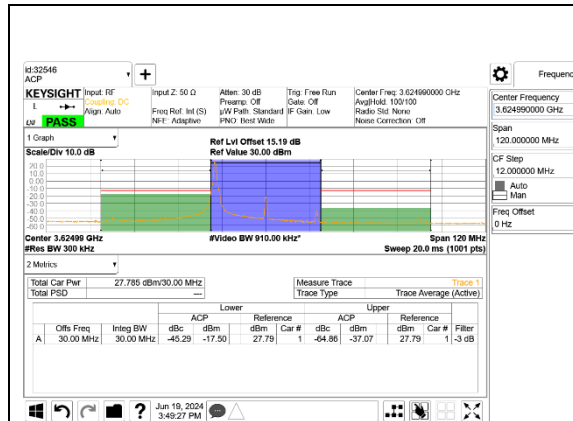
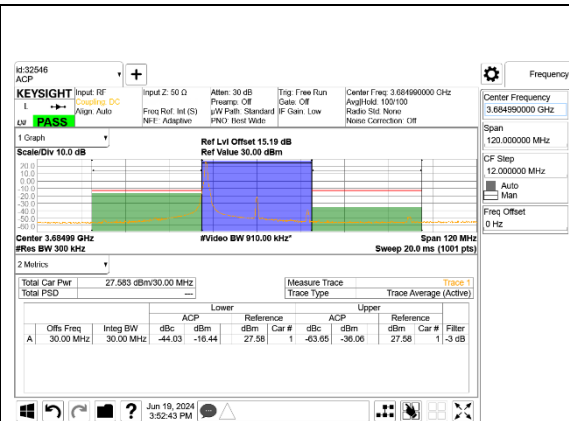
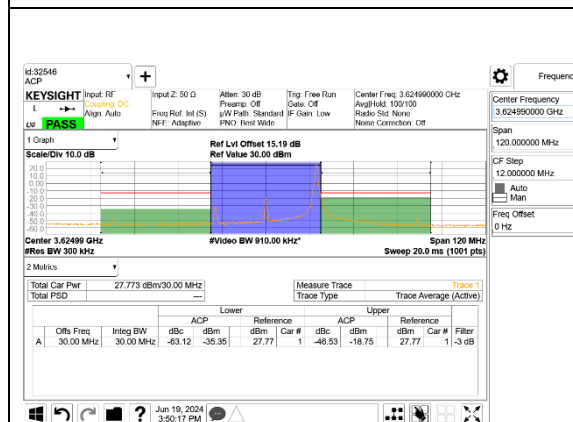




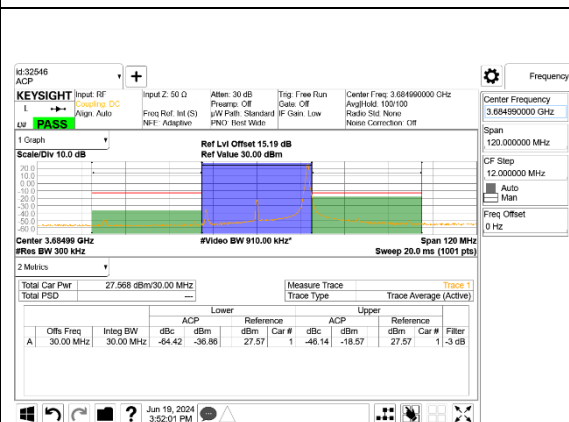
5G NR n48 30MHz BPSK Middle Channel RB1-0



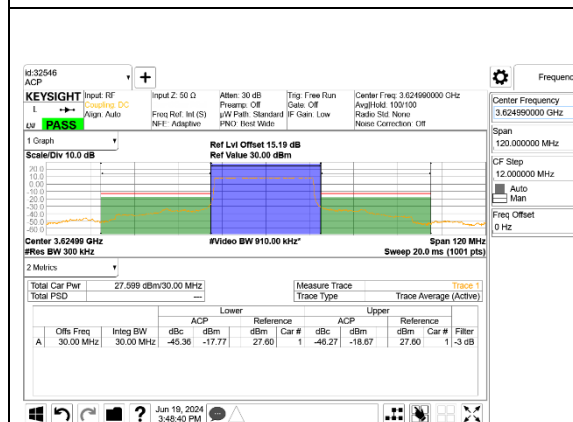
5G NR n48 30MHz BPSK High Channel RB1-0



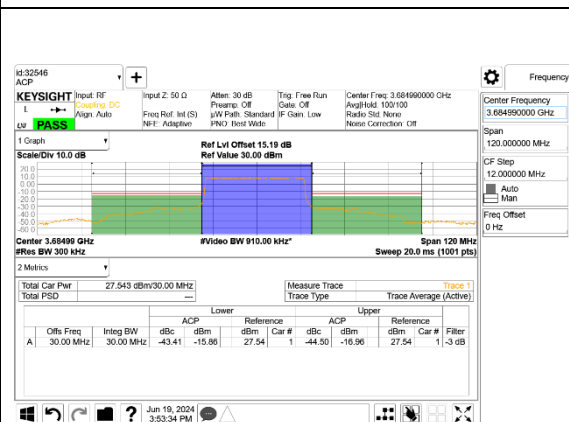
5G NR n48 30MHz BPSK Middle Channel RB1-77



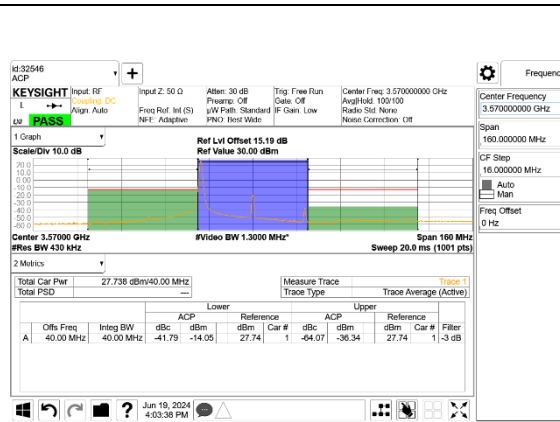
5G NR n48 30MHz BPSK High Channel RB1-77



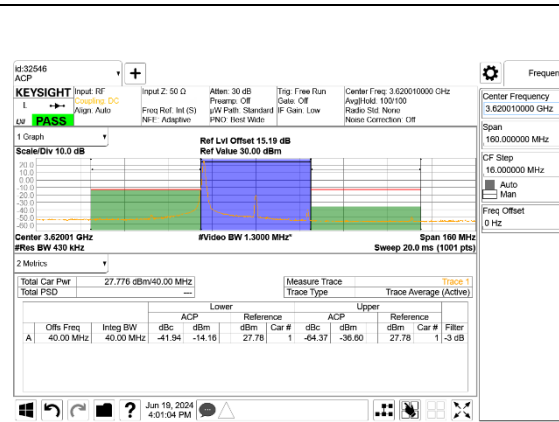
5G NR n48 30MHz BPSK Middle Channel RB75-0



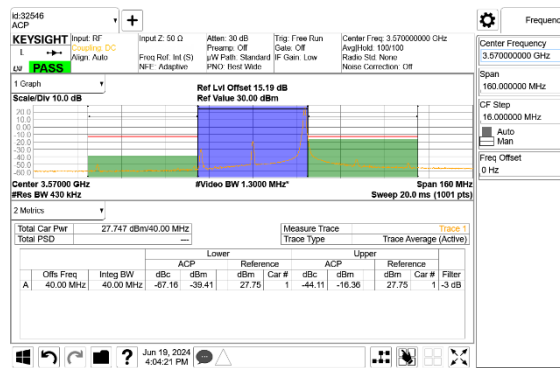
5G NR n48 30MHz BPSK High Channel RB75-0



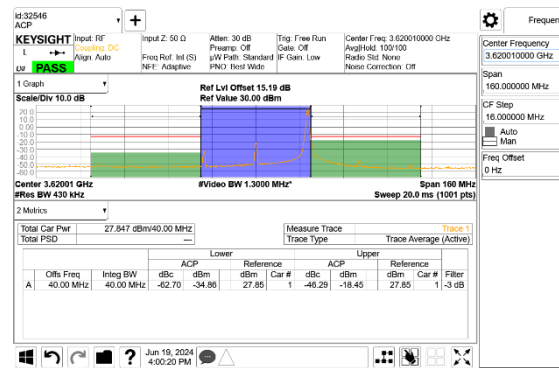
5G NR n48 40MHz BPSK Low Channel RB1-0



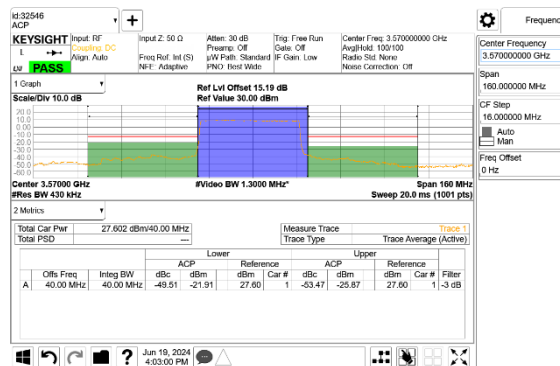
5G NR n48 40MHz BPSK Middle Channel RB1-0



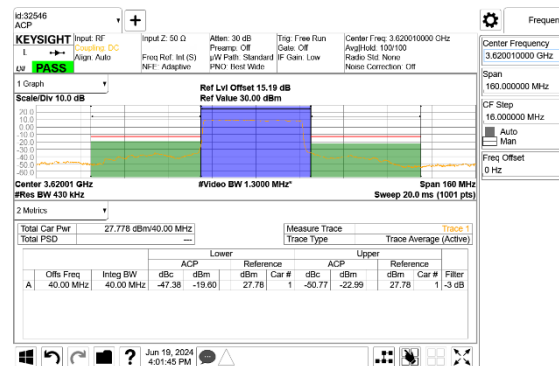
5G NR n48 40MHz BPSK Low Channel RB1-105



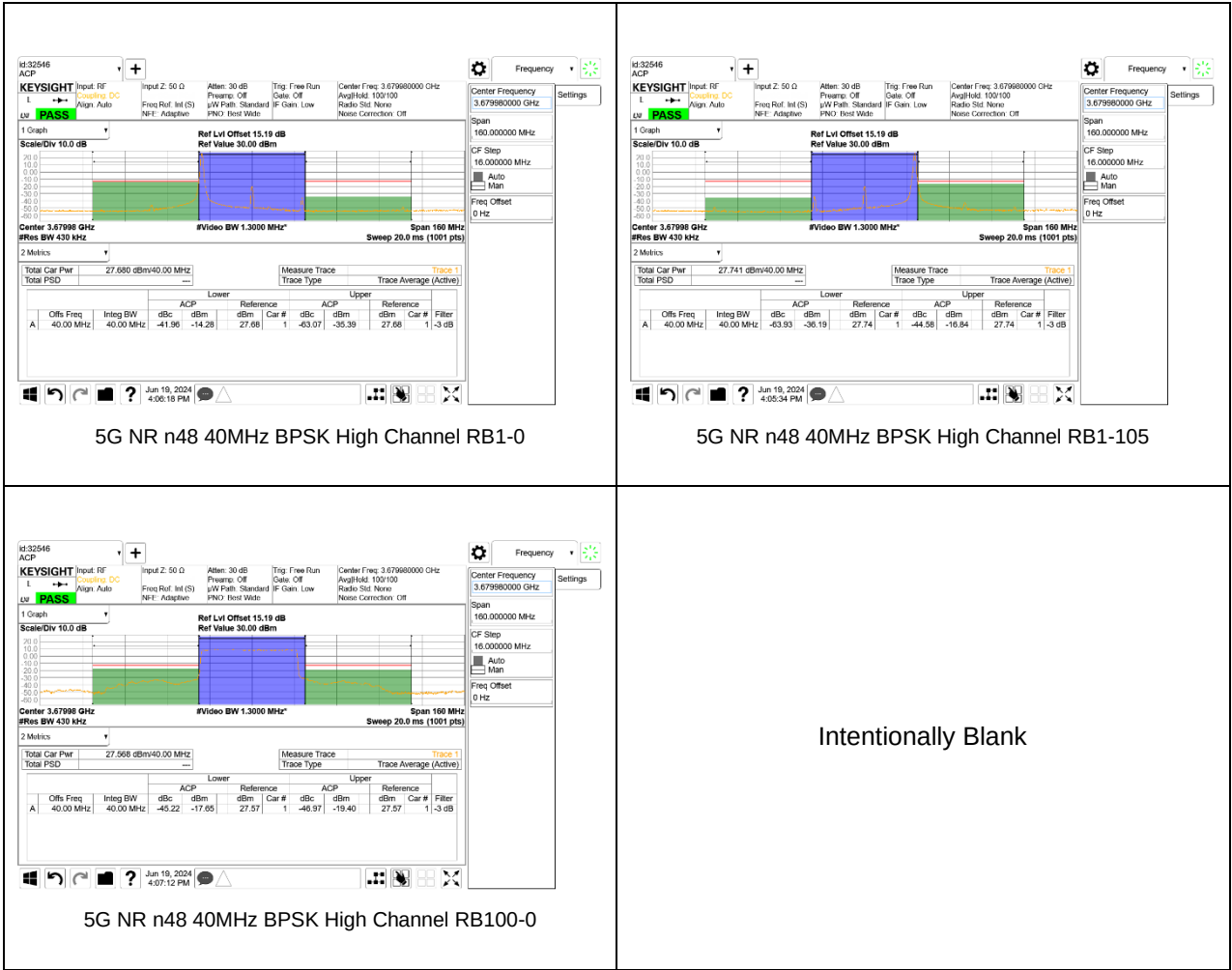
5G NR n48 40MHz BPSK Middle Channel RB1-105



5G NR n48 40MHz BPSK Low Channel RB100-0



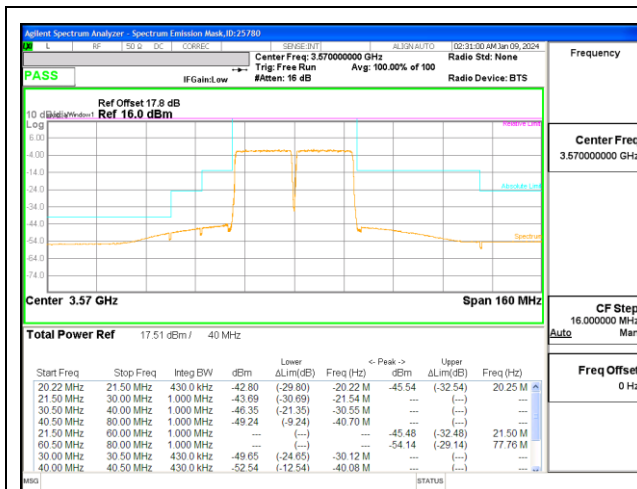
5G NR n48 40MHz BPSK Middle Channel RB100-0



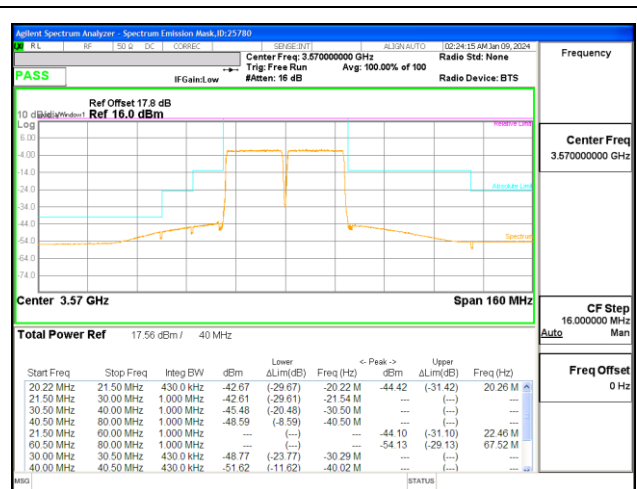
## 9.2.2. LTE ULCA BAND 48

### LTE ULCA BAND 48 EMISSION MASK

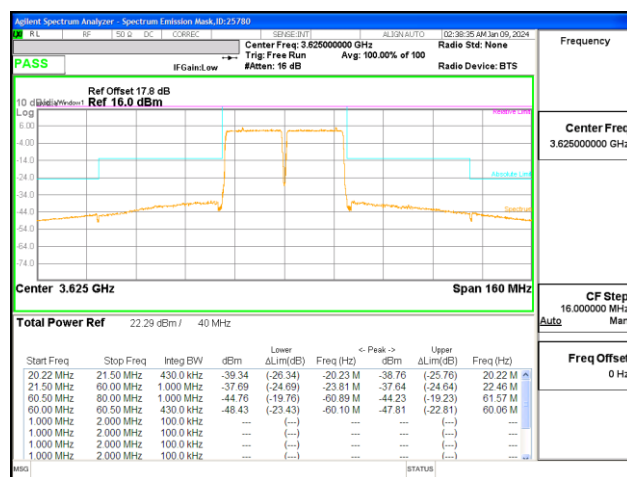




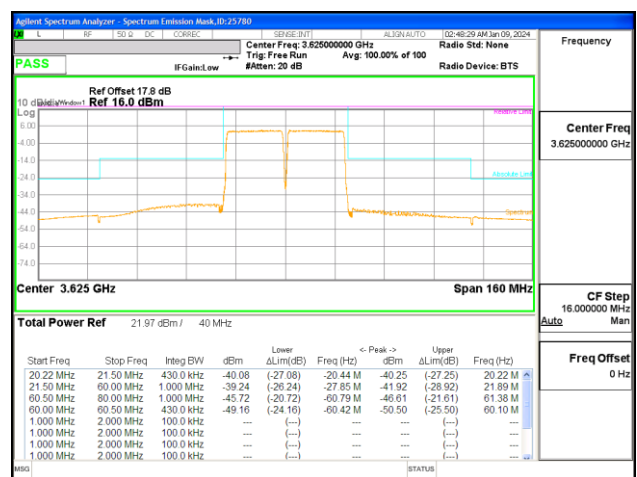
LTE B48 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0, ID:25780



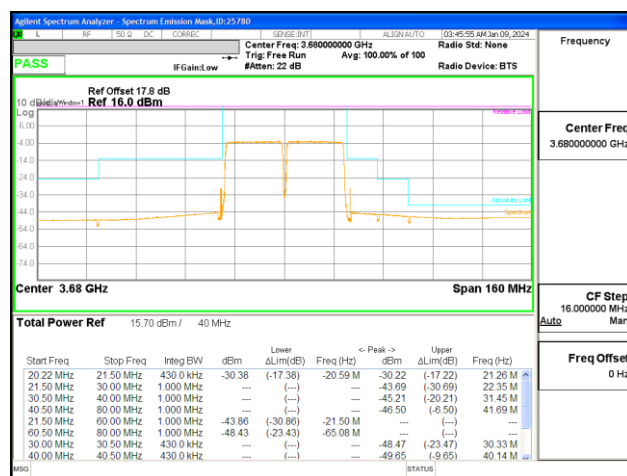
LTE B48 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0, ID:25780



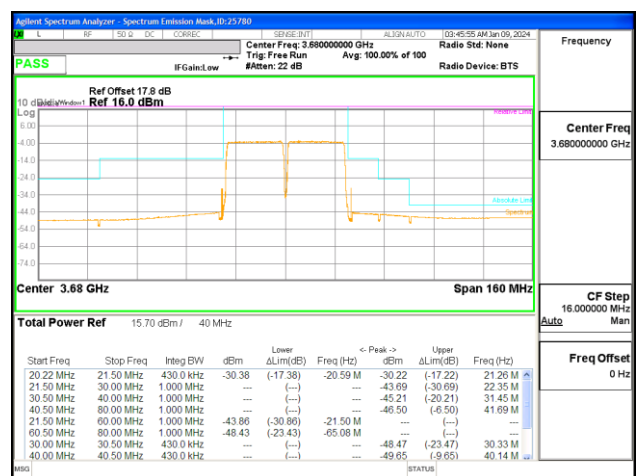
LTE B48 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0, ID:25780



LTE B48 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0, ID:25780

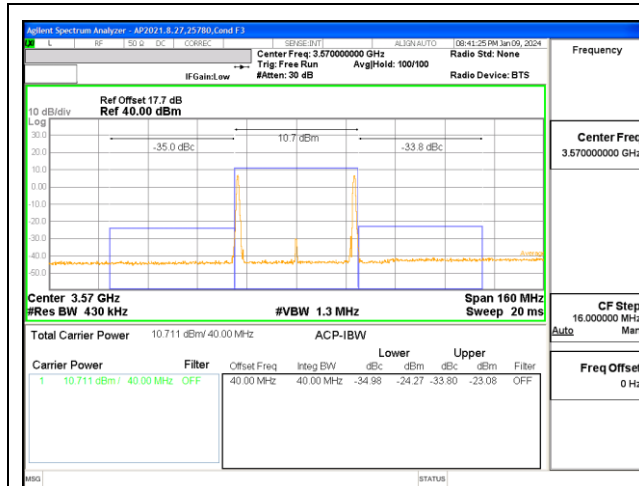


LTE B48 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0, ID:25780

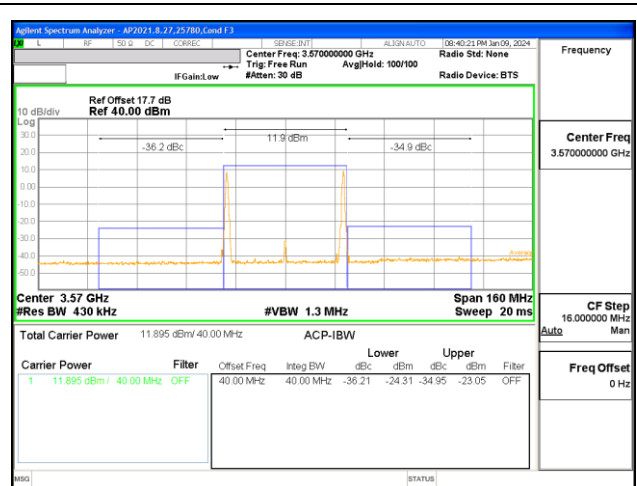


LTE B48 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0, ID:25780

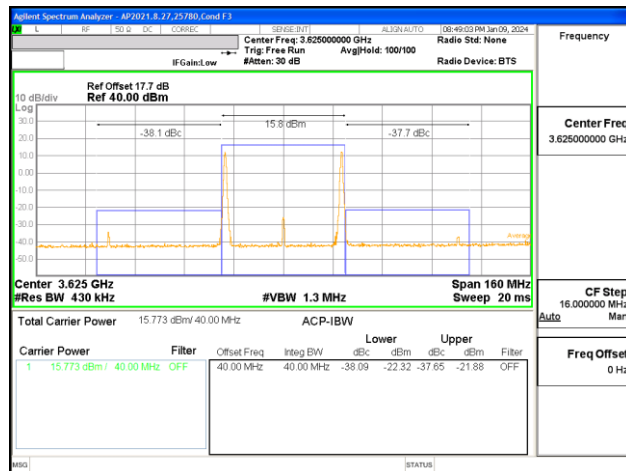
## LTE BAND 48 ADJACENT CHANNEL POWER



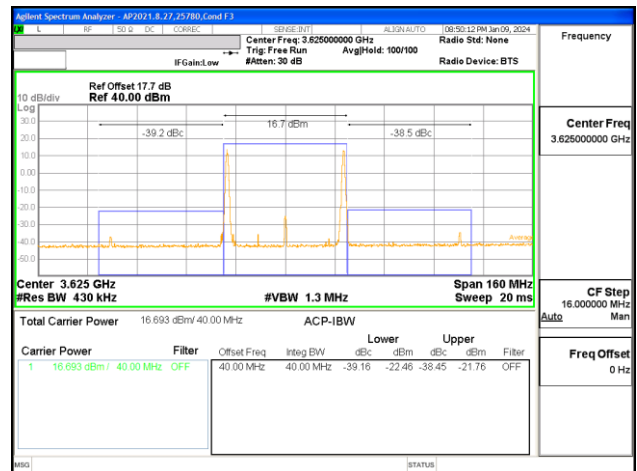
LTE B48 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



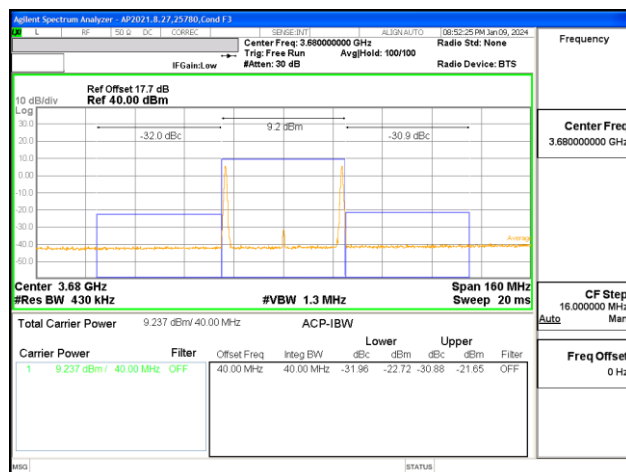
LTE B48 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



LTE B48 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



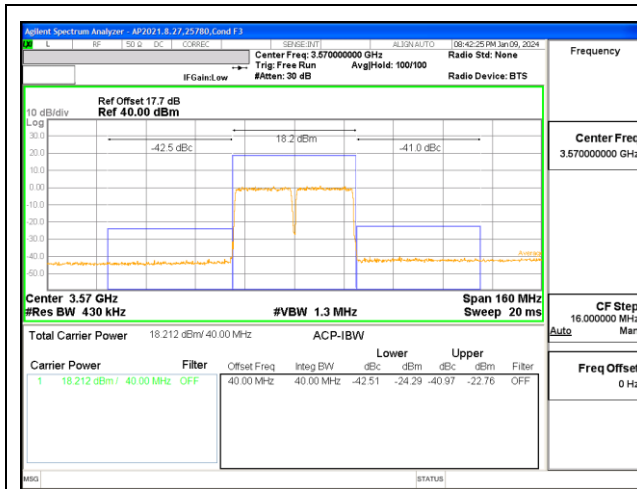
LTE B48 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



LTE B48 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



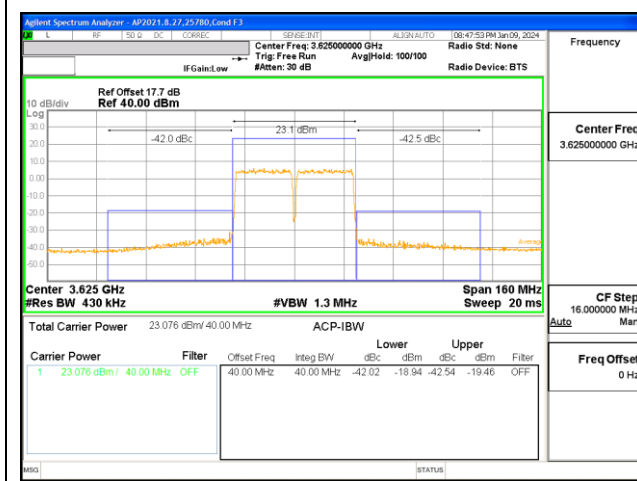
LTE B48 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



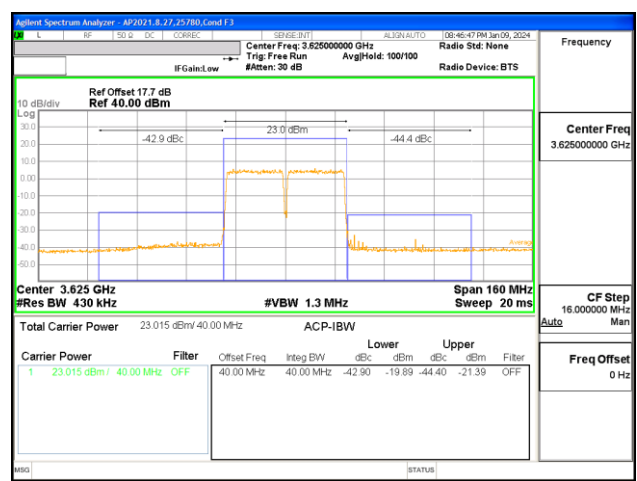
LTE B48 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



LTE B48 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

### 9.3. OUT OF BAND EMISSIONS

#### TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm, -25dBm and -40dBm according to the band Limit.
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.  
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

#### RESULTS



### 9.3.1. LTE BAND 48 AND 5G NR n48

#### LIMITS

FCC: §96.41

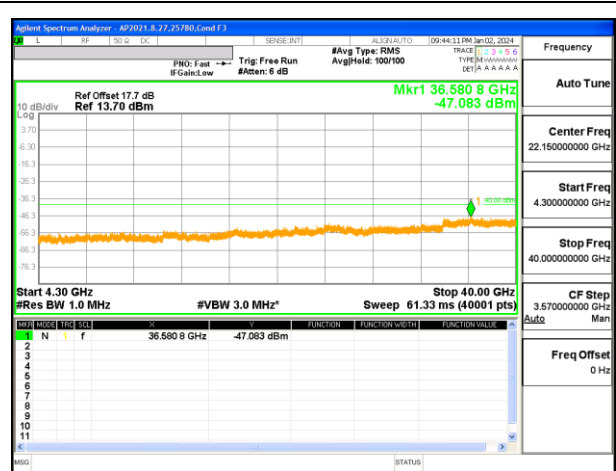
(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed –25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed –40dBm/MHz.

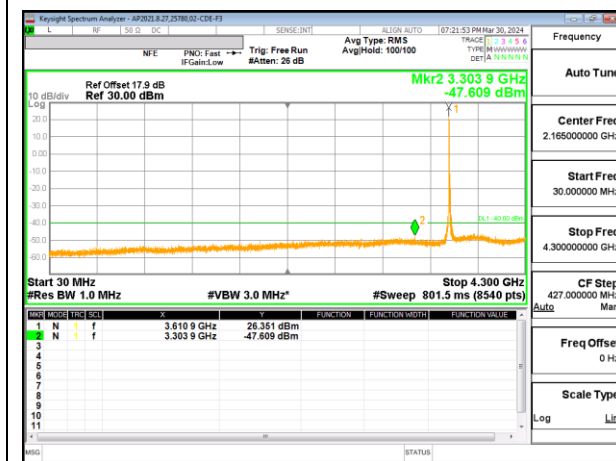
**LTE BAND 48**



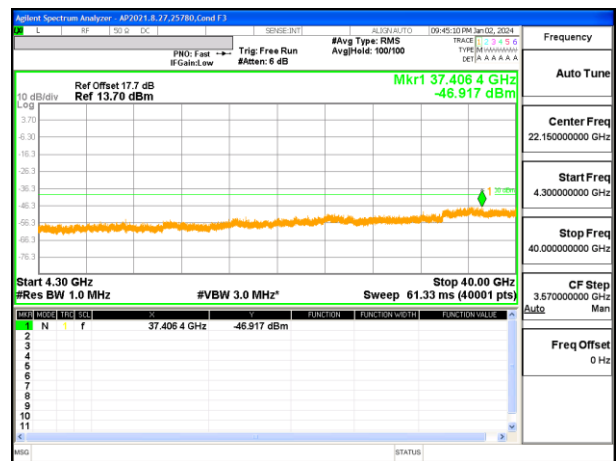
LTE B48 20MHz QPSK Low Channel RB1-0 (30MHz to 4.3GHz)



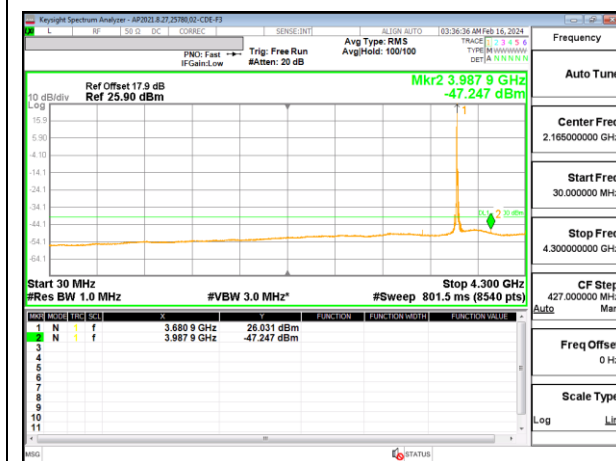
LTE B48 20MHz QPSK Low Channel RB1-0 (4.3G to 40G)



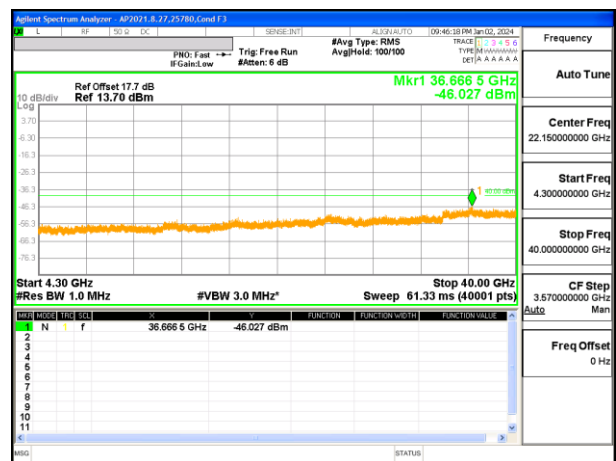
LTE B48 20MHz QPSK Mid Channel RB1-0 (30MHz to 4.3GHz)



LTE B48 20MHz QPSK Middle Channel RB1-0 (4.5G to 40G)

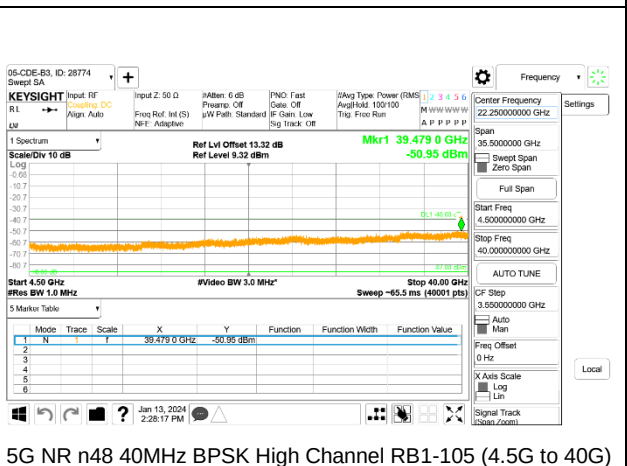
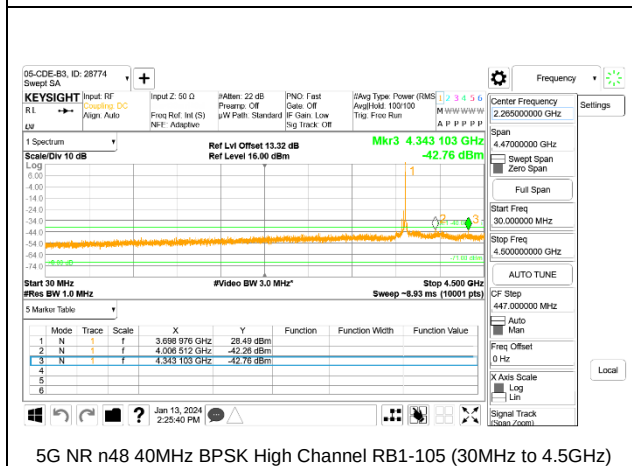
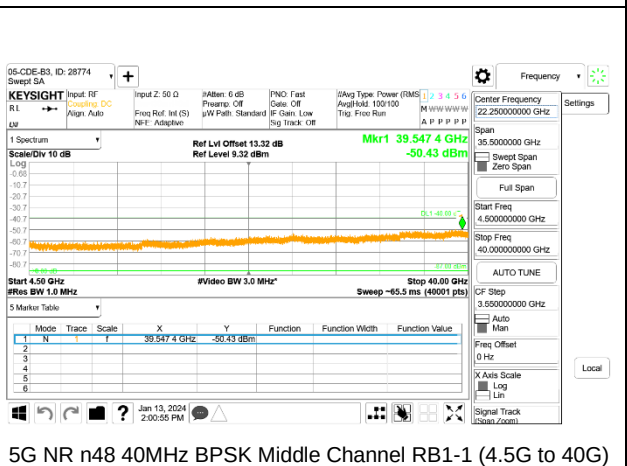
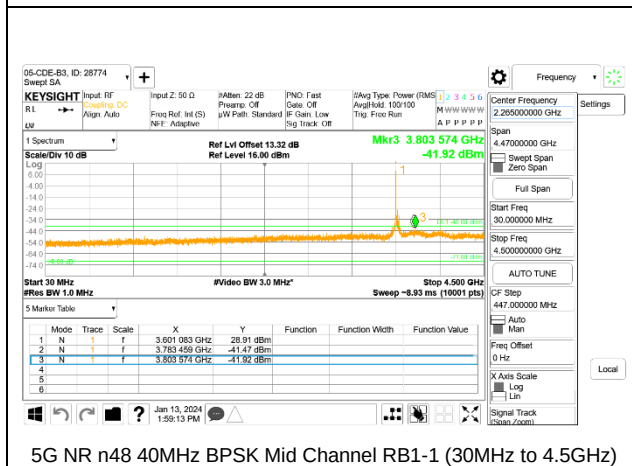
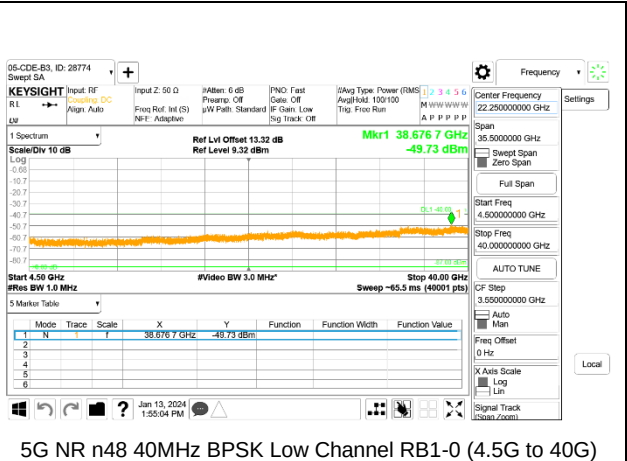
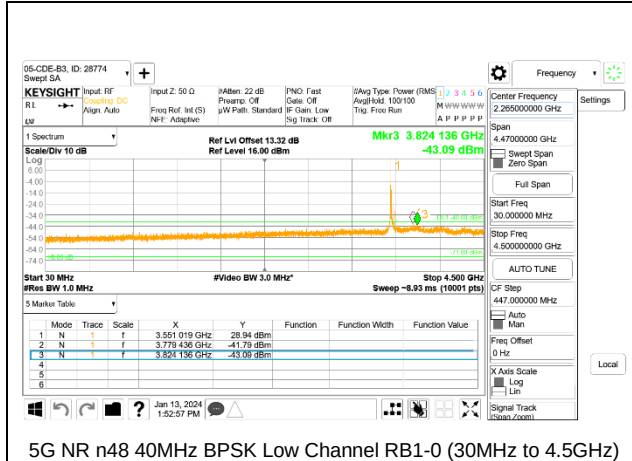


LTE B48 20MHz QPSK High Channel RB1-0 (30MHz to 4.3GHz)



LTE B48 20MHz QPSK High Channel RB1-0 (4.3G to 40G)

5G NR n48





## 9.4. FREQUENCY STABILITY

### TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. =  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$

- Voltage = (85% - 115%)

Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.

End Voltage, 3.2VDC.

#### **Frequency Stability vs Temperature:**

The EUT is placed inside a temperature chamber. The temperature is set to  $20^{\circ}\text{C}$  and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}\text{C}$  is reached.

#### **Frequency Stability vs Voltage:**

The peak frequency error is recorded (worst-case).

### RESULTS

See the following pages.

9.4.1. LTE BAND 48 AND 5G NR n48

|                   |       |            |            |
|-------------------|-------|------------|------------|
| Test Engineer ID: | 12482 | Test Date: | 2024-01-26 |
|-------------------|-------|------------|------------|

LTE BAND 48 QPSK (20MHz BANDWIDTH)

| Band            | 48                | Frequency Range              |                               | Frequency Error Reading (Hz) | Limit                     |                                        |
|-----------------|-------------------|------------------------------|-------------------------------|------------------------------|---------------------------|----------------------------------------|
| Condition       |                   | 3550                         | 3700                          |                              |                           |                                        |
|                 |                   | Freq Reading @ Low End (MHz) | Freq Reading @ High End (MHz) |                              | Frequency Stability (ppm) | Within Authorized Frequency Block (Hz) |
| Temperature     | Voltage           |                              |                               |                              |                           |                                        |
| Normal (20°C)   | Normal            | 3551.0045                    | 3699.3890                     |                              |                           |                                        |
| Extreme (50°C)  |                   | 3551.0045                    | 3699.3890                     | -9.9                         | -0.003                    | Yes                                    |
| Extreme (40°C)  |                   | 3551.0045                    | 3699.3890                     | -8.6                         | -0.002                    | Yes                                    |
| Extreme (30°C)  |                   | 3551.0044                    | 3699.3889                     | -85.0                        | -0.023                    | Yes                                    |
| Extreme (10°C)  |                   | 3551.0045                    | 3699.3890                     | -9.0                         | -0.002                    | Yes                                    |
| Extreme (0°C)   |                   | 3551.0045                    | 3699.3890                     | -8.1                         | -0.002                    | Yes                                    |
| Extreme (-10°C) |                   | 3551.0045                    | 3699.3890                     | -9.9                         | -0.003                    | Yes                                    |
| Extreme (-20°C) |                   | 3551.0045                    | 3699.3890                     | -8.4                         | -0.002                    | Yes                                    |
| Extreme (-30°C) |                   | 3551.0045                    | 3699.3890                     | -8.1                         | -0.002                    | Yes                                    |
|                 |                   |                              |                               |                              |                           |                                        |
| 20°C            | 15%               | 3551.0045                    | 3699.3890                     | 11.1                         | 0.003                     | Yes                                    |
|                 | -15%              | 3551.0045                    | 3699.3890                     | 9.5                          | 0.003                     | Yes                                    |
|                 | End Point Voltage | 3551.0045                    | 3699.3890                     | 11.1                         | 0.003                     | Yes                                    |

**5G NR n48 BPSK (40MHz BANDWIDTH)**

| Band            | 48                | Frequency Range              |                               | Frequency Error Reading (Hz) | Limit                     |                                        |
|-----------------|-------------------|------------------------------|-------------------------------|------------------------------|---------------------------|----------------------------------------|
| Condition       |                   | 3550                         | 3700                          |                              | Frequency Stability (ppm) | Within Authorized Frequency Block (Hz) |
|                 |                   | Freq Reading @ Low End (MHz) | Freq Reading @ High End (MHz) |                              |                           |                                        |
| Temperature     | Voltage           |                              |                               |                              |                           |                                        |
| Normal (20°C)   | Normal            | 3551.0251                    | 3696.8446                     |                              |                           |                                        |
| Extreme (50°C)  |                   | 3551.0250                    | 3696.8446                     | -21.2                        | -0.006                    | Yes                                    |
| Extreme (40°C)  |                   | 3551.0250                    | 3696.8446                     | -25.7                        | -0.007                    | Yes                                    |
| Extreme (30°C)  |                   | 3551.0250                    | 3696.8446                     | -20.8                        | -0.006                    | Yes                                    |
| Extreme (10°C)  |                   | 3551.0250                    | 3696.8446                     | -24.3                        | -0.007                    | Yes                                    |
| Extreme (0°C)   |                   | 3551.0250                    | 3696.8446                     | -20.1                        | -0.006                    | Yes                                    |
| Extreme (-10°C) |                   | 3551.0250                    | 3696.8446                     | -19.9                        | -0.005                    | Yes                                    |
| Extreme (-20°C) |                   | 3551.0250                    | 3696.8446                     | -25.8                        | -0.007                    | Yes                                    |
| Extreme (-30°C) |                   | 3551.0250                    | 3696.8446                     | -24.1                        | -0.007                    | Yes                                    |
|                 |                   |                              |                               |                              |                           |                                        |
| 20°C            | 15%               | 3551.0251                    | 3696.8447                     | 32.1                         | 0.009                     | Yes                                    |
|                 | -15%              | 3551.0250                    | 3696.8446                     | -33.5                        | -0.009                    | Yes                                    |
|                 | End Point Voltage | 3551.0251                    | 3696.8447                     | 37.9                         | 0.010                     | Yes                                    |

9.4.2. LTE ULCA BAND 48

|                   |       |            |            |
|-------------------|-------|------------|------------|
| Test Engineer ID: | 12482 | Test Date: | 2024-01-18 |
|-------------------|-------|------------|------------|

QPSK (20MHz + 20MHz BANDWIDTH)

| Band            | 48                | Frequency Range              |                               | Frequency Error Reading (Hz) | Limit                     |                                        |
|-----------------|-------------------|------------------------------|-------------------------------|------------------------------|---------------------------|----------------------------------------|
| Condition       |                   | 3550                         | 3700                          |                              |                           |                                        |
|                 |                   | Freq Reading @ Low End (MHz) | Freq Reading @ High End (MHz) |                              | Frequency Stability (ppm) | Within Authorized Frequency Block (Hz) |
| Temperature     | Voltage           |                              |                               |                              |                           |                                        |
| Normal (20°C)   | Normal            | 3551.1071                    | 3699.6356                     |                              |                           |                                        |
| Extreme (50°C)  |                   | 3551.1071                    | 3699.6356                     | -30.2                        | -0.008                    | Yes                                    |
| Extreme (40°C)  |                   | 3551.1071                    | 3699.6357                     | 51.8                         | 0.014                     | Yes                                    |
| Extreme (30°C)  |                   | 3551.1071                    | 3699.6356                     | -34.9                        | -0.010                    | Yes                                    |
| Extreme (10°C)  |                   | 3551.1071                    | 3699.6356                     | -15.7                        | -0.004                    | Yes                                    |
| Extreme (0°C)   |                   | 3551.1071                    | 3699.6356                     | -26.6                        | -0.007                    | Yes                                    |
| Extreme (-10°C) |                   | 3551.1071                    | 3699.6356                     | -36.1                        | -0.010                    | Yes                                    |
| Extreme (-20°C) |                   | 3551.1070                    | 3699.6355                     | -73.7                        | -0.020                    | Yes                                    |
| Extreme (-30°C) |                   | 3551.1070                    | 3699.6355                     | -77.7                        | -0.021                    | Yes                                    |
|                 |                   |                              |                               |                              |                           |                                        |
| 20°C            | 15%               | 3551.1071                    | 3699.6356                     | -14.6                        | -0.004                    | Yes                                    |
|                 | -15%              | 3551.1071                    | 3699.6356                     | -14.2                        | -0.004                    | Yes                                    |
|                 | End Point Voltage | 3551.1071                    | 3699.6356                     | -13.2                        | -0.004                    | Yes                                    |



## 9.5. PEAK-TO-AVERAGE POWER RATIO

### LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

### RESULT

Antenna 7 was used to measure as the worst case; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average power ratio criteria.

9.5.1. LTE BAND 48 AND 5G NR n48

| Test Engineer ID:                                                                          |                 | 50822           | Test Date:    |           | 2024-01-02 |                       |         |                                  |
|--------------------------------------------------------------------------------------------|-----------------|-----------------|---------------|-----------|------------|-----------------------|---------|----------------------------------|
| Band                                                                                       | Bandwidth (MHz) | Frequency (MHz) | RB Allocation | RB OffSet | Modulation | Conducted Power (dBm) |         | Peak-to-Average Power Ratio (dB) |
|                                                                                            |                 |                 |               |           |            | Peak                  | Average |                                  |
| Band 48                                                                                    | 5MHz            | 3625.0          | 25            | 0         | QPSK       | 29.93                 | 19.31   | *3.63                            |
|                                                                                            |                 |                 |               |           | 16QAM      | 30.23                 | 18.88   | *4.36                            |
|                                                                                            | 10MHz           |                 | 50            | 0         | QPSK       | 29.92                 | 19.32   | *3.61                            |
|                                                                                            |                 |                 |               |           | 16QAM      | 30.51                 | 18.96   | *4.56                            |
|                                                                                            | 15MHz           |                 | 75            | 0         | QPSK       | 29.69                 | 19.11   | *3.59                            |
|                                                                                            |                 |                 |               |           | 16QAM      | 30.49                 | 18.82   | *4.68                            |
| 20MHz                                                                                      | 100             |                 | 0             | QPSK      | 30.01      | 19.22                 | *3.8    |                                  |
|                                                                                            |                 |                 |               | 16QAM     | 30.17      | 18.79                 | *4.39   |                                  |
| 5G NR n48                                                                                  | 10MHz           |                 | 24            | 0         | BPSK       | 30.44                 | 26.02   | 4.42                             |
|                                                                                            |                 |                 |               |           | 16QAM      | 31.30                 | 24.38   | 6.92                             |
|                                                                                            | 15MHz           |                 | 36            | 0         | BPSK       | 30.53                 | 26.18   | 4.35                             |
|                                                                                            |                 |                 |               |           | 16QAM      | 31.53                 | 24.67   | 6.86                             |
|                                                                                            | 20MHz           |                 | 50            | 0         | BPSK       | 31.26                 | 26.07   | 5.19                             |
|                                                                                            |                 |                 |               |           | 16QAM      | 31.93                 | 24.63   | 7.30                             |
|                                                                                            | 30MHz           |                 | 75            | 0         | BPSK       | 29.55                 | 25.09   | 4.46                             |
|                                                                                            |                 |                 |               |           | 16QAM      | 31.89                 | 24.45   | 7.44                             |
|                                                                                            | 40MHz           |                 | 100           | 0         | BPSK       | 30.24                 | 25.08   | 5.16                             |
|                                                                                            |                 |                 |               |           | 16QAM      | 31.59                 | 24.35   | 7.24                             |
| * Duty Cycle Correction Factor (dB) :                                                      |                 |                 | 6.99          |           |            |                       |         |                                  |
| Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor |                 |                 |               |           |            |                       |         |                                  |

## 9.5.2. LTE ULCA BAND 48

|                   |       |            |            |
|-------------------|-------|------------|------------|
| Test Engineer ID: | 25780 | Test Date: | 2023-12-21 |
|-------------------|-------|------------|------------|

| Band                                                                                       | Bandwidth (MHz) | PCC f (MHz) | SCC1 f (MHz) | Modulation | Conducted Power (dBm) |         | Peak-to-Average Power Ratio (dB) |
|--------------------------------------------------------------------------------------------|-----------------|-------------|--------------|------------|-----------------------|---------|----------------------------------|
|                                                                                            |                 |             |              |            | Peak                  | Average |                                  |
| Band 48 (FCC)                                                                              | 5MHz / 20MHz    | 3615.8      | 3627.5       | QPSK       | 31.16                 | 15.61   | 8.56                             |
|                                                                                            |                 |             |              | 16QAM      | 31.21                 | 15.61   | 8.61                             |
|                                                                                            | 20MHz / 5MHz    | 3622.5      | 3634.2       | QPSK       | 31.12                 | 15.66   | 8.47                             |
|                                                                                            |                 |             |              | 16QAM      | 31.18                 | 15.64   | 8.55                             |
|                                                                                            | 10MHz / 20MHz   | 3615.6      | 3630.0       | QPSK       | 28.83                 | 15.11   | 6.73                             |
|                                                                                            |                 |             |              | 16QAM      | 31.20                 | 15.10   | 9.11                             |
|                                                                                            | 20MHz / 10MHz   | 3620.1      | 3634.5       | QPSK       | 28.79                 | 15.12   | 6.68                             |
|                                                                                            |                 |             |              | 16QAM      | 31.12                 | 15.12   | 9.01                             |
|                                                                                            | 15MHz / 20MHz   | 3615.3      | 3632.4       | QPSK       | 28.80                 | 15.09   | 6.72                             |
|                                                                                            |                 |             |              | 16QAM      | 31.13                 | 15.12   | 9.02                             |
|                                                                                            | 20MHz / 15MHz   | 3617.6      | 3634.7       | QPSK       | 28.83                 | 15.10   | 6.74                             |
|                                                                                            |                 |             |              | 16QAM      | 31.01                 | 14.92   | 9.10                             |
|                                                                                            | 20MHz / 20MHz   | 3615.1      | 3634.9       | QPSK       | 28.64                 | 14.89   | 6.76                             |
|                                                                                            |                 |             |              | 16QAM      | 31.00                 | 14.86   | 9.15                             |
| Duty Cycle Correction Factor (dB) =                                                        |                 |             | 6.99         |            |                       |         |                                  |
| Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor |                 |             |              |            |                       |         |                                  |

## 10. RADIATED TEST RESULTS

### Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

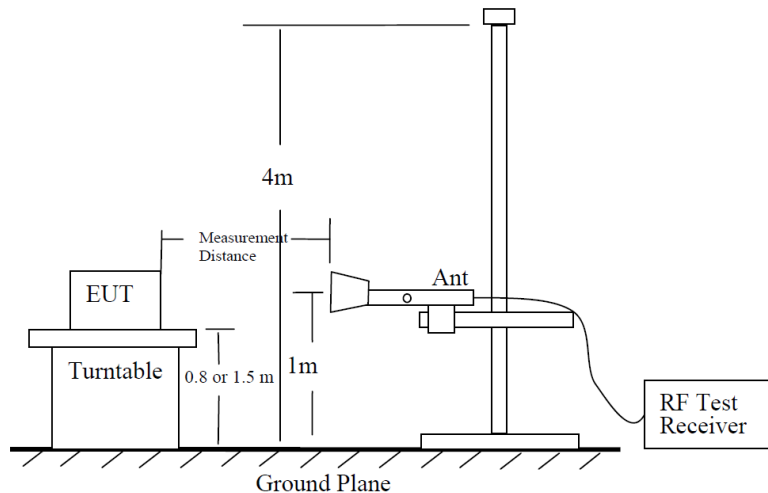


Figure 6 —Test site-up for radiated ERP and/or EIRP measurements

### Radiated Power Measurement Calculation According to ANSI C63.26-2015

- a)  $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$ .
- b)  $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$ .
- c)  $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$ ; where  $D$  is the measurement distance (in the far field region) in m.
- d)  $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$ ; where  $D$  is the measurement distance (in the far field region) in m.

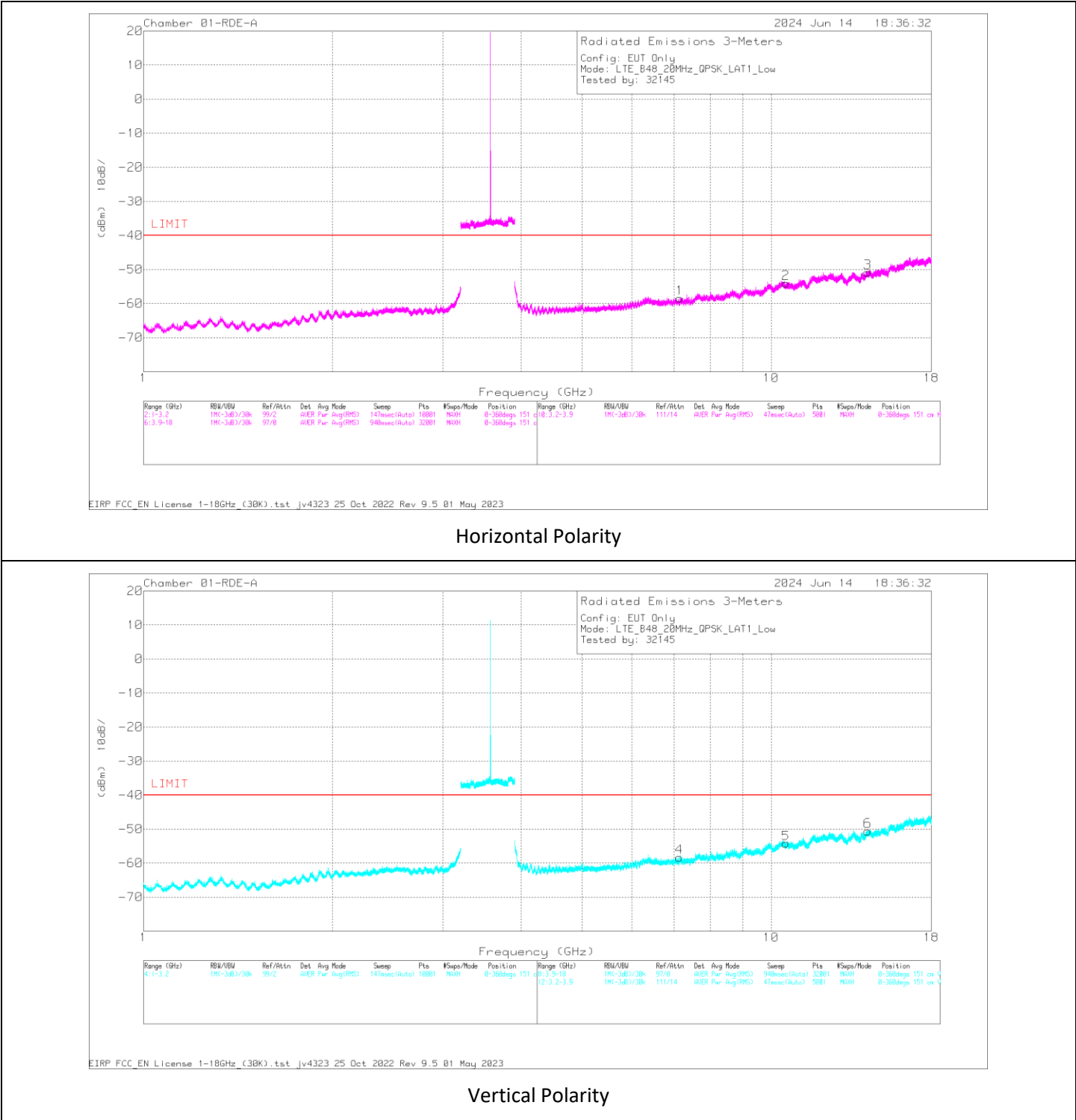
So, from d)

The measuring distance is usually at 3m, then  $20\log(3)=9.5424$

Then,  $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

Example Plot



## Trace Markers

| Frequency<br>(GHz) | Meter<br>Reading<br>(dBuV) | Det | 81886 ACF<br>3m (dB/m) | T1792 3400-<br>3800MHz BRF<br>(dB) | EIRP CF | Gain/Loss<br>(dB) | Corrected<br>Reading<br>(dBm) | LIMIT | Margin<br>(dB) | Polarity |
|--------------------|----------------------------|-----|------------------------|------------------------------------|---------|-------------------|-------------------------------|-------|----------------|----------|
| 7.142559           | 19.26                      | RMS | 35.6                   | .6                                 | -95.2   | -18.54            | -58.28                        | -40   | -18.28         | V        |
| 7.154897           | 19.17                      | RMS | 35.6                   | .6                                 | -95.2   | -18.59            | -58.42                        | -40   | -18.42         | H        |
| 10.552997          | 17.66                      | RMS | 37.9                   | .6                                 | -95.2   | -15.20            | -54.24                        | -40   | -14.24         | V        |
| 10.558284          | 17.87                      | RMS | 37.9                   | .6                                 | -95.2   | -15.20            | -54.03                        | -40   | -14.03         | H        |
| 14.251163          | 17.83                      | RMS | 39.3                   | .8                                 | -95.2   | -13.32            | -50.59                        | -40   | -10.59         | V        |
| 14.252484          | 17.70                      | RMS | 39.3                   | .8                                 | -95.2   | -13.45            | -50.85                        | -40   | -10.85         | H        |

## **TEST PROCEDURE**

KDB 971168 D01 /D02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

## **RESULTS**

## 10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 4

### 10.1.1. LTE BAND 48 AND 5G NR n48

#### LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

#### QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

|                |                    |
|----------------|--------------------|
| Project #:     | 14982484           |
| Date:          | 2024-06-14         |
| Test Engineer: | 106018             |
| Configuration: | EUT only           |
| Mode           | LTE B48 QPSK 20MHz |
| Chamber #:     | 01-RDE-A           |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Amp/Cbl (dB) | Corrected Reading (dBm) | Harmonics limit | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|--------------|-------------------------|-----------------|-------------|----------|
| Low Channel, 3560MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.163709              | 19.36                | RMS | 35.6                | .6                          | -95.2   | -18.50       | -58.14                  | -40             | -18.14      | V        |
| 7.165913              | 19.05                | RMS | 35.6                | .6                          | -95.2   | -18.41       | -58.36                  | -40             | -18.36      | H        |
| 10.581197             | 18.08                | RMS | 37.9                | .6                          | -95.2   | -15.00       | -53.62                  | -40             | -13.62      | V        |
| 10.595738             | 17.87                | RMS | 37.9                | .6                          | -95.2   | -14.67       | -53.50                  | -40             | -13.50      | H        |
| 14.239266             | 18.16                | RMS | 39.3                | .8                          | -95.2   | -13.40       | -50.34                  | -40             | -10.34      | V        |
| 14.288616             | 17.85                | RMS | 39.4                | .7                          | -95.2   | -13.54       | -50.79                  | -40             | -10.79      | H        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.286203              | 18.93                | RMS | 35.6                | .5                          | -95.2   | -18.2        | -58.37                  | -40             | -18.37      | H        |
| 7.328063              | 19.20                | RMS | 35.6                | .5                          | -95.2   | -17.99       | -57.89                  | -40             | -17.89      | V        |
| 10.906819             | 16.90                | RMS | 37.9                | .6                          | -95.2   | -14.62       | -54.42                  | -40             | -14.42      | H        |
| 10.945594             | 17.11                | RMS | 37.9                | .6                          | -95.2   | -14.96       | -54.55                  | -40             | -14.55      | V        |
| 14.603222             | 16.73                | RMS | 39.8                | .9                          | -95.2   | -12.9        | -50.67                  | -40             | -10.67      | H        |
| 14.609391             | 16.85                | RMS | 39.8                | .9                          | -95.2   | -13          | -50.65                  | -40             | -10.65      | V        |
| High Channel, 3690MHz |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.328944              | 18.94                | RMS | 35.6                | .5                          | -95.2   | -17.91       | -58.07                  | -40             | -18.07      | V        |
| 7.345688              | 19.07                | RMS | 35.6                | .6                          | -95.2   | -18.2        | -58.13                  | -40             | -18.13      | H        |
| 11.065884             | 17.38                | RMS | 37.9                | .6                          | -95.2   | -14.6        | -53.92                  | -40             | -13.92      | V        |
| 11.076459             | 18.15                | RMS | 37.8                | .7                          | -95.2   | -14.4        | -52.95                  | -40             | -12.95      | H        |
| 14.523028             | 18.11                | RMS | 39.7                | .8                          | -95.2   | -14.0        | -50.59                  | -40             | -10.59      | H        |
| 14.624372             | 17.24                | RMS | 39.9                | .9                          | -95.2   | -13.0        | -50.16                  | -40             | -10.16      | V        |



**BPSK 5G NR n48 (40.0MHZ BANDWIDTH)**

|                |                      |
|----------------|----------------------|
| Project #:     | 14982484             |
| Date:          | 2024-06-14           |
| Test Engineer: | 106018               |
| Configuration: | EUT only             |
| Mode           | 5G NR n48 BPSK 40MHz |
| Chamber #:     | 01-RDE-A             |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) (dB) | EIRP CF | Amp/Cbl (dB) | Corrected Reading (dBm) | Harmonics limit | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|----------------------------------|---------|--------------|-------------------------|-----------------|-------------|----------|
| Low Channel, 3570MHz  |                      |     |                     |                                  |         |              |                         |                 |             |          |
| 7.164591              | 18.18                | RMS | 35.6                | .6                               | -95.2   | -18.50       | -59.32                  | -40             | -19.32      | H        |
| 10.706334             | 17.58                | RMS | 37.9                | .5                               | -95.2   | -15.03       | -54.25                  | -40             | -14.25      | H        |
| 14.294784             | 18.05                | RMS | 39.4                | .6                               | -95.2   | -13.50       | -50.65                  | -40             | -10.65      | H        |
| 7.150050              | 17.99                | RMS | 35.6                | .6                               | -95.2   | -18.51       | -59.52                  | -40             | -19.52      | V        |
| 10.666678             | 17.59                | RMS | 37.9                | .6                               | -95.2   | -14.97       | -54.08                  | -40             | -14.08      | V        |
| 14.25645              | 18.02                | RMS | 39.3                | .8                               | -95.2   | -13.45       | -50.53                  | -40             | -10.53      | V        |
| Mid Channel, 3625MHz  |                      |     |                     |                                  |         |              |                         |                 |             |          |
| 7.246988              | 17.58                | RMS | 35.6                | .6                               | -95.2   | -18.40       | -59.82                  | -40             | -19.82      | V        |
| 7.259325              | 17.62                | RMS | 35.6                | .6                               | -95.2   | -18.30       | -59.68                  | -40             | -19.68      | H        |
| 10.830591             | 17.09                | RMS | 37.9                | .6                               | -95.2   | -14.66       | -54.27                  | -40             | -14.27      | V        |
| 10.857469             | 17.01                | RMS | 37.9                | .5                               | -95.2   | -14.50       | -54.29                  | -40             | -14.29      | H        |
| 14.446359             | 17.59                | RMS | 39.6                | .8                               | -95.2   | -13.50       | -50.71                  | -40             | -10.71      | V        |
| 14.508047             | 17.68                | RMS | 39.7                | .8                               | -95.2   | -14.00       | -51.02                  | -40             | -11.02      | H        |
| High Channel, 3680MHz |                      |     |                     |                                  |         |              |                         |                 |             |          |
| 7.333791              | 17.77                | RMS | 35.6                | .5                               | -95.2   | -18.00       | -59.33                  | -40             | -19.33      | V        |
| 7.347891              | 17.97                | RMS | 35.6                | .6                               | -95.2   | -18.20       | -59.23                  | -40             | -19.23      | H        |
| 11.050463             | 17.48                | RMS | 37.8                | .6                               | -95.2   | -14.55       | -53.87                  | -40             | -13.87      | H        |
| 11.178244             | 17.79                | RMS | 37.8                | .6                               | -95.2   | -14.62       | -53.63                  | -40             | -13.63      | V        |
| 14.594409             | 16.77                | RMS | 39.8                | .9                               | -95.2   | -12.90       | -50.63                  | -40             | -10.63      | V        |
| 14.732766             | 17.20                | RMS | 40.0                | .9                               | -95.2   | -13.48       | -50.58                  | -40             | -10.58      | H        |

## 10.1.2. QPSK LTE ULCA BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

|                |                            |
|----------------|----------------------------|
| Project #:     | 14982484                   |
| Date:          | 2024-06-21                 |
| Test Engineer: | 32145                      |
| Configuration: | EUT only                   |
| Mode           | LTE B48 QPSK 20MHz + 20MHz |
| Chamber #:     | 01-RDE-A                   |

| Frequency (GHz)                    | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|------------------------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3560MHz + 3579.8MHz   |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.215703                           | 18.79                | RMS | 35.6                | .6                          | -95.2   | -18.4          | -58.61                  | -40   | -18.61      | H        |
| 7.227159                           | 19.18                | RMS | 35.6                | .5                          | -95.2   | -18.5          | -58.42                  | -40   | -18.42      | V        |
| 10.857028                          | 16.81                | RMS | 37.9                | .5                          | -95.2   | -14.5          | -54.49                  | -40   | -14.49      | H        |
| 10.952203                          | 17.25                | RMS | 37.9                | .6                          | -95.2   | -15.0          | -54.45                  | -40   | -14.45      | V        |
| 14.229131                          | 17.90                | RMS | 39.3                | .8                          | -95.2   | -13.3          | -50.50                  | -40   | -10.50      | V        |
| 14.230894                          | 18.43                | RMS | 39.3                | .8                          | -95.2   | -13.4          | -50.06                  | -40   | -10.06      | H        |
| Mid Channel, 3615.1MHz + 3634.9MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.284441                           | 19.10                | RMS | 35.6                | .5                          | -95.2   | -18.2          | -58.20                  | -40   | -18.20      | V        |
| 7.290609                           | 18.50                | RMS | 35.5                | .6                          | -95.2   | -18.1          | -58.66                  | -40   | -18.66      | H        |
| 10.933697                          | 17.49                | RMS | 37.9                | .7                          | -95.2   | -14.9          | -54.01                  | -40   | -14.01      | V        |
| 10.959694                          | 17.07                | RMS | 37.9                | .6                          | -95.2   | -14.9          | -54.53                  | -40   | -14.53      | H        |
| 14.458256                          | 17.35                | RMS | 39.6                | .7                          | -95.2   | -13.9          | -51.45                  | -40   | -11.45      | V        |
| 14.478966                          | 18.17                | RMS | 39.7                | .7                          | -95.2   | -14.0          | -50.63                  | -40   | -10.63      | H        |
| High Channel, 3670.2MHz + 3690MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.379616                           | 18.44                | RMS | 35.6                | .7                          | -95.2   | -18.4          | -58.86                  | -40   | -18.86      | V        |
| 7.398122                           | 19.55                | RMS | 35.6                | .6                          | -95.2   | -18.4          | -57.85                  | -40   | -17.85      | H        |
| 11.041209                          | 16.78                | RMS | 37.9                | .6                          | -95.2   | -14.3          | -54.24                  | -40   | -14.24      | V        |
| 11.057072                          | 17.26                | RMS | 37.8                | .6                          | -95.2   | -14.5          | -54.05                  | -40   | -14.05      | H        |
| 14.610272                          | 16.87                | RMS | 39.8                | .9                          | -95.2   | -13.0          | -50.58                  | -40   | -10.58      | H        |
| 14.663147                          | 17.19                | RMS | 39.9                | .9                          | -95.2   | -13.1          | -50.32                  | -40   | -10.32      | V        |

## 10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 7

### 10.2.1. LTE BAND 48 AND 5G NR n48

#### LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

#### QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

|                |                    |
|----------------|--------------------|
| Project #:     | 14982484           |
| Date:          | 2024-03-14         |
| Test Engineer: | 19226              |
| Configuration: | EUT only           |
| Mode           | LTE B48 QPSK 20MHz |
| Chamber #:     | 04-RDE-R           |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Amp/Cbl (dB) | Corrected Reading (dBm) | Harmonics limit | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|--------------|-------------------------|-----------------|-------------|----------|
| Low Channel, 3560MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.142559              | 19.26                | RMS | 35.6                | .6                          | -95.2   | -18.54       | -58.28                  | -40             | -18.28      | V        |
| 7.154897              | 19.17                | RMS | 35.6                | .6                          | -95.2   | -18.59       | -58.42                  | -40             | -18.42      | H        |
| 10.552997             | 17.66                | RMS | 37.9                | .6                          | -95.2   | -15.20       | -54.24                  | -40             | -14.24      | V        |
| 10.558284             | 17.87                | RMS | 37.9                | .6                          | -95.2   | -15.20       | -54.03                  | -40             | -14.03      | H        |
| 14.251163             | 17.83                | RMS | 39.3                | .8                          | -95.2   | -13.32       | -50.59                  | -40             | -10.59      | V        |
| 14.252484             | 17.7                 | RMS | 39.3                | .8                          | -95.2   | -13.45       | -50.85                  | -40             | -10.85      | H        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.275188              | 18.8                 | RMS | 35.6                | .5                          | -95.2   | -18.38       | -58.68                  | -40             | -18.68      | V        |
| 7.284881              | 18.72                | RMS | 35.6                | .5                          | -95.2   | -18.20       | -58.58                  | -40             | -18.58      | H        |
| 10.828388             | 16.90                | RMS | 37.9                | .6                          | -95.2   | -14.60       | -54.40                  | -40             | -14.40      | V        |
| 10.864519             | 16.97                | RMS | 37.9                | .4                          | -95.2   | -14.55       | -54.48                  | -40             | -14.48      | H        |
| 14.481609             | 17.99                | RMS | 39.7                | .7                          | -95.2   | -14.00       | -50.81                  | -40             | -10.81      | H        |
| 14.500556             | 17.49                | RMS | 39.7                | .8                          | -95.2   | -14.00       | -51.21                  | -40             | -11.21      | V        |
| High Channel, 3690MHz |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.343925              | 18.64                | RMS | 35.6                | .6                          | -95.2   | -18.11       | -58.47                  | -40             | -18.47      | V        |
| 7.363753              | 19.01                | RMS | 35.6                | .7                          | -95.2   | -18.20       | -58.09                  | -40             | -18.09      | H        |
| 11.030634             | 18.04                | RMS | 37.9                | .6                          | -95.2   | -14.36       | -53.02                  | -40             | -13.02      | V        |
| 11.073375             | 17.66                | RMS | 37.8                | .7                          | -95.2   | -14.44       | -53.48                  | -40             | -13.48      | H        |
| 14.77815              | 17.25                | RMS | 40.0                | .8                          | -95.2   | -12.89       | -50.04                  | -40             | -10.04      | H        |
| 14.782556             | 16.99                | RMS | 40.0                | .9                          | -95.2   | -12.94       | -50.25                  | -40             | -10.25      | V        |

**BPSK 5G NR n48 (40.0MHZ BANDWIDTH)**

|                |                      |
|----------------|----------------------|
| Project #:     | 14982484             |
| Date:          | 2024-06-13           |
| Test Engineer: | 106018               |
| Configuration: | EUT only             |
| Mode           | 5G NR n48 BPSK 40MHz |
| Chamber #:     | 01-RDE-A             |

| Frequency (GHz)              | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|------------------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| <b>Low Channel, 3570MHz</b>  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.168997                     | 17.88                | RMS | 35.6                | .6                          | -95.2   | -18.50         | -59.62                  | -40   | -19.62      | V        |
| 7.173844                     | 17.87                | RMS | 35.6                | .6                          | -95.2   | -18.38         | -59.51                  | -40   | -19.51      | H        |
| 10.703691                    | 17.45                | RMS | 37.9                | .5                          | -95.2   | -15.10         | -54.45                  | -40   | -14.45      | V        |
| 10.732331                    | 17.44                | RMS | 37.9                | .6                          | -95.2   | -14.93         | -54.19                  | -40   | -14.19      | H        |
| 14.271431                    | 18.00                | RMS | 39.4                | .7                          | -95.2   | -13.60         | -50.70                  | -40   | -10.70      | H        |
| 14.363081                    | 17.49                | RMS | 39.5                | .9                          | -95.2   | -12.80         | -50.11                  | -40   | -10.11      | V        |
| <b>Mid Channel, 3625MHz</b>  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.249191                     | 17.44                | RMS | 35.6                | .6                          | -95.2   | -18.38         | -59.94                  | -40   | -19.94      | H        |
| 10.863197                    | 17.03                | RMS | 37.9                | .4                          | -95.2   | -14.50         | -54.37                  | -40   | -14.37      | H        |
| 14.513775                    | 17.61                | RMS | 39.7                | .8                          | -95.2   | -13.98         | -51.07                  | -40   | -11.07      | H        |
| 7.275188                     | 17.99                | RMS | 35.6                | .5                          | -95.2   | -18.38         | -59.49                  | -40   | -19.49      | V        |
| 10.937222                    | 17.26                | RMS | 37.9                | .7                          | -95.2   | -14.90         | -54.24                  | -40   | -14.24      | V        |
| 14.423006                    | 17.39                | RMS | 39.6                | .8                          | -95.2   | -13.00         | -50.41                  | -40   | -10.41      | V        |
| <b>High Channel, 3680MHz</b> |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.342163                     | 17.86                | RMS | 35.6                | .6                          | -95.2   | -18.12         | -59.26                  | -40   | -19.26      | V        |
| 7.343484                     | 17.89                | RMS | 35.6                | .6                          | -95.2   | -18.15         | -59.26                  | -40   | -19.26      | H        |
| 11.015653                    | 17.18                | RMS | 37.9                | .6                          | -95.2   | -14.50         | -54.02                  | -40   | -14.02      | H        |
| 11.088356                    | 17.67                | RMS | 37.8                | .7                          | -95.2   | -14.30         | -53.33                  | -40   | -13.33      | V        |
| 14.608509                    | 16.73                | RMS | 39.8                | .9                          | -95.2   | -12.95         | -50.72                  | -40   | -10.72      | V        |
| 14.678128                    | 17.12                | RMS | 39.9                | .9                          | -95.2   | -13.30         | -50.58                  | -40   | -10.58      | H        |

## 10.2.2. QPSK LTE ULCA BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

|                |                            |
|----------------|----------------------------|
| Project #:     | 14982484                   |
| Date:          | 2024-06-21                 |
| Test Engineer: | 32145                      |
| Configuration: | EUT only                   |
| Mode           | LTE B48 QPSK 20MHz + 20MHz |
| Chamber #:     | 01-RDE-A                   |

| Frequency (GHz)                    | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|------------------------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3560MHz + 3579.8MHz   |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.117003                           | 19.34                | RMS | 35.6                | .5                          | -95.2   | -18.80         | -58.56                  | -40   | -18.56      | V        |
| 7.158863                           | 19.58                | RMS | 35.6                | .6                          | -95.2   | -18.50         | -57.92                  | -40   | -17.92      | H        |
| 10.368816                          | 18.34                | RMS | 37.8                | .5                          | -95.2   | -15.02         | -53.58                  | -40   | -13.58      | H        |
| 10.397456                          | 18.47                | RMS | 37.8                | .6                          | -95.2   | -15.15         | -53.48                  | -40   | -13.48      | V        |
| 14.315934                          | 18.11                | RMS | 39.4                | .7                          | -95.2   | -13.39         | -50.38                  | -40   | -10.38      | V        |
| 14.356031                          | 17.56                | RMS | 39.5                | .9                          | -95.2   | -12.80         | -50.04                  | -40   | -10.04      | H        |
| Mid Channel, 3615.1MHz + 3634.9MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.185300                           | 18.34                | RMS | 35.6                | .6                          | -95.2   | -18.40         | -59.06                  | -40   | -19.06      | V        |
| 7.220550                           | 19.27                | RMS | 35.6                | .5                          | -95.2   | -18.45         | -58.28                  | -40   | -18.28      | H        |
| 10.961456                          | 17.17                | RMS | 37.9                | .6                          | -95.2   | -15.00         | -54.53                  | -40   | -14.53      | V        |
| 10.996706                          | 16.85                | RMS | 37.9                | .7                          | -95.2   | -14.83         | -54.58                  | -40   | -14.58      | H        |
| 14.627897                          | 17.01                | RMS | 39.9                | .9                          | -95.2   | -13.10         | -50.49                  | -40   | -10.49      | H        |
| 14.670197                          | 16.39                | RMS | 39.9                | .9                          | -95.2   | -13.10         | -51.11                  | -40   | -11.11      | V        |
| High Channel, 3670.2MHz + 3690MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.329384                           | 18.95                | RMS | 35.6                | .5                          | -95.2   | -17.94         | -58.09                  | -40   | -18.09      | H        |
| 7.350094                           | 18.86                | RMS | 35.6                | .6                          | -95.2   | -18.21         | -58.35                  | -40   | -18.35      | V        |
| 11.072053                          | 17.37                | RMS | 37.8                | .6                          | -95.2   | -14.40         | -53.83                  | -40   | -13.83      | V        |
| 11.073816                          | 17.96                | RMS | 37.8                | .7                          | -95.2   | -14.48         | -53.22                  | -40   | -13.22      | H        |
| 14.737172                          | 16.98                | RMS | 40.0                | .9                          | -95.2   | -13.50         | -50.82                  | -40   | -10.82      | V        |
| 14.743781                          | 17.48                | RMS | 40.0                | .8                          | -95.2   | -13.40         | -50.32                  | -40   | -10.32      | H        |

## 10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 8

### 10.3.1. LTE BAND 48 AND 5G NR n48

#### LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

#### QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

|                |                    |
|----------------|--------------------|
| Project #:     | 14982484           |
| Date:          | 2024-06-14         |
| Test Engineer: | 32145              |
| Configuration: | EUT only           |
| Mode           | LTE B48 QPSK 20MHz |
| Chamber #:     | 01-RDE-A           |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Amp/Cbl (dB) | Corrected Reading (dBm) | Harmonics limit | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|--------------|-------------------------|-----------------|-------------|----------|
| Low Channel, 3560MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.154897              | 18.70                | RMS | 35.6                | .6                          | -95.2   | -18.59       | -58.89                  | -40             | -18.89      | V        |
| 7.168997              | 18.79                | RMS | 35.6                | .6                          | -95.2   | -18.50       | -58.71                  | -40             | -18.71      | H        |
| 10.704131             | 17.92                | RMS | 37.9                | .5                          | -95.2   | -15.09       | -53.97                  | -40             | -13.97      | H        |
| 10.706334             | 20.34                | RMS | 37.9                | .5                          | -95.2   | -15.03       | -51.49                  | -40             | -11.49      | V        |
| 14.229572             | 17.84                | RMS | 39.3                | .8                          | -95.2   | -13.30       | -50.56                  | -40             | -10.56      | V        |
| 14.317256             | 17.97                | RMS | 39.4                | .7                          | -95.2   | -13.33       | -50.46                  | -40             | -10.46      | H        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.282238              | 18.62                | RMS | 35.6                | .5                          | -95.2   | -18.20       | -58.68                  | -40             | -18.68      | V        |
| 7.284881              | 18.70                | RMS | 35.6                | .5                          | -95.2   | -18.20       | -58.60                  | -40             | -18.60      | H        |
| 10.808559             | 17.14                | RMS | 37.9                | .6                          | -95.2   | -14.70       | -54.26                  | -40             | -14.26      | V        |
| 10.814728             | 17.32                | RMS | 37.9                | .6                          | -95.2   | -14.67       | -54.05                  | -40             | -14.05      | H        |
| 14.512013             | 17.50                | RMS | 39.7                | .8                          | -95.2   | -14.00       | -51.20                  | -40             | -11.20      | V        |
| 14.560481             | 17.65                | RMS | 39.8                | .8                          | -95.2   | -13.70       | -50.65                  | -40             | -10.65      | H        |
| High Channel, 3690MHz |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.374328              | 18.45                | RMS | 35.6                | .7                          | -95.2   | -18.30       | -58.75                  | -40             | -18.75      | V        |
| 7.391513              | 18.93                | RMS | 35.6                | .7                          | -95.2   | -18.40       | -58.37                  | -40             | -18.37      | H        |
| 10.984809             | 17.50                | RMS | 37.9                | .6                          | -95.2   | -14.92       | -54.12                  | -40             | -14.12      | V        |
| 11.029753             | 17.45                | RMS | 37.9                | .6                          | -95.2   | -14.32       | -53.57                  | -40             | -13.57      | H        |
| 14.783878             | 17.43                | RMS | 40.0                | .9                          | -95.2   | -13.08       | -49.95                  | -40             | -9.95       | H        |
| 14.805028             | 17.00                | RMS | 40.0                | 1                           | -95.2   | -13.10       | -50.30                  | -40             | -10.30      | V        |

**BPSK 5G NR n48 (40.0MHZ BANDWIDTH)**

|                |                      |
|----------------|----------------------|
| Project #:     | 14982484             |
| Date:          | 2024-06-13           |
| Test Engineer: | 106018               |
| Configuration: | EUT only             |
| Mode           | 5G NR n48 BPSK 40MHz |
| Chamber #:     | 01-RDE-A             |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3570MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.159744              | 18.19                | RMS | 35.6                | .6                          | -95.2   | -18.5          | -59.31                  | -40   | -19.31      | H        |
| 10.705453             | 17.63                | RMS | 37.9                | .5                          | -95.2   | -15.0          | -54.17                  | -40   | -14.17      | H        |
| 14.267906             | 18.15                | RMS | 39.3                | .8                          | -95.2   | -13.6          | -50.55                  | -40   | -10.55      | H        |
| 7.108631              | 18.26                | RMS | 35.6                | .5                          | -95.2   | -18.76         | -59.60                  | -40   | -19.60      | V        |
| 10.636275             | 17.62                | RMS | 37.9                | .6                          | -95.2   | -14.93         | -54.01                  | -40   | -14.01      | V        |
| 14.308003             | 18.12                | RMS | 39.4                | .7                          | -95.2   | -13.5          | -50.48                  | -40   | -10.48      | V        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.256241              | 17.52                | RMS | 35.6                | .6                          | -95.2   | -18.3          | -59.78                  | -40   | -19.78      | H        |
| 10.851300             | 17.06                | RMS | 37.9                | .5                          | -95.2   | -14.5          | -54.24                  | -40   | -14.24      | H        |
| 14.506725             | 17.76                | RMS | 39.7                | .8                          | -95.2   | -14.1          | -51.04                  | -40   | -11.04      | H        |
| 7.213059              | 18.05                | RMS | 35.6                | .6                          | -95.2   | -18.4          | -59.35                  | -40   | -19.35      | V        |
| 10.816931             | 17.21                | RMS | 37.9                | .6                          | -95.2   | -14.6          | -54.09                  | -40   | -14.09      | V        |
| 14.575463             | 16.9                 | RMS | 39.8                | .9                          | -95.2   | -13.1          | -50.70                  | -40   | -10.70      | V        |
| High Channel, 3680MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.336434              | 17.77                | RMS | 35.6                | .5                          | -95.2   | -18.00         | -59.33                  | -40   | -19.33      | V        |
| 7.353178              | 17.80                | RMS | 35.6                | .7                          | -95.2   | -18.38         | -59.48                  | -40   | -19.48      | H        |
| 11.019619             | 17.20                | RMS | 37.9                | .6                          | -95.2   | -14.44         | -53.94                  | -40   | -13.94      | V        |
| 11.040328             | 17.36                | RMS | 37.9                | .6                          | -95.2   | -14.37         | -53.71                  | -40   | -13.71      | H        |
| 14.669756             | 17.02                | RMS | 39.9                | .9                          | -95.2   | -13.10         | -50.48                  | -40   | -10.48      | V        |
| 14.714700             | 17.06                | RMS | 40.0                | .9                          | -95.2   | -13.27         | -50.51                  | -40   | -10.51      | H        |

### 10.3.2. QPSK LTE ULCA BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

|                |                            |
|----------------|----------------------------|
| Project #:     | 14982484                   |
| Date:          | 2024-06-21                 |
| Test Engineer: | 32145                      |
| Configuration: | EUT only                   |
| Mode           | LTE B48 QPSK 20MHz + 20MHz |
| Chamber #:     | 01-RDE-A                   |

| Frequency (GHz)                    | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|------------------------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3560MHz + 3579.8MHz   |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.160625                           | 18.89                | RMS | 35.6                | .6                          | -95.2   | -18.50         | -58.61                  | -40   | -18.61      | H        |
| 7.162828                           | 19.07                | RMS | 35.6                | .6                          | -95.2   | -18.50         | -58.43                  | -40   | -18.43      | V        |
| 10.728366                          | 17.51                | RMS | 37.9                | .6                          | -95.2   | -14.86         | -54.05                  | -40   | -14.05      | V        |
| 10.777275                          | 17.49                | RMS | 37.9                | .6                          | -95.2   | -14.60         | -53.81                  | -40   | -13.81      | H        |
| 14.302275                          | 17.98                | RMS | 39.4                | .6                          | -95.2   | -13.53         | -50.75                  | -40   | -10.75      | H        |
| 14.359997                          | 16.78                | RMS | 39.5                | .9                          | -95.2   | -12.70         | -50.72                  | -40   | -10.72      | V        |
| Mid Channel, 3615.1MHz + 3634.9MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.220991                           | 19.03                | RMS | 35.6                | .5                          | -95.2   | -18.40         | -58.47                  | -40   | -18.47      | V        |
| 7.244344                           | 18.75                | RMS | 35.6                | .5                          | -95.2   | -18.47         | -58.82                  | -40   | -18.82      | H        |
| 10.883906                          | 17.20                | RMS | 37.9                | .5                          | -95.2   | -14.80         | -54.40                  | -40   | -14.40      | H        |
| 10.906378                          | 16.78                | RMS | 37.9                | .6                          | -95.2   | -14.66         | -54.58                  | -40   | -14.58      | V        |
| 14.507606                          | 17.63                | RMS | 39.7                | .8                          | -95.2   | -14.04         | -51.11                  | -40   | -11.11      | V        |
| 14.548584                          | 16.81                | RMS | 39.8                | .8                          | -95.2   | -13.60         | -51.39                  | -40   | -11.39      | H        |
| High Channel, 3670.2MHz + 3690MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.331588                           | 18.83                | RMS | 35.6                | .5                          | -95.2   | -18.00         | -58.27                  | -40   | -18.27      | V        |
| 7.358025                           | 18.80                | RMS | 35.6                | .7                          | -95.2   | -18.2          | -58.30                  | -40   | -18.30      | H        |
| 11.106422                          | 17.39                | RMS | 37.8                | .7                          | -95.2   | -14.64         | -53.95                  | -40   | -13.95      | V        |
| 11.122725                          | 17.80                | RMS | 37.8                | .7                          | -95.2   | -14.80         | -53.70                  | -40   | -13.70      | H        |
| 14.478525                          | 18.06                | RMS | 39.7                | .7                          | -95.2   | -14.00         | -50.74                  | -40   | -10.74      | H        |
| 14.536688                          | 17.34                | RMS | 39.7                | .8                          | -95.2   | -13.70         | -51.06                  | -40   | -11.06      | V        |



## 10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 9

### 10.4.1. LTE BAND 48 AND 5G NR n48

#### LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm

#### QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

|                |                    |
|----------------|--------------------|
| Project #:     | 14982484           |
| Date:          | 2024-06-14         |
| Test Engineer: | 32145              |
| Configuration: | EUT only           |
| Mode           | LTE B48 QPSK 20MHz |
| Chamber #:     | 01-RDE-A           |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Amp/Cbl (dB) | Corrected Reading (dBm) | Harmonics limit | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|--------------|-------------------------|-----------------|-------------|----------|
| Low Channel, 3560MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.165913              | 18.80                | RMS | 35.6                | .6                          | -95.2   | -18.4        | -58.61                  | -40             | -18.61      | V        |
| 7.171200              | 18.91                | RMS | 35.6                | .6                          | -95.2   | -18.3        | -58.41                  | -40             | -18.41      | H        |
| 10.667559             | 17.75                | RMS | 37.9                | .6                          | -95.2   | -15.0        | -53.95                  | -40             | -13.95      | V        |
| 10.703691             | 17.99                | RMS | 37.9                | .5                          | -95.2   | -15.1        | -53.91                  | -40             | -13.91      | H        |
| 14.274516             | 17.86                | RMS | 39.4                | .7                          | -95.2   | -13.6        | -50.84                  | -40             | -10.84      | H        |
| 14.315053             | 17.32                | RMS | 39.4                | .7                          | -95.2   | -13.3        | -51.09                  | -40             | -11.09      | V        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.222313              | 19.18                | RMS | 35.6                | .5                          | -95.2   | -18.5        | -58.42                  | -40             | -18.42      | V        |
| 7.276950              | 19.24                | RMS | 35.6                | .5                          | -95.2   | -18.4        | -58.26                  | -40             | -18.26      | H        |
| 10.875975             | 16.73                | RMS | 37.9                | .5                          | -95.2   | -14.7        | -54.77                  | -40             | -14.77      | V        |
| 10.893159             | 17.07                | RMS | 37.9                | .6                          | -95.2   | -14.6        | -54.23                  | -40             | -14.23      | H        |
| 14.545059             | 17.14                | RMS | 39.8                | .8                          | -95.2   | -13.7        | -51.16                  | -40             | -11.16      | V        |
| 14.582953             | 16.85                | RMS | 39.8                | .9                          | -95.2   | -12.9        | -50.55                  | -40             | -10.55      | H        |
| High Channel, 3690MHz |                      |     |                     |                             |         |              |                         |                 |             |          |
| 7.341722              | 18.81                | RMS | 35.6                | .6                          | -95.2   | -18.1        | -58.29                  | -40             | -18.29      | H        |
| 7.350094              | 19.08                | RMS | 35.6                | .6                          | -95.2   | -18.2        | -58.13                  | -40             | -18.13      | V        |
| 11.065884             | 17.60                | RMS | 37.9                | .6                          | -95.2   | -14.6        | -53.7                   | -40             | -13.7       | H        |
| 11.084831             | 17.48                | RMS | 37.8                | .7                          | -95.2   | -14.3        | -53.52                  | -40             | -13.52      | V        |
| 14.747306             | 17.19                | RMS | 40.0                | .8                          | -95.2   | -13.4        | -50.64                  | -40             | -10.64      | V        |
| 14.777269             | 17.36                | RMS | 40.0                | .8                          | -95.2   | -12.8        | -49.87                  | -40             | -9.87       | H        |

**BPSK 5G NR n48 (40.0MHZ BANDWIDTH)**

|                |                      |
|----------------|----------------------|
| Project #:     | 14982484             |
| Date:          | 2024-03-23           |
| Test Engineer: | 25369                |
| Configuration: | EUT only             |
| Mode           | 5G NR n48 BPSK 40MHz |
| Chamber #:     | 04-RDE-R             |

| Frequency (GHz)       | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|-----------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3570MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.132866              | 17.58                | RMS | 35.6                | .5                          | -95.2   | -18.7          | -60.23                  | -40   | -20.23      | H        |
| 11.692894             | 18.22                | RMS | 38.2                | .7                          | -95.2   | -14.0          | -52.08                  | -40   | -12.08      | H        |
| 14.278041             | 18.18                | RMS | 39.4                | .7                          | -95.2   | -13.7          | -50.62                  | -40   | -10.62      | H        |
| 7.108191              | 18.27                | RMS | 35.6                | .5                          | -95.2   | -18.7          | -59.55                  | -40   | -19.55      | V        |
| 11.684522             | 18.19                | RMS | 38.1                | .7                          | -95.2   | -14.0          | -52.21                  | -40   | -12.21      | V        |
| 14.388197             | 17.53                | RMS | 39.5                | .8                          | -95.2   | -13.0          | -50.37                  | -40   | -10.37      | V        |
| Mid Channel, 3625MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.256681              | 17.57                | RMS | 35.6                | .6                          | -95.2   | -18.3          | -59.73                  | -40   | -19.73      | H        |
| 10.877297             | 17.02                | RMS | 37.9                | .5                          | -95.2   | -14.7          | -54.51                  | -40   | -14.51      | H        |
| 14.484694             | 17.73                | RMS | 39.7                | .7                          | -95.2   | -14.0          | -51.07                  | -40   | -11.07      | H        |
| 7.237294              | 17.89                | RMS | 35.6                | .5                          | -95.2   | -18.6          | -59.81                  | -40   | -19.81      | V        |
| 10.819134             | 17.45                | RMS | 37.9                | .6                          | -95.2   | -14.6          | -53.86                  | -40   | -13.86      | V        |
| 14.518181             | 17.54                | RMS | 39.7                | .8                          | -95.2   | -14.0          | -51.16                  | -40   | -11.16      | V        |
| High Channel, 3680MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.338197              | 17.85                | RMS | 35.6                | .5                          | -95.2   | -18.0          | -59.27                  | -40   | -19.27      | V        |
| 7.343484              | 17.96                | RMS | 35.6                | .6                          | -95.2   | -18.2          | -59.19                  | -40   | -19.19      | H        |
| 11.026669             | 17.27                | RMS | 37.9                | .6                          | -95.2   | -14.4          | -53.86                  | -40   | -13.86      | V        |
| 11.028872             | 17.25                | RMS | 37.9                | .6                          | -95.2   | -14.4          | -53.84                  | -40   | -13.84      | H        |
| 14.671078             | 17.04                | RMS | 39.9                | .9                          | -95.2   | -13.1          | -50.47                  | -40   | -10.47      | V        |
| 14.701041             | 17.05                | RMS | 40.0                | .9                          | -95.2   | -13.2          | -50.45                  | -40   | -10.45      | H        |

## 10.4.2. QPSK LTE ULCA BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

|                |                            |
|----------------|----------------------------|
| Project #:     | 14982484                   |
| Date:          | 2024-06-21                 |
| Test Engineer: | 32145                      |
| Configuration: | EUT only                   |
| Mode           | LTE B48 QPSK 20MHz + 20MHz |
| Chamber #:     | 01-RDE-A                   |

| Frequency (GHz)                    | Meter Reading (dBuV) | Det | 81886 ACF 3m (dB/m) | T1792 3400-3800MHz BRF (dB) | EIRP CF | Gain/Loss (dB) | Corrected Reading (dBm) | LIMIT | Margin (dB) | Polarity |
|------------------------------------|----------------------|-----|---------------------|-----------------------------|---------|----------------|-------------------------|-------|-------------|----------|
| Low Channel, 3560MHz + 3579.8MHz   |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.138594                           | 18.62                | RMS | 35.6                | .6                          | -95.2   | -18.6          | -58.98                  | -40   | -18.98      | V        |
| 7.161066                           | 18.89                | RMS | 35.6                | .6                          | -95.2   | -18.5          | -58.61                  | -40   | -18.61      | H        |
| 10.722638                          | 17.46                | RMS | 37.9                | .5                          | -95.2   | -14.9          | -54.24                  | -40   | -14.24      | V        |
| 10.783884                          | 17.02                | RMS | 37.9                | .6                          | -95.2   | -14.5          | -54.18                  | -40   | -14.18      | H        |
| 14.301394                          | 17.65                | RMS | 39.4                | .6                          | -95.2   | -13.6          | -51.11                  | -40   | -11.11      | V        |
| 14.333559                          | 18.15                | RMS | 39.5                | .8                          | -95.2   | -13.1          | -49.89                  | -40   | -9.89       | H        |
| Mid Channel, 3615.1MHz + 3634.9MHz |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.160625                           | 19.11                | RMS | 35.6                | .6                          | -95.2   | -18.5          | -58.39                  | -40   | -18.39      | V        |
| 7.228481                           | 19.00                | RMS | 35.6                | .5                          | -95.2   | -18.5          | -58.60                  | -40   | -18.60      | H        |
| 10.939866                          | 17.15                | RMS | 37.9                | .7                          | -95.2   | -15.0          | -54.45                  | -40   | -14.45      | V        |
| 10.964541                          | 17.45                | RMS | 37.9                | .6                          | -95.2   | -15.05         | -54.30                  | -40   | -14.30      | H        |
| 14.467509                          | 17.66                | RMS | 39.7                | .7                          | -95.2   | -14.0          | -51.09                  | -40   | -11.09      | H        |
| 14.571938                          | 16.76                | RMS | 39.8                | .8                          | -95.2   | -13.3          | -51.14                  | -40   | -11.14      | V        |
| High Channel, 3670.2MHz + 3690MHz  |                      |     |                     |                             |         |                |                         |       |             |          |
| 7.342163                           | 18.67                | RMS | 35.6                | .6                          | -95.2   | -18.1          | -58.45                  | -40   | -18.45      | H        |
| 7.347009                           | 18.59                | RMS | 35.6                | .6                          | -95.2   | -18.2          | -58.61                  | -40   | -18.61      | V        |
| 11.004197                          | 17.15                | RMS | 37.9                | .7                          | -95.2   | -14.7          | -54.15                  | -40   | -14.15      | V        |
| 11.043853                          | 16.80                | RMS | 37.9                | .6                          | -95.2   | -14.3          | -54.21                  | -40   | -14.21      | H        |
| 14.786081                          | 16.80                | RMS | 40.0                | .9                          | -95.2   | -13.0          | -50.51                  | -40   | -10.51      | V        |
| 14.797097                          | 17.16                | RMS | 40.0                | 1                           | -95.2   | -13.1          | -50.14                  | -40   | -10.14      | H        |

## 11. SETUP PHOTOS

Please refer to 14982484-EP1V1 for Setup Photo Report for setup photos.

## END OF REPORT