



FCC CFR47 PART 15 SUBPART B

WWAN

CELLULAR RECEIVER MODE TEST REPORT

FOR

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

MODEL NUMBER : SM-N970F/DS, SM-N970F, SM-N970X

FCC ID: A3LSMN970F

REPORT NUMBER: 4789014604-E1V2

ISSUE DATE: JUL 01, 2019

Prepared for

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ACCREDITED*

Testing
Laboratory

TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	06/26/19	Initial issue	Junwhan Lee
V2	07/01/19	Updated to address TCB's question	Junwhan Lee

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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, ANT+, NFC and WPT

MODEL NUMBER: SM-N970F/DS, SM-N970F, SM-N970X

SERIAL NUMBER: R38M502Q83H, R38M603796L, R38M6037CGW

DATE TESTED: MAY 28, 2019 – MAY30, 2019;

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:



SungGil Park
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:



Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

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

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

3. FACILITIES AND ACCREDITATION

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

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

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/PDF/TL/TL-637.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.32 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.86 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.97 dB
Radiated Disturbance, 18 GHz to 40 GHz	5.57 dB

Uncertainty figures are valid to a confidence level of 95%.

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, ANT+, NFC and WPT. This test report addresses the WWAN operational mode.

This report covers the Samsung models SM-N970F/DS, SM-N970F and SM-N970X. These models are identical in hardware except SM-N970F has single SIM tray and model SM-N970X has been disabled all cellular bands by software. With some pre-scan, model SM-N970F/DS was set for final test.

5.2. TEST MODE

Mode	Description
GSM850	Communicating with Call simulator(CMW500)
WCDMA BAND 5	Communicating with Call simulator(CMW500)
LTE BAND 12	Communicating with Call simulator(CMW500)
LTE BAND 13	Communicating with Call simulator(CMW500)
LTE BAND 26	Communicating with Call simulator(CMW500)

5.3. WORST-CASE ORIENTATION

For GSM850 / WCDMA B5 / LTE Band 13, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that Z orientation was worst-case orientation.

For LTE B12 / LTE B26, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that X orientation was worst-case orientation.

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

This EUT is able to equipped with S-pen on the inside. Spot check were performed both inserted and removed condition. Because there is no deviation between the two data, all tests were performed under equipped with the S-pen.

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.

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37M5DL3FL1SE3	N/A
Data Cable	SAMSUNG	EP-DG977	N/A	N/A

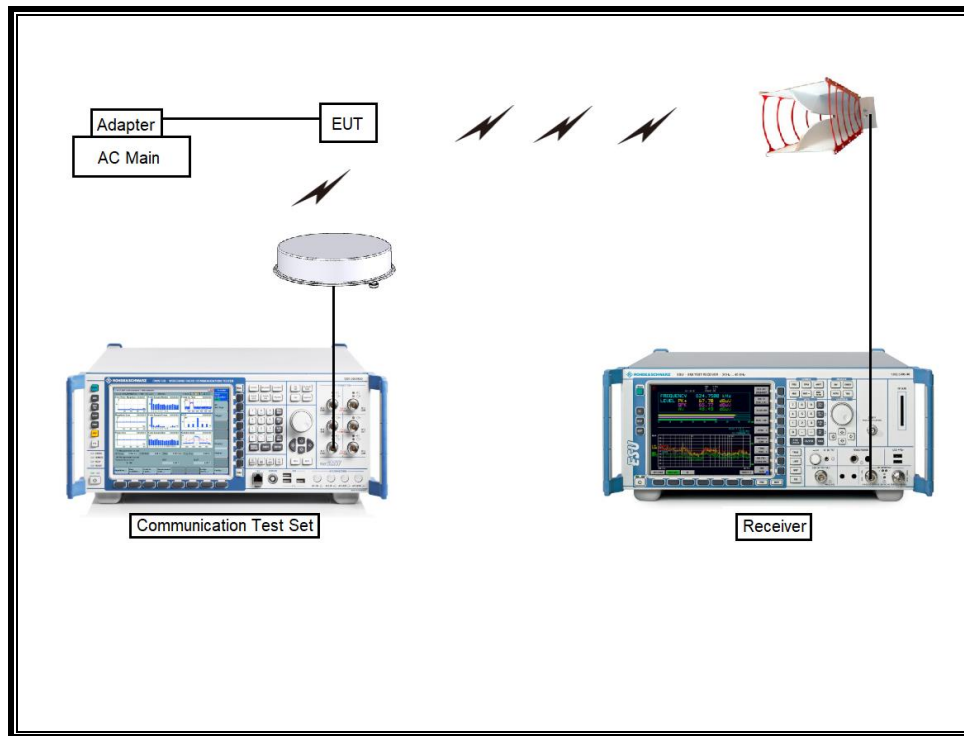
I/O CABLE

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	1.0m	N/A

TEST SETUP

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

SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	06-30-19
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-14-20
Preamplifier	ETS	3116C-PA	00168841	08-09-19
Antenna, Horn, 40 GHz	ETS	3116C	00168645	12-04-19
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	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-06-19
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-07-19
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-19
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-19
EMI Test Receive, 44 GHz	R&S	ESW40	101590	08-06-19
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	08-08-19
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	08-08-19
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	08-08-19
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	08-08-19
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	08-08-19
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	08-08-19
Attenuator	PASTERNAK	PE7087-10	A009	08-08-19
Attenuator	PASTERNAK	PE7087-10	A001	08-08-19
Attenuator	PASTERNAK	PE7087-10	A008	08-08-19
Attenuator	PASTERNAK	PE7087-10	2	08-07-19
Attenuator	PASTERNAK	PE7395-10	A011	08-08-19
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	

7. APPLICABLE LIMITS AND TEST RESULTS

TEST PROCEDURE

ANSI C63.4: 2014

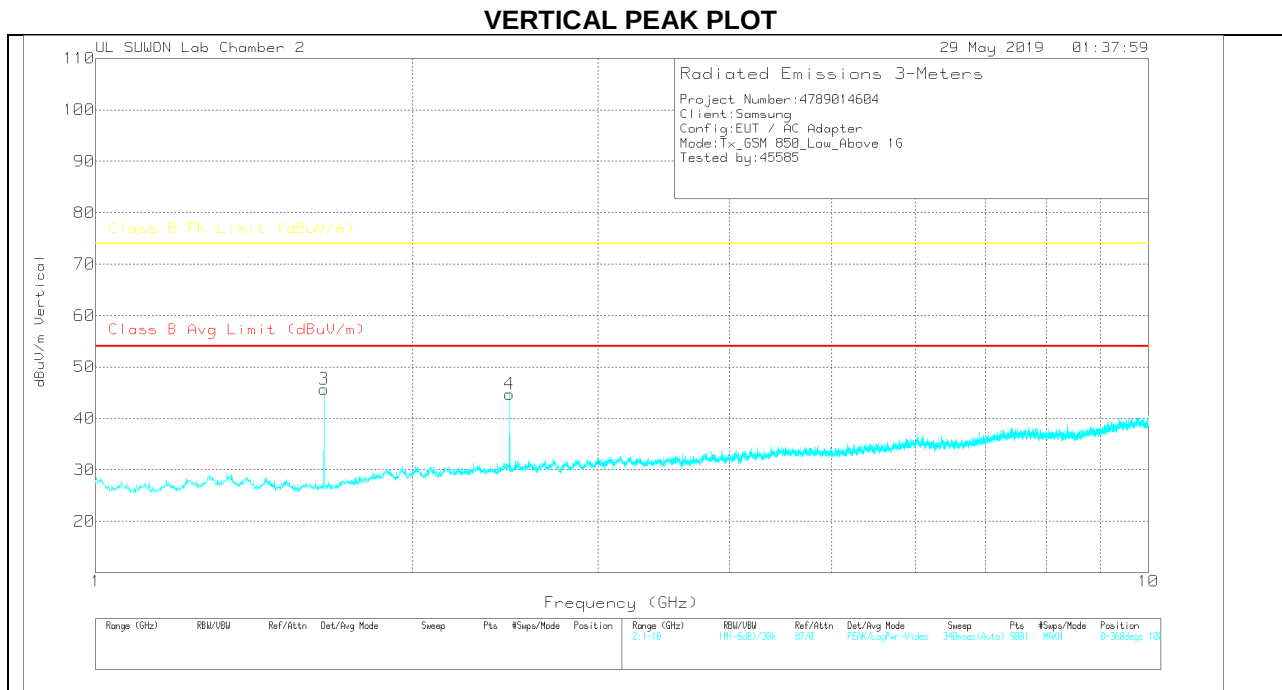
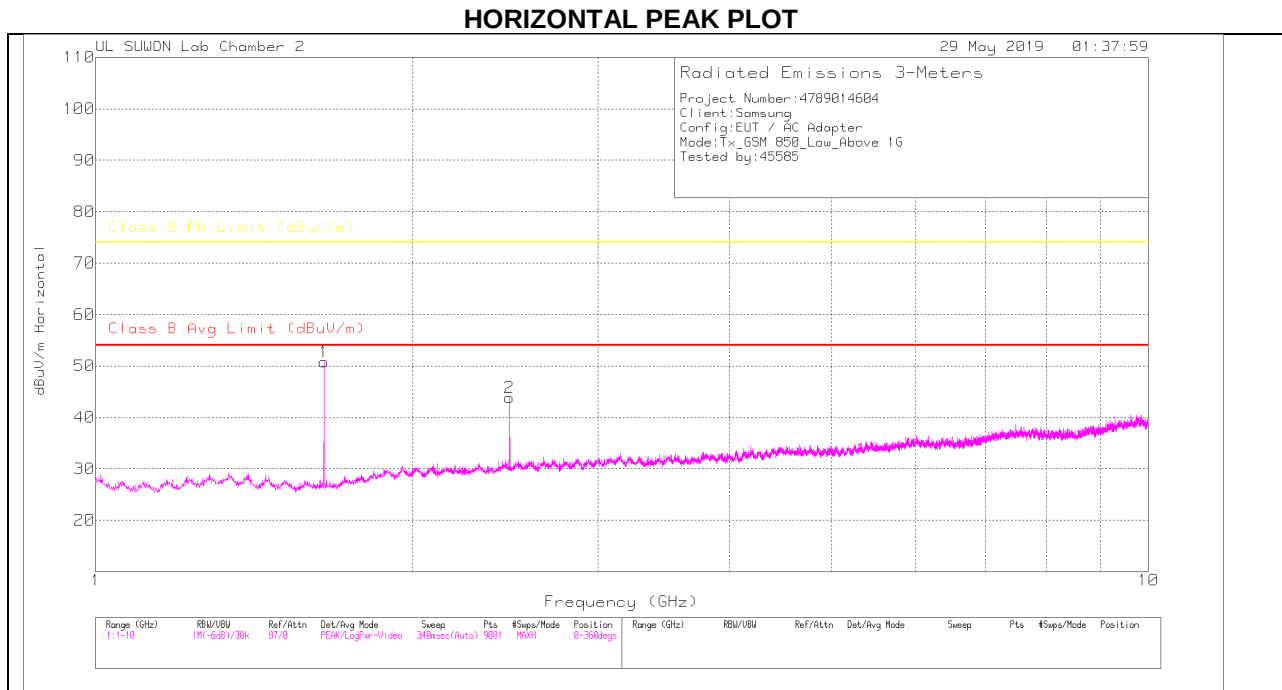
LIMIT

§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 (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

7.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)



DATA

Trace Markers

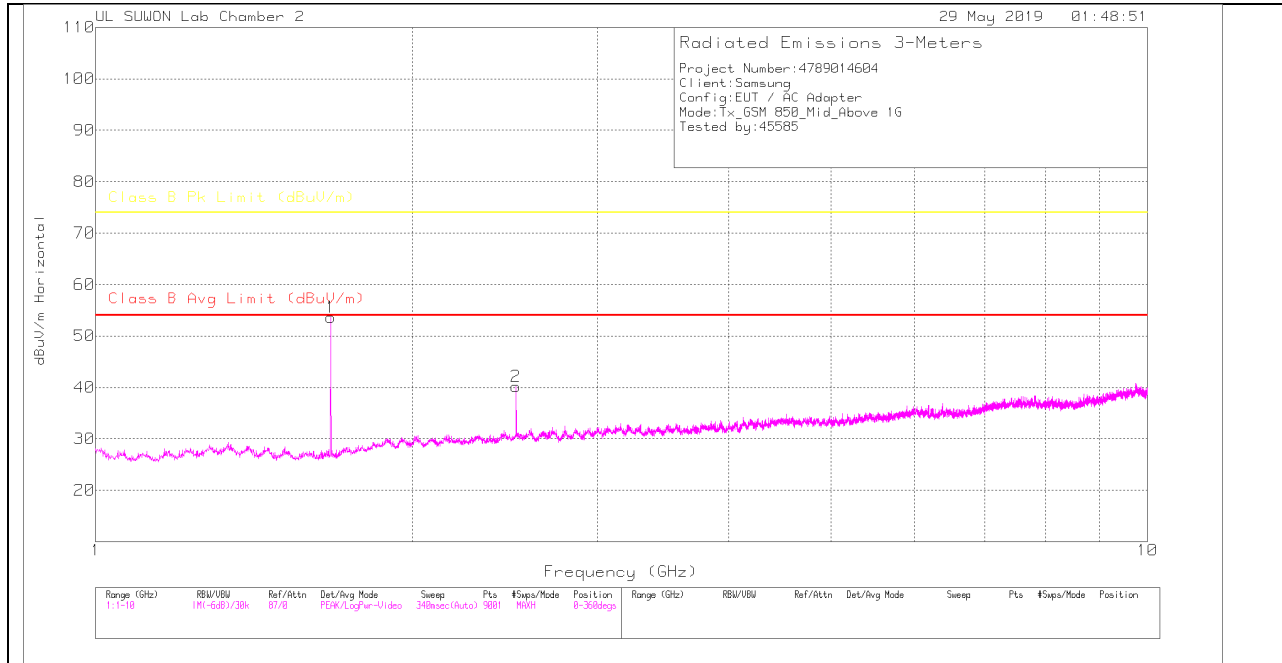
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.648	53.34	PK	28.3	-31.4	.6	50.84	-	-	74	-23.16	0-360	100	H
2	2.472	41.53	PK	31.8	-30.2	.7	43.83	-	-	74	-30.17	0-360	100	H
3	1.648	48.23	PK	28.3	-31.4	.6	45.73	-	-	74	-28.27	0-360	200	V
4	2.472	42.45	PK	31.8	-30.2	.7	44.75	-	-	74	-29.25	0-360	100	V

PK – Peak Detector

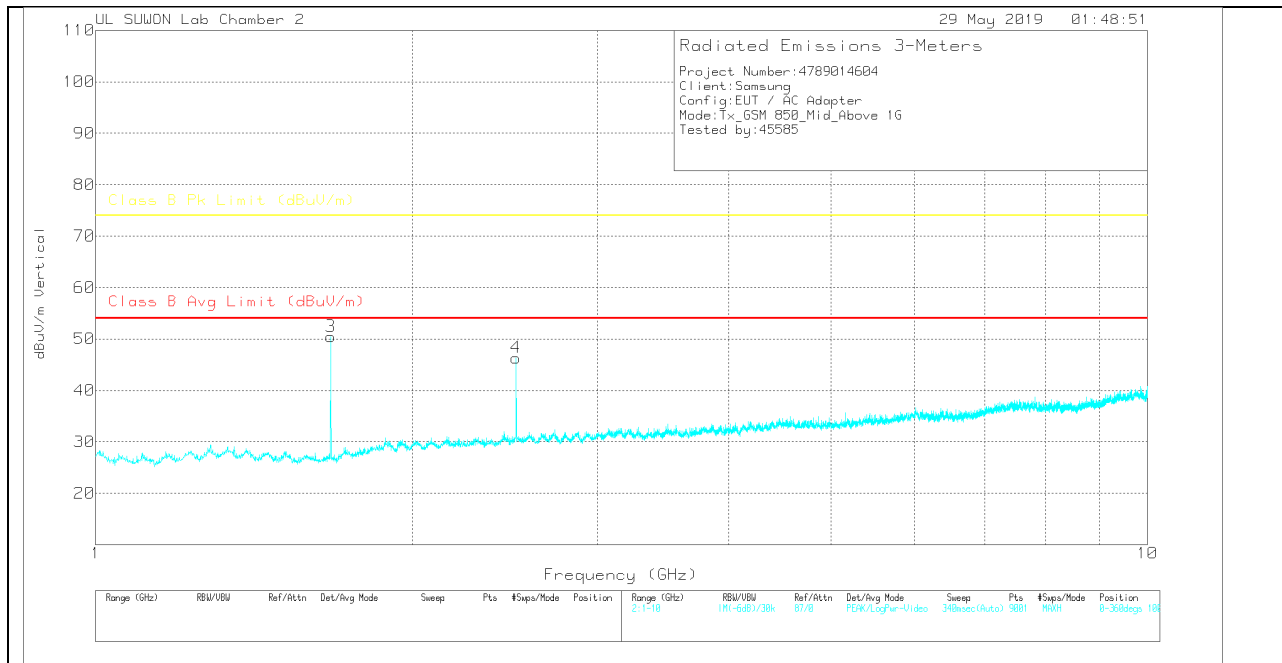
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

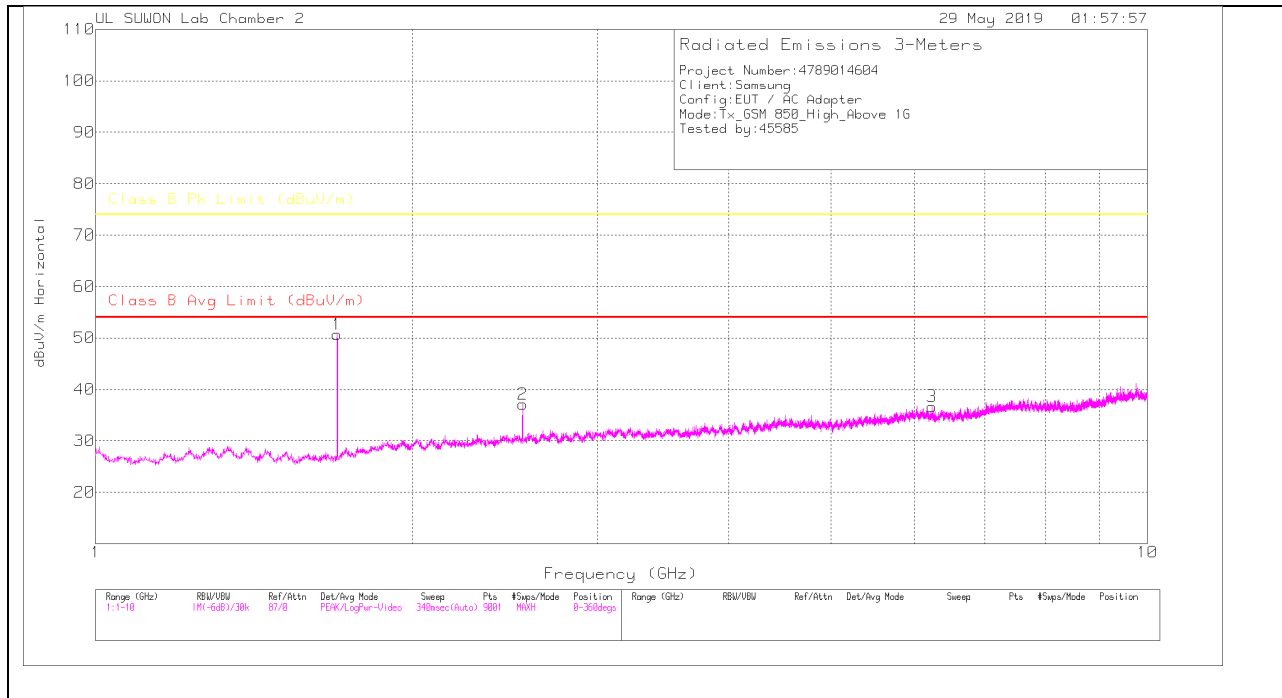
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.673	55.9	PK	28.5	-31.3	.5	53.6	-	-	74	-20.4	0-360	200	H
2	2.509	38.09	PK	31.9	-30.3	.5	40.19	-	-	74	-33.81	0-360	100	H
3	1.673	52.78	PK	28.5	-31.3	.5	50.48	-	-	74	-23.52	0-360	200	V
4	2.51	44.25	PK	31.9	-30.3	.5	46.35	-	-	74	-27.65	0-360	100	V

PK – Peak Detector

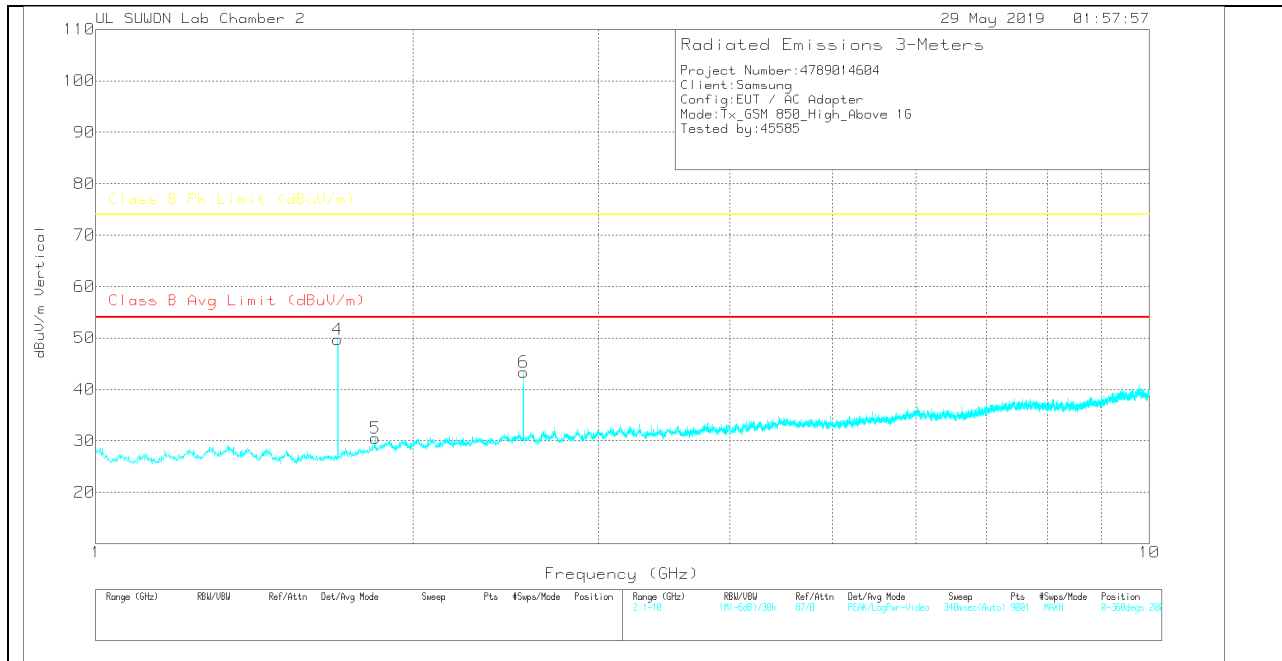
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(893.8MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

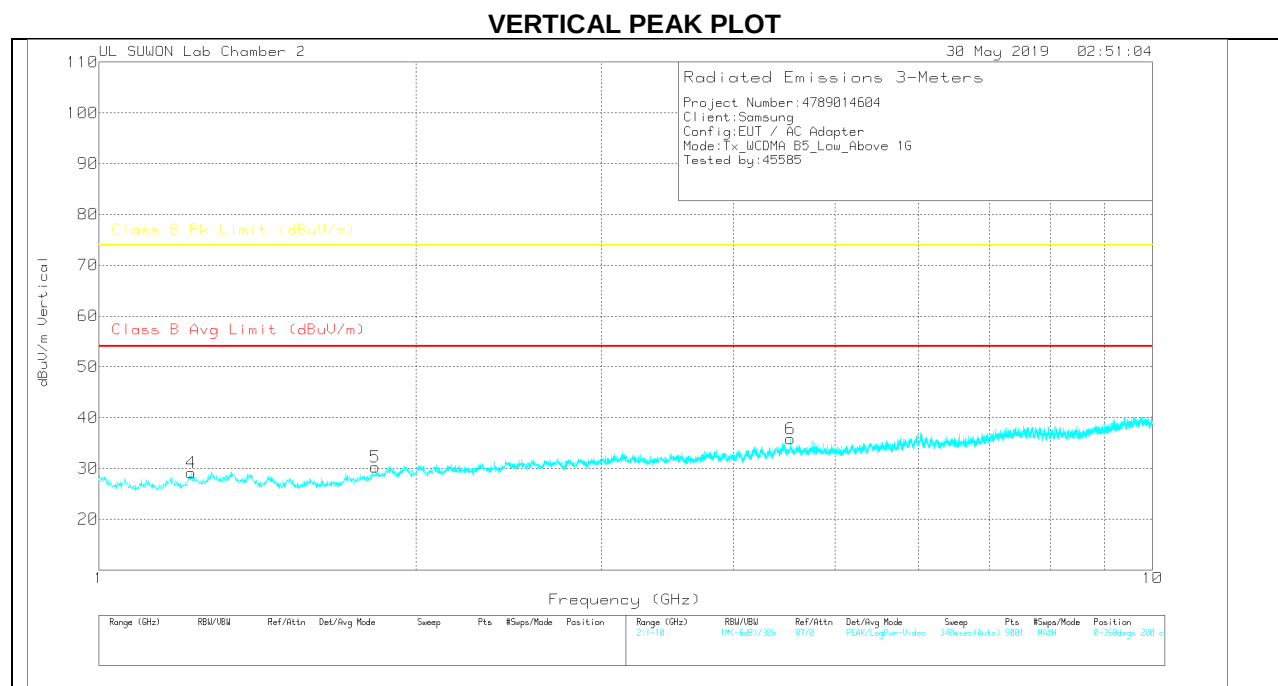
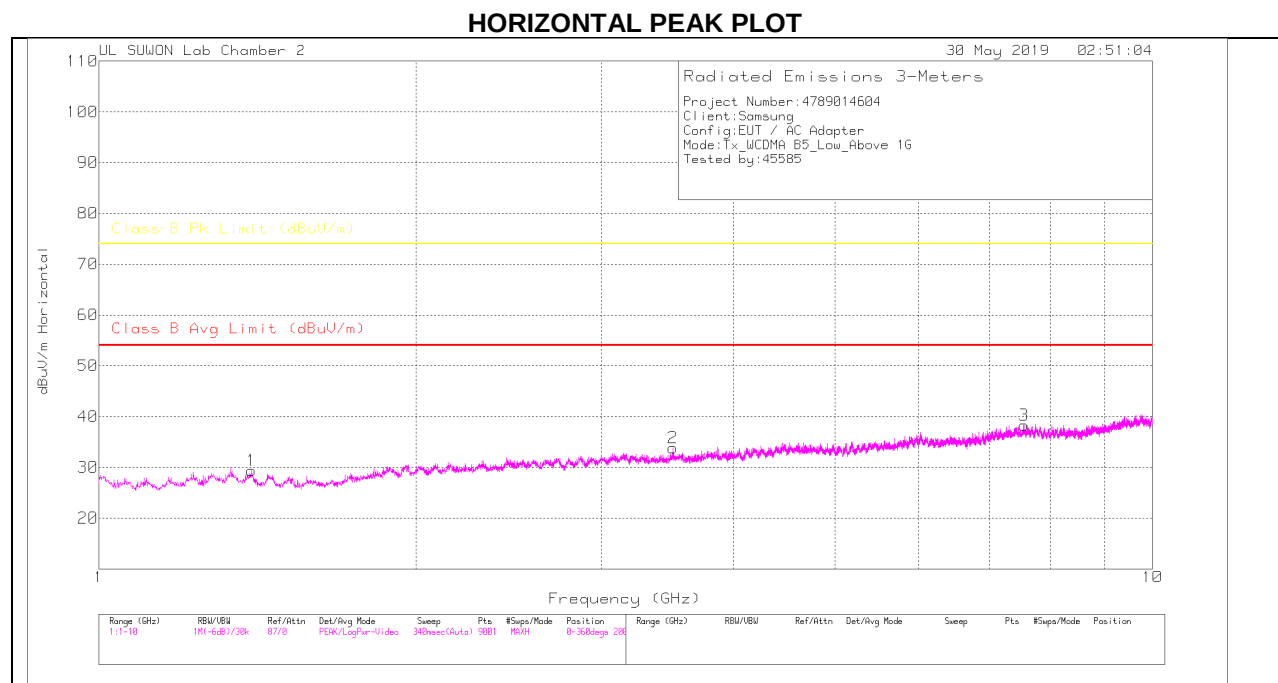
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	52.76	PK	28.6	-31.3	.6	50.66	-	-	74	-23.34	0-360	200	H
2	2.546	34.63	PK	32	-30.2	.7	37.13	-	-	74	-36.87	0-360	200	H
3	6.237	27.96	PK	35.2	-27	.5	36.66	-	-	74	-37.34	0-360	200	H
4	1.697	51.82	PK	28.6	-31.3	.6	49.72	-	-	74	-24.28	0-360	200	V
5	1.841	30.8	PK	30.2	-31.1	.6	30.5	-	-	74	-43.5	0-360	200	V
6	2.546	40.88	PK	32	-30.2	.7	43.38	-	-	74	-30.62	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.

7.2. Above 1 GHz in the WCDMA Band 5

LOW CHANNEL(871.4MHz)



DATA

Trace Markers

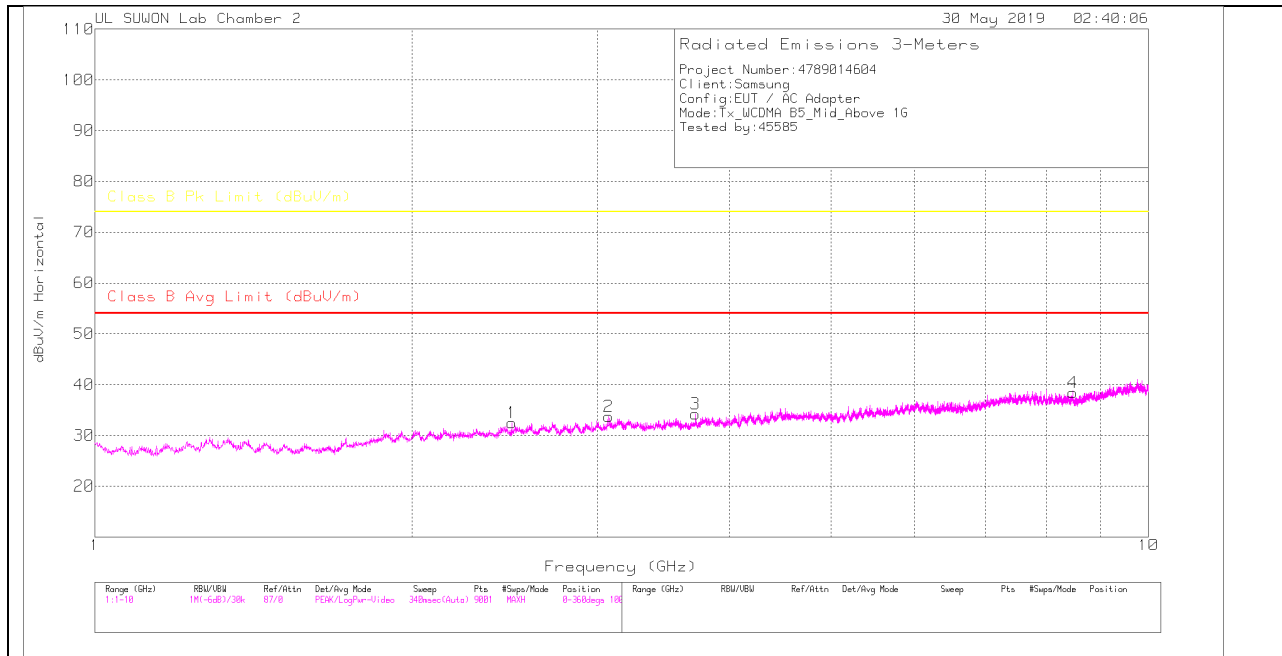
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.396	31.11	PK	29.4	-31.7	.6	29.41	-	-	74	-44.59	0-360	200	H
2	3.508	29.41	PK	32.7	-28.9	.6	33.81	-	-	74	-40.19	0-360	200	H
3	7.55	26.54	PK	36.1	-25.1	.7	38.24	-	-	74	-35.76	0-360	200	H
4	1.224	31.27	PK	29.1	-32	.8	29.17	-	-	74	-44.83	0-360	200	V
5	1.829	30.81	PK	30.1	-31.1	.5	30.31	-	-	74	-43.69	0-360	200	V
6	4.531	30.14	PK	33.9	-28.6	.4	35.84	-	-	74	-38.16	0-360	100	V

PK – Peak Detector

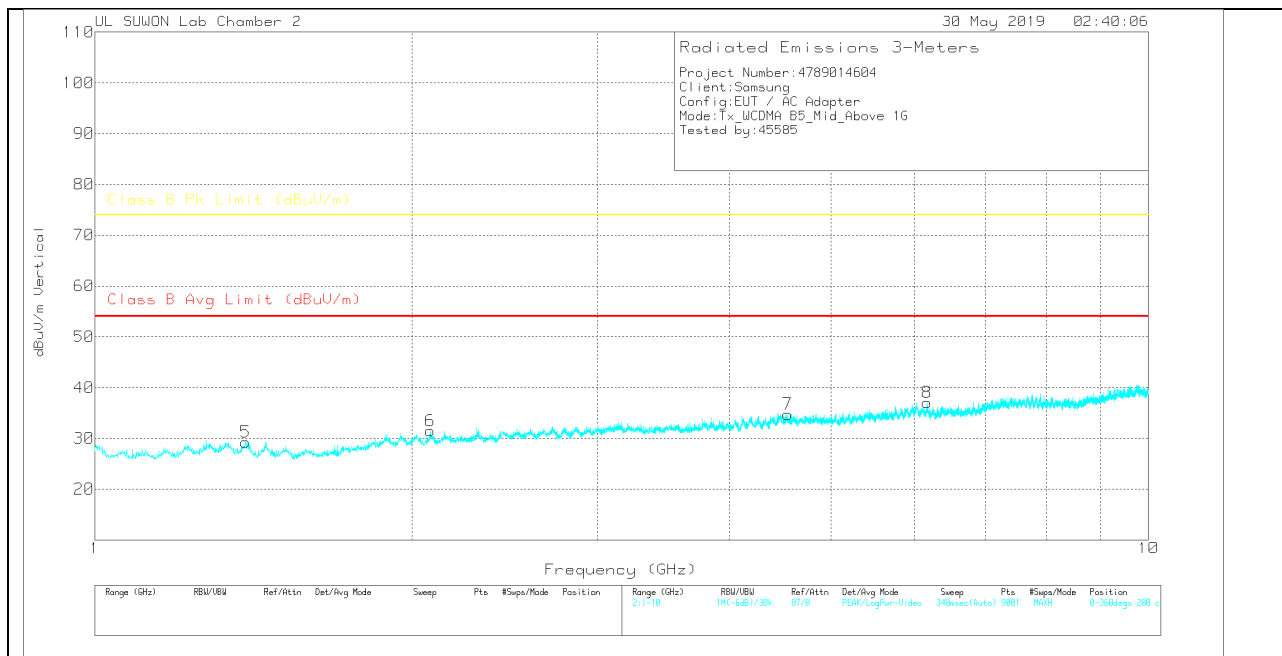
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

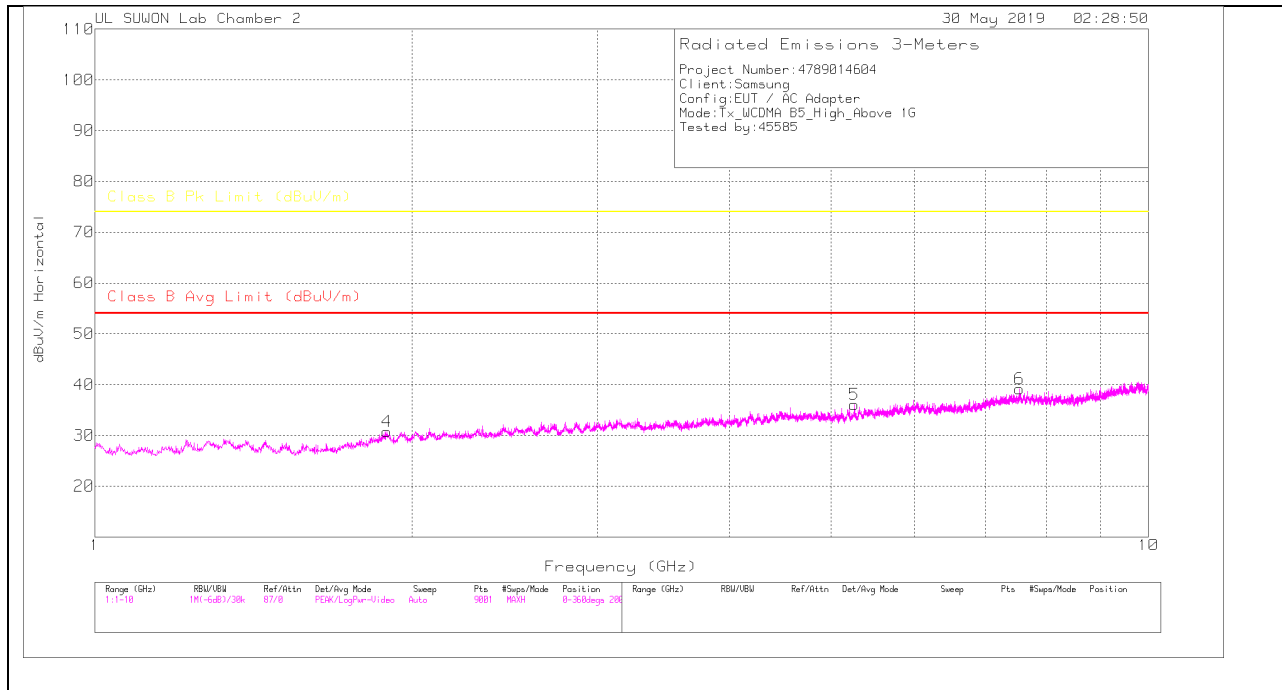
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.487	30.28	PK	31.9	-30.3	.6	32.48	-	-	74	-41.52	0-360	200	H
2	3.075	30.32	PK	32.7	-29.9	.6	33.72	-	-	74	-40.28	0-360	100	H
3	3.716	30.36	PK	33	-29.6	.5	34.26	-	-	74	-39.74	0-360	200	H
4	8.48	25.24	PK	36.1	-23.5	.6	38.44	-	-	74	-35.56	0-360	100	H
5	1.39	30.96	PK	29.5	-31.8	.6	29.26	-	-	74	-44.74	0-360	100	V
6	2.081	30.53	PK	31.3	-30.8	.5	31.53	-	-	74	-42.47	0-360	200	V
7	4.544	29.17	PK	33.9	-28.7	.4	34.77	-	-	74	-39.23	0-360	200	V
8	6.165	28.34	PK	35.1	-26.8	.4	37.04	-	-	74	-36.96	0-360	200	V

PK – Peak Detector

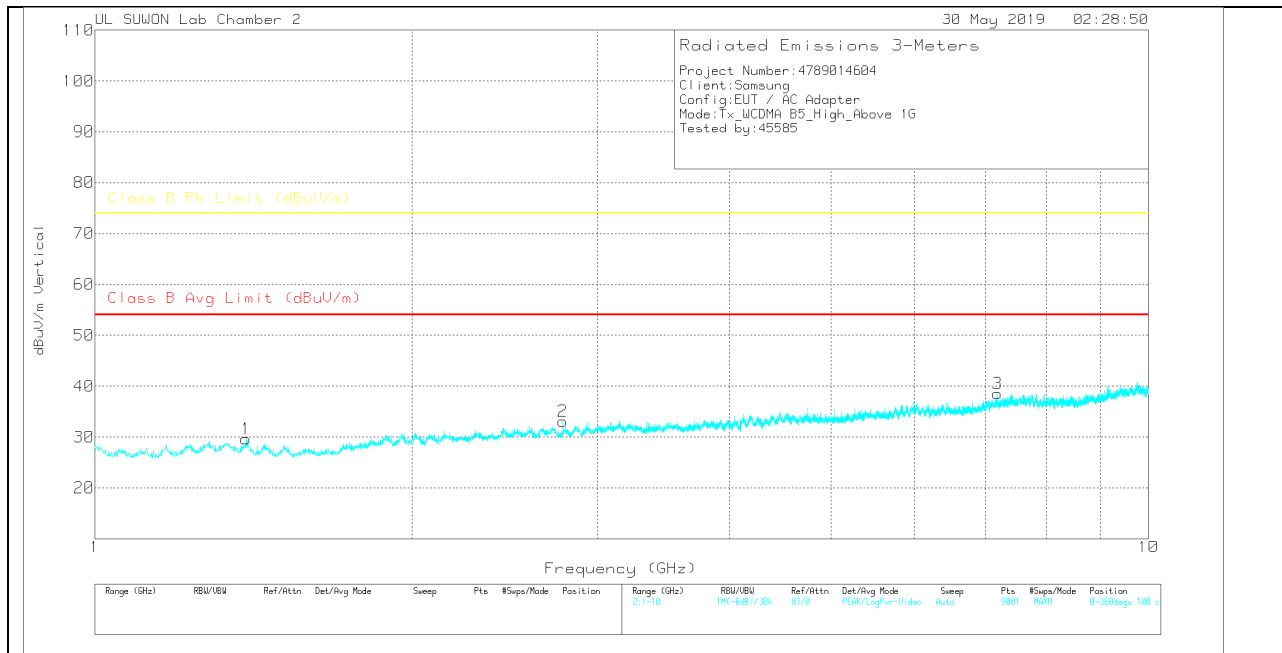
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(891.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.893	30.4	PK	30.8	-31.1	.7	30.8	-	-	74	-43.2	0-360	100	H
5	5.26	29.56	PK	34.4	-28.3	.4	36.06	-	-	74	-37.94	0-360	100	H
6	7.538	27.41	PK	36.1	-25.1	.7	39.11	-	-	74	-34.89	0-360	100	H
1	1.391	31.29	PK	29.5	-31.7	.6	29.69	-	-	74	-44.31	0-360	100	V
2	2.78	30.63	PK	32.1	-30	.4	33.13	-	-	74	-40.87	0-360	200	V
3	7.185	27.51	PK	36.1	-25.6	.5	38.51	-	-	74	-35.49	0-360	100	V

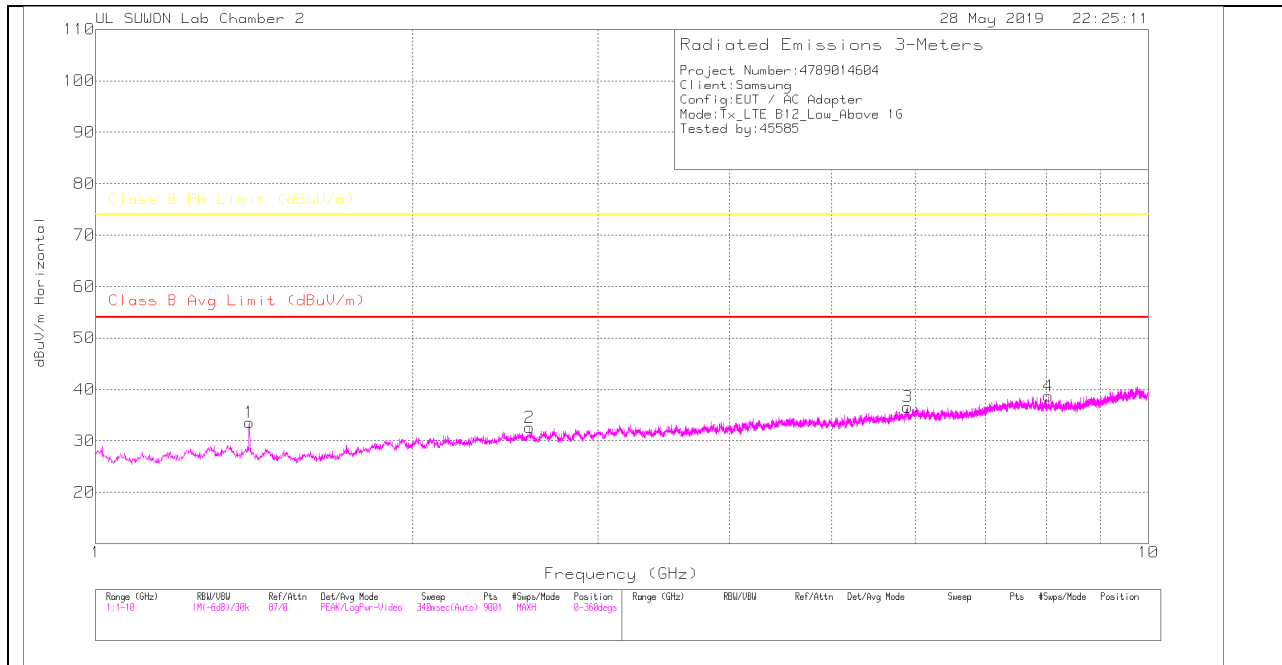
PK – Peak Detector

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

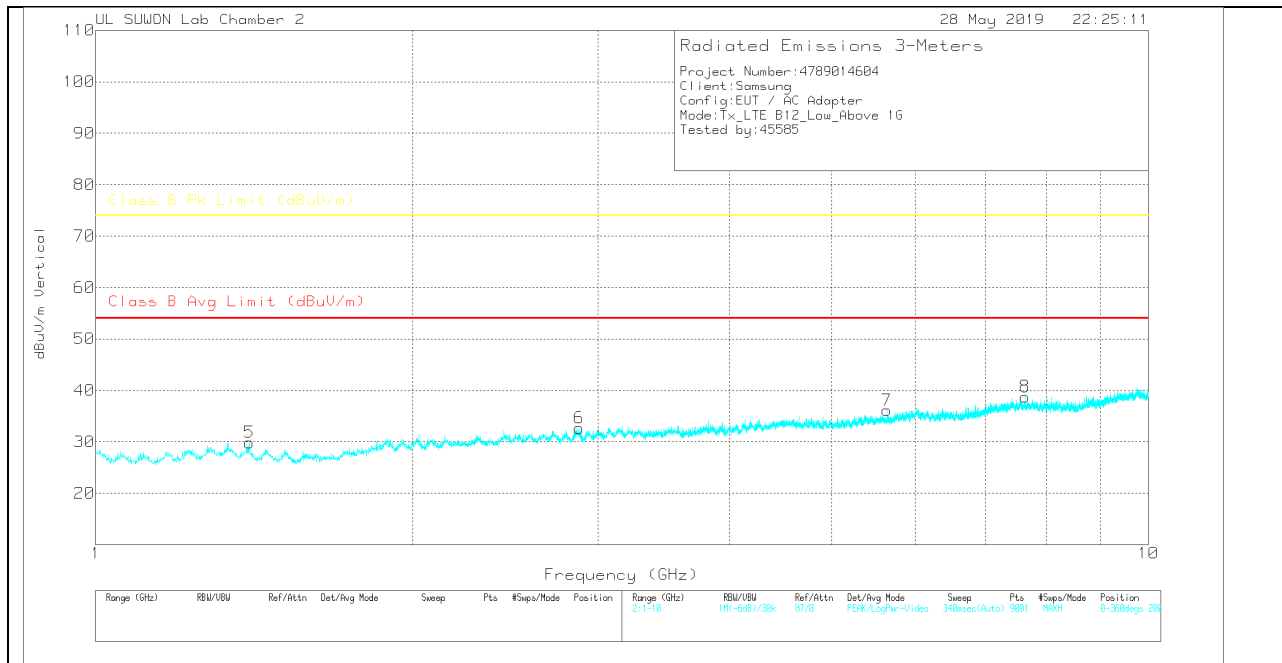
7.3. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

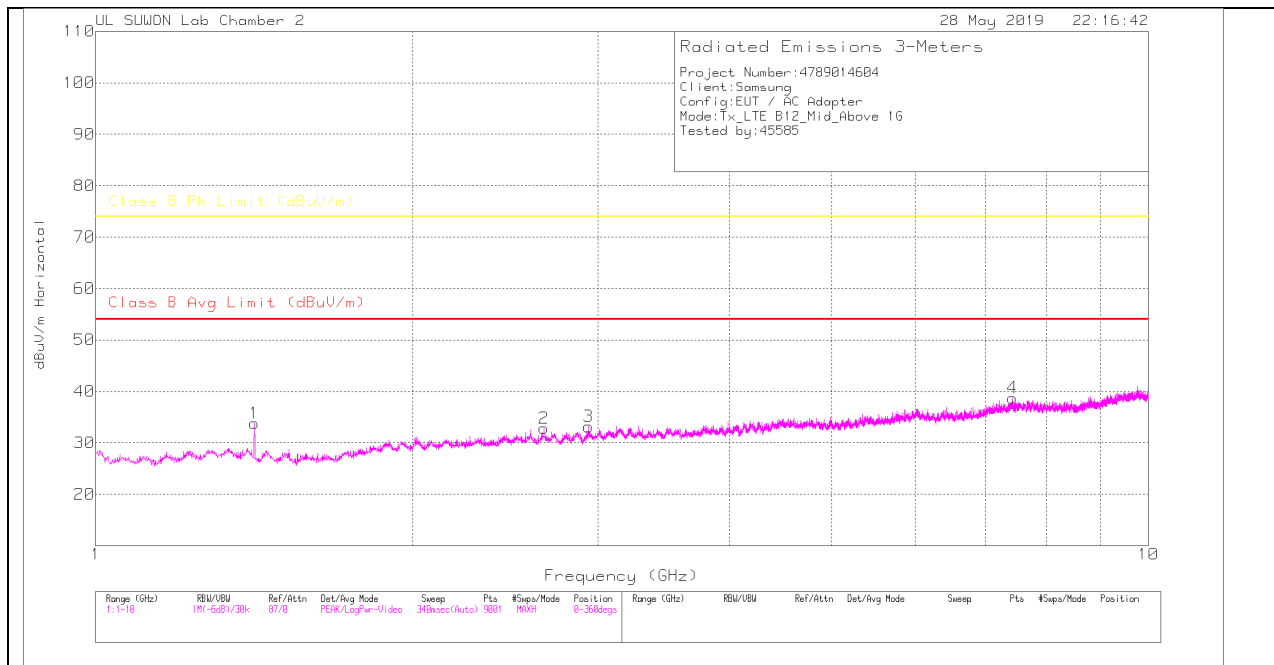
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.399	35.29	PK	29.4	-31.7	.6	33.59	-	-	74	-40.41	0-360	100	H
2	2.582	30.17	PK	32	-30.3	.7	32.57	-	-	74	-41.43	0-360	200	H
3	5.905	28.69	PK	34.9	-27.5	.5	36.59	-	-	74	-37.41	0-360	200	H
4	8.036	27.12	PK	35.9	-24.7	.4	38.72	-	-	74	-35.28	0-360	100	H
5	1.399	31.57	PK	29.4	-31.7	.6	29.87	-	-	74	-44.13	0-360	200	V
6	2.878	29.67	PK	32.1	-29.9	.8	32.67	-	-	74	-41.33	0-360	200	V
7	5.644	29.02	PK	34.6	-27.9	.4	36.12	-	-	74	-37.88	0-360	200	V
8	7.638	27.26	PK	36	-24.9	.4	38.76	-	-	74	-35.24	0-360	100	V

PK - Peak Detector

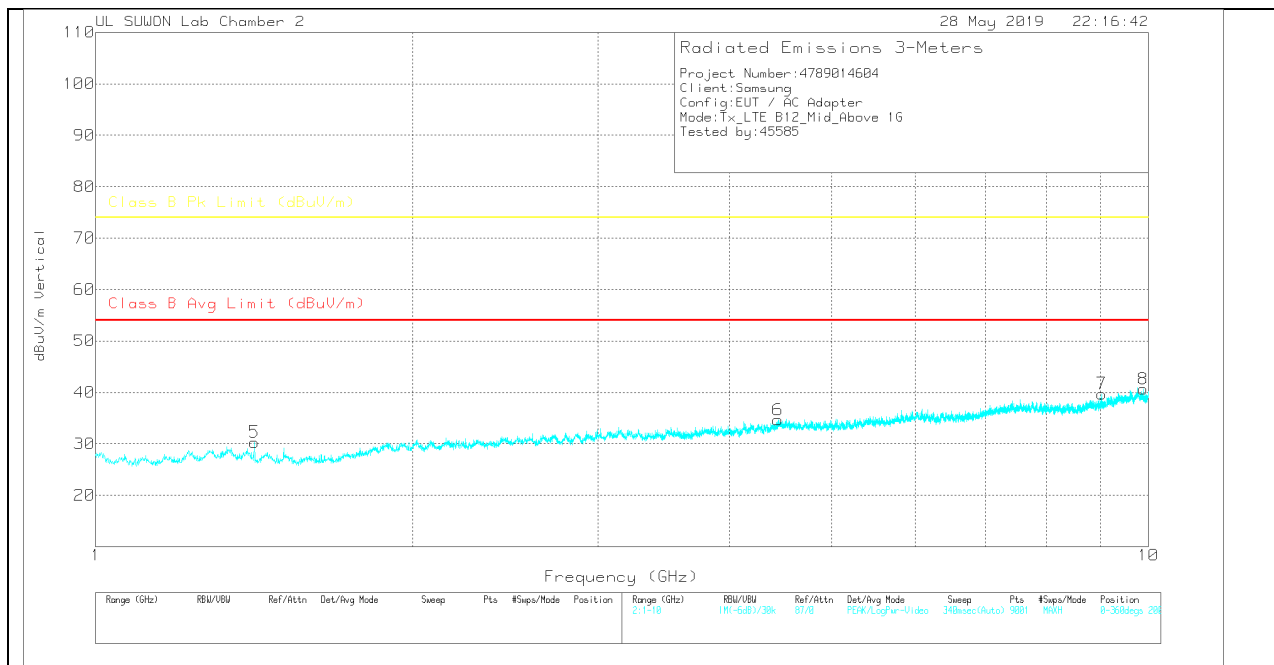
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(737.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

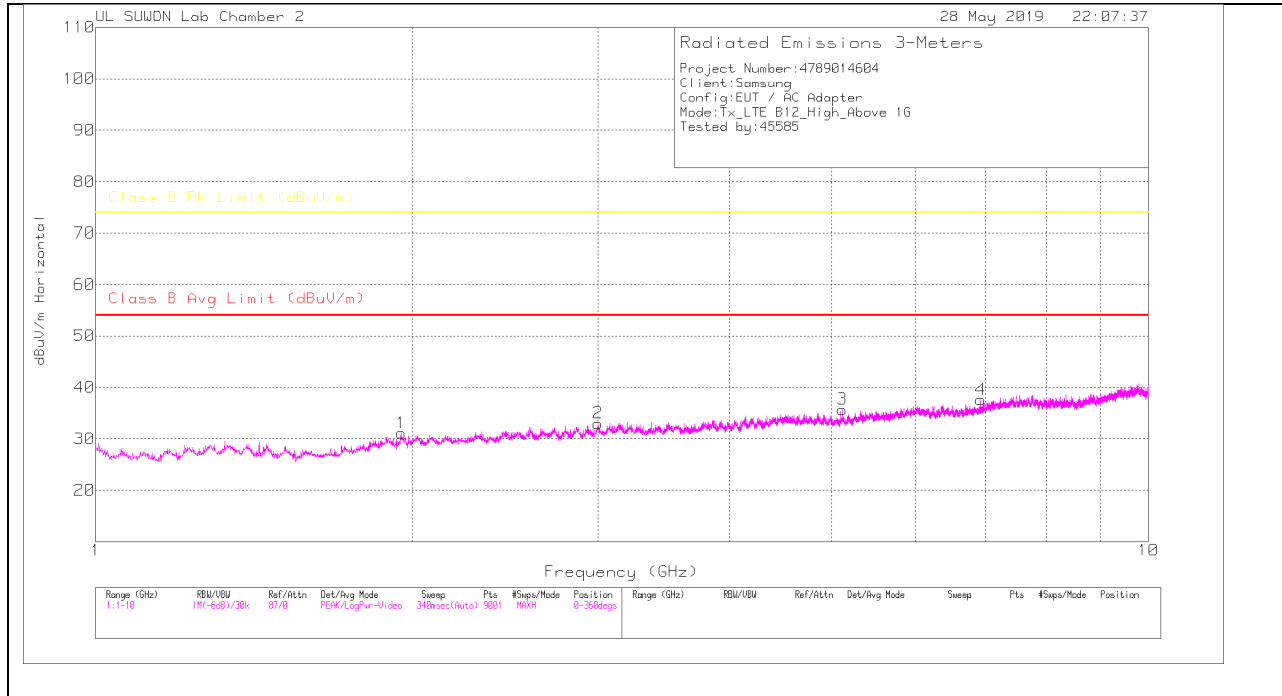
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.415	35.71	PK	29.3	-31.8	.6	33.81	-	-	74	-40.19	0-360	100	H
2	2.666	30.21	PK	32.1	-30.2	.7	32.81	-	-	74	-41.19	0-360	200	H
3	2.937	30.47	PK	32.3	-30.2	.6	33.17	-	-	74	-40.83	0-360	100	H
4	7.428	27.24	PK	36.2	-25.2	.5	38.74	-	-	74	-35.26	0-360	100	H
5	1.415	32.22	PK	29.3	-31.8	.6	30.32	-	-	74	-43.68	0-360	200	V
6	4.447	28.85	PK	33.8	-28.4	.4	34.65	-	-	74	-39.35	0-360	100	V
7	9.029	26.04	PK	36.5	-23.3	.5	39.74	-	-	74	-34.26	0-360	200	V
8	9.881	24.73	PK	37.4	-22.2	.7	40.63	-	-	74	-33.37	0-360	200	V

PK – Peak Detector

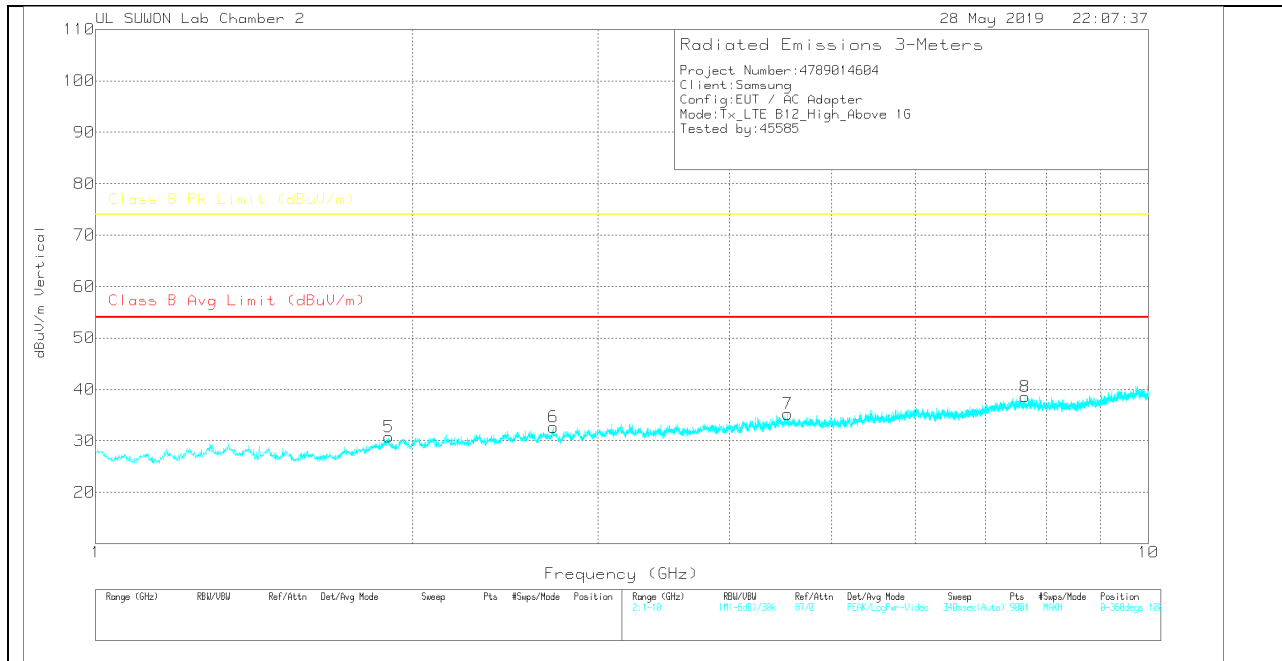
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(744.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.951	30.64	PK	31.1	-31.1	.5	31.14	-	-	74	-42.86	0-360	100	H
2	3.001	30.13	PK	32.5	-30.3	.7	33.03	-	-	74	-40.97	0-360	100	H
3	5.119	29.02	PK	34.2	-27.9	.4	35.72	-	-	74	-38.28	0-360	200	H
4	6.93	27.59	PK	35.7	-26.2	.5	37.59	-	-	74	-36.41	0-360	200	H
5	1.898	30.34	PK	30.8	-31.1	.7	30.74	-	-	74	-43.26	0-360	200	V
6	2.72	29.98	PK	32.1	-30.2	.8	32.68	-	-	74	-41.32	0-360	200	V
7	4.541	29.55	PK	33.9	-28.6	.4	35.25	-	-	74	-38.75	0-360	100	V
8	7.635	27.07	PK	36.1	-24.9	.3	38.57	-	-	74	-35.43	0-360	100	V

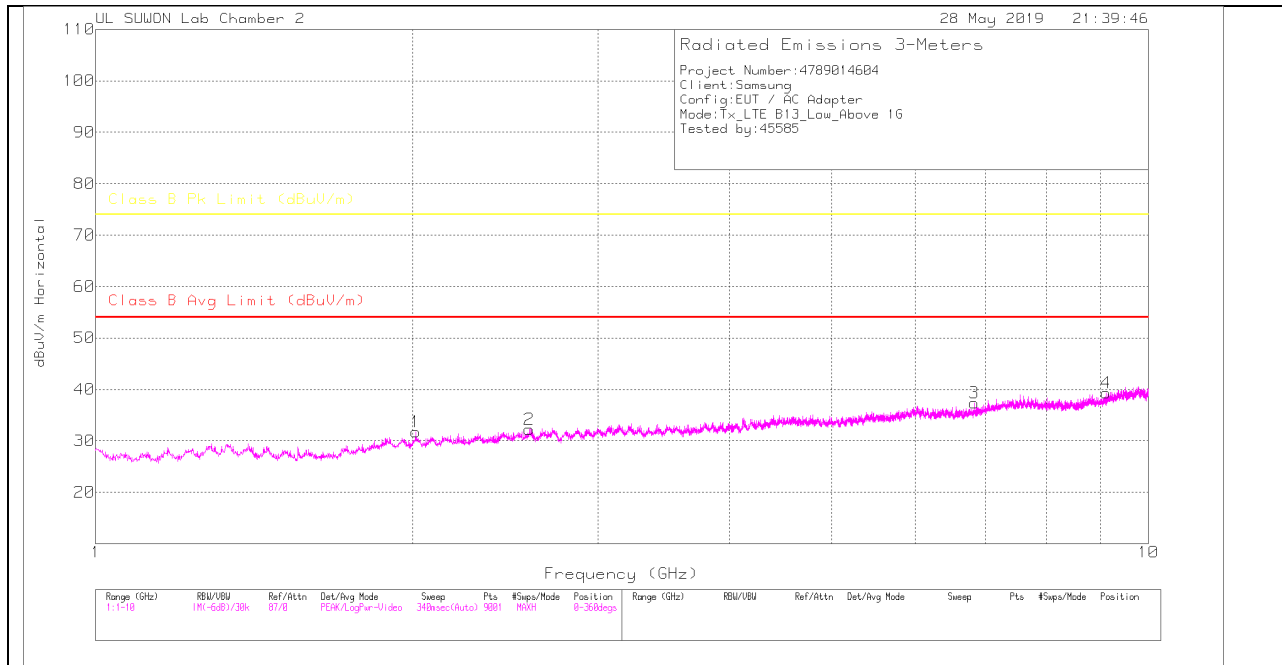
PK – Peak Detector

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

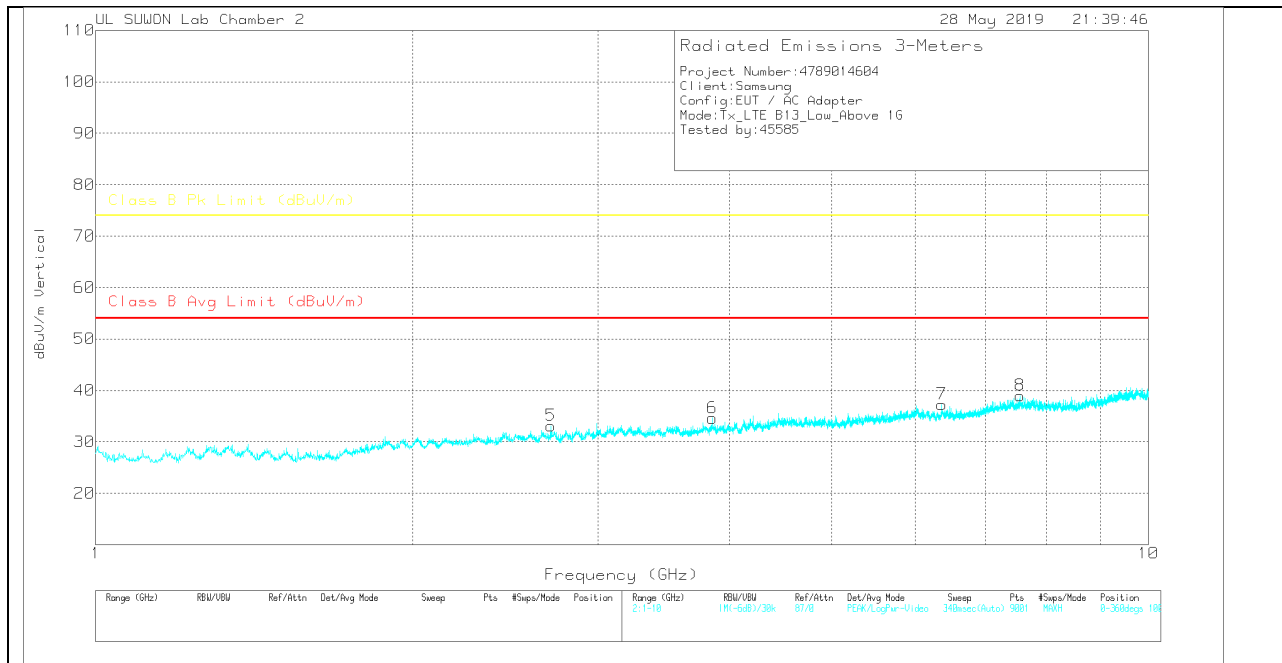
7.4. Above 1 GHz in the LTE Band 13

LOW CHANNEL(748.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

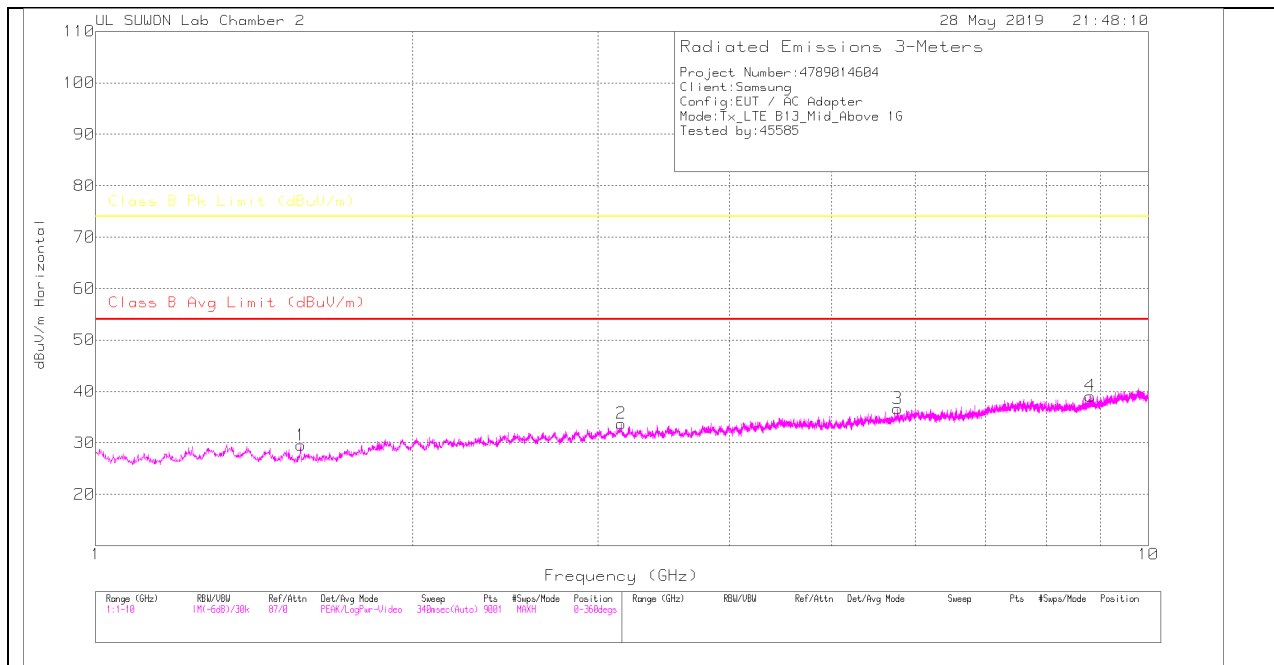
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.015	30.95	PK	31.2	-31	.6	31.75	-	-	74	-42.25	0-360	200	H
2	2.581	29.81	PK	32	-30.3	.7	32.21	-	-	74	-41.79	0-360	100	H
3	6.83	27.23	PK	35.6	-25.9	.4	37.33	-	-	74	-36.67	0-360	100	H
4	9.118	25.42	PK	36.5	-23.1	.5	39.32	-	-	74	-34.68	0-360	200	H
5	2.707	30.45	PK	32.1	-30.3	.9	33.15	-	-	74	-40.85	0-360	200	V
6	3.852	30.13	PK	33.3	-29.2	.4	34.63	-	-	74	-39.37	0-360	100	V
7	6.364	28.41	PK	35.2	-26.8	.5	37.31	-	-	74	-36.69	0-360	100	V
8	7.553	27.32	PK	36.1	-25.1	.7	39.02	-	-	74	-34.98	0-360	200	V

PK – Peak Detector

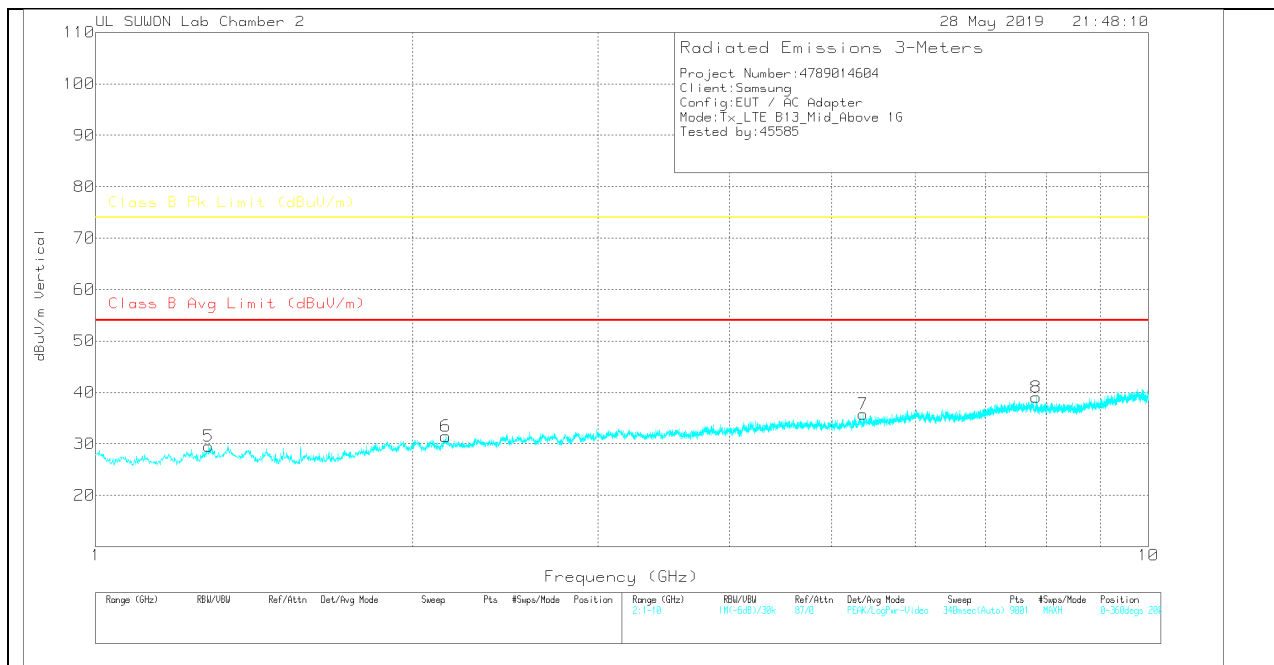
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(751.0MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

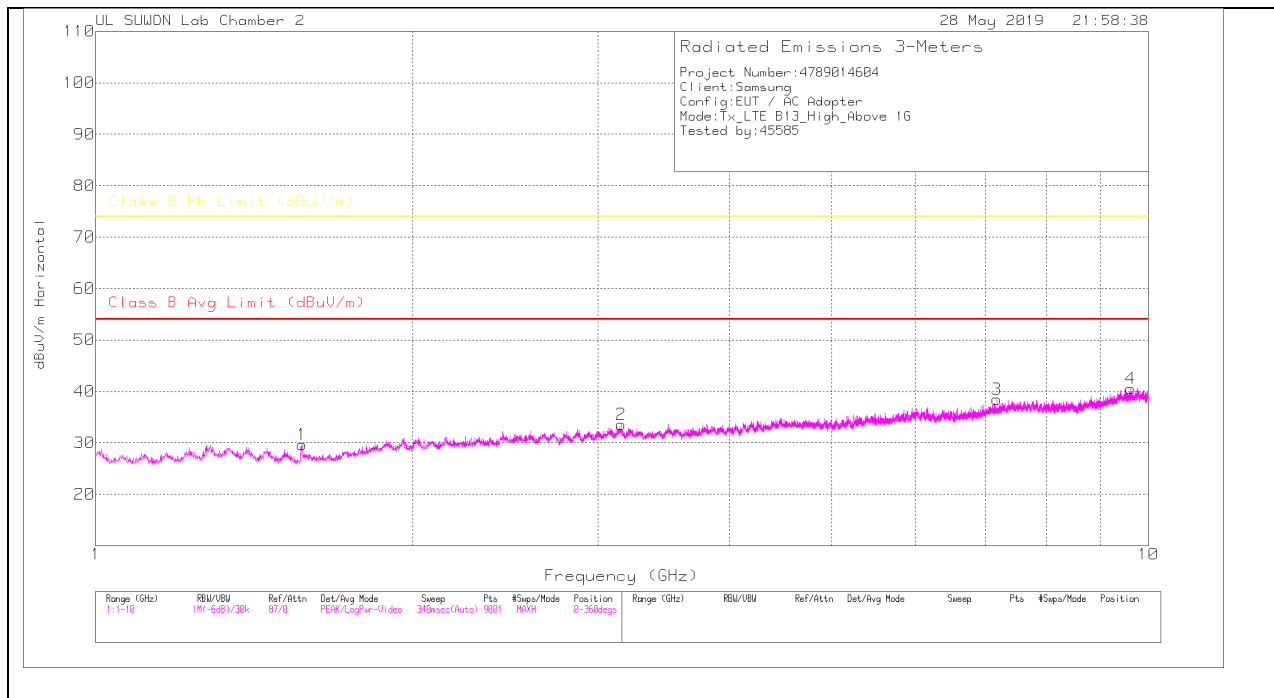
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSRR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.566	32.16	PK	28.3	-31.5	.6	29.56	-	-	74	-44.44	0-360	100	H
2	3.155	29.96	PK	32.9	-29.7	.6	33.76	-	-	74	-40.24	0-360	100	H
3	5.775	28.77	PK	34.8	-27.3	.4	36.67	-	-	74	-37.33	0-360	100	H
4	8.803	25.64	PK	36.3	-23.4	.6	39.14	-	-	74	-34.86	0-360	200	H
5	1.28	31.16	PK	29.6	-31.9	.7	29.56	-	-	74	-44.44	0-360	200	V
6	2.15	30.15	PK	31.3	-30.7	.7	31.45	-	-	74	-42.55	0-360	200	V
7	5.355	29.15	PK	34.5	-28.3	.4	35.75	-	-	74	-38.25	0-360	200	V
8	7.822	27.06	PK	36	-24.5	.5	39.06	-	-	74	-34.94	0-360	100	V

PK – Peak Detector

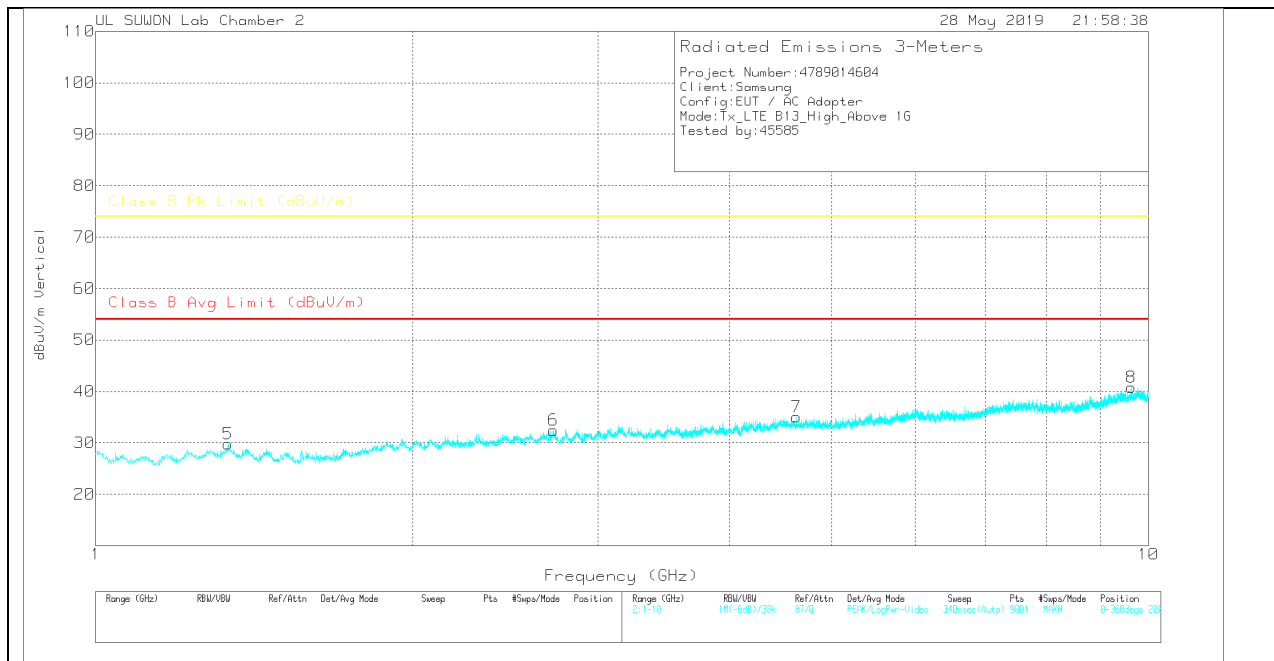
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(753.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.57	32.25	PK	28.3	-31.5	.6	29.65	-	-	74	-44.35	0-360	200	H
2	3.157	29.69	PK	32.9	-29.6	.6	33.59	-	-	74	-40.41	0-360	100	H
3	7.18	27.44	PK	36.1	-25.6	.5	38.44	-	-	74	-35.56	0-360	200	H
4	9.614	25.33	PK	37	-22.6	.8	40.53	-	-	74	-33.47	0-360	200	H
5	1.336	31.19	PK	29.7	-31.8	.7	29.79	-	-	74	-44.21	0-360	200	V
6	2.722	29.83	PK	32.1	-30.3	.8	32.43	-	-	74	-41.57	0-360	200	V
7	4.63	29.62	PK	34	-29	.4	35.02	-	-	74	-38.98	0-360	100	V
8	9.626	25.56	PK	37	-22.6	.8	40.76	-	-	74	-33.24	0-360	200	V

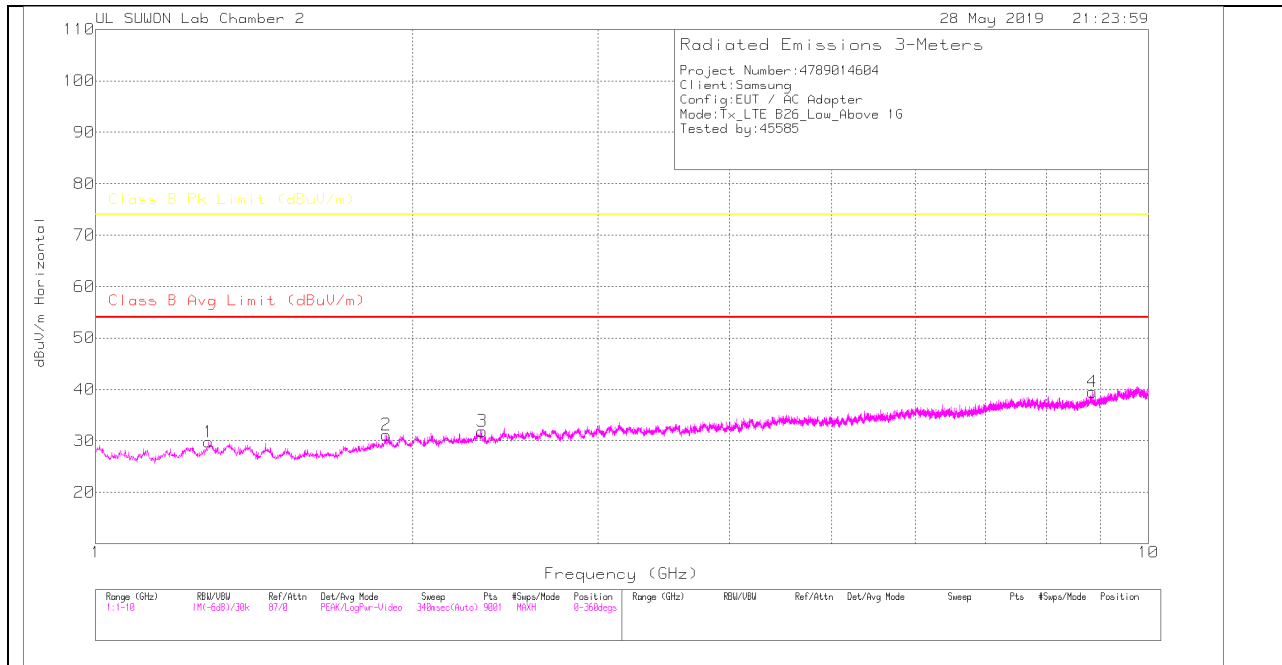
PK – Peak Detector

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

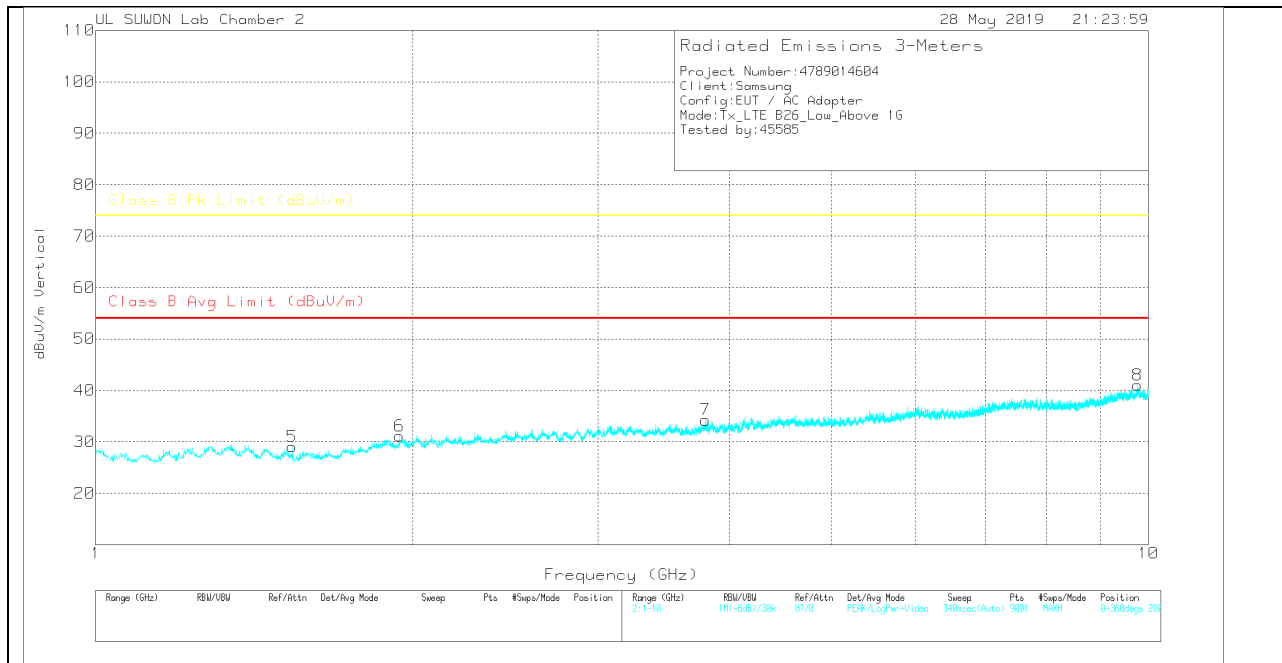
7.5. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

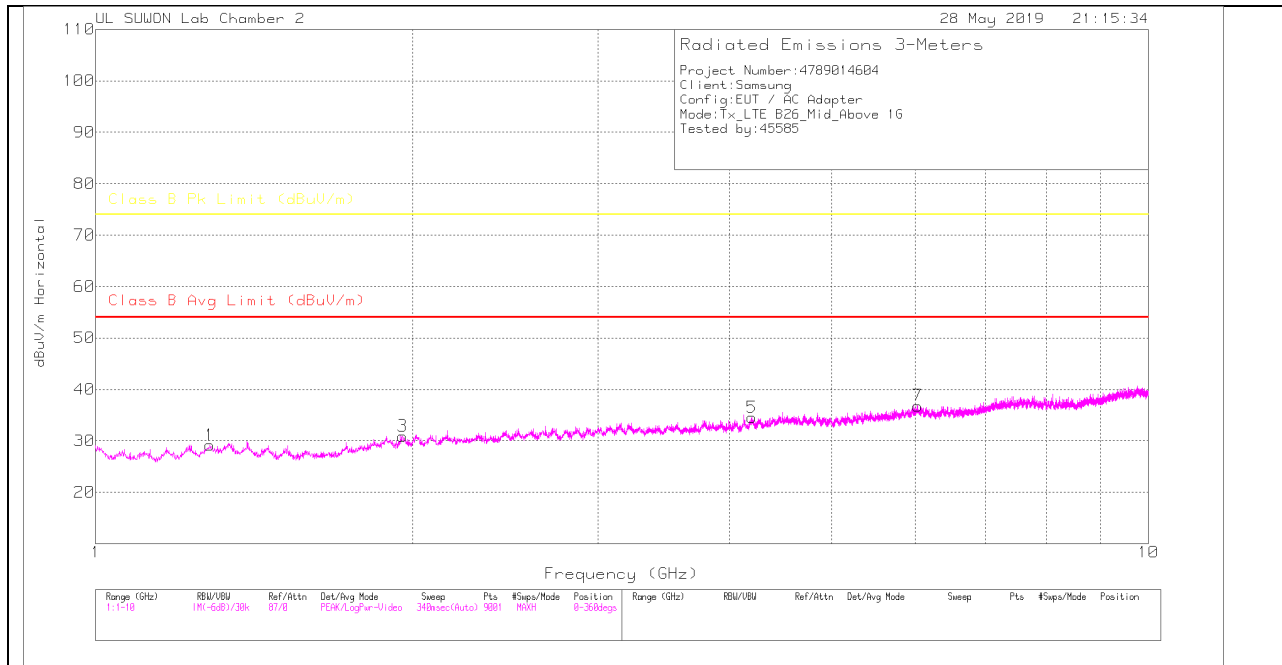
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.28	31.36	PK	29.6	-31.9	.7	29.76	-	-	74	-44.24	0-360	100	H
2	1.889	30.88	PK	30.7	-31.1	.7	31.18	-	-	74	-42.82	0-360	100	H
3	2.328	30.51	PK	31.5	-30.8	.7	31.91	-	-	74	-42.09	0-360	200	H
4	8.847	25.82	PK	36.4	-23.3	.6	39.52	-	-	74	-34.48	0-360	100	H
5	1.537	31.55	PK	28.4	-31.5	.6	29.05	-	-	74	-44.95	0-360	200	V
6	1.943	30.73	PK	31	-31.1	.5	31.13	-	-	74	-42.87	0-360	100	V
7	3.793	29.77	PK	33.2	-29.2	.5	34.27	-	-	74	-39.73	0-360	200	V
8	9.759	25	PK	37.2	-22.1	.9	41	-	-	74	-33	0-360	100	V

PK – Peak Detector

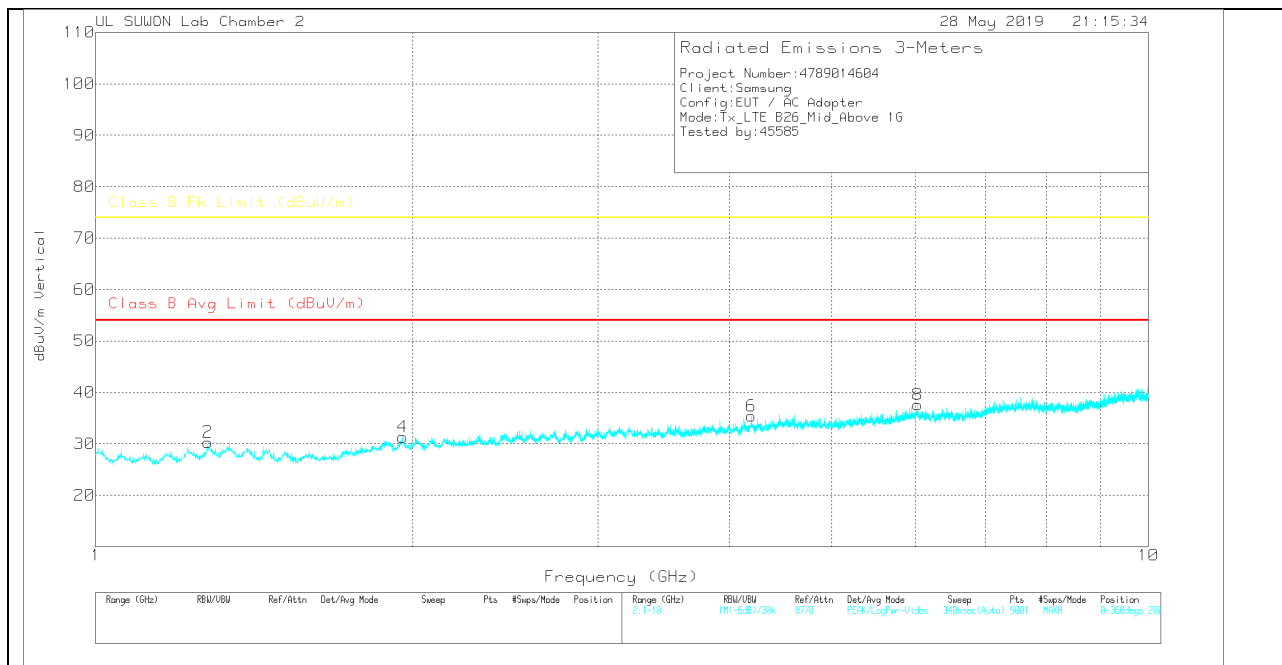
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(876.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

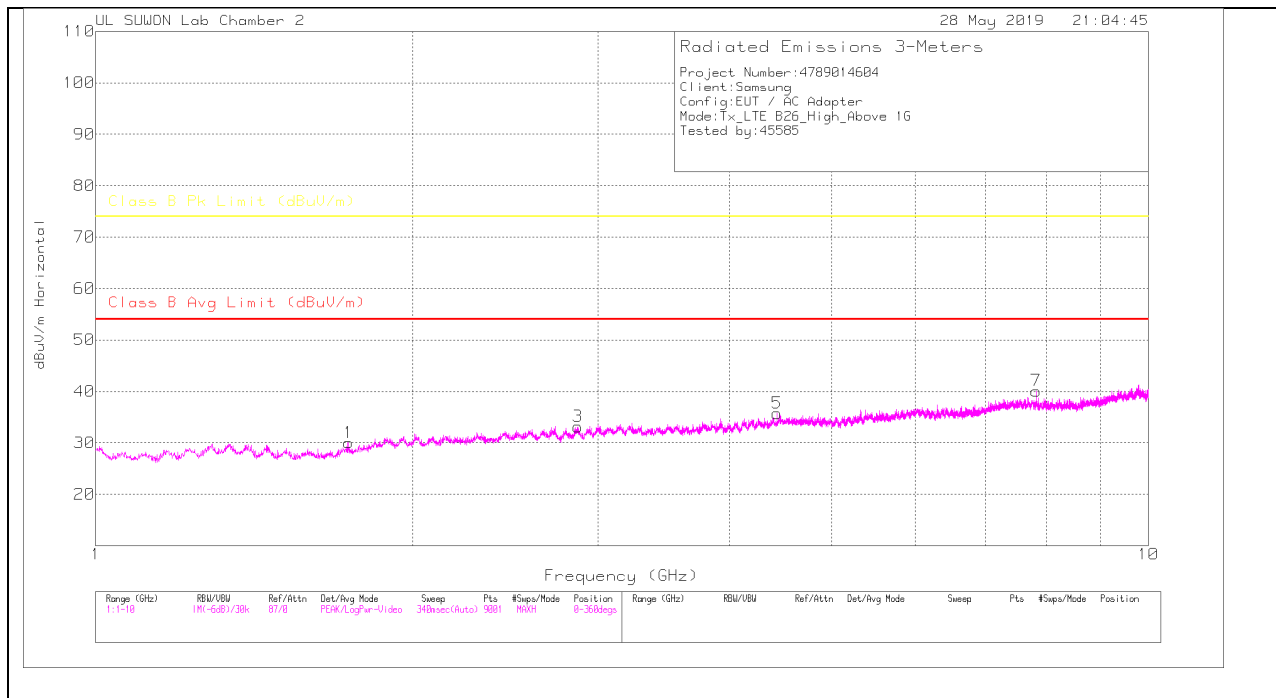
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.284	30.78	PK	29.6	-31.9	.7	29.18	-	-	74	-44.82	0-360	100	H
3	1.956	30.33	PK	31.1	-31	.5	30.93	-	-	74	-43.07	0-360	200	H
5	4.199	28.94	PK	33.4	-28.2	.4	34.54	-	-	74	-39.46	0-360	100	H
7	6.034	28.72	PK	35	-27.4	.5	36.82	-	-	74	-37.18	0-360	200	H
2	1.278	32.03	PK	29.5	-31.9	.7	30.33	-	-	74	-43.67	0-360	200	V
4	1.956	30.73	PK	31.1	-31	.5	31.33	-	-	74	-42.67	0-360	200	V
6	4.193	29.82	PK	33.4	-28.2	.4	35.42	-	-	74	-38.58	0-360	100	V
8	6.035	29.48	PK	35	-27.4	.5	37.58	-	-	74	-36.42	0-360	100	V

PK – Peak Detector

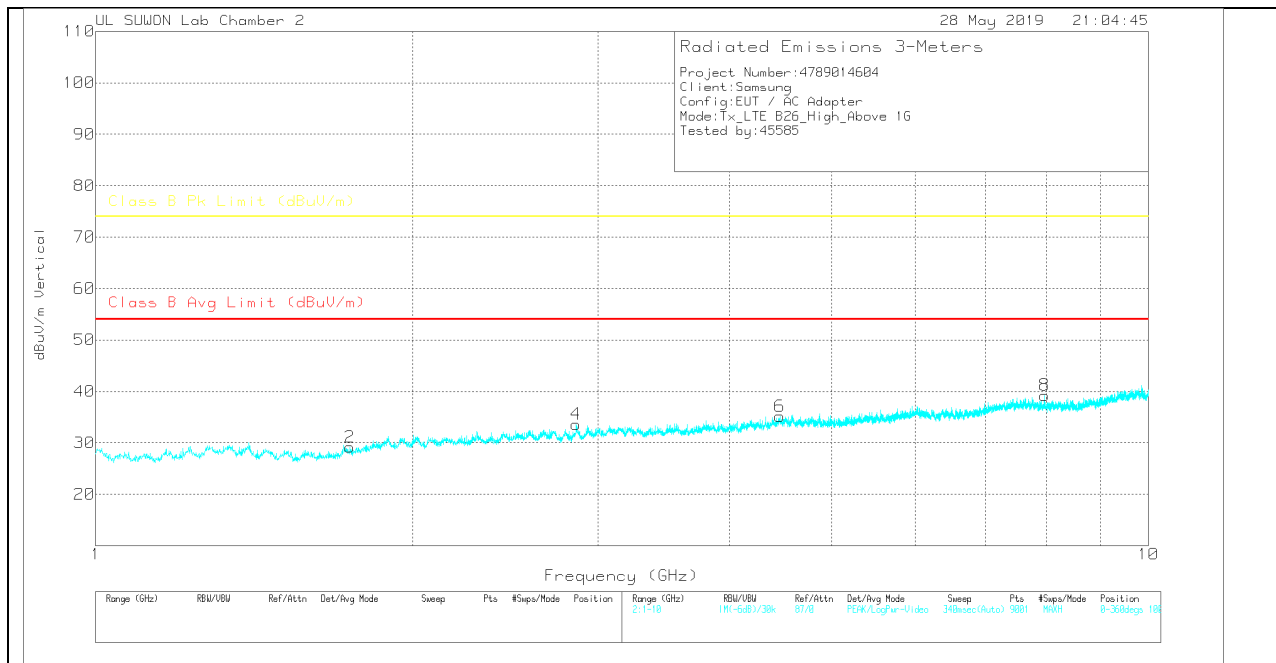
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(892.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	5117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.738	31.4	PK	29	-31.2	.8	30	-	-	74	-44	0-360	100	H
3	2.87	30.16	PK	32.1	-29.9	.8	33.16	-	-	74	-40.84	0-360	100	H
5	4.439	29.93	PK	33.8	-28.4	.4	35.73	-	-	74	-38.27	0-360	100	H
7	7.822	28.12	PK	36	-24.5	.5	40.12	-	-	74	-33.88	0-360	100	H
2	1.744	30.47	PK	29.1	-31.2	.8	29.17	-	-	74	-44.83	0-360	200	V
4	2.86	30.53	PK	32.1	-29.8	.8	33.63	-	-	74	-40.37	0-360	100	V
6	4.465	29.35	PK	33.8	-28.4	.4	35.15	-	-	74	-38.85	0-360	200	V
8	7.965	27.65	PK	35.9	-25	.7	39.25	-	-	74	-34.75	0-360	200	V

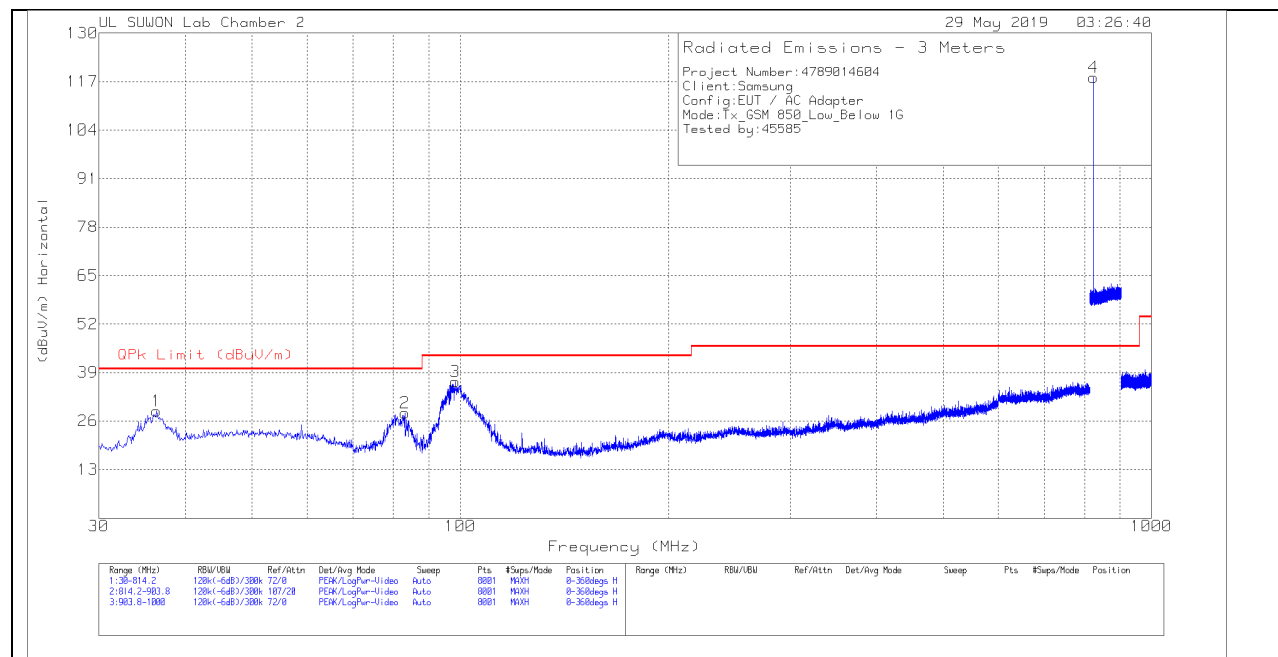
PK – Peak Detector

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

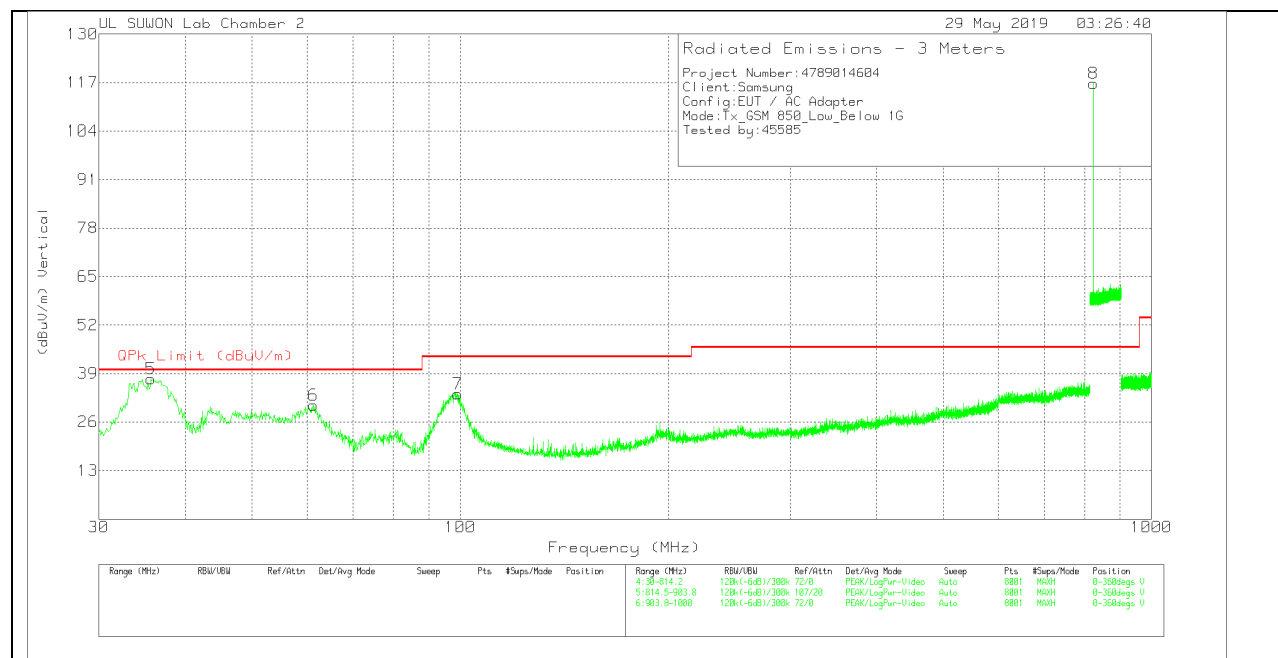
7.6. Below 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.3716	10.94	Pk	17.2	.6	28.74	40	-11.26	0-360	200	H
2	83.1296	14.05	Pk	13.1	1	28.15	40	-11.85	0-360	200	H
3	98.3234	17.97	Pk	17.6	1	36.57	43.52	-6.95	0-360	300	H
4	824.1904	88.09	Pk	26.9	3.1	118.09	46.02	72.07	0-360	100	H
5	35.6855	19.98	Pk	17	.6	37.58	40	-2.42	0-360	100	V
6	61.27	11.54	Pk	18.2	.8	30.54	40	-9.46	0-360	100	V
7	99.1076	14.7	Pk	17.7	1.1	33.5	43.52	-10.02	0-360	100	V
8	824.1895	86.78	Pk	26.9	3.1	116.78	46.02	70.76	0-360	100	V

Pk - Peak detector

Radiated Emissions

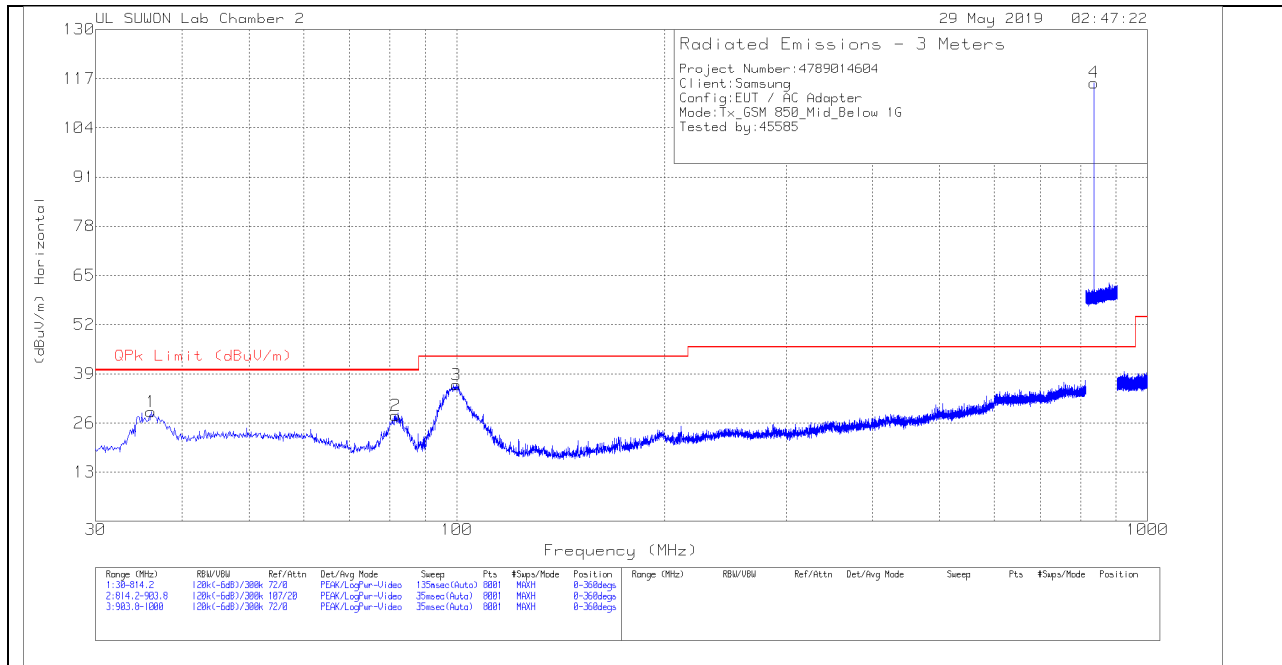
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.6855	16.29	Qp	17	.6	33.89	40	-6.11	98	100	V

Qp - Quasi-Peak detector

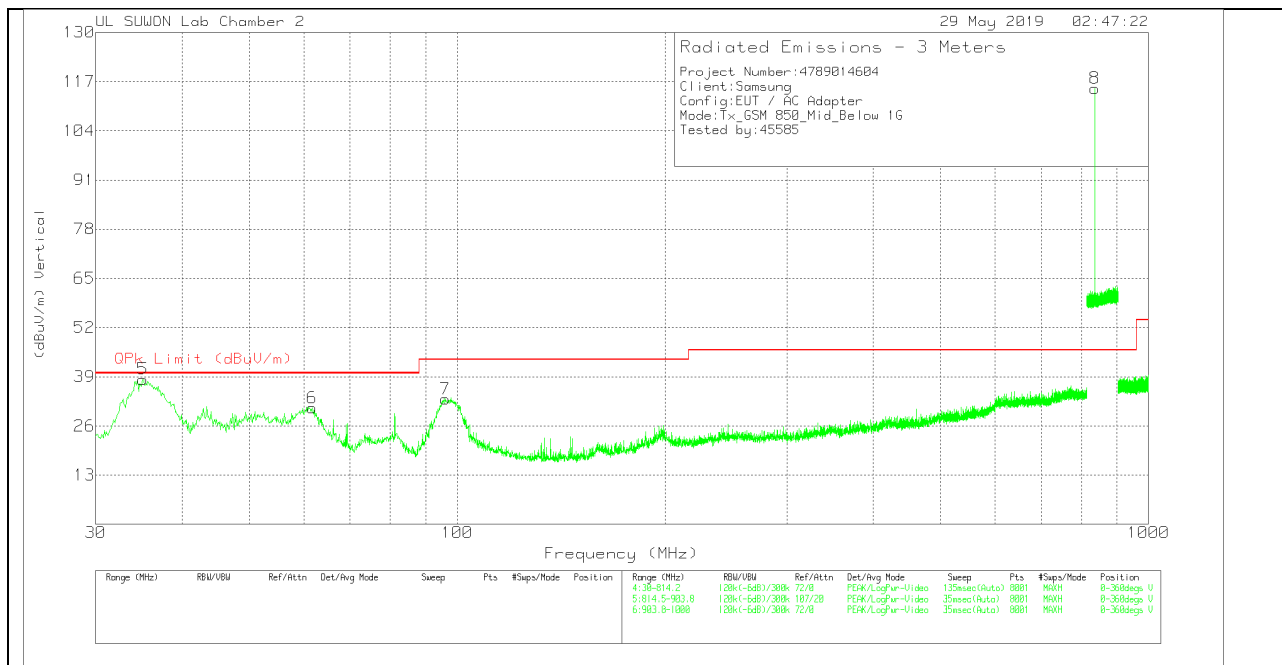
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.0776	11.27	Pk	17.1	.6	28.97	40	-11.03	0-360	300	H
2	81.5612	14.21	Pk	12.7	1	27.91	40	-12.09	0-360	300	H
3	99.7938	17.26	Pk	17.7	1.1	36.06	43.52	-7.46	0-360	300	H
4	836.6224	85.7	Pk	27.1	3.1	115.9	46.02	69.88	0-360	100	H
5	35.0973	21.03	Pk	16.7	.6	38.33	40	-1.67	0-360	100	V
6	61.6621	11.85	Pk	18.1	.8	30.75	40	-9.25	0-360	100	V
7	96.0689	14.67	Pk	17.4	1	33.07	43.52	-10.45	0-360	100	V
8	836.6697	85.02	Pk	27.1	3.1	115.22	46.02	69.2	0-360	100	V

Pk - Peak detector

Radiated Emissions

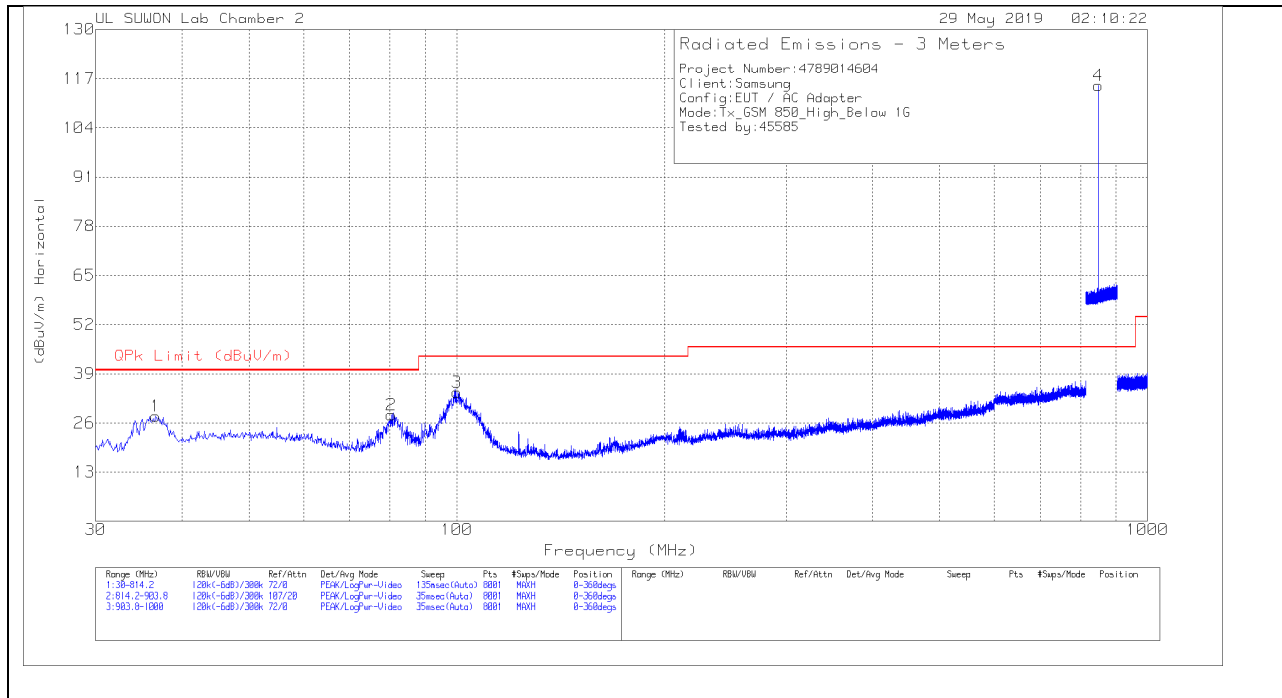
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.0973	14.64	Qp	16.7	.6	31.94	40	-8.06	237	101	V

Qp - Quasi-Peak detector

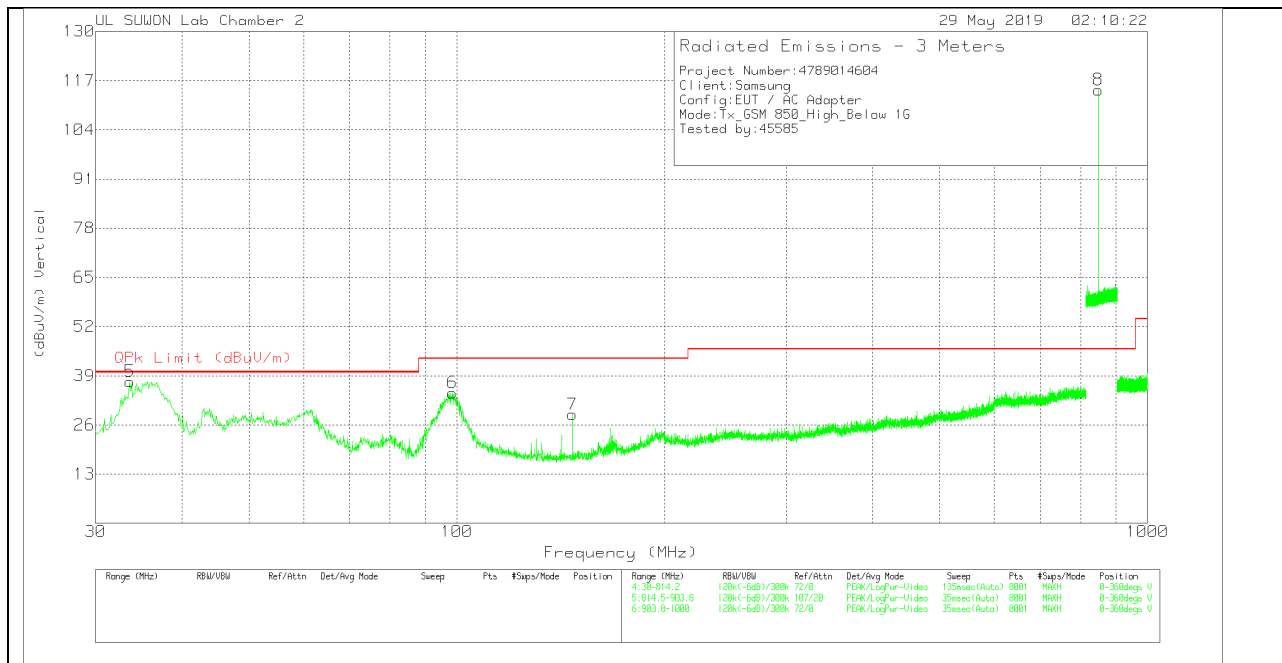
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.6657	9.78	Pk	17.3	.7	27.78	40	-12.22	0-360	300	H
2	80.3849	14.52	Pk	12.6	1	28.12	40	-11.88	0-360	200	H
3	99.9899	15.28	Pk	17.7	1.1	34.08	43.52	-9.44	0-360	200	H
4	848.8416	84.56	Pk	27.4	3.2	115.16	46.02	69.14	0-360	100	H
5	33.6269	20.96	Pk	15.9	.6	37.46	40	-2.54	0-360	100	V
6	98.5195	15.71	Pk	17.7	1.1	34.51	43.52	-9.01	0-360	100	V
7	146.9438	13.35	Pk	14.1	1.3	28.75	43.52	-14.77	0-360	100	V
8	848.8151	83.96	Pk	27.4	3.2	114.56	46.02	68.54	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
33.6269	11.92	Qp	15.9	.6	28.42	40	-11.58	100	100	V

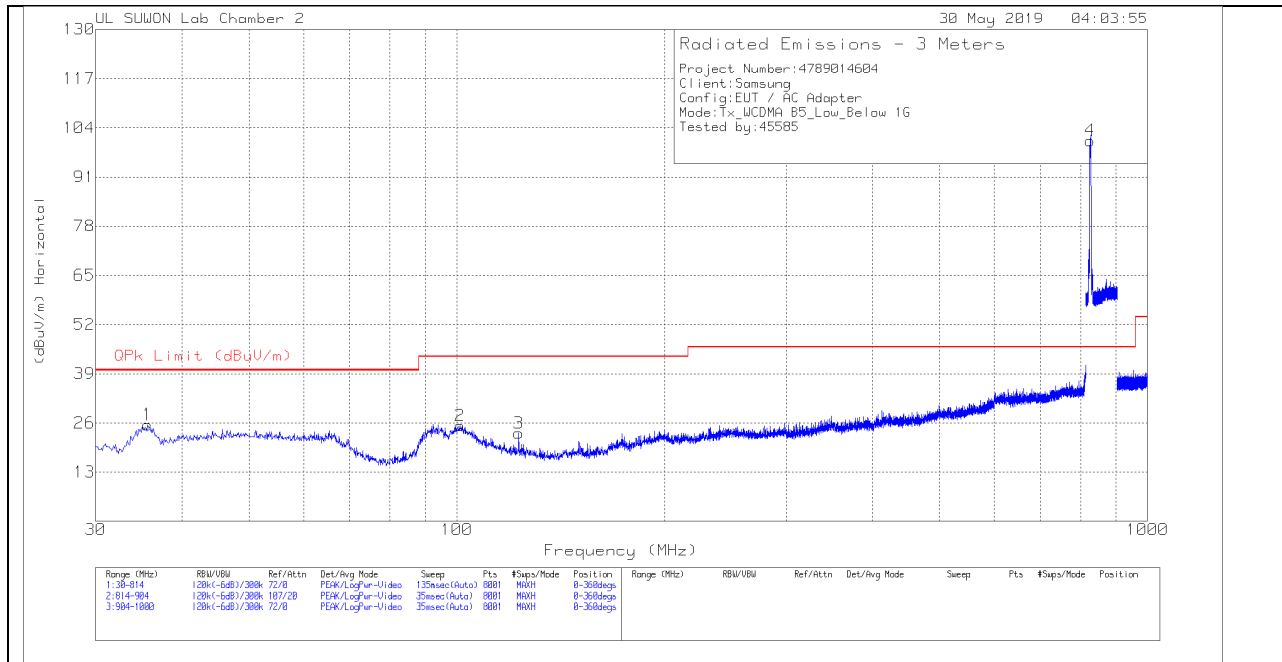
Qp - Quasi-Peak detector

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

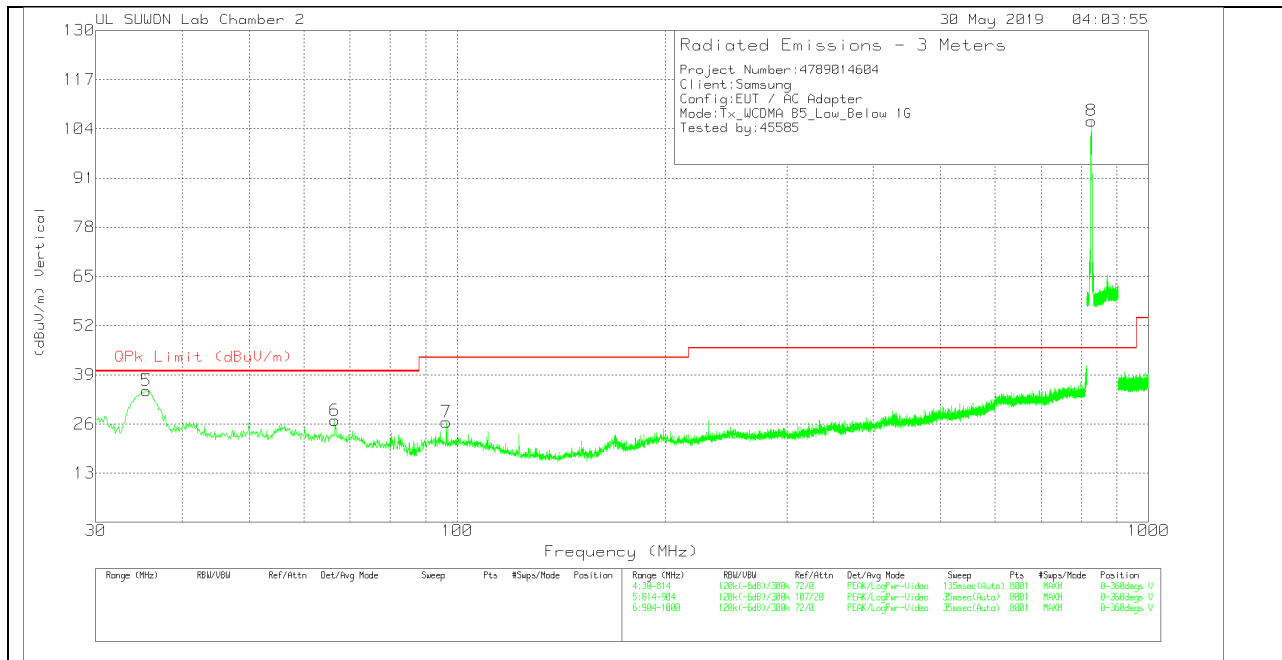
7.7. Below 1 GHz in the WCDMA Band 5

LOW CHANNEL(871.4MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

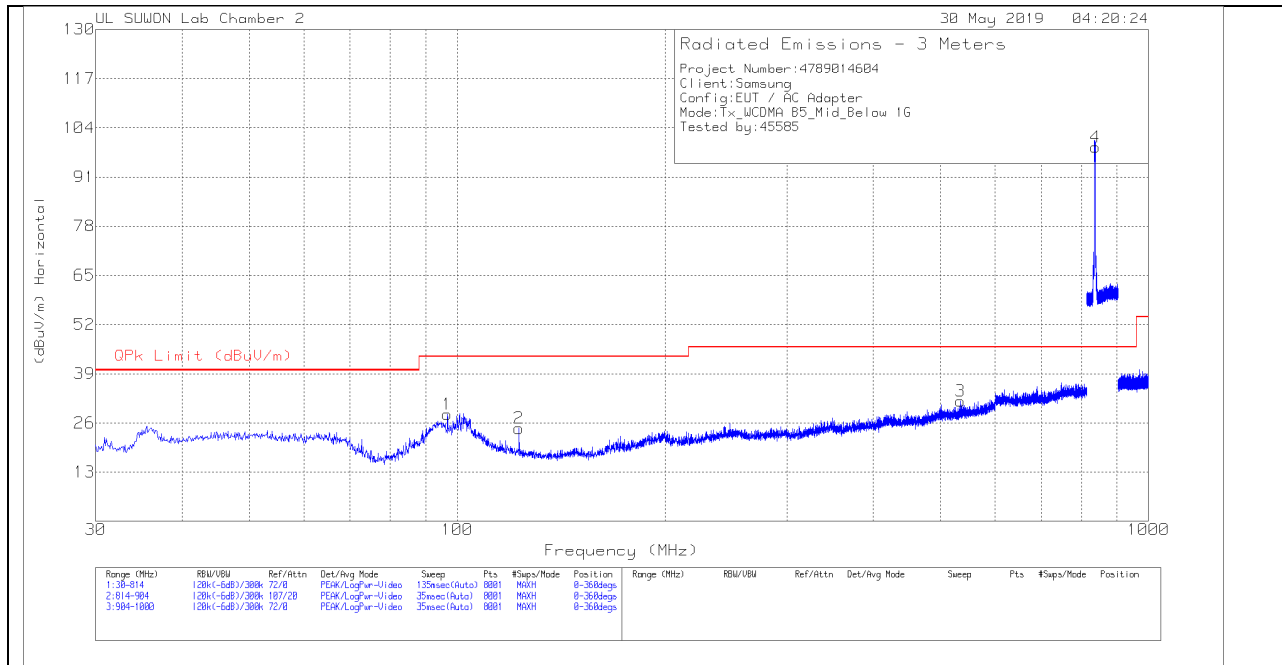
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	35.684	7.91	Pk	17	.6	25.51	40	-14.49	0-360	300	H
2	101.05	6.48	Pk	17.7	1.1	25.28	43.52	-18.24	0-360	300	H
3	122.904	7.17	Pk	14.9	1.2	23.27	43.52	-20.25	0-360	200	H
4	826.3863	70.51	Pk	27	3.1	100.61	46.02	54.59	0-360	100	H
5	35.488	17.21	Pk	16.9	.7	34.81	40	-5.19	0-360	100	V
6	66.554	9.43	Pk	16.7	.8	26.93	40	-13.07	0-360	100	V
7	96.444	8.01	Pk	17.4	1.1	26.51	43.52	-17.01	0-360	100	V
8	826.9825	76.01	Pk	27	3.1	106.11	46.02	60.09	0-360	100	V

Pk - Peak detector

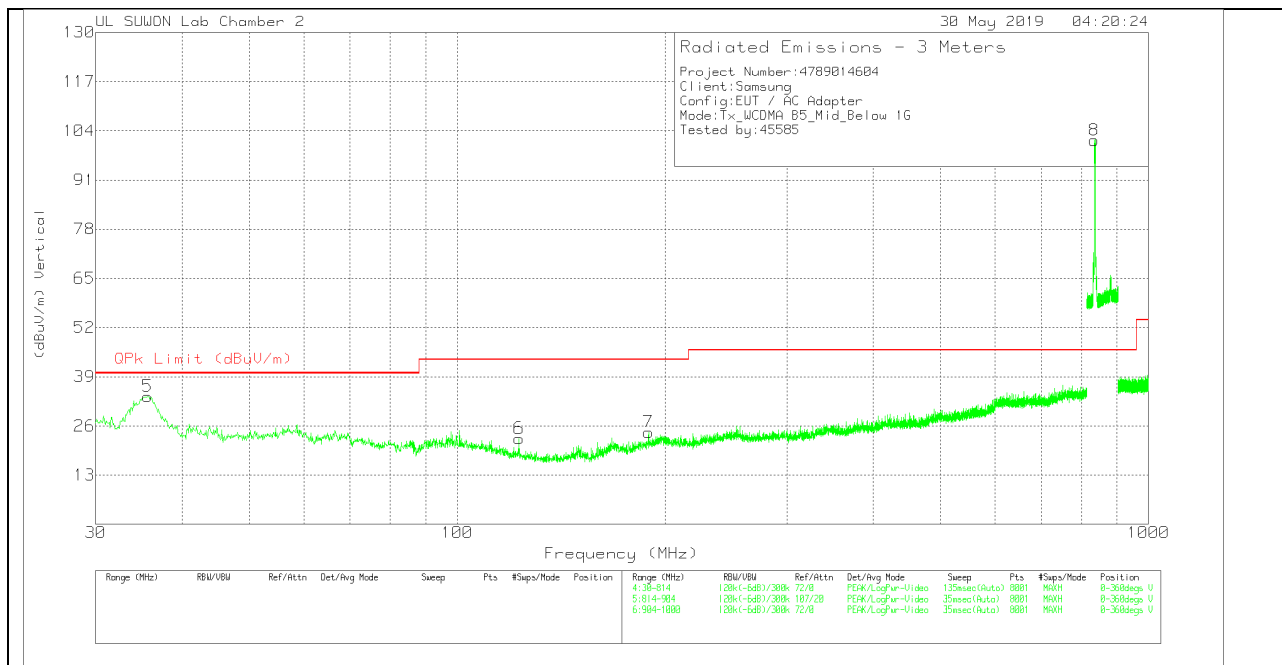
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

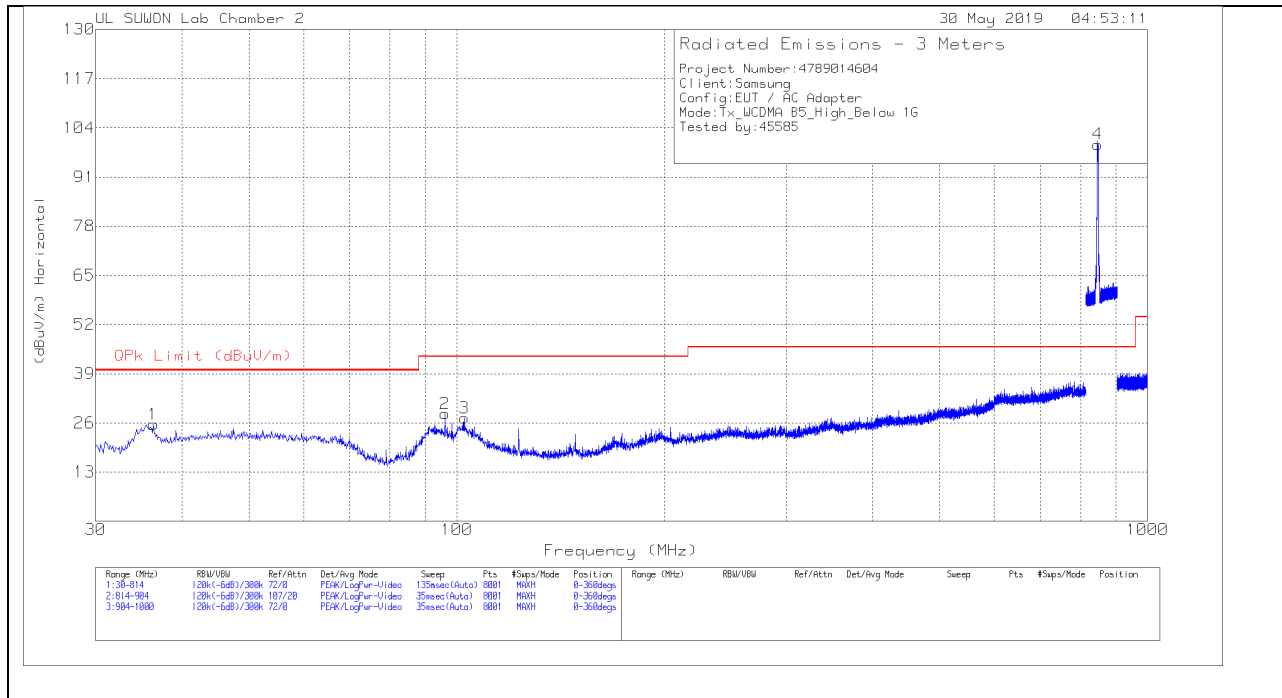
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	96.738	9.89	Pk	17.4	1	28.29	43.52	-15.23	0-360	300	H
2	122.806	8.47	Pk	14.9	1.2	24.57	43.52	-18.95	0-360	300	H
3	534.504	5.9	Pk	23.4	2.5	31.8	46.02	-14.22	0-360	400	H
4	837.805	68.71	Pk	27.1	3.1	98.91	46.02	52.89	0-360	100	H
5	35.684	16.22	Pk	17	.6	33.82	40	-6.18	0-360	100	V
6	122.904	6.6	Pk	14.9	1.2	22.7	43.52	-20.82	0-360	100	V
7	189.152	5.88	Pk	17	1.5	24.38	43.52	-19.14	0-360	200	V
8	835.0263	71.28	Pk	27.1	3.1	101.48	46.02	55.46	0-360	100	V

Pk - Peak detector

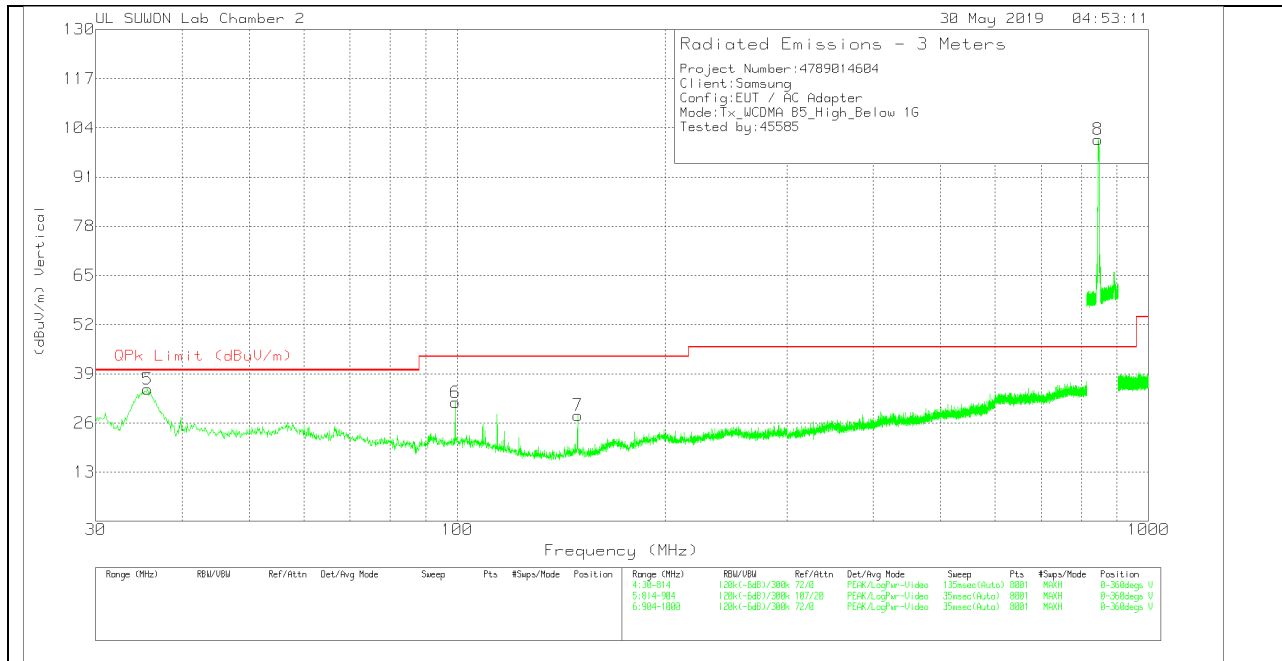
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(891.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.37	7.79	Pk	17.2	.6	25.59	40	-14.41	0-360	300	H
2	96.15	9.91	Pk	17.4	1.1	28.41	43.52	-15.11	0-360	300	H
3	102.52	8.37	Pk	17.8	1.1	27.27	43.52	-16.25	0-360	100	H
4	846.7263	69.13	Pk	27.3	3.2	99.63	46.02	53.61	0-360	100	H
5	35.684	17.28	Pk	17	.6	34.88	40	-5.12	0-360	100	V
6	99.384	12.74	Pk	17.7	1	31.44	43.52	-12.08	0-360	100	V
7	149.364	12.72	Pk	14	1.3	28.02	43.52	-15.5	0-360	100	V
8	845.4888	70.53	Pk	27.2	3.2	100.93	46.02	54.91	0-360	200	V

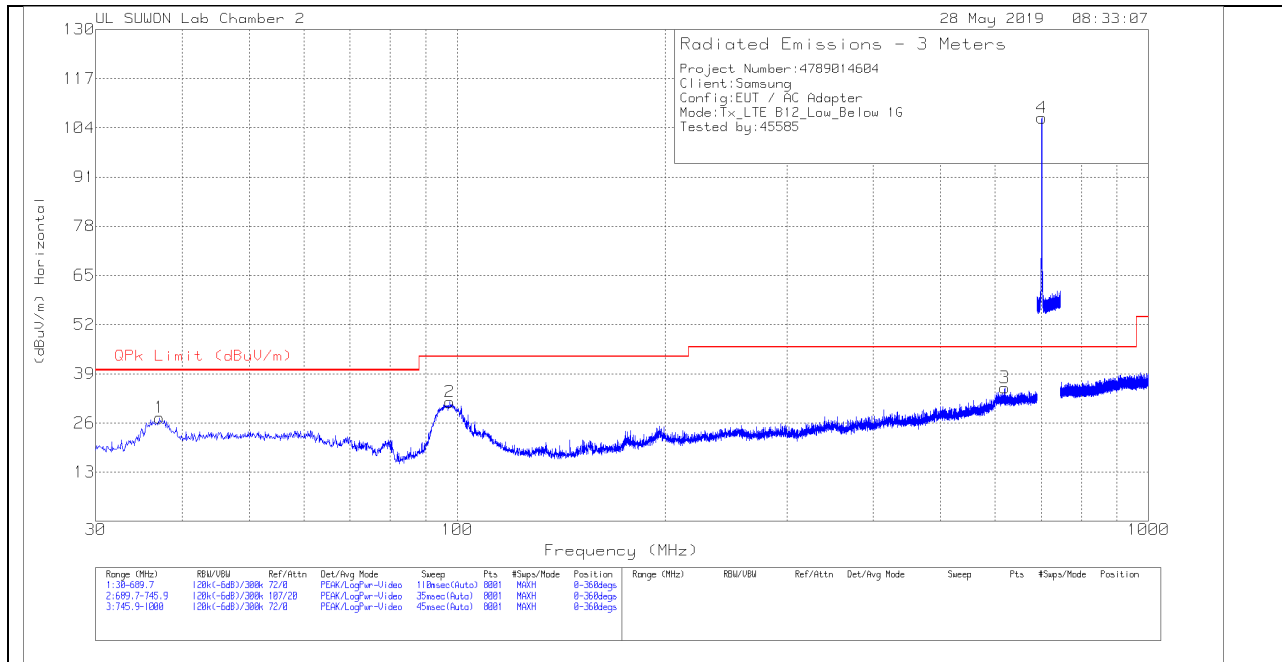
Pk - Peak detector

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

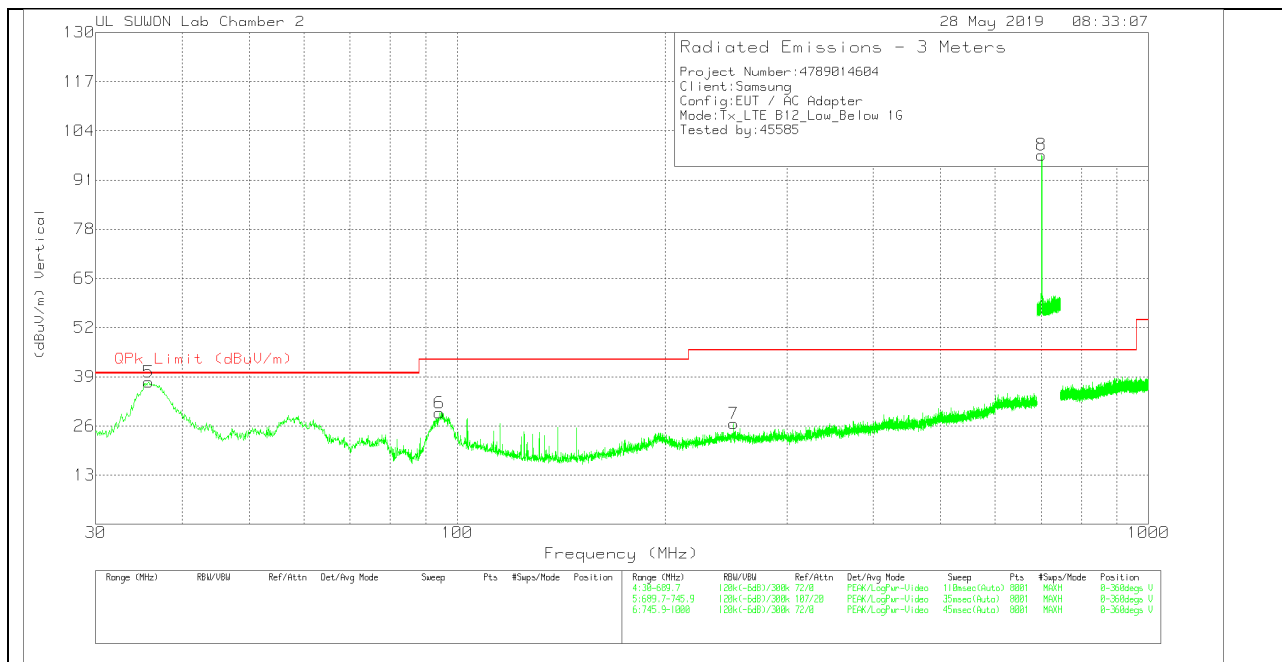
7.8. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	37.0918	9.28	Pk	17.5	.6	27.38	40	-12.62	0-360	400	H
2	97.6197	12.95	Pk	17.5	1.1	31.55	43.52	-11.97	0-360	300	H
3	619.528	7.2	Pk	25.4	2.7	35.3	46.02	-10.72	0-360	100	H
4	700.9962	78.13	Pk	25.6	2.9	106.63	46.02	60.61	0-360	100	H
5	35.7724	19.98	Pk	17	.6	37.58	40	-2.42	0-360	100	V
6	94.2387	11.48	Pk	17	1	29.48	43.52	-14.04	0-360	100	V
7	251.0833	5.92	Pk	19	1.7	26.62	46.02	-19.4	0-360	200	V
8	700.3499	69.12	Pk	25.6	2.9	97.62	46.02	51.6	0-360	100	V

Pk - Peak detector

Radiated Emissions

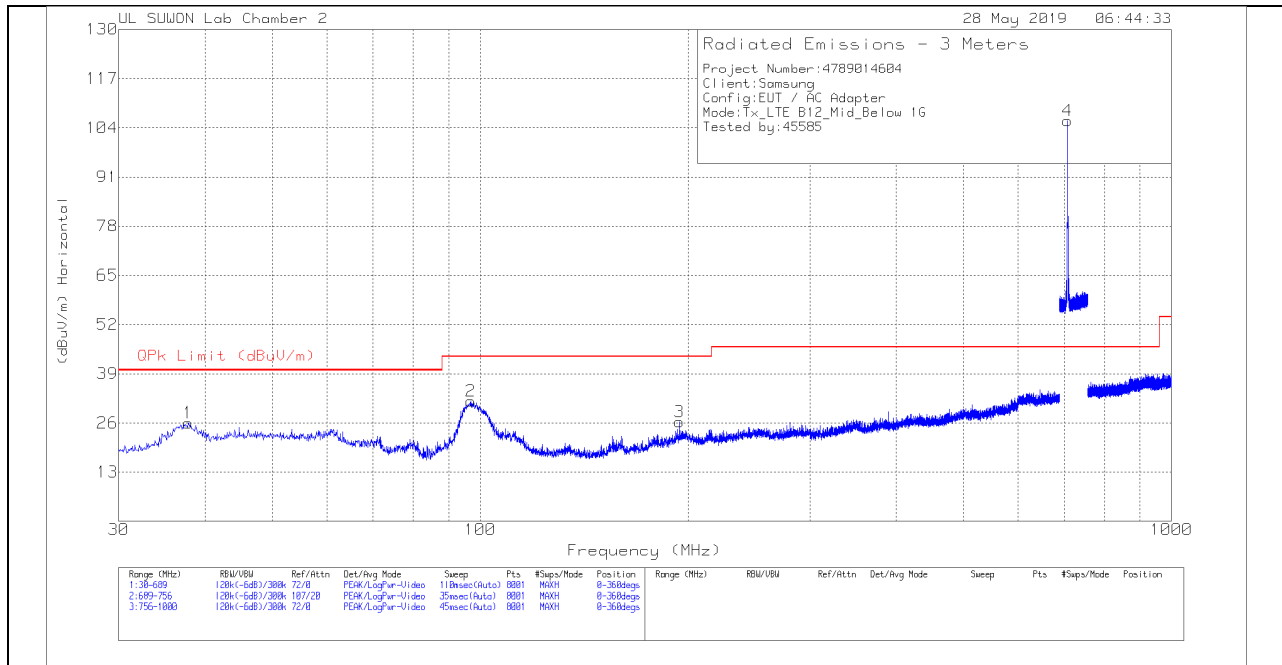
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.7724	15.7	Qp	17	.6	33.3	40	-6.7	115	101	V

Qp - Quasi-Peak detector

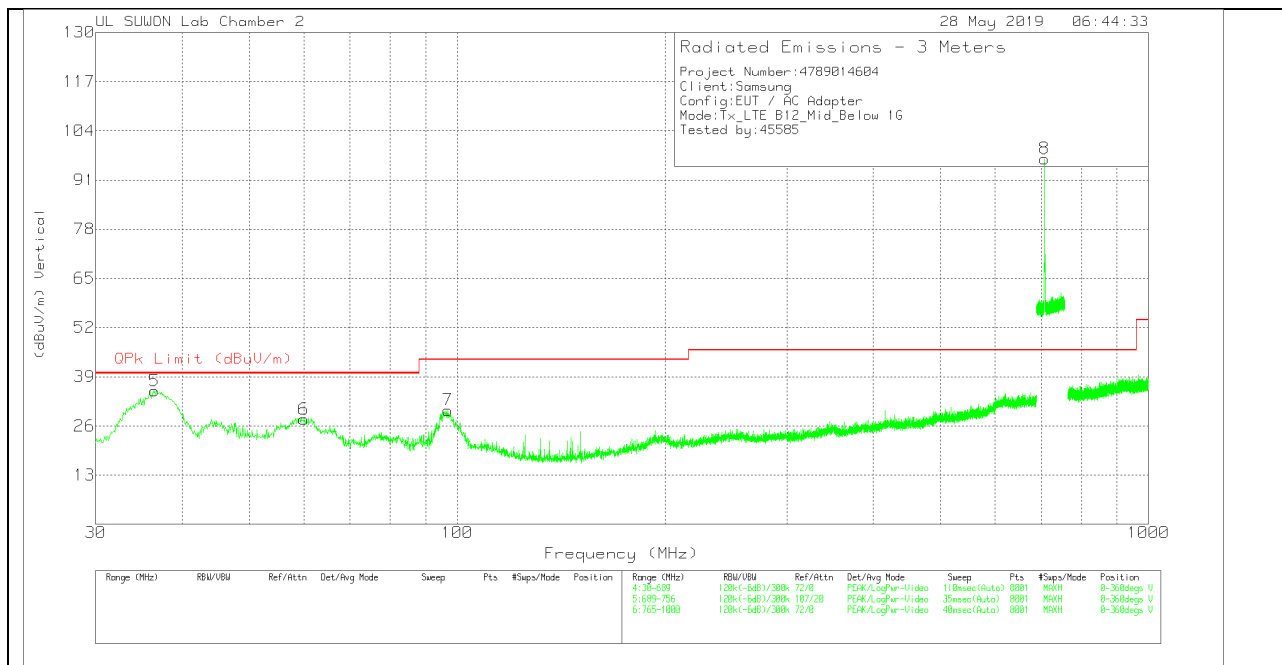
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	37.8256	7.5	Pk	17.8	.7	26	40	-14	0-360	300	H
2	96.8885	13.35	Pk	17.4	1	31.75	43.52	-11.77	0-360	300	H
3	194.3381	6.87	Pk	17.9	1.5	26.27	43.52	-17.25	0-360	100	H
4	707.559	77.42	Pk	25.5	2.9	105.82	46.02	59.8	0-360	100	H
5	36.5076	17.38	Pk	17.3	.6	35.28	40	-4.72	0-360	100	V
6	59.9845	8.51	Pk	18.5	.8	27.81	40	-12.19	0-360	100	V
7	96.9709	11.8	Pk	17.4	1	30.2	43.52	-13.32	0-360	100	V
8	707.3078	68.23	Pk	25.5	2.9	96.63	46.02	50.61	0-360	100	V

Pk - Peak detector

Radiated Emissions

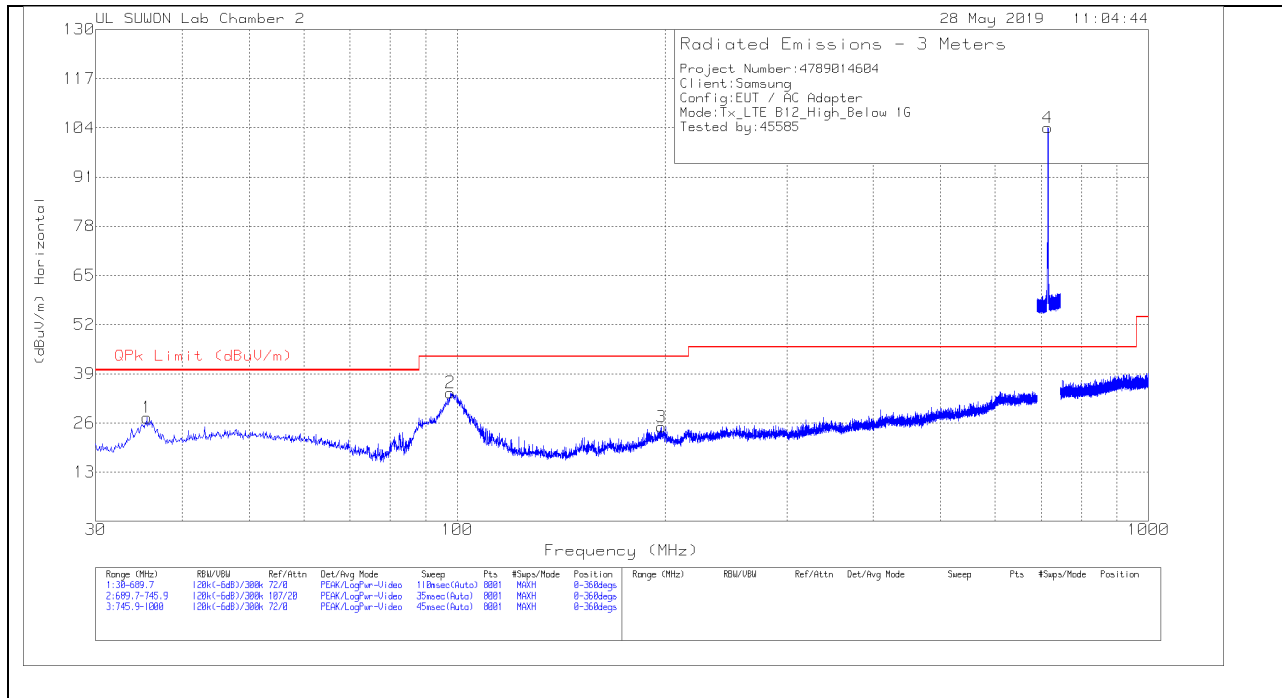
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
36.5076	13.94	Qp	17.3	.6	31.84	40	-8.16	104	100	V

Qp - Quasi-Peak detector

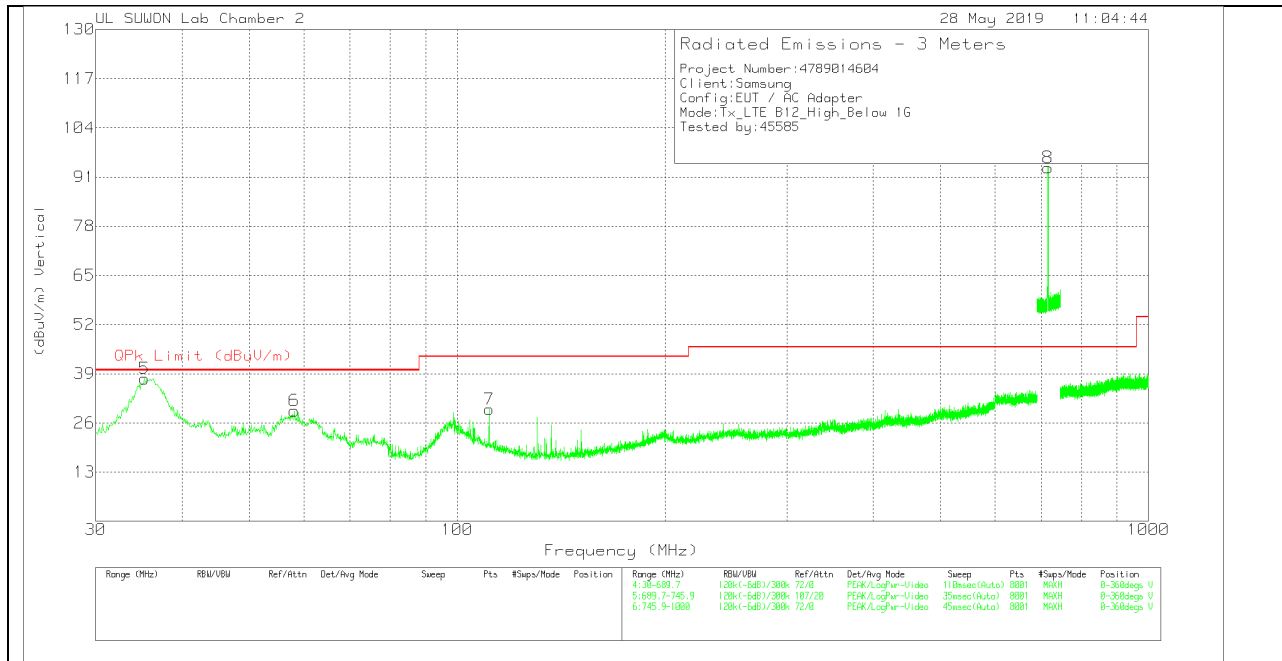
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(744.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	35.6075	9.8	Pk	16.9	.7	27.4	40	-12.6	0-360	300	H
2	97.7021	15.39	Pk	17.5	1.1	33.99	43.52	-9.53	0-360	200	H
3	197.5648	5.18	Pk	18.3	1.5	24.98	43.52	-18.54	0-360	200	H
4	715.0392	75.42	Pk	25.7	2.9	104.02	46.02	58	0-360	100	H
5	35.2776	20.2	Pk	16.8	.7	37.7	40	-2.3	0-360	100	V
6	58.1199	9.61	Pk	18.8	.8	29.21	40	-10.79	0-360	100	V
7	111.2261	11.59	Pk	16.9	1.1	29.59	43.52	-13.93	0-360	200	V
8	715.5942	64.85	Pk	25.7	2.9	93.45	46.02	47.43	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.2776	15.79	Qp	16.8	.7	33.29	40	-6.71	240	100	V

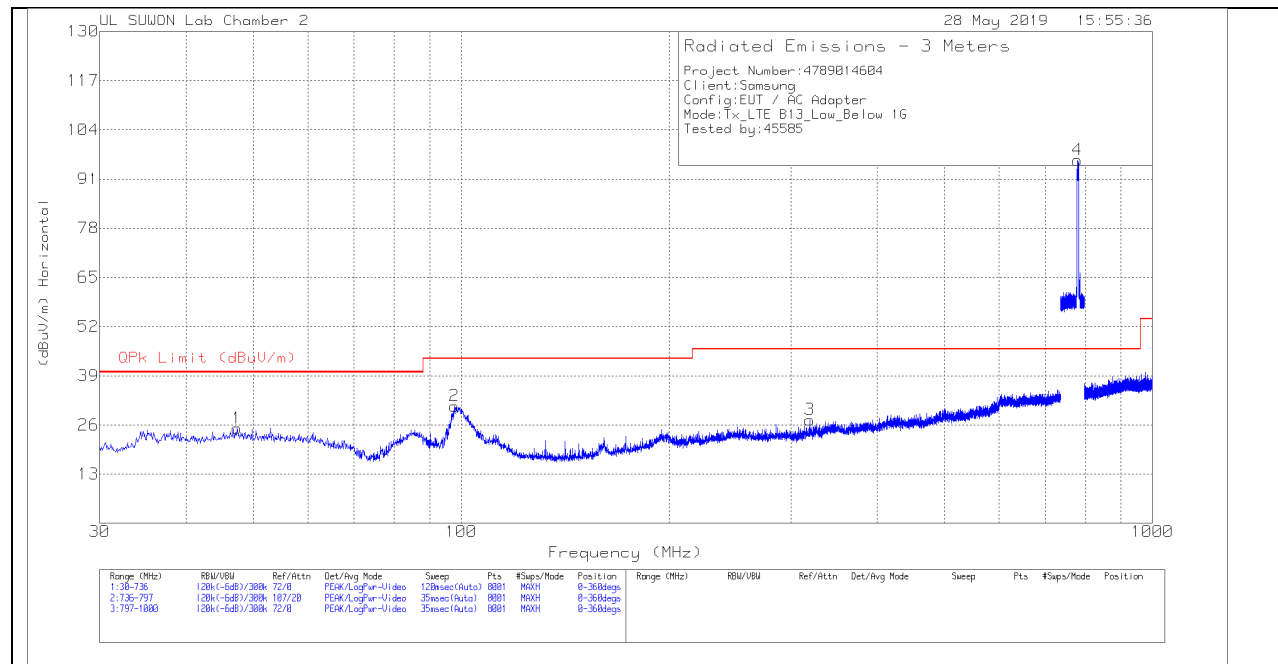
Qp - Quasi-Peak detector

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

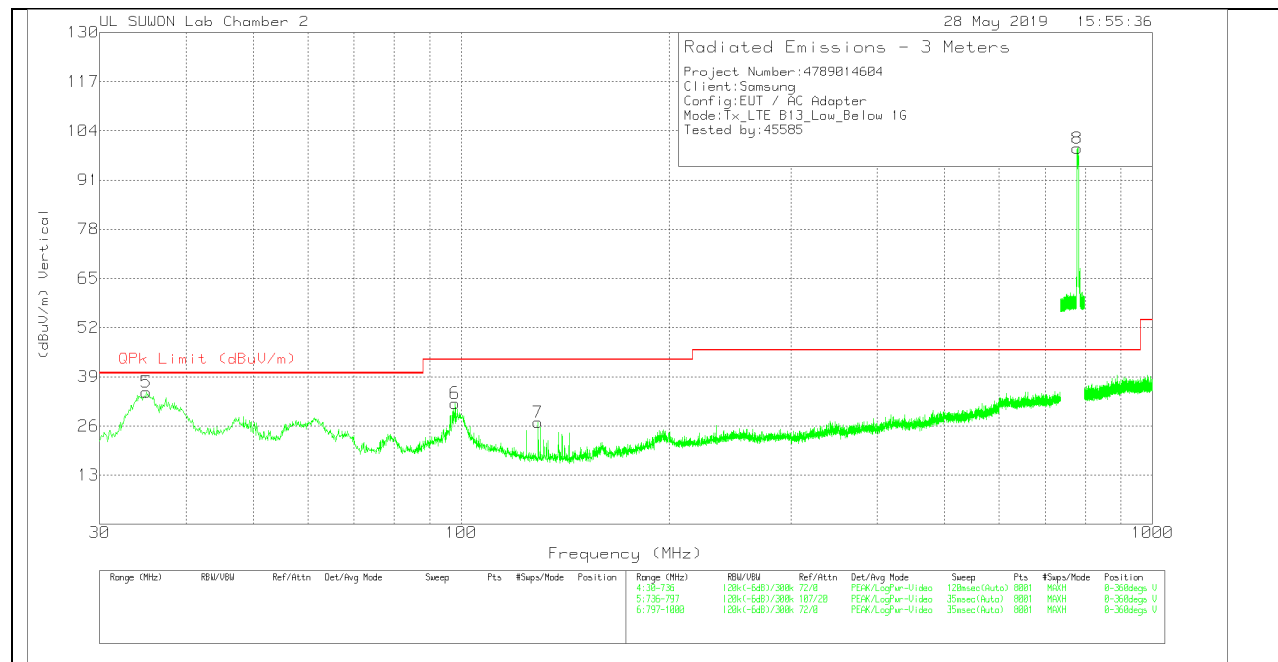
7.9. Below 1 GHz in the LTE Band 13

LOW CHANNEL(748.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

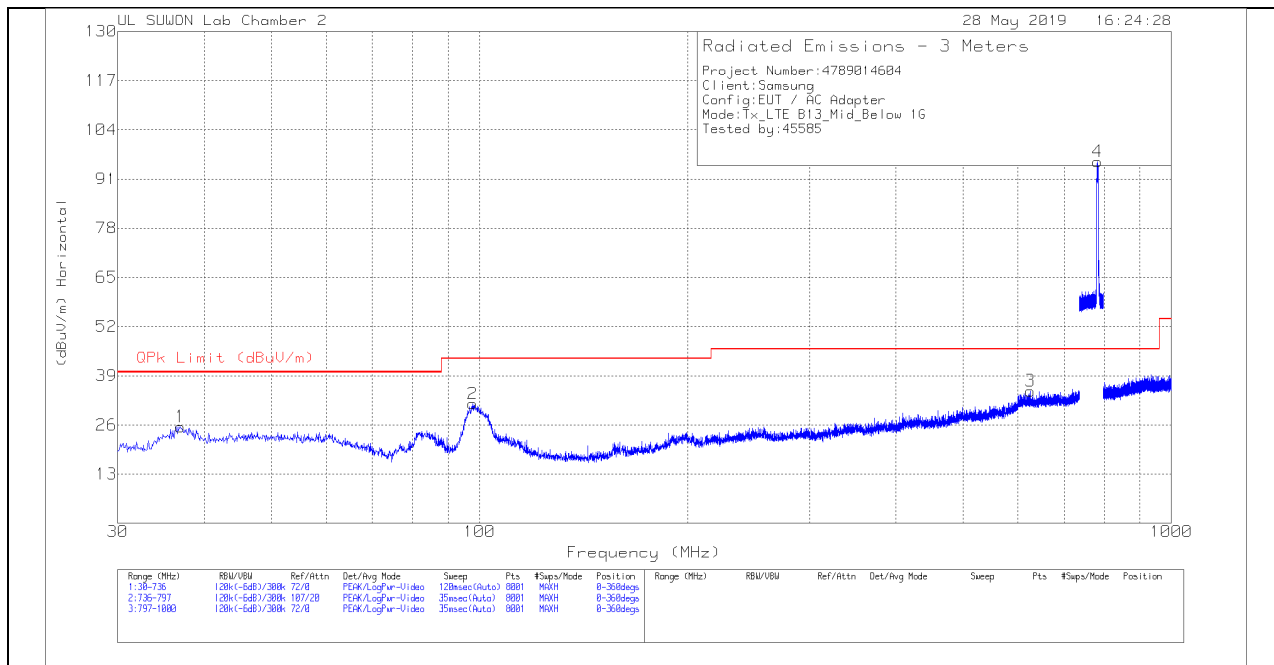
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.3853	4.48	Pk	19.8	.8	25.08	40	-14.92	0-360	300	H
2	97.776	12.32	Pk	17.6	1.1	31.02	43.52	-12.5	0-360	300	H
3	319.1953	5.67	Pk	19.8	1.9	27.37	46.02	-18.65	0-360	100	H
4	779.1499	66.28	Pk	26.7	3	95.98	46.02	49.96	0-360	100	H
5	35.0303	17.63	Pk	16.7	.6	34.93	40	-5.07	0-360	100	V
6	98.0408	13.39	Pk	17.6	1	31.99	43.52	-11.53	0-360	100	V
7	129.193	11.32	Pk	14.4	1.2	26.92	43.52	-16.6	0-360	100	V
8	778.2883	69.63	Pk	26.7	3	99.33	46.02	53.31	0-360	200	V

Pk - Peak detector

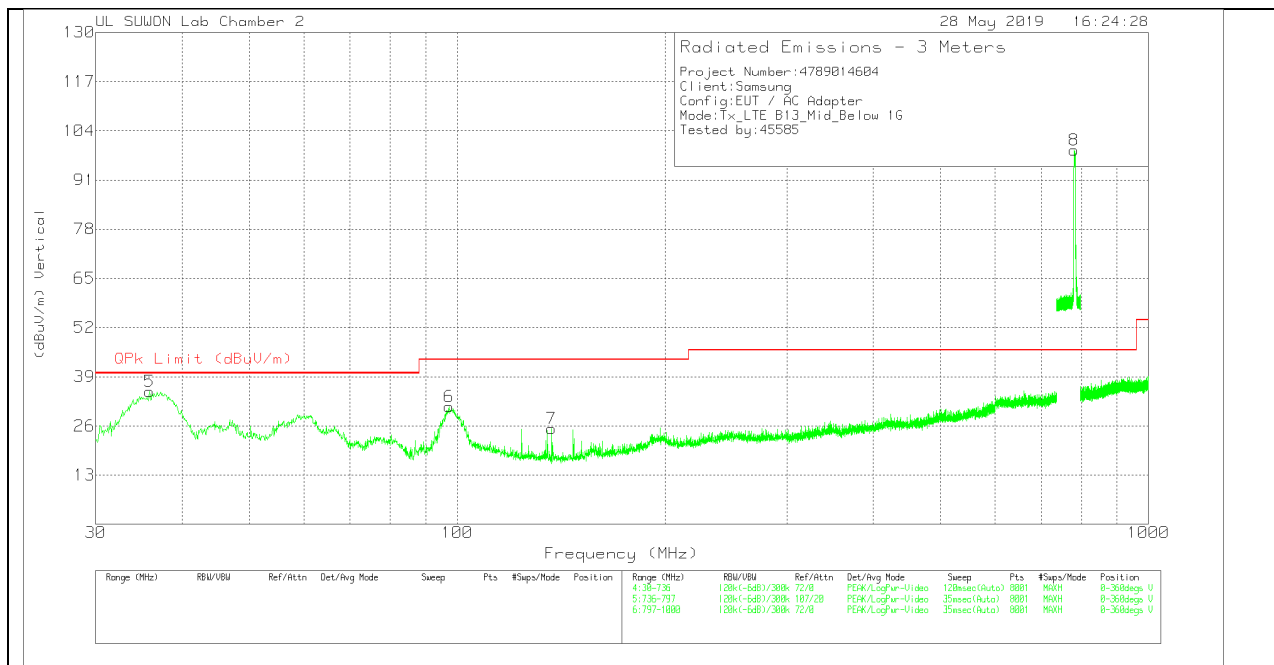
Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(751.0MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.9276	7.43	Pk	17.4	.7	25.53	40	-14.47	0-360	300	H
2	97.6878	12.97	Pk	17.5	1.1	31.57	43.52	-11.95	0-360	300	H
3	624.9815	6.9	Pk	25.4	2.7	35	46.02	-11.02	0-360	200	H
4	782.0169	65.91	Pk	26.7	3	95.61	46.02	49.59	0-360	100	H
5	35.9128	17.32	Pk	17.1	.7	35.12	40	-4.88	0-360	100	V
6	97.423	12.46	Pk	17.5	1.1	31.06	43.52	-12.46	0-360	100	V
7	136.959	9.99	Pk	14.1	1.2	25.29	43.52	-18.23	0-360	100	V
8	779.9581	69.15	Pk	26.7	3	98.85	46.02	52.83	0-360	200	V

PK - Peak detector

Radiated Emissions

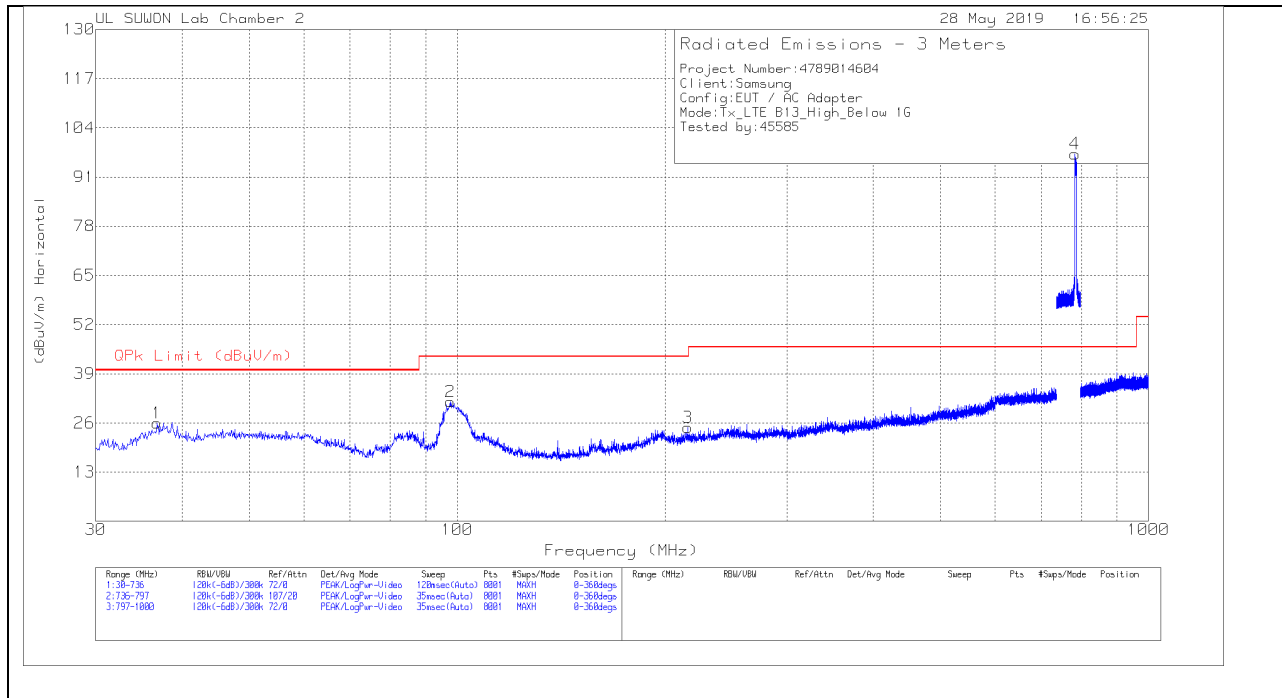
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.9128	11.57	Qp	17.1	.7	29.37	40	-10.63	115	100	V

Qp - Quasi-Peak detector

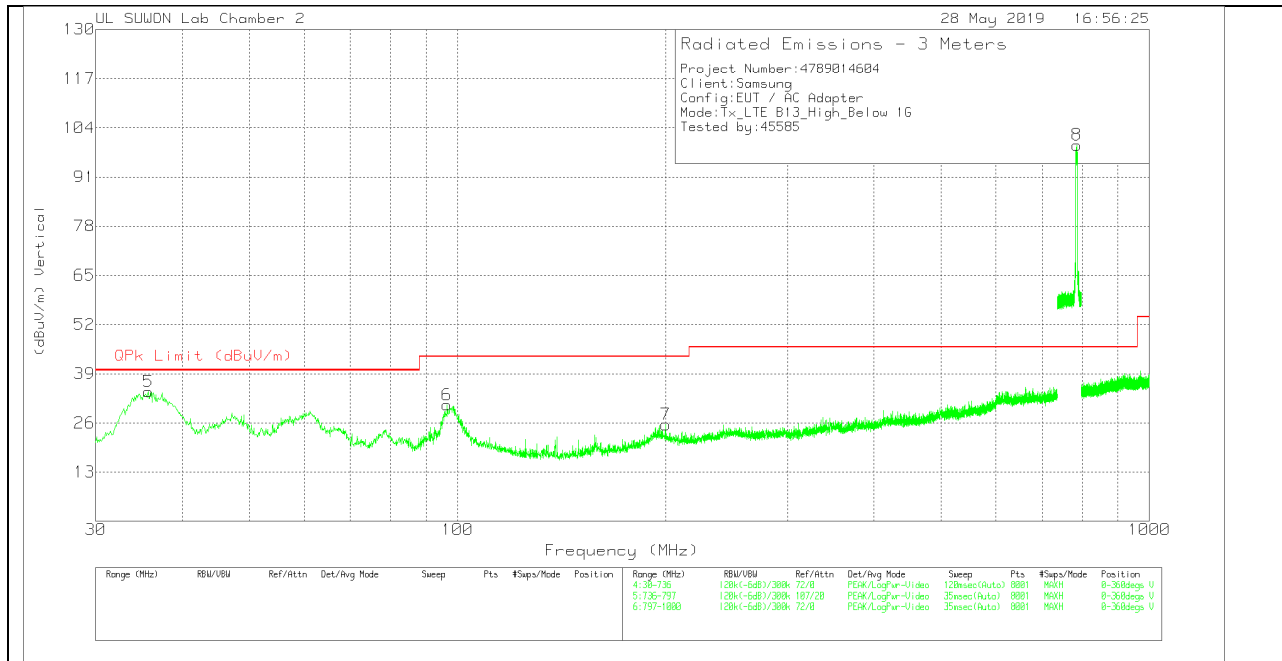
Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(753.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.7953	7.95	Pk	17.4	.6	25.95	40	-14.05	0-360	300	H
2	97.6878	12.98	Pk	17.5	1.1	31.58	43.52	-11.94	0-360	200	H
3	215.5015	6.01	Pk	17.2	1.6	24.81	43.52	-18.71	0-360	100	H
4	782.9548	67.4	Pk	26.7	3	97.1	46.02	51.08	0-360	100	H
5	35.7363	16.63	Pk	17	.6	34.23	40	-5.77	0-360	100	V
6	96.5405	12.26	Pk	17.4	1.1	30.76	43.52	-12.76	0-360	100	V
7	199.793	5.96	Pk	18.1	1.5	25.56	43.52	-17.96	0-360	100	V
8	785.5778	69.75	Pk	26.7	3	99.45	46.02	53.43	0-360	200	V

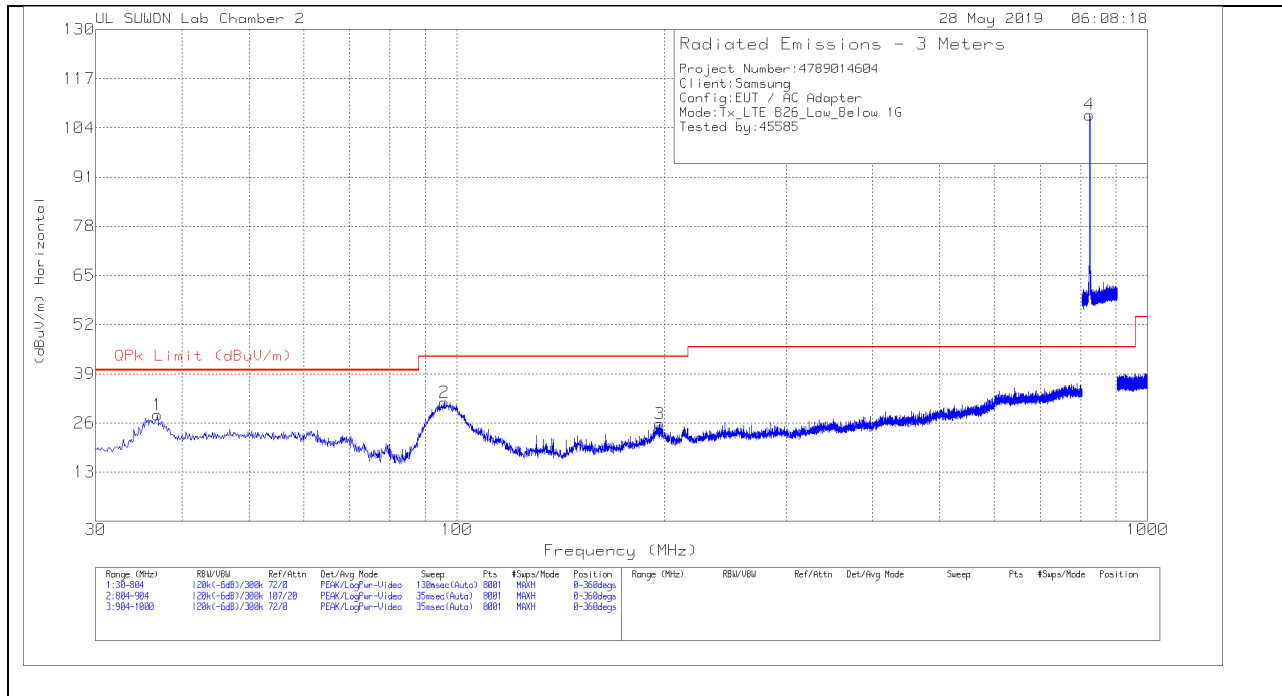
Pk - Peak detector

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

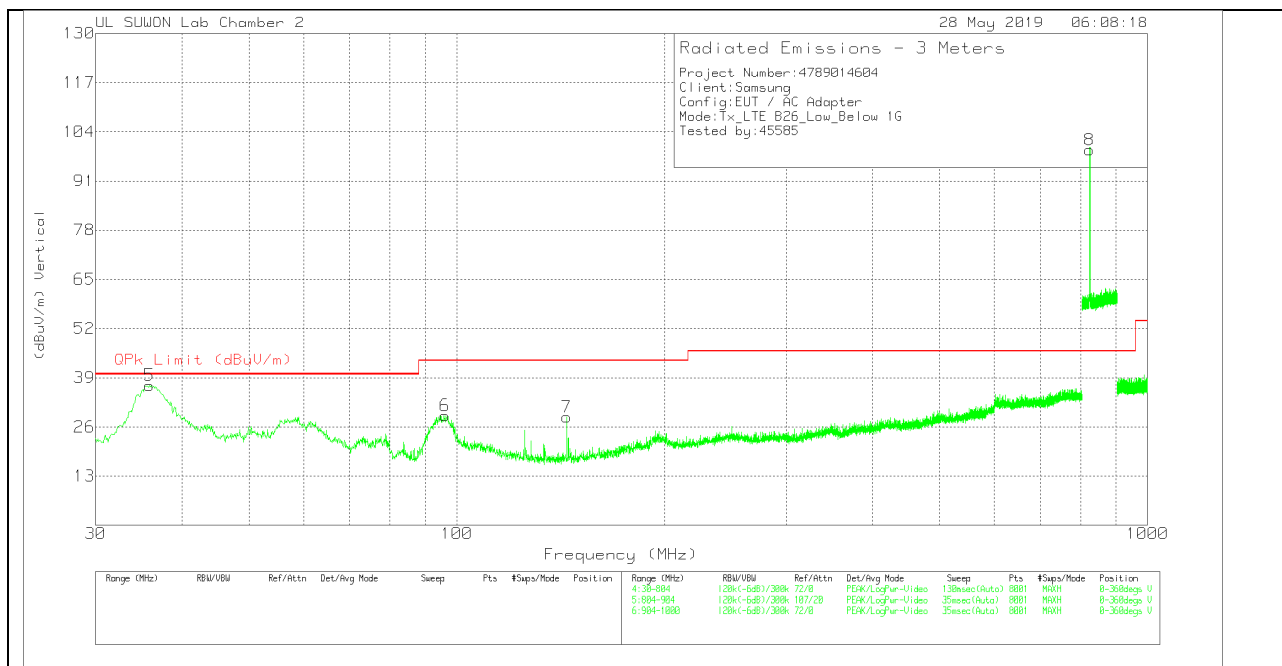
7.10. Below 1 GHz in the LTE Band 26

LOW CHANNEL(860.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.8693	9.97	Pk	17.4	.7	28.07	40	-11.93	0-360	300	H
2	95.9835	13.02	Pk	17.4	1	31.42	43.52	-12.1	0-360	300	H
3	196.7003	5.95	Pk	18.3	1.5	25.75	43.52	-17.77	0-360	200	H
4	824.725	77.43	Pk	26.9	3.1	107.43	46.02	61.41	0-360	100	H
5	35.9018	19.16	Pk	17.1	.7	36.96	40	-3.04	0-360	100	V
6	96.177	10.49	Pk	17.4	1.1	28.99	43.52	-14.53	0-360	100	V
7	144.2618	13.19	Pk	14.1	1.3	28.59	43.52	-14.93	0-360	100	V
8	824.7625	69.21	Pk	26.9	3.1	99.21	46.02	53.19	0-360	200	V

Pk - Peak detector

Radiated Emissions

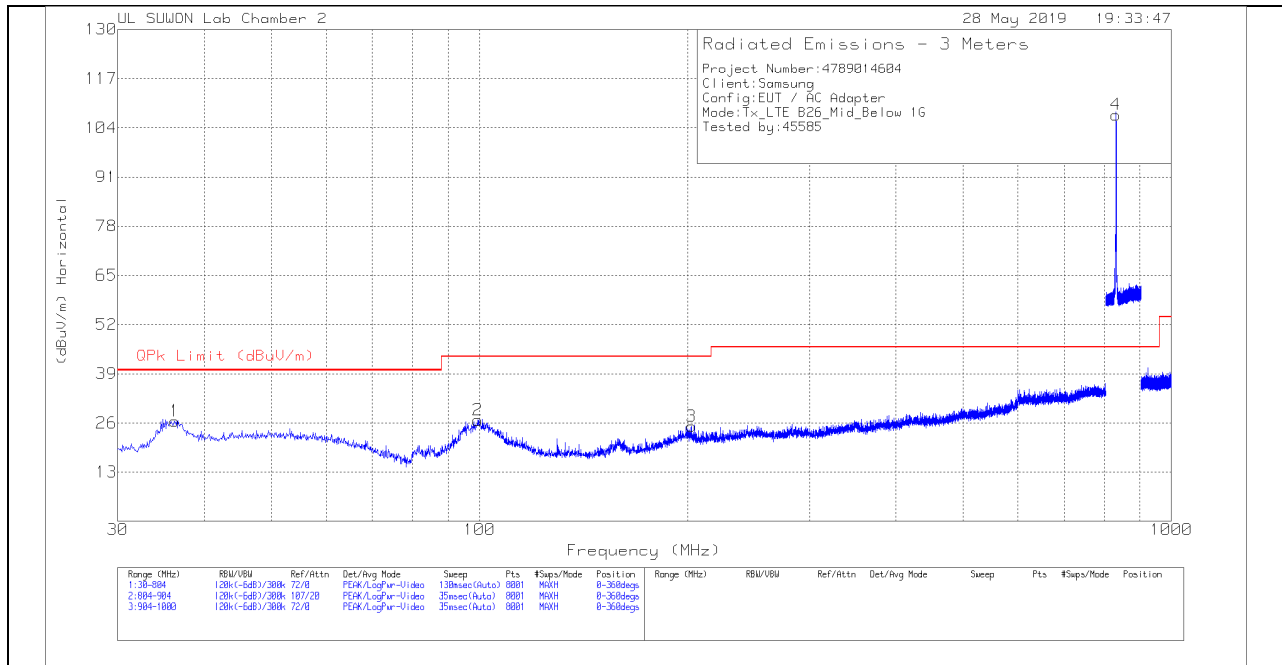
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.9018	15.9	Qp	17.1	.7	33.7	40	-6.3	114	100	V

Qp - Quasi-Peak detector

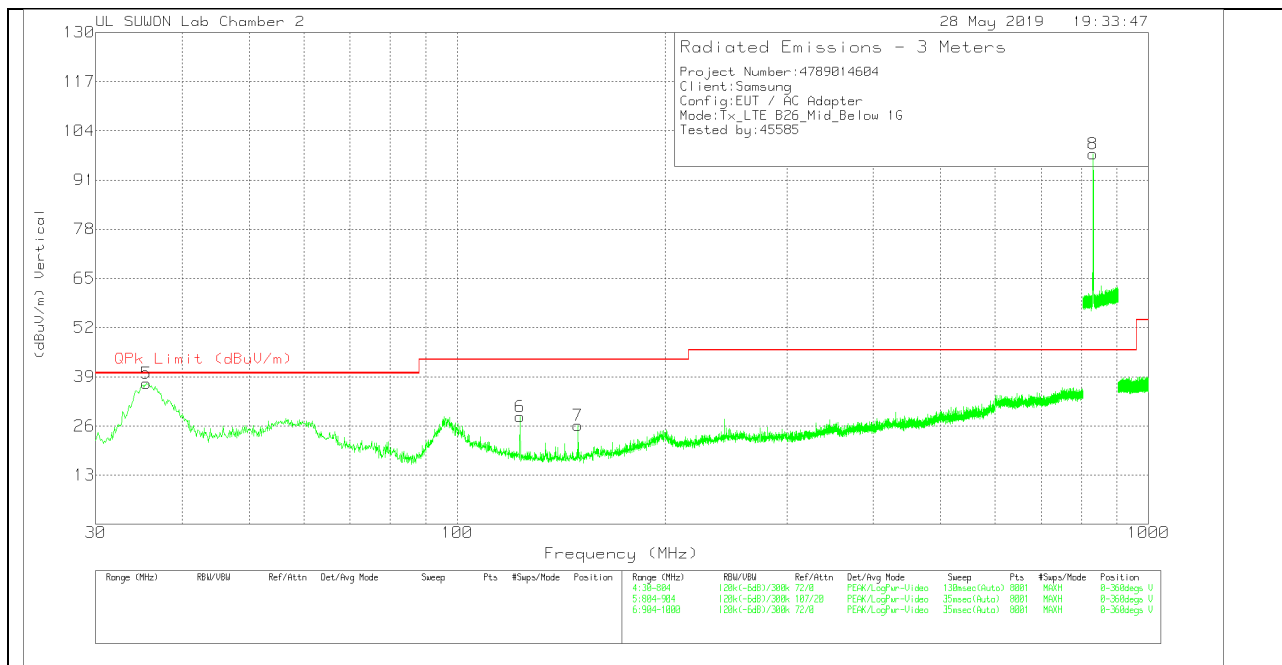
Note: Unwanted emissions captured from 814MHz to 849MHz and from 859MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(876.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.2888	8.7	Pk	17.2	.6	26.5	40	-13.5	0-360	300	H
2	99.3698	8.02	Pk	17.7	1	26.72	43.52	-16.8	0-360	300	H
3	202.4085	6.01	Pk	17.6	1.5	25.11	43.52	-18.41	0-360	200	H
4	831.675	77.24	Pk	27.1	3.1	107.44	46.02	61.42	0-360	100	H
5	35.5148	19.66	Pk	16.9	.7	37.26	40	-2.74	0-360	100	V
6	123.267	12.41	Pk	14.8	1.2	28.41	43.52	-15.11	0-360	100	V
7	149.583	10.78	Pk	14	1.3	26.08	43.52	-17.44	0-360	100	V
8	831.5	67.71	Pk	27.1	3.1	97.91	46.02	51.89	0-360	200	V

Pk - Peak detector

Radiated Emissions

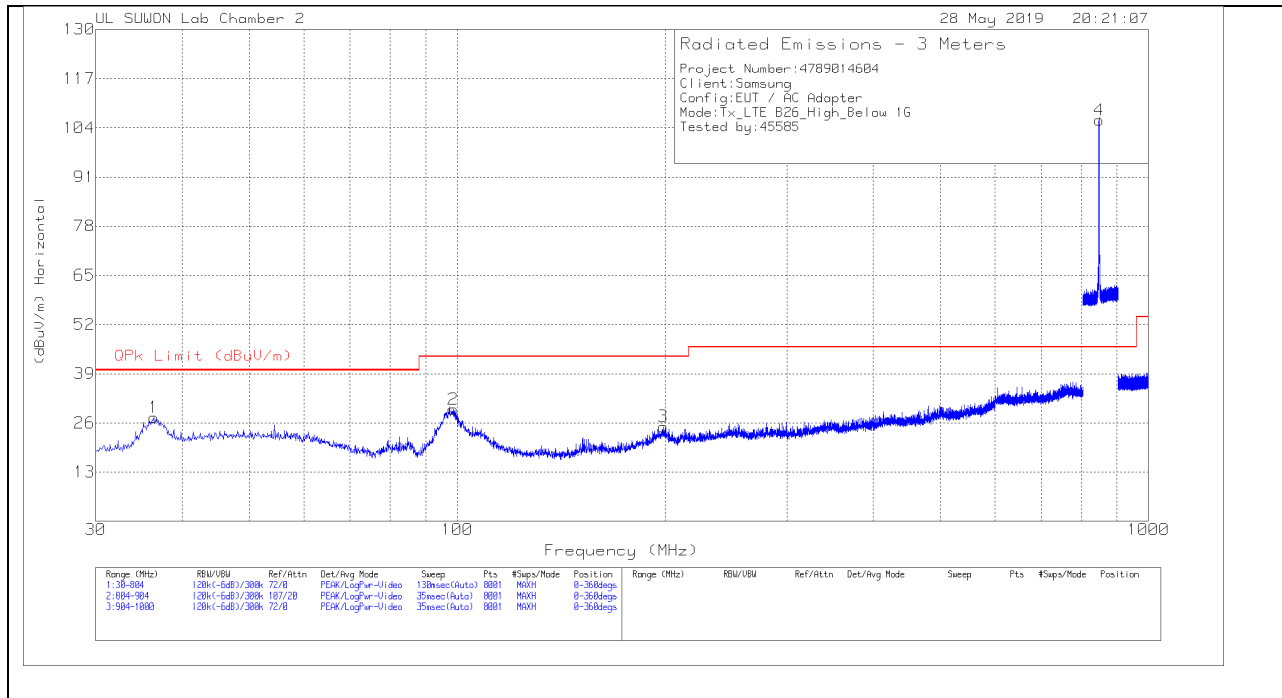
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.5148	16.52	Qp	16.9	.7	34.12	40	-5.88	115	100	V

Qp - Quasi-Peak detector

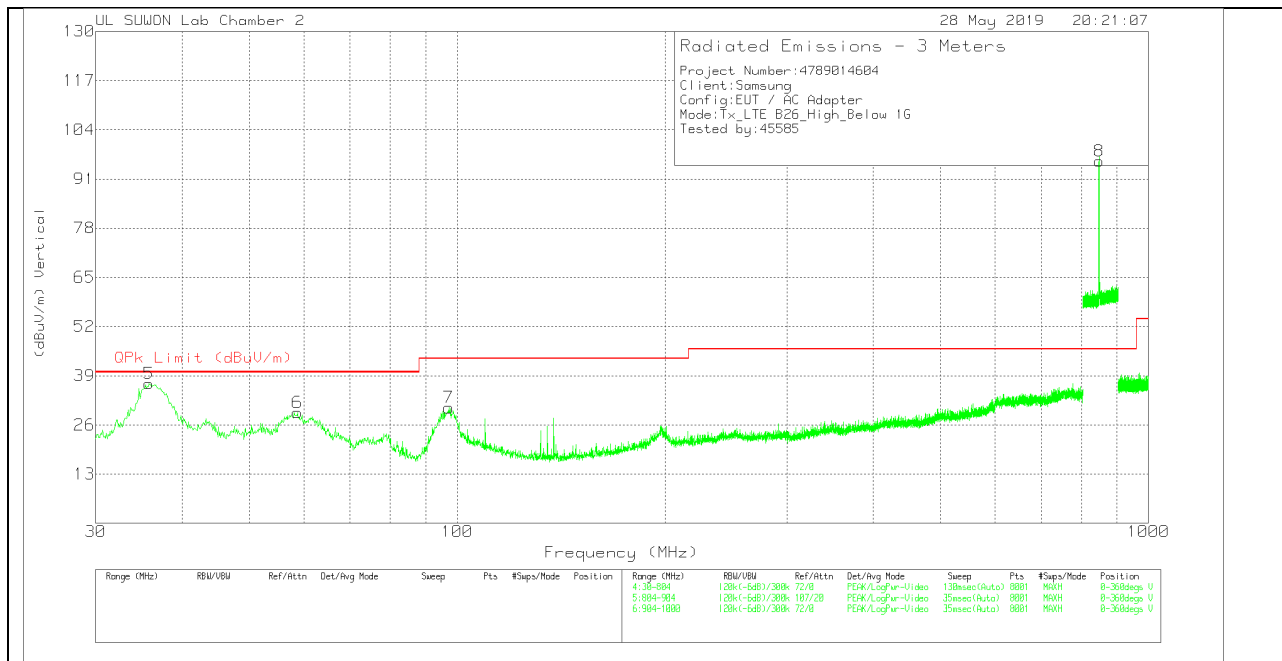
Note: Unwanted emissions captured from 814MHz to 849MHz and from 859MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(892.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	36.3855	9.67	Pk	17.2	.6	27.47	40	-12.53	0-360	300	H
2	98.6925	10.84	Pk	17.7	1.1	29.64	43.52	-13.88	0-360	300	H
3	198.6353	5.22	Pk	18.3	1.5	25.02	43.52	-18.5	0-360	200	H
4	848.15	75.45	Pk	27.4	3.2	106.05	46.02	60.03	0-360	100	H
5	35.805	19.23	Pk	17	.7	36.93	40	-3.07	0-360	100	V
6	58.7348	9.81	Pk	18.7	.8	29.31	40	-10.69	0-360	100	V
7	97.2413	12.05	Pk	17.4	1.1	30.55	43.52	-12.97	0-360	100	V
8	848.4	65.13	Pk	27.4	3.2	95.73	46.02	49.71	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.805	13.94	Qp	17	.7	31.64	40	-8.36	119	109	V

Qp - Quasi-Peak detector

Note: Unwanted emissions captured from 814MHz to 849MHz and from 859MHz to 894MHz were the TX and RX signals generated from the call-simulator.