



# FCC Test Report

**APPLICANT** : SHARP CORPORATION, IoT Communication BU  
**EQUIPMENT** : Smart Phone  
**BRAND NAME** : NTT docomo  
**MODEL NAME** : SH-03J  
**FCC ID** : APYHRO00248  
**STANDARD** : FCC 47 CFR FCC Part 15 Subpart B  
**CLASSIFICATION** : Certification

The product was received on Apr. 01, 2017 and testing was completed on May 01, 2017. We, SPORTON INTERNATIONAL 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 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



## **SPORTON INTERNATIONAL INC.**

**No. 52, Hwa Ya 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.**



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## 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<br>15.0 dB at<br>5.830 MHz              |
| 3.2            | 15.109   | Radiated Emission     | < 15.109 limits | PASS   | Under limit<br>8.03 dB at<br>173.64 MHz<br>for peak |



# 1. General Description

## 1.1. Applicant

SHARP CORPORATION, IoT Communication BU  
2-13-1, Hachihonmatsu-lida, Higashi-hiroshima-shi, Hiroshima, 739-0192, Japan

## 1.2. Manufacturer

SHARP CORPORATION, IoT Communication BU  
2-13-1, Hachihonmatsu-lida, Higashi-hiroshima-shi, Hiroshima, 739-0192, Japan

## 1.3. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, NFC, and GPS

| Product Specification subjective to this standard |  |
|---|--|
| Sample 1  | EUT with Memory 1  |
| Sample 2  | EUT with Memory 2  |
| Antenna Type                                      | WWAN: ILA Antenna<br>WLAN: ILA Antenna<br>Bluetooth: ILA Antenna<br>GPS/Glonass/Beidou/Galileo: ILA Antenna<br>NFC: Loop Antenna |

## 1.4. Modification of EUT

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

## 1.5. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                    |  |           |
|--------------------|--|-----------|
| Test Site          | SPORTON INTERNATIONAL INC.   |           |
| Test Site Location | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |           |
| Test Site No.      | <b>Sporton Site No.</b>  |           |
|                    | CO05-HY  | 03CH06-HY |



## 1.6. 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.



## 2. Test Configuration of Equipment Under Test

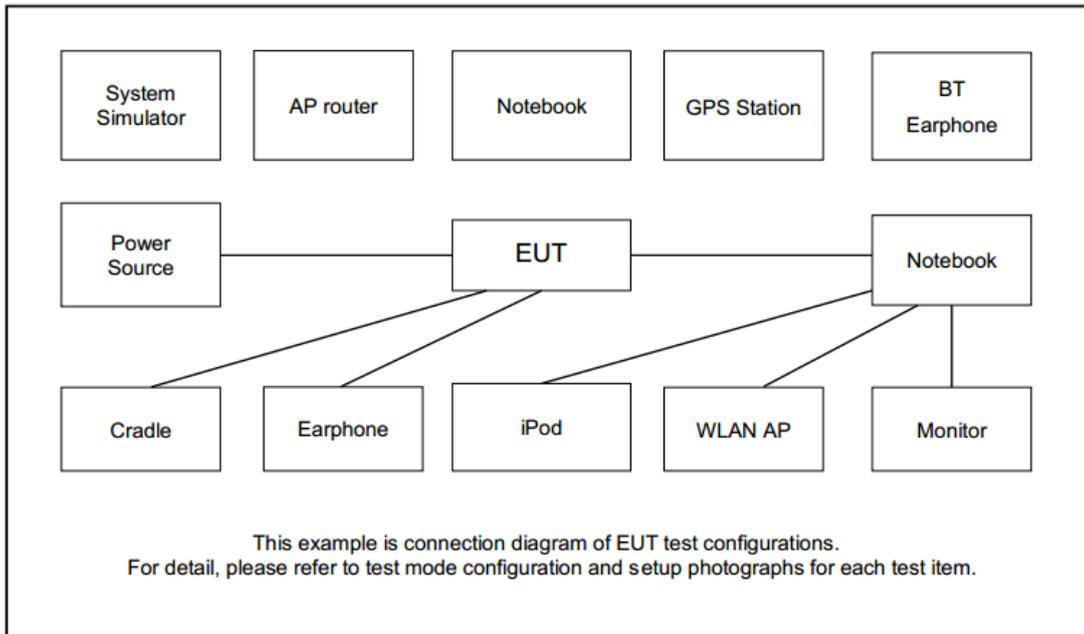
### 2.1. Test Mode

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 emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

| Test Items   | Function Type  |
|--|--|
| AC Conducted Emission  | Mode 1: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + USB Cable (Charging from Adapter) + Earphone for Sample 1             |
|  | Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN (5GHz) Idle + MPEG4 + USB Cable (Charging from Adapter) + Earphone for Sample 1          |
|  | Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + Camera (Front) + USB Cable (Charging from Adapter) + Earphone for Sample 1 |
|  | Mode 4: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Camera (Rear) + USB Cable (Charging from Adapter) + Earphone for Sample 1       |
|  | Mode 5: WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + GPS Rx + USB Cable (Charging from Adapter) + Earphone for Sample 1       |
|  | Mode 6: LTE Band 5 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + USB Cable (Data Link with Notebook) + Earphone for Sample 1     |
|  | Mode 7: LTE Band 5 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + USB Cable (Data Link with Notebook) + Earphone for Sample 2     |
| Radiated Emissions   | Mode 1: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + USB Cable (Charging from Adapter) + Earphone for Sample 1             |
|  | Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN (5GHz) Idle + MPEG4 + USB Cable (Charging from Adapter) + Earphone for Sample 1          |
|  | Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + Camera (Front) + USB Cable (Charging from Adapter) + Earphone for Sample 1 |
|  | Mode 4: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Camera (Rear) + USB Cable (Charging from Adapter) + Earphone for Sample 1       |
|  | Mode 5: WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + GPS Rx + USB Cable (Charging from Adapter) + Earphone for Sample 1       |
|  | Mode 6: LTE Band 5 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + USB Cable (Data Link with Notebook) + Earphone for Sample 1     |
|  | Mode 7: LTE Band 5 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + USB Cable (Data Link with Notebook) + Earphone for Sample 2     |
| <b>Remark:</b>   |  |
| 1. The worst case of AC is mode 7; only the test data of this mode was reported.             |  |
| 2. The worst case of RE is mode 7; only the test data of this mode was reported.             |  |
| 3. Data Link with Notebook means data application transferred mode between EUT and Notebook. |  |

## 2.2. Connection Diagram of Test System



## 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   | R&S           | CMU 200        | N/A  | N/A             | Unshielded, 1.8 m  |
| 2.   | System Simulator   | Anritsu       | MT8820C        | N/A  | N/A             | Unshielded, 1.8 m  |
| 3.   | GPS Station        | T&E           | GS-50          | N/A  | N/A             | Unshielded, 1.8 m  |
| 4.   | GPS Station        | Pendulum      | GSG-54         | N/A  | N/A             | Unshielded, 1.8 m  |
| 5.   | WLAN AP            | ASUS          | RT-AC66U       | MSQ-RTAC66U                                  | N/A             | Unshielded, 1.8 m  |
| 6.   | Bluetooth Earphone | Sony Ericsson | MW600          | PY7DDA-2029                                  | N/A             | N/A  |
| 7.   | iPod               | Apple         | A1285          | FCC DoC                                      | Shielded, 1.0 m | N/A  |
| 8.   | Notebook           | DELL          | Latitude E6320 | FCC DoC/<br>Contains FCC ID:<br>QDS-BRCM1054 | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 9.   | SD Card            | SanDisk       | MicroSD HC     | FCC DoC                                      | N/A             | N/A  |



## **2.4. EUT Operation Test Setup**

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

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

1. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.
2. Turn on NFC function.
3. Turn on Camera function.
4. Execute "Windows Media Player" to play MPEG4 files.
5. Execute "Video player" to play MPEG4 files.
6. Data application is transferred between Laptop and EUT via USB cable.



### 3. Test Result

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

##### 3.1.1 Limits of AC Conducted Emission

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

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

\*Decreases with the logarithm of the frequency.

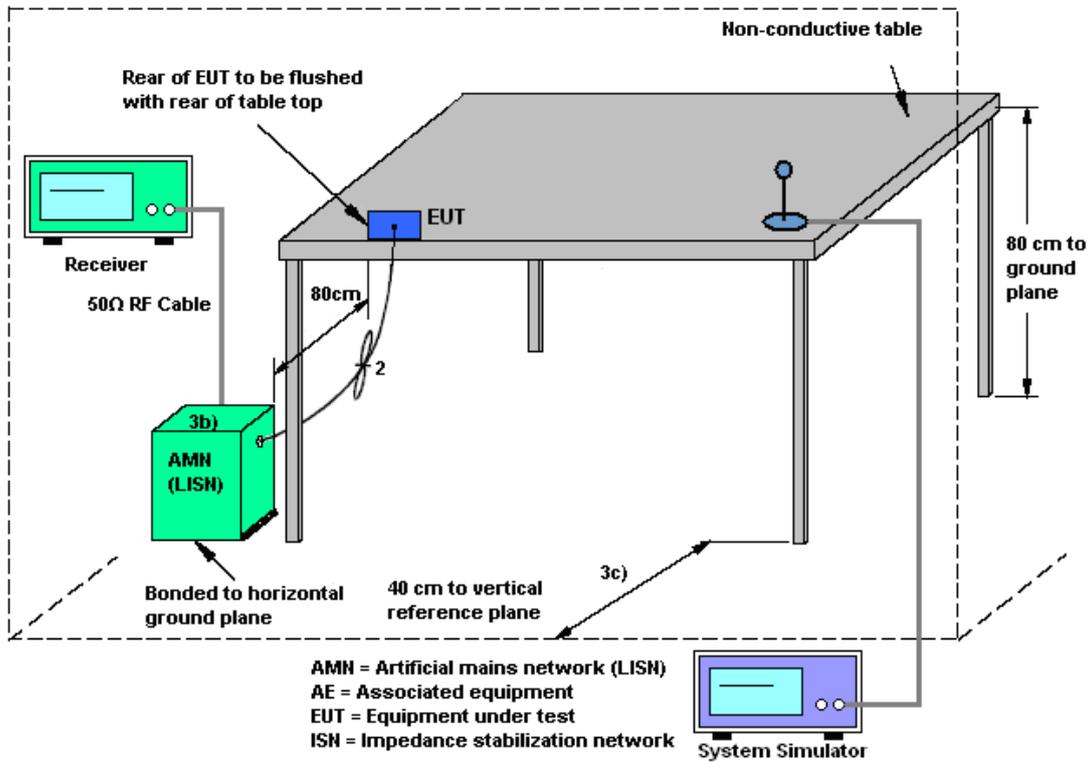
##### 3.1.2 Measuring Instruments

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.

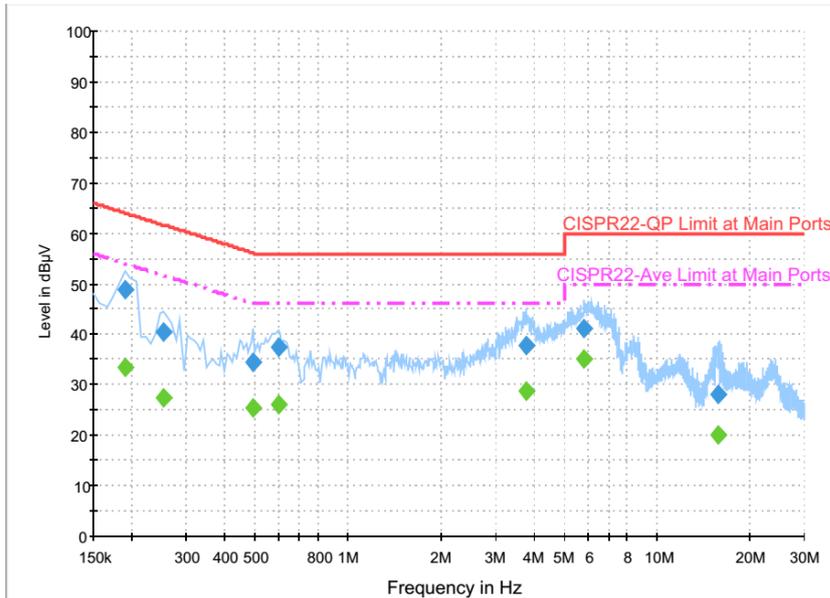
### 3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

|                 |               |                     |         |
|-----------------|---------------|---------------------|---------|
| Test Engineer : | Kai-Chun Chu  | Temperature :       | 23~24°C |
|                 |               | Relative Humidity : | 52~53%  |
| Test Voltage :  | 120Vac / 60Hz | Phase :             | Line    |



Final Result : Quasi-Peak

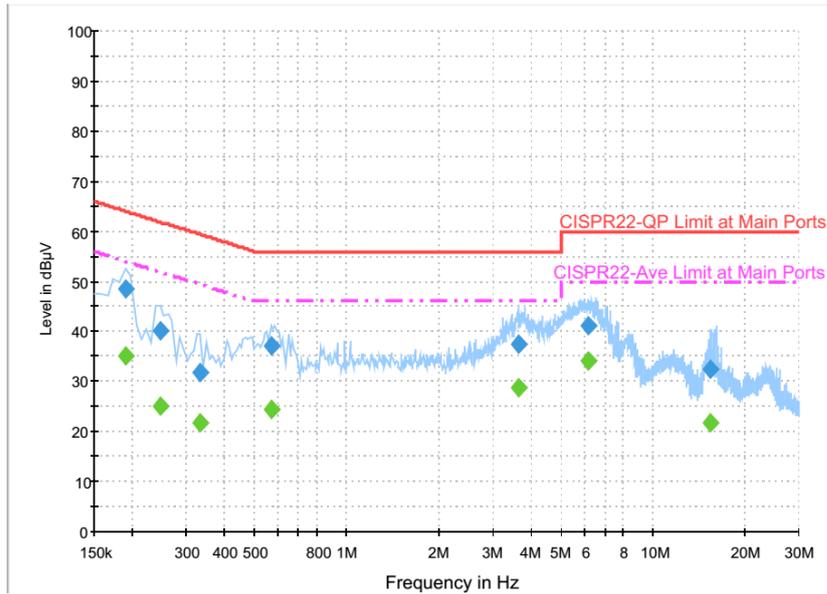
| Frequency (MHz) | Quasi-Peak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.190000        | 48.8              | Off    | L1   | 19.5       | 15.2        | 64.0         |
| 0.254000        | 40.4              | Off    | L1   | 19.5       | 21.2        | 61.6         |
| 0.494000        | 34.5              | Off    | L1   | 19.5       | 21.6        | 56.1         |
| 0.598000        | 37.6              | Off    | L1   | 19.5       | 18.4        | 56.0         |
| 3.774000        | 37.9              | Off    | L1   | 19.6       | 18.1        | 56.0         |
| 5.830000        | 41.2              | Off    | L1   | 19.6       | 18.8        | 60.0         |
| 15.734000       | 28.2              | Off    | L1   | 19.7       | 31.8        | 60.0         |

Final Result : Average

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.190000        | 33.5           | Off    | L1   | 19.5       | 20.5        | 54.0         |
| 0.254000        | 27.3           | Off    | L1   | 19.5       | 24.3        | 51.6         |
| 0.494000        | 25.4           | Off    | L1   | 19.5       | 20.7        | 46.1         |
| 0.598000        | 26.1           | Off    | L1   | 19.5       | 19.9        | 46.0         |
| 3.774000        | 28.7           | Off    | L1   | 19.6       | 17.3        | 46.0         |
| 5.830000        | 35.0           | Off    | L1   | 19.6       | 15.0        | 50.0         |
| 15.734000       | 20.1           | Off    | L1   | 19.7       | 29.9        | 50.0         |



|                 |               |                     |         |
|-----------------|---------------|---------------------|---------|
| Test Engineer : | Kai-Chun Chu  | Temperature :       | 23~24°C |
|                 |               | Relative Humidity : | 52~53%  |
| Test Voltage :  | 120Vac / 60Hz | Phase :             | Neutral |



**Final Result : Quasi-Peak**

| Frequency (MHz) | Quasi-Peak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.190000        | 48.3              | Off    | N    | 19.5       | 15.7        | 64.0         |
| 0.246000        | 40.2              | Off    | N    | 19.5       | 21.7        | 61.9         |
| 0.334000        | 31.9              | Off    | N    | 19.5       | 27.5        | 59.4         |
| 0.566000        | 37.1              | Off    | N    | 19.5       | 18.9        | 56.0         |
| 3.630000        | 37.6              | Off    | N    | 19.5       | 18.4        | 56.0         |
| 6.166000        | 41.1              | Off    | N    | 19.6       | 18.9        | 60.0         |
| 15.462000       | 32.3              | Off    | N    | 19.8       | 27.7        | 60.0         |

**Final Result : Average**

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.190000        | 35.0           | Off    | N    | 19.5       | 19.0        | 54.0         |
| 0.246000        | 25.2           | Off    | N    | 19.5       | 26.7        | 51.9         |
| 0.334000        | 21.6           | Off    | N    | 19.5       | 27.8        | 49.4         |
| 0.566000        | 24.4           | Off    | N    | 19.5       | 21.6        | 46.0         |
| 3.630000        | 28.9           | Off    | N    | 19.5       | 17.1        | 46.0         |
| 6.166000        | 34.2           | Off    | N    | 19.6       | 15.8        | 50.0         |
| 15.462000       | 21.9           | Off    | N    | 19.8       | 28.1        | 50.0         |



### 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

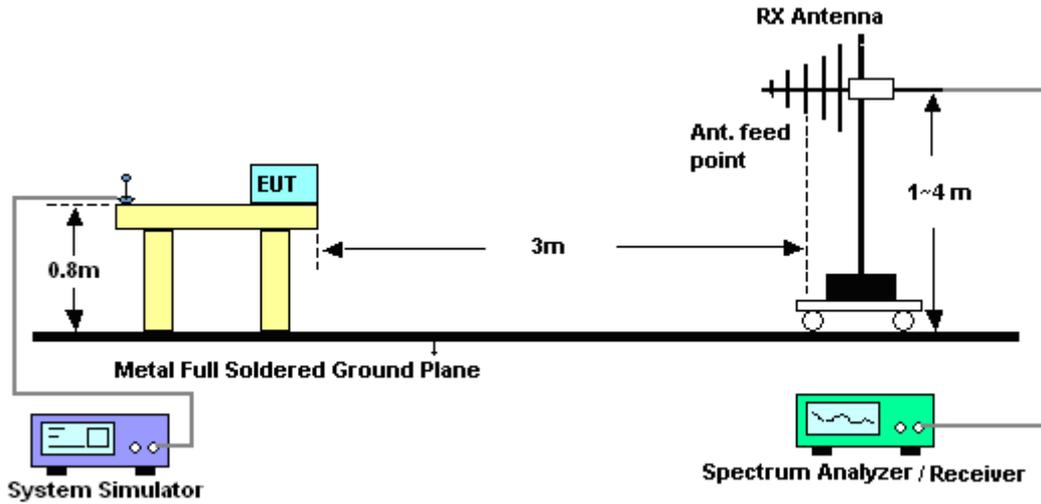
The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3. Test Procedures

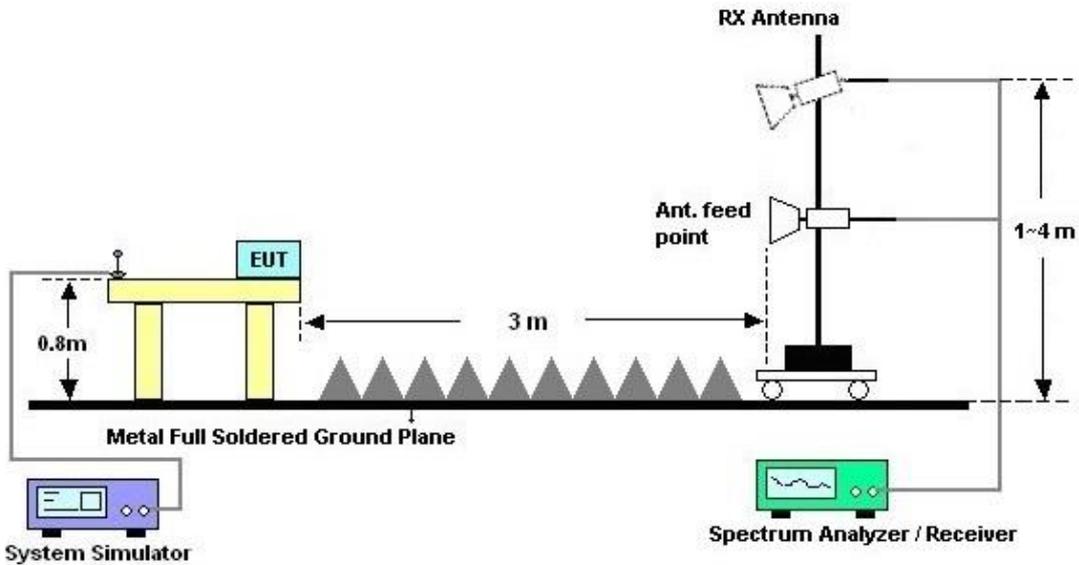
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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



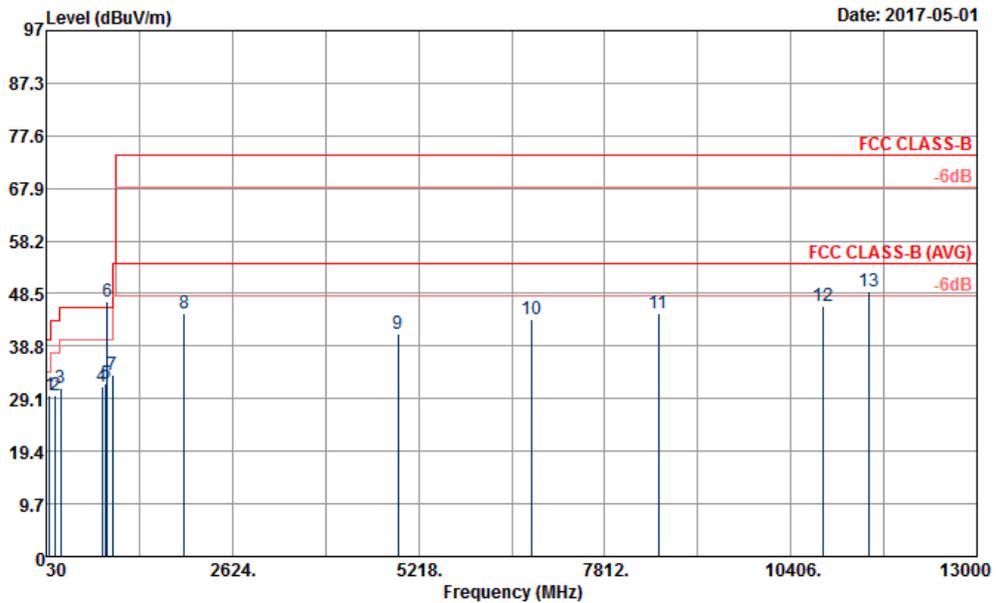
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

|                 |   |                     |            |
|-----------------|---|---------------------|------------|
| Test Engineer : | Hayden Wu   | Temperature :       | 22~24°C    |
|                 |   | Relative Humidity : | 48~50%     |
| Test Distance : | 3m  | Polarization :      | Horizontal |
| Remark :        | #6 is system simulator signal which can be ignored. |                     |            |

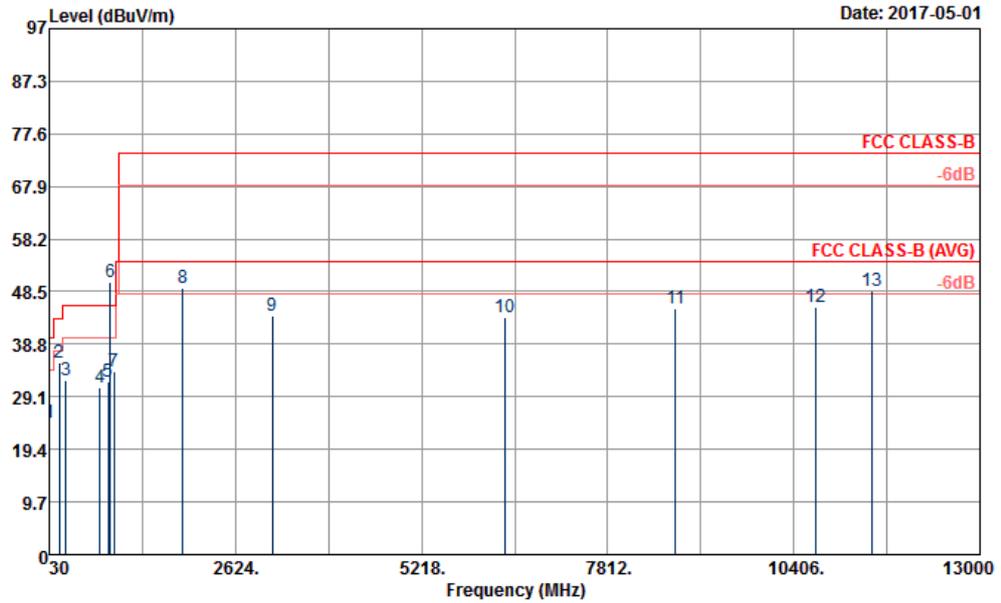


Site : 03CH06-HY  
 Condition : FCC CLASS-B 3m 9120D\_1156\_160817 HORIZONTAL  
 Project : 740120  
 Power : FromSystem  
 Memo : Mode 7

|     | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Cable Factor | Preamp Loss | A/Pos | T/Pos | Remark   |      |
|-----|----------|--------|------------|------------|-------------------|--------------|-------------|-------|-------|----------|------|
|     | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m         | dB          | dB    | cm    | deg      |      |
| 1   | 80.76    | 29.60  | -10.40     | 40.00      | 46.03             | 13.25        | 2.11        | 31.79 | 102   | 325 Peak |      |
| 2   | 159.60   | 29.74  | -13.76     | 43.50      | 43.09             | 16.29        | 2.13        | 31.77 | ---   | ---      | Peak |
| 3   | 231.42   | 30.98  | -15.02     | 46.00      | 44.21             | 16.38        | 2.11        | 31.72 | ---   | ---      | Peak |
| 4   | 805.40   | 31.44  | -14.56     | 46.00      | 31.51             | 28.38        | 3.36        | 31.81 | ---   | ---      | Peak |
| 5   | 857.20   | 31.81  | -14.19     | 46.00      | 30.66             | 29.43        | 3.32        | 31.60 | ---   | ---      | Peak |
| 6 * | 881.50   | 47.13  |            |            | 46.09             | 29.21        | 3.35        | 31.52 | ---   | ---      | Peak |
| 7   | 954.50   | 33.50  | -12.50     | 46.00      | 30.42             | 30.99        | 3.06        | 30.97 | ---   | ---      | Peak |
| 8   | 1950.00  | 44.85  | -29.15     | 74.00      | 72.46             | 26.56        | 6.23        | 60.40 | ---   | ---      | Peak |
| 9   | 4932.00  | 41.09  | -32.91     | 74.00      | 58.16             | 31.68        | 11.17       | 59.92 | ---   | ---      | Peak |
| 10  | 6784.00  | 43.82  | -30.18     | 74.00      | 55.99             | 36.04        | 11.86       | 60.07 | ---   | ---      | Peak |
| 11  | 8566.00  | 44.98  | -29.02     | 74.00      | 51.88             | 38.45        | 13.94       | 59.29 | ---   | ---      | Peak |
| 12  | 10864.00 | 46.29  | -27.71     | 74.00      | 49.48             | 41.00        | 14.87       | 59.06 | ---   | ---      | Peak |
| 13  | 11486.00 | 48.97  | -25.03     | 74.00      | 48.59             | 42.45        | 15.95       | 58.02 | 100   | 0 Peak   |      |



|                 |   |                     |          |
|-----------------|---|---------------------|----------|
| Test Engineer : | Hayden Wu   | Temperature :       | 22~24°C  |
|                 |   | Relative Humidity : | 48~50%   |
| Test Distance : | 3m  | Polarization :      | Vertical |
| Remark :        | #6 is system simulator signal which can be ignored. |                     |          |



Site : 03CH06-HY  
 Condition : FCC CLASS-B 3m 9120D\_1156\_160817 VERTICAL  
 Project : 740120  
 Power : FromSystem  
 Memo : Mode 7

|     | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Cable Factor | Preamp Loss | A/Pos | T/Pos | Remark |      |
|-----|----------|--------|------------|------------|-------------------|--------------|-------------|-------|-------|--------|------|
|     | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m         | dB          | dB    | cm    | deg    |      |
| 1   | 30.00    | 24.38  | -15.62     | 40.00      | 30.06             | 24.30        | 1.90        | 31.88 | ---   | ---    | Peak |
| 2   | 173.64   | 35.47  | -8.03      | 43.50      | 50.01             | 15.20        | 2.03        | 31.77 | 100   | 243    | Peak |
| 3   | 265.71   | 32.23  | -13.77     | 46.00      | 42.09             | 19.58        | 2.23        | 31.67 | ---   | ---    | Peak |
| 4   | 732.60   | 30.94  | -15.06     | 46.00      | 31.40             | 28.00        | 3.42        | 31.88 | ---   | ---    | Peak |
| 5   | 853.00   | 31.92  | -14.08     | 46.00      | 30.80             | 29.43        | 3.31        | 31.62 | ---   | ---    | Peak |
| 6 * | 881.50   | 50.28  |            |            | 49.15             | 29.26        | 3.36        | 31.49 | ---   | ---    | Peak |
| 7   | 928.60   | 33.84  | -12.16     | 46.00      | 31.40             | 30.43        | 3.19        | 31.18 | ---   | ---    | Peak |
| 8   | 1890.00  | 49.27  | -24.73     | 74.00      | 77.15             | 26.37        | 6.15        | 60.40 | 100   | 0      | Peak |
| 9   | 3136.00  | 44.17  | -29.83     | 74.00      | 68.31             | 28.82        | 7.95        | 60.91 | ---   | ---    | Peak |
| 10  | 6386.00  | 43.80  | -30.20     | 74.00      | 56.12             | 35.37        | 12.02       | 59.71 | ---   | ---    | Peak |
| 11  | 8760.00  | 45.44  | -28.56     | 74.00      | 52.21             | 38.30        | 14.48       | 59.55 | ---   | ---    | Peak |
| 12  | 10708.00 | 45.59  | -28.41     | 74.00      | 49.45             | 41.00        | 14.60       | 59.46 | ---   | ---    | Peak |
| 13  | 11494.00 | 48.56  | -25.44     | 74.00      | 48.18             | 42.45        | 15.95       | 58.02 | ---   | ---    | Peak |



## 4. List of Measuring Equipment

| Instrument        | Manufacturer    | Model No.                  | Serial No.      | Characteristics | Calibration Date | Test Date     | Due Date      | Remark                |
|-------------------|-----------------|----------------------------|-----------------|-----------------|------------------|---------------|---------------|-----------------------|
| AC Power Source   | ChainTek        | APC-1000W                  | N/A             | N/A             | N/A              | Apr. 28, 2017 | N/A           | Conduction (CO05-HY)  |
| EMI Test Receiver | Rohde & Schwarz | ESCI 7                     | 100724          | 9kHz~7GHz       | Aug. 30, 2016    | Apr. 28, 2017 | Aug. 29, 2017 | Conduction (CO05-HY)  |
| LISN              | Rohde & Schwarz | ENV216                     | 100080          | 9kHz~30MHz      | Nov. 29, 2016    | Apr. 28, 2017 | Nov. 28, 2017 | Conduction (CO05-HY)  |
| LISN              | Rohde & Schwarz | ENV216                     | 100081          | 9kHz~30MHz      | Dec. 06, 2016    | Apr. 28, 2017 | Dec. 05, 2017 | Conduction (CO05-HY)  |
| Bilog Antenna     | Schaffner       | CBL6111C&N-6-06            | 2725&AT-N0601   | 30MHz~1GHz      | Oct. 15, 2016    | May 01, 2017  | Oct. 14, 2017 | Radiation (03CH06-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESU26                      | 100472          | 20Hz~26.5GHz    | Dec. 29, 2016    | May 01, 2017  | Dec. 28, 2017 | Radiation (03CH06-HY) |
| Horn Antenna      | SCHWARZBECK     | BBHA 9120 D                | 9120D-1156      | 1GHz~18GHz      | Aug. 05, 2016    | May 01, 2017  | Aug. 04, 2017 | Radiation (03CH06-HY) |
| Preamplifier      | MITEQ           | AMF-7D-0010<br>1800-30-10P | 1850117         | 1GHz ~ 18GHz    | Jun. 22, 2016    | May 01, 2017  | Jun. 21, 2017 | Radiation (03CH06-HY) |
| Antenna Mast      | MF              | MF-7802                    | MF78020821<br>2 | 1m~4m           | N/A              | May 01, 2017  | N/A           | Radiation (03CH06-HY) |
| Turn Table        | INN-CO          | DS2000                     | 420/650/00      | 0-360 degree    | N/A              | May 01, 2017  | N/A           | Radiation (03CH06-HY) |
| Amplifier         | SONOMA          | 310N                       | 187231          | 9kHz~1GHz       | Jan. 09, 2017    | May 01, 2017  | Jan. 08, 2018 | Radiation (03CH06-HY) |



## 5. Uncertainty of Evaluation

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

|   |     |
|---|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.7 |
|---|-----|

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

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

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

|   |     |
|---|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 4.7 |
|---|-----|