

# FCC Test Report

Product Name : TracKing V5  
Brand Name : Thermo King  
Model No. : TKV5C4  
FCC ID : Q37TKV5C4

Applicant : Thermo King Corporation  
Address : 314 West 90th Street, Minneapolis, MN USA 55420

Date of Receipt : Dec. 09, 2021  
Issued Date : May 24, 2022  
Report No. : 21C0364R-RFUSWWAV07-B  
Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.



Product Name : TrackKing V5  
Applicant : Thermo King Corporation  
Address : 314 West 90th Street, Minneapolis, MN USA 55420  
Manufacturer : Thermo King Corporation  
Address : 314 West 90th Street, Minneapolis, MN USA 55420  
Brand Name : Thermo King  
Model No. : TKV5C4  
FCC ID : Q37TKV5C4  
EUT Voltage : DC 14.2V  
Testing Voltage : DC 14.2V  
Applicable Standard : FCC CFR Title 47 Part 22 Subpart H  
FCC CFR Title 47 Part 24 Subpart E  
FCC CFR Title 47 Part 27 Subpart L, Subpart F  
FCC CFR Title 47 Part 90 Subpart S  
ANSI/TIA-603-E-2016  
ANSI C63.26-2015  
Laboratory Name : DEKRA Testing and Certification Co., Ltd.  
Hsin Chu Laboratory  
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu  
County 310, Taiwan, R.O.C.  
Test Result : Complied

Documented By :



( Hailey Peng / Senior Engineer )

Approved By :



( Rueyyan Lin / Supervisor )

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

**Revision History**

| Version | Description             | Issued Date  |
|---------|-------------------------|--------------|
| V1.0    | Initial issue of report | May 24, 2022 |
|         |                         |              |
|         |                         |              |
|         |                         |              |
|         |                         |              |
|         |                         |              |
|         |                         |              |
|         |                         |              |
|         |                         |              |

## TABLE OF CONTENTS

| Description                                           | Page |
|-------------------------------------------------------|------|
| 1. General Information .....                          | 6    |
| 1.1. EUT Description.....                             | 6    |
| 1.2. Mode of Operation .....                          | 7    |
| 1.3. Comments and Remarks .....                       | 7    |
| 1.4. Tested System Details .....                      | 8    |
| 1.5. Configuration of Tested System .....             | 8    |
| 1.6. EUT Operation of during Test .....               | 8    |
| 2. Technical Test .....                               | 9    |
| 2.1. Summary of Test Result.....                      | 9    |
| 2.2. Test Environment.....                            | 13   |
| 2.3. List of Test Equipment .....                     | 14   |
| 2.4. Measurement Uncertainty.....                     | 15   |
| 3. RF Output Power .....                              | 16   |
| 3.1. Test Setup.....                                  | 16   |
| 3.2. Test Procedure .....                             | 16   |
| 3.3. Test Methodology and Reference Procedures .....  | 16   |
| 3.4. Test Result of RF Output Power .....             | 17   |
| 4. Occupied Bandwidth.....                            | 44   |
| 4.1. Test Setup.....                                  | 44   |
| 4.2. Test Procedure .....                             | 44   |
| 4.3. Test Methodology and Reference Procedures .....  | 44   |
| 4.4. Test Result of Occupied Bandwidth .....          | 45   |
| 5. Peak to Average Ratio .....                        | 78   |
| 5.1. Test Setup.....                                  | 78   |
| 5.2. Test Procedure .....                             | 78   |
| 5.3. Test Methodology and Reference Procedures .....  | 78   |
| 5.4. Test Result of Peak to Average Ratio .....       | 79   |
| 6. Spurious Emissions .....                           | 114  |
| 6.1. Test Setup.....                                  | 114  |
| 6.2. Test Procedure .....                             | 115  |
| 6.3. Test Methodology and Reference Procedures .....  | 115  |
| 6.4. Test Result of Conducted Spurious Emission ..... | 116  |
| 6.5. Test Result of Radiated Spurious Emission .....  | 143  |
| 7. Conducted Band Edge.....                           | 153  |

|                                                      |     |
|------------------------------------------------------|-----|
| 7.1. Test Setup.....                                 | 153 |
| 7.2. Test Procedure .....                            | 153 |
| 7.3. Test Methodology and Reference Procedures.....  | 153 |
| 7.4. Test Result of Conducted Band Edge .....        | 154 |
| 8. Frequency Stability .....                         | 181 |
| 8.1. Test Setup.....                                 | 181 |
| 8.2. Test Procedure .....                            | 181 |
| 8.3. Test Methodology and Reference Procedures.....  | 181 |
| 8.4. Test Result of Frequency Stability.....         | 182 |
| Appendix A.....                                      | 259 |
| <input type="checkbox"/> Test Setup Photograph ..... | 259 |

## 1. General Information

### 1.1. EUT Description

|                                |                                                                                                                                                                                                                                                           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                   | TracKing V5                                                                                                                                                                                                                                               |
| Brand Name                     | Thermo King                                                                                                                                                                                                                                               |
| Model No.                      | TKV5C4                                                                                                                                                                                                                                                    |
| Uplink Frequency Range (MHz)   | LTE Band 2: 1850~1910<br>LTE Band 4: 1710~1755<br>LTE Band 5: 824~849<br>LTE Band 12: 699~716<br>LTE Band 13: 777~787<br>LTE Band 25: 1850~1915<br>LTE Band 26: 814~849                                                                                   |
| Downlink Frequency Range (MHz) | LTE Band 2: 1930~1990<br>LTE Band 4: 2110~2115<br>LTE Band 5: 869~894<br>LTE Band 12: 729~746<br>LTE Band 13: 746~756<br>LTE Band 25: 1930~1995<br>LTE Band 26: 859~894                                                                                   |
| Bandwidth (MHz)                | LTE Band 2: 1.4 / 3 / 5 / 10 / 15 / 20<br>LTE Band 4: 1.4 / 3 / 5 / 10 / 15 / 20<br>LTE Band 5: 1.4 / 3 / 5 / 10<br>LTE Band 12: 1.4 / 3 / 5 / 10<br>LTE Band 13: 5 / 10<br>LTE Band 25: 1.4 / 3 / 5 / 10 / 15 / 20<br>LTE Band 26: 1.4 / 3 / 5 / 10 / 15 |
| Type of Modulation             | QPSK / 16QAM / 64QAM                                                                                                                                                                                                                                      |
| Hardware Version               | 2.0                                                                                                                                                                                                                                                       |
| Software Version               | T-0102-000028                                                                                                                                                                                                                                             |
| IMEI No.                       | 8655090512                                                                                                                                                                                                                                                |

| Antenna Information |              |           |           |                 |      |       |       |      |      |       |
|---------------------|--------------|-----------|-----------|-----------------|------|-------|-------|------|------|-------|
| Ant. No.            | Manufacturer | Model No. | Ant. Type | Ant. Gain (dBi) |      |       |       |      |      |       |
|                     |              |           |           | LTE Band        |      |       |       |      |      |       |
|                     |              |           |           | 2               | 4    | 5     | 12    | 13   | 25   | 26    |
| 0                   | N/A          | N/A       | PCB       | 2.33            | 3.39 | -0.27 | -0.66 | 0.36 | 2.33 | -0.22 |

Note:

- Regarding frequency band operation, the lowest, middle and highest frequency of channel were selected to perform the test, and the details were shown on this report.
- The EUT description is from the customer declaration.
- The device was tested under all bandwidths, RB configurations and modulations, and the worst case was found in QPSK modulation and show in "Conducted Band Edge" & "Spurious Emission".
- The 64QAM modulation for downlink only.

## 1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

|           |                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Mode | Mode 1: LTE Band 2/25<br>Mode 2: LTE Band 4<br>Mode 3: LTE Band 5/26 (Part 22)<br>Mode 4: LTE Band 12<br>Mode 5: LTE Band 13<br>Mode 6: LTE Band 26 (Part 90) |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

Note:

1. LTE Band 2 is covered by LTE Band 25.
2. LTE Band 5 is covered by LTE Band 26.
3. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
4. The EUT was performed at X axis and Z axis position for radiated emission and band edge tests.  
The worst case was found at X axis, so the measurement will follow this same test configuration.

## 1.3. Comments and Remarks

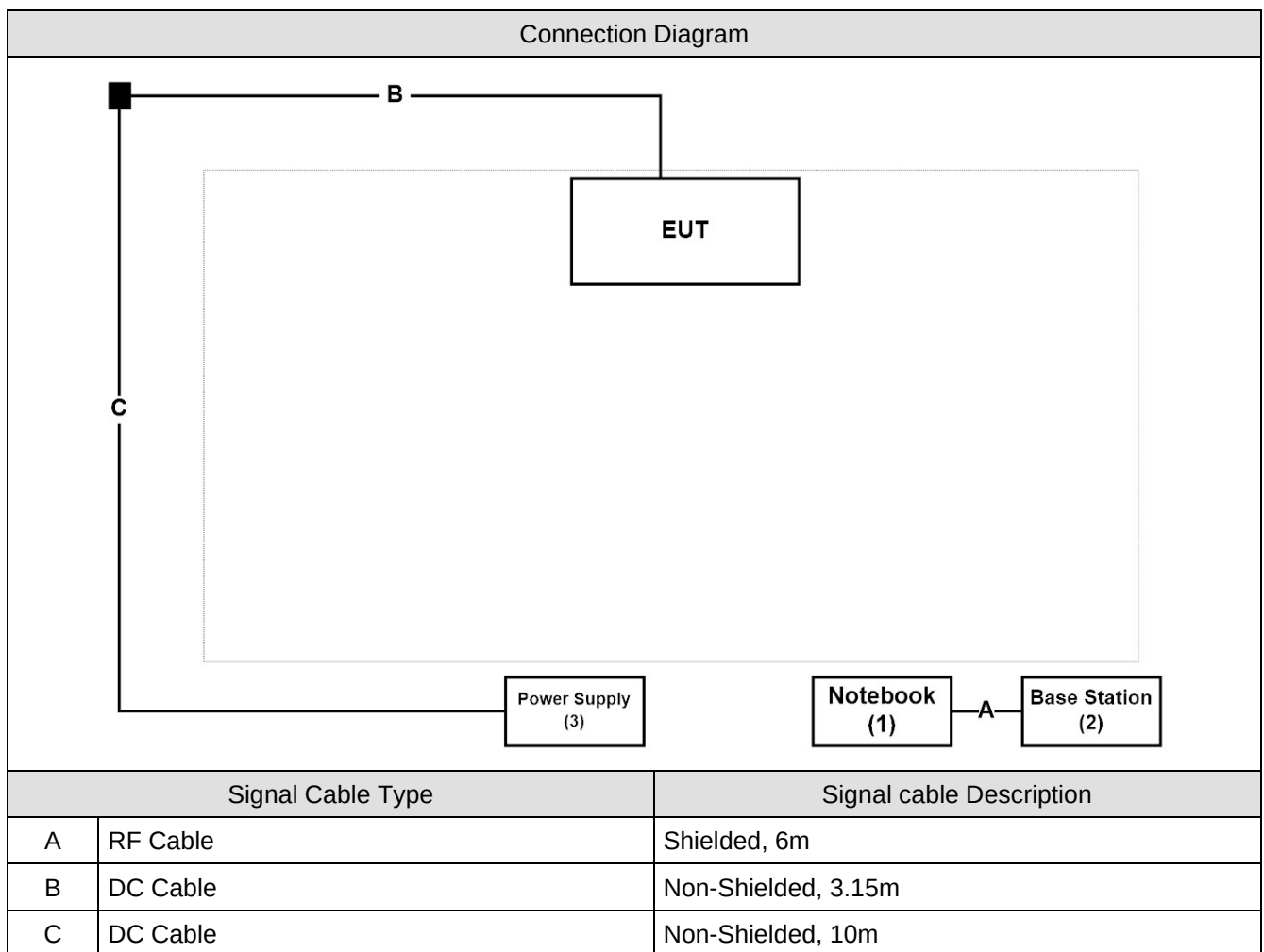
The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

## 1.4. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system.

|   | Product      | Manufacturer | Model No.  | Serial No. | FCC ID |
|---|--------------|--------------|------------|------------|--------|
| 1 | Horn Antenna | Schwarzbeck  | BBHA 9120D | 1640       | N/A    |
| 2 | Base Station | R&S          | CMW500     | 157118     | N/A    |
| 3 | Power Supply | Topward      | 6303D      | 8095908    | N/A    |

## 1.5. Configuration of Tested System



## 1.6. EUT Operation of during Test

|   |                                                             |
|---|-------------------------------------------------------------|
| 1 | Setup the EUT and simulators as shown on.                   |
| 2 | Turn on the power of all equipment.                         |
| 3 | The EUT will continue receive the signal from LTE function. |
| 4 | Repeat the above procedure (3)                              |

## 2. Technical Test

### 2.1. Summary of Test Result

- ☒ No deviations from the test standards
- ☐ Deviations from the test standards as below description:

| LTE Band 2            |                       |                 |        |
|-----------------------|-----------------------|-----------------|--------|
| FCC Part 24 Subpart E |                       |                 |        |
| Performed Item        | FCC Reference Section | Limit           | Result |
| RF Output Power       | §2.1033               | < 2 Watts       | Pass   |
|                       | §2.1046               |                 |        |
|                       | §24.232               |                 |        |
| Occupied Bandwidth    | §2.1049               | N/A             | Pass   |
| Peak to Average Ratio | §24.232(d)            | $\leq$ 13dB     | Pass   |
| Conducted Band Edge   | §27.238               | < -13dBm        | Pass   |
| Spurious Emission     | §2.1053               | < -13dBm        | Pass   |
|                       | §24.238               |                 |        |
| Frequency Stability   | §2.1055               | < $\pm$ 2.5 ppm | Pass   |
|                       | §24.235               |                 |        |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 4            |                       |                 |        |
|-----------------------|-----------------------|-----------------|--------|
| FCC Part 27 Subpart L |                       |                 |        |
| Performed Item        | FCC Reference Section | Limit           | Result |
| RF Output Power       | §2.1033               | < 1 Watts       | Pass   |
|                       | §2.1046               |                 |        |
|                       | §27.50                |                 |        |
| Occupied Bandwidth    | §2.1049               | N/A             | Pass   |
| Peak to Average Ratio | §27.50                | $\leq$ 13dB     | Pass   |
| Conducted Band Edge   | §2.1053               | < -13 dBm       | Pass   |
|                       | §27.53                |                 |        |
| Spurious Emission     | §27.53                | < -13 dBm       | Pass   |
| Frequency Stability   | §2.1055               | < $\pm$ 2.5 ppm | Pass   |
|                       | §27.54                |                 |        |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 5            |                       |            |        |
|-----------------------|-----------------------|------------|--------|
| FCC Part 22 Subpart H |                       |            |        |
| Performed Item        | FCC Reference Section | Limit      | Result |
| RF Output Power       | §2.1033               | < 7 Watts  | Pass   |
|                       | §2.1046               |            |        |
|                       | §22.913               |            |        |
| Occupied Bandwidth    | §2.1049               | N/A        | Pass   |
| Peak to Average Ratio | §22.913               | ≤ 13dB     | Pass   |
| Conducted Band Edge   | §2.1053               | < -13dBm   | Pass   |
|                       | §22.917               |            |        |
| Spurious Emission     | §22.917               | < -13dBm   | Pass   |
| Frequency Stability   | §2.1055               | < ±2.5 ppm | Pass   |
|                       | §22.335               |            |        |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 12           |                       |               |        |
|-----------------------|-----------------------|---------------|--------|
| FCC Part 27 Subpart F |                       |               |        |
| Performed Item        | FCC Reference Section | Limit         | Result |
| RF Output Power       | §2.1033               | < 3 Watts ERP | Pass   |
|                       | §2.1046               |               |        |
|                       | §27.50                |               |        |
| Occupied Bandwidth    | §2.1049               | N/A           | Pass   |
| Peak to Average Ratio | §27.50                | <13 dB        | Pass   |
| Conducted Band Edge   | §2.1053               | <-13dBm       | Pass   |
|                       | §27.53                |               |        |
| Spurious Emission     | §27.53                | <-13dBm       | Pass   |
| Frequency Stability   | §2.1055               | < ±2.5 ppm    | Pass   |
|                       | §27.54                |               |        |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 13           |                              |                                                                                                           |        |
|-----------------------|------------------------------|-----------------------------------------------------------------------------------------------------------|--------|
| FCC Part 27 Subpart F |                              |                                                                                                           |        |
| Performed Item        | FCC Reference Section        | Limit                                                                                                     | Result |
| RF Output Power       | §2.1033<br>§2.1046<br>§27.50 | < 3 Watts<br>ERP                                                                                          | Pass   |
| Occupied Bandwidth    | §2.1049                      | N/A                                                                                                       | Pass   |
| Peak to Average Ratio | §27.50                       | < -13 dB                                                                                                  | Pass   |
| Conducted Band Edge   | §2.1053<br>§27.53            | < -13dBm<br><-35dBm (763-775 MHz<br>&793-805 MHz)                                                         | Pass   |
| Spurious Emission     | §27.53                       | < -13dBm<br><-70 dBW/MHz e.i.r.p.of all<br>emissions, including<br>harmonics in the band<br>1559-1610 MHz | Pass   |
| Frequency Stability   | §2.1055<br>§27.54            | < ±2.5 ppm                                                                                                | Pass   |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 25           |                               |            |        |
|-----------------------|-------------------------------|------------|--------|
| FCC Part 24 Subpart E |                               |            |        |
| Performed Item        | FCC Reference Section         | Limit      | Result |
| RF Output Power       | §2.1033<br>§2.1046<br>§24.232 | < 2 Watts  | Pass   |
| Occupied Bandwidth    | §2.1049                       | N/A        | Pass   |
| Peak to Average Ratio | §24.232                       | < 13 dB    | Pass   |
| Conducted Band Edge   | §2.1053<br>§24.238            | < -13dBm   | Pass   |
| Spurious Emission     | §27.238                       | < -13dBm   | Pass   |
| Frequency Stability   | §2.1055<br>§24.235            | < ±2.5 ppm | Pass   |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

| LTE Band 26           |                                             |                 |        |
|-----------------------|---------------------------------------------|-----------------|--------|
| FCC Part 22 Subpart H |                                             |                 |        |
| FCC Part 90 Subpart S |                                             |                 |        |
| Performed Item        | FCC Reference Section                       | Limit           | Result |
| RF Output Power       | §2.1033<br>§2.1046<br>§90.635(b)<br>§22.913 | < 100 Watts     | Pass   |
| Occupied Bandwidth    | §2.1049                                     | N/A             | Pass   |
| Peak to Average Ratio | §22.913                                     | < 13 dB         | Pass   |
| Conducted Band Edge   | §2.1053<br>§90.691<br>§22.917               | < -13dBm        | Pass   |
| Spurious Emission     | §90.691<br>§22.917                          | < -13dBm        | Pass   |
| Frequency Stability   | §2.1055<br>§90.213                          | < $\pm 2.5$ ppm | Pass   |

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

## 2.2. Test Environment

Ambient conditions in the laboratory:

| Items            | Test Item                   | Actually    | Tested by    | Test Date               | Test Site   |
|------------------|-----------------------------|-------------|--------------|-------------------------|-------------|
| Temperature (°C) | RF Output Power             | 22.3 ~ 22.6 | Ling Chen    | 2021/12/15 ~ 2021/12/16 | HC-SR12     |
| Humidity (%RH)   |                             | 55          |              |                         |             |
| Temperature (°C) | Occupied Bandwidth          | 21 ~ 22     | Clemens Fang | 2021/12/22 ~ 2021/12/23 | HC-SR12     |
| Humidity (%RH)   |                             | 67 ~ 69     |              |                         |             |
| Temperature (°C) | Peak to Average Ratio       | 22          | Clemens Fang | 2021/12/21              | HC-SR12     |
| Humidity (%RH)   |                             | 68          |              |                         |             |
| Temperature (°C) | Conducted Band Edge         | 22          | Clemens Fang | 2021/12/20 ~ 2021/12/21 | HC-SR12     |
| Humidity (%RH)   |                             | 64 ~ 68     |              |                         |             |
| Temperature (°C) | Conducted Spurious Emission | 22          | Clemens Fang | 2021/12/20 ~ 2021/12/21 | HC-SR1<br>2 |
| Humidity (%RH)   |                             | 64 ~ 68     |              |                         |             |
| Temperature (°C) | Radiated Spurious Emission  | 21.8        | Rueyyan Lin  | 2021/12/15              | HC-CB02     |
| Humidity (%RH)   |                             | 58          |              |                         |             |
| Temperature (°C) | Frequency Stability         | 22          | Clemens Fang | 2021/12/24              | HC-SR12     |
| Humidity (%RH)   |                             | 68          |              |                         |             |

Note: Test site information refers to Laboratory Information.

### Laboratory Information

**USA : FCC Registration Number: TW3024**

**Canada CAB identifier : TW3024**

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our

Web site: <http://www.dekra.com.tw>

If you have any comments, please don't hesitate to contact us. Our test sites as below:

|                                                                                                                                  |                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Laboratory                                                                                                                  | DEKRA Testing and Certification Co., Ltd.                                                                                                                                              |
| Address                                                                                                                          | 1. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.<br>2. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. |
| Phone number                                                                                                                     | 1. +886-3-582-8001<br>2. +886-3-582-8001                                                                                                                                               |
| Fax number                                                                                                                       | 1. +886-3-582-8958<br>2. +886-3-582-8958                                                                                                                                               |
| E mail address                                                                                                                   | <a href="mailto:info.tw@dekra.com">info.tw@dekra.com</a>                                                                                                                               |
| Website                                                                                                                          | <a href="http://www.dekra.com.tw">http://www.dekra.com.tw</a>                                                                                                                          |
| Note: Test site for address 1 includes HC-SR02. Test site for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12. |                                                                                                                                                                                        |

## 2.3. List of Test Equipment

### HC-SR12

| Instrument                             | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------------------|--------------|-----------|------------|------------|----------------|
| High Speed Peak Power Meter Dual Input | Anritsu      | ML2496A   | 1602004    | 2021/11/12 | 2022/11/11     |
| Pulse Power Sensor                     | Anritsu      | MA2411B   | 1531043    | 2021/11/12 | 2022/11/11     |
| EXA Signal Analyzer                    | Keysight     | N9010A    | MY51440132 | 2021/01/25 | 2022/01/24     |
| Pulse Power Sensor                     | Anritsu      | MA2411B   | 1531044    | 2021/11/12 | 2022/11/11     |
| Power Meter                            | Keysight     | 8990B     | MY51000248 | 2021/05/21 | 2022/05/20     |
| Power Sensor                           | Keysight     | N1923A    | MY57240005 | 2021/05/21 | 2022/05/20     |
| Spectrum Analyzer                      | Keysight     | N9030B    | MY57140404 | 2021/05/14 | 2022/05/13     |
| Spectrum Analyzer                      | Keysight     | N9010B    | MY57110159 | 2021/03/29 | 2022/03/28     |
| Wireless Conn. Tseter                  | R&S          | CMW500    | 157118     | 2021/07/07 | 2022/07/06     |
| Spectrum Analyzer                      | Agilent      | N9010A    | US47140172 | 2021/05/28 | 2022/05/27     |
| Signal & Spectrum Analyzer             | R&S          | FSV40     | 101049     | 2021/03/31 | 2022/03/30     |

### HC-CB02

| Instrument                 | Manufacturer  | Model No.    | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------|---------------|--------------|------------|------------|----------------|
| Signal Analyzer            | R&S           | FSVA40       | 101455     | 2021/10/22 | 2022/10/21     |
| Signal & Spectrum Analyzer | R&S           | FSV40        | 101049     | 2021/03/31 | 2022/03/30     |
| Signal Analyzer            | R&S           | FSVA40       | 101435     | 2021/06/04 | 2022/06/03     |
| EXA Signal Analyzer        | Keysight      | N9010A       | MY51440132 | 2021/01/25 | 2022/01/24     |
| Trilog Broadband Antenna   | Schwarzbeck   | VULB 9168    | 1272       | 2021/08/20 | 2022/08/19     |
| Bilog Antenna              | Teseq         | CBL6112D     | 23191      | 2021/02/26 | 2022/02/25     |
| Horn Antenna               | Schwarzbeck   | BBHA 9120D   | 639        | 2021/05/17 | 2022/05/16     |
| Horn Antenna               | Schwarzbeck   | BBHA 9170    | 202        | 2021/12/01 | 2022/11/30     |
| Pre-Amplifier              | EMCI          | EMC01820I    | 980365     | 2021/05/28 | 2022/05/27     |
| Pre-Amplifier              | EMEC          | EM01G18GA    | 060741     | 2021/07/02 | 2022/07/01     |
| Pre-Amplifier              | DEKRA         | AP-400C      | 201801231  | 2021/11/12 | 2022/11/11     |
| Wireless Conn. Tseter      | R&S           | CMW500       | 157118     | 2021/07/07 | 2022/07/06     |
| Coaxial Cable(13m)         | Huber+Suhner  | SF104        | HC-CB02    | 2021/08/17 | 2022/08/16     |
| Coaxial Cable(3m)          | Suhner,Rosnol | SF102_Rosnol | HC-CB02    | 2021/08/17 | 2022/08/18     |
| Radiated Software          | AUDIX         | e3 V9        | HC-CB02    | N/A        | N/A            |

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

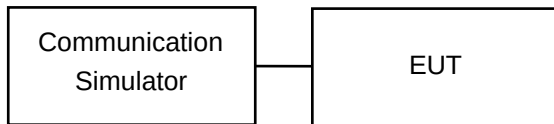
## 2.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

| Test Item             | Uncertainty                                            |
|-----------------------|--------------------------------------------------------|
| RF Output Power       | $\pm 1.16$ dB                                          |
| Occupied Bandwidth    | $\pm 217.9$ Hz                                         |
| Peak to Average Ratio | $\pm 1.16$ dB                                          |
| Conducted Band Edge   | $\pm 1.16$ dB                                          |
| Spurious Emissions    | $\pm 3.25$ dB below 1 GHz<br>$\pm 3.32$ dB above 1 GHz |
| Frequency Stability   | $\pm 217.9$ Hz                                         |

### 3. RF Output Power

#### 3.1. Test Setup



#### 3.2. Test Procedure

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum conducted RF output power under transmission mode and specific channel frequency. The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

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

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

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

#### 3.3. Test Methodology and Reference Procedures

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI C63.26-2015

### 3.4. Test Result of RF Output Power

#### Mode 1: LTE Band 2/25

| Band               | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|--------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>1.4 MHz | 26047<br>1850.7     | QPSK       | 1      | 0         | 0   | 24.03                        | 0.433                    | 2              |
|                    |                     |            |        | 2         |     | 23.93                        | 0.423                    | 2              |
|                    |                     |            |        | 5         |     | 23.89                        | 0.419                    | 2              |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 22.68                        | 0.317                    | 2              |
|                    |                     |            |        | 2         |     | 22.84                        | 0.329                    | 2              |
|                    |                     |            |        | 5         |     | 22.29                        | 0.290                    | 2              |
|                    |                     |            | 6      | 0         | 2   | 22.49                        | 0.303                    | 2              |
|                    |                     |            |        | 2         |     | 21.76                        | 0.256                    | 2              |
|                    | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 23.96                        | 0.426                    | 2              |
|                    |                     |            |        | 2         |     | 23.91                        | 0.421                    | 2              |
|                    |                     |            |        | 5         |     | 23.85                        | 0.415                    | 2              |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 22.91                        | 0.334                    | 2              |
|                    |                     |            |        | 2         |     | 22.54                        | 0.307                    | 2              |
|                    |                     |            |        | 5         |     | 22.69                        | 0.318                    | 2              |
|                    |                     |            | 6      | 0         | 2   | 22.64                        | 0.314                    | 2              |
|                    |                     |            |        | 2         |     | 21.89                        | 0.264                    | 2              |
|                    | 26683<br>1914.3     | QPSK       | 1      | 0         | 0   | 23.55                        | 0.387                    | 2              |
|                    |                     |            |        | 2         |     | 23.46                        | 0.379                    | 2              |
|                    |                     |            |        | 5         |     | 23.49                        | 0.382                    | 2              |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 22.62                        | 0.313                    | 2              |
|                    |                     |            |        | 2         |     | 22.73                        | 0.321                    | 2              |
|                    |                     |            |        | 5         |     | 22.88                        | 0.332                    | 2              |
|                    |                     |            | 6      | 0         | 2   | 22.61                        | 0.312                    | 2              |
|                    |                     |            |        | 2         |     | 21.59                        | 0.247                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>3 MHz | 26055<br>1851.5     | QPSK       | 1      | 0         | 0   | 23.60                        | 0.392                    | 2              |
|                  |                     |            |        | 7         |     | 23.52                        | 0.385                    | 2              |
|                  |                     |            |        | 14        |     | 23.53                        | 0.385                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.82                        | 0.327                    | 2              |
|                  |                     |            |        | 7         |     | 23.14                        | 0.352                    | 2              |
|                  |                     |            |        | 14        |     | 23.00                        | 0.341                    | 2              |
|                  |                     |            | 15     | 0         | 2   | 22.55                        | 0.308                    | 2              |
|                  |                     |            |        | 7         |     | 21.89                        | 0.264                    | 2              |
|                  | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 24.06                        | 0.436                    | 2              |
|                  |                     |            |        | 7         |     | 23.85                        | 0.415                    | 2              |
|                  |                     |            |        | 14        |     | 24.03                        | 0.433                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.91                        | 0.334                    | 2              |
|                  |                     |            |        | 7         |     | 22.95                        | 0.337                    | 2              |
|                  |                     |            |        | 14        |     | 22.91                        | 0.334                    | 2              |
|                  |                     |            | 15     | 0         | 2   | 22.74                        | 0.321                    | 2              |
|                  |                     |            |        | 7         |     | 21.84                        | 0.261                    | 2              |
|                  | 26675<br>1913.5     | QPSK       | 1      | 0         | 0   | 23.62                        | 0.394                    | 2              |
|                  |                     |            |        | 7         |     | 23.59                        | 0.391                    | 2              |
|                  |                     |            |        | 14        |     | 23.51                        | 0.384                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.64                        | 0.314                    | 2              |
|                  |                     |            |        | 7         |     | 22.47                        | 0.302                    | 2              |
|                  |                     |            |        | 14        |     | 22.54                        | 0.307                    | 2              |
|                  |                     |            | 15     | 0         | 2   | 22.20                        | 0.284                    | 2              |
|                  |                     |            |        | 7         |     | 21.56                        | 0.245                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>5 MHz | 26065<br>1852.5     | QPSK       | 1      | 0         | 0   | 23.78                        | 0.408                    | 2              |
|                  |                     |            |        | 12        |     | 23.49                        | 0.382                    | 2              |
|                  |                     |            |        | 24        |     | 23.54                        | 0.386                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.66                        | 0.316                    | 2              |
|                  |                     |            |        | 12        |     | 22.16                        | 0.281                    | 2              |
|                  |                     |            |        | 24        |     | 21.94                        | 0.267                    | 2              |
|                  |                     |            |        | 25        |     | 21.90                        | 0.265                    | 2              |
|                  |                     |            |        | 25        |     | 21.80                        | 0.259                    | 2              |
|                  | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 23.49                        | 0.382                    | 2              |
|                  |                     |            |        | 12        |     | 23.45                        | 0.378                    | 2              |
|                  |                     |            |        | 24        |     | 23.41                        | 0.375                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.78                        | 0.324                    | 2              |
|                  |                     |            |        | 12        |     | 23.16                        | 0.354                    | 2              |
|                  |                     |            |        | 24        |     | 23.13                        | 0.352                    | 2              |
|                  |                     |            |        | 25        |     | 23.09                        | 0.348                    | 2              |
|                  |                     |            |        | 25        |     | 21.55                        | 0.244                    | 2              |
|                  | 26665<br>1912.5     | QPSK       | 1      | 0         | 0   | 23.56                        | 0.388                    | 2              |
|                  |                     |            |        | 12        |     | 23.53                        | 0.385                    | 2              |
|                  |                     |            |        | 24        |     | 23.46                        | 0.379                    | 2              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.59                        | 0.310                    | 2              |
|                  |                     |            |        | 12        |     | 22.10                        | 0.277                    | 2              |
|                  |                     |            |        | 24        |     | 22.41                        | 0.298                    | 2              |
|                  |                     |            |        | 25        |     | 22.04                        | 0.274                    | 2              |
|                  |                     |            |        | 25        |     | 21.44                        | 0.238                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>10 MHz | 26090<br>1855       | QPSK       | 1      | 0         | 0   | 23.68                        | 0.399                    | 2              |
|                   |                     |            |        | 24        |     | 23.48                        | 0.381                    | 2              |
|                   |                     |            |        | 49        |     | 23.54                        | 0.386                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.65                        | 0.315                    | 2              |
|                   |                     |            |        | 24        |     | 23.00                        | 0.341                    | 2              |
|                   |                     |            |        | 49        |     | 23.05                        | 0.345                    | 2              |
|                   |                     |            | 50     | 0         | 2   | 22.93                        | 0.336                    | 2              |
|                   |                     |            |        | 24        |     | 21.76                        | 0.256                    | 2              |
|                   | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 23.96                        | 0.426                    | 2              |
|                   |                     |            |        | 24        |     | 23.85                        | 0.415                    | 2              |
|                   |                     |            |        | 49        |     | 23.67                        | 0.398                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.77                        | 0.324                    | 2              |
|                   |                     |            |        | 24        |     | 23.00                        | 0.341                    | 2              |
|                   |                     |            |        | 49        |     | 23.15                        | 0.353                    | 2              |
|                   |                     |            | 50     | 0         | 2   | 23.05                        | 0.345                    | 2              |
|                   |                     |            |        | 24        |     | 21.86                        | 0.262                    | 2              |
|                   | 26640<br>1910       | QPSK       | 1      | 0         | 0   | 23.60                        | 0.392                    | 2              |
|                   |                     |            |        | 24        |     | 23.53                        | 0.385                    | 2              |
|                   |                     |            |        | 49        |     | 23.56                        | 0.388                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.54                        | 0.307                    | 2              |
|                   |                     |            |        | 24        |     | 22.39                        | 0.296                    | 2              |
|                   |                     |            |        | 49        |     | 22.36                        | 0.294                    | 2              |
|                   |                     |            | 50     | 0         | 2   | 22.29                        | 0.290                    | 2              |
|                   |                     |            |        | 24        |     | 21.65                        | 0.250                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>15 MHz | 26115<br>1857.5     | QPSK       | 1      | 0         | 0   | 23.60                        | 0.392                    | 2              |
|                   |                     |            |        | 37        |     | 23.49                        | 0.382                    | 2              |
|                   |                     |            |        | 74        |     | 23.55                        | 0.387                    | 2              |
|                   |                     |            | 75     | 0         | 1   | 22.70                        | 0.318                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.82                        | 0.327                    | 2              |
|                   |                     |            |        | 37        |     | 23.03                        | 0.344                    | 2              |
|                   |                     |            |        | 74        |     | 22.77                        | 0.324                    | 2              |
|                   |                     |            | 75     | 0         | 2   | 21.52                        | 0.243                    | 2              |
|                   | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 23.70                        | 0.401                    | 2              |
|                   |                     |            |        | 37        |     | 23.57                        | 0.389                    | 2              |
|                   |                     |            |        | 74        |     | 23.58                        | 0.390                    | 2              |
|                   |                     |            | 75     | 0         | 1   | 22.75                        | 0.322                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.06                        | 0.346                    | 2              |
|                   |                     |            |        | 37        |     | 22.89                        | 0.333                    | 2              |
|                   |                     |            |        | 74        |     | 22.80                        | 0.326                    | 2              |
|                   |                     |            | 75     | 0         | 2   | 21.65                        | 0.250                    | 2              |
|                   | 26615<br>1907.5     | QPSK       | 1      | 0         | 0   | 23.52                        | 0.385                    | 2              |
|                   |                     |            |        | 37        |     | 23.28                        | 0.364                    | 2              |
|                   |                     |            |        | 74        |     | 23.40                        | 0.374                    | 2              |
|                   |                     |            | 75     | 0         | 1   | 22.47                        | 0.302                    | 2              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.43                        | 0.299                    | 2              |
|                   |                     |            |        | 37        |     | 22.23                        | 0.286                    | 2              |
|                   |                     |            |        | 74        |     | 21.78                        | 0.258                    | 2              |
|                   |                     |            | 75     | 0         | 2   | 21.56                        | 0.245                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 25<br>20 MHz | 26140<br>1860       | QPSK       | 1      | 0         | 0   | 23.57                        | 0.389                    | 2              |
|                   |                     |            |        | 49        |     | 23.46                        | 0.379                    | 2              |
|                   |                     |            |        | 99        |     | 23.48                        | 0.381                    | 2              |
|                   |                     | 16-QAM     | 100    | 0         | 1   | 22.69                        | 0.318                    | 2              |
|                   |                     |            |        | 0         |     | 23.14                        | 0.352                    | 2              |
|                   |                     |            |        | 49        |     | 23.07                        | 0.347                    | 2              |
|                   |                     |            |        | 99        |     | 23.08                        | 0.348                    | 2              |
|                   |                     |            |        | 0         |     | 21.55                        | 0.244                    | 2              |
|                   | 26365<br>1882.5     | QPSK       | 1      | 0         | 0   | 24.39                        | 0.470                    | 2              |
|                   |                     |            |        | 49        |     | 24.16                        | 0.446                    | 2              |
|                   |                     |            |        | 99        |     | 24.02                        | 0.432                    | 2              |
|                   |                     | 16-QAM     | 100    | 0         | 1   | 22.66                        | 0.316                    | 2              |
|                   |                     |            |        | 0         |     | 22.43                        | 0.299                    | 2              |
|                   |                     |            |        | 49        |     | 22.54                        | 0.307                    | 2              |
|                   |                     |            |        | 99        |     | 22.48                        | 0.303                    | 2              |
|                   |                     |            |        | 0         |     | 21.76                        | 0.256                    | 2              |
|                   | 26590<br>1905       | QPSK       | 1      | 0         | 0   | 23.68                        | 0.399                    | 2              |
|                   |                     |            |        | 49        |     | 23.63                        | 0.394                    | 2              |
|                   |                     |            |        | 99        |     | 23.35                        | 0.370                    | 2              |
|                   |                     | 16-QAM     | 100    | 0         | 1   | 22.66                        | 0.316                    | 2              |
|                   |                     |            |        | 0         |     | 23.05                        | 0.345                    | 2              |
|                   |                     |            |        | 49        |     | 23.01                        | 0.342                    | 2              |
|                   |                     |            |        | 99        |     | 22.88                        | 0.332                    | 2              |
|                   |                     |            |        | 0         |     | 21.59                        | 0.247                    | 2              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

**Mode 2: LTE Band 4**

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 4<br>1.4 MHz | 19957<br>1710.7     | QPSK       | 1      | 0         | 0   | 23.98                        | 0.546                    | 1              |
|                   |                     |            |        | 2         |     | 23.56                        | 0.495                    | 1              |
|                   |                     |            |        | 5         |     | 23.85                        | 0.530                    | 1              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.84                        | 0.420                    | 1              |
|                   |                     |            |        | 2         |     | 22.32                        | 0.372                    | 1              |
|                   |                     |            |        | 5         |     | 22.30                        | 0.371                    | 1              |
|                   |                     |            |        | 5         |     | 22.23                        | 0.365                    | 1              |
|                   |                     |            |        | 6         |     | 21.47                        | 0.306                    | 1              |
|                   | 20175<br>1732.5     | QPSK       | 1      | 0         | 0   | 23.65                        | 0.506                    | 1              |
|                   |                     |            |        | 2         |     | 23.57                        | 0.497                    | 1              |
|                   |                     |            |        | 5         |     | 23.58                        | 0.498                    | 1              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.61                        | 0.398                    | 1              |
|                   |                     |            |        | 2         |     | 22.48                        | 0.386                    | 1              |
|                   |                     |            |        | 5         |     | 22.40                        | 0.379                    | 1              |
|                   |                     |            |        | 5         |     | 22.27                        | 0.368                    | 1              |
|                   |                     |            |        | 6         |     | 21.64                        | 0.318                    | 1              |
|                   | 20393<br>1754.3     | QPSK       | 1      | 0         | 0   | 23.56                        | 0.495                    | 1              |
|                   |                     |            |        | 2         |     | 23.45                        | 0.483                    | 1              |
|                   |                     |            |        | 5         |     | 23.51                        | 0.490                    | 1              |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.28                        | 0.369                    | 1              |
|                   |                     |            |        | 2         |     | 22.63                        | 0.400                    | 1              |
|                   |                     |            |        | 5         |     | 22.58                        | 0.395                    | 1              |
|                   |                     |            |        | 5         |     | 22.61                        | 0.398                    | 1              |
|                   |                     |            |        | 6         |     | 21.36                        | 0.299                    | 1              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band            | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|-----------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 4<br>3 MHz | 19965<br>1711.5     | QPSK       | 1      | 0         | 0   | 23.71                        | 0.513                    | 1              |
|                 |                     |            |        | 7         |     | 23.52                        | 0.491                    | 1              |
|                 |                     |            |        | 14        |     | 23.64                        | 0.505                    | 1              |
|                 |                     | 16-QAM     | 1      | 0         | 1   | 22.68                        | 0.405                    | 1              |
|                 |                     |            |        | 7         |     | 23.13                        | 0.449                    | 1              |
|                 |                     |            |        | 14        |     | 22.92                        | 0.428                    | 1              |
|                 |                     |            | 15     | 0         | 2   | 23.07                        | 0.443                    | 1              |
|                 |                     |            |        | 14        |     | 21.84                        | 0.333                    | 1              |
|                 | 20175<br>1732.5     | QPSK       | 1      | 0         | 0   | 23.79                        | 0.522                    | 1              |
|                 |                     |            |        | 7         |     | 23.65                        | 0.506                    | 1              |
|                 |                     |            |        | 14        |     | 23.73                        | 0.515                    | 1              |
|                 |                     | 16-QAM     | 1      | 0         | 1   | 22.68                        | 0.405                    | 1              |
|                 |                     |            |        | 7         |     | 23.01                        | 0.437                    | 1              |
|                 |                     |            |        | 14        |     | 22.75                        | 0.411                    | 1              |
|                 |                     |            | 15     | 0         | 2   | 22.81                        | 0.417                    | 1              |
|                 |                     |            |        | 14        |     | 21.60                        | 0.316                    | 1              |
|                 | 20385<br>1753.5     | QPSK       | 1      | 0         | 0   | 23.36                        | 0.473                    | 1              |
|                 |                     |            |        | 7         |     | 23.28                        | 0.465                    | 1              |
|                 |                     |            |        | 14        |     | 23.31                        | 0.468                    | 1              |
|                 |                     | 16-QAM     | 1      | 0         | 1   | 22.53                        | 0.391                    | 1              |
|                 |                     |            |        | 7         |     | 22.59                        | 0.396                    | 1              |
|                 |                     |            |        | 14        |     | 22.23                        | 0.365                    | 1              |
|                 |                     |            | 15     | 0         | 2   | 22.37                        | 0.377                    | 1              |
|                 |                     |            |        | 14        |     | 21.51                        | 0.309                    | 1              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band            | Channel Freq.<br>(MHz) | Modulation | RB No. | RB offset | MPR   | Conducted Output Power<br>(dBm) | RF Output Power<br>(W)<br>EIRP | Limit<br>(W)<br>EIRP |
|-----------------|------------------------|------------|--------|-----------|-------|---------------------------------|--------------------------------|----------------------|
| Band 4<br>5 MHz | 19975<br>1712.5        | QPSK       | 1      | 0         | 0     | 23.75                           | 0.518                          | 1                    |
|                 |                        |            |        | 12        |       | 23.66                           | 0.507                          | 1                    |
|                 |                        |            |        | 24        |       | 23.62                           | 0.502                          | 1                    |
|                 |                        | 25         | 0      | 1         | 22.72 | 0.408                           | 1                              |                      |
|                 |                        | 16-QAM     | 1      | 0         | 1     | 22.94                           | 0.430                          | 1                    |
|                 |                        |            |        | 12        |       | 22.80                           | 0.416                          | 1                    |
|                 |                        |            |        | 24        |       | 22.33                           | 0.373                          | 1                    |
|                 |                        |            | 25     | 0         | 2     | 21.93                           | 0.340                          | 1                    |
|                 | 20175<br>1732.5        | QPSK       | 1      | 0         | 0     | 23.47                           | 0.485                          | 1                    |
|                 |                        |            |        | 12        |       | 23.42                           | 0.480                          | 1                    |
|                 |                        |            |        | 24        |       | 23.33                           | 0.470                          | 1                    |
|                 |                        | 25         | 0      | 1         | 22.68 | 0.405                           | 1                              |                      |
|                 |                        | 16-QAM     | 1      | 0         | 1     | 22.96                           | 0.432                          | 1                    |
|                 |                        |            |        | 12        |       | 22.64                           | 0.401                          | 1                    |
|                 |                        |            |        | 24        |       | 22.91                           | 0.427                          | 1                    |
|                 |                        |            | 25     | 0         | 2     | 21.72                           | 0.324                          | 1                    |
|                 | 20375<br>1752.5        | QPSK       | 1      | 0         | 0     | 23.41                           | 0.479                          | 1                    |
|                 |                        |            |        | 12        |       | 23.24                           | 0.460                          | 1                    |
|                 |                        |            |        | 24        |       | 23.36                           | 0.473                          | 1                    |
|                 |                        | 25         | 0      | 1         | 22.72 | 0.408                           | 1                              |                      |
|                 |                        | 16-QAM     | 1      | 0         | 1     | 22.67                           | 0.404                          | 1                    |
|                 |                        |            |        | 12        |       | 22.42                           | 0.381                          | 1                    |
|                 |                        |            |        | 24        |       | 22.53                           | 0.391                          | 1                    |
|                 |                        |            | 25     | 0         | 2     | 21.91                           | 0.339                          | 1                    |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 4<br>10 MHz | 20000<br>1715       | QPSK       | 1      | 0         | 0   | 23.70                        | 0.512                    | 1              |
|                  |                     |            |        | 24        |     | 23.52                        | 0.491                    | 1              |
|                  |                     |            |        | 49        |     | 23.65                        | 0.506                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.77                        | 0.413                    | 1              |
|                  |                     |            |        | 24        |     | 23.15                        | 0.451                    | 1              |
|                  |                     |            |        | 49        |     | 23.08                        | 0.444                    | 1              |
|                  |                     |            | 50     | 0         | 2   | 23.09                        | 0.445                    | 1              |
|                  |                     |            |        | 24        |     | 21.84                        | 0.333                    | 1              |
|                  | 20175<br>1732.5     | QPSK       | 1      | 0         | 0   | 23.75                        | 0.518                    | 1              |
|                  |                     |            |        | 24        |     | 23.54                        | 0.493                    | 1              |
|                  |                     |            |        | 49        |     | 23.46                        | 0.484                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.57                        | 0.394                    | 1              |
|                  |                     |            |        | 24        |     | 23.12                        | 0.448                    | 1              |
|                  |                     |            |        | 49        |     | 22.91                        | 0.427                    | 1              |
|                  |                     |            | 50     | 0         | 2   | 22.73                        | 0.409                    | 1              |
|                  |                     |            |        | 24        |     | 21.56                        | 0.313                    | 1              |
|                  | 20350<br>1750       | QPSK       | 1      | 0         | 0   | 23.68                        | 0.509                    | 1              |
|                  |                     |            |        | 24        |     | 23.59                        | 0.499                    | 1              |
|                  |                     |            |        | 49        |     | 23.52                        | 0.491                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.53                        | 0.391                    | 1              |
|                  |                     |            |        | 24        |     | 22.68                        | 0.405                    | 1              |
|                  |                     |            |        | 49        |     | 22.23                        | 0.365                    | 1              |
|                  |                     |            | 50     | 0         | 2   | 22.38                        | 0.378                    | 1              |
|                  |                     |            |        | 24        |     | 21.55                        | 0.312                    | 1              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 4<br>15 MHz | 20025<br>1717.5     | QPSK       | 1      | 0         | 0   | 23.64                        | 0.505                    | 1              |
|                  |                     |            |        | 37        |     | 23.53                        | 0.492                    | 1              |
|                  |                     |            |        | 74        |     | 23.58                        | 0.498                    | 1              |
|                  |                     |            | 75     | 0         | 1   | 22.72                        | 0.408                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.13                        | 0.449                    | 1              |
|                  |                     |            |        | 37        |     | 22.92                        | 0.428                    | 1              |
|                  |                     |            |        | 74        |     | 23.01                        | 0.437                    | 1              |
|                  |                     |            | 75     | 0         | 2   | 21.80                        | 0.330                    | 1              |
|                  | 20175<br>1732.5     | QPSK       | 1      | 0         | 0   | 23.78                        | 0.521                    | 1              |
|                  |                     |            |        | 37        |     | 23.53                        | 0.492                    | 1              |
|                  |                     |            |        | 74        |     | 23.46                        | 0.484                    | 1              |
|                  |                     |            | 75     | 0         | 1   | 22.51                        | 0.389                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.93                        | 0.429                    | 1              |
|                  |                     |            |        | 37        |     | 22.81                        | 0.417                    | 1              |
|                  |                     |            |        | 74        |     | 22.76                        | 0.412                    | 1              |
|                  |                     |            | 75     | 0         | 2   | 21.69                        | 0.322                    | 1              |
|                  | 20325<br>1747.5     | QPSK       | 1      | 0         | 0   | 23.50                        | 0.489                    | 1              |
|                  |                     |            |        | 37        |     | 23.33                        | 0.470                    | 1              |
|                  |                     |            |        | 74        |     | 23.36                        | 0.473                    | 1              |
|                  |                     |            | 75     | 0         | 1   | 22.49                        | 0.387                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.61                        | 0.398                    | 1              |
|                  |                     |            |        | 37        |     | 22.38                        | 0.378                    | 1              |
|                  |                     |            |        | 74        |     | 22.34                        | 0.374                    | 1              |
|                  |                     |            | 75     | 0         | 2   | 21.49                        | 0.308                    | 1              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|--------------------------|----------------|
| Band 4<br>20 MHz | 0050<br>1720        | QPSK       | 1      | 0         | 0   | 23.75                        | 0.518                    | 1              |
|                  |                     |            |        | 49        |     | 23.64                        | 0.505                    | 1              |
|                  |                     |            |        | 99        |     | 23.43                        | 0.481                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.74                        | 0.410                    | 1              |
|                  |                     |            |        | 49        |     | 23.16                        | 0.452                    | 1              |
|                  |                     |            |        | 99        |     | 22.92                        | 0.428                    | 1              |
|                  |                     |            | 100    | 0         | 2   | 22.95                        | 0.431                    | 1              |
|                  |                     |            |        | 99        |     | 21.82                        | 0.332                    | 1              |
|                  | 20175<br>1732.5     | QPSK       | 1      | 0         | 0   | 24.01                        | 0.550                    | 1              |
|                  |                     |            |        | 49        |     | 23.73                        | 0.515                    | 1              |
|                  |                     |            |        | 99        |     | 23.51                        | 0.490                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.52                        | 0.390                    | 1              |
|                  |                     |            |        | 49        |     | 22.48                        | 0.386                    | 1              |
|                  |                     |            |        | 99        |     | 22.45                        | 0.384                    | 1              |
|                  |                     |            | 100    | 0         | 2   | 22.41                        | 0.380                    | 1              |
|                  |                     |            |        | 99        |     | 21.59                        | 0.315                    | 1              |
|                  | 20300<br>1745       | QPSK       | 1      | 0         | 0   | 23.55                        | 0.494                    | 1              |
|                  |                     |            |        | 49        |     | 23.23                        | 0.459                    | 1              |
|                  |                     |            |        | 99        |     | 23.26                        | 0.462                    | 1              |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.48                        | 0.386                    | 1              |
|                  |                     |            |        | 49        |     | 23.12                        | 0.448                    | 1              |
|                  |                     |            |        | 99        |     | 23.03                        | 0.439                    | 1              |
|                  |                     |            | 100    | 0         | 2   | 22.84                        | 0.420                    | 1              |
|                  |                     |            |        | 99        |     | 21.57                        | 0.313                    | 1              |

Note:

1. RF Output Power (W) EIRP = Conducted Output Power (dBm) + Antenna Gain (dBi)
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

**Mode 3: LTE Band 5/26 (Part 22)**

| Band               | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|--------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>1.4 MHz | 26797<br>824.7      | QPSK       | 1      | 0         | 0   | 24.33                        | 0.157                   | 7             |
|                    |                     |            |        | 2         |     | 24.29                        | 0.156                   | 7             |
|                    |                     |            |        | 5         |     | 24.26                        | 0.155                   | 7             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.27                        | 0.123                   | 7             |
|                    |                     |            |        | 2         |     | 23.35                        | 0.125                   | 7             |
|                    |                     |            |        | 5         |     | 23.18                        | 0.121                   | 7             |
|                    |                     |            |        | 6         |     | 22.29                        | 0.098                   | 7             |
|                    | 26915<br>836.5      | QPSK       | 1      | 0         | 0   | 24.32                        | 0.157                   | 7             |
|                    |                     |            |        | 2         |     | 24.29                        | 0.156                   | 7             |
|                    |                     |            |        | 5         |     | 24.23                        | 0.153                   | 7             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.73                        | 0.137                   | 7             |
|                    |                     |            |        | 2         |     | 23.67                        | 0.135                   | 7             |
|                    |                     |            |        | 5         |     | 23.59                        | 0.132                   | 7             |
|                    |                     |            |        | 6         |     | 22.26                        | 0.097                   | 7             |
|                    | 27033<br>848.3      | QPSK       | 1      | 0         | 0   | 24.41                        | 0.160                   | 7             |
|                    |                     |            |        | 2         |     | 24.33                        | 0.157                   | 7             |
|                    |                     |            |        | 5         |     | 24.26                        | 0.155                   | 7             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.42                        | 0.127                   | 7             |
|                    |                     |            |        | 2         |     | 23.27                        | 0.123                   | 7             |
|                    |                     |            |        | 5         |     | 22.98                        | 0.115                   | 7             |
|                    |                     |            |        | 6         |     | 22.26                        | 0.097                   | 7             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>3 MHz | 26805<br>825.5      | QPSK       | 1      | 0         | 0   | 24.08                        | 0.148                   | 7             |
|                  |                     |            |        | 7         |     | 24.01                        | 0.146                   | 7             |
|                  |                     |            |        | 14        |     | 24.04                        | 0.147                   | 7             |
|                  |                     | 16-QAM     | 15     | 0         | 1   | 23.26                        | 0.123                   | 7             |
|                  |                     |            |        | 0         |     | 23.40                        | 0.127                   | 7             |
|                  |                     |            |        | 7         |     | 23.11                        | 0.119                   | 7             |
|                  |                     |            |        | 14        |     | 22.99                        | 0.115                   | 7             |
|                  |                     |            |        | 0         |     | 22.46                        | 0.102                   | 7             |
|                  | 26915<br>836.5      | QPSK       | 1      | 0         | 0   | 24.29                        | 0.156                   | 7             |
|                  |                     |            |        | 7         |     | 24.21                        | 0.153                   | 7             |
|                  |                     |            |        | 14        |     | 24.26                        | 0.155                   | 7             |
|                  |                     | 16-QAM     | 15     | 0         | 1   | 23.45                        | 0.128                   | 7             |
|                  |                     |            |        | 0         |     | 23.37                        | 0.126                   | 7             |
|                  |                     |            |        | 7         |     | 23.35                        | 0.125                   | 7             |
|                  |                     |            |        | 14        |     | 23.47                        | 0.129                   | 7             |
|                  |                     |            |        | 0         |     | 22.29                        | 0.098                   | 7             |
|                  | 27025<br>847.5      | QPSK       | 1      | 0         | 0   | 24.31                        | 0.156                   | 7             |
|                  |                     |            |        | 7         |     | 24.24                        | 0.154                   | 7             |
|                  |                     |            |        | 14        |     | 24.28                        | 0.155                   | 7             |
|                  |                     | 16-QAM     | 15     | 0         | 1   | 23.45                        | 0.128                   | 7             |
|                  |                     |            |        | 0         |     | 23.05                        | 0.117                   | 7             |
|                  |                     |            |        | 7         |     | 22.96                        | 0.115                   | 7             |
|                  |                     |            |        | 14        |     | 22.94                        | 0.114                   | 7             |
|                  |                     |            |        | 0         |     | 22.40                        | 0.101                   | 7             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>5 MHz | 26815<br>826.5      | QPSK       | 1      | 0         | 0   | 24.13                        | 0.150                   | 7             |
|                  |                     |            |        | 12        |     | 24.09                        | 0.149                   | 7             |
|                  |                     |            |        | 24        |     | 24.05                        | 0.147                   | 7             |
|                  |                     |            | 25     | 0         | 1   | 23.29                        | 0.124                   | 7             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.55                        | 0.104                   | 7             |
|                  |                     |            |        | 12        |     | 22.66                        | 0.107                   | 7             |
|                  |                     |            |        | 24        |     | 22.79                        | 0.110                   | 7             |
|                  |                     |            | 25     | 0         | 2   | 22.45                        | 0.102                   | 7             |
|                  | 26915<br>836.5      | QPSK       | 1      | 0         | 0   | 24.12                        | 0.150                   | 7             |
|                  |                     |            |        | 12        |     | 24.03                        | 0.147                   | 7             |
|                  |                     |            |        | 24        |     | 24.06                        | 0.148                   | 7             |
|                  |                     |            | 25     | 0         | 1   | 23.25                        | 0.122                   | 7             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.68                        | 0.135                   | 7             |
|                  |                     |            |        | 12        |     | 23.57                        | 0.132                   | 7             |
|                  |                     |            |        | 24        |     | 23.52                        | 0.130                   | 7             |
|                  |                     |            | 25     | 0         | 2   | 22.21                        | 0.096                   | 7             |
|                  | 27015<br>846.5      | QPSK       | 1      | 0         | 0   | 24.22                        | 0.153                   | 7             |
|                  |                     |            |        | 12        |     | 24.17                        | 0.151                   | 7             |
|                  |                     |            |        | 24        |     | 24.12                        | 0.150                   | 7             |
|                  |                     |            | 25     | 0         | 1   | 23.25                        | 0.122                   | 7             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 22.96                        | 0.115                   | 7             |
|                  |                     |            |        | 12        |     | 23.20                        | 0.121                   | 7             |
|                  |                     |            |        | 24        |     | 23.12                        | 0.119                   | 7             |
|                  |                     |            | 25     | 0         | 2   | 22.28                        | 0.098                   | 7             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>10 MHz | 26840<br>829        | QPSK       | 1      | 0         | 0   | 24.22                        | 0.153                   | 7             |
|                   |                     |            |        | 24        |     | 24.18                        | 0.152                   | 7             |
|                   |                     |            |        | 49        |     | 24.20                        | 0.152                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.48                        | 0.129                   | 7             |
|                   |                     |            |        | 24        |     | 23.42                        | 0.127                   | 7             |
|                   |                     |            |        | 49        |     | 23.12                        | 0.119                   | 7             |
|                   |                     |            |        | 50        |     | 22.41                        | 0.101                   | 7             |
|                   | 26915<br>836.5      | QPSK       | 1      | 0         | 0   | 24.38                        | 0.159                   | 7             |
|                   |                     |            |        | 24        |     | 24.30                        | 0.156                   | 7             |
|                   |                     |            |        | 49        |     | 24.35                        | 0.158                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.73                        | 0.137                   | 7             |
|                   |                     |            |        | 24        |     | 23.61                        | 0.133                   | 7             |
|                   |                     |            |        | 49        |     | 23.69                        | 0.136                   | 7             |
|                   |                     |            |        | 50        |     | 22.40                        | 0.101                   | 7             |
|                   | 26990<br>844        | QPSK       | 1      | 0         | 0   | 24.32                        | 0.157                   | 7             |
|                   |                     |            |        | 24        |     | 24.29                        | 0.156                   | 7             |
|                   |                     |            |        | 49        |     | 24.23                        | 0.153                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.10                        | 0.118                   | 7             |
|                   |                     |            |        | 24        |     | 22.95                        | 0.114                   | 7             |
|                   |                     |            |        | 49        |     | 23.01                        | 0.116                   | 7             |
|                   |                     |            |        | 50        |     | 22.34                        | 0.099                   | 7             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>15 MHz | 26865<br>831.5      | QPSK       | 1      | 0         | 0   | 24.27                        | 0.155                   | 7             |
|                   |                     |            |        | 37        |     | 24.15                        | 0.151                   | 7             |
|                   |                     |            |        | 74        |     | 24.11                        | 0.149                   | 7             |
|                   |                     |            | 75     | 0         | 1   | 23.42                        | 0.127                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.45                        | 0.128                   | 7             |
|                   |                     |            |        | 37        |     | 23.58                        | 0.132                   | 7             |
|                   |                     |            |        | 74        |     | 23.76                        | 0.138                   | 7             |
|                   |                     |            | 75     | 0         | 2   | 22.47                        | 0.102                   | 7             |
|                   | 26915<br>836.5      | QPSK       | 1      | 0         | 0   | 24.46                        | 0.162                   | 7             |
|                   |                     |            |        | 37        |     | 24.29                        | 0.156                   | 7             |
|                   |                     |            |        | 74        |     | 24.16                        | 0.151                   | 7             |
|                   |                     |            | 75     | 0         | 1   | 23.35                        | 0.125                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.84                        | 0.140                   | 7             |
|                   |                     |            |        | 37        |     | 23.63                        | 0.134                   | 7             |
|                   |                     |            |        | 74        |     | 23.63                        | 0.134                   | 7             |
|                   |                     |            | 75     | 0         | 2   | 22.30                        | 0.098                   | 7             |
|                   | 26965<br>841.5      | QPSK       | 1      | 0         | 0   | 24.15                        | 0.151                   | 7             |
|                   |                     |            |        | 37        |     | 24.07                        | 0.148                   | 7             |
|                   |                     |            |        | 74        |     | 24.08                        | 0.148                   | 7             |
|                   |                     |            | 75     | 0         | 1   | 23.40                        | 0.127                   | 7             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.06                        | 0.117                   | 7             |
|                   |                     |            |        | 37        |     | 23.12                        | 0.119                   | 7             |
|                   |                     |            |        | 74        |     | 23.21                        | 0.121                   | 7             |
|                   |                     |            | 75     | 0         | 2   | 22.39                        | 0.100                   | 7             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

**Mode 4: LTE Band 12**

| Band               | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|--------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 12<br>1.4 MHz | 23017<br>699.7      | QPSK       | 1      | 0         | 0   | 24.41                        | 0.145                   | 3             |
|                    |                     |            |        | 2         |     | 24.30                        | 0.141                   | 3             |
|                    |                     |            |        | 5         |     | 24.37                        | 0.143                   | 3             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.35                        | 0.113                   | 3             |
|                    |                     |            |        | 2         |     | 23.51                        | 0.117                   | 3             |
|                    |                     |            |        | 5         |     | 23.38                        | 0.114                   | 3             |
|                    |                     |            | 6      | 0         | 2   | 22.49                        | 0.093                   | 3             |
|                    |                     |            |        |           |     |                              |                         |               |
|                    | 23095<br>707.5      | QPSK       | 1      | 0         | 0   | 24.32                        | 0.142                   | 3             |
|                    |                     |            |        | 2         |     | 24.22                        | 0.138                   | 3             |
|                    |                     |            |        | 5         |     | 24.26                        | 0.140                   | 3             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.50                        | 0.117                   | 3             |
|                    |                     |            |        | 2         |     | 23.58                        | 0.119                   | 3             |
|                    |                     |            |        | 5         |     | 23.72                        | 0.123                   | 3             |
|                    |                     |            | 6      | 0         | 2   | 23.55                        | 0.119                   | 3             |
|                    |                     |            |        |           |     | 22.67                        | 0.097                   | 3             |
|                    | 23173<br>715.3      | QPSK       | 1      | 0         | 0   | 24.31                        | 0.141                   | 3             |
|                    |                     |            |        | 2         |     | 24.29                        | 0.141                   | 3             |
|                    |                     |            |        | 5         |     | 24.25                        | 0.139                   | 3             |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.30                        | 0.112                   | 3             |
|                    |                     |            |        | 2         |     | 23.15                        | 0.108                   | 3             |
|                    |                     |            |        | 5         |     | 23.00                        | 0.104                   | 3             |
|                    |                     |            | 6      | 0         | 2   | 22.96                        | 0.104                   | 3             |
|                    |                     |            |        |           |     | 22.28                        | 0.089                   | 3             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 12<br>3 MHz | 23025<br>700.5      | QPSK       | 1      | 0         | 0   | 24.30                        | 0.141                   | 3             |
|                  |                     |            |        | 7         |     | 24.21                        | 0.138                   | 3             |
|                  |                     |            |        | 14        |     | 24.28                        | 0.140                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.75                        | 0.124                   | 3             |
|                  |                     |            |        | 7         |     | 23.31                        | 0.112                   | 3             |
|                  |                     |            |        | 14        |     | 23.37                        | 0.114                   | 3             |
|                  |                     |            | 15     | 0         | 2   | 22.64                        | 0.096                   | 3             |
|                  |                     |            |        |           |     |                              |                         |               |
|                  | 23095<br>707.5      | QPSK       | 1      | 0         | 0   | 24.29                        | 0.141                   | 3             |
|                  |                     |            |        | 7         |     | 24.16                        | 0.136                   | 3             |
|                  |                     |            |        | 14        |     | 24.06                        | 0.133                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.72                        | 0.123                   | 3             |
|                  |                     |            |        | 7         |     | 23.67                        | 0.122                   | 3             |
|                  |                     |            |        | 14        |     | 23.36                        | 0.114                   | 3             |
|                  |                     |            | 15     | 0         | 2   | 22.71                        | 0.098                   | 3             |
|                  |                     |            |        |           |     |                              |                         |               |
|                  | 23165<br>714.5      | QPSK       | 1      | 0         | 0   | 24.15                        | 0.136                   | 3             |
|                  |                     |            |        | 7         |     | 24.04                        | 0.133                   | 3             |
|                  |                     |            |        | 14        |     | 24.12                        | 0.135                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.41                        | 0.115                   | 3             |
|                  |                     |            |        | 7         |     | 23.30                        | 0.112                   | 3             |
|                  |                     |            |        | 14        |     | 22.92                        | 0.103                   | 3             |
|                  |                     |            | 15     | 0         | 2   | 22.34                        | 0.090                   | 3             |
|                  |                     |            |        |           |     |                              |                         |               |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 12<br>5 MHz | 23035<br>701.5      | QPSK       | 1      | 0         | 0   | 24.28                        | 0.140                   | 3             |
|                  |                     |            |        | 12        |     | 24.26                        | 0.140                   | 3             |
|                  |                     |            |        | 24        |     | 24.22                        | 0.138                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.45                        | 0.116                   | 3             |
|                  |                     |            |        | 12        |     | 22.97                        | 0.104                   | 3             |
|                  |                     |            |        | 24        |     | 23.05                        | 0.106                   | 3             |
|                  |                     |            |        | 25        |     | 22.95                        | 0.103                   | 3             |
|                  |                     |            |        | 25        |     | 22.46                        | 0.092                   | 3             |
|                  | 23095<br>707.5      | QPSK       | 1      | 0         | 0   | 24.34                        | 0.142                   | 3             |
|                  |                     |            |        | 12        |     | 24.29                        | 0.141                   | 3             |
|                  |                     |            |        | 24        |     | 24.11                        | 0.135                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.38                        | 0.114                   | 3             |
|                  |                     |            |        | 12        |     | 23.74                        | 0.124                   | 3             |
|                  |                     |            |        | 24        |     | 23.67                        | 0.122                   | 3             |
|                  |                     |            |        | 25        |     | 23.59                        | 0.120                   | 3             |
|                  |                     |            |        | 25        |     | 22.45                        | 0.092                   | 3             |
|                  | 23155<br>713.5      | QPSK       | 1      | 0         | 0   | 23.89                        | 0.128                   | 3             |
|                  |                     |            |        | 12        |     | 23.87                        | 0.128                   | 3             |
|                  |                     |            |        | 24        |     | 23.85                        | 0.127                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.28                        | 0.111                   | 3             |
|                  |                     |            |        | 12        |     | 23.23                        | 0.110                   | 3             |
|                  |                     |            |        | 24        |     | 22.70                        | 0.097                   | 3             |
|                  |                     |            |        | 25        |     | 22.83                        | 0.100                   | 3             |
|                  |                     |            |        | 25        |     | 22.16                        | 0.086                   | 3             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB

2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 12<br>10 MHz | 23060<br>704        | QPSK       | 1      | 0         | 0   | 24.19                        | 0.137                   | 3             |
|                   |                     |            |        | 24        |     | 24.16                        | 0.136                   | 3             |
|                   |                     |            |        | 49        |     | 24.14                        | 0.136                   | 3             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.65                        | 0.121                   | 3             |
|                   |                     |            |        | 24        |     | 23.51                        | 0.117                   | 3             |
|                   |                     |            |        | 49        |     | 23.28                        | 0.111                   | 3             |
|                   |                     |            | 50     | 0         | 2   | 22.63                        | 0.096                   | 3             |
|                   |                     |            |        |           |     |                              |                         |               |
|                   | 23095<br>707.5      | QPSK       | 1      | 0         | 0   | 24.43                        | 0.145                   | 3             |
|                   |                     |            |        | 24        |     | 24.29                        | 0.141                   | 3             |
|                   |                     |            |        | 49        |     | 24.23                        | 0.139                   | 3             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.77                        | 0.125                   | 3             |
|                   |                     |            |        | 24        |     | 23.68                        | 0.122                   | 3             |
|                   |                     |            |        | 49        |     | 23.38                        | 0.114                   | 3             |
|                   |                     |            | 50     | 0         | 2   | 22.42                        | 0.091                   | 3             |
|                   |                     |            |        |           |     |                              |                         |               |
|                   | 23130<br>711        | QPSK       | 1      | 0         | 0   | 24.28                        | 0.140                   | 3             |
|                   |                     |            |        | 24        |     | 24.25                        | 0.139                   | 3             |
|                   |                     |            |        | 49        |     | 24.23                        | 0.139                   | 3             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 22.94                        | 0.103                   | 3             |
|                   |                     |            |        | 24        |     | 22.89                        | 0.102                   | 3             |
|                   |                     |            |        | 49        |     | 22.76                        | 0.099                   | 3             |
|                   |                     |            | 50     | 0         | 2   | 22.28                        | 0.089                   | 3             |
|                   |                     |            |        |           |     |                              |                         |               |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB

2. Power (W) =  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

**Mode 5: LTE Band 13**

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 13<br>5 MHz | 23205<br>779.5      | QPSK       | 1      | 0         | 0   | 24.17                        | 0.173                   | 3             |
|                  |                     |            |        | 12        |     | 24.01                        | 0.167                   | 3             |
|                  |                     |            |        | 24        |     | 24.09                        | 0.170                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.26                        | 0.140                   | 3             |
|                  |                     |            |        | 12        |     | 22.72                        | 0.124                   | 3             |
|                  |                     |            |        | 24        |     | 23.35                        | 0.143                   | 3             |
|                  |                     |            |        | 25        |     | 23.38                        | 0.144                   | 3             |
|                  |                     |            |        | 25        |     | 22.41                        | 0.115                   | 3             |
|                  | 23230<br>782        | QPSK       | 1      | 0         | 0   | 24.13                        | 0.171                   | 3             |
|                  |                     |            |        | 12        |     | 24.08                        | 0.169                   | 3             |
|                  |                     |            |        | 24        |     | 24.10                        | 0.170                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.39                        | 0.145                   | 3             |
|                  |                     |            |        | 12        |     | 23.58                        | 0.151                   | 3             |
|                  |                     |            |        | 24        |     | 23.45                        | 0.147                   | 3             |
|                  |                     |            |        | 25        |     | 23.54                        | 0.150                   | 3             |
|                  |                     |            |        | 25        |     | 22.47                        | 0.117                   | 3             |
|                  | 23255<br>784.5      | QPSK       | 1      | 0         | 0   | 24.26                        | 0.177                   | 3             |
|                  |                     |            |        | 12        |     | 24.24                        | 0.176                   | 3             |
|                  |                     |            |        | 24        |     | 23.21                        | 0.139                   | 3             |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.46                        | 0.147                   | 3             |
|                  |                     |            |        | 12        |     | 23.13                        | 0.136                   | 3             |
|                  |                     |            |        | 24        |     | 23.17                        | 0.137                   | 3             |
|                  |                     |            |        | 25        |     | 23.45                        | 0.147                   | 3             |
|                  |                     |            |        | 25        |     | 22.57                        | 0.120                   | 3             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 13<br>10 MHz | 23230<br>782        | QPSK       | 1      | 0         | 0   | 24.33                        | 0.179                   | 3             |
|                   |                     |            |        | 24        |     | 24.29                        | 0.178                   | 3             |
|                   |                     |            |        | 49        |     | 24.31                        | 0.179                   | 3             |
|                   |                     |            | 50     | 0         | 1   | 23.33                        | 0.143                   | 3             |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.59                        | 0.151                   | 3             |
|                   |                     |            |        | 24        |     | 23.46                        | 0.147                   | 3             |
|                   |                     |            |        | 49        |     | 23.52                        | 0.149                   | 3             |
|                   |                     |            | 50     | 0         | 2   | 22.42                        | 0.116                   | 3             |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB

2. Power (W) =  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

**Mode 6: LTE Band 26 (Part 90)**

| Band               | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|--------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>1.4 MHz | 26697<br>814.7      | QPSK       | 1      | 0         | 0   | 24.33                        | 0.157                   | 100           |
|                    |                     |            |        | 2         |     | 24.29                        | 0.156                   | 100           |
|                    |                     |            |        | 5         |     | 24.26                        | 0.155                   | 100           |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.56                        | 0.132                   | 100           |
|                    |                     |            |        | 2         |     | 23.34                        | 0.125                   | 100           |
|                    |                     |            |        | 5         |     | 23.30                        | 0.124                   | 100           |
|                    |                     |            |        | 6         |     | 23.06                        | 0.117                   | 100           |
|                    |                     |            |        | 6         |     | 22.51                        | 0.103                   | 100           |
|                    | 26740<br>819        | QPSK       | 1      | 0         | 0   | 24.37                        | 0.158                   | 100           |
|                    |                     |            |        | 2         |     | 24.30                        | 0.156                   | 100           |
|                    |                     |            |        | 5         |     | 24.35                        | 0.158                   | 100           |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.39                        | 0.126                   | 100           |
|                    |                     |            |        | 2         |     | 23.54                        | 0.131                   | 100           |
|                    |                     |            |        | 5         |     | 23.46                        | 0.129                   | 100           |
|                    |                     |            |        | 6         |     | 23.55                        | 0.131                   | 100           |
|                    |                     |            |        | 6         |     | 22.45                        | 0.102                   | 100           |
|                    | 26783<br>823.3      | QPSK       | 1      | 0         | 0   | 24.24                        | 0.154                   | 100           |
|                    |                     |            |        | 2         |     | 24.19                        | 0.152                   | 100           |
|                    |                     |            |        | 5         |     | 24.21                        | 0.153                   | 100           |
|                    |                     | 16-QAM     | 1      | 0         | 1   | 23.23                        | 0.122                   | 100           |
|                    |                     |            |        | 2         |     | 23.27                        | 0.123                   | 100           |
|                    |                     |            |        | 5         |     | 23.02                        | 0.116                   | 100           |
|                    |                     |            |        | 6         |     | 23.14                        | 0.119                   | 100           |
|                    |                     |            |        | 6         |     | 22.32                        | 0.099                   | 100           |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>3 MHz | 26705<br>815.5      | QPSK       | 1      | 0         | 0   | 24.36                        | 0.158                   | 100           |
|                  |                     |            |        | 7         |     | 24.22                        | 0.153                   | 100           |
|                  |                     |            |        | 14        |     | 24.31                        | 0.156                   | 100           |
|                  |                     |            | 15     | 0         | 1   | 23.44                        | 0.128                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.51                        | 0.130                   | 100           |
|                  |                     |            |        | 7         |     | 23.32                        | 0.124                   | 100           |
|                  |                     |            |        | 14        |     | 23.41                        | 0.127                   | 100           |
|                  |                     |            | 15     | 0         | 2   | 22.62                        | 0.106                   | 100           |
|                  | 26740<br>819        | QPSK       | 1      | 0         | 0   | 24.40                        | 0.160                   | 100           |
|                  |                     |            |        | 7         |     | 24.31                        | 0.156                   | 100           |
|                  |                     |            |        | 14        |     | 24.33                        | 0.157                   | 100           |
|                  |                     |            | 15     | 0         | 1   | 23.45                        | 0.128                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.66                        | 0.135                   | 100           |
|                  |                     |            |        | 7         |     | 23.35                        | 0.125                   | 100           |
|                  |                     |            |        | 14        |     | 23.43                        | 0.128                   | 100           |
|                  |                     |            | 15     | 0         | 2   | 22.68                        | 0.107                   | 100           |
|                  | 26775<br>822.5      | QPSK       | 1      | 0         | 0   | 24.30                        | 0.156                   | 100           |
|                  |                     |            |        | 7         |     | 24.16                        | 0.151                   | 100           |
|                  |                     |            |        | 14        |     | 24.21                        | 0.153                   | 100           |
|                  |                     |            | 15     | 0         | 1   | 23.27                        | 0.123                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.36                        | 0.126                   | 100           |
|                  |                     |            |        | 7         |     | 23.05                        | 0.117                   | 100           |
|                  |                     |            |        | 14        |     | 23.08                        | 0.118                   | 100           |
|                  |                     |            | 15     | 0         | 2   | 22.46                        | 0.102                   | 100           |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band             | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>5 MHz | 26715<br>816.5      | QPSK       | 1      | 0         | 0   | 24.41                        | 0.160                   | 100           |
|                  |                     |            |        | 12        |     | 24.31                        | 0.156                   | 100           |
|                  |                     |            |        | 24        |     | 24.29                        | 0.156                   | 100           |
|                  |                     |            | 25     | 0         | 1   | 23.41                        | 0.127                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.15                        | 0.120                   | 100           |
|                  |                     |            |        | 12        |     | 22.92                        | 0.114                   | 100           |
|                  |                     |            |        | 24        |     | 22.98                        | 0.115                   | 100           |
|                  |                     |            | 25     | 0         | 2   | 22.65                        | 0.107                   | 100           |
|                  | 26740<br>819        | QPSK       | 1      | 0         | 0   | 24.39                        | 0.159                   | 100           |
|                  |                     |            |        | 12        |     | 24.32                        | 0.157                   | 100           |
|                  |                     |            |        | 24        |     | 24.25                        | 0.154                   | 100           |
|                  |                     |            | 25     | 0         | 1   | 23.42                        | 0.127                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.64                        | 0.134                   | 100           |
|                  |                     |            |        | 12        |     | 23.63                        | 0.134                   | 100           |
|                  |                     |            |        | 24        |     | 23.54                        | 0.131                   | 100           |
|                  |                     |            | 25     | 0         | 2   | 22.40                        | 0.101                   | 100           |
|                  | 26765<br>821.5      | QPSK       | 1      | 0         | 0   | 24.34                        | 0.157                   | 100           |
|                  |                     |            |        | 12        |     | 24.27                        | 0.155                   | 100           |
|                  |                     |            |        | 24        |     | 24.21                        | 0.153                   | 100           |
|                  |                     |            | 25     | 0         | 1   | 23.30                        | 0.124                   | 100           |
|                  |                     | 16-QAM     | 1      | 0         | 1   | 23.27                        | 0.123                   | 100           |
|                  |                     |            |        | 12        |     | 23.16                        | 0.120                   | 100           |
|                  |                     |            |        | 24        |     | 23.08                        | 0.118                   | 100           |
|                  |                     |            | 25     | 0         | 2   | 22.43                        | 0.101                   | 100           |

Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB
2. Power (W)=  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

| Band              | Channel Freq. (MHz) | Modulation | RB No. | RB offset | MPR | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|-------------------|---------------------|------------|--------|-----------|-----|------------------------------|-------------------------|---------------|
| Band 26<br>10 MHz | 26740<br>819        | QPSK       | 1      | 0         | 0   | 24.43                        | 0.161                   | 100           |
|                   |                     |            |        | 24        |     | 24.35                        | 0.158                   | 100           |
|                   |                     |            |        | 49        |     | 24.28                        | 0.155                   | 100           |
|                   |                     |            | 50     | 0         | 1   | 23.37                        | 0.126                   | 100           |
|                   |                     | 16-QAM     | 1      | 0         | 1   | 23.77                        | 0.138                   | 100           |
|                   |                     |            |        | 24        |     | 23.69                        | 0.136                   | 100           |
|                   |                     |            |        | 49        |     | 23.63                        | 0.134                   | 100           |
|                   |                     |            | 50     | 0         | 2   | 22.59                        | 0.105                   | 100           |

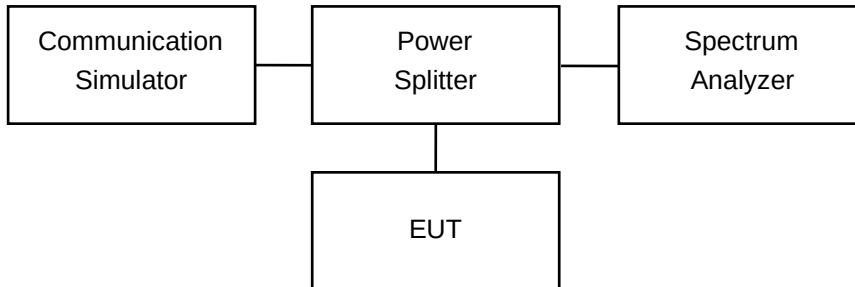
Note:

1. RF Output Power (W) ERP = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 dB

2. Power (W) =  $(10^{(\text{Power(dBm)}/10)}) \times 10^{-3}$

## 4. Occupied Bandwidth

### 4.1. Test Setup



### 4.2. Test Procedure

The EUT makes a call to the communication simulator. The 26dB bandwidth and 99% occupied bandwidth measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.

### 4.3. Test Methodology and Reference Procedures

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI C63.26-2015

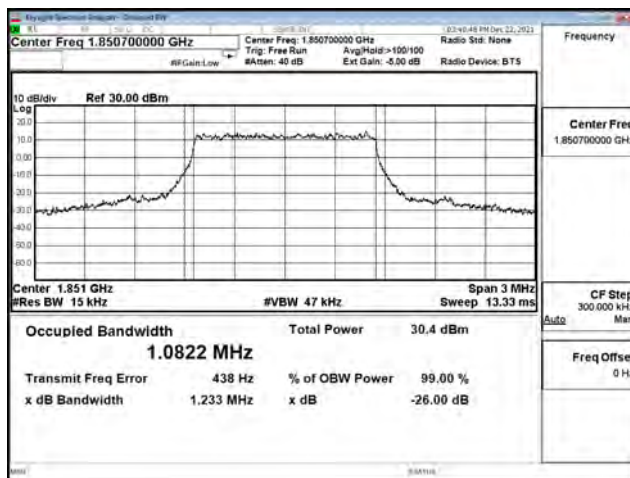
#### 4.4. Test Result of Occupied Bandwidth

##### Mode 1: LTE Band 2/25

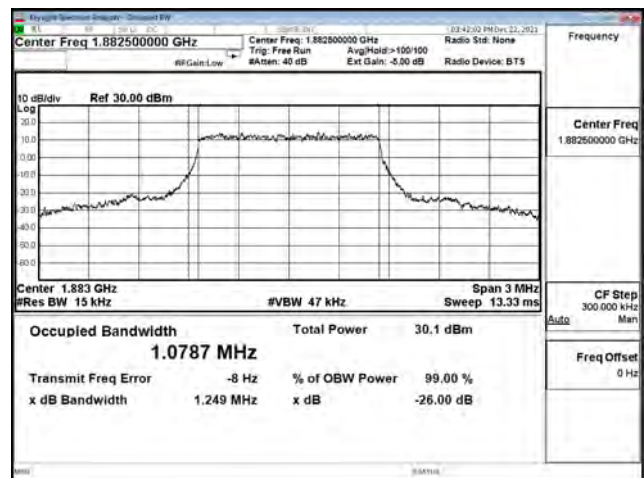
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 1.4                | QPSK       | 1850.7             | 1.233                  | 1.082  | N/A            |
|                    |            | 1882.5             | 1.249                  | 1.078  | N/A            |
|                    |            | 1914.3             | 1.256                  | 1.079  | N/A            |
|                    | 16-QAM     | 1850.7             | 1.257                  | 1.078  | N/A            |
|                    |            | 1882.5             | 1.265                  | 1.080  | N/A            |
|                    |            | 1914.3             | 1.256                  | 1.078  | N/A            |
| 3                  | QPSK       | 1851.5             | 2.932                  | 2.684  | N/A            |
|                    |            | 1882.5             | 2.925                  | 2.688  | N/A            |
|                    |            | 1913.5             | 2.919                  | 2.681  | N/A            |
|                    | 16-QAM     | 1851.5             | 2.934                  | 2.680  | N/A            |
|                    |            | 1882.5             | 2.933                  | 2.681  | N/A            |
|                    |            | 1913.5             | 2.948                  | 2.682  | N/A            |
| 5                  | QPSK       | 1852.5             | 4.938                  | 4.480  | N/A            |
|                    |            | 1882.5             | 4.880                  | 4.478  | N/A            |
|                    |            | 1912.5             | 4.872                  | 4.474  | N/A            |
|                    | 16-QAM     | 1852.5             | 4.891                  | 4.481  | N/A            |
|                    |            | 1882.5             | 4.918                  | 4.473  | N/A            |
|                    |            | 1912.5             | 4.938                  | 4.480  | N/A            |
| 10                 | QPSK       | 1855               | 9.700                  | 8.928  | N/A            |
|                    |            | 1882.5             | 9.648                  | 8.917  | N/A            |
|                    |            | 1910               | 9.660                  | 8.932  | N/A            |
|                    | 16-QAM     | 1855               | 9.695                  | 8.913  | N/A            |
|                    |            | 1882.5             | 9.655                  | 8.909  | N/A            |
|                    |            | 1910               | 9.565                  | 8.918  | N/A            |
| 15                 | QPSK       | 1857.5             | 14.330                 | 13.389 | N/A            |
|                    |            | 1882.5             | 14.440                 | 13.364 | N/A            |
|                    |            | 1907.5             | 14.430                 | 13.349 | N/A            |
|                    | 16-QAM     | 1857.5             | 14.360                 | 13.383 | N/A            |
|                    |            | 1882.5             | 14.340                 | 13.395 | N/A            |
|                    |            | 1907.5             | 14.410                 | 13.347 | N/A            |
| 20                 | QPSK       | 1860               | 18.990                 | 17.830 | N/A            |
|                    |            | 1882.5             | 19.040                 | 17.826 | N/A            |
|                    |            | 1905               | 19.060                 | 17.794 | N/A            |
|                    | 16-QAM     | 1860               | 19.050                 | 17.863 | N/A            |
|                    |            | 1882.5             | 19.250                 | 17.844 | N/A            |
|                    |            | 1905               | 19.120                 | 17.776 | N/A            |

## LTE Band 25

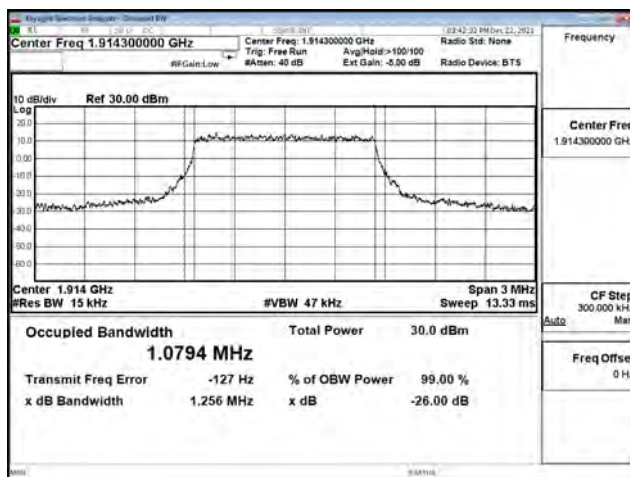
QPSK / CH26047 / 1.4 MHz



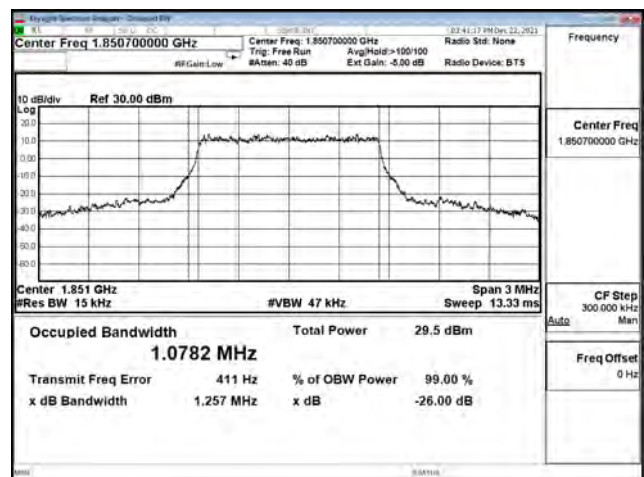
QPSK / CH26365 / 1.4 MHz



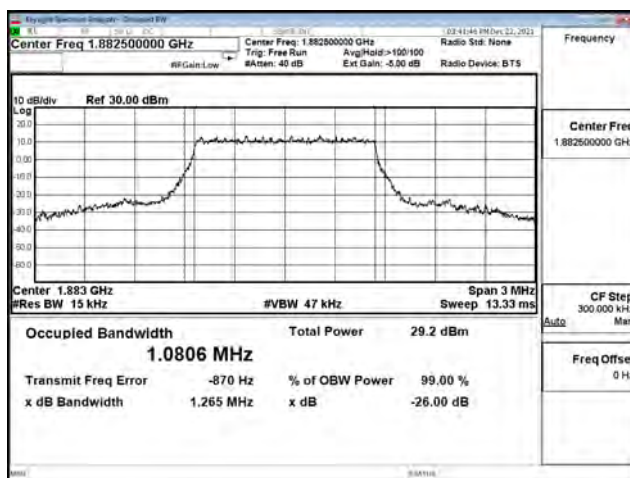
QPSK / CH26683 / 1.4 MHz



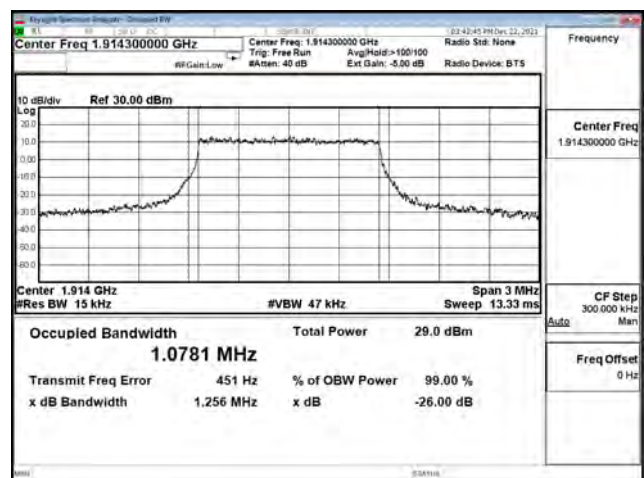
16QAM / CH26047 / 1.4 MHz



16QAM / CH26365 / 1.4 MHz

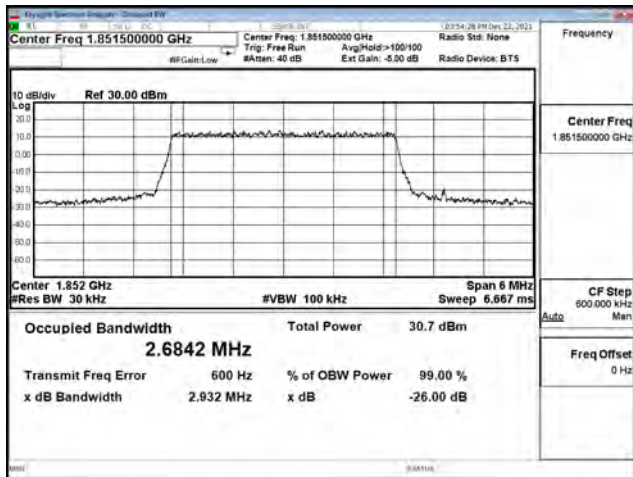


16QAM / CH26683 / 1.4 MHz

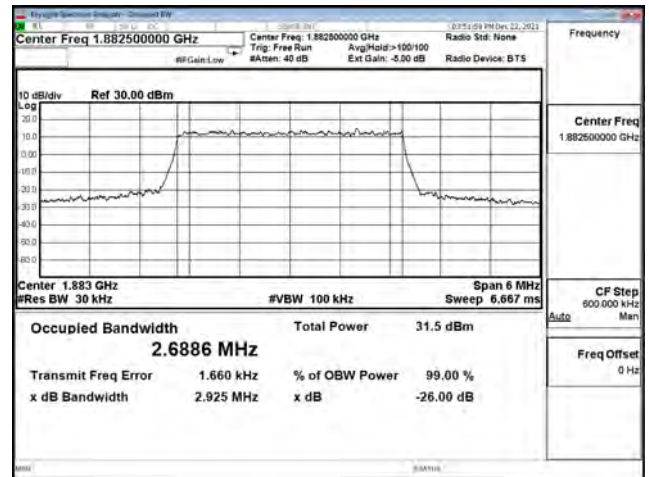


## LTE Band 25

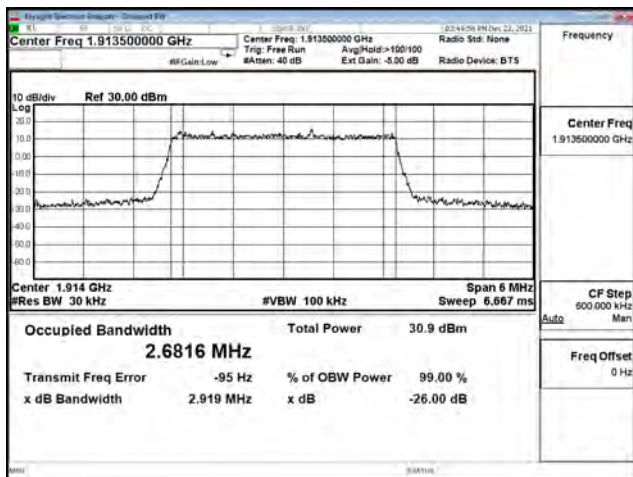
## QPSK / CH26055 / 3 MHz



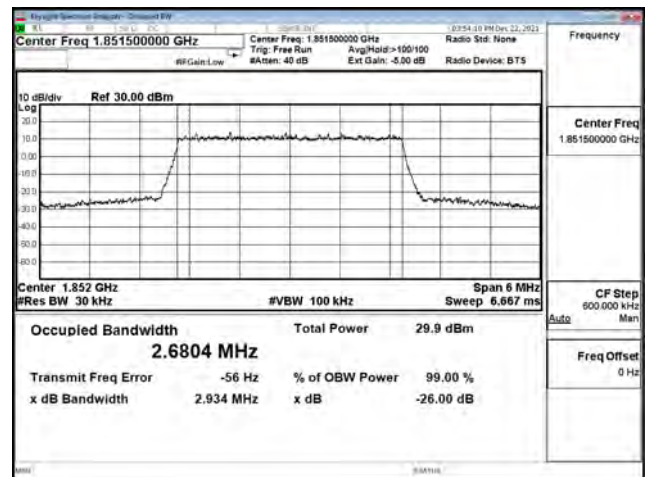
## QPSK / CH26365 / 3 MHz



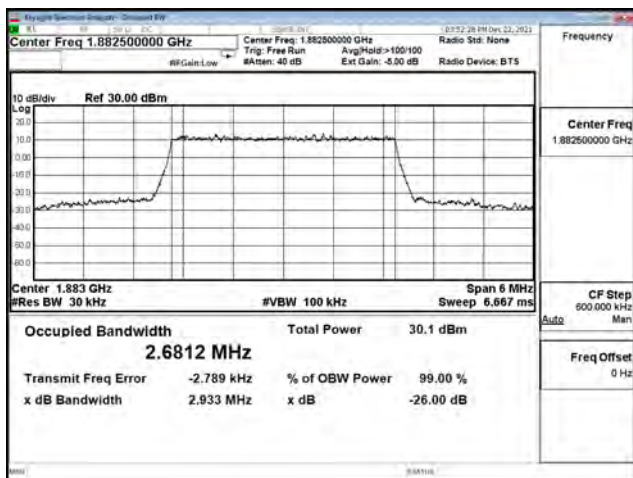
## QPSK / CH26675 / 3 MHz



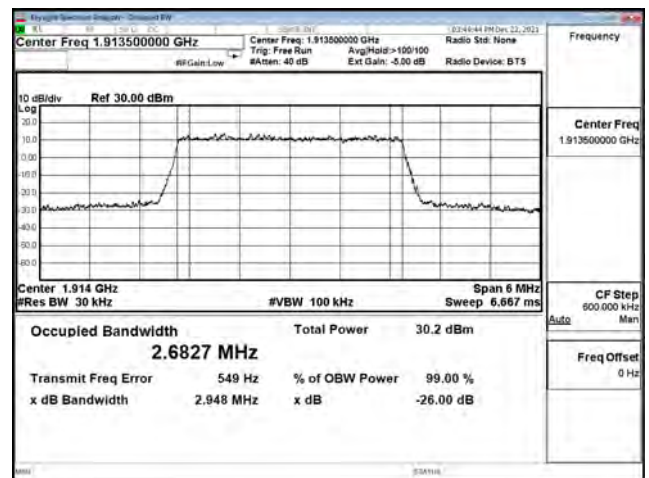
## 16QAM / CH26055 / 3 MHz



## 16QAM / CH26365 / 3 MHz

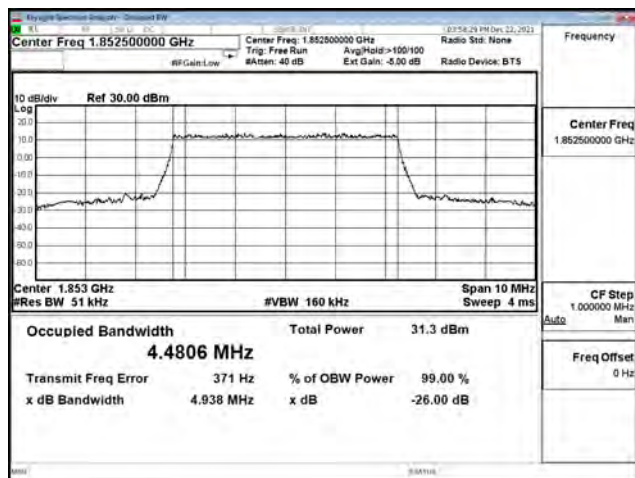


## 16QAM / CH26675 / 3 MHz

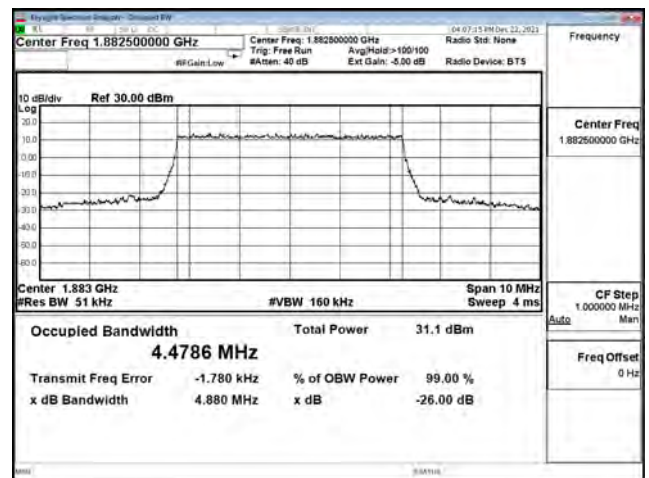


## LTE Band 25

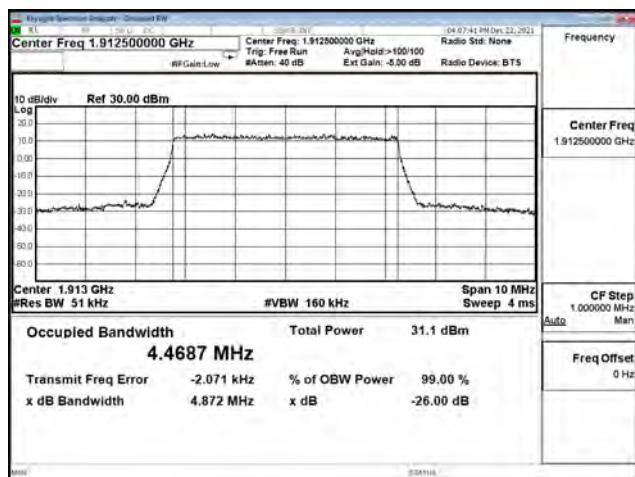
QPSK / CH26065 / 5 MHz



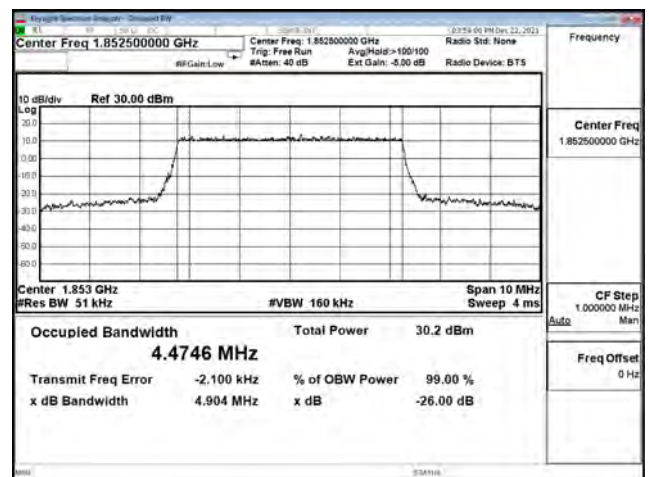
QPSK / CH26365 / 5 MHz



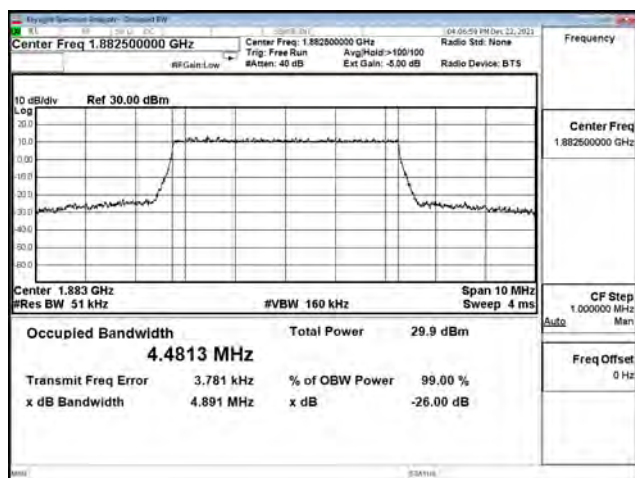
QPSK / CH26665 / 5 MHz



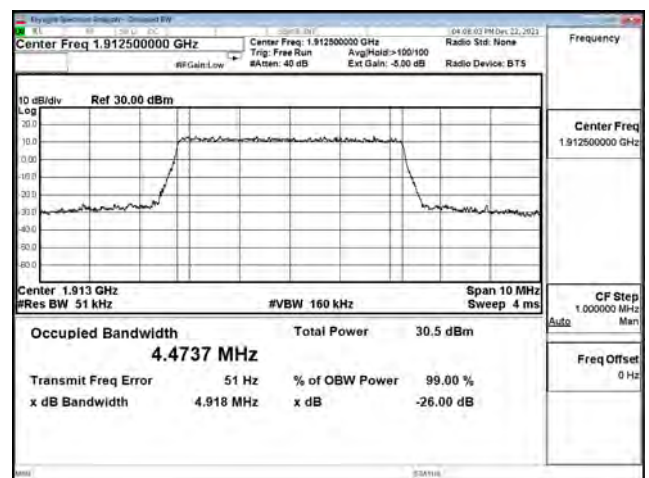
16QAM / CH26065 / 5 MHz



16QAM / CH26365 / 5 MHz

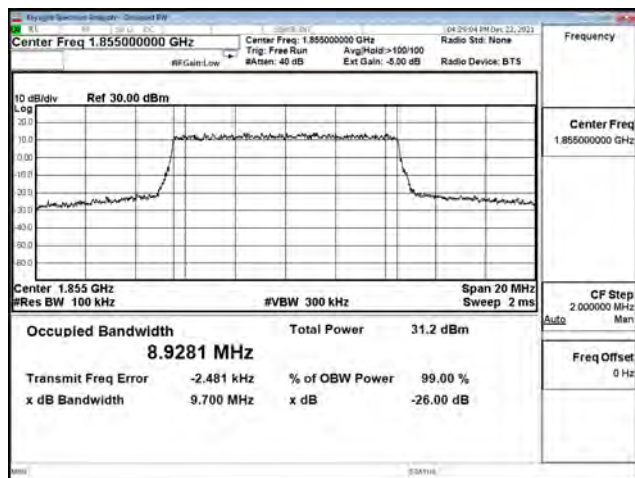


16QAM / CH26665 / 5 MHz

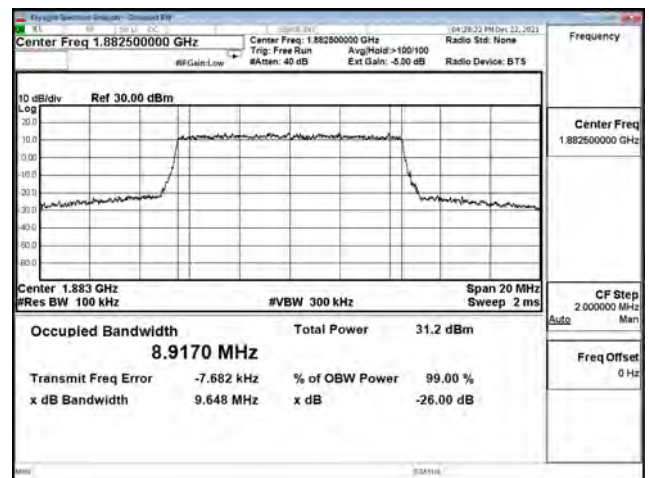


## LTE Band 25

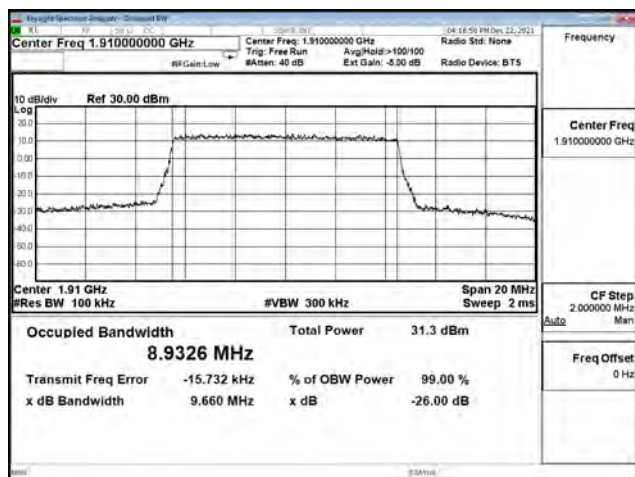
## QPSK / CH26090 / 10 MHz



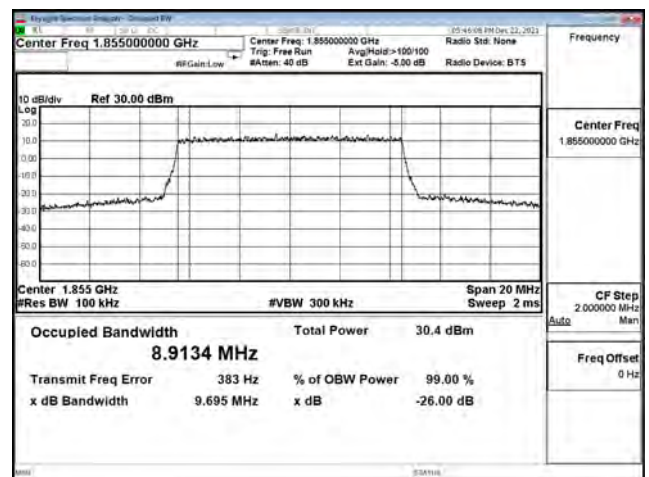
## QPSK / CH26365 / 10 MHz



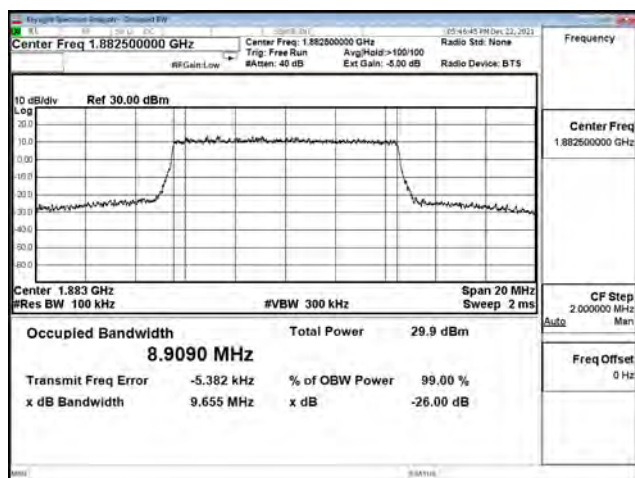
## QPSK / CH26640 / 10 MHz



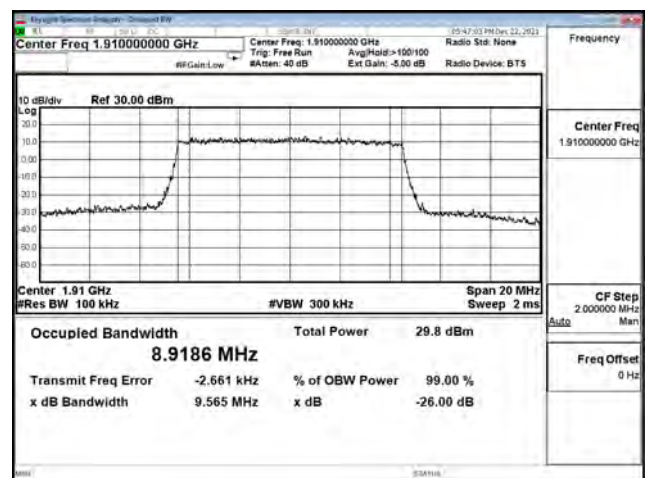
## 16QAM / CH26090 / 10 MHz



## 16QAM / CH26365 / 10 MHz

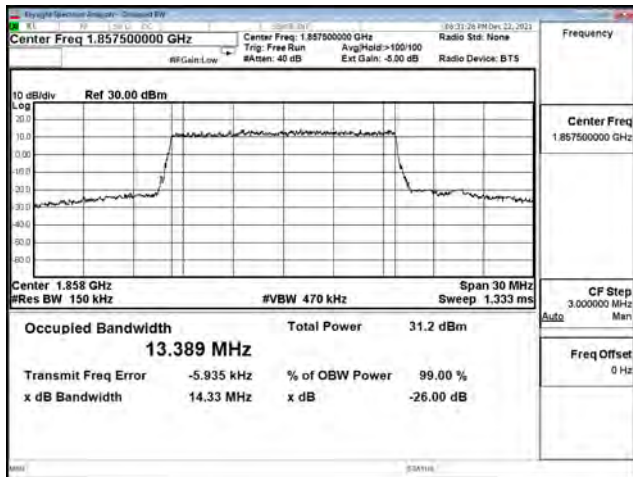


## 16QAM / CH26640 / 10 MHz

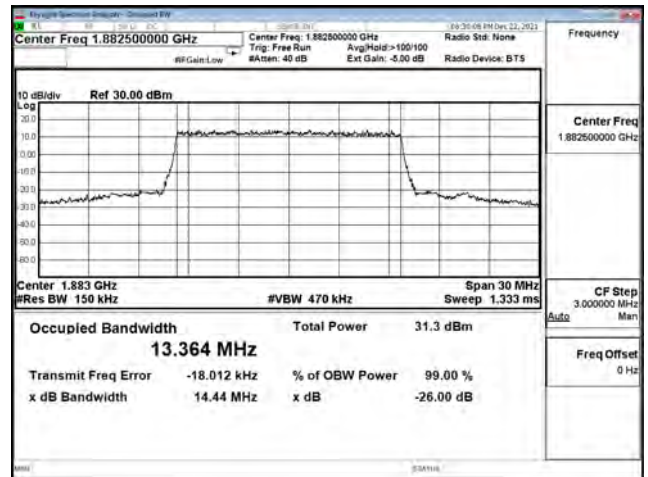


## LTE Band 25

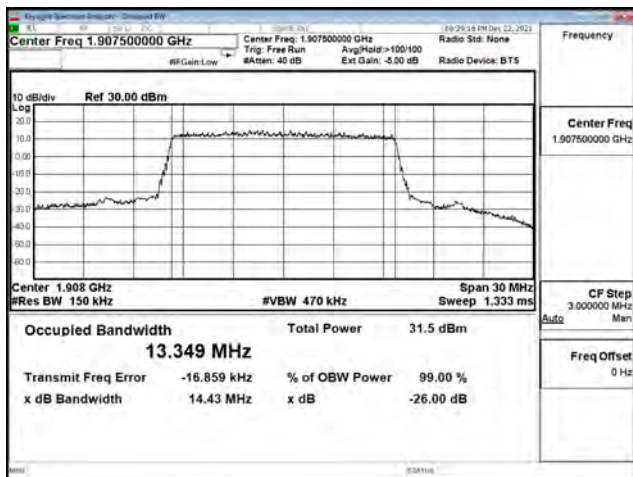
## QPSK / CH26115 / 15 MHz



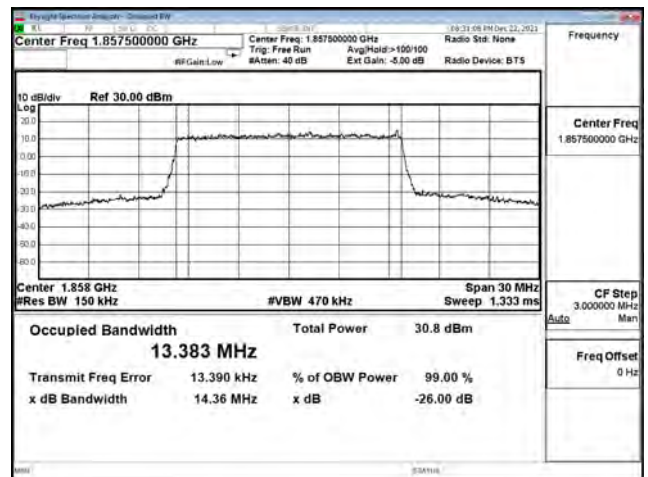
## QPSK / CH26365 / 15 MHz



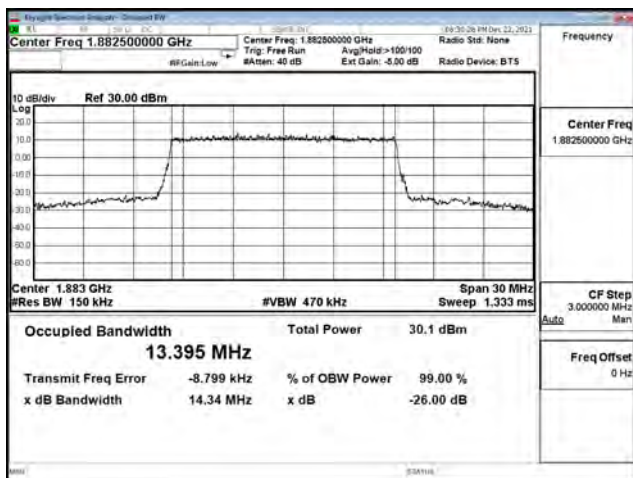
## QPSK / CH26615 / 15 MHz



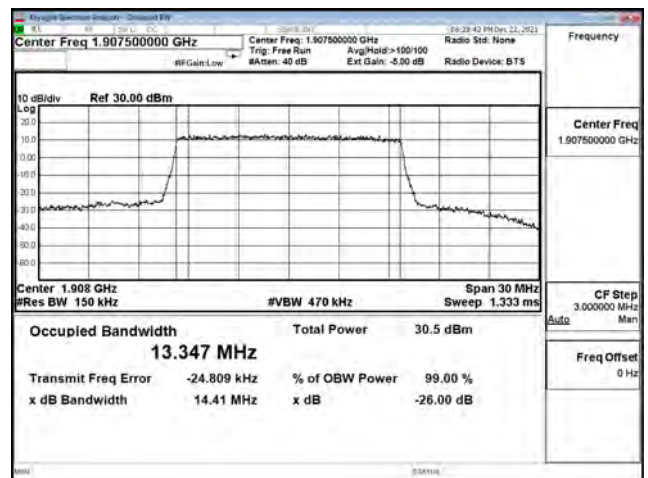
## 16QAM / CH26115 / 15 MHz



## 16QAM / CH26365 / 15 MHz

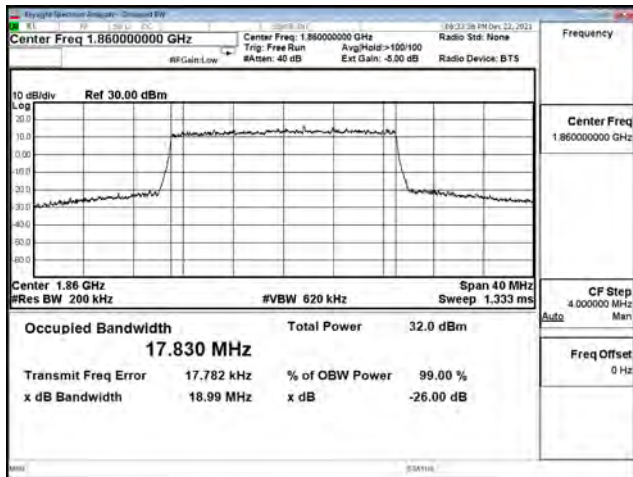


## 16QAM / CH26615 / 15 MHz

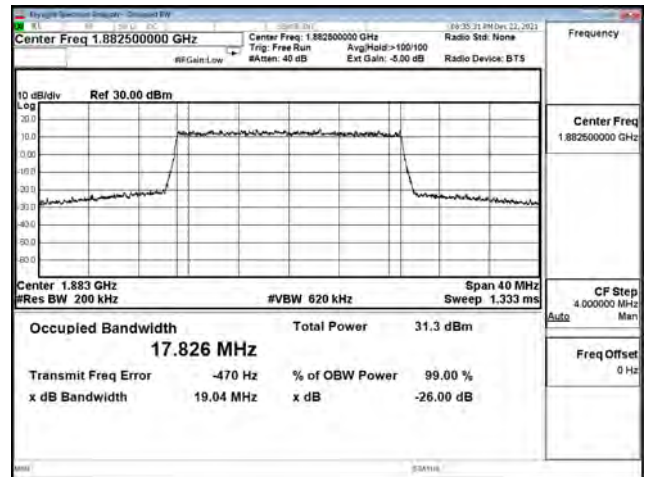


## LTE Band 25

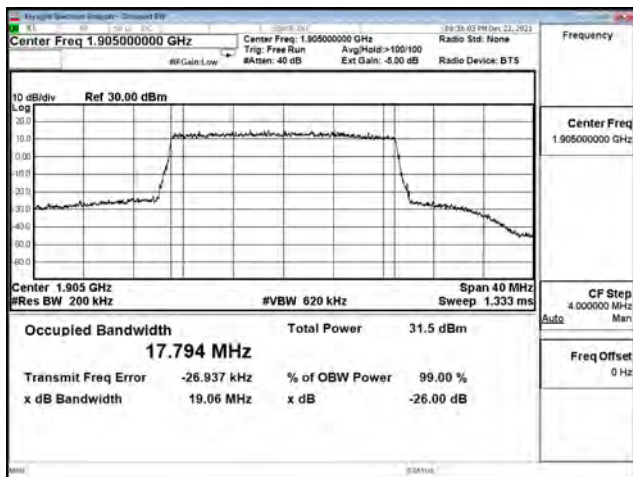
## QPSK / CH26140 / 20 MHz



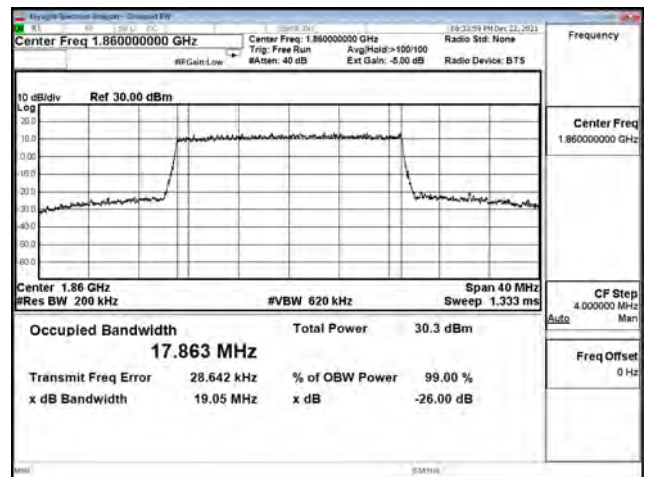
## QPSK / CH26365 / 20 MHz



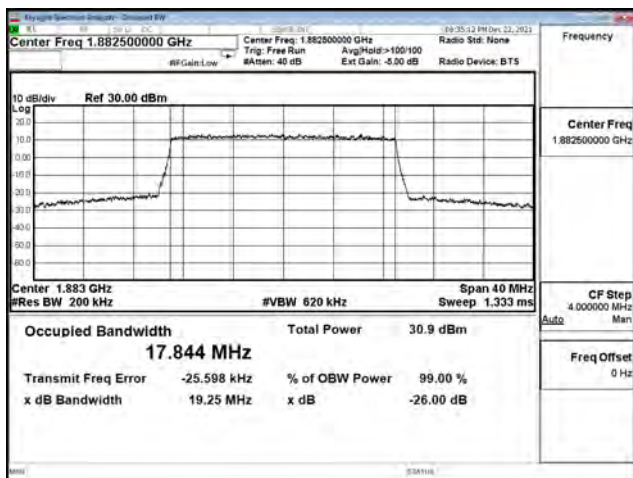
## QPSK / CH26590 / 20 MHz



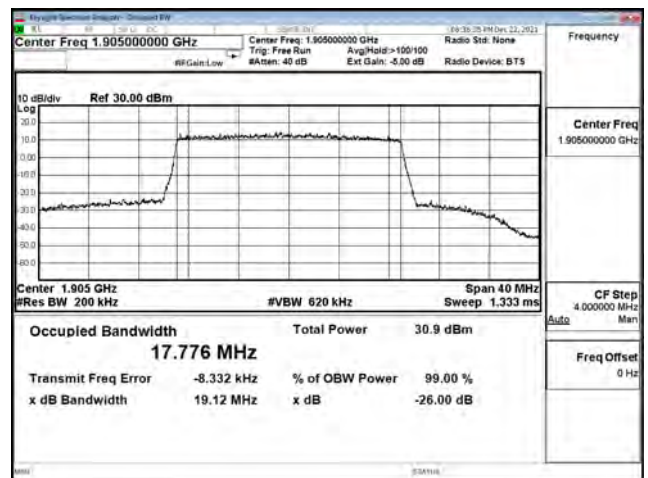
## 16QAM / CH26140 / 20 MHz



## 16QAM / CH26365 / 20 MHz



## 16QAM / CH26590 / 20 MHz

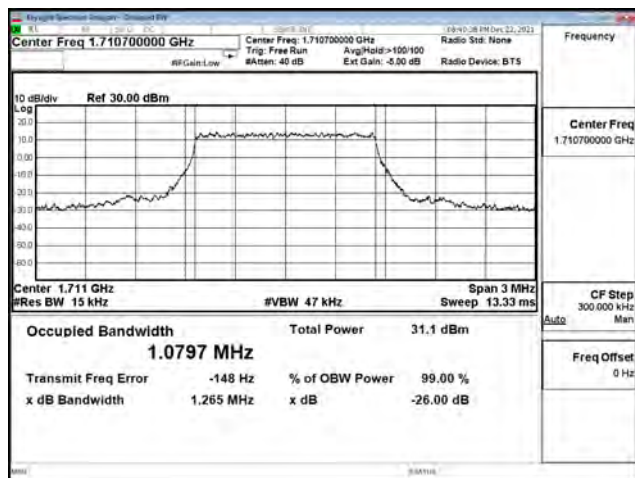


**Mode 2: LTE Band 4**

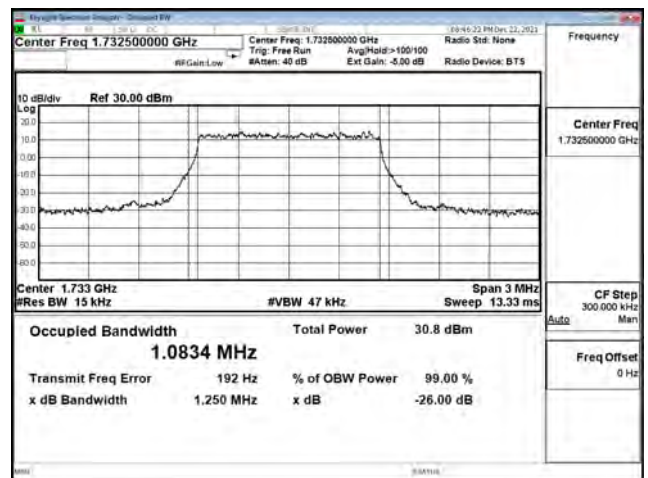
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 1.4                | QPSK       | 1710.7             | 1.265                  | 1.079  | N/A            |
|                    |            | 1732.5             | 1.250                  | 1.083  | N/A            |
|                    |            | 1754.3             | 1.249                  | 1.076  | N/A            |
|                    | 16-QAM     | 1710.7             | 1.238                  | 1.078  | N/A            |
|                    |            | 1732.5             | 1.250                  | 1.080  | N/A            |
|                    |            | 1754.3             | 1.253                  | 1.079  | N/A            |
| 3                  | QPSK       | 1711.5             | 2.923                  | 2.684  | N/A            |
|                    |            | 1732.5             | 2.912                  | 2.688  | N/A            |
|                    |            | 1753.5             | 2.932                  | 2.685  | N/A            |
|                    | 16-QAM     | 1711.5             | 2.919                  | 2.681  | N/A            |
|                    |            | 1732.5             | 2.931                  | 2.680  | N/A            |
|                    |            | 1753.5             | 2.939                  | 2.682  | N/A            |
| 5                  | QPSK       | 1712.5             | 4.939                  | 4.481  | N/A            |
|                    |            | 1732.5             | 4.858                  | 4.482  | N/A            |
|                    |            | 1752.2             | 4.899                  | 4.462  | N/A            |
|                    | 16-QAM     | 1712.5             | 4.874                  | 4.473  | N/A            |
|                    |            | 1732.5             | 4.901                  | 4.472  | N/A            |
|                    |            | 1752.2             | 4.952                  | 4.476  | N/A            |
| 10                 | QPSK       | 1715               | 9.618                  | 8.922  | N/A            |
|                    |            | 1732.5             | 9.638                  | 8.912  | N/A            |
|                    |            | 1750               | 9.746                  | 8.929  | N/A            |
|                    | 16-QAM     | 1715               | 9.631                  | 8.925  | N/A            |
|                    |            | 1732.5             | 9.618                  | 8.924  | N/A            |
|                    |            | 1750               | 9.621                  | 8.903  | N/A            |
| 15                 | QPSK       | 1717.5             | 14.550                 | 13.396 | N/A            |
|                    |            | 1732.5             | 14.380                 | 13.340 | N/A            |
|                    |            | 1747.5             | 14.490                 | 13.360 | N/A            |
|                    | 16-QAM     | 1717.5             | 14.400                 | 13.372 | N/A            |
|                    |            | 1732.5             | 14.410                 | 13.381 | N/A            |
|                    |            | 1747.5             | 14.370                 | 13.359 | N/A            |
| 20                 | QPSK       | 1720               | 19.230                 | 17.807 | N/A            |
|                    |            | 1732.5             | 18.990                 | 17.806 | N/A            |
|                    |            | 1745               | 18.880                 | 17.811 | N/A            |
|                    | 16-QAM     | 1720               | 19.160                 | 17.812 | N/A            |
|                    |            | 1732.5             | 19.010                 | 17.818 | N/A            |
|                    |            | 1745               | 19.200                 | 17.842 | N/A            |

## LTE Band 4

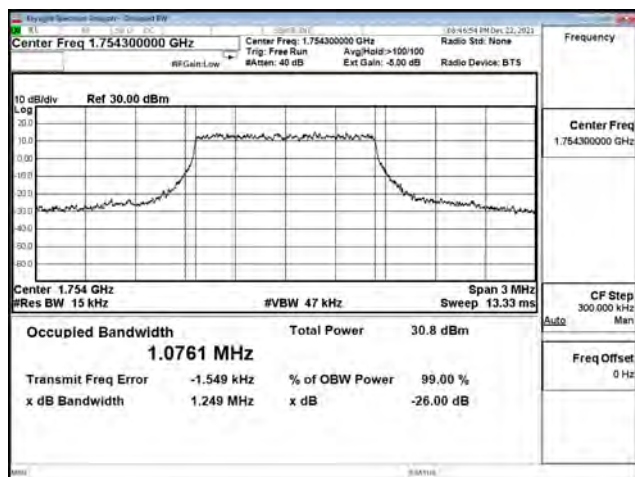
## QPSK / CH19957 / 1.4 MHz



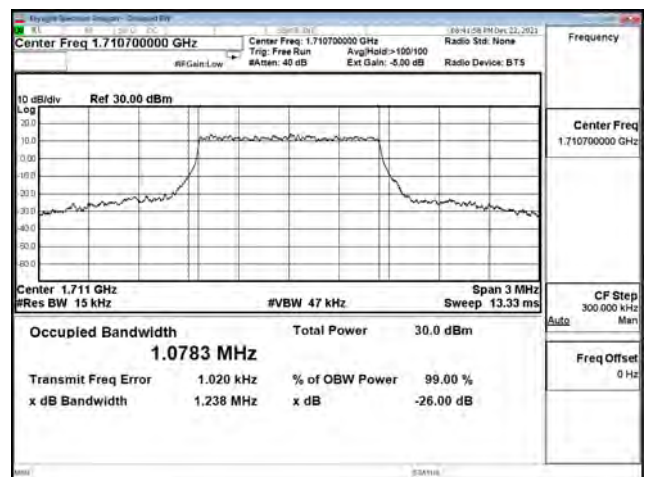
## QPSK / CH20175 / 1.4 MHz



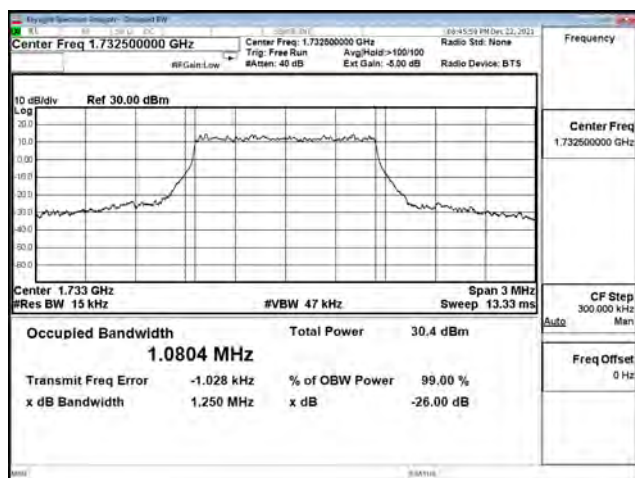
## QPSK / CH20393 / 1.4 MHz



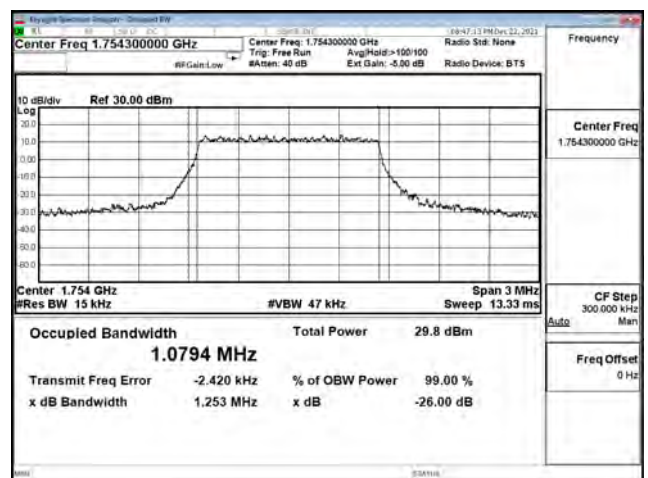
## 16QAM / CH19957 / 1.4 MHz



## 16QAM / CH20175 / 1.4 MHz

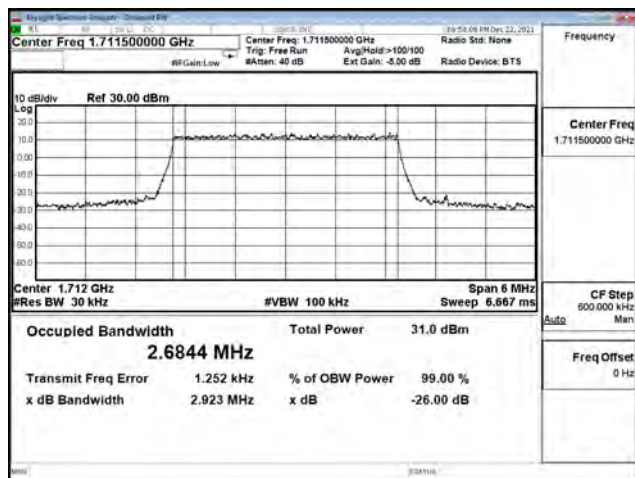


## 16QAM / CH20393 / 1.4 MHz

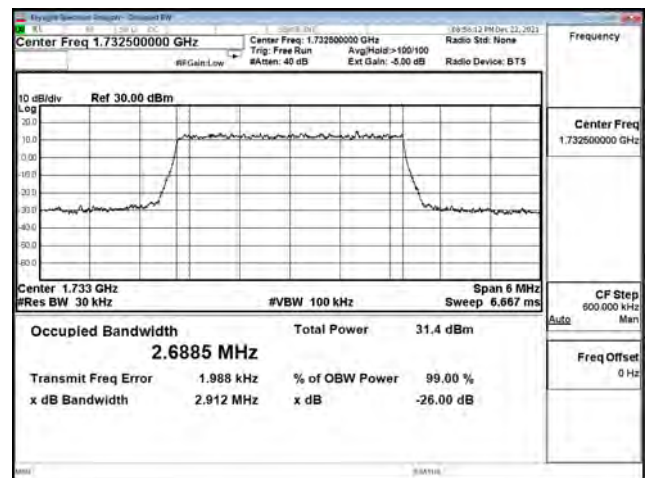


## LTE Band 4

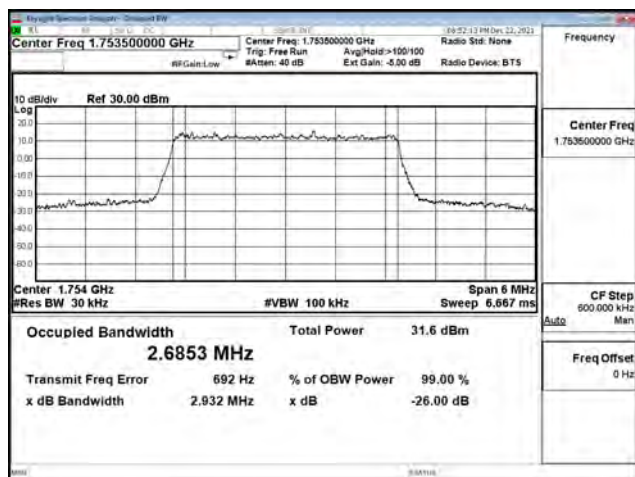
QPSK / CH19965 / 3 MHz



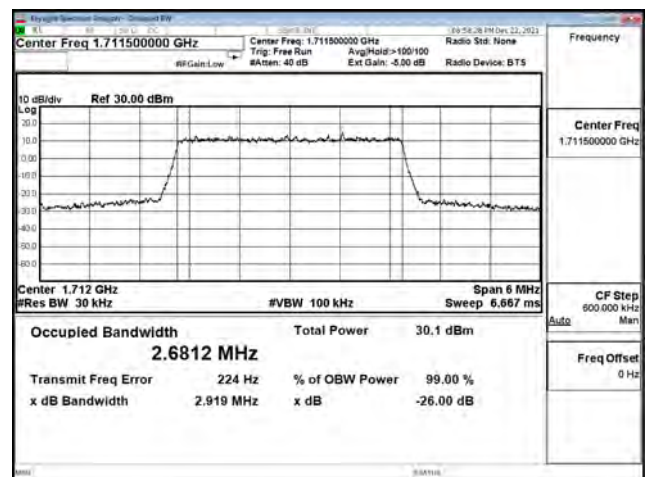
QPSK / CH20175 / 3 MHz



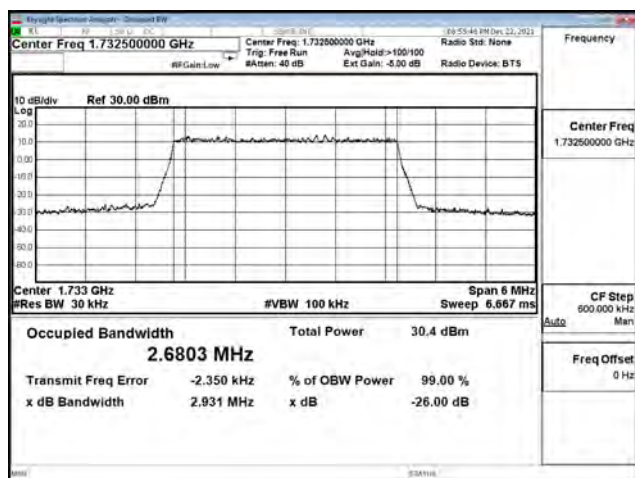
QPSK / CH20385 / 3 MHz



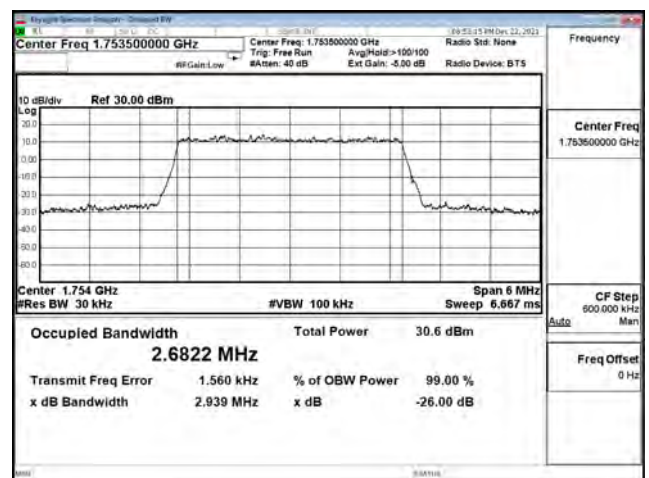
16QAM / CH19965 / 3 MHz



16QAM / CH20175 / 3 MHz

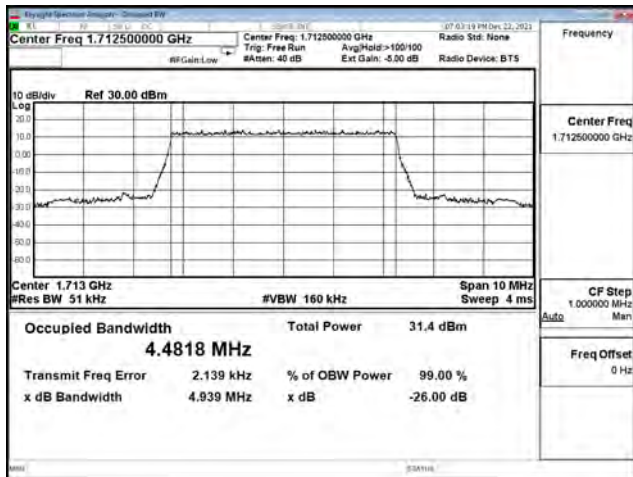


16QAM / CH20385 / 3 MHz

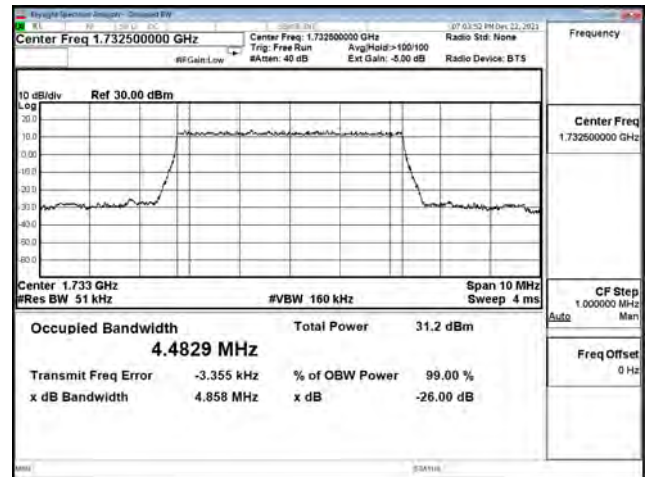


## LTE Band 4

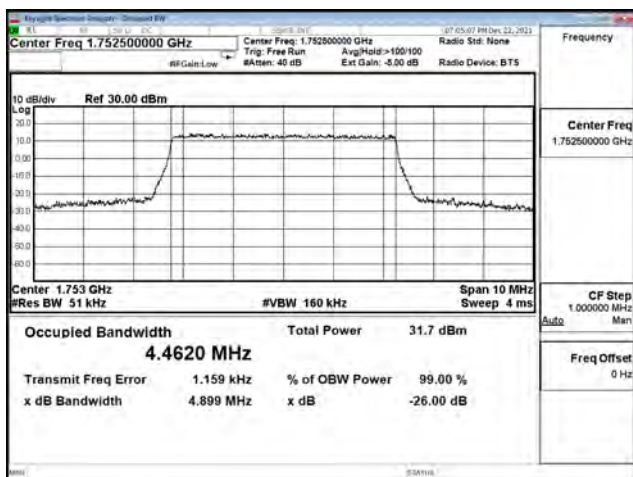
## QPSK / CH19975 / 5 MHz



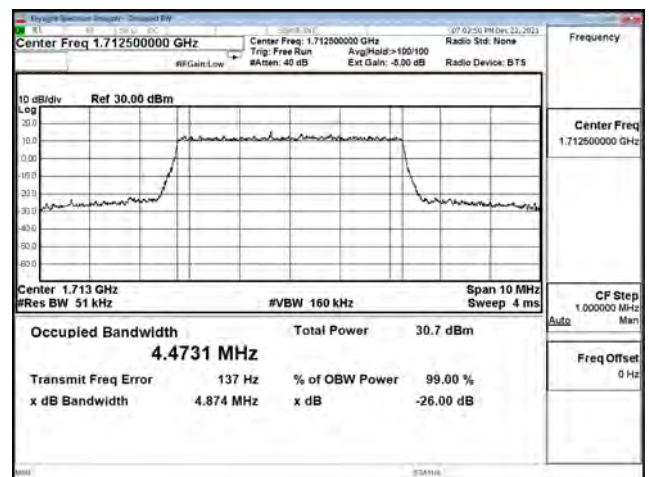
## QPSK / CH20175 / 5 MHz



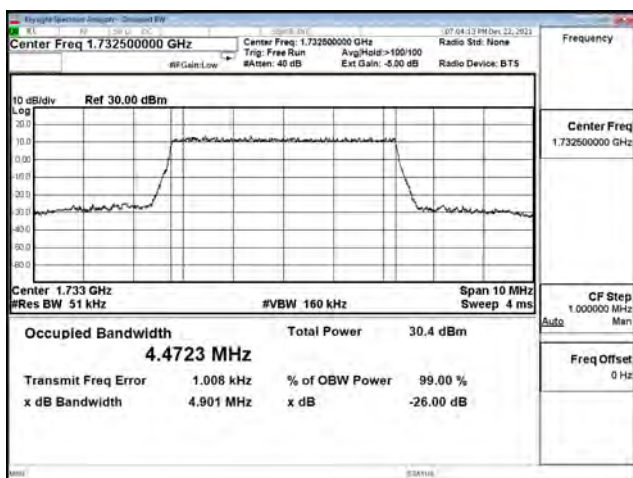
## QPSK / CH20375 / 5 MHz



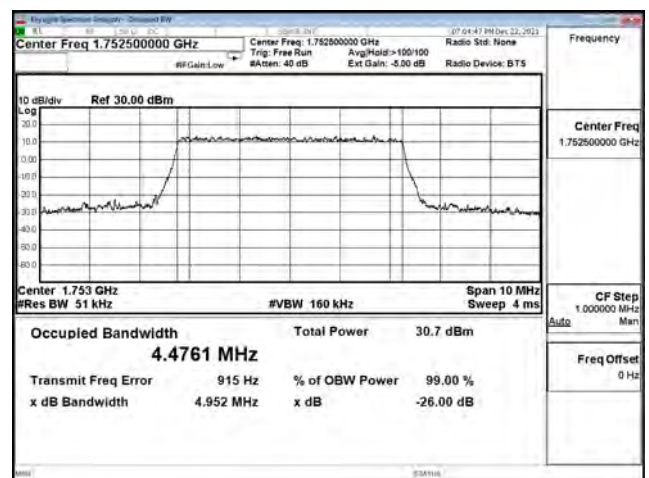
## 16QAM / CH19975 / 5 MHz



## 16QAM / CH20175 / 5 MHz

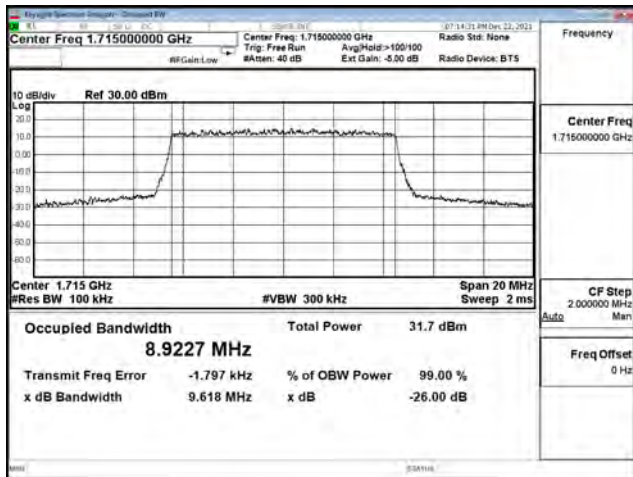


## 16QAM / CH20375 / 5 MHz

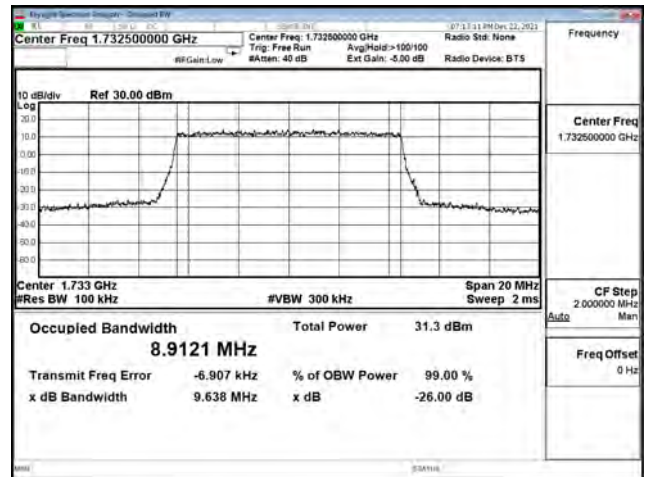


## LTE Band 4

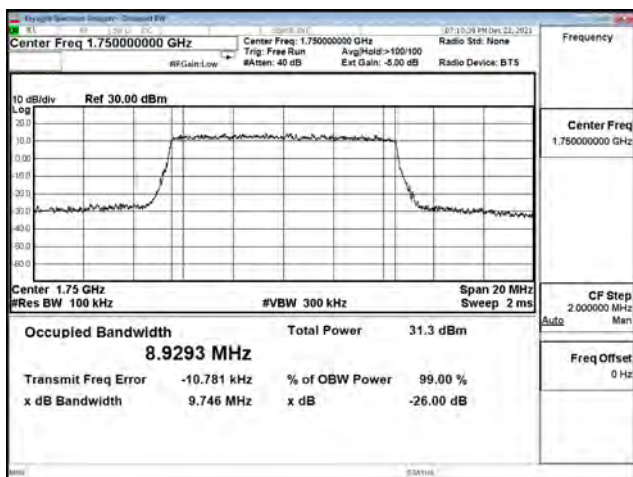
## QPSK / CH20000 / 10 MHz



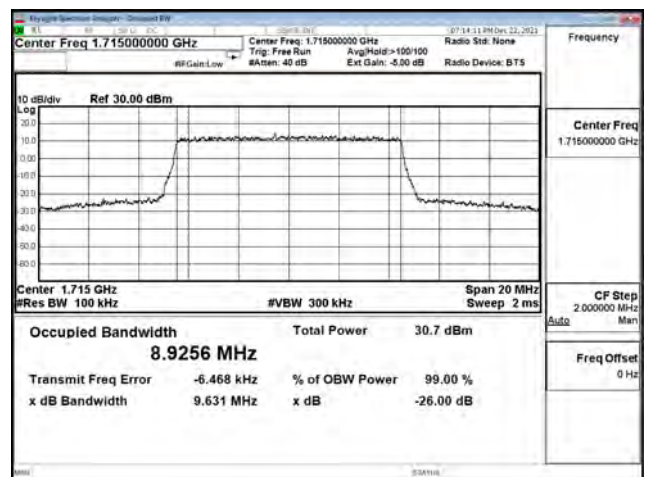
## QPSK / CH20175 / 10 MHz



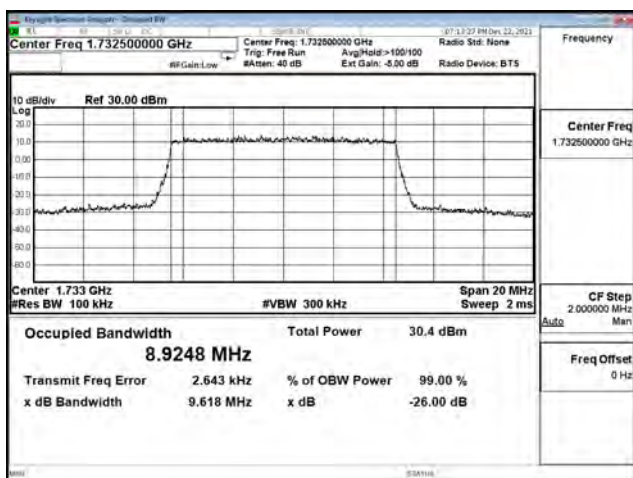
## QPSK / CH20350 / 10 MHz



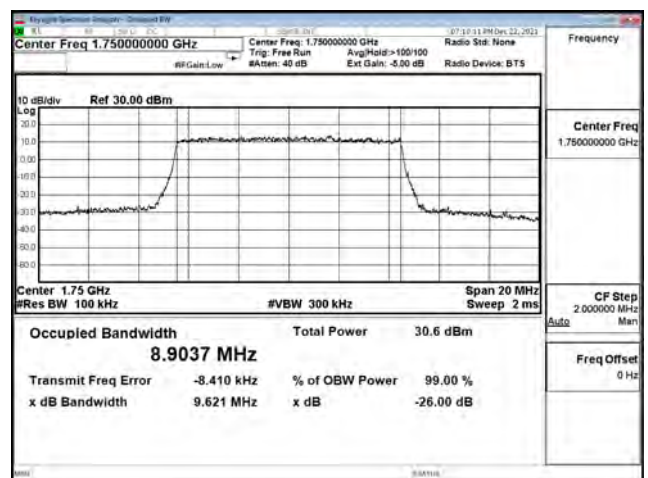
## 16QAM / CH20000 / 10 MHz



## 16QAM / CH20175 / 10 MHz

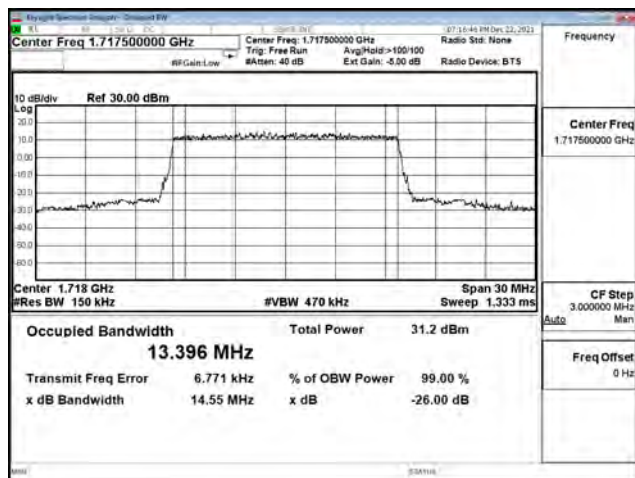


## 16QAM / CH20350 / 10 MHz

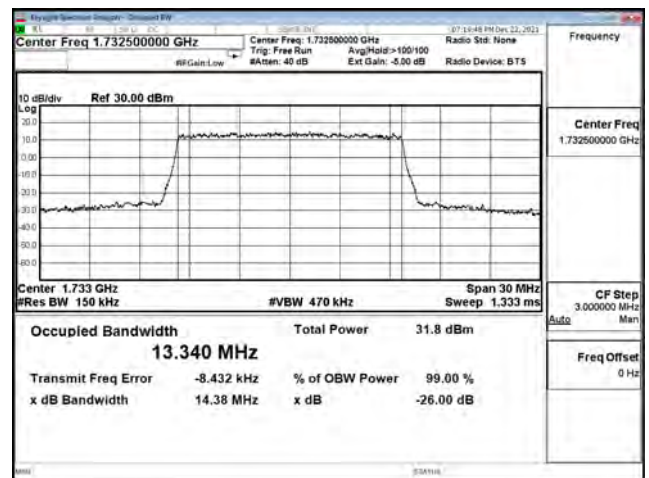


## LTE Band 4

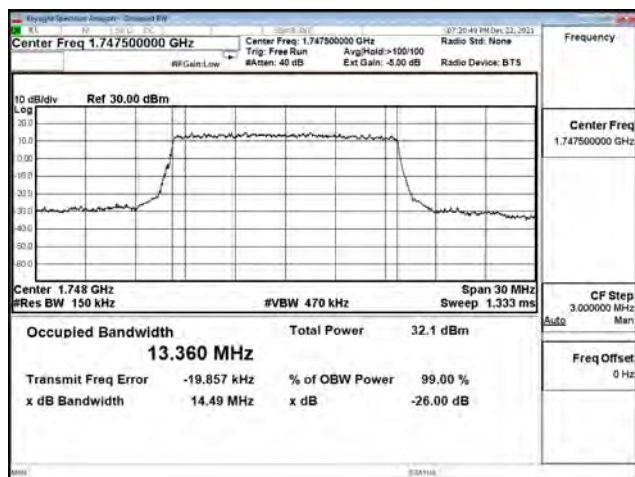
## QPSK / CH20025 / 15 MHz



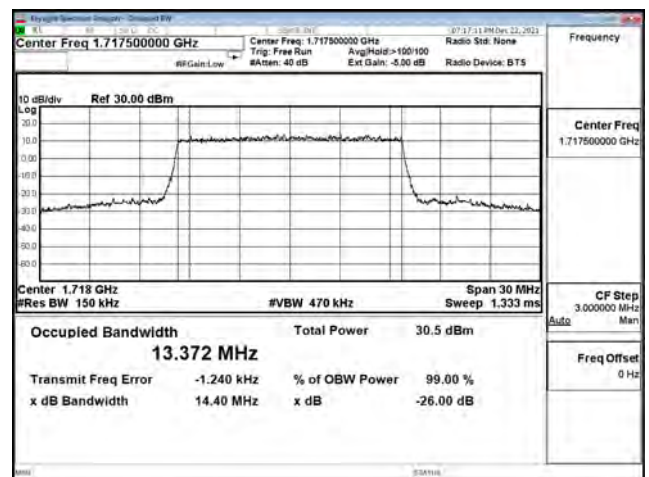
## QPSK / CH20175 / 15 MHz



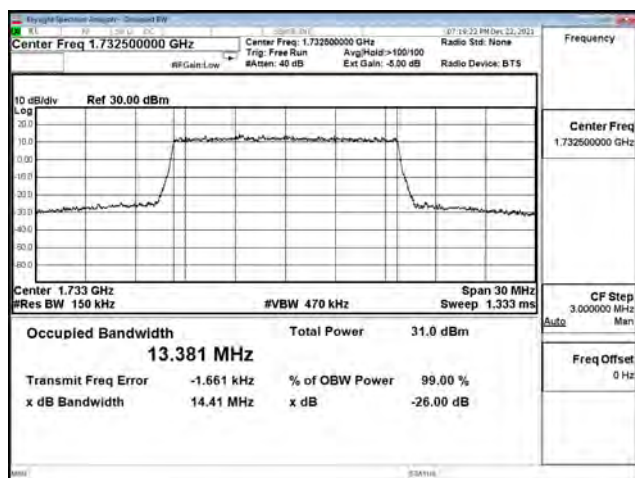
## QPSK / CH20325 / 15 MHz



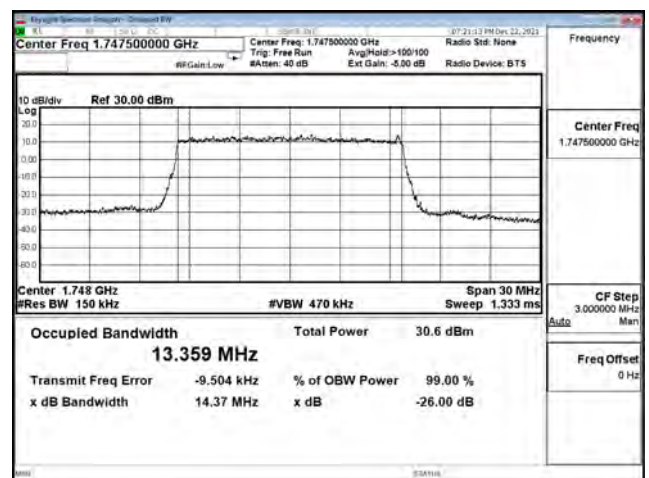
## 16QAM / CH20025 / 15 MHz



## 16QAM / CH20175 / 15 MHz

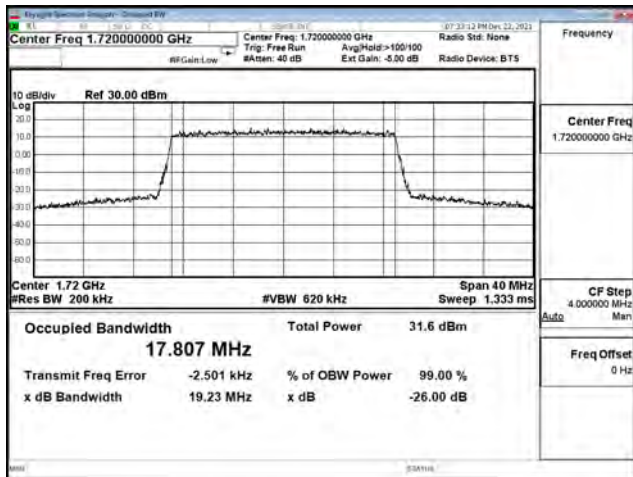


## 16QAM / CH20325 / 15 MHz

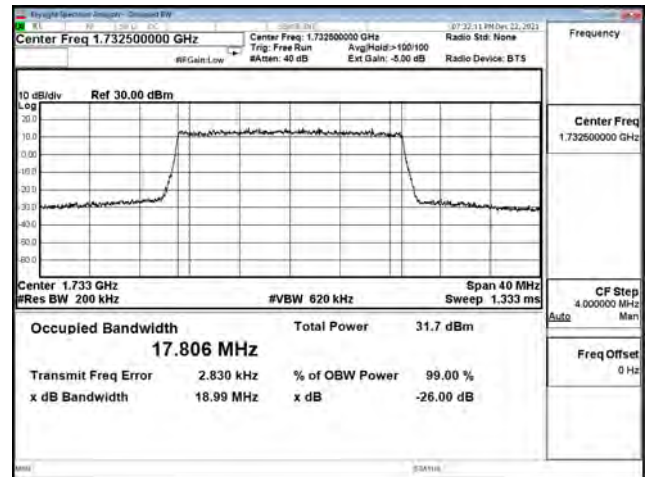


## LTE Band 4

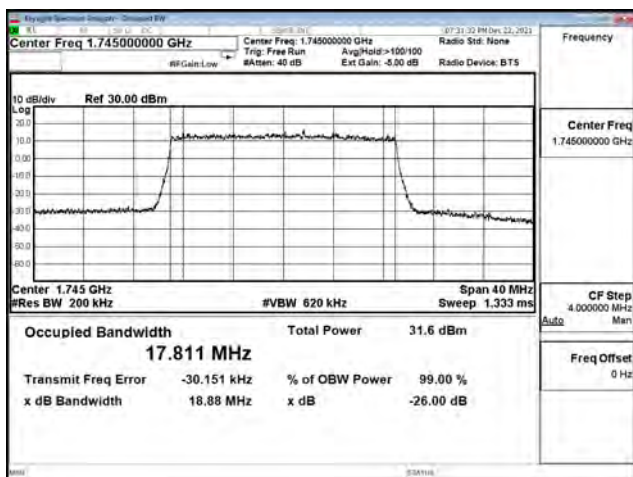
QPSK / CH20050 / 20 MHz



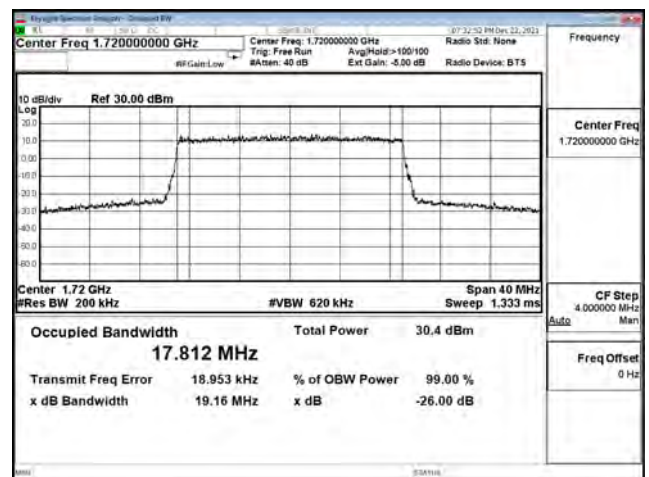
QPSK / CH20175 / 20 MHz



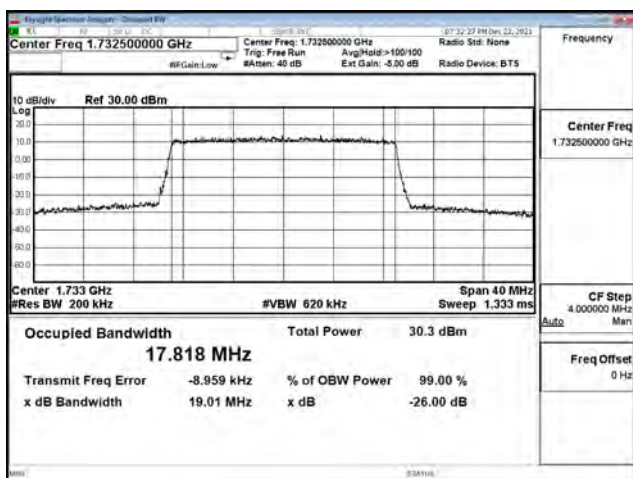
QPSK / CH20300 / 20 MHz



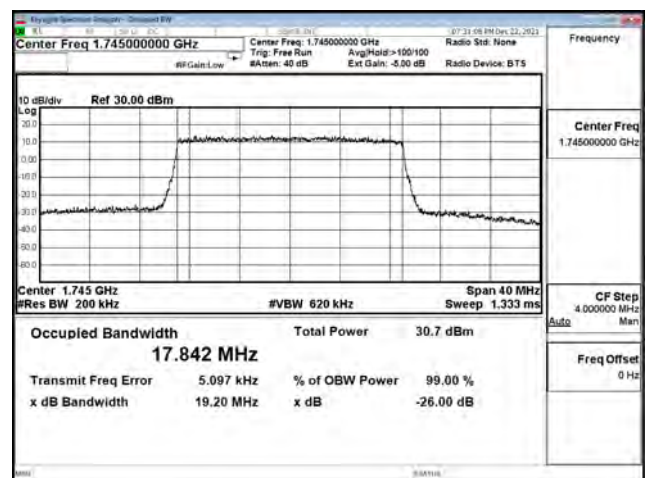
16QAM / CH20050 / 20 MHz



16QAM / CH20175 / 20 MHz



16QAM / CH20300 / 20 MHz

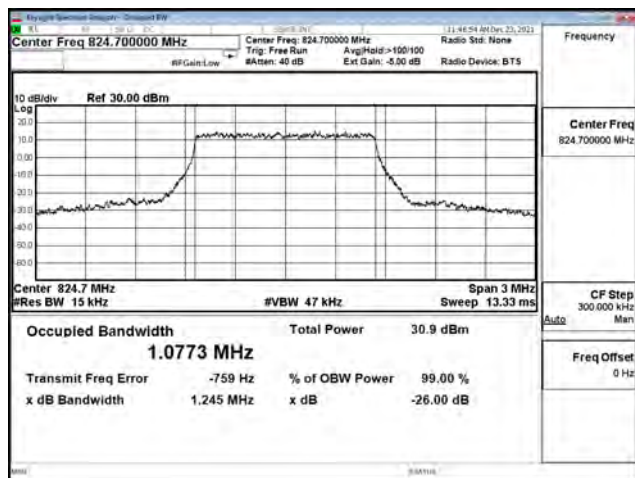


**Mode 3: LTE Band 5/26 (Part 22)**

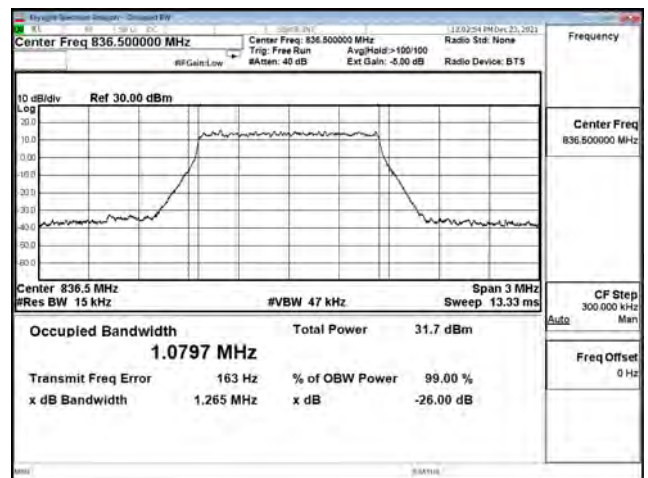
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 1.4                | QPSK       | 824.7              | 1.245                  | 1.077  | N/A            |
|                    |            | 836.5              | 1.265                  | 1.079  | N/A            |
|                    |            | 848.3              | 1.246                  | 1.081  | N/A            |
|                    | 16-QAM     | 824.7              | 1.264                  | 1.081  | N/A            |
|                    |            | 836.5              | 1.234                  | 1.078  | N/A            |
|                    |            | 848.3              | 1.242                  | 1.079  | N/A            |
| 3                  | QPSK       | 825.5              | 2.936                  | 2.682  | N/A            |
|                    |            | 836.5              | 2.902                  | 2.688  | N/A            |
|                    |            | 847.5              | 2.916                  | 2.684  | N/A            |
|                    | 16-QAM     | 825.5              | 2.921                  | 2.681  | N/A            |
|                    |            | 836.5              | 2.923                  | 2.679  | N/A            |
|                    |            | 847.5              | 2.942                  | 2.679  | N/A            |
| 5                  | QPSK       | 826.5              | 4.916                  | 4.472  | N/A            |
|                    |            | 836.5              | 4.938                  | 4.479  | N/A            |
|                    |            | 846.5              | 4.866                  | 4.462  | N/A            |
|                    | 16-QAM     | 826.5              | 4.927                  | 4.471  | N/A            |
|                    |            | 836.5              | 4.862                  | 4.463  | N/A            |
|                    |            | 846.5              | 4.923                  | 4.471  | N/A            |
| 10                 | QPSK       | 829                | 9.769                  | 8.945  | N/A            |
|                    |            | 836.5              | 9.595                  | 8.898  | N/A            |
|                    |            | 844                | 9.690                  | 8.922  | N/A            |
|                    | 16-QAM     | 829                | 9.661                  | 8.939  | N/A            |
|                    |            | 836.5              | 9.600                  | 8.908  | N/A            |
|                    |            | 844                | 9.589                  | 8.917  | N/A            |
| 15                 | QPSK       | 831.5              | 14.460                 | 13.389 | N/A            |
|                    |            | 836.5              | 14.300                 | 13.319 | N/A            |
|                    |            | 841.5              | 14.480                 | 13.377 | N/A            |
|                    | 16-QAM     | 831.5              | 14.440                 | 13.406 | N/A            |
|                    |            | 836.5              | 14.330                 | 13.358 | N/A            |
|                    |            | 841.5              | 14.290                 | 13.379 | N/A            |

## LTE Band 26

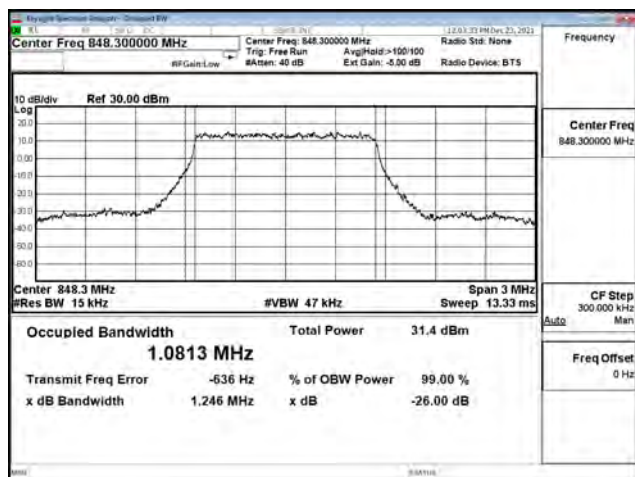
## QPSK / CH26797 / 1.4 MHz



## QPSK / CH26915 / 1.4 MHz



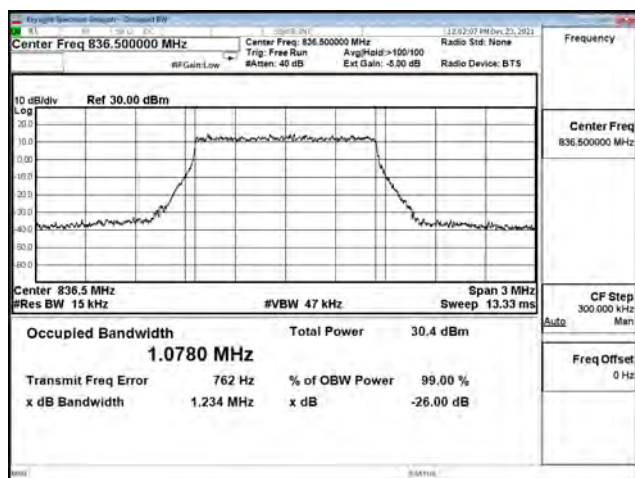
## QPSK / CH27033 / 1.4 MHz



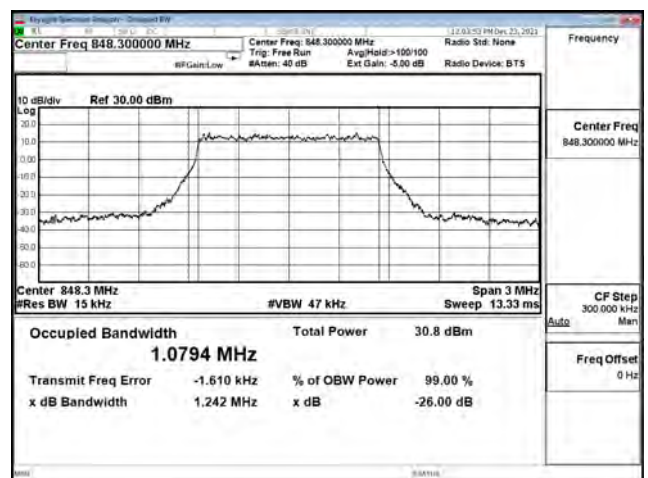
## 16QAM / CH26797 / 1.4 MHz



## 16QAM / CH26915 / 1.4 MHz

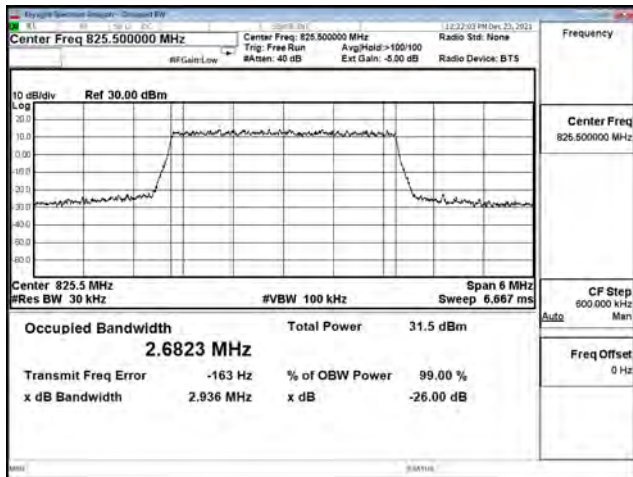


## 16QAM / CH27033 / 1.4 MHz

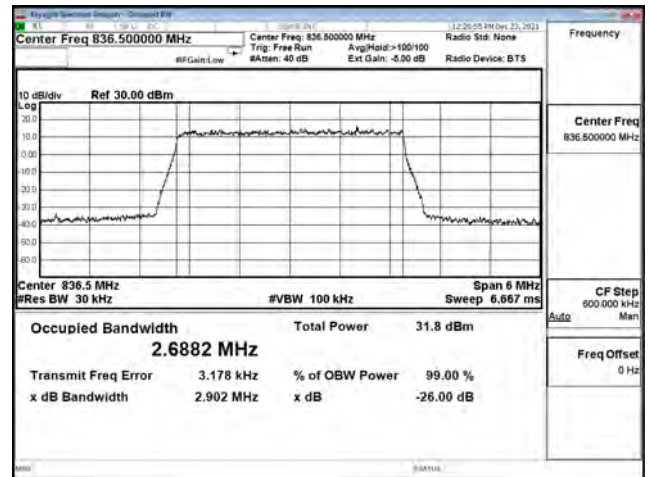


## LTE Band 26

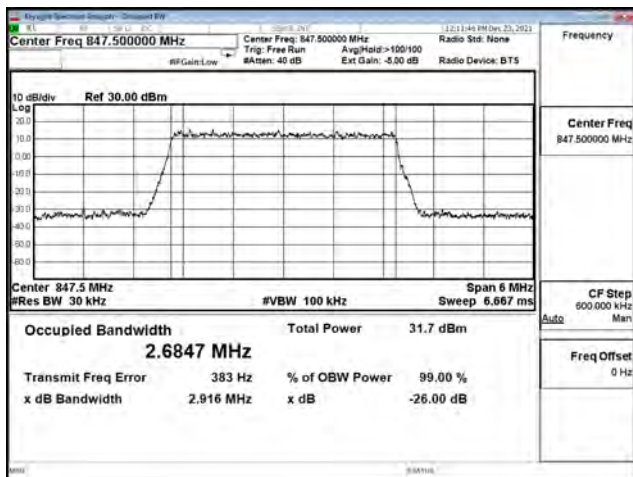
QPSK / CH26805 / 3 MHz



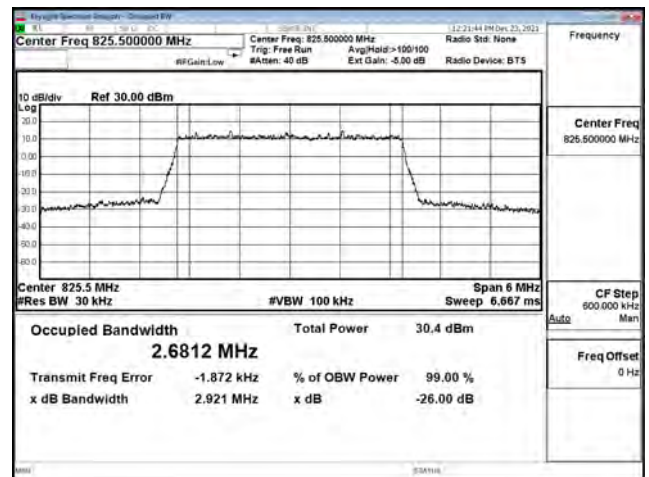
QPSK / CH26915 / 3 MHz



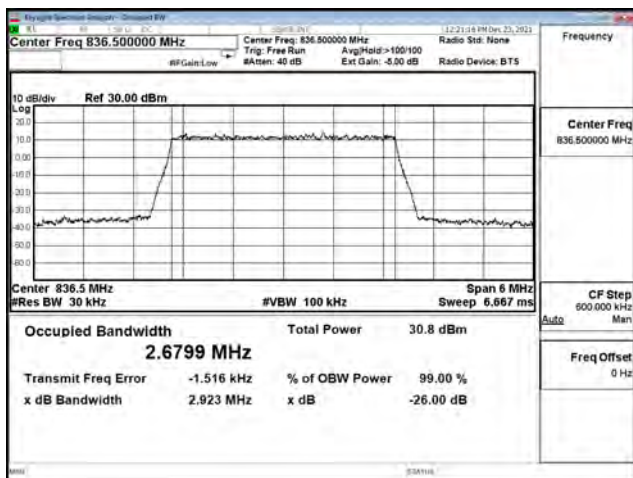
QPSK / CH27025 / 3 MHz



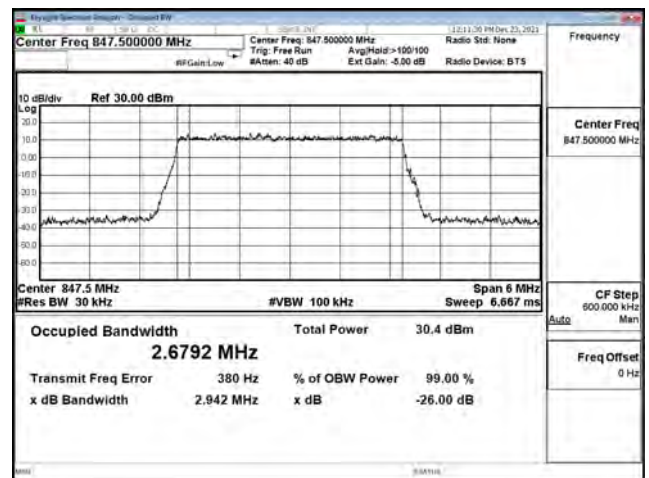
16QAM / CH26805 / 3 MHz



16QAM / CH26915 / 3 MHz

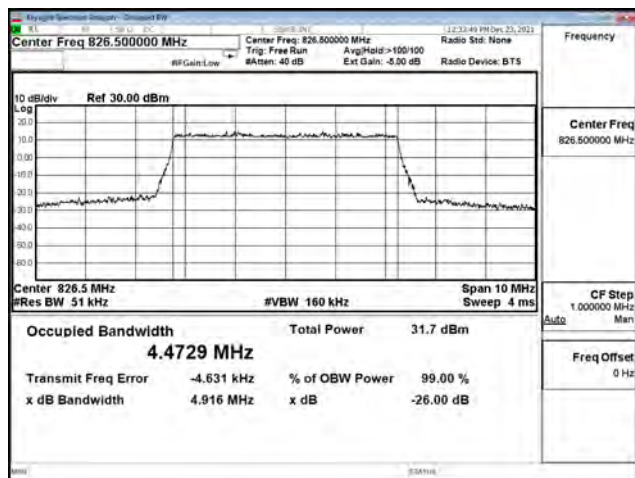


16QAM / CH27025 / 3 MHz

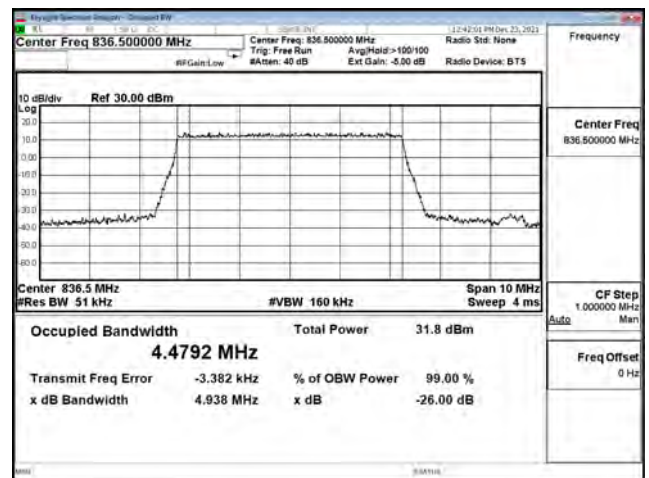


## LTE Band 26

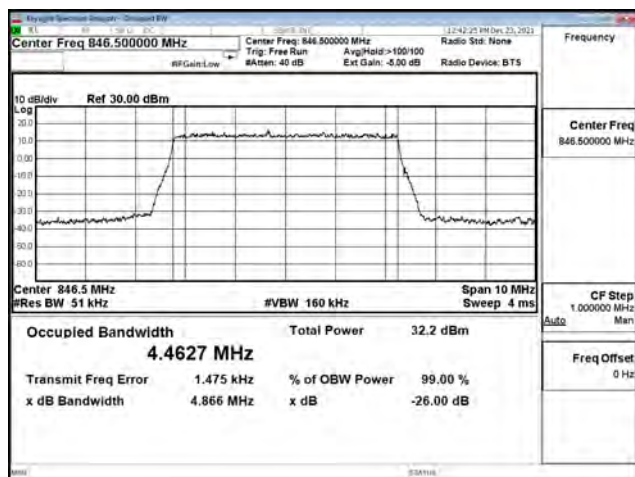
QPSK / CH26815 / 5 MHz



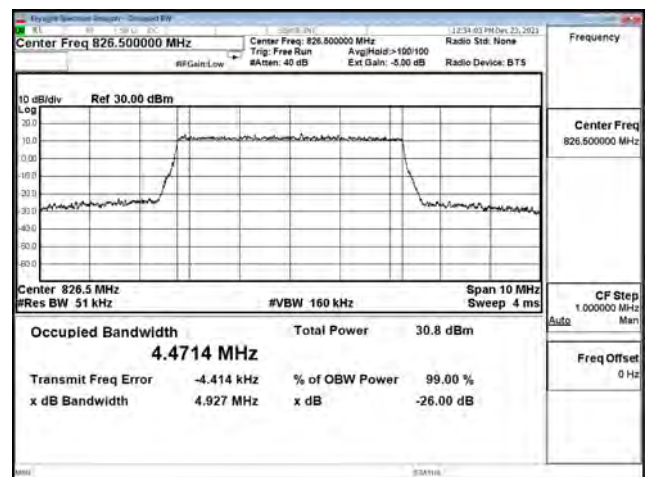
QPSK / CH26915 / 5 MHz



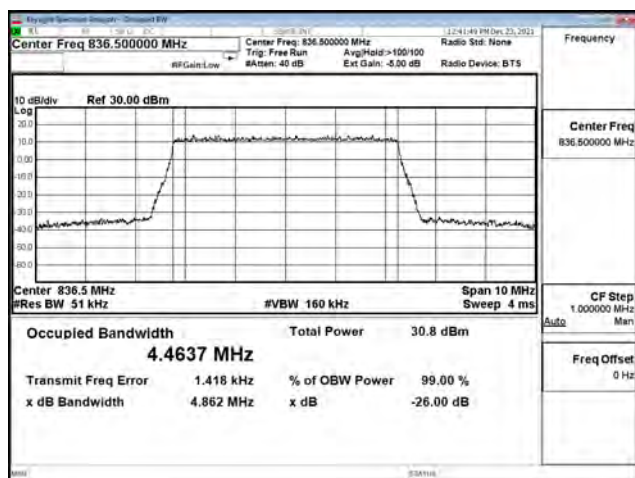
QPSK / CH27015 / 5 MHz



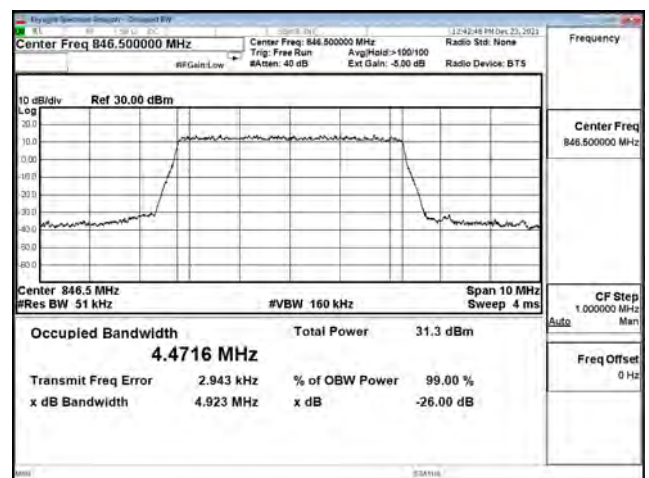
16QAM / CH26815 / 5 MHz



16QAM / CH26915 / 5 MHz

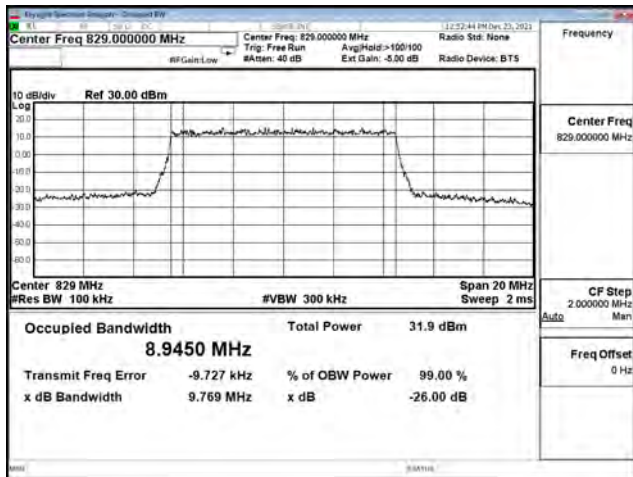


16QAM / CH27015 / 5 MHz

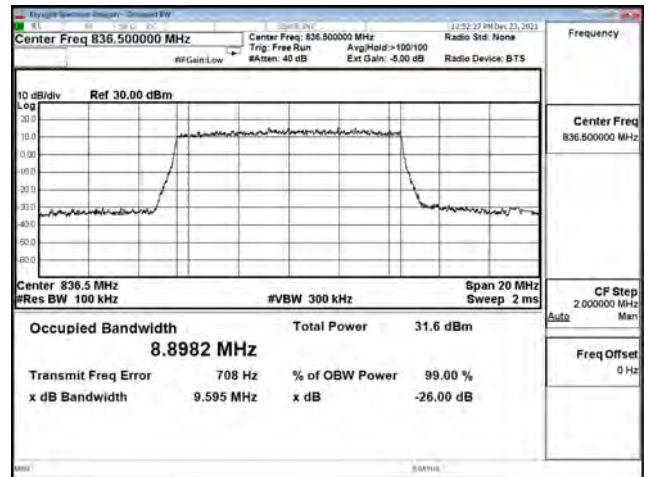


## LTE Band 26

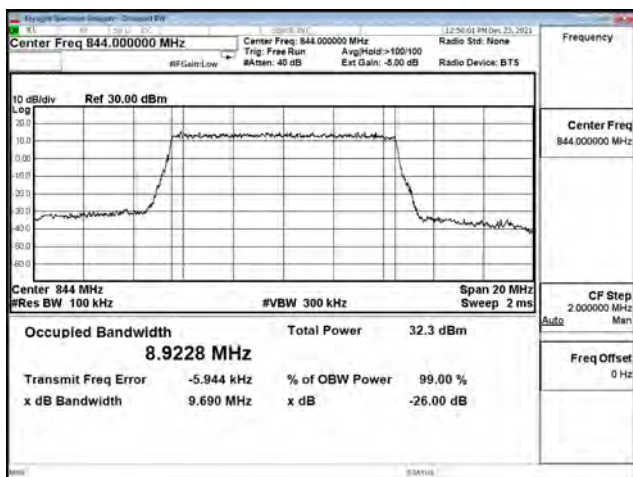
QPSK / CH26840 / 10 MHz



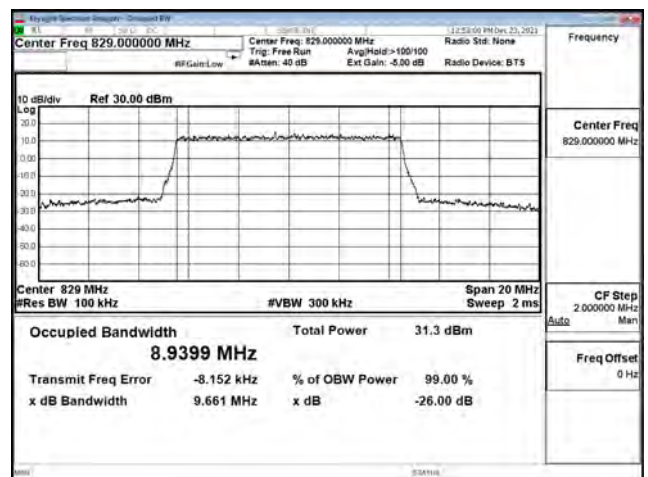
QPSK / CH26915 / 10 MHz



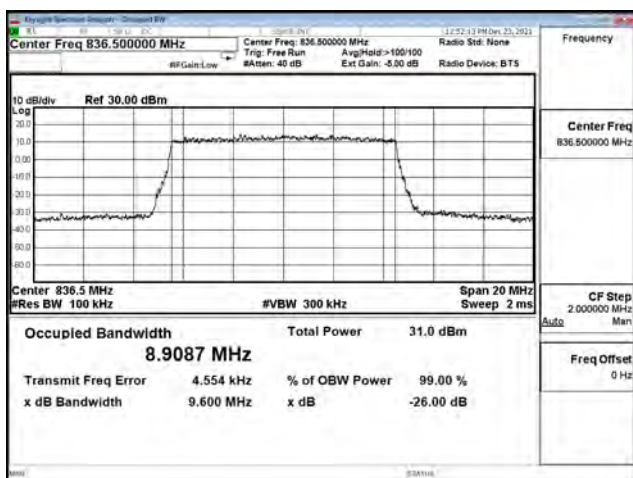
QPSK / CH26990 / 10 MHz



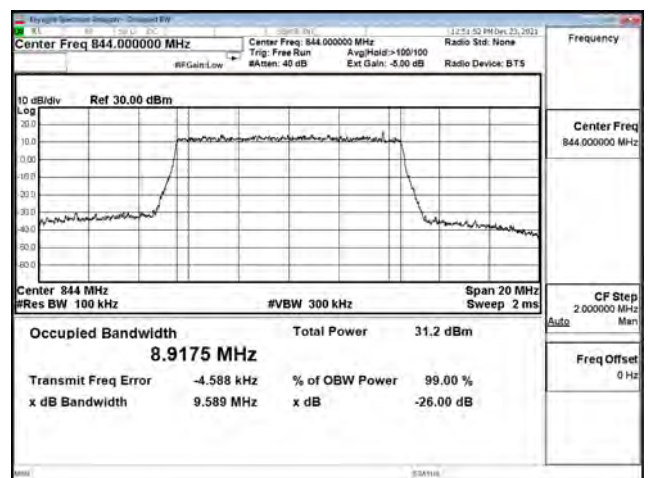
16QAM / CH26840 / 10 MHz



16QAM / CH26915 / 10 MHz

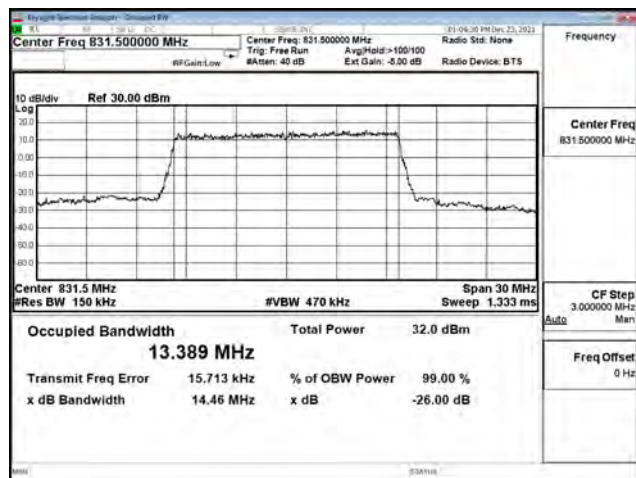


16QAM / CH26990 / 10 MHz



## LTE Band 26

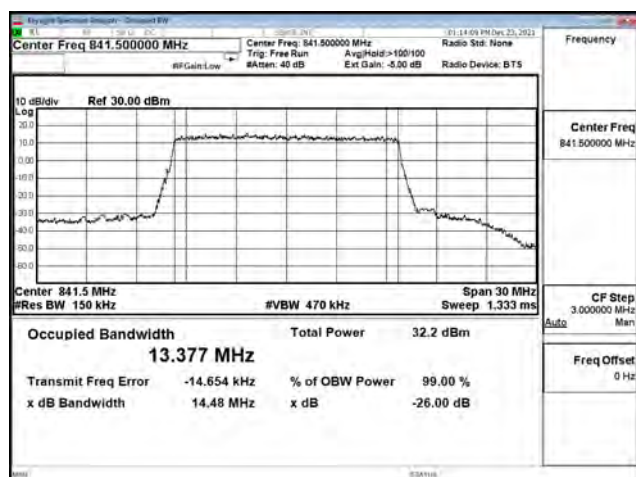
QPSK / CH26865 / 15 MHz



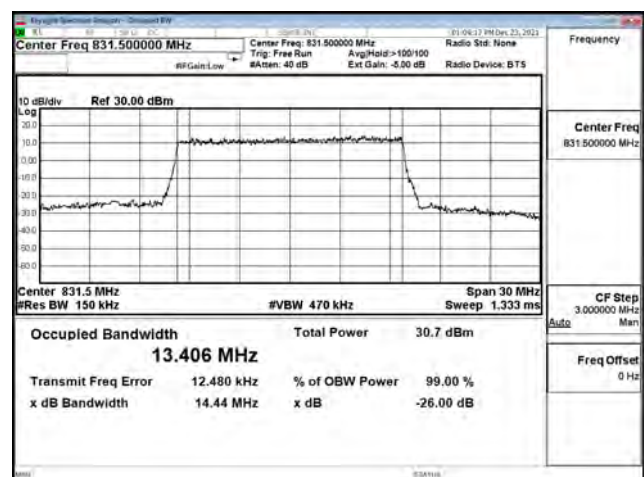
QPSK / CH26915 / 15 MHz



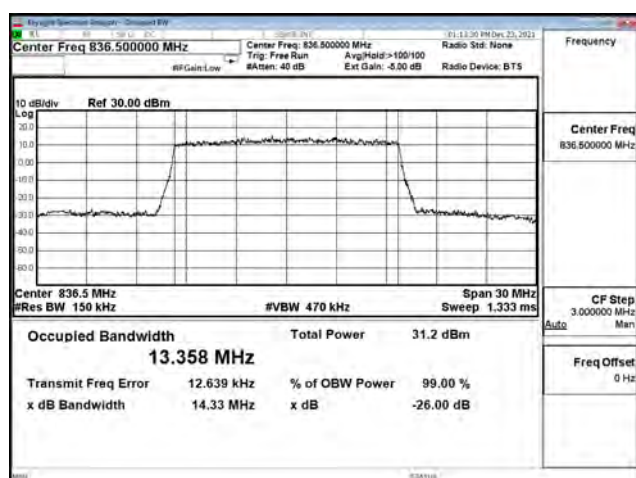
QPSK / CH26965 / 15 MHz



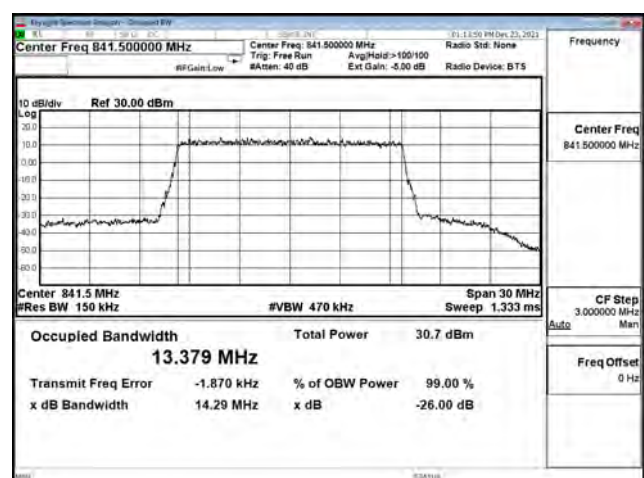
16QAM / CH26865 / 15 MHz



16QAM / CH26915 / 15 MHz



16QAM / CH26965 / 15 MHz

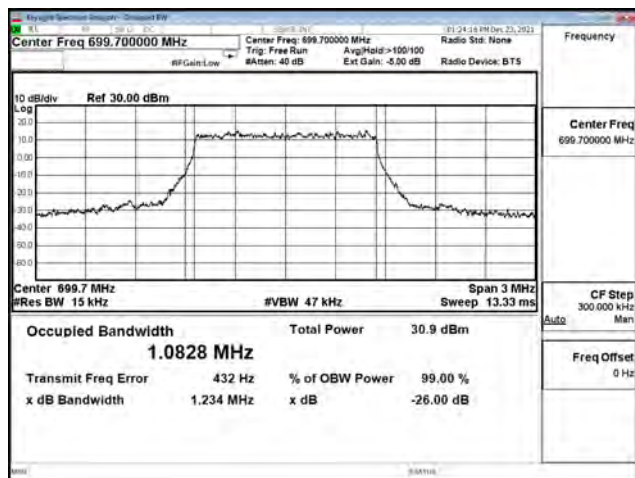


**Mode 4: LTE Band 12**

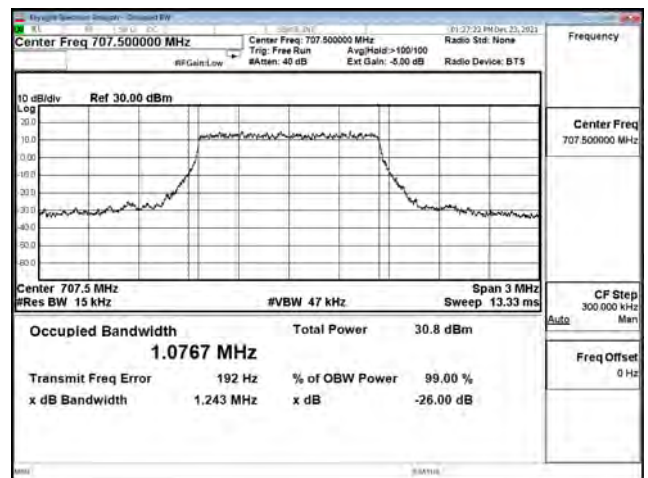
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 1.4                | QPSK       | 699.7              | 1.234                  | 1.082  | N/A            |
|                    |            | 707.5              | 1.243                  | 1.076  | N/A            |
|                    |            | 715.3              | 1.260                  | 1.078  | N/A            |
|                    | 16-QAM     | 699.7              | 1.243                  | 1.079  | N/A            |
|                    |            | 707.5              | 1.259                  | 1.081  | N/A            |
|                    |            | 715.3              | 1.237                  | 1.078  | N/A            |
| 3                  | QPSK       | 700.5              | 2.936                  | 2.683  | N/A            |
|                    |            | 707.5              | 2.923                  | 2.686  | N/A            |
|                    |            | 714.5              | 2.901                  | 2.683  | N/A            |
|                    | 16-QAM     | 700.5              | 2.929                  | 2.678  | N/A            |
|                    |            | 707.5              | 2.935                  | 2.681  | N/A            |
|                    |            | 714.5              | 2.902                  | 2.673  | N/A            |
| 5                  | QPSK       | 710.5              | 4.899                  | 4.474  | N/A            |
|                    |            | 707.5              | 4.905                  | 4.473  | N/A            |
|                    |            | 713.5              | 4.905                  | 4.466  | N/A            |
|                    | 16-QAM     | 710.5              | 4.830                  | 4.465  | N/A            |
|                    |            | 707.5              | 4.911                  | 4.478  | N/A            |
|                    |            | 713.5              | 4.948                  | 4.470  | N/A            |
| 10                 | QPSK       | 704.0              | 9.681                  | 8.920  | N/A            |
|                    |            | 707.5              | 9.649                  | 8.913  | N/A            |
|                    |            | 711.0              | 9.726                  | 8.922  | N/A            |
|                    | 16-QAM     | 704.0              | 9.551                  | 8.917  | N/A            |
|                    |            | 707.5              | 9.631                  | 8.922  | N/A            |
|                    |            | 711.0              | 9.584                  | 8.920  | N/A            |

## LTE Band 12

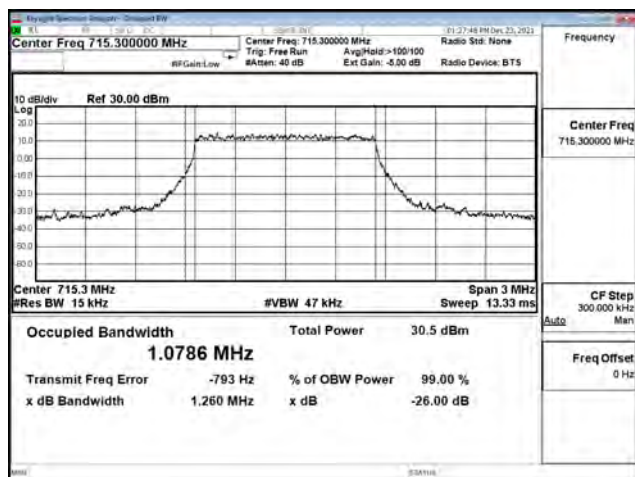
## QPSK / CH23017 / 1.4 MHz



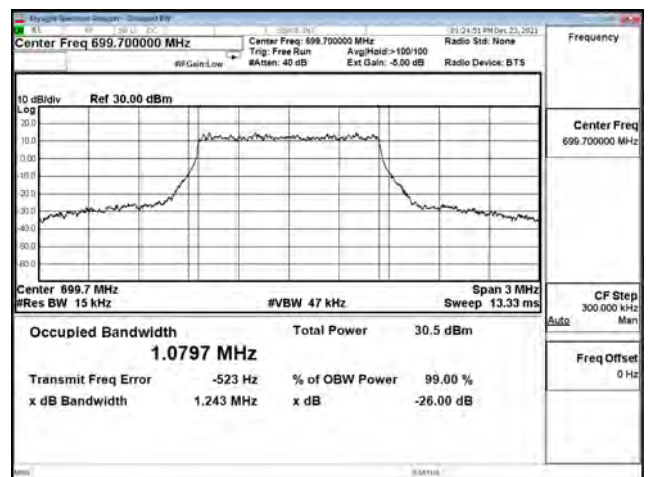
## QPSK / CH23095 / 1.4 MHz



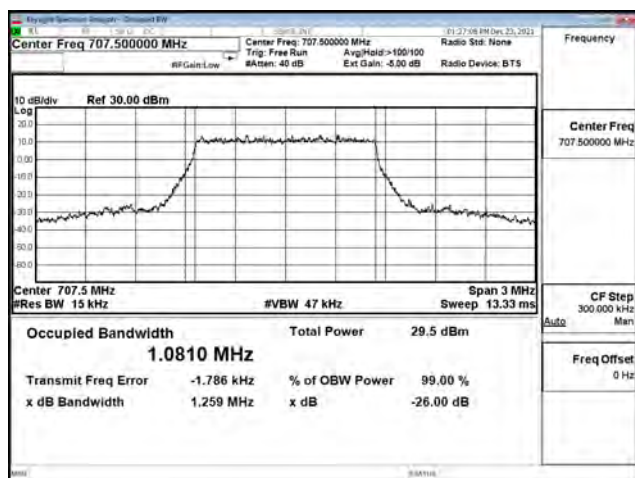
## QPSK / CH23173 / 1.4 MHz



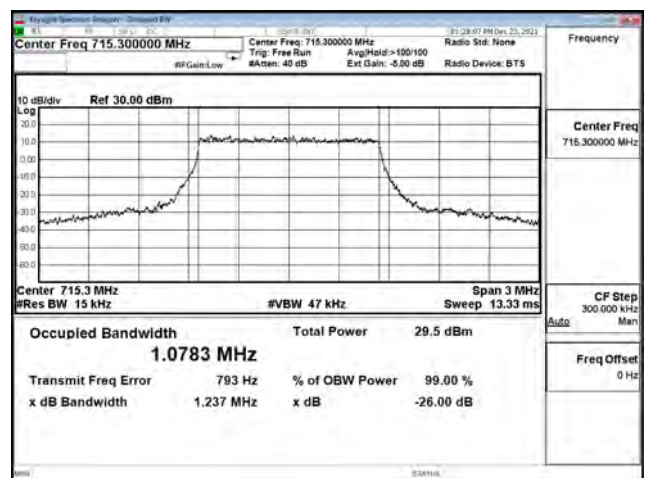
## 16QAM / CH23017 / 1.4 MHz



## 16QAM / CH23095 / 1.4 MHz

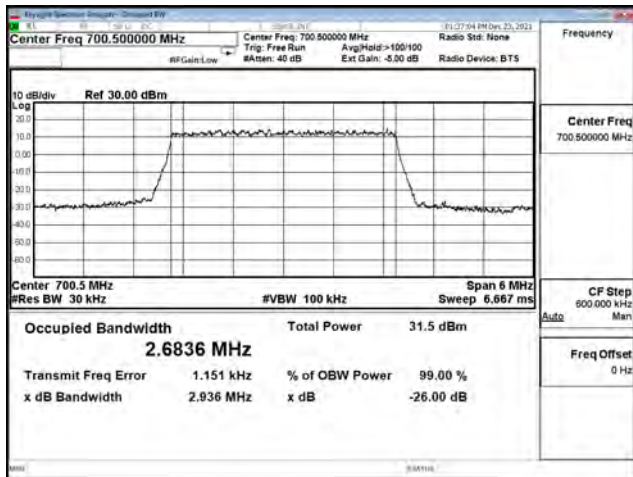


## 16QAM / CH23173 / 1.4 MHz

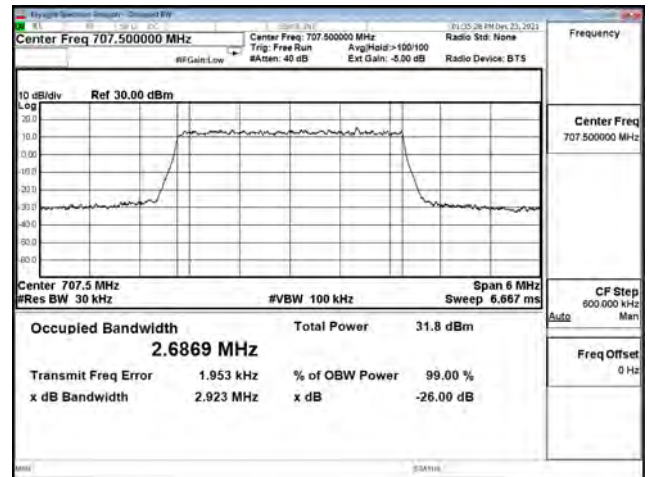


## LTE Band 12

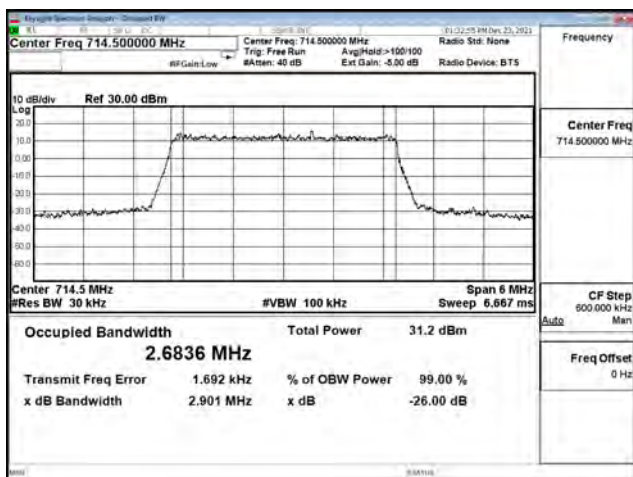
QPSK / CH23025 / 3 MHz



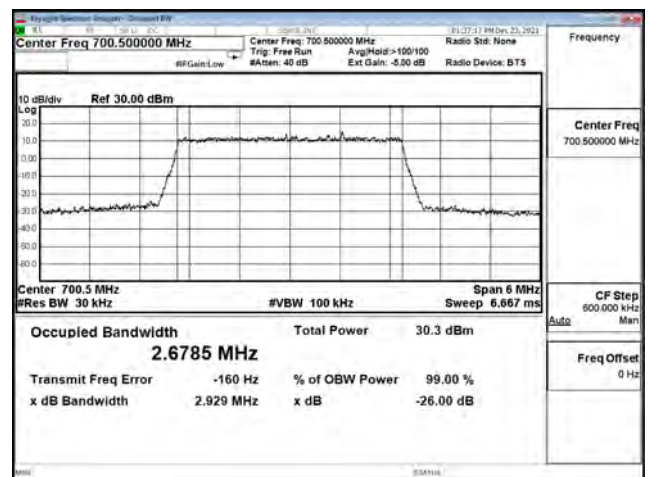
QPSK / CH23095 / 3 MHz



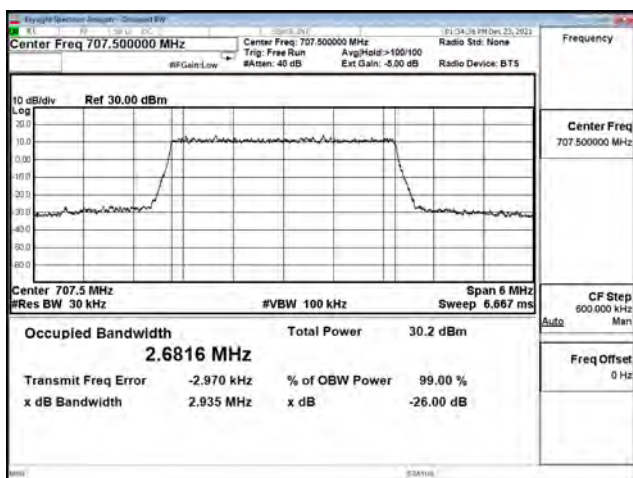
QPSK / CH23165 / 3 MHz



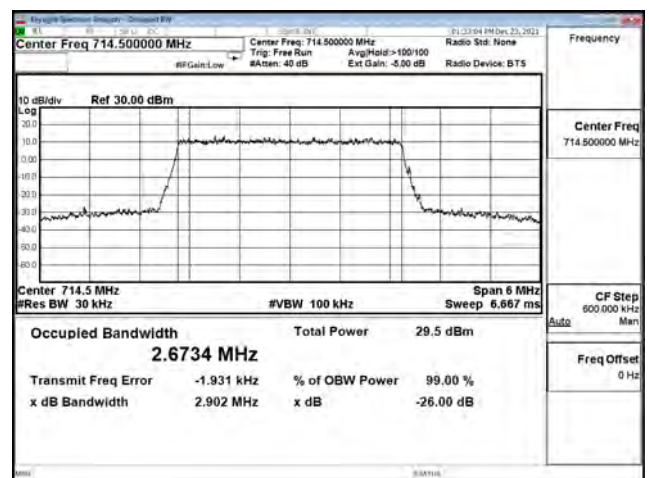
16QAM / CH23025 / 3 MHz



16QAM / CH23095 / 3 MHz

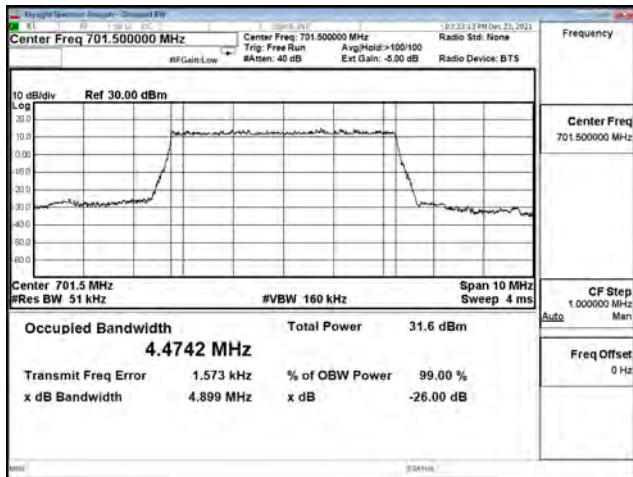


16QAM / CH23165 / 3 MHz

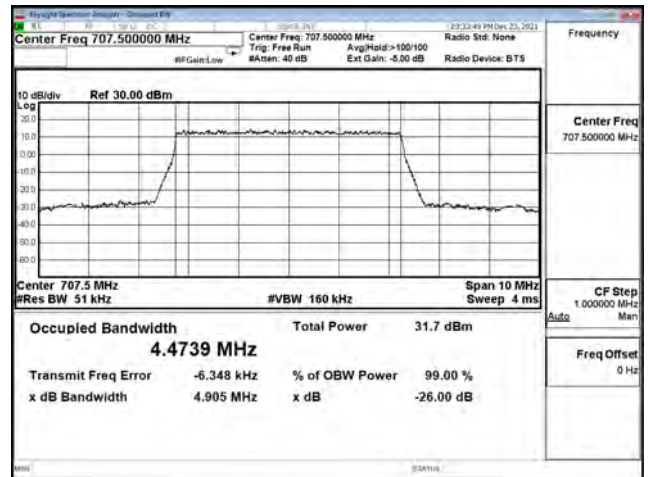


## LTE Band 12

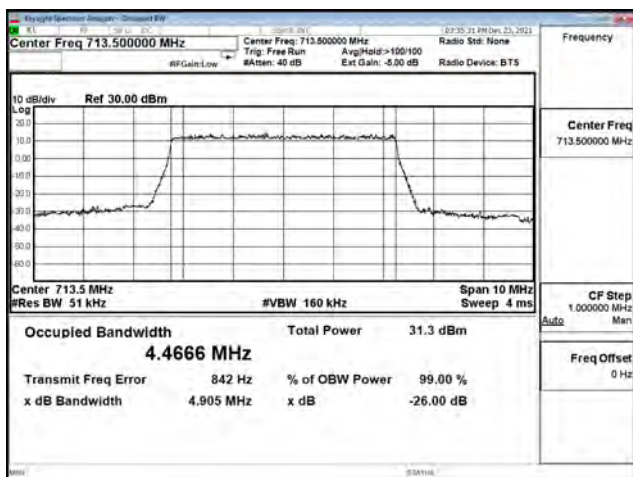
## QPSK / CH23035 / 5 MHz



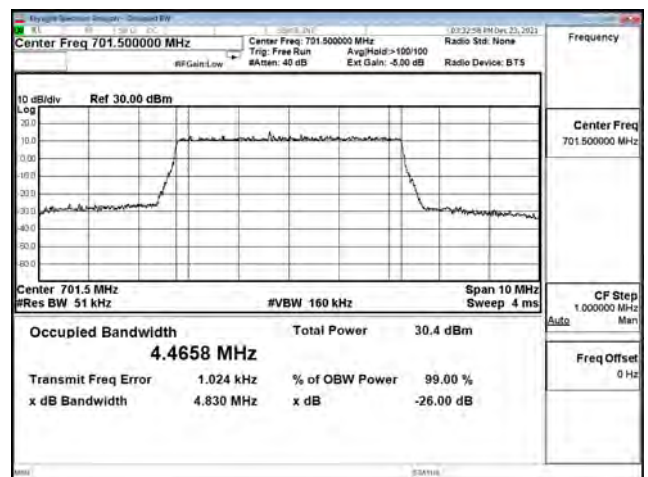
## QPSK / CH23095 / 5 MHz



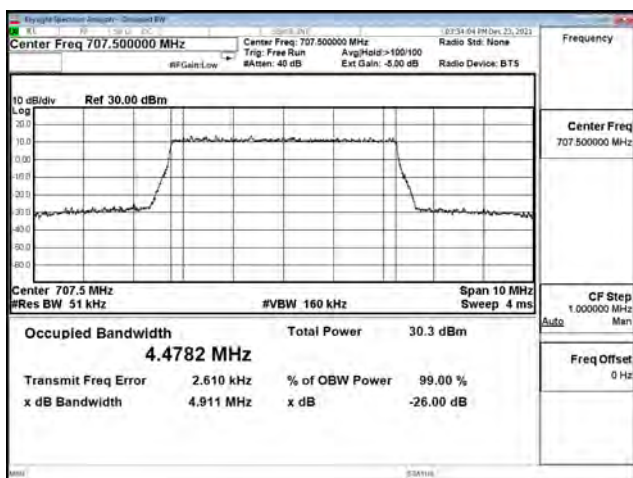
## QPSK / CH23155 / 5 MHz



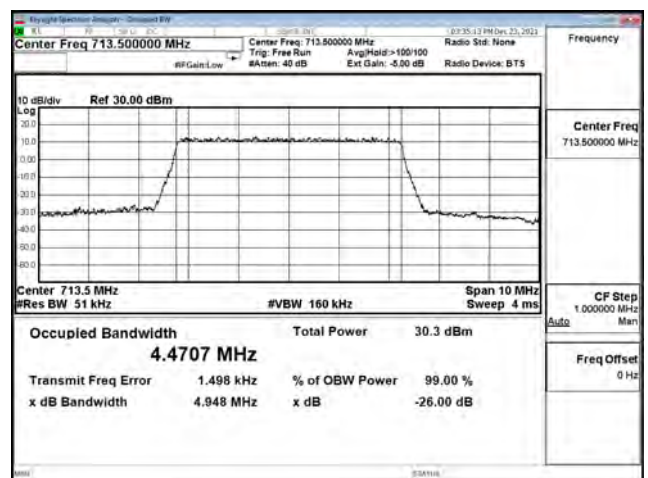
## 16QAM / CH23035 / 5 MHz



## 16QAM / CH23095 / 5 MHz

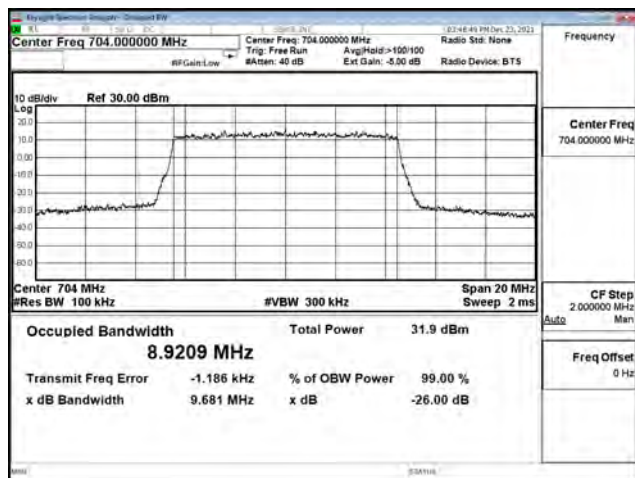


## 16QAM / CH23155 / 5 MHz

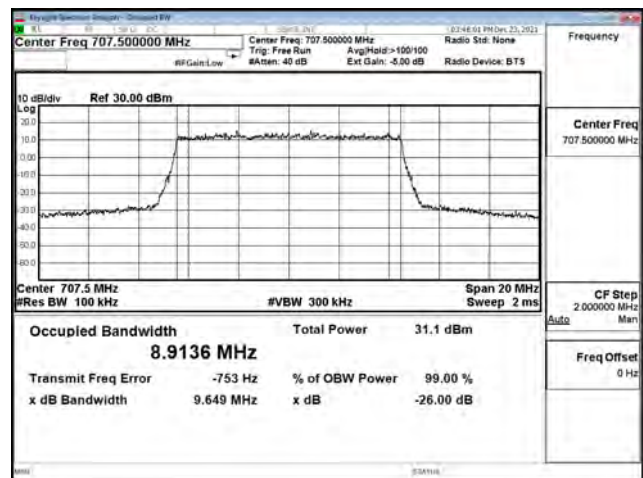


## LTE Band 12

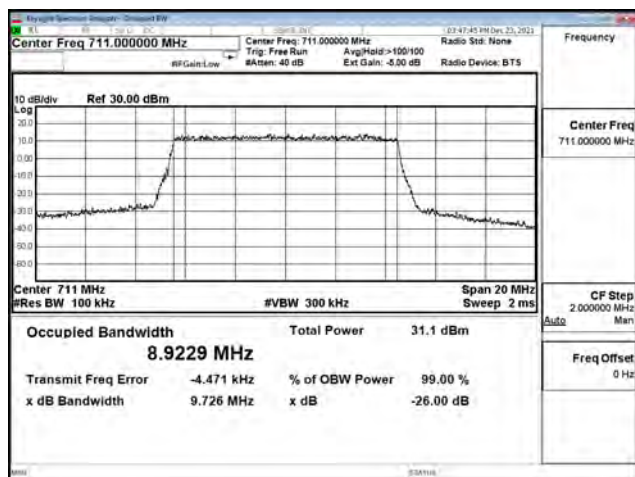
## QPSK / CH23060 / 10 MHz



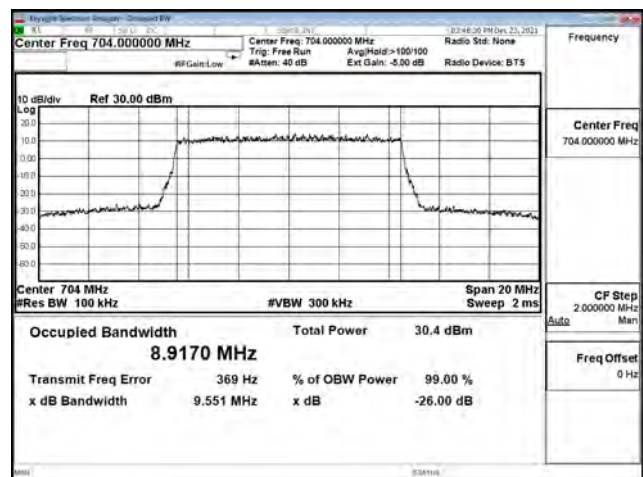
## QPSK / CH23095 / 10 MHz



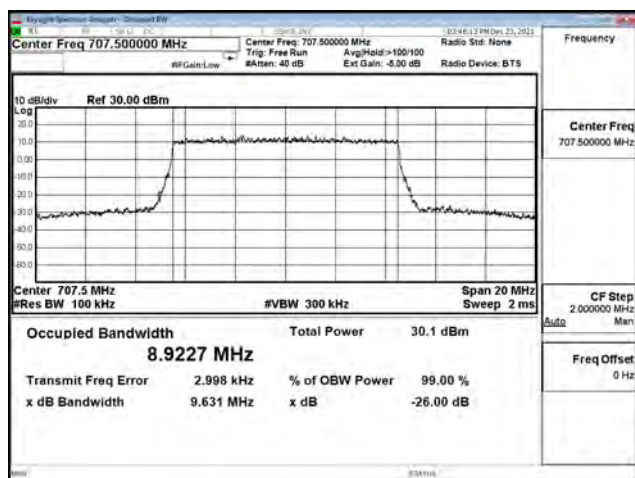
## QPSK / CH23130 / 10 MHz



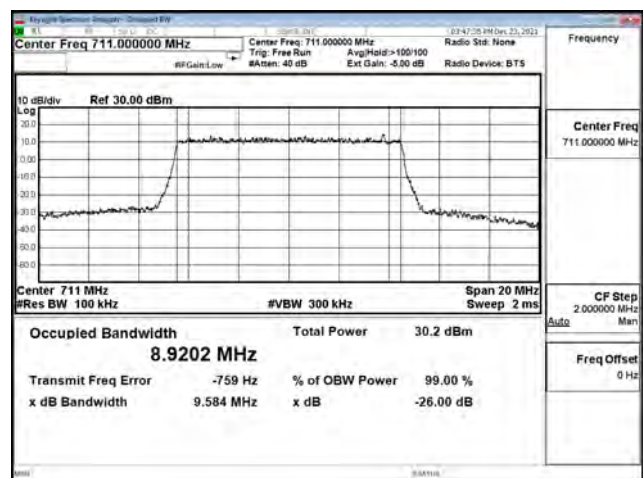
## 16QAM / CH23060 / 10 MHz



## 16QAM / CH23095 / 10 MHz



## 16QAM / CH23130 / 10 MHz

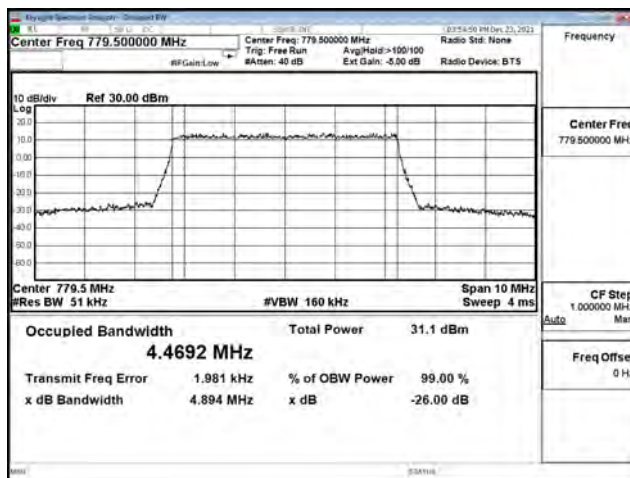


**Mode 5: LTE Band 13**

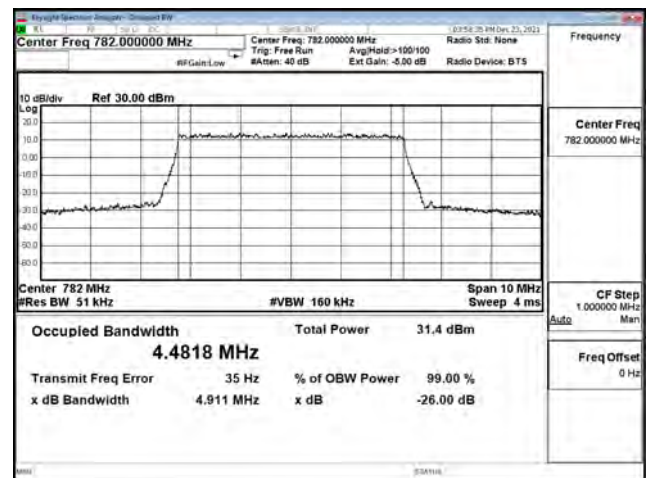
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 5                  | QPSK       | 779.5              | 4.894                  | 4.469  | N/A            |
|                    |            | 782                | 4.911                  | 4.481  | N/A            |
|                    |            | 784.5              | 4.911                  | 4.480  | N/A            |
|                    | 16-QAM     | 779.5              | 4.958                  | 4.472  | N/A            |
|                    |            | 782                | 4.838                  | 4.465  | N/A            |
|                    |            | 784.5              | 4.912                  | 4.473  | N/A            |
| 10                 | QPSK       | 782                | 9.683                  | 8.915  | N/A            |
|                    | 16-QAM     | 782                | 9.612                  | 8.918  | N/A            |

## LTE Band 13

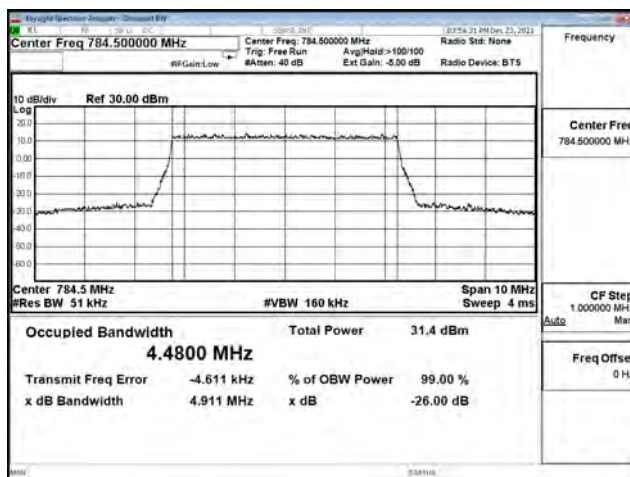
QPSK / CH23205 / 5 MHz



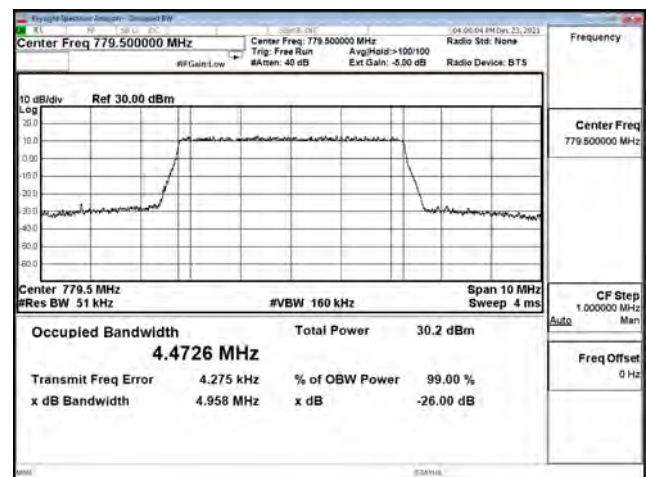
QPSK / CH23230 / 5 MHz



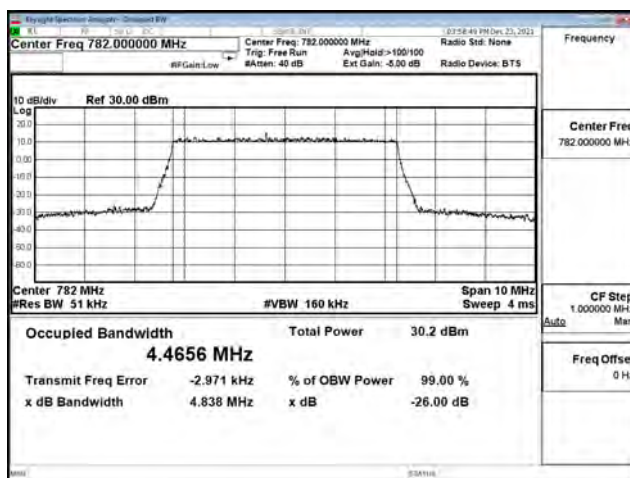
QPSK / CH23255 / 5 MHz



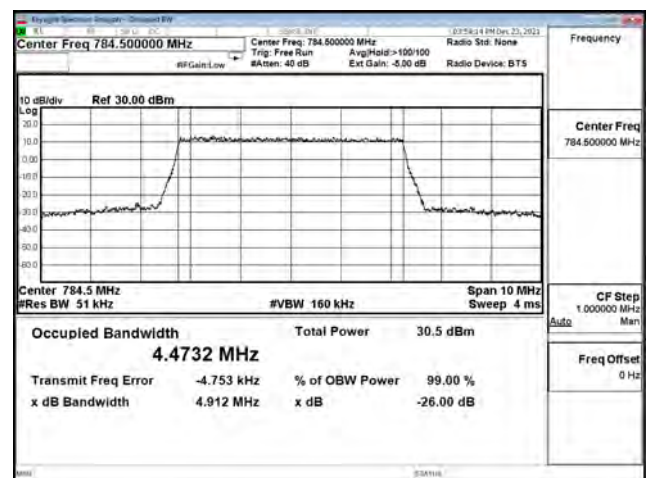
16QAM / CH23205 / 5 MHz



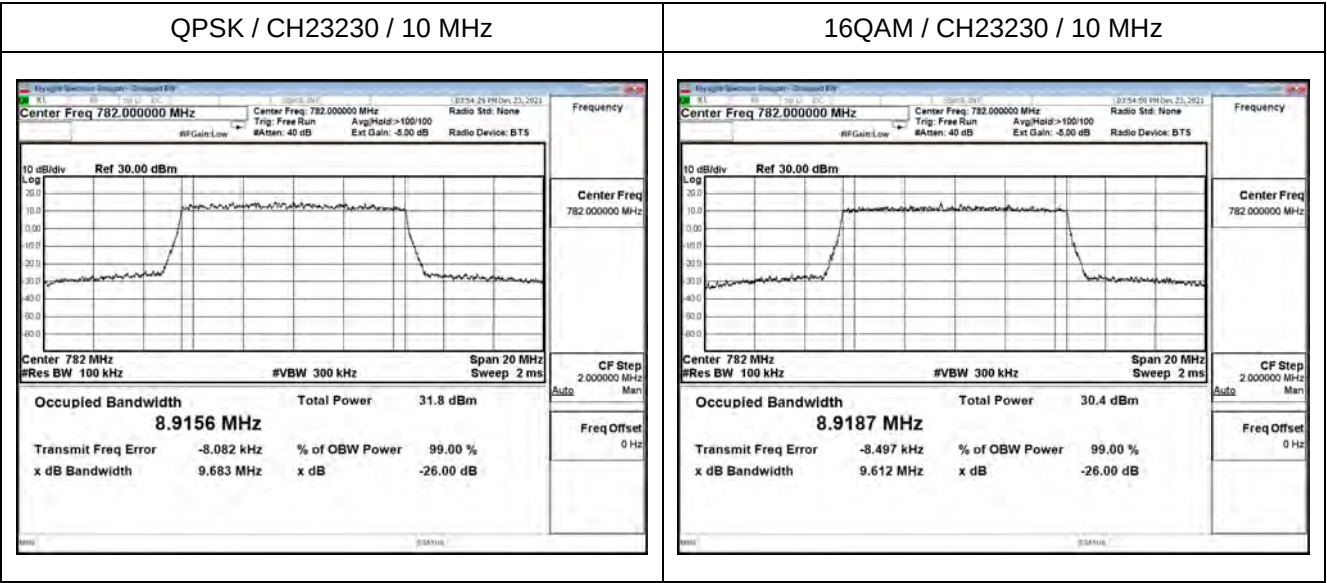
16QAM / CH23230 / 5 MHz



16QAM / CH23255 / 5 MHz



LTE Band 13

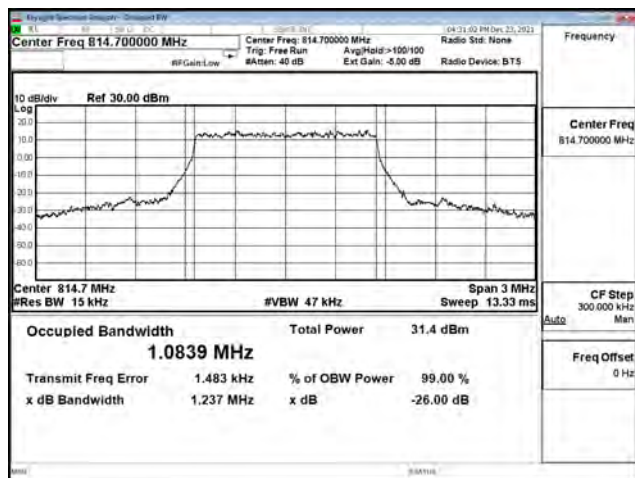


**Mode 6: LTE Band 26 (Part 90)**

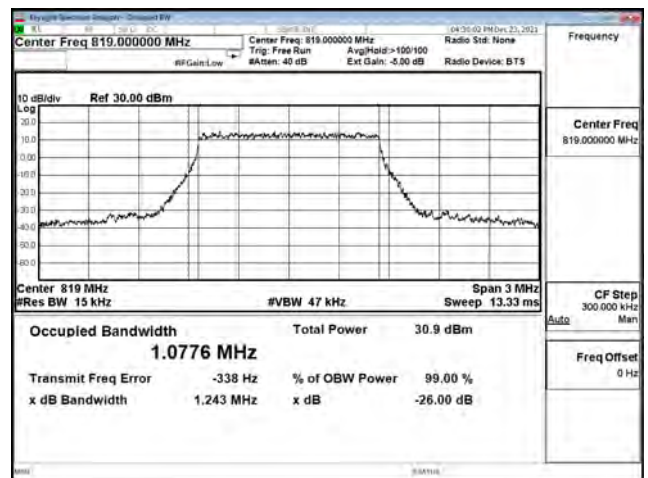
| Bandwidth<br>(MHz) | Modulation | Frequency<br>(MHz) | Measure Level<br>(MHz) |        | Limit<br>(MHz) |
|--------------------|------------|--------------------|------------------------|--------|----------------|
|                    |            |                    | 26dB BW                | 99% BW |                |
| 1.4                | QPSK       | 814.7              | 1.237                  | 1.083  | N/A            |
|                    |            | 819                | 1.243                  | 1.077  | N/A            |
|                    |            | 823.3              | 1.243                  | 1.076  | N/A            |
|                    | 16-QAM     | 814.7              | 1.246                  | 1.080  | N/A            |
|                    |            | 819                | 1.233                  | 1.077  | N/A            |
|                    |            | 823.3              | 1.266                  | 1.080  | N/A            |
| 3                  | QPSK       | 815.5              | 2.919                  | 2.682  | N/A            |
|                    |            | 819                | 2.906                  | 2.674  | N/A            |
|                    |            | 822.5              | 2.922                  | 2.682  | N/A            |
|                    | 16-QAM     | 815.5              | 2.926                  | 2.678  | N/A            |
|                    |            | 819                | 2.906                  | 2.679  | N/A            |
|                    |            | 822.5              | 2.936                  | 2.680  | N/A            |
| 5                  | QPSK       | 816.5              | 4.862                  | 4.461  | N/A            |
|                    |            | 819                | 4.897                  | 4.474  | N/A            |
|                    |            | 821.5              | 4.923                  | 4.480  | N/A            |
|                    | 16-QAM     | 816.5              | 4.917                  | 4.470  | N/A            |
|                    |            | 819                | 4.912                  | 4.475  | N/A            |
|                    |            | 821.5              | 4.804                  | 4.468  | N/A            |
| 10                 | QPSK       | 819                | 9.598                  | 8.911  | N/A            |
|                    | 16-QAM     | 819                | 9.634                  | 8.890  | N/A            |

## LTE Band 26

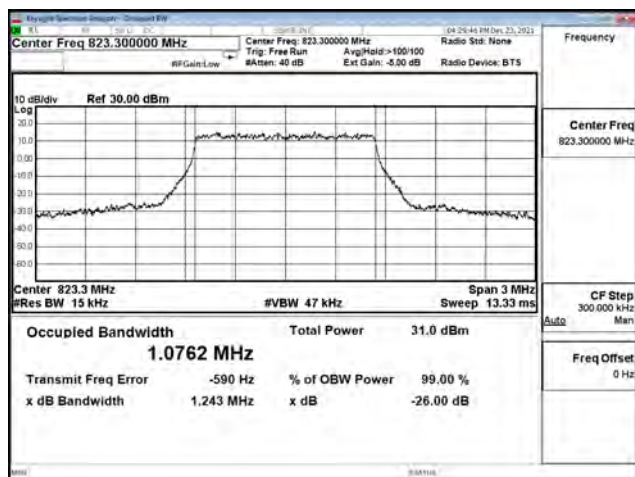
## QPSK / CH26697 / 1.4 MHz



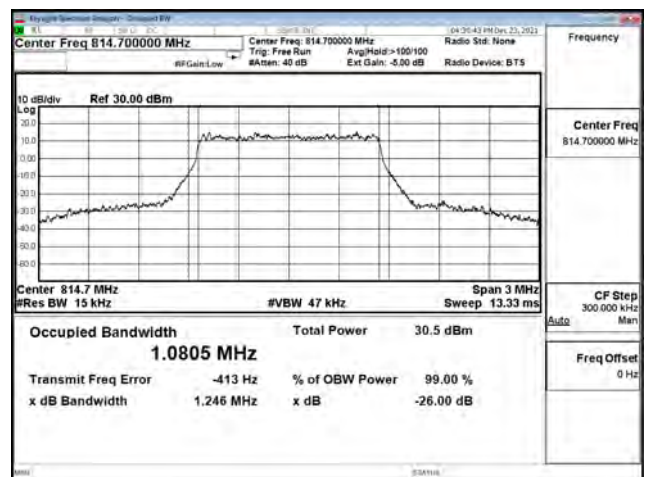
## QPSK / CH26740 / 1.4 MHz



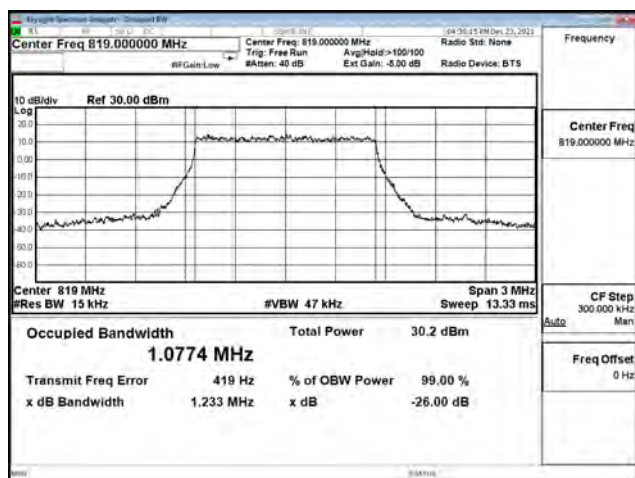
## QPSK / CH26783 / 1.4 MHz



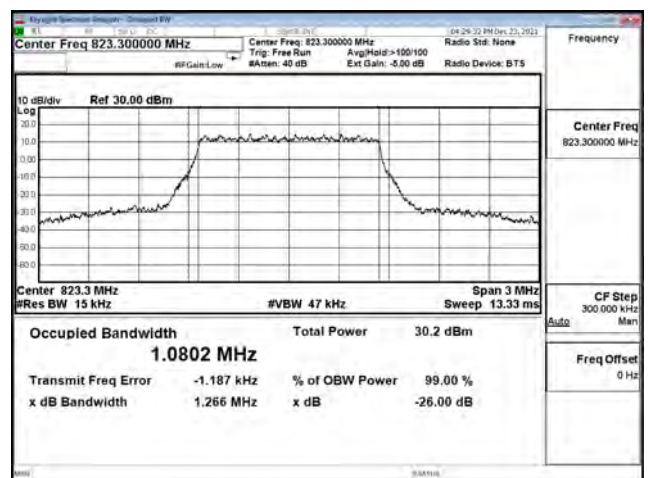
## 16QAM / CH26697 / 1.4 MHz



## 16QAM / CH26740 / 1.4 MHz

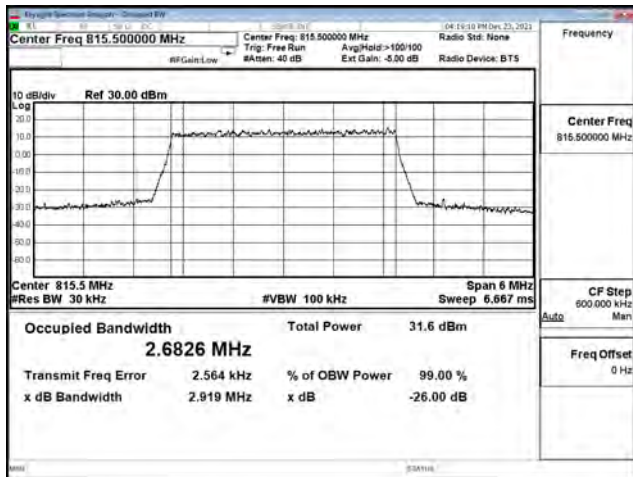


## 16QAM / CH26783 / 1.4 MHz

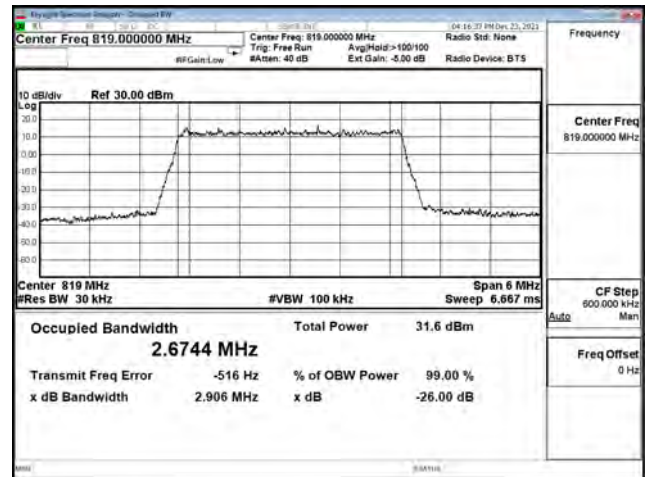


## LTE Band 26

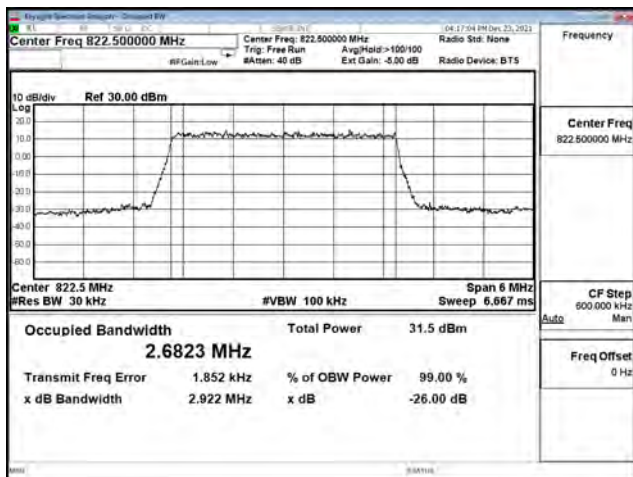
QPSK / CH26705 / 3 MHz



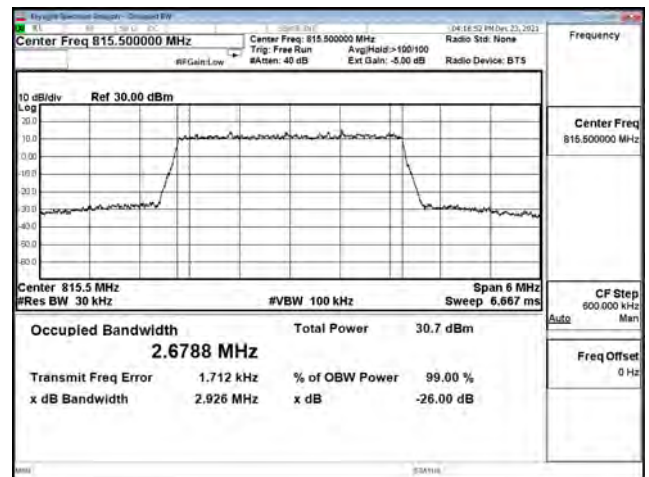
QPSK / CH26740 / 3 MHz



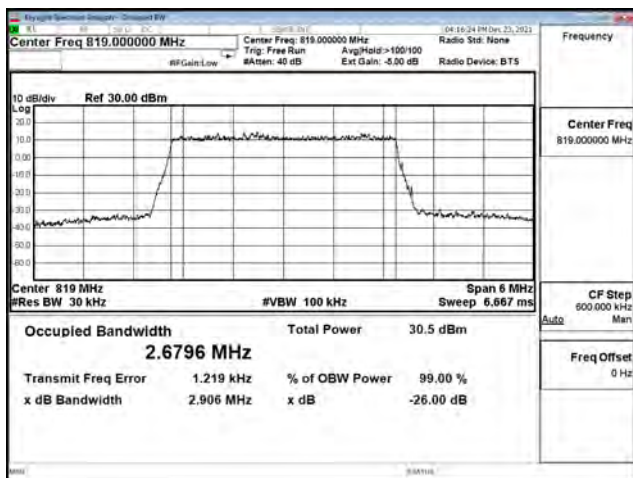
QPSK / CH26775 / 3 MHz



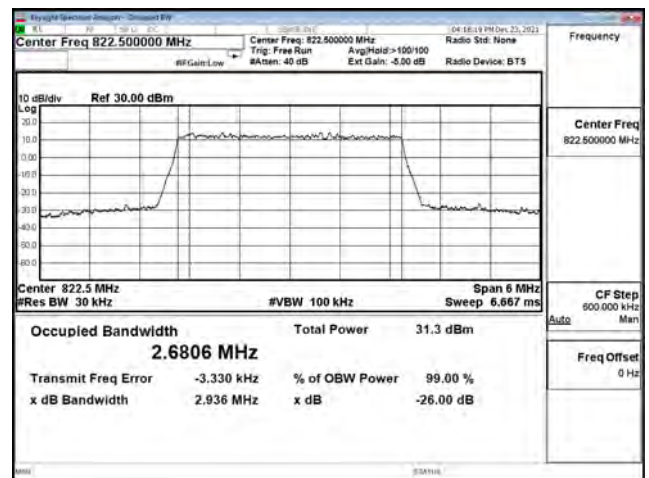
16QAM / CH26705 / 3 MHz



16QAM / CH26740 / 3 MHz

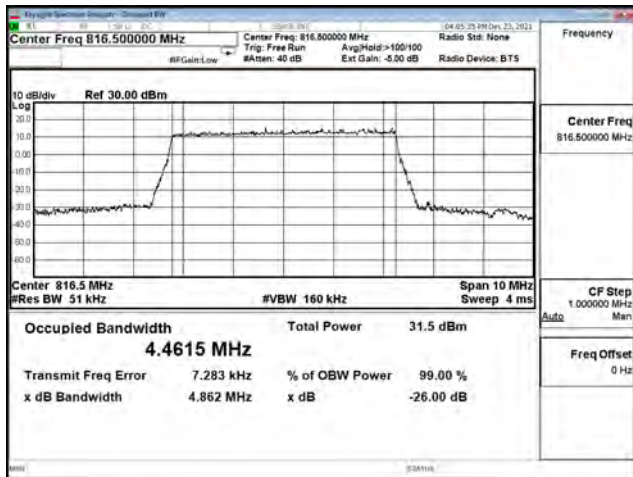


16QAM / CH26775 / 3 MHz

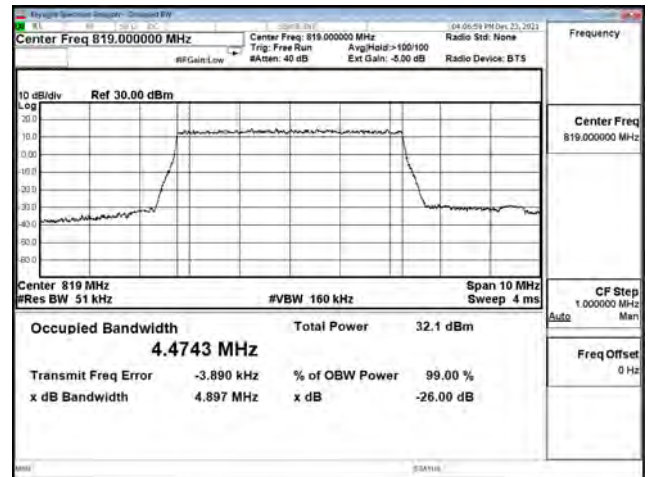


## LTE Band 26

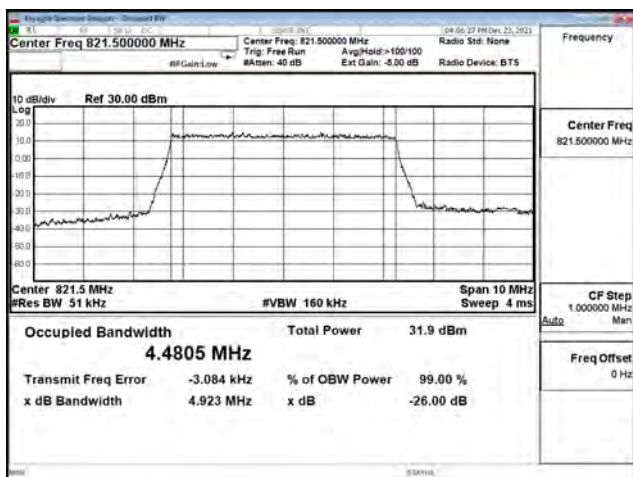
## QPSK / CH26715 / 5 MHz



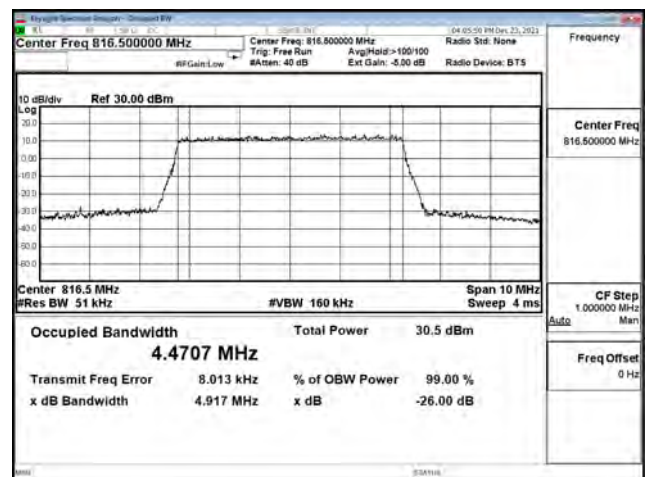
## QPSK / CH26740 / 5 MHz



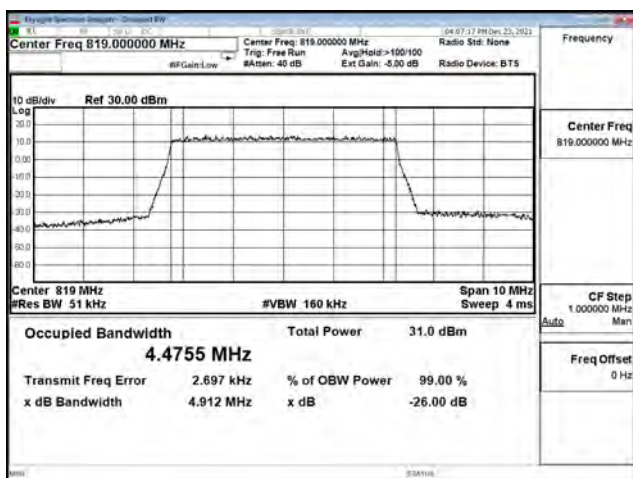
## QPSK / CH26765 / 5 MHz



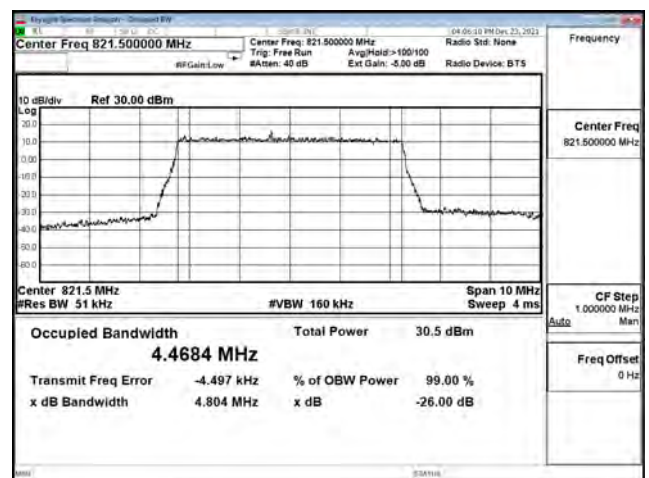
## 16QAM / CH26715 / 5 MHz



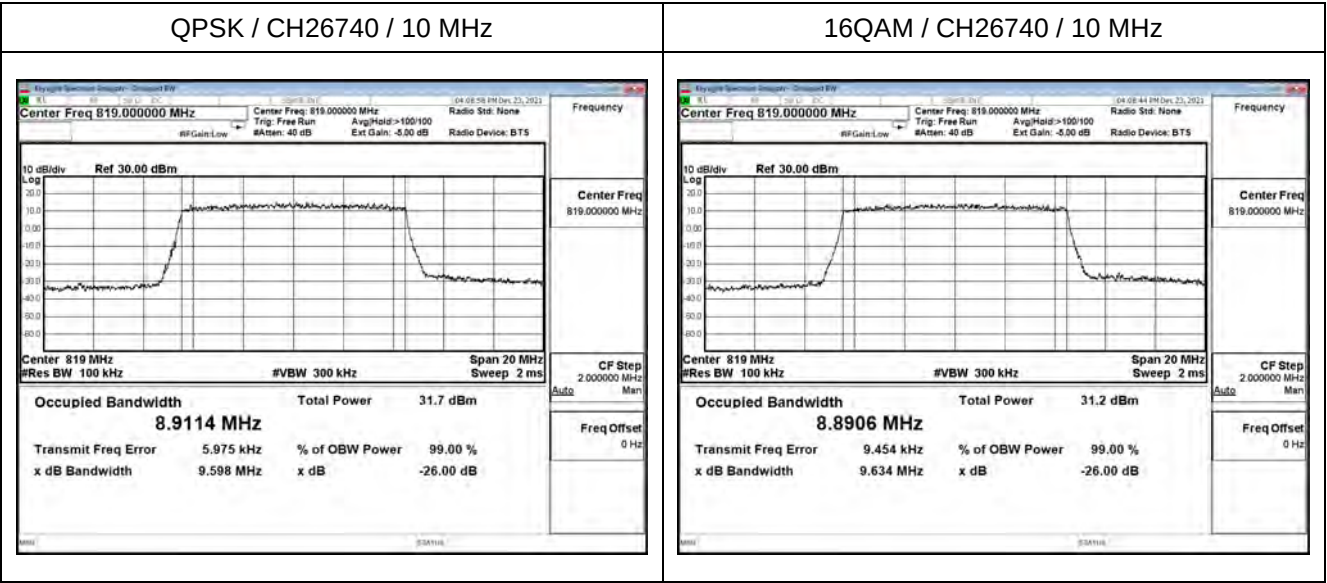
## 16QAM / CH26740 / 5 MHz



## 16QAM / CH26765 / 5 MHz

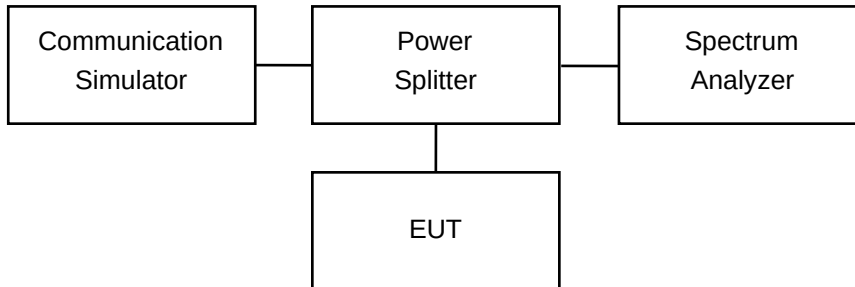


LTE Band 26



## 5. Peak to Average Ratio

### 5.1. Test Setup



### 5.2. Test Procedure

1. The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.
2. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth.
3. Set the number of counts to a value that stabilizes the measured CCDF curve.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

### 5.3. Test Methodology and Reference Procedures

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI C63.26-2015

## 5.4. Test Result of Peak to Average Ratio

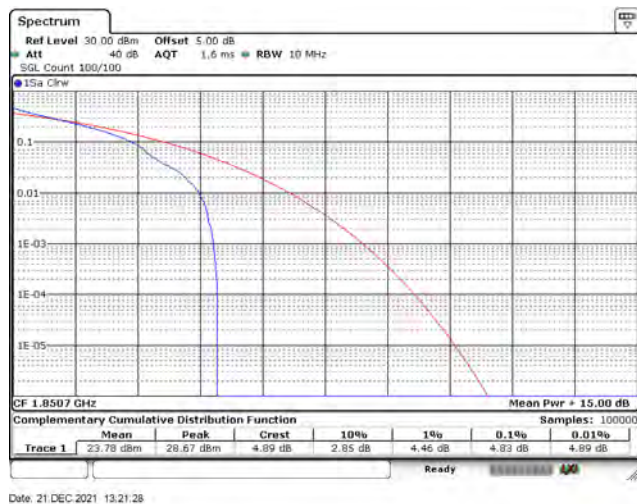
### Mode 1: LTE Band 2/25

| BW      | Channel | Freq.<br>(MHz) | Modulation | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|---------|----------------|------------|---------------|------------------|--------------|
| 1.4 MHz | 26047   | 1850.7         | QPSK       | 28.67         | 23.78            | 4.83         |
|         |         |                | 16-QAM     | 29.09         | 23.36            | 5.70         |
|         | 26365   | 1882.5         | QPSK       | 28.65         | 23.64            | 4.96         |
|         |         |                | 16-QAM     | 28.57         | 22.64            | 5.87         |
|         | 26683   | 1914.3         | QPSK       | 27.88         | 24.04            | 3.87         |
|         |         |                | 16-QAM     | 27.96         | 23.05            | 4.91         |
| 3 MHz   | 26055   | 1851.5         | QPSK       | 28.50         | 23.68            | 4.76         |
|         |         |                | 16-QAM     | 28.61         | 22.83            | 5.70         |
|         | 26365   | 1882.5         | QPSK       | 28.50         | 23.50            | 4.96         |
|         |         |                | 16-QAM     | 28.36         | 22.37            | 5.91         |
|         | 26675   | 1913.5         | QPSK       | 28.01         | 23.93            | 4.07         |
|         |         |                | 16-QAM     | 27.97         | 22.78            | 5.15         |
| 5 MHz   | 26065   | 1852.5         | QPSK       | 28.52         | 23.62            | 4.83         |
|         |         |                | 16-QAM     | 28.70         | 23.07            | 5.54         |
|         | 26365   | 1882.5         | QPSK       | 28.62         | 23.65            | 4.96         |
|         |         |                | 16-QAM     | 28.07         | 22.03            | 5.85         |
|         | 26665   | 1912.5         | QPSK       | 27.98         | 23.77            | 4.22         |
|         |         |                | 16-QAM     | 27.82         | 22.60            | 5.17         |
| 10 MHz  | 26090   | 1855           | QPSK       | 28.76         | 23.75            | 4.93         |
|         |         |                | 16-QAM     | 28.16         | 22.36            | 5.72         |
|         | 26365   | 1882.5         | QPSK       | 28.70         | 23.75            | 4.89         |
|         |         |                | 16-QAM     | 28.23         | 22.34            | 5.85         |
|         | 26640   | 1910           | QPSK       | 28.13         | 23.73            | 4.35         |
|         |         |                | 16-QAM     | 28.40         | 23.26            | 5.11         |
| 15 MHz  | 26115   | 1857.5         | QPSK       | 28.67         | 23.67            | 4.91         |
|         |         |                | 16-QAM     | 29.15         | 23.32            | 5.70         |
|         | 26365   | 1882.5         | QPSK       | 28.72         | 23.71            | 4.91         |
|         |         |                | 16-QAM     | 28.64         | 22.99            | 5.57         |
|         | 26615   | 1907.5         | QPSK       | 28.18         | 23.59            | 4.54         |
|         |         |                | 16-QAM     | 27.91         | 22.18            | 5.65         |

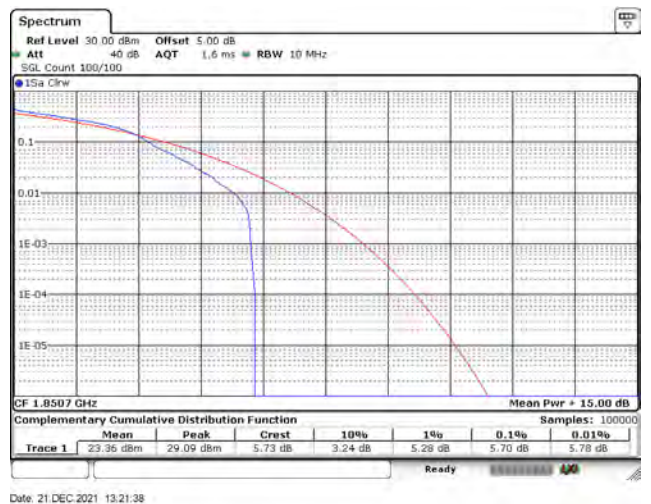
| BW     | Channel | Freq.<br>(MHz) | Modulation | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|--------|---------|----------------|------------|---------------|------------------|--------------|
| 20 MHz | 26140   | 1860           | QPSK       | 28.87         | 24.06            | 4.74         |
|        |         |                | 16-QAM     | 29.07         | 23.39            | 5.59         |
|        | 26365   | 1882.5         | QPSK       | 28.83         | 23.87            | 4.85         |
|        |         |                | 16-QAM     | 28.20         | 22.22            | 5.85         |
|        | 26590   | 1905           | QPSK       | 28.36         | 23.73            | 4.57         |
|        |         |                | 16-QAM     | 28.66         | 23.19            | 5.39         |

## LTE Band 25

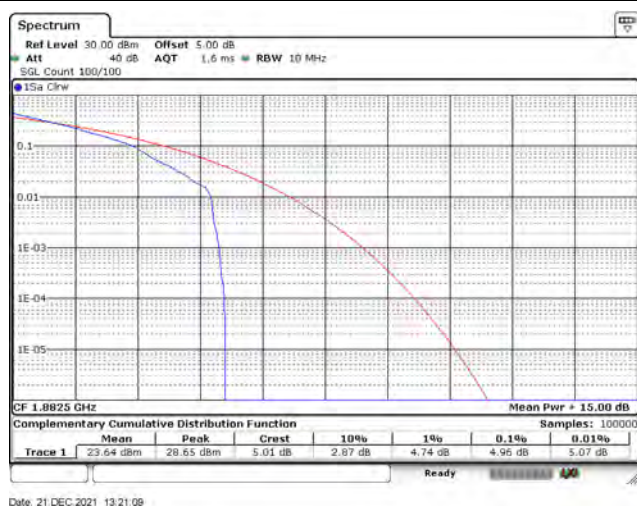
QPSK / CH26047 / 1.4 MHz / 1RB2 / Ratio



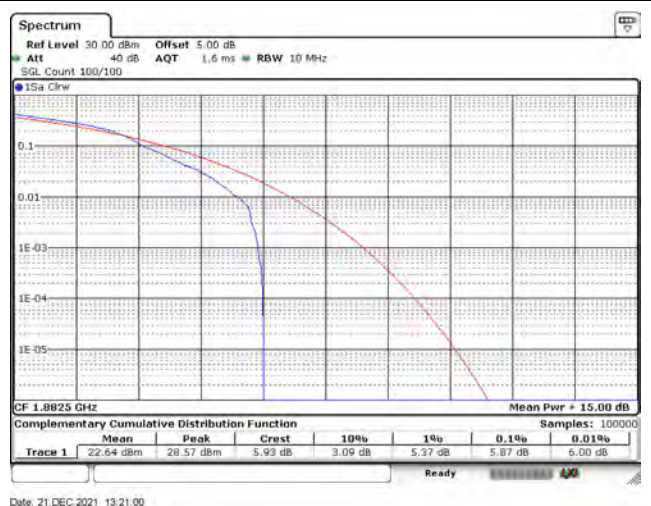
16-QAM / CH26047 / 1.4 MHz / 1RB2 / Ratio



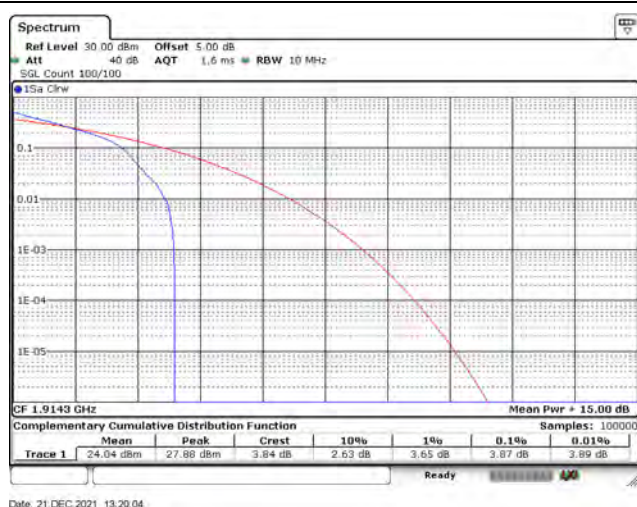
QPSK / CH26365 / 1.4 MHz / 1RB2 / Ratio



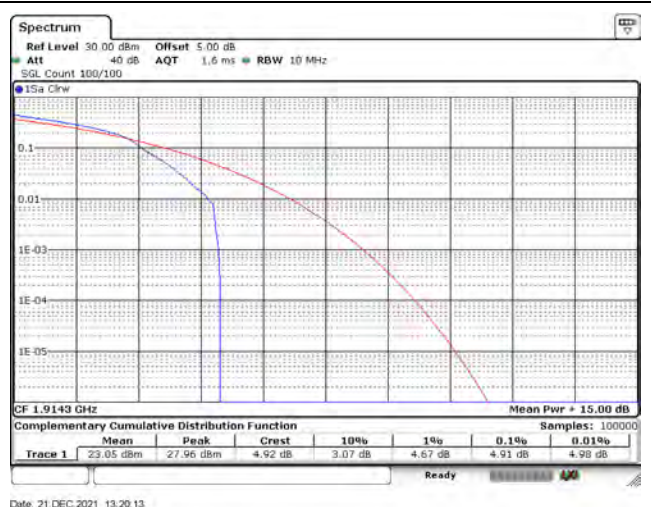
16-QAM / CH26365 / 1.4 MHz / 1RB2 / Ratio



QPSK / CH26683 / 1.4 MHz / 1RB2 / Ratio

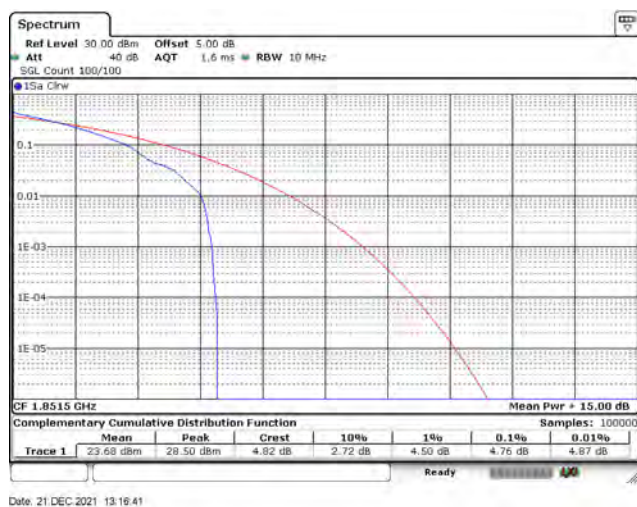


16-QAM / CH26683 / 1.4 MHz / 1RB2 / Ratio

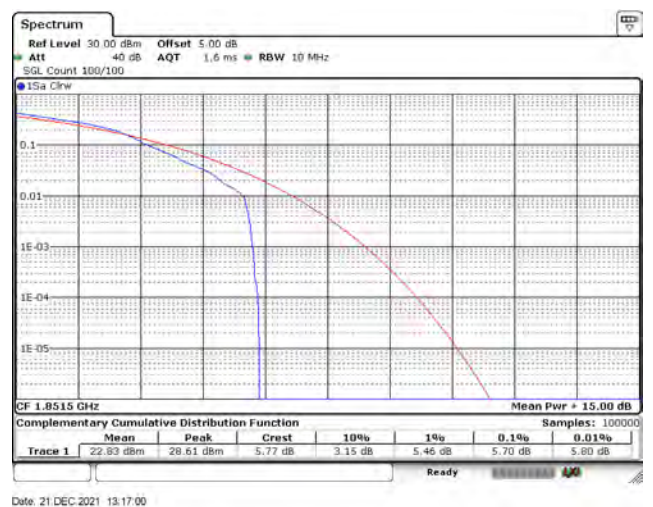


## LTE Band 25

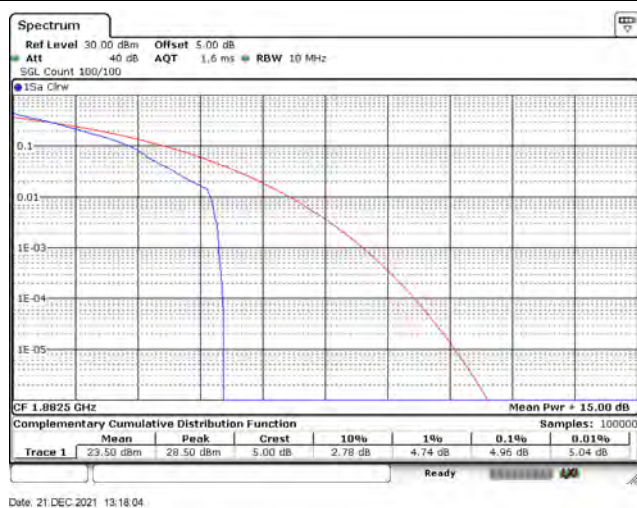
QPSK / CH26055 / 3 MHz / 1RB7 / Ratio



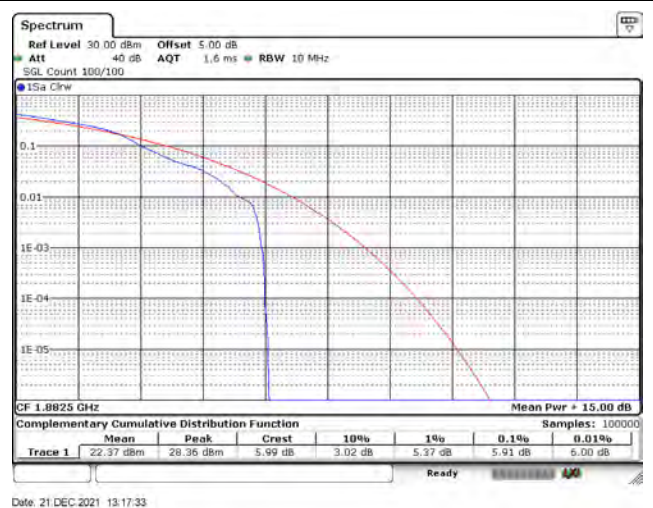
16-QAM / CH26055 / 3 MHz / 1RB7 / Ratio



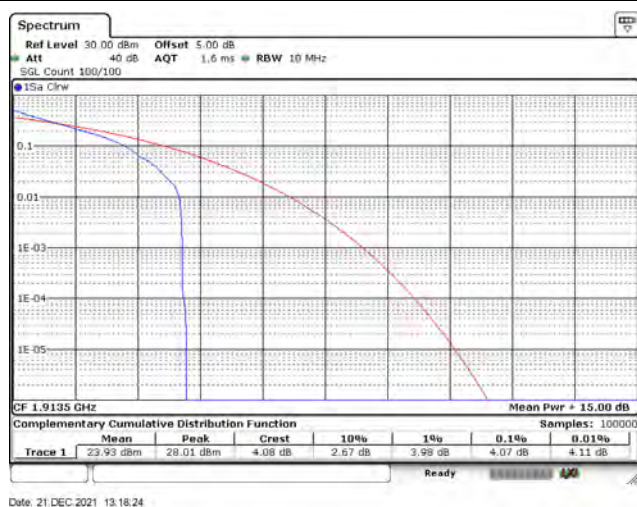
QPSK / CH26365 / 3 MHz / 1RB7 / Ratio



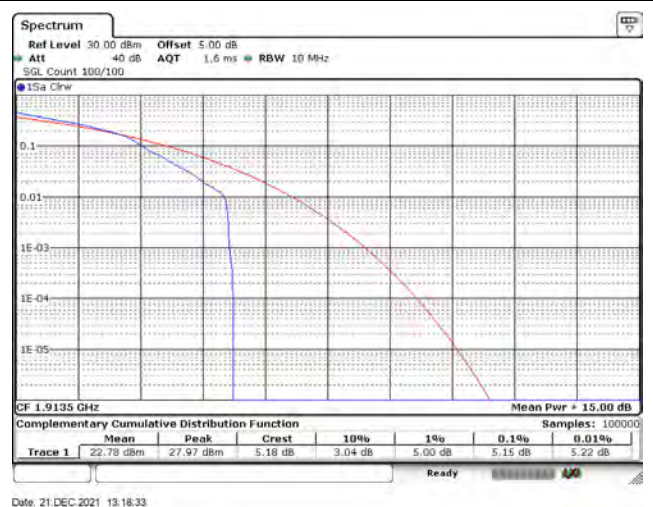
16-QAM / CH26365 / 3 MHz / 1RB7 / Ratio



QPSK / CH26675 / 3 MHz / 1RB7 / Ratio

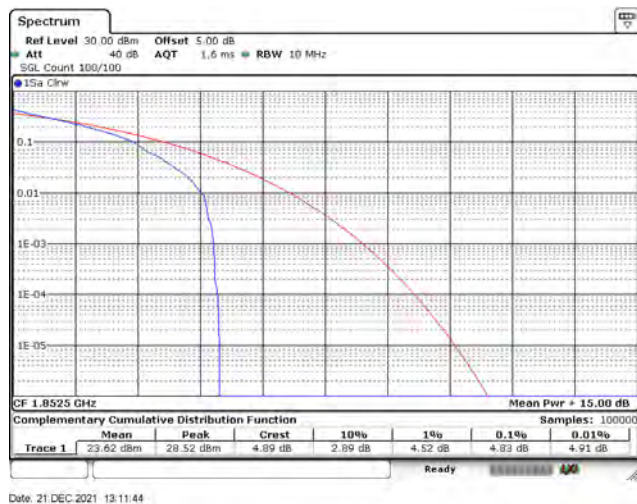


16-QAM / CH26675 / 3 MHz / 1RB7 / Ratio

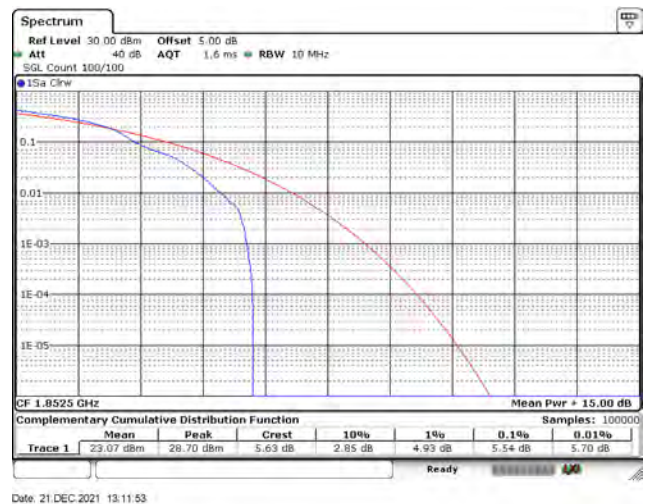


## LTE Band 25

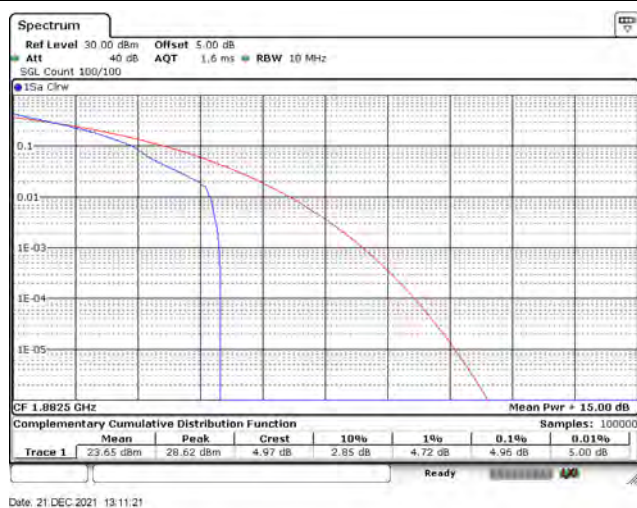
QPSK / CH26065 / 5 MHz / 1RB12 / Ratio



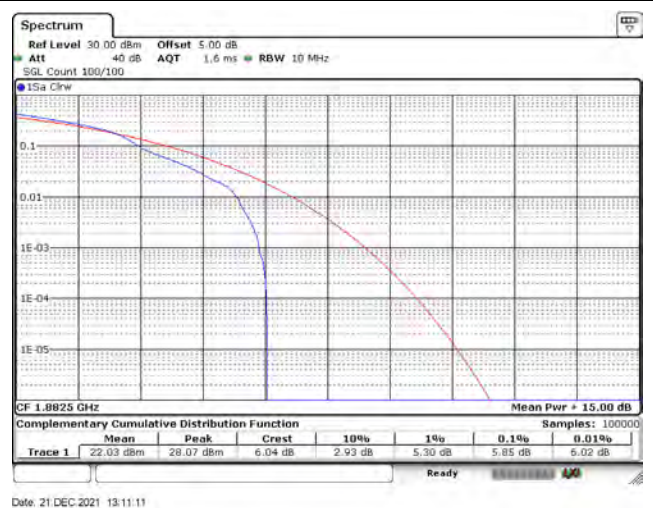
16-QAM / CH26065 / 5 MHz / 1RB12 / Ratio



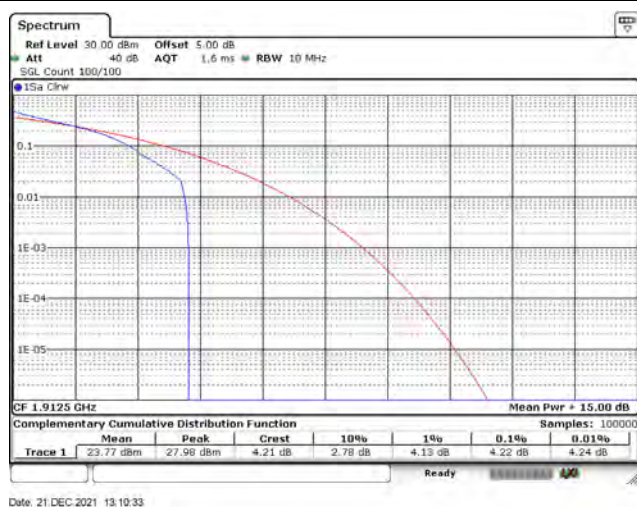
QPSK / CH26365 / 5 MHz / 1RB12 / Ratio



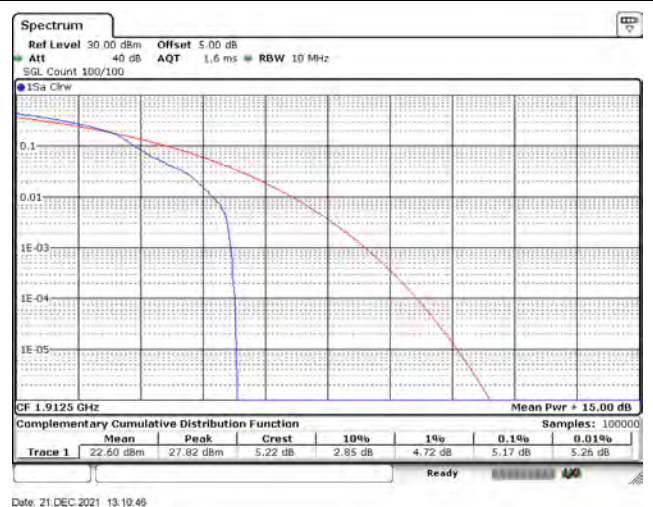
16-QAM / CH26365 / 5 MHz / 1RB12 / Ratio



QPSK / CH26665 / 5 MHz / 1RB12 / Ratio

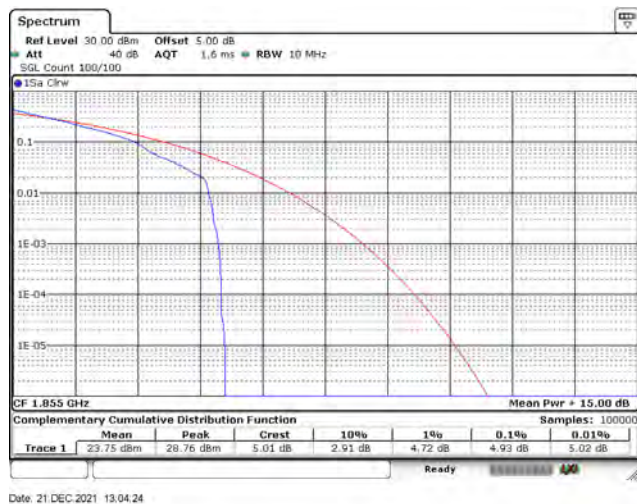


16-QAM / CH26665 / 5 MHz / 1RB12 / Ratio



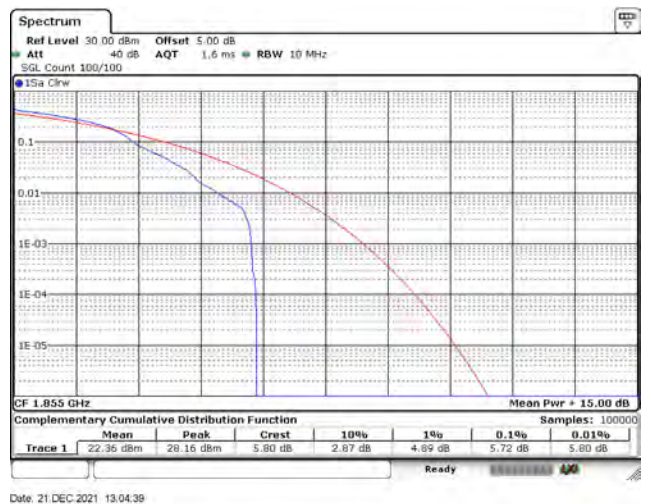
## LTE Band 25

QPSK / CH26090 / 10 MHz / 1RB24 / Ratio



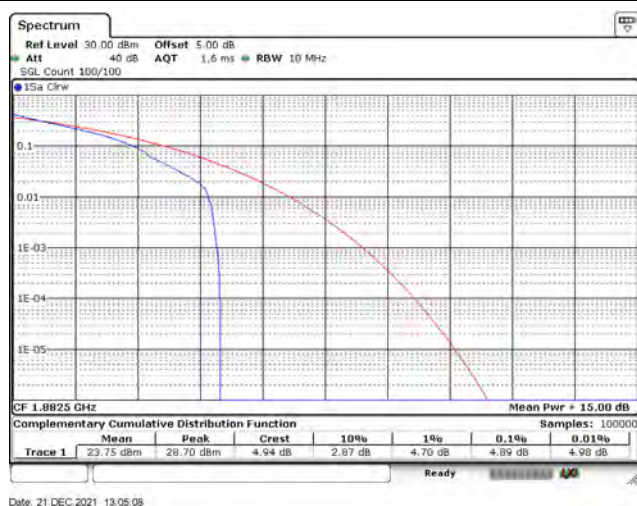
Date: 21 DEC 2021 13:04:24

16-QAM / CH26090 / 10 MHz / 1RB24 / Ratio



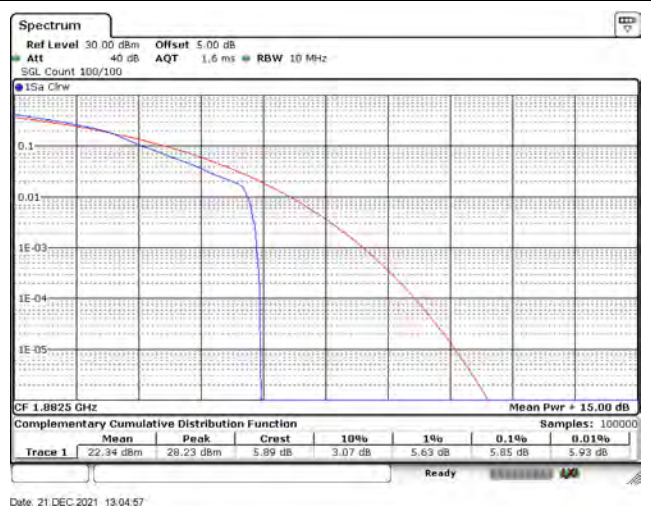
Date: 21 DEC 2021 13:04:39

QPSK / CH26365 / 10 MHz / 1RB24 / Ratio



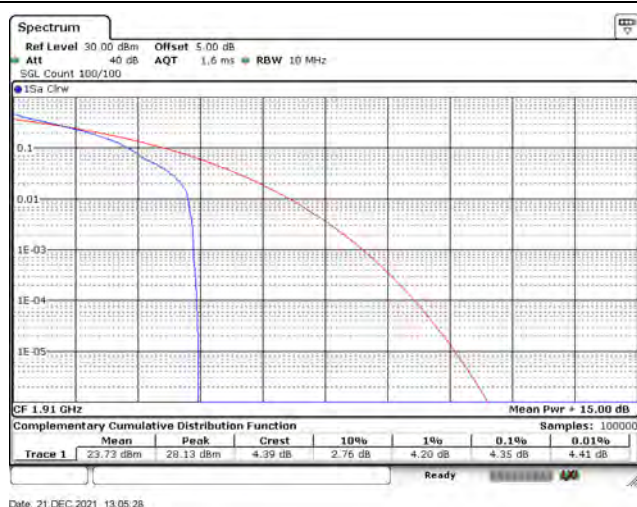
Date: 21 DEC 2021 13:05:08

16-QAM / CH26365 / 10 MHz / 1RB24 / Ratio



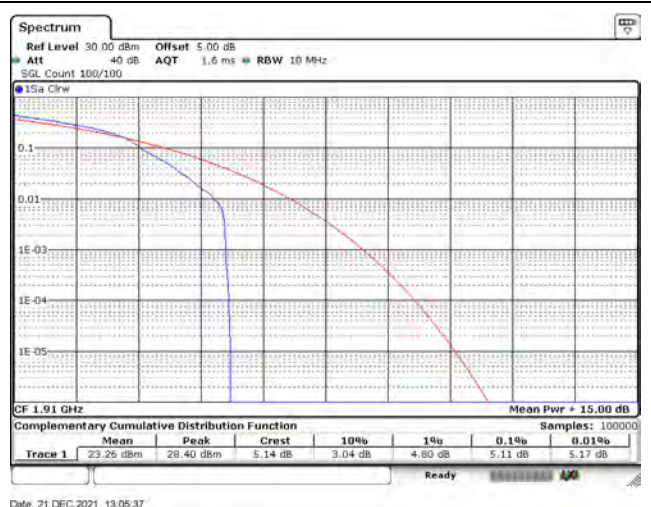
Date: 21 DEC 2021 13:04:57

QPSK / CH26640 / 10 MHz / 1RB24 / Ratio



Date: 21 DEC 2021 13:05:28

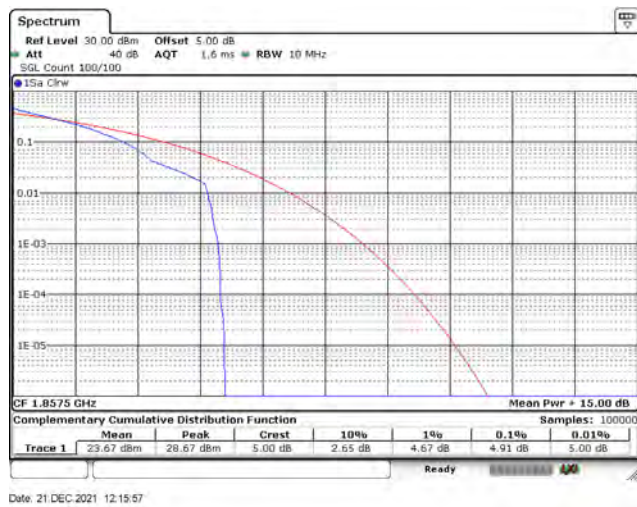
16-QAM / CH26640 / 10 MHz / 1RB24 / Ratio



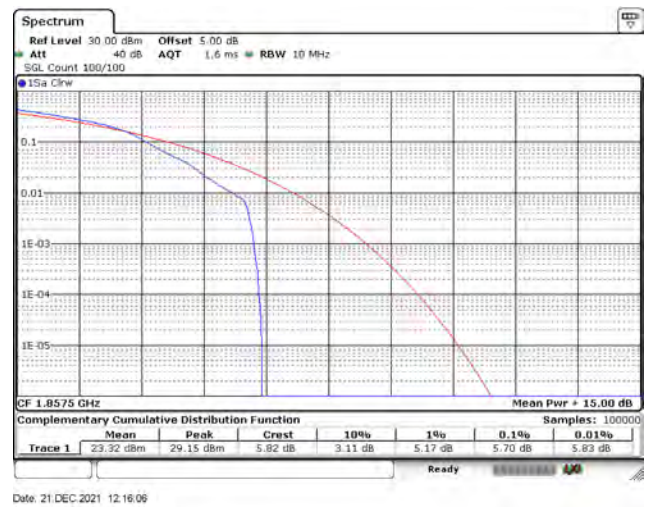
Date: 21 DEC 2021 13:05:37

## LTE Band 25

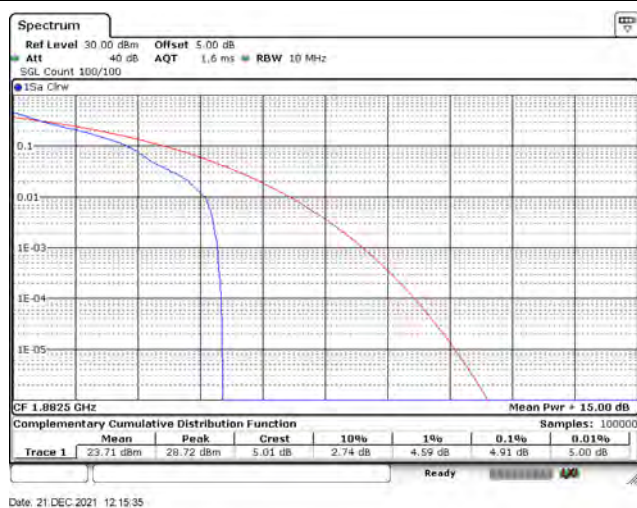
QPSK / CH26115 / 15 MHz / 1RB37 / Ratio



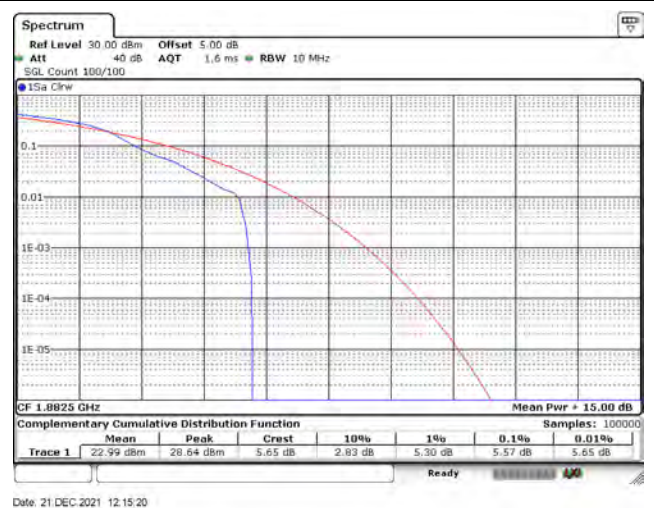
16-QAM / CH26115 / 15 MHz / 1RB37 / Ratio



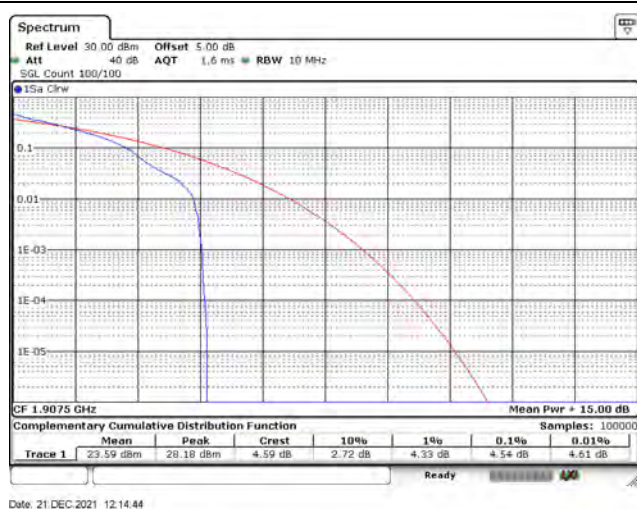
QPSK / CH26365 / 15 MHz / 1RB37 / Ratio



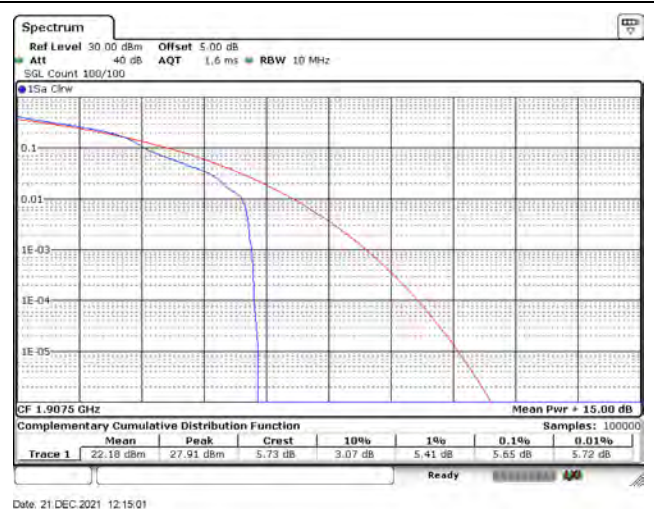
16-QAM / CH26365 / 15 MHz / 1RB37 / Ratio



QPSK / CH26615 / 15 MHz / 1RB37 / Ratio

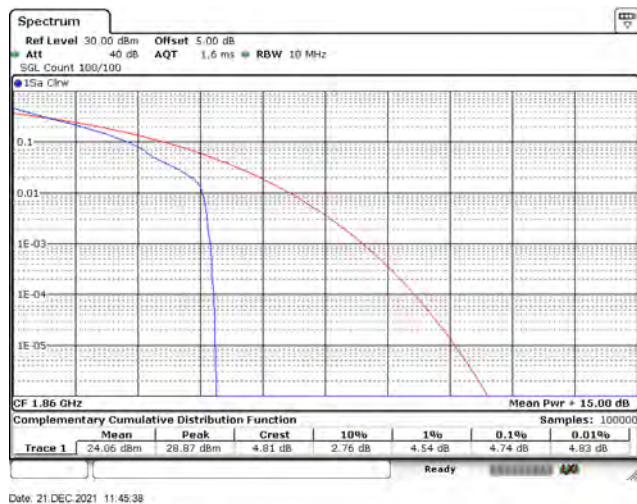


16-QAM / CH26615 / 15 MHz / 1RB37 / Ratio

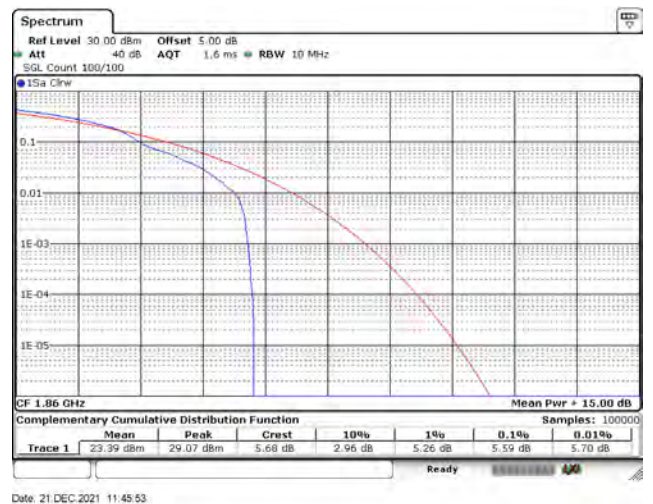


## LTE Band 25

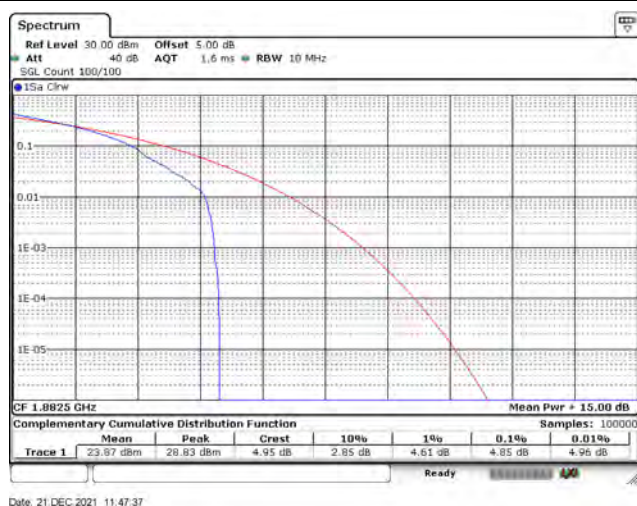
QPSK / CH26140 / 20 MHz / 1RB49 / Ratio



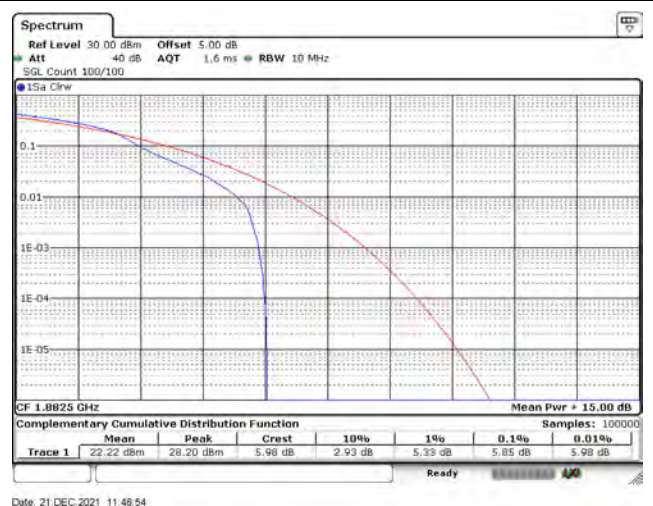
16-QAM / CH26140 / 20 MHz / 1RB49 / Ratio



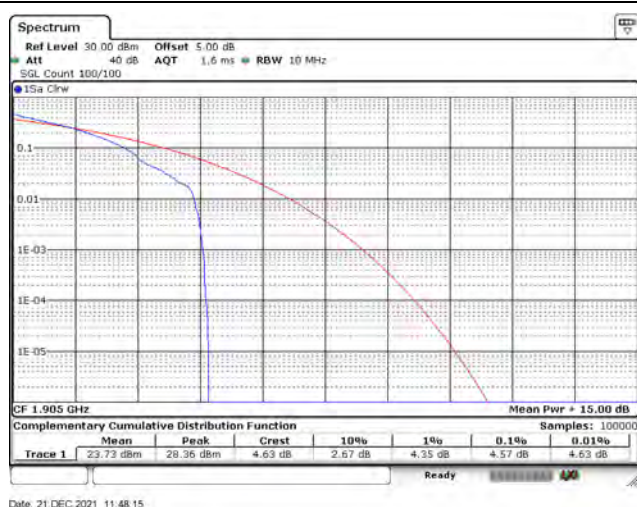
QPSK / CH26365 / 20 MHz / 1RB49 / Ratio



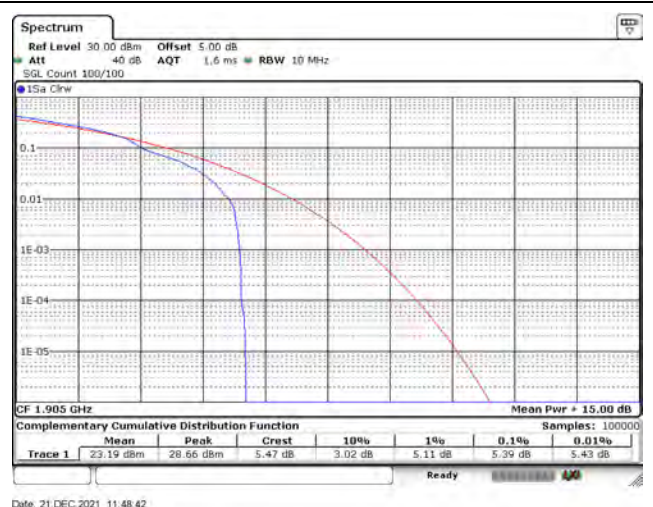
16-QAM / CH26365 / 20 MHz / 1RB49 / Ratio



QPSK / CH26590 / 20 MHz / 1RB49 / Ratio



16-QAM / CH26590 / 20 MHz / 1RB49 / Ratio



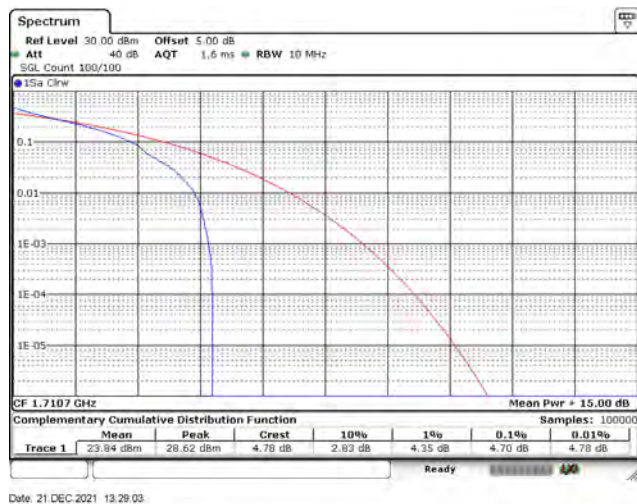
**Mode 2: LTE Band 4**

| BW      | Channel | Freq.<br>(MHz) | Modulation | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|---------|----------------|------------|---------------|------------------|--------------|
| 1.4 MHz | 19957   | 1710.7         | QPSK       | 28.62         | 23.84            | 4.70         |
|         |         |                | 16-QAM     | 29.13         | 23.59            | 5.50         |
|         | 20175   | 1732.5         | QPSK       | 28.45         | 23.99            | 4.39         |
|         |         |                | 16-QAM     | 28.63         | 23.13            | 5.43         |
|         | 20393   | 1754.3         | QPSK       | 27.53         | 24.13            | 3.41         |
|         |         |                | 16-QAM     | 27.38         | 22.87            | 4.48         |
| 3 MHz   | 19965   | 1711.5         | QPSK       | 28.60         | 23.92            | 4.63         |
|         |         |                | 16-QAM     | 29.12         | 23.63            | 5.46         |
|         | 20175   | 1732.5         | QPSK       | 28.36         | 23.87            | 4.46         |
|         |         |                | 16-QAM     | 28.14         | 22.57            | 5.48         |
|         | 20385   | 1753.5         | QPSK       | 27.52         | 23.88            | 3.65         |
|         |         |                | 16-QAM     | 27.58         | 23.00            | 4.57         |
| 5 MHz   | 19975   | 1712.5         | QPSK       | 28.50         | 23.74            | 4.72         |
|         |         |                | 16-QAM     | 28.65         | 22.87            | 5.74         |
|         | 20175   | 1732.5         | QPSK       | 28.12         | 23.60            | 4.50         |
|         |         |                | 16-QAM     | 28.48         | 23.10            | 5.35         |
|         | 20375   | 1752.5         | QPSK       | 27.62         | 23.89            | 3.74         |
|         |         |                | 16-QAM     | 27.66         | 23.16            | 4.48         |
| 10 MHz  | 20000   | 1715           | QPSK       | 28.63         | 24.00            | 4.57         |
|         |         |                | 16-QAM     | 28.48         | 22.74            | 5.61         |
|         | 20175   | 1732.5         | QPSK       | 28.48         | 24.01            | 4.37         |
|         |         |                | 16-QAM     | 28.75         | 23.29            | 5.39         |
|         | 20350   | 1750           | QPSK       | 27.99         | 23.96            | 4.02         |
|         |         |                | 16-QAM     | 27.87         | 22.91            | 4.89         |
| 15 MHz  | 20025   | 1717.5         | QPSK       | 28.53         | 23.82            | 4.67         |
|         |         |                | 16-QAM     | 28.52         | 22.84            | 5.59         |
|         | 20175   | 1732.5         | QPSK       | 28.07         | 23.45            | 4.57         |
|         |         |                | 16-QAM     | 28.61         | 23.15            | 5.39         |
|         | 20325   | 1747.5         | QPSK       | 27.84         | 23.67            | 4.13         |
|         |         |                | 16-QAM     | 27.68         | 22.41            | 5.20         |

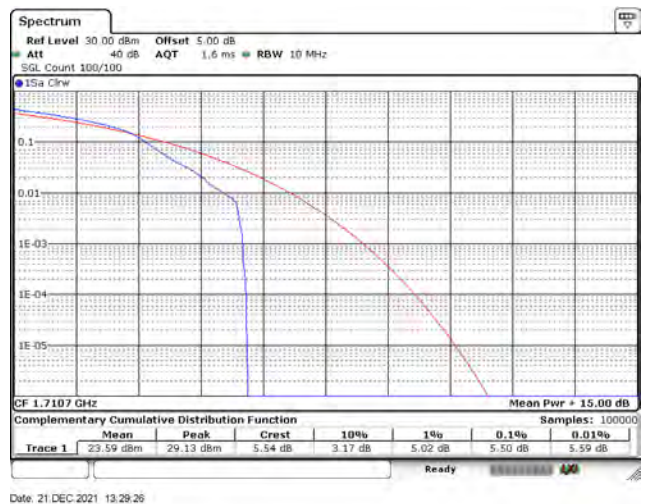
| BW     | Channel | Freq.<br>(MHz) | Modulation | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|--------|---------|----------------|------------|---------------|------------------|--------------|
| 20 MHz | 20050   | 1720           | QPSK       | 28.70         | 24.07            | 4.52         |
|        |         |                | 16-QAM     | 28.83         | 23.60            | 5.11         |
|        | 20175   | 1732.5         | QPSK       | 28.38         | 24.00            | 4.30         |
|        |         |                | 16-QAM     | 28.14         | 22.36            | 5.65         |
|        | 20300   | 1745           | QPSK       | 28.11         | 23.89            | 4.17         |
|        |         |                | 16-QAM     | 28.38         | 23.58            | 4.74         |

## LTE Band 4

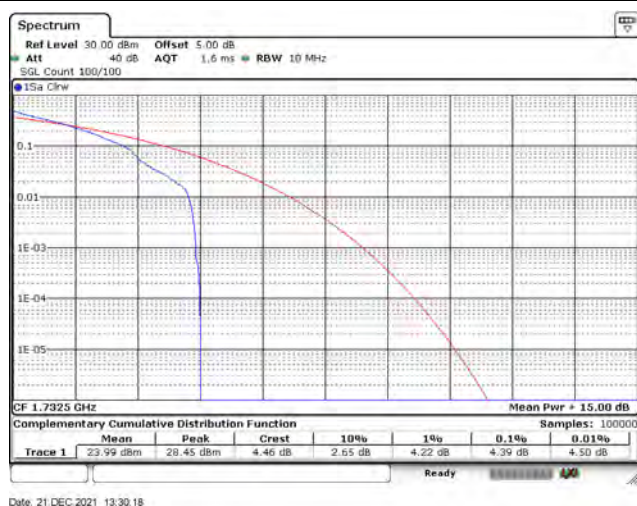
QPSK / CH19957 / 1.4 MHz / 1RB2 / Ratio



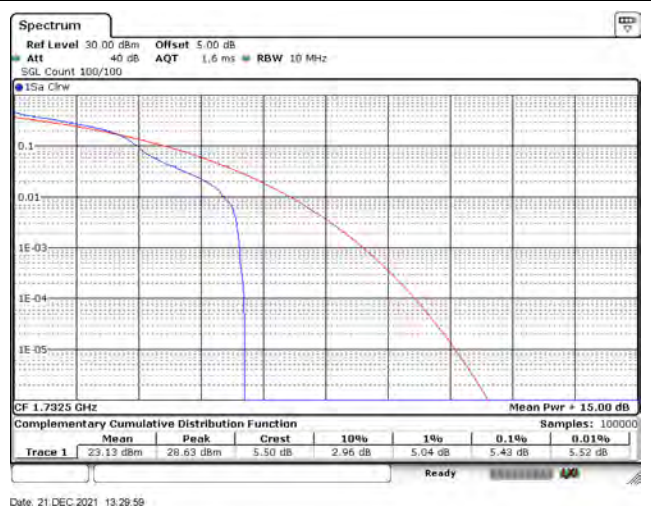
16-QAM / CH19957 / 1.4 MHz / 1RB2 / Ratio



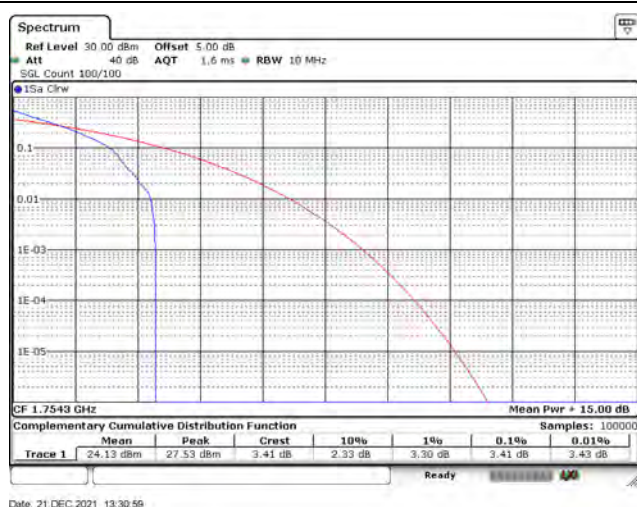
QPSK / CH20175 / 1.4 MHz / 1RB2 / Ratio



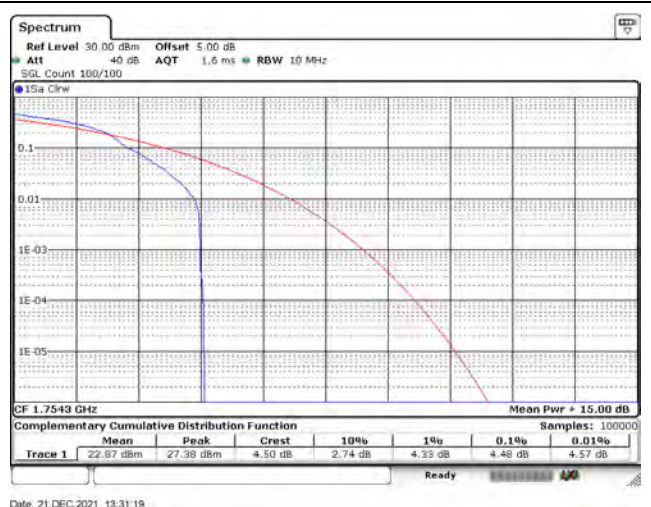
16-QAM / CH20175 / 1.4 MHz / 1RB2 / Ratio



QPSK / CH20393 / 1.4 MHz / 1RB2 / Ratio

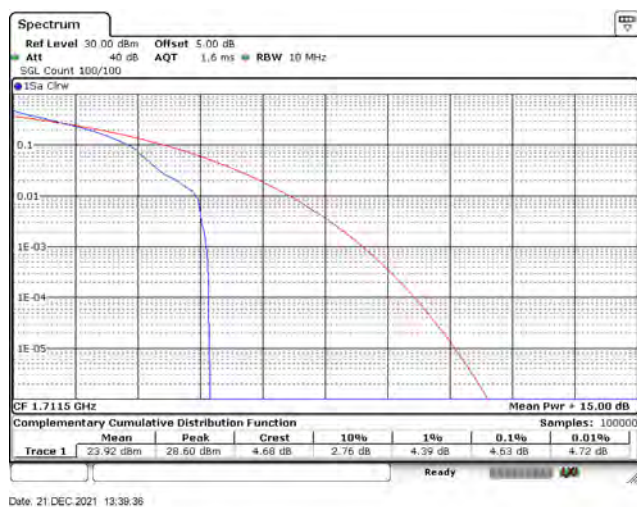


16-QAM / CH20393 / 1.4 MHz / 1RB2 / Ratio

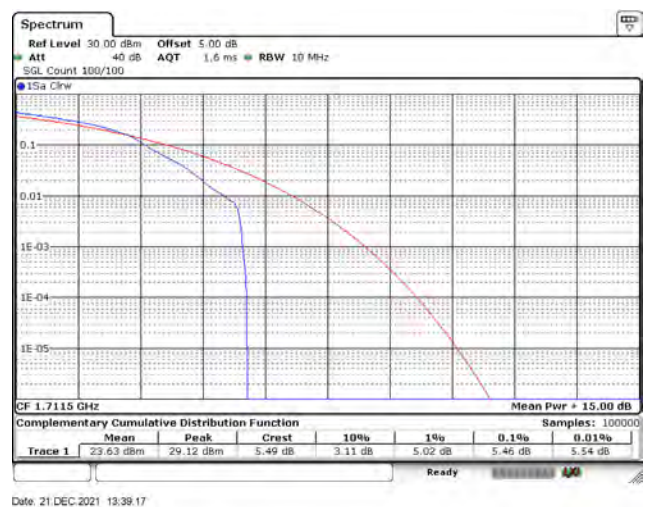


## LTE Band 4

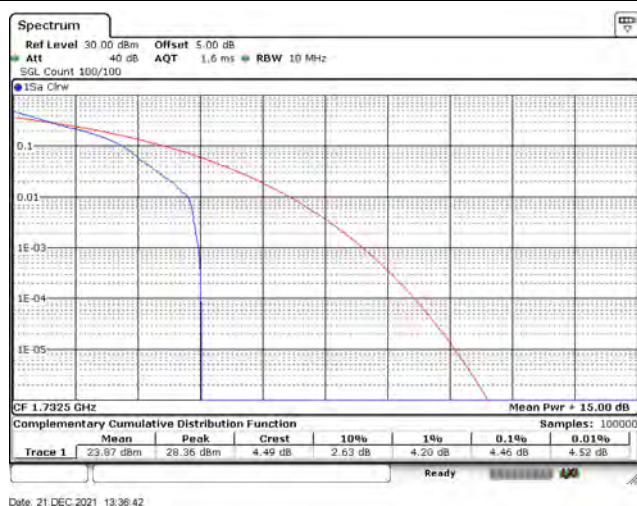
QPSK / CH19965 / 3 MHz / 1RB7 / Ratio



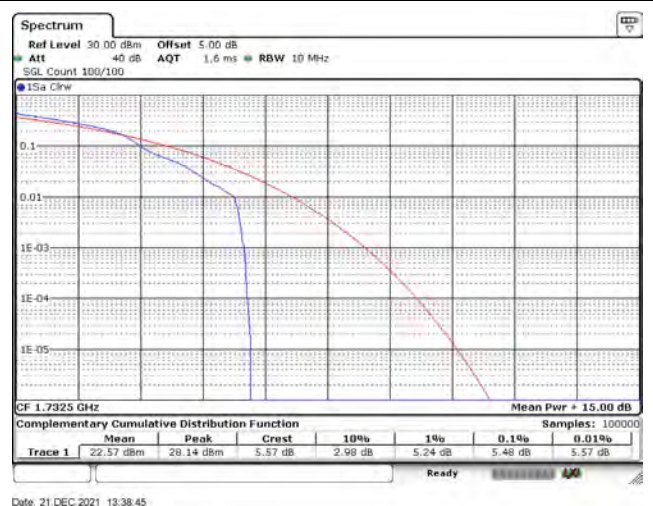
16-QAM / CH19965 / 3 MHz / 1RB7 / Ratio



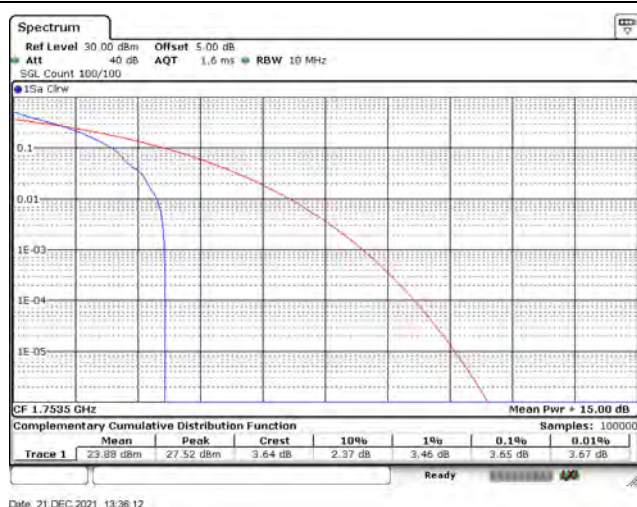
QPSK / CH20175 / 3 MHz / 1RB7 / Ratio



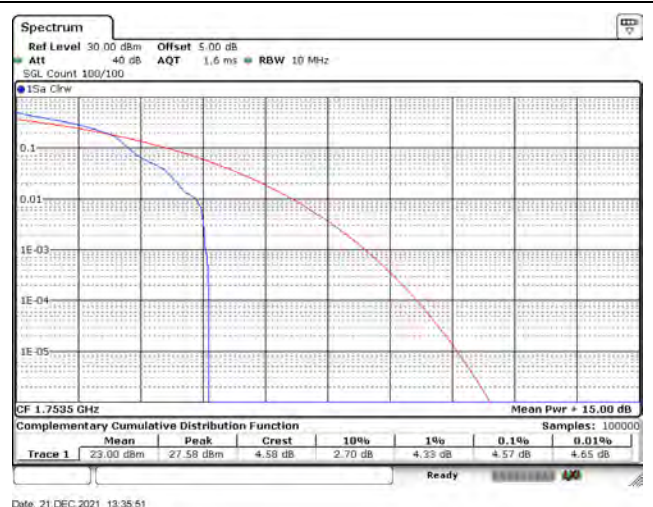
16-QAM / CH20175 / 3 MHz / 1RB7 / Ratio



QPSK / CH20385 / 3 MHz / 1RB7 / Ratio

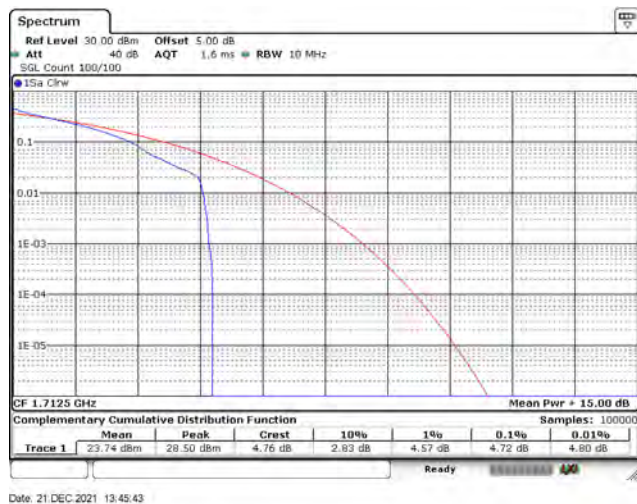


16-QAM / CH20385 / 3 MHz / 1RB7 / Ratio

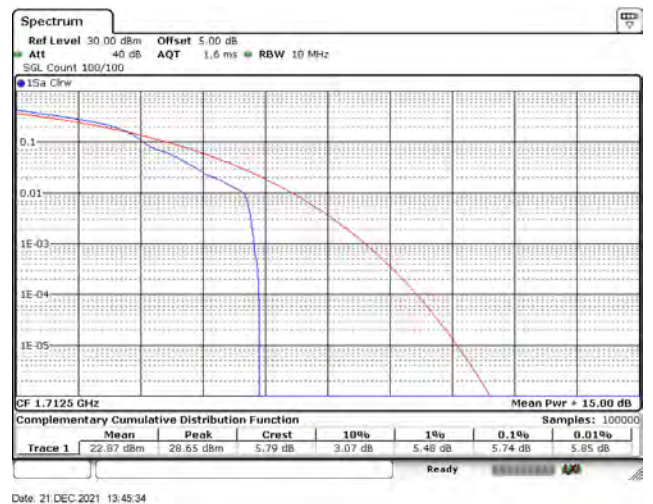


## LTE Band 4

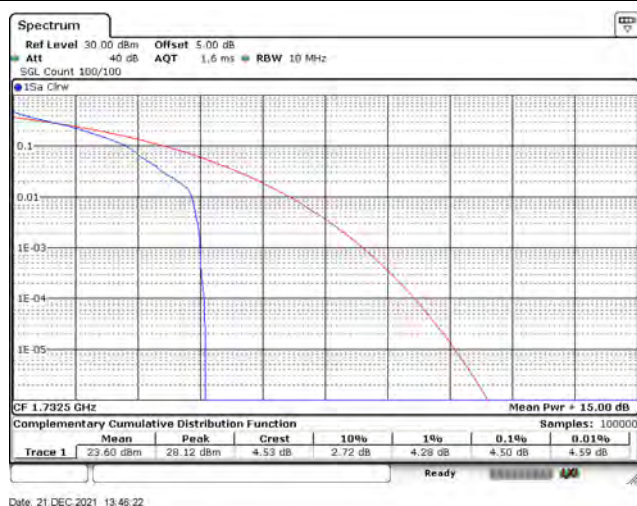
QPSK / CH19975 / 5 MHz / 1RB12 / Ratio



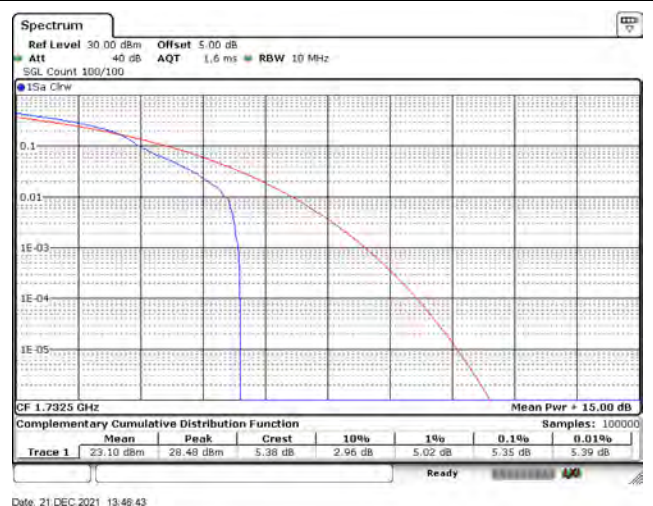
16-QAM / CH19975 / 5 MHz / 1RB12 / Ratio



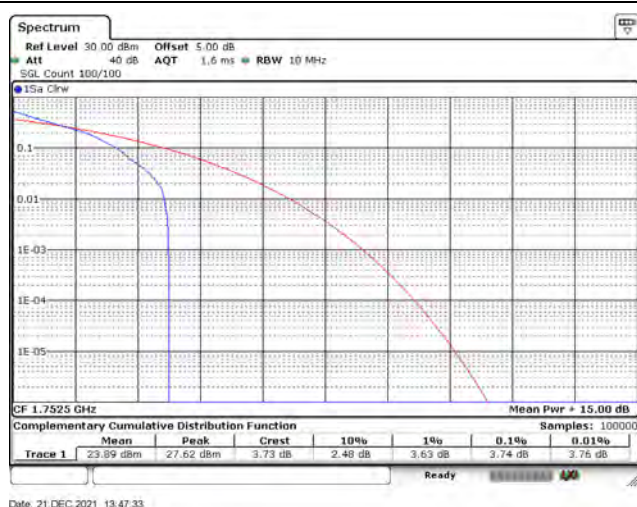
QPSK / CH20175 / 5 MHz / 1RB12 / Ratio



16-QAM / CH20175 / 5 MHz / 1RB12 / Ratio



QPSK / CH20375 / 5 MHz / 1RB12 / Ratio



16-QAM / CH20375 / 5 MHz / 1RB12 / Ratio

