# **FCC Test Report**

APPLICANT : Planet Avvio EQUIPMENT : Mobile Phone

BRAND NAME : Mint MODEL NAME : M171

MARKETING NAME : Mint M171, M171 FCC ID : 2ALTAM171X

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Jun. 21, 2017 and testing was completed on Jul. 09, 2017. 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 C63.4-2014 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.

Prepared by: Eric Shih / Manager

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SPORTON International (ShenZhen) INC.

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SPORTON International (ShenZhen) INC.

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# **REVISION HISTORY**

Report No.: FC762108

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FC762108   | Rev. 01 | Initial issue of report | Jul. 12, 2017 |
|            |         |                         |               |
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# **SUMMARY OF TEST RESULT**

| Report<br>Section | FCC Rule | Description             | Limit           | Result | Remark         |
|-------------------|----------|-------------------------|-----------------|--------|----------------|
|                   |          |                         |                 |        | Under limit    |
| 3.1               | 15.107   | AC Conducted Emission   | < 15.107 limits | PASS   | 4.21 dB at     |
|                   |          |                         |                 |        | 0.420 MHz      |
|                   |          |                         |                 |        | Under limit    |
| 2.2               | 15.109   | 5.109 Radiated Emission | < 15.109 limits | PASS   | 3.01 dB at     |
| 3.2               |          |                         |                 |        | 191.990 MHz    |
|                   |          |                         |                 |        | for Quasi-Peak |

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# 1. General Description

### 1.1. Applicant

#### **Planet Avvio**

Westside Plaza III - Office Suite 103,8200 NW 33 Street, Doral, Florida 33122

### 1.2. Manufacturer

#### Shenzhen Frog Technology Co.,Ltd

AB, 22F, Changhong Technology Building, High Tech South 12 Road, High Tech Park, Nanshan District, Shenzhen, China

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# 1.3. Product Feature of Equipment Under Test

|                                  | Product Feature                             |
|----------------------------------|---|
| Equipment                        | Mobile Phone                                |
| Brand Name                       | Mint  |
| Model Name                       | M171  |
| Marketing Name                   | Mint M171, M171                             |
| FCC ID                           | 2ALTAM171X                                  |
| ELIT cumparts Dadies application | GSM/GPRS                                    |
| EUT supports Radios application  | Bluetooth v2.1+EDR                          |
| IMELCOA                          | Conduction: 353175070001147/353175070001154 |
| IMEI Code                        | Radiation: 353175070000883/353175070000891  |
| HW Version                       | M128C                                       |
| SW Version                       | MINT_M171_V02_20170613                      |
| EUT Stage                        | Production Unit                             |

Remark:

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

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# 1.4. Product Specification of Equipment Under Test

| Standards-related Product Specification |                                  |  |  |  |
|---|----------------------------------|--|--|--|
|   | GSM850: 824.2 MHz ~ 848.8 MHz    |  |  |  |
| Tx Frequency                            | GSM1900: 1850.2 MHz ~ 1909.8MHz  |  |  |  |
|   | Bluetooth: 2402 MHz ~ 2480 MHz   |  |  |  |
|   | GSM850: 869.2 MHz ~ 893.8 MHz    |  |  |  |
| Rx Frequency                            | GSM1900: 1930.2 MHz ~ 1989.8 MHz |  |  |  |
|   | Bluetooth: 2402 MHz ~ 2480 MHz   |  |  |  |
| Antonna Typa                            | WWAN : PIFA Antenna              |  |  |  |
| Antenna Type                            | Bluetooth : BT Line Antenna      |  |  |  |
|   | GSM: GMSK                        |  |  |  |
|   | GPRS: GMSK                       |  |  |  |
| Type of Modulation                      | Bluetooth (1Mbps) : GFSK         |  |  |  |
|   | Bluetooth (2Mbps) : π /4-DQPSK   |  |  |  |
|   | Bluetooth (3Mbps) : 8-DPSK       |  |  |  |

### 1.5. Modification of EUT

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

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### 1.6. Test Location

| Test Site          | SPORTON International (ShenZhen) INC.  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|
|                    | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan District, |  |  |  |  |  |
|                    | Shenzhen City, Guangdong Province, China   |  |  |  |  |  |
| Test Site Location | TEL: +86-755-8637-9589   |  |  |  |  |  |
|                    | FAX: +86-755-8637-9595   |  |  |  |  |  |
| Took Site No       | Sporton Site No.   |  |  |  |  |  |
| Test Site No.      | CO01-SZ  |  |  |  |  |  |

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| 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 TEL: +86-755- 3320-2398 |                      |  |  |  |  |
| Test Site No.      | Sporton Site No.   | FCC Registration No. |  |  |  |  |
| Test Site No.      | 03CH03-SZ  | 565805               |  |  |  |  |

Note: The test site complies with ANSI C63.4 2014 requirement.

# 1.7. 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 C63.4-2014

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

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# 2. Test Configuration of Equipment Under Test

#### 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 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).

| Test Items                   | Function Type   |
|------------------------------|---|
|                              | Mode 1: GSM850 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) + Camera(Rear) + SIM 1 <fig. 1=""></fig.> |
| AC Conducted<br>Emission     | Mode 2: GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) + MPEG4 + SIM 2 <fig. 1=""></fig.>       |
|                              | Mode 3: GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Data Link with Notebook) + SIM 1 <fig. 2=""></fig.>             |
|                              | Mode 1: GSM850 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) + Camera(Rear) + SIM 1 <fig. 1=""></fig.> |
| Radiated<br>Emissions < 1GHz | Mode 2: GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) + MPEG4 + SIM 2 <fig. 1=""></fig.>       |
|                              | Mode 3: GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Data Link with Notebook) + SIM 1 <fig. 2=""></fig.>             |
| Radiated<br>Emissions ≥ 1GHz | Mode 1: GSM850 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) + Camera(Rear) + SIM 1 <fig. 1=""></fig.> |

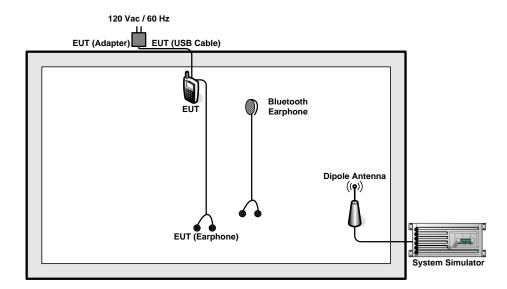
#### Remark:

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

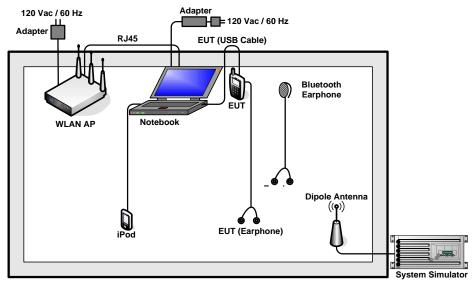
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# 2.2. Connection Diagram of Test System



<Fig. 1>



<Fig. 2>

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### 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,1.8m  |
| 2.   | WLAN AP               | Dlink      | DIR-820L   | KA2IR820LA1 | N/A            | Unshielded,1.8m  |
| 3.   | WLAN AP               | ASUS       | RT-AC66U   | MSQ-RTAC66U | N/A            | Unshielded,1.8m  |
| 4.   | Bluetooth<br>Earphone | Nokia      | BH-108     | PYAHS-107W  | N/A            | N/A  |
| 5.   | Bluetooth<br>Earphone | Samsung    | HS3000     | A3LHS3000   | N/A            | N/A  |
| 6.   | NOTE BOOK             | Lenovo     | E450       | FCC DoC     | N/A            | AC I/P:<br>Unshielded, 1.2m<br>DC O/P: Shielded,<br>1.8m |
| 7.   | iPod                  | Apple      | MC525 ZP/A | DoC         | Shielded, 1.0m | N/A  |
| 8.   | iPod nano 8GB         | Apple      | MC690ZP/A  | FCC DoC     | Shielded, 1.2m | N/A  |
| 9.   | SD Card               | Kingston   | MicroSD HC | FCC DoC     | N/A            | 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 is in continuous receiving mode by setting system simulator's paging reorganization.

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

- 1. Data application is transferred between Notebook and EUT via USB cable.
- 2. Execute "Video player" to play MPEG4 files.
- 3. Turn on camera to capture images.

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### 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 | Conducted limit (dBuV) |           |  |  |  |
|-----------------------|------------------------|-----------|--|--|--|
| (MHz)                 | Quasi-peak             | Average   |  |  |  |
| 0.15-0.5              | 66 to 56*              | 56 to 46* |  |  |  |
| 0.5-5                 | 56                     | 46        |  |  |  |
| 5-30                  | 60                     | 50        |  |  |  |

<sup>\*</sup>Decreases with the logarithm of the frequency.

#### 3.1.2 Measuring Instruments

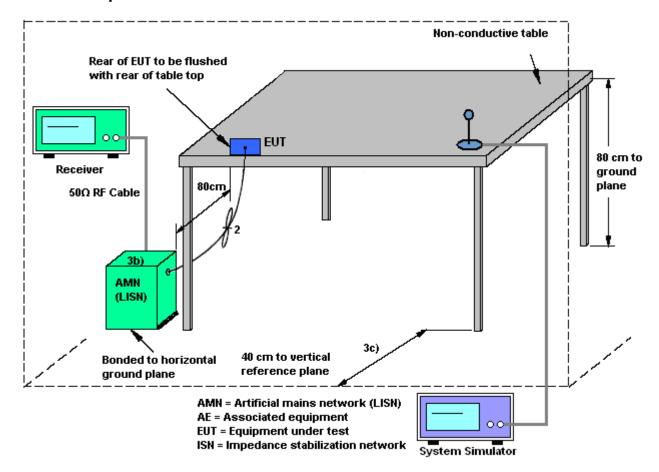
The measuring equipment is listed in the section 4 of this test report.

#### 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.

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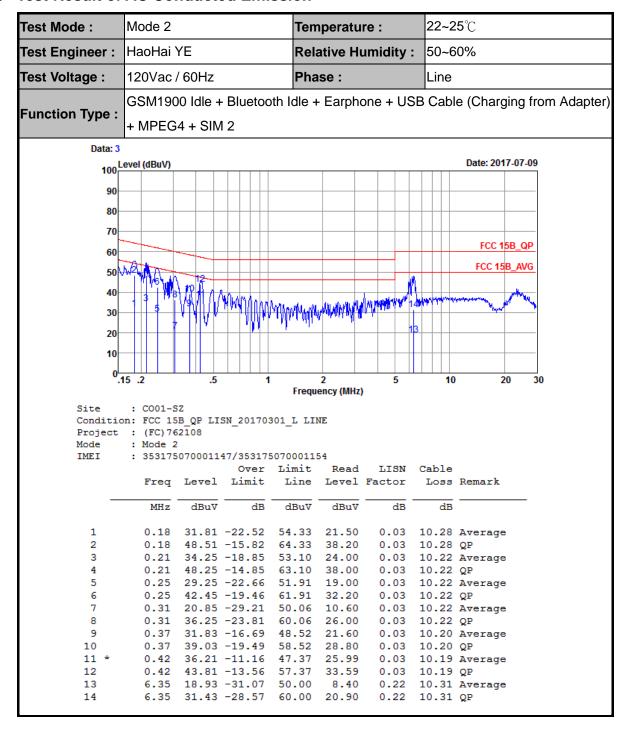
### 3.1.4 Test Setup



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#### 3.1.5 Test Result of AC Conducted Emission



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Report No.: FC762108 Mode 2 **22~25**℃ Test Mode: Temperature: HaoHai YE 50~60% Test Engineer: Relative Humidity: 120Vac / 60Hz Test Voltage: Phase: Neutral GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adapter) Function Type: + MPEG4 + SIM 2 Data: 4 100 Level (dBuV) Date: 2017-07-09 90 80 70 FCC 15B\_QP 60 FCC 15B\_AVG 50

5

10

20

: CO01-SZ

.15 .2

30 20

Condition: FCC 15B\_QP LISN\_20170301\_N NEUTRAL

.5

Project : (FC) 762108

Mode : Mode 2 IMEI : 3531750

IMEI : 353175070001147/353175070001154

|     |      |       | Over   | Limit | Read  | LISN   | Cable |         |
|-----|------|-------|--------|-------|-------|--------|-------|---------|
|     | Freq | Level | Limit  | Line  | Level | Factor | Loss  | Remark  |
|     | MHz  | dBu∇  | dB     | dBu∇  | dBuV  | dB     | dB    |         |
| 1   | 0.21 | 31.65 | -21.53 | 53.18 | 21.40 | 0.03   | 10.22 | Average |
| 2   | 0.21 | 44.25 | -18.93 | 63.18 | 34.00 | 0.03   | 10.22 | QP      |
| 3 * | 0.42 | 43.21 | -4.21  | 47.42 | 33.00 | 0.02   | 10.19 | Average |
| 4   | 0.42 | 46.81 | -10.61 | 57.42 | 36.60 | 0.02   | 10.19 | QP      |
| 5   | 0.58 | 25.69 | -20.31 | 46.00 | 15.50 | 0.02   | 10.17 | Average |
| 6   | 0.58 | 33.39 | -22.61 | 56.00 | 23.20 | 0.02   | 10.17 | QP      |
| 7   | 0.80 | 34.19 | -11.81 | 46.00 | 24.00 | 0.03   | 10.16 | Average |
| 8   | 0.80 | 38.89 | -17.11 | 56.00 | 28.70 | 0.03   | 10.16 | QP      |
| 9   | 1.03 | 30.30 | -15.70 | 46.00 | 20.10 | 0.05   | 10.15 | Average |
| 10  | 1.03 | 35.70 | -20.30 | 56.00 | 25.50 | 0.05   | 10.15 | QP      |
| 11  | 1.43 | 18.01 | -27.99 | 46.00 | 7.80  | 0.05   | 10.16 | Average |
| 12  | 1.43 | 32.61 | -23.39 | 56.00 | 22.40 | 0.05   | 10.16 | QP      |
| 13  | 1.70 | 28.71 | -17.29 | 46.00 | 18.50 | 0.05   | 10.16 | Average |
| 14  | 1.70 | 35.11 | -20.89 | 56.00 | 24.90 | 0.05   | 10.16 | QP      |

Frequency (MHz)

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#### 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 | Field Strength     | Measurement Distance |  |  |
|-----------|--------------------|----------------------|--|--|
| (MHz)     | (microvolts/meter) | (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  $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

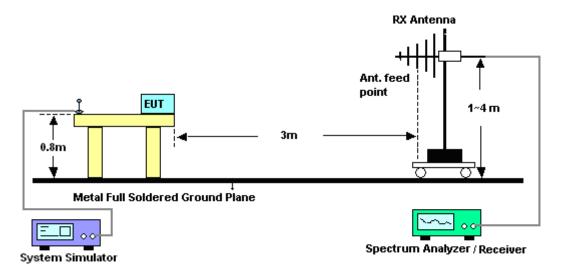
SPORTON International (ShenZhen) INC.

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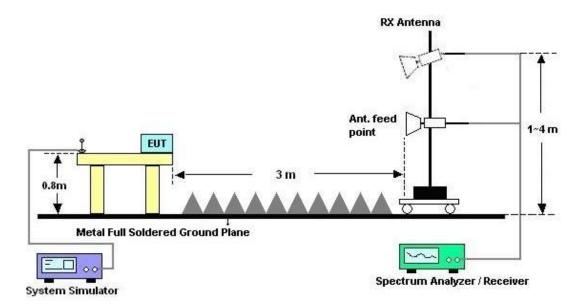
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### 3.2.4. Test Setup of Radiated Emission

#### For radiated emissions from 30MHz to 1GHz



#### For radiated emissions above 1GHz

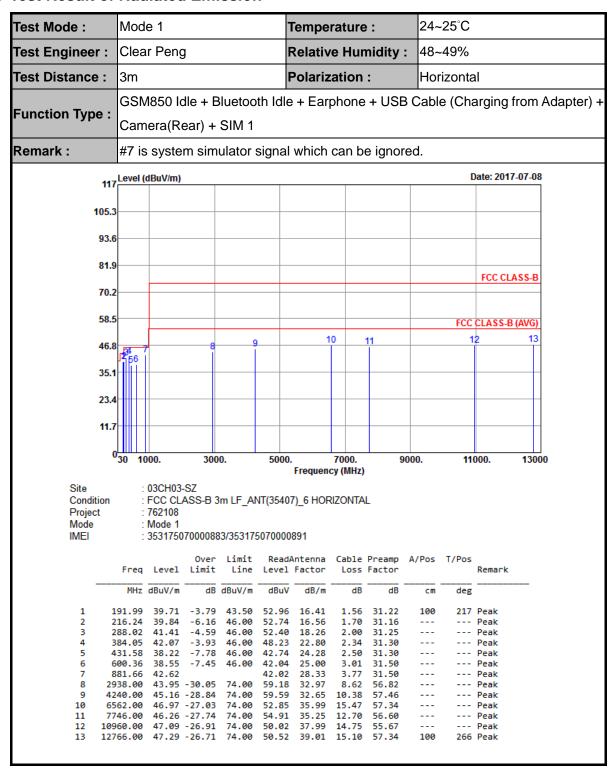


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#### 3.2.5. Test Result of Radiated Emission

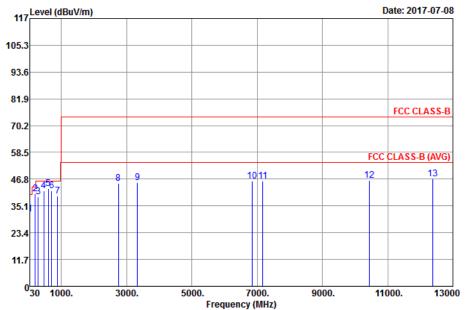


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FCC Test Report No. : FC762108

| Test Mode :     | Mode 1  | Temperature :       | 24~25°C |  |  |  |  |
|-----------------|---|---------------------|---------|--|--|--|--|
| Test Engineer : | Clear Peng  | Relative Humidity : | 48~49%  |  |  |  |  |
| Test Distance : | m Polarization : Vertical   |                     |         |  |  |  |  |
| Eurotion Type   | GSM850 Idle + Bluetooth Idle + Earphone + USB Cable (Charging from Adap |                     |         |  |  |  |  |
| Function Type : | Camera(Rear) + SIM 1  |                     |         |  |  |  |  |
| Remark :        | #7 is system simulator signal which can be ignored.                     |                     |         |  |  |  |  |
|                 | •   |                     |         |  |  |  |  |



Site : 03CH03-SZ

Condition : FCC CLASS-B 3m LF\_ANT(35407)\_6 VERTICAL

Project : 762108 Mode : Mode 1

IMEI : 353175070000883/353175070000891

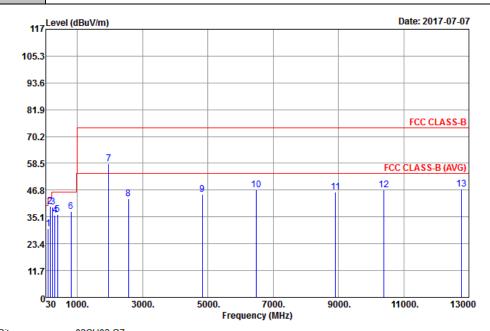
|    | Freq     | Level  | Over<br>Limit | Limit<br>Line |       | Antenna<br>Factor |       | Preamp<br>Factor | A/Pos | T/Pos | Remark |
|----|----------|--------|---------------|---------------|-------|-------------------|-------|------------------|-------|-------|--------|
|    | MHz      | dBuV/m | dB            | dBuV/m        | dBuV  | dB/m              | dB    | dB               | cm    | deg   |        |
| 1  | 34.85    | 31.58  | -8.42         | 40.00         | 37.76 | 25.10             | 0.32  | 31.60            |       |       | Peak   |
| 2  | 191.99   | 40.49  | -3.01         | 43.50         | 53.74 | 16.41             | 1.56  | 31.22            | 100   | 200   | QP     |
| 3  | 288.02   | 39.13  | -6.87         | 46.00         | 50.12 | 18.26             | 2.00  | 31.25            |       |       | Peak   |
| 4  | 455.83   | 41.70  | -4.30         | 46.00         | 46.08 | 24.34             | 2.59  | 31.31            |       |       | Peak   |
| 5  | 600.36   | 42.78  | -3.22         | 46.00         | 46.27 | 25.00             | 3.01  | 31.50            |       |       | Peak   |
| 6  | 696.39   | 41.75  | -4.25         | 46.00         | 43.28 | 26.71             | 3.26  | 31.50            | 100   | 0     | QP     |
| 7  | 881.66   | 39.56  |               |               | 38.96 | 28.33             | 3.77  | 31.50            |       |       | Peak   |
| 8  | 2750.00  | 45.10  | -28.90        | 74.00         | 61.85 | 32.60             | 7.40  | 56.75            |       |       | Peak   |
| 9  | 3326.00  | 45.23  | -28.77        | 74.00         | 60.42 | 32.71             | 9.23  | 57.13            |       |       | Peak   |
| 10 | 6836.00  | 46.01  | -27.99        | 74.00         | 52.27 | 35.93             | 15.59 | 57.78            |       |       | Peak   |
| 11 | 7172.00  | 45.81  | -28.19        | 74.00         | 54.51 | 35.62             | 13.75 | 58.07            |       |       | Peak   |
| 12 | 10446.00 | 46.24  | -27.76        | 74.00         | 50.27 | 37.86             | 14.63 | 56.52            |       |       | Peak   |
| 13 | 12390.00 | 47.05  | -26.95        | 74.00         | 50.64 | 38.80             | 15.05 | 57.44            | 100   | 304   | Peak   |

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24~25°C Test Mode: Mode 3 Temperature: Clear Peng 48~49% Test Engineer: Relative Humidity: Test Distance: 3m Polarization: Horizontal GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Data Link with Function Type: Notebook) + SIM 1 Remark: #7 is system simulator signal which can be ignored.



: 03CH03-SZ Site

Condition : FCC CLASS-B 3m LF\_ANT(35407)\_6 HORIZONTAL

Project : 762108

Mode Mode 3

IMEI : 353175070000883/353175070000891

|    | Freq     | Level  | Over<br>Limit | Limit<br>Line |       | Antenna<br>Factor |       | Preamp<br>Factor | A/Pos | T/Pos | Remark |
|----|----------|--------|---------------|---------------|-------|-------------------|-------|------------------|-------|-------|--------|
|    | MHz      | dBuV/m | dB            | dBuV/m        | dBuV  | dB/m              | dB    | dB               | cm    | deg   |        |
| 1  | 99.84    | 30.10  | -13.40        | 43.50         | 41.55 | 19.30             | 0.85  | 31.60            |       |       | Peak   |
| 2  | 156.10   | 39.90  | -3.60         | 43.50         | 52.07 | 17.86             | 1.35  | 31.38            | 100   | 326   | Peak   |
| 3  | 240.49   | 39.44  | -6.56         | 46.00         | 51.52 | 17.23             | 1.81  | 31.12            |       |       | Peak   |
| 4  | 312.27   | 35.87  | -10.13        | 46.00         | 46.10 | 18.98             | 2.09  | 31.30            |       |       | Peak   |
| 5  | 386.96   | 36.26  | -9.74         | 46.00         | 42.20 | 23.01             | 2.35  | 31.30            |       |       | Peak   |
| 6  | 804.06   | 37.43  | -8.57         | 46.00         | 37.20 | 28.11             | 3.62  | 31.50            |       |       | Peak   |
| 7  | 1960.00  | 58.27  |               |               | 80.97 | 28.56             | 6.03  | 57.29            |       |       | Peak   |
| 8  | 2564.00  | 42.87  | -31.13        | 74.00         | 60.31 | 32.23             | 7.02  | 56.69            |       |       | Peak   |
| 9  | 4830.00  | 44.98  | -29.02        | 74.00         | 57.39 | 33.30             | 10.89 | 56.60            |       |       | Peak   |
| 10 | 6480.00  | 46.86  | -27.14        | 74.00         | 52.81 | 36.01             | 15.24 | 57.20            |       |       | Peak   |
| 11 | 8912.00  | 46.10  | -27.90        | 74.00         | 51.83 | 36.46             | 12.81 | 55.00            |       |       | Peak   |
| 12 | 10388.00 | 46.99  | -27.01        | 74.00         | 51.02 | 37.81             | 14.62 | 56.46            |       |       | Peak   |
| 13 | 12766.00 | 47.42  | -26.58        | 74.00         | 50.65 | 39.01             | 15.10 | 57.34            | 100   | 266   | Peak   |

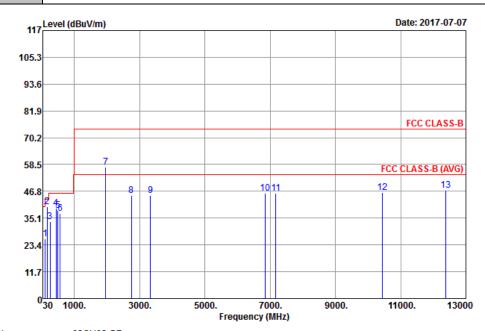
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24~25°C Test Mode: Mode 3 Temperature: Clear Peng 48~49% Test Engineer: Relative Humidity: Test Distance: 3m Polarization: Vertical GSM1900 Idle + Bluetooth Idle + Earphone + USB Cable (Data Link with Function Type: Notebook) + SIM 1 Remark: #7 is system simulator signal which can be ignored.



Site : 03CH03-SZ

Condition : FCC CLASS-B 3m LF\_ANT(35407)\_6 VERTICAL

Project : 762108

Mode : Mode 3

IMEI : 353175070000883/353175070000891

|    | Freq     | Level  | Over<br>Limit | Limit<br>Line |       | Antenna<br>Factor |       | Preamp<br>Factor | A/Pos | T/Pos | Remark |
|----|----------|--------|---------------|---------------|-------|-------------------|-------|------------------|-------|-------|--------|
|    | MHz      | dBuV/m | dB            | dBuV/m        | dBuV  | dB/m              | dB    | dB               | cm    | deg   |        |
| 1  | 99.84    | 26.22  | -17.28        | 43.50         | 37.67 | 19.30             | 0.85  | 31.60            |       |       | Peak   |
| 2  | 161.92   | 40.20  | -3.30         | 43.50         | 52.53 | 17.63             | 1.39  | 31.35            | 100   | 227   | Peak   |
| 3  | 252.13   | 33.44  | -12.56        | 46.00         | 45.14 | 17.54             | 1.87  | 31.11            |       |       | Peak   |
| 4  | 431.58   | 39.40  | -6.60         | 46.00         | 43.92 | 24.28             | 2.50  | 31.30            |       |       | Peak   |
| 5  | 491.72   | 38.51  | -7.49         | 46.00         | 43.86 | 23.34             | 2.69  | 31.38            |       |       | Peak   |
| 6  | 563.50   | 37.04  | -8.96         | 46.00         | 41.09 | 24.49             | 2.89  | 31.43            |       |       | Peak   |
| 7  | 1960.00  | 57.44  |               |               | 80.14 | 28.56             | 6.03  | 57.29            |       |       | Peak   |
| 8  | 2750.00  | 44.85  | -29.15        | 74.00         | 61.60 | 32.60             | 7.40  | 56.75            |       |       | Peak   |
| 9  | 3326.00  | 45.11  | -28.89        | 74.00         | 60.30 | 32.71             | 9.23  | 57.13            |       |       | Peak   |
| 10 | 6836.00  | 46.01  | -27.99        | 74.00         | 52.27 | 35.93             | 15.59 | 57.78            |       |       | Peak   |
| 11 | 7172.00  | 45.81  | -28.19        | 74.00         | 54.51 | 35.62             | 13.75 | 58.07            |       |       | Peak   |
| 12 | 10446.00 | 46.24  | -27.76        | 74.00         | 50.27 | 37.86             | 14.63 | 56.52            |       |       | Peak   |
| 13 | 12390.00 | 47.13  | -26.87        | 74.00         | 50.72 | 38.80             | 15.05 | 57.44            | 100   | 304   | Peak   |

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# 4. List of Measuring Equipment

| Instrument                        | Manufacturer    | Model No.                        | Serial No.       | Characteristics    | Calibration<br>Date | Test Date                       | Due Date      | Remark                   |
|-----------------------------------|-----------------|----------------------------------|------------------|--------------------|---------------------|---------------------------------|---------------|--------------------------|
| EMI Receiver                      | R&S             | ESR7                             | 101630           | 9kHz~7GHz;         | Jan. 06, 2017       | Jul. 09, 2017                   | Jan. 05, 2018 | Conduction<br>(CO01-SZ)  |
| AC LISN                           | EMCO            | 3816/2SH                         | 00103892         | 9kHz~30MHz         | Jan. 05, 2017       | Jul. 09, 2017                   | Jan. 04, 2018 | Conduction<br>(CO01-SZ)  |
| AC LISN (for auxiliary equipment) | MessTec         | 3816/2SH                         | 00103912         | 9kHz~30MHz         | Jan. 05, 2017       | Jul. 09, 2017                   | Jan. 04, 2018 | Conduction<br>(CO01-SZ)  |
| AC Power<br>Source                | Chroma          | 61602                            | 61602000089<br>1 | 100Vac~250Vac      | Jul. 16, 2016       | Jul. 09, 2017                   | Jul. 15, 2017 | Conduction<br>(CO01-SZ)  |
| Pulse Limiter                     | COM-POWER       | LIT-153<br>Transient<br>Limiter  | 53139            | 150kHz~30MHz       | Oct. 11, 2016       | Jul. 09, 2017                   | Oct. 10, 2017 | Conduction<br>(CO01-SZ)  |
| RF Cable                          | Woken           | B0720#0001                       | CO01SZ0007       | 150kHz~30MHz       | Oct. 08, 2016       | Jul. 09, 2017                   | Oct. 07, 2017 | Conduction<br>(CO01-SZ)  |
| EMI Test<br>Receiver&SA           | KEYSIGHT        | N9038A                           | MY54450083       | 20Hz~8.4GHz        | Apr. 20, 2017       | Jul. 07, 2017~<br>Jul. 08, 2017 | Apr. 19, 2018 | Radiation<br>(03CH03-SZ) |
| EXA Spectrum<br>Anaiyzer          | KEYSIGHT        | N9010A                           | MY55150246       | 10Hz~44GHz;        | Apr. 20, 2017       | Jul. 07, 2017~<br>Jul. 08, 2017 | Apr. 19, 2018 | Radiation<br>(03CH03-SZ  |
| Bilog Antenna                     | TeseQ           | CBL6112D                         | 35408            | 30MHz-2GHz         | May 14, 2017        | Jul. 07, 2017~<br>Jul. 08, 2017 | May 13, 2018  | Radiation (03CH03-SZ)    |
| Double Ridge<br>Horn Antenna      | SCHWARZBE<br>CK | BBHA 9120D                       | 9120D-1285       | 1GHz~18GHz         | Jan. 12, 2017       | Jul. 07, 2017~<br>Jul. 08, 2017 | Jan. 11, 2018 | Radiation<br>(03CH03-SZ) |
| Amplifier                         | Burgeon         | BPA-530                          | 102210           | 0.01Hz<br>~3000MHz | Oct. 11, 2016       | Jul. 07, 2017~<br>Jul. 08, 2017 | Oct. 10, 2017 | Radiation<br>(03CH03-SZ) |
| HF Amplifier                      | MITEQ           | AMF-7D-0010<br>1800-30-10P-<br>R | 1943528          | 1GHz~18GHz         | Oct. 11, 2016       | Jul. 07, 2017~<br>Jul. 08, 2017 | Oct. 10, 2017 | Radiation<br>(03CH03-SZ) |
| AC Power<br>Source                | Chroma          | 61601                            | 61601000198<br>5 | N/A                | NCR                 | Jul. 07, 2017~<br>Jul. 08, 2017 | NCR           | Radiation<br>(03CH03-SZ) |
| Turn Table                        | EM              | EM1000                           | N/A              | 0~360 degree       | NCR                 | Jul. 07, 2017~<br>Jul. 08, 2017 | NCR           | Radiation<br>(03CH03-SZ) |
| Antenna Mast                      | EM              | EM1000                           | N/A              | 1 m~4 m            | NCR                 | Jul. 07, 2017~<br>Jul. 08, 2017 | NCR           | Radiation<br>(03CH03-SZ) |

NCR: No Calibration Required

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# 5. Uncertainty of Evaluation

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

| Measuring Uncertainty for a Level of | 0.540 |
|--------------------------------------|-------|
| Confidence of 95% (U = 2Uc(y))       | 2.5dB |
|                                      |       |

#### <u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

|  | Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 5.1dB |
|--|---|-------|
|--|---|-------|

#### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 1800 MHz)

| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 5.0dB |
|---|-------|
| Confidence of 95 % (0 = 200(y))                                     |       |

#### Uncertainty of Radiated Emission Measurement (1800 MHz ~ 4000 MHz)

| Measuring Uncertainty for a Level of | EOAD  |
|--------------------------------------|-------|
| Confidence of 95% (U = 2Uc(y))       | 5.0dB |

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