



FCC Test Report

APPLICANT : Motorola Mobility, LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : 9894
FCC ID : IHDT56WB1
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

This is a variant report. The product was received on Jun. 15, 2017 and testing was completed on Jun. 22, 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.

Reviewed by: Louis Wu / Manager

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : IHDT56WB1

Page Number : 1 of 24

Report Issued Date : Jun. 29, 2017

Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3



TABLE OF CONTENTS

REVISION HISTORY..... 3

SUMMARY OF TEST RESULT 4

1. GENERAL DESCRIPTION 5

 1.1. Applicant..... 5

 1.2. Manufacturer 5

 1.3. Product Feature of Equipment Under Test 5

 1.4. Product Specification of Equipment Under Test 6

 1.5. Modification of EUT 8

 1.6. Test Location 8

 1.7. Applicable Standards 9

2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST 10

 2.1. Test Mode 10

 2.2. Connection Diagram of Test System 11

 2.3. Support Unit used in test configuration and system 12

 2.4. EUT Operation Test Setup 12

3. TEST RESULT 13

 3.1. Test of AC Conducted Emission Measurement 13

 3.2. Test of Radiated Emission Measurement 19

4. LIST OF MEASURING EQUIPMENT 23

5. UNCERTAINTY OF EVALUATION 24



REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|-------------|---------|-------------------------|---------------|
| FC733129-30 | Rev. 01 | Initial issue of report | Jun. 29, 2017 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



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 2.90 dB at 0.166 MHz |
| 3.2 | 15.109 | Radiated Emission | < 15.109 limits | PASS | Under limit 4.28 dB at 57.270 MHz |



1. General Description

1.1. Applicant

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2. Manufacturer

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3. Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|--|
| Equipment | Mobile Cellular Phone |
| Brand Name | Motorola |
| Model Name | 9894 |
| FCC ID | IHDT56WB1 |
| IMEI Code | 353310080024785 |
| EUT supports Radios application | CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE |
| EUT Stage | Identical Prototype |

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. This is a variant report by adding WPC Back cover. All the test cases were performed on original report which can be referred to Sporton Report Number FC733129-02. Based on the original report, only worst case was verified.

| Accessory List | |
|----------------|-----------------------|
| WPC Cover | Brand Name : Motorola |
| | Model Name : MD100W |



1.4. Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|--|
| Tx Frequency | GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz CDMA BC0:824.70 MHz ~ 848.31 MHz CDMA BC1:1851.25 MHz ~ 1908.75 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 25 : 1850.7 MHz ~ 1914.3 MHz LTE Band 26 : 814.7 MHz ~ 848.3 MHz LTE Band 66 : 1710.7 MHz ~ 1754.3 MHz 802.11b/g/n/ac: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz ; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5720 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz |



| Standards-related Product Specification | |
|---|---|
| Rx Frequency | GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz CDMA BC0: 869.70 MHz ~ 893.31 MHz CDMA BC1: 1931.25 MHz ~ 1988.75 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 7 : 2622.5 MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 25 : 1930.7 MHz ~ 1994.3 MHz LTE Band 26 : 859.7 MHz ~ 893.3 MHz LTE Band 66 : 2110.7 MHz ~ 2154.3 MHz 802.11b/g/n/ac: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz ; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5720 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz Glonass : 1602 MHz + n× 0.5625MHz (n=-7,-6,-5,...,0,...,6) NFC : 13.56 MHz |
| Antenna Type | WWAN : Fixed Internal Antenna WLAN : Fixed Internal Antenna Bluetooth : Fixed Internal Antenna GPS / Glonass : Fixed Internal Antenna NFC : Fixed Internal Antenna |
| Type of Modulation | GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK CDMA2000 1xRTT: QPSK CDMA2000 1xEV-DO: QPSK/8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) LTE: QPSK / 16QAM / 64QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : $\pi/4$ -DQPSK Bluetooth (3Mbps) : 8-DPSK GPS / Glonass : BPSK NFC: ASK |



1.5. Modification of EUT

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

1.6. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 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 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978 |
| Test Site No. | Sporton Site No. |
| | CO05-HY |

| | |
|---------------------------|--|
| Test Site | SPORTON INTERNATIONAL INC. |
| Test Site Location | No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855 |
| Test Site No. | Sporton Site No. |
| | 03CH10-HY |



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:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. For FCC 15 Subpart B - Unintentional Radiators, receivers contained within a transceiver shall be authorized under the verification procedure per the Section 15.101 (b).
3. For other Unintentional Radiators features of this EUT, test reports are be issued separately.
Per the Note of the Section 15.101, when device supports features (USB, FM Radio, digital devices...etc) more than one category of authorization, type of authorization shall be appropriately chosen for FCC 15B compliance rule, and the Section 15.101 (b), only those receivers that operate (tune) within the frequency range of 30-960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of the Section 15.101. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.
4. Receivers operating above 960 MHz or below 30 MHz, except for radar detectors and CB receivers, are exempt from complying with the technical provisions of this part but are subject to § 15.5.



2. Test Configuration of Equipment Under Test

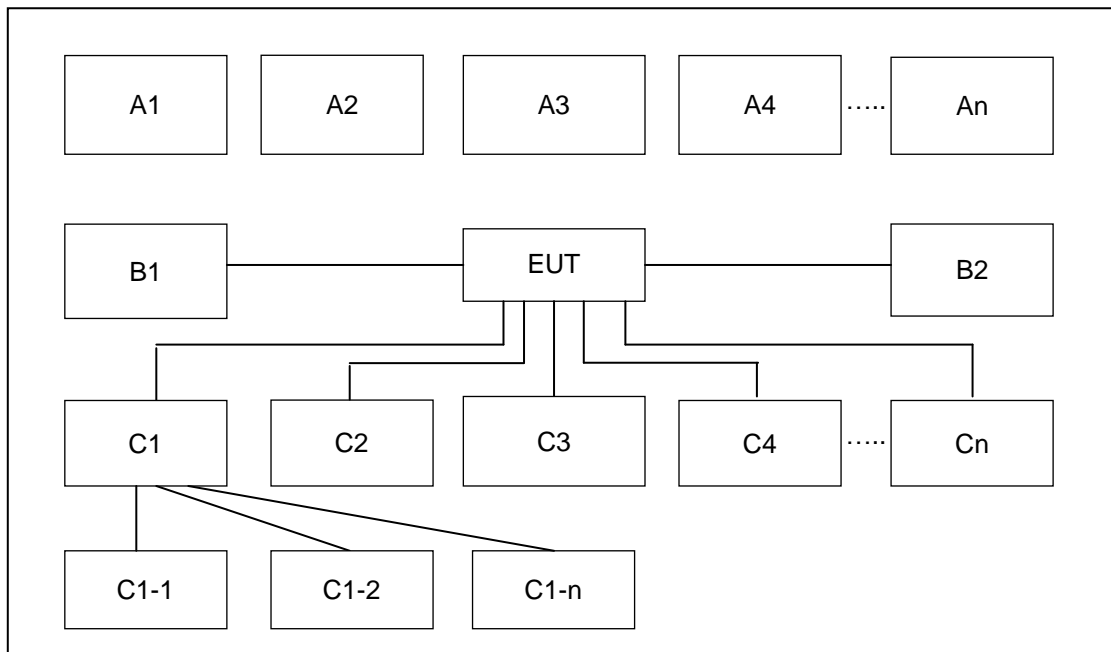
2.1. Test Mode

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 |
|---|--|
| AC Conducted Emission | Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Camera + WPC Back cover + Battery + LG Charging pad + USB Cable (Charging from Adapter) Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter |
| Radiated Emissions < 1GHz | Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Camera + WPC Back cover + Battery + LG Charging pad + USB Cable (Charging from Adapter) Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter |
| Radiated Emissions ≥ 1GHz | Mode 1: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter |
| Remark: 1. The worst case of AC is mode 2; only the test data of this mode was reported. 2. The worst case of RE < 1G is mode 2; only the test data of this mode was reported. | |

2.2. Connection Diagram of Test System



| Test Setup | | | | | | | | | |
|------------|-------------------|-----------------------------------|-----------|---|---|---|---|---|---|
| No. | Wireless Station | Connection Type | Test Mode | | | | | | |
| | | | 1 | 2 | - | - | - | - | - |
| A1 | BT Earphone | Bluetooth | X | X | | | | | |
| A2 | System Simulator | GSM/UMTS/CDMA/ WCDMA/LTE | X | X | | | | | |
| A3 | AP router | WiFi | X | X | | | | | |
| A4 | WPC pad | WPC | X | | | | | | |
| A5 | PMA pad | PMA | | X | | | | | |
| No. | Power Source | Connection Type | 1 | 2 | - | - | - | - | - |
| B1 | AC : 120V/60Hz | AC Power Cable | X | X | | | | | |
| No. | Setup Peripherals | Connection Type | 1 | 2 | - | - | - | - | - |
| C1 | SD card | SD I/O interface without Cable | X | X | | | | | |



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 | ASUS | RT-AC66U | MSQ-RTAC66U | N/A | Unshielded, 1.8 m |
| 3. | Bluetooth Earphone | Sony Ericsson | MW600 | PY7DDA-2029 | N/A | N/A |
| 4. | SD Card | SanDisk | MicroSD HC | FCC DoC | N/A | N/A |
| 5. | Adapter | HUAWEI | HW-059200UHQ | FCC DoC | N/A | N/A |
| 6. | USB Cable | HUAWEI | N/A | FCC DoC | N/A | N/A |
| 7. | WPC Pad | LG | WCD-100 | FCC DoC | N/A | N/A |
| 8. | PMA Pad | DURACELL | M-018B-518A | FCC DoC | N/A | shielded,1.8m |

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA 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.

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. Turn on camera to capture images.
2. Turn on NFC function.



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.

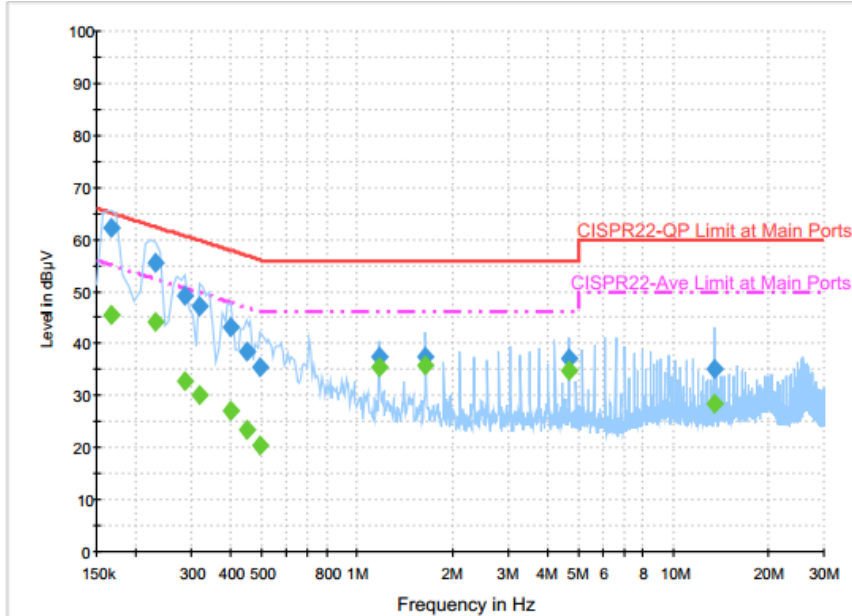
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

| | | | |
|-----------------|---|---------------------|---------|
| Test Mode : | Mode 2 | Temperature : | 22~25°C |
| Test Engineer : | Arthur Hsieh | Relative Humidity : | 51~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Line |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |

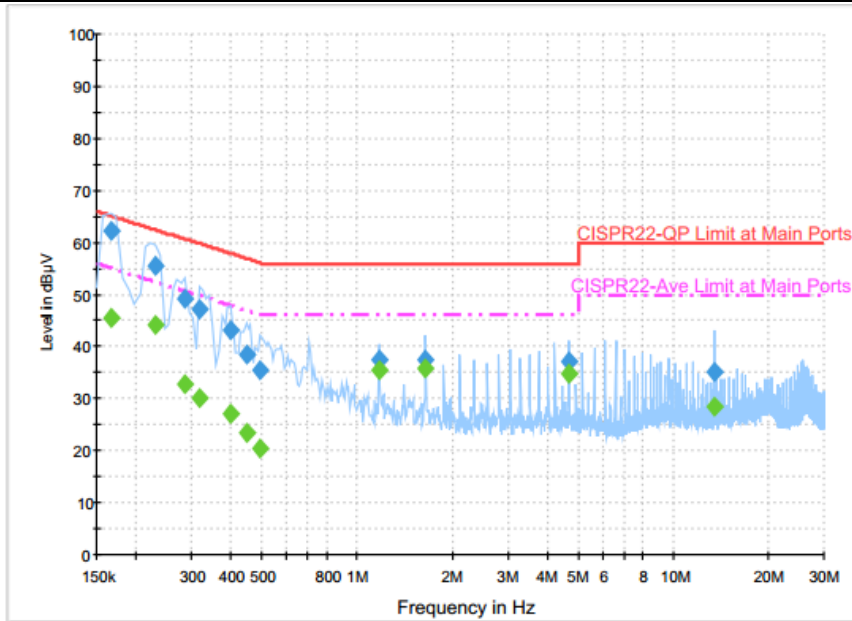


Final Result : Quasi-Peak

| Frequency (MHz) | Quasi-Peak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.166000 | 62.3 | Off | L1 | 19.6 | 2.9 | 65.2 |
| 0.230000 | 55.7 | Off | L1 | 19.6 | 6.7 | 62.4 |
| 0.286000 | 49.2 | Off | L1 | 19.6 | 11.4 | 60.6 |
| 0.318000 | 47.3 | Off | L1 | 19.6 | 12.5 | 59.8 |
| 0.398000 | 43.1 | Off | L1 | 19.6 | 14.8 | 57.9 |
| 0.446000 | 38.6 | Off | L1 | 19.6 | 18.3 | 56.9 |
| 0.494000 | 35.4 | Off | L1 | 19.6 | 20.7 | 56.1 |
| 1.174000 | 37.5 | Off | L1 | 19.6 | 18.5 | 56.0 |
| 1.646000 | 37.6 | Off | L1 | 19.6 | 18.4 | 56.0 |
| 4.702000 | 37.3 | Off | L1 | 19.7 | 18.7 | 56.0 |
| 13.558000 | 35.0 | Off | L1 | 20.2 | 25.0 | 60.0 |



| | | | |
|-----------------|---|---------------------|---------|
| Test Mode : | Mode 2 | Temperature : | 22~25°C |
| Test Engineer : | Arthur Hsieh | Relative Humidity : | 51~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Line |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |

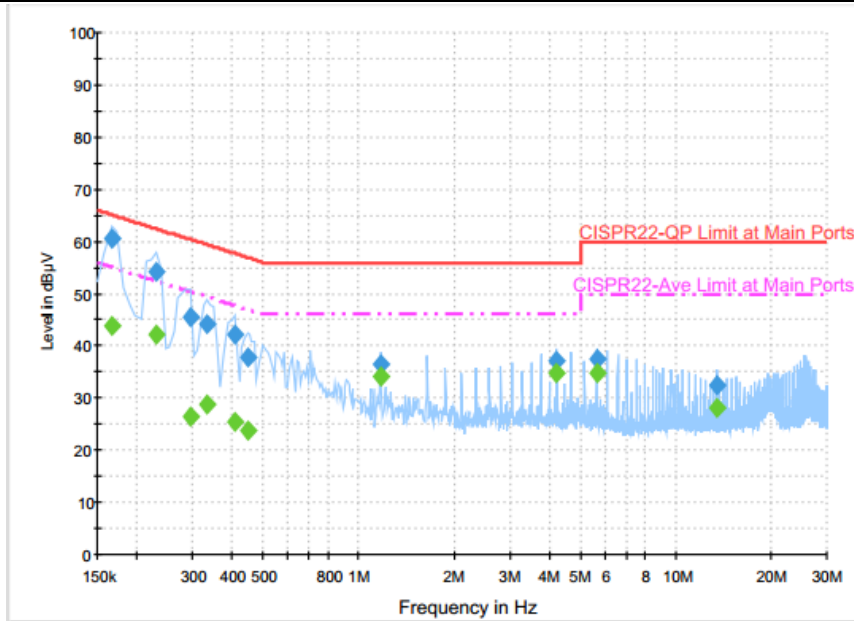


Final Result : Average

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.166000 | 45.5 | Off | L1 | 19.6 | 9.7 | 55.2 |
| 0.230000 | 44.0 | Off | L1 | 19.6 | 8.4 | 52.4 |
| 0.286000 | 32.9 | Off | L1 | 19.6 | 17.7 | 50.6 |
| 0.318000 | 30.2 | Off | L1 | 19.6 | 19.6 | 49.8 |
| 0.398000 | 27.2 | Off | L1 | 19.6 | 20.7 | 47.9 |
| 0.446000 | 23.3 | Off | L1 | 19.6 | 23.6 | 46.9 |
| 0.494000 | 20.5 | Off | L1 | 19.6 | 25.6 | 46.1 |
| 1.174000 | 35.5 | Off | L1 | 19.6 | 10.5 | 46.0 |
| 1.646000 | 35.7 | Off | L1 | 19.6 | 10.3 | 46.0 |
| 4.702000 | 34.9 | Off | L1 | 19.7 | 11.1 | 46.0 |
| 13.558000 | 28.5 | Off | L1 | 20.2 | 21.5 | 50.0 |



| | | | |
|-----------------|---|---------------------|---------|
| Test Mode : | Mode 2 | Temperature : | 22~25°C |
| Test Engineer : | Arthur Hsieh | Relative Humidity : | 51~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |

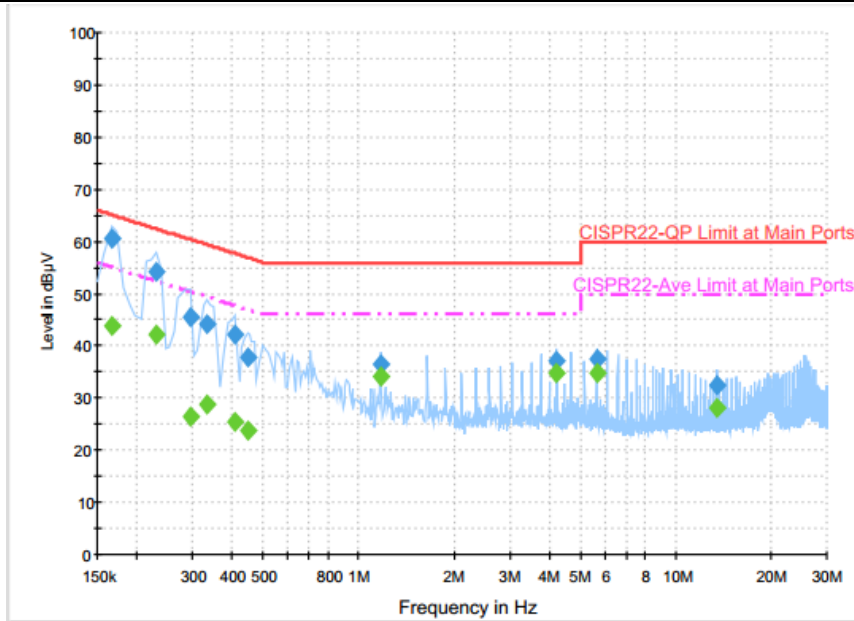


Final Result : Quasi-Peak

| Frequency (MHz) | Quasi-Peak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.166000 | 60.5 | Off | N | 19.5 | 4.7 | 65.2 |
| 0.230000 | 54.1 | Off | N | 19.5 | 8.3 | 62.4 |
| 0.294000 | 45.5 | Off | N | 19.5 | 14.9 | 60.4 |
| 0.334000 | 44.3 | Off | N | 19.5 | 15.1 | 59.4 |
| 0.406000 | 42.0 | Off | N | 19.5 | 15.7 | 57.7 |
| 0.446000 | 37.8 | Off | N | 19.5 | 19.1 | 56.9 |
| 1.174000 | 36.4 | Off | N | 19.6 | 19.6 | 56.0 |
| 4.230000 | 37.2 | Off | N | 19.7 | 18.8 | 56.0 |
| 5.638000 | 37.4 | Off | N | 19.8 | 22.6 | 60.0 |
| 13.558000 | 32.4 | Off | N | 20.3 | 27.6 | 60.0 |



| | | | |
|-----------------|---|---------------------|---------|
| Test Mode : | Mode 2 | Temperature : | 22~25°C |
| Test Engineer : | Arthur Hsieh | Relative Humidity : | 51~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |



Final Result : Average

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.166000 | 43.8 | Off | N | 19.5 | 11.4 | 55.2 |
| 0.230000 | 42.2 | Off | N | 19.5 | 10.2 | 52.4 |
| 0.294000 | 26.5 | Off | N | 19.5 | 23.9 | 50.4 |
| 0.334000 | 28.8 | Off | N | 19.5 | 20.6 | 49.4 |
| 0.406000 | 25.6 | Off | N | 19.5 | 22.1 | 47.7 |
| 0.446000 | 23.8 | Off | N | 19.5 | 23.1 | 46.9 |
| 1.174000 | 34.0 | Off | N | 19.6 | 12.0 | 46.0 |
| 4.230000 | 34.8 | Off | N | 19.7 | 11.2 | 46.0 |
| 5.638000 | 34.9 | Off | N | 19.8 | 15.1 | 50.0 |
| 13.558000 | 28.1 | Off | N | 20.3 | 21.9 | 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

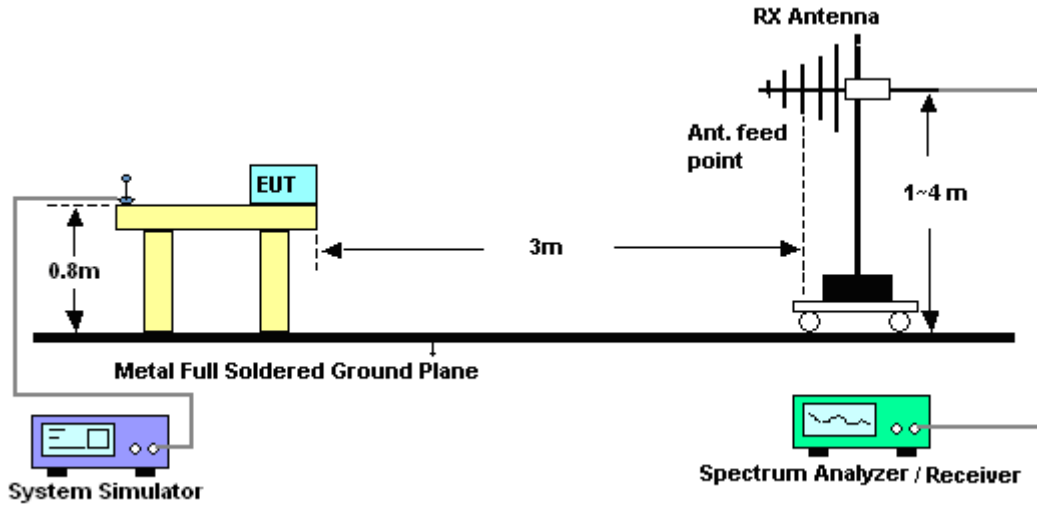
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

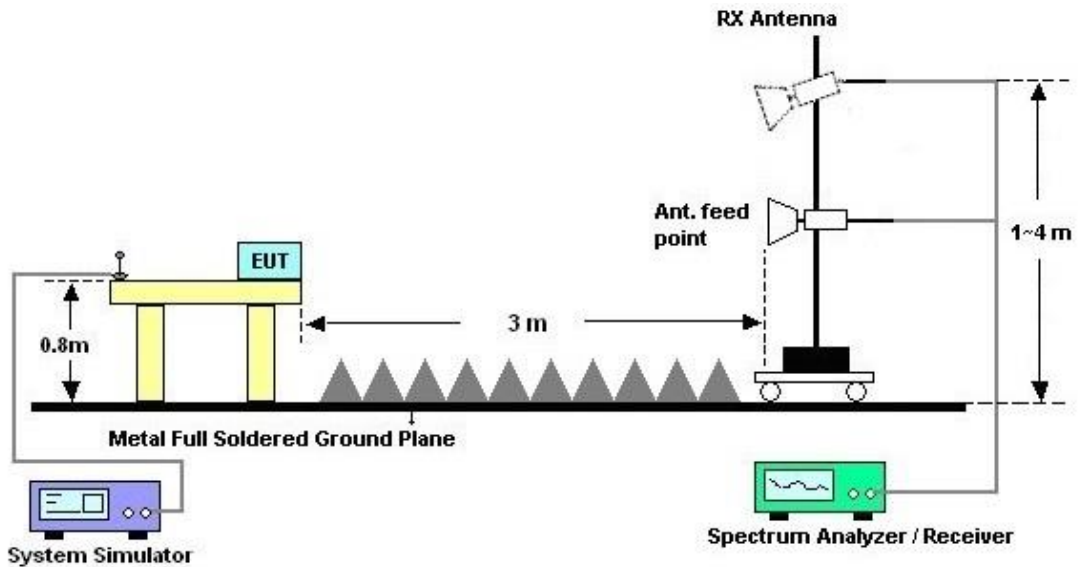
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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



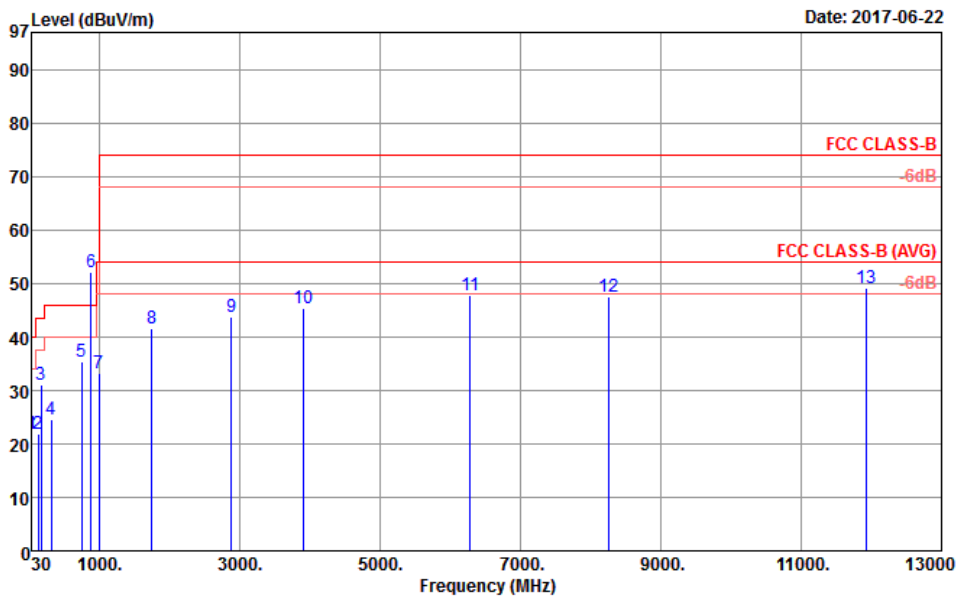
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

| | | | |
|-----------------|---|---------------------|------------|
| Test Mode : | Mode 2 | Temperature : | 45~47°C |
| Test Engineer : | Stan Hsieh | Relative Humidity : | 44~46% |
| Test Distance : | 3m | Polarization : | Horizontal |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |
| Remark : | #6 is system simulator signal which can be ignored. | | |



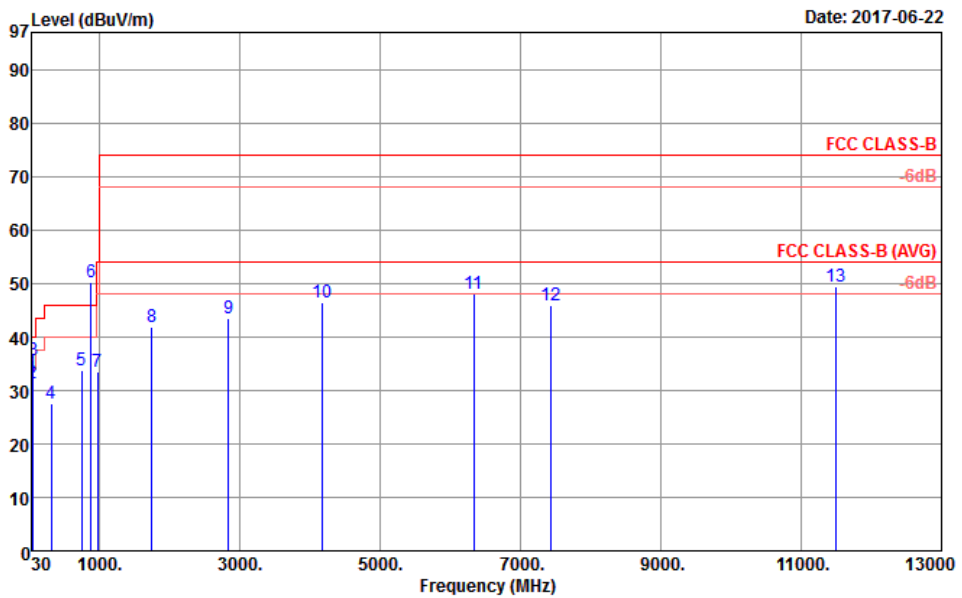
Site : 03CH10-HY
 Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL
 Power : 120Vac/60Hz

Mode : 2

| | 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 | 32.16 | 21.92 | -18.08 | 40.00 | 30.72 | 23.34 | 0.53 | 32.75 | --- | --- | Peak |
| 2 | 122.88 | 21.94 | -18.06 | 40.00 | 35.93 | 17.48 | 1.04 | 32.77 | --- | --- | Peak |
| 3 | 167.97 | 31.05 | -8.95 | 40.00 | 46.24 | 15.89 | 1.26 | 32.76 | 100 | 0 | Peak |
| 4 | 311.20 | 24.72 | -22.28 | 47.00 | 36.03 | 19.33 | 1.69 | 32.72 | --- | --- | Peak |
| 5 | 746.60 | 35.42 | -11.58 | 47.00 | 37.04 | 28.22 | 2.51 | 32.95 | --- | --- | Peak |
| 6 * | 881.40 | 52.06 | --- | --- | 51.94 | 29.14 | 2.70 | 32.41 | --- | --- | Peak |
| 7 | 990.20 | 33.16 | -13.84 | 47.00 | 30.20 | 30.66 | 2.81 | 31.32 | --- | --- | Peak |
| 8 | 1750.00 | 41.48 | -32.52 | 74.00 | 46.63 | 24.80 | 3.79 | 33.74 | --- | --- | Peak |
| 9 | 2876.00 | 43.80 | -30.20 | 74.00 | 43.65 | 28.33 | 4.88 | 33.06 | --- | --- | Peak |
| 10 | 3900.00 | 45.45 | -28.55 | 74.00 | 42.62 | 29.84 | 5.73 | 32.74 | --- | --- | Peak |
| 11 | 6288.00 | 47.80 | -26.20 | 74.00 | 39.27 | 34.15 | 7.30 | 32.92 | --- | --- | Peak |
| 12 | 8265.00 | 47.46 | -26.54 | 74.00 | 67.68 | 36.81 | 8.53 | 66.26 | --- | --- | Peak |
| 13 | 11930.00 | 49.28 | -24.72 | 74.00 | 64.91 | 39.72 | 10.26 | 66.11 | 100 | 0 | Peak |



| | | | |
|-----------------|---|---------------------|----------|
| Test Mode : | Mode 2 | Temperature : | 45~47°C |
| Test Engineer : | Stan Hsieh | Relative Humidity : | 44~46% |
| Test Distance : | 3m | Polarization : | Vertical |
| Function Type : | WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + WPC Back cover + Battery + PMA Charging pad + Adapter | | |
| Remark : | #6 is system simulator signal which can be ignored. | | |



Site : 03CH10-HY
 Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL
 Power : 120Vac/60Hz

Mode : 2

| | Freq | Level | Over Limit | Limit Line | ReadAntenna 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 | 32.43 | 33.21 | -6.79 | 40.00 | 42.45 | 22.89 | 0.53 | 32.75 | --- | --- | Peak |
| 2 | 44.58 | 31.21 | -8.79 | 40.00 | 46.35 | 16.80 | 0.69 | 32.74 | --- | --- | Peak |
| 3 | 57.27 | 35.72 | -4.28 | 40.00 | 55.37 | 12.19 | 0.77 | 32.74 | 100 | 0 | Peak |
| 4 | 314.00 | 27.45 | -19.55 | 47.00 | 38.72 | 19.36 | 1.69 | 32.72 | --- | --- | Peak |
| 5 | 746.60 | 33.80 | -13.20 | 47.00 | 35.42 | 28.22 | 2.51 | 32.95 | --- | --- | Peak |
| 6 * | 881.40 | 50.24 | | | 50.12 | 29.14 | 2.70 | 32.41 | --- | --- | Peak |
| 7 | 973.40 | 33.61 | -13.39 | 47.00 | 30.59 | 30.92 | 2.79 | 31.50 | --- | --- | Peak |
| 8 | 1750.00 | 41.77 | -32.23 | 74.00 | 46.92 | 24.80 | 3.79 | 33.74 | --- | --- | Peak |
| 9 | 2840.00 | 43.61 | -30.39 | 74.00 | 43.60 | 28.23 | 4.85 | 33.07 | --- | --- | Peak |
| 10 | 4172.00 | 46.46 | -27.54 | 74.00 | 42.67 | 30.54 | 5.92 | 32.67 | --- | --- | Peak |
| 11 | 6336.00 | 48.09 | -25.91 | 74.00 | 39.38 | 34.30 | 7.35 | 32.94 | --- | --- | Peak |
| 12 | 7425.00 | 45.90 | -28.10 | 74.00 | 65.42 | 37.27 | 8.05 | 65.64 | --- | --- | Peak |
| 13 | 11485.00 | 49.45 | -24.55 | 74.00 | 65.92 | 39.24 | 9.99 | 66.21 | 100 | 0 | 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 | Jun. 18, 2017 | N/A | Conduction (CO05-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESCI 7 | 100724 | 9kHz~7GHz | Aug. 30, 2016 | Jun. 18, 2017 | Aug. 29, 2017 | Conduction (CO05-HY) |
| LISN | Rohde & Schwarz | ENV216 | 100080 | 9kHz~30MHz | Nov. 29, 2016 | Jun. 18, 2017 | Nov. 28, 2017 | Conduction (CO05-HY) |
| Bilog Antenna | TESEQ | CBL 6111D&00800 N1D01N-06 | 35413&02 | 30MHz~1GHz | Jan. 07, 2017 | Jun. 22, 2017 | Jan. 06, 2018 | Radiation (03CH10-HY) |
| EMI Test Receiver | Keysight | N9038A(MXE) | MY55420170 | N/A | Mar. 03, 2017 | Jun. 22, 2017 | Mar. 02, 2018 | Radiation (03CH10-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-1325 | 1GHz ~ 18GHz | Sep. 30, 2016 | Jun. 22, 2017 | Sep. 29, 2017 | Radiation (03CH10-HY) |
| Amplifier | SONOMA | 310N | 187311 | 9kHz~1GHz | Oct. 26, 2016 | Jun. 22, 2017 | Oct. 25, 2017 | Radiation (03CH10-HY) |
| Preamplifier | Keysight | 83017A | MY53270078 | 1GHz~26.5GHz | Oct. 26, 2016 | Jun. 22, 2017 | Oct. 25, 2017 | Radiation (03CH10-HY) |
| Preamplifier | Jet-Power | JPA00101800-30-10P | 16011850004 | 1GHz~18GHz | Apr. 13, 2017 | Jun. 22, 2017 | Apr. 12, 2018 | Radiation (03CH10-HY) |
| Antenna Mast | EMEC | AM-BS-4500-B | N/A | 1~4m | N/A | Jun. 22, 2017 | N/A | Radiation (03CH10-HY) |
| Turn Table | EMEC | TT 2200 | N/A | 0~360 Degree | N/A | Jun. 22, 2017 | N/A | Radiation (03CH10-HY) |



5. Uncertainty of Evaluation

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 2.70 |
|---|------|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 5.60 |
|---|------|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 5.90 |
|---|------|