

# TEST REPORT

FCC Sub6 n48 Test for TM18FNNABM0  
Certification

APPLICANT  
LG Electronics Inc.

REPORT NO.  
HCT-RF-2507-FC001-R1

DATE OF ISSUE  
July 21, 2025

Tested by  
Jae Ryang Do



Technical Manager  
Jong Seok Lee



Accredited by KOLAS, Republic of KOREA

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DATE OF ISSUE  
July 21, 2025

Applicant **LG Electronics Inc.**  
128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea

Product Name Telematics  
Model Name TM18FNNABM0

Date of Test February 08, 2025 ~ July 04, 2025

FCC ID 2B03LTM18FNNABM0

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 Classification: Citizens Band End User Devices (CBE)

Test Standard Used FCC Rule Part: § 96

Test Results PASS

## REVISION HISTORY

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

| Revision No. | Date of Issue | Description                  |
|--------------|---------------|------------------------------|
| 0            | July 04, 2025 | Initial Release              |
| 1            | July 21, 2025 | Revised the note on page 23. |

## 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)

This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA.

(KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

## CONTENTS

|                                                                   |    |
|-------------------------------------------------------------------|----|
| 1. GENERAL INFORMATION .....                                      | 6  |
| 1.1. SUPPORTED BANDS PER ANTENNA PORT .....                       | 7  |
| 1.2. MAXIMUM OUTPUT POWER.....                                    | 8  |
| 2. INTRODUCTION .....                                             | 10 |
| 2.1. DESCRIPTION OF EUT .....                                     | 10 |
| 2.2. MEASURING INSTRUMENT CALIBRATION .....                       | 10 |
| 2.3. TEST FACILITY .....                                          | 10 |
| 3. DESCRIPTION OF TESTS .....                                     | 11 |
| 3.1. TEST PROCEDURE.....                                          | 11 |
| 3.2. RADIATED POWER .....                                         | 12 |
| 3.3. RADIATED SPURIOUS EMISSIONS.....                             | 14 |
| 3.4. PEAK- TO- AVERAGE RATIO .....                                | 15 |
| 3.5. OCCUPIED BANDWIDTH. ....                                     | 16 |
| 3.6. SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL .....    | 17 |
| 3.7. CHANNEL EDGE.....                                            | 18 |
| 3.8. FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE ..... | 20 |
| 3.9. Adjacent Channel Leakage Ratio .....                         | 21 |
| 3.10. End User Device Additional Requirement (CBSD Protocol)..... | 22 |
| 3.11. WORST CASE(RADIATED TEST) .....                             | 23 |
| 3.12. WORST CASE(CONDUCTED TEST).....                             | 24 |
| 4. LIST OF TEST EQUIPMENT.....                                    | 25 |
| 5. MEASUREMENT UNCERTAINTY .....                                  | 28 |
| 6. SUMMARY OF TEST RESULTS .....                                  | 29 |
| 7. SAMPLE CALCULATION.....                                        | 30 |
| 8. TEST DATA (MIMO1).....                                         | 32 |
| 8.1. EQUIVALENT ISOTROPIC RADIATED POWER.....                     | 32 |
| 8.2. RADIATED SPURIOUS EMISSIONS.....                             | 37 |
| 8.3. PEAK-TO-AVERAGE RATIO .....                                  | 42 |
| 8.4. OCCUPIED BANDWIDTH .....                                     | 43 |
| 8.5. CONDUCTED SPURIOUS EMISSIONS .....                           | 44 |
| 8.6. CHANNEL EDGE.....                                            | 45 |
| 8.7. Adjacent Channel Leakage Ratio(ACLR) .....                   | 47 |
| 8.8. FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE ..... | 48 |
| 9. TEST DATA (MIMO2).....                                         | 53 |
| 9.1. EQUIVALENT ISOTROPIC RADIATED POWER.....                     | 53 |
| 9.2. RADIATED SPURIOUS EMISSIONS.....                             | 58 |
| 9.3. PEAK-TO-AVERAGE RATIO .....                                  | 63 |
| 9.4. OCCUPIED BANDWIDTH .....                                     | 64 |
| 9.5. CONDUCTED SPURIOUS EMISSIONS .....                           | 65 |
| 9.6. CHANNEL EDGE.....                                            | 66 |

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| 9.7 Adjacent Channel Leakage Ratio(ACLR) .....                    | 68  |
| 9.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE .....  | 69  |
| 10. End User Device Additional Requirements (CBSD Protocol) ..... | 74  |
| 11. TEST PLOTS (MIMO1).....                                       | 76  |
| 12. TEST PLOTS (MIMO2).....                                       | 227 |
| 13. ANNEX A_ TEST SETUP PHOTO .....                               | 378 |

## MEASUREMENT REPORT

### 1. GENERAL INFORMATION

|                     |                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant Name:     | LG Electronics Inc.                                                                                                                                                                                            |
| Address:            | 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea                                                                                                                                                    |
| FCC ID:             | 2BO3LTM18FNNABM0                                                                                                                                                                                               |
| Application Type:   | Certification                                                                                                                                                                                                  |
| FCC Classification: | Citizens Band End User Devices (CBE)                                                                                                                                                                           |
| FCC Rule Part(s):   | § 96                                                                                                                                                                                                           |
| EUT Type:           | Telematics                                                                                                                                                                                                     |
| Model(s):           | TM18FNNABM0                                                                                                                                                                                                    |
| Voltage:            | 4.2V                                                                                                                                                                                                           |
| SCS(kHz):           | 30                                                                                                                                                                                                             |
| Bandwidth(MHz):     | 10, 15, 20, 30, 40                                                                                                                                                                                             |
| Waveform:           | CP-OFDM, DFT-S-OFDM                                                                                                                                                                                            |
| Modulation:         | DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM<br>CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM                                                                                                                       |
| Tx Frequency:       | 3555.00 – 3694.98 : (Sub6 n48(10 MHz))<br>3557.52 – 3692.49 : (Sub6 n48(15 MHz))<br>3560.01 – 3690.00 : (Sub6 n48(20 MHz))<br>3565.02 – 3684.99 : (Sub6 n48(30 MHz))<br>3570.00 – 3679.98 : (Sub6 n48(40 MHz)) |
| Date(s) of Tests:   | February 08, 2025 ~ July 04, 2025                                                                                                                                                                              |
| EUT Serial number:  | Radiated : BMW ICON-25SF Radiated #1<br>Conducted : BMW ICON-25SF Conducted #5                                                                                                                                 |
| Antenna Information | Please refer to the Antenna Specification document.                                                                                                                                                            |

## 1.1. SUPPORTED BANDS PER ANTENNA PORT

| Antenna Port               | Supported bands                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| MIMO 1                     | - WCDMA: B2, 5<br>- LTE: B2, 4, 5, 7, 12, 13, 17, 25, 66, 26, 38, 42, 48, 71<br>- NR: n2, 5, 7, 12, 25, 41, 48, 66, 71, 77, 78 |
| MIMO 2                     | - LTE: B42, 48<br>- NR: n48, 77, 78                                                                                            |
| MIMO 3                     | Only RX                                                                                                                        |
| MIMO 4                     | Only RX                                                                                                                        |
| Int. BUA (Back Up Antenna) | - WCDMA: B2, 5<br>- LTE: B2, 4, 5, 7, 25, 26, 38, 66<br>- NR: n2, 5, 7, 25, 41, 66                                             |

Note:

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

## 1.2 MAXIMUM OUTPUT POWER

### MIMO1

| Mode<br>(MHz) | Tx Frequency<br>(MHz) | Emission<br>Designator | Modulation | Conducted Output Power   |                            |
|---------------|-----------------------|------------------------|------------|--------------------------|----------------------------|
|               |                       |                        |            | Max. Power<br>(W/10 MHz) | Max. Power<br>(dBm/10 MHz) |
| Sub6 n48 (10) | 3555.00 – 3694.98     | 8M66G7D                | PI/2 BPSK  | 0.155                    | 21.89                      |
|               |                       | 8M60G7D                | QPSK       | 0.158                    | 21.98                      |
|               |                       | 8M60W7D                | 16QAM      | 0.119                    | 20.74                      |
|               |                       | 8M61W7D                | 64QAM      | 0.092                    | 19.64                      |
|               |                       | 8M60W7D                | 256QAM     | 0.054                    | 17.36                      |
| Sub6 n48 (15) | 3557.52 – 3692.49     | 12M9G7D                | PI/2 BPSK  | 0.161                    | 22.06                      |
|               |                       | 12M9G7D                | QPSK       | 0.159                    | 22.02                      |
|               |                       | 12M9W7D                | 16QAM      | 0.123                    | 20.89                      |
|               |                       | 12M9W7D                | 64QAM      | 0.095                    | 19.78                      |
|               |                       | 13M0W7D                | 256QAM     | 0.057                    | 17.57                      |
| Sub6 n48 (20) | 3560.01 – 3690.00     | 17M9G7D                | PI/2 BPSK  | 0.162                    | 22.09                      |
|               |                       | 17M9G7D                | QPSK       | 0.161                    | 22.06                      |
|               |                       | 17M9W7D                | 16QAM      | 0.123                    | 20.91                      |
|               |                       | 17M8W7D                | 64QAM      | 0.094                    | 19.75                      |
|               |                       | 17M8W7D                | 256QAM     | 0.057                    | 17.54                      |
| Sub6 n48 (30) | 3565.02 – 3684.99     | 26M8G7D                | PI/2 BPSK  | 0.164                    | 22.15                      |
|               |                       | 26M9G7D                | QPSK       | 0.163                    | 22.13                      |
|               |                       | 27M0W7D                | 16QAM      | 0.129                    | 21.10                      |
|               |                       | 26M8W7D                | 64QAM      | 0.093                    | 19.70                      |
|               |                       | 26M8W7D                | 256QAM     | 0.057                    | 17.54                      |
| Sub6 n48 (40) | 3570.00 – 3679.98     | 35M8G7D                | PI/2 BPSK  | 0.163                    | 22.11                      |
|               |                       | 35M8G7D                | QPSK       | 0.162                    | 22.09                      |
|               |                       | 35M8W7D                | 16QAM      | 0.126                    | 20.99                      |
|               |                       | 35M7W7D                | 64QAM      | 0.092                    | 19.66                      |
|               |                       | 35M8W7D                | 256QAM     | 0.056                    | 17.47                      |



## MIMO2

| Mode<br>(MHz) | Tx Frequency<br>(MHz) | Emission<br>Designator | Modulation | Conducted Output Power   |                            |
|---------------|-----------------------|------------------------|------------|--------------------------|----------------------------|
|               |                       |                        |            | Max. Power<br>(W/10 MHz) | Max. Power<br>(dBm/10 MHz) |
| Sub6 n48 (10) | 3555.00 – 3694.98     | 8M57G7D                | PI/2 BPSK  | 0.189                    | 22.77                      |
|               |                       | 8M61G7D                | QPSK       | 0.191                    | 22.81                      |
|               |                       | 8M59W7D                | 16QAM      | 0.148                    | 21.71                      |
|               |                       | 8M62W7D                | 64QAM      | 0.108                    | 20.33                      |
|               |                       | 8M59W7D                | 256QAM     | 0.069                    | 18.39                      |
| Sub6 n48 (15) | 3557.52 – 3692.49     | 13M0G7D                | PI/2 BPSK  | 0.192                    | 22.83                      |
|               |                       | 13M0G7D                | QPSK       | 0.188                    | 22.75                      |
|               |                       | 12M9W7D                | 16QAM      | 0.145                    | 21.61                      |
|               |                       | 12M9W7D                | 64QAM      | 0.111                    | 20.46                      |
|               |                       | 12M9W7D                | 256QAM     | 0.072                    | 18.57                      |
| Sub6 n48 (20) | 3560.01 – 3690.00     | 17M9G7D                | PI/2 BPSK  | 0.195                    | 22.90                      |
|               |                       | 17M9G7D                | QPSK       | 0.192                    | 22.84                      |
|               |                       | 17M9W7D                | 16QAM      | 0.149                    | 21.74                      |
|               |                       | 17M9W7D                | 64QAM      | 0.110                    | 20.42                      |
|               |                       | 17M9W7D                | 256QAM     | 0.073                    | 18.64                      |
| Sub6 n48 (30) | 3565.02 – 3684.99     | 26M9G7D                | PI/2 BPSK  | 0.195                    | 22.91                      |
|               |                       | 27M0G7D                | QPSK       | 0.191                    | 22.82                      |
|               |                       | 27M0W7D                | 16QAM      | 0.156                    | 21.92                      |
|               |                       | 26M8W7D                | 64QAM      | 0.110                    | 20.40                      |
|               |                       | 26M8W7D                | 256QAM     | 0.071                    | 18.54                      |
| Sub6 n48 (40) | 3570.00 – 3679.98     | 35M8G7D                | PI/2 BPSK  | 0.195                    | 22.89                      |
|               |                       | 35M8G7D                | QPSK       | 0.191                    | 22.80                      |
|               |                       | 35M7W7D                | 16QAM      | 0.152                    | 21.83                      |
|               |                       | 35M8W7D                | 64QAM      | 0.105                    | 20.23                      |
|               |                       | 35M8W7D                | 256QAM     | 0.070                    | 18.48                      |

## 2. INTRODUCTION

### 2.1. DESCRIPTION OF EUT

Please refer to the [3G] 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**

### 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                       |
| Channel Edge                                        | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7<br>- KDB 940660 D01 v01 |
| Spurious and Harmonic Emissions at Antenna Terminal | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7                         |
| Conducted Output Power                              | - N/A (See SAR Report)                                                                            |
| Peak- to- Average Ratio                             | - KDB 971168 D01 v03r01 – Section 5.7<br>- ANSI C63.26-2015 – Section 5.2.3.4                     |
| 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            | - ANSI C63.26-2015 – Section 5.5.3<br>- KDB 971168 D01 v03r01 – Section 5.8                       |

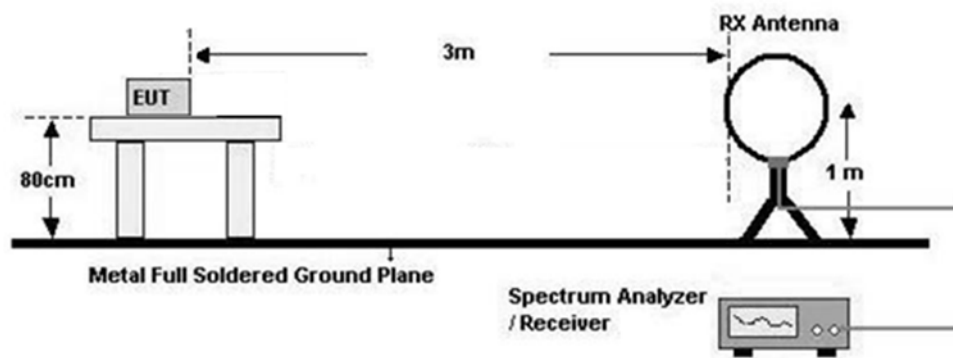
## 3.2 RADIATED POWER

### Test Overview

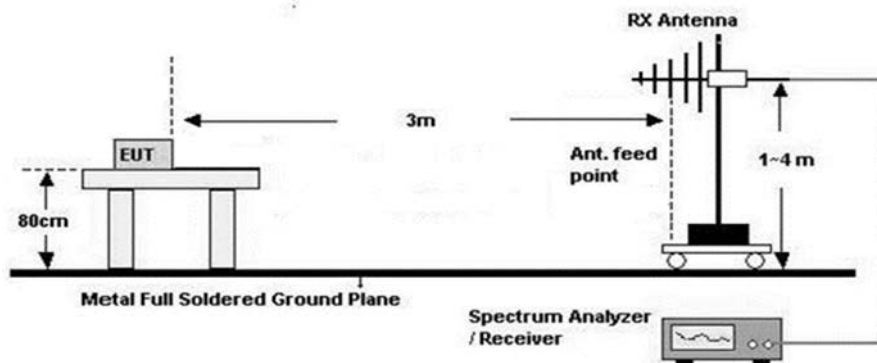
Radiated tests are performed in the semi-anechoic chamber. The equipment under test is placed on a non-conductive table on semi-anechoic chamber.

### Test Configuration

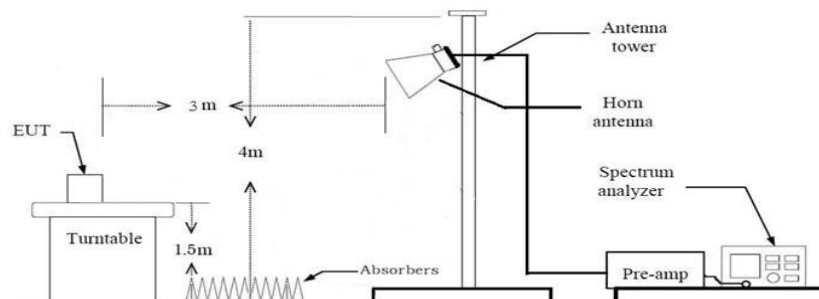
Below 30 MHz



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 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $>$  2 x 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.

#### 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;

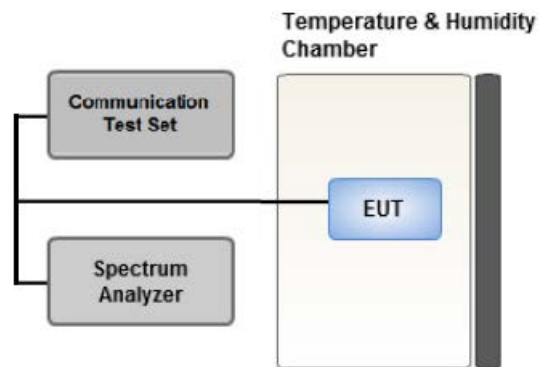
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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



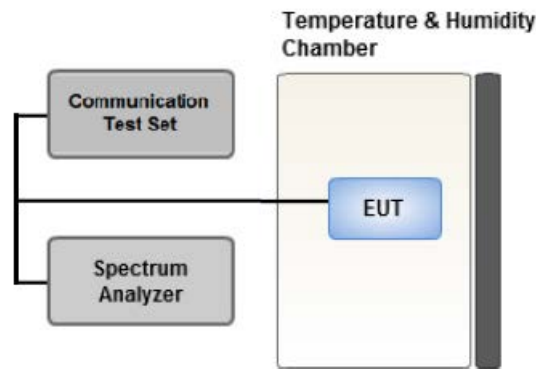
Test setup

#### 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.

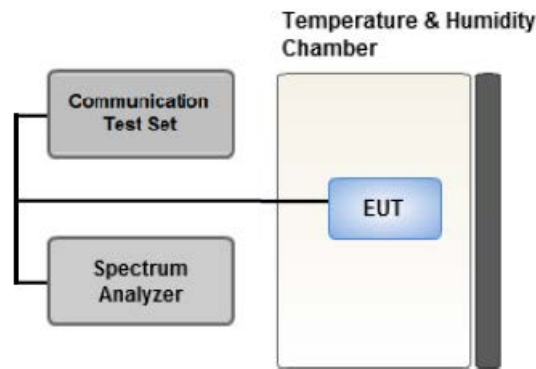
The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

#### 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 x 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

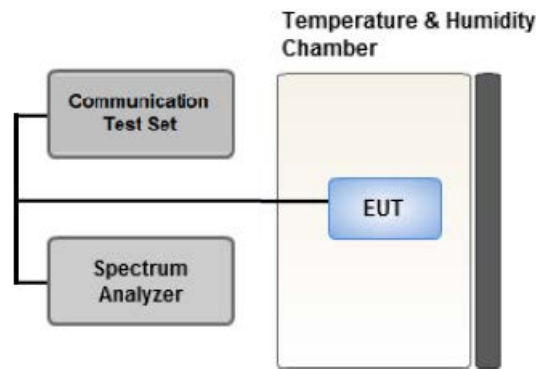
#### Test Overview

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 = RMS
4. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
5. Trace mode = trace average
6. Sweep time > Number of points in sweep  $\times$  Symbol period (i.e., the transmit on-time + the off-time)

### 3.7 CHANNEL 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 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

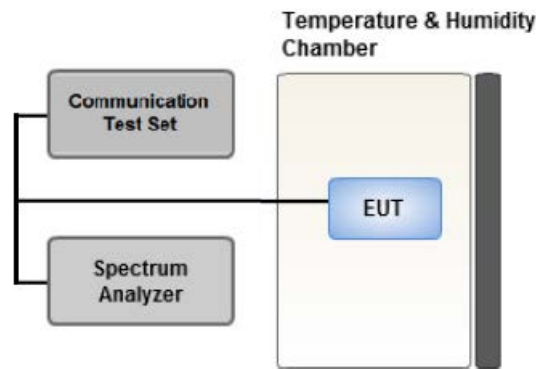
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1MHz of the channel edge the RBW should be 2 % of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. 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 (i.e., the transmit on-time + the off-time)
9. The trace was allowed to stabilize

### Test Notes

1. The attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,
2.  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge.
3.  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge.
4. The attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz.
5.  $55 + 10 \log (P)$  dB at or below 2490.5 MHz.
6. X is the greater of 6MHz or the actual emission bandwidth
7. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer

Where 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:

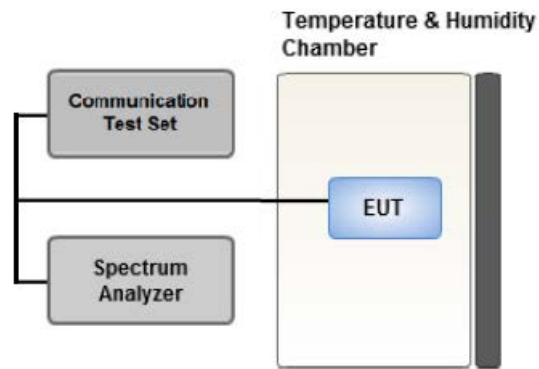
1. Temperature: The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.
2. Primary Supply Voltage:
  - .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
  - .- For 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 Adjacent Channel Leakage Ratio



Test setup

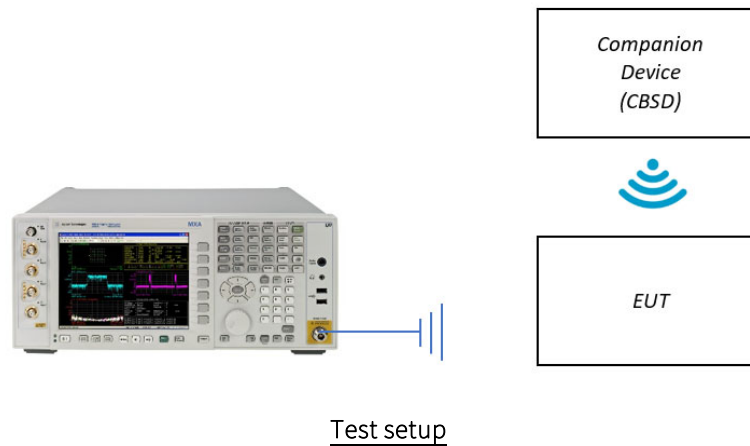
#### Test Settings

1. Use ACP measurement function of Spectrum analyzer to measure adjacent channel leakage ratio
2. Integral BW = Assigned channel bandwidth
5. Detector = RMS
6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time = 1 s
9. The trace was allowed to stabilize

#### Test Notes

the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

### 3.10 End User Device Additional Requirement (CBSD Protocol)



#### Test Overview

End user device additional requirements (CBSD Protocol) are tested per the test procedures listed below. During testing, the EUT is connected to a certified CBSD (FCC ID: PIDAS2900) as a companion device to show compliance with Part 96.47.

End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

#### Test Settings

- a. Setup companion device with 3630 MHz(BW 20MHz).
- b. Enable AP service from companion device.
- c. EUT is connected to a companion device.
- c. Check EUT Tx frequency and power.
- d. Disable AP service from companion device and check EUT stop transmission within 10 s.

### 3.11 WORST CASE(RADIATED TEST)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.
- The EUT supports only SA. Therefore, it was tested in SA mode only.
- The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported. 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 Isotropic Radiated Power       | PI/2 BPSK,<br>QPSK,<br>16QAM,<br>64QAM,<br>256QAM | See Section 8.1 |           | Y    |
| Radiated Spurious and Harmonic Emissions | PI/2 BPSK                                         | See Section 8.2 |           | Y    |

[ External(MIMO2) Worst case ]

| Test Description                    | Modulation                                        | RB size         | RB offset | Axis |
|-------------------------------------|---------------------------------------------------|-----------------|-----------|------|
| Equivalent Isotropic Radiated Power | PI/2 BPSK,<br>QPSK,<br>16QAM,<br>64QAM,<br>256QAM | See Section 9.1 |           | Z    |
| Radiated Spurious Emissions         | PI/2 BPSK                                         | See Section 9.2 |           | Y    |

### 3.12 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported. (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported. (Worst case: PI/2 BPSK)
- The EUT supports only SA. Therefore, it was tested in SA mode only.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported. Please refer to the table below.
- 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 (MHz)    | Frequency          | RB size | RB offset |
|-----------------------------------------------------|---------------------------------------|--------------------|--------------------|---------|-----------|
| Occupied Bandwidth, Peak-To-Average Ratio           | PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM | 10, 15, 20, 30, 40 | Mid                | Full RB | 0         |
| Adjacent Channel Leakage Ratio                      | PI/2 BPSK                             | 10, 15, 20, 30, 40 | Low<br>Mid<br>High | Full RB | 0         |
| Channel Edge                                        | PI/2 BPSK                             | 10                 | Low                | 1       | 0         |
|                                                     |                                       |                    | High               | 1       | 23        |
|                                                     |                                       | 15                 | Low                | 1       | 0         |
|                                                     |                                       |                    | High               | 1       | 37        |
|                                                     |                                       | 20                 | Low                | 1       | 0         |
|                                                     |                                       |                    | High               | 1       | 50        |
|                                                     |                                       | 30                 | Low                | 1       | 0         |
|                                                     |                                       |                    | High               | 1       | 77        |
|                                                     |                                       | 40                 | Low                | 1       | 0         |
|                                                     |                                       |                    | High               | 1       | 105       |
|                                                     |                                       | 10, 15, 20, 30, 40 | Low, Mid, High     | Full RB | 0         |
| Spurious and Harmonic Emissions at Antenna Terminal | PI/2 BPSK                             | 10, 15, 20, 30, 40 | Low, Mid, High     | 1       | 1         |



#### 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          | CO3000/1251/48920320/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>§ 96.41(e) | <div> <div></div> <div>-13 dBm/Mhz at frequencies within 0-10 MHz of channel edge</div> <div></div> <div>-25 dBm/MHz at frequencies greater than 10 MHz above and below channel edge</div> <div></div> <div>-40 dBm/MHz at frequencies below 3530 MHz and above 3720 MHz</div> </div> | PASS              |
| Adjacent Channel Leakage Ratio                                   | § 96.41(e)              | At least 30 dB.                                                                                                                                                                                                                                                                       | PASS              |
| Conducted Output Power                                           | § 2.1046                | N/A                                                                                                                                                                                                                                                                                   | Note <sup>1</sup> |
| Peak- to- Average Ratio                                          | § 96.41(g)              | < 13 dB                                                                                                                                                                                                                                                                               | PASS              |
| Frequency stability / variation of ambient temperature           | § 2.1055,               | Emission must remain in band                                                                                                                                                                                                                                                          | PASS              |

#### Note:

1. Refer to the SAR report.
2. Conducted tests were tested using 5G Wireless Tester.

### 6.2 Test Condition : Radiated Test

| Test Description                                        | FCC Part Section(s)     | Test Limit                                                                                                                                                                                                                                                                                                                                                                 | Test Result |
|---------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Equivalent Isotropic Radiated Power                     | § 96.41(b)              | 23 dBm/10 MHz                                                                                                                                                                                                                                                                                                                                                              | PASS        |
| Radiated Spurious and Harmonic Emissions                | § 2.1053,<br>§ 96.41(e) | -40 dBm/MHz                                                                                                                                                                                                                                                                                                                                                                | PASS        |
| End User Device Additional Requirements (CBSD Protocol) | § 96.47                 | End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation. An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD. | PASS        |

#### Note:

1. Radiated tests were tested using 5G Wireless Tester.

## 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 EQUIVALENT ISOTROPIC RADIATED POWER

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3555.00       | Sub6 n48/<br>10 MHz<br>[30 kHz]  | Pl/2 BPSK  | 73.97                | 31.50                            | 5.52              | 110.99            | V     | 15.79      | 23.0  | 1    | 22   |    |
|               |                                  | QPSK       | 73.82                | 31.50                            | 5.52              | 110.84            | V     | 15.64      |       |      |      |    |
|               |                                  | 16-QAM     | 73.48                | 31.50                            | 5.52              | 110.50            | V     | 15.30      |       |      |      |    |
|               |                                  | 64-QAM     | 73.62                | 31.50                            | 5.52              | 110.64            | V     | 15.44      |       |      |      |    |
|               |                                  | 256-QAM    | 73.55                | 31.50                            | 5.52              | 110.57            | V     | 15.37      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 76.54                | 31.40                            | 5.72              | 113.66            | V     | 18.46      |       | 23.0 | 1    | 12 |
|               |                                  | QPSK       | 76.43                | 31.40                            | 5.72              | 113.55            | V     | 18.35      |       |      |      |    |
|               |                                  | 16-QAM     | 76.38                | 31.40                            | 5.72              | 113.50            | V     | 18.30      |       |      |      |    |
|               |                                  | 64-QAM     | 75.25                | 31.40                            | 5.72              | 112.37            | V     | 17.17      |       |      |      |    |
|               |                                  | 256-QAM    | 75.53                | 31.40                            | 5.72              | 112.65            | V     | 17.45      |       |      |      |    |
| 3694.98       | Pl/2 BPSK                        | 72.15      | 31.40                | 5.73                             | 109.28            | V                 | 14.08 | 23.0       | 1     | 12   |      |    |
|               | QPSK                             | 71.22      | 31.40                | 5.73                             | 108.35            | V                 | 13.15 |            |       |      |      |    |
|               | 16-QAM                           | 71.39      | 31.40                | 5.73                             | 108.52            | V                 | 13.32 |            |       |      |      |    |
|               | 64-QAM                           | 72.05      | 31.40                | 5.73                             | 109.18            | V                 | 13.98 |            |       |      |      |    |
|               | 256-QAM                          | 71.38      | 31.40                | 5.73                             | 108.51            | V                 | 13.31 |            |       |      |      |    |



| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3557.52       | Sub6 n48/<br>15 MHz<br>[30 kHz]  | Pl/2 BPSK  | 74.82                | 31.50                            | 5.52              | 111.84            | V     | 16.64      | 23.0  | 1    | 1    |    |
|               |                                  | QPSK       | 74.38                | 31.50                            | 5.52              | 111.40            | V     | 16.20      |       |      |      |    |
|               |                                  | 16-QAM     | 74.29                | 31.50                            | 5.52              | 111.31            | V     | 16.11      |       |      |      |    |
|               |                                  | 64-QAM     | 74.17                | 31.50                            | 5.52              | 111.19            | V     | 15.99      |       |      |      |    |
|               |                                  | 256-QAM    | 74.47                | 31.50                            | 5.52              | 111.49            | V     | 16.29      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 76.09                | 31.40                            | 5.72              | 113.21            | V     | 18.01      |       | 23.0 | 1    | 19 |
|               |                                  | QPSK       | 75.61                | 31.40                            | 5.72              | 112.73            | V     | 17.53      |       |      |      |    |
|               |                                  | 16-QAM     | 75.94                | 31.40                            | 5.72              | 113.06            | V     | 17.86      |       |      |      |    |
|               |                                  | 64-QAM     | 75.76                | 31.40                            | 5.72              | 112.88            | V     | 17.68      |       |      |      |    |
|               |                                  | 256-QAM    | 75.95                | 31.40                            | 5.72              | 113.07            | V     | 17.87      |       |      |      |    |
| 3692.49       | Pl/2 BPSK                        | 71.70      | 31.40                | 5.73                             | 108.83            | V                 | 13.63 | 23.0       | 1     |      | 1    |    |
|               | QPSK                             | 71.49      | 31.40                | 5.73                             | 108.62            | V                 | 13.42 |            |       |      |      |    |
|               | 16-QAM                           | 71.68      | 31.40                | 5.73                             | 108.81            | V                 | 13.61 |            |       |      |      |    |
|               | 64-QAM                           | 71.69      | 31.40                | 5.73                             | 108.82            | V                 | 13.62 |            |       |      |      |    |
|               | 256-QAM                          | 71.02      | 31.40                | 5.73                             | 108.15            | V                 | 12.95 |            |       |      |      |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3560.01       | Sub6 n48/<br>20 MHz<br>[30 kHz]  | Pl/2 BPSK  | 74.33                | 31.50                            | 5.52              | 111.35            | V     | 16.15      | 23.0  | 1    | 25   |    |
|               |                                  | QPSK       | 74.01                | 31.50                            | 5.52              | 111.03            | V     | 15.83      |       |      |      |    |
|               |                                  | 16-QAM     | 74.25                | 31.50                            | 5.52              | 111.27            | V     | 16.07      |       |      |      |    |
|               |                                  | 64-QAM     | 74.30                | 31.50                            | 5.52              | 111.32            | V     | 16.12      |       |      |      |    |
|               |                                  | 256-QAM    | 74.10                | 31.50                            | 5.52              | 111.12            | V     | 15.92      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 76.07                | 31.40                            | 5.72              | 113.19            | V     | 17.99      |       | 23.0 | 1    | 25 |
|               |                                  | QPSK       | 75.64                | 31.40                            | 5.72              | 112.76            | V     | 17.56      |       |      |      |    |
|               |                                  | 16-QAM     | 75.96                | 31.40                            | 5.72              | 113.08            | V     | 17.88      |       |      |      |    |
|               |                                  | 64-QAM     | 75.90                | 31.40                            | 5.72              | 113.02            | V     | 17.82      |       |      |      |    |
|               |                                  | 256-QAM    | 75.46                | 31.40                            | 5.72              | 112.58            | V     | 17.38      |       |      |      |    |
| 3690.00       | Pl/2 BPSK                        | 72.66      | 31.40                | 5.73                             | 109.79            | V                 | 14.59 | 23.0       | 1     | 49   |      |    |
|               | QPSK                             | 72.47      | 31.40                | 5.73                             | 109.60            | V                 | 14.40 |            |       |      |      |    |
|               | 16-QAM                           | 72.04      | 31.40                | 5.73                             | 109.17            | V                 | 13.97 |            |       |      |      |    |
|               | 64-QAM                           | 72.03      | 31.40                | 5.73                             | 109.16            | V                 | 13.96 |            |       |      |      |    |
|               | 256-QAM                          | 72.35      | 31.40                | 5.73                             | 109.48            | V                 | 14.28 |            |       |      |      |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3565.02       | Sub6 n48/<br>30 MHz<br>[30 kHz]  | Pl/2 BPSK  | 74.03                | 31.50                            | 5.52              | 111.05            | V     | 15.85      | 23.0  | 1    | 39   |    |
|               |                                  | QPSK       | 73.95                | 31.50                            | 5.52              | 110.97            | V     | 15.77      |       |      |      |    |
|               |                                  | 16-QAM     | 73.60                | 31.50                            | 5.52              | 110.62            | V     | 15.42      |       |      |      |    |
|               |                                  | 64-QAM     | 73.54                | 31.50                            | 5.52              | 110.56            | V     | 15.36      |       |      |      |    |
|               |                                  | 256-QAM    | 73.23                | 31.50                            | 5.52              | 110.25            | V     | 15.05      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 75.74                | 31.40                            | 5.72              | 112.86            | V     | 17.66      |       | 23.0 | 1    | 39 |
|               |                                  | QPSK       | 75.71                | 31.40                            | 5.72              | 112.83            | V     | 17.63      |       |      |      |    |
|               |                                  | 16-QAM     | 74.99                | 31.40                            | 5.72              | 112.11            | V     | 16.91      |       |      |      |    |
|               |                                  | 64-QAM     | 75.09                | 31.40                            | 5.72              | 112.21            | V     | 17.01      |       |      |      |    |
|               |                                  | 256-QAM    | 75.54                | 31.40                            | 5.72              | 112.66            | V     | 17.46      |       |      |      |    |
| 3684.99       | Pl/2 BPSK                        | 72.81      | 31.40                | 5.73                             | 109.94            | V                 | 14.74 | 23.0       | 1     | 76   |      |    |
|               | QPSK                             | 71.85      | 31.40                | 5.73                             | 108.98            | V                 | 13.78 |            |       |      |      |    |
|               | 16-QAM                           | 72.30      | 31.40                | 5.73                             | 109.43            | V                 | 14.23 |            |       |      |      |    |
|               | 64-QAM                           | 72.05      | 31.40                | 5.73                             | 109.18            | V                 | 13.98 |            |       |      |      |    |
|               | 256-QAM                          | 72.02      | 31.40                | 5.73                             | 109.15            | V                 | 13.95 |            |       |      |      |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3570.00       | Sub6 n48/<br>40 MHz<br>[30 kHz]  | Pl/2 BPSK  | 73.20                | 31.50                            | 5.52              | 110.22            | V     | 15.02      | 23.0  | 1    | 1    |    |
|               |                                  | QPSK       | 72.97                | 31.50                            | 5.52              | 109.99            | V     | 14.79      |       |      |      |    |
|               |                                  | 16-QAM     | 72.92                | 31.50                            | 5.52              | 109.94            | V     | 14.74      |       |      |      |    |
|               |                                  | 64-QAM     | 73.05                | 31.50                            | 5.52              | 110.07            | V     | 14.87      |       |      |      |    |
|               |                                  | 256-QAM    | 73.15                | 31.50                            | 5.52              | 110.17            | V     | 14.97      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 75.22                | 31.40                            | 5.72              | 112.34            | V     | 17.14      |       | 23.0 | 1    | 53 |
|               |                                  | QPSK       | 75.14                | 31.40                            | 5.72              | 112.26            | V     | 17.06      |       |      |      |    |
|               |                                  | 16-QAM     | 74.95                | 31.40                            | 5.72              | 112.07            | V     | 16.87      |       |      |      |    |
|               |                                  | 64-QAM     | 75.20                | 31.40                            | 5.72              | 112.32            | V     | 17.12      |       |      |      |    |
|               |                                  | 256-QAM    | 74.48                | 31.40                            | 5.72              | 111.60            | V     | 16.40      |       |      |      |    |
| 3679.98       | Pl/2 BPSK                        | 72.77      | 31.40                | 5.73                             | 109.90            | V                 | 14.70 | 23.0       | 1     | 104  |      |    |
|               | QPSK                             | 72.16      | 31.40                | 5.73                             | 109.29            | V                 | 14.09 |            |       |      |      |    |
|               | 16-QAM                           | 72.45      | 31.40                | 5.73                             | 109.58            | V                 | 14.38 |            |       |      |      |    |
|               | 64-QAM                           | 72.29      | 31.40                | 5.73                             | 109.42            | V                 | 14.22 |            |       |      |      |    |
|               | 256-QAM                          | 72.20      | 31.40                | 5.73                             | 109.33            | V                 | 14.13 |            |       |      |      |    |

## 8.2 RADIATED SPURIOUS EMISSIONS

- ▣ NR Band: N48
- ▣ Bandwidth: 10 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meters
- ▣ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637000<br>(3555.00) | 7 110.00   | -55.25               | 10.83           | -57.21                 | 4.48 | V   | -50.86       | -40.00      | 1    | 22     |
|                     | 10 665.00  | -56.10               | 11.61           | -56.37                 | 5.68 | H   | -50.44       | -40.00      |      |        |
|                     | 14 220.00  | -64.73               | 13.12           | -51.17                 | 6.63 | V   | -44.68       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.41               | 10.62           | -55.17                 | 4.53 | V   | -49.08       | -40.00      | 1    | 12     |
|                     | 10 874.97  | -55.43               | 11.84           | -54.98                 | 5.82 | V   | -48.96       | -40.00      |      |        |
|                     | 14 499.96  | -65.82               | 13.42           | -50.56                 | 6.69 | V   | -43.83       | -40.00      |      |        |
| 646332<br>(3694.98) | 7 389.96   | -54.85               | 11.10           | -57.04                 | 4.60 | V   | -50.54       | -40.00      | 1    | 12     |
|                     | 11 084.94  | -54.24               | 12.31           | -54.76                 | 5.85 | V   | -48.30       | -40.00      |      |        |
|                     | 14 779.92  | -67.41               | 13.57           | -50.36                 | 6.73 | V   | -43.52       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 15 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637168<br>(3557.52) | 7 115.04   | -55.87               | 10.82           | -57.88                 | 4.47 | H   | -51.53       | -40.00      | 1    | 1      |
|                     | 10 672.56  | -55.80               | 11.61           | -56.14                 | 5.70 | H   | -50.23       | -40.00      |      |        |
|                     | 14 230.08  | -64.23               | 13.14           | -50.43                 | 6.58 | V   | -43.87       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -55.41               | 10.62           | -56.17                 | 4.53 | V   | -50.08       | -40.00      | 1    | 19     |
|                     | 10 874.97  | -55.73               | 11.84           | -55.28                 | 5.82 | V   | -49.26       | -40.00      |      |        |
|                     | 14 499.96  | -65.13               | 13.42           | -49.87                 | 6.69 | V   | -43.14       | -40.00      |      |        |
| 646166<br>(3692.49) | 7 384.98   | -55.25               | 11.07           | -57.51                 | 4.61 | V   | -51.05       | -40.00      | 1    | 1      |
|                     | 11 077.47  | -54.06               | 12.31           | -54.60                 | 5.81 | V   | -48.10       | -40.00      |      |        |
|                     | 14 769.96  | -67.01               | 13.53           | -49.96                 | 6.72 | V   | -43.15       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 20 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637334<br>(3560.01) | 7 120.02   | -56.13               | 10.81           | -58.20                 | 4.46 | H   | -51.85       | -40.00      | 1    | 25     |
|                     | 10 680.03  | -55.78               | 11.61           | -56.09                 | 5.71 | V   | -50.19       | -40.00      |      |        |
|                     | 14 240.04  | -65.48               | 13.16           | -51.72                 | 6.54 | H   | -45.10       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.70               | 10.62           | -55.46                 | 4.53 | H   | -49.37       | -40.00      | 1    | 25     |
|                     | 10 874.97  | -55.18               | 11.84           | -54.73                 | 5.82 | H   | -48.71       | -40.00      |      |        |
|                     | 14 499.96  | -65.48               | 13.42           | -50.22                 | 6.69 | H   | -43.49       | -40.00      |      |        |
| 646000<br>(3690.00) | 7 380.00   | -55.00               | 11.05           | -57.36                 | 4.61 | H   | -50.92       | -40.00      | 1    | 49     |
|                     | 11 070.00  | -55.01               | 12.31           | -55.45                 | 5.79 | H   | -48.93       | -40.00      |      |        |
|                     | 14 760.00  | -67.17               | 13.49           | -50.12                 | 6.71 | H   | -43.34       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 30 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637668<br>(3565.02) | 7 130.04   | -56.25               | 10.79           | -58.17                 | 4.46 | V   | -51.84       | -40.00      | 1    | 39     |
|                     | 10 695.06  | -56.30               | 11.61           | -56.34                 | 5.68 | H   | -50.41       | -40.00      |      |        |
|                     | 14 260.08  | -65.63               | 13.20           | -51.61                 | 6.53 | V   | -44.94       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.11               | 10.62           | -54.87                 | 4.53 | V   | -48.78       | -40.00      | 1    | 39     |
|                     | 10 874.97  | -55.10               | 11.84           | -54.65                 | 5.82 | H   | -48.63       | -40.00      |      |        |
|                     | 14 499.96  | -65.12               | 13.42           | -49.86                 | 6.69 | V   | -43.13       | -40.00      |      |        |
| 645666<br>(3684.99) | 7 369.98   | -54.75               | 11.00           | -56.78                 | 4.61 | V   | -50.39       | -40.00      | 1    | 76     |
|                     | 11 054.97  | -53.56               | 12.30           | -53.76                 | 5.74 | V   | -47.20       | -40.00      |      |        |
|                     | 14 739.96  | -66.83               | 13.43           | -49.87                 | 6.70 | V   | -43.14       | -40.00      |      |        |



☐ NR Band: N48  
☐ Bandwidth: 40 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 638000<br>(3570.00) | 7 140.00   | -55.49               | 10.77           | -56.88                 | 4.48 | H   | -50.59       | -40.00      | 1    | 1      |
|                     | 10 710.00  | -55.25               | 11.61           | -55.76                 | 5.65 | V   | -49.80       | -40.00      |      |        |
|                     | 14 280.00  | -65.38               | 13.25           | -51.28                 | 6.57 | V   | -44.60       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -55.68               | 10.62           | -56.44                 | 4.53 | V   | -50.35       | -40.00      | 1    | 53     |
|                     | 10 874.97  | -55.46               | 11.84           | -55.01                 | 5.82 | H   | -48.99       | -40.00      |      |        |
|                     | 14 499.96  | -65.48               | 13.42           | -50.22                 | 6.69 | V   | -43.49       | -40.00      |      |        |
| 645332<br>(3679.98) | 7 359.96   | -55.43               | 10.94           | -57.41                 | 4.59 | H   | -51.06       | -40.00      | 1    | 104    |
|                     | 11 039.94  | -55.45               | 12.29           | -55.84                 | 5.73 | H   | -49.28       | -40.00      |      |        |
|                     | 14 719.92  | -66.97               | 13.41           | -49.96                 | 6.71 | V   | -43.26       | -40.00      |      |        |

### 8.3 PEAK-TO-AVERAGE RATIO

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data (dB ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|------------|
| Sub6 n48 | 10 MHz     | 3624.99         | BPSK       | 24                  | 0                     | 4.98       |
|          |            |                 | QPSK       |                     |                       | 5.93       |
|          |            |                 | 16-QAM     |                     |                       | 6.53       |
|          |            |                 | 64-QAM     |                     |                       | 6.69       |
|          |            |                 | 256-QAM    |                     |                       | 7.30       |
|          | 15 MHz     |                 | BPSK       | 36                  |                       | 4.26       |
|          |            |                 | QPSK       |                     |                       | 5.59       |
|          |            |                 | 16-QAM     |                     |                       | 6.53       |
|          |            |                 | 64-QAM     |                     |                       | 6.78       |
|          |            |                 | 256-QAM    |                     |                       | 6.49       |
|          | 20 MHz     |                 | BPSK       | 50                  |                       | 4.68       |
|          |            |                 | QPSK       |                     |                       | 5.71       |
|          |            |                 | 16-QAM     |                     |                       | 6.27       |
|          |            |                 | 64-QAM     |                     |                       | 6.26       |
|          |            |                 | 256-QAM    |                     |                       | 6.71       |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 4.63       |
|          |            |                 | QPSK       |                     |                       | 5.75       |
|          |            |                 | 16-QAM     |                     |                       | 6.40       |
|          |            |                 | 64-QAM     |                     |                       | 6.60       |
|          |            |                 | 256-QAM    |                     |                       | 6.70       |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 5.10       |
|          |            |                 | QPSK       |                     |                       | 5.72       |
|          |            |                 | 16-QAM     |                     |                       | 6.38       |
|          |            |                 | 64-QAM     |                     |                       | 6.61       |
|          |            |                 | 256-QAM    |                     |                       | 6.57       |

#### Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 77 ~ 101.

#### 8.4 OCCUPIED BANDWIDTH

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data ( MHz ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|--------------|
| Sub6 n48 | 10 MHz     | 3624.99         | BPSK       | 24                  | 0                     | 8.6618       |
|          |            |                 | QPSK       |                     |                       | 8.5964       |
|          |            |                 | 16-QAM     |                     |                       | 8.6038       |
|          |            |                 | 64-QAM     |                     |                       | 8.6057       |
|          |            |                 | 256-QAM    |                     |                       | 8.5952       |
|          | 15 MHz     |                 | BPSK       | 36                  |                       | 12.935       |
|          |            |                 | QPSK       |                     |                       | 12.927       |
|          |            |                 | 16-QAM     |                     |                       | 12.884       |
|          |            |                 | 64-QAM     |                     |                       | 12.911       |
|          |            |                 | 256-QAM    |                     |                       | 12.949       |
|          | 20 MHz     |                 | BPSK       | 50                  |                       | 17.894       |
|          |            |                 | QPSK       |                     |                       | 17.932       |
|          |            |                 | 16-QAM     |                     |                       | 17.898       |
|          |            |                 | 64-QAM     |                     |                       | 17.835       |
|          |            |                 | 256-QAM    |                     |                       | 17.841       |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 26.788       |
|          |            |                 | QPSK       |                     |                       | 26.853       |
|          |            |                 | 16-QAM     |                     |                       | 26.951       |
|          |            |                 | 64-QAM     |                     |                       | 26.771       |
|          |            |                 | 256-QAM    |                     |                       | 26.843       |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 35.746       |
|          |            |                 | QPSK       |                     |                       | 35.817       |
|          |            |                 | 16-QAM     |                     |                       | 35.802       |
|          |            |                 | 64-QAM     |                     |                       | 35.726       |
|          |            |                 | 256-QAM    |                     |                       | 35.779       |

#### Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 102 ~ 126.

## 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) |
|----------|------------------|-----------------|-------------------------------------|-------------|--------------------------------|--------------|-------------|
| Sub6 n48 | 10               | 3555.00         | 2.4538                              | 28.370      | -75.431                        | -47.061      | -40.00      |
|          |                  | 3624.99         | 2.4583                              | 28.370      | -79.493                        | -51.123      |             |
|          |                  | 3694.98         | 8.2582                              | 28.980      | -81.553                        | -52.573      |             |
|          | 15               | 3557.52         | 8.8449                              | 28.980      | -81.947                        | -52.967      |             |
|          |                  | 3624.99         | 8.2691                              | 28.980      | -81.501                        | -52.521      |             |
|          |                  | 3692.49         | 8.2721                              | 28.980      | -81.686                        | -52.706      |             |
|          | 20               | 3560.01         | 8.2726                              | 28.980      | -81.065                        | -52.085      |             |
|          |                  | 3624.99         | 8.8504                              | 28.980      | -81.586                        | -52.606      |             |
|          |                  | 3690.00         | 8.2721                              | 28.980      | -81.550                        | -52.570      |             |
|          | 30               | 3565.02         | 8.2761                              | 28.980      | -81.521                        | -52.541      |             |
|          |                  | 3624.99         | 8.2771                              | 28.980      | -81.686                        | -52.706      |             |
|          |                  | 3684.99         | 8.2656                              | 28.980      | -81.265                        | -52.285      |             |
|          | 40               | 3570.00         | 8.2741                              | 28.980      | -81.362                        | -52.382      |             |
|          |                  | 3624.99         | 8.2896                              | 28.980      | -81.441                        | -52.461      |             |
|          |                  | 3679.98         | 3.7226                              | 28.370      | -81.574                        | -53.204      |             |

### Note:

- Plots of the EUT's Conducted Spurious Emissions are shown Page 127 ~ 156.
- Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter  
Result(dBm) = Reading + Factor
- Factor(dB)

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 25.670      |
| 1 – 5                 | 28.370      |
| 5 – 10                | 28.980      |
| 10 – 15               | 29.520      |
| 15 – 20               | 29.890      |
| Above 20              | 30.530      |

## 8.6 CHANNEL EDGE

| BW<br>(MHz) | RB<br>(Size/<br>Offset) | Freq.<br>(MHz) | Outside of the authorized band (dBm) |                       |                     |                   |                   |                    |                       |                   |
|-------------|-------------------------|----------------|--------------------------------------|-----------------------|---------------------|-------------------|-------------------|--------------------|-----------------------|-------------------|
|             |                         |                | Lower Side(MHz)                      |                       |                     |                   | Upper Side(MHz)   |                    |                       |                   |
|             |                         |                | Below<br>3530 MHz                    | -[B]MHz ~<br>3530 MHz | -1 MHz ~<br>-[B]MHz | 0 MHz ~<br>-1 MHz | 0 MHz ~<br>+1 MHz | 1 MHz ~<br>+[B]MHz | +[B]MHz ~<br>3720 MHz | Above<br>3720 MHz |
| 10          | Full RB                 | 3555.00        | -54.45                               | -41.60                | -31.17              | -37.57            | -37.87            | -29.71             | -41.81                | —                 |
|             |                         | 3624.99        | —                                    | -41.87                | -34.37              | -42.42            | -42.01            | -34.97             | -42.33                | —                 |
|             |                         | 3694.98        | —                                    | -42.44                | -36.11              | -43.36            | -42.56            | -35.16             | -42.80                | -49.17            |
| 15          | Full RB                 | 3557.52        | -42.10                               | -36.47                | -31.03              | -34.39            | -36.47            | -31.34             | -41.06                | —                 |
|             |                         | 3624.99        | —                                    | -42.49                | -36.08              | -39.68            | -43.28            | -37.33             | -42.45                | —                 |
|             |                         | 3692.49        | —                                    | -41.68                | -34.86              | -39.66            | -41.77            | -37.05             | -39.01                | -43.70            |
| 20          | Full RB                 | 3560.01        | -42.95                               | -36.20                | -28.72              | -33.05            | -35.65            | -31.67             | -44.47                | —                 |
|             |                         | 3624.99        | —                                    | -45.40                | -35.27              | -41.58            | -42.32            | -38.13             | -45.43                | —                 |
|             |                         | 3690.00        | —                                    | -45.08                | -34.03              | -38.69            | -40.60            | -35.68             | -38.57                | -44.90            |
| 30          | Full RB                 | 3565.02        | -44.32                               | -41.71                | -37.05              | -40.37            | -41.99            | -38.83             | -49.37                | —                 |
|             |                         | 3624.99        | —                                    | -45.92                | -35.27              | -36.86            | -38.69            | -36.61             | -46.51                | —                 |
|             |                         | 3684.99        | —                                    | -50.20                | -39.19              | -41.33            | -43.65            | -40.93             | -43.82                | -44.95            |
| 40          | Full RB                 | 3570.00        | -44.96                               | -43.38                | -39.36              | -40.01            | -46.29            | -44.61             | -52.23                | —                 |
|             |                         | 3624.99        | —                                    | -52.51                | -36.10              | -38.96            | -42.82            | -40.78             | -50.27                | —                 |
|             |                         | 3679.98        | —                                    | -50.56                | -40.39              | -41.64            | -46.97            | -44.88             | -44.39                | -45.15            |
| Limit (dBm) |                         |                | -40.00                               | -25.00                | -13.00              | -13.00            | -13.00            | -13.00             | -25.00                | -40.00            |

### Note:

1. C.E = Channel Edge
2. Plots of the EUT's Channel Edge are shown Page 172 ~ 226.
3. Duty Cycle factor already applied on the factor.
  - Duty Cycle Factor(dB) = 6.99
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator
  - Result(dBm) = Reading + Factor

| BW<br>(MHz) | RB<br>(Size/ Offset)                 | Freq.<br>(MHz) | Outside of the authorized band (dBm) |                       |                     |                   |                   |                    |                        |                   |
|-------------|--------------------------------------|----------------|--------------------------------------|-----------------------|---------------------|-------------------|-------------------|--------------------|------------------------|-------------------|
|             |                                      |                | Lower Side(MHz)                      |                       |                     |                   | Upper Side(MHz)   |                    |                        |                   |
|             |                                      |                | Below<br>3530 MHz                    | -[B]MHz ~<br>3530 MHz | -1 MHz ~<br>-[B]MHz | 0 MHz ~<br>-1 MHz | 0 MHz ~<br>+1 MHz | 1 MHz ~<br>+[B]MHz | + [B]MHz ~<br>3720 MHz | Above<br>3720 MHz |
| 10          | Lower Side: 1/0<br>Upper Side: 1/23  | 3555.00        | -54.58                               | -49.20                | -36.12              | -36.68            | -39.79            | -36.58             | -49.44                 | —                 |
|             |                                      | 3624.99        | —                                    | -50.64                | -38.05              | -38.59            | -38.95            | -37.46             | -51.33                 | —                 |
|             |                                      | 3694.98        | —                                    | -48.87                | -36.39              | -38.82            | -40.58            | -37.05             | -48.43                 | -49.29            |
| 15          | Lower Side: 1/0<br>Upper Side: 1/37  | 3557.52        | -53.81                               | -49.46                | -36.49              | -35.44            | -39.08            | -36.80             | -52.04                 | —                 |
|             |                                      | 3624.99        | —                                    | -50.77                | -38.13              | -36.73            | -36.90            | -37.12             | -51.87                 | —                 |
|             |                                      | 3692.49        | —                                    | -50.90                | -36.74              | -34.95            | -41.00            | -38.82             | -48.73                 | -49.02            |
| 20          | Lower Side: 1/0<br>Upper Side: 1/50  | 3560.01        | -53.94                               | -50.05                | -38.25              | -42.85            | -43.96            | -38.05             | -50.37                 | —                 |
|             |                                      | 3624.99        | —                                    | -53.06                | -39.14              | -45.27            | -45.18            | -40.00             | -52.30                 | —                 |
|             |                                      | 3690.00        | —                                    | -52.30                | -39.77              | -44.94            | -47.62            | -40.28             | -49.15                 | -49.20            |
| 30          | Lower Side: 1/0<br>Upper Side: 1/77  | 3565.02        | -52.29                               | -45.60                | -39.50              | -40.44            | -39.75            | -40.01             | -51.61                 | —                 |
|             |                                      | 3624.99        | —                                    | -52.66                | -37.08              | -37.84            | -38.87            | -37.67             | -50.92                 | —                 |
|             |                                      | 3684.99        | —                                    | -51.36                | -40.21              | -41.32            | -42.21            | -40.87             | -43.82                 | -48.94            |
| 40          | Lower Side: 1/0<br>Upper Side: 1/105 | 3570.00        | -53.16                               | -47.04                | -38.77              | -36.96            | -40.52            | -40.61             | -52.40                 | —                 |
|             |                                      | 3624.99        | —                                    | -53.72                | -36.52              | -34.40            | -40.21            | -38.19             | -50.25                 | —                 |
|             |                                      | 3679.98        | —                                    | -50.64                | -39.64              | -38.13            | -39.94            | -38.00             | -45.54                 | -48.85            |
| Limit (dBm) |                                      |                | -40.00                               | -25.00                | -13.00              | -13.00            | -13.00            | -13.00             | -25.00                 | -40.00            |

Note:

1. C.E = Channel Edge
2. Plots of the EUT's Channel Edge are shown Page 172 ~ 226.
3. Duty Cycle factor already applied on the factor.
  - Duty Cycle Factor(dB) = 6.99
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator
  - Result(dBm) = Reading + Factor

## 8.7 Adjacent Channel Leakage Ratio(ACLR)

| Band Width | RB (Size/ Offset) | Frequency (MHz) | Adjacent Channel Leakage Ratio(dB) |             |
|------------|-------------------|-----------------|------------------------------------|-------------|
|            |                   |                 | Lower Side                         | Upper Side  |
| 10 MHz     | 24/0              | 3555.00         | 46.42                              | 45.97       |
|            |                   | 3624.99         | 47.53                              | 48.27       |
|            |                   | 3694.98         | 49.14                              | 48.60       |
| 15 MHz     | 36/0              | 3557.52         | 45.07                              | 45.46       |
|            |                   | 3624.99         | 47.59                              | 48.63       |
|            |                   | 3692.49         | 47.28                              | 48.49       |
| 20 MHz     | 50/0              | 3560.01         | 43.58                              | 45.53       |
|            |                   | 3624.99         | 47.01                              | 48.26       |
|            |                   | 3690.00         | 46.11                              | 46.83       |
| 30 MHz     | 75/0              | 3565.02         | 44.67                              | 47.96       |
|            |                   | 3624.99         | 45.52                              | 48.14       |
|            |                   | 3684.99         | 46.11                              | 48.23       |
| 40 MHz     | 100/0             | 3570.00         | 37.93                              | 49.99       |
|            |                   | 3624.99         | 38.07                              | 46.94       |
|            |                   | 3679.98         | 37.98                              | 48.08       |
| Limit (dB) |                   |                 | ACLR > 30dB                        | ACLR > 30dB |

### Note:

- Duty Cycle factor already applied on the factor.
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
  - Result(dBm) = Reading + Factor
  - Duty Cycle Factor(dB) = 6.990
- Plots of the EUT's Adjacent Channel Leakage Ratio(ACLR) are shown Page 157 ~ 171.

## 8.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 10 MHz
- ▣ Voltage(100 %): 4.200 VDC
- ▣ Batt. Endpoint: 3.700 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3555.000           | 100 %          | +20(Ref) | 3554 999 990 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3554 999 982 | -8.2               | 0.000 000 | -0.002 |
|                    | 100 %          | -20      | 3554 999 982 | -8.5               | 0.000 000 | -0.002 |
|                    | 100 %          | -10      | 3554 999 983 | -6.8               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3554 999 980 | -10.2              | 0.000 000 | -0.003 |
|                    | 100 %          | +10      | 3554 999 982 | -8.0               | 0.000 000 | -0.002 |
|                    | 100 %          | +30      | 3554 999 980 | -10.3              | 0.000 000 | -0.003 |
|                    | 100 %          | +40      | 3554 999 986 | -4.1               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3554 999 988 | -1.6               | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3554 999 982 | -7.9               | 0.000 000 | -0.002 |
| 3694.980           | 100 %          | +20(Ref) | 3694 980 001 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3694 980 001 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -20      | 3694 980 000 | -1.1               | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3694 979 995 | -5.9               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3694 979 998 | -3.1               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3694 979 995 | -6.1               | 0.000 000 | -0.002 |
|                    | 100 %          | +30      | 3694 979 999 | -2.1               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3694 979 998 | -3.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3694 980 000 | -1.5               | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3694 979 998 | -3.5               | 0.000 000 | -0.001 |



☐ BandWidth: 15 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3557.520           | 100 %          | +20(Ref) | 3557 519 993 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3557 519 986 | -7.5               | 0.000 000 | -0.002 |
|                    | 100 %          | -20      | 3557 519 990 | -3.8               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3557 519 990 | -3.2               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3557 519 990 | -3.8               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3557 519 985 | -8.6               | 0.000 000 | -0.002 |
|                    | 100 %          | +30      | 3557 519 983 | -10.8              | 0.000 000 | -0.003 |
|                    | 100 %          | +40      | 3557 519 985 | -8.5               | 0.000 000 | -0.002 |
|                    | 100 %          | +50      | 3557 519 989 | -4.1               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3557 519 989 | -4.8               | 0.000 000 | -0.001 |
| 3692.490           | 100 %          | +20(Ref) | 3692 490 000 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3692 489 997 | -2.3               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3692 489 998 | -1.5               | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3692 489 994 | -5.3               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3692 489 994 | -5.7               | 0.000 000 | -0.002 |
|                    | 100 %          | +10      | 3692 489 997 | -2.4               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3692 489 992 | -7.7               | 0.000 000 | -0.002 |
|                    | 100 %          | +40      | 3692 489 993 | -6.5               | 0.000 000 | -0.002 |
|                    | 100 %          | +50      | 3692 489 996 | -4.0               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3692 490 005 | 5.6                | 0.000 000 | 0.002  |

☐ BandWidth: 20 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3560.010           | 100 %          | +20(Ref) | 3560 009 999 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3560 009 997 | -1.5               | 0.000 000 | 0.000  |
|                    | 100 %          | -20      | 3560 009 998 | -1.0               | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3560 009 993 | -5.9               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3560 009 993 | -5.8               | 0.000 000 | -0.002 |
|                    | 100 %          | +10      | 3560 009 995 | -3.6               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3560 009 998 | -0.8               | 0.000 000 | 0.000  |
|                    | 100 %          | +40      | 3560 009 989 | -9.3               | 0.000 000 | -0.003 |
|                    | 100 %          | +50      | 3560 009 995 | -4.1               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3560 009 990 | -8.4               | 0.000 000 | -0.002 |
| 3690.000           | 100 %          | +20(Ref) | 3689 999 995 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3689 999 993 | -2.5               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3689 999 994 | -1.1               | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3689 999 995 | -0.2               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3689 999 995 | -0.3               | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3689 999 992 | -3.4               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3689 999 995 | 0.4                | 0.000 000 | 0.000  |
|                    | 100 %          | +40      | 3689 999 994 | -1.1               | 0.000 000 | 0.000  |
|                    | 100 %          | +50      | 3689 999 993 | -2.3               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3689 999 993 | -2.4               | 0.000 000 | -0.001 |

☐ BandWidth: 30 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3565.020           | 100 %          | +20(Ref) | 3565 019 993 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3565 019 989 | -4.2               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3565 019 986 | -7.0               | 0.000 000 | -0.002 |
|                    | 100 %          | -10      | 3565 019 990 | -2.8               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3565 019 990 | -3.5               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3565 019 989 | -3.7               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3565 019 985 | -7.8               | 0.000 000 | -0.002 |
|                    | 100 %          | +40      | 3565 019 991 | -2.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3565 019 991 | -2.5               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3565 019 986 | -7.4               | 0.000 000 | -0.002 |
| 3684.990           | 100 %          | +20(Ref) | 3684 990 004 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3684 990 002 | -1.9               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3684 990 002 | -2.8               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3684 990 002 | -2.6               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3684 990 005 | 1.1                | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3684 990 002 | -2.8               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3684 990 000 | -4.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3684 989 999 | -5.8               | 0.000 000 | -0.002 |
|                    | 100 %          | +50      | 3684 990 002 | -2.7               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3684 990 001 | -2.8               | 0.000 000 | -0.001 |

☐ BandWidth: 40 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3570.000           | 100 %          | +20(Ref) | 3569 999 998 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3570 000 000 | 1.6                | 0.000 000 | 0.000  |
|                    | 100 %          | -20      | 3569 999 999 | 1.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3569 999 992 | -6.1               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3569 999 993 | -5.8               | 0.000 000 | -0.002 |
|                    | 100 %          | +10      | 3569 999 995 | -3.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3569 999 994 | -4.9               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3569 999 994 | -4.6               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3569 999 993 | -5.0               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3569 999 989 | -9.3               | 0.000 000 | -0.003 |
| 3679.980           | 100 %          | +20(Ref) | 3679 980 000 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3679 980 001 | 1.4                | 0.000 000 | 0.000  |
|                    | 100 %          | -20      | 3679 980 003 | 3.1                | 0.000 000 | 0.001  |
|                    | 100 %          | -10      | 3679 979 999 | -1.0               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3679 980 001 | 0.7                | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3679 979 998 | -2.4               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3679 980 000 | -0.2               | 0.000 000 | 0.000  |
|                    | 100 %          | +40      | 3679 979 997 | -3.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3679 980 002 | 1.5                | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3679 979 995 | -5.0               | 0.000 000 | -0.001 |

## 9. TEST DATA (MIMO2)

### 9.1 EQUIVALENT ISOTROPIC RADIATED POWER

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol. | EIRP       | Limit | RB   |      |   |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|------|------------|-------|------|------|---|----|
|               |                                  |            |                      |                                  |                   |                   |      | dBm/10 MHz |       | Size | Size |   |    |
| 3555.00       | Sub6 n48/<br>10 MHz<br>[30 kHz]  | Pl/2 BPSK  | 75.89                | 31.50                            | 5.52              | 112.91            | H    | 17.71      | 23.0  | 1    | 22   |   |    |
|               |                                  | QPSK       | 75.61                | 31.50                            | 5.52              | 112.63            | H    | 17.43      |       |      |      |   |    |
|               |                                  | 16-QAM     | 75.22                | 31.50                            | 5.52              | 112.24            | H    | 17.04      |       |      |      |   |    |
|               |                                  | 64-QAM     | 74.80                | 31.50                            | 5.52              | 111.82            | H    | 16.62      |       |      |      |   |    |
|               |                                  | 256-QAM    | 75.38                | 31.50                            | 5.52              | 112.40            | H    | 17.20      |       |      |      |   |    |
| 3624.99       |                                  | Pl/2 BPSK  | 74.79                | 31.40                            | 5.72              | 111.91            | H    | 16.71      |       | 23.0 | 1    | 1 |    |
|               |                                  | QPSK       | 74.14                | 31.40                            | 5.72              | 111.26            | H    | 16.06      |       |      |      |   |    |
|               |                                  | 16-QAM     | 73.95                | 31.40                            | 5.72              | 111.07            | H    | 15.87      |       |      |      |   |    |
|               |                                  | 64-QAM     | 74.57                | 31.40                            | 5.72              | 111.69            | H    | 16.49      |       |      |      |   |    |
|               |                                  | 256-QAM    | 73.77                | 31.40                            | 5.72              | 110.89            | H    | 15.69      |       |      |      |   |    |
| 3694.98       |                                  | Pl/2 BPSK  | 73.60                | 31.40                            | 5.73              | 110.73            | H    | 15.53      |       |      | 23.0 | 1 | 22 |
|               |                                  | QPSK       | 73.59                | 31.40                            | 5.73              | 110.72            | H    | 15.52      |       |      |      |   |    |
|               |                                  | 16-QAM     | 72.72                | 31.40                            | 5.73              | 109.85            | H    | 14.65      |       |      |      |   |    |
|               |                                  | 64-QAM     | 72.48                | 31.40                            | 5.73              | 109.61            | H    | 14.41      |       |      |      |   |    |
|               |                                  | 256-QAM    | 72.13                | 31.40                            | 5.73              | 109.26            | H    | 14.06      |       |      |      |   |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol. | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |      | dBm/10 MHz |       | Size | Size |    |
| 3557.52       | Sub6 n48/<br>15 MHz<br>[30 kHz]  | Pl/2 BPSK  | 75.63                | 31.50                            | 5.52              | 112.65            | H    | 17.45      | 23.0  | 1    | 1    |    |
|               |                                  | QPSK       | 74.86                | 31.50                            | 5.52              | 111.88            | H    | 16.68      |       |      |      |    |
|               |                                  | 16-QAM     | 75.37                | 31.50                            | 5.52              | 112.39            | H    | 17.19      |       |      |      |    |
|               |                                  | 64-QAM     | 75.54                | 31.50                            | 5.52              | 112.56            | H    | 17.36      |       |      |      |    |
|               |                                  | 256-QAM    | 75.23                | 31.50                            | 5.52              | 112.25            | H    | 17.05      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 75.00                | 31.40                            | 5.72              | 112.12            | H    | 16.92      |       | 23.0 | 1    | 19 |
|               |                                  | QPSK       | 74.39                | 31.40                            | 5.72              | 111.51            | H    | 16.31      |       |      |      |    |
|               |                                  | 16-QAM     | 74.20                | 31.40                            | 5.72              | 111.32            | H    | 16.12      |       |      |      |    |
|               |                                  | 64-QAM     | 74.62                | 31.40                            | 5.72              | 111.74            | H    | 16.54      |       |      |      |    |
|               |                                  | 256-QAM    | 74.99                | 31.40                            | 5.72              | 112.11            | H    | 16.91      |       |      |      |    |
| 3692.49       |                                  | Pl/2 BPSK  | 74.15                | 31.40                            | 5.73              | 111.28            | H    | 16.08      |       | 23.0 | 1    | 36 |
|               |                                  | QPSK       | 73.98                | 31.40                            | 5.73              | 111.11            | H    | 15.91      |       |      |      |    |
|               |                                  | 16-QAM     | 71.75                | 31.40                            | 5.73              | 108.88            | H    | 13.68      |       |      |      |    |
|               |                                  | 64-QAM     | 73.61                | 31.40                            | 5.73              | 110.74            | H    | 15.54      |       |      |      |    |
|               |                                  | 256-QAM    | 73.40                | 31.40                            | 5.73              | 110.53            | H    | 15.33      |       |      |      |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3560.01       | Sub6 n48/<br>20 MHz<br>[30 kHz]  | Pl/2 BPSK  | 75.67                | 31.50                            | 5.52              | 112.69            | H     | 17.49      | 23.0  | 1    | 49   |    |
|               |                                  | QPSK       | 75.51                | 31.50                            | 5.52              | 112.53            | H     | 17.33      |       |      |      |    |
|               |                                  | 16-QAM     | 75.47                | 31.50                            | 5.52              | 112.49            | H     | 17.29      |       |      |      |    |
|               |                                  | 64-QAM     | 75.30                | 31.50                            | 5.52              | 112.32            | H     | 17.12      |       |      |      |    |
|               |                                  | 256-QAM    | 74.33                | 31.50                            | 5.52              | 111.35            | H     | 16.15      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 75.21                | 31.40                            | 5.72              | 112.33            | H     | 17.13      |       | 23.0 | 1    | 25 |
|               |                                  | QPSK       | 74.72                | 31.40                            | 5.72              | 111.84            | H     | 16.64      |       |      |      |    |
|               |                                  | 16-QAM     | 74.52                | 31.40                            | 5.72              | 111.64            | H     | 16.44      |       |      |      |    |
|               |                                  | 64-QAM     | 74.54                | 31.40                            | 5.72              | 111.66            | H     | 16.46      |       |      |      |    |
|               |                                  | 256-QAM    | 73.87                | 31.40                            | 5.72              | 110.99            | H     | 15.79      |       |      |      |    |
| 3690.00       | Pl/2 BPSK                        | 73.30      | 31.40                | 5.73                             | 110.43            | H                 | 15.23 | 23.0       | 1     |      | 49   |    |
|               | QPSK                             | 72.89      | 31.40                | 5.73                             | 110.02            | H                 | 14.82 |            |       |      |      |    |
|               | 16-QAM                           | 73.23      | 31.40                | 5.73                             | 110.36            | H                 | 15.16 |            |       |      |      |    |
|               | 64-QAM                           | 72.76      | 31.40                | 5.73                             | 109.89            | H                 | 14.69 |            |       |      |      |    |
|               | 256-QAM                          | 72.93      | 31.40                | 5.73                             | 110.06            | H                 | 14.86 |            |       |      |      |    |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3565.02       | Sub6 n48/<br>30 MHz<br>[30 kHz]  | Pl/2 BPSK  | 75.32                | 31.50                            | 5.52              | 112.34            | H     | 17.14      | 23.0  | 1    | 39   |    |
|               |                                  | QPSK       | 75.21                | 31.50                            | 5.52              | 112.23            | H     | 17.03      |       |      |      |    |
|               |                                  | 16-QAM     | 75.17                | 31.50                            | 5.52              | 112.19            | H     | 16.99      |       |      |      |    |
|               |                                  | 64-QAM     | 75.29                | 31.50                            | 5.52              | 112.31            | H     | 17.11      |       |      |      |    |
|               |                                  | 256-QAM    | 74.92                | 31.50                            | 5.52              | 111.94            | H     | 16.74      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 74.23                | 31.40                            | 5.72              | 111.35            | H     | 16.15      |       | 23.0 | 1    | 39 |
|               |                                  | QPSK       | 74.04                | 31.40                            | 5.72              | 111.16            | H     | 15.96      |       |      |      |    |
|               |                                  | 16-QAM     | 72.66                | 31.40                            | 5.72              | 109.78            | H     | 14.58      |       |      |      |    |
|               |                                  | 64-QAM     | 73.36                | 31.40                            | 5.72              | 110.48            | H     | 15.28      |       |      |      |    |
|               |                                  | 256-QAM    | 73.67                | 31.40                            | 5.72              | 110.79            | H     | 15.59      |       |      |      |    |
| 3684.99       | Pl/2 BPSK                        | 73.24      | 31.40                | 5.73                             | 110.37            | H                 | 15.17 | 23.0       | 1     |      | 76   |    |
|               | QPSK                             | 72.78      | 31.40                | 5.73                             | 109.91            | H                 | 14.71 |            |       |      |      |    |
|               | 16-QAM                           | 71.98      | 31.40                | 5.73                             | 109.11            | H                 | 13.91 |            |       |      |      |    |
|               | 64-QAM                           | 72.32      | 31.40                | 5.73                             | 109.45            | H                 | 14.25 |            |       |      |      |    |
|               | 256-QAM                          | 72.01      | 31.40                | 5.73                             | 109.14            | H                 | 13.94 |            |       |      |      |    |



| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>(dBμV/m) | Ant. Factor +<br>Dis. Factor(dB) | Cable<br>loss(dB) | Total<br>(dBμV/m) | Pol.  | EIRP       | Limit | RB   |      |    |
|---------------|----------------------------------|------------|----------------------|----------------------------------|-------------------|-------------------|-------|------------|-------|------|------|----|
|               |                                  |            |                      |                                  |                   |                   |       | dBm/10 MHz |       | Size | Size |    |
| 3570.00       | Sub6 n48/<br>40 MHz<br>[30 kHz]  | Pl/2 BPSK  | 75.35                | 31.50                            | 5.52              | 112.37            | H     | 17.17      | 23.0  | 1    | 53   |    |
|               |                                  | QPSK       | 74.71                | 31.50                            | 5.52              | 111.73            | H     | 16.53      |       |      |      |    |
|               |                                  | 16-QAM     | 74.44                | 31.50                            | 5.52              | 111.46            | H     | 16.26      |       |      |      |    |
|               |                                  | 64-QAM     | 74.20                | 31.50                            | 5.52              | 111.22            | H     | 16.02      |       |      |      |    |
|               |                                  | 256-QAM    | 74.59                | 31.50                            | 5.52              | 111.61            | H     | 16.41      |       |      |      |    |
| 3624.99       |                                  | Pl/2 BPSK  | 74.43                | 31.40                            | 5.72              | 111.55            | H     | 16.35      |       | 23.0 | 1    | 53 |
|               |                                  | QPSK       | 74.00                | 31.40                            | 5.72              | 111.12            | H     | 15.92      |       |      |      |    |
|               |                                  | 16-QAM     | 74.15                | 31.40                            | 5.72              | 111.27            | H     | 16.07      |       |      |      |    |
|               |                                  | 64-QAM     | 74.16                | 31.40                            | 5.72              | 111.28            | H     | 16.08      |       |      |      |    |
|               |                                  | 256-QAM    | 74.12                | 31.40                            | 5.72              | 111.24            | H     | 16.04      |       |      |      |    |
| 3679.98       | Pl/2 BPSK                        | 73.77      | 31.40                | 5.73                             | 110.90            | H                 | 15.70 | 23.0       | 1     | 104  |      |    |
|               | QPSK                             | 73.08      | 31.40                | 5.73                             | 110.21            | H                 | 15.01 |            |       |      |      |    |
|               | 16-QAM                           | 72.99      | 31.40                | 5.73                             | 110.12            | H                 | 14.92 |            |       |      |      |    |
|               | 64-QAM                           | 72.56      | 31.40                | 5.73                             | 109.69            | H                 | 14.49 |            |       |      |      |    |
|               | 256-QAM                          | 72.43      | 31.40                | 5.73                             | 109.56            | H                 | 14.36 |            |       |      |      |    |

## 9.2 RADIATED SPURIOUS EMISSIONS

- ▣ NR Band: N48
- ▣ Bandwidth: 10 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meters
- ▣ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637000<br>(3555.00) | 7 110.00   | -54.47               | 10.83           | -56.43                 | 4.48 | H   | -50.08       | -40.00      | 1    | 22     |
|                     | 10 665.00  | -55.51               | 11.61           | -55.78                 | 5.68 | V   | -49.85       | -40.00      |      |        |
|                     | 14 220.00  | -64.30               | 13.12           | -50.74                 | 6.63 | V   | -44.25       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.50               | 10.62           | -55.26                 | 4.53 | H   | -49.17       | -40.00      | 1    | 1      |
|                     | 10 874.97  | -55.62               | 11.84           | -55.17                 | 5.82 | H   | -49.15       | -40.00      |      |        |
|                     | 14 499.96  | -66.42               | 13.42           | -51.16                 | 6.69 | H   | -44.43       | -40.00      |      |        |
| 646332<br>(3694.98) | 7 389.96   | -55.34               | 11.10           | -57.53                 | 4.60 | V   | -51.03       | -40.00      | 1    | 22     |
|                     | 11 084.94  | -54.78               | 12.31           | -55.30                 | 5.85 | H   | -48.84       | -40.00      |      |        |
|                     | 14 779.92  | -67.66               | 13.57           | -50.61                 | 6.73 | V   | -43.77       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 15 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637168<br>(3557.52) | 7 115.04   | -53.97               | 10.82           | -55.98                 | 4.47 | H   | -49.63       | -40.00      | 1    | 1      |
|                     | 10 672.56  | -55.91               | 11.61           | -56.25                 | 5.70 | V   | -50.34       | -40.00      |      |        |
|                     | 14 230.08  | -63.40               | 13.14           | -49.60                 | 6.58 | V   | -43.04       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.30               | 10.62           | -55.06                 | 4.53 | H   | -48.97       | -40.00      | 1    | 19     |
|                     | 10 874.97  | -55.90               | 11.84           | -55.45                 | 5.82 | H   | -49.43       | -40.00      |      |        |
|                     | 14 499.96  | -66.36               | 13.42           | -51.10                 | 6.69 | H   | -44.37       | -40.00      |      |        |
| 646166<br>(3692.49) | 7 384.98   | -55.70               | 11.07           | -57.96                 | 4.61 | H   | -51.50       | -40.00      | 1    | 36     |
|                     | 11 077.47  | -54.78               | 12.31           | -55.32                 | 5.81 | H   | -48.82       | -40.00      |      |        |
|                     | 14 769.96  | -67.16               | 13.53           | -50.11                 | 6.72 | V   | -43.30       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 20 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637334<br>(3560.01) | 7 120.02   | -56.00               | 10.81           | -58.07                 | 4.46 | H   | -51.72       | -40.00      | 1    | 49     |
|                     | 10 680.03  | -54.29               | 11.61           | -54.60                 | 5.71 | V   | -48.70       | -40.00      |      |        |
|                     | 14 240.04  | -65.52               | 13.16           | -51.76                 | 6.54 | H   | -45.14       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -54.50               | 10.62           | -55.26                 | 4.53 | H   | -49.17       | -40.00      | 1    | 25     |
|                     | 10 874.97  | -54.85               | 11.84           | -54.40                 | 5.82 | H   | -48.38       | -40.00      |      |        |
|                     | 14 499.96  | -65.85               | 13.42           | -50.59                 | 6.69 | V   | -43.86       | -40.00      |      |        |
| 646000<br>(3690.00) | 7 380.00   | -56.59               | 11.05           | -58.95                 | 4.61 | H   | -52.51       | -40.00      | 1    | 49     |
|                     | 11 070.00  | -55.10               | 12.31           | -55.54                 | 5.79 | H   | -49.02       | -40.00      |      |        |
|                     | 14 760.00  | -68.07               | 13.49           | -51.02                 | 6.71 | V   | -44.24       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 30 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 637668<br>(3565.02) | 7 130.04   | -54.57               | 10.79           | -56.49                 | 4.46 | H   | -50.16       | -40.00      | 1    | 39     |
|                     | 10 695.06  | -55.71               | 11.61           | -55.75                 | 5.68 | V   | -49.82       | -40.00      |      |        |
|                     | 14 260.08  | -64.40               | 13.20           | -50.38                 | 6.53 | V   | -43.71       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -55.30               | 10.62           | -56.06                 | 4.53 | H   | -49.97       | -40.00      | 1    | 39     |
|                     | 10 874.97  | -56.60               | 11.84           | -56.15                 | 5.82 | H   | -50.13       | -40.00      |      |        |
|                     | 14 499.96  | -66.33               | 13.42           | -51.07                 | 6.69 | V   | -44.34       | -40.00      |      |        |
| 645666<br>(3684.99) | 7 369.98   | -55.55               | 11.00           | -57.58                 | 4.61 | V   | -51.19       | -40.00      | 1    | 76     |
|                     | 11 054.97  | -54.18               | 12.30           | -54.38                 | 5.74 | H   | -47.82       | -40.00      |      |        |
|                     | 14 739.96  | -67.16               | 13.43           | -50.20                 | 6.70 | V   | -43.47       | -40.00      |      |        |

☐ NR Band: N48  
☐ Bandwidth: 40 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                  | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) | RB   |        |
|---------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|------|--------|
|                     |            |                      |                 |                        |      |     |              |             | Size | Offset |
| 638000<br>(3570.00) | 7 140.00   | -56.20               | 10.77           | -57.59                 | 4.48 | H   | -51.30       | -40.00      | 1    | 53     |
|                     | 10 710.00  | -55.73               | 11.61           | -56.24                 | 5.65 | H   | -50.28       | -40.00      |      |        |
|                     | 14 280.00  | -65.51               | 13.25           | -51.41                 | 6.57 | H   | -44.73       | -40.00      |      |        |
| 641666<br>(3624.99) | 7 249.98   | -55.16               | 10.62           | -55.92                 | 4.53 | H   | -49.83       | -40.00      | 1    | 53     |
|                     | 10 874.97  | -55.68               | 11.84           | -55.23                 | 5.82 | V   | -49.21       | -40.00      |      |        |
|                     | 14 499.96  | -66.55               | 13.42           | -51.29                 | 6.69 | V   | -44.56       | -40.00      |      |        |
| 645332<br>(3679.98) | 7 359.96   | -54.78               | 10.94           | -56.76                 | 4.59 | V   | -50.41       | -40.00      | 1    | 104    |
|                     | 11 039.94  | -55.60               | 12.29           | -55.99                 | 5.73 | H   | -49.43       | -40.00      |      |        |
|                     | 14 719.92  | -68.00               | 13.41           | -50.99                 | 6.71 | V   | -44.29       | -40.00      |      |        |

### 9.3 PEAK-TO-AVERAGE RATIO

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data (dB ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|------------|
| Sub6 n48 | 10 MHz     | 3624.99         | BPSK       | 24                  | 0                     | 4.36       |
|          |            |                 | QPSK       |                     |                       | 5.83       |
|          |            |                 | 16-QAM     |                     |                       | 6.48       |
|          |            |                 | 64-QAM     |                     |                       | 6.86       |
|          |            |                 | 256-QAM    |                     |                       | 6.77       |
|          | 15 MHz     |                 | BPSK       | 36                  |                       | 4.39       |
|          |            |                 | QPSK       |                     |                       | 5.80       |
|          |            |                 | 16-QAM     |                     |                       | 6.68       |
|          |            |                 | 64-QAM     |                     |                       | 6.58       |
|          |            |                 | 256-QAM    |                     |                       | 6.28       |
|          | 20 MHz     |                 | BPSK       | 50                  |                       | 4.69       |
|          |            |                 | QPSK       |                     |                       | 5.56       |
|          |            |                 | 16-QAM     |                     |                       | 6.42       |
|          |            |                 | 64-QAM     |                     |                       | 6.57       |
|          |            |                 | 256-QAM    |                     |                       | 7.02       |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 4.39       |
|          |            |                 | QPSK       |                     |                       | 5.84       |
|          |            |                 | 16-QAM     |                     |                       | 6.44       |
|          |            |                 | 64-QAM     |                     |                       | 6.76       |
|          |            |                 | 256-QAM    |                     |                       | 6.75       |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 4.61       |
|          |            |                 | QPSK       |                     |                       | 5.62       |
|          |            |                 | 16-QAM     |                     |                       | 6.51       |
|          |            |                 | 64-QAM     |                     |                       | 6.55       |
|          |            |                 | 256-QAM    |                     |                       | 6.61       |

#### Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 228 ~ 252.

#### 9.4 OCCUPIED BANDWIDTH

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data ( MHz ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|--------------|
| Sub6 n48 | 10 MHz     | 3624.99         | BPSK       | 24                  | 0                     | 8.5693       |
|          |            |                 | QPSK       |                     |                       | 8.6142       |
|          |            |                 | 16-QAM     |                     |                       | 8.5860       |
|          |            |                 | 64-QAM     |                     |                       | 8.6177       |
|          |            |                 | 256-QAM    |                     |                       | 8.5901       |
|          | 15 MHz     |                 | BPSK       | 36                  |                       | 12.968       |
|          |            |                 | QPSK       |                     |                       | 12.984       |
|          |            |                 | 16-QAM     |                     |                       | 12.908       |
|          |            |                 | 64-QAM     |                     |                       | 12.901       |
|          |            |                 | 256-QAM    |                     |                       | 12.857       |
|          | 20 MHz     |                 | BPSK       | 50                  |                       | 17.901       |
|          |            |                 | QPSK       |                     |                       | 17.942       |
|          |            |                 | 16-QAM     |                     |                       | 17.927       |
|          |            |                 | 64-QAM     |                     |                       | 17.846       |
|          |            |                 | 256-QAM    |                     |                       | 17.874       |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 26.882       |
|          |            |                 | QPSK       |                     |                       | 26.948       |
|          |            |                 | 16-QAM     |                     |                       | 26.973       |
|          |            |                 | 64-QAM     |                     |                       | 26.813       |
|          |            |                 | 256-QAM    |                     |                       | 26.840       |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 35.807       |
|          |            |                 | QPSK       |                     |                       | 35.785       |
|          |            |                 | 16-QAM     |                     |                       | 35.668       |
|          |            |                 | 64-QAM     |                     |                       | 35.829       |
|          |            |                 | 256-QAM    |                     |                       | 35.749       |

#### Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 253 ~ 277.



## 9.5 CONDUCTED SPURIOUS EMISSIONS

| Band     | Band Width (MHz) | Frequency (MHz) | Frequency of Maximum Harmonic (GHz) | Factor (dB) | Measurement Maximum Data (dBm) | Result (dBm) | Limit (dBm) |
|----------|------------------|-----------------|-------------------------------------|-------------|--------------------------------|--------------|-------------|
| Sub6 n48 | 10               | 3555.00         | 2.4543                              | 28.370      | -75.288                        | -46.918      | -40.00      |
|          |                  | 3624.99         | 2.4533                              | 28.370      | -75.191                        | -46.821      |             |
|          |                  | 3694.98         | 2.4588                              | 28.370      | -77.988                        | -49.618      |             |
|          | 15               | 3557.52         | 2.4543                              | 28.370      | -77.397                        | -49.027      |             |
|          |                  | 3624.99         | 2.4533                              | 28.370      | -75.759                        | -47.389      |             |
|          |                  | 3692.49         | 2.4608                              | 28.370      | -77.627                        | -49.257      |             |
|          | 20               | 3560.01         | 2.4543                              | 28.370      | -76.397                        | -48.027      |             |
|          |                  | 3624.99         | 2.4593                              | 28.370      | -76.078                        | -47.708      |             |
|          |                  | 3690.00         | 2.4528                              | 28.370      | -75.555                        | -47.185      |             |
|          | 30               | 3565.02         | 2.4603                              | 28.370      | -77.639                        | -49.269      |             |
|          |                  | 3624.99         | 2.4568                              | 28.370      | -80.269                        | -51.899      |             |
|          |                  | 3684.99         | 2.4528                              | 28.370      | -76.796                        | -48.426      |             |
|          | 40               | 3570.00         | 2.4558                              | 28.370      | -76.706                        | -48.336      |             |
|          |                  | 3624.99         | 2.4613                              | 28.370      | -77.777                        | -49.407      |             |
|          |                  | 3679.98         | 2.4593                              | 28.370      | -77.591                        | -49.221      |             |

### Note:

- Plots of the EUT's Conducted Spurious Emissions are shown Page 278 ~ 307.
- Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter  
- Result(dBm) = Reading + Factor
- Factor(dB)

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 25.670      |
| 1 – 5                 | 28.370      |
| 5 – 10                | 28.980      |
| 10 – 15               | 29.520      |
| 15 – 20               | 29.890      |
| Above 20              | 30.530      |

## 9.6 CHANNEL EDGE

| BW<br>(MHz) | RB<br>(Size/<br>Offset) | Freq.<br>(MHz) | Outside of the authorized band (dBm) |                       |                     |                   |                   |                    |                       |                   |
|-------------|-------------------------|----------------|--------------------------------------|-----------------------|---------------------|-------------------|-------------------|--------------------|-----------------------|-------------------|
|             |                         |                | Lower Side(MHz)                      |                       |                     |                   | Upper Side(MHz)   |                    |                       |                   |
|             |                         |                | Below<br>3530 MHz                    | -[B]MHz ~<br>3530 MHz | -1 MHz ~<br>-[B]MHz | 0 MHz ~<br>-1 MHz | 0 MHz ~<br>+1 MHz | 1 MHz ~<br>+[B]MHz | +[B]MHz ~<br>3720 MHz | Above<br>3720 MHz |
| 10          | Full RB                 | 3555.00        | -54.50                               | -40.54                | -31.49              | -38.40            | -39.50            | -32.00             | -40.62                | —                 |
|             |                         | 3624.99        | —                                    | -42.18                | -33.01              | -38.85            | -39.81            | -33.96             | -43.75                | —                 |
|             |                         | 3694.98        | —                                    | -42.42                | -31.95              | -39.73            | -38.70            | -31.46             | -42.21                | -49.32            |
| 15          | Full RB                 | 3557.52        | -41.62                               | -36.80                | -32.55              | -35.44            | -38.40            | -35.29             | -40.88                | —                 |
|             |                         | 3624.99        | —                                    | -41.06                | -33.24              | -38.77            | -40.98            | -34.60             | -42.46                | —                 |
|             |                         | 3692.49        | —                                    | -41.56                | -30.05              | -34.93            | -35.40            | -29.04             | -38.95                | -43.11            |
| 20          | Full RB                 | 3560.01        | -43.29                               | -35.48                | -31.04              | -34.79            | -37.88            | -34.11             | -44.15                | —                 |
|             |                         | 3624.99        | —                                    | -43.77                | -30.32              | -36.46            | -37.15            | -31.65             | -44.53                | —                 |
|             |                         | 3690.00        | —                                    | -44.65                | -32.98              | -36.81            | -37.52            | -33.46             | -34.36                | -43.36            |
| 30          | Full RB                 | 3565.02        | -42.74                               | -40.73                | -37.65              | -39.34            | -42.18            | -41.18             | -49.17                | —                 |
|             |                         | 3624.99        | —                                    | -43.79                | -33.07              | -34.77            | -35.89            | -33.76             | -45.87                | —                 |
|             |                         | 3684.99        | —                                    | -49.36                | -36.78              | -39.23            | -44.37            | -41.43             | -42.19                | -44.02            |
| 40          | Full RB                 | 3570.00        | -42.72                               | -40.01                | -35.64              | -39.25            | -44.57            | -41.30             | -52.13                | —                 |
|             |                         | 3624.99        | —                                    | -53.48                | -36.21              | -36.82            | -42.53            | -41.79             | -50.31                | —                 |
|             |                         | 3679.98        | —                                    | -51.24                | -37.56              | -39.03            | -42.60            | -40.30             | -42.39                | -42.71            |
| Limit (dBm) |                         |                | -40.00                               | -25.00                | -13.00              | -13.00            | -13.00            | -13.00             | -25.00                | -40.00            |

### Note:

1. C.E = Channel Edge
2. Plots of the EUT's Channel Edge are shown Page 323 ~ 377.
3. Duty Cycle factor already applied on the factor.
  - Duty Cycle Factor(dB) = 6.99
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator
  - Result(dBm) = Reading + Factor

| BW<br>(MHz) | RB<br>(Size/ Offset)                 | Freq.<br>(MHz) | Outside of the authorized band (dBm) |                       |                     |                   |                   |                    |                        |                   |
|-------------|--------------------------------------|----------------|--------------------------------------|-----------------------|---------------------|-------------------|-------------------|--------------------|------------------------|-------------------|
|             |                                      |                | Lower Side(MHz)                      |                       |                     |                   | Upper Side(MHz)   |                    |                        |                   |
|             |                                      |                | Below<br>3530 MHz                    | -[B]MHz ~<br>3530 MHz | -1 MHz ~<br>-[B]MHz | 0 MHz ~<br>-1 MHz | 0 MHz ~<br>+1 MHz | 1 MHz ~<br>+[B]MHz | + [B]MHz ~<br>3720 MHz | Above<br>3720 MHz |
| 10          | Lower Side: 1/0<br>Upper Side: 1/23  | 3555.00        | -54.52                               | -48.40                | -36.62              | -37.30            | -37.73            | -35.63             | -49.27                 | —                 |
|             |                                      | 3624.99        | —                                    | -49.70                | -36.65              | -40.27            | -37.92            | -35.77             | -50.98                 | —                 |
|             |                                      | 3694.98        | —                                    | -48.64                | -35.44              | -35.61            | -40.48            | -36.69             | -48.01                 | -49.22            |
| 15          | Lower Side: 1/0<br>Upper Side: 1/37  | 3557.52        | -53.27                               | -48.71                | -36.08              | -34.18            | -37.22            | -36.35             | -51.40                 | —                 |
|             |                                      | 3624.99        | —                                    | -50.55                | -37.20              | -34.64            | -40.20            | -38.28             | -51.97                 | —                 |
|             |                                      | 3692.49        | —                                    | -50.90                | -36.18              | -34.67            | -36.20            | -36.73             | -48.12                 | -49.11            |
| 20          | Lower Side: 1/0<br>Upper Side: 1/50  | 3560.01        | -53.93                               | -49.56                | -37.49              | -43.00            | -43.26            | -37.52             | -50.94                 | —                 |
|             |                                      | 3624.99        | —                                    | -53.61                | -38.47              | -44.29            | -43.93            | -39.05             | -52.17                 | —                 |
|             |                                      | 3690.00        | —                                    | -52.60                | -38.56              | -44.33            | -44.64            | -38.88             | -48.57                 | -49.35            |
| 30          | Lower Side: 1/0<br>Upper Side: 1/77  | 3565.02        | -52.33                               | -43.57                | -36.07              | -37.46            | -39.63            | -38.43             | -52.06                 | —                 |
|             |                                      | 3624.99        | —                                    | -53.15                | -36.81              | -36.87            | -39.57            | -37.51             | -51.01                 | —                 |
|             |                                      | 3684.99        | —                                    | -51.81                | -38.90              | -38.84            | -43.65            | -40.25             | -43.70                 | -49.17            |
| 40          | Lower Side: 1/0<br>Upper Side: 1/105 | 3570.00        | -51.41                               | -44.60                | -31.02              | -33.58            | -40.96            | -39.26             | -52.22                 | —                 |
|             |                                      | 3624.99        | —                                    | -54.09                | -35.06              | -32.90            | -38.55            | -36.17             | -50.37                 | —                 |
|             |                                      | 3679.98        | —                                    | -51.19                | -37.16              | -35.67            | -40.56            | -39.67             | -45.11                 | -49.15            |
| Limit (dBm) |                                      |                | -40.00                               | -25.00                | -13.00              | -13.00            | -13.00            | -13.00             | -25.00                 | -40.00            |

Note:

1. C.E = Channel Edge
2. Plots of the EUT's Channel Edge are shown Page 323 ~ 377.
3. Duty Cycle factor already applied on the factor.
  - Duty Cycle Factor(dB) = 6.99
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator
  - Result(dBm) = Reading + Factor

## 9.7 Adjacent Channel Leakage Ratio(ACLR)

| Band Width | RB (Size/ Offset) | Frequency (MHz) | Adjacent Channel Leakage Ratio(dB) |             |
|------------|-------------------|-----------------|------------------------------------|-------------|
|            |                   |                 | Lower Side                         | Upper Side  |
| 10 MHz     | 24/0              | 3555.00         | 47.85                              | 47.96       |
|            |                   | 3624.99         | 47.61                              | 47.91       |
|            |                   | 3694.98         | 48.13                              | 47.54       |
| 15 MHz     | 36/0              | 3557.52         | 46.75                              | 48.41       |
|            |                   | 3624.99         | 46.48                              | 48.26       |
|            |                   | 3692.49         | 46.41                              | 46.63       |
| 20 MHz     | 50/0              | 3560.01         | 46.03                              | 47.51       |
|            |                   | 3624.99         | 45.15                              | 46.19       |
|            |                   | 3690.00         | 46.25                              | 46.72       |
| 30 MHz     | 75/0              | 3565.02         | 45.18                              | 49.59       |
|            |                   | 3624.99         | 43.60                              | 46.12       |
|            |                   | 3684.99         | 46.26                              | 48.55       |
| 40 MHz     | 100/0             | 3570.00         | 38.09                              | 49.55       |
|            |                   | 3624.99         | 37.84                              | 47.48       |
|            |                   | 3679.98         | 38.96                              | 47.65       |
| Limit (dB) |                   |                 | ACLR > 30dB                        | ACLR > 30dB |

### Note:

1. Duty Cycle factor already applied on the factor.

- Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
- Result(dBm) = Reading + Factor
- Duty Cycle Factor(dB) = 6.990

2. Plots of the EUT's Adjacent Channel Leakage Ratio(ACLR) are shown Page 308 ~ 322.

## 9.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 10 MHz
- ▣ Voltage(100 %): 4.200 VDC
- ▣ Batt. Endpoint: 3.700 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3555.000           | 100 %          | +20(Ref) | 3554 999 991 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3554 999 987 | -4.5               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3554 999 988 | -3.8               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3554 999 991 | -0.6               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3554 999 991 | -0.4               | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3554 999 991 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | +30      | 3554 999 986 | -5.0               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3554 999 981 | -10.5              | 0.000 000 | -0.003 |
|                    | 100 %          | +50      | 3554 999 987 | -4.6               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3554 999 989 | -2.3               | 0.000 000 | -0.001 |
| 3694.980           | 100 %          | +20(Ref) | 3694 979 991 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3694 979 986 | -4.8               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3694 979 988 | -3.0               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3694 979 989 | -1.3               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3694 979 991 | -0.2               | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3694 979 993 | 1.8                | 0.000 000 | 0.000  |
|                    | 100 %          | +30      | 3694 979 986 | -4.5               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3694 979 992 | 1.3                | 0.000 000 | 0.000  |
|                    | 100 %          | +50      | 3694 979 992 | 1.0                | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3694 979 991 | 0.2                | 0.000 000 | 0.000  |

☐ BandWidth: 15 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3557.520           | 100 %          | +20(Ref) | 3557 519 994 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3557 519 988 | -6.1               | 0.000 000 | -0.002 |
|                    | 100 %          | -20      | 3557 519 994 | -0.3               | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3557 519 995 | 0.8                | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3557 519 990 | -4.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3557 519 990 | -4.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3557 519 986 | -7.7               | 0.000 000 | -0.002 |
|                    | 100 %          | +40      | 3557 519 992 | -2.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3557 519 993 | -1.0               | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3557 519 990 | -3.9               | 0.000 000 | -0.001 |
| 3692.490           | 100 %          | +20(Ref) | 3692 490 000 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3692 489 995 | -4.1               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3692 490 000 | 0.1                | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3692 489 999 | -0.7               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3692 489 995 | -4.5               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3692 490 002 | 2.2                | 0.000 000 | 0.001  |
|                    | 100 %          | +30      | 3692 489 994 | -5.1               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3692 489 994 | -5.6               | 0.000 000 | -0.002 |
|                    | 100 %          | +50      | 3692 490 000 | 0.4                | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3692 489 997 | -2.8               | 0.000 000 | -0.001 |

☐ BandWidth: 20 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3560.010           | 100 %          | +20(Ref) | 3560 009 997 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3560 009 989 | -7.6               | 0.000 000 | -0.002 |
|                    | 100 %          | -20      | 3560 009 990 | -6.7               | 0.000 000 | -0.002 |
|                    | 100 %          | -10      | 3560 009 992 | -5.5               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3560 009 997 | -0.3               | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3560 009 993 | -4.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3560 009 990 | -6.8               | 0.000 000 | -0.002 |
|                    | 100 %          | +40      | 3560 009 989 | -8.3               | 0.000 000 | -0.002 |
|                    | 100 %          | +50      | 3560 009 997 | -0.3               | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3560 009 996 | -1.3               | 0.000 000 | 0.000  |
| 3690.000           | 100 %          | +20(Ref) | 3689 999 998 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3689 999 995 | -2.8               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3689 999 994 | -4.1               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3689 999 992 | -5.9               | 0.000 000 | -0.002 |
|                    | 100 %          | 0        | 3689 999 998 | 0.1                | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3689 999 996 | -2.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3689 999 992 | -6.6               | 0.000 000 | -0.002 |
|                    | 100 %          | +40      | 3689 999 997 | -1.2               | 0.000 000 | 0.000  |
|                    | 100 %          | +50      | 3689 999 997 | -1.4               | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3689 999 999 | 0.5                | 0.000 000 | 0.000  |

☐ BandWidth: 30 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3565.020           | 100 %          | +20(Ref) | 3565 019 998 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3565 019 994 | -3.7               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3565 019 993 | -5.3               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3565 019 995 | -3.4               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3565 019 996 | -2.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3565 019 994 | -4.3               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3565 020 000 | 1.7                | 0.000 000 | 0.000  |
|                    | 100 %          | +40      | 3565 019 994 | -3.8               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3565 019 994 | -3.9               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3565 019 993 | -5.0               | 0.000 000 | -0.001 |
| 3684.990           | 100 %          | +20(Ref) | 3684 989 995 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3684 989 991 | -4.4               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3684 989 996 | 0.3                | 0.000 000 | 0.000  |
|                    | 100 %          | -10      | 3684 989 994 | -0.9               | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3684 989 995 | -0.3               | 0.000 000 | 0.000  |
|                    | 100 %          | +10      | 3684 989 998 | 3.1                | 0.000 000 | 0.001  |
|                    | 100 %          | +30      | 3684 990 000 | 4.3                | 0.000 000 | 0.001  |
|                    | 100 %          | +40      | 3684 989 997 | 1.4                | 0.000 000 | 0.000  |
|                    | 100 %          | +50      | 3684 989 997 | 1.8                | 0.000 000 | 0.000  |
|                    | Lowest voltage | +20      | 3684 989 996 | 0.3                | 0.000 000 | 0.000  |

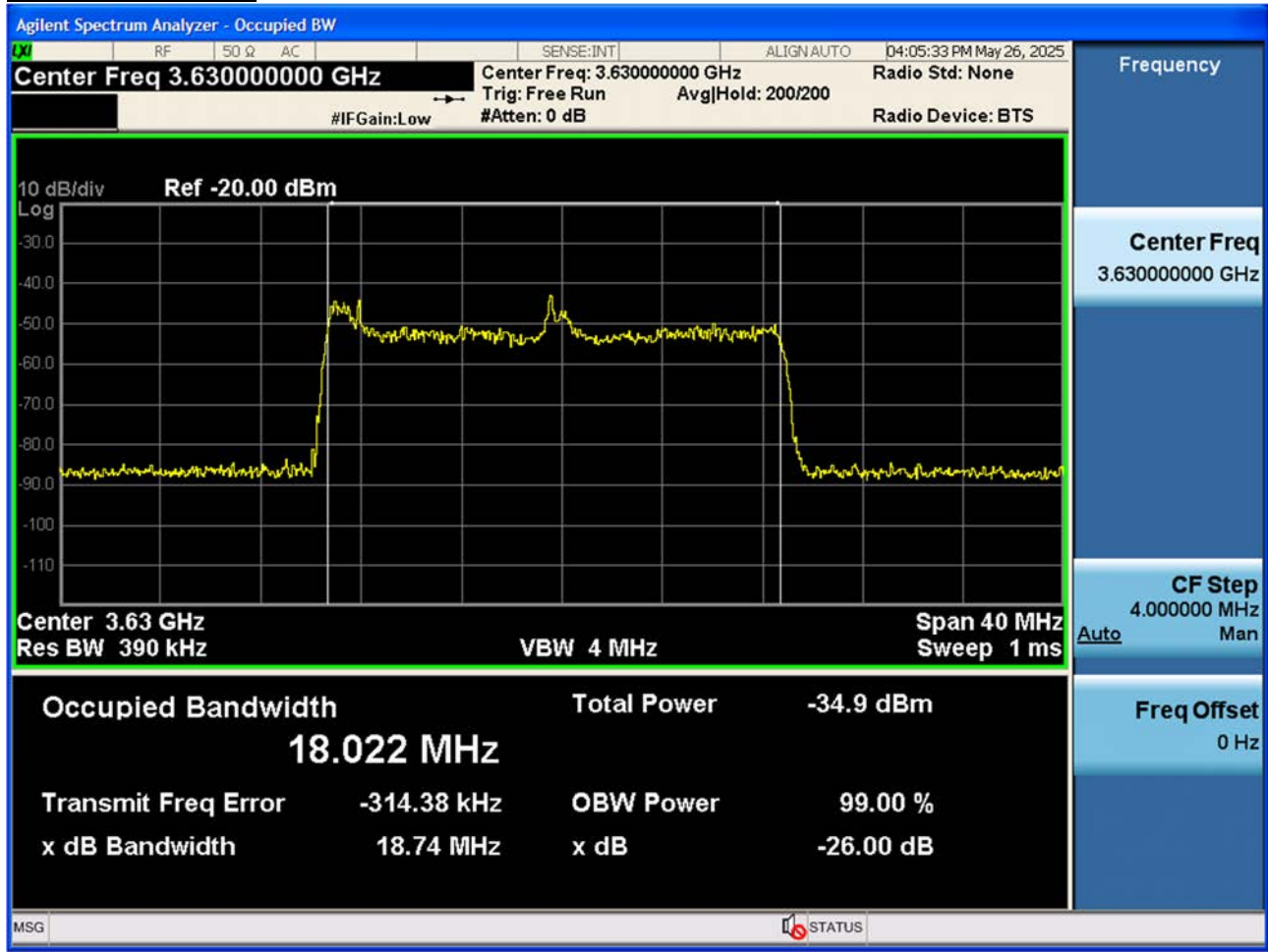


☐ BandWidth: 40 MHz  
☐ Voltage(100 %): 4.200 VDC  
☐ Batt. Endpoint: 3.700 VDC  
☐ LIMIT: Emission must remain in band

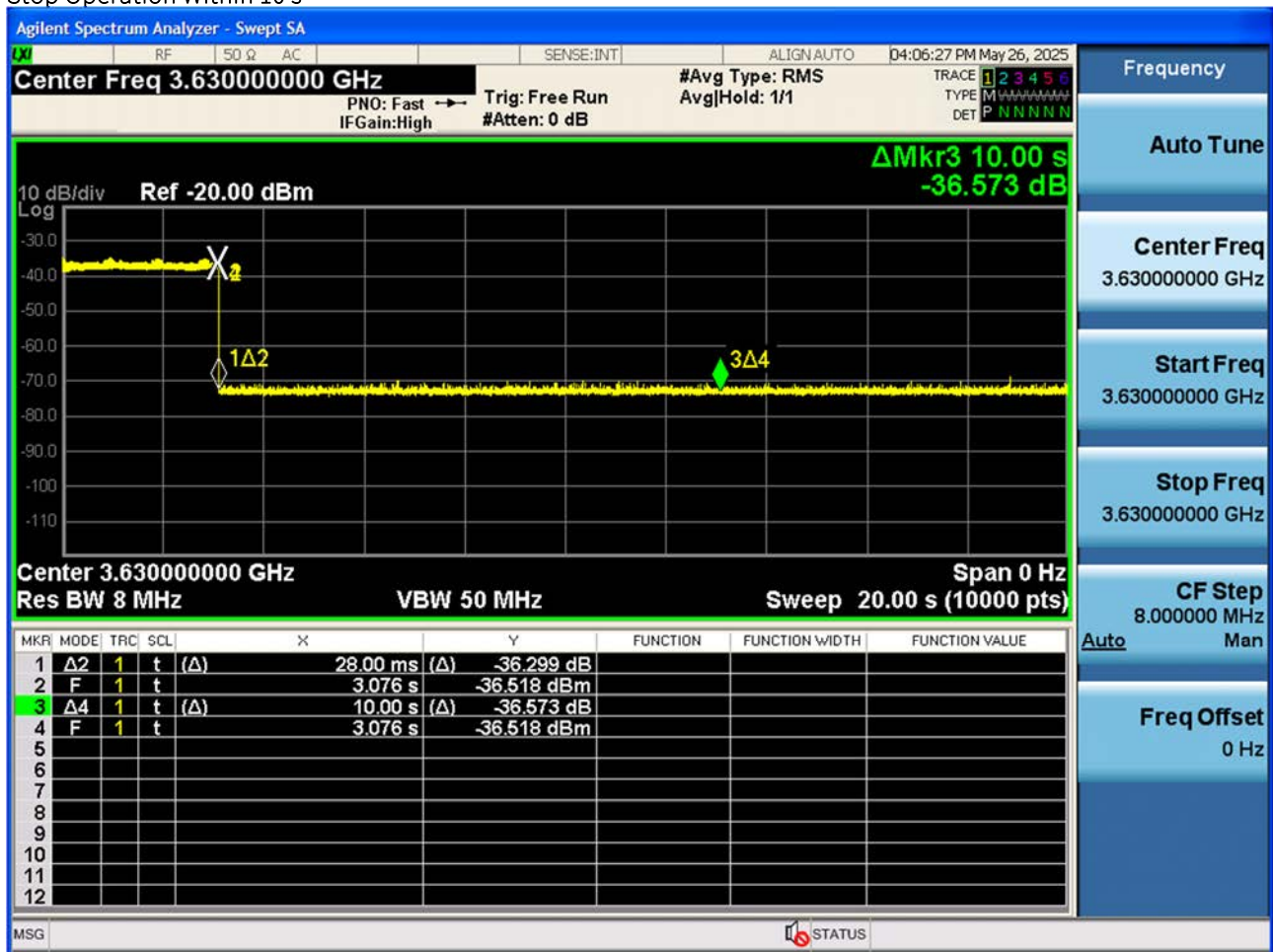
| Test.<br>Frequency | Voltage        | Temp.    | Frequency    | Frequency<br>Error | Deviation | ppm    |
|--------------------|----------------|----------|--------------|--------------------|-----------|--------|
| (MHz)              | (%)            | (°C)     | (Hz)         | (Hz)               | (%)       |        |
| 3570.000           | 100 %          | +20(Ref) | 3569 999 999 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3569 999 996 | -3.0               | 0.000 000 | -0.001 |
|                    | 100 %          | -20      | 3569 999 993 | -5.3               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3569 999 999 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | 0        | 3569 999 994 | -5.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3569 999 995 | -3.4               | 0.000 000 | -0.001 |
|                    | 100 %          | +30      | 3569 999 996 | -3.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3569 999 995 | -3.9               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3569 999 993 | -5.8               | 0.000 000 | -0.002 |
|                    | Lowest voltage | +20      | 3569 999 999 | 0.1                | 0.000 000 | 0.000  |
| 3679.980           | 100 %          | +20(Ref) | 3679 979 992 | 0.0                | 0.000 000 | 0.000  |
|                    | 100 %          | -30      | 3679 979 984 | -7.2               | 0.000 000 | -0.002 |
|                    | 100 %          | -20      | 3679 979 989 | -2.9               | 0.000 000 | -0.001 |
|                    | 100 %          | -10      | 3679 979 988 | -3.9               | 0.000 000 | -0.001 |
|                    | 100 %          | 0        | 3679 979 988 | -3.9               | 0.000 000 | -0.001 |
|                    | 100 %          | +10      | 3679 979 985 | -6.2               | 0.000 000 | -0.002 |
|                    | 100 %          | +30      | 3679 979 988 | -4.0               | 0.000 000 | -0.001 |
|                    | 100 %          | +40      | 3679 979 987 | -4.2               | 0.000 000 | -0.001 |
|                    | 100 %          | +50      | 3679 979 990 | -1.9               | 0.000 000 | -0.001 |
|                    | Lowest voltage | +20      | 3679 979 989 | -2.4               | 0.000 000 | -0.001 |

## 10. End User Device Additional Requirements (CBSD Protocol)

3630 MHz(BW: 20 MHz)



Stop Operation Within 10 s



## Note:

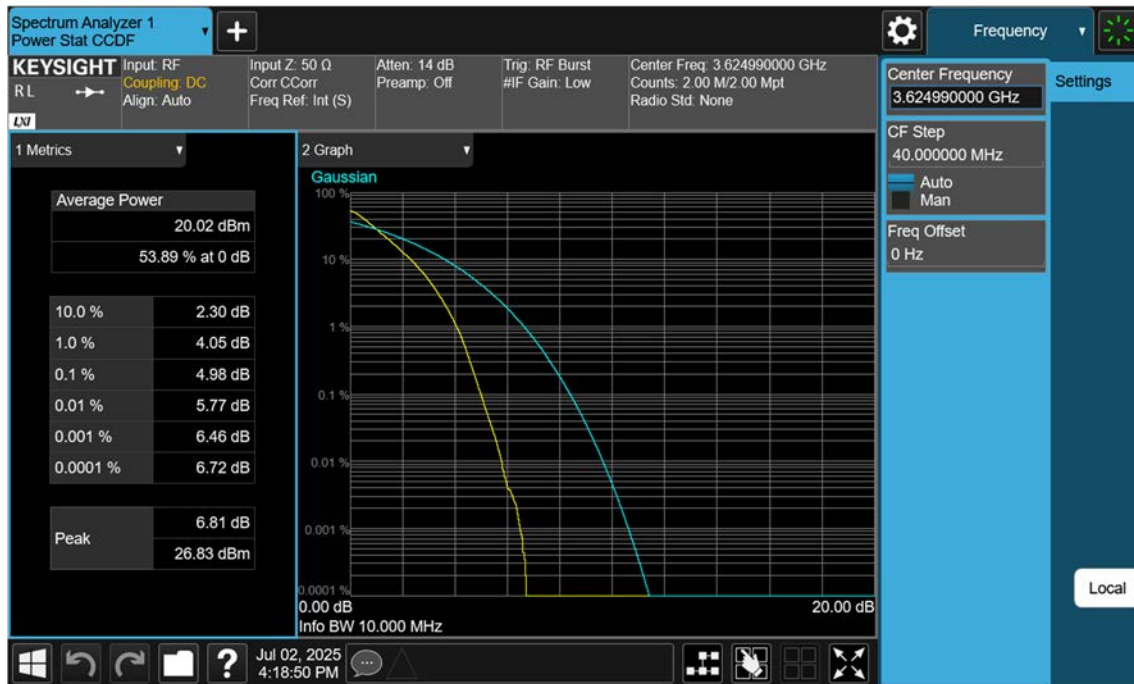
Marker 2: CBSD sends instructions to discontinue LTE operations.

Marker 1Δ2: EUT discontinues operation. (28 ms)

Marker 3Δ4: 10 seconds elapsed time from CBSD sending instructions to EUT.

## 11. TEST PLOTS (MIMO1)

NR48\_10 M\_PAR\_Mid\_BPSK\_FullRB



## NR48\_10 M\_PAR\_Mid\_QPSK\_FullRB



## NR48\_10 M\_PAR\_Mid\_16QAM\_FullRB



## NR48\_10 M\_PAR\_Mid\_64QAM\_FullRB





NR48\_10 M\_PAR\_Mid\_256QAM\_FullRB



## NR48\_15 M\_PAR\_Mid\_BPSK\_FullRB



## NR48\_15 M\_PAR\_Mid\_QPSK\_FullRB



## NR48\_15 M\_PAR\_Mid\_16QAM\_FullRB



## NR48\_15 M\_PAR\_Mid\_64QAM\_FullRB



## NR48\_15 M\_PAR\_Mid\_256QAM\_FullRB



NR48\_20 M\_PAR\_Mid\_BPSK\_FullRB



## NR48\_20 M\_PAR\_Mid\_QPSK\_FullRB





## NR48\_20 M\_PAR\_Mid\_16QAM\_FullRB



## NR48\_20 M\_PAR\_Mid\_64QAM\_FullRB



## NR48\_20 M\_PAR\_Mid\_256QAM\_FullRB



## NR48\_30 M\_PAR\_Mid\_BPSK\_FullRB



## NR48\_30 M\_PAR\_Mid\_QPSK\_FullRB



## NR48\_30 M\_PAR\_Mid\_16QAM\_FullRB



## NR48\_30 M\_PAR\_Mid\_64QAM\_FullRB

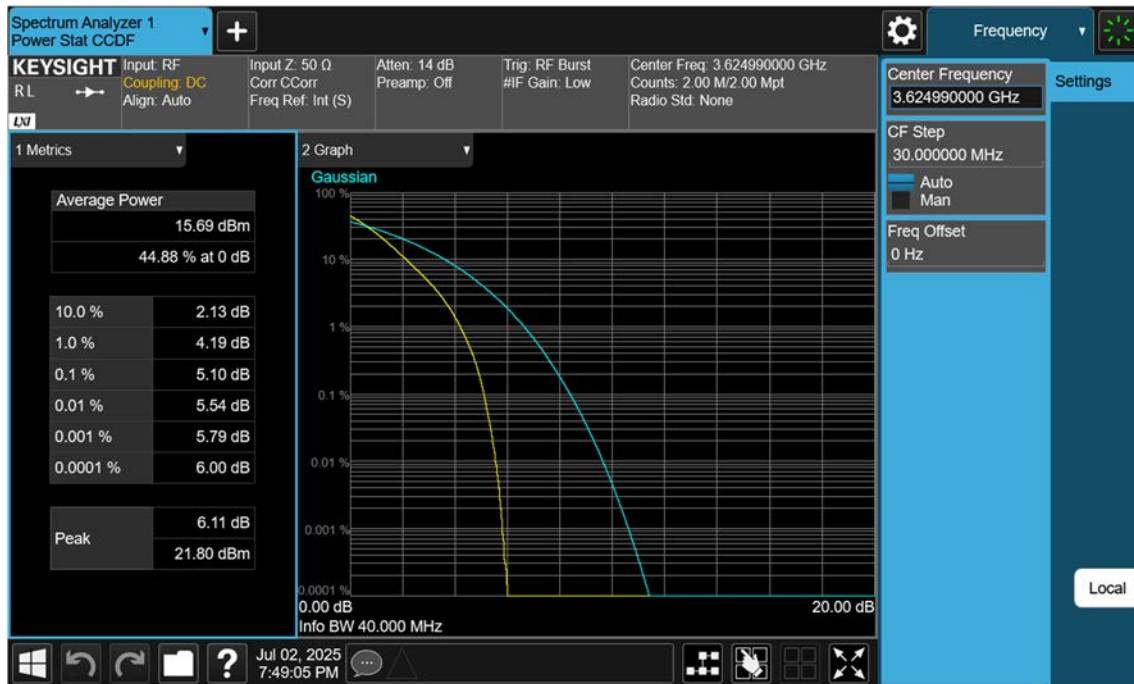


NR48\_30 M\_PAR\_Mid\_256QAM\_FullRB





## NR48\_40 M\_PAR\_Mid\_BPSK\_FullRB



## NR48\_40 M\_PAR\_Mid\_QPSK\_FullRB



## NR48\_40 M\_PAR\_Mid\_16QAM\_FullRB



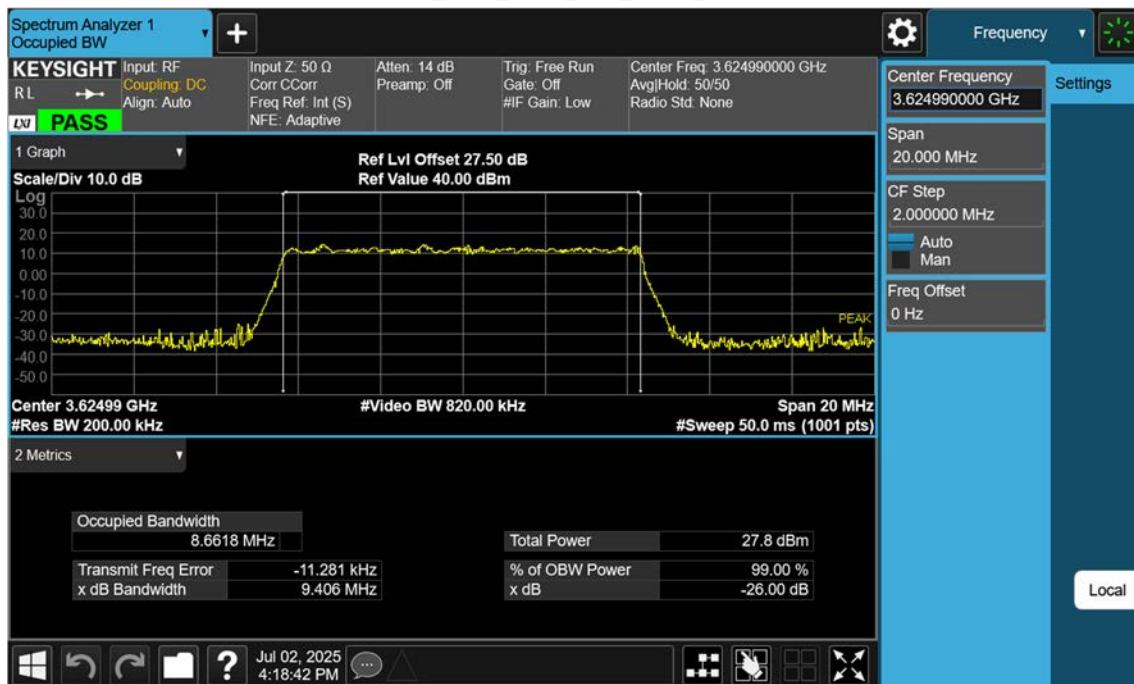
## NR48\_40 M\_PAR\_Mid\_64QAM\_FullRB



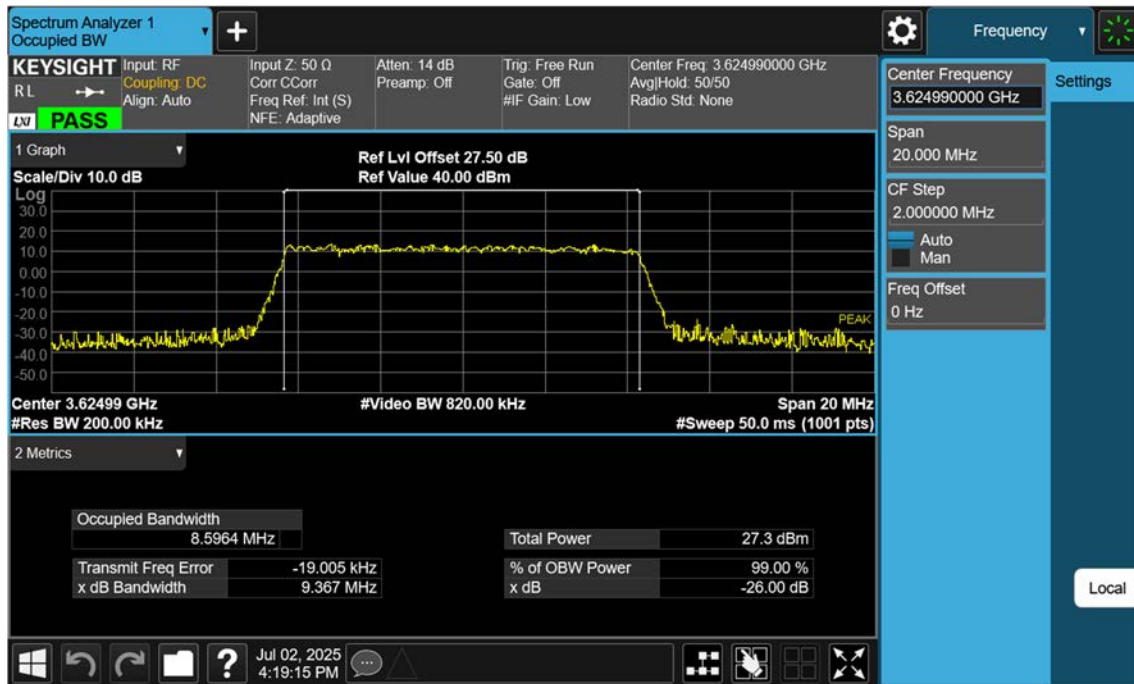
## NR48\_40 M\_PAR\_Mid\_256QAM\_FullRB



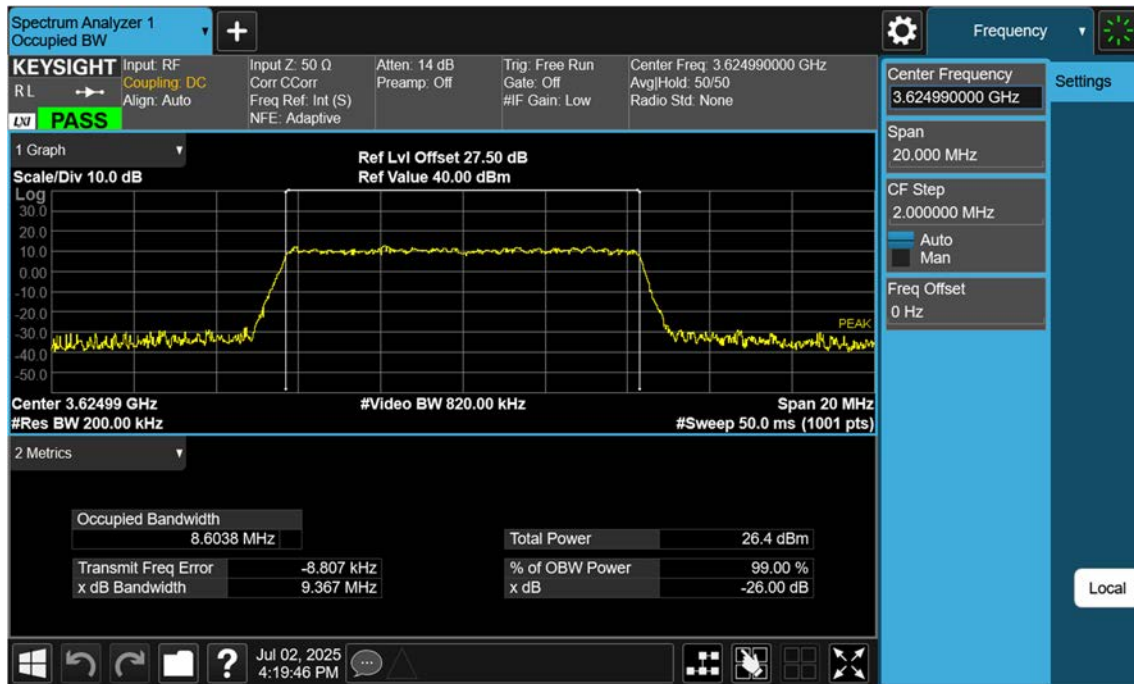
## NR48\_10 M\_OBW\_Mid\_BPSK\_FullRB



## NR48\_10 M\_OBW\_Mid\_QPSK\_FullRB

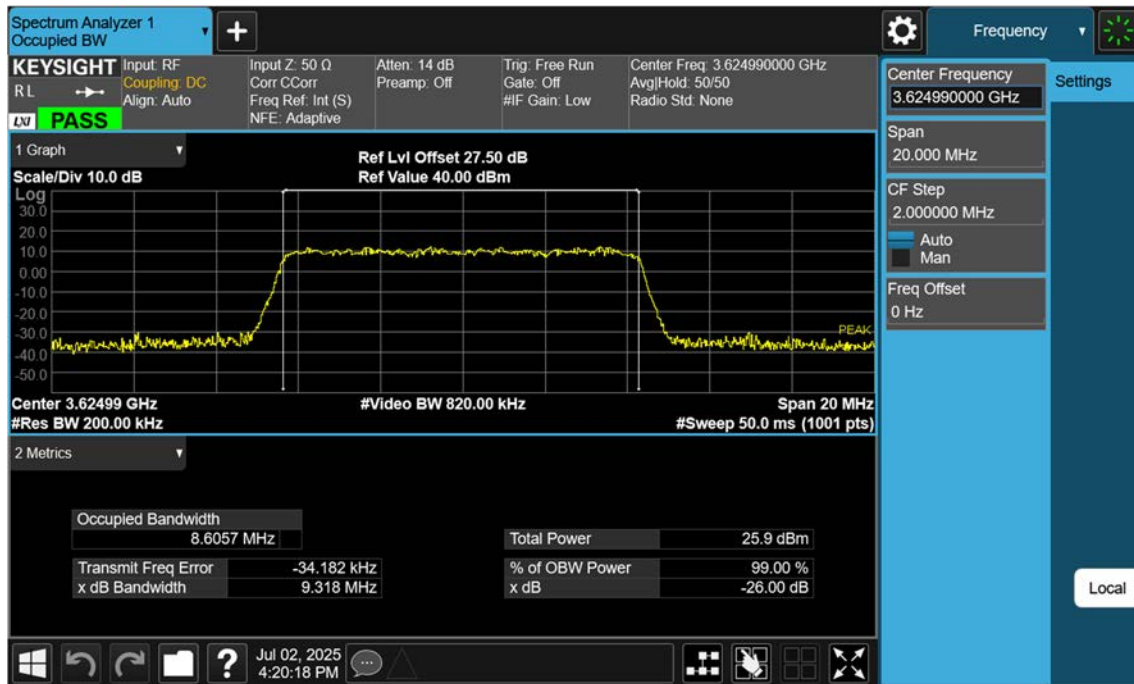


## NR48\_10 M\_OBW\_Mid\_16QAM\_FullRB

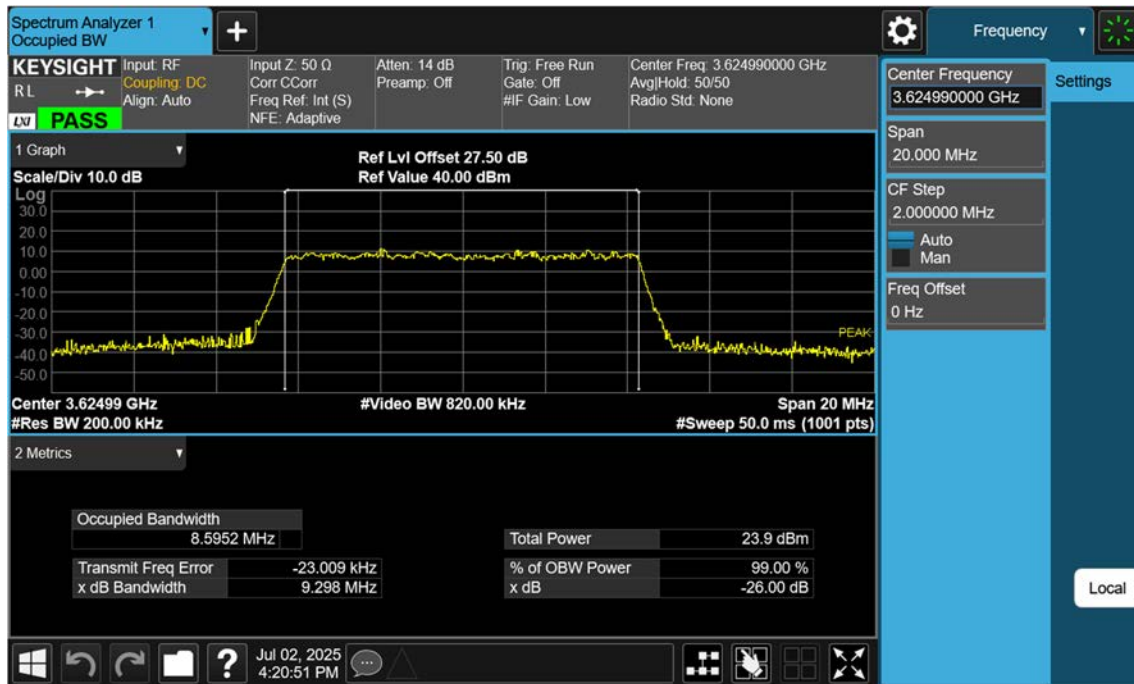




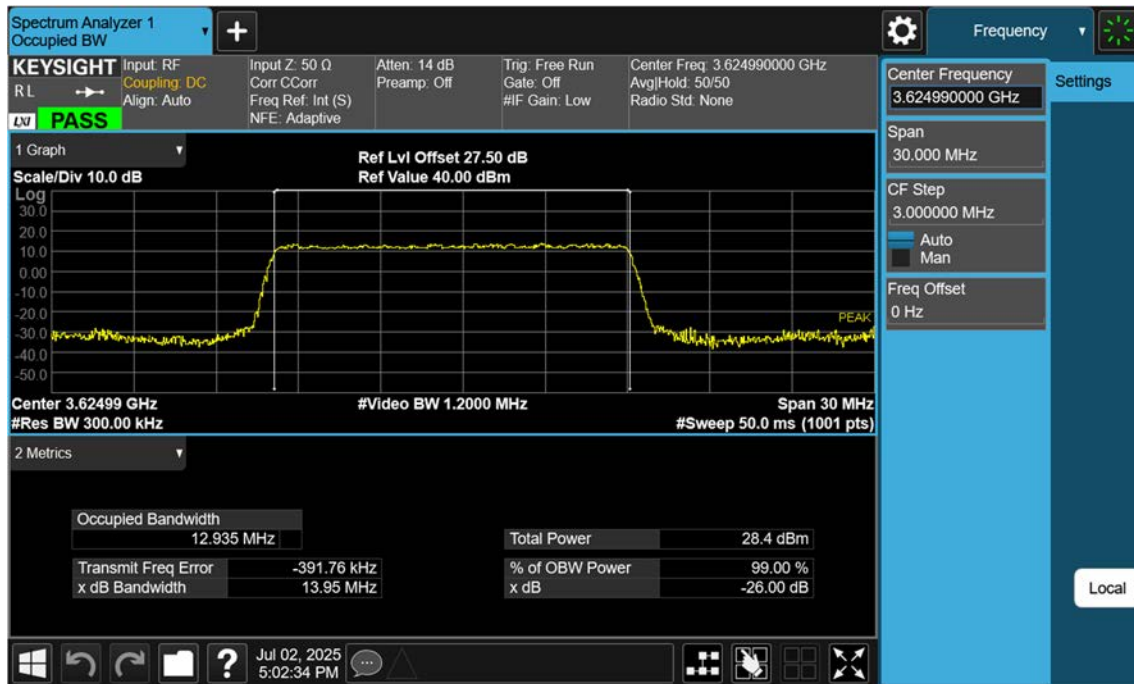
NR48\_10 M\_OBW\_Mid\_64QAM\_FullRB



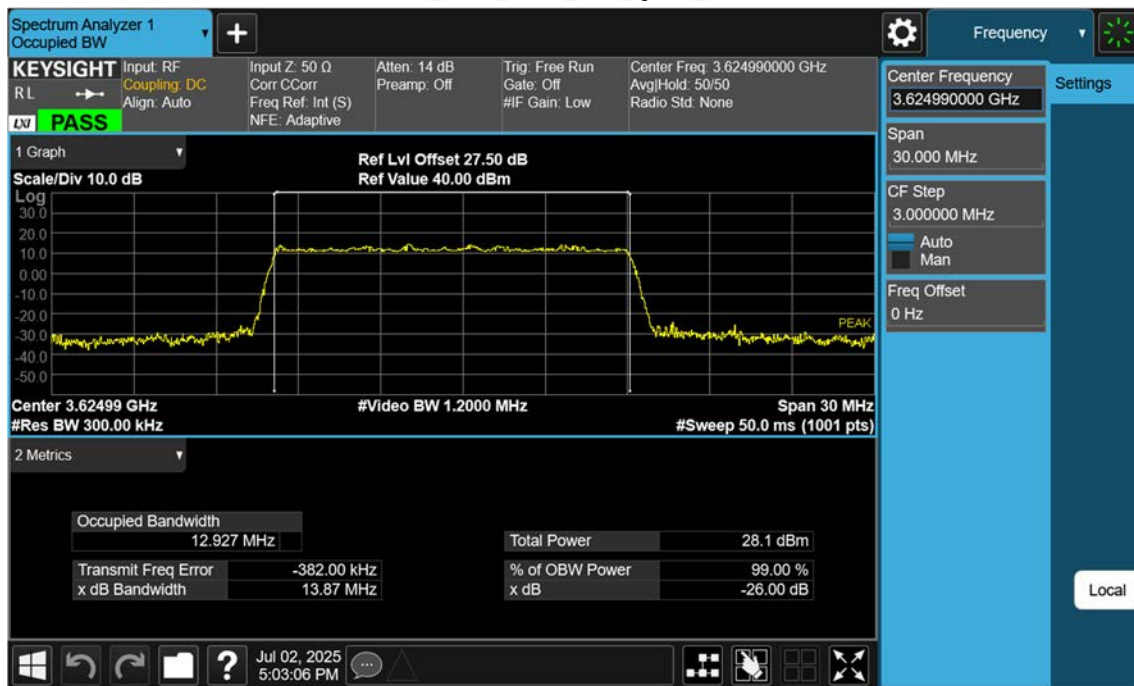
## NR48\_10 M\_OBW\_Mid\_256QAM\_FullRB



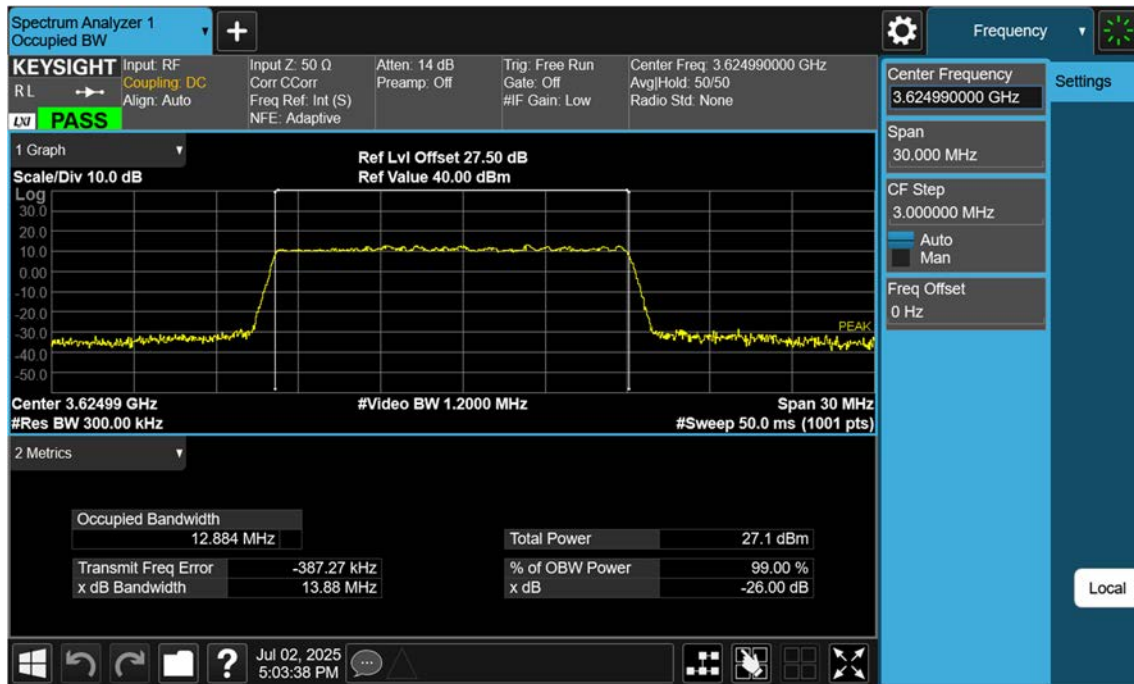
NR48\_15 M\_OBW\_Mid\_BPSK\_FullRB



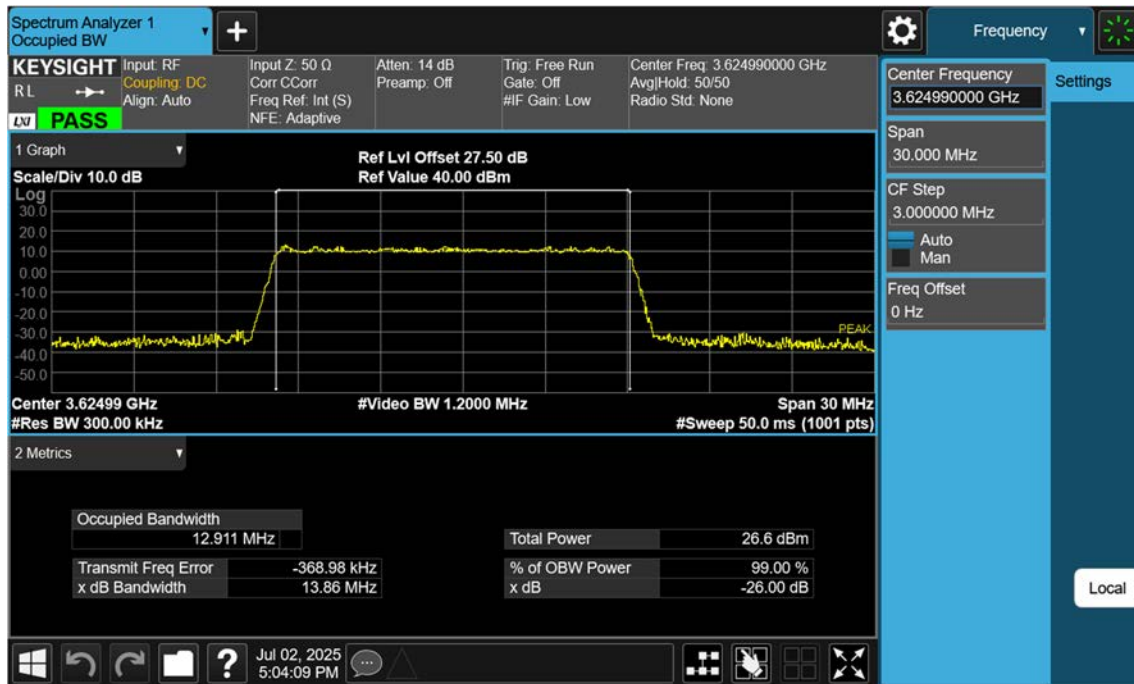
NR48\_15 M\_OBW\_Mid\_QPSK\_FullRB



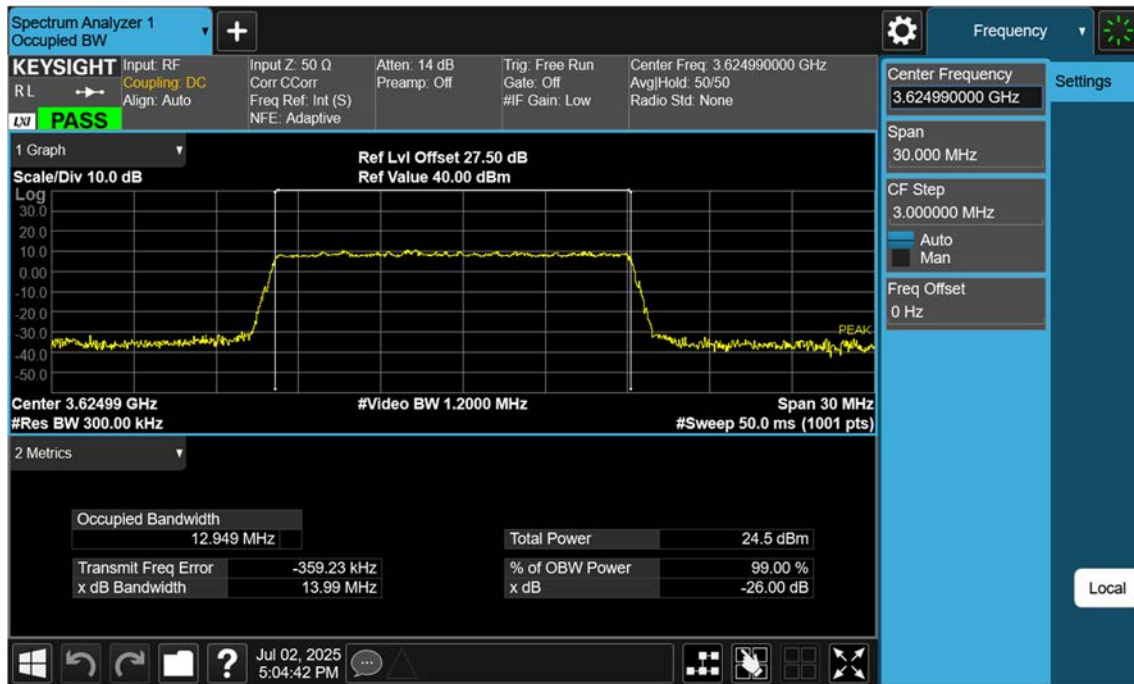
NR48\_15 M\_OBW\_Mid\_16QAM\_FullRB



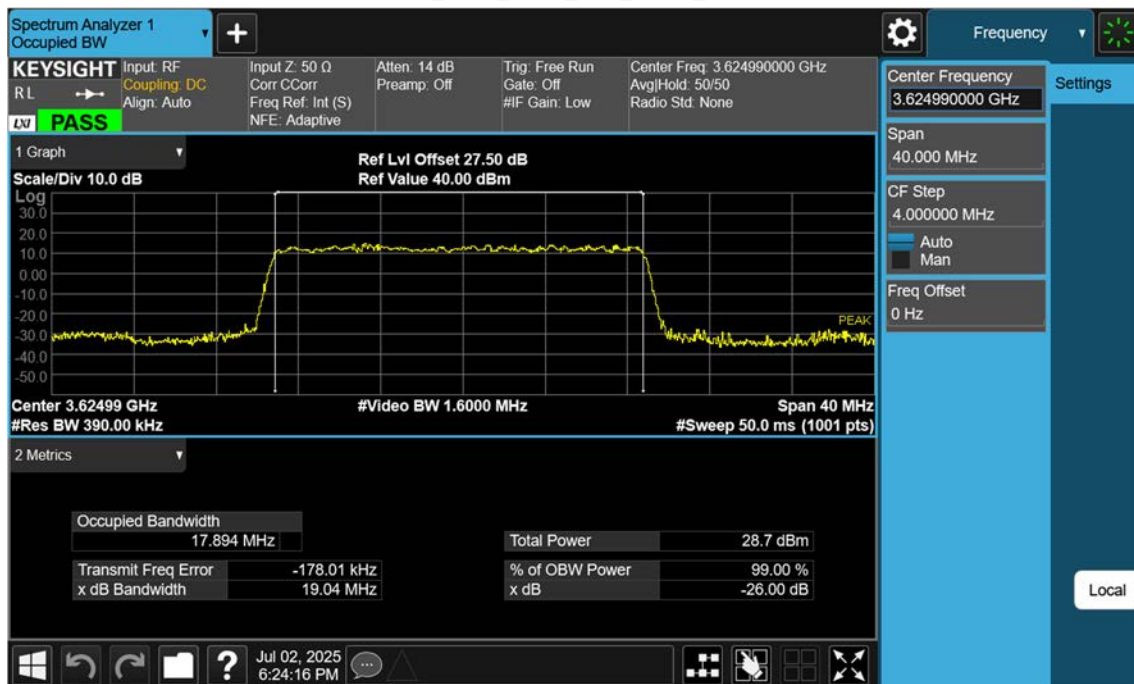
NR48\_15 M\_OBW\_Mid\_64QAM\_FullRB



## NR48\_15 M\_OBW\_Mid\_256QAM\_FullRB

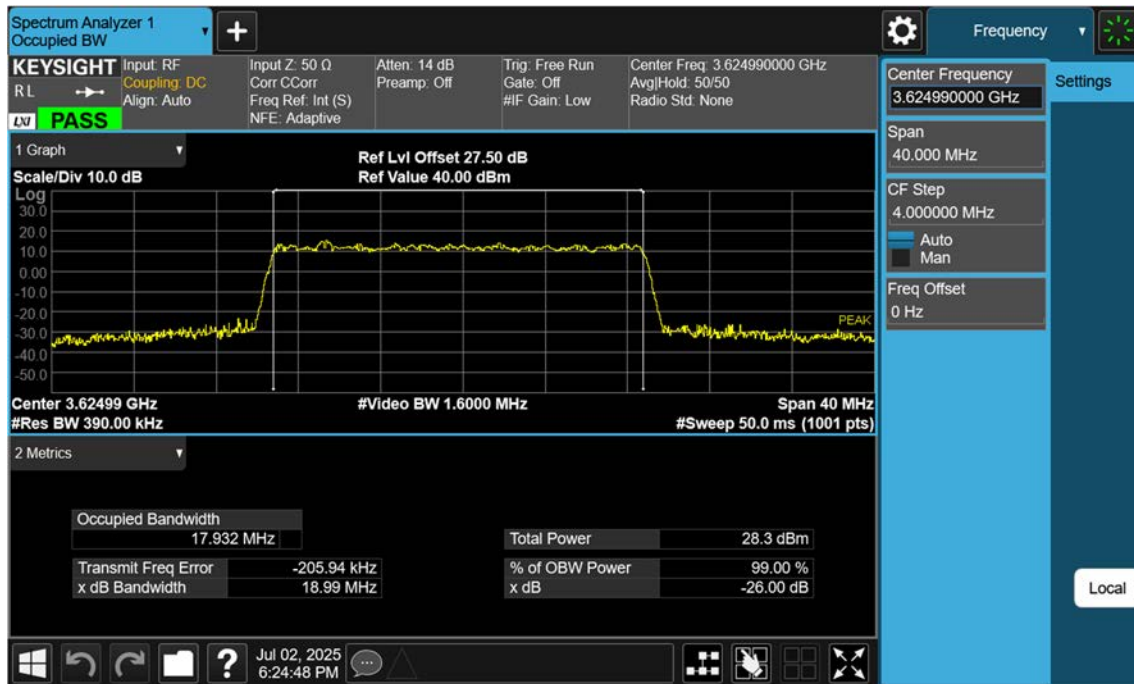


NR48\_20 M\_OBW\_Mid\_BPSK\_FullRB

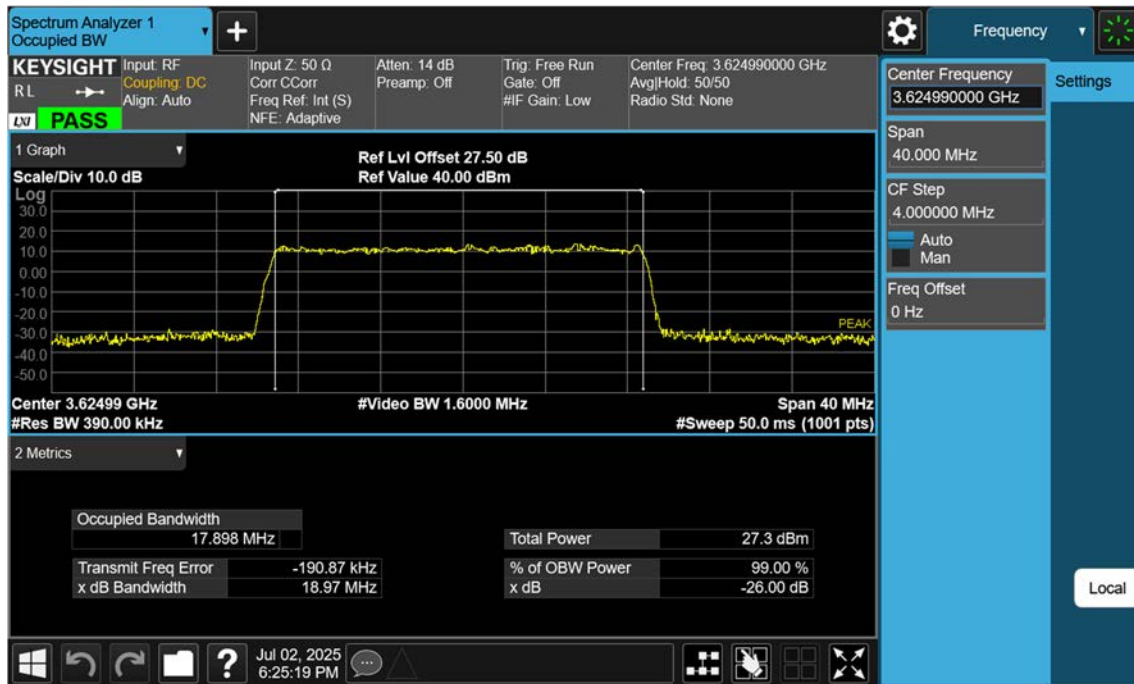




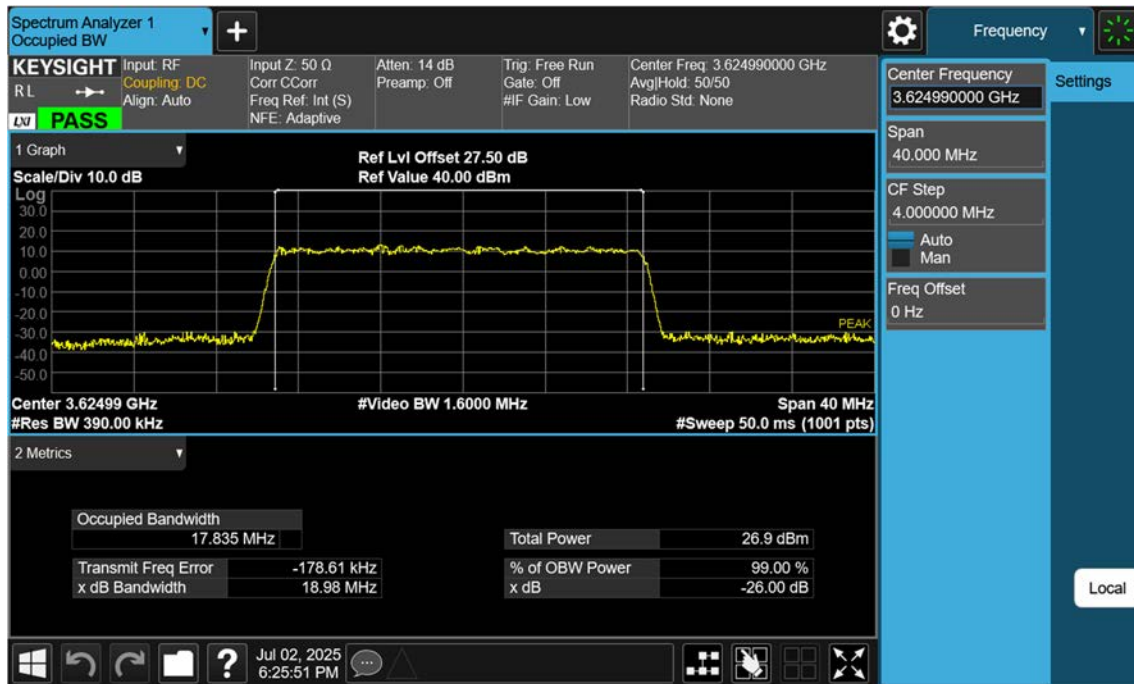
NR48\_20 M\_OBW\_Mid\_QPSK\_FullRB



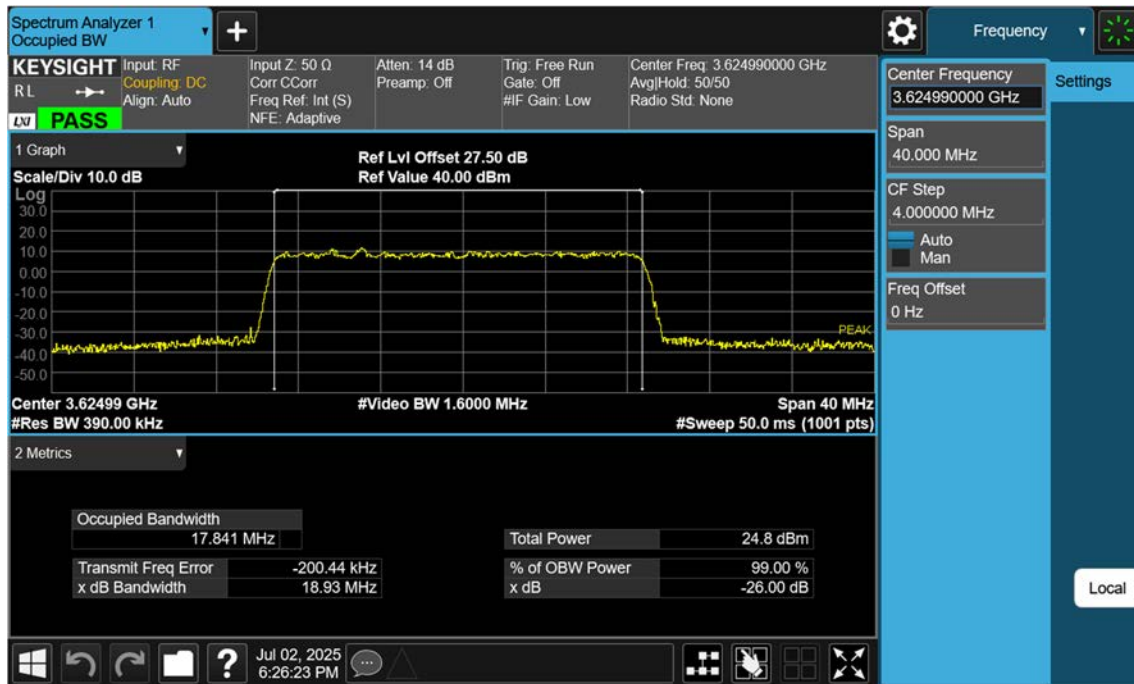
NR48\_20 M\_OBW\_Mid\_16QAM\_FullRB



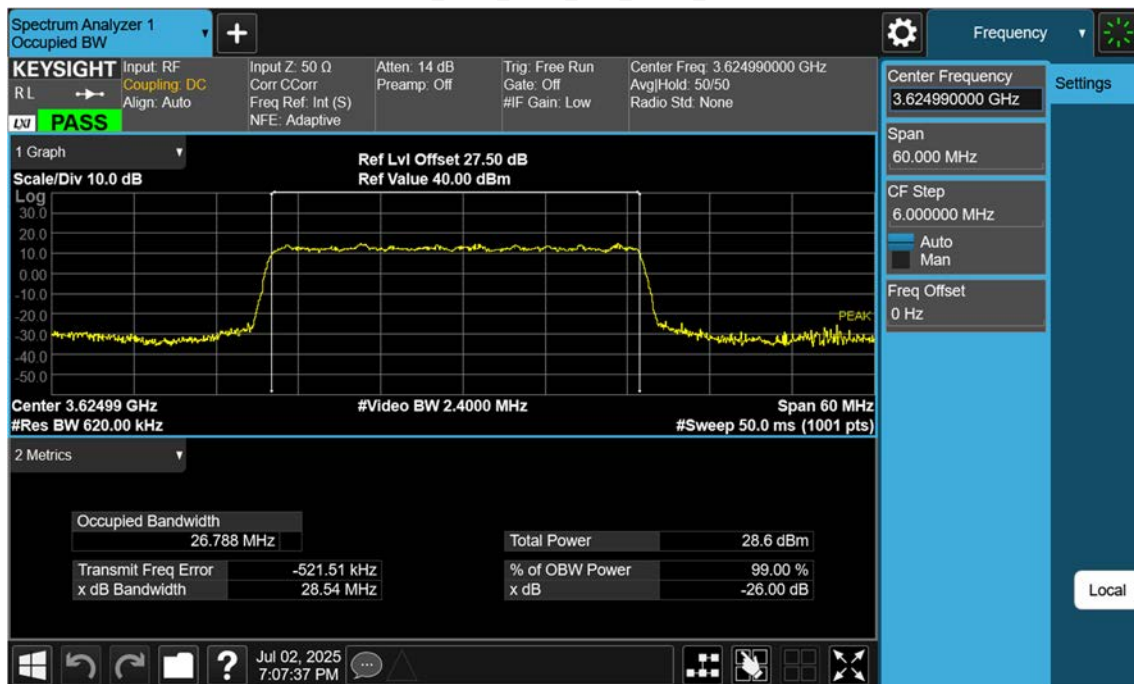
NR48\_20 M\_OBW\_Mid\_64QAM\_FullRB



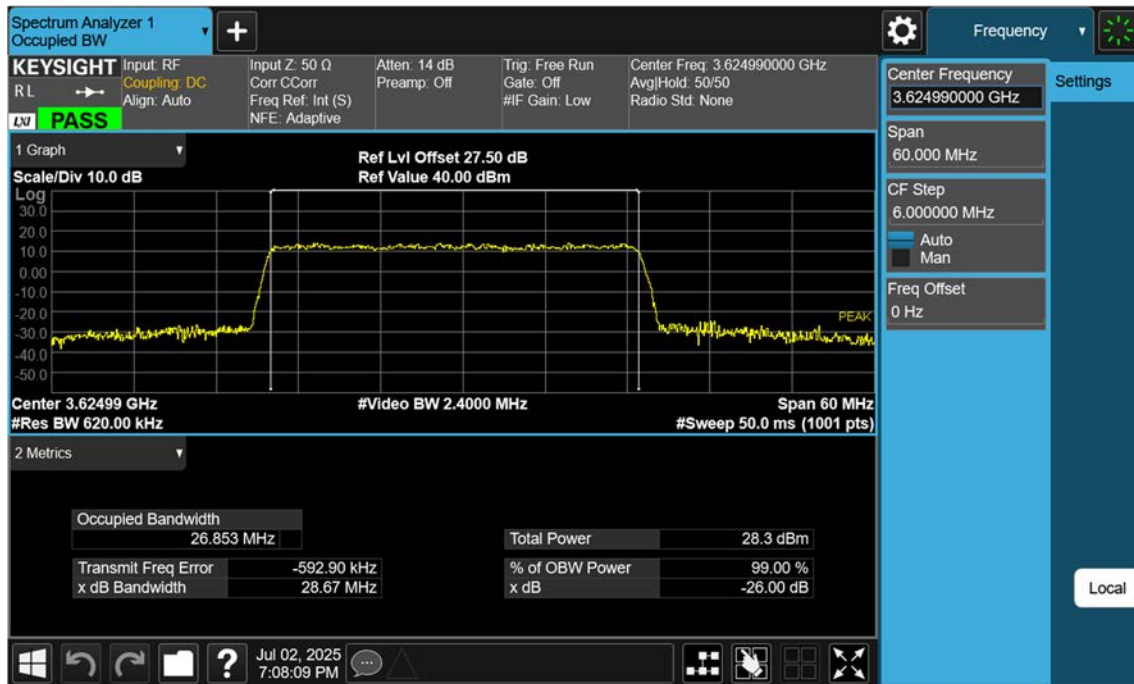
## NR48\_20 M\_OBW\_Mid\_256QAM\_FullRB



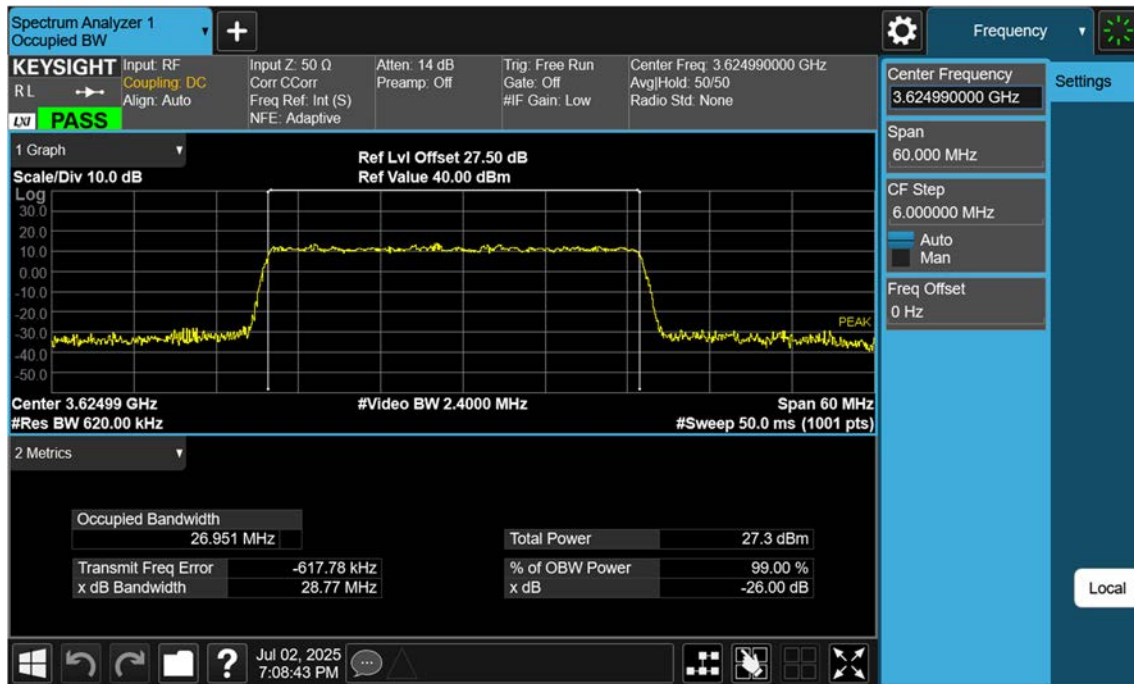
NR48\_30 M\_OBW\_Mid\_BPSK\_FullRB



## NR48\_30 M\_OBW\_Mid\_QPSK\_FullRB



NR48\_30 M\_OBW\_Mid\_16QAM\_FullRB



**Spectrum Analyzer 1**  
Occupied BW

**KEYLIGHT** Input: RF  
Coupling: DC  
Align: Auto

Input Z: 50  $\Omega$   
Corr CCorr  
Freq Ref: Int (S)  
NFE: Adaptive

Atten: 14 dB  
Preamp: Off

Trig: Free Run  
Gate: Off  
#IF Gain: Low

Center Freq: 3.624990000 GHz  
Avg/Hold: 50/50  
Radio Std: None

**Center Frequency**  
3.624990000 GHz

**Span**  
60.000 MHz

**CF Step**  
6.000000 MHz

**Auto**  
**Man**

**Freq Offset**  
0 Hz

**1 Graph**  
Scale/Div 10.0 dB  
Log  
Ref Lvl Offset 27.50 dB  
Ref Value 40.00 dBm

**Center 3.62499 GHz**  
**#Res BW 620.0 kHz**  
**#Video BW 2.4000 MHz**  
**Span 60 MHz**  
**#Sweep 50.0 ms (1001 pts)**

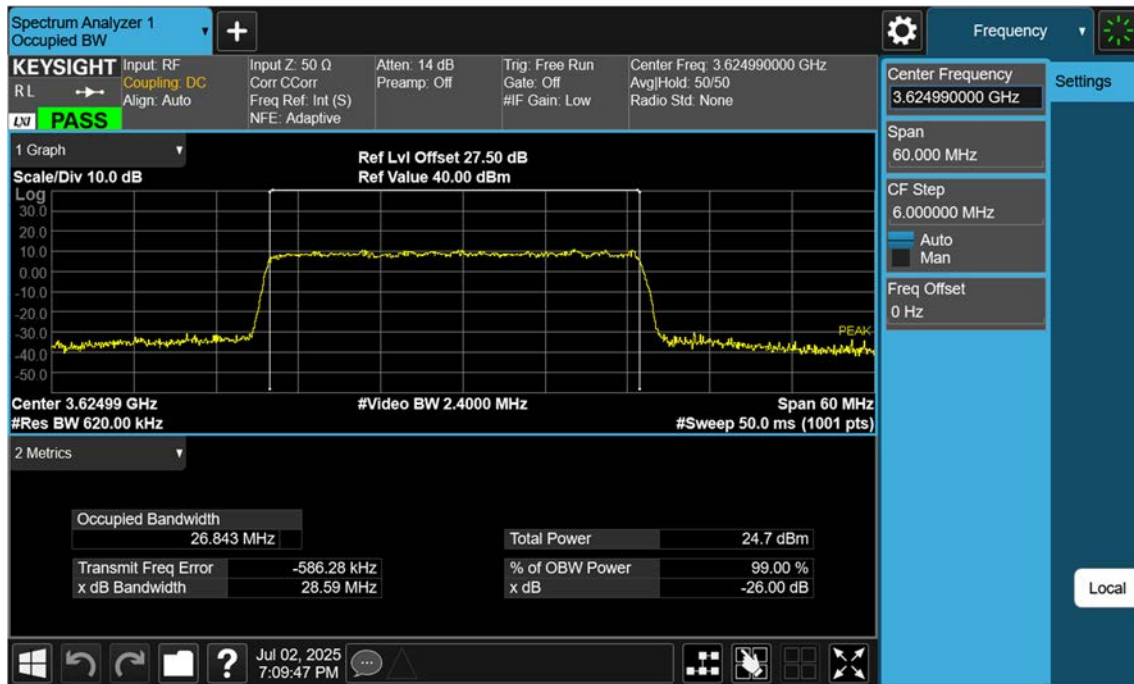
**2 Metrics**

| Metric              | Value       |
|---------------------|-------------|
| Occupied Bandwidth  | 26.771 MHz  |
| Transmit Freq Error | -559.66 kHz |
| x dB Bandwidth      | 28.59 MHz   |
| Total Power         | 26.9 dBm    |
| % of OBW Power      | 99.00 %     |
| x dB                | -26.00 dB   |

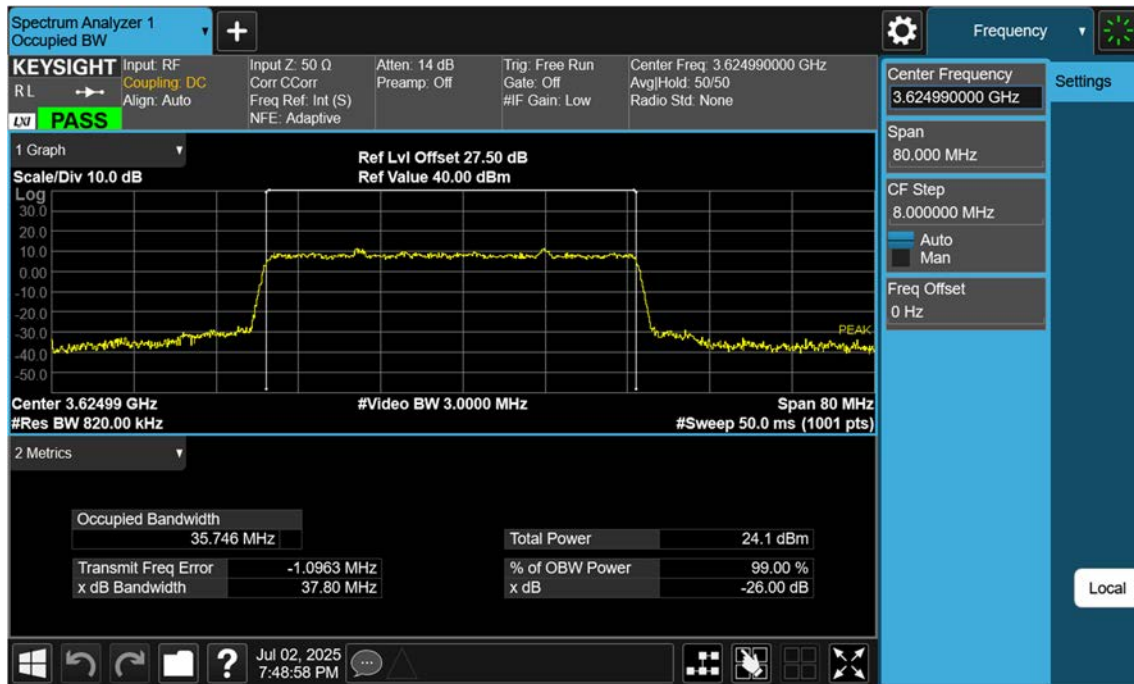
Jul 02, 2025  
7:09:14 PM



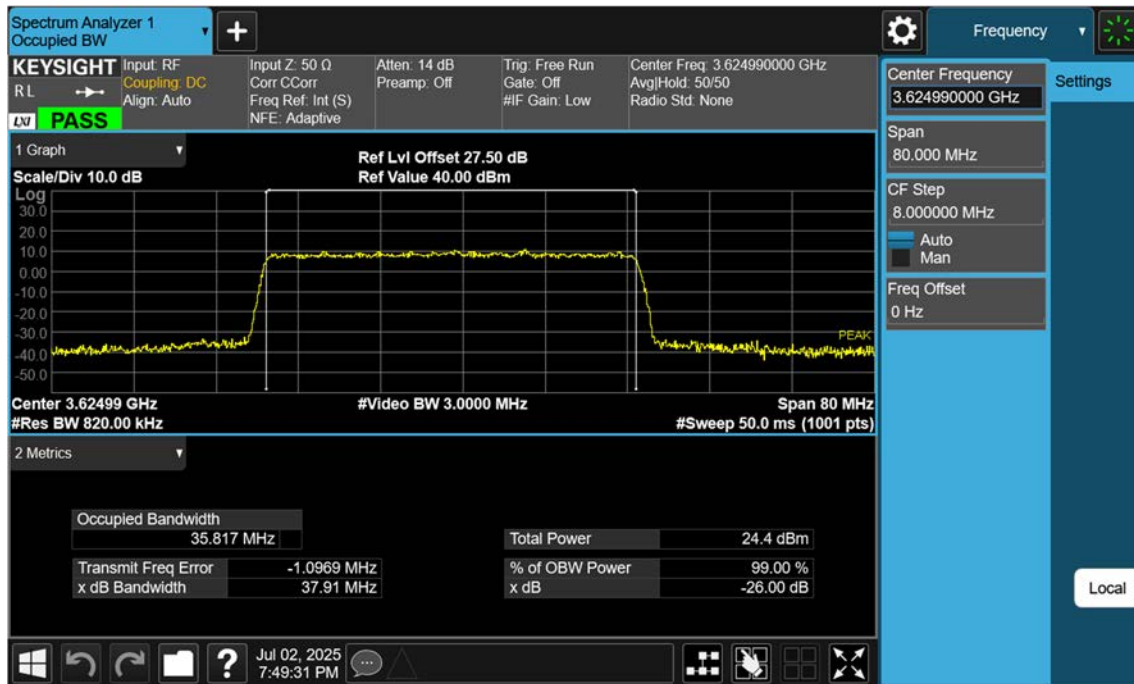
## NR48\_30 M\_OBW\_Mid\_256QAM\_FullRB



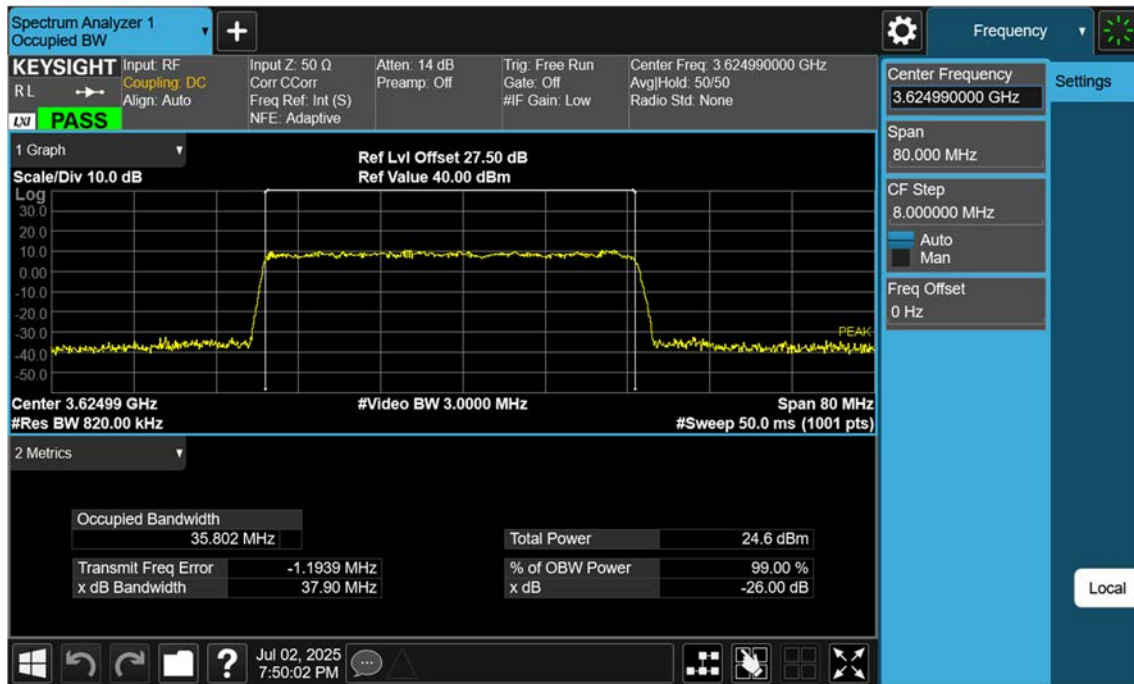
## NR48\_40 M\_OBW\_Mid\_BPSK\_FullRB



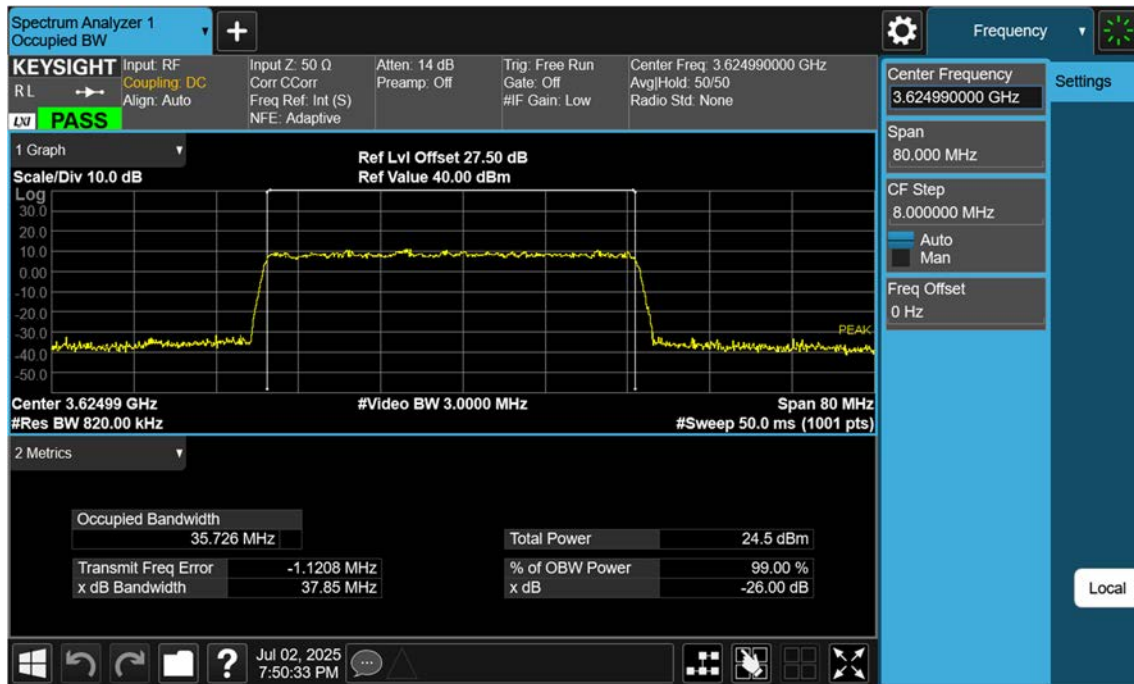
## NR48\_40 M\_OBW\_Mid\_QPSK\_FullRB



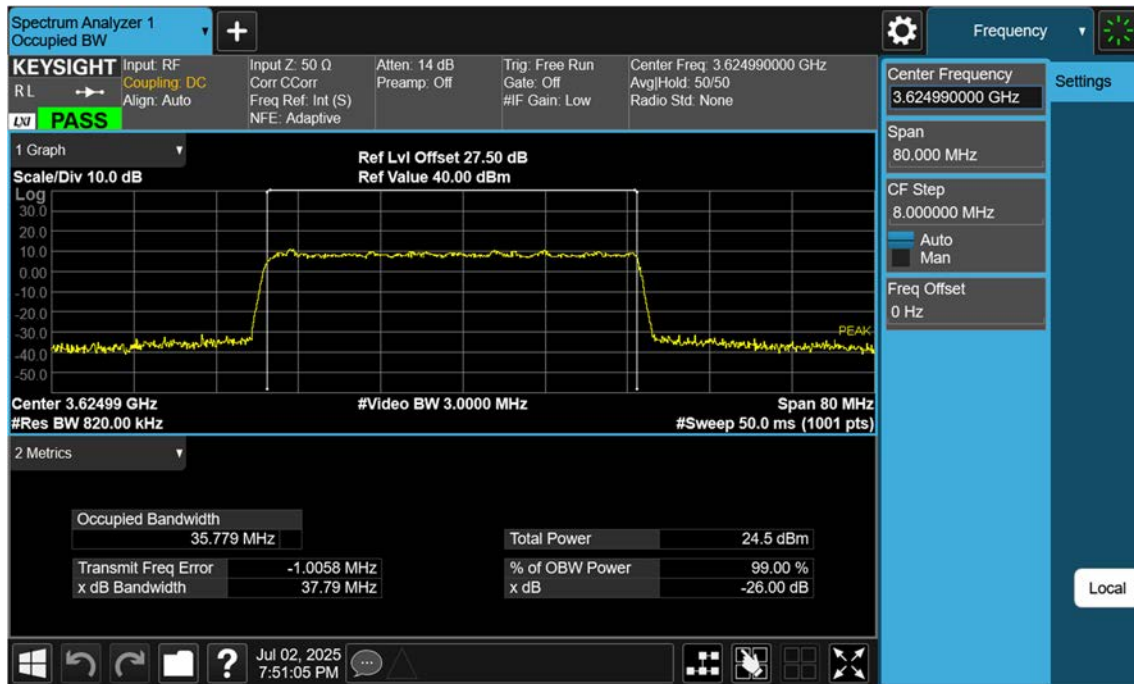
NR48\_40 M\_OBW\_Mid\_16QAM\_FullRB



NR48\_40 M\_OBW\_Mid\_64QAM\_FullRB



## NR48\_40 M\_OBW\_Mid\_256QAM\_FullRB



## NR48\_10 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



## NR48\_10 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_1RB





## NR48\_10 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB



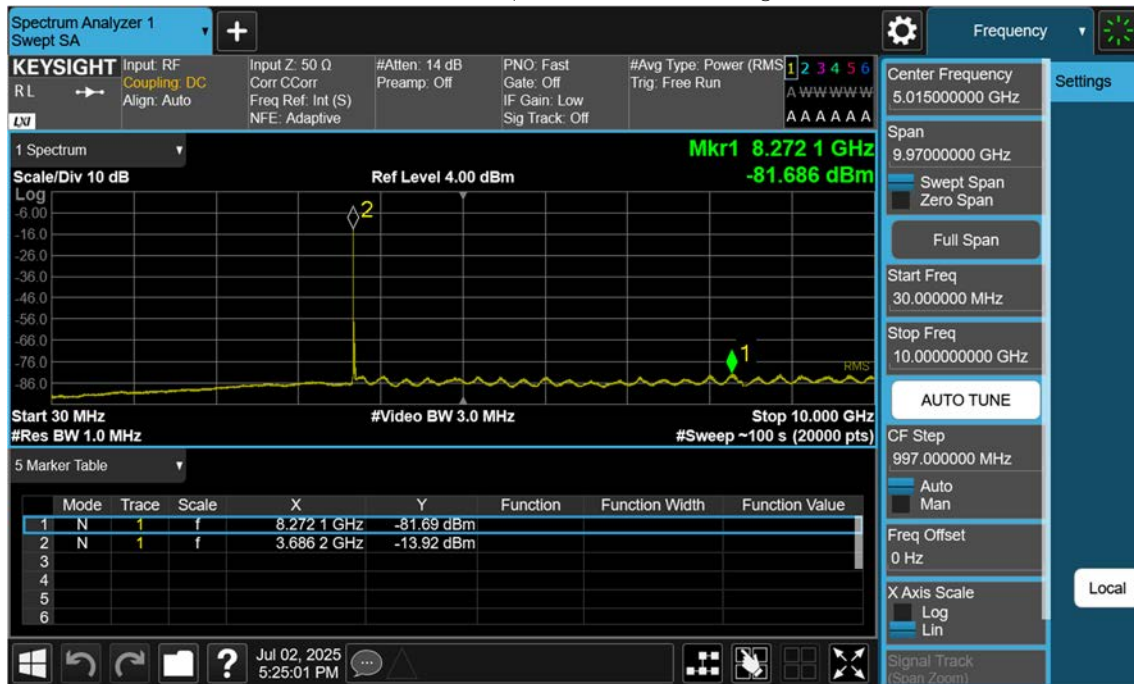
## NR48\_15 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



## NR48\_15 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_1RB



## NR48\_15 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB



NR48\_20 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



NR48\_20 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_1RB



## NR48\_20 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB





## NR48\_30 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB





NR48\_30 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_1RB

