CERTIFICATION TEST REPORT

Report Number. : 4789497384-E1V2

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

Model : SM-F916B

FCC ID : A3LSMF916B

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

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

Date Of Issue:
July 28, 2020

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
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IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	07/22/20	Initial issue	Yeonhee Lim
V2	07/28/20	Updated to address TCB's question	Yeonhee Lim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

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

MODEL NUMBER: SM-F916B

SERIAL NUMBER: R3CN50JXSJR (RADIATED)

DATE TESTED: JUL 07, 2020 – JUL 08, 2020;

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15B	Pass

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:

Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:

Yeonhee Lim
Suwon Lab Technician
UL Korea, Ltd.

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2. TEST METHODOLOGY

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

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

3. FACILITIES AND ACCREDITATION

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

218 Maeyeong-ro
☐ Chamber 1
☒ Chamber 2
☐ Chamber 3

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

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4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Disturbance, 30 MHz to 1 GHz	3.49 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.82 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 1, Clause 4.4.2 in IEC Guide 115:2007.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 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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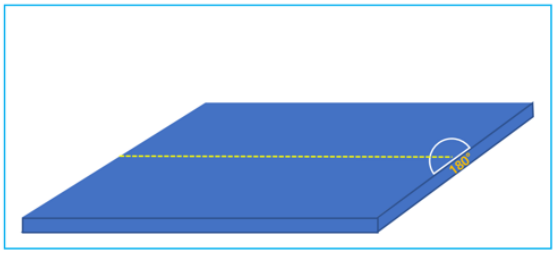
5.3. WORST-CASE ORIENTATION AND MODE

i. Worst Axis condition

Band	X	Y	Z
GSM850	-	-	Open
WCDMA B5	Open	-	-
LTE B5	-	-	Half
LTE B12	-	-	Full
LTE B13	Open	-	-
LTE B26	Open	-	-

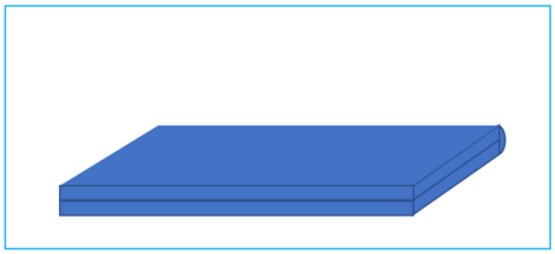
ii. Foldable condition

The fundamental of the EUT was investigated in three foldable conditions(Open, Half-folded, Full-folded).



Open

Half-folded



Full-folded

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

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.

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5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37MBEVGPB7SE3	N/A
Data Cable	SAMSUNG	EP-DG980	N/A	N/A

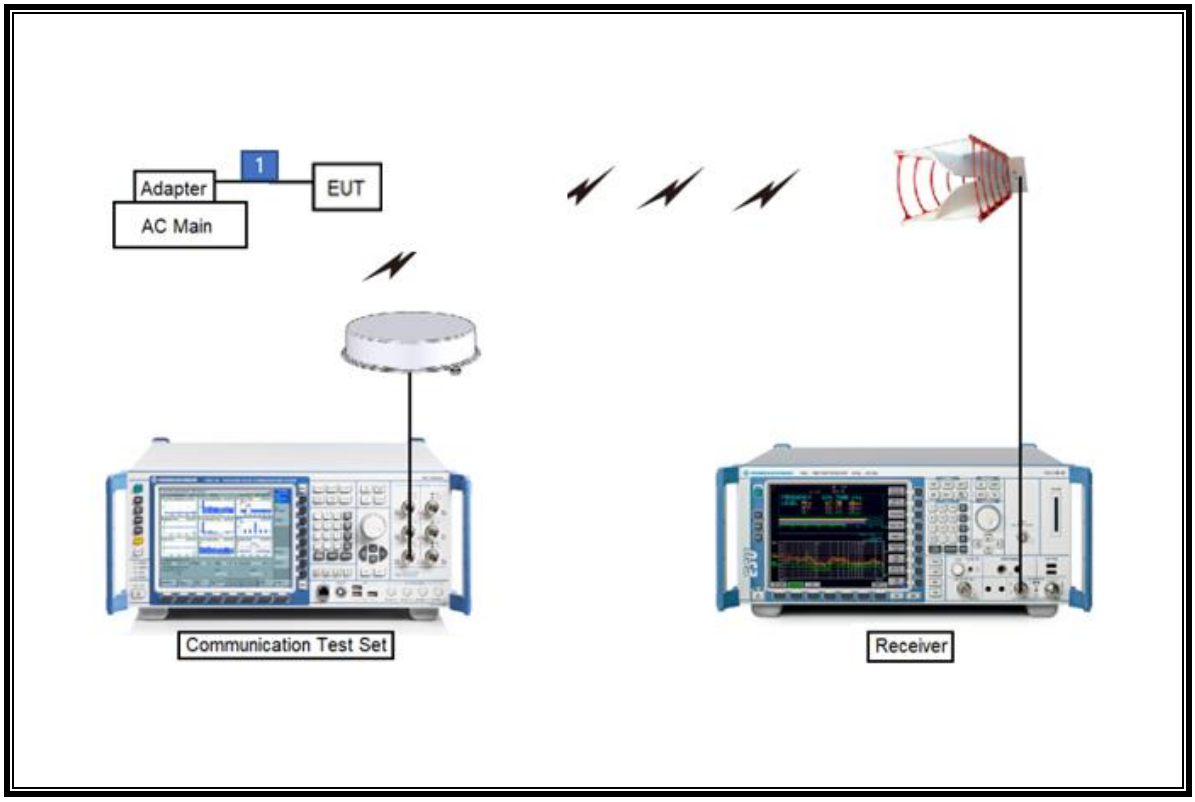
I/O CABLE

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	C Type	Shielded	1.0 m	N/A

TEST SETUP

The EUT is continuously communicated with the call box during the tests.

SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



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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	01-31-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-13-20
Preamplifier	ETS	3116C-PA	00168841	08-08-20
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00167211	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168724	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00205959	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-04-20
Communications Test Set	R&S	CMW500	115331	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-05-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-06-20
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-20
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-20
EMI Test Receive, 44 GHz	R&S	ESW40	101590	08-05-20
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	08-05-20
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	08-05-20
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	08-05-20
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	08-05-20
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	08-05-20
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	08-05-20
Attenuator	PASTERNACK	PE7087-10	A009	08-08-20
Attenuator	PASTERNACK	PE7087-10	A001	08-08-20
Attenuator	PASTERNACK	PE7087-10	A008	08-08-20
Attenuator	PASTERNACK	PE7087-10	2	08-08-20
Attenuator	PASTERNACK	PE7395-10	A011	08-08-20
UL Software				
Description	**Manufacturer**	**Model**	**Version**	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

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7. APPLICABLE LIMIYS AND TEST RESULTS

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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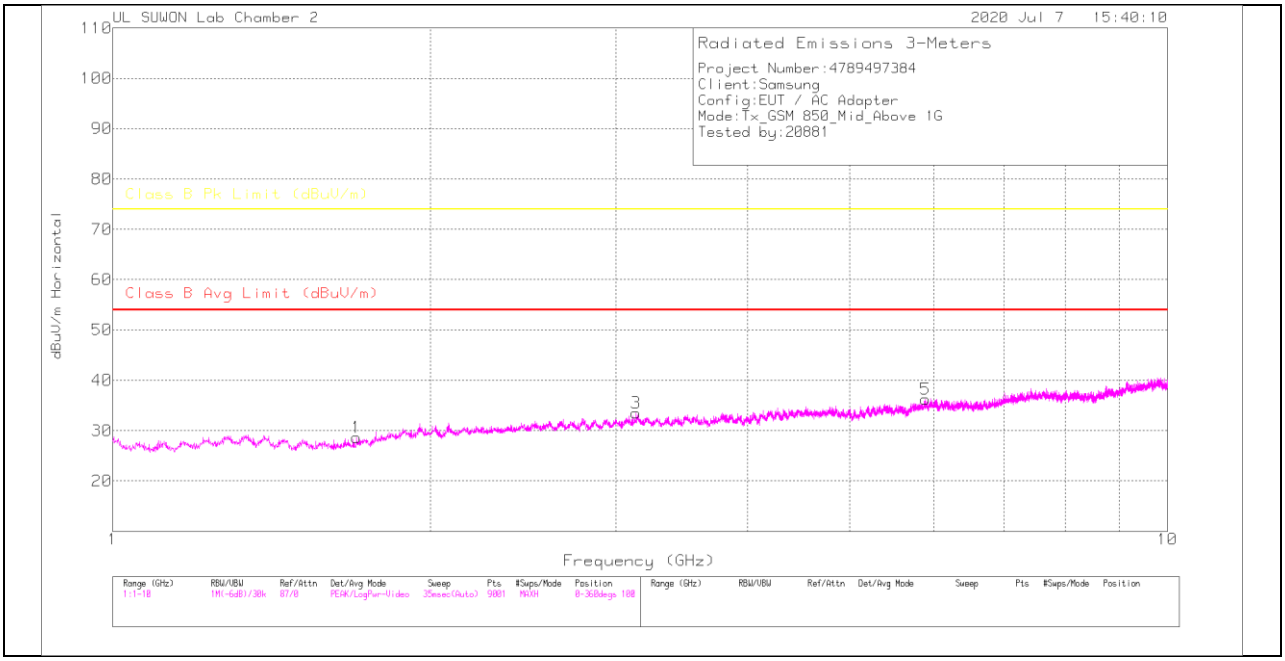
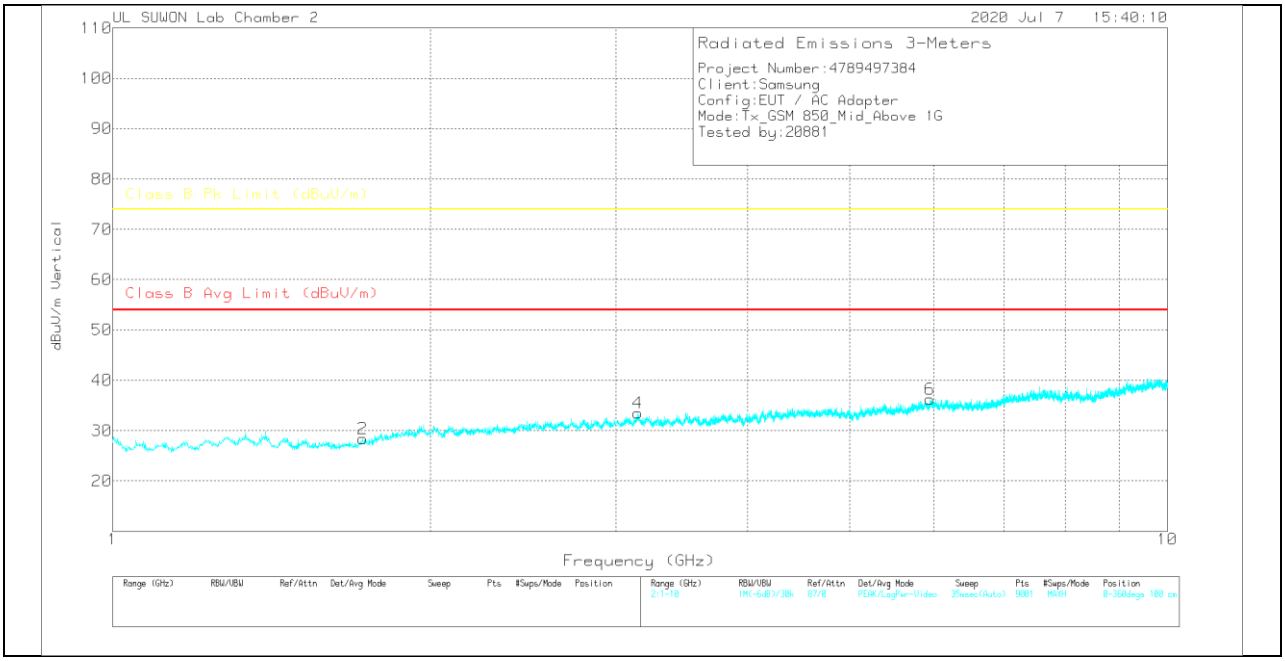
7.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.703	30.42	PK	28.7	-31.2	.7	28.62	-	-	74	-45.38	0-360	100	H
3	3.135	29.5	PK	32.9	-29.6	.7	33.5	-	-	74	-40.5	0-360	200	H
5	5.895	28.26	PK	34.9	-27.4	.5	36.26	-	-	74	-37.74	0-360	100	H
2	1.726	29.97	PK	28.9	-31.2	.7	28.37	-	-	74	-45.63	0-360	100	V
4	3.148	29.54	PK	32.9	-29.6	.7	33.54	-	-	74	-40.46	0-360	200	V
6	5.951	28.13	PK	35	-27.4	.5	36.23	-	-	74	-37.77	0-360	100	V

PK-Peak Detector

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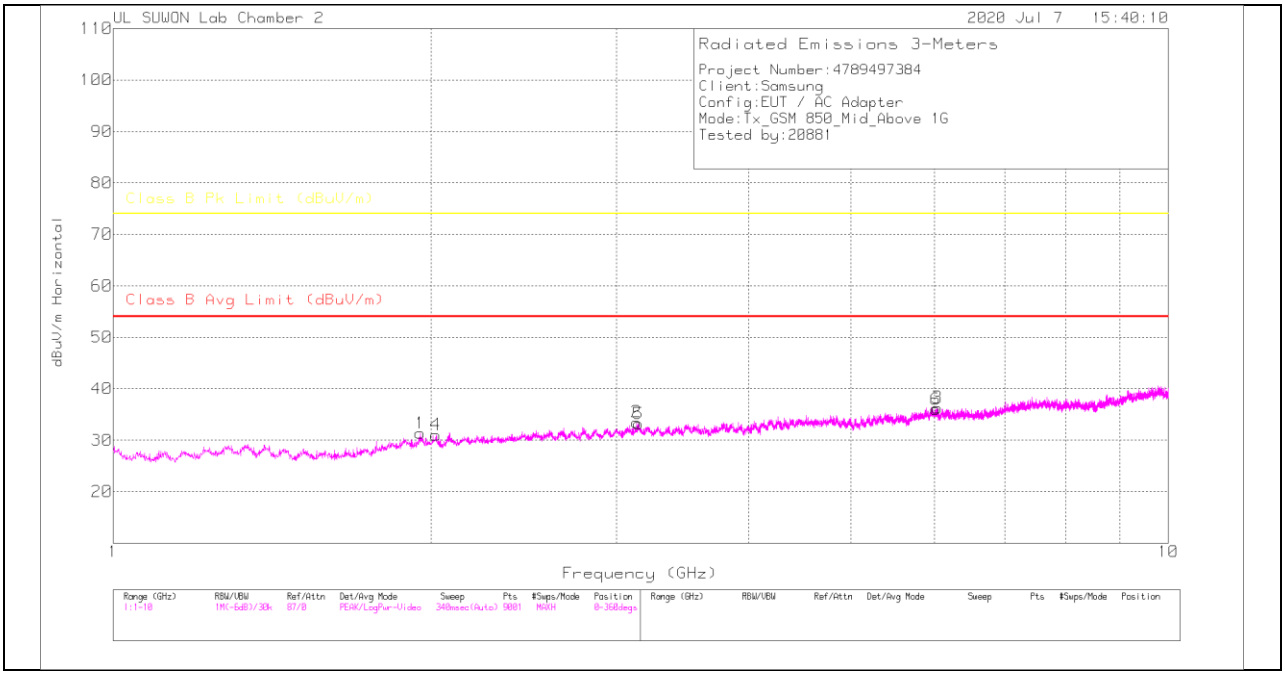
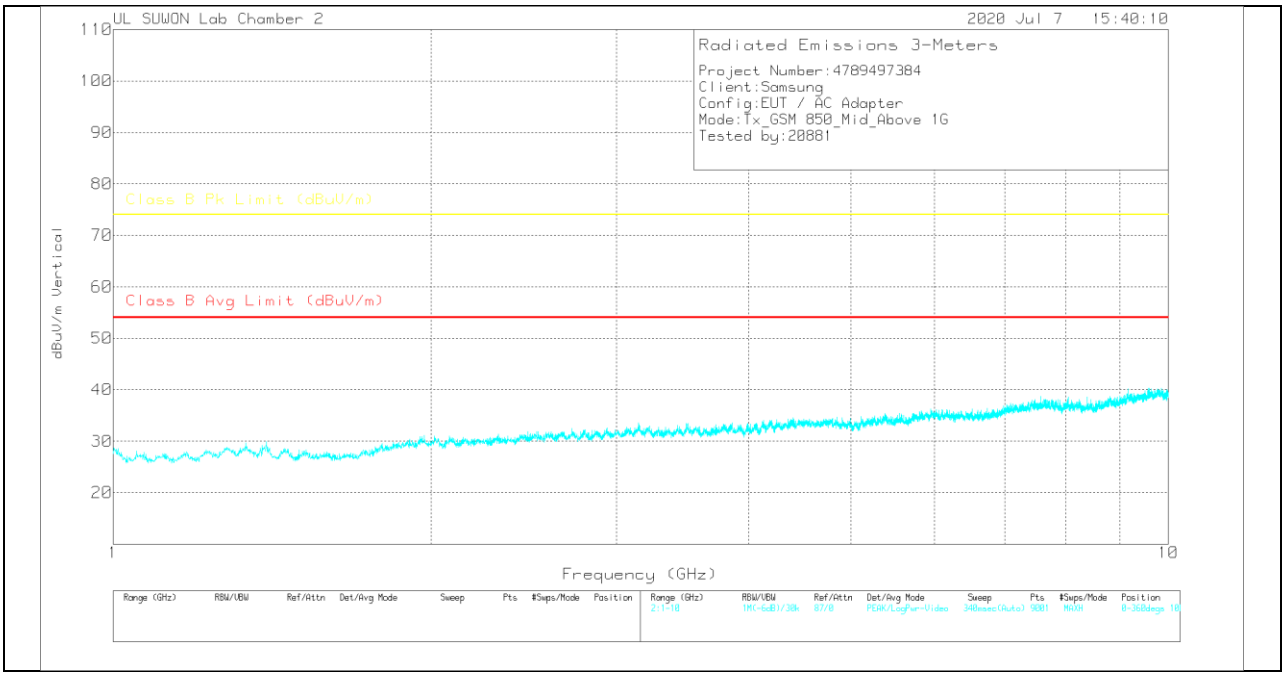
MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.954	30.56	PK	31.1	-30.9	.6	31.36	-	-	74	-42.64	0-360	100	H
2	3.135	29.5	PK	32.9	-29.6	.7	33.5	-	-	74	-40.5	0-360	200	H
3	6.04	28	PK	35.1	-27.3	.5	36.3	-	-	74	-37.7	0-360	100	H
4	2.022	30.15	PK	31.2	-30.9	.6	31.05	-	-	74	-42.95	0-360	200	H
5	3.145	29.3	PK	32.9	-29.7	.7	33.2	-	-	74	-40.8	0-360	100	H
6	6.019	27.82	PK	35	-27.3	.5	36.02	-	-	74	-37.98	0-360	100	H

PK – Peak Detector

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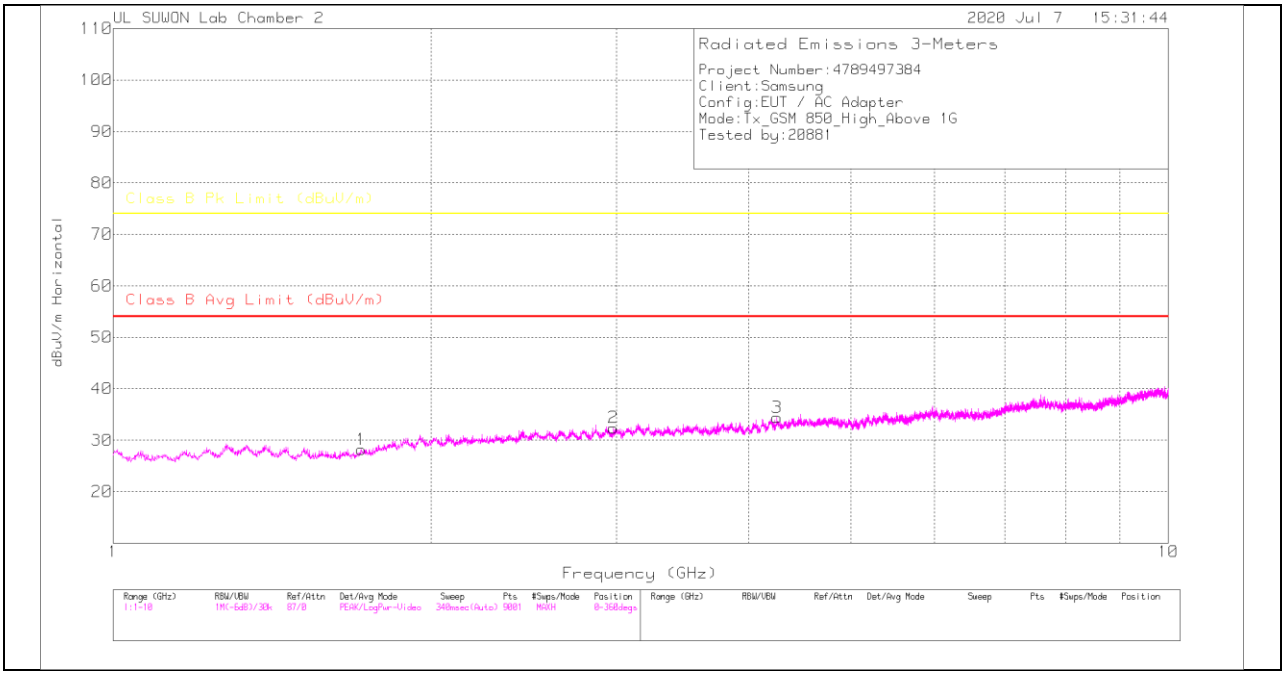
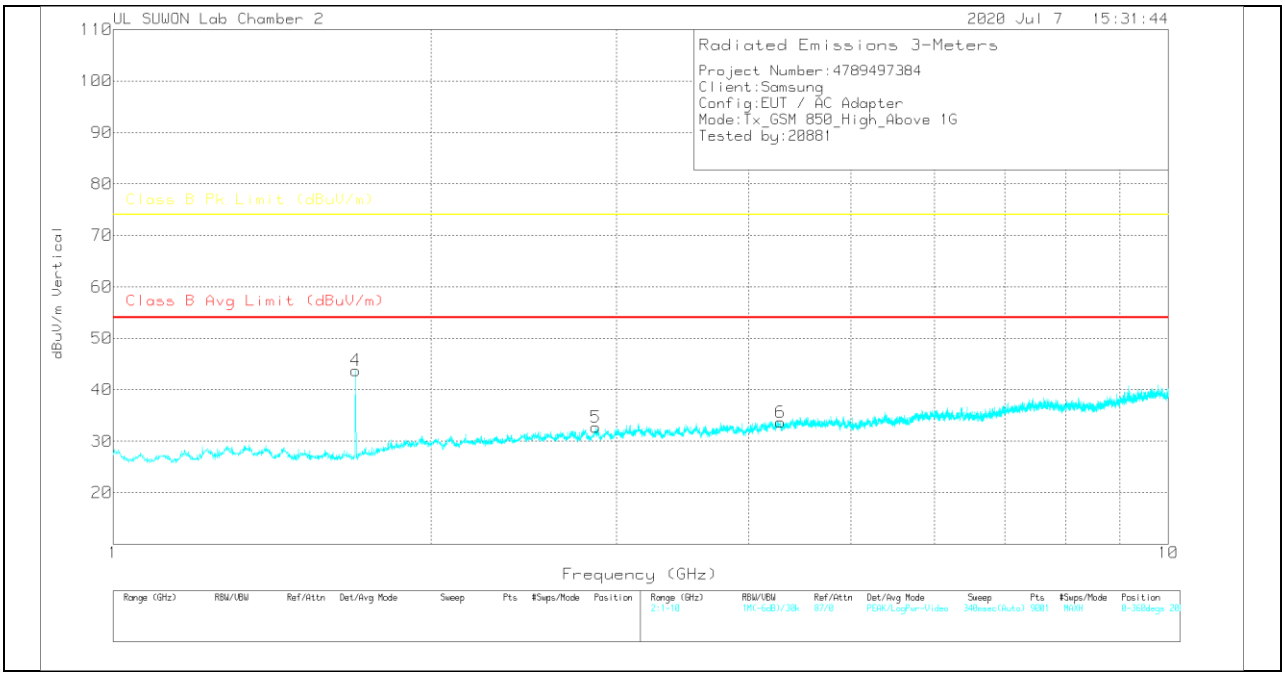
HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.718	29.87	PK	28.8	-31.2	.7	28.17	-	-	74	-45.83	0-360	100	H
2	2.98	29.51	PK	32.4	-30.2	.7	32.41	-	-	74	-41.59	0-360	200	H
3	4.257	29.03	PK	33.5	-28.6	.5	34.43	-	-	74	-39.57	0-360	200	H
4	1.697	45.64	PK	28.6	-31.2	.7	43.74	-	-	74	-30.26	0-360	100	V
5	2.867	29.6	PK	32.1	-29.8	.8	32.7	-	-	74	-41.3	0-360	200	V
6	4.288	28.57	PK	33.5	-28.9	.5	33.67	-	-	74	-40.33	0-360	200	V

PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

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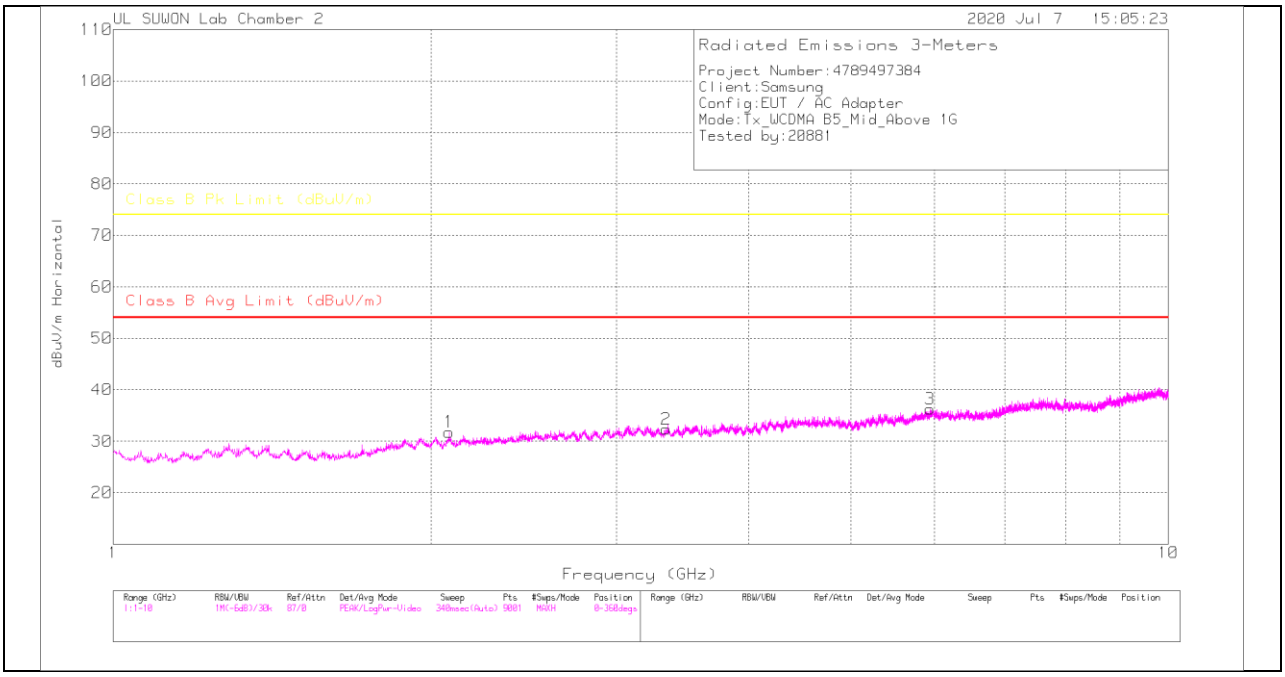
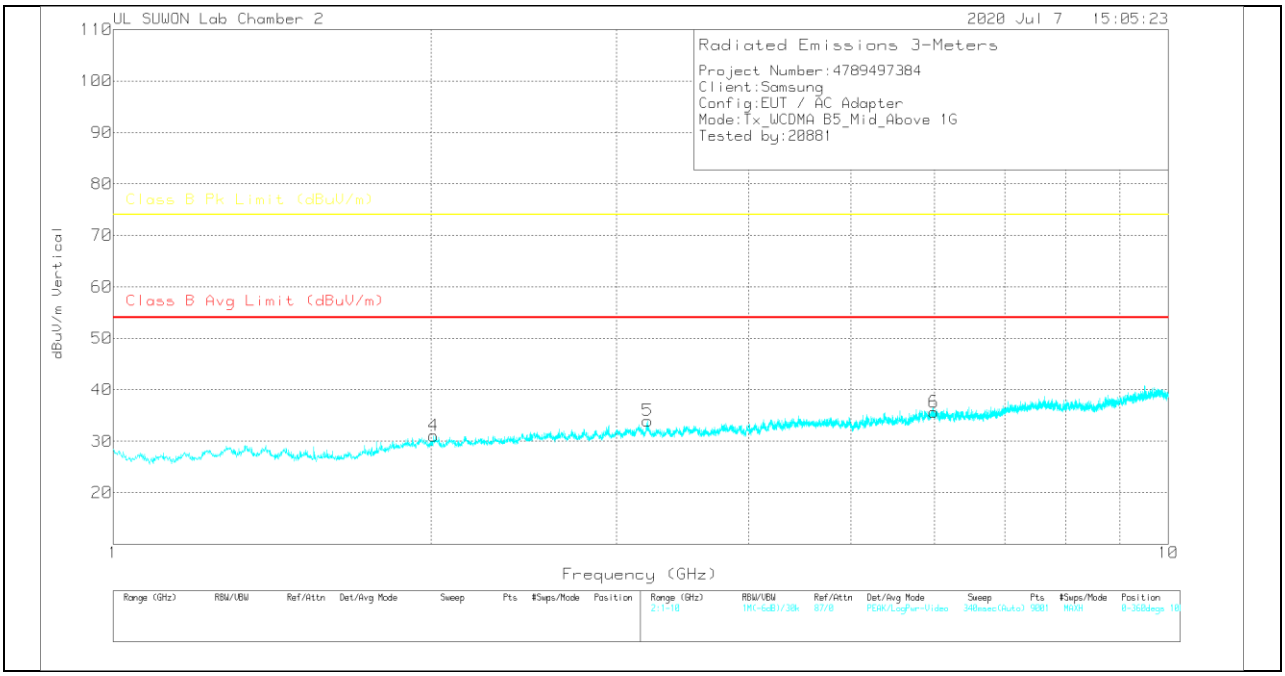
7.2. Above 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.081	30.56	PK	31.3	-30.7	.6	31.76	-	-	74	-42.24	0-360	200	H
2	3.343	28.73	PK	32.6	-29.7	.7	32.33	-	-	74	-41.67	0-360	100	H
3	5.944	28.15	PK	35	-27.4	.5	36.25	-	-	74	-37.75	0-360	100	H
4	2.013	30.17	PK	31.2	-30.9	.6	31.07	-	-	74	-42.93	0-360	200	V
5	3.21	30.1	PK	32.9	-29.7	.7	34	-	-	74	-40	0-360	100	V
6	5.993	27.66	PK	35	-27.5	.5	35.66	-	-	74	-38.34	0-360	100	V

PK – Peak Detector

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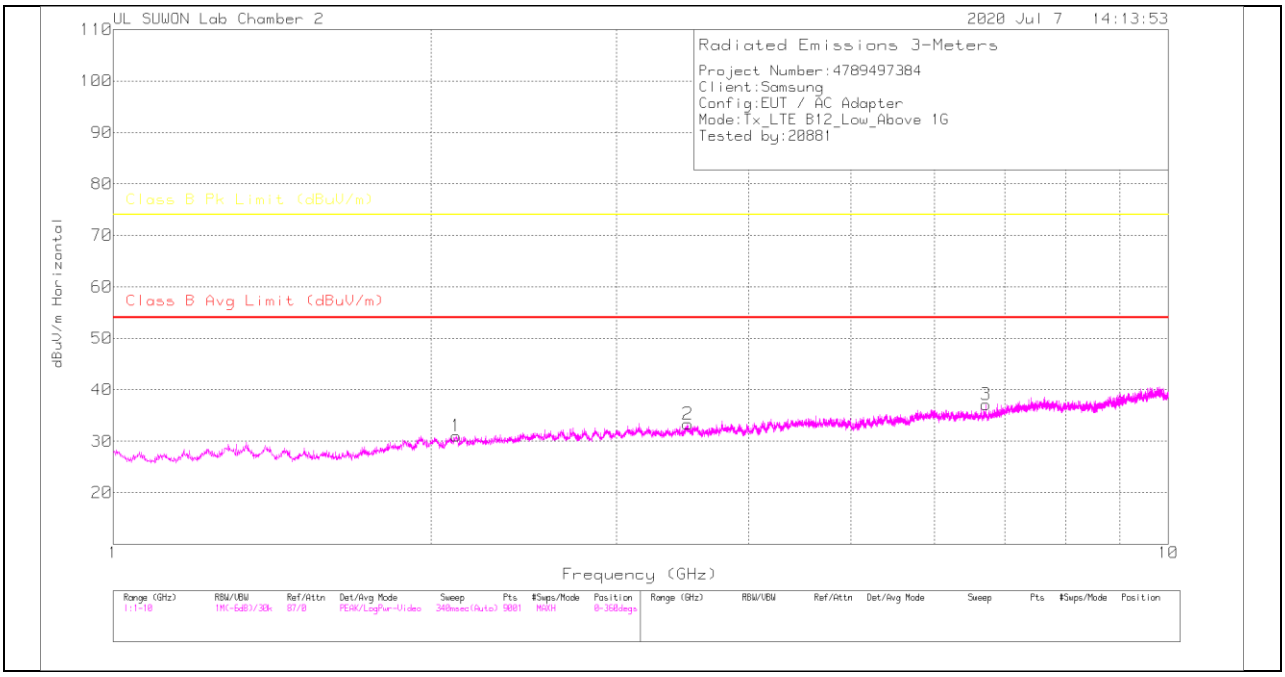
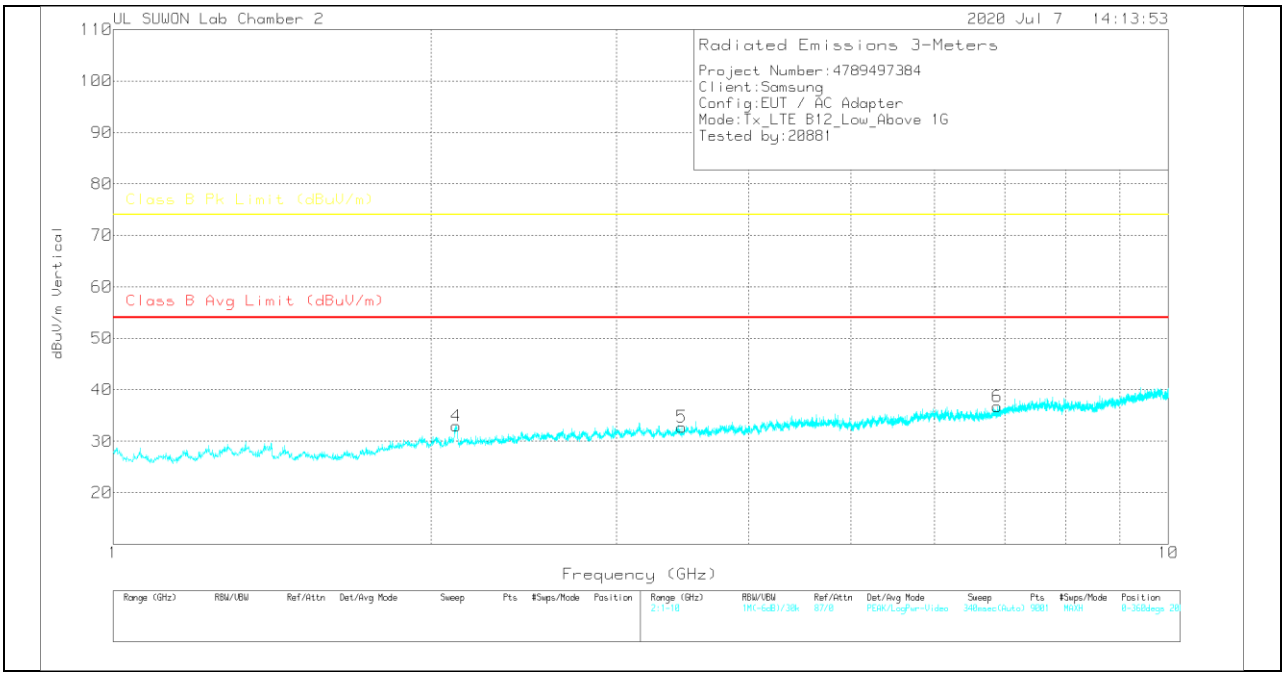
7.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.113	29.63	PK	31.3	-30.6	.7	31.03	-	-	74	-42.97	0-360	100	H
2	3.504	29.05	PK	32.7	-29	.6	33.35	-	-	74	-40.65	0-360	200	H
3	6.718	27.36	PK	35.4	-26.1	.5	37.16	-	-	74	-36.84	0-360	100	H
4	2.115	31.56	PK	31.3	-30.6	.7	32.96	-	-	74	-41.04	0-360	100	V
5	3.46	28.34	PK	32.7	-28.9	.6	32.74	-	-	74	-41.26	0-360	100	V
6	6.882	26.55	PK	35.6	-25.9	.5	36.75	-	-	74	-37.25	0-360	100	V

PK – Peak Detector

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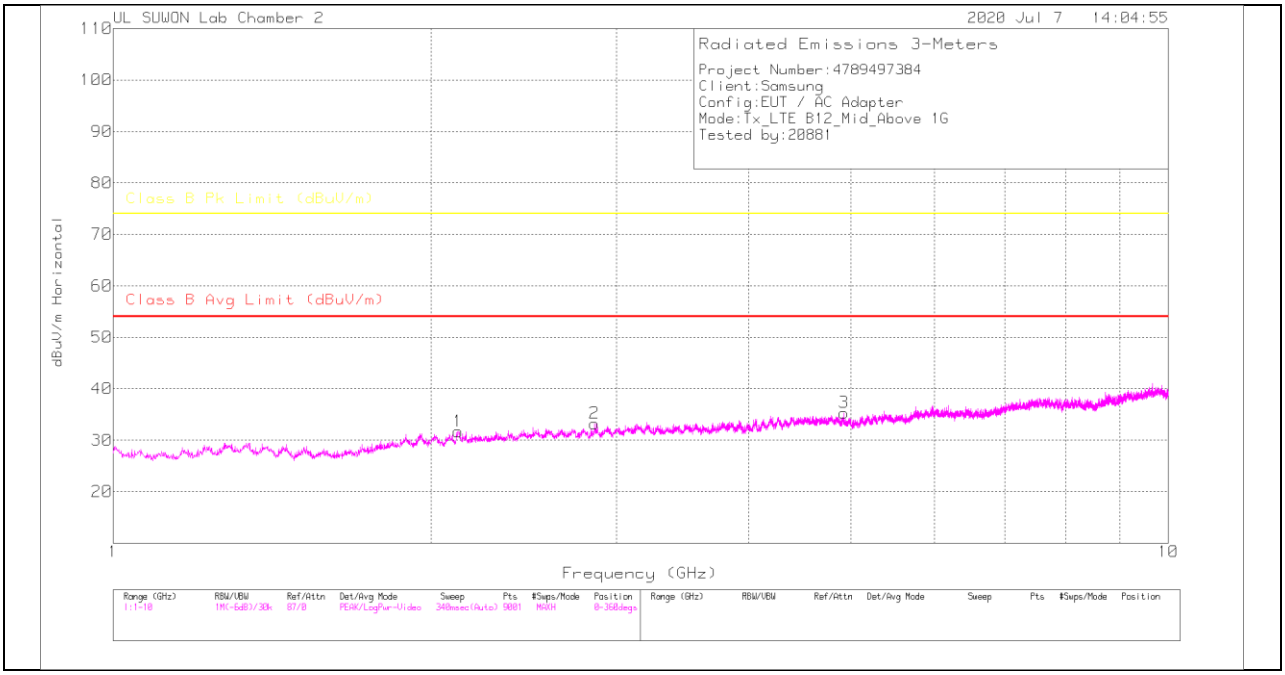
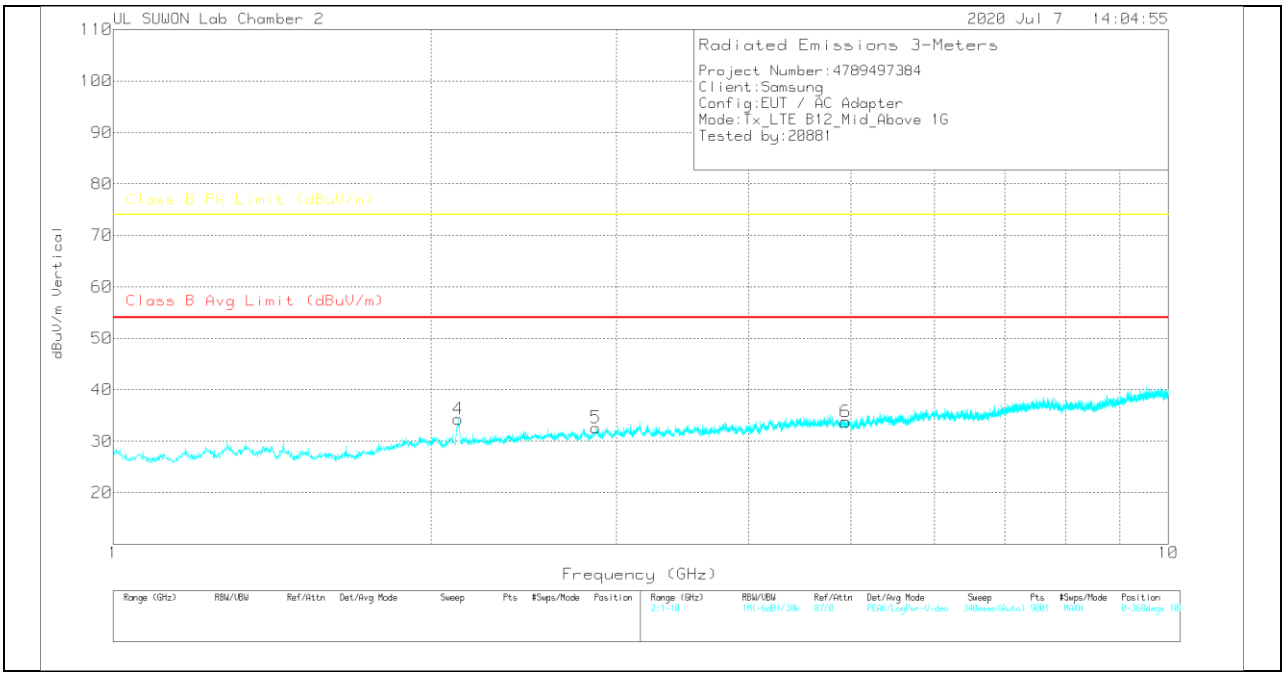
MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.122	30.2	PK	31.3	-30.5	.7	31.7	-	-	74	-42.3	0-360	200	H
2	2.86	30.27	PK	32.1	-29.8	.7	33.27	-	-	74	-40.73	0-360	100	H
3	4.928	29.14	PK	34	-28.3	.5	35.34	-	-	74	-38.66	0-360	100	H
4	2.123	32.91	PK	31.3	-30.6	.7	34.31	-	-	74	-39.69	0-360	100	V
5	2.867	29.53	PK	32.1	-29.8	.8	32.63	-	-	74	-41.37	0-360	100	V
6	4.944	27.46	PK	34.1	-28.3	.5	33.76	-	-	74	-40.24	0-360	200	V

PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

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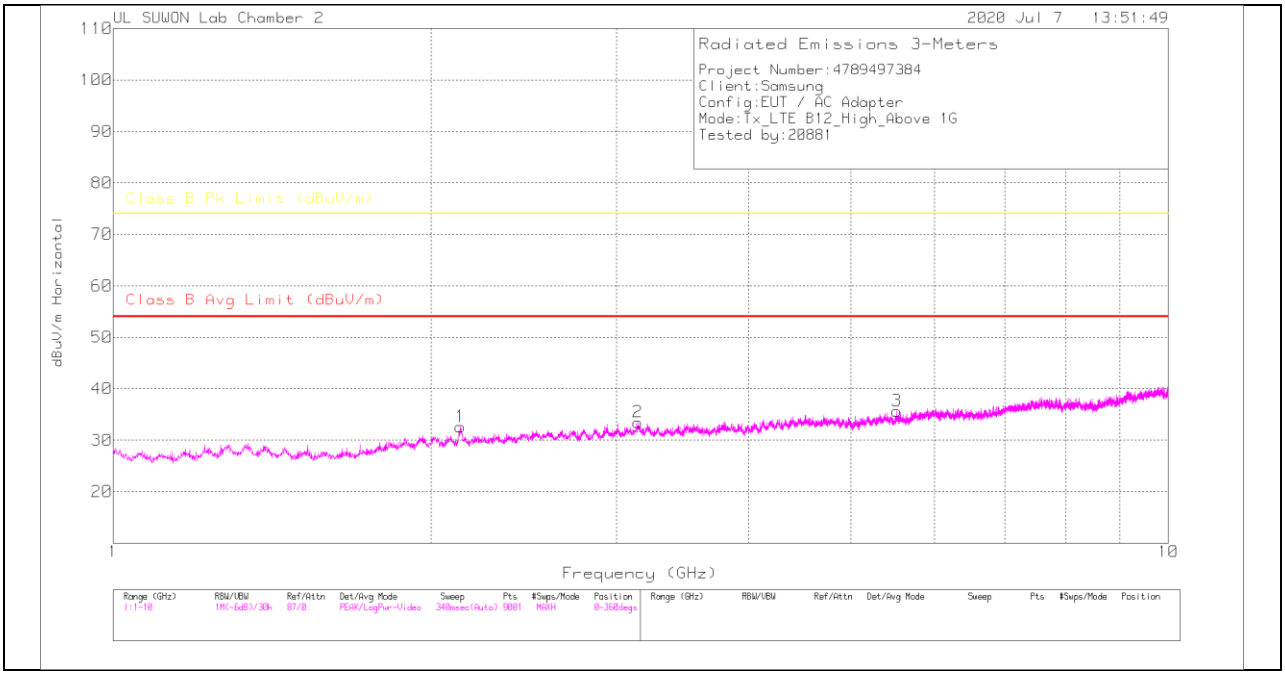
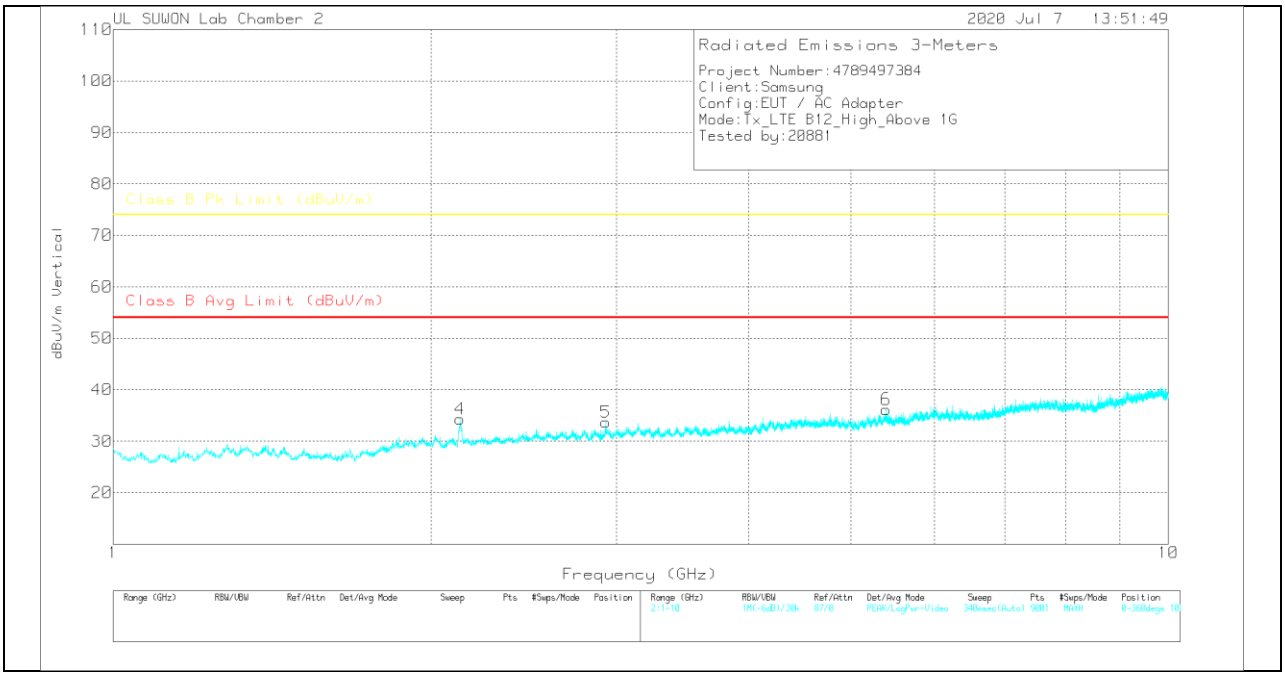
HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.133	31.24	PK	31.3	-30.6	.7	32.64	-	-	74	-41.36	0-360	100	H
2	3.143	29.51	PK	32.9	-29.6	.7	33.51	-	-	74	-40.49	0-360	200	H
3	5.529	28.3	PK	34.6	-27.7	.5	35.7	-	-	74	-38.3	0-360	100	H
4	2.132	32.8	PK	31.3	-30.5	.7	34.3	-	-	74	-39.7	0-360	100	V
5	2.929	30.77	PK	32.2	-30	.7	33.67	-	-	74	-40.33	0-360	100	V
6	5.401	29.05	PK	34.5	-27.9	.5	36.15	-	-	74	-37.85	0-360	100	V

PK – Peak Detector

Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

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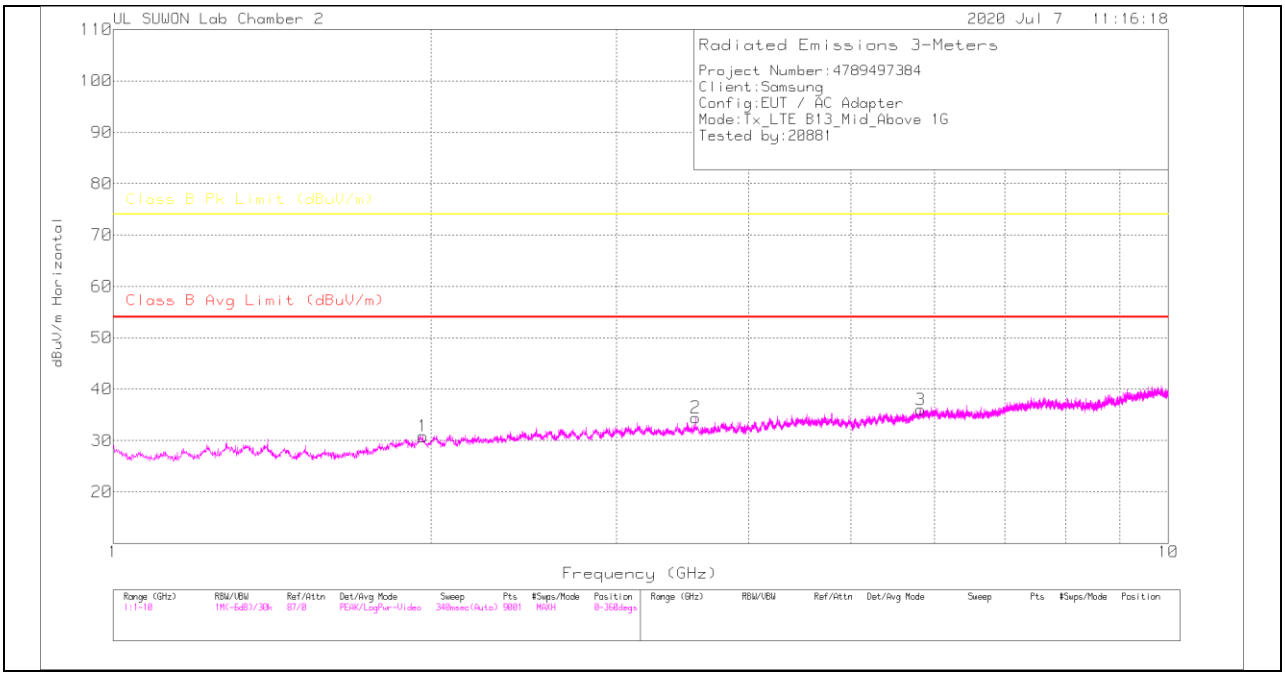
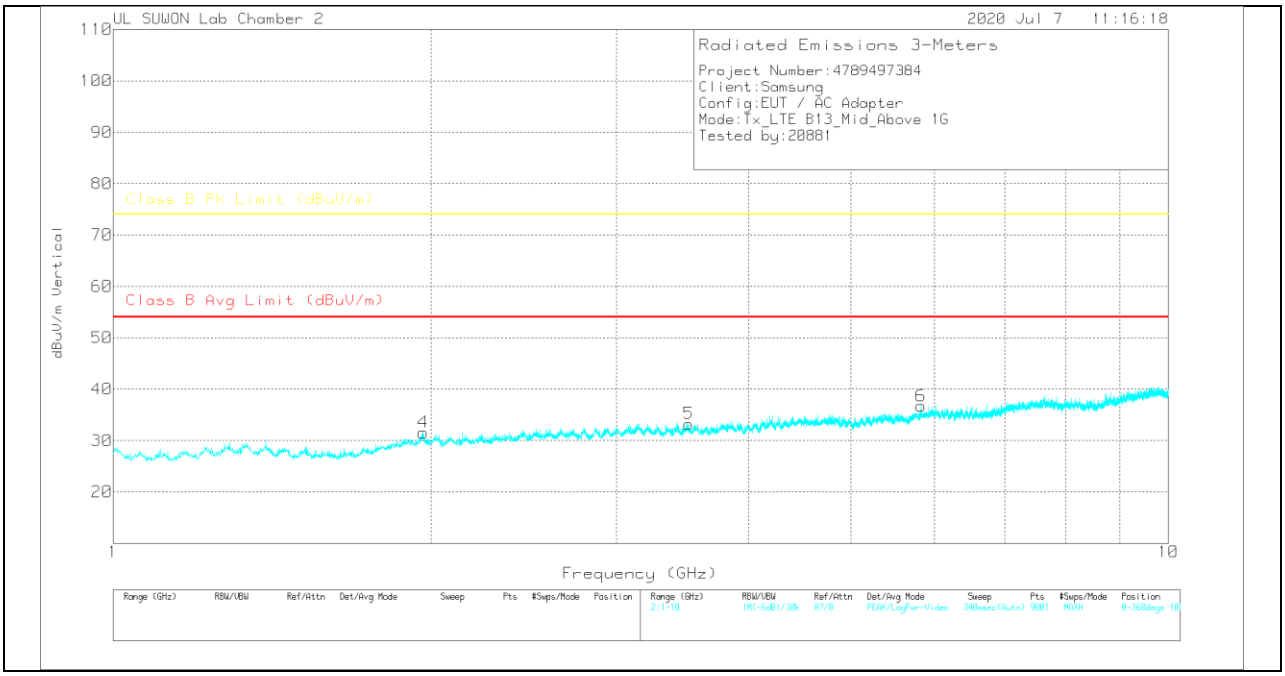
7.4. Above 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.966	30.04	PK	31.1	-30.9	.6	30.84	-	-	74	-43.16	0-360	200	H
2	3.565	30.34	PK	32.7	-29.2	.6	34.44	-	-	74	-39.56	0-360	200	H
3	5.823	27.71	PK	34.8	-27	.5	36.01	-	-	74	-37.99	0-360	100	H
4	1.967	30.77	PK	31.1	-30.9	.6	31.57	-	-	74	-42.43	0-360	200	V
5	3.512	28.87	PK	32.7	-28.9	.6	33.27	-	-	74	-40.73	0-360	100	V
6	5.829	28.44	PK	34.8	-27	.5	36.74	-	-	74	-37.26	0-360	100	V

PK – Peak Dector

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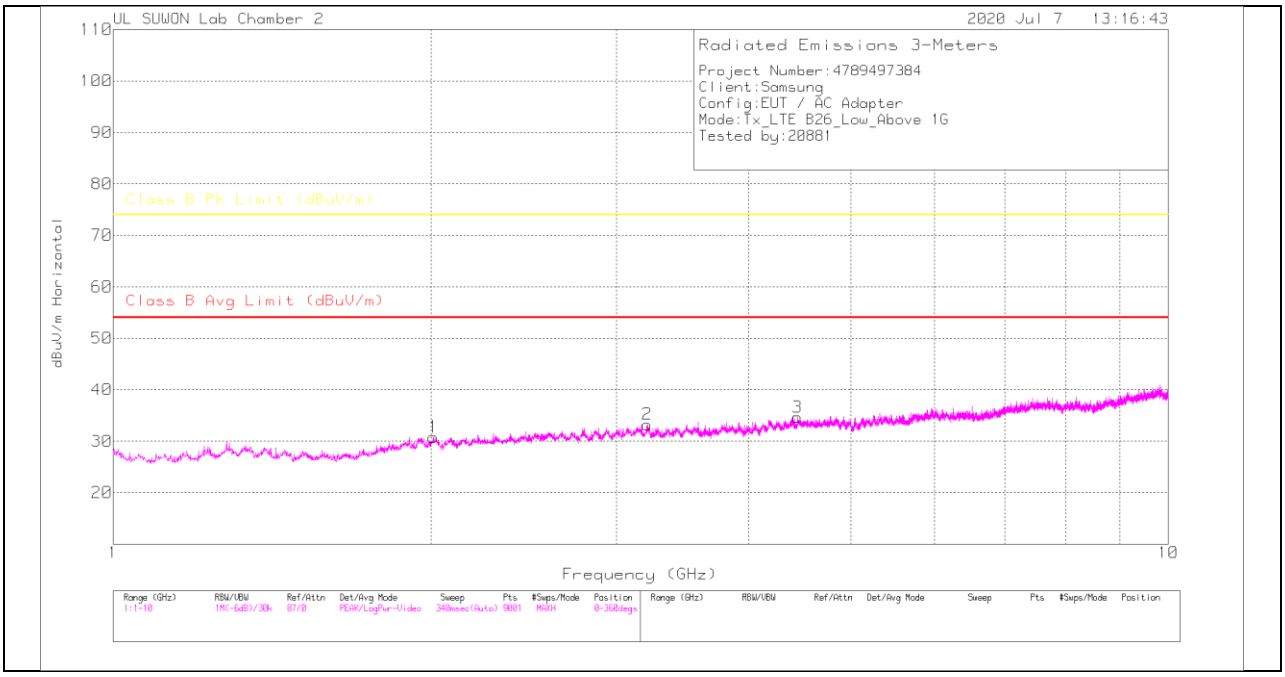
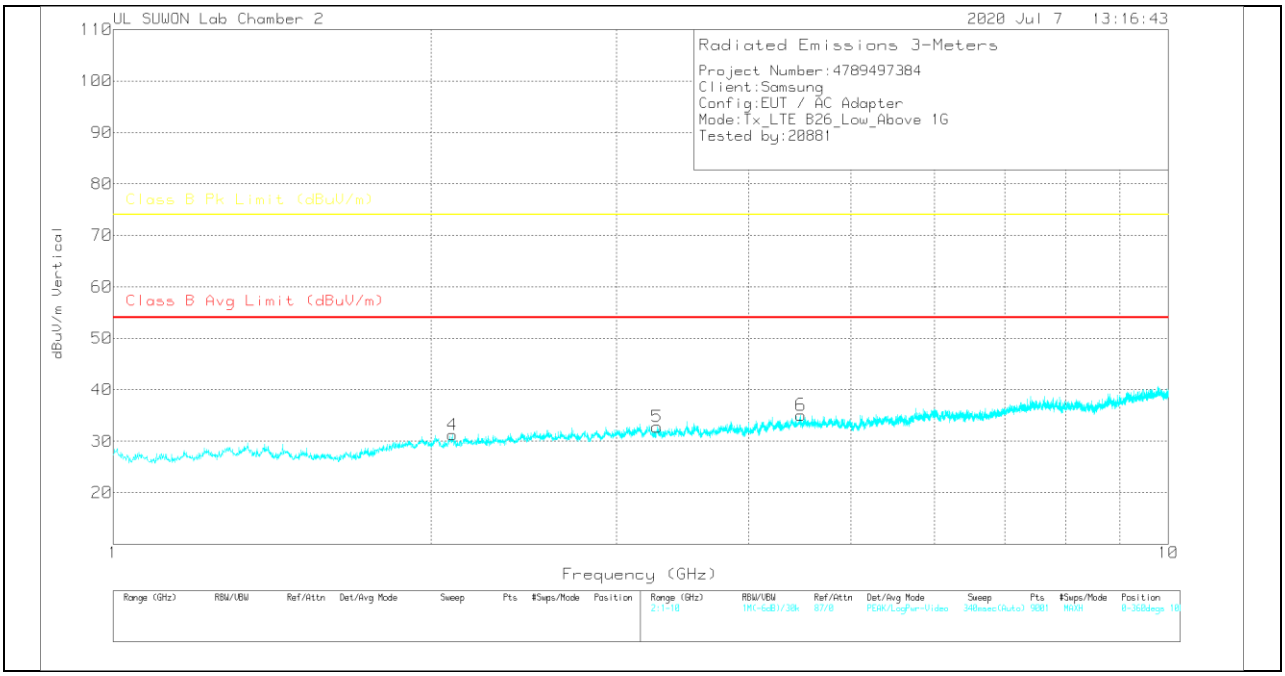
7.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.011	29.87	PK	31.2	-30.9	.6	30.77	-	-	74	-43.23	0-360	100	H
2	3.208	29.27	PK	32.9	-29.6	.7	33.27	-	-	74	-40.73	0-360	100	H
3	4.452	28.67	PK	33.8	-28.3	.5	34.67	-	-	74	-39.33	0-360	200	H
4	2.097	30.03	PK	31.3	-30.7	.6	31.23	-	-	74	-42.77	0-360	200	V
5	3.277	29.29	PK	32.7	-29.9	.7	32.79	-	-	74	-41.21	0-360	100	V
6	4.485	29.06	PK	33.8	-28.3	.5	35.06	-	-	74	-38.94	0-360	100	V

Pk - Peak detector

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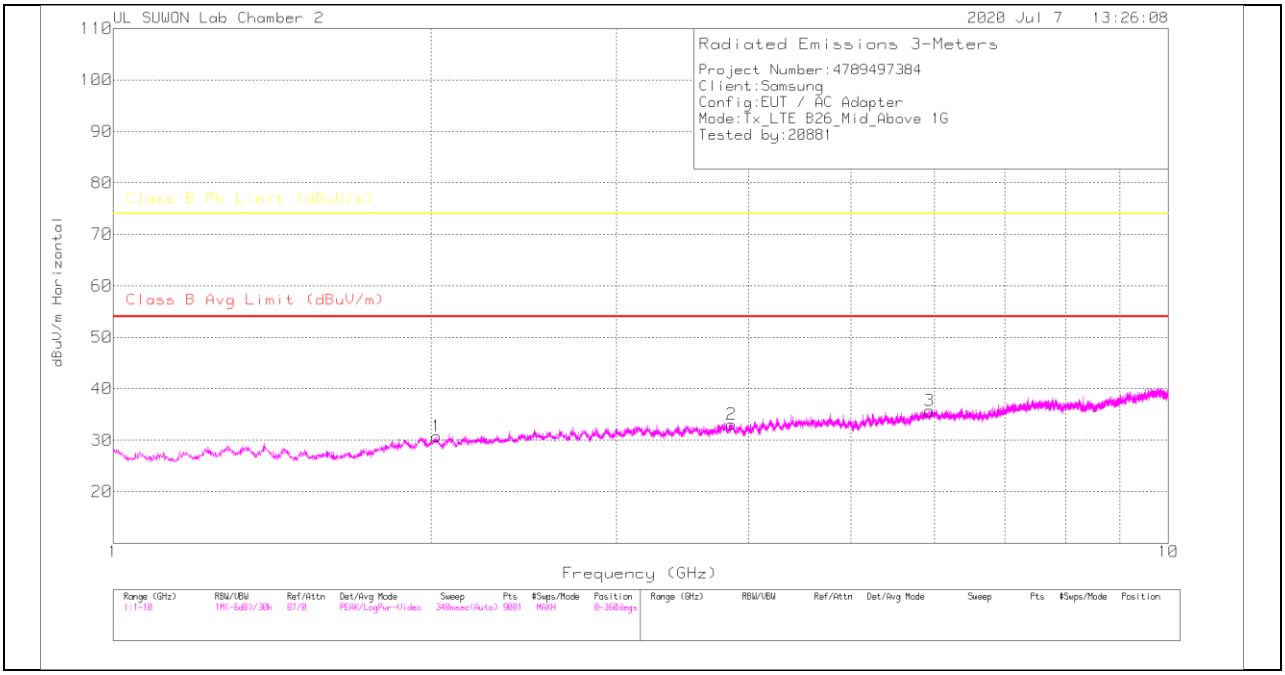
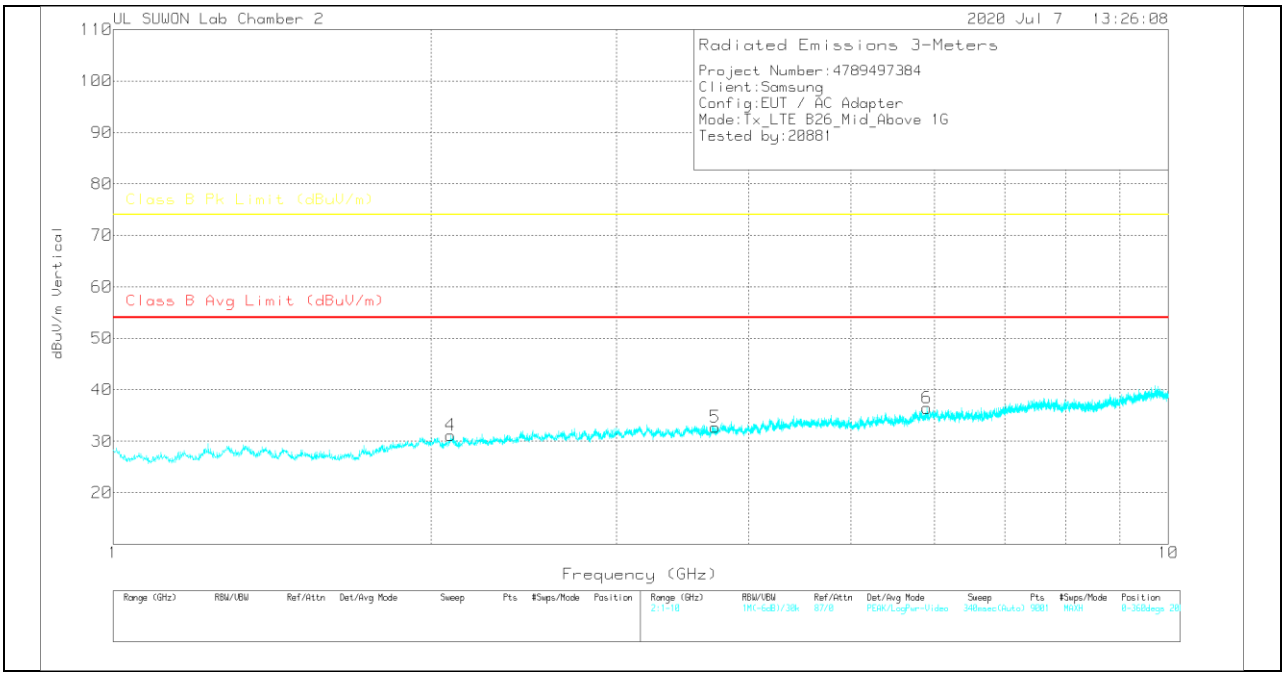
MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.025	29.75	PK	31.2	-30.8	.6	30.75	-	-	74	-43.25	0-360	200	H
2	3.854	28.26	PK	33.3	-29	.5	33.06	-	-	74	-40.94	0-360	200	H
3	5.936	27.72	PK	35	-27.5	.5	35.72	-	-	74	-38.28	0-360	100	H
4	2.088	29.96	PK	31.3	-30.7	.6	31.16	-	-	74	-42.84	0-360	100	V
5	3.721	28.63	PK	33	-29.5	.6	32.73	-	-	74	-41.27	0-360	200	V
6	5.908	28.47	PK	34.9	-27.4	.5	36.47	-	-	74	-37.53	0-360	100	V

PK – Peak Detector

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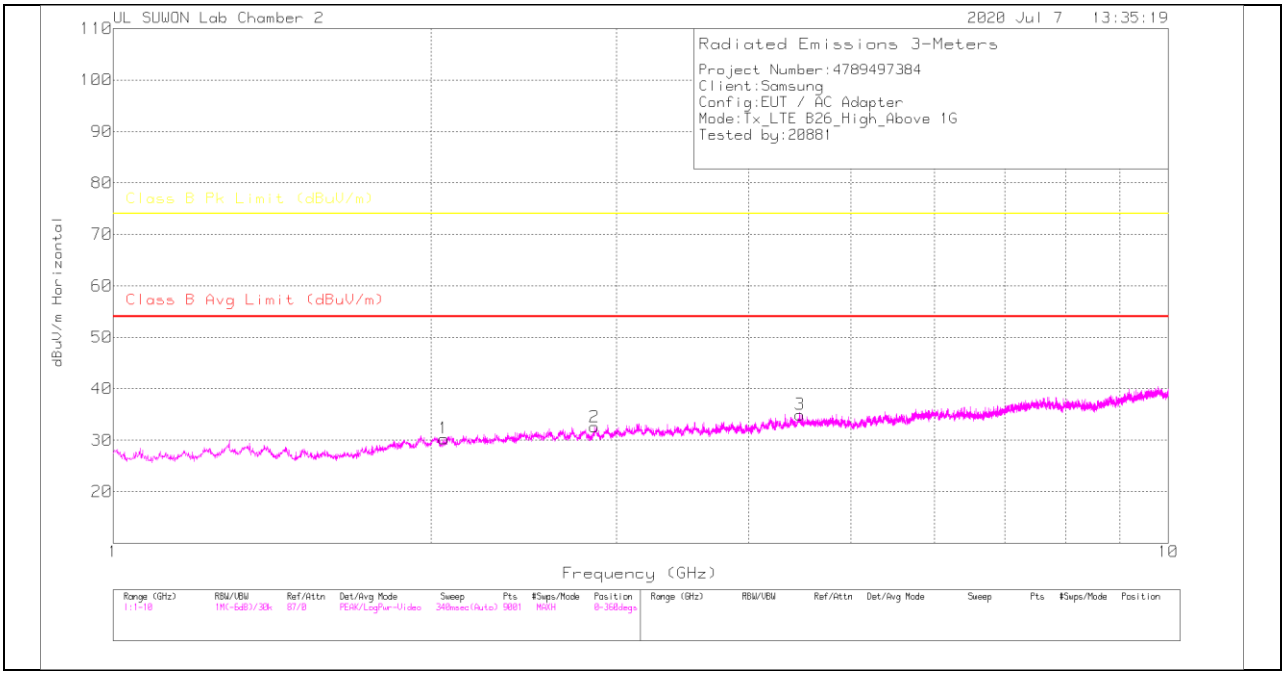
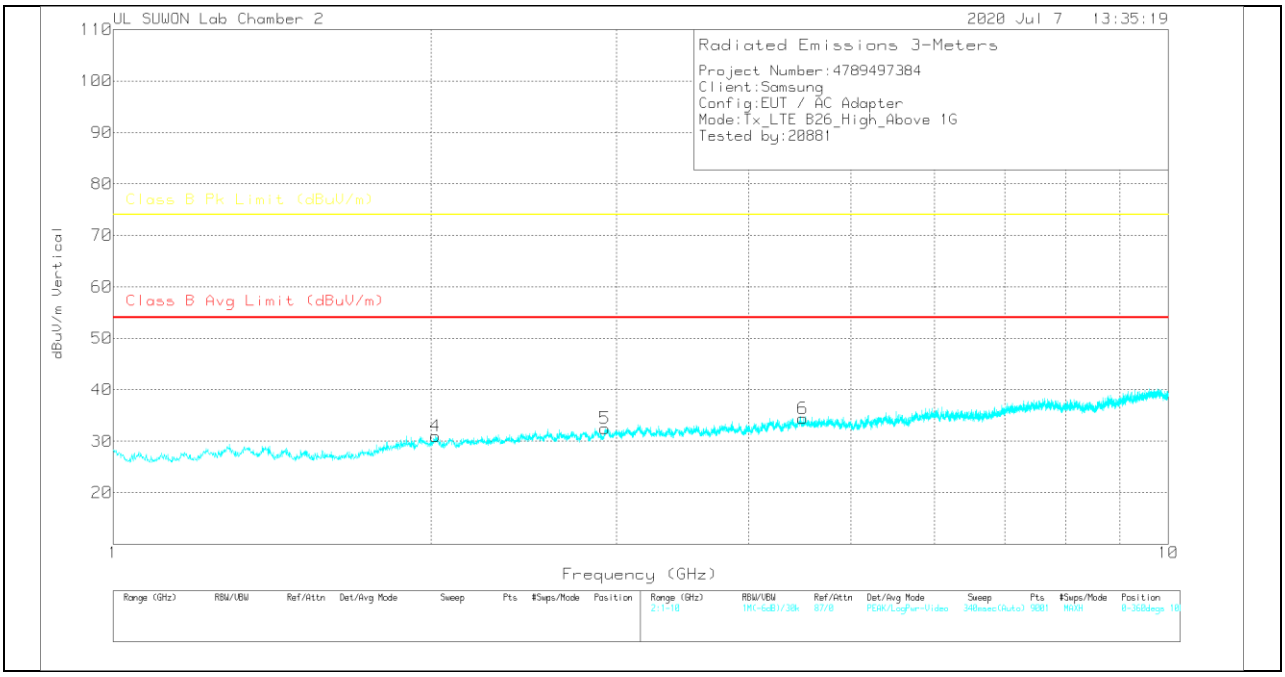
HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.058	29.13	PK	31.3	-30.7	.6	30.33	-	-	74	-43.67	0-360	100	H
2	2.858	29.49	PK	32.1	-29.8	.8	32.59	-	-	74	-41.41	0-360	200	H
3	4.476	28.98	PK	33.8	-28.3	.5	34.98	-	-	74	-39.02	0-360	200	H
4	2.021	30.07	PK	31.2	-30.9	.6	30.97	-	-	74	-43.03	0-360	200	V
5	2.924	29.59	PK	32.2	-30	.7	32.49	-	-	74	-41.51	0-360	200	V
6	4.504	28.52	PK	33.8	-28.4	.5	34.42	-	-	74	-39.58	0-360	200	V

PK – Peak Detector

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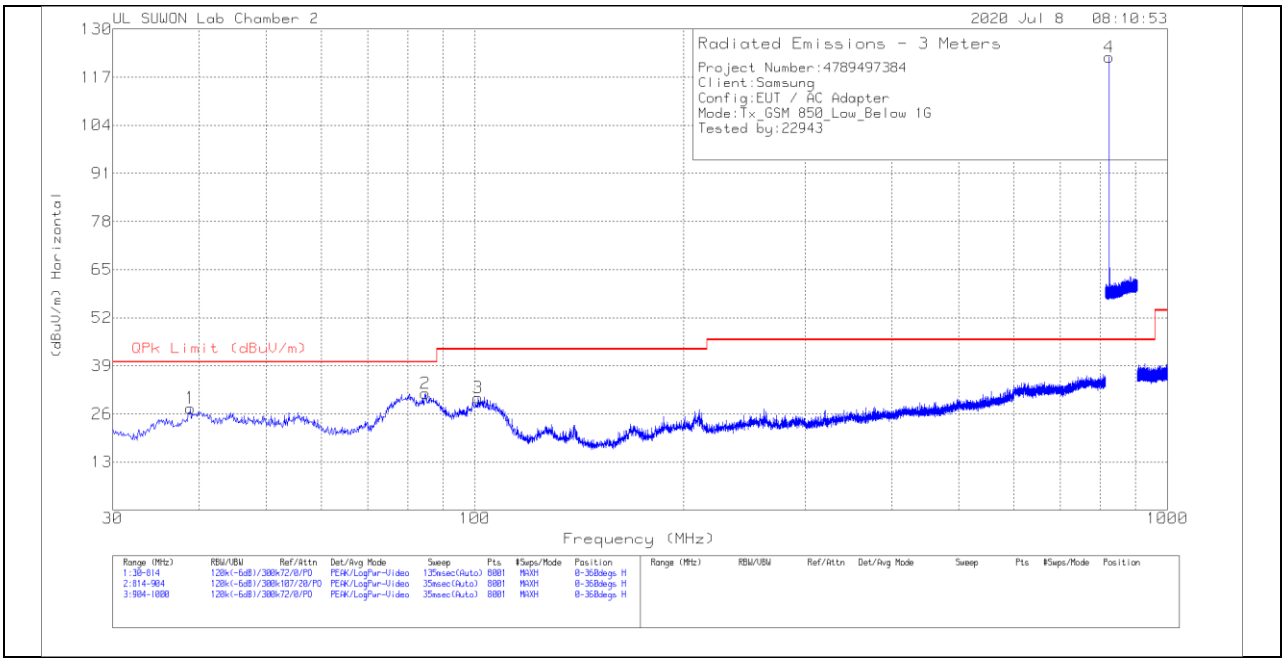
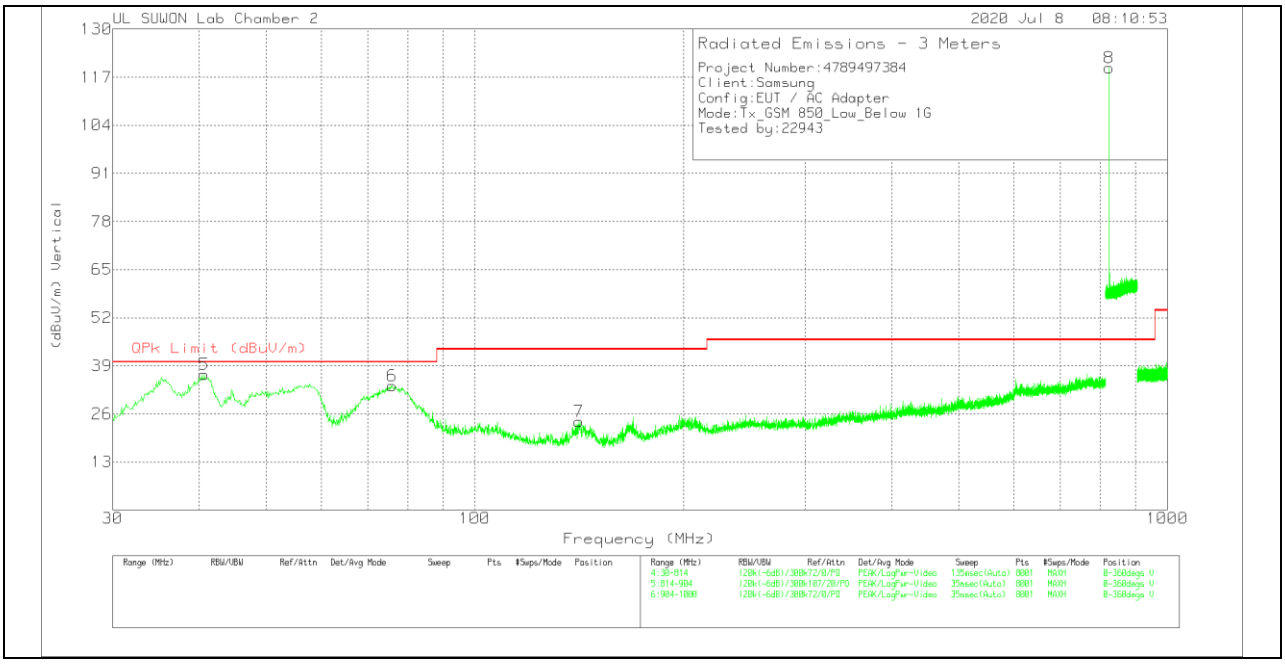
7.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	38.82	8.6	Pk	18.3	.7	27.6	40	-12.4	0-360	300	H
2	84.88	17.01	Pk	13.6	1	31.61	40	-8.39	0-360	200	H
3	101.148	11.57	Pk	17.7	1.1	30.37	43.52	-13.15	0-360	300	H
4	824.1925	92.26	Pk	26.9	3.2	122.36	**46.02**	**76.34**	0-360	100	H
5	40.682	17.03	Pk	18.9	.7	36.63	40	-3.37	0-360	100	V
6	75.962	19.26	Pk	13.3	1	33.56	40	-6.44	0-360	100	V
7	141.426	8.51	Pk	14.1	1.3	23.91	43.52	-19.61	0-360	100	V
8	824.1475	89.42	Pk	26.9	3.2	119.52	**46.02**	**73.5**	0-360	200	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.682	13.69	Qp	18.9	.7	33.29	40	-6.71	254	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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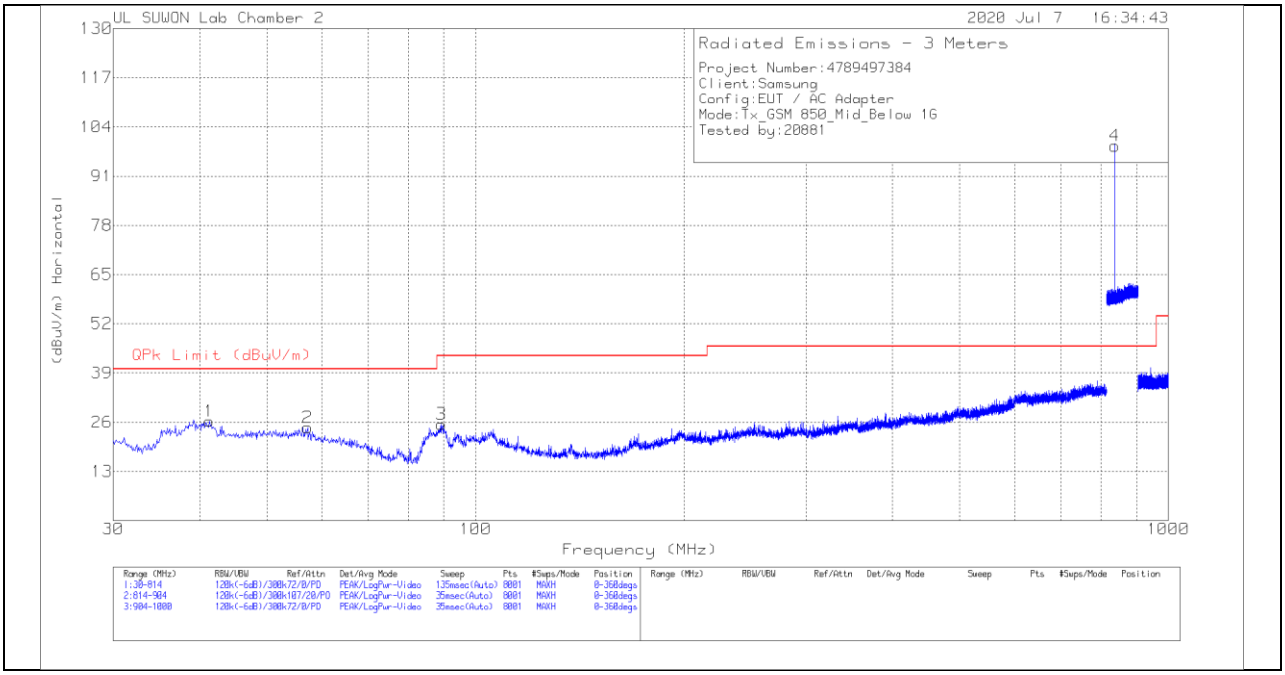
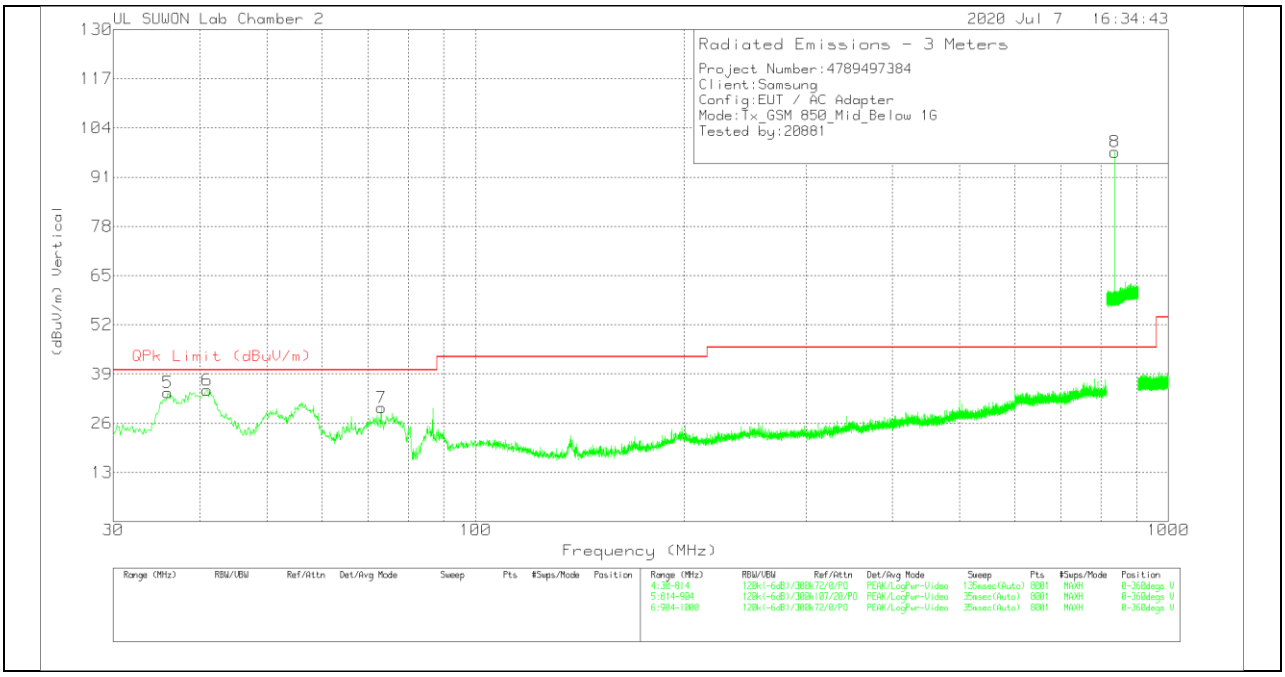
MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	41.27	6.53	Pk	19	.7	26.23	40	-13.77	0-360	400	H
2	57.244	4.76	Pk	19	.8	24.56	40	-15.44	0-360	400	H
3	89.29	9.05	Pk	15.3	1.1	25.45	43.52	-18.07	0-360	200	H
4	836.6238	68.61	Pk	27.1	3.3	99.01	**46.02**	**52.99**	0-360	100	H
5	35.978	16.26	Pk	17.1	.7	34.06	40	-5.94	0-360	100	V
6	40.976	15.01	Pk	19	.7	34.71	40	-5.29	0-360	100	V
7	73.12	14.83	Pk	14.2	1	30.03	40	-9.97	0-360	300	V
8	836.545	67.28	Pk	27.1	3.3	97.68	**46.02**	**51.66**	0-360	200	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.

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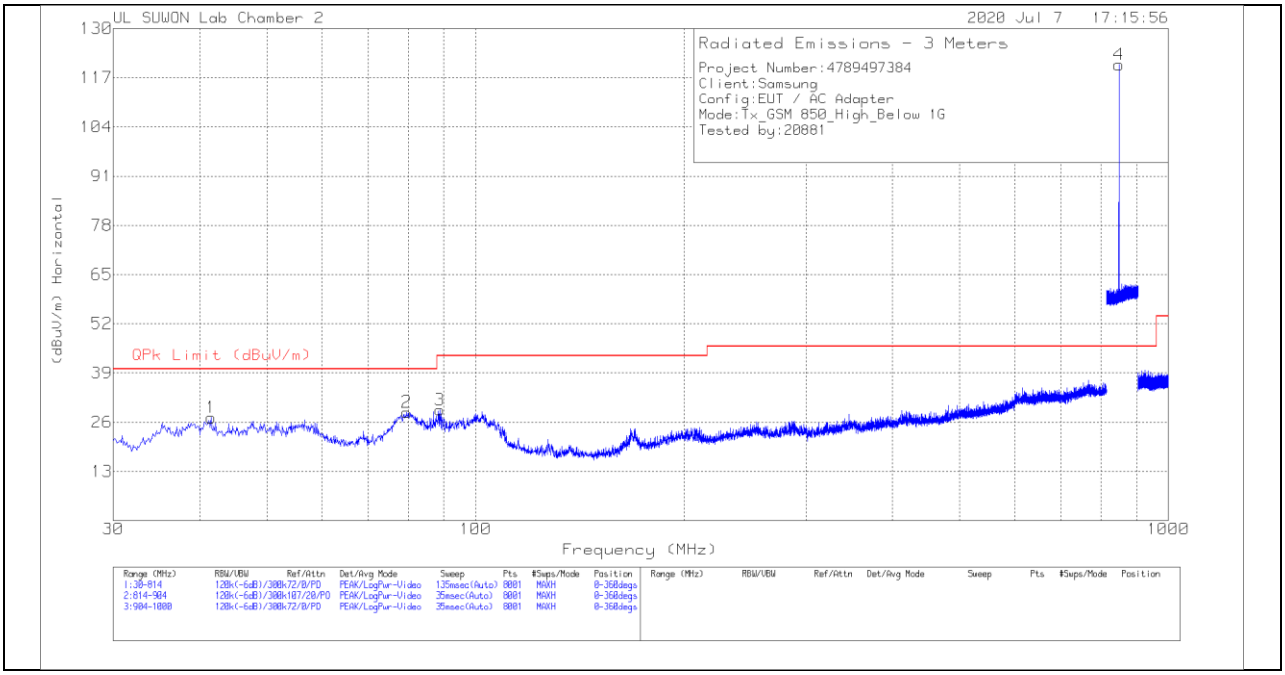
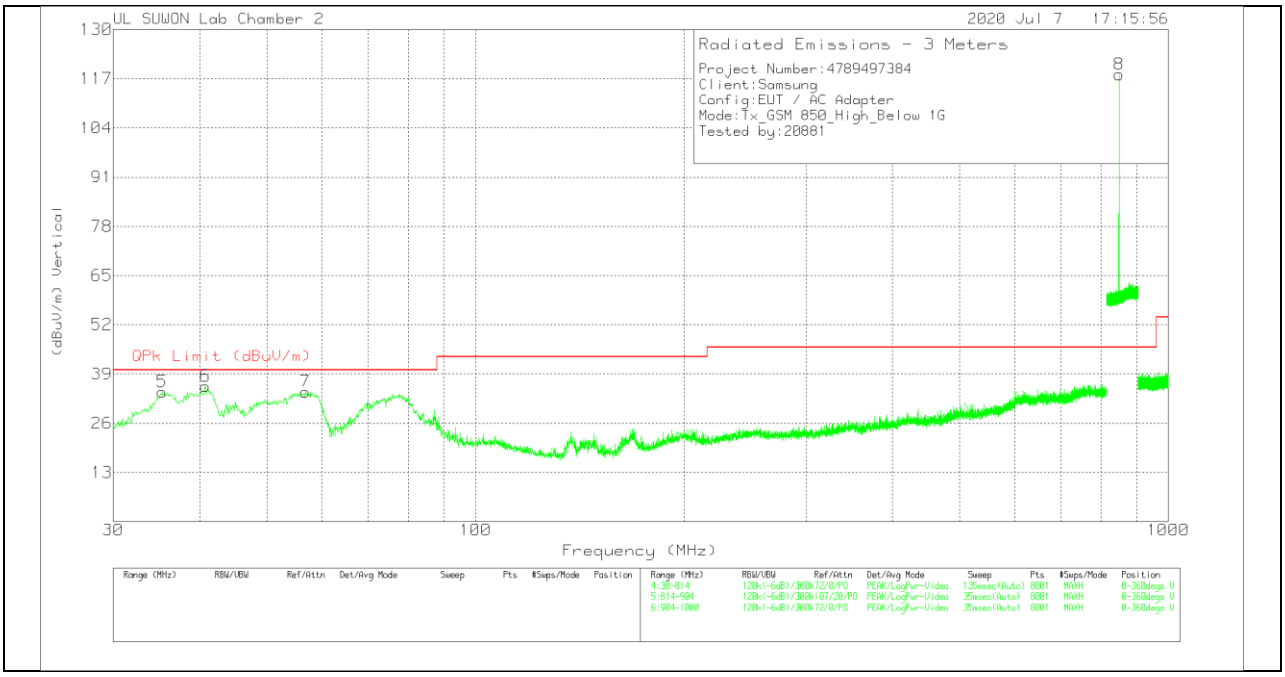
HIGH CHANNEL(893.8 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	41.564	7.38	Pk	19.1	.7	27.18	40	-12.82	0-360	400	H
2	79.588	15	Pk	12.6	1	28.6	40	-11.4	0-360	200	H
3	88.8	13.03	Pk	15.1	1.1	29.23	43.52	-14.29	0-360	200	H
4	848.8075	89.75	Pk	27.4	3.3	120.45	**46.02**	**74.43**	0-360	100	H
5	35.292	16.79	Pk	16.8	.7	34.29	40	-5.71	0-360	100	V
6	40.78	16.18	Pk	18.9	.7	35.78	40	-4.22	0-360	100	V
7	56.852	14.5	Pk	19	.8	34.3	40	-5.7	0-360	100	V
8	848.8638	87.43	Pk	27.4	3.3	118.13	**46.02**	**72.11**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.78	11.63	Qp	18.9	.7	31.23	40	-8.77	272	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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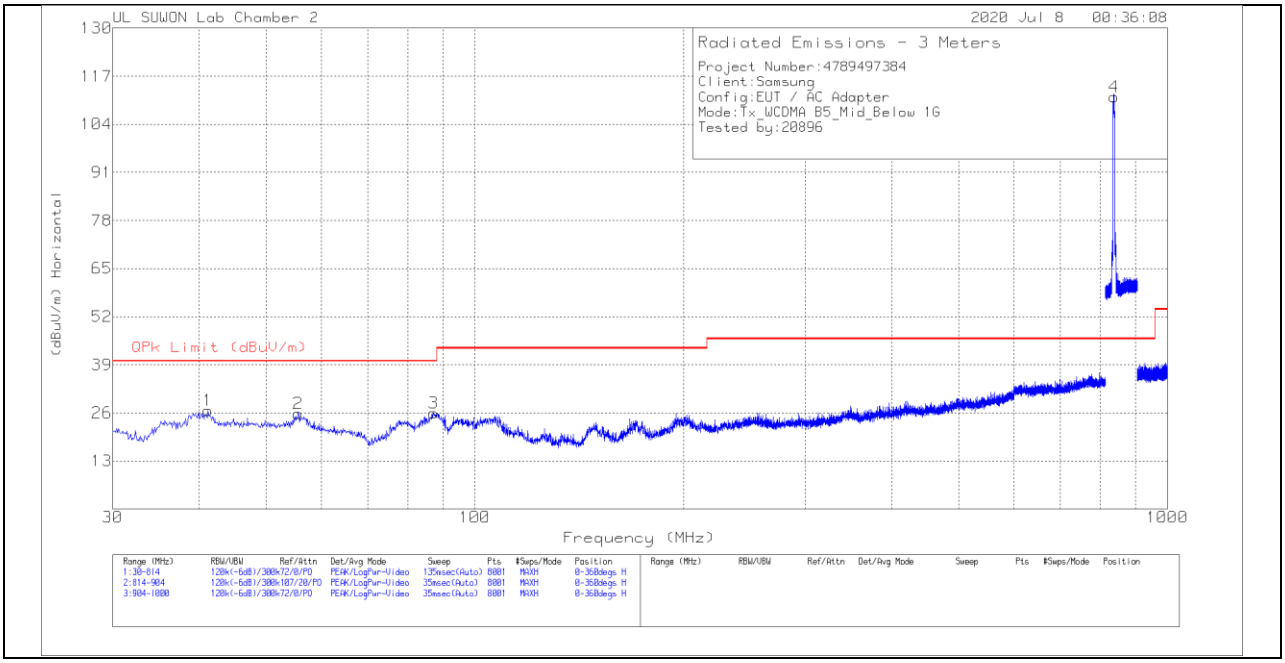
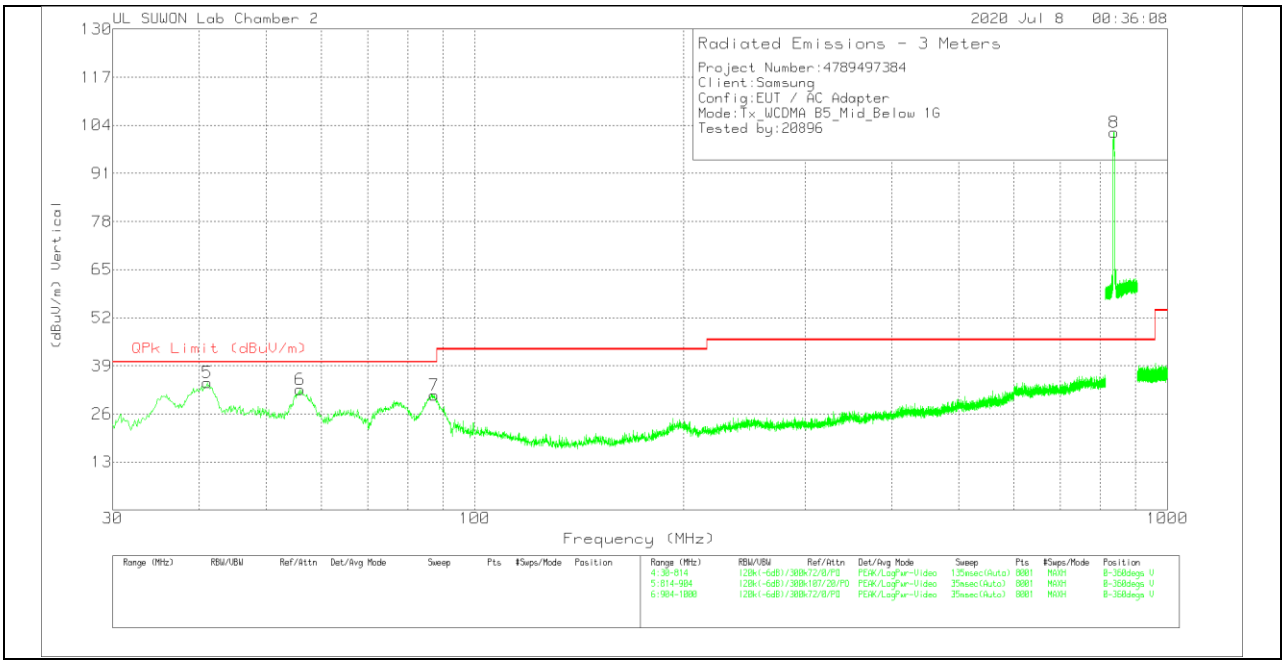
7.7. Below 1 GHz in the WCDMA Band 5

MID CHANNEL(881.6 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	41.172	6.98	Pk	19	.7	26.68	40	-13.32	0-360	400	H
2	55.578	5.8	Pk	19.2	.8	25.8	40	-14.2	0-360	400	H
3	87.232	10.46	Pk	14.5	1.1	26.06	40	-13.94	0-360	200	H
4	836.8713	81.01	Pk	27.1	3.3	111.41	**46.02**	**65.39**	0-360	100	H
5	41.074	14.69	Pk	19	.7	34.39	40	-5.61	0-360	200	V
6	55.97	12.53	Pk	19.2	.8	32.53	40	-7.47	0-360	100	V
7	87.428	15.54	Pk	14.5	1.1	31.14	40	-8.86	0-360	100	V
8	837.22	71.76	Pk	27.1	3.3	102.16	**46.02**	**56.14**	0-360	200	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.

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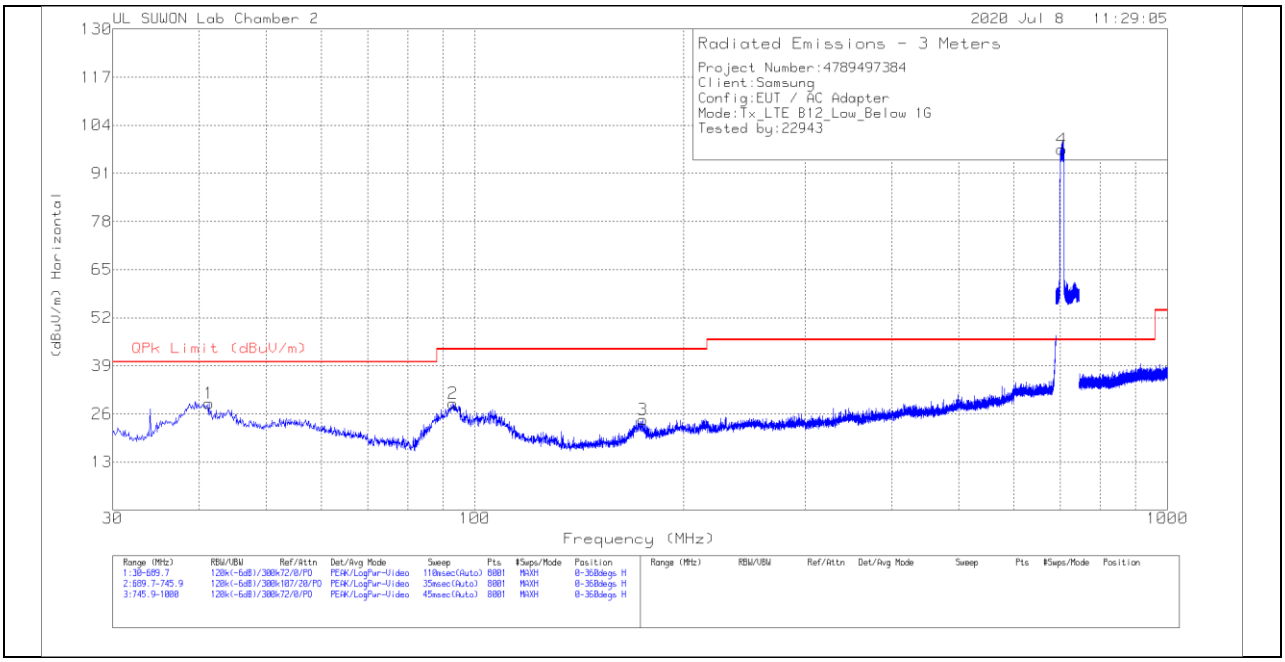
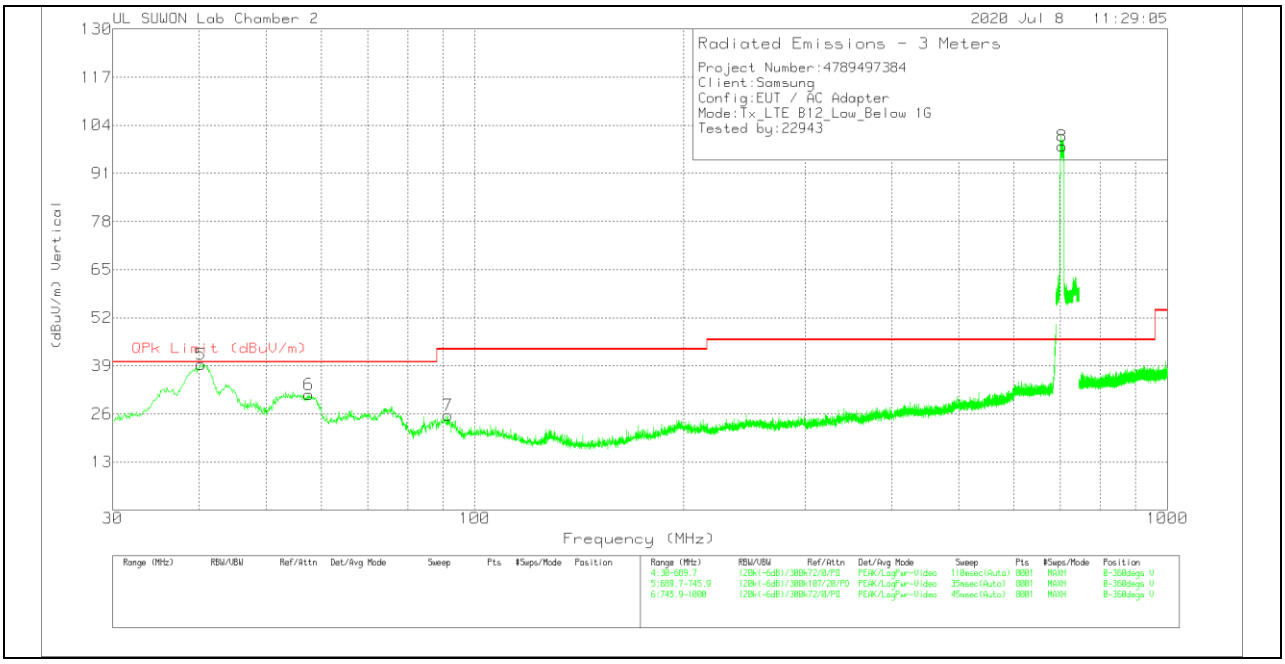
7.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	41.2974	9.05	Pk	19.1	.7	28.85	40	-11.15	0-360	300	H
2	93.0017	11.05	Pk	16.7	1.1	28.85	43.52	-14.67	0-360	300	H
3	174.8875	7.76	Pk	15.2	1.5	24.46	43.52	-19.06	0-360	200	H
4	703.8554	68.99	Pk	25.5	3	97.49	**46.02**	**51.47**	0-360	100	H
5	40.2254	19.93	Pk	18.8	.7	39.43	40	-.57	0-360	100	V
6	57.5426	11.48	Pk	18.9	.9	31.28	40	-8.72	0-360	100	V
7	91.3525	8.4	Pk	16.2	1.1	25.7	43.52	-17.82	0-360	100	V
8	703.9327	69.91	Pk	25.5	3	98.41	**46.02**	**52.39**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.2254	16.88	Qp	18.8	.7	36.38	40	-3.62	242	102	V

Qp - Quasi-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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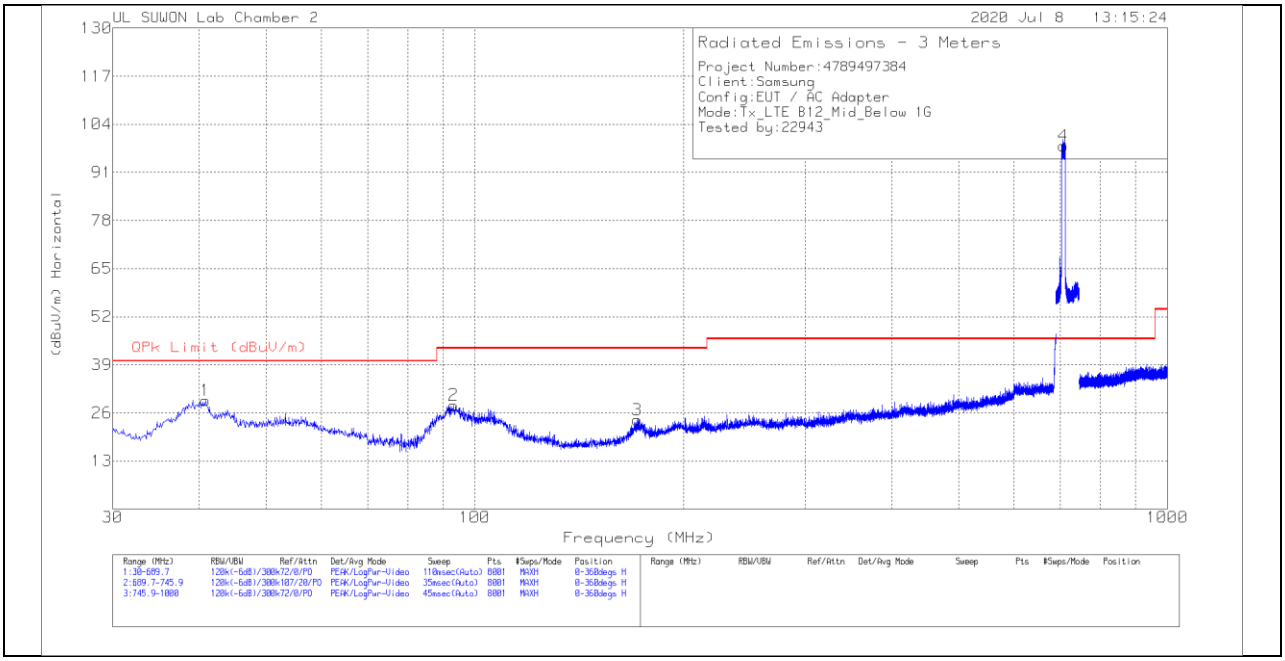
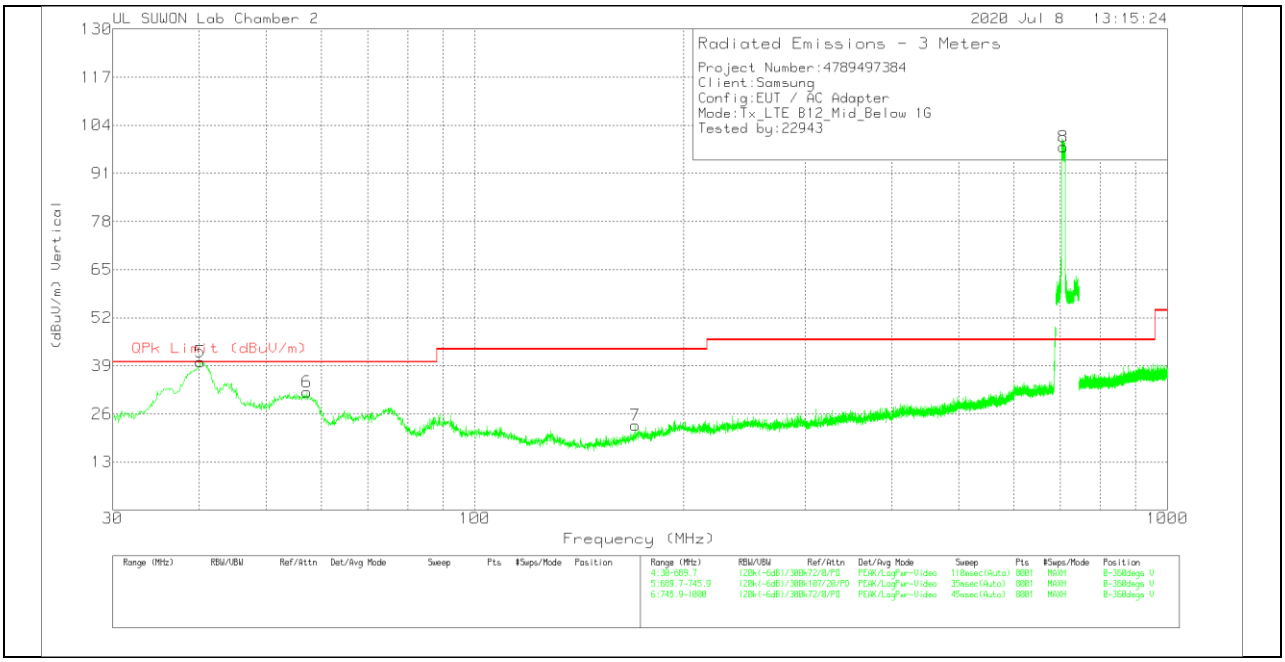
MID CHANNEL(737.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	40.8027	9.72	Pk	18.9	.7	29.32	40	-10.68	0-360	300	H
2	93.0842	10.31	Pk	16.7	1.1	28.11	43.52	-15.41	0-360	200	H
3	171.424	7.67	Pk	14.9	1.5	24.07	43.52	-19.45	0-360	200	H
4	707.691	69.71	Pk	25.5	3	98.21	**46.02**	**52.19**	0-360	100	H
5	40.1842	20.52	Pk	18.8	.7	40.02	**40**	**.02**	0-360	100	V
6	57.2128	12.15	Pk	19	.8	31.95	40	-8.05	0-360	100	V
7	170.517	6.51	Pk	14.9	1.5	22.91	43.52	-20.61	0-360	300	V
8	707.4943	69.73	Pk	25.5	3	98.23	**46.02**	**52.21**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.1842	17.13	Qp	18.8	.7	36.63	40	-3.37	249	100	V

Qp - Quasi-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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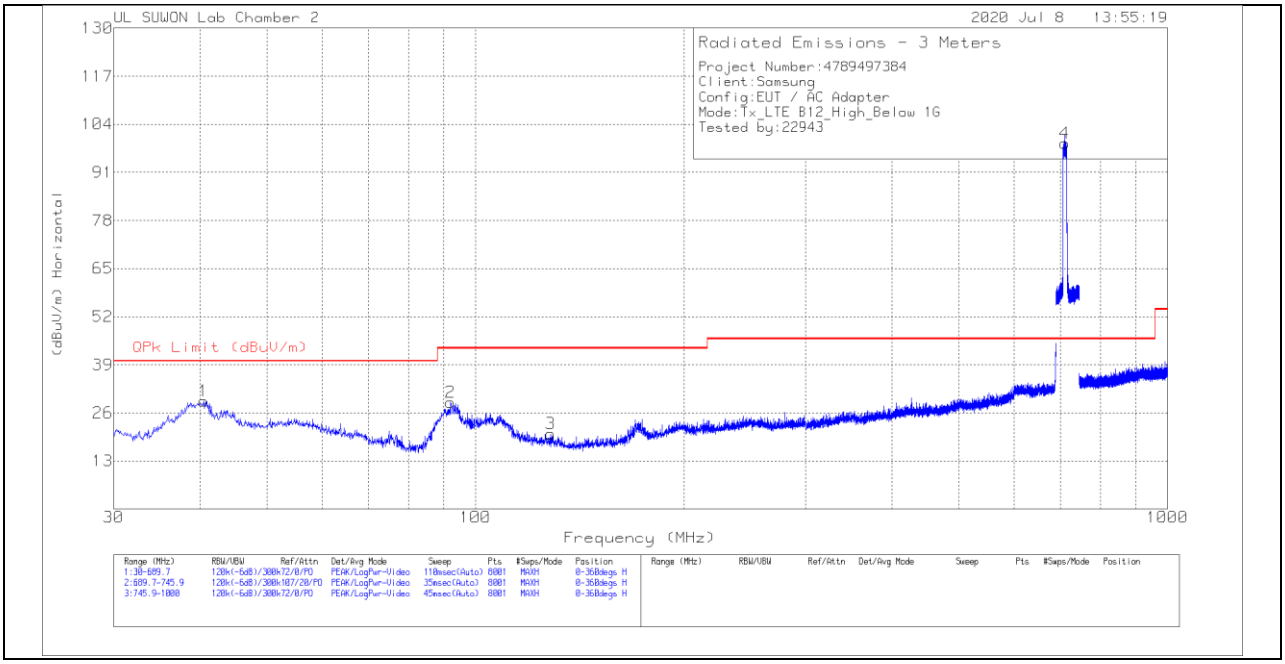
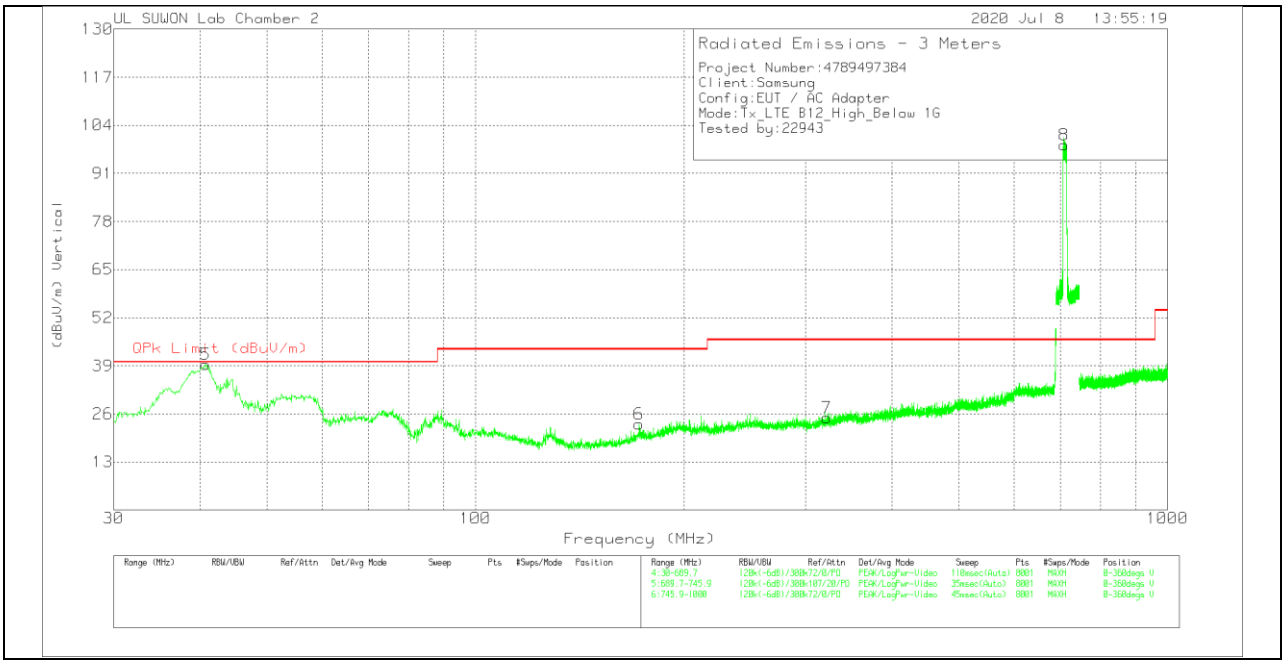
HIGH CHANNEL(744.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	40.4728	9.69	Pk	18.8	.7	29.19	40	-10.81	0-360	400	H
2	92.0946	11.37	Pk	16.4	1.1	28.87	43.52	-14.65	0-360	300	H
3	128.5433	4.62	Pk	14.4	1.3	20.32	43.52	-23.2	0-360	300	H
4	710.4238	70.33	Pk	25.5	3	98.83	**46.02**	**52.81**	0-360	100	H
5	40.7202	19.83	Pk	18.9	.7	39.43	40	-.57	0-360	100	V
6	172.3311	6.8	Pk	15	1.5	23.3	43.52	-20.22	0-360	200	V
7	321.6716	3.01	Pk	19.9	2	24.91	46.02	-21.11	0-360	100	V
8	709.2646	70.18	Pk	25.5	3	98.68	**46.02**	**52.66**	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
40.7202	14.21	Qp	18.9	.7	33.81	40	-6.19	248	155	V

Qp - Quasi-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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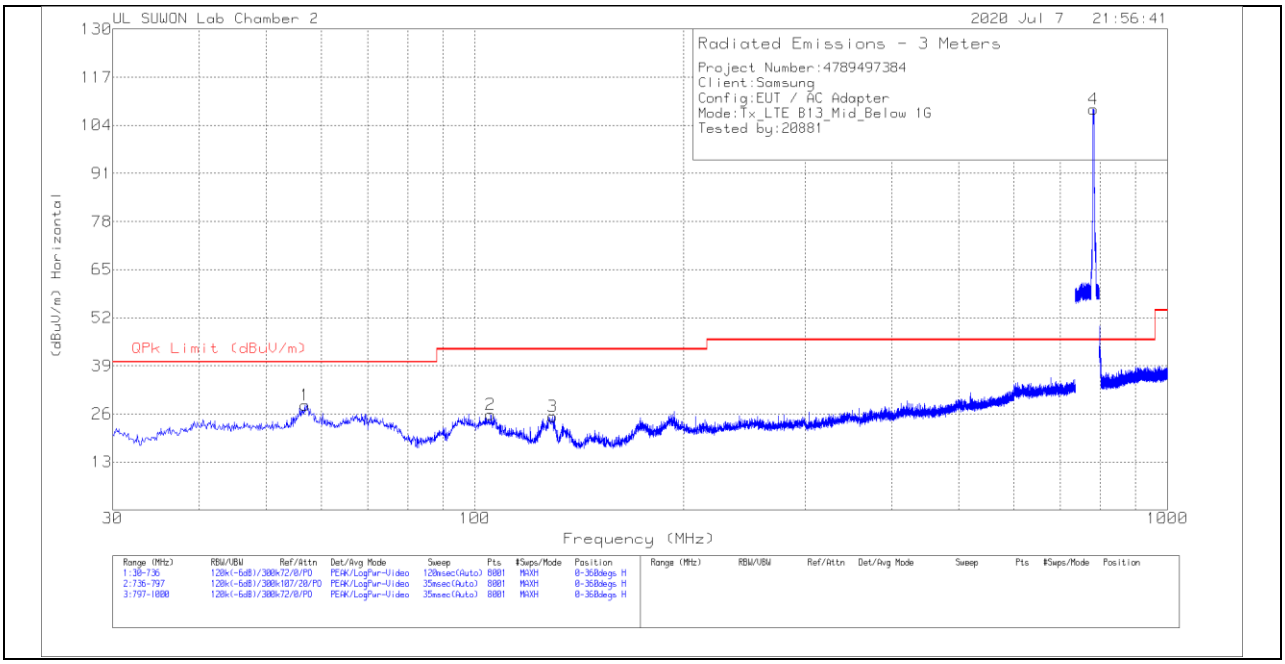
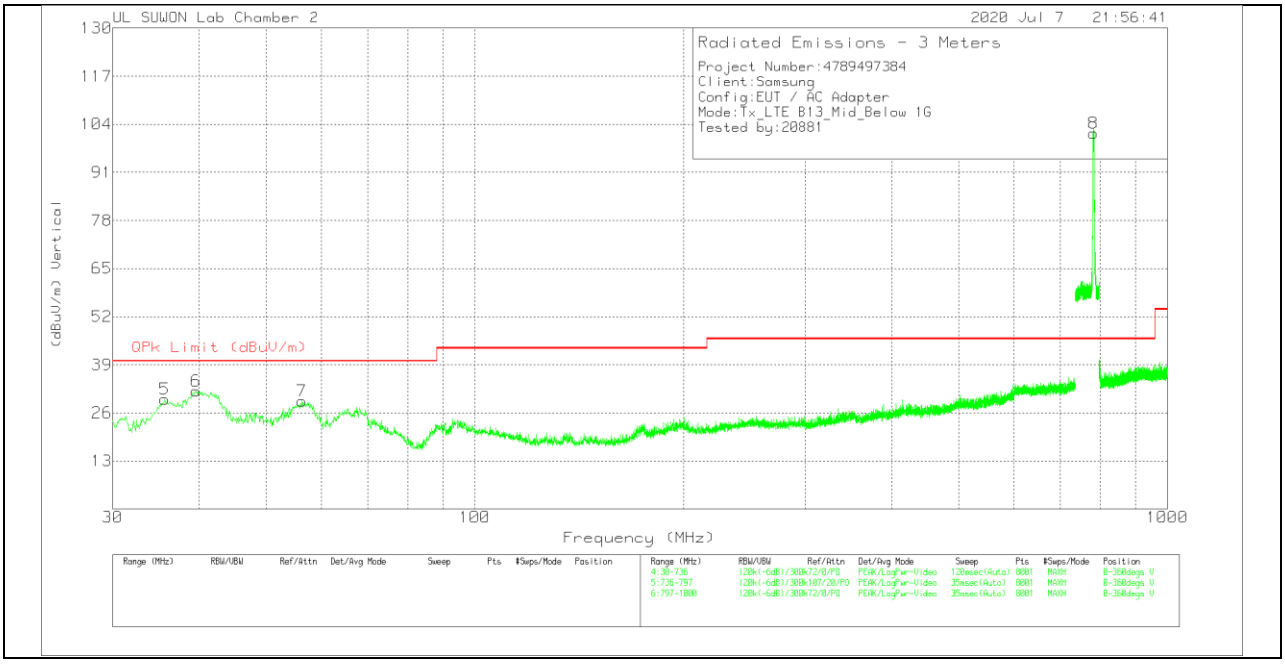
7.9. Below 1 GHz in the LTE Band 13

MID CHANNEL(751.0 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	56.828	8.57	Pk	19	.8	28.37	40	-11.63	0-360	400	H
2	105.3655	7.04	Pk	17.6	1.2	25.84	43.52	-17.68	0-360	300	H
3	129.4578	9.65	Pk	14.3	1.3	25.25	43.52	-18.27	0-360	200	H
4	782.2151	78.39	Pk	26.7	3.2	108.29	**46.02**	**62.27**	0-360	100	H
5	35.648	12.15	Pk	16.9	.7	29.75	40	-10.25	0-360	100	V
6	39.531	12.63	Pk	18.6	.7	31.93	40	-8.07	0-360	100	V
7	56.2985	9.25	Pk	19.1	.8	29.15	40	-10.85	0-360	100	V
8	781.9635	71.71	Pk	26.7	3.2	101.61	**46.02**	**55.59**	0-360	200	V

Pk - Peak detector

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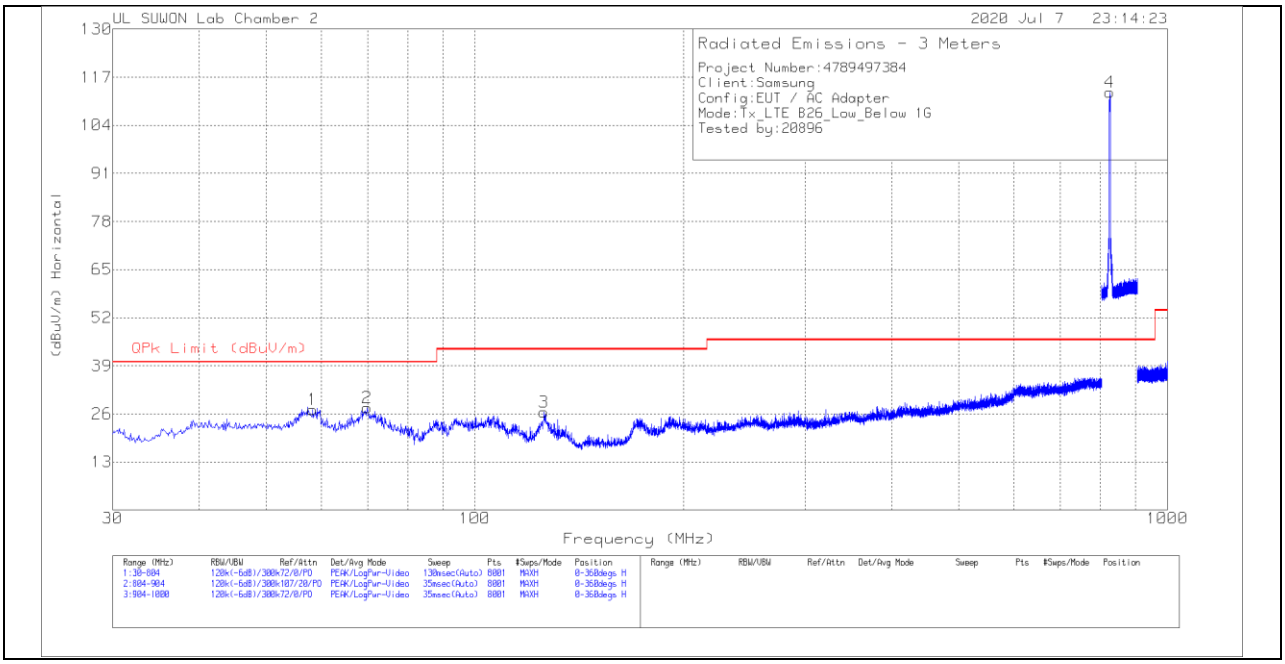
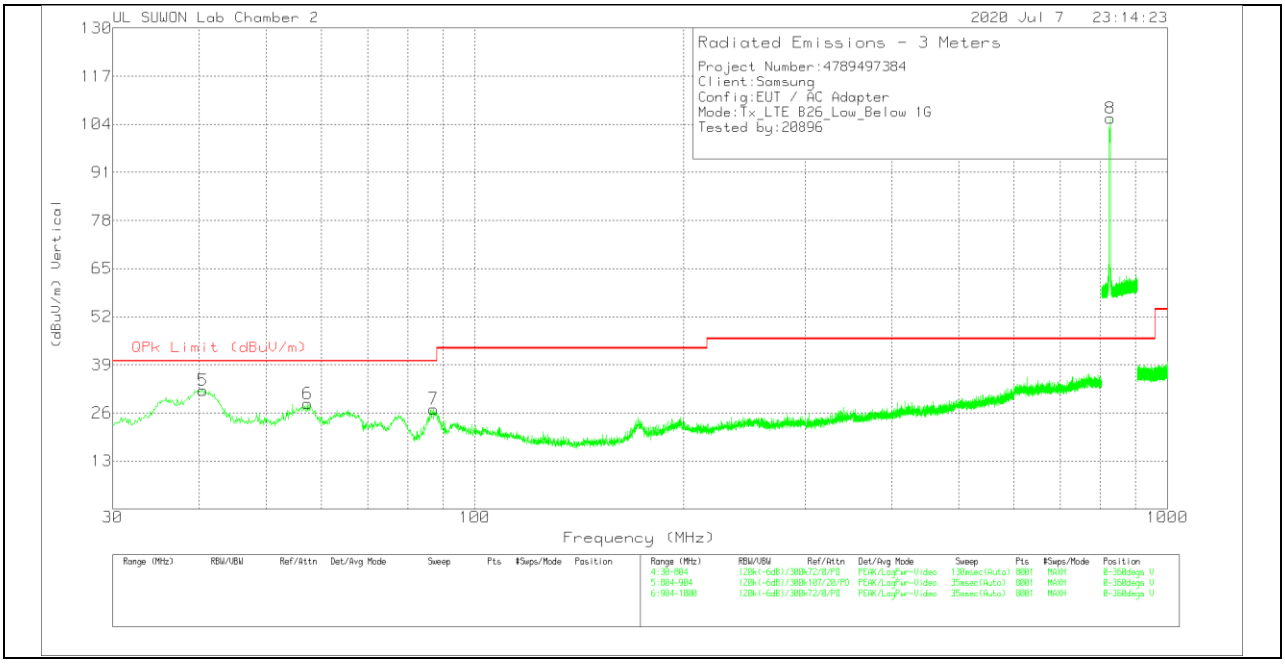
7.10. Below 1 GHz in the LTE Band 26

LOW CHANNEL(860.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	58.3478	7.45	Pk	18.8	.9	27.15	40	-12.85	0-360	400	H
2	69.861	11.23	Pk	15.5	.9	27.63	40	-12.37	0-360	400	H
3	125.8793	10.58	Pk	14.6	1.3	26.48	43.52	-17.04	0-360	200	H
4	826.2875	82.72	Pk	27	3.2	112.92	**46.02**	**66.9**	0-360	100	H
5	40.449	12.62	Pk	18.8	.7	32.12	40	-7.88	0-360	100	V
6	57.2835	8.81	Pk	19	.8	28.61	40	-11.39	0-360	300	V
7	87.0825	11.59	Pk	14.4	1.1	27.09	40	-12.91	0-360	100	V
8	826.4375	75.41	Pk	27	3.2	105.61	**46.02**	**59.59**	0-360	200	V

Pk - Peak detector

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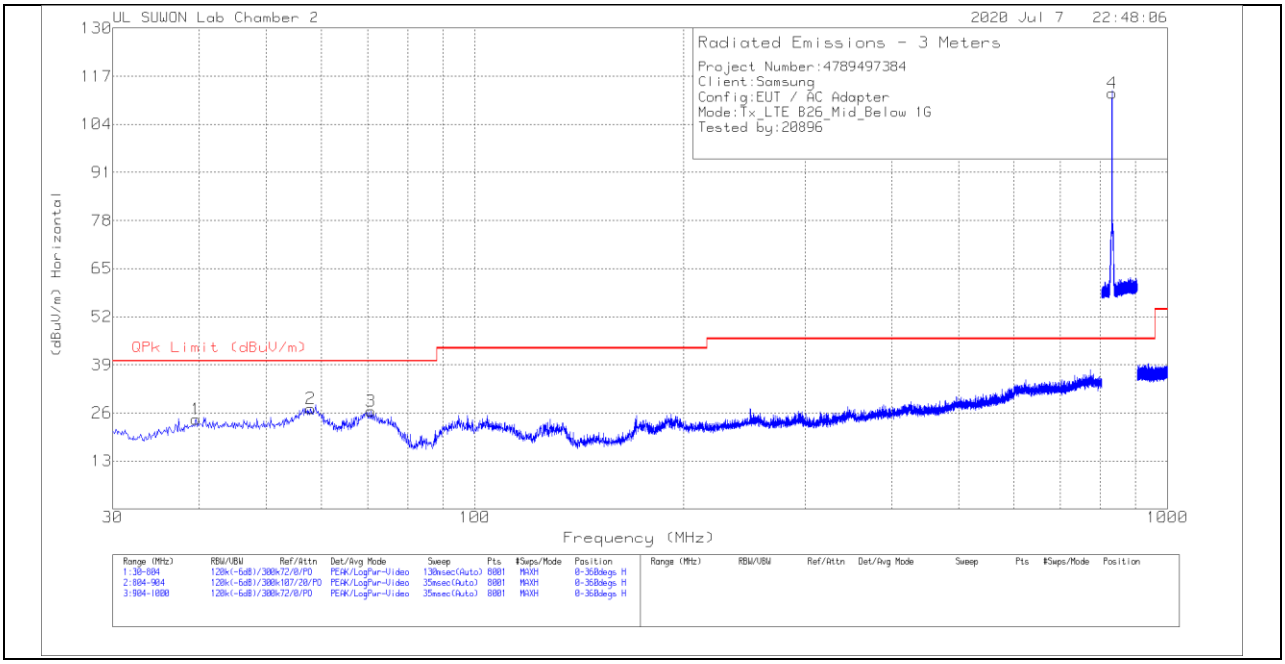
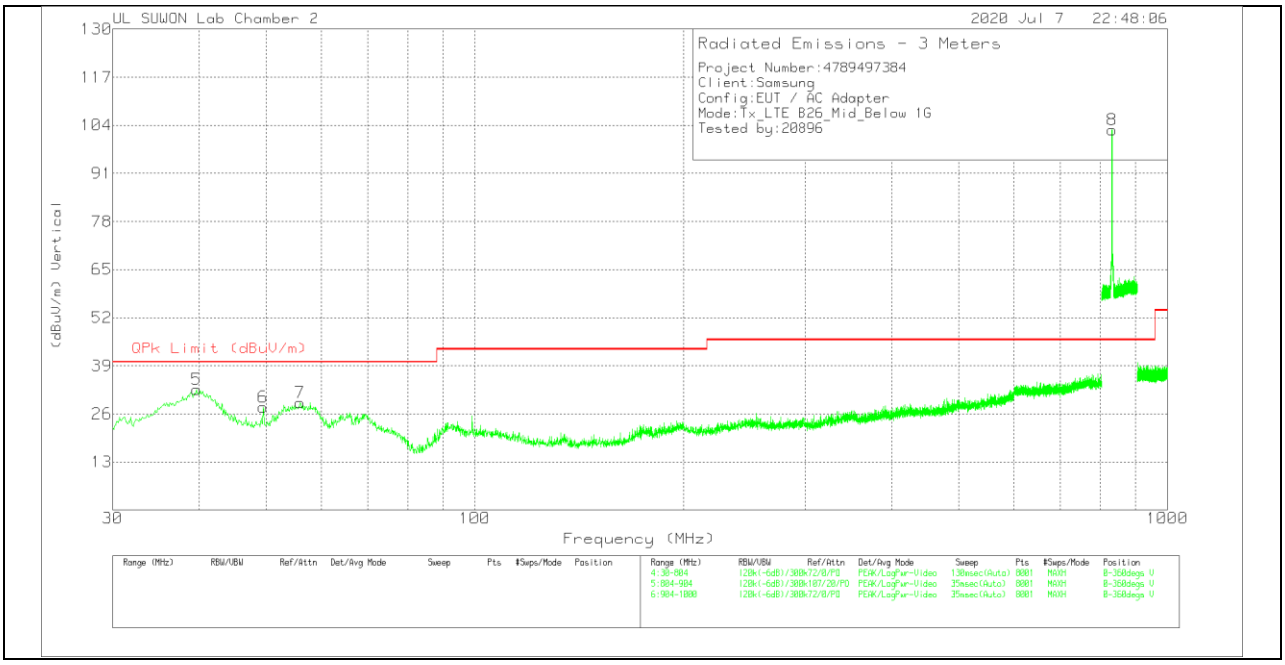
MID CHANNEL(876.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	39.5783	5.06	Pk	18.6	.7	24.36	40	-15.64	0-360	300	H
2	57.9608	7.34	Pk	18.9	.9	27.14	40	-12.86	0-360	400	H
3	70.8285	10.42	Pk	15.2	.9	26.52	40	-13.48	0-360	300	H
4	831.575	82.09	Pk	27.1	3.3	112.49	**46.02**	**66.47**	0-360	100	H
5	39.675	13.38	Pk	18.6	.7	32.68	40	-7.32	0-360	100	V
6	49.4468	7.36	Pk	19.7	.8	27.86	40	-12.14	0-360	100	V
7	55.929	8.99	Pk	19.2	.8	28.99	40	-11.01	0-360	100	V
8	831.825	72.34	Pk	27.1	3.3	102.74	**46.02**	**56.72**	0-360	200	V

Pk - Peak detector

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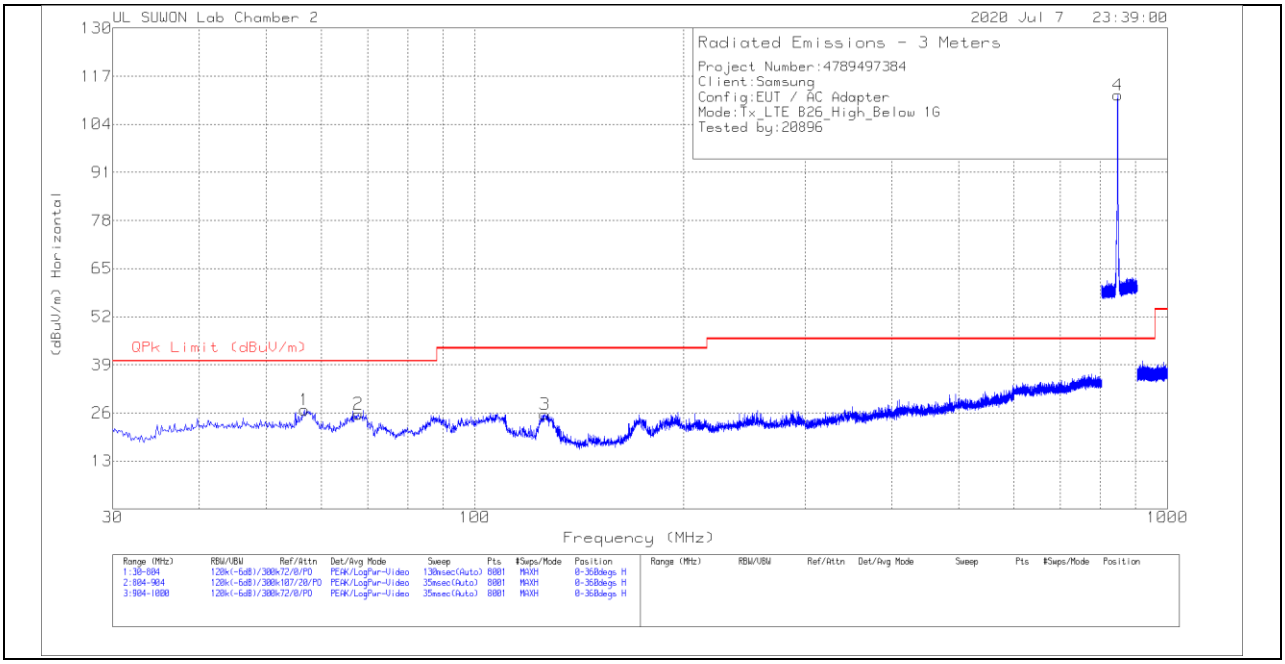
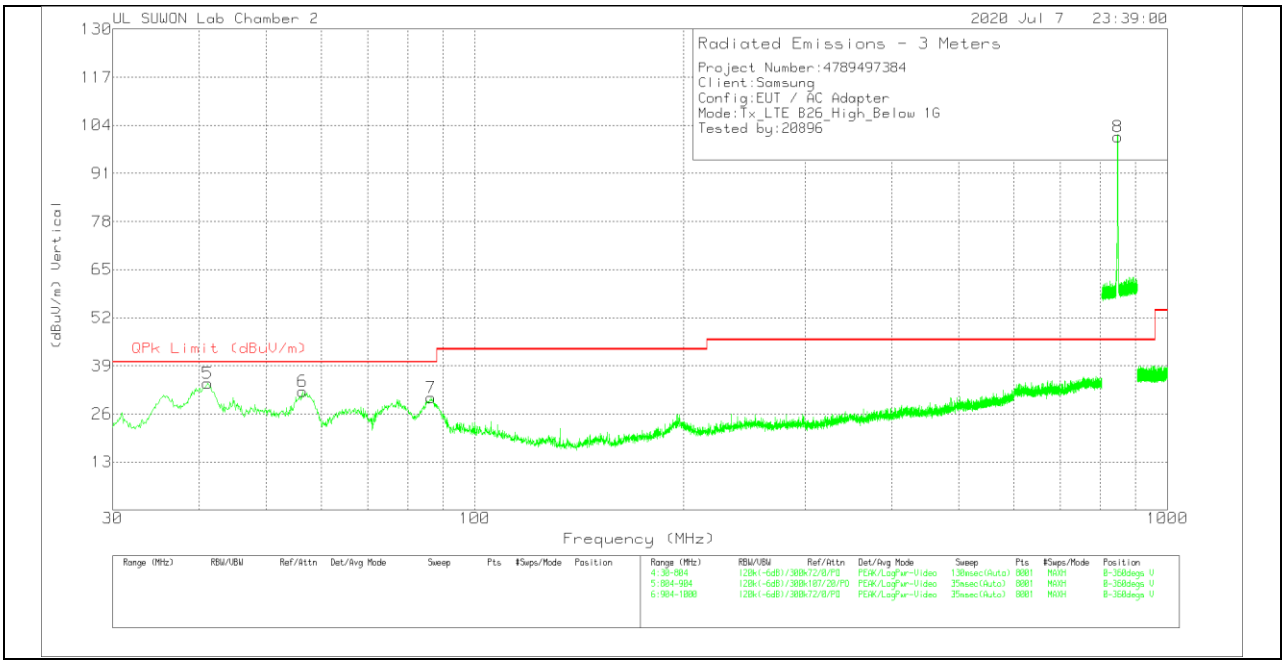
HIGH CHANNEL(892.5 MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



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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	56.703	6.98	Pk	19	.8	26.78	40	-13.22	0-360	400	H
2	67.8293	8.54	Pk	16.3	.9	25.74	40	-14.26	0-360	400	H
3	126.1695	9.77	Pk	14.6	1.3	25.67	43.52	-17.85	0-360	200	H
4	847.5625	81.24	Pk	27.3	3.3	111.84	**46.02**	**65.82**	0-360	100	H
5	41.1263	14.67	Pk	19	.7	34.37	40	-5.63	0-360	100	V
6	56.4128	12.19	Pk	19.1	.8	32.09	40	-7.91	0-360	100	V
7	86.502	15.24	Pk	14.2	1	30.44	40	-9.56	0-360	100	V
8	847.6625	70.33	Pk	27.3	3.3	100.93	**46.02**	**54.91**	0-360	200	V

Pk - Peak detector

END OF TEST REPORT

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