



# FCC TEST REPORT (PART 24)

**REPORT NO.:** RF120924N006-2

**MODEL NO.:** Tank

FCC ID: YHLBLUTANKII

**RECEIVED:** Sep. 24, 2012

**TESTED:** Sep. 24 ~ Oct. 10, 2012

**ISSUED:** Oct. 10, 2012

**APPLICANT: CT Asia** 

**ADDRESS:** Unit 01, 15/F, Seaview Centre, 139-141 Hoi bun

road, Kwun Tong, Kowloon, Hongkong

ISSUED BY: Bureau Veritas Shenzhen Co., Ltd.

Dongguan Branch

LAB ADDRESS: No. 34, Chenwulu Section, Guantai Road, Houjie

Town, Dongguan City, Guangdong 523942, China

**TEST LOCATION:** No. 34, Chenwulu Section, Guantai Road, Houjie

Town, Dongguan City, Guangdong 523942, China

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Tel: +86 769 8593 5656



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# **RELEASE CONTROL RECORD**

| ISSUE NO. REASON FOR CHANGE |     | DATE ISSUED  |
|-----------------------------|-----|--------------|
| Original release            | N/A | Oct.10, 2012 |

No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City, Guangdong 523942, China

Email: <a href="mailto:customerservice.dg@cn.bureauveritas.com">customerservice.dg@cn.bureauveritas.com</a>

Tel: +86 769 8593 5656

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## 1 CERTIFICATION

**PRODUCT:** Mobile Phone

**MODEL**: Tank

**BRAND**: BLU

**APPLICANT: CT Asia** 

**TESTED:** Sep. 24 ~ Oct. 10, 2012

**TEST SAMPLE: Production Unit** 

STANDARDS: FCC Part 24, Subpart E

The above equipment (model: NEO XT) has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan 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 : , DATE : Oct. 10, 2012

Kent Liu / Project Engineer

APPROVED BY : , DATE : Oct. 10, 2012

Sam Tung / Technical Manager

Email: customerservice.dg@cn.bureauveritas.com

Tel: +86 769 8593 5656

## **2 SUMMARY OF TEST RESULTS**

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 24 & Part 2         |  |        |  |  |  |
|--|--|--------|--|--|--|
| STANDARD SECTION TEST TYPE RESU                |  | RESULT | REMARK   |  |  |
| 2.1046<br>24.232                               | Equivalent Isotropic Radiated Power   PASS |        | Meet the requirement of limit.   |  |  |
| 2.1055<br>24.235 Frequency Stability           |  | PASS   | Meet the requirement of limit.   |  |  |
| 2.1049<br>24.238(b)                            | Occupied Bandwidth                         |        | Meet the requirement of limit.   |  |  |
| 24.238(b) Band Edge Measurements               |  | PASS   | Meet the requirement of limit.   |  |  |
| 2.1051 24.238 Conducted Spurious Emissions PAS |  | PASS   | Meet the requirement of limit.   |  |  |
| 2.1053<br>24.238                               | Radiated Spurious Emissions                |        | Meet the requirement of limit.<br>Minimum passing margin is<br>24.83dB at 3760MHz. |  |  |

## 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       | UNCERTAINTY |  |
|---------------------|-----------------|-------------|--|
| Conducted emissions | 9kHz~30MHz      | 2.94dB      |  |
|                     | 30MHz ~ 1000MHz | 3.6419dB    |  |
| Radiated emissions  | 1GHz ~ 18GHz    | 2.2dB       |  |
|                     | 18GHz ~ 40GHz   | 1.94dB      |  |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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## 2.2 TEST SITE AND INSTRUMENTS

| DESCRIPTION & MANUFACTURER                                 | MODEL NO.                | SERIAL NO.      | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|--|--------------------------|-----------------|---------------------|-------------------------|
| Spectrum Analyzer<br>Agilent                               | E4446A                   | MY46180622      | May 02, 12          | May 01, 13              |
| Test Receiver<br>ROHDE & SCHWARZ                           | ESVD                     | 841431/004      | May 15,12           | May 14,13               |
| Bilog Antenna<br>TESEQ                                     | CBL 6111D                | 27089           | July 16,12          | July 15,13              |
| Horn Antenna<br>EMCO                                       | 3117                     | 00062558        | Oct.19,11           | Oct.19,12               |
| 10m Semi-anechoic<br>Chamber<br>ETS-LINDGREN               | 21.4m*12.1m*8.8m         | NSEMC006        | Mar. 24,12          | Mar. 23,13              |
| RF Cable<br>IMRO   | IMRO-400                 | 10m Cable 1#10m | May 16,12           | May 15,13               |
| RF Cable<br>IMRO   | IMRO-400                 | 10m Cable 2#3m  | May 16,12           | May 15,13               |
| Signal Amplifier<br>EMCI                                   | EMC330                   | 980095          | Nov 07,11           | Nov 07,12               |
| Signal Amplifier<br>EMCI                                   | EMC 012645               | 980077          | Nov 07,11           | Nov 07,12               |
| Signal Amplifier<br>SONOMA                                 | 310N                     | 186955          | Mar. 14,12          | Mar. 13,13              |
| Signal Amplifier<br>HP                                     | 8449B                    | 3008A00409      | May 31,12           | May 30,13               |
| RF Cable<br>DRAKA  | M06/25-RG102             | 10m Cable 2#    | May 16,12           | May 15,13               |
| Spectrum Analyzer<br>Agilent                               | E7405A                   | MY45118807      | May 15,12           | May 14,13               |
| Digital Multimeter FLUKE                                   | 15B                      | A1220010DG      | Jan 14,12           | Jan 13,13               |
| Power Meter<br>Anritsu                                     | ML2495A                  | 1139001         | Nov.07,11           | Nov.07,12               |
| Signal Analyzer<br>Rohde & Schwarz                         | FSV7                     | 102331          | Nov. 25, 11         | Nov. 25, 12             |
| Universal Radio<br>Communication Tester<br>Rohde & Schwarz | CMU 200                  | 123259          | Apr 16,12           | Apr 15,13               |
| Test software<br>ADT                                       | ADT_Radiated_V7.<br>6.15 | N/A             | N/A                 | N/A                     |

- NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.
  - 2. The test was performed in Dongguan Chamber 10m.
  - 3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.

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## **3 GENERAL INFORMATION**

## 3.1 GENERAL DESCRIPTION OF EUT

| EUT               | Mobile Phone                                      |  |  |
|-------------------|---|--|--|
| MODEL NO.         | Tank  |  |  |
| IMEI Code         | 012345678910123                                   |  |  |
| HW Version        | V1.0  |  |  |
| SW Version        | B1052A_PR_F4_EN_08_01                             |  |  |
| POWER SUPPLY      | 5.0Vdc (adapter or host equipment)                |  |  |
| POWER SUPPLI      | 3.7Vdc (battery)                                  |  |  |
| MODULATION TYPE   | GSM: GMSK   |  |  |
| FREQUENCY RANGE   | <b>GSM:</b> TX 1850MHz ~ 1910MHz; RX 1930–1990MHz |  |  |
| MAX. EIRP POWER   | GSM: 1.03 Watts                                   |  |  |
| MULTI-SLOTS CLASS | 12  |  |  |
| ANTENNA TYPE      | Fixed Internal antenna with 1.26 dBi gain         |  |  |
| I/O PORTS         | USB Port  |  |  |
| CABLE SUPPLIED    | USB Cable: Shielded, Detachable, 1.0m             |  |  |
| CABLE SUFFLIED    | Earphone Cable: Unshielded, Detachable, 1.0m      |  |  |

#### NOTE:

1. There are Bluetooth, GPRS, EDGE technology used for the EUT. and the functions of EUT listed as below table:

| Function          | Report No.     |  |
|-------------------|----------------|--|
| Bluetooth         | RF120924N006   |  |
| 2G & 3G (Part 22) | RF120924N006-1 |  |
| 2G & 3G (Part 24) | RF120924N006-2 |  |

2. The EUT was powered by the following adapters:

| z meneral all promotions and promoti |                           |  |  |
|--|---------------------------|--|--|
| ADAPTER  |                           |  |  |
| BRAND:   | BLU                       |  |  |
| MODEL:   | US-01-001                 |  |  |
| INPUT:   | AC 100-240V 50/60Hz 0.15A |  |  |
| OUTPUT:  | DC 5V 500mA               |  |  |
| DC LINE:   | N/A                       |  |  |

3. 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.

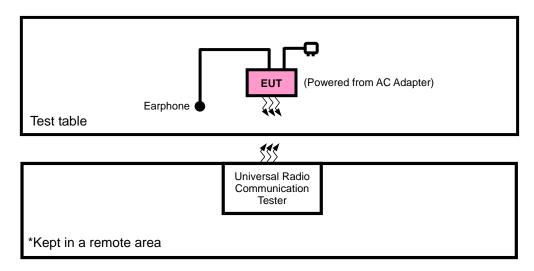
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#### 3.2 CONFIGURATION OF SYSTEM UNDER TEST

#### FOR RADIATION EMISSION TEST



#### 3.3 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 |
|-----|---------|-------|-----------|------------|--------|
| 1   | N/A     |       |           |            |        |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1   | N/A   |

**NOTE:** All power cords of the above support units are non shielded (1.8m).

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#### 3.4 TEST ITEM AND TEST CONFIGURATION

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 Y-Z plane for ERP and radiated emission. Following channel(s) was (were) selected for the final test as listed below:

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                            |
|--------------------------|--|
| Α                        | EUT + Adapter + Earphone with GSM link |
| В                        | EUT + Battery + Earphone with GSM link |
| С                        | EUT + USB Charger + Earphone with GSM  |

#### **GSM MODE**

| EUT<br>CONFIGURE<br>MODE | TEST ITEM            | AVAILABLE CHANNEL | TESTED CHANNEL | MODE            |
|--------------------------|----------------------|-------------------|----------------|-----------------|
| Α                        | EIRP                 | 512 to 810        | 512, 661, 810  | GSM, EDGE       |
| Α                        | FREQUENCY STABILITY  | 512 to 810        | 661            | GSM, EDGE       |
| Α                        | OCCUPIED BANDWIDTH   | 512 to 810        | 512, 661, 810  | GSM, GPRS, EDGE |
| Α                        | BAND EDGE            | 512 to 810        | 512, 810       | GSM, GPRS, EDGE |
| Α                        | CONDCUDETED EMISSION | 512 to 810        | 512, 661, 810  | GSM             |
| А                        | RADIATED EMISSION    | 512 to 810        | 661            | GSM, EDGE       |

### **TEST CONDITION:**

| TEST ITEM            | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY    |
|----------------------|--------------------------|-------------|--------------|
| ERP                  | 23deg. C, 62%RH          | 3.8Vdc      | Venless Long |
| FREQUENCY STABILITY  | 23deg. C, 62%RH          | 3.8Vdc      | Venless Long |
| OCCUPIED BANDWIDTH   | 23deg. C, 62%RH          | 3.8Vdc      | Venless Long |
| BAND EDGE            | 23deg. C, 62%RH          | 3.8Vdc      | Venless Long |
| CONDCUDETED EMISSION | 23deg. C, 62%RH          | 3.8Vdc      | Venless Long |
| RADIATED EMISSION    | 25deg. C, 60%RH          | 3.8Vdc      | Venless Long |

#### 3.5 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

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## 3.6 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 24 ANSI/TIA/EIA-603-C 2004

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

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## **4 TEST TYPES AND RESULTS**

#### 4.1 OUTPUT POWER MEASUREMENT

#### 4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile and portable stations are limited to 2 watts EIRP

### 4.1.2 TEST PROCEDURES

#### **EIRP MEASUREMENT:**

- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GSM, GPRS & EDGE and 5MHz for WCDMA mode.
- b. 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.
- 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 = Output power level of S.G TX cable loss + Antenna gain of substitution horn.

#### **CONDUCTED POWER MEASUREMENT:**

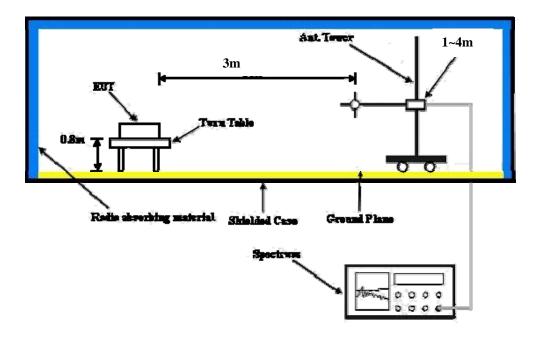
The EUT was set up for the maximum power with GSM, GPRS, EDGE & WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

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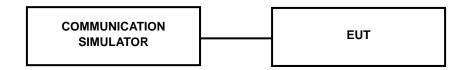
## 4.1.3 TEST SETUP

#### **EIRP 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).

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## 4.1.4 TEST RESULTS

## **CONDUCTED OUTPUT POWER (dBm)**

| Band               | GSM1900 |        |        |
|--------------------|---------|--------|--------|
| Channel            | 512     | 661    | 810    |
| Frequency (MHz)    | 1850.2  | 1880.0 | 1909.8 |
| GSM (1 Uplink)     | 28.22   | 28.47  | 28.34  |
| GPRS 8 (1 Uplink)  | 28.21   | 28.47  | 28.34  |
| GPRS 10 (2 Uplink) | 25.62   | 25.87  | 25.68  |
| GPRS 11 (3 Uplink) | 24.85   | 25.09  | 24.88  |
| GPRS 12 (4 Uplink) | 24.02   | 24.23  | 24.03  |

## **EIRP POWER (dBm)**

| GSM 1900_Class8 (Horizontal) |                      |                |                           |              |       |
|------------------------------|----------------------|----------------|---------------------------|--------------|-------|
| CHANNEL NO.                  | FREQUENCY (MHz)      | SPA Reading    | CORRECTION<br>FACTOR (dB) | OUTPUT POWER |       |
| CHANNEL NO.                  | PREQUENCT (WINZ)     | (dBm)          |                           | dBm          | Watt  |
| 512                          | 1850.2               | -21.35         | 44.32                     | 22.97        | 0.20  |
| 661                          | 1880.0               | -19.91         | 44.37                     | 24.46        | 0.28  |
| 810                          | 1909.8               | -20.83         | 43.28                     | 22.45        | 0.18  |
|                              |                      | GSM 1900_Class | 8 (Vertical)              |              |       |
| CHANNEL NO. FREQUENCY (MHz)  |                      | SPA Reading    | SPA Reading CORRECTION    |              | POWER |
| CHANNEL NO.                  | TILEGOLIGOT (IMITIZ) | (dBm)          | FACTOR (dB)               | dBm          | Watt  |
| 512                          | 1850.2               | -16.07         | 46.18                     | 30.11        | 1.03  |
| 661                          | 1880.0               | -17.05         | 45.72                     | 28.67        | 0.74  |
| 810                          | 1909.8               | -17.27         | 45.21                     | 27.94        | 0.62  |

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

2. Correction factor (dB) = Gain of substitution antenna + Cable loss

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#### 4.2 FREQUENCY STABILITY MEASUREMENT

#### 4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

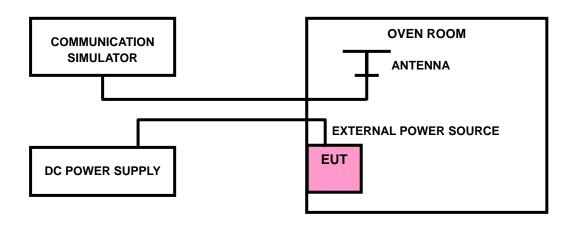
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### 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 DC 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  $\pm 0.5\,^{\circ}\mathrm{C}$  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



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## 4.2.4 TEST RESULTS

#### FREQUENCY ERROR VS. VOLTAGE

| VOLTAGE (Volts) | FREQUENCY ERROR (ppm) | LIMIT (nnm) |
|-----------------|-----------------------|-------------|
| VOLIAGE (VOIIS) | GSM                   | LIMIT (ppm) |
| 3.7             | -0.04                 | 2.5         |
| 3.5             | -0.04                 | 2.5         |
| 4.2             | -0.04                 | 2.5         |

NOTE: The applicant defined the normal working voltage of the battery is from 3.5Vdc to 4.2Vdc.

## FREQUENCY ERROR vs. TEMPERATURE.

| TEMP. (°C) | FREQUENCY ERROR (ppm) | LIMIT (ppm)   |  |
|------------|-----------------------|---------------|--|
| TEIMT: (C) | GSM                   | Livii (ppiii) |  |
| -10        | 0.04                  | 2.5           |  |
| 0          | -0.05                 | 2.5           |  |
| 10         | -0.05                 | 2.5           |  |
| 20         | -0.05                 | 2.5           |  |
| 30         | -0.04                 | 2.5           |  |
| 40         | 0.04                  | 2.5           |  |
| 50         | -0.04                 | 2.5           |  |

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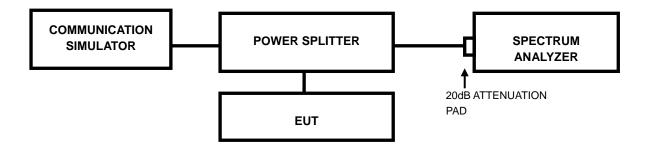


#### 4.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 4.3.1 TEST PROCEDURES

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



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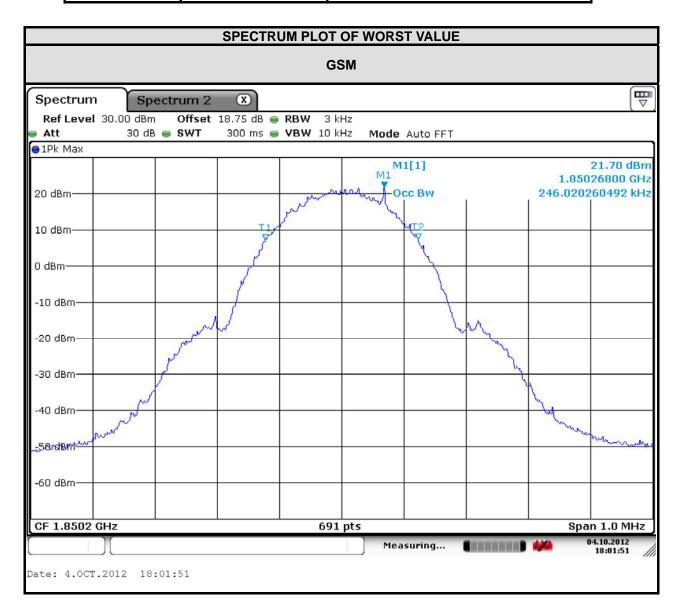
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## 4.3.3 TEST RESULTS

| CHANNEL FREQUENCY (MHz) |                 | 99% OCCUPIED BANDWIDTH (kHz) |
|-------------------------|-----------------|------------------------------|
| CHANNEL                 | FREQUENCY (MHZ) | GSM                          |
| 512                     | 1850.2          | 246.02                       |
| 661                     | 1880.0          | 243.13                       |
| 810                     | 1909.8          | 243.13                       |



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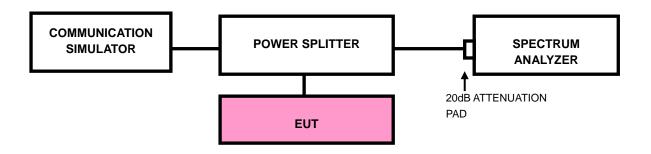


#### 4.4 BAND EDGE MEASUREMENT

#### 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

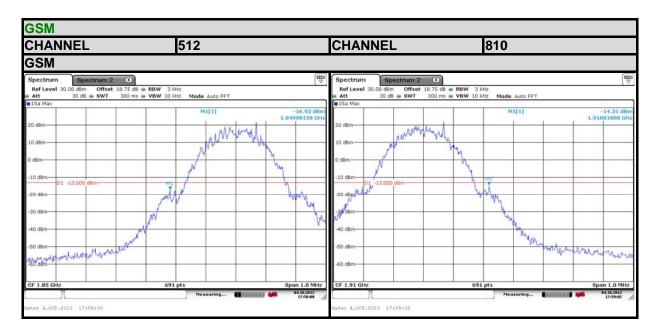
- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1.5 MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GSM/GPRS/EDGE).
- c. The center frequency of spectrum is the band edge frequency 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.

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## 4.4.4 TEST RESULTS



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#### 4.5 CONDUCTED SPURIOUS EMISSIONS

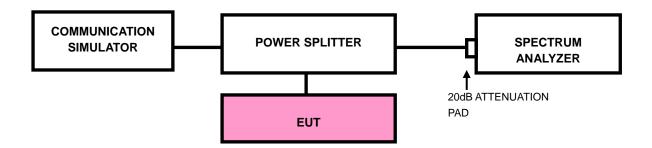
#### 4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 -13dBm.

#### 4.5.2 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 19.1GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 4.5.3 TEST SETUP



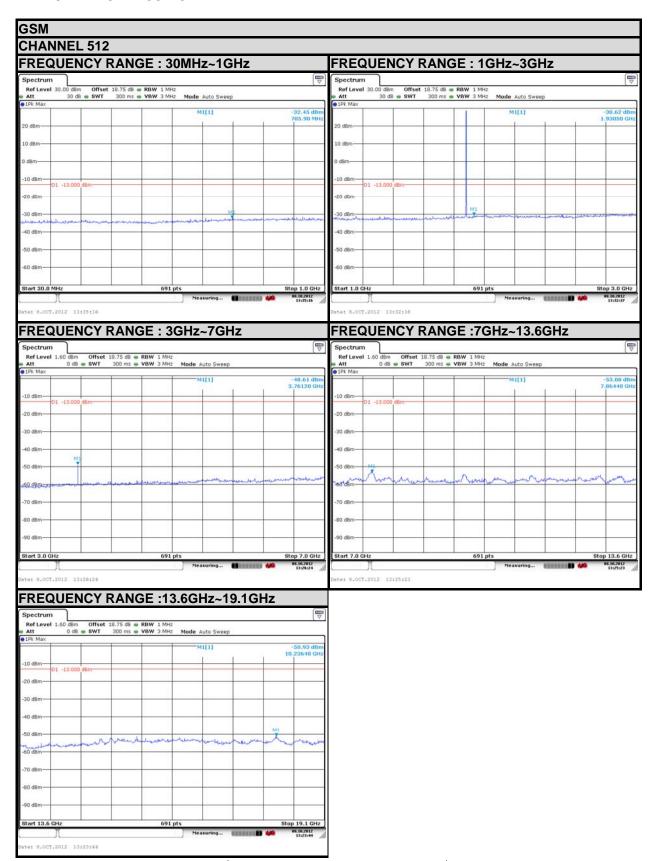
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#### 4.5.4 TEST RESULTS



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No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City, Guangdong 523942, China Tel: +86 769 8593 5656 Fax: +86 769 8593 1080 Email: <u>customerservice.dg@cn.bureauveritas.com</u>

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#### 4.6 RADIATED EMISSION MEASUREMENT

#### 4.6.1 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 -13dBm.

#### 4.6.2 TEST PROCEDURES

- 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. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.

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

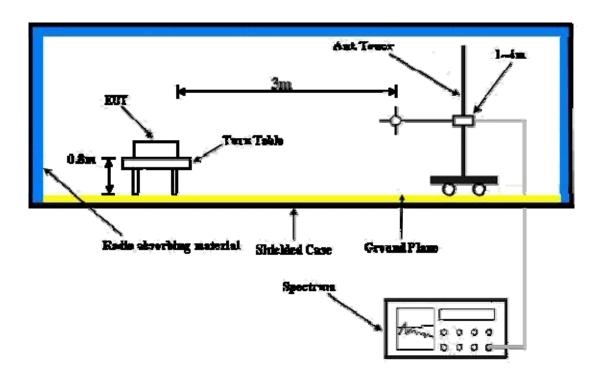
4.6.3 DEVIATION FROM TEST STANDARD

No deviation

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## 4.6.4 TEST SETUP



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

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## 4.6.5 TEST RESULTS

#### **Below 1GHz**

#### GSM:

| FREQUENCY RANGE          | Below 1000MHz   | INPUT POWER | 120Vac, 60 Hz |
|--------------------------|-----------------|-------------|---------------|
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60%RH | TESTED BY   | Venless Long  |

|     | ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                          |                |                       |                           |                      |
|-----|---|--------------------------|----------------|-----------------------|---------------------------|----------------------|
| No. | Freq. (MHz)   | Emission Level<br>(dBuV) | Limit (dBm)    | S.G Power Value (dBm) | Correction<br>Factor (dB) | Power Value<br>(dBm) |
| 1   | 68.49   | 32.16                    | -13            | 36.28                 | -99.35                    | -63.07               |
| 2   | 83.27   | 32.37                    | -13            | 36.01                 | -98.87                    | -62.86               |
| 3   | 155.63  | 30.96                    | -13            | 32.07                 | -96.34                    | -64.27               |
| 4   | 268.15  | 32.45                    | -13            | 31.4                  | -94.18                    | -62.78               |
| 5   | 504.22  | 31.23                    | -13            | 25.35                 | -89.35                    | -64.00               |
| 6   | 712.84  | 32.87                    | -13            | 22.88                 | -85.24                    | -62.36               |
|     | Α   | NTENNA POLAF             | RITY & TEST DI | STANCE: VERTI         | CAL AT 3 M                |                      |
| No. | Freq. (MHz)   | Emission Level (dBuV)    | Limit (dBm)    | S.G Power Value (dBm) | Correction<br>Factor (dB) | Power Value<br>(dBm) |
| 1   | 68.55   | 33.12                    | -13            | 37.25                 | -99.36                    | -62.11               |
| 2   | 85.39   | 34.79                    | -13            | 37.81                 | -98.25                    | -60.44               |
| 3   | 155.63  | 32.44                    | -13            | 33.55                 | -96.34                    | -62.79               |
| 4   | 269.34  | 30.68                    | -13            | 29.47                 | -94.02                    | -64.55               |
| 5   | 505.71  | 32.69                    | -13            | 26.41                 | -88.95                    | -62.54               |
|     |   |                          |                |                       |                           |                      |

#### **REMARKS:**

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

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## **Above 1GHz**

#### GSM:

| FREQUENCY RANGE          | Above 1000MHz   | INPUT POWER | 120Vac, 60 Hz |
|--------------------------|-----------------|-------------|---------------|
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60%RH | TESTED BY   | Venless Long  |

|  | ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                      |                |                       |                           |            |  |
|--|---|----------------------|----------------|-----------------------|---------------------------|------------|--|
| No.  | Freq. (MHz)   | SPA READING<br>(dBm) | Limit (dBm)    | S.G Power Value (dBm) | Correction<br>Factor (dB) | EIRP (dBm) |  |
| 1  | 3760  | -55.29               | -13.00         | -41.9                 | 4.07                      | -37.83     |  |
| 2  | 9400  | -67.83               | -13.00         | -62.62                | 4.81                      | -57.81     |  |
|  | Al  | NTENNA POLAF         | RITY & TEST DI | STANCE: VERTI         | CAL AT 3 M                |            |  |
| No. Freq. (MHz) SPA READING (dBm) Limit (dBm) S.G Power Value Correction (dBm) Factor (dB) |   |                      |                |                       |                           | EIRP (dBm) |  |
|  |   |                      |                |                       |                           |            |  |
| 1  | 3760  | -56.16               | -13.00         | -44.13                | 4.07                      | -40.06     |  |

#### **REMARKS:**

- 1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
- 2. Correction Factor = gain of substitution antenna + cable loss

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## **5 PHOTOGRAPHS OF THE TEST CONFIGURATION**

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

No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City, Guangdong 523942, China

Email: <a href="mailto:customerservice.dg@cn.bureauveritas.com">customerservice.dg@cn.bureauveritas.com</a>

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## **6 INFORMATION ON THE TESTING LABORATORIES**

We, Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch, were founded in 2002 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

# Dongguan EMC/RF Lab:

Tel: +86-769-85935656 Fax: +86-769-85931080

Email: customerservice.dg@cn.bureauveritas.com

Web Site: www.adt.com.tw

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

Tel: +86 769 8593 5656



# 7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---

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