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# FCC Test Report

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Report No.: AGC19C120201-1F1

**FCC ID** : ZL5B10  
**PRODUCT DESIGNATION** : 3G Mobile Phone  
**BRAND NAME** : CAT  
**MODEL NAME** : B10  
**CLIENT** : Bullitt Group  
**DATE OF ISSUE** : Mar. 02, 2012  
**STANDARD(S)** : FCC Part 15 Rules

**Attestation of Global Compliance Co., Ltd.**

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## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>1. VERIFICATION OF COMPLIANCE .....</b>               | <b>2</b>  |
| <b>2. PRODUCT INFORMATION .....</b>                      | <b>3</b>  |
| <b>3. TEST FACILITY .....</b>                            | <b>4</b>  |
| <b>4. SUPPORT EQUIPMENT LIST .....</b>                   | <b>5</b>  |
| <b>5. SYSTEM DESCRIPTION .....</b>                       | <b>5</b>  |
| <b>6 SUMMARY OF TEST RESULTS .....</b>                   | <b>6</b>  |
| <b>7. FCC LINE CONDUCTED EMISSION TEST .....</b>         | <b>7</b>  |
| 7.1. TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST..... | 7         |
| 7.2 .LIMITS OF LINE CONDUCTED EMISSION TEST .....        | 7         |
| 7.3. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST ..... | 7         |
| 7.4. PROCEDURE OF LINE CONDUCTED EMISSION TEST .....     | 8         |
| 7.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST.....     | 9         |
| <b>8. FCC RADIATED EMISSION TEST .....</b>               | <b>11</b> |
| 8.1. TEST EQUIPMENT OF RADIATED EMISSION .....           | 11        |
| 8.2. LIMITS OF RADIATED EMISSION TEST .....              | 11        |
| 8.3 BLOCK DIAGRAM OF RADIATED EMISSION TEST.....         | 11        |
| 8.4 PROCEDURE OF RADIATED EMISSION TEST .....            | 11        |
| 8.4 PROCEDURE OF RADIATED EMISSION TEST .....            | 12        |
| 8.5 TEST RESULT OF RADIATED EMISSION TEST .....          | 13        |
| <b>APPENDIX 1 .....</b>                                  | <b>15</b> |
| <b>PHOTOGRAPHS OF TEST SETUP .....</b>                   | <b>15</b> |
| <b>APPENDIX 2.....</b>                                   | <b>16</b> |
| <b>PHOTOGRAPHS OF EUT .....</b>                          | <b>16</b> |

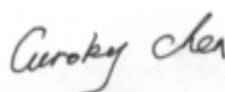
## 1. VERIFICATION OF COMPLIANCE

|                           |   |
|---------------------------|---|
| Applicant:                | Bullitt Group   |
|                           | No. 4, The Aquarium, King Street, United Kingdom RG1 2AN  |
| Manufacturer:             | Leadsky International Development Limited   |
|                           | Room 401, Huahan Building A, Langshan North Road,<br>Science and Technology Park, Nanshan District, Shenzhen, P.R.China |
| Product Designation:      | 3G Mobile Phone   |
| Brand name:               | CAT   |
| Model Name:               | B10   |
| FCC ID:                   | ZL5B10  |
| Measurement Procedure:    | ANSI C63.4: 2003  |
| File Number:              | AGC19C120201-1F1  |
| Date of test:             | Feb. 28 to Mar. 02, 2012  |
| Deviation:                | None  |
| Condition of Test Sample: | Normal  |

The above equipment was tested by Attestation Of Global Compliance Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

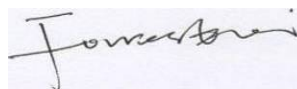
The test results of this report relate only to the tested sample identified in this report.

Tested By :



Curoky Chen Mar. 02, 2012

Reviewed By :



Forrest Lei Mar. 02, 2012

Approved By:



Solger Zhang Mar. 02, 2012

## 2. PRODUCT INFORMATION

**Housing Type:** Plastic and metal  
**EUT Rating Voltage:** DC 3.7V by battery  
**Adapter Input** AC100~240V,50/60Hz  
**Adapter output** DC 5V, 500mA

**I/O Port Information** (☒Applicable ☐Not Applicable)

| I/O Port of EUT |      |       |             |
|-----------------|------|-------|-------------|
| I/O Port Type   | Q'TY | Cable | Tested with |
| USB PORT        | 1    | N/A   | 3           |
| EARPHONE PORT   | 1    | N/A   | 1           |

### 3. TEST FACILITY

|                              |  |
|------------------------------|--|
| <b>Facility</b>              | Attestation of Global Compliance Co., Ltd.   |
| <b>Location:</b>             | 1F, No.2 Building, Huafeng No.1 Technical, Industrial Park, Sanwei, Xixiang,<br>Baoan District, Shenzhen, China                              |
| <b>Description:</b>          | The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.                                       |
| <b>Site Filing:</b>          | The FCC Registration Number is 259865  |
| <b>Instrument Tolerance:</b> | All measuring equipment is in accord with ANSI C63.4 requirements that meet industry regulatory agency and accreditation agency requirement. |

#### 4. SUPPORT EQUIPMENT LIST

| Device Type | Manufacturer | Model Name    | Serial No. | Data Cable | Power Cable        |
|-------------|--------------|---------------|------------|------------|--------------------|
| PC          | Dell         | Inpiron N4110 | N/A        | N/A        | 1.5m<br>unshielded |
| SD CARD     | Kingston     | --            | --         | --         | --                 |

\*\*Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

#### 5. SYSTEM DESCRIPTION

##### EUT test procedure:

1. Connect EUT and peripheral devices (if need).
2. Power on the EUT, the EUT begins to work.
3. Make sure the EUT operates normally during the test.

##### Test Mode

1. USB (connection for date transferring)  
Other modes have been tested via the procedure of verification of confirm.

## 6 SUMMARY OF TEST RESULTS

| FCC Rules | Description Of Test | Result    |
|-----------|---------------------|-----------|
| §15.107   | Conduction Emission | Compliant |
| §15.109   | Radiated Emission   | Compliant |

### Measurement uncertainty:

Conducted measurement: +/- 2.75dB

Radiated measurement: +/- 3.2dB

## 7. FCC LINE CONDUCTED EMISSION TEST

### 7.1. TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST

| Description   | Manufacturer | Model   | Identifier | Cal. Date  | Cal. Due   |
|---------------|--------------|---------|------------|------------|------------|
| TEST RECEIVER | R&S          | ESCI    | N/A        | 06/27/2011 | 06/26/2012 |
| LISN          | R&S          | ESH3-Z5 | N/A        | 06/27/2011 | 06/26/2012 |
| AMN           | R&S          | ESH2-Z5 | 862060/020 | 06/27/2011 | 06/26/2012 |

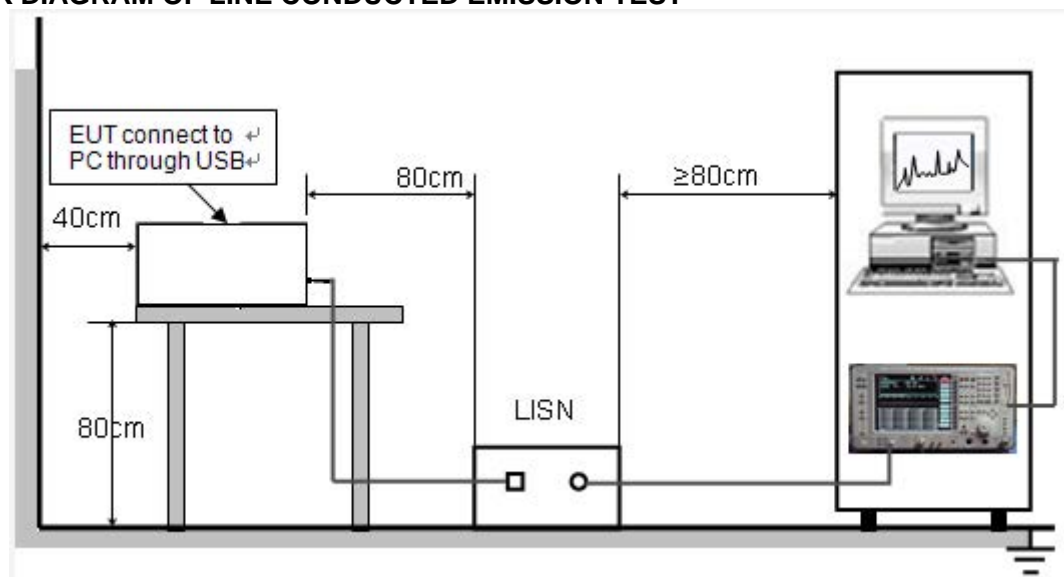
### 7.2 .LIMITS OF LINE CONDUCTED EMISSION TEST

| 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

### 7.3. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



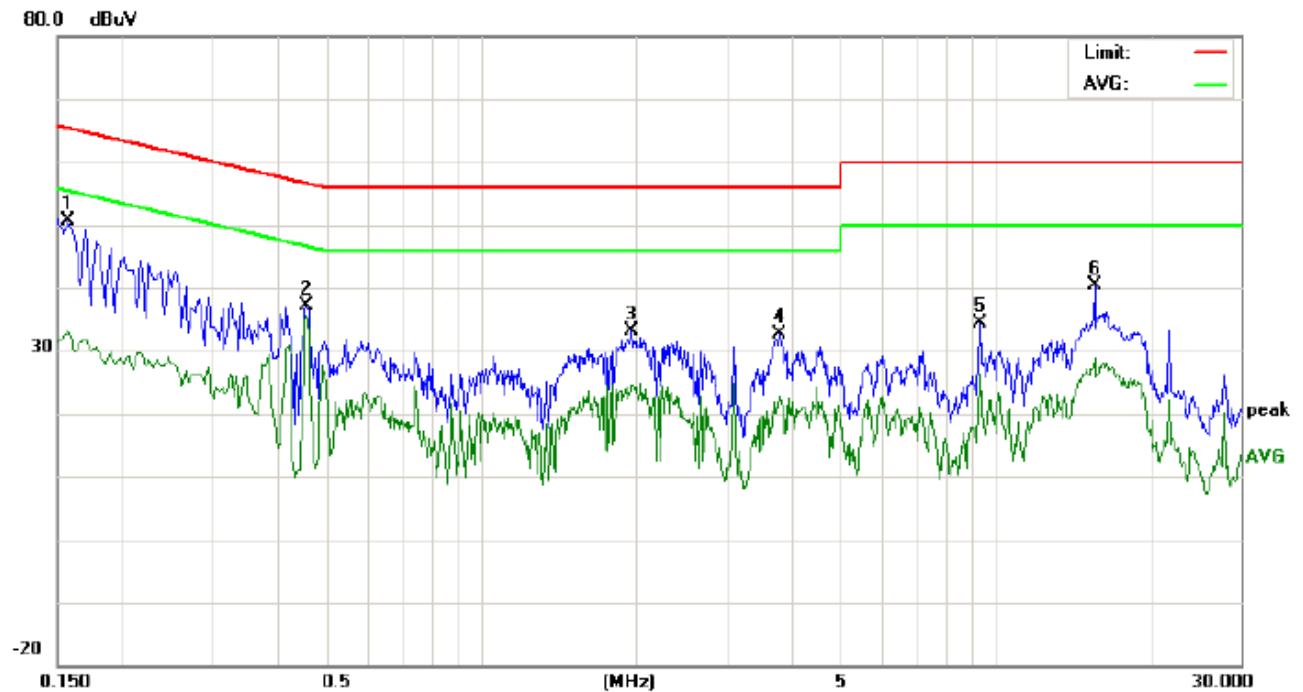
#### 7.4. PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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 ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a 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 ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received DC5V power from PC with receive 120V/60Hz power from a LISN.
- 5) 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.
- 6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 7) During the above scans, the emissions were maximized by cable manipulation.
- 8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.
- 9) 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 (mode 1) was reported on the Summary Data page.

## 7.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST

### LINE CONDUCTED EMISSION - L



Site: Conduction

Phase: **L1**

Temperature: 26

Limit: FCC Class B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 60 %

EUT: 3G Mobile Phone

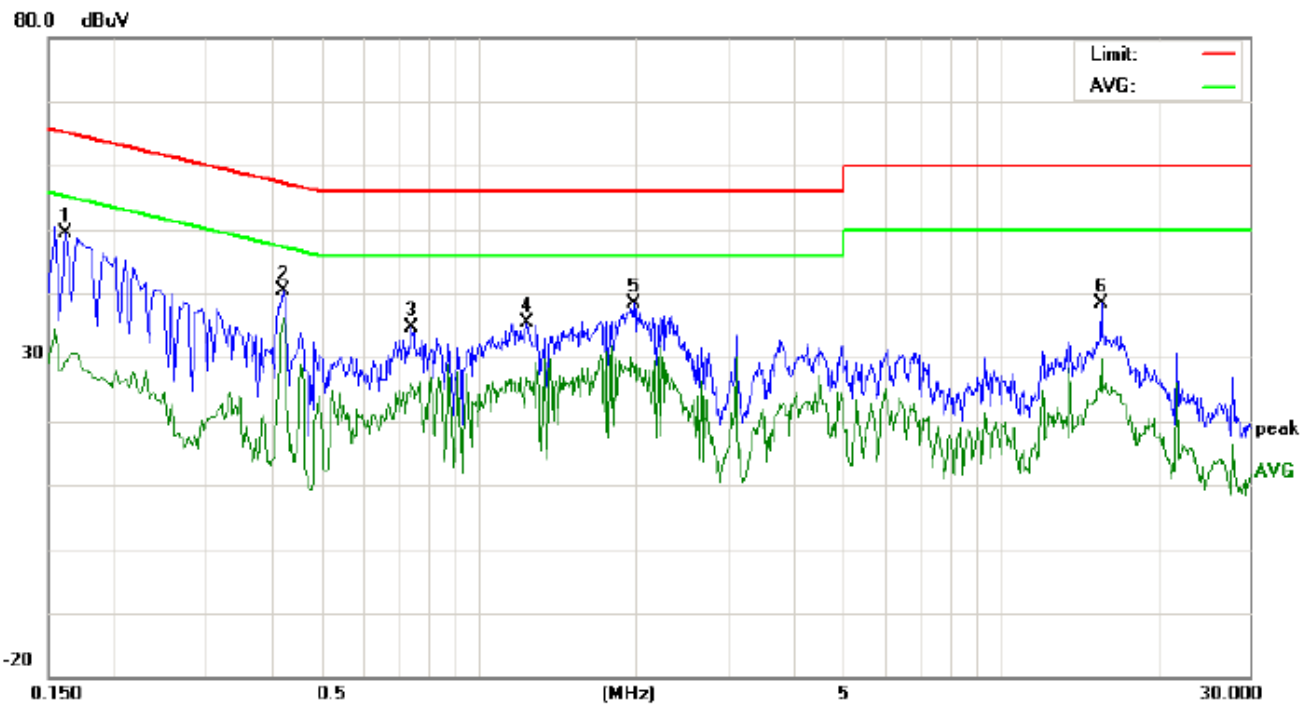
M/N: B10

Mode: USB

Note:

| No. | Freq. (MHz) | Reading_Level (dBuV) |    |       | Correct Factor | Measurement (dBuV) |    |       | Limit (dBuV) |       | Margin (dB) |        | P/F | Comment |
|-----|-------------|----------------------|----|-------|----------------|--------------------|----|-------|--------------|-------|-------------|--------|-----|---------|
|     |             | Peak                 | QP | AVG   |                | Peak               | QP | AVG   | QP           | AVG   | QP          | AVG    |     |         |
| 1   | 0.1580      | 40.33                |    | 22.88 | 10.17          | 50.50              |    | 33.05 | 65.56        | 55.56 | -15.06      | -22.51 | P   |         |
| 2   | 0.4580      | 26.76                |    | 25.28 | 10.37          | 37.13              |    | 35.65 | 56.73        | 46.73 | -19.60      | -11.08 | P   |         |
| 3   | 1.9620      | 23.01                |    | 14.46 | 10.23          | 33.24              |    | 24.69 | 56.00        | 46.00 | -22.76      | -21.31 | P   |         |
| 4   | 3.8020      | 22.23                |    | 12.33 | 10.46          | 32.69              |    | 22.79 | 56.00        | 46.00 | -23.31      | -23.21 | P   |         |
| 5   | 9.3260      | 23.94                |    | 16.12 | 10.32          | 34.26              |    | 26.44 | 60.00        | 50.00 | -25.74      | -23.56 | P   |         |
| 6   | 15.5580     | 30.22                |    | 18.78 | 10.11          | 40.33              |    | 28.89 | 60.00        | 50.00 | -19.67      | -21.11 | P   |         |

# LINE CONDUCTED EMISSION – N



|                                   |                     |                 |
|-----------------------------------|---------------------|-----------------|
| Site: Conduction                  | Phase: <b>N</b>     | Temperature: 26 |
| Limit: FCC Class B Conduction(QP) | Power: AC 120V/60Hz | Humidity: 60 %  |
| EUT: 3G Mobile Phone              |                     |                 |
| M/N: B10                          |                     |                 |
| Mode: USB                         |                     |                 |
| Note:                             |                     |                 |

| No. | Freq.<br>(MHz) | Reading_Level<br>(dBuV) |    |       | Correct<br>Factor<br>dB | Measurement<br>(dBuV) |    |       | Limit<br>(dBuV) |       | Margin<br>(dB) |        | P/F | Comment |
|-----|----------------|-------------------------|----|-------|-------------------------|-----------------------|----|-------|-----------------|-------|----------------|--------|-----|---------|
|     |                | Peak                    | QP | AVG   |                         | Peak                  | QP | AVG   | QP              | AVG   | QP             | AVG    |     |         |
| 1   | 0.1620         | 39.24                   |    | 19.14 | 10.17                   | 49.41                 |    | 29.31 | 65.36           | 55.36 | -15.95         | -26.05 | P   |         |
| 2   | 0.4220         | 30.06                   |    | 25.83 | 10.35                   | 40.41                 |    | 36.18 | 57.41           | 47.41 | -17.00         | -11.23 | P   |         |
| 3   | 0.7460         | 24.22                   |    | 15.45 | 10.32                   | 34.54                 |    | 25.77 | 56.00           | 46.00 | -21.46         | -20.23 | P   |         |
| 4   | 1.2420         | 24.89                   |    | 16.49 | 10.37                   | 35.26                 |    | 26.86 | 56.00           | 46.00 | -20.74         | -19.14 | P   |         |
| 5   | 1.9860         | 28.11                   |    | 18.37 | 10.22                   | 38.33                 |    | 28.59 | 56.00           | 46.00 | -17.67         | -17.41 | P   |         |
| 6   | 15.5580        | 28.22                   |    | 19.44 | 10.11                   | 38.33                 |    | 29.55 | 60.00           | 50.00 | -21.67         | -20.45 | P   |         |

## 8. FCC RADIATED EMISSION TEST

### 8.1. TEST EQUIPMENT OF RADIATED EMISSION

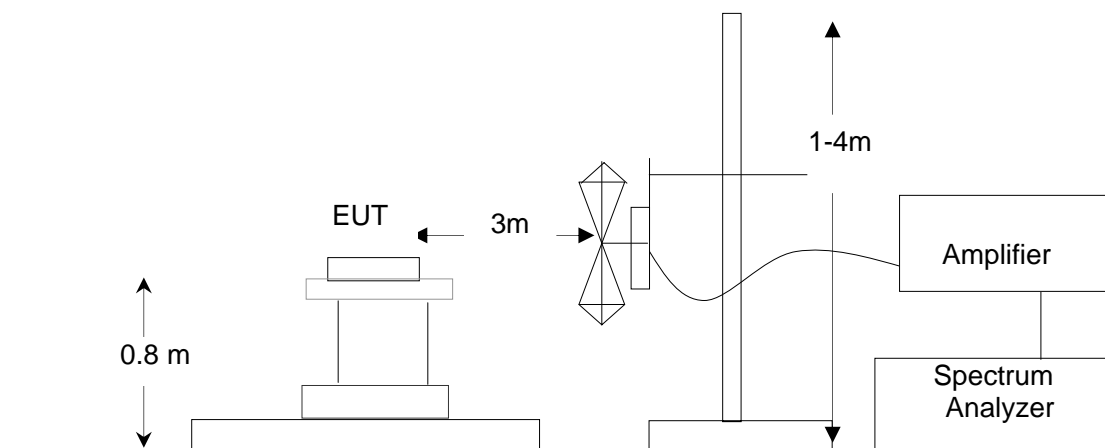
| Description                     | Manufacturer | Model       | Identifier  | Cal. Date  | Cal. Due   |
|---------------------------------|--------------|-------------|-------------|------------|------------|
| PSA SERIES<br>SPECTRUM ANALYZER | AGILENT      | E4440A      | US41421290  | 06/27/2011 | 06/26/2012 |
| ANTENNA                         | A.H.         | SAS-521-4   | 128         | 06/27/2011 | 06/26/2012 |
| HORN ANTENNA                    | EM           | EM-AH-10180 | N/A         | 06/27/2011 | 06/26/2012 |
| AMPLIFIER                       | EM           | EM30180     | 0607030     | 06/27/2011 | 06/26/2012 |
| POSITIONING<br>CONTROLLER       | MF           | MF-7802     | MF780208147 | 06/27/2011 | 06/26/2012 |

### 8.2. LIMITS OF RADIATED EMISSION TEST

| Frequency<br>(MHz) | Distance<br>(m) | Maximum Field Strength Limit<br>(dBuV/m/ Q.P.) |
|--------------------|-----------------|--|
| 30~88              | 3               | 40.0   |
| 88~216             | 3               | 43.5   |
| 216~960            | 3               | 46.0   |
| Above 960          | 3               | 54.0   |

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

### 8.3 BLOCK DIAGRAM OF RADIATED EMISSION TEST



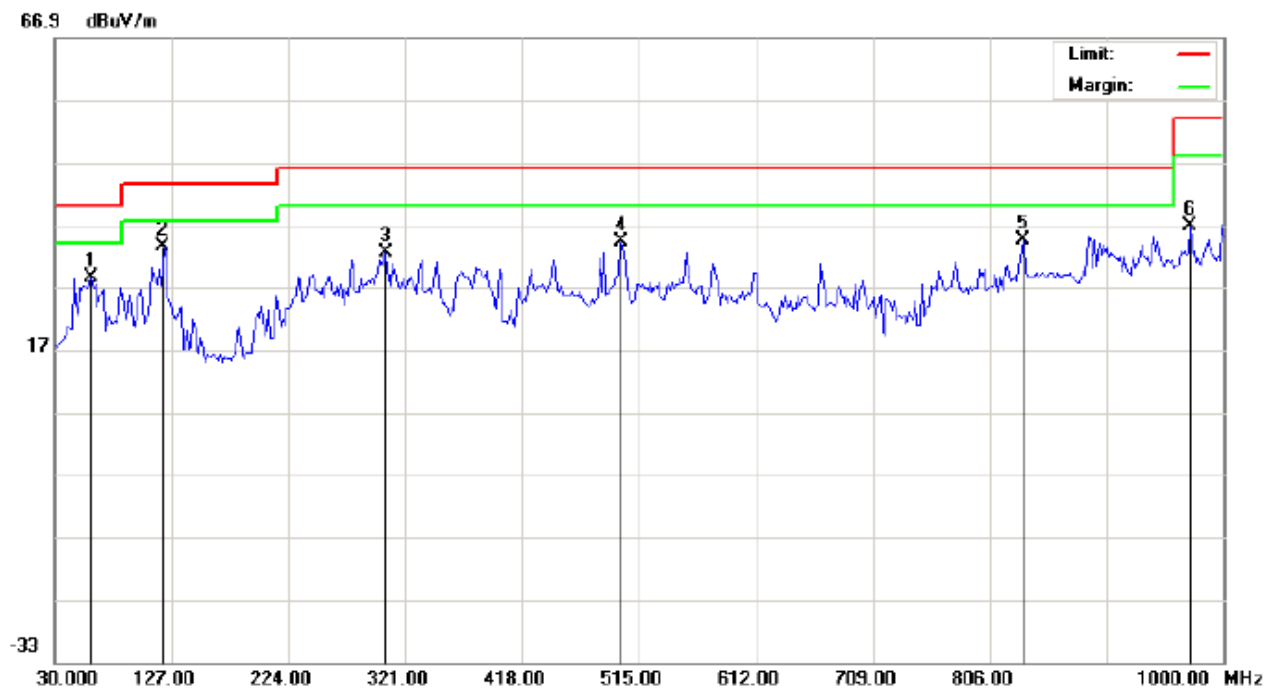
#### 8.4 PROCEDURE OF RADIATED EMISSION TEST

- 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 turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (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 ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received DC 5V power from PC with receive 120V/60Hz power from socket under the turntable through a LISN.
- 5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The test mode(s) were scanned during the test:
- 8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

## 8.5 TEST RESULT OF RADIATED EMISSION TEST

Radiated Emission Test –Horizontal -3m



Site: site #1

Limit: FCC Class B 3M Radiation

EUT: 3G Mobile Phone

M/N: B10

Mode: USB

Note:

Polarization: *Horizontal*

Power: AC 120V/60Hz

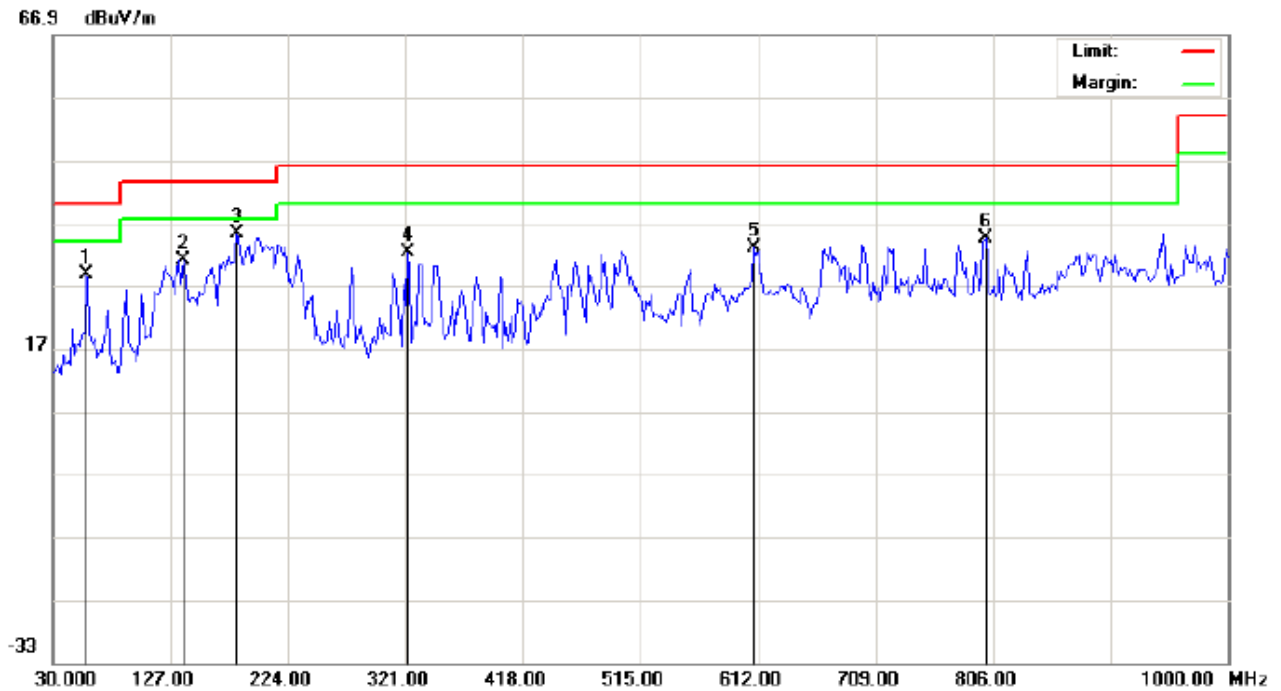
Distance: 3m

Temperature: 26

Humidity: 60 %

| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
|     |    | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm             | degree       |         |
| 1   |    | 60.7167  | 18.08   | 10.39  | 28.47       | 40.00  | -11.53 | peak     |                |              |         |
| 2   | *  | 120.5331 | 19.88   | 13.63  | 33.51       | 43.50  | -9.99  | peak     |                |              |         |
| 3   |    | 304.8333 | 15.29   | 17.32  | 32.61       | 46.00  | -13.39 | peak     |                |              |         |
| 4   |    | 500.4499 | 11.30   | 22.90  | 34.20       | 46.00  | -11.80 | peak     |                |              |         |
| 5   |    | 833.4832 | 4.18    | 30.28  | 34.46       | 46.00  | -11.54 | peak     |                |              |         |
| 6   |    | 972.5167 | 3.39    | 33.38  | 36.77       | 54.00  | -17.23 | peak     |                |              |         |

### Radiated Emission Test –Vertical -3m



Site: site #1  
Limit: FCC Class B 3M Radiation  
EUT: 3G Mobile Phone  
M/N: B10  
Mode: USB  
Note:

Polarization: **Vertical**  
Power: AC 120V/60Hz  
Distance: 3m

Temperature: 26  
Humidity: 60 %

| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
|     |    | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm             | degree       |         |
| 1   |    | 57.4831  | 14.16   | 14.54  | 28.70       | 40.00  | -11.30 | peak     |                |              |         |
| 2   |    | 138.3163 | 17.35   | 13.64  | 30.99       | 43.50  | -12.51 | peak     |                |              |         |
| 3   | *  | 181.9667 | 16.83   | 18.36  | 35.19       | 43.50  | -8.31  | peak     |                |              |         |
| 4   |    | 322.6166 | 13.81   | 18.40  | 32.21       | 46.00  | -13.79 | peak     |                |              |         |
| 5   |    | 608.7667 | 8.08    | 24.98  | 33.06       | 46.00  | -12.94 | peak     |                |              |         |
| 6   |    | 799.5333 | 4.30    | 30.14  | 34.44       | 46.00  | -11.56 | peak     |                |              |         |

**Note:** All Other modes above 1GHz have more than 20db margin, no recording in the report

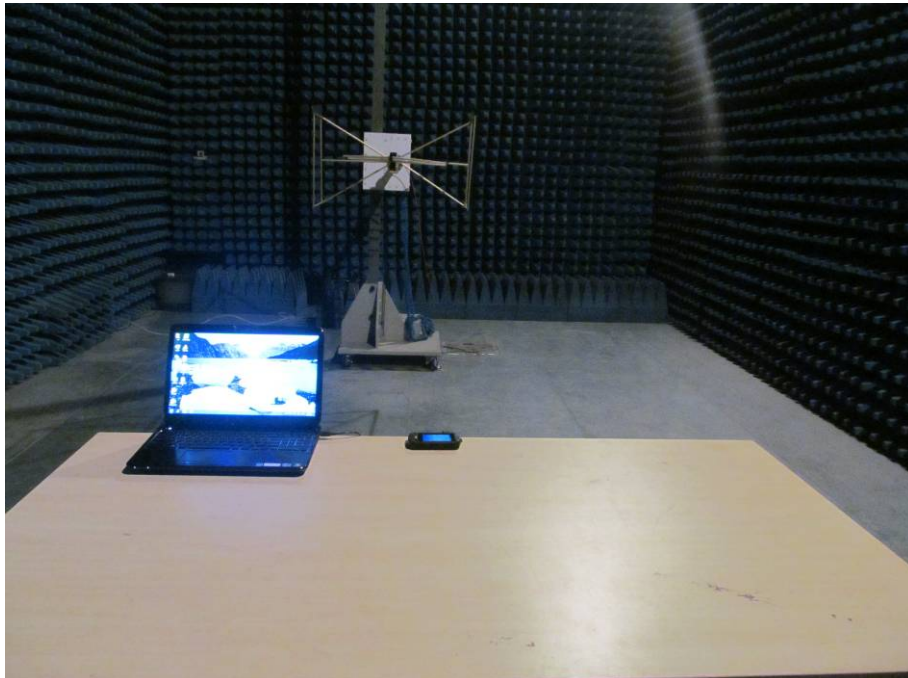
Measurement = Reading + Factor, Over = Measurement – Limit.

## APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



## APPENDIX 2 PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT



TOP VIEW OF EUT



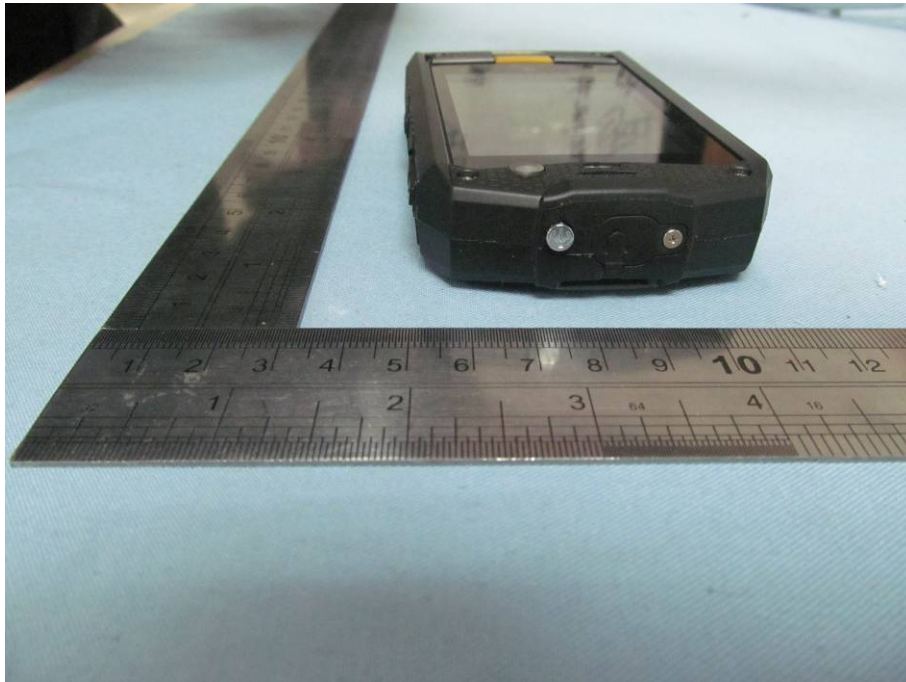
BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



BACK VIEW OF EUT



LEFT VIEW OF EUT



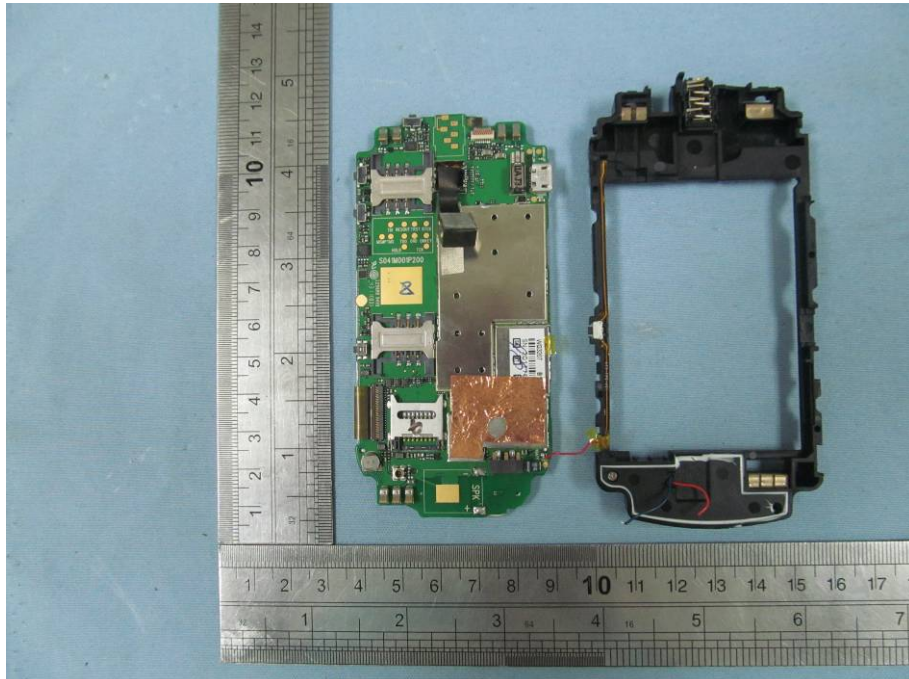
RIGHT VIEW OF EUT



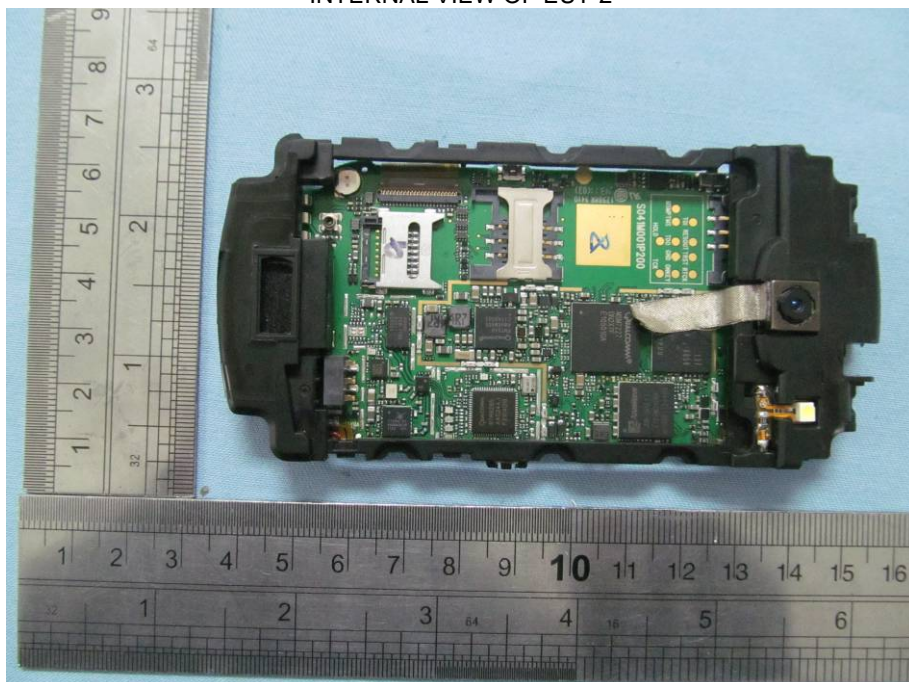
OPEN VIEW OF EUT-1



INTERNAL VIEW OF EUT-1

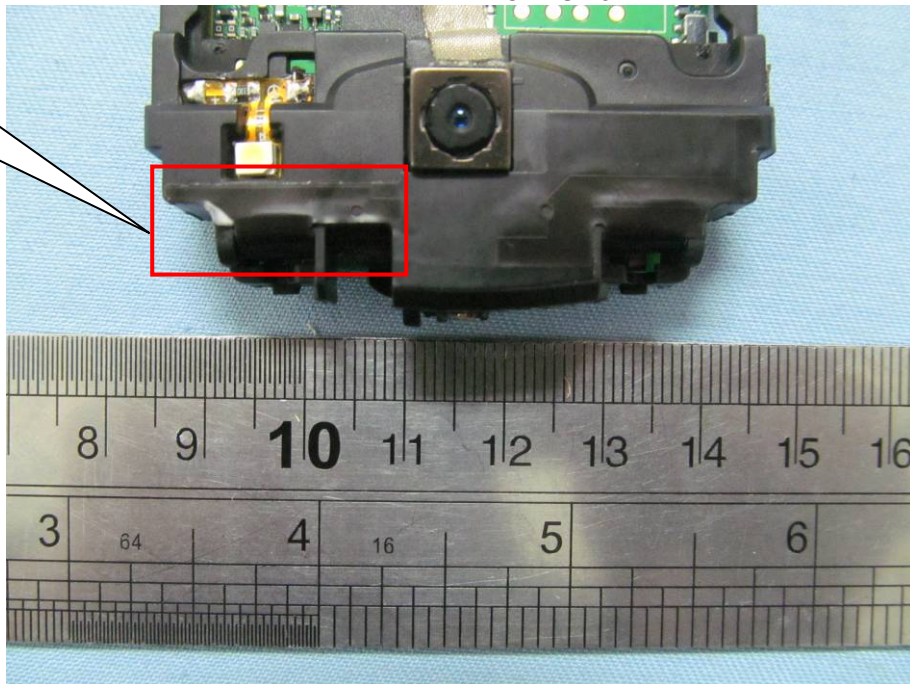


INTERNAL VIEW OF EUT-2



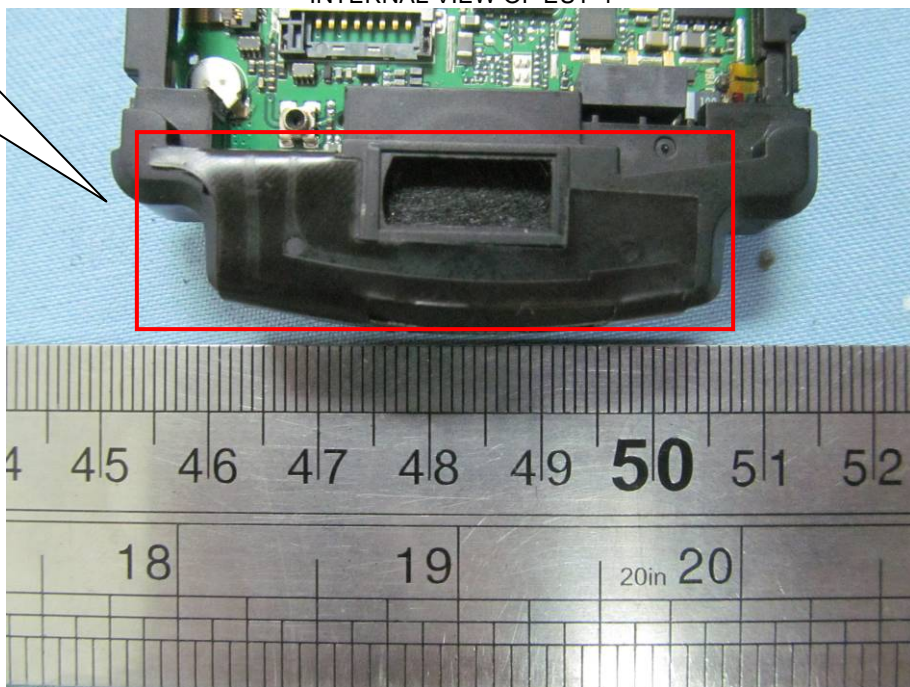
INTERNAL VIEW OF EUT-3

BT&  
Wi-fi

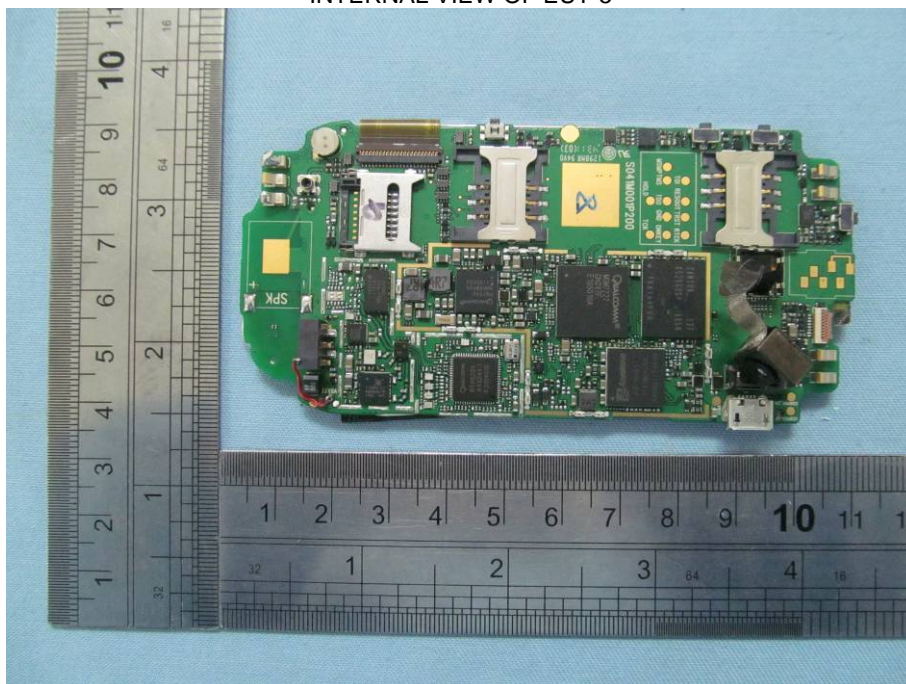


INTERNAL VIEW OF EUT-4

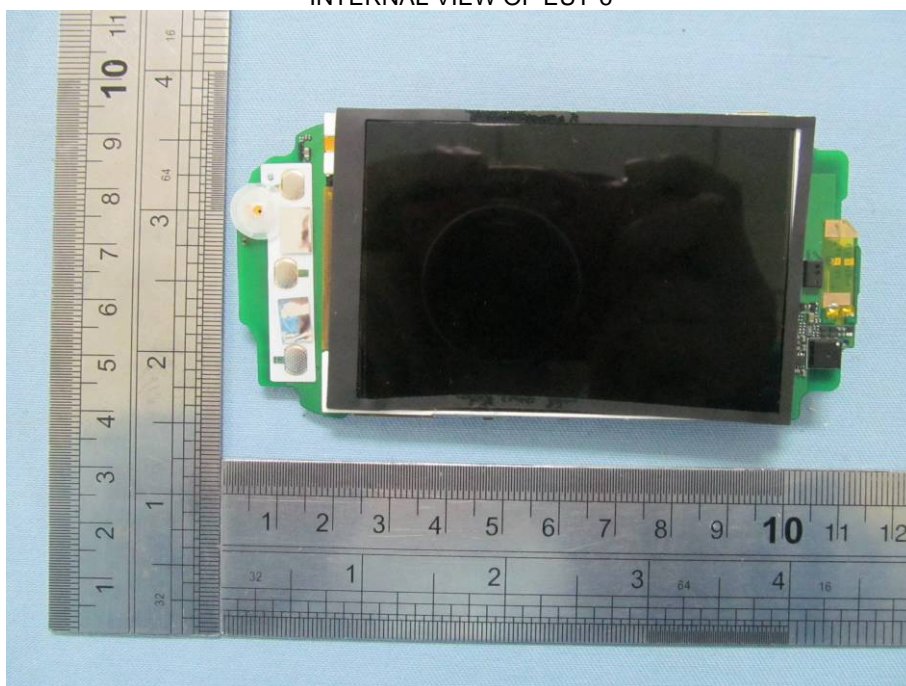
GSM&  
WCDMA  
Antenna



INTERNAL VIEW OF EUT-5



INTERNAL VIEW OF EUT-6



----END OF REPORT----