

# FCC Test Report

APPLICANT : ZTE CORPORATION  
EQUIPMENT : cdma2000 Digital Mobile Handset  
BRAND NAME : ZTE  
MODEL NAME : N8000  
FCC ID : Q78-N8000  
STANDARD : FCC 47 CFR FCC Part 15 Subpart B  
CLASSIFICATION : Certification

The product was received on Aug. 03, 2012 and completely tested on Sep. 03, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:



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Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.**

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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FC280303   | Rev. 01 | Initial issue of report | Sep. 05, 2012 |
|            |         |                         |               |
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|            |         |                         |               |

## SUMMARY OF TEST RESULT

| Report Section | FCC Rule | IC Rule | Description           | Limit                                                         | Result | Remark                                                     |
|----------------|----------|---------|-----------------------|---------------------------------------------------------------|--------|------------------------------------------------------------|
| 3.1            | 15.107   | 7.2.4   | AC Conducted Emission | < 15.107 limits<br>< RSS-Gen table 2 limits                   | PASS   | Under limit<br>11.68 dB at<br>0.480 MHz                    |
| 3.2            | 15.109   | 7.2.3.2 | Radiated Emission     | < 15.109 limits or<br>< RSS-Gen table 1 limits<br>(Section 6) | PASS   | Under limit<br>3.94 dB at<br>480.080 MHz<br>for Quasi-Peak |

## **1. General Description**

### **1.1. Applicant**

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong,  
P.R.China

### **1.2. Manufacturer**

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong,  
P.R.China

### 1.3. Feature of Equipment Under Test

| Product Feature                 |                                 |
|---------------------------------|---------------------------------|
| Equipment                       | cdma2000 Digital Mobile Handset |
| Brand Name                      | ZTE                             |
| Model Name                      | N8000                           |
| FCC ID                          | Q78-N8000                       |
| EUT supports Radios application | CDMA/EV-DO/WLAN 11bgn/Bluetooth |
| HW Version                      | QB8655-03A_V1CMB_B              |
| SW Version                      | N8000_CKT_1.12                  |
| EUT Stage                       | Identical Prototype             |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

| Product Specification subjective to this standard |                                                                                                                                                                                                                                                                  |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tx Frequency</b>                               | CDMA2000 BC0: 824.70 MHz ~ 848.31 MHz<br>CDMA2000 BC1: 1815.25 MHz ~ 1908.75 MHz<br>CDMA2000 BC15 : 1711.25 ~ 1753.75 MHz<br>802.11b/g/n: 2412 MHz ~ 2462 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz                                                                  |
| <b>Rx Frequency Range</b>                         | CDMA2000 BC0: 869.70 MHz ~ 893.31 MHz<br>CDMA2000 BC1: 1931.25 MHz ~ 1988.75 MHz<br>CDMA2000 BC15 : 2111.25 ~ 2153.75 MHz<br>802.11b/g/n: 2412 MHz ~ 2462 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>GPS : 1.57542 GHz                                             |
| <b>Antenna Type</b>                               | WWAN : Fixed Internal Antenna<br>WLAN : PIFA Antenna<br>Bluetooth : PIFA Antenna                                                                                                                                                                                 |
| <b>Type of Modulation</b>                         | CDMA2000 : QPSK<br>CDMA2000 1xEV-DO : 8PSK<br>802.11b : DSSS (BPSK / QPSK / CCK)<br>802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>Bluetooth (1Mbps) : GFSK<br>Bluetooth 2.1 EDR (2Mbps) : $\pi/4$ -DQPSK<br>Bluetooth 2.1 EDR (3Mbps) : 8-DPSK<br>GPS : BPSK |

## 1.4. Test Site

|                           |                                                                                                                  |           |                                |
|---------------------------|------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL (KUNSHAN) INC.                                                                             |           |                                |
| <b>Test Site Location</b> | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.<br>TEL: +86-0512-5790-0158<br>FAX: +86-0512-5790-0958 |           |                                |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                          |           | <b>FCC/IC Registration No.</b> |
|                           | CO01-KS                                                                                                          | 03CH01-KS | 149928/4086E-1                 |

## 1.5. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003
- IC RSS-Gen Issue 3

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.

## 1.6. Ancillary Equipment List

| Item | Equipment          | Trade Name | Model Name     | FCC ID      | Data Cable      | Power Cord        |
|------|--------------------|------------|----------------|-------------|-----------------|-------------------|
| 1.   | System Simulator   | R&S        | CMU 200        | N/A         | N/A             | Unshielded, 1.8 m |
| 2.   | GPS Station        | ADIVIC     | MP9000         | N/A         | N/A             | Unshielded, 1.8 m |
| 3.   | WLAN AP            | D-link     | DIR-855        | KA2DIR855A2 | N/A             | Unshielded, 1.8 m |
| 4.   | PC                 | Dell       | MT380          | FCC DoC     | N/A             | Unshielded, 1.8 m |
| 5.   | Monitor            | Dell       | E1910Hc        | FCC DoC     | Shielded, 1.2 m | Unshielded, 1.8 m |
| 6.   | Bluetooth Earphone | Nokia      | BH-102         | PYAHS-107W  | N/A             | N/A               |
| 7.   | Bluetooth Earphone | Nokia      | BH-106         | QTLBH-106   | N/A             | N/A               |
| 8.   | (USB) Mouse        | Dell       | N231           | FCC DoC     | Shielded, 1.8 m | N/A               |
| 9.   | (USB) Keyboard     | Dell       | SK-8115        | FCC DoC     | Shielded, 1.5 m | N/A               |
| 10.  | Printer            | HP         | Laser Jet 1018 | FCC DoC     | Shielded, 1.8 m | Unshielded, 1.8 m |
| 11.  | iPod               | Apple      | A1199          | FCC DoC     | Shielded, 1.2 m | N/A               |

## 2. Test Configuration of Equipment Under Test

### 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 KHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

| Item | EUT Configuration                               | Test Condition |           |           |
|------|-------------------------------------------------|----------------|-----------|-----------|
|      |                                                 | EMI AC         | EMI RE<1G | EMI RE≥1G |
| 1.   | Charging Mode (EUT with adapter)                | ☒              | ☒         | Note 1    |
| 2.   | Data application transferred mode (EUT with PC) | ☒              | ☒         | ☒         |

**Abbreviations:**

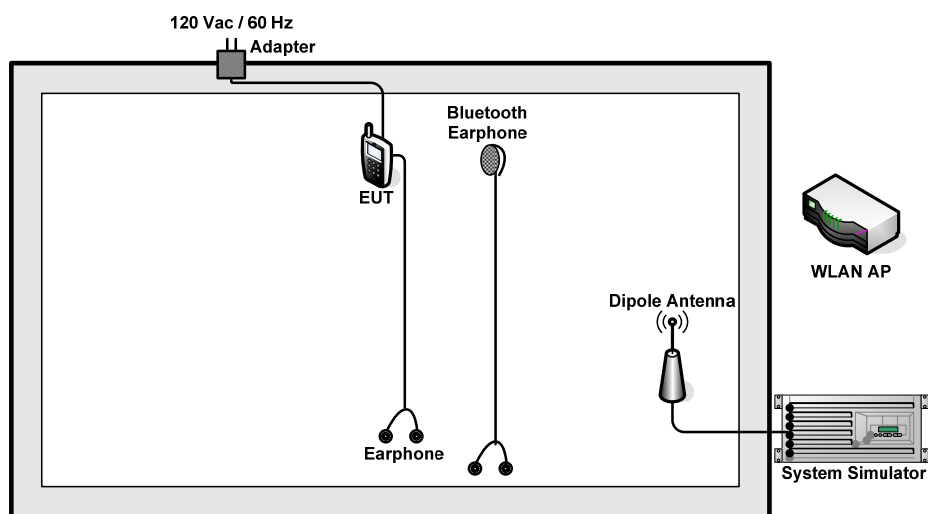
- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

**Note 1:** Testing for this mode is not required or not the worst case.

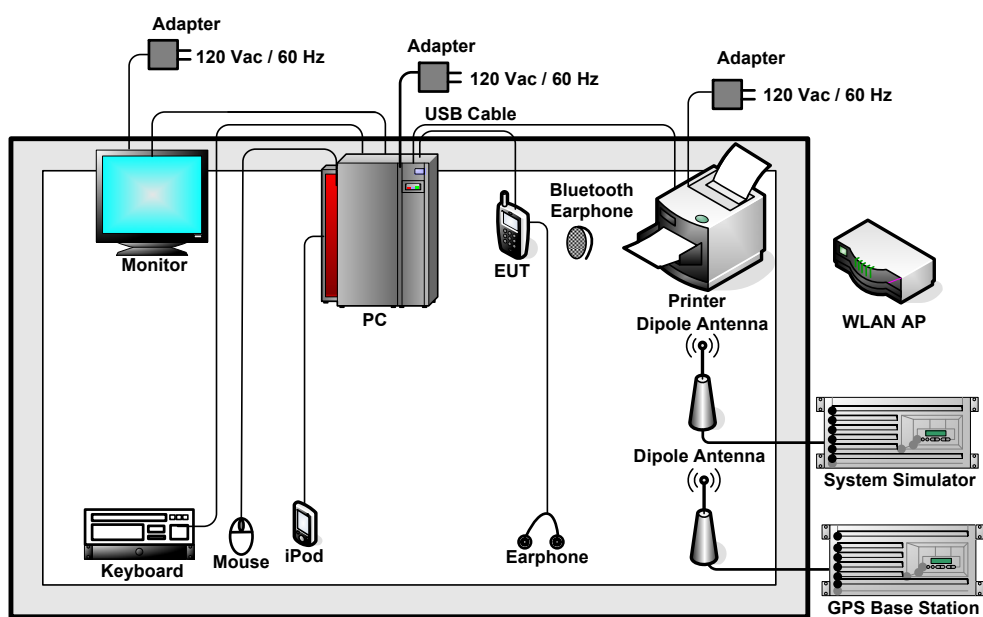
**Remark:** For signal above 1GHz, the worst case was test item 2.

| Test Items                                                                                                                                                                                                                                                                                                                                                                                                                                                         | EUT Configure Mode | Function Type                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC Conducted Emission                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1/2                | Mode 1: CDMA 2000 BC0 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera <Fig. 1><br>Mode 2: CDMA 2000 BC1 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + MP3 <Fig. 1><br>Mode 3: CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx <Fig. 2> |
| Radiated Emissions < 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1/2                | Mode 1: CDMA 2000 BC0 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera <Fig. 1><br>Mode 2: CDMA 2000 BC1 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + MP3 <Fig. 1><br>Mode 3: CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx <Fig. 2> |
| Radiated Emissions ≥ 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                  | Mode 1: CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx <Fig. 2>                                                                                                                                                                                                                                                      |
| <b>Remark:</b> <ol style="list-style-type: none"> <li>The worst case of AC Conducted Emission is mode 1; the test data of this mode was reported.</li> <li>The USB Link mode of AC Conducted Emission is mode 3; the test data of this mode was also reported.</li> <li>The worst case of Radiated Emissions is mode 3; only the test data of this mode was reported.</li> <li>Link with PC means data application transferred mode between EUT and PC.</li> </ol> |                    |                                                                                                                                                                                                                                                                                                                                                                            |

## 2.2. Connection Diagram of Test System



<Fig. 1>



<Fig. 2>

## 2.3. Test Software

The EUT was in CDMA2000 idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Execute the program, "Winthrax" under WIN7 installed in PC for files transfer with EUT via USB cable.
2. Turn on "GPS function" to make the EUT receive continuous signals from GPS station.
3. Execute "Music Player" to play MP3 file.
4. Turn on camera to capture images.

### 3. Test Result

#### 3.1. Test of AC Conducted Emission Measurement

##### 3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table.

| Frequency of emission<br>(MHz) | Conducted limit (dBuV) |           |
|--------------------------------|------------------------|-----------|
|                                | Quasi-peak             | Average   |
| 0.15-0.5                       | 66 to 56*              | 56 to 46* |
| 0.5-5                          | 56                     | 46        |
| 5-30                           | 60                     | 50        |

\*Decreases with the logarithm of the frequency.

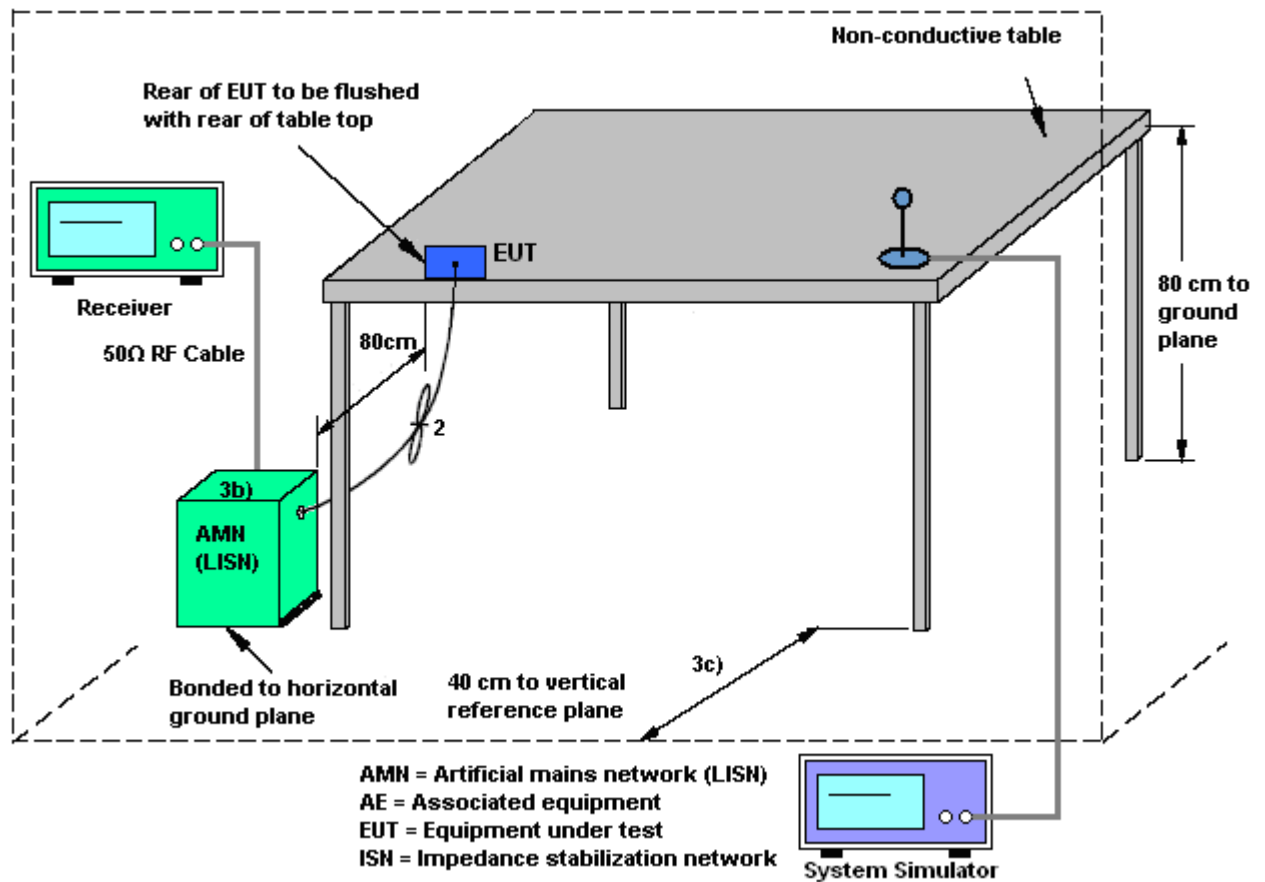
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedure

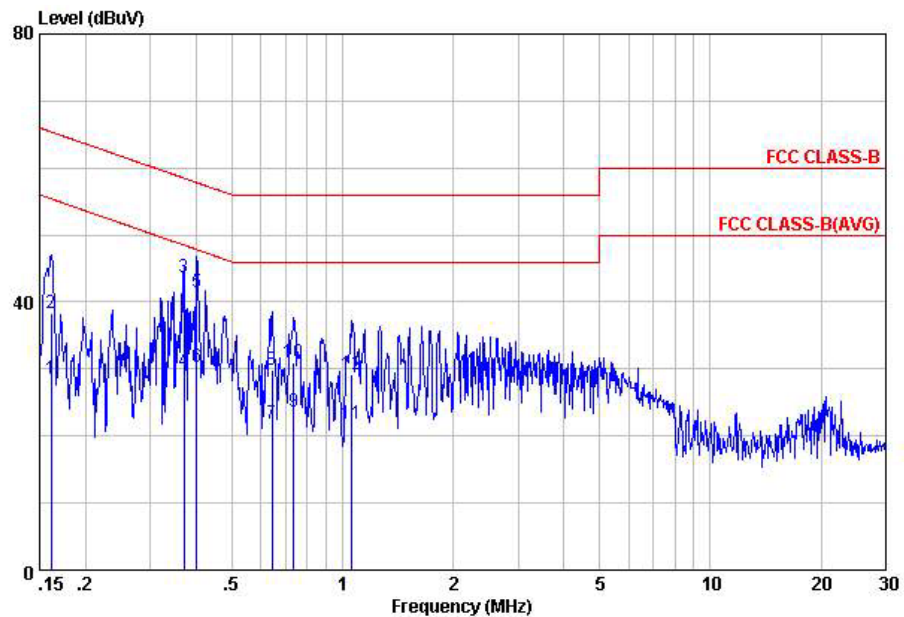
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 KHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 3.1.4 Test Setup



### 3.1.5 Test Result of AC Conducted Emission

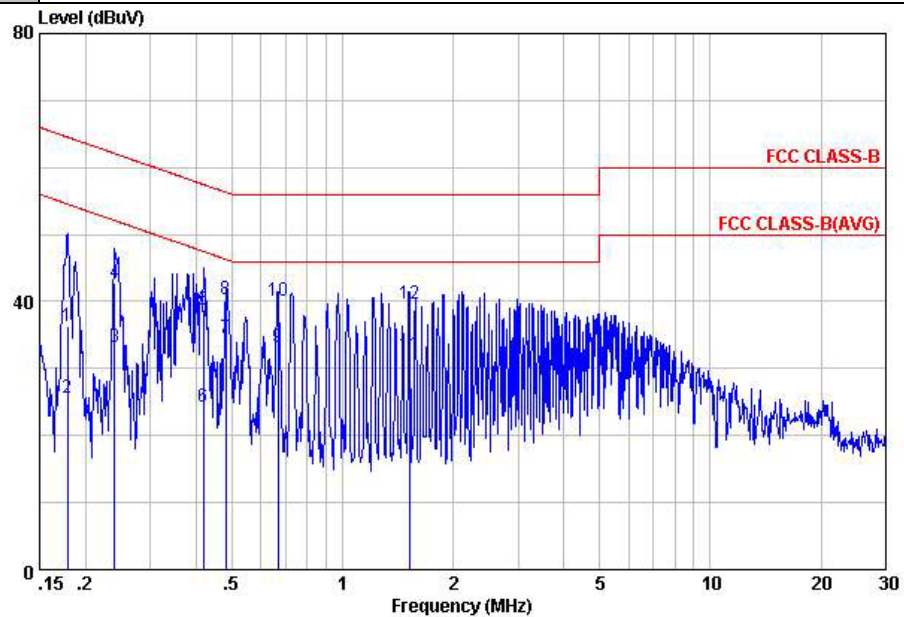
|                        |                                                                                                         |                            |        |
|------------------------|---------------------------------------------------------------------------------------------------------|----------------------------|--------|
| <b>Test Mode :</b>     | Mode 1                                                                                                  | <b>Temperature :</b>       | 19~20℃ |
| <b>Test Engineer :</b> | Tom Wang                                                                                                | <b>Relative Humidity :</b> | 39~40% |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                           | <b>Phase :</b>             | Line   |
| <b>Function Type :</b> | CDMA 2000 BC0 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera |                            |        |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit.                         |                            |        |



Site : C001-KS  
Condition: FCC CLASS-B LISN-111230 LINE  
mode : Mode 1

|    | Freq | Level | Over   | Limit | Read  | LISN   | Cable | Remark  |
|----|------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz  | dBuV  | Limit  | Line  | Level | Factor | Loss  |         |
|    |      |       | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.16 | 28.53 | -26.85 | 55.38 | 18.20 | -0.07  | 10.40 | Average |
| 2  | 0.16 | 38.43 | -26.95 | 65.38 | 28.10 | -0.07  | 10.40 | QP      |
| 3  | 0.37 | 43.73 | -14.74 | 58.47 | 33.20 | -0.08  | 10.61 | QP      |
| 4  | 0.37 | 29.63 | -18.84 | 48.47 | 19.10 | -0.08  | 10.61 | Average |
| 5  | 0.40 | 41.54 | -16.27 | 57.81 | 31.00 | -0.08  | 10.62 | QP      |
| 6  | 0.40 | 30.24 | -17.57 | 47.81 | 19.70 | -0.08  | 10.62 | Average |
| 7  | 0.64 | 21.95 | -24.05 | 46.00 | 11.40 | -0.09  | 10.64 | Average |
| 8  | 0.64 | 29.95 | -26.05 | 56.00 | 19.40 | -0.09  | 10.64 | QP      |
| 9  | 0.74 | 23.65 | -22.35 | 46.00 | 13.10 | -0.09  | 10.64 | Average |
| 10 | 0.74 | 31.05 | -24.95 | 56.00 | 20.50 | -0.09  | 10.64 | QP      |
| 11 | 1.06 | 21.85 | -24.15 | 46.00 | 11.30 | -0.10  | 10.65 | Average |
| 12 | 1.06 | 29.25 | -26.75 | 56.00 | 18.70 | -0.10  | 10.65 | QP      |

|                        |                                                                                                         |                            |         |
|------------------------|---------------------------------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 1                                                                                                  | <b>Temperature :</b>       | 19~20°C |
| <b>Test Engineer :</b> | Tom Wang                                                                                                | <b>Relative Humidity :</b> | 39~40%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                           | <b>Phase :</b>             | Neutral |
| <b>Function Type :</b> | CDMA 2000 BC0 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera |                            |         |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit.                         |                            |         |

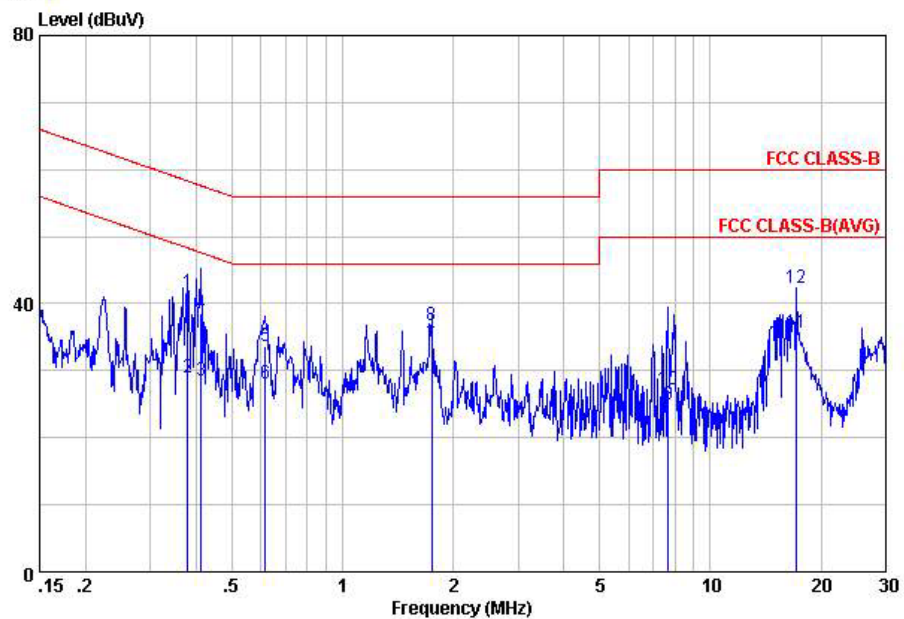


Site : C001-KS  
Condition: FCC CLASS-B LISN-111230 NEUTRAL

mode : Mode 1

|    | Freq | Level | Over   | Limit | Read  | LISN   | Cable |         |
|----|------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz  | dBuV  | Limit  | Line  | Level | Factor | Loss  | Remark  |
|    | MHz  | dBuV  | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.18 | 36.38 | -28.17 | 64.55 | 26.01 | -0.08  | 10.45 | QP      |
| 2  | 0.18 | 25.68 | -28.87 | 54.55 | 15.31 | -0.08  | 10.45 | Average |
| 3  | 0.24 | 33.15 | -18.93 | 52.08 | 22.70 | -0.07  | 10.52 | Average |
| 4  | 0.24 | 42.85 | -19.23 | 62.08 | 32.40 | -0.07  | 10.52 | QP      |
| 5  | 0.42 | 38.74 | -18.72 | 57.46 | 28.20 | -0.08  | 10.62 | QP      |
| 6  | 0.42 | 24.24 | -23.22 | 47.46 | 13.70 | -0.08  | 10.62 | Average |
| 7  | 0.48 | 34.64 | -11.68 | 46.32 | 24.10 | -0.08  | 10.62 | Average |
| 8  | 0.48 | 40.24 | -16.08 | 56.32 | 29.70 | -0.08  | 10.62 | QP      |
| 9  | 0.67 | 33.26 | -12.74 | 46.00 | 22.70 | -0.08  | 10.64 | Average |
| 10 | 0.67 | 40.06 | -15.94 | 56.00 | 29.50 | -0.08  | 10.64 | QP      |
| 11 | 1.52 | 32.18 | -13.82 | 46.00 | 21.60 | -0.10  | 10.68 | Average |
| 12 | 1.52 | 39.68 | -16.32 | 56.00 | 29.10 | -0.10  | 10.68 | QP      |

|                        |                                                                                                      |                            |        |
|------------------------|------------------------------------------------------------------------------------------------------|----------------------------|--------|
| <b>Test Mode :</b>     | Mode 3                                                                                               | <b>Temperature :</b>       | 19~20℃ |
| <b>Test Engineer :</b> | Tom Wang                                                                                             | <b>Relative Humidity :</b> | 39~40% |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                        | <b>Phase :</b>             | Line   |
| <b>Function Type :</b> | CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx |                            |        |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit.                      |                            |        |

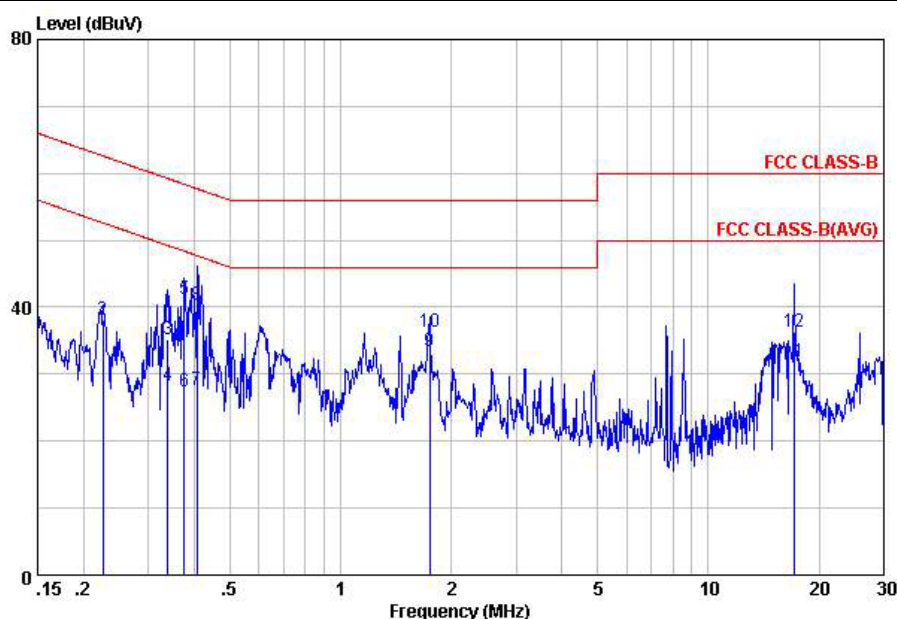


Site : C001-KS  
Condition: FCC CLASS-B LISN-111230 LINE

mode : Mode 3

|    | Freq  | Level | Over   | Limit | Read  | LISN   | Cable |         |
|----|-------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz   | dBuV  | Limit  | Line  | Level | Factor | Loss  | Remark  |
|    |       |       | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.38  | 41.64 | -16.66 | 58.30 | 31.11 | -0.08  | 10.61 | QP      |
| 2  | 0.38  | 29.04 | -19.26 | 48.30 | 18.51 | -0.08  | 10.61 | Average |
| 3  | 0.41  | 28.54 | -19.05 | 47.59 | 18.00 | -0.08  | 10.62 | Average |
| 4  | 0.41  | 38.54 | -19.05 | 57.59 | 28.00 | -0.08  | 10.62 | QP      |
| 5  | 0.62  | 33.55 | -22.45 | 56.00 | 23.01 | -0.09  | 10.63 | QP      |
| 6  | 0.62  | 28.05 | -17.95 | 46.00 | 17.51 | -0.09  | 10.63 | Average |
| 7  | 1.74  | 33.79 | -12.21 | 46.00 | 23.21 | -0.11  | 10.69 | Average |
| 8  | 1.74  | 36.69 | -19.31 | 56.00 | 26.11 | -0.11  | 10.69 | QP      |
| 9  | 7.69  | 24.91 | -25.09 | 50.00 | 14.10 | -0.13  | 10.94 | Average |
| 10 | 7.69  | 27.11 | -32.89 | 60.00 | 16.30 | -0.13  | 10.94 | QP      |
| 11 | 17.20 | 35.76 | -14.24 | 50.00 | 24.70 | 0.02   | 11.04 | Average |
| 12 | 17.20 | 42.26 | -17.74 | 60.00 | 31.20 | 0.02   | 11.04 | QP      |

|                        |                                                                                                      |                            |         |
|------------------------|------------------------------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 3                                                                                               | <b>Temperature :</b>       | 19~20℃  |
| <b>Test Engineer :</b> | Tom Wang                                                                                             | <b>Relative Humidity :</b> | 39~40%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                        | <b>Phase :</b>             | Neutral |
| <b>Function Type :</b> | CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx |                            |         |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit.                      |                            |         |



Site : C001-KS  
Condition: FCC CLASS-B LISN-111230 NEUTRAL

mode : Mode 3

|    | Freq  | Level | Over   | Limit | Read  | LISN   | Cable | Remark  |
|----|-------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz   | dBuV  | Limit  | Line  | Level | Factor | Loss  |         |
|    |       |       | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.23  | 36.64 | -15.97 | 52.61 | 26.20 | -0.07  | 10.51 | Average |
| 2  | 0.23  | 38.14 | -24.47 | 62.61 | 27.70 | -0.07  | 10.51 | QP      |
| 3  | 0.34  | 35.12 | -24.10 | 59.22 | 24.60 | -0.08  | 10.60 | QP      |
| 4  | 0.34  | 28.22 | -21.00 | 49.22 | 17.70 | -0.08  | 10.60 | Average |
| 5  | 0.38  | 41.14 | -17.25 | 58.39 | 30.61 | -0.08  | 10.61 | QP      |
| 6  | 0.38  | 27.44 | -20.95 | 48.39 | 16.91 | -0.08  | 10.61 | Average |
| 7  | 0.41  | 27.54 | -20.19 | 47.73 | 17.00 | -0.08  | 10.62 | Average |
| 8  | 0.41  | 40.34 | -17.39 | 57.73 | 29.80 | -0.08  | 10.62 | QP      |
| 9  | 1.74  | 33.49 | -12.51 | 46.00 | 22.91 | -0.11  | 10.69 | Average |
| 10 | 1.74  | 36.39 | -19.61 | 56.00 | 25.81 | -0.11  | 10.69 | QP      |
| 11 | 17.11 | 31.84 | -18.16 | 50.00 | 20.80 | 0.01   | 11.03 | Average |
| 12 | 17.11 | 36.34 | -23.66 | 60.00 | 25.30 | 0.01   | 11.03 | QP      |

## 3.2. Test of Radiated Emission Measurement

### 3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 30 – 88            | 100                                  | 3                                |
| 88 – 216           | 150                                  | 3                                |
| 216 – 960          | 200                                  | 3                                |
| Above 960          | 500                                  | 3                                |

### 3.2.2. Measuring Instruments

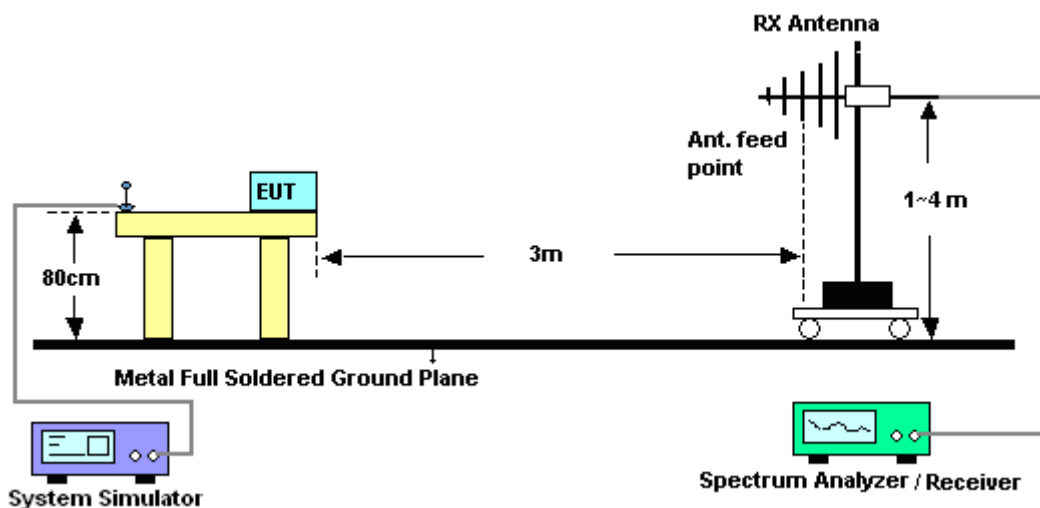
See list of measuring instruments of this test report.

### 3.2.3. Test Procedures

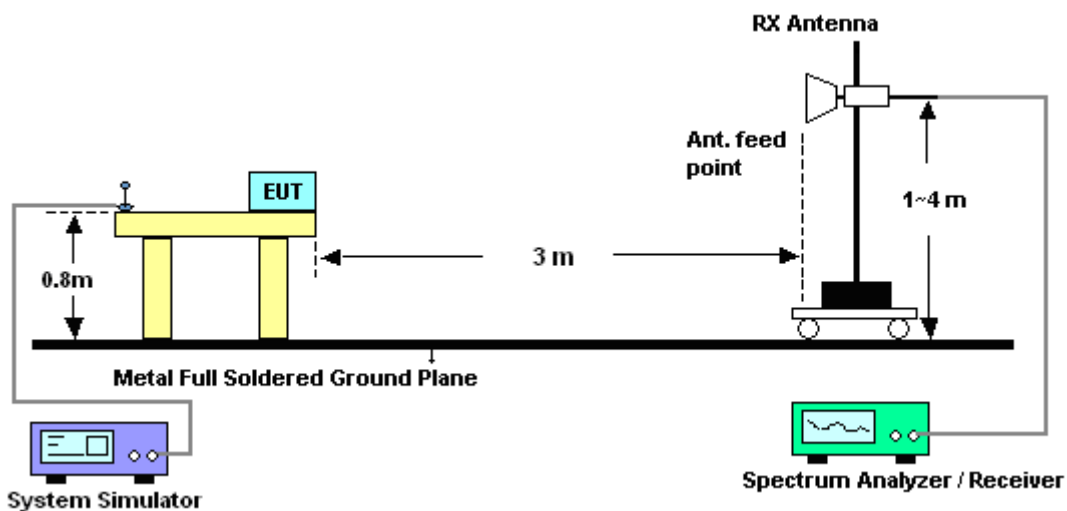
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor= Level

### 3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

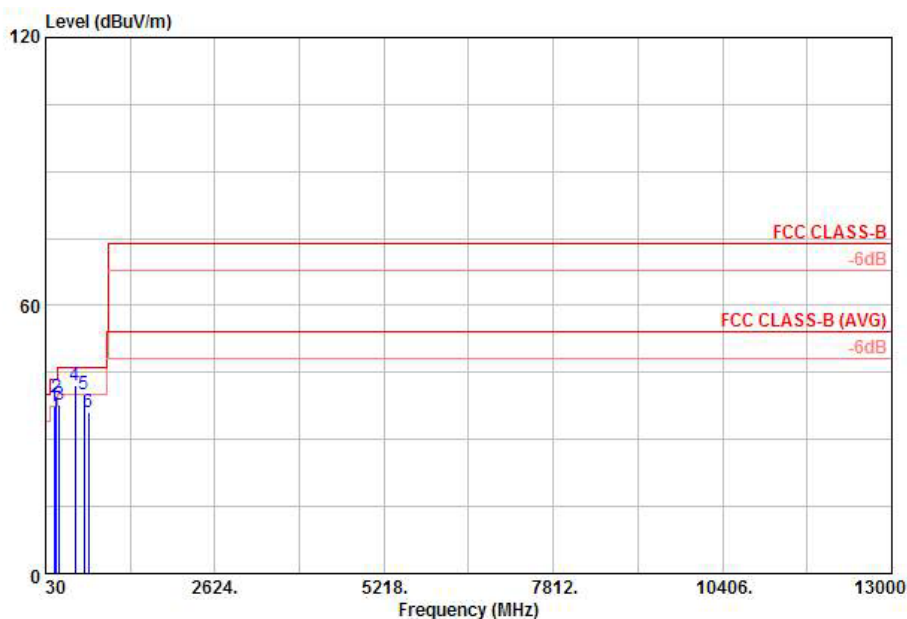


For radiated emissions above 1GHz



**3.2.5. Test Result of Radiated Emission**

|                        |                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | Mode 3                                                                                               | <b>Temperature :</b>       | 23~25°C    |
| <b>Test Engineer :</b> | Steven Hao                                                                                           | <b>Relative Humidity :</b> | 45~46%     |
| <b>Test Distance :</b> | 3m                                                                                                   | <b>Polarization :</b>      | Horizontal |
| <b>Function Type :</b> | CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx |                            |            |

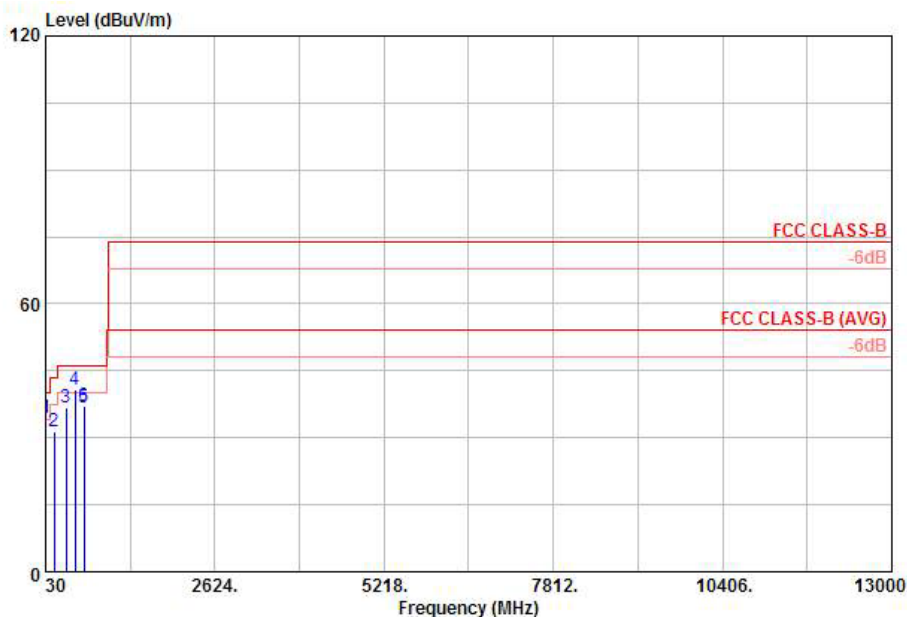


Site : 03CH01-KS  
Condition: FCC CLASS-B 3m LF\_ANT\_100803 HORIZONTAL

Mode : mode 3

|   | Freq   | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamplifier Factor | Ant Pos | Table Pos | Remark |
|---|--------|--------|------------|------------|-------------------|----------------|------------|---------------------|---------|-----------|--------|
|   | MHz    | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB                  | cm      | deg       |        |
| 1 | 164.83 | 37.28  | -6.22      | 43.50      | 57.27             | 9.40           | 0.54       | 29.93               | ---     | ---       | Peak   |
| 2 | 195.87 | 39.39  | -4.11      | 43.50      | 60.00             | 8.80           | 0.58       | 29.99               | ---     | ---       | Peak   |
| 3 | 239.52 | 37.85  | -8.15      | 46.00      | 55.50             | 11.51          | 0.66       | 29.82               | ---     | ---       | Peak   |
| 4 | 480.08 | 42.06  | -3.94      | 46.00      | 54.00             | 16.87          | 0.94       | 29.75               | 100     | 257       | QP     |
| 5 | 614.91 | 40.24  | -5.76      | 46.00      | 50.13             | 18.67          | 1.07       | 29.63               | ---     | ---       | Peak   |
| 6 | 692.51 | 36.06  | -9.94      | 46.00      | 45.40             | 19.25          | 1.13       | 29.72               | ---     | ---       | Peak   |

|                        |                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | Mode 3                                                                                               | <b>Temperature :</b>       | 23~25°C  |
| <b>Test Engineer :</b> | Steven Hao                                                                                           | <b>Relative Humidity :</b> | 45~46%   |
| <b>Test Distance :</b> | 3m                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Function Type :</b> | CDMA 2000 BC15 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx |                            |          |



Site : 03CH01-KS  
Condition: FCC CLASS-B 3m LF\_ANT\_100803 VERTICAL

Mode : mode 3

|     | Freq   | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Remark |
|-----|--------|--------|------------|------------|-------------------|----------------|------------|---------------|---------|-----------|--------|
|     | MHz    | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            | cm      | deg       |        |
| 1 ! | 36.79  | 34.34  | -5.66      | 40.00      | 49.98             | 14.19          | 0.24       | 30.07         | ---     | ---       | Peak   |
| 2   | 165.80 | 31.53  | -11.97     | 43.50      | 51.55             | 9.36           | 0.54       | 29.92         | ---     | ---       | Peak   |
| 3   | 344.28 | 36.81  | -9.19      | 46.00      | 51.57             | 14.37          | 0.81       | 29.94         | ---     | ---       | Peak   |
| 4 ! | 480.08 | 40.88  | -5.12      | 46.00      | 52.82             | 16.87          | 0.94       | 29.75         | 120     | 0         | Peak   |
| 5   | 614.91 | 36.81  | -9.19      | 46.00      | 46.70             | 18.67          | 1.07       | 29.63         | ---     | ---       | Peak   |
| 6   | 623.64 | 37.01  | -8.99      | 46.00      | 46.83             | 18.73          | 1.08       | 29.63         | ---     | ---       | Peak   |

## 4. List of Measuring Equipment

| Instrument                | Manufacturer | Model No. | Serial No.    | Characteristics | Calibration Date | Test Date                       | Due Date      | Remark                |
|---------------------------|--------------|-----------|---------------|-----------------|------------------|---------------------------------|---------------|-----------------------|
| EMI Receiver              | R&S          | ESCI7     | 100768        | 9kHz~7GHz       | Jun. 01, 2012    | Aug. 07, 2012                   | May 31, 2013  | Conduction (CO01-KS)  |
| LISN                      | MessTec      | AN3016    | 60103         | 9kHz~30MHz      | Dec. 30, 2011    | Aug. 07, 2012                   | Dec. 29, 2012 | Conduction (CO01-KS)  |
| LISN                      | MessTec      | AN3016    | 60105         | 9kHz~30MHz      | Dec. 30, 2011    | Aug. 07, 2012                   | Dec. 29, 2012 | Conduction (CO01-KS)  |
| AC Power Source           | Chroma       | 61602     | ABP000000811  | N/A             | Nov. 16, 2011    | Aug. 07, 2012                   | Nov. 15, 2012 | Conduction (CO01-KS)  |
| EMI Test Receiver         | R&S          | ESCI      | 100534        | 9kHz~3GHz       | Nov. 09, 2011    | Sep. 03, 2012                   | Nov. 08, 2012 | Radiation (03CH01-KS) |
| Spectrum Analyzer         | R&S          | FSP40     | 100319        | 9kHz~40GHz      | Dec. 30, 2011    | Sep. 03, 2012                   | Dec. 29, 2012 | Radiation (03CH01-KS) |
| Bilog Antenna             | SCHAFFNER    | CBL6112D  | 23182         | 25MHz~2GHz      | Dec. 08, 2011    | Sep. 03, 2012                   | Dec. 07, 2012 | Radiation (03CH01-KS) |
| Double Ridge Horn Antenna | EMCO         | 3117      | 00075959      | 1GHz~18GHz      | Jan. 06, 2012    | Sep. 03, 2012                   | Jan. 05, 2013 | Radiation (03CH01-KS) |
| Amplifier                 | Wireless     | FPA-6592G | 060007        | 30MHz~2GHz      | Dec. 30, 2011    | Sep. 03, 2012                   | Dec. 29, 2012 | Radiation (03CH01-KS) |
| Amplifier                 | Agilent      | 8449B     | 3008A02370    | 1GHz~26.5GHz    | Dec. 30, 2011    | Sep. 03, 2012                   | Dec. 29, 2012 | Radiation (03CH01-KS) |
| System Simulator          | R&S          | CMU200    | 837587/066    | 2G Full-Band    | Dec. 30, 2011    | Aug. 07, 2012~<br>Sep. 03, 2012 | Dec. 29, 2012 | -                     |
| GPS Station               | ADIVIC       | MP9000    | MP9000-111046 | N/A             | Dec. 15, 2011    | Aug. 07, 2012~<br>Sep. 03, 2012 | Dec. 14, 2012 | -                     |

## 5. Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150 KHz ~ 30 MHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.26 |
|-------------------------------------------------------------------------|------|

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.54 |
|-------------------------------------------------------------------------|------|

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 4.72 |
|-------------------------------------------------------------------------|------|



## **Appendix A. Photographs of EUT**

Please refer to Sporton report number EP280303 as below.