



# CERTIFICATION TEST REPORT

**Report Number.** : 4790632299-E1V3

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

**Model** : SM-A546V

**FCC ID** : A3LSMA546V

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

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

**Date Of Issue:**

2023-01-26

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2023-01-17	Initial issue	Dexter(Hyunsik) Yun
V2	2023-01-25	Updated to address TCB's question	Dexter(Hyunsik) Yun
V3	2023-01-26	Updated to address TCB's question	Dexter(Hyunsik) Yun

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SAMSUNG ELECTRONICS CO., LTD.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax and NFC.  
**MODEL NUMBER:** SM-A546V  
**SERIAL NUMBER:** R3CTB0J0Y8F (RADIATED)  
**DATE TESTED:** 2022-12-09 ~ 2023-01-17;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15B	Complies

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For  
UL Korea, Ltd. By:



Seokhwan Hong  
Suwon Lab Engineer  
UL Korea, Ltd.

Tested By:



Dexter(Hyunsik) Yun  
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	
<input type="checkbox"/>	Chamber 1(3m semi-anechoic chamber)
<input checked="" type="checkbox"/>	Chamber 2(3m semi-anechoic chamber)
<input type="checkbox"/>	Chamber 3(3m semi-anechoic chamber)
<input type="checkbox"/>	Chamber 4(3m Full-anechoic chamber)
<input type="checkbox"/>	Chamber 5(3m Full-anechoic chamber)

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

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

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

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 28.9 \text{ dBuV/m} &= 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} \end{aligned}$$

$$\begin{aligned} \text{Corrected Reading (dBuV)} &= \text{Meter Reading (dBuV)} + \text{External Cable (dB)} + \\ &\text{Cableloss (dB)} \\ 46.62 \text{ dBuV} + 9.8 \text{ dB} + 0.1 \text{ dB} &= 56.52 \text{ dBuV} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.80 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.92 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.06 dB

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

### 4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax and NFC.  
This test report addresses the WWAN receiver mode.

### 5.2. 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)
NR BAND 5	Communicating with Call simulator(CMW500)

### 5.3. WORST-CASE ORIENTATION AND MODE

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

i. Worst Axis Condition

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

#### **WCDMA Band 5**

WCDMA Band 5(Rx Frequency range: 871.4-891.6 MHz) is covered by GSM 850(Rx Frequency range: 869-894 MHz) due to same frequency range. Therefore, only Mid channel was checked.

#### **5G NR Band n5**

5G NR BAND n5 (Rx Frequency range: 869-894 MHz) is covered by GSM 850(Rx Frequency range: 869-894 MHz) due to same frequency range.

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



## 5.4. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37T7WW84Y9SEA	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02116A	N/A

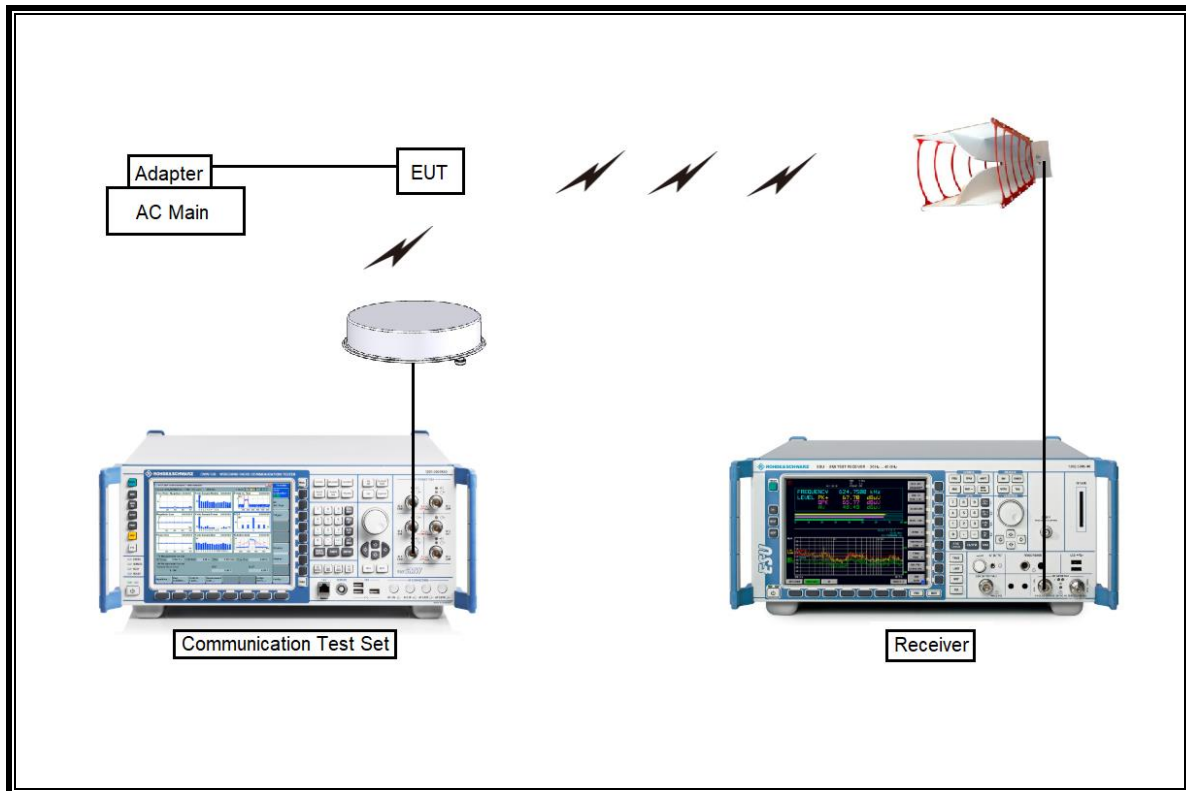
### I/O CABLE

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

### TEST SETUP

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

### SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



## 6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	2023-02-08
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2023-10-13
Preamplifier	ETS	3116C-PA	00168841	2023-08-04
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Communications Test Set	R&S	CMW500	169797	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	341282	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2023-08-01
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2023-08-01
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2023-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2023-07-29
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2023-08-01
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2023-08-01
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2023-08-01
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2023-08-01
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2023-08-01
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2023-08-01
Attenuator	PASTERNAK	PE7087-10	A009	2023-08-03
Attenuator	PASTERNAK	PE7087-10	A001	2023-08-03
Attenuator	PASTERNAK	PE7087-10	A008	2023-08-03
Attenuator	PASTERNAK	PE7004-10	2	2023-08-01
Attenuator	PASTERNAK	PE7395-10	A011	2023-08-03
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2023-08-01
LISN	R&S	ENV-216	101836	2023-08-04
LISN	R&S	ENV-216	101837	2023-08-04
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

## 7. APPLICABLE LIMITS AND TEST RESULTS

### 7.1. RADIATED EMISSIONS

#### TEST PROCEDURE

ANSI C63.4-2014

#### LIMIT

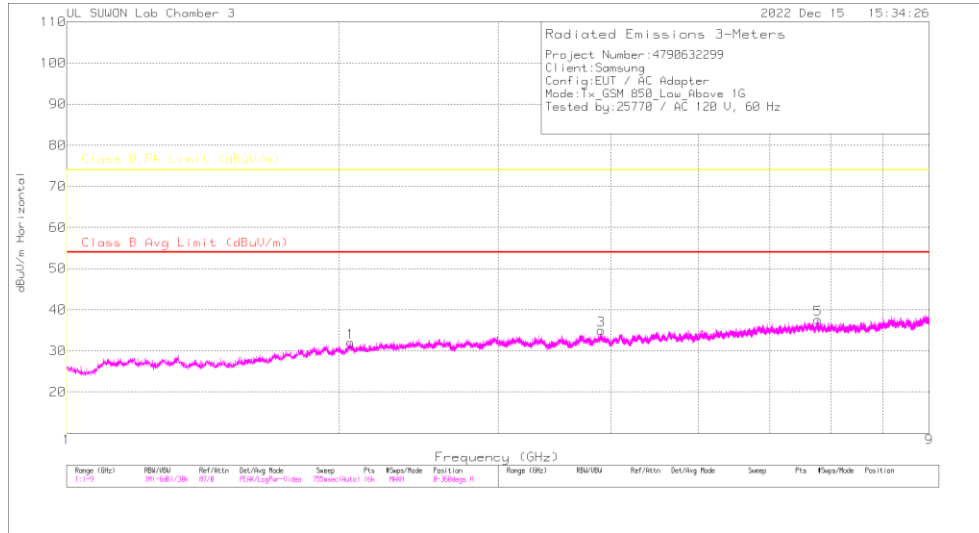
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB $\mu$ 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.	

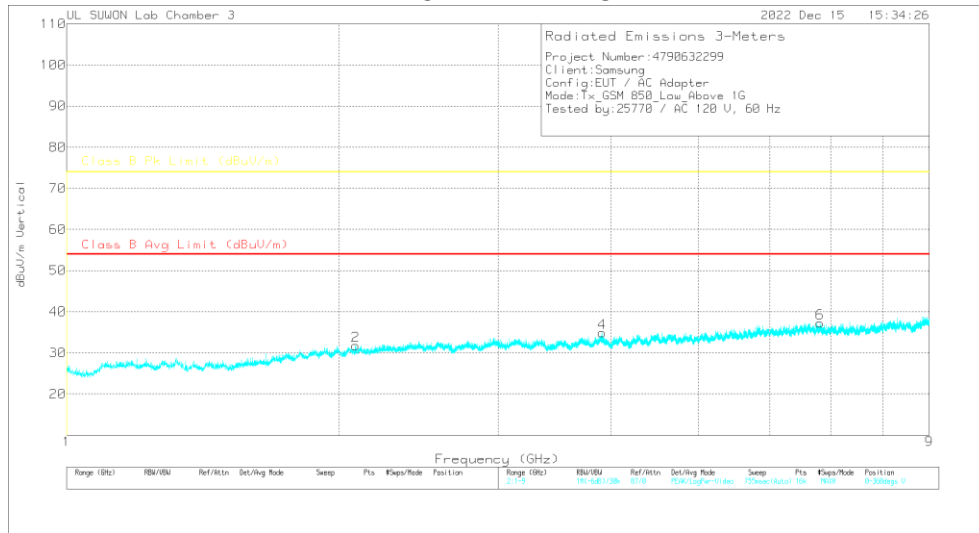
### 7.1.1. Above 1 GHz in the GSM850

#### LOW CHANNEL(869.2 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

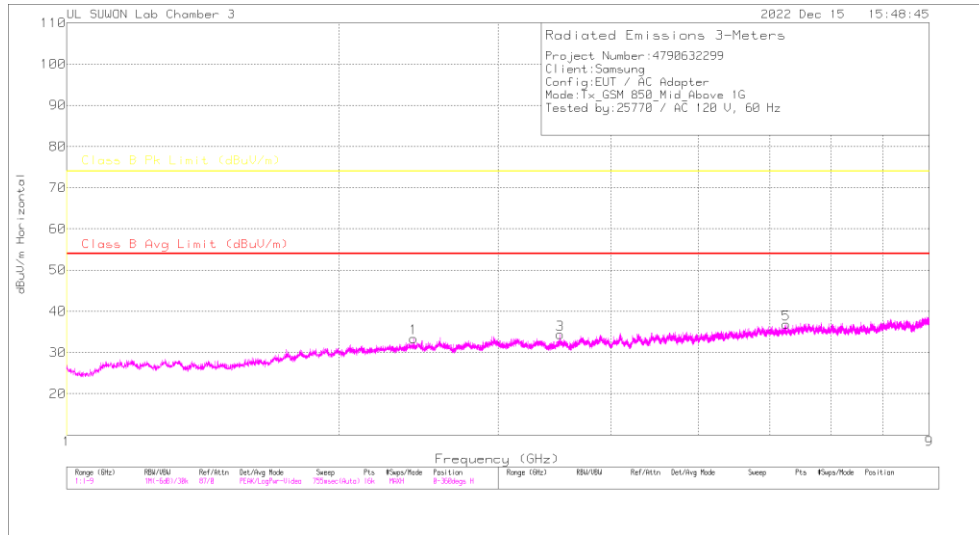
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.06	42.34	Pk	31.9	-34.7	.6	40.14	-	-	74	-33.86	0	100	H
2.06	29.47	Ca	31.9	-34.7	.6	27.27	54	-26.73	-	-	0	100	H
2.0875	41.4	Pk	32	-34.6	.6	39.4	-	-	74	-34.6	0	100	V
2.0875	28.88	Ca	32	-34.6	.6	26.88	54	-27.12	-	-	0	100	V
3.9005	39.78	Pk	33.9	-32.2	.5	41.98	-	-	74	-32.02	0	100	H
3.9005	27.55	Ca	33.9	-32.2	.5	29.75	54	-24.25	-	-	0	100	H
3.9105	40.35	Pk	33.9	-32.1	.6	42.75	-	-	74	-31.25	0	100	V
3.9105	27.45	Ca	33.9	-32.1	.6	29.85	54	-24.15	-	-	0	100	V
6.7755	34.69	Pk	36.3	-27.1	.5	44.39	-	-	74	-29.61	0	100	H
6.7755	22.37	Ca	36.3	-27.1	.5	32.07	54	-21.93	-	-	0	100	H
6.8185	35.47	Pk	36.3	-26.9	.5	45.37	-	-	74	-28.63	0	100	V
6.8185	22.63	Ca	36.3	-26.9	.5	32.53	54	-21.47	-	-	0	100	V

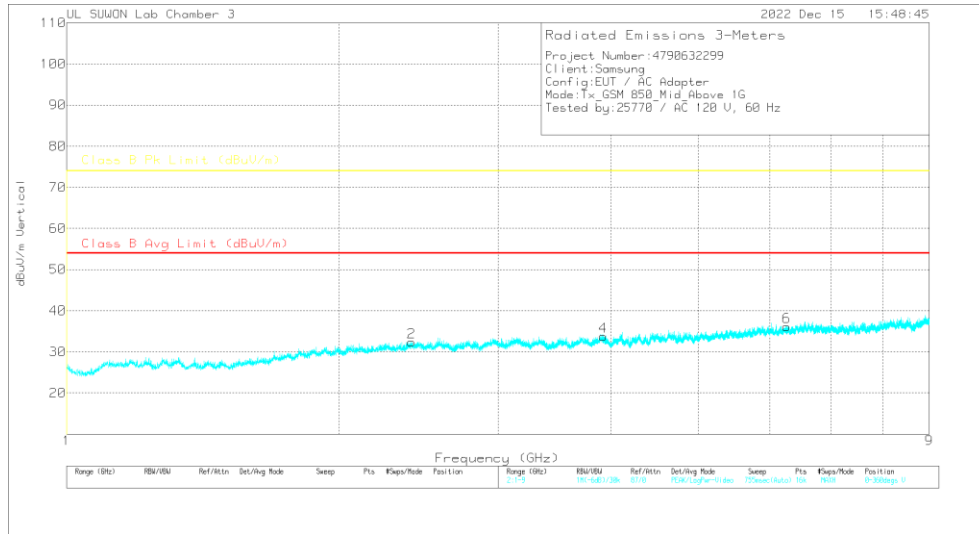
Pk - Peak detector  
 Ca - CISPR average detection

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

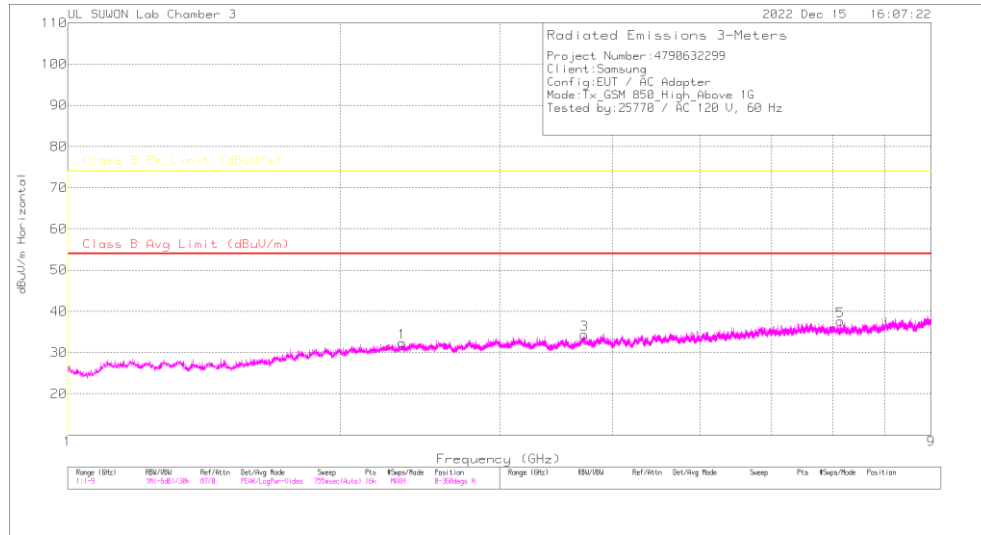
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.4205	41.97	Pk	32.8	-34.5	.7	40.97	-	-	74	-33.03	0	100	H
2.4205	28.89	Ca	32.8	-34.5	.7	27.89	54	-26.11	-	-	0	100	H
2.4075	42.65	Pk	32.8	-34.5	.7	41.65	-	-	74	-32.35	0	100	V
2.4075	29.12	Ca	32.8	-34.5	.7	28.12	54	-25.88	-	-	0	100	V
3.514	40.45	Pk	33.3	-33	.6	41.35	-	-	74	-32.65	0	100	H
3.514	28.06	Ca	33.3	-33	.6	28.96	54	-25.04	-	-	0	100	H
3.923	39.33	Pk	33.9	-32.1	.5	41.63	-	-	74	-32.37	0	100	V
3.923	27.01	Ca	33.9	-32.1	.5	29.31	54	-24.69	-	-	0	100	V
6.2525	36.36	Pk	36.1	-28.4	.5	44.56	-	-	74	-29.44	0	100	H
6.2525	23.27	Ca	36.1	-28.4	.5	31.47	54	-22.53	-	-	0	100	H
6.2635	35.57	Pk	36.1	-28.4	.5	43.77	-	-	74	-30.23	0	100	V
6.2635	23.3	Ca	36.1	-28.4	.5	31.5	54	-22.5	-	-	0	100	V

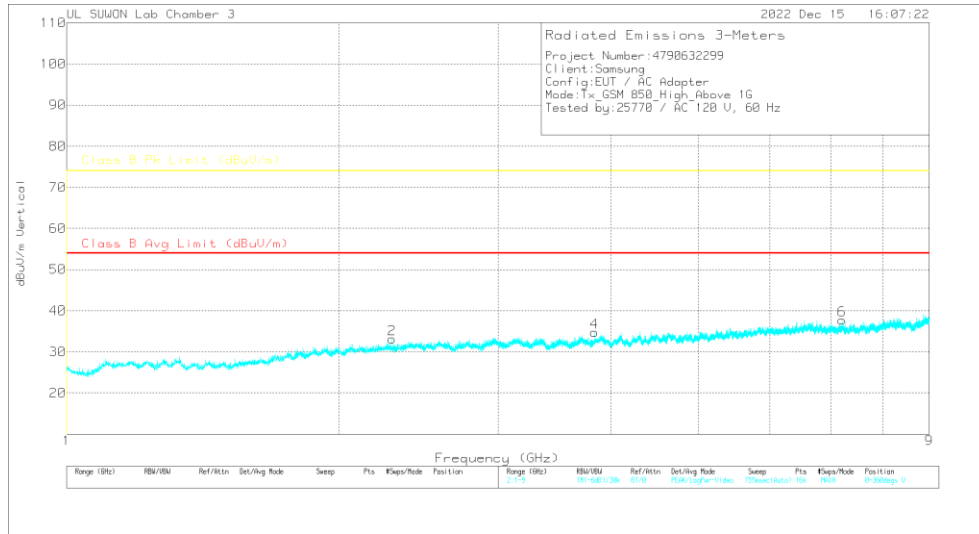
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(893.8 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

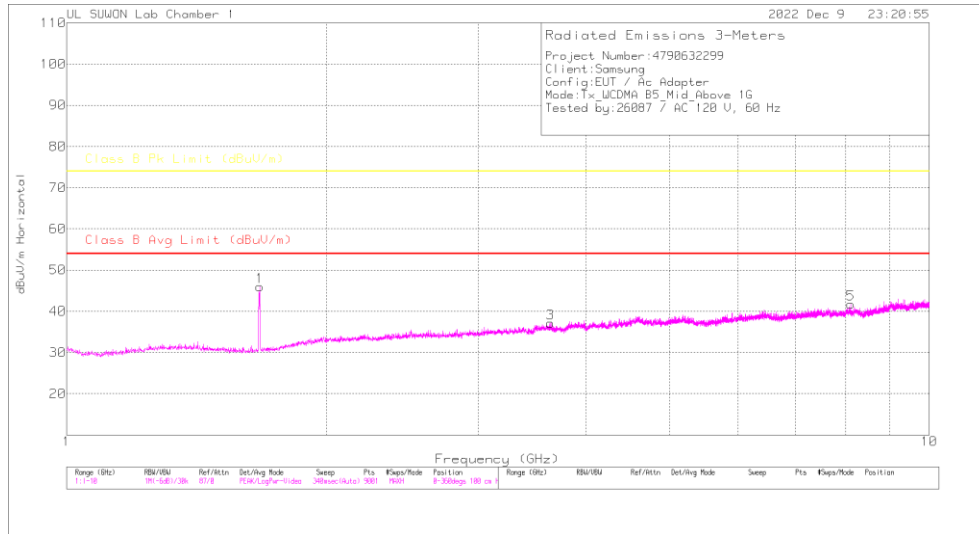
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.3425	41.4	Pk	32.6	-34.4	.7	40.3	-	-	74	-33.7	0	100	H
2.3425	28.67	Ca	32.6	-34.4	.7	27.57	54	-26.43	-	-	0	100	H
2.29	40.79	Pk	32.4	-34.3	.7	39.59	-	-	74	-34.41	0	100	V
2.29	28.7	Ca	32.4	-34.3	.7	27.5	54	-26.5	-	-	0	100	V
3.7245	39.53	Pk	33.7	-32.4	.6	41.43	-	-	74	-32.57	0	100	H
3.7245	27.45	Ca	33.7	-32.4	.6	29.35	54	-24.65	-	-	0	100	H
3.8355	39.35	Pk	33.9	-32.4	.5	41.35	-	-	74	-32.65	0	100	V
3.8355	27	Ca	33.9	-32.4	.5	29	54	-25	-	-	0	100	V
7.139	33.37	Pk	36.1	-26.3	.5	43.67	-	-	74	-30.33	0	100	H
7.139	21.41	Ca	36.1	-26.3	.5	31.71	54	-22.29	-	-	0	100	H
7.209	34.63	Pk	36.1	-25.8	.5	45.43	-	-	74	-28.57	0	100	V
7.209	21.63	Ca	36.1	-25.8	.5	32.43	54	-21.57	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

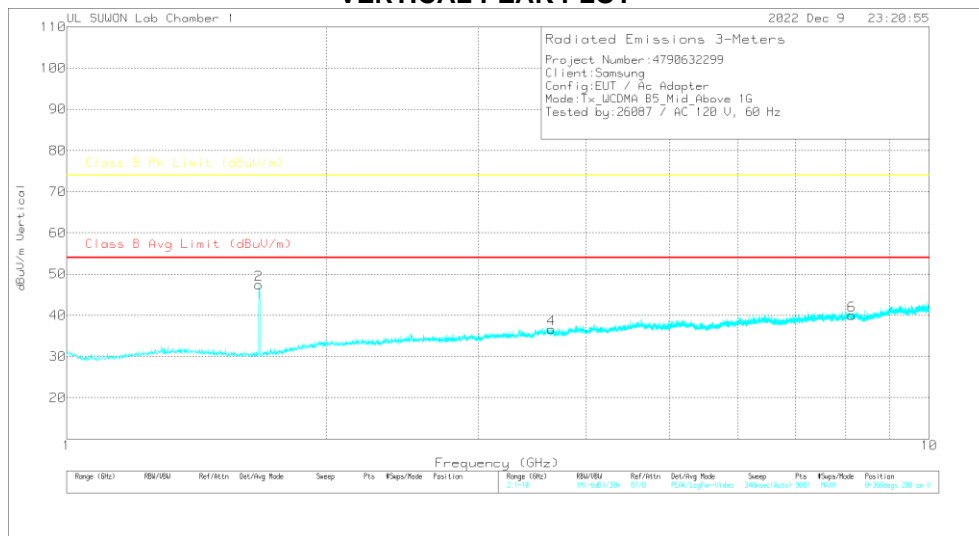
### 7.1.2. Above 1 GHz in the WCDMA Band 5

#### MID CHANNEL(881.6 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Radiated Emissions

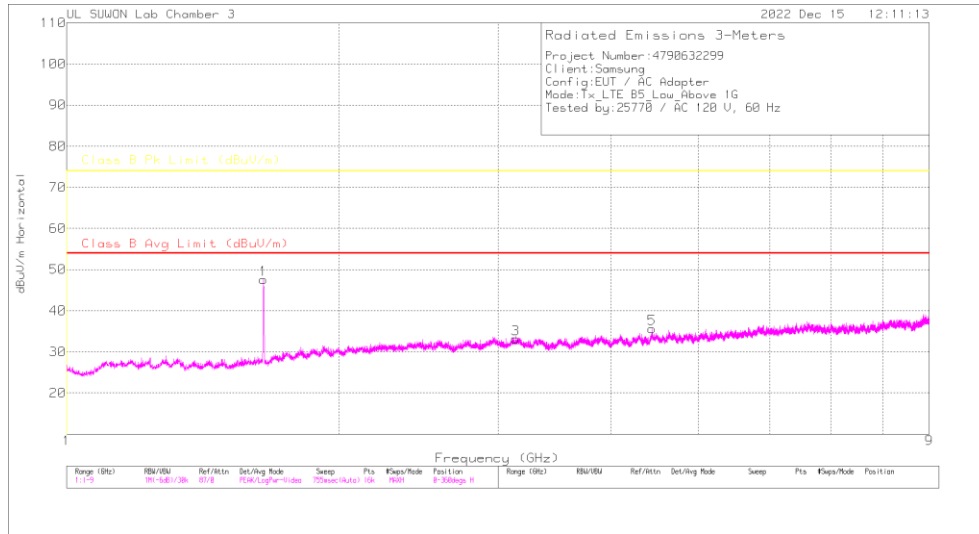
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	1-18GHz(dB)	1G HPF[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.67164	60.87	Pk	28.6	-39	.8	51.27	-	-	74	-22.73	191	115	H
1.67164	52.33	Ca	28.6	-39	.8	42.73	54	-11.27	-	-	191	115	H
1.6716	60.79	Pk	28.6	-39	.8	51.19	-	-	74	-22.81	178	111	V
1.6716	52.66	Ca	28.6	-39	.8	43.06	54	-10.94	-	-	178	111	V
3.636	44.8	Pk	33.6	-35.1	.6	43.9	-	-	74	-30.1	0	100	H
3.636	32.83	Ca	33.6	-35.1	.6	31.93	54	-22.07	-	-	0	100	H
3.65	44.47	Pk	33.6	-35	.6	43.67	-	-	74	-30.33	0	100	V
3.65	32.64	Ca	33.6	-35	.6	31.84	54	-22.16	-	-	0	100	V
8.115	40.02	Pk	36.2	-29.5	.5	47.22	-	-	74	-26.78	0	100	H
8.115	28.4	Ca	36.2	-29.5	.5	35.6	54	-18.4	-	-	0	100	H
8.129	40.75	Pk	36.2	-29.5	.4	47.85	-	-	74	-26.15	0	100	V
8.129	28.34	Ca	36.2	-29.5	.4	35.44	54	-18.56	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

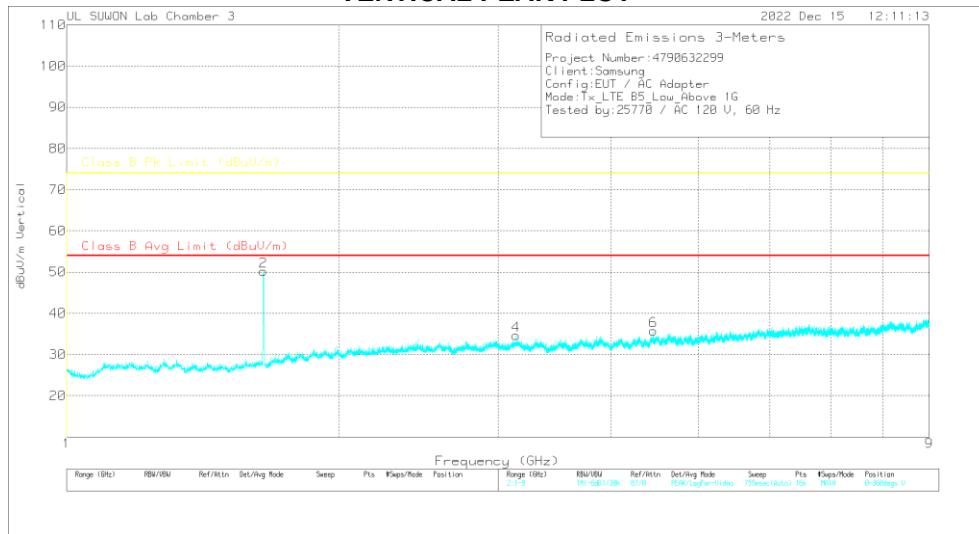
### 7.1.3. Above 1 GHz in the LTE Band 5

#### LOW CHANNEL(874 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Radiated Emissions

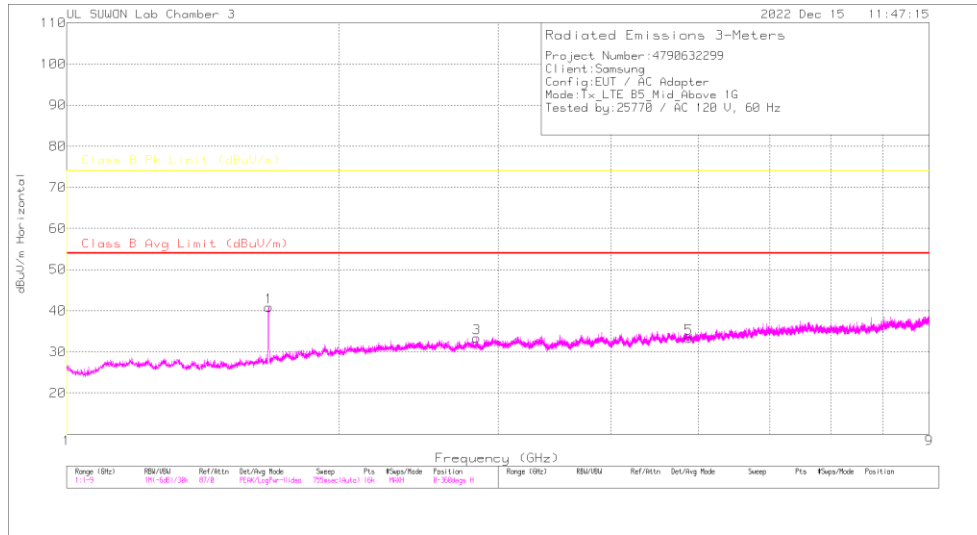
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.651	62.55	Pk	29.4	-35.3	.7	57.35	-	-	74	-16.65	263	100	H
1.651	50.44	Ca	29.4	-35.3	.7	45.24	54	-8.76	-	-	263	100	H
1.651	64.62	Pk	29.4	-35.3	.7	59.42	-	-	74	-14.58	277	101	V
1.651	53.82	Ca	29.4	-35.3	.7	48.62	54	-5.38	-	-	277	101	V
3.139	40.82	Pk	33.4	-33.4	.7	41.52	-	-	74	-32.48	0	100	H
3.139	28.49	Ca	33.4	-33.4	.7	29.19	54	-24.81	-	-	0	100	H
3.1425	41.07	Pk	33.4	-33.4	.7	41.77	-	-	74	-32.23	0	100	V
3.1425	28.49	Ca	33.4	-33.4	.7	29.19	54	-24.81	-	-	0	100	V
4.442	39.07	Pk	34.4	-31.2	.5	42.77	-	-	74	-31.23	0	100	H
4.442	26.51	Ca	34.4	-31.2	.5	30.21	54	-23.79	-	-	0	100	H
4.46	39.2	Pk	34.4	-31.1	.5	43	-	-	74	-31	0	100	V
4.46	26.14	Ca	34.4	-31.1	.5	29.94	54	-24.06	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

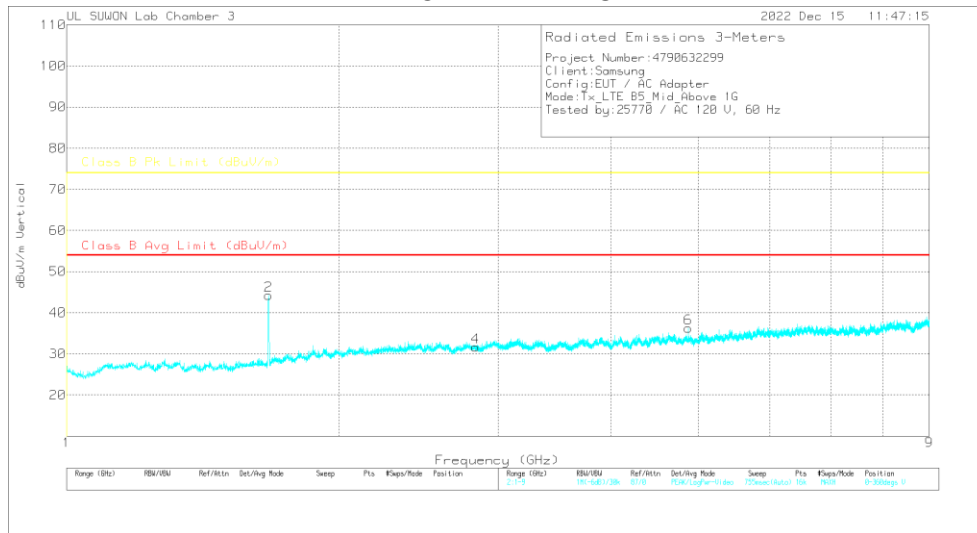


**MID CHANNEL(881.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

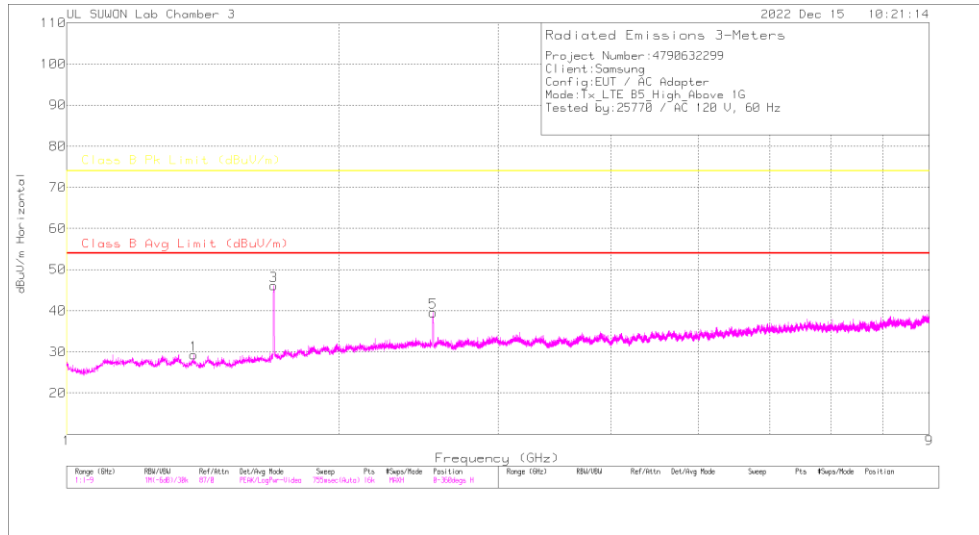
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.6735	53.81	Pk	29.7	-35.3	.7	48.91	-	-	74	-25.09	263	100	H
1.6735	44.44	Ca	29.7	-35.3	.7	39.54	54	-14.46	-	-	263	100	H
1.672	57.51	Pk	29.7	-35.3	.7	52.61	-	-	74	-21.39	274	117	V
1.672	48.31	Ca	29.7	-35.3	.7	43.41	54	-10.59	-	-	274	117	V
2.842	40.55	Pk	33.1	-34	.8	40.45	-	-	74	-33.55	0	100	H
2.842	28.24	Ca	33.1	-34	.8	28.14	54	-25.86	-	-	0	100	H
2.8355	41.32	Pk	33	-34.1	.7	40.92	-	-	74	-33.08	0	100	V
2.8355	28.38	Ca	33	-34.1	.7	27.98	54	-26.02	-	-	0	100	V
4.8785	38.63	Pk	34.7	-30.7	.5	43.13	-	-	74	-30.87	0	100	H
4.8785	25.48	Ca	34.7	-30.7	.5	29.98	54	-24.02	-	-	0	100	H
4.873	38.2	Pk	34.6	-30.7	.5	42.6	-	-	74	-31.4	0	100	V
4.873	25.41	Ca	34.6	-30.7	.5	29.81	54	-24.19	-	-	0	100	V

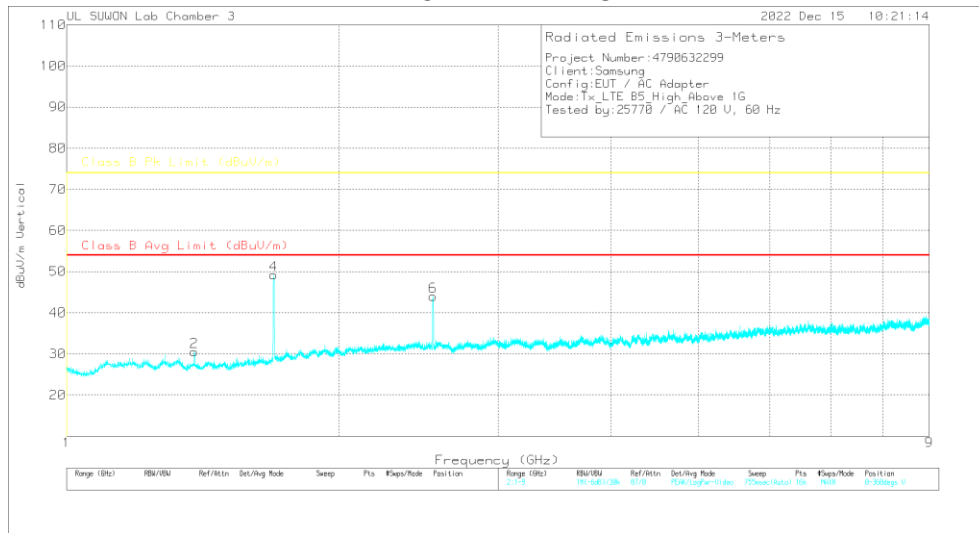
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(889 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

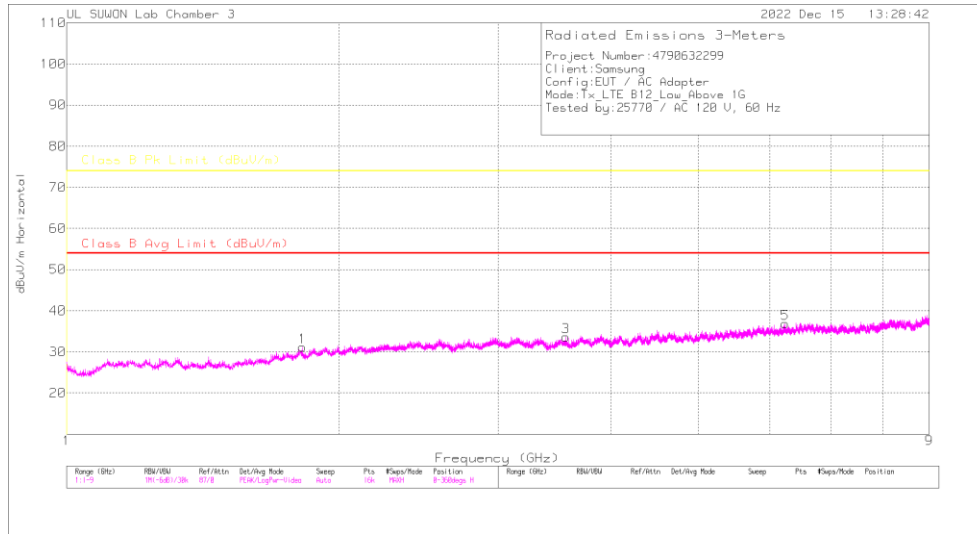
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.3815	42.8	Pk	28.5	-35.8	.7	36.2	-	-	74	-37.8	0	100	H
1.3815	30.36	Ca	28.5	-35.8	.7	23.76	54	-30.24	-	-	0	100	H
1.3845	42.51	Pk	28.5	-35.8	.7	35.91	-	-	74	-38.09	0	100	V
1.3845	30.35	Ca	28.5	-35.8	.7	23.75	54	-30.25	-	-	0	100	V
1.694	58.73	Pk	29.9	-35.2	.7	54.13	-	-	74	-19.87	269	245	H
1.694	48.63	Ca	29.9	-35.2	.7	44.03	54	-9.97	-	-	269	245	H
1.694	61.86	Pk	29.9	-35.2	.7	57.26	-	-	74	-16.74	273	110	V
1.694	52.05	Ca	29.9	-35.2	.7	47.45	54	-6.55	-	-	273	110	V
2.5415	49.94	Pk	32.9	-34.3	.7	49.24	-	-	74	-24.76	265	121	H
2.5415	38.57	Ca	32.9	-34.3	.7	37.87	54	-16.13	-	-	265	121	H
2.542	45.48	Pk	32.9	-34.3	.7	44.78	-	-	74	-29.22	205	171	V
2.542	33.78	Ca	32.9	-34.3	.7	33.08	54	-20.92	-	-	205	171	V

Pk - Peak detector  
 Ca - CISPR average detection

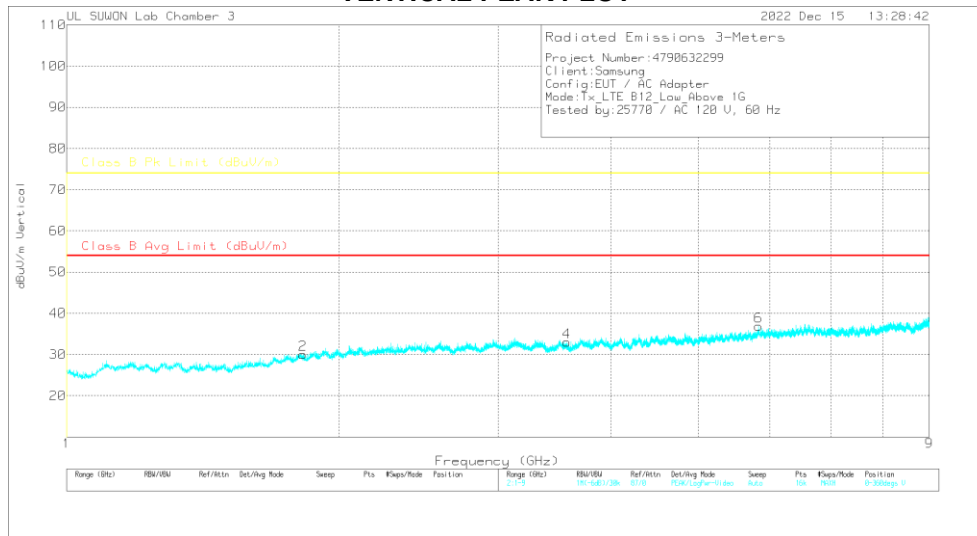
### 7.1.4. Above 1 GHz in the LTE Band 12

#### LOW CHANNEL(734 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

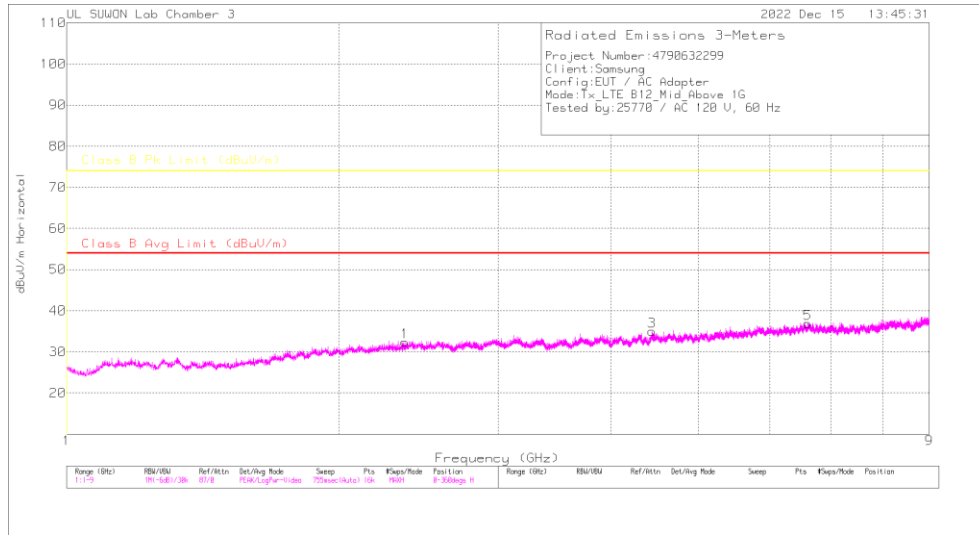
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.822	41.91	Pk	31	-35.1	.7	38.51	-	-	74	-35.49	0	100	H
1.822	29.37	Ca	31	-35.1	.7	25.97	54	-28.03	-	-	0	100	H
1.8255	41.34	Pk	31.1	-35.1	.7	38.04	-	-	74	-35.96	0	100	V
1.8255	29.18	Ca	31.1	-35.1	.7	25.88	54	-28.12	-	-	0	100	V
3.5645	39.5	Pk	33.4	-33	.6	40.5	-	-	74	-33.5	0	100	H
3.5645	27.74	Ca	33.4	-33	.6	28.74	54	-25.26	-	-	0	100	H
3.575	40.61	Pk	33.5	-33	.6	41.71	-	-	74	-32.29	0	100	V
3.575	27.45	Ca	33.5	-33	.6	28.55	54	-25.45	-	-	0	100	V
6.236	37.21	Pk	36.1	-28.4	.5	45.41	-	-	74	-28.59	0	100	H
6.236	23.77	Ca	36.1	-28.4	.5	31.97	54	-22.03	-	-	0	100	H
5.8235	36.7	Pk	35.8	-29	.5	44	-	-	74	-30	0	100	V
5.8235	24.68	Ca	35.8	-29	.5	31.98	54	-22.02	-	-	0	100	V

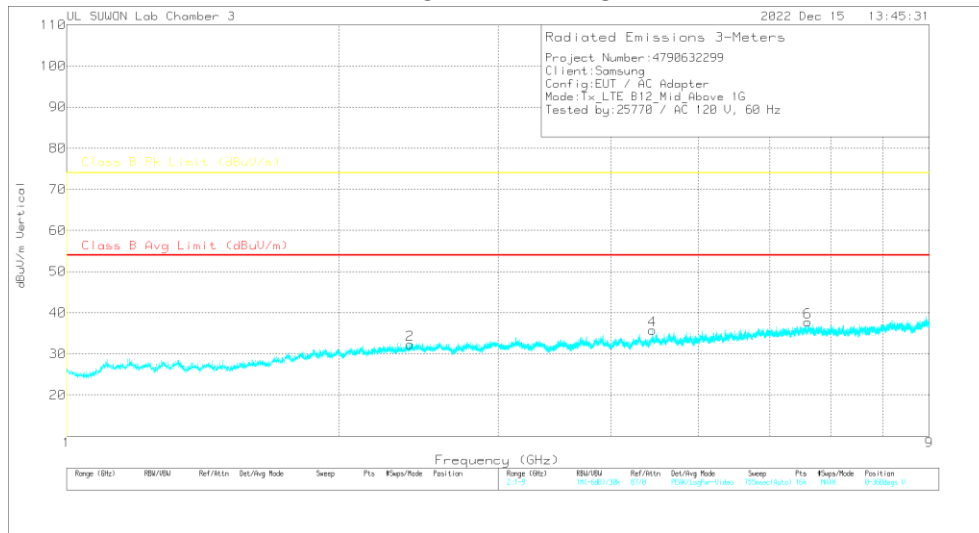
Pk - Peak detector  
 Ca - CISPR average detection

**MID CHANNEL(737.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

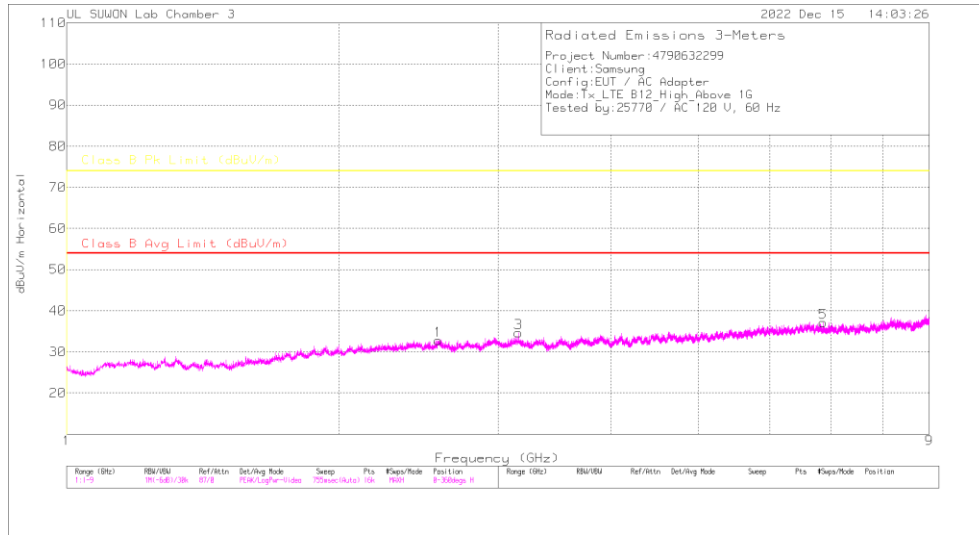
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.368	40.87	Pk	32.7	-34.4	.7	39.87	-	-	74	-34.13	0	100	H
2.368	28.56	Ca	32.7	-34.4	.7	27.56	54	-26.44	-	-	0	100	H
2.399	41.3	Pk	32.8	-34.5	.7	40.3	-	-	74	-33.7	0	100	V
2.399	29.13	Ca	32.8	-34.5	.7	28.13	54	-25.87	-	-	0	100	V
4.442	38.93	Pk	34.4	-31.2	.5	42.63	-	-	74	-31.37	0	100	H
4.442	26.49	Ca	34.4	-31.2	.5	30.19	54	-23.81	-	-	0	100	H
4.4455	38.74	Pk	34.4	-31.2	.5	42.44	-	-	74	-31.56	0	100	V
4.4455	26.43	Ca	34.4	-31.2	.5	30.13	54	-23.87	-	-	0	100	V
6.603	34.68	Pk	36.5	-27.3	.5	44.38	-	-	74	-29.62	0	100	H
6.603	22.62	Ca	36.5	-27.3	.5	32.32	54	-21.68	-	-	0	100	H
6.604	34.76	Pk	36.5	-27.3	.5	44.46	-	-	74	-29.54	0	100	V
6.604	22.64	Ca	36.5	-27.3	.5	32.34	54	-21.66	-	-	0	100	V

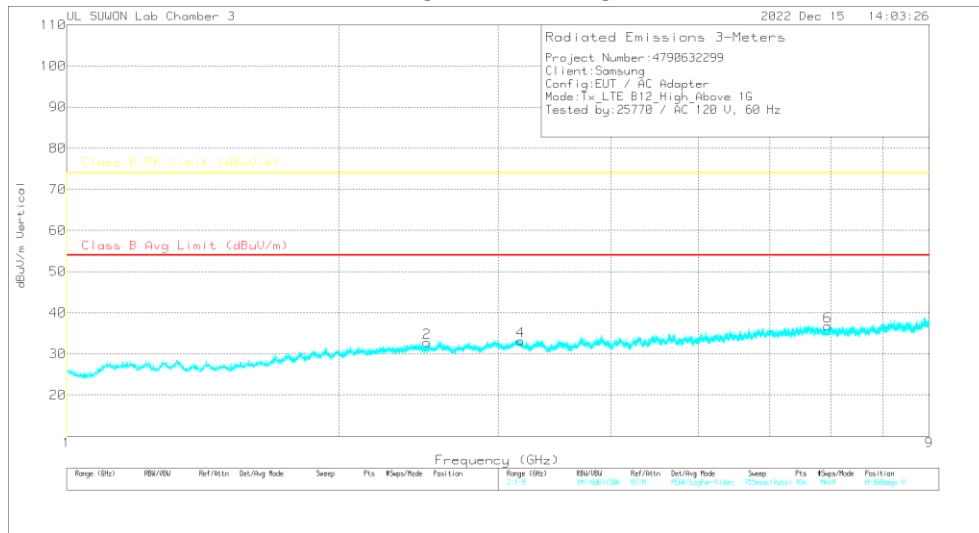
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(741 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

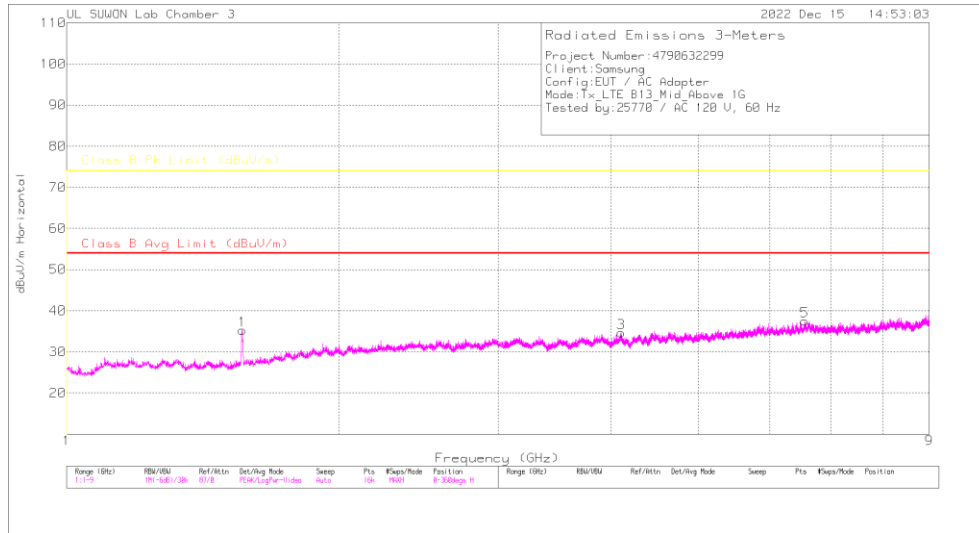
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.5765	41.61	Pk	32.8	-34.2	.7	40.91	-	-	74	-33.09	0	100	H
2.5765	29.02	Ca	32.8	-34.2	.7	28.32	54	-25.68	-	-	0	100	H
2.505	40.34	Pk	32.9	-34.2	.7	39.74	-	-	74	-34.26	0	100	V
2.505	28.42	Ca	32.9	-34.2	.7	27.82	54	-26.18	-	-	0	100	V
3.1605	40.82	Pk	33.4	-33.5	.7	41.42	-	-	74	-32.58	0	100	H
3.1605	28.56	Ca	33.4	-33.5	.7	29.16	54	-24.84	-	-	0	100	H
3.1775	41.24	Pk	33.5	-33.5	.7	41.94	-	-	74	-32.06	0	100	V
3.1775	28.32	Ca	33.5	-33.5	.7	29.02	54	-24.98	-	-	0	100	V
6.8685	34.62	Pk	36.2	-26.8	.5	44.52	-	-	74	-29.48	0	100	H
6.8685	22	Ca	36.2	-26.8	.5	31.9	54	-22.1	-	-	0	100	H
6.9495	34.55	Pk	36.2	-26.8	.5	44.45	-	-	74	-29.55	0	100	V
6.9495	22.14	Ca	36.2	-26.8	.5	32.04	54	-21.96	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

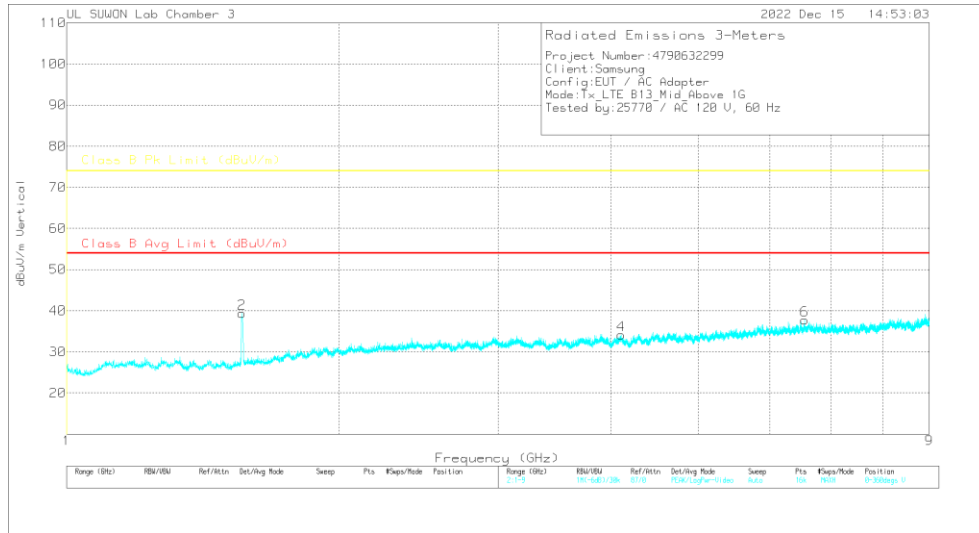
### 7.1.5. Above 1 GHz in the LTE Band 13

#### MID CHANNEL(751.0 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Radiated Emissions

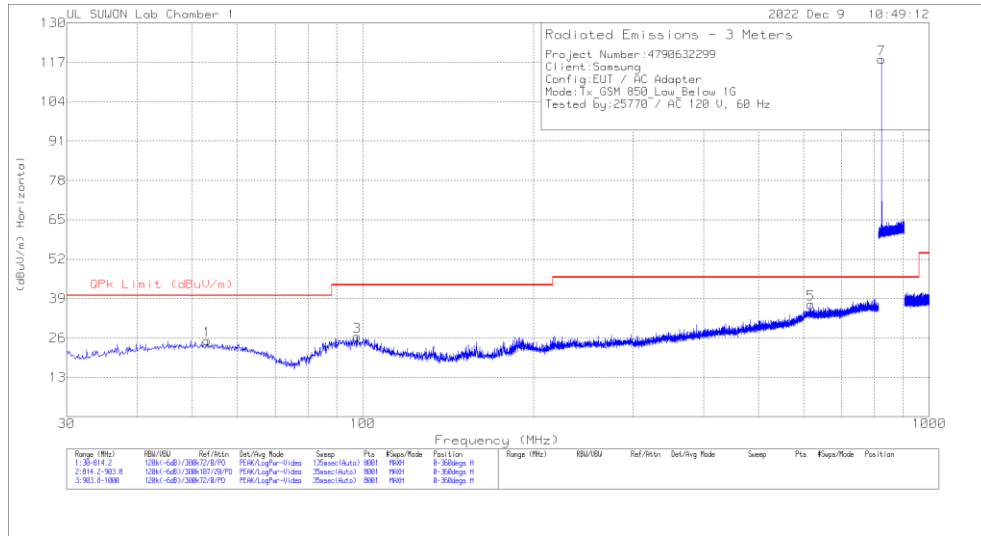
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	1-18G[dB]	1GHz_HP[dB]	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.564	43.48	Pk	28.6	-35.4	.7	37.38	-	-	74	-36.62	0	100	H
1.564	31.18	Ca	28.6	-35.4	.7	25.08	54	-28.92	-	-	0	100	H
1.562	48.77	Pk	28.6	-35.4	.7	42.67	-	-	74	-31.33	0	100	V
1.562	37.46	Ca	28.6	-35.4	.7	31.36	54	-22.64	-	-	0	100	V
4.1055	39.61	Pk	33.9	-31.7	.5	42.31	-	-	74	-31.69	0	100	H
4.1055	27.07	Ca	33.9	-31.7	.5	29.77	54	-24.23	-	-	0	100	H
4.1055	39.33	Pk	33.9	-31.7	.5	42.03	-	-	74	-31.97	0	100	V
4.1055	27.07	Ca	33.9	-31.7	.5	29.77	54	-24.23	-	-	0	100	V
6.551	35.25	Pk	36.5	-27.4	.5	44.85	-	-	74	-29.15	0	100	H
6.551	22.96	Ca	36.5	-27.4	.5	32.56	54	-21.44	-	-	0	100	H
6.55	35.35	Pk	36.5	-27.4	.5	44.95	-	-	74	-29.05	0	100	V
6.55	22.92	Ca	36.5	-27.4	.5	32.52	54	-21.48	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

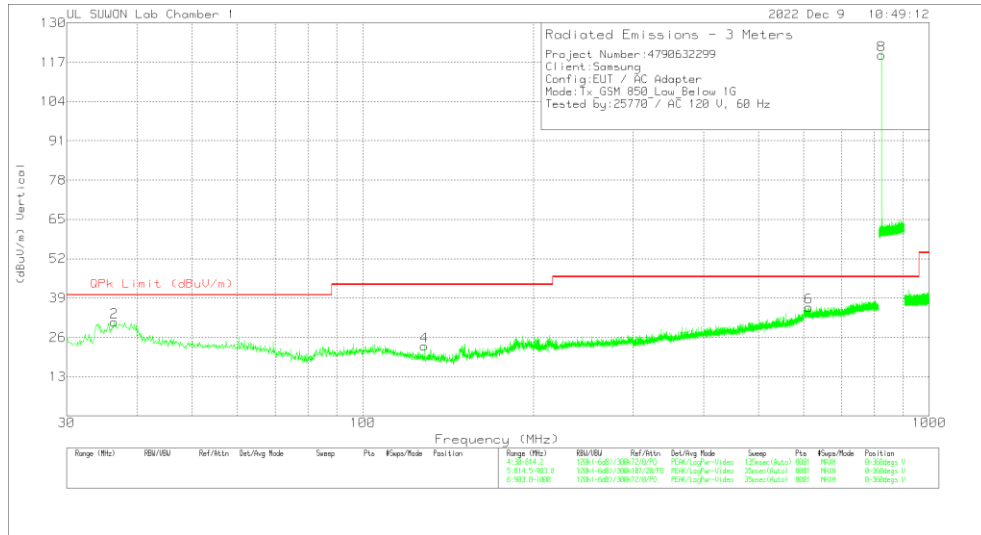
### 7.1.6. Below 1 GHz in the GSM850

#### LOW CHANNEL(869.2 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

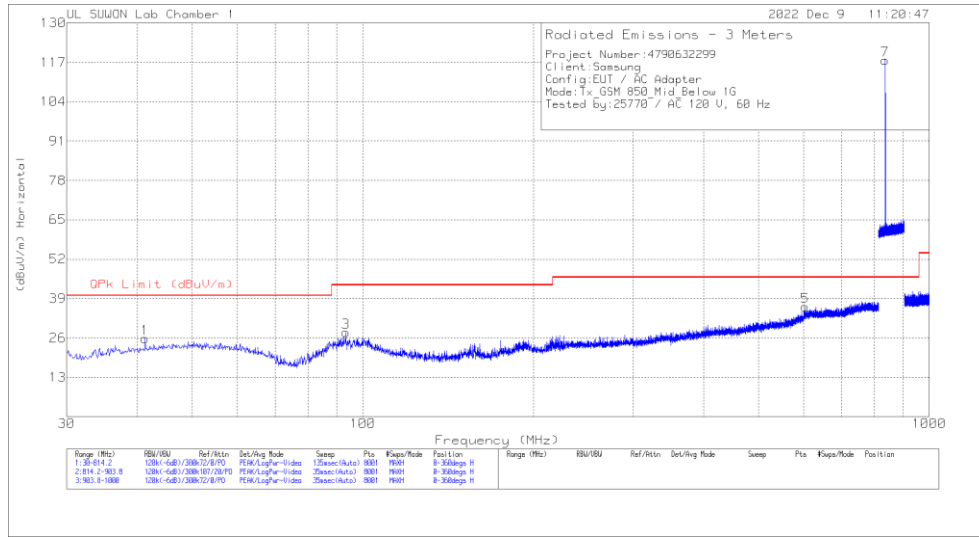
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	53.1339	4.29	Pk	19.4	1.5	25.19	40	-14.81	0-360	200	H
3	97.7353	7.29	Pk	17	2.2	26.49	43.52	-17.03	0-360	200	H
5	617.7579	7.8	Pk	24.2	5.1	37.1	46.02	-8.92	0-360	100	H
7	824.224	85.95	Pk	26.1	6	118.05	46.02	72.03	0-360	300	H
2	36.3716	12.78	Pk	17.1	1.2	31.08	40	-8.92	0-360	200	V
4	128.4171	6.34	Pk	14.5	2.3	23.14	43.52	-20.38	0-360	200	V
6	612.6606	6.51	Pk	24.3	5.2	36.01	46.02	-10.01	0-360	200	V
8	824.2006	87.33	Pk	26.1	6	119.43	46.02	73.41	0-360	100	V

Pk - Peak detector

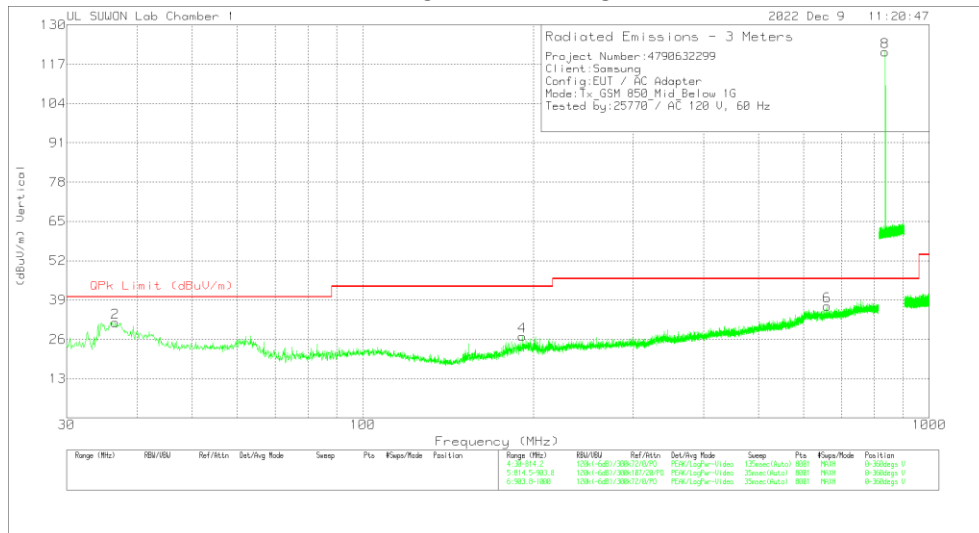
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	41.2729	5.74	Pk	18.8	1.3	25.84	40	-14.16	0-360	200	H
3	93.3242	9.32	Pk	16.5	2	27.82	43.52	-15.7	0-360	200	H
5	604.4265	6.94	Pk	24.3	5.1	36.34	46.02	-9.68	0-360	100	H
7	836.5888	85.3	Pk	26.3	6	117.6	46.02	71.58	0-360	300	H
2	36.5677	13.1	Pk	17.2	1.3	31.6	40	-8.4	0-360	200	V
4	191.2511	7.6	Pk	16.6	2.8	27	43.52	-16.52	0-360	300	V
6	660.8889	7.17	Pk	24.4	5.4	36.97	46.02	-9.05	0-360	400	V
8	836.5916	88.72	Pk	26.3	6	121.02	46.02	75	0-360	100	V

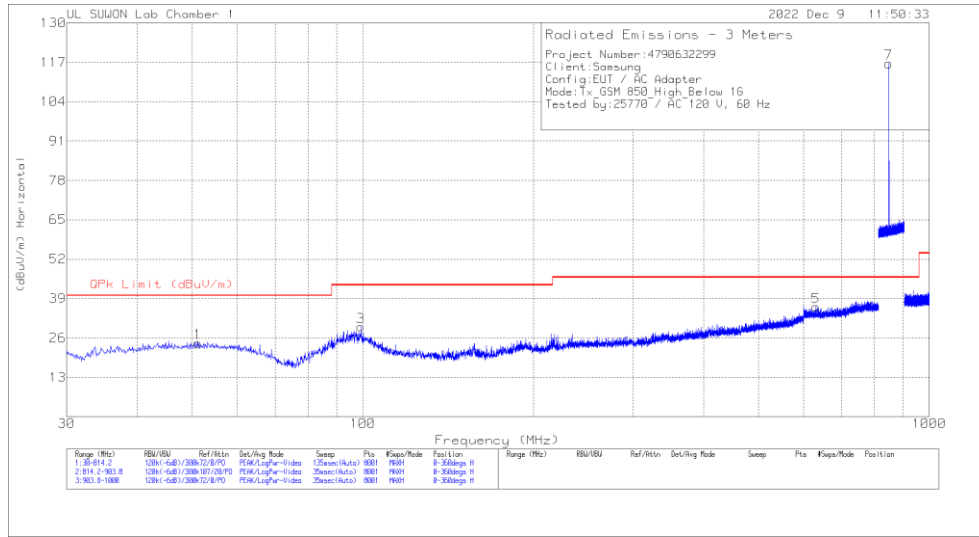
Pk - Peak detector

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

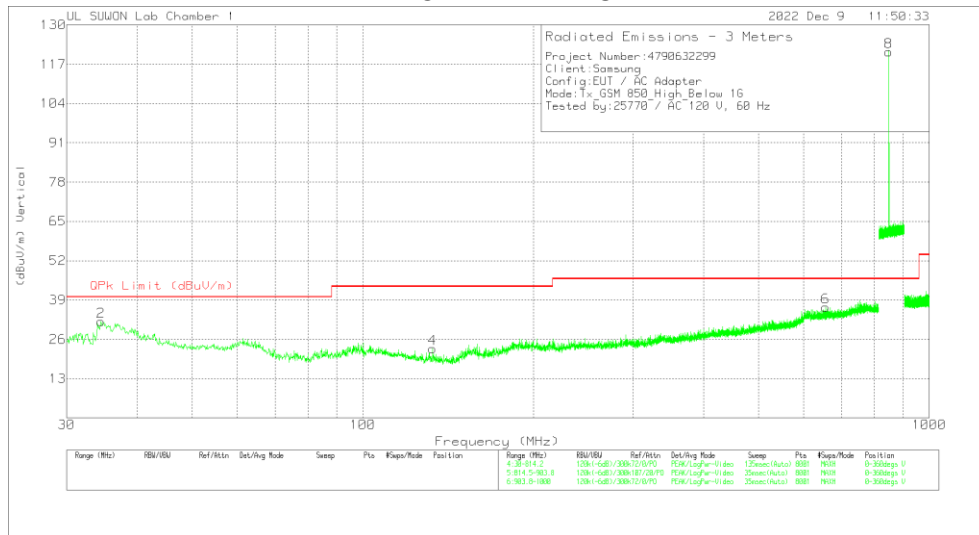


**HIGH CHANNEL(893.8 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass [dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	51.1734	3.28	Pk	19.6	1.5	24.38	40	-15.62	0-360	300	H
3	99.2057	10.69	Pk	17	2.1	29.79	43.52	-13.73	0-360	200	H
5	630.6972	6.78	Pk	24.3	5.2	36.28	46.02	-9.74	0-360	300	H
7	848.808	83.98	Pk	26.5	6.1	116.58	46.02	70.56	0-360	300	H
2	34.5092	14.48	Pk	16.3	1.1	31.88	40	-8.12	0-360	200	V
4	132.8282	6.58	Pk	14.1	2.3	22.98	43.52	-20.54	0-360	200	V
6	656.3798	7.04	Pk	24.3	5.3	36.64	46.02	-9.38	0-360	400	V
8	848.8039	88.47	Pk	26.5	6.1	121.07	46.02	75.05	0-360	100	V

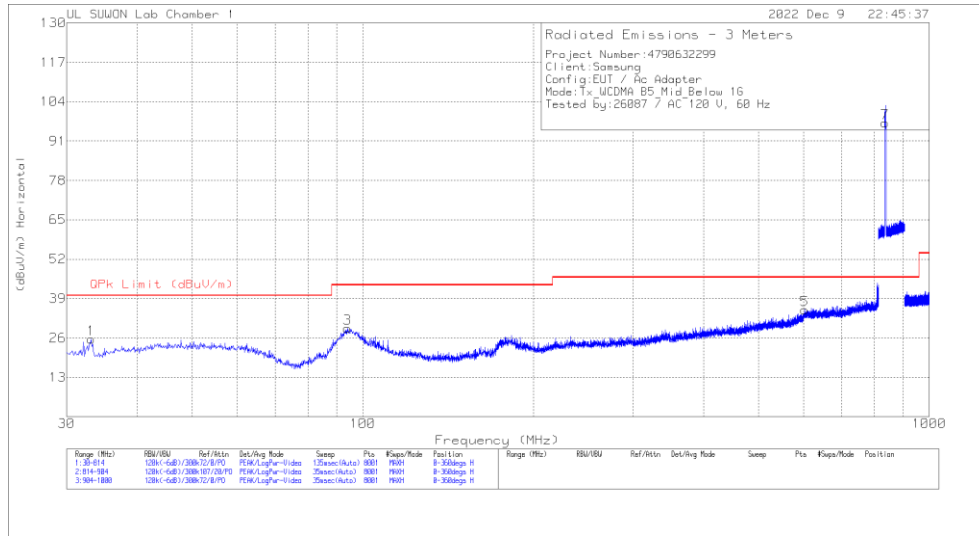
Pk - Peak detector

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

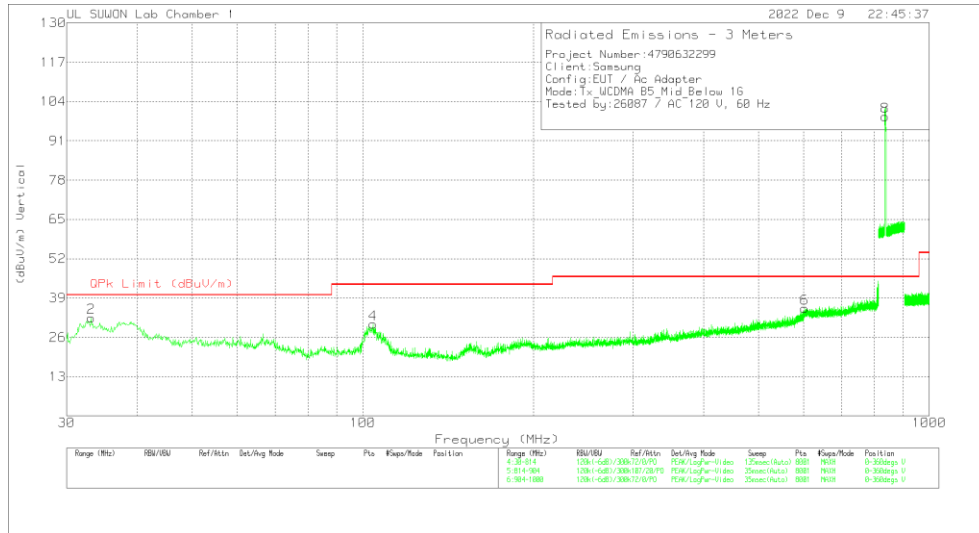
### 7.1.7. Below 1 GHz in the WCDMA Band 5

#### MID CHANNEL(881.6 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.136	8.56	Pk	15.8	1.3	25.66	40	-14.34	0-360	300	H
3	93.896	10.62	Pk	16.6	2	29.22	43.52	-14.3	0-360	200	H
5	603.104	5.91	Pk	24.3	5.1	35.31	46.02	-10.71	0-360	100	H
7	836.6125	64.64	Pk	26.3	6	96.94	46.02	<b>50.92</b>	0-360	100	H
2	33.136	15.42	Pk	15.8	1.3	32.52	40	-7.48	0-360	100	V
4	104.186	10.84	Pk	17.4	2.1	30.34	43.52	-13.18	0-360	100	V
6	602.418	6.14	Pk	24.4	5.1	35.64	46.02	-10.38	0-360	100	V
8	836.6125	66.68	Pk	26.3	6	98.98	46.02	<b>52.96</b>	0-360	200	V

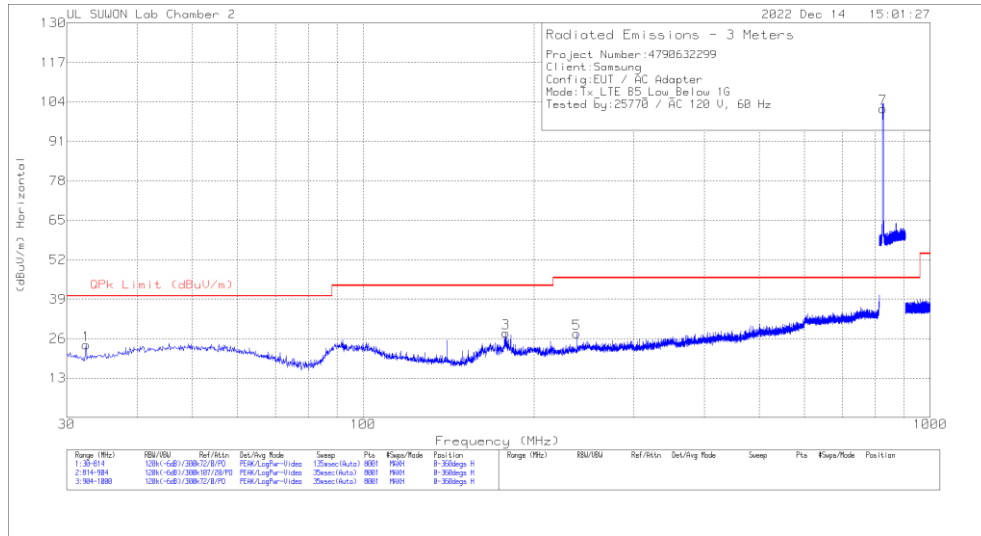
Pk - Peak detector

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

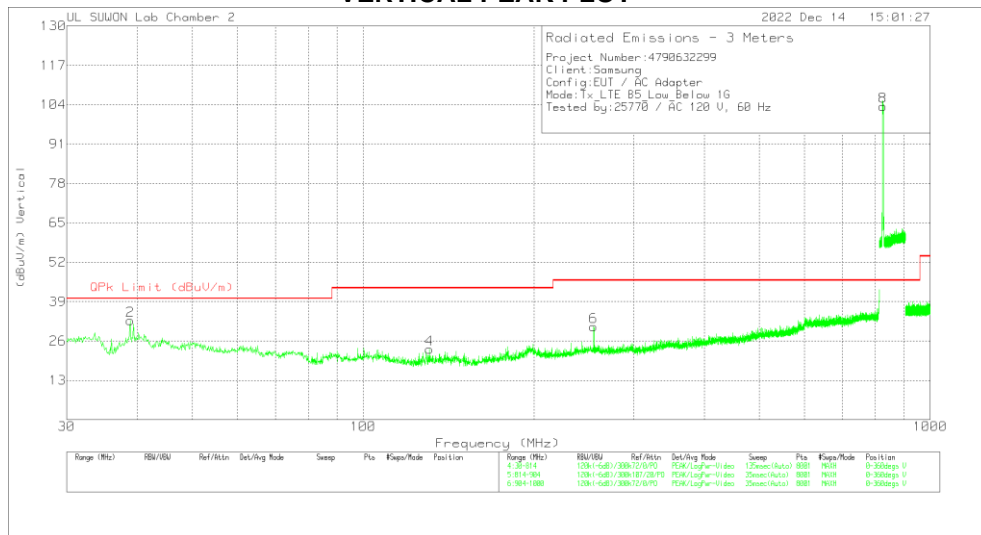
### 7.1.8. Below 1 GHz in the LTE Band 5

#### LOW CHANNEL(874 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

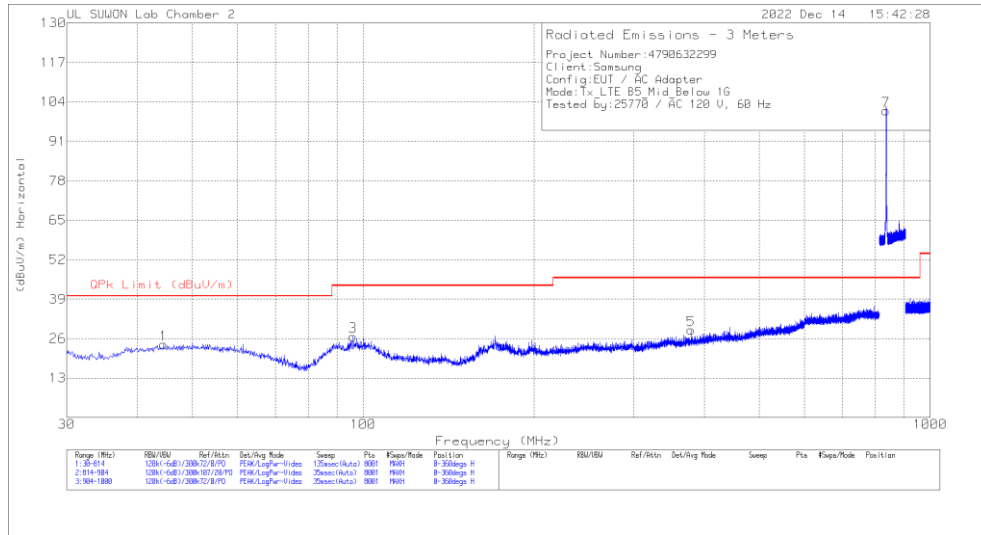
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	32.45	7.66	Pk	15.6	.7	23.96	40	-16.04	0-360	200	H
3	178.666	11.01	Pk	15.3	1.5	27.81	43.52	-15.71	0-360	100	H
5	238.054	7.8	Pk	18.1	1.8	27.7	46.02	-18.32	0-360	200	H
7	825.5088	71.9	Pk	26.5	3.3	101.7	46.02	55.68	0-360	200	H
2	38.82	13.82	Pk	18.3	.7	32.82	40	-7.18	0-360	200	V
4	130.744	7.65	Pk	14.3	1.3	23.25	43.52	-20.27	0-360	400	V
6	255.106	10.18	Pk	18.7	1.8	30.68	46.02	-15.34	0-360	200	V
8	825.4975	73.65	Pk	26.5	3.3	103.45	46.02	57.43	0-360	100	V

Pk - Peak detector

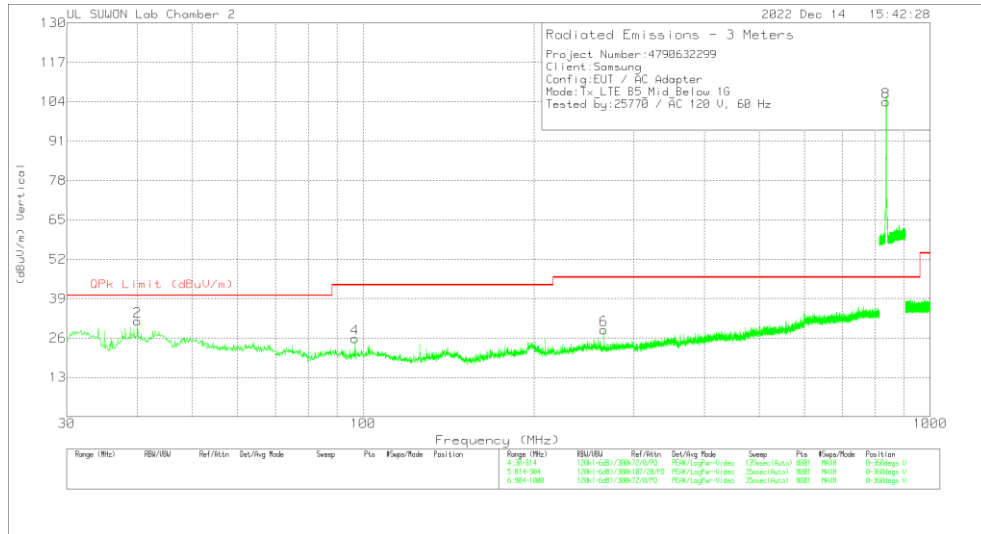
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(881.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

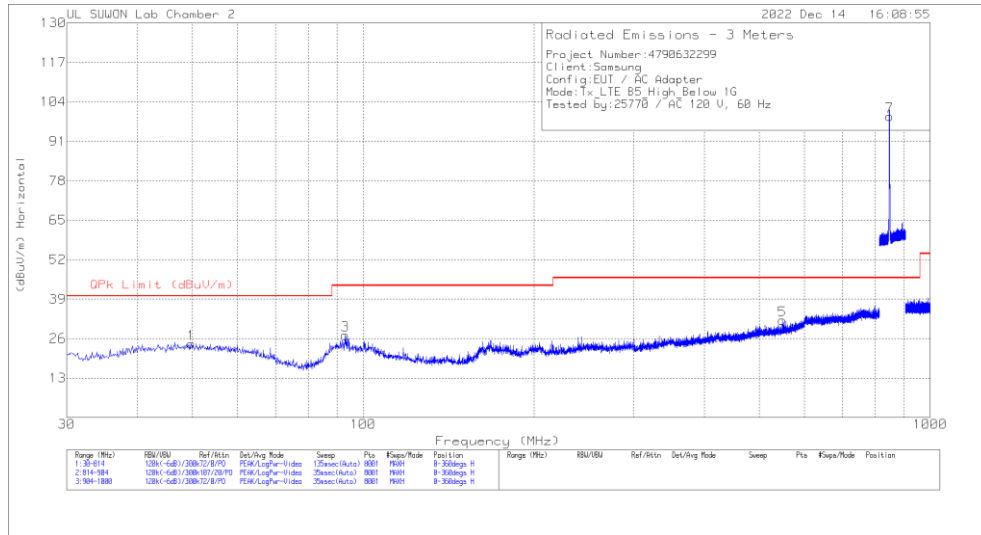
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	44.504	3.53	Pk	19.8	.8	24.13	40	-15.87	0-360	200	H
3	95.954	8.85	Pk	16.8	1.1	26.75	43.52	-16.77	0-360	100	H
5	378.586	5.91	Pk	20.7	2.2	28.81	46.02	-17.21	0-360	200	H
7	836.5	71.22	Pk	26.6	3.3	101.12	46.02	55.1	0-360	200	H
2	39.996	12.16	Pk	18.7	.7	31.56	40	-8.44	0-360	100	V
4	96.738	7.75	Pk	16.9	1.1	25.75	43.52	-17.77	0-360	100	V
6	265.69	8.52	Pk	18.3	1.9	28.72	46.02	-17.3	0-360	100	V
8	836.5	74	Pk	26.6	3.3	103.9	46.02	57.88	0-360	300	V

Pk - Peak detector

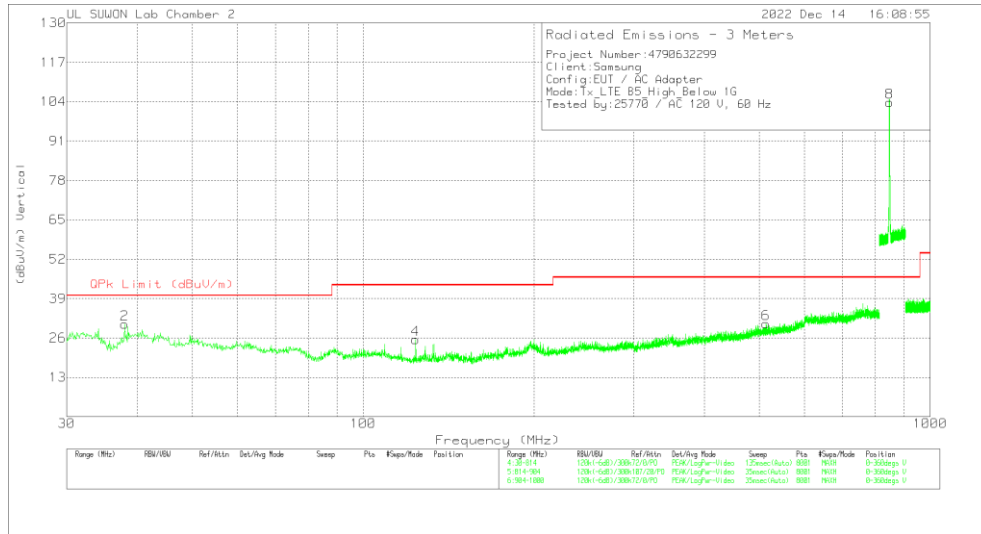
Note: Unwanted emissions captured from 814MHz to 849MHz and from 849MHz to 859MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(889 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	49.796	3.43	Pk	20.1	.8	24.33	40	-15.67	0-360	300	H
3	92.916	9.7	Pk	16.3	1.1	27.1	43.52	-16.42	0-360	100	H
5	549.204	5.96	Pk	23.4	2.7	32.06	46.02	-13.96	0-360	300	H
7	847.5025	69.03	Pk	26.9	3.3	99.23	46.02	53.21	0-360	200	H
2	37.938	11.94	Pk	18	.7	30.64	40	-9.36	0-360	200	V
4	123.786	9.21	Pk	15	1.3	25.51	43.52	-18.01	0-360	200	V
6	513.042	5.11	Pk	23	2.6	30.71	46.02	-15.31	0-360	400	V
8	847.5025	73.65	Pk	26.9	3.3	103.85	46.02	57.83	0-360	100	V

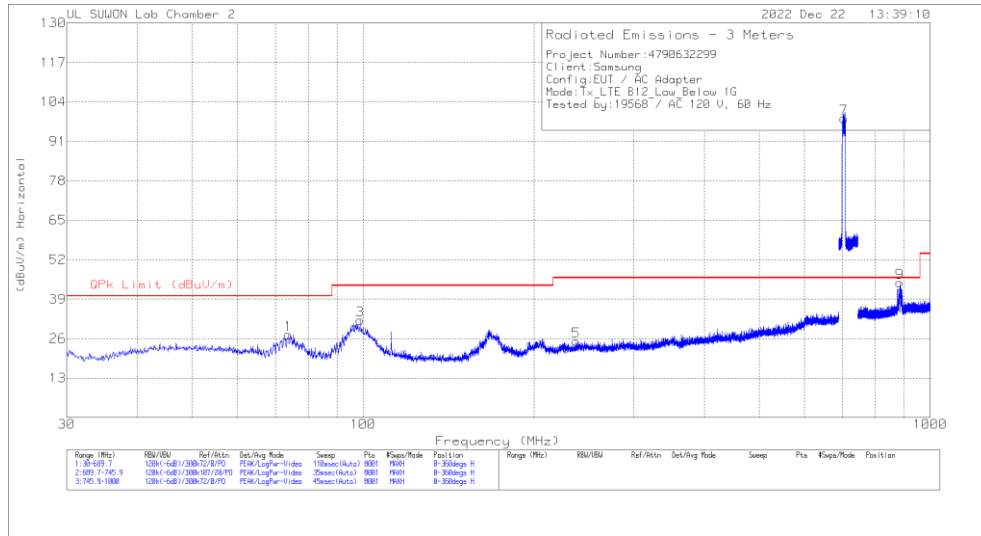
Pk - Peak detector

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

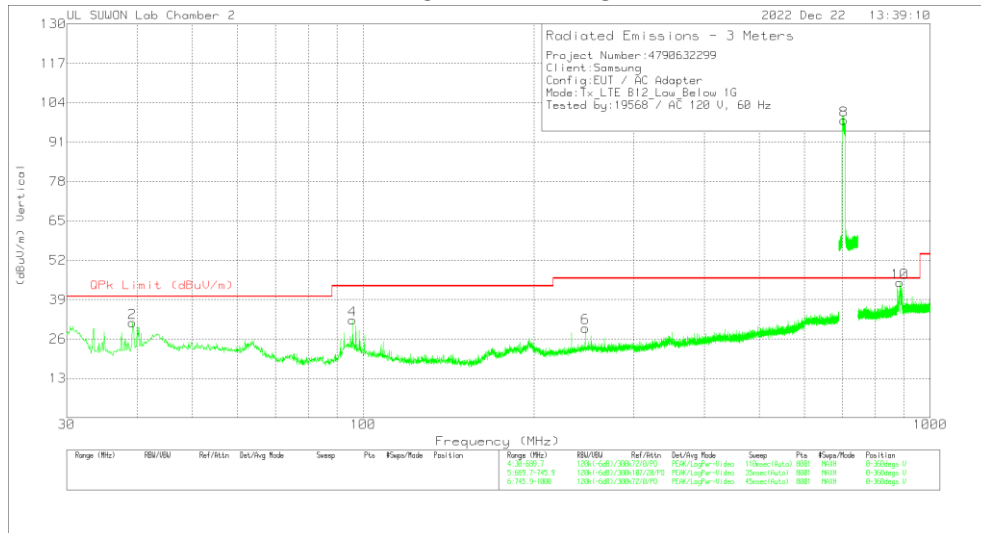
### 7.1.9. Below 1 GHz in the LTE Band 12

#### LOW CHANNEL(734 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	73.7879	12.23	Pk	14.1	1	27.33	40	-12.67	0-360	300	H
3	98.7741	13.75	Pk	17.3	1.1	32.15	43.52	-11.37	0-360	100	H
5	237.312	5.32	Pk	18	1.8	25.12	46.02	-20.9	0-360	100	H
7	703.9959	70.27	Pk	25.2	3	98.47	46.02	52.45	0-360	200	H
9	884.7361	13.59	Pk	27.4	3.4	44.39	46.02	-1.63	0-360	200	H
2	39.1534	12.34	Pk	18.4	.7	31.44	40	-8.56	0-360	200	V
4	95.8055	14.34	Pk	16.8	1.1	32.24	43.52	-11.28	0-360	200	V
6	246.5478	9.34	Pk	18.5	1.8	29.64	46.02	-16.38	0-360	200	V
8	704.0099	69.93	Pk	25.2	3	98.13	46.02	52.11	0-360	100	V
10	884.9584	13.87	Pk	27.4	3.4	44.67	46.02	-1.35	0-360	200	V

Pk - Peak detector

**Radiated Emissions**

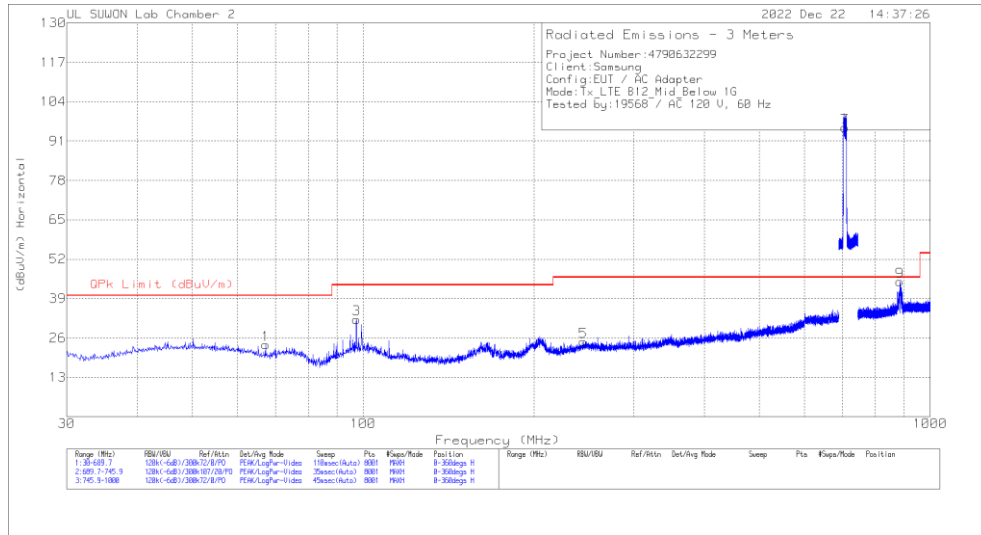
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
884.7361	6.4	Qp	27.4	3.4	37.2	46.02	-8.82	353	146	H
884.9584	6.72	Qp	27.4	3.4	37.52	46.02	-8.5	98	383	V

Qp - Quasi-Peak detector

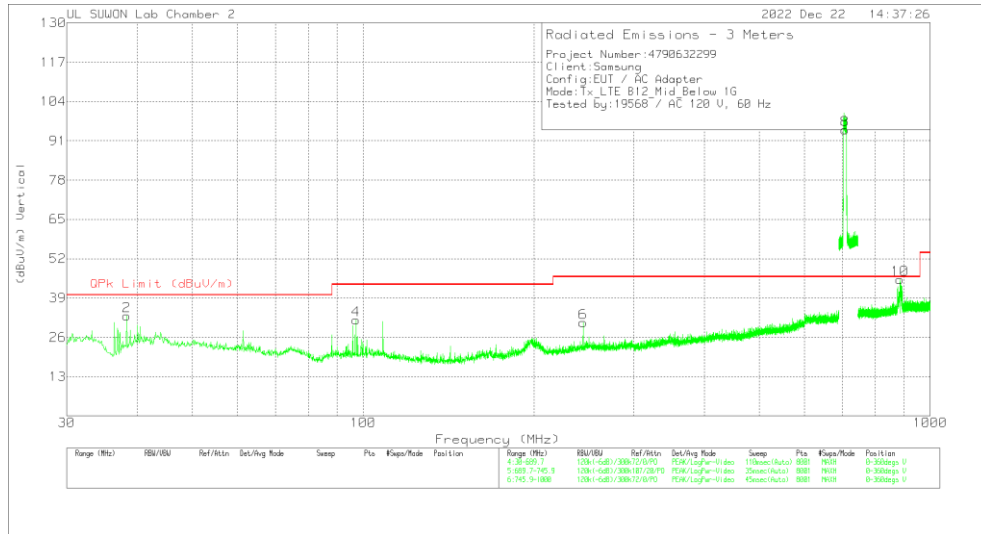
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(737.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**





**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	67.2733	6.29	Pk	16.6	.9	23.79	40	-16.21	0-360	200	H
3	97.2898	14.08	Pk	17	1.1	32.18	43.52	-11.34	0-360	200	H
5	244.4038	4.63	Pk	18.4	1.8	24.83	46.02	-21.19	0-360	100	H
7	707.5014	67.21	Pk	25.2	3	95.41	46.02	49.39	0-360	200	H
9	885.0855	13.84	Pk	27.4	3.4	44.64	46.02	-1.38	0-360	100	H
2	38.2463	14.26	Pk	18.1	.7	33.06	40	-6.94	0-360	100	V
4	97.1249	13.76	Pk	16.9	1.1	31.76	43.52	-11.76	0-360	100	V
6	244.2389	10.78	Pk	18.4	1.8	30.98	46.02	-15.04	0-360	100	V
8	707.5014	66.48	Pk	25.2	3	94.68	46.02	48.66	0-360	100	V
10	884.7043	14.38	Pk	27.4	3.4	45.18	46.02	-8.4	0-360	400	V

Pk - Peak detector

**Radiated Emissions**

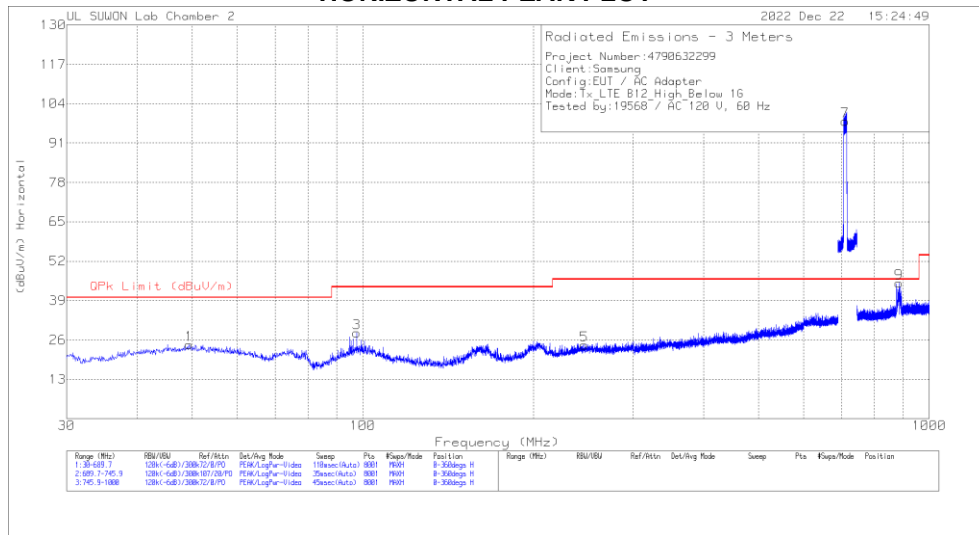
Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
38.2463	.67	Qp	18.1	.7	19.47	40	-20.53	245	105	V
885.0855	6.27	Qp	27.4	3.4	37.07	46.02	-8.95	236	138	H
884.7043	8.05	Qp	27.4	3.4	38.85	46.02	-7.17	10	395	V

Qp - Quasi-Peak detector

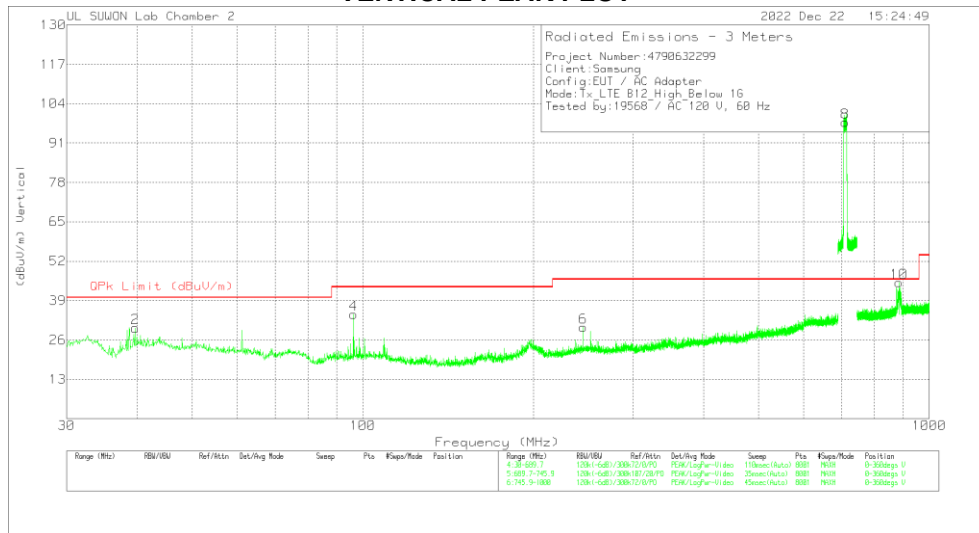
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(741 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	49.3788	3.59	Pk	20.1	.8	24.49	40	-15.51	0-360	300	H
3	97.5372	10.18	Pk	17.1	1.1	28.38	43.52	-15.14	0-360	300	H
5	246.1355	4.07	Pk	18.4	1.8	24.27	46.02	-21.75	0-360	300	H
7	711.0068	69.94	Pk	25.2	3	98.14	46.02	52.12	0-360	100	H
9	885.0219	14.02	Pk	27.4	3.4	44.82	46.02	-1.2	0-360	200	H
2	39.6482	10.68	Pk	18.6	.7	29.98	40	-10.02	0-360	300	V
4	96.3003	16.54	Pk	16.8	1.1	34.44	43.52	-9.08	0-360	100	V
6	245.0635	10.1	Pk	18.4	1.8	30.3	46.02	-15.72	0-360	100	V
8	711.0068	69.62	Pk	25.2	3	97.82	46.02	51.8	0-360	200	V
10	884.5773	14.13	Pk	27.4	3.4	44.93	46.02	-1.09	0-360	100	V

Pk - Peak detector

**Radiated Emissions**

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
885.0219	6.94	Qp	27.4	3.4	37.74	46.02	-8.28	327	379	H
884.5773	9.25	Qp	27.4	3.4	40.05	46.02	-5.97	118	398	V

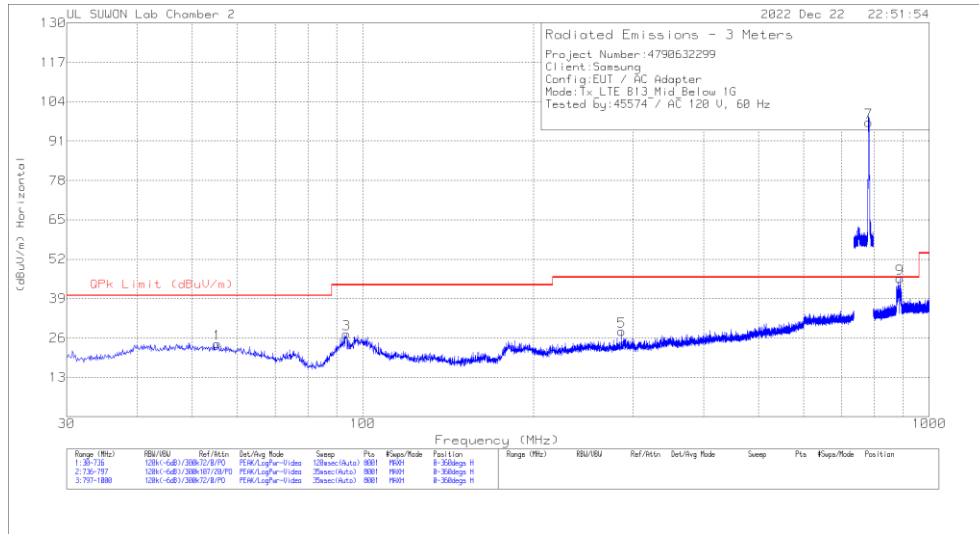
Qp - Quasi-Peak detector

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

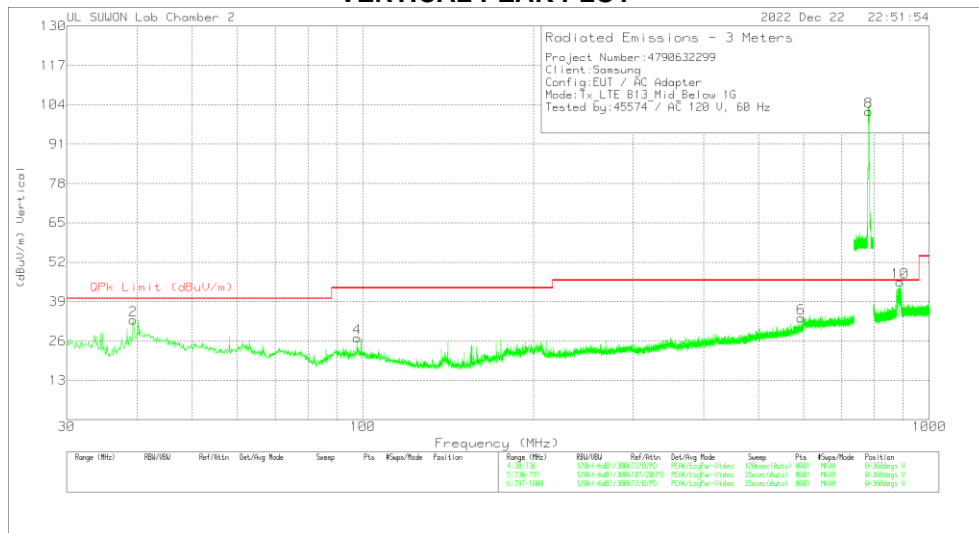
### 7.1.10. Below 1 GHz in the LTE Band 13

#### MID CHANNEL(751.0 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	55.3278	3.74	Pk	19.5	.9	24.14	40	-15.86	0-360	300	H
3	93.6283	9.81	Pk	16.4	1.1	27.31	43.52	-16.21	0-360	200	H
5	286.5428	7.4	Pk	18.9	1.9	28.2	46.02	-17.82	0-360	100	H
7	782.2151	67.73	Pk	26.3	3.2	97.23	46.02	51.21	0-360	200	H
9	888.0455	14.81	Pk	27.5	3.4	45.71	46.02	-.31	0-360	300	H
2	39.3545	13.78	Pk	18.5	.7	32.98	40	-7.02	0-360	200	V
4	97.6878	8.82	Pk	17.1	1.1	27.02	43.52	-16.5	0-360	200	V
6	594.447	5.85	Pk	24.9	2.8	33.55	46.02	-12.47	0-360	400	V
8	782.238	72.24	Pk	26.3	3.2	101.74	46.02	55.72	0-360	100	V
10	888.0455	14.51	Pk	27.5	3.4	45.41	46.02	-.61	0-360	200	V

Pk - Peak detector

**Radiated Emissions**

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G_Bypass[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
888.0455	10.42	Qp	27.5	3.4	41.32	46.02	-4.7	111	107	H
888.0455	11.66	Qp	27.5	3.4	42.56	46.02	-3.46	81	326	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.

## 7.2. CONDUCTED EMISSIONS

### TEST PROCEDURE

ANSI C63.4-2014

### LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

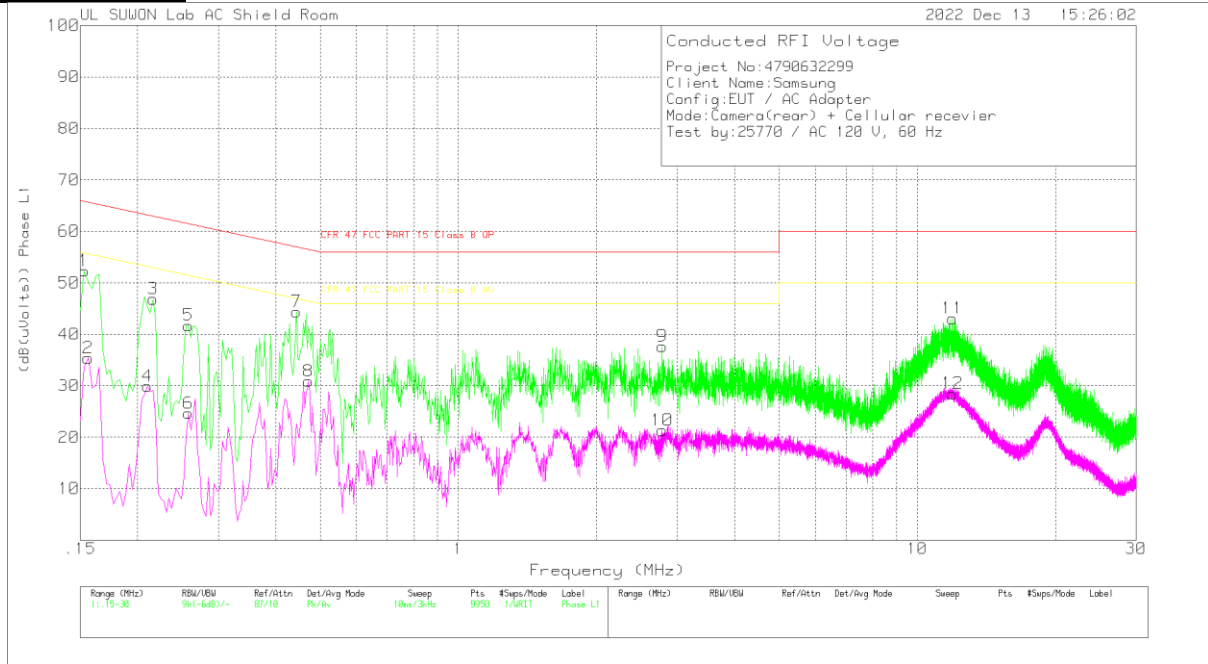
Notes:  
 1. The lower limit shall apply at the transition frequencies  
 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 7.2.1 CONDUCTED EMISSIONS

#### 6 WORST EMISSIONS(GSM850 + Rear camera on)

Line-L1 .15 – 30 MHz

#### LINE 1 RESULTS



#### Trace Markers

Range 1: Phase L1 .15 - 30MHz

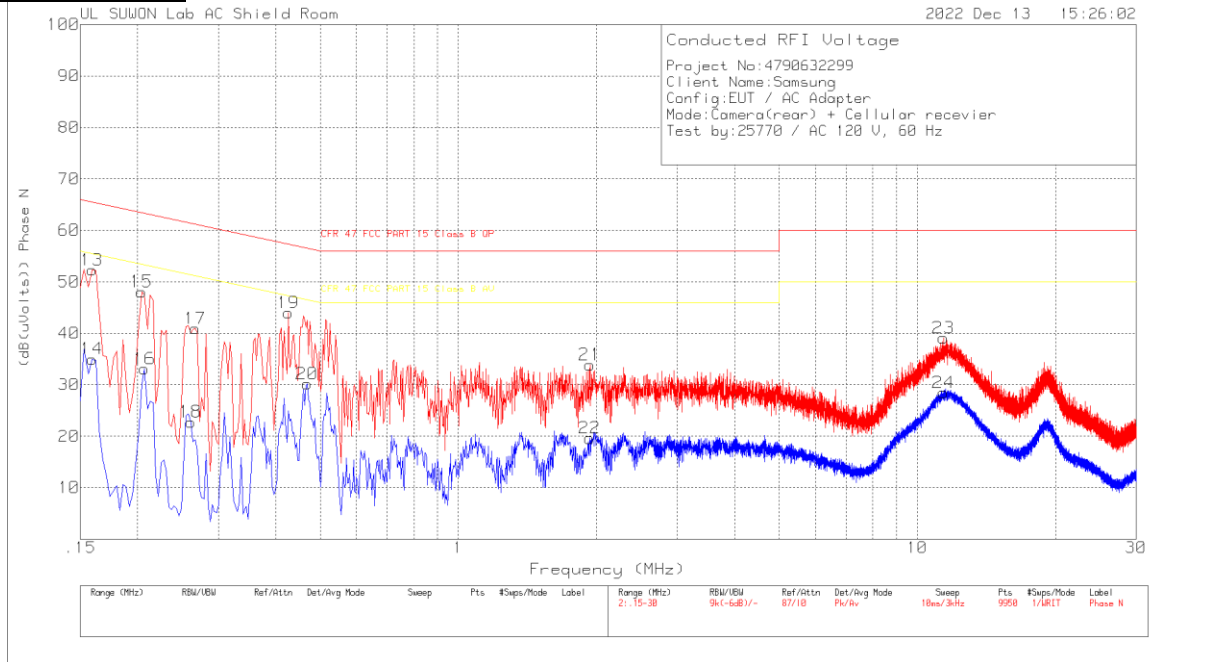
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1[dB]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.153	42.44	Pk	9.8	.1	52.34	65.84	-13.5	-	-
2	.156	25.49	Av	9.8	.1	35.39	-	-	55.67	-20.28
3	.216	36.87	Pk	9.8	.2	46.87	62.97	-16.1	-	-
4	.21	19.91	Av	9.8	.2	29.91	-	-	53.21	-23.3
5	.258	31.93	Pk	9.6	.2	41.73	61.5	-19.77	-	-
6	.258	14.86	Av	9.6	.2	24.66	-	-	51.5	-26.84
7	.444	34.4	Pk	9.8	.2	44.4	56.99	-12.59	-	-
8	.471	20.78	Av	9.9	.2	30.88	-	-	46.5	-15.62
9	2.781	27.65	Pk	9.7	.3	37.65	56	-18.35	-	-
10	2.781	11.32	Av	9.7	.3	21.32	-	-	46	-24.68
11	11.94	32.88	Pk	9.9	.3	43.08	60	-16.92	-	-
12	11.94	18.29	Av	9.9	.3	28.49	-	-	50	-21.51

Pk - Peak detector  
 Av - Average detection

**6 WORST EMISSIONS(GSM850 + Rear camera on)**

Line-L2 .15 – 30 MHz

**LINE 2 RESULTS**



**Trace Markers**

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_N[dB]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.159	42.39	Pk	9.8	.1	52.29	65.52	-13.23	-	-
14	.159	25.1	Av	9.8	.1	35	-	-	55.52	-20.52
15	.204	38.05	Pk	9.8	.2	48.05	63.45	-15.4	-	-
16	.207	23.1	Av	9.8	.2	33.1	-	-	53.32	-20.22
17	.267	31.13	Pk	9.6	.2	40.93	61.21	-20.28	-	-
18	.261	12.95	Av	9.6	.2	22.75	-	-	51.4	-28.65
19	.426	33.97	Pk	9.8	.2	43.97	57.33	-13.36	-	-
20	.468	20.06	Av	9.9	.2	30.16	-	-	46.55	-16.39
21	1.935	23.87	Pk	9.7	.3	33.87	56	-22.13	-	-
22	1.932	9.62	Av	9.7	.3	19.62	-	-	46	-26.38
23	11.403	28.88	Pk	9.9	.3	39.08	60	-20.92	-	-
24	11.403	18.26	Av	9.9	.3	28.46	-	-	50	-21.54

Pk - Peak detector

Av - Average detection

**END OF TEST REPORT**