

## FCC Test Report (Part 22)

### (Spot Check)

**Report No.:** RF190507C02-5

**FCC ID:** MSQI01WDX

**Original FCC ID:** MSQI01WD

**Test Model:** ASUS\_I01WDX

**Received Date:** May 07, 2019

**Test Date:** May 11 ~ May 20, 2019

**Issued Date:** May 29, 2019

**Applicant:** ASUSTek COMPUTER INC.

**Address:** 4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /** 788550 / TW0003

**Designation Number:**



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### Release Control Record

| Issue No.     | Description      | Date Issued  |
|---------------|------------------|--------------|
| RF190507C02-5 | Original release | May 29, 2019 |

## 1 Certificate of Conformity

**Product:** ASUS Phone

**Brand:** ASUS

**Test Model:** ASUS\_I01WDX

**Sample Status:** Identical Prototype

**Applicant:** ASUSTek COMPUTER INC.

**Test Date:** May 11 ~ May 20, 2019

**Standards:** FCC Part 22, Subpart H

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Pettie Chen , **Date:** May 29, 2019  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen , **Date:** May 29, 2019  
Bruce Chen / Project Engineer

## 2 Summary of Test Results

| Applied Standard: FCC Part 22 & Part 2 |                             |        |                                                                                        |
|----------------------------------------|-----------------------------|--------|----------------------------------------------------------------------------------------|
| FCC Clause                             | Test Item                   | Result | Remarks                                                                                |
| 2.1053<br>22.917                       | Radiated Spurious Emissions | Pass   | Meet the requirement of limit.<br>Minimum passing margin is<br>-23.50dB at 2509.20MHz. |

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement                    | Frequency       | Expanded Uncertainty (k=2) ( $\pm$ ) |
|--------------------------------|-----------------|--------------------------------------|
| Radiated Emissions up to 1 GHz | 9kHz ~ 30MHz    | 3.04 dB                              |
|                                | 30MHz ~ 200MHz  | 3.63 dB                              |
|                                | 200MHz ~1000MHz | 3.64 dB                              |
| Radiated Emissions above 1 GHz | 1GHz ~ 18GHz    | 2.29 dB                              |
|                                | 18GHz ~ 40GHz   | 2.29 dB                              |

## 2.2 Test Site and Instruments

| Description & Manufacturer                       | Model No.                    | Serial No.            | Cal. Date     | Cal. Due      |
|--------------------------------------------------|------------------------------|-----------------------|---------------|---------------|
| Test Receiver<br>ROHDE & SCHWARZ                 | ESCI                         | 100424                | Jan. 03, 2019 | Jan. 02, 2020 |
| Spectrum Analyzer<br>ROHDE & SCHWARZ             | FSP40                        | 100040                | Sep. 25, 2018 | Sep. 24, 2019 |
| MXG Vector signal generator<br>Agilent           | N5182B                       | MY53050162            | Jan. 16, 2019 | Jan. 15, 2020 |
| BILOG Antenna<br>SCHWARZBECK                     | VULB9168                     | 9168-156              | Nov. 20, 2018 | Nov. 19, 2019 |
| BILOG Antenna<br>SCHWARZBECK                     | VULB9168                     | 9168-155              | Nov. 21, 2018 | Nov. 20, 2019 |
| HORN Antenna<br>SCHWARZBECK                      | BBHA 9120D                   | 9120D-1170            | Nov. 25, 2018 | Nov. 24, 2019 |
| HORN Antenna<br>SCHWARZBECK                      | BBHA 9170                    | BBHA9170241           | Nov. 25, 2018 | Nov. 24, 2019 |
| Loop Antenna<br>TESEQ                            | HLA 6121                     | 45745                 | Jun. 14, 2018 | Jun. 13, 2019 |
| Preamplifier<br>Agilent<br>(Below 1GHz)          | 8447D                        | 2944A10631            | Aug. 08, 2018 | Aug. 07, 2019 |
| Preamplifier<br>KEYSIGHT<br>(Above 1GHz)         | 83017A                       | MY53270295            | Jul. 02, 2018 | Jul. 01, 2019 |
| RF signal cable<br>HUBER+SUHNER                  | SUCOFLEX 104                 | MY 13380+295012/04    | Aug. 08, 2018 | Aug. 07, 2019 |
| RF signal cable<br>HUBER+SUHNER                  | SUCOFLEX 104                 | Cable-CH4-03 (250724) | Aug. 08, 2018 | Aug. 07, 2019 |
| Software<br>BV ADT                               | ADT_Radiated_<br>V7.6.15.9.5 | NA                    | NA            | NA            |
| Antenna Tower<br>inn-co GmbH                     | MA 4000                      | 010303                | NA            | NA            |
| Antenna Tower Controller<br>BV ADT               | AT100                        | AT93021703            | NA            | NA            |
| Turn Table<br>BV ADT                             | TT100                        | TT93021703            | NA            | NA            |
| Turn Table Controller<br>BV ADT                  | SC100                        | SC93021703            | NA            | NA            |
| Boresight Antenna Fixture                        | FBA-01                       | FBA-SIP01             | NA            | NA            |
| WIT Standard Temperature<br>And Humidity Chamber | TH-4S-C                      | W981030               | Jun. 04, 2018 | Jun. 03, 2019 |
| JFW 20dB attenuation                             | 50HF-020-SMA                 | NA                    | NA            | NA            |
| True RMS Clamp Meter<br>Fluke                    | 325                          | 31130711WS            | May 22, 2018  | May 21, 2019  |

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
2. The test was performed in HwaYa Chamber 4.

### 3 General Information

#### 3.1 General Description of EUT

|                     |                                                                                                             |                |
|---------------------|-------------------------------------------------------------------------------------------------------------|----------------|
| Product             | ASUS Phone                                                                                                  |                |
| Brand               | ASUS                                                                                                        |                |
| Test Model          | ASUS_I01WDX                                                                                                 |                |
| Sample Status       | Identical Prototype                                                                                         |                |
| Power Supply Rating | 3.85 Vdc (Battery)<br>5 or 9 Vdc (Adapter)<br>5 Vdc (Host equipment)                                        |                |
| Modulation Type     | GSM, GPRS: GMSK<br>EDGE: 8PSK<br>WCDMA: BPSK, QPSK<br>HSDPA: BPSK<br>HSUPA: QPSK<br>LTE: QPSK, 16QAM, 64QAM |                |
| Operating Frequency | GSM/GPRS/EDGE                                                                                               | 824.2~848.8MHz |
|                     | WCDMA Band 5                                                                                                | 826.4~846.6MHz |
|                     | LTE Band 5 (Channel Bandwidth 1.4MHz)                                                                       | 824.7~848.3MHz |
|                     | LTE Band 5 (Channel Bandwidth 3MHz)                                                                         | 825.5~847.5MHz |
|                     | LTE Band 5 (Channel Bandwidth 5MHz)                                                                         | 826.5~846.5MHz |
|                     | LTE Band 5 (Channel Bandwidth 10MHz)                                                                        | 829.0~844.0MHz |
|                     | LTE Band 26 (Channel Bandwidth 1.4MHz)                                                                      | 824.7~848.3MHz |
|                     | LTE Band 26 (Channel Bandwidth 3MHz)                                                                        | 825.5~847.5MHz |
|                     | LTE Band 26 (Channel Bandwidth 5MHz)                                                                        | 826.5~846.5MHz |
|                     | LTE Band 26 (Channel Bandwidth 10MHz)                                                                       | 829.0~844.0MHz |
|                     | LTE Band 26 (Channel Bandwidth 15MHz)                                                                       | 831.5~841.5MHz |

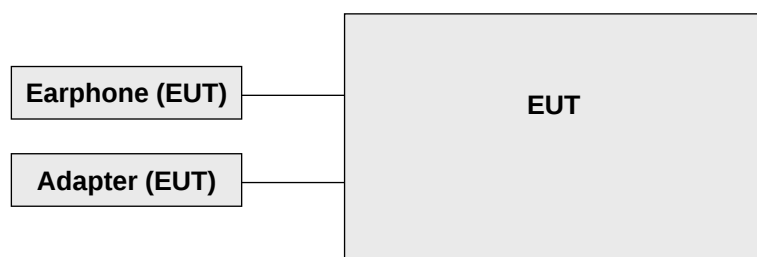
|                     |                                        |                      |                     |                     |
|---------------------|----------------------------------------|----------------------|---------------------|---------------------|
| Max. ERP Power      | GSM                                    | 204.174mW (23.10dBm) |                     |                     |
|                     | WCDMA Band 5                           | 23.988mW (13.80dBm)  |                     |                     |
|                     |                                        | QPSK                 | 16QAM               | 64QAM               |
|                     | LTE Band 5 (Channel Bandwidth 1.4MHz)  | 30.903mW (14.90dBm)  | 26.303mW (14.20dBm) | 13.300mW (13.30dBm) |
|                     | LTE Band 5 (Channel Bandwidth 3MHz)    | 30.200mW (14.80dBm)  | 26.303mW (14.20dBm) | 21.878mW (13.40dBm) |
|                     | LTE Band 5 (Channel Bandwidth 5MHz)    | 30.200mW (14.80dBm)  | 26.915mW (14.30dBm) | 20.893mW (13.20dBm) |
|                     | LTE Band 5 (Channel Bandwidth 10MHz)   | 30.200mW (14.80dBm)  | 27.542mW (14.40dBm) | 21.878mW (13.40dBm) |
|                     | LTE Band 26 (Channel Bandwidth 1.4MHz) | 14.454mW (11.60dBm)  | 12.589mW (11.00dBm) | 10.965mW (10.40dBm) |
|                     | LTE Band 26 (Channel Bandwidth 3MHz)   | 14.125mW (11.50dBm)  | 12.303mW (10.90dBm) | 11.749mW (10.70dBm) |
|                     | LTE Band 26 (Channel Bandwidth 5MHz)   | 14.454mW (11.60dBm)  | 12.589mW (11.00dBm) | 10.715mW (10.30dBm) |
|                     | LTE Band 26 (Channel Bandwidth 10MHz)  | 14.791mW (11.70dBm)  | 12.882mW (11.10dBm) | 10.715mW (10.30dBm) |
|                     | LTE Band 26 (Channel Bandwidth 15MHz)  | 14.454mW (11.60dBm)  | 12.882mW (11.10dBm) | 10.965mW (10.40dBm) |
|                     |                                        |                      |                     |                     |
| Emission Designator | GSM/GPRS                               | 240KGXW              |                     |                     |
|                     | EDGE                                   | 240KG7W              |                     |                     |
|                     | WCDMA Band 5                           | 4M15F9W              |                     |                     |
|                     |                                        | QPSK                 | 16QAM               | 64QAM               |
|                     | LTE Band 5 (Channel Bandwidth 1.4MHz)  | 1M09G7D              | 1M09D7W             | 1M09D7W             |
|                     | LTE Band 5 (Channel Bandwidth 3MHz)    | 2M70G7D              | 2M70D7W             | 2M70D7W             |
|                     | LTE Band 5 (Channel Bandwidth 5MHz)    | 4M49G7D              | 4M50D7W             | 4M49D7W             |
|                     | LTE Band 5 (Channel Bandwidth 10MHz)   | 9M00G7D              | 8M97D7W             | 8M97D7W             |
|                     | LTE Band 26 (Channel Bandwidth 1.4MHz) | 1M09G7D              | 1M09D7W             | 1M09D7W             |
|                     | LTE Band 26 (Channel Bandwidth 3MHz)   | 2M70G7D              | 2M70D7W             | 2M70D7W             |
|                     | LTE Band 26 (Channel Bandwidth 5MHz)   | 4M49G7D              | 4M49D7W             | 4M49D7W             |
|                     | LTE Band 26 (Channel Bandwidth 10MHz)  | 8M98G7D              | 8M98D7W             | 8M97D7W             |
|                     | LTE Band 26 (Channel Bandwidth 15MHz)  | 13M5G7D              | 13M4D7W             | 13M4D7W             |
| Antenna Type        | Refer to Note as below                 |                      |                     |                     |
| Antenna Connector   | Refer to Note as below                 |                      |                     |                     |
| Accessory Device    | Refer to Note as below                 |                      |                     |                     |
| Cable Supplied      | Refer to Note as below                 |                      |                     |                     |

Note:

1. This report is a supplementary report to the original BV CPS report no.: RF190114C07-6. Exhibit prepared for FCC Spot Check Verification report, the format, test items and amount of spot-check test data are decided by applicant's engineering judgment, for more details please refer to declaration letter exhibit. Radiated emission and output power (GSM, WCDMA) verification worst test refer to original report.
2. The EUT accessories list refers to EUT Photo.pdf.
3. The following antennas were provided to the EUT.

| Ant. No.       | Type | Connector | Gain (dBi) |          |          |          |          |        |        |        |        |         |         |         |
|----------------|------|-----------|------------|----------|----------|----------|----------|--------|--------|--------|--------|---------|---------|---------|
|                |      |           | GSM 850    | GSM 1900 | WCDMA B2 | WCDMA B4 | WCDMA B5 | LTE B2 | LTE B4 | LTE B5 | LTE B7 | LTE B26 | LTE B38 | LTE B41 |
| WWAN Antenna-0 | PIFA | NA        | -4.5       | -2.6     | -2.6     | -1.9     | -4.5     | -2.5   | -1.9   | -4.5   | -1.3   | -4.4    | -1.0    | -1.0    |
| WWAN Antenna-1 | PIFA | NA        | -3.4       | -3.2     | -3.2     | -5.3     | -3.4     | -3.2   | -5.3   | -3.3   | -4.7   | -3.3    | -5.7    | -5.7    |

### 3.2 Configuration of System under Test



Remote site



#### 3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| ID | Product                      | Brand   | Model No. | Serial No. | FCC ID | Remarks |
|----|------------------------------|---------|-----------|------------|--------|---------|
| A. | Radio Communication Analyzer | Anritsu | MT8860C   | 1702001    | NA     | -       |

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

### 3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Z-plane. Following channel(s) was (were) selected for the final test as listed below.

#### GSM Mode

| EUT Configure Mode | Test Item                    | Available Channel | Tested Channel                                    | Mode |
|--------------------|------------------------------|-------------------|---------------------------------------------------|------|
| -                  | Conducted Output Power       | 128 to 251        | 128(824.2MHz),<br>189(836.4MHz),<br>251(848.8MHz) | GSM  |
| -                  | Radiated Emission Above 1GHz | 128 to 251        | 189(836.4MHz)                                     | GSM  |

#### WCDMA Band 5

| EUT Configure Mode | Test Item              | Available Channel | Tested Channel                                          | Mode  |
|--------------------|------------------------|-------------------|---------------------------------------------------------|-------|
| -                  | Conducted Output Power | 4132 to 4233      | 4132 (826.4MHz),<br>4182 (836.4MHz),<br>4233 (846.6MHz) | WCDMA |

#### LTE Band 5

| EUT Configure Mode | Test item              | Available channel | Tested channel                                          | Channel Bandwidth | Modulation           | Mode               |
|--------------------|------------------------|-------------------|---------------------------------------------------------|-------------------|----------------------|--------------------|
| -                  | Conducted Output Power | 20407 to 20643    | 20407(824.7MHz),<br>20525(836.5MHz),<br>20643(848.3MHz) | 1.4MHz            | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                        | 20415 to 20635    | 20415(825.5MHz),<br>20525(836.5MHz),<br>20635(847.5MHz) | 3MHz              | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                        | 20425 to 20625    | 20425(826.5MHz),<br>20525(836.5MHz),<br>20625(846.5MHz) | 5MHz              | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                        | 20450 to 20600    | 20450(829.0MHz),<br>20525(836.5MHz),<br>20600(844.0MHz) | 10MHz             | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |

#### LTE Band 26

| EUT Configure Mode | Test item                    | Available channel | Tested channel                                             | Channel Bandwidth | Modulation           | Mode               |
|--------------------|------------------------------|-------------------|------------------------------------------------------------|-------------------|----------------------|--------------------|
| -                  | Conducted Output Power       | 26797 to 27033    | 26797 (824.7MHz),<br>26915 (836.5MHz),<br>27033 (848.3MHz) | 1.4MHz            | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                              | 26805 to 27025    | 26805 (825.5MHz),<br>26915 (836.5MHz),<br>27025 (847.5MHz) | 3MHz              | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                              | 26815 to 27015    | 26815 (826.5MHz),<br>26915 (836.5MHz),<br>27015 (846.5MHz) | 5MHz              | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                              | 26840 to 26990    | 26840 (829MHz),<br>26915 (836.5MHz),<br>26990 (844MHz)     | 10MHz             | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
|                    |                              | 26865 to 26965    | 26865 (831.5MHz),<br>26915 (836.5MHz),<br>26965 (841.5MHz) | 15MHz             | QPSK / 16QAM / 64QAM | 1 RB / 0 RB Offset |
| -                  | Radiated Emission Below 1GHz | 26797 to 27033    | 26797 (824.7MHz)                                           | 1.4MHz            | QPSK                 | 1 RB / 0 RB Offset |

Test Condition:

| Test Item                       | Environmental Conditions | Input Power (system) | Tested By  |
|---------------------------------|--------------------------|----------------------|------------|
| Conducted Output Power          | 25deg. C, 70%RH          | 120Vac, 60Hz         | Han Wu     |
| Radiated Emission<br>Below 1GHz | 24deg. C, 64%RH          | 120Vac, 60Hz         | Match Tsui |
| Radiated Emission<br>Above 1GHz | 24deg. C, 66%RH          | 120Vac, 60Hz         | Greg Lin   |

### 3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

### 3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 22**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-E 2016**

**ANSI 63.26-2015**

All test items have been performed and recorded as per the above standards.

## 4 Test Types and Results

### 4.1 Output Power Measurement

#### 4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 7 watts e.r.p.

#### 4.1.2 Test Procedures

##### EIRP / ERP Measurement:

- All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GSM, 5MHz for WCDMA mode, 10MHz for LTE mode.
- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ . E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15\text{dBi}$ .

Where:

$$ERP/EIRP = P_{Meas} + G_T - L_C$$

$P_{Meas}$  : Measure transmitter output power.

$G_T$  : Gain of the transmitting antenna.

$L_C$  : signal attenuation in the connecting cable between the transmitter and antenna.

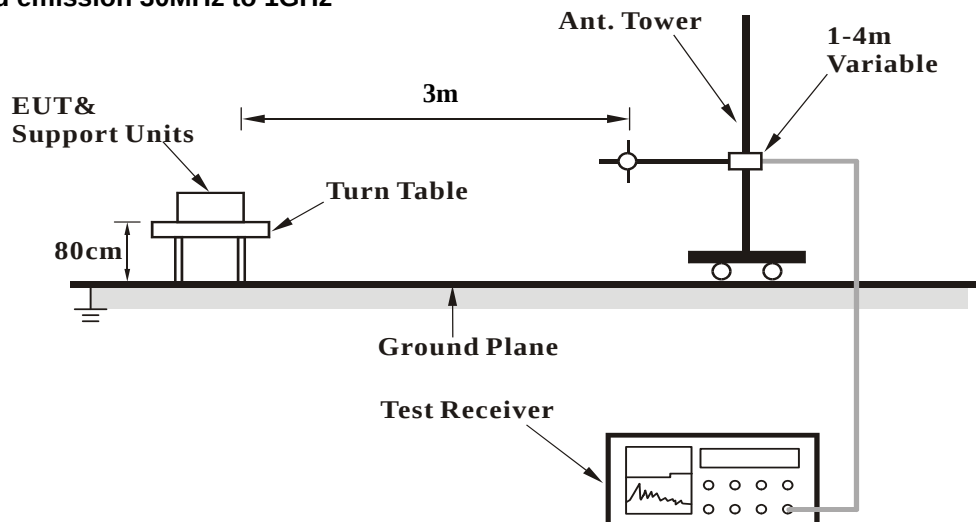
##### Conducted Power Measurement:

The EUT was set up for the maximum power with GSM, WCDMA, LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

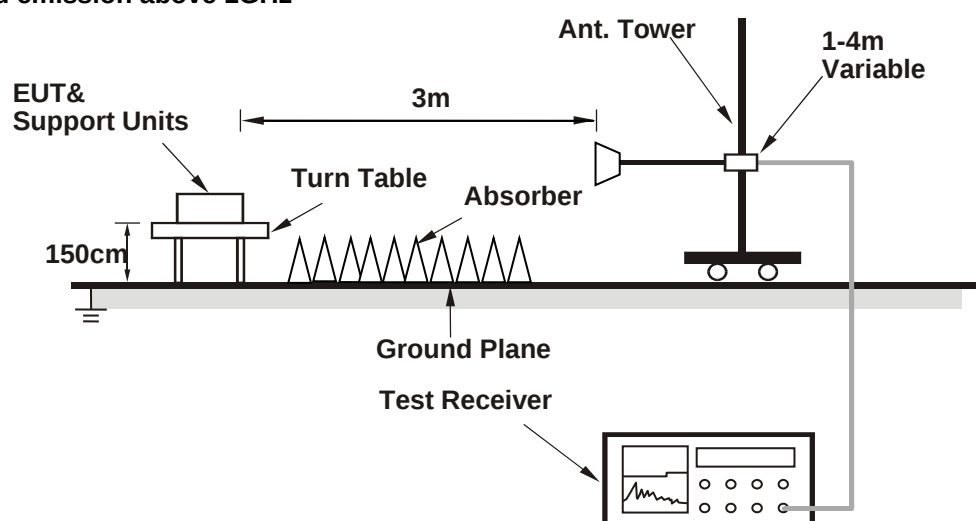
### 4.1.3 Test Setup

EIRP / ERP Measurement:

**For radiated emission 30MHz to 1GHz**



**For radiated emission above 1GHz**



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Conducted Power Measurement:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.4 Test Results

##### Conducted Output Power (dBm)

| Band            | GSM850 |       |       |
|-----------------|--------|-------|-------|
| Channel         | 128    | 189   | 251   |
| Frequency (MHz) | 824.2  | 836.4 | 848.8 |
| GSM             | 32.50  | 32.76 | 32.81 |

| Band            | WCDMA V |       |       |
|-----------------|---------|-------|-------|
| TX Channel      | 4132    | 4182  | 4233  |
| Rx Channel      | 4357    | 4407  | 4458  |
| Frequency (MHz) | 826.4   | 836.4 | 846.6 |
| RMC 12.2K       | 23.11   | 23.21 | 23.17 |

| LTE Band 5 |           |                 |           |       |       |       |               |
|------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|            |           | Channel         |           | 20407 | 20525 | 20643 |               |
|            |           | Frequency (MHz) |           | 824.7 | 836.5 | 848.3 |               |
| 1.4M       | QPSK      | 1               | 0         | 21.66 | 21.73 | 21.64 | 0             |
|            |           | 1               | 2         | 21.60 | 21.66 | 21.59 | 0             |
|            |           | 1               | 5         | 21.55 | 21.60 | 21.53 | 0             |
|            |           | 3               | 0         | 21.46 | 21.50 | 21.44 | 0             |
|            |           | 3               | 1         | 21.42 | 21.48 | 21.39 | 0             |
|            |           | 3               | 3         | 21.40 | 21.46 | 21.38 | 0             |
|            |           | 6               | 0         | 20.56 | 20.69 | 20.55 | 1             |
|            | 16QAM     | 1               | 0         | 20.65 | 20.80 | 20.71 | 1             |
|            |           | 1               | 2         | 20.57 | 20.74 | 20.58 | 1             |
|            |           | 1               | 5         | 20.54 | 20.64 | 20.58 | 1             |
|            |           | 3               | 0         | 20.44 | 20.69 | 20.43 | 1             |
|            |           | 3               | 1         | 20.47 | 20.48 | 20.53 | 1             |
|            |           | 3               | 3         | 20.49 | 20.43 | 20.49 | 1             |
|            |           | 6               | 0         | 20.03 | 19.73 | 19.86 | 2             |
|            | 64QAM     | 1               | 0         | 19.90 | 19.92 | 19.71 | 2             |
|            |           | 1               | 2         | 19.65 | 19.72 | 19.75 | 2             |
|            |           | 1               | 5         | 19.86 | 19.55 | 19.61 | 2             |
|            |           | 3               | 0         | 19.71 | 19.65 | 19.63 | 3             |
|            |           | 3               | 1         | 19.54 | 19.73 | 19.50 | 3             |
|            |           | 3               | 3         | 19.42 | 19.74 | 19.52 | 3             |
|            |           | 6               | 0         | 18.84 | 18.77 | 18.68 | 3             |

| LTE Band 5 |           |                 |           |       |              |       |               |
|------------|-----------|-----------------|-----------|-------|--------------|-------|---------------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid          | High  | 3GPP MPR (dB) |
|            |           | Channel         |           | 20415 | 20525        | 20635 |               |
|            |           | Frequency (MHz) |           | 825.5 | 836.5        | 847.5 |               |
| 3M         | QPSK      | 1               | 0         | 21.68 | <b>21.74</b> | 21.66 | 0             |
|            |           | 1               | 7         | 21.62 | 21.69        | 21.60 | 0             |
|            |           | 1               | 14        | 21.55 | 21.63        | 21.54 | 0             |
|            |           | 8               | 0         | 20.67 | 20.70        | 20.66 | 1             |
|            |           | 8               | 3         | 20.60 | 20.68        | 20.61 | 1             |
|            |           | 8               | 7         | 20.58 | 20.66        | 20.50 | 1             |
|            |           | 15              | 0         | 20.53 | 20.65        | 20.49 | 1             |
|            | 16QAM     | 1               | 0         | 20.92 | <b>20.93</b> | 20.90 | 1             |
|            |           | 1               | 7         | 20.86 | 20.84        | 20.88 | 1             |
|            |           | 1               | 14        | 20.79 | 20.71        | 20.86 | 1             |
|            |           | 8               | 0         | 19.90 | 19.81        | 19.92 | 2             |
|            |           | 8               | 3         | 19.87 | 19.85        | 19.61 | 2             |
|            |           | 8               | 7         | 19.78 | 19.86        | 19.58 | 2             |
|            |           | 15              | 0         | 19.83 | 19.90        | 19.86 | 2             |
|            | 64QAM     | 1               | 0         | 19.87 | 19.91        | 19.87 | 2             |
|            |           | 1               | 7         | 19.67 | 19.74        | 19.70 | 2             |
|            |           | 1               | 14        | 19.64 | 19.67        | 19.66 | 2             |
|            |           | 8               | 0         | 18.66 | 18.87        | 18.82 | 3             |
|            |           | 8               | 3         | 18.83 | 19.06        | 18.69 | 3             |
|            |           | 8               | 7         | 18.79 | 18.87        | 18.93 | 3             |
|            |           | 15              | 0         | 18.88 | 18.81        | 18.80 | 3             |

| LTE Band 5 |           |                 |           |       |              |       |               |
|------------|-----------|-----------------|-----------|-------|--------------|-------|---------------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid          | High  | 3GPP MPR (dB) |
|            |           | Channel         |           | 20425 | 20525        | 20625 |               |
|            |           | Frequency (MHz) |           | 826.5 | 836.5        | 846.5 |               |
| 5M         | QPSK      | 1               | 0         | 21.70 | <b>21.76</b> | 21.69 | 0             |
|            |           | 1               | 12        | 21.66 | 21.72        | 21.64 | 0             |
|            |           | 1               | 24        | 21.60 | 21.65        | 21.58 | 0             |
|            |           | 12              | 0         | 20.71 | 20.77        | 20.67 | 1             |
|            |           | 12              | 6         | 20.66 | 20.71        | 20.63 | 1             |
|            |           | 12              | 13        | 20.63 | 20.70        | 20.61 | 1             |
|            |           | 25              | 0         | 20.62 | 20.69        | 20.58 | 1             |
|            | 16QAM     | 1               | 0         | 21.04 | <b>21.05</b> | 20.93 | 1             |
|            |           | 1               | 12        | 21.00 | 20.96        | 21.00 | 1             |
|            |           | 1               | 24        | 20.85 | 20.76        | 20.71 | 1             |
|            |           | 12              | 0         | 19.82 | 19.79        | 19.97 | 2             |
|            |           | 12              | 6         | 19.88 | 19.92        | 19.98 | 2             |
|            |           | 12              | 13        | 19.87 | 19.87        | 19.92 | 2             |
|            |           | 25              | 0         | 19.71 | 19.75        | 19.65 | 2             |
|            | 64QAM     | 1               | 0         | 19.83 | 19.99        | 19.97 | 2             |
|            |           | 1               | 12        | 19.83 | 19.87        | 19.84 | 2             |
|            |           | 1               | 24        | 19.79 | 19.84        | 19.86 | 2             |
|            |           | 12              | 0         | 18.87 | 18.82        | 18.79 | 3             |
|            |           | 12              | 6         | 18.73 | 18.71        | 18.75 | 3             |
|            |           | 12              | 13        | 18.88 | 18.96        | 18.71 | 3             |
|            |           | 25              | 0         | 18.82 | 18.92        | 18.96 | 3             |

| LTE Band 5 |           |                 |           |       |              |       |               |
|------------|-----------|-----------------|-----------|-------|--------------|-------|---------------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid          | High  | 3GPP MPR (dB) |
|            |           | Channel         |           | 20450 | 20525        | 20600 |               |
|            |           | Frequency (MHz) |           | 829   | 836.5        | 844   |               |
| 10M        | QPSK      | 1               | 0         | 21.75 | <b>21.81</b> | 21.74 | 0             |
|            |           | 1               | 24        | 21.71 | 21.77        | 21.69 | 0             |
|            |           | 1               | 49        | 21.66 | 21.72        | 21.64 | 0             |
|            |           | 25              | 0         | 20.80 | 20.91        | 20.77 | 1             |
|            |           | 25              | 12        | 20.78 | 20.84        | 20.73 | 1             |
|            |           | 25              | 25        | 20.70 | 20.77        | 20.68 | 1             |
|            |           | 50              | 0         | 20.66 | 20.75        | 20.67 | 1             |
|            | 16QAM     | 1               | 0         | 20.94 | <b>20.96</b> | 20.93 | 1             |
|            |           | 1               | 24        | 20.79 | 20.83        | 20.86 | 1             |
|            |           | 1               | 49        | 20.73 | 20.80        | 20.73 | 1             |
|            |           | 25              | 0         | 19.72 | 19.87        | 19.82 | 2             |
|            |           | 25              | 12        | 19.78 | 19.88        | 19.74 | 2             |
|            |           | 25              | 25        | 19.96 | 19.81        | 19.94 | 2             |
|            |           | 50              | 0         | 20.05 | 20.11        | 19.93 | 2             |
|            | 64QAM     | 1               | 0         | 19.91 | 19.98        | 19.95 | 2             |
|            |           | 1               | 24        | 19.83 | 19.88        | 19.95 | 2             |
|            |           | 1               | 49        | 19.80 | 19.83        | 19.77 | 2             |
|            |           | 25              | 0         | 18.78 | 18.85        | 18.79 | 3             |
|            |           | 25              | 12        | 18.85 | 18.84        | 18.72 | 3             |
|            |           | 25              | 25        | 18.80 | 19.02        | 18.87 | 3             |
|            |           | 50              | 0         | 18.96 | 19.06        | 18.89 | 3             |

| LTE Band 26 |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26797 | 26915 | 27033 |               |
|             |           | Frequency (MHz) |           | 824.7 | 836.5 | 848.3 |               |
| 1.4M        | QPSK      | 1               | 0         | 21.70 | 21.81 | 21.75 | 0             |
|             |           | 1               | 2         | 21.60 | 21.69 | 21.74 | 0             |
|             |           | 1               | 5         | 21.75 | 21.66 | 21.70 | 0             |
|             |           | 3               | 0         | 21.66 | 21.86 | 21.66 | 0             |
|             |           | 3               | 1         | 21.77 | 21.85 | 21.65 | 0             |
|             |           | 3               | 3         | 21.85 | 21.84 | 21.60 | 0             |
|             |           | 6               | 0         | 20.80 | 20.85 | 20.80 | 1             |
|             | 16QAM     | 1               | 0         | 20.75 | 20.93 | 20.90 | 1             |
|             |           | 1               | 2         | 20.71 | 20.87 | 20.85 | 1             |
|             |           | 1               | 5         | 20.77 | 20.91 | 20.82 | 1             |
|             |           | 3               | 0         | 21.17 | 20.88 | 20.71 | 1             |
|             |           | 3               | 1         | 20.68 | 20.95 | 20.75 | 1             |
|             |           | 3               | 3         | 20.70 | 20.91 | 20.82 | 1             |
|             |           | 6               | 0         | 20.08 | 20.18 | 20.05 | 2             |
|             | 64QAM     | 1               | 0         | 19.89 | 19.99 | 20.09 | 2             |
|             |           | 1               | 2         | 19.90 | 19.97 | 20.03 | 2             |
|             |           | 1               | 5         | 19.99 | 20.04 | 20.05 | 2             |
|             |           | 3               | 0         | 20.01 | 20.15 | 20.08 | 3             |
|             |           | 3               | 1         | 20.14 | 20.23 | 20.07 | 3             |
|             |           | 3               | 3         | 20.01 | 20.05 | 19.99 | 3             |
|             |           | 6               | 0         | 18.91 | 19.06 | 19.02 | 3             |

| LTE Band 26 |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26805 | 26915 | 27025 |               |
|             |           | Frequency (MHz) |           | 825.5 | 836.5 | 847.5 |               |
| 3M          | QPSK      | 1               | 0         | 21.65 | 21.70 | 21.75 | 0             |
|             |           | 1               | 7         | 21.63 | 21.68 | 21.72 | 0             |
|             |           | 1               | 14        | 21.68 | 21.73 | 21.70 | 0             |
|             |           | 8               | 0         | 20.73 | 20.90 | 20.88 | 1             |
|             |           | 8               | 3         | 20.77 | 20.81 | 20.84 | 1             |
|             |           | 8               | 7         | 20.73 | 20.75 | 20.80 | 1             |
|             |           | 15              | 0         | 20.85 | 20.74 | 20.81 | 1             |
|             | 16QAM     | 1               | 0         | 20.75 | 20.85 | 20.92 | 1             |
|             |           | 1               | 7         | 20.88 | 21.03 | 20.93 | 1             |
|             |           | 1               | 14        | 20.86 | 21.01 | 20.99 | 1             |
|             |           | 8               | 0         | 20.19 | 20.04 | 20.14 | 2             |
|             |           | 8               | 3         | 19.86 | 20.11 | 20.12 | 2             |
|             |           | 8               | 7         | 19.99 | 20.08 | 20.06 | 2             |
|             |           | 15              | 0         | 20.09 | 20.14 | 20.12 | 2             |
|             | 64QAM     | 1               | 0         | 20.01 | 19.97 | 20.05 | 2             |
|             |           | 1               | 7         | 19.98 | 20.09 | 20.08 | 2             |
|             |           | 1               | 14        | 20.02 | 20.00 | 20.01 | 2             |
|             |           | 8               | 0         | 19.01 | 19.03 | 19.12 | 3             |
|             |           | 8               | 3         | 19.08 | 19.06 | 19.10 | 3             |
|             |           | 8               | 7         | 18.96 | 19.15 | 19.06 | 3             |
|             |           | 15              | 0         | 18.91 | 18.91 | 19.05 | 3             |

| LTE Band 26 |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26815 | 26915 | 27015 |               |
|             |           | Frequency (MHz) |           | 826.5 | 836.5 | 846.5 |               |
| 5M          | QPSK      | 1               | 0         | 21.70 | 21.72 | 21.80 | 0             |
|             |           | 1               | 12        | 21.70 | 21.69 | 21.76 | 0             |
|             |           | 1               | 24        | 21.68 | 21.63 | 21.75 | 0             |
|             |           | 12              | 0         | 20.77 | 20.69 | 20.91 | 1             |
|             |           | 12              | 6         | 20.75 | 20.80 | 20.88 | 1             |
|             |           | 12              | 13        | 20.81 | 20.77 | 20.85 | 1             |
|             |           | 25              | 0         | 20.77 | 20.86 | 20.87 | 1             |
|             | 16QAM     | 1               | 0         | 20.93 | 20.78 | 21.07 | 1             |
|             |           | 1               | 12        | 20.97 | 20.96 | 21.06 | 1             |
|             |           | 1               | 24        | 20.92 | 20.85 | 21.02 | 1             |
|             |           | 12              | 0         | 20.06 | 20.18 | 20.18 | 2             |
|             |           | 12              | 6         | 19.94 | 19.90 | 20.13 | 2             |
|             |           | 12              | 13        | 19.96 | 19.98 | 20.16 | 2             |
|             |           | 25              | 0         | 19.87 | 19.89 | 20.17 | 2             |
|             | 64QAM     | 1               | 0         | 19.80 | 19.89 | 20.05 | 2             |
|             |           | 1               | 12        | 19.96 | 19.83 | 20.03 | 2             |
|             |           | 1               | 24        | 19.95 | 19.91 | 20.01 | 2             |
|             |           | 12              | 0         | 19.06 | 19.03 | 19.14 | 3             |
|             |           | 12              | 6         | 18.97 | 19.11 | 19.16 | 3             |
|             |           | 12              | 13        | 18.89 | 18.99 | 19.03 | 3             |
|             |           | 25              | 0         | 19.10 | 19.03 | 19.18 | 3             |

| LTE Band 26 |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26840 | 26915 | 26990 |               |
|             |           | Frequency (MHz) |           | 829   | 836.5 | 844   |               |
| 10M         | QPSK      | 1               | 0         | 21.77 | 21.83 | 21.84 | 0             |
|             |           | 1               | 24        | 21.80 | 21.77 | 21.79 | 0             |
|             |           | 1               | 49        | 21.80 | 21.77 | 21.77 | 0             |
|             |           | 25              | 0         | 20.88 | 20.93 | 20.95 | 1             |
|             |           | 25              | 12        | 20.85 | 20.90 | 20.91 | 1             |
|             |           | 25              | 25        | 21.00 | 20.88 | 20.92 | 1             |
|             |           | 50              | 0         | 20.85 | 20.87 | 20.88 | 1             |
|             | 16QAM     | 1               | 0         | 21.08 | 20.90 | 21.09 | 1             |
|             |           | 1               | 24        | 21.00 | 20.98 | 21.04 | 1             |
|             |           | 1               | 49        | 21.03 | 21.00 | 21.05 | 1             |
|             |           | 25              | 0         | 20.11 | 20.16 | 20.25 | 2             |
|             |           | 25              | 12        | 20.10 | 20.03 | 20.19 | 2             |
|             |           | 25              | 25        | 20.16 | 20.06 | 20.13 | 2             |
|             |           | 50              | 0         | 20.06 | 20.03 | 20.14 | 2             |
|             | 64QAM     | 1               | 0         | 19.99 | 19.98 | 20.07 | 2             |
|             |           | 1               | 24        | 20.00 | 19.96 | 20.03 | 2             |
|             |           | 1               | 49        | 19.95 | 19.97 | 20.05 | 2             |
|             |           | 25              | 0         | 19.19 | 19.00 | 19.13 | 3             |
|             |           | 25              | 12        | 19.04 | 19.17 | 19.19 | 3             |
|             |           | 25              | 25        | 19.07 | 18.98 | 19.18 | 3             |
|             |           | 50              | 0         | 19.09 | 18.99 | 19.12 | 3             |

| LTE Band 26 |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26865 | 26915 | 26965 |               |
|             |           | Frequency (MHz) |           | 831.5 | 836.5 | 841.5 |               |
| 15M         | QPSK      | 1               | 0         | 21.88 | 21.82 | 21.93 | 0             |
|             |           | 1               | 37        | 21.87 | 21.82 | 21.88 | 0             |
|             |           | 1               | 74        | 21.85 | 21.80 | 21.87 | 0             |
|             |           | 36              | 0         | 20.99 | 20.93 | 21.00 | 1             |
|             |           | 36              | 19        | 20.96 | 20.92 | 20.99 | 1             |
|             |           | 36              | 39        | 20.93 | 20.90 | 20.96 | 1             |
|             |           | 75              | 0         | 20.92 | 20.91 | 20.97 | 1             |
|             | 16QAM     | 1               | 0         | 21.17 | 21.03 | 21.21 | 1             |
|             |           | 1               | 37        | 21.11 | 21.05 | 21.20 | 1             |
|             |           | 1               | 74        | 21.00 | 21.04 | 21.14 | 1             |
|             |           | 36              | 0         | 20.18 | 20.17 | 20.21 | 2             |
|             |           | 36              | 19        | 20.18 | 20.19 | 20.29 | 2             |
|             |           | 36              | 39        | 20.19 | 20.16 | 20.21 | 2             |
|             |           | 75              | 0         | 20.21 | 20.14 | 20.28 | 2             |
|             | 64QAM     | 1               | 0         | 20.16 | 20.14 | 20.22 | 2             |
|             |           | 1               | 37        | 20.09 | 20.04 | 20.15 | 2             |
|             |           | 1               | 74        | 20.14 | 20.04 | 20.07 | 2             |
|             |           | 36              | 0         | 19.23 | 19.19 | 19.24 | 3             |
|             |           | 36              | 19        | 19.16 | 19.20 | 19.28 | 3             |
|             |           | 36              | 39        | 19.15 | 19.12 | 19.20 | 3             |
|             |           | 75              | 0         | 19.11 | 19.10 | 19.15 | 3             |

## 4.2 Radiated Emission Measurement

### 4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

### 4.2.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}$ .

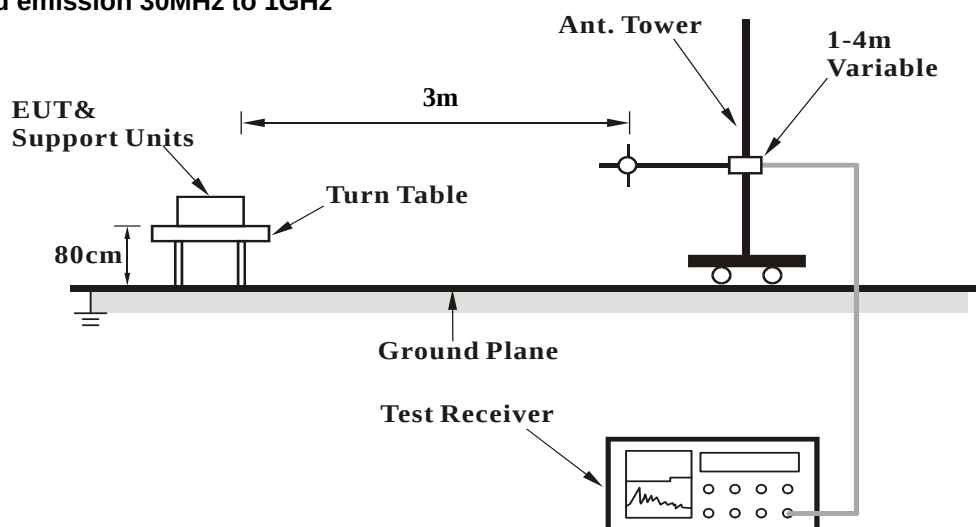
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.2.3 Deviation from Test Standard

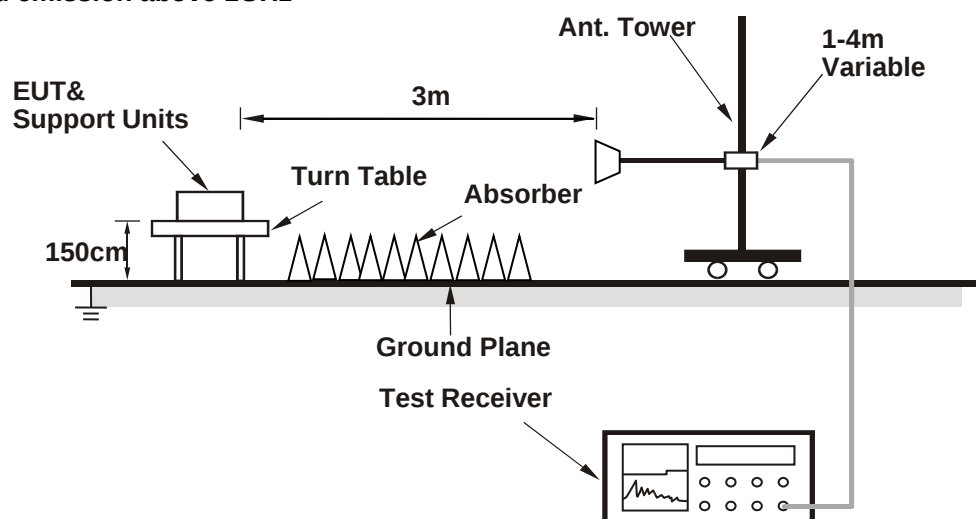
No deviation.

#### 4.2.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 4.2.5 Test Results

Below 1GHz

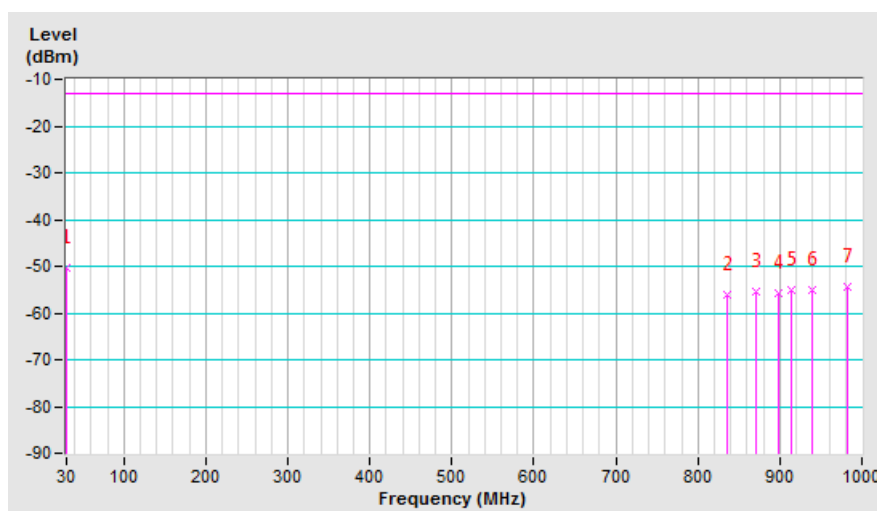
LTE Band 26, Channel Bandwidth 1.4MHz

|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 26797<br>(824.7MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 24deg. C, 64%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Match Tsui                     |                 |                |

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |           |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|-----------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.97       | -52.01        | -49.63                | -0.84                  | -50.47    | -13.00      | -37.47      |
| 2                                                   | 836.07      | -60.67        | -52.52                | -3.44                  | -55.96    | -13.00      | -42.96      |
| 3                                                   | 870.99      | -60.69        | -51.94                | -3.59                  | -55.53    | -13.00      | -42.53      |
| 4                                                   | 899.12      | -61.09        | -51.96                | -3.72                  | -55.68    | -13.00      | -42.68      |
| 5                                                   | 913.67      | -60.54        | -51.27                | -3.70                  | -54.97    | -13.00      | -41.97      |
| 6                                                   | 939.86      | -61.18        | -51.35                | -3.69                  | -55.04    | -13.00      | -42.04      |
| 7                                                   | 981.57      | -61.08        | -50.54                | -3.90                  | -54.44    | -13.00      | -41.44      |

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

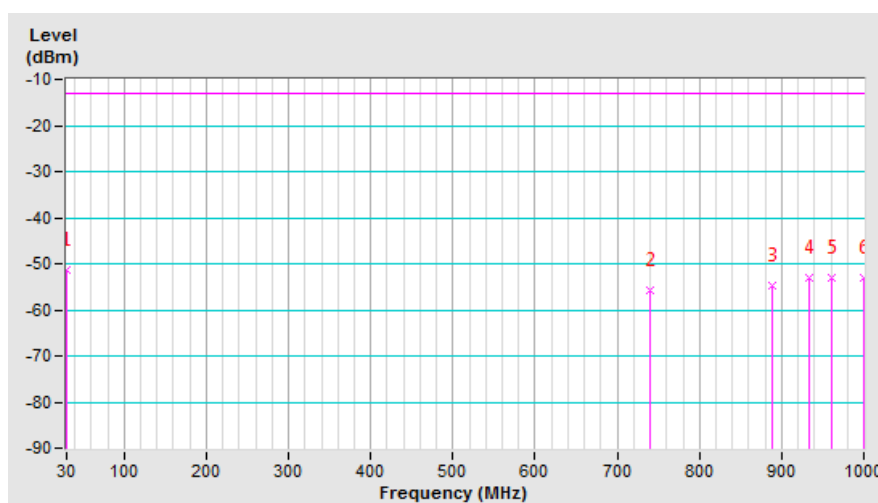


|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 26797<br>(824.7MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 24deg. C, 64%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Match Tsui                     |                 |                |

| Antenna Polarity & Test Distance: Vertical at 3 M |             |               |                       |                        |           |             |             |
|---------------------------------------------------|-------------|---------------|-----------------------|------------------------|-----------|-------------|-------------|
| No.                                               | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                 | 30.00       | -39.45        | -50.65                | -0.82                  | -51.47    | -13.00      | -38.47      |
| 2                                                 | 740.04      | -60.55        | -52.49                | -3.40                  | -55.89    | -13.00      | -42.89      |
| 3                                                 | 889.42      | -60.80        | -51.07                | -3.69                  | -54.76    | -13.00      | -41.76      |
| 4                                                 | 933.07      | -59.85        | -49.45                | -3.70                  | -53.15    | -13.00      | -40.15      |
| 5                                                 | 961.20      | -60.12        | -49.30                | -3.77                  | -53.07    | -13.00      | -40.07      |
| 6                                                 | 1000.00     | -61.04        | -49.07                | -4.01                  | -53.08    | -13.00      | -40.08      |

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Above 1GHz  
GSM Mode

|                          |                              |                 |              |
|--------------------------|------------------------------|-----------------|--------------|
| Mode                     | TX channel 189<br>(836.4MHz) | Frequency Range | 1GHz ~ 10GHz |
| Environmental Conditions | 25deg. C, 70%RH              | Input Power     | 120Vac, 60Hz |
| Tested By                | Noah Chang                   |                 |              |

| Antenna Polarity & Test Distance: Horizontal at 3 M |                |               |                       |                        |               |               |               |
|-----------------------------------------------------|----------------|---------------|-----------------------|------------------------|---------------|---------------|---------------|
| No.                                                 | Freq. (MHz)    | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | ERP (dBm)     | Limit (dBm)   | Margin (dB)   |
| 1                                                   | 1672.80        | -59.00        | -51.40                | 0.80                   | -50.60        | -13.00        | -37.60        |
| 2                                                   | 2509.20        | -44.00        | -37.70                | 0.20                   | -37.50        | -13.00        | -24.50        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |                |               |                       |                        |               |               |               |
| No.                                                 | Freq. (MHz)    | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | ERP (dBm)     | Limit (dBm)   | Margin (dB)   |
| 1                                                   | 1672.80        | -59.40        | -52.10                | 0.80                   | -51.30        | -13.00        | -38.30        |
| 2                                                   | <b>2509.20</b> | <b>-40.60</b> | <b>-36.70</b>         | <b>0.20</b>            | <b>-36.50</b> | <b>-13.00</b> | <b>-23.50</b> |

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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