



FCC Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2131-1, XT2131-4, XT2131-3,
XT2131DL
FCC ID : IHDT56ZL1
STANDARD : 47 CFR Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Jan. 29, 2021 and testing was completed on Feb. 07, 2021. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen/Supervisor

Approved by: Eric Shih / Manager



Sporton International (ShenZhen) Inc.

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People's Republic of China



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REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|------------|---------|-------------------------|---------------|
| FC112907 | Rev. 01 | Initial issue of report | Mar. 01, 2021 |
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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 8.46 dB at 0.16 MHz |
| 3.2 | 15.109 | Radiated Emission | < 15.109 limits | PASS | Under limit 7.24 dB at 41.64 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

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.2. Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.3. Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|--|
| Equipment | Mobile Cellular Phone |
| Brand Name | Motorola |
| Model Name | XT2131-1, XT2131-4, XT2131-3, XT2131DL |
| FCC ID | IHDT56ZL1 |
| EUT supports Radios application | CDMA/GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR / EDR / LE FM Receiver / GNSS |
| IMEI Code | Conduction: 356611280013503 Radiation: 356611280013610 |
| HW Version | DVT |
| SW Version | RRE31.37 |
| EUT Stage | Production Unit |

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



1.4. Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|---|
| Tx Frequency | GSM850: 824 MHz ~ 849 MHz GSM1900: 1850MHz ~ 1910MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV : 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 14 : 788 MHz ~ 798 MHz LTE Band 17 : 704 MHz ~ 716 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 30 : 2305 MHz ~ 2315 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71 : 663 MHz ~ 698 MHz CDMA2000 BC0: 824 MHz ~ 849 MHz CDMA2000 BC1: 1850MHz ~ 1910MHz CDMA2000 BC10: 816 MHz ~ 824 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n12: 699 MHz ~ 716 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz |
| Rx Frequency | GSM850: 869 MHz ~ 894 MHz GSM1900: 1930 MHz ~ 1990 MHz WCDMA Band II: 1930 MHz ~ 1990 MHz WCDMA Band IV : 2110 MHz ~ 2155 MHz WCDMA Band V: 869 MHz ~ 894 MHz LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 12 : 729 MHz ~ 746 MHz |



| | |
|----------------------------------|--|
| | <p>LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 14 : 758 MHz ~ 768 MHz LTE Band 17 : 734 MHz ~ 746 MHz LTE Band 25 : 1930 MHz ~ 1995 MHz LTE Band 26 : 859 MHz ~ 894 MHz LTE Band 30 : 2350 MHz ~ 2360 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 2110 MHz~ 2180 MHz LTE Band 71: 617 MHz ~ 652 MHz CDMA2000 BC0: 869 MHz ~ 894 MHz CDMA2000 BC1: 1930 MHz ~ 1990 MHz CDMA2000 BC10: 861 MHz ~ 869 MHz 5G NR n2: 1930 MHz ~ 1990 MHz 5G NR n5: 869 MHz ~ 894 MHz 5G NR n12: 729 MHz ~ 746 MHz 5G NR n25: 1930 MHz ~ 1995 MHz 5G NR n26: 859 MHz ~ 894 MHz 5G NR n30: 2350 MHz ~ 2360 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 2110 MHz ~ 2200 MHz 5G NR n71: 617 MHz ~ 652 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz GNSS : 1559 MHz ~ 1610 MHz FM : 88 MHz ~ 108 MHz</p> |
| <p>Antenna Type</p> | <p>WWAN : Fixed Internal Antenna 2.4G WLAN : Loop Antenna 5G WLAN : PIFA Antenna Bluetooth : Loop Antenna GNSS: Loop Antenna FM : using earphone as antenna</p> |
| <p>Type of Modulation</p> | <p>GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK HSDPA/DC-HSDPA : QPSK HSUPA : QPSK HSPA+ : 16QAM Uplink not supported DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM 5G NR: DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</p> |



| | |
|--|---|
| | Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GNSS : BPSK FM: FM |
|--|---|

Note: GNSS = GLONASS + GPS + Galileo

1.5. Modification of EUT

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

1.6. Test Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

| | | | |
|---------------------------|---|----------------------------|---------------------------------------|
| Test Firm | Sporton International (Shenzhen) Inc. | | |
| Test Site Location | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595 | | |
| Test Site No. | Sporton Site No. | FCC Designation No. | FCC Test Firm Registration No. |
| | CO01-SZ | CN1256 | 421272 |

| | | | |
|---------------------------|---|----------------------------|---------------------------------------|
| Test Firm | Sporton International (Shenzhen) Inc. | | |
| Test Site Location | 101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398 | | |
| Test Site No. | Sporton Site No. | FCC Designation No. | FCC Test Firm Registration No. |
| | 03CH04-SZ | CN1256 | 421272 |

1.7. Test Software

| Item | Site | Manufacturer | Name | Version |
|------|-----------|--------------|------|-------------|
| 1. | 03CH04-SZ | AUDIX | E3 | 6.2009-8-24 |
| 2. | CO01-SZ | AUDIX | E3 | 6.120613b |



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.

1.9. Specification of Accessory

| Specification of Accessory | | | | |
|----------------------------|------------|---------------------|------------|------------|
| AC Adapter 1(US) | Brand Name | Motorola (Chenyang) | Model Name | MC-101 |
| AC Adapter 2(US) | Brand Name | Motorola (Salcomp) | Model Name | MC-101 |
| Battery | Brand Name | Motorola (ATL) | Model Name | MD50 |
| USB Cable 1 | Brand Name | Motorola (Saibao) | Model Name | SC18C24367 |
| USB Cable 2 | Brand Name | Motorola (Luxshare) | Model Name | SC18C24368 |



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.

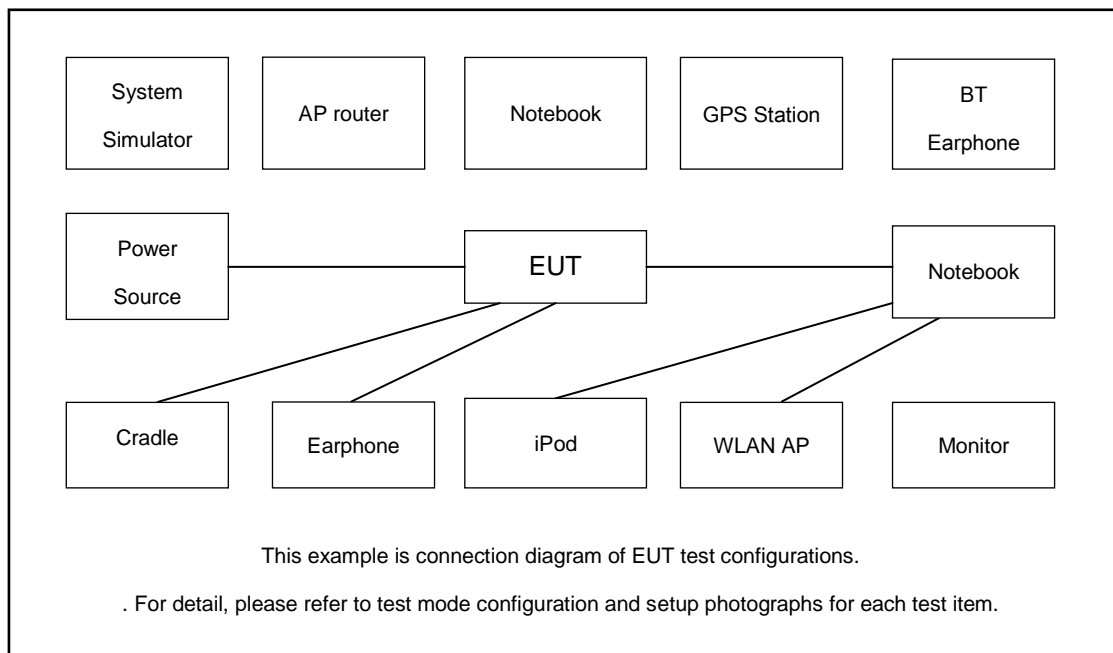
Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

| Test Items | Function Type |
|-----------------------|--|
| AC Conducted Emission | Mode 1: SIM 1+GSM 850 Idle(Middle CH)+USB Cable 1(Charging from Adapter 1)+Earphone+Battery+Camera(Rear)+SD Card Load |
| | Mode 2: SIM 1+CDMA BC10 Idle(High CH)+USB Cable 2(Charging from Adapter 2)+Earphone+Battery+Camera(Front)+SD Card Load |
| | Mode 3: SIM 1+LTE Band 12 Idle(Low CH) +USB Cable 1+Charging from Adapter 1+Earphone+Battery+MPEG4(Colur bar)+SD Card Link |
| | Mode 4: SIM 1+LTE Band 7 Idle(High CH)+ USB Cable 1+Charging from Adapter 1+ Earphone+ Battery+ FM Rx(98Mhz)+ SD Card Load |
| | Mode 5: SIM 1+NSA:2A_N5A Idle(Middle CH)+ USB Cable 1 (Data Link with Notebook)+ Earphone+ Battery+ H-Pattern+ SD Card Link |
| | Mode 6: SIM 1+SA:N71 Idle(Middle CH)+ USB Cable 2 (Data Link with Notebook)+ Earphone+ Battery+ H-Pattern+ SD Card Link |
| Radiated Emissions | Mode 1: SIM 1+ GSM 850 Idle(Middle CH) + USB Cable 1(Charging from Adapter 1) + Earphone + Battery + Camera(Rear) + SD Card Load |
| | Mode 2: SIM 1+ CDMA BC10 Idle(High CH) +USB Cable 2(Charging from Adapter 2) +Earphone+Battery+Camera(Front) +SD Card Load |
| | Mode 3: SIM 1+LTE Band 12 Idle(Low CH) +USB Cable 1(Charging from Adapter 1 +Earphone+Battery +MPEG4(Colur bar) +SD Card Link |
| | Mode 4: SIM 1+LTE Band 7 Idle(High CH)+USB Cable 1(Charging from Adapter 1 +Earphone+Battery+FM Rx(98Mhz) +SD Card Load |
| | Mode 5: SIM 1+NSA:2A_N5A Idle(Middle CH) +USB Cable 1(Data Link with Notebook) +Earphone+Battery +H-Pattern+SD Card Link |
| | Mode 6: SIM 1+SA:N71 Idle(Middle CH) +USB Cable 2(Data Link with Notebook)+Earphone+Battery +H-Pattern +SD Card Link |

Remark:

1. The worst case of AC is mode 6; 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.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.
4. Pre-scanned all Low/Middle/High channel in the frequency bands bellow 1G, the worst frequency band and channel was recorded in this report.

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. | Base Station(LTE) | Anritsu | MT8821C | N/A | N/A | Unshielded,1.8m |
| 2. | Base Station(NR) | Anritsu | Anritsu--MT8000A | N/A | N/A | N/A |
| 3. | WLAN AP | Dlink | DIR-820L | KA2IR820LA1 | N/A | Unshielded,1.8m |
| 4. | SD Card | N/A | MicroSD HC | FCC DoC | N/A | N/A |
| 5. | NOTE BOOK | DELL | Latitude 3400 | N/A | N/A | AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m |
| 6. | Ipod | apple | MC69029/A | N/A | N/A | N/A |
| 7. | FM Station | R&S | SMB100A | N/A | N/A | Unshielded,1.8m |
| 8. | Base Station | Keysight | UXM E7515B | N/A | N/A | Unshielded,1.8m |
| 9. | Base Station(LTE) | Anritsu | MT8820C | N/A | N/A | Shielded, 1.5m |
| 10. | FM Base Station | R&S | SMB100A | Fcc DoC | N/A | Shielded, 1.5m |
| 11. | Router | ASUSTek | RT-AC66U | MSQ-RTAC66U | N/A | Unshielded,2.7m with Core |
| 12. | SD Card | Kingston | 3300-10000-078 | Fcc DoC | N/A | N/A |
| 13. | Notebook | Lenovo | E540 | Fcc DoC | N/A | shielded cable DC O/P 1.8m Unshielded AC I/P cable 1.8m |
| 14. | IPod | Apple | MC525 ZP/A | Fcc DoC | N/A | Shielded, 1.0m |
| 15. | Earphone | MOTO | N/A | N/A | N/A | N/A |

2.4. EUT Operation Test Setup

The EUT was in GSM or LTE or 5G NR or CDMA2000 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 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 and to play MP3 max volume.
3. Turn on MPEG4 function.
4. Turn on camera to capture images.
5. Execute "H Pattern" to show H Pattern on the screen.

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.

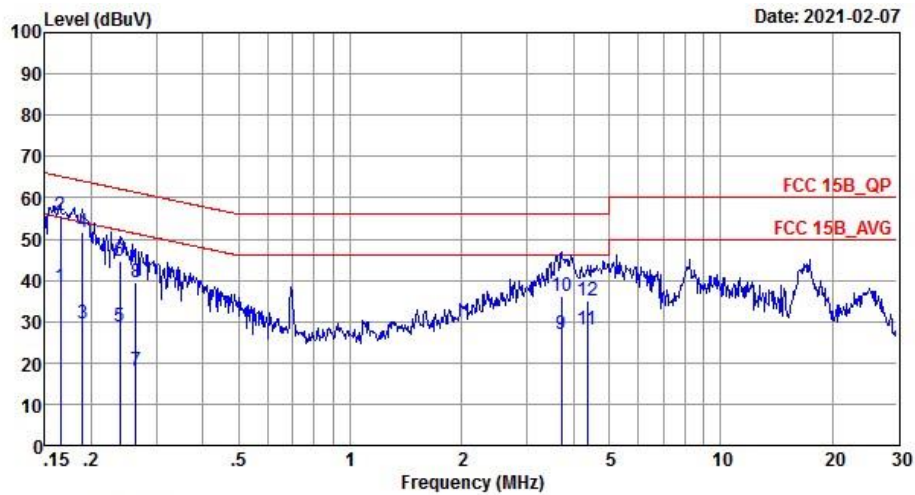
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

| | | | |
|-----------------|---|---------------------|----------|
| Test Engineer : | Yan Zheng | Temperature : | 22~25 °C |
| | | Relative Humidity : | 50~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Line |
| Remark : | All emissions not reported here are more than 10 dB below the prescribed limit. | | |



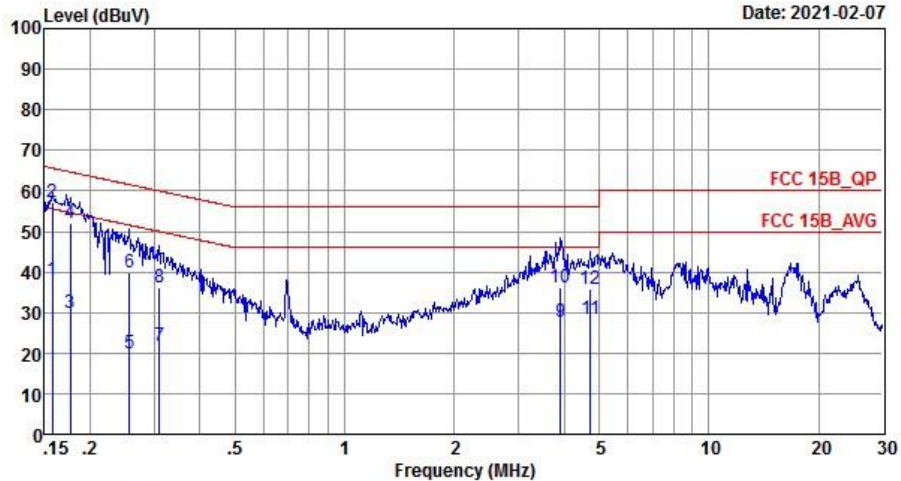
Site : CO01-SZ
 Condition: FCC 15B OP LISN 20200719 L LINE

IMEI : 356611280013503

| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|-----|------|-------|------------|------------|------------|-------------|------------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.17 | 38.54 | -16.67 | 55.21 | 28.50 | 0.03 | 10.01 | Average |
| 2 * | 0.17 | 55.64 | -9.57 | 65.21 | 45.60 | 0.03 | 10.01 | QP |
| 3 | 0.19 | 29.54 | -24.52 | 54.06 | 19.50 | 0.03 | 10.01 | Average |
| 4 | 0.19 | 51.84 | -12.22 | 64.06 | 41.80 | 0.03 | 10.01 | QP |
| 5 | 0.24 | 28.74 | -23.39 | 52.13 | 18.70 | 0.03 | 10.01 | Average |
| 6 | 0.24 | 44.74 | -17.39 | 62.13 | 34.70 | 0.03 | 10.01 | QP |
| 7 | 0.26 | 18.14 | -33.15 | 51.29 | 8.10 | 0.03 | 10.01 | Average |
| 8 | 0.26 | 39.44 | -21.85 | 61.29 | 29.40 | 0.03 | 10.01 | QP |
| 9 | 3.72 | 26.89 | -19.11 | 46.00 | 16.60 | 0.17 | 10.12 | Average |
| 10 | 3.72 | 36.19 | -19.81 | 56.00 | 25.90 | 0.17 | 10.12 | QP |
| 11 | 4.36 | 27.92 | -18.08 | 46.00 | 17.60 | 0.18 | 10.14 | Average |
| 12 | 4.36 | 34.92 | -21.08 | 56.00 | 24.60 | 0.18 | 10.14 | QP |



| | | | |
|-----------------|---|---------------------|----------|
| Test Engineer : | Yan Zheng | Temperature : | 22~25 °C |
| | | Relative Humidity : | 50~55% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Remark : | All emissions not reported here are more than 10 dB below the prescribed limit. | | |



Site : CO01-SZ
 Condition: FCC 15B_QP LISN_20200719_N NEUTRAL

IMEI : 356611280013503

| | Freq | Level | Over | Limit | Read | LISN | Cable | Remark |
|-----|------|-------|--------|-------|-------|--------|-------|---------|
| | MHz | dBuV | Limit | Line | Level | Factor | Loss | |
| | | | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.16 | 38.14 | -17.46 | 55.60 | 28.10 | 0.03 | 10.01 | Average |
| 2 * | 0.16 | 57.14 | -8.46 | 65.60 | 47.10 | 0.03 | 10.01 | QP |
| 3 | 0.18 | 30.04 | -24.60 | 54.64 | 20.00 | 0.03 | 10.01 | Average |
| 4 | 0.18 | 51.94 | -12.70 | 64.64 | 41.90 | 0.03 | 10.01 | QP |
| 5 | 0.26 | 19.94 | -31.62 | 51.56 | 9.90 | 0.03 | 10.01 | Average |
| 6 | 0.26 | 39.84 | -21.72 | 61.56 | 29.80 | 0.03 | 10.01 | QP |
| 7 | 0.31 | 21.64 | -28.33 | 49.97 | 11.60 | 0.03 | 10.01 | Average |
| 8 | 0.31 | 36.14 | -23.83 | 59.97 | 26.10 | 0.03 | 10.01 | QP |
| 9 | 3.92 | 27.68 | -18.32 | 46.00 | 17.50 | 0.05 | 10.13 | Average |
| 10 | 3.92 | 36.28 | -19.72 | 56.00 | 26.10 | 0.05 | 10.13 | QP |
| 11 | 4.72 | 28.52 | -17.48 | 46.00 | 18.30 | 0.07 | 10.15 | Average |
| 12 | 4.72 | 35.92 | -20.08 | 56.00 | 25.70 | 0.07 | 10.15 | QP |

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

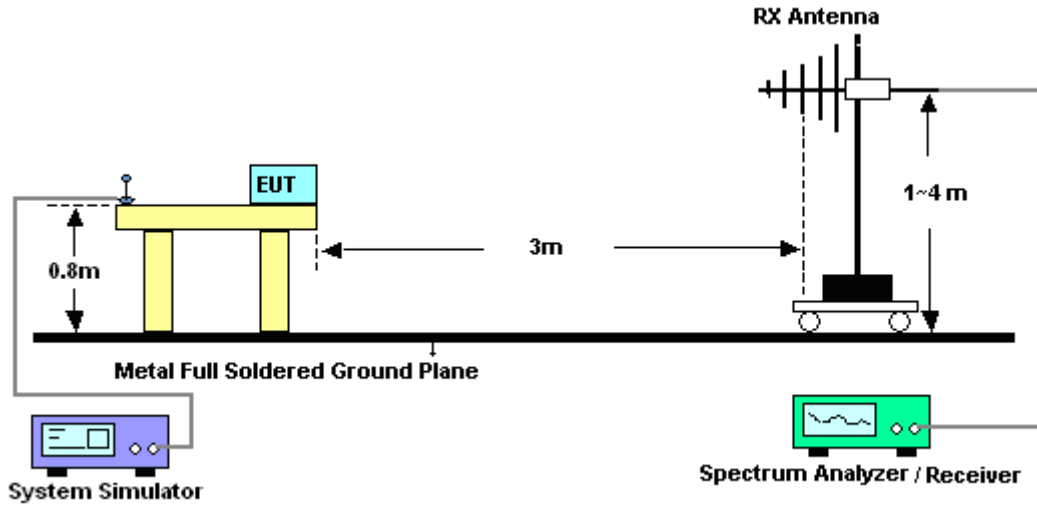
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

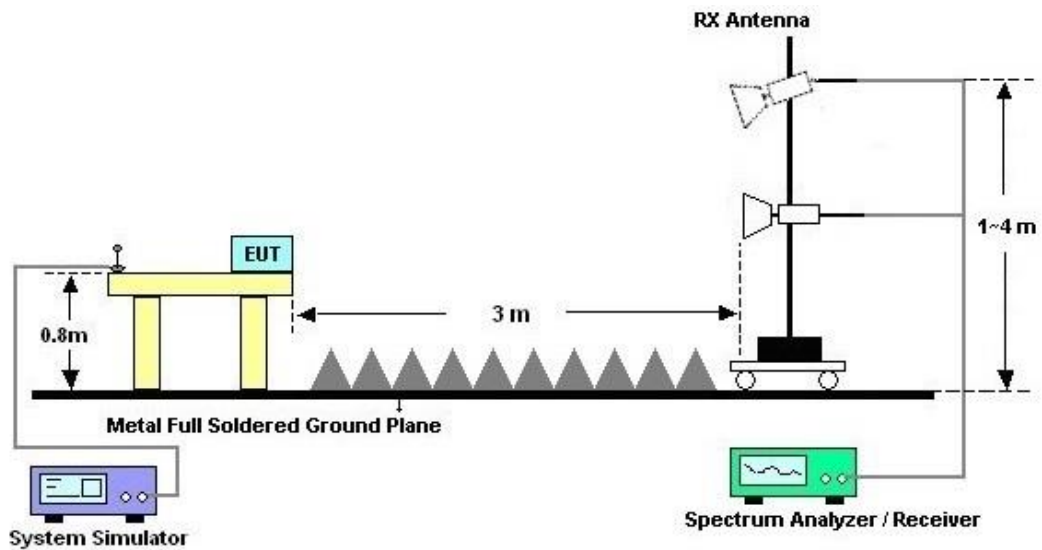
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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



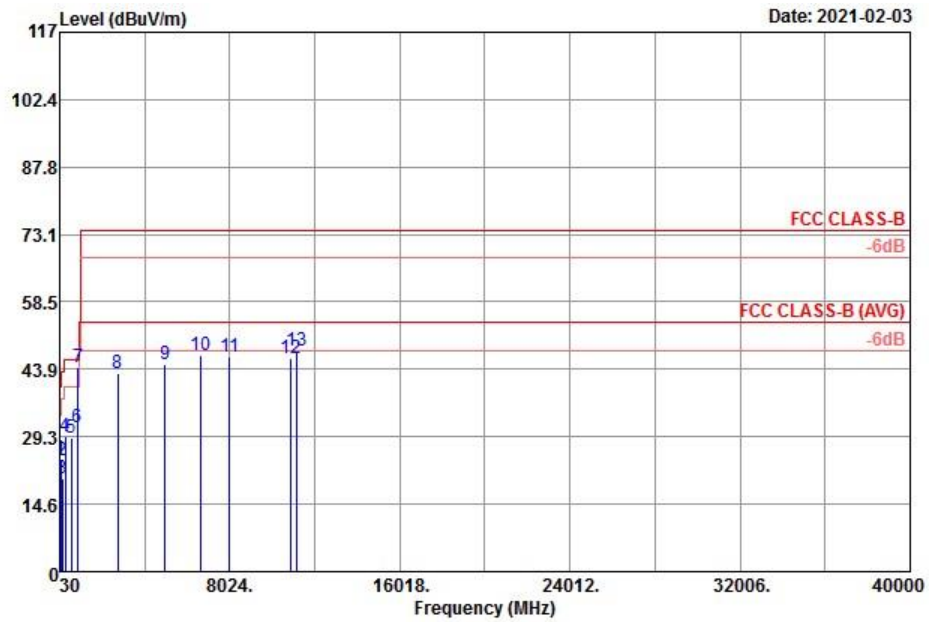
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

| | | | |
|-----------------|---|---------------------|------------|
| Test Engineer : | Reid Huang | Temperature : | 22~25°C |
| | | Relative Humidity : | 50~55% |
| Test Distance : | 3m | Polarization : | Horizontal |
| Remark : | #7 is system simulator signal which can be ignored. | | |



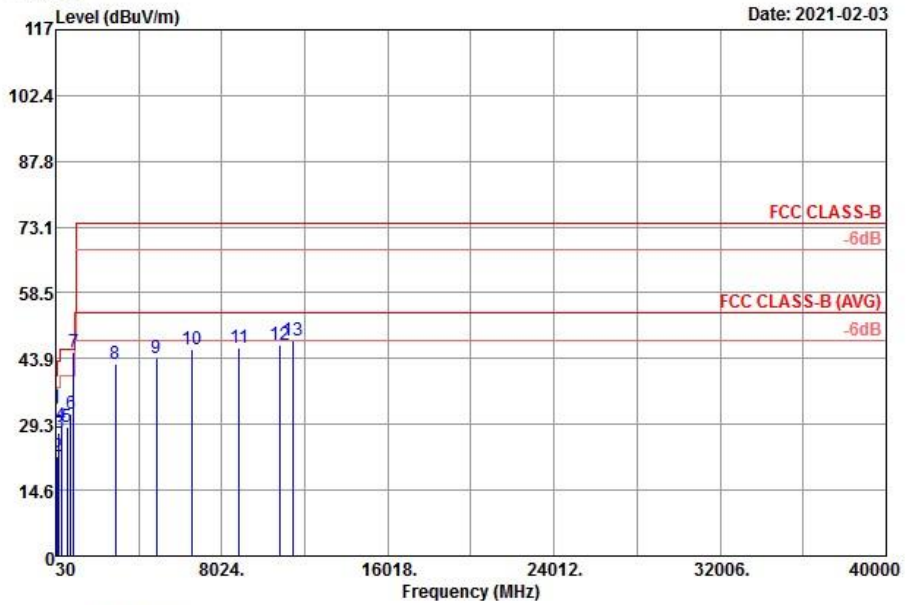
Site : 03CH04-SZ
 Condition : FCC CLASS-B 3m LF_ANT_41909_20 HORIZONTAL

IMEI : 356611280013610
 Plane : Y

| | 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 | 30.97 | 24.41 | -15.59 | 40.00 | 31.57 | 24.70 | 0.54 | 32.40 | --- | --- | Peak |
| 2 | 104.69 | 24.09 | -19.41 | 43.50 | 38.55 | 16.70 | 1.04 | 32.20 | --- | --- | Peak |
| 3 | 160.95 | 20.11 | -23.39 | 43.50 | 34.50 | 16.50 | 1.29 | 32.18 | --- | --- | Peak |
| 4 | 282.20 | 29.35 | -16.65 | 46.00 | 40.56 | 18.78 | 1.75 | 31.74 | --- | --- | Peak |
| 5 | 579.02 | 29.05 | -16.95 | 46.00 | 31.29 | 26.02 | 2.52 | 30.78 | --- | --- | Peak |
| 6 | 843.83 | 31.43 | -14.57 | 46.00 | 30.82 | 28.96 | 3.04 | 31.39 | 134 | 88 | Peak |
| 7 | 881.66 | 44.25 | | | 43.43 | 29.16 | 3.12 | 31.46 | --- | --- | Peak |
| 8 | 2776.00 | 43.01 | -30.99 | 74.00 | 42.40 | 28.05 | 5.74 | 33.18 | --- | --- | Peak |
| 9 | 4974.00 | 45.10 | -28.90 | 74.00 | 37.72 | 31.47 | 8.41 | 32.50 | --- | --- | Peak |
| 10 | 6634.00 | 46.98 | -27.02 | 74.00 | 34.19 | 34.43 | 11.14 | 32.78 | --- | --- | Peak |
| 11 | 8006.00 | 46.47 | -27.53 | 74.00 | 31.61 | 37.49 | 11.07 | 33.70 | --- | --- | Peak |
| 12 | 10882.00 | 46.35 | -27.65 | 74.00 | 26.42 | 40.26 | 12.43 | 32.76 | --- | --- | Peak |
| 13 | 11182.50 | 47.79 | -26.21 | 74.00 | 27.71 | 40.44 | 12.65 | 33.01 | 169 | 88 | Peak |



| | | | |
|-----------------|---|---------------------|----------|
| Test Engineer : | Reid Huang | Temperature : | 22~25°C |
| | | Relative Humidity : | 50~55% |
| Test Distance : | 3m | Polarization : | Vertical |
| Remark : | #7 is system simulator signal which can be ignored. | | |



Site : 03CH04-SZ
 Condition : FCC CLASS-B 3m LF_ANT_41909_20 VERTICAL

IMEI : 356611280013610
 Plane : Y

| | Freq | Level | Over Limit | Limit Line | ReadAntenna | Cable | Preamp | A/Pos | T/Pos | Remark |
|----|----------|--------|------------|------------|-------------|-------|--------|-------|-------|----------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg |
| 1 | 41.64 | 32.76 | -7.24 | 40.00 | 45.73 | 18.80 | 0.63 | 32.40 | 108 | 52 Peak |
| 2 | 103.72 | 22.06 | -21.44 | 43.50 | 36.62 | 16.60 | 1.04 | 32.20 | --- | --- |
| 3 | 179.38 | 27.38 | -16.12 | 43.50 | 43.05 | 15.10 | 1.37 | 32.14 | --- | --- |
| 4 | 288.02 | 29.13 | -16.87 | 46.00 | 40.07 | 19.02 | 1.76 | 31.72 | --- | --- |
| 5 | 581.93 | 28.62 | -17.38 | 46.00 | 30.87 | 26.00 | 2.52 | 30.77 | --- | --- |
| 6 | 744.89 | 31.61 | -14.39 | 46.00 | 31.65 | 28.20 | 2.84 | 31.08 | --- | --- |
| 7 | 881.66 | 45.32 | | | 44.50 | 29.16 | 3.12 | 31.46 | --- | --- |
| 8 | 2918.00 | 42.69 | -31.31 | 74.00 | 41.49 | 28.45 | 5.88 | 33.13 | --- | --- |
| 9 | 4878.00 | 44.01 | -29.99 | 74.00 | 36.37 | 31.38 | 8.76 | 32.50 | --- | --- |
| 10 | 6580.00 | 45.88 | -28.12 | 74.00 | 33.25 | 34.32 | 11.02 | 32.71 | --- | --- |
| 11 | 8876.00 | 46.19 | -27.81 | 74.00 | 30.51 | 37.82 | 11.06 | 33.20 | --- | --- |
| 12 | 10824.00 | 47.06 | -26.94 | 74.00 | 27.20 | 40.19 | 12.40 | 32.73 | --- | --- |
| 13 | 11455.00 | 47.93 | -26.07 | 74.00 | 27.93 | 40.49 | 12.85 | 33.34 | 100 | 201 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 | 101404 | 9kHz~7GHz | Oct. 16, 2020 | Feb. 03, 2021 | Oct. 15, 2021 | Radiation (03CH04-SZ) |
| EXA Spectrum Analyzer | KEYSIGHT | N9010A | MY55150213 | 10Hz~44GHz | Jul. 21, 2020 | Feb. 03, 2021 | Jul. 20, 2021 | Radiation (03CH04-SZ) |
| Bilog Antenna | TeseQ | CBL6111D | 41909 | 30MHz~1GHz | Nov. 07, 2020 | Feb. 03, 2021 | Nov. 06, 2021 | Radiation (03CH04-SZ) |
| LF Amplifier | Burgeon | BPA-530 | 102211 | 0.01~3000Mhz | Oct. 17,2020 | Feb. 03, 2021 | Oct. 16,2021 | Radiation (03CH04-SZ) |
| Double Ridge Horn Antenna | SCHWARZBECK | BBHA9120D | 9120D-1474 | 1GHz~18GHz | May 23, 2020 | Feb. 03, 2021 | May 22, 2021 | Radiation (03CH04-SZ) |
| HF Amplifier | MITEQ | AMF-7D-00101800-30-10P-R | 1943528 | 1GHz~18GHz | Oct. 17,2020 | Feb. 03, 2021 | Oct. 16,2021 | Radiation (03CH04-SZ) |
| HF Amplifier | MITEQ | TTA1840-35-HG | 1871923 | 18GHz~40GHz | Jul. 21. 2020 | Feb. 03, 2021 | Jul. 20. 2021 | Radiation (03CH04-SZ) |
| Horn Antenna | SCHWARZBECK | BBHA9170 | 9170#679 | 15GHz~40GHz | Jul. 26, 2020 | Feb. 03, 2021 | Jul. 25, 2021 | Radiation (03CH04-SZ) |
| AC Power Source | Chroma | 61601 | N/A | N/A | NCR | Feb. 03, 2021 | NCR | Radiation (03CH04-SZ) |
| Turn Table | EM | EM1000 | N/A | 0~360 degree | NCR | Feb. 03, 2021 | NCR | Radiation (03CH04-SZ) |
| Antenna Mast | EM | EM1000 | N/A | 1 m~4 m | NCR | Feb. 03, 2021 | NCR | Radiation (03CH04-SZ) |
| EMI Receiver | R&S | ESR7 | 101630 | 9kHz~7GHz; | Dec. 27, 2019 | Feb. 07, 2021 | Dec. 26, 2021 | Conduction (CO01-SZ) |
| AC LISN | EMCO | 3816/2SH | 00103912 | 9kHz~30MHz | Dec. 27, 2020 | Feb. 07, 2021 | Dec 26, 2021 | Conduction (CO01-SZ) |
| AC LISN (for auxiliary equipment) | EMCO | 3816/2SH | 00103892 | 9kHz~30MHz | Oct. 15, 2020 | Feb. 07, 2021 | Oct. 14, 2021 | Conduction (CO01-SZ) |
| AC Power Source | Chroma | 61602 | 616020000891 | 100Vac~250Vac | Jul. 21, 2020 | Feb. 07, 2021 | Jul. 20, 2021 | Conduction (CO01-SZ) |

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% ($U = 2Uc(y)$) | 2.7dB |
|---|-------|

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

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

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

| | |
|---|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 4.8dB |
|---|-------|

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

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