

TEST REPORT

Applicant Name : Vanstone Electronic (Beijing) Co., Ltd.
 Address : 3F No.2 Building, Aisino Corporation Park 18A, Xingshikou Road,
 Haidian District, Beijing, China 100195
 Report Number : SZXX1220215-04503-00B
 FCC ID: OWLV73

Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E

Sample Description

Product: Wireless POS Terminal
 Tested Model: V73
 Trademark: Aisino
 Date Received: 2022-02-15
 Date of Test: 2022-02-18 to 2022-03-21
 Report Date: 2022-03-22

| | |
|--------------|-------|
| Test Result: | Pass* |
|--------------|-------|

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

Prepared and Checked By:

Black Ding

Black Ding
 EMC Engineer

Approved By:

Candy Li

Candy Li
 EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk "**". Customer model name, addresses, names, trademarks etc. are not considered data.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

Shenzhen Accurate Technology Co., Ltd.

1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86 755-26503290

Fax: +86 755-26503396

Web: www.atc-lab.com

TABLE OF CONTENTS

| | |
|---|-----------|
| GENERAL INFORMATION | 3 |
| PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)..... | 3 |
| OBJECTIVE | 3 |
| TEST METHODOLOGY | 4 |
| MEASUREMENT UNCERTAINTY | 4 |
| TEST FACILITY | 4 |
| SYSTEM TEST CONFIGURATION | 5 |
| DESCRIPTION OF TEST CONFIGURATION | 5 |
| EQUIPMENT MODIFICATIONS | 5 |
| SUPPORT EQUIPMENT LIST AND DETAILS | 5 |
| SUPPORT CABLE DESCRIPTION | 6 |
| BLOCK DIAGRAM OF TEST SETUP | 6 |
| SUMMARY OF TEST RESULTS | 7 |
| TEST EQUIPMENT LIST | 8 |
| FCC §1.1307(B) & §2.1093 - RF EXPOSURE INFORMATION | 10 |
| FCC §2.1047 - MODULATION CHARACTERISTIC | 11 |
| FCC § 2.1046, § 22.913 (A) & § 24.232 (C); §27.50(A) (B) (C) (D) (H) - RF OUTPUT POWER | 12 |
| APPLICABLE STANDARD | 12 |
| TEST PROCEDURE | 12 |
| TEST DATA | 13 |
| FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53 - OCCUPIED BANDWIDTH | 30 |
| APPLICABLE STANDARD | 30 |
| TEST PROCEDURE | 30 |
| TEST DATA | 30 |
| FCC §2.1051, §22.917(A) & §24.238(A) & §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS .. | 31 |
| APPLICABLE STANDARD | 31 |
| TEST PROCEDURE | 31 |
| TEST DATA | 31 |
| FCC § 2.1053; § 22.917 (A);§ 24.238 (A); §27.53 - SPURIOUS RADIATED EMISSIONS | 32 |
| APPLICABLE STANDARD | 32 |
| TEST PROCEDURE | 32 |
| TEST DATA | 32 |
| FCC § 22.917 (A);§ 24.238 (A); §27.53 (C)(H)(M) - BAND EDGES | 37 |
| APPLICABLE STANDARD | 37 |
| TEST PROCEDURE | 37 |
| TEST DATA | 38 |
| FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY | 39 |
| APPLICABLE STANDARD | 39 |
| TEST PROCEDURE | 39 |
| TEST DATA | 40 |

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

| | |
|--|---|
| Product | Wireless POS Terminal |
| Trademark | Aisino |
| Tested Model | V73 |
| Frequency Range | GSM 850: 824-849MHz(TX); 869-894MHz(RX) PCS 1900: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 7: 2500-2570MHz(TX); 2620-2690MHz(RX) |
| Maximum Output Power (Conducted power) | GSM 850: 32.85dBm(GMSK), 26.27dBm(8PSK) PCS 1900: 29.40Bm(GMSK), 27.75dBm (8PSK) WCDMA Band 2: 23.00dBm; WCDMA Band 4:22.74dBm; WCDMA Band 5:23.18dBm LTE Band 2:22.66dBm; LTE Band 4:22.28dBm; LTE Band 5:22.62dBm; LTE Band 7:22.63dBm; |
| Modulation Technique | 2G: GMSK/8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM |
| Antenna Specification* | Internal Antenna (provided by the applicant): GSM 850: -2.3dBi PCS 1900: 3.03dBi WCDMA Band 2: 3.03dBi WCDMA Band 4: 1.89dBi WCDMA Band 5: -2.3dBi LTE Band 2: 3.03dBi LTE Band 4: 1.89dBi LTE Band 5: -2.3dBi LTE Band 7: 0.98dBi |
| Voltage Range | DC3.6V by battery or DC 5V from adapter |
| Sample serial number | SZXX1220215-04503E-RF-S1 (Assigned by ATC) |
| Sample/EUT Status | Good condition |
| Adapter1 Information | Model: SW-WA972 Input: 100-240V~, 50/60Hz, 0.5A Output: DC 5V, 2A |

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E, and Subpart 27 of the Federal Communication Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services
 Part 24 Subpart E - Personal Communication Services
 Part 27 - Miscellaneous Wireless Communications Services

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

| Parameter | | Uncertainty |
|------------------------------|-----------------|------------------------|
| Occupied Channel Bandwidth | | 5% |
| RF output power, conducted | | 0.73dB |
| Unwanted Emission, conducted | | 1.6dB |
| RF Frequency | | 0.082×10^{-7} |
| Emissions, Radiated | 30MHz - 1GHz | 4.28dB |
| | 1GHz - 18GHz | 4.98dB |
| | 18GHz - 26.5GHz | 5.06dB |
| Temperature | | 1°C |
| Humidity | | 6% |
| Supply voltages | | 0.4% |

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode.

The test items were performed with the EUT operating at testing mode. Test was performed with channels as below table:

| Band | Channel Bandwidth | Frequency |
|--------------|-------------------|------------------------------------|
| GSM 850 | 0.3 MHz | 824.2MHz, 836.6MHz, 848.8MHz |
| PCS 1900 | 0.3 MHz | 1850.2MHz, 1880.0MHz, 1909.8MHz; |
| WCDMA Band 2 | 4.2 MHz | 1852.4MHz, 1880.0MHz, 1907.6MHz; |
| WCDMA Band 4 | 4.2 MHz | 1712.4MHz, 1732.6MHz, 1752.6 MHz; |
| WCDMA Band 5 | 4.2 MHz | 826.4MHz, 836.6MHz, 846.6MHz |
| LTE Band 2 | 1.4 MHz | 1850.7MHz, 1880.0 MHz, 1909.3 MHz; |
| | 3.0 MHz | 1851.5MHz, 1880.0 MHz, 1908.5 MHz; |
| | 5.0 MHz | 1852.5MHz, 1880.0 MHz, 1907.5 MHz; |
| | 10.0 MHz | 1855MHz, 1880.0 MHz, 1905 MHz; |
| | 15.0 MHz | 1857.5MHz, 1880.0 MHz, 1902.5 MHz; |
| LTE Band 4 | 20.0 MHz | 1860MHz, 1880.0 MHz, 1900MHz; |
| | 1.4 MHz | 1710.7MHz, 1732.5MHz, 1754.3MHz; |
| | 3.0 MHz | 1711.5MHz, 1732.5MHz, 1753.5MHz |
| | 5.0 MHz | 1712.5MHz, 1732.5MHz, 1752.5MHz |
| | 10.0 MHz | 1715MHz, 1732.5MHz, 1750MHz |
| LTE Band 5 | 15.0 MHz | 1717.5MHz, 1732.5MHz, 1747.5MHz |
| | 20.0 MHz | 1720MHz, 1732.5MHz, 1745MHz |
| | 1.4 MHz | 824.7MHz, 836.5MHz, 848.3MHz |
| | 3.0 MHz | 825.5MHz, 836.5MHz, 847.5MHz |
| | 5.0 MHz | 826.5MHz, 836.5MHz, 846.5MHz |
| LTE Band 7 | 10.0 MHz | 829MHz, 836.5MHz, 844MHz |
| | 5.0 MHz | 2502.5MHz, 2535.0MHz, 2567.5MHz |
| | 10.0 MHz | 2505MHz, 2535.0MHz, 2565MHz |
| | 15.0 MHz | 2507.5MHz, 2535.0MHz, 2562.5MHz |
| | 20.0 MHz | 2510MHz, 2535.0MHz, 2560MHz |

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

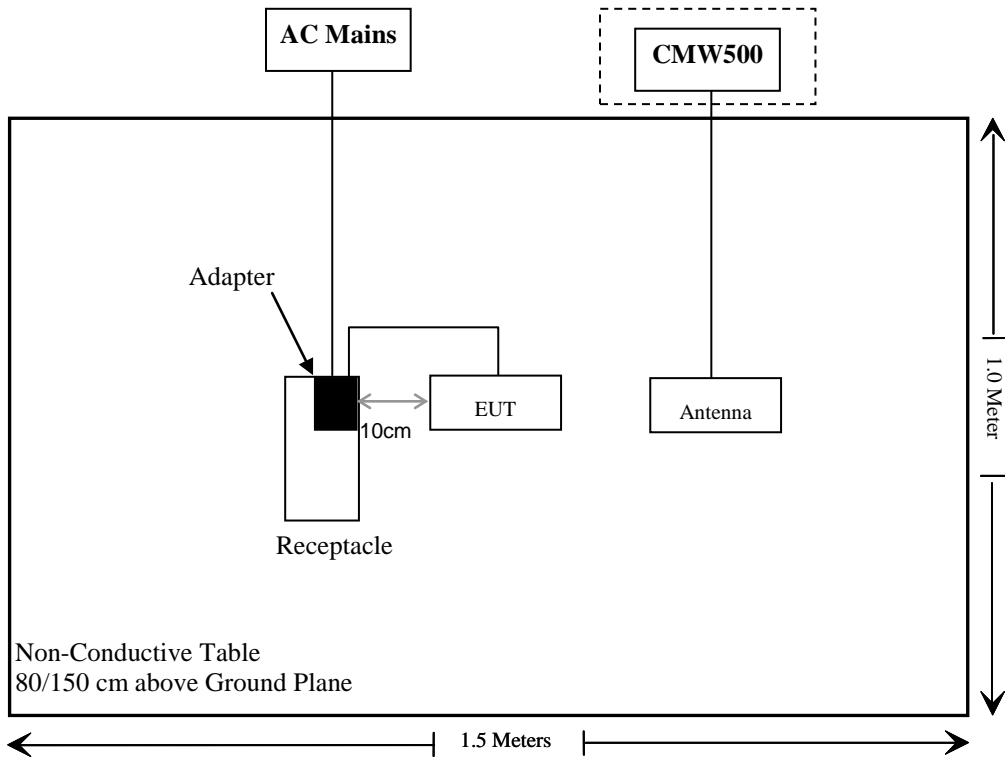
| Manufacturer | Description | Model | Serial Number |
|-----------------|-------------------------------------|--------|---------------|
| Rohde & Schwarz | Wideband Radio Communication Tester | CMW500 | 154606 |

Support Cable Description

| Cable Description | Length (m) | From / Port | To |
|---------------------------------|------------|-------------|-----|
| Unshielded Detachable USB Cable | 1.2 | Adapter | EUT |

Block Diagram of Test Setup

For Radiated emission:



SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|---|--|----------------|
| §1.1307 , §2.1093 | RF Exposure (SAR) | Compliant* |
| §2.1046; § 22.913 (a); § 24.232 (c); §27.50 (a) (b) (c) (d) (h); | RF Output Power | Compliant |
| § 2.1047 | Modulation Characteristics | Not Applicable |
| § 2.1049; § 22.905; § 22.917; § 24.238; §27.53 | Occupied Bandwidth | Compliant |
| § 2.1051; § 22.917 (a); § 24.238 (a); §27.53; | Spurious Emissions at Antenna Terminal | Compliant |
| § 2.1053; § 22.917 (a); § 24.238 (a); §27.53 | Field Strength of Spurious Radiation | Compliant |
| § 22.917 (a); § 24.238 (a); §27.53 (c) (h) (m) | Band Edge | Compliant |
| § 2.1055; § 22.355; § 24.235; §27.54; | Frequency stability | Compliant |

Note1: Compliant*: Please refer to SAR report number: SZXX1220215-04503E-SA.

Note2: Per FCC Part 15B, pre-test for resistive screen and capacitive screen, and the worst case about maximum emission is resistive screen, which was recorded in this report.

TEST EQUIPMENT LIST

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|--|-------------------------------------|---------------------|------------------------|------------------|----------------------|
| Radiated Emission Test | | | | | |
| Rohde & Schwarz | Spectrum Analyzer | FSV-40 | 101949 | 2021/12/13 | 2022/12/12 |
| Rohde & Schwarz | Wideband Radio Communication Tester | CMW500 | 154606 | 2021/12/13 | 2022/12/12 |
| Agilent | Signal Generator | N5183A | MY51040755 | 2021/12/13 | 2022/12/12 |
| A.H. Systems, inc. | Preamplifier | PAM-0118P | 135 | 2021/11/09 | 2022/11/08 |
| Quinstar | Amplifier | QLW-184055 36-J0 | 15964001002 | 2021/11/11 | 2022/11/10 |
| Rohde& Schwarz | Test Receiver | ESR | 102725 | 2021/12/13 | 2022/12/12 |
| SONOMA INSTRUMENT | Amplifier | 310 N | 186131 | 2021/11/09 | 2022/11/08 |
| Schwarzbeck | Bilog Antenna | VULB9163 | 9163-194 | 2020/01/05 | 2023/01/04 |
| Schwarzbeck | Bilog Antenna | VULB9163 | 9163-323 | 2021/07/06 | 2024/07/05 |
| Schwarzbeck | Horn Antenna | BBHA9120D | 9120D-655 | 2020/01/05 | 2023/01/04 |
| Schwarzbeck | Horn Antenna | BBHA9120D | 9120D-1067 | 2020/01/05 | 2023/01/04 |
| PASTERNAK | Horn Antenna | PE9852/2F-20 | 1120 (ATC-BA-024-1) | 2020/01/05 | 2023/01/04 |
| PASTERNAK | Horn Antenna | PE9852/2F-20 | 1120 (ATC-BA-025-1) | 2020/01/05 | 2023/01/04 |
| Unknown | RF Coaxial Cable | No.10 | N050 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.11 | N1000 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.12 | N040 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.13 | N300 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.14 | N800 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.15 | N600 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.16 | N650 | 2021/12/14 | 2022/12/13 |
| Radiated Emission Test Software: e3 19821b(V9) | | | | | |

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-------------------------------|---|-------------------------|---------------|------------------|----------------------|
| Radiated Emission Test | | | | | |
| Unknown | Band Reject Filter | MSF1850-191 OMS-1148 | ATCE-142 | 2021/12/14 | 2022/12/13 |
| Unknown | Band Reject Filter | MSF1710-178 5MS-1150 | ATCE-144 | 2021/12/14 | 2022/12/13 |
| Unknown | Band Reject Filter | MSF824-862 MS-1147 | ATCE-141 | 2021/12/14 | 2022/12/13 |
| Unknown | Band Reject Filter | MSF2495-257 OMS-1152 | ATCE-146 | 2021/12/14 | 2022/12/13 |
| Unknown | High Pass Filter | HPM-1.2/18G -60 | 110 | 2021/12/14 | 2022/12/13 |
| RF Conducted Test | | | | | |
| Rohde & Schwarz | Spectrum Analyzer | FSV-40 | 101495 | 2021/12/13 | 2022/12/12 |
| Rohde& Schwarz | Test Receiver | ESR | 101817 | 2021/12/13 | 2022/12/12 |
| Rohde & Schwarz | Wideband Radio Communication Tester | CMW500 | 154606 | 2021/12/13 | 2022/12/12 |
| Mini-Circuits | Power Splitter | DC-18000MHz | SF10944151S | 2021/12/13 | 2022/12/12 |
| UNI-T | DC Power Supply | UTP8305B | 10584 | NCR | NCR |
| Gongwen | Temp. & Humid. Chamber | HSD-500 | 109 | 2021/12/14 | 2022/12/13 |
| Unknown | RF Coaxial Cable | No.32 | RF-02 | Each time | |
| Unknown | RF Coaxial Cable | No.33 | RF-03 | Each time | |
| Fluke | Desktop Multi Meter | 45 | 7664009 | 2021/12/14 | 2022/12/13 |
| WEINSCHL | 10dB Attenuator | 5324 | AU 3842 | 2021/12/14 | 2022/12/13 |

* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1307(b) & §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: SZXX1220215-04503E-SA.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E & 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

**FCC § 2.1046, § 22.913 (a) & § 24.232 (c); §27.50(a) (b) (c) (d) (h) - RF
OUTPUT POWER**

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(a), (3) Mobile and portable stations. (i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

According to §27.50(b), Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

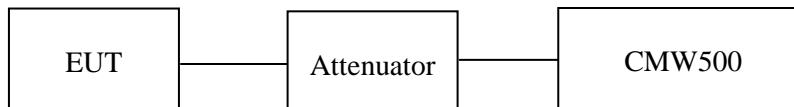
According to §27.50(c), Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP. And Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2500-2570MHz.

Test Procedure*Conducted method:*

The RF output of the transmitter was connected to the CMW500 through sufficient attenuation.

*Radiated method:*

ANSI C63.26-2015 Section 5.5.

Test Data**Environmental Conditions**

| | |
|---------------------------|-----------|
| Temperature: | 22-24 °C |
| Relative Humidity: | 49-52 % |
| ATM Pressure: | 101.0 kPa |

The testing was performed by Key Pei from 2022.02.18 to 2022.02.21

Conducted Power**Cellular Band (Part 22H)**

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | | | | ERP(dBm) | | | | Limit (dBm) |
|------|---------|-----------------|----------------------------|---------|---------|---------|-------------|---------|---------|---------|-------------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots | 1 slot | 2 slots | 3 slots | 4 slots | |
| GPRS | 128 | 824.2 | 32.85 | 31.60 | 29.71 | 28.45 | 27.4 | 26.15 | 24.26 | 23 | 38.45 |
| | 190 | 836.6 | 32.65 | 31.46 | 29.54 | 28.48 | 27.2 | 26.01 | 24.09 | 23.03 | 38.45 |
| | 251 | 848.8 | 32.58 | 31.40 | 29.26 | 28.70 | 27.13 | 25.95 | 23.81 | 23.25 | 38.45 |

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | | | | ERP(dBm) | | | | Limit (dBm) |
|-------|---------|-----------------|----------------------------|---------|---------|---------|--------------|---------|---------|---------|-------------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots | 1 slot | 2 slots | 3 slots | 4 slots | |
| EGPRS | 128 | 824.2 | 26.27 | 25.00 | 24.97 | 23.82 | 20.82 | 19.55 | 19.52 | 18.37 | 38.45 |
| | 190 | 836.6 | 26.17 | 24.86 | 24.84 | 23.67 | 20.72 | 19.41 | 19.39 | 18.22 | 38.45 |
| | 251 | 848.8 | 26.00 | 24.72 | 24.69 | 23.55 | 20.55 | 19.27 | 19.24 | 18.1 | 38.45 |

| Mode | Test Mode | 3GPP Sub Test | Average Output Power (dBm) | | | ERP(dBm) | | |
|-------------------|-----------|---------------|----------------------------|-------|-------|----------|-------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| WCDMA (Band 5) | RMC12.2k | | 23.08 | 23.15 | 23.18 | 17.63 | 17.7 | 17.73 |
| | HSDPA | 1 | 22.04 | 22.08 | 22.12 | 16.59 | 16.63 | 16.67 |
| | | 2 | 22.12 | 22.21 | 22.17 | 16.67 | 16.76 | 16.72 |
| | | 3 | 21.85 | 21.91 | 22.07 | 16.4 | 16.46 | 16.62 |
| | | 4 | 21.88 | 22.09 | 22.11 | 16.43 | 16.64 | 16.66 |
| | HSUPA | 1 | 21.65 | 21.70 | 21.76 | 16.2 | 16.25 | 16.31 |
| | | 2 | 21.58 | 21.56 | 21.97 | 16.13 | 16.11 | 16.52 |
| | | 3 | 21.68 | 21.59 | 21.60 | 16.23 | 16.14 | 16.15 |
| | | 4 | 21.60 | 21.81 | 21.73 | 16.15 | 16.36 | 16.28 |
| | | 5 | 21.63 | 21.67 | 21.97 | 16.18 | 16.22 | 16.52 |
| | HSPA+ | 1 | 21.23 | 21.77 | 21.57 | 15.78 | 16.32 | 16.12 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable loss(dB)
 For GSM850 / WCDMA Band5: Antenna Gain = -2.3dBi = -4.45dBd (0dBd=2.15dBi)
 Cable Loss=1dB* (provided by the applicant)
 Limit: ERP ≤ 38.45dBm

PCS Band (Part 24E)

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | | | | EIRP(dBm) | | | | Limit (dBm) |
|------|---------|-----------------|----------------------------|---------|---------|---------|--------------|---------|---------|---------|-------------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots | 1 slot | 2 slots | 3 slots | 4 slots | |
| GPRS | 512 | 1850.2 | 29.20 | 28.18 | 26.20 | 25.10 | 31.23 | 30.21 | 28.23 | 27.13 | 33 |
| | 661 | 1880.0 | 29.21 | 28.21 | 26.22 | 25.12 | 31.24 | 30.24 | 28.25 | 27.15 | 33 |
| | 810 | 1909.8 | 29.40 | 28.42 | 26.45 | 25.31 | 31.43 | 30.45 | 28.48 | 27.34 | 33 |

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | | | | EIRP(dBm) | | | | Limit (dBm) |
|-------|---------|-----------------|----------------------------|---------|---------|---------|--------------|---------|---------|---------|-------------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots | 1 slot | 2 slots | 3 slots | 4 slots | |
| EGPRS | 512 | 1850.2 | 27.75 | 26.62 | 25.58 | 24.61 | 29.78 | 28.65 | 27.61 | 26.64 | 33 |
| | 661 | 1880.0 | 27.08 | 25.90 | 24.87 | 24.02 | 29.11 | 27.93 | 26.9 | 26.05 | 33 |
| | 810 | 1909.8 | 26.75 | 25.58 | 24.54 | 23.70 | 28.78 | 27.61 | 26.57 | 25.73 | 33 |

| Mode | Test Mode | 3GPP Sub Test | Average Output Power (dBm) | | | EIRP(dBm) | | |
|----------------|-----------|---------------|----------------------------|-------|-------|--------------|-------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| WCDMA (Band 2) | RMC12.2k | | 23.00 | 22.92 | 22.97 | 25.03 | 24.95 | 25 |
| | HSDPA | 1 | 22.64 | 22.23 | 22.39 | 24.67 | 24.26 | 24.42 |
| | | 2 | 22.54 | 22.38 | 22.29 | 24.57 | 24.41 | 24.32 |
| | | 3 | 22.52 | 22.22 | 22.27 | 24.55 | 24.25 | 24.3 |
| | | 4 | 22.09 | 22.52 | 22.13 | 24.12 | 24.55 | 24.16 |
| | HSUPA | 1 | 21.96 | 21.85 | 21.71 | 23.99 | 23.88 | 23.74 |
| | | 2 | 21.79 | 21.96 | 21.54 | 23.82 | 23.99 | 23.57 |
| | | 3 | 21.88 | 21.71 | 21.63 | 23.91 | 23.74 | 23.66 |
| | | 4 | 21.98 | 21.75 | 21.73 | 24.01 | 23.78 | 23.76 |
| | | 5 | 21.86 | 21.67 | 21.61 | 23.89 | 23.7 | 23.64 |
| HSPA+ | 1 | 21.76 | 21.57 | 21.51 | 23.79 | 23.6 | 23.54 | |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For PCS1900 / WCDMA Band2: Antenna Gain = 3.03dBi
Cable Loss=1dB*(provided by the applicant)
Limit: EIRP≤33dBm

AWS Band

| Mode | Test Mode | 3GPP Sub Test | Average Output Power (dBm) | | | EIRP(dBm) | | |
|-------------------|-----------|---------------|----------------------------|-------|-------|--------------|-------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| WCDMA (Band 4) | RMC12.2k | | 22.74 | 22.70 | 22.68 | 23.63 | 23.59 | 23.57 |
| | HSDPA | 1 | 21.14 | 21.14 | 22.03 | 22.03 | 22.03 | 22.92 |
| | | 2 | 20.98 | 21.02 | 21.87 | 21.87 | 21.91 | 22.76 |
| | | 3 | 21.24 | 20.98 | 22.13 | 22.13 | 21.87 | 23.02 |
| | | 4 | 21.08 | 21.01 | 21.97 | 21.97 | 21.90 | 22.86 |
| | HSUPA | 1 | 21.09 | 21.15 | 21.98 | 21.98 | 22.04 | 22.87 |
| | | 2 | 21.08 | 20.85 | 21.97 | 21.97 | 21.74 | 22.86 |
| | | 3 | 21.11 | 21.07 | 22.00 | 22.00 | 21.96 | 22.89 |
| | | 4 | 21.09 | 21.05 | 21.98 | 21.98 | 21.94 | 22.87 |
| | | 5 | 21.07 | 21.03 | 21.96 | 21.96 | 21.92 | 22.85 |
| | HSPA+ | 1 | 21.06 | 20.98 | 21.95 | 21.95 | 21.87 | 22.84 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable Loss(dB)

For Band4: Antenna Gain = 1.89dBi

Cable Loss=1dB*(provided by the applicant)

Limit: EIRP ≤ 30dBm

LTE Band 2

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|--------------|--------------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| 1.4 | QPSK | RB1#0 | 21.96 | 22.36 | 22.39 | 23.99 | 24.39 | 24.42 |
| | | RB1#2 | 22.11 | 22.47 | 22.44 | 24.14 | 24.5 | 24.47 |
| | | RB1#5 | 21.99 | 22.15 | 22.50 | 24.02 | 24.18 | 24.53 |
| | | RB3#0 | 22.14 | 22.18 | 22.39 | 24.17 | 24.21 | 24.42 |
| | | RB3#1 | 22.33 | 22.51 | 22.27 | 24.36 | 24.54 | 24.3 |
| | | RB3#2 | 21.23 | 21.28 | 21.34 | 23.26 | 23.31 | 23.37 |
| | | RB6#0 | 20.57 | 20.87 | 20.65 | 22.6 | 22.9 | 22.68 |
| | 16QAM | RB1#0 | 21.34 | 21.24 | 21.43 | 23.37 | 23.27 | 23.46 |
| | | RB1#2 | 21.69 | 21.67 | 21.54 | 23.72 | 23.7 | 23.57 |
| | | RB1#5 | 21.54 | 21.45 | 21.40 | 23.57 | 23.48 | 23.43 |
| | | RB3#0 | 21.30 | 21.70 | 21.49 | 23.33 | 23.73 | 23.52 |
| | | RB3#1 | 21.16 | 21.41 | 21.45 | 23.19 | 23.44 | 23.48 |
| | | RB3#2 | 20.27 | 20.90 | 20.57 | 22.3 | 22.93 | 22.6 |
| | | RB6#0 | 20.12 | 20.15 | 20.13 | 22.15 | 22.18 | 22.16 |
| 3.0 | QPSK | RB1#0 | 22.11 | 22.61 | 22.57 | 24.14 | 24.64 | 24.6 |
| | | RB1#7 | 22.09 | 22.52 | 22.52 | 24.12 | 24.55 | 24.55 |
| | | RB1#14 | 22.26 | 22.41 | 22.57 | 24.29 | 24.44 | 24.6 |
| | | RB8#0 | 21.14 | 21.34 | 21.45 | 23.17 | 23.37 | 23.48 |
| | | RB8#4 | 21.24 | 21.33 | 21.38 | 23.27 | 23.36 | 23.41 |
| | | RB8#7 | 21.18 | 21.42 | 21.43 | 23.21 | 23.45 | 23.46 |
| | | RB15#0 | 20.51 | 20.48 | 20.68 | 22.54 | 22.51 | 22.71 |
| | 16QAM | RB1#0 | 21.37 | 21.93 | 21.67 | 23.4 | 23.96 | 23.7 |
| | | RB1#7 | 21.27 | 21.71 | 21.45 | 23.3 | 23.74 | 23.48 |
| | | RB1#14 | 21.40 | 21.75 | 21.49 | 23.43 | 23.78 | 23.52 |
| | | RB8#0 | 20.10 | 20.75 | 20.62 | 22.13 | 22.78 | 22.65 |
| | | RB8#4 | 20.21 | 20.74 | 20.59 | 22.24 | 22.77 | 22.62 |
| | | RB8#7 | 20.35 | 20.65 | 20.61 | 22.38 | 22.68 | 22.64 |
| | | RB15#0 | 20.54 | 20.24 | 20.48 | 22.57 | 22.27 | 22.51 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|--------------|--------------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| 5.0 | QPSK | RB1#0 | 22.15 | 22.22 | 22.57 | 24.18 | 24.25 | 24.6 |
| | | RB1#12 | 22.17 | 22.39 | 22.64 | 24.2 | 24.42 | 24.67 |
| | | RB1#24 | 22.19 | 22.36 | 22.46 | 24.22 | 24.39 | 24.49 |
| | | RB12#0 | 21.22 | 21.49 | 21.59 | 23.25 | 23.52 | 23.62 |
| | | RB12#6 | 21.20 | 21.37 | 21.52 | 23.23 | 23.4 | 23.55 |
| | | RB12#11 | 21.15 | 21.52 | 21.66 | 23.18 | 23.55 | 23.69 |
| | | RB25#0 | 20.68 | 20.84 | 20.69 | 22.71 | 22.87 | 22.72 |
| | 16QAM | RB1#0 | 20.84 | 21.77 | 21.35 | 22.87 | 23.8 | 23.38 |
| | | RB1#12 | 20.88 | 21.80 | 21.13 | 22.91 | 23.83 | 23.16 |
| | | RB1#24 | 20.60 | 21.75 | 21.14 | 22.63 | 23.78 | 23.17 |
| | | RB12#0 | 20.17 | 20.49 | 20.68 | 22.2 | 22.52 | 22.71 |
| | | RB12#6 | 20.33 | 20.35 | 20.52 | 22.36 | 22.38 | 22.55 |
| | | RB12#11 | 20.42 | 20.62 | 20.66 | 22.45 | 22.65 | 22.69 |
| | | RB25#0 | 20.25 | 20.54 | 20.43 | 22.28 | 22.57 | 22.46 |
| 10.0 | QPSK | RB1#0 | 22.32 | 22.43 | 22.27 | 24.35 | 24.46 | 24.3 |
| | | RB1#24 | 22.43 | 22.54 | 22.66 | 24.46 | 24.57 | 24.69 |
| | | RB1#49 | 22.51 | 22.35 | 22.12 | 24.54 | 24.38 | 24.15 |
| | | RB25#0 | 21.20 | 21.51 | 21.40 | 23.23 | 23.54 | 23.43 |
| | | RB25#12 | 21.38 | 21.42 | 21.32 | 23.41 | 23.45 | 23.35 |
| | | RB25#24 | 21.23 | 21.07 | 21.30 | 23.26 | 23.1 | 23.33 |
| | | RB50#0 | 20.84 | 20.68 | 20.79 | 22.87 | 22.71 | 22.82 |
| | 16QAM | RB1#0 | 21.73 | 21.64 | 21.28 | 23.76 | 23.67 | 23.31 |
| | | RB1#24 | 22.25 | 21.79 | 21.80 | 24.28 | 23.82 | 23.83 |
| | | RB1#49 | 22.32 | 21.64 | 21.29 | 24.35 | 23.67 | 23.32 |
| | | RB25#0 | 20.40 | 20.51 | 20.49 | 22.43 | 22.54 | 22.52 |
| | | RB25#12 | 20.52 | 20.28 | 20.61 | 22.55 | 22.31 | 22.64 |
| | | RB25#24 | 20.39 | 20.35 | 20.35 | 22.42 | 22.38 | 22.38 |
| | | RB50#0 | 20.19 | 20.26 | 20.24 | 22.22 | 22.29 | 22.27 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|-----------|--------------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| 15.0 | QPSK | RB1#0 | 21.63 | 21.92 | 21.76 | 23.66 | 23.95 | 23.79 |
| | | RB1#37 | 21.67 | 21.70 | 21.98 | 23.7 | 23.73 | 24.01 |
| | | RB1#74 | 21.61 | 21.84 | 21.82 | 23.64 | 23.87 | 23.85 |
| | | RB36#0 | 20.42 | 20.92 | 20.99 | 22.45 | 22.95 | 23.02 |
| | | RB36#18 | 20.62 | 20.66 | 21.14 | 22.65 | 22.69 | 23.17 |
| | | RB36#37 | 20.50 | 20.91 | 20.99 | 22.53 | 22.94 | 23.02 |
| | | RB75#0 | 20.26 | 20.68 | 20.74 | 22.29 | 22.71 | 22.77 |
| | 16QAM | RB1#0 | 21.02 | 21.31 | 21.00 | 23.05 | 23.34 | 23.03 |
| | | RB1#37 | 20.88 | 21.29 | 21.20 | 22.91 | 23.32 | 23.23 |
| | | RB1#74 | 20.81 | 21.32 | 20.88 | 22.84 | 23.35 | 22.91 |
| | | RB36#0 | 19.54 | 19.89 | 20.10 | 21.57 | 21.92 | 22.13 |
| | | RB36#18 | 19.59 | 19.82 | 20.10 | 21.62 | 21.85 | 22.13 |
| | | RB36#37 | 19.66 | 19.96 | 20.20 | 21.69 | 21.99 | 22.23 |
| | | RB75#0 | 19.36 | 19.48 | 19.89 | 21.39 | 21.51 | 21.92 |
| 20.0 | QPSK | RB1#0 | 21.67 | 22.20 | 22.06 | 23.7 | 24.23 | 24.09 |
| | | RB1#49 | 22.16 | 22.15 | 22.04 | 24.19 | 24.18 | 24.07 |
| | | RB1#99 | 22.00 | 22.08 | 21.86 | 24.03 | 24.11 | 23.89 |
| | | RB50#0 | 20.73 | 21.07 | 21.04 | 22.76 | 23.1 | 23.07 |
| | | RB50#24 | 20.90 | 20.89 | 21.16 | 22.93 | 22.92 | 23.19 |
| | | RB50#49 | 20.77 | 21.01 | 21.02 | 22.8 | 23.04 | 23.05 |
| | | RB100#0 | 20.48 | 20.69 | 20.87 | 22.51 | 22.72 | 22.9 |
| | 16QAM | RB1#0 | 21.21 | 21.03 | 21.79 | 23.24 | 23.06 | 23.82 |
| | | RB1#49 | 21.75 | 21.02 | 22.13 | 23.78 | 23.05 | 24.16 |
| | | RB1#99 | 21.52 | 20.48 | 21.73 | 23.55 | 22.51 | 23.76 |
| | | RB50#0 | 19.81 | 20.16 | 20.05 | 21.84 | 22.19 | 22.08 |
| | | RB50#24 | 20.00 | 19.95 | 20.33 | 22.03 | 21.98 | 22.36 |
| | | RB50#49 | 19.91 | 20.04 | 20.18 | 21.94 | 22.07 | 22.21 |
| | | RB100#0 | 19.74 | 19.86 | 19.98 | 21.77 | 21.89 | 22.01 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable Loss(dB)

For Band2: Antenna Gain = 3.03dBi

Cable Loss=1.0dB*(provided by the applicant)

Limit: EIRP ≤ 33dBm

LTE Band 4

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|-----------|--------------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| 1.4 | QPSK | RB1#0 | 21.71 | 21.79 | 21.55 | 22.6 | 22.68 | 22.44 |
| | | RB1#2 | 21.70 | 21.90 | 21.72 | 22.59 | 22.79 | 22.61 |
| | | RB1#5 | 21.73 | 21.81 | 21.64 | 22.62 | 22.7 | 22.53 |
| | | RB3#0 | 21.72 | 21.82 | 21.68 | 22.61 | 22.71 | 22.57 |
| | | RB3#1 | 21.47 | 21.88 | 21.76 | 22.36 | 22.77 | 22.65 |
| | | RB3#2 | 20.53 | 20.74 | 20.73 | 21.42 | 21.63 | 21.62 |
| | | RB6#0 | 20.42 | 20.56 | 20.48 | 21.31 | 21.45 | 21.37 |
| | 16QAM | RB1#0 | 20.62 | 20.98 | 20.66 | 21.51 | 21.87 | 21.55 |
| | | RB1#2 | 20.68 | 21.46 | 20.57 | 21.57 | 22.35 | 21.46 |
| | | RB1#5 | 20.29 | 21.01 | 20.45 | 21.18 | 21.9 | 21.34 |
| | | RB3#0 | 20.55 | 20.62 | 20.72 | 21.44 | 21.51 | 21.61 |
| | | RB3#1 | 20.65 | 20.69 | 20.82 | 21.54 | 21.58 | 21.71 |
| | | RB3#2 | 19.71 | 19.69 | 19.89 | 20.6 | 20.58 | 20.78 |
| | | RB6#0 | 19.36 | 19.54 | 19.68 | 20.25 | 20.43 | 20.57 |
| 3.0 | QPSK | RB1#0 | 21.66 | 21.89 | 21.57 | 22.55 | 22.78 | 22.46 |
| | | RB1#7 | 21.45 | 22.11 | 21.56 | 22.34 | 23 | 22.45 |
| | | RB1#14 | 21.48 | 22.28 | 21.69 | 22.37 | 23.17 | 22.58 |
| | | RB8#0 | 20.59 | 20.71 | 20.68 | 21.48 | 21.6 | 21.57 |
| | | RB8#4 | 20.61 | 20.91 | 20.77 | 21.5 | 21.8 | 21.66 |
| | | RB8#7 | 20.71 | 20.75 | 20.77 | 21.6 | 21.64 | 21.66 |
| | | RB15#0 | 20.34 | 20.52 | 20.46 | 21.23 | 21.41 | 21.35 |
| | 16QAM | RB1#0 | 20.85 | 21.50 | 20.33 | 21.74 | 22.39 | 21.22 |
| | | RB1#7 | 20.82 | 21.44 | 19.31 | 21.71 | 22.33 | 20.2 |
| | | RB1#14 | 20.86 | 21.58 | 19.59 | 21.75 | 22.47 | 20.48 |
| | | RB8#0 | 19.78 | 19.82 | 18.87 | 20.67 | 20.71 | 19.76 |
| | | RB8#4 | 19.61 | 20.15 | 18.83 | 20.5 | 21.04 | 19.72 |
| | | RB8#7 | 19.79 | 19.99 | 19.05 | 20.68 | 20.88 | 19.94 |
| | | RB15#0 | 19.53 | 19.68 | 19.12 | 20.42 | 20.57 | 20.01 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|--------------------|------------|-----------------------|---|-------|-------|-----------|--------------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| 5.0 | QPSK | RB1#0 | 20.88 | 21.15 | 21.16 | 21.77 | 22.04 | 22.05 |
| | | RB1#12 | 20.70 | 21.30 | 21.22 | 21.59 | 22.19 | 22.11 |
| | | RB1#24 | 20.70 | 21.20 | 21.50 | 21.59 | 22.09 | 22.39 |
| | | RB12#0 | 19.94 | 20.19 | 20.29 | 20.83 | 21.08 | 21.18 |
| | | RB12#6 | 19.49 | 20.34 | 20.25 | 20.38 | 21.23 | 21.14 |
| | | RB12#11 | 19.86 | 20.30 | 20.25 | 20.75 | 21.19 | 21.14 |
| | | RB25#0 | 19.42 | 19.53 | 19.27 | 20.31 | 20.42 | 20.16 |
| | 16QAM | RB1#0 | 20.02 | 20.43 | 20.00 | 20.91 | 21.32 | 20.89 |
| | | RB1#12 | 19.41 | 20.53 | 20.08 | 20.3 | 21.42 | 20.97 |
| | | RB1#24 | 19.24 | 20.56 | 19.84 | 20.13 | 21.45 | 20.73 |
| | | RB12#0 | 19.00 | 19.03 | 19.27 | 19.89 | 19.92 | 20.16 |
| | | RB12#6 | 18.87 | 19.55 | 19.46 | 19.76 | 20.44 | 20.35 |
| | | RB12#11 | 19.19 | 19.43 | 19.53 | 20.08 | 20.32 | 20.42 |
| | | RB25#0 | 19.24 | 19.37 | 19.26 | 20.13 | 20.26 | 20.15 |
| 10.0 | QPSK | RB1#0 | 21.07 | 21.34 | 21.71 | 21.96 | 22.23 | 22.6 |
| | | RB1#24 | 21.15 | 21.60 | 21.36 | 22.04 | 22.49 | 22.25 |
| | | RB1#49 | 21.32 | 21.34 | 21.48 | 22.21 | 22.23 | 22.37 |
| | | RB25#0 | 20.23 | 20.30 | 20.48 | 21.12 | 21.19 | 21.37 |
| | | RB25#12 | 20.27 | 20.49 | 20.29 | 21.16 | 21.38 | 21.18 |
| | | RB25#24 | 20.27 | 20.42 | 20.36 | 21.16 | 21.31 | 21.25 |
| | | RB50#0 | 20.16 | 20.18 | 20.22 | 21.05 | 21.07 | 21.11 |
| | 16QAM | RB1#0 | 21.01 | 20.74 | 20.66 | 21.9 | 21.63 | 21.55 |
| | | RB1#24 | 20.29 | 20.94 | 20.24 | 21.18 | 21.83 | 21.13 |
| | | RB1#49 | 20.09 | 20.86 | 20.29 | 20.98 | 21.75 | 21.18 |
| | | RB25#0 | 19.49 | 19.38 | 19.54 | 20.38 | 20.27 | 20.43 |
| | | RB25#12 | 19.30 | 19.82 | 19.59 | 20.19 | 20.71 | 20.48 |
| | | RB25#24 | 19.49 | 19.46 | 19.51 | 20.38 | 20.35 | 20.4 |
| | | RB50#0 | 19.39 | 19.42 | 19.35 | 20.28 | 20.31 | 20.24 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | EIRP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|-----------|--------------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| 15.0 | QPSK | RB1#0 | 21.28 | 21.30 | 21.41 | 22.17 | 22.19 | 22.3 |
| | | RB1#37 | 21.28 | 21.59 | 21.43 | 22.17 | 22.48 | 22.32 |
| | | RB1#74 | 21.55 | 21.40 | 21.47 | 22.44 | 22.29 | 22.36 |
| | | RB36#0 | 20.32 | 20.43 | 20.54 | 21.21 | 21.32 | 21.43 |
| | | RB36#18 | 20.42 | 20.54 | 20.48 | 21.31 | 21.43 | 21.37 |
| | | RB36#37 | 20.42 | 20.45 | 20.56 | 21.31 | 21.34 | 21.45 |
| | | RB75#0 | 20.28 | 20.31 | 20.42 | 21.17 | 21.2 | 21.31 |
| | 16QAM | RB1#0 | 20.67 | 20.80 | 20.59 | 21.56 | 21.69 | 21.48 |
| | | RB1#37 | 20.43 | 21.60 | 20.37 | 21.32 | 22.49 | 21.26 |
| | | RB1#74 | 20.84 | 21.58 | 19.78 | 21.73 | 22.47 | 20.67 |
| | | RB36#0 | 19.27 | 19.56 | 19.57 | 20.16 | 20.45 | 20.46 |
| | | RB36#18 | 19.52 | 19.59 | 19.62 | 20.41 | 20.48 | 20.51 |
| | | RB36#37 | 19.53 | 19.73 | 19.72 | 20.42 | 20.62 | 20.61 |
| | | RB75#0 | 19.35 | 19.63 | 19.32 | 20.24 | 20.52 | 20.21 |
| 20.0 | QPSK | RB1#0 | 21.39 | 21.54 | 22.06 | 22.28 | 22.43 | 22.95 |
| | | RB1#49 | 21.40 | 21.93 | 21.50 | 22.29 | 22.82 | 22.39 |
| | | RB1#99 | 21.74 | 21.92 | 21.60 | 22.63 | 22.81 | 22.49 |
| | | RB50#0 | 20.48 | 20.61 | 20.69 | 21.37 | 21.5 | 21.58 |
| | | RB50#24 | 20.58 | 20.72 | 20.59 | 21.47 | 21.61 | 21.48 |
| | | RB50#49 | 20.53 | 20.58 | 20.66 | 21.42 | 21.47 | 21.55 |
| | | RB100#0 | 20.23 | 20.33 | 20.42 | 21.12 | 21.22 | 21.31 |
| | 16QAM | RB1#0 | 20.90 | 20.59 | 21.40 | 21.79 | 21.48 | 22.29 |
| | | RB1#49 | 21.11 | 20.75 | 21.43 | 22 | 21.64 | 22.32 |
| | | RB1#99 | 20.99 | 20.49 | 21.38 | 21.88 | 21.38 | 22.27 |
| | | RB50#0 | 19.55 | 19.71 | 19.79 | 20.44 | 20.6 | 20.68 |
| | | RB50#24 | 19.75 | 19.87 | 19.46 | 20.64 | 20.76 | 20.35 |
| | | RB50#49 | 19.64 | 19.80 | 19.79 | 20.53 | 20.69 | 20.68 |
| | | RB100#0 | 19.44 | 19.71 | 19.68 | 20.33 | 20.6 | 20.57 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable Loss(dB)

For Band4: Antenna Gain = 1.89dBi

Cable Loss=1.0dB*(provided by the applicant)

Limit: EIRP ≤ 30dBm

LTE Band 5

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | ERP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|--------------|-------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| 1.4 | QPSK | RB1#0 | 22.24 | 22.42 | 22.45 | 16.79 | 16.97 | 17 |
| | | RB1#2 | 22.62 | 22.26 | 22.39 | 17.17 | 16.81 | 16.94 |
| | | RB1#5 | 22.40 | 22.12 | 22.14 | 16.95 | 16.67 | 16.69 |
| | | RB3#0 | 21.86 | 21.92 | 21.89 | 16.41 | 16.47 | 16.44 |
| | | RB3#1 | 21.80 | 21.83 | 21.91 | 16.35 | 16.38 | 16.46 |
| | | RB3#2 | 21.80 | 21.80 | 21.73 | 16.35 | 16.35 | 16.28 |
| | | RB6#0 | 21.65 | 21.59 | 20.74 | 16.2 | 16.14 | 15.29 |
| | 16QAM | RB1#0 | 21.79 | 21.47 | 22.25 | 16.34 | 16.02 | 16.8 |
| | | RB1#2 | 22.33 | 22.24 | 22.28 | 16.88 | 16.79 | 16.83 |
| | | RB1#5 | 22.23 | 22.24 | 22.14 | 16.78 | 16.79 | 16.69 |
| | | RB3#0 | 22.05 | 22.23 | 21.86 | 16.6 | 16.78 | 16.41 |
| | | RB3#1 | 21.04 | 21.02 | 21.05 | 15.59 | 15.57 | 15.6 |
| | | RB3#2 | 20.99 | 20.95 | 20.96 | 15.54 | 15.5 | 15.51 |
| 3.0 | QPSK | RB1#0 | 22.19 | 22.43 | 22.41 | 16.74 | 16.98 | 16.96 |
| | | RB1#7 | 22.61 | 22.25 | 22.33 | 17.16 | 16.8 | 16.88 |
| | | RB1#14 | 22.42 | 22.12 | 22.17 | 16.97 | 16.67 | 16.72 |
| | | RB8#0 | 21.85 | 21.90 | 21.91 | 16.4 | 16.45 | 16.46 |
| | | RB8#4 | 21.78 | 21.86 | 21.91 | 16.33 | 16.41 | 16.46 |
| | | RB8#7 | 21.78 | 21.76 | 21.76 | 16.33 | 16.31 | 16.31 |
| | | RB15#0 | 21.36 | 21.52 | 21.37 | 15.91 | 16.07 | 15.92 |
| | 16QAM | RB1#0 | 21.80 | 21.50 | 22.26 | 16.35 | 16.05 | 16.81 |
| | | RB1#7 | 22.32 | 22.20 | 22.30 | 16.87 | 16.75 | 16.85 |
| | | RB1#14 | 22.19 | 22.25 | 22.10 | 16.74 | 16.8 | 16.65 |
| | | RB8#0 | 22.05 | 22.22 | 21.86 | 16.6 | 16.77 | 16.41 |
| | | RB8#4 | 21.04 | 21.02 | 21.05 | 15.59 | 15.57 | 15.6 |
| | | RB8#7 | 20.99 | 20.94 | 20.94 | 15.54 | 15.49 | 15.49 |
| | | RB15#0 | 20.66 | 20.57 | 20.68 | 15.21 | 15.12 | 15.23 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | ERP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|--------------|-------|--------------|
| | | | Low | Mid | High | Low | Mid | High |
| 5.0 | QPSK | RB1#0 | 21.83 | 22.38 | 22.46 | 16.38 | 16.93 | 17.01 |
| | | RB1#12 | 22.58 | 22.30 | 22.38 | 17.13 | 16.85 | 16.93 |
| | | RB1#24 | 22.39 | 22.12 | 22.17 | 16.94 | 16.67 | 16.72 |
| | | RB12#0 | 21.84 | 21.92 | 21.95 | 16.39 | 16.47 | 16.5 |
| | | RB12#6 | 21.82 | 21.86 | 21.92 | 16.37 | 16.41 | 16.47 |
| | | RB12#11 | 21.75 | 21.78 | 21.76 | 16.3 | 16.33 | 16.31 |
| | | RB25#0 | 20.58 | 20.43 | 20.68 | 15.13 | 14.98 | 15.23 |
| | 16QAM | RB1#0 | 21.78 | 21.50 | 22.31 | 16.33 | 16.05 | 16.86 |
| | | RB1#12 | 22.34 | 22.20 | 22.26 | 16.89 | 16.75 | 16.81 |
| | | RB1#24 | 22.23 | 22.24 | 22.11 | 16.78 | 16.79 | 16.66 |
| | | RB12#0 | 22.03 | 22.24 | 21.88 | 16.58 | 16.79 | 16.43 |
| | | RB12#6 | 21.09 | 21.01 | 21.05 | 15.64 | 15.56 | 15.6 |
| | | RB12#11 | 20.99 | 20.94 | 20.95 | 15.54 | 15.49 | 15.5 |
| | | RB25#0 | 20.59 | 20.51 | 20.36 | 15.14 | 15.06 | 14.91 |
| 10.0 | QPSK | RB1#0 | 21.57 | 22.44 | 22.41 | 16.12 | 16.99 | 16.96 |
| | | RB1#24 | 22.62 | 22.32 | 22.36 | 17.17 | 16.87 | 16.91 |
| | | RB1#49 | 22.39 | 22.14 | 22.16 | 16.94 | 16.69 | 16.71 |
| | | RB25#0 | 21.83 | 21.89 | 21.91 | 16.38 | 16.44 | 16.46 |
| | | RB25#12 | 21.81 | 21.86 | 21.91 | 16.36 | 16.41 | 16.46 |
| | | RB25#24 | 21.82 | 21.78 | 21.74 | 16.37 | 16.33 | 16.29 |
| | | RB50#0 | 20.94 | 20.75 | 20.68 | 15.49 | 15.3 | 15.23 |
| | 16QAM | RB1#0 | 21.78 | 21.51 | 22.33 | 16.33 | 16.06 | 16.88 |
| | | RB1#24 | 22.31 | 22.22 | 22.28 | 16.86 | 16.77 | 16.83 |
| | | RB1#49 | 22.24 | 22.24 | 22.12 | 16.79 | 16.79 | 16.67 |
| | | RB25#0 | 22.04 | 22.23 | 21.87 | 16.59 | 16.78 | 16.42 |
| | | RB25#12 | 21.04 | 21.16 | 21.06 | 15.59 | 15.71 | 15.61 |
| | | RB25#24 | 20.99 | 20.98 | 20.98 | 15.54 | 15.53 | 15.53 |
| | | RB50#0 | 20.61 | 20.46 | 20.42 | 15.16 | 15.01 | 14.97 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable Loss(dB)

For Band5: Antenna Gain = -2.3dBi = -4.45dBd (0dBd=2.15dBi)

Cable Loss=1dB* (provided by the applicant)

Limit: ERP ≤ 38.45dBm

LTE Band 7

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | ERP(dBm) | | |
|--------------------|------------|-----------------------|---|-------|-------|--------------|-------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| 5 | QPSK | RB1#0 | 21.68 | 22.41 | 22.44 | 21.66 | 22.39 | 22.42 |
| | | RB1#2 | 22.61 | 22.30 | 22.37 | 22.59 | 22.28 | 22.35 |
| | | RB1#5 | 22.42 | 22.11 | 22.15 | 22.4 | 22.09 | 22.13 |
| | | RB3#0 | 21.84 | 21.92 | 21.91 | 21.82 | 21.9 | 21.89 |
| | | RB3#1 | 21.80 | 21.85 | 21.93 | 21.78 | 21.83 | 21.91 |
| | | RB3#2 | 21.76 | 21.79 | 21.72 | 21.74 | 21.77 | 21.7 |
| | | RB6#0 | 20.84 | 20.58 | 20.67 | 20.82 | 20.56 | 20.65 |
| | 16QAM | RB1#0 | 21.77 | 21.48 | 22.29 | 21.75 | 21.46 | 22.27 |
| | | RB1#2 | 22.33 | 22.23 | 22.29 | 22.31 | 22.21 | 22.27 |
| | | RB1#5 | 22.21 | 22.22 | 22.09 | 22.19 | 22.2 | 22.07 |
| | | RB3#0 | 22.03 | 22.26 | 21.86 | 22.01 | 22.24 | 21.84 |
| | | RB3#1 | 21.04 | 21.03 | 21.06 | 21.02 | 21.01 | 21.04 |
| | | RB3#2 | 20.95 | 20.97 | 21.05 | 20.93 | 20.95 | 21.03 |
| 10 | QPSK | RB1#0 | 22.06 | 22.43 | 22.42 | 22.04 | 22.41 | 22.4 |
| | | RB1#7 | 22.58 | 22.29 | 22.35 | 22.56 | 22.27 | 22.33 |
| | | RB1#14 | 22.40 | 22.11 | 22.14 | 22.38 | 22.09 | 22.12 |
| | | RB8#0 | 21.86 | 21.89 | 21.94 | 21.84 | 21.87 | 21.92 |
| | | RB8#4 | 21.80 | 21.86 | 21.88 | 21.78 | 21.84 | 21.86 |
| | | RB8#7 | 21.77 | 21.78 | 21.72 | 21.75 | 21.76 | 21.7 |
| | | RB15#0 | 21.32 | 21.41 | 21.21 | 21.3 | 21.39 | 21.19 |
| | 16QAM | RB1#0 | 21.78 | 21.51 | 22.28 | 21.76 | 21.49 | 22.26 |
| | | RB1#7 | 22.31 | 22.24 | 22.29 | 22.29 | 22.22 | 22.27 |
| | | RB1#14 | 22.22 | 22.26 | 22.11 | 22.2 | 22.24 | 22.09 |
| | | RB8#0 | 22.04 | 22.24 | 21.89 | 22.02 | 22.22 | 21.87 |
| | | RB8#4 | 21.05 | 21.04 | 21.06 | 21.03 | 21.02 | 21.04 |
| | | RB8#7 | 20.97 | 20.94 | 20.99 | 20.95 | 20.92 | 20.97 |
| | | RB15#0 | 20.57 | 20.53 | 20.68 | 20.55 | 20.51 | 20.66 |

| Bandwidth (MHz) | Modulation | RB size/ RB Offset | Conducted Average Output Power (dBm) | | | ERP(dBm) | | |
|-----------------|------------|-----------------------|--------------------------------------|-------|-------|--------------|-------|-------|
| | | | Low | Mid | High | Low | Mid | High |
| 15 | QPSK | RB1#0 | 22.13 | 22.41 | 22.46 | 22.11 | 22.39 | 22.44 |
| | | RB1#12 | 22.61 | 22.26 | 22.34 | 22.59 | 22.24 | 22.32 |
| | | RB1#24 | 22.41 | 22.12 | 22.17 | 22.39 | 22.1 | 22.15 |
| | | RB12#0 | 21.85 | 21.9 | 21.89 | 21.83 | 21.88 | 21.87 |
| | | RB12#6 | 21.82 | 21.82 | 21.92 | 21.8 | 21.8 | 21.9 |
| | | RB12#11 | 21.79 | 21.77 | 21.71 | 21.77 | 21.75 | 21.69 |
| | | RB25#0 | 21.25 | 21.26 | 21.30 | 21.23 | 21.24 | 21.28 |
| | 16QAM | RB1#0 | 21.80 | 21.52 | 22.29 | 21.78 | 21.5 | 22.27 |
| | | RB1#12 | 22.35 | 22.22 | 22.30 | 22.33 | 22.2 | 22.28 |
| | | RB1#24 | 22.21 | 22.26 | 22.11 | 22.19 | 22.24 | 22.09 |
| | | RB12#0 | 22.06 | 22.23 | 21.89 | 22.04 | 22.21 | 21.87 |
| | | RB12#6 | 21.09 | 21.03 | 21.01 | 21.07 | 21.01 | 20.99 |
| | | RB12#11 | 20.97 | 20.98 | 20.99 | 20.95 | 20.96 | 20.97 |
| | | RB25#0 | 20.36 | 20.47 | 20.64 | 20.34 | 20.45 | 20.62 |
| 20 | QPSK | RB1#0 | 21.71 | 22.42 | 22.45 | 21.69 | 22.4 | 22.43 |
| | | RB1#24 | 22.63 | 22.29 | 22.37 | 22.61 | 22.27 | 22.35 |
| | | RB1#49 | 22.42 | 22.16 | 22.17 | 22.4 | 22.14 | 22.15 |
| | | RB25#0 | 21.86 | 21.91 | 21.95 | 21.84 | 21.89 | 21.93 |
| | | RB25#12 | 21.82 | 21.81 | 21.88 | 21.8 | 21.79 | 21.86 |
| | | RB25#24 | 21.85 | 21.76 | 21.72 | 21.83 | 21.74 | 21.7 |
| | | RB50#0 | 21.42 | 20.23 | 20.27 | 21.4 | 20.21 | 20.25 |
| | 16QAM | RB1#0 | 21.81 | 21.47 | 22.27 | 21.79 | 21.45 | 22.25 |
| | | RB1#24 | 22.35 | 22.24 | 22.29 | 22.33 | 22.22 | 22.27 |
| | | RB1#49 | 22.19 | 22.23 | 22.14 | 22.17 | 22.21 | 22.12 |
| | | RB25#0 | 22.07 | 22.25 | 21.86 | 22.05 | 22.23 | 21.84 |
| | | RB25#12 | 21.09 | 21.03 | 21.04 | 21.07 | 21.01 | 21.02 |
| | | RB25#24 | 20.97 | 20.99 | 20.94 | 20.95 | 20.97 | 20.92 |
| | | RB50#0 | 20.39 | 20.54 | 20.66 | 20.37 | 20.52 | 20.64 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable Loss(dB)

For Band 7: Antenna Gain = 0.98dBi

Cable Loss=1dB* (provided by the applicant)

Limit: ERP ≤ 34.77dBm

Peak-to-average ratio (PAR)**Cellular Band**

| Mode | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low | 3.18 | 13 |
| | Middle | 3.52 | 13 |
| | High | 3.22 | 13 |

| Mode | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC (BPSK) | Low | 3.18 | 13 |
| | Middle | 3.37 | 13 |
| | High | 3.28 | 13 |
| HSDPA (16QAM) | Low | 4.21 | 13 |
| | Middle | 3.99 | 13 |
| | High | 3.78 | 13 |
| HSUPA (BPSK) | Low | 3.48 | 13 |
| | Middle | 3.67 | 13 |
| | High | 3.61 | 13 |
| HSPA+ | Low | 3.37 | 13 |
| | Middle | 3.19 | 13 |
| | High | 3.55 | 13 |

PCS Band

| Mode | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low | 3.26 | 13 |
| | Middle | 3.14 | 13 |
| | High | 3.44 | 13 |

| Mode | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC (BPSK) | Low | 3.24 | 13 |
| | Middle | 3.28 | 13 |
| | High | 2.92 | 13 |
| HSDPA (16QAM) | Low | 3.67 | 13 |
| | Middle | 4.02 | 13 |
| | High | 4.47 | 13 |
| HSUPA (BPSK) | Low | 3.64 | 13 |
| | Middle | 3.74 | 13 |
| | High | 3.89 | 13 |
| HSPA+ | Low | 3.77 | 13 |
| | Middle | 3.49 | 13 |
| | High | 3.18 | 13 |

AWS Band

| Mode | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC (BPSK) | Low | 3.42 | 13 |
| | Middle | 3.35 | 13 |
| | High | 3.92 | 13 |
| HSDPA (16QAM) | Low | 3.72 | 13 |
| | Middle | 4.32 | 13 |
| | High | 4.05 | 13 |
| HSUPA (BPSK) | Low | 3.46 | 13 |
| | Middle | 3.56 | 13 |
| | High | 3.68 | 13 |
| HSPA+ | Low | 3.34 | 13 |
| | Middle | 3.57 | 13 |
| | High | 3.13 | 13 |

LTE Band 2 20MHz Bandwidth

| Modulation | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-----------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size) | 4.67 | 4.49 | 4.61 | 13 | Pass |
| QPSK (100RB Size) | 5.16 | 4.81 | 4.72 | 13 | Pass |
| 16QAM (1RB Size) | 5.59 | 5.45 | 5.68 | 13 | Pass |
| 16QAM (100RB Size) | 6.14 | 5.91 | 5.77 | 13 | Pass |

LTE Band 4 20MHz Bandwidth

| Modulation | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size) | 4.64 | 4.41 | 4.72 | 13 | Pass |
| QPSK (100RB Size) | 5.07 | 5.01 | 4.90 | 13 | Pass |
| 16QAM (1RB Size) | 5.83 | 5.10 | 5.65 | 13 | Pass |
| 16QAM (100RB Size) | 6.03 | 6.06 | 6.03 | 13 | Pass |

LTE Band 5 10MHz Bandwidth

| Modulation | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size) | 4.67 | 4.67 | 4.67 | 13 | Pass |
| QPSK (50RB Size) | 4.96 | 4.90 | 4.96 | 13 | Pass |
| 16QAM (1RB Size) | 5.68 | 5.77 | 5.74 | 13 | Pass |
| 16QAM (50RB Size) | 6.12 | 5.91 | 5.91 | 13 | Pass |

LTE Band 7 20MHz Bandwidth

| Modulation | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size) | 4.75 | 4.84 | 4.12 | 13 | Pass |
| QPSK (100RB Size) | 5.07 | 5.33 | 5.04 | 13 | Pass |
| 16QAM (1RB Size) | 5.88 | 5.83 | 5.42 | 13 | Pass |
| 16QAM (100RB Size) | 6.20 | 6.41 | 6.20 | 13 | Pass |

FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53 - OCCUPIED BANDWIDTH

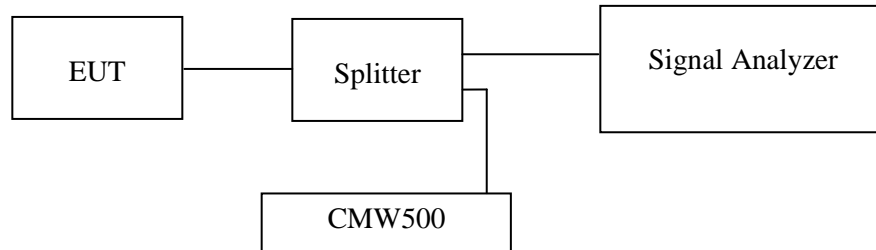
Applicable Standard

FCC 47 §2.1049, §22.917, §22.905, §24.238, and §27.53.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.



Test Data

Environmental Conditions

| | |
|---------------------------|-----------------|
| Temperature: | 19-26 °C |
| Relative Humidity: | 43-62 % |
| ATM Pressure: | 100.9-101.4 kPa |

The testing was performed by Key Pei from 2022.02.19 to 2022.03.21

EUT operation mode: Transmitting

Test Result: Pass

Test plots refer to the Appendix A.

FCC §2.1051, §22.917(a) & §24.238(a) & §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

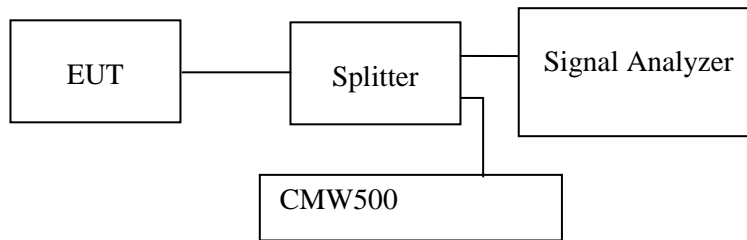
Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a) & §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Data

Environmental Conditions

| | |
|---------------------------|-----------------|
| Temperature: | 19-26 °C |
| Relative Humidity: | 43-62 % |
| ATM Pressure: | 100.9-101.4 kPa |

The testing was performed by Key Pei from 2022.02.19 to 2022.03.21

EUT operation mode: Transmitting

Test result: Pass

Test plots refer to the Appendix B.

FCC § 2.1053; § 22.917 (a); § 24.238 (a); § 27.53 - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, § 22.917(a) & § 24.238(a) & § 27.53.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Test Data**Environmental Conditions**

| | |
|---------------------------|-----------------|
| Temperature: | 19-23 °C |
| Relative Humidity: | 43-58 % |
| ATM Pressure: | 101.0-101.3 kPa |

The testing was performed by Chao Mo from 2022-3-2 to 2022-3-7.

EUT operation mode: Transmitting (Worst case record in the reports)

The worst case is as below:

| Frequency (MHz) | Receiver | | Turntable Angle Degree | Rx Antenna | | Substituted Factor (dB) | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|--------------------------|---------------|-------|------------------------|------------|-------------|-------------------------|----------------------|-------------|-------------|
| | Reading (dBm) | PK/AV | | Height (m) | Polar (H/V) | | | | |
| GSM850, Low Channel | | | | | | | | | |
| 188.9 | -47.22 | PK | 183 | 2.1 | H | -1.7 | -48.92 | -13 | -35.92 |
| 388.84 | -52.03 | PK | 51 | 1.1 | V | 5.09 | -46.94 | -13 | -33.94 |
| 1648.4 | -19.93 | PK | 183 | 2.1 | H | 3.52 | -16.41 | -13 | -3.41 |
| 1648.4 | -20.07 | PK | 51 | 1.1 | V | 3.1 | -16.97 | -13 | -3.97 |
| 3296.8 | -25.76 | PK | 141 | 2.1 | H | 6.44 | -19.32 | -13 | -6.32 |
| 3296.8 | -26.27 | PK | 17 | 1.9 | V | 5.73 | -20.54 | -13 | -7.54 |
| GSM850, Middle Channel | | | | | | | | | |
| 188.9 | -45.56 | PK | 23 | 1.8 | H | -1.7 | -47.26 | -13 | -34.26 |
| 388.84 | -52.10 | PK | 144 | 1.6 | V | 5.09 | -47.01 | -13 | -34.01 |
| 1673.2 | -20.17 | PK | 15 | 1.5 | H | 3.78 | -16.39 | -13 | -3.39 |
| 1673.2 | -20.12 | PK | 118 | 1.1 | V | 3.1 | -17.02 | -13 | -4.02 |
| 3346.4 | -26.84 | PK | 95 | 2.1 | H | 6.59 | -20.25 | -13 | -7.25 |
| 3346.4 | -26.11 | PK | 130 | 1.3 | V | 5.42 | -20.69 | -13 | -7.69 |
| GSM850, High Channel | | | | | | | | | |
| 188.9 | -46.52 | PK | 8 | 1.7 | H | -1.7 | -48.22 | -13 | -35.22 |
| 388.84 | -52.28 | PK | 217 | 1.8 | V | 5.09 | -47.19 | -13 | -34.19 |
| 1697.6 | -20.29 | PK | 59 | 1.5 | H | 4.07 | -16.22 | -13 | -3.22 |
| 1697.6 | -20.20 | PK | 185 | 1.6 | V | 3.1 | -17.10 | -13 | -4.10 |
| 3395.2 | -25.98 | PK | 8 | 1.7 | H | 6.24 | -19.74 | -13 | -6.74 |
| 3395.2 | -26.09 | PK | 217 | 1.8 | V | 5.4 | -20.69 | -13 | -7.69 |
| PCS1900, Low Channel | | | | | | | | | |
| 188.9 | -46.71 | PK | 73 | 2.2 | H | -1.7 | -48.41 | -13 | -35.41 |
| 388.84 | -51.55 | PK | 81 | 1.6 | V | 5.09 | -46.46 | -13 | -33.46 |
| 3700.4 | -29.37 | PK | 300 | 2.0 | H | 8.11 | -21.26 | -13 | -8.26 |
| 3700.4 | -29.93 | PK | 161 | 1.9 | V | 7.6 | -22.33 | -13 | -9.33 |
| PCS1900, Middle Channel | | | | | | | | | |
| 188.9 | -45.45 | PK | 105 | 1.5 | H | -1.7 | -47.15 | -13 | -34.15 |
| 388.84 | -52.97 | PK | 313 | 1.5 | V | 5.09 | -47.88 | -13 | -34.88 |
| 3760 | -31.05 | PK | 328 | 1.2 | H | 8.84 | -22.21 | -13 | -9.21 |
| 3760 | -30.57 | PK | 62 | 1.5 | V | 7.96 | -22.61 | -13 | -9.61 |
| PCS1900, High Channel | | | | | | | | | |
| 188.9 | -45.49 | PK | 299 | 1.7 | H | -1.7 | -47.19 | -13 | -34.19 |
| 388.84 | -52.03 | PK | 291 | 1.0 | V | 5.09 | -46.94 | -13 | -33.94 |
| 3819.6 | -32.34 | PK | 6 | 1.3 | H | 8.68 | -23.66 | -13 | -10.66 |
| 3819.6 | -30.83 | PK | 298 | 1.1 | V | 7.96 | -22.87 | -13 | -9.87 |
| 3G BAND2, Low Channel | | | | | | | | | |
| 188.9 | -46.32 | PK | 252 | 1.3 | H | -1.7 | -48.02 | -13 | -35.02 |
| 388.84 | -52.48 | PK | 85 | 1.0 | V | 5.09 | -47.39 | -13 | -34.39 |
| 3704.8 | -28.54 | PK | 235 | 1.5 | H | 8.18 | -20.36 | -13 | -7.36 |
| 3704.8 | -29.37 | PK | 11 | 1.8 | V | 7.63 | -21.74 | -13 | -8.74 |
| 3G BAND2, Middle Channel | | | | | | | | | |

| | | | | | | | | | |
|--------------------------|--------|----|-----|-----|---|------|--------|-----|--------|
| 188.9 | -47.45 | PK | 228 | 1.7 | H | -1.7 | -49.15 | -13 | -36.15 |
| 388.84 | -51.58 | PK | 40 | 1.2 | V | 5.09 | -46.49 | -13 | -33.49 |
| 3760 | -30.58 | PK | 69 | 1.3 | H | 8.84 | -21.74 | -13 | -8.74 |
| 3760 | -29.56 | PK | 313 | 1.8 | V | 7.96 | -21.60 | -13 | -8.60 |
| 3G BAND2, High Channel | | | | | | | | | |
| 188.9 | -47.49 | PK | 105 | 1.5 | H | -1.7 | -49.19 | -13 | -36.19 |
| 388.84 | -53.11 | PK | 172 | 1.6 | V | 5.09 | -48.02 | -13 | -35.02 |
| 3815.2 | -31.02 | PK | 46 | 1.5 | H | 8.66 | -22.36 | -13 | -9.36 |
| 3815.2 | -29.69 | PK | 159 | 2.1 | V | 7.92 | -21.77 | -13 | -8.77 |
| 3G BAND4, Low Channel | | | | | | | | | |
| 188.9 | -46.46 | PK | 190 | 1.2 | H | -1.7 | -48.16 | -13 | -35.16 |
| 388.84 | -52.41 | PK | 167 | 2.1 | V | 5.09 | -47.32 | -13 | -34.32 |
| 3424.8 | -29.38 | PK | 129 | 2.0 | H | 6.4 | -22.98 | -13 | -9.98 |
| 3424.8 | -29.01 | PK | 294 | 1.9 | V | 5.75 | -23.26 | -13 | -10.26 |
| 3G BAND4, Middle Channel | | | | | | | | | |
| 188.9 | -47.49 | PK | 33 | 2.1 | H | -1.7 | -49.19 | -13 | -36.19 |
| 388.84 | -54.67 | PK | 4 | 1.4 | V | 5.09 | -49.58 | -13 | -36.58 |
| 3464 | -30.14 | PK | 250 | 1.1 | H | 6.94 | -23.20 | -13 | -10.20 |
| 3464 | -29.73 | PK | 167 | 1.4 | V | 6.21 | -23.52 | -13 | -10.52 |
| 3G BAND4, High Channel | | | | | | | | | |
| 188.9 | -45.32 | PK | 27 | 1.4 | H | -1.7 | -47.02 | -13 | -34.02 |
| 388.84 | -51.29 | PK | 255 | 1.4 | V | 5.09 | -46.20 | -13 | -33.20 |
| 3502.2 | -31.16 | PK | 132 | 1.6 | H | 7.8 | -23.36 | -13 | -10.36 |
| 3502.2 | -28.93 | PK | 268 | 2.0 | V | 6.52 | -22.41 | -13 | -9.41 |
| 3G BAND5, Low Channel | | | | | | | | | |
| 188.9 | -47.24 | PK | 327 | 1.1 | H | -1.7 | -48.94 | -13 | -35.94 |
| 388.84 | -52.68 | PK | 149 | 1.7 | V | 5.09 | -47.59 | -13 | -34.59 |
| 1652.8 | -24.76 | PK | 129 | 2.0 | H | 3.53 | -21.23 | -13 | -8.23 |
| 1652.8 | -25.56 | PK | 294 | 1.9 | V | 3.1 | -22.46 | -13 | -9.46 |
| 3G BAND5, Middle Channel | | | | | | | | | |
| 188.9 | -45.56 | PK | 174 | 1.1 | H | -1.7 | -47.26 | -13 | -34.26 |
| 388.84 | -52.91 | PK | 127 | 1.4 | V | 5.09 | -47.82 | -13 | -34.82 |
| 1673.2 | -25.19 | PK | 250 | 1.1 | H | 3.78 | -21.41 | -13 | -8.41 |
| 1673.2 | -25.36 | PK | 167 | 1.4 | V | 3.1 | -22.26 | -13 | -9.26 |
| 3G BAND5, High Channel | | | | | | | | | |
| 188.9 | -46.46 | PK | 251 | 1.1 | H | -1.7 | -48.16 | -13 | -35.16 |
| 388.84 | -54.14 | PK | 161 | 1.2 | V | 5.09 | -49.05 | -13 | -36.05 |
| 1693.2 | -26.23 | PK | 132 | 1.6 | H | 4.02 | -22.21 | -13 | -9.21 |
| 1693.2 | -24.99 | PK | 268 | 2.0 | V | 3.1 | -21.89 | -13 | -8.89 |
| 4G BAND2, Low Channel | | | | | | | | | |
| 188.9 | -46.29 | PK | 38 | 1.9 | H | -1.7 | -47.99 | -13 | -34.99 |
| 388.84 | -54.35 | PK | 330 | 1.6 | V | 5.09 | -49.26 | -13 | -36.26 |
| 3701.4 | -32.38 | PK | 134 | 2.1 | H | 8.12 | -24.26 | -13 | -11.26 |
| 3701.4 | -33.29 | PK | 334 | 2.0 | V | 7.61 | -25.68 | -13 | -12.68 |
| 4G BAND2, Middle Channel | | | | | | | | | |
| 188.9 | -46.52 | PK | 193 | 1.9 | H | -1.7 | -48.22 | -13 | -35.22 |
| 388.84 | -54.26 | PK | 5 | 1.4 | V | 5.09 | -49.17 | -13 | -36.17 |

| | | | | | | | | | |
|--------------------------|--------|----|-----|-----|---|-------|--------|-----|--------|
| 3760 | -34.52 | PK | 211 | 1.5 | H | 8.84 | -25.68 | -13 | -12.68 |
| 3760 | -33.38 | PK | 256 | 2.2 | V | 7.96 | -25.42 | -13 | -12.42 |
| 4G BAND2, High Channel | | | | | | | | | |
| 188.9 | -48.18 | PK | 21 | 1.9 | H | -1.7 | -49.88 | -13 | -36.88 |
| 388.84 | -55.24 | PK | 279 | 2.2 | V | 5.09 | -50.15 | -13 | -37.15 |
| 3818.6 | -33.54 | PK | 74 | 2.0 | H | 8.67 | -24.87 | -13 | -11.87 |
| 3818.6 | -33.54 | PK | 126 | 1.8 | V | 7.95 | -25.59 | -13 | -12.59 |
| 4G BAND4, Low Channel | | | | | | | | | |
| 188.9 | -47.07 | PK | 223 | 2.1 | H | -1.7 | -48.77 | -13 | -35.77 |
| 388.84 | -53.28 | PK | 202 | 1.4 | V | 5.09 | -48.19 | -13 | -35.19 |
| 3421.4 | -29.91 | PK | 305 | 1.1 | H | 6.37 | -23.54 | -13 | -10.54 |
| 3421.4 | -31.33 | PK | 160 | 1.7 | V | 5.7 | -25.63 | -13 | -12.63 |
| 4G BAND4, Middle Channel | | | | | | | | | |
| 188.9 | -46.28 | PK | 288 | 1.1 | H | -1.7 | -47.98 | -13 | -34.98 |
| 388.84 | -51.96 | PK | 96 | 1.5 | V | 5.09 | -46.87 | -13 | -33.87 |
| 3465 | -30.16 | PK | 120 | 2.1 | H | 6.96 | -23.20 | -13 | -10.20 |
| 3465 | -30.61 | PK | 157 | 1.4 | V | 6.22 | -24.39 | -13 | -11.39 |
| 4G BAND4, High Channel | | | | | | | | | |
| 188.9 | -47.54 | PK | 138 | 2.0 | H | -1.7 | -49.24 | -13 | -36.24 |
| 388.84 | -54.07 | PK | 140 | 2.1 | V | 5.09 | -48.98 | -13 | -35.98 |
| 3508.6 | -31.47 | PK | 208 | 1.5 | H | 7.78 | -23.69 | -13 | -10.69 |
| 3508.6 | -30.84 | PK | 227 | 1.1 | V | 6.56 | -24.28 | -13 | -11.28 |
| 4G BAND5, Low Channel | | | | | | | | | |
| 188.9 | -45.59 | PK | 178 | 2.1 | H | -1.7 | -47.29 | -13 | -34.29 |
| 388.84 | -53.11 | PK | 306 | 1.6 | V | 5.09 | -48.02 | -13 | -35.02 |
| 1649.4 | -28.19 | PK | 39 | 2.0 | H | 3.51 | -24.68 | -13 | -11.68 |
| 1649.4 | -27.15 | PK | 67 | 2.0 | V | 3.1 | -24.05 | -13 | -11.05 |
| 4G BAND5, Middle Channel | | | | | | | | | |
| 188.9 | -47.56 | PK | 5 | 1.7 | H | -1.7 | -49.26 | -13 | -36.26 |
| 388.84 | -53.50 | PK | 149 | 1.7 | V | 5.09 | -48.41 | -13 | -35.41 |
| 1673 | -27.86 | PK | 187 | 1.3 | H | 3.78 | -24.08 | -13 | -11.08 |
| 1673 | -27.73 | PK | 238 | 1.7 | V | 3.1 | -24.63 | -13 | -11.63 |
| 4G BAND5, High Channel | | | | | | | | | |
| 188.9 | -47.32 | PK | 307 | 1.2 | H | -1.7 | -49.02 | -13 | -36.02 |
| 388.84 | -53.83 | PK | 87 | 2.1 | V | 5.09 | -48.74 | -13 | -35.74 |
| 1696.6 | -28.39 | PK | 43 | 1.5 | H | 4.06 | -24.33 | -13 | -11.33 |
| 1696.6 | -28.12 | PK | 342 | 1.3 | V | 3.1 | -25.02 | -13 | -12.02 |
| 4G BAND7, Low Channel | | | | | | | | | |
| 188.9 | -46.56 | PK | 217 | 2.1 | H | -1.7 | -48.26 | -25 | -23.26 |
| 388.84 | -54.21 | PK | 323 | 2.2 | V | 5.09 | -49.12 | -25 | -24.12 |
| 5005 | -47.85 | PK | 178 | 1.3 | H | 10.83 | -37.02 | -25 | -12.02 |
| 5005 | -48.55 | PK | 75 | 2.0 | V | 10.16 | -38.39 | -25 | -13.39 |
| 4G BAND7, Middle Channel | | | | | | | | | |
| 188.9 | -45.41 | PK | 269 | 1.2 | H | -1.7 | -47.11 | -25 | -22.11 |
| 388.84 | -51.87 | PK | 113 | 1.3 | V | 5.09 | -46.78 | -25 | -21.78 |
| 5070 | -48.40 | PK | 319 | 1.1 | H | 11.14 | -37.26 | -25 | -12.26 |
| 5070 | -48.65 | PK | 119 | 1.2 | V | 10.78 | -37.87 | -25 | -12.87 |

| 4G BAND7, High Channel | | | | | | | | | |
|------------------------|--------|----|-----|-----|---|-------|--------|-----|--------|
| 188.9 | -46.61 | PK | 136 | 1.8 | H | -1.7 | -48.31 | -25 | -23.31 |
| 388.84 | -52.35 | PK | 285 | 1.5 | V | 5.09 | -47.26 | -25 | -22.26 |
| 5135 | -49.23 | PK | 344 | 1.7 | H | 11.34 | -37.89 | -25 | -12.89 |
| 5135 | -49.02 | PK | 291 | 1.3 | V | 10.76 | -38.26 | -25 | -13.26 |

Note:

Absolute Level = Reading Level + Substituted Factor

Substituted Factor contains: SG Level - Cable loss+ Antenna Gain

Margin = Absolute Level – Limit

FCC § 22.917 (a); § 24.238 (a); §27.53 (c)(h)(m) - BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions 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.

According to §24.238(a), the power of any emissions 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.

According to FCC §27.53 (c), For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

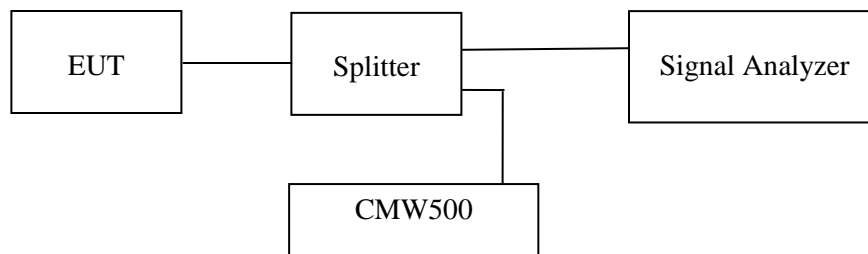
- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

According to FCC §27.53 (h)(m), 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.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



Test Data**Environmental Conditions**

| | |
|---------------------------|-----------------|
| Temperature: | 19-26 °C |
| Relative Humidity: | 43-62 % |
| ATM Pressure: | 100.9-101.4 kPa |

The testing was performed by Key Pei from 2022.02.19 to 2022.03.21

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

Test plots refer to the Appendix C.

FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055, §22.355, §24.235 & §27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

| 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 |

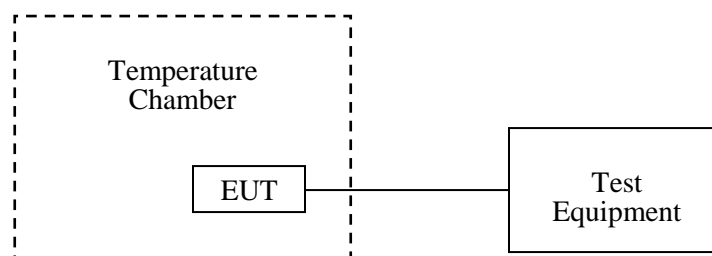
According to §24.235 & §27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external AC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The AC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data**Environmental Conditions**

| | |
|---------------------------|-----------|
| Temperature: | 22-24 °C |
| Relative Humidity: | 49-52 % |
| ATM Pressure: | 101.0 kPa |

The testing was performed by Key Pei from 2022.02.18 to 2022.02.21

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

Cellular Band (Part 22H)**GPRS Mode**

| Middle Channel, $f_0 = 836.6\text{MHz}$ | | | | |
|---|-------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Voltage Supplied (V_{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30 | 3.6 | 3 | 0.0036 | 2.5 |
| -20 | | 2 | 0.0024 | 2.5 |
| -10 | | 0 | 0.0000 | 2.5 |
| 0 | | 2 | 0.0024 | 2.5 |
| 10 | | 3 | 0.0036 | 2.5 |
| 20 | | 5 | 0.0060 | 2.5 |
| 30 | | 6 | 0.0072 | 2.5 |
| 40 | | 7 | 0.0084 | 2.5 |
| 50 | | 3 | 0.0036 | 2.5 |
| 20 | | V min.= 3.2 | 2 | 0.0024 |
| | V max.= 4.0 | 2 | 0.0024 | 2.5 |

EDGE Mode

| Middle Channel, $f_0 = 836.6\text{MHz}$ | | | | |
|---|---|-----------------------------|------------------------------|--------------------|
| Temperature (°C) | Voltage Supplied (V_{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30 | 3.6 | 4 | 0.0048 | 2.5 |
| -20 | | 5 | 0.0060 | 2.5 |
| -10 | | 7 | 0.0084 | 2.5 |
| 0 | | 4 | 0.0048 | 2.5 |
| 10 | | 6 | 0.0072 | 2.5 |
| 20 | | 5 | 0.0060 | 2.5 |
| 30 | | 7 | 0.0084 | 2.5 |
| 40 | | 6 | 0.0072 | 2.5 |
| 50 | | 8 | 0.0096 | 2.5 |
| 20 | | V min.= 3.2 | 4 | 0.0048 |
| | V max.= 4.0 | 6 | 0.0072 | 2.5 |

WCDMA Mode

| Middle Channel, $f_0 = 836.6\text{MHz}$ | | | | |
|---|---|-----------------------------|------------------------------|--------------------|
| Temperature (°C) | Voltage Supplied (V_{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30 | 3.6 | -10 | -0.0120 | 2.5 |
| -20 | | 9 | 0.0108 | 2.5 |
| -10 | | 8 | 0.0096 | 2.5 |
| 0 | | -5 | -0.0060 | 2.5 |
| 10 | | -3 | -0.0036 | 2.5 |
| 20 | | -7 | -0.0084 | 2.5 |
| 30 | | 4 | 0.0048 | 2.5 |
| 40 | | -5 | -0.0060 | 2.5 |
| 50 | | -8 | -0.0096 | 2.5 |
| 20 | | V min.= 3.2 | 5 | 0.0060 |
| | V max.= 4.0 | -6 | -0.0072 | 2.5 |

PCS Band (Part 24E)

GPRS Mode

| Middle Channel, $f_o = 1880.0$ MHz | | | | |
|------------------------------------|-------------------------------|----------------------|-----------------------|---------|
| Temperature (°C) | Voltage Supplied (V_{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30 | 3.6 | -3 | -0.0016 | pass |
| -20 | | 4 | 0.0021 | pass |
| -10 | | 3 | 0.0016 | pass |
| 0 | | 2 | 0.0011 | pass |
| 10 | | -1 | -0.0005 | pass |
| 20 | | -4 | -0.0021 | pass |
| 30 | | -3 | -0.0016 | pass |
| 40 | | -6 | -0.0032 | pass |
| 50 | | -4 | -0.0021 | pass |
| 20 | | V min.= 3.2 | -3 | -0.0016 |
| | V max.= 4.0 | -2 | -0.0011 | pass |

EDGE Mode

| Middle Channel, $f_o = 1880.0$ MHz | | | | |
|------------------------------------|-------------------------------|----------------------|-----------------------|---------|
| Temperature (°C) | Voltage Supplied (V_{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30 | 3.6 | -2 | -0.0011 | pass |
| -20 | | -6 | -0.0032 | pass |
| -10 | | -5 | -0.0027 | pass |
| 0 | | -7 | -0.0037 | pass |
| 10 | | -4 | -0.0021 | pass |
| 20 | | -1 | -0.0005 | pass |
| 30 | | -3 | -0.0016 | pass |
| 40 | | -5 | -0.0027 | pass |
| 50 | | -4 | -0.0021 | pass |
| 20 | | V min.= 3.2 | -3 | -0.0016 |
| | V max.= 4.0 | -6 | -0.0032 | pass |

WCDMA Mode

| Middle Channel, $f_o = 1880.0$ MHz | | | | |
|------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C) | Voltage Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30 | 3.6 | -11 | -0.0059 | pass |
| -20 | | 19 | 0.0101 | pass |
| -10 | | 18 | 0.0096 | pass |
| 0 | | -15 | -0.0080 | pass |
| 10 | | -13 | -0.0069 | pass |
| 20 | | -17 | -0.0090 | pass |
| 30 | | 14 | 0.0074 | pass |
| 40 | | -17 | -0.0090 | pass |
| 50 | | -10 | -0.0053 | pass |
| 20 | | V min.= 3.2 | 15 | 0.0080 |
| | V max.= 4.0 | -12 | -0.0064 | pass |

AWS Band (Part 27)

| Temperature (°C) | Power Supplied (V _{DC}) | F _L (MHz) | F _H (MHz) | F _L Limit (MHz) | F _H Limit (MHz) |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| -30 | 3.6 | 1710.0144 | 1754.9718 | 1710 | 1755 |
| -20 | | 1710.0164 | 1754.9773 | 1710 | 1755 |
| -10 | | 1710.0103 | 1754.9756 | 1710 | 1755 |
| 0 | | 1710.0142 | 1754.9754 | 1710 | 1755 |
| 10 | | 1710.0124 | 1754.9728 | 1710 | 1755 |
| 20 | | 1710.0122 | 1754.9725 | 1710 | 1755 |
| 30 | | 1710.0146 | 1754.9711 | 1710 | 1755 |
| 40 | | 1710.0160 | 1754.9757 | 1710 | 1755 |
| 50 | | 1710.0103 | 1754.9732 | 1710 | 1755 |
| 20 | | V min.= 3.2 | 1710.0139 | 1754.9710 | 1710 |
| | V max.= 4.0 | 1710.0171 | 1754.9719 | 1710 | 1755 |

LTE:
QPSK:
Band 2:

| 10.0 MHz Middle Channel, $f_o = 1880\text{MHz}$ | | | | |
|---|-------------------------------------|----------------------|-----------------------|---------|
| Temperature (°C) | Voltage Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30 | 3.6 | -2.49 | -0.0013 | pass |
| -20 | | -9.97 | -0.0053 | pass |
| -10 | | -6.13 | -0.0033 | pass |
| 0 | | 6.17 | 0.0033 | pass |
| 10 | | 7.92 | 0.0042 | pass |
| 20 | | 6.46 | 0.0034 | pass |
| 30 | | -6.52 | -0.0035 | pass |
| 40 | | 7.18 | 0.0038 | pass |
| 50 | | -9.69 | -0.0052 | pass |
| 20 | | V min.= 3.2 | -8.17 | -0.0043 |
| | V max.= 4.0 | -7.05 | -0.0038 | pass |

Band 4:

| 10 MHz Bandwidth | | | | | |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V _{DC}) | F _L (MHz) | F _H (MHz) | F _L Limit (MHz) | F _H Limit (MHz) |
| -30 | 3.6 | 1710.1169 | 1754.8715 | 1710 | 1755 |
| -20 | | 1710.1163 | 1754.8712 | 1710 | 1755 |
| -10 | | 1710.1119 | 1754.8762 | 1710 | 1755 |
| 0 | | 1710.1119 | 1754.8754 | 1710 | 1755 |
| 10 | | 1710.1126 | 1754.8742 | 1710 | 1755 |
| 20 | | 1710.1173 | 1754.8737 | 1710 | 1755 |
| 30 | | 1710.1108 | 1754.8733 | 1710 | 1755 |
| 40 | | 1710.1141 | 1754.8767 | 1710 | 1755 |
| 50 | | 1710.1176 | 1754.8751 | 1710 | 1755 |
| 20 | | V min.= 3.2 | 1710.1114 | 1754.8778 | 1710 |
| | V max.= 4.0 | 1710.1094 | 1754.8736 | 1710 | 1755 |

Band 5:

| 10.0 MHz Middle Channel, $f_o = 836.5\text{MHz}$ | | | | |
|--|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Voltage Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30 | 3.6 | -1.62 | -0.0019 | 2.5 |
| -20 | | -6.97 | -0.0083 | 2.5 |
| -10 | | -5.50 | -0.0066 | 2.5 |
| 0 | | 6.06 | 0.0072 | 2.5 |
| 10 | | 9.80 | 0.0117 | 2.5 |
| 20 | | 5.03 | 0.006 | 2.5 |
| 30 | | -6.62 | -0.0079 | 2.5 |
| 40 | | -8.73 | -0.0104 | 2.5 |
| 50 | | -7.05 | -0.0084 | 2.5 |
| 20 | | V min.= 3.2 | 8.99 | 0.0107 |
| | V max.= 4.0 | -7.17 | -0.0086 | 2.5 |

Band 7:

| 10 MHz Bandwidth | | | | | |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V _{DC}) | F _L (MHz) | F _H (MHz) | F _L Limit (MHz) | F _H Limit (MHz) |
| -30 | 3.6 | 2500.0586 | 2569.9695 | 2500 | 2570 |
| -20 | | 2500.0556 | 2569.9621 | 2500 | 2570 |
| -10 | | 2500.0599 | 2569.9679 | 2500 | 2570 |
| 0 | | 2500.0547 | 2569.9672 | 2500 | 2570 |
| 10 | | 2500.0356 | 2569.9654 | 2500 | 2570 |
| 20 | | 2500.0404 | 2569.9635 | 2500 | 2570 |
| 30 | | 2500.0354 | 2569.9625 | 2500 | 2570 |
| 40 | | 2500.0341 | 2569.9643 | 2500 | 2570 |
| 50 | | 2500.0356 | 2569.9632 | 2500 | 2570 |
| 20 | | V min.= 3.2 | 2500.0366 | 2569.9684 | 2500 |
| | V max.= 4.0 | 2500.0447 | 2569.9671 | 2500 | 2570 |

16QAM:**Band 2:**

| 10.0 MHz Middle Channel, $f_o = 1880\text{MHz}$ | | | | |
|---|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C) | Voltage Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30 | 3.6 | -7 | -0.0037 | pass |
| -20 | | -7 | -0.0037 | pass |
| -10 | | 10 | 0.0053 | pass |
| 0 | | -8 | -0.0043 | pass |
| 10 | | -10 | -0.0053 | pass |
| 20 | | -10 | -0.0053 | pass |
| 30 | | -7 | -0.0037 | pass |
| 40 | | -9 | -0.0048 | pass |
| 50 | | 6 | 0.0032 | pass |
| 20 | | V min.= 3.2 | 8 | 0.0043 |
| | V max.= 4.0 | -6 | -0.0032 | pass |

Band 4:

| 10 MHz Bandwidth | | | | | |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V _{DC}) | F _L (MHz) | F _H (MHz) | F _L Limit (MHz) | F _H Limit (MHz) |
| -30 | 3.6 | 1710.2694 | 1754.7557 | 1710 | 1755 |
| -20 | | 1710.2703 | 1754.7632 | 1710 | 1755 |
| -10 | | 1710.2679 | 1754.7598 | 1710 | 1755 |
| 0 | | 1710.2653 | 1754.7569 | 1710 | 1755 |
| 10 | | 1710.2657 | 1754.7584 | 1710 | 1755 |
| 20 | | 1710.2638 | 1754.7629 | 1710 | 1755 |
| 30 | | 1710.2650 | 1754.7606 | 1710 | 1755 |
| 40 | | 1710.2670 | 1754.7597 | 1710 | 1755 |
| 50 | | 1710.2678 | 1754.7613 | 1710 | 1755 |
| 20 | | V min.= 3.2 | 1710.2657 | 1754.7573 | 1710 |
| | V max.= 4.0 | 1710.2702 | 1754.7579 | 1710 | 1755 |

Band 5:

| 10.0 MHz Middle Channel, $f_o = 836.5\text{MHz}$ | | | | |
|--|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Voltage Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30 | 3.6 | -8 | -0.0096 | 2.5 |
| -20 | | 8 | 0.0096 | 2.5 |
| -10 | | -9 | -0.0108 | 2.5 |
| 0 | | 9 | 0.0108 | 2.5 |
| 10 | | -7 | -0.0084 | 2.5 |
| 20 | | 8 | 0.0096 | 2.5 |
| 30 | | 6 | 0.0072 | 2.5 |
| 40 | | -6 | -0.0072 | 2.5 |
| 50 | | -6 | -0.0072 | 2.5 |
| 20 | | V min.= 3.2 | 6 | 0.0072 |
| | V max.= 4.0 | -7 | -0.0084 | 2.5 |

Band 7:

| 10 MHz Bandwidth | | | | | |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V _{DC}) | F _L (MHz) | F _H (MHz) | F _L Limit (MHz) | F _H Limit (MHz) |
| -30 | 3.6 | 2500.0386 | 2569.9696 | 2500 | 2570 |
| -20 | | 2500.0356 | 2569.9621 | 2500 | 2570 |
| -10 | | 2500.0399 | 2569.9676 | 2500 | 2570 |
| 0 | | 2500.0347 | 2569.9672 | 2500 | 2570 |
| 10 | | 2500.0356 | 2569.9650 | 2500 | 2570 |
| 20 | | 2500.0406 | 2569.9636 | 2500 | 2570 |
| 30 | | 2500.0354 | 2569.9625 | 2500 | 2570 |
| 40 | | 2500.0341 | 2569.9643 | 2500 | 2570 |
| 50 | | 2500.0386 | 2569.9632 | 2500 | 2570 |
| 20 | | V min.= 3.2 | 2500.0366 | 2569.9664 | 2500 |
| | V max.= 4.0 | 2500.0347 | 2569.9671 | 2500 | 2570 |

***** END OF REPORT *****