

# **FCC REPORT**

## **(LTE)**

**Applicant:** Sky Phone LLC

**Address of Applicant:** 1348 Washington Av. Suite 350, Miami Beach, Florida, United States

**Equipment Under Test (EUT)**

Product Name: 4G SMART PHONE

Model No.: Elite H55

Trade mark: SKY DEVICES

**FCC ID:** 2ABOSSKYELITEH55

**Applicable standards:** FCC CFR Title 47 Part 2  
FCC CFR Title 47 Part 22 Subpart H  
FCC CFR Title 47 Part 24 Subpart E  
FCC CFR Title 47 Part 27 Subpart L  
FCC CFR Title 47 Part 27 Subpart H

**Date of sample receipt:** 14 Jul., 2020

**Date of Test:** 15 Jul., to 19 Aug., 2020

**Date of report issued:** 20 Aug., 2020

**Test Result:** PASS\*

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

Authorized Signature:



Bruce Zhang  
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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## 2. Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | 20 Aug., 2020 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

Tested by:

*Mike.ou*

**Test Engineer**

Date:

*20 Aug., 2020*

Reviewed by:

*Winner Zhang*

**Project Engineer**

Date:

*20 Aug., 2020*

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#### 4. Test Summary

| Test Items                                                                                                                                                                                                                                                                                                  | Section in CFR 47                                                                               | Result                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------|
| RF Exposure (SAR)                                                                                                                                                                                                                                                                                           | Part 1.1307<br>Part 2.1093                                                                      | Passed<br>(Please refer to SAR Report) |
| RF Output Power                                                                                                                                                                                                                                                                                             | Part 2.1046<br>Part 22.913 (a)(5)<br>Part 24.232 (c)<br>Part 27.50 (c)(10)<br>Part 27.50 (d)(4) | Pass                                   |
| Peak-to-Average Ratio                                                                                                                                                                                                                                                                                       | Part 24.232 (d)<br>Part 27.50(d)(5)                                                             | Pass                                   |
| Modulation Characteristics                                                                                                                                                                                                                                                                                  | Part 2.1047                                                                                     | Pass                                   |
| 99% & -26 dB Occupied Bandwidth                                                                                                                                                                                                                                                                             | Part 2.1049<br>Part 22.917(b)<br>Part 24.238(b)<br>Part 27.53(g)<br>Part 27.53(h)               | Pass                                   |
| Out of band emission at antenna terminals                                                                                                                                                                                                                                                                   | Part 2.1053<br>Part 22.917(a)<br>Part 24.238 (a)<br>Part 27.53 (g)<br>Part 27.53 (h)            | Pass                                   |
| Field strength of spurious radiation                                                                                                                                                                                                                                                                        | Part 22.917(a)<br>Part 24.238 (a)<br>Part 27.53 (g)<br>Part 27.53 (h)                           | Pass                                   |
| Frequency stability vs. temperature                                                                                                                                                                                                                                                                         | Part 22.355<br>Part 24.235<br>Part 27.54<br>Part 2.1055(a)(1)(b)                                | Pass                                   |
| Frequency stability vs. voltage                                                                                                                                                                                                                                                                             | Part 22.355<br>Part 24.235<br>Part 27.54<br>Part 2.1055(d)(2)                                   | Pass                                   |
| <b>Remark:</b><br>1. Pass: The EUT complies with the essential requirements in the standard.<br>2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB(Fundamental Frequency below 1GHz)/1.0dB(Fundamental Frequency above 1GHz) (provided by the customer). |                                                                                                 |                                        |
| <b>Test Method:</b>                                                                                                                                                                                                                                                                                         | ANSI/TIA-603-E-2016<br>ANSI C63.26-2015                                                         |                                        |

## 5. General Information

### 5.1 Client Information

|               |                                                                    |
|---------------|--------------------------------------------------------------------|
| Applicant:    | Sky Phone LLC                                                      |
| Address:      | 1348 Washington Av. Suite 350, Miami Beach, Florida, United States |
| Manufacturer: | Sky Phone LLC                                                      |
| Address:      | 1348 Washington Av. Suite 350, Miami Beach, Florida, United States |

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

|                            |                                                                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:              | 4G SMART PHONE                                                                                                                                                                                                                                                             |
| Model No.:                 | Elite H55                                                                                                                                                                                                                                                                  |
| Operation Frequency range: | LTE Band 2: TX: 1850MHz-1910MHz, RX: 1930MHz-1990MHz<br>LTE Band 4: TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz<br>LTE Band 5: TX: 824MHz-849MHz, RX: 869MHz-894MHz<br>LTE Band 12: TX: 699MHz-716MHz, RX: 729MHz-746MHz<br>LTE Band 17: TX: 704MHz-716MHz, RX: 734MHz-746MHz |
| Modulation type:           | QPSK, 16QAM                                                                                                                                                                                                                                                                |
| Antenna type:              | Internal Antenna                                                                                                                                                                                                                                                           |
| Antenna gain:              | LTE Band 2: 0.4dBi<br>LTE Band 4: 0.3dBi<br>LTE Band 5: -0.8dBi<br>LTE Band 12: -0.6dBi<br>LTE Band 17: -0.7dBi                                                                                                                                                            |
| Power supply:              | Rechargeable Li-ion Battery DC3.8V-2000mAh                                                                                                                                                                                                                                 |
| AC adapter:                | Input: AC100-240V 50/60Hz 0.2A<br>Output: DC 5.0V, 1000mA                                                                                                                                                                                                                  |
| Test Sample Condition:     | The applicant provided engineering samples for staying in continuously transmitting for testing.                                                                                                                                                                           |

## Operation Frequency List:

| LTE Band 2 (1.4MHz) |                 | LTE Band 2 (3MHz)  |                 |
|---------------------|-----------------|--------------------|-----------------|
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 18607               | 1850.70         | 18615              | 1851.50         |
| 18608               | 1850.80         | 18616              | 1851.60         |
| ....                | ....            | ....               | ....            |
| 18899               | 1879.90         | 18899              | 1879.90         |
| 18900               | 1880.00         | 18900              | 1880.00         |
| 18901               | 1880.10         | 18901              | 1880.10         |
| ...                 | ...             | ...                | ...             |
| 19193               | 1909.20         | 19185              | 1908.40         |
| 19194               | 1909.30         | 19186              | 1908.50         |
| LTE Band 2 (5MHz)   |                 | LTE Band 2 (10MHz) |                 |
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 18625               | 1852.50         | 18650              | 1855.00         |
| 18626               | 1852.60         | 18651              | 1855.10         |
| ....                | ....            | ....               | ....            |
| 18899               | 1879.90         | 18899              | 1879.90         |
| 18900               | 1880.00         | 18900              | 1880.00         |
| 18901               | 1880.10         | 18901              | 1880.10         |
| ...                 | ...             | ...                | ...             |
| 19175               | 1907.40         | 19150              | 1904.90         |
| 19176               | 1907.50         | 19151              | 1905.00         |
| LTE Band 2 (15MHz)  |                 | LTE Band 2 (20MHz) |                 |
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 18675               | 1857.50         | 18700              | 1860.00         |
| 18676               | 1857.60         | 18701              | 1860.10         |
| ....                | ....            | ....               | ....            |
| 18899               | 1879.90         | 18899              | 1879.90         |
| 18900               | 1880.00         | 18900              | 1880.00         |
| 18901               | 1880.10         | 18901              | 1880.10         |
| ...                 | ...             | ...                | ...             |
| 19125               | 1902.40         | 19100              | 1899.90         |
| 19126               | 1902.50         | 19101              | 1900.00         |

| LTE Band 4 (1.4MHz) |                 | LTE Band 4 (3MHz)  |                 |
|---------------------|-----------------|--------------------|-----------------|
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 19957               | 1710.70         | 19965              | 1711.50         |
| 19958               | 1710.80         | 19966              | 1711.60         |
| ....                | ....            | ....               | ....            |
| 20174               | 1732.40         | 20174              | 1732.40         |
| 20175               | 1732.50         | 20175              | 1732.50         |
| 20176               | 1732.60         | 20176              | 1732.60         |
| ...                 | ...             | ...                | ...             |
| 20392               | 1754.20         | 20384              | 1753.40         |
| 20393               | 1754.30         | 20385              | 1753.50         |
| LTE Band 4 (5MHz)   |                 | LTE Band 4 (10MHz) |                 |
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 19975               | 1712.50         | 20000              | 1715.00         |
| 19976               | 1712.60         | 20001              | 1715.10         |
| ....                | ....            | ....               | ....            |
| 20174               | 1732.40         | 20174              | 1732.40         |
| 20175               | 1732.50         | 20175              | 1732.50         |
| 20176               | 1732.60         | 20176              | 1732.60         |
| ...                 | ...             | ...                | ...             |
| 20374               | 1752.40         | 20349              | 1749.90         |
| 20375               | 1752.50         | 20350              | 1750.00         |
| LTE Band 4 (15MHz)  |                 | LTE Band 4 (20MHz) |                 |
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 20025               | 1717.50         | 20050              | 1720.00         |
| 20026               | 1717.60         | 20051              | 1720.10         |
| ....                | ....            | ....               | ....            |
| 20174               | 1732.40         | 20174              | 1732.40         |
| 20175               | 1732.50         | 20175              | 1732.50         |
| 20176               | 1732.60         | 20176              | 1732.60         |
| ...                 | ...             | ...                | ...             |
| 20324               | 1747.40         | 20299              | 1744.90         |
| 20325               | 1747.50         | 20300              | 1745.00         |

| LTE Band 5 (1.4MHz) |                 | LTE Band 5 (3MHz)  |                 |
|---------------------|-----------------|--------------------|-----------------|
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 20407               | 824.70          | 20415              | 825.50          |
| 20408               | 824.80          | 20416              | 825.60          |
| ....                | ....            | ....               | ....            |
| 20524               | 836.40          | 20524              | 836.40          |
| 20525               | 836.50          | 20525              | 836.50          |
| 20526               | 836.60          | 20526              | 836.60          |
| ...                 | ...             | ...                | ...             |
| 20642               | 848.20          | 20634              | 847.40          |
| 20643               | 848.30          | 20635              | 847.50          |
| LTE Band 5 (5MHz)   |                 | LTE Band 5 (10MHz) |                 |
| Channel             | Frequency (MHz) | Channel            | Frequency (MHz) |
| 20425               | 826.50          | 20450              | 829.00          |
| 20426               | 826.60          | 20451              | 829.10          |
| ....                | ....            | ....               | ....            |
| 20524               | 836.40          | 20524              | 836.40          |
| 20525               | 836.50          | 20525              | 836.50          |
| 20526               | 836.60          | 20526              | 836.60          |
| ...                 | ...             | ...                | ...             |
| 20624               | 846.40          | 20599              | 839.90          |
| 20625               | 846.50          | 20600              | 844.00          |



| LTE Band 12 (1.4MHz) |                 | LTE Band 12 (3MHz)  |                 |
|----------------------|-----------------|---------------------|-----------------|
| Channel              | Frequency (MHz) | Channel             | Frequency (MHz) |
| 23017                | 699.70          | 23025               | 700.50          |
| 23756                | 699.80          | 23026               | 700.60          |
| ....                 | ....            | ....                | ....            |
| 23094                | 707.40          | 23094               | 707.40          |
| 23095                | 707.50          | 23095               | 707.50          |
| 23096                | 707.60          | 23096               | 707.60          |
| ...                  | ...             | ...                 | ...             |
| 23172                | 715.20          | 23164               | 714.40          |
| 23173                | 715.30          | 23165               | 714.50          |
| LTE Band 12 (5MHz)   |                 | LTE Band 12 (10MHz) |                 |
| Channel              | Frequency (MHz) | Channel             | Frequency (MHz) |
| 23035                | 701.50          | 23060               | 704.00          |
| 23036                | 701.60          | 23061               | 704.10          |
| ....                 | ....            | ....                | ....            |
| 23094                | 707.40          | 23094               | 707.40          |
| 23095                | 707.50          | 23095               | 707.50          |
| 23096                | 707.60          | 23096               | 707.60          |
| ...                  | ...             | ...                 | ...             |
| 23154                | 713.40          | 23129               | 710.90          |
| 23155                | 713.50          | 23130               | 711.00          |

| LTE Band 17 (5MHz) |                 | LTE Band 17 (10MHz) |                 |
|--------------------|-----------------|---------------------|-----------------|
| Channel            | Frequency (MHz) | Channel             | Frequency (MHz) |
| 23755              | 706.50          | 23780               | 709.00          |
| 23756              | 706.60          | 23781               | 709.10          |
| ....               | ....            | ....                | ....            |
| 23789              | 709.90          | 23789               | 709.90          |
| 23790              | 710.00          | 23790               | 710.00          |
| 23791              | 710.10          | 23791               | 710.10          |
| ...                | ...             | ...                 | ...             |
| 23824              | 713.40          | 23799               | 710.90          |
| 23825              | 713.50          | 23800               | 711.00          |

Regards to the operating frequency range, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channels as below:

| LTE Band 2 (1.4MHz) |       |                 | LTE Band 2 (3MHz)  |       |                 |
|---------------------|-------|-----------------|--------------------|-------|-----------------|
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 18607 | 1850.70         | Lowest channel     | 18615 | 1851.50         |
| Middle channel      | 18900 | 1880.00         | Middle channel     | 18900 | 1880.00         |
| Highest channel     | 19193 | 1909.30         | Highest channel    | 19185 | 1908.50         |
| LTE Band 2 (5MHz)   |       |                 | LTE Band 2 (10MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 18625 | 1852.50         | Lowest channel     | 18650 | 1855.00         |
| Middle channel      | 18900 | 1880.00         | Middle channel     | 18900 | 1880.00         |
| Highest channel     | 19175 | 1907.50         | Highest channel    | 19150 | 1905.00         |
| LTE Band 2 (15MHz)  |       |                 | LTE Band 2 (20MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 18675 | 1857.50         | Lowest channel     | 18700 | 1860.00         |
| Middle channel      | 18900 | 1880.00         | Middle channel     | 18900 | 1880.00         |
| Highest channel     | 19125 | 1902.50         | Highest channel    | 19100 | 1900.00         |

| LTE Band 4 (1.4MHz) |       |                 | LTE Band 4 (3MHz)  |       |                 |
|---------------------|-------|-----------------|--------------------|-------|-----------------|
| Channel:            |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 19957 | 1710.70         | Lowest channel     | 19965 | 1711.50         |
| Middle channel      | 20175 | 1732.50         | Middle channel     | 20175 | 1732.50         |
| Highest channel     | 20393 | 1754.30         | Highest channel    | 20385 | 1753.50         |
| LTE Band 4 (5MHz)   |       |                 | LTE Band 4 (10MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 19975 | 1712.50         | Lowest channel     | 20000 | 1715.00         |
| Middle channel      | 20175 | 1732.50         | Middle channel     | 20175 | 1732.50         |
| Highest channel     | 20375 | 1752.50         | Highest channel    | 20350 | 1750.00         |
| LTE Band 4 (15MHz)  |       |                 | LTE Band 4 (20MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 20025 | 1717.50         | Lowest channel     | 20050 | 1720.00         |
| Middle channel      | 20175 | 1732.50         | Middle channel     | 20175 | 1732.50         |
| Highest channel     | 20325 | 1747.50         | Highest channel    | 20300 | 1745.00         |

| LTE Band 5 (1.4MHz) |       |                 | LTE Band 5 (3MHz)  |       |                 |
|---------------------|-------|-----------------|--------------------|-------|-----------------|
| Channel:            |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 20407 | 824.70          | Lowest channel     | 20415 | 825.50          |
| Middle channel      | 20525 | 836.50          | Middle channel     | 20525 | 836.50          |
| Highest channel     | 20643 | 848.30          | Highest channel    | 20635 | 847.50          |
| LTE Band 5 (5MHz)   |       |                 | LTE Band 5 (10MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 20425 | 826.50          | Lowest channel     | 20450 | 829.00          |
| Middle channel      | 20525 | 836.50          | Middle channel     | 20525 | 836.50          |
| Highest channel     | 20625 | 846.50          | Highest channel    | 20600 | 844.00          |

| LTE Band 12(1.4MHz) |       |                 | LTE Band 12(3MHz)  |       |                 |
|---------------------|-------|-----------------|--------------------|-------|-----------------|
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 23017 | 699.70          | Lowest channel     | 23025 | 700.50          |
| Middle channel      | 23095 | 707.50          | Middle channel     | 23095 | 707.50          |
| Highest channel     | 23173 | 715.30          | Highest channel    | 23165 | 714.50          |
| LTE Band 12(5MHz)   |       |                 | LTE Band 12(10MHz) |       |                 |
| Channel             |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel      | 23035 | 701.50          | Lowest channel     | 23060 | 704.00          |
| Middle channel      | 23095 | 707.50          | Middle channel     | 23095 | 707.50          |
| Highest channel     | 23155 | 713.50          | Highest channel    | 23130 | 711.00          |

| LTE Band 17(5MHz) |       |                 | LTE Band 17(10MHz) |       |                 |
|-------------------|-------|-----------------|--------------------|-------|-----------------|
| Channel           |       | Frequency (MHz) | Channel            |       | Frequency (MHz) |
| Lowest channel    | 23755 | 706.50          | Lowest channel     | 23780 | 709.00          |
| Middle channel    | 23790 | 710.00          | Middle channel     | 23790 | 710.00          |
| Highest channel   | 23825 | 713.50          | Highest channel    | 23800 | 711.00          |

### 5.3 Test environment and mode, and test samples plans

| Operating Environment:                                                                                                                                                                                                                                                                                                                                                           |                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Temperature:                                                                                                                                                                                                                                                                                                                                                                     | Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C                      |
| Humidity:                                                                                                                                                                                                                                                                                                                                                                        | 20 % ~ 75 % RH                                                   |
| Atmospheric Pressure:                                                                                                                                                                                                                                                                                                                                                            | 1008 mbar                                                        |
| Voltage:                                                                                                                                                                                                                                                                                                                                                                         | Nominal: 3.8Vdc, Extreme: Low 3.55Vdc, High 4.35Vdc              |
| Test mode:                                                                                                                                                                                                                                                                                                                                                                       |                                                                  |
| LTE QPSK mode                                                                                                                                                                                                                                                                                                                                                                    | Keep the EUT communication with simulated station in QPSK mode   |
| LTE 16-QAM mode                                                                                                                                                                                                                                                                                                                                                                  | Keep the EUT communication with simulated station in 16-QAM mode |
| Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report. |                                                                  |

### 5.4 Description of Support Units

| Test Equipment    | Manufacturer | Model No. | Serial No. |
|-------------------|--------------|-----------|------------|
| Simulated Station | Anritsu      | MT8820C   | 6201026545 |

### 5.5 Measurement Uncertainty

| Parameters                          | Expanded Uncertainty |
|-------------------------------------|----------------------|
| Radiated Emission (9kHz ~ 30MHz)    | ±3.12 dB (k=2)       |
| Radiated Emission (30MHz ~ 1000MHz) | ±4.32 dB (k=2)       |
| Radiated Emission (1GHz ~ 18GHz)    | ±5.16 dB (k=2)       |
| Radiated Emission (18GHz ~ 40GHz)   | ±3.20 dB (k=2)       |

### 5.6 Related Submittal(s) / Grant (s)

|                                                              |
|--------------------------------------------------------------|
| This is an original grant, no related submittals and grants. |
|--------------------------------------------------------------|

### 5.7 Additions to, deviations, or exclusions from the method

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

### 5.8 Laboratory Facility

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>● <b>FCC - Designation No.: CN1211</b><br/>Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 727551.</li> <li>● <b>ISED – CAB identifier.: CN0021</b><br/>The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.</li> <li>● <b>A2LA - Registration No.: 4346.01</b><br/>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <a href="https://portal.a2la.org/scopepdf/4346-01.pdf">https://portal.a2la.org/scopepdf/4346-01.pdf</a></li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 5.9 Laboratory Location

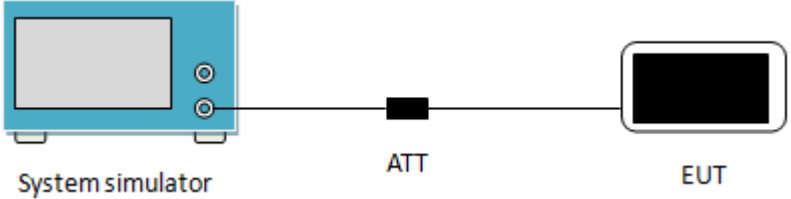
|                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Shenzhen Zhongjian Nanfang Testing Co., Ltd.<br/>Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China<br/>Tel: +86-755-23118282, Fax: +86-755-23116366<br/>Email: info@ccis-cb.com, Website: <a href="http://www.ccis-cb.com">http://www.ccis-cb.com</a></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 5.10 Test Instruments list

| Test Equipment               | Manufacturer    | Model No.     | Serial No.         | Cal. Date<br>(mm-dd-yy) | Cal. Due date<br>(mm-dd-yy) |
|------------------------------|-----------------|---------------|--------------------|-------------------------|-----------------------------|
| 3m SAC                       | SAEMC           | 9m*6m*6m      | 966                | 07-22-2017              | 07-21-2020                  |
|                              |                 |               |                    | 07-22-2020              | 07-21-2023                  |
| BiConiLog Antenna            | SCHWARZBECK     | VULB9163      | 497                | 03-18-2020              | 03-17-2021                  |
| Biconical Antenna            | SCHWARZBECK     | VUBA9117      | 359                | 06-22-2017              | 06-21-2020                  |
|                              |                 |               |                    | 06-22-2020              | 06-21-2021                  |
| Horn Antenna                 | SCHWARZBECK     | BBHA9120D     | 916                | 03-07-2020              | 03-06-2021                  |
| Horn Antenna                 | SCHWARZBECK     | BBHA9120D     | 1805               | 06-22-2017              | 06-21-2020                  |
|                              |                 |               |                    | 06-22-2020              | 06-21-2021                  |
| Horn Antenna                 | SCHWARZBECK     | BBHA 9170     | BBHA9170582        | 11-18-2019              | 11-17-2020                  |
| EMI Test Software            | AUDIX           | E3            | Version: 6.110919b |                         |                             |
| Pre-amplifier                | HP              | 8447D         | 2944A09358         | 03-07-2020              | 03-06-2021                  |
| Pre-amplifier                | CD              | PAP-1G18      | 11804              | 03-07-2020              | 03-06-2021                  |
| Spectrum analyzer            | Rohde & Schwarz | FSP30         | 101454             | 03-05-2020              | 03-04-2021                  |
| Spectrum analyzer            | Rohde & Schwarz | FSP40         | 100363             | 11-18-2019              | 11-17-2020                  |
| EMI Test Receiver            | Rohde & Schwarz | ESRP7         | 101070             | 03-05-2020              | 03-04-2021                  |
| Spectrum Analyzer            | Agilent         | N9020A        | MY50510123         | 11-18-2019              | 11-17-2020                  |
| Signal Generator             | Rohde & Schwarz | SMX           | 835454/016         | 03-05-2020              | 03-04-2021                  |
| Signal Generator             | R&S             | SMR20         | 1008100050         | 03-05-2020              | 03-04-2021                  |
| RF Switch Unit               | MWRFTTEST       | MW200         | N/A                | N/A                     | N/A                         |
| Test Software                | MWRFTTEST       | MTS8200       | Version: 2.0.0.0   |                         |                             |
| Cable                        | ZDECL           | Z108-NJ-NJ-81 | 1608458            | 03-07-2020              | 03-06-2021                  |
| Cable                        | MICRO-COAX      | MFR64639      | K10742-5           | 03-07-2020              | 03-06-2021                  |
| Cable                        | SUHNER          | SUCOFLEX100   | 58193/4PE          | 03-07-2020              | 03-06-2021                  |
| DC Power Supply              | XinNuoEr        | WYK-10020K    | 1409050110020      | 09-25-2019              | 09-24-2020                  |
| Temperature Humidity Chamber | HengPu          | HPGDS-500     | 20140828008        | 11-01-2019              | 11-31-2020                  |
| Simulated Station            | Rohde & Schwarz | CMW500        | 140493             | 07-22-2019              | 07-21-2020                  |
|                              |                 |               |                    | 07-22-2020              | 07-21-2021                  |

## 6. Test results

### 6.1 Conducted Output Power, ERP and EIRP

|                   |                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | Part 22.913(a)(5), Part 24.232(c), part 27.50(c)(10), Part 27.50(d)(4),                                                                                                                                                                                                                                                                                                                                      |
| Limit:            | LTE Band 2: 2W, LTE Band 4: 1W, LTE Band 5: 7W, LTE Band 12: 3W, LTE Band 17: 3W                                                                                                                                                                                                                                                                                                                             |
| Test Setup:       |  <p>The diagram illustrates the test setup. On the left is a blue rectangular box labeled 'System simulator'. A line connects its right side to a small black rectangle labeled 'ATT' (attenuator). Another line connects the right side of the 'ATT' to a black rectangular box labeled 'EUT' (Equipment Under Test).</p> |
| Test Procedure:   | The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the CMW500. Transmitter output power was read off in dBm.                                                                                                                                                                                                                                           |
| Test Instruments: | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                            |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                             |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                       |

## Measurement Data:

| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|
|                                                              |                 |                     |         |           | 18607               | 18900     | 19193     |
|                                                              |                 |                     |         |           | 1850.7MHz           | 1880.0MHz | 1909.3MHz |
| 2                                                            | 1.4             | QPSK                | 1       | 0         | 22.85               | 23.43     | 23.09     |
|                                                              |                 |                     | 1       | 2         | 23.02               | 23.59     | 23.29     |
|                                                              |                 |                     | 1       | 5         | 22.85               | 23.35     | 23.12     |
|                                                              |                 |                     | 3       | 0         | 22.28               | 22.92     | 22.37     |
|                                                              |                 |                     | 3       | 1         | 22.29               | 22.88     | 22.34     |
|                                                              |                 |                     | 3       | 2         | 21.86               | 22.49     | 22.04     |
|                                                              |                 |                     | 6       | 0         | 21.88               | 22.43     | 22.13     |
|                                                              |                 | Antenna Gain (dBi): |         |           | 0.40                |           |           |
|                                                              |                 | Max. EIRP (dBm):    |         |           | 23.99               |           |           |
|                                                              |                 | EIRP Limit (dBm):   |         |           | 33.00               |           |           |
|                                                              |                 | 16QAM               | 1       | 0         | 21.74               | 22.50     | 21.74     |
|                                                              |                 |                     | 1       | 2         | 21.97               | 22.63     | 21.87     |
|                                                              |                 |                     | 1       | 5         | 21.74               | 22.46     | 21.72     |
|                                                              |                 |                     | 3       | 0         | 21.36               | 21.85     | 21.25     |
|                                                              |                 |                     | 3       | 1         | 21.42               | 21.87     | 21.22     |
|                                                              |                 |                     | 3       | 2         | 20.90               | 21.45     | 20.94     |
|                                                              |                 |                     | 6       | 0         | 20.89               | 21.44     | 20.98     |
|                                                              |                 | Antenna Gain (dBi): |         |           | 0.40                |           |           |
|                                                              |                 | Max. EIRP (dBm):    |         |           | 23.03               |           |           |
|                                                              |                 | EIRP Limit (dBm):   |         |           | 33.00               |           |           |
|                                                              |                 |                     |         |           |                     |           |           |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |
|                                                              |                 |                     |         |           | 18615               | 18900     | 19185     |
|                                                              |                 |                     |         |           | 1851.5MHz           | 1880.0MHz | 1908.5MHz |
| 2                                                            | 3               | QPSK                | 1       | 0         | 22.80               | 23.44     | 23.04     |
|                                                              |                 |                     | 1       | 7         | 22.80               | 23.46     | 23.19     |
|                                                              |                 |                     | 1       | 14        | 22.79               | 23.39     | 23.23     |
|                                                              |                 |                     | 8       | 0         | 21.83               | 22.50     | 22.00     |
|                                                              |                 |                     | 8       | 4         | 21.87               | 22.48     | 22.00     |
|                                                              |                 |                     | 8       | 7         | 21.82               | 22.45     | 21.90     |
|                                                              |                 |                     | 15      | 0         | 21.87               | 22.12     | 21.56     |
|                                                              |                 | Antenna Gain (dBi): |         |           | 0.40                |           |           |
|                                                              |                 | Max. EIRP (dBm):    |         |           | 23.86               |           |           |
|                                                              |                 | EIRP Limit (dBm):   |         |           | 33.00               |           |           |
|                                                              |                 | 16QAM               | 1       | 0         | 21.99               | 22.60     | 21.66     |
|                                                              |                 |                     | 1       | 7         | 22.00               | 22.53     | 21.72     |
|                                                              |                 |                     | 1       | 14        | 21.99               | 22.43     | 21.74     |
|                                                              |                 |                     | 8       | 0         | 20.86               | 21.50     | 20.93     |
|                                                              |                 |                     | 8       | 4         | 20.87               | 21.46     | 20.93     |
|                                                              |                 |                     | 8       | 7         | 20.79               | 21.35     | 20.85     |
|                                                              |                 |                     | 15      | 0         | 20.99               | 21.21     | 20.87     |
|                                                              |                 | Antenna Gain (dBi): |         |           | 0.40                |           |           |
|                                                              |                 | Max. EIRP (dBm):    |         |           | 23.00               |           |           |
|                                                              |                 | EIRP Limit (dBm):   |         |           | 33.00               |           |           |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |

| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|--|
|                                                              |                 |                     |         |           | 18625               | 18900     | 19175     |  |
|                                                              |                 |                     |         |           | 1852.5MHz           | 1880.0MHz | 1907.5MHz |  |
| 2                                                            | 5               | QPSK                | 1       | 0         | 22.77               | 23.37     | 22.73     |  |
|                                                              |                 |                     | 1       | 12        | 22.90               | 23.43     | 23.04     |  |
|                                                              |                 |                     | 1       | 24        | 22.84               | 23.22     | 22.94     |  |
|                                                              |                 |                     | 12      | 0         | 21.77               | 22.44     | 21.77     |  |
|                                                              |                 |                     | 12      | 6         | 21.90               | 22.31     | 21.82     |  |
|                                                              |                 |                     | 12      | 11        | 21.81               | 22.43     | 21.84     |  |
|                                                              |                 |                     | 25      | 0         | 21.87               | 22.23     | 21.99     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 23.83     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 21.83               | 22.59     | 21.82     |  |
|                                                              |                 |                     | 1       | 12        | 21.97               | 22.65     | 22.04     |  |
|                                                              |                 |                     | 1       | 24        | 21.89               | 22.41     | 21.93     |  |
|                                                              |                 |                     | 12      | 0         | 20.77               | 21.55     | 20.75     |  |
|                                                              |                 |                     | 12      | 6         | 20.87               | 21.39     | 20.80     |  |
|                                                              |                 |                     | 12      | 11        | 20.83               | 21.46     | 20.86     |  |
|                                                              |                 |                     | 25      | 0         | 20.79               | 21.52     | 20.66     |  |
| Antenna Gain (dBi):                                          |                 |                     |         | 0.40      |                     |           |           |  |
| Max. EIRP (dBm):                                             |                 |                     |         | 23.05     |                     |           |           |  |
| EIRP Limit (dBm):                                            |                 |                     |         | 33.00     |                     |           |           |  |
|                                                              |                 |                     |         |           |                     |           |           |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|                                                              |                 |                     |         |           | 18650               | 18900     | 19150     |  |
|                                                              |                 |                     |         |           | 1855.0MHz           | 1880.0MHz | 1905.0MHz |  |
| 2                                                            | 10              | QPSK                | 1       | 0         | 22.75               | 23.64     | 22.58     |  |
|                                                              |                 |                     | 1       | 24        | 23.04               | 23.61     | 22.91     |  |
|                                                              |                 |                     | 1       | 49        | 22.98               | 23.37     | 23.00     |  |
|                                                              |                 |                     | 25      | 0         | 21.73               | 22.56     | 21.72     |  |
|                                                              |                 |                     | 25      | 12        | 22.03               | 22.27     | 21.88     |  |
|                                                              |                 |                     | 25      | 24        | 21.84               | 22.40     | 21.75     |  |
|                                                              |                 |                     | 50      | 0         | 21.86               | 22.21     | 21.84     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.04     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 21.89               | 22.35     | 21.71     |  |
|                                                              |                 |                     | 1       | 24        | 22.12               | 22.45     | 21.91     |  |
|                                                              |                 |                     | 1       | 49        | 22.07               | 22.05     | 21.94     |  |
|                                                              |                 |                     | 25      | 0         | 20.75               | 21.58     | 20.80     |  |
|                                                              |                 |                     | 25      | 12        | 21.02               | 21.30     | 20.92     |  |
|                                                              |                 |                     | 25      | 24        | 21.12               | 21.23     | 20.99     |  |
|                                                              |                 |                     | 50      | 0         | 20.98               | 20.89     | 20.86     |  |
| Antenna Gain (dBi):                                          |                 |                     |         | 0.40      |                     |           |           |  |
| Max. EIRP (dBm):                                             |                 |                     |         | 22.85     |                     |           |           |  |
| EIRP Limit (dBm):                                            |                 |                     |         | 33.00     |                     |           |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |  |



| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|--|
|                                                              |                 |                     |         |           | 18675               | 18900     | 19125     |  |
|                                                              |                 |                     |         |           | 1857.5MHz           | 1880.0MHz | 1902.5MHz |  |
| 2                                                            | 15              | QPSK                | 1       | 0         | 22.70               | 23.47     | 22.50     |  |
|                                                              |                 |                     | 1       | 37        | 22.96               | 23.46     | 22.85     |  |
|                                                              |                 |                     | 1       | 74        | 23.18               | 23.04     | 23.10     |  |
|                                                              |                 |                     | 36      | 0         | 21.85               | 22.62     | 21.64     |  |
|                                                              |                 |                     | 36      | 16        | 22.17               | 22.34     | 21.95     |  |
|                                                              |                 |                     | 36      | 35        | 22.07               | 22.55     | 21.82     |  |
|                                                              |                 |                     | 75      | 0         | 22.12               | 22.43     | 21.75     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 23.87     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 21.91               | 22.56     | 21.36     |  |
|                                                              |                 |                     | 1       | 37        | 22.09               | 22.52     | 21.64     |  |
|                                                              |                 |                     | 1       | 74        | 22.33               | 22.13     | 21.76     |  |
|                                                              |                 |                     | 36      | 0         | 20.83               | 21.60     | 20.58     |  |
|                                                              |                 |                     | 36      | 16        | 21.21               | 21.32     | 20.91     |  |
|                                                              |                 |                     | 36      | 35        | 21.03               | 21.22     | 20.98     |  |
|                                                              |                 |                     | 75      | 0         | 20.86               | 20.89     | 20.84     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.96     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
|                                                              |                 |                     |         |           |                     |           |           |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|                                                              |                 |                     |         |           | 18700               | 18900     | 19100     |  |
|                                                              |                 |                     |         |           | 1860.0MHz           | 1880.0MHz | 1900.0MHz |  |
| 2                                                            | 20              | QPSK                | 1       | 0         | 22.68               | 23.32     | 22.20     |  |
|                                                              |                 |                     | 1       | 49        | 23.29               | 23.67     | 22.61     |  |
|                                                              |                 |                     | 1       | 99        | 23.30               | 22.85     | 22.80     |  |
|                                                              |                 |                     | 50      | 0         | 21.64               | 22.54     | 21.31     |  |
|                                                              |                 |                     | 50      | 24        | 22.16               | 22.09     | 21.69     |  |
|                                                              |                 |                     | 50      | 49        | 21.93               | 22.31     | 21.47     |  |
|                                                              |                 |                     | 100     | 0         | 21.92               | 22.13     | 21.44     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.07     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 21.44               | 21.99     | 21.28     |  |
|                                                              |                 |                     | 1       | 49        | 22.01               | 22.21     | 21.74     |  |
|                                                              |                 |                     | 1       | 99        | 21.99               | 21.50     | 21.74     |  |
|                                                              |                 |                     | 50      | 0         | 20.63               | 21.57     | 20.36     |  |
|                                                              |                 |                     | 50      | 24        | 21.15               | 21.16     | 20.73     |  |
|                                                              |                 |                     | 50      | 49        | 21.23               | 21.16     | 20.69     |  |
|                                                              |                 |                     | 100     | 0         | 21.04               | 21.05     | 20.98     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.40      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.61     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 33.00     |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |  |

| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|--|
|                                                              |                 |                     |         |           | 19957               | 20175     | 20393     |  |
|                                                              |                 |                     |         |           | 1710.7MHz           | 1732.5MHz | 1754.3MHz |  |
| 4                                                            | 1.4             | QPSK                | 1       | 0         | 23.86               | 23.43     | 23.39     |  |
|                                                              |                 |                     | 1       | 2         | 23.72               | 23.63     | 23.57     |  |
|                                                              |                 |                     | 1       | 5         | 23.82               | 23.47     | 23.40     |  |
|                                                              |                 |                     | 3       | 0         | 23.06               | 22.90     | 22.68     |  |
|                                                              |                 |                     | 3       | 1         | 23.08               | 22.89     | 22.66     |  |
|                                                              |                 |                     | 3       | 2         | 22.81               | 22.47     | 22.39     |  |
|                                                              |                 |                     | 6       | 0         | 22.49               | 22.35     | 22.25     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.16     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.50               | 22.47     | 22.02     |  |
|                                                              |                 |                     | 1       | 2         | 22.67               | 22.63     | 22.12     |  |
|                                                              |                 |                     | 1       | 5         | 22.44               | 22.52     | 21.99     |  |
|                                                              |                 |                     | 3       | 0         | 22.10               | 21.85     | 22.01     |  |
|                                                              |                 |                     | 3       | 1         | 22.09               | 21.88     | 21.99     |  |
|                                                              |                 |                     | 3       | 2         | 21.67               | 21.44     | 21.22     |  |
|                                                              |                 |                     | 6       | 0         | 21.58               | 21.39     | 21.16     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.97     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 |                     |         |           |                     |           |           |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|                                                              |                 |                     |         |           | 19965               | 20175     | 20385     |  |
|                                                              |                 |                     |         |           | 1711.5MHz           | 1732.5MHz | 1753.5MHz |  |
| 4                                                            | 3               | QPSK                | 1       | 0         | 23.82               | 23.66     | 23.38     |  |
|                                                              |                 |                     | 1       | 7         | 23.77               | 23.69     | 23.35     |  |
|                                                              |                 |                     | 1       | 14        | 23.68               | 23.70     | 23.35     |  |
|                                                              |                 |                     | 8       | 0         | 22.79               | 22.56     | 22.38     |  |
|                                                              |                 |                     | 8       | 4         | 22.69               | 22.54     | 22.33     |  |
|                                                              |                 |                     | 8       | 7         | 22.59               | 22.49     | 22.23     |  |
|                                                              |                 |                     | 15      | 0         | 22.43               | 22.39     | 22.21     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.12     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.77               | 22.32     | 22.37     |  |
|                                                              |                 |                     | 1       | 7         | 22.66               | 22.33     | 22.34     |  |
|                                                              |                 |                     | 1       | 14        | 22.61               | 22.34     | 22.31     |  |
|                                                              |                 |                     | 8       | 0         | 21.65               | 21.54     | 21.27     |  |
|                                                              |                 |                     | 8       | 4         | 21.57               | 21.55     | 21.27     |  |
|                                                              |                 |                     | 8       | 7         | 21.48               | 21.49     | 21.18     |  |
|                                                              |                 |                     | 15      | 0         | 21.43               | 21.55     | 21.05     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 23.07     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |  |

| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|--|
|                                                              |                 |                     |         |           | 19975               | 20175     | 20375     |  |
|                                                              |                 |                     |         |           | 1712.5MHz           | 1732.5MHz | 1752.5MHz |  |
| 4                                                            | 5               | QPSK                | 1       | 0         | 23.73               | 23.34     | 23.33     |  |
|                                                              |                 |                     | 1       | 12        | 23.79               | 23.53     | 23.45     |  |
|                                                              |                 |                     | 1       | 24        | 23.55               | 23.43     | 23.27     |  |
|                                                              |                 |                     | 12      | 0         | 22.62               | 22.45     | 22.28     |  |
|                                                              |                 |                     | 12      | 6         | 22.48               | 22.48     | 22.27     |  |
|                                                              |                 |                     | 12      | 11        | 22.53               | 22.51     | 22.28     |  |
|                                                              |                 |                     | 25      | 0         | 22.41               | 22.50     | 22.23     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.09     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.63               | 22.50     | 22.36     |  |
|                                                              |                 |                     | 1       | 12        | 22.62               | 22.66     | 22.44     |  |
|                                                              |                 |                     | 1       | 24        | 22.45               | 22.63     | 22.28     |  |
|                                                              |                 |                     | 12      | 0         | 21.56               | 21.50     | 21.27     |  |
|                                                              |                 |                     | 12      | 6         | 21.39               | 21.56     | 21.21     |  |
|                                                              |                 |                     | 12      | 11        | 21.45               | 21.52     | 21.29     |  |
|                                                              |                 |                     | 25      | 0         | 21.33               | 21.43     | 21.20     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.96     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 |                     |         |           |                     |           |           |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|                                                              |                 |                     |         |           | 20000               | 20175     | 20350     |  |
|                                                              |                 |                     |         |           | 1715.0MHz           | 1732.5MHz | 1750.0MHz |  |
| 4                                                            | 10              | QPSK                | 1       | 0         | 23.91               | 23.48     | 23.54     |  |
|                                                              |                 |                     | 1       | 24        | 23.77               | 23.64     | 23.58     |  |
|                                                              |                 |                     | 1       | 49        | 23.57               | 23.66     | 23.38     |  |
|                                                              |                 |                     | 25      | 0         | 22.60               | 22.50     | 22.42     |  |
|                                                              |                 |                     | 25      | 12        | 22.37               | 22.54     | 22.31     |  |
|                                                              |                 |                     | 25      | 24        | 22.49               | 22.45     | 22.35     |  |
|                                                              |                 |                     | 50      | 0         | 22.43               | 22.39     | 22.28     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.21     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.47               | 22.52     | 22.52     |  |
|                                                              |                 |                     | 1       | 24        | 22.42               | 22.71     | 22.51     |  |
|                                                              |                 |                     | 1       | 49        | 22.12               | 22.73     | 22.29     |  |
|                                                              |                 |                     | 25      | 0         | 21.57               | 21.58     | 21.43     |  |
|                                                              |                 |                     | 25      | 12        | 21.40               | 21.59     | 21.30     |  |
|                                                              |                 |                     | 25      | 24        | 21.23               | 21.45     | 21.23     |  |
|                                                              |                 |                     | 50      | 0         | 21.04               | 21.36     | 21.19     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 23.03     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |  |

| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|--------------------------------------------------------------|-----------------|---------------------|---------|-----------|---------------------|-----------|-----------|--|
|                                                              |                 |                     |         |           | 20025               | 20175     | 20325     |  |
|                                                              |                 |                     |         |           | 1717.5MHz           | 1732.5MHz | 1747.5MHz |  |
| 4                                                            | 15              | QPSK                | 1       | 0         | 23.73               | 23.38     | 23.80     |  |
|                                                              |                 |                     | 1       | 37        | 23.52               | 23.54     | 23.70     |  |
|                                                              |                 |                     | 1       | 74        | 23.31               | 23.61     | 23.46     |  |
|                                                              |                 |                     | 36      | 0         | 22.76               | 22.59     | 22.68     |  |
|                                                              |                 |                     | 36      | 16        | 22.55               | 22.75     | 22.60     |  |
|                                                              |                 |                     | 36      | 35        | 22.68               | 22.69     | 22.64     |  |
|                                                              |                 |                     | 75      | 0         | 22.41               | 22.26     | 22.54     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.10     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.66               | 22.42     | 22.56     |  |
|                                                              |                 |                     | 1       | 37        | 22.48               | 22.61     | 22.39     |  |
|                                                              |                 |                     | 1       | 74        | 22.38               | 22.66     | 22.15     |  |
|                                                              |                 |                     | 36      | 0         | 21.70               | 21.57     | 21.62     |  |
|                                                              |                 |                     | 36      | 16        | 21.55               | 21.72     | 21.51     |  |
|                                                              |                 |                     | 36      | 35        | 21.49               | 21.66     | 21.21     |  |
|                                                              |                 |                     | 75      | 0         | 21.35               | 21.55     | 21.19     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.96     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 |                     |         |           |                     |           |           |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation          | RB Size | RB Offset | Average Power (dBm) |           |           |  |
|                                                              |                 |                     |         |           | 20050               | 20175     | 20300     |  |
|                                                              |                 |                     |         |           | 1720.0MHz           | 1732.5MHz | 1745.0MHz |  |
| 4                                                            | 20              | QPSK                | 1       | 0         | 23.65               | 23.26     | 23.49     |  |
|                                                              |                 |                     | 1       | 49        | 23.68               | 23.78     | 23.80     |  |
|                                                              |                 |                     | 1       | 99        | 23.30               | 23.51     | 23.18     |  |
|                                                              |                 |                     | 50      | 0         | 22.53               | 22.36     | 22.58     |  |
|                                                              |                 |                     | 50      | 24        | 22.48               | 22.55     | 22.39     |  |
|                                                              |                 |                     | 50      | 49        | 22.47               | 22.40     | 22.46     |  |
|                                                              |                 |                     | 100     | 0         | 22.33               | 22.06     | 22.38     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 24.10     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
|                                                              |                 | 16QAM               | 1       | 0         | 22.21               | 21.82     | 22.45     |  |
|                                                              |                 |                     | 1       | 49        | 22.32               | 22.32     | 22.63     |  |
|                                                              |                 |                     | 1       | 99        | 21.98               | 22.07     | 22.08     |  |
|                                                              |                 |                     | 50      | 0         | 21.51               | 21.42     | 21.60     |  |
|                                                              |                 |                     | 50      | 24        | 21.46               | 21.61     | 21.40     |  |
|                                                              |                 |                     | 50      | 49        | 21.23               | 21.52     | 21.03     |  |
|                                                              |                 |                     | 100     | 0         | 21.22               | 21.63     | 20.99     |  |
|                                                              |                 | Antenna Gain (dBi): |         |           |                     | 0.30      |           |  |
|                                                              |                 | Max. EIRP (dBm):    |         |           |                     | 22.93     |           |  |
|                                                              |                 | EIRP Limit (dBm):   |         |           |                     | 30.00     |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                     |         |           |                     |           |           |  |

| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |           |  |
|------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------|-----------|---------------------|----------|-----------|--|
|                                                                                                      |                 |                    |         |           | 20407               | 20525    | 20643     |  |
|                                                                                                      |                 |                    |         |           | 824.7MHz            | 836.5MHz | 848.3MHz  |  |
| 5                                                                                                    | 1.4             | QPSK               | 1       | 0         | 23.59               | 23.55    | 23.00     |  |
|                                                                                                      |                 |                    | 1       | 2         | 23.78               | 23.70    | 23.10     |  |
|                                                                                                      |                 |                    | 1       | 5         | 23.64               | 23.51    | 22.93     |  |
|                                                                                                      |                 |                    | 3       | 0         | 23.06               | 23.03    | 22.83     |  |
|                                                                                                      |                 |                    | 3       | 1         | 23.10               | 23.01    | 22.76     |  |
|                                                                                                      |                 |                    | 3       | 2         | 22.61               | 22.64    | 21.96     |  |
|                                                                                                      |                 |                    | 6       | 0         | 22.49               | 22.56    | 21.89     |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |           |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.83    |           |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |           |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.45               | 22.61    | 21.65     |  |
|                                                                                                      |                 |                    | 1       | 2         | 22.72               | 22.79    | 21.76     |  |
|                                                                                                      |                 |                    | 1       | 5         | 22.52               | 22.60    | 21.62     |  |
|                                                                                                      |                 |                    | 3       | 0         | 22.13               | 21.99    | 21.67     |  |
|                                                                                                      |                 |                    | 3       | 1         | 22.22               | 21.98    | 21.65     |  |
|                                                                                                      |                 |                    | 3       | 2         | 21.61               | 21.52    | 20.84     |  |
|                                                                                                      |                 |                    | 6       | 0         | 21.55               | 21.49    | 20.99     |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |           |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.84    |           |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |           |  |
|                                                                                                      |                 |                    |         |           |                     |          |           |  |
| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |           |  |
|                                                                                                      |                 |                    |         |           | 20415               | 20525    | 20635     |  |
|                                                                                                      |                 |                    |         |           | 825.5MHz            | 836.5MHz | 847.50MHz |  |
| 5                                                                                                    | 3               | QPSK               | 1       | 0         | 23.55               | 23.67    | 23.13     |  |
|                                                                                                      |                 |                    | 1       | 7         | 23.54               | 23.55    | 23.03     |  |
|                                                                                                      |                 |                    | 1       | 14        | 23.65               | 23.60    | 23.05     |  |
|                                                                                                      |                 |                    | 8       | 0         | 22.56               | 22.66    | 21.96     |  |
|                                                                                                      |                 |                    | 8       | 4         | 22.57               | 22.58    | 21.94     |  |
|                                                                                                      |                 |                    | 8       | 7         | 22.52               | 22.51    | 21.86     |  |
|                                                                                                      |                 |                    | 15      | 0         | 22.43               | 22.39    | 21.76     |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |           |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.72    |           |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |           |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.75               | 22.74    | 21.80     |  |
|                                                                                                      |                 |                    | 1       | 7         | 22.75               | 22.56    | 21.69     |  |
|                                                                                                      |                 |                    | 1       | 14        | 22.79               | 22.63    | 21.66     |  |
|                                                                                                      |                 |                    | 8       | 0         | 21.61               | 21.58    | 20.91     |  |
|                                                                                                      |                 |                    | 8       | 4         | 21.63               | 21.53    | 20.85     |  |
|                                                                                                      |                 |                    | 8       | 7         | 21.52               | 21.43    | 20.81     |  |
|                                                                                                      |                 |                    | 15      | 0         | 21.41               | 21.39    | 20.88     |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |           |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.84    |           |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |           |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).<br>ERP (dBm ) = EIRP (dBm) - 2.15 (dB). |                 |                    |         |           |                     |          |           |  |

| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------|-----------|---------------------|----------|----------|--|
|                                                                                                      |                 |                    |         |           | 20425               | 20525    | 20625    |  |
|                                                                                                      |                 |                    |         |           | 826.5MHz            | 836.5MHz | 846.5MHz |  |
| 5                                                                                                    | 5               | QPSK               | 1       | 0         | 23.51               | 23.57    | 23.05    |  |
|                                                                                                      |                 |                    | 1       | 12        | 23.68               | 23.57    | 23.01    |  |
|                                                                                                      |                 |                    | 1       | 24        | 23.71               | 23.38    | 22.86    |  |
|                                                                                                      |                 |                    | 12      | 0         | 22.62               | 22.52    | 21.97    |  |
|                                                                                                      |                 |                    | 12      | 6         | 22.62               | 22.45    | 21.94    |  |
|                                                                                                      |                 |                    | 12      | 11        | 22.60               | 22.51    | 21.97    |  |
|                                                                                                      |                 |                    | 25      | 0         | 22.44               | 22.43    | 21.96    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.76    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.57               | 22.73    | 22.19    |  |
|                                                                                                      |                 |                    | 1       | 12        | 22.73               | 22.72    | 22.07    |  |
|                                                                                                      |                 |                    | 1       | 24        | 22.70               | 22.58    | 21.90    |  |
|                                                                                                      |                 |                    | 12      | 0         | 21.62               | 21.57    | 20.97    |  |
|                                                                                                      |                 |                    | 12      | 6         | 21.58               | 21.49    | 20.86    |  |
|                                                                                                      |                 |                    | 12      | 11        | 21.57               | 21.50    | 20.94    |  |
|                                                                                                      |                 |                    | 25      | 0         | 21.53               | 20.54    | 20.85    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.78    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |          |  |
|                                                                                                      |                 |                    |         |           |                     |          |          |  |
| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|                                                                                                      |                 |                    |         |           | 20450               | 20525    | 20600    |  |
|                                                                                                      |                 |                    |         |           | 829.0MHz            | 836.5MHz | 844.0MHz |  |
| 5                                                                                                    | 10              | QPSK               | 1       | 0         | 23.61               | 23.72    | 23.43    |  |
|                                                                                                      |                 |                    | 1       | 24        | 23.95               | 23.81    | 23.24    |  |
|                                                                                                      |                 |                    | 1       | 49        | 23.91               | 23.40    | 22.94    |  |
|                                                                                                      |                 |                    | 25      | 0         | 22.73               | 22.58    | 22.48    |  |
|                                                                                                      |                 |                    | 25      | 12        | 22.86               | 22.37    | 22.15    |  |
|                                                                                                      |                 |                    | 25      | 24        | 22.78               | 22.48    | 22.28    |  |
|                                                                                                      |                 |                    | 50      | 0         | 22.46               | 22.44    | 22.19    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 21.00    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.34               | 22.78    | 22.48    |  |
|                                                                                                      |                 |                    | 1       | 24        | 22.60               | 22.83    | 22.40    |  |
|                                                                                                      |                 |                    | 1       | 49        | 22.56               | 22.54    | 21.97    |  |
|                                                                                                      |                 |                    | 25      | 0         | 21.73               | 21.61    | 21.48    |  |
|                                                                                                      |                 |                    | 25      | 12        | 21.84               | 21.48    | 21.12    |  |
|                                                                                                      |                 |                    | 25      | 24        | 21.59               | 21.44    | 21.03    |  |
|                                                                                                      |                 |                    | 50      | 0         | 21.43               | 21.47    | 21.09    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.80    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.88    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 38.45    |          |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).<br>ERP (dBm ) = EIRP (dBm) - 2.15 (dB). |                 |                    |         |           |                     |          |          |  |

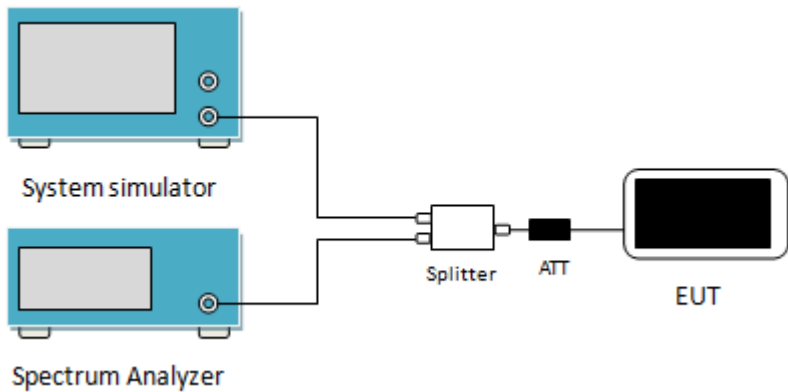
| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------|-----------|---------------------|----------|----------|--|
|                                                                                                      |                 |                    |         |           | 23017               | 23095    | 23173    |  |
|                                                                                                      |                 |                    |         |           | 699.7MHz            | 707.5MHz | 715.3MHz |  |
| 12                                                                                                   | 1.4             | QPSK               | 1       | 0         | 23.19               | 22.86    | 23.04    |  |
|                                                                                                      |                 |                    | 1       | 2         | 23.47               | 23.03    | 23.33    |  |
|                                                                                                      |                 |                    | 1       | 5         | 23.32               | 22.85    | 23.01    |  |
|                                                                                                      |                 |                    | 3       | 0         | 22.58               | 22.31    | 22.50    |  |
|                                                                                                      |                 |                    | 3       | 1         | 22.66               | 22.36    | 22.46    |  |
|                                                                                                      |                 |                    | 3       | 2         | 22.25               | 21.93    | 22.03    |  |
|                                                                                                      |                 |                    | 6       | 0         | 22.16               | 21.98    | 22.04    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.72    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 21.97               | 21.95    | 21.82    |  |
|                                                                                                      |                 |                    | 1       | 2         | 22.21               | 22.17    | 21.94    |  |
|                                                                                                      |                 |                    | 1       | 5         | 22.07               | 21.95    | 21.75    |  |
|                                                                                                      |                 |                    | 3       | 0         | 21.63               | 21.34    | 21.54    |  |
|                                                                                                      |                 |                    | 3       | 1         | 21.73               | 21.41    | 21.39    |  |
|                                                                                                      |                 |                    | 3       | 2         | 21.12               | 20.78    | 20.90    |  |
|                                                                                                      |                 |                    | 6       | 0         | 21.13               | 20.79    | 20.88    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.46    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                                                                      |                 |                    |         |           |                     |          |          |  |
| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|                                                                                                      |                 |                    |         |           | 23025               | 23095    | 23165    |  |
|                                                                                                      |                 |                    |         |           | 700.5MHz            | 707.5MHz | 714.5MHz |  |
| 12                                                                                                   | 3               | QPSK               | 1       | 0         | 23.22               | 22.87    | 22.96    |  |
|                                                                                                      |                 |                    | 1       | 7         | 23.28               | 22.84    | 23.01    |  |
|                                                                                                      |                 |                    | 1       | 14        | 23.22               | 22.86    | 22.92    |  |
|                                                                                                      |                 |                    | 8       | 0         | 22.11               | 21.87    | 22.02    |  |
|                                                                                                      |                 |                    | 8       | 4         | 22.16               | 21.90    | 22.00    |  |
|                                                                                                      |                 |                    | 8       | 7         | 22.09               | 21.86    | 21.92    |  |
|                                                                                                      |                 |                    | 15      | 0         | 21.98               | 21.84    | 21.76    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.53    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 21.88               | 22.08    | 22.06    |  |
|                                                                                                      |                 |                    | 1       | 7         | 21.96               | 22.04    | 22.10    |  |
|                                                                                                      |                 |                    | 1       | 14        | 21.92               | 22.06    | 22.04    |  |
|                                                                                                      |                 |                    | 8       | 0         | 21.01               | 20.80    | 20.92    |  |
|                                                                                                      |                 |                    | 8       | 4         | 21.04               | 20.88    | 20.89    |  |
|                                                                                                      |                 |                    | 8       | 7         | 20.96               | 20.74    | 20.80    |  |
|                                                                                                      |                 |                    | 15      | 0         | 20.89               | 20.77    | 20.68    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.35    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).<br>ERP (dBm ) = EIRP (dBm) - 2.15 (dB). |                 |                    |         |           |                     |          |          |  |

| LTE Band                                                     | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|--------------------------------------------------------------|-----------------|--------------------|---------|-----------|---------------------|----------|----------|--|
|                                                              |                 |                    |         |           | 23035               | 23095    | 23155    |  |
|                                                              |                 |                    |         |           | 701.5MHz            | 707.5MHz | 713.5MHz |  |
| 12                                                           | 5               | QPSK               | 1       | 0         | 22.94               | 22.79    | 22.79    |  |
|                                                              |                 |                    | 1       | 12        | 23.04               | 22.95    | 23.06    |  |
|                                                              |                 |                    | 1       | 24        | 22.83               | 22.85    | 22.89    |  |
|                                                              |                 |                    | 12      | 0         | 21.95               | 21.85    | 21.96    |  |
|                                                              |                 |                    | 12      | 6         | 21.82               | 21.97    | 21.88    |  |
|                                                              |                 |                    | 12      | 11        | 21.95               | 21.92    | 21.92    |  |
|                                                              |                 |                    | 25      | 0         | 21.86               | 21.74    | 21.88    |  |
|                                                              |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                              |                 | Max. ERP (dBm):    |         |           |                     | 20.31    |          |  |
|                                                              |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                              |                 | 16QAM              | 1       | 0         | 22.05               | 21.98    | 21.85    |  |
|                                                              |                 |                    | 1       | 12        | 22.23               | 22.10    | 22.09    |  |
|                                                              |                 |                    | 1       | 24        | 22.09               | 22.04    | 21.97    |  |
|                                                              |                 |                    | 12      | 0         | 20.94               | 20.81    | 20.89    |  |
|                                                              |                 |                    | 12      | 6         | 20.83               | 20.89    | 20.83    |  |
|                                                              |                 |                    | 12      | 11        | 20.88               | 20.88    | 20.85    |  |
|                                                              |                 |                    | 25      | 0         | 20.77               | 20.86    | 20.47    |  |
|                                                              |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                              |                 | Max. ERP (dBm):    |         |           |                     | 19.48    |          |  |
|                                                              |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                              |                 |                    |         |           |                     |          |          |  |
| LTE Band                                                     | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|                                                              |                 |                    |         |           | 23060               | 23095    | 23130    |  |
|                                                              |                 |                    |         |           | 704.0MHz            | 707.5MHz | 711.0MHz |  |
| 12                                                           | 10              | QPSK               | 1       | 0         | 23.01               | 22.98    | 22.77    |  |
|                                                              |                 |                    | 1       | 24        | 23.31               | 23.34    | 23.35    |  |
|                                                              |                 |                    | 1       | 49        | 22.86               | 23.04    | 22.97    |  |
|                                                              |                 |                    | 25      | 0         | 22.19               | 22.04    | 21.71    |  |
|                                                              |                 |                    | 25      | 12        | 21.96               | 22.09    | 21.85    |  |
|                                                              |                 |                    | 25      | 24        | 22.04               | 22.00    | 21.72    |  |
|                                                              |                 |                    | 50      | 0         | 21.43               | 21.89    | 21.88    |  |
|                                                              |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                              |                 | Max. ERP (dBm):    |         |           |                     | 20.60    |          |  |
|                                                              |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                              |                 | 16QAM              | 1       | 0         | 22.05               | 21.72    | 21.90    |  |
|                                                              |                 |                    | 1       | 24        | 22.16               | 21.89    | 22.05    |  |
|                                                              |                 |                    | 1       | 49        | 21.95               | 21.81    | 22.12    |  |
|                                                              |                 |                    | 25      | 0         | 21.13               | 20.97    | 20.70    |  |
|                                                              |                 |                    | 25      | 12        | 20.93               | 20.99    | 20.83    |  |
|                                                              |                 |                    | 25      | 24        | 20.87               | 20.58    | 20.66    |  |
|                                                              |                 |                    | 50      | 0         | 20.75               | 20.49    | 20.63    |  |
|                                                              |                 | Antenna Gain(dBi): |         |           |                     | -0.60    |          |  |
|                                                              |                 | Max. ERP (dBm):    |         |           |                     | 19.41    |          |  |
|                                                              |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). |                 |                    |         |           |                     |          |          |  |
| ERP (dBm ) = EIRP (dBm) - 2.15 (dB).                         |                 |                    |         |           |                     |          |          |  |



| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------|-----------|---------------------|----------|----------|--|
|                                                                                                      |                 |                    |         |           | 23755               | 23790    | 23825    |  |
|                                                                                                      |                 |                    |         |           | 706.5MHz            | 710.0MHz | 713.5MHz |  |
| 17                                                                                                   | 5               | QPSK               | 1       | 0         | 22.93               | 22.92    | 23.01    |  |
|                                                                                                      |                 |                    | 1       | 12        | 23.10               | 23.12    | 23.05    |  |
|                                                                                                      |                 |                    | 1       | 24        | 23.07               | 22.94    | 22.94    |  |
|                                                                                                      |                 |                    | 12      | 0         | 22.08               | 21.96    | 22.08    |  |
|                                                                                                      |                 |                    | 12      | 6         | 22.17               | 22.08    | 21.97    |  |
|                                                                                                      |                 |                    | 12      | 11        | 22.13               | 22.02    | 22.04    |  |
|                                                                                                      |                 |                    | 25      | 0         | 22.12               | 22.01    | 22.03    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.70    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.27    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.01               | 22.11    | 22.12    |  |
|                                                                                                      |                 |                    | 1       | 12        | 22.17               | 22.27    | 22.21    |  |
|                                                                                                      |                 |                    | 1       | 24        | 22.16               | 22.11    | 22.09    |  |
|                                                                                                      |                 |                    | 12      | 0         | 20.98               | 20.94    | 20.98    |  |
|                                                                                                      |                 |                    | 12      | 6         | 21.09               | 21.04    | 20.87    |  |
|                                                                                                      |                 |                    | 12      | 11        | 21.02               | 20.96    | 20.97    |  |
|                                                                                                      |                 |                    | 25      | 0         | 21.00               | 20.89    | 20.96    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.70    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.42    |          |  |
| ERP Limit (dBm):                                                                                     |                 |                    |         | 34.77     |                     |          |          |  |
|                                                                                                      |                 |                    |         |           |                     |          |          |  |
| LTE Band                                                                                             | Bandwidth (MHz) | Modulation         | RB Size | RB Offset | Average Power (dBm) |          |          |  |
|                                                                                                      |                 |                    |         |           | 23780               | 23790    | 23800    |  |
|                                                                                                      |                 |                    |         |           | 709.0MHz            | 710.0MHz | 711.0MHz |  |
| 17                                                                                                   | 10              | QPSK               | 1       | 0         | 22.93               | 23.02    | 22.97    |  |
|                                                                                                      |                 |                    | 1       | 24        | 23.24               | 23.35    | 23.25    |  |
|                                                                                                      |                 |                    | 1       | 49        | 23.07               | 23.18    | 23.04    |  |
|                                                                                                      |                 |                    | 25      | 0         | 22.01               | 21.95    | 21.97    |  |
|                                                                                                      |                 |                    | 25      | 12        | 22.14               | 22.02    | 21.93    |  |
|                                                                                                      |                 |                    | 25      | 24        | 22.06               | 21.99    | 21.90    |  |
|                                                                                                      |                 |                    | 50      | 0         | 22.06               | 21.84    | 21.88    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.70    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 20.50    |          |  |
|                                                                                                      |                 | ERP Limit (dBm):   |         |           |                     | 34.77    |          |  |
|                                                                                                      |                 | 16QAM              | 1       | 0         | 22.04               | 21.82    | 22.13    |  |
|                                                                                                      |                 |                    | 1       | 24        | 22.28               | 22.14    | 22.32    |  |
|                                                                                                      |                 |                    | 1       | 49        | 22.18               | 21.92    | 22.17    |  |
|                                                                                                      |                 |                    | 25      | 0         | 20.98               | 20.88    | 20.96    |  |
|                                                                                                      |                 |                    | 25      | 12        | 21.11               | 20.99    | 20.96    |  |
|                                                                                                      |                 |                    | 25      | 24        | 21.13               | 20.86    | 20.88    |  |
|                                                                                                      |                 |                    | 50      | 0         | 21.05               | 20.69    | 20.87    |  |
|                                                                                                      |                 | Antenna Gain(dBi): |         |           |                     | -0.70    |          |  |
|                                                                                                      |                 | Max. ERP (dBm):    |         |           |                     | 19.47    |          |  |
| ERP Limit (dBm):                                                                                     |                 |                    |         | 34.77     |                     |          |          |  |
| Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).<br>ERP (dBm ) = EIRP (dBm) - 2.15 (dB). |                 |                    |         |           |                     |          |          |  |

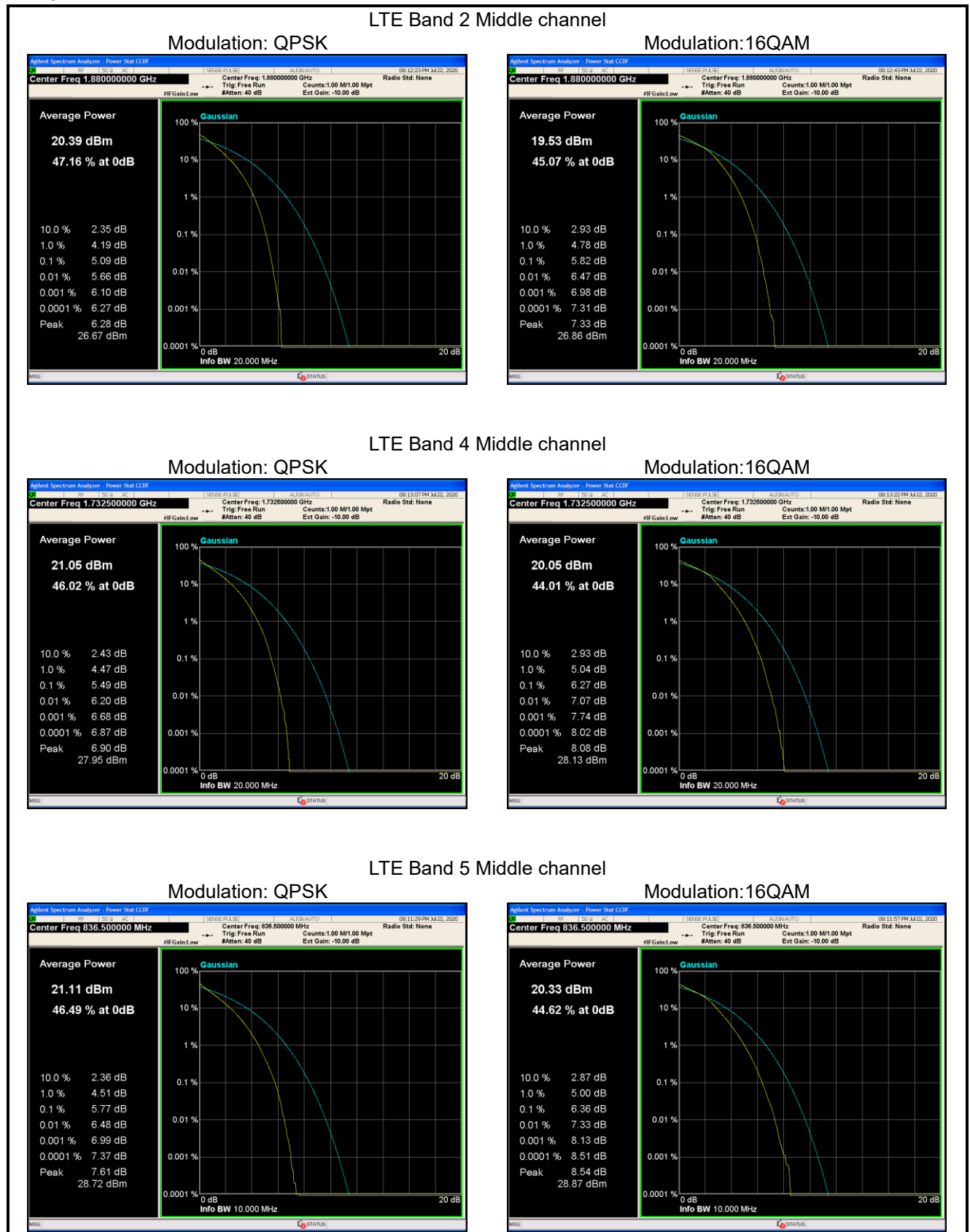
## 6.2 Peak-to-Average Ratio

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | Part 24.232 (d), Part 27.50(d)(5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Limit:            | The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test Setup:       |  <p>The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a single input port of a white rectangular unit labeled 'Splitter'. The 'Splitter' has two output ports. One output port is connected to a black rectangular unit labeled 'ATT' (Attenuator). The other output port is connected to a black rectangular unit labeled 'EUT' (Equipment Under Test).</p> |
| Test Procedure:   | <ol style="list-style-type: none"> <li>1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.</li> <li>2 Set the CCDF option in spectrum analyzer, <math>RBW \geq OBW</math>,</li> <li>3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level.</li> <li>4 Repeat step 1~3 at other frequency and modulations.</li> </ol>                                                                                                                                                                                                                                        |
| Test Instruments: | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Measurement Data (Worst case):

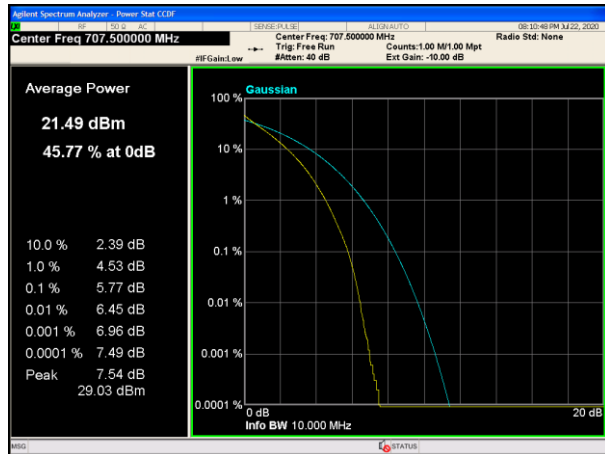
| Bandwidth                    | Modulation | RB Size | RB Offset | PAPR |
|------------------------------|------------|---------|-----------|------|
| LTE Band 2 (Middle Channel)  |            |         |           |      |
| 20MHz                        | QPSK       | 100     | 0         | 5.09 |
|                              | 16QAM      | 100     | 0         | 5.82 |
| LTE Band 4 (Middle Channel)  |            |         |           |      |
| 20MHz                        | QPSK       | 100     | 0         | 5.49 |
|                              | 16QAM      | 100     | 0         | 6.27 |
| LTE Band 5 (Middle Channel)  |            |         |           |      |
| 10MHz                        | QPSK       | 50      | 0         | 5.77 |
|                              | 16QAM      | 50      | 0         | 6.36 |
| LTE Band 12 (Middle Channel) |            |         |           |      |
| 10MHz                        | QPSK       | 50      | 0         | 5.77 |
|                              | 16QAM      | 50      | 0         | 6.37 |
| LTE Band 17 (Middle Channel) |            |         |           |      |
| 10MHz                        | QPSK       | 50      | 0         | 5.85 |
|                              | 16QAM      | 50      | 0         | 6.39 |

Test plots as below:

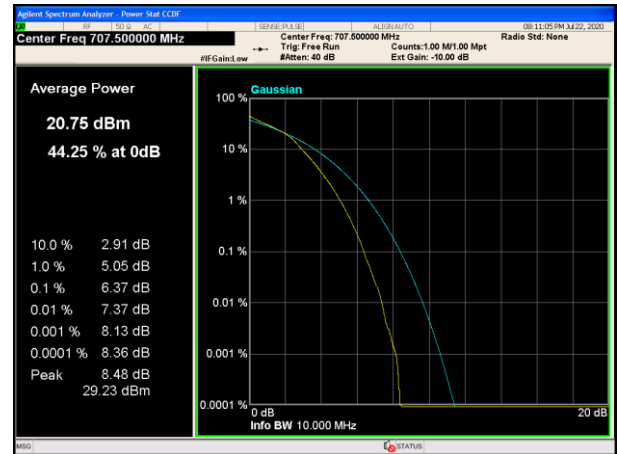


## LTE Band 12 Middle channel

Modulation: QPSK

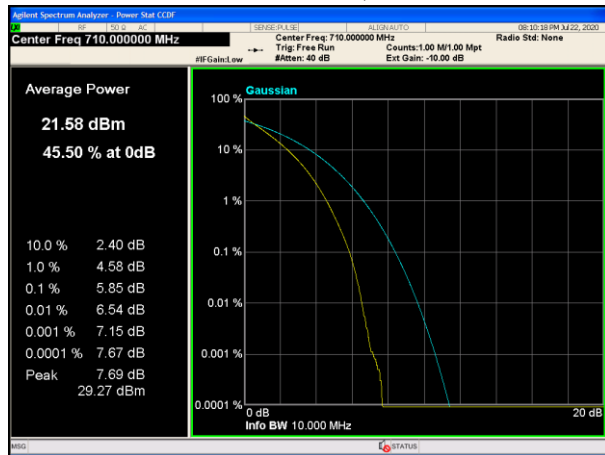


Modulation: 16QAM

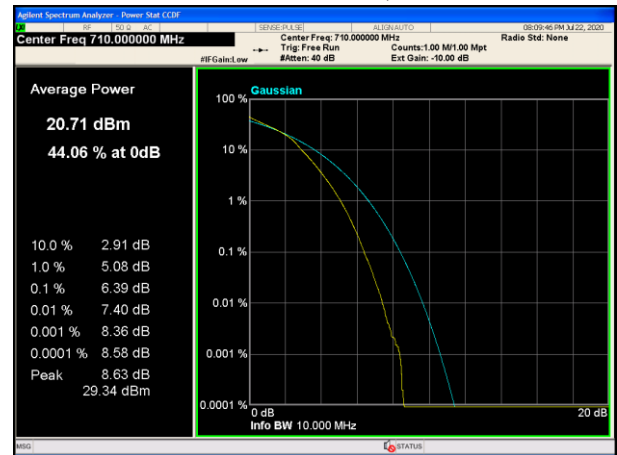


## LTE Band 12 Middle channel

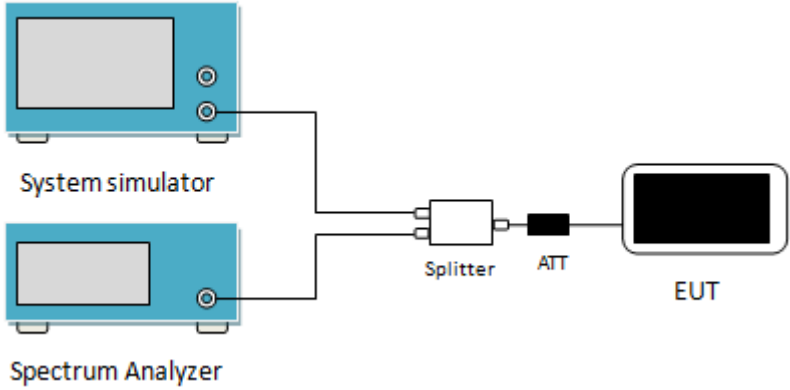
Modulation: QPSK



Modulation: 16QAM



### 6.3 Occupy Bandwidth

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | Part 22.917(b), Part 24.238(b), Part 27.53(g), Part 27.53(h),                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test Setup:       |  <p>The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a single input port of a white rectangular 'Splitter'. The Splitter has two output ports. One output port is connected to a black rectangular 'ATT' (Attenuator). The other output port is connected to a black rectangular 'EUT' (Equipment Under Test).</p> |
| Test Procedure:   | <ol style="list-style-type: none"> <li>1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer</li> <li>2. RBW was set to about 1% ~ 5% of emission BW, VBW= 3 times RBW.</li> <li>3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.</li> </ol>                                                                                                                                                                                |
| Test Instruments: | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Measurement Data:

| LTE Band 2 |         |                 |            |               |                 |
|------------|---------|-----------------|------------|---------------|-----------------|
| Bandwidth  | Channel | Frequency (MHz) | Modulation | 99% OBW (kHz) | -26dBcEBW (kHz) |
| 1.4MHz     | 18607   | 1850.70         | 16QAM      | 1086          | 1278            |
|            |         |                 | QPSK       | 1098          | 1290            |
|            | 18900   | 1880.00         | 16QAM      | 1098          | 1278            |
|            |         |                 | QPSK       | 1104          | 1302            |
|            | 19193   | 1909.30         | 16QAM      | 1098          | 1284            |
|            |         |                 | QPSK       | 1104          | 1308            |
| 3MHz       | 18615   | 1851.50         | 16QAM      | 2724          | 2964            |
|            |         |                 | QPSK       | 2736          | 3000            |
|            | 18900   | 1880.00         | 16QAM      | 2724          | 2964            |
|            |         |                 | QPSK       | 2736          | 2988            |
|            | 19185   | 1908.50         | 16QAM      | 2724          | 2976            |
|            |         |                 | QPSK       | 2748          | 3024            |
| 5MHz       | 18625   | 1852.50         | 16QAM      | 4500          | 4960            |
|            |         |                 | QPSK       | 4520          | 5120            |
|            | 18900   | 1880.00         | 16QAM      | 4500          | 5020            |
|            |         |                 | QPSK       | 4540          | 4920            |
|            | 19175   | 1907.50         | 16QAM      | 4520          | 4940            |
|            |         |                 | QPSK       | 4520          | 5120            |
| 10MHz      | 18650   | 1855.00         | 16QAM      | 9120          | 10080           |
|            |         |                 | QPSK       | 9160          | 10200           |
|            | 18900   | 1880.00         | 16QAM      | 9120          | 10080           |
|            |         |                 | QPSK       | 9120          | 10240           |
|            | 19150   | 1905.00         | 16QAM      | 9120          | 10160           |
|            |         |                 | QPSK       | 9120          | 10280           |
| 15MHz      | 18675   | 1857.50         | 16QAM      | 13560         | 14520           |
|            |         |                 | QPSK       | 13560         | 15180           |
|            | 18900   | 1880.00         | 16QAM      | 13560         | 14700           |
|            |         |                 | QPSK       | 13560         | 14760           |
|            | 19125   | 1902.50         | 16QAM      | 13560         | 14880           |
|            |         |                 | QPSK       | 13620         | 15180           |
| 20MHz      | 18700   | 1860.00         | 16QAM      | 17920         | 19280           |
|            |         |                 | QPSK       | 18080         | 19680           |
|            | 18900   | 1880.00         | 16QAM      | 18000         | 19360           |
|            |         |                 | QPSK       | 18000         | 19600           |
|            | 19100   | 1900.00         | 16QAM      | 18000         | 19360           |
|            |         |                 | QPSK       | 18080         | 19600           |

| LTE Band 4 |         |                 |            |               |                 |
|------------|---------|-----------------|------------|---------------|-----------------|
| Bandwidth  | Channel | Frequency (MHz) | Modulation | 99% OBW (kHz) | -26dBcEBW (kHz) |
| 1.4MHz     | 19957   | 1710.7          | 16QAM      | 1098          | 1296            |
|            |         |                 | QPSK       | 1110          | 1332            |
|            | 20175   | 1732.5          | 16QAM      | 1098          | 1278            |
|            |         |                 | QPSK       | 1098          | 1272            |
|            | 20393   | 1754.3          | 16QAM      | 1098          | 1320            |
|            |         |                 | QPSK       | 1104          | 1302            |
| 3MHz       | 19965   | 1711.5          | 16QAM      | 2724          | 2952            |
|            |         |                 | QPSK       | 2748          | 3192            |
|            | 20175   | 1732.5          | 16QAM      | 2724          | 2964            |
|            |         |                 | QPSK       | 2736          | 3024            |
|            | 20385   | 1750.5          | 16QAM      | 2736          | 3012            |
|            |         |                 | QPSK       | 2748          | 3024            |
| 5MHz       | 19975   | 1712.5          | 16QAM      | 4520          | 5000            |
|            |         |                 | QPSK       | 4560          | 5240            |
|            | 20175   | 1732.5          | 16QAM      | 4500          | 4900            |
|            |         |                 | QPSK       | 4540          | 5160            |
|            | 20375   | 1752.5          | 16QAM      | 4520          | 4940            |
|            |         |                 | QPSK       | 4500          | 5200            |
| 10MHz      | 20000   | 1715.0          | 16QAM      | 9160          | 10120           |
|            |         |                 | QPSK       | 9160          | 10680           |
|            | 20175   | 1732.5          | 16QAM      | 9120          | 10240           |
|            |         |                 | QPSK       | 9120          | 10280           |
|            | 20350   | 1750.0          | 16QAM      | 9160          | 10080           |
|            |         |                 | QPSK       | 9160          | 10560           |
| 15MHz      | 20025   | 1717.5          | 16QAM      | 13560         | 14940           |
|            |         |                 | QPSK       | 13620         | 15060           |
|            | 20175   | 1732.5          | 16QAM      | 13560         | 14820           |
|            |         |                 | QPSK       | 13560         | 14940           |
|            | 20325   | 1747.5          | 16QAM      | 13560         | 14940           |
|            |         |                 | QPSK       | 13560         | 15360           |
| 20MHz      | 20050   | 1720.0          | 16QAM      | 18000         | 19520           |
|            |         |                 | QPSK       | 18000         | 19840           |
|            | 20175   | 1732.5          | 16QAM      | 18000         | 19440           |
|            |         |                 | QPSK       | 18080         | 19520           |
|            | 20300   | 1745.0          | 16QAM      | 18000         | 19520           |
|            |         |                 | QPSK       | 18000         | 19760           |



| TE Band 5 |         |                 |            |               |                 |
|-----------|---------|-----------------|------------|---------------|-----------------|
| Bandwidth | Channel | Frequency (MHz) | Modulation | 99% OBW (kHz) | -26dBcEBW (kHz) |
| 1.4MHz    | 20407   | 824.7           | 16QAM      | 1098          | 1254            |
|           |         |                 | QPSK       | 1092          | 1272            |
|           | 20525   | 836.5           | 16QAM      | 1092          | 1272            |
|           |         |                 | QPSK       | 1098          | 1284            |
|           | 20643   | 848.3           | 16QAM      | 1098          | 1266            |
|           |         |                 | QPSK       | 1098          | 1296            |
| 3MHz      | 20415   | 825.5           | 16QAM      | 2736          | 2976            |
|           |         |                 | QPSK       | 2736          | 3012            |
|           | 20525   | 836.50          | 16QAM      | 2712          | 2952            |
|           |         |                 | QPSK       | 2724          | 3024            |
|           | 20635   | 847.50          | 16QAM      | 2712          | 2952            |
|           |         |                 | QPSK       | 2724          | 2988            |
| 5MHz      | 20425   | 826.50          | 16QAM      | 4500          | 4940            |
|           |         |                 | QPSK       | 4520          | 5100            |
|           | 20525   | 836.50          | 16QAM      | 4520          | 4920            |
|           |         |                 | QPSK       | 4540          | 5040            |
|           | 20625   | 846.50          | 16QAM      | 4520          | 5120            |
|           |         |                 | QPSK       | 4500          | 5140            |
| 10MHz     | 20450   | 829.00          | 16QAM      | 9120          | 10280           |
|           |         |                 | QPSK       | 9160          | 10400           |
|           | 20525   | 836.50          | 16QAM      | 9120          | 10000           |
|           |         |                 | QPSK       | 9080          | 10360           |
|           | 20600   | 844.00          | 16QAM      | 9160          | 10120           |
|           |         |                 | QPSK       | 9160          | 10320           |

| LTE Band 12 |         |                 |            |               |                 |
|-------------|---------|-----------------|------------|---------------|-----------------|
| Bandwidth   | Channel | Frequency (MHz) | Modulation | 99% OBW (kHz) | -26dBcEBW (kHz) |
| 1.4MHz      | 23017   | 699.7           | 16QAM      | 1086          | 1266            |
|             |         |                 | QPSK       | 1104          | 1260            |
|             | 23095   | 707.5           | 16QAM      | 1098          | 1272            |
|             |         |                 | QPSK       | 1098          | 1278            |
|             | 23173   | 715.3           | 16QAM      | 1092          | 1242            |
|             |         |                 | QPSK       | 1104          | 1290            |
| 3MHz        | 23025   | 700.5           | 16QAM      | 2712          | 2964            |
|             |         |                 | QPSK       | 2724          | 2988            |
|             | 23095   | 707.5           | 16QAM      | 2712          | 2964            |
|             |         |                 | QPSK       | 2724          | 2988            |
|             | 23165   | 714.5           | 16QAM      | 2712          | 2964            |
|             |         |                 | QPSK       | 2724          | 2976            |
| 5MHz        | 23035   | 701.5           | 16QAM      | 4480          | 4900            |
|             |         |                 | QPSK       | 4480          | 4980            |
|             | 23095   | 707.5           | 16QAM      | 4520          | 4880            |
|             |         |                 | QPSK       | 4540          | 5060            |
|             | 23155   | 713.5           | 16QAM      | 4480          | 4920            |
|             |         |                 | QPSK       | 4520          | 5000            |
| 10MHz       | 23060   | 704.0           | 16QAM      | 9160          | 10120           |
|             |         |                 | QPSK       | 9120          | 10320           |
|             | 23095   | 707.5           | 16QAM      | 9160          | 10360           |
|             |         |                 | QPSK       | 9160          | 10360           |
|             | 23130   | 711.0           | 16QAM      | 9080          | 10120           |
|             |         |                 | QPSK       | 9080          | 10280           |

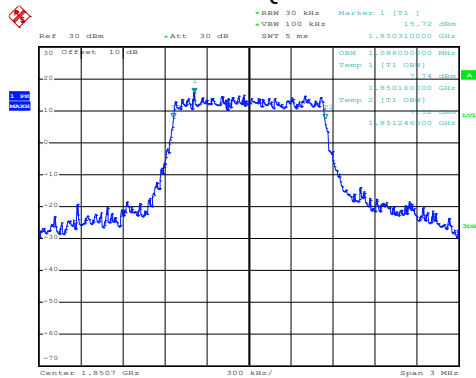
| LTE Band 17 |         |                 |            |               |                 |
|-------------|---------|-----------------|------------|---------------|-----------------|
| Bandwidth   | Channel | Frequency (MHz) | Modulation | 99% OBW (kHz) | -26dBcEBW (kHz) |
| 5MHz        | 23755   | 706.5           | 16QAM      | 4520          | 4840            |
|             |         |                 | QPSK       | 4520          | 5160            |
|             | 23790   | 710.0           | 16QAM      | 4500          | 4940            |
|             |         |                 | QPSK       | 4500          | 5040            |
|             | 23825   | 713.5           | 16QAM      | 4520          | 4880            |
|             |         |                 | QPSK       | 4480          | 5000            |
| 10MHz       | 23780   | 709.0           | 16QAM      | 9120          | 10040           |
|             |         |                 | QPSK       | 9160          | 10360           |
|             | 23790   | 710.0           | 16QAM      | 9120          | 10240           |
|             |         |                 | QPSK       | 9080          | 10040           |
|             | 23130   | 711.0           | 16QAM      | 9080          | 10040           |
|             |         |                 | QPSK       | 9080          | 10120           |

Test plot as follows:

LTE Band 2 part:

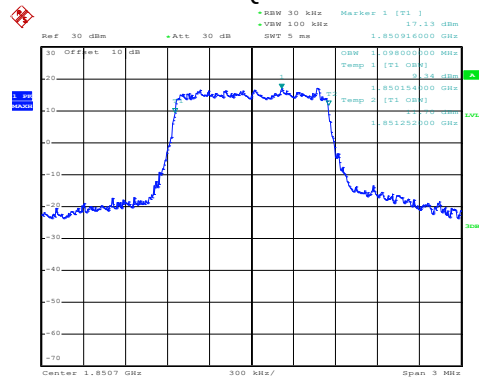
LTE Band 2: 99% Occupancy bandwidth  
BW: 1.4MHz

16QAM



Date: 28.JUL.2020 10:59:49

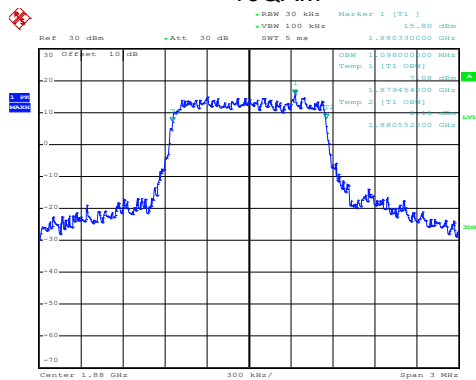
QPSK



Date: 28.JUL.2020 10:59:46

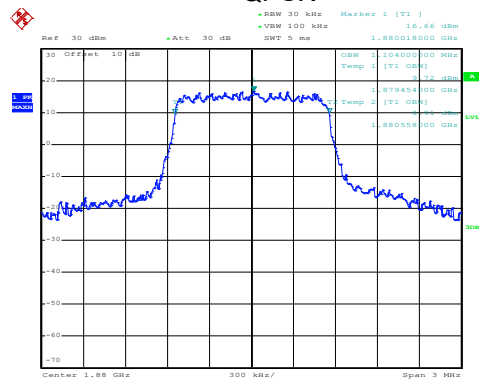
Lowest channel

16QAM



Date: 28.JUL.2020 11:00:23

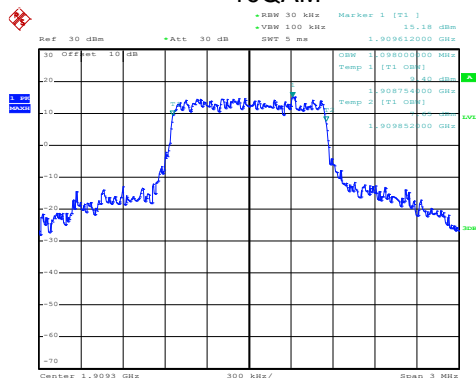
QPSK



Date: 28.JUL.2020 11:00:20

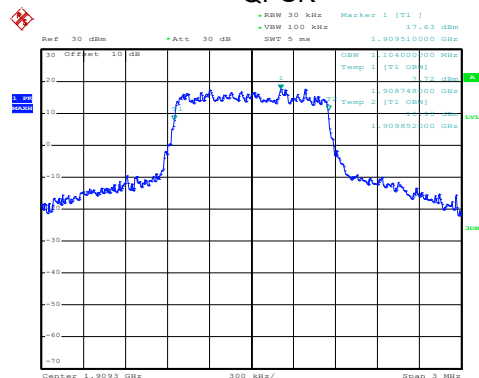
Middle channel

16QAM



Date: 28.JUL.2020 11:00:38

QPSK

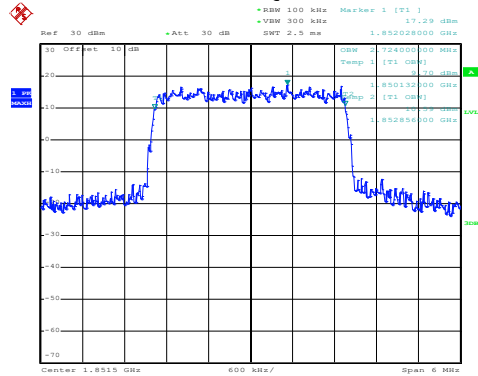


Date: 28.JUL.2020 11:00:35

Highest channel

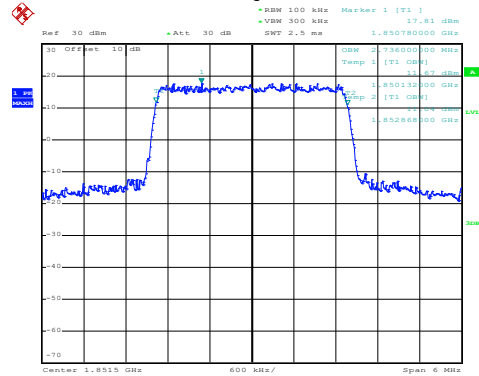
LTE Band 2: 99% Occupancy bandwidth  
BW: 3MHz

## 16QAM



Date: 28.JUL.2020 11:01:28

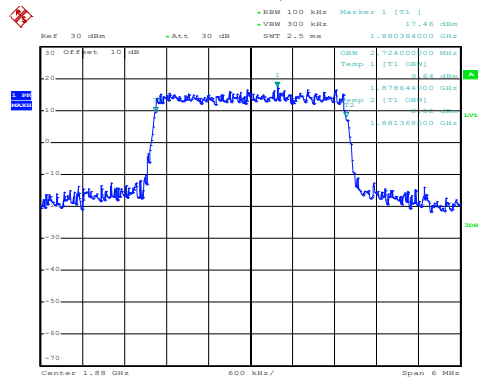
## QPSK



Date: 28.JUL.2020 11:01:25

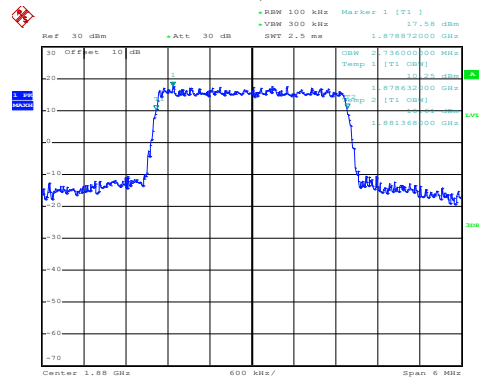
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:01:39

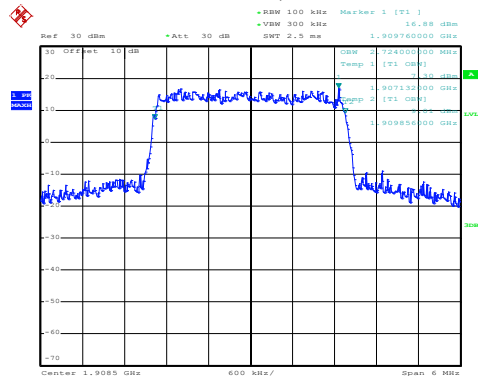
## QPSK



Date: 28.JUL.2020 11:01:36

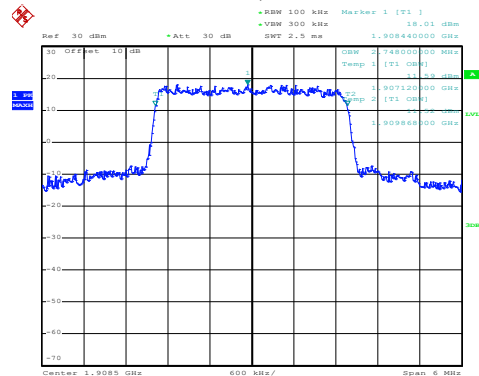
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:02:15

## QPSK



Date: 28.JUL.2020 11:02:12

## Highest channel

## 16QAM



Date: 28.JUL.2020 11:02:40

## 16QAM



Date: 28.JUL.2020 11:03:11

16QAM

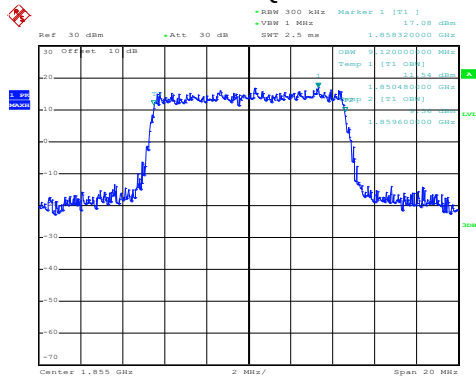


## Date: 28.JUL.2020 11:03:30

## Page 37 of

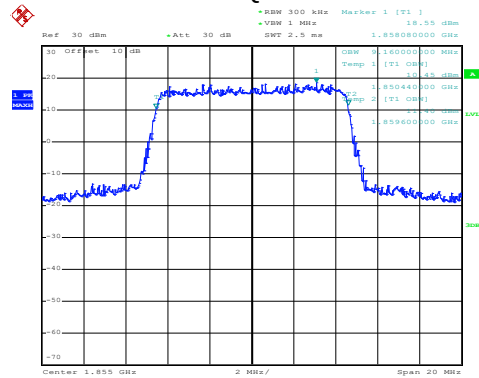
LTE Band 2: 99% Occupancy bandwidth  
BW: 10MHz

## 16QAM



Date: 28.JUL.2020 11:04:32

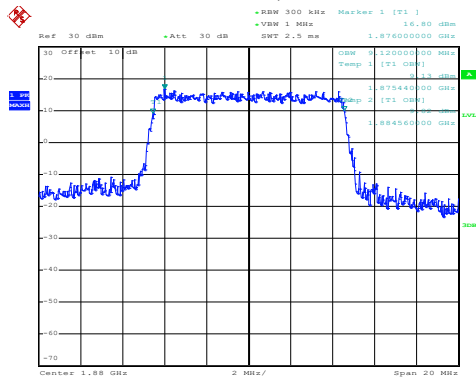
## QPSK



Date: 28.JUL.2020 11:04:29

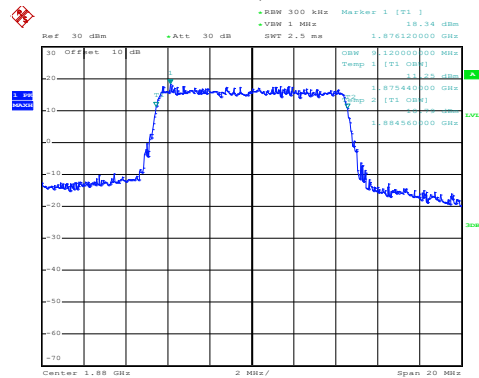
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:04:44

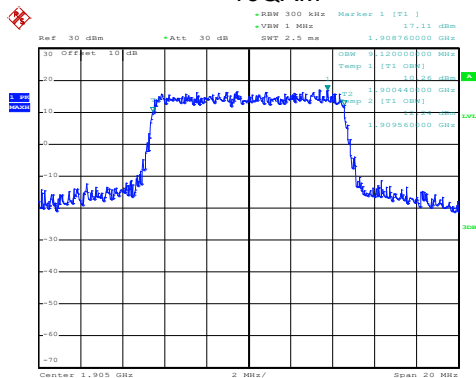
## QPSK



Date: 28.JUL.2020 11:04:41

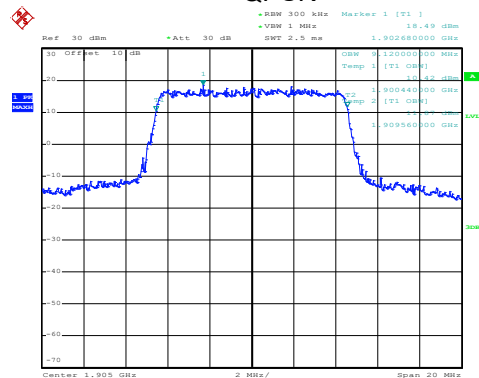
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:05:22

## QPSK



Date: 28.JUL.2020 11:05:18

## Highest channel

16QAM



## Date: 28.JUL.2020 11:05:43

## 16QAM



Date: 28.JUL.2020 11:06:14

## 16QAM

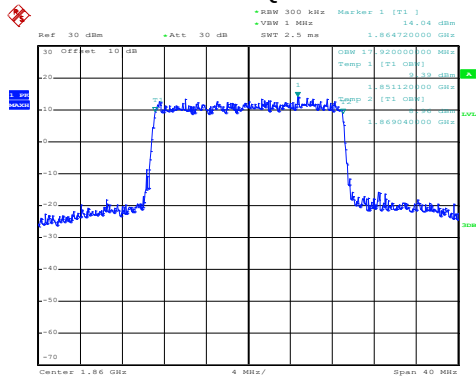


## Date: 28.JUL.2020 11:06:28

## Page 39 of

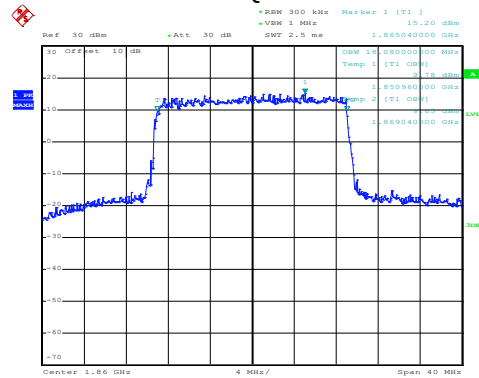
LTE Band 2: 99% Occupancy bandwidth  
BW: 20MHz

## 16QAM



Date: 28.JUL.2020 11:07:13

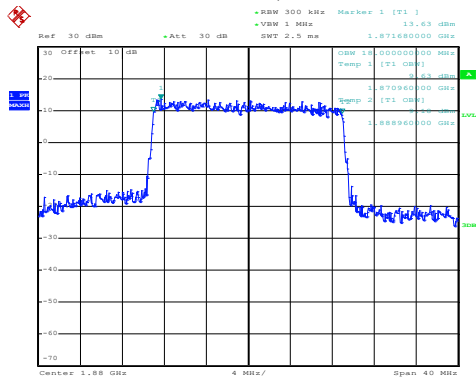
## QPSK



Date: 28.JUL.2020 11:07:10

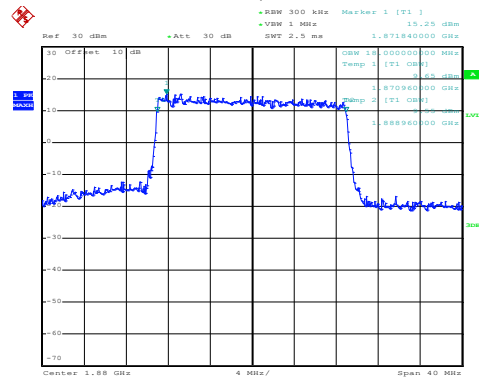
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:07:26

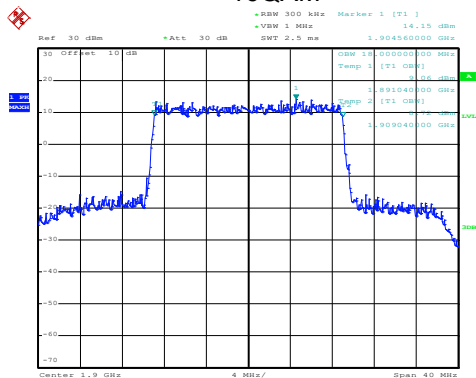
## QPSK



Date: 28.JUL.2020 11:07:22

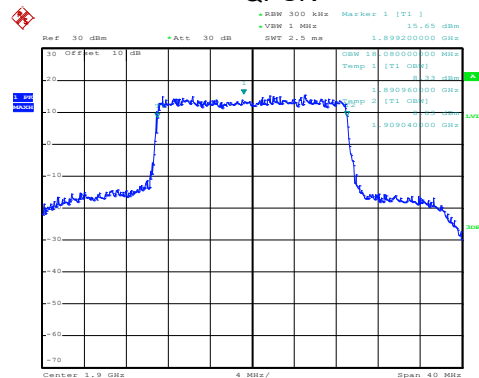
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:07:56

## QPSK



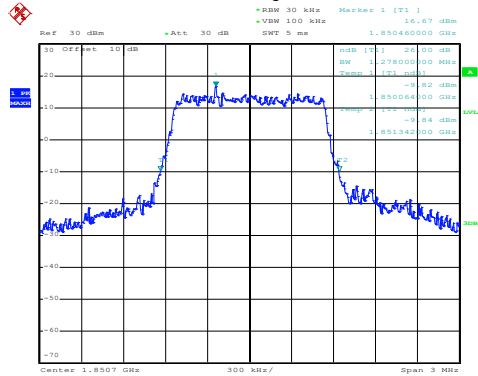
Date: 28.JUL.2020 11:07:53

## Highest channel



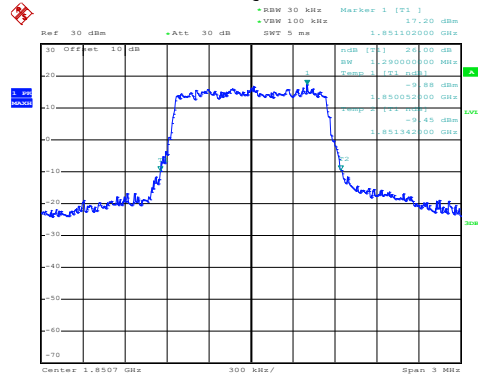
LTE Band 2: -26dBc bandwidth  
BW: 1.4MHz

## 16QAM



Date: 28.JUL.2020 10:59:59

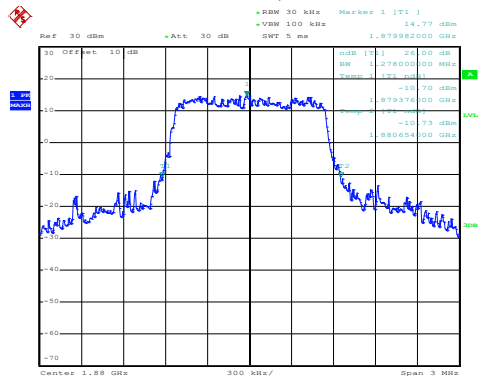
## QPSK



Date: 28.JUL.2020 10:59:55

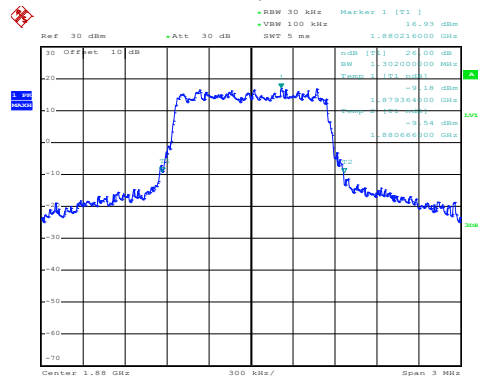
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:00:13

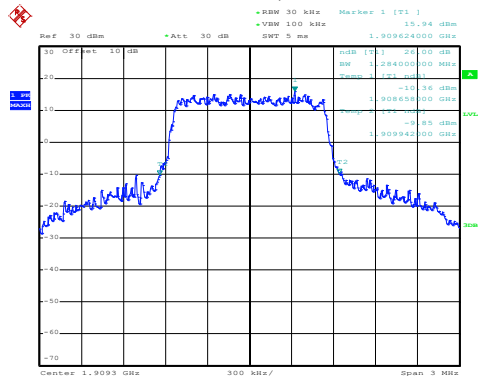
## QPSK



Date: 28.JUL.2020 11:00:09

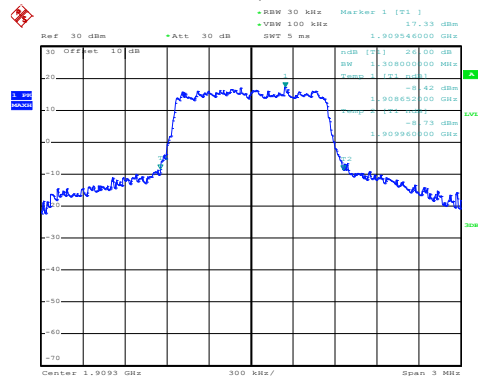
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:00:49

## QPSK

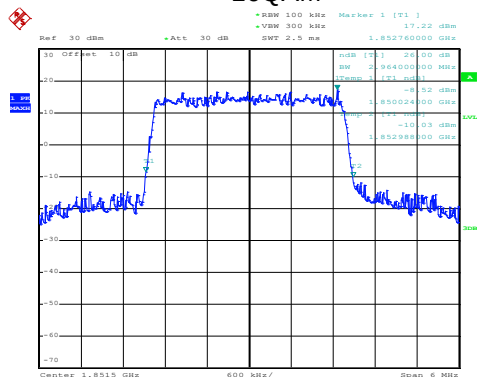


Date: 28.JUL.2020 11:00:46

## Highest channel

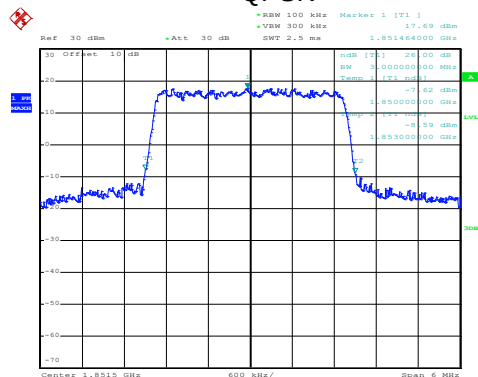
LTE Band 2: -26dBc bandwidth  
BW: 3MHz

## 16QAM



Date: 28.JUL.2020 11:01:18

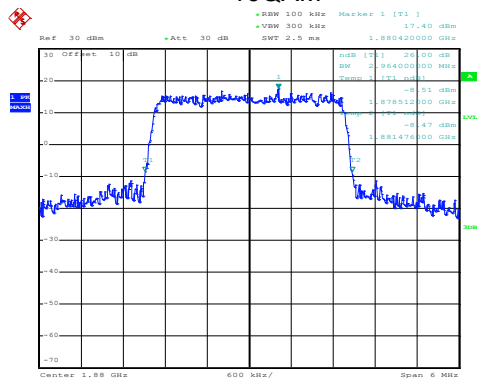
## QPSK



Date: 28.JUL.2020 11:01:14

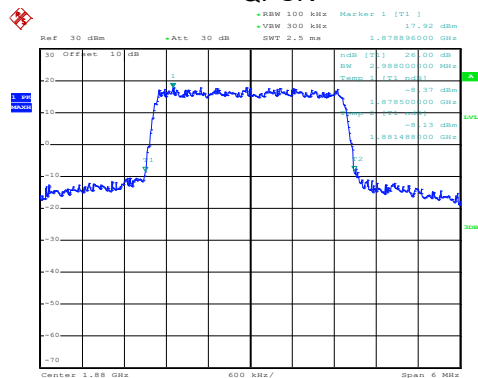
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:01:49

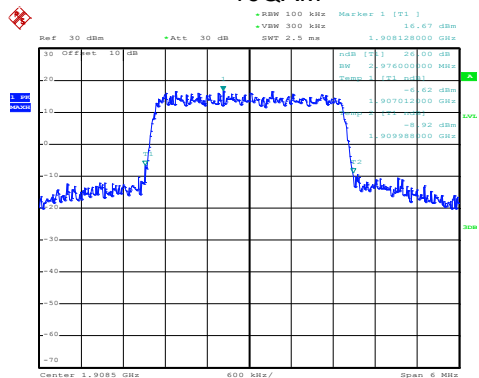
## QPSK



Date: 28.JUL.2020 11:01:46

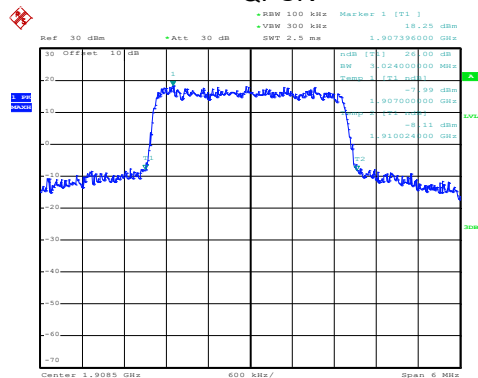
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:02:06

## QPSK



Date: 28.JUL.2020 11:02:03

## Highest channel

16QAM



QPSK



Lowest channel

## 16QAM



QPSK



Middle channel

## 16QAM



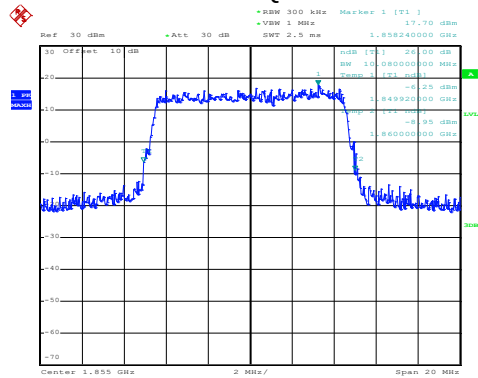
QPSK



## Highest channel

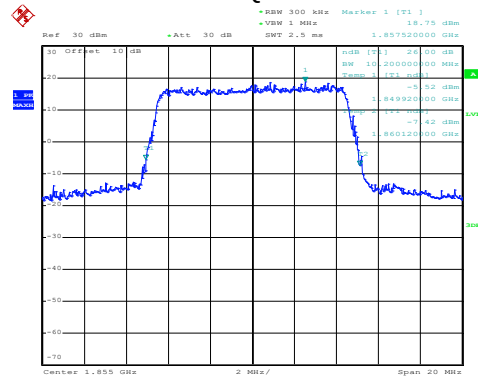
LTE Band 2: -26dBc bandwidth  
BW: 10MHz

## 16QAM



Date: 28.JUL.2020 11:04:23

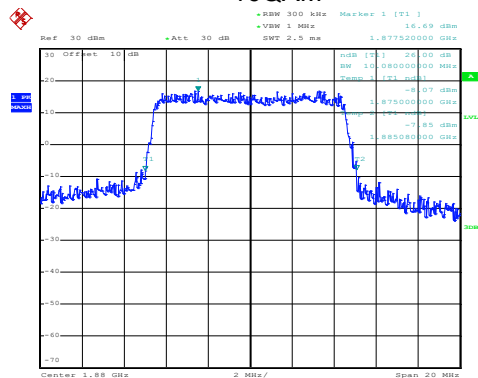
## QPSK



Date: 28.JUL.2020 11:04:20

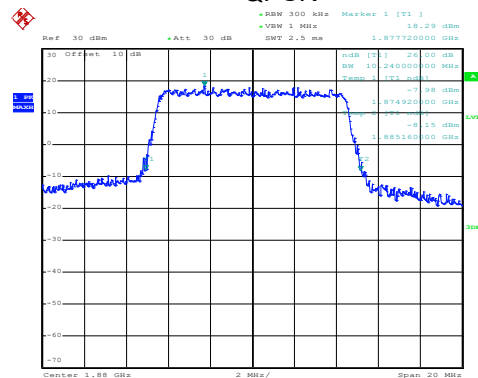
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:04:54

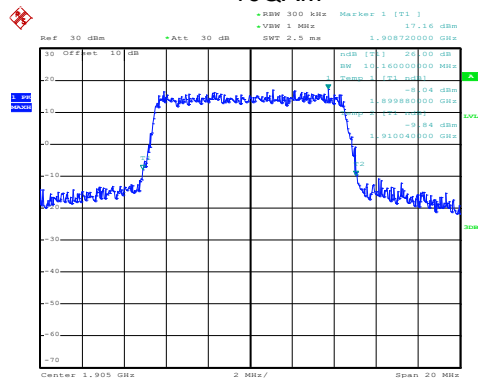
## QPSK



Date: 28.JUL.2020 11:04:51

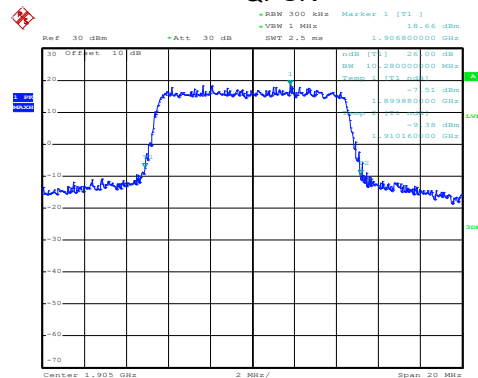
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:05:13

## QPSK

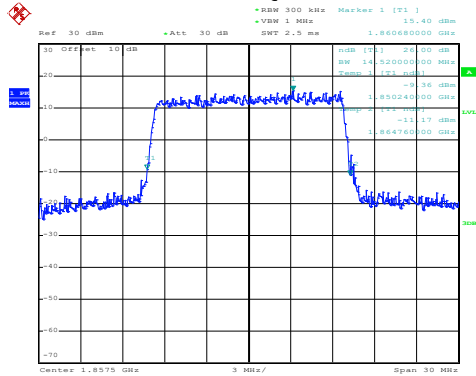


Date: 28.JUL.2020 11:05:10

## Highest channel

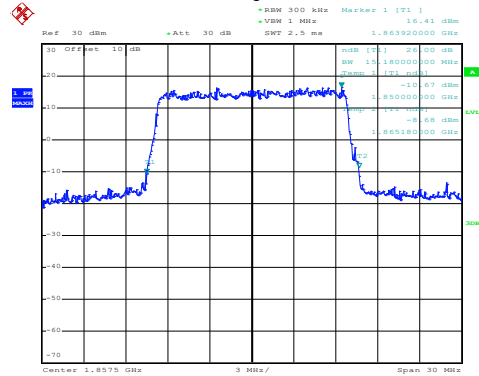
LTE Band 2: -26dBc bandwidth  
BW: 15MHz

## 16QAM



Date: 28.JUL.2020 11:05:55

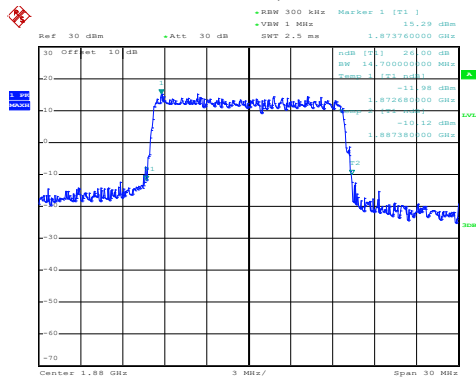
## QPSK



Date: 28.JUL.2020 11:05:52

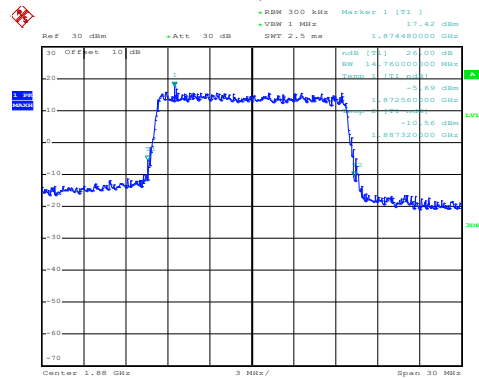
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:06:07

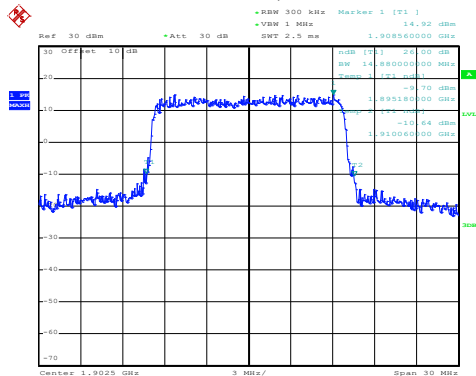
## QPSK



Date: 28.JUL.2020 11:06:04

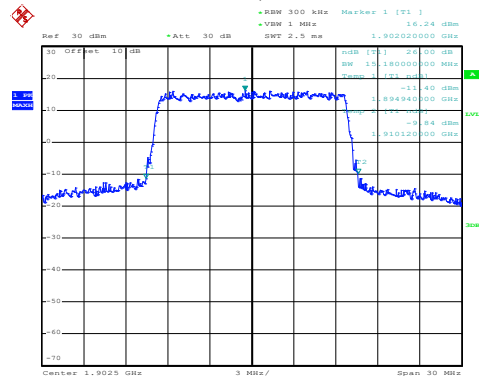
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:06:41

## QPSK

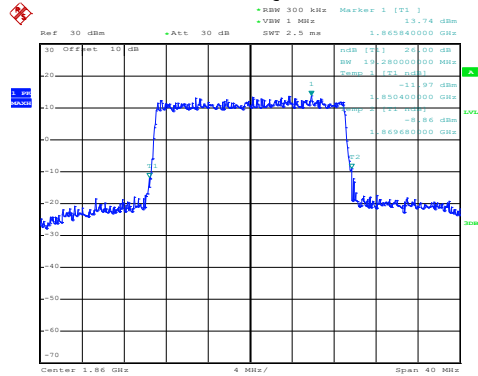


Date: 28.JUL.2020 11:06:38

## Highest channel

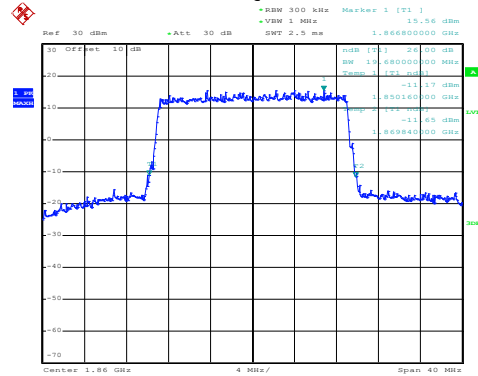
LTE Band 2: -26dBc bandwidth  
BW: 20MHz

## 16QAM



Date: 28.JUL.2020 11:07:04

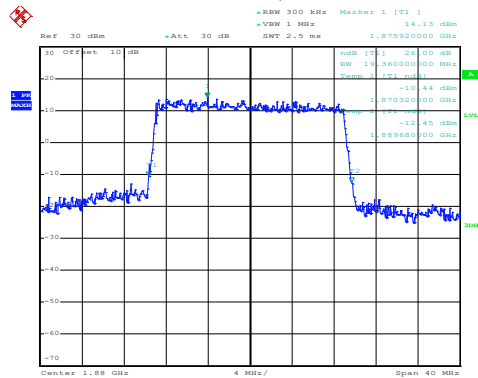
## QPSK



Date: 28.JUL.2020 11:07:01

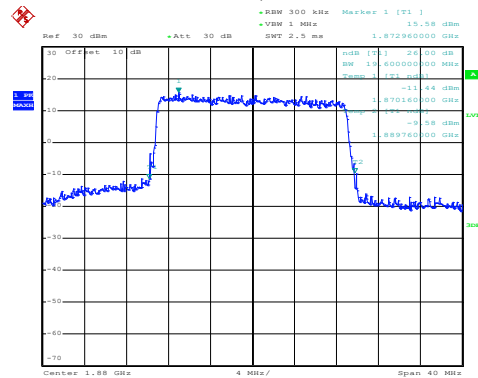
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:07:35

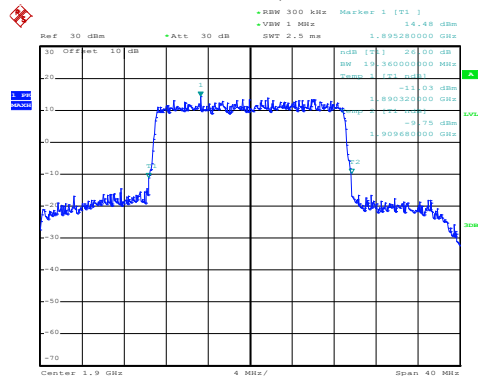
## QPSK



Date: 28.JUL.2020 11:07:32

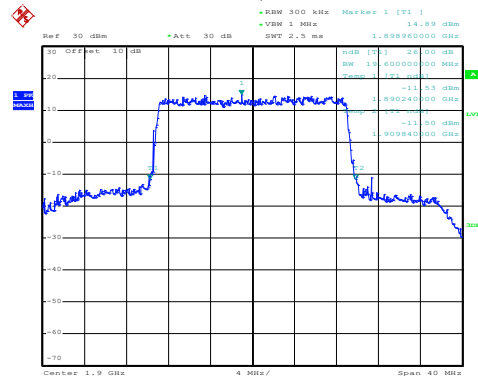
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:07:47

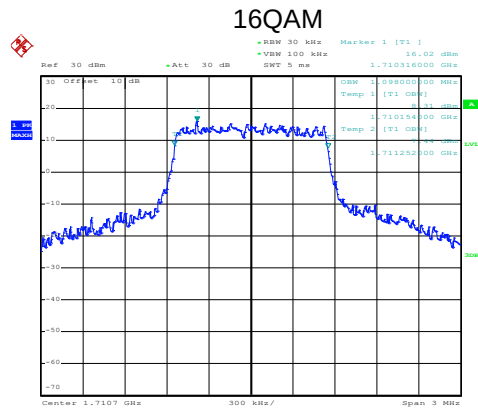
## QPSK



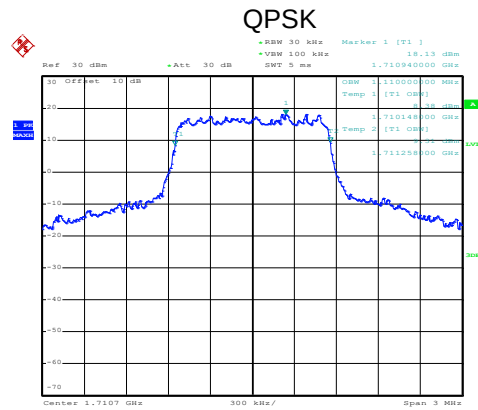
Date: 28.JUL.2020 11:07:44

## Highest channel

## LTE Band 4 part:

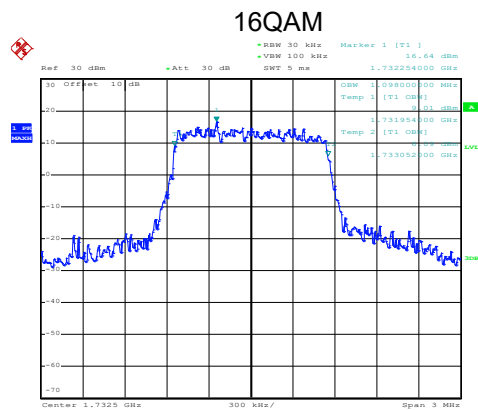
LTE Band 4: 99% Occupancy bandwidth  
BW: 1.4MHz

Date: 28.JUL.2020 10:50:48

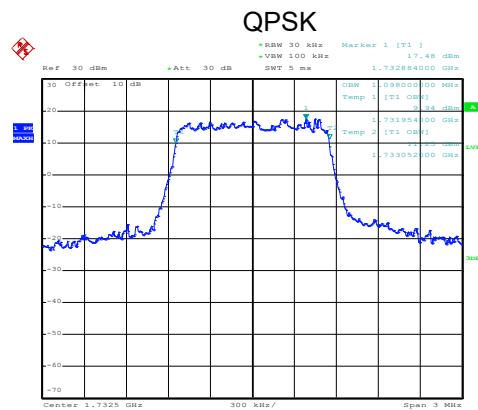


Date: 28.JUL.2020 10:50:45

## Lowest channel

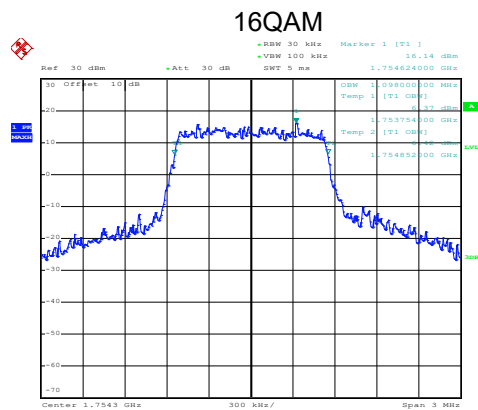


Date: 28.JUL.2020 10:51:28

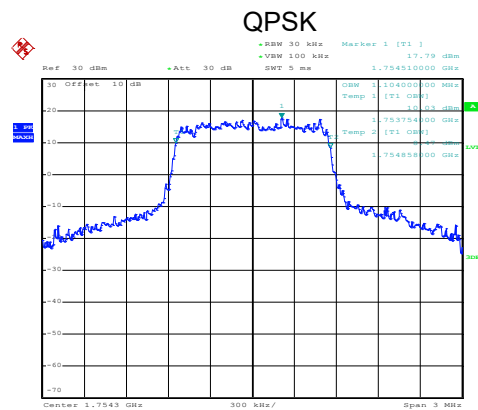


Date: 28.JUL.2020 10:51:25

## Middle channel



Date: 28.JUL.2020 10:51:43

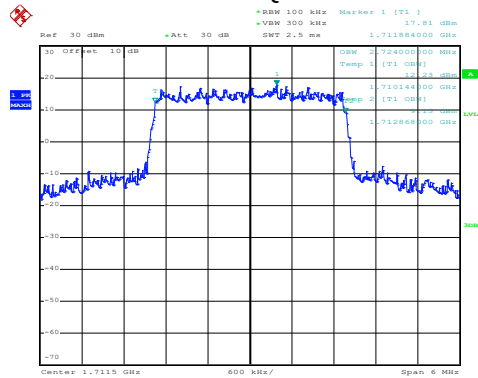


Date: 28.JUL.2020 10:51:40

## Highest channel

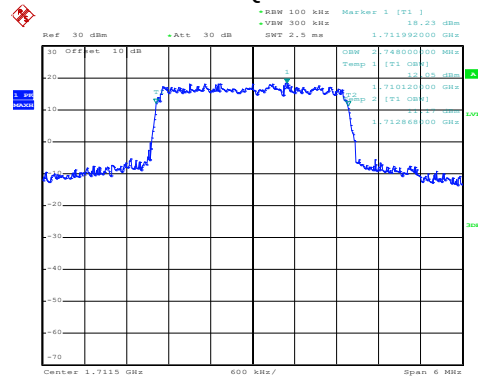
LTE Band 4: 99% Occupancy bandwidth  
BW: 3MHz

## 16QAM



Date: 28.JUL.2020 10:52:42

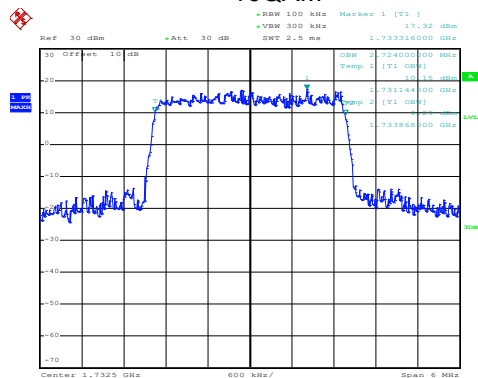
## QPSK



Date: 28.JUL.2020 10:52:39

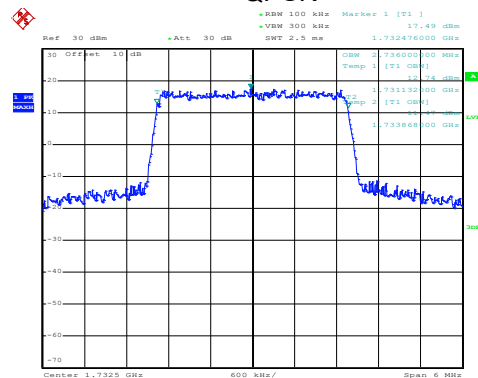
## Lowest channel

## 16QAM



Date: 28.JUL.2020 10:52:54

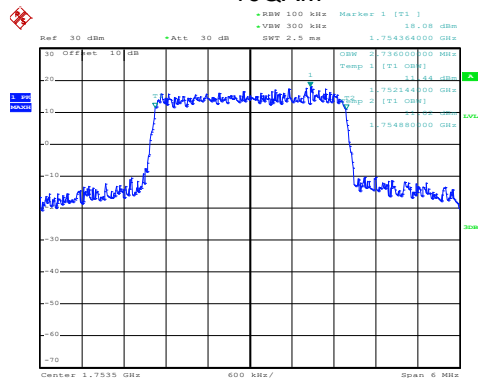
## QPSK



Date: 28.JUL.2020 10:52:51

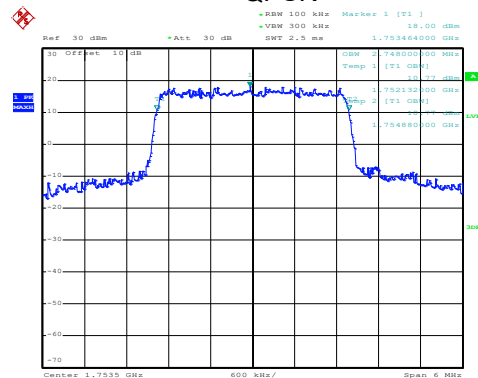
## Middle channel

## 16QAM



Date: 28.JUL.2020 10:53:26

## QPSK



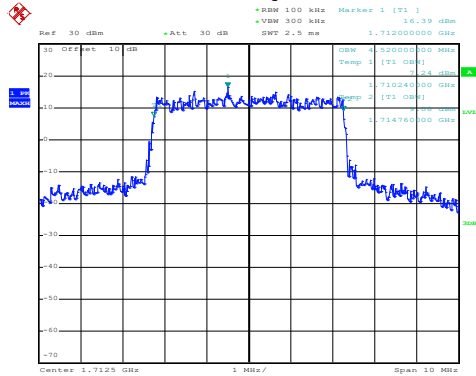
Date: 28.JUL.2020 10:53:23

## Highest channel



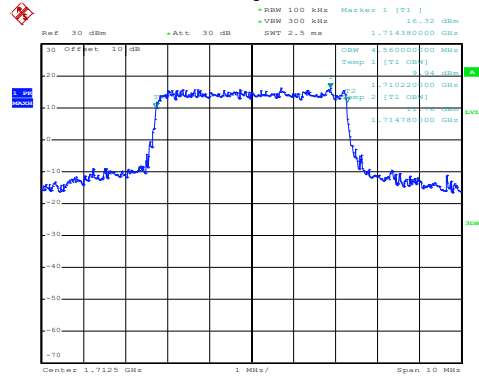
LTE Band 4: 99% Occupancy bandwidth  
BW: 5MHz

## 16QAM



Date: 28.JUL.2020 10:53:50

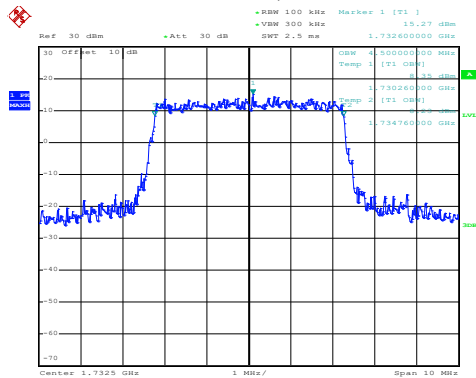
## QPSK



Date: 28.JUL.2020 10:53:46

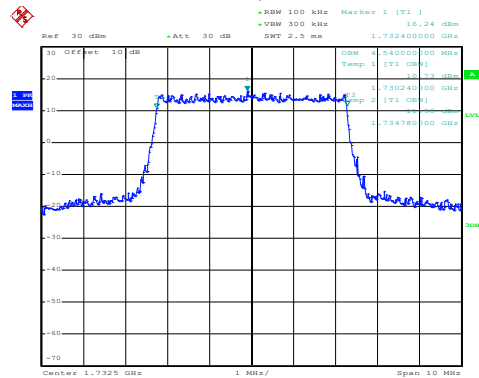
## Lowest channel

## 16QAM



Date: 28.JUL.2020 10:54:25

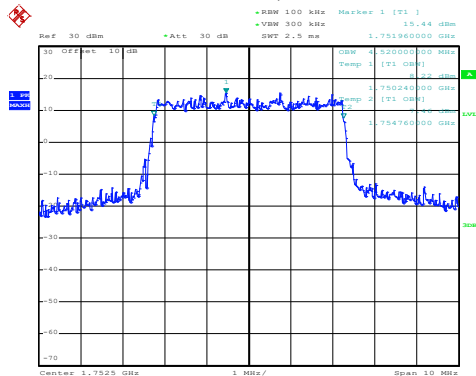
## QPSK



Date: 28.JUL.2020 10:54:22

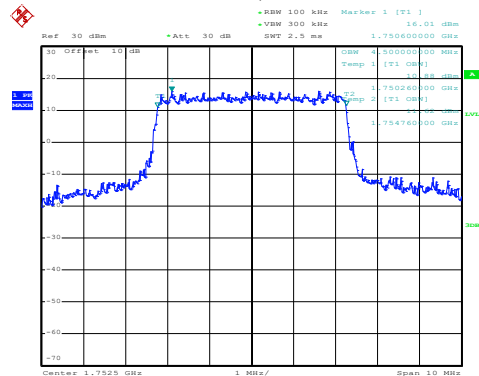
## Middle channel

## 16QAM



Date: 28.JUL.2020 10:54:40

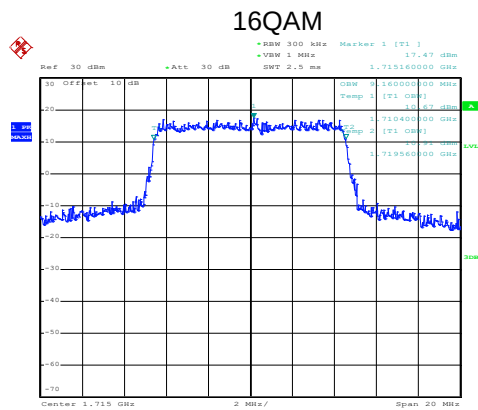
## QPSK



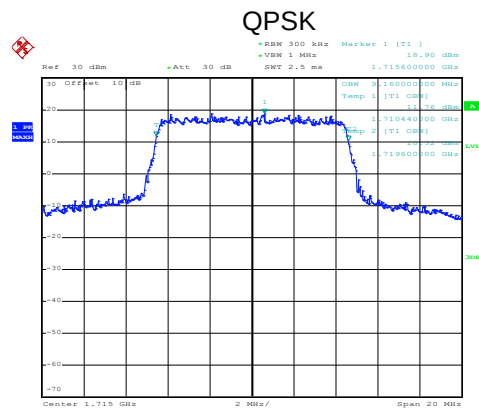
Date: 28.JUL.2020 10:54:37

## Highest channel

LTE Band 4: 99% Occupy bandwidth  
BW: 10MHz

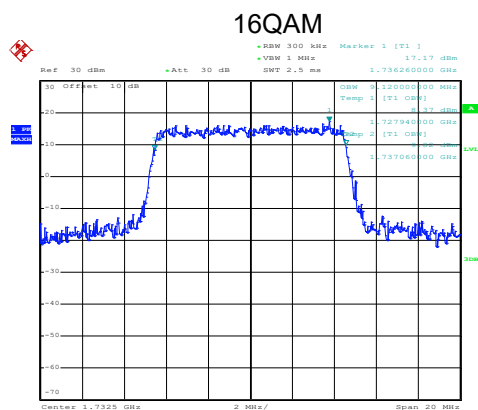


Date: 28.JUL.2020 10:55:31

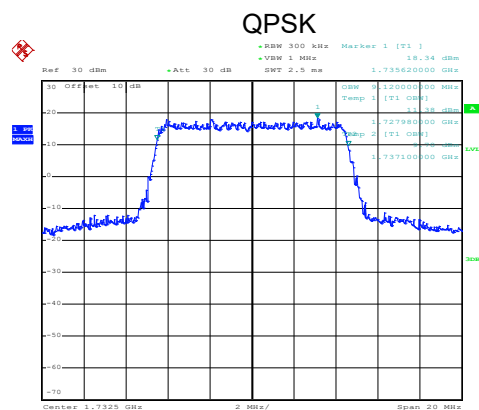


Date: 28.JUL.2020 10:55:28

Lowest channel

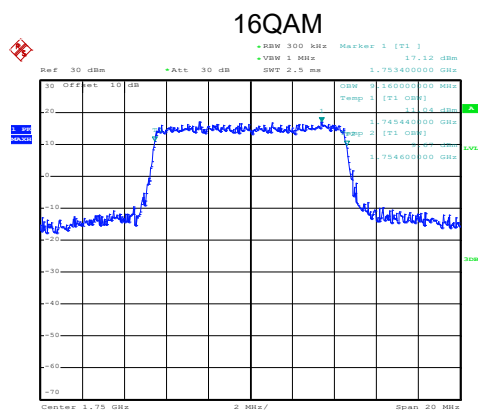


Date: 28.JUL.2020 10:55:43

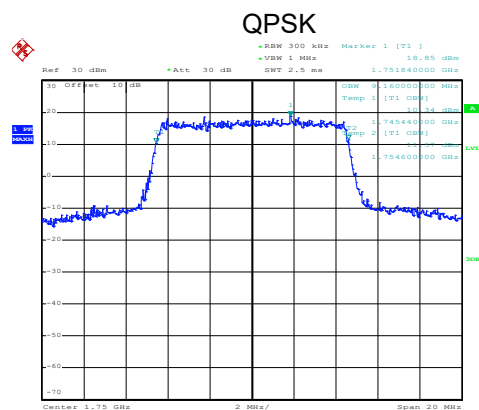


Date: 28.JUL.2020 10:55:40

Middle channel



Date: 28.JUL.2020 10:56:24



Date: 28.JUL.2020 10:56:19

## Highest channel

16QAM



## Date: 28.JUL.2020 10:56:54

## 16QAM



Date: 28.JUL.2020 10:57:23

## 16QAM

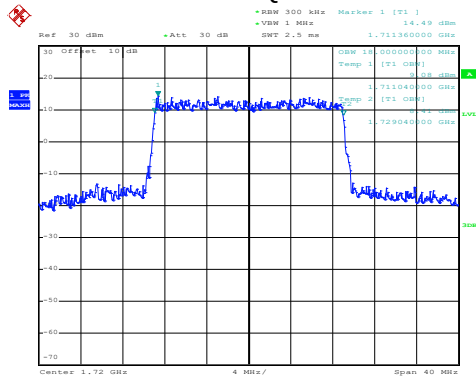


## Date: 28.JUL.2020 10:57:36

## Page 51 of

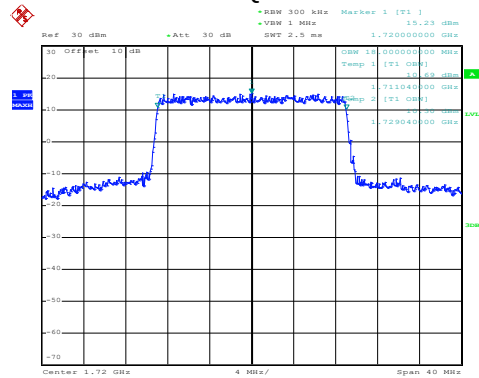
LTE Band 4: 99% Occupancy bandwidth  
BW: 20MHz

## 16QAM



Date: 28.JUL.2020 10:58:29

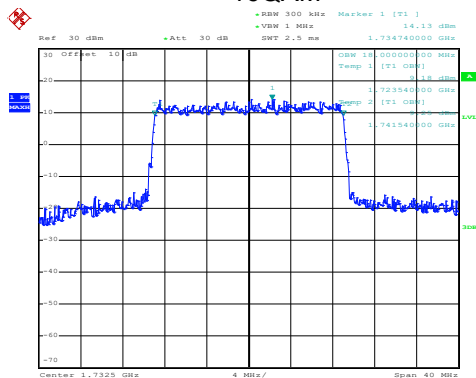
## QPSK



Date: 28.JUL.2020 10:58:26

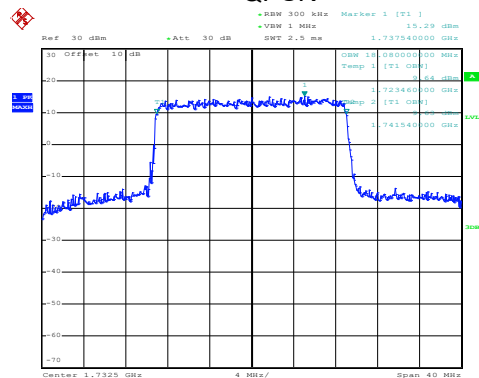
## Lowest channel

## 16QAM



Date: 28.JUL.2020 10:58:40

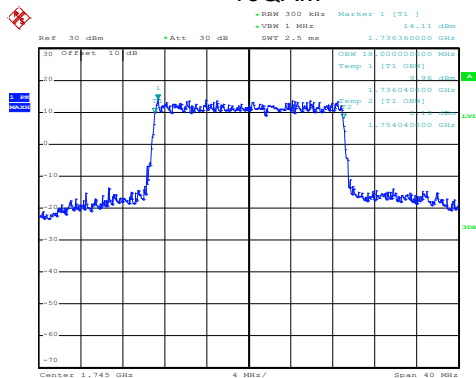
## QPSK



Date: 28.JUL.2020 10:58:37

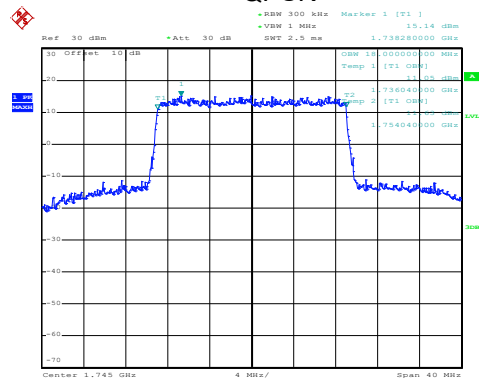
## Middle channel

## 16QAM



Date: 28.JUL.2020 10:59:12

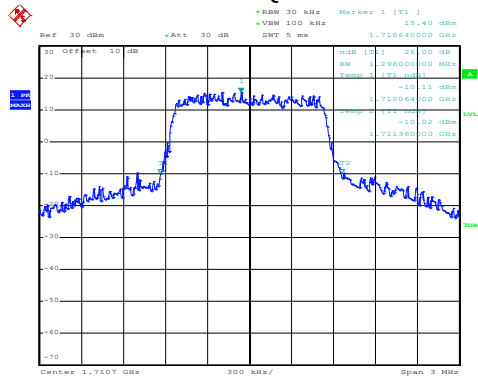
## QPSK



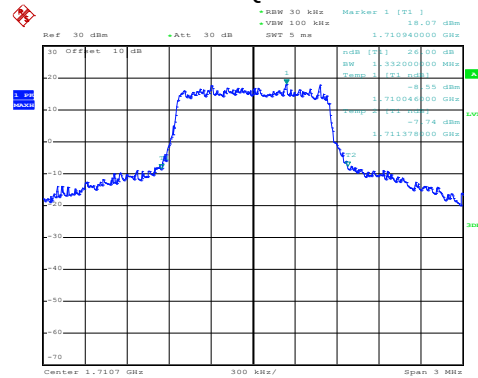
Date: 28.JUL.2020 10:59:09

## Highest channel

QPSK

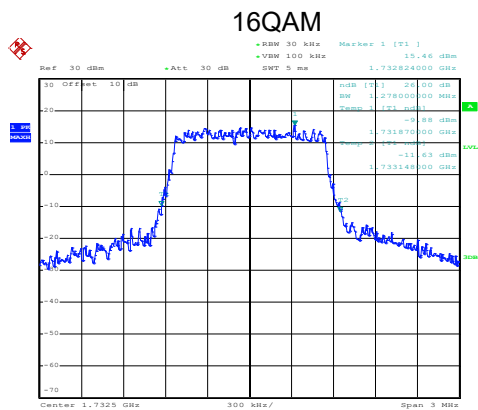


Date: 28.JUL.2020 10:50:58

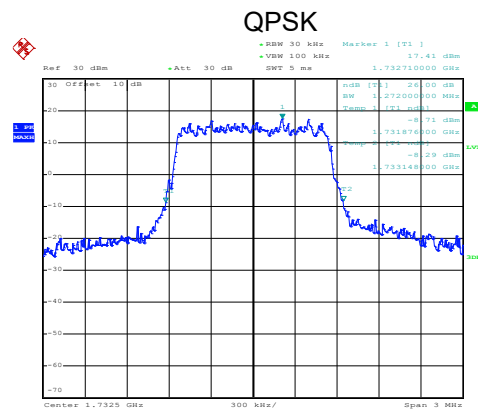


Date: 28.JUL.2020 10:50:55

Lowest channel

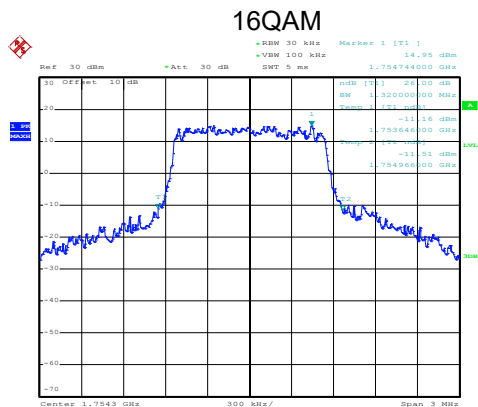


Date: 28.JUL.2020 10:51:11

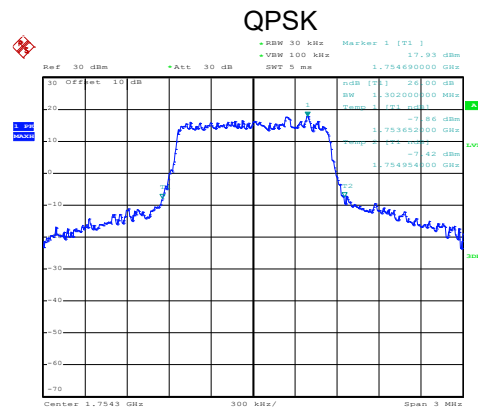


Date: 28.JUL.2020 10:51:08

Middle channel



Date: 28.JUL.2020 10:51:52



Date: 28.JUL.2020 10:51:49

Highest channel

16QAM



QPSK



Lowest channel

## 16QAM



QPSK



Middle channel

16QAM



QPSK



## Highest channel

## 16QAM



QPSK



Lowest channel

## 16QAM



QPSK



Middle channel

16QAM



QPSK



## Highest channel

16QAM



QPSK



Lowest channel

## 16QAM



QPSK



Middle channel

## 16QAM



QPSK

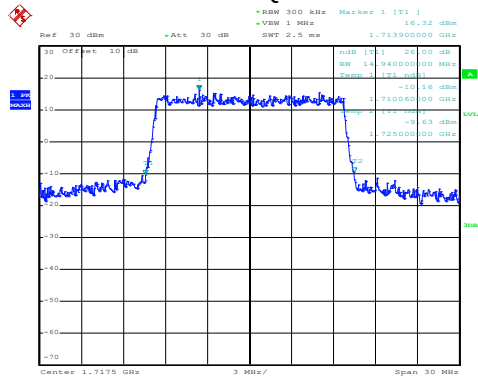


## Highest channel



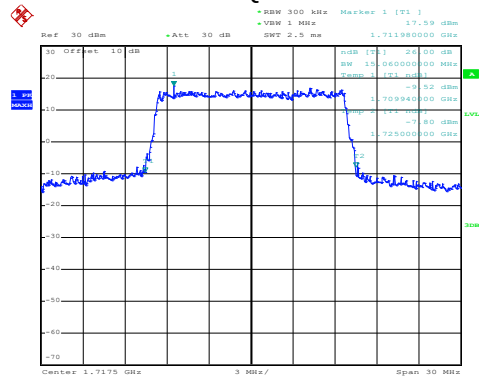
LTE Band 4: -26dBc bandwidth  
BW: 15MHz

## 16QAM



Date: 28.JUL.2020 10:57:05

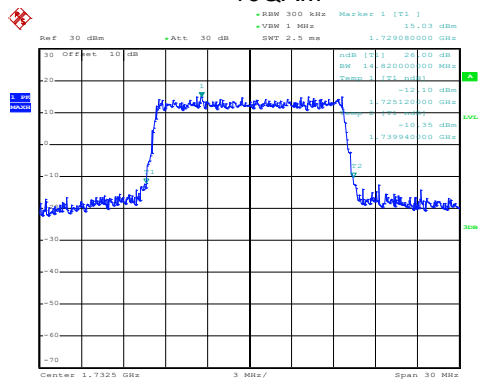
## QPSK



Date: 28.JUL.2020 10:57:02

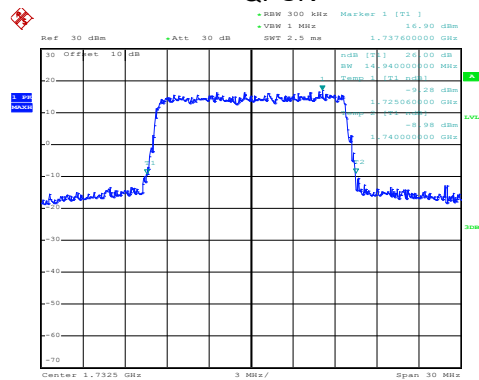
## Lowest channel

## 16QAM



Date: 28.JUL.2020 10:57:17

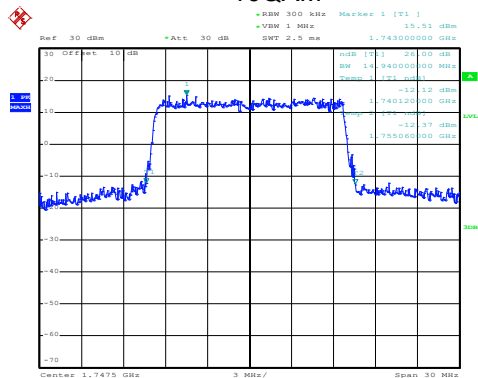
## QPSK



Date: 28.JUL.2020 10:57:14

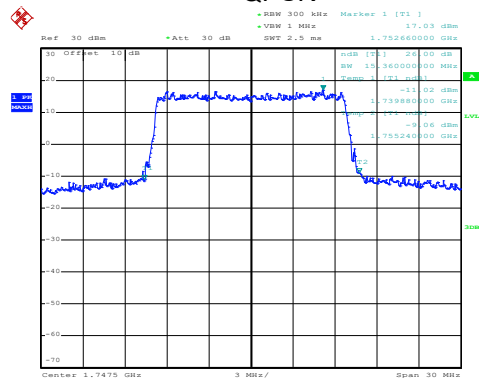
## Middle channel

## 16QAM



Date: 28.JUL.2020 10:57:53

## QPSK

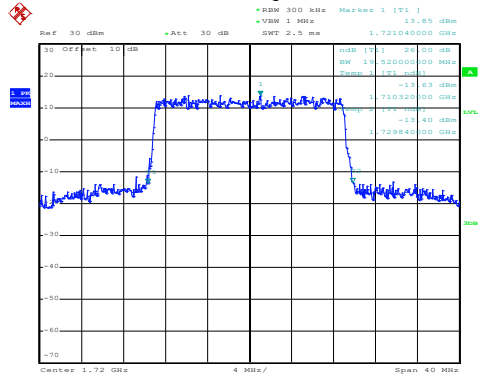


Date: 28.JUL.2020 10:57:50

## Highest channel

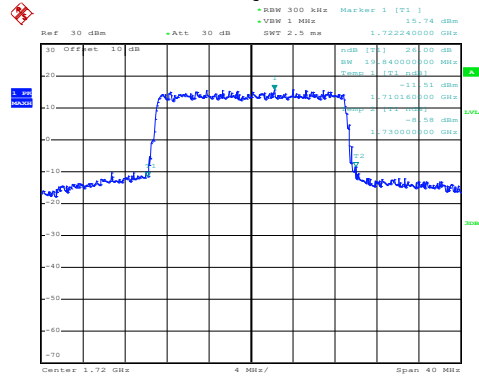
LTE Band 4: -26dBc bandwidth  
BW: 20MHz

## 16QAM



Date: 28.JUL.2020 10:58:20

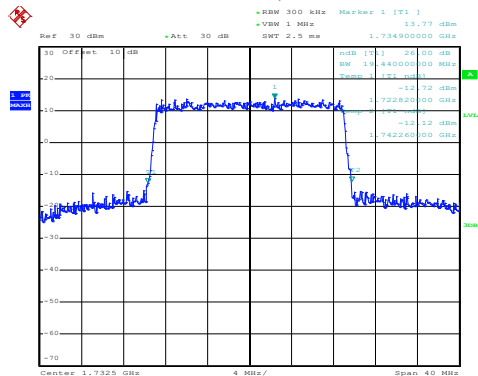
## QPSK



Date: 28.JUL.2020 10:58:17

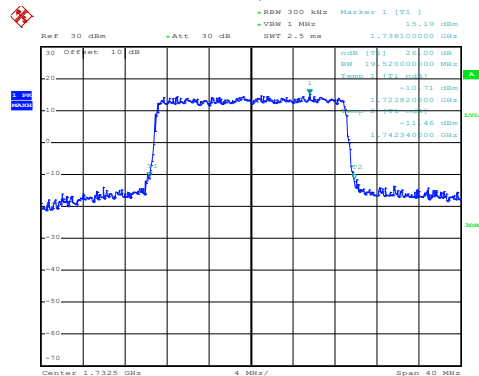
## Lowest channel

## 16QAM



Date: 28.JUL.2020 10:58:51

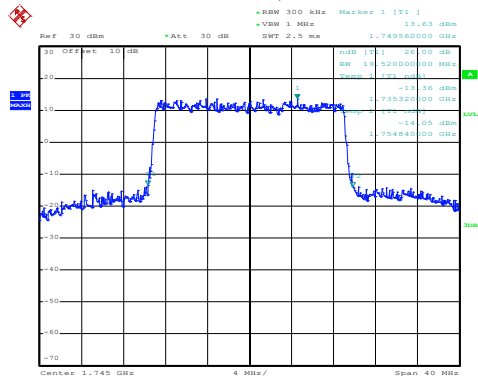
## QPSK



Date: 28.JUL.2020 10:58:47

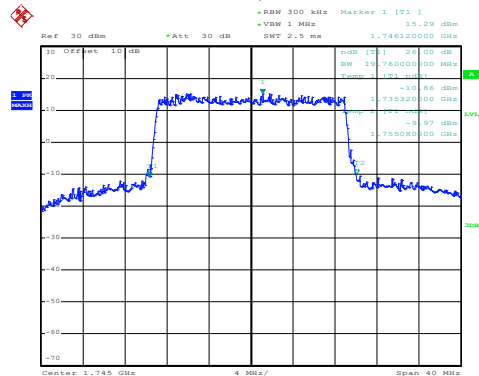
## Middle channel

## 16QAM



Date: 28.JUL.2020 10:59:03

## QPSK



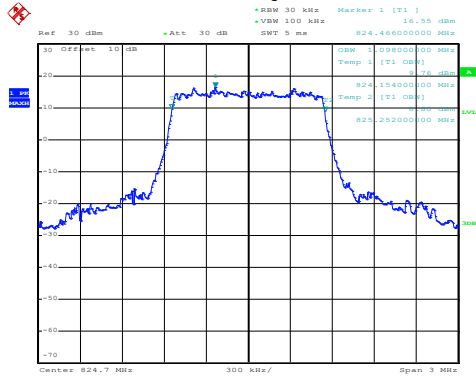
Date: 28.JUL.2020 10:59:00

## Highest channel

## LTE Band 5 part:

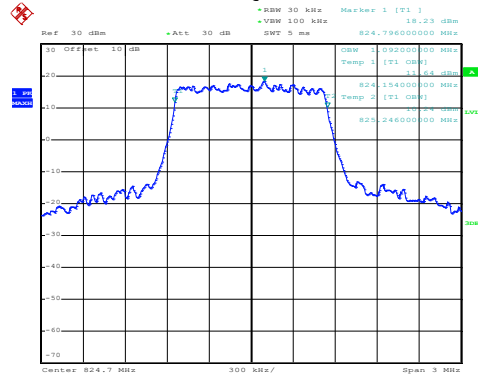
LTE Band 5: 99% Occupancy bandwidth  
BW: 1.4MHz

16QAM



Date: 28.JUL.2020 11:11:45

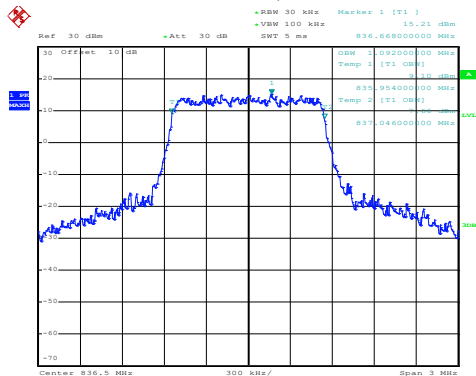
QPSK



Date: 28.JUL.2020 11:11:15

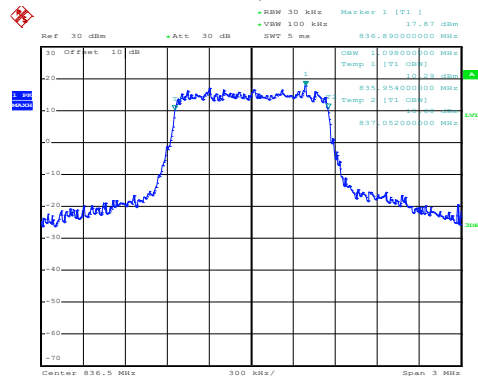
Lowest channel

16QAM



Date: 28.JUL.2020 11:12:22

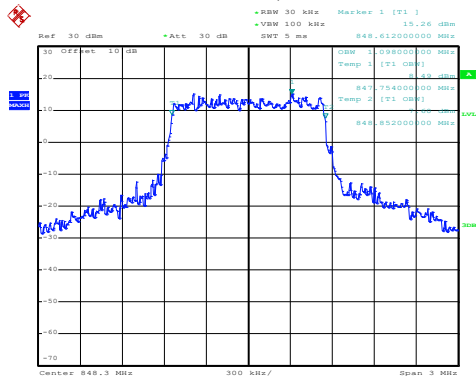
QPSK



Date: 28.JUL.2020 11:12:18

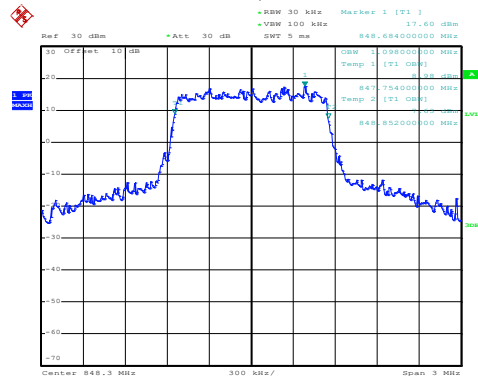
Middle channel

16QAM



Date: 28.JUL.2020 11:13:27

QPSK



Date: 28.JUL.2020 11:13:24

Highest channel

16QAM



Date: 28.JUL.2020 11:14:26

## 16QAM



Date: 28.JUL.2020 11:14:46

## 16QAM

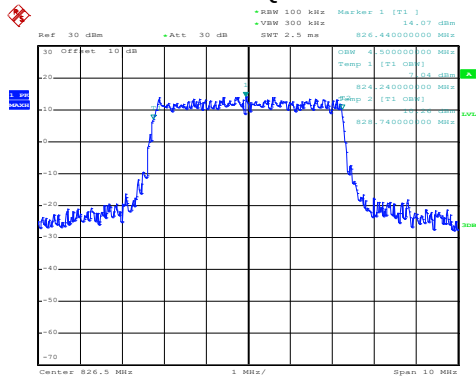


## Date: 28.JUL.2020 11:15:21

## Page 60 of

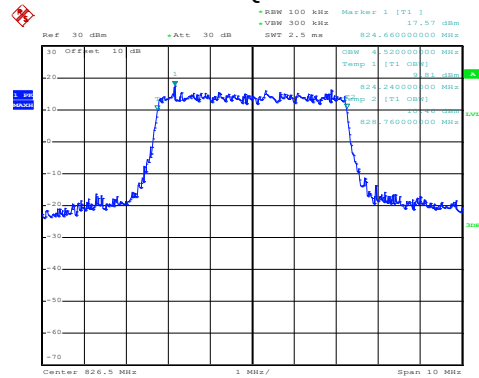
LTE Band 5: 99% Occupancy bandwidth  
BW: 5MHz

## 16QAM



Date: 28.JUL.2020 11:17:30

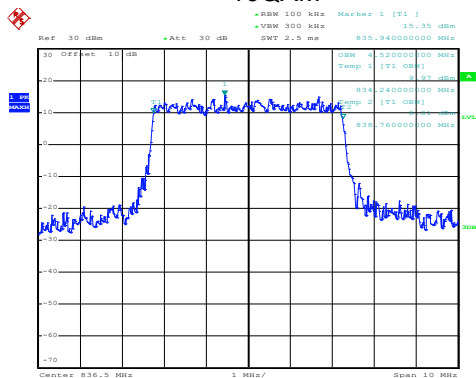
## QPSK



Date: 28.JUL.2020 11:17:26

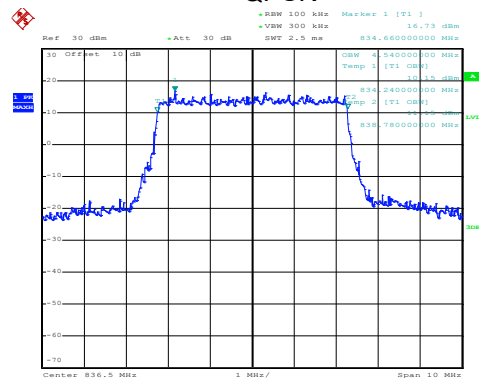
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:18:01

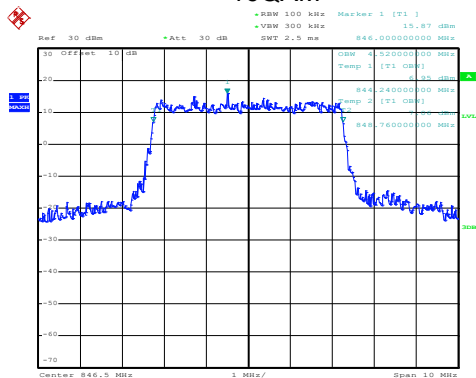
## QPSK



Date: 28.JUL.2020 11:17:58

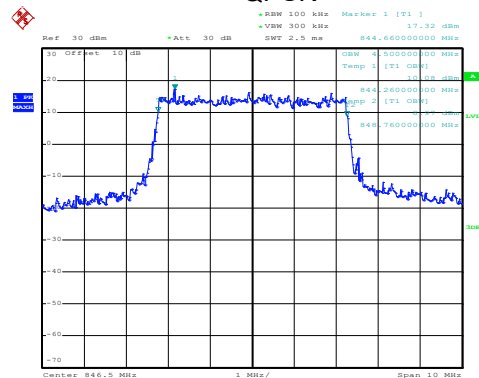
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:18:22

## QPSK



Date: 28.JUL.2020 11:18:16

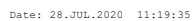
## Highest channel

16QAM



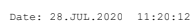
Date: 28.JUL.2020 11:19:18

## 16QAM



Date: 28.JUL.2020 11:19:32

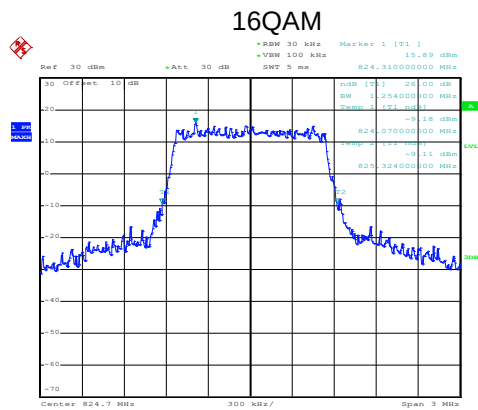
## 16QAM



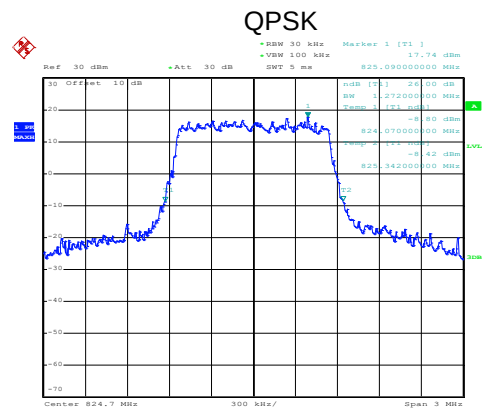
Date: 28.JUL.2020 11:20:09

## Page 62 of

LTE Band 5: -26dBc bandwidth  
BW: 1.4MHz

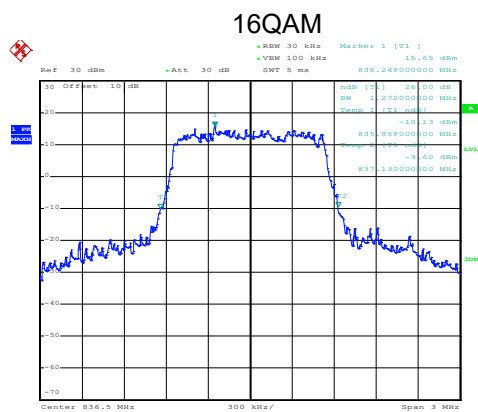


Date: 28.JUL.2020 11:11:58

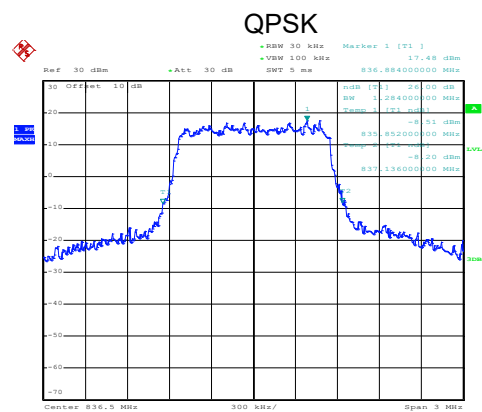


Date: 28.JUL.2020 11:11:55

Lowest channel

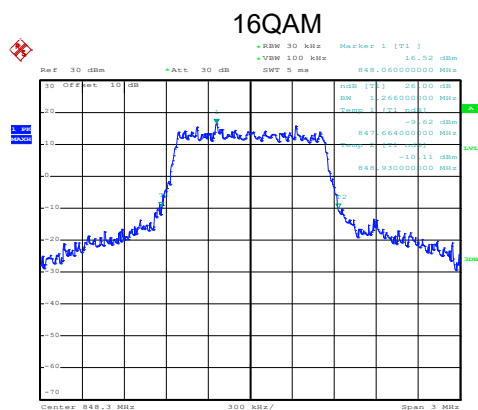


Date: 28.JUL.2020 11:12:13

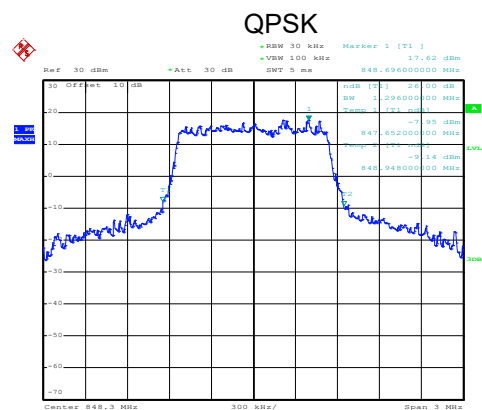


Date: 28.JUL.2020 11:12:09

Middle channel



Date: 28.JUL.2020 11:13:38

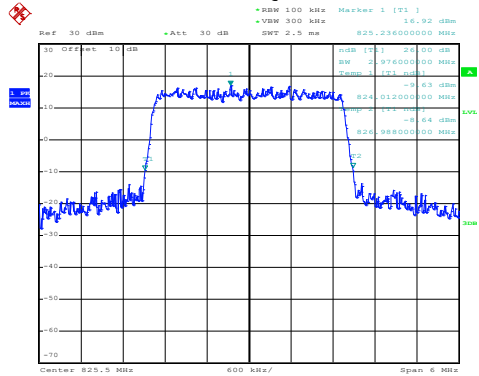


Date: 28.JUL.2020 11:13:33

## Highest channel

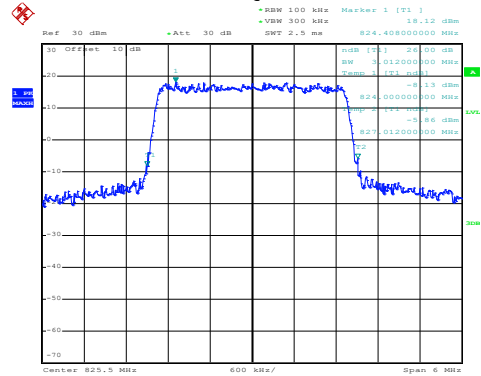
LTE Band 5: -26dBc bandwidth  
BW: 3MHz

## 16QAM



Date: 28.JUL.2020 11:14:21

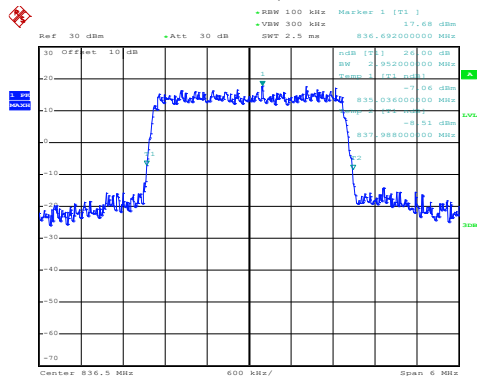
## QPSK



Date: 28.JUL.2020 11:14:17

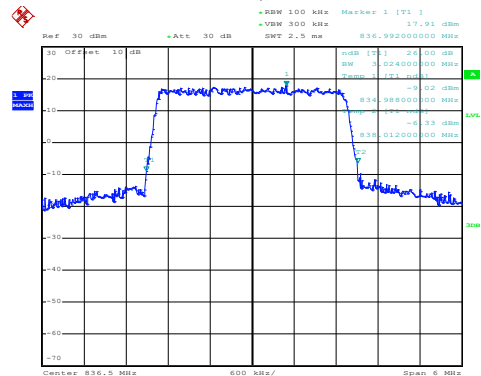
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:14:59

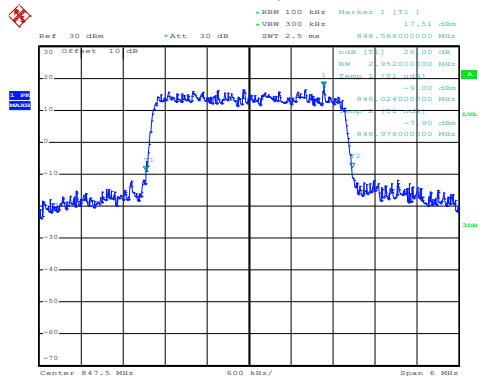
## QPSK



Date: 28.JUL.2020 11:14:56

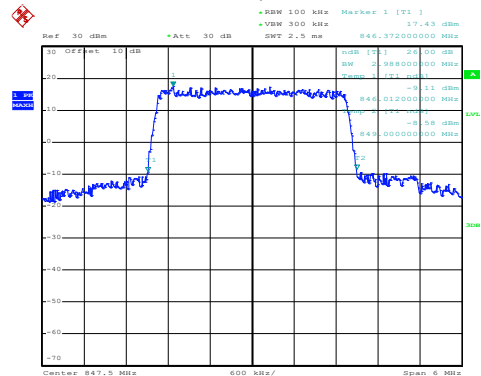
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:15:15

## QPSK



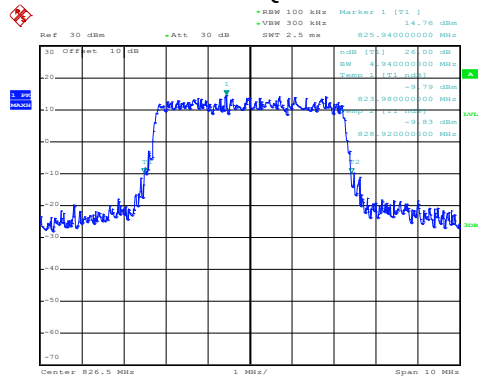
Date: 28.JUL.2020 11:15:12

## Highest channel



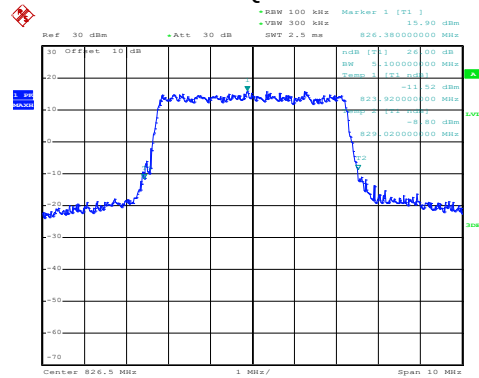
LTE Band 5: -26dBc bandwidth  
BW: 5MHz

## 16QAM



Date: 28.JUL.2020 11:17:40

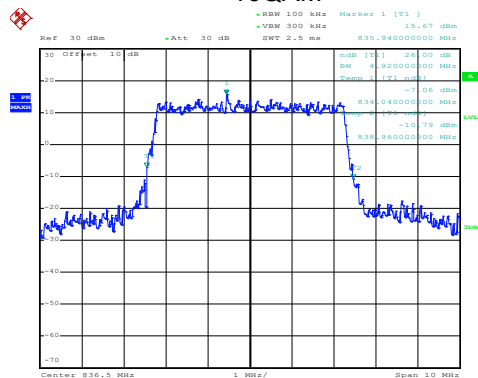
## QPSK



Date: 28.JUL.2020 11:17:37

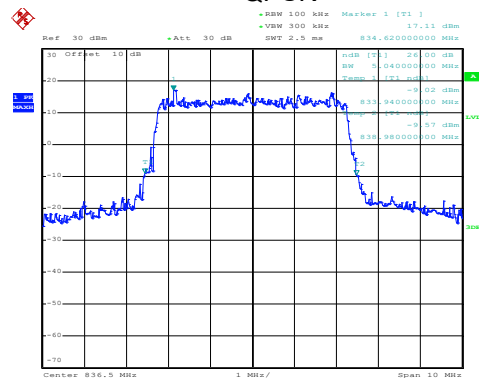
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:17:51

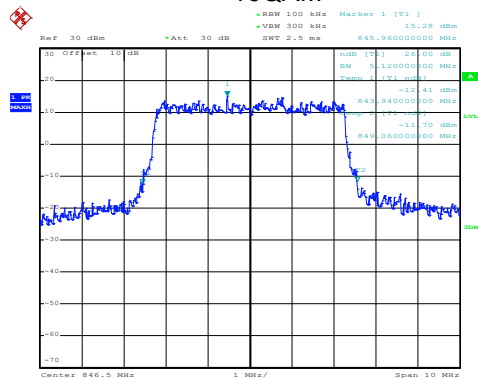
## QPSK



Date: 28.JUL.2020 11:17:48

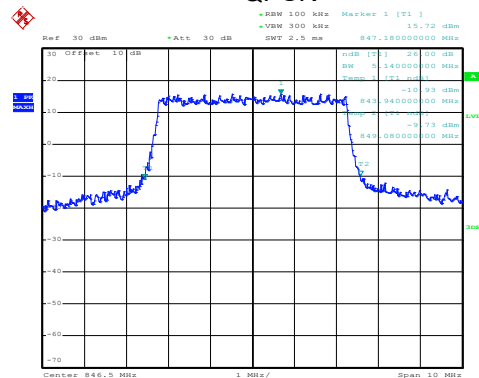
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:18:33

## QPSK

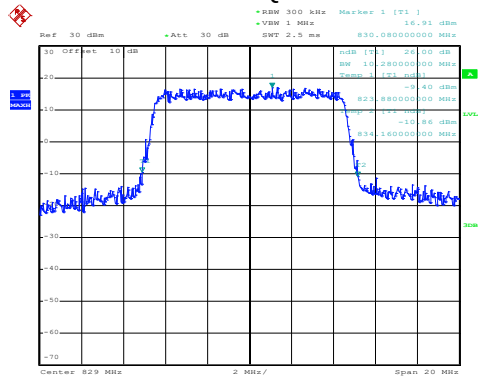


Date: 28.JUL.2020 11:18:29

## Highest channel

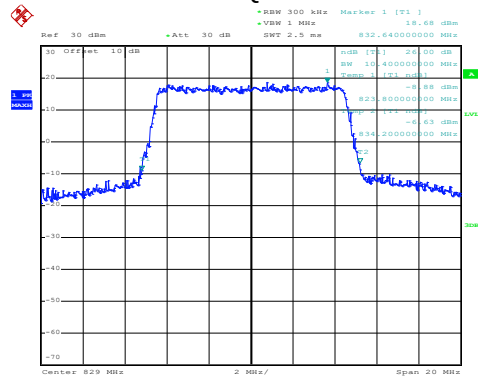
LTE Band 5: -26dBc bandwidth  
BW: 10MHz

## 16QAM



Date: 28.JUL.2020 11:19:00

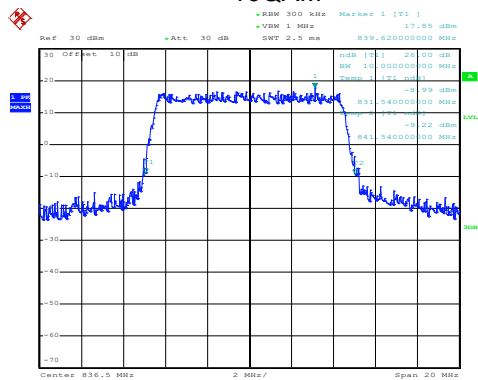
## QPSK



Date: 28.JUL.2020 11:18:57

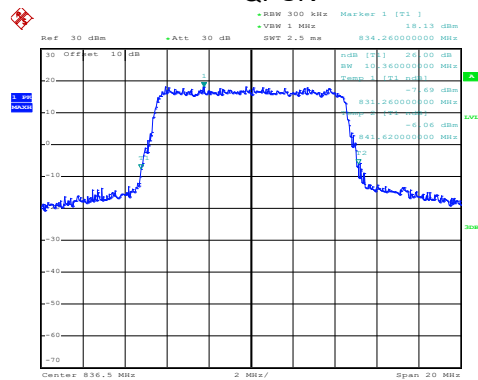
## Lowest channel

## 16QAM



Date: 28.JUL.2020 11:19:45

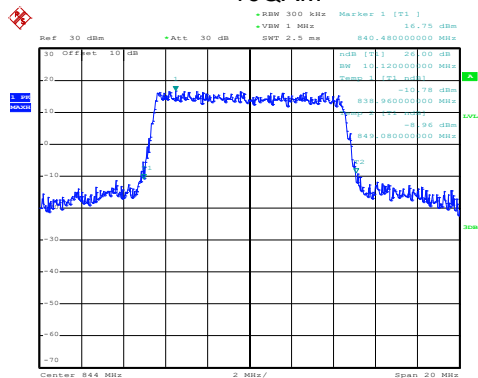
## QPSK



Date: 28.JUL.2020 11:19:42

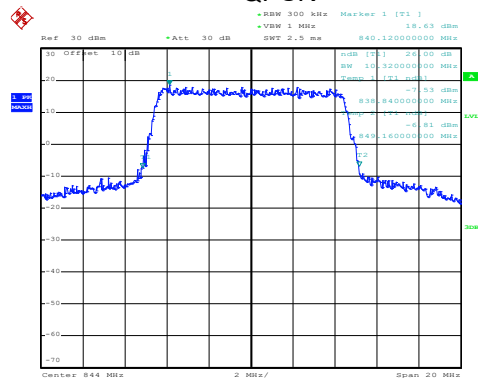
## Middle channel

## 16QAM



Date: 28.JUL.2020 11:20:01

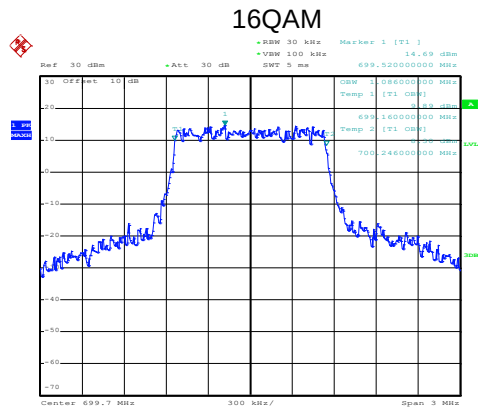
## QPSK



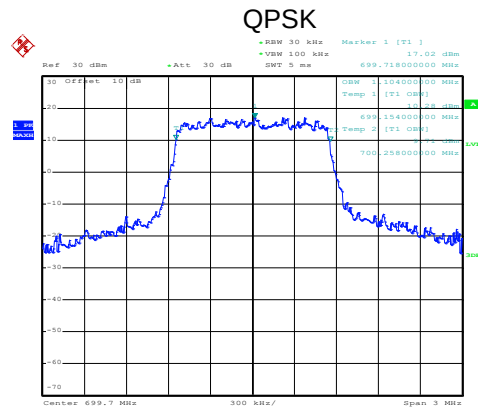
Date: 28.JUL.2020 11:19:57

## Highest channel

## LTE Band 12 part:

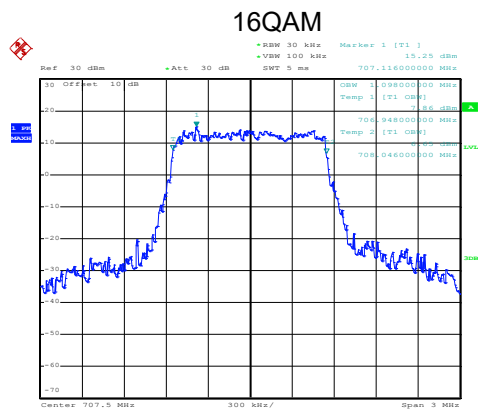
LTE Band 12: 99% Occupancy bandwidth  
BW: 1.4MHz

Date: 28.JUL.2020 11:20:45

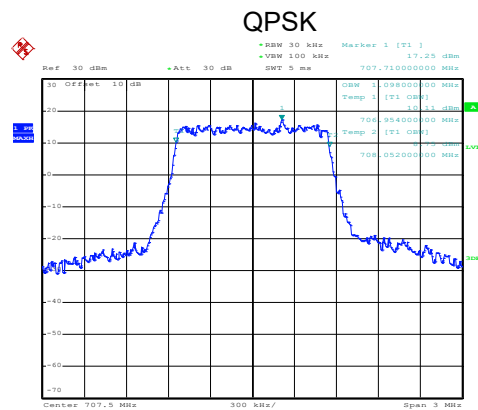


Date: 28.JUL.2020 11:20:42

## Lowest channel

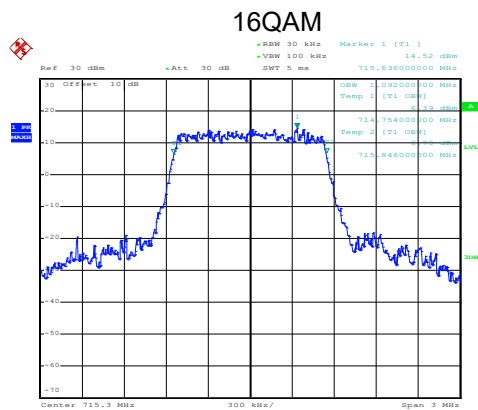


Date: 28.JUL.2020 11:22:04

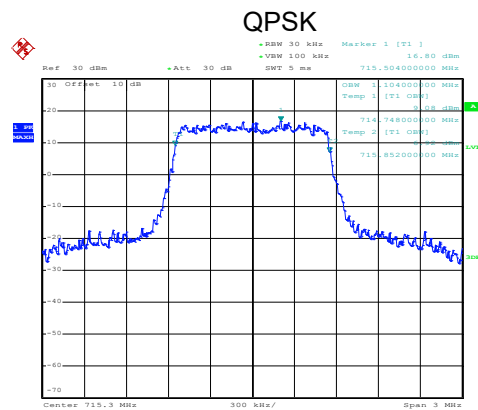


Date: 28.JUL.2020 11:22:00

## Middle channel



Date: 28.JUL.2020 11:22:19



Date: 28.JUL.2020 11:22:15

## Highest channel