

## FCC Test Report

### (PART 22)

**Report No.:** RF140522E04B-3

**FCC ID:** MQT-XCE200T3G

**Test Model:** xCE-200T.3G

**Series Model:** xCE\_E200T.3G

**Received Date:** July 06, 2016

**Test Date:** Aug. 05 to 13, 2016

**Issued Date:** Aug. 31, 2016

**Applicant:** XAC AUTOMATION CORP.

**Address:** 4F, No. 30, INDUSTRY E. RD. IX, SCIENCE-BASED INDUSTRIAL  
PARK,HSINCHU,TAIWAN

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

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### Release Control Record

| Issue No.      | Description       | Date Issued   |
|----------------|-------------------|---------------|
| RF140522E04B-3 | Original release. | Aug. 31, 2016 |

## 1 Certificate of Conformity

**Product:** Terminal  
**Brand:** XAC  
**Test Model:** xCE-200T.3G  
**Series Model:** xCE\_E200T.3G  
**Sample Status:** ENGINEERING SAMPLE  
**Applicant:** XAC AUTOMATION CORP.  
**Test Date:** Aug. 05 to 13, 2016  
**Standards:** FCC Part 22

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 EMC characteristics under the conditions specified in this report.

**Prepared by :** Midoli Peng , **Date:** Aug. 31, 2016  
Midoli Peng / Specialist

**Approved by :** May Chen , **Date:** Aug. 31, 2016  
May Chen / Manager

## 2 Summary of Test Results

| Applied Standard: FCC Part 22 & Part 2 |                              |        |  |
|--|------------------------------|--------|--|
| FCC Clause                             | Test Item                    | Result | Remarks  |
| 2.1046<br>22.913 (a)                   | Effective radiated power     | PASS   | Meet the requirement of limit.   |
| ---                                    | Peak To Average Ratio        | PASS   | Meet the requirement of limit.   |
| 2.1055<br>22.355                       | Frequency Stability          | PASS   | Meet the requirement of limit.   |
| 2.1049                                 | Occupied Bandwidth           | PASS   | Meet the requirement of limit.   |
| 22.917                                 | Band Edge Measurements       | PASS   | Meet the requirement of limit.   |
| 2.1051<br>22.917                       | Conducted Spurious Emissions | PASS   | Meet the requirement of limit.   |
| 2.1053<br>22.917                       | Radiated Spurious Emissions  | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -15.06dB at 2509.8MHz. |

### 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 | 30MHz ~ 1GHz  | 5.43 dB                              |
| Radiated Emissions above 1 GHz | 1GHz ~ 6GHz   | 3.72 dB                              |
|                                | 6GHz ~ 18GHz  | 4.00 dB                              |
|                                | 18GHz ~ 40GHz | 4.11 dB                              |

## 2.2 Test Site and Instruments

### For Effective Radiated Power & Radiated Spurious Emissions test:

| DESCRIPTION & MANUFACTURER              | MODEL NO.                | SERIAL NO.                                | CALIBRATED DATE | CALIBRATED UNTIL |
|---|--------------------------|---|-----------------|------------------|
| Test Receiver<br>Agilent                | N9038A                   | MY51210202                                | Dec. 16, 2015   | Dec. 15, 2016    |
| Pre-Amplifier<br>Mini-Circuits          | ZFL-1000VH2<br>B         | AMP-ZFL-04                                | Nov. 11, 2015   | Nov. 10, 2016    |
| Trilog Broadband Antenna<br>SCHWARZBECK | VULB 9168                | 9168-361                                  | Jan. 07, 2016   | Jan. 06, 2017    |
| RF Cable                                | 8D-FB                    | CHHCAB-001-1                              | Oct. 04, 2015   | Oct. 03, 2016    |
|   |                          | CHHCAB-001-2                              |                 |                  |
|   | RF-141                   | CHHCAB-004                                | Oct. 04, 2015   | Oct. 03, 2016    |
| Horn_Antenna<br>FT-RF                   | HA-07M18G-N<br>F         | 0000220091110                             | Jan. 18, 2016   | Jan. 17, 2017    |
| Pre-Amplifier<br>Agilent                | 8449B                    | 3008A01923                                | Oct. 27, 2015   | Oct. 26, 2016    |
| RF Cable                                | NA                       | 131206<br>131213<br>131215<br>SNMY23685/4 | Jan. 15, 2016   | Jan. 14, 2017    |
| Spectrum Analyzer<br>Agilent            | E4446A                   | MY48250254                                | Nov. 25, 2015   | Nov. 24, 2016    |
| Pre-Amplifier<br>SPACEK LABS            | SLKKa-48-6               | 9K16                                      | Dec. 11, 2015   | Dec. 10, 2016    |
| Horn_Antenna<br>SCHWARZBECK             | BBHA 9170                | 9170-424                                  | Jan. 18, 2016   | Jan. 17, 2017    |
| RF Cable                                | SUCOFLEX<br>102          | 36442/2<br>36434/2                        | Dec. 10, 2015   | Dec. 09, 2016    |
| Software                                | ADT_Radiated<br>_V8.7.07 | NA  | NA              | NA               |
| Antenna Tower & Turn Table<br>CT        | CM100                    | NA  | NA              | NA               |
| Boresight Antenna Fixture               | FBA-01                   | FBA-WD02                                  | NA              | NA               |

#### 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 966 Chamber No. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: Aug. 05, 2016

**For other test items:**

| DESCRIPTION & MANUFACTURER                              | MODEL NO.                           | SERIAL NO.                           | CALIBRATED DATE | CALIBRATED UNTIL |
|---|-------------------------------------|--------------------------------------|-----------------|------------------|
| Spectrum Analyzer<br>R&S                                | FSP40                               | 100036                               | Jan. 27, 2016   | Jan. 26, 2017    |
| Spectrum Analyzer<br>Keysight                           | N9030A                              | MY54490570                           | July 06, 2016   | July 05, 2017    |
| AC Power Source<br>Exttech Electronics                  | 6502                                | 1140503                              | NA              | NA               |
| Temperature & Humidity<br>Chamber<br>TERCHY             | MHU-225AU                           | 911033                               | Dec. 03, 2015   | Dec. 02, 2016    |
| DC Power Supply<br>GOOD WILL<br>INSTRUMENT CO.,<br>LTD. | GPC - 3030D                         | 7700087                              | NA              | NA               |
| ESG Vector signal<br>generator<br>Agilent               | E4438C                              | Y45094468/00<br>5 506 602 UK6<br>UNJ | Dec. 01, 2015   | Nov. 30, 2016    |
| Power meter<br>Anritsu                                  | ML2495A                             | 0824006                              | May 26, 2016    | May 25, 2017     |
| Power sensor<br>Anritsu                                 | MA2411B                             | 0738172                              | May 26, 2016    | May 25, 2017     |
| Software  | ADT_RF Test<br>Software<br>V6.6.5.3 | NA                                   | NA              | NA               |
| Digital Multimeter<br>FLUKE                             | 87III                               | 73680266                             | Nov. 10, 2015   | Nov. 09, 2016    |

- NOTE:**
1. The test was performed in Oven room 1.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. Tested Date: Aug. 13, 2016



### 3 General Information

#### 3.1 General Description of EUT

|                     |                           |  |
|---------------------|---------------------------|--|
| Product             | Terminal                  |  |
| Brand               | XAC                       |  |
| Test Model          | xCE-200T.3G               |  |
| Series Model        | xCE_E200T.3G              |  |
| Status of EUT       | ENGINEERING SAMPLE        |  |
| Power Supply Rating | DC 12V from power adapter |  |
| Modulation Type     | GPRS                      | GMSK   |
|                     | EDGE                      | GMSK, 8PSK   |
|                     | WCDMA, HSDPA, HSUPA       | BPSK   |
| Operating Frequency | GPRS, EDGE                | Uplink: 824MHz ~849MHz<br>Downlink: 869MHz ~894MHz |
|                     | WCDMA, HSDPA, HSUPA       | Uplink: 824MHz ~849MHz<br>Downlink: 869MHz ~894MHz |
| Max. ERP Power      | GPRS                      | 1116.863mW   |
|                     | EDGE                      | 1071.519mW   |
|                     | WCDMA                     | 198.609mW  |
| Emission Designator | GPRS                      | 244KGXW  |
|                     | EDGE                      | 244KG7W  |
|                     | WCDMA                     | 4M06F9W  |
|                     | HSDPA                     | 4M08F9W  |
|                     | HSUPA                     | 4M06F9W  |
| Antenna Type        | Please see Note           |  |
| Antenna Connector   | Please see Note           |  |
| Accessory Device    | Adapter (Optional) x 1    |  |
| Data Cable Supplied | NA                        |  |

Note:

1. All models are listed as below.

| Brand Name | Model No.    | Description               |
|------------|--------------|---------------------------|
| XAC        | xCE-200T.3G  | For marketing requirement |
| XAC        | xCE_E200T.3G |                           |

From the above models, model: **xCE-200T.3G** was selected as representative model for the test and its data was recorded in this report.

2. The EUT could be supplied with power adapter as the following table:

| Brand         | Model No.    | Spec.   |
|---------------|--------------|---|
| FSP GROUP INC | FSP040-RHAN2 | AC I/P: 100-240V, 50-60Hz, 1.5A<br>AC input cable (Unshielded, 1.8m)<br>DC O/P: 12V, 3.33A<br>DC output cable(Unshielded, 1.5m with 1 core) |

3. There are WLAN, Bluetooth and WWAN technology used for the EUT.  
 4. Simultaneously transmission condition.

| Condition | Technology |           |      |
|-----------|------------|-----------|------|
| 1         | WLAN       | Bluetooth | WWAN |

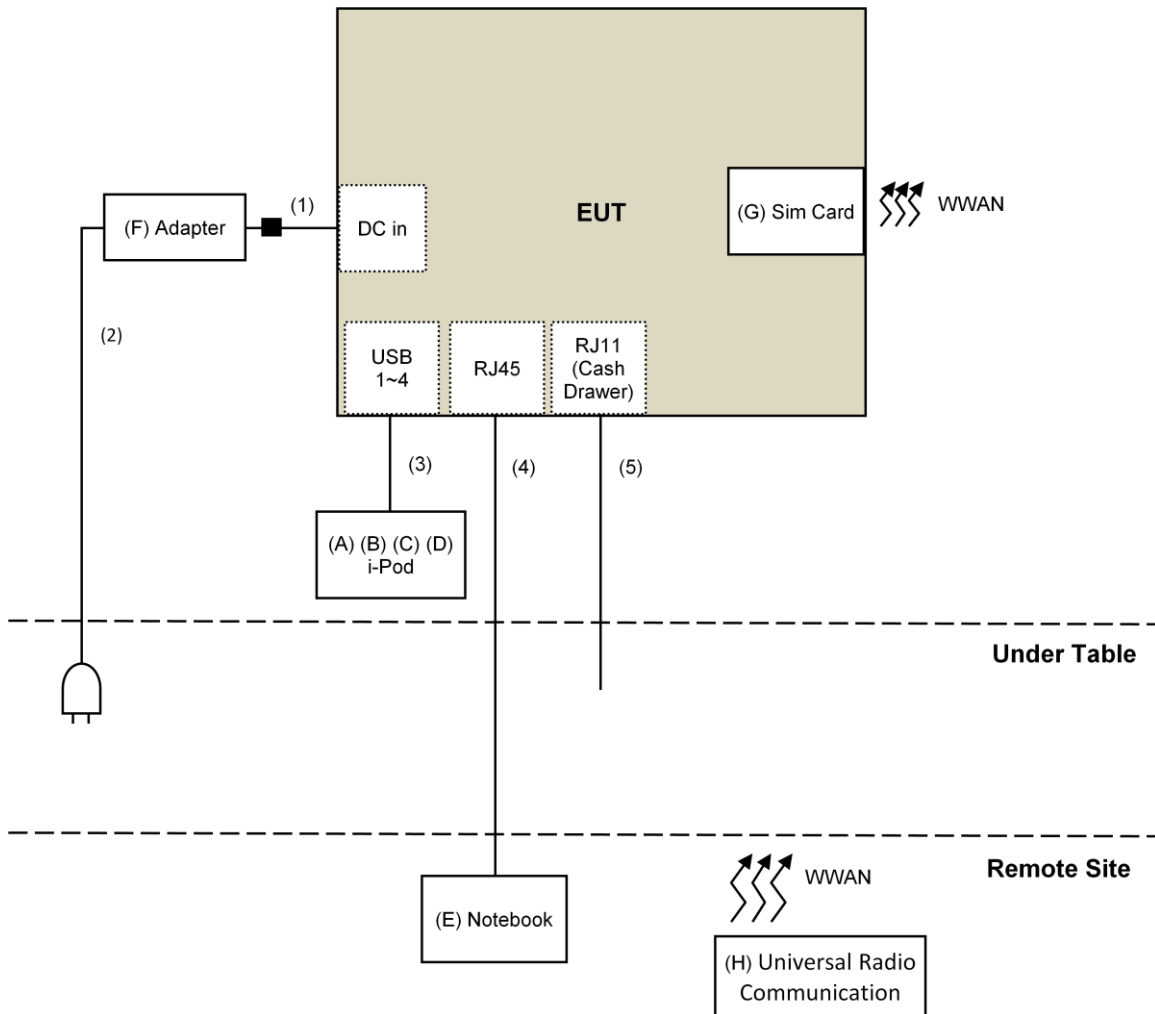
**Note:** The emission of the simultaneous operation has been evaluated and no non-compliance was found.

5. The antenna provided to the EUT, please refer to the following table:

| WLAN, Bluetooth |                |   |   |              |                |
|-----------------|----------------|---|---|--------------|----------------|
| Brand           | Model          | Antenna Gain (dBi)  | Frequency range (GHz to GHz)  | Antenna Type | Connector Type |
| ACX             | AT3216-T2R4PAA | 1.5   | 2.4~2.4835  | Chip         | NA             |
| WWAN            |                |   |   |              |                |
| Brand           | Model          | Antenna Gain (dBi)  | Frequency range   | Antenna Type | Connector Type |
| INPAQ           | WA-F-P5-02-011 | FDD I :4.2<br>FDD II: 3.9<br>FDD V: 0.82<br>FDD VIII: 0.23<br>GSM1800: 3.68 | GSM850 / FDD V (824-849 MHz)<br>FDD I (1920-1980 MHz)<br>GSM1800 (1710~1785 MHz)<br>GSM1900 / FDD II (1850-1910 MHz)<br>GSM900 / FDD VIII (880-915 MHz) | PCB          | RFI-PEX MHF    |

6. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 Configuration of System under Test



### 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.

| No. | Product                              | Brand          | Model No.    | Serial No.   | FCC ID  | Remark             |
|-----|--------------------------------------|----------------|--------------|--------------|---------|--------------------|
| A   | iPod                                 | Apple          | MC749TA/A    | CC4DMFJUDFDM | NA      | Provided by Lab    |
| B   | iPod                                 | Apple          | MC749TA/A    | CC4DN25WDFDM | NA      | Provided by Lab    |
| C   | iPod                                 | Apple          | MC749TA/A    | CC4DN29UDFDM | NA      | Provided by Lab    |
| D   | iPod                                 | Apple          | MD778TA/A    | CC4JMFL0F4T1 | NA      | Provided by Lab    |
| E   | Notebook Computer                    | DELL           | PP32LA       | GSLB32S      | FCC DoC | Provided by Lab    |
| F   | Adapter                              | FSP GROUP INC. | FSP040-RHAN2 | NA           | NA      | Supplied by client |
| G   | Sim Card                             | R&S            | CRT-Z3       | NA           | NA      | Provided by Lab    |
| H   | Universal Radio Communication Tester | R&S            | CMU200       | 121040       | NA      | Provided by Lab    |

**NOTE:**

1. All power cords of the above support units are non-shielded (1.8 m).

| No. | Cable          | Qty. | Length (m) | Shielded (Yes/ No) | Cores (Number) | Remark             |
|-----|----------------|------|------------|--------------------|----------------|--------------------|
| 1   | DC Cable       | 1    | 1.5        | No                 | 1              | Supplied by client |
| 2   | AC Cable       | 1    | 1.8        | No                 | 0              | Supplied by client |
| 3   | USB Cable      | 4    | 0.1        | Yes                | 0              | Provided by Lab    |
| 4   | RJ45 Cable     | 1    | 10         | No                 | 0              | Provided by Lab    |
| 5   | RS-232 to RJ11 | 1    | 1.3        | No                 | 0              | Supplied by client |

**NOTE:** 1. The core(s) is(are) originally attached to the cable(s).

### 3.3 Test Mode Applicability and Tested Channel Detail

#### GSM850 MODE

| Test Item                       | Available Channel | Tested Channel | Mode       |
|---------------------------------|-------------------|----------------|------------|
| ERP                             | 128 to 251        | 128, 190, 251  | GPRS, EDGE |
| Frequency Stability             | 128 to 251        | 190            | GPRS       |
| Occupied Bandwidth              | 128 to 251        | 128, 190, 251  | GPRS, EDGE |
| Band Edge                       | 128 to 251        | 128, 251       | GPRS, EDGE |
| Peak To Average Ratio           | 128 to 251        | 128, 190, 251  | GPRS, EDGE |
| Conducted Emission              | 128 to 251        | 128, 190, 251  | GPRS       |
| Radiated Emission<br>Below 1GHz | 128 to 251        | 190            | GPRS, EDGE |
| Radiated Emission<br>Above 1GHz | 128 to 251        | 190            | GPRS, EDGE |

#### WCDMA V MODE

| Test Item                       | Available Channel | Tested Channel   | Mode                   |
|---------------------------------|-------------------|------------------|------------------------|
| ERP                             | 4132 to 4233      | 4132, 4183, 4233 | WCDMA                  |
| Frequency Stability             | 4132 to 4233      | 4183             | WCDMA                  |
| Occupied Bandwidth              | 4132 to 4233      | 4132, 4183, 4233 | WCDMA, HSDPA,<br>HSUPA |
| Band Edge                       | 4132 to 4233      | 4132, 4233       | WCDMA, HSDPA,<br>HSUPA |
| Peak To Average Ratio           | 4132 to 4233      | 4132, 4183, 4233 | WCDMA                  |
| Conducted Emission              | 4132 to 4233      | 4132, 4183, 4233 | WCDMA                  |
| Radiated Emission<br>Below 1GHz | 4132 to 4233      | 4183             | WCDMA                  |
| Radiated Emission<br>Above 1GHz | 4132 to 4233      | 4183             | WCDMA                  |

**Test Condition:**

| Test Item                       | Environmental Conditions | Input Power  | Tested By    |
|---------------------------------|--------------------------|--------------|--------------|
| ERP                             | 25deg. C, 63%RH          | 120Vac, 60Hz | Robert Cheng |
| Frequency Stability             | 25deg. C, 63%RH          | 120Vac, 60Hz | Robert Cheng |
| Occupied Bandwidth              | 25deg. C, 63%RH          | 120Vac, 60Hz | Robert Cheng |
| Band Edge                       | 25deg. C, 63%RH          | 120Vac, 60Hz | Robert Cheng |
| Peak To Average Ratio           | 24deg. C, 64%RH          | 120Vac, 60Hz | Robert Cheng |
| Conducuted Emission             | 25deg. C, 63%RH          | 120Vac, 60Hz | Robert Cheng |
| Radiated Emission<br>Below 1GHz | 26deg. C, 72%RH          | 120Vac, 60Hz | Weiwei Lo    |
| Radiated Emission<br>Above 1GHz | 25deg. C, 68%RH          | 120Vac, 60Hz | Weiwei Lo    |

**3.4 EUT Operating Conditions**

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 v02r02**

**ANSI/TIA/EIA-603-D 2010**

**NOTE:** 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:**

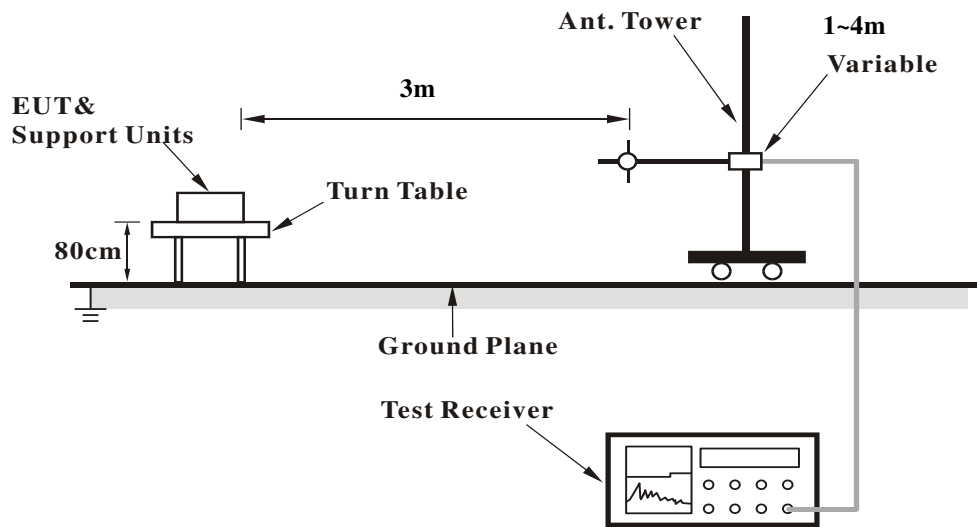
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GSM and 5MHz for WCDMA mode.
- b. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees 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.
- c. 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
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- e. ERP power can be calculated form EIRP power by subtracting the gain of dipole,  $ERP \text{ power} = EIPR \text{ power} - 2.15dBi.$

##### **Conducted Power Measurement:**

The EUT was set up for the maximum power with GSM & WCDMA 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.

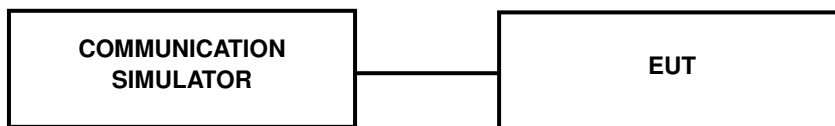


4.1.3 Test Setup  
EIRP / ERP MEASUREMENT:



For 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    | 190   | 251   |
| Frequency (MHz) | 824.2  | 836.6 | 848.8 |
| GPRS            | 32.57  | 32.70 | 32.76 |
| EDGE            | 32.53  | 32.59 | 32.69 |

| Band            | WCDMA V |       |       |
|-----------------|---------|-------|-------|
| Channel         | 4132    | 4183  | 4233  |
| Frequency (MHz) | 826.4   | 836.6 | 846.6 |
| RMC             | 23.85   | 23.72 | 23.77 |
| HSDPA Subtest-1 | 23.72   | 23.61 | 23.66 |
| HSDPA Subtest-2 | 23.67   | 23.57 | 23.61 |
| HSDPA Subtest-3 | 23.57   | 23.47 | 23.52 |
| HSDPA Subtest-4 | 23.47   | 23.37 | 23.42 |
| HSUPA Subtest-1 | 23.76   | 23.68 | 23.71 |
| HSUPA Subtest-2 | 23.70   | 23.61 | 23.64 |
| HSUPA Subtest-3 | 23.61   | 23.54 | 23.52 |
| HSUPA Subtest-4 | 23.57   | 23.49 | 23.46 |
| HSUPA Subtest-5 | 23.48   | 23.41 | 23.40 |

## ERP POWER (dBm)

### GPRS

| Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW)  |
|---------|-----------------|-----------|-----------------------|----------|----------|
| 128     | 824.2           | 28.53     | 1.30                  | 29.83    | 961.612  |
| 190     | 836.6           | 29.31     | 1.17                  | 30.48    | 1116.863 |
| 251     | 848.8           | 29.37     | 1.04                  | 30.41    | 1099.006 |

### EDGE

| Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW)  |
|---------|-----------------|-----------|-----------------------|----------|----------|
| 128     | 824.2           | 28.97     | 1.30                  | 30.27    | 1064.143 |
| 190     | 836.6           | 29.13     | 1.17                  | 30.30    | 1071.519 |
| 251     | 848.8           | 29.24     | 1.04                  | 30.28    | 1066.596 |

### WCDMA

| Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) |
|---------|-----------------|-----------|-----------------------|----------|---------|
| 4132    | 826.4           | 21.61     | 1.27                  | 22.88    | 194.089 |
| 4183    | 836.6           | 21.81     | 1.17                  | 22.98    | 198.609 |
| 4233    | 846.6           | 21.80     | 1.07                  | 22.87    | 193.642 |

**REMARKS:** 1. Output Power (dBm) = SPA Reading (dBm) + Correction Factor (dB).

2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss.

## 4.2 Frequency Stability Measurement

### 4.2.1 Limits of Frequency Stability Measurement

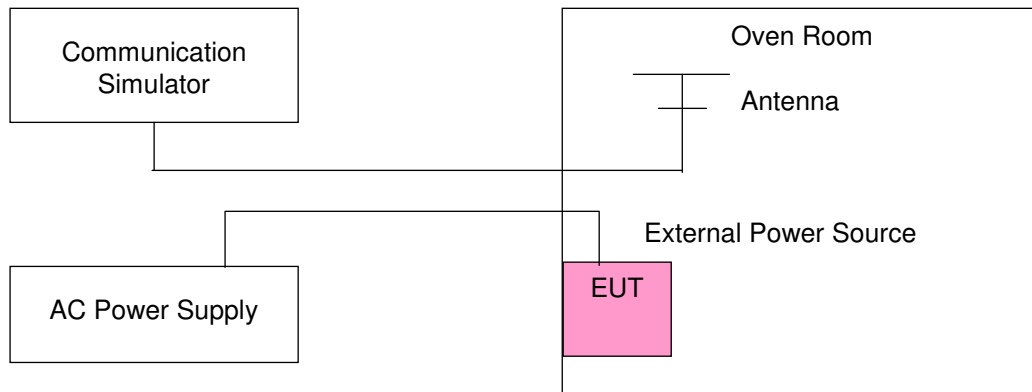
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 4.2.2 Test Procedure

- a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the AC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5$  °C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

**NOTE:** The frequency error was recorded frequency error from the communication simulator.

#### 4.2.3 Test Setup



#### 4.2.4 Test Results

##### Frequency Error vs. Voltage

| Voltage (Volts) | Frequency Error (ppm) |       | Limit (ppm) |
|-----------------|-----------------------|-------|-------------|
|                 | GPRS                  | WCDMA |             |
| 102             | 0.018                 | 0.010 | 2.5         |
| 138             | 0.017                 | 0.008 | 2.5         |

##### Frequency Error vs. Temperature.

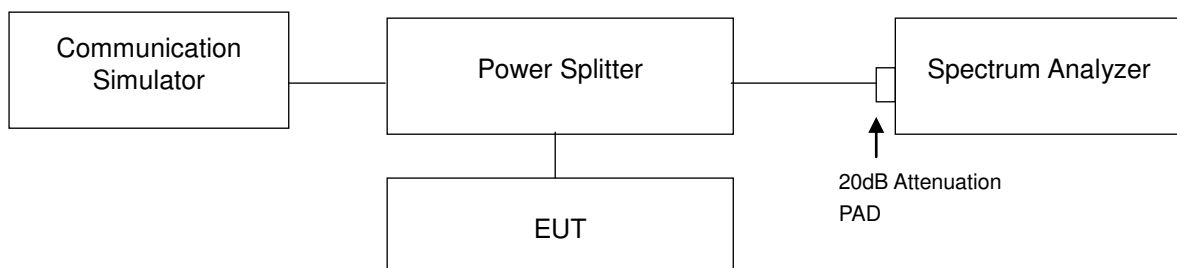
| TEMP. (°C) | Frequency Error (ppm) |       | Limit (ppm) |
|------------|-----------------------|-------|-------------|
|            | GPRS                  | WCDMA |             |
| 75         | 0.038                 | 0.025 | 2.5         |
| 70         | 0.035                 | 0.024 | 2.5         |
| 60         | 0.035                 | 0.019 | 2.5         |
| 50         | 0.030                 | 0.017 | 2.5         |
| 40         | 0.027                 | 0.012 | 2.5         |
| 30         | 0.023                 | 0.011 | 2.5         |
| 20         | 0.022                 | 0.010 | 2.5         |
| 10         | 0.024                 | 0.013 | 2.5         |
| 0          | 0.025                 | 0.014 | 2.5         |
| -10        | 0.032                 | 0.016 | 2.5         |
| -20        | 0.033                 | 0.017 | 2.5         |
| -30        | 0.037                 | 0.019 | 2.5         |

### 4.3 Occupied Bandwidth Measurement

#### 4.3.1 Test Procedure

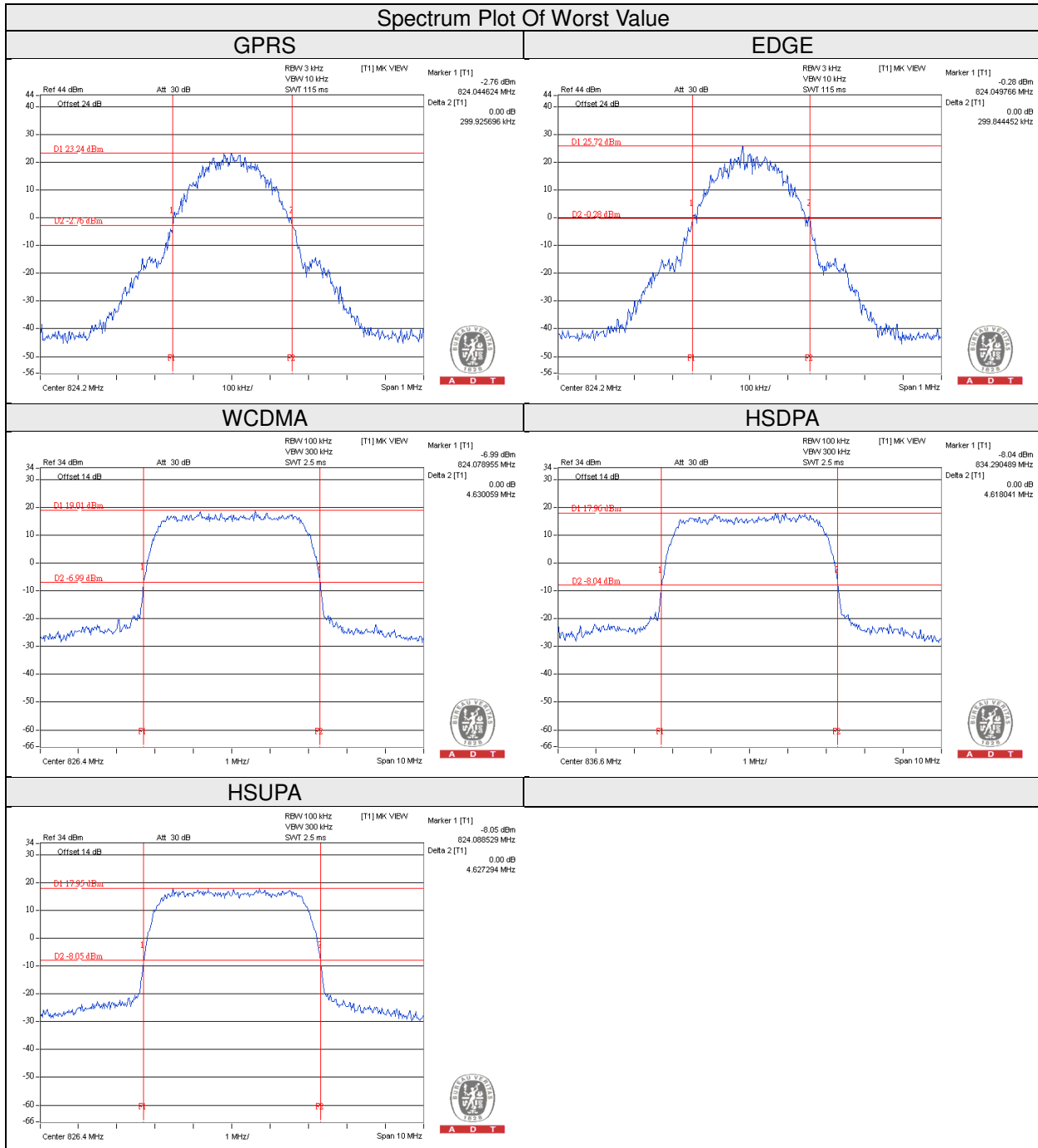
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

#### 4.3.2 Test Setup



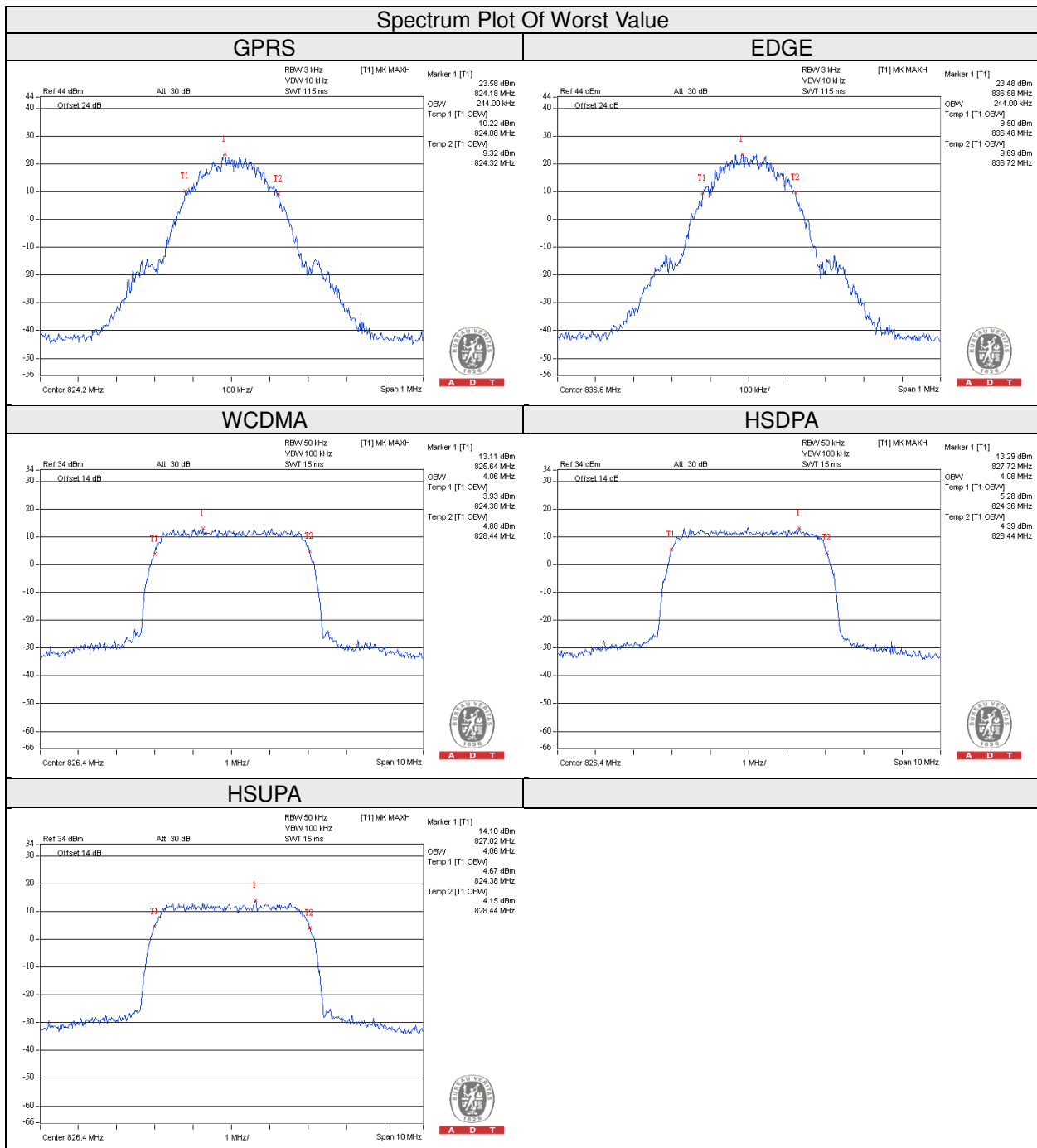
### 4.3.3 Test Result (-26dB Bandwidth)

| Channel | Frequency (MHz) | -26dB Bandwidth (kHz) |         | Channel | FREQ. (MHz) | -26dB Bandwidth (MHz) |       |       |
|---------|-----------------|-----------------------|---------|---------|-------------|-----------------------|-------|-------|
|         |                 | GPRS                  | EDGE    |         |             | WCDMA                 | HSDPA | HSUPA |
| 128     | 824.2           | 299.926               | 299.844 | 4132    | 826.4       | 4.630                 | 4.602 | 4.627 |
| 190     | 836.6           | 299.289               | 299.188 | 4183    | 836.6       | 4.605                 | 4.618 | 4.619 |
| 251     | 848.8           | 299.158               | 299.704 | 4233    | 846.6       | 4.615                 | 4.616 | 4.613 |



### 4.3.4 Test Result (Occupied Bandwidth)

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) |      | Channel | FREQ. (MHz) | 99% Occupied Bandwidth (MHz) |       |       |
|---------|-----------------|------------------------------|------|---------|-------------|------------------------------|-------|-------|
|         |                 | GPRS                         | EDGE |         |             | WCDMA                        | HSDPA | HSUPA |
| 128     | 824.2           | 244                          | 242  | 4132    | 826.4       | 4.06                         | 4.08  | 4.06  |
| 190     | 836.6           | 240                          | 244  | 4183    | 836.6       | 4.06                         | 4.06  | 4.06  |
| 251     | 848.8           | 240                          | 242  | 4233    | 846.6       | 4.06                         | 4.06  | 4.06  |



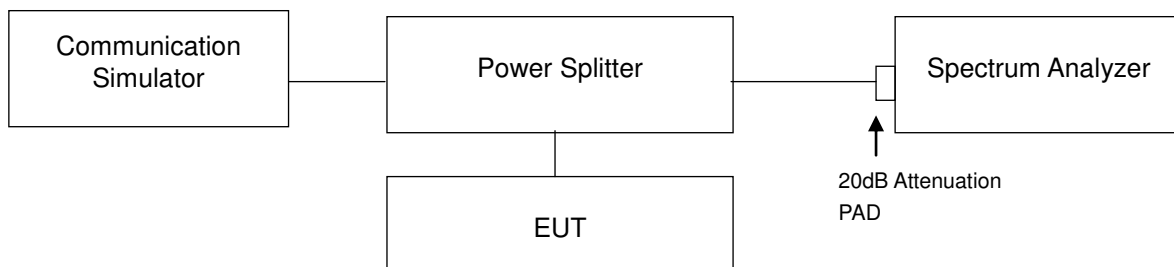


## 4.4 Band Edge Measurement

### 4.4.1 Limits of Band Edge Measurement

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

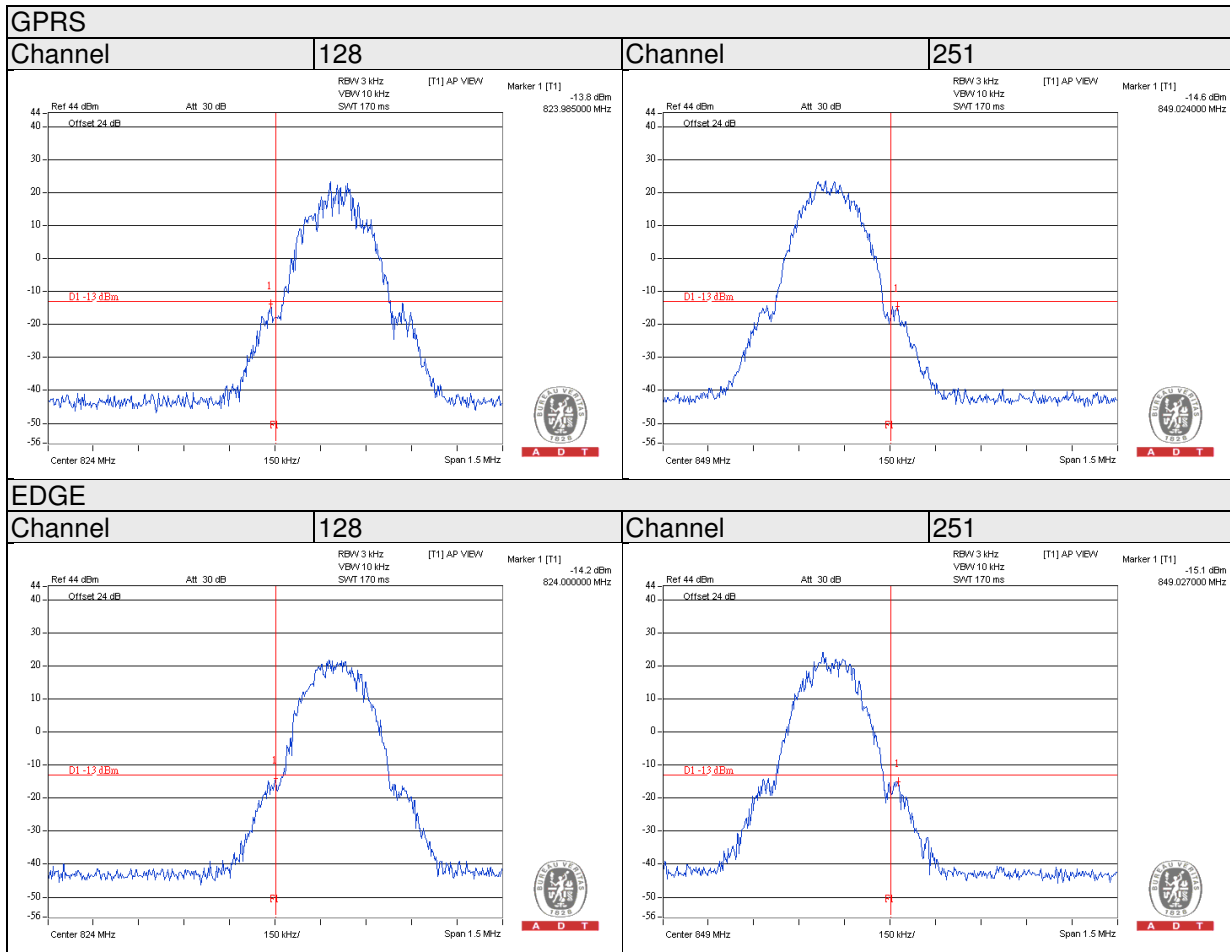
### 4.4.2 Test Setup



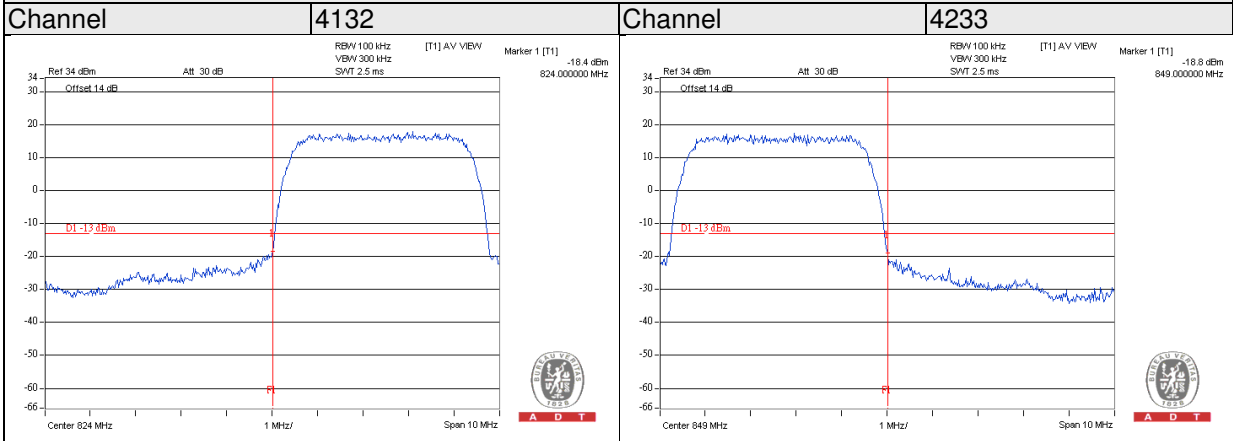
### 4.4.3 Test Procedures

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GSM).
- c. The center frequency of spectrum is the band edge frequency and span is 10MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).
- d. Record the max trace plot into the test report.

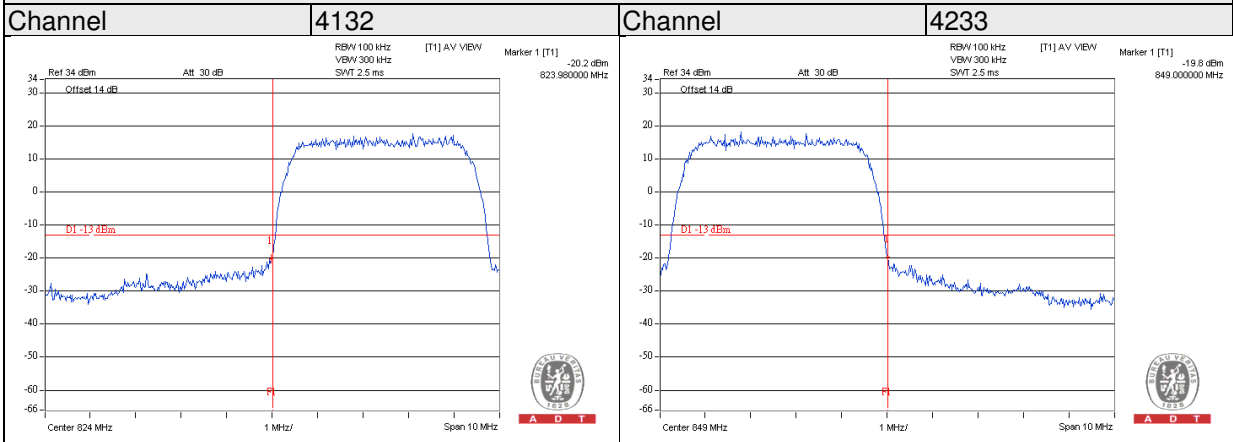
### 4.4.4 Test Results



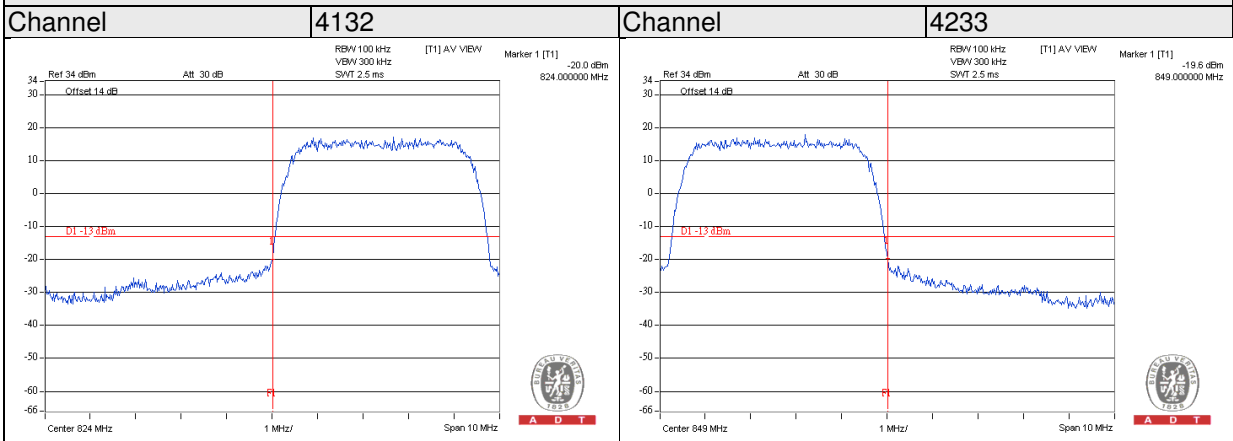
### WCDMA



### HSDPA



### HSUPA

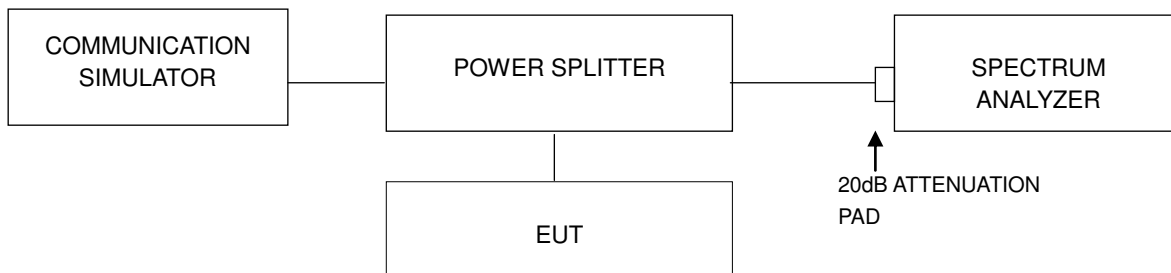


## 4.5 Peak to Average Ratio

### 4.5.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

### 4.5.2 Test Setup



### 4.5.3 Test Procedures

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

#### 4.5.4 Test Results

| Channel | Frequency (MHz) | Peak To Average Ratio (dB) |      | Channel | Freq. (MHz) | Peak To Average Ratio (dB) |
|---------|-----------------|----------------------------|------|---------|-------------|----------------------------|
|         |                 | GPRS                       | EDGE |         |             |                            |
| 128     | 824.2           | 0.14                       | 0.15 | 4132    | 826.4       | 3.15                       |
| 190     | 836.6           | 0.15                       | 0.14 | 4183    | 836.6       | 3.28                       |
| 251     | 848.8           | 0.15                       | 0.15 | 4233    | 846.6       | 3.1                        |

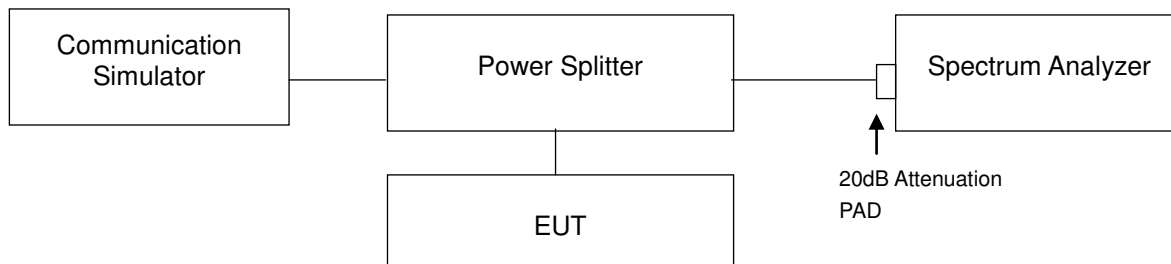


## 4.6 Conducted Spurious Emissions

### 4.6.1 Limits of Conducted Spurious Emissions 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  $-13\text{dBm}$ .

### 4.6.2 Test Setup



### 4.6.3 Test Procedure

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9 kHz to 9GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

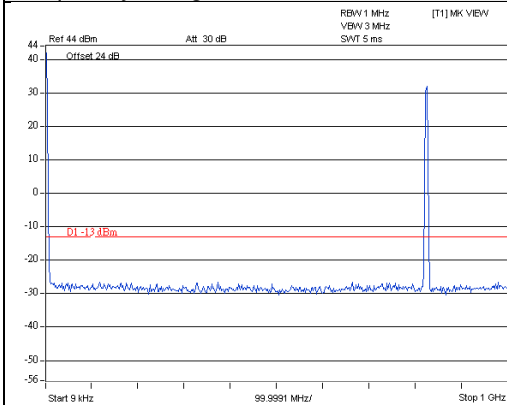
### 4.6.4 Test Results

#### GPRS

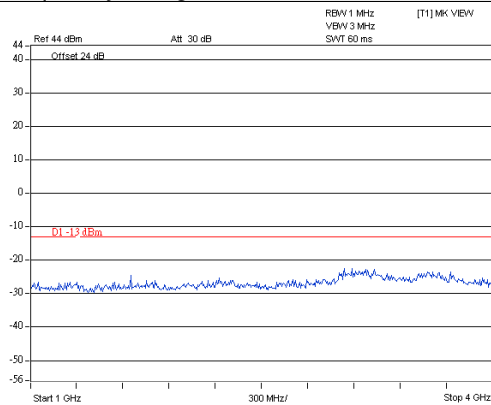
#### Channel 128

#### Frequency Range : 9kHz~1GHz

#### Frequency Range : 1GHz~4GHz

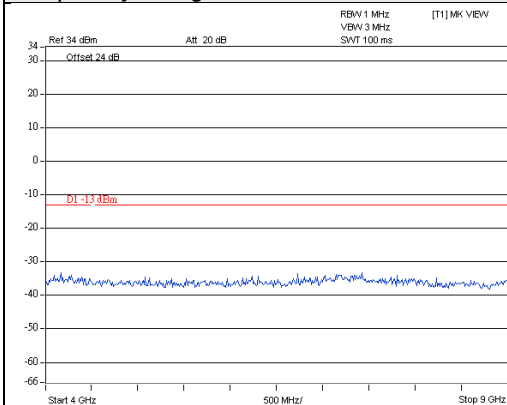


A D T



A D T

#### Frequency Range : 4GHz~9GHz



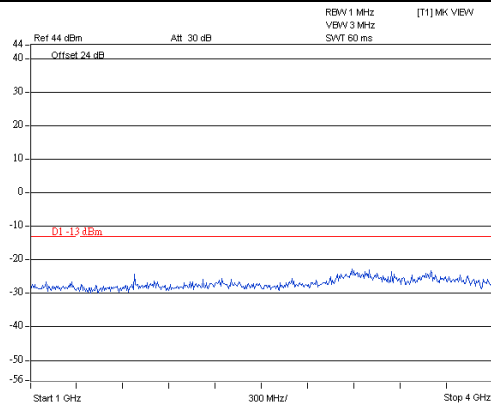
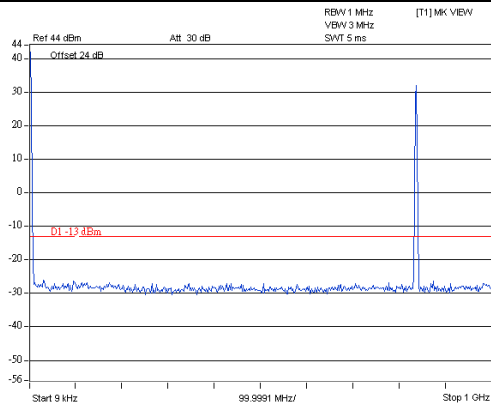
A D T

**GPRS**

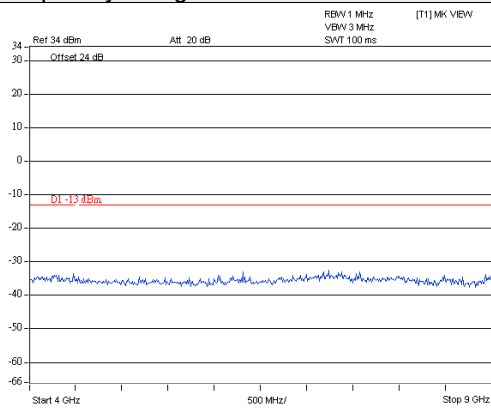
**Channel 190**

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~4GHz



Frequency Range : 4GHz~9GHz



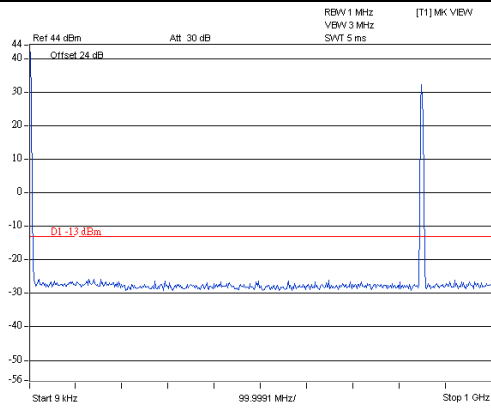


**GPRS**

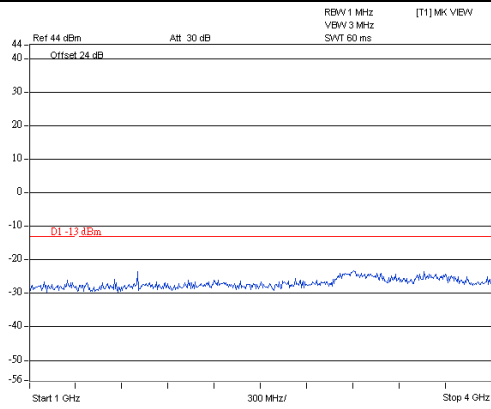
**Channel 251**

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~4GHz

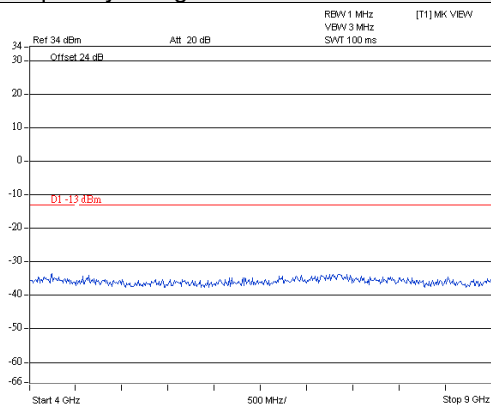


A D T



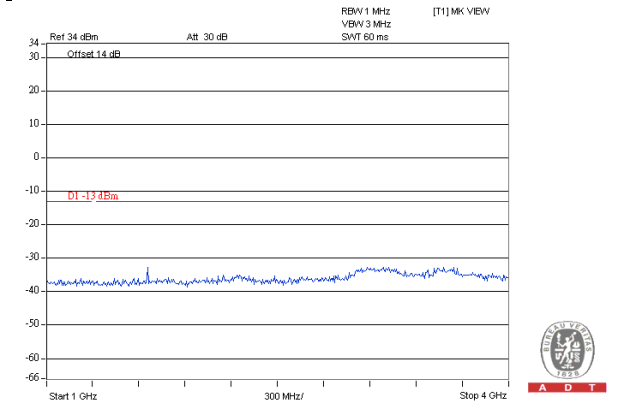
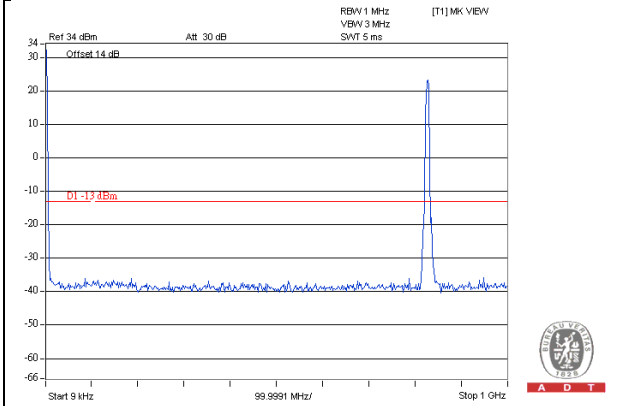
A D T

Frequency Range : 4GHz~9GHz

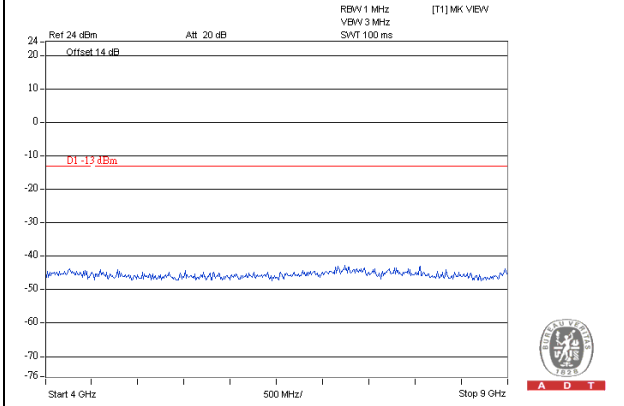


A D T

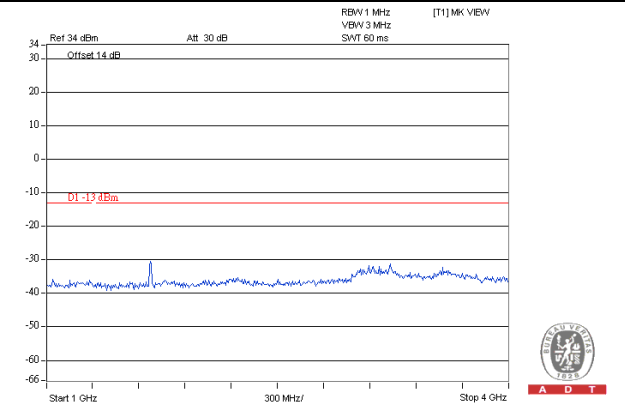
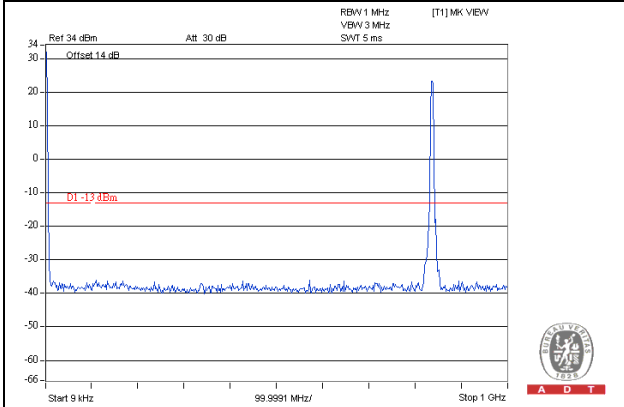
**WCDMA**  
**Channel 4132**  
**Frequency Range : 9kHz~1GHz**      **Frequency Range : 1GHz~4GHz**



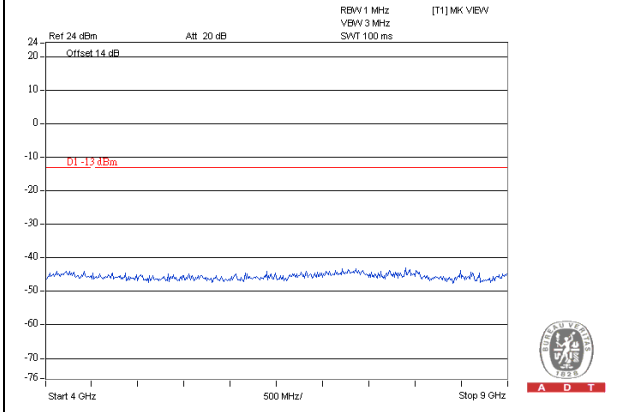
**Frequency Range : 4GHz~9GHz**



**WCDMA**  
**Channel 4183**  
**Frequency Range : 9kHz~1GHz**      **Frequency Range : 1GHz~4GHz**



**Frequency Range : 4GHz~9GHz**

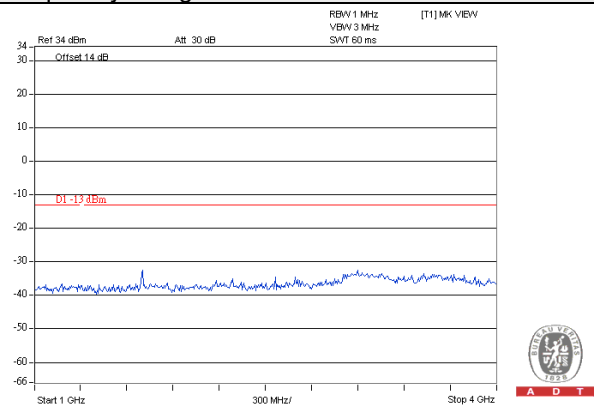
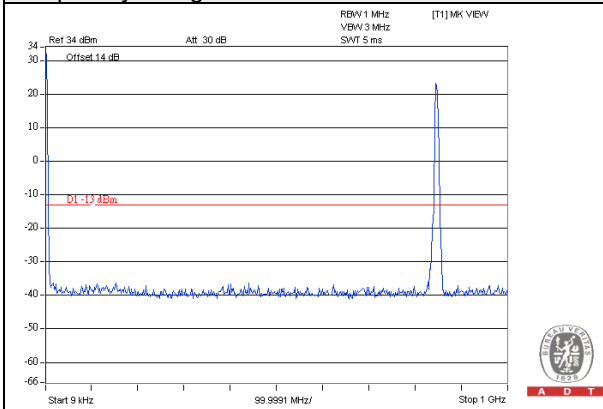


**WCDMA**

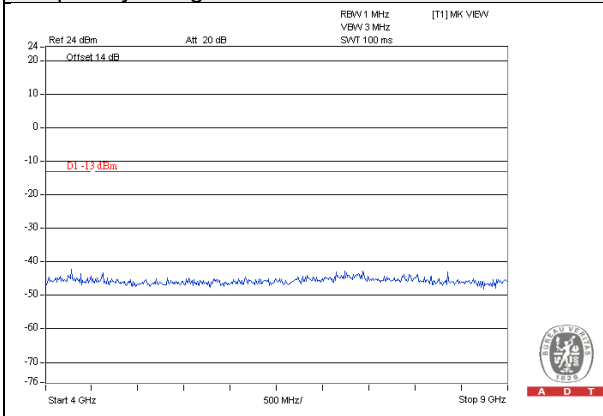
**Channel 4233**

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~4GHz



Frequency Range : 4GHz~9GHz



## 4.7 Radiated Emission Measurement

### 4.7.1 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  $-13\text{dBm}$ .

### 4.7.2 Test Procedure

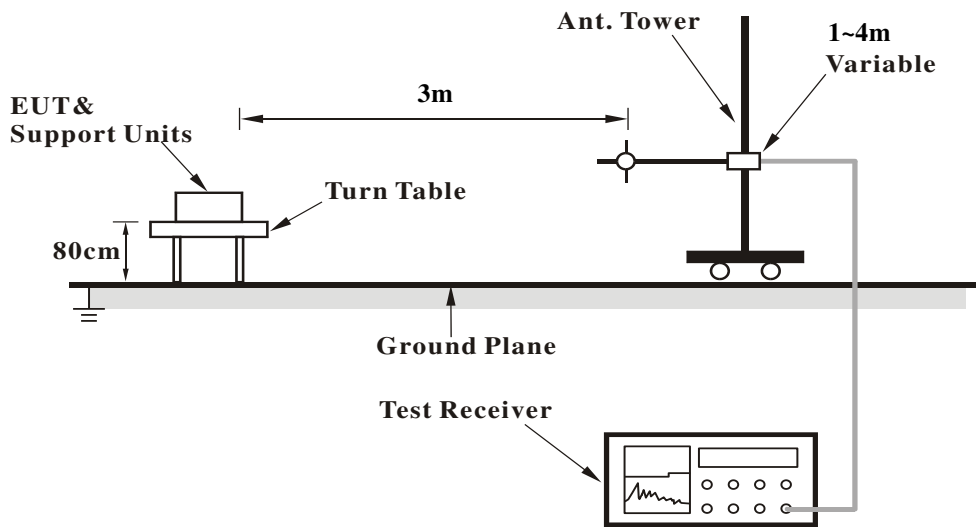
- a. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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. ERP power can be calculated form EIRP power by subtracting the gain of dipole,  $\text{ERP power} = \text{EIRP power} - 2.15\text{dBi}$ .

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

### 4.7.3 Deviation from Test Standard

No deviation.

#### 4.7.4 Test Setup



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

#### 4.7.5 Test Results

BELOW 1GHz

**GPRS:**

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 190 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

| 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   | 234.02      | 37.40         | -58.19                | 3.77                   | -54.42    | -13         | -41.42      |
| 2   | 276.02      | 38.60         | -56.46                | 3.87                   | -52.59    | -13         | -39.59      |
| 3   | 286.01      | 38.80         | -56.40                | 3.75                   | -52.65    | -13         | -39.65      |
| 4   | 300.02      | 41.60         | -54.18                | 3.71                   | -50.47    | -13         | -37.47      |
| 5   | 312         | 38.24         | -58.04                | 3.68                   | -54.36    | -13         | -41.36      |
| 6   | 338         | 37.80         | -60.07                | 3.66                   | -56.41    | -13         | -43.41      |
| 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   | 234.02      | 30.70         | -64.89                | 3.77                   | -61.12    | -13         | -48.12      |
| 2   | 276.02      | 31.70         | -63.36                | 3.87                   | -59.49    | -13         | -46.49      |
| 3   | 286.01      | 34.10         | -61.10                | 3.75                   | -57.35    | -13         | -44.35      |
| 4   | 300         | 35.30         | -60.48                | 3.71                   | -56.77    | -13         | -43.77      |
| 5   | 338         | 34.60         | -63.27                | 3.66                   | -59.61    | -13         | -46.61      |
| 6   | 498.17      | 33.30         | -62.24                | 2.90                   | -59.34    | -13         | -46.34      |

Remarks:

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

**EDGE:**

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 190 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

**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   | 234.01      | 37.20         | -58.39                | 3.77                   | -54.62    | -13         | -41.62      |
| 2   | 276.02      | 38.70         | -56.36                | 3.87                   | -52.49    | -13         | -39.49      |
| 3   | 286.01      | 38.60         | -56.60                | 3.75                   | -52.85    | -13         | -39.85      |
| 4   | 300.02      | 41.40         | -54.38                | 3.71                   | -50.67    | -13         | -37.67      |
| 5   | 312         | 37.40         | -58.88                | 3.68                   | -55.20    | -13         | -42.20      |
| 6   | 338         | 37.60         | -60.27                | 3.66                   | -56.61    | -13         | -43.61      |

**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   | 234.02      | 30.60         | -64.99                | 3.77                   | -61.22    | -13         | -48.22      |
| 2   | 276.02      | 33.30         | -61.76                | 3.87                   | -57.89    | -13         | -44.89      |
| 3   | 286.01      | 35.60         | -59.60                | 3.75                   | -55.85    | -13         | -42.85      |
| 4   | 300         | 36.30         | -59.48                | 3.71                   | -55.77    | -13         | -42.77      |
| 5   | 338         | 35.40         | -62.47                | 3.66                   | -58.81    | -13         | -45.81      |
| 6   | 498.16      | 35.70         | -59.84                | 2.90                   | -56.94    | -13         | -43.94      |

**Remarks:**

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



**WCDMA:**

|      |                 |                 |                |
|------|-----------------|-----------------|----------------|
| Mode | TX channel 4183 | Frequency Range | Below 1000 MHz |
|------|-----------------|-----------------|----------------|

**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   | 224.02      | 37.30         | -58.68                | 3.69                   | -54.99    | -13         | -41.99      |
| 2   | 273.02      | 38.60         | -56.37                | 3.89                   | -52.48    | -13         | -39.48      |
| 3   | 280.01      | 38.70         | -56.25                | 3.76                   | -52.49    | -13         | -39.49      |
| 4   | 300         | 41.50         | -54.28                | 3.71                   | -50.57    | -13         | -37.57      |
| 5   | 309         | 38.20         | -57.96                | 3.69                   | -54.27    | -13         | -41.27      |
| 6   | 343         | 37.70         | -60.17                | 3.63                   | -56.54    | -13         | -43.54      |

**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   | 236.02      | 30.90         | -64.61                | 3.78                   | -60.83    | -13         | -47.83      |
| 2   | 266.02      | 31.60         | -63.16                | 3.93                   | -59.22    | -13         | -46.22      |
| 3   | 286.01      | 34.20         | -61.00                | 3.75                   | -57.25    | -13         | -44.25      |
| 4   | 306         | 35.20         | -60.83                | 3.70                   | -57.13    | -13         | -44.13      |
| 5   | 348         | 34.50         | -63.37                | 3.61                   | -59.76    | -13         | -46.76      |
| 6   | 508.17      | 33.30         | -62.12                | 2.83                   | -59.29    | -13         | -46.29      |

ABOVE 1GHz

GPRS:

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 190 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

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   | 1673.2      | 52.05         | -50.58                | 6.31                   | -44.27    | -13         | -31.27      |
| 2   | 2509.8      | 54.73         | -43.79                | 6.66                   | -37.13    | -13         | -24.13      |
| 3   | 3346.4      | 45.88         | -57.13                | 7.63                   | -49.50    | -13         | -36.50      |
| 4   | 4183        | 47.65         | -57.19                | 7.44                   | -49.75    | -13         | -36.75      |
| 5   | 5019.6      | 50.53         | -53.73                | 7.01                   | -46.72    | -13         | -33.72      |
| 6   | 5856.2      | 52.13         | -52.25                | 6.87                   | -45.38    | -13         | -32.38      |
| 7   | 6692.8      | 55.91         | -47.41                | 5.56                   | -41.85    | -13         | -28.85      |
| 8   | 7529.4      | 57.02         | -45.60                | 4.52                   | -41.08    | -13         | -28.08      |
| 9   | 8366        | 57.33         | -45.29                | 4.18                   | -41.11    | -13         | -28.11      |

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   | 1673.2      | 49.6          | -53.03                | 6.31                   | -46.72    | -13         | -33.72      |
| 2   | 2509.8      | 49.73         | -48.79                | 6.66                   | -42.13    | -13         | -29.13      |
| 3   | 3346.4      | 48.07         | -54.94                | 7.63                   | -47.31    | -13         | -34.31      |
| 4   | 4183        | 48.88         | -55.96                | 7.44                   | -48.52    | -13         | -35.52      |
| 5   | 5019.6      | 50.91         | -53.35                | 7.01                   | -46.34    | -13         | -33.34      |
| 6   | 5856.2      | 54.88         | -49.50                | 6.87                   | -42.63    | -13         | -29.63      |
| 7   | 6692.8      | 56.49         | -46.83                | 5.56                   | -41.27    | -13         | -28.27      |
| 8   | 7529.4      | 55.43         | -47.19                | 4.52                   | -42.67    | -13         | -29.67      |
| 9   | 8366        | 58.14         | -44.48                | 4.18                   | -40.30    | -13         | -27.30      |

Remarks:

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

**EDGE:**

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 190 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

**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   | 1673.2      | 52.31         | -50.32                | 6.31                   | -44.01    | -13         | -31.01      |
| 2   | 2509.8      | 54.78         | -43.74                | 6.66                   | -37.08    | -13         | -24.08      |
| 3   | 3346.4      | 45.37         | -57.64                | 7.63                   | -50.01    | -13         | -37.01      |
| 4   | 4183        | 48.55         | -56.29                | 7.44                   | -48.85    | -13         | -35.85      |
| 5   | 5019.6      | 50.98         | -53.28                | 7.01                   | -46.27    | -13         | -33.27      |
| 6   | 5856.2      | 52            | -52.38                | 6.87                   | -45.51    | -13         | -32.51      |
| 7   | 6692.8      | 55.17         | -48.15                | 5.56                   | -42.59    | -13         | -29.59      |
| 8   | 7529.4      | 56.24         | -46.38                | 4.52                   | -41.86    | -13         | -28.86      |
| 9   | 8366        | 56.85         | -45.77                | 4.18                   | -41.59    | -13         | -28.59      |

**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   | 1673.2      | 50.05         | -52.58                | 6.31                   | -46.27    | -13         | -33.27      |
| 2   | 2509.8      | 49            | -49.52                | 6.66                   | -42.86    | -13         | -29.86      |
| 3   | 3346.4      | 48.25         | -54.76                | 7.63                   | -47.13    | -13         | -34.13      |
| 4   | 4183        | 49.09         | -55.75                | 7.44                   | -48.31    | -13         | -35.31      |
| 5   | 5019.6      | 51.35         | -52.91                | 7.01                   | -45.90    | -13         | -32.90      |
| 6   | 5856.2      | 55.53         | -48.85                | 6.87                   | -41.98    | -13         | -28.98      |
| 7   | 6692.8      | 57.43         | -45.89                | 5.56                   | -40.33    | -13         | -27.33      |
| 8   | 7529.4      | 55.43         | -47.19                | 4.52                   | -42.67    | -13         | -29.67      |
| 9   | 8366        | 57.37         | -45.25                | 4.18                   | -41.07    | -13         | -28.07      |

**Remarks:**

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

**WCDMA:**

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 4183 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

**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   | 1673.2        | 51.11         | -51.52                | 6.31                   | -45.21        | -13         | -32.21        |
| 2   | <b>2509.8</b> | <b>63.80</b>  | <b>-34.72</b>         | <b>6.66</b>            | <b>-28.06</b> | <b>-13</b>  | <b>-15.06</b> |
| 3   | 3346.4        | 46.28         | -56.73                | 7.63                   | -49.10        | -13         | -36.10        |
| 4   | 4183          | 49.69         | -55.15                | 7.44                   | -47.71        | -13         | -34.71        |
| 5   | 5019.6        | 52.11         | -52.15                | 7.01                   | -45.14        | -13         | -32.14        |
| 6   | 5856.2        | 54.67         | -49.71                | 6.87                   | -42.84        | -13         | -29.84        |
| 7   | 6692.8        | 56.74         | -46.58                | 5.56                   | -41.02        | -13         | -28.02        |
| 8   | 7529.4        | 58.27         | -44.35                | 4.52                   | -39.83        | -13         | -26.83        |
| 9   | 8366          | 65.88         | -36.74                | 4.18                   | -32.56        | -13         | -19.56        |

**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   | 1673.2      | 49.29         | -53.34                | 6.31                   | -47.03    | -13         | -34.03      |
| 2   | 2509.8      | 59.97         | -38.55                | 6.66                   | -31.89    | -13         | -18.89      |
| 3   | 3346.4      | 43.39         | -59.62                | 7.63                   | -51.99    | -13         | -38.99      |
| 4   | 4183        | 44.49         | -60.35                | 7.44                   | -52.91    | -13         | -39.91      |
| 5   | 5019.6      | 46.99         | -57.27                | 7.01                   | -50.26    | -13         | -37.26      |
| 6   | 5856.2      | 48.68         | -55.70                | 6.87                   | -48.83    | -13         | -35.83      |
| 7   | 6692.8      | 51.74         | -51.58                | 5.56                   | -46.02    | -13         | -33.02      |
| 8   | 7529.4      | 55.5          | -47.12                | 4.52                   | -42.60    | -13         | -29.60      |
| 9   | 8366        | 64.09         | -38.53                | 4.18                   | -34.35    | -13         | -21.35      |

## Remarks:

1. Output Power (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 on 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 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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