



## TEST REPORT

**Application No:** HR/2020/B0007  
**Applicant:** Honor Device Co., Ltd.  
**Address of Applicant:** Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China  
**Manufacturer:** Honor Device Co., Ltd.  
**Address of Manufacturer:** Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China  
**EUT Description:** Smart Phone  
**Model No.:** CHL-LX1  
**Trade Mark:** HONOR  
**FCC ID:** 2AYGCCHL-LX1  
**Standard(s) :** 47 CFR Part 15, Subpart B  
**Date of Receipt:** 2020/12/9  
**Date of Test:** 2020/12/9 to 2020/12/31  
**Date of Issue:** 2021/5/28

**Test Result:**

**Pass\***

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Simon Ling

Wireless Laboratory Manager



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| Revision Record |         |            |           |                                                                                |
|-----------------|---------|------------|-----------|--------------------------------------------------------------------------------|
| Version         | Chapter | Date       | Modifier  | Remark                                                                         |
| 01              |         | 2020/12/31 |           | Original                                                                       |
| 02              |         | 2021/05/28 | Leah Chen | 1. Modify data conversion error of antenna height<br>2. Updated equipment list |
|                 |         |            |           |                                                                                |

\*This report supersedes our previous report HR/2020/B000706, issued on 2020-12-31, which is hereby deemed null and void.

|                          |                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------|
| Authorized for issue by: |                                                                                                                  |
| Prepared By              | <br>(Leah Chen) / Engineer    |
| Checked By               | <br>(Daniel Wang) / Reviewer |



## Test Summary

| Emission Part                                         |                           |                 |             |        |
|-------------------------------------------------------|---------------------------|-----------------|-------------|--------|
| Item                                                  | Standard                  | Method          | Requirement | Result |
| Conducted Emissions at Mains Terminals (150kHz-30MHz) | 47 CFR Part 15, Subpart B | ANSI C63.4:2014 | Class B     | Pass   |
| Radiated Emissions (30MHz-1GHz)                       | 47 CFR Part 15, Subpart B | ANSI C63.4:2014 | Class B     | Pass   |
| Radiated Emissions (above 1GHz)                       | 47 CFR Part 15, Subpart B | ANSI C63.4:2014 | Class B     | Pass   |

| Internal Source    | Upper Frequency                                                    |
|--------------------|--------------------------------------------------------------------|
| Below 1.705MHz     | 30MHz                                                              |
| 1.705MHz to 108MHz | 1GHz                                                               |
| 108MHz to 500MHz   | 2GHz                                                               |
| 500MHz to 1GHz     | 5GHz                                                               |
| Above 1GHz         | 5th harmonic of the highest frequency or 40GHz, whichever is lower |



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## 1 General Information

|                   |                            |             |             |
|-------------------|----------------------------|-------------|-------------|
| Product Name:     | Smart Phone                |             |             |
| Model No.(EUT):   | CHL-LX1                    |             |             |
| Trade Mark:       | HONOR                      |             |             |
| Hardware Version: | HL3CHLM                    |             |             |
| Software Version: | 5.0.1.69(C900E12R1P2)      |             |             |
| Frequency Bands:  | Band                       | Tx (MHz)    | Rx (MHz)    |
|                   | GSM850                     | 824~849     | 869~894     |
|                   | GSM1900                    | 1850~1910   | 1930~1990   |
|                   | WCDMA Band II              | 1850~1910   | 1930~1990   |
|                   | WCDMA Band V               | 824~849     | 869~894     |
|                   | LTE Band 7                 | 2500~2570   | 2620~2690   |
|                   | Wi-Fi 2.4G                 | 2400~2483.5 | 2400~2483.5 |
|                   | Bluetooth                  | 2400~2483.5 | 2400~2483.5 |
|                   | Wi-Fi 5G                   | 5150~5850   | 5150~5850   |
|                   | NFC                        | 13.56       |             |
|                   | FM                         | 87~108      |             |
|                   | GNSS(GPS+Glonass + Beidou) | 1599~1610   |             |



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## Accessory:

| Adapter No. | Model No.    | S/N | Specification                                                   |
|-------------|--------------|-----|-----------------------------------------------------------------|
| 1           | HW-100400U01 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 2           | HW-100400E01 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 3           | HW-100400B01 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 4           | HW-100400A01 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 5           | HW-100400U02 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 6           | HW-100400E02 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 7           | HW-100400B02 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |
| 8           | HW-100400A02 | \   | Input:100V-240V 50/60Hz 0.5A<br>output :5V/2A,9V/2A,10V/4A(MAX) |

| Battery No. | Model No.   | Manufacturer                                   |
|-------------|-------------|------------------------------------------------|
| 1           | HB446589EFW | Honor Device Co., Ltd. (Manufacturer: Sunwoda) |
| 2           | HB446589EFW | Honor Device Co., Ltd. (Manufacturer: Desay)   |
| 3           | HB446589EFW | Honor Device Co., Ltd. (Manufacturer: SCUD)    |

| Cable No. | USB-A to USB-C | Model No.     | Manufacturer                             |
|-----------|----------------|---------------|------------------------------------------|
| 1         | USB Cable      | WA0046        | NingBo Broad Telecommunication Co., Ltd. |
| 2         | USB Cable      | AU2-CHO006HF  | Freeport Resources Enterprises Corp.     |
| 3         | USB Cable      | 213-00989-0   | MING JI ELECTRONICS CO., LTD.            |
| 4         | USB Cable      | L99UC138-CS-H | LUXSHARE PRECISION INDUSTRY CO., LTD.    |

| Earphone No. | Model No.           | Manufacturer                                      |
|--------------|---------------------|---------------------------------------------------|
| 1            | MEND1532B528A11     | Jiangxi Lianchuang Hongsheng Electronic Co., LTD. |
| 2            | 1293-3283-3.5mm-339 | BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD.        |
| 3            | EPAB542-2WH05-DH    | FOXCONN INTERCONNECT TECHNOLOGY LIMITED           |



## 1.1 Description of Support Units

| Description | Manufacturer | Model No.    | Inventory No. |
|-------------|--------------|--------------|---------------|
| Router      | NETGEAR      | R6020        | No.XA1401     |
| Computer    | Lenovo       | L480         | No.XA1402     |
| Mouse       | A4TECH       | OP-520NU USB | No.XA1403     |

## 1.2 Test Location

|                |                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------|
| Company:       | SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.                                                                   |
| Address:       | 1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China |
| Post code:     | 710086                                                                                                                     |
| Test engineer: | Ben Huang, Leah Chen                                                                                                       |

## 1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 4854.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

- **FCC –Designation Number: CN1271.**

## 1.4 Deviation from Standards

None

## 1.5 Abnormalities from Standard Conditions

None



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## 2 Emission Test Results

### 2.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Test Requirement: | 47 CFR Part 15, Subpart B                                    |
| Test Method:      | ANSI C63.4:2014                                              |
| Frequency Range:  | 150kHz to 30MHz                                              |
| Limit:            |                                                              |
| 0.15M-0.5MHz      | 66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average      |
| 0.5M-5MHz         | 56dB(μV) quasi-peak, 46dB(μV) average                        |
| 5M-30MHz          | 60dB(μV) quasi-peak, 50dB(μV) average                        |
| Detector:         | Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz |

#### 2.1.1 E.U.T. Operation

Operating Environment:

Temperature: 18.9 °C Humidity: 55.1 % RH Atmospheric Pressure: 1000 mbar  
Testing Strategy: During the test, the EUT was pre-scanned to find the worst cable, adapter, and headset in turn, then to find the worst mode.

Pretest these modes to find the worst case:

- a: Transfer data between the EUT1(battery1) and the PC+USB cable1
- b: Transfer data between the EUT1(battery1) and the PC+USB cable2
- c: Transfer data between the EUT1(battery1) and the PC+USB cable3
- d: Transfer data between the EUT1(battery1) and the PC+USB cable4
- e: GSM 850 Idle+EUT1(battery1) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1
- f: WCDMA Band V Idle+ EUT1(battery1) +BT+ 5G WLAN + NFC +GPS Rx+ FM +earphone2 + Cable(worst)+adapter5
- g: LTE Band 7 Idle+ EUT1(battery1) + BT+ 2.4G WLAN + NFC +GPS Rx+ camera (Back) +earphone3 + Cable(worst)+adapter(worst)
- h: GSM1900 Idle+ EUT1(battery1) +BT+5G WLAN + NFC +GPS Rx+ camera (Front) +earphone3 + Cable(worst)+adapter(worst)
- i: GSM 850 Idle+EUT2(battery2) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1
- j: GSM 850 Idle+EUT3(battery3) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1

Cable worst = Cable 1; Adapter worst = Adapter 5

The worst case for final test: e: GSM 850 Idle+EUT1(battery1) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1



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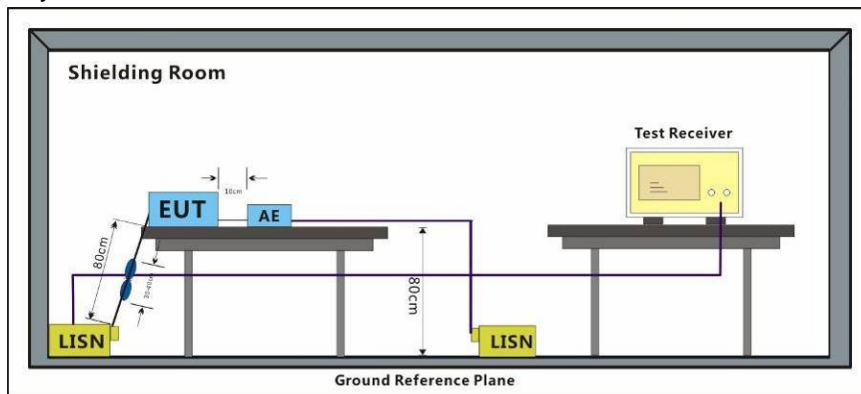
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### 2.1.2 Test Setup Procedures

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.



### 2.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.



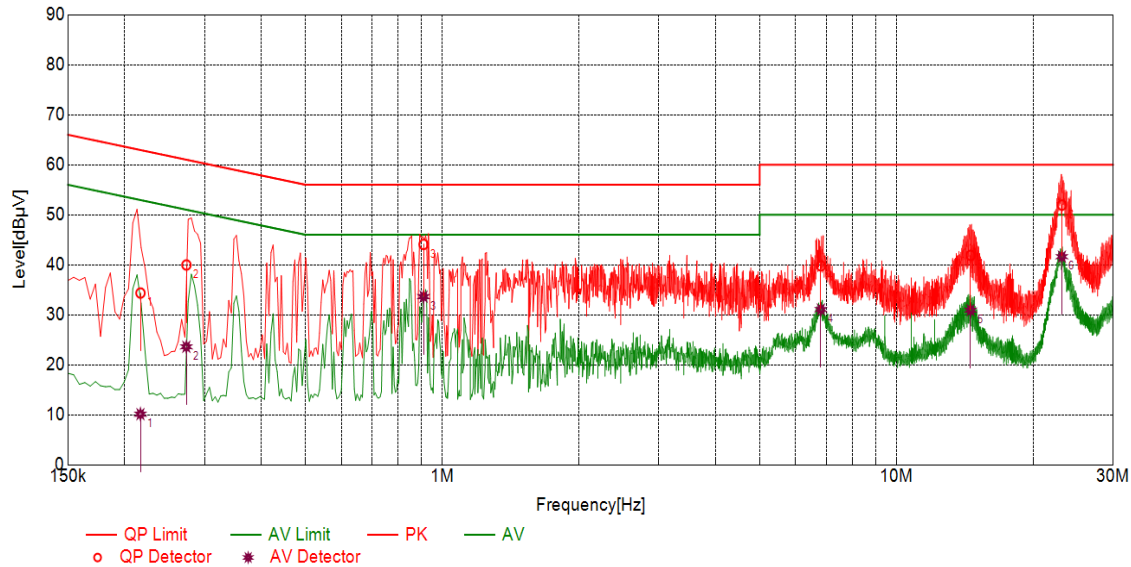
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Mode:e; Line:Live Line



### Test Graph

| Final Data List |             |             |                 |                 |                |                 |                 |                |      |
|-----------------|-------------|-------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|------|
| NO.             | Freq. [MHz] | Factor [dB] | QP Value [dBμV] | QP Limit [dBμV] | QP Margin [dB] | AV Value [dBμV] | AV Limit [dBμV] | AV Margin [dB] | Type |
| 1               | 0.2167      | 10.10       | 34.35           | 62.94           | 28.59          | 10.13           | 52.94           | 42.81          | L    |
| 2               | 0.2735      | 10.10       | 39.96           | 61.01           | 21.05          | 23.60           | 51.01           | 27.41          | L    |
| 3               | 0.9100      | 10.10       | 44.07           | 56.00           | 11.93          | 33.63           | 46.00           | 12.37          | L    |
| 4               | 6.8176      | 10.10       | 39.80           | 60.00           | 20.20          | 31.05           | 50.00           | 18.95          | L    |
| 5               | 14.5651     | 10.11       | 41.89           | 60.00           | 18.11          | 30.92           | 50.00           | 19.08          | L    |
| 6               | 23.1336     | 10.11       | 51.95           | 60.00           | 8.05           | 41.63           | 50.00           | 8.37           | L    |

Remark:

Corrected Factor = LISN Factor + Cable Loss

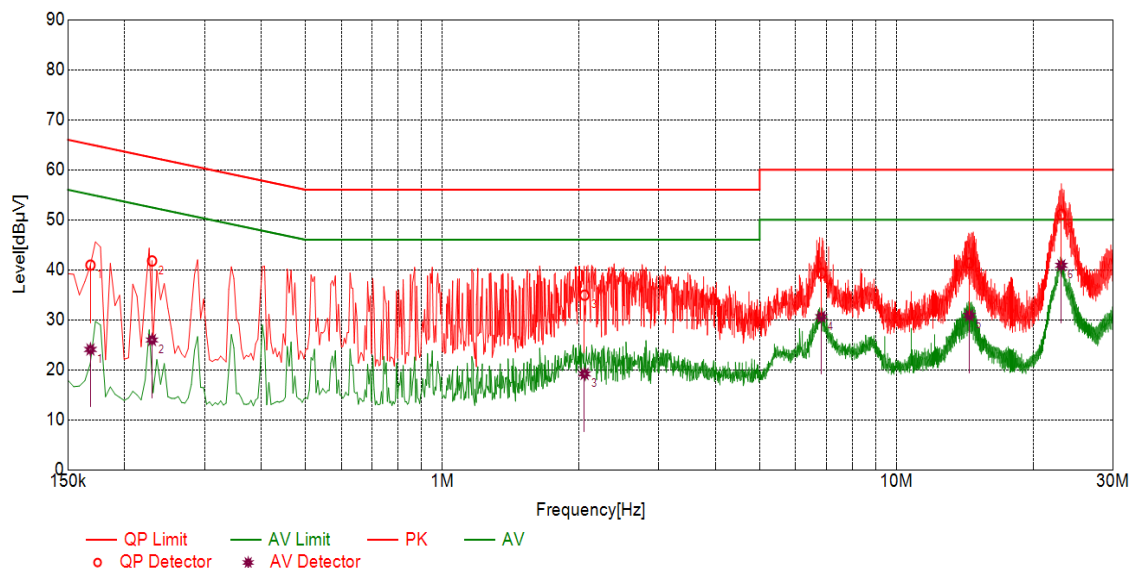


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Mode:c; Line:Neutral Line



### Test Graph

| Final Data List |             |             |                 |                 |                |                 |                 |                |      |
|-----------------|-------------|-------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|------|
| NO.             | Freq. [MHz] | Factor [dB] | QP Value [dBμV] | QP Limit [dBμV] | QP Margin [dB] | AV Value [dBμV] | AV Limit [dBμV] | AV Margin [dB] | Type |
| 1               | 0.1682      | 10.10       | 40.93           | 65.05           | 24.12          | 24.06           | 55.05           | 30.99          | N    |
| 2               | 0.2298      | 10.10       | 41.77           | 62.46           | 20.69          | 25.96           | 52.46           | 26.50          | N    |
| 3               | 2.0578      | 10.10       | 34.92           | 56.00           | 21.08          | 19.17           | 46.00           | 26.83          | N    |
| 4               | 6.8351      | 10.10       | 39.33           | 60.00           | 20.67          | 30.62           | 50.00           | 19.38          | N    |
| 5               | 14.4780     | 10.11       | 41.33           | 60.00           | 18.67          | 30.87           | 50.00           | 19.13          | N    |
| 6               | 23.0743     | 10.11       | 51.08           | 60.00           | 8.92           | 40.89           | 50.00           | 9.11           | N    |

Remark:

Corrected Factor = LISN Factor + Cable Loss



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## 2.2 Radiated Emissions (30MHz-1GHz)

|                       |                                                               |
|-----------------------|---------------------------------------------------------------|
| Test Requirement:     | 47 CFR Part 15, Subpart B                                     |
| Test Method:          | ANSI C63.4:2014                                               |
| Frequency Range:      | 30MHz to 1GHz                                                 |
| Measurement Distance: | 3m                                                            |
| Limit:                |                                                               |
| 30MHz -88MHz          | 40.0(dBμV/m) quasi-peak                                       |
| 88MHz-216MHz          | 43.5(dBμV/m) quasi-peak                                       |
| 216MHz-960MHz         | 46.0(dBμV/m) quasi-peak                                       |
| 960MHz-1000MHz        | 54.0(dBμV/m) quasi-peak                                       |
| Detector:             | Peak for pre-scan (120kHz resolution bandwidth) 30M to1000MHz |

### 2.1.4 E.U.T. Operation

#### Operating Environment:

|                   |                                                                                                                              |           |           |                       |           |
|-------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------------|-----------|
| Temperature:      | 25 °C                                                                                                                        | Humidity: | 66.5 % RH | Atmospheric Pressure: | 1010 mbar |
| Testing Strategy: | During the test, the EUT was pre-scanned to find the worst cable, adapter, and headset in turn, then to find the worst mode. |           |           |                       |           |

|                                             |                                                                                                                          |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Pretest these modes to find the worst case: | a: Transfer data between the EUT1(battery1) and the PC+USB cable1                                                        |
|                                             | b: Transfer data between the EUT1(battery1) and the PC+USB cable2                                                        |
|                                             | c: Transfer data between the EUT1(battery1) and the PC+USB cable3                                                        |
|                                             | d: Transfer data between the EUT1(battery1) and the PC+USB cable4                                                        |
|                                             | e: GSM 850 Idle+EUT1(battery1) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1    |
|                                             | f: WCDMA Band V Idle+ EUT1(battery1) +BT+ 5G WLAN + NFC +GPS Rx+ FM +earphone2 + Cable(worst)+adapter5                   |
|                                             | g: LTE Band 7 Idle+ EUT1(battery1) + BT+ 2.4G WLAN + NFC +GPS Rx+ camera (Back) +earphone3 + Cable(worst)+adapter(worst) |
|                                             | h: GSM1900 Idle+ EUT1(battery1) +BT+5G WLAN + NFC +GPS Rx+ camera (Front) +earphone3 + Cable(worst)+adapter(worst)       |
|                                             | i: GSM 850 Idle+EUT2(battery2) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1    |
|                                             | j: GSM 850 Idle+EUT3(battery3) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1    |

Cable worst = Cable 1; Adapter worst = Adapter 5

|                                |                                                        |
|--------------------------------|--------------------------------------------------------|
| The worst case for final test: | a: Transfer data between the EUT and the PC+USB cable1 |
|--------------------------------|--------------------------------------------------------|



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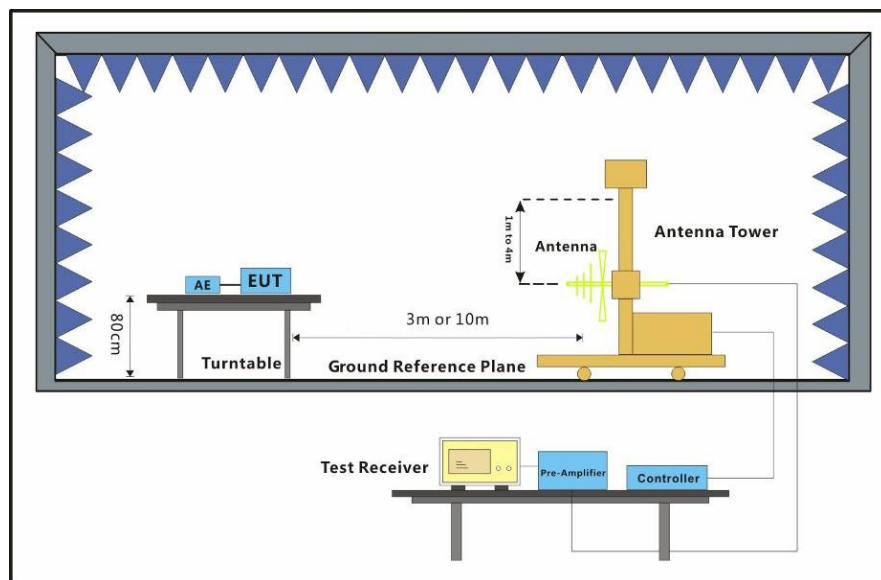
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### 2.1.5 Test Setup Procedures

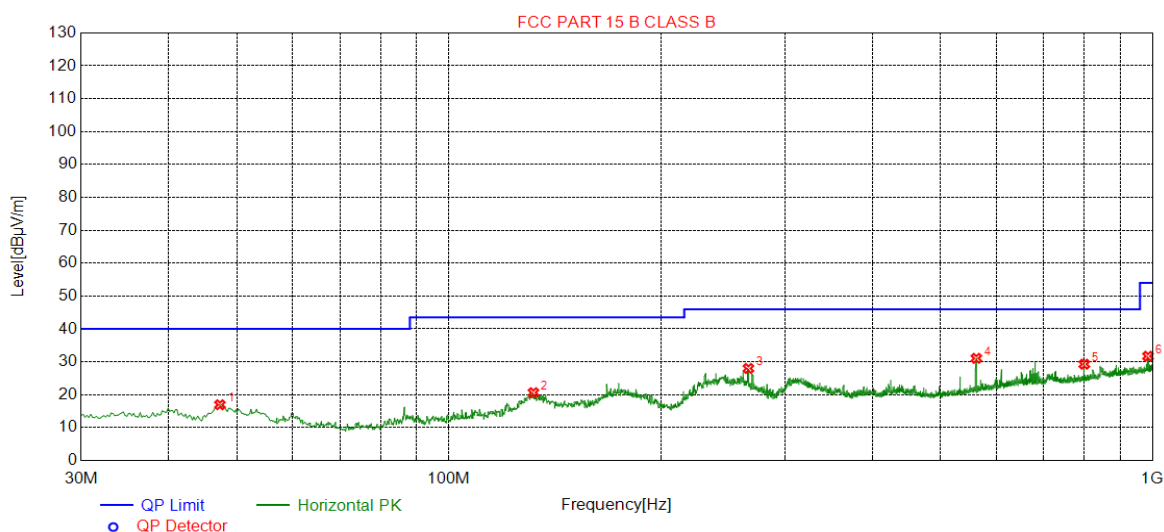
1. The EUT was placed in a semi Anechoic Chamber as show below
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between 1 to 4 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 with specified bandwidth with Maximum Hold Mode, and the trace was allowed to stabilize.
7. If the emission level of the EUT in peak mode was 6 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.



### 2.1.6 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Mode:a; Polarization:Horizontal



### Suspected List

| Suspected List |             |                  |             |                |                |             |             |           |       |            |
|----------------|-------------|------------------|-------------|----------------|----------------|-------------|-------------|-----------|-------|------------|
| NO.            | Freq. [MHz] | Reading [dBμV/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Trace | Polarity   |
| 1              | 47.2695     | 47.36            | -30.40      | 16.96          | 40.00          | 23.04       | 109         | 122       | PK    | Horizontal |
| 2              | 131.8704    | 55.81            | -35.17      | 20.64          | 43.50          | 22.86       | 159         | 34        | PK    | Horizontal |
| 3              | 266.5333    | 57.24            | -28.24      | 28.00          | 46.00          | 18.00       | 219         | 22        | PK    | Horizontal |
| 4              | 562.0544    | 52.78            | -21.70      | 31.08          | 46.00          | 14.92       | 107         | 28        | PK    | Horizontal |
| 5              | 800.1400    | 47.09            | -17.79      | 29.30          | 46.00          | 16.70       | 163         | 14        | PK    | Horizontal |
| 6              | 985.6411    | 46.71            | -14.99      | 31.72          | 54.00          | 22.28       | 181         | 273       | PK    | Horizontal |



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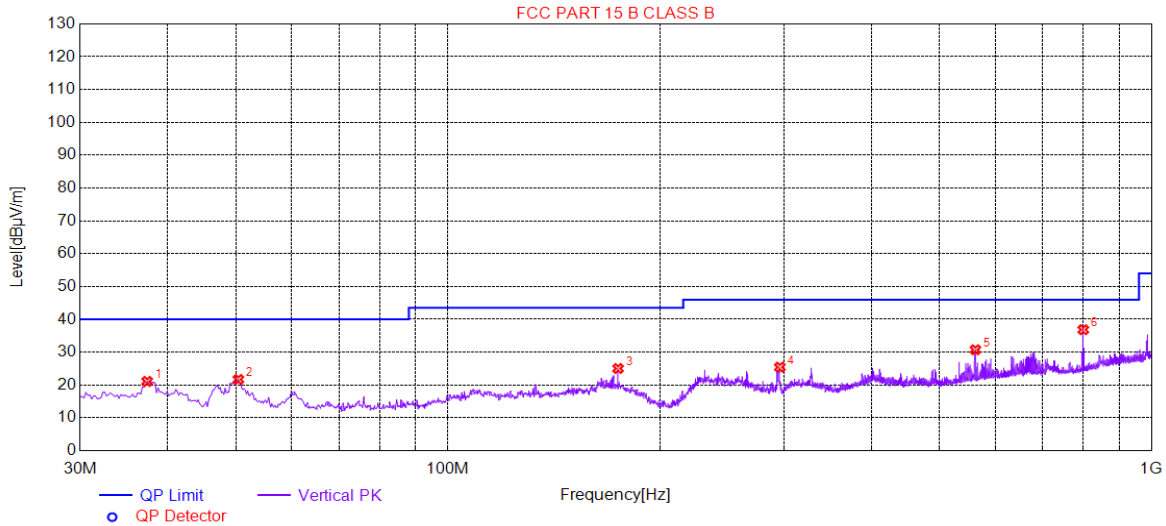
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Mode:a; Polarization:Vertical



## Suspected List

| Suspected List |             |                  |             |                |                |             |             |           |       |          |
|----------------|-------------|------------------|-------------|----------------|----------------|-------------|-------------|-----------|-------|----------|
| NO.            | Freq. [MHz] | Reading [dBµV/m] | Factor [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Trace | Polarity |
| 1              | 37.3735     | 50.30            | -29.19      | 21.11          | 40.00          | 18.89       | 185         | 350       | PK    | Vertical |
| 2              | 50.3741     | 52.12            | -30.42      | 21.70          | 40.00          | 18.30       | 277         | 69        | PK    | Vertical |
| 3              | 174.5589    | 58.74            | -33.70      | 25.04          | 43.50          | 18.46       | 240         | 346       | PK    | Vertical |
| 4              | 296.4153    | 53.84            | -28.40      | 25.44          | 46.00          | 20.56       | 218         | 346       | PK    | Vertical |
| 5              | 562.0544    | 52.45            | -21.70      | 30.75          | 46.00          | 15.25       | 211         | 321       | PK    | Vertical |
| 6              | 800.1400    | 54.65            | -17.79      | 36.86          | 46.00          | 9.14        | 232         | 17        | PK    | Vertical |

## Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

Factor = Antenna Factor + Cable Factor - Preamplifier Factor



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## 2.3 Radiated Emissions (above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B  
 Test Method: ANSI C63.4:2014  
 Frequency Range: Above 1GHz  
 Measurement Distance: 3m  
 Limit:  
 Above 1GHz 74(dBμV/m) peak, 54(dBμV/m) average  
 Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000M to18000MHz

### 2.1.7 E.U.T. Operation

Operating Environment:  
 Temperature: 21.7 °C Humidity: 56.4 % RH Atmospheric Pressure: 1010 mbar  
 Testing Strategy: During the test, the EUT was pre-scanned to find the worst cable, adapter, and headset in turn, then to find the worst mode.  
 Pretest these modes to find the worst case:  
 a: Transfer data between the EUT1(battery1) and the PC+USB cable1  
 b: Transfer data between the EUT1(battery1) and the PC+USB cable2  
 c: Transfer data between the EUT1(battery1) and the PC+USB cable3  
 d: Transfer data between the EUT1(battery1) and the PC+USB cable4  
 e: GSM 850 Idle+EUT1(battery1) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1  
 f: WCDMA Band V Idle+ EUT1(battery1) +BT+ 5G WLAN + NFC +GPS Rx+ FM +earphone2 + Cable(worst)+adapter5  
 g: LTE Band 7 Idle+ EUT1(battery1) + BT+ 2.4G WLAN + NFC +GPS Rx+ camera (Back) +earphone3 + Cable(worst)+adapter(worst)  
 h: GSM1900 Idle+ EUT1(battery1) +BT+5G WLAN + NFC +GPS Rx+ camera (Front) +earphone3 + Cable(worst)+adapter(worst)  
 i: GSM 850 Idle+EUT2(battery2) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1  
 j: GSM 850 Idle+EUT3(battery3) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1

Cable worst = Cable 1; Adapter worst = Adapter 5

The worst case for final test: e: GSM 850 Idle+EUT1(battery1) +BT+2.4G WLAN + NFC +GPS Rx + playing MP4 (SD card) +earphone1 + Cable(worst)+adapter1



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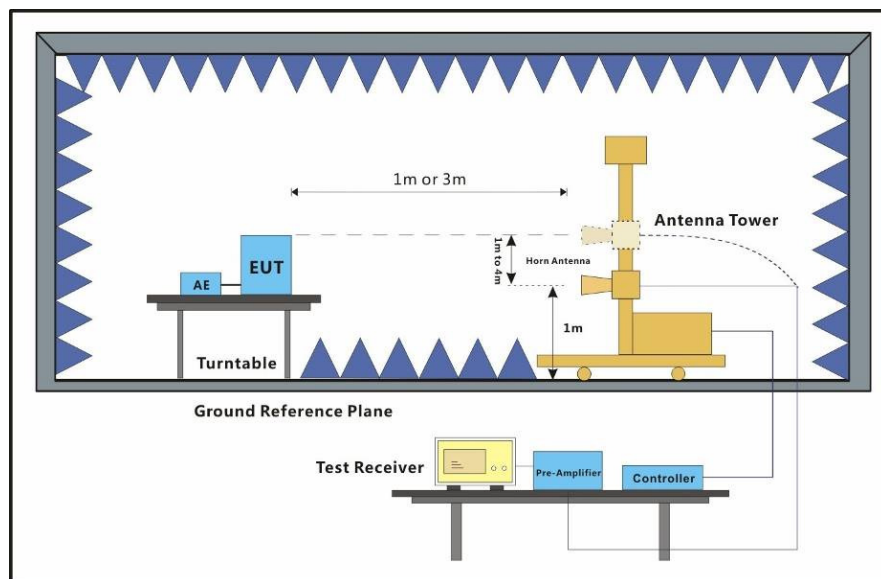
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### 2.1.8 Test Setup Procedures

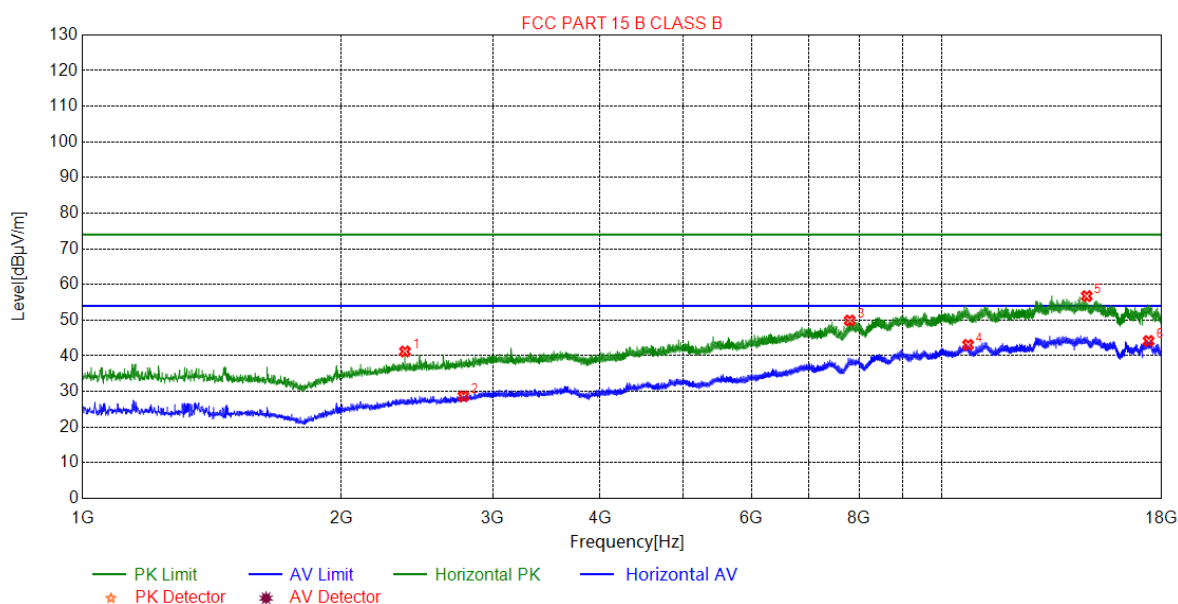
1. The EUT was placed in a full Anechoic Chamber as show below
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between 1 to 4 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 and AV Detect Function with specified bandwidth with Maximum Hold Mode, and the trace was allowed to stabilize.



### 2.1.9 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

Mode:e; Polarization:Horizontal



### Suspected List

| Suspected List |                |                     |                |                   |                   |                |                |              |       |            |
|----------------|----------------|---------------------|----------------|-------------------|-------------------|----------------|----------------|--------------|-------|------------|
| NO.            | Freq.<br>[MHz] | Reading<br>[dBμV/m] | Factor<br>[dB] | Level<br>[dBμV/m] | Limit<br>[dBμV/m] | Margin<br>[dB] | Height<br>[cm] | Angle<br>[°] | Trace | Polarity   |
| 1              | 2371.9686      | 67.71               | -26.48         | 41.23             | 74.00             | 32.77          | 129            | 301          | PK    | Horizontal |
| 2              | 2774.0387      | 53.43               | -24.76         | 28.67             | 54.00             | 25.33          | 170            | 20           | AV    | Horizontal |
| 3              | 7806.2903      | 58.46               | -8.54          | 49.92             | 74.00             | 24.08          | 214            | 276          | PK    | Horizontal |
| 4              | 10716.8358     | 46.64               | -3.55          | 43.09             | 54.00             | 10.91          | 136            | 193          | AV    | Horizontal |
| 5              | 14724.7862     | 57.58               | -0.82          | 56.76             | 74.00             | 17.24          | 161            | 42           | PK    | Horizontal |
| 6              | 17376.9188     | 46.80               | -2.62          | 44.18             | 54.00             | 9.82           | 225            | 59           | AV    | Horizontal |

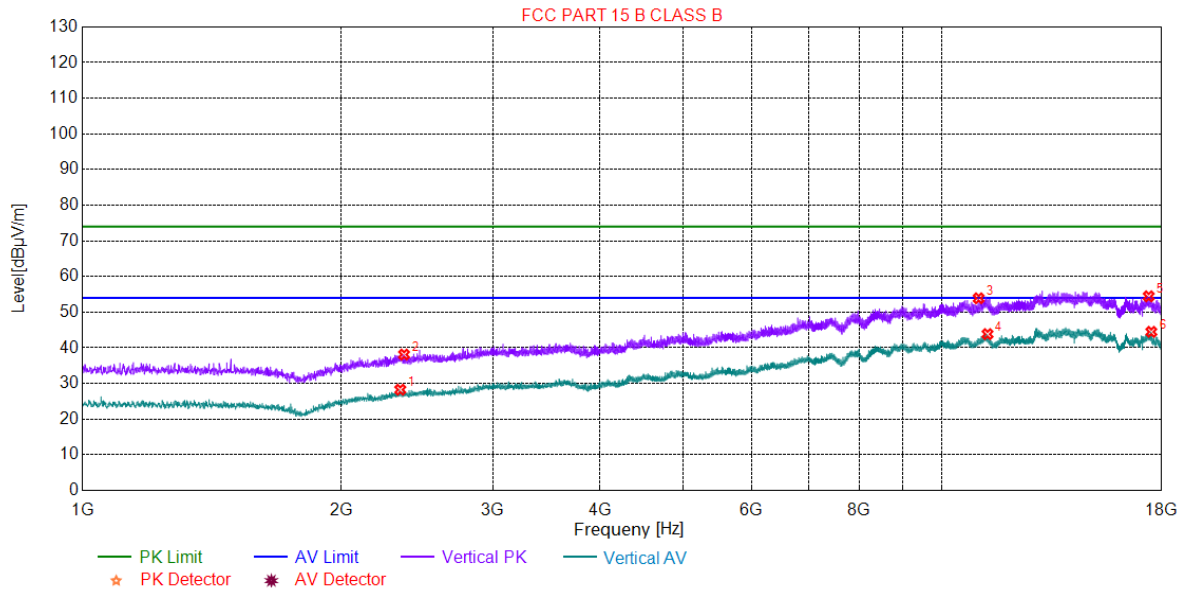


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Mode:e; Polarization:Vertical



## Suspected List

| Suspected List |             |                  |             |                |                |             |             |           |       |          |
|----------------|-------------|------------------|-------------|----------------|----------------|-------------|-------------|-----------|-------|----------|
| NO.            | Freq. [MHz] | Reading [dBμV/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Trace | Polarity |
| 1              | 2342.2171   | 54.83            | -26.56      | 28.27          | 54.00          | 25.73       | 226         | 80        | AV    | Vertical |
| 2              | 2366.0183   | 64.62            | -26.50      | 38.12          | 74.00          | 35.88       | 264         | 338       | PK    | Vertical |
| 3              | 11024.5512  | 57.16            | -3.25       | 53.91          | 74.00          | 20.09       | 280         | 145       | PK    | Vertical |
| 4              | 11289.7645  | 46.95            | -3.09       | 43.86          | 54.00          | 10.14       | 176         | 16        | AV    | Vertical |
| 5              | 17384.5692  | 57.04            | -2.58       | 54.46          | 74.00          | 19.54       | 247         | 150       | PK    | Vertical |
| 6              | 17506.1253  | 46.13            | -1.63       | 44.50          | 54.00          | 9.50        | 270         | 194       | AV    | Vertical |

## Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

Factor = Antenna Factor + Cable Factor - Preamplifier Factor

## 3 Equipment List

| CE Test System                 |               |             |               |            |              |
|--------------------------------|---------------|-------------|---------------|------------|--------------|
| Equipment                      | Manufacturer  | Model No.   | Inventory No. | Cal Date   | Cal Due Date |
| Shielding Room                 | Brilliant-emc | N/A         | XAW03-35-01   | 2019-09-11 | 2022-09-10   |
| Test receiver                  | ROHDE&SCHWARZ | ESR         | XAW01-08-01   | 2020-09-11 | 2021-09-10   |
| Artificial network             | ROHDE&SCHWARZ | ENV216      | XAW01-04-01   | 2020-08-04 | 2021-08-03   |
| Temperature and humidity meter | MingGao       | TH101B      | XAW01-01-01   | 2020-11-06 | 2021-11-05   |
| Measurement Software           | Tonscend      | TS+ CE V2.5 | XAW02-05-02   | NCR        | NCR          |
| Radio communication analyzer   | ROHDE&SCHWARZ | CMW 500     | XAW01-03-02   | 2020-04-02 | 2021-04-01   |

| RSE Test System                     |                |                  |               |            |              |
|-------------------------------------|----------------|------------------|---------------|------------|--------------|
| Equipment                           | Manufacturer   | Model No.        | Inventory No. | Cal Date   | Cal Due Date |
| Semi-Anechoic Chamber               | Brilliant-emc  | N/A              | XAW03-35-01   | 2019-09-11 | 2022-09-10   |
| MXA signal analyzer                 | Keysight       | N9020A           | XAW01-06-01   | 2020-04-02 | 2021-04-01   |
| Test receiver                       | ROHDE&SCHWARZ  | ESR              | XAW01-08-01   | 2020-09-11 | 2021-09-10   |
| Receiving antenna (30MHz-3GHz)      | Schwarzbeck    | VULB 9163        | XAW01-09-01   | 2019-10-13 | 2021-10-12   |
| Receiving antenna (1GHz~18GHz)      | Schwarzbeck    | BBHA 9120D       | XAW01-09-02   | 2019-10-13 | 2021-10-12   |
| Receiving antenna (15GHz~40GHz)     | Schwarzbeck    | BBHA 9170        | XAW01-09-03   | 2019-10-13 | 2021-10-12   |
| Directional antenna rack controller | Max-Full       | MF-7802BS        | XAW03-03-01   | NCR        | NCR          |
| High-speed antenna rack controller  | Max-Full       | MF-7802          | XAW03-04-01   | NCR        | NCR          |
| Filter bank                         | Tonscend       | JS0806-F         | XAW03-05-01   | NCR        | NCR          |
| Filter bank                         | Tonscend       | JS0806s          | XAW03-05-02   | NCR        | NCR          |
| Amplifier                           | Tonscend       | TAP00903040      | XAW01-41-01   | 2020-10-26 | 2021-10-25   |
| Amplifier                           | Tonscend       | TAP01018048      | XAW01-41-02   | 2020-10-26 | 2021-10-25   |
| Amplifier                           | Tonscend       | TAP18040048      | XAW01-41-03   | 2020-10-27 | 2021-10-26   |
| Amplifier                           | Shanghai Steed | YX28980930       | XAW01-41-06   | 2020-10-26 | 2021-10-25   |
| Temperature and humidity meter      | MingGao        | TH101B           | XAW01-01-01   | 2020-11-06 | 2021-11-05   |
| Measurement Software                | Tonscend       | TS+ RSE V3.0.0.2 | XAW02-05-01   | NCR        | NCR          |
| Radio communication analyzer        | ROHDE&SCHWARZ  | CMW 500          | XAW01-03-02   | 2020-04-02 | 2021-04-01   |



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## 4 Measurement Uncertainty

| No. | Item                | Measurement Uncertainty              |
|-----|---------------------|--------------------------------------|
| 1   | Conduction Emission | $\pm 3.0\text{dB}$ (150kHz to 30MHz) |
| 2   | Radiated Emission   | $\pm 4.8\text{dB}$ (Below 1GHz)      |
|     |                     | $\pm 4.8\text{dB}$ (1GHz to 6GHz)    |
|     |                     | $\pm 4.5\text{dB}$ (6GHz to 18GHz)   |
|     |                     | $\pm 5.02\text{dB}$ (Above 18GHz)    |





## 5 Photographs

### 5.1 Test Setup

Refer to Appendix A - Photographs of Set-Up for HR/2020/B0007.

### 5.2 EUT Constructional Details (EUT Photos)

Refer to Photographs of EUT Constructional Details

- End of the Report -

