

# CERTIFICATION TEST REPORT

**Report Number.** : 4791082054-E1V3

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

**Model** : SM-A556E, SM-A556E/DS

**FCC ID** : A3LSMA556E

**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:**  
2024-01-18

**Prepared by:**  
UL KOREA LTD.  
26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

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

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2024-01-09	Initial issue	Yeonhee Lim
V2	2024-01-15	Updated to address TCB's question	Yeonhee Lim
V3	2024-01-18	Updated to address TCB's question	Yeonhee Lim

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>4</b>
<b>2. TEST METHODOLOGY .....</b>	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>6</b>
4.1. MEASURING INSTRUMENT CALIBRATION.....	6
4.2. SAMPLE CALCULATION.....	6
4.3. MEASUREMENT UNCERTAINTY .....	6
4.4. DECISION RULE .....	6
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>7</b>
5.1. DESCRIPTION OF EUT.....	7
5.2. TEST MODE.....	7
5.3. WORST-CASE ORIENTATION AND MODE.....	8
5.4. DESCRIPTION OF TEST SETUP .....	9
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>10</b>
<b>7. APPLICABLE LIMITS AND TEST RESULTS .....</b>	<b>11</b>
7.1. RADIATED EMISSIONS .....	11
7.1.1. Above 1 GHz in the GSM850.....	12
7.1.2. Above 1 GHz in the WCDMA Band 5.....	15
7.1.3. Above 1 GHz in the LTE Band 12 .....	16
7.1.4. Above 1 GHz in the LTE Band 13 .....	19
7.1.5. Above 1 GHz in the LTE Band 26 .....	22
7.1.6. Below 1 GHz in the GSM850 .....	25
7.1.7. Below 1 GHz in the WCDMA Band 5 .....	28
7.1.8. Below 1 GHz in the LTE Band 12 .....	29
7.1.9. Below 1 GHz in the LTE Band 13 .....	32
7.1.10. Below 1 GHz in the LTE Band 26 .....	35
7.2. CONDUCTED EMISSIONS.....	38
7.2.1 CONDUCTED EMISSIONS .....	39

# 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-A556E, SM-A556E/DS  
**SERIAL NUMBER:** R3CWB0A19XA (RADIATED)  
**DATE TESTED:** 2023-12-06 ~ 2023-12-19;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15B	Complies

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

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

Approved & Released For  
UL KOREA LTD. By:



Seokhwan Hong  
Suwon Lab Engineer  
UL KOREA LTD.

Tested By:



Yeonhee Lim  
Suwon Lab Engineer  
UL KOREA LTD.

## 2. TEST METHODOLOGY

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

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

## 3. FACILITIES AND ACCREDITATION

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

218 Maeyeong-ro	
<input checked="" 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.

Representative model	Difference	Derivative model
		SM-A556E/DS
SM-A556E	Hardware	Different SIM tray SM-A556E/DS has dual sim tray
	Software	Same as SM-A556E

Thus, SM-A556E was set for final test.

### 5.2. TEST MODE

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

### 5.3. WORST-CASE ORIENTATION AND MODE

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

**- Worst Axis Condition**

Band	Worst Case		
	X	Y	Z
GSM 850	-	-	O
WCDMA B5	-	-	O
LTE B12	-	-	O
LTE B13	-	-	O
LTE B26	-	-	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 and maximum tune-up limit is higher than WCDMA Band5. Therefore, only Mid channel was checked.

**LTE Band 5**

LTE Band 5 (Rx Frequency range: 869-894 MHz) is covered by LTE B26(Rx Frequency range: 859-894 MHz) due to overlapping frequency range and 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 B12(Rx Frequency range: 729-746 MHz) due to overlapping frequency range and same maximum tune-up limit and same channel bandwidth.

**5G NR Band n5**

5G NR BAND n5 (Rx Frequency range: 869-894 MHz) is covered by LTE B26(Rx Frequency range: 859-894 MHz) due to same frequency range and same maximum tune-up limit and same channel bandwidth.

**5G NR Band n26**

5G NR BAND n26 (Rx Frequency range: 859-894 MHz) is covered by LTE B26 (Rx Frequency range: 859-894 MHz) due to same frequency range and same maximum tune-up limit and same channel bandwidth.



## 5.4. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37W61WENTASEA	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02117A	N/A

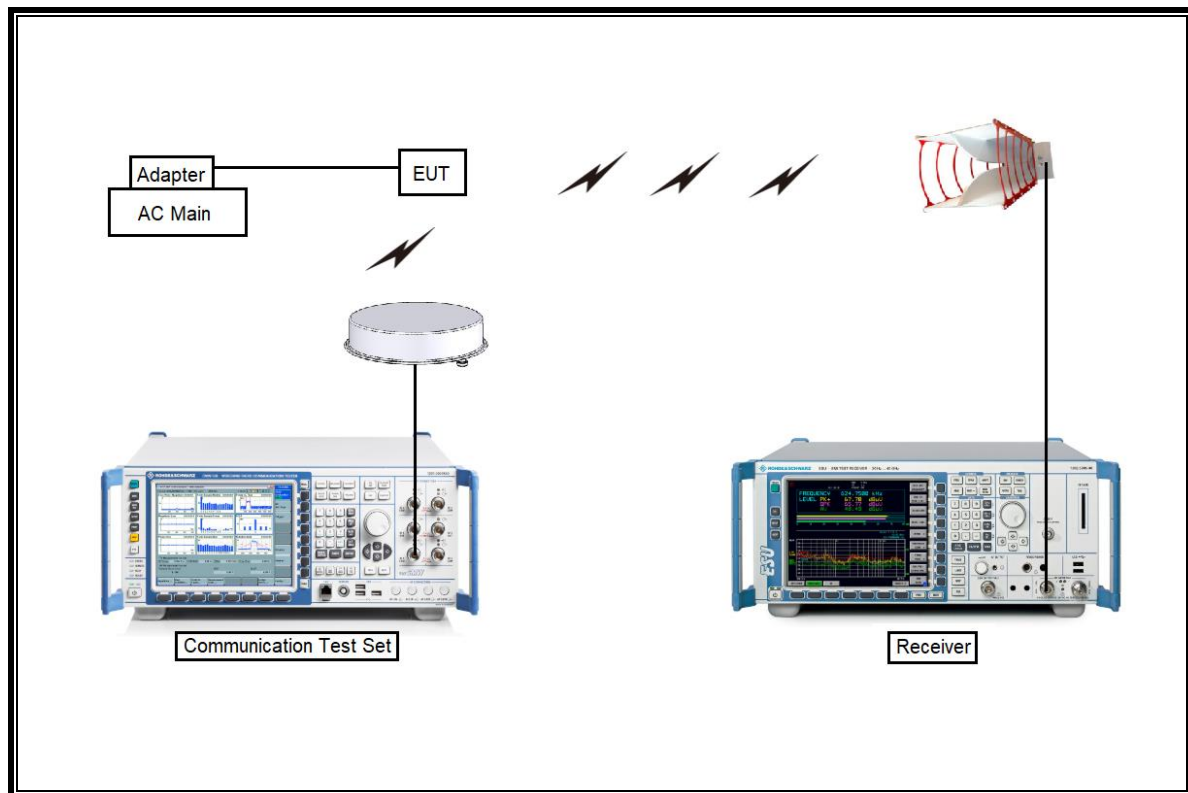
### I/O CABLE

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

### TEST SETUP

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

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



## 6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	2025-01-17
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2025-10-05
Preamplifier	ETS	3115-PA	00167475	2024-07-25
Preamplifier	ETS	3116C-PA	00168841	2024-07-25
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Communications Test Set	R&S	CMW500	169797	2024-07-23
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
Preamplifier, 1000 MHz	Sonoma	310N	341282	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	370599	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	351741	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2024-07-25
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2024-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2024-07-24
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2024-07-23
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2024-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2024-07-24
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2024-07-24
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2024-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A009	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A001	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A008	2024-07-27
Attenuator	PASTERNAK	PE7004-10	2	2024-07-23
Attenuator	PASTERNAK	PE7395-10	A011	2024-07-25
Power Supply	AGILENT	E3640A	MY54226391	2024-07-24
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2024-07-23
LISN	R&S	ENV-216	101836	2024-07-23
LISN	R&S	ENV-216	101837	2024-07-23
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

## 7. APPLICABLE LIMITS AND TEST RESULTS

### 7.1. RADIATED EMISSIONS

#### TEST PROCEDURE

ANSI C63.4-2014

#### LIMIT

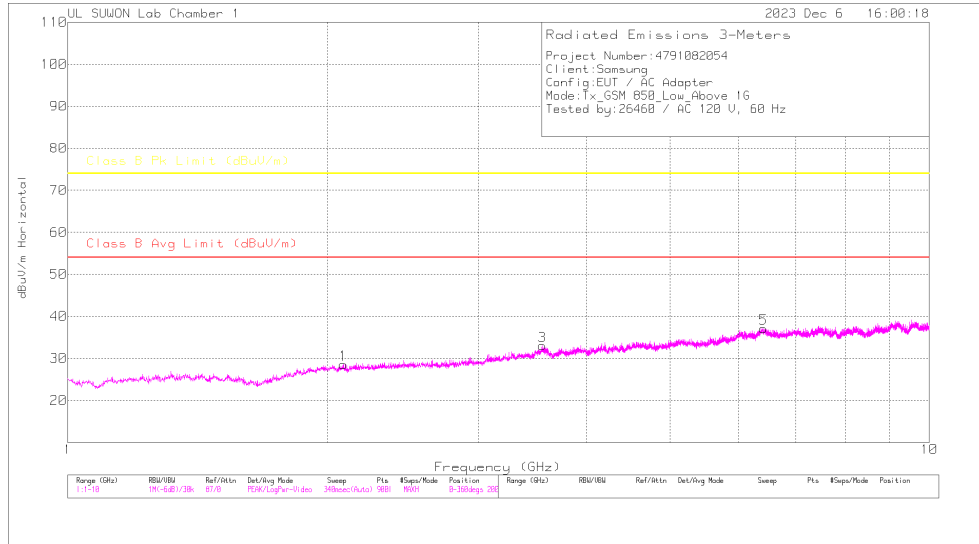
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

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

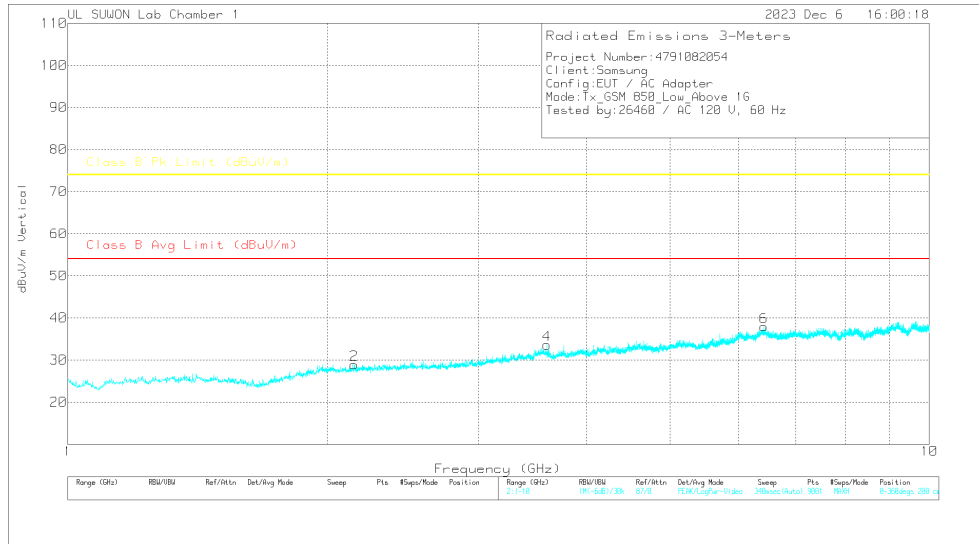
### 7.1.1. Above 1 GHz in the GSM850

#### LOW CHANNEL(869.2 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

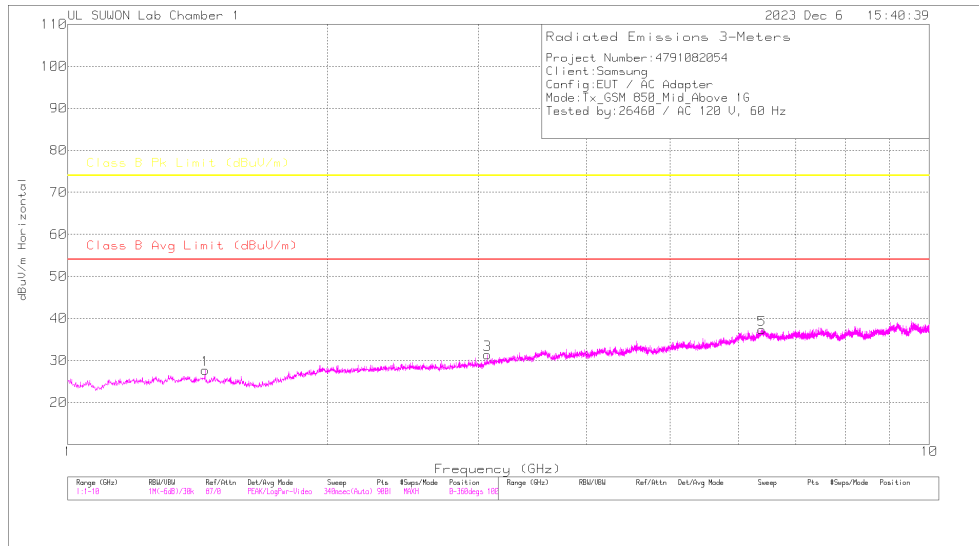
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	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
2.089	42.03	Pk	31.5	-38.4	.8	35.93	-	-	74	-38.07	0	100	H
2.089	29.56	Ca	31.5	-38.4	.8	23.46	54	-30.54	-	-	0	100	H
2.15	41.85	Pk	31.6	-38.4	.8	35.85	-	-	74	-38.15	0	100	V
2.15	29.52	Ca	31.6	-38.4	.8	23.52	54	-30.48	-	-	0	100	V
3.556	40.98	Pk	33.4	-35.2	.9	40.08	-	-	74	-33.92	0	100	H
3.556	28.65	Ca	33.4	-35.2	.9	27.75	54	-26.25	-	-	0	100	H
3.598	40.33	Pk	33.7	-35.2	.8	39.63	-	-	74	-34.37	0	100	V
3.598	28.35	Ca	33.7	-35.2	.8	27.65	54	-26.35	-	-	0	100	V
6.419	39.82	Pk	35.3	-30.9	.8	45.02	-	-	74	-28.98	0	100	H
6.419	27.15	Ca	35.3	-30.9	.8	32.35	54	-21.65	-	-	0	100	H
6.427	39.03	Pk	35.3	-30.9	.8	44.23	-	-	74	-29.77	0	100	V
6.427	27.3	Ca	35.3	-30.9	.8	32.5	54	-21.5	-	-	0	100	V

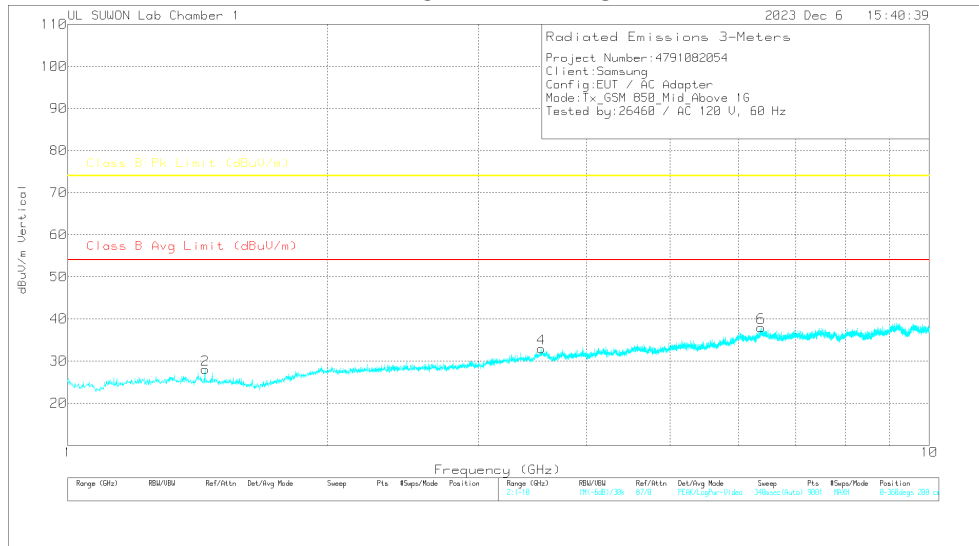
Pk - Peak detector  
 Ca - CISPR average detection

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

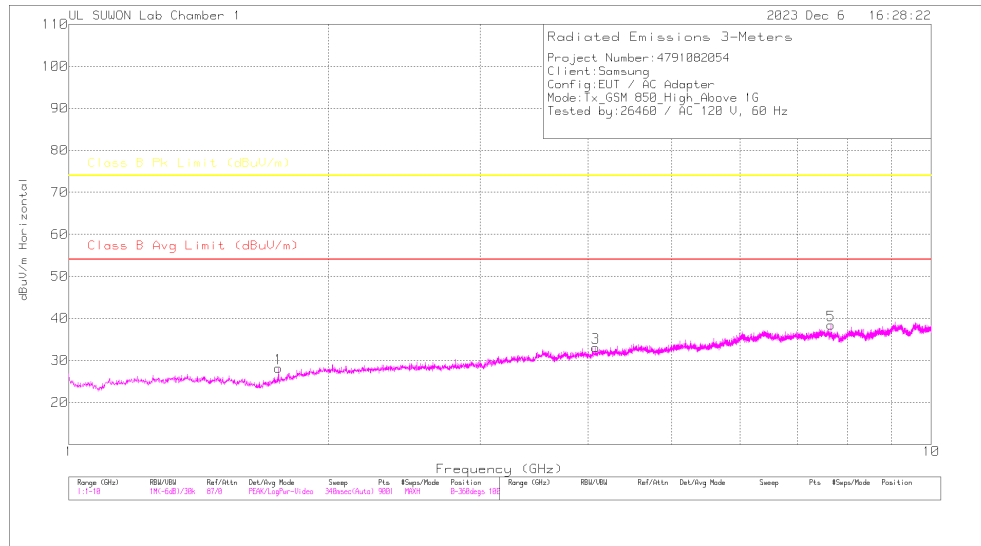
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	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
1.443	42.29	Pk	29.2	-39.5	1	32.99	-	-	74	-41.01	0	100	H
1.443	30.13	Ca	29.2	-39.5	1	20.83	54	-33.17	-	-	0	100	H
1.443	41.89	Pk	29.2	-39.5	1	32.59	-	-	74	-41.41	0	100	V
1.443	30.1	Ca	29.2	-39.5	1	20.8	54	-33.2	-	-	0	100	V
3.069	40.55	Pk	32.9	-37	.9	37.35	-	-	74	-36.65	0	100	H
3.069	28.56	Ca	32.9	-37	.9	25.36	54	-28.64	-	-	0	100	H
3.546	40.04	Pk	33.3	-35.2	.9	39.04	-	-	74	-34.96	0	100	V
3.546	28.39	Ca	33.3	-35.2	.9	27.39	54	-26.61	-	-	0	100	V
6.397	39.51	Pk	35.3	-30.9	.8	44.71	-	-	74	-29.29	0	100	H
6.397	27.13	Ca	35.3	-30.9	.8	32.33	54	-21.67	-	-	0	100	H
6.381	38.72	Pk	35.3	-30.9	.8	43.92	-	-	74	-30.08	0	100	V
6.381	27.12	Ca	35.3	-30.9	.8	32.32	54	-21.68	-	-	0	100	V

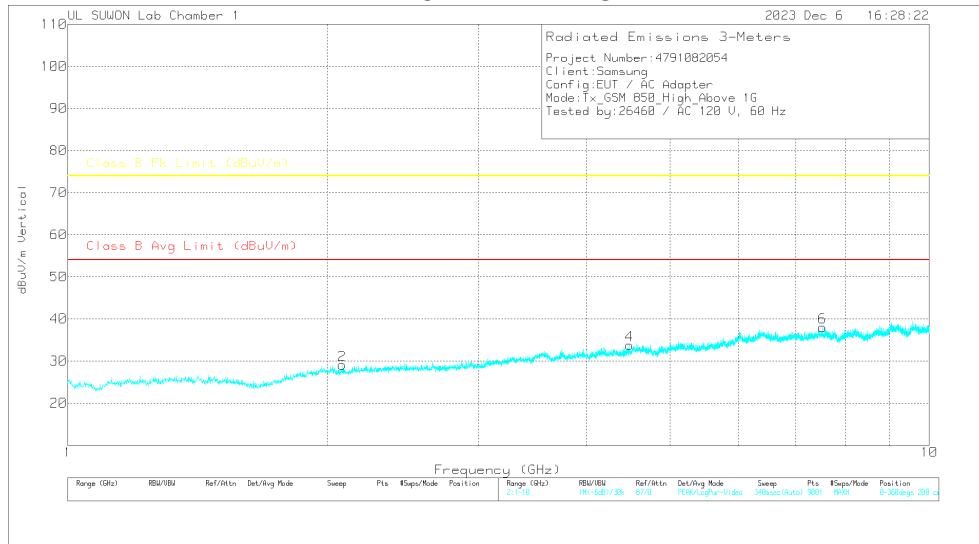
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(893.8 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

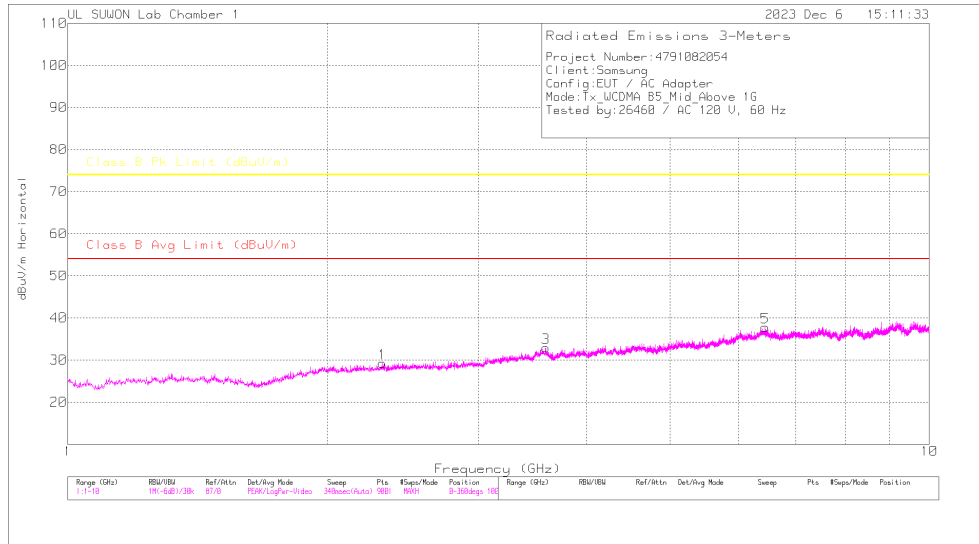
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	1G HPF [dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR) Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.75	42.3	Pk	29.1	-38.9	.9	33.4	-	-	74	-40.6	0	100	H
1.75	29.91	Ca	29.1	-38.9	.9	21.01	54	-32.99	-	-	0	100	H
2.082	43.22	Pk	31.5	-38.4	.8	37.12	-	-	74	-36.88	0	100	V
2.082	29.51	Ca	31.5	-38.4	.8	23.41	54	-30.59	-	-	0	100	V
4.082	40.22	Pk	34	-34.2	.6	40.62	-	-	74	-33.38	0	100	H
4.082	27.6	Ca	34	-34.2	.6	28	54	-26	-	-	0	100	H
4.487	39.79	Pk	34.3	-34.1	.7	40.69	-	-	74	-33.31	0	100	V
4.487	27.51	Ca	34.3	-34.1	.7	28.41	54	-25.59	-	-	0	100	V
7.652	38.51	Pk	35.7	-30.4	.8	44.61	-	-	74	-29.39	0	100	H
7.652	25.78	Ca	35.7	-30.4	.8	31.88	54	-22.12	-	-	0	100	H
7.517	38.57	Pk	35.6	-30	.8	44.97	-	-	74	-29.03	0	100	V
7.517	26.28	Ca	35.6	-30	.8	32.68	54	-21.32	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

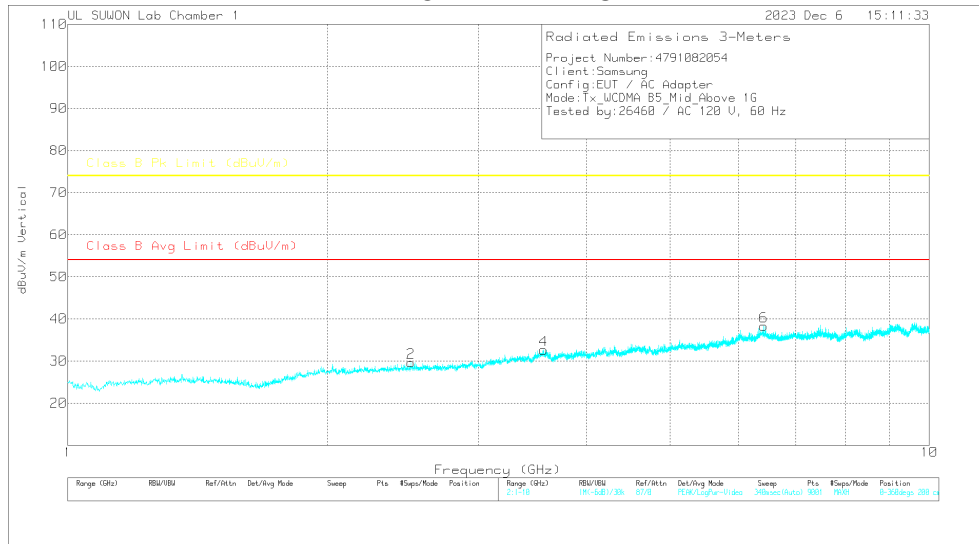
### 7.1.2. Above 1 GHz in the WCDMA Band 5

#### MID CHANNEL(881.6 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Radiated Emissions

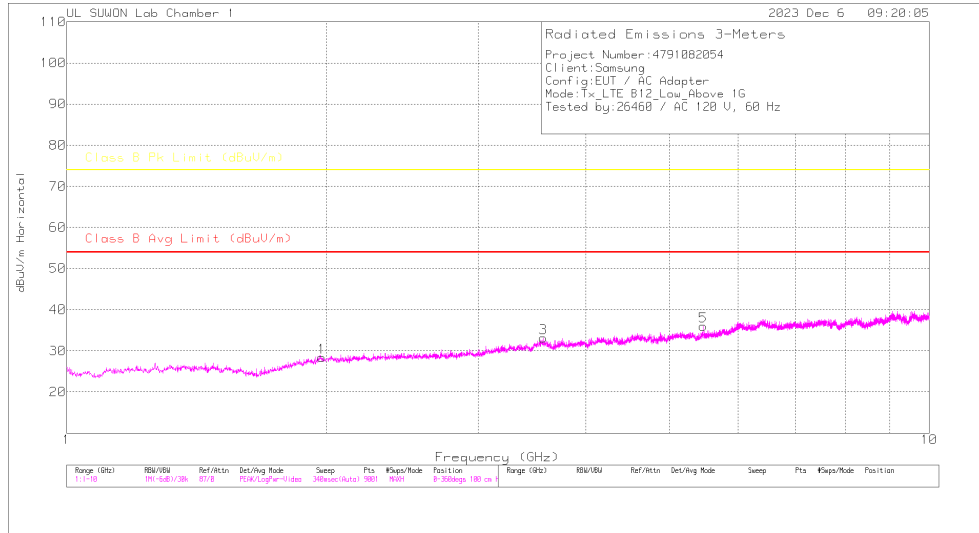
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	1G HPF [dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR) Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.318	41.71	Pk	31.7	-38.2	.9	36.11	-	-	74	-37.89	0	100	H
2.318	29.44	Ca	31.7	-38.2	.9	23.84	54	-30.16	-	-	0	100	H
2.502	40.91	Pk	32.2	-37.9	1	36.21	-	-	74	-37.79	0	100	V
2.502	29.11	Ca	32.2	-37.9	1	24.41	54	-29.59	-	-	0	100	V
3.59	40.6	Pk	33.7	-35.2	.8	39.9	-	-	74	-34.1	0	100	H
3.59	28.07	Ca	33.7	-35.2	.8	27.37	54	-26.63	-	-	0	100	H
3.567	40.43	Pk	33.5	-35.2	.9	39.63	-	-	74	-34.37	0	100	V
3.567	28.37	Ca	33.5	-35.2	.9	27.57	54	-26.43	-	-	0	100	V
6.45	39.17	Pk	35.3	-31	.8	44.27	-	-	74	-29.73	0	100	H
6.45	27.26	Ca	35.3	-31	.8	32.36	54	-21.64	-	-	0	100	H
6.424	39.69	Pk	35.3	-30.9	.8	44.89	-	-	74	-29.11	0	100	V
6.424	27.26	Ca	35.3	-30.9	.8	32.46	54	-21.54	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

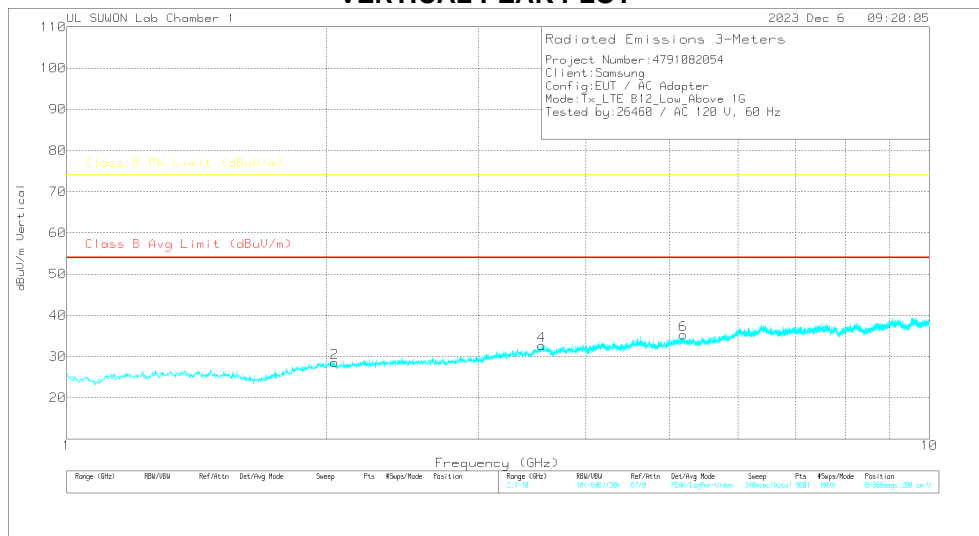
### 7.1.3. Above 1 GHz in the LTE Band 12

#### LOW CHANNEL(734.0 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Radiated Emissions

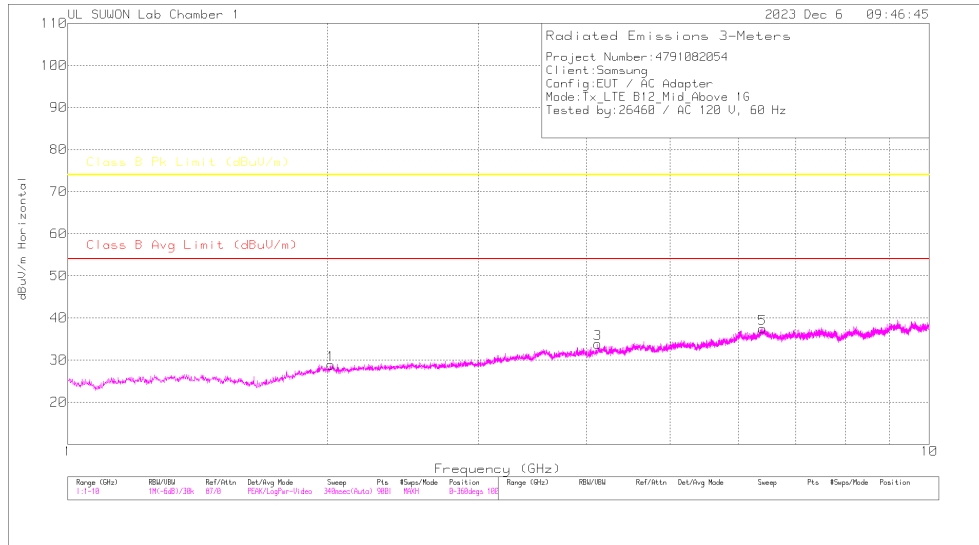
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	1G HPF (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR) Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.976	42.16	Pk	31.2	-38.5	.9	35.76	54	-	74	-38.24	0	100	H
1.976	30.16	Ca	31.2	-38.5	.9	23.76	54	-30.24	-	-	0	100	H
2.044	41.8	Pk	31.5	-38.4	.9	35.8	-	-	74	-38.2	0	100	V
2.044	29.54	Ca	31.5	-38.4	.9	23.54	54	-30.46	-	-	0	100	V
3.569	40.58	Pk	33.5	-35.2	.9	39.78	-	-	74	-34.22	0	100	H
3.569	28.33	Ca	33.5	-35.2	.9	27.53	54	-26.47	-	-	0	100	H
3.555	40.29	Pk	33.4	-35.2	.9	39.39	-	-	74	-34.61	0	100	V
3.555	28.54	Ca	33.4	-35.2	.9	27.64	54	-26.36	-	-	0	100	V
5.472	39.4	Pk	34.7	-32.6	.6	42.1	-	-	74	-31.9	0	100	H
5.472	27.17	Ca	34.7	-32.6	.6	29.87	54	-24.13	-	-	0	100	H
5.183	39.33	Pk	34.5	-33.1	.7	41.43	-	-	74	-32.57	0	100	V
5.183	27.28	Ca	34.5	-33.1	.7	29.38	54	-24.62	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

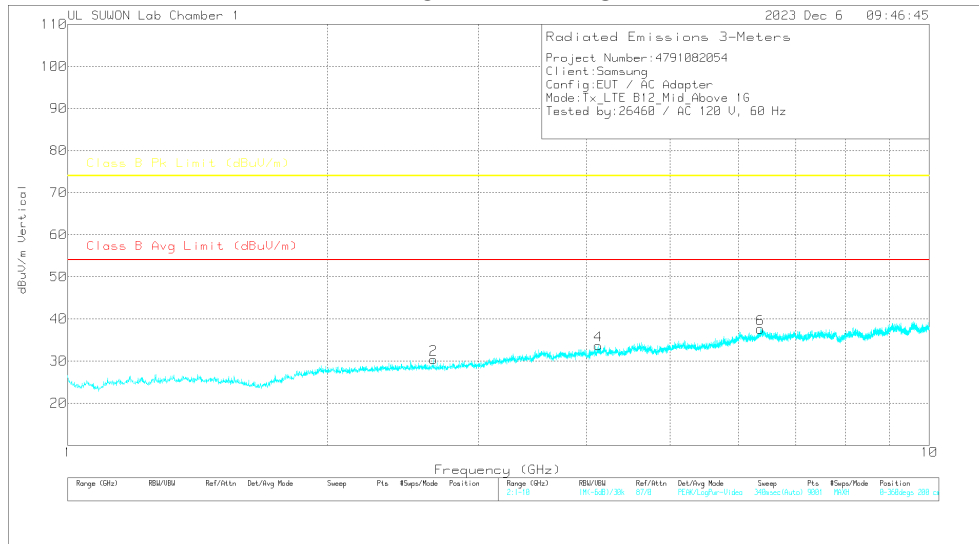


**MID CHANNEL(737.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

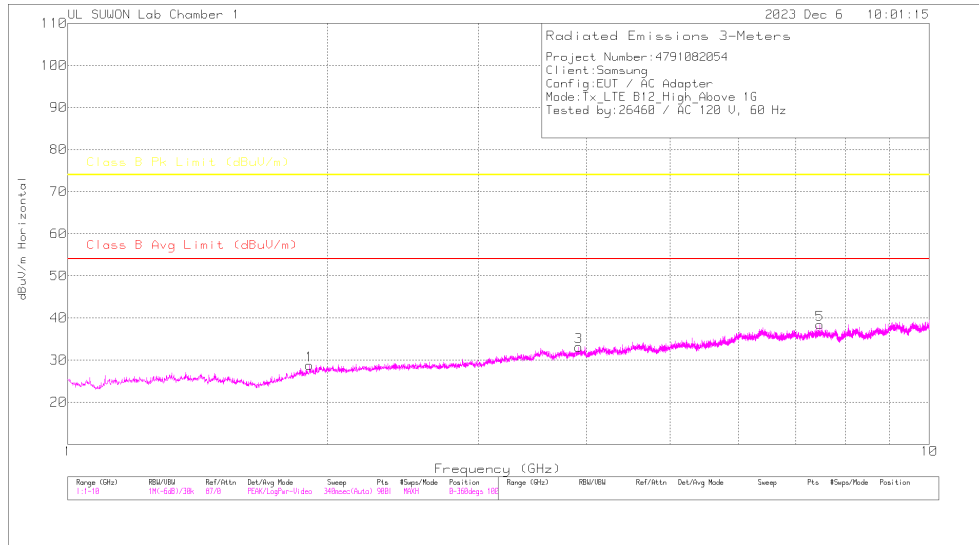
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	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
2.02	42.1	Pk	31.4	-38.5	.9	35.9	-	-	74	-38.1	0	100	H
2.02	29.9	Ca	31.4	-38.5	.9	23.7	54	-30.3	-	-	0	100	H
2.657	41.29	Pk	32.2	-37.9	1.1	36.69	-	-	74	-37.31	0	100	V
2.657	29.31	Ca	32.2	-37.9	1.1	24.71	54	-29.29	-	-	0	100	V
4.124	40.32	Pk	34	-34.1	.6	40.82	-	-	74	-33.18	0	100	H
4.124	27.98	Ca	34	-34.1	.6	28.48	54	-25.52	-	-	0	100	H
4.126	40.02	Pk	34	-34.1	.7	40.62	-	-	74	-33.38	0	100	V
4.126	28.06	Ca	34	-34.1	.7	28.66	54	-25.34	-	-	0	100	V
6.401	39.74	Pk	35.3	-30.9	.8	44.94	-	-	74	-29.06	0	100	H
6.401	27.04	Ca	35.3	-30.9	.8	32.24	54	-21.76	-	-	0	100	H
6.366	38.61	Pk	35.3	-31	.8	43.71	-	-	74	-30.29	0	100	V
6.366	26.84	Ca	35.3	-31	.8	31.94	54	-22.06	-	-	0	100	V

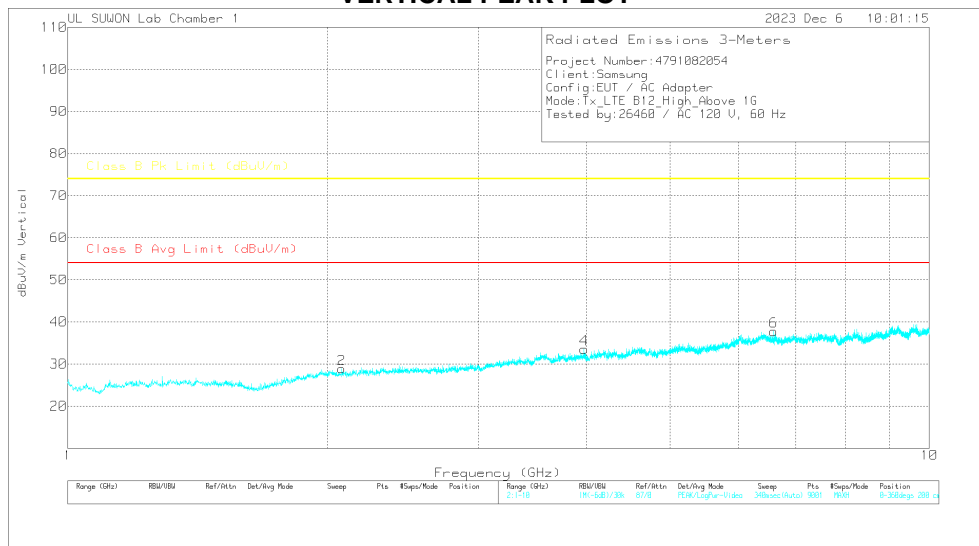
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(741.0 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

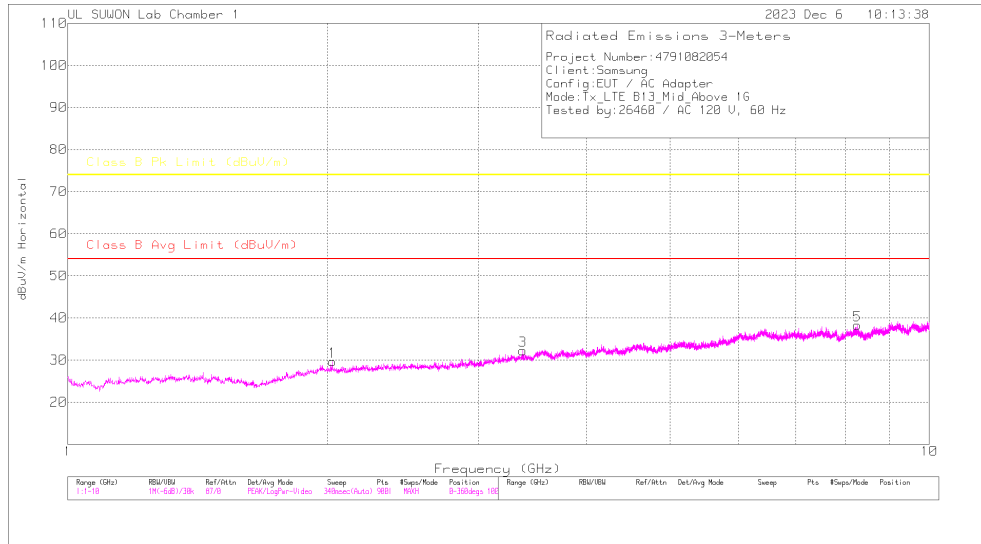
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	1-18GHz(dB)	1G HPF[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.908	42.92	Pk	30.8	-38.7	.9	35.92	-	-	74	-38.08	0	100	H
1.908	30.17	Ca	30.8	-38.7	.9	23.17	54	-30.83	-	-	0	100	H
2.08	41.37	Pk	31.5	-38.5	.8	35.17	-	-	74	-38.83	0	100	V
2.08	29.68	Ca	31.5	-38.5	.8	23.48	54	-30.52	-	-	0	100	V
3.917	40.3	Pk	34	-34.3	.7	40.7	-	-	74	-33.3	0	100	H
3.917	27.06	Ca	34	-34.3	.7	27.46	54	-26.54	-	-	0	100	H
3.975	39.43	Pk	34	-34.3	.8	39.93	-	-	74	-34.07	0	100	V
3.975	27.02	Ca	34	-34.3	.8	27.52	54	-26.48	-	-	0	100	V
7.464	38.24	Pk	35.6	-30.2	.8	44.44	-	-	74	-29.56	0	100	H
7.464	26.09	Ca	35.6	-30.2	.8	32.29	54	-21.71	-	-	0	100	H
6.599	39.08	Pk	35.3	-30.8	.8	44.38	-	-	74	-29.62	0	100	V
6.599	26.7	Ca	35.3	-30.8	.8	32	54	-22	-	-	0	100	V

PK - Peak detector  
 Ca - CISPR average detection

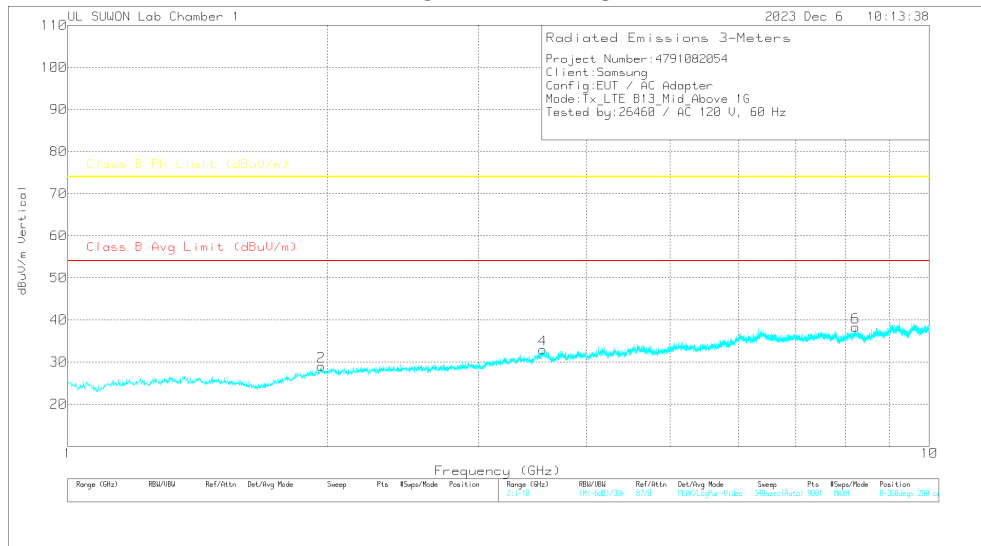
### 7.1.4. Above 1 GHz in the LTE Band 13

#### LOW CHANNEL(748.5 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

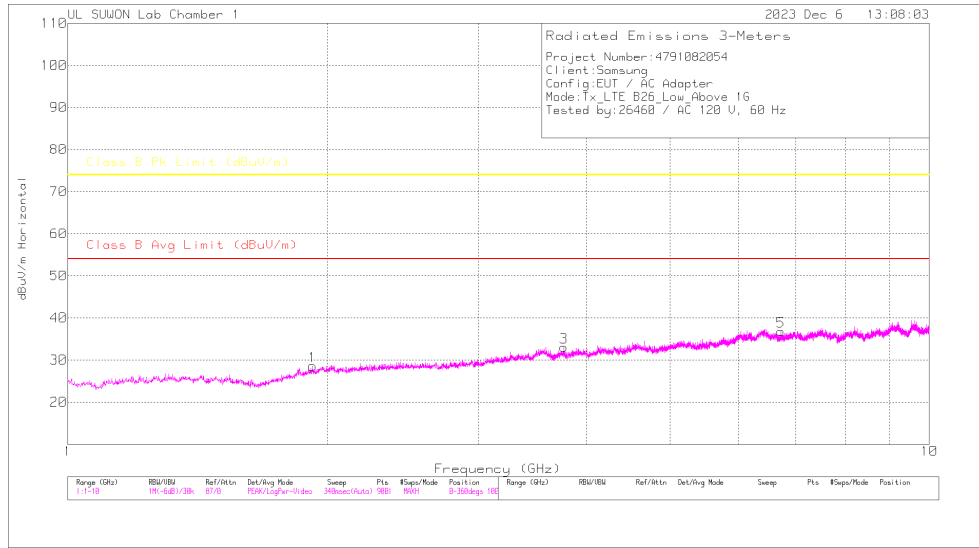
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	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
2.028	41.92	Pk	31.4	-38.5	.9	35.72	-	-	74	-38.28	0	100	H
2.028	29.92	Ca	31.4	-38.5	.9	23.72	54	-30.28	-	-	0	100	H
1.969	41.83	Pk	31.2	-38.5	.9	35.43	-	-	74	-38.57	0	100	V
1.969	30.08	Ca	31.2	-38.5	.9	23.68	54	-30.32	-	-	0	100	V
3.373	40.67	Pk	33	-35.9	.8	38.57	-	-	74	-35.43	0	100	H
3.373	28.35	Ca	33	-35.9	.8	26.25	54	-27.75	-	-	0	100	H
3.558	41	Pk	33.4	-35.2	.9	40.1	-	-	74	-33.9	0	100	V
3.558	28.53	Ca	33.4	-35.2	.9	27.63	54	-26.37	-	-	0	100	V
8.256	36.89	Pk	36.3	-29.4	.9	44.69	-	-	74	-29.31	0	100	H
8.256	24.71	Ca	36.3	-29.4	.9	32.51	54	-21.49	-	-	0	100	H
8.213	37.32	Pk	36.3	-29.4	.8	45.02	-	-	74	-28.98	0	100	V
8.213	24.93	Ca	36.3	-29.4	.8	32.63	54	-21.37	-	-	0	100	V

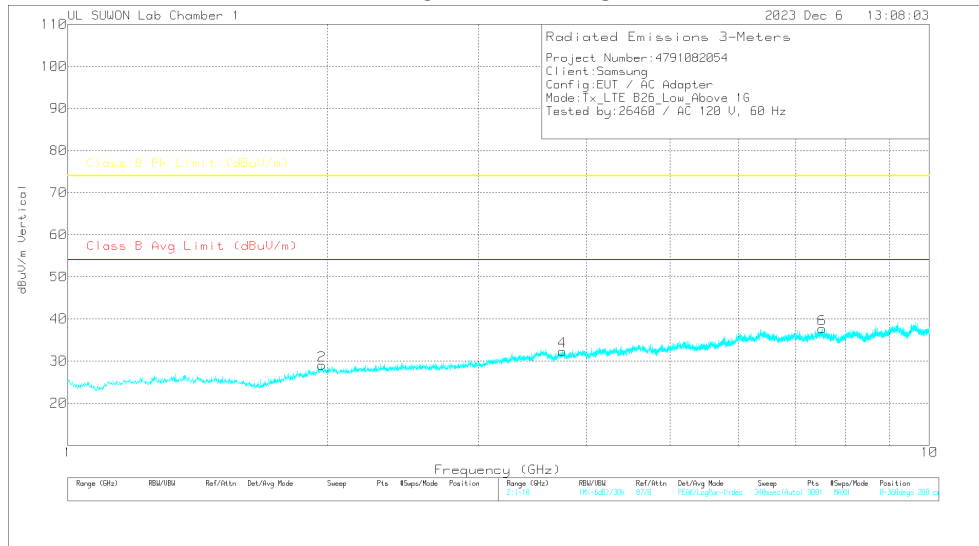
Pk - Peak detector  
 Ca - CISPR average detection

**MID CHANNEL(751.0 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

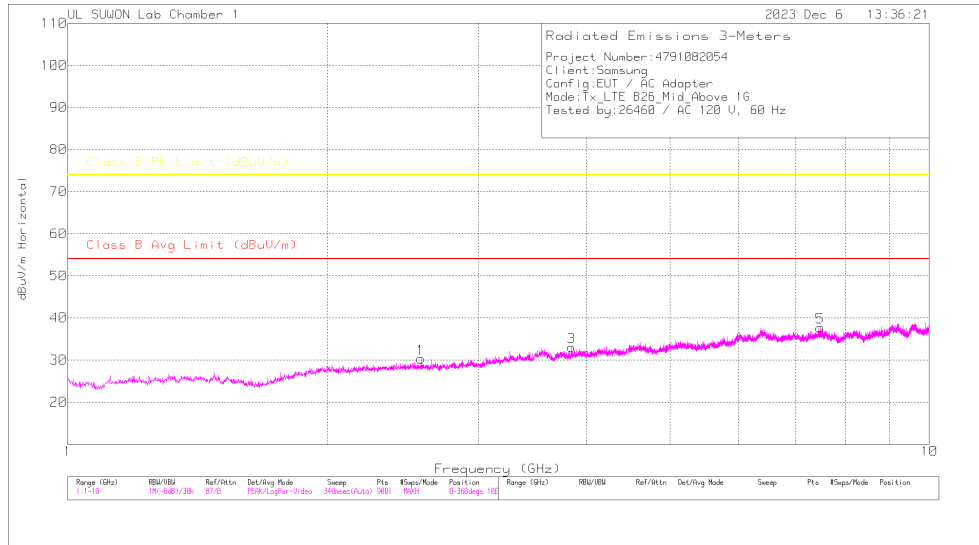
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	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
1.924	41.96	Pk	30.9	-38.7	.9	35.06	-	-	74	-38.94	0	100	H
1.924	29.83	Ca	30.9	-38.7	.9	22.93	54	-31.07	-	-	0	100	H
1.972	41.34	Pk	31.2	-38.5	.9	34.94	-	-	74	-39.06	0	100	V
1.972	29.93	Ca	31.2	-38.5	.9	23.53	54	-30.47	-	-	0	100	V
3.766	40.03	Pk	33.6	-34.7	.8	39.73	-	-	74	-34.27	0	100	H
3.766	27.93	Ca	33.6	-34.7	.8	27.63	54	-26.37	-	-	0	100	H
3.751	40.09	Pk	33.6	-34.7	.8	39.79	-	-	74	-34.21	0	100	V
3.751	27.92	Ca	33.6	-34.7	.8	27.62	54	-26.38	-	-	0	100	V
6.73	38.72	Pk	35.4	-30.9	.7	43.92	-	-	74	-30.08	0	100	H
6.73	26.38	Ca	35.4	-30.9	.7	31.58	54	-22.42	-	-	0	100	H
7.512	38.32	Pk	35.6	-29.9	.7	44.72	-	-	74	-29.28	0	100	V
7.512	25.95	Ca	35.6	-29.9	.7	32.35	54	-21.65	-	-	0	100	V

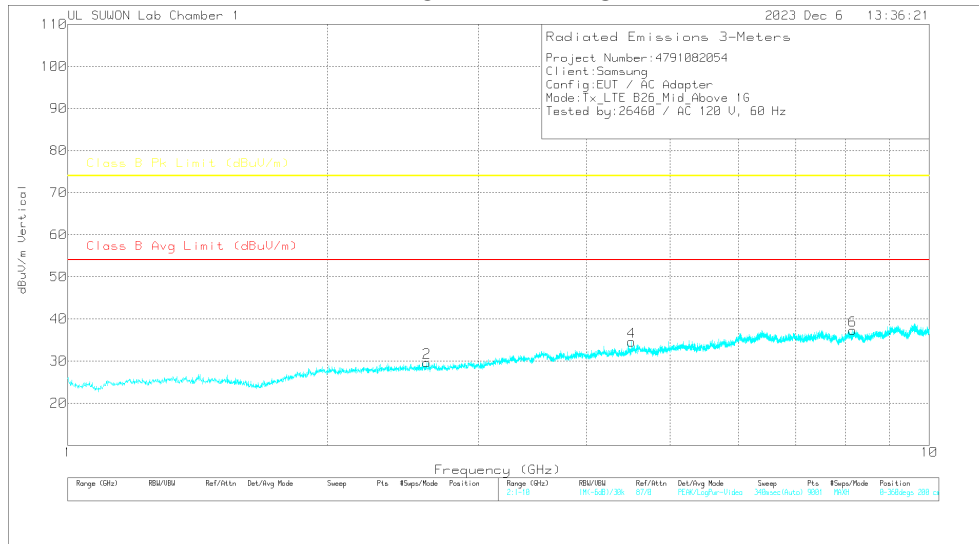
Pk - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(753.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

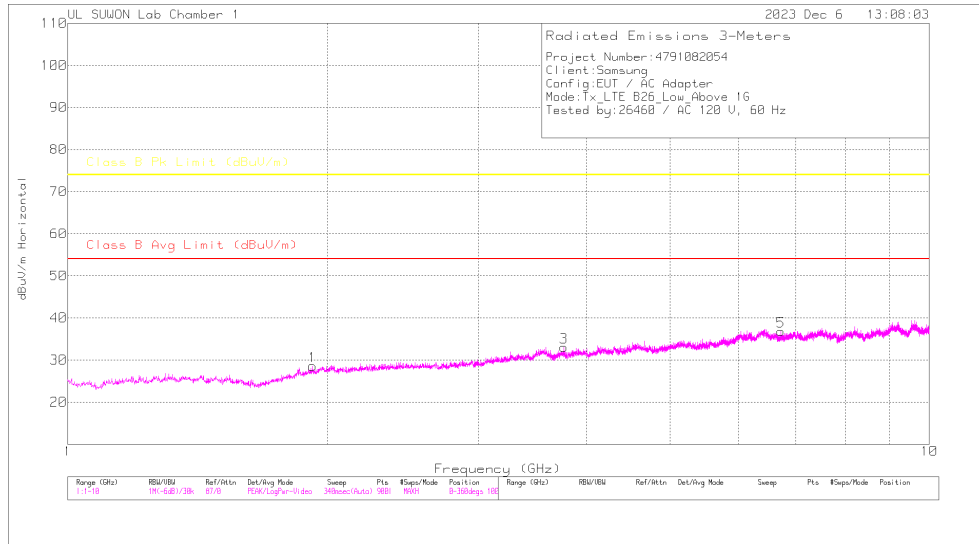
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	1G HPF [dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR) Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.57	42.21	Pk	32.2	-38	.9	37.31	-	-	74	-36.69	0	100	H
2.57	29.02	Ca	32.2	-38	.9	24.12	54	-29.88	-	-	0	100	H
2.61	40.98	Pk	32.3	-37.9	1	36.38	-	-	74	-37.62	0	100	V
2.61	28.79	Ca	32.3	-37.9	1	24.19	54	-29.81	-	-	0	100	V
3.843	40.54	Pk	33.8	-34.6	.7	40.44	-	-	74	-33.56	0	100	H
3.843	27.6	Ca	33.8	-34.6	.7	27.5	54	-26.5	-	-	0	100	H
4.514	38.96	Pk	34.3	-34.1	.7	39.86	-	-	74	-34.14	0	100	V
4.514	27.39	Ca	34.3	-34.1	.7	28.29	54	-25.71	-	-	0	100	V
7.471	38.04	Pk	35.6	-30.1	.8	44.34	-	-	74	-29.66	0	100	H
7.471	25.96	Ca	35.6	-30.1	.8	32.26	54	-21.74	-	-	0	100	H
8.153	36.74	Pk	36.3	-29.5	.7	44.24	-	-	74	-29.76	0	100	V
8.153	24.96	Ca	36.3	-29.5	.7	32.46	54	-21.54	-	-	0	100	V

Pk - Peak detector  
 Ca - CISPR average detection

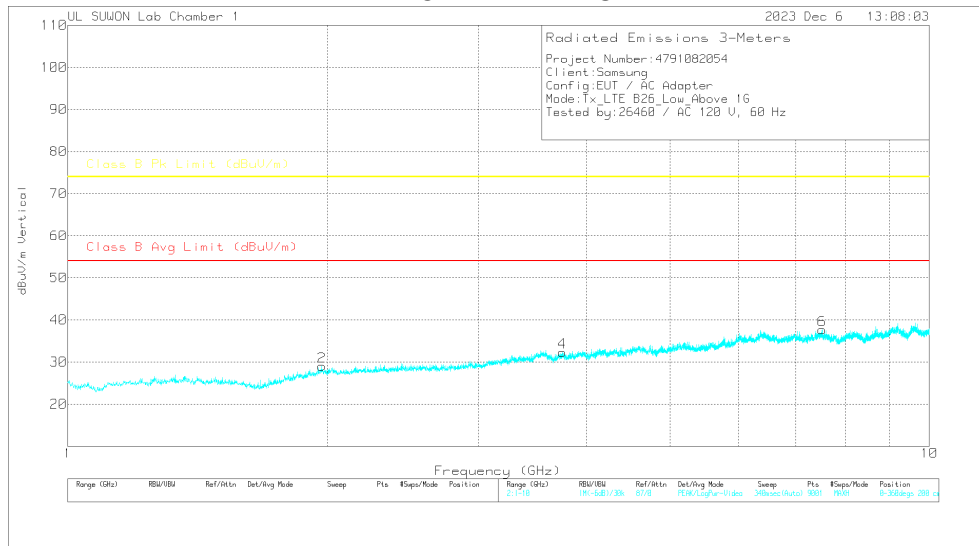
### 7.1.5. Above 1 GHz in the LTE Band 26

#### LOW CHANNEL(869.7 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

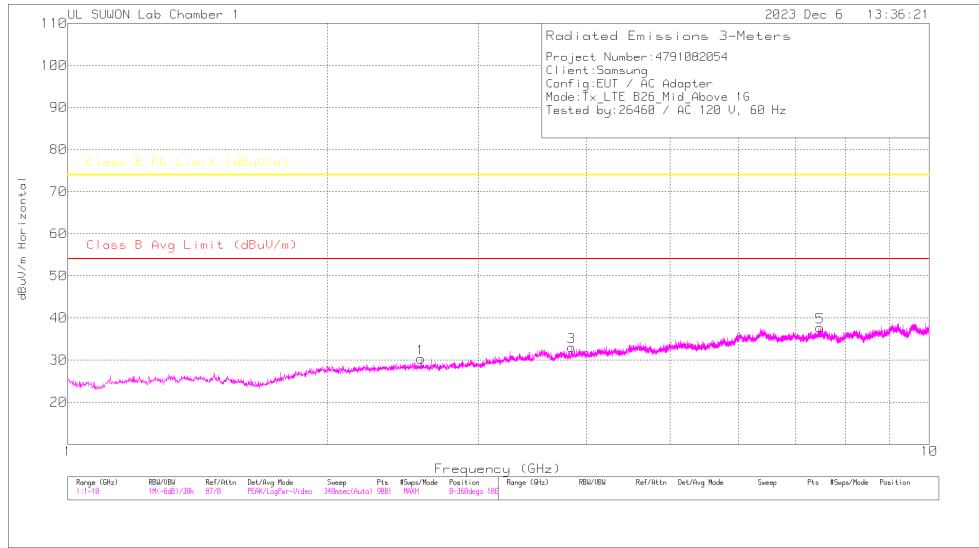
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	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
1.924	41.96	Pk	30.9	-38.7	.9	35.06	-	-	74	-38.94	0	100	H
1.924	29.83	Ca	30.9	-38.7	.9	22.93	54	-31.07	-	-	0	100	H
1.972	41.34	Pk	31.2	-38.5	.9	34.94	-	-	74	-39.06	0	100	V
1.972	29.93	Ca	31.2	-38.5	.9	23.53	54	-30.47	-	-	0	100	V
3.766	40.03	Pk	33.6	-34.7	.8	39.73	-	-	74	-34.27	0	100	H
3.766	27.93	Ca	33.6	-34.7	.8	27.63	54	-26.37	-	-	0	100	H
3.751	40.09	Pk	33.6	-34.7	.8	39.79	-	-	74	-34.21	0	100	V
3.751	27.92	Ca	33.6	-34.7	.8	27.62	54	-26.38	-	-	0	100	V
6.73	38.72	Pk	35.4	-30.9	.7	43.92	-	-	74	-30.08	0	100	H
6.73	26.38	Ca	35.4	-30.9	.7	31.58	54	-22.42	-	-	0	100	H
7.512	38.32	Pk	35.6	-29.9	.7	44.72	-	-	74	-29.28	0	100	V
7.512	25.95	Ca	35.6	-29.9	.7	32.35	54	-21.65	-	-	0	100	V

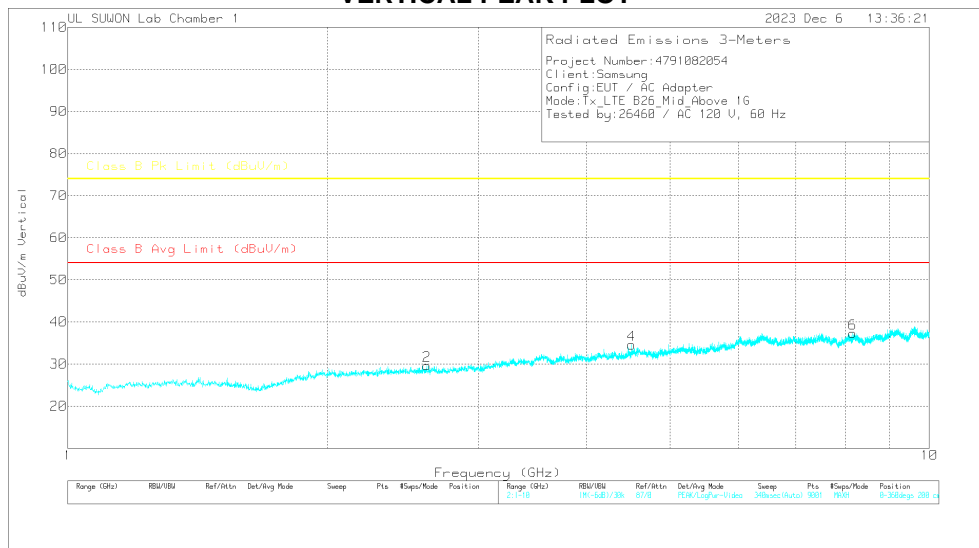
Pk - Peak detector  
 Ca - CISPR average detection

**MID CHANNEL(876.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

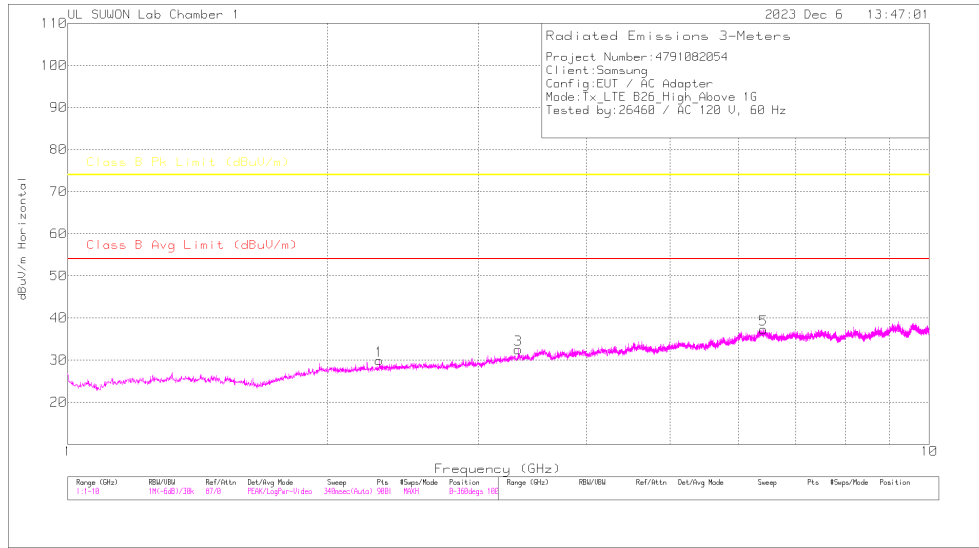
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	1-18GHz (dB)	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
2.57	42.21	Pk	32.2	-38	.9	37.31	-	-	74	-36.69	0	100	H
2.57	29.02	Ca	32.2	-38	.9	24.12	54	-29.88	-	-	0	100	H
2.61	40.98	Pk	32.3	-37.9	1	36.38	-	-	74	-37.62	0	100	V
2.61	28.79	Ca	32.3	-37.9	1	24.19	54	-29.81	-	-	0	100	V
3.843	40.54	Pk	33.8	-34.6	.7	40.44	-	-	74	-33.56	0	100	H
3.843	27.6	Ca	33.8	-34.6	.7	27.5	54	-26.5	-	-	0	100	H
4.514	38.96	Pk	34.3	-34.1	.7	39.86	-	-	74	-34.14	0	100	V
4.514	27.39	Ca	34.3	-34.1	.7	28.29	54	-25.71	-	-	0	100	V
7.471	38.04	Pk	35.6	-30.1	.8	44.34	-	-	74	-29.66	0	100	H
7.471	25.96	Ca	35.6	-30.1	.8	32.26	54	-21.74	-	-	0	100	H
8.153	36.74	Pk	36.3	-29.5	.7	44.24	-	-	74	-29.76	0	100	V
8.153	24.96	Ca	36.3	-29.5	.7	32.46	54	-21.54	-	-	0	100	V

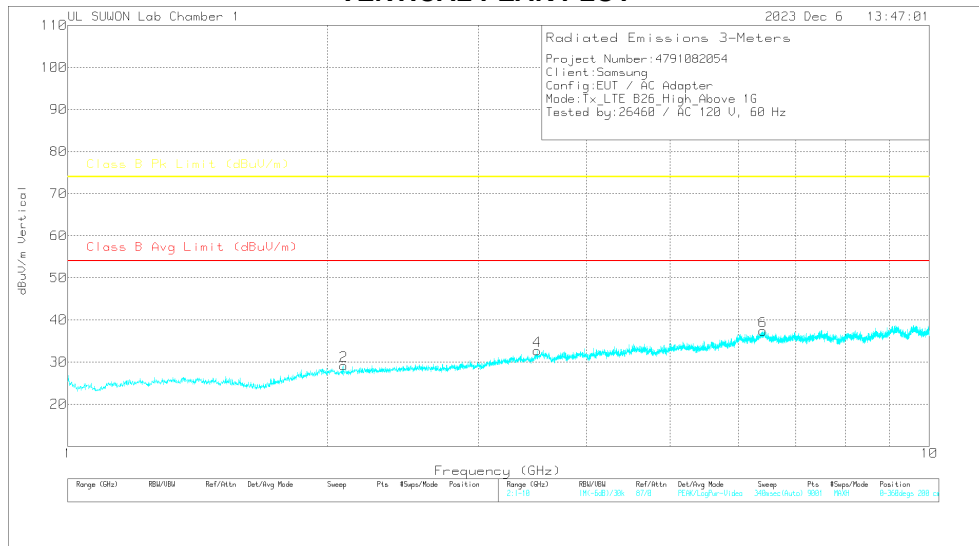
PK - Peak detector  
 Ca - CISPR average detection

**HIGH CHANNEL(893.3 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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
2.299	41.98	Pk	31.7	-38.2	.9	36.38	-	-	74	-37.62	0	100	H
2.299	29.28	Ca	31.7	-38.2	.9	23.68	54	-30.32	-	-	0	100	H
2.091	42.22	Pk	31.5	-38.4	.8	36.12	-	-	74	-37.88	0	100	V
2.091	29.63	Ca	31.5	-38.4	.8	23.53	54	-30.47	-	-	0	100	V
3.333	40.89	Pk	33	-36.1	.8	38.59	-	-	74	-35.41	0	100	H
3.333	28.48	Ca	33	-36.1	.8	26.18	54	-27.82	-	-	0	100	H
3.506	40.68	Pk	33.3	-35.4	.8	39.38	-	-	74	-34.62	0	100	V
3.506	28.3	Ca	33.3	-35.4	.8	27	54	-27	-	-	0	100	V
6.419	38.9	Pk	35.3	-30.9	.8	44.1	-	-	74	-29.9	0	100	H
6.419	26.94	Ca	35.3	-30.9	.8	32.14	54	-21.86	-	-	0	100	H
6.41	39.55	Pk	35.3	-30.9	.8	44.75	-	-	74	-29.25	0	100	V
6.41	26.91	Ca	35.3	-30.9	.8	32.11	54	-21.89	-	-	0	100	V

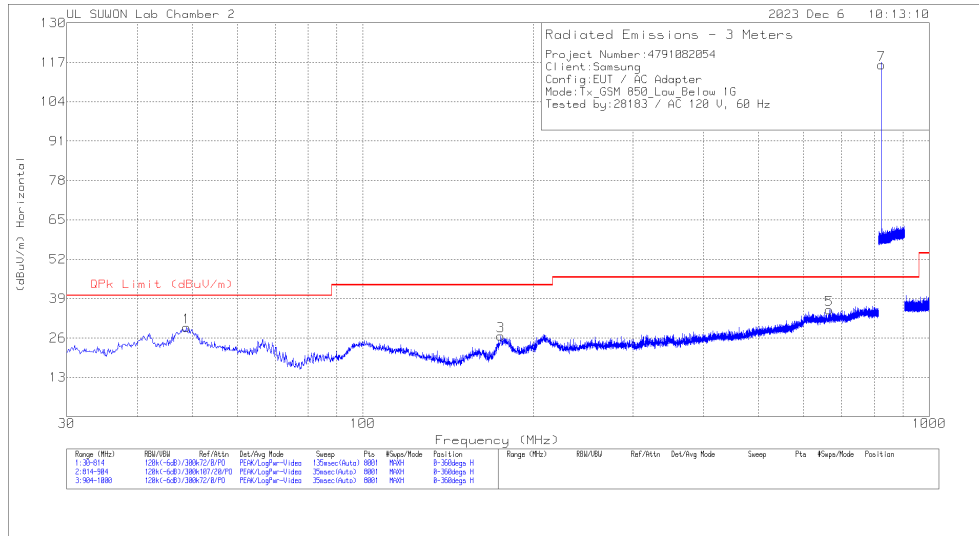
PK - Peak detector  
 Ca - CISPR average detection



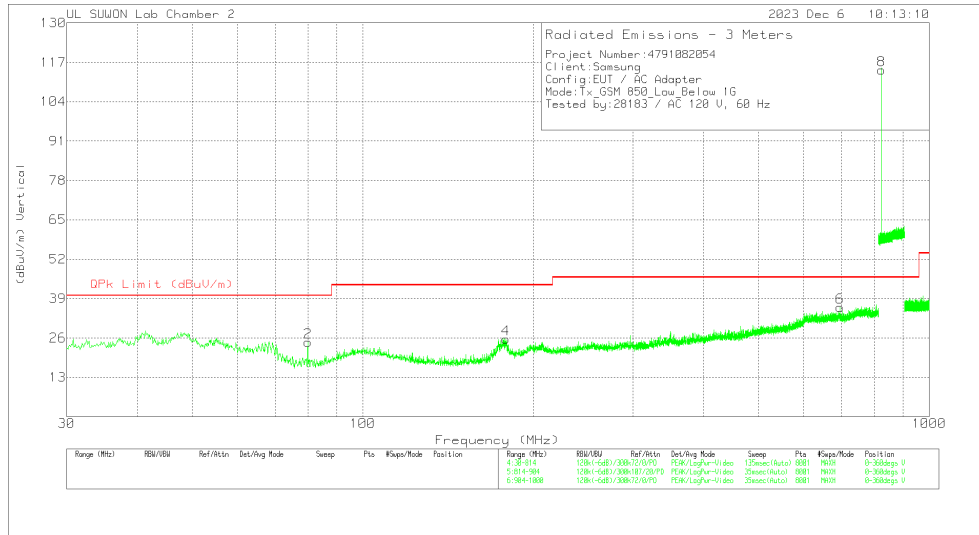
### 7.1.6. Below 1 GHz in the GSM850

#### LOW CHANNEL(869.2 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

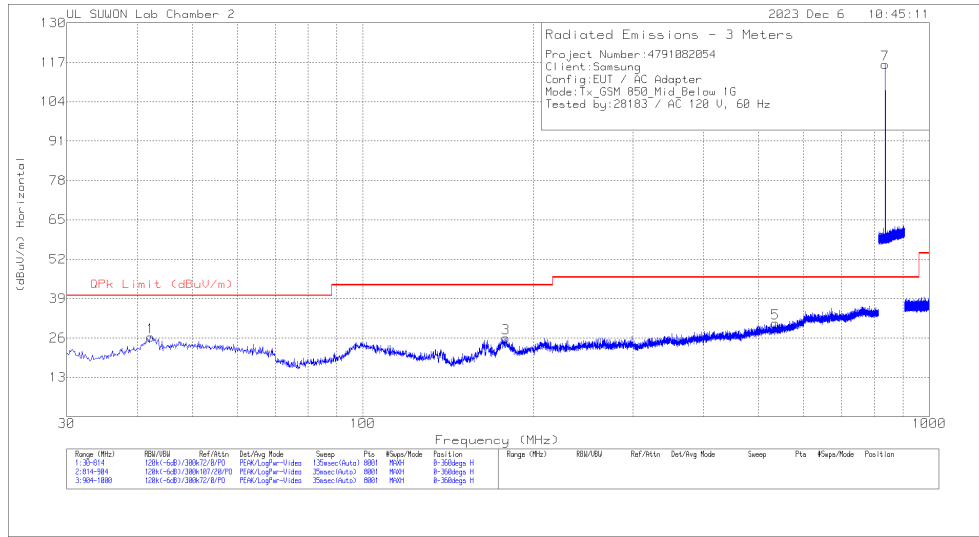
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	48.816	8.64	Pk	20.1	.8	29.54	40	-10.46	0-360	100	H
3	175.334	10.15	Pk	14.9	1.6	26.65	43.52	-16.87	0-360	100	H
5	665.922	6.93	Pk	25.1	3.3	35.33	46.02	-10.69	0-360	200	H
7	824.2488	85.99	Pk	26.5	3.7	116.19	46.02	70.17	0-360	200	H
2	79.98	10.73	Pk	12.8	1.1	24.63	40	-15.37	0-360	200	V
4	178.764	8.82	Pk	15.3	1.6	25.72	43.52	-17.8	0-360	200	V
6	696.302	7.38	Pk	25.4	3.4	36.18	46.02	-9.84	0-360	400	V
8	824.2488	84.21	Pk	26.5	3.7	114.41	46.02	68.39	0-360	100	V

Pk - Peak detector

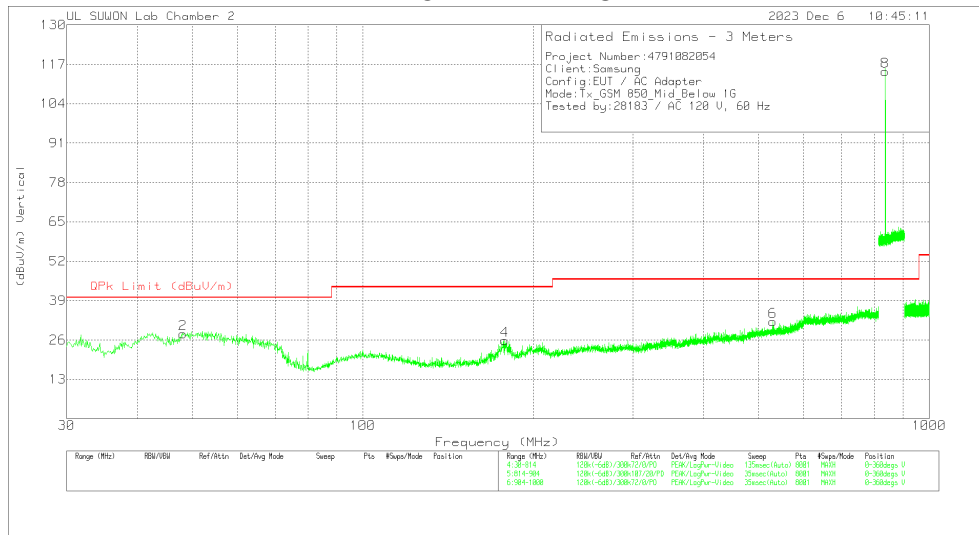
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

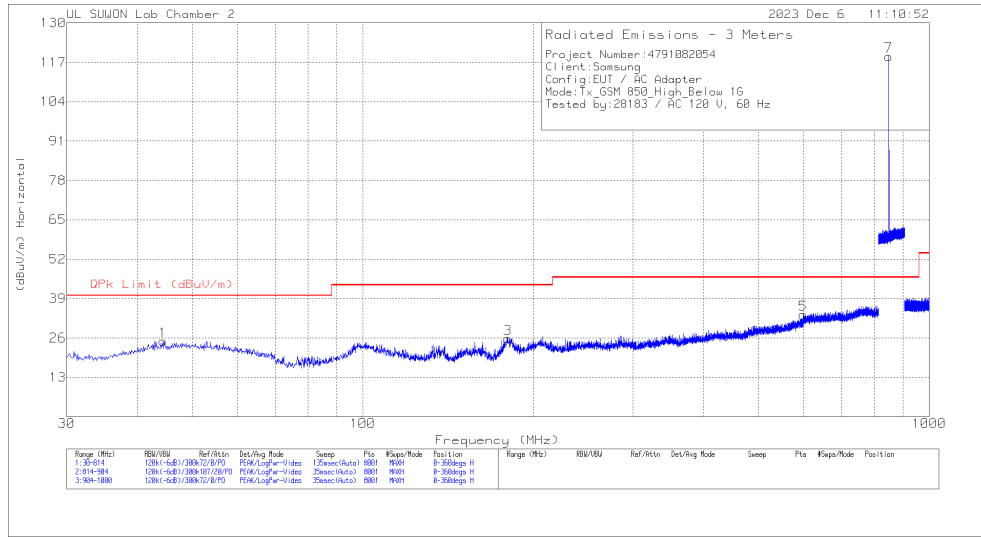
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	42.25	6.17	Pk	19.4	.8	26.37	40	-13.63	0-360	300	H
3	178.764	9.15	Pk	15.3	1.6	26.05	43.52	-17.47	0-360	100	H
5	535.19	4.74	Pk	23.2	2.9	30.84	46.02	-15.18	0-360	100	H
7	836.6013	86.05	Pk	26.6	3.7	116.35	46.02	70.33	0-360	200	H
2	48.13	7.16	Pk	20.1	.8	28.06	40	-11.94	0-360	300	V
4	178.176	8.96	Pk	15.2	1.6	25.76	43.52	-17.76	0-360	200	V
6	529.114	6.07	Pk	23.1	2.9	32.07	46.02	-13.95	0-360	200	V
8	836.6013	84.27	Pk	26.6	3.7	114.57	46.02	68.55	0-360	100	V

Pk - Peak detector

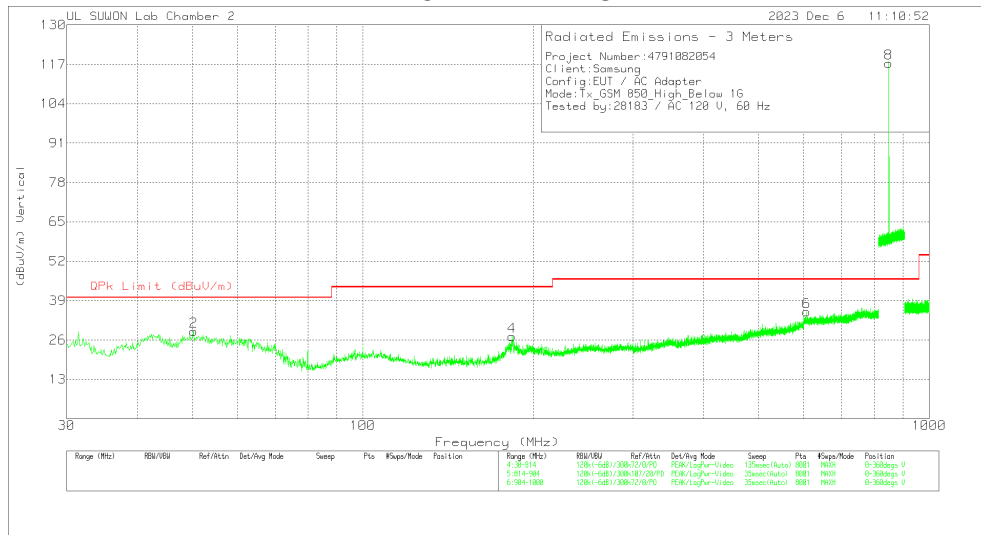
Note: Unwanted emissions captured from 824MHz to 849MHz and from 869MHz to 894MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(893.8 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dBm)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	44.406	4.46	Pk	19.7	.8	24.96	40	-15.04	0-360	300	H
3	180.332	8.81	Pk	15.4	1.6	25.81	43.52	-17.71	0-360	100	H
5	598.988	5.71	Pk	24.9	3.1	33.71	46.02	-12.31	0-360	200	H
7	848.8075	88.34	Pk	26.9	3.7	118.94	46.02	72.92	0-360	200	H
2	50.286	8.03	Pk	20.1	.8	28.93	40	-11.07	0-360	200	V
4	183.37	9.91	Pk	15.7	1.6	27.21	43.52	-16.31	0-360	200	V
6	607.514	7.24	Pk	24.9	3.1	35.24	46.02	-10.78	0-360	400	V
8	848.8075	86.7	PK	26.9	3.7	117.3	46.02	71.28	0-360	100	V

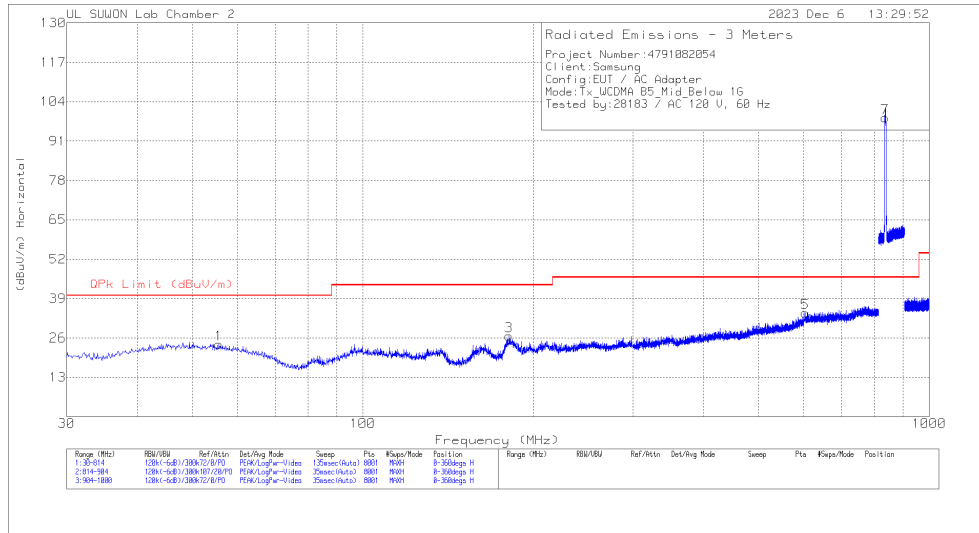
Pk - Peak detector

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

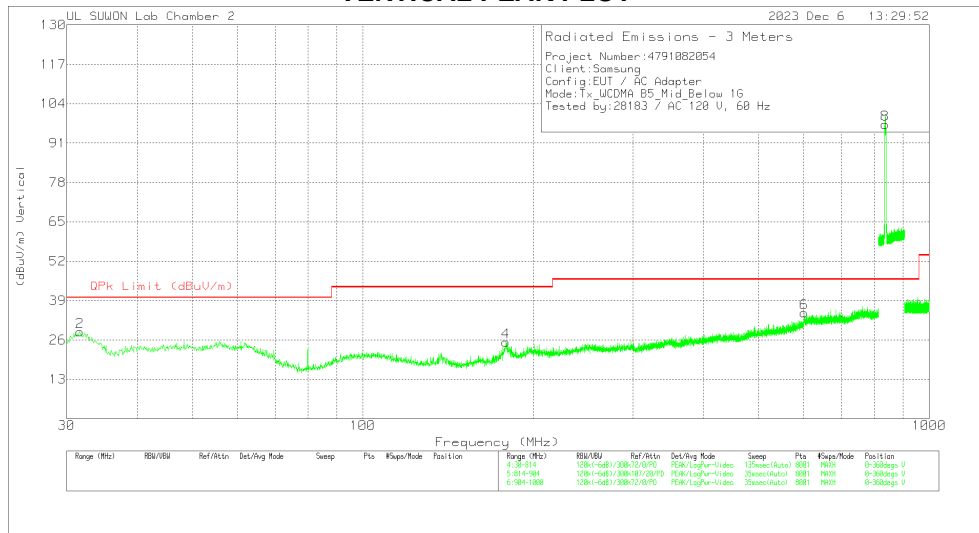
### 7.1.7. Below 1 GHz in the WCDMA Band 5

#### MID CHANNEL(881.6 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dBm)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	55.676	3.51	Pk	19.5	.9	23.91	40	-16.09	0-360	200	H
3	181.214	9.54	Pk	15.5	1.6	26.64	43.52	-16.88	0-360	100	H
5	603.692	6.35	Pk	24.9	3.1	34.35	46.02	-11.67	0-360	200	H
7	836.6125	68.33	Pk	26.6	3.7	98.63	46.02	52.61	0-360	200	H
2	31.666	12.43	Pk	15.5	.7	28.63	40	-11.37	0-360	200	V
4	178.96	8.41	Pk	15.3	1.6	25.31	43.52	-18.21	0-360	200	V
6	601.928	6.98	Pk	24.9	3.1	34.98	46.02	-11.04	0-360	400	V
8	836.6125	66.89	Pk	26.6	3.7	97.19	46.02	51.17	0-360	100	V

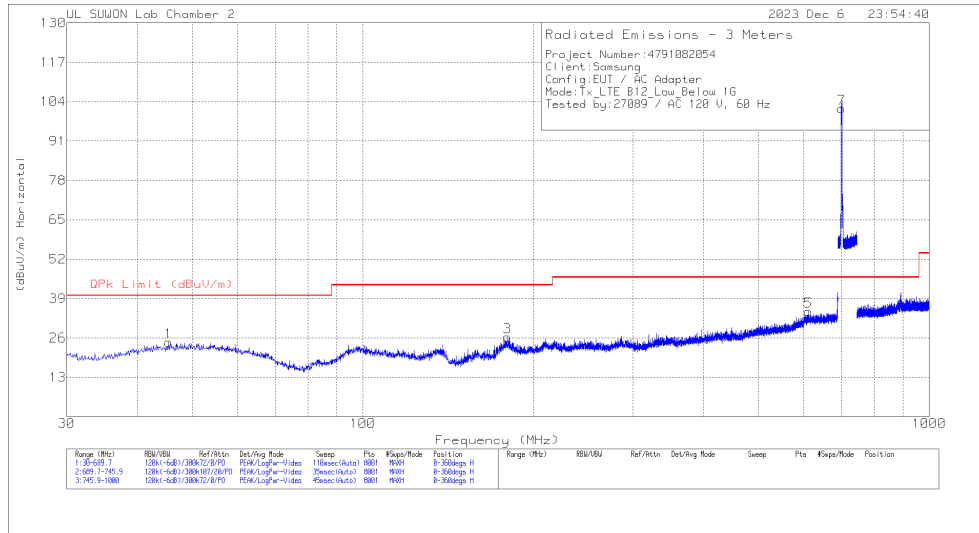
Pk - Peak detector

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

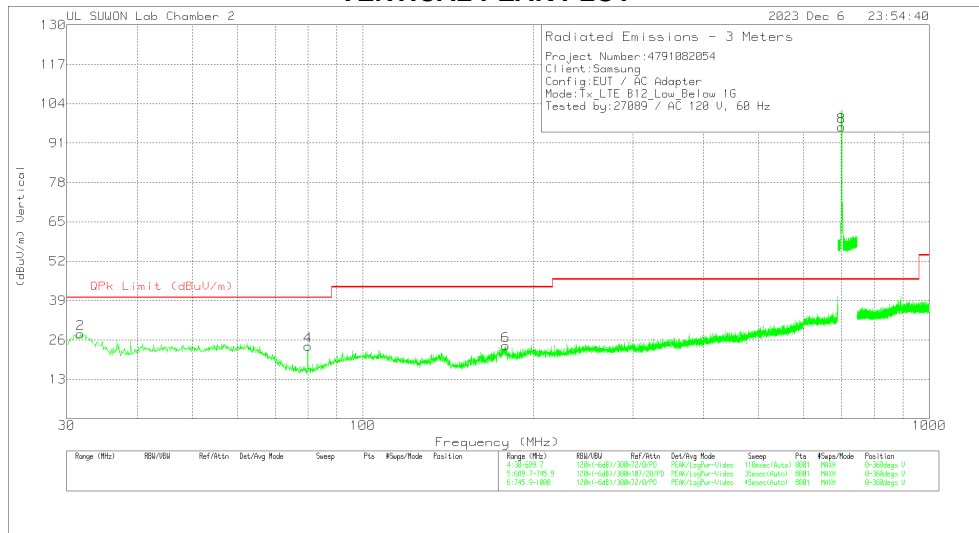
### 7.1.8. Below 1 GHz in the LTE Band 12

#### LOW CHANNEL(734.0 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

##### Trace Markers

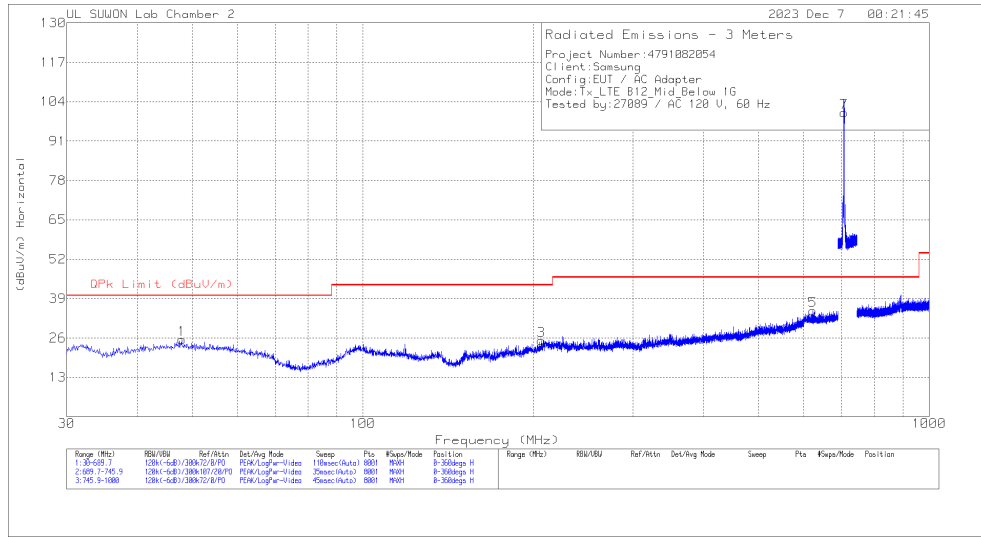
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dBm)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	45.4206	4.05	Pk	19.8	.8	24.65	40	-15.35	0-360	200	H
3	180.0827	9.37	Pk	15.4	1.6	26.37	43.52	-17.15	0-360	300	H
5	611.3642	6.83	Pk	24.9	3.1	34.83	46.02	-11.19	0-360	300	H
7	700.5045	73.09	Pk	25.3	3.4	101.79	<b>46.02</b>	<b>55.77</b>	0-360	100	H
2	31.7317	11.89	Pk	15.5	.7	28.09	40	-11.91	0-360	100	V
4	79.9726	10.08	Pk	12.8	1.1	23.98	40	-16.02	0-360	100	V
6	178.6808	7.24	Pk	15.3	1.6	24.14	43.52	-19.38	0-360	100	V
8	700.5045	67.56	Pk	25.3	3.4	96.26	<b>46.02</b>	<b>50.24</b>	0-360	200	V

Pk - Peak detector

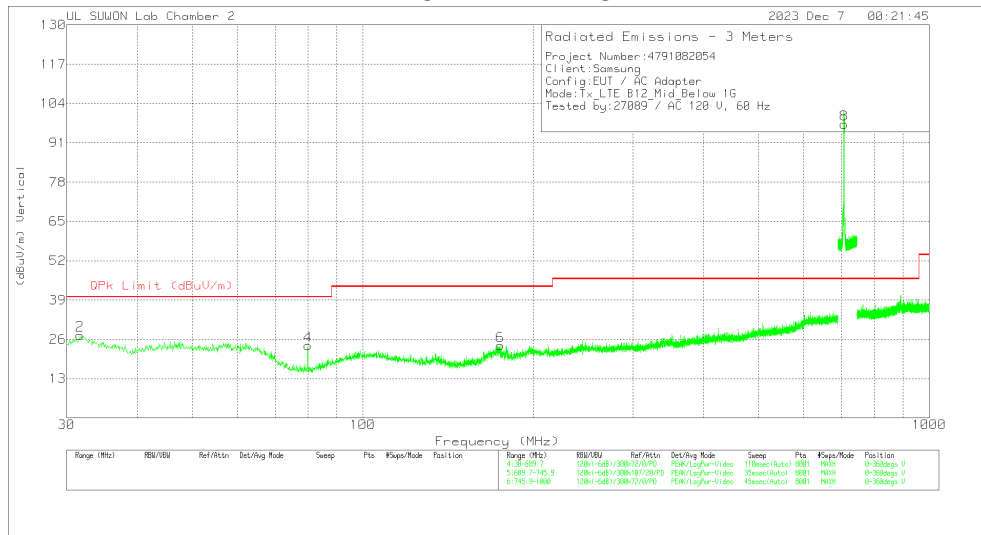
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(737.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

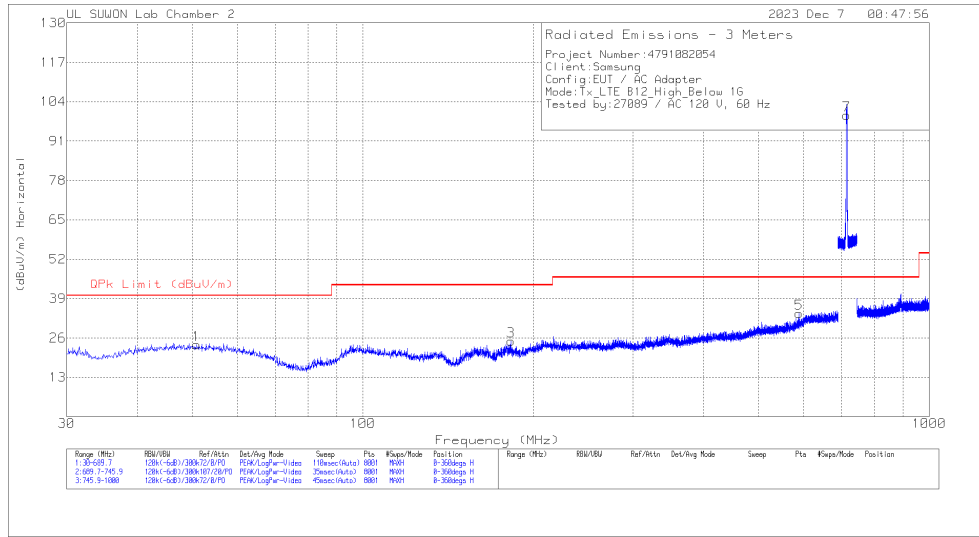
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.8945	4.6	Pk	20.1	.8	25.5	40	-14.5	0-360	100	H
3	206.5533	6.62	Pk	16.8	1.7	25.12	43.52	-18.4	0-360	100	H
5	623.1564	6.77	Pk	25	3.2	34.97	46.02	-11.05	0-360	100	H
7	707.5014	71.85	Pk	25.2	3.4	100.45	46.02	54.43	0-360	200	H
2	31.6493	11.23	Pk	15.5	.7	27.43	40	-12.57	0-360	200	V
4	79.9726	10	Pk	12.8	1.1	23.9	40	-16.1	0-360	200	V
6	174.7226	7.56	Pk	14.8	1.6	23.96	43.52	-19.56	0-360	200	V
8	707.5014	68.51	Pk	25.2	3.4	97.11	46.02	51.09	0-360	100	V

Pk - Peak detector

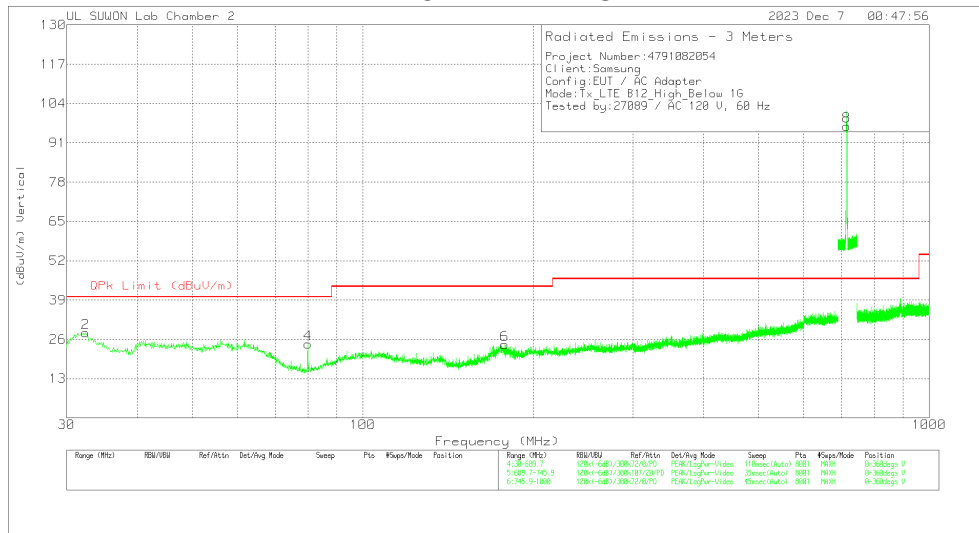
Note: Unwanted emissions captured from 699MHz to 716MHz and from 729MHz to 746MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(741.0 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.8631	3.02	Pk	20	.8	23.82	40	-16.18	0-360	100	H
3	182.8039	7.67	Pk	15.7	1.6	24.97	43.52	-18.55	0-360	100	H
5	588.4394	6.27	Pk	24.7	3.1	34.07	46.02	-11.95	0-360	300	H
7	714.5053	70.89	Pk	25.2	3.4	99.49	46.02	53.47	0-360	200	H
2	32.3914	11.96	Pk	15.6	.7	28.26	40	-11.74	0-360	200	V
4	79.9726	10.55	Pk	12.8	1.1	24.45	40	-15.55	0-360	200	V
6	177.9386	7.56	Pk	15.2	1.6	24.36	43.52	-19.16	0-360	200	V
8	714.5053	67.97	Pk	25.2	3.4	96.57	46.02	50.55	0-360	100	V

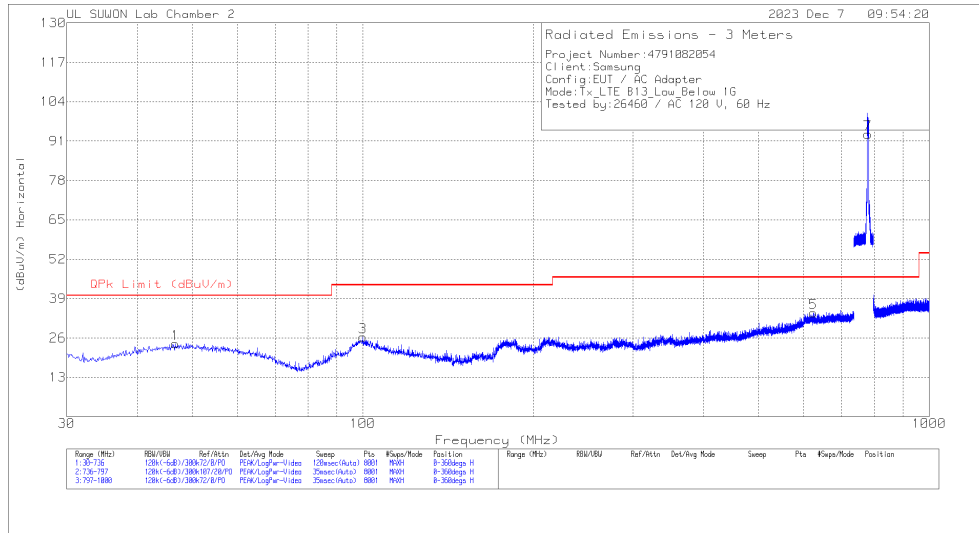
Pk - Peak detector

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

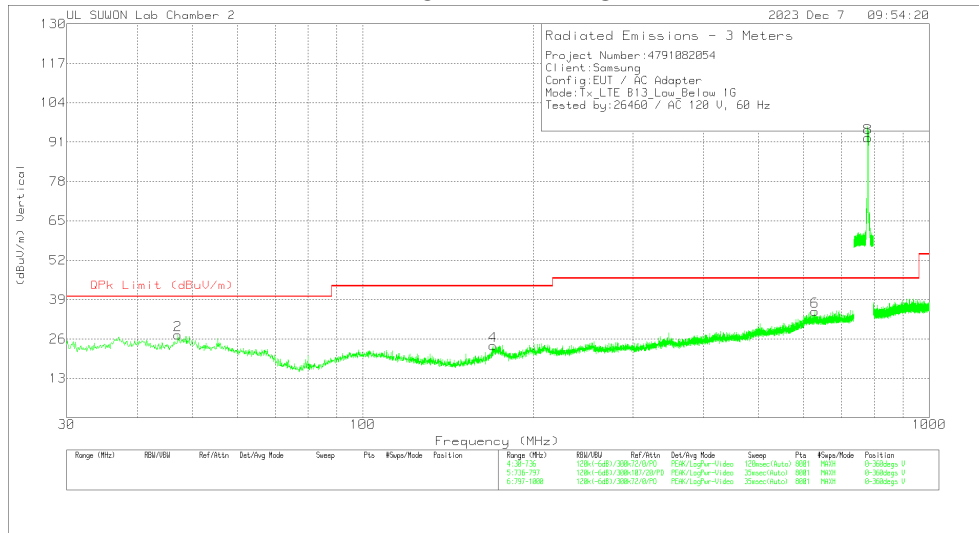
### 7.1.9. Below 1 GHz in the LTE Band 13

#### LOW CHANNEL(748.5 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	46.6793	3.35	Pk	20	.8	24.15	40	-15.85	0-360	100	H
3	99.9823	7.7	Pk	17.4	1.2	26.3	43.52	-17.22	0-360	100	H
5	624.9815	6.06	PK	25	3.2	34.26	46.02	-11.76	0-360	300	H
7	779.5083	63.36	PK	26.3	3.6	93.26	46.02	47.24	0-360	300	H
2	47.1205	6.62	PK	20	.8	27.42	40	-12.58	0-360	200	V
4	169.8763	7.62	PK	14.6	1.6	23.82	43.52	-19.7	0-360	200	V
6	628.335	7.07	PK	24.9	3.2	35.17	46.02	-10.85	0-360	300	V
8	779.5083	62.55	PK	26.3	3.6	92.45	46.02	46.43	0-360	100	V

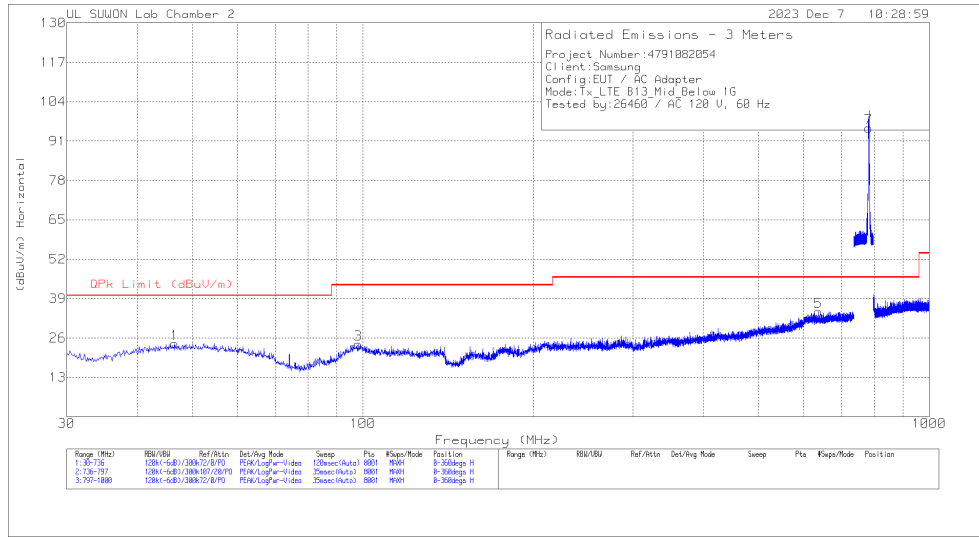
Pk - Peak detector

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

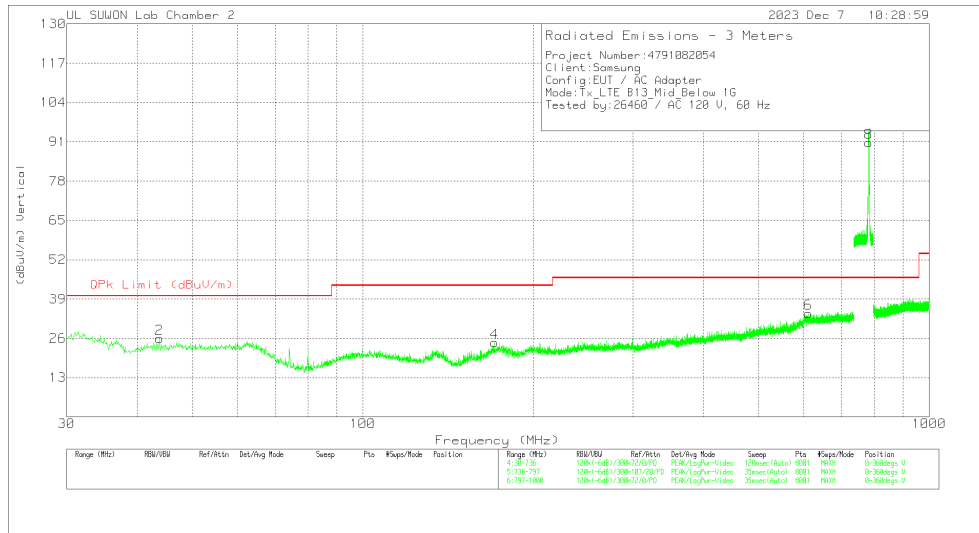


**MID CHANNEL(751.0 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

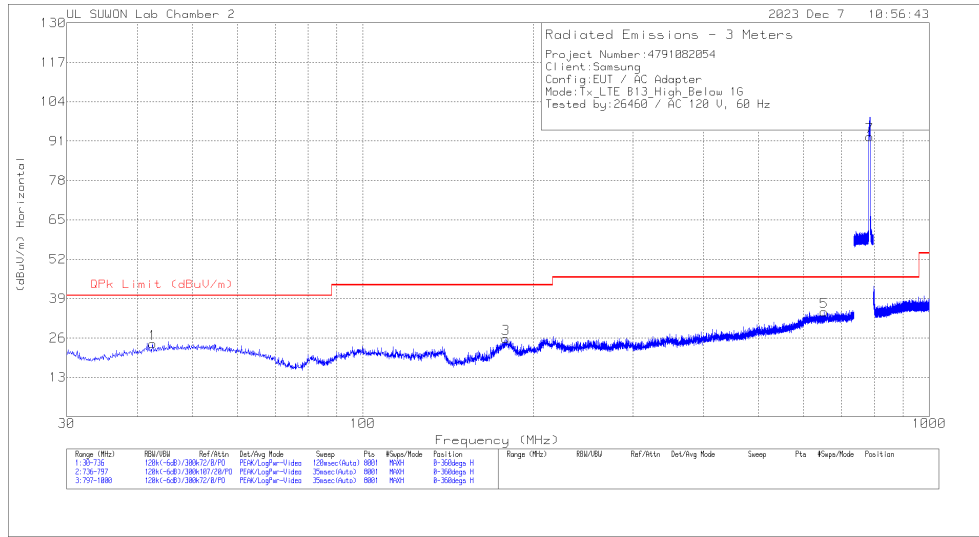
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	46.591	3.3	Pk	20	.8	24.1	40	-15.9	0-360	300	H
3	98.129	5.49	Pk	17.2	1.2	23.89	43.52	-19.63	0-360	200	H
5	637.4248	6.59	Pk	24.8	3.2	34.59	46.02	-11.43	0-360	200	H
7	782.0703	65.33	Pk	26.3	3.6	95.23	46.02	49.21	0-360	200	H
2	43.767	5.47	Pk	19.7	.8	25.97	40	-14.03	0-360	300	V
4	170.7588	8.43	Pk	14.6	1.6	24.63	43.52	-18.89	0-360	200	V
6	611.3028	6.23	Pk	24.9	3.1	34.23	46.02	-11.79	0-360	200	V
8	782.0626	60.9	Pk	26.3	3.6	90.8	46.02	44.78	0-360	100	V

Pk - Peak detector

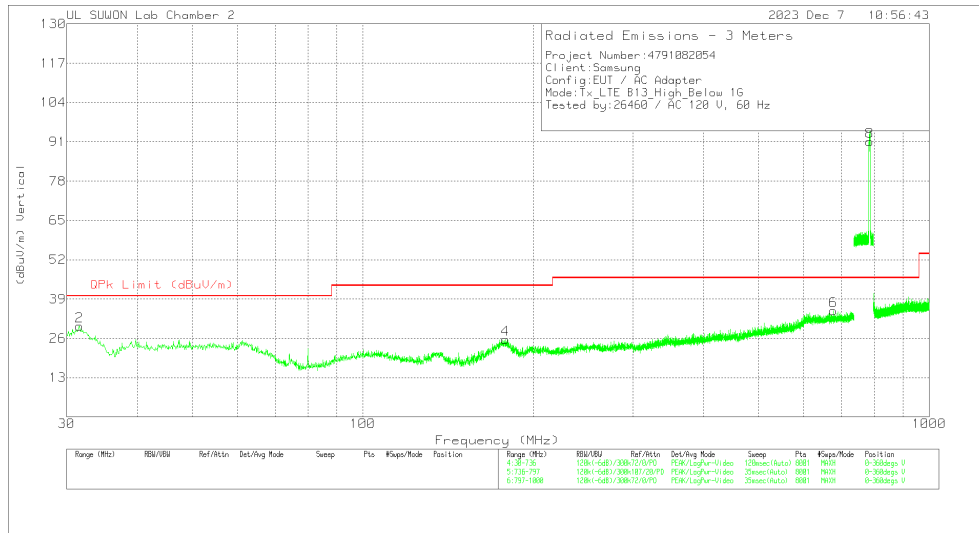
Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(753.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	42.5315	3.98	Pk	19.4	.8	24.18	40	-15.82	0-360	300	H
3	178.7895	8.9	Pk	15.3	1.6	25.8	43.52	-17.72	0-360	100	H
5	652.7803	6.4	Pk	24.9	3.3	34.6	46.02	-11.42	0-360	200	H
7	784.5026	62.62	PK	26.2	3.6	92.42	46.02	46.4	0-360	200	H
2	31.5885	13.9	Pk	15.5	.7	30.1	40	-9.9	0-360	200	V
4	178.5248	8.79	Pk	15.3	1.6	25.69	43.52	-17.83	0-360	200	V
6	677.049	6.65	Pk	25.2	3.3	35.15	46.02	-10.87	0-360	400	V
8	784.5026	61.2	PK	26.2	3.6	91	46.02	44.98	0-360	100	V

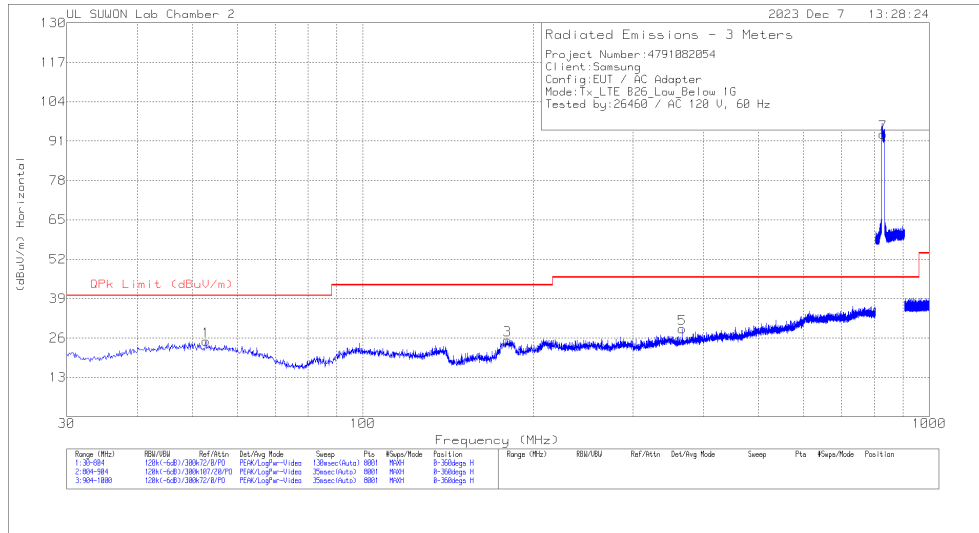
Pk - Peak detector

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

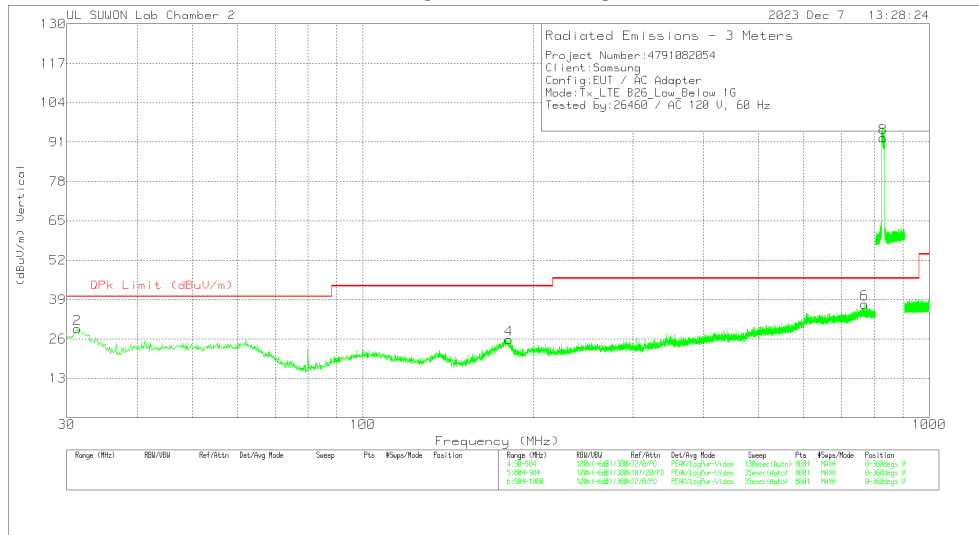
### 7.1.10. Below 1 GHz in the LTE Band 26

#### LOW CHANNEL(869.7 MHz)

#### HORIZONTAL PEAK PLOT



#### VERTICAL PEAK PLOT



#### DATA

#### Trace Markers

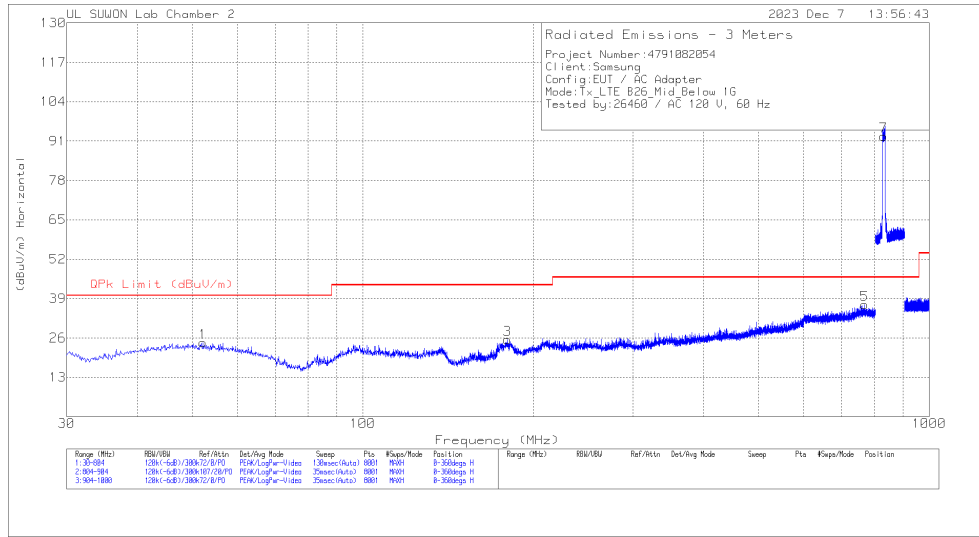
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	52.833	4.2	Pk	19.8	.9	24.9	40	-15.1	0-360	200	H
3	180.156	8.34	Pk	15.4	1.6	25.34	43.52	-18.18	0-360	100	H
5	366.1095	6.38	Pk	20.2	2.4	28.98	46.02	-17.04	0-360	200	H
7	829.0875	62.95	Pk	26.6	3.7	93.25	46.02	47.23	0-360	200	H
2	31.3545	13.16	Pk	15.6	.7	29.46	40	-10.54	0-360	200	V
4	181.2203	8.8	Pk	15.5	1.6	25.9	43.52	-17.62	0-360	200	V
6	768.5895	7.7	Pk	26.4	3.5	37.6	46.02	-8.42	0-360	300	V
8	829.0875	62.13	Pk	26.6	3.7	92.43	46.02	46.41	0-360	100	V

Pk - Peak detector

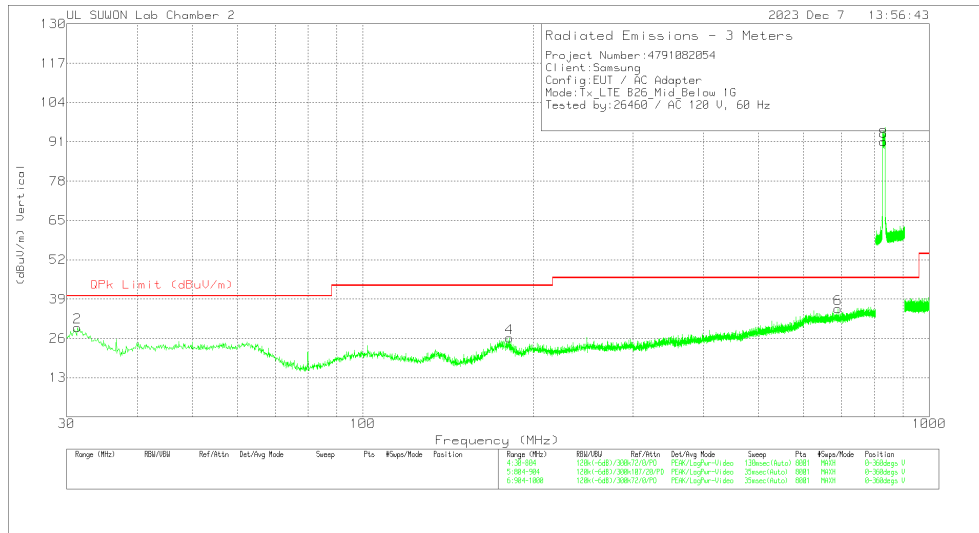
Note: Unwanted emissions captured from 814MHz to 849MHz and from 859MHz to 894MHz were the TX and RX signals generated from the call-simulator.

**MID CHANNEL(876.5 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

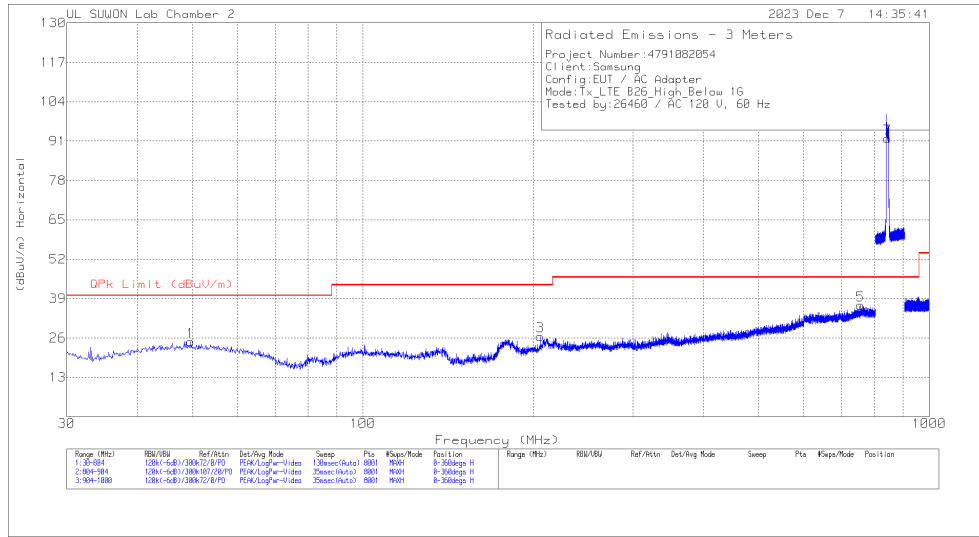
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	52.2525	3.64	Pk	19.9	.9	24.44	40	-15.56	0-360	300	H
3	180.0593	8.51	Pk	15.4	1.6	25.51	43.52	-18.01	0-360	100	H
5	769.557	7.06	Pk	26.4	3.5	36.96	46.02	-9.06	0-360	100	H
7	831.5	62.36	Pk	26.6	3.7	92.66	46.02	46.64	0-360	200	H
2	31.3545	13.34	Pk	15.6	.7	29.64	40	-10.36	0-360	200	V
4	181.4138	9.04	Pk	15.5	1.6	26.14	43.52	-17.38	0-360	200	V
6	689.448	7.05	Pk	25.3	3.4	35.75	46.02	-10.27	0-360	200	V
8	831.5	60.71	Pk	26.6	3.7	91.01	46.02	44.99	0-360	100	V

Pk - Peak detector

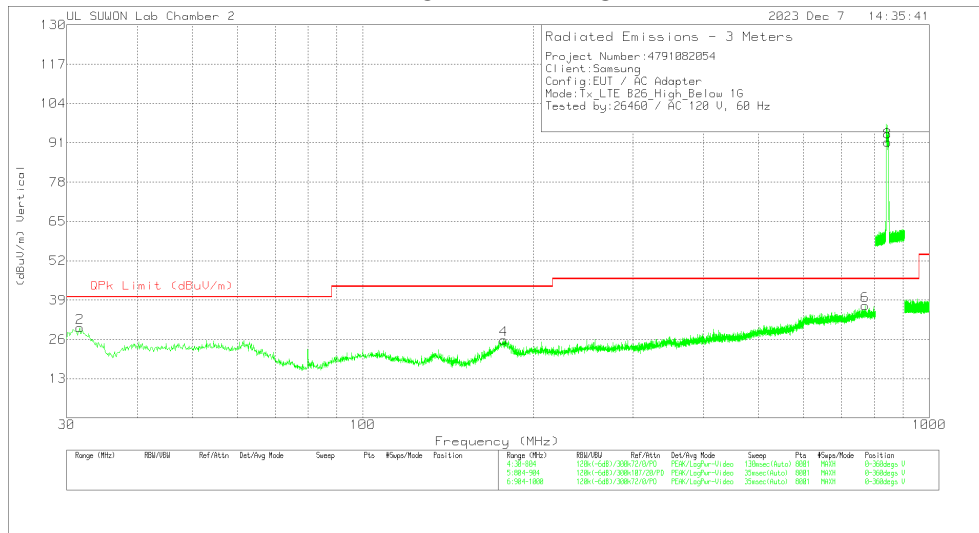
Note: Unwanted emissions captured from 814MHz to 849MHz and from 859MHz to 894MHz were the TX and RX signals generated from the call-simulator.

**HIGH CHANNEL(893.3 MHz)**

**HORIZONTAL PEAK PLOT**



**VERTICAL PEAK PLOT**



**DATA**

**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor (dB/m)	Below_1G_Bypass	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	49.6403	3.87	Pk	20.1	.8	24.77	40	-15.23	0-360	300	H
3	205.6013	8.09	Pk	16.8	1.7	26.59	43.52	-16.93	0-360	100	H
5	755.9153	6.91	Pk	26.5	3.5	36.91	46.02	-9.11	0-360	300	H
7	844	61.46	Pk	26.8	3.7	91.96	46.02	45.94	0-360	200	H
2	31.6448	13.68	Pk	15.5	.7	29.88	40	-10.12	0-360	200	V
4	177.5438	8.97	Pk	15.2	1.6	25.77	43.52	-17.75	0-360	200	V
6	771.2985	7.17	Pk	26.4	3.6	37.17	46.02	-8.85	0-360	400	V
8	844	60.69	Pk	26.8	3.7	91.19	46.02	45.17	0-360	100	V

Pk - 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.

## 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:**

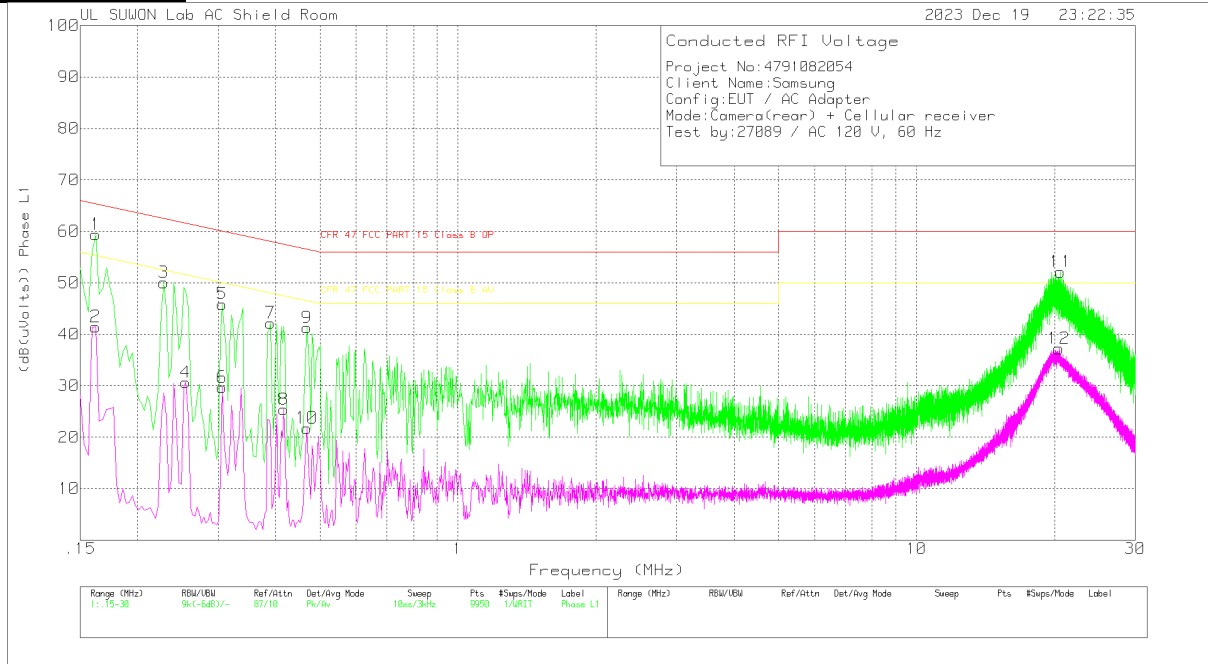
1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 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_AU TO_With EX_L1[dB]	CABLELOS S[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
1	.162	49.8	Pk	9.5	.1	59.4	65.36	-5.96	-	-
2	.162	31.86	Av	9.5	.1	41.46	-	-	55.36	-13.9
3	.228	40.36	Pk	9.5	.2	50.06	62.52	-12.46	-	-
4	.255	20.96	Av	9.5	.2	30.66	-	-	51.59	-20.93
5	.306	36.18	Pk	9.5	.2	45.88	60.08	-14.2	-	-
6	.306	19.99	Av	9.5	.2	29.69	-	-	50.08	-20.39
7	.39	32.49	Pk	9.5	.2	42.19	58.06	-15.87	-	-
8	.417	15.69	Av	9.5	.2	25.39	-	-	47.51	-22.12
9	.468	31.59	Pk	9.5	.2	41.29	56.55	-15.26	-	-
10	.468	12.06	Av	9.5	.2	21.76	-	-	46.55	-24.79
11	20.625	42.14	Pk	9.6	.4	52.14	60	-7.86	-	-
12	20.442	27.22	Av	9.6	.4	37.22	-	-	50	-12.78

Pk - Peak detector

Av - Average detection

#### Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

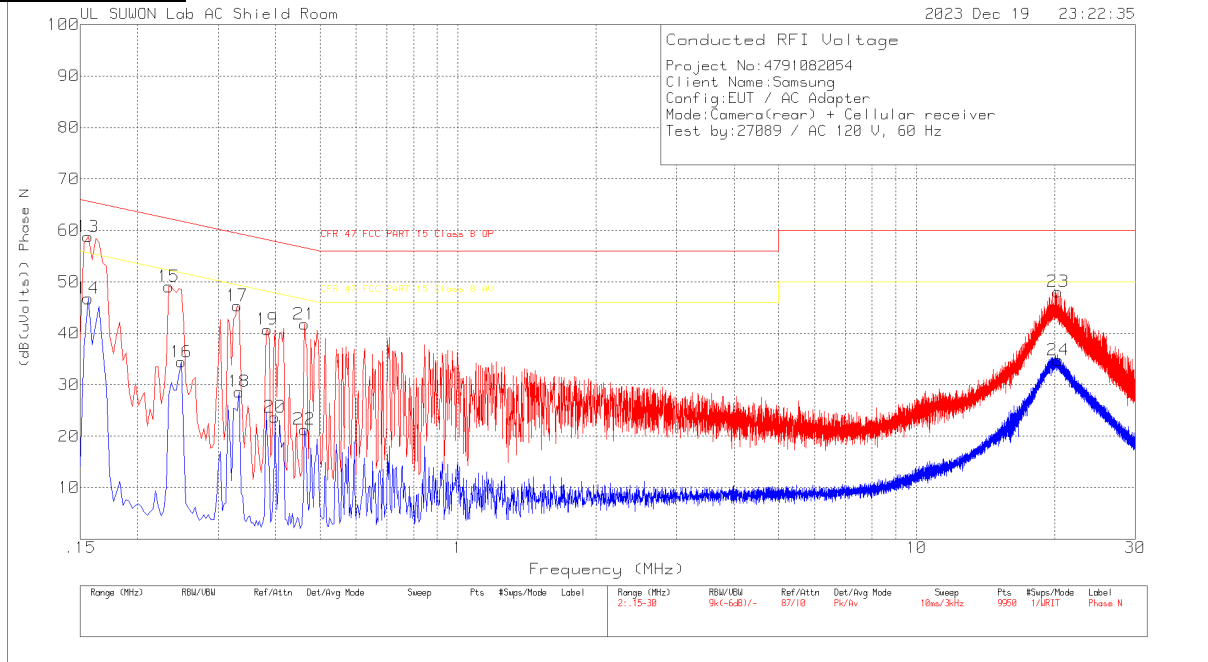
Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AU TO_With EX_L1[dB]	CABLELOS S[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
.16125	43.94	Qp	9.5	.1	53.54	65.4	-11.86	-	-
20.6243	33.11	Qp	9.6	.4	43.11	60	-16.89	-	-

Qp - Quasi-Peak detector

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

Line-L2 .15 – 30 MHz

**LINE 2 RESULTS**



**Trace Markers**

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AU TO_With EX_N[dB]	CABLELOS S[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
13	.156	49.17	Pk	9.5	.1	58.77	65.67	-6.9	-	-
14	.156	37.17	Av	9.5	.1	46.77	-	-	55.67	-8.9
15	.234	39.38	Pk	9.5	.2	49.08	62.31	-13.23	-	-
16	.249	24.74	Av	9.5	.2	34.44	-	-	51.79	-17.35
17	.33	35.64	Pk	9.5	.2	45.34	59.45	-14.11	-	-
18	.333	18.94	Av	9.5	.2	28.64	-	-	49.38	-20.74
19	.384	31.05	Pk	9.5	.2	40.75	58.19	-17.44	-	-
20	.399	14.04	Av	9.5	.2	23.74	-	-	47.87	-24.13
21	.462	32.07	Pk	9.5	.2	41.77	56.66	-14.89	-	-
22	.462	11.6	Av	9.5	.2	21.3	-	-	46.66	-25.36
23	20.355	38.08	Pk	9.6	.4	48.08	60	-11.92	-	-
24	20.379	24.78	Av	9.6	.4	34.78	-	-	50	-15.22

Pk - Peak detector

Av - Average detection

**Quasi-Peak Emissions**

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AU TO_With EX_N[dB]	CABLELOS S[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
.15615	43.98	Qp	9.5	.1	53.58	65.67	-12.09	-	-

Qp - Quasi-Peak detector

**END OF TEST REPORT**

Page 40 of 40