



# FCC RF Test Report

## (LTE)

**Report No.:** JYTSZ-R12-2400073

**Applicant:** Hangzhou Roombanker Technology Co., Ltd.

**Address of Applicant:** A#801 Wantong center, Hangzhou, China

**Equipment Under Test (EUT)**

Product Name: Smart Gateway L-Serial

Model No.: DSGW-041, DSGW-041-X(X:1~25)

Trade Mark: N/A

**FCC ID:** 2AUXBDSGW-041

**Applicable Standards:** FCC CFR Title 47 Part 2, 22H, 24E, 27L & F & H

**Date of Sample Receipt:** 22 Jan., 2024

**Date of Test:** 23 Jan., to 28 Mar., 2024

**Date of Report Issued:** 29 Mar., 2024

**Test Result:** PASS

**Tested by:**

*Vieta Zhang*  
Project Engineer

**Date:**

*29 Mar., 2024*

**Reviewed by:**

*Junhe Li*  
Senior Engineer

**Date:**

*29 Mar., 2024*

**Approved by:**

*James Wei*  
Manager

**Date:**

*29 Mar., 2024*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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## 1 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | 29 Mar., 2024 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

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### 3 General Information

#### 3.1 Client Information

|               |                                            |
|---------------|--------------------------------------------|
| Applicant:    | Hangzhou Roombanker Technology Co., Ltd.   |
| Address:      | A#801 Wantong center, Hangzhou, China      |
| Manufacturer: | Hangzhou Roombanker Technology Co., Ltd.   |
| Address:      | A#801 Wantong center, Hangzhou, China      |
| Factory:      | Zhejiang dusun electron co., ltd           |
| Address:      | No.640 Feng Qing St, DeQing Zhejiang China |

#### 3.2 General Description of E.U.T.

|                            |                                                                                                                                                                        |                                 |                         |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|
| Product Name:              | Smart Gateway L-Serial                                                                                                                                                 |                                 |                         |
| Model No.:                 | DSGW-041, DSGW-041-X(X:1~25)                                                                                                                                           |                                 |                         |
| Operation Frequency Range: | LTE band 2:                                                                                                                                                            | Tx: 1850 MHz - 1910 MHz         | Rx: 1930 MHz - 1990 MHz |
|                            | LTE band 4:                                                                                                                                                            | Tx: 1710 MHz - 1755 MHz         | Rx: 2110 MHz - 2155 MHz |
|                            | LTE band 5:                                                                                                                                                            | Tx: 824 MHz - 849 MHz           | Rx: 869 MHz - 894 MHz   |
|                            | LTE band 12:                                                                                                                                                           | Tx: 699 MHz - 716 MHz           | Rx: 729 MHz - 746 MHz   |
|                            | LTE band 13:                                                                                                                                                           | Tx: 777 MHz - 787 MHz           | Rx: 746 MHz - 756 MHz   |
|                            | LTE band 25:                                                                                                                                                           | Tx: 1850 MHz - 1915 MHz         | Rx: 1930 MHz - 1995 MHz |
| Modulation Type:           | <input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM                                                                                     |                                 |                         |
| LTE Category:              | M1                                                                                                                                                                     |                                 |                         |
| NB-IoT Category:           | NB1                                                                                                                                                                    |                                 |                         |
| Antenna Type:              | Internal Antenna                                                                                                                                                       |                                 |                         |
| Antenna Gain:              | LTE band 2:                                                                                                                                                            | 1.57 dBi (declare by Applicant) |                         |
|                            | LTE band 4:                                                                                                                                                            | 4.60 dBi (declare by Applicant) |                         |
|                            | LTE band 5:                                                                                                                                                            | 1.53 dBi (declare by Applicant) |                         |
|                            | LTE band 12:                                                                                                                                                           | 4.41 dBi (declare by Applicant) |                         |
|                            | LTE band 13:                                                                                                                                                           | 3.96 dBi (declare by Applicant) |                         |
|                            | LTE band 25:                                                                                                                                                           | 1.57dBi (declare by Applicant)  |                         |
| Power Supply:              | Rechargeable Li-ion Battery DC3.7V, 5000mAh                                                                                                                            |                                 |                         |
| Test Sample Condition:     | The test samples were provided in good working order with no visible defects.                                                                                          |                                 |                         |
| Remark:                    | DSGW-041, DSGW-041-X(X:1~25) were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name. |                                 |                         |

### 3.3 Test Mode and Environment

| Test Mode:                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| QPSK mode:                                                                                                                                                                                                                                                                                                                                                                              | Keep the EUT communication with simulated station in QPSK mode          |
| 16QAM mode:                                                                                                                                                                                                                                                                                                                                                                             | Keep the EUT communication with simulated station in 16QAM mode         |
| <b>Remark:</b> The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report. |                                                                         |
| Operating Environment:                                                                                                                                                                                                                                                                                                                                                                  |                                                                         |
| Temperature:                                                                                                                                                                                                                                                                                                                                                                            | Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C                             |
| Humidity:                                                                                                                                                                                                                                                                                                                                                                               | 20 % ~ 75 % RH                                                          |
| Atmospheric Pressure:                                                                                                                                                                                                                                                                                                                                                                   | 1008 mbar                                                               |
| Voltage:                                                                                                                                                                                                                                                                                                                                                                                | Nominal: 5.00 Vdc, Extreme: Low 4.25Vdc, High 5.75 Vdc                  |
| Test Engineer:                                                                                                                                                                                                                                                                                                                                                                          | Toby Huang (Conducted measurement)<br>Kiran Zeng (Radiated measurement) |

### 3.4 Description of Test Auxiliary Equipment

| Test Equipment    | Manufacturer    | Model No. | Serial No. |
|-------------------|-----------------|-----------|------------|
| Simulated Station | Rohde & Schwarz | CMW500    | 108209     |

### 3.5 Measurement Uncertainty

| Parameter                                                                                                                                                                                                                                                                                                            | Expanded Uncertainty<br>(Confidence of 95%(U = 2Uc(y))) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Radiated Emission (30MHz ~ 200MHz) (3m SAC)                                                                                                                                                                                                                                                                          | 4.6 dB                                                  |
| Radiated Emission (200MHz ~ 1000MHz) (3m SAC)                                                                                                                                                                                                                                                                        | 5.8 dB                                                  |
| Radiated Emission (30MHz ~ 1GHz) (3m FAR)                                                                                                                                                                                                                                                                            | 3.43 dB                                                 |
| Radiated Emission (1GHz ~ 6GHz) (3m FAR)                                                                                                                                                                                                                                                                             | 4.95 dB                                                 |
| Radiated Emission (6GHz ~ 18GHz) (3m FAR)                                                                                                                                                                                                                                                                            | 5.23 dB                                                 |
| Radiated Emission (18GHz ~ 40GHz) (3m FAR)                                                                                                                                                                                                                                                                           | 5.32 dB                                                 |
| <b>Note:</b> All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance. |                                                         |

### 3.6 Additions to, Deviations, or Exclusions from the Method

|    |
|----|
| No |
|----|

### 3.7 Laboratory Facility

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>● <b>FCC - Designation No.: CN1211</b><br/>JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.</li> <li>● <b>ISED – CAB identifier.: CN0021</b><br/>The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.</li> <li>● <b>CNAS - Registration No.: CNAS L15527</b><br/>JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.</li> <li>● <b>A2LA - Registration No.: 4346.01</b><br/>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <a href="https://portal.a2la.org/scopepdf/4346-01.pdf">https://portal.a2la.org/scopepdf/4346-01.pdf</a></li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 3.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

### 3.9 Test Instruments List

| Radiated Emission(3m FAR):    |                 |                 |                |                      |                          |
|-------------------------------|-----------------|-----------------|----------------|----------------------|--------------------------|
| Test Equipment                | Manufacturer    | Model No.       | Manage No.     | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m FAR                        | YUNYI           | 9m*6m*6m        | WXJ097         | 06-15-2023           | 06-14-2028               |
| BiConiLog Antenna             | Schwarzbeck     | VULB9163        | WXJ097-2       | 07-13-2023           | 07-12-2024               |
| Biconical Antenna             | Schwarzbeck     | VUBA9117        | WXJ002-1       | 07-02-2021           | 07-01-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ097-3       | 07-14-2023           | 07-13-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ002-3       | 12-28-2023           | 12-27-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-5       | 12-28-2023           | 12-27-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-6       | 12-28-2023           | 12-27-2024               |
| Pre-amplifier (30MHz ~ 1GHz)  | YUNYI           | PAM-310N        | WXJ097-5       | 05-14-2023           | 05-13-2024               |
| Pre-amplifier (1GHz ~ 18GHz)  | YUNYI           | PAM-118N        | WXJ097-6       | 05-14-2023           | 05-13-2024               |
| Pre-amplifier (18GHz ~ 40GHz) | RF System       | TRLA-180400G45B | WXJ002-7       | 12-27-2023           | 12-26-2024               |
| EMI Test Receiver             | Rohde & Schwarz | ESCI3           | WXJ003         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer             | Rohde & Schwarz | FSP 30          | WXJ004         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer             | KEYSIGHT        | N9010B          | WXJ081-1       | 06-13-2023           | 06-12-2024               |
| Coaxial Cable (30MHz ~ 1GHz)  | JYTSZ           | JYT3M-1G-NN-13M | WXG097-1       | 08-01-2023           | 07-31-2024               |
| Coaxial Cable (1GHz ~ 18GHz)  | JYTSZ           | JYT3M-18G-NN-8M | WXG097-2       | 08-01-2023           | 07-31-2024               |
| Coaxial Cable (18GHz ~ 40GHz) | JYTSZ           | JYT3M-40G-SS-8M | WXG097-3       | 08-01-2023           | 07-31-2024               |
| High Band Reject Filter Group | Tonscend        | JS0806-F        | WXJ089         | N/A                  |                          |
| Low Band Reject Filter Group  | Tonscend        | JS0806-F        | WXJ097-4       | N/A                  |                          |
| Test Software                 | Tonscend        | TS+             | Version: 5.0.0 |                      |                          |

| Radiated Emission(3m SAC):   |                 |                 |                  |                      |                          |
|------------------------------|-----------------|-----------------|------------------|----------------------|--------------------------|
| Test Equipment               | Manufacturer    | Model No.       | Manage No.       | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m SAC                       | ETS             | 9m*6m*6m        | WXJ001-1         | 04-14-2021           | 04-13-2024               |
| BiConiLog Antenna            | Schwarzbeck     | VULB9163        | WXJ002           | 01-09-2024           | 01-08-2025               |
| Horn Antenna                 | Schwarzbeck     | BBHA9120D       | WXJ002-2         | 01-05-2024           | 01-04-2025               |
| Pre-amplifier (30MHz ~ 1GHz) | Schwarzbeck     | BBV9743B        | WXJ001-2         | 12-27-2023           | 12-26-2024               |
| Pre-amplifier (1GHz ~ 18GHz) | SKET            | LNPA_0118G-50   | WXJ001-3         | 12-27-2023           | 12-26-2024               |
| EMI Test Receiver            | Rohde & Schwarz | ESRP7           | WXJ003-1         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer            | Rohde & Schwarz | FSP 30          | WXJ004           | 12-27-2023           | 12-26-2024               |
| Coaxial Cable (30MHz ~ 1GHz) | JYTSZ           | JYT3M-1G-NN-8M  | WXG001-4         | 01-17-2024           | 01-16-2025               |
| Coaxial Cable (1GHz ~ 18GHz) | JYTSZ           | JYT3M-18G-NN-8M | WXG001-5         | 01-17-2024           | 01-16-2025               |
| Band Reject Filter Group     | Tonscend        | JS0806-F        | WXJ089           | N/A                  |                          |
| Test Software                | Tonscend        | TS+             | Version: 3.0.0.1 |                      |                          |

| Conducted Method:            |                 |           |                     |                      |                          |
|------------------------------|-----------------|-----------|---------------------|----------------------|--------------------------|
| Test Equipment               | Manufacturer    | Model No. | Manage No.          | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| Spectrum Analyzer            | Keysight        | N9020A    | WXJ094              | 09-25-2023           | 09-24-2024               |
| Simulated Station            | Rohde & Schwarz | CMW500    | WXJ081              | 06-13-2023           | 06-12-2024               |
| Temperature Humidity Chamber | ZHONG ZHI       | CZ-A-80D  | WXJ032-3            | 01-09-2023           | 01-08-2025               |
| DC Power Supply              | Keysight        | E3642A    | WXJ025-2            | N/A                  |                          |
| RF Control Unit              | Tonscend        | JS0806-1  | WXG010              | N/A                  |                          |
| Band Reject Filter Group     | Tonscend        | JS0806-F  | WXG010-1            | N/A                  |                          |
| Test Software                | Tonscend        | TS+       | Version: 2.6.9.0526 |                      |                          |

## 4 Measurement Setup and Procedure

### 4.1 Test Channel

According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

| LTE band 2      |       |                 |                 |       |                 |
|-----------------|-------|-----------------|-----------------|-------|-----------------|
| Channels        |       | Frequency (MHz) | Channels        |       | Frequency (MHz) |
| 1.4 MHz         |       |                 | 3 MHz           |       |                 |
| Lowest channel  | 18607 | 1850.7          | Lowest channel  | 18915 | 1851.5          |
| Middle channel  | 18900 | 1880.0          | Middle channel  | 18900 | 1880.0          |
| Highest channel | 19193 | 1909.3          | Highest channel | 19185 | 1908.5          |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 18625 | 1852.5          | Lowest channel  | 18650 | 1855.0          |
| Middle channel  | 18900 | 1880.0          | Middle channel  | 18900 | 1880.0          |
| Highest channel | 19175 | 1907.5          | Highest channel | 19150 | 1905.0          |
| 15 MHz          |       |                 | 20 MHz          |       |                 |
| Lowest channel  | 18675 | 1857.5          | Lowest channel  | 18700 | 1860.0          |
| Middle channel  | 18900 | 1880.0          | Middle channel  | 18900 | 1880.0          |
| Highest channel | 19125 | 1902.5          | Highest channel | 19100 | 1900.0          |
| LTE band 4      |       |                 |                 |       |                 |
| Channels        |       | Frequency (MHz) | Channels        |       | Frequency (MHz) |
| 1.4 MHz         |       |                 | 3 MHz           |       |                 |
| Lowest channel  | 19957 | 1710.7          | Lowest channel  | 19965 | 1711.5          |
| Middle channel  | 20175 | 1732.5          | Middle channel  | 20175 | 1732.5          |
| Highest channel | 20393 | 1754.3          | Highest channel | 20385 | 1753.5          |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 19975 | 1712.5          | Lowest channel  | 20000 | 1715.0          |
| Middle channel  | 20175 | 1732.5          | Middle channel  | 20175 | 1732.5          |
| Highest channel | 20375 | 1752.5          | Highest channel | 20350 | 1750.0          |
| 15 MHz          |       |                 | 20 MHz          |       |                 |
| Lowest channel  | 20025 | 1717.5          | Lowest channel  | 20050 | 1720.0          |
| Middle channel  | 20175 | 1732.5          | Middle channel  | 20175 | 1732.5          |
| Highest channel | 20325 | 1747.5          | Highest channel | 20300 | 1745.0          |
| LTE band 5      |       |                 |                 |       |                 |
| Channels        |       | Frequency (MHz) | Channels        |       | Frequency (MHz) |
| 1.4 MHz         |       |                 | 3 MHz           |       |                 |
| Lowest channel  | 20407 | 824.7           | Lowest channel  | 20415 | 825.5           |
| Middle channel  | 20525 | 836.5           | Middle channel  | 20525 | 836.5           |
| Highest channel | 20643 | 848.3           | Highest channel | 20635 | 847.5           |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 20425 | 826.5           | Lowest channel  | 20450 | 829.0           |
| Middle channel  | 20525 | 836.5           | Middle channel  | 20525 | 836.5           |
| Highest channel | 20625 | 846.5           | Highest channel | 20600 | 844.0           |

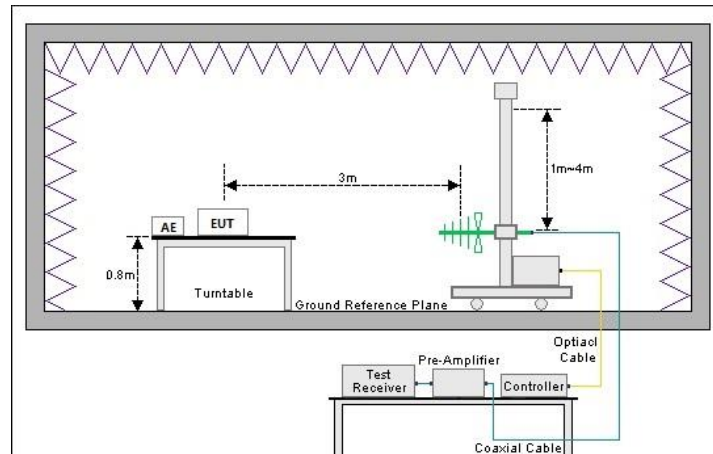


| LTE band 12     |       |                 |                 |       |                 |
|-----------------|-------|-----------------|-----------------|-------|-----------------|
| Channels        |       | Frequency (MHz) | Channels        |       | Frequency (MHz) |
| 1.4 MHz         |       |                 | 3 MHz           |       |                 |
| Lowest channel  | 23017 | 699.70          | Lowest channel  | 23025 | 700.50          |
| Middle channel  | 23095 | 707.50          | Middle channel  | 23095 | 707.50          |
| Highest channel | 23173 | 715.30          | Highest channel | 23165 | 714.50          |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 23035 | 701.50          | Lowest channel  | 23060 | 704.00          |
| Middle channel  | 23095 | 707.50          | Middle channel  | 23095 | 707.50          |
| Highest channel | 23155 | 713.50          | Highest channel | 23130 | 711.00          |
| LTE band 13     |       |                 |                 |       |                 |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 23205 | 779.5           | Lowest channel  | /     | /               |
| Middle channel  | 23230 | 782.0           | Middle channel  | 23230 | 782.00          |
| Highest channel | 23255 | 784.5           | Highest channel | /     | /               |
| LTE band 25     |       |                 |                 |       |                 |
| Channels        |       | Frequency (MHz) | Channels        |       | Frequency (MHz) |
| 1.4 MHz         |       |                 | 3 MHz           |       |                 |
| Lowest channel  | 26047 | 1850.70         | Lowest channel  | 26055 | 1851.50         |
| Middle channel  | 26365 | 1882.50         | Middle channel  | 26365 | 1882.50         |
| Highest channel | 26683 | 1914.30         | Highest channel | 26675 | 1913.50         |
| 5 MHz           |       |                 | 10 MHz          |       |                 |
| Lowest channel  | 26065 | 1852.50         | Lowest channel  | 26090 | 1855.00         |
| Middle channel  | 26365 | 1882.50         | Middle channel  | 26365 | 1882.50         |
| Highest channel | 26665 | 1912.50         | Highest channel | 26640 | 1910.00         |
| 15 MHz          |       |                 | 20 MHz          |       |                 |
| Lowest channel  | 26115 | 1857.50         | Lowest channel  | 26140 | 1860.00         |
| Middle channel  | 26365 | 1882.50         | Middle channel  | 26365 | 1882.50         |
| Highest channel | 26615 | 1907.50         | Highest channel | 26590 | 1905.00         |

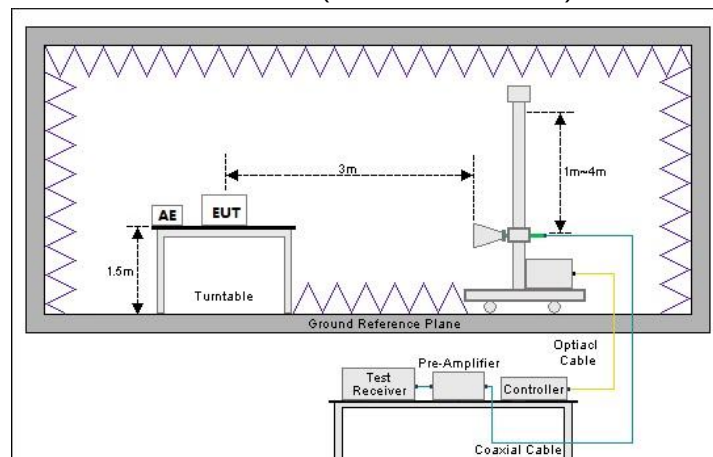
## 4.2 Test Setup

### 1) Radiated emission measurement:

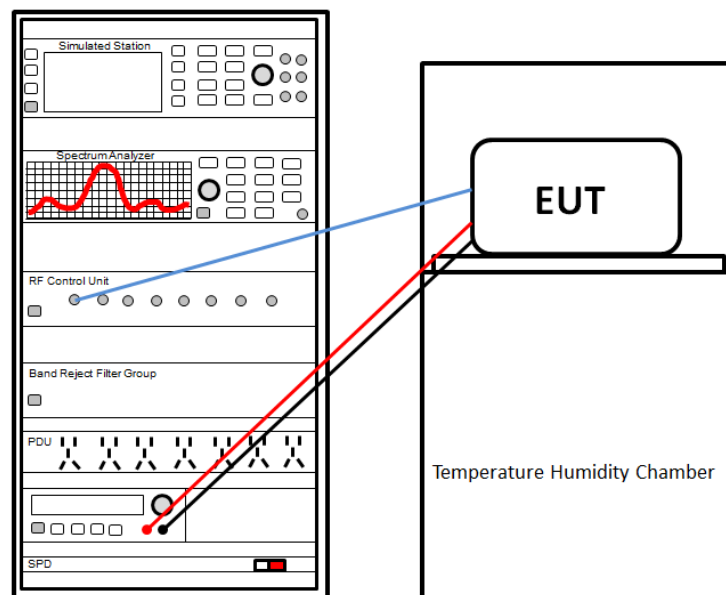
Below 1GHz (3m SAC)



Above 1GHz (3m SAC or 3m FAR)



### 2) Conducted test method



### 4.3 Test Procedure

| Test method           | Test step                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiated emission     | <p><b>For below 1GHz:</b></p> <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> <p><b>For above 1GHz:</b></p> <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>2. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> |
| Conducted test method | <ol style="list-style-type: none"> <li>1. The LTE antenna port of EUT was connected to the test port of the test system through an RF cable.</li> <li>2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>3. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## 5 Test Results

### 5.1 Summary

#### 5.1.1 Clause and Data Summary

| Test items                                        | Standard clause                                                                                         | Test data                                                                                                                                                         | Result                                                                                                                                                            |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF Exposure                                       | Part 1.1307<br>Part 2.1093                                                                              | See JYTSZ-R12-2400074<br>Report                                                                                                                                   | Pass                                                                                                                                                              |
| RF Output Power                                   | Part 2.1046<br>Part 22.913 (a)(5)<br>Part 24.232 (c)<br>Part 27.50 (c)(10)<br>Part 27.50 (d)(4)         | Appendix A LTE CAT-M1<br>Appendix B LTE NB-IOT                                                                                                                    | Pass                                                                                                                                                              |
| Peak-to-Average Power Ratio                       | Part 24.232 (d)<br>Part 27.50 (d)(5)                                                                    | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC<br>ID: XMR201707BG96. |
| Modulation Characteristics                        | Part 2.1047                                                                                             | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC<br>ID: XMR201707BG96. |
| 26dB Emission Bandwidth<br>99% Occupied Bandwidth | Part 2.1049                                                                                             | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC<br>ID: XMR201707BG96. |
| Out of Band Emission at<br>Antenna Terminals      | Part 2.1051<br>Part 22.917 (a)<br>Part 24.238 (a)<br>Part 27.53 (g)<br>Part 27.53 (c)<br>Part 27.53 (h) | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC<br>ID: XMR201707BG96. |
| Field Strength of Spurious<br>Radiation           | Part 2.1053<br>Part 22.917 (a)<br>Part 24.238 (a)<br>Part 27.53 (c)<br>Part 27.53 (g)<br>Part 27.53 (h) | See Section 5.2                                                                                                                                                   | Pass                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                   |                                                                                                                                                                   |                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Stability vs. Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part 2.1055 (a)(1)(b)<br>Part 22.355<br>Part 24.235<br>Part 27.54 | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. |
| Frequency Stability vs. Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Part 2.1055 (d)(2)<br>Part 22.355<br>Part 24.235<br>Part 27.54    | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. | Please refer to report<br>R2007A0435-R1 &<br>R2007A0435-R2 &<br>R2007A0435-R3 &<br>R2007A0435-R4 &<br>R2007A0435-R5 &<br>R2007A0435-R6, FCC ID:<br>XMR201707BG96. |
| <b>Remark:</b><br>1. Pass: The EUT complies with the essential requirements in the standard.<br>2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (Fundamental Frequency below 1GHz)/1.0dB (Fundamental Frequency above 1GHz) (provided by the customer).<br>3. Please refer to FCC ID : XMR201707BG96 , report No.: R2007A0435-R1 & R2007A0435-R2 & R2007A0435-R3 & R2007A0435-R4 & R2007A0435-R5 & R2007A0435-R6 issue by TA Technology (Shanghai) Co., Ltd. |                                                                   |                                                                                                                                                                   |                                                                                                                                                                   |
| <b>Test Method:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANSI/TIA-603-E-2016<br>ANSI C63.26-2015                           |                                                                                                                                                                   |                                                                                                                                                                   |

### 5.1.2 Test Limit

| Test items                                                                            | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|------|------|------|-----------|-----|-----|------|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|--------------|------|-----|-----|
| RF Output Power                                                                       | <b>LTE band 2:</b> 2W EIRP<br><b>LTE band 4:</b> 1W EIRP<br><b>LTE band 5:</b> 7W ERP<br><b>LTE band 12/13:</b> 3W ERP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| Peak-to-Average Power Ratio                                                           | <b>LTE band 2/4/25:</b> The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB<br><b>Other bands:</b> N/A report only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| Modulation Characteristics                                                            | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 26dB Emission Bandwidth<br>99% Occupied Bandwidth                                     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| Out of Band Emission at Antenna Terminals<br><br>Field Strength of Spurious Radiation | <b>LTE band 2, 4, 5, 12, 13, 25:</b><br>The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                       |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| Frequency Stability vs. Temperature<br><br>Frequency Stability vs. Voltage            | <b>LTE band 2, 25:</b><br>The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.<br><br><b>LTE band 4, 12, 13:</b><br>The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.<br><br><b>LTE band 5:</b><br>Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.<br><br><b>TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES</b> <table><tr><th>Frequency range (MHz)</th><th>Base, fixed (ppm)</th><th>Mobile &gt;3 watts (ppm)</th><th>Mobile ≤3 watts (ppm)</th></tr><tr><td>25 to 50</td><td>20.0</td><td>20.0</td><td>50.0</td></tr><tr><td>50 to 450</td><td>5.0</td><td>5.0</td><td>50.0</td></tr><tr><td>450 to 512</td><td>2.5</td><td>5.0</td><td>5.0</td></tr><tr><td>821 to 896</td><td>1.5</td><td>2.5</td><td>2.5</td></tr><tr><td>928 to 929</td><td>5.0</td><td>n/a</td><td>n/a</td></tr><tr><td>929 to 960</td><td>1.5</td><td>n/a</td><td>n/a</td></tr><tr><td>2110 to 2220</td><td>10.0</td><td>n/a</td><td>n/a</td></tr></table> | Frequency range (MHz) | Base, fixed (ppm)     | Mobile >3 watts (ppm) | Mobile ≤3 watts (ppm) | 25 to 50 | 20.0 | 20.0 | 50.0 | 50 to 450 | 5.0 | 5.0 | 50.0 | 450 to 512 | 2.5 | 5.0 | 5.0 | 821 to 896 | 1.5 | 2.5 | 2.5 | 928 to 929 | 5.0 | n/a | n/a | 929 to 960 | 1.5 | n/a | n/a | 2110 to 2220 | 10.0 | n/a | n/a |
| Frequency range (MHz)                                                                 | Base, fixed (ppm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mobile >3 watts (ppm) | Mobile ≤3 watts (ppm) |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 25 to 50                                                                              | 20.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.0                  | 50.0                  |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 50 to 450                                                                             | 5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5.0                   | 50.0                  |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 450 to 512                                                                            | 2.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5.0                   | 5.0                   |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 821 to 896                                                                            | 1.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.5                   | 2.5                   |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 928 to 929                                                                            | 5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | n/a                   | n/a                   |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 929 to 960                                                                            | 1.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | n/a                   | n/a                   |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |
| 2110 to 2220                                                                          | 10.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | n/a                   | n/a                   |                       |                       |          |      |      |      |           |     |     |      |            |     |     |     |            |     |     |     |            |     |     |     |            |     |     |     |              |      |     |     |

## 5.2 Field Strength of Spurious Radiation Measurement

Note: All bandwidths, modulation types and RB configurations were pretested, and it was found that minimum bandwidths, QPSK modulation and 1RB0 were the worst modes, and only the worst modes were reflected in the report.

### CAT-M:

| LTE band 2 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3701.40                                                                                                            | -59.90              | -0.36       | -60.26      | -13.00      | 47.26       | Vertical     |
| 5552.10                                                                                                            | -62.21              | 4.16        | -58.05      | -13.00      | 45.05       | Vertical     |
| 7402.00                                                                                                            | -62.88              | 6.10        | -56.78      | -13.00      | 43.78       | Vertical     |
| 3701.40                                                                                                            | -60.80              | -0.17       | -60.97      | -13.00      | 47.97       | Horizontal   |
| 5552.10                                                                                                            | -62.83              | 4.07        | -58.76      | -13.00      | 45.76       | Horizontal   |
| 7402.00                                                                                                            | -63.19              | 5.78        | -57.41      | -13.00      | 44.41       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3760.00                                                                                                            | -59.46              | -1.01       | -60.47      | -13.00      | 47.47       | Vertical     |
| 5640.00                                                                                                            | -61.47              | 3.96        | -57.51      | -13.00      | 44.51       | Vertical     |
| 7520.00                                                                                                            | -61.83              | 5.55        | -56.28      | -13.00      | 43.28       | Vertical     |
| 3760.00                                                                                                            | -60.29              | -0.56       | -60.85      | -13.00      | 47.85       | Horizontal   |
| 5640.00                                                                                                            | -61.77              | 4.14        | -57.63      | -13.00      | 44.63       | Horizontal   |
| 7520.00                                                                                                            | -62.07              | 5.56        | -56.51      | -13.00      | 43.51       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3816.60                                                                                                            | -60.63              | -0.59       | -61.22      | -13.00      | 48.22       | Vertical     |
| 5724.90                                                                                                            | -62.64              | 3.42        | -59.22      | -13.00      | 46.22       | Vertical     |
| 7633.20                                                                                                            | -61.84              | 6.40        | -55.44      | -13.00      | 42.44       | Vertical     |
| 3816.60                                                                                                            | -61.45              | -0.10       | -61.55      | -13.00      | 48.55       | Horizontal   |
| 5724.90                                                                                                            | -62.62              | 3.80        | -58.82      | -13.00      | 45.82       | Horizontal   |
| 7633.20                                                                                                            | -63.01              | 6.24        | -56.77      | -13.00      | 43.77       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 4 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3421.40                                                                                                            | -60.65              | -2.15       | -62.80      | -13.00      | 49.80       | Vertical     |
| 5132.10                                                                                                            | -61.28              | 3.80        | -57.48      | -13.00      | 44.48       | Vertical     |
| 6842.80                                                                                                            | -62.09              | 5.86        | -56.23      | -13.00      | 43.23       | Vertical     |
| 3421.40                                                                                                            | -61.02              | -2.22       | -63.24      | -13.00      | 50.24       | Horizontal   |
| 5132.10                                                                                                            | -61.79              | 3.86        | -57.93      | -13.00      | 44.93       | Horizontal   |
| 6842.80                                                                                                            | -62.66              | 6.07        | -56.59      | -13.00      | 43.59       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3465.00                                                                                                            | -59.66              | -2.54       | -62.20      | -13.00      | 49.20       | Vertical     |
| 5197.50                                                                                                            | -61.21              | 3.25        | -57.96      | -13.00      | 44.96       | Vertical     |
| 6930.00                                                                                                            | -61.51              | 5.20        | -56.31      | -13.00      | 43.31       | Vertical     |
| 3465.00                                                                                                            | -59.98              | -2.54       | -62.52      | -13.00      | 49.52       | Horizontal   |
| 5197.50                                                                                                            | -61.13              | 3.17        | -57.96      | -13.00      | 44.96       | Horizontal   |
| 6930.00                                                                                                            | -61.65              | 5.17        | -56.48      | -13.00      | 43.48       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3508.60                                                                                                            | -60.62              | -3.13       | -63.75      | -13.00      | 50.75       | Vertical     |
| 5262.90                                                                                                            | -62.22              | 3.11        | -59.11      | -13.00      | 46.11       | Vertical     |
| 7017.20                                                                                                            | -62.24              | 5.74        | -56.50      | -13.00      | 43.50       | Vertical     |
| 3508.60                                                                                                            | -60.98              | -2.96       | -63.94      | -13.00      | 50.94       | Horizontal   |
| 5262.90                                                                                                            | -61.61              | 3.46        | -58.15      | -13.00      | 45.15       | Horizontal   |
| 7017.20                                                                                                            | -61.99              | 5.80        | -56.19      | -13.00      | 43.19       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |



| LTE band 5 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1649.40                                                                                                            | -44.97              | -11.51      | -56.48      | -13.00      | 43.48       | Vertical     |
| 2474.10                                                                                                            | -61.53              | -8.67       | -70.20      | -13.00      | 57.20       | Vertical     |
| 3298.80                                                                                                            | -62.02              | -3.89       | -65.91      | -13.00      | 52.91       | Vertical     |
| 1649.40                                                                                                            | -43.07              | -10.85      | -53.92      | -13.00      | 40.92       | Horizontal   |
| 2474.10                                                                                                            | -60.24              | -9.13       | -69.37      | -13.00      | 56.37       | Horizontal   |
| 3298.80                                                                                                            | -61.23              | -3.96       | -65.19      | -13.00      | 52.19       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1673.30                                                                                                            | -44.07              | -10.70      | -54.77      | -13.00      | 41.77       | Vertical     |
| 2509.50                                                                                                            | -60.98              | -8.66       | -69.64      | -13.00      | 56.64       | Vertical     |
| 3346.00                                                                                                            | -60.87              | -3.33       | -64.20      | -13.00      | 51.20       | Vertical     |
| 1673.30                                                                                                            | -42.66              | -10.28      | -52.94      | -13.00      | 39.94       | Horizontal   |
| 2509.50                                                                                                            | -59.93              | -8.73       | -68.66      | -13.00      | 55.66       | Horizontal   |
| 3346.00                                                                                                            | -60.73              | -3.42       | -64.15      | -13.00      | 51.15       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1696.60                                                                                                            | -45.26              | -9.90       | -55.16      | -13.00      | 42.16       | Vertical     |
| 2544.90                                                                                                            | -61.06              | -8.45       | -69.51      | -13.00      | 56.51       | Vertical     |
| 3393.20                                                                                                            | -61.56              | -2.59       | -64.15      | -13.00      | 51.15       | Vertical     |
| 1696.60                                                                                                            | -43.85              | -9.70       | -53.55      | -13.00      | 40.55       | Horizontal   |
| 2544.90                                                                                                            | -61.10              | -8.21       | -69.31      | -13.00      | 56.31       | Horizontal   |
| 3393.20                                                                                                            | -60.99              | -2.65       | -63.64      | -13.00      | 50.64       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 12 – 1.4 MHz bandwidth                                                                                    |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1399.40                                                                                                            | -50.27              | -11.68      | -61.95      | -13.00      | 48.95       | Vertical     |
| 2099.10                                                                                                            | -60.11              | -9.89       | -70.00      | -13.00      | 57.00       | Vertical     |
| 2798.80                                                                                                            | -61.52              | -7.09       | -68.61      | -13.00      | 55.61       | Vertical     |
| 1399.40                                                                                                            | -50.66              | -11.43      | -62.09      | -13.00      | 49.09       | Horizontal   |
| 2099.10                                                                                                            | -57.81              | -9.44       | -67.25      | -13.00      | 54.25       | Horizontal   |
| 2798.80                                                                                                            | -61.39              | -6.71       | -68.10      | -13.00      | 55.10       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1415.00                                                                                                            | -49.12              | -11.77      | -60.89      | -13.00      | 47.89       | Vertical     |
| 2122.50                                                                                                            | -59.41              | -9.58       | -68.99      | -13.00      | 55.99       | Vertical     |
| 2830.00                                                                                                            | -60.83              | -6.50       | -67.33      | -13.00      | 54.33       | Vertical     |
| 1415.00                                                                                                            | -50.41              | -11.45      | -61.86      | -13.00      | 48.86       | Horizontal   |
| 2122.50                                                                                                            | -56.83              | -8.86       | -65.69      | -13.00      | 52.69       | Horizontal   |
| 2830.00                                                                                                            | -61.13              | -5.97       | -67.10      | -13.00      | 54.10       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1430.60                                                                                                            | -50.06              | -11.92      | -61.98      | -13.00      | 48.98       | Vertical     |
| 2145.90                                                                                                            | -59.63              | -9.51       | -69.14      | -13.00      | 56.14       | Vertical     |
| 2861.20                                                                                                            | -61.59              | -5.55       | -67.14      | -13.00      | 54.14       | Vertical     |
| 1430.60                                                                                                            | -50.50              | -11.66      | -62.16      | -13.00      | 49.16       | Horizontal   |
| 2145.90                                                                                                            | -57.58              | -9.15       | -66.73      | -13.00      | 53.73       | Horizontal   |
| 2861.20                                                                                                            | -61.48              | -5.44       | -66.92      | -13.00      | 53.92       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 13 – 5 MHz bandwidth                                                                                      |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1559.00                                                                                                            | -42.89              | -11.55      | -54.44      | -13.00      | 41.44       | Vertical     |
| 2338.50                                                                                                            | -55.40              | -9.40       | -64.80      | -13.00      | 51.80       | Vertical     |
| 3118.00                                                                                                            | -60.36              | -2.81       | -63.17      | -13.00      | 50.17       | Vertical     |
| 1559.00                                                                                                            | -41.06              | -12.18      | -53.24      | -13.00      | 40.24       | Horizontal   |
| 2338.50                                                                                                            | -48.81              | -9.26       | -58.07      | -13.00      | 45.07       | Horizontal   |
| 3118.00                                                                                                            | -60.80              | -3.05       | -63.85      | -13.00      | 50.85       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1564.00                                                                                                            | -41.93              | -11.57      | -53.50      | -13.00      | 40.50       | Vertical     |
| 2346.00                                                                                                            | -55.23              | -9.38       | -64.61      | -13.00      | 51.61       | Vertical     |
| 3128.00                                                                                                            | -59.64              | -2.66       | -62.30      | -13.00      | 49.30       | Vertical     |
| 1564.00                                                                                                            | -40.00              | -12.12      | -52.12      | -13.00      | 39.12       | Horizontal   |
| 2346.00                                                                                                            | -48.36              | -9.27       | -57.63      | -13.00      | 44.63       | Horizontal   |
| 3128.00                                                                                                            | -59.77              | -3.01       | -62.78      | -13.00      | 49.78       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1569.00                                                                                                            | -42.87              | -11.63      | -54.50      | -13.00      | 41.50       | Vertical     |
| 2353.50                                                                                                            | -55.66              | -9.35       | -65.01      | -13.00      | 52.01       | Vertical     |
| 3138.00                                                                                                            | -59.71              | -2.48       | -62.19      | -13.00      | 49.19       | Vertical     |
| 1569.00                                                                                                            | -40.06              | -12.06      | -52.12      | -13.00      | 39.12       | Horizontal   |
| 2353.50                                                                                                            | -49.49              | -9.28       | -58.77      | -13.00      | 45.77       | Horizontal   |
| 3138.00                                                                                                            | -60.44              | -2.96       | -63.40      | -13.00      | 50.40       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 25 – 1.4 MHz bandwidth                                                                                    |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3701.40                                                                                                            | -60.23              | -0.36       | -60.59      | -13.00      | 47.59       | Vertical     |
| 5552.10                                                                                                            | -62.72              | 4.16        | -58.56      | -13.00      | 45.56       | Vertical     |
| 7402.80                                                                                                            | -61.83              | 6.10        | -55.73      | -13.00      | 42.73       | Vertical     |
| 3701.40                                                                                                            | -60.68              | -0.17       | -60.85      | -13.00      | 47.85       | Horizontal   |
| 5552.10                                                                                                            | -62.18              | 4.07        | -58.11      | -13.00      | 45.11       | Horizontal   |
| 7402.80                                                                                                            | -62.24              | 5.76        | -56.48      | -13.00      | 43.48       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3765.00                                                                                                            | -59.78              | -1.01       | -60.79      | -13.00      | 47.79       | Vertical     |
| 5647.50                                                                                                            | -61.73              | 3.85        | -57.88      | -13.00      | 44.88       | Vertical     |
| 7530.00                                                                                                            | -61.78              | 5.56        | -56.22      | -13.00      | 43.22       | Vertical     |
| 3765.00                                                                                                            | -60.44              | -0.54       | -60.98      | -13.00      | 47.98       | Horizontal   |
| 5647.50                                                                                                            | -61.59              | 4.08        | -57.51      | -13.00      | 44.51       | Horizontal   |
| 7530.00                                                                                                            | -62.11              | 5.56        | -56.55      | -13.00      | 43.55       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3828.60                                                                                                            | -60.54              | -0.36       | -60.90      | -13.00      | 47.90       | Vertical     |
| 5742.90                                                                                                            | -62.47              | 3.50        | -58.97      | -13.00      | 45.97       | Vertical     |
| 7657.20                                                                                                            | -62.91              | 6.54        | -56.37      | -13.00      | 43.37       | Vertical     |
| 3828.60                                                                                                            | -60.61              | 0.06        | -60.55      | -13.00      | 47.55       | Horizontal   |
| 5742.90                                                                                                            | -61.71              | 3.85        | -57.86      | -13.00      | 44.86       | Horizontal   |
| 7657.20                                                                                                            | -62.32              | 6.33        | -55.99      | -13.00      | 42.99       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

**NB-IOT:**

| LTE band 2 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3701.40                                                                                                            | -59.54              | -0.36       | -59.90      | -13.00      | 46.90       | Vertical     |
| 5552.10                                                                                                            | -62.12              | 4.16        | -57.96      | -13.00      | 44.96       | Vertical     |
| 7402.00                                                                                                            | -61.82              | 6.10        | -55.72      | -13.00      | 42.72       | Vertical     |
| 3701.40                                                                                                            | -60.65              | -0.17       | -60.82      | -13.00      | 47.82       | Horizontal   |
| 5552.10                                                                                                            | -62.02              | 4.07        | -57.95      | -13.00      | 44.95       | Horizontal   |
| 7402.00                                                                                                            | -62.77              | 5.78        | -56.99      | -13.00      | 43.99       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3760.00                                                                                                            | -59.29              | -1.01       | -60.30      | -13.00      | 47.30       | Vertical     |
| 5640.00                                                                                                            | -61.29              | 3.96        | -57.33      | -13.00      | 44.33       | Vertical     |
| 7520.00                                                                                                            | -61.52              | 5.55        | -55.97      | -13.00      | 42.97       | Vertical     |
| 3760.00                                                                                                            | -60.24              | -0.56       | -60.80      | -13.00      | 47.80       | Horizontal   |
| 5640.00                                                                                                            | -61.58              | 4.14        | -57.44      | -13.00      | 44.44       | Horizontal   |
| 7520.00                                                                                                            | -62.06              | 5.56        | -56.50      | -13.00      | 43.50       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3816.60                                                                                                            | -59.99              | -0.59       | -60.58      | -13.00      | 47.58       | Vertical     |
| 5724.90                                                                                                            | -61.39              | 3.42        | -57.97      | -13.00      | 44.97       | Vertical     |
| 7633.20                                                                                                            | -62.13              | 6.40        | -55.73      | -13.00      | 42.73       | Vertical     |
| 3816.60                                                                                                            | -60.63              | -0.10       | -60.73      | -13.00      | 47.73       | Horizontal   |
| 5724.90                                                                                                            | -61.62              | 3.80        | -57.82      | -13.00      | 44.82       | Horizontal   |
| 7633.20                                                                                                            | -63.20              | 6.24        | -56.96      | -13.00      | 43.96       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 4 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3421.40                                                                                                            | -60.39              | -2.15       | -62.54      | -13.00      | 49.54       | Vertical     |
| 5132.10                                                                                                            | -61.03              | 3.80        | -57.23      | -13.00      | 44.23       | Vertical     |
| 6842.80                                                                                                            | -61.65              | 5.86        | -55.79      | -13.00      | 42.79       | Vertical     |
| 3421.40                                                                                                            | -61.13              | -2.22       | -63.35      | -13.00      | 50.35       | Horizontal   |
| 5132.10                                                                                                            | -61.72              | 3.86        | -57.86      | -13.00      | 44.86       | Horizontal   |
| 6842.80                                                                                                            | -62.56              | 6.07        | -56.49      | -13.00      | 43.49       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3465.00                                                                                                            | -59.70              | -2.54       | -62.24      | -13.00      | 49.24       | Vertical     |
| 5197.50                                                                                                            | -60.87              | 3.25        | -57.62      | -13.00      | 44.62       | Vertical     |
| 6930.00                                                                                                            | -61.39              | 5.20        | -56.19      | -13.00      | 43.19       | Vertical     |
| 3465.00                                                                                                            | -59.88              | -2.54       | -62.42      | -13.00      | 49.42       | Horizontal   |
| 5197.50                                                                                                            | -60.95              | 3.17        | -57.78      | -13.00      | 44.78       | Horizontal   |
| 6930.00                                                                                                            | -61.42              | 5.17        | -56.25      | -13.00      | 43.25       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3508.60                                                                                                            | -60.58              | -3.13       | -63.71      | -13.00      | 50.71       | Vertical     |
| 5262.90                                                                                                            | -60.95              | 3.11        | -57.84      | -13.00      | 44.84       | Vertical     |
| 7017.20                                                                                                            | -62.06              | 5.74        | -56.32      | -13.00      | 43.32       | Vertical     |
| 3508.60                                                                                                            | -60.65              | -2.96       | -63.61      | -13.00      | 50.61       | Horizontal   |
| 5262.90                                                                                                            | -61.40              | 3.46        | -57.94      | -13.00      | 44.94       | Horizontal   |
| 7017.20                                                                                                            | -61.46              | 5.80        | -55.66      | -13.00      | 42.66       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 5 – 1.4 MHz bandwidth                                                                                     |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1649.40                                                                                                            | -43.91              | -11.51      | -55.42      | -13.00      | 42.42       | Vertical     |
| 2474.10                                                                                                            | -62.21              | -8.67       | -70.88      | -13.00      | 57.88       | Vertical     |
| 3298.80                                                                                                            | -60.88              | -3.89       | -64.77      | -13.00      | 51.77       | Vertical     |
| 1649.40                                                                                                            | -45.68              | -10.85      | -56.53      | -13.00      | 43.53       | Horizontal   |
| 2474.10                                                                                                            | -60.73              | -9.13       | -69.86      | -13.00      | 56.86       | Horizontal   |
| 3298.80                                                                                                            | -61.16              | -3.96       | -65.12      | -13.00      | 52.12       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1673.30                                                                                                            | -43.62              | -10.70      | -54.32      | -13.00      | 41.32       | Vertical     |
| 2509.50                                                                                                            | -61.02              | -8.66       | -69.68      | -13.00      | 56.68       | Vertical     |
| 3346.00                                                                                                            | -60.55              | -3.33       | -63.88      | -13.00      | 50.88       | Vertical     |
| 1673.30                                                                                                            | -44.87              | -10.28      | -55.15      | -13.00      | 42.15       | Horizontal   |
| 2509.50                                                                                                            | -60.05              | -8.73       | -68.78      | -13.00      | 55.78       | Horizontal   |
| 3346.00                                                                                                            | -60.80              | -3.42       | -64.22      | -13.00      | 51.22       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1696.60                                                                                                            | -43.75              | -9.90       | -53.65      | -13.00      | 40.65       | Vertical     |
| 2544.90                                                                                                            | -61.02              | -8.45       | -69.47      | -13.00      | 56.47       | Vertical     |
| 3393.20                                                                                                            | -60.74              | -2.59       | -63.33      | -13.00      | 50.33       | Vertical     |
| 1696.60                                                                                                            | -45.24              | -9.70       | -54.94      | -13.00      | 41.94       | Horizontal   |
| 2544.90                                                                                                            | -60.98              | -8.21       | -69.19      | -13.00      | 56.19       | Horizontal   |
| 3393.20                                                                                                            | -61.95              | -2.65       | -64.60      | -13.00      | 51.60       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 12 – 1.4 MHz bandwidth                                                                                    |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1399.40                                                                                                            | -47.94              | -11.68      | -59.62      | -13.00      | 46.62       | Vertical     |
| 2099.10                                                                                                            | -57.66              | -9.89       | -67.55      | -13.00      | 54.55       | Vertical     |
| 2798.80                                                                                                            | -62.21              | -7.09       | -69.30      | -13.00      | 56.30       | Vertical     |
| 1399.40                                                                                                            | -46.83              | -11.43      | -58.26      | -13.00      | 45.26       | Horizontal   |
| 2099.10                                                                                                            | -57.88              | -9.44       | -67.32      | -13.00      | 54.32       | Horizontal   |
| 2798.80                                                                                                            | -61.02              | -6.71       | -67.73      | -13.00      | 54.73       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1415.00                                                                                                            | -47.90              | -11.77      | -59.67      | -13.00      | 46.67       | Vertical     |
| 2122.50                                                                                                            | -56.51              | -9.58       | -66.09      | -13.00      | 53.09       | Vertical     |
| 2830.00                                                                                                            | -61.04              | -6.50       | -67.54      | -13.00      | 54.54       | Vertical     |
| 1415.00                                                                                                            | -46.61              | -11.45      | -58.06      | -13.00      | 45.06       | Horizontal   |
| 2122.50                                                                                                            | -56.91              | -8.86       | -65.77      | -13.00      | 52.77       | Horizontal   |
| 2830.00                                                                                                            | -60.98              | -5.97       | -66.95      | -13.00      | 53.95       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1430.60                                                                                                            | -48.31              | -11.92      | -60.23      | -13.00      | 47.23       | Vertical     |
| 2145.90                                                                                                            | -57.32              | -9.51       | -66.83      | -13.00      | 53.83       | Vertical     |
| 2861.20                                                                                                            | -61.98              | -5.55       | -67.53      | -13.00      | 54.53       | Vertical     |
| 1430.60                                                                                                            | -47.14              | -11.66      | -58.80      | -13.00      | 45.80       | Horizontal   |
| 2145.90                                                                                                            | -58.14              | -9.15       | -67.29      | -13.00      | 54.29       | Horizontal   |
| 2861.20                                                                                                            | -61.87              | -5.44       | -67.31      | -13.00      | 54.31       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |



| LTE band 13 – 5 MHz bandwidth                                                                                      |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1559.00                                                                                                            | -43.46              | -11.55      | -55.01      | -13.00      | 42.01       | Vertical     |
| 2338.50                                                                                                            | -55.45              | -9.40       | -64.85      | -13.00      | 51.85       | Vertical     |
| 3118.00                                                                                                            | -59.71              | -2.81       | -62.52      | -13.00      | 49.52       | Vertical     |
| 1559.00                                                                                                            | -37.32              | -12.18      | -49.50      | -13.00      | 36.50       | Horizontal   |
| 2338.50                                                                                                            | -49.25              | -9.26       | -58.51      | -13.00      | 45.51       | Horizontal   |
| 3118.00                                                                                                            | -61.01              | -3.05       | -64.06      | -13.00      | 51.06       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1564.00                                                                                                            | -42.43              | -11.57      | -54.00      | -13.00      | 41.00       | Vertical     |
| 2346.00                                                                                                            | -54.59              | -9.38       | -63.97      | -13.00      | 50.97       | Vertical     |
| 3128.00                                                                                                            | -59.68              | -2.66       | -62.34      | -13.00      | 49.34       | Vertical     |
| 1564.00                                                                                                            | -36.93              | -12.12      | -49.05      | -13.00      | 36.05       | Horizontal   |
| 2346.00                                                                                                            | -48.74              | -9.27       | -58.01      | -13.00      | 45.01       | Horizontal   |
| 3128.00                                                                                                            | -59.93              | -3.01       | -62.94      | -13.00      | 49.94       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 1569.00                                                                                                            | -43.24              | -11.63      | -54.87      | -13.00      | 41.87       | Vertical     |
| 2353.50                                                                                                            | -55.20              | -9.35       | -64.55      | -13.00      | 51.55       | Vertical     |
| 3138.00                                                                                                            | -60.19              | -2.48       | -62.67      | -13.00      | 49.67       | Vertical     |
| 1569.00                                                                                                            | -36.98              | -12.06      | -49.04      | -13.00      | 36.04       | Horizontal   |
| 2353.50                                                                                                            | -48.84              | -9.28       | -58.12      | -13.00      | 45.12       | Horizontal   |
| 3138.00                                                                                                            | -60.28              | -2.96       | -63.24      | -13.00      | 50.24       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

| LTE band 25 – 1.4 MHz bandwidth                                                                                    |                     |             |             |             |             |              |
|--------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Lowest channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3701.40                                                                                                            | -60.86              | -0.36       | -61.22      | -13.00      | 48.22       | Vertical     |
| 5552.10                                                                                                            | -62.21              | 4.16        | -58.05      | -13.00      | 45.05       | Vertical     |
| 7402.80                                                                                                            | -62.02              | 6.10        | -55.92      | -13.00      | 42.92       | Vertical     |
| 3701.40                                                                                                            | -61.58              | -0.17       | -61.75      | -13.00      | 48.75       | Horizontal   |
| 5552.10                                                                                                            | -62.21              | 4.07        | -58.14      | -13.00      | 45.14       | Horizontal   |
| 7402.80                                                                                                            | -62.22              | 5.76        | -56.46      | -13.00      | 43.46       | Horizontal   |
| Middle channel                                                                                                     |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3765.00                                                                                                            | -59.93              | -1.01       | -60.94      | -13.00      | 47.94       | Vertical     |
| 5647.50                                                                                                            | -61.74              | 3.85        | -57.89      | -13.00      | 44.89       | Vertical     |
| 7530.00                                                                                                            | -61.94              | 5.56        | -56.38      | -13.00      | 43.38       | Vertical     |
| 3765.00                                                                                                            | -60.47              | -0.54       | -61.01      | -13.00      | 48.01       | Horizontal   |
| 5647.50                                                                                                            | -61.52              | 4.08        | -57.44      | -13.00      | 44.44       | Horizontal   |
| 7530.00                                                                                                            | -62.17              | 5.56        | -56.61      | -13.00      | 43.61       | Horizontal   |
| Highest channel                                                                                                    |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                    | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 3828.60                                                                                                            | -60.25              | -0.36       | -60.61      | -13.00      | 47.61       | Vertical     |
| 5742.90                                                                                                            | -61.96              | 3.50        | -58.46      | -13.00      | 45.46       | Vertical     |
| 7657.20                                                                                                            | -62.28              | 6.54        | -55.74      | -13.00      | 42.74       | Vertical     |
| 3828.60                                                                                                            | -61.34              | 0.06        | -61.28      | -13.00      | 48.28       | Horizontal   |
| 5742.90                                                                                                            | -62.52              | 3.85        | -58.67      | -13.00      | 45.67       | Horizontal   |
| 7657.20                                                                                                            | -63.34              | 6.33        | -57.01      | -13.00      | 44.01       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. |                     |             |             |             |             |              |

-----End of report-----