# FCC Test Report

| | | |
|---|---|---|
| **APPLICANT** | : | **Honeywell International Inc.**<br>**Honeywell Safety and Productivity Solutions** |
| **EQUIPMENT** | : | **RT10A** |
| **BRAND NAME** | : | **Honeywell** |
| **MODEL NAME** | : | **RT10AL0N** |
| **FCC ID** | : | **HD5-RT10AL0N** |
| **STANDARD** | : | **47 CFR Part 15 Subpart B** |
| **CLASSIFICATION** | : | **Certification** |

**The product was received on May 23, 2020 and testing was completed on Jul. 06, 2020. We, Sporton International (Kunshan) 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 (Kunshan) Inc., the test report shall not be reproduced except in full.**

Jason Jia

**Reviewed by: Jason Jia / Supervisor**

James Huang

**Approved by: James Huang / Manager**

ACCREDITED Cert #5145.02

***Sporton International (Kunshan) Inc.***
***No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300***
***People's Republic of China***

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# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FC052309 | Rev. 01 | Initial issue of report | Aug. 27, 2020 |
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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 4.36 dB at 0.524 MHz |
| 3.2 | 15.109 | Radiated Emission | < 15.109 limits | PASS | Under limit 4.68 dB at 809.88 MHz |

| **Declaration of Conformity:** |
|---|
| The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. |
| **Comments and Explanations:** |
| The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification. |

# 1. General Description

## 1.1. Applicant

**Honeywell International Inc.**
**Honeywell Safety and Productivity Solutions**
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

## 1.2. Manufacturer

**Honeywell International Inc.**
**Honeywell Safety and Productivity Solutions**
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

## 1.3. Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | RT10A |
| **Brand Name** | Honeywell |
| **Model Name** | RT10AL0N |
| **FCC ID** | HD5-RT10AL0N |
| **EUT supports Radios application** | WLAN 2.4GHz 802.11b/g/n HT20<br>WLAN 5GHz 802.11a/n HT20/HT40<br>WLAN 5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE<br>NFC |
| **HW Version** | V1.0 |
| **SW Version** | WLAN.HL.1.0.1.c2.3 |
| **EUT Stage** | Identical Prototype |

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

## 1.4. Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|---|
| **Tx Frequency** | 802.11b/g/n: 2412 MHz ~ 2462 MHz<br>802.11a/n/ac: 5180 MHz ~ 5240 MHz;<br>5260 MHz ~ 5320 MHz;<br>5500 MHz ~ 5700 MHz<br>5745 MHz ~ 5825 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>NFC : 13.56 MHz |
| **Rx Frequency** | 802.11b/g/n: 2412 MHz ~ 2462 MHz<br>802.11a/n/ac: 5180 MHz ~ 5240 MHz;<br>5260 MHz ~ 5320 MHz;<br>5500 MHz ~ 5700 MHz<br>5745 MHz ~ 5825 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>NFC : 13.56 MHz |
| **Antenna Type** | WLAN : PIFA Antenna<br>Bluetooth : PIFA Antenna<br>NFC : IFA Antenna |
| **Type of Modulation** | 802.11b : DSSS (DBPSK / DQPSK / CCK)<br>802.11a/g/n/ac : OFDM (BPSK / QPSK / 16QAM / 64QAM /256QAM)<br>Bluetooth LE : GFSK<br>Bluetooth (1Mbps) : GFSK<br>Bluetooth (2Mbps) :π/4-DQPSK<br>Bluetooth (3Mbps) : 8-DPSK<br>NFC: ASK |

## 1.5. Modification of EUT

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

## 1.6. Test Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

| | | | |
|---|---|---|---|
| **Test Firm** | Sporton International (Kunshan) Inc. | | |
| **Test Site Location** | No. 1098, Pengxi North Road, Kunshan Economic Development Zone<br>Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158<br>FAX : +86-512-57900958 | | |
| **Test Site No.** | **Sporton Site No.** | **FCC Designation No.** | **FCC Test Firm Registration No.** |
| | CO01-KS<br>03CH02-KS | CN1257 | 314309 |

## 1.7. Test Software

| Item | Site | Manufacture | Name | Version |
|---|---|---|---|---|
| 1. | 03CH02-KS | AUDIX | E3 | 6.2009-8-24a |
| 2. | CO01-KS | AUDIX | E3 | 6.2009-8-24 |

## 1.8. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR 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).

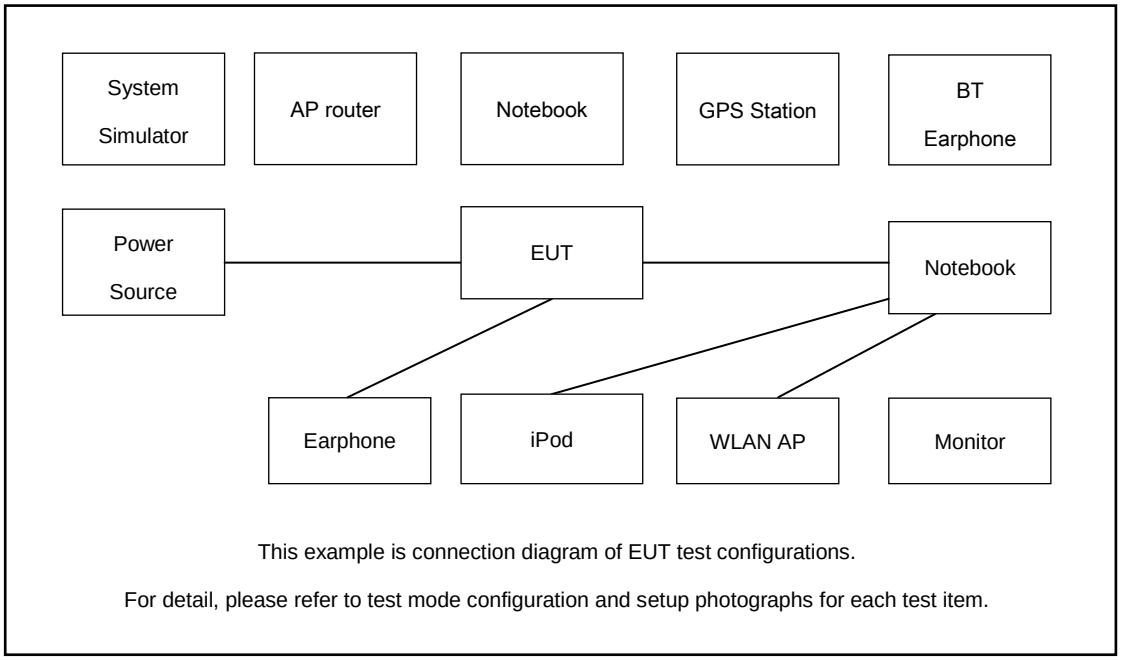
| Test Items | Function Type |
|---|---|
| AC Conducted Emission | Mode 1: Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adaptor<br>Mode 2: Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 2 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adaptor<br>Mode 3: Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adaptor<br>Mode 4: Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adaptor<br>Mode 5: Bluetooth Idle + WLAN (2.4G) Idle + Scan + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Notebook With LISN<br>Mode 6: Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With U Disk + USB Cable ( Charging from Adapter(Type-c Port) ) |

| | |
|---|---|
| Radiated Emissions | Mode 1: Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adapter<br>Mode 2: Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery 2 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adapter<br>Mode 3: Bluetooth Idle + WLAN (2.4G) Idle + MPEG4(Run Color Bar) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adapter<br>Mode 4: Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adapter<br>Mode 5: Bluetooth Idle + WLAN (2.4G) Idle + Scan + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With Notebook (Type-c Port) + USB Link With U Disk + Adapter<br>Mode 6: Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery 1 + Smart Reader With Read Card + USB Link With U Disk + USB Cable ( Charging from Adapter(Type-c Port) ) |

**Remark:**

1. The worst case of AC is mode 1; only the test data of this mode is reported.
2. The worst case of RE is mode 1; only the test data of this mode is reported.

## 2.2. Connection Diagram of Test System




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

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

| Item | Equipment | Trade Name | Model Name | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | WLAN AP | D-link | DIR-655 | KA21R655B1 | N/A | Unshielded, 1.8m |
| 2. | Bluetooth Earphone | Lenovo | LBH308 | N/A | N/A | N/A |
| 3. | Notebook | Lenovo | V130-15IKB005 | N/A | N/A | AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m |
| 4. | Notebook | Lenovo | G480 | QDS-BRCM1050I | N/A | AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m |
| 5. | Notebook | Dell | Latitude3440 | N/A | N/A | AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m |
| 6. | Bluetooth Earphone | Xiaomi | LYEJ02LM | N/A | N/A | N/A |
| 7. | SD Card | Kingston | 8GB | N/A | N/A | N/A |
| 8. | SD Card | SanDisk | Uitra | N/A | N/A | N/A |
| 9. | Hard Disk | Lenovo | F310 | DoC | Shielded, 1.2m | N/A |
| 10. | Earphone | Lenovo | P121 | N/A | N/A | Unshielded, 1.2m |
| 11. | U Disk | N/A | N/A | N/A | N/A | N/A |

## 2.4. EUT Operation Test Setup

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. Turn on camera to capture images.
3. Turn on MPEG4 function.
4. Turn on NFC Function.
5. Scan barcode.

# 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.

**<Class B Limit>**

| 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.

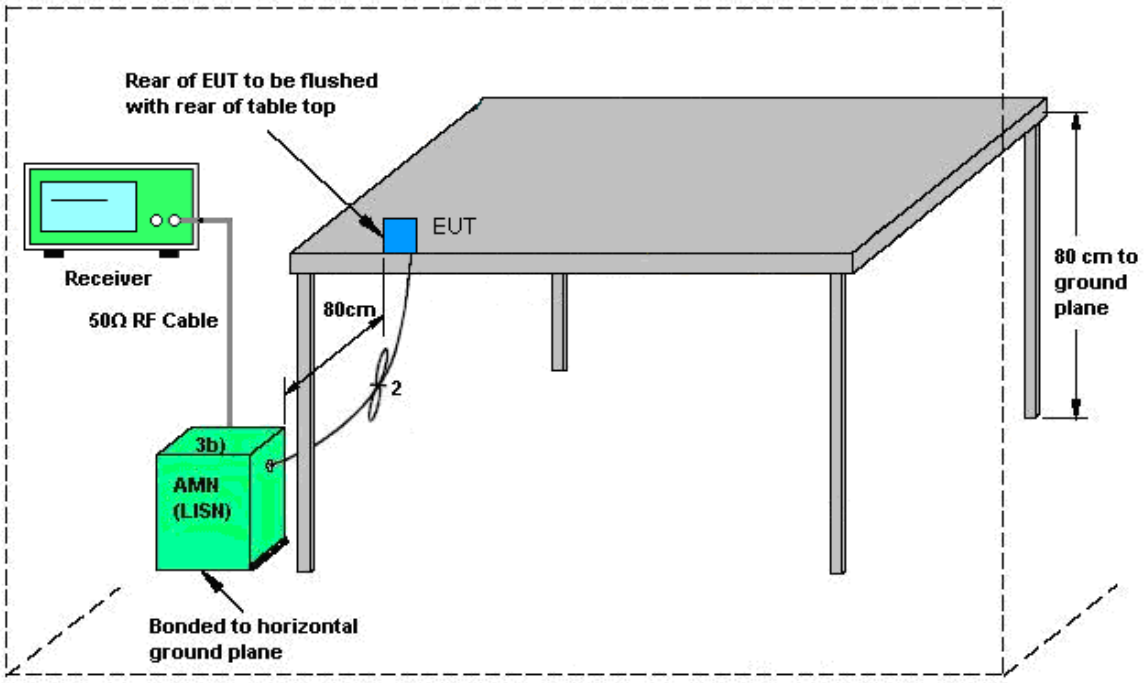
### 3.1.2 Measuring Instruments

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.

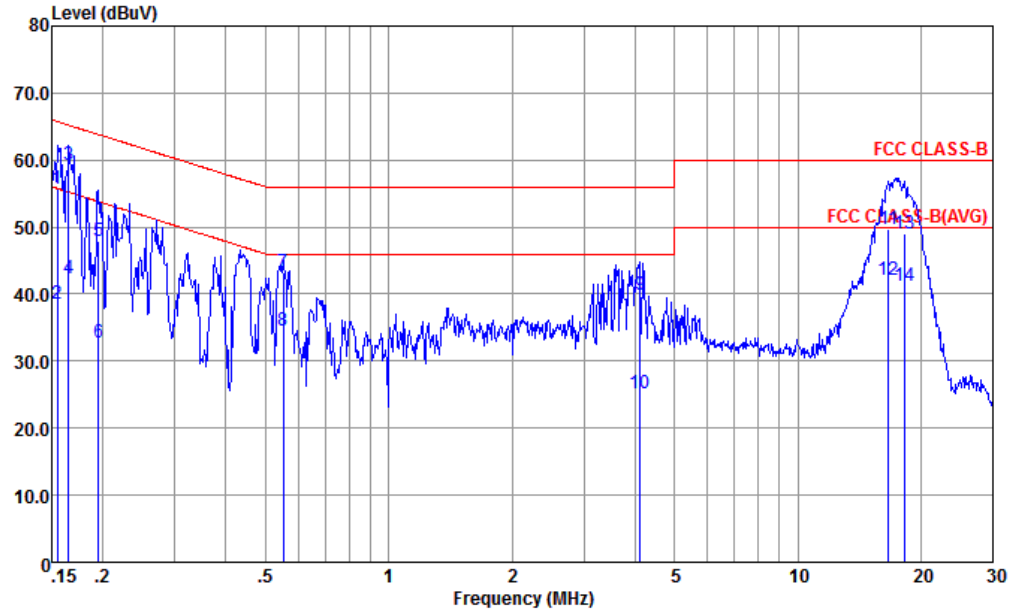
### 3.1.4 Test Setup




AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

### 3.1.5 Test Result of AC Conducted Emission

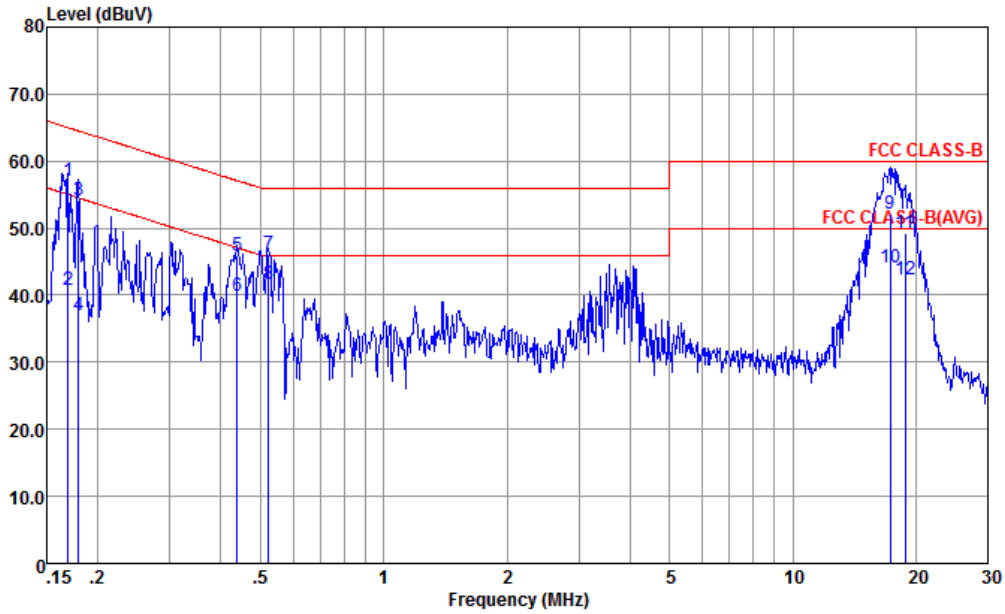
| | | | |
|---|---|---|---|
| **Test Engineer :** | Amos Zhang | **Temperature :** | 25.3~26.2℃ |
| | | **Relative Humidity :** | 38~40% |
| **Test Voltage :** | 120Vac / 60Hz | **Phase :** | Line |




Site : CO01-KS
Condition : FCC CLASS-B LISN-L-191028-060105 LINE
Project : (FC) 052309
mode : Mode 1
: 20115R0008 #11

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.155 | 55.80 | -9.94 | 65.74 | 45.30 | 0.03 | 10.47 | QP |
| 2 | | 0.155 | 38.60 | -17.14 | 55.74 | 28.10 | 0.03 | 10.47 | Average |
| 3 | * | 0.165 | 59.37 | -5.84 | 65.21 | 48.90 | 0.03 | 10.44 | QP |
| 4 | | 0.165 | 42.37 | -12.84 | 55.21 | 31.90 | 0.03 | 10.44 | Average |
| 5 | | 0.195 | 47.91 | -15.89 | 63.80 | 37.50 | 0.04 | 10.37 | QP |
| 6 | | 0.195 | 32.71 | -21.09 | 53.80 | 22.30 | 0.04 | 10.37 | Average |
| 7 | | 0.552 | 43.20 | -12.80 | 56.00 | 32.90 | 0.06 | 10.24 | QP |
| 8 | | 0.552 | 34.60 | -11.40 | 46.00 | 24.30 | 0.06 | 10.24 | Average |
| 9 | | 4.114 | 39.99 | -16.01 | 56.00 | 29.61 | 0.13 | 10.25 | QP |
| 10 | | 4.114 | 25.29 | -20.71 | 46.00 | 14.91 | 0.13 | 10.25 | Average |
| 11 | | 16.661 | 49.80 | -10.20 | 60.00 | 38.90 | 0.47 | 10.43 | QP |
| 12 | | 16.661 | 42.20 | -7.80 | 50.00 | 31.30 | 0.47 | 10.43 | Average |
| 13 | | 18.232 | 49.12 | -10.88 | 60.00 | 38.10 | 0.56 | 10.46 | QP |
| 14 | | 18.232 | 41.32 | -8.68 | 50.00 | 30.30 | 0.56 | 10.46 | Average |

| | | | |
|---|---|---|---|
| **Test Engineer :** | Amos Zhang | **Temperature :** | 25.3~26.2℃ |
| | | **Relative Humidity :** | 38~40% |
| **Test Voltage :** | 120Vac / 60Hz | **Phase :** | Neutral |




Site : CO01-KS
Condition : FCC CLASS-B LISN-N-191028-060105 NEUTRAL
Project : (FC) 052309
mode : Mode 1
: 20115R0008 #11

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.169 | 57.11 | -7.88 | 64.99 | 46.60 | 0.08 | 10.43 | QP |
| 2 | | 0.169 | 40.81 | -14.18 | 54.99 | 30.30 | 0.08 | 10.43 | Average |
| 3 | | 0.180 | 54.09 | -10.41 | 64.50 | 43.60 | 0.08 | 10.41 | QP |
| 4 | | 0.180 | 37.09 | -17.41 | 54.50 | 26.60 | 0.08 | 10.41 | Average |
| 5 | | 0.437 | 45.85 | -11.26 | 57.11 | 35.50 | 0.10 | 10.25 | QP |
| 6 | | 0.437 | 39.95 | -7.16 | 47.11 | 29.60 | 0.10 | 10.25 | Average |
| 7 | | 0.524 | 46.24 | -9.76 | 56.00 | 35.90 | 0.10 | 10.24 | QP |
| 8 | * | 0.524 | 41.64 | -4.36 | 46.00 | 31.30 | 0.10 | 10.24 | Average |
| 9 | | 17.291 | 52.05 | -7.95 | 60.00 | 41.11 | 0.50 | 10.44 | QP |
| 10 | | 17.291 | 44.15 | -5.85 | 50.00 | 33.21 | 0.50 | 10.44 | Average |
| 11 | | 18.820 | 49.25 | -10.75 | 60.00 | 38.20 | 0.58 | 10.47 | QP |
| 12 | | 18.820 | 42.25 | -7.75 | 50.00 | 31.20 | 0.58 | 10.47 | Average |

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

# 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:

**<Class B Limit>**

| 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

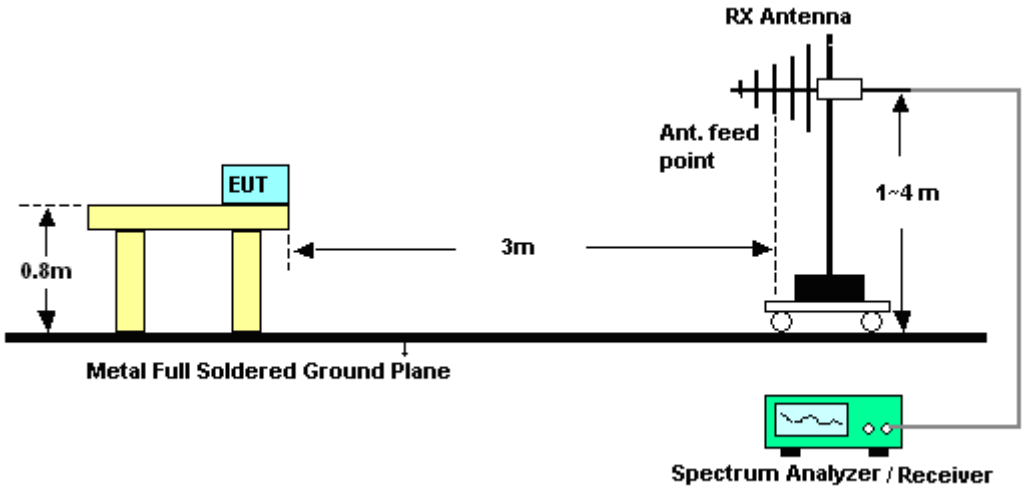
The measuring equipment is listed in the section 4 of this test report.

## 3.2.3. Test Procedures

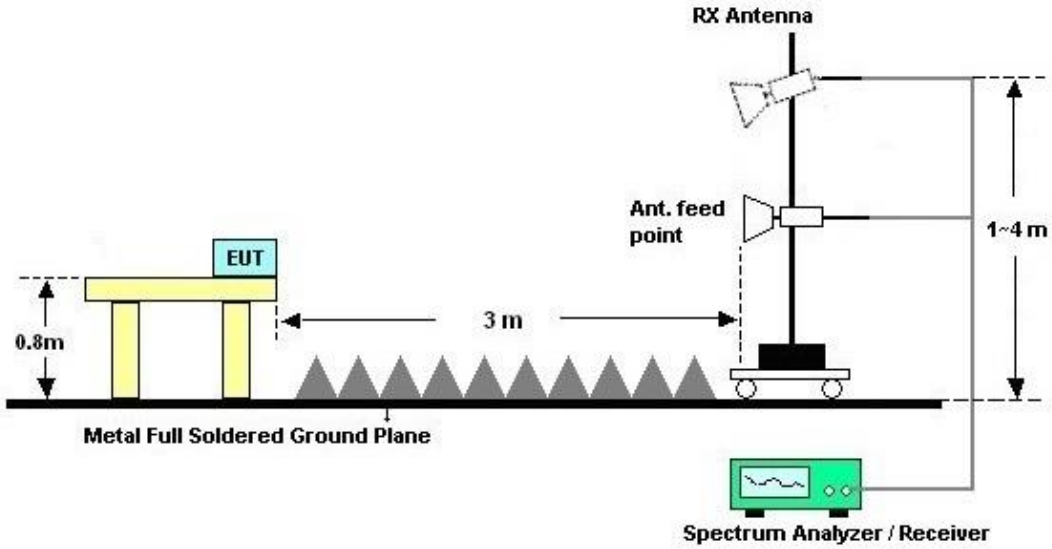
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

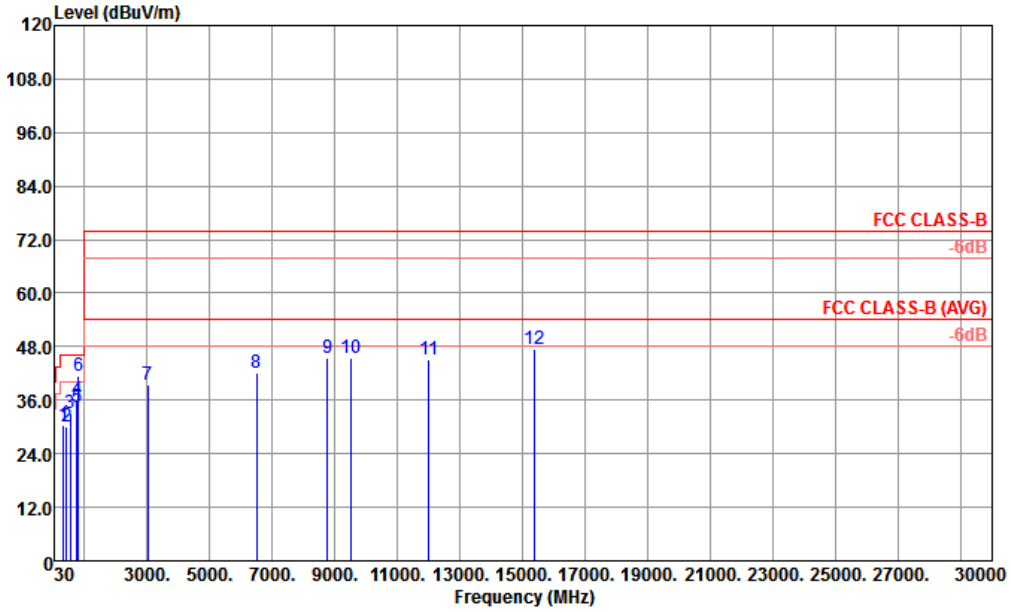



**For radiated emissions above 1GHz**



## 3.2.5. Test Result of Radiated Emission

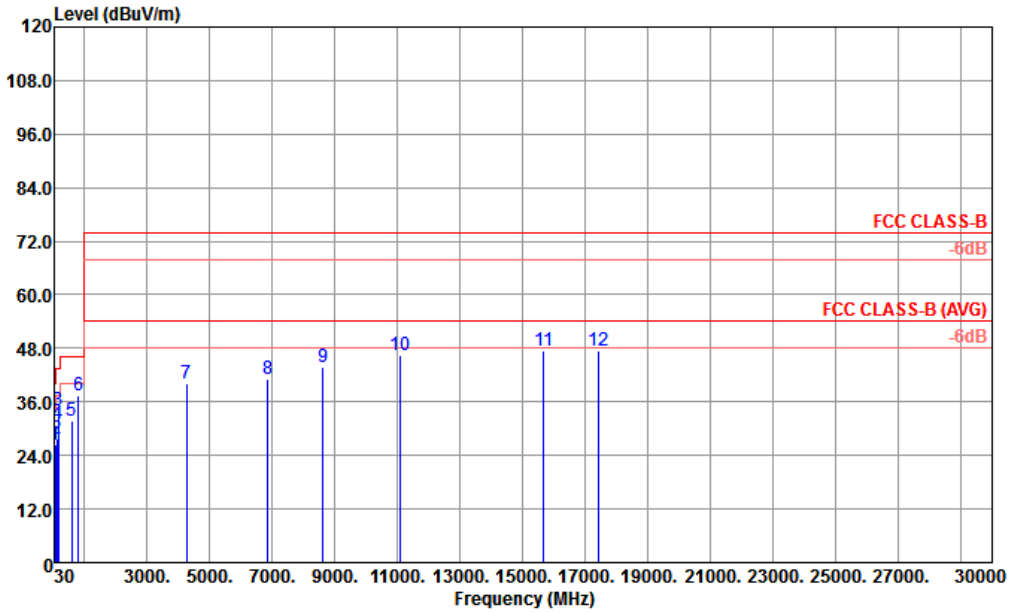
| Test Engineer : | Winter Zhang | Temperature : | 21~22°C |
|---|---|---|---|
| | | Relative Humidity : | 41~42% |
| Test Distance : | 3m | Polarization : | Horizontal |




Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 44483-3M HORIZONTAL
Project : (FC)052309
Mode : 1
IMEI : #8
Battery : 12%
: PC/NB USB Data Link to EUT(SD)

| | 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 | 328.76 | 30.51 | -15.49 | 46.00 | 39.98 | 19.86 | 2.72 | 32.05 | --- | --- | Peak |
| 2 | 431.58 | 30.11 | -15.89 | 46.00 | 36.52 | 22.66 | 3.11 | 32.18 | --- | --- | Peak |
| 3 | 540.22 | 33.07 | -12.93 | 46.00 | 36.79 | 25.13 | 3.47 | 32.32 | --- | --- | Peak |
| 4 | 755.56 | 36.10 | -9.90 | 46.00 | 36.05 | 28.20 | 4.09 | 32.24 | --- | --- | Peak |
| 5 | 782.72 | 34.45 | -11.55 | 46.00 | 34.26 | 28.20 | 4.16 | 32.17 | --- | --- | Peak |
| 6 ! | 809.88 | 41.32 | -4.68 | 46.00 | 40.73 | 28.42 | 4.23 | 32.06 | 100 | 0 | Peak |
| 7 | 3016.00 | 39.36 | -34.64 | 74.00 | 32.41 | 32.84 | 6.35 | 32.24 | --- | --- | Peak |
| 8 | 6488.00 | 41.95 | -32.05 | 74.00 | 28.76 | 35.20 | 9.59 | 31.60 | --- | --- | Peak |
| 9 | 8760.00 | 45.38 | -28.62 | 74.00 | 29.19 | 36.35 | 11.54 | 31.70 | --- | --- | Peak |
| 10 | 9513.00 | 45.45 | -28.55 | 74.00 | 27.45 | 36.90 | 12.16 | 31.06 | --- | --- | Peak |
| 11 | 12006.00 | 45.11 | -28.89 | 74.00 | 24.38 | 38.70 | 13.79 | 31.76 | --- | --- | Peak |
| 12 | 15390.00 | 47.36 | -26.64 | 74.00 | 22.37 | 40.68 | 16.10 | 31.79 | --- | --- | Peak |

| Test Engineer : | Winter Zhang | Temperature : | 21~22°C |
|---|---|---|---|
| | | Relative Humidity : | 41~42% |
| Test Distance : | 3m | Polarization : | Vertical |




Site : 03CH02-KS
Condition : FCC CLASS-B 3m LF 44483-3M VERTICAL
Project : (FC)052309
Mode : 1
IMEI : #8
Battery : 12%
: PC/NB USB Data Link to EUT(SD)

| | 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 | 77.53 | 26.50 | -13.50 | 40.00 | 43.83 | 13.30 | 1.29 | 31.92 | --- | --- | Peak |
| 2 | 106.63 | 27.77 | -15.73 | 43.50 | 41.40 | 16.73 | 1.57 | 31.93 | --- | --- | Peak |
| 3 | 155.13 | 34.26 | -9.24 | 43.50 | 47.52 | 16.80 | 1.88 | 31.94 | --- | --- | Peak |
| 4 | 171.62 | 31.05 | -12.45 | 43.50 | 45.41 | 15.59 | 1.97 | 31.92 | --- | --- | Peak |
| 5 | 588.72 | 31.73 | -14.27 | 46.00 | 34.79 | 25.71 | 3.62 | 32.39 | --- | --- | Peak |
| 6 | 809.88 | 37.37 | -8.63 | 46.00 | 36.78 | 28.42 | 4.23 | 32.06 | 100 | 0 | Peak |
| 7 | 4248.00 | 40.23 | -33.77 | 74.00 | 30.69 | 33.72 | 7.69 | 31.87 | --- | --- | Peak |
| 8 | 6848.00 | 41.01 | -32.99 | 74.00 | 27.24 | 35.30 | 9.90 | 31.43 | --- | --- | Peak |
| 9 | 8608.00 | 43.76 | -30.24 | 74.00 | 27.72 | 36.43 | 11.44 | 31.83 | --- | --- | Peak |
| 10 | 11061.00 | 46.33 | -27.67 | 74.00 | 27.72 | 37.44 | 13.42 | 32.25 | --- | --- | Peak |
| 11 | 15678.00 | 47.41 | -26.59 | 74.00 | 21.74 | 40.97 | 16.48 | 31.78 | --- | --- | Peak |
| 12 | 17415.00 | 47.55 | -26.45 | 74.00 | 22.08 | 40.81 | 16.54 | 31.88 | --- | --- | Peak |

Note:

1. Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

# 4. List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| EMI Test Receiver | R&S | ESR7 | 101403 | 9kHz~7GHz;Max 30dBm | Oct, 18, 2019 | Jul. 06, 2020 | Oct. 17,2020 | Radiation (03CH02-KS) |
| EXA Spectrum Analyzer | Keysight | N9010A | MY55370528 | 10Hz-44G,MAX 30dB | Oct. 18, 2019 | Jul. 06, 2020 | Oct. 17, 2020 | Radiation (03CH02-KS) |
| Bilog Antenna | TeseQ | CBL6111D | 44483 | 30MHz-1GHz | Dec. 30, 2019 | Jul. 06, 2020 | Dec. 29, 2020 | Radiation (03CH02-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 75957 | 1GHz~18GHz | Nov. 10, 2019 | Jul. 06, 2020 | Nov. 09, 2020 | Radiation (03CH02-KS) |
| SHF-EHF Horn | Com-power | AH-840 | 101115 | 18GHz~40GHz | Nov. 10, 2019 | Jul. 06, 2020 | Nov. 09, 2020 | Radiation (03CH02-KS) |
| Amplifier | MITEQ | EM18G40GGA | 060728 | 18~40GHz | Jan. 08, 2020 | Jul. 06, 2020 | Jan. 07, 2021 | Radiation (03CH02-KS) |
| Amplifier | SONOMA | 310N | 187289 | 9KHz-1GHz | Aug. 06, 2019 | Jul. 06, 2020 | Aug. 05, 2020 | Radiation (03CH02-KS) |
| Amplifier | Keysight | 83017A | MY53270316 | 500MHz~26.5GHz | Oct. 18, 2019 | Jul. 06, 2020 | Oct.17, 2020 | Radiation (03CH02-KS) |
| AC Power Source | Chroma | 61601 | 616010002473 | N/A | NCR | Jul. 06, 2020 | NCR | Radiation (03CH02-KS) |
| Turn Table | MF | MF7802 | N/A | 0~360 degree | NCR | Jul. 06, 2020 | NCR | Radiation (03CH02-KS) |
| Antenna Mast | MF | MF7802 | N/A | 1 m~4 m | NCR | Jul. 06, 2020 | NCR | Radiation (03CH02-KS) |
| EMI Receiver | R&S | ESCI7 | 100768 | 9kHz~7GHz; | Apr. 14, 2020 | Jul. 03, 2020 | Apr. 13, 2021 | Conduction (CO01-KS) |
| AC LISN (for auxiliary equipment) | MessTec | AN3016 | 060103 | 9kHz~30MHz | Oct. 18, 2019 | Jul. 03, 2020 | Oct. 17, 2020 | Conduction (CO01-KS) |
| AC LISN | MessTec | AN3016 | 060105 | 9kHz~30MHz | Oct. 28, 2019 | Jul. 03, 2020 | Oct. 27, 2020 | Conduction (CO01-KS) |
| AC Power Source | Chroma | 61602 | ABP000000811 | AC 0V~300V, 45Hz~1000Hz | Oct. 18, 2019 | Jul. 03, 2020 | Oct. 17, 2020 | Conduction (CO01-KS) |

NCR: No Calibration Required.

# 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))** | **2.9dB** |

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.9dB** |

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

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