



# FCC Test Report

**APPLICANT** : Xiaomi Communications Co., Ltd.  
**EQUIPMENT** : Mobile Phone  
**BRAND NAME** : Redmi  
**MODEL NAME** : M1906G7G  
**FCC ID** : 2AFZZG7G  
**STANDARD** : 47 CFR Part 15 Subpart B  
**CLASSIFICATION** : Certification

The product was received on Feb. 19, 2020 and testing was completed on Dec. 07, 2019. 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



**Sporton International (Kunshan) Inc.**

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



# 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 ..... 7

    1.6. Test Location ..... 7

    1.7. Test Software ..... 7

    1.8. Applicable Standards ..... 8

**2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST ..... 9**

    2.1. Test Mode ..... 9

    2.2. Connection Diagram of Test System ..... 9

    2.3. Support Unit used in test configuration and system ..... 10

    2.4. EUT Operation Test Setup ..... 10

**3. TEST RESULT ..... 11**

    3.1. Test of AC Conducted Emission Measurement ..... 11

    3.2. Test of Radiated Emission Measurement ..... 15

**4. LIST OF MEASURING EQUIPMENT ..... 19**

**5. UNCERTAINTY OF EVALUATION ..... 20**

**APPENDIX A. SETUP PHOTOGRAPHS**



### REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FC021902   | Rev. 01 | Initial issue of report | Mar. 05, 2020 |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |
|            |         |                         |               |



### 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>14.95 dB at<br>0.151 MHz  |
| 3.2            | 15.109   | Radiated Emission     | < 15.109 limits | PASS   | Under limit<br>16.12 dB at<br>44.550 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

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.2. Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.3. Product Feature of Equipment Under Test

| Product Feature                 |   |
|---------------------------------|---|
| Equipment                       | Mobile Phone  |
| Brand Name                      | Redmi   |
| Model Name                      | M1906G7G  |
| FCC ID                          | 2AFZZG7G  |
| EUT supports Radios application | GSM/WCDMA/LTE/NFC<br>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>FM Receiver/GNSS |
| IMEI Code                       | Conduction: 862184043794908/862184046284906<br>Radiation: 862184043784510/862184046284518   |
| HW Version                      | P2  |
| SW Version                      | MIUI10  |
| 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 for M1906G7G. The change note could be referred to the product equality declaration which is exhibit separately. Based on the similarity between current and previous project, only the related test cases from original report (Sporton Report Number FC961001) were verified for the differences.



### 1.4. Product Specification of Equipment Under Test

| Standards-related Product Specification |  |
|---|--|
| <b>Tx Frequency</b>                     | GSM850: 824.2 MHz ~ 848.8 MHz<br>GSM1900: 1850.2 MHz ~ 1909.8MHz<br>WCDMA Band V: 826.4 MHz ~ 846.6 MHz<br>WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz<br>WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz<br>LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz<br>LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz<br>LTE Band 5 : 824.7 MHz ~ 848.3 MHz<br>LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz<br>LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz<br>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 ~ 5805 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>NFC : 13.56 MHz   |
| <b>Rx Frequency</b>                     | GSM850: 869.2 MHz ~ 893.8 MHz<br>GSM1900: 1930.2 MHz ~ 1989.8 MHz<br>WCDMA Band V: 871.4 MHz ~ 891.6 MHz<br>WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz<br>WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz<br>LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz<br>LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz<br>LTE Band 5 : 869.7 MHz ~ 893.3 MHz<br>LTE Band 7 : 2622.5 MHz ~ 2687.5 MHz<br>LTE Band 38: 2572.5 MHz ~ 2617.5 MHz<br>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 ~ 5805 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>GNSS : 1559 MHz ~ 1610 MHz<br>NFC : 13.56 MHz<br>FM: 88MHz~108MHz |
| <b>Antenna Type</b>                     | WWAN : PIFA Antenna<br>WLAN : PIFA Antenna<br>Bluetooth : PIFA Antenna<br>GNSS: PIFA Antenna<br>NFC : Loop Antenna<br>FM: External Handset Antenna   |
| <b>Type of Modulation</b>               | GSM: GMSK<br>GPRS: GMSK<br>EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK<br>WCDMA : BPSK (Uplink)<br>HSDPA/DC-HSDPA : QPSK (Uplink)<br>HSUPA : QPSK (Uplink)<br>HSPA+ : 16QAM<br>DC-HSDPA : 64QAM  |



|  |  |
|--|--|
|  | LTE: QPSK / 16QAM / 64QAM / 256QAM(Downlink only)<br>802.11b : DSSS (BPSK / QPSK / 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>GNSS : BPSK<br>NFC: ASK<br>FM |
|--|--|

Note: GNSS Rx = GPS Rx + Glonass Rx + BDS Rx + Galileo Rx

### 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.

|                           |  |                            |                                       |
|---------------------------|--|----------------------------|---------------------------------------|
| <b>Test Firm</b>          | Sporton International (Kunshan) Inc.   |                            |                                       |
| <b>Test Site Location</b> | 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 |                            |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>  | <b>FCC Designation No.</b> | <b>FCC Test Firm Registration No.</b> |
|                           | 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

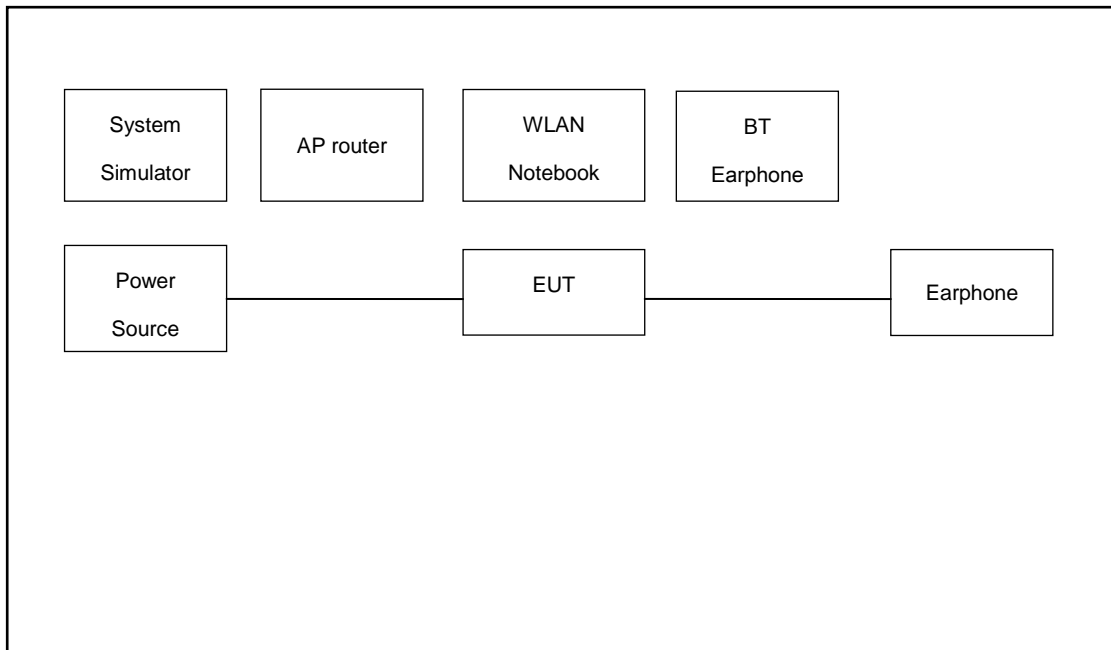
### 2.1. Test Mode

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: LTE Band 7 Rx + Bluetooth Idle + WLAN Idle(5G) + Earphone + Camera(Rear) + USB Cable 1(Charging from Adapter) for Sample 1    |
| Radiated Emissions    | Mode 1: LTE Band 38 Rx + Bluetooth Idle + WLAN Idle(2.4G) + Earphone + Camera(Rear) + USB Cable 1(Charging from Adapter) for Sample 1 |

### 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.   | System Simulator   | Anritus    | MT8820C    | N/A           | N/A        | Unshielded,1.8m  |
| 2.   | WLAN AP            | D-link     | DIR-655    | KA21R655B1    | N/A        | Unshielded,1.8m  |
| 3.   | WLAN AP            | TP-Link    | TL-WDR5600 | N/A           | N/A        | Unshielded,1.8m  |
| 4.   | Bluetooth Earphone | Xiaomi     | LYEJ02LM   | N/A           | N/A        | N/A  |
| 5.   | Notebook           | Lenovo     | G480       | QDS-BRCM1050I | N/A        | AC I/P:<br>Unshielded, 1.8 m<br>DC O/P:<br>Shielded, 1.8 m |
| 6.   | SD Card            | Kingston   | 8GB        | N/A           | N/A        | N/A  |
| 7.   | SD Card            | SanDisk    | Uitra      | N/A           | N/A        | N/A  |

### 2.4. EUT Operation Test Setup

The EUT was in 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. Turn on camera to capture images.



### 3. Test Result

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

##### 3.1.1 Limits of AC Conducted Emission

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

<Class B Limit>

| 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.

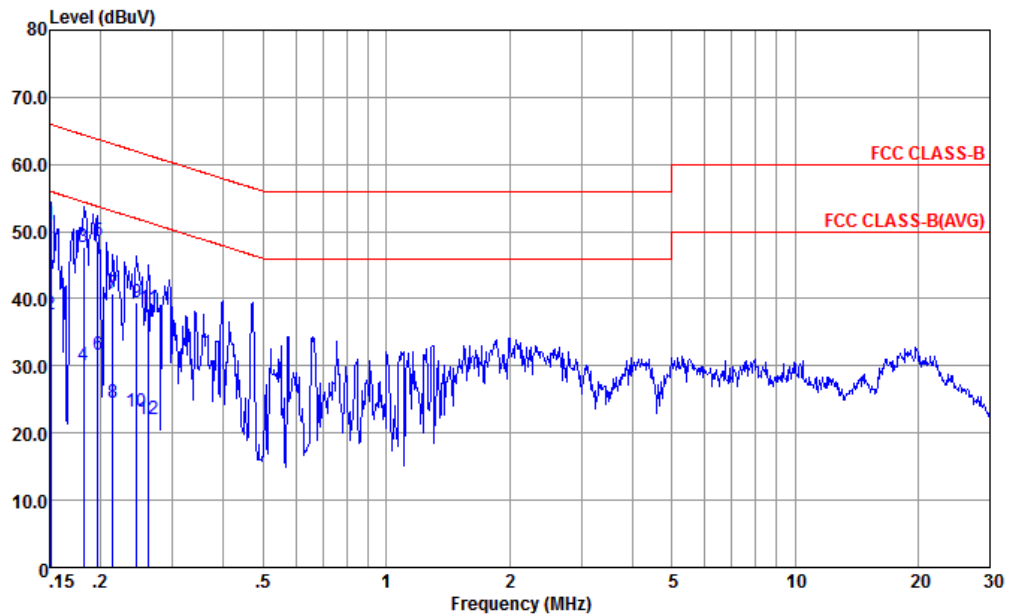
### 3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

|                 |   |                     |             |
|-----------------|---|---------------------|-------------|
| Test Engineer : | Amos Zhang  | Temperature :       | 22.3~23.2°C |
|                 |   | Relative Humidity : | 38~40%      |
| Test Voltage :  | 120Vac / 60Hz   | Phase :             | Line        |
| Remark :        | All emissions not reported here are more than 10 dB below the prescribed limit. |                     |             |

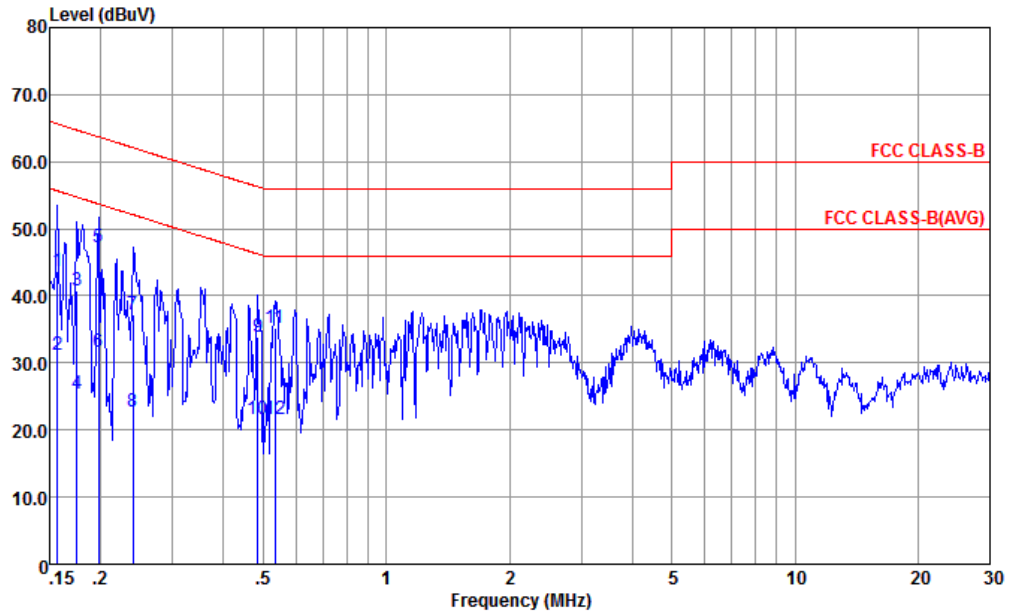


Site : CO01-KS  
 Condition : FCC CLASS-B LISN-L-191028-060105 LINE

|     | Freq  | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark  |
|-----|-------|-------|------------|------------|------------|-------------|------------|---------|
|     | MHz   | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |         |
| 1 * | 0.151 | 51.01 | -14.95     | 65.96      | 40.50      | 0.03        | 10.48      | QP      |
| 2   | 0.151 | 37.71 | -18.25     | 55.96      | 27.20      | 0.03        | 10.48      | Average |
| 3   | 0.182 | 47.64 | -16.78     | 64.42      | 37.20      | 0.04        | 10.40      | QP      |
| 4   | 0.182 | 30.04 | -24.38     | 54.42      | 19.60      | 0.04        | 10.40      | Average |
| 5   | 0.197 | 48.51 | -15.25     | 63.76      | 38.10      | 0.04        | 10.37      | QP      |
| 6   | 0.197 | 31.61 | -22.15     | 53.76      | 21.20      | 0.04        | 10.37      | Average |
| 7   | 0.214 | 40.70 | -22.35     | 63.05      | 30.31      | 0.04        | 10.35      | QP      |
| 8   | 0.214 | 24.50 | -28.55     | 53.05      | 14.11      | 0.04        | 10.35      | Average |
| 9   | 0.246 | 39.48 | -22.43     | 61.91      | 29.10      | 0.04        | 10.34      | QP      |
| 10  | 0.246 | 23.28 | -28.63     | 51.91      | 12.90      | 0.04        | 10.34      | Average |
| 11  | 0.262 | 38.47 | -22.91     | 61.38      | 28.09      | 0.05        | 10.33      | QP      |
| 12  | 0.262 | 21.97 | -29.41     | 51.38      | 11.59      | 0.05        | 10.33      | Average |



|                 |   |                     |             |
|-----------------|---|---------------------|-------------|
| Test Engineer : | Amos Zhang  | Temperature :       | 22.3~23.2°C |
|                 |   | Relative Humidity : | 38~40%      |
| Test Voltage :  | 120Vac / 60Hz   | Phase :             | Neutral     |
| Remark :        | All emissions not reported here are more than 10 dB below the prescribed limit. |                     |             |



Site : CO01-KS  
 Condition : FCC CLASS-B LISN-N-191028-060105 NEUTRAL

|     | Freq  | Level | Over   | Limit | Read  | LISN   | Cable | Remark  |
|-----|-------|-------|--------|-------|-------|--------|-------|---------|
|     | MHz   | dBuV  | Limit  | Line  | Level | Factor | Loss  |         |
|     |       |       | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1   | 0.156 | 43.74 | -21.91 | 65.65 | 33.20 | 0.08   | 10.46 | QP      |
| 2   | 0.156 | 31.14 | -24.51 | 55.65 | 20.60 | 0.08   | 10.46 | Average |
| 3   | 0.175 | 40.70 | -24.02 | 64.72 | 30.20 | 0.08   | 10.42 | QP      |
| 4   | 0.175 | 25.40 | -29.32 | 54.72 | 14.90 | 0.08   | 10.42 | Average |
| 5 * | 0.198 | 47.35 | -16.36 | 63.71 | 36.90 | 0.08   | 10.37 | QP      |
| 6   | 0.198 | 31.65 | -22.06 | 53.71 | 21.20 | 0.08   | 10.37 | Average |
| 7   | 0.240 | 37.32 | -24.76 | 62.08 | 26.90 | 0.08   | 10.34 | QP      |
| 8   | 0.240 | 22.62 | -29.46 | 52.08 | 12.20 | 0.08   | 10.34 | Average |
| 9   | 0.484 | 33.84 | -22.43 | 56.27 | 23.50 | 0.10   | 10.24 | QP      |
| 10  | 0.484 | 21.54 | -24.73 | 46.27 | 11.20 | 0.10   | 10.24 | Average |
| 11  | 0.535 | 35.14 | -20.86 | 56.00 | 24.80 | 0.10   | 10.24 | QP      |
| 12  | 0.535 | 21.54 | -24.46 | 46.00 | 11.20 | 0.10   | 10.24 | Average |

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- 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

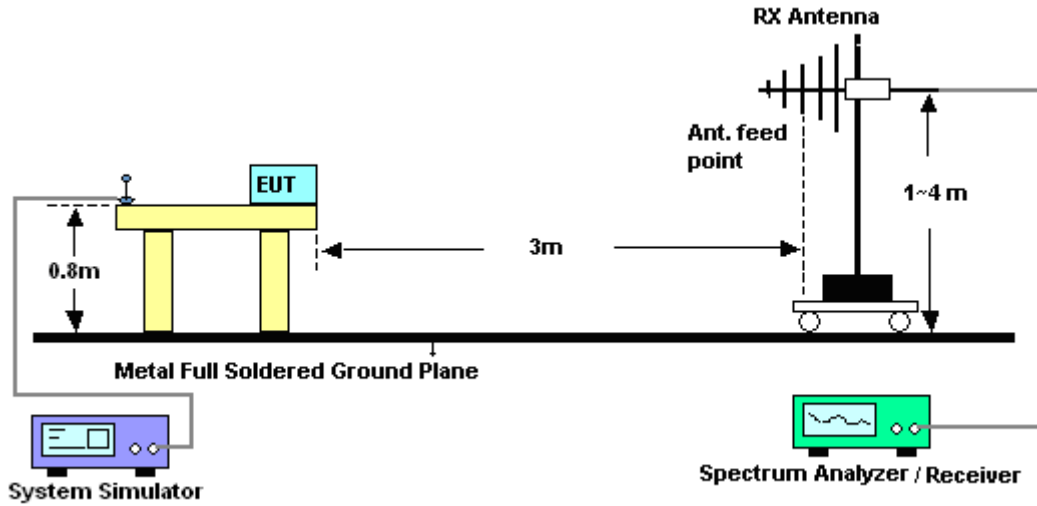
The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3. Test Procedures

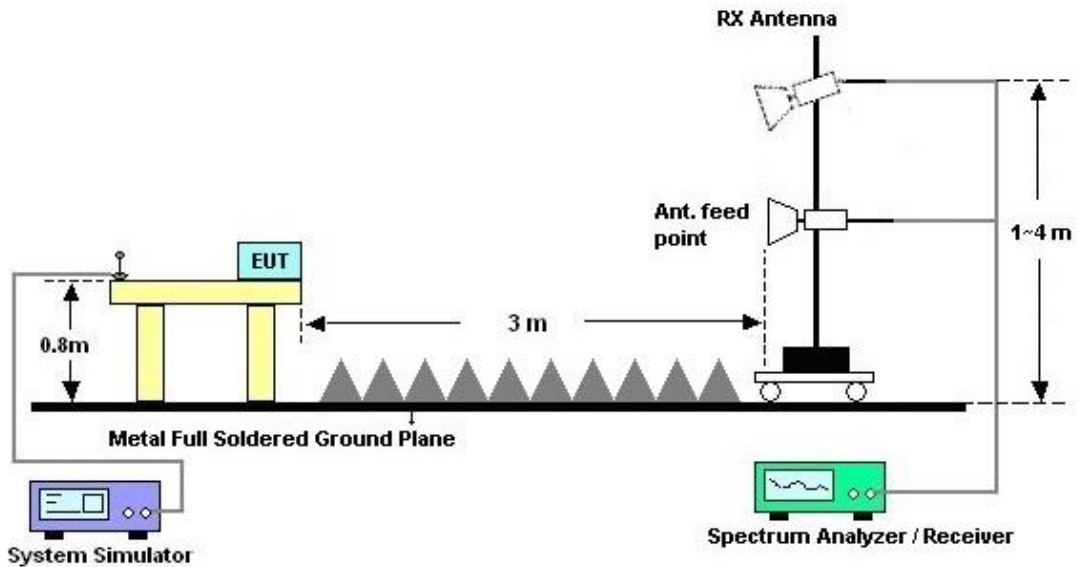
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

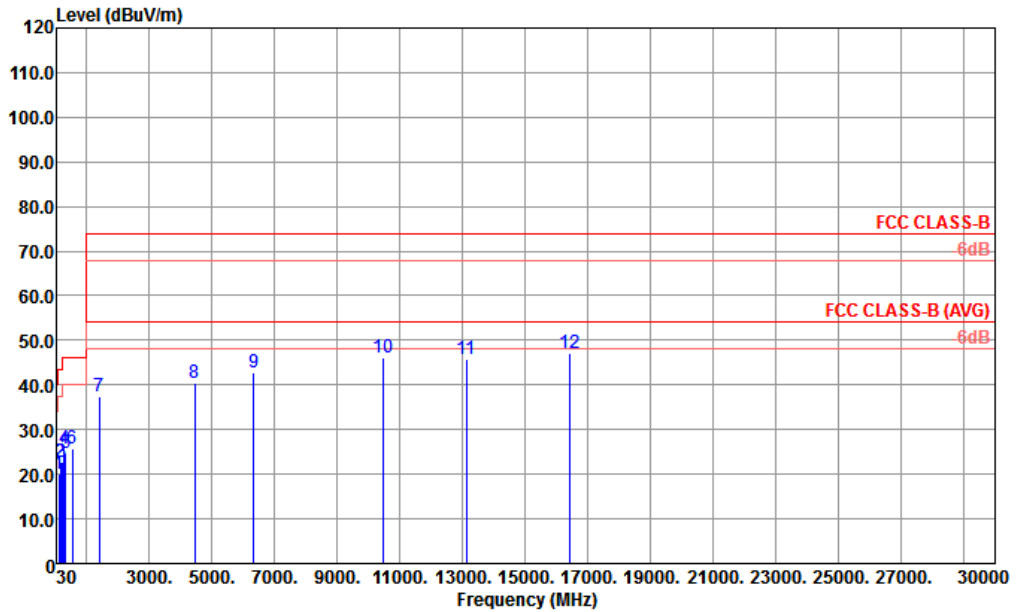






3.2.5. Test Result of Radiated Emission

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

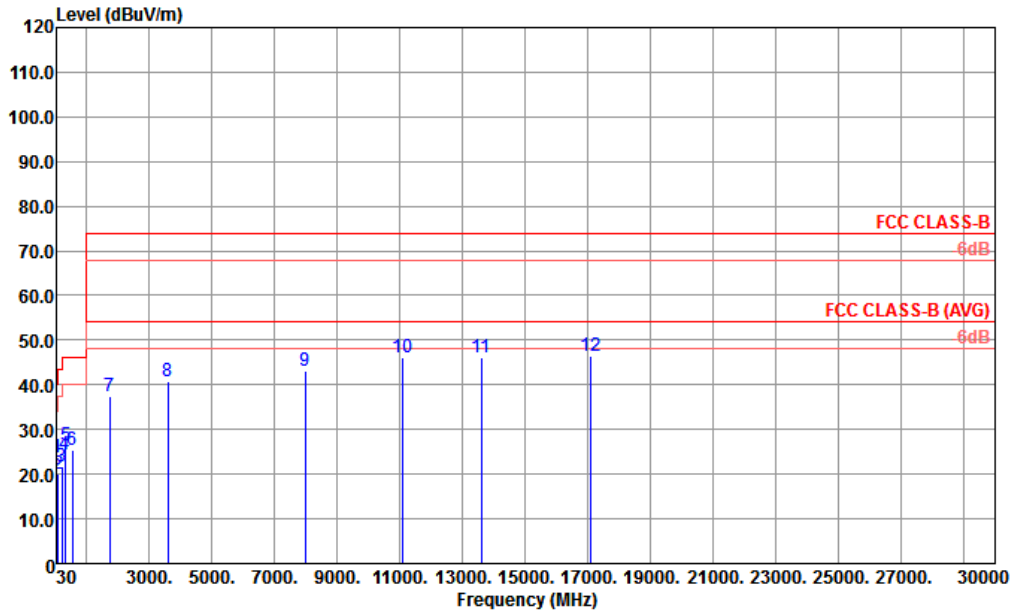


Site : 03CH02-KS  
 Condition : FCC CLASS-B 3m LF 49922-3M HORIZONTAL

|    | 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  | 104.690   | 20.00  | -23.50     | 43.50      | 34.45             | 16.30        | 1.18        | 31.93 | ---   | ---    | Peak |
| 2  | 165.800   | 22.59  | -20.91     | 43.50      | 36.47             | 16.54        | 1.51        | 31.93 | ---   | ---    | Peak |
| 3  | 199.750   | 22.62  | -20.88     | 43.50      | 37.78             | 15.10        | 1.64        | 31.90 | ---   | ---    | Peak |
| 4  | 288.990   | 25.63  | -20.37     | 46.00      | 36.56             | 19.17        | 1.95        | 32.05 | ---   | ---    | Peak |
| 5  | 335.550   | 24.69  | -21.31     | 46.00      | 34.45             | 20.23        | 2.07        | 32.06 | ---   | ---    | Peak |
| 6  | 552.830   | 25.88  | -20.12     | 46.00      | 30.15             | 25.43        | 2.64        | 32.34 | 100   | 0      | Peak |
| 7  | 1400.000  | 37.41  | -36.59     | 74.00      | 67.14             | 28.10        | 4.34        | 62.17 | ---   | ---    | Peak |
| 8  | 4456.000  | 40.34  | -33.66     | 74.00      | 60.08             | 34.54        | 7.91        | 62.19 | ---   | ---    | Peak |
| 9  | 6320.000  | 42.87  | -31.13     | 74.00      | 59.93             | 35.77        | 9.46        | 62.29 | ---   | ---    | Peak |
| 10 | 10485.000 | 45.98  | -28.02     | 74.00      | 58.00             | 38.06        | 12.95       | 63.03 | ---   | ---    | Peak |
| 11 | 13131.000 | 45.74  | -28.26     | 74.00      | 55.02             | 38.81        | 14.53       | 62.62 | ---   | ---    | Peak |
| 12 | 16407.000 | 47.07  | -26.93     | 74.00      | 53.41             | 40.54        | 16.74       | 63.62 | ---   | ---    | Peak |



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



Site : 03CH02-KS  
 Condition : FCC CLASS-B 3m LF 49922-3M VERTICAL

|    | 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  | 44.550    | 23.88  | -16.12     | 40.00      | 38.06             | 17.00          | 0.76       | 31.94         | 100   | 0     | Peak   |
| 2  | 99.840    | 20.11  | -23.39     | 43.50      | 34.69             | 16.20          | 1.15       | 31.93         | ---   | ---   | Peak   |
| 3  | 199.750   | 21.60  | -21.90     | 43.50      | 36.76             | 15.10          | 1.64       | 31.90         | ---   | ---   | Peak   |
| 4  | 294.810   | 24.53  | -21.47     | 46.00      | 35.39             | 19.24          | 1.97       | 32.07         | ---   | ---   | Peak   |
| 5  | 337.490   | 26.33  | -19.67     | 46.00      | 36.05             | 20.27          | 2.07       | 32.06         | ---   | ---   | Peak   |
| 6  | 552.830   | 25.55  | -20.45     | 46.00      | 29.82             | 25.43          | 2.64       | 32.34         | ---   | ---   | Peak   |
| 7  | 1728.000  | 37.27  | -36.73     | 74.00      | 67.06             | 27.90          | 4.71       | 62.40         | ---   | ---   | Peak   |
| 8  | 3584.000  | 40.70  | -33.30     | 74.00      | 61.26             | 34.18          | 7.06       | 61.80         | ---   | ---   | Peak   |
| 9  | 7968.000  | 43.08  | -30.92     | 74.00      | 58.67             | 36.21          | 10.97      | 62.77         | ---   | ---   | Peak   |
| 10 | 11088.000 | 46.07  | -27.93     | 74.00      | 57.18             | 38.38          | 13.42      | 62.91         | ---   | ---   | Peak   |
| 11 | 13599.000 | 46.17  | -27.83     | 74.00      | 54.95             | 38.74          | 15.09      | 62.61         | ---   | ---   | Peak   |
| 12 | 17100.000 | 46.31  | -27.69     | 74.00      | 52.97             | 40.65          | 16.51      | 63.82         | ---   | ---   | Peak   |

Note:

- Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
- 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    | Dec. 07, 2019 | Oct. 17, 2020 | Radiation (03CH02-KS) |
| EXA Spectrum Analyzer             | Keysight     | N9010A        | MY55150208   | 10Hz~44G,MAX 30dB       | Apr. 15, 2019    | Dec. 07, 2019 | Apr. 16, 2020 | Radiation (03CH02-KS) |
| Bilog Antenna                     | TeseQ        | CBL6111D      | 49922        | 30MHz~1GHz              | May 30, 2019     | Dec. 07, 2019 | May 29, 2020  | Radiation (03CH02-KS) |
| Double Ridge Horn Antenna         | ETS-Lindgren | 3117          | 75959        | 1GHz~18GHz              | Jan. 27, 2019    | Dec. 07, 2019 | Jan. 26, 2020 | Radiation (03CH02-KS) |
| SHF-EHF Horn                      | Com-power    | AH-840        | 101070       | 18GHz~40GHz             | Jan. 05, 2019    | Dec. 07, 2019 | Jan. 04, 2020 | Radiation (03CH02-KS) |
| Amplifier                         | MITEQ        | TTA1840-35-HG | 1887435      | 18~40GHz                | Feb. 08, 2019    | Dec. 07, 2019 | Feb. 07, 2020 | Radiation (03CH02-KS) |
| Amplifier                         | SONOMA       | 310N          | 187289       | 9KHz~1GHz               | Aug. 06, 2019    | Dec. 07, 2019 | Aug. 05, 2020 | Radiation (03CH02-KS) |
| Amplifier                         | Keysight     | 83017A        | MY57280106   | 500MHz~26.5GHz          | Apr. 15, 2019    | Dec. 07, 2019 | Apr. 14, 2020 | Radiation (03CH02-KS) |
| AC Power Source                   | Chroma       | 61601         | 616010002473 | N/A                     | NCR              | Dec. 07, 2019 | NCR           | Radiation (03CH02-KS) |
| Turn Table                        | MF           | MF7802        | N/A          | 0~360 degree            | NCR              | Dec. 07, 2019 | NCR           | Radiation (03CH02-KS) |
| Antenna Mast                      | MF           | MF7802        | N/A          | 1 m~4 m                 | NCR              | Dec. 07, 2019 | NCR           | Radiation (03CH02-KS) |
| EMI Receiver                      | R&S          | ESC17         | 100768       | 9kHz~7GHz;              | Apr. 16, 2019    | Dec. 05, 2019 | Apr. 15, 2020 | Conduction (CO01-KS)  |
| AC LISN (for auxiliary equipment) | MessTec      | AN3016        | 060103       | 9kHz~30MHz              | Oct. 18, 2019    | Dec. 05, 2019 | Oct. 17, 2020 | Conduction (CO01-KS)  |
| AC LISN                           | MessTec      | AN3016        | 060105       | 9kHz~30MHz              | Oct. 28, 2019    | Dec. 05, 2019 | Oct. 27, 2020 | Conduction (CO01-KS)  |
| AC Power Source                   | Chroma       | 61602         | ABP000000811 | AC 0V~300V, 45Hz~1000Hz | Oct. 18, 2019    | Dec. 05, 2019 | 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 |
|---|-------|

### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

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