# CERTIFICATION TEST REPORT

**Report Number. :** 4789841431-E1V2

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

**Model :** SM-G780G/DSM, SM-G780G/DS, SM-G780G

**FCC ID :** A3LSMG780G

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

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

**Date Of Issue:**
March 18, 2021

**Prepared by:**
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218 Maeyeong-ro, Yeongtong-gu,
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TEL: (031) 337-9902
FAX: (031) 213-5433

IAS ACCREDITED
Testing Laboratory
TL-637

## Revision History

| Rev. | Issue Date | Revisions | Revised By |
|---|---|---|---|
| V1 | 03/12/21 | Initial issue | Hyunsik Yun |
| V2 | 03/18/21 | Updated to address TCB's question | Hyunsik Yun |


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# TABLE OF CONTENTS

**1. ATTESTATION OF TEST RESULTS ..... 4**

**2. TEST METHODOLOGY ..... 5**

**3. FACILITIES AND ACCREDITATION ..... 5**

**4. CALIBRATION AND UNCERTAINTY ..... 6**

*4.1. MEASURING INSTRUMENT CALIBRATION ..... 6*

*4.2. SAMPLE CALCULATION ..... 6*

*4.3. MEASUREMENT UNCERTAINTY ..... 6*

*4.4. DECISION RULE ..... 6*

**5. EQUIPMENT UNDER TEST ..... 7**

*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*

**6. TEST AND MEASUREMENT EQUIPMENT ..... 10**

**7. APPLICABLE LIMIYS AND TEST RESULTS ..... 11**

*7.1. Above 1 GHz in the GSM850 ..... 12*

*7.2. Above 1 GHz in the WCDMA Band 5 ..... 15*

*7.3. Above 1 GHz in the LTE Band 5 ..... 16*

*7.4. Above 1 GHz in the LTE Band 12 ..... 19*

*7.5. Above 1 GHz in the LTE Band 13 ..... 22*

*7.6. Above 1 GHz in the LTE Band 26 ..... 23*

*7.7. Below 1 GHz in the GSM850 ..... 26*

*7.8. Below 1 GHz in the WCDMA Band 5 ..... 29*

*7.9. Below 1 GHz in the LTE Band 5 ..... 30*

*7.10. Below 1 GHz in the LTE Band 12 ..... 33*

*7.11. Below 1 GHz in the LTE Band 13 ..... 36*

*7.12. Below 1 GHz in the LTE Band 26 ..... 37*



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# 1. ATTESTATION OF TEST RESULTS

| | |
|---|---|
| **COMPANY NAME:** | SAMSUNG ELECTRONICS CO., LTD. |
| **EUT DESCRIPTION:** | GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, WPT and NFC |
| **MODEL NUMBER:** | SM-G780G/DSM, SM-G780G/DS, SM-G780G |
| **SERIAL NUMBER:** | 4b5859b4a4207ece, 4b5859b54c207ece (RADIATED); |
| **DATE TESTED:** | MAR 02, 2021 – MAR 12, 2021; |

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

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

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

Approved & Released For
UL Korea, Ltd. By:

Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:

Hyunsik Yun
Suwon Lab Engineer
UL Korea, Ltd.


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# 2. TEST METHODOLOGY

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

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

# 3. FACILITIES AND ACCREDITATION

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

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

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


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# 4. CALIBRATION AND UNCERTAINTY

## 4.1. MEASURING INSTRUMENT CALIBRATION

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

## 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

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

## 4.3. MEASUREMENT UNCERTAINTY

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

| PARAMETER | UNCERTAINTY |
|---|---|
| Radiated Disturbance, 30 MHz to 1 GHz | 4.26 dB |
| Radiated Disturbance, 1 GHz to 18 GHz | 5.90 dB |

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

## 4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 1, Clause 4.4.2 in IEC Guide 115:2007.


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# 5. EQUIPMENT UNDER TEST

## 5.1. DESCRIPTION OF EUT

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

This report covers the Samsung models SM-G780G/DSM, SM-G780G/DS and SM-G780G.
These models are identical in hardware except SM-G780G/DSM is supported MST and SM-G780G/DS has dual SIM tray and SM-G780G has single SIM tray.
All serise model was same hardware thus, SM-G780G/DS(Dual SIM tray) was set for final test.

## 5.2. TEST MODE

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


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## 5.3. WORST-CASE ORIENTATION AND MODE

For LTE B12 / LTE B13, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that X orientation was worst-case orientation.

For GSM 850 / WCDMA B5 / LTE B5 / LTE B26, EUT was investigated in three orthogonal orientations X, Y and Z it was determined that Z orientation was worst-case orientation.

**WCDMA Band5**
WCDMA Band 5(Rx Frequncy 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 17**
LTE Band 17(Rx Frequency range: 734-746 MHz) is covered by LTE Band 12(Rx Frequency range: 729-746 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

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


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## 5.4. DESCRIPTION OF TEST SETUP

**SUPPORT EQUIPMENT**

| Support Equipment List | | | | |
|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Serial Number** | **FCC ID** |
| Charger | SAMSUNG | EP-TA200 | R37M15D6V31SE3 | N/A |
| Data Cable | SAMSUNG | N/A | N/A | N/A |

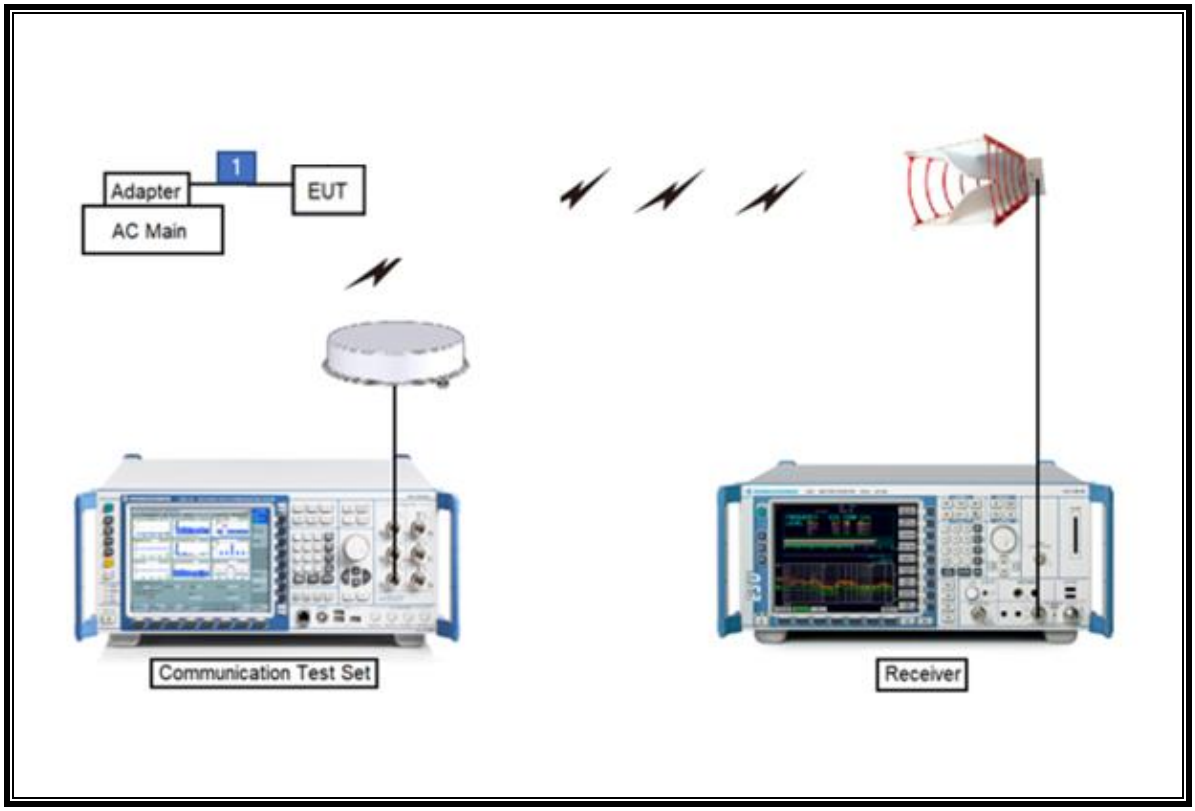
**I/O CABLE**

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

**TEST SETUP**

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

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





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# 6. TEST AND MEASUREMENT EQUIPMENT

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

| Test Equipment List | | | | |
|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **S/N** | **Cal Due** |
| Antenna, Horn, 40 GHz | ETS | 3116C | 00166155 | 08-04-22 |
| Preamplifier | ETS | 3116C-PA | 00168841 | 08-06-21 |
| Antenna, Horn, 40 GHz | ETS | 3116C | 00168645 | 08-04-22 |
| Antenna, Bilog, 30MHz-1GHz | SCHWARZBECK | VULB9163 | 750 | 08-19-22 |
| Antenna, Bilog, 30MHz-1GHz | SCHWARZBECK | VULB9163 | 845 | 08-13-22 |
| Antenna, Bilog, 30MHz-1GHz | SCHWARZBECK | VULB9163 | 749 | 08-13-22 |
| Antenna, Horn, 18 GHz | ETS | 3115 | 00167211 | 07-27-22 |
| Antenna, Horn, 18 GHz | ETS | 3115 | 00161451 | 08-15-22 |
| Antenna, Horn, 18 GHz | ETS | 3117 | 00168724 | 07-27-22 |
| Antenna, Horn, 18 GHz | ETS | 3117 | 00168717 | 08-15-22 |
| Communications Test Set | R&S | CMW500 | 115331 | 08-03-21 |
| Preamplifier, 1000 MHz | Sonoma | 310N | 341282 | 08-03-21 |
| Preamplifier, 1000 MHz | Sonoma | 310N | 370599 | 08-06-21 |
| Preamplifier, 1000 MHz | Sonoma | 310N | 351741 | 08-03-21 |
| Preamplifier, 18 GHz | Miteq | AFS42-00101800-25-S-42 | 1876511 | 08-03-21 |
| Preamplifier, 18 GHz | Miteq | AFS42-00101800-25-S-42 | 2029169 | 08-04-21 |
| Preamplifier, 18 GHz | Miteq | AFS42-00101800-25-S-42 | 1896138 | 08-03-21 |
| EMI Test Receive, 40 GHz | R&S | ESU40 | 100439 | 08-03-21 |
| EMI Test Receive, 40 GHz | R&S | ESU40 | 100457 | 08-03-21 |
| Directional Antenna | Cobham | FPA3-0.8-6.0R/1329 | 80108-0004 | N/A |
| Directional Antenna | Cobham | FPA3-0.8-6.0R/1329 | 110367-0003 | N/A |
| High Pass Filter 1.2GHz | Micro-Tronics | HPM50108-02 | G005 | 08-05-21 |
| High Pass Filter 1.2GHz | Micro-Tronics | HPM50108-02 | G006 | 08-05-21 |
| High Pass Filter 2.8GHz | Micro-Tronics | HPM50111-02 | 010 | 08-05-21 |
| High Pass Filter 2.8GHz | Micro-Tronics | HPM50111-02 | 011 | 08-05-21 |
| High Pass Filter 4GHz | Micro-Tronics | HPM50118-02 | G001 | 08-05-21 |
| High Pass Filter 4GHz | Micro-Tronics | HPM50118-02 | G002 | 08-05-21 |
| Attenuator | PASTERNACK | PE7087-10 | A009 | 08-05-21 |
| Attenuator | PASTERNACK | PE7087-10 | A001 | 08-03-21 |
| Attenuator | PASTERNACK | PE7087-10 | A008 | 08-03-21 |
| Attenuator | PASTERNACK | PE7004-10 | 2 | 08-04-21 |
| Attenuator | PASTERNACK | PE7395-10 | A011 | 08-05-21 |
| **UL Software** | | | | |
| **Description** | **Manufacturer** | **Model** | **Version** | |
| Radiated software | UL | UL EMC | Ver 9.5 | |
| AC Line Conducted software | UL | UL EMC | Ver 9.5 | |


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# 7. APPLICABLE LIMIYS AND TEST RESULTS

**TEST PROCEDURE**

ANSI C63.4: 2014

**LIMIT**

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

| Limits for radiated disturbance of Class B ITE at measuring distance of 3 m | |
|---|---|
| Frequency range (MHz) | Quasi-peak limits (dBµV/m) |
| 30 to 88 | 40 |
| 88 to 216 | 43.5 |
| 216 to 960 | 46 |
| Above 960 MHz | 54 |
| Note: The lower limit shall apply at the transition frequency. | |


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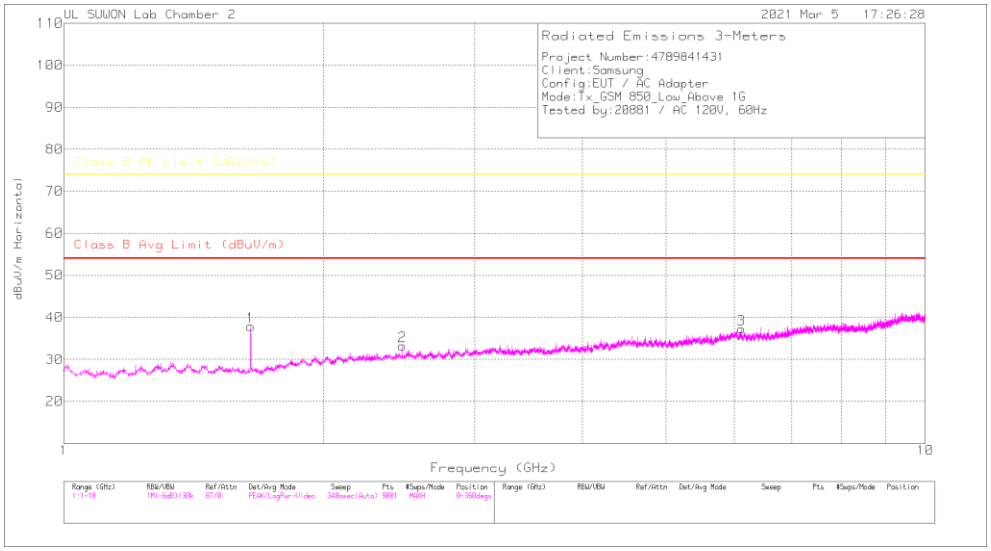
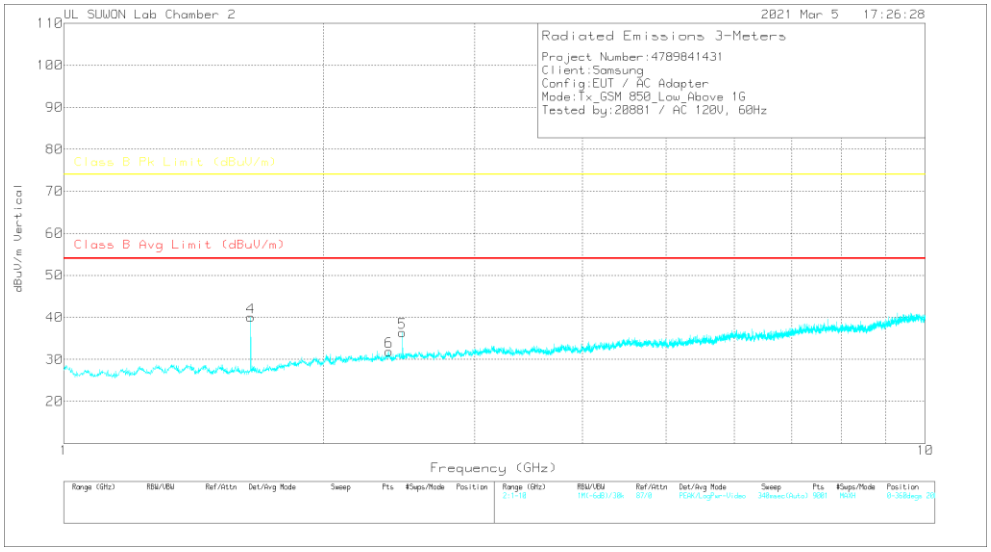
## 7.1. Above 1 GHz in the GSM850

**LOW CHANNEL(869.2 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.648 | 39.96 | PK | 28.6 | -31.4 | .7 | 37.86 | - | - | 74 | -36.14 | 0-360 | 200 | H |
| 2 | 2.472 | 30.51 | PK | 32 | -30 | .7 | 33.21 | - | - | 74 | -40.79 | 0-360 | 200 | H |
| 3 | 6.119 | 28.22 | PK | 35.3 | -26.8 | .5 | 37.22 | - | - | 74 | -36.78 | 0-360 | 200 | H |
| 4 | 1.648 | 42.15 | PK | 28.6 | -31.4 | .7 | 40.05 | - | - | 74 | -33.95 | 0-360 | 200 | V |
| 5 | 2.472 | 33.7 | PK | 32 | -30 | .7 | 36.4 | - | - | 74 | -37.6 | 0-360 | 100 | V |
| 6 | 2.384 | 29.79 | PK | 31.9 | -30.5 | .7 | 31.89 | - | - | 74 | -42.11 | 0-360 | 100 | V |

PK-Peak Detector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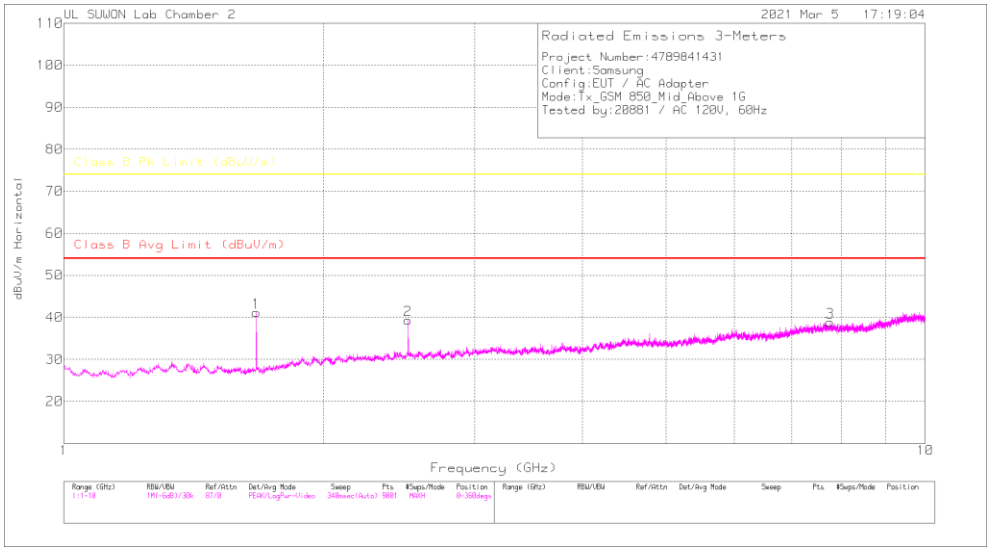
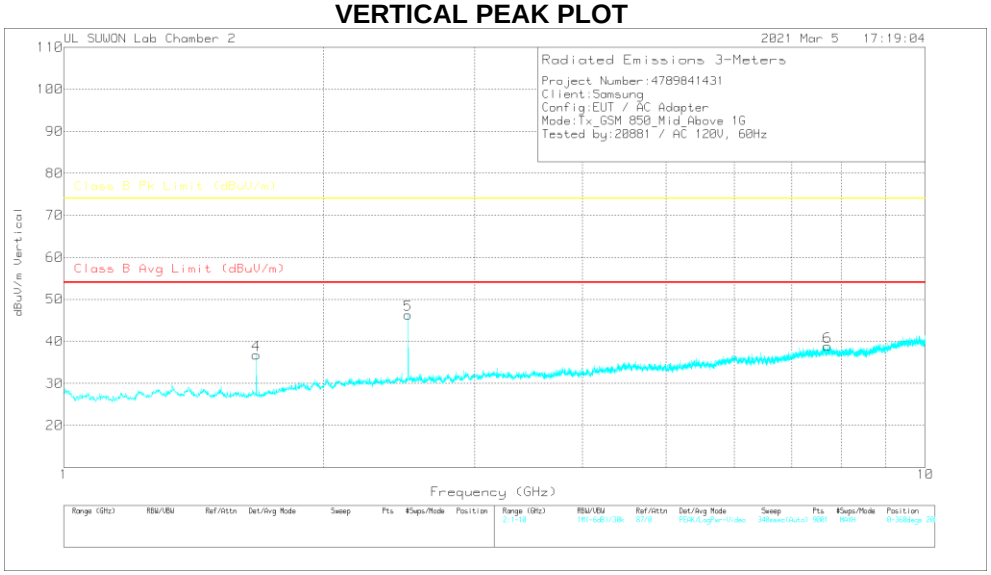
**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.673 | 43.17 | PK | 28.6 | -31.3 | .7 | 41.17 | - | - | 74 | -32.83 | 0-360 | 200 | H |
| 2 | 2.51 | 36.67 | PK | 32.1 | -30.1 | .7 | 39.37 | - | - | 74 | -34.63 | 0-360 | 200 | H |
| 3 | 7.754 | 26.36 | PK | 36 | -24.1 | .6 | 38.86 | - | - | 74 | -35.14 | 0-360 | 100 | H |
| 4 | 1.673 | 38.8 | PK | 28.6 | -31.3 | .7 | 36.8 | - | - | 74 | -37.2 | 0-360 | 200 | V |
| 5 | 2.509 | 43.64 | PK | 32.1 | -30.1 | .7 | 46.34 | - | - | 74 | -27.66 | 0-360 | 200 | V |
| 6 | 7.701 | 26.21 | PK | 36 | -24 | .6 | 38.81 | - | - | 74 | -35.19 | 0-360 | 200 | V |

PK – Peak Detector

**HIGH CHANNEL(893.8 MHz)**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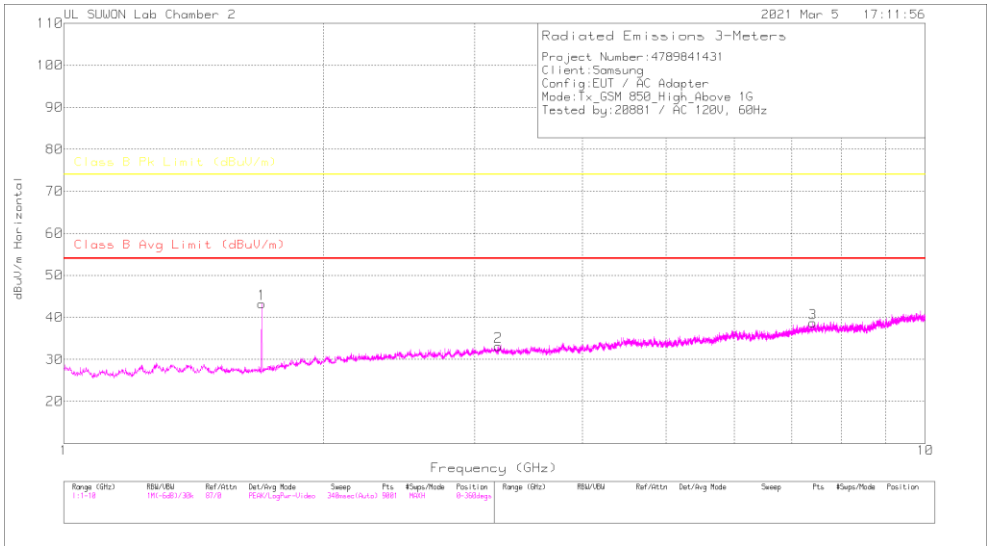
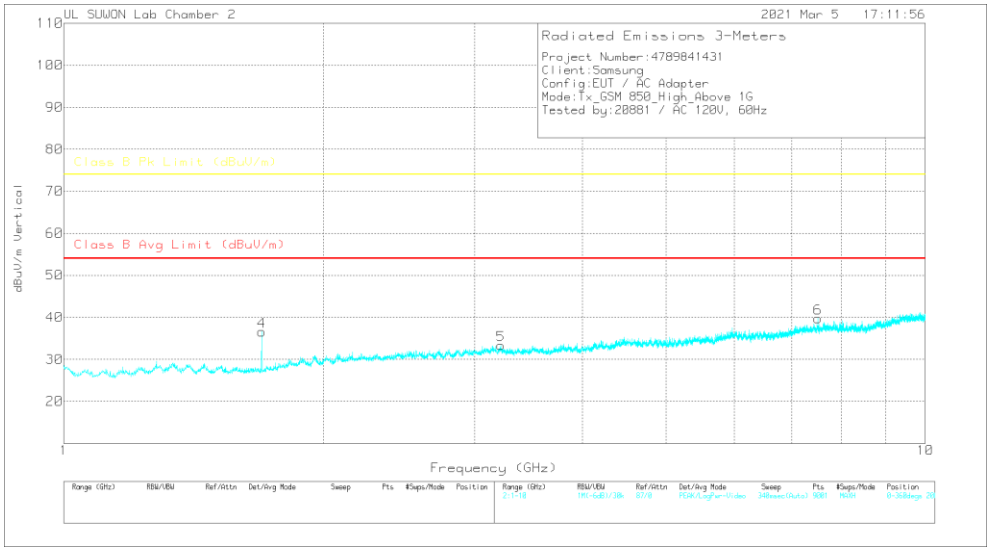
**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.697 | 45.05 | PK | 28.7 | -31.2 | .7 | 43.25 | - | - | 74 | -30.75 | 0-360 | 200 | H |
| 2 | 3.196 | 29 | PK | 33 | -29.6 | .7 | 33.1 | - | - | 74 | -40.9 | 0-360 | 100 | H |
| 3 | 7.407 | 26.91 | PK | 36.1 | -24.9 | .6 | 38.71 | - | - | 74 | -35.29 | 0-360 | 200 | H |
| 4 | 1.697 | 38.38 | PK | 28.7 | -31.2 | .7 | 36.58 | - | - | 74 | -37.42 | 0-360 | 200 | V |
| 5 | 3.215 | 29.48 | PK | 33 | -29.8 | .7 | 33.38 | - | - | 74 | -40.62 | 0-360 | 100 | V |
| 6 | 7.507 | 27.57 | PK | 36 | -24.4 | .6 | 39.77 | - | - | 74 | -34.23 | 0-360 | 100 | V |

PK – Peak Detector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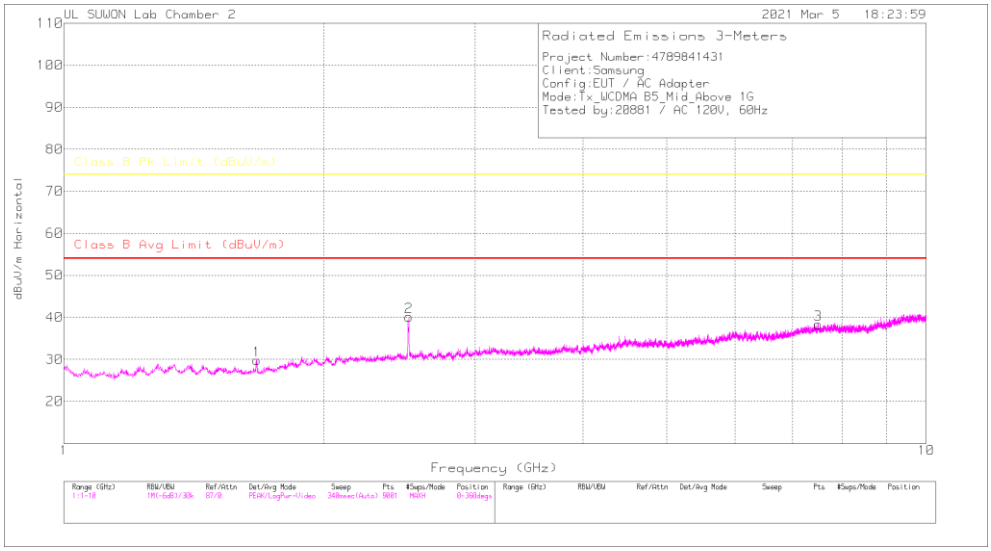
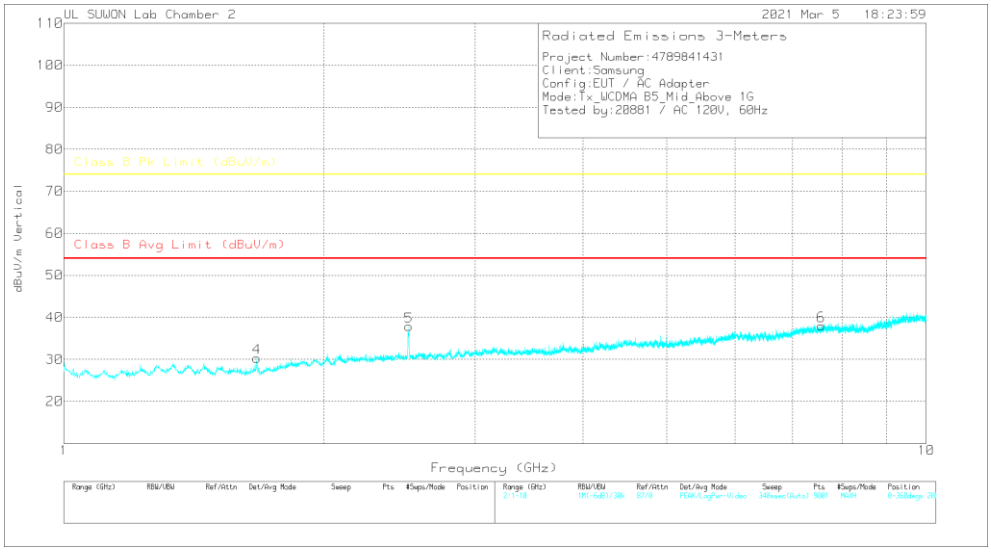
## 7.2. Above 1 GHz in the WCDMA Band 5

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.675 | 31.77 | PK | 28.6 | -31.3 | .7 | 29.77 | - | - | 74 | -44.23 | 0-360 | 200 | H |
| 2 | 2.512 | 37.42 | PK | 32.1 | -30.1 | .7 | 40.12 | - | - | 74 | -33.88 | 0-360 | 100 | H |
| 3 | 7.5 | 26.09 | PK | 36 | -24.4 | .6 | 38.29 | - | - | 74 | -35.71 | 0-360 | 200 | H |
| 4 | 1.674 | 32.33 | PK | 28.6 | -31.3 | .7 | 30.33 | - | - | 74 | -43.67 | 0-360 | 200 | V |
| 5 | 2.512 | 35.15 | PK | 32.1 | -30.1 | .7 | 37.85 | - | - | 74 | -36.15 | 0-360 | 100 | V |
| 6 | 7.56 | 25.99 | PK | 36 | -24.6 | .6 | 37.99 | - | - | 74 | -36.01 | 0-360 | 200 | V |

PK – Peak Detector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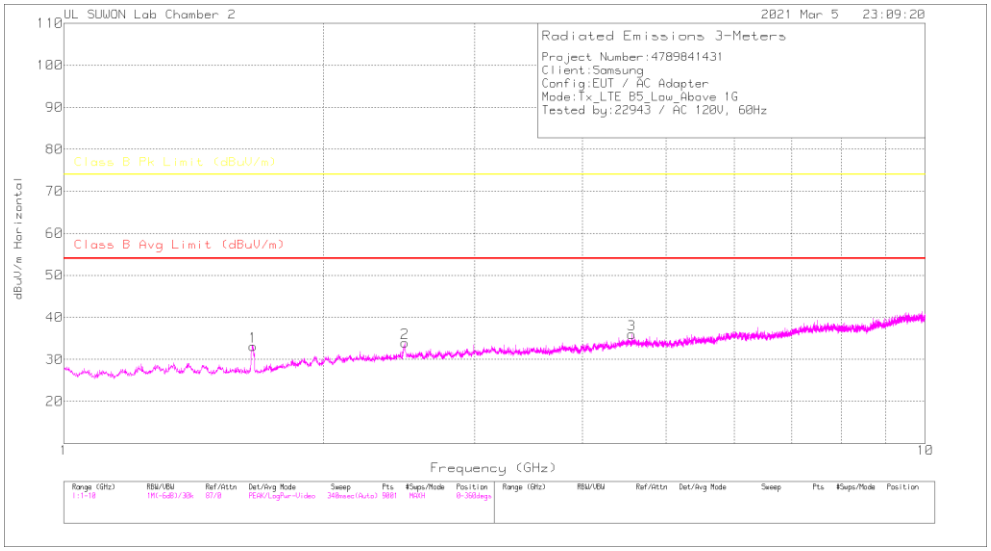
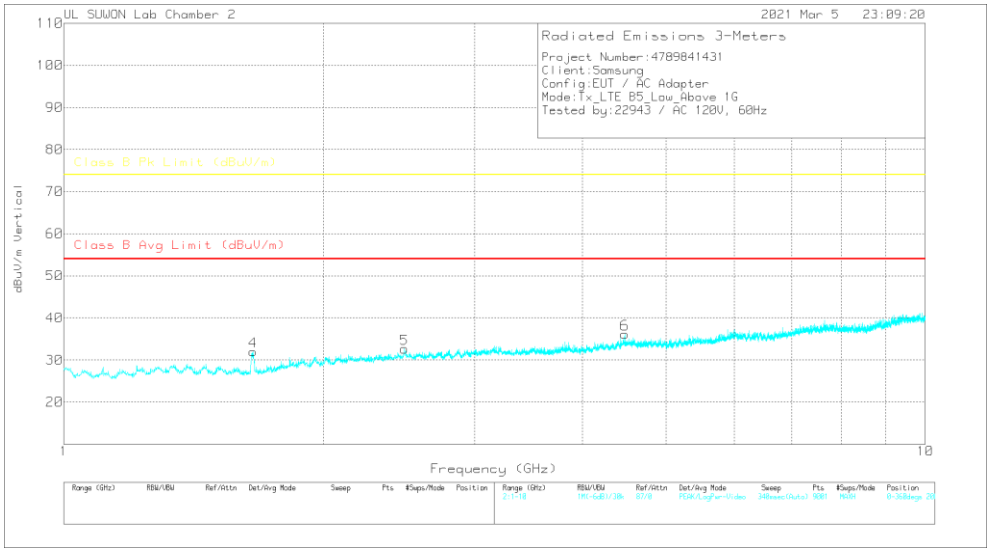
## 7.3. Above 1 GHz in the LTE Band 5

**LOW CHANNEL(870.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.659 | 35.22 | PK | 28.6 | -31.4 | .7 | 33.12 | - | - | 74 | -40.88 | 0-360 | 200 | H |
| 2 | 2.488 | 31.06 | PK | 32.1 | -29.9 | .7 | 33.96 | - | - | 74 | -40.04 | 0-360 | 200 | H |
| 3 | 4.565 | 29.97 | PK | 34.1 | -28.6 | .5 | 35.97 | - | - | 74 | -38.03 | 0-360 | 200 | H |
| 4 | 1.658 | 34.04 | PK | 28.6 | -31.3 | .7 | 32.04 | - | - | 74 | -41.96 | 0-360 | 200 | V |
| 5 | 2.486 | 29.87 | PK | 32 | -29.9 | .7 | 32.67 | - | - | 74 | -41.33 | 0-360 | 100 | V |
| 6 | 4.48 | 29.98 | PK | 34 | -28.3 | .5 | 36.18 | - | - | 74 | -37.82 | 0-360 | 100 | V |

PK-Peak Detector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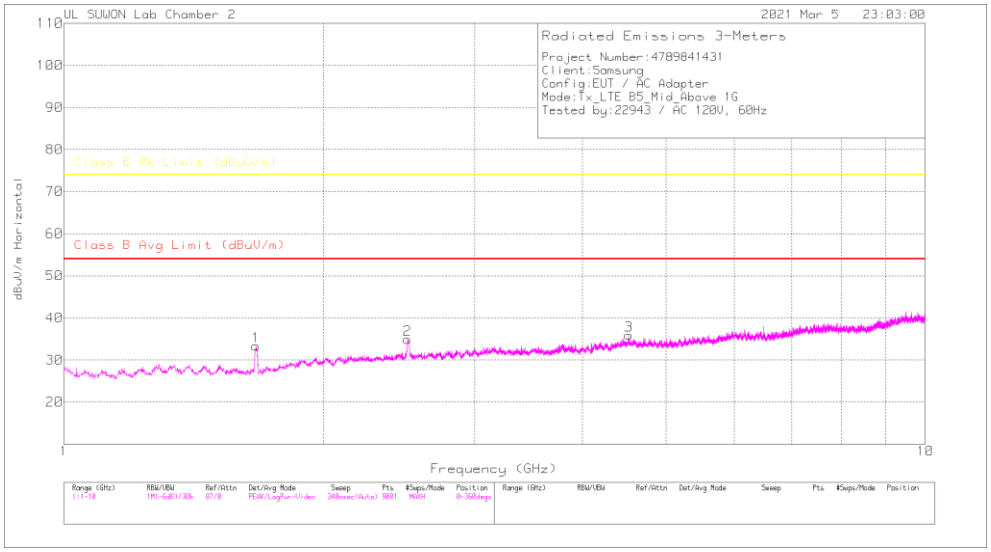
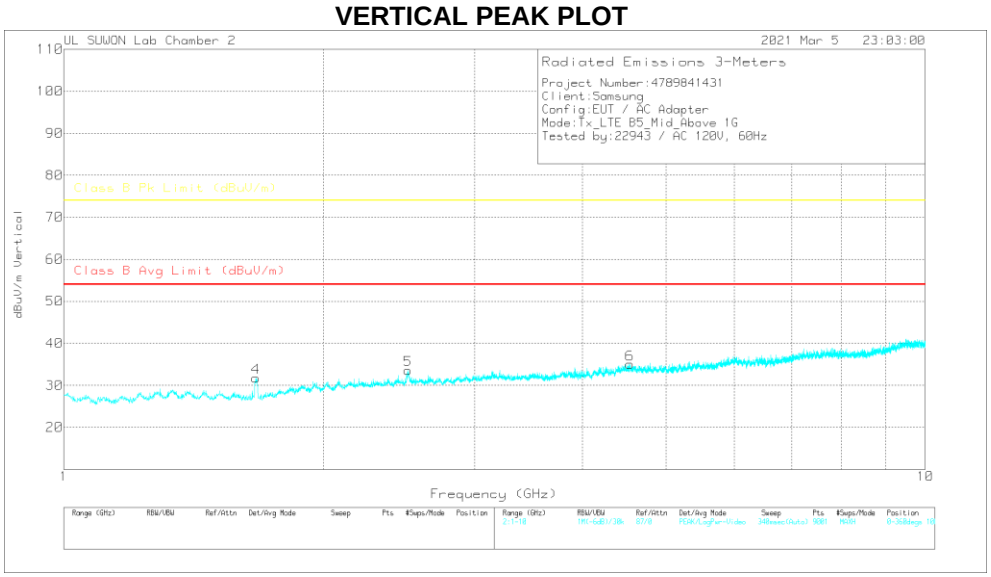
**MID CHANNEL(881.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.671 | 35.31 | PK | 28.6 | -31.3 | .7 | 33.31 | - | - | 74 | -40.69 | 0-360 | 200 | H |
| 2 | 2.507 | 32.2 | PK | 32.1 | -30.1 | .7 | 34.9 | - | - | 74 | -39.1 | 0-360 | 100 | H |
| 3 | 4.528 | 29.59 | PK | 34.1 | -28.3 | .5 | 35.89 | - | - | 74 | -38.11 | 0-360 | 200 | H |
| 4 | 1.671 | 33.79 | PK | 28.6 | -31.3 | .7 | 31.79 | - | - | 74 | -42.21 | 0-360 | 200 | V |
| 5 | 2.509 | 30.93 | PK | 32.1 | -30.1 | .7 | 33.63 | - | - | 74 | -40.37 | 0-360 | 100 | V |
| 6 | 4.541 | 28.83 | PK | 34.1 | -28.4 | .5 | 35.03 | - | - | 74 | -38.97 | 0-360 | 100 | V |

PK – Peak Detector

**HIGH CHANNEL(892.5 MHz)**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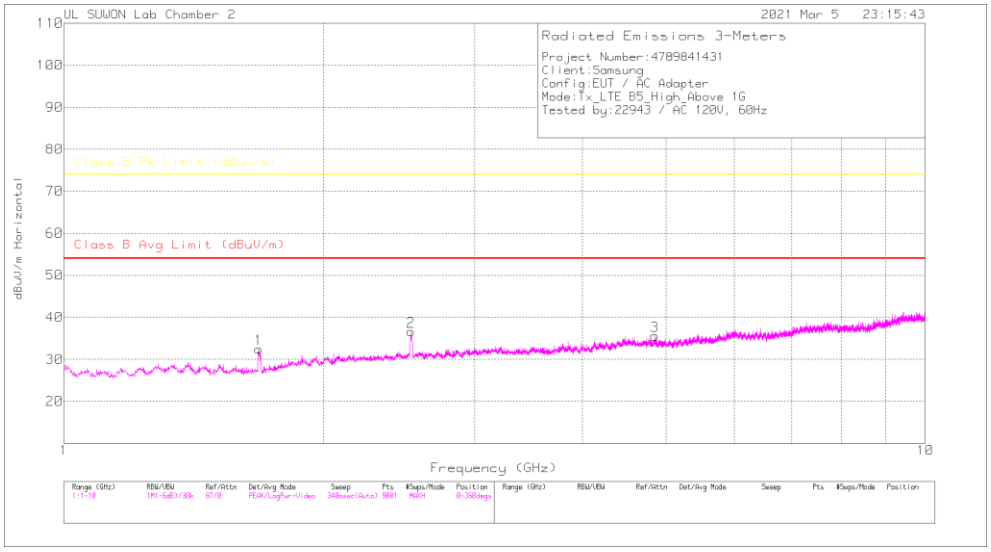
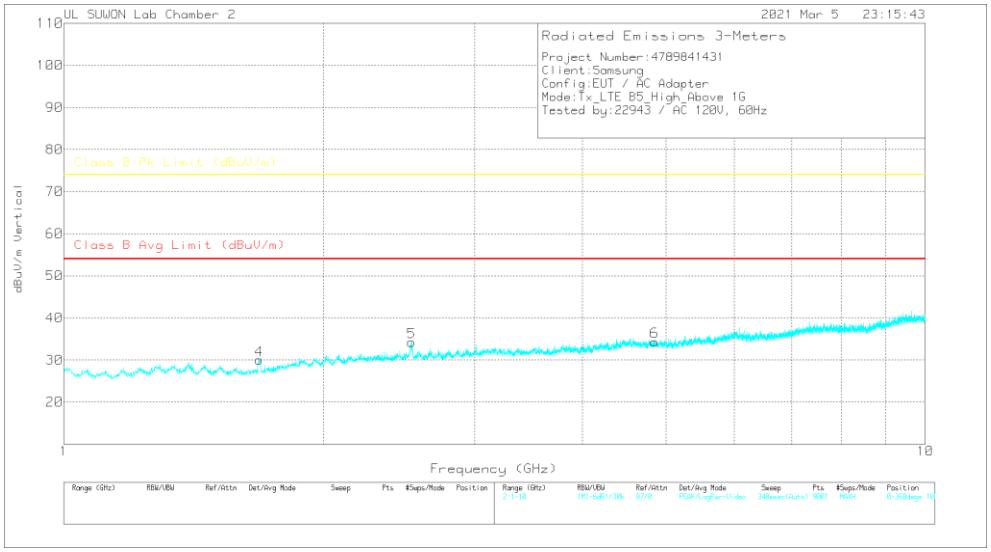
**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.683 | 34.42 | PK | 28.6 | -31.2 | .7 | 32.52 | - | - | 74 | -41.48 | 0-360 | 200 | H |
| 2 | 2.531 | 33.77 | PK | 32.1 | -29.9 | .7 | 36.67 | - | - | 74 | -37.33 | 0-360 | 100 | H |
| 3 | 4.853 | 28.71 | PK | 34.1 | -27.7 | .5 | 35.61 | - | - | 74 | -38.39 | 0-360 | 100 | H |
| 4 | 1.686 | 31.92 | PK | 28.6 | -31.2 | .7 | 30.02 | - | - | 74 | -43.98 | 0-360 | 200 | V |
| 5 | 2.533 | 31.46 | PK | 32.1 | -30 | .7 | 34.26 | - | - | 74 | -39.74 | 0-360 | 100 | V |
| 6 | 4.851 | 27.46 | PK | 34.1 | -27.7 | .5 | 34.36 | - | - | 74 | -39.64 | 0-360 | 200 | V |

PK – Peak Detector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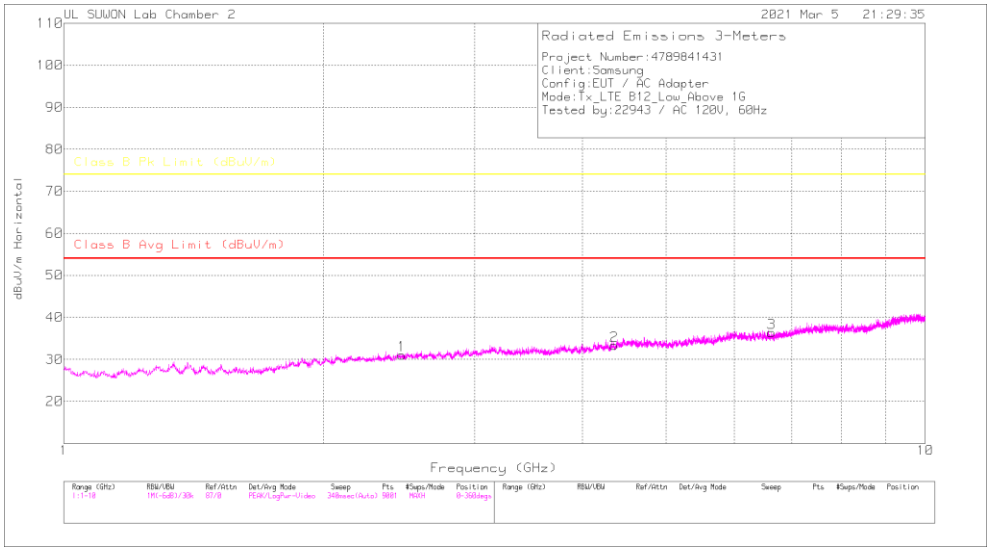
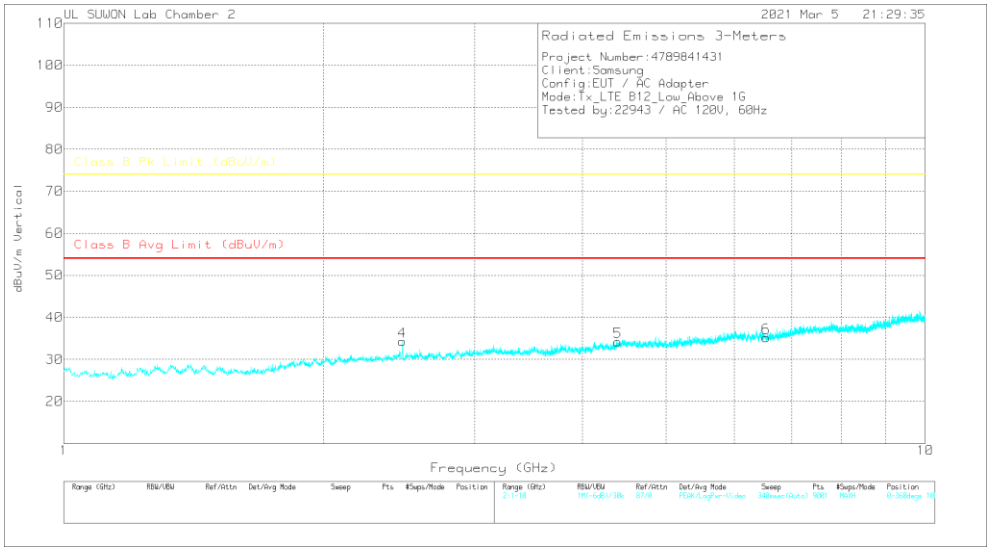
## 7.4. Above 1 GHz in the LTE Band 12

**LOW CHANNEL(730.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.469 | 28.22 | PK | 32 | -29.9 | .7 | 31.02 | - | - | 74 | -42.98 | 0-360 | 100 | H |
| 2 | 4.357 | 28.03 | PK | 33.6 | -28.8 | .5 | 33.33 | - | - | 74 | -40.67 | 0-360 | 200 | H |
| 3 | 6.63 | 26.67 | PK | 35.5 | -26.3 | .5 | 36.37 | - | - | 74 | -37.63 | 0-360 | 100 | H |
| 4 | 2.473 | 31.59 | PK | 32 | -30 | .7 | 34.29 | - | - | 74 | -39.71 | 0-360 | 200 | V |
| 5 | 4.395 | 28.5 | PK | 33.7 | -28.5 | .5 | 34.2 | - | - | 74 | -39.8 | 0-360 | 100 | V |
| 6 | 6.536 | 25.69 | PK | 35.4 | -26.4 | .5 | 35.19 | - | - | 74 | -38.81 | 0-360 | 200 | V |

PK – Peak Detector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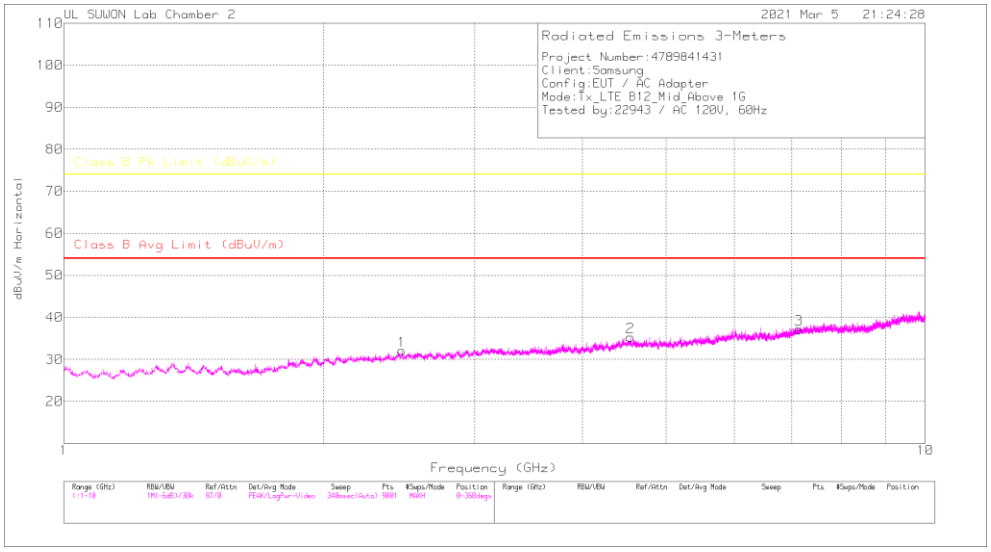
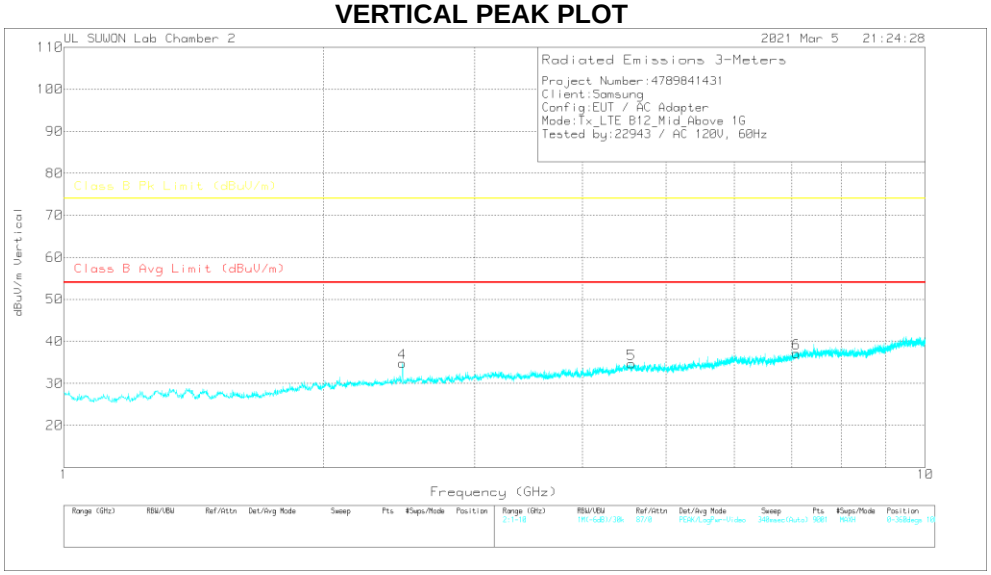
**MID CHANNEL(737.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.469 | 29.25 | PK | 32 | -29.9 | .7 | 32.05 | - | - | 74 | -41.95 | 0-360 | 100 | H |
| 2 | 4.548 | 29.24 | PK | 34.1 | -28.5 | .5 | 35.34 | - | - | 74 | -38.66 | 0-360 | 100 | H |
| 3 | 7.137 | 25.65 | PK | 36.1 | -25.1 | .5 | 37.15 | - | - | 74 | -36.85 | 0-360 | 100 | H |
| 4 | 2.473 | 32.15 | PK | 32 | -30 | .7 | 34.85 | - | - | 74 | -39.15 | 0-360 | 200 | V |
| 5 | 4.56 | 28.68 | PK | 34.1 | -28.6 | .5 | 34.68 | - | - | 74 | -39.32 | 0-360 | 100 | V |
| 6 | 7.087 | 25.68 | PK | 36.1 | -25.1 | .5 | 37.18 | - | - | 74 | -36.82 | 0-360 | 200 | V |

PK – Peak Detector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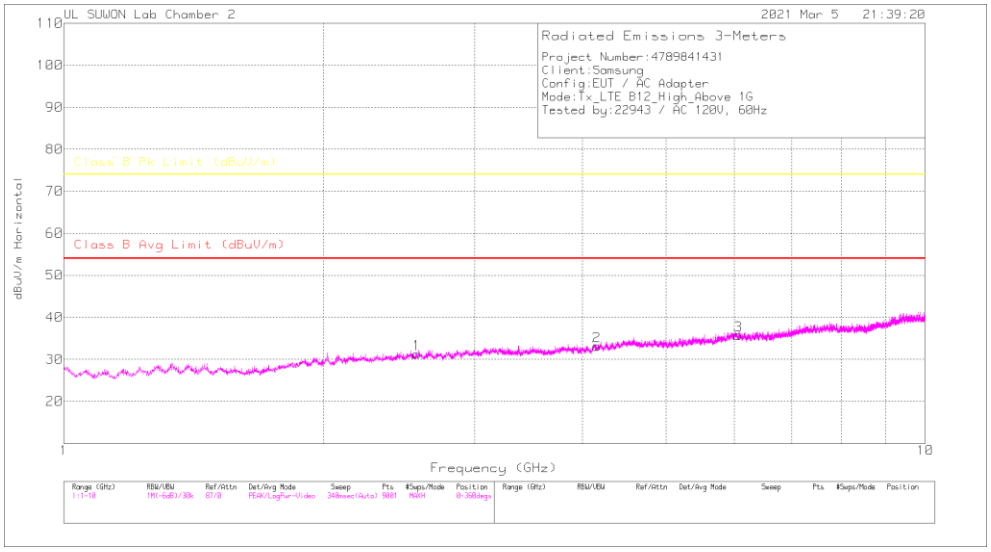
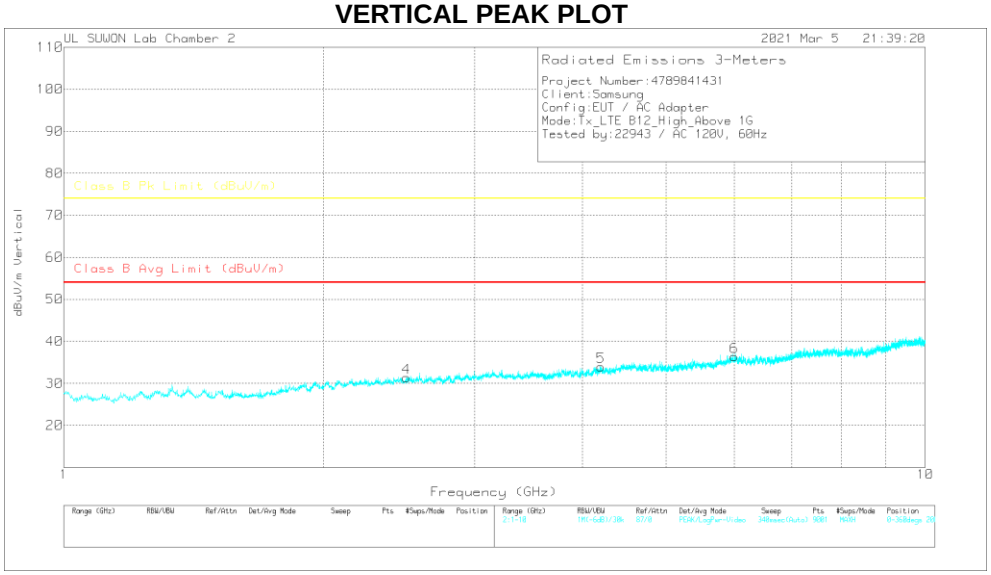
**HIGH CHANNEL(744.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.57 | 28.37 | PK | 32.2 | -30 | .7 | 31.27 | - | - | 74 | -42.73 | 0-360 | 200 | H |
| 2 | 4.156 | 27.35 | PK | 33.4 | -28.1 | .5 | 33.15 | - | - | 74 | -40.85 | 0-360 | 100 | H |
| 3 | 6.066 | 27.02 | PK | 35.2 | -27 | .5 | 35.72 | - | - | 74 | -38.28 | 0-360 | 200 | H |
| 4 | 2.499 | 28.66 | PK | 32.1 | -30.1 | .7 | 31.36 | - | - | 74 | -42.64 | 0-360 | 100 | V |
| 5 | 4.204 | 28.26 | PK | 33.4 | -28.2 | .5 | 33.96 | - | - | 74 | -40.04 | 0-360 | 200 | V |
| 6 | 6.004 | 27.78 | PK | 35.2 | -27.1 | .5 | 36.38 | - | - | 74 | -37.62 | 0-360 | 100 | V |

PK – Peak Detector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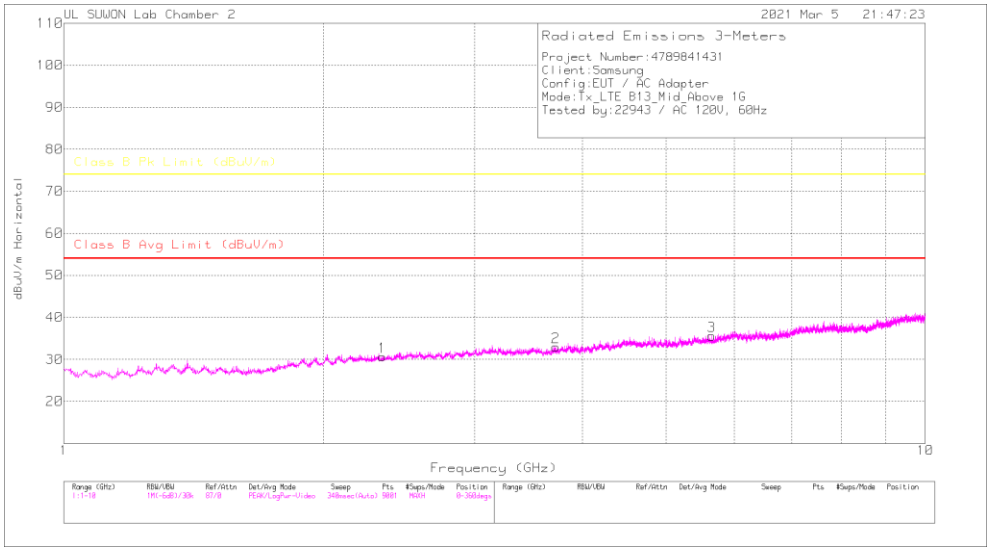
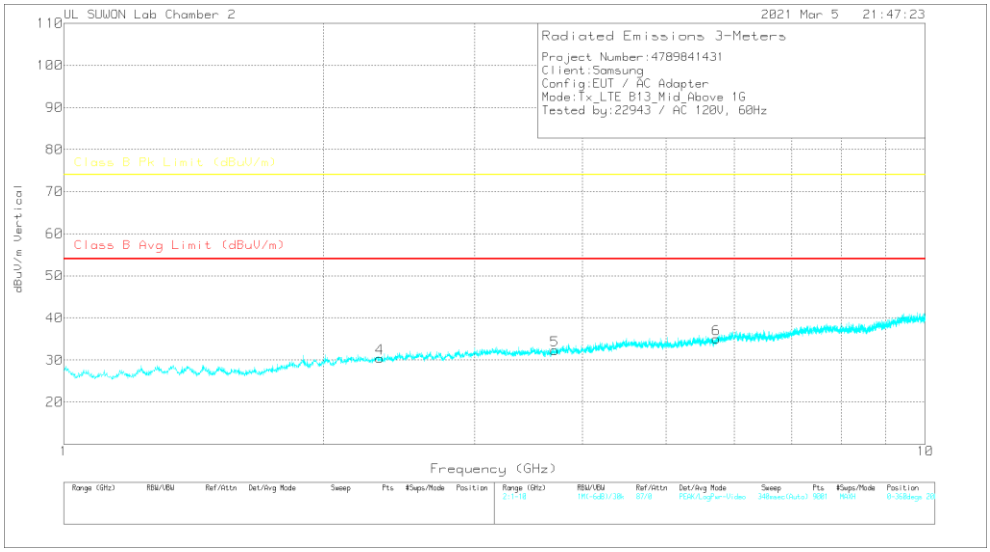
## 7.5. Above 1 GHz in the LTE Band 13

**MID CHANNEL(751.0 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.342 | 28.68 | PK | 31.8 | -30.5 | .7 | 30.68 | - | - | 74 | -43.32 | 0-360 | 200 | H |
| 2 | 3.726 | 28.61 | PK | 33.1 | -29.3 | .6 | 33.01 | - | - | 74 | -40.99 | 0-360 | 200 | H |
| 3 | 5.65 | 28.1 | PK | 34.6 | -27.6 | .5 | 35.6 | - | - | 74 | -38.4 | 0-360 | 200 | H |
| 4 | 2.328 | 28.3 | PK | 31.8 | -30.4 | .7 | 30.4 | - | - | 74 | -43.6 | 0-360 | 100 | V |
| 5 | 3.713 | 28.2 | PK | 33.1 | -29.6 | .6 | 32.3 | - | - | 74 | -41.7 | 0-360 | 100 | V |
| 6 | 5.719 | 27.12 | PK | 34.7 | -27.3 | .5 | 35.02 | - | - | 74 | -38.98 | 0-360 | 100 | V |

PK – Peak Dector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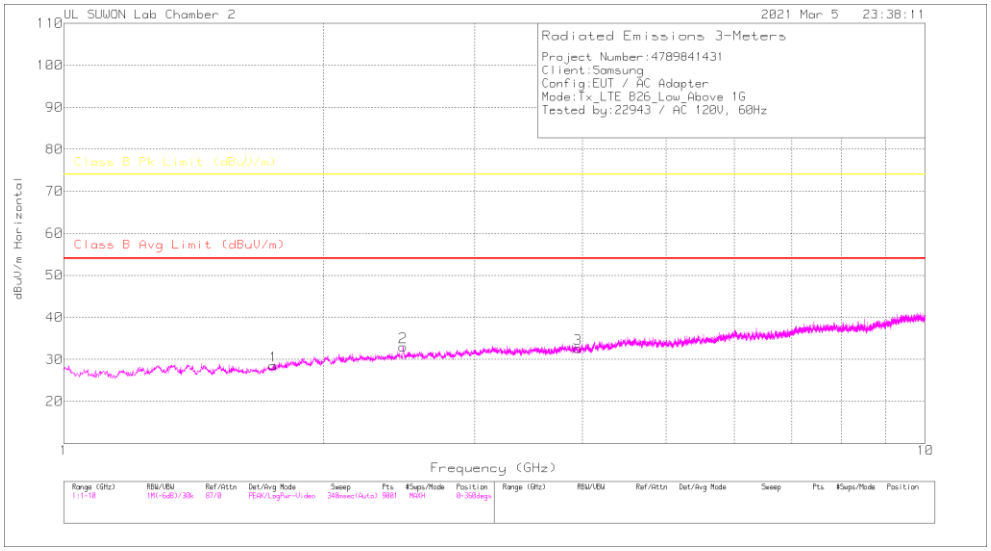
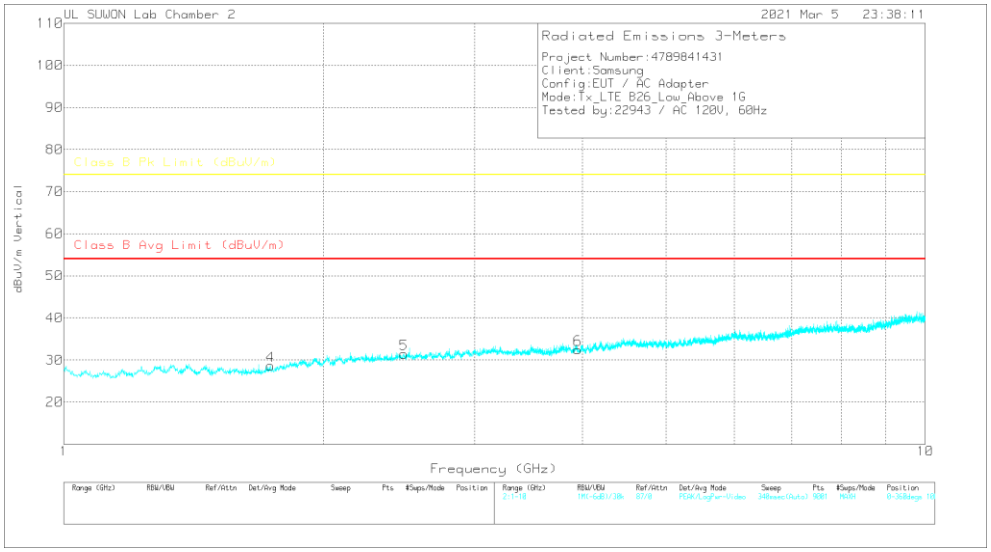
## 7.6. Above 1 GHz in the LTE Band 26

**LOW CHANNEL(860.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.751 | 29.85 | PK | 29.2 | -31.2 | .7 | 28.55 | - | - | 74 | -45.45 | 0-360 | 200 | H |
| 2 | 2.477 | 30.17 | PK | 32 | -29.9 | .7 | 32.97 | - | - | 74 | -41.03 | 0-360 | 200 | H |
| 3 | 3.951 | 28 | PK | 33.5 | -29.4 | .5 | 32.6 | - | - | 74 | -41.4 | 0-360 | 100 | H |
| 4 | 1.738 | 30.03 | PK | 29.1 | -31.2 | .7 | 28.63 | - | - | 74 | -45.37 | 0-360 | 100 | V |
| 5 | 2.481 | 28.65 | PK | 32 | -29.9 | .7 | 31.45 | - | - | 74 | -42.55 | 0-360 | 200 | V |
| 6 | 3.952 | 27.8 | PK | 33.5 | -29.3 | .5 | 32.5 | - | - | 74 | -41.5 | 0-360 | 200 | V |

PK – Peak Detector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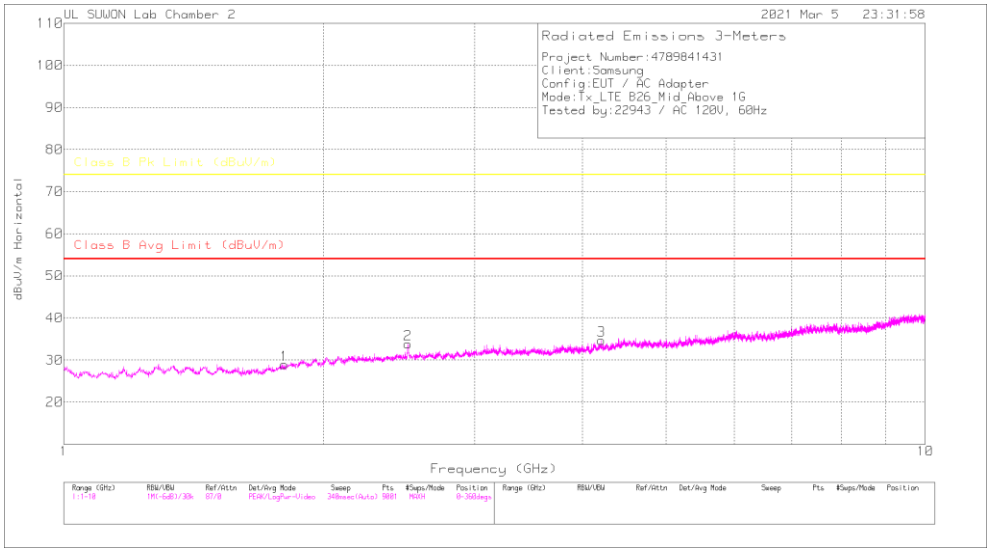
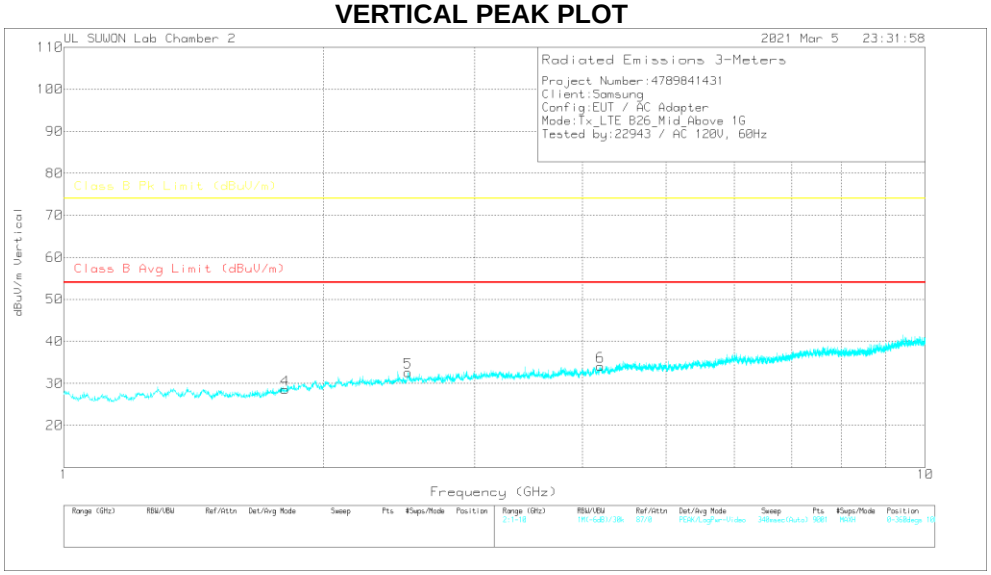
**MID CHANNEL(876.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.804 | 29.5 | PK | 29.9 | -31.2 | .7 | 28.9 | - | - | 74 | -45.1 | 0-360 | 200 | H |
| 2 | 2.51 | 31.11 | PK | 32.1 | -30.1 | .7 | 33.81 | - | - | 74 | -40.19 | 0-360 | 200 | H |
| 3 | 4.207 | 28.98 | PK | 33.4 | -28.2 | .5 | 34.68 | - | - | 74 | -39.32 | 0-360 | 200 | H |
| 4 | 1.807 | 29.15 | PK | 29.9 | -31.2 | .7 | 28.55 | - | - | 74 | -45.45 | 0-360 | 200 | V |
| 5 | 2.51 | 29.94 | PK | 32.1 | -30.1 | .7 | 32.64 | - | - | 74 | -41.36 | 0-360 | 100 | V |
| 6 | 4.197 | 28.39 | PK | 33.4 | -28.2 | .5 | 34.09 | - | - | 74 | -39.91 | 0-360 | 100 | V |

PK – Peak Detector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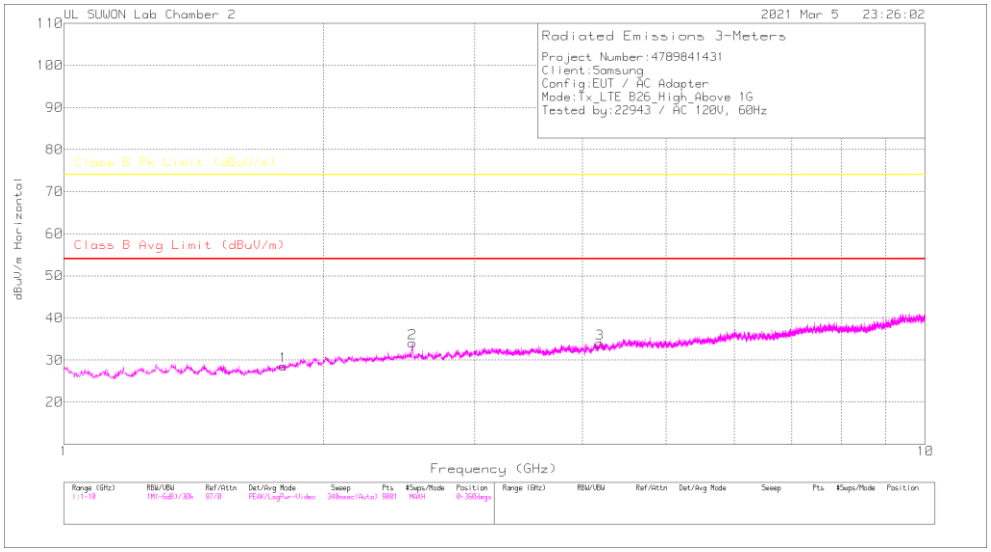
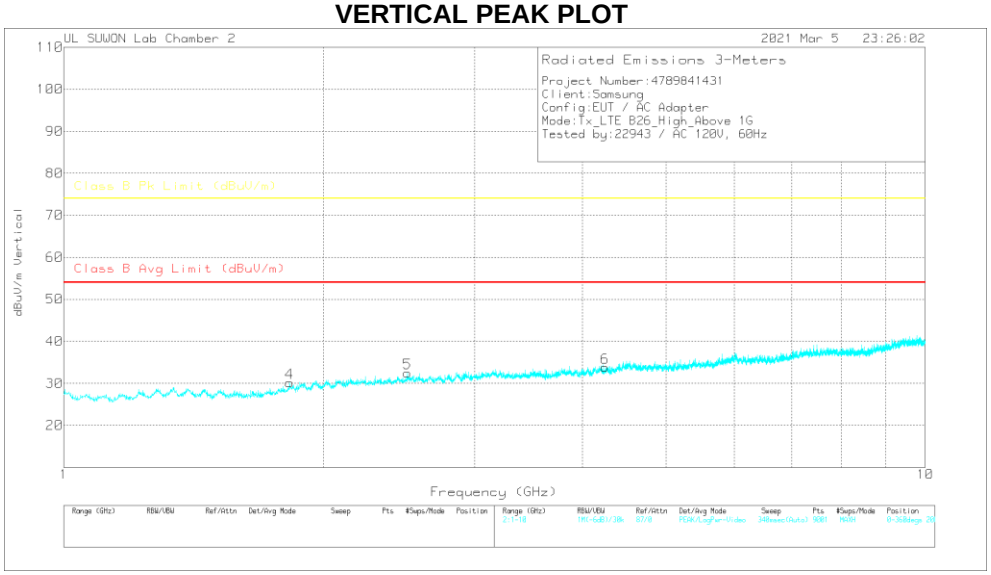
**HIGH CHANNEL(892.5 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | 3117_00168724 | 1-18GHz[dB] | 1GHz_HP[dB] | Corrected Reading dBuV/m | Class B Avg Limit (dBuV/m) | Av(CISPR)Margin (dB) | Class B Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.799 | 29.16 | PK | 29.8 | -31.1 | .7 | 28.56 | - | - | 74 | -45.44 | 0-360 | 100 | H |
| 2 | 2.539 | 31.23 | PK | 32.1 | -30 | .7 | 34.03 | - | - | 74 | -39.97 | 0-360 | 100 | H |
| 3 | 4.193 | 28.22 | PK | 33.4 | -28.2 | .5 | 33.92 | - | - | 74 | -40.08 | 0-360 | 100 | H |
| 4 | 1.829 | 30.37 | PK | 30.1 | -31 | .7 | 30.17 | - | - | 74 | -43.83 | 0-360 | 100 | V |
| 5 | 2.505 | 29.62 | PK | 32.1 | -29.9 | .7 | 32.52 | - | - | 74 | -41.48 | 0-360 | 100 | V |
| 6 | 4.249 | 28.21 | PK | 33.4 | -28.3 | .5 | 33.81 | - | - | 74 | -40.19 | 0-360 | 100 | V |

PK – Peak Detector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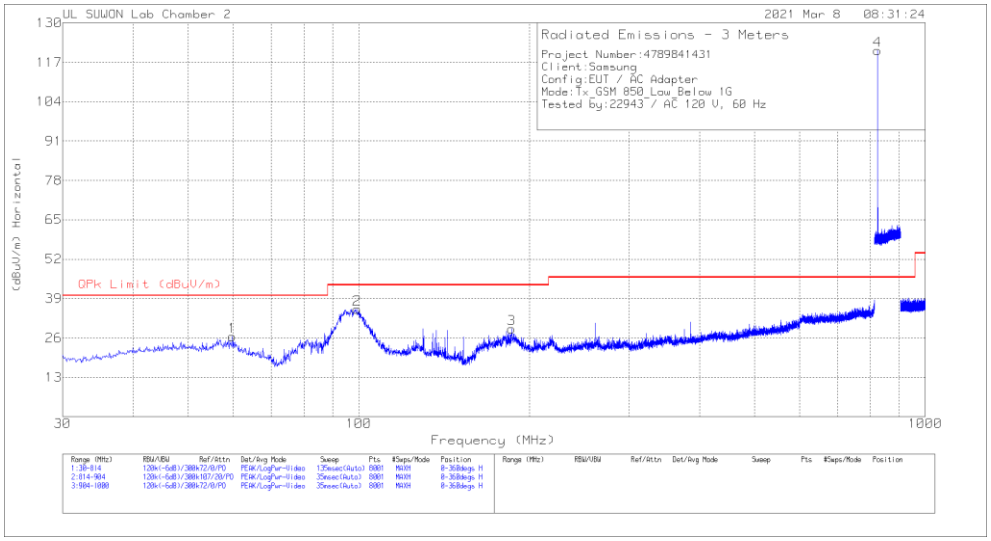
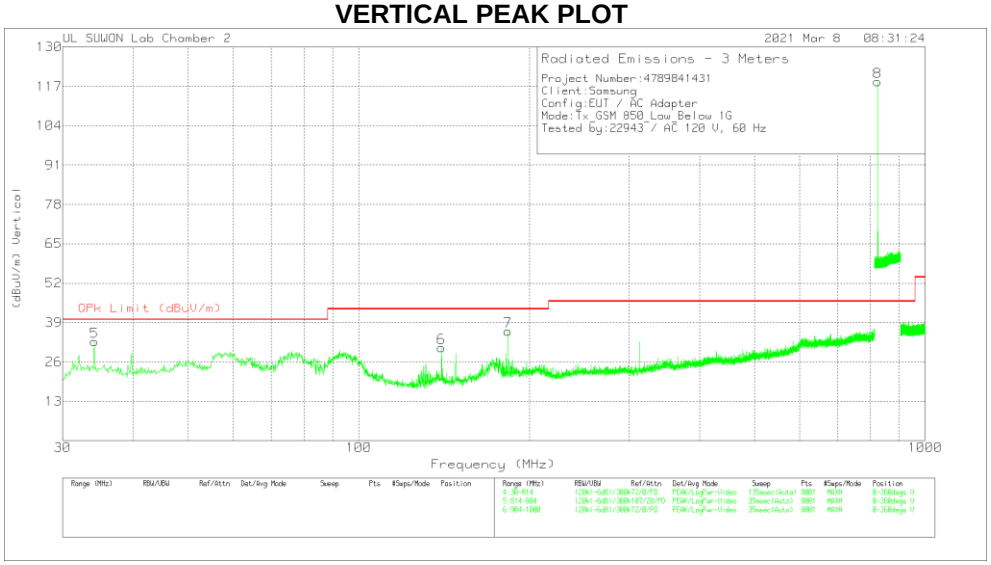
## 7.7. Below 1 GHz in the GSM850

**LOW CHANNEL(869.2 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | VULB9163_749 | Below_1G_Bypass [dB] | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 59.792 | 7.06 | Pk | 18.5 | .9 | 26.46 | 40 | -13.54 | 0-360 | 400 | H |
| 2 | 99.286 | 17.14 | Pk | 17.3 | 1 | 35.44 | 43.52 | -8.08 | 0-360 | 300 | H |
| 3 | 186.114 | 11.47 | Pk | 15.9 | 1.6 | 28.97 | 43.52 | -14.55 | 0-360 | 100 | H |
| 4 | 824.1925 | 90.83 | Pk | 26.7 | 3.3 | 120.83 | **46.02** | **74.81** | 0-360 | 100 | H |
| 5 | 34.116 | 16.07 | Pk | 16.1 | .6 | 32.77 | 40 | -7.23 | 0-360 | 300 | V |
| 6 | 139.956 | 15.67 | Pk | 13.7 | 1.3 | 30.67 | 43.52 | -12.85 | 0-360 | 100 | V |
| 7 | 183.37 | 19.12 | Pk | 15.6 | 1.5 | 36.22 | 43.52 | -7.3 | 0-360 | 100 | V |
| 8 | 824.2488 | 88.67 | Pk | 26.7 | 3.2 | 118.57 | **46.02** | **72.55** | 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.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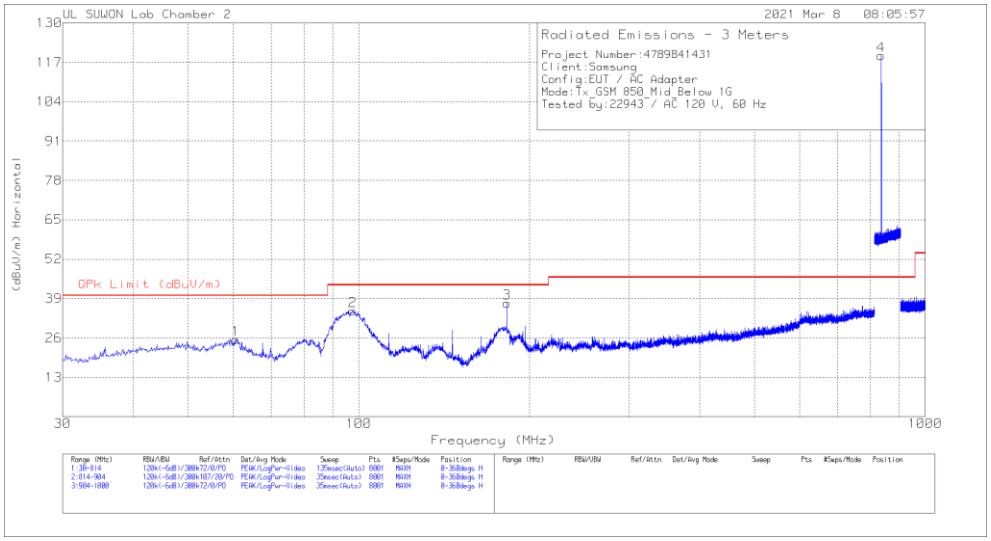
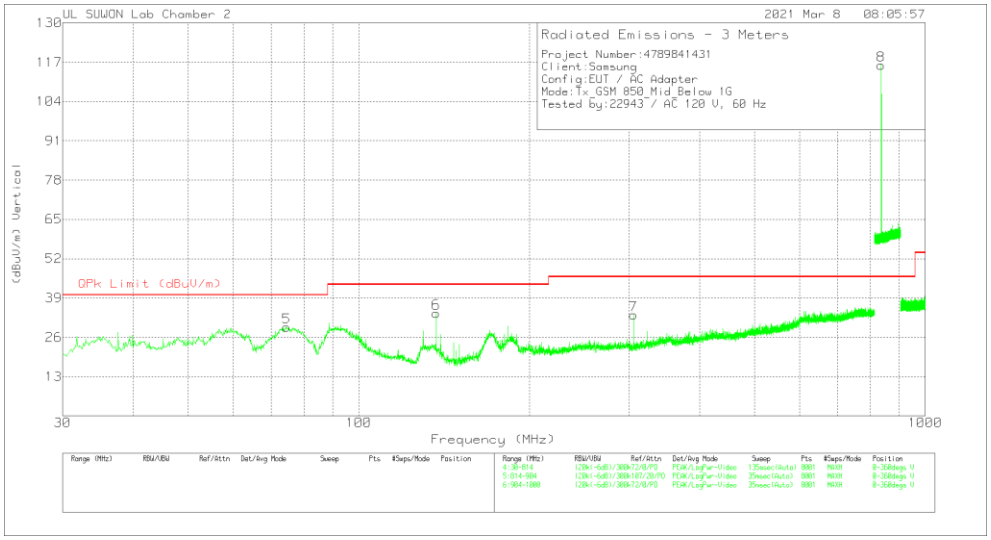
**MID CHANNEL(881.6 MHz)**

**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 | 60.674 | 6.18 | Pk | 18.4 | .9 | 25.48 | 40 | -14.52 | 0-360 | 400 | H |
| 2 | 97.522 | 16.88 | Pk | 17.1 | 1 | 34.98 | 43.52 | -8.54 | 0-360 | 300 | H |
| 3 | 182.586 | 20.07 | Pk | 15.6 | 1.8 | 37.47 | 43.52 | -6.05 | 0-360 | 100 | H |
| 4 | 836.5563 | 89.09 | Pk | 26.9 | 3.2 | 119.19 | **46.02** | **73.17** | 0-360 | 100 | H |
| 5 | 74.492 | 15.15 | Pk | 13.4 | .9 | 29.45 | 40 | -10.55 | 0-360 | 100 | V |
| 6 | 137.016 | 19.04 | Pk | 13.8 | 1.2 | 34.04 | 43.52 | -9.48 | 0-360 | 200 | V |
| 7 | 305.576 | 12.26 | Pk | 19.2 | 2 | 33.46 | 46.02 | -12.56 | 0-360 | 300 | V |
| 8 | 836.6688 | 85.85 | Pk | 26.9 | 3.3 | 116.05 | **46.02** | **70.03** | 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.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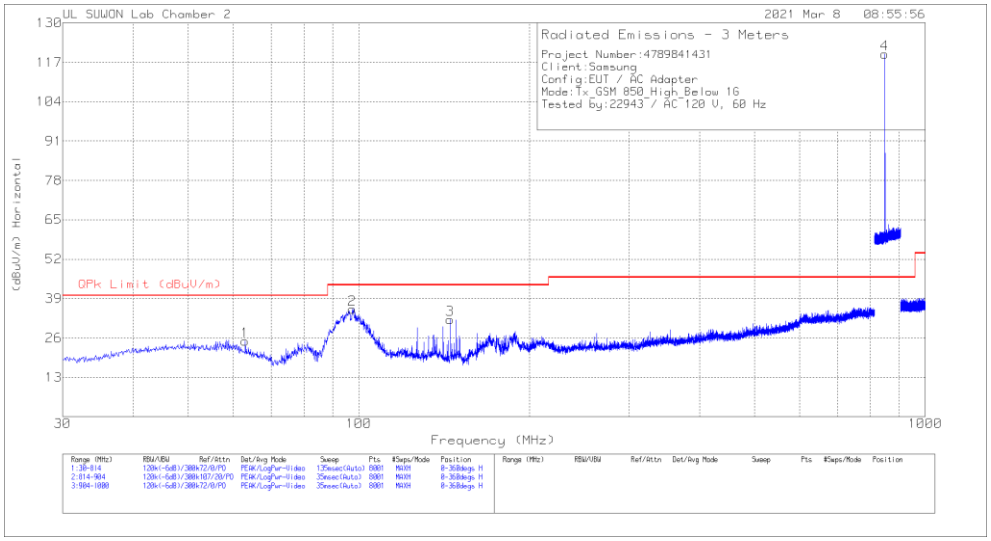
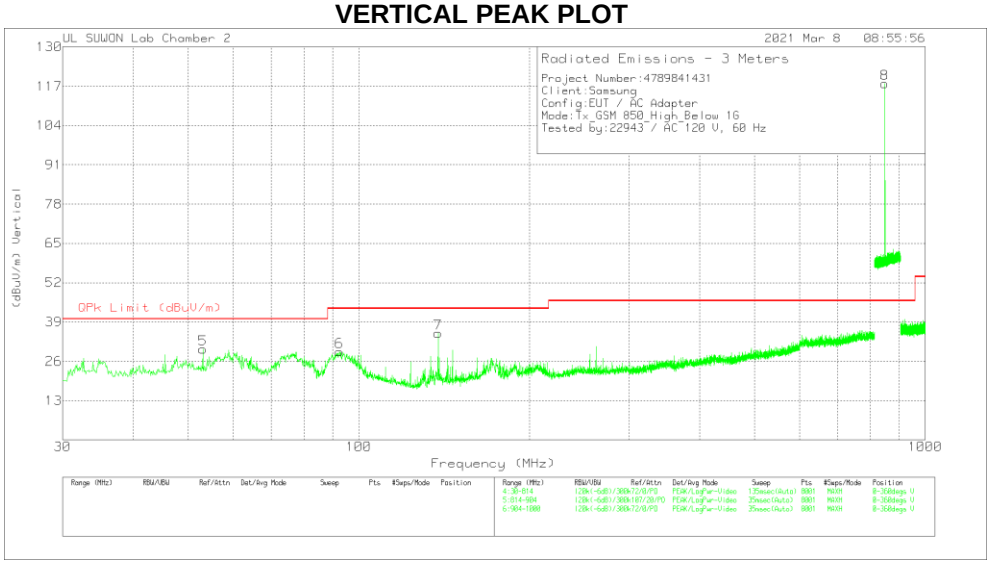
**HIGH CHANNEL(893.8 MHz)**

**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 | 63.026 | 6.3 | Pk | 17.7 | .9 | 24.9 | 40 | -15.1 | 0-360 | 300 | H |
| 2 | 97.424 | 17.13 | Pk | 17.1 | 1.2 | 35.43 | 43.52 | -8.09 | 0-360 | 300 | H |
| 3 | 144.954 | 16.95 | Pk | 13.7 | 1.4 | 32.05 | 43.52 | -11.47 | 0-360 | 100 | H |
| 4 | 848.8188 | 89.11 | Pk | 27.3 | 3.3 | 119.71 | **46.02** | **73.69** | 0-360 | 100 | H |
| 5 | 53.03 | 9.62 | Pk | 19.6 | .9 | 30.12 | 40 | -9.88 | 0-360 | 100 | V |
| 6 | 92.328 | 12.05 | Pk | 16.1 | 1.1 | 29.25 | 43.52 | -14.27 | 0-360 | 200 | V |
| 7 | 137.996 | 20.15 | Pk | 13.8 | 1.3 | 35.25 | 43.52 | -8.27 | 0-360 | 100 | V |
| 8 | 848.8188 | 87.17 | Pk | 27.3 | 3.3 | 117.77 | **46.02** | **71.75** | 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.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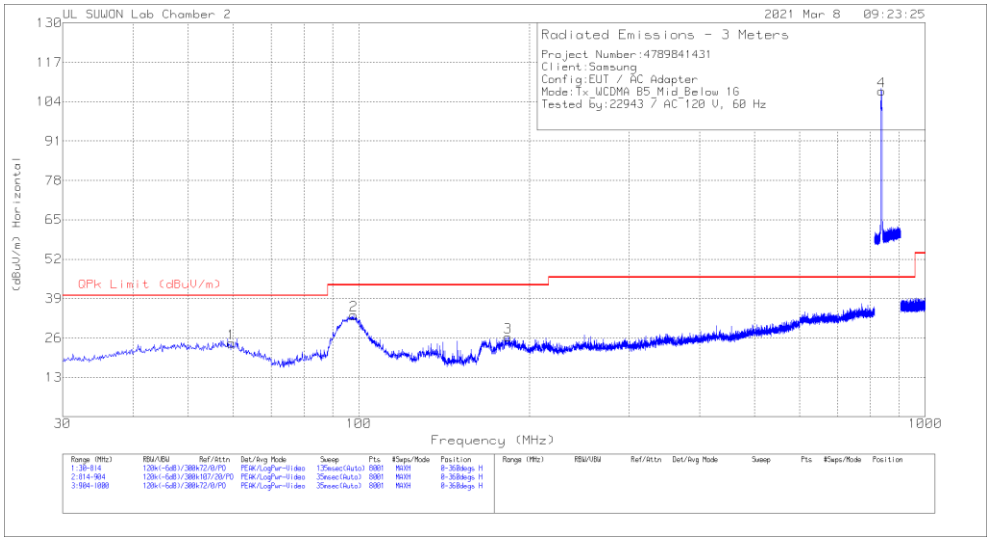
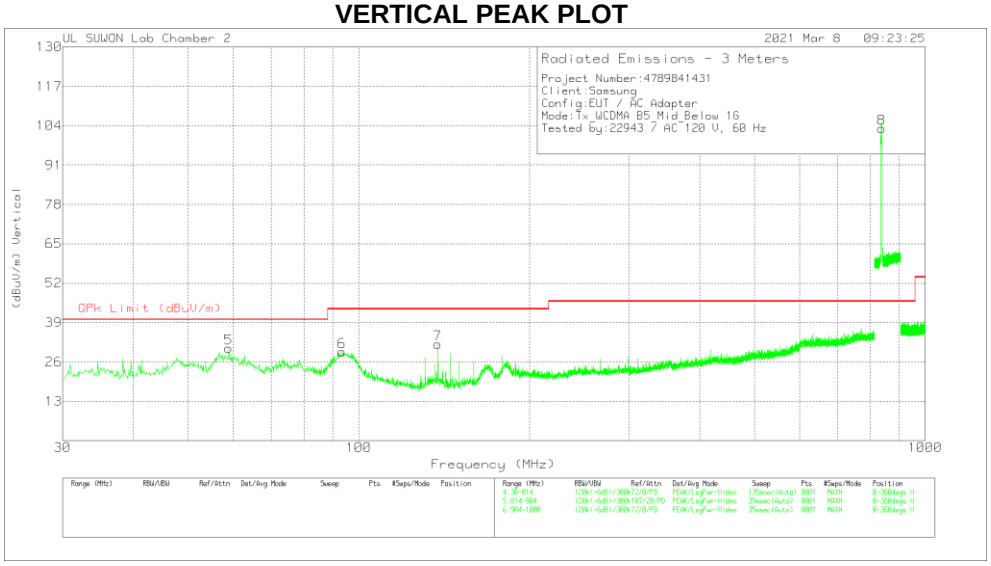
## 7.8. Below 1 GHz in the WCDMA Band 5

**MID CHANNEL(881.6 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | VULB9163_749 | Below_1G_Bypass [dB] | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 59.498 | 4.77 | Pk | 18.6 | .9 | 24.27 | 40 | -15.73 | 0-360 | 400 | H |
| 2 | 97.914 | 15.14 | Pk | 17.2 | 1.2 | 33.54 | 43.52 | -9.98 | 0-360 | 300 | H |
| 3 | 183.468 | 9.24 | Pk | 15.6 | 1.5 | 26.34 | 43.52 | -17.18 | 0-360 | 200 | H |
| 4 | 836.9838 | 77.37 | Pk | 26.9 | 3.2 | 107.47 | **46.02** | **61.45** | 0-360 | 100 | H |
| 5 | 58.91 | 10.85 | Pk | 18.7 | 1 | 30.55 | 40 | -9.45 | 0-360 | 300 | V |
| 6 | 93.406 | 12.16 | Pk | 16.3 | .9 | 29.36 | 43.52 | -14.16 | 0-360 | 100 | V |
| 7 | 137.898 | 16.85 | Pk | 13.8 | 1.3 | 31.95 | 43.52 | -11.57 | 0-360 | 100 | V |
| 8 | 836.8375 | 72.84 | Pk | 26.9 | 3.3 | 103.04 | **46.02** | **57.02** | 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.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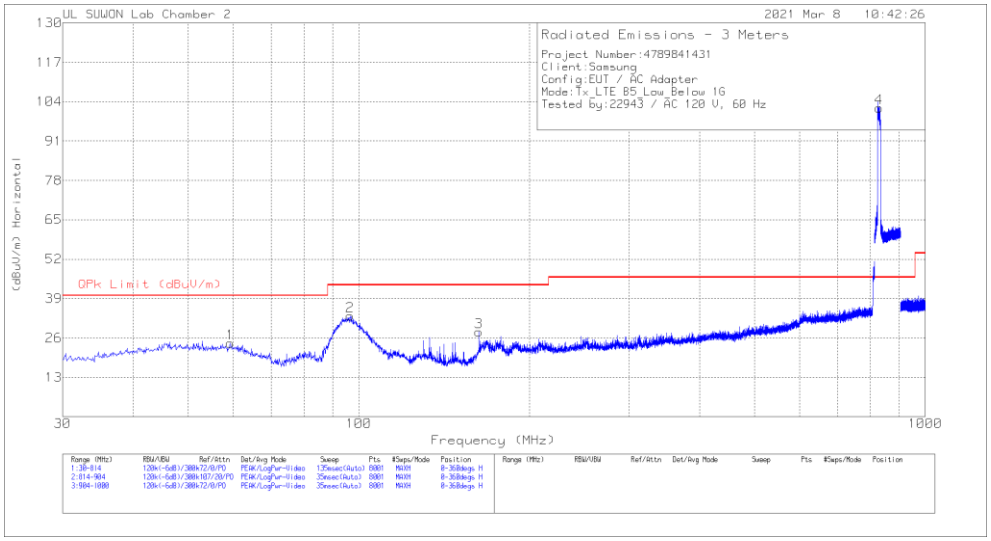
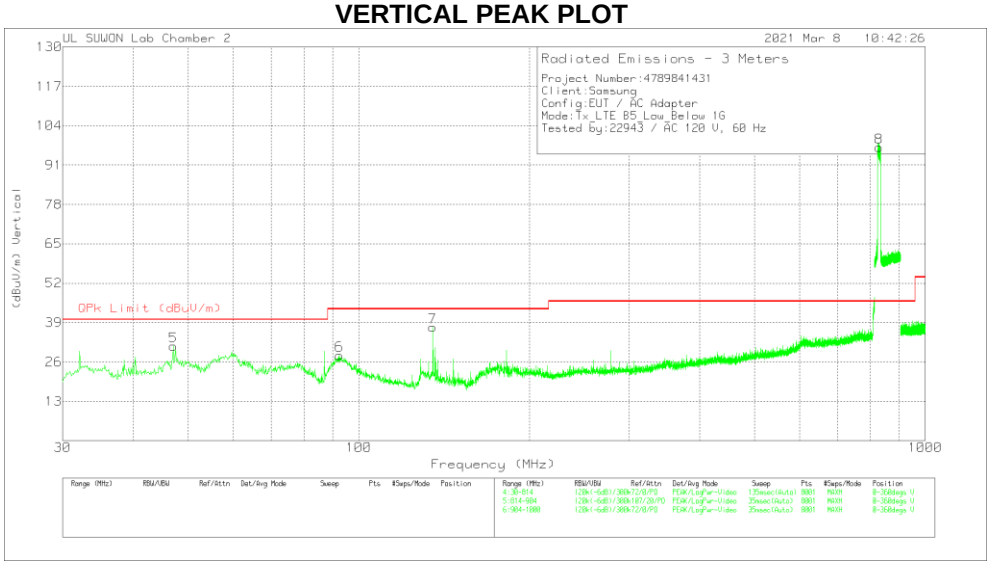
## 7.9. Below 1 GHz in the LTE Band 5

**LOW CHANNEL(871.4 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 | 59.302 | 4.87 | Pk | 18.6 | .9 | 24.37 | 40 | -15.63 | 0-360 | 400 | H |
| 2 | 96.444 | 15.44 | Pk | 16.9 | .9 | 33.24 | 43.52 | -10.28 | 0-360 | 300 | H |
| 3 | 162.79 | 12.1 | Pk | 14.3 | 1.6 | 28 | 43.52 | -15.52 | 0-360 | 200 | H |
| 4 | 829.2325 | 71.91 | Pk | 26.8 | 3.2 | 101.91 | **46.02** | **55.89** | 0-360 | 100 | H |
| 5 | 47.052 | 10.61 | Pk | 19.8 | .9 | 31.31 | 40 | -8.69 | 0-360 | 100 | V |
| 6 | 92.426 | 11.08 | Pk | 16.1 | 1.1 | 28.28 | 43.52 | -15.24 | 0-360 | 100 | V |
| 7 | 135.056 | 22.39 | Pk | 13.9 | 1.2 | 37.49 | 43.52 | -6.03 | 0-360 | 300 | V |
| 8 | 829.0525 | 66.7 | Pk | 26.8 | 3.3 | 96.8 | **46.02** | **50.78** | 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.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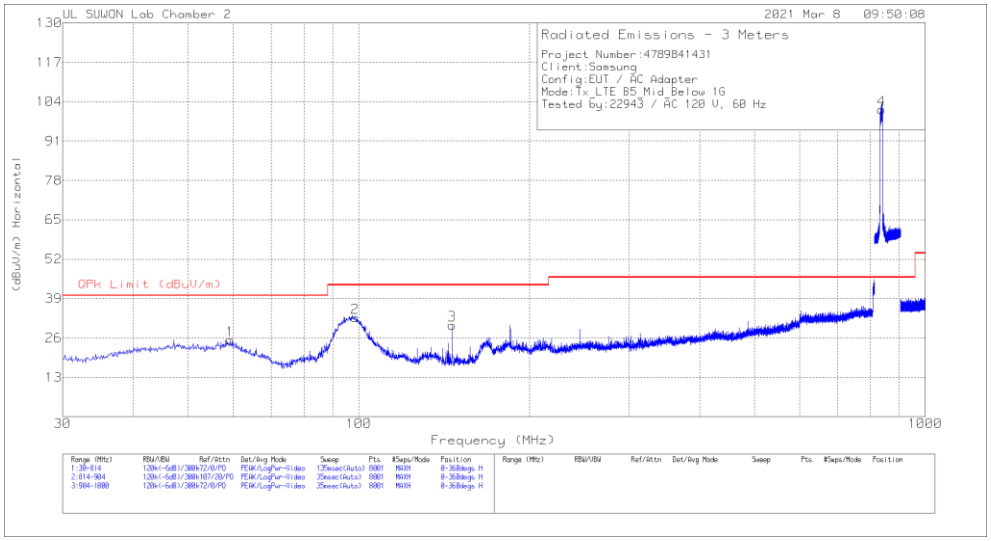
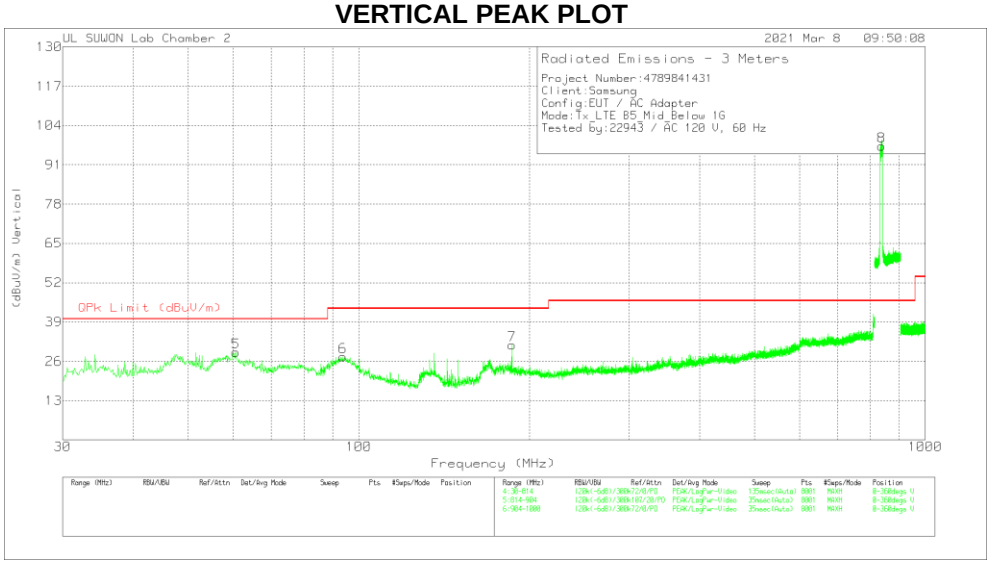
**MID CHANNEL(881.6 MHz)**

**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 | 59.302 | 5.87 | Pk | 18.6 | .9 | 25.37 | 40 | -14.63 | 0-360 | 200 | H |
| 2 | 98.502 | 14.34 | Pk | 17.3 | 1.2 | 32.84 | 43.52 | -10.68 | 0-360 | 300 | H |
| 3 | 146.13 | 15.31 | Pk | 13.7 | 1.3 | 30.31 | 43.52 | -13.21 | 0-360 | 400 | H |
| 4 | 837.2425 | 71.32 | Pk | 26.9 | 3.2 | 101.42 | **46.02** | **55.4** | 0-360 | 100 | H |
| 5 | 60.674 | 9.77 | Pk | 18.4 | .9 | 29.07 | 40 | -10.93 | 0-360 | 100 | V |
| 6 | 93.7 | 10.08 | Pk | 16.3 | 1.1 | 27.48 | 43.52 | -16.04 | 0-360 | 100 | V |
| 7 | 186.31 | 13.9 | Pk | 16 | 1.5 | 31.4 | 43.52 | -12.12 | 0-360 | 200 | V |
| 8 | 836.815 | 66.92 | Pk | 26.9 | 3.3 | 97.12 | **46.02** | **51.1** | 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.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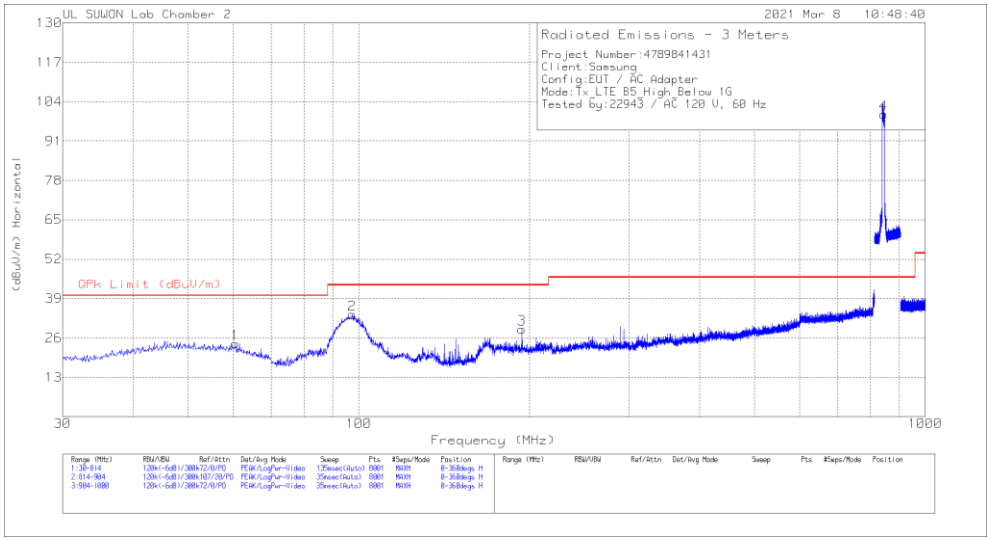
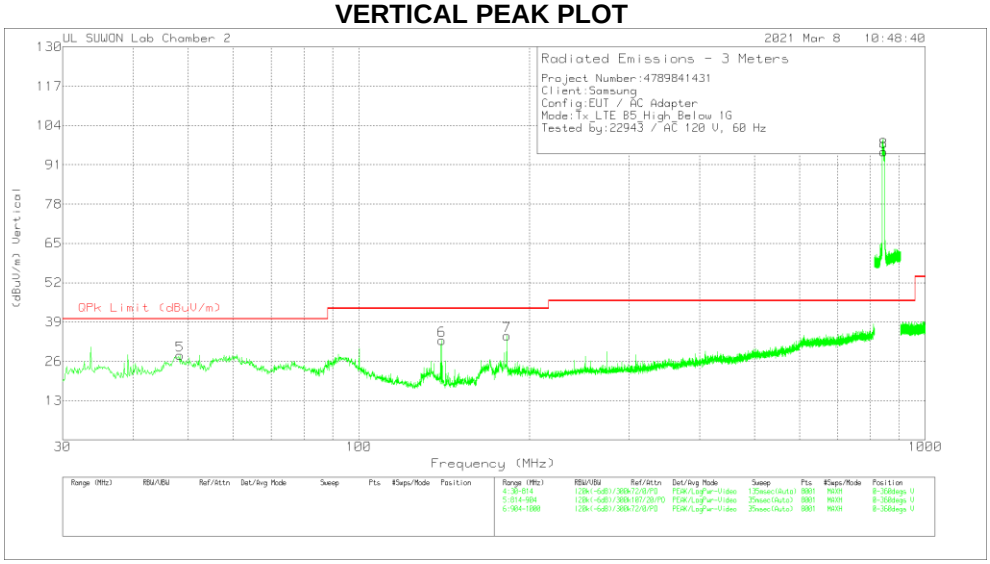
**HIGH CHANNEL(891.6 MHz)**

**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 | 60.576 | 4.9 | Pk | 18.4 | .8 | 24.1 | 40 | -15.9 | 0-360 | 100 | H |
| 2 | 97.424 | 15.46 | Pk | 17.1 | 1.2 | 33.76 | 43.52 | -9.76 | 0-360 | 300 | H |
| 3 | 194.15 | 10.26 | Pk | 17.1 | 1.6 | 28.96 | 43.52 | -14.56 | 0-360 | 200 | H |
| 4 | 844.2288 | 69.33 | Pk | 27.2 | 3.3 | 99.83 | **46.02** | **53.81** | 0-360 | 100 | H |
| 5 | 48.326 | 7.4 | Pk | 19.9 | .8 | 28.1 | 40 | -11.9 | 0-360 | 200 | V |
| 6 | 140.054 | 17.91 | Pk | 13.7 | 1.4 | 33.01 | 43.52 | -10.51 | 0-360 | 100 | V |
| 7 | 182.488 | 17.4 | Pk | 15.5 | 1.5 | 34.4 | 43.52 | -9.12 | 0-360 | 200 | V |
| 8 | 844.3075 | 64.95 | Pk | 27.2 | 3.2 | 95.35 | **46.02** | **49.33** | 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.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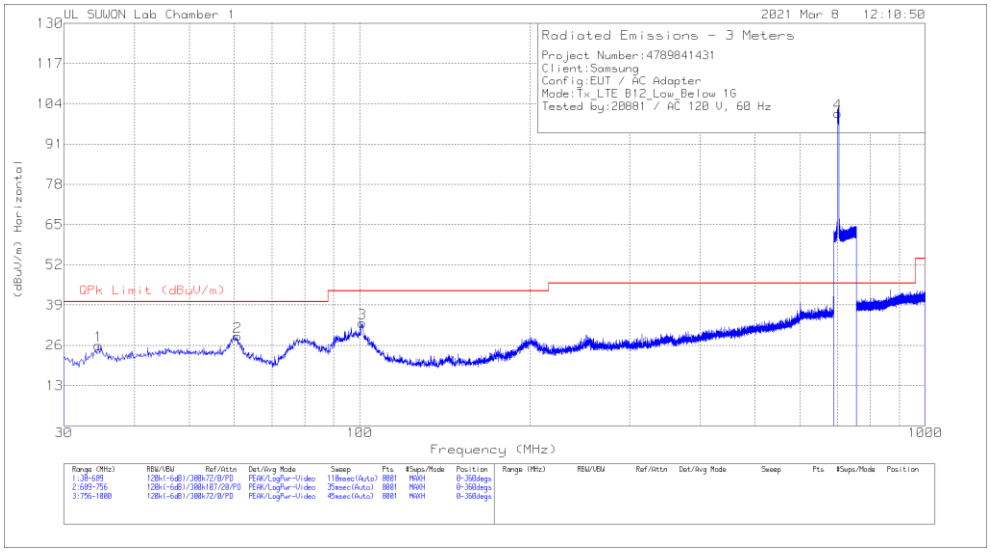
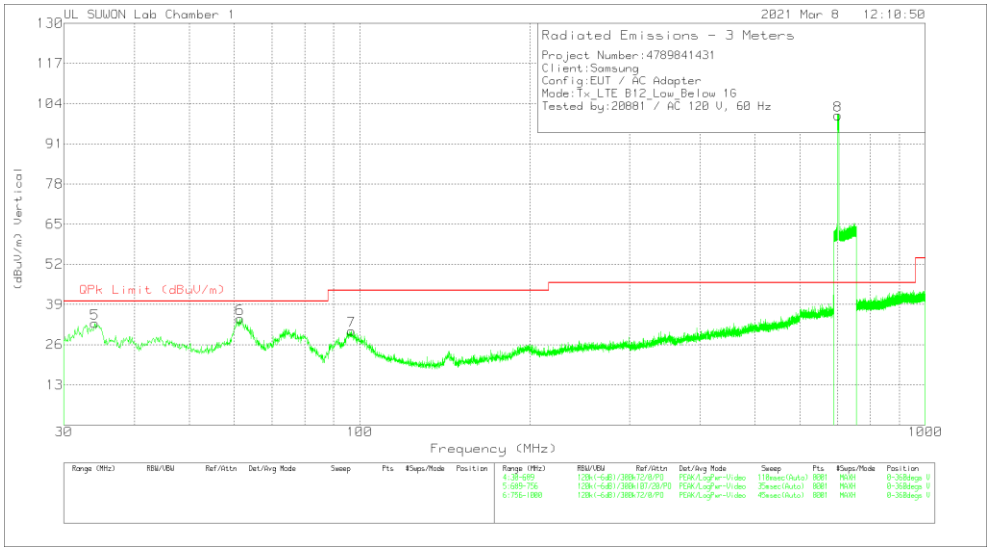
## 7.10. Below 1 GHz in the LTE Band 12

**LOW CHANNEL(730.5 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 | 34.5306 | 7.84 | Pk | 16.4 | 1.7 | 25.94 | 40 | -14.06 | 0-360 | 200 | H |
| 2 | 60.8083 | 8.29 | Pk | 18.4 | 2.2 | 28.89 | 40 | -11.11 | 0-360 | 400 | H |
| 3 | 101.172 | 12.67 | Pk | 17.7 | 2.8 | 33.17 | 43.52 | -10.35 | 0-360 | 300 | H |
| 4 | 701.5206 | 68.3 | Pk | 25.6 | 7 | 100.9 | **46.02** | **54.88** | 0-360 | 100 | H |
| 5 | 34.0364 | 15.07 | Pk | 16.2 | 1.6 | 32.87 | 40 | -7.13 | 0-360 | 100 | V |
| 6 | 61.4673 | 14.23 | Pk | 18.3 | 1.9 | 34.43 | 40 | -5.57 | 0-360 | 100 | V |
| 7 | 96.8061 | 10.89 | Pk | 17 | 2.6 | 30.49 | 43.52 | -13.03 | 0-360 | 100 | V |
| 8 | 701.2945 | 67.58 | Pk | 25.6 | 7 | 100.18 | **46.02** | **54.16** | 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.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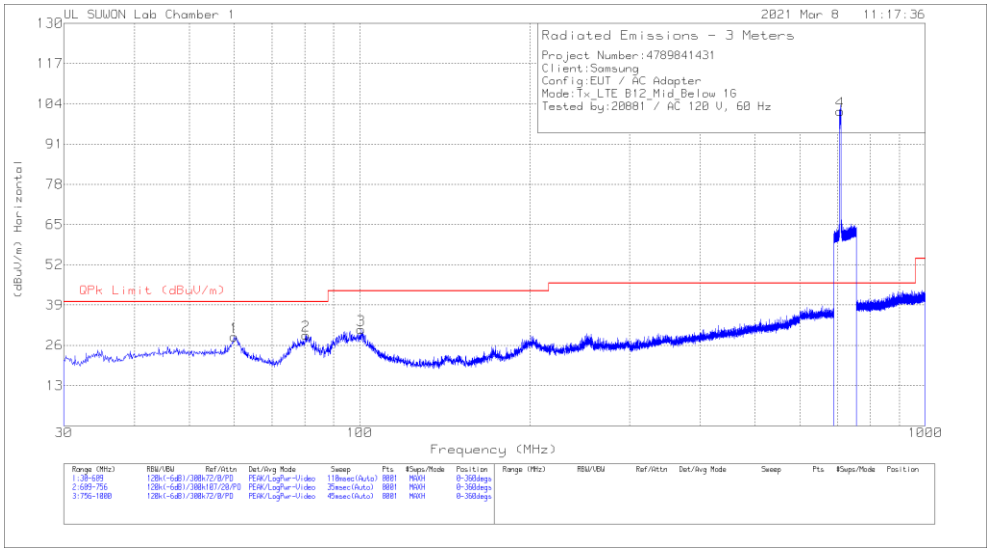
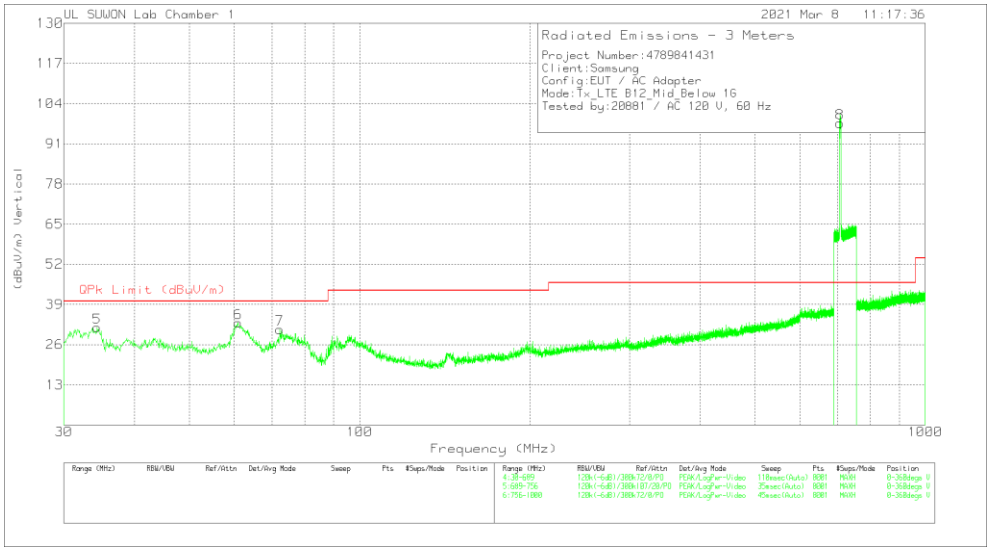
**MID CHANNEL(737.5 MHz)**

**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 | 59.9845 | 7.96 | Pk | 18.6 | 2.2 | 28.76 | 40 | -11.24 | 0-360 | 400 | H |
| 2 | 80.3311 | 14.17 | Pk | 12.7 | 2.4 | 29.27 | 40 | -10.73 | 0-360 | 200 | H |
| 3 | 100.5954 | 10.81 | Pk | 17.6 | 2.7 | 31.11 | 43.52 | -12.41 | 0-360 | 200 | H |
| 4 | 707.5506 | 68.91 | Pk | 25.7 | 7 | 101.61 | **46.02** | **55.59** | 0-360 | 100 | H |
| 5 | 34.3659 | 13.74 | Pk | 16.3 | 1.5 | 31.54 | 40 | -8.46 | 0-360 | 100 | V |
| 6 | 60.973 | 12.56 | Pk | 18.4 | 2.1 | 33.06 | 40 | -6.94 | 0-360 | 100 | V |
| 7 | 72.2584 | 14.14 | Pk | 14.5 | 2.3 | 30.94 | 40 | -9.06 | 0-360 | 100 | V |
| 8 | 707.2491 | 65.08 | Pk | 25.6 | 7 | 97.68 | **46.02** | **51.66** | 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.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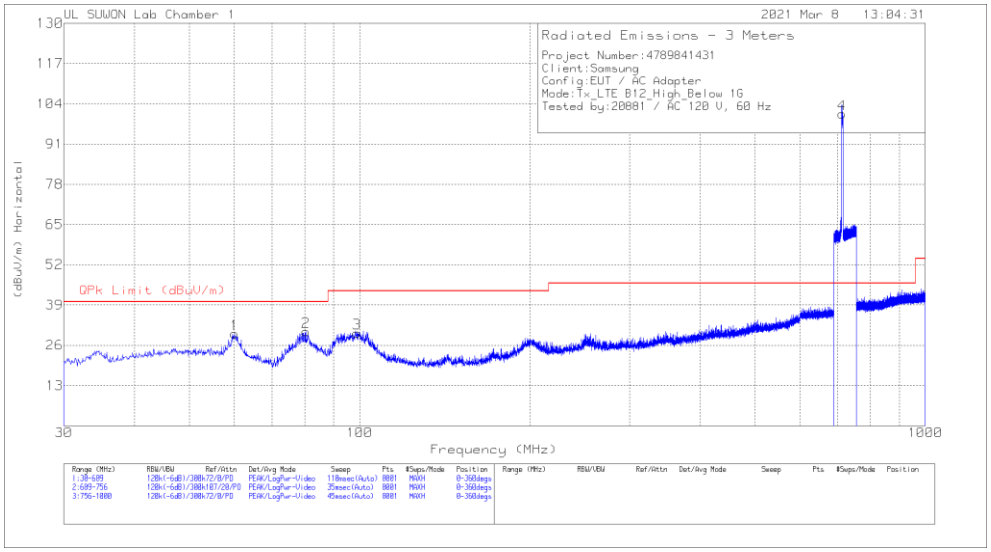
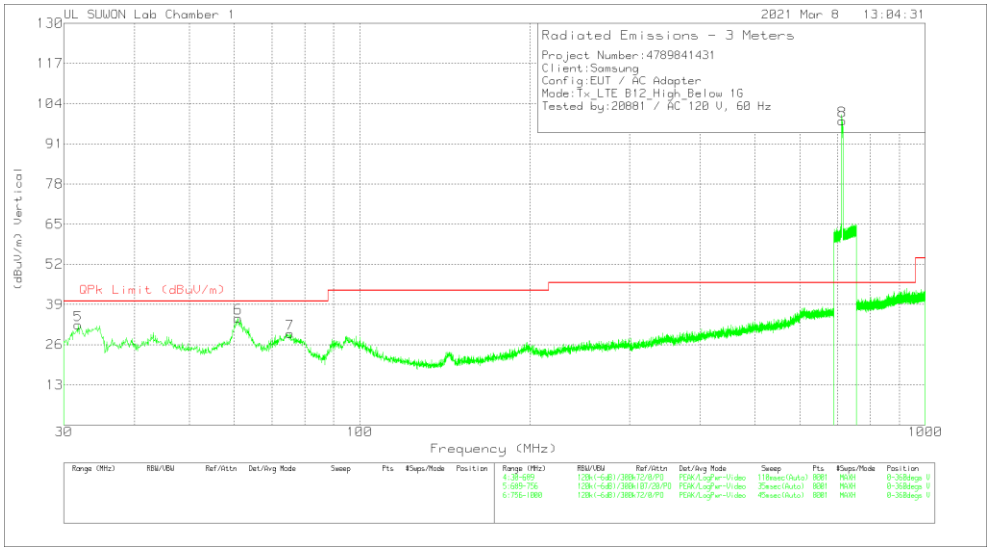
**HIGH CHANNEL(744.5 MHz)**

**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 | 60.1493 | 9.13 | Pk | 18.6 | 2 | 29.73 | 40 | -10.27 | 0-360 | 400 | H |
| 2 | 80.3311 | 15.33 | Pk | 12.7 | 2.4 | 30.43 | 40 | -9.57 | 0-360 | 200 | H |
| 3 | 98.9479 | 9.73 | Pk | 17.4 | 2.8 | 29.93 | 43.52 | -13.59 | 0-360 | 300 | H |
| 4 | 713.2791 | 67.92 | Pk | 25.7 | 7.1 | 100.72 | **46.02** | **54.7** | 0-360 | 100 | H |
| 5 | 31.8123 | 15.1 | Pk | 15.6 | 1.7 | 32.4 | 40 | -7.6 | 0-360 | 100 | V |
| 6 | 60.973 | 14.11 | Pk | 18.4 | 2.1 | 34.61 | 40 | -5.39 | 0-360 | 100 | V |
| 7 | 75.3063 | 13.86 | Pk | 13.3 | 2.4 | 29.56 | 40 | -10.44 | 0-360 | 200 | V |
| 8 | 713.388 | 65.72 | Pk | 25.7 | 7 | 98.42 | **46.02** | **52.4** | 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.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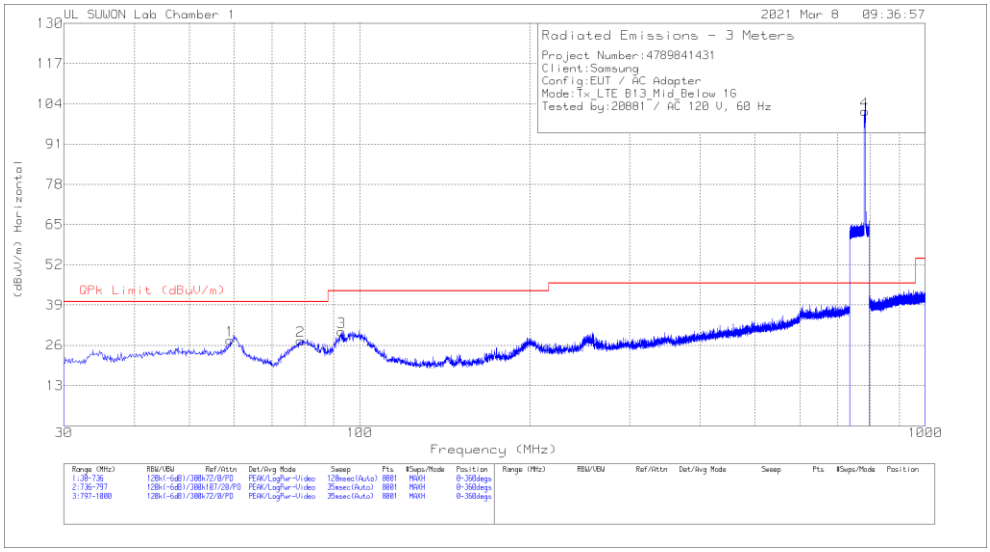
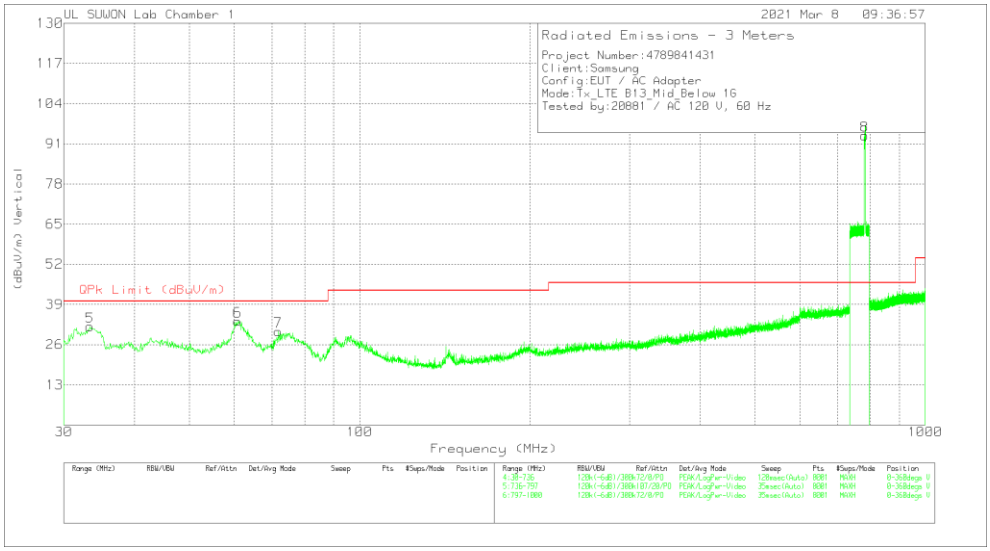
## 7.11. Below 1 GHz in the LTE Band 13

**MID CHANNEL(751.0 MHz)**

**HORIZONTAL PEAK PLOT**




**VERTICAL PEAK PLOT**




**DATA**

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | VULB9163_750 | Below_1G_Bypass[ dB] | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 59.0343 | 6.82 | Pk | 18.8 | 2 | 27.62 | 40 | -12.38 | 0-360 | 400 | H |
| 2 | 78.6258 | 12.38 | Pk | 12.6 | 2.5 | 27.48 | 40 | -12.52 | 0-360 | 200 | H |
| 3 | 92.9223 | 11.63 | Pk | 16.2 | 2.6 | 30.43 | 43.52 | -13.09 | 0-360 | 300 | H |
| 4 | 782.0626 | 67.52 | Pk | 26.7 | 7.3 | 101.52 | **46.02** | **55.5** | 0-360 | 100 | H |
| 5 | 33.3535 | 14.34 | Pk | 15.9 | 1.6 | 31.84 | 40 | -8.16 | 0-360 | 100 | V |
| 6 | 60.8875 | 13.02 | Pk | 18.4 | 2.2 | 33.62 | 40 | -6.38 | 0-360 | 100 | V |
| 7 | 71.8305 | 13.3 | Pk | 14.7 | 2.3 | 30.3 | 40 | -9.7 | 0-360 | 100 | V |
| 8 | 782.0169 | 59.67 | Pk | 26.7 | 7.3 | 93.67 | **46.02** | **47.65** | 0-360 | 200 | V |

Pk - Peak detector

Note: Unwanted emissions captured from 777MHz to 787MHz and from 746MHz to 756MHz were the TX and RX signals generated from the call-simulator.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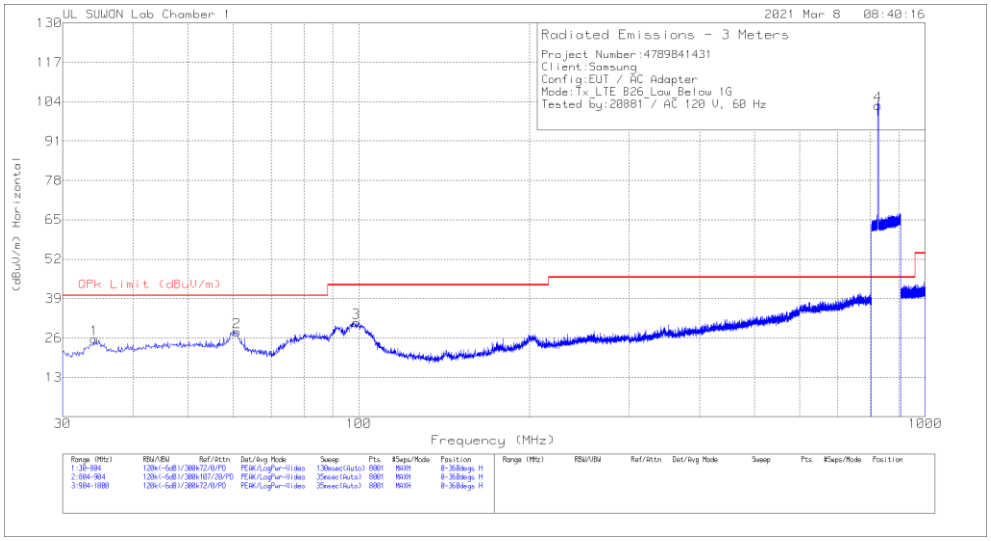
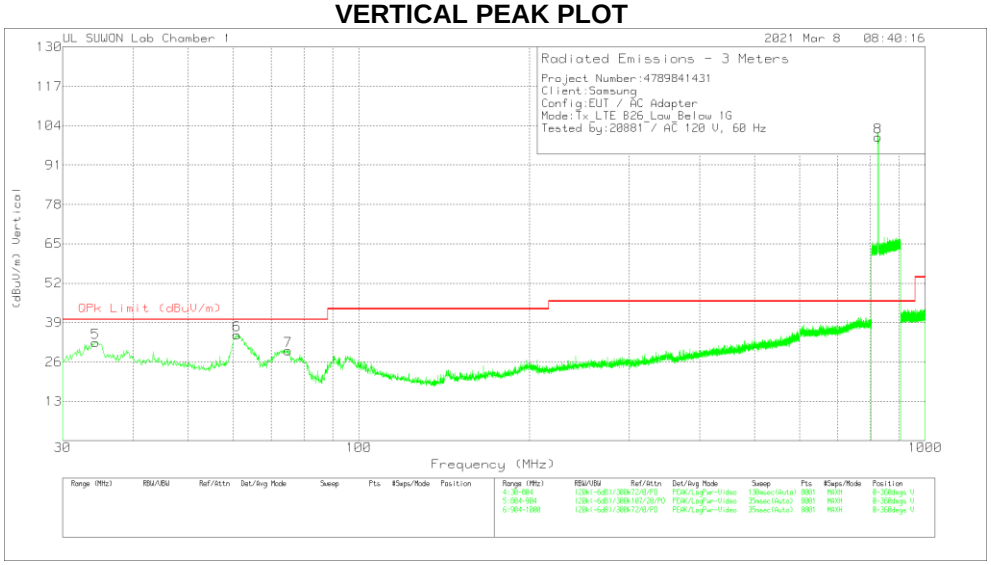
## 7.12. Below 1 GHz in the LTE Band 26

**LOW CHANNEL(860.5 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 | 34.1603 | 7.75 | Pk | 16.3 | 1.6 | 25.65 | 40 | -14.35 | 0-360 | 300 | H |
| 2 | 60.96 | 7.47 | Pk | 18.4 | 2.1 | 27.97 | 40 | -12.03 | 0-360 | 400 | H |
| 3 | 98.886 | 10.94 | Pk | 17.4 | 2.7 | 31.04 | 43.52 | -12.48 | 0-360 | 300 | H |
| 4 | 825.4875 | 68.18 | Pk | 27.1 | 7.5 | 102.78 | **46.02** | **56.76** | 0-360 | 100 | H |
| 5 | 34.257 | 14.48 | Pk | 16.3 | 1.7 | 32.48 | 40 | -7.52 | 0-360 | 100 | V |
| 6 | 60.96 | 14.43 | Pk | 18.4 | 2.1 | 34.93 | 40 | -5.07 | 0-360 | 100 | V |
| 7 | 74.9888 | 14.16 | Pk | 13.4 | 2.2 | 29.76 | 40 | -10.24 | 0-360 | 100 | V |
| 8 | 825.5 | 65.67 | Pk | 27.1 | 7.5 | 100.27 | **46.02** | **54.25** | 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.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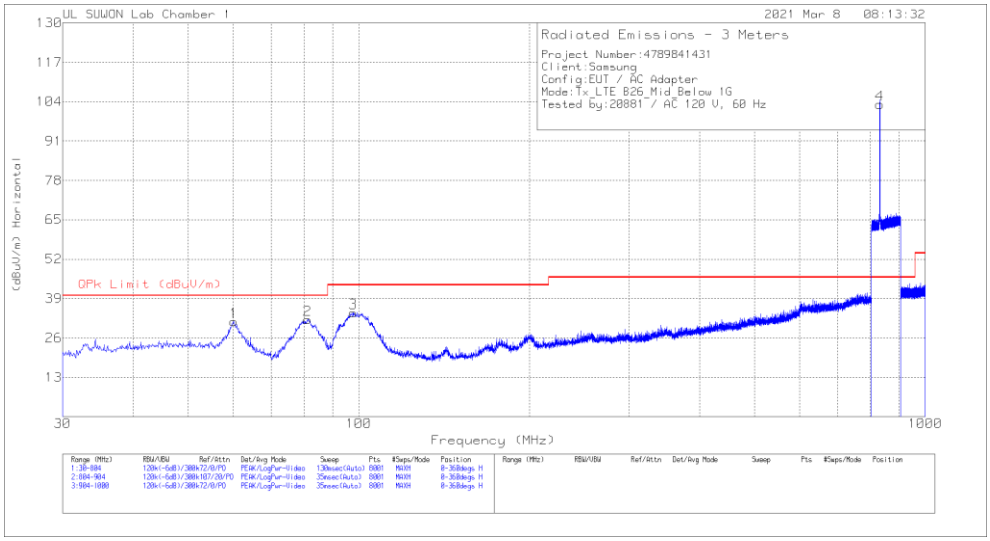
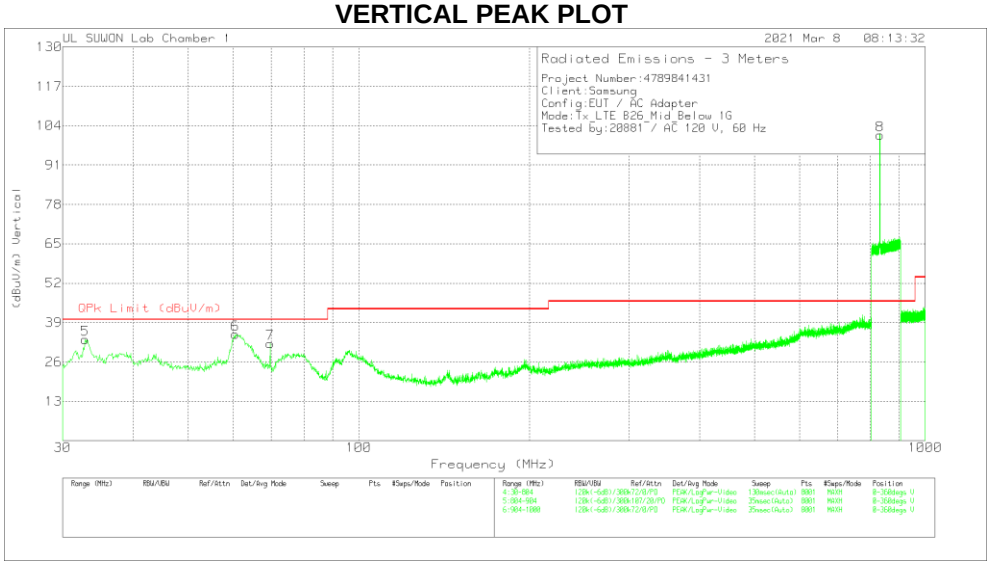
**MID CHANNEL(876.5 MHz)**

**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 | 60.186 | 10.73 | Pk | 18.6 | 2.1 | 31.43 | 40 | -8.57 | 0-360 | 400 | H |
| 2 | 81.1808 | 16.79 | Pk | 12.8 | 2.5 | 32.09 | 40 | -7.91 | 0-360 | 200 | H |
| 3 | 97.725 | 14.68 | Pk | 17.2 | 2.5 | 34.38 | 43.52 | -9.14 | 0-360 | 300 | H |
| 4 | 831.525 | 68.53 | Pk | 27 | 7.6 | 103.13 | **46.02** | **57.11** | 0-360 | 100 | H |
| 5 | 32.9025 | 16.1 | Pk | 15.8 | 1.5 | 33.4 | 40 | -6.6 | 0-360 | 100 | V |
| 6 | 60.4763 | 14.37 | Pk | 18.5 | 2.1 | 34.97 | 40 | -5.03 | 0-360 | 100 | V |
| 7 | 69.7643 | 14.45 | Pk | 15.5 | 2.2 | 32.15 | 40 | -7.85 | 0-360 | 100 | V |
| 8 | 831.6375 | 66.33 | Pk | 27 | 7.6 | 100.93 | **46.02** | **54.91** | 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.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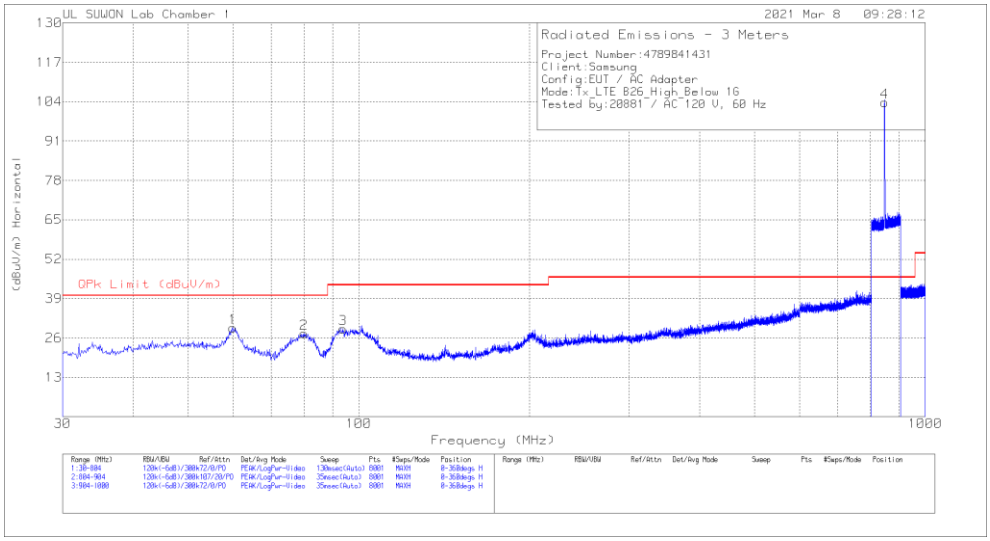
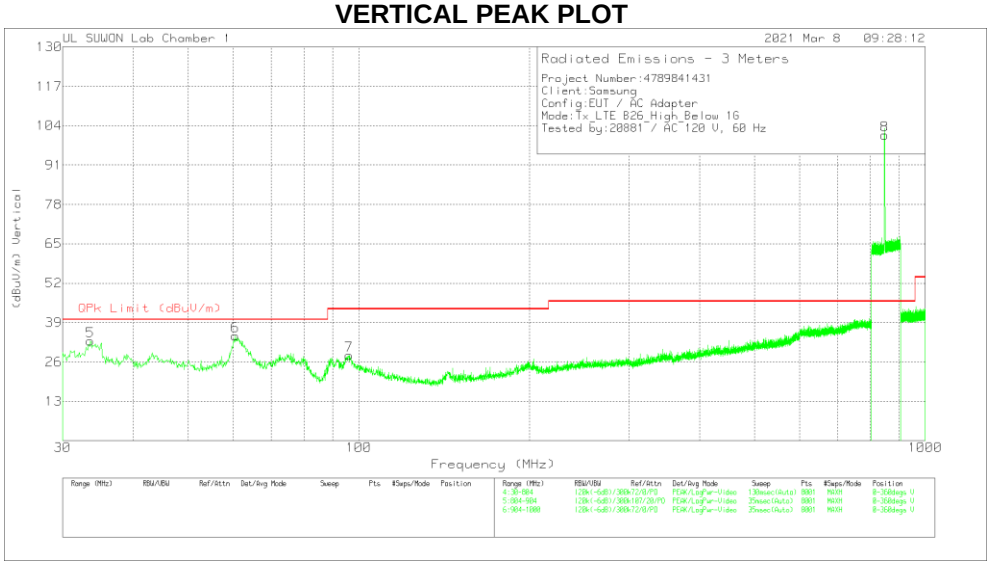
**HIGH CHANNEL(892.5 MHz)**

**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 | 59.8958 | 8.73 | Pk | 18.6 | 2.1 | 29.43 | 40 | -10.57 | 0-360 | 400 | H |
| 2 | 80.0198 | 12.29 | Pk | 12.6 | 2.6 | 27.49 | 40 | -12.51 | 0-360 | 200 | H |
| 3 | 93.7583 | 9.99 | Pk | 16.4 | 2.6 | 28.99 | 43.52 | -14.53 | 0-360 | 200 | H |
| 4 | 847.5625 | 68.72 | Pk | 27.4 | 7.6 | 103.72 | **46.02** | **57.7** | 0-360 | 100 | H |
| 5 | 33.5798 | 15.41 | Pk | 16 | 1.6 | 33.01 | 40 | -6.99 | 0-360 | 100 | V |
| 6 | 60.573 | 14.01 | Pk | 18.5 | 2.1 | 34.61 | 40 | -5.39 | 0-360 | 100 | V |
| 7 | 96.0803 | 8.83 | Pk | 16.8 | 2.6 | 28.23 | 43.52 | -15.29 | 0-360 | 100 | V |
| 8 | 847.475 | 66 | Pk | 27.3 | 7.6 | 100.9 | **46.02** | **54.88** | 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.

# END OF TEST REPORT



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