# VARIANT FCC TEST REPORT

# (PART 24)

| | |
|---|---|
| Applicant: | Xiaomi Communications Co., Ltd. |
| Address: | #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085 |

| | |
|---|---|
| Manufacturer or Supplier: | Xiaomi Communications Co., Ltd. |
| Address: | #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085 |
| Product: | Mobile Phone |
| Brand Name: | Redmi |
| Model Name: | 2409BRN2CL |
| FCC ID: | 2AFZZRN2CL |
| Date of tests: | May. 11, 2024 ~ Jul. 05, 2024<br>Oct. 16, 2024 ~ Oct. 29, 2024 |

The tests have been carried out according to the requirements of the following standard:

☒ **FCC PART 24, Subpart E** ☒ **FCC PART 2**
☒ **ANSI/TIA/EIA-603-D** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

| Prepared by Simon Wang<br>Engineer / Mobile Department | Approved by Luke Lu<br>Manager / Mobile Department |
|---|---|
| Simon Wang<br>Date: Oct. 29, 2024 | Luke Lu<br>Date: Oct. 29, 2024 |

# TABLE OF CONTENTS

# RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|---|---|---|
| W7L-P24050014RF06 | Original release | Jul. 05, 2024 |
| W7L-P24100002RF06 | Based on the original report product add 2nd materials and 5nd and 6nd screens. This report only verify EIRP and RSE worst case and verify results of EIRP are similar or lower, So this report only replaces the RSE data of GSM 1900. | Oct. 29, 2024 |

# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 24 & Part 2 | | |
|---|---|---|
| **STANDARD SECTION** | **TEST TYPE** | **RESULT** |
| §2.1046 | Conducted Output Power | Compliance |
| §24.232(c) | Equivalent Isotropic Radiated Power | Compliance |
| §2.1055<br>§24.235 | Frequency Stability | Compliance |
| §2.1049 | Occupied Bandwidth | Compliance |
| §24.232(d) | Peak to average ratio | Compliance |
| §24.238(a)(b) | Band Edge Measurements | Compliance |
| §2.1051<br>§24.238(a)(b) | Conducted Spurious Emissions | Compliance |
| §2.1053<br>§24.238(a)(b) | Radiated Spurious Emissions | Compliance |

## 1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT | UNCERTAINTY |
|---|---|
| Frequency Stability | ±76.97Hz |
| Radiated emissions (9KHz~30MHz) | ±2.68dB |
| Radiated emissions & Radiated Power (30MHz~1GHz) | ±4.98dB |
| Radiated emissions & Radiated Power (1GHz ~6GHz) | ±4.70dB |
| Radiated emissions (6GHz ~18GHz) | ±4.60dB |
| Radiated emissions (18GHz ~40GHz) | ±4.12dB |
| Conducted emissions | ±4.01dB |
| Occupied Channel Bandwidth | ±43.58KHz |
| Conducted Output power | ±2.06dB |
| Band Edge Measurements | ±4.70dB |
| Peak to average ratio | ±0.76dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 1.2 TEST SITE AND INSTRUMENTS

**#1**

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| MXE EMI Receiver | KEYSIGHT | N9038A-544 | MY54450026 | Mar. 28,24 | Mar. 27,25 |
| EXA Signal Analyzer | KEYSIGHT | N9010A-544 | MY54510355 | May.10,24 | May.09,25 |
| Loop Antenna | Schwarzbeck | FMZB 1519B | 00173 | Sep.03,23 | Sep.02,24 |
| Bilog Antenna | ETS-LINDGREN | 3143B | 00161965 | Feb. 18,24 | Feb. 17,25 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00168692 | Feb. 18,24 | Feb. 17,25 |
| Horn Antenna (18GHz-40GHz) | N/A | QWH-SL-18-40-K-SG/QMS-00361 | 15433 | Sep.04, 23 | Sep.03, 24 |
| Radio Communication Analyzer | ANRITSU | MT8820C | 6201465426 | Feb. 14,24 | Feb. 13,25 |
| Signal Pre-Amplifier | EMSI | EMC 9135 | 980249 | May. 06,24 | May. 05,25 |
| Signal Pre-Amplifier | EMSI | EMC 012645B | 980257 | May.10,24 | May.09,25 |
| Signal Pre-Amplifier | EMSI | EMC 184045B | 980259 | Feb. 17,24 | Feb.16,25 |
| 3m Semi-anechoic Chamber | ETS-LINDGREN | 9m*6m*6m | Euroshieldpn-CT0001143-1216 | Nov. 14,23 | Nov. 13,26 |
| Test Software | E3 | V 9.160323 | N/A | N/A | N/A |
| Test Software | JS1120 | 3.1.36 | N/A | N/A | N/A |
| 10dB Attenuator | JFW/USA | 50HF-010-SMA | 50HF-010-SMA | May. 06,24 | May. 05,25 |
| Power Meter | Anritsu | ML2495A | 1506002 | Feb. 14,24 | Feb. 13,25 |
| Power Sensor | Anritsu | MA2411B | 1339352 | Feb. 14,24 | Feb. 13,25 |
| Temperature Chamber | ESPEC | SH-242 | 93000855 | May. 06,24 | May. 05,25 |
| MXG Analog Microvave Signal Generator | KEYSIGHT | N5183A | MY50143024 | Feb. 14,24 | Feb. 13,25 |
| Base station R&S CMW500 | Rohde&Schwarz | CMW500 | 153085 | May.10,24 | May.09,25 |
| DC Source | Kikusui/JP | PMX18-5A | N/A | Aug. 11,23 | Aug. 10,24 |

**#2**

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| MXE EMI Receiver | KEYSIGHT | N9038A-544 | MY54450026 | Mar. 28,24 | Mar. 27,25 |
| EXA Signal Analyzer | KEYSIGHT | N9010A-544 | MY54510355 | May.10,24 | May.09,25 |
| Loop Antenna | Schwarzbeck | FMZB 1519B | 00173 | Sep.03,24 | Sep.02,25 |
| Bilog Antenna | ETS-LINDGREN | 3143B | 00161965 | Feb. 18,24 | Feb. 17,25 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00168692 | Feb. 18,24 | Feb. 17,25 |
| Horn Antenna (18GHz-40GHz) | N/A | QWH-SL-18-40-K-SG/QMS-00361 | 15433 | Sep.04, 24 | Sep.03, 25 |
| Radio Communication Analyzer | ANRITSU | MT8820C | 6201465426 | Feb. 14,24 | Feb. 13,25 |
| Signal Pre-Amplifier | EMSI | EMC 9135 | 980249 | May. 06,24 | May. 05,25 |
| Signal Pre-Amplifier | EMSI | EMC 012645B | 980257 | May.10,24 | May.09,25 |
| Signal Pre-Amplifier | EMSI | EMC 184045B | 980259 | Feb. 17,24 | Feb.16,25 |
| 3m Semi-anechoic Chamber | ETS-LINDGREN | 9m*6m*6m | Euroshieldpn-CT0001143-1216 | Nov. 14,23 | Nov. 13,26 |
| Test Software | E3 | V 9.160323 | N/A | N/A | N/A |
| Test Software | JS1120 | 3.1.36 | N/A | N/A | N/A |
| 10dB Attenuator | JFW/USA | 50HF-010-SMA | 50HF-010-SMA | May. 06,24 | May. 05,25 |
| Power Meter | Anritsu | ML2495A | 1506002 | Feb. 14,24 | Feb. 13,25 |
| Power Sensor | Anritsu | MA2411B | 1339352 | Feb. 14,24 | Feb. 13,25 |
| Temperature Chamber | ESPEC | SH-242 | 93000855 | May. 06,24 | May. 05,25 |
| MXG Analog Microvave Signal Generator | KEYSIGHT | N5183A | MY50143024 | Feb. 14,24 | Feb. 13,25 |
| Base station R&S CMW500 | Rohde&Schwarz | CMW500 | 153085 | May.10,24 | May.09,25 |
| DC Source | Kikusui/JP | PMX18-5A | N/A | Aug. 11,24 | Aug. 10,25 |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months or 36 months, and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

# 2 GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

| | | |
|---|---|---|
| **PRODUCT** | Mobile Phone | |
| **BRAND NAME** | Redmi | |
| **MODEL NAME** | 2409BRN2CL | |
| **NOMINAL VOLTAGE** | 5/3.6~11Vdc(adapter or host equipment)<br>3.84Vdc (Li-ion, battery) | |
| **MODULATION TYPE** | **GSM/GPRS:** GMSK<br>**EDGE:** 8PSK<br>**WCDMA:** BPSK, QPSK<br>**LTE Band 2:** QPSK, 16QAM, 64QAM | |
| **FREQUENCY RANGE** | **GSM, EDGE** | 1850.2MHz ~ 1909.8MHz |
| | **WCDMA** | 1852.4MHz ~ 1907.6MHz |
| | **LTE Band 2<br>Channel Bandwidth: 1.4MHz** | 1850.7MHz ~ 1909.3MHz |
| | **LTE Band 2<br>Channel Bandwidth: 3MHz** | 1851.5MHz ~ 1908.5MHz |
| | **LTE Band 2<br>Channel Bandwidth: 5MHz** | 1852.5MHz ~ 1907.5MHz |
| | **LTE Band 2<br>Channel Bandwidth: 10MHz** | 1855.0MHz ~ 1905.0MHz |
| | **LTE Band 2<br>Channel Bandwidth: 15MHz** | 1857.5MHz ~ 1902.5MHz |
| | **LTE Band 2<br>Channel Bandwidth: 20MHz** | 1860.0MHz ~ 1900.0MHz |
| **MAX. EIRP POWER** | **GSM** | 801.68mW |
| | **EDGE** | 392.64mW |
| | **WCDMA** | 269.77mW |
| | **LTE Band 2<br>Channel Bandwidth: 1.4MHz** | 252.93mW |
| | **LTE Band 2<br>Channel Bandwidth: 3MHz** | 248.31mW |
| | **LTE Band 2<br>Channel Bandwidth: 5MHz** | 250.03mW |
| | **LTE Band 2<br>Channel Bandwidth: 10MHz** | 249.46mW |
| | **LTE Band 2<br>Channel Bandwidth: 15MHz** | 252.35mW |

| | | |
|---|---|---|
| | **LTE Band 2<br>Channel Bandwidth: 20MHz** | 255.27mW |
| **EMISSION DESIGNATOR** | **GSM** | 250KGXW |
| | **EDGE** | 252KG7W |
| | **WCDMA** | 4M17F9W |
| | **LTE Band 2<br>Channel Bandwidth: 1.4MHz** | QPSK: 1M10G7D |
| | | 16QAM: 1M10W7D |
| | **LTE Band 2<br>Channel Bandwidth: 3MHz** | QPSK: 2M69G7D |
| | | 16QAM: 2M69W7D |
| | **LTE Band 2<br>Channel Bandwidth: 5MHz** | QPSK: 4M50G7D |
| | | 16QAM: 4M50W7D |
| | **LTE Band 2<br>Channel Bandwidth: 10MHz** | QPSK: 9M01G7D |
| | | 16QAM: 9M01W7D |
| | **LTE Band 2<br>Channel Bandwidth: 15MHz** | QPSK: 13M5G7D |
| | | 16QAM: 13M5W7D |
| | **LTE Band 2<br>Channel Bandwidth: 20MHz** | QPSK: 18M0G7D |
| | | 16QAM: 18M0W7D |
| **ANTENNA TYPE** | ANT 0(UP):<br>PIFA Antenna with -0.3dBi gain for GSM1900/ WCDMA II/LTE B2<br>ANT 1(DOWN):<br>PIFA Antenna with -0.5dBi gain for GSM1900/ WCDMA II/LTE B2 | |
| **HW VERSION** | 135100C3N | |
| **SW VERSION** | Xiaomi HyperOS 1.0 | |
| **IMEI** | 867957070066520 | |
| **I/O PORTS** | Refer to user's manual | |
| **CABLE SUPPLIED** | USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable3: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable4: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable5: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable6: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable7: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable8: non-shielded cable, with w/o ferrite core, 1.0 meter | |
| **EXTREME TEMPERATURE** | 0-40 ℃ | |
| **EXTREME VOLTAGE** | 3.6V - 4.4V | |

**NOTE**:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Physically, the EUT provides two completed transmitter and two receiver.

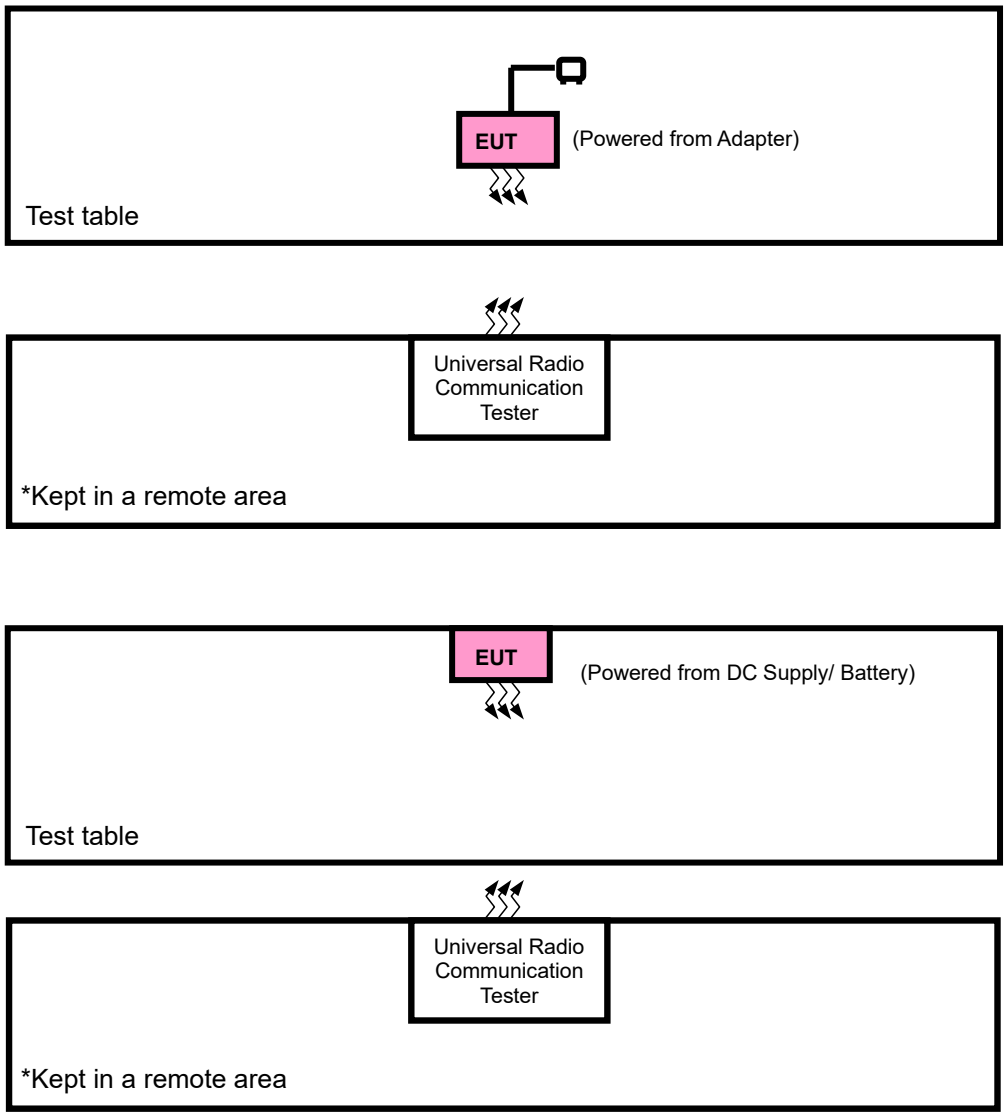
| MODULATION MODE | TX FUNCTION |
|---|---|
| GSM/GPRS/EDGE | 2TX/2RX |
| WCDMA | 2TX/2RX |
| LTE | 2TX/2RX |

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in the test report.

4. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.

## 2.2 CONFIGURATION OF SYSTEM UNDER TEST

### FOR RADIATION EMISSION TEST



## 2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|---|---|---|---|---|---|
| 1 | DC source | Kikusui/JP | PMX18-5A | 0000001 | N/A |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|---|---|
| 1 | DC Line: Unshielded, Detachable 1.0m |

## 2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports The worst case in EIRP and radiated emission was found when positioned on X-plane for GSM/EDGE/ WCDMA/ LTE. Following channel(s) was (were) selected for the final test as listed below:

| EUT CONFIGURE MODE | DESCRIPTION |
|---|---|
| A | EUT + Adapter with GSM or WCDMA or LTE link |
| B | EUT + DC source with GSM or WCDMA or LTE link |

**GSM MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | MODE |
|---|---|---|---|---|
| A | EIRP | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| B | FREQUENCY STABILITY | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| A | OCCUPIED BANDWIDTH | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| A | PEAK TO AVERAGE RATIO | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| A | BAND EDGE | 512 to 810 | 512, 810 | GSM, EDGE |
| A | CONDCUDETED EMISSION | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| A | RADIATED EMISSION | 512 to 810 | 512, 661, 810 | GSM, EDGE |

## WCDMA

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | MODE |
|---|---|---|---|---|
| **A** | EIRP | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |
| **B** | FREQUENCY STABILITY | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |
| **A** | OCCUPIED BANDWIDTH | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |
| **A** | PEAK TO AVERAGE RATIO | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |
| **A** | BAND EDGE | 9262 to 9538 | 9262, 9538 | WCDMA |
| **A** | CONDCUDETED EMISSION | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |
| **A** | RADIATED EMISSION | 9262 to 9538 | 9262, 9400, 9538 | WCDMA |

## LTE BAND 2 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | EIRP | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| | | 18615 to 19185 | 18615, 18900, 19185 | 3MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| | | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| | | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| | | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| | | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK,16QAM, 64QAM | 1 RB / 0 RB Offset |
| B | FREQUENCY STABILITY | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK | 100 RB / 0 RB Offset |
| A | OCCUPIED BANDWIDTH | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK,16QAM | 6 RB / 0 RB Offset |
| | | 18615 to 19185 | 18615, 18900, 19185 | 3MHz | QPSK,16QAM | 15 RB / 0 RB Offset |
| | | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK,16QAM | 25 RB / 0 RB Offset |
| | | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK,16QAM | 50 RB / 0 RB Offset |
| | | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK,16QAM | 75 RB / 0 RB Offset |
| | | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK,16QAM | 100 RB / 0 RB Offset |
| A | PEAK TO AVERAGE RATIO | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | c | 1 RB / 0 RB Offset<br>100 RB / 0 RB Offset |

| | | | | | | |
|---|---|---|---|---|---|---|
| A | BAND EDGE | 18607 to 19193 | 18607 | 1.4MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 6 RB / 0 RB Offset |
| | | | 19193 | 1.4MHz | QPSK,16QAM | 1 RB / 5 RB Offset |
| | | | | | | 6 RB / 0 RB Offset |
| | | 18615 to 19185 | 18615 | 3MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 15 RB / 0 RB Offset |
| | | | 19185 | 3MHz | QPSK,16QAM | 1 RB / 14 RB Offset |
| | | | | | | 15 RB / 0 RB Offset |
| | | 18625 to 19175 | 18625 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 25 RB / 0 RB Offset |
| | | | 19175 | 5MHz | QPSK,16QAM | 1 RB / 24 RB Offset |
| | | | | | | 25 RB / 0 RB Offset |
| | | 18650 to 19150 | 18650 | 10MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 50 RB / 0 RB Offset |
| | | | 19150 | 10MHz | QPSK,16QAM | 1 RB / 49 RB Offset |
| | | | | | | 50 RB / 0 RB Offset |
| | | 18675 to 19125 | 18675 | 15MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 75 RB / 0 RB Offset |
| | | | 19125 | 15MHz | QPSK,16QAM | 1 RB / 74 RB Offset |
| | | | | | | 75 RB / 0 RB Offset |
| | | 18700 to 19100 | 18700 | 20MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | | | | | 100 RB / 0 RB Offset |
| | | | 19100 | 20MHz | QPSK,16QAM | 1 RB / 99 RB Offset |
| | | | | | | 100 RB / 0 RB Offset |
| A | CONDCUDETED EMISSION | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18615 to 19185 | 18615, 18900, 19185 | 3MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK | 1 RB / 0 RB Offset |
| A | RADIATED EMISSION | 18607 to 19193 | 18900 | 1.4MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18615 to 19185 | 18900 | 3MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18625 to 19175 | 18900 | 5MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18675 to 19125 | 18900 | 15MHz | QPSK | 1 RB / 0 RB Offset |
| | | 18700 to 19100 | 18900 | 20MHz | QPSK | 1 RB / 0 RB Offset |

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

**TEST CONDITION:**

| TEST ITEM | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|---|---|---|---|
| EIRP | 25deg. C, 57%RH | DC 5/3.6~11V By Adapter | Jace Hu |
| FREQUENCY STABILITY | 25deg. C, 57%RH | DC 3.6/3.84/4.4 By DC Source | James Fu |
| OCCUPIED BANDWIDTH | 23deg. C, 61%RH | DC 5/3.6~11V By Adapter | James Fu |
| PEAK TO AVERAGE RATIO | 23deg. C, 61%RH | DC 5/3.6~11V By Adapter | James Fu |
| BAND EDGE | 23deg. C, 61%RH | DC 5/3.6~11V By Adapter | James Fu |
| CONDCUDETED EMISSION | 23deg. C, 61%RH | DC 5/3.6~11V By Adapter | James Fu |
| RADIATED EMISSION | 23deg. C, 70%RH | DC 5/3.6~11V By Adapter | Jace Hu |

## 2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

## 2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 24**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-D**

**ANSI/TIA/EIA-603-E**

**ANSI C63.26-2015**

**NOTE:** All test items have been performed and recorded as per the above standards.

# 3 TEST TYPES AND RESULTS

## 3.1 OUTPUT POWER MEASUREMENT

### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile and portable stations are limited to 2 watts EIRP.

### 3.1.2 TEST PROCEDURES

**EIRP MEASUREMENT:**

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotopically radiated power, respectively

(expressed in the same units as $P_{Meas}$, typically dBW or dBm);

$P_{Meas}$ = measured transmitter output power or PSD, in dBm or dBW;

$G_T$ = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_C$ = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

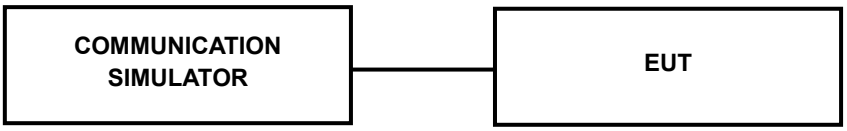
**CONDUCTED POWER MEASUREMENT:**

The EUT was set up for the maximum power with WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

## 3.1.3 TEST SETUP

**EIRP / ERP Measurement:**

**CONDUCTED POWER MEASUREMENT:**




## 3.1.4 TEST RESULTS

**CONDUCTED OUTPUT POWER (dBm)**

**Ant 0(UP):**

| Band | GSM1900 | | |
|---|---|---|---|
| Channel | 512 | 661 | 810 |
| Frequency (MHz) | 1850.2 | 1880 | 1909.8 |
| GSM | 29.26 | 29.25 | **29.34** |
| GPRS (GMSK, 1Tx-slot) | 29.27 | 29.24 | 29.33 |
| GPRS (GMSK, 2Tx-slot) | 25.66 | 25.71 | 25.93 |
| GPRS (GMSK, 3Tx-slot) | 23.83 | 23.94 | 24.17 |
| GPRS (GMSK, 4Tx-slot) | 22.84 | 22.99 | 23.23 |
| EDGE (8PSK, 1Tx-slot) | 26.08 | 26.06 | 26.24 |
| EDGE (8PSK, 2Tx-slot) | 22.91 | 22.94 | 23.22 |
| EDGE (8PSK, 3Tx-slot) | 21.07 | 21.10 | 21.30 |
| EDGE (8PSK, 4Tx-slot) | 19.91 | 19.96 | 20.11 |

| Band | WCDMA II | | |
|---|---|---|---|
| Channel | 9262 | 9400 | 9538 |
| Frequency (MHz) | 1852.4 | 1880 | 1907.6 |
| RMC 12.2K | 24.57 | **24.61** | 24.60 |
| HSDPA Subtest-1 | 23.76 | 23.77 | 23.71 |
| HSDPA Subtest-2 | 23.75 | 23.76 | 23.72 |
| HSDPA Subtest-3 | 23.25 | 23.29 | 23.23 |
| HSDPA Subtest-4 | 23.21 | 23.27 | 23.30 |
| DC-HSDPA Subtest-1 | 23.69 | 23.79 | 23.76 |
| DC-HSDPA Subtest-2 | 23.76 | 23.79 | 23.72 |
| DC-HSDPA Subtest-3 | 23.22 | 23.29 | 23.28 |
| DC-HSDPA Subtest-4 | 23.19 | 23.30 | 23.19 |
| HSUPA Subtest-1 | 21.88 | 21.92 | 21.94 |
| HSUPA Subtest-2 | 21.59 | 21.69 | 21.67 |
| HSUPA Subtest-3 | 22.57 | 22.52 | 22.54 |
| HSUPA Subtest-4 | 21.24 | 21.31 | 21.27 |
| HSUPA Subtest-5 | 22.54 | 22.55 | 22.59 |
| HSPA+ Subtest-1 | 21.80 | 21.87 | 21.84 |

**LTE BAND 2**

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18607 | Mid CH 18900 | High CH 19193 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1850.7 MHz | Frequency 1880 MHz | Frequency 1909.3 MHz |
| 2/ 1.4 | QPSK | 1 | 0 | 24.03 | 23.92 | 23.76 |
| | | 1 | 2 | 24.33 | 24.21 | 24.24 |
| | | 1 | 5 | 23.88 | 23.82 | 23.86 |
| | | 3 | 0 | 23.88 | 24.00 | 24.02 |
| | | 3 | 1 | 24.06 | 23.99 | 24.05 |
| | | 3 | 3 | 23.96 | 23.98 | 23.81 |
| | | 6 | 0 | 23.18 | 23.13 | 23.09 |
| | 16QAM | 1 | 0 | 23.24 | 23.28 | 23.03 |
| | | 1 | 2 | 23.43 | 23.48 | 23.38 |
| | | 1 | 5 | 23.06 | 23.17 | 23.08 |
| | | 3 | 0 | 22.99 | 23.14 | 23.04 |
| | | 3 | 1 | 23.06 | 23.11 | 23.04 |
| | | 3 | 3 | 22.95 | 23.07 | 22.82 |
| | | 6 | 0 | 22.13 | 22.24 | 22.01 |
| | 64QAM | 1 | 0 | 22.57 | 22.30 | 22.15 |
| | | 1 | 2 | 22.80 | 22.59 | 22.33 |
| | | 1 | 5 | 22.36 | 22.21 | 22.13 |
| | | 3 | 0 | 21.90 | 22.01 | 22.05 |
| | | 3 | 1 | 21.97 | 22.07 | 22.01 |
| | | 3 | 3 | 21.87 | 22.03 | 21.71 |
| | | 6 | 0 | 21.08 | 21.16 | 21.11 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18615 | Mid CH 18900 | High CH 19185 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1851.5 MHz | Frequency 1880 MHz | Frequency 1908.5 MHz |
| 2/ 3 | QPSK | 1 | 0 | 24.04 | 23.93 | 23.82 |
| | | 1 | 7 | 24.25 | 24.16 | 24.22 |
| | | 1 | 14 | 23.94 | 23.83 | 23.84 |
| | | 8 | 0 | 23.14 | 23.17 | 23.14 |
| | | 8 | 3 | 23.25 | 23.15 | 23.17 |
| | | 8 | 7 | 23.10 | 23.11 | 23.01 |
| | | 15 | 0 | 23.15 | 23.17 | 23.11 |
| | 16QAM | 1 | 0 | 23.23 | 23.16 | 23.13 |
| | | 1 | 7 | 23.50 | 23.56 | 23.39 |
| | | 1 | 14 | 23.18 | 23.28 | 23.00 |
| | | 8 | 0 | 22.22 | 22.34 | 22.17 |
| | | 8 | 3 | 22.17 | 22.22 | 22.23 |
| | | 8 | 7 | 22.07 | 22.32 | 22.02 |
| | | 15 | 0 | 22.15 | 22.18 | 22.02 |
| | 64QAM | 1 | 0 | 22.56 | 22.23 | 22.14 |
| | | 1 | 7 | 22.83 | 22.59 | 22.41 |
| | | 1 | 14 | 22.37 | 22.27 | 22.09 |
| | | 8 | 0 | 21.16 | 21.15 | 21.18 |
| | | 8 | 3 | 21.21 | 21.12 | 21.16 |
| | | 8 | 7 | 21.06 | 21.28 | 20.95 |
| | | 15 | 0 | 21.15 | 21.21 | 21.11 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18625 | Mid CH 18900 | High CH 19175 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1852.5 MHz | Frequency 1880 MHz | Frequency 1907.5 MHz |
| 2/ 5 | QPSK | 1 | 0 | 24.02 | 23.86 | 23.83 |
| | | 1 | 12 | 24.28 | 24.19 | 24.23 |
| | | 1 | 24 | 23.96 | 23.81 | 23.83 |
| | | 12 | 0 | 23.07 | 23.12 | 23.14 |
| | | 12 | 6 | 23.25 | 23.11 | 23.25 |
| | | 12 | 13 | 23.10 | 23.20 | 22.93 |
| | | 25 | 0 | 23.17 | 23.13 | 23.07 |
| | 16QAM | 1 | 0 | 23.24 | 23.28 | 23.04 |
| | | 1 | 12 | 23.53 | 23.58 | 23.37 |
| | | 1 | 24 | 23.17 | 23.17 | 23.01 |
| | | 12 | 0 | 22.15 | 22.25 | 22.21 |
| | | 12 | 6 | 22.20 | 22.25 | 22.17 |
| | | 12 | 13 | 22.18 | 22.26 | 21.95 |
| | | 25 | 0 | 22.16 | 22.19 | 22.12 |
| | 64QAM | 1 | 0 | 22.63 | 22.28 | 22.21 |
| | | 1 | 12 | 22.88 | 22.55 | 22.33 |
| | | 1 | 24 | 22.50 | 22.32 | 22.02 |
| | | 12 | 0 | 21.09 | 21.15 | 21.18 |
| | | 12 | 6 | 21.15 | 21.12 | 21.19 |
| | | 12 | 13 | 21.19 | 21.28 | 20.97 |
| | | 25 | 0 | 21.08 | 21.26 | 21.10 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18650 | Mid CH 18900 | High CH 19150 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1855 MHz | Frequency 1880 MHz | Frequency 1905 MHz |
| 2/ 10 | QPSK | 1 | 0 | 24.07 | 23.97 | 23.85 |
| | | 1 | 24 | 24.27 | 24.22 | 24.16 |
| | | 1 | 49 | 23.93 | 23.81 | 23.85 |
| | | 25 | 0 | 23.08 | 23.24 | 23.19 |
| | | 25 | 12 | 23.20 | 23.19 | 23.28 |
| | | 25 | 25 | 23.05 | 23.22 | 22.97 |
| | | 50 | 0 | 23.10 | 23.17 | 23.15 |
| | 16QAM | 1 | 0 | 23.18 | 23.23 | 23.05 |
| | | 1 | 24 | 23.54 | 23.57 | 23.34 |
| | | 1 | 49 | 23.15 | 23.15 | 23.03 |
| | | 25 | 0 | 22.18 | 22.32 | 22.12 |
| | | 25 | 12 | 22.23 | 22.19 | 22.24 |
| | | 25 | 25 | 22.08 | 22.29 | 22.06 |
| | | 50 | 0 | 22.16 | 22.28 | 22.00 |
| | 64QAM | 1 | 0 | 22.51 | 22.31 | 22.16 |
| | | 1 | 24 | 22.83 | 22.58 | 22.37 |
| | | 1 | 49 | 22.37 | 22.23 | 22.14 |
| | | 25 | 0 | 21.16 | 21.18 | 21.09 |
| | | 25 | 12 | 21.26 | 21.25 | 21.15 |
| | | 25 | 25 | 21.07 | 21.32 | 20.98 |
| | | 50 | 0 | 21.17 | 21.17 | 21.10 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18675 | Mid CH 18900 | High CH 19125 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1857.5 MHz | Frequency 1880 MHz | Frequency 1902.5 MHz |
| 2/ 15 | QPSK | 1 | 0 | 23.99 | 23.87 | 23.75 |
| | | 1 | 37 | 24.32 | 24.26 | 24.24 |
| | | 1 | 74 | 23.96 | 23.84 | 23.78 |
| | | 36 | 0 | 23.13 | 23.22 | 23.19 |
| | | 36 | 19 | 23.12 | 23.15 | 23.20 |
| | | 36 | 39 | 23.07 | 23.14 | 22.98 |
| | | 75 | 0 | 23.18 | 23.21 | 23.11 |
| | 16QAM | 1 | 0 | 23.16 | 23.25 | 23.03 |
| | | 1 | 37 | 23.52 | 23.50 | 23.37 |
| | | 1 | 74 | 23.07 | 23.17 | 23.07 |
| | | 36 | 0 | 22.12 | 22.21 | 22.12 |
| | | 36 | 19 | 22.27 | 22.31 | 22.21 |
| | | 36 | 39 | 22.06 | 22.23 | 22.05 |
| | | 75 | 0 | 22.18 | 22.17 | 22.05 |
| | 64QAM | 1 | 0 | 22.58 | 22.34 | 22.14 |
| | | 1 | 37 | 22.85 | 22.61 | 22.37 |
| | | 1 | 74 | 22.48 | 22.19 | 22.04 |
| | | 36 | 0 | 21.22 | 21.24 | 21.10 |
| | | 36 | 19 | 21.18 | 21.18 | 21.14 |
| | | 36 | 39 | 21.11 | 21.21 | 21.01 |
| | | 75 | 0 | 21.13 | 21.16 | 21.03 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18700 | Mid CH 18900 | High CH 19100 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1860 MHz | Frequency 1880 MHz | Frequency 1900 MHz |
| 2/ 20 | QPSK | 1 | 0 | 24.10 | 23.98 | 23.86 |
| | | 1 | 50 | **24.37** | 24.27 | 24.25 |
| | | 1 | 99 | 24.00 | 23.93 | 23.87 |
| | | 50 | 0 | 23.20 | 23.21 | 23.24 |
| | | 50 | 25 | 23.27 | 23.25 | 23.30 |
| | | 50 | 50 | 23.17 | 23.26 | 23.07 |
| | | 100 | 0 | 23.22 | 23.21 | 23.18 |
| | 16QAM | 1 | 0 | 23.29 | 23.30 | 23.18 |
| | | 1 | 50 | 23.58 | 23.61 | 23.44 |
| | | 1 | 99 | 23.21 | 23.29 | 23.11 |
| | | 50 | 0 | 22.25 | 22.36 | 22.26 |
| | | 50 | 25 | 22.30 | 22.33 | 22.28 |
| | | 50 | 50 | 22.19 | 22.38 | 22.09 |
| | | 100 | 0 | 22.24 | 22.31 | 22.15 |
| | 64QAM | 1 | 0 | 22.65 | 22.36 | 22.22 |
| | | 1 | 50 | 22.93 | 22.63 | 22.47 |
| | | 1 | 99 | 22.51 | 22.33 | 22.16 |
| | | 50 | 0 | 21.23 | 21.28 | 21.24 |
| | | 50 | 25 | 21.29 | 21.27 | 21.25 |
| | | 50 | 50 | 21.20 | 21.33 | 21.04 |
| | | 100 | 0 | 21.19 | 21.30 | 21.14 |

**Ant 1(DOWN):**

| Band | GSM1900 | | |
|---|---|---|---|
| Channel | 512 | 661 | 810 |
| Frequency (MHz) | 1850.2 | 1880 | 1909.8 |
| GSM | 29.41 | **29.42** | 29.31 |
| GPRS (GMSK, 1Tx-slot) | 29.36 | 29.40 | 29.30 |
| GPRS (GMSK, 2Tx-slot) | 25.75 | 25.89 | 25.96 |
| GPRS (GMSK, 3Tx-slot) | 23.92 | 24.10 | 24.22 |
| GPRS (GMSK, 4Tx-slot) | 22.95 | 23.13 | 23.28 |
| EDGE (8PSK, 1Tx-slot) | 25.83 | 26.08 | 26.11 |
| EDGE (8PSK, 2Tx-slot) | 22.81 | 22.98 | 23.14 |
| EDGE (8PSK, 3Tx-slot) | 20.96 | 21.23 | 21.37 |
| EDGE (8PSK, 4Tx-slot) | 19.99 | 20.04 | 20.20 |

| Band | WCDMA II | | |
|---|---|---|---|
| Channel | 9262 | 9400 | 9538 |
| Frequency (MHz) | 1852.4 | 1880 | 1907.6 |
| RMC 12.2K | 24.42 | **24.45** | 24.35 |
| HSDPA Subtest-1 | 23.59 | 23.60 | 23.46 |
| HSDPA Subtest-2 | 23.59 | 23.60 | 23.49 |
| HSDPA Subtest-3 | 23.05 | 23.10 | 22.98 |
| HSDPA Subtest-4 | 23.12 | 23.07 | 23.04 |
| DC-HSDPA Subtest-1 | 23.54 | 23.59 | 23.49 |
| DC-HSDPA Subtest-2 | 23.54 | 23.57 | 23.47 |
| DC-HSDPA Subtest-3 | 23.04 | 23.14 | 22.97 |
| DC-HSDPA Subtest-4 | 23.07 | 23.12 | 23.01 |
| HSUPA Subtest-1 | 21.74 | 21.75 | 21.72 |
| HSUPA Subtest-2 | 21.50 | 21.47 | 21.41 |
| HSUPA Subtest-3 | 22.33 | 22.37 | 22.26 |
| HSUPA Subtest-4 | 21.12 | 21.07 | 21.01 |
| HSUPA Subtest-5 | 22.36 | 22.36 | 22.29 |
| HSPA+ Subtest-1 | 21.65 | 21.69 | 21.54 |

**LTE BAND 2**

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18607 | Mid CH 18900 | High CH 19193 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1850.7 MHz | Frequency 1880 MHz | Frequency 1909.3 MHz |
| 2/ 1.4 | QPSK | 1 | 0 | 24.07 | 24.04 | 24.10 |
| | | 1 | 2 | 24.36 | 24.40 | 24.46 |
| | | 1 | 5 | 24.04 | 23.98 | 24.10 |
| | | 3 | 0 | 24.24 | 24.23 | 24.35 |
| | | 3 | 1 | 24.29 | 24.23 | 24.24 |
| | | 3 | 3 | 24.21 | 24.30 | 24.18 |
| | | 6 | 0 | 23.38 | 23.33 | 23.50 |
| | 16QAM | 1 | 0 | 23.51 | 23.32 | 23.29 |
| | | 1 | 2 | 23.86 | 23.64 | 23.60 |
| | | 1 | 5 | 23.39 | 23.32 | 23.23 |
| | | 3 | 0 | 23.22 | 23.27 | 23.35 |
| | | 3 | 1 | 23.31 | 23.23 | 23.32 |
| | | 3 | 3 | 23.27 | 23.42 | 23.08 |
| | | 6 | 0 | 22.42 | 22.48 | 22.44 |
| | 64QAM | 1 | 0 | 22.43 | 22.26 | 22.27 |
| | | 1 | 2 | 22.70 | 22.63 | 22.53 |
| | | 1 | 5 | 22.35 | 22.22 | 22.31 |
| | | 3 | 0 | 22.21 | 22.31 | 22.29 |
| | | 3 | 1 | 22.31 | 22.21 | 22.29 |
| | | 3 | 3 | 22.17 | 22.32 | 22.05 |
| | | 6 | 0 | 21.40 | 21.50 | 21.39 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18615 | Mid CH 18900 | High CH 19185 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1851.5 MHz | Frequency 1880 MHz | Frequency 1908.5 MHz |
| 2/ 3 | QPSK | 1 | 0 | 24.04 | 24.05 | 24.10 |
| | | 1 | 7 | 24.35 | 24.29 | 24.43 |
| | | 1 | 14 | 24.09 | 24.04 | 24.02 |
| | | 8 | 0 | 23.43 | 23.47 | 23.50 |
| | | 8 | 3 | 23.48 | 23.46 | 23.51 |
| | | 8 | 7 | 23.40 | 23.51 | 23.35 |
| | | 15 | 0 | 23.46 | 23.50 | 23.41 |
| | 16QAM | 1 | 0 | 23.41 | 23.33 | 23.32 |
| | | 1 | 7 | 23.73 | 23.71 | 23.55 |
| | | 1 | 14 | 23.37 | 23.38 | 23.24 |
| | | 8 | 0 | 22.51 | 22.39 | 22.52 |
| | | 8 | 3 | 22.62 | 22.55 | 22.48 |
| | | 8 | 7 | 22.34 | 22.64 | 22.25 |
| | | 15 | 0 | 22.42 | 22.45 | 22.43 |
| | 64QAM | 1 | 0 | 22.42 | 22.30 | 22.29 |
| | | 1 | 7 | 22.68 | 22.72 | 22.57 |
| | | 1 | 14 | 22.31 | 22.24 | 22.43 |
| | | 8 | 0 | 21.40 | 21.48 | 21.43 |
| | | 8 | 3 | 21.42 | 21.50 | 21.49 |
| | | 8 | 7 | 21.41 | 21.52 | 21.23 |
| | | 15 | 0 | 21.42 | 21.42 | 21.41 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18625 | Mid CH 18900 | High CH 19175 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1852.5 MHz | Frequency 1880 MHz | Frequency 1907.5 MHz |
| 2/ 5 | QPSK | 1 | 0 | 24.17 | 24.01 | 23.99 |
| | | 1 | 12 | 24.37 | 24.31 | 24.42 |
| | | 1 | 24 | 24.09 | 23.97 | 24.03 |
| | | 12 | 0 | 23.43 | 23.35 | 23.46 |
| | | 12 | 6 | 23.41 | 23.43 | 23.44 |
| | | 12 | 13 | 23.30 | 23.58 | 23.36 |
| | | 25 | 0 | 23.44 | 23.37 | 23.43 |
| | 16QAM | 1 | 0 | 23.48 | 23.28 | 23.32 |
| | | 1 | 12 | 23.77 | 23.72 | 23.64 |
| | | 1 | 24 | 23.38 | 23.42 | 23.34 |
| | | 12 | 0 | 22.51 | 22.47 | 22.52 |
| | | 12 | 6 | 22.60 | 22.43 | 22.52 |
| | | 12 | 13 | 22.41 | 22.57 | 22.33 |
| | | 25 | 0 | 22.38 | 22.47 | 22.38 |
| | 64QAM | 1 | 0 | 22.40 | 22.36 | 22.23 |
| | | 1 | 12 | 22.61 | 22.65 | 22.47 |
| | | 1 | 24 | 22.37 | 22.29 | 22.30 |
| | | 12 | 0 | 21.47 | 21.40 | 21.44 |
| | | 12 | 6 | 21.50 | 21.41 | 21.50 |
| | | 12 | 13 | 21.40 | 21.50 | 21.24 |
| | | 25 | 0 | 21.44 | 21.49 | 21.34 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18650 | Mid CH 18900 | High CH 19150 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1855 MHz | Frequency 1880 MHz | Frequency 1905 MHz |
| 2/ 10 | QPSK | 1 | 0 | 24.04 | 24.02 | 23.99 |
| | | 1 | 24 | 24.36 | 24.33 | 24.39 |
| | | 1 | 49 | 24.11 | 24.02 | 24.07 |
| | | 25 | 0 | 23.38 | 23.37 | 23.51 |
| | | 25 | 12 | 23.45 | 23.34 | 23.50 |
| | | 25 | 25 | 23.32 | 23.53 | 23.29 |
| | | 50 | 0 | 23.32 | 23.39 | 23.34 |
| | 16QAM | 1 | 0 | 23.43 | 23.35 | 23.31 |
| | | 1 | 24 | 23.80 | 23.62 | 23.60 |
| | | 1 | 49 | 23.38 | 23.42 | 23.23 |
| | | 25 | 0 | 22.47 | 22.42 | 22.43 |
| | | 25 | 12 | 22.51 | 22.41 | 22.41 |
| | | 25 | 25 | 22.43 | 22.62 | 22.33 |
| | | 50 | 0 | 22.43 | 22.53 | 22.35 |
| | 64QAM | 1 | 0 | 22.33 | 22.34 | 22.27 |
| | | 1 | 24 | 22.57 | 22.62 | 22.53 |
| | | 1 | 49 | 22.37 | 22.32 | 22.39 |
| | | 25 | 0 | 21.41 | 21.49 | 21.50 |
| | | 25 | 12 | 21.41 | 21.43 | 21.50 |
| | | 25 | 25 | 21.36 | 21.47 | 21.31 |
| | | 50 | 0 | 21.37 | 21.45 | 21.43 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18675 | Mid CH 18900 | High CH 19125 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1857.5 MHz | Frequency 1880 MHz | Frequency 1902.5 MHz |
| 2/ 15 | QPSK | 1 | 0 | 24.13 | 24.03 | 24.07 |
| | | 1 | 37 | 24.36 | 24.29 | 24.41 |
| | | 1 | 74 | 24.04 | 24.01 | 24.11 |
| | | 36 | 0 | 23.38 | 23.45 | 23.46 |
| | | 36 | 19 | 23.51 | 23.34 | 23.49 |
| | | 36 | 39 | 23.32 | 23.59 | 23.36 |
| | | 75 | 0 | 23.43 | 23.41 | 23.35 |
| | 16QAM | 1 | 0 | 23.49 | 23.32 | 23.35 |
| | | 1 | 37 | 23.85 | 23.65 | 23.57 |
| | | 1 | 74 | 23.38 | 23.31 | 23.26 |
| | | 36 | 0 | 22.38 | 22.36 | 22.51 |
| | | 36 | 19 | 22.51 | 22.49 | 22.41 |
| | | 36 | 39 | 22.39 | 22.58 | 22.34 |
| | | 75 | 0 | 22.43 | 22.39 | 22.45 |
| | 64QAM | 1 | 0 | 22.32 | 22.37 | 22.35 |
| | | 1 | 37 | 22.69 | 22.66 | 22.60 |
| | | 1 | 74 | 22.37 | 22.31 | 22.39 |
| | | 36 | 0 | 21.42 | 21.44 | 21.42 |
| | | 36 | 19 | 21.49 | 21.52 | 21.54 |
| | | 36 | 39 | 21.41 | 21.47 | 21.29 |
| | | 75 | 0 | 21.38 | 21.52 | 21.39 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 18700 | Mid CH 18900 | High CH 19100 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1860 MHz | Frequency 1880 MHz | Frequency 1900 MHz |
| 2/ 20 | QPSK | 1 | 0 | 24.18 | 24.14 | 24.14 |
| | | 1 | 50 | 24.43 | 24.42 | **24.52** |
| | | 1 | 99 | 24.17 | 24.12 | 24.15 |
| | | 50 | 0 | 23.45 | 23.47 | 23.55 |
| | | 50 | 25 | 23.52 | 23.49 | 23.57 |
| | | 50 | 50 | 23.44 | 23.46 | 23.41 |
| | | 100 | 0 | 23.47 | 23.48 | 23.52 |
| | 16QAM | 1 | 0 | 23.54 | 23.38 | 23.42 |
| | | 1 | 50 | 23.87 | 23.77 | 23.66 |
| | | 1 | 99 | 23.44 | 23.45 | 23.37 |
| | | 50 | 0 | 22.52 | 22.51 | 22.54 |
| | | 50 | 25 | 22.64 | 22.56 | 22.53 |
| | | 50 | 50 | 22.49 | 22.66 | 22.37 |
| | | 100 | 0 | 22.51 | 22.54 | 22.47 |
| | 64QAM | 1 | 0 | 22.45 | 22.41 | 22.38 |
| | | 1 | 50 | 22.72 | 22.76 | 22.62 |
| | | 1 | 99 | 22.38 | 22.37 | 22.44 |
| | | 50 | 0 | 21.49 | 21.54 | 21.54 |
| | | 50 | 25 | 21.53 | 21.53 | 21.57 |
| | | 50 | 50 | 21.43 | 21.59 | 21.37 |
| | | 100 | 0 | 21.45 | 21.55 | 21.44 |

**EIRP POWER (dBm)**
**Ant 0(UP):**

**GSM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 512 | 1850.2 | 29.27 | -0.3 | 28.97 | 788.86 | 2 |
| 661 | 1880.0 | 29.25 | -0.3 | 28.95 | 785.24 | 2 |
| 810 | 1909.8 | 29.34 | -0.3 | 29.04 | 801.68 | 2 |

**EDGE**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 512 | 1850.2 | 26.08 | -0.3 | 25.78 | 378.44 | 2 |
| 661 | 1880.0 | 26.06 | -0.3 | 25.76 | 376.7 | 2 |
| 810 | 1909.8 | 26.24 | -0.3 | 25.94 | 392.64 | 2 |

**WCDMA**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 9262 | 1852.4 | 24.57 | -0.3 | 24.27 | 267.3 | 2 |
| 9400 | 1880 | 24.61 | -0.3 | 24.31 | 269.77 | 2 |
| 9538 | 1907.6 | 24.6 | -0.3 | 24.3 | 269.15 | 2 |

**LTE BAND 2**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18607 | 1850.7 | 24.33 | -0.3 | 24.03 | 252.93 | 2 |
| 18900 | 1880.0 | 24.21 | -0.3 | 23.91 | 246.04 | 2 |
| 19193 | 1909.3 | 24.24 | -0.3 | 23.94 | 247.74 | 2 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18607 | 1850.7 | 23.43 | -0.3 | 23.13 | 205.59 | 2 |
| 18900 | 1880.0 | 23.48 | -0.3 | 23.18 | 207.97 | 2 |
| 19193 | 1909.3 | 23.38 | -0.3 | 23.08 | 203.24 | 2 |

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18607 | 1850.7 | 22.8 | -0.3 | 22.5 | 177.83 | 2 |
| 18900 | 1880.0 | 22.59 | -0.3 | 22.29 | 169.43 | 2 |
| 19193 | 1908.3 | 22.33 | -0.3 | 22.03 | 159.59 | 2 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18615 | 1851.5 | 24.25 | -0.3 | 23.95 | 248.31 | 2 |
| 18900 | 1880.0 | 24.16 | -0.3 | 23.86 | 243.22 | 2 |
| 19185 | 1908.5 | 24.22 | -0.3 | 23.92 | 246.6 | 2 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18615 | 1851.5 | 23.5 | -0.3 | 23.2 | 208.93 | 2 |
| 18900 | 1880.0 | 23.56 | -0.3 | 23.26 | 211.84 | 2 |
| 19185 | 1908.5 | 23.39 | -0.3 | 23.09 | 203.7 | 2 |

**CHANNEL BANDWIDTH: 3MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18615 | 1851.5 | 22.83 | -0.3 | 22.53 | 179.06 | 2 |
| 18900 | 1880.0 | 22.59 | -0.3 | 22.29 | 169.43 | 2 |
| 19185 | 1908.5 | 22.41 | -0.3 | 22.11 | 162.55 | 2 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18625 | 1852.5 | 24.28 | -0.3 | 23.98 | 250.03 | 2 |
| 18900 | 1880.0 | 24.19 | -0.3 | 23.89 | 244.91 | 2 |
| 19175 | 1907.5 | 24.23 | -0.3 | 23.93 | 247.17 | 2 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18625 | 1852.5 | 23.53 | -0.3 | 23.23 | 210.38 | 2 |
| 18900 | 1880.0 | 23.58 | -0.3 | 23.28 | 212.81 | 2 |
| 19175 | 1907.5 | 23.37 | -0.3 | 23.07 | 202.77 | 2 |

**CHANNEL BANDWIDTH: 5MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18625 | 1852.5 | 22.88 | -0.3 | 22.58 | 181.13 | 2 |
| 18900 | 1880.0 | 22.55 | -0.3 | 22.25 | 167.88 | 2 |
| 19175 | 1907.5 | 22.33 | -0.3 | 22.03 | 159.59 | 2 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18650 | 1855.0 | 24.27 | -0.3 | 23.97 | 249.46 | 2 |
| 18900 | 1880.0 | 24.22 | -0.3 | 23.92 | 246.6 | 2 |
| 19150 | 1905.0 | 24.16 | -0.3 | 23.86 | 243.22 | 2 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18650 | 1855.0 | 23.54 | -0.3 | 23.24 | 210.86 | 2 |
| 18900 | 1880.0 | 23.57 | -0.3 | 23.27 | 212.32 | 2 |
| 19150 | 1905.0 | 23.34 | -0.3 | 23.04 | 201.37 | 2 |

**CHANNEL BANDWIDTH: 10MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18650 | 1855.0 | 22.83 | -0.3 | 22.53 | 179.06 | 2 |
| 18900 | 1880.0 | 22.58 | -0.3 | 22.28 | 169.04 | 2 |
| 19150 | 1905.0 | 22.37 | -0.3 | 22.07 | 161.06 | 2 |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18675 | 1857.5 | 24.32 | -0.3 | 24.02 | 252.35 | 2 |
| 18900 | 1880.0 | 24.26 | -0.3 | 23.96 | 248.89 | 2 |
| 19125 | 1902.5 | 24.24 | -0.3 | 23.94 | 247.74 | 2 |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18675 | 1857.5 | 23.52 | -0.3 | 23.22 | 209.89 | 2 |
| 18900 | 1880.0 | 23.5 | -0.3 | 23.2 | 208.93 | 2 |
| 19125 | 1902.5 | 23.37 | -0.3 | 23.07 | 202.77 | 2 |

**CHANNEL BANDWIDTH: 15MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18675 | 1857.5 | 22.85 | -0.3 | 22.55 | 179.89 | 2 |
| 18900 | 1880.0 | 22.61 | -0.3 | 22.31 | 170.22 | 2 |
| 19125 | 1902.5 | 22.37 | -0.3 | 22.07 | 161.06 | 2 |

**CHANNEL BANDWIDTH: 20MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18700 | 1860 | 24.37 | -0.3 | 24.07 | 255.27 | 2 |
| 18900 | 1880 | 24.27 | -0.3 | 23.97 | 249.46 | 2 |
| 19100 | 1900 | 24.25 | -0.3 | 23.95 | 248.31 | 2 |

**CHANNEL BANDWIDTH: 20MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18700 | 1860 | 23.58 | -0.3 | 23.28 | 212.81 | 2 |
| 18900 | 1880 | 23.61 | -0.3 | 23.31 | 214.29 | 2 |
| 19100 | 1900 | 23.44 | -0.3 | 23.14 | 206.06 | 2 |

**CHANNEL BANDWIDTH: 20MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 18700 | 1860 | 22.93 | -0.3 | 22.63 | 183.23 | 2 |
| 18900 | 1880 | 22.63 | -0.3 | 22.33 | 171 | 2 |
| 19100 | 1900 | 22.47 | -0.3 | 22.17 | 164.82 | 2 |

**Ant 1(DOWN):**

**GSM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 512 | 1850.2 | 29.41 | -0.5 | 28.91 | 778.04 | 2 |
| 661 | 1880.0 | 29.42 | -0.5 | 28.92 | 779.83 | 2 |
| 810 | 1909.8 | 29.31 | -0.5 | 28.81 | 760.33 | 2 |

**EDGE**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 512 | 1850.2 | 25.83 | -0.5 | 25.33 | 341.19 | 2 |
| 661 | 1880.0 | 26.08 | -0.5 | 25.58 | 361.41 | 2 |
| 810 | 1909.8 | 26.11 | -0.5 | 25.61 | 363.92 | 2 |

**WCDMA**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 9262 | 1852.4 | 24.42 | -0.5 | 23.92 | 246.6 | 2 |
| 9400 | 1880 | 24.45 | -0.5 | 23.95 | 248.31 | 2 |
| 9538 | 1907.6 | 24.35 | -0.5 | 23.85 | 242.66 | 2 |