# FCC Test Report

| | | |
|---|---|---|
| APPLICANT | : | TCL Communication Ltd. |
| EQUIPMENT | : | GSM quad band mobile phone |
| MODEL NAME | : | 1050E, 1050A |
| FCC ID | : | 2ACCJB018 |
| STANDARD | : | FCC 47 CFR FCC Part 15 Subpart B |
| CLASSIFICATION | : | Certification |

The product was received on May 18, 2015 and testing was completed on May 28, 2015. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2009 and has been in 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 (SHENZHEN) INC., the test report shall not be reproduced except in full.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

*SPORTON INTERNATIONAL (SHENZHEN) INC.*
*1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China*

# TABLE OF CONTENTS

# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FC551802 | Rev. 01 | Initial issue of report | Jun. 19, 2015 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|
| 3.1 | 15.107 | AC Conducted Emission | < 15.107 limits | PASS | Under limit 3.69 dB at 1.770 MHz |
| 3.2 | 15.109 | Radiated Emission | < 15.109 limits | PASS | Under limit 4.45 dB at 194.970 MHz for Quasi-Peak |

# 1. General Description

## 1.1. Applicant

**TCL Communication Ltd.**
5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P. R. China

## 1.2. Manufacturer

**TCL Communication Ltd.**
5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P. R. China

## 1.3. Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | GSM quad band mobile phone |
| **Model Name** | 1050E, 1050A |
| **FCC ID** | 2ACCJB018 |
| **EUT supports Radios application** | GSM/GPRS |
| **IMEI Code** | Conduction: 352733070000807/352733070000815<br>Radiation: 352733070000823/352733070000831 |
| **HW Version** | PIO |
| **SW Version** | V1.0 |
| **EUT Stage** | Production Unit |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two different types of EUT. They are single SIM card mobile(1050A) and dual SIM cards mobile(1050E). The others are the same including circuit design, PCB board, structure and all components. It is special to declare. We choose dual SIM cards mobile to perform full tests.

## 1.4. Product Specification subjective to this standard

| Product Specification subjective to this standard | |
|---|---|
| **Tx Frequency** | GSM850 : 824.2 MHz ~ 848.8 MHz<br>GSM1900 : 1850.2 MHz ~ 1909.8MHz |
| **Rx Frequency** | GSM850 : 869.2 MHz ~ 893.8 MHz<br>GSM1900 : 1930.2 MHz ~ 1989.8 MHz |
| **Antenna Type** | WWAN : PIFA Antenna |
| **Type of Modulation** | GSM: GMSK<br>GPRS: GMSK |

## 1.5. Specification of Accessory

| Specification of Accessory | | | | |
|---|---|---|---|---|
| **AC Adapter** | **Brand Name** | ALCATEL | **Model Name** | A220-1501-500200 |
| | **Power Rating** | I/P: 100-240Vac, 100mA, O/P: 5Vdc, 200mA | | |
| | **P/N** | CBA0053AG0C4 | | |
| **Battery** | **Brand Name** | ALCATEL | **Model Name** | CAB0400000C1 |
| | **Power Rating** | 3.7Vdc, 400mAh | | |
| | **P/N** | B30944450FA | | |
| **USB Cable** | **Brand Name** | JIAYIKANG | **Model Name** | CDA0000030C3 |
| | **Signal Line Type** | 1.0m shielded without core | | |
| **Earphone** | **Brand Name** | JIAYIKANG | **Model Name** | CCB0010A11C7 |
| | **Signal Line Type** | 1.5m non-shielded without core | | |

## 1.6. Modification of EUT

No modifications are made to the EUT during all test items.

## 1.7. Test Location

| | | |
|---|---|---|
| **Test Site** | SPORTON INTERNATIONAL (SHENZHEN) INC. | |
| **Test Site Location** | 1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China<br>TEL: +86-755-8637-9589<br>FAX: +86-755-8637-9595 | |
| **Test Site No.** | **Sporton Site No.** | |
| | CO01-SZ | |

| | | |
|---|---|---|
| **Test Site** | SPORTON INTERNATIONAL (SHENZHEN) INC. | |
| **Test Site Location** | No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China<br>TEL: +86-755- 3320-2398 | |
| **Test Site No.** | **Sporton Site No.** | **FCC Registration No.** |
| | 03CH01-SZ | 831040 |

## 1.8. Applicable 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 C63.4-2009

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

# 2. Test Configuration of Equipment Under Test

## 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2009 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) | ☒ | ☒ | ☒ |
| 2. | Data application transferred mode (EUT connected with notebook) | ☒ | ☒ | ☒ |

**Abbreviations:**

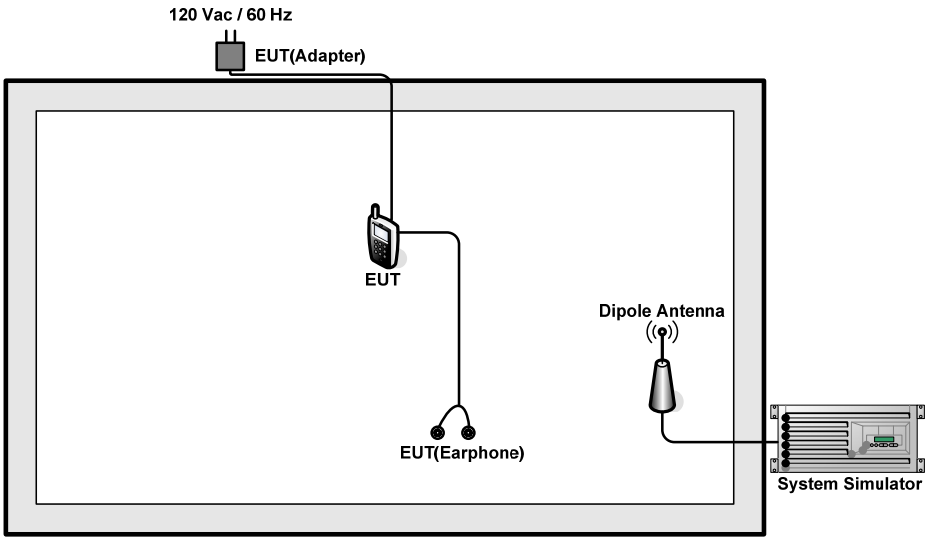
- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

| Test Items | EUT Configure Mode | Function Type |
|---|---|---|
| AC Conducted Emission | 1/2 | Mode 1: GSM850 Idle + Adapter + Earphone + Camera + SIM 1 <Fig.1><br>Mode 2: GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 <Fig.2> |
| Radiated Emissions < 1GHz | 1/2 | Mode 1: GSM850 Idle + Adapter + Earphone + Camera + SIM 1 <Fig.1><br>Mode2: GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 <Fig.2> |
| Radiated Emissions ≥ 1GHz | 1/2 | Mode 1: GSM850 Idle + Adapter + Earphone + Camera + SIM 1 <Fig.1><br>Mode 2: GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 <Fig.2> |

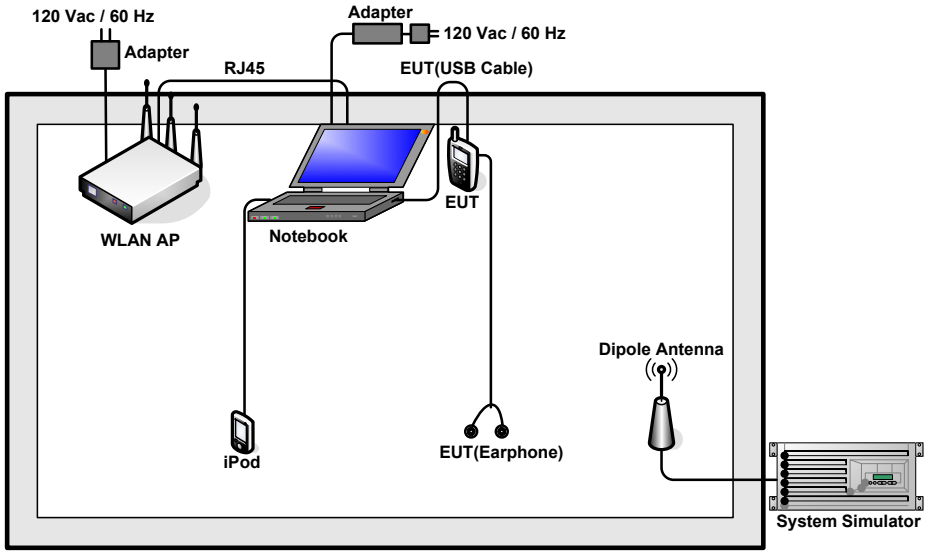
**Remark:**

1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 2, the test data of these modes were reported.
2. The worst case of RE < 1G is mode 1; and the USB Link mode of RE is mode 2, the test data of these modes were reported.
3. Link with Notebook means data application transferred mode between EUT and Notebook.

## 2.2. Connection Diagram of Test System




<Fig.1>




<Fig.2>

## 2.3. Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model Name | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | System Simulator | Anritsu | MT8820C | N/A | N/A | Unshielded, 1.8 m |
| 2. | WLAN AP | ASUSTek | RT-AC66U | MSQ-RTAC66U | N/A | Unshielded, 1.8 m |
| 3. | Notebook | Lenovo | E540 | FCC DoC | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |
| 4. | iPod | Apple | MC690ZP/A | FCC DoC | Unshielded, 1.2 m | N/A |

## 2.4. EUT Operation Test Setup

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

The following programs installed in the EUT were programmed during the test.

1. Data application is transferred between Notebook and EUT via USB cable.
2. 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 (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.

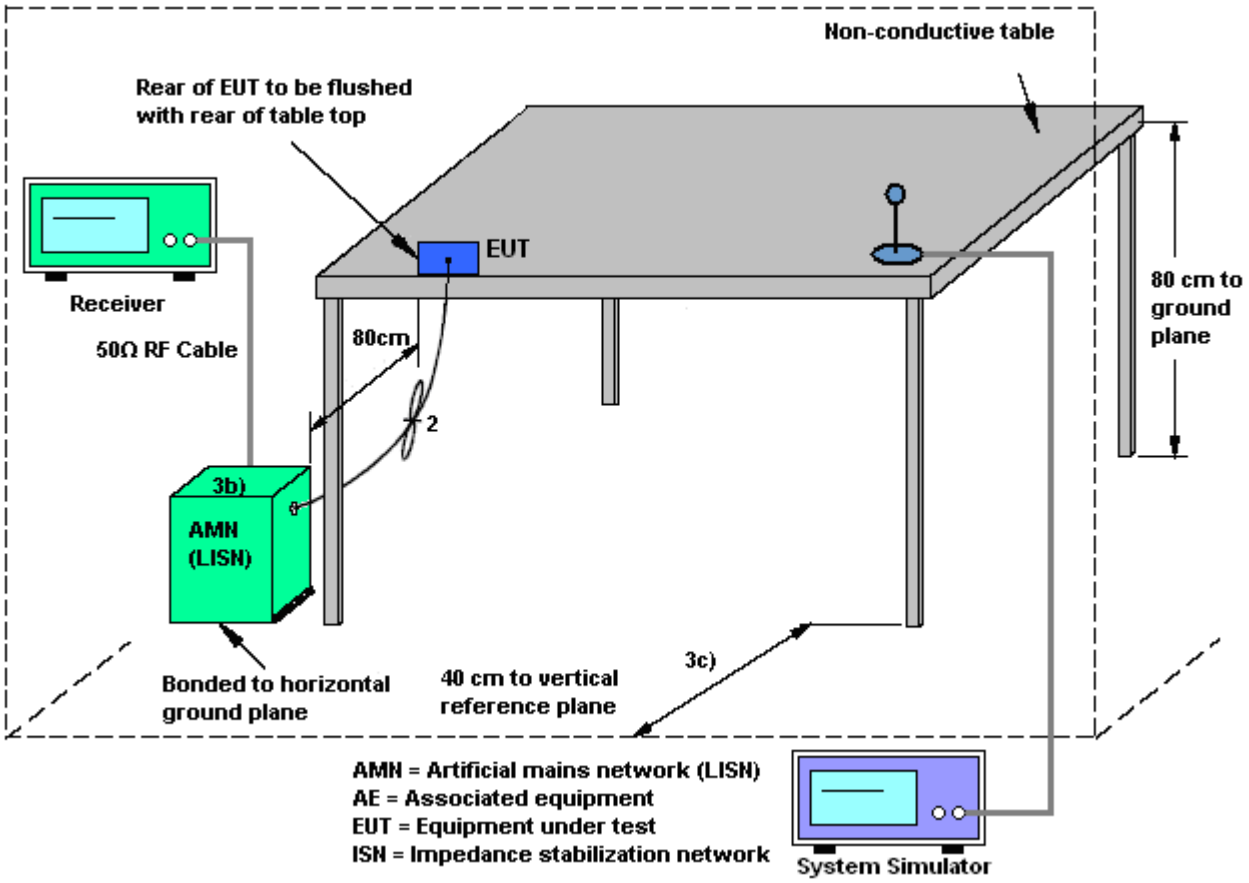
### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.1.3 Test Procedure

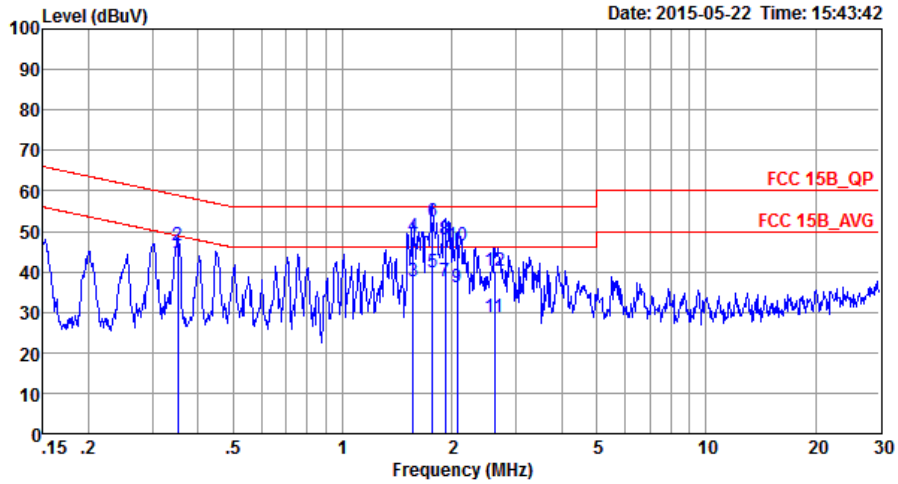
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

### 3.1.4 Test Setup



### 3.1.5 Test Result of AC Conducted Emission

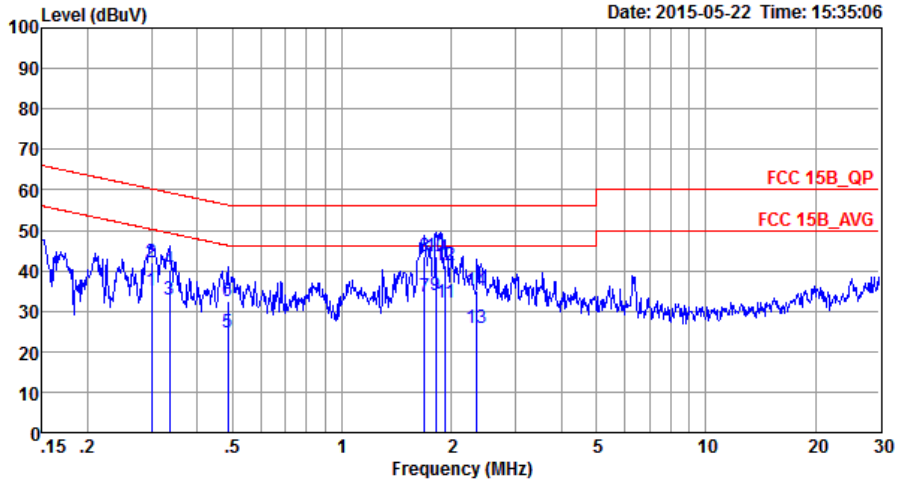
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 21~23℃ |
| **Test Engineer :** | Jacky Yang | **Relative Humidity :** | 41~43% |
| **Test Voltage :** | 120Vac / 60Hz | **Phase :** | Line |
| **Function Type :** | GSM850 Idle + Adapter + Earphone + Camera + SIM 1 | | |




Site : CO01-SZ
Condition: FCC 15B_QP LISN_L_20140304 LINE
Project : (FC)551802
Mode : Mode 1
IMEI : 352733070000807/352733070000815

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.35 | 42.35 | -6.56 | 48.91 | 31.90 | 0.27 | 10.18 | Average |
| 2 | | 0.35 | 46.35 | -12.56 | 58.91 | 35.90 | 0.27 | 10.18 | QP |
| 3 | | 1.56 | 37.61 | -8.39 | 46.00 | 27.21 | 0.23 | 10.17 | Average |
| 4 | | 1.56 | 48.61 | -7.39 | 56.00 | 38.21 | 0.23 | 10.17 | QP |
| 5 | | 1.77 | 39.81 | -6.19 | 46.00 | 29.40 | 0.23 | 10.18 | Average |
| 6 | * | 1.77 | 52.31 | -3.69 | 56.00 | 41.90 | 0.23 | 10.18 | QP |
| 7 | | 1.92 | 37.71 | -8.29 | 46.00 | 27.30 | 0.22 | 10.19 | Average |
| 8 | | 1.92 | 48.11 | -7.89 | 56.00 | 37.70 | 0.22 | 10.19 | QP |
| 9 | | 2.07 | 36.02 | -9.98 | 46.00 | 25.60 | 0.23 | 10.19 | Average |
| 10 | | 2.07 | 46.52 | -9.48 | 56.00 | 36.10 | 0.23 | 10.19 | QP |
| 11 | | 2.62 | 28.78 | -17.22 | 46.00 | 18.30 | 0.28 | 10.20 | Average |
| 12 | | 2.62 | 40.08 | -15.92 | 56.00 | 29.60 | 0.28 | 10.20 | QP |

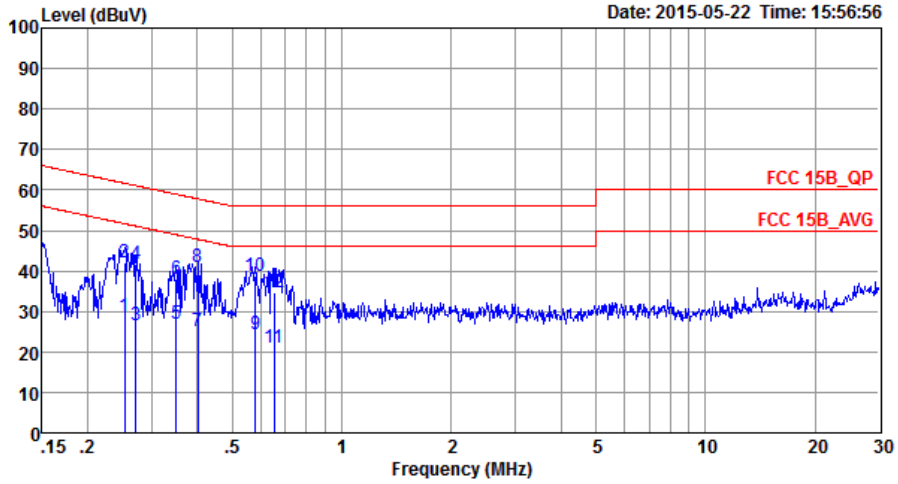
| Test Mode : | Mode 1 | Temperature : | 21~23℃ |
|---|---|---|---|
| Test Engineer : | Jacky Yang | Relative Humidity : | 41~43% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Function Type : | GSM850 Idle + Adapter + Earphone + Camera + SIM 1 | | |




Site : CO01-SZ
Condition: FCC 15B_QP LISN_N_20140304 NEUTRAL
Project : (FC)551802
Mode : Mode 1
IMEI : 352733070000807/352733070000815

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.30 | 34.96 | -15.28 | 50.24 | 24.40 | 0.36 | 10.20 | Average |
| 2 | | 0.30 | 42.06 | -18.18 | 60.24 | 31.50 | 0.36 | 10.20 | QP |
| 3 | | 0.34 | 32.86 | -16.45 | 49.31 | 22.30 | 0.37 | 10.19 | Average |
| 4 | | 0.34 | 40.16 | -19.15 | 59.31 | 29.60 | 0.37 | 10.19 | QP |
| 5 | | 0.49 | 24.76 | -21.47 | 46.23 | 14.19 | 0.41 | 10.16 | Average |
| 6 | | 0.49 | 32.46 | -23.77 | 56.23 | 21.89 | 0.41 | 10.16 | QP |
| 7 | | 1.69 | 33.54 | -12.46 | 46.00 | 23.00 | 0.36 | 10.18 | Average |
| 8 | | 1.69 | 43.64 | -12.36 | 56.00 | 33.10 | 0.36 | 10.18 | QP |
| 9 | * | 1.81 | 33.85 | -12.15 | 46.00 | 23.31 | 0.36 | 10.18 | Average |
| 10 | | 1.81 | 43.65 | -12.35 | 56.00 | 33.11 | 0.36 | 10.18 | QP |
| 11 | | 1.93 | 32.15 | -13.85 | 46.00 | 21.59 | 0.37 | 10.19 | Average |
| 12 | | 1.93 | 41.45 | -14.55 | 56.00 | 30.89 | 0.37 | 10.19 | QP |
| 13 | | 2.35 | 25.99 | -20.01 | 46.00 | 15.40 | 0.39 | 10.20 | Average |
| 14 | | 2.35 | 35.19 | -20.81 | 56.00 | 24.60 | 0.39 | 10.20 | QP |

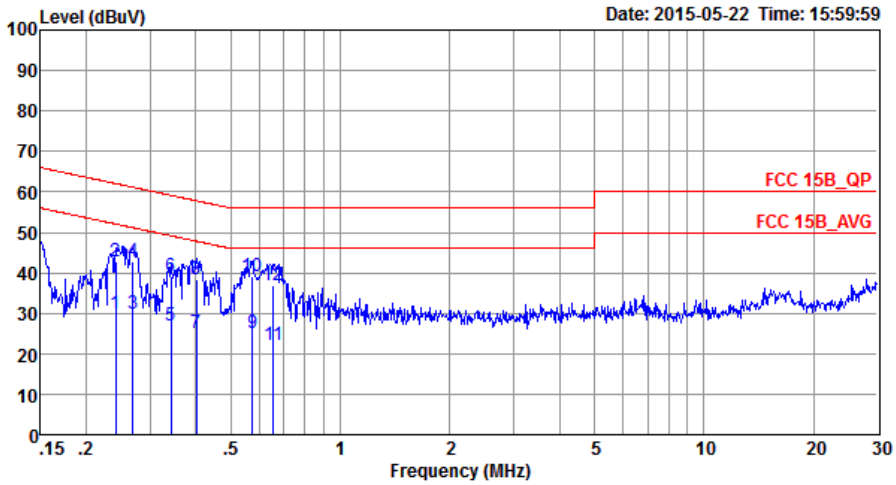
| Test Mode : | Mode 2 | Temperature : | 21~23℃ |
|---|---|---|---|
| Test Engineer : | Jacky Yang | Relative Humidity : | 41~43% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Line |
| Function Type : | GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 | | |




Site : CO01-SZ
Condition: FCC 15B_QP LISN_L_20140304 LINE
Project : (FC)551802
Mode : Mode 2
IMEI : 352733070000807/352733070000815

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.25 | 28.88 | -22.76 | 51.64 | 18.40 | 0.24 | 10.24 | Average |
| 2 | | 0.25 | 41.98 | -19.66 | 61.64 | 31.50 | 0.24 | 10.24 | QP |
| 3 | | 0.27 | 26.57 | -24.50 | 51.07 | 16.10 | 0.25 | 10.22 | Average |
| 4 | | 0.27 | 41.77 | -19.30 | 61.07 | 31.30 | 0.25 | 10.22 | QP |
| 5 | | 0.35 | 26.81 | -22.15 | 48.96 | 16.36 | 0.27 | 10.18 | Average |
| 6 | | 0.35 | 38.05 | -20.91 | 58.96 | 27.60 | 0.27 | 10.18 | QP |
| 7 | | 0.40 | 25.15 | -22.66 | 47.81 | 14.70 | 0.28 | 10.17 | Average |
| 8 | * | 0.40 | 40.85 | -16.96 | 57.81 | 30.40 | 0.28 | 10.17 | QP |
| 9 | | 0.58 | 24.50 | -21.50 | 46.00 | 14.10 | 0.25 | 10.15 | Average |
| 10 | | 0.58 | 38.60 | -17.40 | 56.00 | 28.20 | 0.25 | 10.15 | QP |
| 11 | | 0.65 | 21.16 | -24.84 | 46.00 | 10.80 | 0.21 | 10.15 | Average |
| 12 | | 0.65 | 34.76 | -21.24 | 56.00 | 24.40 | 0.21 | 10.15 | QP |

| Test Mode : | Mode 2 | Temperature : | 21~23℃ |
|---|---|---|---|
| Test Engineer : | Jacky Yang | Relative Humidity : | 41~43% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Function Type : | GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 | | |




Site : CO01-SZ
Condition: FCC 15B_QP LISN_N_20140304 NEUTRAL
Project : (FC)551802
Mode : Mode 2
IMEI : 352733070000807/352733070000815

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.24 | 29.89 | -22.15 | 52.04 | 19.30 | 0.34 | 10.25 | Average |
| 2 | | 0.24 | 42.79 | -19.25 | 62.04 | 32.20 | 0.34 | 10.25 | QP |
| 3 | | 0.27 | 29.78 | -21.38 | 51.16 | 19.20 | 0.35 | 10.23 | Average |
| 4 | | 0.27 | 42.98 | -18.18 | 61.16 | 32.40 | 0.35 | 10.23 | QP |
| 5 | | 0.34 | 27.06 | -22.07 | 49.13 | 16.50 | 0.37 | 10.19 | Average |
| 6 | | 0.34 | 39.16 | -19.97 | 59.13 | 28.60 | 0.37 | 10.19 | QP |
| 7 | | 0.40 | 25.26 | -22.55 | 47.81 | 14.70 | 0.39 | 10.17 | Average |
| 8 | | 0.40 | 38.36 | -19.45 | 57.81 | 27.80 | 0.39 | 10.17 | QP |
| 9 | | 0.57 | 25.10 | -20.90 | 46.00 | 14.60 | 0.35 | 10.15 | Average |
| 10 | * | 0.57 | 39.30 | -16.70 | 56.00 | 28.80 | 0.35 | 10.15 | QP |
| 11 | | 0.65 | 22.23 | -23.77 | 46.00 | 11.80 | 0.28 | 10.15 | Average |
| 12 | | 0.65 | 36.73 | -19.27 | 56.00 | 26.30 | 0.28 | 10.15 | 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 (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 30 – 88 | 100 | 3 |
| 88 – 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

## 3.2.2. Measuring Instruments

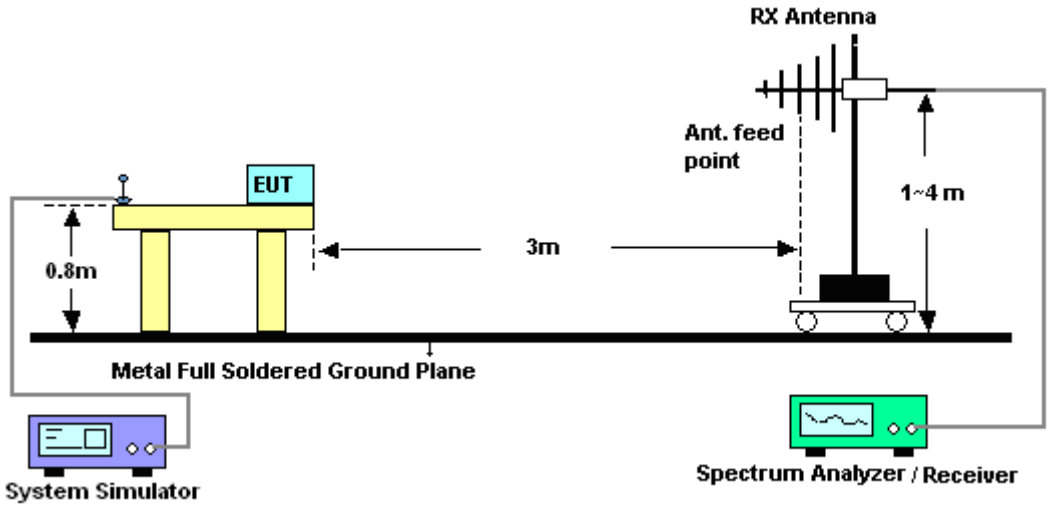
The measuring equipment is listed in the section 4 of this test report.

## 3.2.3. Test Procedures

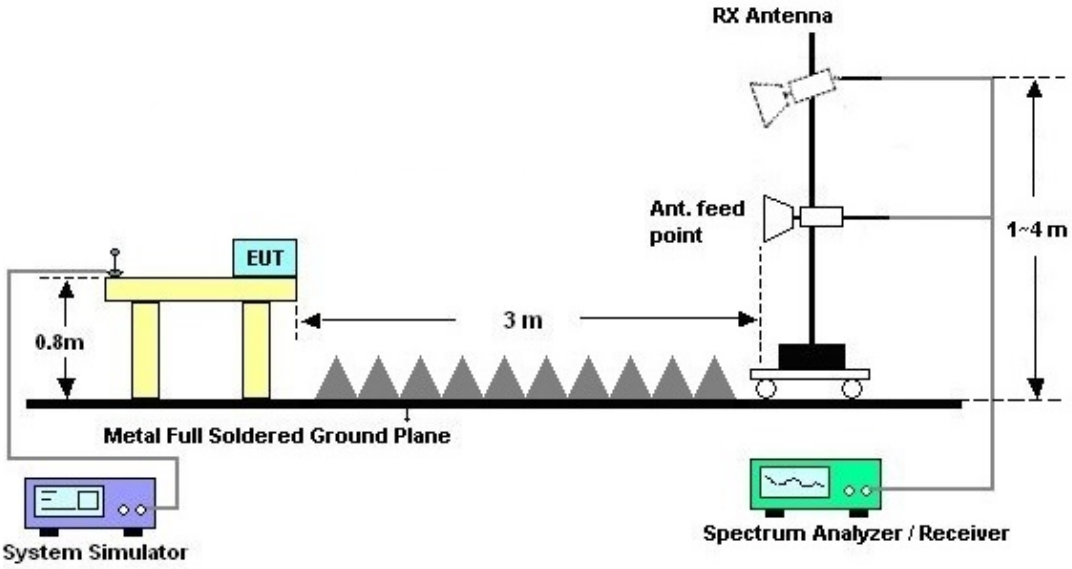
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its 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 (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
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 (dBμV/m) = 20 log Emission level (μV/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**

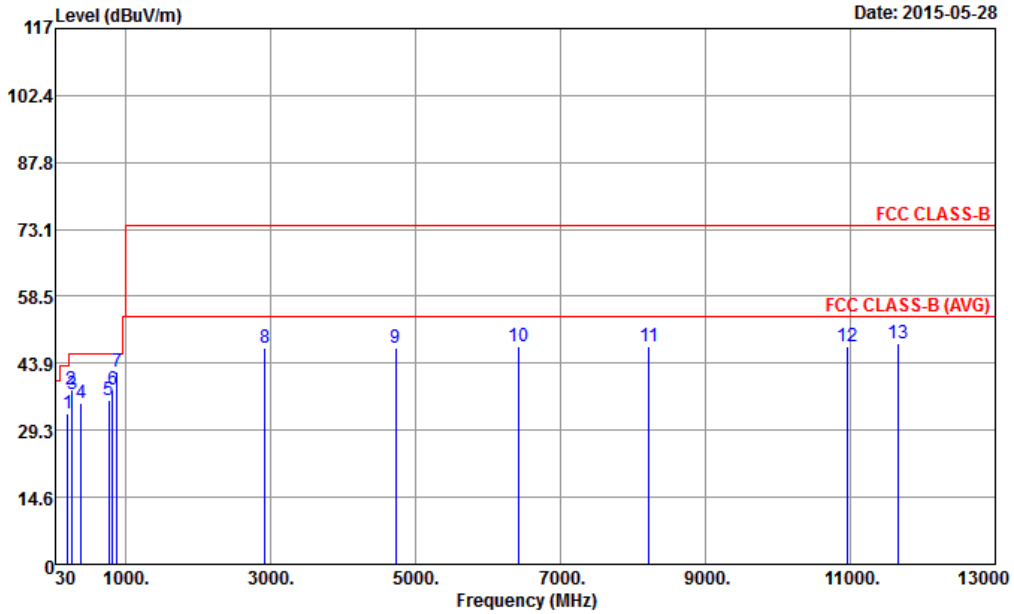



**For radiated emissions above 1GHz**



## 3.2.5. Test Result of Radiated Emission

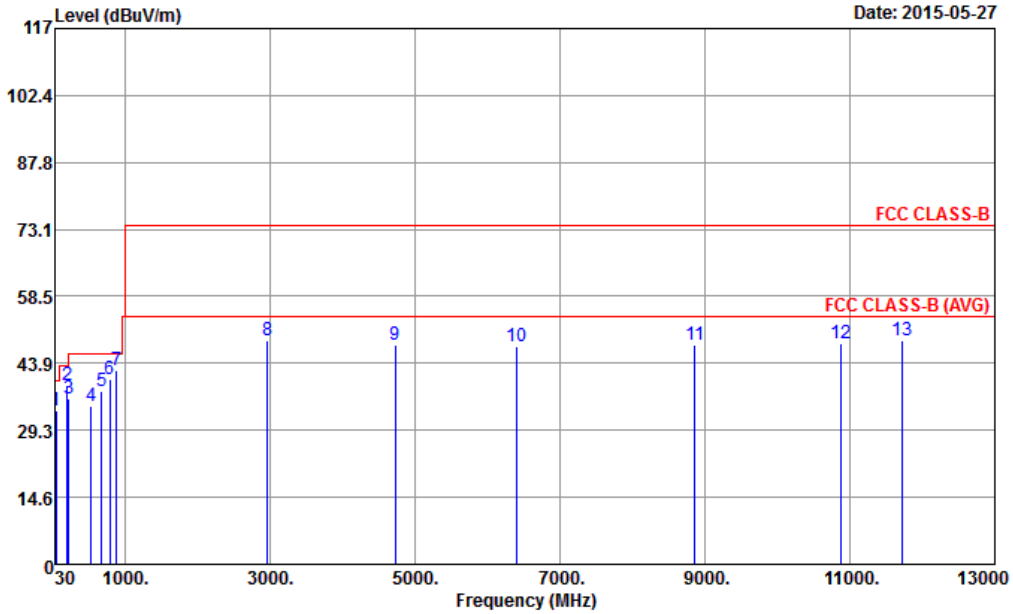
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 23~25℃ |
| **Test Engineer :** | Leo Liao | **Relative Humidity :** | 48~52% |
| **Test Distance :** | 3m | **Polarization :** | Horizontal |
| **Function Type :** | GSM850 Idle + Adapter + Earphone + Camera + SIM 1 | | |
| **Remark :** | #7 is system simulator signal which can be ignored. | | |




Site : 03CH01-SZ
Condition : FCC CLASS-B 3m LF_ANT_141107 HORIZONTAL
Project : (FC)551802
Mode : Mode 1
IMEI : 352733070000823/352733070000831
Plane : Y

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 194.97 | 32.94 | -10.56 | 43.50 | 44.46 | 11.58 | 2.18 | 25.28 | --- | --- | Peak |
| 2 | 249.51 | 38.22 | -7.78 | 46.00 | 48.52 | 12.38 | 2.47 | 25.15 | --- | --- | Peak |
| 3 | 264.09 | 37.22 | -8.78 | 46.00 | 46.91 | 12.87 | 2.56 | 25.12 | --- | --- | Peak |
| 4 | 389.60 | 35.04 | -10.96 | 46.00 | 42.37 | 15.27 | 3.14 | 25.74 | --- | --- | Peak |
| 5 | 767.60 | 35.69 | -10.31 | 46.00 | 35.66 | 21.77 | 4.50 | 26.24 | --- | --- | Peak |
| 6 | 815.90 | 38.26 | -7.74 | 46.00 | 37.30 | 22.36 | 4.72 | 26.12 | 100 | 0 | Peak |
| 7 | 881.70 | 41.99 | | | 41.26 | 21.77 | 4.89 | 25.93 | --- | --- | Peak |
| 8 | 2926.00 | 47.39 | -26.61 | 74.00 | 33.62 | 33.03 | 9.68 | 28.94 | --- | --- | Peak |
| 9 | 4726.00 | 47.41 | -26.59 | 74.00 | 28.55 | 34.33 | 12.74 | 28.21 | --- | --- | Peak |
| 10 | 6426.00 | 47.60 | -26.40 | 74.00 | 24.98 | 36.22 | 14.31 | 27.91 | --- | --- | Peak |
| 11 | 8218.00 | 47.62 | -26.38 | 74.00 | 21.46 | 36.37 | 16.17 | 26.38 | --- | --- | Peak |
| 12 | 10968.00 | 47.64 | -26.36 | 74.00 | 15.75 | 38.78 | 17.84 | 24.73 | --- | --- | Peak |
| 13 | 11666.00 | 48.28 | -25.72 | 74.00 | 15.17 | 39.29 | 18.34 | 24.52 | 100 | 0 | Peak |

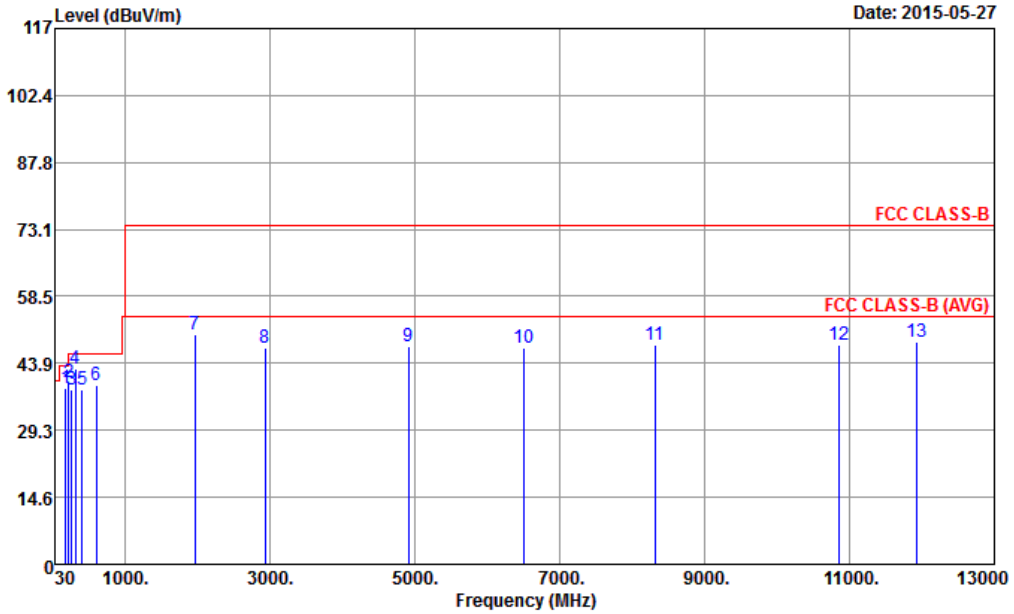
| Test Mode : | Mode 1 | Temperature : | 23~25°C |
|---|---|---|---|
| Test Engineer : | Leo Liao | Relative Humidity : | 48~52% |
| Test Distance : | 3m | Polarization : | Vertical |
| Function Type : | GSM850 Idle + Adapter + Earphone + Camera + SIM 1 | | |
| Remark : | #7 is system simulator signal which can be ignored. | | |




Site : 03CH01-SZ
Condition : FCC CLASS-B 3m LF_ANT_141107 VERTICAL
Project : (FC)551802
Mode : Mode 1
IMEI : 352733070000823/352733070000831
Plane : Y

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 41.34 | 33.67 | -6.33 | 40.00 | 45.03 | 13.66 | 0.98 | 26.00 | --- | --- | Peak |
| 2 | 194.97 | 39.05 | -4.45 | 43.50 | 50.57 | 11.58 | 2.18 | 25.28 | 100 | 158 | QP |
| 3 | 216.03 | 36.05 | -9.95 | 46.00 | 47.12 | 11.86 | 2.29 | 25.22 | --- | --- | Peak |
| 4 | 530.30 | 34.46 | -11.54 | 46.00 | 37.62 | 19.49 | 3.72 | 26.37 | --- | --- | Peak |
| 5 | 671.70 | 37.83 | -8.17 | 46.00 | 39.90 | 20.13 | 4.19 | 26.39 | --- | --- | Peak |
| 6 | 792.10 | 40.32 | -5.68 | 46.00 | 39.61 | 22.33 | 4.57 | 26.19 | --- | --- | Peak |
| 7 | 881.00 | 42.36 | | | 41.64 | 21.77 | 4.88 | 25.93 | --- | --- | Peak |
| 8 | 2968.00 | 48.75 | -25.25 | 74.00 | 34.83 | 33.07 | 9.77 | 28.92 | --- | --- | Peak |
| 9 | 4730.00 | 47.94 | -26.06 | 74.00 | 29.08 | 34.33 | 12.74 | 28.21 | --- | --- | Peak |
| 10 | 6406.00 | 47.46 | -26.54 | 74.00 | 24.88 | 36.20 | 14.31 | 27.93 | --- | --- | Peak |
| 11 | 8860.00 | 47.83 | -26.17 | 74.00 | 20.79 | 36.62 | 16.39 | 25.97 | --- | --- | Peak |
| 12 | 10872.00 | 48.25 | -25.75 | 74.00 | 16.80 | 38.73 | 17.51 | 24.79 | --- | --- | Peak |
| 13 | 11712.00 | 48.84 | -25.16 | 74.00 | 15.35 | 39.32 | 18.67 | 24.50 | 100 | 360 | Peak |

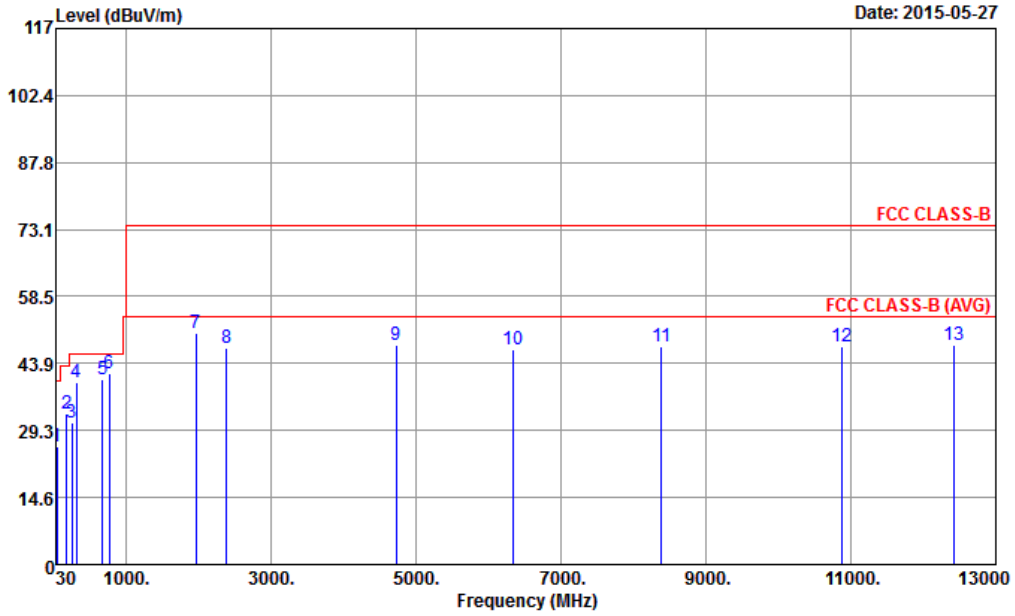
| Test Mode : | Mode 2 | Temperature : | 23~25°C |
|---|---|---|---|
| Test Engineer : | Leo Liao | Relative Humidity : | 48~52% |
| Test Distance : | 3m | Polarization : | Horizontal |
| Function Type : | GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 | | |
| Remark : | #7 is system simulator signal which can be ignored. | | |




Site : 03CH01-SZ
Condition : FCC CLASS-B 3m LF_ANT_141107 HORIZONTAL
Project : (FC)551802
Mode : Mode 2
IMEI : 352733070000823/352733070000831
Plane : Y

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 180.12 | 38.59 | -4.91 | 43.50 | 50.36 | 11.50 | 2.08 | 25.35 | --- | --- | Peak |
| 2 | 216.03 | 39.61 | -6.39 | 46.00 | 50.68 | 11.86 | 2.29 | 25.22 | --- | --- | Peak |
| 3 | 264.09 | 38.11 | -7.89 | 46.00 | 47.80 | 12.87 | 2.56 | 25.12 | --- | --- | Peak |
| 4 | 311.90 | 42.66 | -3.34 | 46.00 | 50.76 | 14.26 | 2.78 | 25.14 | 100 | 0 | Peak |
| 5 | 407.80 | 38.14 | -7.86 | 46.00 | 45.07 | 15.71 | 3.21 | 25.85 | --- | --- | Peak |
| 6 | 600.30 | 39.13 | -6.87 | 46.00 | 41.93 | 19.70 | 3.94 | 26.44 | --- | --- | Peak |
| 7 | 1960.00 | 50.17 | | | 40.17 | 31.74 | 7.90 | 29.64 | --- | --- | Peak |
| 8 | 2930.00 | 47.24 | -26.76 | 74.00 | 33.45 | 33.05 | 9.68 | 28.94 | --- | --- | Peak |
| 9 | 4916.00 | 47.73 | -26.27 | 74.00 | 28.48 | 34.45 | 12.98 | 28.18 | --- | --- | Peak |
| 10 | 6512.00 | 47.26 | -26.74 | 74.00 | 24.43 | 36.30 | 14.41 | 27.88 | --- | --- | Peak |
| 11 | 8318.00 | 47.91 | -26.09 | 74.00 | 21.68 | 36.31 | 16.23 | 26.31 | --- | --- | Peak |
| 12 | 10858.00 | 48.03 | -25.97 | 74.00 | 16.59 | 38.72 | 17.51 | 24.79 | --- | --- | Peak |
| 13 | 11928.00 | 48.56 | -25.44 | 74.00 | 15.13 | 39.46 | 18.41 | 24.44 | 100 | 0 | Peak |

| Test Mode : | Mode 2 | Temperature : | 23~25°C |
|---|---|---|---|
| Test Engineer : | Leo Liao | Relative Humidity : | 48~52% |
| Test Distance : | 3m | Polarization : | Vertical |
| Function Type : | GSM1900 Idle + USB Cable (Data Link with Notebook) + Earphone + SIM 2 | | |
| Remark : | #7 is system simulator signal which can be ignored. | | |




Site : 03CH01-SZ
Condition : FCC CLASS-B 3m LF_ANT_141107 VERTICAL
Project : (FC)551802
Mode : Mode 2
IMEI : 352733070000823/352733070000831
Plane : Y

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 42.15 | 25.89 | -14.11 | 40.00 | 37.64 | 13.25 | 1.00 | 26.00 | --- | --- | Peak |
| 2 | 179.85 | 32.99 | -10.51 | 43.50 | 44.74 | 11.53 | 2.08 | 25.36 | --- | --- | Peak |
| 3 | 251.94 | 31.08 | -14.92 | 46.00 | 41.26 | 12.47 | 2.49 | 25.14 | --- | --- | Peak |
| 4 | 311.90 | 39.78 | -6.22 | 46.00 | 47.88 | 14.26 | 2.78 | 25.14 | --- | --- | Peak |
| 5 | 671.70 | 40.40 | -5.60 | 46.00 | 42.47 | 20.13 | 4.19 | 26.39 | --- | --- | Peak |
| 6 | 768.30 | 41.65 | -4.35 | 46.00 | 41.57 | 21.80 | 4.51 | 26.23 | 100 | 200 | Peak |
| 7 | 1960.00 | 50.65 | | | 40.65 | 31.74 | 7.90 | 29.64 | --- | --- | Peak |
| 8 | 2390.00 | 47.15 | -26.85 | 74.00 | 35.33 | 32.60 | 8.60 | 29.38 | --- | --- | Peak |
| 9 | 4726.00 | 47.82 | -26.18 | 74.00 | 28.96 | 34.33 | 12.74 | 28.21 | --- | --- | Peak |
| 10 | 6338.00 | 46.94 | -27.06 | 74.00 | 24.56 | 36.13 | 14.21 | 27.96 | --- | --- | Peak |
| 11 | 8382.00 | 47.69 | -26.31 | 74.00 | 21.48 | 36.27 | 16.22 | 26.28 | --- | --- | Peak |
| 12 | 10870.00 | 47.45 | -26.55 | 74.00 | 16.00 | 38.73 | 17.51 | 24.79 | --- | --- | Peak |
| 13 | 12422.00 | 47.83 | -26.17 | 74.00 | 14.57 | 39.33 | 18.21 | 24.28 | 100 | 200 | Peak |

# 4. List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| EMI Test Receiver&SA | Agilent Technologies | N9038A | MY52260185 | 20Hz~26.5GHz | May 26, 2015 | May 27, 2015~ May 28, 2015 | May 25, 2016 | Radiation (03CH01-SZ) |
| Spectrum Analyzer | R&S | FSV40 | 101041 | 10kHz~40GHz; Max 30dBm | Sep. 25, 2014 | May 27, 2015~ May 28, 2015 | Sep. 24, 2015 | Radiation (03CH01-SZ) |
| Bilog Antenna | TeseQ | CBL6112D | 23188 | 30MHz~2GHz | Nov. 07, 2014 | May 27, 2015~ May 28, 2015 | Nov. 06, 2015 | Radiation (03CH01-SZ) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 00119436 | 1GHz~18GHz | Oct. 15, 2014 | May 27, 2015~ May 28, 2015 | Oct. 14, 2015 | Radiation (03CH01-SZ) |
| Amplifier | ADVANTEST | BB525C | E9007003 | 9kHz~3000MHz / 30 dB | Jan. 28, 2015 | May 27, 2015~ May 28, 2015 | Jan. 27, 2016 | Radiation (03CH01-SZ) |
| Amplifier | Agilent | 83017A | MY39501302 | 500MHz~26.5GHz | Jan. 28, 2015 | May 27, 2015~ May 28, 2015 | Jan. 27, 2016 | Radiation (03CH01-SZ) |
| AC Power Source | Chroma | 61601 | 616010001985 | N/A | NCR | May 27, 2015~ May 28, 2015 | NCR | Radiation (03CH01-SZ) |
| Turn Table | EM | EM1000 | N/A | 0~360 degree | NCR | May 27, 2015~ May 28, 2015 | NCR | Radiation (03CH01-SZ) |
| Antenna Mast | EM | EM1000 | N/A | 1 m~4 m | NCR | May 27, 2015~ May 28, 2015 | NCR | Radiation (03CH01-SZ) |
| EMI Receiver | R&S | ESCI7 | 100724 | 9kHz~3GHz | Jan. 28, 2015 | May 22, 2015 | Jan. 27, 2016 | Conduction (CO01-SZ) |
| AC LISN | EMCO | 3816/2SH | 103892 | 9kHz~30MHz | Feb. 02, 2015 | May 22, 2015 | Feb. 01, 2016 | Conduction (CO01-SZ) |
| AC LISN (for auxiliary equipment) | MessTec | AN3016 | 16850 | 9kHz~30MHz | Feb. 02, 2015 | May 22, 2015 | Feb. 01, 2016 | Conduction (CO01-SZ) |
| AC Power Source | Chroma | 61602 | 616020000891 | 100Vac~250Vac | Sep. 29, 2014 | May 22, 2015 | Sep. 28, 2015 | Conduction (CO01-SZ) |
| Pulse Limiter | COM-POWER | LIT-153 Transient Limiter | 53139 | 150kHz~30MHz | Oct. 24, 2014 | May 22, 2015 | Oct. 23, 2015 | Conduction (CO01-SZ) |

# 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))** | **2.3 dB** |

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.9 dB** |