

# TEST REPORT

FCC LTE B26(5)(Part22) Test for TM18FNROBM0  
Certification

APPLICANT  
LG Electronics Inc.

REPORT NO.  
HCT-RF-2507-FC088

DATE OF ISSUE  
July 22, 2025

Tested by  
Jae Ryang Do



Technical Manager  
Jong Seok Lee



Accredited by KOLAS, Republic of KOREA

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REPORT NO.

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DATE OF ISSUE

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Applicant

**LG Electronics Inc.**

128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea

Product Name

Telematics

Model Name

TM18FNROBM0

Date of Test

May 16, 2025 ~ July 22, 2025

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

FCC ID

2B03LTM18FNROBM0

FCC Classification:

PCS Licensed Transmitter (PCB)

Test Standard Used

FCC Rule Part: § 22

Test Results

PASS

## REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue | Description     |
|--------------|---------------|-----------------|
| 0            | July 22, 2025 | Initial Release |

## Notice

### Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C. 853(a)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked \*.

Information provided by the applicant is marked \*\*.

Test results provided by external providers are marked \*\*\*.

When confirmation of authenticity of this test report is required, please contact [www.hct.co.kr](http://www.hct.co.kr)

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

## CONTENTS

|                                                                  |     |
|------------------------------------------------------------------|-----|
| 1. GENERAL INFORMATION .....                                     | 5   |
| 1.1. SUPPORTED BANDS PER ANTENNA PORT .....                      | 6   |
| 1.2 MAXIMUM OUTPUT POWER.....                                    | 7   |
| 2. INTRODUCTION .....                                            | 8   |
| 2.1 DESCRIPTION OF EUT .....                                     | 8   |
| 2.2 MEASURING INSTRUMENT CALIBRATION .....                       | 8   |
| 2.3 TEST FACILITY .....                                          | 8   |
| 3. DESCRIPTION OF TESTS .....                                    | 9   |
| 3.1 TEST PROCEDURE.....                                          | 9   |
| 3.2 RADIATED POWER .....                                         | 10  |
| 3.3 RADIATED SPURIOUS EMISSIONS.....                             | 12  |
| 3.4 PEAK- TO- AVERAGE RATIO .....                                | 13  |
| 3.5 OCCUPIED BANDWIDTH. ....                                     | 14  |
| 3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL .....    | 15  |
| 3.7 BAND EDGE .....                                              | 16  |
| 3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE ..... | 18  |
| 3.9 WORST CASE(RADIATED TEST) .....                              | 19  |
| 3.10 WORST CASE(CONDUCTED TEST).....                             | 20  |
| 4. LIST OF TEST EQUIPMENT.....                                   | 21  |
| 5. MEASUREMENT UNCERTAINTY .....                                 | 24  |
| 6. SUMMARY OF TEST RESULTS .....                                 | 25  |
| 7. SAMPLE CALCULATION.....                                       | 26  |
| 8. TEST DATA(MIMO1) .....                                        | 28  |
| 8.1 EFFECTIVE RADIATED POWER.....                                | 28  |
| 8.2 RADIATED SPURIOUS EMISSIONS.....                             | 31  |
| 8.3 PEAK-TO-AVERAGE RATIO .....                                  | 32  |
| 8.4 OCCUPIED BANDWIDTH.....                                      | 33  |
| 8.5 CONDUCTED SPURIOUS EMISSIONS .....                           | 34  |
| 8.6 BAND EDGE .....                                              | 34  |
| 8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE ..... | 35  |
| 9. TEST DATA(Internal(BUA)) .....                                | 40  |
| 9.1 EFFECTIVE RADIATED POWER.....                                | 40  |
| 9.2 RADIATED SPURIOUS EMISSIONS.....                             | 43  |
| 10. TEST PLOTS.....                                              | 44  |
| 11. ANNEX A_ TEST SETUP PHOTO .....                              | 130 |

## MEASUREMENT REPORT

## 1. GENERAL INFORMATION

|                     |                                                                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model(s):           | TM18FNROBM0                                                                                                                                                                                                                                                       |
| Voltage:            | 4.2V                                                                                                                                                                                                                                                              |
| Tx Frequency:       | 824.7 MHz – 848.3 MHz (LTE – Band 26(5) (1.4 MHz))<br>825.5 MHz – 847.5 MHz (LTE – Band 26(5) (3 MHz))<br>826.5 MHz – 846.5 MHz (LTE – Band 26(5) (5 MHz))<br>829.0 MHz – 844.0 MHz (LTE – Band 26(5) (10 MHz))<br>831.5 MHz – 841.5 MHz (LTE – Band 26 (15 MHz)) |
| EUT Serial number:  | Radiated : BMW ICON 25SF Radiated #7<br>Conducted : BMW ICON-25SF Conducted #18                                                                                                                                                                                   |
| Antenna Information | Please refer to the Antenna Specification document.                                                                                                                                                                                                               |

### 1.1. SUPPORTED BANDS PER ANTENNA PORT

| Antenna Port               | Supported bands                                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MIMO 1                     | <ul style="list-style-type: none"> <li>- GSM850, 1900</li> <li>- WCDMA: B2, 4, 5</li> <li>- LTE: B4, 7, 12(17), 25(2), 26(5), 41(38), 42</li> <li>- NR: n7, 41, 77(78)</li> <li>- ULCA: 7C</li> </ul> |
| MIMO 2                     | <ul style="list-style-type: none"> <li>- LTE: B42</li> <li>- NR: n77(78)</li> </ul>                                                                                                                   |
| MIMO 3                     | Only RX                                                                                                                                                                                               |
| MIMO 4                     | Only RX                                                                                                                                                                                               |
| Int. BUA (Back Up Antenna) | <ul style="list-style-type: none"> <li>- GSM850, 1900</li> <li>- WCDMA: B2, 4, 5</li> <li>- LTE: B4, 7, 25(2), 26(5), 41(38)</li> <li>- NR: n7, 41</li> <li>- ULCA: 7C</li> </ul>                     |

Note:

1. Since the Int. BUA uses the same antenna port as MIMO1, only radiated testing was performed.

## 1.2 MAXIMUM OUTPUT POWER

| Mode<br>(MHz)          | Tx Frequency<br>(MHz) | Emission<br>Designator | Modulation | Conducted output power |                     |
|------------------------|-----------------------|------------------------|------------|------------------------|---------------------|
|                        |                       |                        |            | Max. Power<br>(W)      | Max. Power<br>(dBm) |
| LTE – Band 26(5) (1.4) | 824.7 – 848.3         | 1M09G7D                | QPSK       | 0.252                  | 24.01               |
|                        |                       | 1M09W7D                | 16QAM      | 0.221                  | 23.45               |
|                        |                       | 1M09W7D                | 64QAM      | 0.165                  | 22.17               |
|                        |                       | 1M09W7D                | 256QAM     | 0.081                  | 19.06               |
| LTE – Band 26(5) (3)   | 825.5 – 847.5         | 2M70G7D                | QPSK       | 0.248                  | 23.94               |
|                        |                       | 2M69W7D                | 16QAM      | 0.213                  | 23.29               |
|                        |                       | 2M70W7D                | 64QAM      | 0.162                  | 22.10               |
|                        |                       | 2M70W7D                | 256QAM     | 0.081                  | 19.11               |
| LTE – Band 26(5) (5)   | 826.5 – 846.5         | 4M50G7D                | QPSK       | 0.251                  | 23.99               |
|                        |                       | 4M48W7D                | 16QAM      | 0.218                  | 23.39               |
|                        |                       | 4M50W7D                | 64QAM      | 0.165                  | 22.17               |
|                        |                       | 4M50W7D                | 256QAM     | 0.080                  | 19.03               |
| LTE – Band 26(5) (10)  | 829.0 – 844.0         | 8M98G7D                | QPSK       | 0.250                  | 23.98               |
|                        |                       | 8M97W7D                | 16QAM      | 0.215                  | 23.33               |
|                        |                       | 8M98W7D                | 64QAM      | 0.167                  | 22.24               |
|                        |                       | 8M99W7D                | 256QAM     | 0.081                  | 19.06               |
| LTE – Band 26 (15)     | 831.5 – 841.5         | 13M5G7D                | QPSK       | 0.240                  | 23.81               |
|                        |                       | 13M5W7D                | 16QAM      | 0.211                  | 23.25               |
|                        |                       | 13M5W7D                | 64QAM      | 0.162                  | 22.09               |
|                        |                       | 13M5W7D                | 256QAM     | 0.078                  | 18.92               |

## 2. INTRODUCTION

### 2.1 DESCRIPTION OF EUT

Please refer to the [2G3G] Test Report.

### 2.2 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 2.3 TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea.

Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (Registration Number: KR0032).



### 3. DESCRIPTION OF TESTS

#### 3.1 TEST PROCEDURE

| Test Description                                    | Test Procedure Used                                                             |
|-----------------------------------------------------|---------------------------------------------------------------------------------|
| Occupied Bandwidth                                  | - KDB 971168 D01 v03r01 – Section 4.3<br>- ANSI C63.26-2015 – Section 5.4.4     |
| Band Edge                                           | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7       |
| Spurious and Harmonic Emissions at Antenna Terminal | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7       |
| Peak- to- Average Ratio                             | - KDB 971168 D01 v03r01 – Section 5.7<br>- ANSI C63.26-2015 – Section 5.2.3.4   |
| Conducted Output Power                              | - N/A (See SAR Report)                                                          |
| Frequency stability                                 | - ANSI C63.26-2015 – Section 5.6                                                |
| Radiated Power                                      | - ANSI C63.26-2015 – Section 5.2.4.4<br>- KDB 971168 D01 v03r01 – Section 5.8   |
| Radiated Spurious and Harmonic Emissions            | - KDB 971168 D01 v03r01 – Section 6.2<br>- ANSI/TIA-603-E-2016 – Section 2.2.12 |

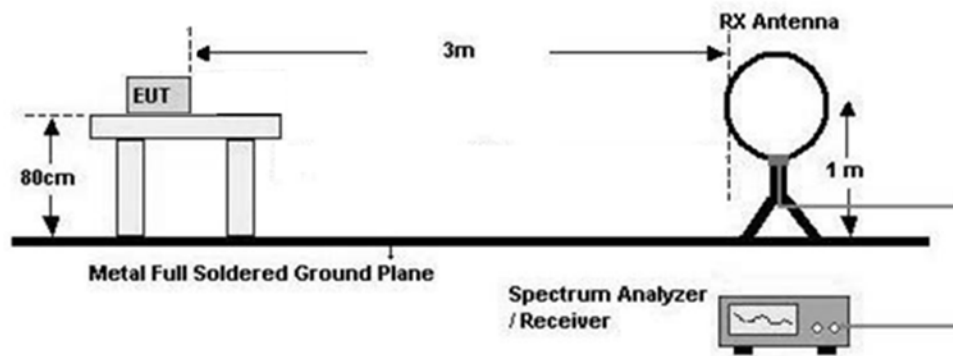
## 3.2 RADIATED POWER

### Test Overview

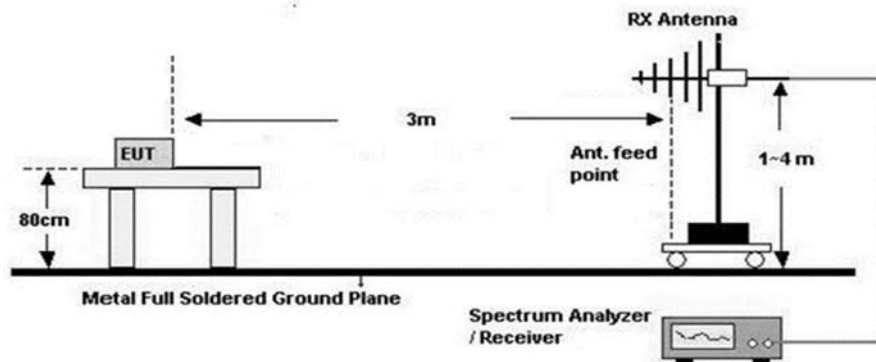
Radiated tests are performed in the semi-anechoic chamber. The equipment under test is placed on a non-conductive table on semi-anechoic chamber.

### Test Configuration

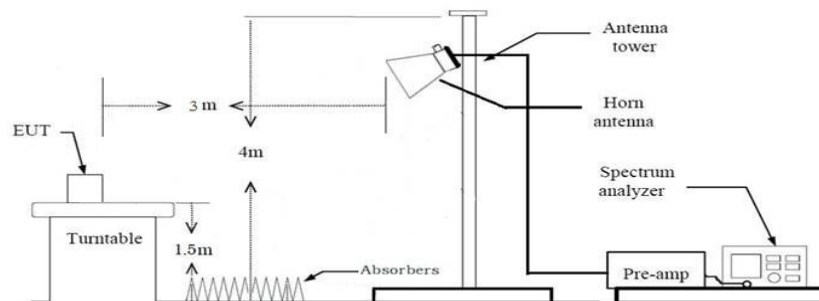
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW  $\geq 3 \times$  RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $> 2 \times$  span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

### Test Note

1. The EUT is placed on a turntable, which is 0.8 m above ground plane. (Below 1 GHz)
2. The EUT is placed on a turntable, which is 1.5 m above ground plane. (Above 1 GHz)
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
6. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.
7.  $\text{Total(dB}\mu\text{V/m)} = \text{Measured Value(dB}\mu\text{V)} + \text{Cable Loss(dB)} + \text{Antenna Factor(dB/m)} + \text{Distance Factor(D.F)}$
8. EIRP (dBm)  
 $= \text{Total (dB}\mu\text{V/m)} + 20 \log D - 104.8$  (where D is the measurement distance in meters.  $D=3$ )  
 $= \text{Total (dB}\mu\text{V/m)} - 95.2(\text{dB})$
9.  $\text{ERP(dBm)} = \text{EIRP(dBm)} - 2.15(\text{dB})$

### 3.3 RADIATED SPURIOUS EMISSIONS

#### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

#### Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $> 2 \times$  span / RBW
5. Detector = Peak
6. Trace mode = Max Hold
7. The trace was allowed to stabilize
8. Test channel : Low/ Middle/ High
9. Frequency range : We are performed all frequency to 10<sup>th</sup> harmonics from 9 kHz.

#### Test Note

1. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin  $> 20$  dB from the applicable limit) and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated. The spurious emissions is calculated by the following formula;

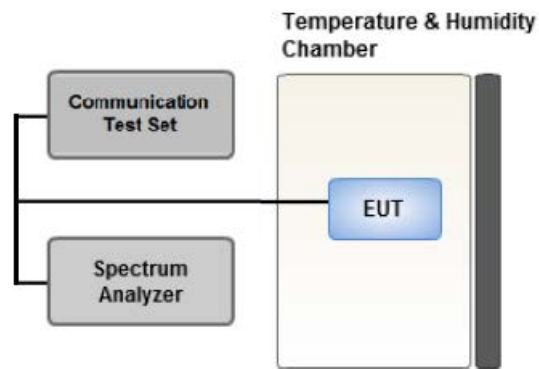
$$\text{Result}_{(\text{dBm})} = P_{g(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

Where:  $P_g$  is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

### 3.4 PEAK- TO- AVERAGE RATIO



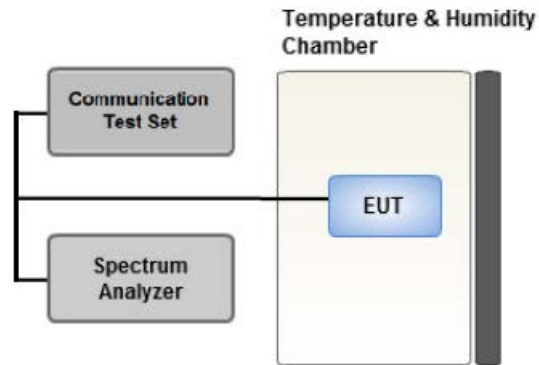
Test setup

#### CCDF Procedure for PAPR

##### Test Settings

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
  - .- for continuous transmissions, set to 1 ms,
  - .- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

### 3.5 OCCUPIED BANDWIDTH.



#### Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.

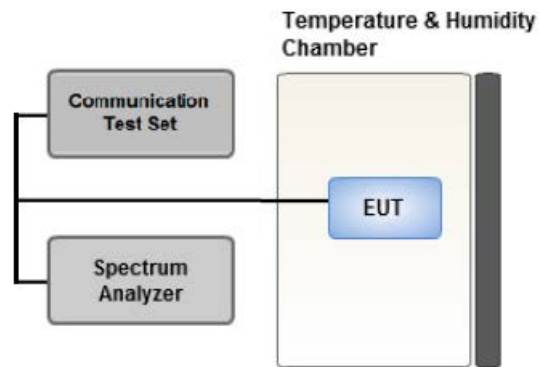
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

#### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

### 3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

#### Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

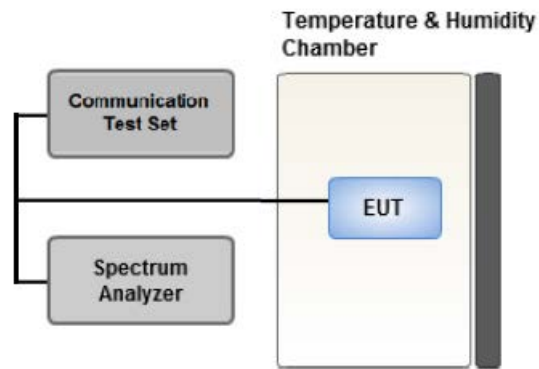
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Settings

1. RBW = 1 MHz
2. VBW  $\geq$  3 MHz
3. Detector = Peak
4. Trace Mode = Max hold
5. Sweep time = auto
6. Number of points in sweep  $\geq$  2 x Span / RBW

### 3.7 BAND EDGE



Test setup

#### Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1 % of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time > Number of points in sweep  $\times$  Symbol period
9. The trace was allowed to stabilize



### Test Notes

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

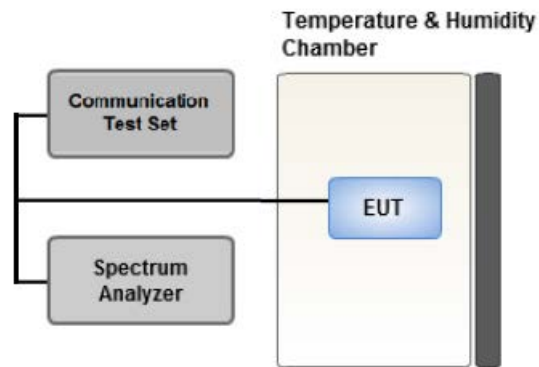
In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

All measurements were done at 2 channels(low and high operational frequency range.)

The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

Where  $\text{Margin} < 1$  dB the emission level is either corrected by  $10 \log(1 \text{ MHz} / \text{RB})$  or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.

### 3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



#### Test setup

##### Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.

2. Primary Supply Voltage:

- .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
- .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

##### Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

### 3.9 WORST CASE(RADIATED TEST)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
- In the case of radiated spurious emissions, all bandwidth of operation were investigated and the worst case bandwidth results are reported. (Worst case : 1.4 MHz(External(MIMO1)), 5 MHz(Internal(BUA)))
- LTE Band 26(1.4 M/3 M/5 M/10 M) overlaps the entire frequency range of LTE Band 5(1.4 M/3 M/5 M/10 M) and they have the same Tune-up power.

Therefore, test data provided in this report covers Band 5 as well as Band 26.

- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data. Please refer to the table below.
- MIMO3 and MIMO4 have three types of Rx antennas. Operating modes were investigated for all Rx antennas, and the worst-case configuration results were reported. (Worst-case: FSA antenna)

[ External(MIMO1) Worst case ]

| Test Description                         | Modulation                          | RB size         | RB offset | Axis |
|------------------------------------------|-------------------------------------|-----------------|-----------|------|
| Effective Radiated Power                 | QPSK,<br>16QAM,<br>64QAM,<br>256QAM | See Section 8.1 |           | Z    |
| Radiated Spurious and Harmonic Emissions | QPSK                                | See Section 8.2 |           | Y    |

[ Internal(BUA) Worst case ]

| Test Description                         | Modulation                          | RB size         | RB offset | Axis |
|------------------------------------------|-------------------------------------|-----------------|-----------|------|
| Effective Radiated Power                 | QPSK,<br>16QAM,<br>64QAM,<br>256QAM | See Section 9.1 |           | Z    |
| Radiated Spurious and Harmonic Emissions | QPSK                                | See Section 9.2 |           | Z    |

### 3.10 WORST CASE(CONDUCTED TEST)

- All modes of operation were investigated and the worst case configuration results are reported.
- Both 85% and 115% conditions were measured for the Frequency Stability test, and results for the worst-case configuration (85%) were reported.
- In accordance with the customer's specification of 3.7V as the lowest operating voltage, testing was performed at 3.7V instead of 85% (3.57V).

[ Worst case ]

| Test Description                                       | Modulation                          | Bandwidth<br>(MHz)   | Frequency            | RB size | RB offset |
|--------------------------------------------------------|-------------------------------------|----------------------|----------------------|---------|-----------|
| Occupied Bandwidth                                     | QPSK,<br>16QAM,<br>64QAM,<br>256QAM | 1.4, 3, 5, 10,<br>15 | Mid                  | Full RB | 0         |
| Peak-To-Average Ratio                                  | QPSK,<br>16QAM,<br>64QAM,<br>256QAM | 1.4, 3, 5, 10,<br>15 | Mid                  | Full RB | 0         |
| Band Edge                                              | QPSK                                | 1.4                  | Low                  | 1       | 0         |
|                                                        |                                     |                      | High                 | 1       | 5         |
|                                                        |                                     | 3                    | Low                  | 1       | 0         |
|                                                        |                                     |                      | High                 | 1       | 14        |
|                                                        |                                     | 5                    | Low                  | 1       | 0         |
|                                                        |                                     |                      | High                 | 1       | 24        |
|                                                        |                                     | 10                   | Low                  | 1       | 0         |
|                                                        |                                     |                      | High                 | 1       | 49        |
|                                                        |                                     | 15                   | Low                  | 1       | 0         |
|                                                        |                                     |                      | High                 | 1       | 74        |
|                                                        |                                     | 1.4, 3, 5, 10,<br>15 | Low,<br>High         | Full RB | 0         |
| Spurious and Harmonic Emissions at<br>Antenna Terminal | QPSK                                | 1.4, 3, 5, 10,<br>15 | Low,<br>Mid,<br>High | 1       | 0         |

#### 4. LIST OF TEST EQUIPMENT

[Radiated]

| Equipment                                 | Model                      | Manufacturer           | Serial No.                 | Due to Calibration | Calibration Interval |
|-------------------------------------------|----------------------------|------------------------|----------------------------|--------------------|----------------------|
| RF Switch System                          | FBSR-04C(3G HPF+LNA)       | TNM System             | S4L1                       | 03/12/2026         | Annual               |
| RF Switch System                          | FBSR-04C(7G HPF+LNA)       | TNM System             | S4L5                       | 03/12/2026         | Annual               |
| RF Switch System                          | FBSR-04C(LNA)              | TNM System             | S4L4                       | 03/12/2026         | Annual               |
| RF Switch System                          | FBSR-04C(Thru)             | TNM System             | S4L6                       | 03/12/2026         | Annual               |
| Antenna Position Tower                    | MA4640                     | Innco systems          | S4AM                       | 08/07/2025         | Annual               |
| Turn Table                                | DS2000-S                   | Innco systems          | N/A                        | N/A                | -                    |
| Controller<br>(Antenna mast & Turn Table) | CO3000                     | Innco systems          | CO3000/1251/48<br>920320/P | N/A                | -                    |
| Amp & Filter Bank Switch Controller       | FBSM-01B                   | TNM system             | TM20090002                 | N/A                | -                    |
| RF Switching System                       | Switch box(1 G HPF+LNA)    | HCT CO., LTD.,         | F2L2                       | 12/12/2025         | Annual               |
| RF Switching System                       | Switch box(3 G HPF+LNA)    | HCT CO., LTD.,         | F2L3                       | 12/12/2025         | Annual               |
| RF Switching System                       | Switch box(LNA)            | HCT CO., LTD.,         | F2L5                       | 12/12/2025         | Annual               |
| RF Switching System                       | Switch box(6 G HPF+LNA)    | HCT CO., LTD.,         | F2L14                      | 12/12/2025         | Annual               |
| HIGHPASS FILTER                           | WHKX10-900-1000-15000-40SS | WAINWRIGHT INSTRUMENTS | 16                         | 07/24/2025         | Annual               |
| LOW NOISE AMPLIFIER                       | 310N                       | SONOMA Instrument      | 186169                     | 02/05/2026         | Annual               |
| LOW NOISE AMPLIFIER                       | TK-PA1840H                 | TESTEK                 | 170011-L                   | 10/11/2025         | Annual               |
| Power Amplifier                           | CBL18265035                | CERNEX                 | 22966                      | 11/07/2025         | Annual               |
| Power Amplifier                           | CBL26405040                | CERNEX                 | 25956                      | 02/19/2026         | Annual               |
| Power Splitter(DC ~ 26.5 GHz)             | 11667B                     | Hewlett Packard        | 5001                       | 04/10/2026         | Annual               |
| DC Power Supply                           | E3632A                     | Agilent                | MY40010147                 | 08/06/2025         | Annual               |
| Dipole Antenna                            | UHAP                       | Schwarzbeck            | 01274                      | 03/10/2026         | Biennial             |
| Dipole Antenna                            | UHAP                       | Schwarzbeck            | 01288                      | 08/07/2026         | Biennial             |
| Horn Antenna(1 ~ 18 GHz)                  | BBHA 9120D                 | Schwarzbeck            | 03197                      | 11/28/2025         | Biennial             |
| Horn Antenna(1 ~ 18 GHz)                  | BBHA 9120D                 | Schwarzbeck            | 03201                      | 11/28/2025         | Biennial             |
| Horn Antenna(1 ~ 18 GHz)                  | BBHA 9120                  | Schwarzbeck            | 937                        | 02/07/2027         | Biennial             |
| Horn Antenna(15 ~ 40 GHz)                 | BBHA 9170                  | Schwarzbeck            | BBHA9170124                | 03/23/2027         | Biennial             |
| Horn Antenna(15 ~ 40 GHz)                 | BBHA 9170                  | Schwarzbeck            | BBHA9170342                | 09/20/2026         | Biennial             |

| Equipment                                | Model            | Manufacturer     | Serial No. | Due to Calibration | Calibration Interval |
|------------------------------------------|------------------|------------------|------------|--------------------|----------------------|
| Spectrum Analyzer(10 Hz ~ 40 GHz)        | FSV40            | ROHDE & SCHWARZ  | 101733     | 09/19/2025         | Annual               |
| Spectrum Analyzer(10 Hz ~ 40 GHz)        | FSV40            | REOHDE & SCHWARZ | 101436     | 02/04/2026         | Annual               |
| Signal & Spectrum Analyzer (2 Hz~67 GHz) | FSW67            | REOHDE & SCHWARZ | 101736     | 05/27/2026         | Annual               |
| Base Station                             | 8960 (E5515C)    | Agilent          | MY48360800 | 08/05/2025         | Annual               |
| Loop Antenna(9 kHz ~ 30 MHz)             | FMZB1513         | Schwarzbeck      | 1513-333   | 03/07/2026         | Biennial             |
| Trilog Broadband Antenna                 | VULB 9168        | Schwarzbeck      | 9168-0895  | 08/28/2026         | Biennial             |
| Trilog Broadband Antenna                 | VULB9168         | Schwarzbeck      | 895        | 08/28/2026         | Biennial             |
| Trilog Broadband Antenna                 | VULB9168         | Schwarzbeck      | 1135       | 08/19/2026         | Biennial             |
| Wideband Radio Communication Tester      | MT8821C          | Anritsu Corp.    | 6262287701 | 05/14/2026         | Annual               |
| Wideband Radio Communication Tester      | MT8000A          | Anritsu Corp.    | 6272613402 | 08/28/2025         | Annual               |
| SIGNAL GENERATOR<br>(100 kHz ~ 40 GHz)   | SMB100A          | REOHDE & SCHWARZ | 177633     | 07/26/2025         | Annual               |
| Automation Software                      | FCC LTE Radiated | HCT CO., LTD     | -          | -                  | -                    |
| Automation Software                      | FCC NR Radiated  | HCT CO., LTD     | -          | -                  | -                    |

[Conducted]

| Equipment                                               | Model                  | Manufacturer    | Serial No. | Due to Calibration | Calibration Interval |
|---------------------------------------------------------|------------------------|-----------------|------------|--------------------|----------------------|
| Power Splitter<br>(DC ~ 26.5 GHz)                       | 11667B                 | Hewlett Packard | 5001       | 04/10/2026         | Annual               |
| DC Power Supply                                         | E3632A                 | Agilent         | MY40010147 | 08/06/2025         | Annual               |
| Chamber                                                 | SU-642                 | ESPEC           | 93008124   | 02/11/2026         | Annual               |
| ATTENUATOR<br>(20 dB)                                   | 8493C                  | Hewlett Packard | 17280      | 04/10/2026         | Annual               |
| Base Station                                            | 8960 (E5515C)          | Agilent         | MY48360800 | 08/05/2025         | Annual               |
| Wideband Radio Communication<br>Tester                  | MT8821C                | Anritsu Corp.   | 6262094331 | 11/13/2025         | Annual               |
| UXM 5G Wireless Test Platform                           | E7515B                 | KEYSIGHT        | MY60101126 | 02/10/2026         | Annual               |
| Signal Analyzer<br>(2 Hz ~ 50.0 GHz)                    | N9030B                 | KEYSIGHT        | MY56320554 | 02/03/2026         | Annual               |
| FCC LTE Mobile Conducted RF<br>Automation Test Software | -                      | HCT CO., LTD.   | -          | -                  | -                    |
| Automation Software                                     | FCC 2G/3G/4G Conducted | HCT CO., LTD    | -          | -                  | -                    |
| Automation Software                                     | FCC NR Conducted       | HCT CO., LTD    | -          | -                  | -                    |

Note:

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
2. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

## 5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Parameter           | Expanded Uncertainty ( $\pm$ kHz)        |
|---------------------|------------------------------------------|
| Occupied Bandwidth  | 95 (Confidence level about 95 %, $k=2$ ) |
| Frequency stability | 28 (Confidence level about 95 %, $k=2$ ) |

| Parameter                              | Expanded Uncertainty ( $\pm$ dB)           |
|----------------------------------------|--------------------------------------------|
| Block Edge                             | 0.70 (Confidence level about 95 %, $k=2$ ) |
| Conducted Spurious Emissions           | 1.18 (Confidence level about 95 %, $k=2$ ) |
| Peak- to- Average Ratio                | 0.68 (Confidence level about 95 %, $k=2$ ) |
| Radiated Power                         | 4.74 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (9 kHz ~ 30 MHz)  | 4.36 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (30 MHz ~ 1 GHz)  | 5.68 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (1 GHz ~ 18 GHz)  | 5.75 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (18 GHz ~ 40 GHz) | 5.82 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (Above 40 GHz)    | 5.58 (Confidence level about 95 %, $k=2$ ) |



## 6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

### 6.1 Test Condition : Conducted Test

| Test Description                                                 | FCC Part Section(s)      | Test Limit                                                                            | Test Result       |
|------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------|-------------------|
| Occupied Bandwidth                                               | § 2.1049                 | N/A                                                                                   | PASS              |
| Band Edge / Spurious and Harmonic Emissions at Antenna Terminal. | § 2.1051,<br>§ 22.917(a) | $< 43 + 10\log_{10} (P[\text{Watts}])$ at Band Edge and for all out-of-band emissions | PASS              |
| Conducted Output Power                                           | § 2.1046                 | N/A                                                                                   | Note <sup>1</sup> |
| Peak- to- Average Ratio                                          | § 22.913(d)              | $< 13 \text{ dB}$                                                                     | PASS              |
| Frequency stability / variation of ambient temperature           | § 2.1055,<br>§ 22.355    | $< 2.5 \text{ ppm}$                                                                   | PASS              |

#### Note:

1. Refer to the SAR report.

### 6.2 Test Condition : Radiated Test

| Test Description                         | FCC Part Section(s)      | Test Limit                                                           | Test Result |
|------------------------------------------|--------------------------|----------------------------------------------------------------------|-------------|
| Effective Radiated Power                 | § 22.913(a)(5)           | $< 7 \text{ Watts max. ERP}$                                         | PASS        |
| Radiated Spurious and Harmonic Emissions | § 2.1053,<br>§ 22.917(a) | $< 43 + 10\log_{10} (P[\text{Watts}])$ for all out-of band emissions | PASS        |

## 7. SAMPLE CALCULATION

### 7.1 ERP Sample Calculation

| Ch./ Freq. |            | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant. Gain<br>(dBd) | C.L  | Pol. | ERP   |       |
|------------|------------|-------------------------|---------------------------|--------------------|------|------|-------|-------|
| channel    | Freq.(MHz) |                         |                           |                    |      |      | W     | dBm   |
| 128        | 824.20     | -21.37                  | 38.40                     | -10.61             | 0.95 | H    | 0.483 | 26.84 |

$$\text{ERP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

### 7.2 EIRP Sample Calculation

| Ch./ Freq. |            | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant. Gain<br>(dBi) | C.L  | Pol. | EIRP  |       |
|------------|------------|-------------------------|---------------------------|--------------------|------|------|-------|-------|
| channel    | Freq.(MHz) |                         |                           |                    |      |      | W     | dBm   |
| 20175      | 1,732.50   | -15.75                  | 18.45                     | 9.90               | 1.76 | H    | 0.456 | 26.59 |

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

### 7.3. Emission Designator

#### GSM Emission Designator

Emission Designator = 249KGXW  
GSM BW = 249 kHz  
G = Phase Modulation  
X = Cases not otherwise covered  
W = Combination (Audio/Data)

#### EDGE Emission Designator

Emission Designator = 249KG7W  
GSM BW = 249 kHz  
G = Phase Modulation  
7 = Quantized/Digital Info  
W = Combination (Audio/Data)

#### WCDMA Emission Designator

Emission Designator = 4M17F9W  
WCDMA BW = 4.17 MHz  
F = Frequency Modulation  
9 = Composite Digital Info  
W = Combination (Audio/Data)

#### QPSK Modulation

Emission Designator = 4M48G7D  
LTE BW = 4.48 MHz  
G = Phase Modulation  
7 = Quantized/Digital Info  
D = Data transmission; telemetry; telecommand

#### QAM Modulation

Emission Designator = 4M48W7D  
LTE BW = 4.48 MHz  
W = Amplitude/Angle Modulated  
7 = Quantized/Digital Info  
D = Data transmission; telemetry; telecommand

## 8. TEST DATA(MIMO1)

### 8.1 EFFECTIVE RADIATED POWER

| Freq<br>(MHz) | Mod/<br>Bandwidth     | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|-----------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                       |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 824.7         | LTE 26/5<br>(1.4 MHz) | QPSK       | 88.44                | 29.84                                    | 1.53        | 119.81            | H    | <<br>7.00 | 0.176 | 22.46 | 1    | 0      |
|               |                       | 16-QAM     | 87.74                | 29.84                                    | 1.53        | 119.11            | H    |           | 0.150 | 21.76 |      |        |
|               |                       | 64-QAM     | 86.60                | 29.84                                    | 1.53        | 117.97            | H    |           | 0.115 | 20.62 |      |        |
|               |                       | 256-QAM    | 83.50                | 29.84                                    | 1.53        | 114.87            | H    |           | 0.056 | 17.52 |      |        |
| 836.5         |                       | QPSK       | 87.83                | 29.74                                    | 1.54        | 119.11            | H    |           | 0.150 | 21.76 | 1    | 5      |
|               |                       | 16-QAM     | 87.19                | 29.74                                    | 1.54        | 118.47            | H    |           | 0.129 | 21.12 |      |        |
|               |                       | 64-QAM     | 85.98                | 29.74                                    | 1.54        | 117.26            | H    |           | 0.098 | 19.91 |      |        |
|               |                       | 256-QAM    | 82.81                | 29.74                                    | 1.54        | 114.09            | H    |           | 0.047 | 16.74 |      |        |
| 848.3         |                       | QPSK       | 87.62                | 29.84                                    | 1.56        | 119.02            | H    |           | 0.147 | 21.67 | 1    | 0      |
|               |                       | 16-QAM     | 86.86                | 29.84                                    | 1.56        | 118.25            | H    |           | 0.123 | 20.90 |      |        |
|               |                       | 64-QAM     | 85.64                | 29.84                                    | 1.56        | 117.04            | H    |           | 0.093 | 19.69 |      |        |
|               |                       | 256-QAM    | 82.54                | 29.84                                    | 1.56        | 113.94            | H    |           | 0.046 | 16.59 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth   | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit  | ERP   |       | RB   |        |
|---------------|---------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|--------|-------|-------|------|--------|
|               |                     |            |                      |                                          |             |                   |      | W      | W     | dBm   | Size | Offset |
| 825.5         | LTE 26/5<br>(3 MHz) | QPSK       | 88.40                | 29.84                                    | 1.53        | 119.77            | H    | < 7.00 | 0.174 | 22.42 | 1    | 14     |
|               |                     | 16-QAM     | 87.69                | 29.84                                    | 1.53        | 119.06            | H    |        | 0.148 | 21.71 |      |        |
|               |                     | 64-QAM     | 86.64                | 29.84                                    | 1.53        | 118.01            | H    |        | 0.116 | 20.66 |      |        |
|               |                     | 256-QAM    | 83.61                | 29.84                                    | 1.53        | 114.98            | H    |        | 0.058 | 17.63 |      |        |
| 836.5         |                     | QPSK       | 87.69                | 29.74                                    | 1.54        | 118.97            | H    |        | 0.145 | 21.62 | 1    | 14     |
|               |                     | 16-QAM     | 87.12                | 29.74                                    | 1.54        | 118.40            | H    |        | 0.127 | 21.05 |      |        |
|               |                     | 64-QAM     | 85.99                | 29.74                                    | 1.54        | 117.26            | H    |        | 0.098 | 19.91 |      |        |
|               |                     | 256-QAM    | 82.88                | 29.74                                    | 1.54        | 114.15            | H    |        | 0.048 | 16.80 |      |        |
| 847.5         |                     | QPSK       | 87.47                | 29.84                                    | 1.56        | 118.87            | H    |        | 0.142 | 21.52 | 1    | 0      |
|               |                     | 16-QAM     | 86.87                | 29.84                                    | 1.56        | 118.27            | H    |        | 0.124 | 20.92 |      |        |
|               |                     | 64-QAM     | 85.60                | 29.84                                    | 1.56        | 117.00            | H    |        | 0.092 | 19.65 |      |        |
|               |                     | 256-QAM    | 82.59                | 29.84                                    | 1.56        | 113.99            | H    |        | 0.046 | 16.64 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth   | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|---------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                     |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 826.5         | LTE 26/5<br>(5 MHz) | QPSK       | 88.30                | 29.84                                    | 1.53        | 119.66            | H    | <<br>7.00 | 0.170 | 22.31 | 1    | 0      |
|               |                     | 16-QAM     | 87.89                | 29.84                                    | 1.53        | 119.26            | H    |           | 0.155 | 21.91 |      |        |
|               |                     | 64-QAM     | 86.58                | 29.84                                    | 1.53        | 117.95            | H    |           | 0.115 | 20.60 |      |        |
|               |                     | 256-QAM    | 83.47                | 29.84                                    | 1.53        | 114.84            | H    |           | 0.056 | 17.49 |      |        |
| 836.5         |                     | QPSK       | 87.87                | 29.74                                    | 1.54        | 119.15            | H    |           | 0.151 | 21.80 | 1    | 13     |
|               |                     | 16-QAM     | 87.05                | 29.74                                    | 1.54        | 118.33            | H    |           | 0.125 | 20.98 |      |        |
|               |                     | 64-QAM     | 85.92                | 29.74                                    | 1.54        | 117.20            | H    |           | 0.097 | 19.85 |      |        |
|               |                     | 256-QAM    | 82.81                | 29.74                                    | 1.54        | 114.09            | H    |           | 0.047 | 16.74 |      |        |
| 846.5         |                     | QPSK       | 87.68                | 29.84                                    | 1.56        | 119.08            | H    |           | 0.149 | 21.73 | 1    | 13     |
|               |                     | 16-QAM     | 87.10                | 29.84                                    | 1.56        | 118.50            | H    |           | 0.130 | 21.15 |      |        |
|               |                     | 64-QAM     | 85.91                | 29.84                                    | 1.56        | 117.30            | H    |           | 0.099 | 19.95 |      |        |
|               |                     | 256-QAM    | 82.91                | 29.84                                    | 1.56        | 114.31            | H    |           | 0.050 | 16.96 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth    | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|----------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                      |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 829.0         | LTE 26/5<br>(10 MHz) | QPSK       | 88.40                | 29.84                                    | 1.53        | 119.77            | H    | <<br>7.00 | 0.175 | 22.42 | 1    | 49     |
|               |                      | 16-QAM     | 87.67                | 29.84                                    | 1.53        | 119.03            | H    |           | 0.147 | 21.68 |      |        |
|               |                      | 64-QAM     | 86.56                | 29.84                                    | 1.53        | 117.93            | H    |           | 0.114 | 20.58 |      |        |
|               |                      | 256-QAM    | 83.34                | 29.84                                    | 1.53        | 114.71            | H    |           | 0.054 | 17.36 |      |        |
| 836.5         |                      | QPSK       | 88.17                | 29.74                                    | 1.54        | 119.45            | H    |           | 0.162 | 22.10 | 1    | 25     |
|               |                      | 16-QAM     | 87.55                | 29.74                                    | 1.54        | 118.83            | H    |           | 0.140 | 21.48 |      |        |
|               |                      | 64-QAM     | 86.27                | 29.74                                    | 1.54        | 117.55            | H    |           | 0.105 | 20.20 |      |        |
|               |                      | 256-QAM    | 83.24                | 29.74                                    | 1.54        | 114.52            | H    |           | 0.052 | 17.17 |      |        |
| 844.0         |                      | QPSK       | 88.31                | 29.84                                    | 1.56        | 119.71            | H    |           | 0.172 | 22.36 | 1    | 0      |
|               |                      | 16-QAM     | 87.55                | 29.84                                    | 1.56        | 118.95            | H    |           | 0.145 | 21.60 |      |        |
|               |                      | 64-QAM     | 86.47                | 29.84                                    | 1.56        | 117.87            | H    |           | 0.113 | 20.52 |      |        |
|               |                      | 256-QAM    | 83.50                | 29.84                                    | 1.56        | 114.90            | H    |           | 0.057 | 17.55 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth  | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|--------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                    |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 831.5         | LTE 26<br>(15 MHz) | QPSK       | 87.97                | 29.84                                    | 1.53        | 119.34            | H    | <<br>7.00 | 0.158 | 21.99 | 1    | 74     |
|               |                    | 16-QAM     | 87.24                | 29.84                                    | 1.53        | 118.61            | H    |           | 0.134 | 21.26 |      |        |
|               |                    | 64-QAM     | 86.18                | 29.84                                    | 1.53        | 117.55            | H    |           | 0.105 | 20.20 |      |        |
|               |                    | 256-QAM    | 83.03                | 29.84                                    | 1.53        | 114.40            | H    |           | 0.051 | 17.05 |      |        |
| 836.5         |                    | QPSK       | 88.51                | 29.74                                    | 1.54        | 119.79            | H    |           | 0.175 | 22.44 | 1    | 38     |
|               |                    | 16-QAM     | 87.77                | 29.74                                    | 1.54        | 119.05            | H    |           | 0.148 | 21.70 |      |        |
|               |                    | 64-QAM     | 86.64                | 29.74                                    | 1.54        | 117.92            | H    |           | 0.114 | 20.57 |      |        |
|               |                    | 256-QAM    | 83.54                | 29.74                                    | 1.54        | 114.82            | H    |           | 0.056 | 17.47 |      |        |
| 841.5         |                    | QPSK       | 88.27                | 29.84                                    | 1.56        | 119.67            | H    |           | 0.170 | 22.32 | 1    | 0      |
|               |                    | 16-QAM     | 87.54                | 29.84                                    | 1.56        | 118.94            | H    |           | 0.144 | 21.59 |      |        |
|               |                    | 64-QAM     | 86.47                | 29.84                                    | 1.56        | 117.87            | H    |           | 0.113 | 20.52 |      |        |
|               |                    | 256-QAM    | 83.39                | 29.84                                    | 1.56        | 114.79            | H    |           | 0.055 | 17.44 |      |        |

## 8.2 RADIATED SPURIOUS EMISSIONS

MODE: LTE 26  
 MODULATION SIGNAL: 1.4 MHz QPSK  
 DISTANCE: 3 meters

| Ch               | Freq.(MHz) | Measured Level [dBm] | Ant. Gain (dBi) | Substitute Level [dBm] | C.L  | Pol. | Result (dBm) | Limit  | RB   |        |
|------------------|------------|----------------------|-----------------|------------------------|------|------|--------------|--------|------|--------|
|                  |            |                      |                 |                        |      |      |              |        | Size | Offset |
| 26797<br>(824.7) | 1 649.40   | -46.84               | 9.44            | -61.78                 | 2.02 | H    | -54.36       | -13.00 | 1    | 0      |
|                  | 2 474.10   | -45.02               | 10.34           | -56.19                 | 2.57 | H    | -48.42       | -13.00 |      |        |
|                  | 3 298.80   | -53.51               | 11.09           | -61.72                 | 2.96 | H    | -53.59       | -13.00 |      |        |
|                  | 4 123.50   | -53.46               | 11.66           | -59.77                 | 3.32 | H    | -51.43       | -13.00 |      |        |
|                  | 4 948.20   | -54.84               | 11.28           | -56.42                 | 3.69 | H    | -48.83       | -13.00 |      |        |
| 26915<br>(836.5) | 1 673.00   | -45.23               | 9.60            | -60.50                 | 2.05 | H    | -52.95       | -13.00 | 1    | 5      |
|                  | 2 509.50   | -47.05               | 10.26           | -58.33                 | 2.51 | H    | -50.58       | -13.00 |      |        |
|                  | 3 346.00   | -54.12               | 11.10           | -62.78                 | 2.96 | H    | -54.64       | -13.00 |      |        |
|                  | 4 182.50   | -54.10               | 11.72           | -59.76                 | 3.40 | H    | -51.44       | -13.00 |      |        |
|                  | 5 019.00   | -54.40               | 11.15           | -55.50                 | 3.69 | V    | -48.04       | -13.00 |      |        |
| 27033<br>(848.3) | 1 696.60   | -48.85               | 9.73            | -64.07                 | 2.07 | H    | -56.41       | -13.00 | 1    | 0      |
|                  | 2 544.90   | -39.29               | 10.25           | -50.33                 | 2.53 | V    | -42.61       | -13.00 |      |        |
|                  | 3 393.20   | -52.10               | 11.20           | -60.99                 | 2.98 | V    | -52.77       | -13.00 |      |        |
|                  | 4 241.50   | -53.09               | 11.69           | -58.92                 | 3.35 | V    | -50.58       | -13.00 |      |        |
|                  | 5 089.80   | -53.39               | 11.16           | -54.96                 | 3.78 | V    | -47.58       | -13.00 |      |        |

### 8.3 PEAK-TO-AVERAGE RATIO

| Band | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data (dB) | Limit (dB) |
|------|------------|-----------------|------------|---------------------|-----------------------|-----------|------------|
| 26/5 | 1.4 MHz    | 836.5           | QPSK       | 6                   | 0                     | 5.86      | 13.00      |
|      |            |                 | 16-QAM     |                     |                       | 6.66      |            |
|      |            |                 | 64-QAM     |                     |                       | 6.87      |            |
|      |            |                 | 256-QAM    |                     |                       | 6.73      |            |
|      | 3 MHz      |                 | QPSK       | 15                  |                       | 5.87      |            |
|      |            |                 | 16-QAM     |                     |                       | 6.46      |            |
|      |            |                 | 64-QAM     |                     |                       | 6.92      |            |
|      |            |                 | 256-QAM    |                     |                       | 6.68      |            |
|      | 5 MHz      |                 | QPSK       | 25                  |                       | 5.70      |            |
|      |            |                 | 16-QAM     |                     |                       | 6.49      |            |
|      |            |                 | 64-QAM     |                     |                       | 6.62      |            |
|      |            |                 | 256-QAM    |                     |                       | 6.70      |            |
|      | 10 MHz     |                 | QPSK       | 50                  |                       | 5.86      |            |
|      |            |                 | 16-QAM     |                     |                       | 6.47      |            |
|      |            |                 | 64-QAM     |                     |                       | 6.73      |            |
|      |            |                 | 256-QAM    |                     |                       | 6.71      |            |
| 26   | 15 MHz     | QPSK            | 75         | 5.74                |                       |           |            |
|      |            | 16-QAM          |            | 6.39                |                       |           |            |
|      |            | 64-QAM          |            | 6.66                |                       |           |            |
|      |            | 256-QAM         |            | 6.73                |                       |           |            |

#### Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 45 ~ 64.



#### 8.4 OCCUPIED BANDWIDTH

| Band | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data (MHz) |
|------|------------|-----------------|------------|---------------------|-----------------------|------------|
| 26/5 | 1.4 MHz    | 836.5           | QPSK       | 6                   | 0                     | 1.0920     |
|      |            |                 | 16-QAM     |                     |                       | 1.0894     |
|      |            |                 | 64-QAM     |                     |                       | 1.0928     |
|      |            |                 | 256-QAM    |                     |                       | 1.0893     |
|      | 3 MHz      |                 | QPSK       | 15                  |                       | 2.7018     |
|      |            |                 | 16-QAM     |                     |                       | 2.6903     |
|      |            |                 | 64-QAM     |                     |                       | 2.6958     |
|      |            |                 | 256-QAM    |                     |                       | 2.7005     |
|      | 5 MHz      |                 | QPSK       | 25                  |                       | 4.4959     |
|      |            |                 | 16-QAM     |                     |                       | 4.4778     |
|      |            |                 | 64-QAM     |                     |                       | 4.4966     |
|      |            |                 | 256-QAM    |                     |                       | 4.4989     |
|      | 10 MHz     |                 | QPSK       | 50                  |                       | 8.9801     |
|      |            |                 | 16-QAM     |                     |                       | 8.9710     |
|      |            |                 | 64-QAM     |                     |                       | 8.9797     |
|      |            |                 | 256-QAM    |                     |                       | 8.9934     |
| 26   | 15 MHz     | QPSK            | 75         | 13.463              |                       |            |
|      |            | 16-QAM          |            | 13.461              |                       |            |
|      |            | 64-QAM          |            | 13.462              |                       |            |
|      |            | 256-QAM         |            | 13.461              |                       |            |

#### Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 65 ~ 84.

## 8.5 CONDUCTED SPURIOUS EMISSIONS

| Band | Band Width (MHz) | Frequency (MHz) | Frequency of Maximum Harmonic (GHz) | Factor (dB) | Measurement Maximum Data (dBm) | Result (dBm) | Limit (dBm) |
|------|------------------|-----------------|-------------------------------------|-------------|--------------------------------|--------------|-------------|
| 26/5 | 1.4              | 824.7           | 3.11073                             | 28.590      | -66.34                         | -37.750      | -13.00      |
|      |                  | 836.5           | 1.67505                             | 28.590      | -64.87                         | -36.277      |             |
|      |                  | 848.3           | 8.11567                             | 29.190      | -65.04                         | -35.848      |             |
|      | 3                | 826.5           | 1.64514                             | 28.590      | -63.89                         | -35.295      |             |
|      |                  | 836.5           | 5.75278                             | 29.190      | -64.86                         | -35.669      |             |
|      |                  | 846.5           | 3.81860                             | 28.590      | -66.40                         | -37.810      |             |
|      | 5                | 826.5           | 4.03794                             | 28.590      | -66.09                         | -37.496      |             |
|      |                  | 836.5           | 7.14858                             | 29.190      | -65.45                         | -36.265      |             |
|      |                  | 846.5           | 9.60120                             | 29.190      | -66.70                         | -37.509      |             |
|      | 10               | 829.0           | 1.64514                             | 28.590      | -65.96                         | -37.368      |             |
|      |                  | 836.5           | 5.44371                             | 29.190      | -66.16                         | -36.969      |             |
|      |                  | 844.0           | 4.90533                             | 28.590      | -66.24                         | -37.649      |             |
| 26   | 15               | 831.5           | 1.64514                             | 28.590      | -64.11                         | -35.519      |             |
|      |                  | 836.5           | 4.91530                             | 28.590      | -64.97                         | -36.384      |             |
|      |                  | 841.5           | 3.69896                             | 28.590      | -66.47                         | -37.879      |             |

### Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 85 ~ 99.
2. Conducted Spurious Emissions was tested QPSK Modulation, Resource Block Size 1 and Resource Block Offset 0
3. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
4. Factor (dB) = Cable Loss + Ext. Attenuator + Power Splitter

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 27.65       |
| 1 – 5                 | 28.59       |
| 5 – 10                | 29.19       |
| 10 – 15               | 29.71       |
| 15 – 20               | 30.08       |
| Above 20(26.5)        | 30.73       |

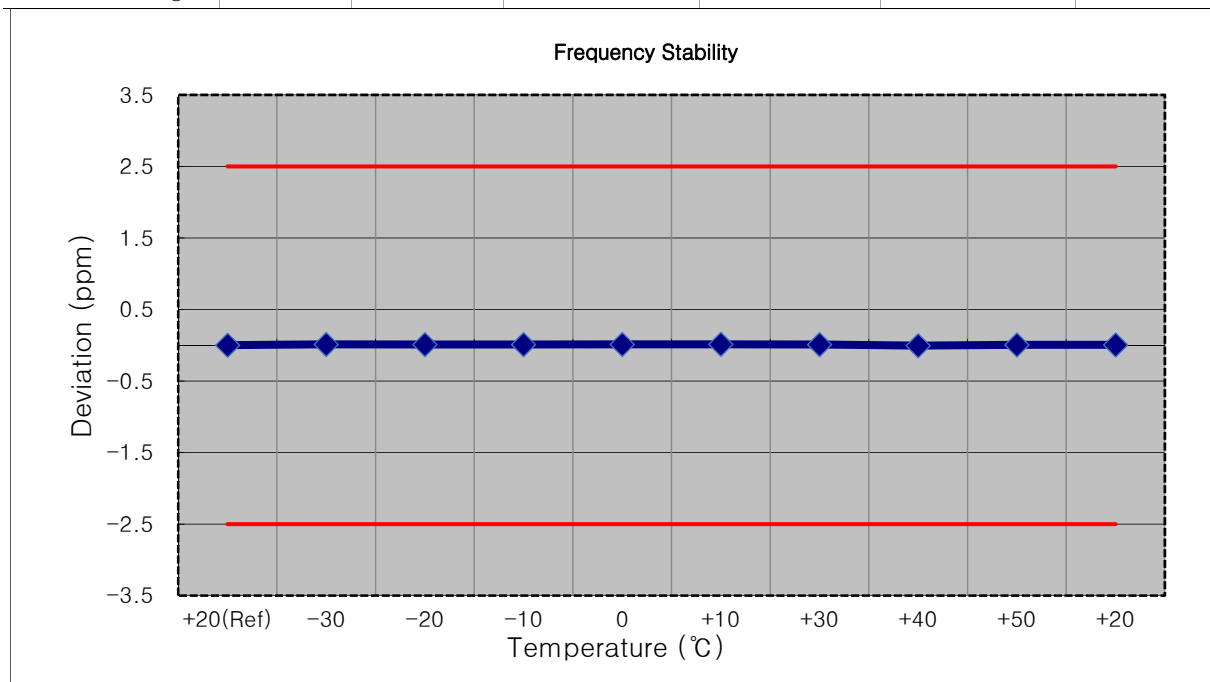
## 8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 100 ~ 129.

## 8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

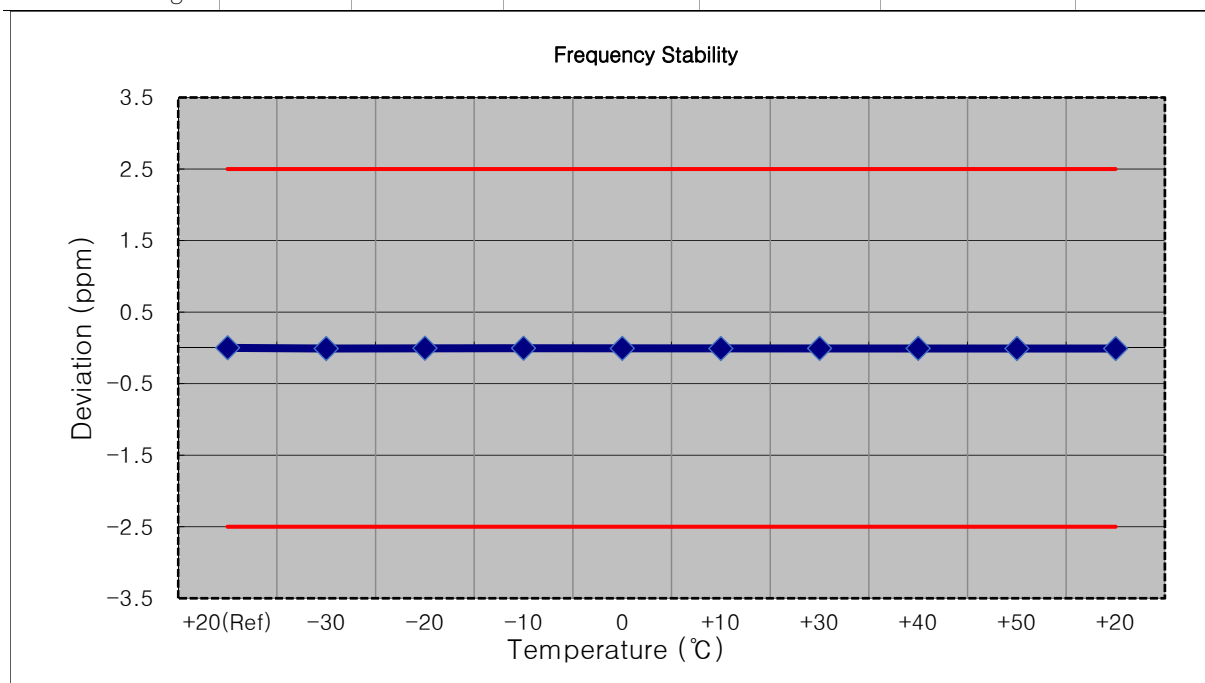
|                      |                                |
|----------------------|--------------------------------|
| MODE:                | <u>LTE 26/5</u>                |
| OPERATING FREQUENCY: | <u>836,500,000 Hz</u>          |
| CHANNEL:             | <u>26915 (1.4 MHz)</u>         |
| REFERENCE VOLTAGE:   | <u>4.200 VDC</u>               |
| DEVIATION LIMIT:     | <u>± 0.000 25 % or 2.5 ppm</u> |

| Voltage<br>(%) | Power<br>(VDC) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm    |
|----------------|----------------|---------------|-------------------|-------------------------|------------------|--------|
| 100 %          | 4.200          | +20(Ref)      | 836 500 008       | 0.0                     | 0.000 000        | 0.000  |
| 100 %          |                | -30           | 836 500 017       | 8.9                     | 0.000 001        | 0.011  |
| 100 %          |                | -20           | 836 500 015       | 7.1                     | 0.000 001        | 0.008  |
| 100 %          |                | -10           | 836 500 016       | 8.5                     | 0.000 001        | 0.010  |
| 100 %          |                | 0             | 836 500 018       | 9.7                     | 0.000 001        | 0.012  |
| 100 %          |                | +10           | 836 500 019       | 11.3                    | 0.000 001        | 0.014  |
| 100 %          |                | +30           | 836 500 016       | 8.4                     | 0.000 001        | 0.010  |
| 100 %          |                | +40           | 836 500 003       | -4.7                    | -0.000 001       | -0.006 |
| 100 %          |                | +50           | 836 500 011       | 3.3                     | 0.000 000        | 0.004  |
| Lowest voltage | 3.700          | +20           | 836 500 012       | 4.1                     | 0.000 000        | 0.005  |



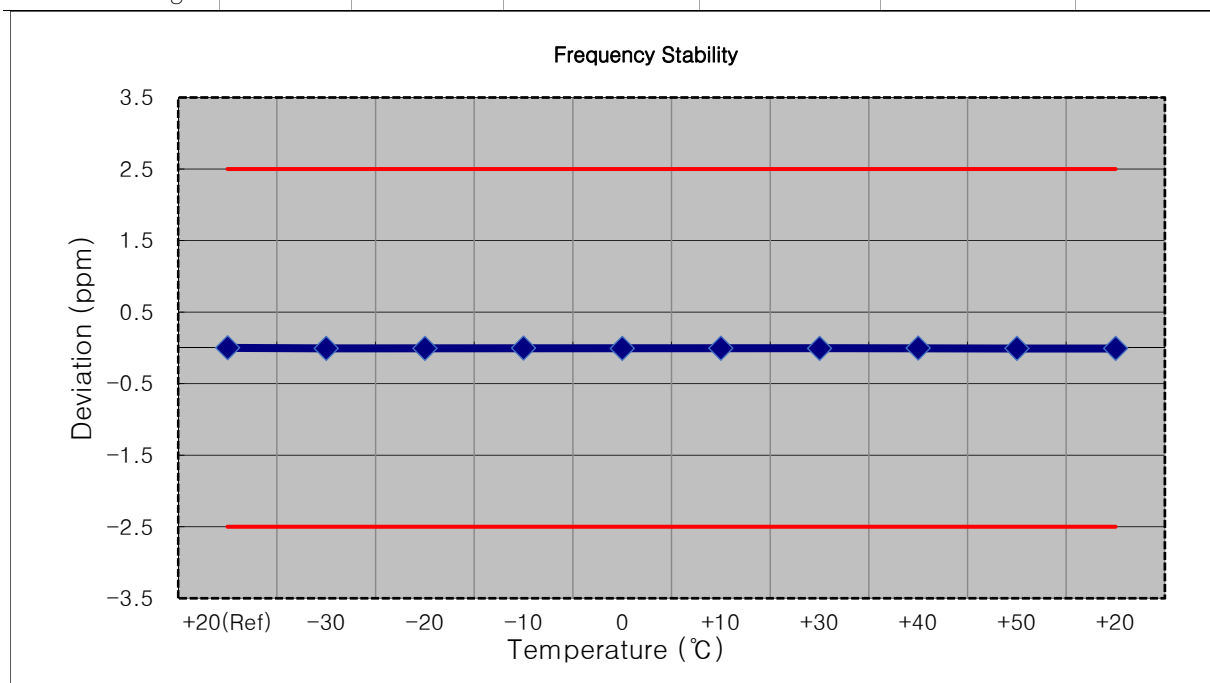
MODE: LTE 26/5  
 OPERATING FREQUENCY: 836,500,000 Hz  
 CHANNEL: 26915 (3 MHz)  
 REFERENCE VOLTAGE: 4.200 VDC  
 DEVIATION LIMIT:  $\pm 0.000\ 25\ \%$  or  $2.5\ \text{ppm}$

| Voltage        | Power | Temp.    | Frequency   | Frequency  | Deviation  | ppm    |
|----------------|-------|----------|-------------|------------|------------|--------|
| (%)            | (VDC) | (°C)     | (Hz)        | Error (Hz) | (%)        |        |
| 100 %          | 4.200 | +20(Ref) | 836 499 991 | 0.0        | 0.000 000  | 0.000  |
| 100 %          |       | -30      | 836 499 983 | -8.1       | -0.000 001 | -0.010 |
| 100 %          |       | -20      | 836 499 987 | -4.3       | -0.000 001 | -0.005 |
| 100 %          |       | -10      | 836 499 986 | -4.8       | -0.000 001 | -0.006 |
| 100 %          |       | 0        | 836 499 983 | -7.4       | -0.000 001 | -0.009 |
| 100 %          |       | +10      | 836 499 983 | -7.9       | -0.000 001 | -0.009 |
| 100 %          |       | +30      | 836 499 984 | -6.5       | -0.000 001 | -0.008 |
| 100 %          |       | +40      | 836 499 985 | -5.8       | -0.000 001 | -0.007 |
| 100 %          |       | +50      | 836 499 983 | -8.0       | -0.000 001 | -0.010 |
| Lowest voltage | 3.700 | +20      | 836 499 983 | -7.6       | -0.000 001 | -0.009 |



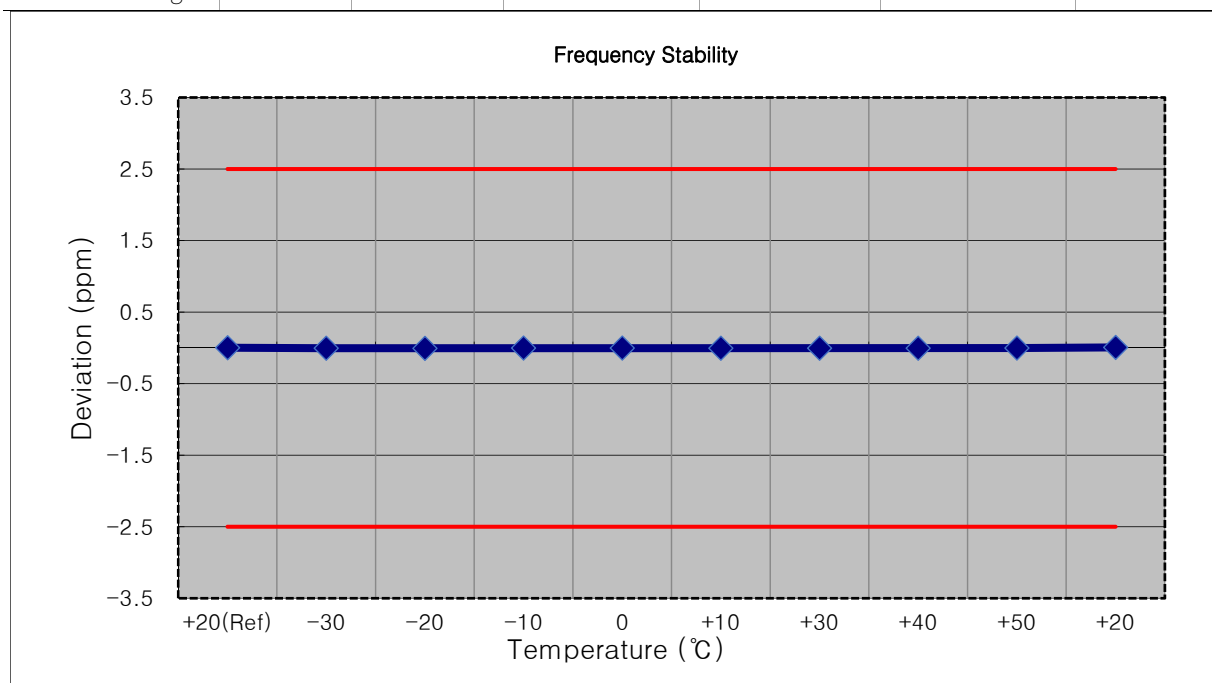
MODE: LTE 26/5  
 OPERATING FREQUENCY: 836,500,000 Hz  
 CHANNEL: 26915 (5 MHz)  
 REFERENCE VOLTAGE: 4.200 VDC  
 DEVIATION LIMIT:  $\pm 0.000\ 25\ \%$  or  $2.5\ \text{ppm}$

| Voltage        | Power | Temp.    | Frequency   | Frequency  | Deviation  | ppm    |
|----------------|-------|----------|-------------|------------|------------|--------|
| (%)            | (VDC) | (°C)     | (Hz)        | Error (Hz) | (%)        |        |
| 100 %          | 4.200 | +20(Ref) | 836 499 997 | 0.0        | 0.000 000  | 0.000  |
| 100 %          |       | -30      | 836 499 991 | -6.4       | -0.000 001 | -0.008 |
| 100 %          |       | -20      | 836 499 991 | -6.2       | -0.000 001 | -0.007 |
| 100 %          |       | -10      | 836 499 994 | -3.4       | 0.000 000  | -0.004 |
| 100 %          |       | 0        | 836 499 991 | -6.4       | -0.000 001 | -0.008 |
| 100 %          |       | +10      | 836 499 991 | -5.5       | -0.000 001 | -0.007 |
| 100 %          |       | +30      | 836 499 990 | -6.6       | -0.000 001 | -0.008 |
| 100 %          |       | +40      | 836 499 993 | -3.5       | 0.000 000  | -0.004 |
| 100 %          |       | +50      | 836 499 990 | -6.8       | -0.000 001 | -0.008 |
| Lowest voltage | 3.700 | +20      | 836 499 990 | -6.8       | -0.000 001 | -0.008 |



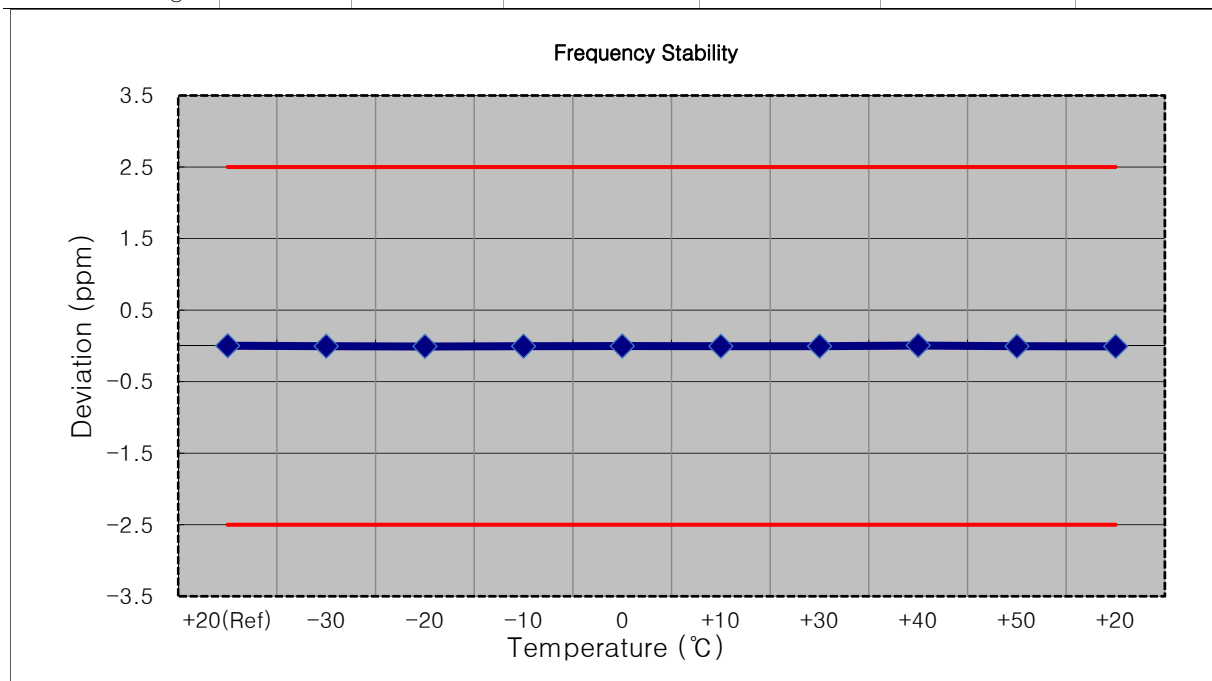
MODE: LTE 26/5  
 OPERATING FREQUENCY: 836,500,000 Hz  
 CHANNEL: 26915 (10 MHz)  
 REFERENCE VOLTAGE: 4.200 VDC  
 DEVIATION LIMIT:  $\pm 0.000\ 25\ \%$  or  $2.5\ \text{ppm}$

| Voltage        | Power | Temp.    | Frequency   | Frequency  | Deviation  | ppm    |
|----------------|-------|----------|-------------|------------|------------|--------|
| (%)            | (VDC) | (°C)     | (Hz)        | Error (Hz) | (%)        |        |
| 100 %          | 4.200 | +20(Ref) | 836 499 993 | 0.0        | 0.000 000  | 0.000  |
| 100 %          |       | -30      | 836 499 989 | -4.0       | 0.000 000  | -0.005 |
| 100 %          |       | -20      | 836 499 987 | -6.2       | -0.000 001 | -0.007 |
| 100 %          |       | -10      | 836 499 991 | -2.3       | 0.000 000  | -0.003 |
| 100 %          |       | 0        | 836 499 990 | -3.7       | 0.000 000  | -0.004 |
| 100 %          |       | +10      | 836 499 988 | -5.5       | -0.000 001 | -0.007 |
| 100 %          |       | +30      | 836 499 988 | -5.7       | -0.000 001 | -0.007 |
| 100 %          |       | +40      | 836 499 988 | -5.4       | -0.000 001 | -0.006 |
| 100 %          |       | +50      | 836 499 990 | -3.5       | 0.000 000  | -0.004 |
| Lowest voltage | 3.700 | +20      | 836 499 998 | 4.7        | 0.000 001  | 0.006  |



MODE: LTE 26  
 OPERATING FREQUENCY: 836,500,000 Hz  
 CHANNEL: 26915 (15 MHz)  
 REFERENCE VOLTAGE: 4.200 VDC  
 DEVIATION LIMIT:  $\pm 0.000\ 25\ \%$  or  $2.5\ \text{ppm}$

| Voltage        | Power | Temp.    | Frequency   | Frequency  | Deviation  | ppm    |
|----------------|-------|----------|-------------|------------|------------|--------|
| (%)            | (VDC) | (°C)     | (Hz)        | Error (Hz) | (%)        |        |
| 100 %          | 4.200 | +20(Ref) | 836 499 995 | 0.0        | 0.000 000  | 0.000  |
| 100 %          |       | -30      | 836 499 989 | -4.4       | -0.000 001 | -0.005 |
| 100 %          |       | -20      | 836 499 986 | -7.3       | -0.000 001 | -0.009 |
| 100 %          |       | -10      | 836 499 988 | -5.3       | -0.000 001 | -0.006 |
| 100 %          |       | 0        | 836 499 990 | -3.6       | 0.000 000  | -0.004 |
| 100 %          |       | +10      | 836 499 989 | -4.5       | -0.000 001 | -0.005 |
| 100 %          |       | +30      | 836 499 989 | -4.7       | -0.000 001 | -0.006 |
| 100 %          |       | +40      | 836 499 997 | 4.1        | 0.000 000  | 0.005  |
| 100 %          |       | +50      | 836 499 989 | -4.1       | 0.000 000  | -0.005 |
| Lowest voltage | 3.700 | +20      | 836 499 987 | -6.3       | -0.000 001 | -0.008 |



## 9. TEST DATA(Internal(BUA))

### 9.1 EFFECTIVE RADIATED POWER

| Freq<br>(MHz) | Mod/<br>Bandwidth     | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|-----------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                       |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 824.7         | LTE 26/5<br>(1.4 MHz) | QPSK       | 83.85                | 29.84                                    | 1.53        | 115.22            | H    | <<br>7.00 | 0.061 | 17.87 | 1    | 0      |
|               |                       | 16-QAM     | 83.22                | 29.84                                    | 1.53        | 114.59            | H    |           | 0.053 | 17.24 |      |        |
|               |                       | 64-QAM     | 82.03                | 29.84                                    | 1.53        | 113.40            | H    |           | 0.040 | 16.05 |      |        |
|               |                       | 256-QAM    | 79.00                | 29.84                                    | 1.53        | 110.37            | H    |           | 0.020 | 13.02 |      |        |
| 836.5         |                       | QPSK       | 84.36                | 29.74                                    | 1.54        | 115.64            | H    |           | 0.067 | 18.29 | 1    | 5      |
|               |                       | 16-QAM     | 83.71                | 29.74                                    | 1.54        | 114.99            | H    |           | 0.058 | 17.64 |      |        |
|               |                       | 64-QAM     | 82.42                | 29.74                                    | 1.54        | 113.70            | H    |           | 0.043 | 16.35 |      |        |
|               |                       | 256-QAM    | 79.47                | 29.74                                    | 1.54        | 110.75            | H    |           | 0.022 | 13.40 |      |        |
| 848.3         |                       | QPSK       | 84.37                | 29.84                                    | 1.56        | 115.77            | H    |           | 0.070 | 18.42 | 1    | 0      |
|               |                       | 16-QAM     | 83.59                | 29.84                                    | 1.56        | 114.98            | H    |           | 0.058 | 17.63 |      |        |
|               |                       | 64-QAM     | 82.45                | 29.84                                    | 1.56        | 113.85            | H    |           | 0.045 | 16.50 |      |        |
|               |                       | 256-QAM    | 79.40                | 29.84                                    | 1.56        | 110.79            | H    |           | 0.022 | 13.44 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth   | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit  | ERP   |       | RB   |        |
|---------------|---------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|--------|-------|-------|------|--------|
|               |                     |            |                      |                                          |             |                   |      | W      | W     | dBm   | Size | Offset |
| 825.5         | LTE 26/5<br>(3 MHz) | QPSK       | 84.08                | 29.84                                    | 1.53        | 115.45            | H    | < 7.00 | 0.065 | 18.10 | 1    | 14     |
|               |                     | 16-QAM     | 83.35                | 29.84                                    | 1.53        | 114.72            | H    |        | 0.055 | 17.37 |      |        |
|               |                     | 64-QAM     | 82.26                | 29.84                                    | 1.53        | 113.63            | H    |        | 0.042 | 16.28 |      |        |
|               |                     | 256-QAM    | 79.16                | 29.84                                    | 1.53        | 110.53            | H    |        | 0.021 | 13.18 |      |        |
| 836.5         |                     | QPSK       | 84.45                | 29.74                                    | 1.54        | 115.73            | H    |        | 0.069 | 18.38 | 1    | 14     |
|               |                     | 16-QAM     | 83.84                | 29.74                                    | 1.54        | 115.12            | H    |        | 0.060 | 17.77 |      |        |
|               |                     | 64-QAM     | 82.56                | 29.74                                    | 1.54        | 113.83            | H    |        | 0.045 | 16.48 |      |        |
|               |                     | 256-QAM    | 79.50                | 29.74                                    | 1.54        | 110.78            | H    |        | 0.022 | 13.43 |      |        |
| 847.5         |                     | QPSK       | 84.27                | 29.84                                    | 1.56        | 115.67            | H    |        | 0.068 | 18.32 | 1    | 0      |
|               |                     | 16-QAM     | 83.81                | 29.84                                    | 1.56        | 115.21            | H    |        | 0.061 | 17.86 |      |        |
|               |                     | 64-QAM     | 82.42                | 29.84                                    | 1.56        | 113.81            | H    |        | 0.044 | 16.46 |      |        |
|               |                     | 256-QAM    | 79.38                | 29.84                                    | 1.56        | 110.78            | H    |        | 0.022 | 13.43 |      |        |



| Freq<br>(MHz) | Mod/<br>Bandwidth   | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|---------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                     |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 826.5         | LTE 26/5<br>(5 MHz) | QPSK       | 84.31                | 29.84                                    | 1.53        | 115.67            | H    | <<br>7.00 | 0.068 | 18.32 | 1    | 0      |
|               |                     | 16-QAM     | 83.50                | 29.84                                    | 1.53        | 114.87            | H    |           | 0.056 | 17.52 |      |        |
|               |                     | 64-QAM     | 82.33                | 29.84                                    | 1.53        | 113.70            | H    |           | 0.043 | 16.35 |      |        |
|               |                     | 256-QAM    | 79.32                | 29.84                                    | 1.53        | 110.69            | H    |           | 0.022 | 13.34 |      |        |
| 836.5         |                     | QPSK       | 84.45                | 29.74                                    | 1.54        | 115.73            | H    |           | 0.069 | 18.38 | 1    | 13     |
|               |                     | 16-QAM     | 83.80                | 29.74                                    | 1.54        | 115.08            | H    |           | 0.059 | 17.73 |      |        |
|               |                     | 64-QAM     | 82.54                | 29.74                                    | 1.54        | 113.82            | H    |           | 0.044 | 16.47 |      |        |
|               |                     | 256-QAM    | 79.54                | 29.74                                    | 1.54        | 110.82            | H    |           | 0.022 | 13.47 |      |        |
| 846.5         |                     | QPSK       | 84.63                | 29.84                                    | 1.56        | 116.03            | H    |           | 0.074 | 18.68 | 1    | 13     |
|               |                     | 16-QAM     | 83.87                | 29.84                                    | 1.56        | 115.26            | H    |           | 0.062 | 17.91 |      |        |
|               |                     | 64-QAM     | 82.73                | 29.84                                    | 1.56        | 114.13            | H    |           | 0.048 | 16.78 |      |        |
|               |                     | 256-QAM    | 79.63                | 29.84                                    | 1.56        | 111.02            | H    |           | 0.023 | 13.67 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth    | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit  | ERP   |       | RB   |        |
|---------------|----------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|--------|-------|-------|------|--------|
|               |                      |            |                      |                                          |             |                   |      | W      | W     | dBm   | Size | Offset |
| 829.0         | LTE 26/5<br>(10 MHz) | QPSK       | 84.49                | 29.84                                    | 1.53        | 115.86            | H    | < 7.00 | 0.071 | 18.51 | 1    | 49     |
|               |                      | 16-QAM     | 83.80                | 29.84                                    | 1.53        | 115.17            | H    |        | 0.061 | 17.82 |      |        |
|               |                      | 64-QAM     | 82.60                | 29.84                                    | 1.53        | 113.97            | H    |        | 0.046 | 16.62 |      |        |
|               |                      | 256-QAM    | 79.49                | 29.84                                    | 1.53        | 110.86            | H    |        | 0.022 | 13.51 |      |        |
| 836.5         |                      | QPSK       | 84.54                | 29.74                                    | 1.54        | 115.82            | H    |        | 0.070 | 18.47 | 1    | 25     |
|               |                      | 16-QAM     | 83.78                | 29.74                                    | 1.54        | 115.06            | H    |        | 0.059 | 17.71 |      |        |
|               |                      | 64-QAM     | 82.80                | 29.74                                    | 1.54        | 114.08            | H    |        | 0.047 | 16.73 |      |        |
|               |                      | 256-QAM    | 79.54                | 29.74                                    | 1.54        | 110.82            | H    |        | 0.022 | 13.47 |      |        |
| 844.0         |                      | QPSK       | 84.53                | 29.84                                    | 1.56        | 115.93            | H    |        | 0.072 | 18.58 | 1    | 0      |
|               |                      | 16-QAM     | 83.83                | 29.84                                    | 1.56        | 115.23            | H    |        | 0.061 | 17.88 |      |        |
|               |                      | 64-QAM     | 82.79                | 29.84                                    | 1.56        | 114.19            | H    |        | 0.048 | 16.84 |      |        |
|               |                      | 256-QAM    | 79.55                | 29.84                                    | 1.56        | 110.95            | H    |        | 0.023 | 13.60 |      |        |

| Freq<br>(MHz) | Mod/<br>Bandwidth  | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Distance<br>Factor (dB) | C.L<br>(dB) | Total<br>(dBμV/m) | Pol. | Limit     | ERP   |       | RB   |        |
|---------------|--------------------|------------|----------------------|------------------------------------------|-------------|-------------------|------|-----------|-------|-------|------|--------|
|               |                    |            |                      |                                          |             |                   |      | W         | W     | dBm   | Size | Offset |
| 831.5         | LTE 26<br>(15 MHz) | QPSK       | 84.45                | 29.84                                    | 1.53        | 115.82            | H    | <<br>7.00 | 0.070 | 18.47 | 1    | 74     |
|               |                    | 16-QAM     | 83.79                | 29.84                                    | 1.53        | 115.16            | H    |           | 0.060 | 17.81 |      |        |
|               |                    | 64-QAM     | 82.71                | 29.84                                    | 1.53        | 114.08            | H    |           | 0.047 | 16.73 |      |        |
|               |                    | 256-QAM    | 79.65                | 29.84                                    | 1.53        | 111.02            | H    |           | 0.023 | 13.67 |      |        |
| 836.5         |                    | QPSK       | 84.58                | 29.74                                    | 1.54        | 115.86            | H    |           | 0.071 | 18.51 | 1    | 38     |
|               |                    | 16-QAM     | 83.93                | 29.74                                    | 1.54        | 115.21            | H    |           | 0.061 | 17.86 |      |        |
|               |                    | 64-QAM     | 82.65                | 29.74                                    | 1.54        | 113.93            | H    |           | 0.045 | 16.58 |      |        |
|               |                    | 256-QAM    | 79.65                | 29.74                                    | 1.54        | 110.93            | H    |           | 0.023 | 13.58 |      |        |
| 841.5         |                    | QPSK       | 84.57                | 29.84                                    | 1.56        | 115.97            | H    |           | 0.073 | 18.62 | 1    | 0      |
|               |                    | 16-QAM     | 83.85                | 29.84                                    | 1.56        | 115.24            | H    |           | 0.062 | 17.89 |      |        |
|               |                    | 64-QAM     | 82.79                | 29.84                                    | 1.56        | 114.19            | H    |           | 0.048 | 16.84 |      |        |
|               |                    | 256-QAM    | 79.70                | 29.84                                    | 1.56        | 111.09            | H    |           | 0.024 | 13.74 |      |        |

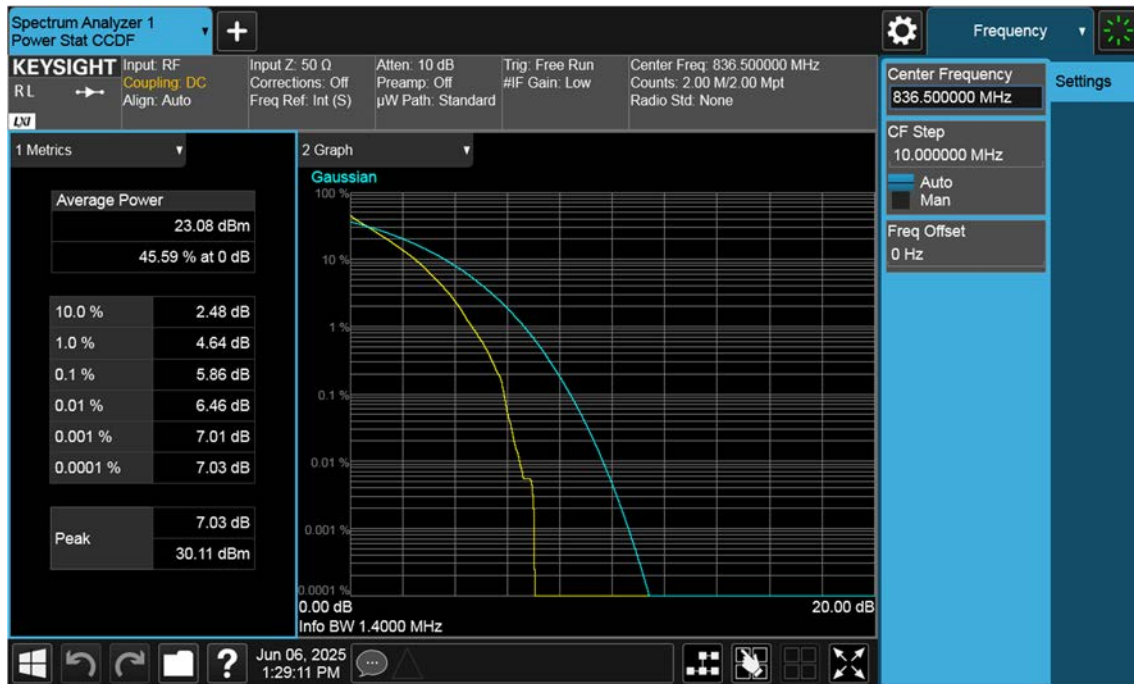
## 9.2 RADIATED SPURIOUS EMISSIONS

MODE: LTE 26  
 MODULATION SIGNAL: 5 MHz QPSK  
 DISTANCE: 3 meters

| Ch               | Freq.(MHz) | Measured Level [dBm] | Ant. Gain (dBi) | Substitute Level [dBm] | C.L  | Pol. | Result (dBm) | Limit  | RB   |        |
|------------------|------------|----------------------|-----------------|------------------------|------|------|--------------|--------|------|--------|
|                  |            |                      |                 |                        |      |      |              |        | Size | Offset |
| 26815<br>(826.5) | 1 653.00   | -52.53               | 9.47            | -67.56                 | 2.02 | H    | -60.11       | -13.00 | 1    | 0      |
|                  | 2 479.50   | -54.29               | 10.32           | -65.43                 | 2.55 | H    | -57.66       | -13.00 |      |        |
|                  | 3 306.00   | -55.17               | 11.09           | -63.43                 | 2.97 | H    | -55.31       | -13.00 |      |        |
|                  | 4 132.50   | -54.65               | 11.69           | -60.89                 | 3.34 | H    | -52.54       | -13.00 |      |        |
|                  | 4 959.00   | -55.00               | 11.25           | -56.60                 | 3.69 | V    | -49.04       | -13.00 |      |        |
| 26915<br>(836.5) | 1 673.00   | -52.27               | 9.60            | -67.54                 | 2.05 | V    | -59.99       | -13.00 | 1    | 13     |
|                  | 2 509.50   | -53.34               | 10.26           | -64.62                 | 2.51 | V    | -56.87       | -13.00 |      |        |
|                  | 3 346.00   | -54.40               | 11.10           | -63.06                 | 2.96 | H    | -54.92       | -13.00 |      |        |
|                  | 4 182.50   | -54.41               | 11.72           | -60.07                 | 3.40 | H    | -51.75       | -13.00 |      |        |
|                  | 5 019.00   | -55.49               | 11.15           | -56.59                 | 3.69 | V    | -49.13       | -13.00 |      |        |
| 27015<br>(846.5) | 1 693.00   | -52.39               | 9.73            | -67.61                 | 2.07 | V    | -59.95       | -13.00 | 1    | 13     |
|                  | 2 539.50   | -53.36               | 10.25           | -64.46                 | 2.53 | V    | -56.74       | -13.00 |      |        |
|                  | 3 386.00   | -54.83               | 11.18           | -63.78                 | 2.99 | V    | -55.59       | -13.00 |      |        |
|                  | 4 232.50   | -54.80               | 11.69           | -60.59                 | 3.36 | V    | -52.26       | -13.00 |      |        |
|                  | 5 079.00   | -55.91               | 11.15           | -57.29                 | 3.81 | V    | -49.95       | -13.00 |      |        |

## 10. TEST PLOTS

## LTE B26\_1.4M\_PAR\_Mid\_QPSK\_FullRB



## LTE B26\_1.4M\_PAR\_Mid\_16QAM\_FullRB



## LTE B26\_1.4M\_PAR\_Mid\_64QAM\_FullRB

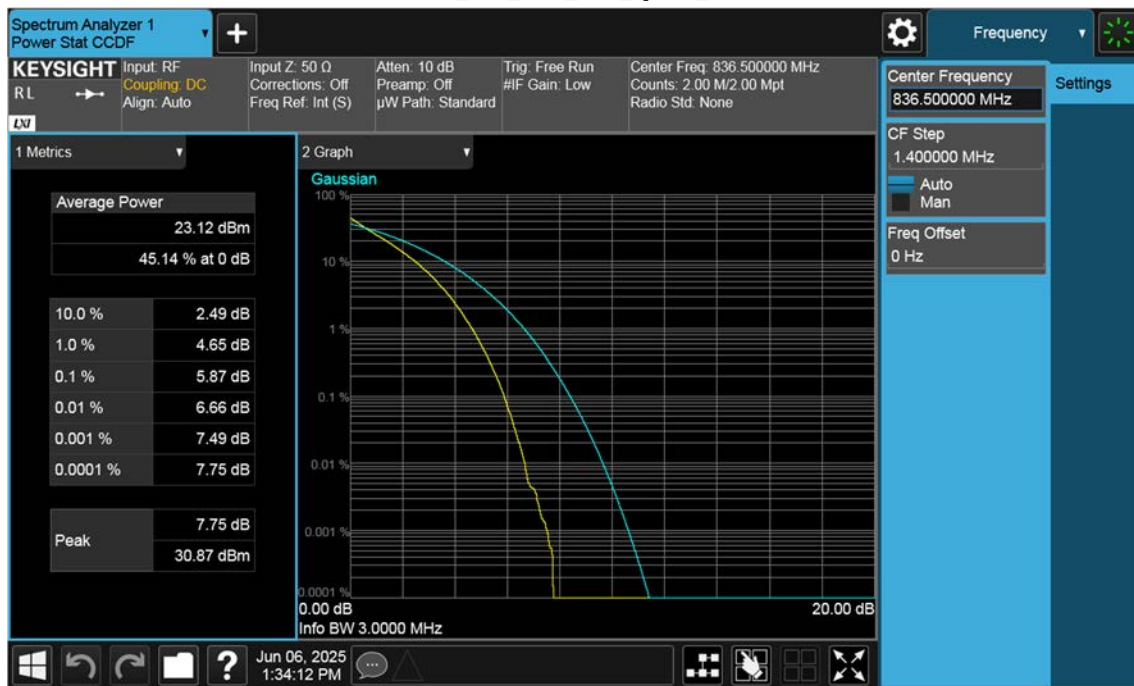


## LTE B26\_1.4M\_PAR\_Mid\_256QAM\_FullRB





## LTE B26\_3 M\_PAR\_Mid\_QPSK\_FullRB



## LTE B26\_3 M\_PAR\_Mid\_16QAM\_FullRB



## LTE B26\_3 M\_PAR\_Mid\_64QAM\_FullRB



## LTE B26\_3 M\_PAR\_Mid\_256QAM\_FullRB



## LTE B26\_5 M\_PAR\_Mid\_QPSK\_FullRB



## LTE B26\_5 M\_PAR\_Mid\_16QAM\_FullRB



## LTE B26\_5 M\_PAR\_Mid\_64QAM\_FullRB

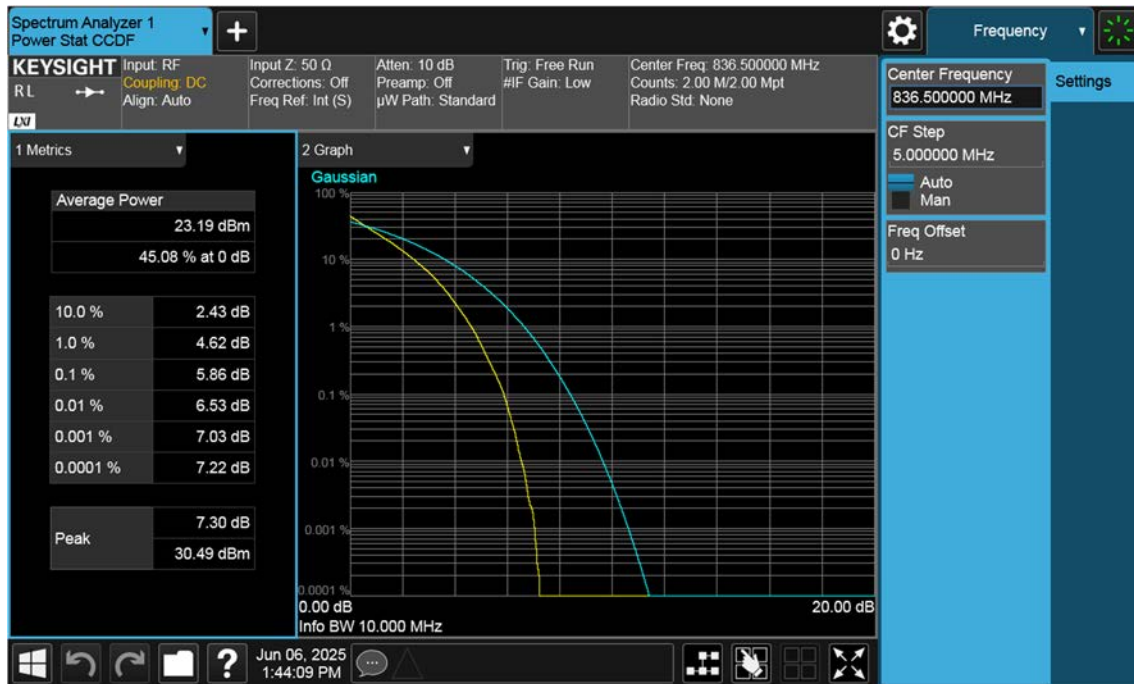


## LTE B26\_5 M\_PAR\_Mid\_256QAM\_FullRB





## LTE B26\_10 M\_PAR\_Mid\_QPSK\_FullRB



## LTE B26\_10 M\_PAR\_Mid\_16QAM\_FullRB



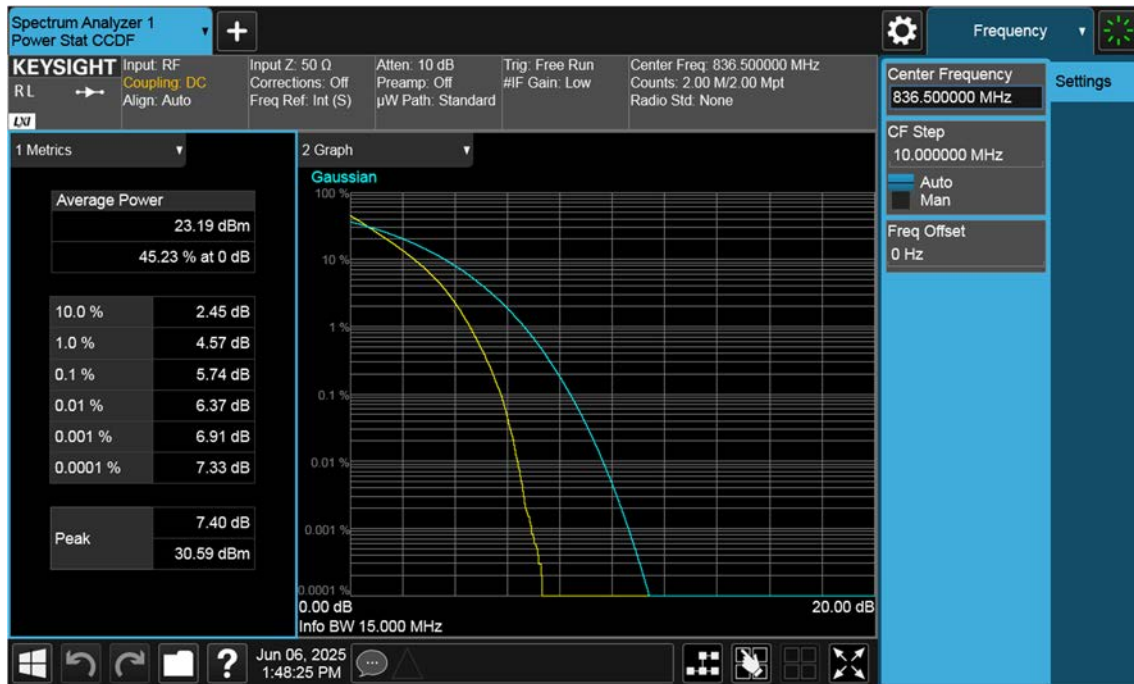
## LTE B26\_10 M\_PAR\_Mid\_64QAM\_FullRB



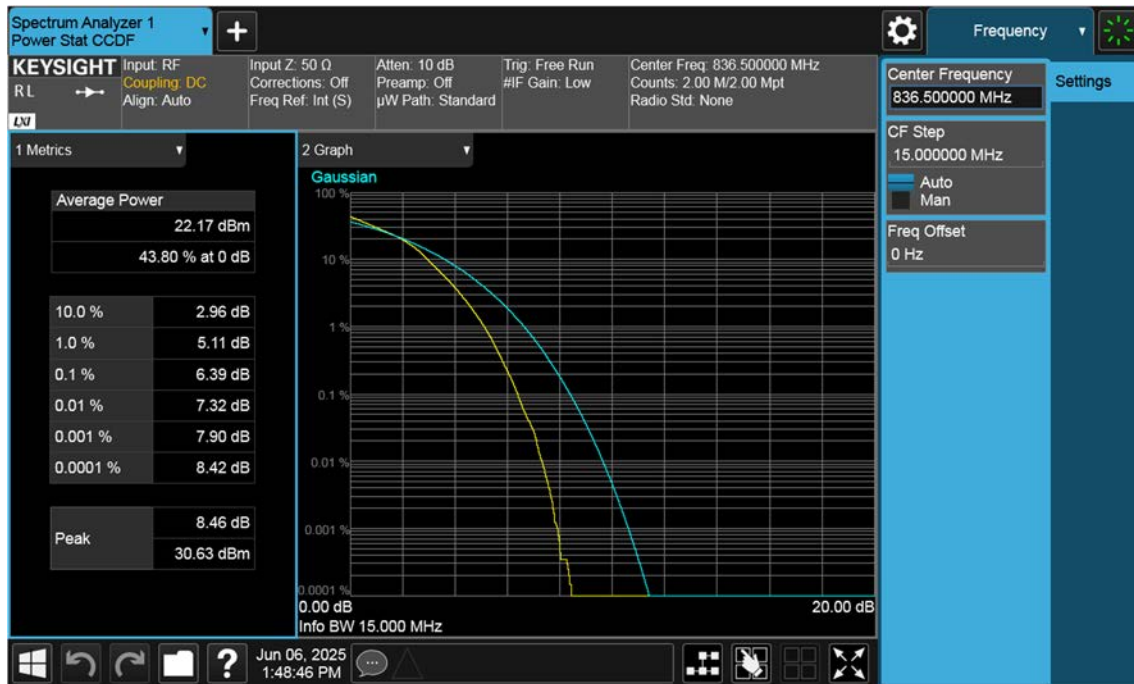
## LTE B26\_10 M\_PAR\_Mid\_256QAM\_FullRB



## LTE B26\_15 M\_PAR\_Mid\_QPSK\_FullRB



## LTE B26\_15 M\_PAR\_Mid\_16QAM\_FullRB



## LTE B26\_15 M\_PAR\_Mid\_64QAM\_FullRB

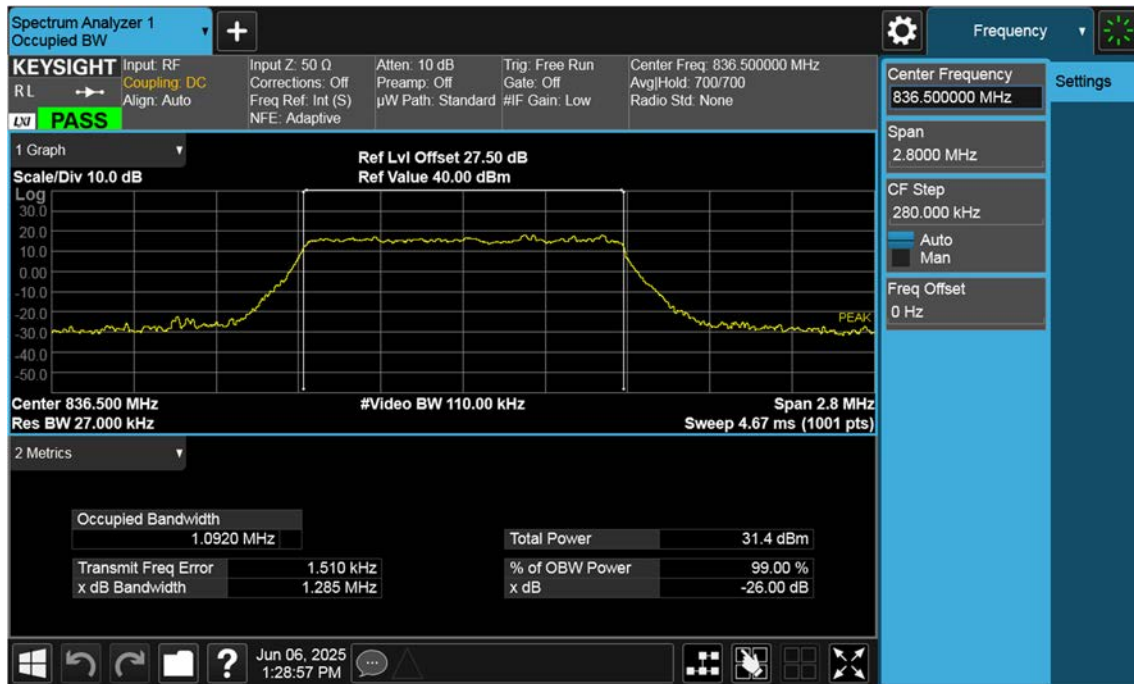


## LTE B26\_15 M\_PAR\_Mid\_256QAM\_FullRB

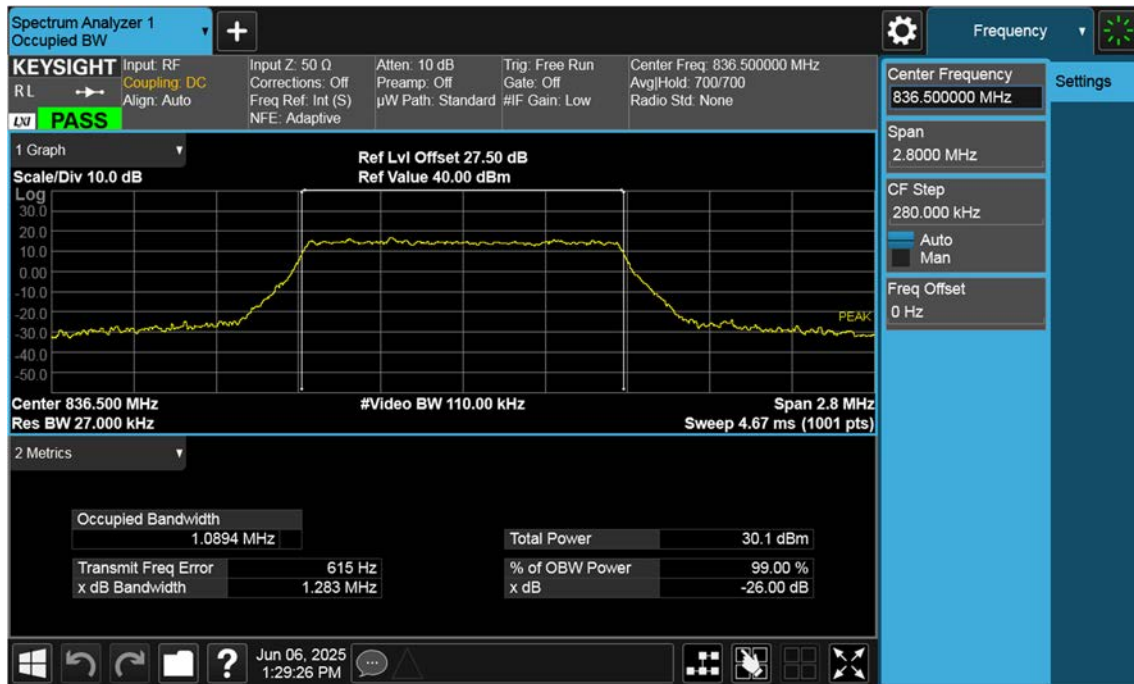




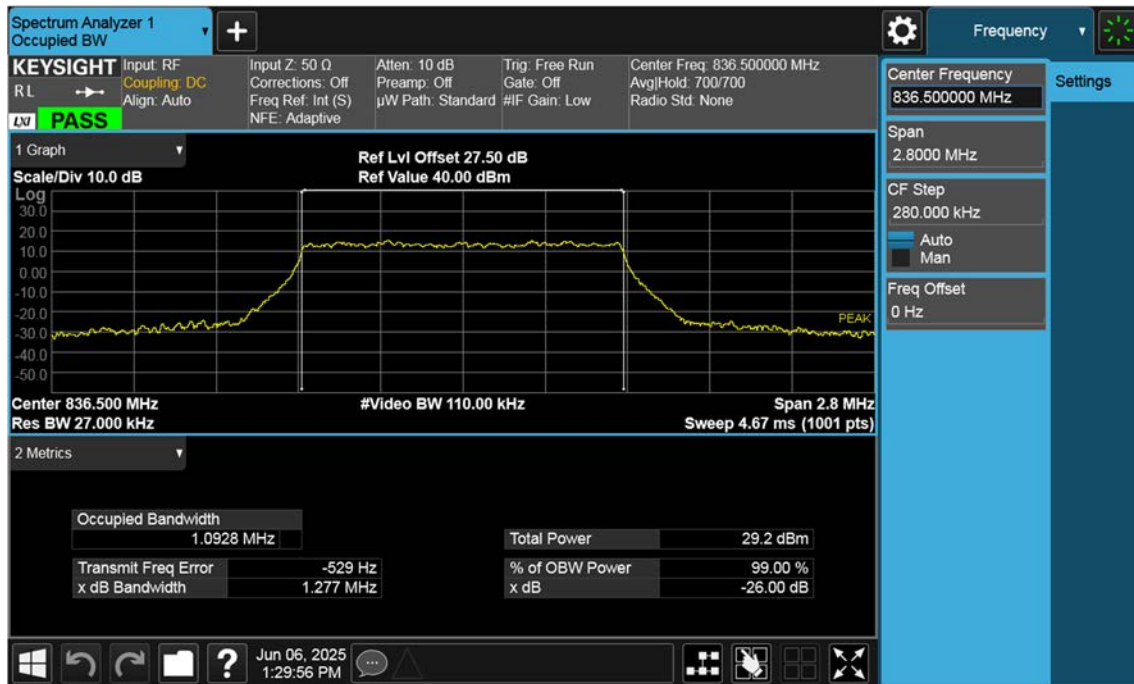
## LTE B26\_1.4M\_OBW\_Mid\_QPSK\_FullRB



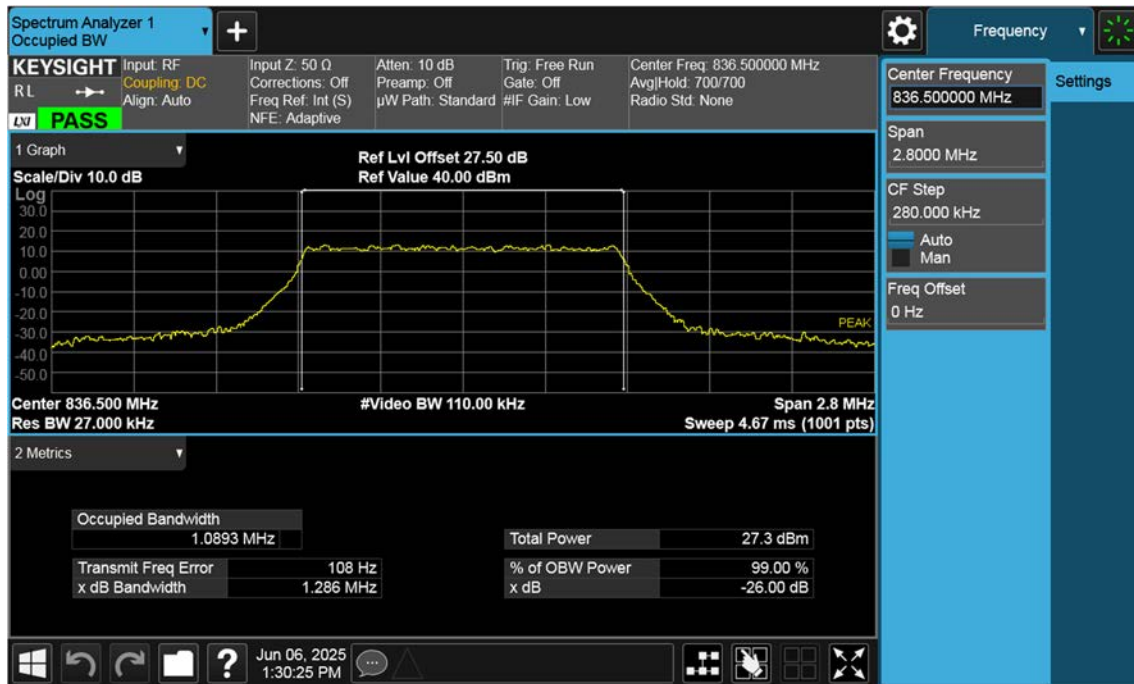
## LTE B26\_1.4M\_OBW\_Mid\_16QAM\_FullRB



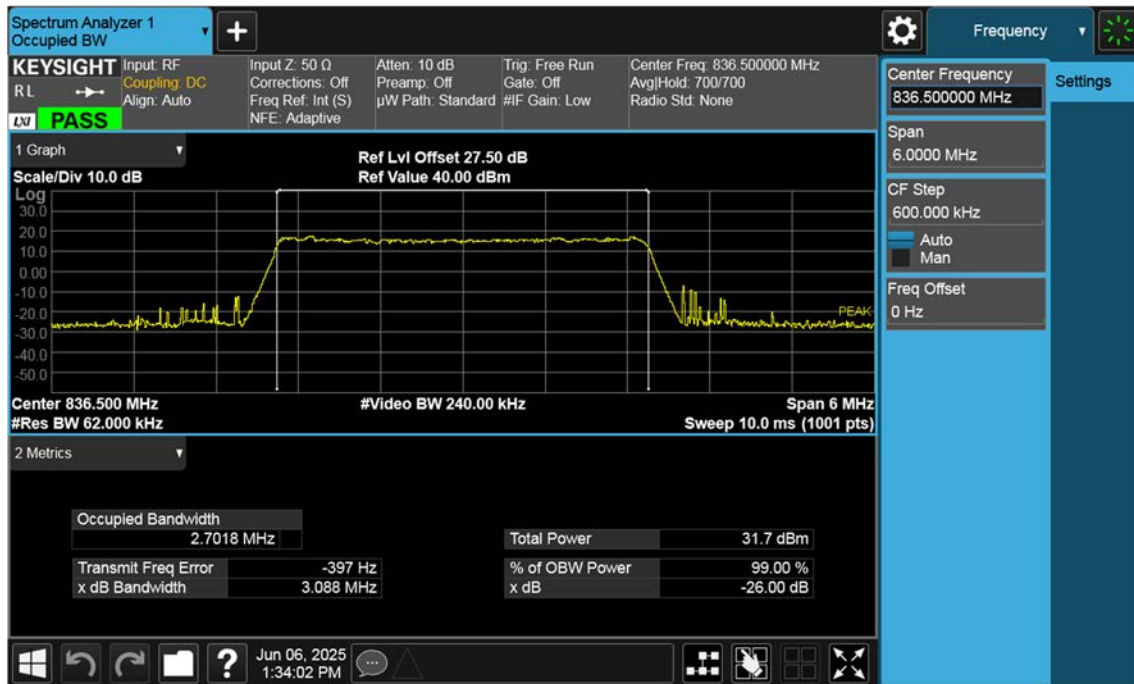
## LTE B26\_1.4M\_OBW\_Mid\_64QAM\_FullRB



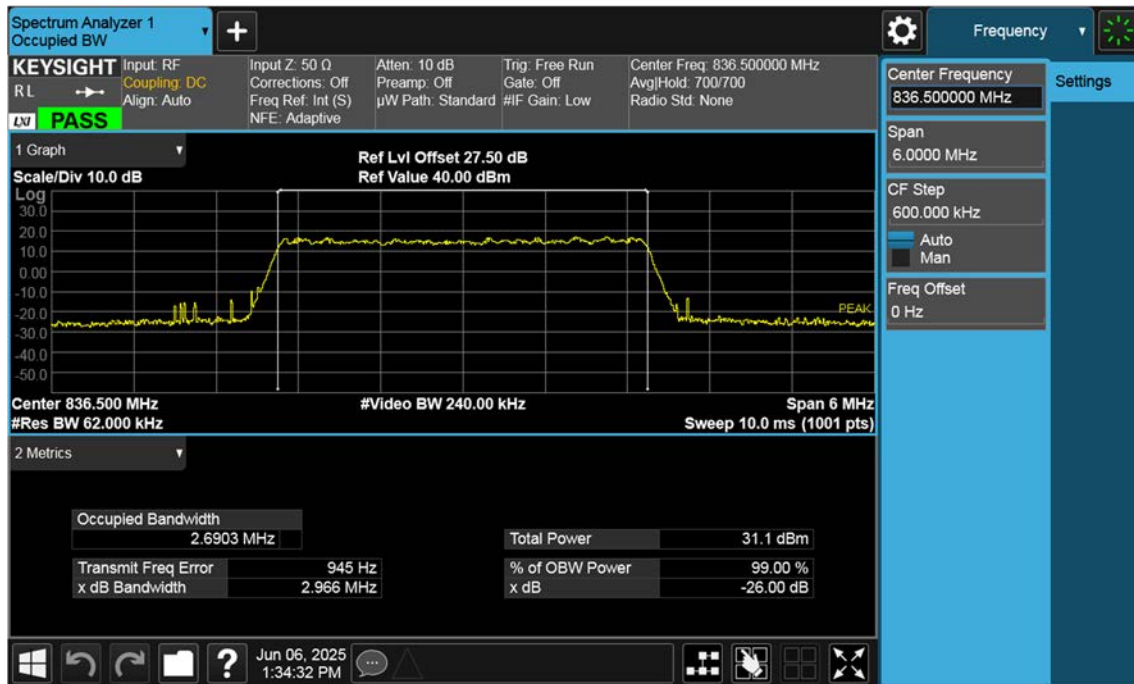
## LTE B26\_1.4M\_OBW\_Mid\_256QAM\_FullRB



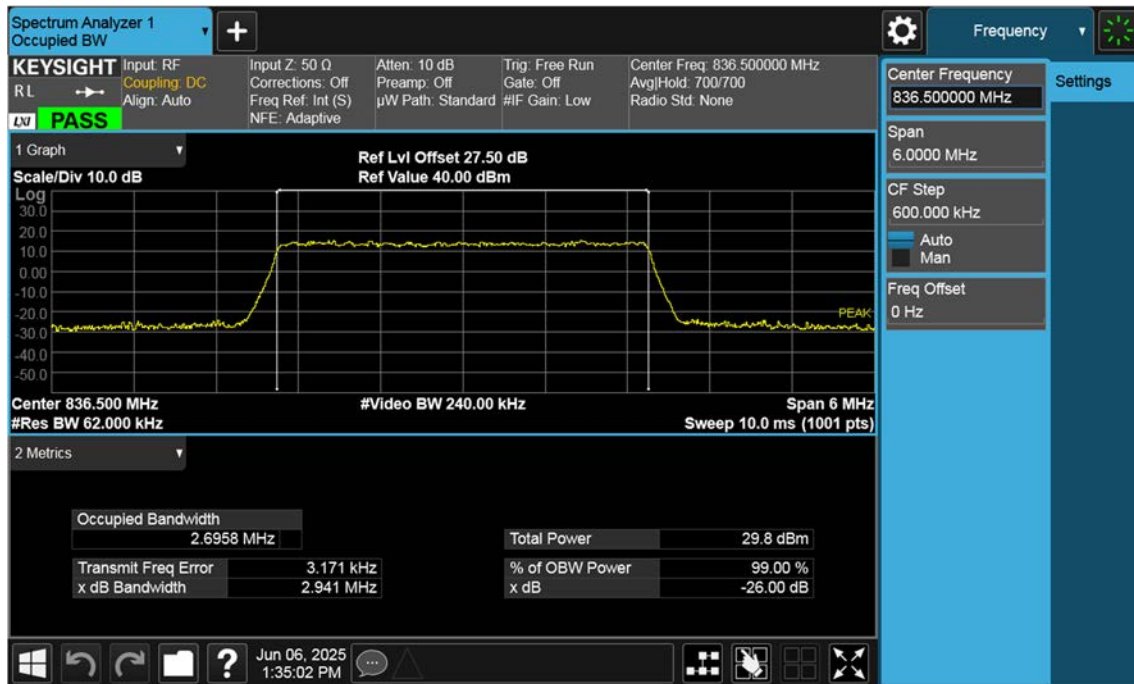
## LTE B26\_3 M\_OBW\_Mid\_QPSK\_FullRB



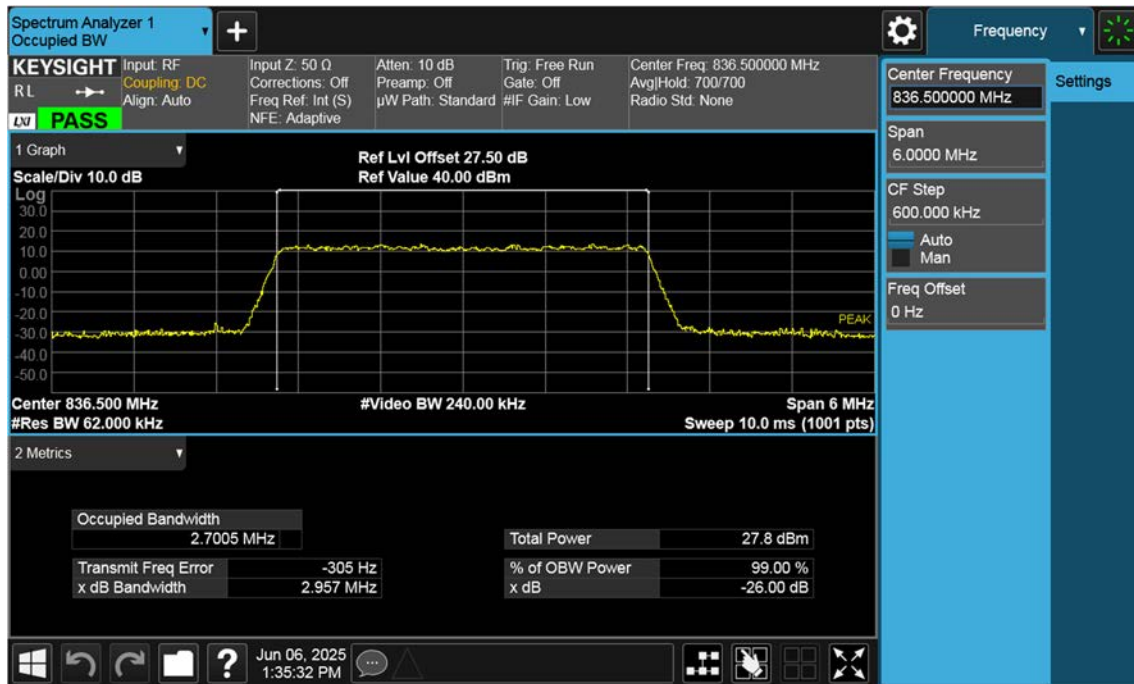
## LTE B26\_3 M\_OBW\_Mid\_16QAM\_FullRB



## LTE B26\_3 M\_OBW\_Mid\_64QAM\_FullRB

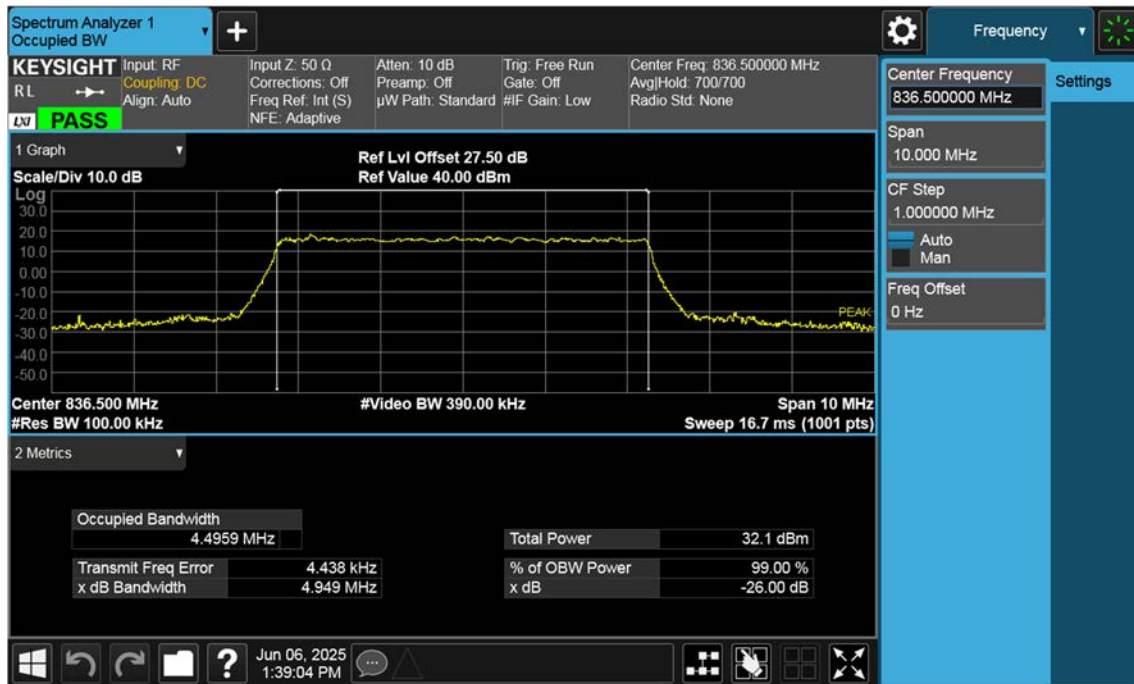


## LTE B26\_3 M\_OBW\_Mid\_256QAM\_FullRB

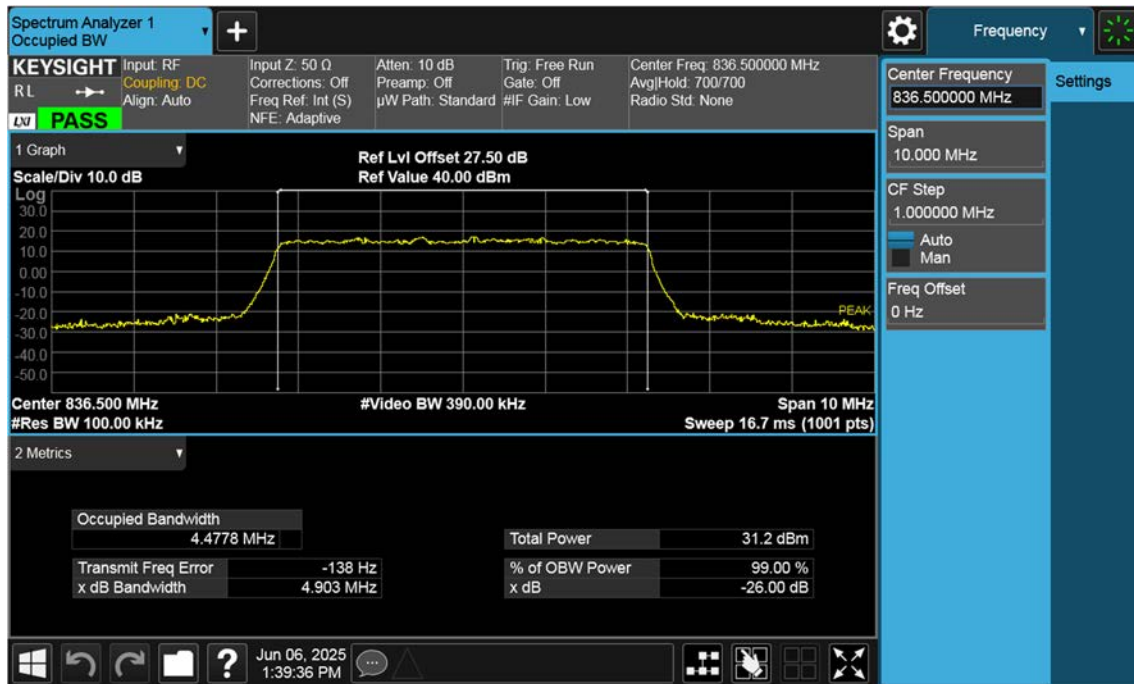




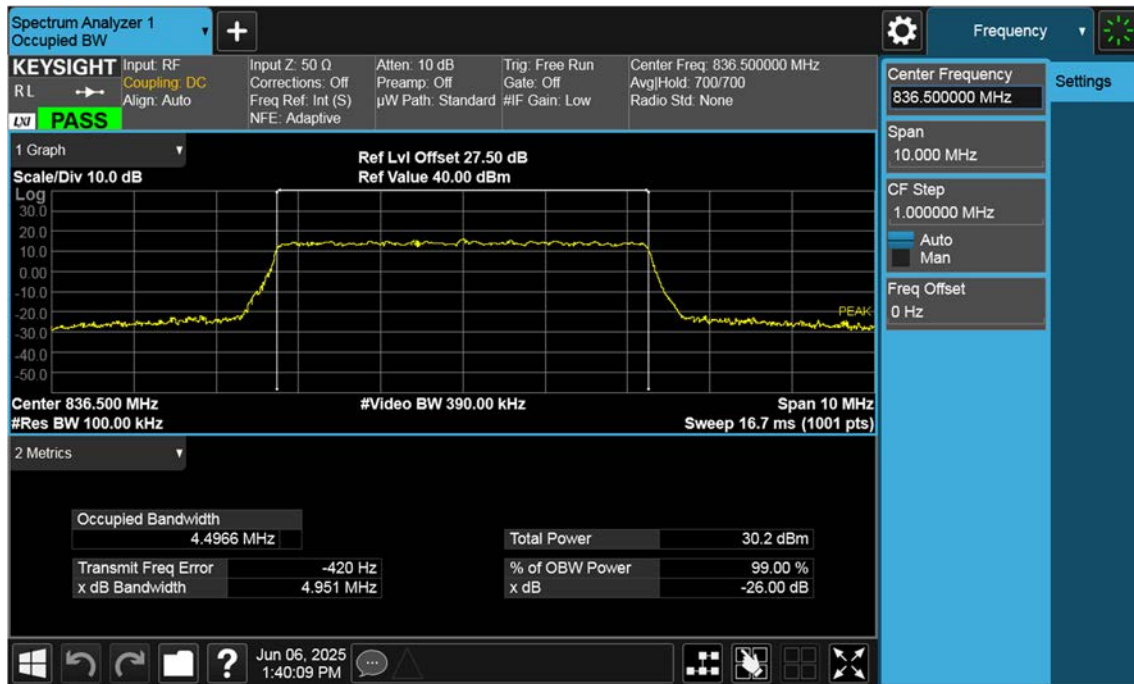
## LTE B26\_5 M\_OBW\_Mid\_QPSK\_FullRB



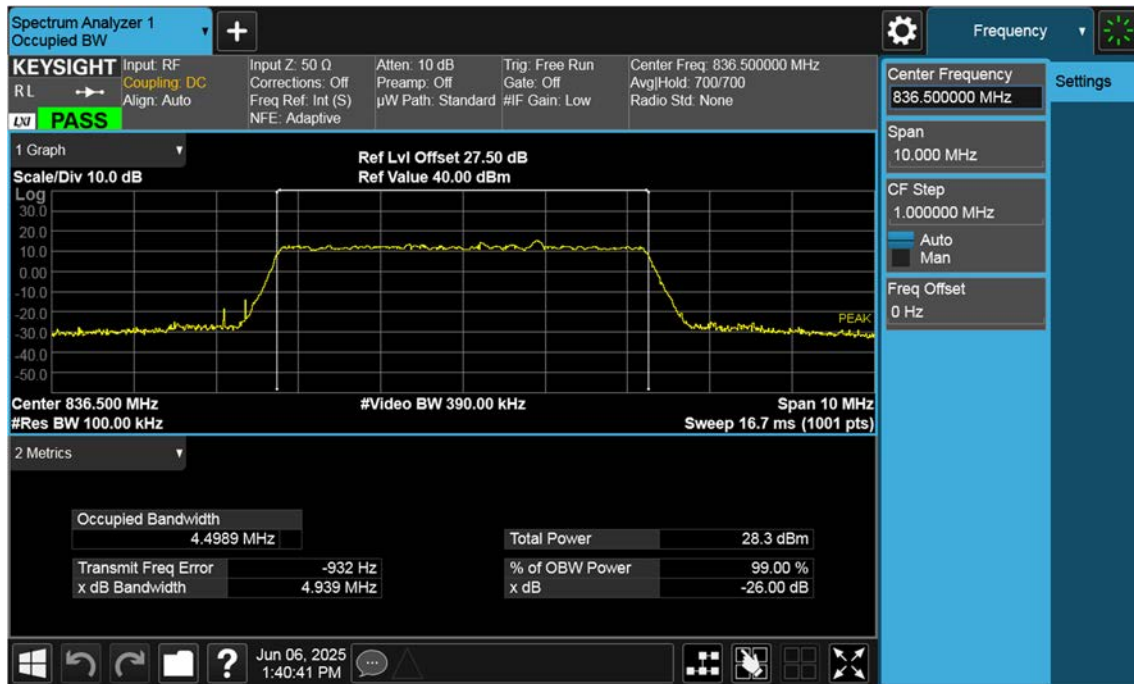
## LTE B26\_5 M\_OBW\_Mid\_16QAM\_FullRB



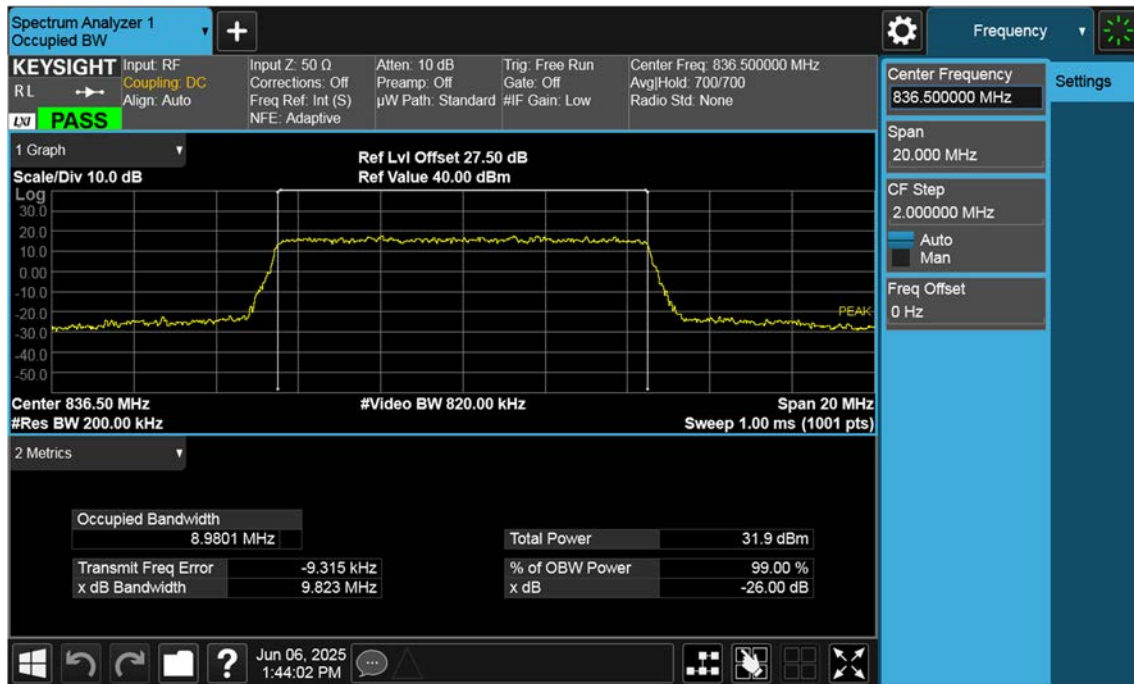
## LTE B26\_5 M\_OBW\_Mid\_64QAM\_FullRB



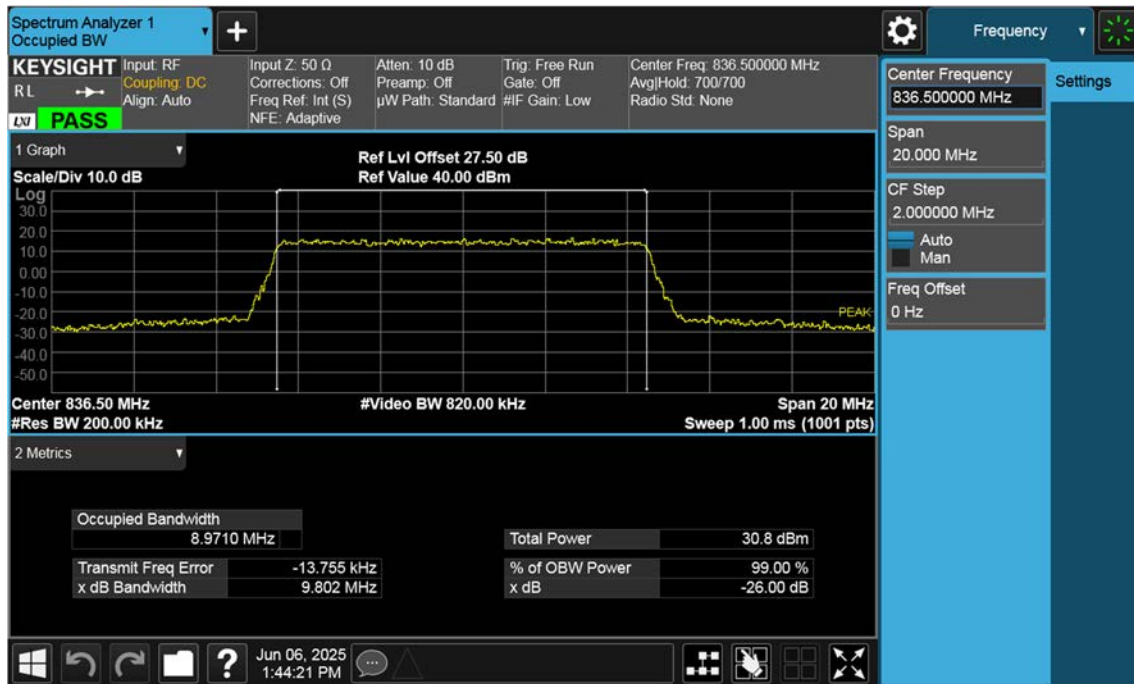
## LTE B26\_5 M\_OBW\_Mid\_256QAM\_FullRB



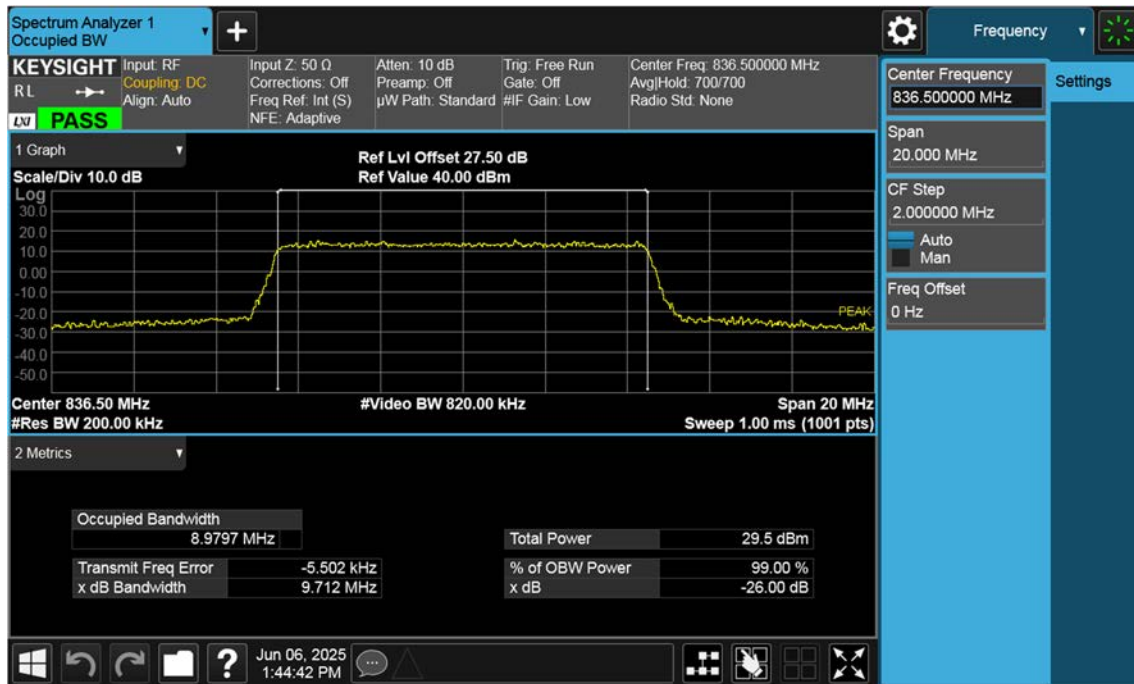
## LTE B26\_10 M\_OBW\_Mid\_QPSK\_FullRB



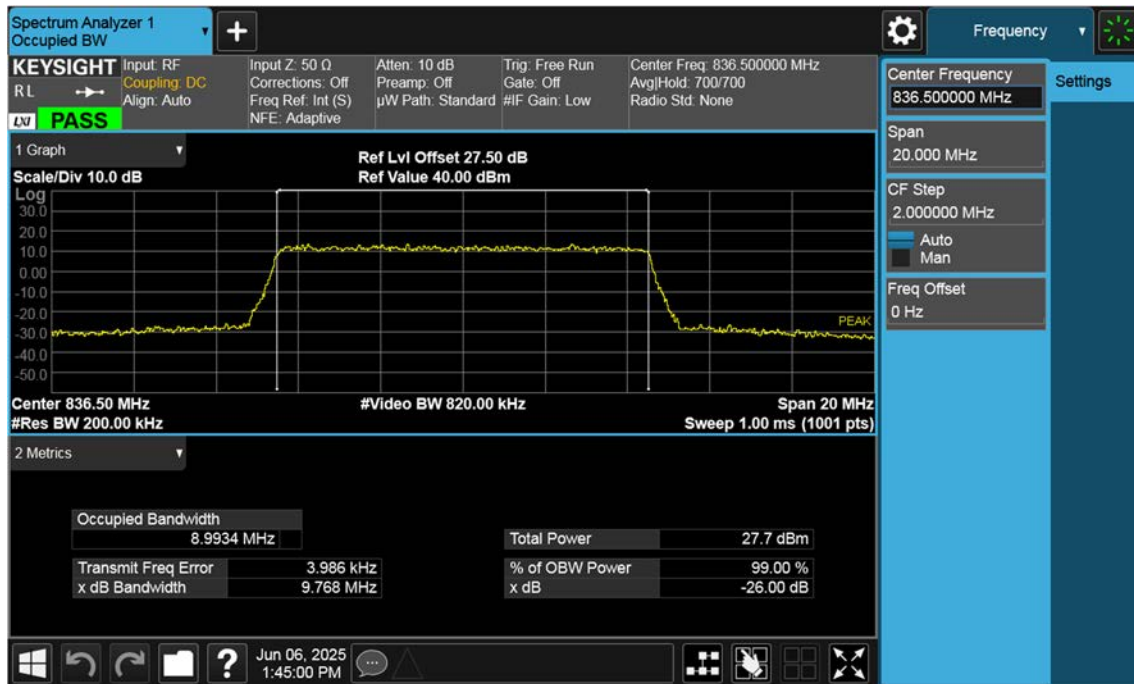
## LTE B26\_10 M\_OBW\_Mid\_16QAM\_FullRB



## LTE B26\_10 M\_OBW\_Mid\_64QAM\_FullRB

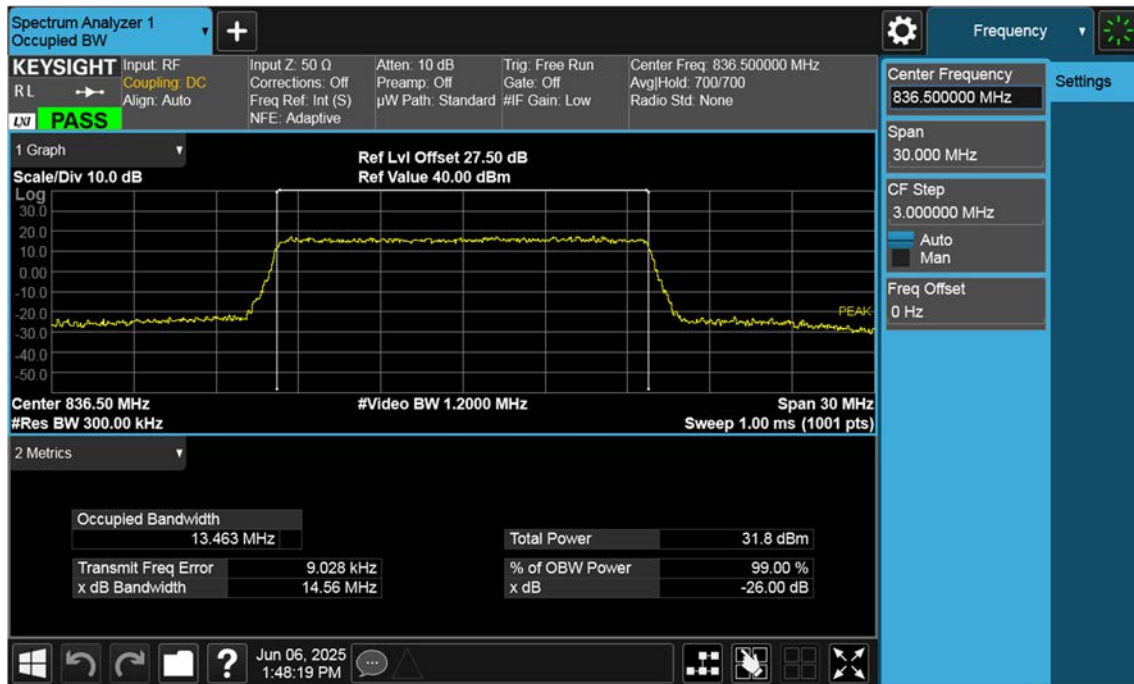


## LTE B26\_10 M\_OBW\_Mid\_256QAM\_FullRB

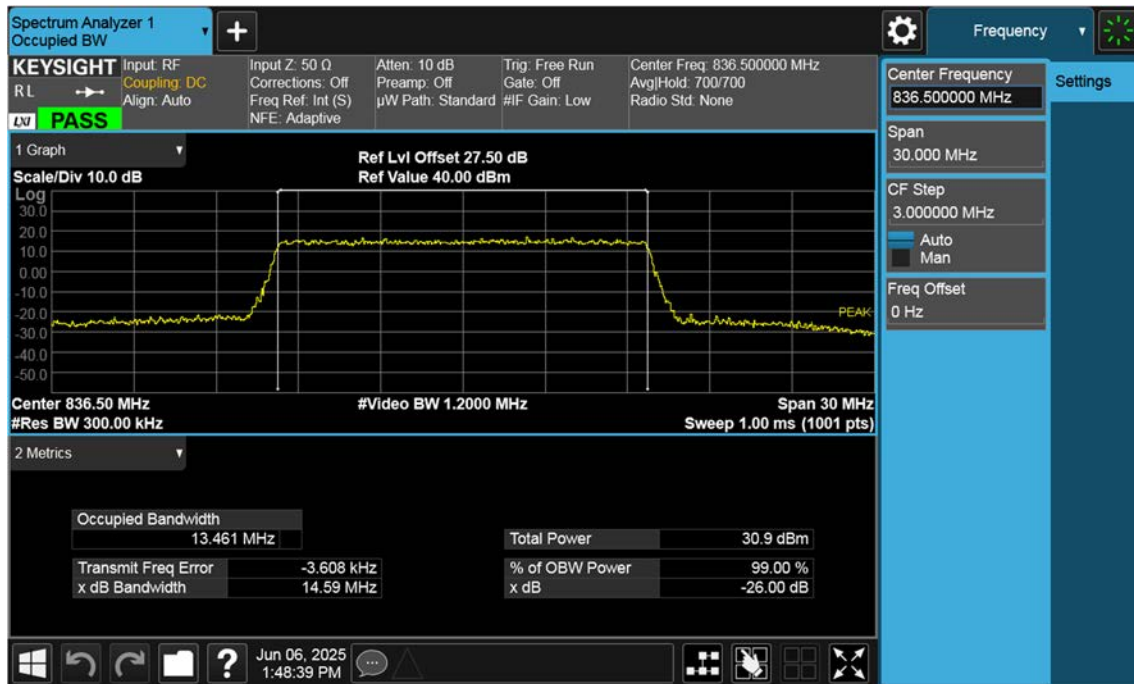




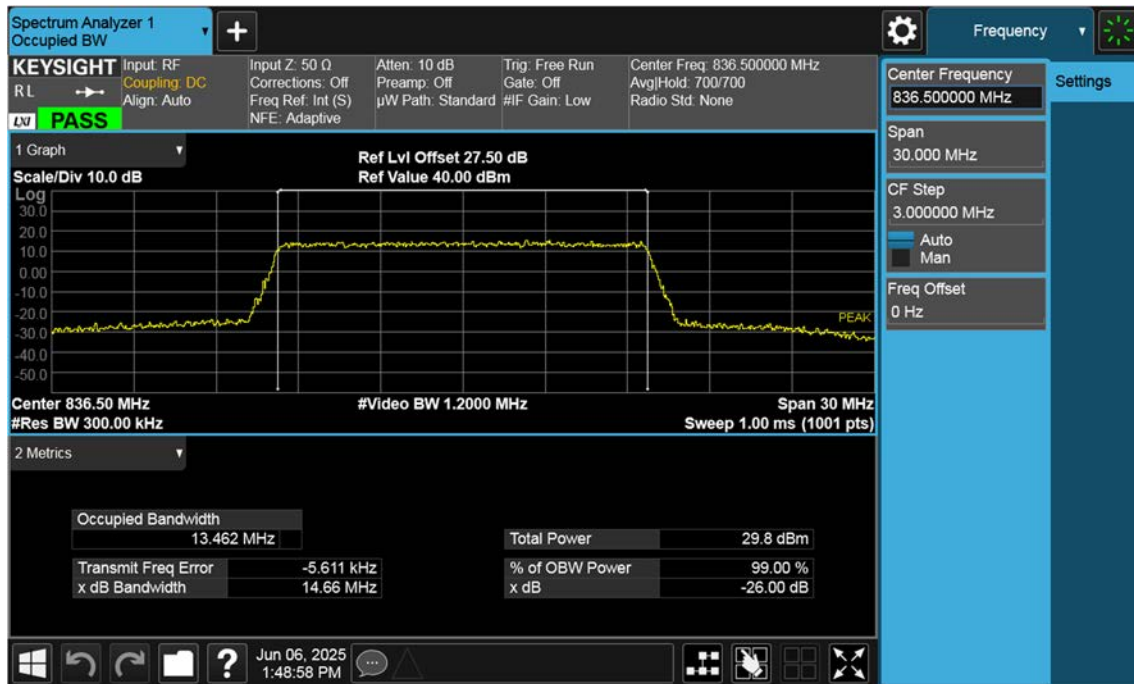
## LTE B26\_15 M\_OBW\_Mid\_QPSK\_FullRB



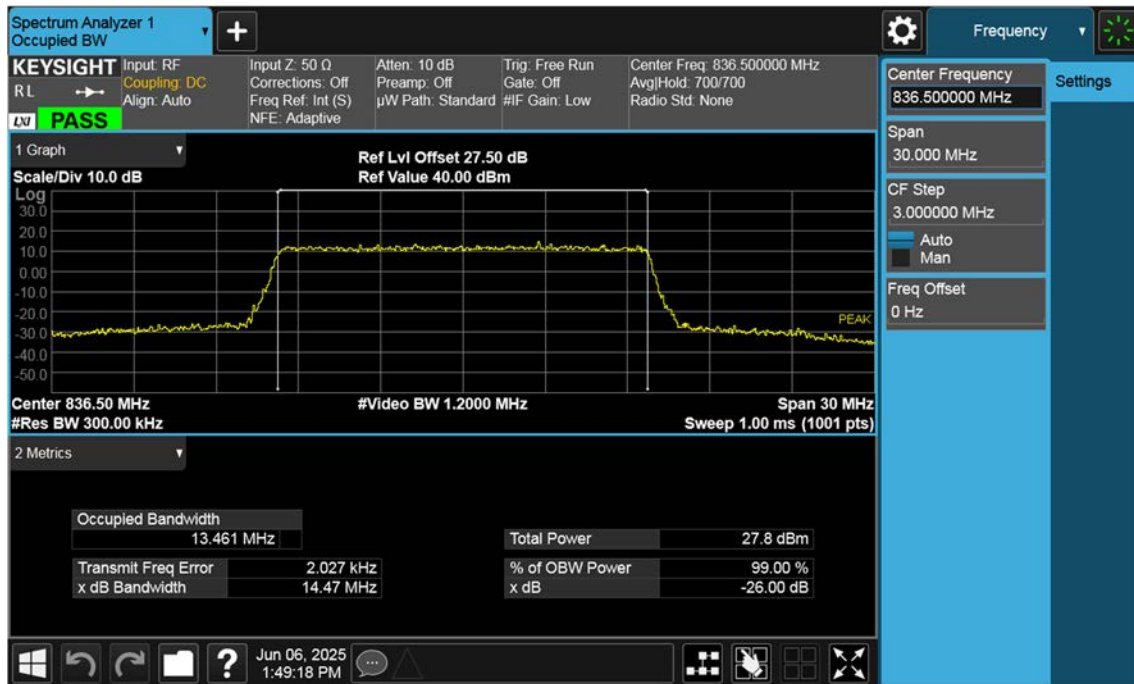
## LTE B26\_15 M\_OBW\_Mid\_16QAM\_FullRB



## LTE B26\_15 M\_OBW\_Mid\_64QAM\_FullRB



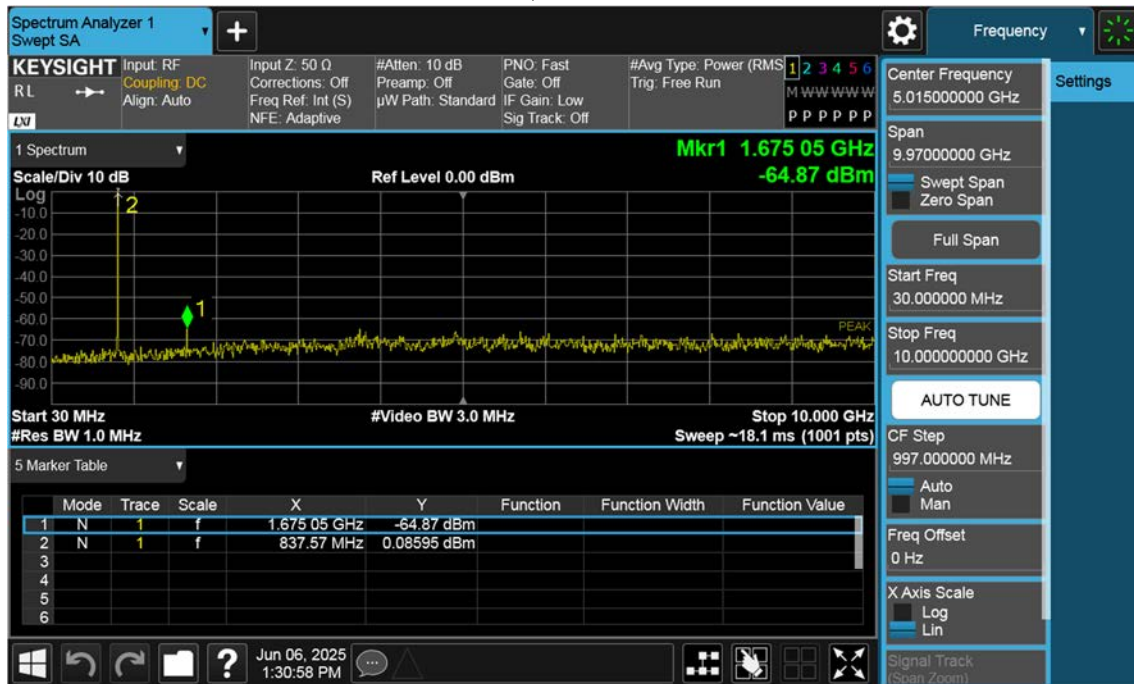
## LTE B26\_15 M\_OBW\_Mid\_256QAM\_FullRB



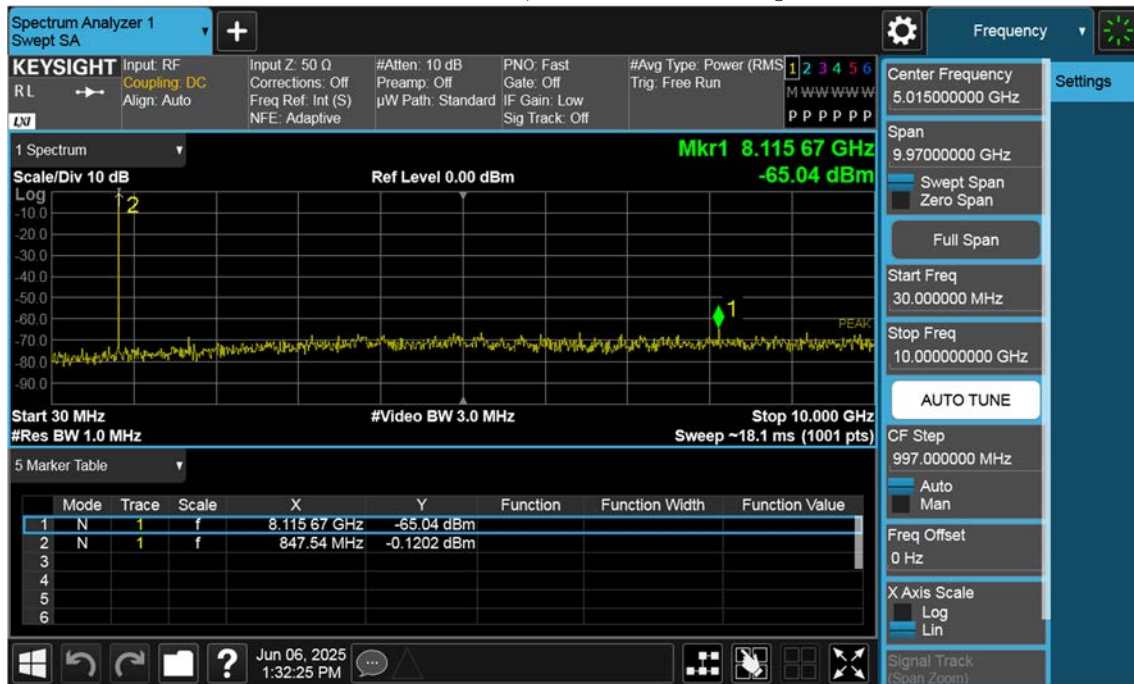
## LTE B26\_1.4M\_Conducted Spurious(30 M-10 G)\_Low\_QPSK\_1RB



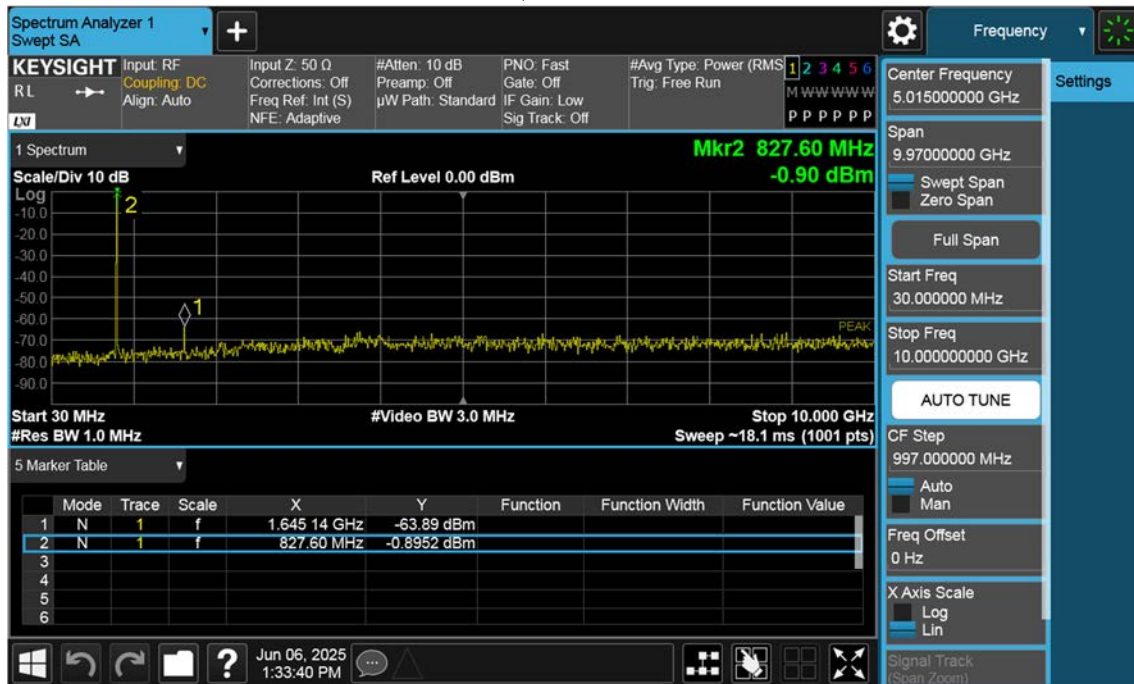
## LTE B26\_1.4M\_Conducted Spurious(30 M-10 G)\_Mid\_QPSK\_1RB



## LTE B26\_1.4M\_Conducted Spurious(30 M-10 G)\_High\_QPSK\_1RB

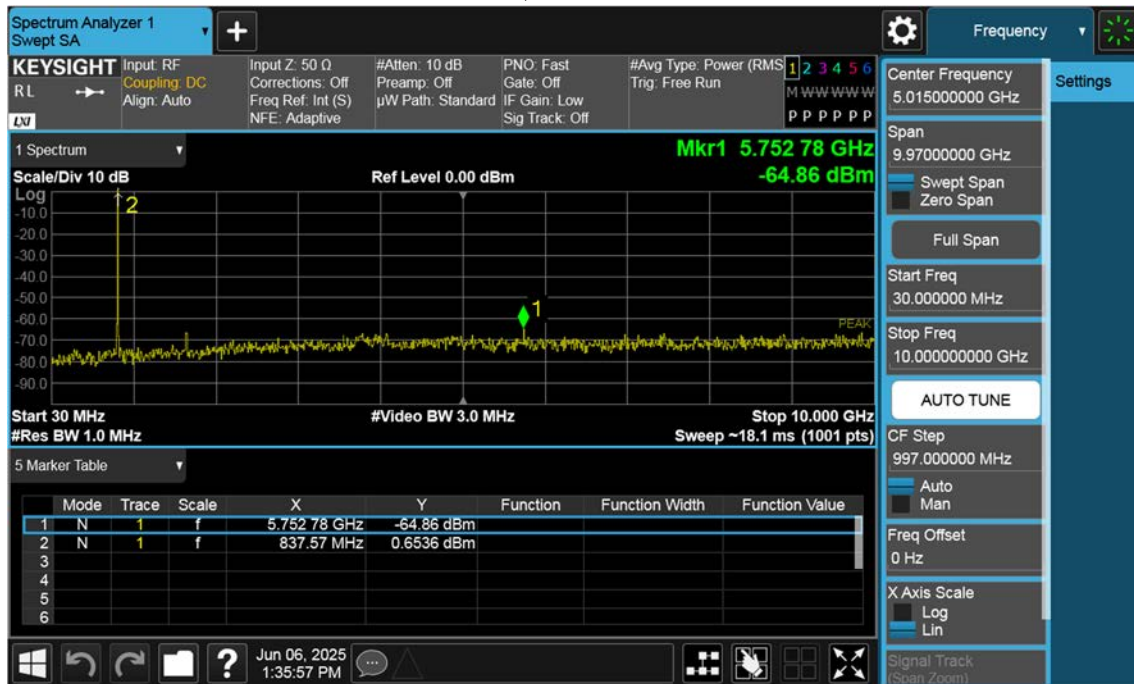


## LTE B26\_3 M\_Conducted Spurious(30 M-10 G)\_Low\_QPSK\_1RB

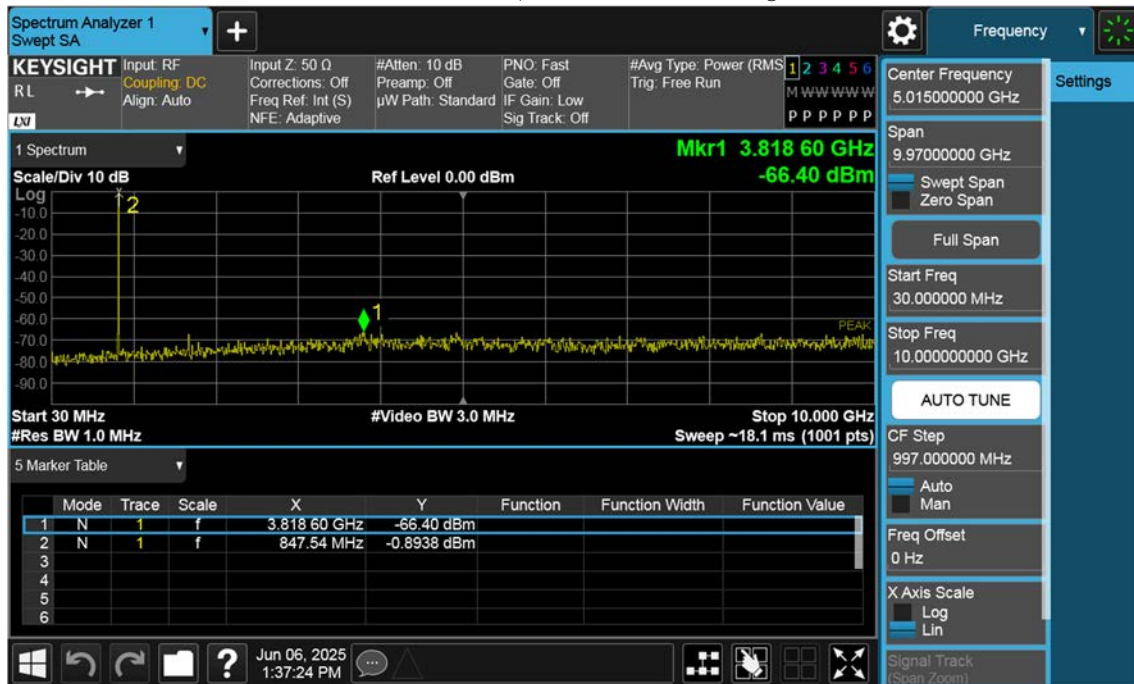




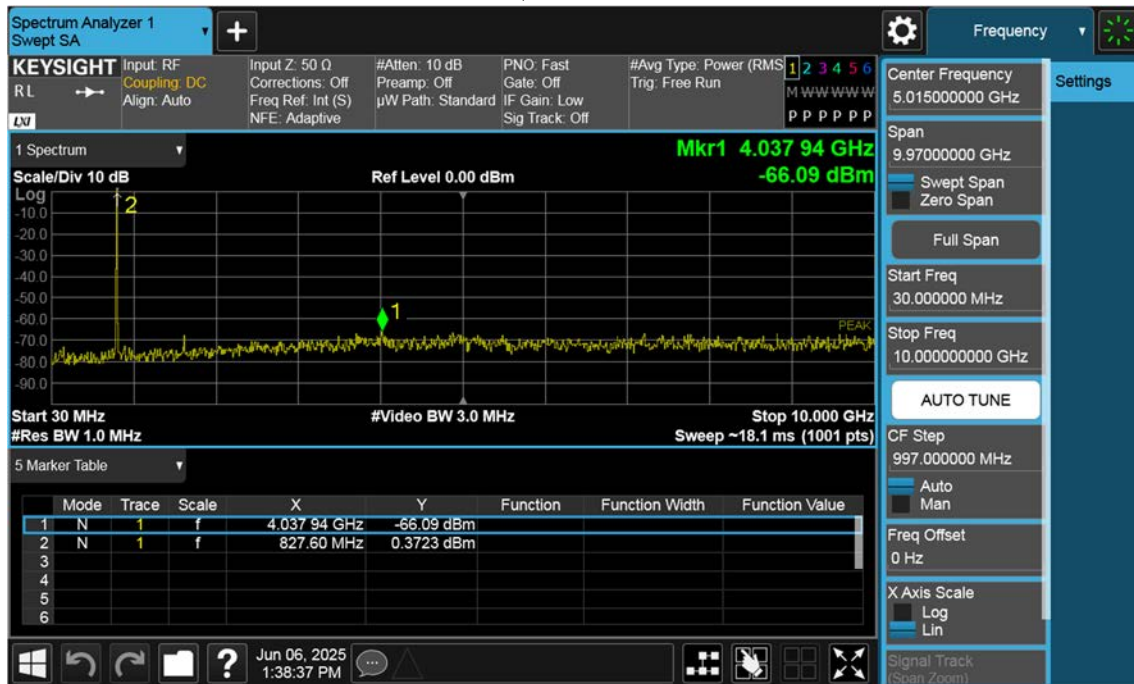
## LTE B26\_3 M\_Conducted Spurious(30 M-10 G)\_Mid\_QPSK\_1RB



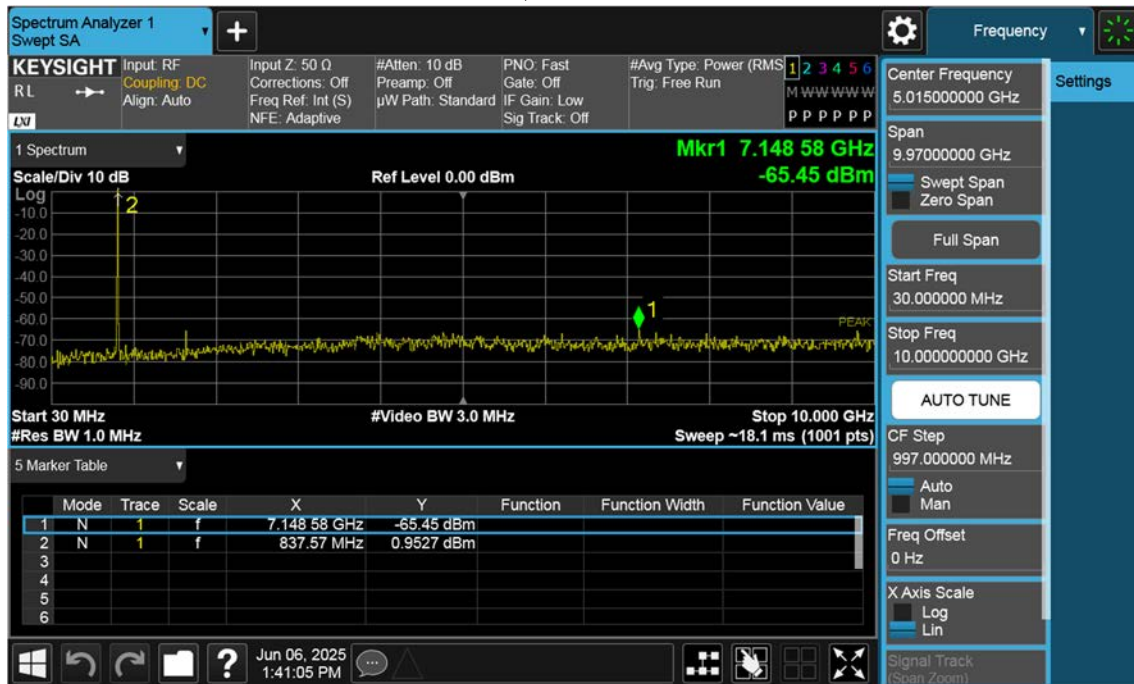
## LTE B26\_3 M\_Conducted Spurious(30 M-10 G)\_High\_QPSK\_1RB



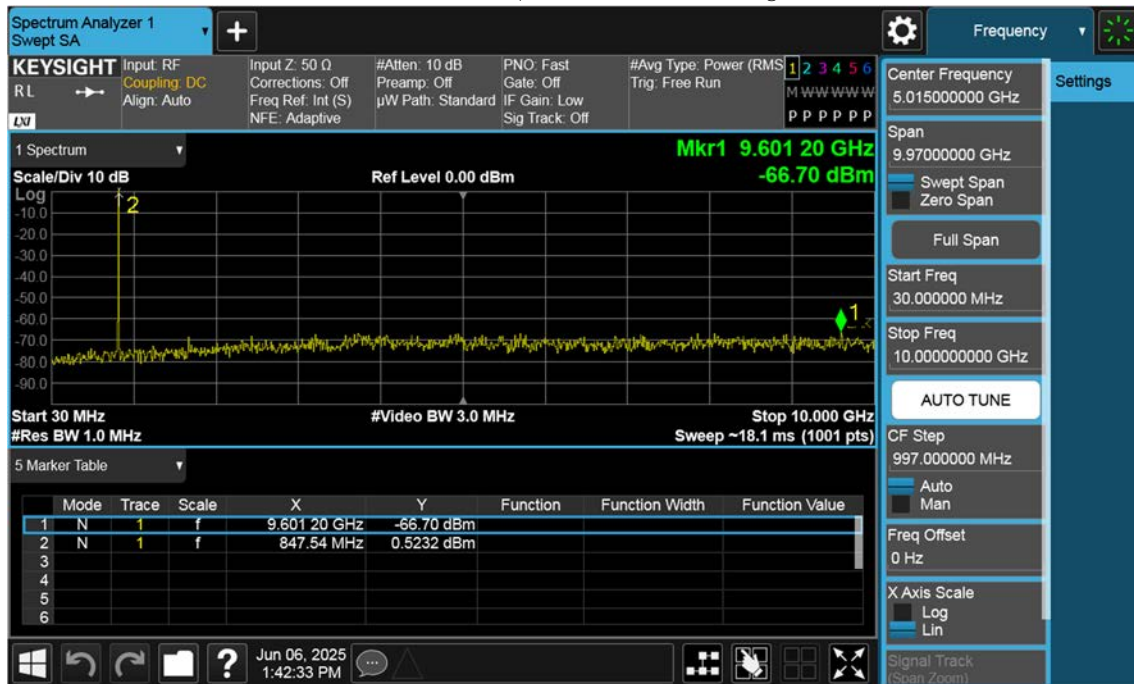
## LTE B26\_5 M\_Conducted Spurious(30 M-10 G)\_Low\_QPSK\_1RB



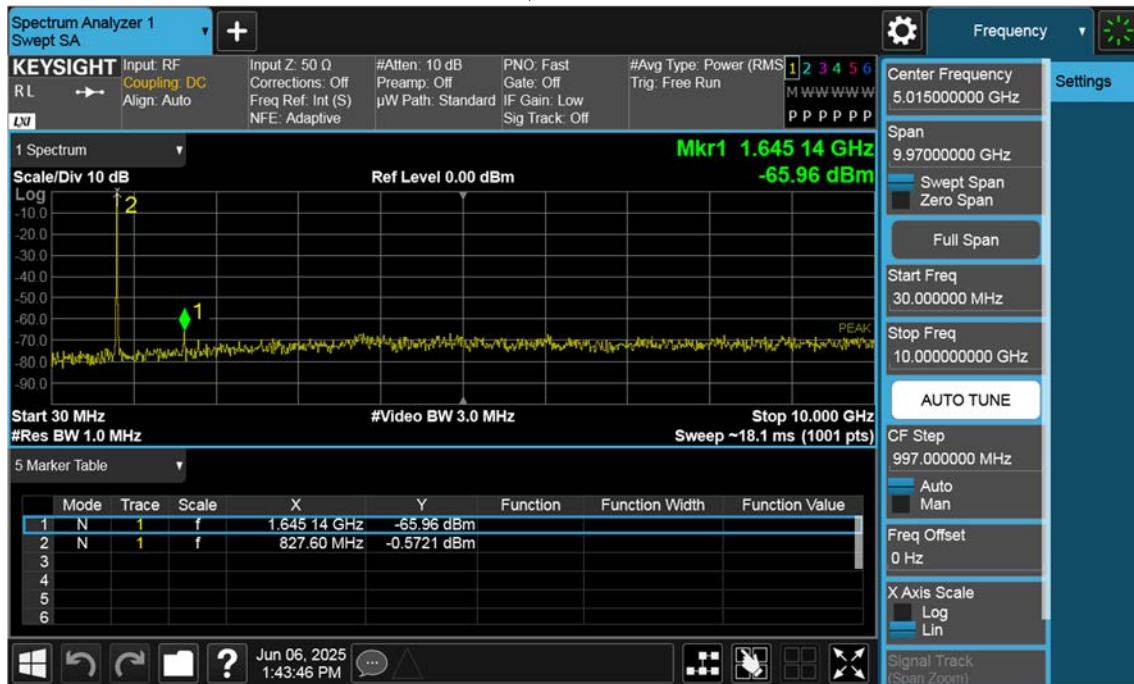
## LTE B26\_5 M\_Conducted Spurious(30 M-10 G)\_Mid\_QPSK\_1RB



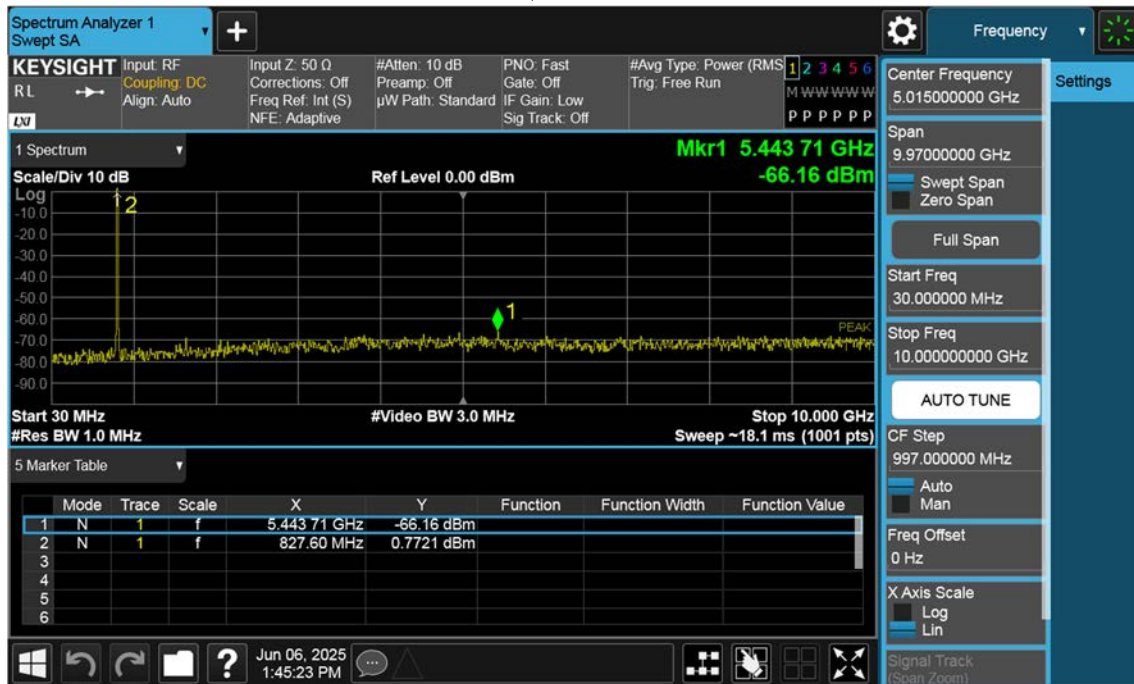
## LTE B26\_5 M\_Conducted Spurious(30 M-10 G)\_High\_QPSK\_1RB



## LTE B26\_10 M\_Conducted Spurious(30 M-10 G)\_Low\_QPSK\_1RB

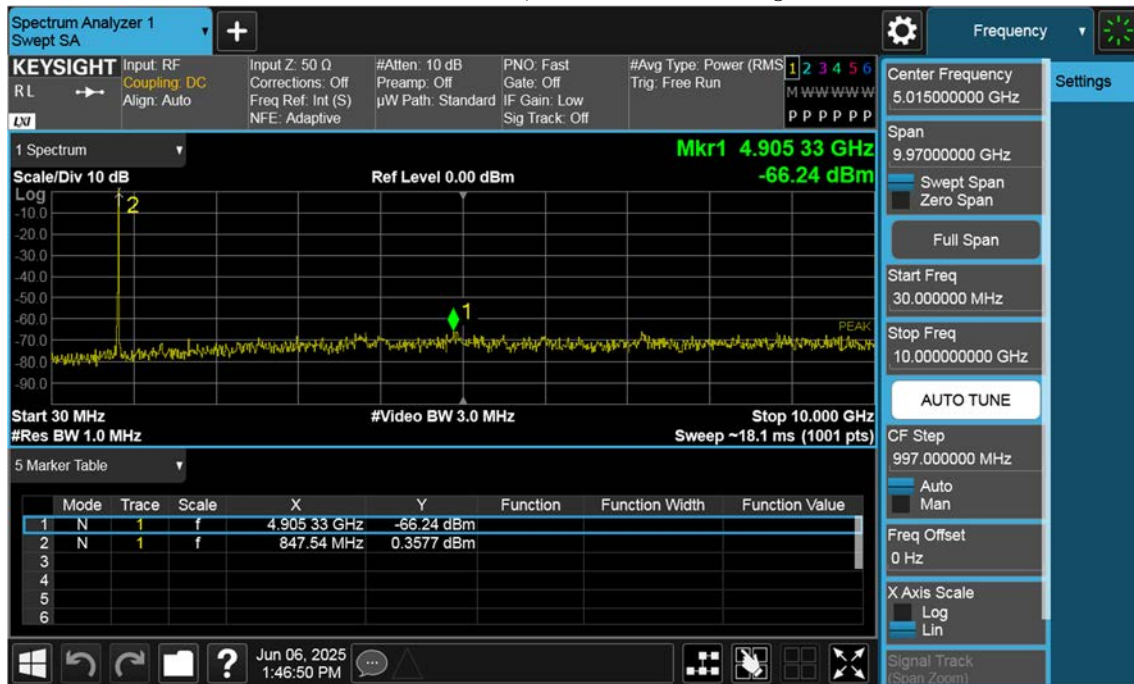


## LTE B26\_10 M\_Conducted Spurious(30 M-10 G)\_Mid\_QPSK\_1RB



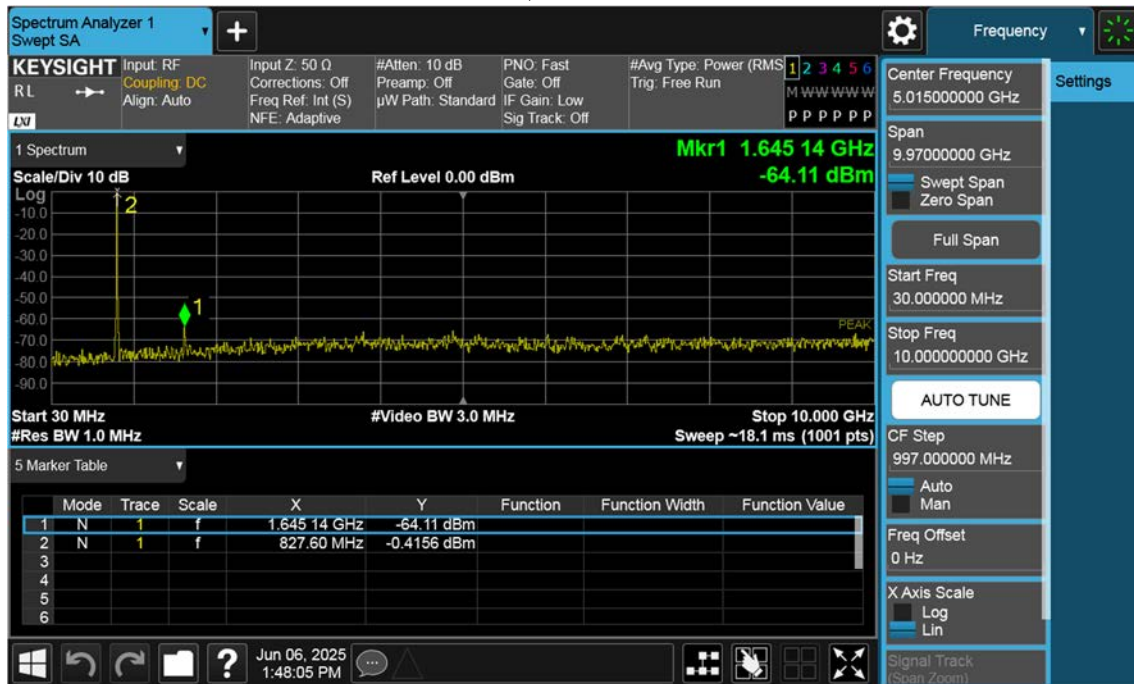


## LTE B26\_10 M\_Conducted Spurious(30 M-10 G)\_High\_QPSK\_1RB

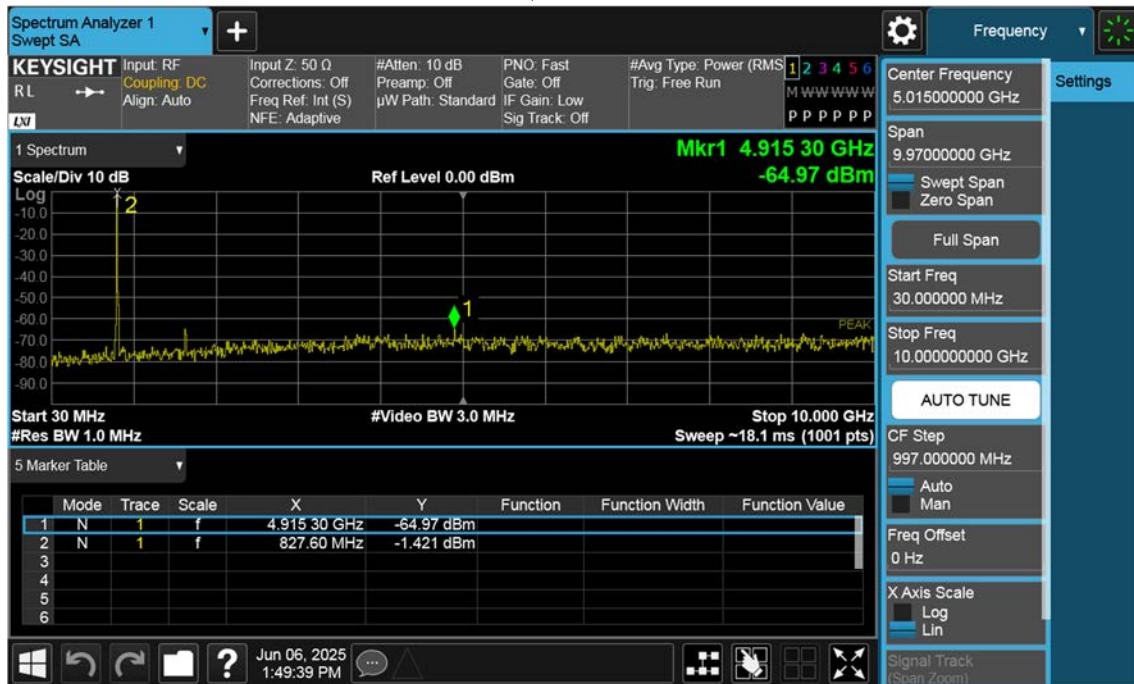




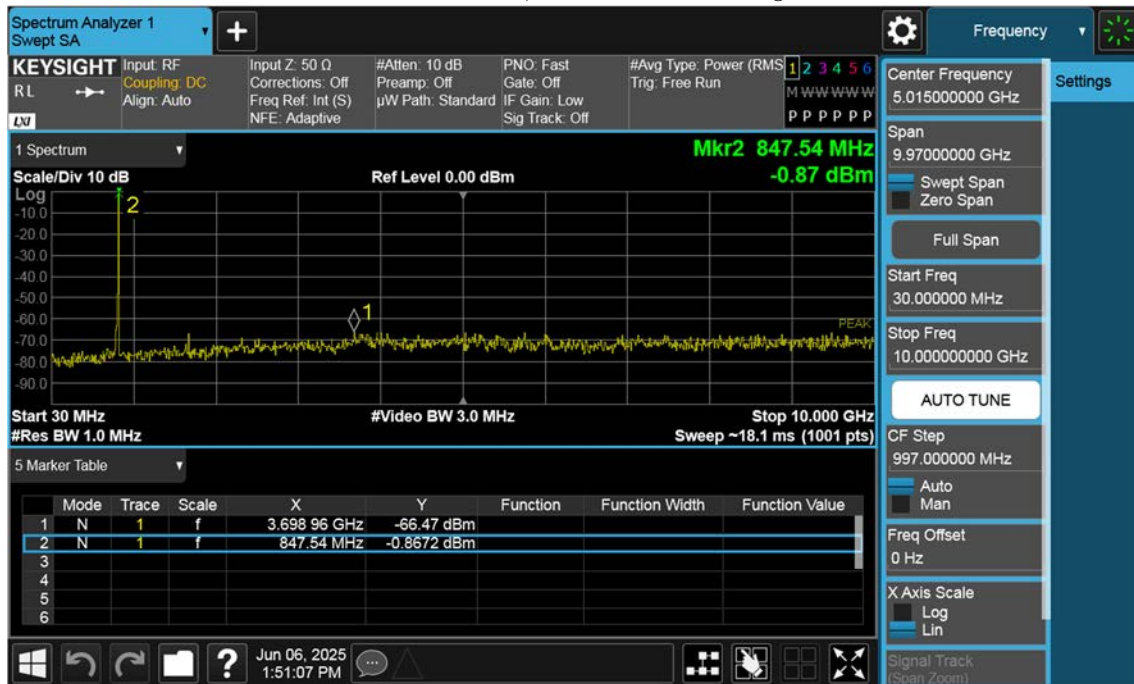
## LTE B26\_15 M\_Conducted Spurious(30 M-10 G)\_Low\_QPSK\_1RB



LTE B26\_15 M\_Conducted Spurious(30 M-10 G)\_Mid\_QPSK\_1RB



## LTE B26\_15 M\_Conducted Spurious(30 M-10 G)\_High\_QPSK\_1RB



LTE B26\_ Lower Band Edge Plot (1.4 M BW Ch.26797 QPSK\_RB1\_Offset 0)



LTE B26\_ Lower Band Edge Plot (1.4 M BW Ch.26797 QPSK\_RB6\_Offset 0)



LTE B26\_ Lower Extended Band Edge Plot (1.4 M BW Ch.26797 QPSK\_RB6\_0)



LTE B26\_ Lower Band Edge Plot (3 M BW Ch.26805 QPSK\_RB1\_Offset 0)





LTE B26\_ Lower Band Edge Plot (3 M BW Ch.26805 QPSK\_RB15\_Offset 0)





LTE B26\_ Lower Extended Band Edge Plot (3 M BW Ch.26805 QPSK\_RB15\_0)



LTE B26\_ Lower Band Edge Plot (5 M BW Ch.26815 QPSK\_RB1\_Offset 0)



LTE B26\_ Lower Band Edge Plot (5 M BW Ch.26815 QPSK\_RB25\_Offset 0)



LTE B26\_ Lower Extended Band Edge Plot (5 M BW Ch.26815 QPSK\_RB25\_0)

