



# **FCC 47 CFR PART 15 SUBPART C And Industry Canada RSS 210 Issue 8 TEST REPORT**

*For*

**Applicant** : Social Mobile Telecommunications  
**Address** : 801 NE 167th, St. Suite#314, North Miami Beach, FL33162, USA  
**Product Name** : GSM MOBILE PHONE  
**Model Name** : FB201  
**Brand Name** : Roam  
**FCC ID** : Z6RSMFB201  
**IC ID** : 11423A-FB201  
**Report No.** : 2013NT1212201F2  
**Date of Issue** : January 14, 2014

**Prepared for**

Social Mobile Telecommunications  
801 NE 167th, St. Suite#314, North Miami Beach, FL33162, USA

**Prepared by**

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| Revision History |                  |                     |
|------------------|------------------|---------------------|
| Issue            | Date             | Reason for Revision |
| 1.0              | January 14, 2014 | First edition       |
|                  |                  |                     |

## 1. VERIFICATION OF CONFORMITY

**Applicant's name**..... Social Mobile Telecommunications

Address ..... 801 NE 167th, St. Suite#314, North Miami Beach, FL33162, USA

**Manufacture's Name** .... Skynet Technology Limited

Address ..... Room 2906, Block C, Royal Plaza, Yitian Road, Futian District, Shenzhen, China

**Local Representative** .... Roam Mobility

Address ..... #200-10451 Shellbridge Way, Richmond, British Columbia, Canada

### **Product description :**

Product name ..... GSM MOBILE PHONE

Model and/or type  
reference ..... FB201

Serial Model ..... N/A

Ratings ..... DC 3.7V

**Standards** ..... FCC Part15.249

This device described above has been tested by NETK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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### **Date of Test :**

Date (s) of performance November 23, 2013-January 14, 2014  
of tests.....

Date of Issue..... January 14, 2014

Test Result ..... **Pass**

The test results of this report relate only to the tested sample identified in this report.

Testing Engineer : Apple Huang  
(Apple Huang)

Technical Manager : Tom Zhang  
(Tom Zhang)

Authorized  
Signatory : Bovey Yang  
(Bovey Yang)

## 2. GENERAL INFORMATION

### 2.1 Product Information

|                          |   |
|--------------------------|---|
| <b>Product</b>           | GSM MOBILE PHONE  |
| <b>Trade Name</b>        | Roam  |
| <b>Model Number</b>      | FB201   |
| <b>internal Antenna</b>  | 0 dBi (Bluetooth)   |
| <b>Power Supply</b>      | DC 5V by AC/DC adapter 100-240V~50/60Hz<br>DC 3.7V by battery |
| <b>Frequency Range</b>   | 2402MHz -2480MHz  |
| <b>Modulation Type</b>   | FHSS  |
| <b>Antenna Type:</b>     | Internal Fixed  |
| <b>Channel Spacing:</b>  | 1MHz  |
| <b>Channel Number</b>    | 79(CH Low: 2402MHz, CH Mid: 2441MHz, CH High: 2480MHz)        |
| <b>Temperature Range</b> | -20°C ~ 50°C  |

**NOTE:**

1. Please refer to Appendix I for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

## 2.2 OBJECTIVE

The objective of the report is to perform tests according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

| No. | Identity                        | Document Title   |
|-----|---------------------------------|--|
| 1   | 47 CFR Part 15(10-1-05 Edition) | Radio Frequency Devices  |
| 2   | RSS 210 Issue8                  | Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment |

## 2.3 TEST STANDARDS AND RESULTS

Test items and the results are as bellow:

| FCC Rules | IC Rules     | Description                        | Result | Date of Test    |
|-----------|--------------|------------------------------------|--------|-----------------|
| 15.249(a) | RSS 210 A2.9 | Spurious Emission                  | PASS   | January 2, 2014 |
| 15.249(a) | RSS 210 A2.9 | Band Edge                          | PASS   | January 14 2014 |
| 15.207    | RSS Gen7.2.4 | Power Line Conducted Emission Test | PASS   | January 2, 2014 |

*Note:* 1. The test result judgment is decided by the limit of measurement standard  
2. The information of measurement uncertainty is available upon the customer's request.

## 2.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

### 3. TEST FACILITY

#### 3.1 TEST FACILITY

NETK Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

The FCC Registration Number is **238937**.

The IC Registration Number is **9270A-1**

The CNAS Registration Number is **CNAS L5516**.

### 2. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95 %** .

| No. | Item                         | Uncertainty             |
|-----|------------------------------|-------------------------|
| 1   | Conducted Emission Test      | $\pm 1.38\text{dB}$     |
| 3   | Spurious emissions,conducted | $\pm 0.21\text{dB}$     |
| 4   | All emissions, radiated(<1G) | $\pm 4.68\text{dB}$     |
| 5   | All emissions, radiated(>1G) | $\pm 4.89\text{dB}$     |
| 6   | Temperature                  | $\pm 0.5^\circ\text{C}$ |
| 7   | Humidity                     | $\pm 2\%$               |

#### 3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2655 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |
| 13.36 - 13.41              |                       |                 |                  |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

## 4. SETUP OF EQUIPMENT UNDER TEST

### 4.1 SUPPORT EQUIPMENT

| Device Type      | Brand | Model | Series No. | Note |
|------------------|-------|-------|------------|------|
| GSM MOBILE PHONE | Roam  | FB201 | N/A        |      |

*Remark:*

*All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

## 4.2 TEST EQUIPMENT LIST

**Instrumentation:** The following list contains equipment used at Most for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

### Radiation Test equipment

| Item | Kind of Equipment  | Manufacturer | Type No.     | Serial No.    | Last calibration | Calibrated until | Calibration period |
|------|--------------------|--------------|--------------|---------------|------------------|------------------|--------------------|
| 1    | Spectrum Analyzer  | Agilent      | E4407B       | MY451080 40   | 2013.07.06       | 2014.07.05       | 1 year             |
| 2    | Test Receiver      | R&S          | ESPI         | 101318        | 2013.06.07       | 2014.06.06       | 1 year             |
| 3    | Bilog Antenna      | TESEQ        | CBL6111D     | 31216         | 2013.07.06       | 2014.07.05       | 1 year             |
| 4    | 50Ω Coaxial Switch | Anritsu      | MP59B        | 6200264416    | 2014.06.07       | 2014.06.06       | 1 year             |
| 5    | Spectrum Analyzer  | ADVANTEST    | R3132        | 150900201     | 2013.06.07       | 2014.06.06       | 1 year             |
| 6    | Horn Antenna       | EM           | EM-AH-10 180 | 2011071402    | 2013.07.06       | 2014.07.05       | 1 year             |
| 7    | Horn Ant           | Schwarzbeck  | BBHA 9170    | 9170-181      | 2013.07.06       | 2014.07.05       | 1 year             |
| 8    | Amplifier          | EM           | EM-30180     | 060538        | 2013.12.21       | 2014.12.21       | 1 year             |
| 9    | Loop Antenna       | ARA          | PLA-1030/B   | 1029          | 2013.06.08       | 2014.06.07       | 1 year             |
| 10   | Power Meter        | R&S          | NRVS         | 100696        | 2013.07.06       | 2014.07.05       | 1 year             |
| 11   | Power Sensor       | R&S          | URV5-Z4      | 0395.1619.0 5 | 2013.07.06       | 2014.07.05       | 1 year             |

### Conduction Test equipment

| Item | Kind of Equipment     | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | Calibration period |
|------|-----------------------|--------------|----------|------------|------------------|------------------|--------------------|
| 1    | Test Receiver         | R&S          | ESCI     | 101160     | 2013.06.06       | 2014.06.05       | 1 year             |
| 2    | LISN                  | R&S          | ENV216   | 101313     | 2013.08.24       | 2014.08.23       | 1 year             |
| 3    | LISN                  | EMCO         | 3816/2   | 00042990   | 2013.08.24       | 2014.08.23       | 1 year             |
| 4    | 50Ω Coaxial Switch    | Anritsu      | MP59B    | 6200264417 | 2013.06.07       | 2014.06.06       | 1 year             |
| 5    | Passive Voltage Probe | R&S          | ESH2-Z3  | 100196     | 2013.06.07       | 2014.06.06       | 1 year             |
| 6    | Absorbing clamp       | R&S          | MOS-21   | 100423     | 2013.06.08       | 2014.06.07       | 1 year             |

**NOTE:** Equipments listed above have been calibrated and are in the period of validation.

## 5. 47 CFR Part 15C 15.249 Requirements

### 5.1 SPURIOUS EMISSION TEST

#### 5.1.1 REQUIREMENT

According to FCC section 15.249(a):

Except as provided in paragraph (a) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Fundamental Frequency (MHz) | Field Strength of Fundamental (mV/m) | Field Strength of Harmonics (μV/m) |
|-----------------------------|--------------------------------------|------------------------------------|
| 902-928                     | 50                                   | 500                                |
| 2400-2483.5                 | 50                                   | 500                                |
| 5725-5875                   | 50                                   | 500                                |
| 24000-24250                 | 250                                  | 2500                               |

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (MHz) | Field Strength (μV/m) | Measurement Distance (m) |
|-----------------|-----------------------|--------------------------|
| 1.705 - 30.0    | 30                    | 30                       |
| 30 - 88         | 100                   | 3                        |
| 88 - 216        | 150                   | 3                        |
| 216 - 960       | 200                   | 3                        |
| Above 960       | 500                   | 3                        |

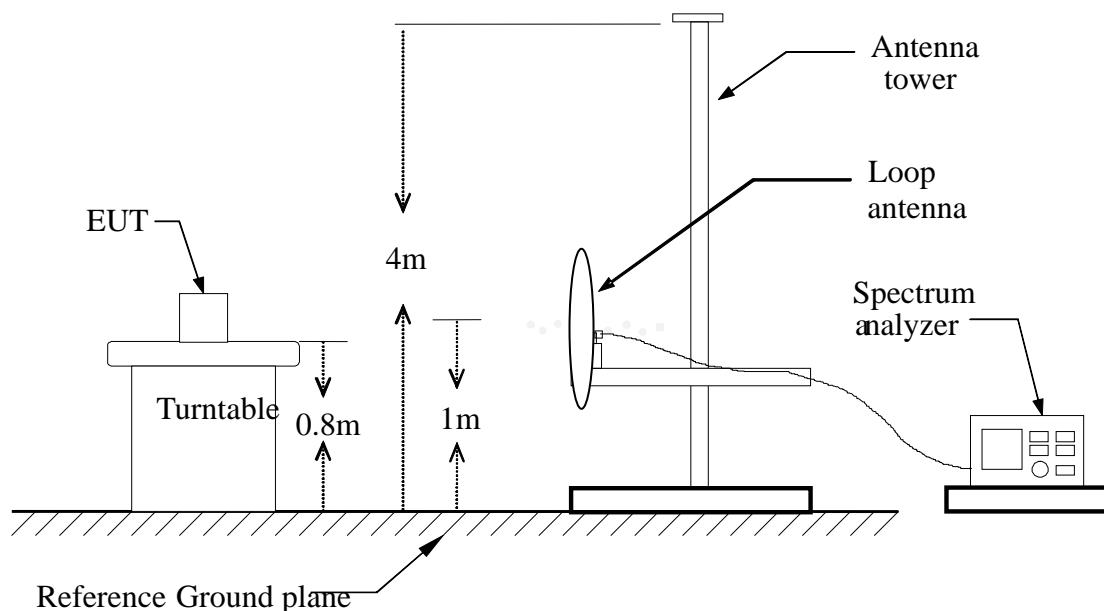
**Remark:** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

In the above emission table, the tighter limit applies at the band edges.

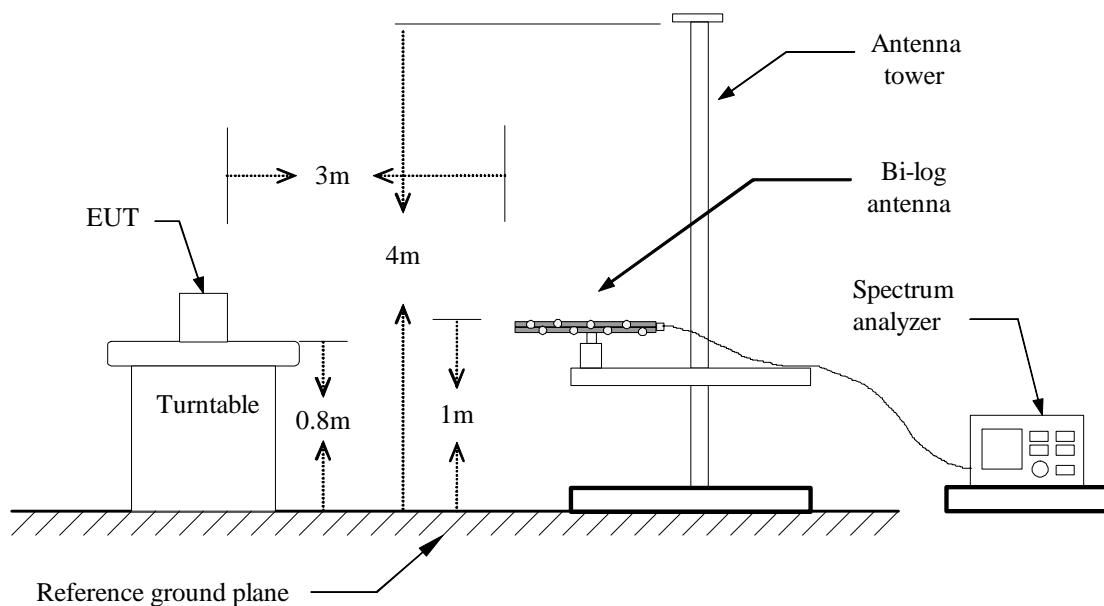
| Frequency (MHz) | Field Strength (μV/m) | Measurement Distance (m) |
|-----------------|-----------------------|--------------------------|
| 30 - 88         | 100                   | 3                        |
| 88 - 216        | 150                   | 3                        |
| 216 - 960       | 200                   | 3                        |
| Above 960       | 500                   | 3                        |

## 5.1.2 TEST DESCRIPTION

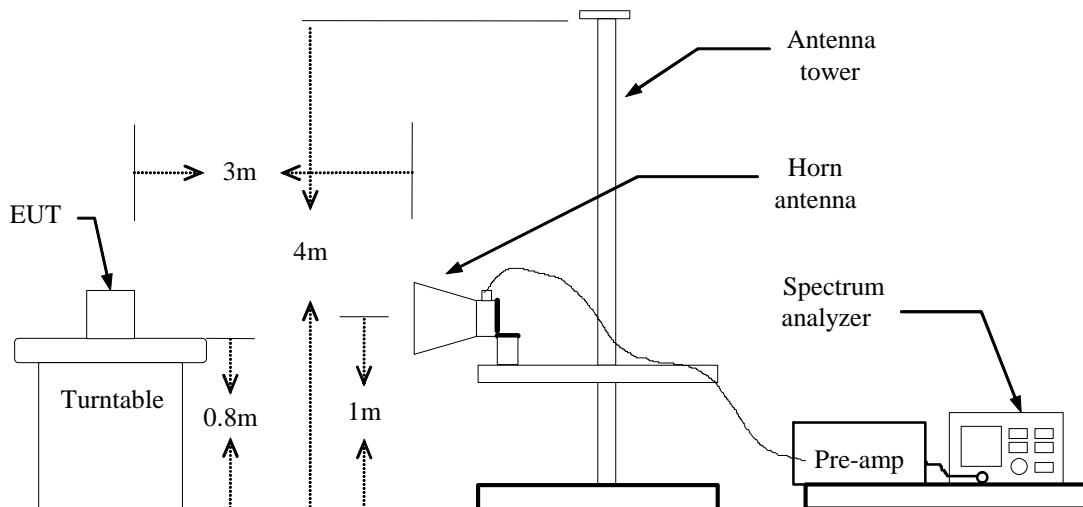
### TEST SETUP:



### Blow 1GHz:



## Above 1GHz:

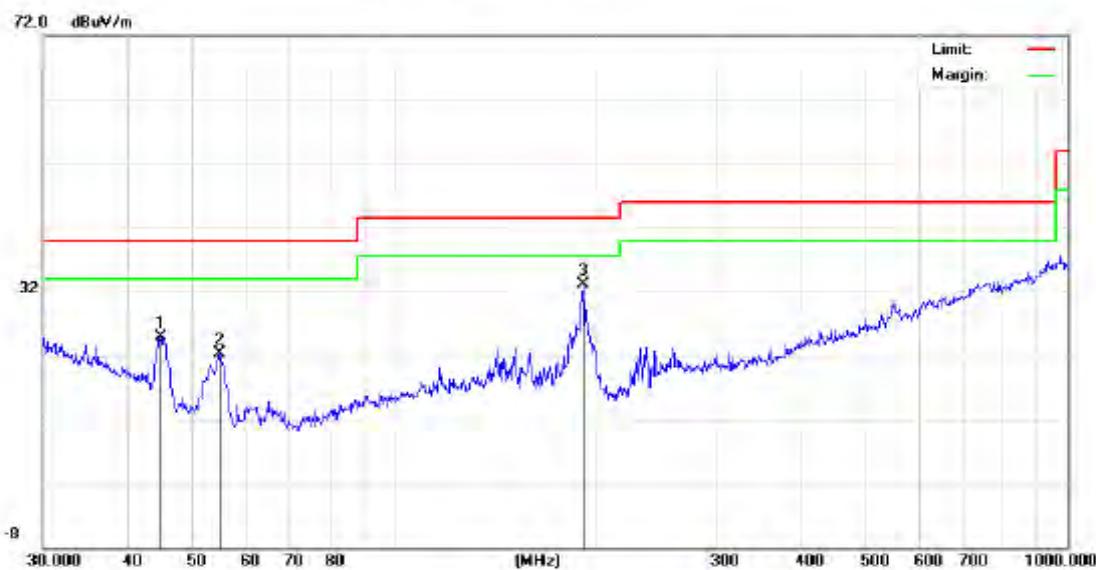


### 5.1.3 TEST DESCRIPTION

## 5.1.4 TEST RESULT

Form 30 MHz to 1GHz:

### Radiated Emission Measurement



Site NTEK 9\*6\*6 Chamber #1  
Limit: FCC\_PART15\_B\_03m\_QP

Polarization: **Vertical**  
Power: AC 230V/50Hz

Temperature: 26  
Humidity: 56 %

EUT: Mobile Phone

Distance:

M/N: FB201

Mode: BT

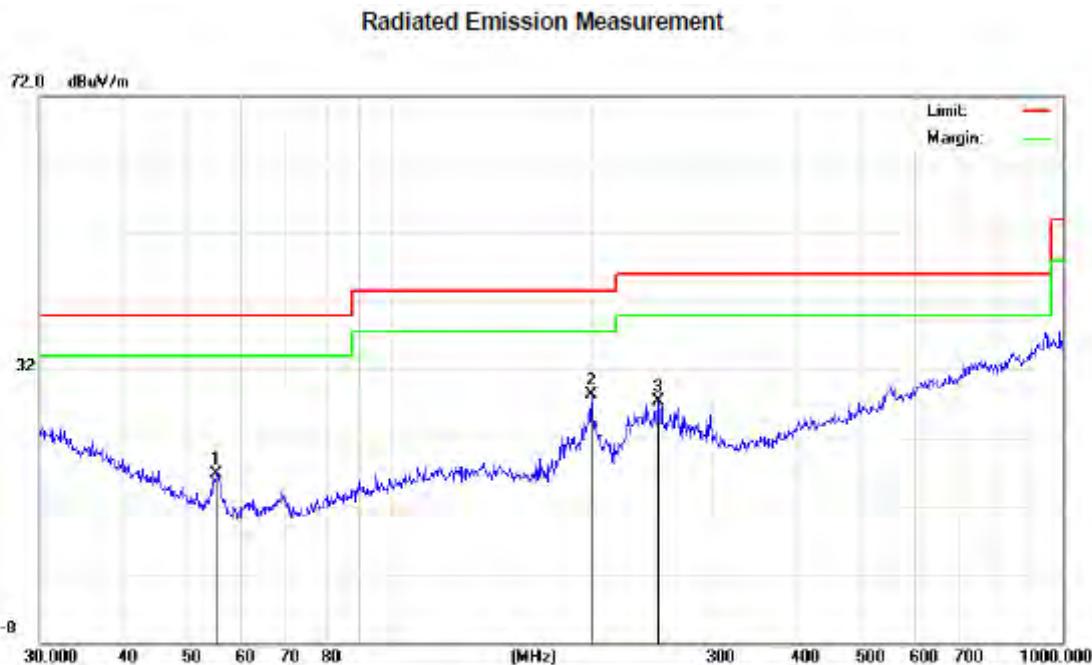
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Antenna<br>Height<br>cm | Table<br>Degree<br>degree | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|-------------------------|---------------------------|---------|
| 1   |     | 44.9004      | 14.27                    | 10.63                   | 24.90                      | 40.00           | -15.10     | QP       |                         |                           |         |
| 2   |     | 54.8348      | 16.01                    | 6.33                    | 22.34                      | 40.00           | -17.66     | QP       |                         |                           |         |
| 3   | *   | 190.4050     | 24.16                    | 9.01                    | 33.17                      | 43.50           | -10.33     | QP       |                         |                           |         |

\*:Maximum data x:Over limit !:over margin

Reference Only

Engineer Signature:



Site NTEK 9\*6\*6 Chamber #1

Polarization: *Horizontal*

Temperature: 26

Limit: FCC\_PART15\_B\_03m\_QP

Power: AC 230V/50Hz

Humidity: 56 %

EUT: Mobile Phone

Distance:

M/N: FB201

Mode: BT

Note:

| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit  | Over   | Antenna | Table    |        |         |
|-----|-----|----------|---------|---------|----------|--------|--------|---------|----------|--------|---------|
|     |     |          | Level   | Factor  | ment     |        |        |         |          | Degree | Comment |
|     |     |          | MHz     | dBuV    | dB       | dBuV/m | dBuV/m | dB      | Detector | cm     | degree  |
| 1   |     | 55.0274  | 10.47   | 6.27    | 16.74    | 40.00  | -23.26 | QP      |          |        |         |
| 2   | *   | 198.5879 | 19.23   | 8.99    | 28.22    | 43.50  | -15.28 | QP      |          |        |         |
| 3   |     | 249.4250 | 13.98   | 13.40   | 27.38    | 46.00  | -18.62 | QP      |          |        |         |

\*:Maximum data x:Over limit !:over margin

Reference Only

Engineer Signature:

**Above 1 GHz**

**Operation Mode:** CH Low      **Test Date:** November 28, 2013

**Temperature:** 20°C      **Humidity:** 50 % RH

| Freq.<br>(MHz) | Ant. Pol<br>H/V | Peak<br>Reading<br>(dBuV) | AV<br>Reading<br>(dBuV) | Ant. / CL<br>CF<br>(dB) | Actual FS        |                | Peak<br>Limit<br>(dBuV/m) | AV<br>Limit<br>(dBuV/m) | AV<br>Margin<br>(dB) |
|----------------|-----------------|---------------------------|-------------------------|-------------------------|------------------|----------------|---------------------------|-------------------------|----------------------|
|                |                 |                           |                         |                         | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |                           |                         |                      |
| 2402.00        | H               | 93.73                     | 72.69                   | 9.43                    | 103.16           | 82.12          | 114.00                    | 94.00                   | -11.88               |
| 4815.00        | H               | 54.34                     | 37.64                   | -3.64                   | 50.70            | 34.00          | 74.00                     | 54.00                   | -20.00               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         |                      |
| 2402.00        | V               | 88.32                     | 69.59                   | 9.32                    | 97.64            | 78.91          | 114.00                    | 94.00                   | -15.09               |
| 4815.00        | V               | 49.93                     | 35.67                   | -3.68                   | 46.25            | 31.99          | 74.00                     | 54.00                   | -22.01               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         |                      |

**Notes:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
  - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = *auto*.
  - b. AV Setting 1GHz- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = *auto*.

**Operation Mode:** CH Mid      **Test Date:** November 28, 2013

**Temperature:** 20°C

**Humidity:** 50 % RH

| Freq.<br>(MHz) | Ant. Pol<br>H/V | Peak<br>Reading<br>(dBuV) | AV<br>Reading<br>(dBuV) | Ant. / CL<br>CF<br>(dB) | Actual Fs        |                | Peak<br>Limit<br>(dBuV/m) | AV<br>Limit<br>(dBuV/m) | AV<br>Margin<br>(dB) |
|----------------|-----------------|---------------------------|-------------------------|-------------------------|------------------|----------------|---------------------------|-------------------------|----------------------|
|                |                 |                           |                         |                         | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |                           |                         |                      |
| 2441.00        | H               | 94.25                     | 70.48                   | 9.51                    | 103.76           | 79.99          | 114.00                    | 94.00                   | -14.01               |
| 4885.00        | H               | 48.63                     | 37.61                   | -3.60                   | 45.03            | 34.01          | 74.00                     | 54.00                   | -19.99               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         | >20                  |
| 2441.00        | V               | 92.14                     | 67.38                   | 9.45                    | 101.59           | 76.83          | 114.00                    | 94.00                   | -17.17               |
| 4885.00        | V               | 52.86                     | 35.29                   | -3.59                   | 49.27            | 31.70          | 74.00                     | 54.00                   | -22.30               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         | >20                  |

**Notes:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
  - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = *auto*.
  - b. AV Setting 1GHz- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = *auto*.

**Operation Mode:** CH High      **Test Date:** November 28, 2013  
**Temperature:** 20°C      **Humidity:** 50 % RH

| Freq.<br>(MHz) | Ant. Pol<br>H/V | Peak<br>Reading<br>(dBuV) | AV<br>Reading<br>(dBuV) | Ant. / CL<br>CF<br>(dB) | Actual Fs        |                | Peak<br>Limit<br>(dBuV/m) | AV<br>Limit<br>(dBuV/m) | AV<br>Margin<br>(dB) |
|----------------|-----------------|---------------------------|-------------------------|-------------------------|------------------|----------------|---------------------------|-------------------------|----------------------|
|                |                 |                           |                         |                         | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |                           |                         |                      |
| 2480.00        | H               | 89.29                     | 73.69                   | 9.48                    | 98.77            | 83.17          | 114.00                    | 94.00                   | -10.83               |
| 4955.00        | H               | 56.86                     | 39.24                   | -3.52                   | 53.34            | 35.72          | 74.00                     | 54.00                   | -18.28               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         | >20                  |
| 2480.00        | V               | 93.14                     | 68.67                   | 9.42                    | 102.56           | 78.09          | 114.00                    | 94.00                   | -15.91               |
| 4955.00        | V               | 54.59                     | 38.67                   | -3.49                   | 51.10            | 35.18          | 74.00                     | 54.00                   | -18.82               |
| N/A            |                 |                           |                         |                         |                  |                |                           |                         | >20                  |

**Notes:**

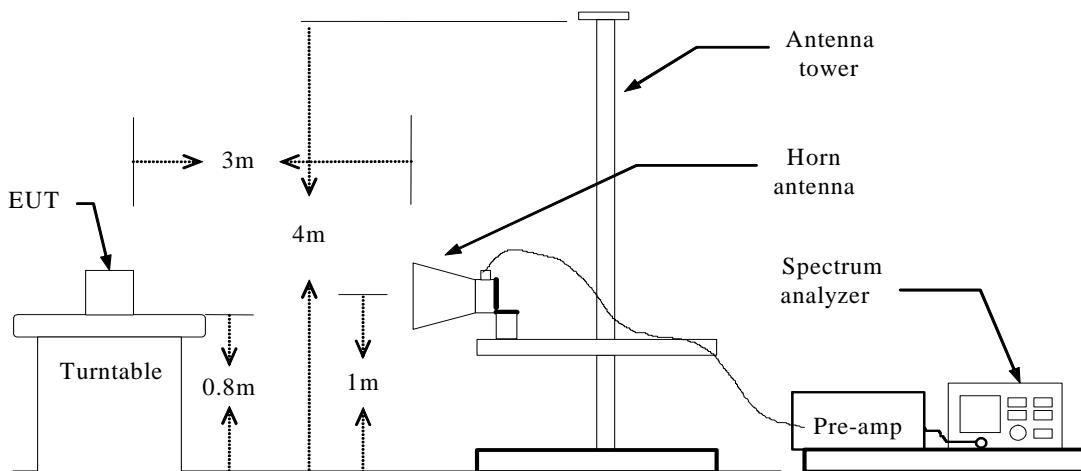
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
  - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = *auto*.
  - b. AV Setting 1GHz- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = *auto*.

## 5.2 BAND EDGE

### 5.2.1 REQUIREMENT

According to FCC section 15.249(a), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

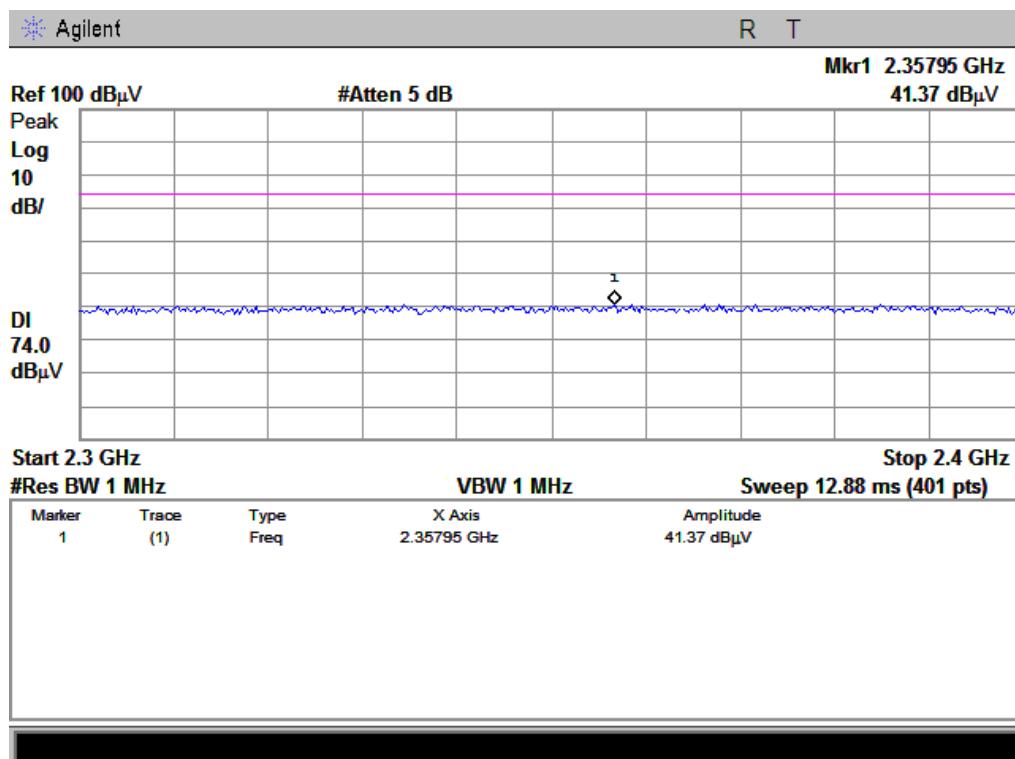
### 5.2.2 TEST DESCRIPTION



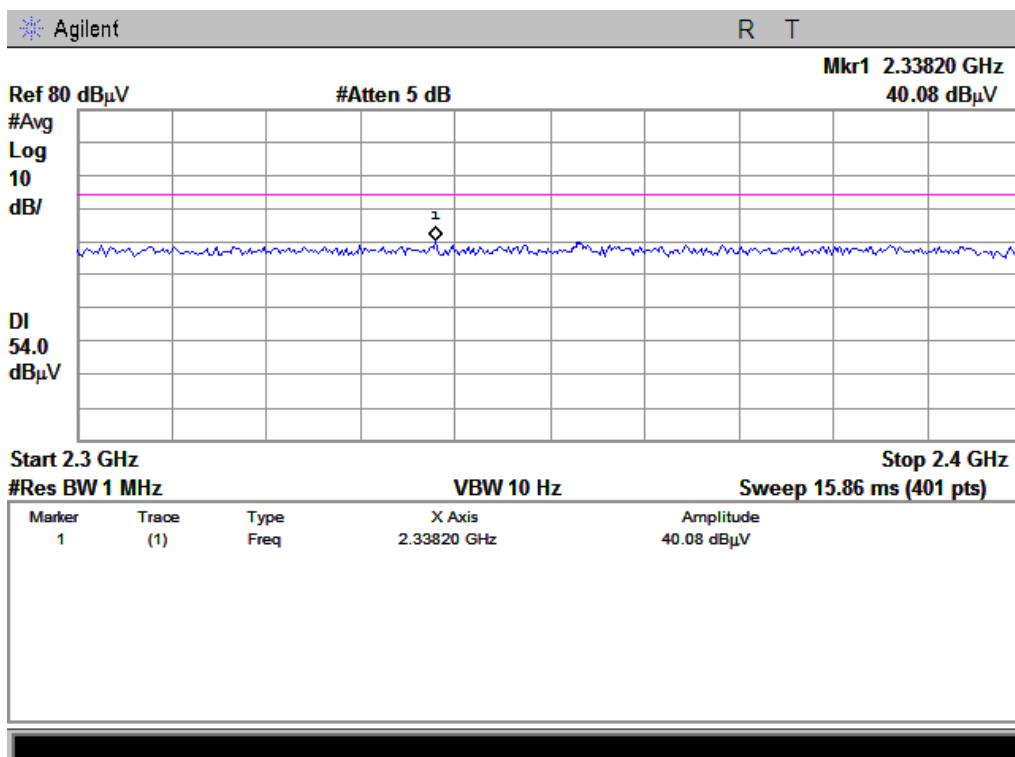
### 5.2.3 TEST RESULT

The EUT operates at hopping-off test mode. The lowest and highest channels are tested to verify the band edge emissions.

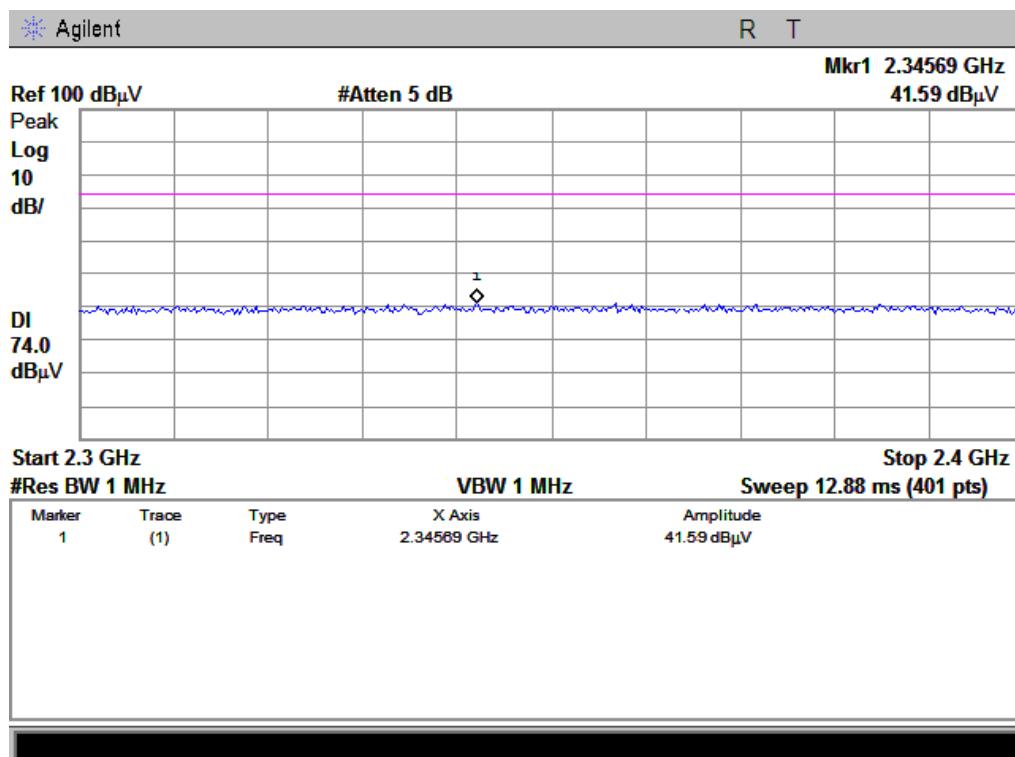
**Test Plot:**



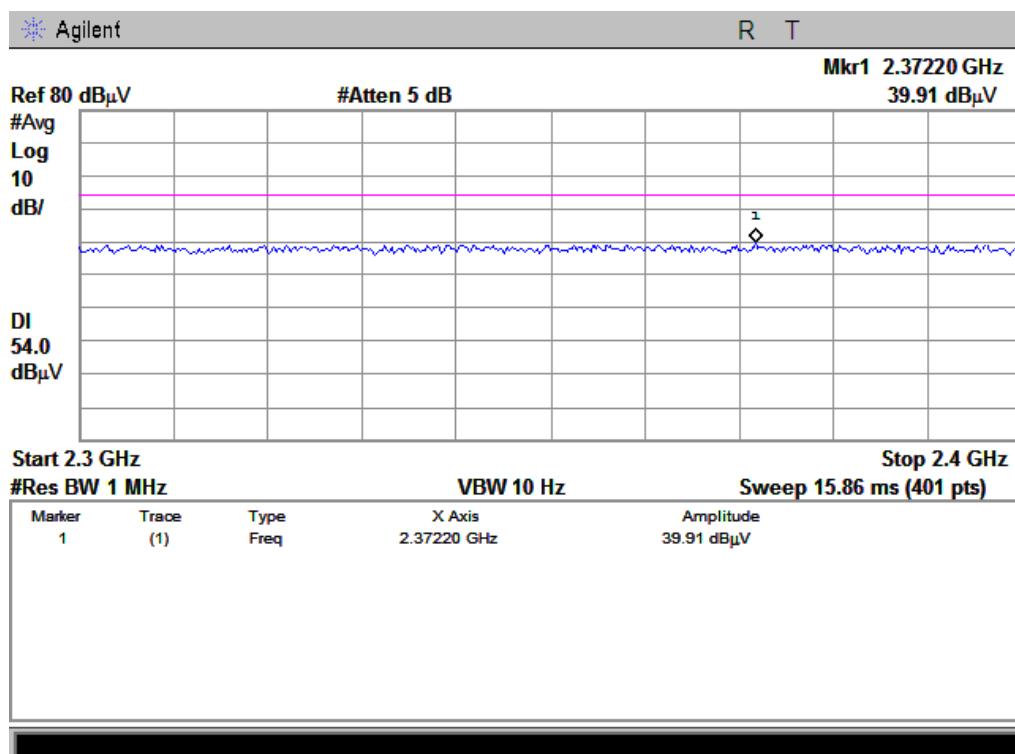
(CH Low, Vertical, Peak)



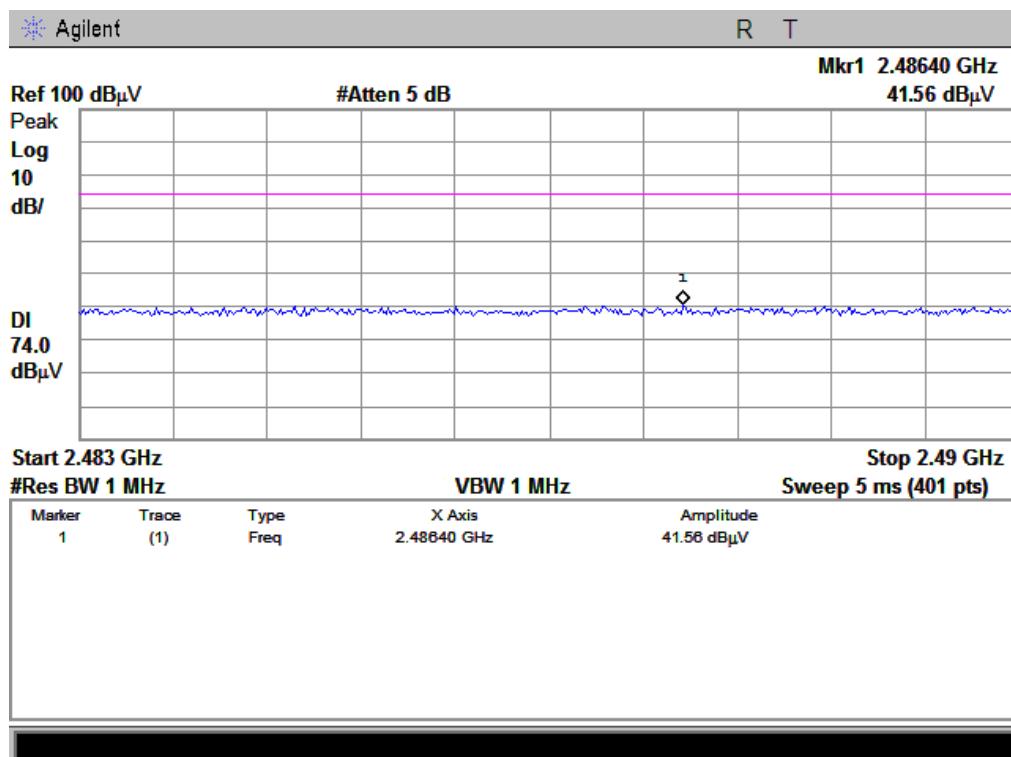
(CH Low, Vertical, Average)



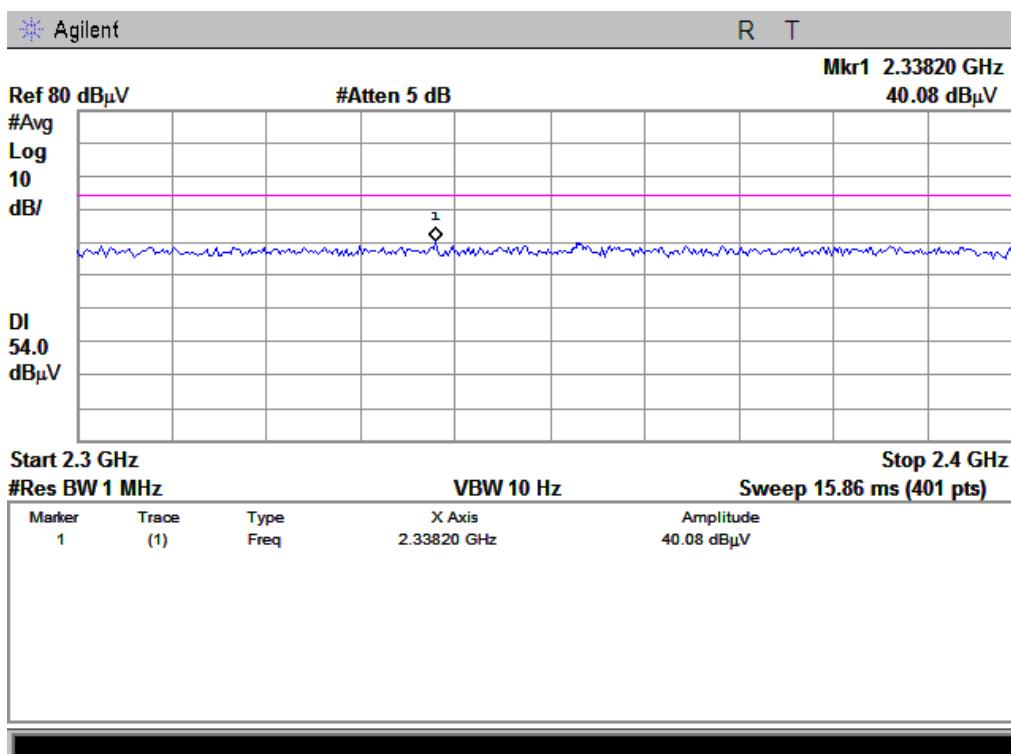
(CH Low, Horizontal, Peak)



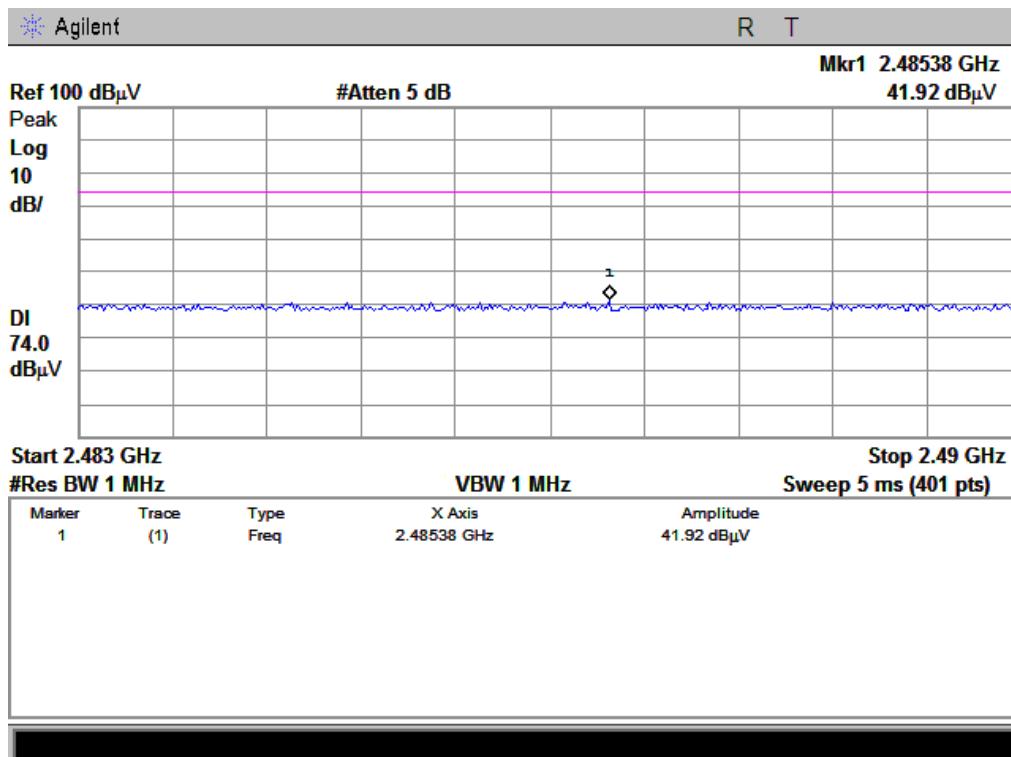
(CH Low, Horizontal, Average)



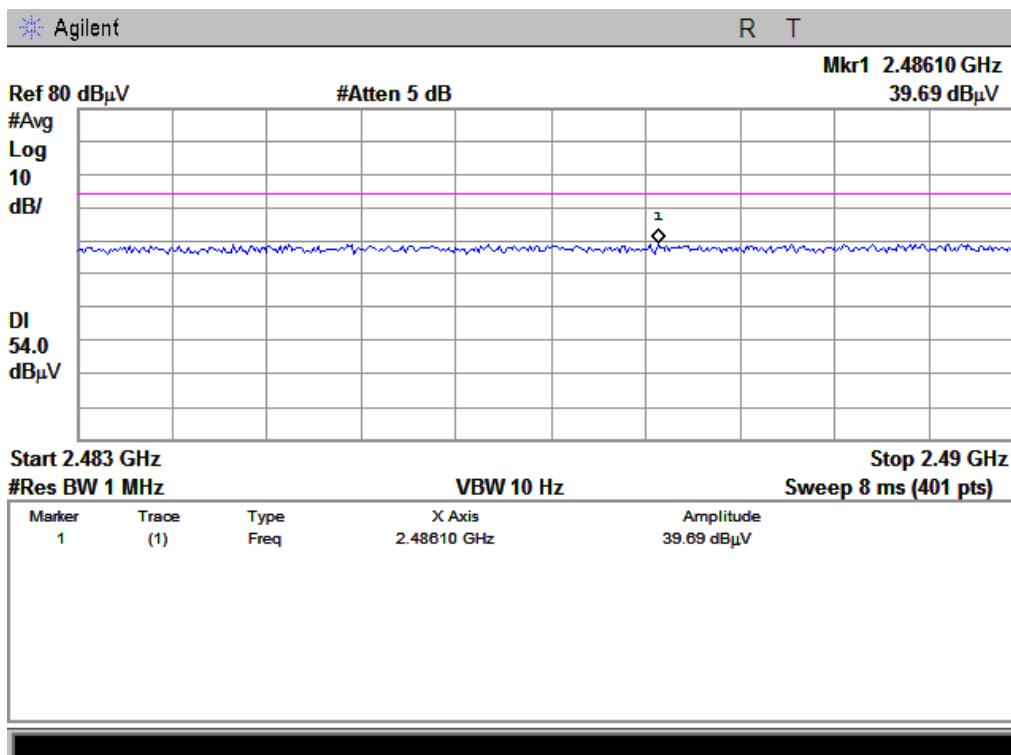
(CH High, Vertical, Peak)



(CH High, Vertical, Average)



(CH High, Horizontal, Peak)



(CH High, Horizontal, Average)

## 5.3 LINE CONDUCTED EMISSION TEST

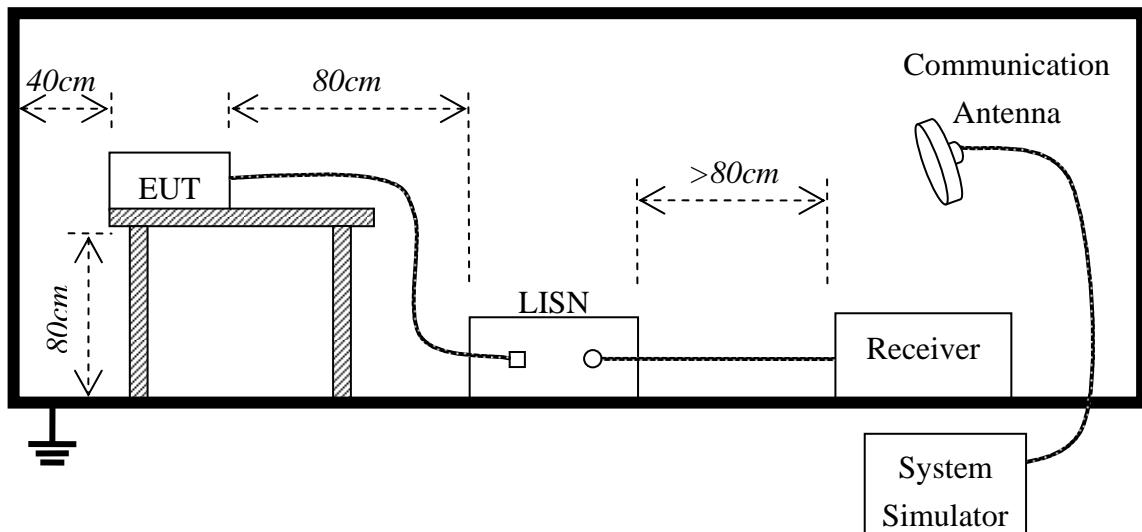
### 5.3.1 LIMITS OF LINE CONDUCTED EMISSION TEST

| Frequency     | Maximum RF Line Voltage |                |
|---------------|-------------------------|----------------|
|               | Q.P.( dBuV)             | Average( dBuV) |
| 150kHz-500kHz | 66-56                   | 56-46          |
| 500kHz-5MHz   | 56                      | 46             |
| 5MHz-30MHz    | 60                      | 50             |

**\*\*Note:** 1. the lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

### 5.3.2 BLOCK DIAGRAM OF TEST SETUP



### **5.3.3 PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST**

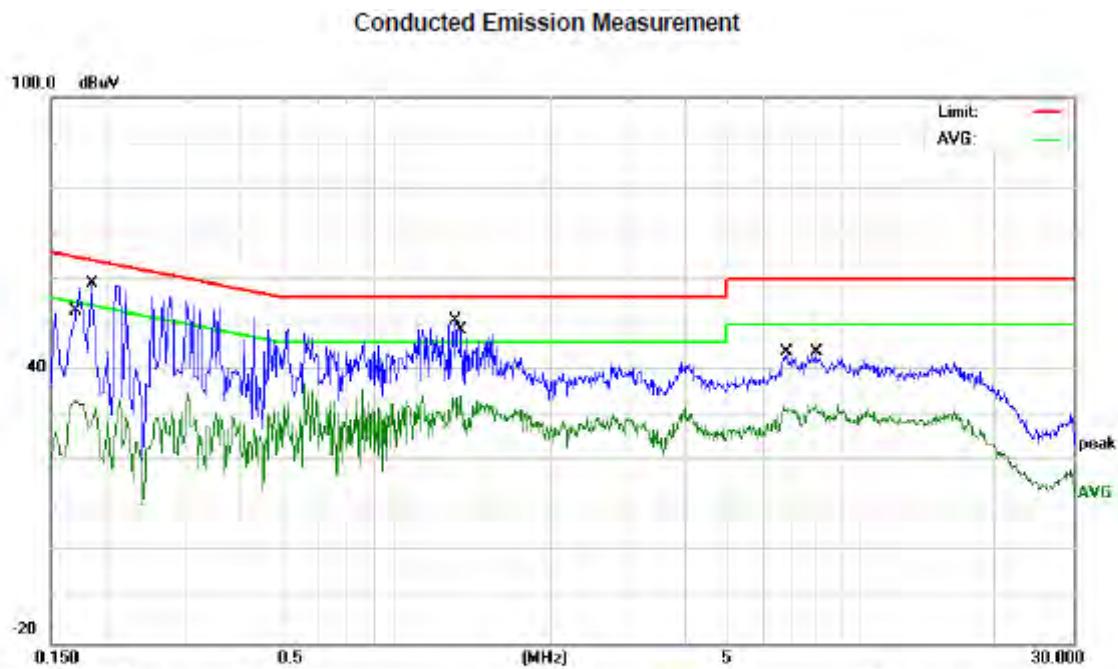
- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per FCC Part 15.
- 3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
- 4) The EUT received DC 5V power by AC/DC adapter which through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.

### **5.3.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST**

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

### **5.3.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST**



Site NTEK 9\*6\*6 Chamber #1

Phase: L1

Temperature: 26

Limit: FCC Part15 CE-Class B QP

Power: AC 120V/60Hz

Humidity: 56 %

EUT: Mobile Phone

RBW: 9 KHz VBW: 30 KHz

M/N: FB201

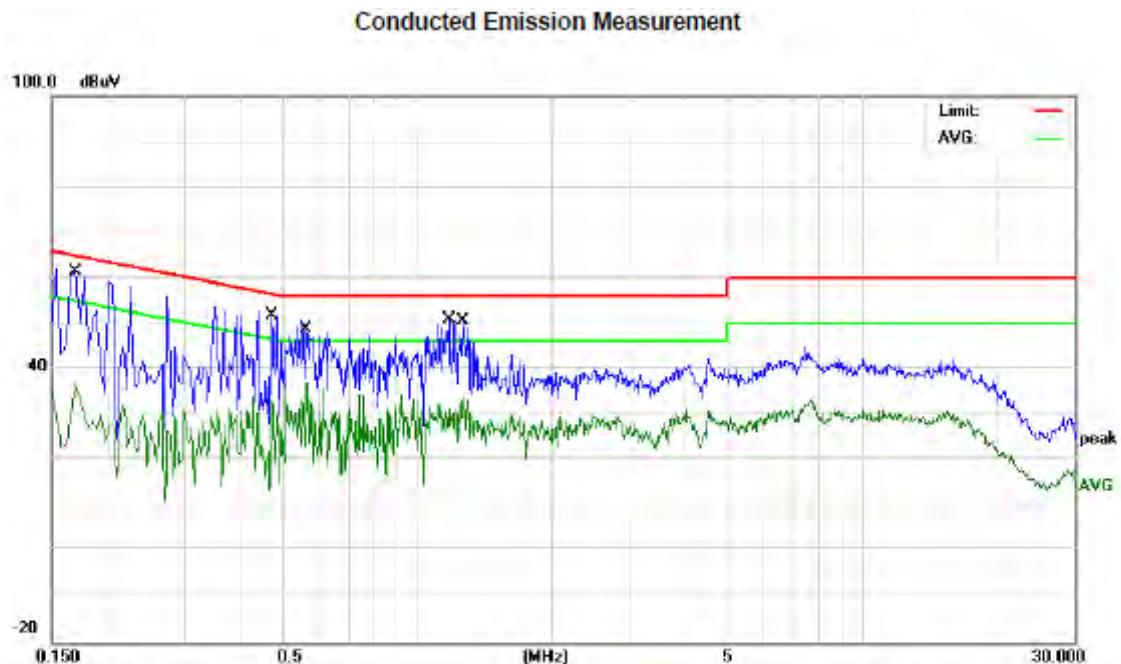
Mode: BT

Note:

| No. | Mk. | Freq.  | Reading | Correct | Measure- | Limit | Over   | Detector | Comment |
|-----|-----|--------|---------|---------|----------|-------|--------|----------|---------|
|     |     |        | Level   | Factor  | ment     |       |        |          |         |
| 1   |     | 0.1700 | 23.50   | 9.80    | 33.30    | 54.96 | -21.66 | AVG      |         |
| 2   |     | 0.1860 | 49.17   | 9.79    | 58.96    | 64.21 | -5.25  | QP       |         |
| 3   | *   | 1.2220 | 40.86   | 10.16   | 51.02    | 56.00 | -4.98  | QP       |         |
| 4   |     | 1.2579 | 24.30   | 10.17   | 34.47    | 46.00 | -11.53 | AVG      |         |
| 5   |     | 6.7940 | 33.69   | 10.43   | 44.12    | 60.00 | -15.88 | QP       |         |
| 6   |     | 7.8660 | 21.95   | 10.40   | 32.35    | 50.00 | -17.65 | AVG      |         |

\*:Maximum data x:Over limit !:over margin

Engineer Signature:



Site NTEK 9\*6\*6 Chamber #1

Phase: N

Temperature: 26

Limit: FCC Part15 CE-Class B QP

Power: AC 120V/60Hz

Humidity: 56 %

EUT: Mobile Phone

RBW: 9 KHz VBW: 30 KHz

M/N: FB201

Mode: BT

Note:

| No. | Mk. | Freq.  | Reading | Correct | Measure- | Limit | Over   | Detector | Comment |
|-----|-----|--------|---------|---------|----------|-------|--------|----------|---------|
|     |     |        | Level   | Factor  | ment     |       |        |          |         |
| 1   | *   | 0.1700 | 51.64   | 9.80    | 61.44    | 64.96 | -3.52  | QP       |         |
| 2   |     | 0.1700 | 26.76   | 9.80    | 36.56    | 54.96 | -18.40 | AVG      |         |
| 3   |     | 0.4700 | 41.67   | 10.16   | 51.83    | 56.51 | -4.68  | QP       |         |
| 4   |     | 0.5620 | 27.00   | 10.20   | 37.20    | 46.00 | -8.80  | AVG      |         |
| 5   |     | 1.1740 | 40.87   | 10.16   | 51.03    | 56.00 | -4.97  | QP       |         |
| 6   |     | 1.2660 | 23.79   | 10.17   | 33.96    | 46.00 | -12.04 | AVG      |         |

\*:Maximum data    x:Over limit    !:over margin

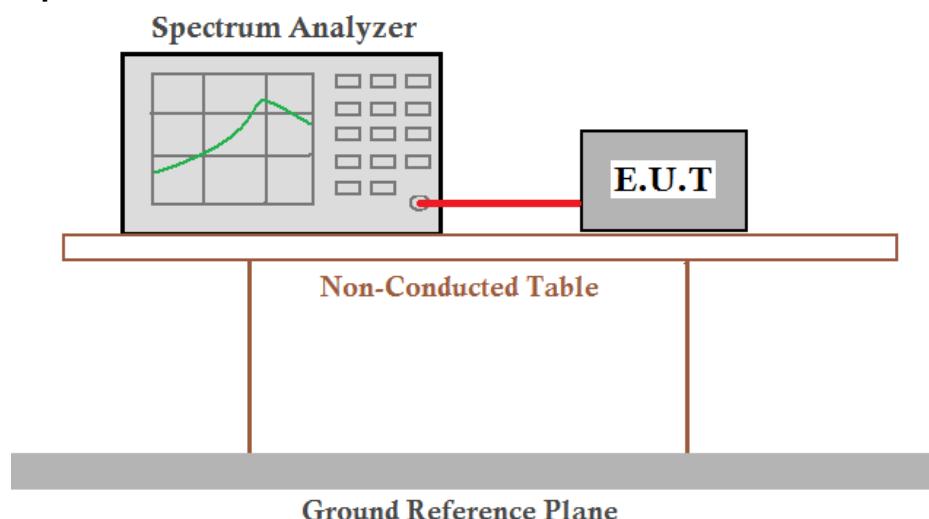
Engineer Signature:

## 5.4 20dB Bandwidth

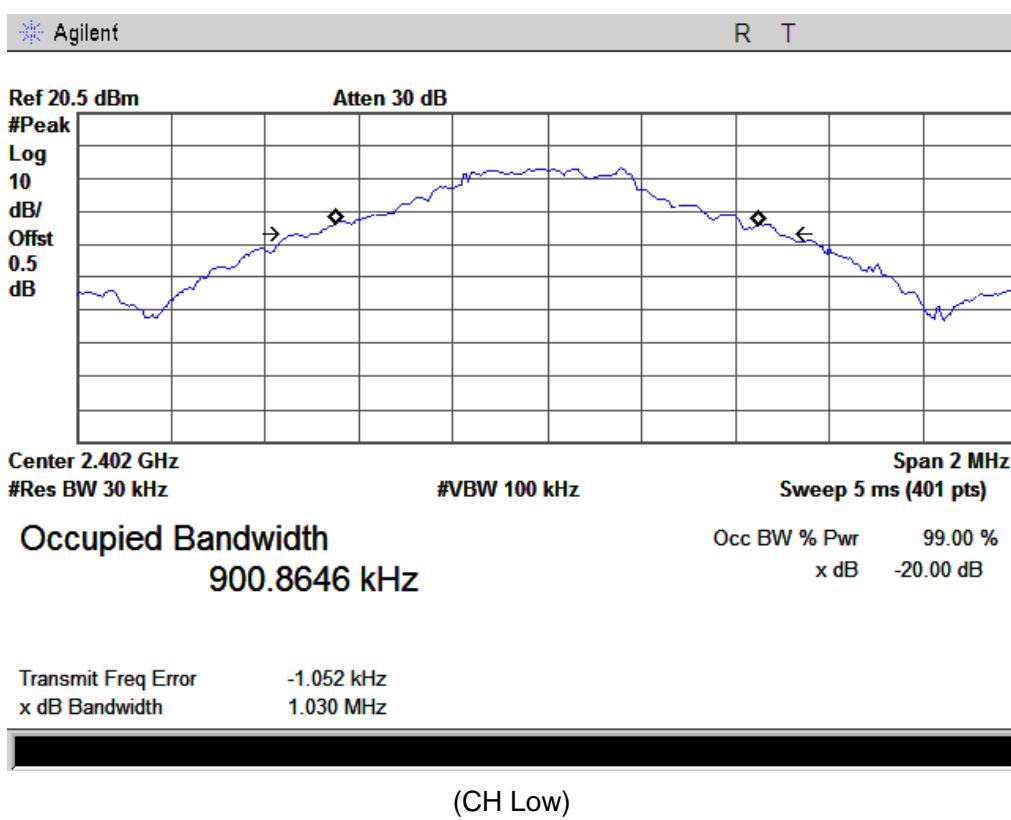
### 5.4.1 Definition

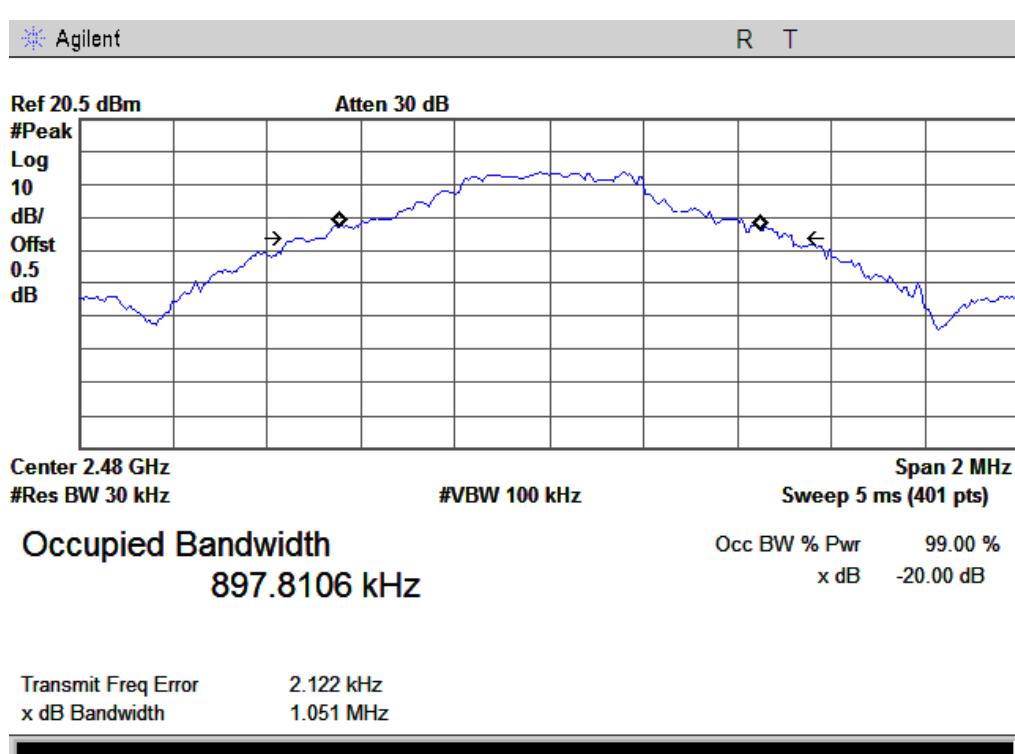
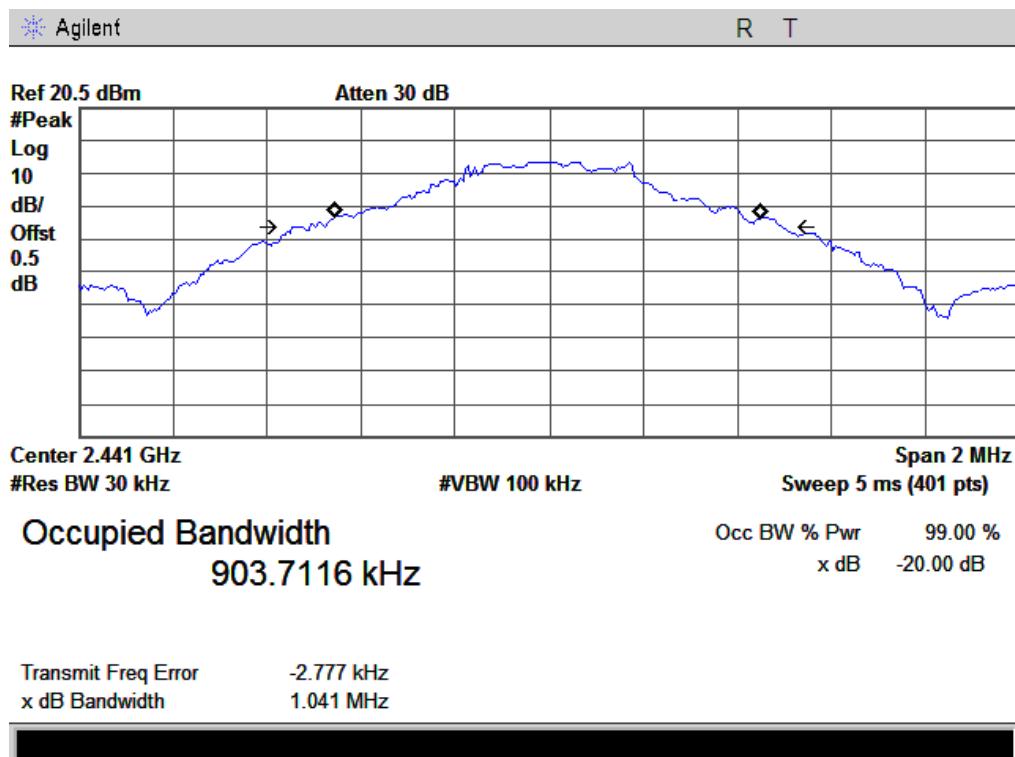
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 5.4.2 Test Description



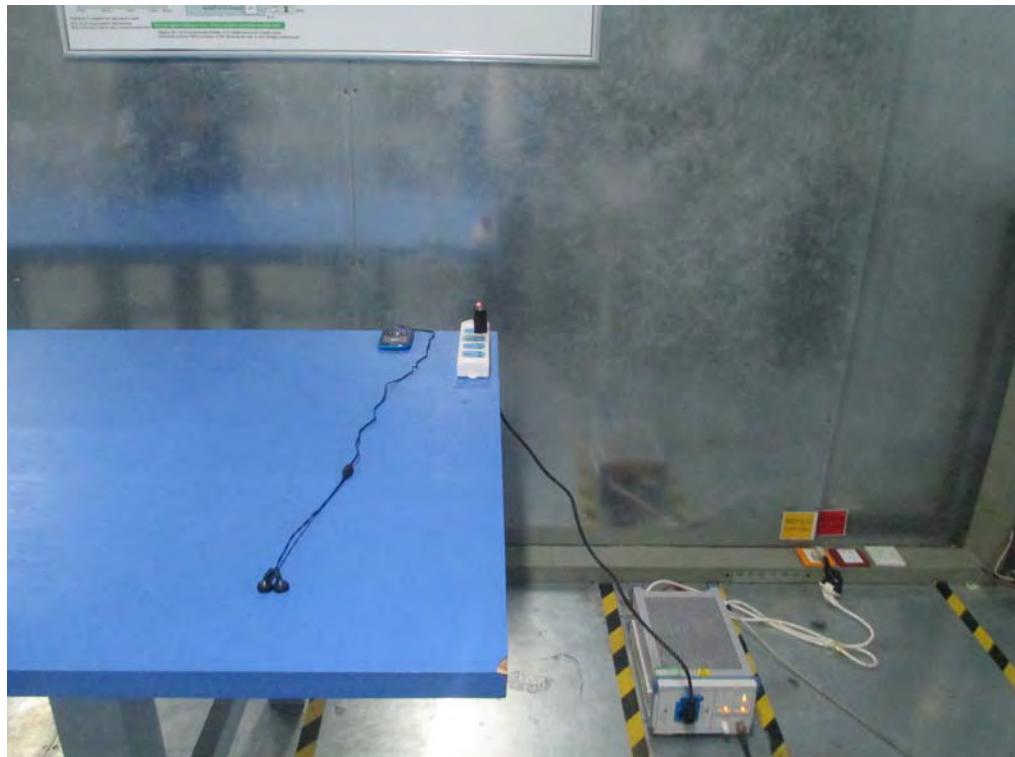
### 5.4.3 Test Result



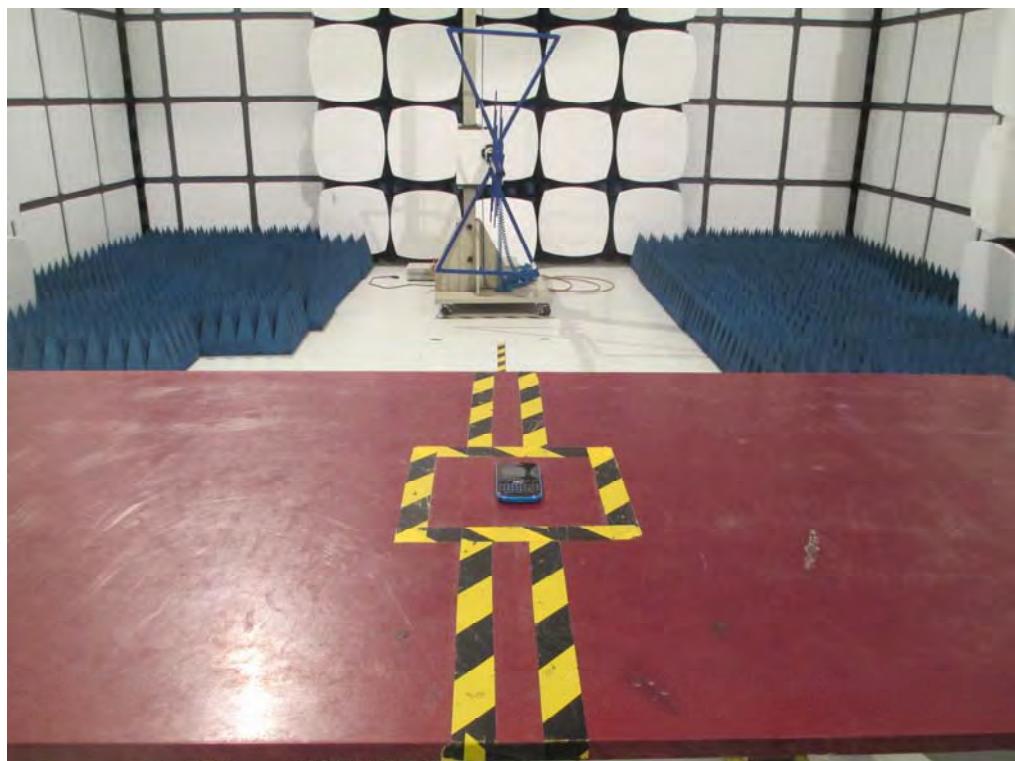


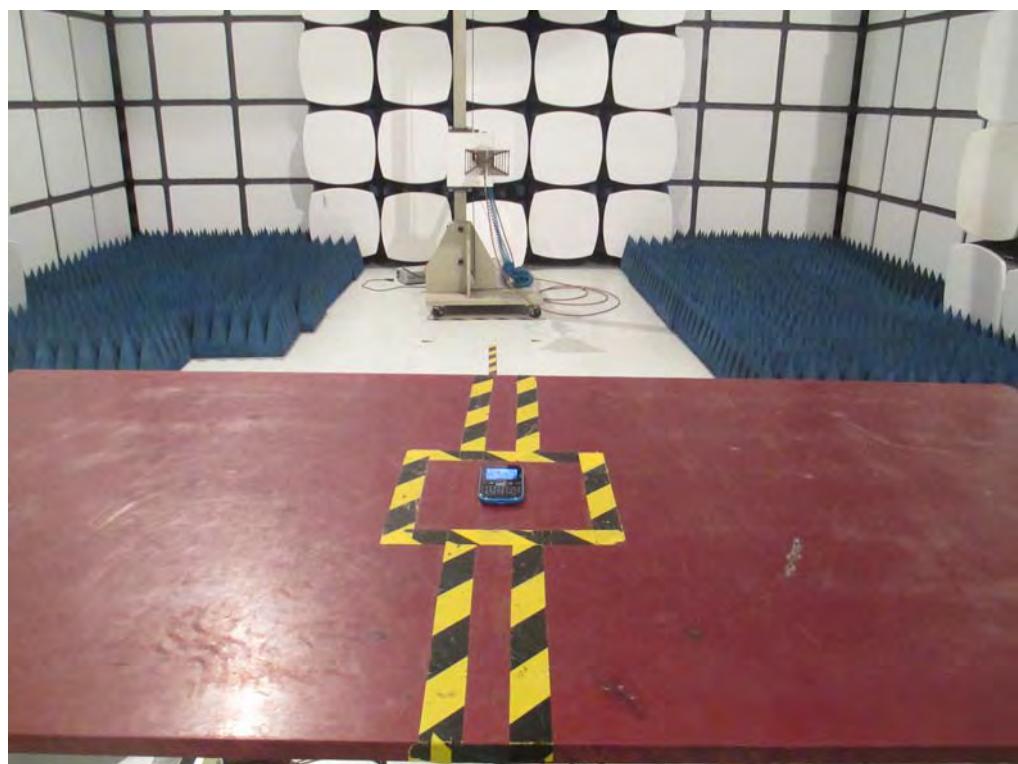
**APPENDIX 1**  
**PHOTOGRAPHS OF TEST SETUP**

CE TEST SETUP



RE TEST SETUP





**APPENDIX 2  
PHOTOGRAPHS OF EUT**

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



UP VIEW OF SAMPLE



DOWN VIEW OF SAMPLE



PHOTO OF HEADPHONE



PHOTO OF USB



INTERNAL PHOTO OF SAMPLE – 1



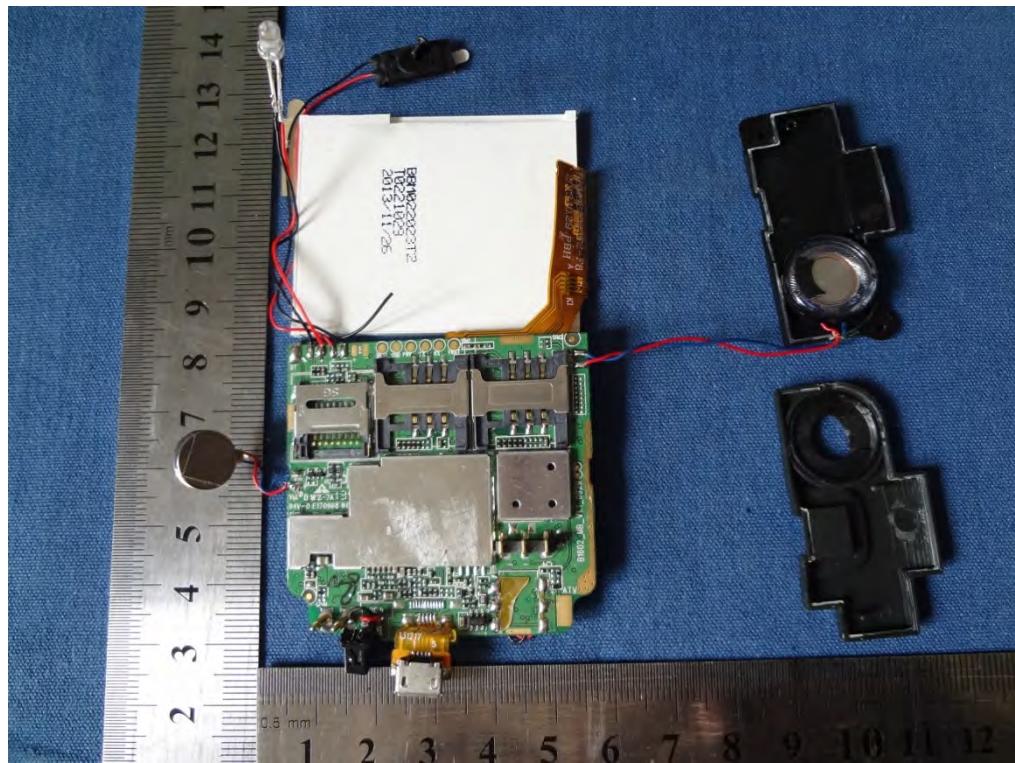
INTERNAL PHOTO OF SAMPLE -2



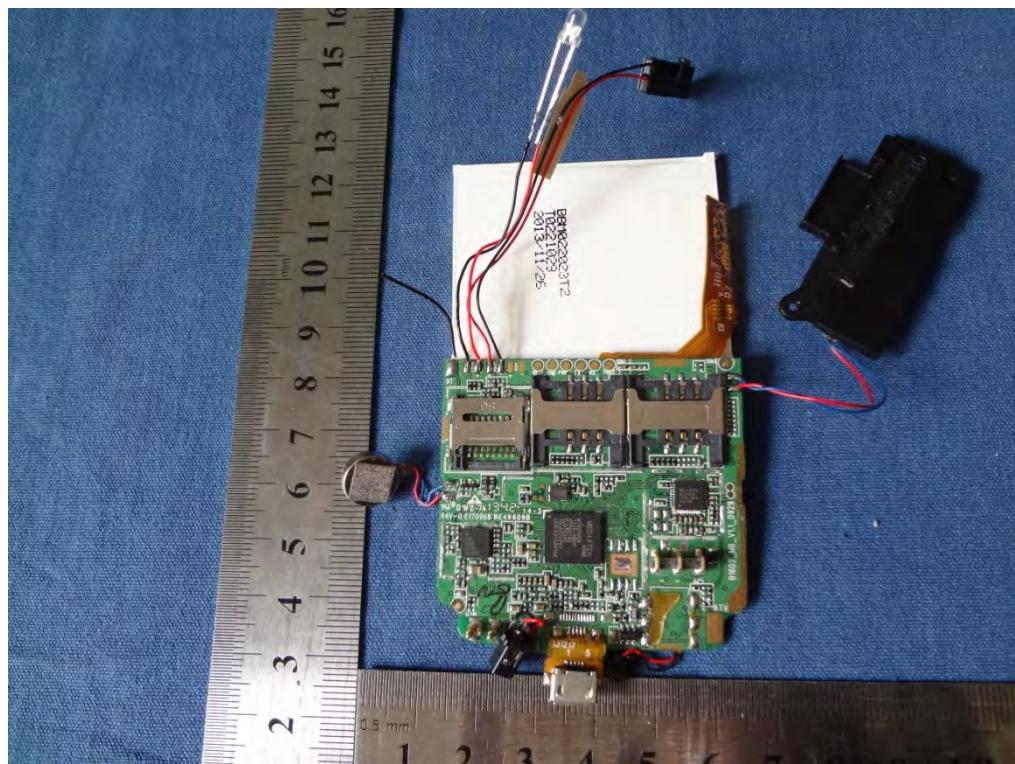
INTERNAL PHOTO OF SAMPLE – 3



INTERNAL PHOTO OF SAMPLE – 4



INTERNAL PHOTO OF SAMPLE – 5



-----END OF REPORT-----