# VARIANT FCC TEST REPORT

# (PART 27)

| | |
|---|---|
| Applicant: | Borqs BeiJing Ltd. |
| Address: | Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China |

| | |
|---|---|
| Manufacturer or Supplier: | Borqs BeiJing Ltd. |
| Address: | Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China |
| Product: | Ecoport AC LTE-LP |
| Brand Name: | SkyCentrics |
| Model Name: | US08Ba |
| Serial Model Name: | US08B |
| FCC ID: | 2ABDK-US08B |
| Date of tests: | Jun. 25, 2023 ~ Jun. 29, 2023 |

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

☒ **FCC Part 27** ☒ **ANSI/TIA/EIA-603-D**
☒ **FCC Part 2** ☒ **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: Jun. 29, 2023 | Luke Lu<br>Date: Jun. 29, 2023 |

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# RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|---|---|---|
| W7L-230313W001RF03 | Original release | Apr. 03, 2023 |
| W7L-230608W001RF03 | Based on the original product change HW&SW version and the location of some components (more details please refer to the discrepancy declaration). This report only verify and show power and RSE worse data, other data please refer to the original report. | Jun. 29, 2023 |

# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC PART 27 & PART 2 | | |
|---|---|---|
| **STANDARD SECTION** | **TEST TYPE AND LIMIT** | **RESULT** |
| §2.1046 | Conducted Output Power | Compliance |
| §27.50(b)(10)<br>§27.50(c)(10)<br>§27.1507(a)(3) | Effective Radiated Power<br>(Band 8) (Band 12) (Band 13) (Band 71) (Band 85) | Compliance |
| §27.50(d)(4) | Equivalent Isotropically Radiated Power<br>(Band 4) (Band 66) | Compliance |
| §2.1055<br>§27.54 | Frequency Stability | See Note |
| §2.1049 | Occupied Bandwidth | See Note |
| §2.1051<br>§27.53(h)<br>§27.53(c)(2)(4)<br>§27.53(g)<br>§27.1509(a) | Conducted Band Edge Measurements<br>(Band 4) (Band 8) (Band 12) (Band 13) (Band 66)<br>(Band 71) (Band 85) | See Note |
| §2.1051<br>§27.53(h)<br>§27.53(c)(2)(4)<br>§27.53(g)<br>§27.1509(a) | Conducted Spurious Emissions<br>(Band 4) (Band 8) (Band 12) (Band 13) (Band 66)<br>(Band 71) (Band 85) | See Note |
| §2.1053<br>§27.53(h)<br>§27.53(c)(2)(4)<br>§27.53(g)<br>§27.1509(a) | Radiated Spurious Emissions<br>(Band 4) (Band 8) (Band 12) (Band 13) (Band 66)<br>(Band 71) (Band 85) | Compliance |
| §27.50(d)(4)<br>§27.1507(d) | Peak to average ratio | See Note |

**NOTE:** please refer to the original report W7L-230313W001RF03

## 1.1 MEASREMENT 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 |
|---|---|
| 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 Output power | ±2.06dB |

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

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| MXE EMI Receiver | KEYSIGHT | N9038A-544 | MY54450026 | Mar. 28,23 | Mar. 27,24 |
| EXA Signal Analyzer | KEYSIGHT | N9010A-544 | MY54510355 | May.14,23 | May.13,24 |
| Loop Antenna | Schwarzbeck | FMZB 1519B | 00173 | Sep.03,22 | Sep.02,23 |
| Bilog Antenna | ETS-LINDGREN | 3143B | 00161965 | Feb. 18,23 | Feb. 17,24 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00168692 | Feb. 18,23 | Feb. 17,24 |
| Horn Antenna (18GHz-40GHz) | N/A | QWH-SL-18-40-K-SG/QMS-00361 | 15433 | Sep.04, 22 | Sep.03, 23 |
| Radio Communication Analyzer | ANRITSU | MT8820C | 6201465426 | Feb. 14,23 | Feb. 13,24 |
| Signal Pre-Amplifier | EMSI | EMC 9135 | 980249 | May. 06,23 | May. 05,24 |
| Signal Pre-Amplifier | EMSI | EMC 012645B | 980257 | May.12,23 | May.11,24 |
| Signal Pre-Amplifier | EMSI | EMC 184045B | 980259 | Feb. 17,23 | Feb.16,24 |
| 3m Semi-anechoic Chamber | ETS-LINDGREN | 9m*6m*6m | Euroshieldpn-CT0001143-1216 | May. 19,23 | May. 18,26 |
| 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. 06,23 | May. 05,24 |
| Power Meter | Anritsu | ML2495A | 1506002 | Feb. 14,23 | Feb. 13,24 |
| Power Sensor | Anritsu | MA2411B | 1339352 | Feb. 14,23 | Feb. 13,24 |
| Temperature Chamber | ESPEC | SH-242 | 93000855 | May. 06,23 | May. 05,24 |
| MXG Analog Microvave Signal Generator | KEYSIGHT | N5183A | MY50143024 | Feb. 14,23 | Feb. 13,24 |
| Base station R&S CMW500 | Rohde&Schwarz | CMW500 | 153085 | May.12,23 | May.11,26 |
| DC Source | Kikusui/JP | PMX18-5A | N/A | Aug. 12,22 | Aug. 11,23 |

**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** | Ecoport AC LTE-LP | | |
| **BRAND NAME** | SkyCentrics | | |
| **MODEL NAME** | US08Ba | | |
| **SERIAL MODEL NAME** | US08B | | |
| **NOMINAL VOLTAGE** | 120V(adapter or host equipment)<br>3.0Vdc (Li-ion, battery) | | |
| **MODULATION TECHNOLOGY** | **LTE CAT-M1/NB-IOT** | | QPSK, 16QAM, BPSK |
| **FREQUENCY RANGE** | **LTE CAT-M1** | **LTE Band 4 Channel Bandwidth: 1.4MHz** | 1710.7MHz ~ 1754.3MHz |
| | | **LTE Band 4 Channel Bandwidth: 3MHz** | 1711.5MHz ~ 1753.5MHz |
| | | **LTE Band 4 Channel Bandwidth: 5MHz** | 1712.5MHz ~ 1752.5MHz |
| | | **LTE Band 4 Channel Bandwidth: 10MHz** | 1715MHz ~ 1750MHz |
| | | **LTE Band 4 Channel Bandwidth: 15MHz** | 1717.5MHz ~ 1747.5 MHz |
| | | **LTE Band 4 Channel Bandwidth: 20MHz** | 1720MHz ~ 1745MHz |
| | | **LTE Band 8 Channel Bandwidth: 1.4MHz** | 898.2MHz ~ 899.8MHz |
| | | **LTE Band 8 Channel Bandwidth: 3MHz** | 899MHz |
| | | **LTE Band 12 Channel Bandwidth: 1.4MHz** | 699.7MHz ~ 715.3MHz |
| | | **LTE Band 12 Channel Bandwidth: 3MHz** | 700.5MHz ~ 714.5MHz |
| | | **LTE Band 12 Channel Bandwidth: 5MHz** | 701.5MHz ~ 713.5MHz |

| | | | |
|---|---|---|---|
| **FREQUENCY RANGE** | **LTE CAT-M1** | **LTE Band 12 Channel Bandwidth: 10MHz** | 704MHz ~ 711MHz |
| | | **LTE Band 13 Channel Bandwidth: 5MHz** | 779.5MHz ~ 784.5MHz |
| | | **LTE Band 13 Channel Bandwidth: 10MHz** | 782MHz |
| | | **LTE Band 66 Channel Bandwidth: 1.4MHz** | 1710.7MHz ~ 1779.3MHz |
| | | **LTE Band 66 Channel Bandwidth: 3MHz** | 1711.5MHz ~ 1778.5MHz |
| | | **LTE Band 66 Channel Bandwidth: 5MHz** | 1712.5MHz ~ 1777.5MHz |
| | | **LTE Band 66 Channel Bandwidth: 10MHz** | 1715MHz ~ 1775MHz |
| | | **LTE Band 66 Channel Bandwidth: 15MHz** | 1717.5MHz ~ 1772.5MHz |
| | | **LTE Band 66 Channel Bandwidth: 20MHz** | 1720MHz ~ 1770MHz |
| | | **LTE Band 85 Channel Bandwidth: 5MHz** | 700.5MHz ~ 713.5MHz |
| | | **LTE Band 85 Channel Bandwidth: 10MHz** | 703MHz ~ 711MHz |

| | | | |
|---|---|---|---|
| **FREQUENCY RANGE** | **LTE NB-IOT** | **LTE Band 4 (SUB-CARRIER SPEACING: 3.75KHz)** | 1710.2MHz~1754.8MHz |
| | | **LTE Band 4 (SUB-CARRIER SPEACING: 15KHz)** | 1710.2MHz~1754.8MHz |
| | | **LTE Band 8 (SUB-CARRIER SPEACING: 3.75KHz)** | 897.7MHz ~ 900.3MHz |
| | | **LTE Band 8 (SUB-CARRIER SPEACING: 15KHz)** | 897.7MHz ~ 900.3MHz |
| | | **LTE Band 12 (SUB-CARRIER SPEACING: 3.75KHz)** | 699.2MHz ~ 715.8MHz |
| | | **LTE Band 12 (SUB-CARRIER SPEACING: 15KHz)** | 699.2MHz ~ 715.8MHz |
| | | **LTE Band 13 (SUB-CARRIER SPEACING: 3.75KHz)** | 777.2MHz ~ 786.8MHz |
| | | **LTE Band 13 (SUB-CARRIER SPEACING: 15KHz)** | 777.2MHz ~ 786.8MHz |
| | | **LTE Band 66 (SUB-CARRIER SPEACING: 3.75KHz)** | 1710.2MHz~1779.8MHz |
| | | **LTE Band 66 (SUB-CARRIER SPEACING: 15KHz)** | 1710.2MHz~1779.8MHz |
| | | **LTE Band 71 (SUB-CARRIER SPEACING: 3.75KHz)** | 663.2MHz ~ 697.8MHz |
| | | **LTE Band 71 (SUB-CARRIER SPEACING: 15KHz)** | 663.2MHz ~ 697.8MHz |
| | | **LTE Band 85 (SUB-CARRIER SPEACING: 3.75KHz)** | 698.2MHz ~ 715.8MHz |
| | | **LTE Band 85 (SUB-CARRIER SPEACING: 15KHz)** | 698.2MHz ~ 715.8MHz |
| **MAX. EIRP POWER** | **LTE CAT-M1** | **LTE Band 4 Channel Bandwidth: 1.4MHz** | 97.27mW |
| | | **LTE Band 4 Channel Bandwidth: 3MHz** | 96.16mW |

| | | | |
|---|---|---|---|
| **MAX. EIRP POWER** | **LTE CAT-M1** | **LTE Band 4 Channel Bandwidth: 5MHz** | 97.05mW |
| | | **LTE Band 4 Channel Bandwidth: 10MHz** | 97.95mW |
| | | **LTE Band 4 Channel Bandwidth: 15MHz** | 97.5mW |
| | | **LTE Band 4 Channel Bandwidth: 20MHz** | 98.4mW |
| | | **LTE Band 8 Channel Bandwidth: 1.4MHz** | 39.99mW |
| | | **LTE Band 8 Channel Bandwidth: 3MHz** | 40.36mW |
| | | **LTE Band 12 Channel Bandwidth: 1.4MHz** | 28.18mW |
| | | **LTE Band 12 Channel Bandwidth: 3MHz** | 28.38mW |
| | | **LTE Band 12 Channel Bandwidth: 5MHz** | 28.12mW |
| | | **LTE Band 12 Channel Bandwidth: 10MHz** | 28.51mW |
| | | **LTE Band 13 Channel Bandwidth: 5MHz** | 34.2mW |
| | | **LTE Band 13 Channel Bandwidth: 10MHz** | 34.43mW |
| | | **LTE Band 66 Channel Bandwidth: 1.4MHz** | 93.54mW |
| | | **LTE Band 66 Channel Bandwidth: 3MHz** | 93.11mW |
| | | **LTE Band 66 Channel Bandwidth: 5MHz** | 93.11mW |
| | | **LTE Band 66 Channel Bandwidth: 10MHz** | 93.33mW |

| | | | |
|---|---|---|---|
| MAX. EIRP POWER | LTE CAT-M1 | LTE Band 66 Channel Bandwidth: 15MHz | 92.26mW |
| | | LTE Band 66 Channel Bandwidth: 20MHz | 93.97mW |
| | | LTE Band 85 Channel Bandwidth: 5MHz | 33.04mW |
| | | LTE Band 85 Channel Bandwidth: 10MHz | 33.11mW |
| | LTE NB-IOT | LTE Band 4 (SUB-CARRIER SPEACING: 3.75KHz) | 108.14mW |
| | | LTE Band 4 (SUB-CARRIER SPEACING: 15KHz) | 98.4mW |
| | | LTE Band 8 (SUB-CARRIER SPEACING: 3.75KHz) | 39.81mW |
| | | LTE Band 8 (SUB-CARRIER SPEACING: 15KHz) | 41.11mW |
| | | LTE Band 12 (SUB-CARRIER SPEACING: 3.75KHz) | 32.51mW |
| | | LTE Band 12 (SUB-CARRIER SPEACING: 15KHz) | 34.12mW |
| | | LTE Band 13 (SUB-CARRIER SPEACING: 3.75KHz) | 40.46mW |
| | | LTE Band 13 (SUB-CARRIER SPEACING: 15KHz) | 41.69mW |
| | | LTE Band 66 (SUB-CARRIER SPEACING: 3.75KHz) | 88.92mW |
| | | LTE Band 66 (SUB-CARRIER SPEACING: 15KHz) | 94.84mW |
| | | LTE Band 71 (SUB-CARRIER SPEACING: 3.75KHz) | 30.27mW |
| | | LTE Band 71 (SUB-CARRIER SPEACING: 15KHz) | 30.34mW |
| | | LTE Band 85 (SUB-CARRIER SPEACING: 3.75KHz) | 32.96mW |

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|---|---|---|---|
| **MAX. EIRP POWER** | **LTE NB-IOT** | **LTE Band 85 (SUB-CARRIER SPEACING: 15KHz)** | 26.73mW |
| **EMISSION DESIGNATOR** | **LTE CAT-M1** | **LTE Band 4 Channel Bandwidth: 1.4MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 942KW7D |
| | | | 64QAM: / |
| | | **LTE Band 4 Channel Bandwidth: 3MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 946KW7D |
| | | | 64QAM: / |
| | | **LTE Band 4 Channel Bandwidth: 5MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 952KW7D |
| | | | 64QAM: / |
| | | **LTE Band 4 Channel Bandwidth: 10MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 916KW7D |
| | | | 64QAM: / |
| | | **LTE Band 4 Channel Bandwidth: 15MHz** | QPSK: 1M13G7D |
| | | | 16QAM: 957KW7D |
| | | | 64QAM: / |
| | | **LTE Band 4 Channel Bandwidth: 20MHz** | QPSK: 1M13G7D |
| | | | 16QAM: 966KW7D |
| | | | 64QAM: / |
| | | **LTE Band 8 Channel Bandwidth: 1.4MHz** | QPSK: 1M09G7D |
| | | | 16QAM: 910KW7D |
| | | | 64QAM: / |
| | | **LTE Band 8 Channel Bandwidth: 3MHz** | QPSK: 1M10G7D |
| | | | 16QAM: 930KW7D |
| | | | 64QAM: / |
| | | **LTE Band 12 Channel Bandwidth: 1.4MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 941KW7D |
| | | | 64QAM: / |
| | | **LTE Band 12 Channel Bandwidth: 3MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 952KW7D |
| | | | 64QAM: / |

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|---|---|---|---|
| **EMISSION DESIGNATOR** | **LTE CAT-M1** | **LTE Band 12 Channel Bandwidth: 5MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 954KW7D |
| | | | 64QAM: / |
| | | **LTE Band 12 Channel Bandwidth: 10MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 963KW7D |
| | | | 64QAM: / |
| | | **LTE Band 13 Channel Bandwidth: 5MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 950KW7D |
| | | | 64QAM: / |
| | | **LTE Band 13 Channel Bandwidth: 10MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 961KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 1.4MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 939KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 3MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 949KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 5MHz** | QPSK: 1M11G7D |
| | | | 16QAM: 950KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 10MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 965KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 15MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 961KW7D |
| | | | 64QAM: / |
| | | **LTE Band 66 Channel Bandwidth: 20MHz** | QPSK: 1M13G7D |
| | | | 16QAM: 963KW7D |
| | | | 64QAM: / |

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|---|---|---|---|
| **EMISSION DESIGNATOR** | **LTE CAT-M1** | **LTE Band 85 Channel Bandwidth: 5MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 1M12W7D |
| | | | 64QAM: / |
| | | **LTE Band 85 Channel Bandwidth: 10MHz** | QPSK: 1M12G7D |
| | | | 16QAM: 1M13W7D |
| | | | 64QAM: / |
| | **LTE NB-IOT** | **LTE Band 4 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 64K9G7D |
| | | | QPSK: 70K5G7D |
| | | **LTE Band 4 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 133KG7D |
| | | | QPSK: 184KG7D |
| | | **LTE Band 8 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 195KG7D |
| | | | QPSK: 195KG7D |
| | | **LTE Band 8 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 195KG7D |
| | | | QPSK: 195KG7D |
| | | **LTE Band 12 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 61K8G7D |
| | | | QPSK: 68K4G7D |
| | | **LTE Band 12 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 130KG7D |
| | | | QPSK: 183KG7D |
| | | **LTE Band 13 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 61K0G7D |
| | | | QPSK: 67K1G7D |
| | | **LTE Band 13 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 130KG7D |
| | | | QPSK: 184KG7D |
| | | **LTE Band 66 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 64K6G7D |
| | | | QPSK: 70K0G7D |
| | | **LTE Band 66 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 126KG7D |
| | | | QPSK: 183KG7D |
| | | **LTE Band 71 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 60K4G7D |
| | | | QPSK: 68K7G7D |
| | | **LTE Band 71 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 130KG7D |
| | | | QPSK: 184KG7D |

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|---|---|---|---|
| **EMISSION DESIGNATOR** | **LTE NB-IOT** | **LTE Band 85 (SUB-CARRIER SPEACING: 3.75KHz)** | BPSK: 58K3G7D |
| | | | QPSK: 66K2G7D |
| | | **LTE Band 85 (SUB-CARRIER SPEACING: 15KHz)** | BPSK: 129KG7D |
| | | | QPSK: 184KG7D |
| **ANTENNA TYPE** | US08Ba: Internal Antenna with 2.53dBi gain for LTE B4<br>Internal Antenna with -5.1dBi gain for LTE B8<br>Internal Antenna with -3.1dBi gain for LTE B12<br>Internal Antenna with -2.19dBi gain for LTE B13<br>Internal Antenna with 2.53dBi gain for LTE B66<br>Internal Antenna with -4.93dBi gain for LTE B71<br>Internal Antenna with -3.1dBi gain for LTE B85<br><br>US08Ba: External Antenna with -0.55dBi gain for LTE B4<br>External Antenna with -3.67dBi gain for LTE B8<br>External Antenna with -2.81dBi gain for LTE B12<br>External Antenna with -2.46dBi gain for LTE B13<br>External Antenna with -0.55dBi gain for LTE B66<br>External Antenna with -3.37dBi gain for LTE B71<br>External Antenna with -2.81dBi gain for LTE B85<br><br>US08B: Internal Antenna with 2.53dBi gain for LTE4<br>Internal Antenna with -5.1dBi gain for LT8<br>Internal Antenna with -3.1dBi gain for LTE12<br>Internal Antenna with -2.19dBi gain for LTE13<br>Internal Antenna with 2.53dBi gain for LTE66<br>Internal Antenna with -4.93dBi gain for LTE71<br>Internal Antenna with -3.1dBi gain for LTE85 | | |
| **HW VERSION** | PVT | | |
| **SW VERSION** | CFT_PICO_SPARROW_20230315 | | |
| **I/O PORTS** | Refer to user's manual | | |
| **CABLE SUPPLIED** | N/A | | |
| **EXTREME TEMPERATURE** | -20-50 ℃ | | |
| **EXTREME VOLTAGE** | 110V - 240V | | |

**NOTE**:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

| MODULATION MODE | TX FUNCTION |
|---|---|
| **LTE** | 1TX/1RX |

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

4. US08Ba and US08B Difference description:

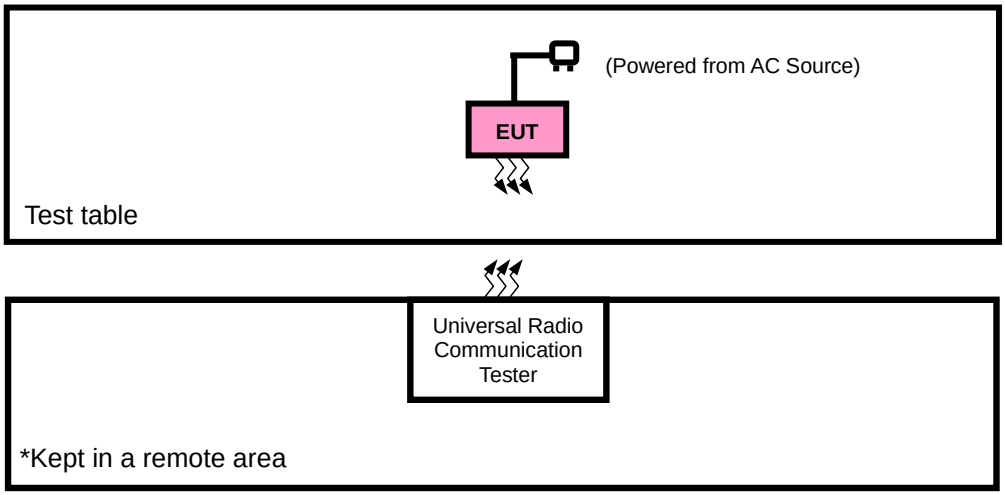
| No | Model ID | Difference Description |
|---|---|---|
| 1 | US08B（Verified sample） | Only supports Internal Antenna |
| 2 | US08Ba（Mainly tested Sample） | Supports both Internal Antenna and External Antenna<br>There is an additional Sub board which is connected with main board by RF cable for External antenna assembly. |

**List of Accessory:**

| ACCESSORIES | BRAND | MANUFACTURER | MODEL | SPECIFICATION |
|---|---|---|---|---|
| Battery | CHAOCHUANG | N/A | CR2032 | Capacity：3.0Vdc, 210mAh |

## 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 | N/A | N/A | N/A | N/A | N/A |

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

## 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 was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

| EUT CONFIGURE MODE | DESCRIPTION |
|---|---|
| **A** | **EUT + Adapter with LTE link** |

## LTE CAT-M1

### LTE BAND 4 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | EIRP | 19957 to 20393 | 19957, 20175, 20393 | 1.4MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 19965 to 20385 | 19965, 20175, 20385 | 3MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 19975 to 20375 | 19975, 20175, 20375 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 20000 to 20350 | 20000, 20175, 20350 | 10MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 20025 to 20325 | 20025, 20175, 20325 | 15MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 20050 to 20300 | 20050, 20175, 20300 | 20MHz | QPSK,16QAM | 1 RB / 0 RB Offset |

**Note:** 1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 4 are covered by LTE Band 66, Because it is a subset of LTE Band 66, So the RSE test data please refer to LTE Band 66.

### LTE BAND 8 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 21632 to 21648 | 21632, 21640 , 21648 | 1.4MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 21640 | 21640 | 3MHz | QPSK,16QAM | 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.

### LTE BAND 12 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 23017 to 23173 | 23017, 23095 , 23173 | 1.4MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 23025 to 23165 | 23025, 23095 ,23165 | 3MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 23035 to 23155 | 23035, 23095 ,23155 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 23060 to 23130 | 23060, 23095 ,23130 | 10MHz | QPSK,16QAM | 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.

**LTE BAND 13 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 23205 to 23255 | 23205, 23230, 23255 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 23230 | 23230 | 10MHz | QPSK,16QAM | 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.

**LTE BAND 66 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | EIRP | 131979 to 132665 | 131979,132322,132665 | 1.4MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 131987 to 132657 | 131987,132322,132657 | 3MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 131997 to 132647 | 131997,132322,132647 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 132022 to 132622 | 132022,132322,132622 | 10MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 132047 to 132597 | 132047,132322,132597 | 15MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 132072 to 132572 | 132072,132322,132572 | 20MHz | QPSK,16QAM | 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.

**LTE BAND 66 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | CHANNEL BANDWIDTH | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | EIRP | 134027 to 134157 | 134027,134092,134157 | 5MHz | QPSK,16QAM | 1 RB / 0 RB Offset |
| | | 134052 to 134132 | 134052,134092,134132 | 10MHz | QPSK,16QAM | 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.

## LTE NB-IOT

### LTE BAND 4 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | EIRP | 19952 to 20398 | 19952, 20175, 20398 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 19952 to 20398 | 19952, 20175, 20398 | 15KHz | BPSK,QPSK | 1 RB / 0 RB Offset |

**Note:** 1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 4 are covered by LTE Band 66, Because it is a subset of LTE Band 66, So the RSE test data please refer to LTE Band 66.

### LTE BAND 12 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| **A** | ERP | 23012 to 23178 | 23012, 23095 , 23178 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 23012 to 23178 | 23012, 23095 , 23178 | 15KHz | BPSK,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.

### LTE BAND 13 MODE

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| **A** | ERP | 23182 to 23278 | 23182, 23230, 23278 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 23182 to 23278 | 23182, 23230, 23278 | 15KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| **A** | RADIATED EMISSION | 23182 to 23278 | 23182, 23230, 23278 | 3.75KHz | QPSK | 1 RB / 0 RB Offset |
| | | 23182 to 23278 | 23230 | 15KHz | 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.

**LTE BAND 66 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 131974 to 132670 | 131974, 132322, 132670 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 131974 to 132670 | 131974, 132322, 132670 | 15KHz | BPSK,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.

**LTE BAND 71 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 133124 to 133470 | 133124, 133297, 133470 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 133124 to 133470 | 133124, 133297, 133470 | 15KHz | BPSK,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.

**LTE BAND 85 MODE**

| EUT CONFIGURE MODE | TEST ITEM | AVAILABLE CHANNEL | TESTED CHANNEL | SUBCARRIER SPACING | MODULATION | MODE |
|---|---|---|---|---|---|---|
| A | ERP | 134004 to 134180 | 134004, 134092, 134180 | 3.75KHz | BPSK,QPSK | 1 RB / 0 RB Offset |
| | | 134004 to 134180 | 134004, 134092, 134180 | 15KHz | BPSK,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 |
|---|---|---|---|
| ERP&EIRP | 23deg. C, 70%RH | 120Vac/60Hz | Jace Hu |
| RADIATED EMISSION | 23deg. C, 70%RH | 120Vac/60Hz | Jace Hu |

## 2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 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 27**

**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

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

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 the specific rule Part 27.50(b)(10) and 27.50(c)(10) Fixed, mobile, and Portable stations (hand-held devices) transmitting in the 698-746 MHz, 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP

47 CFR 27.1507(a)(3) Mobile, control and auxiliary test stations. Mobile, control and auxiliary test stations must not exceed 10 watts ERP.

### 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 determing 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 isotropically 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);

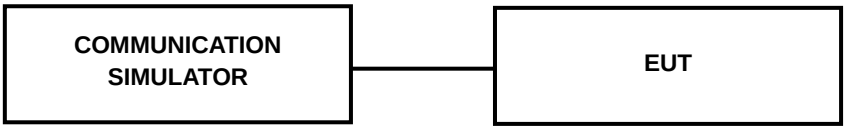
$L_C$ = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

**CONDUCTED POWER MEASUREMENT:**

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

### 3.1.3 TEST SETUP

**CONDUCTED POWER MEASUREMENT:**




For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 3.1.4 TEST RESULTS

**AVERAGE CONDUCTED OUTPUT POWER (dBm)**

### LTE CAT-M1

LTE Band 4

| Band/BW | Modulation | RB Size | RB Offset | Low CH 19957 | Mid CH 20175 | High CH 20393 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1710.7 MHz | Frequency 1732.5 MHz | Frequency 1754.3 MHz |
| 4/ 1.4 | QPSK | 1 | 0 | 20.42 | 20.26 | 20.37 |
| | | 1 | 5 | 20.37 | 20.24 | 20.38 |
| | | 3 | 0 | 20.38 | 20.35 | 20.33 |
| | | 3 | 3 | 20.36 | 20.27 | 20.33 |
| | | 6 | 0 | 20.41 | 20.23 | 20.40 |
| | 16QAM | 1 | 0 | 20.24 | 20.24 | 20.26 |
| | | 1 | 5 | 20.22 | 20.15 | 20.33 |
| | | 3 | 0 | 20.36 | 20.21 | 20.34 |
| | | 3 | 3 | 20.33 | 20.22 | 20.29 |
| | | 6 | 0 | 20.29 | 20.36 | 20.43 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 19965 | Mid CH 20175 | High CH 20385 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1711.5 MHz | Frequency 1732.5 MHz | Frequency 1753.5 MHz |
| 4/ 3 | QPSK | 1 | 0 | 20.37 | 20.25 | 20.34 |
| | | 1 | 5 | 20.33 | 20.25 | 20.38 |
| | | 3 | 0 | 20.35 | 20.32 | 20.33 |
| | | 3 | 3 | 20.33 | 20.34 | 20.37 |
| | | 6 | 0 | 20.37 | 20.24 | 20.38 |
| | 16QAM | 1 | 0 | 20.27 | 20.23 | 20.30 |
| | | 1 | 5 | 20.16 | 20.19 | 20.30 |
| | | 3 | 0 | 20.35 | 20.21 | 20.33 |
| | | 3 | 3 | 20.36 | 20.25 | 20.26 |
| | | 6 | 0 | 20.30 | 20.30 | 20.42 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 19975<br>Frequency 1712.5 MHz | Mid CH 20175<br>Frequency 1732.5 MHz | High CH 20375<br>Frequency 1752.5 MHz |
|---|---|---|---|---|---|---|
| 4/ 5 | QPSK | 1 | 0 | 20.38 | 20.24 | 20.38 |
| | | 1 | 5 | 20.36 | 20.25 | 20.35 |
| | | 3 | 0 | 20.33 | 20.35 | 20.36 |
| | | 3 | 3 | 20.34 | 20.30 | 20.37 |
| | | 6 | 0 | 20.34 | 20.27 | 20.37 |
| | 16QAM | 1 | 0 | 20.27 | 20.23 | 20.29 |
| | | 1 | 5 | 20.16 | 20.17 | 20.27 |
| | | 3 | 0 | 20.35 | 20.22 | 20.30 |
| | | 3 | 3 | 20.30 | 20.22 | 20.32 |
| | | 6 | 0 | 20.27 | 20.36 | 20.42 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 20000<br>Frequency 1715 MHz | Mid CH 20175<br>Frequency 1732.5 MHz | High CH 20350<br>Frequency 1750 MHz |
|---|---|---|---|---|---|---|
| 4/ 10 | QPSK | 1 | 0 | 20.35 | 20.28 | 20.34 |
| | | 1 | 5 | 20.37 | 20.24 | 20.38 |
| | | 3 | 0 | 20.38 | 20.35 | 20.33 |
| | | 3 | 3 | 20.34 | 20.27 | 20.33 |
| | | 6 | 0 | 20.39 | 20.23 | 20.40 |
| | 16QAM | 1 | 0 | 20.27 | 20.24 | 20.26 |
| | | 1 | 5 | 20.18 | 20.15 | 20.33 |
| | | 3 | 0 | 20.39 | 20.21 | 20.34 |
| | | 3 | 3 | 20.29 | 20.23 | 20.29 |
| | | 6 | 0 | 20.32 | 20.32 | 20.46 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 20025<br>Frequency 1717.5 MHz | Mid CH 20175<br>Frequency 1732.5 MHz | High CH 20325<br>Frequency 1747.5 MHz |
|---|---|---|---|---|---|---|
| 4/ 15 | QPSK | 1 | 0 | 20.39 | 20.29 | 20.33 |
| | | 1 | 5 | 20.38 | 20.29 | 20.36 |
| | | 3 | 0 | 20.31 | 20.30 | 20.39 |
| | | 3 | 3 | 20.40 | 20.31 | 20.36 |
| | | 6 | 0 | 20.39 | 20.28 | 20.36 |
| | 16QAM | 1 | 0 | 20.25 | 20.26 | 20.29 |
| | | 1 | 5 | 20.18 | 20.21 | 20.32 |
| | | 3 | 0 | 20.38 | 20.23 | 20.33 |
| | | 3 | 3 | 20.36 | 20.22 | 20.26 |
| | | 6 | 0 | 20.29 | 20.35 | 20.44 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 20050<br>Frequency 1720 MHz | Mid CH 20175<br>Frequency 1732.5 MHz | High CH 20300<br>Frequency 1745 MHz |
|---|---|---|---|---|---|---|
| 4/ 20 | QPSK | 1 | 0 | 20.43 | 20.32 | 20.39 |
| | | 1 | 5 | 20.40 | 20.30 | 20.40 |
| | | 3 | 0 | 20.39 | 20.37 | 20.41 |
| | | 3 | 3 | 20.41 | 20.35 | 20.39 |
| | | 6 | 0 | 20.42 | 20.29 | 20.42 |
| | 16QAM | 1 | 0 | 20.29 | 20.31 | 20.31 |
| | | 1 | 5 | 20.24 | 20.23 | 20.35 |
| | | 3 | 0 | 20.41 | 20.29 | 20.35 |
| | | 3 | 3 | 20.37 | 20.27 | 20.34 |
| | | 6 | 0 | 20.35 | 20.38 | 20.48 |

LTE Band 8

| Band/BW | Modulation | RB Size | RB Offset | Low CH 21632 | Mid CH 21640 | High CH 21648 |
|---|---|---|---|---|---|---|
| | | | | Frequency 898.2 MHz | Frequency 899 MHz | Frequency 899.8 MHz |
| 8/ 1.4 | QPSK | 1 | 0 | 19.69 | 19.68 | 19.68 |
| | | 1 | 5 | 19.62 | 19.69 | 19.65 |
| | | 3 | 0 | 19.36 | 19.38 | 19.41 |
| | | 3 | 3 | 19.38 | 19.44 | 19.41 |
| | | 6 | 0 | 19.31 | 19.25 | 19.31 |
| | 16QAM | 1 | 0 | 19.47 | 19.49 | 19.47 |
| | | 1 | 5 | 19.34 | 19.38 | 19.34 |
| | | 3 | 0 | 19.38 | 19.40 | 19.43 |
| | | 3 | 3 | 19.42 | 19.48 | 19.44 |
| | | 6 | 0 | 19.61 | 19.68 | 19.67 |

| Band/BW | Modulation | RB Size | RB Offset | / | Mid CH 21640 | / |
|---|---|---|---|---|---|---|
| | | | | / | Frequency 899 MHz | / |
| 8/ 3 | QPSK | 1 | 0 | / | 19.73 | / |
| | | 1 | 5 | / | 19.70 | / |
| | | 3 | 0 | / | 19.43 | / |
| | | 3 | 3 | / | 19.46 | / |
| | | 6 | 0 | / | 19.33 | / |
| | 16QAM | 1 | 0 | / | 19.55 | / |
| | | 1 | 5 | / | 19.40 | / |
| | | 3 | 0 | / | 19.45 | / |
| | | 3 | 3 | / | 19.50 | / |
| | | 6 | 0 | / | 19.69 | / |

LTE Band 12

| Band/BW | Modulation | RB Size | RB Offset | Low CH 23017<br>Frequency 699.7 MHz | Mid CH 23095<br>Frequency 707.5 MHz | High CH 23173<br>Frequency 715.3 MHz |
|---|---|---|---|---|---|---|
| 12/ 1.4 | QPSK | 1 | 0 | 19.10 | 18.90 | 19.16 |
| | | 1 | 5 | 19.24 | 18.68 | 19.33 |
| | | 3 | 0 | 19.17 | 19.19 | 19.40 |
| | | 3 | 3 | 19.15 | 19.20 | 19.38 |
| | | 6 | 0 | 18.89 | 18.89 | 18.94 |
| | 16QAM | 1 | 0 | 19.03 | 19.13 | 19.19 |
| | | 1 | 5 | 19.18 | 19.17 | 19.15 |
| | | 3 | 0 | 19.30 | 19.24 | 19.46 |
| | | 3 | 3 | 19.25 | 19.15 | 19.41 |
| | | 6 | 0 | 19.10 | 19.23 | 19.45 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 23025<br>Frequency 700.5 MHz | Mid CH 23095<br>Frequency 707.5 MHz | High CH 23165<br>Frequency 714.5 MHz |
|---|---|---|---|---|---|---|
| 12/ 3 | QPSK | 1 | 0 | 19.12 | 18.92 | 19.15 |
| | | 1 | 5 | 19.20 | 18.69 | 19.33 |
| | | 3 | 0 | 19.11 | 19.24 | 19.39 |
| | | 3 | 3 | 19.13 | 19.27 | 19.38 |
| | | 6 | 0 | 18.86 | 18.86 | 18.94 |
| | 16QAM | 1 | 0 | 19.00 | 19.20 | 19.23 |
| | | 1 | 5 | 19.14 | 19.18 | 19.13 |
| | | 3 | 0 | 19.32 | 19.25 | 19.49 |
| | | 3 | 3 | 19.25 | 19.16 | 19.38 |
| | | 6 | 0 | 19.10 | 19.17 | 19.48 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 23035<br>Frequency 701.5 MHz | Mid CH 23095<br>Frequency 707.5 MHz | High CH 23155<br>Frequency 713.5 MHz |
|---|---|---|---|---|---|---|
| 12/ 5 | QPSK | 1 | 0 | 19.13 | 18.87 | 19.16 |
| | | 1 | 5 | 19.25 | 18.66 | 19.33 |
| | | 3 | 0 | 19.11 | 19.25 | 19.40 |
| | | 3 | 3 | 19.17 | 19.23 | 19.39 |
| | | 6 | 0 | 18.84 | 18.89 | 18.97 |
| | 16QAM | 1 | 0 | 19.01 | 19.16 | 19.23 |
| | | 1 | 5 | 19.11 | 19.21 | 19.12 |
| | | 3 | 0 | 19.29 | 19.29 | 19.45 |
| | | 3 | 3 | 19.20 | 19.18 | 19.41 |
| | | 6 | 0 | 19.10 | 19.18 | 19.45 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 23060<br>Frequency 704 MHz | Mid CH 23095<br>Frequency 707.5 MHz | High CH 23130<br>Frequency 711 MHz |
|---|---|---|---|---|---|---|
| 12/ 10 | QPSK | 1 | 0 | 19.18 | 18.94 | 19.21 |
| | | 1 | 5 | 19.27 | 18.74 | 19.35 |
| | | 3 | 0 | 19.19 | 19.26 | 19.45 |
| | | 3 | 3 | 19.21 | 19.28 | 19.40 |
| | | 6 | 0 | 18.90 | 18.91 | 19.02 |
| | 16QAM | 1 | 0 | 19.08 | 19.21 | 19.25 |
| | | 1 | 5 | 19.19 | 19.23 | 19.17 |
| | | 3 | 0 | 19.35 | 19.31 | 19.51 |
| | | 3 | 3 | 19.27 | 19.23 | 19.43 |
| | | 6 | 0 | 19.16 | 19.25 | 19.50 |

LTE Band 13

| Band/BW | Modulation | RB Size | RB Offset | Low CH 23205<br>Frequency 779.5 MHz | Mid CH 23230<br>Frequency 782.0 MHz | High CH 23255<br>Frequency 784.5 MHz |
|---|---|---|---|---|---|---|
| 13/ 5 | QPSK | 1 | 0 | 19.82 | 19.86 | 19.85 |
| | | 1 | 5 | 19.86 | 19.80 | 19.87 |
| | | 3 | 0 | 19.95 | 19.90 | 19.92 |
| | | 3 | 3 | 19.86 | 19.84 | 19.90 |
| | | 6 | 0 | 19.50 | 19.49 | 19.43 |
| | 16QAM | 1 | 0 | 19.75 | 19.74 | 19.76 |
| | | 1 | 5 | 19.77 | 19.74 | 19.78 |
| | | 3 | 0 | 19.93 | 19.87 | 19.94 |
| | | 3 | 3 | 19.90 | 19.94 | 19.93 |
| | | 6 | 0 | 19.89 | 19.83 | 19.90 |

| Band/BW | Modulation | RB Size | RB Offset | /<br>/ | Mid CH 23230<br>Frequency 782.0 MHz | /<br>/ |
|---|---|---|---|---|---|---|
| 13/ 10 | QPSK | 1 | 0 | / | 19.90 | / |
| | | 1 | 5 | / | 19.88 | / |
| | | 3 | 0 | / | 19.97 | / |
| | | 3 | 3 | / | 19.92 | / |
| | | 6 | 0 | / | 19.51 | / |
| | 16QAM | 1 | 0 | / | 19.82 | / |
| | | 1 | 5 | / | 19.80 | / |
| | | 3 | 0 | / | 19.95 | / |
| | | 3 | 3 | / | 19.98 | / |
| | | 6 | 0 | / | 19.91 | / |

LTE Band 66

| Band/BW | Modulation | RB Size | RB Offset | Low CH 131979 Frequency 1710.7MHz | Mid CH 132322 Frequency 1745MHz | High CH 132665 Frequency 1779.3MHz |
|---|---|---|---|---|---|---|
| 66/ 1.4 | QPSK | 1 | 0 | 20.17 | 19.98 | 19.86 |
| | | 1 | 5 | 20.21 | 19.99 | 19.87 |
| | | 3 | 0 | 20.26 | 19.99 | 19.73 |
| | | 3 | 3 | 20.23 | 19.95 | 19.76 |
| | | 6 | 0 | 20.22 | 19.92 | 19.84 |
| | 16QAM | 1 | 0 | 20.08 | 19.85 | 19.72 |
| | | 1 | 5 | 20.06 | 19.83 | 19.62 |
| | | 3 | 0 | 20.13 | 19.91 | 19.68 |
| | | 3 | 3 | 20.11 | 19.85 | 19.70 |
| | | 6 | 0 | 20.16 | 19.95 | 19.78 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 131987 Frequency 1711.5MHz | Mid CH 132322 Frequency 1745MHz | High CH 132657 Frequency 1778.5MHz |
|---|---|---|---|---|---|---|
| 66/ 3 | QPSK | 1 | 0 | 20.19 | 19.97 | 19.90 |
| | | 1 | 5 | 20.23 | 20.03 | 19.84 |
| | | 3 | 0 | 20.24 | 20.00 | 19.75 |
| | | 3 | 3 | 20.24 | 19.98 | 19.80 |
| | | 6 | 0 | 20.17 | 19.96 | 19.83 |
| | 16QAM | 1 | 0 | 20.11 | 19.84 | 19.76 |
| | | 1 | 5 | 20.00 | 19.87 | 19.59 |
| | | 3 | 0 | 20.15 | 19.89 | 19.69 |
| | | 3 | 3 | 20.13 | 19.83 | 19.66 |
| | | 6 | 0 | 20.16 | 19.89 | 19.81 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 131997<br>Frequency 1712.5MHz | Mid CH 132322<br>Frequency 1745MHz | High CH 132647<br>Frequency 1777.5MHz |
|---|---|---|---|---|---|---|
| 66/ 5 | QPSK | 1 | 0 | 20.20 | 19.95 | 19.86 |
| | | 1 | 5 | 20.22 | 19.97 | 19.87 |
| | | 3 | 0 | 20.19 | 20.00 | 19.76 |
| | | 3 | 3 | 20.24 | 19.98 | 19.81 |
| | | 6 | 0 | 20.17 | 19.96 | 19.81 |
| | 16QAM | 1 | 0 | 20.06 | 19.87 | 19.75 |
| | | 1 | 5 | 20.00 | 19.89 | 19.59 |
| | | 3 | 0 | 20.15 | 19.90 | 19.67 |
| | | 3 | 3 | 20.08 | 19.85 | 19.69 |
| | | 6 | 0 | 20.16 | 19.90 | 19.78 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 132022<br>Frequency 1715MHz | Mid CH 132322<br>Frequency 1745MHz | High CH 132622<br>Frequency 1775MHz |
|---|---|---|---|---|---|---|
| 66/ 10 | QPSK | 1 | 0 | 20.22 | 19.96 | 19.89 |
| | | 1 | 5 | 20.22 | 19.97 | 19.88 |
| | | 3 | 0 | 20.25 | 19.94 | 19.76 |
| | | 3 | 3 | 20.22 | 19.95 | 19.80 |
| | | 6 | 0 | 20.22 | 19.96 | 19.78 |
| | 16QAM | 1 | 0 | 20.06 | 19.84 | 19.71 |
| | | 1 | 5 | 20.05 | 19.85 | 19.62 |
| | | 3 | 0 | 20.19 | 19.84 | 19.72 |
| | | 3 | 3 | 20.07 | 19.86 | 19.66 |
| | | 6 | 0 | 20.20 | 19.89 | 19.82 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 132047<br>Frequency 1717.5 MHz | Mid CH 132322<br>Frequency 1745MHz | High CH 132597<br>Frequency 1772.5 MHz |
|---|---|---|---|---|---|---|
| 66/ 15 | QPSK | 1 | 0 | 20.19 | 20.00 | 19.85 |
| | | 1 | 5 | 20.17 | 20.00 | 19.87 |
| | | 3 | 0 | 20.19 | 19.99 | 19.75 |
| | | 3 | 3 | 20.20 | 20.02 | 19.80 |
| | | 6 | 0 | 20.19 | 19.93 | 19.78 |
| | 16QAM | 1 | 0 | 20.05 | 19.91 | 19.75 |
| | | 1 | 5 | 20.03 | 19.86 | 19.60 |
| | | 3 | 0 | 20.18 | 19.86 | 19.71 |
| | | 3 | 3 | 20.13 | 19.83 | 19.66 |
| | | 6 | 0 | 20.16 | 19.89 | 19.81 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 132072<br>Frequency 1720MHz | Mid CH 132322<br>Frequency 1745MHz | High CH 132572<br>Frequency 1770MHz |
|---|---|---|---|---|---|---|
| 66/ 20 | QPSK | 1 | 0 | 20.25 | 20.02 | 19.91 |
| | | 1 | 5 | 20.24 | 20.05 | 19.89 |
| | | 3 | 0 | 20.27 | 20.01 | 19.81 |
| | | 3 | 3 | 20.28 | 20.03 | 19.82 |
| | | 6 | 0 | 20.23 | 19.98 | 19.86 |
| | 16QAM | 1 | 0 | 20.13 | 19.92 | 19.77 |
| | | 1 | 5 | 20.08 | 19.91 | 19.64 |
| | | 3 | 0 | 20.21 | 19.92 | 19.73 |
| | | 3 | 3 | 20.15 | 19.90 | 19.71 |
| | | 6 | 0 | 20.22 | 19.97 | 19.83 |

LTE Band 85

| Band/BW | Modulation | RB Size | RB Offset | Low CH 134027 | Mid CH 134092 | High CH 134157 |
|---|---|---|---|---|---|---|
| | | | | Frequency 700.5MHz | Frequency 707MHz | Frequency 713.5MHz |
| 85/ 5 | QPSK | 1 | 0 | 19.95 | 19.93 | 20.10 |
| | | 1 | 5 | 19.97 | 20.03 | 20.04 |
| | | 3 | 0 | 19.92 | 20.01 | 20.01 |
| | | 3 | 3 | 19.95 | 19.91 | 20.00 |
| | | 6 | 0 | 19.70 | 19.69 | 19.79 |
| | 16QAM | 1 | 0 | 20.10 | 19.99 | 20.15 |
| | | 1 | 5 | 20.02 | 20.02 | 20.03 |
| | | 3 | 0 | 20.02 | 20.00 | 20.01 |
| | | 3 | 3 | 20.03 | 19.94 | 20.04 |
| | | 6 | 0 | 19.98 | 19.95 | 20.08 |

| Band/BW | Modulation | RB Size | RB Offset | Low CH 134052 | Mid CH 134092 | High CH 134132 |
|---|---|---|---|---|---|---|
| | | | | Frequency 703MHz | Frequency 707MHz | Frequency 711MHz |
| 85/ 10 | QPSK | 1 | 0 | 20.01 | 19.98 | 20.11 |
| | | 1 | 5 | 19.98 | 20.05 | 20.09 |
| | | 3 | 0 | 19.95 | 20.02 | 20.07 |
| | | 3 | 3 | 19.99 | 19.96 | 20.02 |
| | | 6 | 0 | 19.76 | 19.71 | 19.82 |
| | 16QAM | 1 | 0 | 20.12 | 20.07 | 20.16 |
| | | 1 | 5 | 20.10 | 20.06 | 20.08 |
| | | 3 | 0 | 20.08 | 20.03 | 20.05 |
| | | 3 | 3 | 20.05 | 20.01 | 20.09 |
| | | 6 | 0 | 20.04 | 20.03 | 20.10 |

## LTE NB-IOT

LTE Band 4

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 19952 | Mid CH 20175 | High CH 20398 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1710.2 MHz | Frequency 1732.5 MHz | Frequency 1754.8 MHz |
| 4/ 3.75 | BPSK | 1 | 0 | 20.86 | 20.84 | 20.79 |
| | | 1 | 47 | 20.76 | 20.77 | 20.76 |
| | QPSK | 1 | 0 | 20.89 | 20.86 | 20.86 |
| | | 1 | 47 | 20.75 | 20.82 | 20.74 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 19952 | Mid CH 20175 | High CH 20398 |
|---|---|---|---|---|---|---|
| | | | | Frequency 1710.2 MHz | Frequency 1732.5 MHz | Frequency 1754.8 MHz |
| 4/ 15 | BPSK | 1 | 0 | 20.45 | 20.42 | 20.42 |
| | | 1 | 11 | 20.31 | 20.38 | 20.30 |
| | QPSK | 1 | 0 | 20.48 | 20.48 | 20.45 |
| | | 1 | 11 | 20.44 | 20.42 | 20.37 |
| | | 12 | 0 | 18.10 | 18.11 | 18.10 |

LTE Band 8

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 21627 | Mid CH 21640 | High CH 21653 |
|---|---|---|---|---|---|---|
| | | | | Frequency 897.7 MHz | Frequency 899 MHz | Frequency 900.3 MHz |
| 8/ 3.75 | BPSK | 1 | 0 | 19.67 | 19.58 | 19.58 |
| | | 1 | 47 | 19.58 | 19.47 | 19.49 |
| | QPSK | 1 | 0 | 19.63 | 19.55 | 19.55 |
| | | 1 | 47 | 19.59 | 19.47 | 19.51 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 21627 | Mid CH 21640 | High CH 21653 |
|---|---|---|---|---|---|---|
| | | | | Frequency 897.7 MHz | Frequency 899 MHz | Frequency 900.3 MHz |
| 8/ 15 | BPSK | 1 | 0 | 19.81 | 19.72 | 19.77 |
| | | 1 | 11 | 19.73 | 19.66 | 19.64 |
| | QPSK | 1 | 0 | 18.72 | 18.73 | 18.67 |
| | | 1 | 11 | 19.70 | 19.63 | 19.65 |
| | | 12 | 0 | 17.96 | 17.94 | 17.89 |

LTE Band 12

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 23012 Frequency 699.2 MHz | Mid CH 23095 Frequency 707.5 MHz | High CH 23178 Frequency 715.8 MHz |
|---|---|---|---|---|---|---|
| 12/ 3.75 | BPSK | 1 | 0 | 19.96 | 19.91 | 20.05 |
| | | 1 | 47 | 19.93 | 19.78 | 20.00 |
| | QPSK | 1 | 0 | 19.99 | 19.94 | 20.08 |
| | | 1 | 47 | 19.94 | 19.82 | 20.01 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 23012 Frequency 699.2 MHz | Mid CH 23095 Frequency 707.5 MHz | High CH 23178 Frequency 715.8 MHz |
|---|---|---|---|---|---|---|
| 12/ 15 | BPSK | 1 | 0 | 20.14 | 20.00 | 20.17 |
| | | 1 | 11 | 20.14 | 20.03 | 20.24 |
| | QPSK | 1 | 0 | 20.29 | 20.19 | 20.28 |
| | | 1 | 11 | 20.17 | 20.05 | 20.22 |
| | | 12 | 0 | 18.57 | 18.43 | 18.62 |

LTE Band 13

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 23182 Frequency 777.2 MHz | Mid CH 23230 Frequency 782.0 MHz | High CH 23278 Frequency 786.8 MHz |
|---|---|---|---|---|---|---|
| 13/ 3.75 | BPSK | 1 | 0 | 20.67 | 20.66 | 20.51 |
| | | 1 | 47 | 20.48 | 20.54 | 20.41 |
| | QPSK | 1 | 0 | 20.68 | 20.66 | 20.56 |
| | | 1 | 47 | 20.57 | 20.58 | 20.52 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 23182 Frequency 777.2 MHz | Mid CH 23230 Frequency 782.0 MHz | High CH 23278 Frequency 786.8 MHz |
|---|---|---|---|---|---|---|
| 13/ 15 | BPSK | 1 | 0 | 20.71 | 20.73 | 20.55 |
| | | 1 | 11 | 20.59 | 20.61 | 20.51 |
| | QPSK | 1 | 0 | 20.77 | 20.81 | 20.66 |
| | | 1 | 11 | 20.68 | 20.65 | 20.60 |
| | | 12 | 0 | 19.03 | 19.07 | 18.92 |

LTE Band 66

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 131974 Frequency 1710.2 MHz | Mid CH 132322 Frequency 1745 MHz | High CH 132670 Frequency 1779.8 MHz |
|---|---|---|---|---|---|---|
| 66/ 3.75 | BPSK | 1 | 0 | 19.92 | 19.56 | 19.53 |
| | | 1 | 47 | 20.04 | 19.70 | 19.60 |
| | QPSK | 1 | 0 | 19.98 | 19.67 | 19.58 |
| | | 1 | 47 | 19.87 | 19.53 | 19.43 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 131974 Frequency 1710.2 MHz | Mid CH 132322 Frequency 1745 MHz | High CH 132670 Frequency 1779.8 MHz |
|---|---|---|---|---|---|---|
| 66/ 15 | BPSK | 1 | 0 | 20.29 | 19.91 | 19.88 |
| | | 1 | 11 | 20.24 | 19.85 | 19.79 |
| | QPSK | 1 | 0 | 20.32 | 20.01 | 19.97 |
| | | 1 | 11 | 20.26 | 19.87 | 19.81 |
| | | 12 | 0 | 18.17 | 17.86 | 17.82 |

LTE Band 71

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 133124 Frequency 663.2 MHz | Mid CH 133297 Frequency 680.5 MHz | High CH 133470 Frequency 697.8 MHz |
|---|---|---|---|---|---|---|
| 71/ 3.75 | BPSK | 1 | 0 | 20.31 | 19.71 | 19.81 |
| | | 1 | 47 | 20.23 | 19.59 | 19.70 |
| | QPSK | 1 | 0 | 20.33 | 19.79 | 19.82 |
| | | 1 | 47 | 20.33 | 19.69 | 19.80 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 133124 Frequency 663.2 MHz | Mid CH 133297 Frequency 680.5 MHz | High CH 133470 Frequency 697.8 MHz |
|---|---|---|---|---|---|---|
| 71/ 15 | BPSK | 1 | 0 | 20.21 | 19.67 | 19.70 |
| | | 1 | 11 | 20.24 | 19.63 | 19.71 |
| | QPSK | 1 | 0 | 20.34 | 19.71 | 19.77 |
| | | 1 | 11 | 20.25 | 19.65 | 19.75 |
| | | 12 | 0 | 18.31 | 17.72 | 17.70 |

LTE Band 85

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 134004 Frequency 698.2 MHz | Mid CH 134092 Frequency 707 MHz | High CH 134180 Frequency 715.8 MHz |
|---|---|---|---|---|---|---|
| 85/ 3.75 | BPSK | 1 | 0 | 20.00 | 19.93 | 20.06 |
| | | 1 | 47 | 19.95 | 19.86 | 20.05 |
| | QPSK | 1 | 0 | 20.06 | 20.01 | 20.14 |
| | | 1 | 47 | 19.96 | 19.79 | 20.01 |

| Band/Sub-carrier Speacing (KHz) | Modulation | RB Size | RB Offset | Low CH 134004 Frequency 698.2 MHz | Mid CH 134092 Frequency 707 MHz | High CH 134180 Frequency 715.8 MHz |
|---|---|---|---|---|---|---|
| 85/ 15 | BPSK | 1 | 0 | 18.96 | 18.87 | 19.01 |
| | | 1 | 11 | 18.93 | 18.86 | 18.98 |
| | QPSK | 1 | 0 | 19.13 | 19.04 | 19.23 |
| | | 1 | 11 | 18.20 | 18.08 | 18.26 |
| | | 12 | 0 | 18.51 | 18.42 | 18.61 |

**EIRP**
**Internal Antenna:**

## LTE CAT-M1

**LTE BAND 4**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19957 | 1710.7 | 20.42 | 2.53 | 22.95 | 197.24 | 1 |
| 20175 | 1732.5 | 20.35 | 2.53 | 22.88 | 194.09 | 1 |
| 20393 | 1754.3 | 20.4 | 2.53 | 22.93 | 196.34 | 1 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19957 | 1710.7 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |
| 20175 | 1732.5 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |
| 20393 | 1754.3 | 20.43 | 2.53 | 22.96 | 197.7 | 1 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19965 | 1711.5 | 20.37 | 2.53 | 22.9 | 194.98 | 1 |
| 20175 | 1732.5 | 20.34 | 2.53 | 22.87 | 193.64 | 1 |
| 20385 | 1753.5 | 20.38 | 2.53 | 22.91 | 195.43 | 1 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19965 | 1711.5 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |
| 20175 | 1732.5 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |
| 20385 | 1753.5 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19975 | 1712.5 | 20.38 | 2.53 | 22.91 | 195.43 | 1 |
| 20175 | 1732.5 | 20.35 | 2.53 | 22.88 | 194.09 | 1 |
| 20375 | 1752.5 | 20.38 | 2.53 | 22.91 | 195.43 | 1 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19975 | 1712.5 | 20.35 | 2.53 | 22.88 | 194.09 | 1 |
| 20175 | 1732.5 | 20.36 | 2.53 | 22.89 | 194.54 | 1 |
| 20375 | 1752.5 | 20.42 | 2.53 | 22.95 | 197.24 | 1 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20000 | 1715 | 20.39 | 2.53 | 22.92 | 195.88 | 1 |
| 20175 | 1732.5 | 20.35 | 2.53 | 22.88 | 194.09 | 1 |
| 20350 | 1750 | 20.4 | 2.53 | 22.93 | 196.34 | 1 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20000 | 1715 | 20.39 | 2.53 | 22.92 | 195.88 | 1 |
| 20175 | 1732.5 | 20.32 | 2.53 | 22.85 | 192.75 | 1 |
| 20350 | 1750 | 20.46 | 2.53 | 22.99 | 199.07 | 1 |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20025 | 1717.5 | 20.4 | 2.53 | 22.93 | 196.34 | 1 |
| 20175 | 1732.5 | 20.31 | 2.53 | 22.84 | 192.31 | 1 |
| 20325 | 1747.5 | 20.39 | 2.53 | 22.92 | 195.88 | 1 |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20025 | 1717.5 | 20.38 | 2.53 | 22.91 | 195.43 | 1 |
| 20175 | 1732.5 | 20.35 | 2.53 | 22.88 | 194.09 | 1 |
| 20325 | 1747.5 | 20.44 | 2.53 | 22.97 | 198.15 | 1 |

**CHANNEL BANDWIDTH: 20MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20050 | 1720 | 20.43 | 2.53 | 22.96 | 197.7 | 1 |
| 20175 | 1732.5 | 20.37 | 2.53 | 22.9 | 194.98 | 1 |
| 20300 | 1745 | 20.42 | 2.53 | 22.95 | 197.24 | 1 |

**CHANNEL BANDWIDTH: 20MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20050 | 1720 | 20.41 | 2.53 | 22.94 | 196.79 | 1 |
| 20175 | 1732.5 | 20.38 | 2.53 | 22.91 | 195.43 | 1 |
| 20300 | 1745 | 20.48 | 2.53 | 23.01 | 199.99 | 1 |

**LTE BAND 8**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21632 | 898.2 | 19.69 | -5.1 | 14.59 | 28.77 | 3 |
| 21640 | 899 | 19.69 | -5.1 | 14.59 | 28.77 | 3 |
| 21648 | 899.8 | 19.68 | -5.1 | 14.58 | 28.71 | 3 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21632 | 898.2 | 19.61 | -5.1 | 14.51 | 28.25 | 3 |
| 21640 | 899 | 19.68 | -5.1 | 14.58 | 28.71 | 3 |
| 21648 | 899.8 | 19.67 | -5.1 | 14.57 | 28.64 | 3 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 21640 | 899 | 19.73 | -5.1 | 14.63 | 29.04 | 3 |
| - | - | - | - | - | - | - |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 21640 | 899 | 19.69 | -5.1 | 14.59 | 28.77 | 3 |
| - | - | - | - | - | - | - |

**LTE BAND 12**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23017 | 699.7 | 19.24 | -3.1 | 13.99 | 25.06 | 3 |
| 23095 | 707.5 | 19.2 | -3.1 | 13.95 | 24.83 | 3 |
| 23173 | 715.3 | 19.4 | -3.1 | 14.15 | 26 | 3 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23017 | 699.7 | 19.3 | -3.1 | 14.05 | 25.41 | 3 |
| 23095 | 707.5 | 19.24 | -3.1 | 13.99 | 25.06 | 3 |
| 23173 | 715.3 | 19.46 | -3.1 | 14.21 | 26.36 | 3 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23025 | 700.5 | 19.2 | -3.1 | 13.95 | 24.83 | 3 |
| 23095 | 707.5 | 19.27 | -3.1 | 14.02 | 25.23 | 3 |
| 23165 | 714.5 | 19.39 | -3.1 | 14.14 | 25.94 | 3 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23025 | 700.5 | 19.32 | -3.1 | 14.07 | 25.53 | 3 |
| 23095 | 707.5 | 19.25 | -3.1 | 14 | 25.12 | 3 |
| 23165 | 714.5 | 19.49 | -3.1 | 14.24 | 26.55 | 3 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23035 | 701.5 | 19.25 | -3.1 | 14 | 25.12 | 3 |
| 23095 | 707.5 | 19.25 | -3.1 | 14 | 25.12 | 3 |
| 23155 | 713.5 | 19.4 | -3.1 | 14.15 | 26 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23035 | 701.5 | 19.29 | -3.1 | 14.04 | 25.35 | 3 |
| 23095 | 707.5 | 19.29 | -3.1 | 14.04 | 25.35 | 3 |
| 23155 | 713.5 | 19.45 | -3.1 | 14.2 | 26.3 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23060 | 704 | 19.27 | -3.1 | 14.02 | 25.23 | 3 |
| 23095 | 707.5 | 19.28 | -3.1 | 14.03 | 25.29 | 3 |
| 23130 | 711 | 19.45 | -3.1 | 14.2 | 26.3 | 3 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23060 | 704 | 19.35 | -3.1 | 14.1 | 25.7 | 3 |
| 23095 | 707.5 | 19.31 | -3.1 | 14.06 | 25.47 | 3 |
| 23130 | 711 | 19.51 | -3.1 | 14.26 | 26.67 | 3 |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 13**

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23205 | 779.5 | 19.95 | -2.19 | 15.61 | 36.39 | 3 |
| 23230 | 782 | 19.9 | -2.19 | 15.56 | 35.97 | 3 |
| 23255 | 784.5 | 19.92 | -2.19 | 15.58 | 36.14 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23205 | 779.5 | 19.93 | -2.19 | 15.59 | 36.22 | 3 |
| 23230 | 782 | 19.94 | -2.19 | 15.6 | 36.31 | 3 |
| 23255 | 784.5 | 19.94 | -2.19 | 15.6 | 36.31 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 23230 | 782 | 19.97 | -2.19 | 15.63 | 36.56 | 3 |
| - | - | - | - | - | - | - |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 23230 | 782 | 19.98 | -2.19 | 15.64 | 36.64 | 3 |
| - | - | - | - | - | - | - |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 66**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131979 | 1710.7 | 20.26 | 2.53 | 22.79 | 190.11 | 1 |
| 132322 | 1745 | 19.99 | 2.53 | 22.52 | 178.65 | 1 |
| 132665 | 1779.3 | 19.87 | 2.53 | 22.4 | 173.78 | 1 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131979 | 1710.7 | 20.16 | 2.53 | 22.69 | 185.78 | 1 |
| 132322 | 1745 | 19.95 | 2.53 | 22.48 | 177.01 | 1 |
| 132665 | 1779.3 | 19.78 | 2.53 | 22.31 | 170.22 | 1 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131987 | 1711.5 | 20.24 | 2.53 | 22.77 | 189.23 | 1 |
| 132322 | 1745 | 20.03 | 2.53 | 22.56 | 180.3 | 1 |
| 132657 | 1778.5 | 19.9 | 2.53 | 22.43 | 174.98 | 1 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131987 | 1711.5 | 20.16 | 2.53 | 22.69 | 185.78 | 1 |
| 132322 | 1745 | 19.89 | 2.53 | 22.42 | 174.58 | 1 |
| 132657 | 1778.5 | 19.81 | 2.53 | 22.34 | 171.4 | 1 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131997 | 1712.5 | 20.24 | 2.53 | 22.77 | 189.23 | 1 |
| 132322 | 1745 | 20 | 2.53 | 22.53 | 179.06 | 1 |
| 132647 | 1777.5 | 19.87 | 2.53 | 22.4 | 173.78 | 1 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131997 | 1712.5 | 20.16 | 2.53 | 22.69 | 185.78 | 1 |
| 132322 | 1745 | 19.9 | 2.53 | 22.43 | 174.98 | 1 |
| 132647 | 1777.5 | 19.78 | 2.53 | 22.31 | 170.22 | 1 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132022 | 1715 | 20.25 | 2.53 | 22.78 | 189.67 | 1 |
| 132322 | 1745 | 19.97 | 2.53 | 22.5 | 177.83 | 1 |
| 132622 | 1775 | 19.89 | 2.53 | 22.42 | 174.58 | 1 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132022 | 1715 | 20.2 | 2.53 | 22.73 | 187.5 | 1 |
| 132322 | 1745 | 19.89 | 2.53 | 22.42 | 174.58 | 1 |
| 132622 | 1775 | 19.82 | 2.53 | 22.35 | 171.79 | 1 |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132047 | 1717.5 | 20.2 | 2.53 | 22.73 | 187.5 | 1 |
| 132322 | 1745 | 20.02 | 2.53 | 22.55 | 179.89 | 1 |
| 132597 | 1772.5 | 19.87 | 2.53 | 22.4 | 173.78 | 1 |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132047 | 1717.5 | 20.18 | 2.53 | 22.71 | 186.64 | 1 |
| 132322 | 1745 | 19.91 | 2.53 | 22.44 | 175.39 | 1 |
| 132597 | 1772.5 | 19.81 | 2.53 | 22.34 | 171.4 | 1 |

**CHANNEL BANDWIDTH: 20MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132072 | 1720 | 20.28 | 2.53 | 22.81 | 190.99 | 1 |
| 132322 | 1745 | 20.05 | 2.53 | 22.58 | 181.13 | 1 |
| 132572 | 1770 | 19.91 | 2.53 | 22.44 | 175.39 | 1 |

**CHANNEL BANDWIDTH: 20MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132072 | 1720 | 20.22 | 2.53 | 22.75 | 188.36 | 1 |
| 132322 | 1745 | 19.97 | 2.53 | 22.5 | 177.83 | 1 |
| 132572 | 1770 | 19.83 | 2.53 | 22.36 | 172.19 | 1 |

**LTE BAND 85**

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134027 | 700.5 | 19.97 | -3.1 | 14.72 | 29.65 | 3 |
| 134092 | 707 | 20.03 | -3.1 | 14.78 | 30.06 | 3 |
| 134157 | 713.5 | 20.1 | -3.1 | 14.85 | 30.55 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134027 | 700.5 | 20.1 | -3.1 | 14.85 | 30.55 | 3 |
| 134092 | 707 | 20.02 | -3.1 | 14.77 | 29.99 | 3 |
| 134157 | 713.5 | 20.15 | -3.1 | 14.9 | 30.9 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134052 | 703 | 20.01 | -3.1 | 14.76 | 29.92 | 3 |
| 134092 | 707 | 20.05 | -3.1 | 14.8 | 30.2 | 3 |
| 134132 | 711 | 20.11 | -3.1 | 14.86 | 30.62 | 3 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134052 | 703 | 20.12 | -3.1 | 14.87 | 30.69 | 3 |
| 134092 | 707 | 20.07 | -3.1 | 14.82 | 30.34 | 3 |
| 134132 | 711 | 20.16 | -3.1 | 14.91 | 30.97 | 3 |

**REMARKS:** EIRP Output Power (dBm) = EIRP (dBm) -2.15(dB).

## LTE NB-IOT

### LTE BAND 4

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.86 | 2.53 | 23.39 | 218.27 | 1 |
| 20175 | 1732.5 | 20.84 | 2.53 | 23.37 | 217.27 | 1 |
| 20398 | 1754.8 | 20.79 | 2.53 | 23.32 | 214.78 | 1 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.89 | 2.53 | 23.42 | 219.79 | 1 |
| 20175 | 1732.5 | 20.86 | 2.53 | 23.39 | 218.27 | 1 |
| 20398 | 1754.8 | 20.86 | 2.53 | 23.39 | 218.27 | 1 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.45 | 2.53 | 22.98 | 198.61 | 1 |
| 20175 | 1732.5 | 20.42 | 2.53 | 22.95 | 197.24 | 1 |
| 20398 | 1754.8 | 20.42 | 2.53 | 22.95 | 197.24 | 1 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.48 | 2.53 | 23.01 | 199.99 | 1 |
| 20175 | 1732.5 | 20.48 | 2.53 | 23.01 | 199.99 | 1 |
| 20398 | 1754.8 | 20.45 | 2.53 | 22.98 | 198.61 | 1 |

**LTE BAND 8**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.67 | -5.1 | 14.57 | 28.64 | 3 |
| 21640 | 899 | 19.58 | -5.1 | 14.48 | 28.05 | 3 |
| 21653 | 900.3 | 19.58 | -5.1 | 14.48 | 28.05 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.63 | -5.1 | 14.53 | 28.38 | 3 |
| 21640 | 899 | 19.55 | -5.1 | 14.45 | 27.86 | 3 |
| 21653 | 900.3 | 19.55 | -5.1 | 14.45 | 27.86 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.81 | -5.1 | 14.71 | 29.58 | 3 |
| 21640 | 899 | 19.72 | -5.1 | 14.62 | 28.97 | 3 |
| 21653 | 900.3 | 19.77 | -5.1 | 14.67 | 29.31 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.7 | -5.1 | 14.6 | 28.84 | 3 |
| 21640 | 899 | 19.63 | -5.1 | 14.53 | 28.38 | 3 |
| 21653 | 900.3 | 19.65 | -5.1 | 14.55 | 28.51 | 3 |

**LTE BAND 12**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 19.96 | -3.1 | 14.71 | 29.58 | 3 |
| 23095 | 707.5 | 19.91 | -3.1 | 14.66 | 29.24 | 3 |
| 23178 | 715.8 | 20.05 | -3.1 | 14.8 | 30.2 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 19.99 | -3.1 | 14.74 | 29.79 | 3 |
| 23095 | 707.5 | 19.94 | -3.1 | 14.69 | 29.44 | 3 |
| 23178 | 715.8 | 20.08 | -3.1 | 14.83 | 30.41 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 20.14 | -3.1 | 14.89 | 30.83 | 3 |
| 23095 | 707.5 | 20.03 | -3.1 | 14.78 | 30.06 | 3 |
| 23178 | 715.8 | 20.24 | -3.1 | 14.99 | 31.55 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 20.29 | -3.1 | 15.04 | 31.92 | 3 |
| 23095 | 707.5 | 20.19 | -3.1 | 14.94 | 31.19 | 3 |
| 23178 | 715.8 | 20.28 | -3.1 | 15.03 | 31.84 | 3 |

**LTE BAND 13**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.67 | -2.19 | 16.33 | 42.95 | 3 |
| 23230 | 782.0 | 20.66 | -2.19 | 16.32 | 42.85 | 3 |
| 23278 | 786.8 | 20.51 | -2.19 | 16.17 | 41.4 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.68 | -2.19 | 16.34 | 43.05 | 3 |
| 23230 | 782.0 | 20.66 | -2.19 | 16.32 | 42.85 | 3 |
| 23278 | 786.8 | 20.56 | -2.19 | 16.22 | 41.88 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.71 | -2.19 | 16.37 | 43.35 | 3 |
| 23230 | 782.0 | 20.73 | -2.19 | 16.39 | 43.55 | 3 |
| 23278 | 786.8 | 20.55 | -2.19 | 16.21 | 41.78 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.77 | -2.19 | 16.43 | 43.95 | 3 |
| 23230 | 782.0 | 20.81 | -2.19 | 16.47 | 44.36 | 3 |
| 23278 | 786.8 | 20.66 | -2.19 | 16.32 | 42.85 | 3 |

**LTE BAND 66**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.04 | 2.53 | 22.57 | 180.72 | 1 |
| 132322 | 1745 | 19.7 | 2.53 | 22.23 | 167.11 | 1 |
| 132670 | 1779.8 | 19.6 | 2.53 | 22.13 | 163.31 | 1 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 19.98 | 2.53 | 22.51 | 178.24 | 1 |
| 132322 | 1745 | 19.67 | 2.53 | 22.2 | 165.96 | 1 |
| 132670 | 1779.8 | 19.58 | 2.53 | 22.11 | 162.55 | 1 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.29 | 2.53 | 22.82 | 191.43 | 1 |
| 132322 | 1745 | 19.91 | 2.53 | 22.44 | 175.39 | 1 |
| 132670 | 1779.8 | 19.88 | 2.53 | 22.41 | 174.18 | 1 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.32 | 2.53 | 22.85 | 192.75 | 1 |
| 132322 | 1745 | 20.01 | 2.53 | 22.54 | 179.47 | 1 |
| 132670 | 1779.8 | 19.97 | 2.53 | 22.5 | 177.83 | 1 |

**LTE BAND 71**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.31 | -4.93 | 13.23 | 21.04 | 3 |
| 133297 | 680.5 | 19.71 | -4.93 | 12.63 | 18.32 | 3 |
| 133470 | 697.8 | 19.81 | -4.93 | 12.73 | 18.75 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.33 | -4.93 | 13.25 | 21.13 | 3 |
| 133297 | 680.5 | 19.79 | -4.93 | 12.71 | 18.66 | 3 |
| 133470 | 697.8 | 19.82 | -4.93 | 12.74 | 18.79 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.24 | -4.93 | 13.16 | 20.7 | 3 |
| 133297 | 680.5 | 19.67 | -4.93 | 12.59 | 18.16 | 3 |
| 133470 | 697.8 | 19.71 | -4.93 | 12.63 | 18.32 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.34 | -4.93 | 13.26 | 21.18 | 3 |
| 133297 | 680.5 | 19.71 | -4.93 | 12.63 | 18.32 | 3 |
| 133470 | 697.8 | 19.77 | -4.93 | 12.69 | 18.58 | 3 |

**LTE BAND 85**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 20 | -3.1 | 14.75 | 29.85 | 3 |
| 134092 | 707 | 19.93 | -3.1 | 14.68 | 29.38 | 3 |
| 134180 | 715.8 | 20.06 | -3.1 | 14.81 | 30.27 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 20.06 | -3.1 | 14.81 | 30.27 | 3 |
| 134092 | 707 | 20.01 | -3.1 | 14.76 | 29.92 | 3 |
| 134180 | 715.8 | 20.14 | -3.1 | 14.89 | 30.83 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 18.96 | -3.1 | 13.71 | 23.5 | 3 |
| 134092 | 707 | 18.87 | -3.1 | 13.62 | 23.01 | 3 |
| 134180 | 715.8 | 19.01 | -3.1 | 13.76 | 23.77 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 19.13 | -3.1 | 13.88 | 24.43 | 3 |
| 134092 | 707 | 19.04 | -3.1 | 13.79 | 23.93 | 3 |
| 134180 | 715.8 | 19.23 | -3.1 | 13.98 | 25 | 3 |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**External Antenna:**
**LTE CAT-M1**

**LTE BAND 4**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19957 | 1710.7 | 20.42 | -0.55 | 19.87 | 97.05 | 1 |
| 20175 | 1732.5 | 20.35 | -0.55 | 19.8 | 95.5 | 1 |
| 20393 | 1754.3 | 20.4 | -0.55 | 19.85 | 96.61 | 1 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19957 | 1710.7 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |
| 20175 | 1732.5 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |
| 20393 | 1754.3 | 20.43 | -0.55 | 19.88 | 97.27 | 1 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19965 | 1711.5 | 20.37 | -0.55 | 19.82 | 95.94 | 1 |
| 20175 | 1732.5 | 20.34 | -0.55 | 19.79 | 95.28 | 1 |
| 20385 | 1753.5 | 20.38 | -0.55 | 19.83 | 96.16 | 1 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19965 | 1711.5 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |
| 20175 | 1732.5 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |
| 20385 | 1753.5 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19975 | 1712.5 | 20.38 | -0.55 | 19.83 | 96.16 | 1 |
| 20175 | 1732.5 | 20.35 | -0.55 | 19.8 | 95.5 | 1 |
| 20375 | 1752.5 | 20.38 | -0.55 | 19.83 | 96.16 | 1 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19975 | 1712.5 | 20.35 | -0.55 | 19.8 | 95.5 | 1 |
| 20175 | 1732.5 | 20.36 | -0.55 | 19.81 | 95.72 | 1 |
| 20375 | 1752.5 | 20.42 | -0.55 | 19.87 | 97.05 | 1 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20000 | 1715 | 20.39 | -0.55 | 19.84 | 96.38 | 1 |
| 20175 | 1732.5 | 20.35 | -0.55 | 19.8 | 95.5 | 1 |
| 20350 | 1750 | 20.4 | -0.55 | 19.85 | 96.61 | 1 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20000 | 1715 | 20.39 | -0.55 | 19.84 | 96.38 | 1 |
| 20175 | 1732.5 | 20.32 | -0.55 | 19.77 | 94.84 | 1 |
| 20350 | 1750 | 20.46 | -0.55 | 19.91 | 97.95 | 1 |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20025 | 1717.5 | 20.4 | -0.55 | 19.85 | 96.61 | 1 |
| 20175 | 1732.5 | 20.31 | -0.55 | 19.76 | 94.62 | 1 |
| 20325 | 1747.5 | 20.39 | -0.55 | 19.84 | 96.38 | 1 |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20025 | 1717.5 | 20.38 | -0.55 | 19.83 | 96.16 | 1 |
| 20175 | 1732.5 | 20.35 | -0.55 | 19.8 | 95.5 | 1 |
| 20325 | 1747.5 | 20.44 | -0.55 | 19.89 | 97.5 | 1 |

**CHANNEL BANDWIDTH: 20MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20050 | 1720 | 20.43 | -0.55 | 19.88 | 97.27 | 1 |
| 20175 | 1732.5 | 20.37 | -0.55 | 19.82 | 95.94 | 1 |
| 20300 | 1745 | 20.42 | -0.55 | 19.87 | 97.05 | 1 |

**CHANNEL BANDWIDTH: 20MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 20050 | 1720 | 20.41 | -0.55 | 19.86 | 96.83 | 1 |
| 20175 | 1732.5 | 20.38 | -0.55 | 19.83 | 96.16 | 1 |
| 20300 | 1745 | 20.48 | -0.55 | 19.93 | 98.4 | 1 |

**LTE BAND 8**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21632 | 898.2 | 19.69 | -3.67 | 16.02 | 39.99 | 3 |
| 21640 | 899 | 19.69 | -3.67 | 16.02 | 39.99 | 3 |
| 21648 | 899.8 | 19.68 | -3.67 | 16.01 | 39.9 | 3 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21632 | 898.2 | 19.61 | -3.67 | 15.94 | 39.26 | 3 |
| 21640 | 899 | 19.68 | -3.67 | 16.01 | 39.9 | 3 |
| 21648 | 899.8 | 19.67 | -3.67 | 16 | 39.81 | 3 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 21640 | 899 | 19.73 | -3.67 | 16.06 | 40.36 | 3 |
| - | - | - | - | - | - | - |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 21640 | 899 | 19.69 | -3.67 | 16.02 | 39.99 | 3 |
| - | - | - | - | - | - | - |

**LTE BAND 12**
**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23017 | 699.7 | 19.24 | -2.81 | 14.28 | 26.79 | 3 |
| 23095 | 707.5 | 19.2 | -2.81 | 14.24 | 26.55 | 3 |
| 23173 | 715.3 | 19.4 | -2.81 | 14.44 | 27.8 | 3 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23017 | 699.7 | 19.3 | -2.81 | 14.34 | 27.16 | 3 |
| 23095 | 707.5 | 19.24 | -2.81 | 14.28 | 26.79 | 3 |
| 23173 | 715.3 | 19.46 | -2.81 | 14.5 | 28.18 | 3 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23025 | 700.5 | 19.2 | -2.81 | 14.24 | 26.55 | 3 |
| 23095 | 707.5 | 19.27 | -2.81 | 14.31 | 26.98 | 3 |
| 23165 | 714.5 | 19.39 | -2.81 | 14.43 | 27.73 | 3 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23025 | 700.5 | 19.32 | -2.81 | 14.36 | 27.29 | 3 |
| 23095 | 707.5 | 19.25 | -2.81 | 14.29 | 26.85 | 3 |
| 23165 | 714.5 | 19.49 | -2.81 | 14.53 | 28.38 | 3 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23035 | 701.5 | 19.25 | -2.81 | 14.29 | 26.85 | 3 |
| 23095 | 707.5 | 19.25 | -2.81 | 14.29 | 26.85 | 3 |
| 23155 | 713.5 | 19.4 | -2.81 | 14.44 | 27.8 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23035 | 701.5 | 19.29 | -2.81 | 14.33 | 27.1 | 3 |
| 23095 | 707.5 | 19.29 | -2.81 | 14.33 | 27.1 | 3 |
| 23155 | 713.5 | 19.45 | -2.81 | 14.49 | 28.12 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23060 | 704 | 19.27 | -2.81 | 14.31 | 26.98 | 3 |
| 23095 | 707.5 | 19.28 | -2.81 | 14.32 | 27.04 | 3 |
| 23130 | 711 | 19.45 | -2.81 | 14.49 | 28.12 | 3 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23060 | 704 | 19.35 | -2.81 | 14.39 | 27.48 | 3 |
| 23095 | 707.5 | 19.31 | -2.81 | 14.35 | 27.23 | 3 |
| 23130 | 711 | 19.51 | -2.81 | 14.55 | 28.51 | 3 |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 13**

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23205 | 779.5 | 19.95 | -2.46 | 15.34 | 34.2 | 3 |
| 23230 | 782 | 19.9 | -2.46 | 15.29 | 33.81 | 3 |
| 23255 | 784.5 | 19.92 | -2.46 | 15.31 | 33.96 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23205 | 779.5 | 19.93 | -2.46 | 15.32 | 34.04 | 3 |
| 23230 | 782 | 19.94 | -2.46 | 15.33 | 34.12 | 3 |
| 23255 | 784.5 | 19.94 | -2.46 | 15.33 | 34.12 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 23230 | 782 | 19.97 | -2.46 | 15.36 | 34.36 | 3 |
| - | - | - | - | - | - | - |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - |
| 23230 | 782 | 19.98 | -2.46 | 15.37 | 34.43 | 3 |
| - | - | - | - | - | - | - |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 66**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131979 | 1710.7 | 20.26 | -0.55 | 19.71 | 93.54 | 1 |
| 132322 | 1745 | 19.99 | -0.55 | 19.44 | 87.9 | 1 |
| 132665 | 1779.3 | 19.87 | -0.55 | 19.32 | 85.51 | 1 |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131979 | 1710.7 | 20.16 | -0.55 | 19.61 | 91.41 | 1 |
| 132322 | 1745 | 19.95 | -0.55 | 19.4 | 87.1 | 1 |
| 132665 | 1779.3 | 19.78 | -0.55 | 19.23 | 83.75 | 1 |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131987 | 1711.5 | 20.24 | -0.55 | 19.69 | 93.11 | 1 |
| 132322 | 1745 | 20.03 | -0.55 | 19.48 | 88.72 | 1 |
| 132657 | 1778.5 | 19.9 | -0.55 | 19.35 | 86.1 | 1 |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131987 | 1711.5 | 20.16 | -0.55 | 19.61 | 91.41 | 1 |
| 132322 | 1745 | 19.89 | -0.55 | 19.34 | 85.9 | 1 |
| 132657 | 1778.5 | 19.81 | -0.55 | 19.26 | 84.33 | 1 |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131997 | 1712.5 | 20.24 | -0.55 | 19.69 | 93.11 | 1 |
| 132322 | 1745 | 20 | -0.55 | 19.45 | 88.1 | 1 |
| 132647 | 1777.5 | 19.87 | -0.55 | 19.32 | 85.51 | 1 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131997 | 1712.5 | 20.16 | -0.55 | 19.61 | 91.41 | 1 |
| 132322 | 1745 | 19.9 | -0.55 | 19.35 | 86.1 | 1 |
| 132647 | 1777.5 | 19.78 | -0.55 | 19.23 | 83.75 | 1 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132022 | 1715 | 20.25 | -0.55 | 19.7 | 93.33 | 1 |
| 132322 | 1745 | 19.97 | -0.55 | 19.42 | 87.5 | 1 |
| 132622 | 1775 | 19.89 | -0.55 | 19.34 | 85.9 | 1 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132022 | 1715 | 20.2 | -0.55 | 19.65 | 92.26 | 1 |
| 132322 | 1745 | 19.89 | -0.55 | 19.34 | 85.9 | 1 |
| 132622 | 1775 | 19.82 | -0.55 | 19.27 | 84.53 | 1 |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132047 | 1717.5 | 20.2 | -0.55 | 19.65 | 92.26 | 1 |
| 132322 | 1745 | 20.02 | -0.55 | 19.47 | 88.51 | 1 |
| 132597 | 1772.5 | 19.87 | -0.55 | 19.32 | 85.51 | 1 |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132047 | 1717.5 | 20.18 | -0.55 | 19.63 | 91.83 | 1 |
| 132322 | 1745 | 19.91 | -0.55 | 19.36 | 86.3 | 1 |
| 132597 | 1772.5 | 19.81 | -0.55 | 19.26 | 84.33 | 1 |

**CHANNEL BANDWIDTH: 20MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132072 | 1720 | 20.28 | -0.55 | 19.73 | 93.97 | 1 |
| 132322 | 1745 | 20.05 | -0.55 | 19.5 | 89.13 | 1 |
| 132572 | 1770 | 19.91 | -0.55 | 19.36 | 86.3 | 1 |

**CHANNEL BANDWIDTH: 20MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 132072 | 1720 | 20.22 | -0.55 | 19.67 | 92.68 | 1 |
| 132322 | 1745 | 19.97 | -0.55 | 19.42 | 87.5 | 1 |
| 132572 | 1770 | 19.83 | -0.55 | 19.28 | 84.72 | 1 |

**LTE BAND 85**

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134027 | 700.5 | 19.97 | -2.81 | 15.01 | 31.7 | 3 |
| 134092 | 707 | 20.03 | -2.81 | 15.07 | 32.14 | 3 |
| 134157 | 713.5 | 20.1 | -2.81 | 15.14 | 32.66 | 3 |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134027 | 700.5 | 20.1 | -2.81 | 15.14 | 32.66 | 3 |
| 134092 | 707 | 20.02 | -2.81 | 15.06 | 32.06 | 3 |
| 134157 | 713.5 | 20.15 | -2.81 | 15.19 | 33.04 | 3 |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134052 | 703 | 20.01 | -2.81 | 15.05 | 31.99 | 3 |
| 134092 | 707 | 20.05 | -2.81 | 15.09 | 32.28 | 3 |
| 134132 | 711 | 20.11 | -2.81 | 15.15 | 32.73 | 3 |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134052 | 703 | 20.12 | -2.81 | 15.16 | 32.81 | 3 |
| 134092 | 707 | 20.07 | -2.81 | 15.11 | 32.43 | 3 |
| 134132 | 711 | 20.16 | -2.81 | 15.2 | 33.11 | 3 |

**REMARKS:** EIRP Output Power (dBm) = EIRP (dBm) -2.15(dB).

## LTE NB-IOT

### LTE BAND 4

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.86 | -0.55 | 20.31 | 107.4 | 1 |
| 20175 | 1732.5 | 20.84 | -0.55 | 20.29 | 106.91 | 1 |
| 20398 | 1754.8 | 20.79 | -0.55 | 20.24 | 105.68 | 1 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.89 | -0.55 | 20.34 | 108.14 | 1 |
| 20175 | 1732.5 | 20.86 | -0.55 | 20.31 | 107.4 | 1 |
| 20398 | 1754.8 | 20.86 | -0.55 | 20.31 | 107.4 | 1 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.45 | -0.55 | 19.9 | 97.72 | 1 |
| 20175 | 1732.5 | 20.42 | -0.55 | 19.87 | 97.05 | 1 |
| 20398 | 1754.8 | 20.42 | -0.55 | 19.87 | 97.05 | 1 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 19952 | 1710.2 | 20.48 | -0.55 | 19.93 | 98.4 | 1 |
| 20175 | 1732.5 | 20.48 | -0.55 | 19.93 | 98.4 | 1 |
| 20398 | 1754.8 | 20.45 | -0.55 | 19.9 | 97.72 | 1 |

**LTE BAND 8**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.67 | -3.67 | 16 | 39.81 | 3 |
| 21640 | 899 | 19.58 | -3.67 | 15.91 | 38.99 | 3 |
| 21653 | 900.3 | 19.58 | -3.67 | 15.91 | 38.99 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.63 | -3.67 | 15.96 | 39.45 | 3 |
| 21640 | 899 | 19.55 | -3.67 | 15.88 | 38.73 | 3 |
| 21653 | 900.3 | 19.55 | -3.67 | 15.88 | 38.73 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.81 | -3.67 | 16.14 | 41.11 | 3 |
| 21640 | 899 | 19.72 | -3.67 | 16.05 | 40.27 | 3 |
| 21653 | 900.3 | 19.77 | -3.67 | 16.1 | 40.74 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | EIRP (dBm) | EIRP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 21627 | 897.7 | 19.7 | -3.67 | 16.03 | 40.09 | 3 |
| 21640 | 899 | 19.63 | -3.67 | 15.96 | 39.45 | 3 |
| 21653 | 900.3 | 19.65 | -3.67 | 15.98 | 39.63 | 3 |

**LTE BAND 12**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 19.96 | -2.81 | 15 | 31.62 | 3 |
| 23095 | 707.5 | 19.91 | -2.81 | 14.95 | 31.26 | 3 |
| 23178 | 715.8 | 20.05 | -2.81 | 15.09 | 32.28 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 19.99 | -2.81 | 15.03 | 31.84 | 3 |
| 23095 | 707.5 | 19.94 | -2.81 | 14.98 | 31.48 | 3 |
| 23178 | 715.8 | 20.08 | -2.81 | 15.12 | 32.51 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 20.14 | -2.81 | 15.18 | 32.96 | 3 |
| 23095 | 707.5 | 20.03 | -2.81 | 15.07 | 32.14 | 3 |
| 23178 | 715.8 | 20.24 | -2.81 | 15.28 | 33.73 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23012 | 699.2 | 20.29 | -2.81 | 15.33 | 34.12 | 3 |
| 23095 | 707.5 | 20.19 | -2.81 | 15.23 | 33.34 | 3 |
| 23178 | 715.8 | 20.28 | -2.81 | 15.32 | 34.04 | 3 |

**LTE BAND 13**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.67 | -2.46 | 16.06 | 40.36 | 3 |
| 23230 | 782.0 | 20.66 | -2.46 | 16.05 | 40.27 | 3 |
| 23278 | 786.8 | 20.51 | -2.46 | 15.9 | 38.9 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.68 | -2.46 | 16.07 | 40.46 | 3 |
| 23230 | 782.0 | 20.66 | -2.46 | 16.05 | 40.27 | 3 |
| 23278 | 786.8 | 20.56 | -2.46 | 15.95 | 39.36 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.71 | -2.46 | 16.1 | 40.74 | 3 |
| 23230 | 782.0 | 20.73 | -2.46 | 16.12 | 40.93 | 3 |
| 23278 | 786.8 | 20.55 | -2.46 | 15.94 | 39.26 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 23182 | 777.2 | 20.77 | -2.46 | 16.16 | 41.3 | 3 |
| 23230 | 782.0 | 20.81 | -2.46 | 16.2 | 41.69 | 3 |
| 23278 | 786.8 | 20.66 | -2.46 | 16.05 | 40.27 | 3 |

**LTE BAND 66**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.04 | -0.55 | 19.49 | 88.92 | 1 |
| 132322 | 1745 | 19.7 | -0.55 | 19.15 | 82.22 | 1 |
| 132670 | 1779.8 | 19.6 | -0.55 | 19.05 | 80.35 | 1 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 19.98 | -0.55 | 19.43 | 87.7 | 1 |
| 132322 | 1745 | 19.67 | -0.55 | 19.12 | 81.66 | 1 |
| 132670 | 1779.8 | 19.58 | -0.55 | 19.03 | 79.98 | 1 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.29 | -0.55 | 19.74 | 94.19 | 1 |
| 132322 | 1745 | 19.91 | -0.55 | 19.36 | 86.3 | 1 |
| 132670 | 1779.8 | 19.88 | -0.55 | 19.33 | 85.7 | 1 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 131974 | 1710.2 | 20.32 | -0.55 | 19.77 | 94.84 | 1 |
| 132322 | 1745 | 20.01 | -0.55 | 19.46 | 88.31 | 1 |
| 132670 | 1779.8 | 19.97 | -0.55 | 19.42 | 87.5 | 1 |

**LTE BAND 71**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.31 | -3.37 | 14.79 | 30.13 | 3 |
| 133297 | 680.5 | 19.71 | -3.37 | 14.19 | 26.24 | 3 |
| 133470 | 697.8 | 19.81 | -3.37 | 14.29 | 26.85 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.33 | -3.37 | 14.81 | 30.27 | 3 |
| 133297 | 680.5 | 19.79 | -3.37 | 14.27 | 26.73 | 3 |
| 133470 | 697.8 | 19.82 | -3.37 | 14.3 | 26.92 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.24 | -3.37 | 14.72 | 29.65 | 3 |
| 133297 | 680.5 | 19.67 | -3.37 | 14.15 | 26 | 3 |
| 133470 | 697.8 | 19.71 | -3.37 | 14.19 | 26.24 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 133124 | 663.2 | 20.34 | -3.37 | 14.82 | 30.34 | 3 |
| 133297 | 680.5 | 19.71 | -3.37 | 14.19 | 26.24 | 3 |
| 133470 | 697.8 | 19.77 | -3.37 | 14.25 | 26.61 | 3 |

**LTE BAND 85**

**SUBCARRIER SPACING: 3.75KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 20 | -2.81 | 15.04 | 31.92 | 3 |
| 134092 | 707 | 19.93 | -2.81 | 14.97 | 31.41 | 3 |
| 134180 | 715.8 | 20.06 | -2.81 | 15.1 | 32.36 | 3 |

**SUBCARRIER SPACING: 3.75KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 20.06 | -2.81 | 15.1 | 32.36 | 3 |
| 134092 | 707 | 20.01 | -2.81 | 15.05 | 31.99 | 3 |
| 134180 | 715.8 | 20.14 | -2.81 | 15.18 | 32.96 | 3 |

**SUBCARRIER SPACING: 15KHz BPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 18.96 | -2.81 | 14 | 25.12 | 3 |
| 134092 | 707 | 18.87 | -2.81 | 13.91 | 24.6 | 3 |
| 134180 | 715.8 | 19.01 | -2.81 | 14.05 | 25.41 | 3 |

**SUBCARRIER SPACING: 15KHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | $G_T$-$L_C$ (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---|---|---|---|---|---|---|
| 134004 | 698.2 | 19.13 | -2.81 | 14.17 | 26.12 | 3 |
| 134092 | 707 | 19.04 | -2.81 | 14.08 | 25.59 | 3 |
| 134180 | 715.8 | 19.23 | -2.81 | 14.27 | 26.73 | 3 |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

## 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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. The emission limit equal to –13dBm.

47 CFR 27.1509(a) For 900 MHz broadband operations in 897.5-900.5 MHz band by at least 43 + 10 log (P) dB.

### 3.2.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G.
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

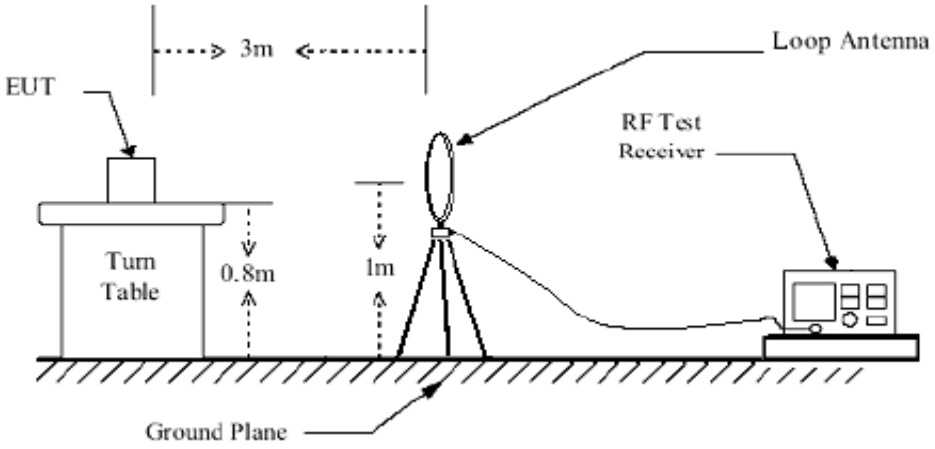
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

### 3.2.3 DEVIATION FROM TEST STANDARD

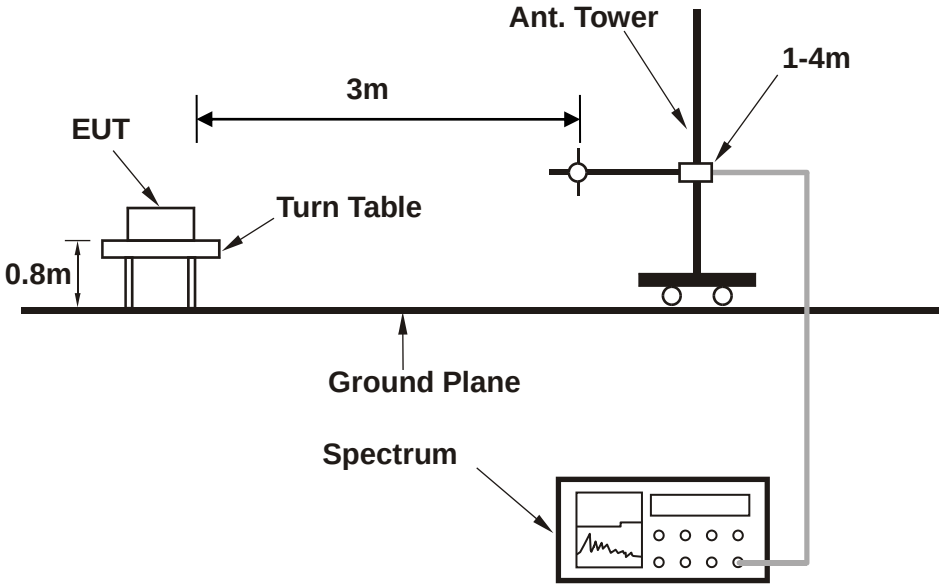
No deviation

### 3.2.4 TEST SETUP

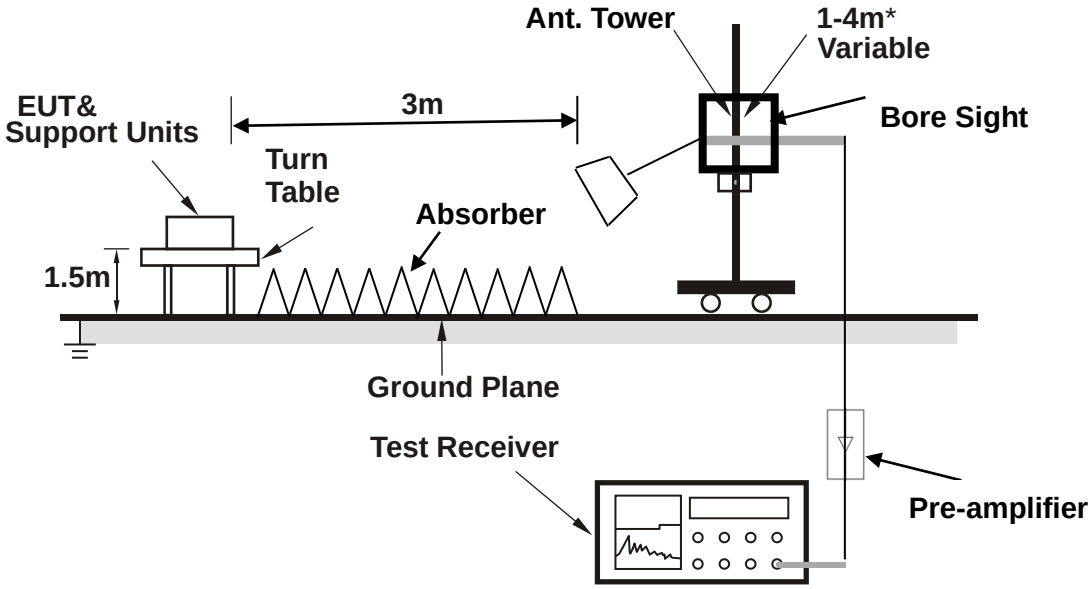
**< Frequency Range below 30MHz >**




**< Frequency Range 30MHz~1GHz >**



**<Frequency Range above 1GHz>**




**Note**: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 3.2.5 TEST RESULTS

NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

**Internal Antenna:**

**NB**

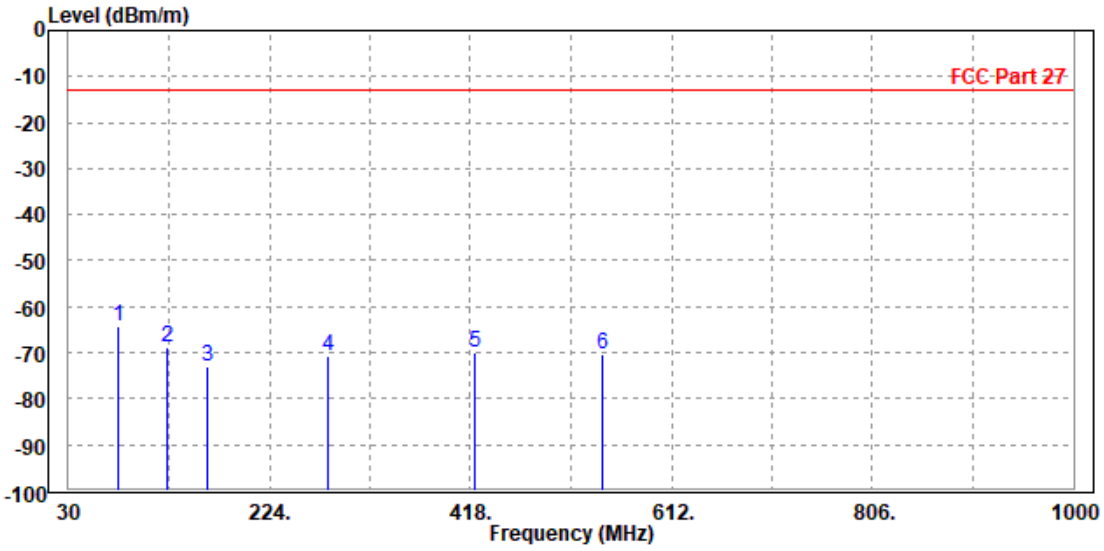
**BELOW 1GHz WORST-CASE DATA**

**30 MHz – 1GHz data:**

**LTE Band 13**
**CHANNEL BANDWIDTH: 3.75KHz / QPSK**

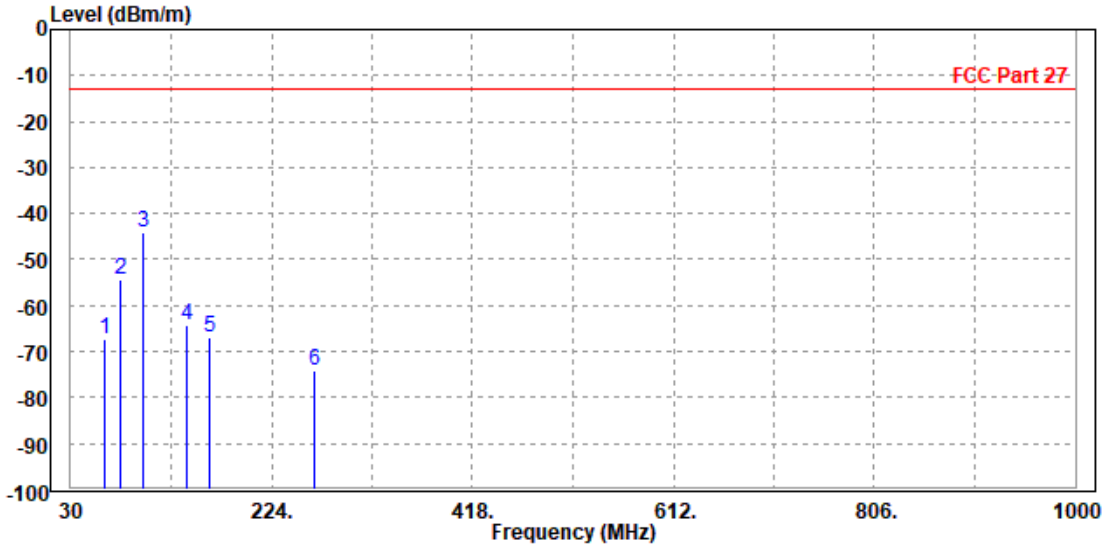
| | | | |
|---|---|---|---|
| **MODE** | TX channel 23230 | **FREQUENCY RANGE** | Below 1000MHz |
| **ENVIRONMENTAL CONDITIONS** | 23deg. C, 70%RH | **INPUT POWER** | AC 120V/60HZ |
| **TESTED BY** | Jace Hu | | |
| **ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M** | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 PP | 78.500 | -64.20 | -42.69 | -13.00 | -51.20 | -21.51 | Peak | Horizontal |
| 2 | 125.060 | -68.74 | -47.73 | -13.00 | -55.74 | -21.01 | Peak | Horizontal |
| 3 | 164.830 | -72.84 | -56.72 | -13.00 | -59.84 | -16.12 | Peak | Horizontal |
| 4 | 281.230 | -70.73 | -58.65 | -13.00 | -57.73 | -12.08 | Peak | Horizontal |
| 5 | 422.850 | -69.87 | -60.25 | -13.00 | -56.87 | -9.62 | Peak | Horizontal |
| 6 | 546.040 | -70.31 | -64.00 | -13.00 | -57.31 | -6.31 | Peak | Horizontal |



| MODE | TX channel 23230 | FREQUENCY RANGE | Below 1000MHz |
|---|---|---|---|
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | AC 120V/60HZ |
| TESTED BY | Jace Hu | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | | 62.980 | -67.23 | -44.28 | -13.00 | -54.23 | -22.95 | Peak | Vertical |
| 2 | | 78.500 | -54.30 | -34.63 | -13.00 | -41.30 | -19.67 | Peak | Vertical |
| 3 | PP | 99.840 | -44.22 | -37.71 | -13.00 | -31.22 | -6.51 | Peak | Vertical |
| 4 | | 142.520 | -64.26 | -50.01 | -13.00 | -51.26 | -14.25 | Peak | Vertical |
| 5 | | 164.830 | -66.87 | -49.66 | -13.00 | -53.87 | -17.21 | Peak | Vertical |
| 6 | | 264.740 | -74.06 | -61.28 | -13.00 | -61.06 | -12.78 | Peak | Vertical |



**ABOVE 1GHz**

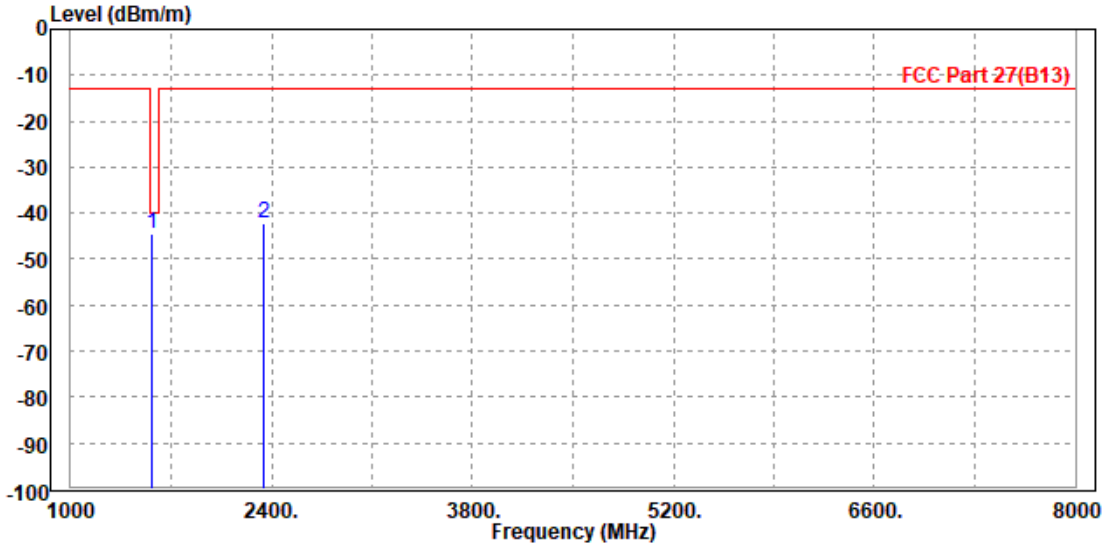
**Note:** For higher frequency, the emission is too low to be detected.

**WORST-CASE DATA**

**LTE Band 13**
**CHANNEL BANDWIDTH: 3.75KHz / QPSK**

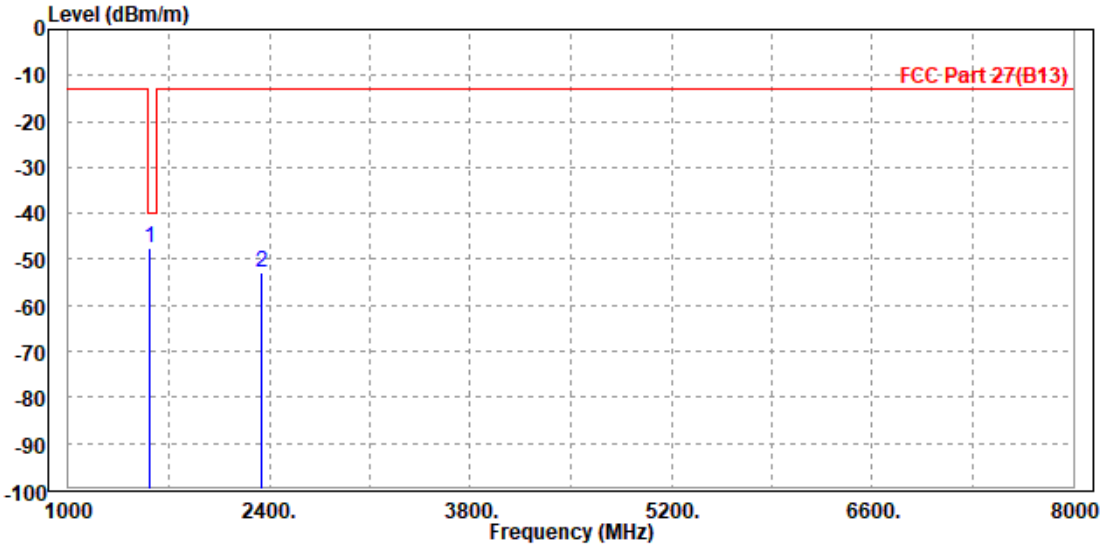
| | | | |
|---|---|---|---|
| **MODE** | TX channel 23230 | **FREQUENCY RANGE** | Above 1000MHz |
| **ENVIRONMENTAL CONDITIONS** | 23deg. C, 70%RH | **INPUT POWER** | AC 120V/60HZ |
| **TESTED BY** | Jace Hu | | |
| **ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M** | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 | PP 1564.000 | -44.43 | -44.53 | -40.00 | -4.43 | 0.10 | Peak | Horizontal |
| 2 | 2344.000 | -42.25 | -47.12 | -13.00 | -29.25 | 4.87 | Peak | Horizontal |



| MODE | TX channel 23230 | FREQUENCY RANGE | Above 1000MHz |
|---|---|---|---|
| ENVIRONMENTAL CONDITIONS | 23deg. C, 70%RH | INPUT POWER | AC 120V/60HZ |
| TESTED BY | Jace Hu | | |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | |

| | Freq | Level | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBm/m | dBm | dBm/m | dB | dB/m | | |
| 1 PP | 1567.000 | -47.64 | -48.09 | -40.00 | -7.64 | 0.45 | Peak | Vertical |
| 2 | 2346.000 | -52.71 | -57.23 | -13.00 | -39.71 | 4.52 | Peak | Vertical |



# 4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Tel: +86-755-88696566
Fax: +86-755-88696577

**Email:** customerservice.sw@cn.bureauveritas.com
**Web Site**: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

# 5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

**---END---**