhee Lim
V2	2024-01-31	Updated to address TCB's question	Yeonhee Lim

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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/ax, NFC and WPT
MODEL NUMBER:	SC-51E, SCG25
SERIAL NUMBER:	R3CWB0FGVYP, R3CWB0FGX1A, R3CWB0FGWVN, R3CWB0FGVLK, R3CWB0FGW7E (RADIATED)
DATE TESTED:	2023-12-15 ~ 2024-01-19;

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:

Steven(SangYun) Kim
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 47 CFR Part 2.
2. FCC 47 CFR 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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (Db/m) + Cable Loss (Db) – Preamp Gain (Db)
28.9 dBuV/m = 36.5 dBuV + 18.7 Db/m + 0.6 Db – 26.9 Db

Corrected Reading (dBuV) = Meter Reading (dBuV) + External Cable (Db) + Cableloss (Db)
46.62 dBuV + 9.8 Db + 0.1 Db = 56.52 dBuV

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	2.80 Db
Radiated Disturbance, 30 MHz to 1 GHz	3.92 Db
Radiated Disturbance, 1 GHz to 18 GHz	5.06 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 115:2021.

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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/ax, NFC and WPT. This test report addresses the WWAN Receiver mode.

Representative model	Difference	Derivative model
		SCG25
SC-51E	Hardware	Same as SC-51E
	Software	Different UI

The model SC-51E was used for final testing and is representative of the test results in this report.

5.2. TEST MODE

Mode	Description
GSM 850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	
LTE BAND 5	
LTE BAND 12	
LTE BAND 13	

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5.3. WORST-CASE ORIENTATION AND MODE

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

- **Worst Axis Condition**

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

5G NR Band n5
5G NR BAND n5 (Rx Frequncy range: 869-894 MHz) is covered by LTE B5(Rx Frequency range: 869-894 MHz) due to same frequency range and same maximum tune-up limit and same channel bandwidth.

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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	R37W61WENTASEA	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02117A	N/A

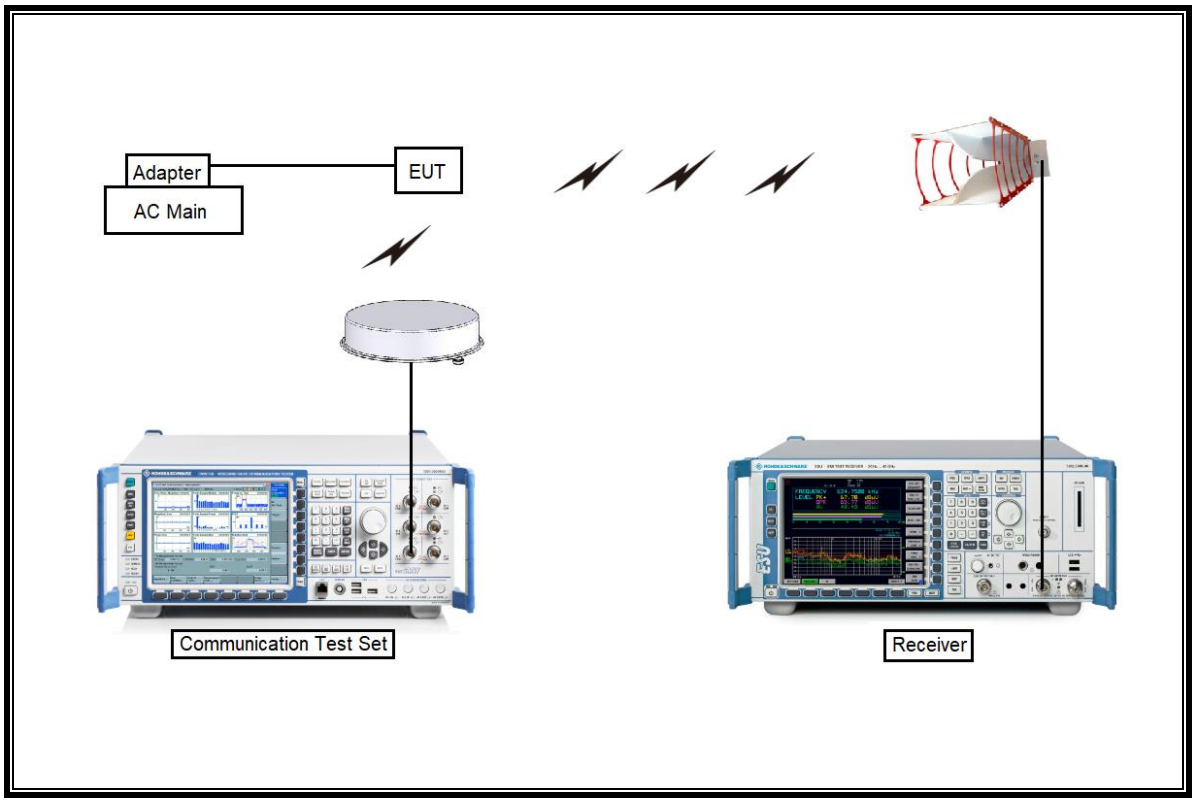
I/O CABLE

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. Also attached with travel adapter for the worst case condition.

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	2025-01-17
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2025-10-05
Preamplifier	ETS	3115-PA	00167475	2024-07-25
Preamplifier	ETS	3116C-PA	00168841	2024-07-25
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Communications Test Set	R&S	CMW500	169797	2024-07-23
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
Preamplifier, 1000 MHz	Sonoma	310N	341282	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	370599	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	351741	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2024-07-25
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2024-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2024-07-24
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2024-07-23
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2024-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2024-07-24
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2024-07-24
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2024-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2024-07-24
Attenuator	PASTERNACK	PE7087-10	A009	2024-07-24
Attenuator	PASTERNACK	PE7087-10	A001	2024-07-24
Attenuator	PASTERNACK	PE7087-10	A008	2024-07-27
Attenuator	PASTERNACK	PE7004-10	2	2024-07-23
Attenuator	PASTERNACK	PE7395-10	A011	2024-07-25
Power Supply	AGILENT	E3640A	MY54226391	2024-07-24
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2024-07-23
LISN	R&S	ENV-216	101836	2024-07-23
LISN	R&S	ENV-216	101837	2024-07-23
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
UL Software				
Description	**Manufacturer**	**Model**	**Version**	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4-2014

LIMIT

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

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (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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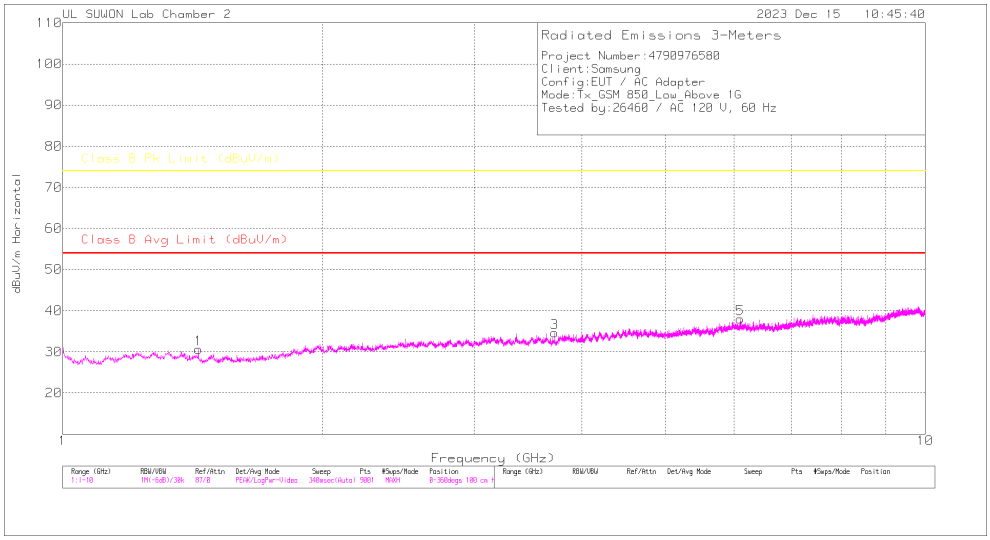
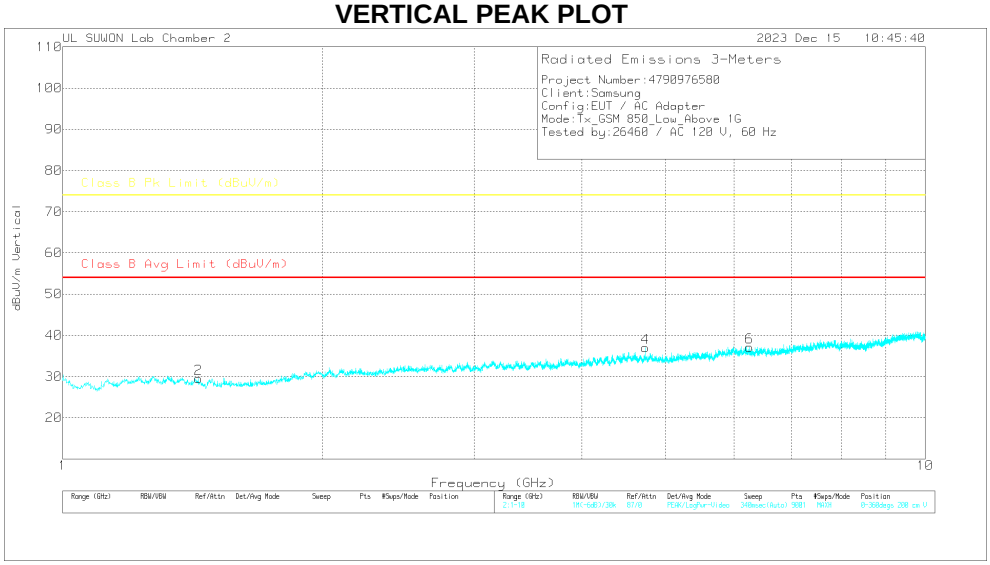
7.1.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

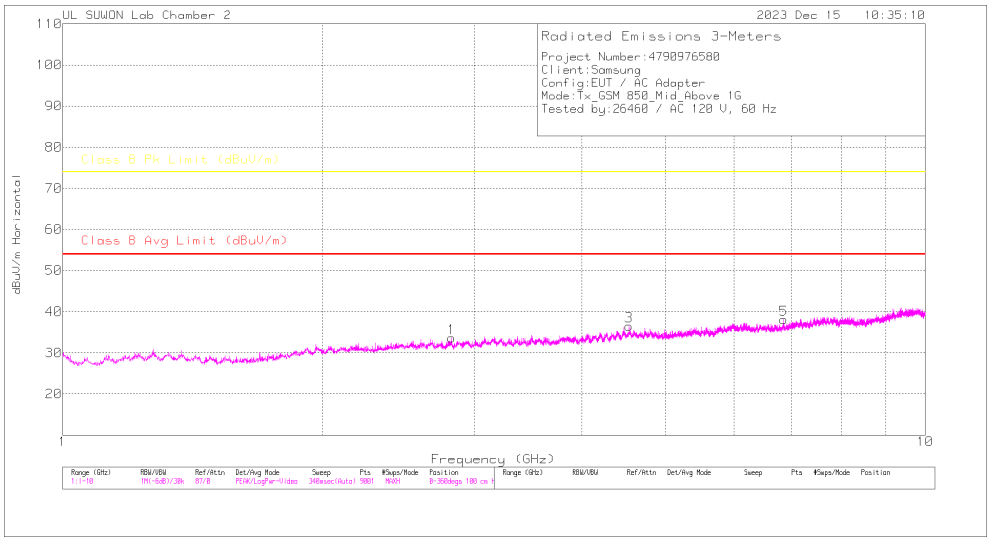
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
1.436	37.22	Pk	28.8	-30.6	.8	36.22	-	-	74	-37.78	0	100	H
1.436	25.57	Ca	28.8	-30.6	.8	24.57	54	-29.43	-	-	0	100	H
1.436	37.96	Pk	28.8	-30.6	.8	36.96	-	-	74	-37.04	0	100	V
1.436	25.6	Ca	28.8	-30.6	.8	24.6	54	-29.4	-	-	0	100	V
3.719	35.85	Pk	32.9	-28.4	.4	40.75	-	-	74	-33.25	0	100	H
3.719	23.99	Ca	32.9	-28.4	.4	28.89	54	-25.11	-	-	0	100	H
4.738	36.34	Pk	34	-27.5	.4	43.24	-	-	74	-30.76	0	100	V
4.738	23.98	Ca	34	-27.5	.4	30.88	54	-23.12	-	-	0	100	V
6.102	35.78	Pk	35.2	-25.8	.4	45.58	-	-	74	-28.42	0	100	H
6.102	23.29	Ca	35.2	-25.8	.4	33.09	54	-20.91	-	-	0	100	H
6.258	35.28	Pk	35.3	-26	.5	45.08	-	-	74	-28.92	0	100	V
6.258	23.08	Ca	35.3	-26	.5	32.88	54	-21.12	-	-	0	100	V

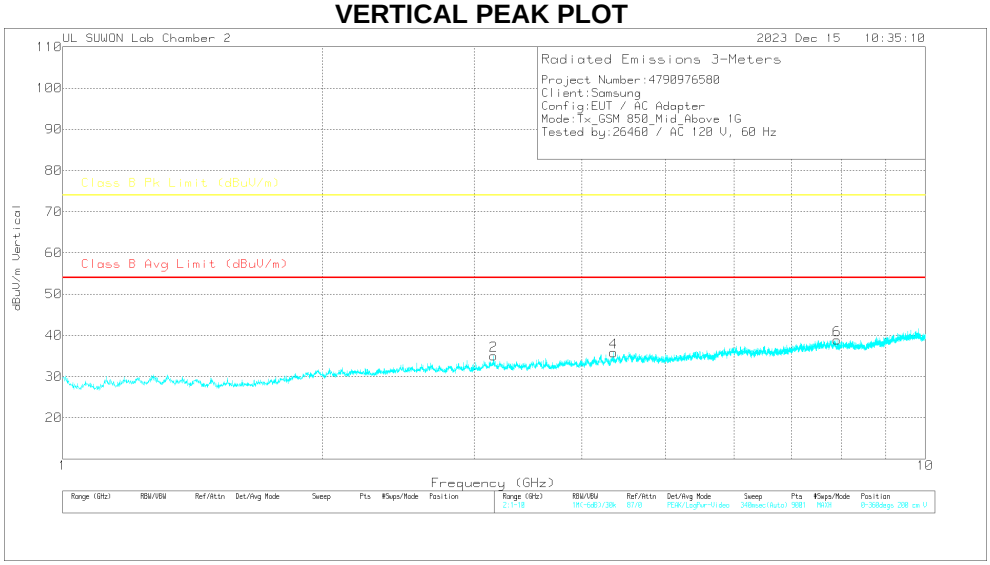
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

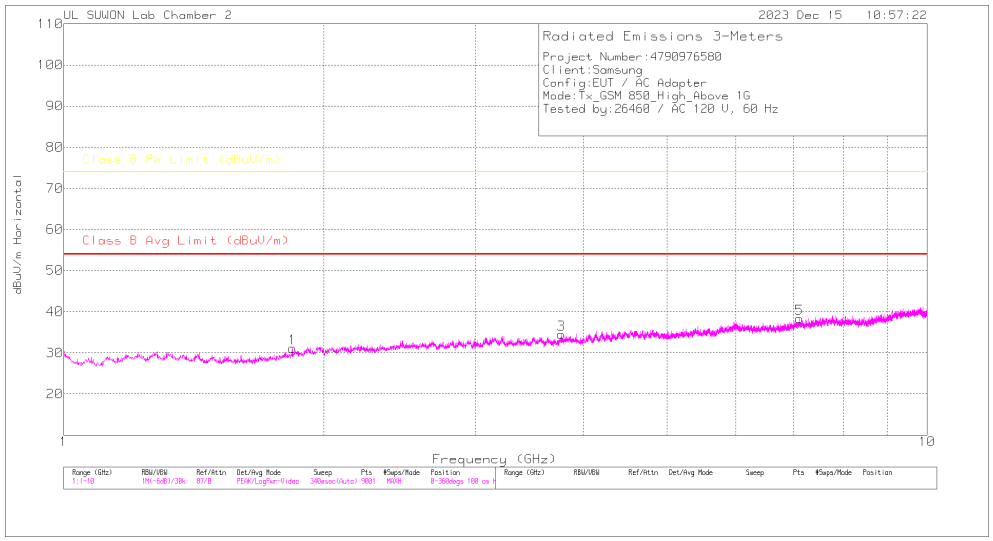
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
2.823	35.68	Pk	32	-28.6	.7	39.78	-	-	74	-34.22	0	100	H
2.823	23.66	Ca	32	-28.6	.7	27.76	54	-26.24	-	-	0	100	H
3.158	36.07	Pk	32.8	-28.5	.7	41.07	-	-	74	-32.93	0	100	V
3.158	23.96	Ca	32.8	-28.5	.7	28.96	54	-25.04	-	-	0	100	V
4.535	36.03	Pk	33.9	-27.4	.5	43.03	-	-	74	-30.97	0	100	H
4.535	24	Ca	33.9	-27.4	.5	31	54	-23	-	-	0	100	H
4.35	35.65	Pk	33.5	-27.7	.6	42.05	-	-	74	-31.95	0	100	V
4.35	24.06	Ca	33.5	-27.7	.6	30.46	54	-23.54	-	-	0	100	V
6.856	33.43	Pk	35.5	-24.7	.4	44.63	-	-	74	-29.37	0	100	H
6.856	21.79	Ca	35.5	-24.7	.4	32.99	54	-21.01	-	-	0	100	H
7.903	34.86	Pk	35.9	-23.9	.5	47.36	-	-	74	-26.64	0	100	V
7.903	21.99	Ca	35.9	-23.9	.5	34.49	54	-19.51	-	-	0	100	V

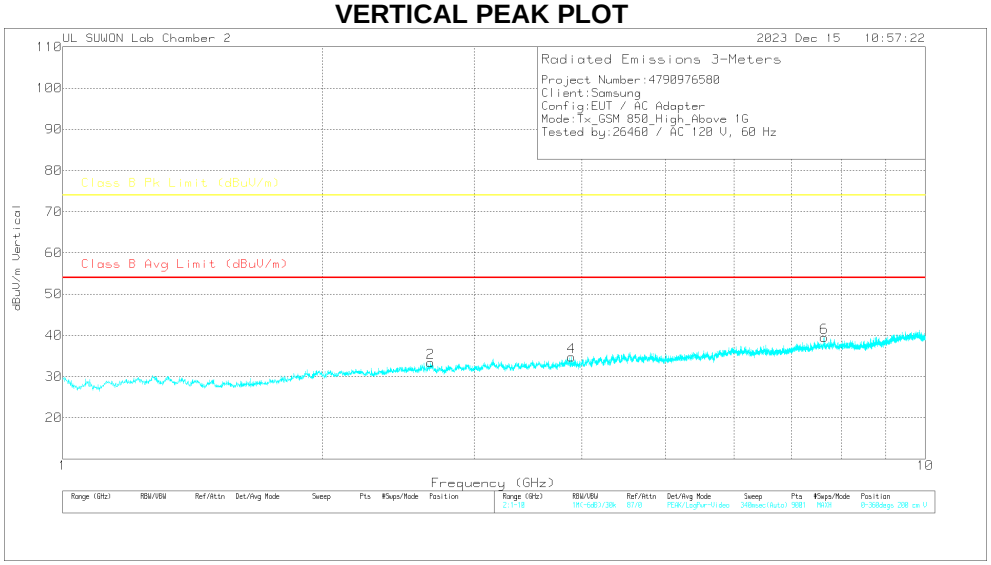
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

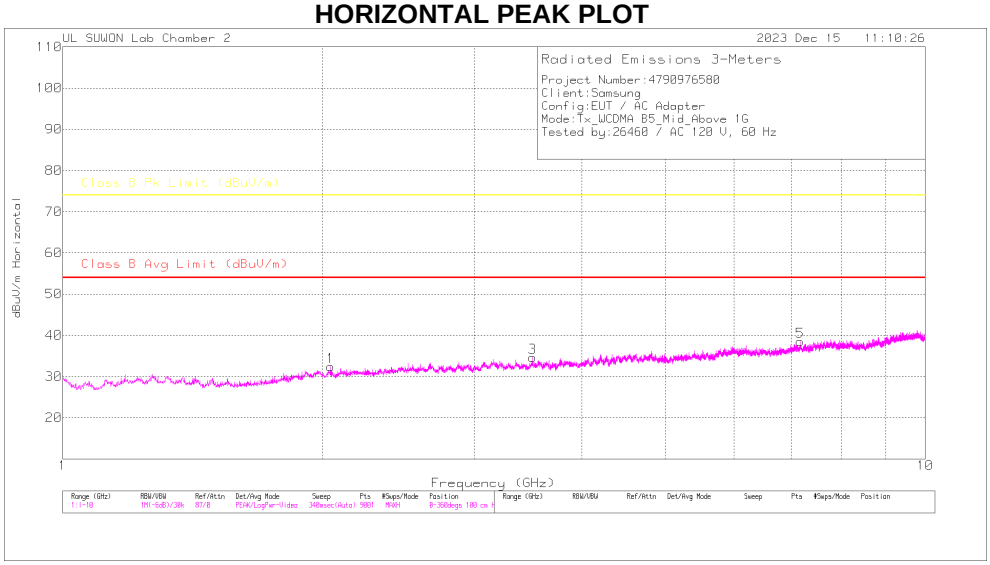
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.841	37.98	Pk	30.1	-30	.6	38.68	-	-	74	-35.32	0	100	H
1.841	24.74	Ca	30.1	-30	.6	25.44	54	-28.56	-	-	0	100	H
2.671	36.05	Pk	32.1	-29.1	.8	39.85	-	-	74	-34.15	0	100	V
2.671	24.26	Ca	32.1	-29.1	.8	28.06	54	-25.94	-	-	0	100	V
3.772	36.53	Pk	33	-28.2	.5	41.83	-	-	74	-32.17	0	100	H
3.772	24.15	Ca	33	-28.2	.5	29.45	54	-24.55	-	-	0	100	H
3.888	35.59	Pk	33.2	-28.2	.6	41.19	-	-	74	-32.81	0	100	V
3.888	23.59	Ca	33.2	-28.2	.6	29.19	54	-24.81	-	-	0	100	V
7.115	33.55	Pk	35.6	-24.1	.4	45.45	-	-	74	-28.55	0	100	H
7.115	21.74	Ca	35.6	-24.1	.4	33.64	54	-20.36	-	-	0	100	H
7.638	34.57	Pk	35.8	-23.9	.4	46.87	-	-	74	-27.13	0	100	V
7.638	22.15	Ca	35.8	-23.9	.4	34.45	54	-19.55	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

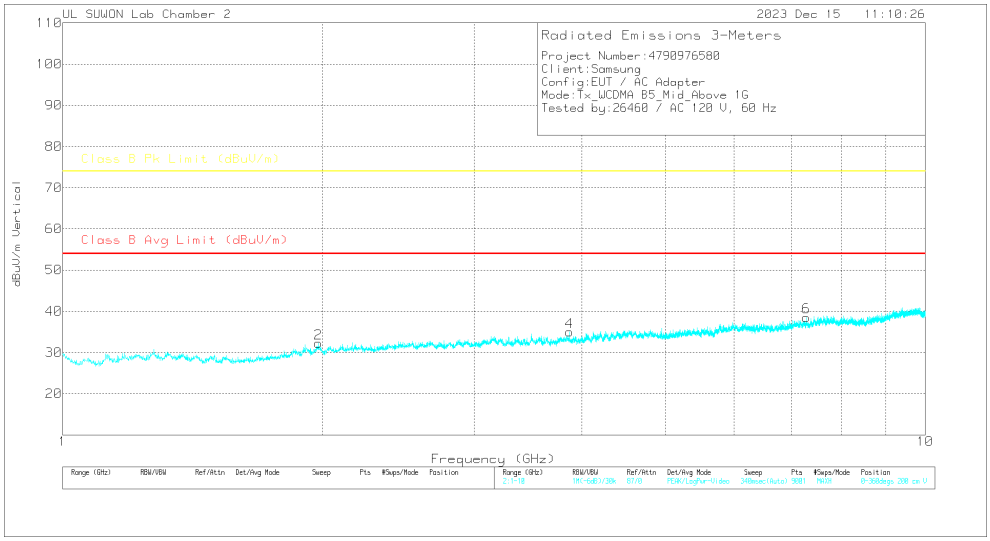
7.1.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

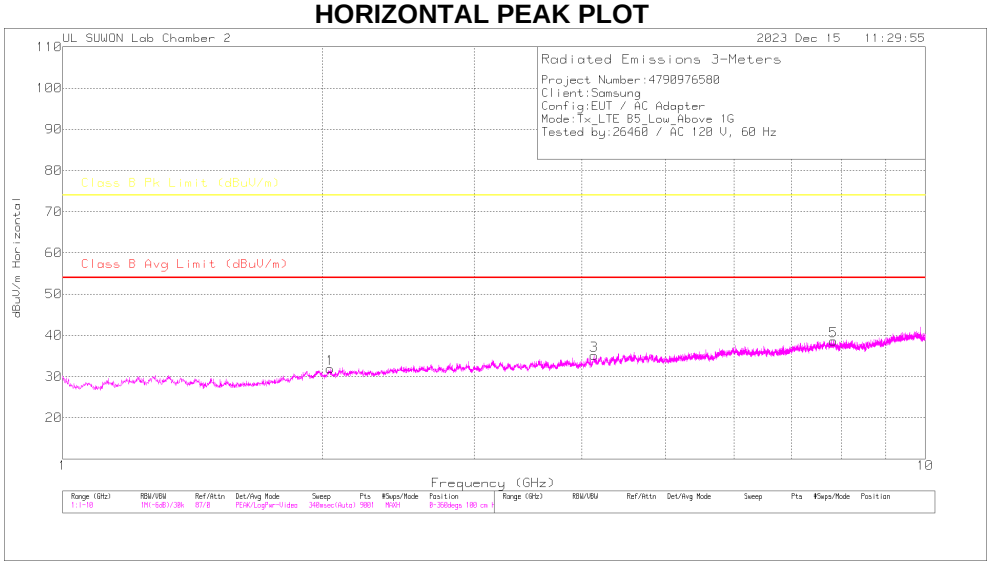
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.045	36.58	Pk	31.4	-29.7	.5	38.78	-	-	74	-35.22	0	100	H
2.045	24.61	Ca	31.4	-29.7	.5	26.81	54	-27.19	-	-	0	100	H
1.98	38.19	Pk	31.2	-29.9	.6	40.09	-	-	74	-33.91	0	100	V
1.98	25.01	Ca	31.2	-29.9	.6	26.91	54	-27.09	-	-	0	100	V
3.508	35.1	Pk	32.7	-27.8	.5	40.5	-	-	74	-33.5	0	100	H
3.508	23.38	Ca	32.7	-27.8	.5	28.78	54	-25.22	-	-	0	100	H
3.868	35.36	Pk	33.2	-28.1	.6	41.06	-	-	74	-32.94	0	100	V
3.868	23.8	Ca	33.2	-28.1	.6	29.5	54	-24.5	-	-	0	100	V
7.16	34.16	Pk	35.6	-24.3	.4	45.86	-	-	74	-28.14	0	100	H
7.16	22.05	Ca	35.6	-24.3	.4	33.75	54	-20.25	-	-	0	100	H
7.277	34.37	Pk	35.7	-24.9	.4	45.57	-	-	74	-28.43	0	100	V
7.277	22.42	Ca	35.7	-24.9	.4	33.62	54	-20.38	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

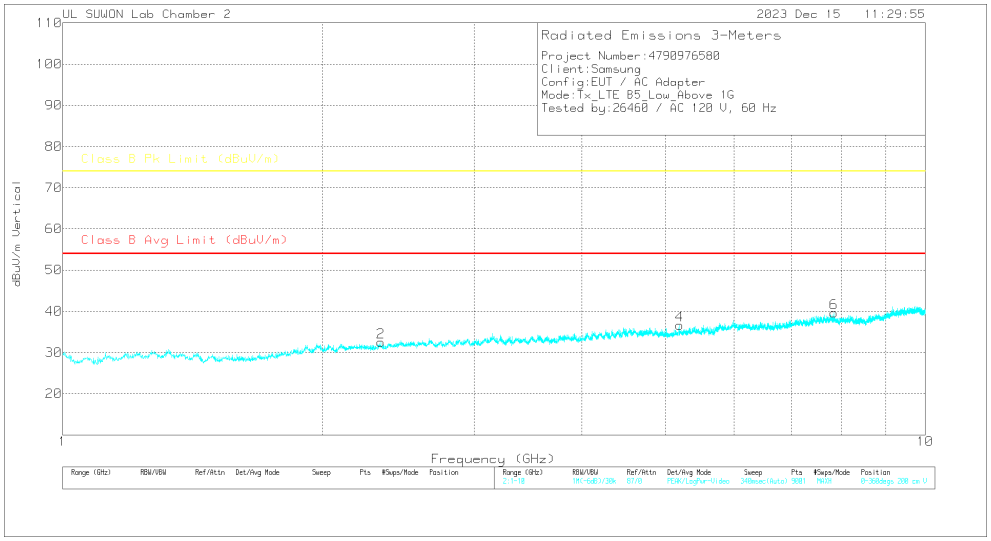
7.1.1. Above 1 GHz in the LTE Band 5

LOW CHANNEL(871.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

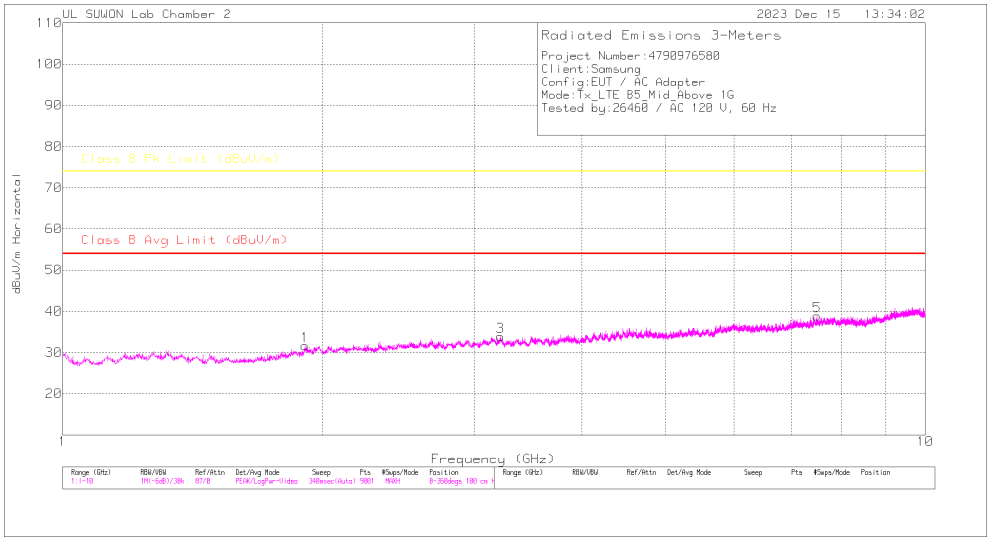
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
2.042	36.42	Pk	31.4	-29.7	.5	38.62	-	-	74	-35.38	0	100	H
2.042	24.6	Ca	31.4	-29.7	.5	26.8	54	-27.2	-	-	0	100	H
2.339	36.1	Pk	31.6	-29.5	.7	38.9	-	-	74	-35.1	0	100	V
2.339	24.15	Ca	31.6	-29.5	.7	26.95	54	-27.05	-	-	0	100	V
4.133	36.72	Pk	33.2	-27.3	.5	43.12	-	-	74	-30.88	0	100	H
4.133	24.04	Ca	33.2	-27.3	.5	30.44	54	-23.56	-	-	0	100	H
5.193	35.56	Pk	34.3	-26.5	.4	43.76	-	-	74	-30.24	0	100	V
5.193	22.97	Ca	34.3	-26.5	.4	31.17	54	-22.83	-	-	0	100	V
7.83	33.5	Pk	35.9	-23.4	.5	46.5	-	-	74	-27.5	0	100	H
7.83	21.54	Ca	35.9	-23.4	.5	34.54	54	-19.46	-	-	0	100	H
7.842	34.14	Pk	35.9	-23.5	.5	47.04	-	-	74	-26.96	0	100	V
7.842	21.76	Ca	35.9	-23.5	.5	34.66	54	-19.34	-	-	0	100	V

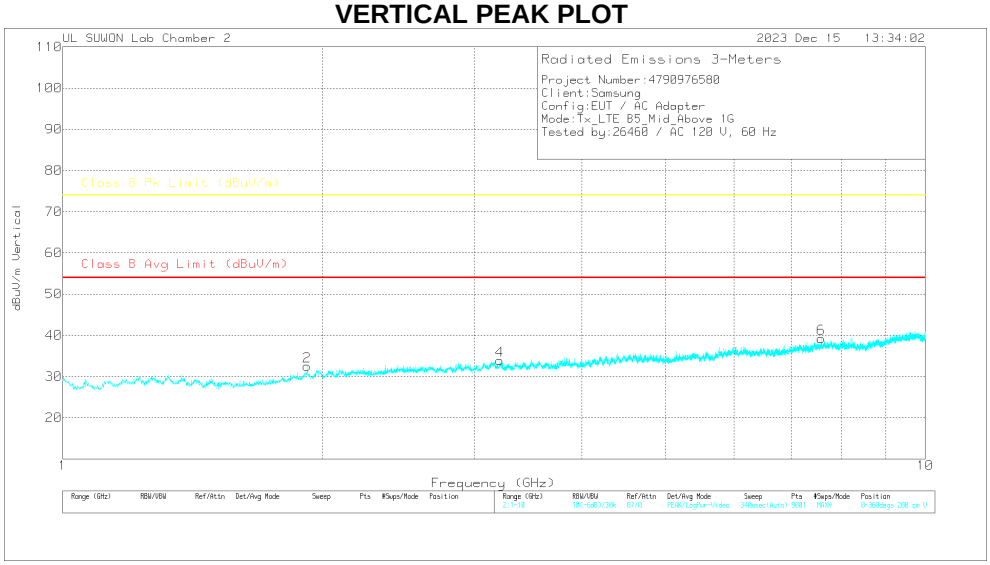
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(881.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

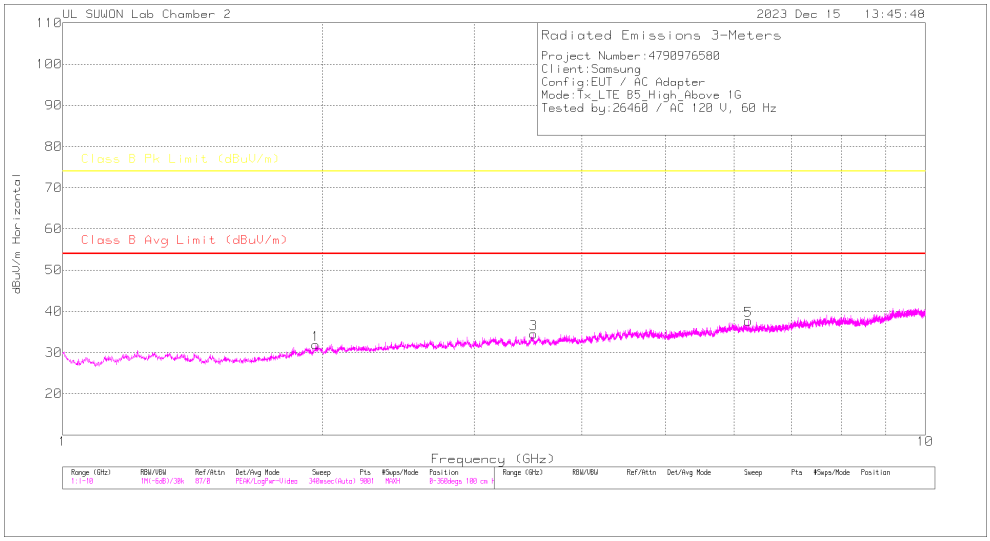
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
1.91	36.71	Pk	30.8	-29.9	.7	38.31	-	-	74	-35.69	0	100	H
1.91	24.83	Ca	30.8	-29.9	.7	26.43	54	-27.57	-	-	0	100	H
1.921	37.46	Pk	30.9	-29.9	.7	39.16	-	-	74	-34.84	0	100	V
1.921	24.92	Ca	30.9	-29.9	.7	26.62	54	-27.38	-	-	0	100	V
3.218	36.5	Pk	32.8	-28.5	.7	41.5	-	-	74	-32.5	0	100	H
3.218	23.76	Ca	32.8	-28.5	.7	28.76	54	-25.24	-	-	0	100	H
3.214	35.73	Pk	32.8	-28.6	.7	40.63	-	-	74	-33.37	0	100	V
3.214	23.74	Ca	32.8	-28.6	.7	28.64	54	-25.36	-	-	0	100	V
7.493	34.17	Pk	35.8	-23.8	.4	46.57	-	-	74	-27.43	0	100	H
7.493	21.82	Ca	35.8	-23.8	.4	34.22	54	-19.78	-	-	0	100	H
7.579	34.16	Pk	35.8	-24.2	.5	46.26	-	-	74	-27.74	0	100	V
7.579	22	Ca	35.8	-24.2	.5	34.1	54	-19.9	-	-	0	100	V

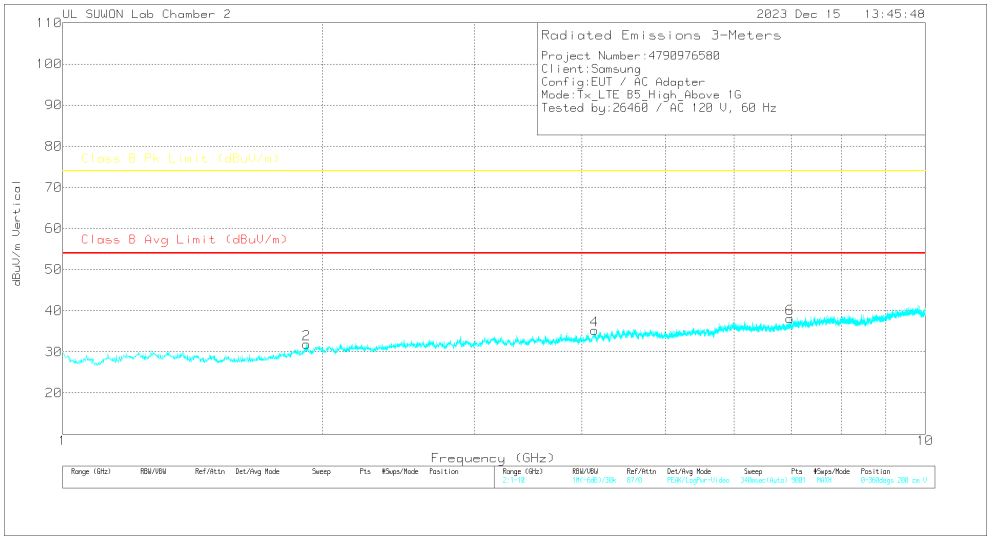
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(891.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

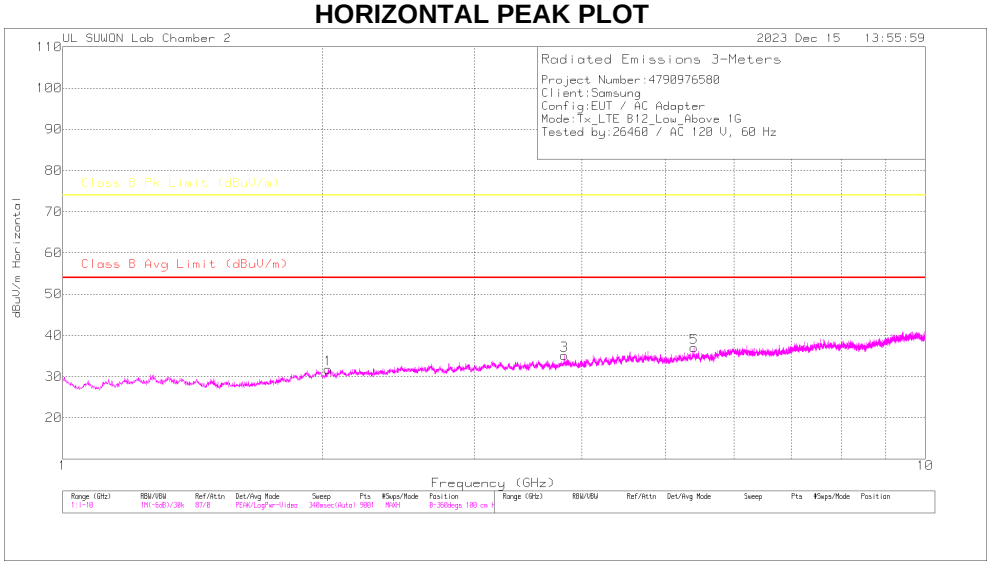
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.965	36.25	Pk	31.1	-29.9	.6	38.05	-	-	74	-35.95	0	100	H
1.965	24.58	Ca	31.1	-29.9	.6	26.38	54	-27.62	-	-	0	100	H
1.918	37.24	Pk	30.8	-29.9	.7	38.84	-	-	74	-35.16	0	100	V
1.918	24.95	Ca	30.8	-29.9	.7	26.55	54	-27.45	-	-	0	100	V
3.516	34.99	Pk	32.7	-27.9	.5	40.29	-	-	74	-33.71	0	100	H
3.516	23.09	Ca	32.7	-27.9	.5	28.39	54	-25.61	-	-	0	100	H
4.138	36.17	Pk	33.2	-27.2	.5	42.67	-	-	74	-31.33	0	100	V
4.138	23.96	Ca	33.2	-27.2	.5	30.46	54	-23.54	-	-	0	100	V
6.237	35.36	Pk	35.3	-25.8	.5	45.36	-	-	74	-28.64	0	100	H
6.237	22.95	Ca	35.3	-25.8	.5	32.95	54	-21.05	-	-	0	100	H
6.969	35.22	Pk	35.6	-25.2	.4	46.02	-	-	74	-27.98	0	100	V
6.969	22.17	Ca	35.6	-25.2	.4	32.97	54	-21.03	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

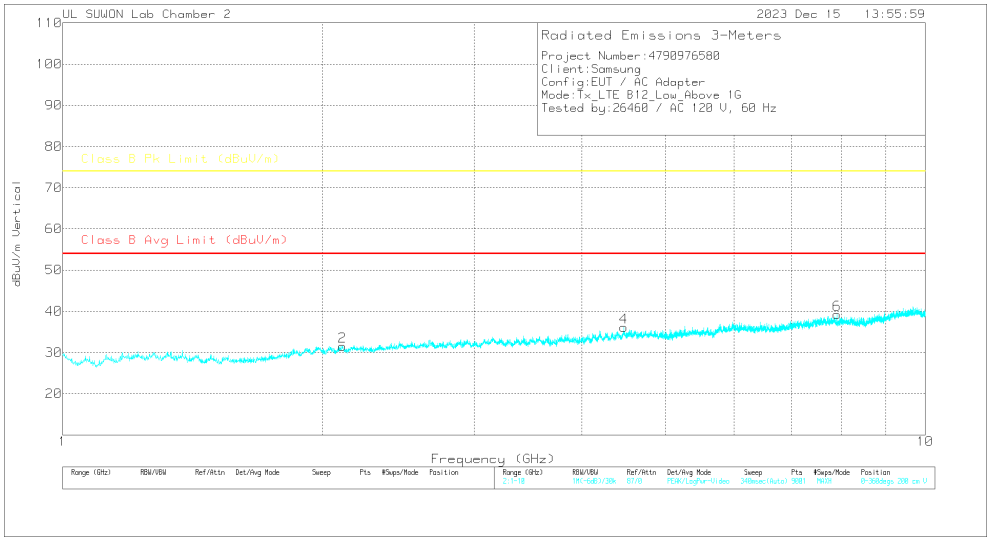
7.1.2. Above 1 GHz in the LTE Band 12

LOW CHANNEL(731.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

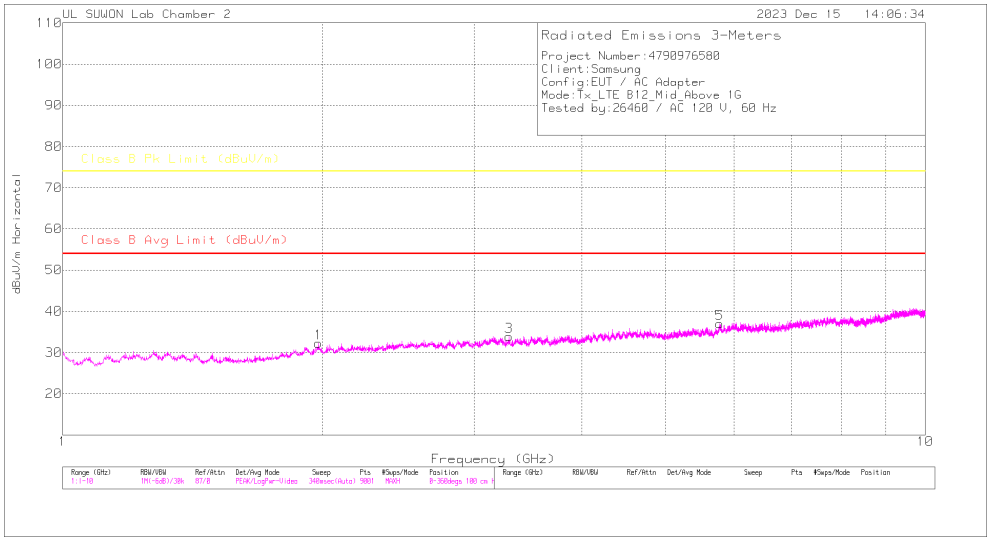
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
2.032	36.21	Pk	31.3	-29.8	.5	38.21	-	-	74	-35.79	0	100	H
2.032	24.61	Ca	31.3	-29.8	.5	26.61	54	-27.39	-	-	0	100	H
2.111	36.4	Pk	31.4	-29.4	.6	39	-	-	74	-35	0	100	V
2.111	24.2	Ca	31.4	-29.4	.6	26.8	54	-27.2	-	-	0	100	V
3.814	36.46	Pk	33.1	-28	.6	42.16	-	-	74	-31.84	0	100	H
3.814	23.71	Ca	33.1	-28	.6	29.41	54	-24.59	-	-	0	100	H
4.474	37.37	Pk	33.8	-27.3	.4	44.27	-	-	74	-29.73	0	100	V
4.474	24.34	Ca	33.8	-27.3	.4	31.24	54	-22.76	-	-	0	100	V
5.393	35.69	Pk	34.4	-26.8	.4	43.69	-	-	74	-30.31	0	100	H
5.393	23.47	Ca	34.4	-26.8	.4	31.47	54	-22.53	-	-	0	100	H
7.903	33.98	Pk	35.9	-23.9	.5	46.48	-	-	74	-27.52	0	100	V
7.903	21.92	Ca	35.9	-23.9	.5	34.42	54	-19.58	-	-	0	100	V

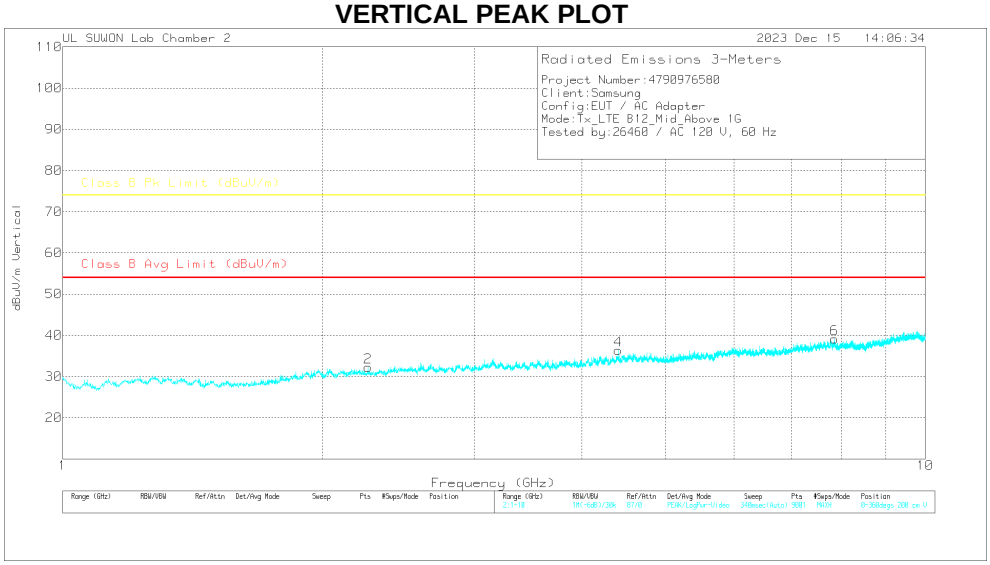
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

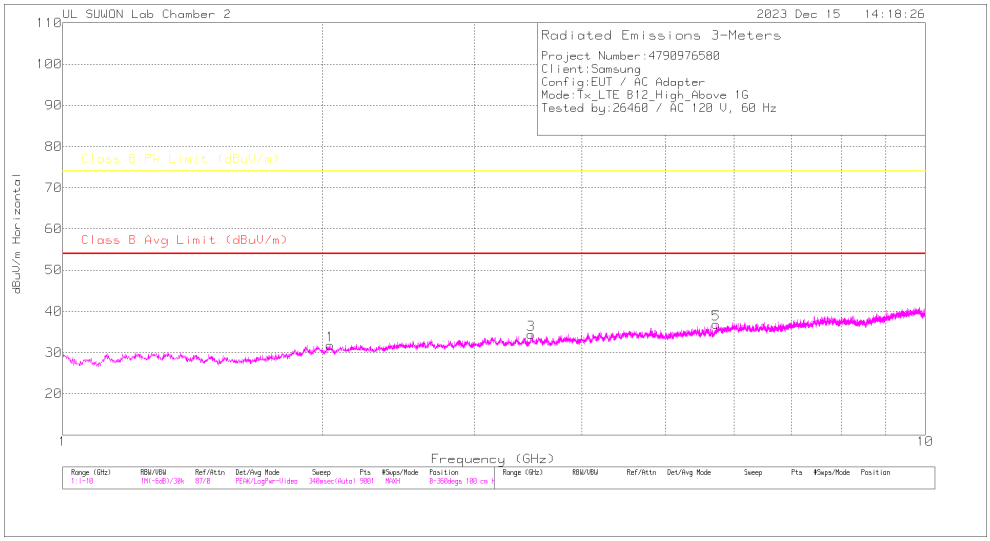
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
1.98	37.81	Pk	31.2	-29.9	.6	39.71	-	-	74	-34.29	0	100	H
1.98	24.99	Ca	31.2	-29.9	.6	26.89	54	-27.11	-	-	0	100	H
2.259	36.54	Pk	31.5	-29.6	.6	39.04	-	-	74	-34.96	0	100	V
2.259	24.09	Ca	31.5	-29.6	.6	26.59	54	-27.41	-	-	0	100	V
3.292	35.61	Pk	32.7	-28.7	.6	40.21	-	-	74	-33.79	0	100	H
3.292	23.86	Ca	32.7	-28.7	.6	28.46	54	-25.54	-	-	0	100	H
4.405	36.33	Pk	33.6	-27.4	.4	42.93	-	-	74	-31.07	0	100	V
4.405	24.2	Ca	33.6	-27.4	.4	30.8	54	-23.2	-	-	0	100	V
5.775	34.87	Pk	34.6	-25.9	.5	44.07	-	-	74	-29.93	0	100	H
5.775	23.07	Ca	34.6	-25.9	.5	32.27	54	-21.73	-	-	0	100	H
7.844	34.28	Pk	35.9	-23.5	.5	47.18	-	-	74	-26.82	0	100	V
7.844	21.76	Ca	35.9	-23.5	.5	34.66	54	-19.34	-	-	0	100	V

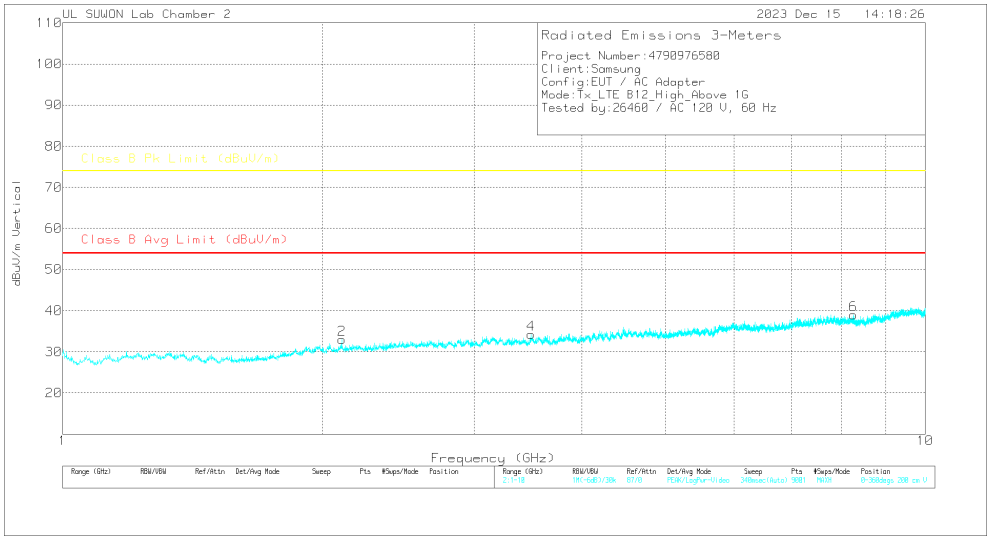
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(743.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

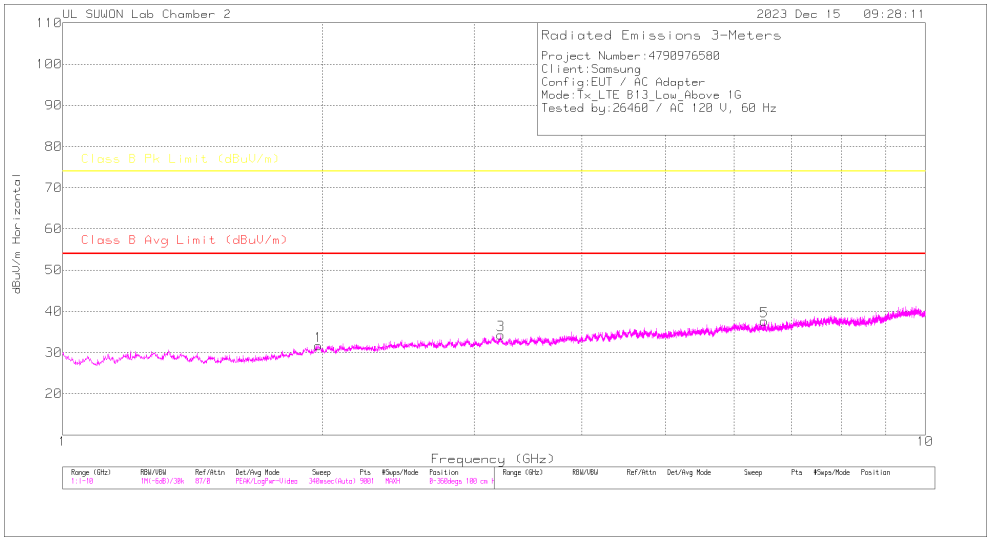
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.042	37.32	Pk	31.4	-29.7	.5	39.52	-	-	74	-34.48	0	100	H
2.042	24.63	Ca	31.4	-29.7	.5	26.83	54	-27.17	-	-	0	100	H
2.107	36.78	Pk	31.4	-29.4	.6	39.38	-	-	74	-34.62	0	100	V
2.107	24.32	Ca	31.4	-29.4	.6	26.92	54	-27.08	-	-	0	100	V
3.492	35.35	Pk	32.7	-27.7	.5	40.85	-	-	74	-33.15	0	100	H
3.492	23.37	Ca	32.7	-27.7	.5	28.87	54	-25.13	-	-	0	100	H
3.49	35.58	Pk	32.7	-27.7	.5	41.08	-	-	74	-32.92	0	100	V
3.49	23.32	Ca	32.7	-27.7	.5	28.82	54	-25.18	-	-	0	100	V
5.719	35.65	Pk	34.6	-26.5	.4	44.15	-	-	74	-29.85	0	100	H
5.719	23.27	Ca	34.6	-26.5	.4	31.77	54	-22.23	-	-	0	100	H
8.256	33.58	Pk	35.9	-23.5	.5	46.48	-	-	74	-27.52	0	100	V
8.256	21.15	Ca	35.9	-23.5	.5	34.05	54	-19.95	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

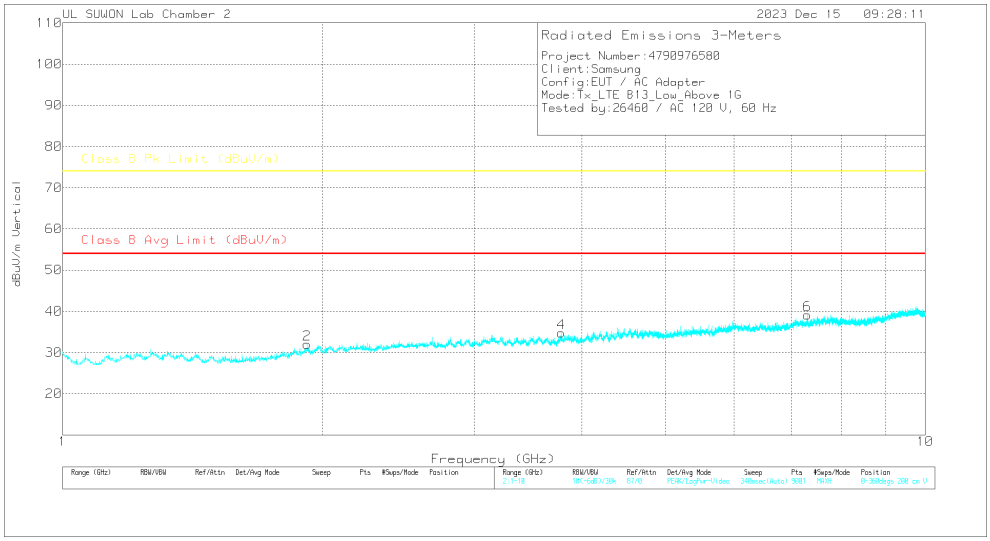
7.1.3. Above 1 GHz in the LTE Band 13

LOW CHANNEL(748.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

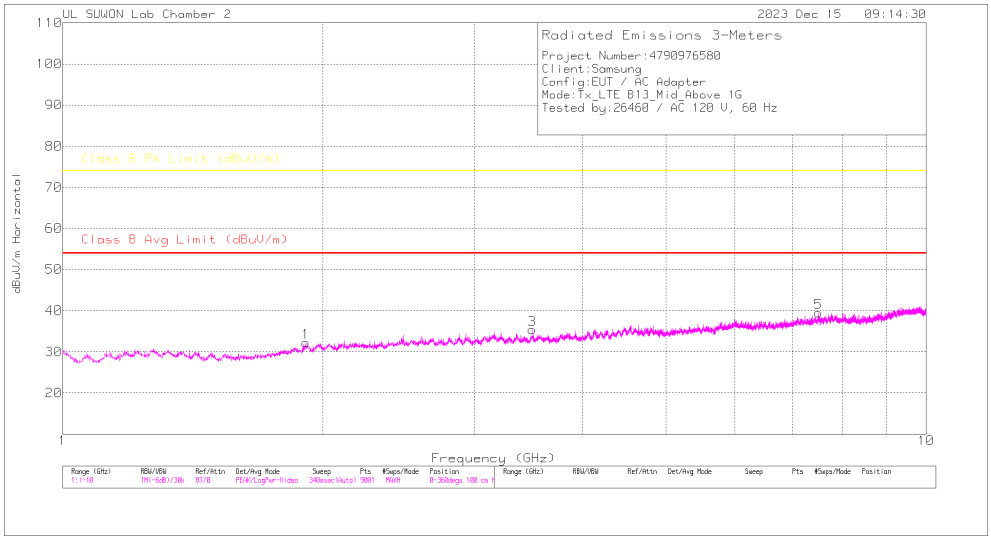
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
1.978	38.01	Pk	31.2	-29.9	.6	39.91	-	-	74	-34.09	0	100	H
1.978	25.11	Ca	31.2	-29.9	.6	27.01	54	-26.99	-	-	0	100	H
1.92	37.3	Pk	30.8	-29.9	.7	38.9	-	-	74	-35.1	0	100	V
1.92	25.07	Ca	30.8	-29.9	.7	26.67	54	-27.33	-	-	0	100	V
3.219	36.42	Pk	32.8	-28.5	.7	41.42	-	-	74	-32.58	0	100	H
3.219	23.97	Ca	32.8	-28.5	.7	28.97	54	-25.03	-	-	0	100	H
3.787	36.29	Pk	33.1	-28.1	.5	41.79	-	-	74	-32.21	0	100	V
3.787	24.16	Ca	33.1	-28.1	.5	29.66	54	-24.34	-	-	0	100	V
6.503	33.76	Pk	35.4	-25.1	.5	44.56	-	-	74	-29.44	0	100	H
6.503	22.19	Ca	35.4	-25.1	.5	32.99	54	-21.01	-	-	0	100	H
7.295	34.79	Pk	35.7	-25	.4	45.89	-	-	74	-28.11	0	100	V
7.295	22.69	Ca	35.7	-25	.4	33.79	54	-20.21	-	-	0	100	V

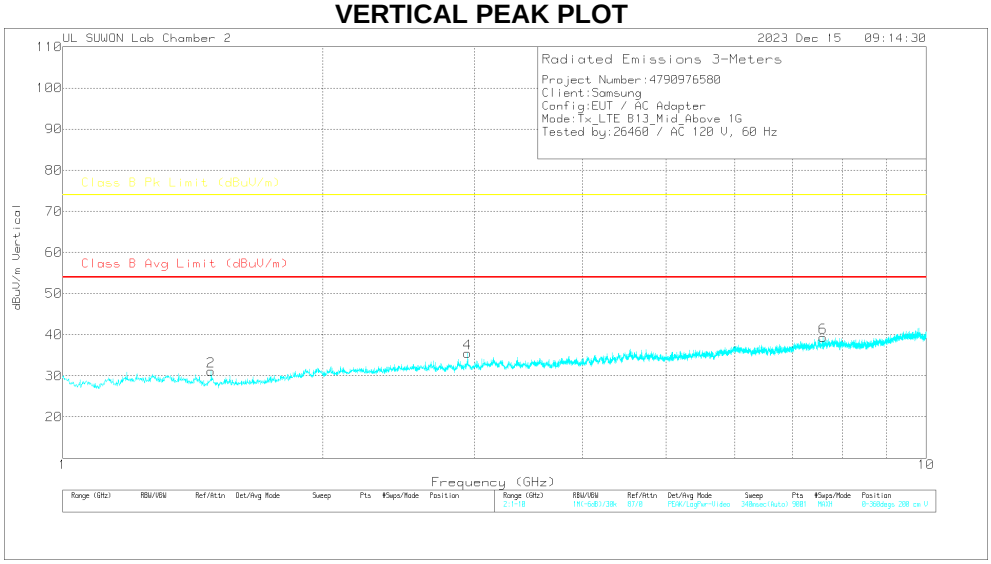
Pk - Peak detector
Ca - CISPR average detection

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

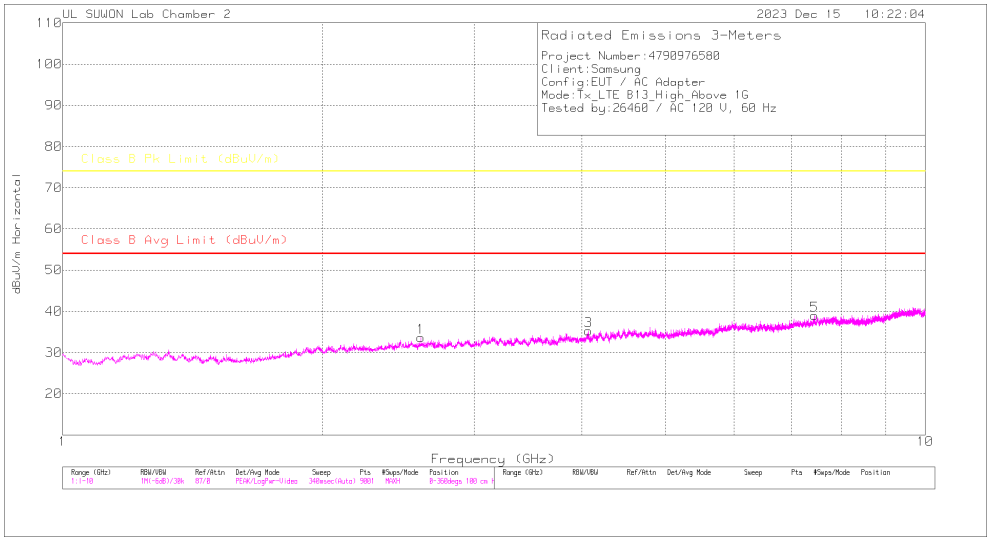
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
1.913	37.37	Pk	30.8	-29.9	.7	38.97	-	-	74	-35.03	0	100	H
1.913	25.19	Ca	30.8	-29.9	.7	26.79	54	-27.21	-	-	0	100	H
1.485	37.84	Pk	28.5	-30.4	.8	36.74	-	-	74	-37.26	0	100	V
1.485	25.76	Ca	28.5	-30.4	.8	24.66	54	-29.34	-	-	0	100	V
3.497	35.52	Pk	32.7	-27.7	.5	41.02	-	-	74	-32.98	0	100	H
3.497	23.63	Ca	32.7	-27.7	.5	29.13	54	-24.87	-	-	0	100	H
2.944	36.06	Pk	32.3	-29	.7	40.06	-	-	74	-33.94	0	100	V
2.944	24.62	Ca	32.3	-29	.7	28.62	54	-25.38	-	-	0	100	V
7.506	34.53	Pk	35.8	-23.8	.4	46.93	-	-	74	-27.07	0	100	H
7.506	22.02	Ca	35.8	-23.8	.4	34.42	54	-19.58	-	-	0	100	H
7.591	34.39	Pk	35.8	-24.3	.5	46.39	-	-	74	-27.61	0	100	V
7.591	21.83	Ca	35.8	-24.3	.5	33.83	54	-20.17	-	-	0	100	V

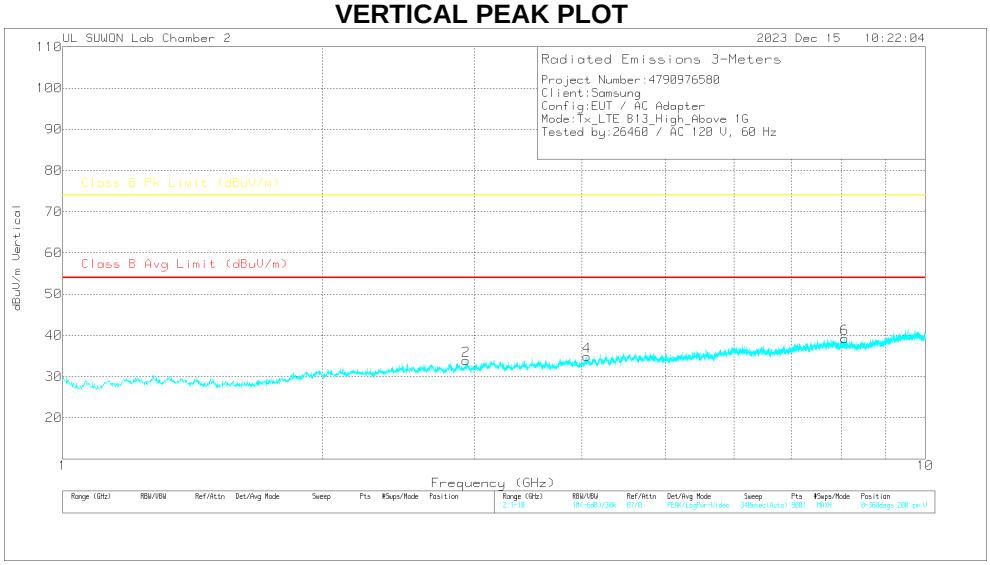
Pk - Peak detector
Ca - CISPR average detection

HIGH CHANNEL(753.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Radiated Emissions

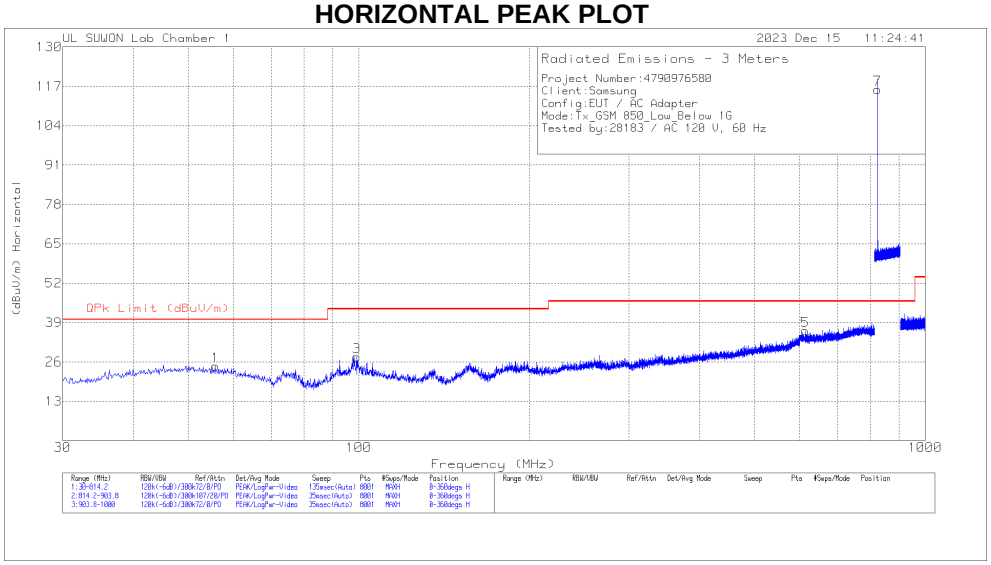
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.602	36.28	Pk	32.1	-29.1	.8	40.08	-	-	74	-33.92	0	100	H
2.602	24.09	Ca	32.1	-29.1	.8	27.89	54	-26.11	-	-	0	100	H
2.935	36.23	Pk	32.2	-29.1	.8	40.13	-	-	74	-33.87	0	100	V
2.935	24.27	Ca	32.2	-29.1	.8	28.17	54	-25.83	-	-	0	100	V
4.07	35.93	Pk	33.2	-27.6	.6	42.13	-	-	74	-31.87	0	100	H
4.07	23.65	Ca	33.2	-27.6	.6	29.85	54	-24.15	-	-	0	100	H
4.055	36.5	Pk	33.2	-27.6	.6	42.7	-	-	74	-31.3	0	100	V
4.055	23.71	Ca	33.2	-27.6	.6	29.91	54	-24.09	-	-	0	100	V
7.438	35	Pk	35.7	-23.9	.4	47.2	-	-	74	-26.8	0	100	H
7.438	22.09	Ca	35.7	-23.9	.4	34.29	54	-19.71	-	-	0	100	H
8.065	34.86	Pk	35.9	-23.2	.5	48.06	-	-	74	-25.94	0	100	V
8.065	21.28	Ca	35.9	-23.2	.5	34.48	54	-19.52	-	-	0	100	V

Pk - Peak detector
Ca - CISPR average detection

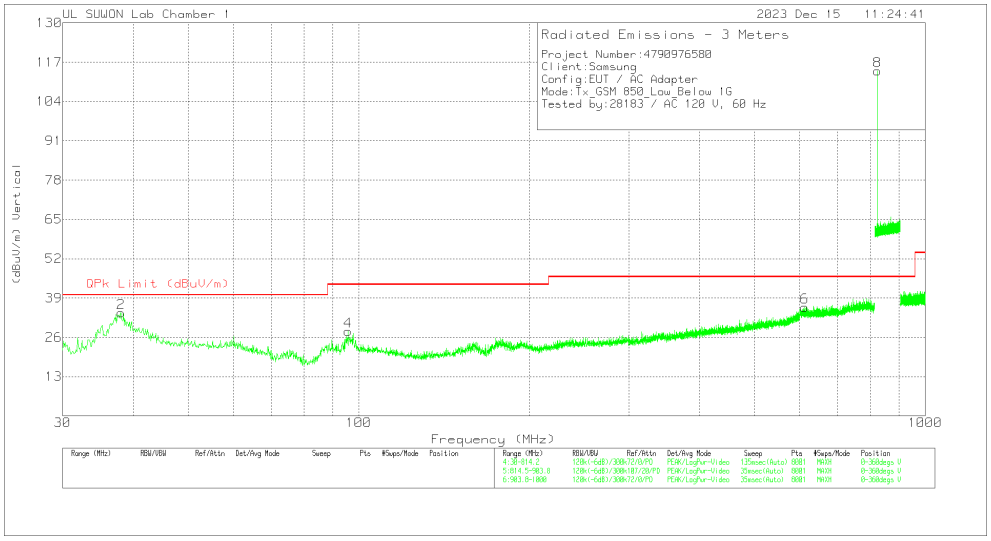
7.1.4. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	55.7806	3.89	Pk	19.1	1.6	24.59	40	-15.41	0-360	300	H
2	38.0381	15.2	Pk	17.7	1.3	34.2	40	-5.8	0-360	200	V
3	99.1076	8.62	Pk	17	2.1	27.72	43.52	-15.8	0-360	200	H
4	95.7748	9.17	Pk	16.8	2.1	28.07	43.52	-15.45	0-360	200	V
5	614.131	6.86	Pk	24.3	5.2	36.36	46.02	-9.66	0-360	100	H
6	613.1507	6.46	Pk	24.3	5.2	35.96	46.02	-10.06	0-360	400	V
7	824.1904	83.9	Pk	26.1	6	116	**46.02**	**69.98**	0-360	200	H
8	824.1895	82.04	Pk	26.1	6	114.14	**46.02**	**68.12**	0-360	100	V

Pk - Peak detector

Radiated Emissions

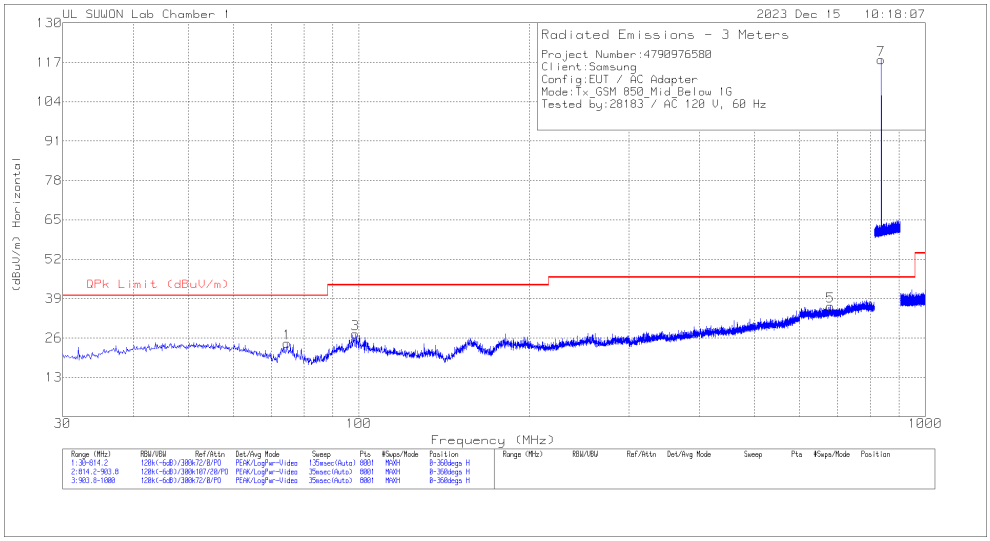
Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.0381	9.15	Qp	17.7	1.3	28.15	40	-11.85	161	101	V

Qp - Quasi-Peak detector

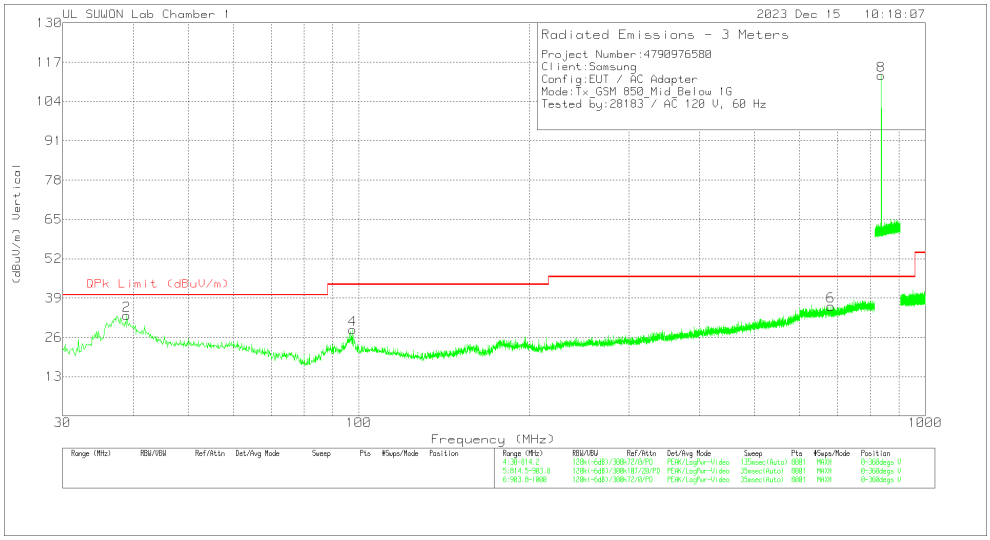
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	74.6994	9.45	Pk	13.1	1.8	24.35	40	-15.65	0-360	100	H
2	38.9203	13.77	Pk	18.2	1.3	33.27	40	-6.73	0-360	200	V
3	98.5195	8.21	Pk	17	2.1	27.31	43.52	-16.21	0-360	200	H
4	97.5392	9.51	Pk	17	2.1	28.61	43.52	-14.91	0-360	200	V
5	680.1998	6.39	Pk	24.6	5.5	36.49	46.02	-9.53	0-360	200	H
6	681.3761	6.15	Pk	24.6	5.5	36.25	46.02	-9.77	0-360	200	V
7	836.6	85.43	Pk	26.3	6.1	117.83	**46.02**	**71.81**	0-360	200	H
8	836.6027	80.13	Pk	26.3	6.1	112.53	**46.02**	**66.51**	0-360	100	V

Pk - Peak detector

Radiated Emissions

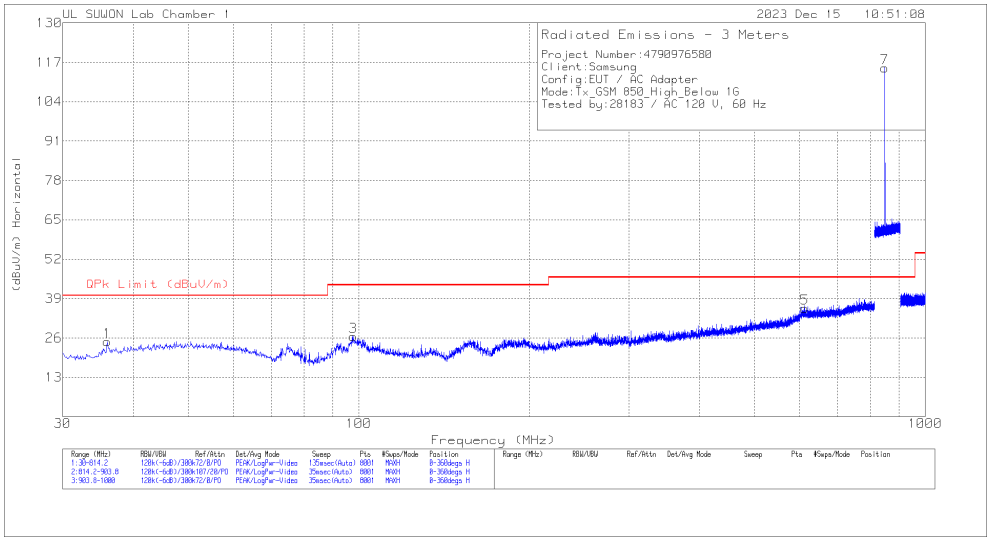
Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.9203	6.97	Qp	18.2	1.3	26.47	40	-13.53	183	101	V

Qp - Quasi-Peak detector

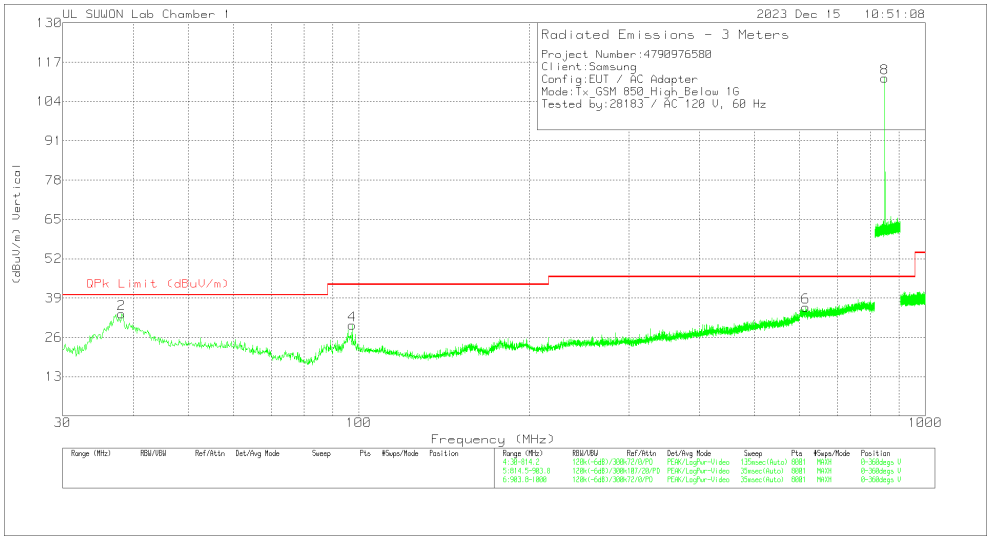
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	35.9795	6.58	Pk	16.9	1.3	24.78	40	-15.22	0-360	200	H
2	38.1361	14.7	Pk	17.8	1.3	33.8	40	-6.2	0-360	200	V
3	97.8333	7.38	Pk	17	2.1	26.48	43.52	-17.04	0-360	200	H
4	97.3432	11	Pk	16.9	2.1	30	43.52	-13.52	0-360	200	V
5	613.2488	6.3	Pk	24.3	5.2	35.8	46.02	-10.22	0-360	100	H
6	615.5033	6.51	Pk	24.3	5.2	36.01	46.02	-10.01	0-360	200	V
7	848.7968	82.52	Pk	26.5	6.1	115.12	**46.02**	**69.1**	0-360	200	H
8	848.7927	79.19	Pk	26.5	6.1	111.79	**46.02**	**65.77**	0-360	100	V

Pk - Peak detector

UL KOREA LTD. Suwon Laboratory FORM ID: FCC_15B(05)
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.1361	8.69	Qp	17.8	1.3	27.79	40	-12.21	188	100	V

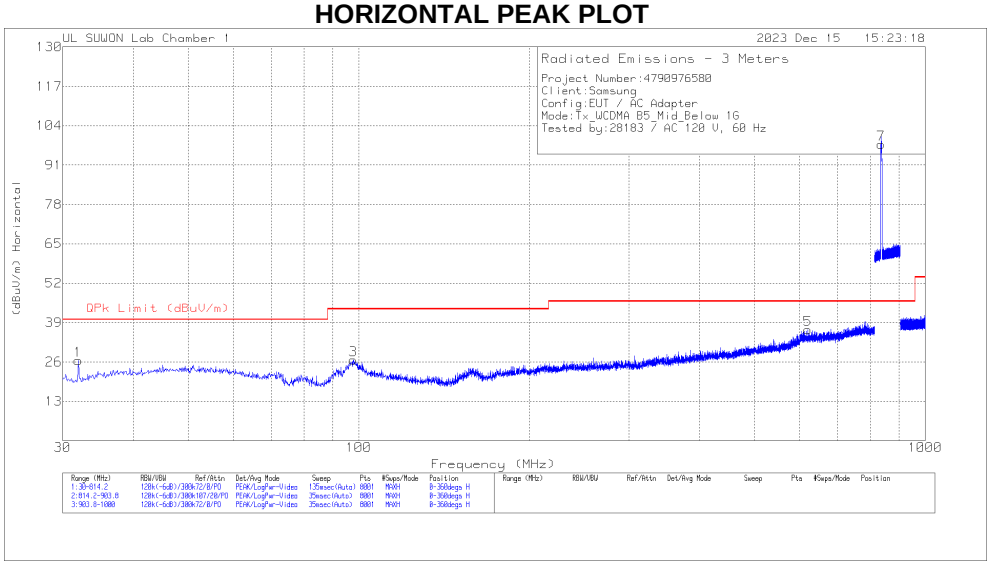
Qp - Quasi-Peak detector

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

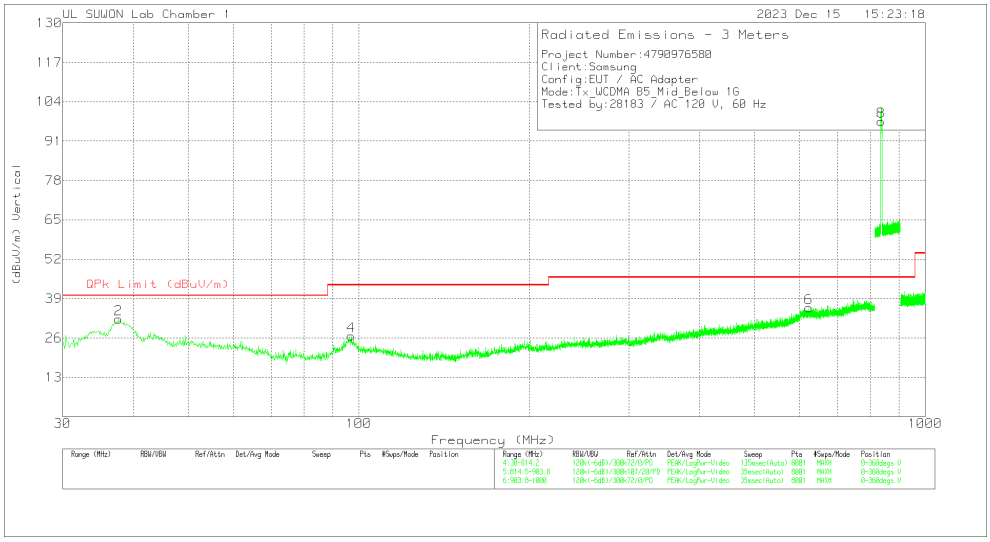
7.1.5. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.9605	9.75	Pk	15.5	1.2	26.45	40	-13.55	0-360	100	H
2	37.646	13.31	Pk	17.6	1.3	32.21	40	-7.79	0-360	200	V
3	97.7353	7.6	Pk	17	2.1	26.7	43.52	-16.82	0-360	200	H
4	96.9511	7.68	Pk	16.9	2.1	26.68	43.52	-16.84	0-360	200	V
5	620.0125	7.17	Pk	24.2	5.3	36.67	46.02	-9.35	0-360	200	H
6	622.9532	6.5	Pk	24.2	5.3	36	46.02	-10.02	0-360	300	V
7	836.6448	65.5	Pk	26.3	6.1	97.9	**46.02**	**51.88**	0-360	200	H
8	836.6474	65.13	Pk	26.3	6.1	97.53	**46.02**	**51.51**	0-360	100	V

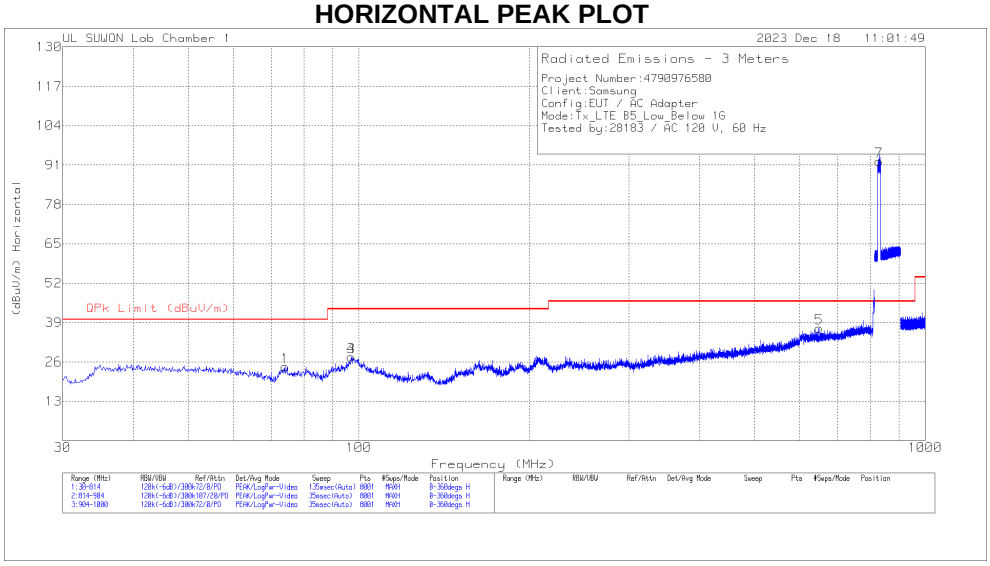
Pk - Peak detector

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

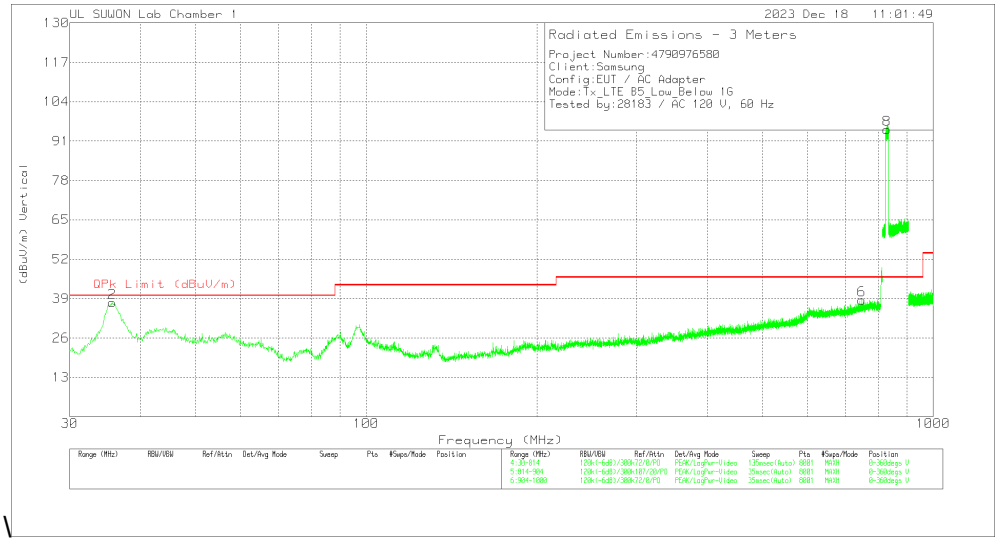
7.1.6. Below 1 GHz in the LTE Band 5

LOW CHANNEL(871.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	74.1	9.28	Pk	13.4	1.8	24.48	40	-15.52	0-360	200	H
2	35.684	19.58	Pk	16.8	1.3	37.68	40	-2.32	0-360	200	V
3	96.934	8.63	Pk	16.9	2.1	27.63	43.52	-15.89	0-360	200	H
4	96.934	8.63	Pk	16.9	2.1	27.63	43.52	-15.89	0-360	200	H
5	648.968	7.53	Pk	24.3	5.4	37.23	46.02	-8.79	0-360	300	H
6	748.144	7.15	Pk	25.6	5.8	38.55	46.02	-7.47	0-360	300	V
7	829.0638	60.13	Pk	26.2	6	92.33	**46.02**	**46.31**	0-360	200	H
8	829.0975	62.61	Pk	26.2	6	94.81	**46.02**	**48.79**	0-360	100	V

Pk - Peak detector

Radiated Emissions

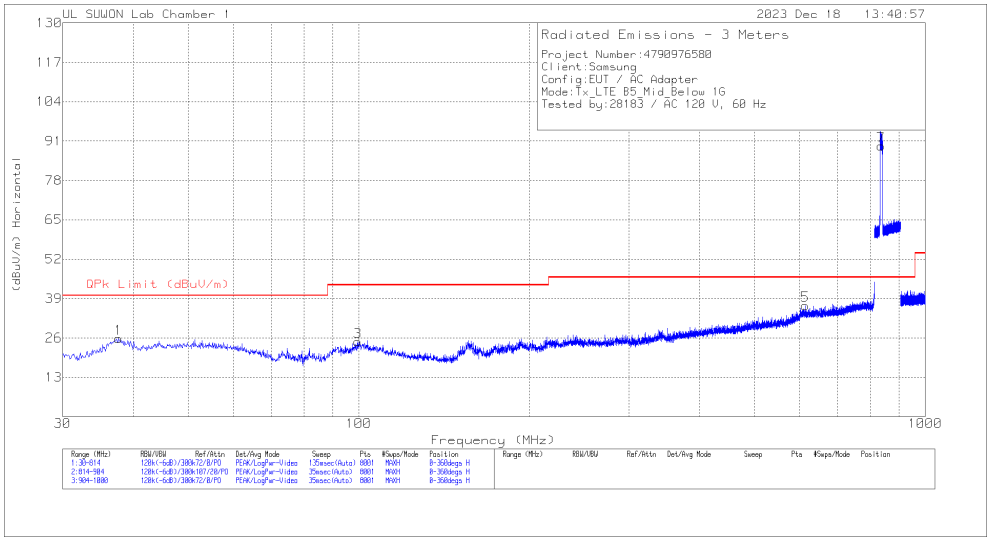
Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.684	13.19	Qp	16.8	1.3	31.29	40	-8.71	176	105	V

Qp - Quasi-Peak detector

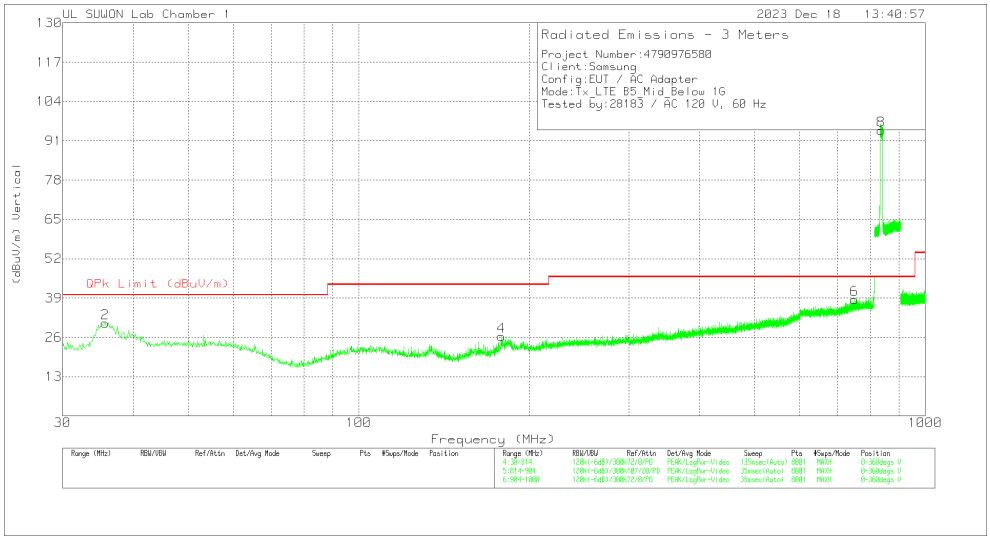
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 914MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

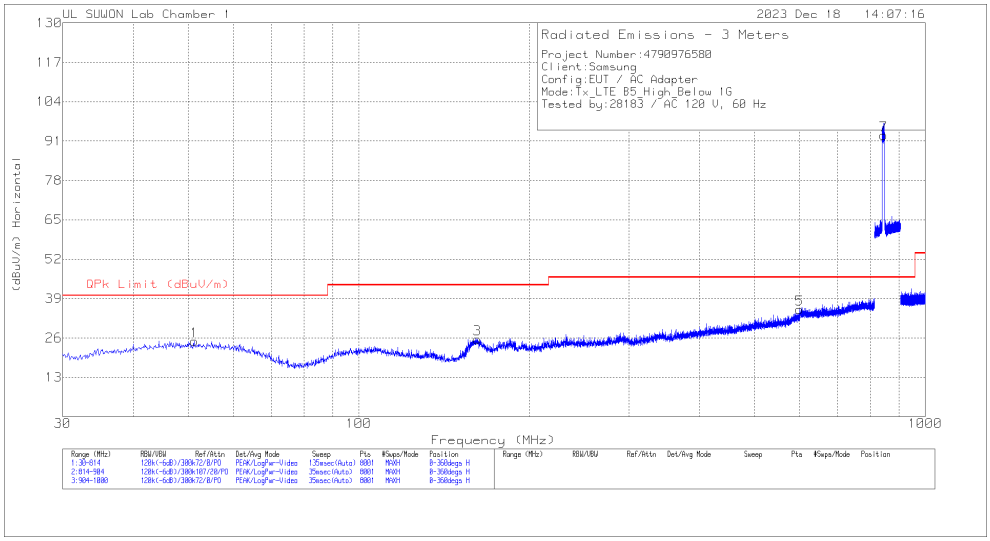
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	37.644	6.86	Pk	17.6	1.3	25.76	40	-14.24	0-360	100	H
2	35.684	12.64	Pk	16.8	1.3	30.74	40	-9.26	0-360	100	V
3	99.58	5.64	Pk	17.1	2.1	24.84	43.52	-18.68	0-360	200	H
4	178.666	8.36	Pk	15.1	2.8	26.26	43.52	-17.26	0-360	100	V
5	613.688	7.25	Pk	24.3	5.2	36.75	46.02	-9.27	0-360	300	H
6	750.496	7.09	Pk	25.6	5.8	38.49	46.02	-7.53	0-360	100	V
7	836.5113	56.99	Pk	26.3	6.1	89.39	**46.02**	**43.37**	0-360	200	H
8	836.5113	62.12	Pk	26.3	6.1	94.52	**46.02**	**48.5**	0-360	100	V

Pk - Peak detector

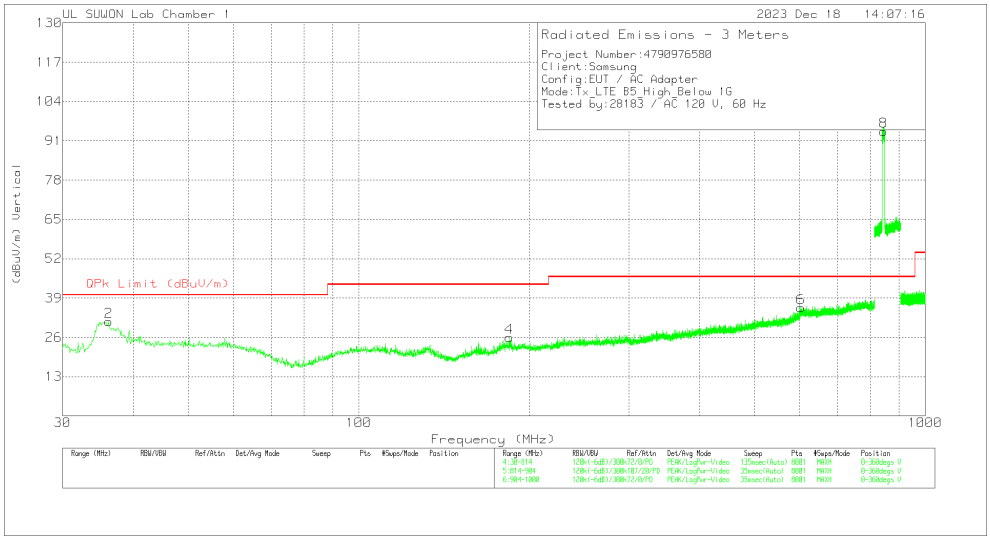
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 914MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(891.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	51.266	3.81	Pk	19.6	1.5	24.91	40	-15.09	0-360	100	H
2	36.174	12.96	Pk	17	1.3	31.26	40	-8.74	0-360	200	V
3	161.81	8.69	Pk	14.3	2.7	25.69	43.52	-17.83	0-360	100	H
4	184.35	7.56	Pk	15.6	2.9	26.06	43.52	-17.46	0-360	300	V
5	600.556	5.83	Pk	24.4	5.2	35.43	46.02	-10.59	0-360	200	H
6	603.3	6.36	Pk	24.3	5.2	35.86	46.02	-10.16	0-360	400	V
7	844.0375	60.51	Pk	26.4	6.1	93.01	**46.02**	**46.99**	0-360	200	H
8	844.0375	61.58	Pk	26.4	6.1	94.08	**46.02**	**48.06**	0-360	100	V

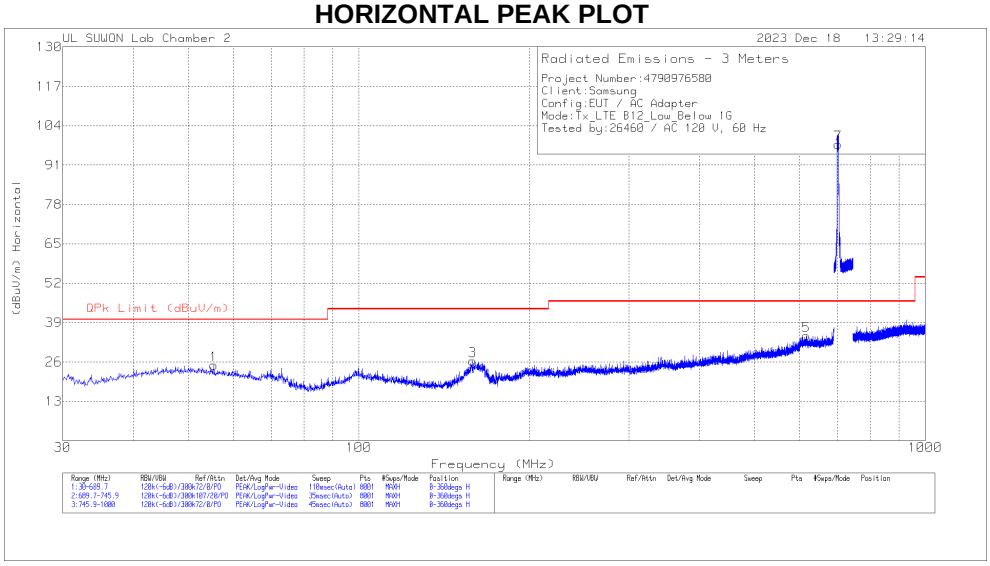
Pk - Peak detector

Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 914MHz were the TX and RX signals generated from the call-simulator.

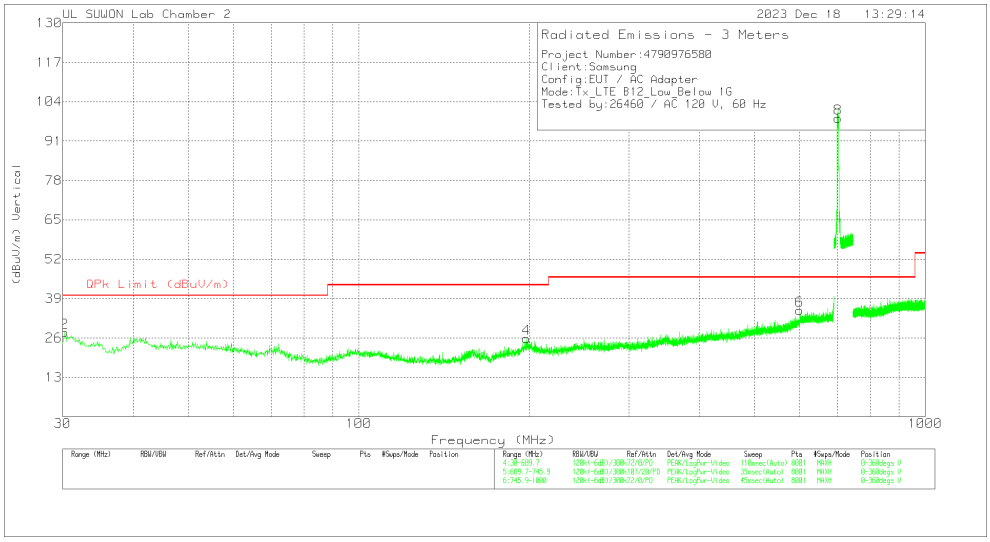
7.1.7. Below 1 GHz in the LTE Band 12

LOW CHANNEL(731.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

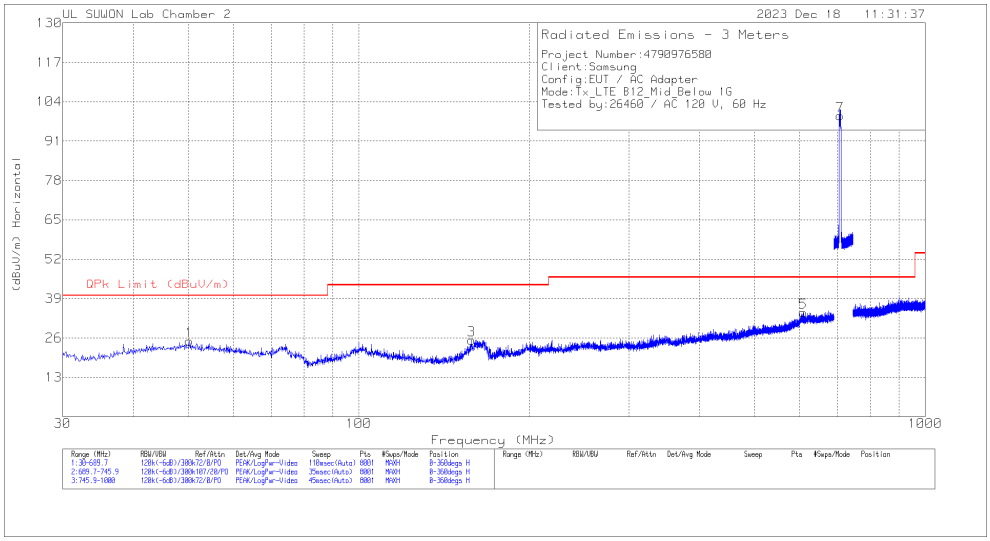
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	55.4811	4.5	Pk	19.5	.9	24.9	40	-15.1	0-360	200	H
3	158.9721	10.56	Pk	14.3	1.5	26.36	43.52	-17.16	0-360	100	H
5	616.8067	6.6	Pk	24.9	3.2	34.7	46.02	-11.32	0-360	200	H
7	701.502	69.15	Pk	25.3	3.4	97.85	**46.02**	**51.83**	0-360	300	H
2	30.2474	11.24	Pk	15.9	.7	27.84	40	-12.16	0-360	200	V
4	197.5648	6.2	Pk	18	1.7	25.9	43.52	-17.62	0-360	200	V
6	600.2316	7.07	Pk	24.9	3.1	35.07	46.02	-10.95	0-360	400	V
8	701.502	69.89	Pk	25.3	3.4	98.59	**46.02**	**52.57**	0-360	100	V

Pk - Peak detector

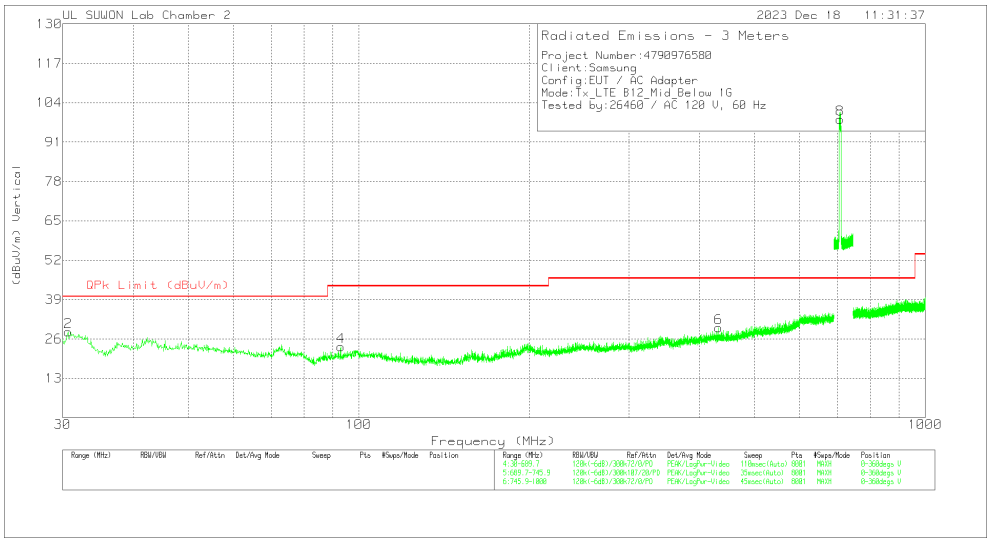
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

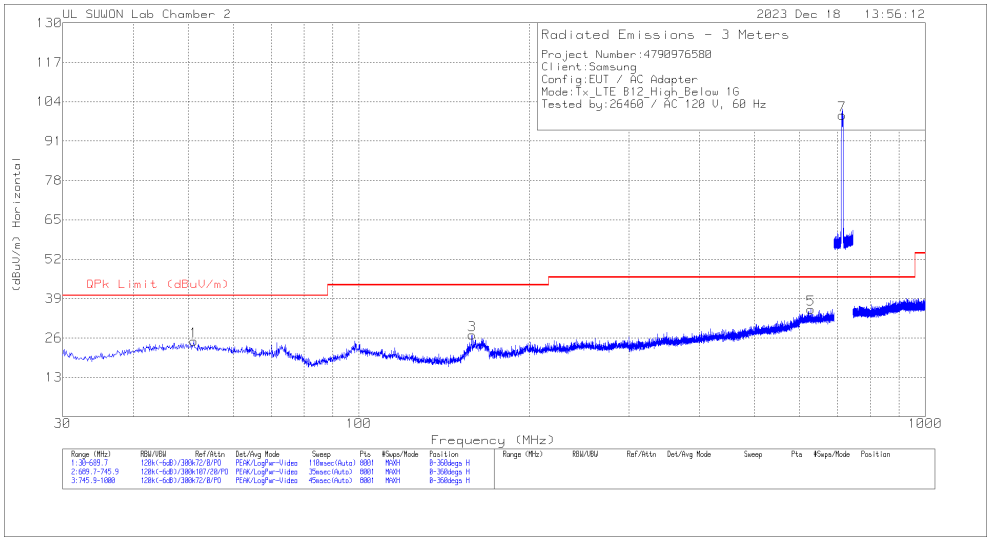
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.2034	4.01	Pk	20.1	.8	24.91	40	-15.09	0-360	200	H
3	158.1475	9.54	Pk	14.3	1.5	25.34	43.52	-18.18	0-360	100	H
5	609.0552	6.51	Pk	24.9	3.1	34.51	46.02	-11.51	0-360	100	H
7	707.5014	70.81	Pk	25.2	3.4	99.41	**46.02**	**53.39**	0-360	200	H
2	30.6597	12.03	Pk	15.7	.7	28.43	40	-11.57	0-360	200	V
4	92.9193	5.99	Pk	16.3	1.2	23.49	43.52	-20.03	0-360	200	V
6	431.6773	5.5	Pk	21.7	2.6	29.8	46.02	-16.22	0-360	400	V
8	707.5014	69.85	Pk	25.2	3.4	98.45	**46.02**	**52.43**	0-360	100	V

Pk - Peak detector

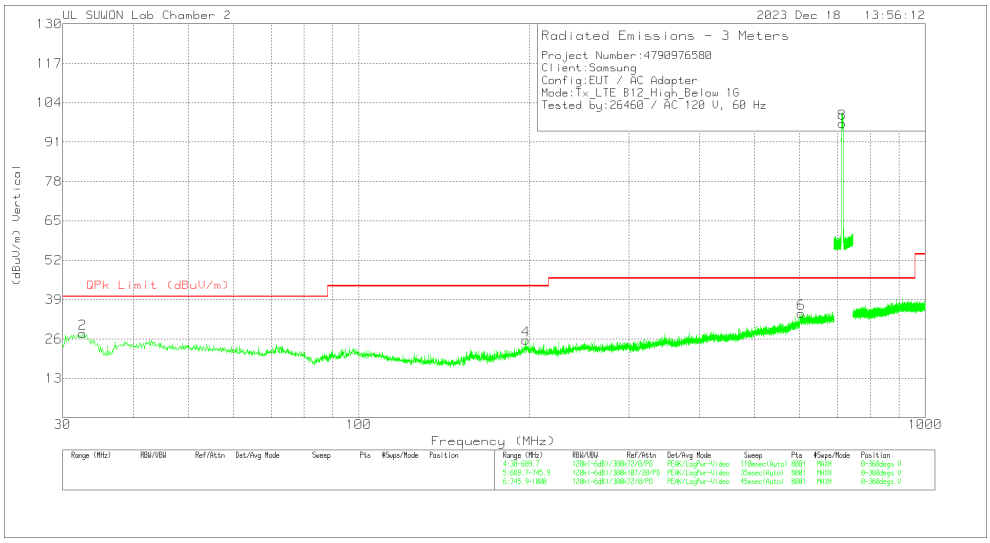
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(743.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	51.1105	4.15	Pk	20	.9	25.05	40	-14.95	0-360	200	H
3	158.3949	11.22	Pk	14.3	1.5	27.02	43.52	-16.5	0-360	100	H
5	628.7638	7.38	Pk	24.9	3.2	35.48	46.02	-10.54	0-360	100	H
7	713.5007	70.92	Pk	25.2	3.4	99.52	**46.02**	**53.5**	0-360	300	H
2	32.5564	11.45	Pk	15.7	.7	27.85	40	-12.15	0-360	200	V
4	197.07	5.99	Pk	18	1.7	25.69	43.52	-17.83	0-360	200	V
6	603.3652	6.54	Pk	24.9	3.1	34.54	46.02	-11.48	0-360	400	V
8	713.5007	68.54	Pk	25.2	3.4	97.14	**46.02**	**51.12**	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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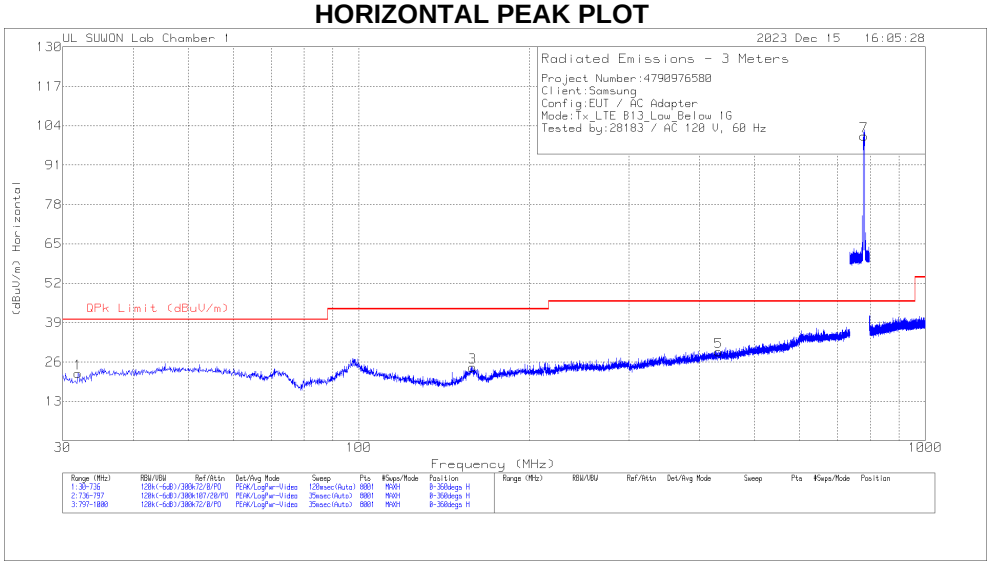
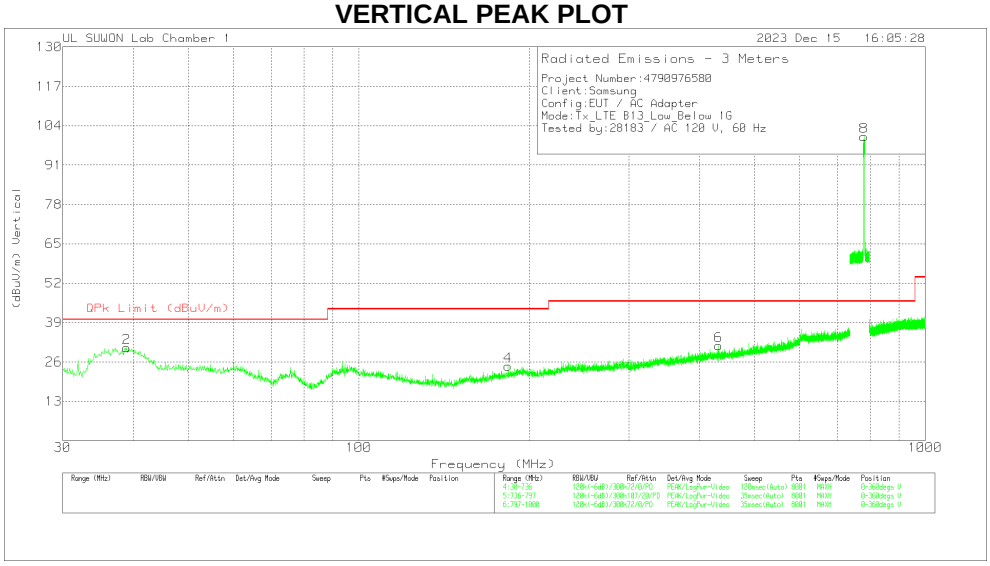
7.1.8. Below 1 GHz in the LTE Band 13

LOW CHANNEL(748.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

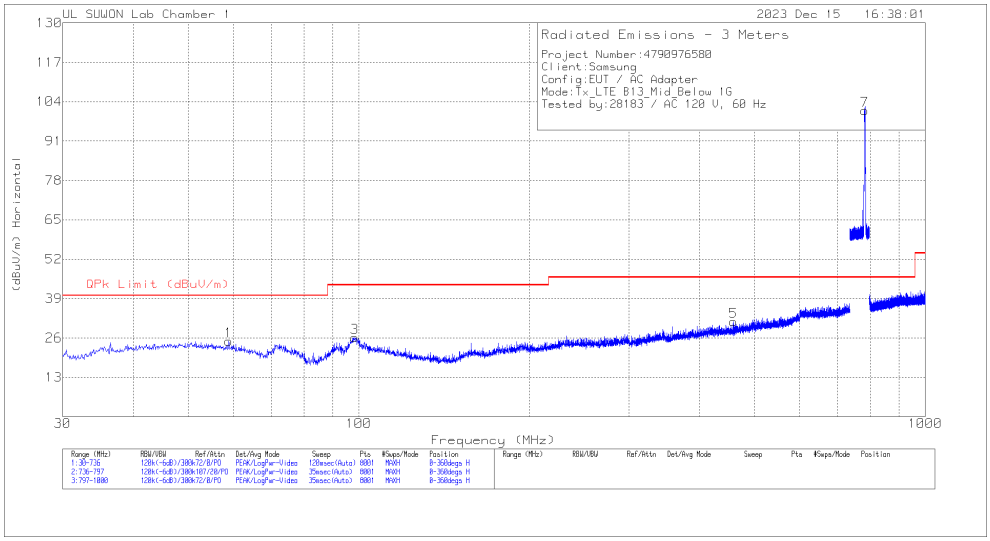
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.9415	5.59	Pk	15.5	1.2	22.29	40	-17.71	0-360	100	H
2	38.9133	11.17	Pk	18.2	1.3	30.67	40	-9.33	0-360	200	V
3	158.9333	7.37	Pk	14.2	2.7	24.27	43.52	-19.25	0-360	100	H
4	183.3785	6.2	Pk	15.5	2.9	24.6	43.52	-18.92	0-360	300	V
5	431.9788	3.53	Pk	21.4	4.4	29.33	46.02	-16.69	0-360	200	H
6	431.4493	5.57	Pk	21.4	4.4	31.37	46.02	-14.65	0-360	400	V
7	779.554	68.98	Pk	25.7	5.9	100.58	**46.02**	**54.56**	0-360	200	H
8	779.554	68.74	Pk	25.7	5.9	100.34	**46.02**	**54.32**	0-360	100	V

Pk - Peak detector

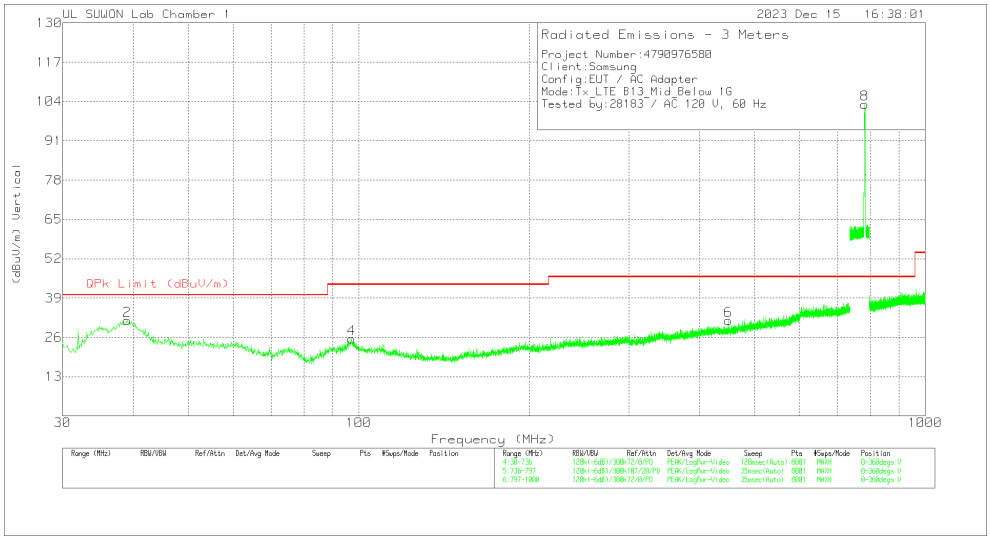
Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

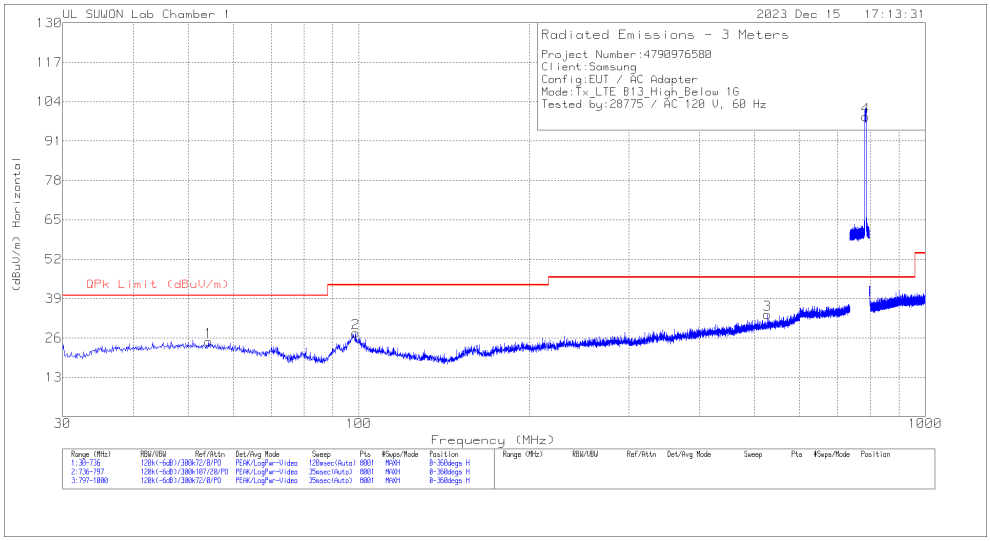
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	58.946	4.81	Pk	18.5	1.6	24.91	40	-15.09	0-360	200	H
2	39.0015	12.11	Pk	18.2	1.3	31.61	40	-8.39	0-360	100	V
3	98.3938	7.01	Pk	17	2.1	26.11	43.52	-17.41	0-360	200	H
4	97.1583	6.44	Pk	16.9	2.1	25.44	43.52	-18.08	0-360	100	V
5	458.542	5.46	Pk	21.4	4.5	31.36	46.02	-14.66	0-360	100	H
6	449.2758	5.74	Pk	21.4	4.5	31.64	46.02	-14.38	0-360	100	V
7	782.0855	69.43	Pk	25.7	5.9	101.03	**46.02**	**55.01**	0-360	200	H
8	782.1008	71.43	Pk	25.7	5.9	103.03	**46.02**	**57.01**	0-360	200	V

Pk - Peak detector

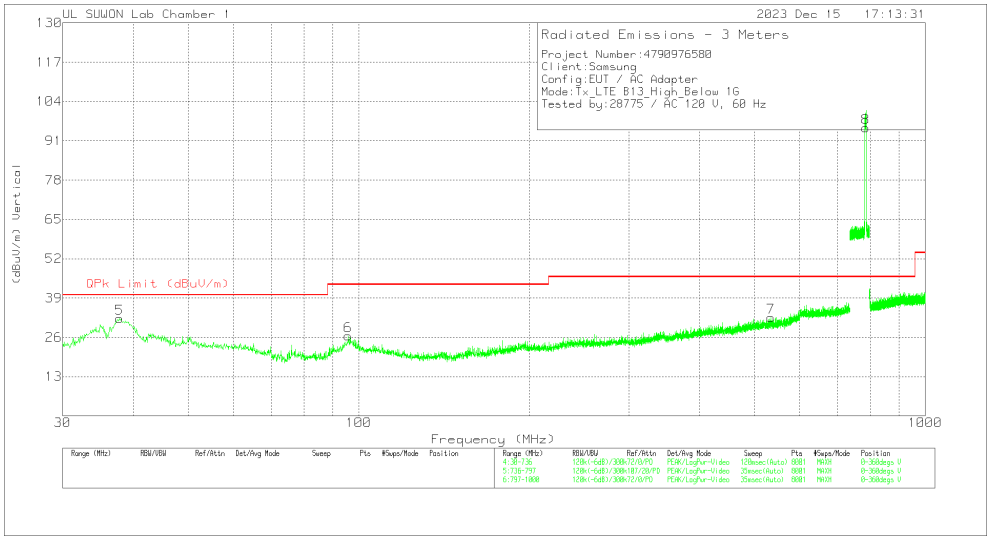
Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(753.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	54.2688	3.85	Pk	19.3	1.6	24.75	40	-15.25	0-360	200	H
2	98.7468	8.58	Pk	17	2.1	27.68	43.52	-15.84	0-360	200	H
3	526.2298	6.17	Pk	22.8	4.8	33.77	46.02	-12.25	0-360	100	H
4	784.5026	67.32	Pk	25.8	5.9	99.02	**46.02**	**53**	0-360	200	H
5	37.766	13.42	Pk	17.6	1.3	32.32	40	-7.68	0-360	200	V
6	95.7463	7.67	Pk	16.8	2.1	26.57	43.52	-16.95	0-360	200	V
7	534.2605	4.73	Pk	22.9	4.9	32.53	46.02	-13.49	0-360	400	V
8	784.5026	63.56	Pk	25.8	5.9	95.26	**46.02**	**49.24**	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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7.2. 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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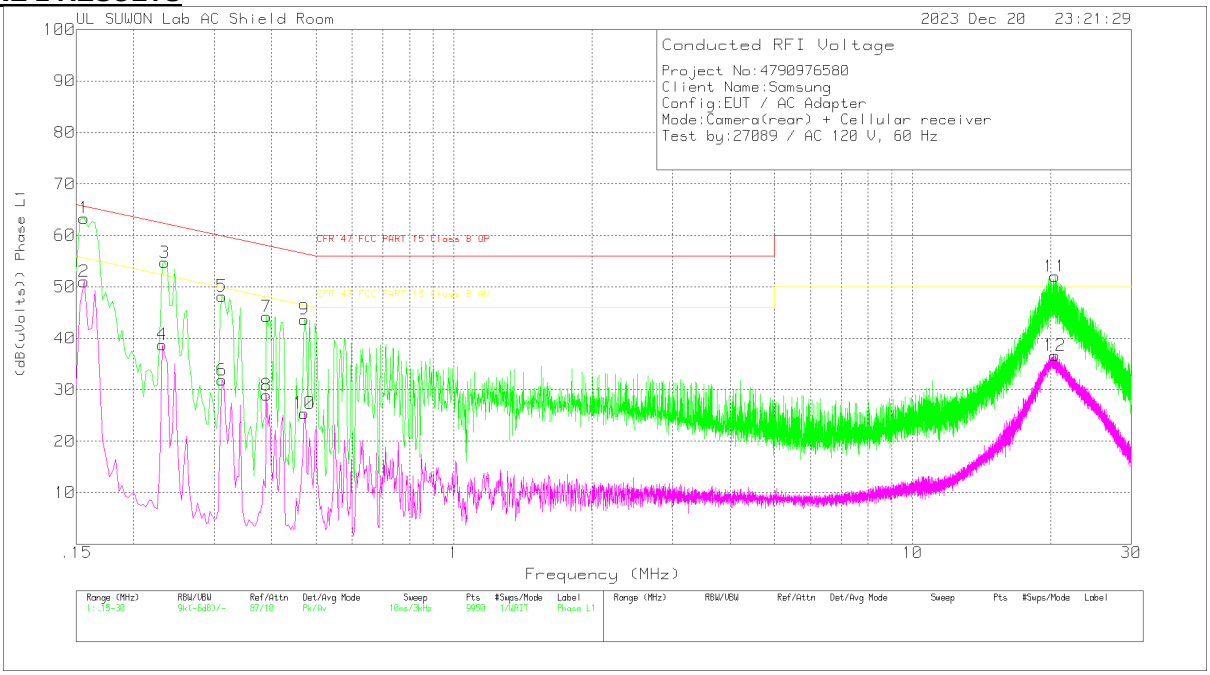
7.2.1 CONDUCTED EMISSIONS

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_AUTO_With EX_L1[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
1	.156	53.77	Pk	9.5	.1	63.37	65.67	-2.3	-	-
2	.156	41.43	Av	9.5	.1	51.03	-	-	55.67	-4.64
3	.234	45.03	Pk	9.5	.2	54.73	62.31	-7.58	-	-
4	.231	29.08	Av	9.5	.2	38.78	-	-	52.41	-13.63
5	.312	38.49	Pk	9.5	.2	48.19	59.92	-11.73	-	-
6	.312	22.16	Av	9.5	.2	31.86	-	-	49.92	-18.06
7	.39	34.53	Pk	9.5	.2	44.23	58.06	-13.83	-	-
8	.39	19.26	Av	9.5	.2	28.96	-	-	48.06	-19.1
9	.471	33.98	Pk	9.5	.2	43.68	56.5	-12.82	-	-
10	.471	15.74	Av	9.5	.2	25.44	-	-	46.5	-21.06
11	20.439	42.05	Pk	9.6	.4	52.05	60	-7.95	-	-
12	20.442	26.66	Av	9.6	.4	36.66	-	-	50	-13.34

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

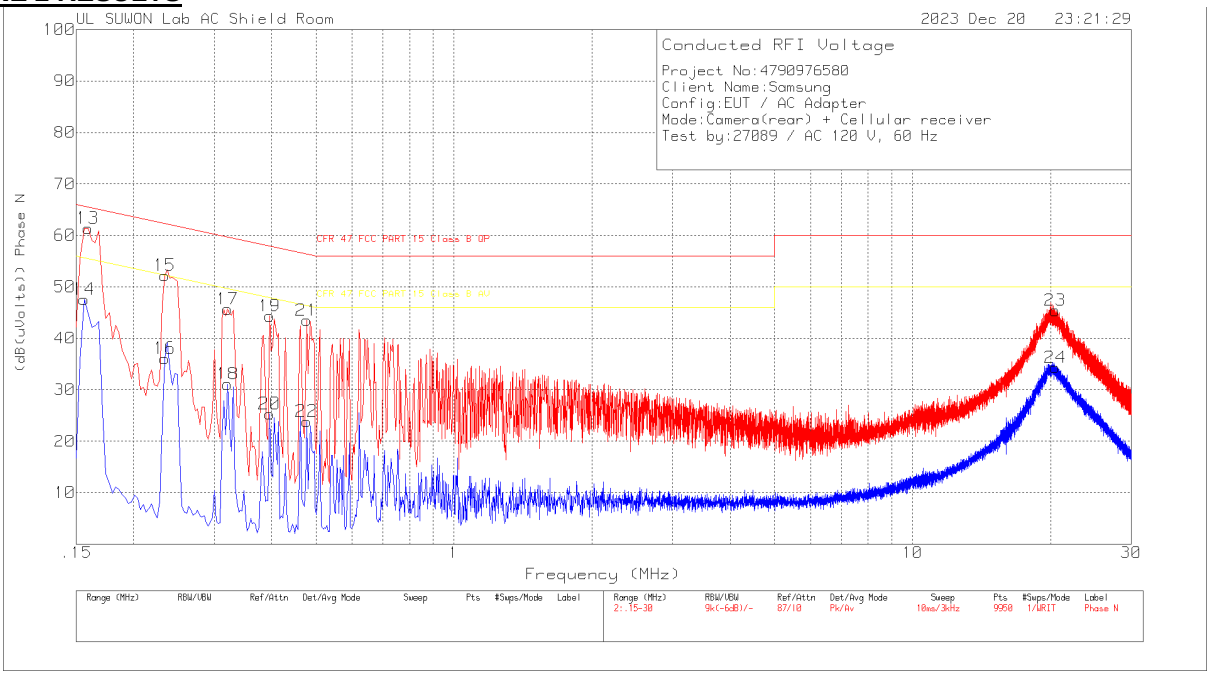
Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AUTO_With EX_L1[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
.15615	47.39	Qp	9.5	.1	56.99	65.67	-8.68	-	-
.23325	38.06	Qp	9.5	.2	47.76	62.33	-14.57	-	-
20.4392	33.41	Qp	9.6	.4	43.41	60	-16.59	-	-

Qp - Quasi-Peak detector

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_AUTO_With EX_N[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
13	.159	51.79	Pk	9.5	.1	61.39	65.52	-4.13	-	-
14	.156	37.96	Av	9.5	.1	47.56	-	-	55.67	-8.11
15	.234	42.5	Pk	9.5	.2	52.2	62.31	-10.11	-	-
16	.234	26.39	Av	9.5	.2	36.09	-	-	52.31	-16.22
17	.321	35.95	Pk	9.5	.2	45.65	59.68	-14.03	-	-
18	.321	21.4	Av	9.5	.2	31.1	-	-	49.68	-18.58
19	.396	34.62	Pk	9.5	.2	44.32	57.94	-13.62	-	-
20	.396	15.6	Av	9.5	.2	25.3	-	-	47.94	-22.64
21	.477	33.77	Pk	9.5	.2	43.47	56.39	-12.92	-	-
22	.477	14.15	Av	9.5	.2	23.85	-	-	46.39	-22.54
23	20.469	35.4	Pk	9.6	.4	45.4	60	-14.6	-	-
24	20.487	24.32	Av	9.6	.4	34.32	-	-	50	-15.68

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AUTO_With EX_N[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
.15825	44.26	Qp	9.5	.1	53.86	65.56	-11.7	-	-
.15615	44.41	Qp	9.5	.1	54.01	65.67	-11.66	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT

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