

Appendix B : Part15B receiver test mode

1. 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

2. EQUIPMENT UNDER TEST

2.1. 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 receiver mode.
(GSM850/WCDMA B5/LTE B5/LTE B12/LTE B13/LTE B26)

2.2. TEST MODE

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

2.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA200	R37KB5B03T1SE3	N/A
Data Cable	SAMSUNG	EP-DG970BBE	N/A	N/A
Earphone	SAMSUNG	EO-IG955	N/A	N/A

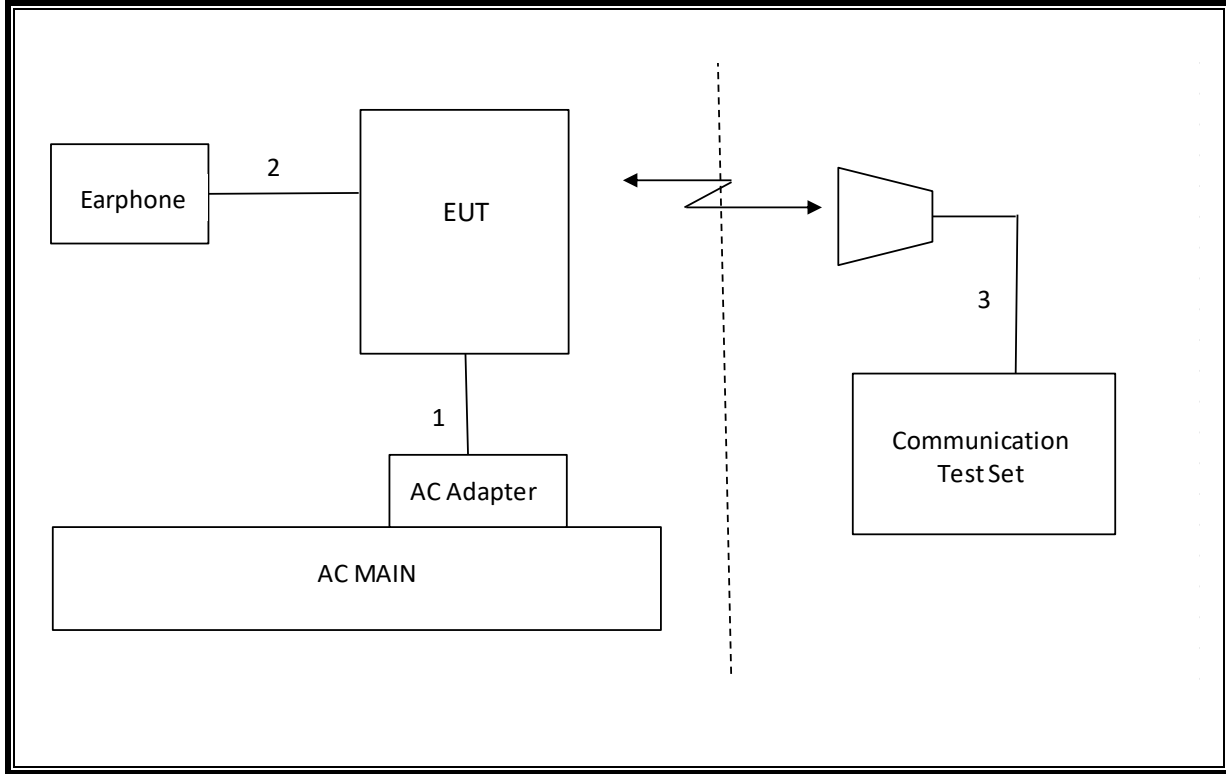
I/O CABLE

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	1.1m	N/A
2	Audio	2	Mini-Jack	Unshielded	1.2m	N/A

TEST SETUP

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

SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



3. 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	12-04-19
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
Combiner	WEINSCHTEL	1575	2152	08-08-19
Communications Test Set	R&S	CMW500	115331	08-07-19
DC Power Supply	Agilent / HP	E3640A	MY54226395	08-06-19
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
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-06-19
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
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
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	10-26-19
Temperature Chamber	ESPEC	SH-642	93001109	08-06-19
UL Software				
Description	Manufacturer	Model	Version	
Antenna port test software	UL	CLT	Ver 2.5	

4. APPLICABLE LIMITS AND TEST RESULTS

TEST PROCEDURE

ANSI C63.4: 2014

LIMIT

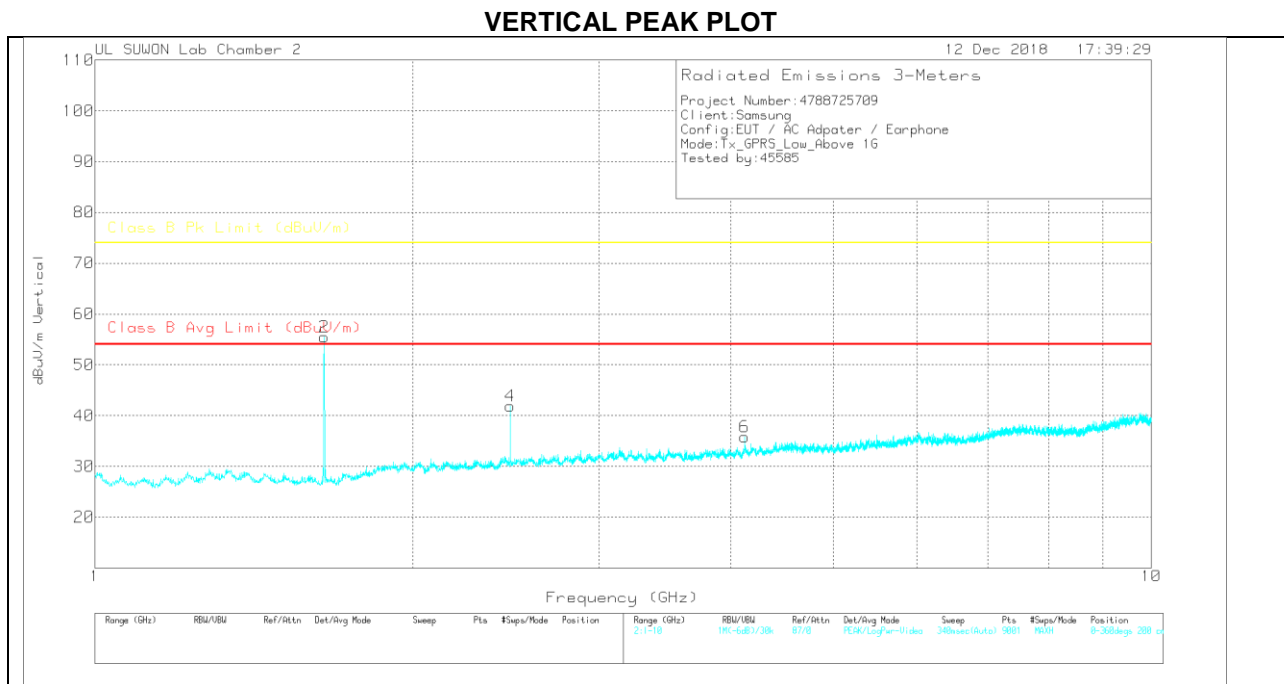
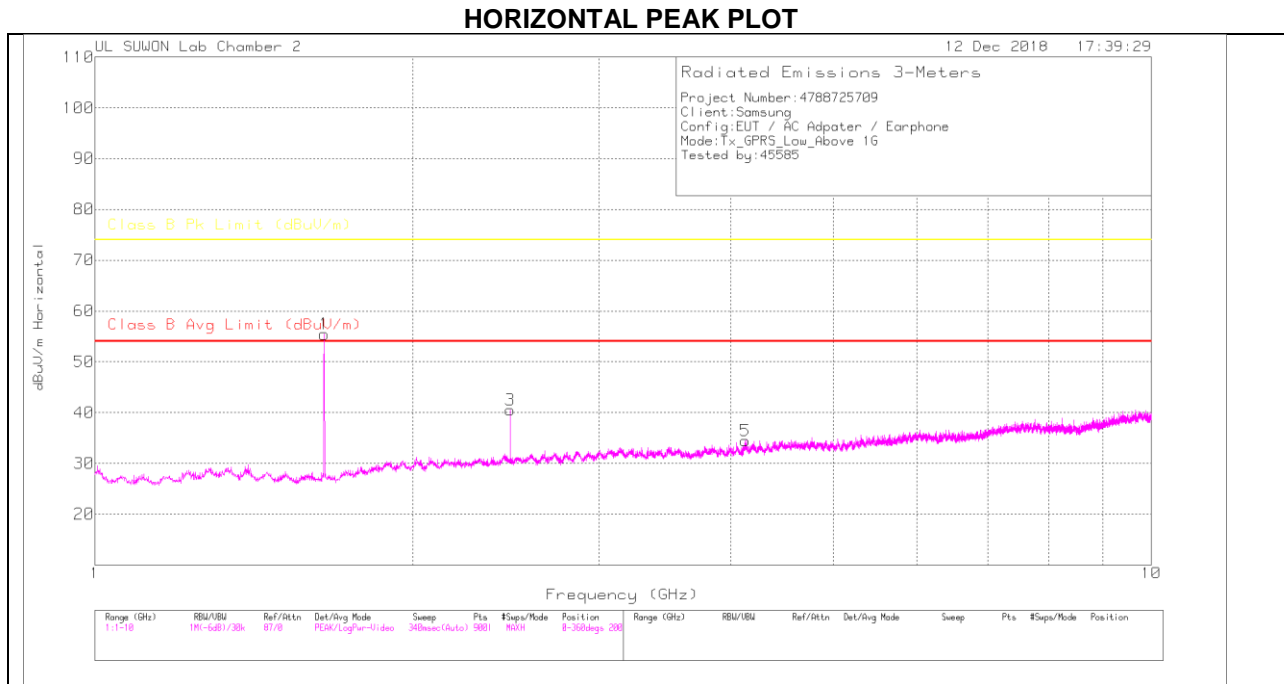
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

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.

4.1. Above 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)



DATA

Trace Markers

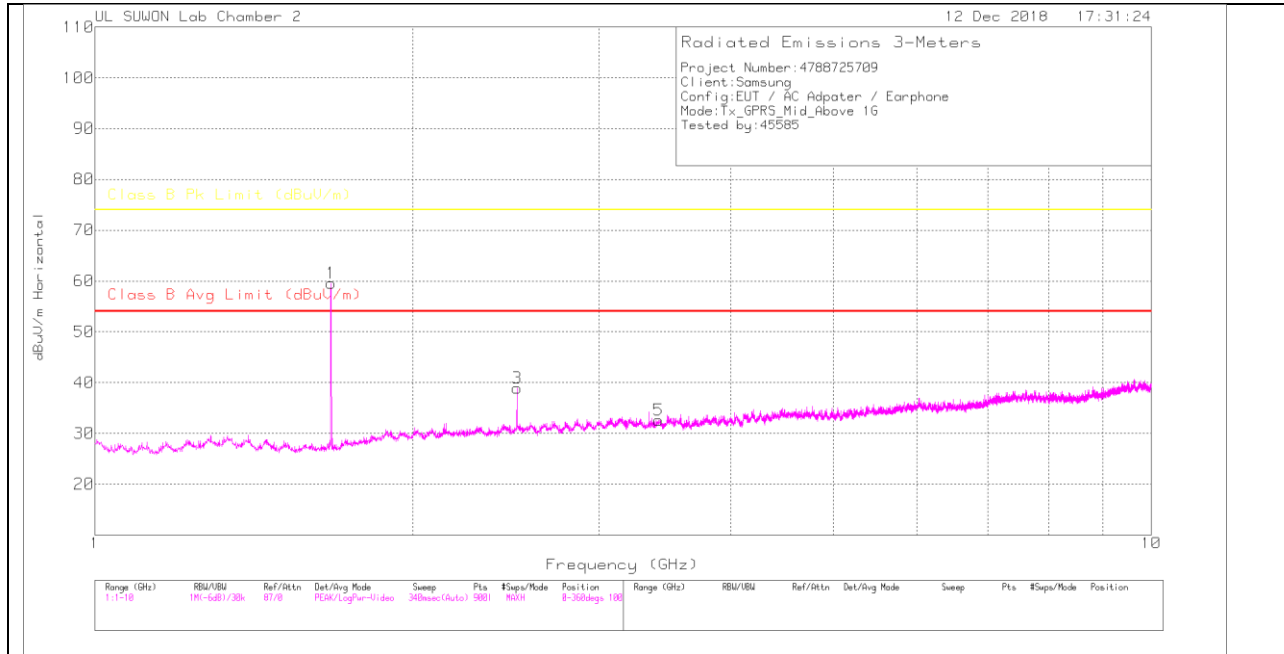
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.648	57.93	PK	28.3	-31.4	.6	55.43	-	-	74	-18.57	0-360	200	H
3	2.472	38.25	PK	31.8	-30.2	.7	40.55	-	-	74	-33.45	0-360	100	H
5	4.128	29.08	PK	33.4	-28.4	.4	34.48	-	-	74	-39.52	0-360	100	H
2	1.648	58.02	PK	28.3	-31.4	.6	55.52	-	-	74	-18.48	0-360	100	V
4	2.472	39.53	PK	31.8	-30.2	.7	41.83	-	-	74	-32.17	0-360	100	V
6	4.121	30.39	PK	33.4	-28.4	.4	35.79	-	-	74	-38.21	0-360	200	V

PK – Peak Detecotr

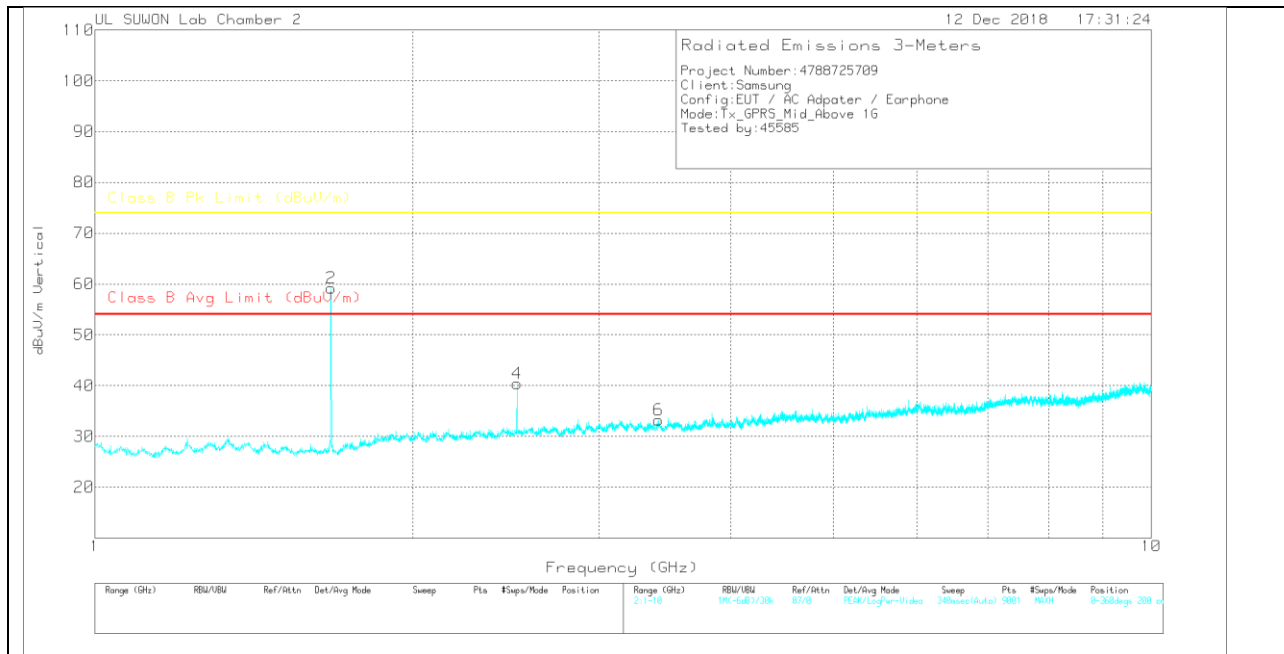
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

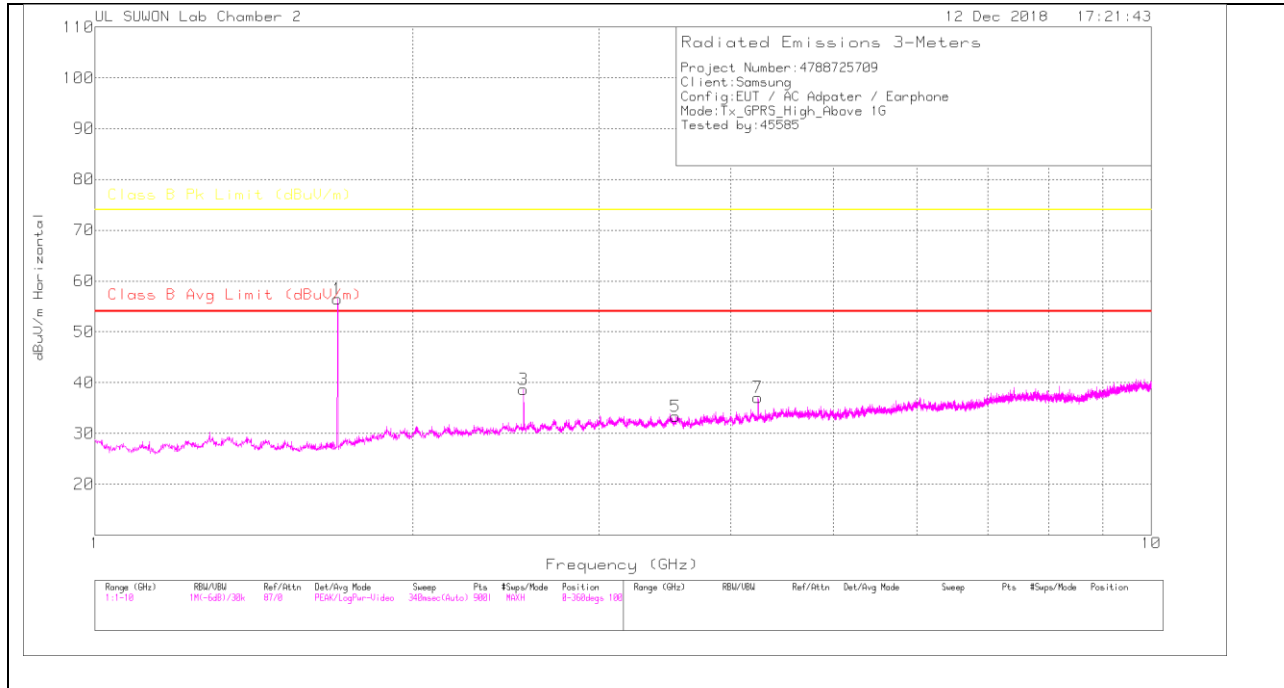
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.673	61.83	PK	28.5	-31.3	.5	59.53	-	-	74	-14.47	0-360	200	H
3	2.51	36.77	PK	31.9	-30.3	.5	38.87	-	-	74	-35.13	0-360	200	H
5	3.415	28.7	PK	32.6	-29.4	.7	32.6	-	-	74	-41.4	0-360	200	H
2	1.673	61.53	PK	28.5	-31.3	.5	59.23	-	-	74	-14.77	0-360	200	V
4	2.509	38.29	PK	31.9	-30.3	.5	40.39	-	-	74	-33.61	0-360	100	V
6	3.415	29.37	PK	32.6	-29.4	.7	33.27	-	-	74	-40.73	0-360	200	V

PK – Peak Detector

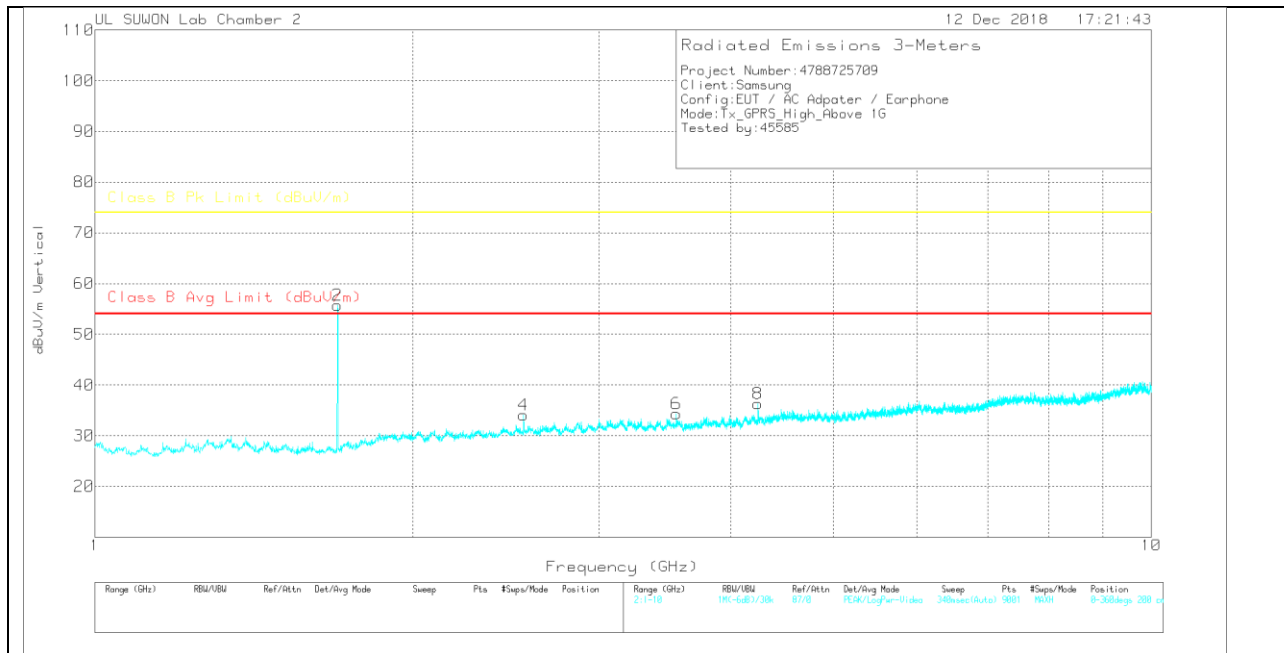
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(893.8MHz)

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(CSPK)Margin (dB)	Class B PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.697	58.58	PK	28.6	-31.3	.6	56.48	-	-	74	-17.52	0-360	100	H
3	2.546	36.15	PK	32	-30.2	.7	38.65	-	-	74	-35.35	0-360	100	H
5	3.545	29	PK	32.7	-29	.6	33.3	-	-	74	-40.7	0-360	100	H
7	4.244	31.72	PK	33.4	-28.5	.4	37.02	-	-	74	-36.98	0-360	100	H
2	1.697	57.89	PK	28.6	-31.3	.6	55.79	-	-	74	-18.21	0-360	100	V
4	2.546	31.55	PK	32	-30.2	.7	34.05	-	-	74	-39.95	0-360	100	V
6	3.552	30.08	PK	32.7	-29	.6	34.38	-	-	74	-39.62	0-360	200	V
8	4.244	30.98	PK	33.4	-28.5	.4	36.28	-	-	74	-37.72	0-360	100	V

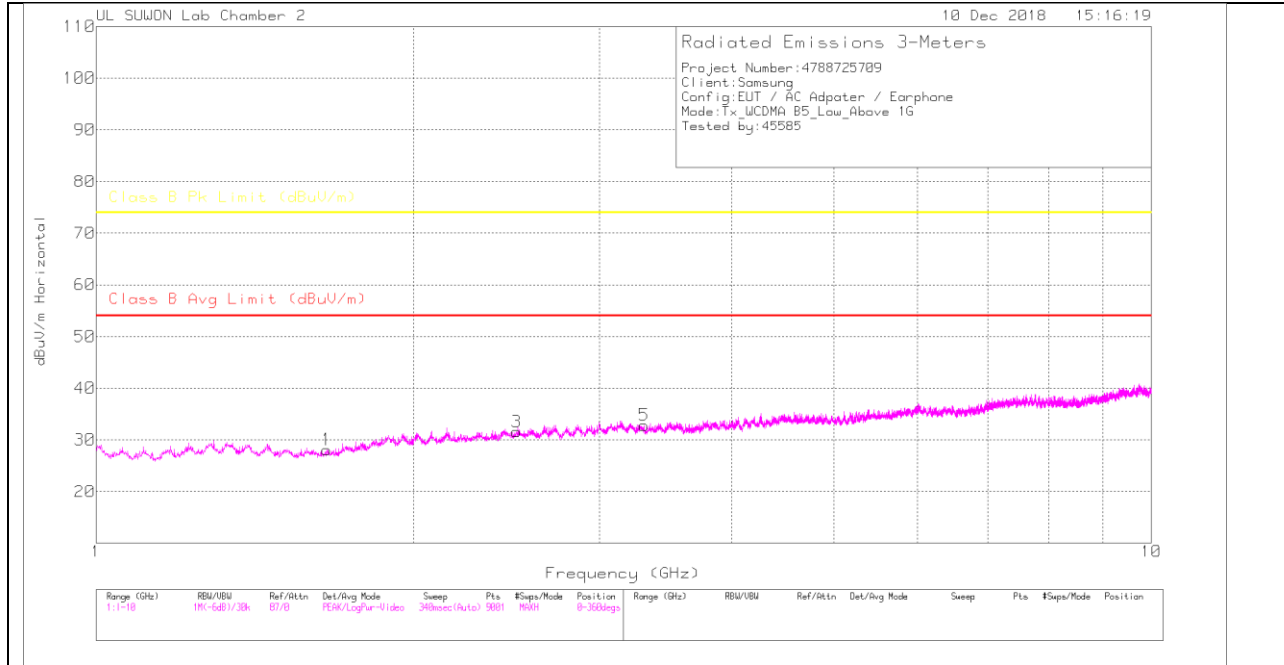
PK – Peak Detector

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

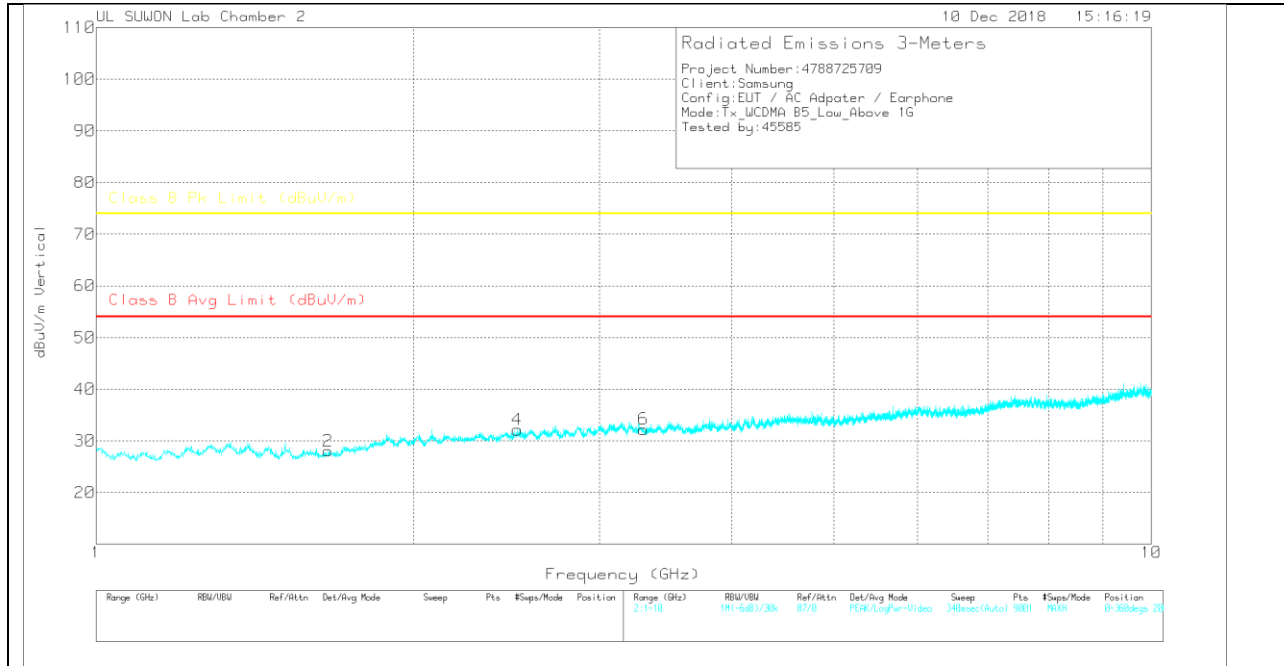
4.2. Above 1 GHz in the WCDMA Band 5

LOW CHANNEL(871.4MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

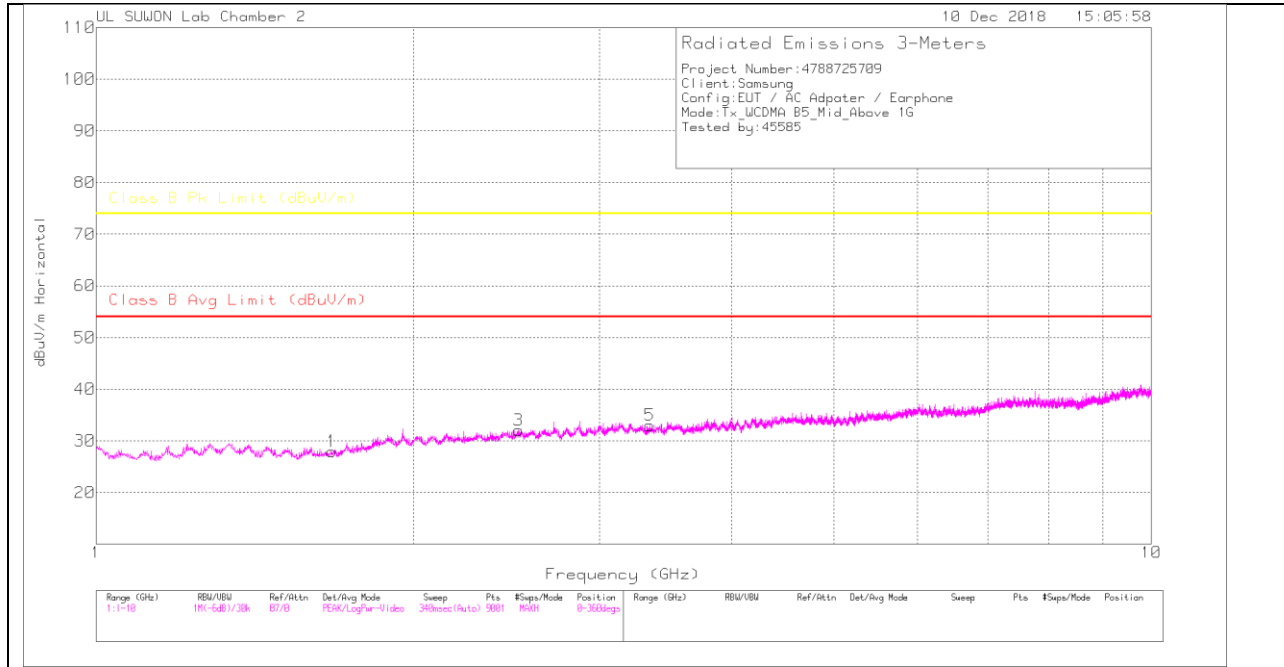
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.655	30.69	PK	28.3	-31.4	.5	28.09	-	-	74	-45.91	0-360	200	H
3	2.504	29.36	PK	31.9	-30.2	.5	31.56	-	-	74	-42.44	0-360	200	H
5	3.306	29.54	PK	32.6	-29.9	.6	32.84	-	-	74	-41.16	0-360	200	H
2	1.659	30.53	PK	28.4	-31.4	.5	28.03	-	-	74	-45.97	0-360	200	V
4	2.508	30.06	PK	31.9	-30.3	.5	32.16	-	-	74	-41.84	0-360	200	V
6	3.302	28.95	PK	32.6	-29.9	.6	32.25	-	-	74	-41.75	0-360	200	V

PK – Peak Detector

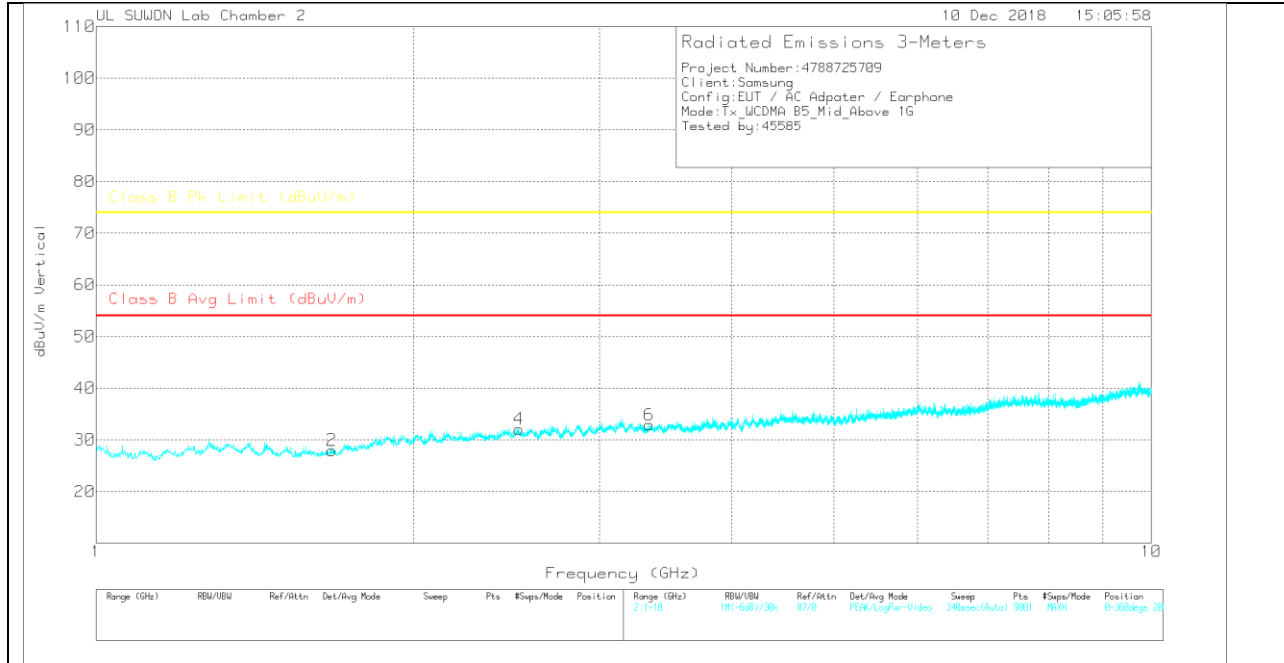
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

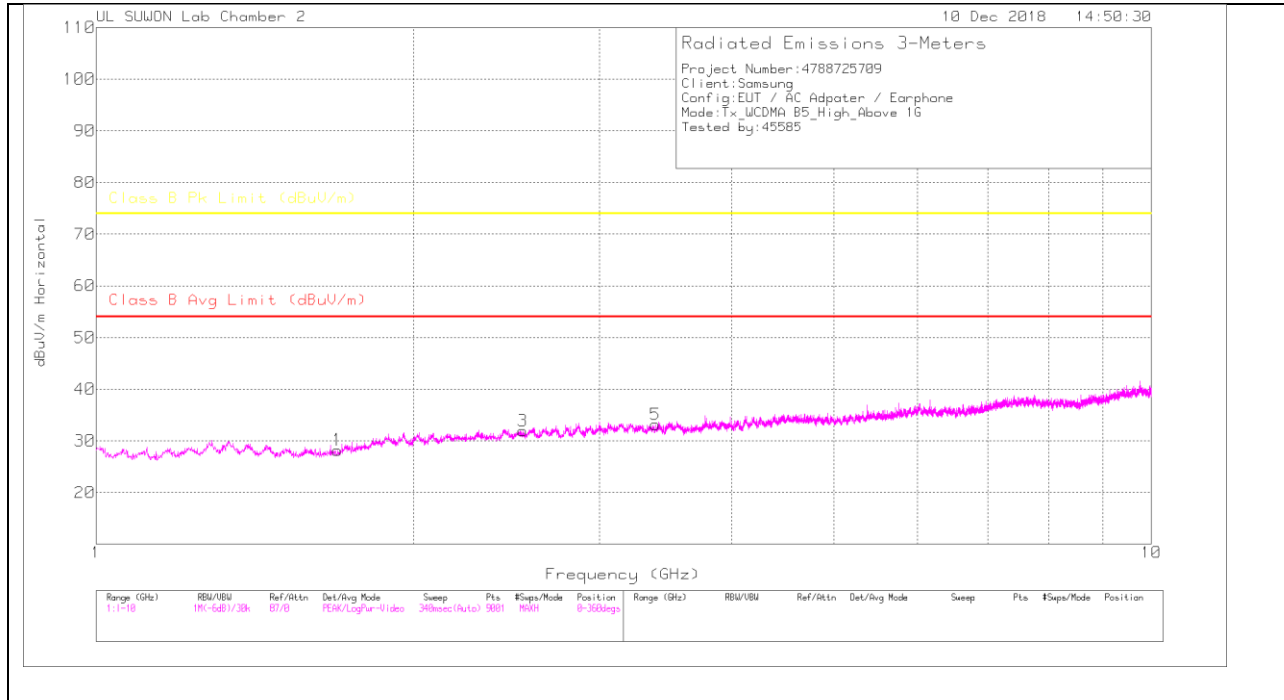
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.673	30.25	PK	28.5	-31.3	.5	27.95	-	-	74	-46.05	0-360	100	H
3	2.514	29.74	PK	31.9	-30.2	.6	32.04	-	-	74	-41.96	0-360	200	H
5	3.346	29.7	PK	32.6	-29.8	.5	33	-	-	74	-41	0-360	200	H
2	1.672	30.28	PK	28.5	-31.3	.5	27.98	-	-	74	-46.02	0-360	100	V
4	2.517	29.71	PK	31.9	-30.1	.6	32.11	-	-	74	-41.89	0-360	100	V
6	3.342	29.7	PK	32.6	-29.9	.5	32.9	-	-	74	-41.1	0-360	200	V

PK – Peak Detector

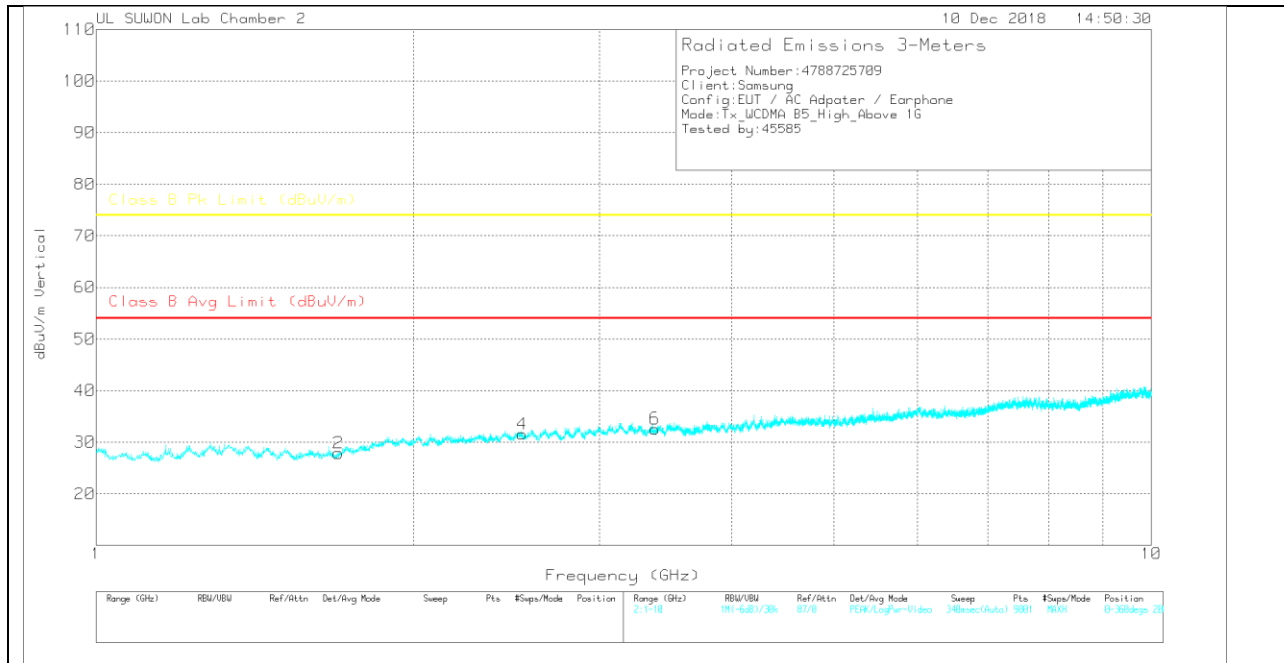
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(891.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.694	30.32	PK	28.6	-31.3	.6	28.22	-	-	74	-45.78	0-360	100	H
3	2.537	29.54	PK	32	-30.2	.6	31.94	-	-	74	-42.06	0-360	200	H
5	3.388	29.36	PK	32.6	-29.5	.7	33.16	-	-	74	-40.84	0-360	200	H
2	1.697	30	PK	28.6	-31.3	.6	27.9	-	-	74	-46.1	0-360	100	V
4	2.535	29.1	PK	32	-30.1	.6	31.6	-	-	74	-42.4	0-360	100	V
6	3.383	29	PK	32.6	-29.6	.6	32.6	-	-	74	-41.4	0-360	200	V

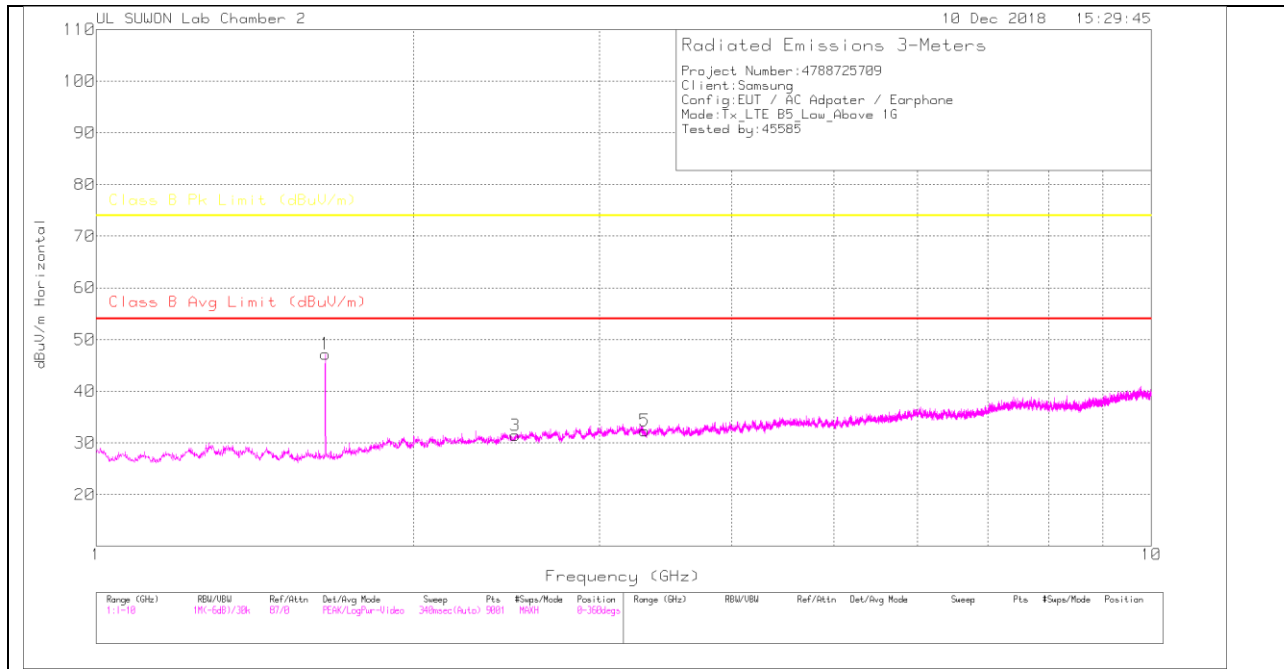
PK – Peak Detector

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

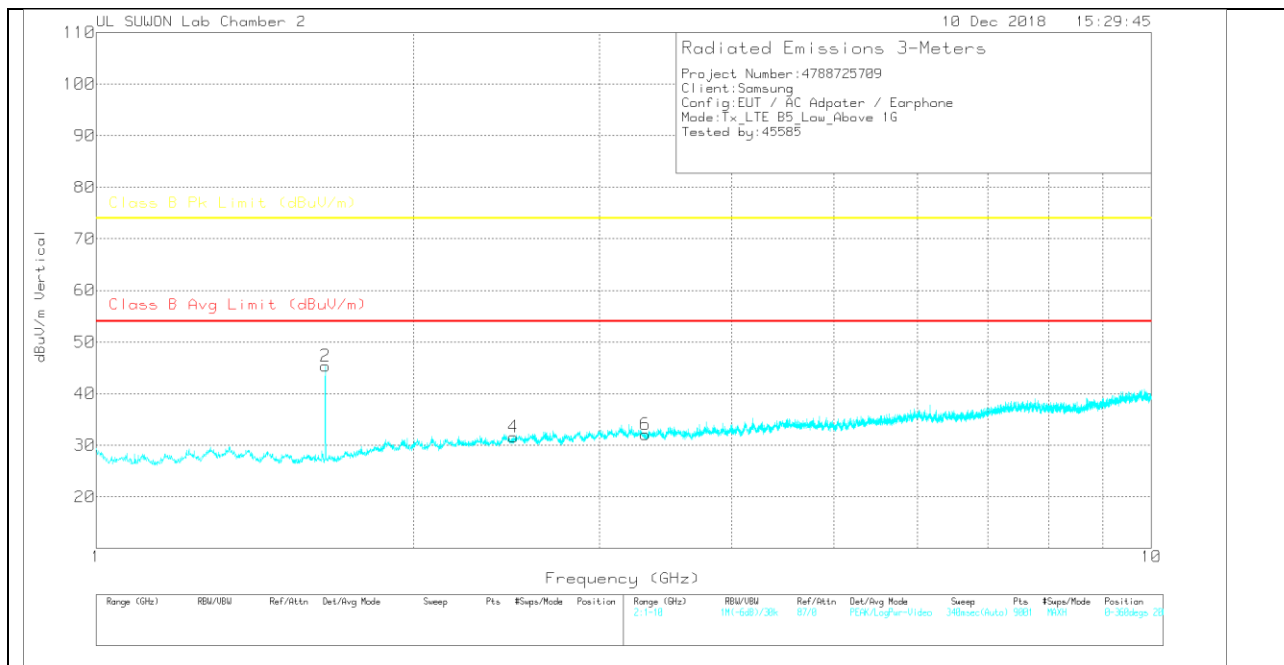
4.3. Above 1 GHz in the LTE Band 5

LOW CHANNEL(870.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

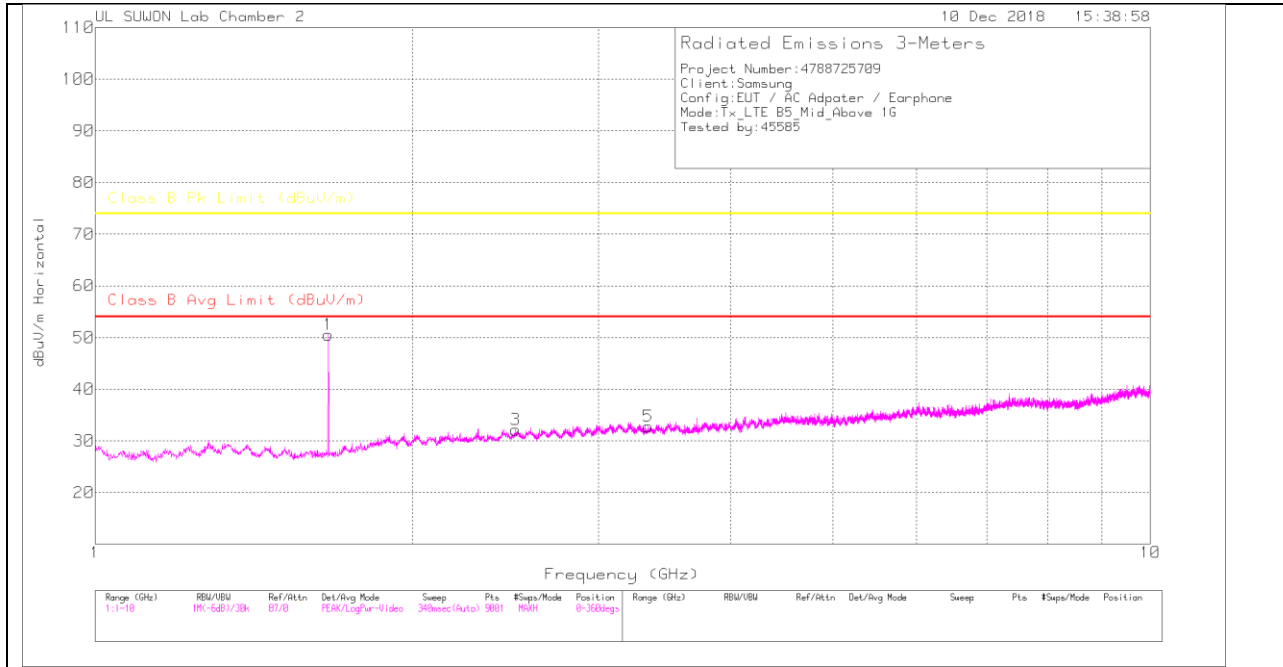
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.649	49.69	PK	28.3	-31.4	.6	47.19	-	-	74	-26.81	0-360	200	H
3	2.496	29.16	PK	31.9	-30.2	.6	31.46	-	-	74	-42.54	0-360	200	H
5	3.312	29.17	PK	32.6	-30	.6	32.37	-	-	74	-41.63	0-360	100	H
2	1.649	47.87	PK	28.3	-31.4	.6	45.37	-	-	74	-28.63	0-360	200	V
4	2.485	29.31	PK	31.9	-30.2	.6	31.61	-	-	74	-42.39	0-360	100	V
6	3.314	28.81	PK	32.6	-29.9	.6	32.11	-	-	74	-41.89	0-360	200	V

PK – Peak Detector

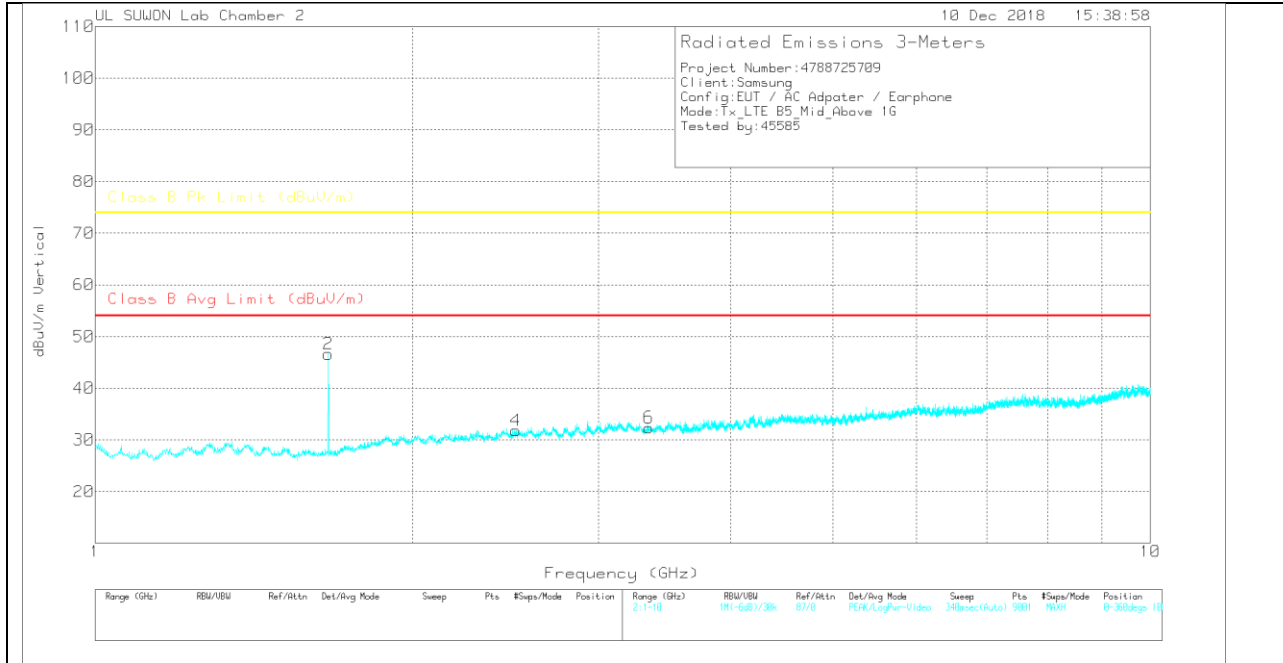
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(881.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

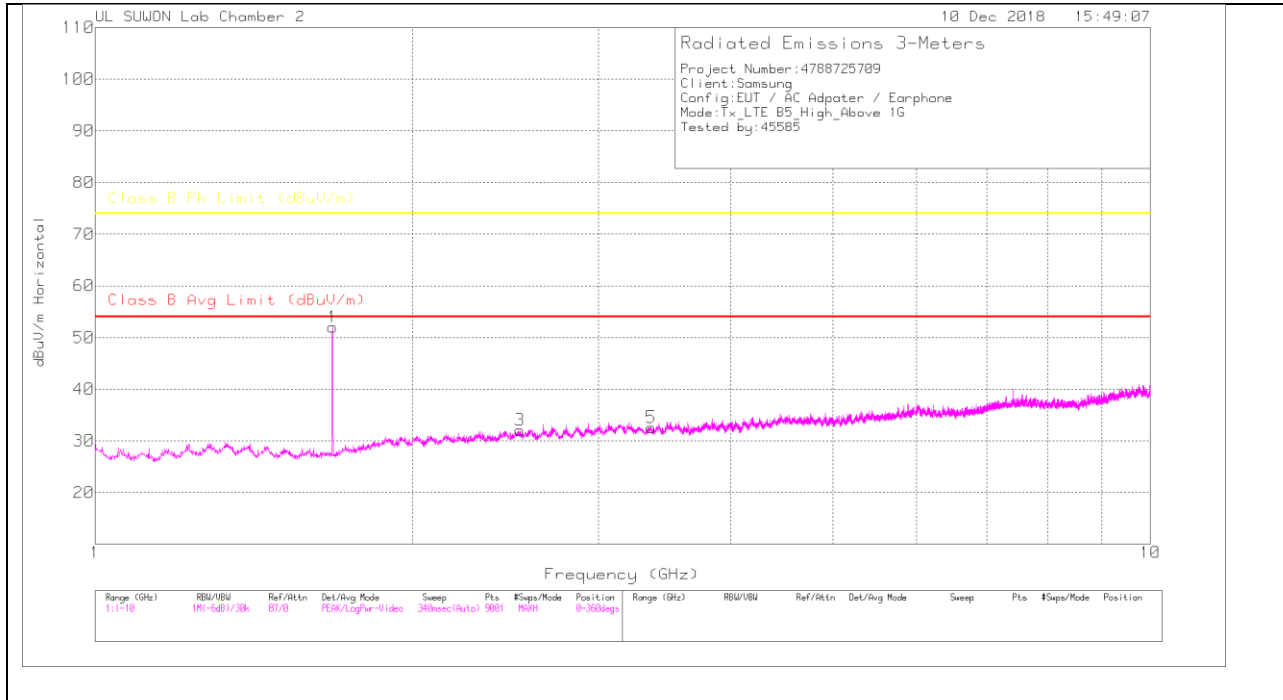
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.664	53.04	PK	28.4	-31.4	.5	50.54	-	-	74	-23.46	0-360	200	H
3	2.502	29.95	PK	31.9	-30.2	.5	32.15	-	-	74	-41.85	0-360	200	H
5	3.344	29.57	PK	32.6	-29.9	.5	32.77	-	-	74	-41.23	0-360	100	H
2	1.664	49.14	PK	28.4	-31.4	.5	46.64	-	-	74	-27.36	0-360	200	V
4	2.505	29.61	PK	31.9	-30.2	.5	31.81	-	-	74	-42.19	0-360	200	V
6	3.346	29.07	PK	32.6	-29.8	.5	32.37	-	-	74	-41.63	0-360	200	V

PK – Peak Detector

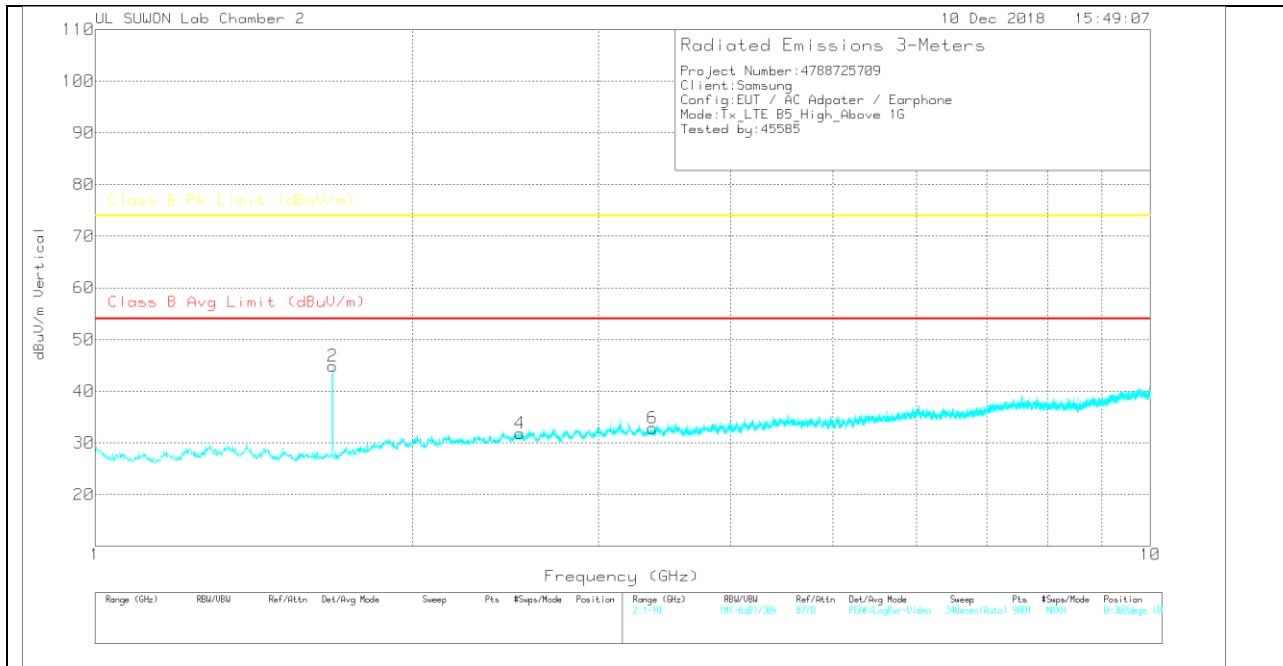
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(892.5MHz)

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(CSPK)Margin (dB)	Class B PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.679	54.42	PK	28.5	-31.4	.5	52.02	-	-	74	-21.98	0-360	200	H
3	2.526	29.7	PK	31.9	-30.1	.6	32.1	-	-	74	-41.9	0-360	100	H
5	3.367	29.18	PK	32.6	-29.8	.6	32.58	-	-	74	-41.42	0-360	200	H
2	1.679	47.27	PK	28.5	-31.4	.5	44.87	-	-	74	-29.13	0-360	200	V
4	2.528	29.36	PK	32	-30.1	.6	31.86	-	-	74	-42.14	0-360	100	V
6	3.377	29.38	PK	32.6	-29.7	.6	32.88	-	-	74	-41.12	0-360	200	V

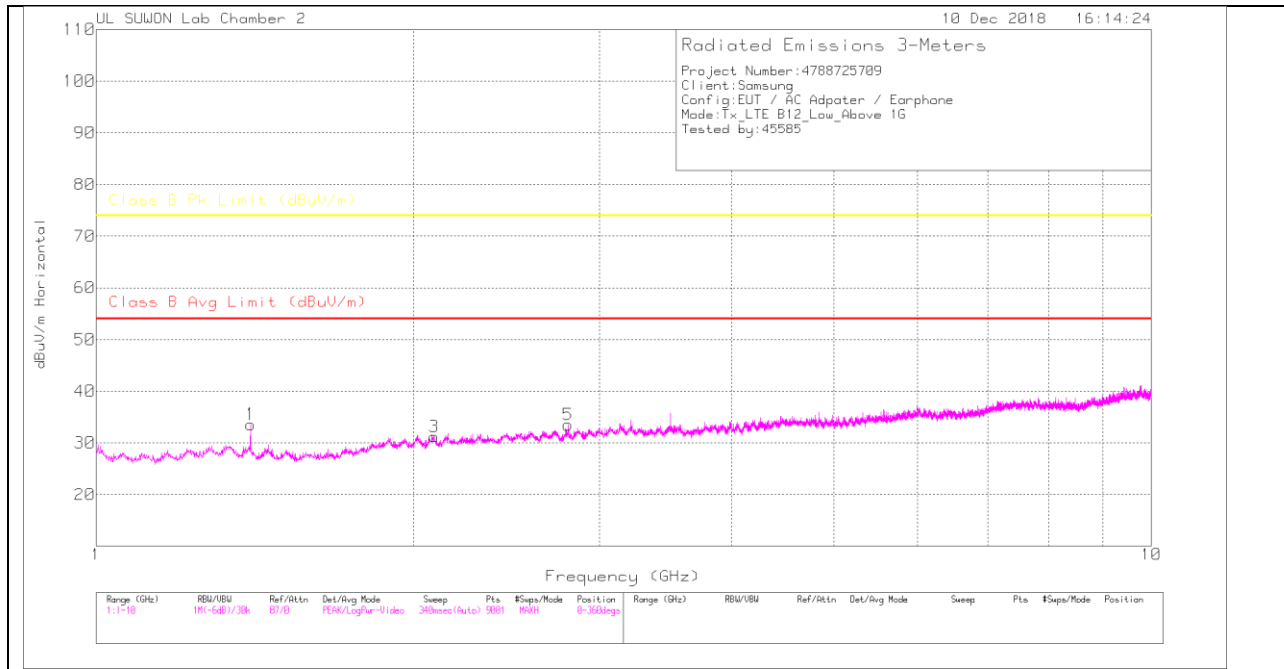
PK – Peak Detector

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

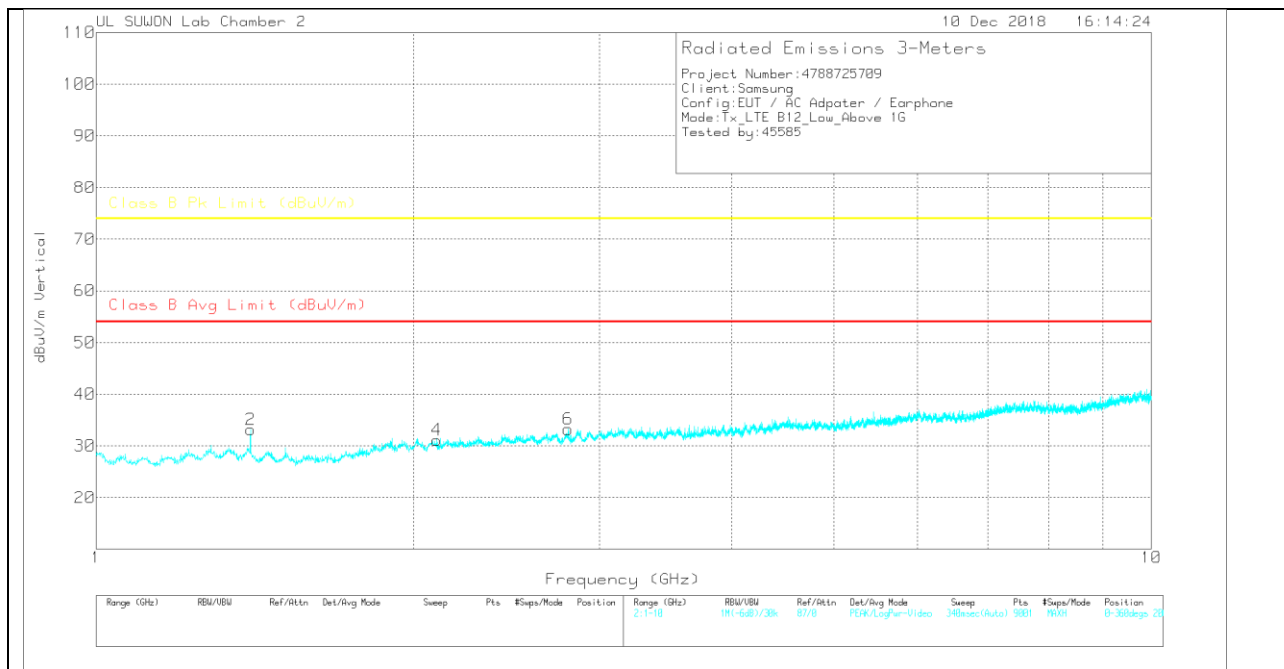
4.4. Above 1 GHz in the LTE Band 12

LOW CHANNEL(730.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

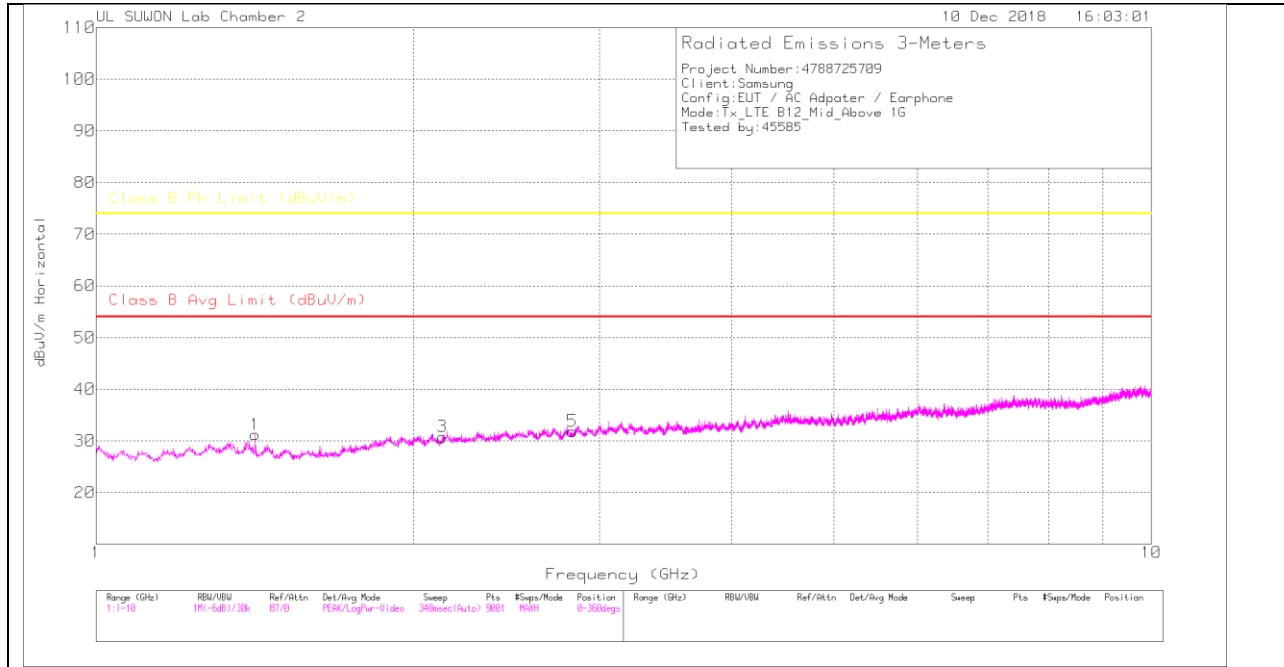
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.401	35.26	PK	29.4	-31.7	.6	33.56	-	-	74	-40.44	0-360	100	H
3	2.092	30.22	PK	31.3	-30.8	.5	31.22	-	-	74	-42.78	0-360	100	H
5	2.802	30.9	PK	32	-29.9	.5	33.5	-	-	74	-40.5	0-360	200	H
2	1.401	34.85	PK	29.4	-31.7	.6	33.15	-	-	74	-40.85	0-360	100	V
4	2.102	30.02	PK	31.3	-30.7	.5	31.12	-	-	74	-42.88	0-360	100	V
6	2.802	30.65	PK	32	-29.9	.5	33.25	-	-	74	-40.75	0-360	100	V

PK – Peak Detector

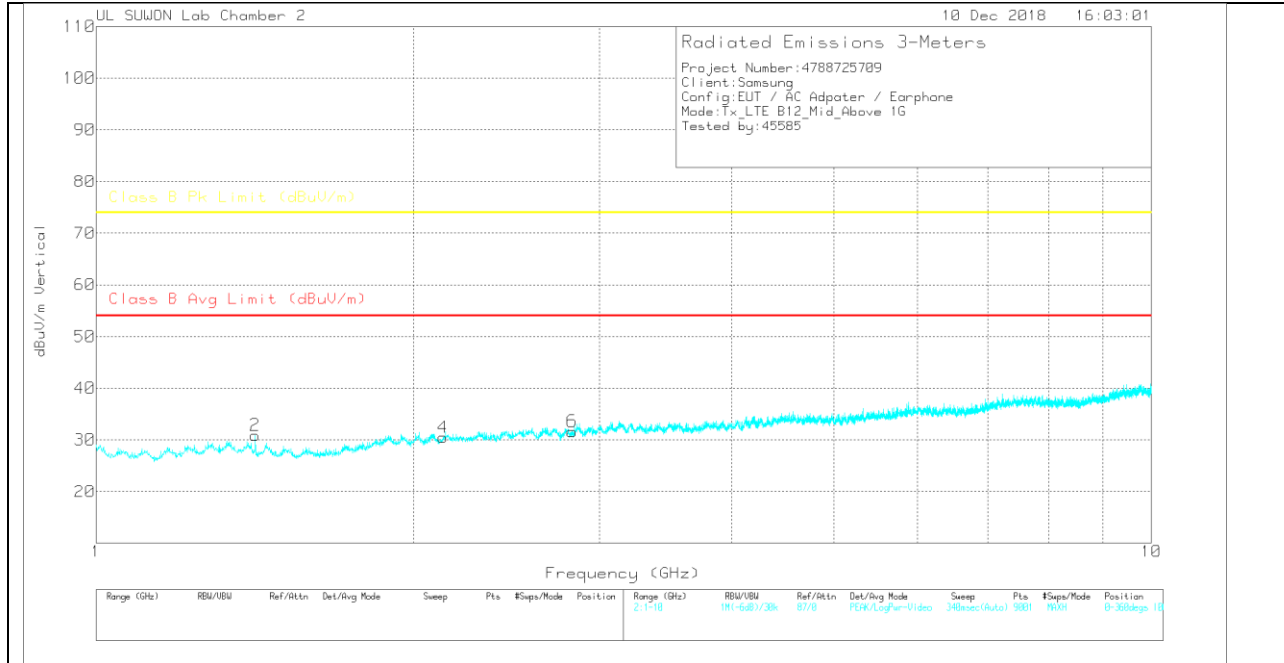
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(737.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

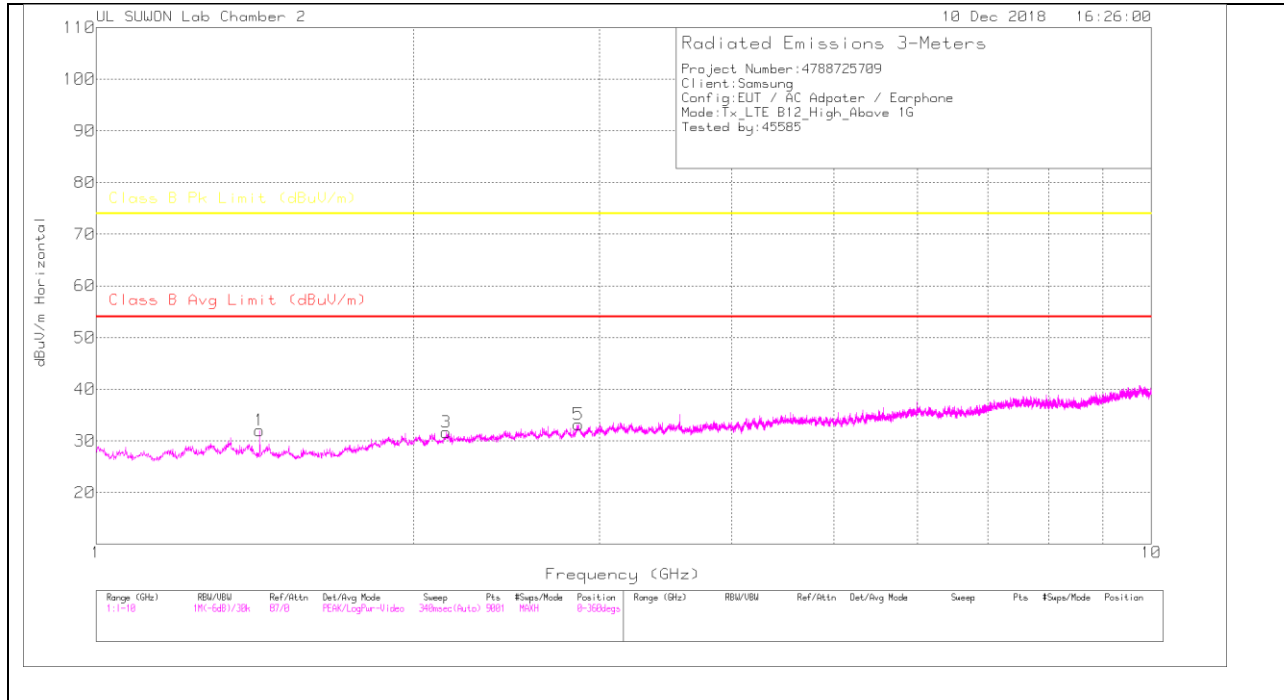
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.415	33.11	PK	29.3	-31.8	.6	31.21	-	-	74	-42.79	0-360	100	H
3	2.129	29.5	PK	31.3	-30.6	.6	30.8	-	-	74	-43.2	0-360	100	H
5	2.829	28.95	PK	32	-29.9	.8	31.85	-	-	74	-42.15	0-360	100	H
2	1.415	32.8	PK	29.3	-31.8	.6	30.9	-	-	74	-43.1	0-360	100	V
4	2.132	29.28	PK	31.3	-30.7	.6	30.48	-	-	74	-43.52	0-360	200	V
6	2.826	28.64	PK	32	-29.8	.8	31.64	-	-	74	-42.36	0-360	100	V

PK – Peak Detector

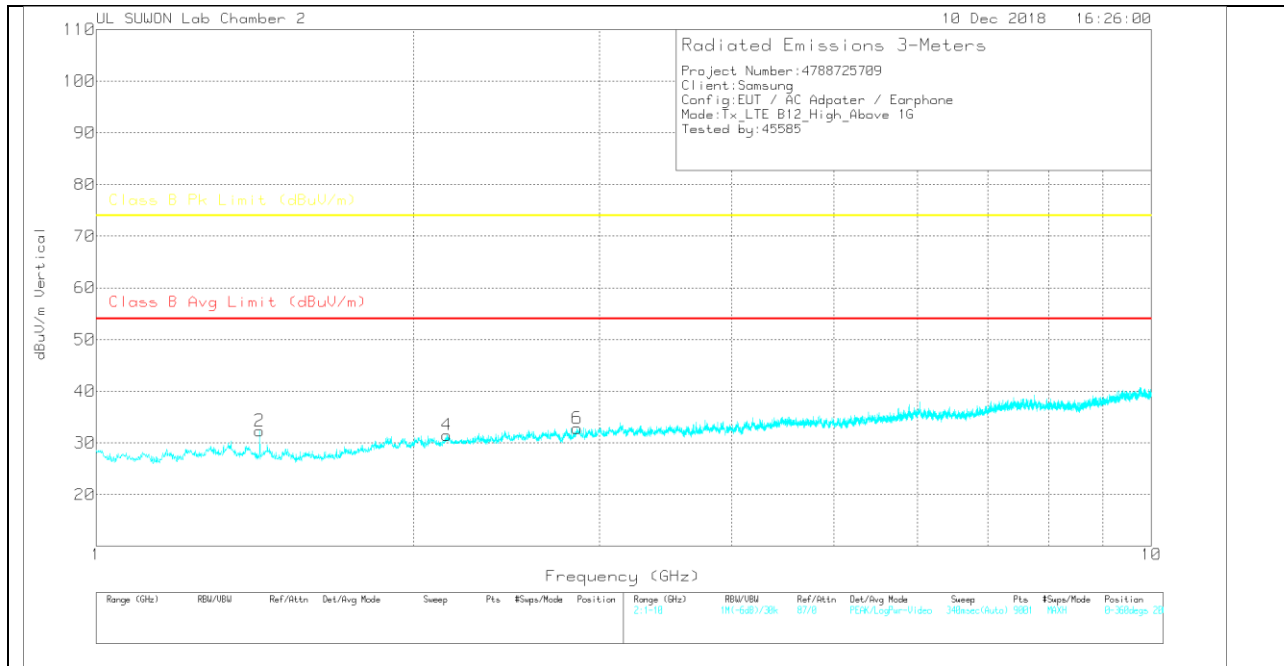
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(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(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.429	34.02	PK	29.2	-31.8	.6	32.02	-	-	74	-41.98	0-360	100	H
3	2.147	30.36	PK	31.3	-30.7	.7	31.66	-	-	74	-42.34	0-360	100	H
5	2.865	30.2	PK	32.1	-29.9	.8	33.2	-	-	74	-40.8	0-360	200	H
2	1.429	34.34	PK	29.2	-31.8	.6	32.34	-	-	74	-41.66	0-360	100	V
4	2.149	30.23	PK	31.3	-30.7	.7	31.53	-	-	74	-42.47	0-360	200	V
6	2.857	29.85	PK	32.1	-29.9	.8	32.85	-	-	74	-41.15	0-360	200	V

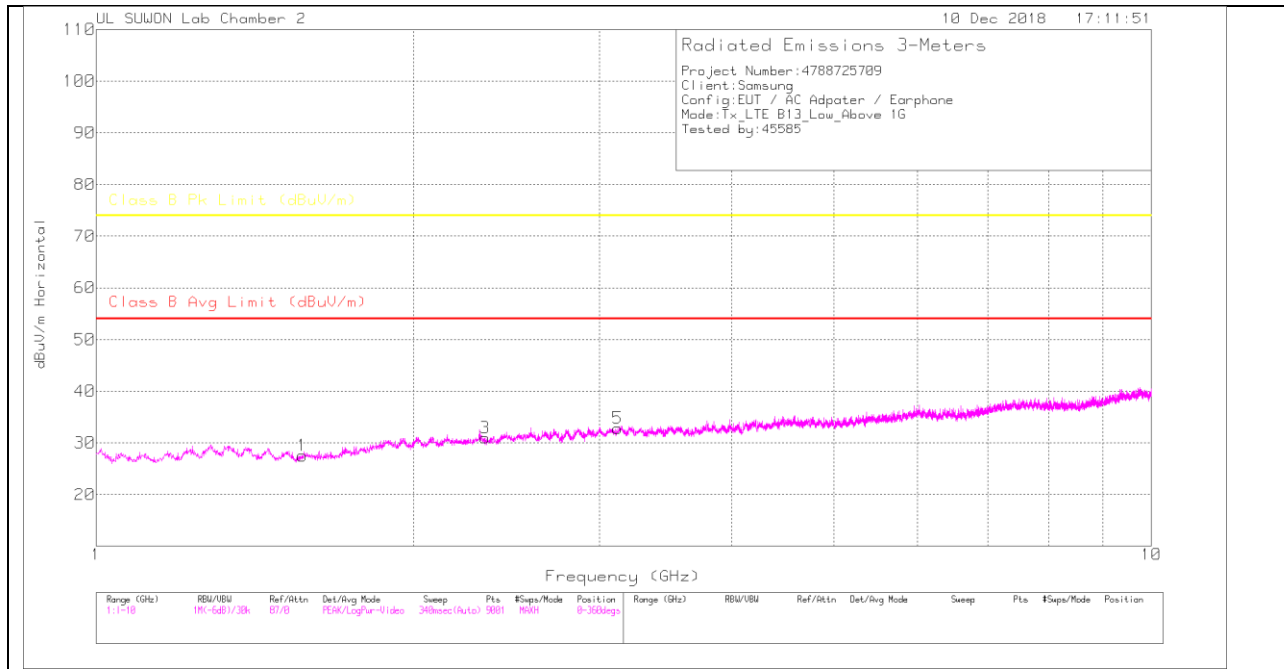
PK – Peak Detector

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

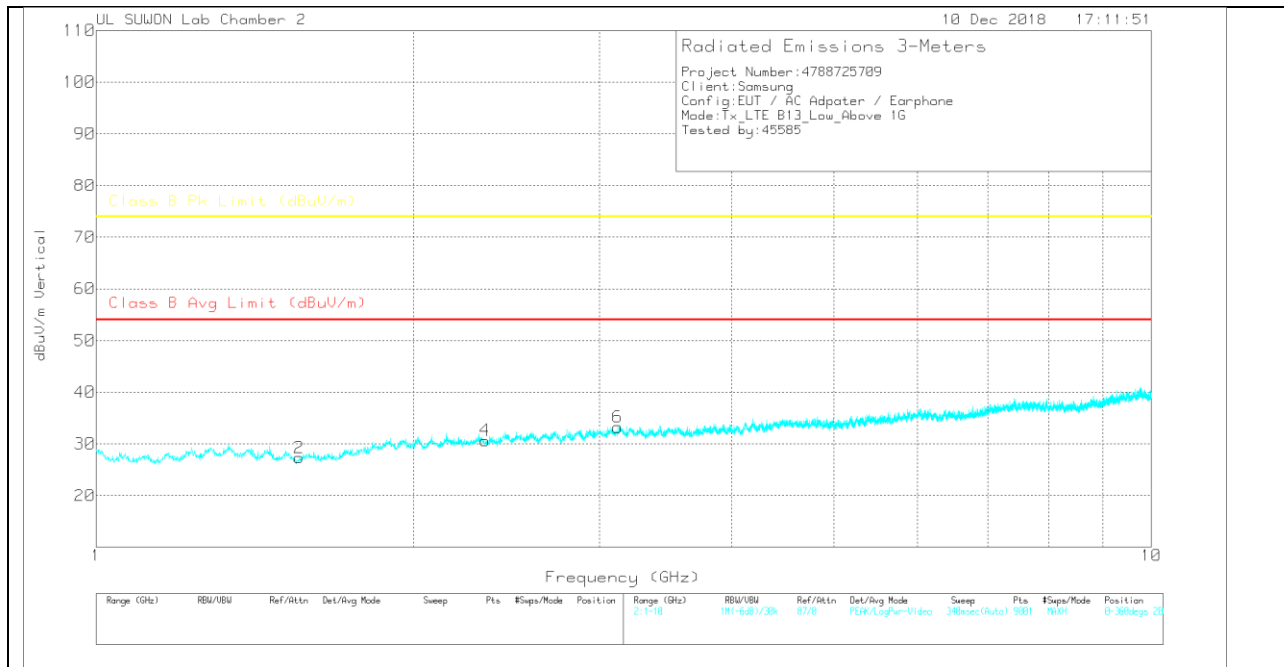
4.5. Above 1 GHz in the LTE Band 13

LOW CHANNEL(748.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

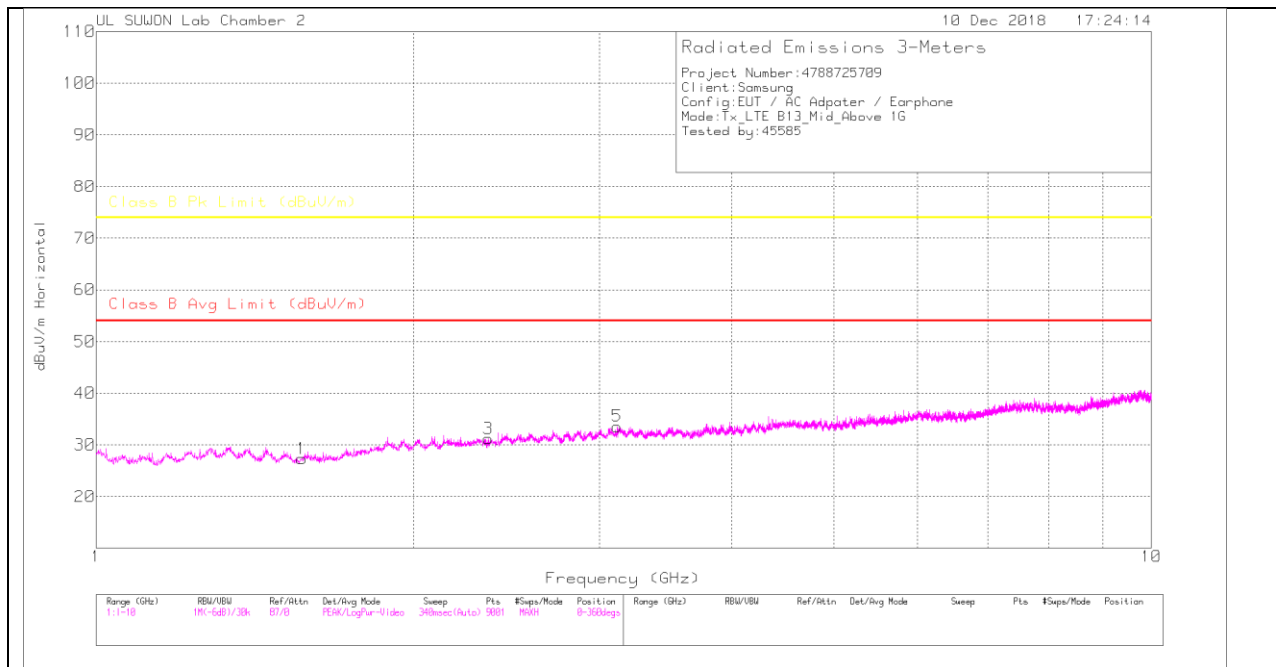
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPP)/Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.568	30.02	PK	28.3	-31.4	.6	27.52	-	-	74	-46.48	0-360	200	H
3	2.337	29.67	PK	31.5	-30.8	.6	30.97	-	-	74	-43.03	0-360	200	H
5	3.121	28.93	PK	32.8	-29.6	.7	32.83	-	-	74	-41.17	0-360	100	H
2	1.558	29.82	PK	28.3	-31.4	.6	27.32	-	-	74	-46.68	0-360	100	V
4	2.337	29.36	PK	31.5	-30.8	.6	30.66	-	-	74	-43.34	0-360	100	V
6	3.122	29.44	PK	32.8	-29.7	.7	33.24	-	-	74	-40.76	0-360	100	V

PK – Peak Detector

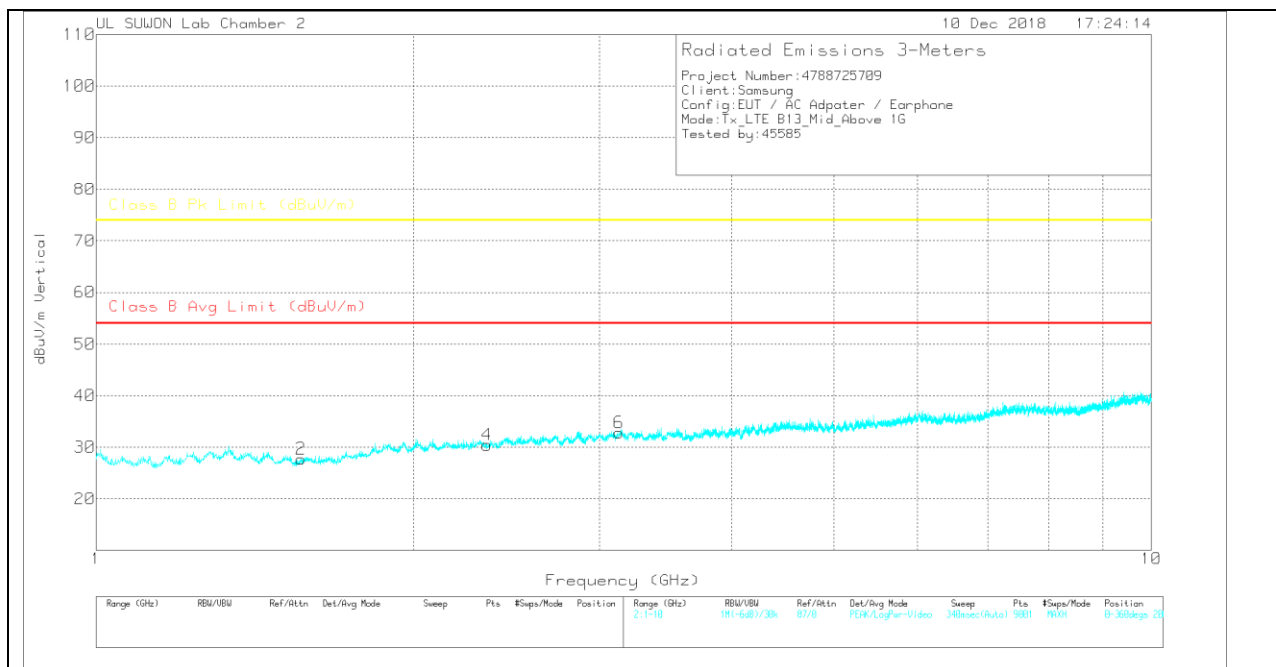
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(751.0MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

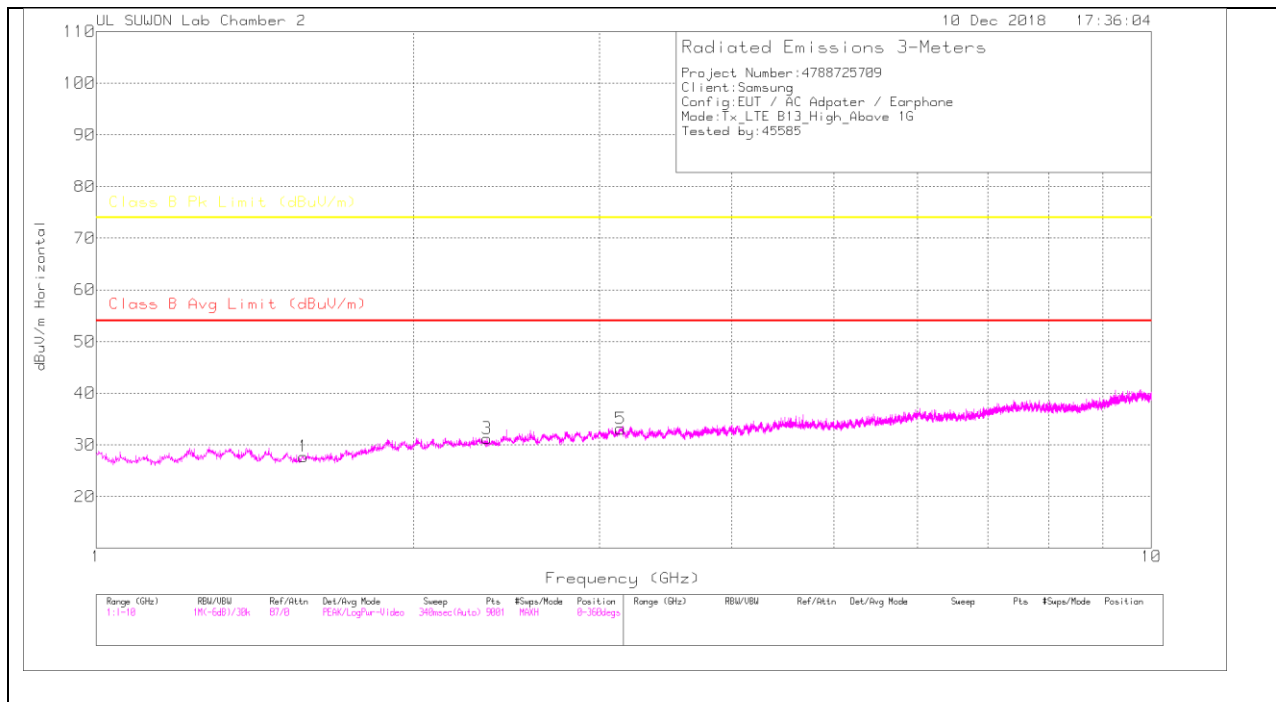
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.567	29.8	PK	28.3	-31.4	.6	27.3	-	-	74	-46.7	0-360	200	H
3	2.353	29.83	PK	31.6	-30.7	.5	31.23	-	-	74	-42.77	0-360	200	H
5	3.118	29.8	PK	32.8	-29.7	.7	33.6	-	-	74	-40.4	0-360	200	H
2	1.564	30.24	PK	28.3	-31.4	.6	27.74	-	-	74	-46.26	0-360	100	V
4	2.346	29.05	PK	31.6	-30.7	.5	30.45	-	-	74	-43.55	0-360	200	V
6	3.13	28.93	PK	32.9	-29.7	.7	32.83	-	-	74	-41.17	0-360	200	V

PK – Peak Detector

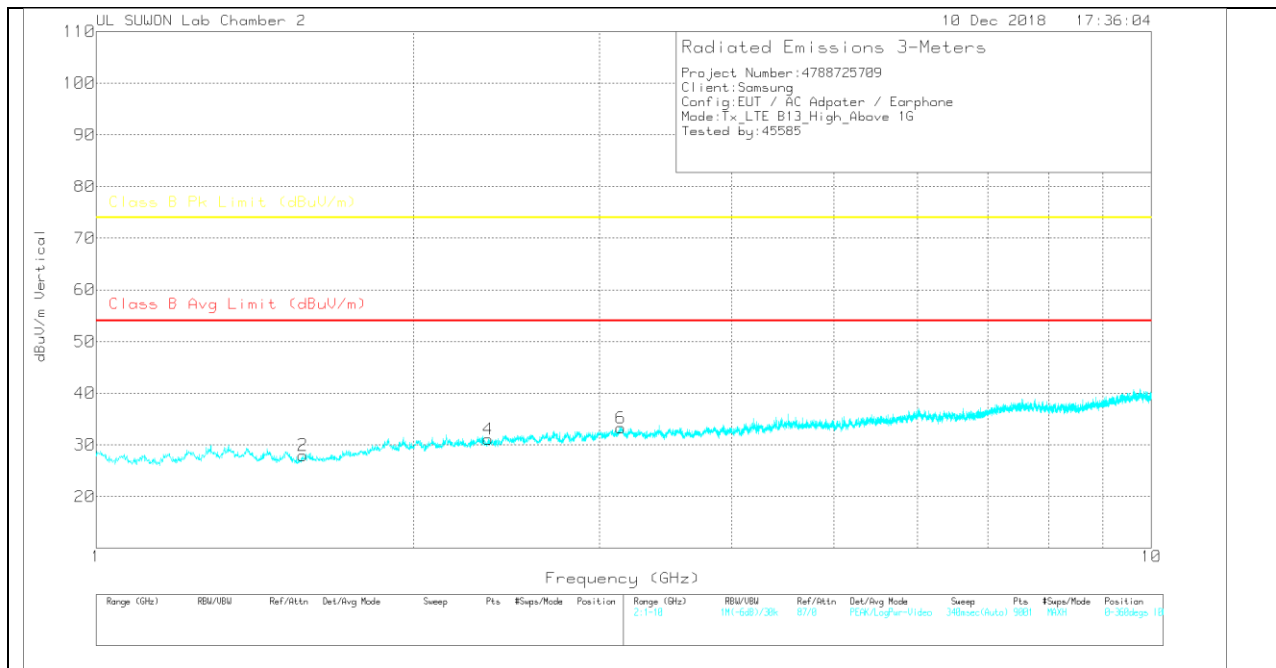
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(753.5MHz)

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(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.572	30.15	PK	28.3	-31.4	.7	27.75	-	-	74	-46.25	0-360	200	H
3	2.346	29.84	PK	31.6	-30.7	.5	31.24	-	-	74	-42.76	0-360	200	H
5	3.141	29.23	PK	32.9	-29.7	.7	33.13	-	-	74	-40.87	0-360	200	H
2	1.57	30.57	PK	28.3	-31.5	.6	27.97	-	-	74	-46.03	0-360	200	V
4	2.354	29.71	PK	31.6	-30.7	.5	31.11	-	-	74	-42.89	0-360	100	V
6	3.143	29.28	PK	32.9	-29.6	.7	33.28	-	-	74	-40.72	0-360	100	V

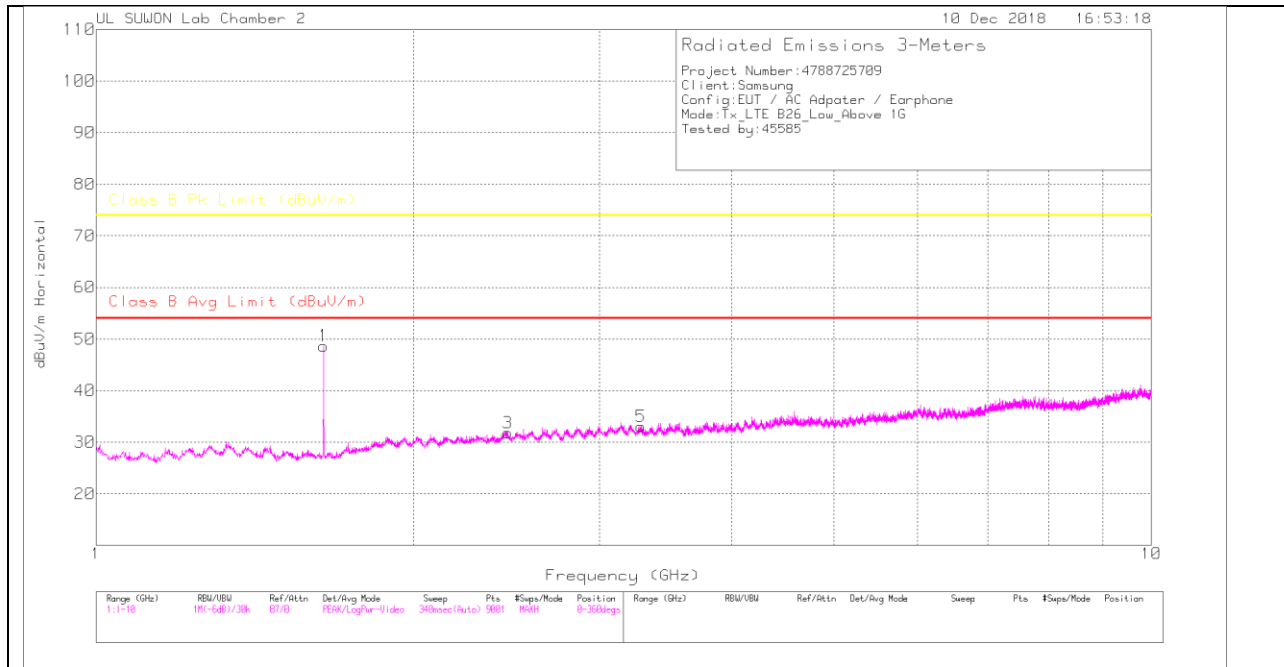
PK – Peak Detector

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

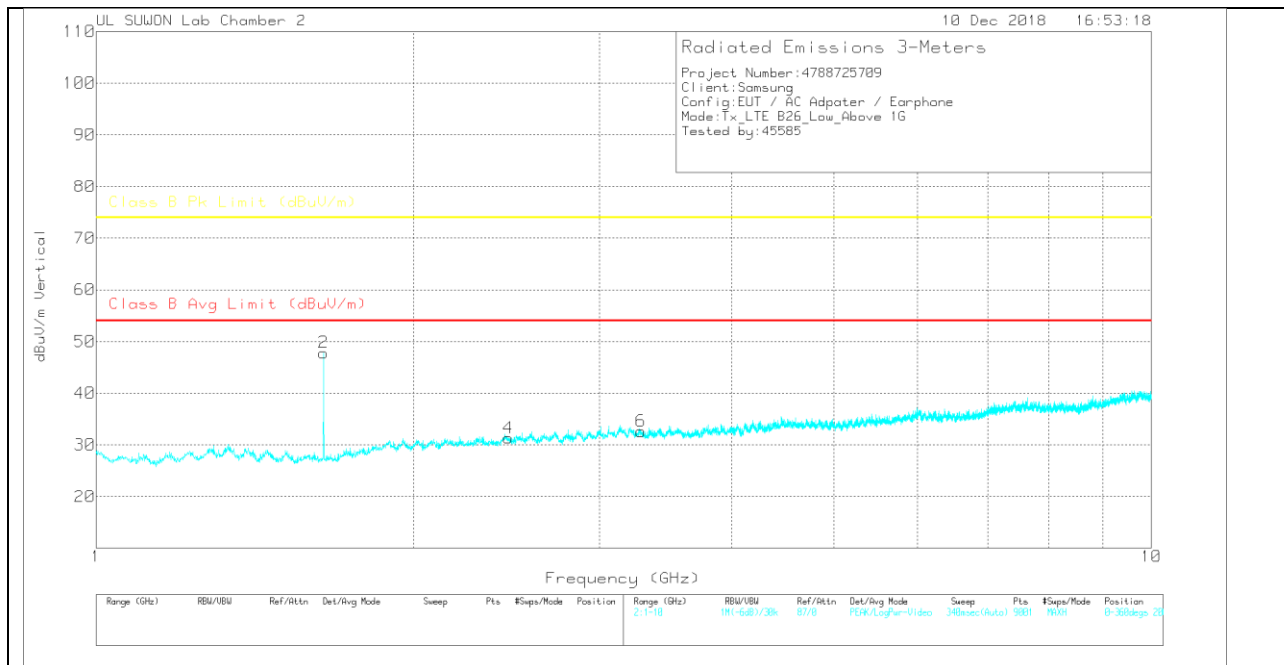
4.6. Above 1 GHz in the LTE Band 26

LOW CHANNEL(860.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

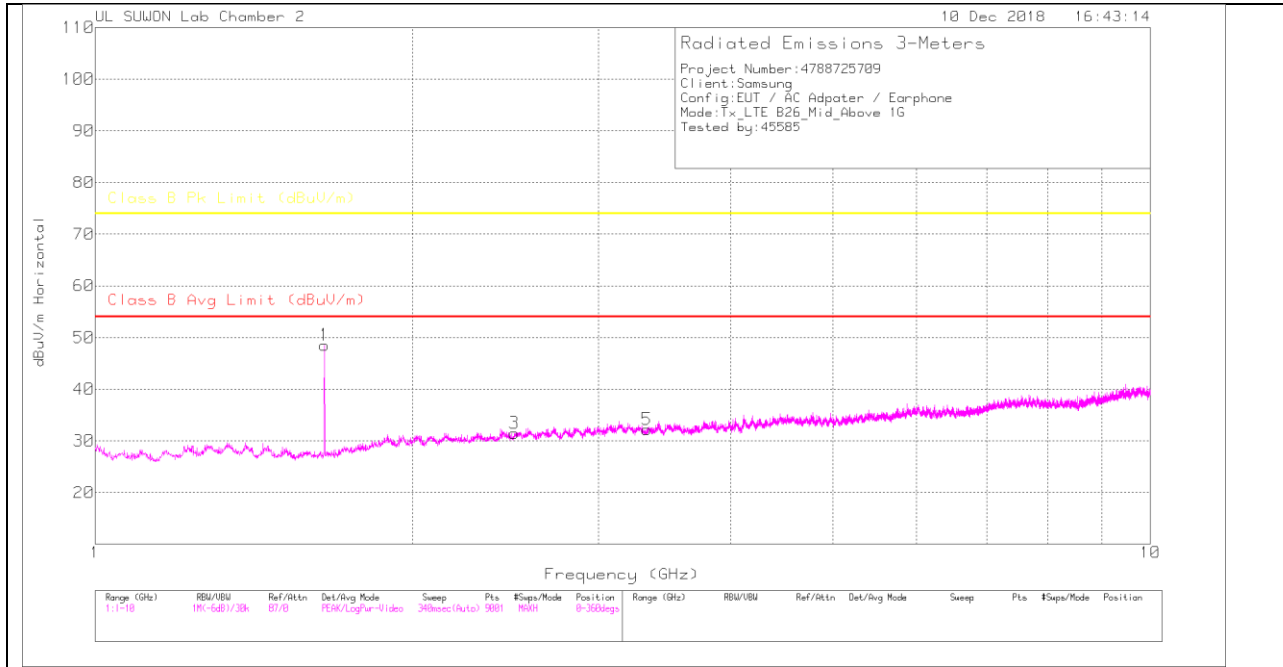
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSFR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.643	51.17	PK	28.3	-31.4	.6	48.67	-	-	74	-25.33	0-360	100	H
3	2.455	29.51	PK	31.8	-30.3	.8	31.81	-	-	74	-42.19	0-360	100	H
5	3.285	29.53	PK	32.7	-29.9	.7	33.03	-	-	74	-40.97	0-360	200	H
2	1.643	50.34	PK	28.3	-31.4	.6	47.84	-	-	74	-26.16	0-360	200	V
4	2.458	29.03	PK	31.8	-30.3	.8	31.33	-	-	74	-42.67	0-360	200	V
6	3.283	29.24	PK	32.7	-30	.7	32.64	-	-	74	-41.36	0-360	100	V

PK – Peak Detector

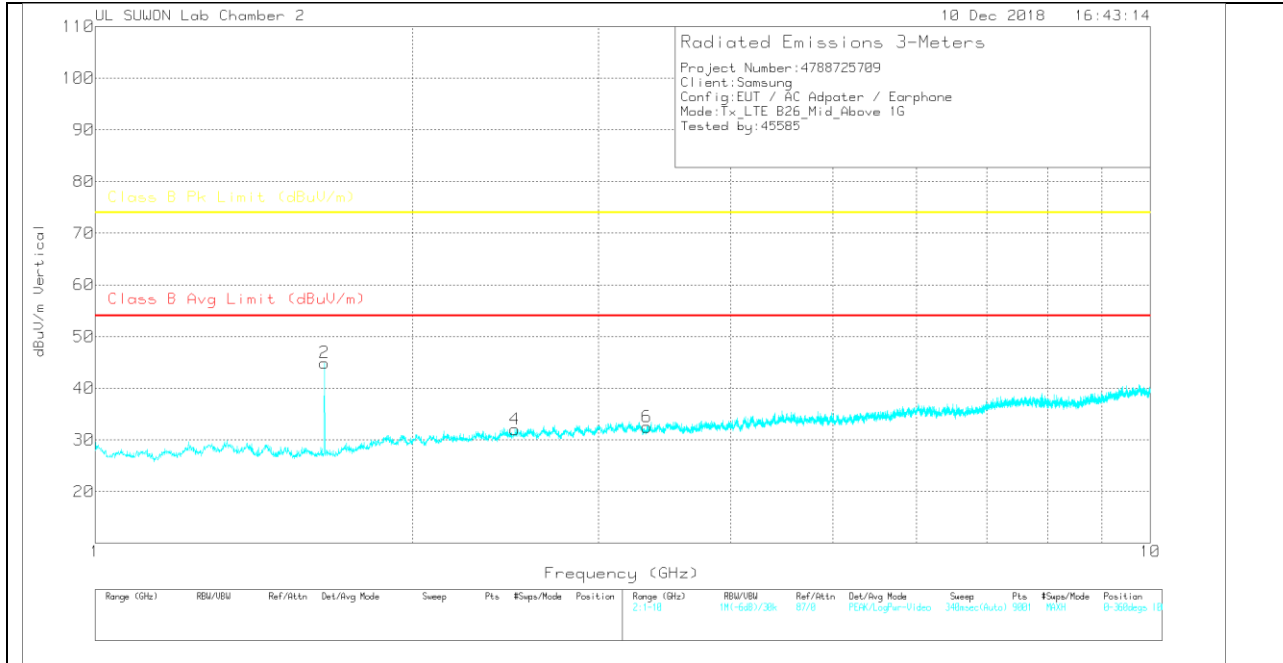
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

MID CHANNEL(876.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

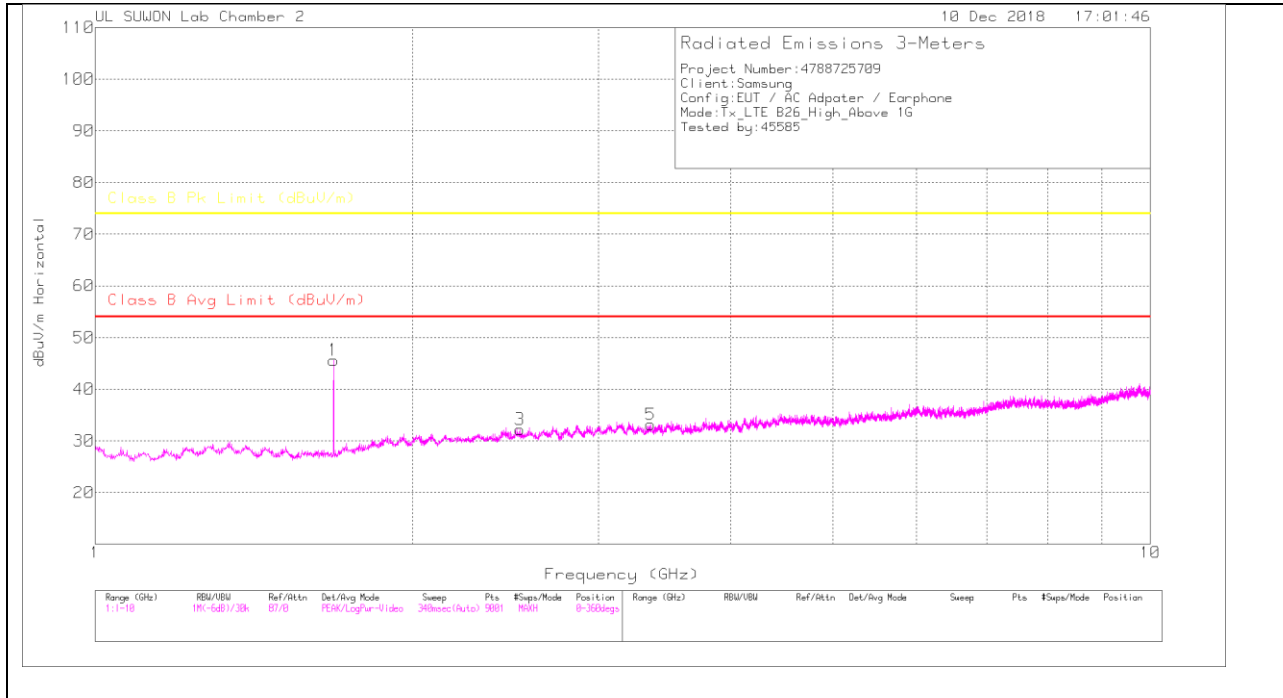
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz(dB)	1GHz_HPF	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.649	51.04	PK	28.3	-31.4	.6	48.54	-	-	74	-25.46	0-360	100	H
3	2.496	29.2	PK	31.9	-30.2	.6	31.5	-	-	74	-42.5	0-360	100	H
5	3.335	29.01	PK	32.6	-29.9	.5	32.21	-	-	74	-41.79	0-360	200	H
2	1.649	47.42	PK	28.3	-31.4	.6	44.92	-	-	74	-29.08	0-360	200	V
4	2.501	29.84	PK	31.9	-30.2	.5	32.04	-	-	74	-41.96	0-360	100	V
6	3.335	29.32	PK	32.6	-29.9	.5	32.52	-	-	74	-41.48	0-360	200	V

PK – Peak Detector

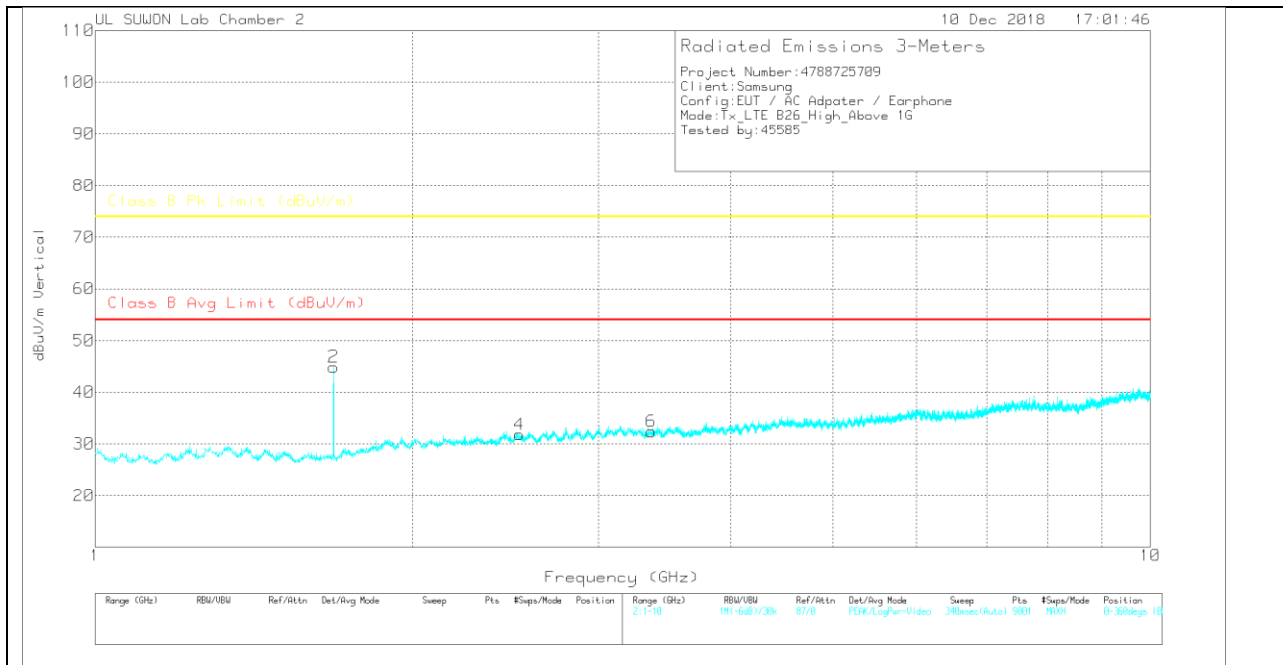
Note: Unwanted emissions on the harmonic frequency were generated from the call-simulator with the TX and RX signals.

HIGH CHANNEL(892.5MHz)

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(CSPK)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.683	47.91	PK	28.5	-31.3	.5	45.61	-	-	74	-28.39	0-360	100	H
3	2.526	29.81	PK	31.9	-30.1	.6	32.21	-	-	74	-41.79	0-360	100	H
5	3.362	29.84	PK	32.6	-29.8	.5	33.14	-	-	74	-40.86	0-360	200	H
2	1.683	47.2	PK	28.5	-31.3	.5	44.9	-	-	74	-29.1	0-360	200	V
4	2.524	29.53	PK	31.9	-30.2	.6	31.83	-	-	74	-42.17	0-360	200	V
6	3.367	28.99	PK	32.6	-29.8	.6	32.39	-	-	74	-41.61	0-360	200	V

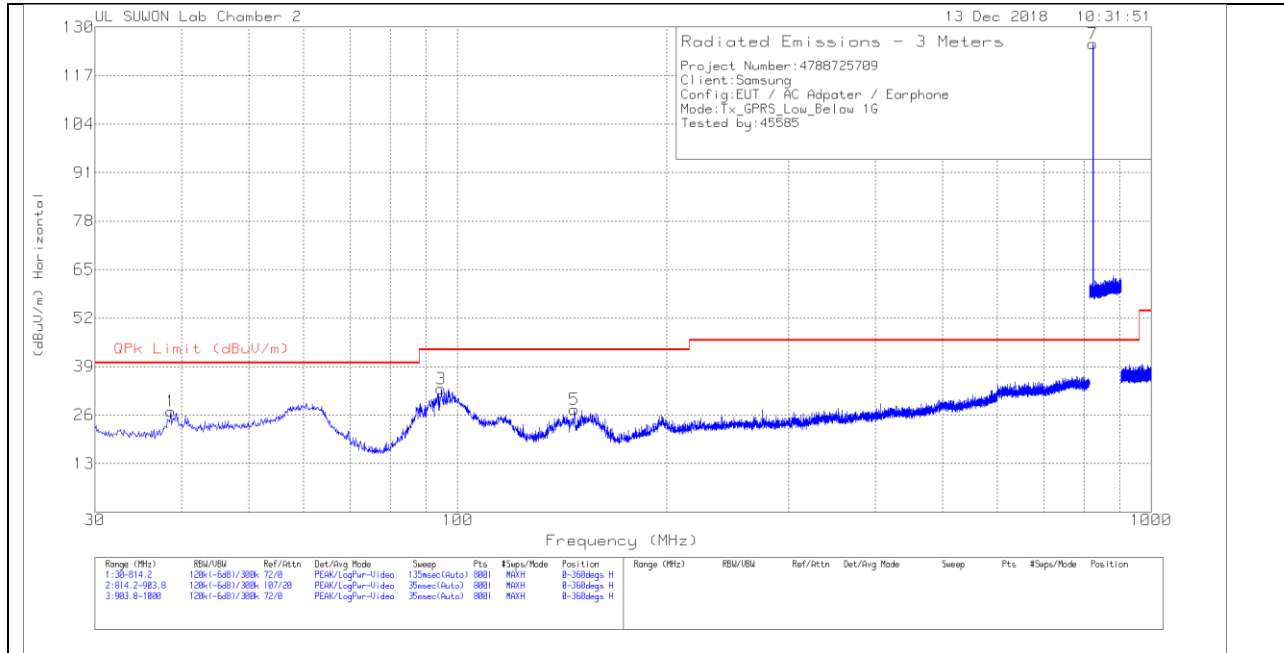
PK – Peak Detector

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

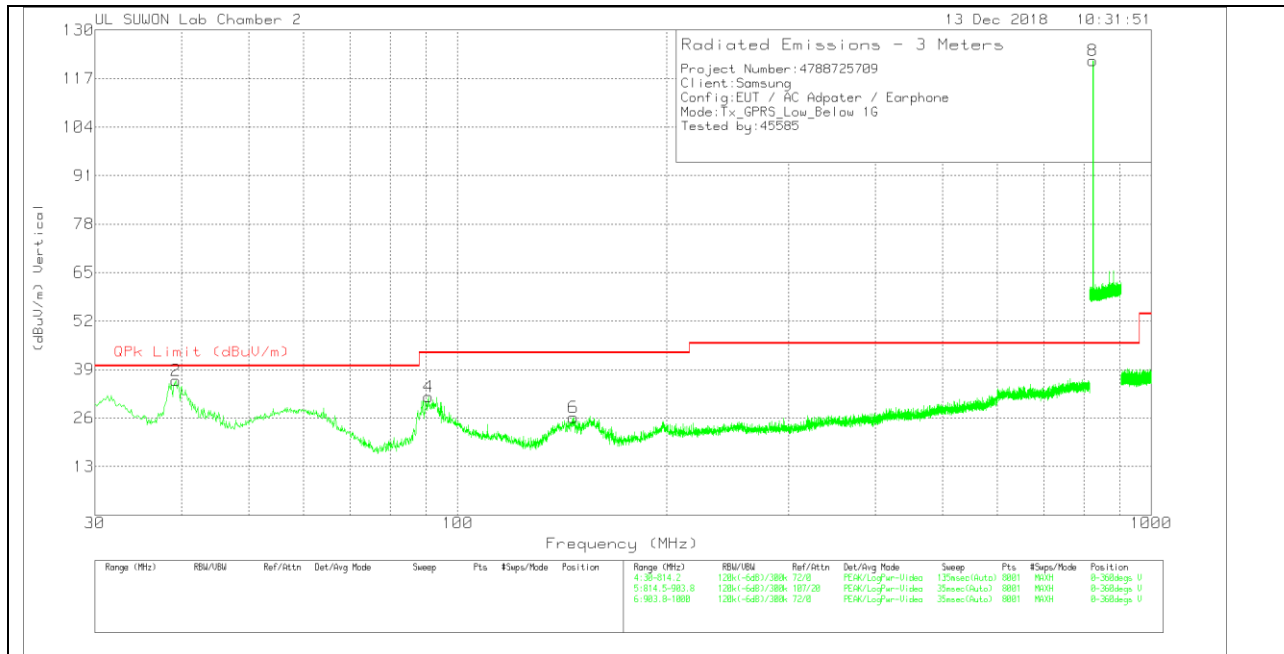
4.7. Below 1 GHz in the GSM850

LOW CHANNEL(869.2MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

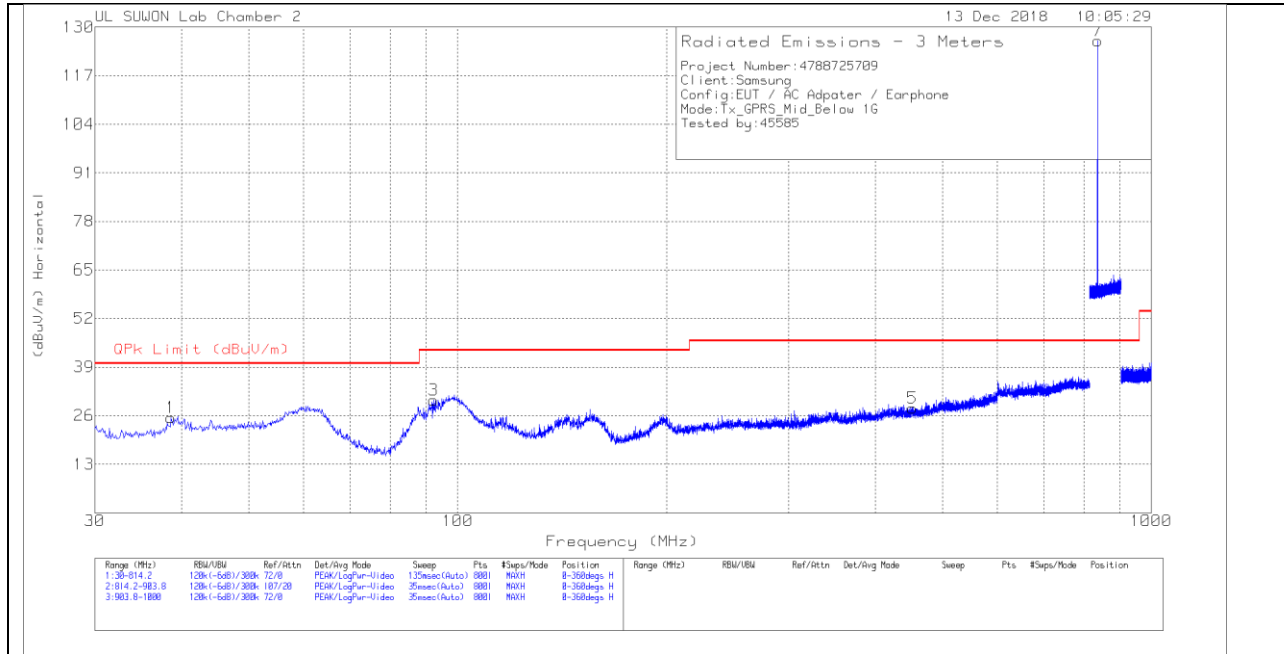
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.6262	8.02	Pk	18.2	.7	26.92	40	-13.08	0-360	300	H
3	94.6965	14.83	Pk	17.1	1.1	33.03	43.52	-10.49	0-360	300	H
5	147.3359	12.04	Pk	14.1	1.3	27.44	43.52	-16.08	0-360	200	H
7	824.2128	95.55	Pk	26.9	3.1	125.55	46.02	79.53	0-360	100	H
2	39.2144	16.85	Pk	18.5	.7	36.05	40	-3.95	0-360	100	V
4	90.7755	14.75	Pk	15.9	1	31.65	43.52	-11.87	0-360	100	V
6	146.8458	10.79	Pk	14.1	1.3	26.19	43.52	-17.33	0-360	100	V
8	824.1281	91.75	Pk	26.9	3.1	121.75	46.02	75.73	0-360	100	V

Pk - Peak detector

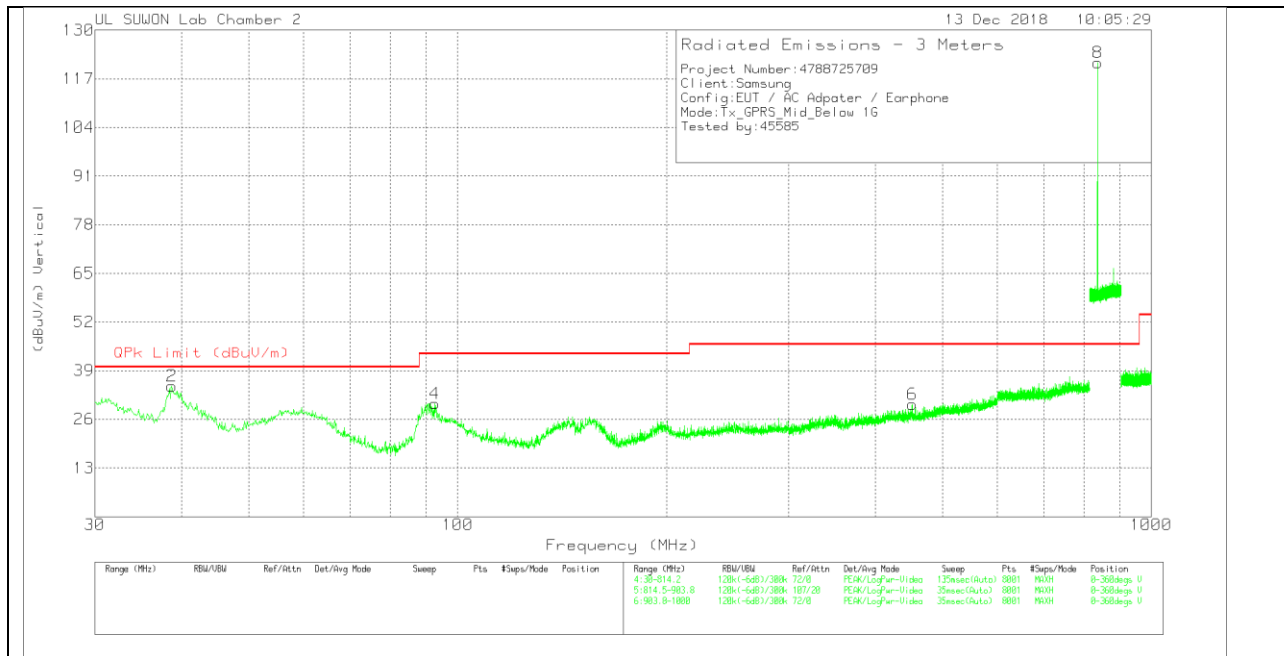
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

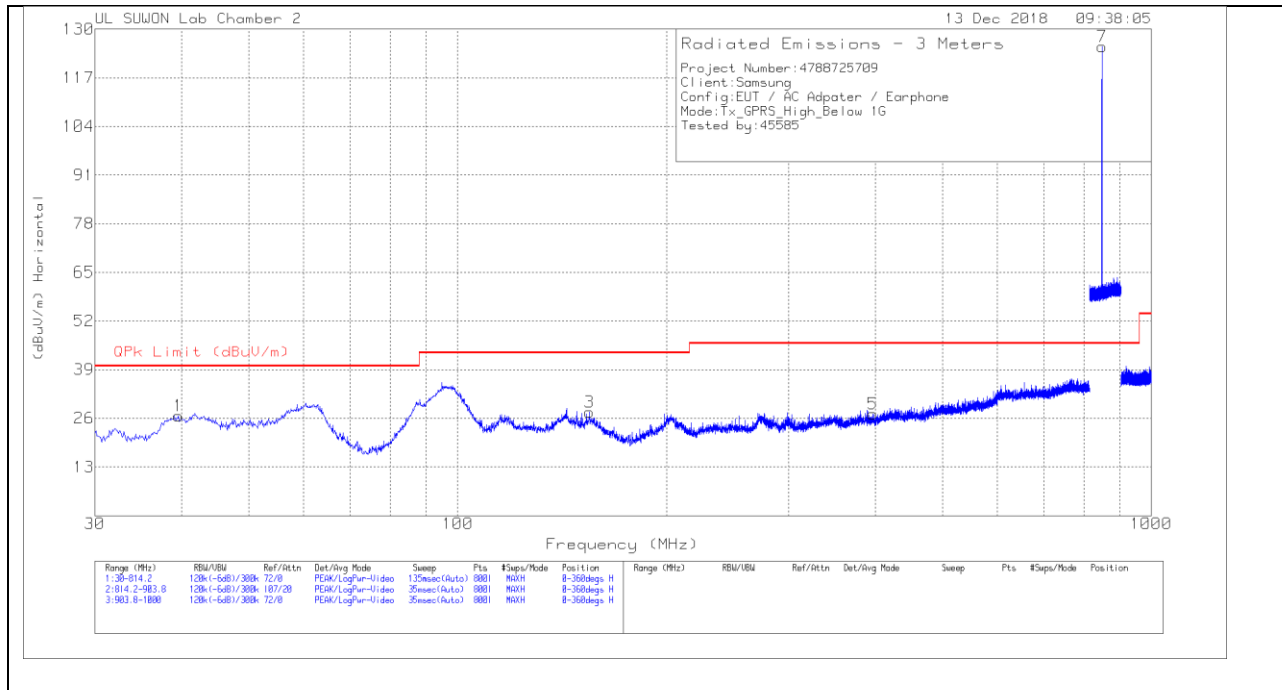
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.6262	6.55	Pk	18.2	.7	25.45	40	-14.55	0-360	300	H
3	92.2459	12.68	Pk	16.5	1	30.18	43.52	-13.34	0-360	300	H
5	452.1937	3.46	Pk	22.2	2.3	27.96	46.02	-18.06	0-360	200	H
7	836.5328	96.21	Pk	27.1	3.1	126.41	46.02	80.39	0-360	100	H
2	38.7242	15.93	Pk	18.3	.7	34.93	40	-5.07	0-360	100	V
4	92.638	12.55	Pk	16.6	1	30.15	43.52	-13.37	0-360	100	V
6	452.1937	5.45	Pk	22.2	2.3	29.95	46.02	-16.07	0-360	200	V
8	836.5693	91.16	Pk	27.1	3.1	121.36	46.02	75.34	0-360	100	V

Pk - Peak detector

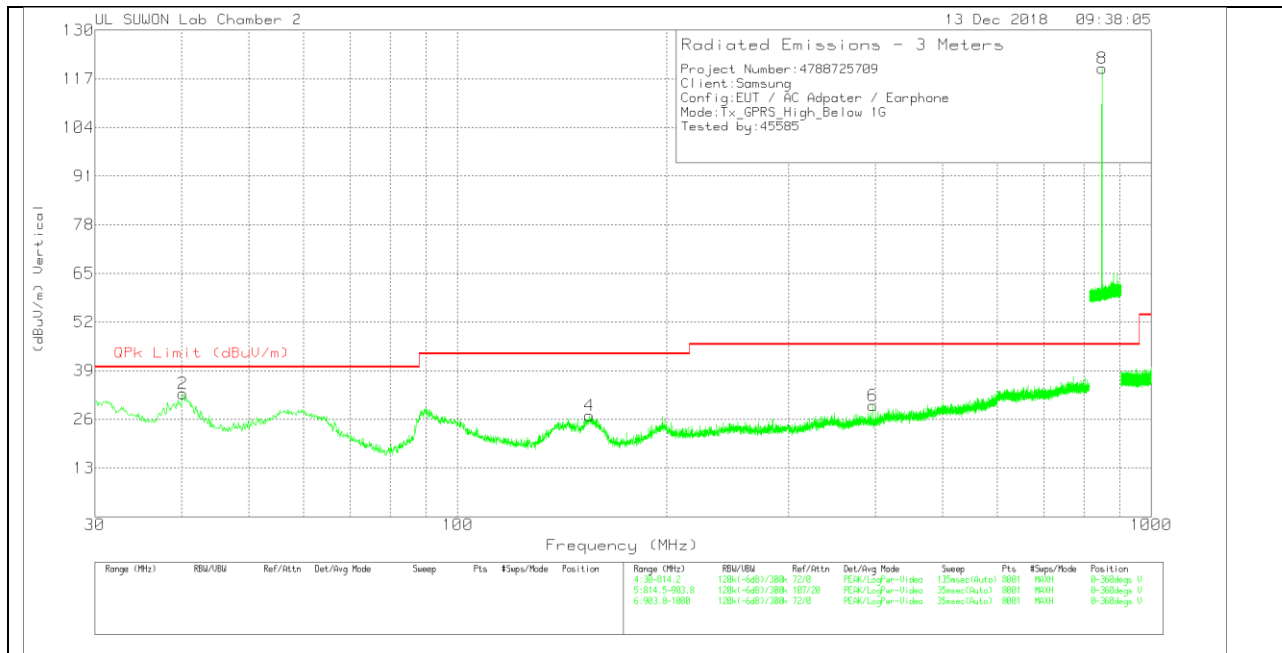
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(893.8MHz)

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	39.6065	7.39	Pk	18.6	.7	26.69	40	-13.31	0-360	300	H
3	154.7858	12.19	Pk	14.2	1.3	27.69	43.52	-15.83	0-360	200	H
5	396.5155	3.71	Pk	21.2	2.2	27.11	46.02	-18.91	0-360	100	H
7	848.7968	94.73	Pk	27.4	3.2	125.33	46.02	79.31	0-360	100	H
2	40.1946	13.3	Pk	18.8	.7	32.8	40	-7.2	0-360	100	V
4	154.7858	11.51	Pk	14.2	1.3	27.01	43.52	-16.51	0-360	100	V
6	396.7115	6.3	Pk	21.2	2.1	29.6	46.02	-16.42	0-360	300	V
8	848.7369	89.15	Pk	27.4	3.2	119.75	46.02	73.73	0-360	100	V

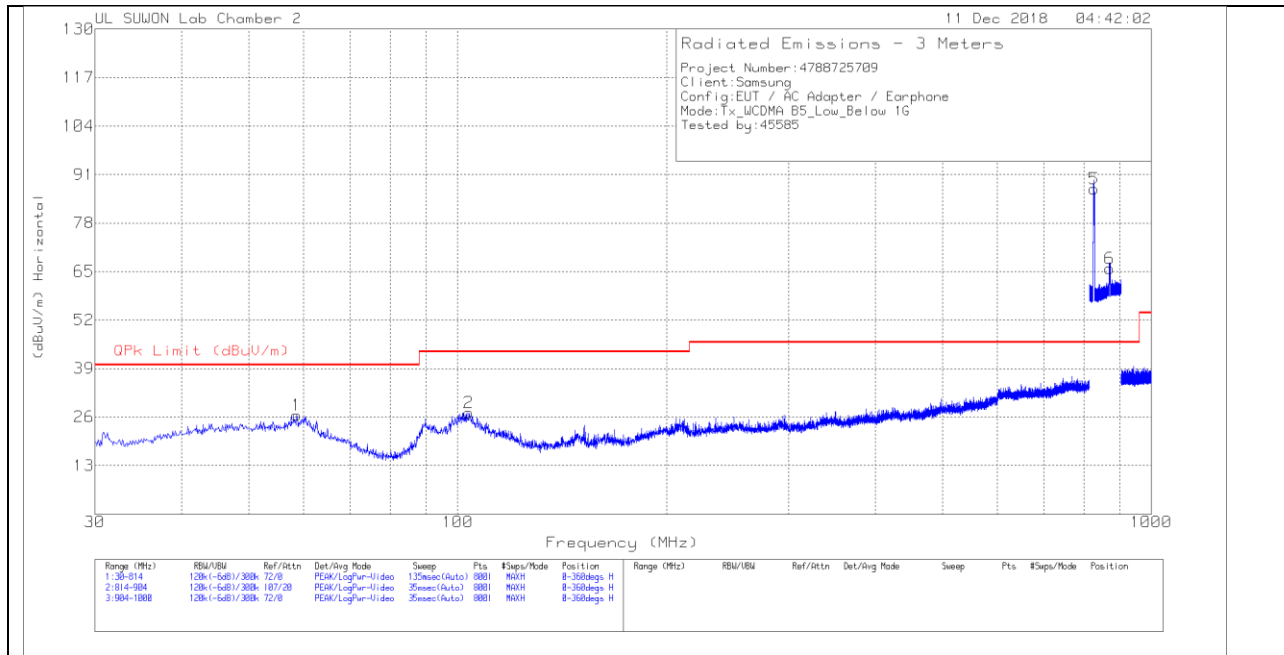
Pk - Peak detector

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

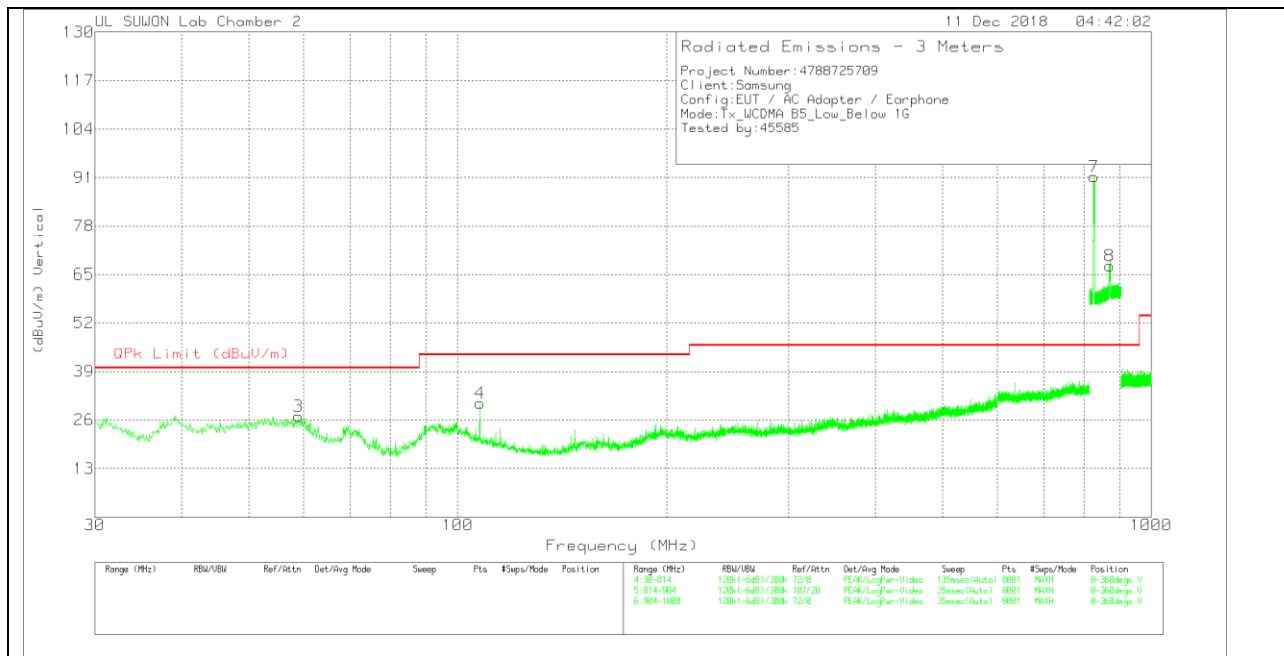
4.8. Below 1 GHz in the WCDMA Band 5

LOW CHANNEL(871.4MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

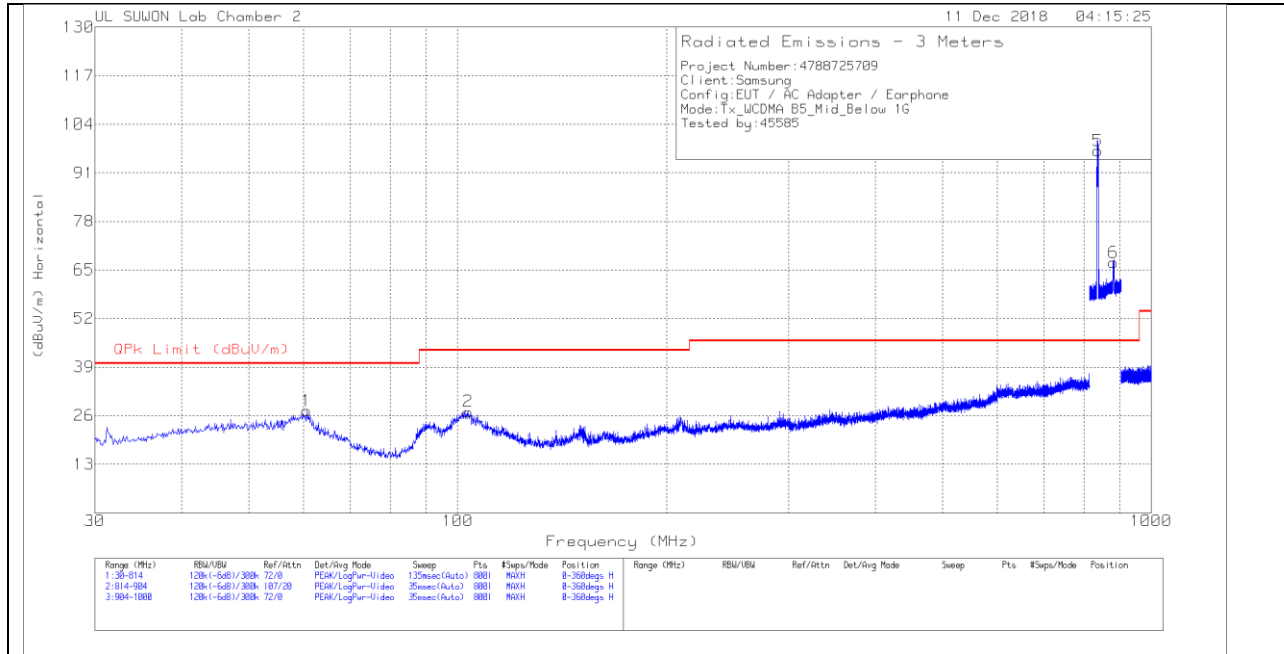
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	58.616	6.85	Pk	18.8	.8	26.45	40	-13.55	0-360	400	H
2	103.794	8.39	Pk	17.7	1.1	27.19	43.52	-16.33	0-360	300	H
5	826.0263	57.13	Pk	27	3.1	87.23	46.02	41.21	0-360	100	H
6	871.1163	34.7	Pk	27.9	3.2	65.8	46.02	19.78	0-360	100	H
3	59.008	7.48	Pk	18.7	.8	26.98	40	-13.02	0-360	300	V
4	107.714	12.04	Pk	17.4	1.1	30.54	43.52	-12.98	0-360	100	V
7	826.42	61.11	Pk	27	3.1	91.21	46.02	45.19	0-360	100	V
8	871.0825	36.27	Pk	27.9	3.2	67.37	46.02	21.35	0-360	100	V

Pk - Peak detector

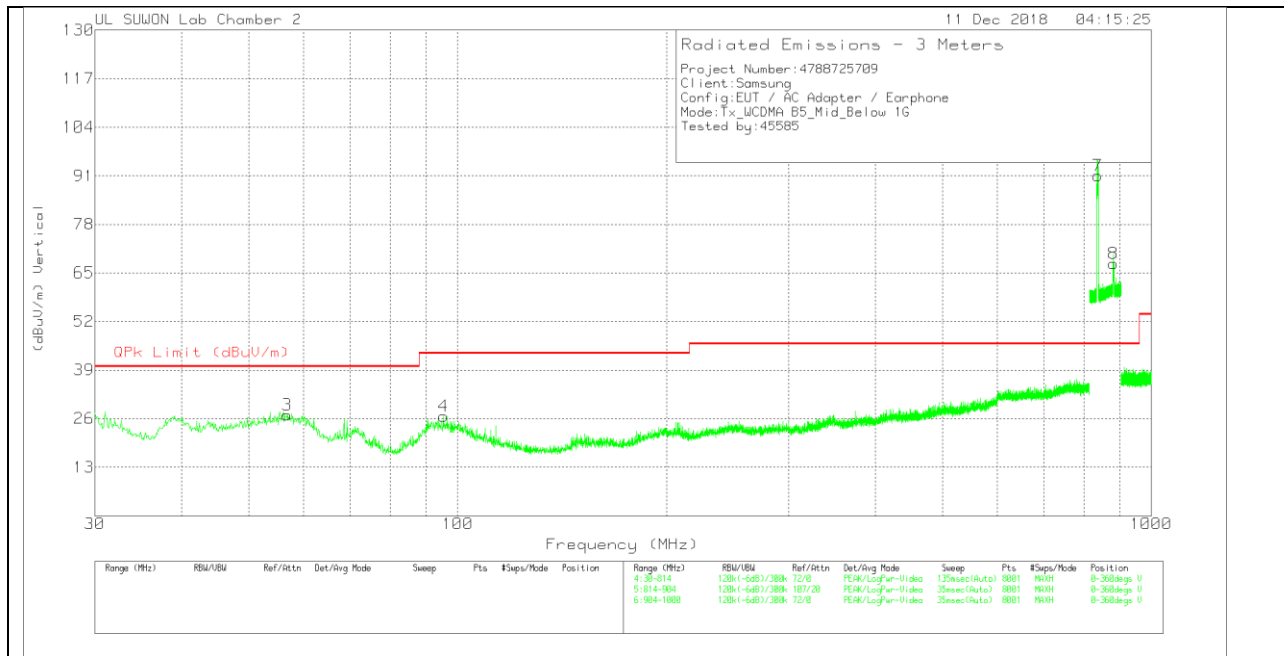
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.6MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

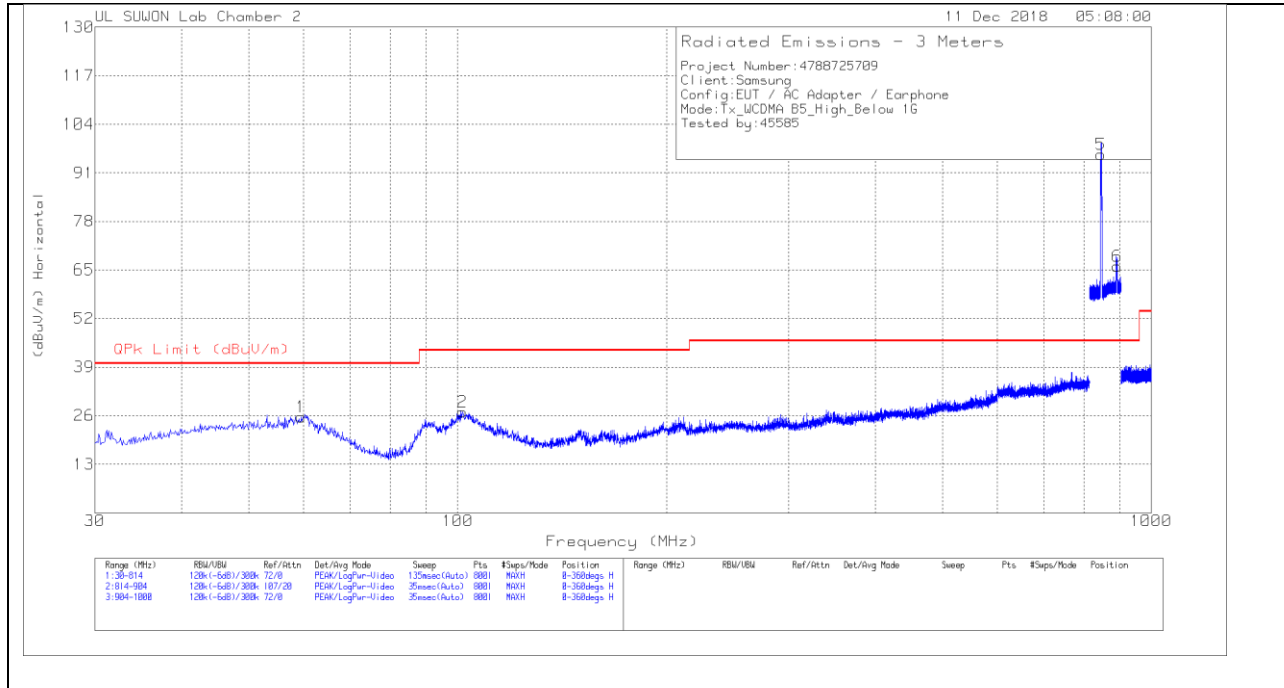
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.576	8.06	Pk	18.4	.8	27.26	40	-12.74	0-360	400	H
2	103.598	8.27	Pk	17.7	1.1	27.07	43.52	-16.45	0-360	300	H
5	836.8038	66.63	Pk	27.1	3.2	96.93	46.02	50.91	0-360	100	H
6	881.815	35.78	Pk	28	3.2	66.98	46.02	20.96	0-360	100	H
3	56.754	7.14	Pk	19	.8	26.94	40	-13.06	0-360	300	V
4	95.366	8.32	Pk	17.3	1.1	26.72	43.52	-16.8	0-360	100	V
7	836.5563	60.89	Pk	27.1	3.1	91.09	46.02	45.07	0-360	100	V
8	881.8488	36.31	Pk	28	3.2	67.51	46.02	21.49	0-360	100	V

Pk - Peak detector

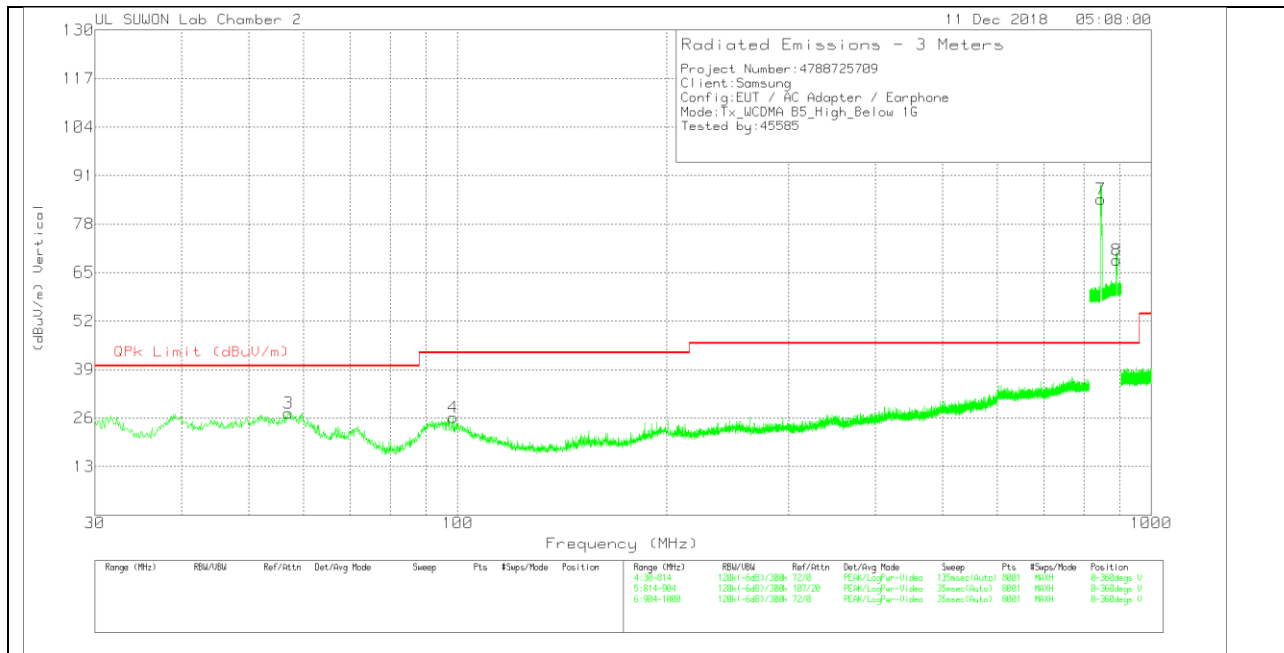
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

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	59.498	6.2	Pk	18.6	.8	25.6	40	-14.4	0-360	100	H
2	101.638	8.05	Pk	17.8	1.1	26.95	43.52	-16.57	0-360	300	H
5	846.4338	65.44	Pk	27.3	3.2	95.94	46.02	49.92	0-360	100	H
6	892.4125	34.72	Pk	28	3.3	66.02	46.02	20	0-360	100	H
3	57.048	7.53	Pk	19	.8	27.33	40	-12.67	0-360	100	V
4	98.502	7.3	Pk	17.7	1.1	26.1	43.52	-17.42	0-360	100	V
7	845.7025	54.18	Pk	27.3	3.2	84.68	46.02	38.66	0-360	100	V
8	891.4113	37.03	Pk	28	3.3	68.33	46.02	22.31	0-360	100	V

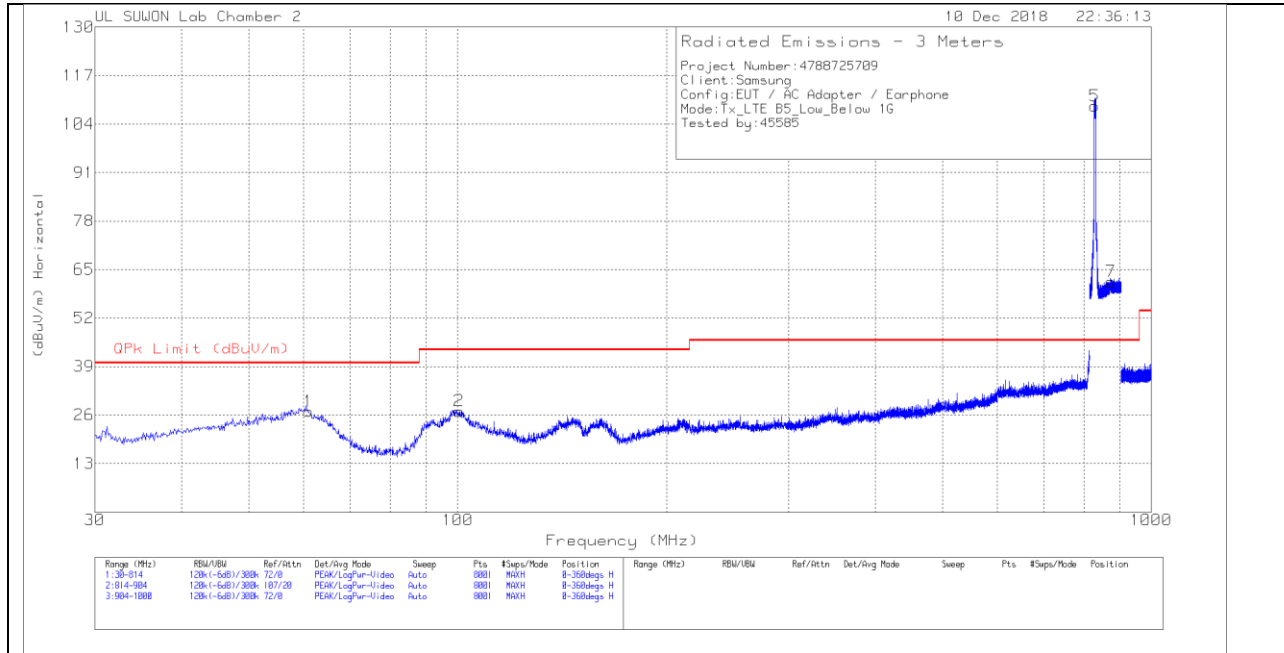
Pk - Peak detector

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

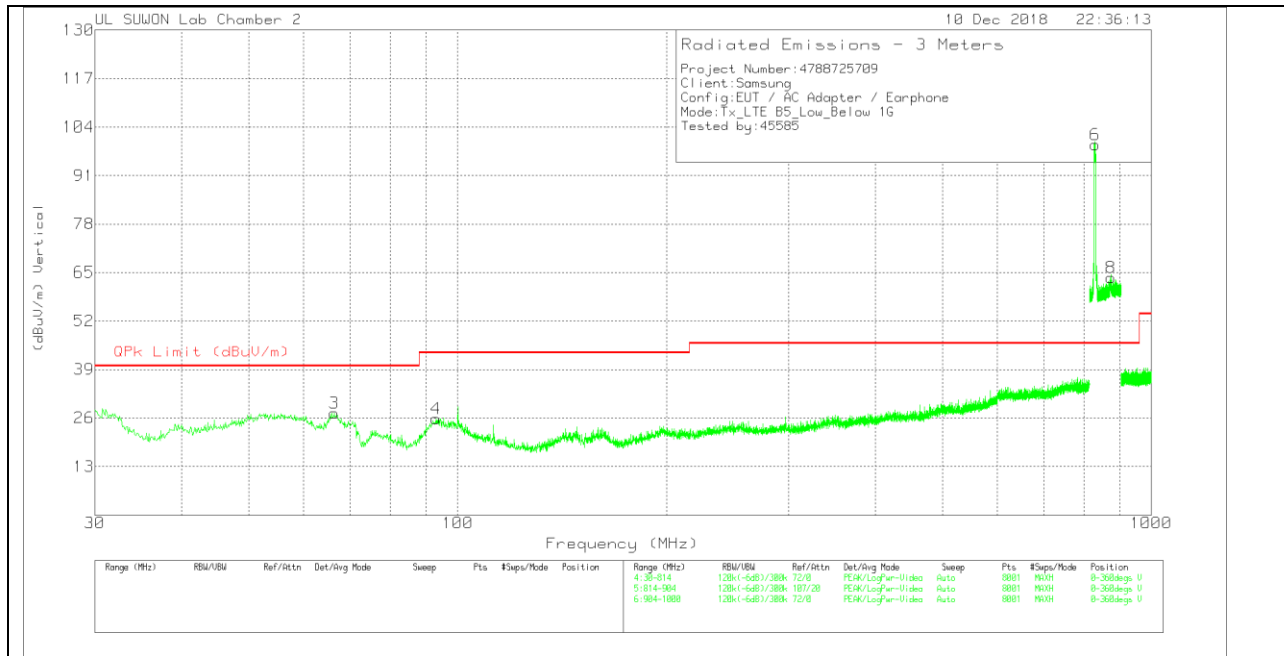
4.9. Below 1 GHz in the LTE Band 5

LOW CHANNEL(870.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

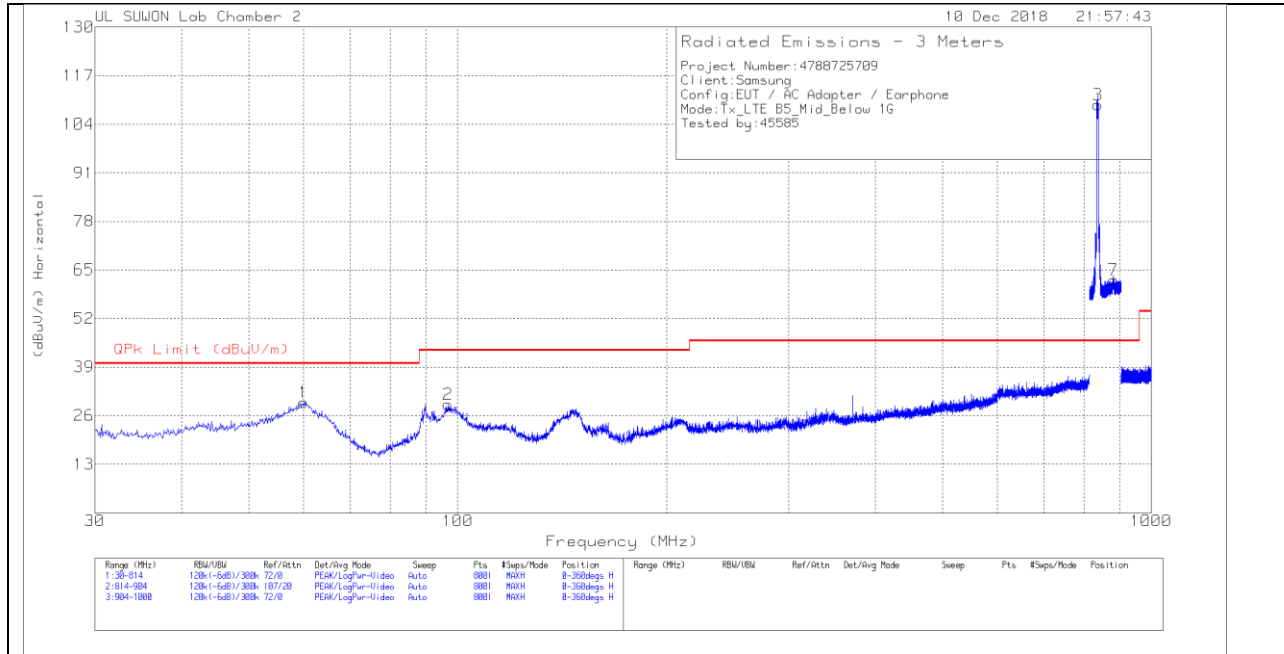
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.968	7.92	Pk	18.3	.8	27.02	40	-12.98	0-360	400	H
2	100.462	8.27	Pk	17.7	1.1	27.07	43.52	-16.45	0-360	200	H
5	829.12	78.71	Pk	27	3.1	108.81	46.02	62.79	0-360	100	H
7	874.1763	30.51	Pk	28	3.2	61.71	46.02	15.69	0-360	100	H
3	66.456	9.67	Pk	16.8	.9	27.37	40	-12.63	0-360	100	V
4	93.014	8.13	Pk	16.7	1	25.83	43.52	-17.69	0-360	100	V
6	829.5925	69.02	Pk	27.1	3.1	99.22	46.02	53.2	0-360	200	V
8	874.12	32.48	Pk	28	3.2	63.68	46.02	17.66	0-360	100	V

Pk - Peak detector

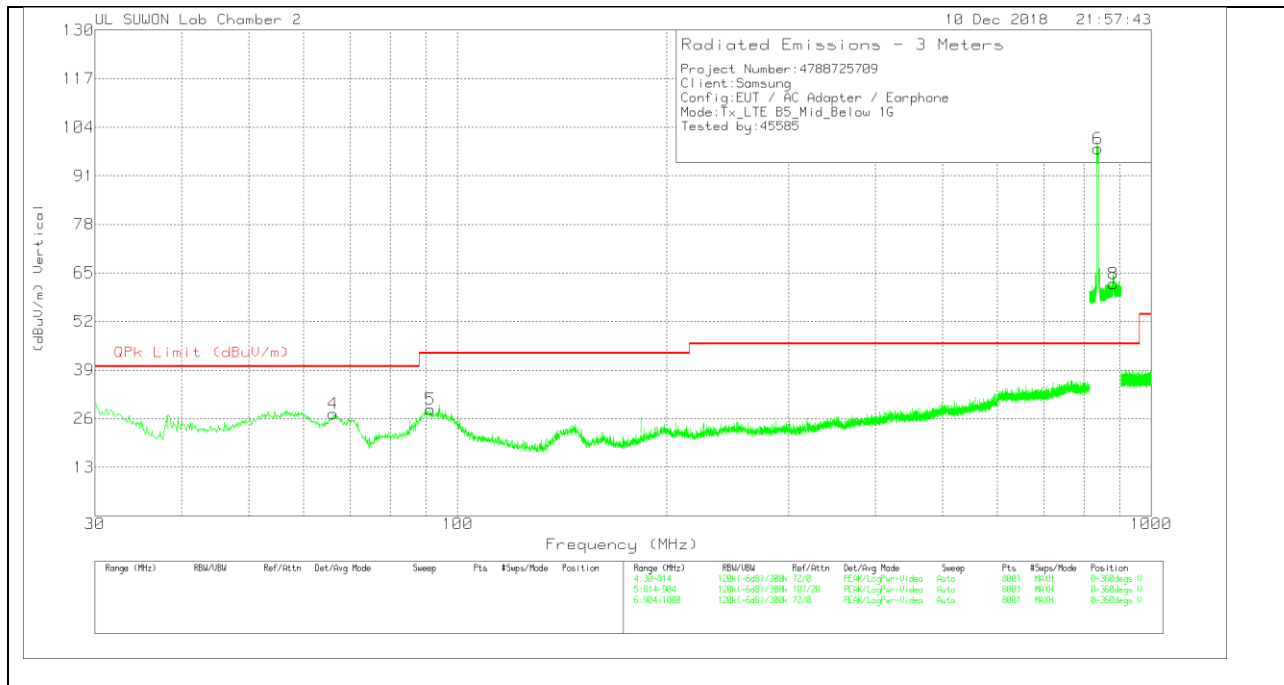
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(881.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

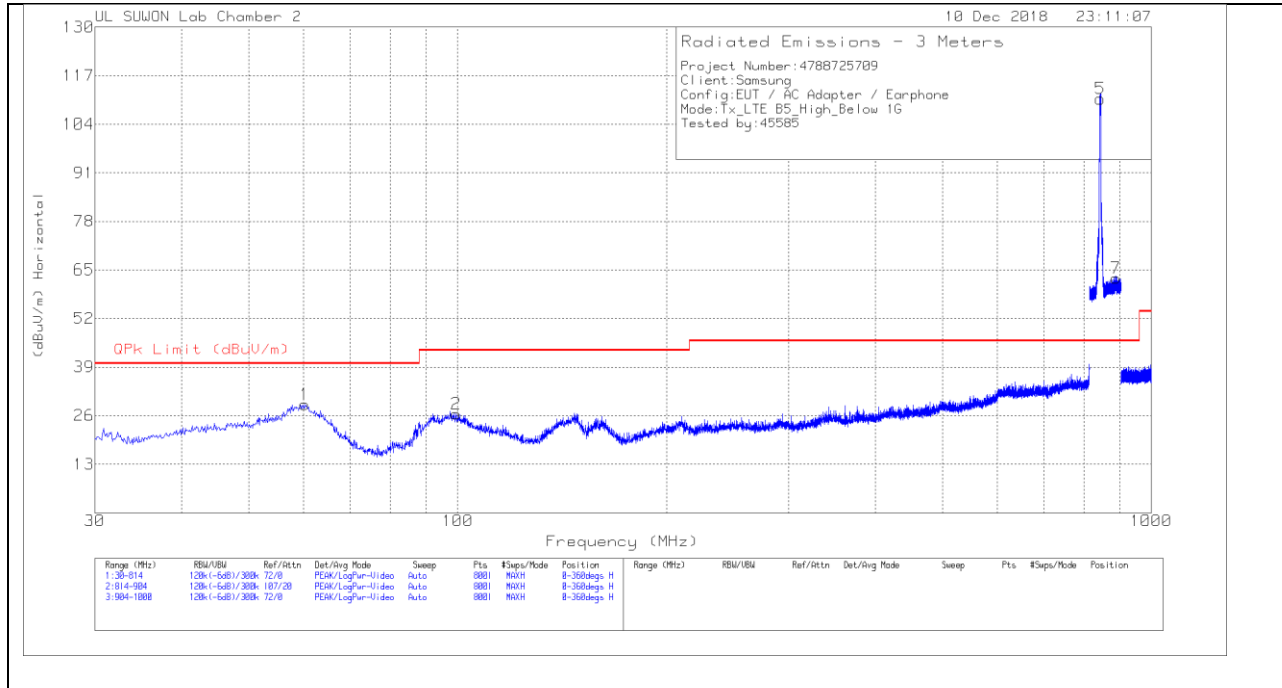
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	59.988	10.2	Pk	18.5	.8	29.5	40	-10.5	0-360	400	H
2	96.934	10.58	Pk	17.4	1	28.98	43.52	-14.54	0-360	300	H
3	836.725	79.07	Pk	27.1	3.1	109.27	46.02	63.25	0-360	100	H
7	881.95	31.02	Pk	28	3.2	62.22	46.02	16.2	0-360	200	H
4	66.162	9.52	Pk	16.9	.9	27.32	40	-12.68	0-360	100	V
5	91.446	11.24	Pk	16.2	1.1	28.54	43.52	-14.98	0-360	100	V
6	836.815	67.93	Pk	27.1	3.2	98.23	46.02	52.21	0-360	200	V
8	881.7025	31	Pk	28	3.2	62.2	46.02	16.18	0-360	100	V

Pk - Peak detector

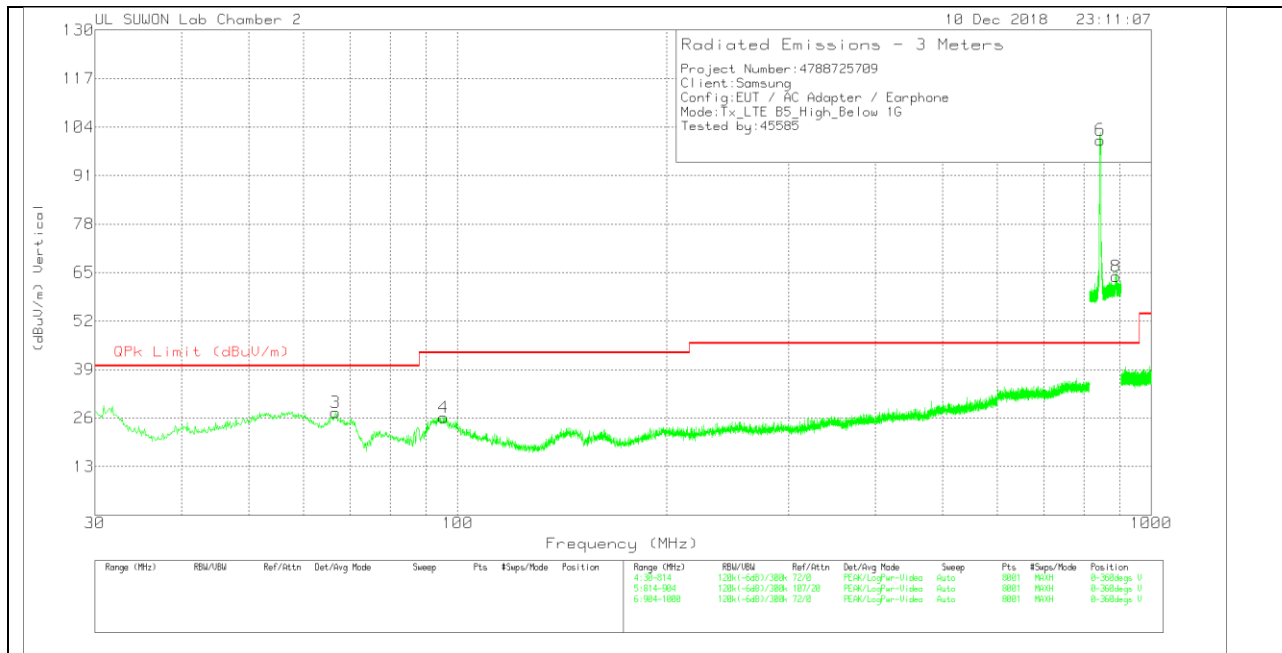
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

HIGH CHANNEL(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	60.184	9.55	Pk	18.5	.9	28.95	40	-11.05	0-360	400	H
2	99.482	7.62	Pk	17.7	1.1	26.42	43.52	-17.1	0-360	300	H
5	844.3188	80.4	Pk	27.2	3.2	110.8	46.02	64.78	0-360	100	H
7	888.835	31.64	Pk	28	3.2	62.84	46.02	16.82	0-360	100	H
3	66.652	10.03	Pk	16.7	.8	27.53	40	-12.47	0-360	100	V
4	95.366	7.77	Pk	17.3	1.1	26.17	43.52	-17.35	0-360	300	V
6	844.78	70.14	Pk	27.2	3.2	100.54	46.02	54.52	0-360	100	V
8	889.3413	32.66	Pk	28.1	3.2	63.96	46.02	17.94	0-360	100	V

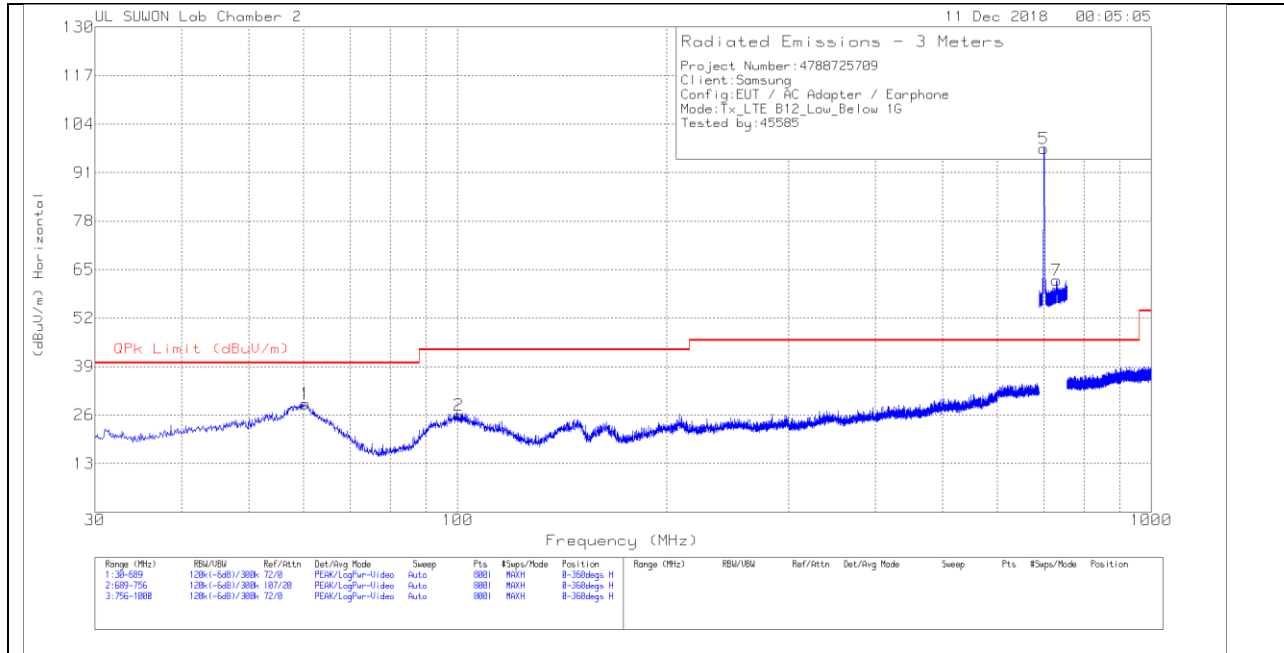
Pk - Peak detector

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

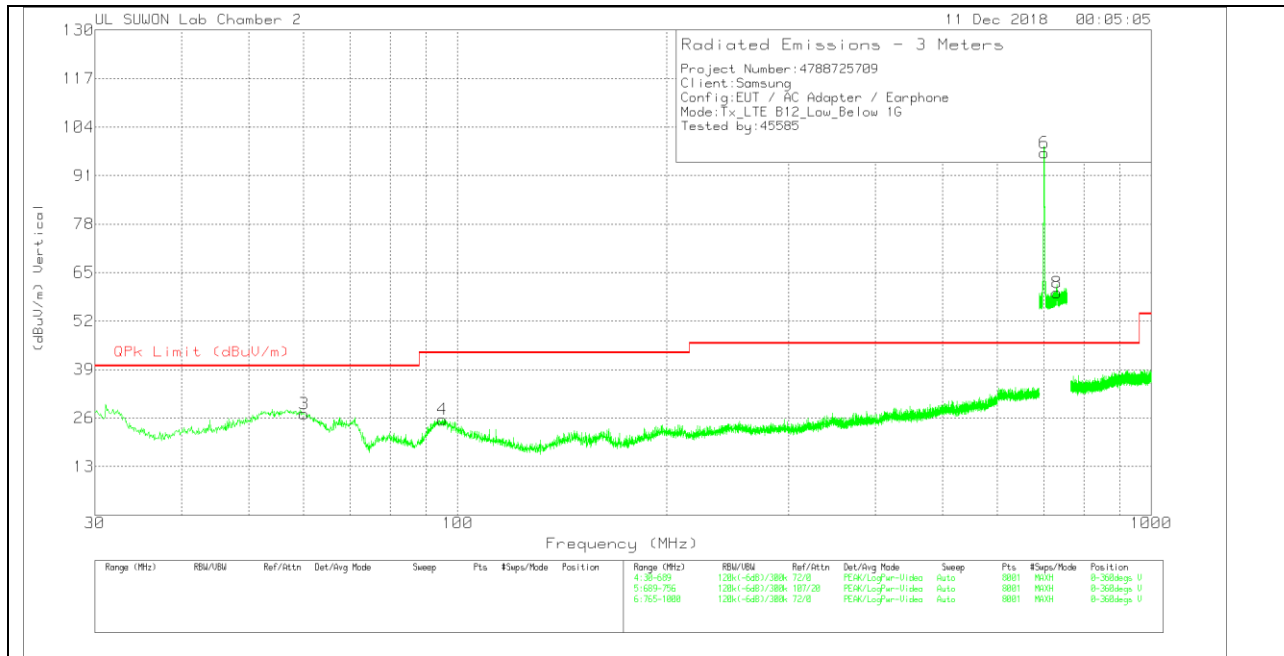
4.10. Below 1 GHz in the LTE Band 12

LOW CHANNEL(730.5MHz)

HORIZONTAL PEAK PLOT



VERTICAL PEAK PLOT



DATA

Trace Markers

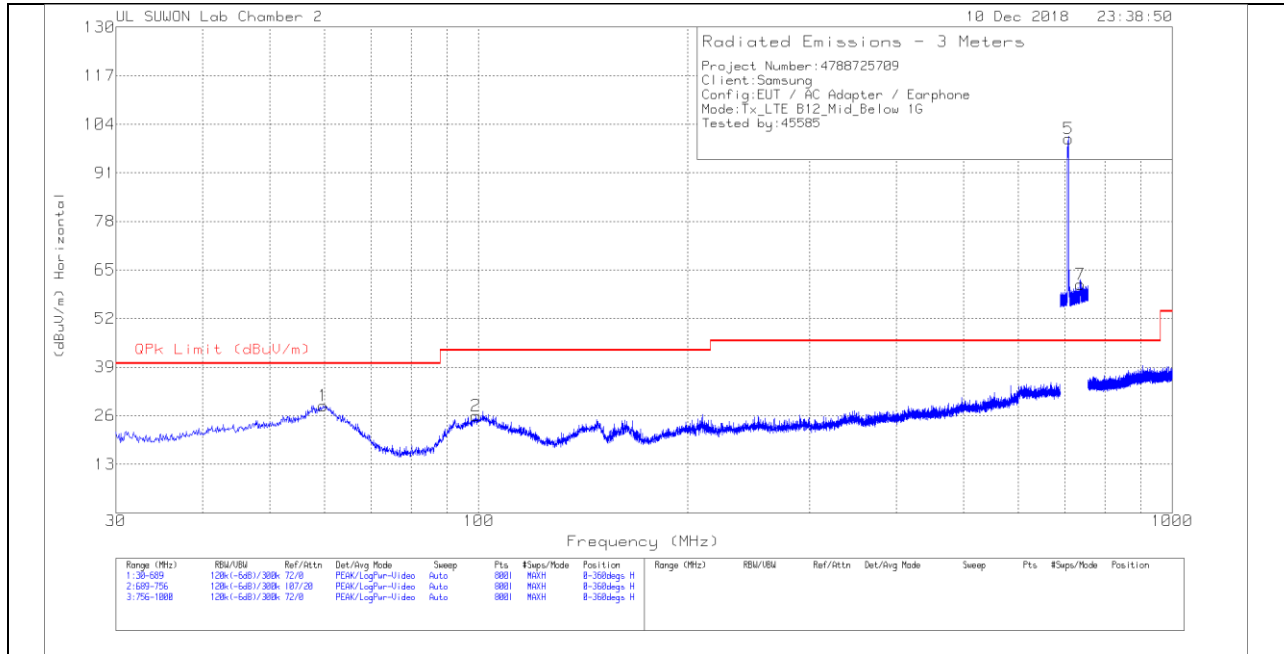
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Bypass_Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.314	9.86	Pk	18.4	.8	29.06	40	-10.94	0-360	400	H
2	100.4306	7.18	Pk	17.7	1.1	25.98	43.52	-17.54	0-360	300	H
5	700.2644	68.89	Pk	25.6	2.9	97.39	46.02	51.37	0-360	100	H
7	730.3139	32.97	Pk	26.2	2.9	62.07	46.02	16.05	0-360	100	H
3	60.0669	7.81	Pk	18.5	.8	27.11	40	-12.89	0-360	300	V
4	95.0763	7.49	Pk	17.2	1	25.69	43.52	-17.83	0-360	100	V
6	700.859	68.66	Pk	25.6	2.9	97.16	46.02	51.14	0-360	100	V
8	730.4814	30.54	Pk	26.2	2.9	59.64	46.02	13.62	0-360	200	V

Pk - Peak detector

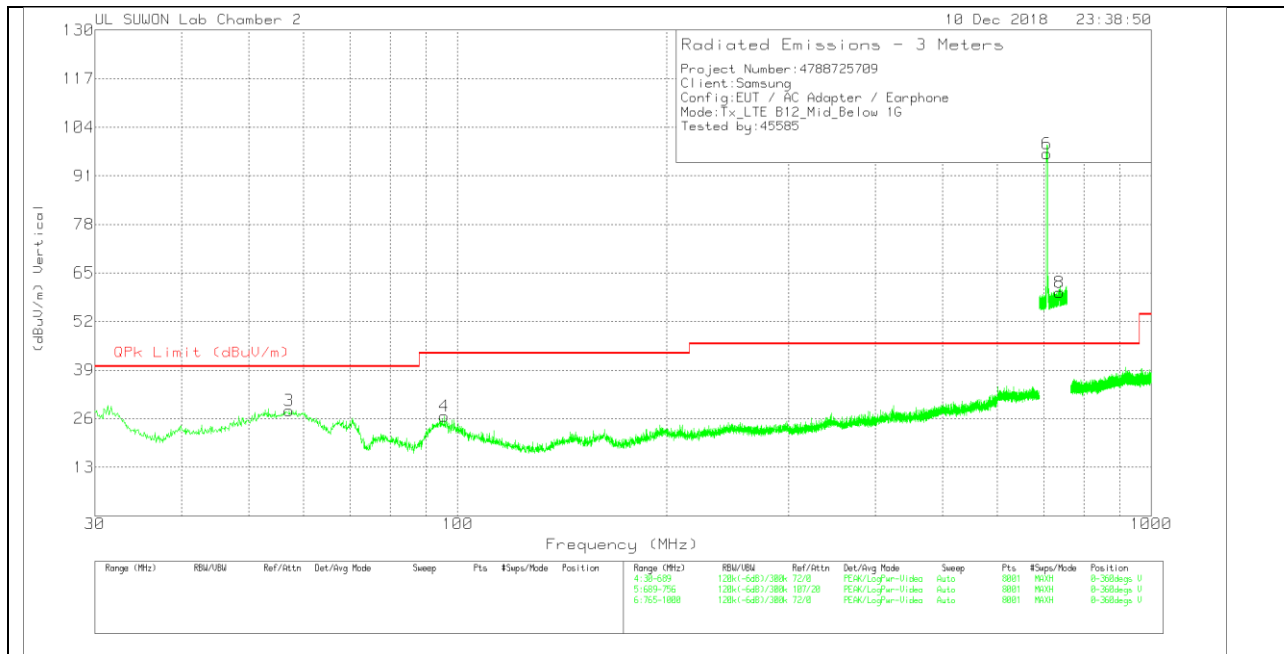
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

MID CHANNEL(737.5MHz)

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	59.7374	9.24	Pk	18.6	.8	28.64	40	-11.36	0-360	400	H
2	99.195	7.1	Pk	17.7	1.1	25.9	43.52	-17.62	0-360	300	H
5	708.0615	71.72	Pk	25.5	2.9	100.12	46.02	54.1	0-360	100	H
7	737.5918	31.81	Pk	26.4	2.9	61.11	46.02	15.09	0-360	100	H
3	57.1838	8.41	Pk	19	.8	28.21	40	-11.79	0-360	100	V
4	95.6529	8.4	Pk	17.3	1	26.7	43.52	-16.82	0-360	100	V
6	706.822	68.53	Pk	25.5	2.9	96.93	46.02	50.91	0-360	100	V
8	737.4829	30.5	Pk	26.4	2.9	59.8	46.02	13.78	0-360	200	V

Pk - Peak detector

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