# FCC Test Report

Report No.:AGC00552190704FE07

| | | |
|---|---|---|
| **FCC ID** | : | 2AHZ5CUBOTX19 |
| **APPLICATION PURPOSE** | : | Original Equipment |
| **PRODUCT DESIGNATION** | : | Smart Phone |
| **BRAND NAME** | : | CUBOT |
| **MODEL NAME** | : | X19 |
| **APPLICANT** | : | Shenzhen Huafurui Technology Co., Ltd. |
| **DATE OF ISSUE** | : | Aug. 30, 2019 |
| **STANDARD(S)** | : | FCC Part 22 Rules<br>FCC Part 24 Rules<br>FCC Part 27 Rules |
| **REPORT VERSION** | : | V1.0 |

## *A*ttestation of *G*lobal *C*ompliance (Shenzhen) Co., Ltd.

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# REPORT REVISE RECORD

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
|---|---|---|---|---|
| V1.0 | / | Aug. 30, 2019 | Valid | Initial Release |

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# 1.VERIFICATION OF COMPLIANCE

| | |
|---|---|
| **Applicant** | Shenzhen Huafurui Technology Co., Ltd. |
| **Address** | Unit 1401 14/F, Jin qi zhi gu mansion Liu xian street ,Xili, Nan shan district Shenzhen,China |
| **Manufacturer** | Shenzhen Huafurui Technology Co., Ltd. |
| **Address** | Unit 1401 14/F, Jin qi zhi gu mansion Liu xian street ,Xili, Nan shan district Shenzhen,China |
| **Factory** | Shenzhen Huafurui Technology Co., Ltd. |
| **Address** | Unit 1401 14/F, Jin qi zhi gu mansion Liu xian street ,Xili, Nan shan district Shenzhen,China |
| **Product Designation** | Smart Phone |
| **Brand Name** | CUBOT |
| **Test Model** | X19 |
| **Date of test** | July 15, 2019~Aug. 21, 2019 |
| **Deviation** | None |
| **Condition of Test Sample** | Normal |

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance(Shenzhen) Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI/TIA-603-E-2016. The sample tested as described in this report is in compliance with the FCC Rules Part 24 and 27. The test results of this report relate only to the tested sample identified in this report.

Prepared By Jeast Zhan

Jeast Zhan
(Project Engineer) Aug. 30, 2019

Reviewed By Max Zhang

Max Zhang
( Reviewer ) Aug. 30, 2019

Approved By Forrest Lei

Forrest Lei
(Authorized Officer) Aug. 30, 2019

# 2. GENERAL INFORMATION

## 2.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

| | | |
|---|---|---|
| Radio System Type: | LTE | |
| Frequency Bands: | ☒FDD Band 2 ☒FDD Band 4 ☒FDD Band 5 ☒FDD Band 7<br>☒FDD Band 12 ☒FDD Band 17 (U.S. Bands)<br>☐FDD Band 1 ☐FDD Band 3 ☐FDD Band 8 ☐FDD Band 19<br>☐FDD Band 20 ☒FDD Band 28 ☐TDD Band 38<br>☒TDD Band 39 (Non-U.S. Bands) | |
| Frequency Range | LTE Band 2 | Transmission (TX): 1850 to 1909.9 MHz |
| | | Receiving (RX): 1930 to 1989.9 MHz |
| | LTE Band 4 | Transmission (TX): 1710 to 1754.9 MHz |
| | | Receiving (RX): 2110 to 2154.9 MHz |
| | LTE Band 5 | Transmission (TX): 824 to 848.9 MHz |
| | | Receiving (RX): 869 to 893.9 MHz |
| | LTE Band 7 | Transmission (TX): 2500 to 2569.9MHz |
| | | Receiving (RX): 2620 to 2689.9MHz |
| | LTE Band 12 | Transmission (TX): 699 to 715.9MHz |
| | | Receiving (RX): 729 to 745.9MHz |
| | LTE Band 17 | Transmission (TX): 704 to 715.9MHz |
| | | Receiving (RX): 734 to 745.9MHz |
| Supported Channel Bandwidth | LTE Band 2 | ☒ 1.4 MHz ☒ 3 MHz ☒ 5 MHz<br>☒ 10 MHz ☒ 15 MHz ☒ 20 MHz |
| | LTE Band 4 | ☒ 1.4 MHz ☒ 3 MHz ☒ 5 MHz<br>☒ 10 MHz ☒ 15 MHz ☒ 20 MHz |
| | LTE Band 5 | ☒ 1.4 MHz ☒ 3 MHz ☒ 5 MHz ☒ 10 MHz |
| | LTE Band 7 | ☒ 5 MHz ☒ 10 MHz ☒ 15 MHz ☒ 20 MHz |
| | LTE Band 12 | ☒ 1.4 MHz ☒ 3 MHz ☒ 5 MHz ☒ 10 MHz |
| | LTE Band 17 | ☒ 5 MHz ☒ 10 MHz |
| Hardware Version | Q593_MB_V1.0 | |
| Software Version | CUBOT_X19_9021C_2_V01_20190712 | |
| Antenna: | PIFA Antenna | |
| Type of Modulation | QPSK/16QAM | |
| Antenna gain: | Band 2: -1.96dBi; Band 4: -2.39dBi; Band 5: -3.65dBi; Band 7: -1.76dBi; Band 12:-3.46dBi;Band 17:-3.28dBi | |
| Diversity Antenna gain: | Band 2: -2.11dBi; Band 4: -2.65dBi; Band 5: -3.77dBi; Band 7: -1.91dBi; Band 12:-3.76dBi;Band 17:-3.84dBi | |

| | |
|---|---|
| Power Supply: | DC 3.8V by battery |
| Dual Card: | GSM/WCDMA/LTE Card Slot |
| Power Class | 3 |
| Extreme Vol. Limits: | DC3.23V to 4.35V (Normal: 3.8V) |
| Temperature range | -10℃ to +40℃ |
| **Note1**: The High Voltage DC4.35V and Low Voltage DC3.23V were declared by manufacturer, The EUT couldn’t be operating normally with higher or lower voltage.. | |

## 2.3 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID:2AHZ5CUBOTX19** , filing to comply with the FCC Part 22, Part 24 and Pant 27 requirements

.

## 2.4 TEST METHODOLOGY

The radiated emission testing was performed according to the procedures of ANSI/TIA-603-E-2016, and FCC KDB 971168 D01 Power Means License Digital Systems V03R01.

## 2.5 TEST FACILITY

| | |
|---|---|
| **Test Site** | Attestation of Global Compliance (Shenzhen) Co., Ltd |
| **Location** | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong,China |
| **Designation Number** | CN1259 |
| **FCC Test Firm Registration Number** | 975832 |
| **A2LA Cert. No.** | 5054.02 |
| **Description** | Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA |

## ALL TEST EQUIPMENT LIST

| Equipment | Manufacturer | Model | S/N | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| TEST RECEIVER | R&S | ESPI | 101206 | Jun.12, 2019 | Jun.11, 2020 |
| LISN | R&S | ESH2-Z5 | 100086 | Aug.28, 2018 | Aug.27, 2019 |
| LISN | R&S | ESH2-Z5 | 100086 | Aug.26, 2019 | Aug.25, 2020 |
| TEST RECEIVER | R&S | ESCI | 10096 | Jun.12, 2019 | Jun.11, 2020 |
| EXA Signal Analyzer | Aglient | N9010A | MY53470504 | Dec.20, 2018 | Dec.18, 2019 |
| Horn antenna | SCHWARZBECK | BBHA 9170 | #768 | Sep.21, 2017 | Sep.20, 2019 |
| preamplifier | ChengYi | EMC184045SE | 980508 | Oct. 31, 2018 | Oct. 30, 2019 |
| Double-Ridged Waveguide Horn | ETS LINDGREN | 3117 | 00034609 | May.17, 2019 | May.16, 2021 |
| Broadband Preamplifier | SCHWARZBECK | BBV 9718 | 9718-205 | Jun.12, 2019 | Jun.11, 2020 |
| ANTENNA | SCHWARZBECK | VULB9168 | D69250 | Sep.28, 2017 | Sep.27, 2019 |
| SIGNAL ANALYZER | Agilent | N9020A | MY52090123 | Sep. 20, 2018 | Sep. 19, 2019 |
| USB Wideband Power Sensor | Agilent | U2021XA | MY54110007 | Sep. 20, 2018 | Sep. 19, 2019 |
| Wireless communication test | R&S | CMW500 | 120909 | July 13, 2018 | July 12, 2019 |
| Wireless communication test | R&S | CMW500 | 120909 | July 11, 2019 | July 10, 2020 |
| Power Splitter | Agilent | 11636A | 34 | Jun.12, 2019 | Jun.11, 2020 |
| Attenuator | JFW | 50FHC-006-50 | N/A | Jun.12, 2019 | Jun.11, 2020 |

## 2.5 SPECIAL ACCESSORIES

The battery was supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

## 2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

# 3. SYSTEM TEST CONFIGURATION

## 3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission’s requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

## 3.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

## 3.3 GENERAL TECHNICAL REQUIREMENTS

| Item Number | Item Description | | FCC Rules |
|---|---|---|---|
| 1 | Output Power | Conducted output power | 2.1046/22.913(a)(2)/24.232(c)/ 27.50(d)(4)/ 27.50(h)(2) |
| | | Radiated output power | |
| 2 | Peak-to-Average Ratio | Peak-to-Average Ratio | 24.232(d) |
| 3 | Spurious Emission | Conducted spurious emission | 2.1051/22.917(a)/24.238(a) 27.53(h)/ 27.53(g) |
| | | Radiated spurious emission | |
| 4 | Frequency Stability | | 2.1055/22.355/24.235/27.54 |
| 5 | Occupied Bandwidth | | 2.1049 (h)(i) |
| 6 | Band Edge | | 2.1051/22.917(a)/24.238(a) 27.53(h)/ 27.53(g) |

Note: Testing was performed by configuring EUT to maximum output power status, the declared output power class for different.

### 3.4 CONFIGURATION OF EUT SYSTEM

Fig. 2-1 Configuration of EUT System

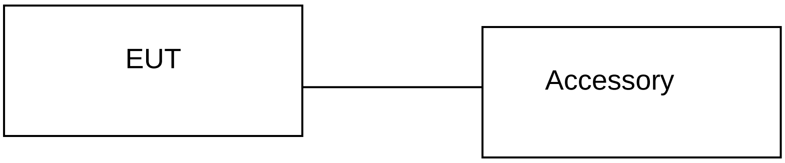


Table 2-1 Equipment Used in EUT System

| Item | Equipment | Model No. | ID or Specification | Remark |
|---|---|---|---|---|
| 1 | Smart Phone | X19 | FCC ID: 2AHZ5CUBOTX19 | EUT |
| 2 | Adapter | HJ-0502000W2-US | DC 5.0V 2A | AE |
| 3 | Battery | X19 | DC 3.8V 4000mAh | AE |
| 4 | USB Cable | N/A | N/A | AE |

***Note: All the accessories have been used during the test. The following “EUT” in setup diagram means EUT system.

## 4. SUMMARY OF TEST RESULTS

| Item Number | Item Description | | FCC Rules | Result |
|---|---|---|---|---|
| 1 | Output Power | Conducted Output Power | 2.1046/22.913(a)(2)/24.232(c)/ 27.50(d)(4)/ 27.50(h)(2) | Pass |
| | | Radiated Output Power | | |
| 2 | Peak-to-Average Ratio | Peak-to-Average Ratio | 24.232(d) | Pass |
| 3 | Spurious Emission | Conducted Spurious Emission | 2.1051/22.917(a)/24.238(a) 27.53(h)/ 27.53(g) | Pass |
| | | Radiated Spurious Emission | | |
| 4 | Frequency Stability | | 2.1055/22.355/24.235/27.54 | Pass |
| 5 | Occupied Bandwidth | | 2.1049 (h)(i) | Pass |
| 6 | Band Edge | | 2.1051/22.917(a)/24.238(a) 27.53(h)/ 27.53(g) | Pass |

## 5. DESCRIPTION OF TEST MODES

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMW 500) to ensure max power transmission and proper modulation. Three channels (The top channel, the middle channel and the bottom channel) were chosen for testing on both LTE frequency band.

The worst condition was recorded in the test report if no other modes test data.

| Test Mode | Test Modes Description |
|---|---|
| LTE | LTE system, QPSK modulation |
| LTE | LTE system, 16QAM modulation |

| Test Mode | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 2 | TX (1.4M) | Channel 18607 | Channel 18900 | Channel 19193 |
| | | 1850.7 MHz | 1880 MHz | 1909.3 MHz |
| | TX (3M) | Channel 18615 | Channel 18900 | Channel 19185 |
| | | 1851.5 MHz | 1880 MHz | 1908.5 MHz |
| | TX (5M) | Channel 18625 | Channel 18900 | Channel 19175 |
| | | 1852.5 MHz | 1880 MHz | 1907.5 MHz |
| | TX (10M) | Channel 18650 | Channel 18900 | Channel 19150 |
| | | 1855.0 MHz | 1880 MHz | 1905.0 MHz |
| | TX (20M) | Channel 18700 | Channel 18900 | Channel 19100 |
| | | 1860.0 MHz | 1880 MHz | 1900.0 MHz |
| | RX (1.4M) | Channel 607 | Channel 900 | Channel 1193 |
| | | 1930.7 MHz | 1960 MHz | 1989.3 MHz |
| | RX (3M) | Channel 615 | Channel 900 | Channel 1185 |
| | | 1931.5 MHz | 1960 MHz | 1988.5 MHz |
| | RX (5M) | Channel 625 | Channel 900 | Channel 1175 |
| | | 1932.5 MHz | 1960 MHz | 1987.5 MHz |
| | RX (10M) | Channel 650 | Channel 900 | Channel 1150 |
| | | 1935 MHz | 1960 MHz | 1985 MHz |
| | RX (20M) | Channel 700 | Channel 900 | Channel 1100 |
| | | 1940.0 MHz | 1960 MHz | 1980 MHz |

| Test Mode | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 4 | TX (1.4M) | Channel 19957 | Channel 20175 | Channel 20393 |
| | | 1710.7 MHz | 1732.5 MHz | 1754.3 MHz |
| | TX (3M) | Channel 19965 | Channel 20175 | Channel 20385 |
| | | 1711.5 MHz | 1732.5 MHz | 1753.5 MHz |
| | TX (5M) | Channel 19975 | Channel 20175 | Channel 20375 |
| | | 1712.5 MHz | 1732.5 MHz | 1752.5 MHz |
| | TX (10M) | Channel 20000 | Channel 20175 | Channel 20350 |
| | | 1715 MHz | 1732.5 MHz | 1750 MHz |
| | TX (15M) | Channel 20025 | Channel 20175 | Channel 20325 |
| | | 1717.5 MHz | 1732.5 MHz | 1747.5 MHz |
| | TX (20M) | Channel 20050 | Channel 20175 | Channel 20300 |
| | | 1720 MHz | 1732.5 MHz | 1745 MHz |
| | RX (1.4M) | Channel 1957 | Channel 2175 | Channel 2393 |
| | | 2110.7 MHz | 2132.5 MHz | 2154.3 MHz |
| | RX (3M) | Channel 1965 | Channel 2175 | Channel 2385 |
| | | 2111.5 MHz | 2132.5 MHz | 2153.5 MHz |
| | RX (5M) | Channel 1975 | Channel 2175 | Channel 2375 |
| | | 2112.5 MHz | 2132.5 MHz | 2152.5 MHz |
| | RX (10M) | Channel 2000 | Channel 2175 | Channel 2350 |
| | | 2115 MHz | 2132.5 MHz | 2150 MHz |
| | RX (15M) | Channel 2025 | Channel 2175 | Channel 2325 |
| | | 2117.5 MHz | 2132.5 MHz | 2147.5 MHz |
| | RX (20M) | Channel 2050 | Channel 2175 | Channel 2300 |
| | | 2120 MHz | 2132.5 MHz | 2145 MHz |

| Test Mode | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 5 | TX (1.4M) | Channel 20407 | Channel 20525 | Channel 20643 |
| | | 824.7 MHz | 836.5 MHz | 848.3 MHz |
| | TX (3M) | Channel 20415 | Channel 20525 | Channel 20635 |
| | | 825.5 MHz | 836.5 MHz | 847.5 MHz |
| | TX (5M) | Channel 20425 | Channel 20525 | Channel 20625 |
| | | 826.5 MHz | 836.5 MHz | 846.5 MHz |
| | TX (10M) | Channel 20450 | Channel 20525 | Channel 20600 |
| | | 829 MHz | 836.5 MHz | 844 MHz |
| | RX (1.4M) | Channel 2404 | Channel 2525 | Channel 2463 |
| | | 869.4 MHz | 881.5 MHz | 893.3 MHz |
| | RX (3M) | Channel 2415 | Channel 2525 | Channel 2635 |
| | | 870.5 MHz | 881.5 MHz | 892.5 MHz |
| | RX (5M) | Channel 2425 | Channel 2525 | Channel 2625 |
| | | 871.5 MHz | 881.5 MHz | 891.5 MHz |
| | RX (10M) | Channel 2450 | Channel 2525 | Channel 2600 |
| | | 874 MHz | 881.5 MHz | 889 MHz |

| Test Mode | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 7 | TX (5M) | Channel 20775 | Channel 21100 | Channel 21425 |
| | | 2502.5 MHz | 2535 MHz | 2567.5 MHz |
| | TX (10M) | Channel 20800 | Channel 21100 | Channel 21400 |
| | | 2505.0 MHz | 2535 MHz | 2565 MHz |
| | TX (15M) | Channel 20825 | Channel 21100 | Channel 21275 |
| | | 2507.5 MHz | 2535 MHz | 2562.5 MHz |
| | TX (20M) | Channel 20850 | Channel 21100 | Channel 21350 |
| | | 2510.0 MHz | 2535 MHz | 2560 MHz |
| | RX (5M) | Channel 2775 | Channel 3100 | Channel 3425 |
| | | 2622.5 MHz | 2655 MHz | 2687.5 MHz |
| | RX (10M) | Channel 2800 | Channel 3100 | Channel 3400 |
| | | 2625.0 MHz | 2655 MHz | 2685 MHz |
| | RX (15M) | Channel 2825 | Channel 3100 | Channel 3375 |
| | | 2627.5 MHz | 2655 MHz | 2682.5 MHz |
| | RX (20M) | Channel 2850 | Channel 3100 | Channel 3350 |
| | | 2630.0 MHz | 2655 MHz | 2680.0 MHz |

| Test Mode | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 12 | TX (1.4M) | Channel 23017 | Channel 23095 | Channel 23173 |
| | | 699.7 MHz | 707.5 MHz | 715.3 MHz |
| | TX (3M) | Channel 23025 | Channel 23095 | Channel 23165 |
| | | 700.5 MHz | 707.5 MHz | 714.5 MHz |
| | TX (5M) | Channel 23035 | Channel 23095 | Channel 23155 |
| | | 701.5 MHz | 707.5 MHz | 713.5 MHz |
| | TX (10M) | Channel 23060 | Channel 23095 | Channel 23130 |
| | | 704.0 MHz | 707.5 MHz | 711.0 MHz |
| | RX (1.4M) | Channel 5017 | Channel 5095 | Channel 5173 |
| | | 729.7 MHz | 737.5 MHz | 745.3 MHz |
| | RX (3M) | Channel 5025 | Channel 5095 | Channel 5165 |
| | | 730.5 MHz | 737.5 MHz | 744.5 MHz |
| | RX (5M) | Channel 5035 | Channel 5095 | Channel 5155 |
| | | 731.5 MHz | 737.5 MHz | 743.5 MHz |
| | RX (10M) | Channel 5060 | Channel 5095 | Channel 5130 |
| | | 734.0 MHz | 737.5 MHz | 741.0 MHz |

| | TX / RX | RF Channel | | |
|---|---|---|---|---|
| | | Low (B) | Middle (M) | High (T) |
| LTE Band 17 | TX (5M) | Channel 23755 | Channel 23790 | Channel 23825 |
| | | 706.5 MHz | 710 MHz | 713.5 MHz |
| | TX (10M) | Channel 23780 | Channel 23790 | Channel 23800 |
| | | 709.0 MHz | 710 MHz | 711.0 MHz |
| | RX (5M) | Channel 5755 | Channel 5790 | Channel 5825 |
| | | 736.5 MHz | 740 MHz | 743.5 MHz |
| | RX (10M) | Channel 5780 | Channel 5790 | Channel 5800 |
| | | 739.0 MHz | 740 MHz | 741.0 MHz |

# 6. OUTPUT POWER

## 6.1 CONDUCTED OUTPUT POWER

### 6.1.1 MEASUREMENT METHOD

The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 50ohm, the path loss as the factor is calibrated to correct the reading. A system simulator was used to establish communication with the EUT , Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported. The measurements were performed on all modes at 3 typical channels (the Top Channel, the Middle Channel and the Bottom Channel) for each band.

### 6.1.2 MEASUREMENT RESULT

| Conducted Output Power Limits | | |
|---|---|---|
| **Mode** | **Average Power** | **Tolerance(dB)** |
| LTE | 23 dBm (0.2W) | ± 2.7 |

### LTE Band 2

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 20MHz | 18700 | 1860.0 | QPSK | 1 | 0 | 0 | 22.48 |
| | | | | 1 | 49 | 0 | 22.87 |
| | | | | 1 | 99 | 0 | 22.69 |
| | | | | 50 | 0 | 1 | 21.68 |
| | | | | 50 | 25 | 1 | 21.63 |
| | | | | 50 | 49 | 1 | 21.89 |
| | | | | 100 | 0 | 1 | 21.76 |
| | | | 16QAM | 1 | 0 | 1 | 22.74 |
| | | | | 1 | 49 | 1 | 22.93 |
| | | | | 1 | 99 | 1 | 22.18 |
| | | | | 50 | 0 | 2 | 21.91 |
| | | | | 50 | 25 | 2 | 21.90 |
| | | | | 50 | 49 | 2 | 21.39 |
| | | | | 100 | 0 | 2 | 21.66 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 21.95 |
| | | | | 1 | 49 | 0 | 22.30 |
| | | | | 1 | 99 | 0 | 22.25 |
| | | | | 50 | 0 | 1 | 21.27 |
| | | | | 50 | 25 | 1 | 21.28 |
| | | | | 50 | 49 | 1 | 21.28 |
| | | | | 100 | 0 | 1 | 21.23 |
| | | | 16QAM | 1 | 0 | 1 | 21.44 |
| | | | | 1 | 49 | 1 | 21.92 |
| | | | | 1 | 99 | 1 | 21.74 |
| | | | | 50 | 0 | 2 | 21.65 |
| | | | | 50 | 25 | 2 | 21.65 |
| | | | | 50 | 49 | 2 | 21.87 |
| | | | | 100 | 0 | 2 | 20.74 |
| | 19100 | 1900.0 | QPSK | 1 | 0 | 0 | 21.86 |
| | | | | 1 | 49 | 0 | 21.84 |
| | | | | 1 | 99 | 0 | 21.30 |
| | | | | 50 | 0 | 1 | 21.87 |
| | | | | 50 | 25 | 1 | 21.90 |
| | | | | 50 | 49 | 1 | 21.39 |
| | | | | 100 | 0 | 1 | 20.57 |
| | | | 16QAM | 1 | 0 | 1 | 21.15 |
| | | | | 1 | 49 | 1 | 21.46 |
| | | | | 1 | 99 | 1 | 21.34 |
| | | | | 50 | 0 | 2 | 21.27 |
| | | | | 50 | 25 | 2 | 21.29 |
| | | | | 50 | 49 | 2 | 21.28 |
| | | | | 100 | 0 | 2 | 20.24 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 15MHz | 18675 | 1857.5 | QPSK | 1 | 0 | 0 | 22.45 |
| | | | | 1 | 38 | 0 | 22.63 |
| | | | | 1 | 74 | 0 | 22.57 |
| | | | | 38 | 0 | 1 | 21.84 |
| | | | | 38 | 18 | 1 | 21.84 |
| | | | | 38 | 37 | 1 | 21.83 |
| | | | | 75 | 0 | 1 | 21.85 |
| | | | 16QAM | 1 | 0 | 1 | 22.70 |
| | | | | 1 | 38 | 1 | 22.70 |
| | | | | 1 | 74 | 1 | 22.28 |
| | | | | 38 | 0 | 2 | 21.81 |
| | | | | 38 | 18 | 2 | 21.82 |
| | | | | 38 | 37 | 2 | 21.81 |
| | | | | 75 | 0 | 2 | 21.82 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 22.13 |
| | | | | 1 | 38 | 0 | 22.41 |
| | | | | 1 | 74 | 0 | 22.44 |
| | | | | 38 | 0 | 1 | 21.49 |
| | | | | 38 | 18 | 1 | 21.48 |
| | | | | 38 | 37 | 1 | 21.49 |
| | | | | 75 | 0 | 1 | 21.49 |
| | | | 16QAM | 1 | 0 | 1 | 21.58 |
| | | | | 1 | 38 | 1 | 21.85 |
| | | | | 1 | 74 | 1 | 21.81 |
| | | | | 38 | 0 | 2 | 21.83 |
| | | | | 38 | 18 | 2 | 21.82 |
| | | | | 38 | 37 | 2 | 21.82 |
| | | | | 75 | 0 | 2 | 20.72 |
| | 19125 | 1902.5 | QPSK | 1 | 0 | 0 | 21.96 |
| | | | | 1 | 38 | 0 | 21.85 |
| | | | | 1 | 74 | 0 | 21.49 |
| | | | | 38 | 0 | 1 | 21.79 |
| | | | | 38 | 18 | 1 | 21.84 |
| | | | | 38 | 37 | 1 | 21.81 |
| | | | | 75 | 0 | 1 | 20.64 |
| | | | 16QAM | 1 | 0 | 1 | 21.14 |
| | | | | 1 | 38 | 1 | 21.34 |
| | | | | 1 | 74 | 1 | 21.35 |
| | | | | 38 | 0 | 2 | 21.48 |
| | | | | 38 | 18 | 2 | 21.50 |
| | | | | 38 | 37 | 2 | 21.47 |
| | | | | 75 | 0 | 2 | 20.40 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 18650 | 1855.0 | QPSK | 1 | 0 | 0 | 22.54 |
| | | | | 1 | 24 | 0 | 22.80 |
| | | | | 1 | 49 | 0 | 22.60 |
| | | | | 25 | 0 | 1 | 21.75 |
| | | | | 25 | 12 | 1 | 21.80 |
| | | | | 25 | 25 | 1 | 21.80 |
| | | | | 50 | 0 | 1 | 21.75 |
| | | | 16QAM | 1 | 0 | 1 | 22.68 |
| | | | | 1 | 24 | 1 | 22.75 |
| | | | | 1 | 49 | 1 | 22.43 |
| | | | | 25 | 0 | 2 | 21.82 |
| | | | | 25 | 12 | 2 | 21.81 |
| | | | | 25 | 25 | 2 | 21.61 |
| | | | | 50 | 0 | 2 | 21.66 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 22.24 |
| | | | | 1 | 24 | 0 | 22.65 |
| | | | | 1 | 49 | 0 | 22.50 |
| | | | | 25 | 0 | 1 | 21.55 |
| | | | | 25 | 12 | 1 | 21.57 |
| | | | | 25 | 25 | 1 | 21.58 |
| | | | | 50 | 0 | 1 | 21.51 |
| | | | 16QAM | 1 | 0 | 1 | 21.69 |
| | | | | 1 | 24 | 1 | 21.96 |
| | | | | 1 | 49 | 1 | 21.84 |
| | | | | 25 | 0 | 2 | 21.76 |
| | | | | 25 | 12 | 2 | 21.80 |
| | | | | 25 | 25 | 2 | 21.81 |
| | | | | 50 | 0 | 2 | 20.69 |
| | 19150 | 1905.0 | QPSK | 1 | 0 | 0 | 21.81 |
| | | | | 1 | 24 | 0 | 21.83 |
| | | | | 1 | 49 | 0 | 21.54 |
| | | | | 25 | 0 | 1 | 21.83 |
| | | | | 25 | 12 | 1 | 21.86 |
| | | | | 25 | 25 | 1 | 21.58 |
| | | | | 50 | 0 | 1 | 20.61 |
| | | | 16QAM | 1 | 0 | 1 | 21.24 |
| | | | | 1 | 24 | 1 | 21.53 |
| | | | | 1 | 49 | 1 | 21.45 |
| | | | | 25 | 0 | 2 | 21.53 |
| | | | | 25 | 12 | 2 | 21.56 |
| | | | | 25 | 25 | 2 | 21.54 |
| | | | | 50 | 0 | 2 | 20.46 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 18625 | 1852.5 | QPSK | 1 | 0 | 0 | 22.55 |
| | | | | 1 | 12 | 0 | 22.68 |
| | | | | 1 | 24 | 0 | 22.53 |
| | | | | 12 | 0 | 1 | 21.64 |
| | | | | 12 | 6 | 1 | 21.63 |
| | | | | 12 | 13 | 1 | 21.61 |
| | | | | 25 | 0 | 1 | 21.64 |
| | | | 16QAM | 1 | 0 | 1 | 22.58 |
| | | | | 1 | 12 | 1 | 22.66 |
| | | | | 1 | 24 | 1 | 22.48 |
| | | | | 12 | 0 | 2 | 21.66 |
| | | | | 12 | 6 | 2 | 21.68 |
| | | | | 12 | 13 | 2 | 21.50 |
| | | | | 25 | 0 | 2 | 21.60 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 22.43 |
| | | | | 1 | 12 | 0 | 22.62 |
| | | | | 1 | 24 | 0 | 22.53 |
| | | | | 12 | 0 | 1 | 21.55 |
| | | | | 12 | 6 | 1 | 21.53 |
| | | | | 12 | 13 | 1 | 21.54 |
| | | | | 25 | 0 | 1 | 21.54 |
| | | | 16QAM | 1 | 0 | 1 | 21.46 |
| | | | | 1 | 12 | 1 | 21.64 |
| | | | | 1 | 24 | 1 | 21.57 |
| | | | | 12 | 0 | 2 | 21.63 |
| | | | | 12 | 6 | 2 | 21.62 |
| | | | | 12 | 13 | 2 | 21.60 |
| | | | | 25 | 0 | 2 | 20.56 |
| | 19175 | 1907.5 | QPSK | 1 | 0 | 0 | 21.74 |
| | | | | 1 | 12 | 0 | 21.79 |
| | | | | 1 | 24 | 0 | 21.61 |
| | | | | 12 | 0 | 1 | 21.67 |
| | | | | 12 | 6 | 1 | 21.69 |
| | | | | 12 | 13 | 1 | 21.52 |
| | | | | 25 | 0 | 1 | 20.52 |
| | | | 16QAM | 1 | 0 | 1 | 21.41 |
| | | | | 1 | 12 | 1 | 21.58 |
| | | | | 1 | 24 | 1 | 21.51 |
| | | | | 12 | 0 | 2 | 21.54 |
| | | | | 12 | 6 | 2 | 21.55 |
| | | | | 12 | 13 | 2 | 21.52 |
| | | | | 25 | 0 | 2 | 20.52 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 3MHz | 18615 | 1851.5 | QPSK | 1 | 0 | 0 | 22.63 |
| | | | | 1 | 8 | 0 | 22.72 |
| | | | | 1 | 14 | 0 | 22.67 |
| | | | | 8 | 0 | 1 | 21.74 |
| | | | | 8 | 4 | 1 | 21.75 |
| | | | | 8 | 8 | 1 | 21.76 |
| | | | | 15 | 0 | 1 | 21.72 |
| | | | 16QAM | 1 | 0 | 1 | 22.71 |
| | | | | 1 | 8 | 1 | 22.71 |
| | | | | 1 | 14 | 1 | 22.65 |
| | | | | 8 | 0 | 2 | 21.71 |
| | | | | 8 | 4 | 2 | 21.69 |
| | | | | 8 | 8 | 2 | 21.72 |
| | | | | 15 | 0 | 2 | 21.70 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 22.60 |
| | | | | 1 | 8 | 0 | 22.66 |
| | | | | 1 | 14 | 0 | 22.66 |
| | | | | 8 | 0 | 1 | 21.67 |
| | | | | 8 | 4 | 1 | 21.68 |
| | | | | 8 | 7 | 1 | 21.67 |
| | | | | 15 | 0 | 1 | 21.65 |
| | | | 16QAM | 1 | 0 | 1 | 21.76 |
| | | | | 1 | 8 | 1 | 21.82 |
| | | | | 1 | 14 | 1 | 21.77 |
| | | | | 8 | 0 | 2 | 21.75 |
| | | | | 8 | 4 | 2 | 21.72 |
| | | | | 8 | 8 | 2 | 21.74 |
| | | | | 15 | 0 | 2 | 20.63 |
| | 19185 | 1908.5 | QPSK | 1 | 0 | 0 | 21.82 |
| | | | | 1 | 8 | 0 | 21.71 |
| | | | | 1 | 14 | 0 | 21.67 |
| | | | | 8 | 0 | 1 | 21.70 |
| | | | | 8 | 4 | 1 | 21.68 |
| | | | | 8 | 8 | 1 | 21.70 |
| | | | | 15 | 0 | 1 | 20.54 |
| | | | 16QAM | 1 | 0 | 1 | 21.53 |
| | | | | 1 | 8 | 1 | 21.57 |
| | | | | 1 | 14 | 1 | 21.60 |
| | | | | 8 | 0 | 2 | 21.67 |
| | | | | 8 | 4 | 2 | 21.68 |
| | | | | 8 | 8 | 2 | 21.65 |
| | | | | 15 | 0 | 2 | 20.50 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | M PR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 1.4MHz | 18607 | 1850.7 | QPSK | 1 | 0 | 0 | 23.06 |
| | | | | 1 | 2 | 0 | 23.21 |
| | | | | 1 | 5 | 0 | 23.11 |
| | | | | 3 | 0 | 0 | 22.97 |
| | | | | 3 | 1 | 0 | 22.96 |
| | | | | 3 | 2 | 0 | 22.84 |
| | | | | 6 | 0 | 1 | 22.10 |
| | | | 16QAM | 1 | 0 | 1 | 23.10 |
| | | | | 1 | 2 | 1 | 23.29 |
| | | | | 1 | 5 | 1 | 23.06 |
| | | | | 3 | 0 | 1 | 23.04 |
| | | | | 3 | 1 | 1 | 22.94 |
| | | | | 3 | 2 | 1 | 23.04 |
| | | | | 6 | 0 | 2 | 22.19 |
| | 18900 | 1880.0 | QPSK | 1 | 0 | 0 | 22.93 |
| | | | | 1 | 2 | 0 | 22.66 |
| | | | | 1 | 5 | 0 | 22.55 |
| | | | | 3 | 0 | 0 | 22.49 |
| | | | | 3 | 1 | 0 | 22.50 |
| | | | | 3 | 2 | 0 | 22.50 |
| | | | | 6 | 0 | 1 | 21.75 |
| | | | 16QAM | 1 | 0 | 1 | 22.01 |
| | | | | 1 | 2 | 1 | 22.20 |
| | | | | 1 | 5 | 1 | 22.03 |
| | | | | 3 | 0 | 1 | 22.67 |
| | | | | 3 | 1 | 1 | 22.64 |
| | | | | 3 | 2 | 1 | 22.53 |
| | | | | 6 | 0 | 2 | 21.11 |
| | 19193 | 1909.3 | QPSK | 1 | 0 | 0 | 22.10 |
| | | | | 1 | 2 | 0 | 22.22 |
| | | | | 1 | 5 | 0 | 22.09 |
| | | | | 3 | 0 | 0 | 22.96 |
| | | | | 3 | 1 | 0 | 22.80 |
| | | | | 3 | 2 | 0 | 22.75 |
| | | | | 6 | 0 | 1 | 21.05 |
| | | | 16QAM | 1 | 0 | 1 | 21.43 |
| | | | | 1 | 2 | 1 | 21.59 |
| | | | | 1 | 5 | 1 | 21.43 |
| | | | | 3 | 0 | 1 | 22.50 |
| | | | | 3 | 1 | 1 | 22.49 |
| | | | | 3 | 2 | 1 | 22.52 |
| | | | | 6 | 0 | 2 | 20.60 |

## LTE Band 4

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 20MHz | 20050 | 1720.0 | QPSK | 1 | 0 | 0 | 23.39 |
| | | | | 1 | 49 | 0 | 23.60 |
| | | | | 1 | 99 | 0 | 23.17 |
| | | | | 50 | 0 | 1 | 22.73 |
| | | | | 50 | 25 | 1 | 22.75 |
| | | | | 50 | 49 | 1 | 22.44 |
| | | | | 100 | 0 | 1 | 22.54 |
| | | | 16QAM | 1 | 0 | 1 | 23.11 |
| | | | | 1 | 49 | 1 | 23.53 |
| | | | | 1 | 99 | 1 | 23.16 |
| | | | | 50 | 0 | 2 | 22.44 |
| | | | | 50 | 25 | 2 | 22.44 |
| | | | | 50 | 49 | 2 | 22.49 |
| | | | | 100 | 0 | 2 | 22.48 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.10 |
| | | | | 1 | 49 | 0 | 23.40 |
| | | | | 1 | 99 | 0 | 23.31 |
| | | | | 50 | 0 | 1 | 22.43 |
| | | | | 50 | 25 | 1 | 22.42 |
| | | | | 50 | 49 | 1 | 22.51 |
| | | | | 100 | 0 | 1 | 22.47 |
| | | | 16QAM | 1 | 0 | 1 | 22.56 |
| | | | | 1 | 49 | 1 | 22.72 |
| | | | | 1 | 99 | 1 | 22.29 |
| | | | | 50 | 0 | 2 | 22.72 |
| | | | | 50 | 25 | 2 | 22.71 |
| | | | | 50 | 49 | 2 | 22.43 |
| | | | | 100 | 0 | 2 | 21.55 |
| | 20300 | 1745.0 | QPSK | 1 | 0 | 0 | 22.44 |
| | | | | 1 | 49 | 0 | 22.86 |
| | | | | 1 | 99 | 0 | 22.42 |
| | | | | 50 | 0 | 1 | 22.45 |
| | | | | 50 | 25 | 1 | 22.43 |
| | | | | 50 | 49 | 1 | 22.48 |
| | | | | 100 | 0 | 1 | 21.46 |
| | | | 16QAM | 1 | 0 | 1 | 22.28 |
| | | | | 1 | 49 | 1 | 22.62 |
| | | | | 1 | 99 | 1 | 22.49 |
| | | | | 50 | 0 | 2 | 22.44 |
| | | | | 50 | 25 | 2 | 22.43 |
| | | | | 50 | 49 | 2 | 22.52 |
| | | | | 100 | 0 | 2 | 21.39 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 15MHz | 20025 | 1717.5 | QPSK | 1 | 0 | 0 | 23.45 |
| | | | | 1 | 37 | 0 | 23.54 |
| | | | | 1 | 74 | 0 | 23.16 |
| | | | | 36 | 0 | 1 | 22.58 |
| | | | | 36 | 16 | 1 | 22.59 |
| | | | | 36 | 35 | 1 | 22.60 |
| | | | | 75 | 0 | 1 | 22.61 |
| | | | 16QAM | 1 | 0 | 1 | 23.07 |
| | | | | 1 | 37 | 1 | 23.35 |
| | | | | 1 | 74 | 1 | 23.16 |
| | | | | 36 | 0 | 2 | 22.44 |
| | | | | 36 | 16 | 2 | 22.42 |
| | | | | 36 | 35 | 2 | 22.44 |
| | | | | 75 | 0 | 2 | 22.44 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.24 |
| | | | | 1 | 37 | 0 | 23.48 |
| | | | | 1 | 74 | 0 | 23.49 |
| | | | | 36 | 0 | 1 | 22.51 |
| | | | | 36 | 16 | 1 | 22.49 |
| | | | | 36 | 35 | 1 | 22.48 |
| | | | | 75 | 0 | 1 | 22.47 |
| | | | 16QAM | 1 | 0 | 1 | 22.80 |
| | | | | 1 | 37 | 1 | 22.90 |
| | | | | 1 | 74 | 1 | 22.52 |
| | | | | 36 | 0 | 2 | 22.61 |
| | | | | 36 | 16 | 2 | 22.62 |
| | | | | 36 | 35 | 2 | 22.61 |
| | | | | 75 | 0 | 2 | 21.55 |
| | 20325 | 1747.5 | QPSK | 1 | 0 | 0 | 22.51 |
| | | | | 1 | 37 | 0 | 22.81 |
| | | | | 1 | 74 | 0 | 22.58 |
| | | | | 36 | 0 | 1 | 22.44 |
| | | | | 36 | 16 | 1 | 22.41 |
| | | | | 36 | 35 | 1 | 22.41 |
| | | | | 75 | 0 | 1 | 21.45 |
| | | | 16QAM | 1 | 0 | 1 | 22.21 |
| | | | | 1 | 37 | 1 | 22.45 |
| | | | | 1 | 74 | 1 | 22.45 |
| | | | | 36 | 0 | 2 | 22.52 |
| | | | | 36 | 16 | 2 | 22.49 |
| | | | | 36 | 35 | 2 | 22.47 |
| | | | | 75 | 0 | 2 | 21.43 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 20000 | 1715.0 | QPSK | 1 | 0 | 0 | 23.51 |
| | | | | 1 | 24 | 0 | 23.86 |
| | | | | 1 | 49 | 0 | 23.42 |
| | | | | 25 | 0 | 1 | 22.80 |
| | | | | 25 | 12 | 1 | 22.83 |
| | | | | 25 | 25 | 1 | 22.72 |
| | | | | 50 | 0 | 1 | 22.80 |
| | | | 16QAM | 1 | 0 | 1 | 23.27 |
| | | | | 1 | 24 | 1 | 23.57 |
| | | | | 1 | 49 | 1 | 23.36 |
| | | | | 25 | 0 | 2 | 22.54 |
| | | | | 25 | 12 | 2 | 22.54 |
| | | | | 25 | 25 | 2 | 22.60 |
| | | | | 50 | 0 | 2 | 22.59 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.33 |
| | | | | 1 | 24 | 0 | 23.70 |
| | | | | 1 | 49 | 0 | 23.60 |
| | | | | 25 | 0 | 1 | 22.60 |
| | | | | 25 | 12 | 1 | 22.60 |
| | | | | 25 | 25 | 1 | 22.66 |
| | | | | 50 | 0 | 1 | 22.66 |
| | | | 16QAM | 1 | 0 | 1 | 22.89 |
| | | | | 1 | 24 | 1 | 23.04 |
| | | | | 1 | 49 | 1 | 22.75 |
| | | | | 25 | 0 | 2 | 22.85 |
| | | | | 25 | 12 | 2 | 22.84 |
| | | | | 25 | 25 | 2 | 22.69 |
| | | | | 50 | 0 | 2 | 21.80 |
| | 20350 | 1750.0 | QPSK | 1 | 0 | 0 | 22.53 |
| | | | | 1 | 24 | 0 | 22.85 |
| | | | | 1 | 49 | 0 | 22.62 |
| | | | | 25 | 0 | 1 | 22.56 |
| | | | | 25 | 12 | 1 | 22.52 |
| | | | | 25 | 25 | 1 | 22.59 |
| | | | | 50 | 0 | 1 | 21.58 |
| | | | 16QAM | 1 | 0 | 1 | 22.27 |
| | | | | 1 | 24 | 1 | 22.61 |
| | | | | 1 | 49 | 1 | 22.57 |
| | | | | 25 | 0 | 2 | 22.56 |
| | | | | 25 | 12 | 2 | 22.58 |
| | | | | 25 | 25 | 2 | 22.68 |
| | | | | 50 | 0 | 2 | 21.61 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 19975 | 1712.5 | QPSK | 1 | 0 | 0 | 23.57 |
| | | | | 1 | 12 | 0 | 23.66 |
| | | | | 1 | 24 | 0 | 23.55 |
| | | | | 12 | 0 | 1 | 22.74 |
| | | | | 12 | 6 | 1 | 22.64 |
| | | | | 12 | 11 | 1 | 22.65 |
| | | | | 25 | 0 | 1 | 22.75 |
| | | | 16QAM | 1 | 0 | 1 | 23.30 |
| | | | | 1 | 12 | 1 | 23.48 |
| | | | | 1 | 24 | 1 | 23.40 |
| | | | | 12 | 0 | 2 | 22.44 |
| | | | | 12 | 6 | 2 | 22.45 |
| | | | | 12 | 11 | 2 | 22.47 |
| | | | | 25 | 0 | 2 | 22.49 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.51 |
| | | | | 1 | 12 | 0 | 23.68 |
| | | | | 1 | 24 | 0 | 23.59 |
| | | | | 12 | 0 | 1 | 22.67 |
| | | | | 12 | 6 | 1 | 22.61 |
| | | | | 12 | 11 | 1 | 22.59 |
| | | | | 25 | 0 | 1 | 22.64 |
| | | | 16QAM | 1 | 0 | 1 | 22.68 |
| | | | | 1 | 12 | 1 | 22.81 |
| | | | | 1 | 24 | 1 | 22.71 |
| | | | | 12 | 0 | 2 | 22.71 |
| | | | | 12 | 6 | 2 | 22.68 |
| | | | | 12 | 11 | 2 | 22.69 |
| | | | | 25 | 0 | 2 | 21.79 |
| | 20375 | 1752.5 | QPSK | 1 | 0 | 0 | 22.66 |
| | | | | 1 | 12 | 0 | 22.81 |
| | | | | 1 | 24 | 0 | 22.70 |
| | | | | 12 | 0 | 1 | 22.45 |
| | | | | 12 | 6 | 1 | 22.43 |
| | | | | 12 | 11 | 1 | 22.47 |
| | | | | 25 | 0 | 1 | 21.49 |
| | | | 16QAM | 1 | 0 | 1 | 22.60 |
| | | | | 1 | 12 | 1 | 22.77 |
| | | | | 1 | 24 | 1 | 22.69 |
| | | | | 12 | 0 | 2 | 22.62 |
| | | | | 12 | 6 | 2 | 22.65 |
| | | | | 12 | 11 | 2 | 22.64 |
| | | | | 25 | 0 | 2 | 21.65 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 3MHz | 19965 | 1711.5 | QPSK | 1 | 0 | 0 | 23.67 |
| | | | | 1 | 7 | 0 | 23.74 |
| | | | | 1 | 14 | 0 | 23.70 |
| | | | | 8 | 0 | 1 | 22.78 |
| | | | | 8 | 4 | 1 | 22.80 |
| | | | | 8 | 7 | 1 | 22.78 |
| | | | | 15 | 0 | 1 | 22.83 |
| | | | 16QAM | 1 | 0 | 1 | 23.47 |
| | | | | 1 | 7 | 1 | 23.47 |
| | | | | 1 | 14 | 1 | 23.47 |
| | | | | 8 | 0 | 2 | 22.54 |
| | | | | 8 | 4 | 2 | 22.57 |
| | | | | 8 | 7 | 2 | 22.54 |
| | | | | 15 | 0 | 2 | 22.54 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.73 |
| | | | | 1 | 7 | 0 | 23.71 |
| | | | | 1 | 14 | 0 | 23.76 |
| | | | | 8 | 0 | 1 | 22.73 |
| | | | | 8 | 4 | 1 | 22.73 |
| | | | | 8 | 7 | 1 | 22.71 |
| | | | | 15 | 0 | 1 | 22.72 |
| | | | 16QAM | 1 | 0 | 1 | 23.00 |
| | | | | 1 | 7 | 1 | 23.03 |
| | | | | 1 | 14 | 1 | 23.02 |
| | | | | 8 | 0 | 2 | 22.82 |
| | | | | 8 | 4 | 2 | 22.79 |
| | | | | 8 | 7 | 2 | 22.77 |
| | | | | 15 | 0 | 2 | 21.85 |
| | 20385 | 1753.5 | QPSK | 1 | 0 | 0 | 22.76 |
| | | | | 1 | 7 | 0 | 22.72 |
| | | | | 1 | 14 | 0 | 22.70 |
| | | | | 8 | 0 | 1 | 22.55 |
| | | | | 8 | 4 | 1 | 22.55 |
| | | | | 8 | 7 | 1 | 22.56 |
| | | | | 15 | 0 | 1 | 21.51 |
| | | | 16QAM | 1 | 0 | 1 | 22.62 |
| | | | | 1 | 7 | 1 | 22.68 |
| | | | | 1 | 14 | 1 | 22.73 |
| | | | | 8 | 0 | 2 | 22.72 |
| | | | | 8 | 4 | 2 | 22.71 |
| | | | | 8 | 7 | 2 | 22.73 |
| | | | | 15 | 0 | 2 | 21.63 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 1.4MHz | 19957 | 1710.7 | QPSK | 1 | 0 | 0 | 23.50 |
| | | | | 1 | 2 | 0 | 23.60 |
| | | | | 1 | 5 | 0 | 23.53 |
| | | | | 3 | 0 | 0 | 23.68 |
| | | | | 3 | 1 | 0 | 23.70 |
| | | | | 3 | 2 | 0 | 23.75 |
| | | | | 6 | 0 | 1 | 22.70 |
| | | | 16QAM | 1 | 0 | 1 | 23.40 |
| | | | | 1 | 2 | 1 | 23.55 |
| | | | | 1 | 5 | 1 | 23.42 |
| | | | | 3 | 0 | 1 | 23.47 |
| | | | | 3 | 1 | 1 | 23.45 |
| | | | | 3 | 2 | 1 | 23.52 |
| | | | | 6 | 0 | 2 | 22.47 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 23.51 |
| | | | | 1 | 2 | 0 | 23.72 |
| | | | | 1 | 5 | 0 | 23.54 |
| | | | | 3 | 0 | 0 | 23.63 |
| | | | | 3 | 1 | 0 | 23.64 |
| | | | | 3 | 2 | 0 | 23.66 |
| | | | | 6 | 0 | 1 | 22.70 |
| | | | 16QAM | 1 | 0 | 1 | 22.86 |
| | | | | 1 | 2 | 1 | 23.02 |
| | | | | 1 | 5 | 1 | 22.79 |
| | | | | 3 | 0 | 1 | 23.68 |
| | | | | 3 | 1 | 1 | 23.68 |
| | | | | 3 | 2 | 1 | 23.75 |
| | | | | 6 | 0 | 2 | 21.62 |
| | 20393 | 1754.3 | QPSK | 1 | 0 | 0 | 22.36 |
| | | | | 1 | 2 | 0 | 22.54 |
| | | | | 1 | 5 | 0 | 22.37 |
| | | | | 3 | 0 | 0 | 23.51 |
| | | | | 3 | 1 | 0 | 23.47 |
| | | | | 3 | 2 | 0 | 23.53 |
| | | | | 6 | 0 | 1 | 21.49 |
| | | | 16QAM | 1 | 0 | 1 | 22.72 |
| | | | | 1 | 2 | 1 | 22.98 |
| | | | | 1 | 5 | 1 | 22.72 |
| | | | | 3 | 0 | 1 | 23.63 |
| | | | | 3 | 1 | 1 | 23.63 |
| | | | | 3 | 2 | 1 | 23.66 |
| | | | | 6 | 0 | 2 | 21.70 |

## LTE Band 5

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 20450 | 829 | QPSK | 1 | 0 | 0 | 24.37 |
| | | | | 1 | 24 | 0 | 23.56 |
| | | | | 1 | 49 | 0 | 22.90 |
| | | | | 25 | 0 | 1 | 22.66 |
| | | | | 25 | 12 | 1 | 22.74 |
| | | | | 25 | 25 | 1 | 22.05 |
| | | | | 50 | 0 | 1 | 22.43 |
| | | | 16QAM | 1 | 0 | 1 | 23.09 |
| | | | | 1 | 24 | 1 | 23.50 |
| | | | | 1 | 49 | 1 | 23.78 |
| | | | | 25 | 0 | 2 | 22.15 |
| | | | | 25 | 12 | 2 | 22.16 |
| | | | | 25 | 25 | 2 | 22.67 |
| | | | | 50 | 0 | 2 | 22.42 |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 24.79 |
| | | | | 1 | 24 | 0 | 25.06 |
| | | | | 1 | 49 | 0 | 24.26 |
| | | | | 25 | 0 | 1 | 23.64 |
| | | | | 25 | 12 | 1 | 23.71 |
| | | | | 25 | 25 | 1 | 23.62 |
| | | | | 50 | 0 | 1 | 23.47 |
| | | | 16QAM | 1 | 0 | 1 | 23.08 |
| | | | | 1 | 24 | 1 | 22.63 |
| | | | | 1 | 49 | 1 | 22.04 |
| | | | | 25 | 0 | 2 | 22.69 |
| | | | | 25 | 12 | 2 | 22.66 |
| | | | | 25 | 25 | 2 | 22.02 |
| | | | | 50 | 0 | 2 | 21.61 |
| | 20600 | 844 | QPSK | 1 | 0 | 0 | 22.00 |
| | | | | 1 | 24 | 0 | 22.76 |
| | | | | 1 | 49 | 0 | 22.91 |
| | | | | 25 | 0 | 1 | 22.16 |
| | | | | 25 | 12 | 1 | 22.15 |
| | | | | 25 | 25 | 1 | 22.70 |
| | | | | 50 | 0 | 1 | 21.55 |
| | | | 16QAM | 1 | 0 | 1 | 23.58 |
| | | | | 1 | 24 | 1 | 23.95 |
| | | | | 1 | 49 | 1 | 23.45 |
| | | | | 25 | 0 | 2 | 23.64 |
| | | | | 25 | 12 | 2 | 23.55 |
| | | | | 25 | 25 | 2 | 23.39 |
| | | | | 50 | 0 | 2 | 22.85 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 20425 | 826.5 | QPSK | 1 | 0 | 0 | 24.38 |
| | | | | 1 | 12 | 0 | 23.69 |
| | | | | 1 | 24 | 0 | 23.23 |
| | | | | 12 | 0 | 1 | 22.75 |
| | | | | 12 | 6 | 1 | 22.72 |
| | | | | 12 | 11 | 1 | 22.41 |
| | | | | 25 | 0 | 1 | 22.70 |
| | | | 16QAM | 1 | 0 | 1 | 23.25 |
| | | | | 1 | 12 | 1 | 23.43 |
| | | | | 1 | 24 | 1 | 23.60 |
| | | | | 12 | 0 | 2 | 22.12 |
| | | | | 12 | 6 | 2 | 22.19 |
| | | | | 12 | 11 | 2 | 22.47 |
| | | | | 25 | 0 | 2 | 22.38 |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 24.91 |
| | | | | 1 | 12 | 0 | 24.81 |
| | | | | 1 | 24 | 0 | 24.30 |
| | | | | 12 | 0 | 1 | 23.45 |
| | | | | 12 | 6 | 1 | 23.42 |
| | | | | 12 | 11 | 1 | 23.30 |
| | | | | 25 | 0 | 1 | 23.41 |
| | | | 16QAM | 1 | 0 | 1 | 22.92 |
| | | | | 1 | 12 | 1 | 22.67 |
| | | | | 1 | 24 | 1 | 22.22 |
| | | | | 12 | 0 | 2 | 22.80 |
| | | | | 12 | 6 | 2 | 22.73 |
| | | | | 12 | 11 | 2 | 22.39 |
| | | | | 25 | 0 | 2 | 21.98 |
| | 20625 | 846.5 | QPSK | 1 | 0 | 0 | 22.20 |
| | | | | 1 | 12 | 0 | 22.68 |
| | | | | 1 | 24 | 0 | 22.78 |
| | | | | 12 | 0 | 1 | 22.15 |
| | | | | 12 | 6 | 1 | 22.14 |
| | | | | 12 | 11 | 1 | 22.49 |
| | | | | 25 | 0 | 1 | 21.43 |
| | | | 16QAM | 1 | 0 | 1 | 23.46 |
| | | | | 1 | 12 | 1 | 23.39 |
| | | | | 1 | 24 | 1 | 23.29 |
| | | | | 12 | 0 | 2 | 23.40 |
| | | | | 12 | 6 | 2 | 23.33 |
| | | | | 12 | 11 | 2 | 23.28 |
| | | | | 25 | 0 | 2 | 22.41 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 3MHz | 20415 | 825.5 | QPSK | 1 | 0 | 0 | 24.14 |
| | | | | 1 | 7 | 0 | 23.83 |
| | | | | 1 | 14 | 0 | 23.67 |
| | | | | 8 | 0 | 1 | 22.85 |
| | | | | 8 | 4 | 1 | 22.85 |
| | | | | 8 | 7 | 1 | 22.84 |
| | | | | 15 | 0 | 1 | 22.81 |
| | | | 16QAM | 1 | 0 | 1 | 23.29 |
| | | | | 1 | 7 | 1 | 23.47 |
| | | | | 1 | 14 | 1 | 23.60 |
| | | | | 8 | 0 | 2 | 22.44 |
| | | | | 8 | 4 | 2 | 22.45 |
| | | | | 8 | 7 | 2 | 22.45 |
| | | | | 15 | 0 | 2 | 22.42 |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 24.89 |
| | | | | 1 | 7 | 0 | 24.41 |
| | | | | 1 | 14 | 0 | 24.29 |
| | | | | 8 | 0 | 1 | 23.38 |
| | | | | 8 | 4 | 1 | 23.39 |
| | | | | 8 | 7 | 1 | 23.37 |
| | | | | 15 | 0 | 1 | 23.44 |
| | | | 16QAM | 1 | 0 | 1 | 23.25 |
| | | | | 1 | 7 | 1 | 22.99 |
| | | | | 1 | 14 | 1 | 22.81 |
| | | | | 8 | 0 | 2 | 22.83 |
| | | | | 8 | 4 | 2 | 22.85 |
| | | | | 8 | 7 | 2 | 22.83 |
| | | | | 15 | 0 | 2 | 21.85 |
| | 20635 | 847.5 | QPSK | 1 | 0 | 0 | 22.49 |
| | | | | 1 | 7 | 0 | 22.60 |
| | | | | 1 | 14 | 0 | 22.72 |
| | | | | 8 | 0 | 1 | 22.43 |
| | | | | 8 | 4 | 1 | 22.43 |
| | | | | 8 | 7 | 1 | 22.47 |
| | | | | 15 | 0 | 1 | 21.32 |
| | | | 16QAM | 1 | 0 | 1 | 23.59 |
| | | | | 1 | 7 | 1 | 23.46 |
| | | | | 1 | 14 | 1 | 23.44 |
| | | | | 8 | 0 | 2 | 23.40 |
| | | | | 8 | 4 | 2 | 23.34 |
| | | | | 8 | 7 | 2 | 23.34 |
| | | | | 15 | 0 | 2 | 22.46 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 1.4MHz | 20407 | 824.7 | QPSK | 1 | 0 | 0 | 23.95 |
| | | | | 1 | 2 | 0 | 24.02 |
| | | | | 1 | 5 | 0 | 23.85 |
| | | | | 3 | 0 | 0 | 24.03 |
| | | | | 3 | 1 | 0 | 24.02 |
| | | | | 3 | 2 | 0 | 23.97 |
| | | | | 6 | 0 | 1 | 22.93 |
| | | | 16QAM | 1 | 0 | 1 | 23.26 |
| | | | | 1 | 2 | 1 | 23.41 |
| | | | | 1 | 5 | 1 | 23.39 |
| | | | | 3 | 0 | 1 | 23.37 |
| | | | | 3 | 1 | 1 | 23.38 |
| | | | | 3 | 2 | 1 | 23.52 |
| | | | | 6 | 0 | 2 | 22.36 |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 24.20 |
| | | | | 1 | 2 | 0 | 24.31 |
| | | | | 1 | 5 | 0 | 24.17 |
| | | | | 3 | 0 | 0 | 24.34 |
| | | | | 3 | 1 | 0 | 24.35 |
| | | | | 3 | 2 | 0 | 24.30 |
| | | | | 6 | 0 | 1 | 23.24 |
| | | | 16QAM | 1 | 0 | 1 | 23.09 |
| | | | | 1 | 2 | 1 | 23.18 |
| | | | | 1 | 5 | 1 | 22.98 |
| | | | | 3 | 0 | 1 | 24.04 |
| | | | | 3 | 1 | 1 | 24.06 |
| | | | | 3 | 2 | 1 | 23.96 |
| | | | | 6 | 0 | 2 | 21.97 |
| | 20643 | 848.3 | QPSK | 1 | 0 | 0 | 22.38 |
| | | | | 1 | 2 | 0 | 22.62 |
| | | | | 1 | 5 | 0 | 22.53 |
| | | | | 3 | 0 | 0 | 23.39 |
| | | | | 3 | 1 | 0 | 23.39 |
| | | | | 3 | 2 | 0 | 23.50 |
| | | | | 6 | 0 | 1 | 21.22 |
| | | | 16QAM | 1 | 0 | 1 | 23.37 |
| | | | | 1 | 2 | 1 | 23.41 |
| | | | | 1 | 5 | 1 | 23.38 |
| | | | | 3 | 0 | 1 | 24.32 |
| | | | | 3 | 1 | 1 | 24.35 |
| | | | | 3 | 2 | 1 | 24.32 |
| | | | | 6 | 0 | 2 | 22.28 |

## LTE Band 7

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 20MHz | 20850 | 2510 | QPSK | 1 | 0 | 0 | 24.93 |
| | | | | 1 | 49 | 0 | 24.87 |
| | | | | 1 | 99 | 0 | 23.80 |
| | | | | 50 | 0 | 1 | 24.01 |
| | | | | 50 | 25 | 1 | 23.98 |
| | | | | 50 | 49 | 1 | 23.34 |
| | | | | 100 | 0 | 1 | 23.69 |
| | | | 16QAM | 1 | 0 | 1 | 23.33 |
| | | | | 1 | 49 | 1 | 23.43 |
| | | | | 1 | 99 | 1 | 23.12 |
| | | | | 50 | 0 | 2 | 22.45 |
| | | | | 50 | 25 | 2 | 22.48 |
| | | | | 50 | 49 | 2 | 22.30 |
| | | | | 100 | 0 | 2 | 22.38 |
| | 21100 | 2535 | QPSK | 1 | 0 | 0 | 23.29 |
| | | | | 1 | 49 | 0 | 24.46 |
| | | | | 1 | 99 | 0 | 25.08 |
| | | | | 50 | 0 | 1 | 23.12 |
| | | | | 50 | 25 | 1 | 23.10 |
| | | | | 50 | 49 | 1 | 23.98 |
| | | | | 100 | 0 | 1 | 23.56 |
| | | | 16QAM | 1 | 0 | 1 | 24.06 |
| | | | | 1 | 49 | 1 | 23.99 |
| | | | | 1 | 99 | 1 | 22.91 |
| | | | | 50 | 0 | 2 | 24.00 |
| | | | | 50 | 25 | 2 | 23.96 |
| | | | | 50 | 49 | 2 | 23.33 |
| | | | | 100 | 0 | 2 | 22.64 |
| | 21350 | 2560 | QPSK | 1 | 0 | 0 | 22.60 |
| | | | | 1 | 49 | 0 | 22.75 |
| | | | | 1 | 99 | 0 | 22.38 |
| | | | | 50 | 0 | 1 | 22.47 |
| | | | | 50 | 25 | 1 | 22.50 |
| | | | | 50 | 49 | 1 | 22.31 |
| | | | | 100 | 0 | 1 | 21.36 |
| | | | 16QAM | 1 | 0 | 1 | 22.49 |
| | | | | 1 | 49 | 1 | 23.66 |
| | | | | 1 | 99 | 1 | 24.27 |
| | | | | 50 | 0 | 2 | 23.12 |
| | | | | 50 | 25 | 2 | 23.12 |
| | | | | 50 | 49 | 2 | 23.99 |
| | | | | 100 | 0 | 2 | 22.51 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 15MHz | 20825 | 2507.5 | QPSK | 1 | 0 | 0 | 24.96 |
| | | | | 1 | 37 | 0 | 24.90 |
| | | | | 1 | 74 | 0 | 24.17 |
| | | | | 36 | 0 | 1 | 23.85 |
| | | | | 36 | 16 | 1 | 23.85 |
| | | | | 36 | 35 | 1 | 23.85 |
| | | | | 75 | 0 | 1 | 23.87 |
| | | | 16QAM | 1 | 0 | 1 | 23.22 |
| | | | | 1 | 37 | 1 | 23.24 |
| | | | | 1 | 74 | 1 | 23.06 |
| | | | | 36 | 0 | 2 | 22.39 |
| | | | | 36 | 16 | 2 | 22.35 |
| | | | | 36 | 35 | 2 | 22.35 |
| | | | | 75 | 0 | 2 | 22.36 |
| | 21100 | 2535 | QPSK | 1 | 0 | 0 | 23.79 |
| | | | | 1 | 37 | 0 | 24.91 |
| | | | | 1 | 74 | 0 | 25.27 |
| | | | | 36 | 0 | 1 | 23.87 |
| | | | | 36 | 16 | 1 | 23.81 |
| | | | | 36 | 35 | 1 | 23.82 |
| | | | | 75 | 0 | 1 | 23.80 |
| | | | 16QAM | 1 | 0 | 1 | 24.24 |
| | | | | 1 | 37 | 1 | 24.19 |
| | | | | 1 | 74 | 1 | 23.47 |
| | | | | 36 | 0 | 2 | 23.87 |
| | | | | 36 | 16 | 2 | 23.87 |
| | | | | 36 | 35 | 2 | 23.87 |
| | | | | 75 | 0 | 2 | 22.84 |
| | 21375 | 2562.5 | QPSK | 1 | 0 | 0 | 22.60 |
| | | | | 1 | 37 | 0 | 22.62 |
| | | | | 1 | 74 | 0 | 22.43 |
| | | | | 36 | 0 | 1 | 22.37 |
| | | | | 36 | 16 | 1 | 22.37 |
| | | | | 36 | 35 | 1 | 22.37 |
| | | | | 75 | 0 | 1 | 21.37 |
| | | | 16QAM | 1 | 0 | 1 | 22.76 |
| | | | | 1 | 37 | 1 | 23.87 |
| | | | | 1 | 74 | 1 | 24.22 |
| | | | | 36 | 0 | 2 | 23.80 |
| | | | | 36 | 16 | 2 | 23.81 |
| | | | | 36 | 35 | 2 | 23.81 |
| | | | | 75 | 0 | 2 | 22.80 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 20800 | 2505 | QPSK | 1 | 0 | 0 | 25.07 |
| | | | | 1 | 24 | 0 | 25.15 |
| | | | | 1 | 49 | 0 | 24.71 |
| | | | | 25 | 0 | 1 | 24.17 |
| | | | | 25 | 12 | 1 | 24.22 |
| | | | | 25 | 25 | 1 | 24.06 |
| | | | | 50 | 0 | 1 | 24.15 |
| | | | 16QAM | 1 | 0 | 1 | 23.33 |
| | | | | 1 | 24 | 1 | 23.39 |
| | | | | 1 | 49 | 1 | 23.22 |
| | | | | 25 | 0 | 2 | 22.46 |
| | | | | 25 | 12 | 2 | 22.46 |
| | | | | 25 | 25 | 2 | 22.43 |
| | | | | 50 | 0 | 2 | 22.46 |
| | 21100 | 2535 | QPSK | 1 | 0 | 0 | 24.53 |
| | | | | 1 | 24 | 0 | 25.37 |
| | | | | 1 | 49 | 0 | 25.38 |
| | | | | 25 | 0 | 1 | 24.04 |
| | | | | 25 | 12 | 1 | 24.02 |
| | | | | 25 | 25 | 1 | 24.44 |
| | | | | 50 | 0 | 1 | 24.24 |
| | | | 16QAM | 1 | 0 | 1 | 24.38 |
| | | | | 1 | 24 | 1 | 24.49 |
| | | | | 1 | 49 | 1 | 24.00 |
| | | | | 25 | 0 | 2 | 24.19 |
| | | | | 25 | 12 | 2 | 24.22 |
| | | | | 25 | 25 | 2 | 24.07 |
| | | | | 50 | 0 | 2 | 23.17 |
| | 21400 | 2565 | QPSK | 1 | 0 | 0 | 22.60 |
| | | | | 1 | 24 | 0 | 22.72 |
| | | | | 1 | 49 | 0 | 22.43 |
| | | | | 25 | 0 | 1 | 22.48 |
| | | | | 25 | 12 | 1 | 22.48 |
| | | | | 25 | 25 | 1 | 22.44 |
| | | | | 50 | 0 | 1 | 21.47 |
| | | | 16QAM | 1 | 0 | 1 | 23.50 |
| | | | | 1 | 24 | 1 | 24.31 |
| | | | | 1 | 49 | 1 | 24.34 |
| | | | | 25 | 0 | 2 | 24.06 |
| | | | | 25 | 12 | 2 | 24.07 |
| | | | | 25 | 25 | 2 | 24.45 |
| | | | | 50 | 0 | 2 | 23.14 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 20775 | 2502.5 | QPSK | 1 | 0 | 0 | 25.07 |
| | | | | 1 | 12 | 0 | 25.19 |
| | | | | 1 | 24 | 0 | 25.02 |
| | | | | 12 | 0 | 1 | 24.12 |
| | | | | 12 | 6 | 1 | 24.15 |
| | | | | 12 | 13 | 1 | 24.12 |
| | | | | 25 | 0 | 1 | 24.15 |
| | | | 16QAM | 1 | 0 | 1 | 23.25 |
| | | | | 1 | 12 | 1 | 23.32 |
| | | | | 1 | 24 | 1 | 23.23 |
| | | | | 12 | 0 | 2 | 22.32 |
| | | | | 12 | 6 | 2 | 22.31 |
| | | | | 12 | 13 | 2 | 22.30 |
| | | | | 25 | 0 | 2 | 22.37 |
| | 21100 | 2535 | QPSK | 1 | 0 | 0 | 25.17 |
| | | | | 1 | 12 | 0 | 25.43 |
| | | | | 1 | 24 | 0 | 25.34 |
| | | | | 12 | 0 | 1 | 24.36 |
| | | | | 12 | 6 | 1 | 24.39 |
| | | | | 12 | 13 | 1 | 24.38 |
| | | | | 25 | 0 | 1 | 24.43 |
| | | | 16QAM | 1 | 0 | 1 | 24.18 |
| | | | | 1 | 12 | 1 | 24.23 |
| | | | | 1 | 24 | 1 | 24.11 |
| | | | | 12 | 0 | 2 | 24.16 |
| | | | | 12 | 6 | 2 | 24.12 |
| | | | | 12 | 13 | 2 | 24.15 |
| | | | | 25 | 0 | 2 | 23.22 |
| | 21425 | 2567.5 | QPSK | 1 | 0 | 0 | 22.57 |
| | | | | 1 | 12 | 0 | 22.56 |
| | | | | 1 | 24 | 0 | 22.46 |
| | | | | 12 | 0 | 1 | 22.32 |
| | | | | 12 | 6 | 1 | 22.34 |
| | | | | 12 | 13 | 1 | 22.31 |
| | | | | 25 | 0 | 1 | 21.31 |
| | | | 16QAM | 1 | 0 | 1 | 24.27 |
| | | | | 1 | 12 | 1 | 24.49 |
| | | | | 1 | 24 | 1 | 24.42 |
| | | | | 12 | 0 | 2 | 24.38 |
| | | | | 12 | 6 | 2 | 24.36 |
| | | | | 12 | 13 | 2 | 24.39 |
| | | | | 25 | 0 | 2 | 23.47 |

**LTE Band 12**

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 23060 | 704.0 | QPSK | 1 | 0 | 0 | 24.65 |
| | | | | 1 | 24 | 0 | 25.04 |
| | | | | 1 | 49 | 0 | 24.96 |
| | | | | 25 | 0 | 1 | 24.10 |
| | | | | 25 | 12 | 1 | 24.07 |
| | | | | 25 | 25 | 1 | 24.04 |
| | | | | 50 | 0 | 1 | 24.03 |
| | | | 16QAM | 1 | 0 | 1 | 24.79 |
| | | | | 1 | 24 | 1 | 25.09 |
| | | | | 1 | 49 | 1 | 24.62 |
| | | | | 25 | 0 | 2 | 24.02 |
| | | | | 25 | 12 | 2 | 24.04 |
| | | | | 25 | 25 | 2 | 24.09 |
| | | | | 50 | 0 | 2 | 24.03 |
| | 23095 | 707.5 | QPSK | 1 | 0 | 0 | 24.95 |
| | | | | 1 | 24 | 0 | 24.82 |
| | | | | 1 | 49 | 0 | 24.41 |
| | | | | 25 | 0 | 1 | 23.77 |
| | | | | 25 | 12 | 1 | 23.79 |
| | | | | 25 | 25 | 1 | 23.46 |
| | | | | 50 | 0 | 1 | 23.62 |
| | | | 16QAM | 1 | 0 | 1 | 23.86 |
| | | | | 1 | 24 | 1 | 24.16 |
| | | | | 1 | 49 | 1 | 24.08 |
| | | | | 25 | 0 | 2 | 24.09 |
| | | | | 25 | 12 | 2 | 24.06 |
| | | | | 25 | 25 | 2 | 24.07 |
| | | | | 50 | 0 | 2 | 23.08 |
| | 23130 | 711.0 | QPSK | 1 | 0 | 0 | 23.95 |
| | | | | 1 | 24 | 0 | 24.24 |
| | | | | 1 | 49 | 0 | 23.78 |
| | | | | 25 | 0 | 1 | 24.04 |
| | | | | 25 | 12 | 1 | 24.04 |
| | | | | 25 | 25 | 1 | 24.13 |
| | | | | 50 | 0 | 1 | 23.17 |
| | | | 16QAM | 1 | 0 | 1 | 23.83 |
| | | | | 1 | 24 | 1 | 23.72 |
| | | | | 1 | 49 | 1 | 23.32 |
| | | | | 25 | 0 | 2 | 23.77 |
| | | | | 25 | 12 | 2 | 23.76 |
| | | | | 25 | 25 | 2 | 23.37 |
| | | | | 50 | 0 | 2 | 22.66 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 23035 | 701.5 | QPSK | 1 | 0 | 0 | 24.75 |
| | | | | 1 | 12 | 0 | 24.92 |
| | | | | 1 | 24 | 0 | 24.87 |
| | | | | 12 | 0 | 1 | 23.78 |
| | | | | 12 | 6 | 1 | 23.76 |
| | | | | 12 | 13 | 1 | 23.70 |
| | | | | 25 | 0 | 1 | 23.78 |
| | | | 16QAM | 1 | 0 | 1 | 24.92 |
| | | | | 1 | 12 | 1 | 25.04 |
| | | | | 1 | 24 | 1 | 24.89 |
| | | | | 12 | 0 | 2 | 23.95 |
| | | | | 12 | 6 | 2 | 23.99 |
| | | | | 12 | 13 | 2 | 24.02 |
| | | | | 25 | 0 | 2 | 24.09 |
| | 23095 | 707.5 | QPSK | 1 | 0 | 0 | 24.69 |
| | | | | 1 | 12 | 0 | 24.63 |
| | | | | 1 | 24 | 0 | 24.41 |
| | | | | 12 | 0 | 1 | 23.72 |
| | | | | 12 | 6 | 1 | 23.68 |
| | | | | 12 | 13 | 1 | 23.36 |
| | | | | 25 | 0 | 1 | 23.58 |
| | | | 16QAM | 1 | 0 | 1 | 23.70 |
| | | | | 1 | 12 | 1 | 23.89 |
| | | | | 1 | 24 | 1 | 23.82 |
| | | | | 12 | 0 | 2 | 23.75 |
| | | | | 12 | 6 | 2 | 23.79 |
| | | | | 12 | 13 | 2 | 23.70 |
| | | | | 25 | 0 | 2 | 22.85 |
| | 23155 | 713.5 | QPSK | 1 | 0 | 0 | 24.14 |
| | | | | 1 | 12 | 0 | 24.23 |
| | | | | 1 | 24 | 0 | 24.05 |
| | | | | 12 | 0 | 1 | 23.95 |
| | | | | 12 | 6 | 1 | 23.95 |
| | | | | 12 | 13 | 1 | 24.02 |
| | | | | 25 | 0 | 1 | 23.06 |
| | | | 16QAM | 1 | 0 | 1 | 23.66 |
| | | | | 1 | 12 | 1 | 23.57 |
| | | | | 1 | 24 | 1 | 23.40 |
| | | | | 12 | 0 | 2 | 23.68 |
| | | | | 12 | 6 | 2 | 23.69 |
| | | | | 12 | 13 | 2 | 23.34 |
| | | | | 25 | 0 | 2 | 22.64 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 3MHz | 23025 | 700.5 | QPSK | 1 | 0 | 0 | 24.75 |
| | | | | 1 | 7 | 0 | 24.87 |
| | | | | 1 | 14 | 0 | 24.90 |
| | | | | 8 | 0 | 1 | 23.83 |
| | | | | 8 | 4 | 1 | 23.85 |
| | | | | 8 | 7 | 1 | 23.85 |
| | | | | 15 | 0 | 1 | 23.85 |
| | | | 16QAM | 1 | 0 | 1 | 25.01 |
| | | | | 1 | 7 | 1 | 25.03 |
| | | | | 1 | 14 | 1 | 25.03 |
| | | | | 8 | 0 | 2 | 24.07 |
| | | | | 8 | 4 | 2 | 24.07 |
| | | | | 8 | 7 | 2 | 24.06 |
| | | | | 15 | 0 | 2 | 24.07 |
| | 23095 | 707.5 | QPSK | 1 | 0 | 0 | 24.68 |
| | | | | 1 | 7 | 0 | 24.56 |
| | | | | 1 | 14 | 0 | 24.54 |
| | | | | 8 | 0 | 1 | 23.54 |
| | | | | 8 | 4 | 1 | 23.55 |
| | | | | 8 | 7 | 1 | 23.54 |
| | | | | 15 | 0 | 1 | 23.54 |
| | | | 16QAM | 1 | 0 | 1 | 24.02 |
| | | | | 1 | 7 | 1 | 24.00 |
| | | | | 1 | 14 | 1 | 24.05 |
| | | | | 8 | 0 | 2 | 23.84 |
| | | | | 8 | 4 | 2 | 23.84 |
| | | | | 8 | 7 | 2 | 23.87 |
| | | | | 15 | 0 | 2 | 22.91 |
| | 23165 | 714.5 | QPSK | 1 | 0 | 0 | 24.22 |
| | | | | 1 | 7 | 0 | 24.17 |
| | | | | 1 | 14 | 0 | 24.12 |
| | | | | 8 | 0 | 1 | 24.07 |
| | | | | 8 | 4 | 1 | 24.06 |
| | | | | 8 | 7 | 1 | 24.08 |
| | | | | 15 | 0 | 1 | 23.09 |
| | | | 16QAM | 1 | 0 | 1 | 23.53 |
| | | | | 1 | 7 | 1 | 23.44 |
| | | | | 1 | 14 | 1 | 23.44 |
| | | | | 8 | 0 | 2 | 23.53 |
| | | | | 8 | 4 | 2 | 23.55 |
| | | | | 8 | 7 | 2 | 23.55 |
| | | | | 15 | 0 | 2 | 22.49 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 1.4MHz | 23017 | 699.7 | QPSK | 1 | 0 | 0 | 24.68 |
| | | | | 1 | 2 | 0 | 24.68 |
| | | | | 1 | 5 | 0 | 24.66 |
| | | | | 3 | 0 | 0 | 24.76 |
| | | | | 3 | 1 | 0 | 24.80 |
| | | | | 3 | 2 | 0 | 24.79 |
| | | | | 6 | 0 | 1 | 23.71 |
| | | | 16QAM | 1 | 0 | 1 | 24.91 |
| | | | | 1 | 2 | 1 | 25.04 |
| | | | | 1 | 5 | 1 | 24.94 |
| | | | | 3 | 0 | 1 | 24.97 |
| | | | | 3 | 1 | 1 | 24.99 |
| | | | | 3 | 2 | 1 | 25.01 |
| | | | | 6 | 0 | 2 | 23.97 |
| | 23095 | 707.5 | QPSK | 1 | 0 | 0 | 24.36 |
| | | | | 1 | 2 | 0 | 24.54 |
| | | | | 1 | 5 | 0 | 24.40 |
| | | | | 3 | 0 | 0 | 24.48 |
| | | | | 3 | 1 | 0 | 24.42 |
| | | | | 3 | 2 | 0 | 24.32 |
| | | | | 6 | 0 | 1 | 23.30 |
| | | | 16QAM | 1 | 0 | 1 | 23.78 |
| | | | | 1 | 2 | 1 | 23.96 |
| | | | | 1 | 5 | 1 | 23.83 |
| | | | | 3 | 0 | 1 | 24.80 |
| | | | | 3 | 1 | 1 | 24.75 |
| | | | | 3 | 2 | 1 | 24.83 |
| | | | | 6 | 0 | 2 | 22.82 |
| | 23173 | 715.3 | QPSK | 1 | 0 | 0 | 24.07 |
| | | | | 1 | 2 | 0 | 24.20 |
| | | | | 1 | 5 | 0 | 24.06 |
| | | | | 3 | 0 | 0 | 25.00 |
| | | | | 3 | 1 | 0 | 24.97 |
| | | | | 3 | 2 | 0 | 25.03 |
| | | | | 6 | 0 | 1 | 22.94 |
| | | | 16QAM | 1 | 0 | 1 | 23.29 |
| | | | | 1 | 2 | 1 | 23.43 |
| | | | | 1 | 5 | 1 | 23.26 |
| | | | | 3 | 0 | 1 | 24.08 |
| | | | | 3 | 1 | 1 | 23.97 |
| | | | | 3 | 2 | 1 | 24.06 |
| | | | | 6 | 0 | 2 | 22.50 |

**LTE Band 17**

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 10MHz | 23780 | 709.0 | QPSK | 1 | 0 | 0 | 24.46 |
| | | | | 1 | 24 | 0 | 24.56 |
| | | | | 1 | 49 | 0 | 23.99 |
| | | | | 25 | 0 | 1 | 23.44 |
| | | | | 25 | 12 | 1 | 23.46 |
| | | | | 25 | 25 | 1 | 23.28 |
| | | | | 50 | 0 | 1 | 23.34 |
| | | | 16QAM | 1 | 0 | 1 | 24.37 |
| | | | | 1 | 24 | 1 | 24.49 |
| | | | | 1 | 49 | 1 | 23.96 |
| | | | | 25 | 0 | 2 | 23.32 |
| | | | | 25 | 12 | 2 | 23.35 |
| | | | | 25 | 25 | 2 | 23.10 |
| | | | | 50 | 0 | 2 | 23.19 |
| | 23790 | 710 | QPSK | 1 | 0 | 0 | 24.49 |
| | | | | 1 | 24 | 0 | 24.42 |
| | | | | 1 | 49 | 0 | 23.93 |
| | | | | 25 | 0 | 1 | 23.25 |
| | | | | 25 | 12 | 1 | 23.26 |
| | | | | 25 | 25 | 1 | 22.96 |
| | | | | 50 | 0 | 1 | 23.13 |
| | | | 16QAM | 1 | 0 | 1 | 23.53 |
| | | | | 1 | 24 | 1 | 23.67 |
| | | | | 1 | 49 | 1 | 23.14 |
| | | | | 25 | 0 | 2 | 23.44 |
| | | | | 25 | 12 | 2 | 23.48 |
| | | | | 25 | 25 | 2 | 23.26 |
| | | | | 50 | 0 | 2 | 22.39 |
| | 23800 | 711.0 | QPSK | 1 | 0 | 0 | 23.52 |
| | | | | 1 | 24 | 0 | 23.68 |
| | | | | 1 | 49 | 0 | 23.10 |
| | | | | 25 | 0 | 1 | 23.36 |
| | | | | 25 | 12 | 1 | 23.34 |
| | | | | 25 | 25 | 1 | 23.08 |
| | | | | 50 | 0 | 1 | 22.26 |
| | | | 16QAM | 1 | 0 | 1 | 23.34 |
| | | | | 1 | 24 | 1 | 23.38 |
| | | | | 1 | 49 | 1 | 22.83 |
| | | | | 25 | 0 | 2 | 23.25 |
| | | | | 25 | 12 | 2 | 23.25 |
| | | | | 25 | 25 | 2 | 22.97 |
| | | | | 50 | 0 | 2 | 22.15 |

| BW (MHz) | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Offset | MPR | Average power (dBm) |
|---|---|---|---|---|---|---|---|
| 5MHz | 23755 | 706.5 | QPSK | 1 | 0 | 0 | 24.85 |
| | | | | 1 | 12 | 0 | 24.87 |
| | | | | 1 | 24 | 0 | 24.39 |
| | | | | 12 | 0 | 1 | 23.39 |
| | | | | 12 | 6 | 1 | 23.38 |
| | | | | 12 | 13 | 1 | 23.51 |
| | | | | 25 | 0 | 1 | 23.48 |
| | | | 16QAM | 1 | 0 | 1 | 24.39 |
| | | | | 1 | 12 | 1 | 24.42 |
| | | | | 1 | 24 | 1 | 24.16 |
| | | | | 12 | 0 | 2 | 23.23 |
| | | | | 12 | 6 | 2 | 23.22 |
| | | | | 12 | 13 | 2 | 23.16 |
| | | | | 25 | 0 | 2 | 23.23 |
| | 23095 | 710.0 | QPSK | 1 | 0 | 0 | 24.22 |
| | | | | 1 | 12 | 0 | 24.14 |
| | | | | 1 | 24 | 0 | 23.94 |
| | | | | 12 | 0 | 1 | 23.21 |
| | | | | 12 | 6 | 1 | 23.23 |
| | | | | 12 | 13 | 1 | 22.89 |
| | | | | 25 | 0 | 1 | 23.11 |
| | | | 16QAM | 1 | 0 | 1 | 23.35 |
| | | | | 1 | 12 | 1 | 23.55 |
| | | | | 1 | 24 | 1 | 23.39 |
| | | | | 12 | 0 | 2 | 23.41 |
| | | | | 12 | 6 | 2 | 23.37 |
| | | | | 12 | 13 | 2 | 23.50 |
| | | | | 25 | 0 | 2 | 22.55 |
| | 23825 | 712.6 | QPSK | 1 | 0 | 0 | 23.59 |
| | | | | 1 | 12 | 0 | 23.60 |
| | | | | 1 | 24 | 0 | 23.33 |
| | | | | 12 | 0 | 1 | 23.21 |
| | | | | 12 | 6 | 1 | 23.22 |
| | | | | 12 | 13 | 1 | 23.18 |
| | | | | 25 | 0 | 1 | 22.28 |
| | | | 16QAM | 1 | 0 | 1 | 23.19 |
| | | | | 1 | 12 | 1 | 23.09 |
| | | | | 1 | 24 | 1 | 22.92 |
| | | | | 12 | 0 | 2 | 23.27 |
| | | | | 12 | 6 | 2 | 23.23 |
| | | | | 12 | 13 | 2 | 22.85 |
| | | | | 25 | 0 | 2 | |

According to 3GPP 36.521 sub-clause 6.2.3.3, the maximum output power is allowed to be reduced by following the table.

Table 6.2.3.3-1: Maximum Power Reduction (MPR) for Power Class 3

| **Modulation** | **Channel bandwidth / Transmission bandwidth configuration [RB]** | | | | | | **MPR (dB)** |
|---|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 |

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (For PRACH, PUCCH and SRS transmission, the allowed MPR is according to that specified for PUSCH QPSK modulation for the corresponding transmission bandwidth.).

When PRACH, PUCCH are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

For each subframe, the MPR is evaluated per slot and given by the maximum value taken over the transmission(s) within the slot, the maximum MPR over the two slots is then applied for the entire subframe.

For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5.3 apply. The normative reference for this requirement is TS 36.101 clause 6.2.3.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

## 6.2 RADIATED OUTPUT POWER

### 6.2.1 MEASUREMENT METHOD

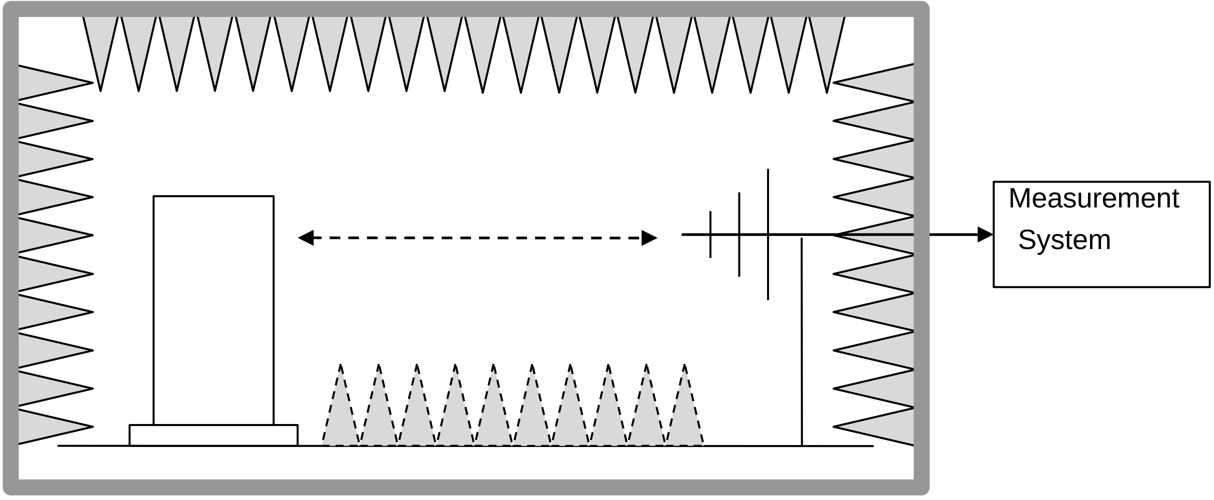
The measurements procedures specified in ANSI/TIA-603-E-2016 were applied.

1. In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power (Pin) is applied to the input of the dipole, and the power received (Pr) at the chamber's probe antenna is recorded.
2. The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established as ARpl=Pin + 2.15 - Pr. The ARpl is the attenuation of “reference path loss”, and including the gain of receive antenna, the cable loss and the air loss. The measurement results are obtained as described below: Power=PMea+ARpl
3. The EUT is substituted for the dipole at the reference centre of the chamber and a scan is performed to obtain the radiation pattern.
4. From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.
5. The EUT is then put into continuously transmitting mode at its maximum power level.
6. Power mode measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule 27.50(d)(4). The "reference path loss" from Step1 is added to this result.
7. This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power (Pin).
8. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi..

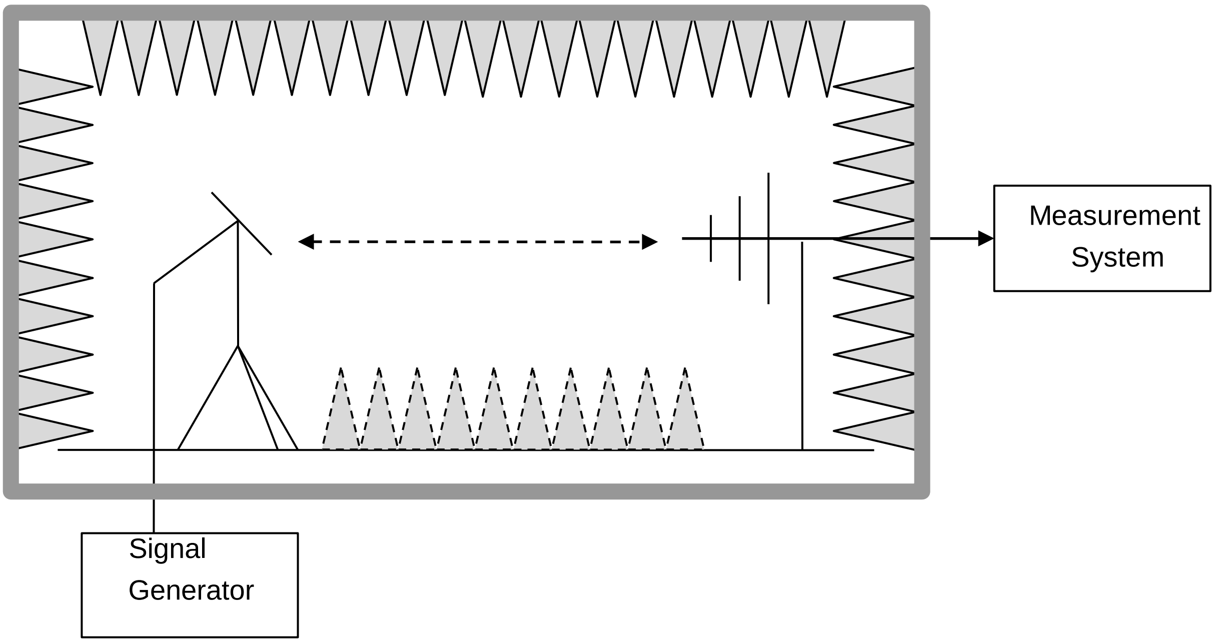
**Test Setup**

NOTE: Effective radiated power (ERP) refers to the radiation power output of the EUT, assuming all emissions are radiated from half-wave dipole antennas.

**Step 1: Pre-test**


Measurement System

**Step 2: Substitution method to verify the maximum ERP**


Measurement System
Signal Generator

### 6.2.2 PROVISIONS APPLICABLE

This is the test for the maximum radiated power from the EUT. Rule Part 24.232(c) specifies, “Mobile/portable stations are limited to 2 watts e.i.r.p.

| Mode | FCC Part Section(s) | Nominal Peak Power |
|---|---|---|
| LTE Band 2 | 24.229(b) | <=33dBm (2W) |
| LTE Band 4 | 24.5(h) | <=30dBm (1W) |
| LTE Band 5 | 22.905(a) | <=38.45dBm (7W) |
| LTE Band 7 | 27.50(i)(2) | <=33dBm (2W) |
| LTE Band 12 | 27.5(c) | <=34.77dBm(3W) |
| LTE Band 17 | 27.5(c) | <=34.77dBm(3W) |

### 6.2.3 MEASUREMENT RESULT

**EIRP for LTE Band 2**

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 1850.7 | 1.4 | QPSK | 1/0 | 9.86 | V | 7.95 | 0.79 | 17.02 | 33 |
| 1880.0 | 1.4 | QPSK | 1/0 | 7.68 | V | 7.95 | 0.79 | 14.84 | 33 |
| 1909.3 | 1.4 | QPSK | 1/0 | 7.01 | V | 7.95 | 0.79 | 14.17 | 33 |
| 1850.7 | 1.4 | QPSK | 1/0 | 9.45 | H | 7.95 | 0.79 | 16.61 | 33 |
| 1880.0 | 1.4 | QPSK | 1/0 | 7.87 | H | 7.95 | 0.79 | 15.03 | 33 |
| 1909.3 | 1.4 | QPSK | 1/0 | 8.34 | H | 7.95 | 0.79 | 15.5 | 33 |
| 1850.7 | 1.4 | 16-QAM | 1/5 | 7.24 | V | 7.95 | 0.79 | 14.4 | 33 |
| 1880.0 | 1.4 | 16-QAM | 1/0 | 9.00 | V | 7.95 | 0.79 | 16.16 | 33 |
| 1909.3 | 1.4 | 16-QAM | 1/0 | 6.47 | V | 7.95 | 0.79 | 13.63 | 33 |
| 1850.7 | 1.4 | 16-QAM | 1/5 | 7.65 | H | 7.95 | 0.79 | 14.81 | 33 |
| 1880.0 | 1.4 | 16-QAM | 1/0 | 7.03 | H | 7.95 | 0.79 | 14.19 | 33 |
| 1909.3 | 1.4 | 16-QAM | 1/0 | 9.05 | H | 7.95 | 0.79 | 16.21 | 33 |
| 1851.5 | 3 | QPSK | 1/0 | 5.58 | V | 7.95 | 0.79 | 12.74 | 33 |
| 1880.0 | 3 | QPSK | 1/0 | 9.67 | V | 7.95 | 0.79 | 16.83 | 33 |
| 1908.5 | 3 | QPSK | 1/0 | 9.29 | V | 7.95 | 0.79 | 16.45 | 33 |
| 1851.5 | 3 | QPSK | 1/0 | 6.59 | H | 7.95 | 0.79 | 13.75 | 33 |
| 1880.0 | 3 | QPSK | 1/0 | 8.41 | H | 7.95 | 0.79 | 15.57 | 33 |
| 1908.5 | 3 | QPSK | 1/0 | 7.15 | H | 7.95 | 0.79 | 14.31 | 33 |
| 1851.5 | 3 | 16-QAM | 1/0 | 8.99 | V | 7.95 | 0.79 | 16.15 | 33 |
| 1880.0 | 3 | 16-QAM | 1/0 | 8.00 | V | 7.95 | 0.79 | 15.16 | 33 |
| 1908.5 | 3 | 16-QAM | 1/0 | 7.35 | V | 7.95 | 0.79 | 14.51 | 33 |
| 1851.5 | 3 | 16-QAM | 1/0 | 7.22 | H | 7.95 | 0.79 | 14.38 | 33 |
| 1880.0 | 3 | 16-QAM | 1/0 | 12.28 | H | 7.95 | 0.79 | 19.44 | 33 |
| 1908.5 | 3 | 16-QAM | 1/0 | 13.83 | H | 7.95 | 0.79 | 20.99 | 33 |
| 1852.5 | 5 | QPSK | 1/0 | 14.64 | V | 7.95 | 0.79 | 21.8 | 33 |
| 1880.0 | 5 | QPSK | 1/0 | 14.29 | V | 7.95 | 0.79 | 21.45 | 33 |
| 1907.5 | 5 | QPSK | 1/24 | 15.47 | V | 7.95 | 0.79 | 22.63 | 33 |
| 1852.5 | 5 | QPSK | 1/0 | 13.72 | H | 7.95 | 0.79 | 20.88 | 33 |
| 1880.0 | 5 | QPSK | 1/0 | 8.05 | H | 7.95 | 0.79 | 15.21 | 33 |
| 1907.5 | 5 | QPSK | 1/24 | 8.20 | H | 7.95 | 0.79 | 15.36 | 33 |
| 1852.5 | 5 | 16-QAM | 1/0 | 8.16 | V | 7.95 | 0.79 | 15.32 | 33 |
| 1880.0 | 5 | 16-QAM | 1/0 | 7.61 | V | 7.95 | 0.79 | 14.77 | 33 |
| 1907.5 | 5 | 16-QAM | 1/24 | 6.18 | V | 7.95 | 0.79 | 13.34 | 33 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1852.5 | 5 | 16-QAM | 1/0 | 10.36 | H | 7.95 | 0.79 | 17.52 | 33 |
| 1880.0 | 5 | 16-QAM | 1/0 | 8.77 | H | 7.95 | 0.79 | 15.93 | 33 |
| 1907.5 | 5 | 16-QAM | 1/24 | 7.01 | H | 7.95 | 0.79 | 14.17 | 33 |
| 1855 | 10 | QPSK | 1/0 | 8.18 | V | 7.95 | 0.79 | 15.34 | 33 |
| 1880 | 10 | QPSK | 1/49 | 8.48 | V | 7.95 | 0.79 | 15.64 | 33 |
| 1905 | 10 | QPSK | 1/0 | 6.78 | V | 7.95 | 0.79 | 13.94 | 33 |
| 1855 | 10 | QPSK | 1/0 | 6.03 | H | 7.95 | 0.79 | 13.19 | 33 |
| 1880 | 10 | QPSK | 1/49 | 6.45 | H | 7.95 | 0.79 | 13.61 | 33 |
| 1905 | 10 | QPSK | 1/0 | 9.42 | H | 7.95 | 0.79 | 16.58 | 33 |
| 1855 | 10 | 16-QAM | 1/0 | 9.41 | V | 7.95 | 0.79 | 16.57 | 33 |
| 1880 | 10 | 16-QAM | 1/49 | 6.99 | V | 7.95 | 0.79 | 14.15 | 33 |
| 1905 | 10 | 16-QAM | 1/0 | 6.24 | V | 7.95 | 0.79 | 13.4 | 33 |
| 1855 | 10 | 16-QAM | 1/0 | 7.14 | H | 7.95 | 0.79 | 14.3 | 33 |
| 1880 | 10 | 16-QAM | 1/49 | 7.17 | H | 7.95 | 0.79 | 14.33 | 33 |
| 1905 | 10 | 16-QAM | 1/0 | 7.55 | H | 7.95 | 0.79 | 14.71 | 33 |
| 1857.5 | 15 | QPSK | 1/0 | 8.93 | V | 7.95 | 0.79 | 16.09 | 33 |
| 1880 | 15 | QPSK | 1/74 | 10.57 | V | 7.95 | 0.79 | 17.73 | 33 |
| 1902.5 | 15 | QPSK | 1/0 | 11.67 | V | 7.95 | 0.79 | 18.83 | 33 |
| 1857.5 | 15 | QPSK | 1/0 | 10.82 | H | 7.95 | 0.79 | 17.98 | 33 |
| 1880 | 15 | QPSK | 1/74 | 8.77 | H | 7.95 | 0.79 | 15.93 | 33 |
| 1902.5 | 15 | QPSK | 1/0 | 8.94 | H | 7.95 | 0.79 | 16.1 | 33 |
| 1857.5 | 15 | 16-QAM | 1/0 | 8.41 | V | 7.95 | 0.79 | 15.57 | 33 |
| 1880 | 15 | 16-QAM | 1/74 | 10.85 | V | 7.95 | 0.79 | 18.01 | 33 |
| 1902.5 | 15 | 16-QAM | 1/0 | 7.54 | V | 7.95 | 0.79 | 14.7 | 33 |
| 1857.5 | 15 | 16-QAM | 1/0 | 7.12 | H | 7.95 | 0.79 | 14.28 | 33 |
| 1880 | 15 | 16-QAM | 1/74 | 10.76 | H | 7.95 | 0.79 | 17.92 | 33 |
| 1902.5 | 15 | 16-QAM | 1/0 | 6.95 | H | 7.95 | 0.79 | 14.11 | 33 |
| 1860 | 20 | QPSK | 1/99 | 9.30 | V | 7.95 | 0.79 | 16.46 | 33 |
| 1880 | 20 | QPSK | 1/99 | 10.39 | V | 7.95 | 0.79 | 17.55 | 33 |
| 1900 | 20 | QPSK | 1/0 | 8.79 | V | 7.95 | 0.79 | 15.95 | 33 |
| 1860 | 20 | QPSK | 1/99 | 7.70 | H | 7.95 | 0.79 | 14.86 | 33 |
| 1880 | 20 | QPSK | 1/99 | 10.61 | H | 7.95 | 0.79 | 17.77 | 33 |
| 1900 | 20 | QPSK | 1/0 | 7.98 | H | 7.95 | 0.79 | 15.14 | 33 |
| 1860 | 20 | 16-QAM | 1/99 | 9.10 | V | 7.95 | 0.79 | 16.26 | 33 |
| 1880 | 20 | 16-QAM | 1/99 | 9.94 | V | 7.95 | 0.79 | 17.1 | 33 |
| 1900 | 20 | 16-QAM | 1/0 | 10.39 | V | 7.95 | 0.79 | 17.55 | 33 |
| 1860 | 20 | 16-QAM | 1/99 | 9.18 | H | 7.95 | 0.79 | 16.34 | 33 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1880 | 20 | 16-QAM | 1/99 | 9.79 | H | 7.95 | 0.79 | 16.95 | 33 |
| 1900 | 20 | 16-QAM | 1/0 | 8.38 | H | 7.95 | 0.79 | 15.54 | 33 |

## EIRP for LTE Band 4

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 1710.7 | 1.4 | QPSK | 1/0 | 9.77 | V | 7.95 | 0.79 | 16.93 | 30 |
| 1732.5 | 1.4 | QPSK | 1/0 | 9.30 | V | 7.95 | 0.79 | 16.46 | 30 |
| 1754.3 | 1.4 | QPSK | 1/0 | 11.09 | V | 7.95 | 0.79 | 18.25 | 30 |
| 1710.7 | 1.4 | QPSK | 1/0 | 9.56 | H | 7.95 | 0.79 | 16.72 | 30 |
| 1732.5 | 1.4 | QPSK | 1/0 | 8.91 | H | 7.95 | 0.79 | 16.07 | 30 |
| 1754.3 | 1.4 | QPSK | 1/0 | 8.11 | H | 7.95 | 0.79 | 15.27 | 30 |
| 1710.7 | 1.4 | 16-QAM | 1/5 | 10.67 | V | 7.95 | 0.79 | 17.83 | 30 |
| 1732.5 | 1.4 | 16-QAM | 1/0 | 10.61 | V | 7.95 | 0.79 | 17.77 | 30 |
| 1754.3 | 1.4 | 16-QAM | 1/0 | 8.89 | V | 7.95 | 0.79 | 16.05 | 30 |
| 1710.7 | 1.4 | 16-QAM | 1/5 | 8.00 | H | 7.95 | 0.79 | 15.16 | 30 |
| 1732.5 | 1.4 | 16-QAM | 1/0 | 7.94 | H | 7.95 | 0.79 | 15.10 | 30 |
| 1754.3 | 1.4 | 16-QAM | 1/0 | 10.41 | H | 7.95 | 0.79 | 17.57 | 30 |
| 1711.5 | 3 | QPSK | 1/0 | 10.26 | V | 7.95 | 0.79 | 17.42 | 30 |
| 1732.5 | 3 | QPSK | 1/0 | 10.36 | V | 7.95 | 0.79 | 17.52 | 30 |
| 1753.5 | 3 | QPSK | 1/0 | 13.60 | V | 7.95 | 0.79 | 20.76 | 30 |
| 1711.5 | 3 | QPSK | 1/0 | 11.50 | H | 7.95 | 0.79 | 18.66 | 30 |
| 1732.5 | 3 | QPSK | 1/0 | 10.66 | H | 7.95 | 0.79 | 17.82 | 30 |
| 1753.5 | 3 | QPSK | 1/0 | 9.35 | H | 7.95 | 0.79 | 16.51 | 30 |
| 1711.5 | 3 | 16-QAM | 1/0 | 10.23 | V | 7.95 | 0.79 | 17.39 | 30 |
| 1732.5 | 3 | 16-QAM | 1/0 | 8.80 | V | 7.95 | 0.79 | 15.96 | 30 |
| 1753.5 | 3 | 16-QAM | 1/0 | 9.80 | V | 7.95 | 0.79 | 16.96 | 30 |
| 1711.5 | 3 | 16-QAM | 1/0 | 9.19 | H | 7.95 | 0.79 | 16.35 | 30 |
| 1732.5 | 3 | 16-QAM | 1/0 | 13.53 | H | 7.95 | 0.79 | 20.69 | 30 |
| 1753.5 | 3 | 16-QAM | 1/0 | 11.33 | H | 7.95 | 0.79 | 18.49 | 30 |
| 1712.5 | 5 | QPSK | 1/0 | 12.32 | V | 7.95 | 0.79 | 19.48 | 30 |
| 1732.5 | 5 | QPSK | 1/0 | 11.14 | V | 7.95 | 0.79 | 18.30 | 30 |
| 1752.5 | 5 | QPSK | 1/24 | 13.06 | V | 7.95 | 0.79 | 20.22 | 30 |
| 1712.5 | 5 | QPSK | 1/0 | 13.26 | H | 7.95 | 0.79 | 20.42 | 30 |
| 1732.5 | 5 | QPSK | 1/0 | 8.97 | H | 7.95 | 0.79 | 16.13 | 30 |
| 1752.5 | 5 | QPSK | 1/24 | 9.37 | H | 7.95 | 0.79 | 16.53 | 30 |
| 1712.5 | 5 | 16-QAM | 1/0 | 9.95 | V | 7.95 | 0.79 | 17.11 | 30 |
| 1732.5 | 5 | 16-QAM | 1/0 | 8.91 | V | 7.95 | 0.79 | 16.07 | 30 |
| 1752.5 | 5 | 16-QAM | 1/24 | 9.10 | V | 7.95 | 0.79 | 16.26 | 30 |
| 1712.5 | 5 | 16-QAM | 1/0 | 9.45 | H | 7.95 | 0.79 | 16.61 | 30 |
| 1732.5 | 5 | 16-QAM | 1/0 | 10.68 | H | 7.95 | 0.79 | 17.84 | 30 |
| 1752.5 | 5 | 16-QAM | 1/24 | 9.50 | H | 7.95 | 0.79 | 16.66 | 30 |

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|---|---|---|---|---|---|---|---|---|---|
| 1715 | 10 | QPSK | 1/0 | 11.85 | V | 7.95 | 0.79 | 19.01 | 30 |
| 1732.5 | 10 | QPSK | 1/49 | 8.19 | V | 7.95 | 0.79 | 15.35 | 30 |
| 1750 | 10 | QPSK | 1/0 | 9.53 | V | 7.95 | 0.79 | 16.69 | 30 |
| 1715 | 10 | QPSK | 1/0 | 9.42 | H | 7.95 | 0.79 | 16.58 | 30 |
| 1732.5 | 10 | QPSK | 1/49 | 11.83 | H | 7.95 | 0.79 | 18.99 | 30 |
| 1750 | 10 | QPSK | 1/0 | 10.59 | H | 7.95 | 0.79 | 17.75 | 30 |
| 1715 | 10 | 16-QAM | 1/0 | 10.43 | V | 7.95 | 0.79 | 17.59 | 30 |
| 1732.5 | 10 | 16-QAM | 1/49 | 8.66 | V | 7.95 | 0.79 | 15.82 | 30 |
| 1750 | 10 | 16-QAM | 1/0 | 9.01 | V | 7.95 | 0.79 | 16.17 | 30 |
| 1715 | 10 | 16-QAM | 1/0 | 10.69 | H | 7.95 | 0.79 | 17.85 | 30 |
| 1732.5 | 10 | 16-QAM | 1/49 | 10.07 | H | 7.95 | 0.79 | 17.23 | 30 |
| 1750 | 10 | 16-QAM | 1/0 | 9.39 | H | 7.95 | 0.79 | 16.55 | 30 |
| 1717.5 | 15 | QPSK | 1/0 | 9.49 | V | 7.95 | 0.79 | 16.65 | 30 |
| 1732.5 | 15 | QPSK | 1/74 | 10.11 | V | 7.95 | 0.79 | 17.27 | 30 |
| 1747.5 | 15 | QPSK | 1/0 | 8.40 | V | 7.95 | 0.79 | 15.56 | 30 |
| 1717.5 | 15 | QPSK | 1/0 | 7.74 | H | 7.95 | 0.79 | 14.90 | 30 |
| 1732.5 | 15 | QPSK | 1/74 | 10.74 | H | 7.95 | 0.79 | 17.90 | 30 |
| 1747.5 | 15 | QPSK | 1/0 | 8.55 | H | 7.95 | 0.79 | 15.71 | 30 |
| 1717.5 | 15 | 16-QAM | 1/0 | 8.95 | V | 7.95 | 0.79 | 16.11 | 30 |
| 1732.5 | 15 | 16-QAM | 1/74 | 9.98 | V | 7.95 | 0.79 | 17.14 | 30 |
| 1747.5 | 15 | 16-QAM | 1/0 | 9.06 | V | 7.95 | 0.79 | 16.22 | 30 |
| 1717.5 | 15 | 16-QAM | 1/0 | 7.25 | H | 7.95 | 0.79 | 14.41 | 30 |
| 1732.5 | 15 | 16-QAM | 1/74 | 9.33 | H | 7.95 | 0.79 | 16.49 | 30 |
| 1747.5 | 15 | 16-QAM | 1/0 | 8.45 | H | 7.95 | 0.79 | 15.61 | 30 |
| 1720 | 20 | QPSK | 1/99 | 9.39 | V | 7.95 | 0.79 | 16.55 | 30 |
| 1732.5 | 20 | QPSK | 1/99 | 10.65 | V | 7.95 | 0.79 | 17.81 | 30 |
| 1745 | 20 | QPSK | 1/0 | 10.99 | V | 7.95 | 0.79 | 18.15 | 30 |
| 1720 | 20 | QPSK | 1/99 | 9.41 | H | 7.95 | 0.79 | 16.57 | 30 |
| 1732.5 | 20 | QPSK | 1/99 | 10.10 | H | 7.95 | 0.79 | 17.26 | 30 |
| 1745 | 20 | QPSK | 1/0 | 10.87 | H | 7.95 | 0.79 | 18.03 | 30 |
| 1720 | 20 | 16-QAM | 1/99 | 8.61 | V | 7.95 | 0.79 | 15.77 | 30 |
| 1732.5 | 20 | 16-QAM | 1/99 | 11.10 | V | 7.95 | 0.79 | 18.26 | 30 |
| 1745 | 20 | 16-QAM | 1/0 | 9.45 | V | 7.95 | 0.79 | 16.61 | 30 |
| 1720 | 20 | 16-QAM | 1/99 | 9.40 | H | 7.95 | 0.79 | 16.56 | 30 |
| 1732.5 | 20 | 16-QAM | 1/99 | 9.85 | H | 7.95 | 0.79 | 17.01 | 30 |
| 1745 | 20 | 16-QAM | 1/0 | 10.61 | H | 7.95 | 0.79 | 17.77 | 30 |

## EIRP for LTE Band 5

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 824.7 | 1.4 | QPSK | 1/0 | 12.64 | V | 6.7 | 0.49 | 18.85 | 38.45 |
| 836.5 | 1.4 | QPSK | 1/0 | 12.65 | V | 6.7 | 0.49 | 18.86 | 38.45 |
| 848.3 | 1.4 | QPSK | 1/0 | 12.80 | V | 6.7 | 0.49 | 19.01 | 38.45 |
| 824.7 | 1.4 | QPSK | 1/0 | 11.99 | H | 6.7 | 0.49 | 18.20 | 38.45 |
| 836.5 | 1.4 | QPSK | 1/0 | 9.77 | H | 6.7 | 0.49 | 15.98 | 38.45 |
| 848.3 | 1.4 | QPSK | 1/0 | 9.65 | H | 6.7 | 0.49 | 15.86 | 38.45 |
| 824.7 | 1.4 | 16-QAM | 1/0 | 11.61 | V | 6.7 | 0.49 | 17.82 | 38.45 |
| 836.5 | 1.4 | 16-QAM | 1/0 | 12.37 | V | 6.7 | 0.49 | 18.58 | 38.45 |
| 848.3 | 1.4 | 16-QAM | 1/0 | 10.58 | V | 6.7 | 0.49 | 16.79 | 38.45 |
| 824.7 | 1.4 | 16-QAM | 1/0 | 9.87 | H | 6.7 | 0.49 | 16.08 | 38.45 |
| 836.5 | 1.4 | 16-QAM | 1/0 | 10.50 | H | 6.7 | 0.49 | 16.71 | 38.45 |
| 848.3 | 1.4 | 16-QAM | 1/0 | 11.48 | H | 6.7 | 0.49 | 17.69 | 38.45 |
| 825.5 | 3 | QPSK | 1/0 | 9.59 | V | 6.7 | 0.49 | 15.8 | 38.45 |
| 836.5 | 3 | QPSK | 1/0 | 11.20 | V | 6.7 | 0.49 | 17.41 | 38.45 |
| 847.5 | 3 | QPSK | 1/0 | 13.41 | V | 6.7 | 0.49 | 19.62 | 38.45 |
| 825.5 | 3 | QPSK | 1/0 | 11.69 | H | 6.7 | 0.49 | 17.9 | 38.45 |
| 836.5 | 3 | QPSK | 1/0 | 11.71 | H | 6.7 | 0.49 | 17.92 | 38.45 |
| 847.5 | 3 | QPSK | 1/0 | 9.90 | H | 6.7 | 0.49 | 16.11 | 38.45 |
| 825.5 | 3 | 16-QAM | 1/0 | 11.48 | V | 6.7 | 0.49 | 17.69 | 38.45 |
| 836.5 | 3 | 16-QAM | 1/0 | 11.09 | V | 6.7 | 0.49 | 17.3 | 38.45 |
| 847.5 | 3 | 16-QAM | 1/0 | 12.73 | V | 6.7 | 0.49 | 18.94 | 38.45 |
| 825.5 | 3 | 16-QAM | 1/0 | 11.27 | H | 6.7 | 0.49 | 17.48 | 38.45 |
| 836.5 | 3 | 16-QAM | 1/0 | 16.44 | H | 6.7 | 0.49 | 22.65 | 38.45 |
| 847.5 | 3 | 16-QAM | 1/0 | 14.86 | H | 6.7 | 0.49 | 21.07 | 38.45 |
| 826.5 | 5 | QPSK | 1/0 | 14.18 | V | 6.7 | 0.49 | 20.39 | 38.45 |
| 836.5 | 5 | QPSK | 1/0 | 15.39 | V | 6.7 | 0.49 | 21.6 | 38.45 |
| 846.5 | 5 | QPSK | 1/0 | 13.28 | V | 6.7 | 0.49 | 19.49 | 38.45 |
| 826.5 | 5 | QPSK | 1/0 | 13.98 | H | 6.7 | 0.49 | 20.19 | 38.45 |
| 836.5 | 5 | QPSK | 1/0 | 10.94 | H | 6.7 | 0.49 | 17.15 | 38.45 |
| 846.5 | 5 | QPSK | 1/0 | 11.70 | H | 6.7 | 0.49 | 17.91 | 38.45 |
| 826.5 | 5 | 16-QAM | 1/0 | 12.27 | V | 6.7 | 0.49 | 18.48 | 38.45 |
| 836.5 | 5 | 16-QAM | 1/0 | 9.47 | V | 6.7 | 0.49 | 15.68 | 38.45 |
| 846.5 | 5 | 16-QAM | 1/0 | 9.64 | V | 6.7 | 0.49 | 15.85 | 38.45 |
| 826.5 | 5 | 16-QAM | 1/0 | 11.01 | H | 6.7 | 0.49 | 17.22 | 38.45 |
| 836.5 | 5 | 16-QAM | 1/0 | 8.44 | H | 6.7 | 0.49 | 14.65 | 38.45 |
| 846.5 | 5 | 16-QAM | 1/0 | 11.06 | H | 6.7 | 0.49 | 17.27 | 38.45 |

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|---|---|---|---|---|---|---|---|---|---|
| 829 | 10 | QPSK | 1/0 | 12.15 | V | 6.7 | 0.49 | 18.36 | 38.45 |
| 836.5 | 10 | QPSK | 1/0 | 9.38 | V | 6.7 | 0.49 | 15.59 | 38.45 |
| 844 | 10 | QPSK | 1/0 | 9.24 | V | 6.7 | 0.49 | 15.45 | 38.45 |
| 829 | 10 | QPSK | 1/0 | 12.38 | H | 6.7 | 0.49 | 18.59 | 38.45 |
| 836.5 | 10 | QPSK | 1/0 | 12.52 | H | 6.7 | 0.49 | 18.73 | 38.45 |
| 844 | 10 | QPSK | 1/0 | 11.82 | H | 6.7 | 0.49 | 18.03 | 38.45 |
| 829 | 10 | 16-QAM | 1/0 | 12.20 | V | 6.7 | 0.49 | 18.41 | 38.45 |
| 836.5 | 10 | 16-QAM | 1/0 | 10.56 | V | 6.7 | 0.49 | 16.77 | 38.45 |
| 844 | 10 | 16-QAM | 1/0 | 10.27 | V | 6.7 | 0.49 | 16.48 | 38.45 |
| 829 | 10 | 16-QAM | 1/0 | 11.23 | H | 6.7 | 0.49 | 17.44 | 38.45 |
| 836.5 | 10 | 16-QAM | 1/0 | 12.62 | H | 6.7 | 0.49 | 18.83 | 38.45 |
| 844 | 10 | 16-QAM | 1/0 | 12.75 | H | 6.7 | 0.49 | 18.96 | 38.45 |

## EIRP for LTE Band 7

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 2502.5 | 5 | QPSK | 1/0 | 9.41 | V | 8.23 | 1.12 | 16.52 | 33 |
| 2535 | 5 | QPSK | 1/0 | 7.87 | V | 8.23 | 1.12 | 14.98 | 33 |
| 2567.5 | 5 | QPSK | 1/24 | 8.75 | V | 8.23 | 1.12 | 15.86 | 33 |
| 2502.5 | 5 | QPSK | 1/0 | 10.57 | H | 8.23 | 1.12 | 17.68 | 33 |
| 2535 | 5 | QPSK | 1/0 | 9.09 | H | 8.23 | 1.12 | 16.2 | 33 |
| 2567.5 | 5 | QPSK | 1/24 | 7.37 | H | 8.23 | 1.12 | 14.48 | 33 |
| 2502.5 | 5 | 16-QAM | 1/0 | 10.10 | V | 8.23 | 1.12 | 17.21 | 33 |
| 2535 | 5 | 16-QAM | 1/0 | 8.84 | V | 8.23 | 1.12 | 15.95 | 33 |
| 2567.5 | 5 | 16-QAM | 1/24 | 9.78 | V | 8.23 | 1.12 | 16.89 | 33 |
| 2502.5 | 5 | 16-QAM | 1/0 | 8.40 | H | 8.23 | 1.12 | 15.51 | 33 |
| 2535 | 5 | 16-QAM | 1/0 | 8.10 | H | 8.23 | 1.12 | 15.21 | 33 |
| 2567.5 | 5 | 16-QAM | 1/24 | 5.78 | H | 8.23 | 1.12 | 12.89 | 33 |
| 2505 | 10 | QPSK | 1/0 | 11.34 | V | 8.23 | 1.12 | 18.45 | 33 |
| 2535 | 10 | QPSK | 1/49 | 11.07 | V | 8.23 | 1.12 | 18.18 | 33 |
| 2565 | 10 | QPSK | 1/0 | 9.98 | V | 8.23 | 1.12 | 17.09 | 33 |
| 2505 | 10 | QPSK | 1/0 | 5.64 | H | 8.23 | 1.12 | 12.75 | 33 |
| 2535 | 10 | QPSK | 1/49 | 7.33 | H | 8.23 | 1.12 | 14.44 | 33 |
| 2565 | 10 | QPSK | 1/0 | 8.37 | H | 8.23 | 1.12 | 15.48 | 33 |
| 2505 | 10 | 16-QAM | 1/0 | 6.60 | V | 8.23 | 1.12 | 13.71 | 33 |
| 2535 | 10 | 16-QAM | 1/49 | 9.05 | V | 8.23 | 1.12 | 16.16 | 33 |
| 2565 | 10 | 16-QAM | 1/0 | 9.04 | V | 8.23 | 1.12 | 16.15 | 33 |
| 2505 | 10 | 16-QAM | 1/0 | 7.58 | H | 8.23 | 1.12 | 14.69 | 33 |
| 2535 | 10 | 16-QAM | 1/49 | 14.95 | H | 8.23 | 1.12 | 22.06 | 33 |
| 2565 | 10 | 16-QAM | 1/0 | 11.17 | H | 8.23 | 1.12 | 18.28 | 33 |
| 2507.5 | 15 | QPSK | 1/0 | 14.04 | V | 8.23 | 1.12 | 21.15 | 33 |
| 2535 | 15 | QPSK | 1/74 | 15.63 | V | 8.23 | 1.12 | 22.74 | 33 |
| 2562.5 | 15 | QPSK | 1/0 | 14.08 | V | 8.23 | 1.12 | 21.19 | 33 |
| 2507.5 | 15 | QPSK | 1/0 | 14.06 | H | 8.23 | 1.12 | 21.17 | 33 |
| 2535 | 15 | QPSK | 1/74 | 9.73 | H | 8.23 | 1.12 | 16.84 | 33 |
| 2562.5 | 15 | QPSK | 1/0 | 10.33 | H | 8.23 | 1.12 | 17.44 | 33 |
| 2507.5 | 15 | 16-QAM | 1/0 | 7.33 | V | 8.23 | 1.12 | 14.44 | 33 |
| 2535 | 15 | 16-QAM | 1/74 | 7.90 | V | 8.23 | 1.12 | 15.01 | 33 |
| 2562.5 | 15 | 16-QAM | 1/0 | 8.07 | V | 8.23 | 1.12 | 15.18 | 33 |
| 2507.5 | 15 | 16-QAM | 1/0 | 8.88 | H | 8.23 | 1.12 | 15.99 | 33 |
| 2535 | 15 | 16-QAM | 1/74 | 10.92 | H | 8.23 | 1.12 | 18.03 | 33 |
| 2562.5 | 15 | 16-QAM | 1/0 | 7.79 | H | 8.23 | 1.12 | 14.9 | 33 |

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|---|---|---|---|---|---|---|---|---|---|
| 2510 | 20 | QPSK | 1/99 | 9.20 | V | 8.23 | 1.12 | 16.31 | 33 |
| 2535 | 20 | QPSK | 1/99 | 7.24 | V | 8.23 | 1.12 | 14.35 | 33 |
| 2560 | 20 | QPSK | 1/0 | 7.89 | V | 8.23 | 1.12 | 15.00 | 33 |
| 2510 | 20 | QPSK | 1/99 | 11.26 | H | 8.23 | 1.12 | 18.37 | 33 |
| 2535 | 20 | QPSK | 1/99 | 9.00 | H | 8.23 | 1.12 | 16.11 | 33 |
| 2560 | 20 | QPSK | 1/0 | 8.14 | H | 8.23 | 1.12 | 15.25 | 33 |
| 2510 | 20 | 16-QAM | 1/99 | 9.21 | V | 8.23 | 1.12 | 16.32 | 33 |
| 2535 | 20 | 16-QAM | 1/99 | 10.17 | V | 8.23 | 1.12 | 17.28 | 33 |
| 2560 | 20 | 16-QAM | 1/0 | 8.99 | V | 8.23 | 1.12 | 16.1 | 33 |
| 2510 | 20 | 16-QAM | 1/99 | 10.05 | H | 8.23 | 1.12 | 17.16 | 33 |
| 2535 | 20 | 16-QAM | 1/99 | 8.19 | H | 8.23 | 1.12 | 15.3 | 33 |
| 2560 | 20 | 16-QAM | 1/0 | 7.55 | H | 8.23 | 1.12 | 14.66 | 33 |

**EIRP for LTE Band 12**

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 699.7 | 1.4 | QPSK | 1/0 | 8.75 | V | 6.6 | 0.47 | 14.88 | 34.77 |
| 707.5 | 1.4 | QPSK | 1/0 | 12.79 | V | 6.6 | 0.47 | 18.92 | 34.77 |
| 715.3 | 1.4 | QPSK | 1/24 | 8.14 | V | 6.6 | 0.47 | 14.27 | 34.77 |
| 699.7 | 1.4 | QPSK | 1/0 | 9.87 | H | 6.6 | 0.47 | 16.00 | 34.77 |
| 707.5 | 1.4 | QPSK | 1/0 | 10.59 | H | 6.6 | 0.47 | 16.72 | 34.77 |
| 715.3 | 1.4 | QPSK | 1/24 | 9.38 | H | 6.6 | 0.47 | 15.51 | 34.77 |
| 699.7 | 1.4 | 16-QAM | 1/0 | 10.14 | V | 6.6 | 0.47 | 16.27 | 34.77 |
| 707.5 | 1.4 | 16-QAM | 1/0 | 8.87 | V | 6.6 | 0.47 | 15.00 | 34.77 |
| 715.3 | 1.4 | 16-QAM | 1/24 | 10.68 | V | 6.6 | 0.47 | 16.81 | 34.77 |
| 699.7 | 1.4 | 16-QAM | 1/0 | 12.03 | H | 6.6 | 0.47 | 18.16 | 34.77 |
| 707.5 | 1.4 | 16-QAM | 1/0 | 9.68 | H | 6.6 | 0.47 | 15.81 | 34.77 |
| 715.3 | 1.4 | 16-QAM | 1/24 | 10.22 | H | 6.6 | 0.47 | 16.35 | 34.77 |
| 700.5 | 3 | QPSK | 1/0 | 11.49 | V | 6.6 | 0.47 | 17.62 | 34.77 |
| 707.5 | 3 | QPSK | 1/49 | 11.25 | V | 6.6 | 0.47 | 17.38 | 34.77 |
| 714.5 | 3 | QPSK | 1/0 | 11.39 | V | 6.6 | 0.47 | 17.52 | 34.77 |
| 700.5 | 3 | QPSK | 1/0 | 10.16 | H | 6.6 | 0.47 | 16.29 | 34.77 |
| 707.5 | 3 | QPSK | 1/49 | 9.26 | H | 6.6 | 0.47 | 15.39 | 34.77 |
| 714.5 | 3 | QPSK | 1/0 | 11.98 | H | 6.6 | 0.47 | 18.11 | 34.77 |
| 700.5 | 3 | 16-QAM | 1/0 | 9.06 | V | 6.6 | 0.47 | 15.19 | 34.77 |
| 707.5 | 3 | 16-QAM | 1/49 | 7.72 | V | 6.6 | 0.47 | 13.85 | 34.77 |
| 714.5 | 3 | 16-QAM | 1/0 | 8.35 | V | 6.6 | 0.47 | 14.48 | 34.77 |
| 700.5 | 3 | 16-QAM | 1/0 | 10.90 | H | 6.6 | 0.47 | 17.03 | 34.77 |
| 707.5 | 3 | 16-QAM | 1/49 | 13.39 | H | 6.6 | 0.47 | 19.52 | 34.77 |
| 714.5 | 3 | 16-QAM | 1/0 | 12.07 | H | 6.6 | 0.47 | 18.2 | 34.77 |
| 701.5 | 5 | QPSK | 1/0 | 13.45 | V | 6.6 | 0.47 | 19.58 | 34.77 |
| 707.5 | 5 | QPSK | 1/74 | 13.84 | V | 6.6 | 0.47 | 19.97 | 34.77 |
| 713.5 | 5 | QPSK | 1/0 | 11.92 | V | 6.6 | 0.47 | 18.05 | 34.77 |
| 701.5 | 5 | QPSK | 1/0 | 10.90 | H | 6.6 | 0.47 | 17.03 | 34.77 |
| 707.5 | 5 | QPSK | 1/74 | 8.57 | H | 6.6 | 0.47 | 14.7 | 34.77 |
| 713.5 | 5 | QPSK | 1/0 | 9.57 | H | 6.6 | 0.47 | 15.7 | 34.77 |
| 701.5 | 5 | 16-QAM | 1/0 | 10.68 | V | 6.6 | 0.47 | 16.81 | 34.77 |
| 707.5 | 5 | 16-QAM | 1/74 | 11.51 | V | 6.6 | 0.47 | 17.64 | 34.77 |
| 713.5 | 5 | 16-QAM | 1/0 | 8.72 | V | 6.6 | 0.47 | 14.85 | 34.77 |
| 701.5 | 5 | 16-QAM | 1/0 | 8.15 | H | 6.6 | 0.47 | 14.28 | 34.77 |
| 707.5 | 5 | 16-QAM | 1/74 | 9.98 | H | 6.6 | 0.47 | 16.11 | 34.77 |
| 713.5 | 5 | 16-QAM | 1/0 | 8.67 | H | 6.6 | 0.47 | 14.8 | 34.77 |
| 704.0 | 10 | QPSK | 1/99 | 7.15 | V | 6.6 | 0.47 | 13.28 | 34.77 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 707.5 | 10 | QPSK | 1/99 | 10.58 | V | 6.6 | 0.47 | 16.71 | 34.77 |
| 711.0 | 10 | QPSK | 1/0 | 12.26 | V | 6.6 | 0.47 | 18.39 | 34.77 |
| 704.0 | 10 | QPSK | 1/99 | 10.88 | H | 6.6 | 0.47 | 17.01 | 34.77 |
| 707.5 | 10 | QPSK | 1/99 | 9.75 | H | 6.6 | 0.47 | 15.88 | 34.77 |
| 711.0 | 10 | QPSK | 1/0 | 11.03 | H | 6.6 | 0.47 | 17.16 | 34.77 |
| 704.0 | 10 | 16-QAM | 1/99 | 11.82 | V | 6.6 | 0.47 | 17.95 | 34.77 |
| 707.5 | 10 | 16-QAM | 1/99 | 10.26 | V | 6.6 | 0.47 | 16.39 | 34.77 |
| 711.0 | 10 | 16-QAM | 1/0 | 8.92 | V | 6.6 | 0.47 | 15.05 | 34.77 |
| 704.0 | 10 | 16-QAM | 1/99 | 11.70 | H | 6.6 | 0.47 | 17.83 | 34.77 |
| 707.5 | 10 | 16-QAM | 1/99 | 10.57 | H | 6.6 | 0.47 | 16.70 | 34.77 |
| 711.0 | 10 | 16-QAM | 1/0 | 10.65 | H | 6.6 | 0.47 | 16.78 | 34.77 |

**EIRP for LTE Band 17**

| Frequency | Channel Bandwidth | Mode. | RB | Substituted level | Antenna Polarization | Antenna Gain correction | Cable Loss | Absolute Level | Limit (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 706.5 | 5 | QPSK | 1/0 | 7.36 | V | 6.6 | 0.47 | 13.49 | 34.77 |
| 710.0 | 5 | QPSK | 1/74 | 7.94 | V | 6.6 | 0.47 | 14.07 | 34.77 |
| 713.5 | 5 | QPSK | 1/0 | 9.23 | V | 6.6 | 0.47 | 15.36 | 34.77 |
| 706.5 | 5 | QPSK | 1/0 | 8.14 | H | 6.6 | 0.47 | 14.27 | 34.77 |
| 710.0 | 5 | QPSK | 1/74 | 7.40 | H | 6.6 | 0.47 | 13.53 | 34.77 |
| 713.5 | 5 | QPSK | 1/0 | 9.29 | H | 6.6 | 0.47 | 15.42 | 34.77 |
| 706.5 | 5 | 16-QAM | 1/0 | 8.69 | V | 6.6 | 0.47 | 14.82 | 34.77 |
| 710.0 | 5 | 16-QAM | 1/74 | 10.66 | V | 6.6 | 0.47 | 16.79 | 34.77 |
| 713.5 | 5 | 16-QAM | 1/0 | 9.24 | V | 6.6 | 0.47 | 15.37 | 34.77 |
| 706.5 | 5 | 16-QAM | 1/0 | 7.57 | H | 6.6 | 0.47 | 13.70 | 34.77 |
| 710.0 | 5 | 16-QAM | 1/74 | 8.83 | H | 6.6 | 0.47 | 14.96 | 34.77 |
| 713.5 | 5 | 16-QAM | 1/0 | 8.80 | H | 6.6 | 0.47 | 14.93 | 34.77 |
| 709.0 | 10 | QPSK | 1/99 | 6.32 | V | 6.6 | 0.47 | 12.45 | 34.77 |
| 710.0 | 10 | QPSK | 1/99 | 8.65 | V | 6.6 | 0.47 | 14.78 | 34.77 |
| 711.0 | 10 | QPSK | 1/0 | 9.89 | V | 6.6 | 0.47 | 16.02 | 34.77 |
| 709.0 | 10 | QPSK | 1/99 | 9.98 | H | 6.6 | 0.47 | 16.11 | 34.77 |
| 710.0 | 10 | QPSK | 1/99 | 10.93 | H | 6.6 | 0.47 | 17.06 | 34.77 |
| 711.0 | 10 | QPSK | 1/0 | 8.45 | H | 6.6 | 0.47 | 14.58 | 34.77 |
| 709.0 | 10 | 16-QAM | 1/99 | 11.84 | V | 6.6 | 0.47 | 17.97 | 34.77 |
| 710.0 | 10 | 16-QAM | 1/99 | 11.75 | V | 6.6 | 0.47 | 17.88 | 34.77 |
| 711.0 | 10 | 16-QAM | 1/0 | 9.27 | V | 6.6 | 0.47 | 15.40 | 34.77 |
| 709.0 | 10 | 16-QAM | 1/99 | 10.47 | H | 6.6 | 0.47 | 16.60 | 34.77 |
| 710.0 | 10 | 16-QAM | 1/99 | 16.56 | H | 6.6 | 0.47 | 22.69 | 34.77 |
| 711.0 | 10 | 16-QAM | 1/0 | 16.47 | H | 6.6 | 0.47 | 22.60 | 34.77 |

Note: Above is the worst mode data.

## 6.3. PEAK-TO-AVERAGE RATIO

### 6.3.1 MEASUREMENT METHOD

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

According to KDB 971168 D01v03 - Section 5.7:

a)Refer to instrument’s analyzer instruction manual for details on how to use the power statistics /CCDF function;

b) Set resolution/measurement bandwidth ≥ signal’s occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval to 1 ms

e) Record the maximum PAPR level associated with a probability of 0.1%

### 6.3.2 PROVISIONS APPLICABLE

This is the test for the Peak-to-Average Ratio from the EUT.

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument’s resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 6.3.3 MEASUREMENT RESULT

**LTE Band 2**

**Channel Bandwidth: 1.4 MHz**

| Channel Bandwidth: 1.4 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | (dB) | (dB) | |
| QPSK | LCH | 1 | 0 | 3.43 | <13 | PASS |
| | | 1 | 3 | 2.78 | <13 | PASS |
| | | 1 | 5 | 3.40 | <13 | PASS |
| | | 3 | 0 | 2.04 | <13 | PASS |
| | | 3 | 2 | 2.20 | <13 | PASS |
| | | 3 | 3 | 4.75 | <13 | PASS |
| | | 6 | 0 | 4.70 | <13 | PASS |
| | MCH | 1 | 0 | 4.41 | <13 | PASS |
| | | 1 | 3 | 4.64 | <13 | PASS |
| | | 1 | 5 | 3.54 | <13 | PASS |
| | | 3 | 0 | 3.88 | <13 | PASS |
| | | 3 | 2 | 4.03 | <13 | PASS |
| | | 3 | 3 | 4.14 | <13 | PASS |
| | | 6 | 0 | 3.49 | <13 | PASS |
| | HCH | 1 | 0 | 3.13 | <13 | PASS |
| | | 1 | 3 | 2.56 | <13 | PASS |
| | | 1 | 5 | 1.89 | <13 | PASS |
| | | 3 | 0 | 3.01 | <13 | PASS |
| | | 3 | 2 | 2.62 | <13 | PASS |
| | | 3 | 3 | 3.20 | <13 | PASS |
| | | 6 | 0 | 5.22 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.50 | <13 | PASS |
| | | 1 | 3 | 6.18 | <13 | PASS |
| | | 1 | 5 | 5.22 | <13 | PASS |
| | | 3 | 0 | 4.97 | <13 | PASS |
| | | 3 | 2 | 5.40 | <13 | PASS |
| | | 3 | 3 | 4.57 | <13 | PASS |
| | | 6 | 0 | 5.99 | <13 | PASS |
| | MCH | 1 | 0 | 3.98 | <13 | PASS |
| | | 1 | 3 | 2.98 | <13 | PASS |
| | | 1 | 5 | 2.92 | <13 | PASS |
| | | 3 | 0 | 3.28 | <13 | PASS |
| | | 3 | 2 | 5.17 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 3 | 3 | 5.07 | <13 | PASS |
| | | 6 | 0 | 4.61 | <13 | PASS |
| | HCH | 1 | 0 | 5.22 | <13 | PASS |
| | | 1 | 3 | 3.96 | <13 | PASS |
| | | 1 | 5 | 4.14 | <13 | PASS |
| | | 3 | 0 | 4.45 | <13 | PASS |
| | | 3 | 2 | 3.04 | <13 | PASS |
| | | 3 | 3 | 4.01 | <13 | PASS |
| | | 6 | 0 | 4.36 | <13 | PASS |

**Channel Bandwidth: 3 MHz**

| Channel Bandwidth: 3 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.97 | <13 | PASS |
| | | 1 | 7 | 3.80 | <13 | PASS |
| | | 1 | 14 | 3.87 | <13 | PASS |
| | | 8 | 0 | 5.29 | <13 | PASS |
| | | 8 | 4 | 4.13 | <13 | PASS |
| | | 8 | 7 | 4.87 | <13 | PASS |
| | | 15 | 0 | 4.46 | <13 | PASS |
| | MCH | 1 | 0 | 3.70 | <13 | PASS |
| | | 1 | 7 | 2.94 | <13 | PASS |
| | | 1 | 14 | 3.02 | <13 | PASS |
| | | 8 | 0 | 5.27 | <13 | PASS |
| | | 8 | 4 | 4.41 | <13 | PASS |
| | | 8 | 7 | 5.40 | <13 | PASS |
| | | 15 | 0 | 4.91 | <13 | PASS |
| | HCH | 1 | 0 | 5.35 | <13 | PASS |
| | | 1 | 7 | 4.54 | <13 | PASS |
| | | 1 | 14 | 3.83 | <13 | PASS |
| | | 8 | 0 | 3.31 | <13 | PASS |
| | | 8 | 4 | 3.62 | <13 | PASS |
| | | 8 | 7 | 3.48 | <13 | PASS |
| | | 15 | 0 | 5.08 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 5.42 | <13 | PASS |
| | | 1 | 7 | 6.08 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 14 | 6.50 | <13 | PASS |
| | | 8 | 0 | 5.83 | <13 | PASS |
| | | 8 | 4 | 5.96 | <13 | PASS |
| | | 8 | 7 | 5.85 | <13 | PASS |
| | | 15 | 0 | 4.79 | <13 | PASS |
| | MCH | 1 | 0 | 4.29 | <13 | PASS |
| | | 1 | 7 | 3.75 | <13 | PASS |
| | | 1 | 14 | 3.78 | <13 | PASS |
| | | 8 | 0 | 4.40 | <13 | PASS |
| | | 8 | 4 | 4.24 | <13 | PASS |
| | | 8 | 7 | 4.47 | <13 | PASS |
| | | 15 | 0 | 4.29 | <13 | PASS |
| | HCH | 1 | 0 | 5.53 | <13 | PASS |
| | | 1 | 7 | 5.32 | <13 | PASS |
| | | 1 | 14 | 5.76 | <13 | PASS |
| | | 8 | 0 | 4.25 | <13 | PASS |
| | | 8 | 4 | 5.14 | <13 | PASS |
| | | 8 | 7 | 4.32 | <13 | PASS |
| | | 15 | 0 | 3.98 | <13 | PASS |

**Channel Bandwidth: 5 MHz**

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.40 | <13 | PASS |
| | | 1 | 12 | 3.05 | <13 | PASS |
| | | 1 | 24 | 2.43 | <13 | PASS |
| | | 12 | 0 | 2.23 | <13 | PASS |
| | | 12 | 6 | 4.71 | <13 | PASS |
| | | 12 | 13 | 5.31 | <13 | PASS |
| | | 25 | 0 | 5.21 | <13 | PASS |
| | MCH | 1 | 0 | 4.02 | <13 | PASS |
| | | 1 | 12 | 3.87 | <13 | PASS |
| | | 1 | 24 | 2.46 | <13 | PASS |
| | | 12 | 0 | 2.68 | <13 | PASS |
| | | 12 | 6 | 2.17 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 12 | 13 | 2.19 | <13 | PASS |
| | | 25 | 0 | 3.22 | <13 | PASS |
| | HCH | 1 | 0 | 3.52 | <13 | PASS |
| | | 1 | 12 | 3.91 | <13 | PASS |
| | | 1 | 24 | 2.86 | <13 | PASS |
| | | 12 | 0 | 5.38 | <13 | PASS |
| | | 12 | 6 | 5.09 | <13 | PASS |
| | | 12 | 13 | 5.26 | <13 | PASS |
| | | 25 | 0 | 4.57 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 5.42 | <13 | PASS |
| | | 1 | 12 | 6.53 | <13 | PASS |
| | | 1 | 24 | 6.36 | <13 | PASS |
| | | 12 | 0 | 4.41 | <13 | PASS |
| | | 12 | 6 | 3.60 | <13 | PASS |
| | | 12 | 13 | 5.33 | <13 | PASS |
| | | 25 | 0 | 5.57 | <13 | PASS |
| | MCH | 1 | 0 | 2.30 | <13 | PASS |
| | | 1 | 12 | 5.32 | <13 | PASS |
| | | 1 | 24 | 4.24 | <13 | PASS |
| | | 12 | 0 | 3.85 | <13 | PASS |
| | | 12 | 6 | 3.17 | <13 | PASS |
| | | 12 | 13 | 3.74 | <13 | PASS |
| | | 25 | 0 | 2.49 | <13 | PASS |
| | HCH | 1 | 0 | 2.45 | <13 | PASS |
| | | 1 | 12 | 4.62 | <13 | PASS |
| | | 1 | 24 | 4.95 | <13 | PASS |
| | | 12 | 0 | 4.44 | <13 | PASS |
| | | 12 | 6 | 3.25 | <13 | PASS |
| | | 12 | 13 | 4.24 | <13 | PASS |
| | | 25 | 0 | 2.19 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.23 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 24 | 2.12 | <13 | PASS |
| | | 1 | 49 | 2.89 | <13 | PASS |
| | | 25 | 0 | 2.99 | <13 | PASS |
| | | 25 | 12 | 3.66 | <13 | PASS |
| | | 25 | 25 | 4.19 | <13 | PASS |
| | | 50 | 0 | 2.62 | <13 | PASS |
| | MCH | 1 | 0 | 4.12 | <13 | PASS |
| | | 1 | 24 | 2.95 | <13 | PASS |
| | | 1 | 49 | 3.98 | <13 | PASS |
| | | 25 | 0 | 4.73 | <13 | PASS |
| | | 25 | 12 | 4.61 | <13 | PASS |
| | | 25 | 25 | 2.72 | <13 | PASS |
| | | 50 | 0 | 3.13 | <13 | PASS |
| | HCH | 1 | 0 | 5.26 | <13 | PASS |
| | | 1 | 24 | 3.41 | <13 | PASS |
| | | 1 | 49 | 4.32 | <13 | PASS |
| | | 25 | 0 | 3.10 | <13 | PASS |
| | | 25 | 12 | 3.10 | <13 | PASS |
| | | 25 | 25 | 4.94 | <13 | PASS |
| | | 50 | 0 | 3.56 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.19 | <13 | PASS |
| | | 1 | 24 | 4.50 | <13 | PASS |
| | | 1 | 49 | 4.61 | <13 | PASS |
| | | 25 | 0 | 6.30 | <13 | PASS |
| | | 25 | 12 | 5.33 | <13 | PASS |
| | | 25 | 25 | 6.21 | <13 | PASS |
| | | 50 | 0 | 5.70 | <13 | PASS |
| | MCH | 1 | 0 | 3.90 | <13 | PASS |
| | | 1 | 24 | 4.35 | <13 | PASS |
| | | 1 | 49 | 3.10 | <13 | PASS |
| | | 25 | 0 | 2.71 | <13 | PASS |
| | | 25 | 12 | 2.28 | <13 | PASS |
| | | 25 | 25 | 2.22 | <13 | PASS |
| | | 50 | 0 | 2.41 | <13 | PASS |
| | HCH | 1 | 0 | 3.07 | <13 | PASS |
| | | 1 | 24 | 2.72 | <13 | PASS |
| | | 1 | 49 | 2.30 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 0 | 1.19 | <13 | PASS |
| | | 25 | 12 | 2.15 | <13 | PASS |
| | | 25 | 25 | 2.15 | <13 | PASS |
| | | 50 | 0 | 1.70 | <13 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | [dB] | [dB] | |
| QPSK | LCH | 1 | 0 | 2.49 | <13 | PASS |
| | | 1 | 37 | 2.80 | <13 | PASS |
| | | 1 | 74 | 3.25 | <13 | PASS |
| | | 37 | 0 | 1.41 | <13 | PASS |
| | | 37 | 18 | 2.28 | <13 | PASS |
| | | 37 | 38 | 1.28 | <13 | PASS |
| | | 75 | 0 | 2.40 | <13 | PASS |
| | MCH | 1 | 0 | 3.18 | <13 | PASS |
| | | 1 | 37 | 2.78 | <13 | PASS |
| | | 1 | 74 | 2.22 | <13 | PASS |
| | | 37 | 0 | 2.95 | <13 | PASS |
| | | 37 | 18 | 2.66 | <13 | PASS |
| | | 37 | 38 | 2.86 | <13 | PASS |
| | | 75 | 0 | 2.17 | <13 | PASS |
| | HCH | 1 | 0 | 4.14 | <13 | PASS |
| | | 1 | 37 | 4.45 | <13 | PASS |
| | | 1 | 74 | 4.10 | <13 | PASS |
| | | 37 | 0 | 4.89 | <13 | PASS |
| | | 37 | 18 | 5.08 | <13 | PASS |
| | | 37 | 38 | 4.94 | <13 | PASS |
| | | 75 | 0 | 3.57 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.95 | <13 | PASS |
| | | 1 | 37 | 5.85 | <13 | PASS |
| | | 1 | 74 | 4.26 | <13 | PASS |
| | | 37 | 0 | 4.92 | <13 | PASS |
| | | 37 | 18 | 5.82 | <13 | PASS |
| | | 37 | 38 | 5.76 | <13 | PASS |
| | | 75 | 0 | 4.38 | <13 | PASS |
| | MCH | 1 | 0 | 3.69 | <13 | PASS |
| | | 1 | 37 | 4.46 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 74 | 1.97 | <13 | PASS |
| | | 37 | 0 | 1.77 | <13 | PASS |
| | | 37 | 18 | 1.35 | <13 | PASS |
| | | 37 | 38 | 0.93 | <13 | PASS |
| | | 75 | 0 | 1.57 | <13 | PASS |
| | HCH | 1 | 0 | 0.83 | <13 | PASS |
| | | 1 | 37 | 0.89 | <13 | PASS |
| | | 1 | 74 | 1.64 | <13 | PASS |
| | | 37 | 0 | 1.32 | <13 | PASS |
| | | 37 | 18 | 1.31 | <13 | PASS |
| | | 37 | 38 | 2.24 | <13 | PASS |
| | | 75 | 0 | 1.96 | <13 | PASS |

**Channel Bandwidth: 20 MHz**

| Channel Bandwidth: 20 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.26 | <13 | PASS |
| | | 1 | 49 | 2.75 | <13 | PASS |
| | | 1 | 99 | 2.22 | <13 | PASS |
| | | 50 | 0 | 1.56 | <13 | PASS |
| | | 50 | 25 | 0.95 | <13 | PASS |
| | | 50 | 50 | 1.19 | <13 | PASS |
| | | 100 | 0 | 1.25 | <13 | PASS |
| | MCH | 1 | 0 | 2.85 | <13 | PASS |
| | | 1 | 49 | 2.02 | <13 | PASS |
| | | 1 | 99 | 1.36 | <13 | PASS |
| | | 50 | 0 | 0.90 | <13 | PASS |
| | | 50 | 25 | 2.27 | <13 | PASS |
| | | 50 | 50 | 1.16 | <13 | PASS |
| | | 100 | 0 | 1.00 | <13 | PASS |
| | HCH | 1 | 0 | 2.17 | <13 | PASS |
| | | 1 | 49 | 2.13 | <13 | PASS |
| | | 1 | 99 | 1.99 | <13 | PASS |
| | | 50 | 0 | 1.53 | <13 | PASS |
| | | 50 | 25 | 2.05 | <13 | PASS |
| | | 50 | 50 | 1.66 | <13 | PASS |
| | | 100 | 0 | 1.37 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 1.31 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 49 | 5.61 | <13 | PASS |
| | | 1 | 99 | 4.31 | <13 | PASS |
| | | 50 | 0 | 4.92 | <13 | PASS |
| | | 50 | 25 | 4.44 | <13 | PASS |
| | | 50 | 50 | 5.63 | <13 | PASS |
| | | 100 | 0 | 4.76 | <13 | PASS |
| | MCH | 1 | 0 | 3.10 | <13 | PASS |
| | | 1 | 49 | 3.13 | <13 | PASS |
| | | 1 | 99 | 3.88 | <13 | PASS |
| | | 50 | 0 | 4.44 | <13 | PASS |
| | | 50 | 25 | 5.23 | <13 | PASS |
| | | 50 | 50 | 1.67 | <13 | PASS |
| | | 100 | 0 | 4.17 | <13 | PASS |
| | HCH | 1 | 0 | 3.49 | <13 | PASS |
| | | 1 | 49 | 3.99 | <13 | PASS |
| | | 1 | 99 | 2.78 | <13 | PASS |
| | | 50 | 0 | 3.00 | <13 | PASS |
| | | 50 | 25 | 2.40 | <13 | PASS |
| | | 50 | 50 | 3.08 | <13 | PASS |
| | | 100 | 0 | 3.37 | <13 | PASS |

## LTE Band 4

## Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | (dB) | (dB) | |
| QPSK | LCH | 1 | 0 | 3.54 | <13 | PASS |
| | | 1 | 3 | 3.36 | <13 | PASS |
| | | 1 | 5 | 3.91 | <13 | PASS |
| | | 3 | 0 | 2.80 | <13 | PASS |
| | | 3 | 2 | 3.06 | <13 | PASS |
| | | 3 | 3 | 4.42 | <13 | PASS |
| | | 6 | 0 | 3.98 | <13 | PASS |
| | MCH | 1 | 0 | 3.73 | <13 | PASS |
| | | 1 | 3 | 3.59 | <13 | PASS |
| | | 1 | 5 | 3.94 | <13 | PASS |
| | | 3 | 0 | 2.94 | <13 | PASS |
| | | 3 | 2 | 3.93 | <13 | PASS |
| | | 3 | 3 | 3.49 | <13 | PASS |
| | | 6 | 0 | 4.34 | <13 | PASS |
| | HCH | 1 | 0 | 3.92 | <13 | PASS |
| | | 1 | 3 | 4.00 | <13 | PASS |
| | | 1 | 5 | 4.36 | <13 | PASS |
| | | 3 | 0 | 3.78 | <13 | PASS |
| | | 3 | 2 | 3.41 | <13 | PASS |
| | | 3 | 3 | 3.24 | <13 | PASS |
| | | 6 | 0 | 3.32 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.63 | <13 | PASS |
| | | 1 | 3 | 6.30 | <13 | PASS |
| | | 1 | 5 | 5.63 | <13 | PASS |
| | | 3 | 0 | 5.66 | <13 | PASS |
| | | 3 | 2 | 6.66 | <13 | PASS |
| | | 3 | 3 | 6.54 | <13 | PASS |
| | | 6 | 0 | 5.86 | <13 | PASS |
| | MCH | 1 | 0 | 4.97 | <13 | PASS |
| | | 1 | 3 | 4.59 | <13 | PASS |
| | | 1 | 5 | 3.94 | <13 | PASS |
| | | 3 | 0 | 5.41 | <13 | PASS |
| | | 3 | 2 | 4.79 | <13 | PASS |
| | | 3 | 3 | 4.75 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 6 | 0 | 5.29 | <13 | PASS |
| | HCH | 1 | 0 | 4.48 | <13 | PASS |
| | | 1 | 3 | 5.17 | <13 | PASS |
| | | 1 | 5 | 4.80 | <13 | PASS |
| | | 3 | 0 | 4.81 | <13 | PASS |
| | | 3 | 2 | 4.95 | <13 | PASS |
| | | 3 | 3 | 5.07 | <13 | PASS |
| | | 6 | 0 | 5.31 | <13 | PASS |

**Channel Bandwidth: 3 MHz**

| Channel Bandwidth: 3 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | [dB] | [dB] | |
| QPSK | LCH | 1 | 0 | 3.75 | <13 | PASS |
| | | 1 | 7 | 3.40 | <13 | PASS |
| | | 1 | 14 | 3.94 | <13 | PASS |
| | | 8 | 0 | 3.98 | <13 | PASS |
| | | 8 | 4 | 2.97 | <13 | PASS |
| | | 8 | 7 | 4.66 | <13 | PASS |
| | | 15 | 0 | 4.26 | <13 | PASS |
| | MCH | 1 | 0 | 3.51 | <13 | PASS |
| | | 1 | 7 | 3.28 | <13 | PASS |
| | | 1 | 14 | 3.00 | <13 | PASS |
| | | 8 | 0 | 4.12 | <13 | PASS |
| | | 8 | 4 | 4.24 | <13 | PASS |
| | | 8 | 7 | 3.47 | <13 | PASS |
| | | 15 | 0 | 3.91 | <13 | PASS |
| | HCH | 1 | 0 | 3.95 | <13 | PASS |
| | | 1 | 7 | 3.98 | <13 | PASS |
| | | 1 | 14 | 2.88 | <13 | PASS |
| | | 8 | 0 | 3.40 | <13 | PASS |
| | | 8 | 4 | 3.01 | <13 | PASS |
| | | 8 | 7 | 3.72 | <13 | PASS |
| | | 15 | 0 | 3.49 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.41 | <13 | PASS |
| | | 1 | 7 | 5.54 | <13 | PASS |
| | | 1 | 14 | 6.00 | <13 | PASS |
| | | 8 | 0 | 5.50 | <13 | PASS |
| | | 8 | 4 | 6.19 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 8 | 7 | 6.01 | <13 | PASS |
| | | 15 | 0 | 6.20 | <13 | PASS |
| | MCH | 1 | 0 | 3.93 | <13 | PASS |
| | | 1 | 7 | 4.03 | <13 | PASS |
| | | 1 | 14 | 4.87 | <13 | PASS |
| | | 8 | 0 | 4.99 | <13 | PASS |
| | | 8 | 4 | 5.12 | <13 | PASS |
| | | 8 | 7 | 4.23 | <13 | PASS |
| | | 15 | 0 | 5.39 | <13 | PASS |
| | HCH | 1 | 0 | 4.90 | <13 | PASS |
| | | 1 | 7 | 3.87 | <13 | PASS |
| | | 1 | 14 | 3.77 | <13 | PASS |
| | | 8 | 0 | 4.00 | <13 | PASS |
| | | 8 | 4 | 4.96 | <13 | PASS |
| | | 8 | 7 | 4.61 | <13 | PASS |
| | | 15 | 0 | 4.69 | <13 | PASS |

**Channel Bandwidth: 5 MHz**

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.62 | <13 | PASS |
| | | 1 | 12 | 3.17 | <13 | PASS |
| | | 1 | 24 | 4.10 | <13 | PASS |
| | | 12 | 0 | 3.51 | <13 | PASS |
| | | 12 | 6 | 2.95 | <13 | PASS |
| | | 12 | 13 | 4.40 | <13 | PASS |
| | | 25 | 0 | 3.93 | <13 | PASS |
| | MCH | 1 | 0 | 2.89 | <13 | PASS |
| | | 1 | 12 | 2.76 | <13 | PASS |
| | | 1 | 24 | 3.39 | <13 | PASS |
| | | 12 | 0 | 3.22 | <13 | PASS |
| | | 12 | 6 | 3.62 | <13 | PASS |
| | | 12 | 13 | 3.88 | <13 | PASS |
| | | 25 | 0 | 4.03 | <13 | PASS |
| | HCH | 1 | 0 | 3.62 | <13 | PASS |
| | | 1 | 12 | 4.11 | <13 | PASS |
| | | 1 | 24 | 2.74 | <13 | PASS |
| | | 12 | 0 | 3.47 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 12 | 6 | 3.32 | <13 | PASS |
| | | 12 | 13 | 3.81 | <13 | PASS |
| | | 25 | 0 | 3.92 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.80 | <13 | PASS |
| | | 1 | 12 | 5.89 | <13 | PASS |
| | | 1 | 24 | 6.43 | <13 | PASS |
| | | 12 | 0 | 6.87 | <13 | PASS |
| | | 12 | 6 | 5.98 | <13 | PASS |
| | | 12 | 13 | 6.52 | <13 | PASS |
| | | 25 | 0 | 5.95 | <13 | PASS |
| | MCH | 1 | 0 | 3.53 | <13 | PASS |
| | | 1 | 12 | 3.44 | <13 | PASS |
| | | 1 | 24 | 4.49 | <13 | PASS |
| | | 12 | 0 | 3.73 | <13 | PASS |
| | | 12 | 6 | 3.73 | <13 | PASS |
| | | 12 | 13 | 4.29 | <13 | PASS |
| | | 25 | 0 | 4.95 | <13 | PASS |
| | HCH | 1 | 0 | 3.12 | <13 | PASS |
| | | 1 | 12 | 3.63 | <13 | PASS |
| | | 1 | 24 | 3.53 | <13 | PASS |
| | | 12 | 0 | 4.43 | <13 | PASS |
| | | 12 | 6 | 4.74 | <13 | PASS |
| | | 12 | 13 | 4.78 | <13 | PASS |
| | | 25 | 0 | 4.97 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 20 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.48 | <13 | PASS |
| | | 1 | 49 | 2.95 | <13 | PASS |
| | | 1 | 99 | 4.08 | <13 | PASS |
| | | 50 | 0 | 3.93 | <13 | PASS |
| | | 50 | 25 | 3.59 | <13 | PASS |
| | | 50 | 50 | 3.54 | <13 | PASS |
| | | 100 | 0 | 4.95 | <13 | PASS |
| | MCH | 1 | 0 | 4.33 | <13 | PASS |
| | | 1 | 49 | 4.24 | <13 | PASS |
| | | 1 | 99 | 3.04 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 50 | 0 | 3.90 | <13 | PASS |
| | | 50 | 25 | 2.97 | <13 | PASS |
| | | 50 | 50 | 3.26 | <13 | PASS |
| | | 100 | 0 | 4.91 | <13 | PASS |
| | HCH | 1 | 0 | 3.87 | <13 | PASS |
| | | 1 | 49 | 3.75 | <13 | PASS |
| | | 1 | 99 | 3.79 | <13 | PASS |
| | | 50 | 0 | 3.71 | <13 | PASS |
| | | 50 | 25 | 4.22 | <13 | PASS |
| | | 50 | 50 | 3.24 | <13 | PASS |
| | | 100 | 0 | 4.30 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.53 | <13 | PASS |
| | | 1 | 49 | 6.49 | <13 | PASS |
| | | 1 | 99 | 6.25 | <13 | PASS |
| | | 50 | 0 | 5.60 | <13 | PASS |
| | | 50 | 25 | 5.67 | <13 | PASS |
| | | 50 | 50 | 7.07 | <13 | PASS |
| | | 100 | 0 | 6.50 | <13 | PASS |
| | MCH | 1 | 0 | 4.62 | <13 | PASS |
| | | 1 | 49 | 3.14 | <13 | PASS |
| | | 1 | 99 | 4.46 | <13 | PASS |
| | | 50 | 0 | 4.42 | <13 | PASS |
| | | 50 | 25 | 5.10 | <13 | PASS |
| | | 50 | 50 | 5.15 | <13 | PASS |
| | | 100 | 0 | 5.22 | <13 | PASS |
| | HCH | 1 | 0 | 3.83 | <13 | PASS |
| | | 1 | 49 | 4.97 | <13 | PASS |
| | | 1 | 99 | 3.99 | <13 | PASS |
| | | 50 | 0 | 3.75 | <13 | PASS |
| | | 50 | 25 | 5.07 | <13 | PASS |
| | | 50 | 50 | 4.08 | <13 | PASS |
| | | 100 | 0 | 4.98 | <13 | PASS |

**Channel Bandwidth: 15 MHz**

| Channel Bandwidth: 15 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.51 | <13 | PASS |
| | | 1 | 37 | 4.11 | <13 | PASS |
| | | 1 | 74 | 3.44 | <13 | PASS |
| | | 37 | 0 | 3.50 | <13 | PASS |
| | | 37 | 18 | 3.65 | <13 | PASS |
| | | 37 | 38 | 3.60 | <13 | PASS |
| | | 75 | 0 | 4.01 | <13 | PASS |
| | MCH | 1 | 0 | 3.73 | <13 | PASS |
| | | 1 | 37 | 3.72 | <13 | PASS |
| | | 1 | 74 | 3.29 | <13 | PASS |
| | | 37 | 0 | 3.68 | <13 | PASS |
| | | 37 | 18 | 4.14 | <13 | PASS |
| | | 37 | 38 | 4.53 | <13 | PASS |
| | | 75 | 0 | 4.85 | <13 | PASS |
| | HCH | 1 | 0 | 3.28 | <13 | PASS |
| | | 1 | 37 | 3.37 | <13 | PASS |
| | | 1 | 74 | 3.86 | <13 | PASS |
| | | 37 | 0 | 3.62 | <13 | PASS |
| | | 37 | 18 | 3.97 | <13 | PASS |
| | | 37 | 38 | 3.70 | <13 | PASS |
| | | 75 | 0 | 3.67 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.41 | <13 | PASS |
| | | 1 | 37 | 6.07 | <13 | PASS |
| | | 1 | 74 | 5.47 | <13 | PASS |
| | | 37 | 0 | 5.67 | <13 | PASS |
| | | 37 | 18 | 6.20 | <13 | PASS |
| | | 37 | 38 | 5.42 | <13 | PASS |
| | | 75 | 0 | 6.03 | <13 | PASS |
| | MCH | 1 | 0 | 4.23 | <13 | PASS |
| | | 1 | 37 | 4.09 | <13 | PASS |
| | | 1 | 74 | 5.11 | <13 | PASS |
| | | 37 | 0 | 3.89 | <13 | PASS |
| | | 37 | 18 | 5.01 | <13 | PASS |
| | | 37 | 38 | 4.52 | <13 | PASS |
| | | 75 | 0 | 5.29 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | HCH | 1 | 0 | 4.14 | <13 | PASS |
| | | 1 | 37 | 4.41 | <13 | PASS |
| | | 1 | 74 | 5.11 | <13 | PASS |
| | | 37 | 0 | 4.79 | <13 | PASS |
| | | 37 | 18 | 4.98 | <13 | PASS |
| | | 37 | 38 | 4.30 | <13 | PASS |
| | | 75 | 0 | 5.74 | <13 | PASS |

**Channel Bandwidth: 20 MHz**

| Channel Bandwidth: 20 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.97 | <13 | PASS |
| | | 1 | 49 | 4.27 | <13 | PASS |
| | | 1 | 99 | 3.98 | <13 | PASS |
| | | 50 | 0 | 3.66 | <13 | PASS |
| | | 50 | 25 | 3.57 | <13 | PASS |
| | | 50 | 50 | 4.42 | <13 | PASS |
| | | 100 | 0 | 4.84 | <13 | PASS |
| | MCH | 1 | 0 | 3.02 | <13 | PASS |
| | | 1 | 49 | 3.73 | <13 | PASS |
| | | 1 | 99 | 3.01 | <13 | PASS |
| | | 50 | 0 | 3.89 | <13 | PASS |
| | | 50 | 25 | 2.85 | <13 | PASS |
| | | 50 | 50 | 3.69 | <13 | PASS |
| | | 100 | 0 | 4.87 | <13 | PASS |
| | HCH | 1 | 0 | 3.46 | <13 | PASS |
| | | 1 | 49 | 3.76 | <13 | PASS |
| | | 1 | 99 | 4.05 | <13 | PASS |
| | | 50 | 0 | 3.50 | <13 | PASS |
| | | 50 | 25 | 4.23 | <13 | PASS |
| | | 50 | 50 | 4.05 | <13 | PASS |
| | | 100 | 0 | 4.13 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.77 | <13 | PASS |
| | | 1 | 49 | 5.41 | <13 | PASS |
| | | 1 | 99 | 6.25 | <13 | PASS |
| | | 50 | 0 | 6.12 | <13 | PASS |
| | | 50 | 25 | 5.46 | <13 | PASS |
| | | 50 | 50 | 6.12 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 100 | 0 | 6.58 | <13 | PASS |
| | MCH | 1 | 0 | 4.55 | <13 | PASS |
| | | 1 | 49 | 4.12 | <13 | PASS |
| | | 1 | 99 | 3.95 | <13 | PASS |
| | | 50 | 0 | 4.66 | <13 | PASS |
| | | 50 | 25 | 4.48 | <13 | PASS |
| | | 50 | 50 | 4.45 | <13 | PASS |
| | | 100 | 0 | 4.63 | <13 | PASS |
| | HCH | 1 | 0 | 3.69 | <13 | PASS |
| | | 1 | 49 | 5.24 | <13 | PASS |
| | | 1 | 99 | 5.05 | <13 | PASS |
| | | 50 | 0 | 5.47 | <13 | PASS |
| | | 50 | 25 | 5.28 | <13 | PASS |
| | | 50 | 50 | 5.29 | <13 | PASS |
| | | 100 | 0 | 4.38 | <13 | PASS |

## LTE BAND 5

## Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | (dB) | (dB) | |
| QPSK | LCH | 1 | 0 | 3.40 | <13 | PASS |
| | | 1 | 3 | 2.62 | <13 | PASS |
| | | 1 | 5 | 2.80 | <13 | PASS |
| | | 3 | 0 | 3.37 | <13 | PASS |
| | | 3 | 2 | 3.04 | <13 | PASS |
| | | 3 | 3 | 3.76 | <13 | PASS |
| | | 6 | 0 | 4.13 | <13 | PASS |
| | MCH | 1 | 0 | 3.02 | <13 | PASS |
| | | 1 | 3 | 3.07 | <13 | PASS |
| | | 1 | 5 | 2.38 | <13 | PASS |
| | | 3 | 0 | 3.74 | <13 | PASS |
| | | 3 | 2 | 4.44 | <13 | PASS |
| | | 3 | 3 | 3.46 | <13 | PASS |
| | | 6 | 0 | 2.81 | <13 | PASS |
| | HCH | 1 | 0 | 3.64 | <13 | PASS |
| | | 1 | 3 | 4.27 | <13 | PASS |
| | | 1 | 5 | 4.29 | <13 | PASS |
| | | 3 | 0 | 4.19 | <13 | PASS |
| | | 3 | 2 | 3.55 | <13 | PASS |
| | | 3 | 3 | 4.44 | <13 | PASS |
| | | 6 | 0 | 3.87 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 2.25 | <13 | PASS |
| | | 1 | 3 | 3.84 | <13 | PASS |
| | | 1 | 5 | 4.19 | <13 | PASS |
| | | 3 | 0 | 4.42 | <13 | PASS |
| | | 3 | 2 | 5.13 | <13 | PASS |
| | | 3 | 3 | 5.54 | <13 | PASS |
| | | 6 | 0 | 3.82 | <13 | PASS |
| | MCH | 1 | 0 | 2.71 | <13 | PASS |
| | | 1 | 3 | 3.01 | <13 | PASS |
| | | 1 | 5 | 3.08 | <13 | PASS |
| | | 3 | 0 | 1.45 | <13 | PASS |
| | | 3 | 2 | 1.35 | <13 | PASS |
| | | 3 | 3 | 1.61 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 6 | 0 | 2.06 | <13 | PASS |
| | HCH | 1 | 0 | 3.49 | <13 | PASS |
| | | 1 | 3 | 3.89 | <13 | PASS |
| | | 1 | 5 | 3.03 | <13 | PASS |
| | | 3 | 0 | 1.66 | <13 | PASS |
| | | 3 | 2 | 1.95 | <13 | PASS |
| | | 3 | 3 | 1.26 | <13 | PASS |
| | | 6 | 0 | 1.46 | <13 | PASS |

**Channel Bandwidth: 3 MHz**

| Channel Bandwidth: 3 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 5.34 | <13 | PASS |
| | | 1 | 7 | 3.85 | <13 | PASS |
| | | 1 | 14 | 3.09 | <13 | PASS |
| | | 8 | 0 | 1.89 | <13 | PASS |
| | | 8 | 4 | 2.43 | <13 | PASS |
| | | 8 | 7 | 2.14 | <13 | PASS |
| | | 15 | 0 | 3.73 | <13 | PASS |
| | MCH | 1 | 0 | 2.22 | <13 | PASS |
| | | 1 | 7 | 2.03 | <13 | PASS |
| | | 1 | 14 | 1.96 | <13 | PASS |
| | | 8 | 0 | 3.50 | <13 | PASS |
| | | 8 | 4 | 3.33 | <13 | PASS |
| | | 8 | 7 | 2.31 | <13 | PASS |
| | | 15 | 0 | 3.63 | <13 | PASS |
| | HCH | 1 | 0 | 3.43 | <13 | PASS |
| | | 1 | 7 | 3.55 | <13 | PASS |
| | | 1 | 14 | 4.12 | <13 | PASS |
| | | 8 | 0 | 2.80 | <13 | PASS |
| | | 8 | 4 | 1.66 | <13 | PASS |
| | | 8 | 7 | 1.69 | <13 | PASS |
| | | 15 | 0 | 2.90 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.18 | <13 | PASS |
| | | 1 | 7 | 5.31 | <13 | PASS |
| | | 1 | 14 | 3.71 | <13 | PASS |
| | | 8 | 0 | 2.78 | <13 | PASS |
| | | 8 | 4 | 2.17 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 8 | 7 | 4.25 | <13 | PASS |
| | | 15 | 0 | 4.16 | <13 | PASS |
| | MCH | 1 | 0 | 2.36 | <13 | PASS |
| | | 1 | 7 | 2.73 | <13 | PASS |
| | | 1 | 14 | 2.90 | <13 | PASS |
| | | 8 | 0 | 2.99 | <13 | PASS |
| | | 8 | 4 | 1.94 | <13 | PASS |
| | | 8 | 7 | 2.72 | <13 | PASS |
| | | 15 | 0 | 4.08 | <13 | PASS |
| | HCH | 1 | 0 | 2.77 | <13 | PASS |
| | | 1 | 7 | 3.83 | <13 | PASS |
| | | 1 | 14 | 2.11 | <13 | PASS |
| | | 8 | 0 | 4.37 | <13 | PASS |
| | | 8 | 4 | 5.26 | <13 | PASS |
| | | 8 | 7 | 3.18 | <13 | PASS |
| | | 15 | 0 | 3.65 | <13 | PASS |

**Channel Bandwidth: 5 MHz**

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.37 | <13 | PASS |
| | | 1 | 12 | 1.89 | <13 | PASS |
| | | 1 | 24 | 3.57 | <13 | PASS |
| | | 12 | 0 | 3.96 | <13 | PASS |
| | | 12 | 6 | 3.08 | <13 | PASS |
| | | 12 | 13 | 4.16 | <13 | PASS |
| | | 25 | 0 | 1.65 | <13 | PASS |
| | MCH | 1 | 0 | 3.70 | <13 | PASS |
| | | 1 | 12 | 3.15 | <13 | PASS |
| | | 1 | 24 | 4.07 | <13 | PASS |
| | | 12 | 0 | 2.51 | <13 | PASS |
| | | 12 | 6 | 2.74 | <13 | PASS |
| | | 12 | 13 | 2.70 | <13 | PASS |
| | | 25 | 0 | 2.01 | <13 | PASS |
| | HCH | 1 | 0 | 2.99 | <13 | PASS |
| | | 1 | 12 | 4.02 | <13 | PASS |
| | | 1 | 24 | 2.99 | <13 | PASS |
| | | 12 | 0 | 2.95 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 12 | 6 | 3.02 | <13 | PASS |
| | | 12 | 13 | 2.21 | <13 | PASS |
| | | 25 | 0 | 3.02 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.21 | <13 | PASS |
| | | 1 | 12 | 5.50 | <13 | PASS |
| | | 1 | 24 | 6.29 | <13 | PASS |
| | | 12 | 0 | 5.83 | <13 | PASS |
| | | 12 | 6 | 4.91 | <13 | PASS |
| | | 12 | 13 | 4.37 | <13 | PASS |
| | | 25 | 0 | 4.31 | <13 | PASS |
| | MCH | 1 | 0 | 3.40 | <13 | PASS |
| | | 1 | 12 | 4.28 | <13 | PASS |
| | | 1 | 24 | 3.20 | <13 | PASS |
| | | 12 | 0 | 2.04 | <13 | PASS |
| | | 12 | 6 | 1.75 | <13 | PASS |
| | | 12 | 13 | 3.04 | <13 | PASS |
| | | 25 | 0 | 3.36 | <13 | PASS |
| | HCH | 1 | 0 | 4.75 | <13 | PASS |
| | | 1 | 12 | 5.50 | <13 | PASS |
| | | 1 | 24 | 4.62 | <13 | PASS |
| | | 12 | 0 | 2.53 | <13 | PASS |
| | | 12 | 6 | 4.03 | <13 | PASS |
| | | 12 | 13 | 3.24 | <13 | PASS |
| | | 25 | 0 | 5.00 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.53 | <13 | PASS |
| | | 1 | 24 | 3.61 | <13 | PASS |
| | | 1 | 49 | 2.84 | <13 | PASS |
| | | 25 | 0 | 1.94 | <13 | PASS |
| | | 25 | 12 | 2.07 | <13 | PASS |
| | | 25 | 25 | 3.08 | <13 | PASS |
| | | 50 | 0 | 3.67 | <13 | PASS |
| | MCH | 1 | 0 | 2.23 | <13 | PASS |
| | | 1 | 24 | 3.73 | <13 | PASS |
| | | 1 | 49 | 2.60 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 0 | 2.04 | <13 | PASS |
| | | 25 | 12 | 1.94 | <13 | PASS |
| | | 25 | 25 | 3.16 | <13 | PASS |
| | | 50 | 0 | 1.66 | <13 | PASS |
| | HCH | 1 | 0 | 4.08 | <13 | PASS |
| | | 1 | 24 | 4.01 | <13 | PASS |
| | | 1 | 49 | 3.70 | <13 | PASS |
| | | 25 | 0 | 5.51 | <13 | PASS |
| | | 25 | 12 | 4.04 | <13 | PASS |
| | | 25 | 25 | 5.39 | <13 | PASS |
| | | 50 | 0 | 5.10 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 1.82 | <13 | PASS |
| | | 1 | 24 | 2.57 | <13 | PASS |
| | | 1 | 49 | 3.49 | <13 | PASS |
| | | 25 | 0 | 4.34 | <13 | PASS |
| | | 25 | 12 | 3.96 | <13 | PASS |
| | | 25 | 25 | 4.85 | <13 | PASS |
| | | 50 | 0 | 5.02 | <13 | PASS |
| | MCH | 1 | 0 | 2.12 | <13 | PASS |
| | | 1 | 24 | 2.29 | <13 | PASS |
| | | 1 | 49 | 3.12 | <13 | PASS |
| | | 25 | 0 | 1.99 | <13 | PASS |
| | | 25 | 12 | 2.12 | <13 | PASS |
| | | 25 | 25 | 1.11 | <13 | PASS |
| | | 50 | 0 | 2.23 | <13 | PASS |
| | HCH | 1 | 0 | 2.14 | <13 | PASS |
| | | 1 | 24 | 1.84 | <13 | PASS |
| | | 1 | 49 | 2.65 | <13 | PASS |
| | | 25 | 0 | 3.05 | <13 | PASS |
| | | 25 | 12 | 3.66 | <13 | PASS |
| | | 25 | 25 | 4.66 | <13 | PASS |
| | | 50 | 0 | 3.49 | <13 | PASS |

## LTE Band 7
## Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | [dB] | [dB] | |
| QPSK | LCH | 1 | 0 | 3.58 | <13 | PASS |
| | | 1 | 12 | 2.84 | <13 | PASS |
| | | 1 | 24 | 3.23 | <13 | PASS |
| | | 12 | 0 | 4.30 | <13 | PASS |
| | | 12 | 6 | 4.21 | <13 | PASS |
| | | 12 | 13 | 4.02 | <13 | PASS |
| | | 25 | 0 | 4.09 | <13 | PASS |
| | MCH | 1 | 0 | 3.13 | <13 | PASS |
| | | 1 | 12 | 3.99 | <13 | PASS |
| | | 1 | 24 | 2.06 | <13 | PASS |
| | | 12 | 0 | 3.32 | <13 | PASS |
| | | 12 | 6 | 1.76 | <13 | PASS |
| | | 12 | 13 | 2.67 | <13 | PASS |
| | | 25 | 0 | 3.47 | <13 | PASS |
| | HCH | 1 | 0 | 2.58 | <13 | PASS |
| | | 1 | 12 | 2.31 | <13 | PASS |
| | | 1 | 24 | 2.68 | <13 | PASS |
| | | 12 | 0 | 3.25 | <13 | PASS |
| | | 12 | 6 | 3.14 | <13 | PASS |
| | | 12 | 13 | 3.00 | <13 | PASS |
| | | 25 | 0 | 4.81 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 2.83 | <13 | PASS |
| | | 1 | 12 | 5.80 | <13 | PASS |
| | | 1 | 24 | 4.95 | <13 | PASS |
| | | 12 | 0 | 5.38 | <13 | PASS |
| | | 12 | 6 | 6.50 | <13 | PASS |
| | | 12 | 13 | 7.11 | <13 | PASS |
| | | 25 | 0 | 5.83 | <13 | PASS |
| | MCH | 1 | 0 | 4.07 | <13 | PASS |
| | | 1 | 12 | 4.53 | <13 | PASS |
| | | 1 | 24 | 3.61 | <13 | PASS |
| | | 12 | 0 | 3.11 | <13 | PASS |
| | | 12 | 6 | 3.04 | <13 | PASS |
| | | 12 | 13 | 3.89 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 0 | 4.12 | <13 | PASS |
| | HCH | 1 | 0 | 3.57 | <13 | PASS |
| | | 1 | 12 | 2.99 | <13 | PASS |
| | | 1 | 24 | 3.80 | <13 | PASS |
| | | 12 | 0 | 4.99 | <13 | PASS |
| | | 12 | 6 | 4.53 | <13 | PASS |
| | | 12 | 13 | 4.02 | <13 | PASS |
| | | 25 | 0 | 5.02 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.27 | <13 | PASS |
| | | 1 | 24 | 4.59 | <13 | PASS |
| | | 1 | 49 | 3.50 | <13 | PASS |
| | | 25 | 0 | 2.64 | <13 | PASS |
| | | 25 | 12 | 2.89 | <13 | PASS |
| | | 25 | 25 | 2.52 | <13 | PASS |
| | | 50 | 0 | 3.14 | <13 | PASS |
| | MCH | 1 | 0 | 3.29 | <13 | PASS |
| | | 1 | 24 | 3.39 | <13 | PASS |
| | | 1 | 49 | 2.06 | <13 | PASS |
| | | 25 | 0 | 2.90 | <13 | PASS |
| | | 25 | 12 | 2.98 | <13 | PASS |
| | | 25 | 25 | 3.85 | <13 | PASS |
| | | 50 | 0 | 3.11 | <13 | PASS |
| | HCH | 1 | 0 | 2.87 | <13 | PASS |
| | | 1 | 24 | 3.43 | <13 | PASS |
| | | 1 | 49 | 4.02 | <13 | PASS |
| | | 25 | 0 | 3.85 | <13 | PASS |
| | | 25 | 12 | 3.56 | <13 | PASS |
| | | 25 | 25 | 4.13 | <13 | PASS |
| | | 50 | 0 | 3.08 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.66 | <13 | PASS |
| | | 1 | 24 | 4.39 | <13 | PASS |
| | | 1 | 49 | 5.43 | <13 | PASS |
| | | 25 | 0 | 6.23 | <13 | PASS |
| | | 25 | 12 | 6.36 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 25 | 6.49 | <13 | PASS |
| | | 50 | 0 | 5.37 | <13 | PASS |
| | MCH | 1 | 0 | 3.13 | <13 | PASS |
| | | 1 | 24 | 2.16 | <13 | PASS |
| | | 1 | 49 | 3.63 | <13 | PASS |
| | | 25 | 0 | 2.45 | <13 | PASS |
| | | 25 | 12 | 1.86 | <13 | PASS |
| | | 25 | 25 | 3.19 | <13 | PASS |
| | | 50 | 0 | 3.43 | <13 | PASS |
| | HCH | 1 | 0 | 5.08 | <13 | PASS |
| | | 1 | 24 | 6.03 | <13 | PASS |
| | | 1 | 49 | 6.28 | <13 | PASS |
| | | 25 | 0 | 5.27 | <13 | PASS |
| | | 25 | 12 | 4.58 | <13 | PASS |
| | | 25 | 25 | 3.97 | <13 | PASS |
| | | 50 | 0 | 5.37 | <13 | PASS |

**Channel Bandwidth: 15 MHz**

| Channel Bandwidth: 15 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.79 | <13 | PASS |
| | | 1 | 37 | 3.40 | <13 | PASS |
| | | 1 | 74 | 3.01 | <13 | PASS |
| | | 37 | 0 | 4.75 | <13 | PASS |
| | | 37 | 18 | 5.31 | <13 | PASS |
| | | 37 | 38 | 4.33 | <13 | PASS |
| | | 75 | 0 | 4.09 | <13 | PASS |
| | MCH | 1 | 0 | 2.82 | <13 | PASS |
| | | 1 | 37 | 2.84 | <13 | PASS |
| | | 1 | 74 | 2.38 | <13 | PASS |
| | | 37 | 0 | 4.44 | <13 | PASS |
| | | 37 | 18 | 4.19 | <13 | PASS |
| | | 37 | 38 | 566.30 | <13 | PASS |
| | | 75 | 0 | 2.71 | <13 | PASS |
| | HCH | 1 | 0 | 4.27 | <13 | PASS |
| | | 1 | 37 | 4.88 | <13 | PASS |
| | | 1 | 74 | 5.89 | <13 | PASS |
| | | 37 | 0 | 4.01 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 37 | 18 | 3.29 | <13 | PASS |
| | | 37 | 38 | 2.61 | <13 | PASS |
| | | 75 | 0 | 3.15 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.77 | <13 | PASS |
| | | 1 | 37 | 6.55 | <13 | PASS |
| | | 1 | 74 | 5.72 | <13 | PASS |
| | | 37 | 0 | 6.48 | <13 | PASS |
| | | 37 | 18 | 4.77 | <13 | PASS |
| | | 37 | 38 | 3.43 | <13 | PASS |
| | | 75 | 0 | 4.91 | <13 | PASS |
| | MCH | 1 | 0 | 3.04 | <13 | PASS |
| | | 1 | 37 | 4.16 | <13 | PASS |
| | | 1 | 74 | 3.15 | <13 | PASS |
| | | 37 | 0 | 5.69 | <13 | PASS |
| | | 37 | 18 | 4.85 | <13 | PASS |
| | | 37 | 38 | 5.47 | <13 | PASS |
| | | 75 | 0 | 4.12 | <13 | PASS |
| | HCH | 1 | 0 | 5.91 | <13 | PASS |
| | | 1 | 37 | 5.17 | <13 | PASS |
| | | 1 | 74 | 4.70 | <13 | PASS |
| | | 37 | 0 | 3.35 | <13 | PASS |
| | | 37 | 18 | 4.17 | <13 | PASS |
| | | 37 | 38 | 4.38 | <13 | PASS |
| | | 75 | 0 | 3.93 | <13 | PASS |

**Channel Bandwidth: 20 MHz**

| Channel Bandwidth: 20 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 4.88 | <13 | PASS |
| | | 1 | 49 | 4.46 | <13 | PASS |
| | | 1 | 99 | 4.14 | <13 | PASS |
| | | 50 | 0 | 4.76 | <13 | PASS |
| | | 50 | 25 | 3.54 | <13 | PASS |
| | | 50 | 50 | 3.63 | <13 | PASS |
| | | 100 | 0 | 5.64 | <13 | PASS |
| | MCH | 1 | 0 | 5.21 | <13 | PASS |
| | | 1 | 49 | 4.53 | <13 | PASS |
| | | 1 | 99 | 5.67 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 50 | 0 | 2.14 | <13 | PASS |
| | | 50 | 25 | 2.80 | <13 | PASS |
| | | 50 | 50 | 2.13 | <13 | PASS |
| | | 100 | 0 | 2.57 | <13 | PASS |
| | HCH | 1 | 0 | 1.95 | <13 | PASS |
| | | 1 | 49 | 3.08 | <13 | PASS |
| | | 1 | 99 | 3.31 | <13 | PASS |
| | | 50 | 0 | 4.01 | <13 | PASS |
| | | 50 | 25 | 3.75 | <13 | PASS |
| | | 50 | 50 | 3.48 | <13 | PASS |
| | | 100 | 0 | 4.46 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.46 | <13 | PASS |
| | | 1 | 49 | 4.64 | <13 | PASS |
| | | 1 | 99 | 4.15 | <13 | PASS |
| | | 50 | 0 | 5.53 | <13 | PASS |
| | | 50 | 25 | 5.79 | <13 | PASS |
| | | 50 | 50 | 6.13 | <13 | PASS |
| | | 100 | 0 | 5.92 | <13 | PASS |
| | MCH | 1 | 0 | 3.72 | <13 | PASS |
| | | 1 | 49 | 3.87 | <13 | PASS |
| | | 1 | 99 | 2.94 | <13 | PASS |
| | | 50 | 0 | 3.93 | <13 | PASS |
| | | 50 | 25 | 4.66 | <13 | PASS |
| | | 50 | 50 | 4.60 | <13 | PASS |
| | | 100 | 0 | 3.31 | <13 | PASS |
| | HCH | 1 | 0 | 4.07 | <13 | PASS |
| | | 1 | 49 | 4.20 | <13 | PASS |
| | | 1 | 99 | 4.31 | <13 | PASS |
| | | 50 | 0 | 3.29 | <13 | PASS |
| | | 50 | 25 | 3.45 | <13 | PASS |
| | | 50 | 50 | 1.88 | <13 | PASS |
| | | 100 | 0 | 4.15 | <13 | PASS |

## LTE BAND 12

## Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio (dB) | Limit (dB) | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.97 | <13 | PASS |
| | | 1 | 3 | 2.40 | <13 | PASS |
| | | 1 | 5 | 1.88 | <13 | PASS |
| | | 3 | 0 | 3.82 | <13 | PASS |
| | | 3 | 2 | 3.35 | <13 | PASS |
| | | 3 | 3 | 3.63 | <13 | PASS |
| | | 6 | 0 | 3.69 | <13 | PASS |
| | MCH | 1 | 0 | 2.00 | <13 | PASS |
| | | 1 | 3 | 2.54 | <13 | PASS |
| | | 1 | 5 | 4.01 | <13 | PASS |
| | | 3 | 0 | 4.32 | <13 | PASS |
| | | 3 | 2 | 4.21 | <13 | PASS |
| | | 3 | 3 | 4.01 | <13 | PASS |
| | | 6 | 0 | 3.02 | <13 | PASS |
| | HCH | 1 | 0 | 2.13 | <13 | PASS |
| | | 1 | 3 | 2.69 | <13 | PASS |
| | | 1 | 5 | 2.79 | <13 | PASS |
| | | 3 | 0 | 2.45 | <13 | PASS |
| | | 3 | 2 | 2.06 | <13 | PASS |
| | | 3 | 3 | 2.36 | <13 | PASS |
| | | 6 | 0 | 4.70 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.10 | <13 | PASS |
| | | 1 | 3 | 5.74 | <13 | PASS |
| | | 1 | 5 | 4.82 | <13 | PASS |
| | | 3 | 0 | 6.35 | <13 | PASS |
| | | 3 | 2 | 5.35 | <13 | PASS |
| | | 3 | 3 | 7.04 | <13 | PASS |
| | | 6 | 0 | 8.27 | <13 | PASS |
| | MCH | 1 | 0 | 3.18 | <13 | PASS |
| | | 1 | 3 | 5.55 | <13 | PASS |
| | | 1 | 5 | 4.92 | <13 | PASS |
| | | 3 | 0 | 4.07 | <13 | PASS |
| | | 3 | 2 | 5.02 | <13 | PASS |
| | | 3 | 3 | 5.92 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 6 | 0 | 4.41 | <13 | PASS |
| | HCH | 1 | 0 | 3.79 | <13 | PASS |
| | | 1 | 3 | 3.88 | <13 | PASS |
| | | 1 | 5 | 2.87 | <13 | PASS |
| | | 3 | 0 | 3.18 | <13 | PASS |
| | | 3 | 2 | 3.91 | <13 | PASS |
| | | 3 | 3 | 3.95 | <13 | PASS |
| | | 6 | 0 | 3.51 | <13 | PASS |

**Channel Bandwidth: 3 MHz**

| Channel Bandwidth: 3 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.46 | <13 | PASS |
| | | 1 | 7 | 3.72 | <13 | PASS |
| | | 1 | 14 | 3.02 | <13 | PASS |
| | | 8 | 0 | 2.90 | <13 | PASS |
| | | 8 | 4 | 2.68 | <13 | PASS |
| | | 8 | 7 | 2.11 | <13 | PASS |
| | | 15 | 0 | 1.97 | <13 | PASS |
| | MCH | 1 | 0 | 3.16 | <13 | PASS |
| | | 1 | 7 | 4.35 | <13 | PASS |
| | | 1 | 14 | 3.08 | <13 | PASS |
| | | 8 | 0 | 2.93 | <13 | PASS |
| | | 8 | 4 | 3.05 | <13 | PASS |
| | | 8 | 7 | 2.66 | <13 | PASS |
| | | 15 | 0 | 1.93 | <13 | PASS |
| | HCH | 1 | 0 | 3.98 | <13 | PASS |
| | | 1 | 7 | 4.07 | <13 | PASS |
| | | 1 | 14 | 3.95 | <13 | PASS |
| | | 8 | 0 | 2.75 | <13 | PASS |
| | | 8 | 4 | 2.73 | <13 | PASS |
| | | 8 | 7 | 2.35 | <13 | PASS |
| | | 15 | 0 | 1.97 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 2.91 | <13 | PASS |
| | | 1 | 7 | 3.27 | <13 | PASS |
| | | 1 | 14 | 4.34 | <13 | PASS |
| | | 8 | 0 | 3.92 | <13 | PASS |
| | | 8 | 4 | 3.20 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 8 | 7 | 5.53 | <13 | PASS |
| | | 15 | 0 | 6.39 | <13 | PASS |
| | MCH | 1 | 0 | 4.05 | <13 | PASS |
| | | 1 | 7 | 4.45 | <13 | PASS |
| | | 1 | 14 | 4.88 | <13 | PASS |
| | | 8 | 0 | 4.99 | <13 | PASS |
| | | 8 | 4 | 3.45 | <13 | PASS |
| | | 8 | 7 | 2.95 | <13 | PASS |
| | | 15 | 0 | 3.46 | <13 | PASS |
| | HCH | 1 | 0 | 4.70 | <13 | PASS |
| | | 1 | 7 | 3.50 | <13 | PASS |
| | | 1 | 14 | 4.82 | <13 | PASS |
| | | 8 | 0 | 3.96 | <13 | PASS |
| | | 8 | 4 | 4.20 | <13 | PASS |
| | | 8 | 7 | 4.89 | <13 | PASS |
| | | 15 | 0 | 4.23 | <13 | PASS |

**Channel Bandwidth: 5 MHz**

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 2.78 | <13 | PASS |
| | | 1 | 12 | 3.93 | <13 | PASS |
| | | 1 | 24 | 3.87 | <13 | PASS |
| | | 12 | 0 | 3.06 | <13 | PASS |
| | | 12 | 6 | 2.19 | <13 | PASS |
| | | 12 | 13 | 2.06 | <13 | PASS |
| | | 25 | 0 | 1.80 | <13 | PASS |
| | MCH | 1 | 0 | 2.96 | <13 | PASS |
| | | 1 | 12 | 4.42 | <13 | PASS |
| | | 1 | 24 | 4.11 | <13 | PASS |
| | | 12 | 0 | 2.68 | <13 | PASS |
| | | 12 | 6 | 2.19 | <13 | PASS |
| | | 12 | 13 | 2.74 | <13 | PASS |
| | | 25 | 0 | 2.48 | <13 | PASS |
| | HCH | 1 | 0 | 2.89 | <13 | PASS |
| | | 1 | 12 | 3.89 | <13 | PASS |
| | | 1 | 24 | 2.67 | <13 | PASS |
| | | 12 | 0 | 1.71 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 12 | 6 | 3.25 | <13 | PASS |
| | | 12 | 13 | 3.07 | <13 | PASS |
| | | 25 | 0 | 1.77 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 2.76 | <13 | PASS |
| | | 1 | 12 | 3.63 | <13 | PASS |
| | | 1 | 24 | 4.03 | <13 | PASS |
| | | 12 | 0 | 3.81 | <13 | PASS |
| | | 12 | 6 | 4.50 | <13 | PASS |
| | | 12 | 13 | 4.19 | <13 | PASS |
| | | 25 | 0 | 6.61 | <13 | PASS |
| | MCH | 1 | 0 | 4.55 | <13 | PASS |
| | | 1 | 12 | 5.17 | <13 | PASS |
| | | 1 | 24 | 4.73 | <13 | PASS |
| | | 12 | 0 | 2.92 | <13 | PASS |
| | | 12 | 6 | 3.07 | <13 | PASS |
| | | 12 | 13 | 3.46 | <13 | PASS |
| | | 25 | 0 | 4.94 | <13 | PASS |
| | HCH | 1 | 0 | 1.95 | <13 | PASS |
| | | 1 | 12 | 2.62 | <13 | PASS |
| | | 1 | 24 | 2.83 | <13 | PASS |
| | | 12 | 0 | 3.72 | <13 | PASS |
| | | 12 | 6 | 2.75 | <13 | PASS |
| | | 12 | 13 | 3.05 | <13 | PASS |
| | | 25 | 0 | 4.86 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 3.41 | <13 | PASS |
| | | 1 | 24 | 3.37 | <13 | PASS |
| | | 1 | 49 | 3.10 | <13 | PASS |
| | | 25 | 0 | 3.04 | <13 | PASS |
| | | 25 | 12 | 3.35 | <13 | PASS |
| | | 25 | 25 | 2.57 | <13 | PASS |
| | | 50 | 0 | 2.99 | <13 | PASS |
| | MCH | 1 | 0 | 3.25 | <13 | PASS |
| | | 1 | 24 | 4.18 | <13 | PASS |
| | | 1 | 49 | 3.82 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 0 | 1.93 | <13 | PASS |
| | | 25 | 12 | 2.16 | <13 | PASS |
| | | 25 | 25 | 2.76 | <13 | PASS |
| | | 50 | 0 | 2.76 | <13 | PASS |
| | HCH | 1 | 0 | 4.15 | <13 | PASS |
| | | 1 | 24 | 2.98 | <13 | PASS |
| | | 1 | 49 | 3.37 | <13 | PASS |
| | | 25 | 0 | 1.94 | <13 | PASS |
| | | 25 | 12 | 2.38 | <13 | PASS |
| | | 25 | 25 | 2.59 | <13 | PASS |
| | | 50 | 0 | 1.73 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 2.76 | <13 | PASS |
| | | 1 | 24 | 3.59 | <13 | PASS |
| | | 1 | 49 | 4.44 | <13 | PASS |
| | | 25 | 0 | 3.65 | <13 | PASS |
| | | 25 | 12 | 3.69 | <13 | PASS |
| | | 25 | 25 | 4.76 | <13 | PASS |
| | | 50 | 0 | 6.76 | <13 | PASS |
| | MCH | 1 | 0 | 1.10 | <13 | PASS |
| | | 1 | 24 | 1.06 | <13 | PASS |
| | | 1 | 49 | 1.87 | <13 | PASS |
| | | 25 | 0 | 4.09 | <13 | PASS |
| | | 25 | 12 | 3.93 | <13 | PASS |
| | | 25 | 25 | 4.09 | <13 | PASS |
| | | 50 | 0 | 4.44 | <13 | PASS |
| | HCH | 1 | 0 | 4.37 | <13 | PASS |
| | | 1 | 24 | 4.86 | <13 | PASS |
| | | 1 | 49 | 4.41 | <13 | PASS |
| | | 25 | 0 | 1.87 | <13 | PASS |
| | | 25 | 12 | 1.92 | <13 | PASS |
| | | 25 | 25 | 1.07 | <13 | PASS |
| | | 50 | 0 | 4.88 | <13 | PASS |

## LTE BAND 17

## Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio | Limit | Verdict |
| | | Size | Offset | [dB] | [dB] | |
| QPSK | LCH | 1 | 0 | 4.77 | <13 | PASS |
| | | 1 | 12 | 3.84 | <13 | PASS |
| | | 1 | 24 | 3.79 | <13 | PASS |
| | | 12 | 0 | 3.90 | <13 | PASS |
| | | 12 | 6 | 3.28 | <13 | PASS |
| | | 12 | 13 | 2.78 | <13 | PASS |
| | | 25 | 0 | 5.88 | <13 | PASS |
| | MCH | 1 | 0 | 4.77 | <13 | PASS |
| | | 1 | 12 | 4.58 | <13 | PASS |
| | | 1 | 24 | 4.27 | <13 | PASS |
| | | 12 | 0 | 4.11 | <13 | PASS |
| | | 12 | 6 | 5.01 | <13 | PASS |
| | | 12 | 13 | 4.70 | <13 | PASS |
| | | 25 | 0 | 3.05 | <13 | PASS |
| | HCH | 1 | 0 | 5.07 | <13 | PASS |
| | | 1 | 12 | 5.06 | <13 | PASS |
| | | 1 | 24 | 4.46 | <13 | PASS |
| | | 12 | 0 | 2.84 | <13 | PASS |
| | | 12 | 6 | 4.24 | <13 | PASS |
| | | 12 | 13 | 3.69 | <13 | PASS |
| | | 25 | 0 | 4.47 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 4.52 | <13 | PASS |
| | | 1 | 12 | 6.42 | <13 | PASS |
| | | 1 | 24 | 6.31 | <13 | PASS |
| | | 12 | 0 | 5.44 | <13 | PASS |
| | | 12 | 6 | 5.30 | <13 | PASS |
| | | 12 | 13 | 5.45 | <13 | PASS |
| | | 25 | 0 | 5.80 | <13 | PASS |
| | MCH | 1 | 0 | 4.00 | <13 | PASS |
| | | 1 | 12 | 5.54 | <13 | PASS |
| | | 1 | 24 | 4.30 | <13 | PASS |
| | | 12 | 0 | 4.19 | <13 | PASS |
| | | 12 | 6 | 3.68 | <13 | PASS |
| | | 12 | 13 | 3.80 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 0 | 3.61 | <13 | PASS |
| | HCH | 1 | 0 | 4.47 | <13 | PASS |
| | | 1 | 12 | 3.74 | <13 | PASS |
| | | 1 | 24 | 5.07 | <13 | PASS |
| | | 12 | 0 | 3.23 | <13 | PASS |
| | | 12 | 6 | 3.18 | <13 | PASS |
| | | 12 | 13 | 3.43 | <13 | PASS |
| | | 25 | 0 | 5.26 | <13 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| | | Size | Offset | | | |
| QPSK | LCH | 1 | 0 | 4.18 | <13 | PASS |
| | | 1 | 24 | 3.48 | <13 | PASS |
| | | 1 | 49 | 3.56 | <13 | PASS |
| | | 25 | 0 | 2.27 | <13 | PASS |
| | | 25 | 12 | 2.81 | <13 | PASS |
| | | 25 | 25 | 2.39 | <13 | PASS |
| | | 50 | 0 | 3.95 | <13 | PASS |
| | MCH | 1 | 0 | 4.52 | <13 | PASS |
| | | 1 | 24 | 4.70 | <13 | PASS |
| | | 1 | 49 | 3.49 | <13 | PASS |
| | | 25 | 0 | 2.36 | <13 | PASS |
| | | 25 | 12 | 2.61 | <13 | PASS |
| | | 25 | 25 | 2.89 | <13 | PASS |
| | | 50 | 0 | 3.98 | <13 | PASS |
| | HCH | 1 | 0 | 3.60 | <13 | PASS |
| | | 1 | 24 | 3.32 | <13 | PASS |
| | | 1 | 49 | 3.07 | <13 | PASS |
| | | 25 | 0 | 3.55 | <13 | PASS |
| | | 25 | 12 | 3.48 | <13 | PASS |
| | | 25 | 25 | 2.95 | <13 | PASS |
| | | 50 | 0 | 2.95 | <13 | PASS |
| 16QAM | LCH | 1 | 0 | 3.39 | <13 | PASS |
| | | 1 | 24 | 5.73 | <13 | PASS |
| | | 1 | 49 | 5.34 | <13 | PASS |
| | | 25 | 0 | 6.06 | <13 | PASS |
| | | 25 | 12 | 6.78 | <13 | PASS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 25 | 25 | 6.12 | <13 | PASS |
| | | 50 | 0 | 5.42 | <13 | PASS |
| | MCH | 1 | 0 | 3.43 | <13 | PASS |
| | | 1 | 24 | 3.28 | <13 | PASS |
| | | 1 | 49 | 3.68 | <13 | PASS |
| | | 25 | 0 | 3.38 | <13 | PASS |
| | | 25 | 12 | 4.69 | <13 | PASS |
| | | 25 | 25 | 4.56 | <13 | PASS |
| | | 50 | 0 | 5.65 | <13 | PASS |
| | HCH | 1 | 0 | 3.36 | <13 | PASS |
| | | 1 | 24 | 2.97 | <13 | PASS |
| | | 1 | 49 | 2.95 | <13 | PASS |
| | | 25 | 0 | 4.26 | <13 | PASS |
| | | 25 | 12 | 5.38 | <13 | PASS |
| | | 25 | 25 | 4.77 | <13 | PASS |
| | | 50 | 0 | 4.63 | <13 | PASS |

# 7. SPURIOUS EMISSION

## 7.1 CONDUCTED SPURIOUS EMISSION

### 7.1.1 MEASUREMENT METHOD

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

**The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.**

For Band 7:
(i) 40 + 10 log10 p from the channel edges to 5 MHz away
(ii) 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 log10 p at X MHz and beyond from the channel edges

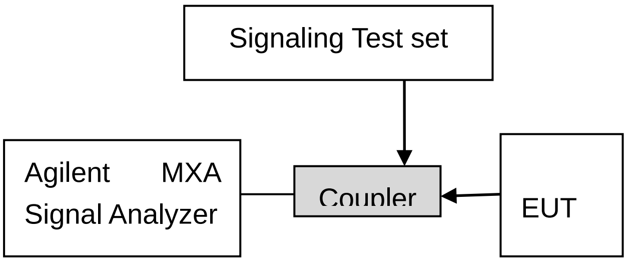
Test Procedure Used
KDB 971168 D01v03 – Section 6.0

**Test Settings**

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = max hold
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.


Signaling Test set
Agilent MXA Signal Analyzer
Coupler
EUT

Test Instrument & Measurement Setup

shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

**Test Note**

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

### 7.1.2 MEASUREMENT RESULT

**PLEASE REFER TO:** APPENDIX A TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

**Note:** 1. No emission found in standby or receive mode, no recording in this report.

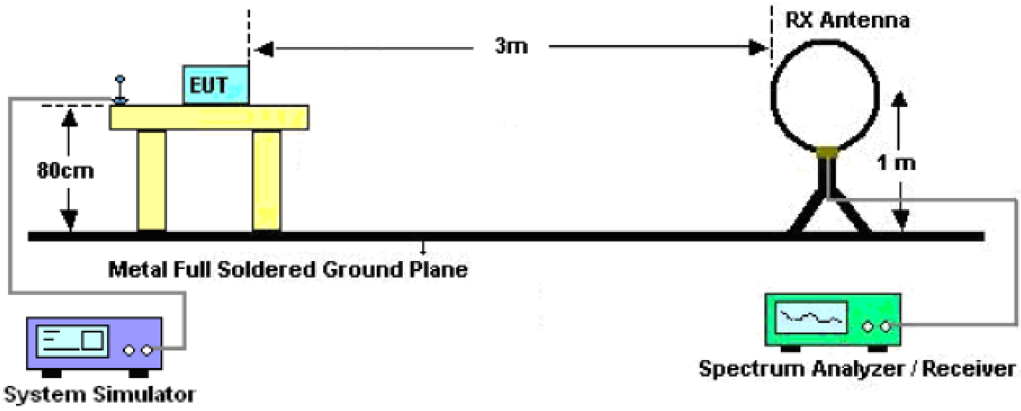
## 7.2 RADIATED SPURIOUS EMISSION

### 7.2.1. MEASUREMENT PROCEDURE

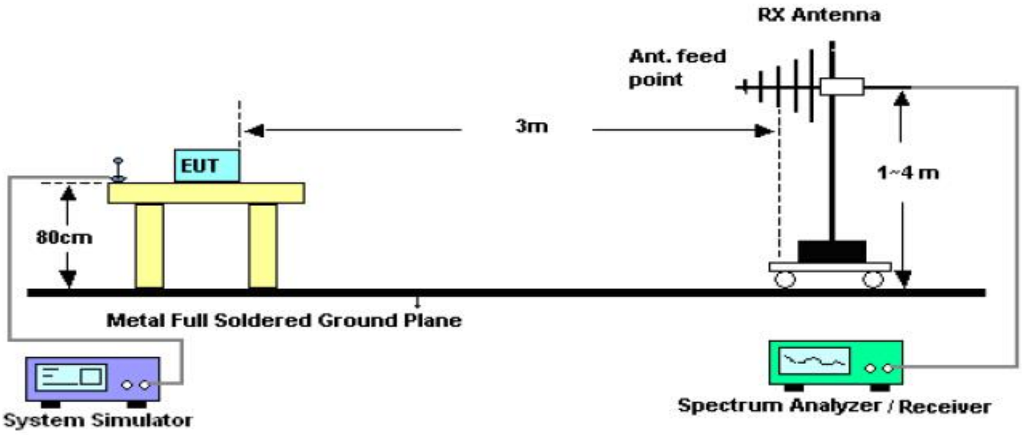
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

### 7.2.2. TEST SETUP

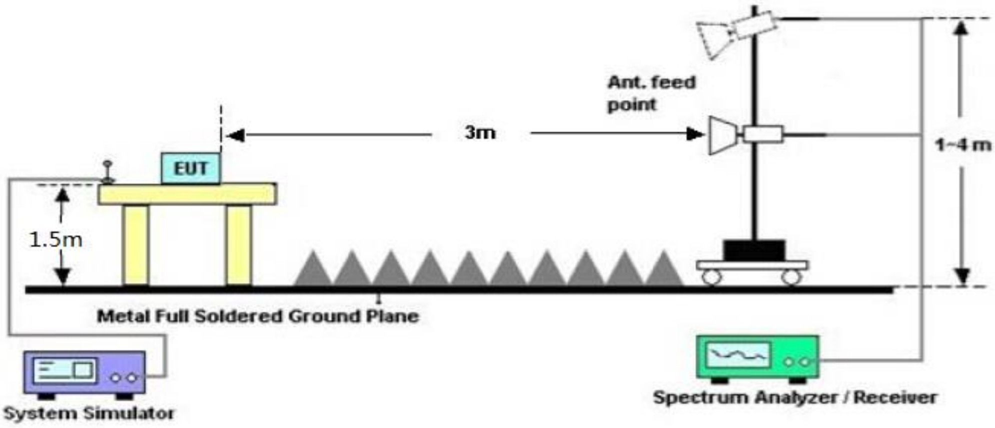
Radiated Emission Test-Setup Frequency Below 30MHz


RX Antenna
3m
EUT
80cm
1 m
Metal Full Soldered Ground Plane
System Simulator
Spectrum Analyzer / Receiver

RADIATED EMISSION TEST SETUP 30MHz-1000MHz


RX Antenna
Ant. feed point
3m
EUT
80cm
1~4 m
Metal Full Soldered Ground Plane
System Simulator
Spectrum Analyzer / Receiver

RADIATED EMISSION TEST SETUP ABOVE 1000MHz


Ant. feed point
3m
EUT
1.5m
1~4 m
Metal Full Soldered Ground Plane
System Simulator
Spectrum Analyzer / Receiver

### 7.2.3 PROVISIONS APPLICABLE

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

**Note:** Only record the worst condition of each test mode:

### 7.2.4 MEASUREMENT RESULT

**LTE Band 2**
**Low channel**

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3720 | V | -36.54 | -13 | -23.54 |
| 784.3 | V | -42.53 | -13 | -29.53 |
| 569.5 | V | -45.11 | -13 | -32.11 |
| 3720 | H | -37.31 | -13 | -24.31 |
| 814.2 | H | -42.99 | -13 | -29.99 |
| 477.6 | H | -45.40 | -13 | -32.40 |

**Middle channel**

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3760 | V | -37.49 | -13 | -24.49 |
| 615.2 | V | -42.85 | -13 | -29.85 |
| 444.3 | V | -44.23 | -13 | -31.23 |
| 3760 | H | -37.81 | -13 | -24.81 |
| 619.6 | H | -43.06 | -13 | -30.06 |
| 336.9 | H | -46.17 | -13 | -33.17 |

**High channel**

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3800 | V | -37.03 | -13 | -24.03 |
| 754.6 | V | -43.70 | -13 | -30.70 |
| 669.4 | V | -43.96 | -13 | -30.96 |
| 3800 | H | -36.46 | -13 | -23.46 |
| 758.6 | H | -43.94 | -13 | -30.94 |
| 588.6 | H | -44.99 | -13 | -31.99 |

## LTE Band 4

### Low channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3440 | V | -36.30 | -13 | -23.30 |
| 884.1 | V | -41.43 | -13 | -28.43 |
| 447.5 | V | -42.92 | -13 | -29.92 |
| 3440 | H | -35.88 | -13 | -22.88 |
| 741.3 | H | -42.57 | -13 | -29.57 |
| 510.2 | H | -42.53 | -13 | -29.53 |

### Middle channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3465 | V | -35.29 | -13 | -22.29 |
| 897.7 | V | -42.29 | -13 | -29.29 |
| 789.4 | V | -43.57 | -13 | -30.57 |
| 3465 | H | -35.39 | -13 | -22.39 |
| 599.6 | H | -41.35 | -13 | -28.35 |
| 301.3 | H | -41.96 | -13 | -28.96 |

### High channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3490 | V | -36.07 | -13 | -23.07 |
| 614.3 | V | -43.31 | -13 | -30.31 |
| 506.7 | V | -42.87 | -13 | -29.87 |
| 3490 | H | -35.46 | -13 | -22.46 |
| 402.9 | H | -40.84 | -13 | -27.84 |
| 333.1 | H | -42.55 | -13 | -29.55 |

## LTE Band 5

### Low channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1658 | V | -36.98 | -13 | -23.98 |
| 554.3 | V | -42.67 | -13 | -29.67 |
| 315.1 | V | -42.85 | -13 | -29.85 |
| 1658 | H | -36.58 | -13 | -23.58 |
| 541.5 | H | -41.36 | -13 | -28.36 |
| 349.2 | H | -40.96 | -13 | -27.96 |

### Middle channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1673 | V | -37.37 | -13 | -24.37 |
| 565.1 | V | -42.69 | -13 | -29.69 |
| 463.3 | V | -42.93 | -13 | -29.93 |
| 1673 | H | -37.70 | -13 | -24.7 |
| 686.3 | H | -40.06 | -13 | -27.06 |
| 404.5 | H | -42.37 | -13 | -29.37 |

### High channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1688 | V | -37.09 | -13 | -24.09 |
| 654.6 | V | -43.03 | -13 | -30.03 |
| 557.1 | V | -42.28 | -13 | -29.28 |
| 1688 | H | -37.46 | -13 | -24.46 |
| 603.7 | H | -42.23 | -13 | -29.23 |
| 435.4 | H | -42.37 | -13 | -29.37 |

## LTE Band 7

### Low channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3440 | V | -38.84 | -25 | -13.84 |
| 874.61 | V | -43.30 | -25 | -18.30 |
| 759.13 | V | -44.91 | -25 | -19.91 |
| 3440 | H | -36.67 | -25 | -11.67 |
| 549.66 | H | -42.15 | -25 | -17.15 |
| 447.03 | H | -42.96 | -25 | -17.96 |

### Middle channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3465 | V | -37.36 | -25 | -12.36 |
| 561.33 | V | -44.50 | -25 | -19.50 |
| 436.16 | V | -45.23 | -25 | -20.23 |
| 3465 | H | -38.02 | -25 | -13.02 |
| 343.66 | H | -44.27 | -25 | -19.27 |
| 289.44 | H | -45.52 | -25 | -20.52 |

### High channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 3490 | V | -37.43 | -25 | -12.43 |
| 536.33 | V | -42.46 | -25 | -17.46 |
| 444.70 | V | -44.59 | -25 | -19.59 |
| 3490 | H | -38.29 | -25 | -13.29 |
| 318.59 | H | -42.55 | -25 | -17.55 |
| 287.16 | H | -44.94 | -25 | -19.94 |

## LTE Band 12

### Low channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1408 | V | -38.73 | -13 | -25.73 |
| 596.7 | V | -45.44 | -13 | -32.44 |
| 365.4 | V | -44.60 | -13 | -31.6 |
| 1408 | H | -38.20 | -13 | -25.2 |
| 563.1 | H | -45.46 | -13 | -32.46 |
| 490.2 | H | -45.09 | -13 | -32.09 |

### Middle channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1415 | V | -41.77 | -13 | -28.77 |
| 569.3 | V | -45.31 | -13 | -32.31 |
| 431.0 | V | -46.09 | -13 | -33.09 |
| 1415 | H | -40.91 | -13 | -27.91 |
| 495.5 | H | -44.85 | -13 | -31.85 |
| 312.1 | H | -46.65 | -13 | -33.65 |

### High channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1422 | V | -41.21 | -13 | -28.21 |
| 742.3 | V | -44.39 | -13 | -31.39 |
| 641.0 | V | -44.81 | -13 | -31.81 |
| 1422 | H | -39.59 | -13 | -26.59 |
| 684.3 | H | -46.31 | -13 | -33.31 |
| 489.7 | H | -46.98 | -13 | -33.98 |

## LTE Band 17
### Low channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1420 | V | -37.55 | -13 | -24.55 |
| 584.5 | V | -42.13 | -13 | -29.13 |
| 421.1 | V | -45.27 | -13 | -32.27 |
| 1420 | H | -37.30 | -13 | -24.3 |
| 525.3 | H | -45.08 | -13 | -32.08 |
| 396.6 | H | -43.56 | -13 | -30.56 |

### Middle channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1435 | V | -37.63 | -13 | -24.63 |
| 546.0 | V | -43.93 | -13 | -30.93 |
| 433.3 | V | -45.09 | -13 | -32.09 |
| 1466 | H | -38.50 | -13 | -25.5 |
| 589.5 | H | -43.31 | -13 | -30.31 |
| 394.1 | H | -45.36 | -13 | -32.36 |

### High channel

| Frequency (MHz) | Polarity (H/V) | Emission Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|
| 1496 | V | -37.21 | -13 | -24.21 |
| 554.3 | V | -43.39 | -13 | -30.39 |
| 488.5 | V | -44.72 | -13 | -31.72 |
| 1485 | H | -37.44 | -13 | -24.44 |
| 569.8 | H | -43.35 | -13 | -30.35 |
| 441.3 | H | -45.30 | -13 | -32.3 |

**Note:** 1. Margin = Emission Level -Limit

2. (30MHz-26GHz) Below 30MHZ no Spurious found and above is the worst mode data

# 8. FREQUENCY STABILITY

## 8.1 MEASUREMENT METHOD

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1 Measure the carrier frequency at room temperature.

2 Subject the EUT to overnight soak at -10℃. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on channel 20175 for LTE band 4 measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

3 Repeat the above measurements at 10℃ increments from -10℃ to +40℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

4 Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.

5 Subject the EUT to overnight soak at +40℃.

6 With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

7 Repeat the above measurements at 10℃ increments from +40℃ to -10℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

8 At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

## 8.2 PROVISIONS APPLICABLE

### 8.2.1 For Hand carried battery powered equipment

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

a.) Temperature: The temperature is varied from -10°C to +40°C in 10°C increments using an environmental chamber.

b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24 and Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### 8.2.2 For equipment powered by primary supply voltage

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -10°C to +40°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

## 8.3 MEASUREMENT RESULT (WORST)

**LTE Band 2**

| Middle Channel, $f_O$ = 1880 MHz | | | |
|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
| -10 | 3.8 | 9.30 | 0.004946 |
| 0 | | -5.32 | -0.002831 |
| 10 | | -7.55 | -0.003956 |
| 20 | | -13.02 | -0.006818 |
| 30 | | -12.79 | -0.006910 |
| 40 | | -2.03 | -0.001098 |
| 25 | 4.35 | -9.93 | -0.005281 |
| | 3.23 | -2.13 | -0.001134 |

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. The

**LTE Band 4**

| Middle Channel, $f_O$ = 1732.5 MHz | | | | |
|---|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 1.77 | 0.001037 | ±2.5 |
| 0 | | -10.06 | -0.005879 | ±2.5 |
| 10 | | -9.24 | -0.005334 | ±2.5 |
| 20 | | -6.38 | -0.003683 | ±2.5 |
| 30 | | 4.91 | 0.002868 | ±2.5 |
| 40 | | -2.42 | -0.001413 | ±2.5 |
| 50 | | 4.31 | 0.002485 | ±2.5 |
| 55 | | 13.55 | 0.007819 | ±2.5 |
| 25 | 4.2 | 10.00 | 0.005700 | ±2.5 |
| | 3.5 | -6.47 | -0.003686 | ±2.5 |

**LTE Band 5**

| Middle Channel, $f_O$ = 836.5 MHz | | | | |
|---|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.8 | -2.96 | -14.99 | -0.018178 |
| 0 | | -2.23 | -15.88 | -0.019254 |
| 10 | | -2.95 | -7.18 | -0.008585 |
| 20 | | -4.02 | -6.98 | -0.008345 |
| 30 | | -8.21 | -1.62 | -0.001906 |
| 40 | | -7.57 | -18.20 | -0.021450 |
| 25 | 4.35 | -3.16 | -8.38 | -0.010165 |
| | 3.23 | -7.17 | -8.88 | -0.010772 |

**LTE Band 7**

| Middle Channel, $f_O$ = 2535 MHz | | | |
|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
| -10 | 3.8 | 15.09 | 0.006031 |
| 0 | | -2.60 | -0.001040 |
| 10 | | -7.42 | -0.002892 |
| 20 | | -3.73 | -0.001454 |
| 30 | | 14.35 | 0.005733 |
| 40 | | 40.43 | 0.016154 |
| 25 | 4.35 | 2.17 | 0.000847 |
| | 3.23 | 2.22 | 0.000864 |

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

### LTE Band 12

| Middle Channel, $f_O$ = 1882.5 MHz | | | |
|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
| -10 | 3.8 | -2.39 | -0.003414 |
| 0 | | -5.04 | -0.007197 |
| 10 | | -10.64 | -0.015043 |
| 20 | | -9.26 | -0.013082 |
| 30 | | -6.79 | -0.009499 |
| 40 | | 9.57 | 0.013379 |
| 25 | 4.35 | -7.97 | -0.011388 |
| | 3.23 | -3.79 | -0.005418 |

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

### LTE Band 17

| Middle Channel, $f_O$ = 1882.5 MHz | | | |
|---|---|---|---|
| Temperature (℃) | Power Supplied (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
| -10 | 3.8 | -9.41 | -0.013323 |
| 0 | | -15.41 | -0.021807 |
| 10 | | -9.60 | -0.013519 |
| 20 | | -19.90 | -0.028026 |
| 30 | | 2.95 | 0.004130 |
| 40 | | 5.55 | 0.007779 |
| 25 | 4.35 | -11.33 | -0.016036 |
| | 3.23 | -0.53 | -0.000749 |

The EUT doesn’t work below -10℃

# 9. OCCUPIED BANDWIDTH

## 9.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

## 9.2 PROVISIONS APPLICABLE

The emission bandwidth is defined as two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power

## 9.3 MEASUREMENT RESULT

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

## LTE Band 2

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.078 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |
| 16QAM | LCH | 6 | 0 | 1.078 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.683 | PASS |
| | HCH | 15 | 0 | 2.683 | PASS |
| 16QAM | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.683 | PASS |
| | HCH | 15 | 0 | 2.683 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.486 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |
| 16QAM | LCH | 25 | 0 | 4.486 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.944 | PASS |
| 16QAM | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 13.415 | PASS |
| | MCH | 75 | 0 | 13.415 | 13.372 |
| | HCH | 75 | 0 | 13.372 | PASS |
| 16QAM | LCH | 75 | 0 | 13.459 | PASS |
| | MCH | 75 | 0 | 13.415 | PASS |
| | HCH | 75 | 0 | 13.372 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 17.887 | PASS |
| | MCH | 100 | 0 | 17.829 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |
| 16QAM | LCH | 100 | 0 | 17.887 | PASS |
| | MCH | 100 | 0 | 17.829 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |

## LTE Band 4

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.078 | PASS |
| | MCH | 6 | 0 | 1.078 | PASS |
| | HCH | 6 | 0 | 1.070 | PASS |
| 16QAM | LCH | 6 | 0 | 1.074 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.674 | PASS |
| | HCH | 15 | 0 | 2.692 | PASS |
| 16QAM | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.674 | PASS |
| | HCH | 15 | 0 | 2.674 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.457 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |
| 16QAM | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.457 | PASS |
| | HCH | 25 | 0 | 4.457 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.944 | PASS |
| | MCH | 50 | 0 | 8.915 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |
| 16QAM | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 13.459 | PASS |
| | MCH | 75 | 0 | 13.415 | PASS |
| | HCH | 75 | 0 | 13.372 | PASS |
| 16QAM | LCH | 75 | 0 | 13.459 | PASS |
| | MCH | 75 | 0 | 13.415 | PASS |
| | HCH | 75 | 0 | 13.372 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 17.887 | PASS |
| | MCH | 100 | 0 | 17.829 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |
| 16QAM | LCH | 100 | 0 | 17.887 | PASS |
| | MCH | 100 | 0 | 17.887 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |

## LTE Band 5

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.074 | PASS |
| | MCH | 6 | 0 | 1.078 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |
| 16QAM | LCH | 6 | 0 | 1.074 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.683 | PASS |
| | HCH | 15 | 0 | 2.683 | PASS |
| 16QAM | LCH | 15 | 0 | 2.683 | PASS |
| | MCH | 15 | 0 | 2.674 | PASS |
| | HCH | 15 | 0 | 2.674 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.457 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.457 | PASS |
| 16QAM | LCH | 25 | 0 | 4.486 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.944 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |
| 16QAM | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |

## LTE Band 7

### Channel Bandwidth: 5MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.457 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |
| 16QAM | LCH | 25 | 0 | 4.486 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.944 | PASS |
| 16QAM | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.944 | PASS |
| | HCH | 50 | 0 | 8.915 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 13.372 | PASS |
| | MCH | 75 | 0 | 13.415 | PASS |
| | HCH | 75 | 0 | 13.415 | PASS |
| 16QAM | LCH | 75 | 0 | 13.372 | PASS |
| | MCH | 75 | 0 | 13.415 | PASS |
| | HCH | 75 | 0 | 13.372 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 17.829 | PASS |
| | MCH | 100 | 0 | 17.829 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |
| 16QAM | LCH | 100 | 0 | 17.829 | PASS |
| | MCH | 100 | 0 | 17.829 | PASS |
| | HCH | 100 | 0 | 17.829 | PASS |

## LTE Band 12

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.074 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |
| 16QAM | LCH | 6 | 0 | 1.078 | PASS |
| | MCH | 6 | 0 | 1.074 | PASS |
| | HCH | 6 | 0 | 1.074 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth:3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.692 | PASS |
| | HCH | 15 | 0 | 2.683 | PASS |
| 16QAM | LCH | 15 | 0 | 2.674 | PASS |
| | MCH | 15 | 0 | 2.683 | PASS |
| | HCH | 15 | 0 | 2.683 | PASS |

## Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.457 | PASS |
| 16QAM | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.472 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |

## Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.944 | PASS |
| | MCH | 50 | 0 | 8.915 | PASS |
| | HCH | 50 | 0 | 8.886 | PASS |
| 16QAM | LCH | 50 | 0 | 8.944 | PASS |
| | MCH | 50 | 0 | 8.915 | PASS |
| | HCH | 50 | 0 | 8.886 | PASS |

## LTE Band 17

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth(MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.457 | PASS |
| | HCH | 25 | 0 | 4.457 | PASS |
| 16QAM | LCH | 25 | 0 | 4.472 | PASS |
| | MCH | 25 | 0 | 4.457 | PASS |
| | HCH | 25 | 0 | 4.472 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Occupied Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.915 | PASS |
| | HCH | 50 | 0 | 8.886 | PASS |
| 16QAM | LCH | 50 | 0 | 8.915 | PASS |
| | MCH | 50 | 0 | 8.915 | PASS |
| | HCH | 50 | 0 | 8.886 | PASS |

Note: Please refers to Appendix B for compliance test plots for Occupied Bandwidth (99%)

# 10. EMISSION BANDWIDTH

## 10.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

## 10.2 PROVISIONS APPLICABLE

The emission bandwidth is defined as two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

## 10.3 MEASUREMENT RESULT

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

## LTE Band 2

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.217 | PASS |
| | MCH | 6 | 0 | 1.246 | PASS |
| | HCH | 6 | 0 | 1.201 | PASS |
| 16QAM | LCH | 6 | 0 | 1.189 | PASS |
| | MCH | 6 | 0 | 1.205 | PASS |
| | HCH | 6 | 0 | 1.213 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.826 | PASS |
| | MCH | 15 | 0 | 2.852 | PASS |
| | HCH | 15 | 0 | 2.817 | PASS |
| 16QAM | LCH | 15 | 0 | 2.826 | PASS |
| | MCH | 15 | 0 | 2.835 | PASS |
| | HCH | 15 | 0 | 2.809 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.826 | PASS |
| | MCH | 25 | 0 | 4.797 | PASS |
| | HCH | 25 | 0 | 4.783 | PASS |
| 16QAM | LCH | 25 | 0 | 4.797 | PASS |
| | MCH | 25 | 0 | 4.768 | PASS |
| | HCH | 25 | 0 | 4.754 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.362 | PASS |
| | MCH | 50 | 0 | 9.362 | PASS |
| | HCH | 50 | 0 | 9.362 | PASS |
| 16QAM | LCH | 50 | 0 | 9.362 | PASS |
| | MCH | 50 | 0 | 9.333 | PASS |
| | HCH | 50 | 0 | 9.333 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.130 | PASS |
| | HCH | 75 | 0 | 14.087 | PASS |
| 16QAM | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.087 | PASS |
| | HCH | 75 | 0 | 14.087 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 18.551 | PASS |
| | MCH | 100 | 0 | 18.609 | PASS |
| | HCH | 100 | 0 | 18.551 | PASS |
| 16QAM | LCH | 100 | 0 | 18.609 | PASS |
| | MCH | 100 | 0 | 18.551 | PASS |
| | HCH | 100 | 0 | 18.609 | PASS |

## LTE Band 4

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.197 | PASS |
| | MCH | 6 | 0 | 1.189 | PASS |
| | HCH | 6 | 0 | 1.193 | PASS |
| 16QAM | LCH | 6 | 0 | 1.201 | PASS |
| | MCH | 6 | 0 | 1.205 | PASS |
| | HCH | 6 | 0 | 1.169 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.791 | PASS |
| | MCH | 15 | 0 | 2.809 | PASS |
| | HCH | 15 | 0 | 2.809 | PASS |
| 16QAM | LCH | 15 | 0 | 2.809 | PASS |
| | MCH | 15 | 0 | 2.817 | PASS |
| | HCH | 15 | 0 | 2.800 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.725 | PASS |
| | MCH | 25 | 0 | 4.681 | PASS |
| | HCH | 25 | 0 | 4.739 | PASS |
| 16QAM | LCH | 25 | 0 | 4.681 | PASS |
| | MCH | 25 | 0 | 4.754 | PASS |
| | HCH | 25 | 0 | 4.681 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.275 | PASS |
| | MCH | 50 | 0 | 9.333 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |
| 16QAM | LCH | 50 | 0 | 9.275 | PASS |
| | MCH | 50 | 0 | 9.333 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.043 | PASS |
| | HCH | 75 | 0 | 14.087 | PASS |
| 16QAM | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.043 | PASS |
| | HCH | 75 | 0 | 14.043 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 18.551 | PASS |
| | MCH | 100 | 0 | 18.609 | PASS |
| | HCH | 100 | 0 | 18.609 | PASS |
| 16QAM | LCH | 100 | 0 | 18.551 | PASS |
| | MCH | 100 | 0 | 18.609 | PASS |
| | HCH | 100 | 0 | 18.551 | PASS |

## LTE Band 5

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.177 | PASS |
| | MCH | 6 | 0 | 1.189 | PASS |
| | HCH | 6 | 0 | 1.177 | PASS |
| 16QAM | LCH | 6 | 0 | 1.213 | PASS |
| | MCH | 6 | 0 | 1.201 | PASS |
| | HCH | 6 | 0 | 1.193 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.809 | PASS |
| | MCH | 15 | 0 | 2.800 | PASS |
| | HCH | 15 | 0 | 2.809 | PASS |
| 16QAM | LCH | 15 | 0 | 2.809 | PASS |
| | MCH | 15 | 0 | 2.817 | PASS |
| | HCH | 15 | 0 | 2.809 | PASS |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.739 | PASS |
| | MCH | 25 | 0 | 4.667 | PASS |
| | HCH | 25 | 0 | 4.710 | PASS |
| 16QAM | LCH | 25 | 0 | 4.710 | PASS |
| | MCH | 25 | 0 | 4.696 | PASS |
| | HCH | 25 | 0 | 4.681 | PASS |

## Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.333 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.333 | PASS |
| 16QAM | LCH | 50 | 0 | 9.304 | PASS |
| | MCH | 50 | 0 | 9.304 | PASS |
| | HCH | 50 | 0 | 9.304 | PASS |

## LTE Band 7

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.725 | PASS |
| | MCH | 25 | 0 | 4.667 | PASS |
| | HCH | 25 | 0 | 4.667 | PASS |
| 16QAM | LCH | 25 | 0 | 4.696 | PASS |
| | MCH | 25 | 0 | 4.739 | PASS |
| | HCH | 25 | 0 | 4.696 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.333 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.304 | PASS |
| 16QAM | LCH | 50 | 0 | 9.275 | PASS |
| | MCH | 50 | 0 | 9.333 | PASS |
| | HCH | 50 | 0 | 9.304 | PASS |

### Channel Bandwidth: 15 MHz

| Channel Bandwidth: 15MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.087 | PASS |
| | HCH | 75 | 0 | 14.043 | PASS |
| 16QAM | LCH | 75 | 0 | 14.087 | PASS |
| | MCH | 75 | 0 | 14.087 | PASS |
| | HCH | 75 | 0 | 14.043 | PASS |

### Channel Bandwidth: 20 MHz

| Channel Bandwidth: 20MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 100 | 0 | 18.551 | PASS |
| | MCH | 100 | 0 | 18.551 | PASS |
| | HCH | 100 | 0 | 18.551 | PASS |
| 16QAM | LCH | 100 | 0 | 18.551 | PASS |
| | MCH | 100 | 0 | 18.551 | PASS |
| | HCH | 100 | 0 | 18.551 | PASS |

## LTE Band 12

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 6 | 0 | 1.209 | PASS |
| | MCH | 6 | 0 | 1.226 | PASS |
| | HCH | 6 | 0 | 1.177 | PASS |
| 16QAM | LCH | 6 | 0 | 1.209 | PASS |
| | MCH | 6 | 0 | 1.181 | PASS |
| | HCH | 6 | 0 | 1.193 | PASS |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 15 | 0 | 2.800 | PASS |
| | MCH | 15 | 0 | 2.809 | PASS |
| | HCH | 15 | 0 | 2.817 | PASS |
| 16QAM | LCH | 15 | 0 | 2.809 | PASS |
| | MCH | 15 | 0 | 2.817 | PASS |
| | HCH | 15 | 0 | 2.809 | PASS |

## Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.667 | PASS |
| | MCH | 25 | 0 | 4.696 | PASS |
| | HCH | 25 | 0 | 4.681 | PASS |
| 16QAM | LCH | 25 | 0 | 4.696 | PASS |
| | MCH | 25 | 0 | 4.696 | PASS |
| | HCH | 25 | 0 | 4.710 | PASS |

## Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.333 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |
| 16QAM | LCH | 50 | 0 | 9.275 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |

## LTE BAND 17

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 25 | 0 | 4.681 | PASS |
| | MCH | 25 | 0 | 4.696 | PASS |
| | HCH | 25 | 0 | 4.667 | PASS |
| 16QAM | LCH | 25 | 0 | 4.710 | PASS |
| | MCH | 25 | 0 | 4.681 | PASS |
| | HCH | 25 | 0 | 4.681 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10MHz | | | | | |
|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | 26dB Bandwidth (MHz) | Verdict |
| | | Size | Offset | | |
| QPSK | LCH | 50 | 0 | 9.304 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |
| 16QAM | LCH | 50 | 0 | 9.304 | PASS |
| | MCH | 50 | 0 | 9.275 | PASS |
| | HCH | 50 | 0 | 9.275 | PASS |

Note: Please refers to Appendix B for compliance test plots for emission bandwidth (-26dBc)

# 11. BAND EDGE

## 11.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

## 11.2 PROVISIONS APPLICABLE

As Specified in FCC rules of §2.1051 §24.238(a) §27.53(g) §27.53(h) §27.53(m)
KDB 971168 D01v03 – Section 6.0

## 11.3 MEASUREMENT RESULT

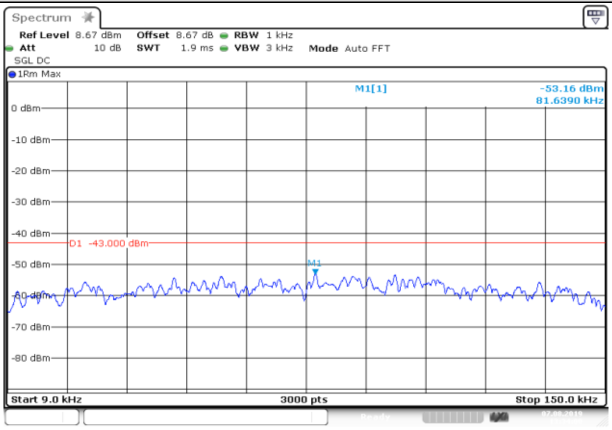
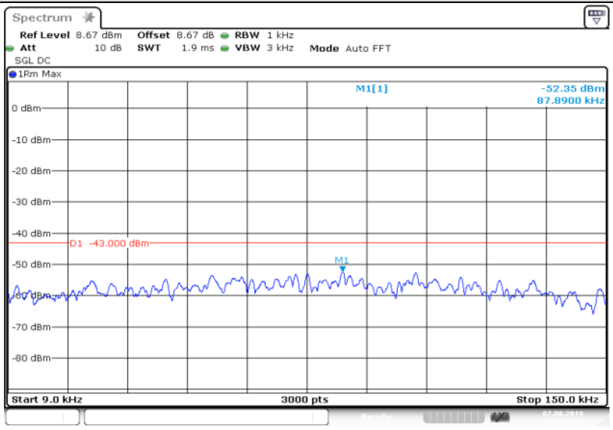
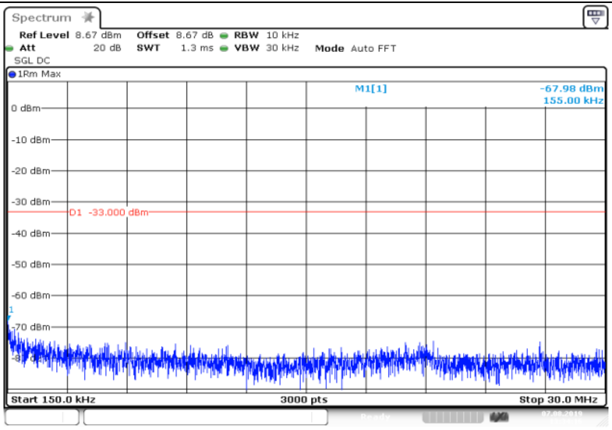
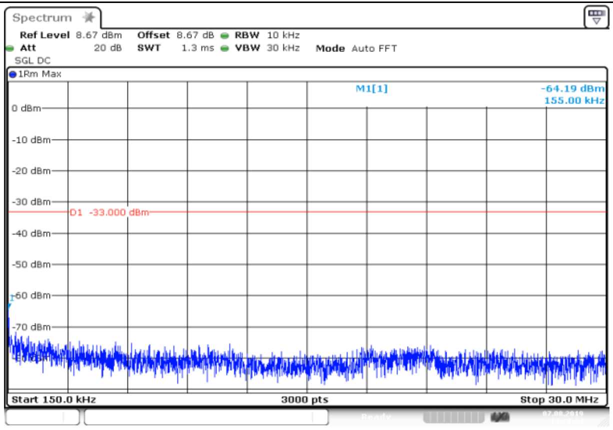
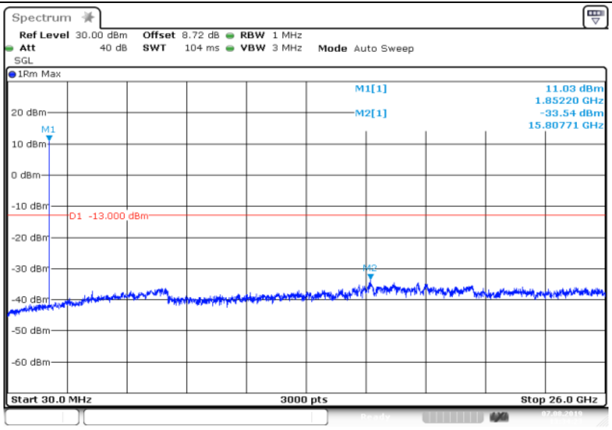
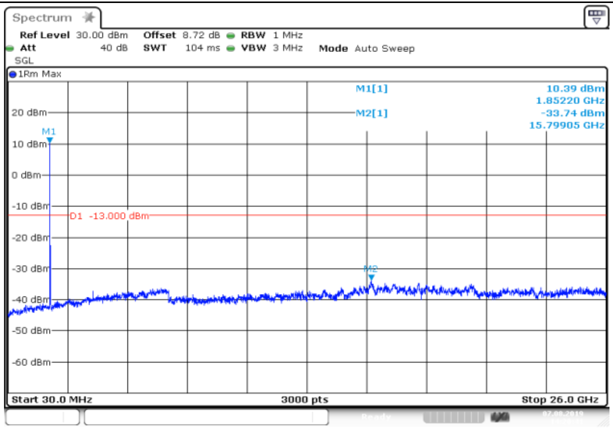
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequency. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

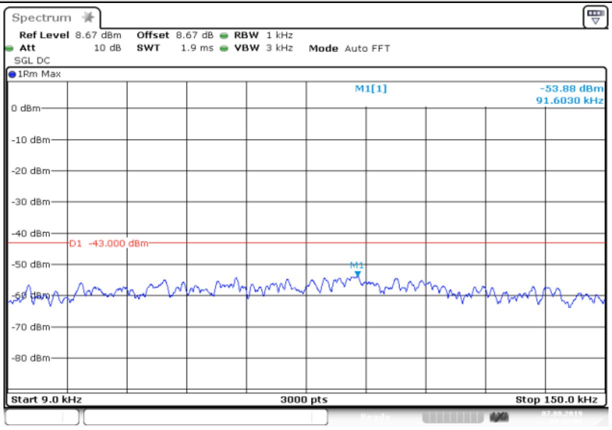
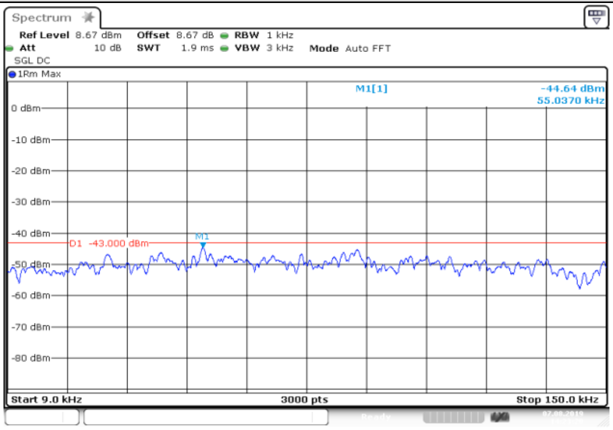
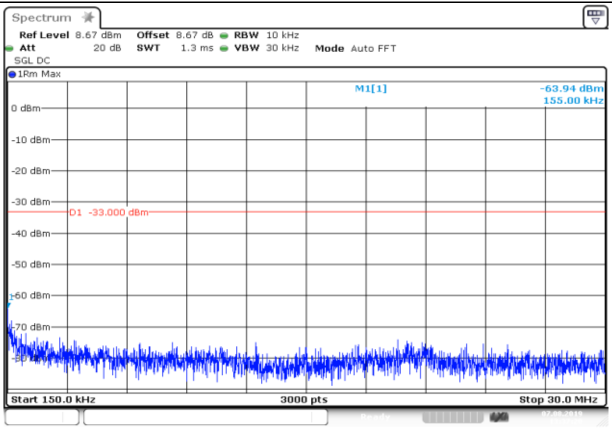
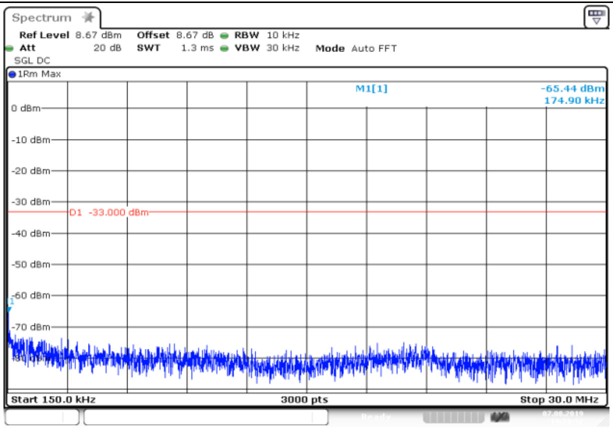
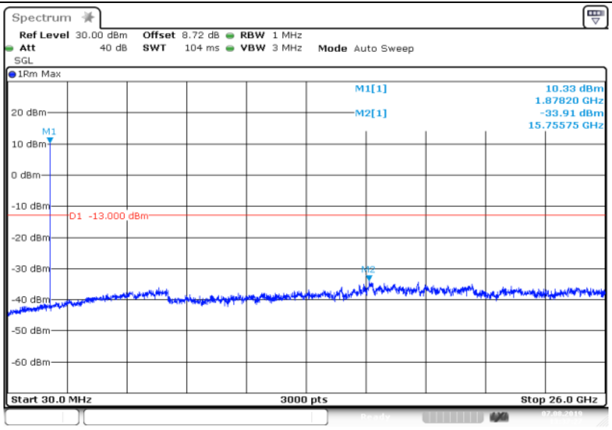
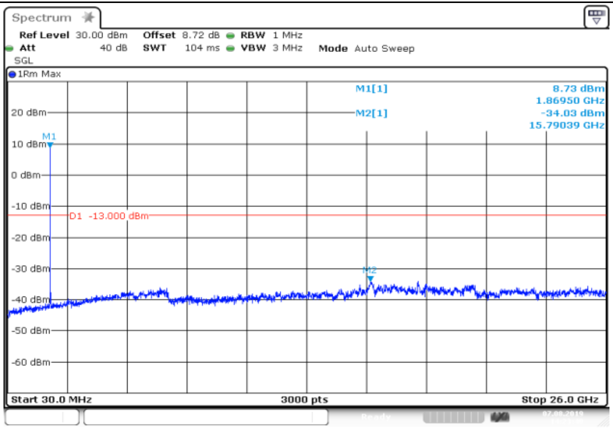
For Band 7:
(i) 40 + 10 log10 p from the channel edges to 5 MHz away
(ii) 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 log10 p at X MHz and beyond from the channel edges

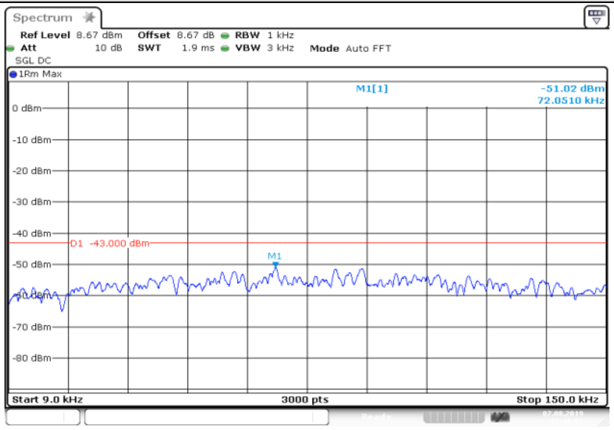
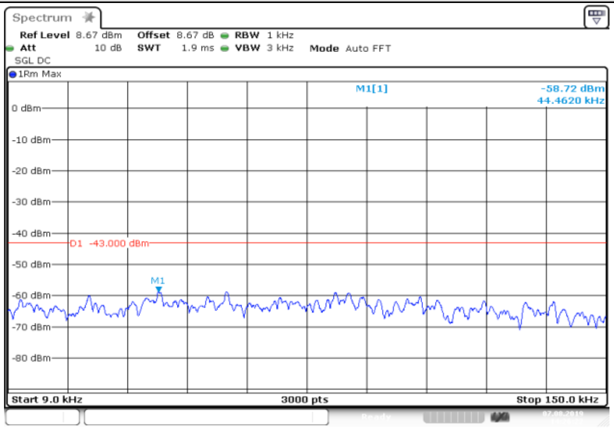
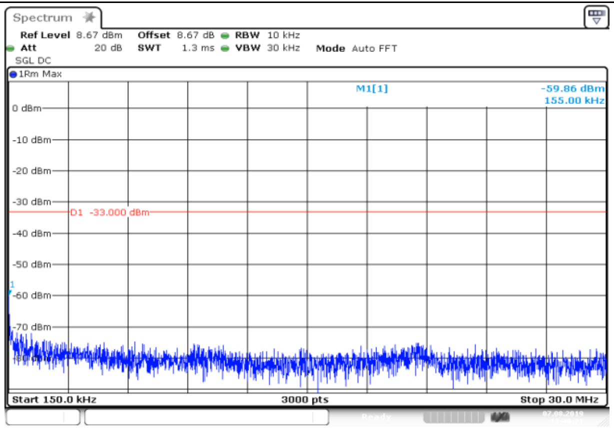
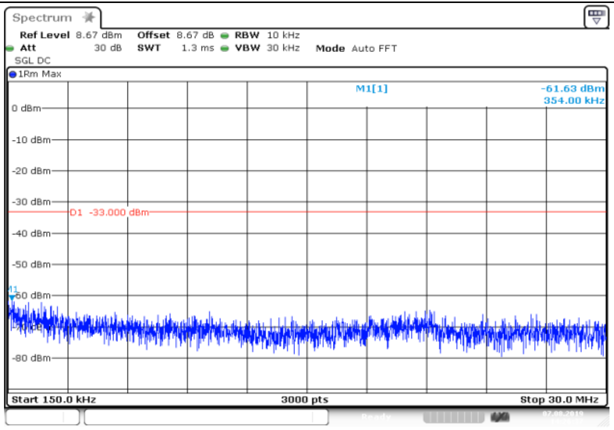
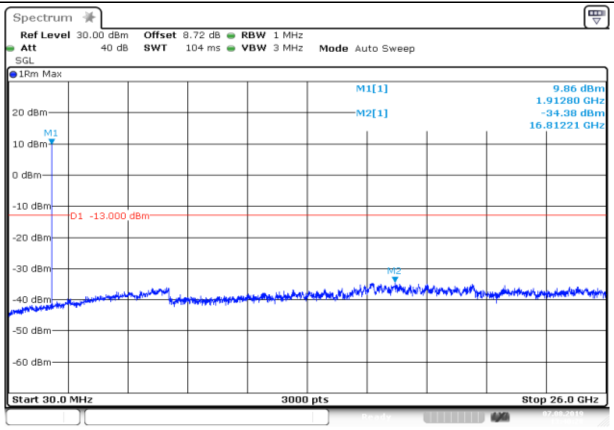
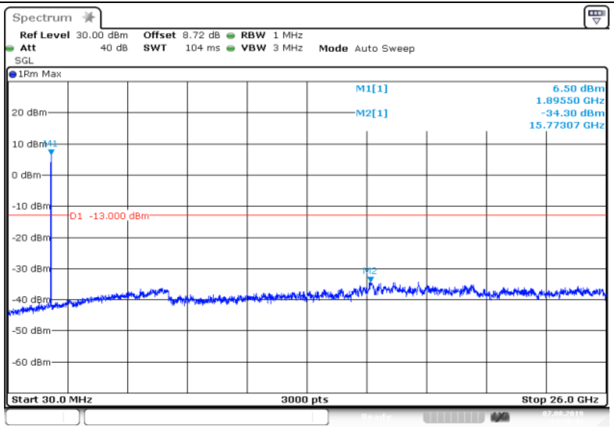
Please refers to Appendix C for compliance test plots for band edge

# APPENDIX A TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

## LTE BAND 2

| 1.4MHz_LCH_QPSK_1RB#0 | 20MHz_LCH_QPSK_1RB#0 |
|---|---|
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -53.16 dBm 81.6390 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 7.AUG.2019 13:34:00 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -52.35 dBm 87.8900 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 7.AUG.2019 14:20:22 |
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -67.98 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>Date: 7.AUG.2019 13:34:16 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -64.19 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>Date: 7.AUG.2019 14:20:34 |
| <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 11.03 dBm 1.85220 GHz<br>M2[1] -33.54 dBm 15.80771 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 7.AUG.2019 13:34:23 | <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 10.39 dBm 1.85220 GHz<br>M2[1] -33.74 dBm 15.79905 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 7.AUG.2019 14:20:41 |

| 1.4MHz_MCH_QPSK_1RB#0 | 20MHz_MCH_QPSK_1RB#0 |
|---|---|
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -53.88 dBm 91.6030 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 7.AUG.2019 13:37:07 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -44.64 dBm 55.0370 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 7.AUG.2019 14:23:20 |
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -63.94 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 7.AUG.2019 13:37:20 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -65.44 dBm 174.90 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 7.AUG.2019 14:23:33 |
| <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 10.33 dBm 1.87820 GHz<br>M2[1] -33.91 dBm 15.75575 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 7.AUG.2019 13:37:27 | <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 8.73 dBm 1.86950 GHz<br>M2[1] -34.03 dBm 15.79039 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 7.AUG.2019 14:23:40 |

| 1.4MHz_HCH_QPSK_1RB#0 | 20MHz_HCH_QPSK_1RB#0 |
|---|---|
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -51.02 dBm 72.0510 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> 0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 7.AUG.2019 13:40:03 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -58.72 dBm 44.4620 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> 0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 7.AUG.2019 14:26:21 |
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -59.86 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> 0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>1<br>Date: 7.AUG.2019 13:40:21 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 30 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -61.63 dBm 354.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> 0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-80 dBm<br>M1<br>Date: 7.AUG.2019 14:26:37 |
| <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 9.86 dBm 1.91280 GHz<br>M2[1] -34.38 dBm 16.81221 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> 20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 7.AUG.2019 13:40:29 | <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 6.50 dBm 1.89550 GHz<br>M2[1] -34.30 dBm 15.77307 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> 20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 7.AUG.2019 14:26:44 |

## TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

## LTE BAND 4

| 1.4MHz_LCH_QPSK_1RB#0 | 20MHz_LCH_QPSK_1RB#0 |
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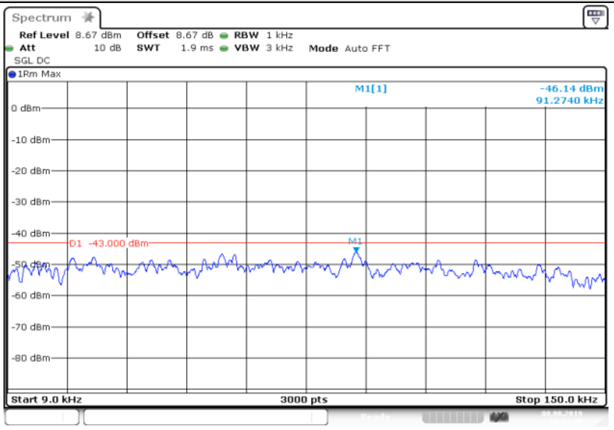
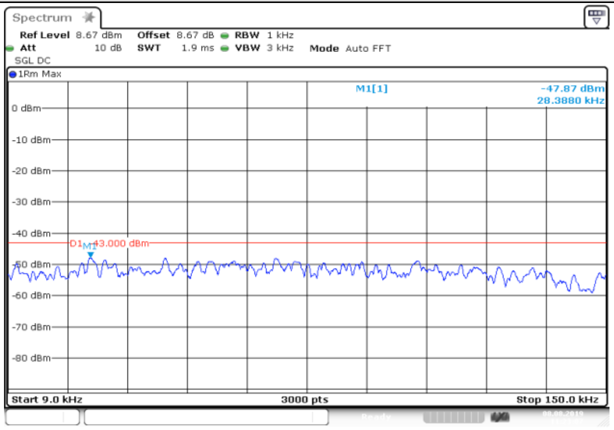
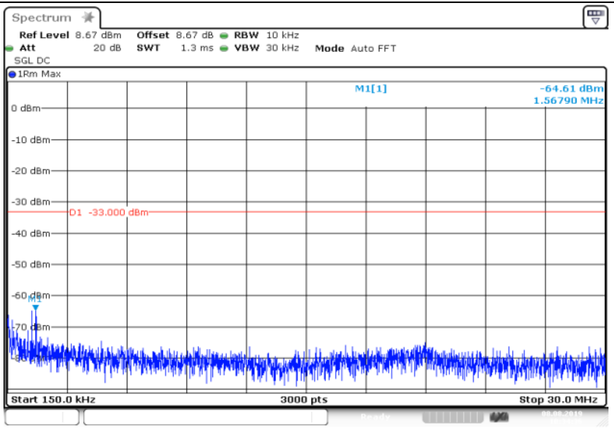
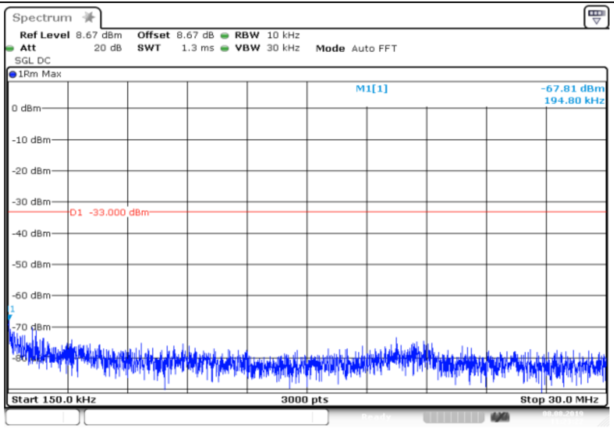
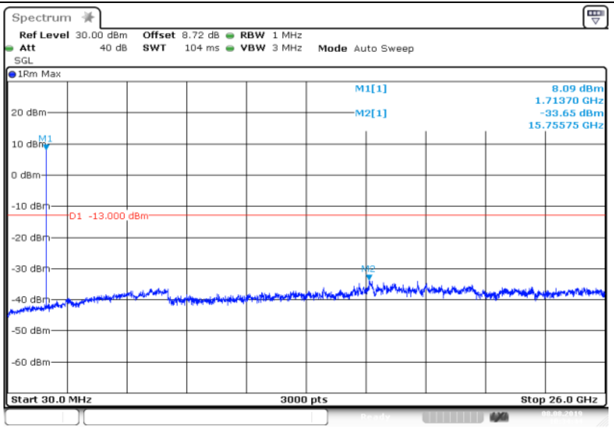
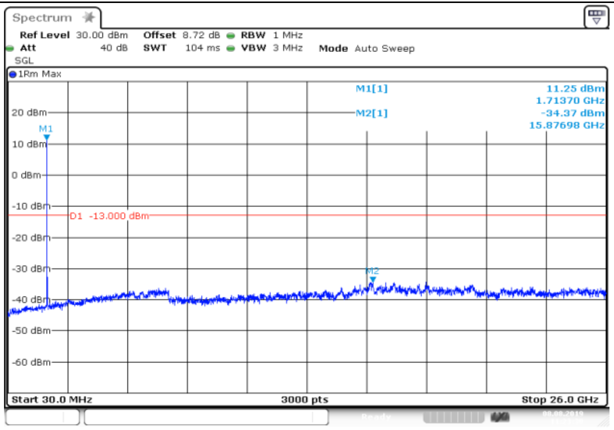
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -46.14 dBm 91.2740 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 8.AUG.2019 10:34:19 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -47.87 dBm 28.3880 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 8.AUG.2019 11:23:07 |
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -64.61 dBm 1.56790 MHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>M1<br>Date: 8.AUG.2019 10:34:36 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -67.81 dBm 194.80 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>Date: 8.AUG.2019 11:23:22 |
| <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 8.09 dBm 1.71370 GHz<br>M2[1] -33.65 dBm 15.75575 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 8.AUG.2019 10:34:43 | <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 11.25 dBm 1.71370 GHz<br>M2[1] -34.37 dBm 15.87698 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 8.AUG.2019 11:23:30 |

| 1.4MHz_MCH_QPSK_1RB#0 | 20MHz_MCH_QPSK_1RB#0 |
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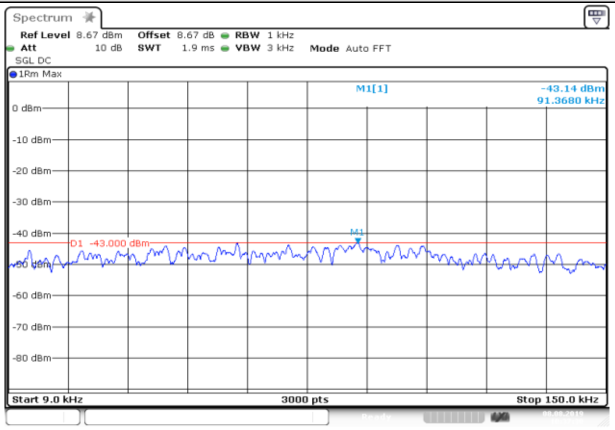
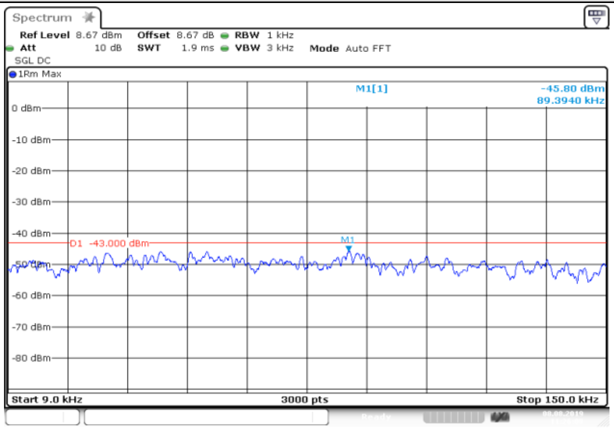
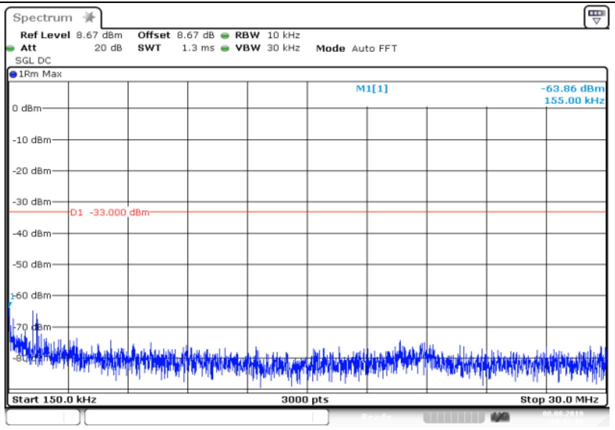
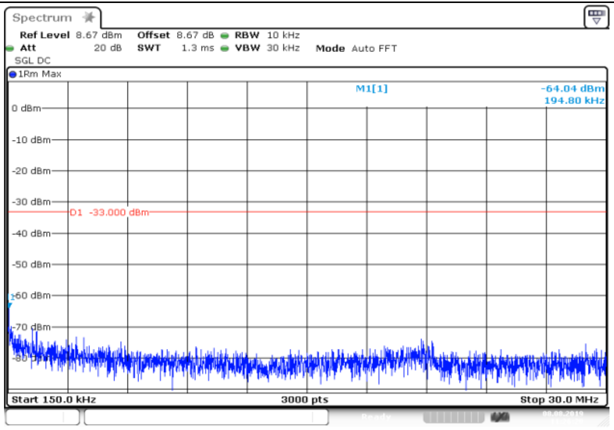
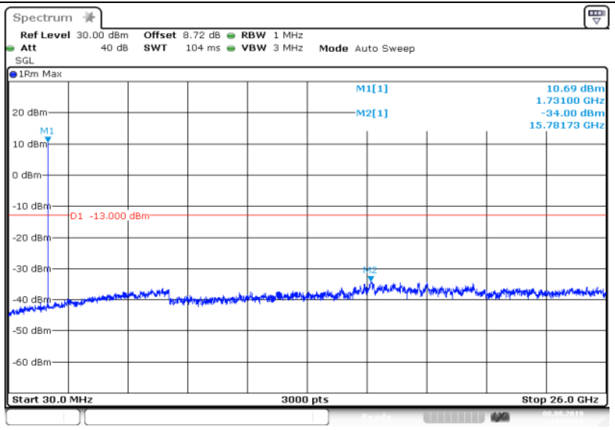
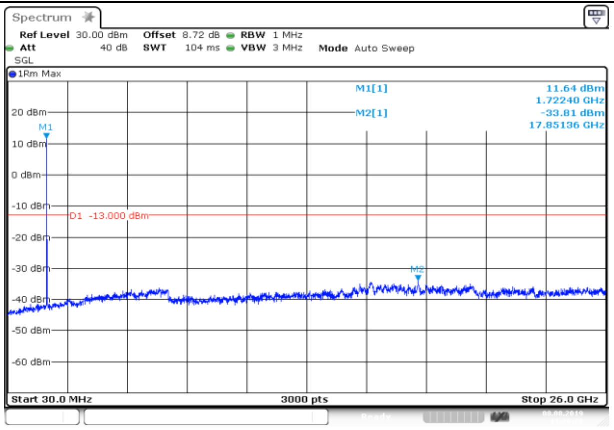
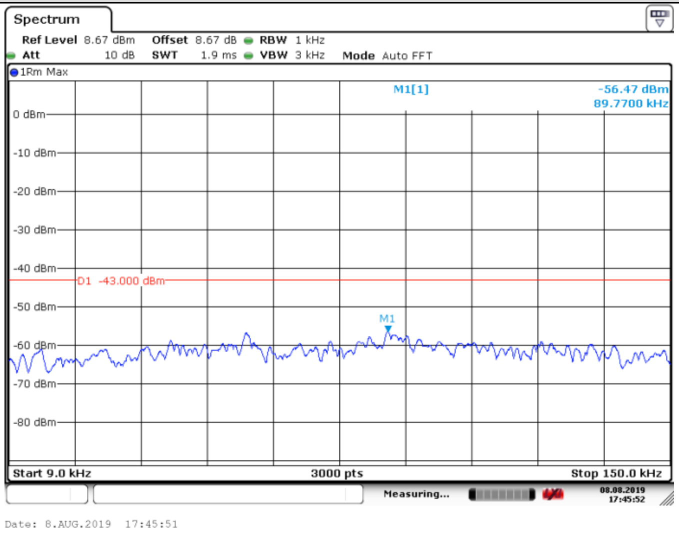
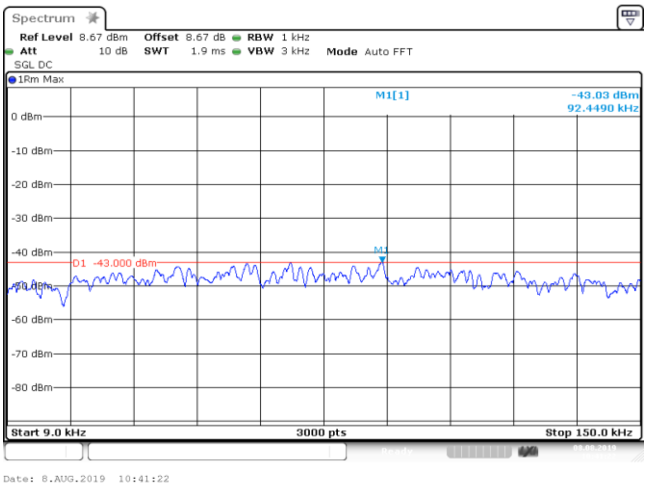
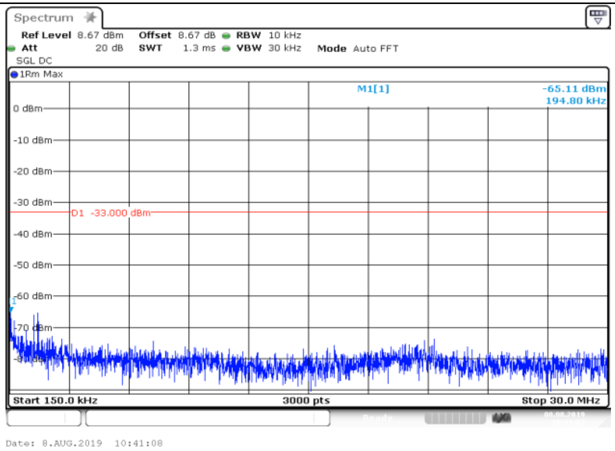
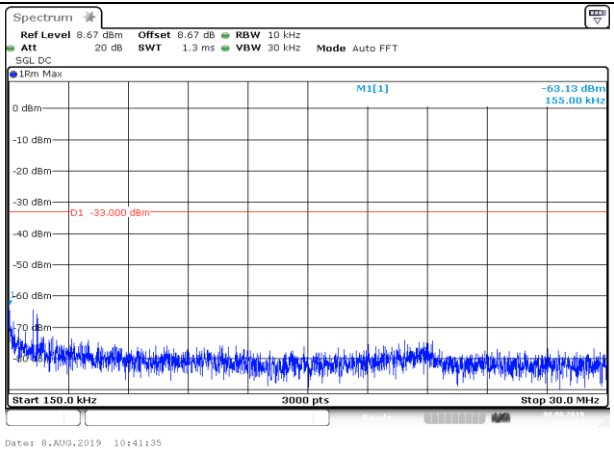
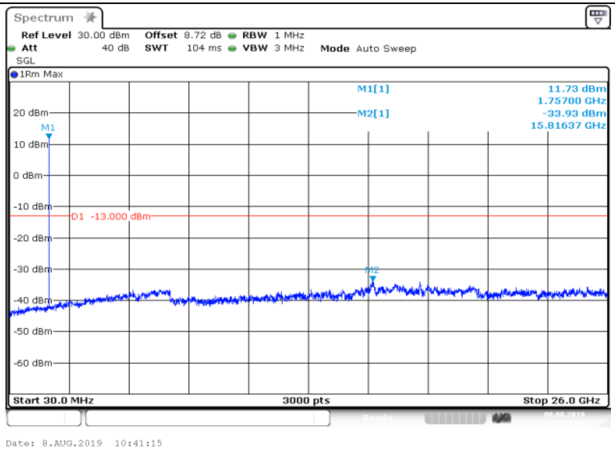
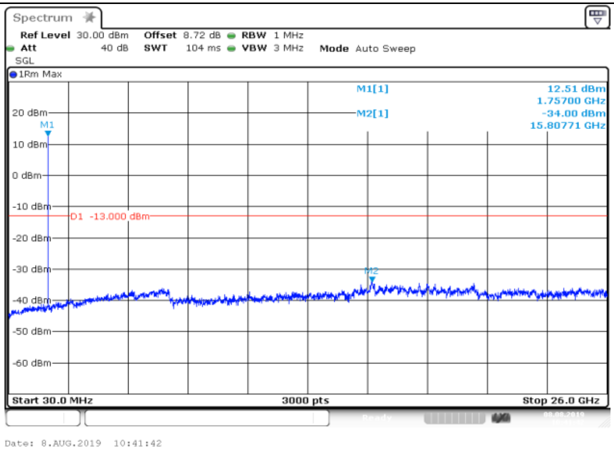
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -43.14 dBm 91.3680 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 8.AUG.2019 10:37:30 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -45.80 dBm 89.3940 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 8.AUG.2019 11:26:08 |
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -63.86 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 10:37:50 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -64.04 dBm 194.80 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 11:26:21 |
| <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 10.69 dBm 1.73100 GHz<br>M2[1] -34.00 dBm 15.78173 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 10:37:58 | <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 11.64 dBm 1.72240 GHz<br>M2[1] -33.81 dBm 17.85136 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 11:26:28 |

| 1.4MHz_HCH_QPSK_1RB#0 | 20MHz_HCH_QPSK_1RB#0 |
|---|---|
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>1Rm Max<br>M1[1] -56.47 dBm 89.7700 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Measuring... 08.08.2019 17:45:52<br>Date: 8.AUG.2019 17:45:51 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -43.03 dBm 92.4490 kHz<br>D1 -43.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 8.AUG.2019 10:41:22 |
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -65.11 dBm 194.80 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 10:41:08 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -63.13 dBm 155.00 kHz<br>D1 -33.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 10:41:35 |
| <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 11.73 dBm 1.75700 GHz<br>M2[1] -33.93 dBm 15.81637 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 10:41:15 | <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 12.51 dBm 1.75700 GHz<br>M2[1] -34.00 dBm 15.80771 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 10:41:42 |

## TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION
## LTE BAND 5

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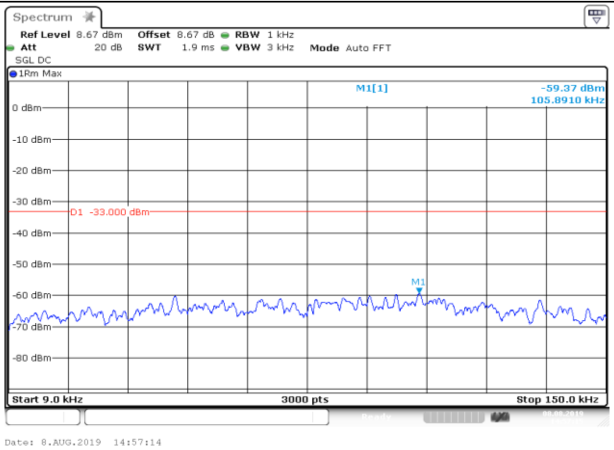
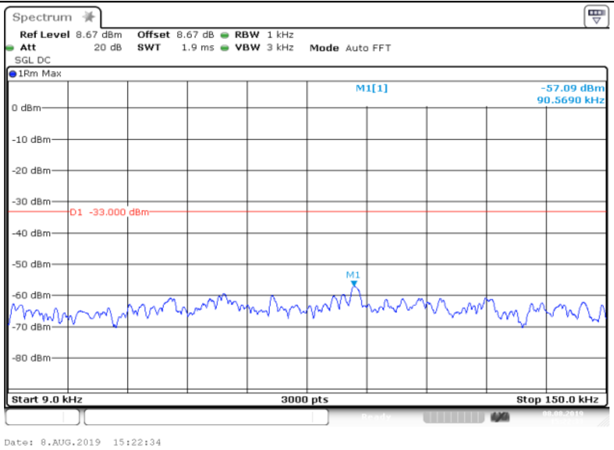
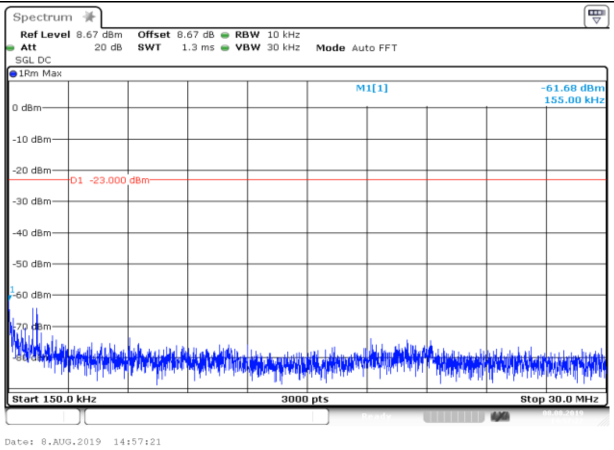
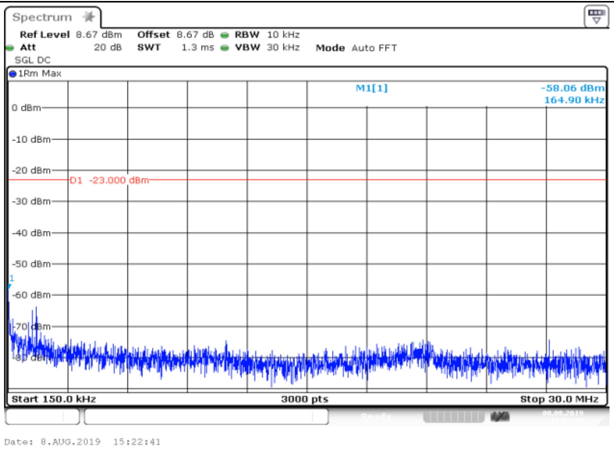
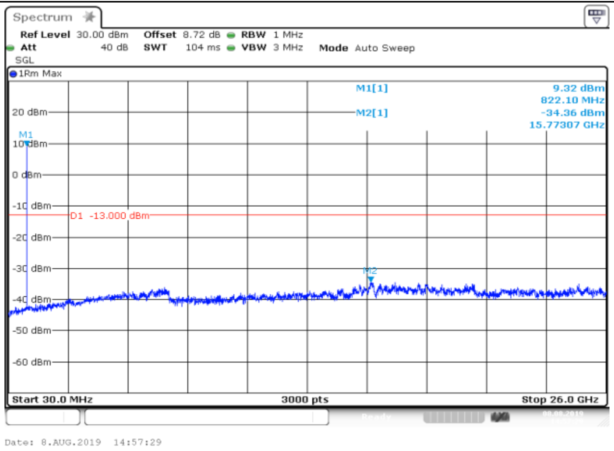
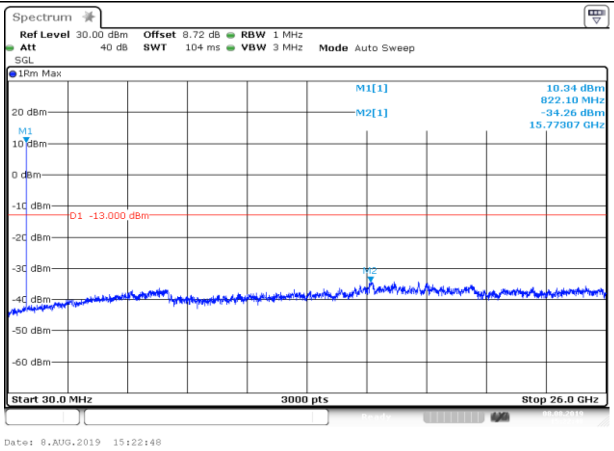
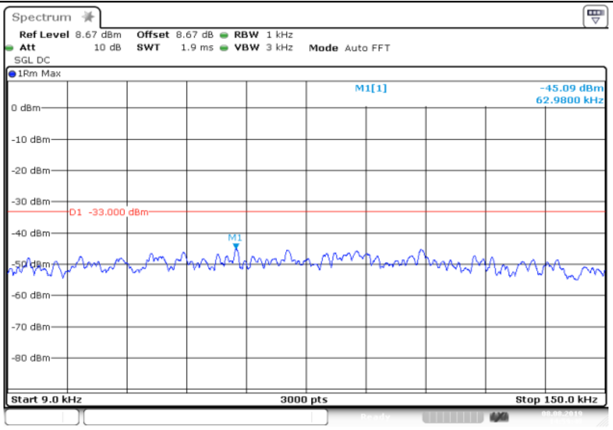
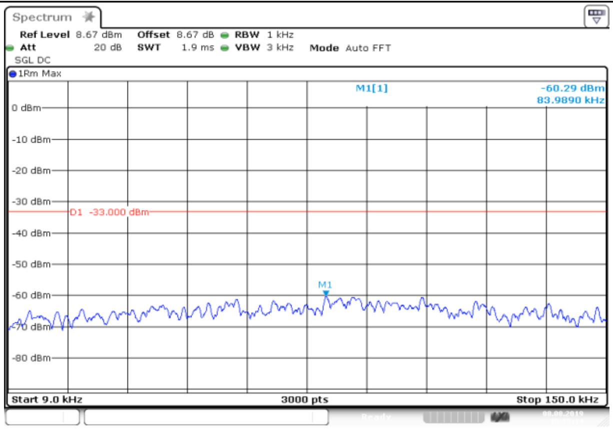
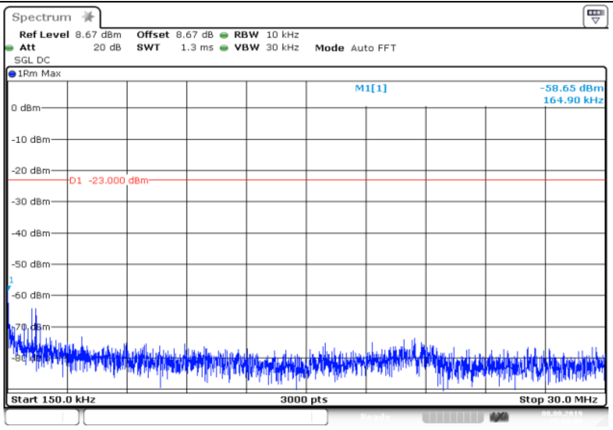
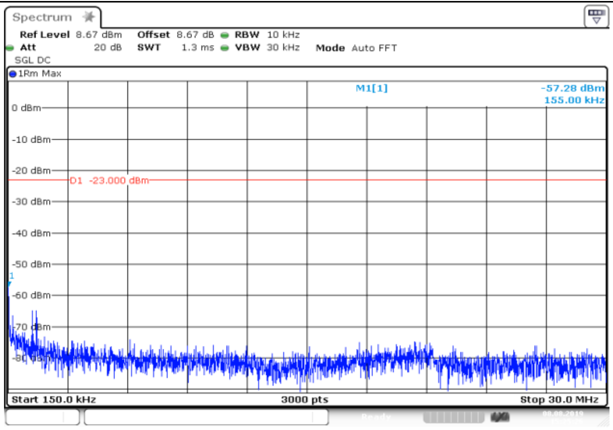
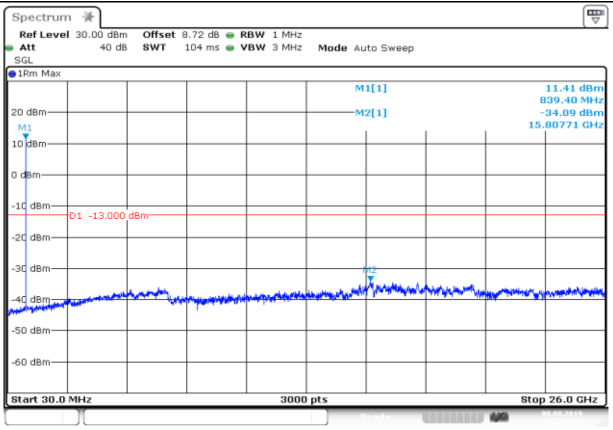
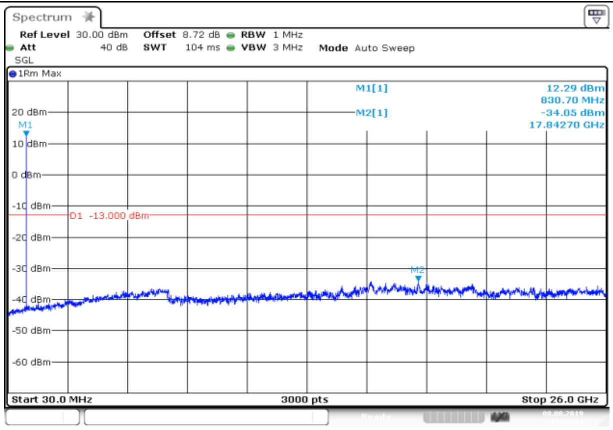
|---|---|
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 20 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -59.37 dBm 105.8910 kHz<br>D1 -33.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 8.AUG.2019 14:57:14 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 20 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -57.09 dBm 90.5690 kHz<br>D1 -33.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br>Date: 8.AUG.2019 15:22:34 |
| <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -61.68 dBm 155.00 kHz<br>D1 -23.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 14:57:21 | <br>Spectrum<br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -58.06 dBm 164.90 kHz<br>D1 -23.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br>Date: 8.AUG.2019 15:22:41 |
| <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 9.32 dBm 822.10 MHz<br>M2[1] -34.36 dBm 15.77307 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 14:57:29 | <br>Spectrum<br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 10.34 dBm 822.10 MHz<br>M2[1] -34.26 dBm 15.77307 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br>Date: 8.AUG.2019 15:22:48 |

| 1.4MHz_MCH_QPSK_1RB#0 | 10MHz_MCH_QPSK_1RB#0 |
|---|---|
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 10 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -45.09 dBm 62.9800 kHz<br>D1 -33.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 8.AUG.2019 14:59:47 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 1 kHz<br>Att 20 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -60.29 dBm 83.9890 kHz<br>D1 -33.000 dBm<br>Start 9.0 kHz 3000 pts Stop 150.0 kHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>M1<br>Date: 8.AUG.2019 15:25:14 |
| <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -58.65 dBm 164.90 kHz<br>D1 -23.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>Date: 8.AUG.2019 15:00:00 | <br>Ref Level 8.67 dBm Offset 8.67 dB RBW 10 kHz<br>Att 20 dB SWT 1.3 ms VBW 30 kHz Mode Auto FFT<br>SGL DC<br>1Rm Max<br>M1[1] -57.28 dBm 155.00 kHz<br>D1 -23.000 dBm<br>Start 150.0 kHz 3000 pts Stop 30.0 MHz<br> Spectrum<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>-70 dBm<br>-80 dBm<br>Date: 8.AUG.2019 15:25:26 |
| <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 11.41 dBm 839.40 MHz<br>M2[1] -34.09 dBm 15.80771 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 8.AUG.2019 15:00:07 | <br>Ref Level 30.00 dBm Offset 8.72 dB RBW 1 MHz<br>Att 40 dB SWT 104 ms VBW 3 MHz Mode Auto Sweep<br>SGL<br>1Rm Max<br>M1[1] 12.29 dBm 830.70 MHz<br>M2[1] -34.05 dBm 17.84270 GHz<br>D1 -13.000 dBm<br>Start 30.0 MHz 3000 pts Stop 26.0 GHz<br> Spectrum<br>20 dBm<br>10 dBm<br>0 dBm<br>-10 dBm<br>-20 dBm<br>-30 dBm<br>-40 dBm<br>-50 dBm<br>-60 dBm<br>M1<br>M2<br>Date: 8.AUG.2019 15:25:34 |