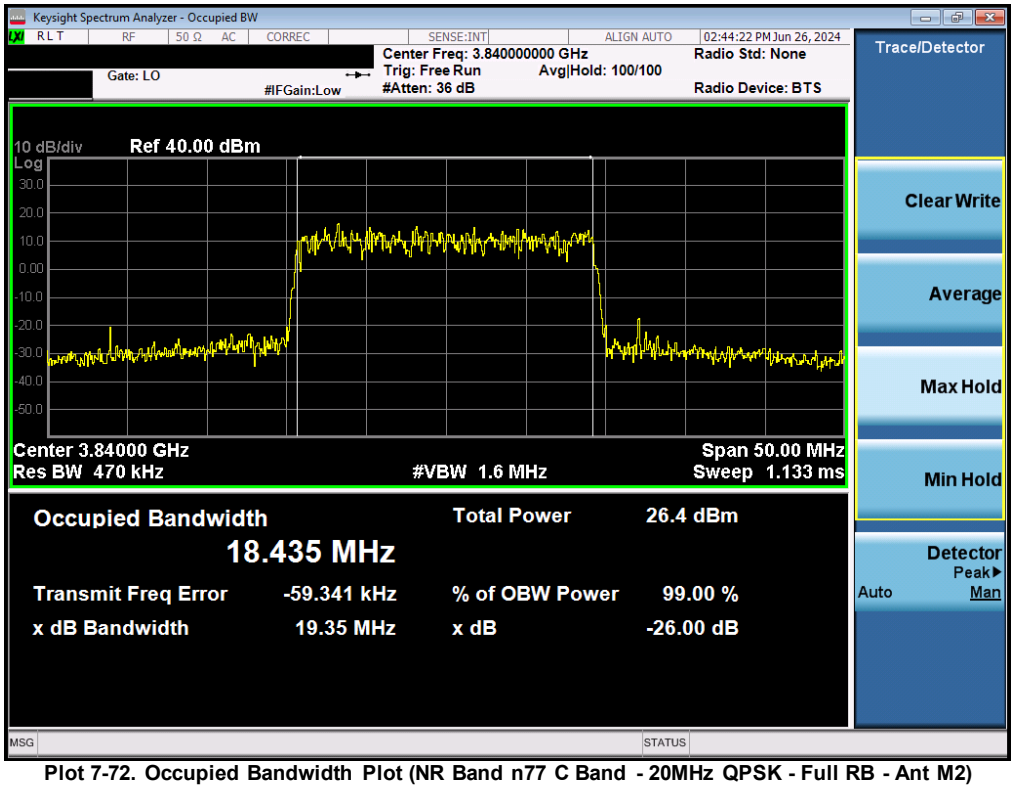
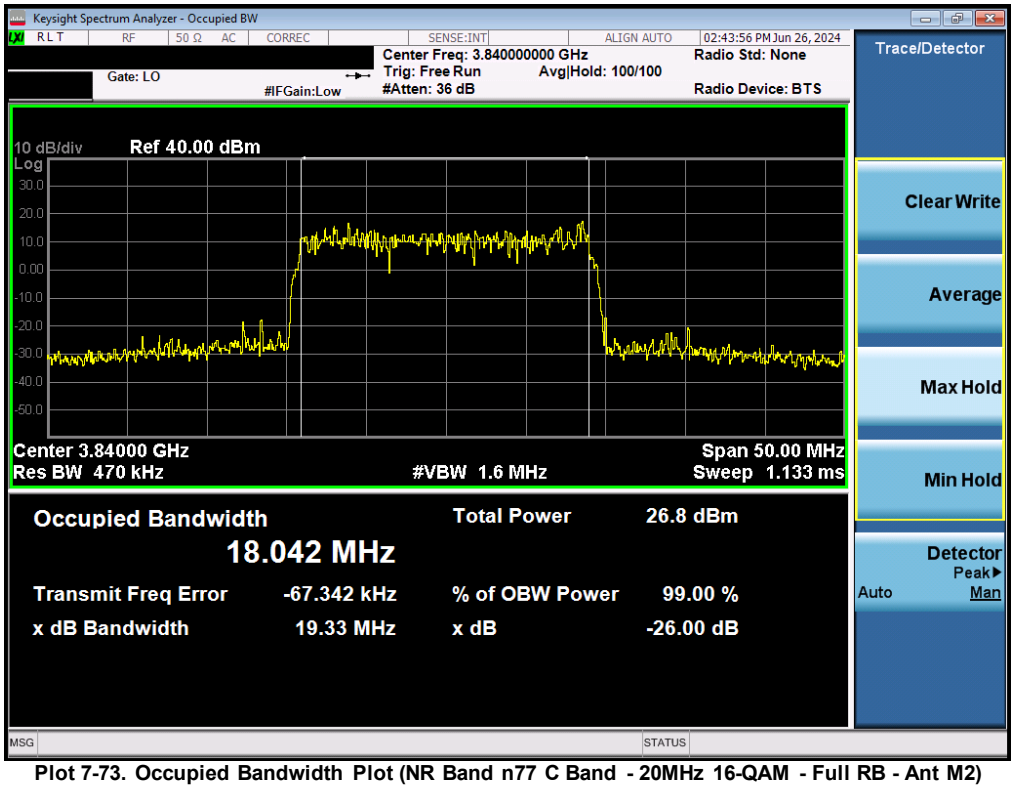
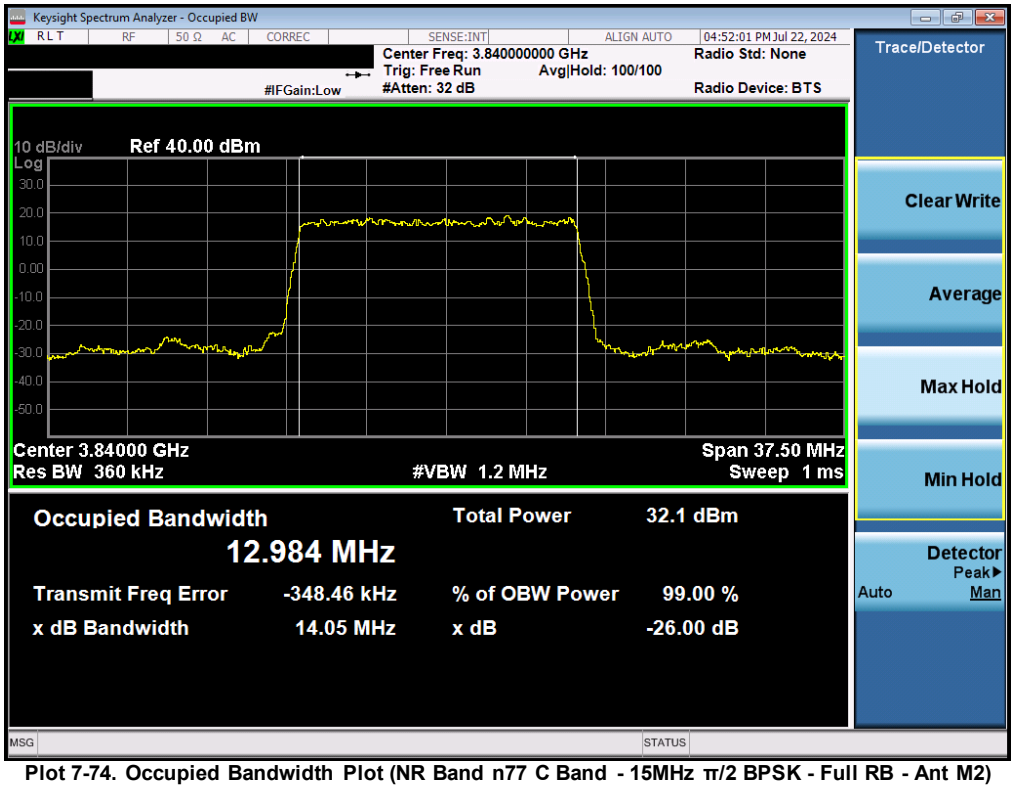


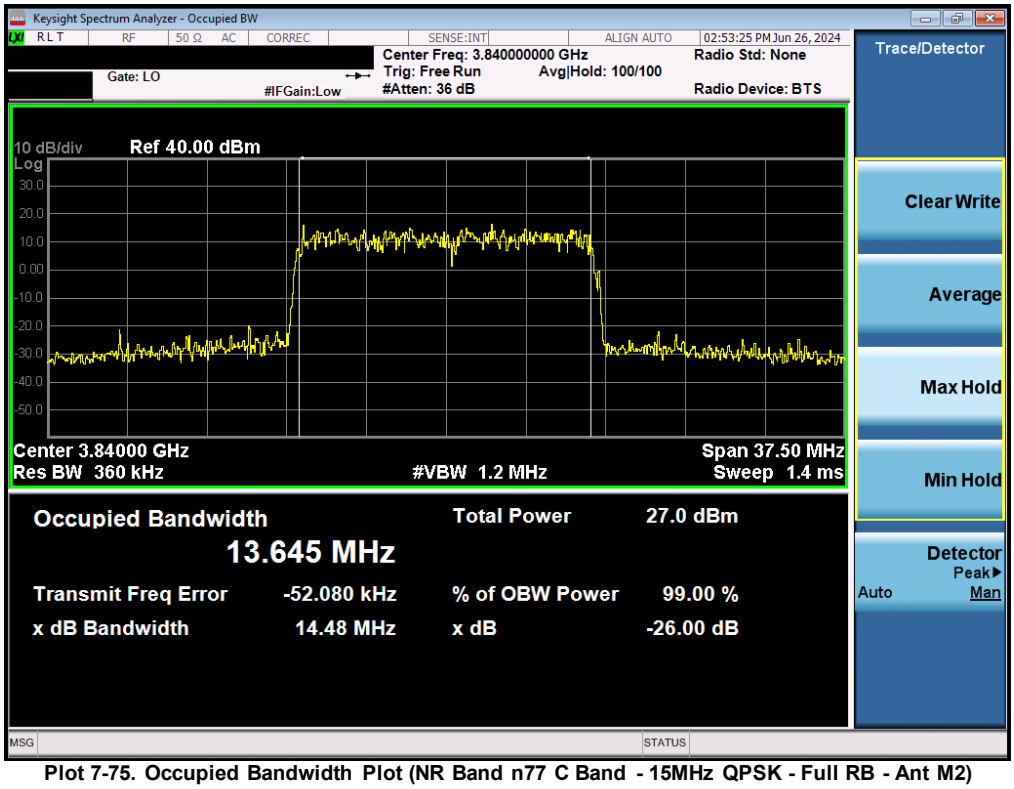

**Plot 7-72. Occupied Bandwidth Plot (NR Band n77 C Band - 20MHz QPSK - Full RB - Ant M2)**



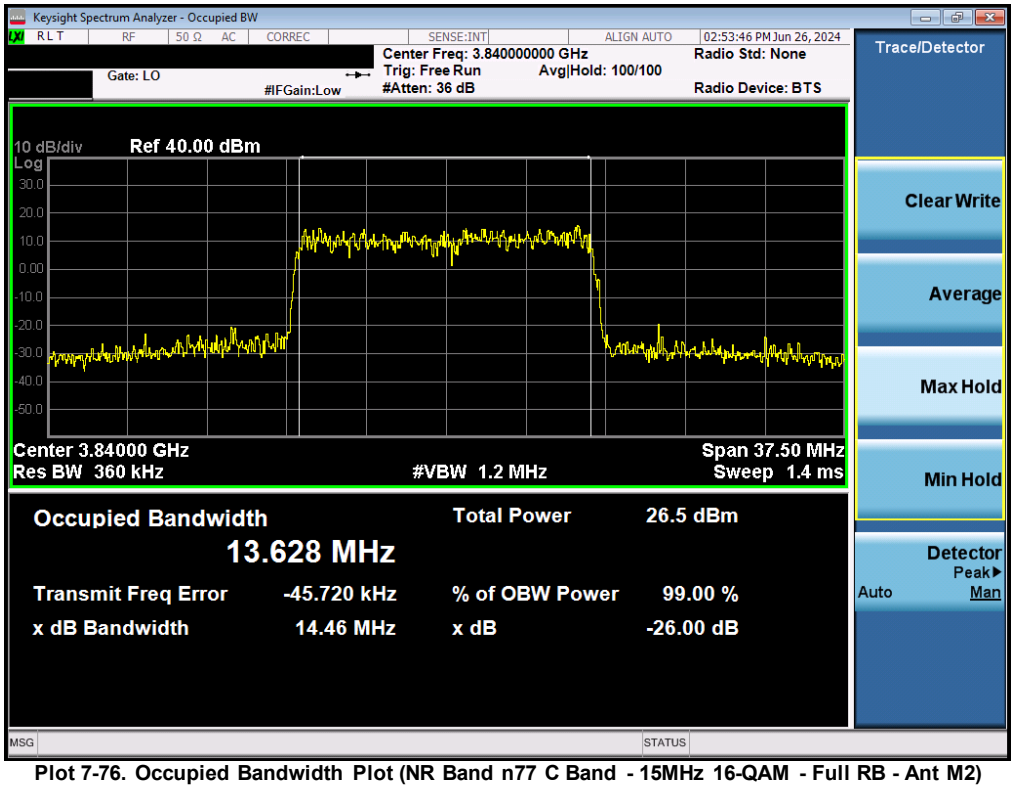

**Plot 7-73. Occupied Bandwidth Plot (NR Band n77 C Band - 20MHz 16-QAM - Full RB - Ant M2)**



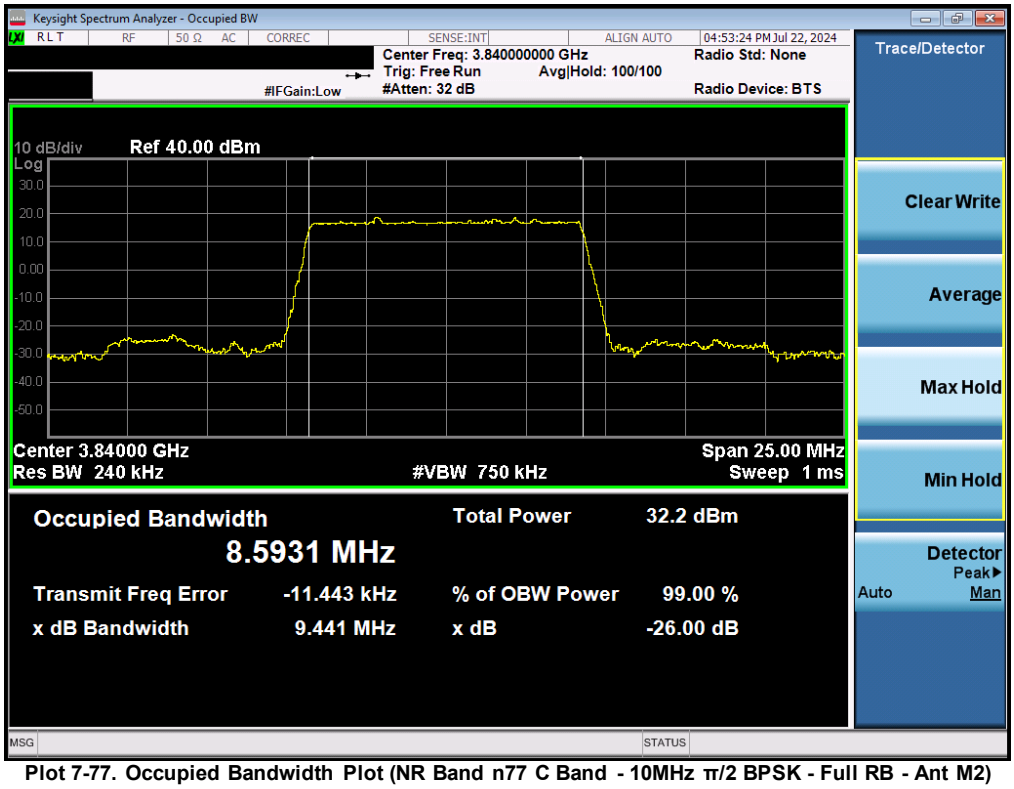

**Plot 7-74. Occupied Bandwidth Plot (NR Band n77 C Band - 15MHz π/2 BPSK - Full RB - Ant M2)**



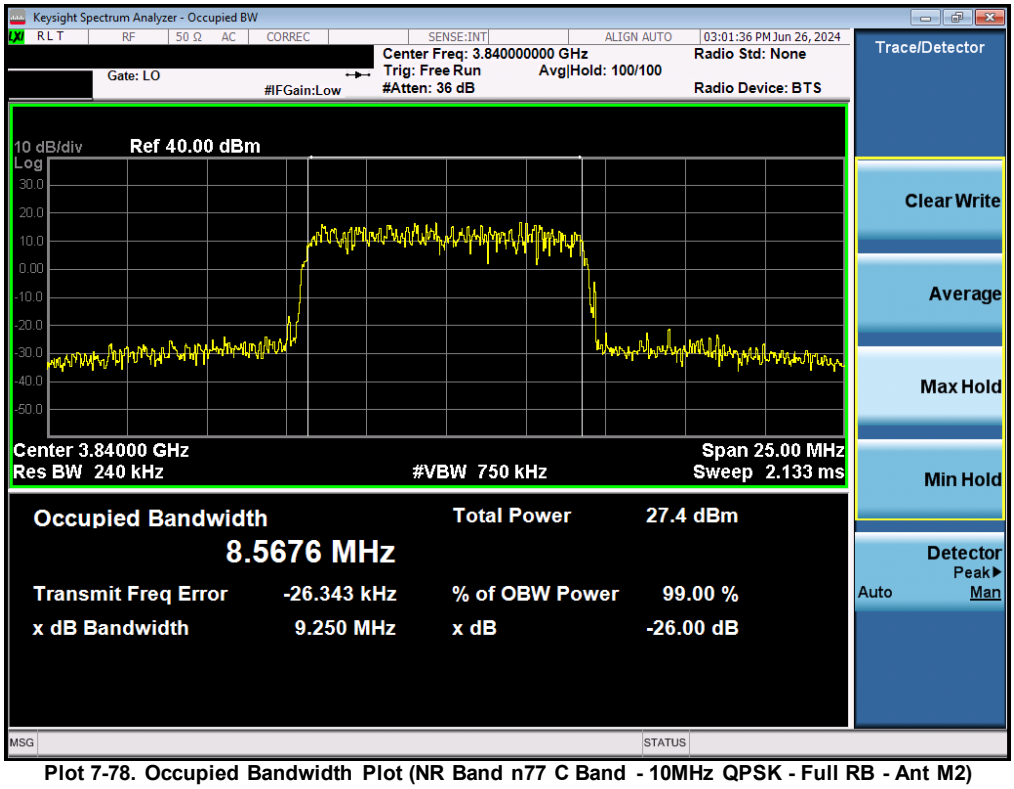

**Plot 7-75. Occupied Bandwidth Plot (NR Band n77 C Band - 15MHz QPSK - Full RB - Ant M2)**



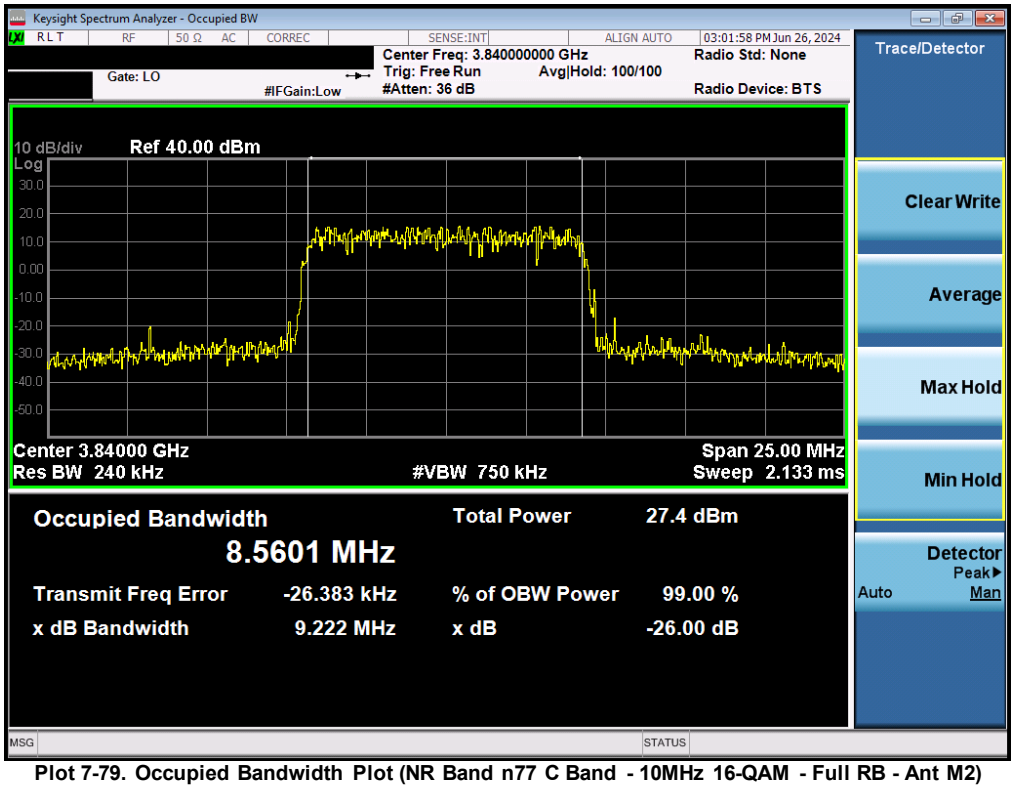

**Plot 7-76. Occupied Bandwidth Plot (NR Band n77 C Band - 15MHz 16-QAM - Full RB - Ant M2)**




**Plot 7-77. Occupied Bandwidth Plot (NR Band n77 C Band - 10MHz π/2 BPSK - Full RB - Ant M2)**




**Plot 7-78. Occupied Bandwidth Plot (NR Band n77 C Band - 10MHz QPSK - Full RB - Ant M2)**




**Plot 7-79. Occupied Bandwidth Plot (NR Band n77 C Band - 10MHz 16-QAM - Full RB - Ant M2)**

## 7.4 Spurious and Harmonic Emissions at Antenna Terminal

### Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

***For operations in the 3700 – 3980MHz band and the 3450 – 3550MHz band, the maximum permissible conducted power level of any spurious emission is -13dBm/MHz.***

### Test Procedure Used

ANSI C63.26-2015 – Section 5.7.4

### Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to the tenth harmonic of the highest transmit frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

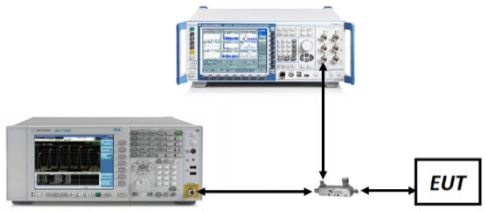



**Figure 7-3. Test Instrument & Measurement Setup**

### Test Notes

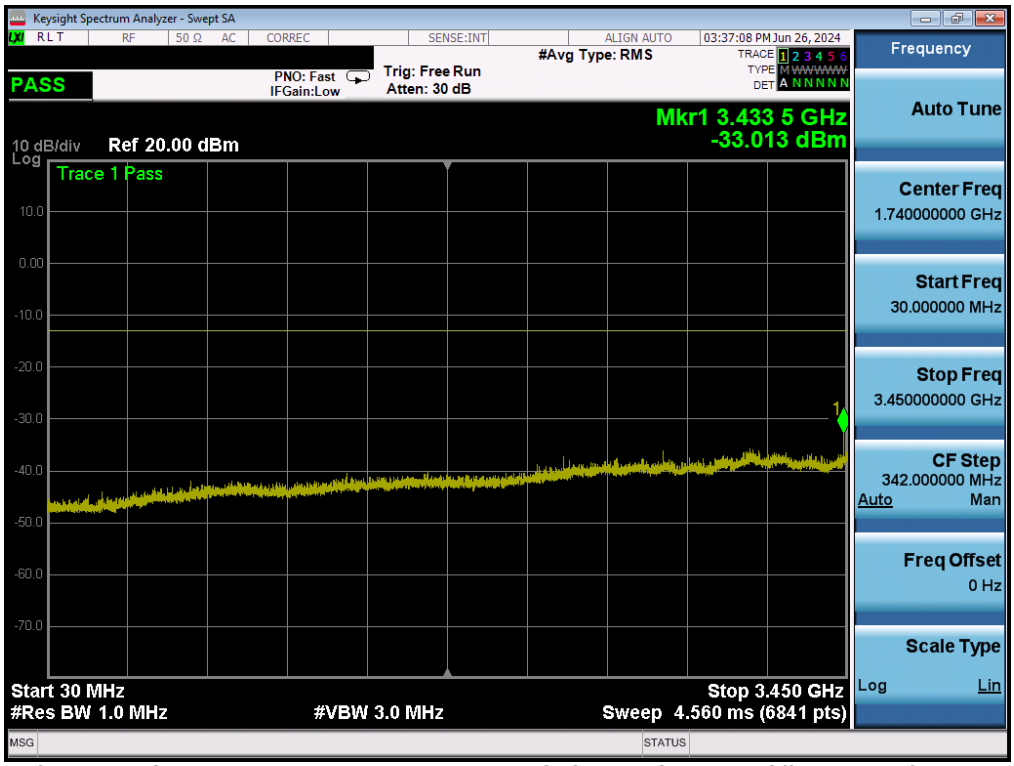
1. Per Part 27.53(l) and Part 27.53(n) compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz.

2. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

| Mode | Bandwidth | Channel | Range [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77PC2 DoD Band | 100MHz | Mid | 30.0 - 3450.0 | -33.013 | -13 | -20.01 |
| | | Mid | 3550.0 - 20000.0 | -25.514 | -13 | -12.51 |
| | | Mid | 20000.0 - 40000.0 | -48.068 | -13 | -35.07 |
| NR-n77PC2 C Band | 100MHz | Low | 30.0 - 3700.0 | -31.549 | -13 | -18.55 |
| | | Low | 3980.0 - 20000.0 | -26.441 | -13 | -13.44 |
| | | Low | 20000.0 - 40000.0 | -48.614 | -13 | -35.61 |
| | | Mid | 30.0 - 3700.0 | -29.348 | -13 | -16.35 |
| | | Mid | 3980.0 - 20000.0 | -26.676 | -13 | -13.68 |
| | | Mid | 20000.0 - 40000.0 | -48.597 | -13 | -35.60 |
| | | High | 30.0 - 3700.0 | -32.955 | -13 | -19.96 |
| | | High | 3980.0 - 20000.0 | -26.657 | -13 | -13.66 |
| | | High | 20000.0 - 40000.0 | -49.441 | -13 | -36.44 |

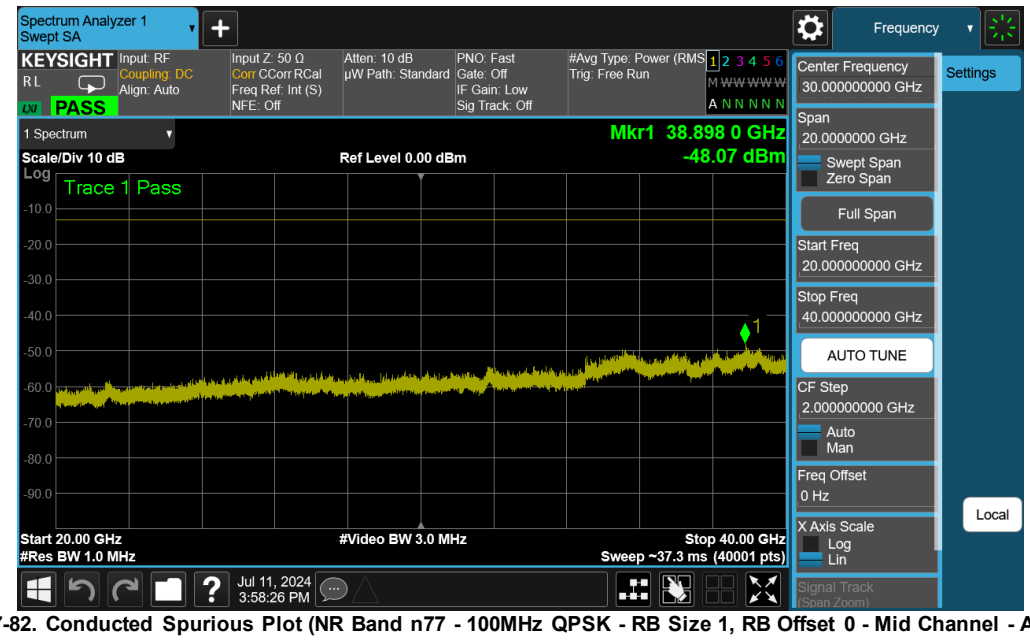
**Table 7-5. Conducted Emission Test Results – Ant M2**

## NR Band n77 DoD Band – Ant M2



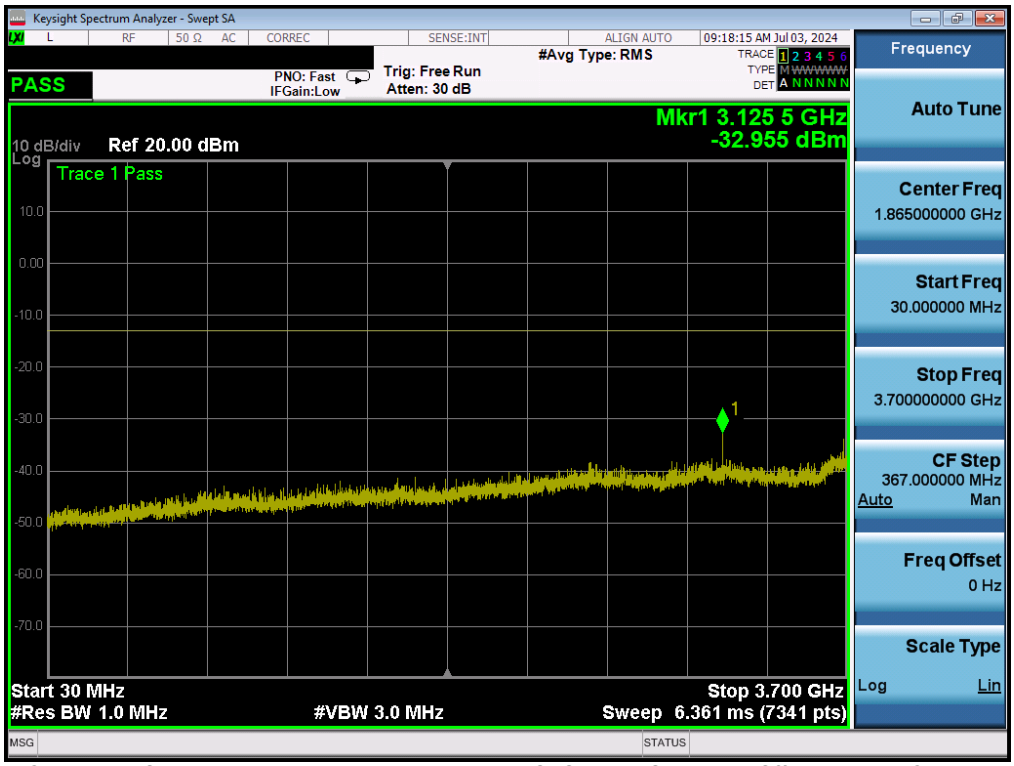

**Plot 7-80. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant M2)**


**Plot 7-81. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant M2)**

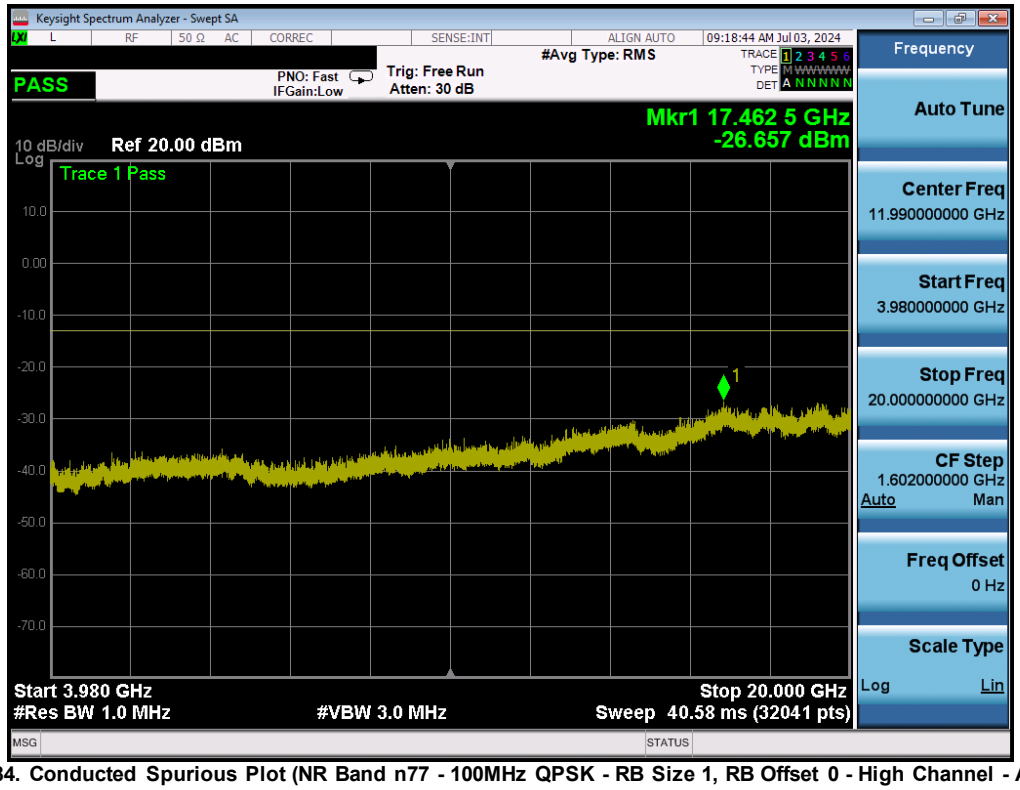



**Plot 7-82. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant M2)**

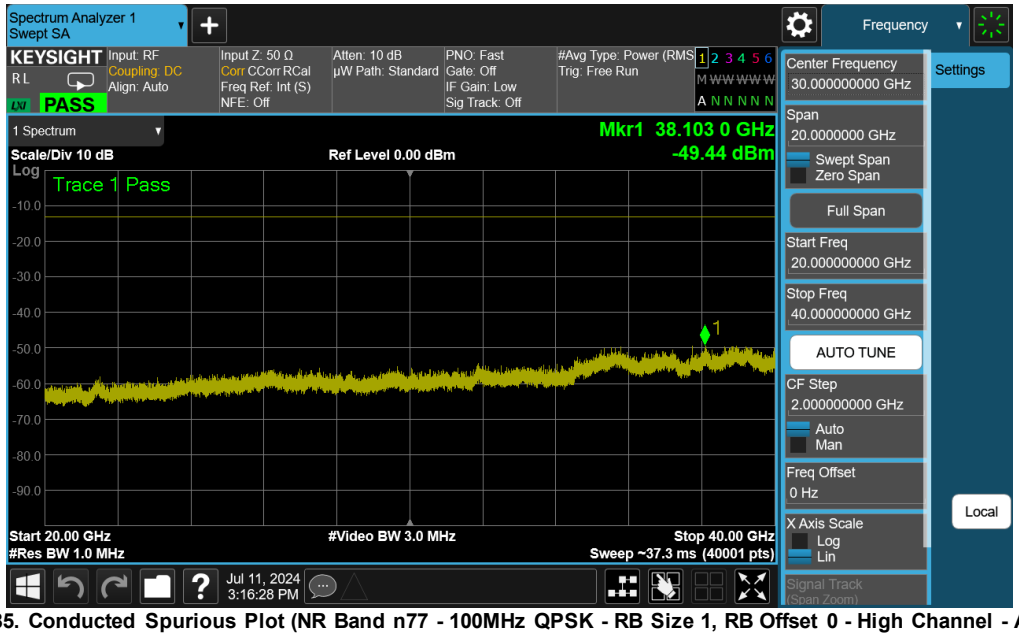
## NR Band n77 C Band – Ant M2




**Plot 7-83. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant M2)**




**Plot 7-84. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant M2)**

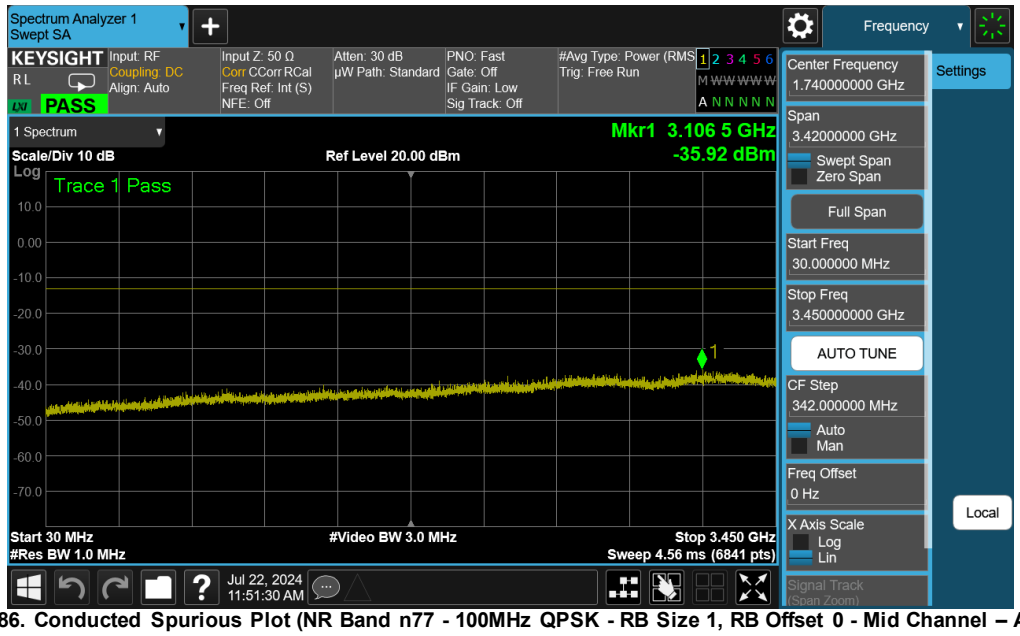



**Plot 7-85. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant M2)**

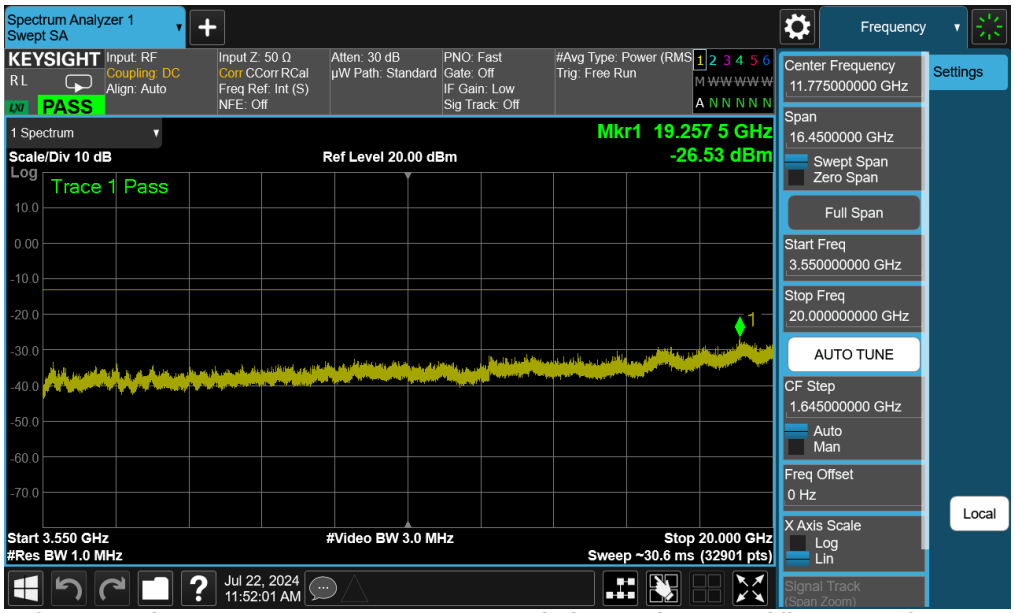
| Mode | Bandwidth | Channel | Range [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Mid | 30.0 - 3450.0 | -35.92 | -13 | -22.92 |
| | | Mid | 3550.0 - 20000.0 | -26.53 | -13 | -13.53 |
| | | Mid | 20000.0 - 40000.0 | -48.25 | -13 | -35.25 |
| NR-n77 PC2 C Band | 100MHz | Low | 30.0 - 3700.0 | -36.17 | -13 | -23.17 |
| | | Low | 3980.0 - 20000.0 | -26.52 | -13 | -13.52 |
| | | Low | 20000.0 - 40000.0 | -48.55 | -13 | -35.55 |
| | | Mid | 30.0 - 3700.0 | -36.79 | -13 | -23.79 |
| | | Mid | 3980.0 - 20000.0 | -27.22 | -13 | -14.22 |
| | | Mid | 20000.0 - 40000.0 | -47.84 | -13 | -34.84 |
| | | High | 30.0 - 3700.0 | -36.06 | -13 | -23.06 |
| | | High | 3980.0 - 20000.0 | -27.17 | -13 | -14.17 |
| | | High | 20000.0 - 40000.0 | -49.1 | -13 | -36.10 |

**Table 7-6. Conducted Emission Test Results – Ant S2**

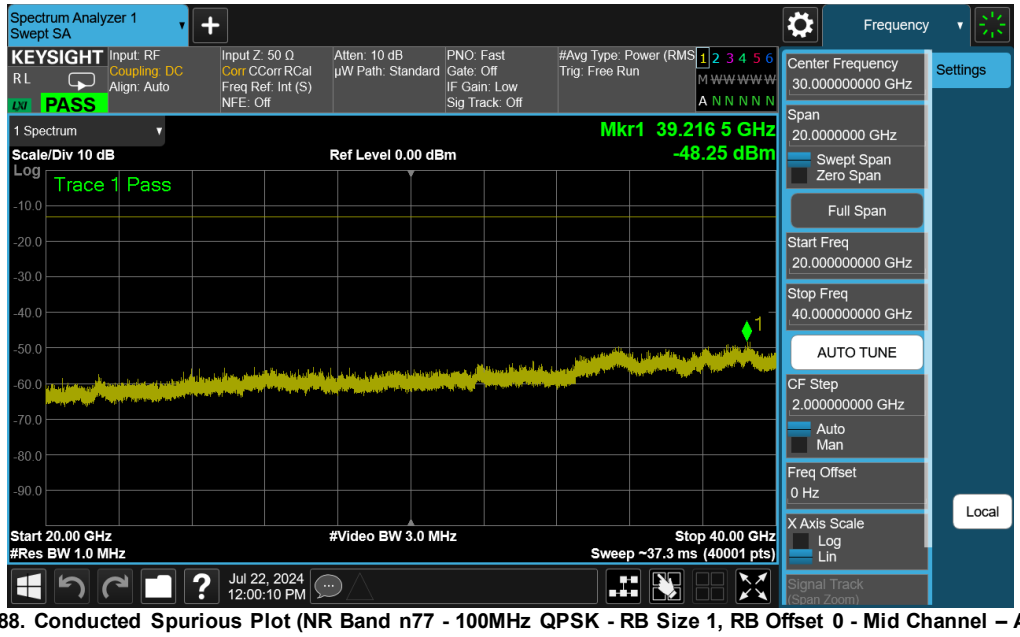
## NR Band n77 DoD Band – Ant S2




**Plot 7-86. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S2)**

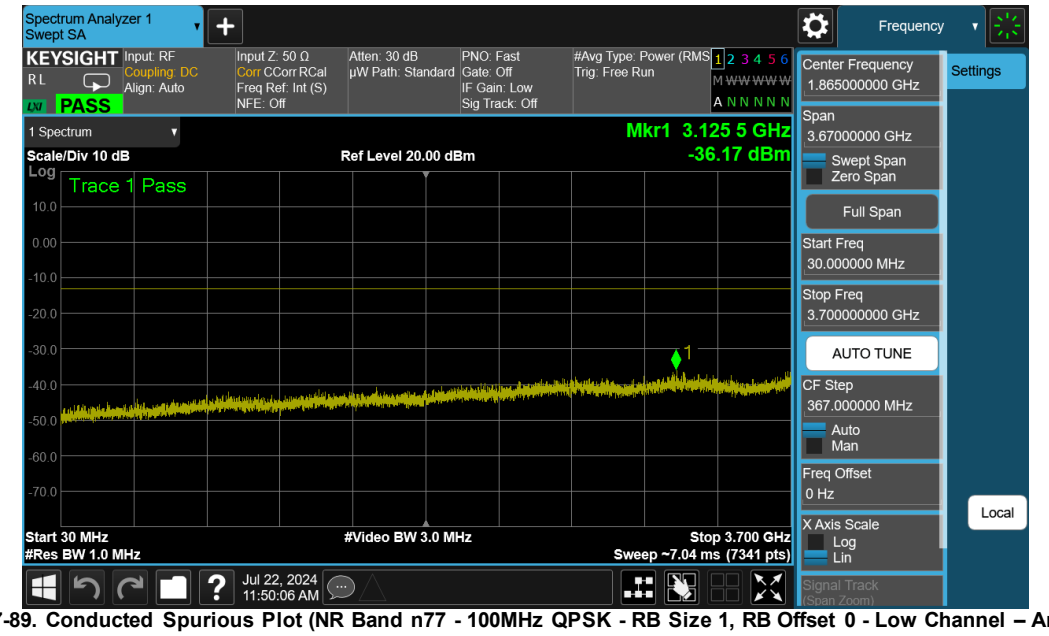



**Plot 7-87. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S2)**

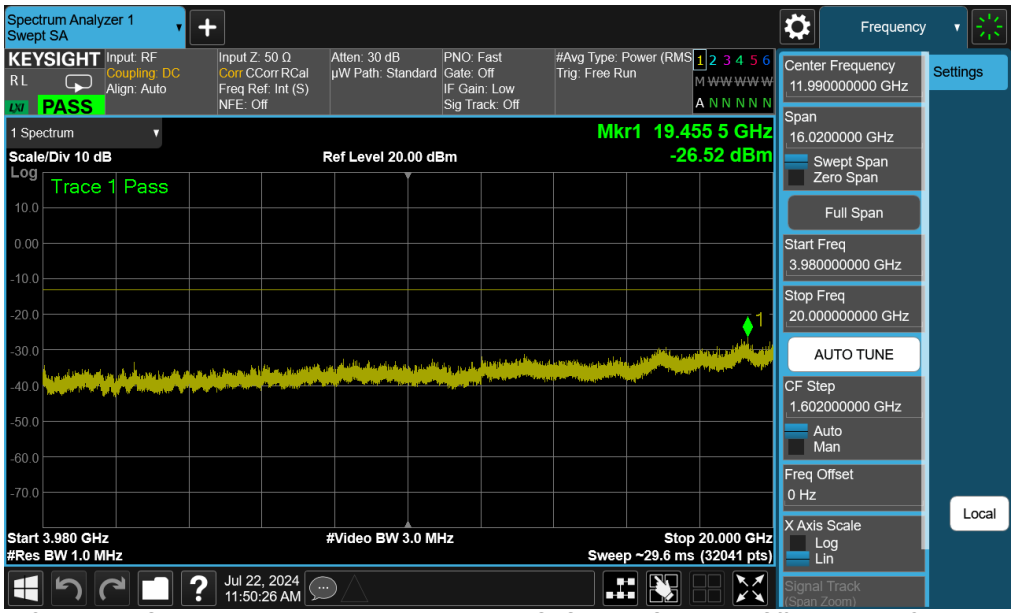



**Plot 7-88. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S2)**

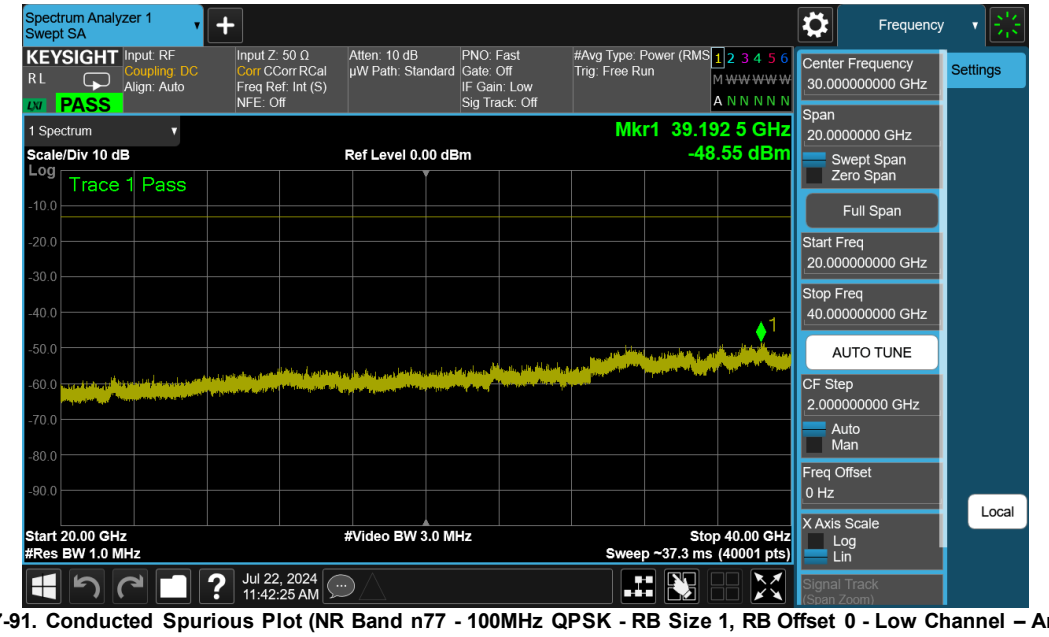
## NR Band n77 C Band – Ant S2




**Plot 7-89. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S2)**




**Plot 7-90. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S2)**

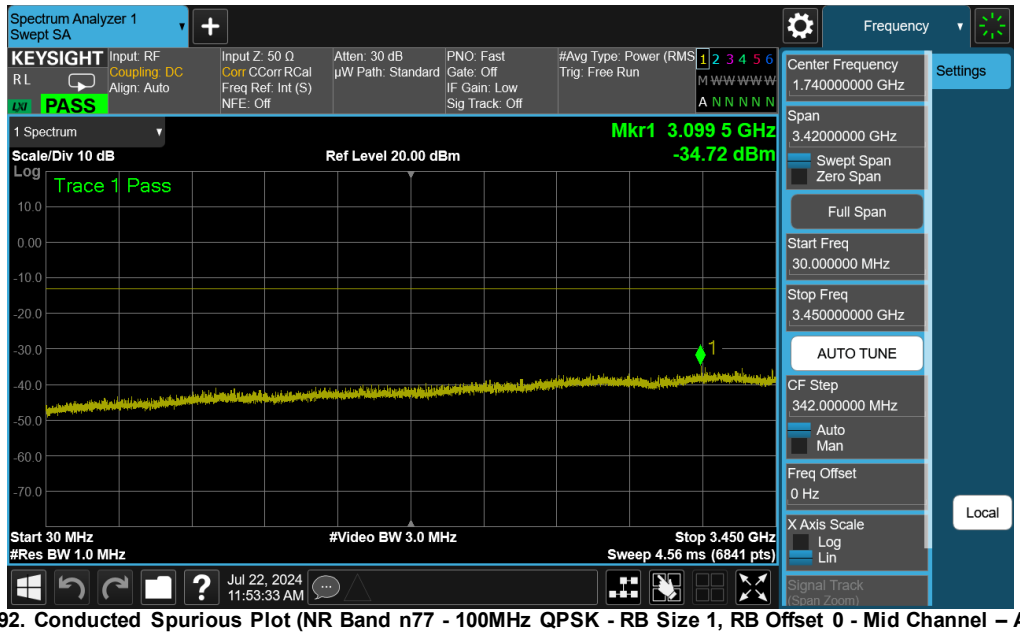



**Plot 7-91. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S2)**

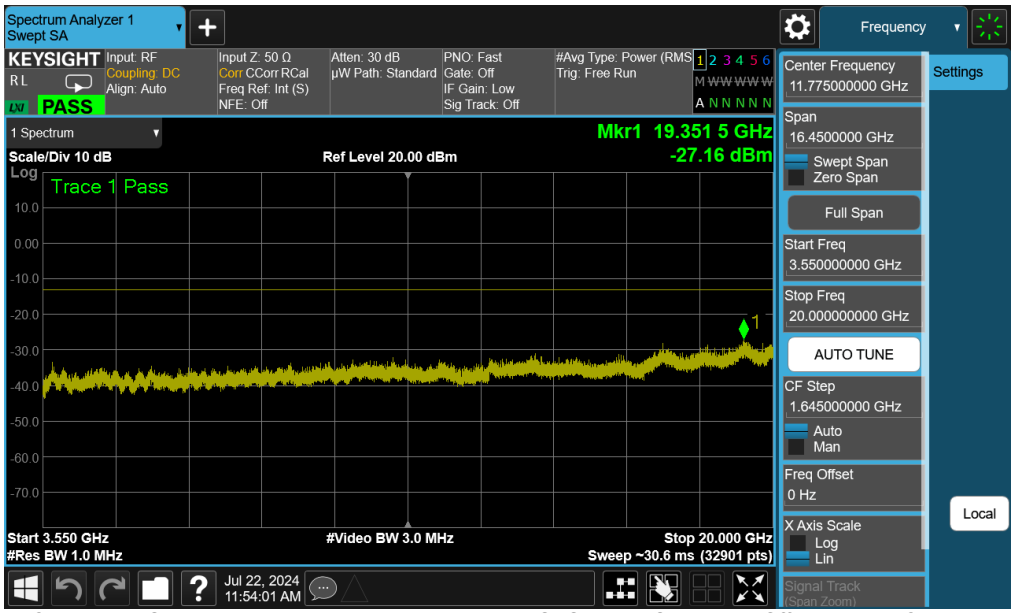
| Mode | Bandwidth | Channel | Range [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Mid | 30.0 - 3450.0 | -34.72 | -13 | -21.72 |
| | | Mid | 3550.0 - 20000.0 | -27.16 | -13 | -14.16 |
| | | Mid | 20000.0 - 40000.0 | -49.1 | -13 | -36.10 |
| NR-n77 PC2 C Band | 100MHz | Low | 30.0 - 3700.0 | -35.95 | -13 | -22.95 |
| | | Low | 3980.0 - 20000.0 | -26.61 | -13 | -13.61 |
| | | Low | 20000.0 - 40000.0 | -48.95 | -13 | -35.95 |
| | | Mid | 30.0 - 3700.0 | -34.35 | -13 | -21.34 |
| | | Mid | 3980.0 - 20000.0 | -26.02 | -13 | -13.02 |
| | | Mid | 20000.0 - 40000.0 | -48.69 | -13 | -35.69 |
| | | High | 30.0 - 3700.0 | -34.68 | -13 | -21.68 |
| | | High | 3980.0 - 20000.0 | -27.3 | -13 | -14.30 |
| | | High | 20000.0 - 40000.0 | -47.72 | -13 | -34.72 |

**Table 7-7. Conducted Emission Test Results – Ant S4**

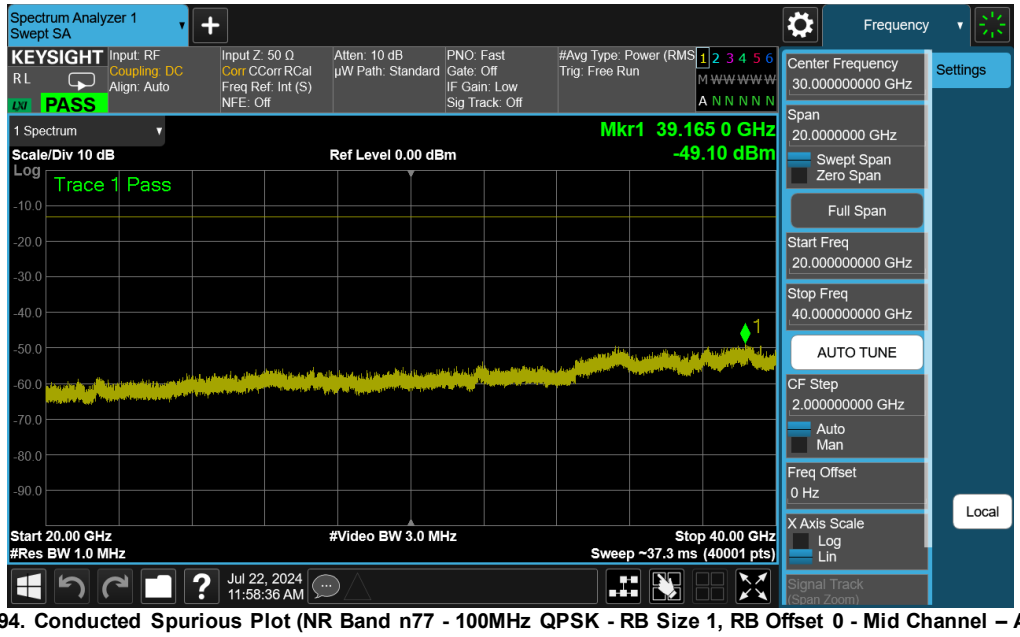
## NR Band n77 DoD Band – Ant S4




**Plot 7-92. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**

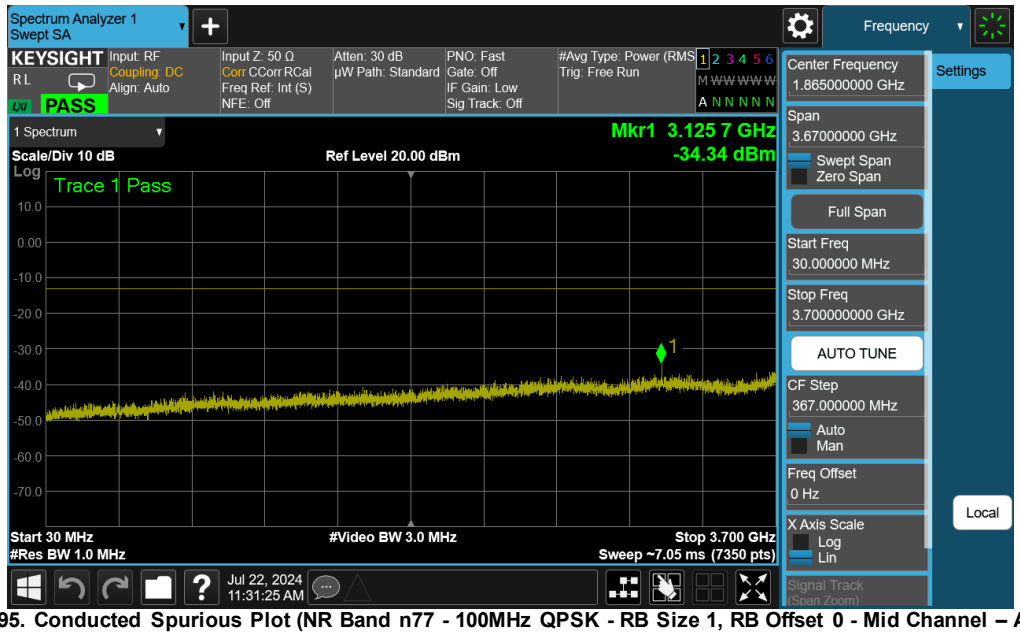



**Plot 7-93. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**

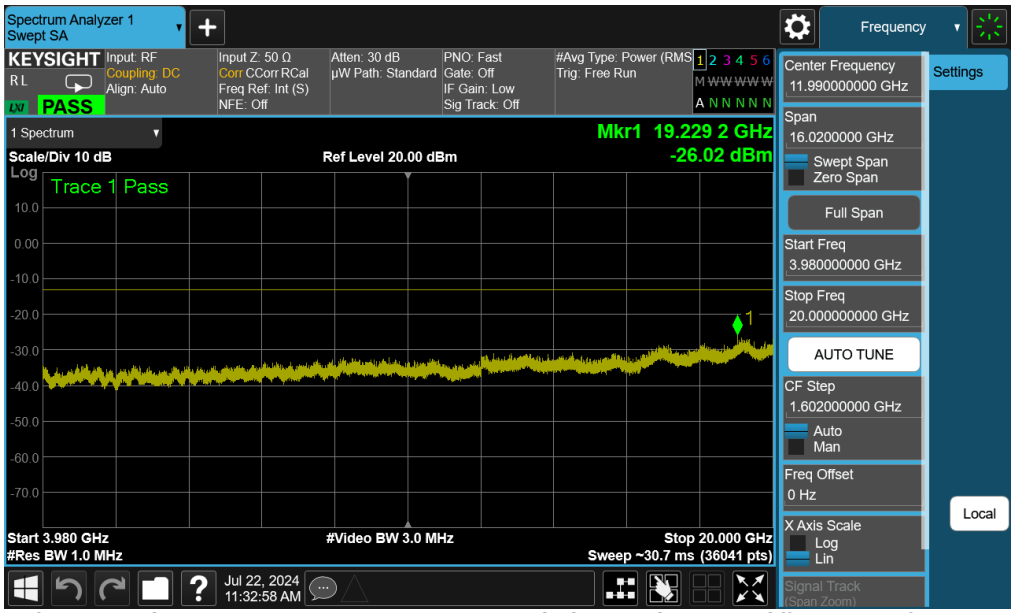



**Plot 7-94. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**

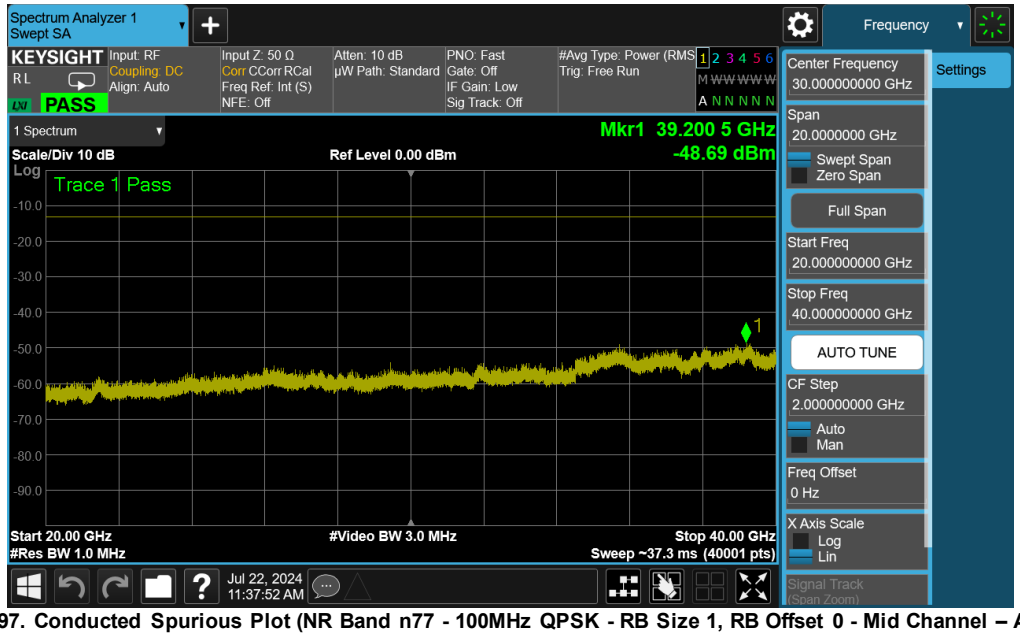
## NR Band n77 C Band – Ant S4




**Plot 7-95. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**




**Plot 7-96. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**

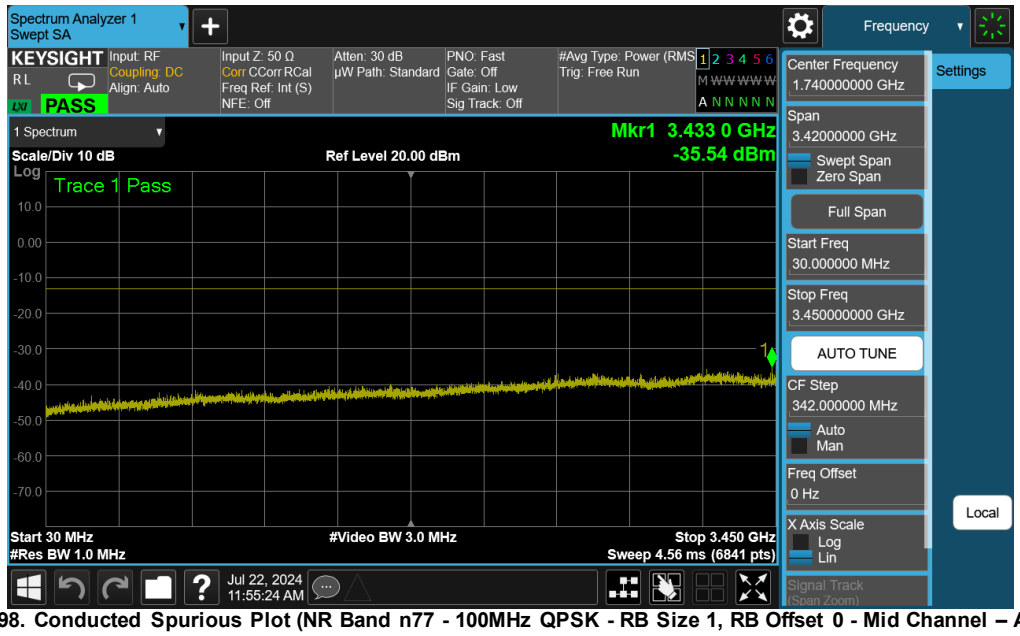



**Plot 7-97. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S4)**

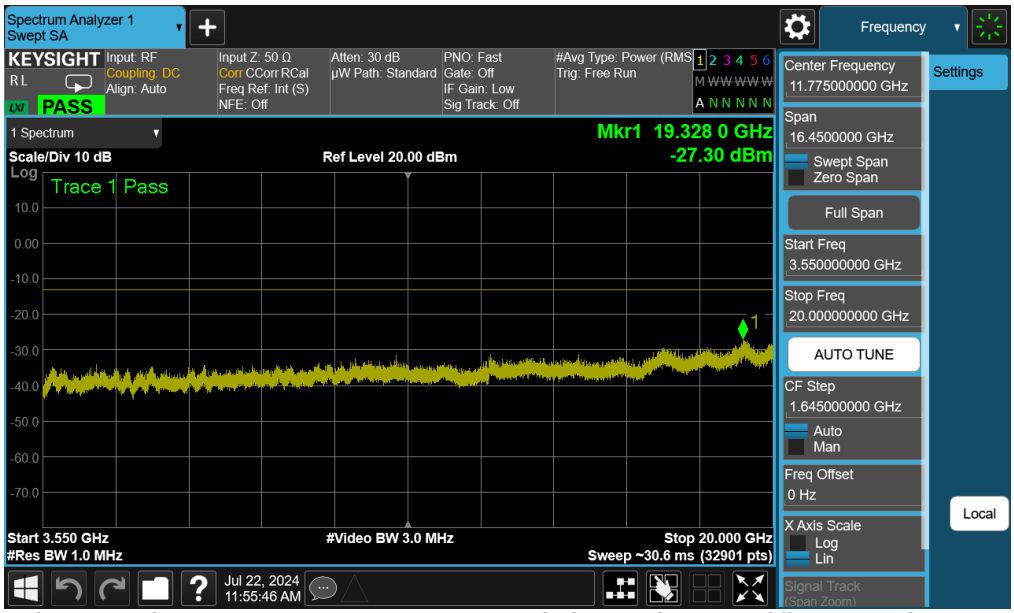
| Mode | Bandwidth | Channel | Range [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Mid | 30.0 - 3450.0 | -35.54 | -13 | -22.54 |
| | | Mid | 3550.0 - 20000.0 | -27.3 | -13 | -14.30 |
| | | Mid | 20000.0 - 40000.0 | -48.79 | -13 | -35.79 |
| NR-n77 PC2 C Band | 100MHz | Low | 30.0 - 3700.0 | -36.14 | -13 | -23.14 |
| | | Low | 3980.0 - 20000.0 | -27.04 | -13 | -14.04 |
| | | Low | 20000.0 - 40000.0 | -48.93 | -13 | -35.93 |
| | | Mid | 30.0 - 3700.0 | -35.17 | -13 | -22.17 |
| | | Mid | 3980.0 - 20000.0 | -27.42 | -13 | -14.42 |
| | | Mid | 20000.0 - 40000.0 | -48.07 | -13 | -35.07 |
| | | High | 30.0 - 3700.0 | -34.24 | -13 | -21.24 |
| | | High | 3980.0 - 20000.0 | -27.08 | -13 | -14.08 |
| | | High | 20000.0 - 40000.0 | -48.73 | -13 | -35.73 |

**Table 7-8. Conducted Emission Test Results – Ant S3**

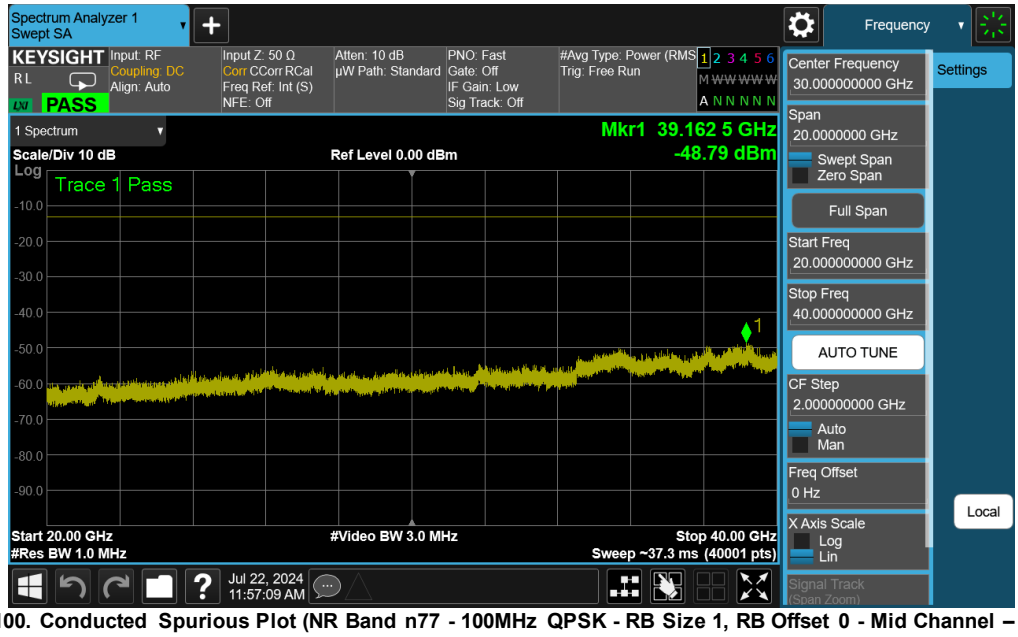
## NR Band n77 DoD Band – Ant S3




**Plot 7-98. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S3)**

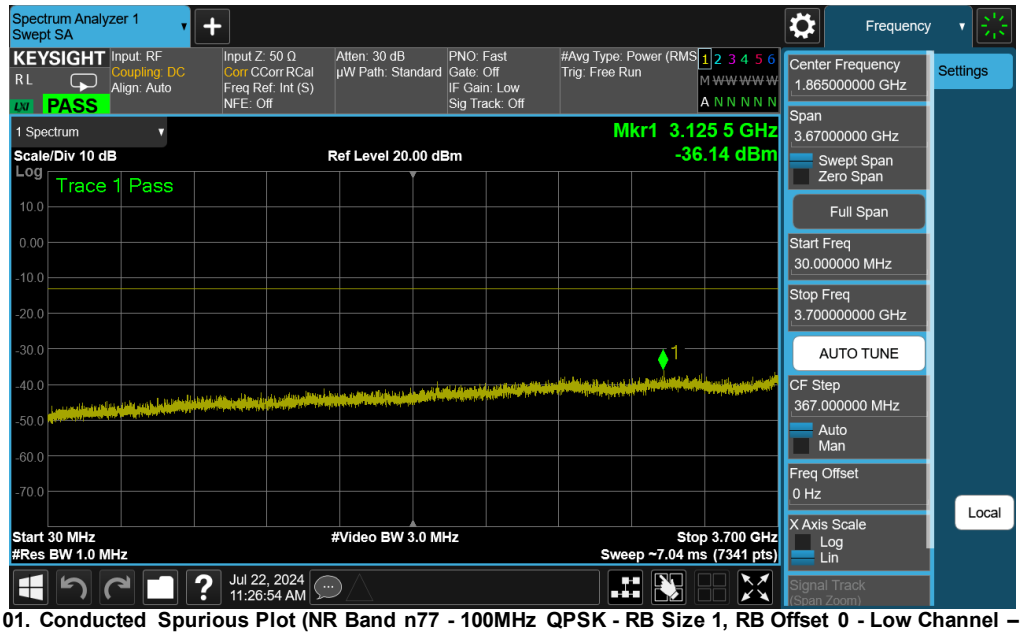



**Plot 7-99. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S3)**

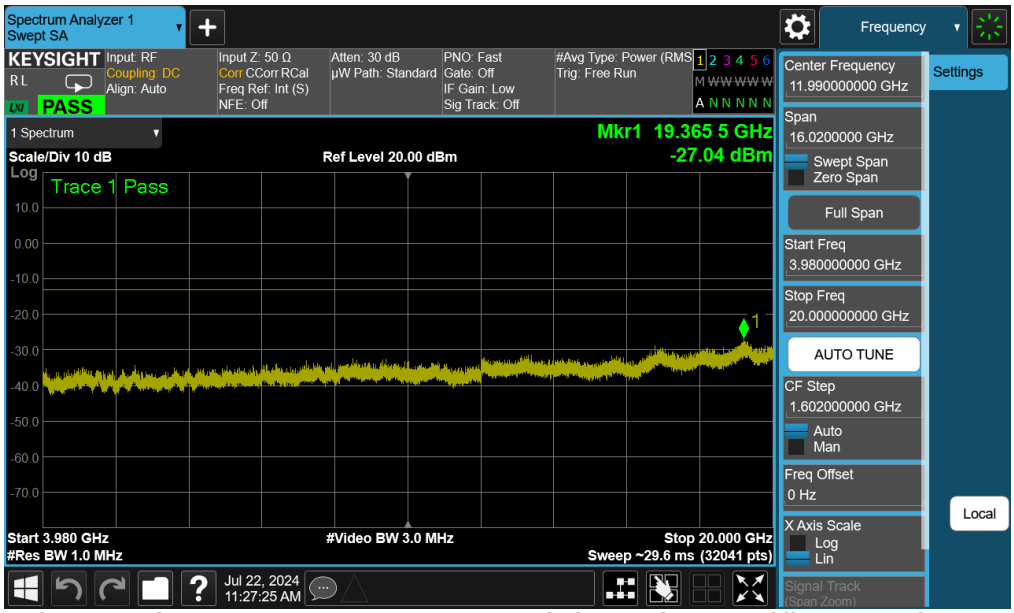



**Plot 7-100. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel – Ant S3)**

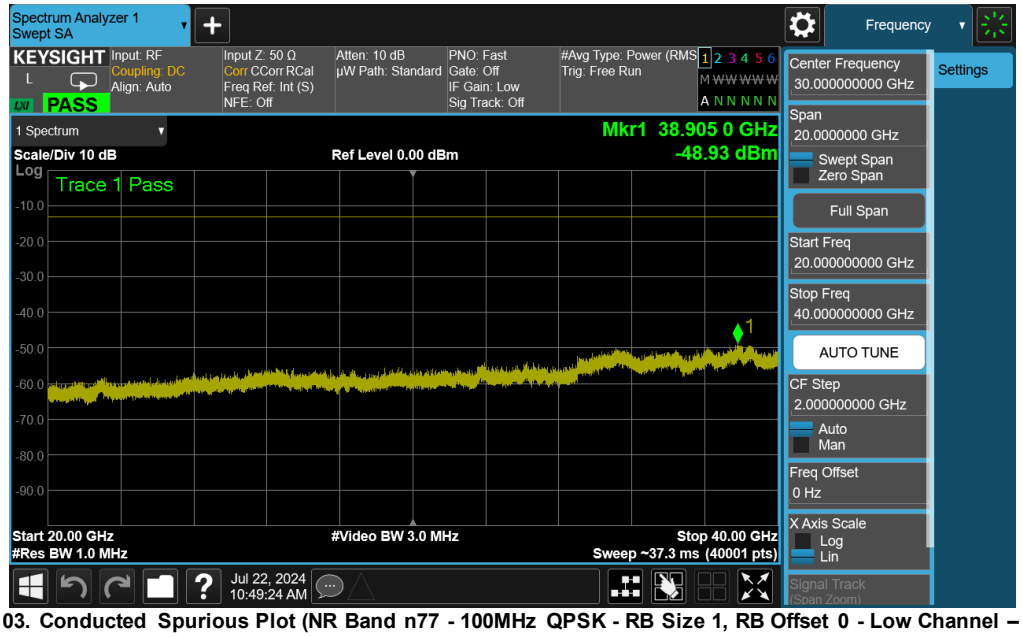
## NR Band n77 C Band – Ant S3




**Plot 7-101. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S3)**




**Plot 7-102. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S3)**




**Plot 7-103. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel – Ant S3)**

## 7.5 Band Edge Emissions at Antenna Terminal

**Test Overview**

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

***For operations in the 3700 – 3980MHz band and the 3450 – 3550MHz band, the maximum permissible conducted power level of any out-of-band emission is -13dBm/MHz.***

**Test Procedure Used**

ANSI C63.26-2015 – Section 5.7.3

**Test Settings**

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW ≥ 1% of the emission bandwidth
4. VBW ≥ 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.

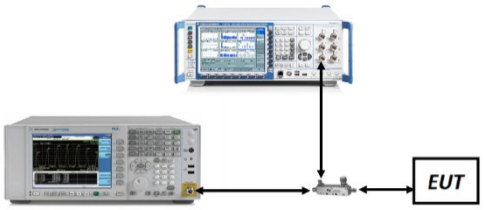



**Figure 7-4. Test Instrument & Measurement Setup**

## Test Notes

1. Per Part 27.53(l), compliance with the -13dBm/MHz conducted power limit for out-of-band emissions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

2. Per Part 27.53(n), compliance with the -13dBm/MHz conducted power limit for out-of-band emissions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

4. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

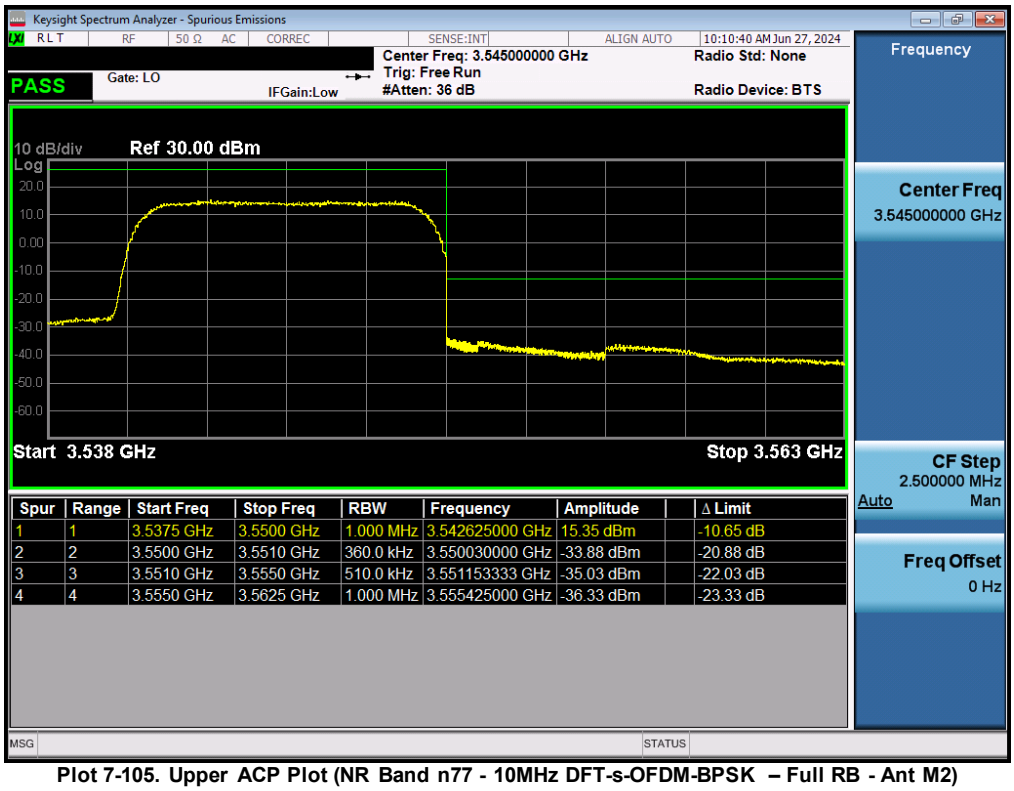
| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Low | Band Edge | -33.77 | -13 | -20.77 |
| | | High | Band Edge | -37.74 | -13 | -24.74 |
| | 90MHz | Low | Band Edge | -33.96 | -13 | -20.96 |
| | | High | Band Edge | -38.47 | -13 | -25.47 |
| | 80MHz | Low | Band Edge | -32.61 | -13 | -19.61 |
| | | High | Band Edge | -38.49 | -13 | -25.49 |
| | 70MHz | Low | Band Edge | -33.80 | -13 | -20.80 |
| | | High | Band Edge | -37.88 | -13 | -24.88 |
| | 60MHz | Low | Band Edge | -34.71 | -13 | -21.71 |
| | | High | Band Edge | -37.35 | -13 | -24.35 |
| | 50MHz | Low | Band Edge | -33.48 | -13 | -20.48 |
| | | High | Band Edge | -37.36 | -13 | -24.36 |
| | 40MHz | Low | Band Edge | -34.69 | -13 | -21.69 |
| | | High | Band Edge | -37.08 | -13 | -24.08 |
| | 30MHz | Low | Band Edge | -32.99 | -13 | -19.99 |
| | | High | Band Edge | -35.90 | -13 | -22.90 |
| | 25MHz | Low | Band Edge | -32.57 | -13 | -19.57 |
| | | High | Band Edge | -35.10 | -13 | -22.10 |
| | 20MHz | Low | Band Edge | -30.52 | -13 | -17.52 |
| | | High | Band Edge | -34.77 | -13 | -21.77 |
| | 15MHz | Low | Band Edge | -29.23 | -13 | -16.23 |
| | | High | Band Edge | -34.91 | -13 | -21.91 |
| | 10MHz | Low | Band Edge | -27.81 | -13 | -14.81 |
| | | High | Band Edge | -33.88 | -13 | -20.88 |

**Table 7-9. Conducted Band Edge Test Results – DoD Band – Ant2 M2**

## NR Band n77 DoD Band – Ant M2


| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.4375 GHz | 3.4450 GHz | 1.000 MHz | 3.444925000 GHz | -29.47 dBm | -16.47 dB |
| 2 | 2 | 3.4450 GHz | 3.4490 GHz | 510.0 kHz | 3.448400000 GHz | -28.18 dBm | -15.18 dB |
| 3 | 3 | 3.4490 GHz | 3.4500 GHz | 360.0 kHz | 3.449981667 GHz | -27.81 dBm | -14.81 dB |
| 4 | 4 | 3.4500 GHz | 3.4625 GHz | 1.000 MHz | 3.453125000 GHz | 14.90 dBm | -11.10 dB |

**Plot 7-104. Lower ACP Plot (NR Band n77 - 10MHz DFT-s-OFDM-BPSK – Full RB - Ant M2)**



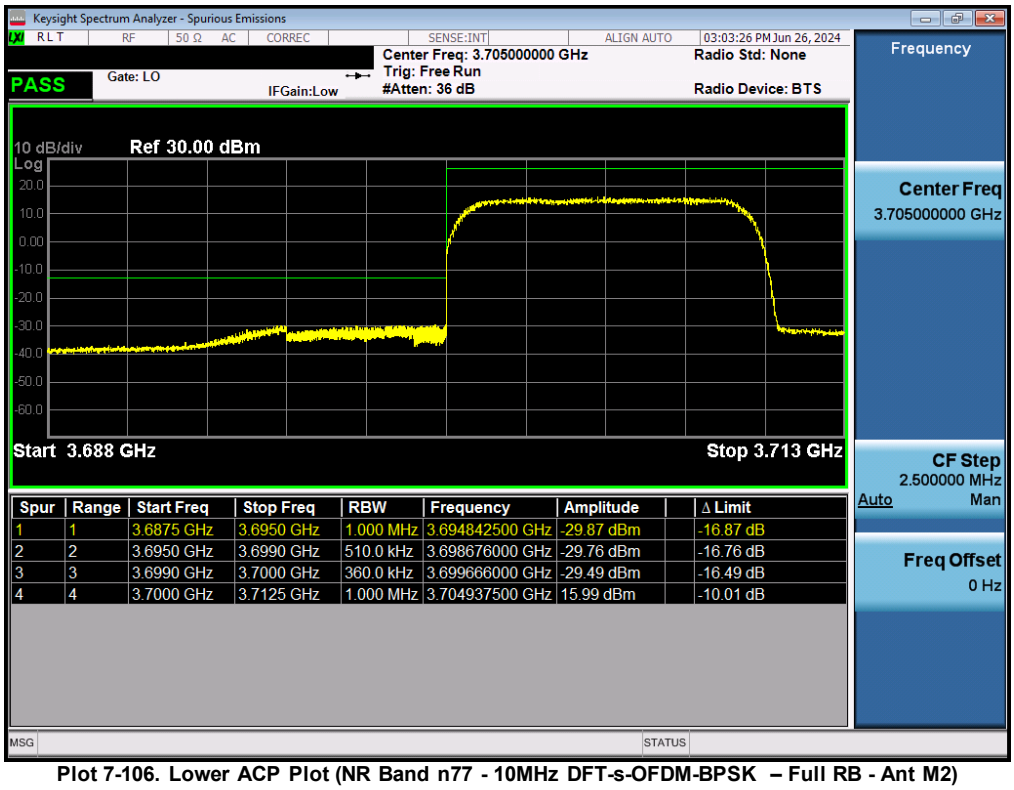

| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.5375 GHz | 3.5500 GHz | 1.000 MHz | 3.542625000 GHz | 15.35 dBm | -10.65 dB |
| 2 | 2 | 3.5500 GHz | 3.5510 GHz | 360.0 kHz | 3.550030000 GHz | -33.88 dBm | -20.88 dB |
| 3 | 3 | 3.5510 GHz | 3.5550 GHz | 510.0 kHz | 3.551153333 GHz | -35.03 dBm | -22.03 dB |
| 4 | 4 | 3.5550 GHz | 3.5625 GHz | 1.000 MHz | 3.555425000 GHz | -36.33 dBm | -23.33 dB |

**Plot 7-105. Upper ACP Plot (NR Band n77 - 10MHz DFT-s-OFDM-BPSK – Full RB - Ant M2)**

| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 C Band | 100MHz | Low | Band Edge | -32.82 | -13 | -19.82 |
| | | High | Band Edge | -36.15 | -13 | -23.15 |
| | 90MHz | Low | Band Edge | -33.99 | -13 | -20.99 |
| | | High | Band Edge | -36.44 | -13 | -23.44 |
| | 80MHz | Low | Band Edge | -34.23 | -13 | -21.23 |
| | | High | Band Edge | -36.09 | -13 | -23.09 |
| | 70MHz | Low | Band Edge | -34.80 | -13 | -21.80 |
| | | High | Band Edge | -36.15 | -13 | -23.15 |
| | 60MHz | Low | Band Edge | -35.33 | -13 | -22.33 |
| | | High | Band Edge | -35.60 | -13 | -22.60 |
| | 50MHz | Low | Band Edge | -34.43 | -13 | -21.43 |
| | | High | Band Edge | -34.24 | -13 | -21.24 |
| | 40MHz | Low | Band Edge | -34.55 | -13 | -21.55 |
| | | High | Band Edge | -33.82 | -13 | -20.82 |
| | 30MHz | Low | Band Edge | -32.78 | -13 | -19.78 |
| | | High | Band Edge | -32.14 | -13 | -19.14 |
| | 25MHz | Low | Band Edge | -32.67 | -13 | -19.67 |
| | | High | Band Edge | -31.90 | -13 | -18.90 |
| | 20MHz | Low | Band Edge | -31.38 | -13 | -18.38 |
| | | High | Band Edge | -31.07 | -13 | -18.07 |
| | 15MHz | Low | Band Edge | -30.10 | -13 | -17.10 |
| | | High | Band Edge | -30.41 | -13 | -17.41 |
| | 10MHz | Low | Band Edge | -29.49 | -13 | -16.49 |
| | | High | Band Edge | -30.50 | -13 | -17.50 |

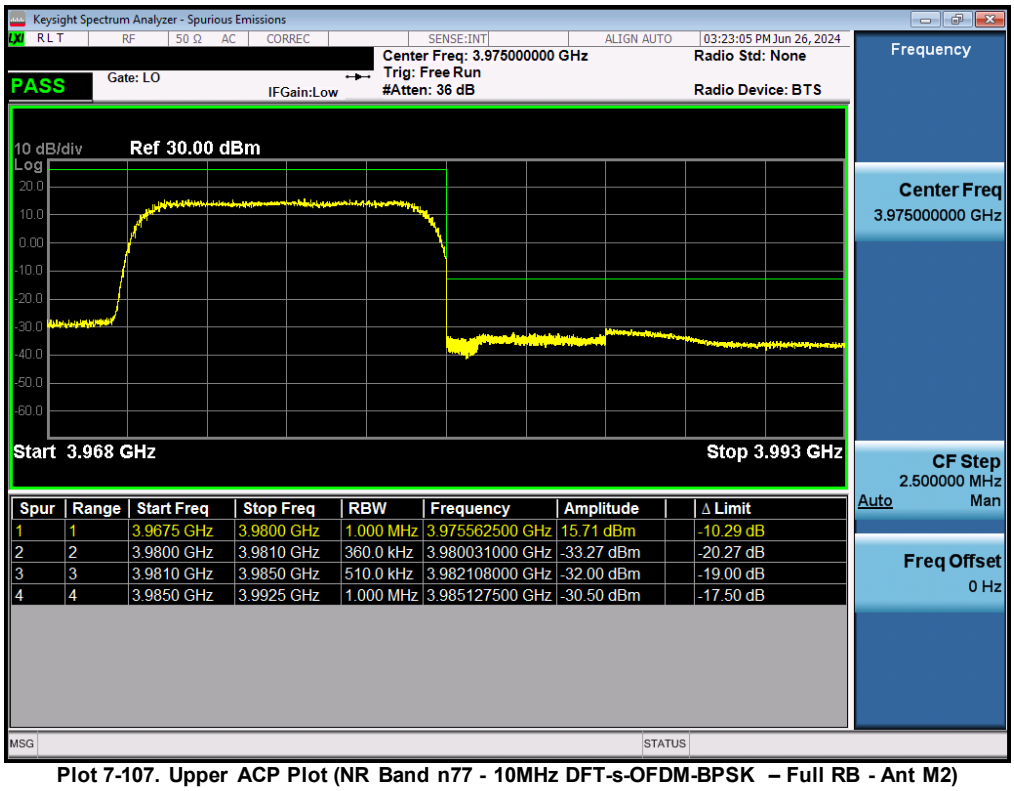
**Table 7-10. Conducted Band Edge Test Results – C Band – Ant2**

## NR Band n77 C Band – Ant M2




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.6875 GHz | 3.6950 GHz | 1.000 MHz | 3.694842500 GHz | -29.87 dBm | -16.87 dB |
| 2 | 2 | 3.6950 GHz | 3.6990 GHz | 510.0 kHz | 3.698676000 GHz | -29.76 dBm | -16.76 dB |
| 3 | 3 | 3.6990 GHz | 3.7000 GHz | 360.0 kHz | 3.699666000 GHz | -29.49 dBm | -16.49 dB |
| 4 | 4 | 3.7000 GHz | 3.7125 GHz | 1.000 MHz | 3.704937500 GHz | 15.99 dBm | -10.01 dB |

**Plot 7-106. Lower ACP Plot (NR Band n77 - 10MHz DFT-s-OFDM-BPSK – Full RB - Ant M2)**



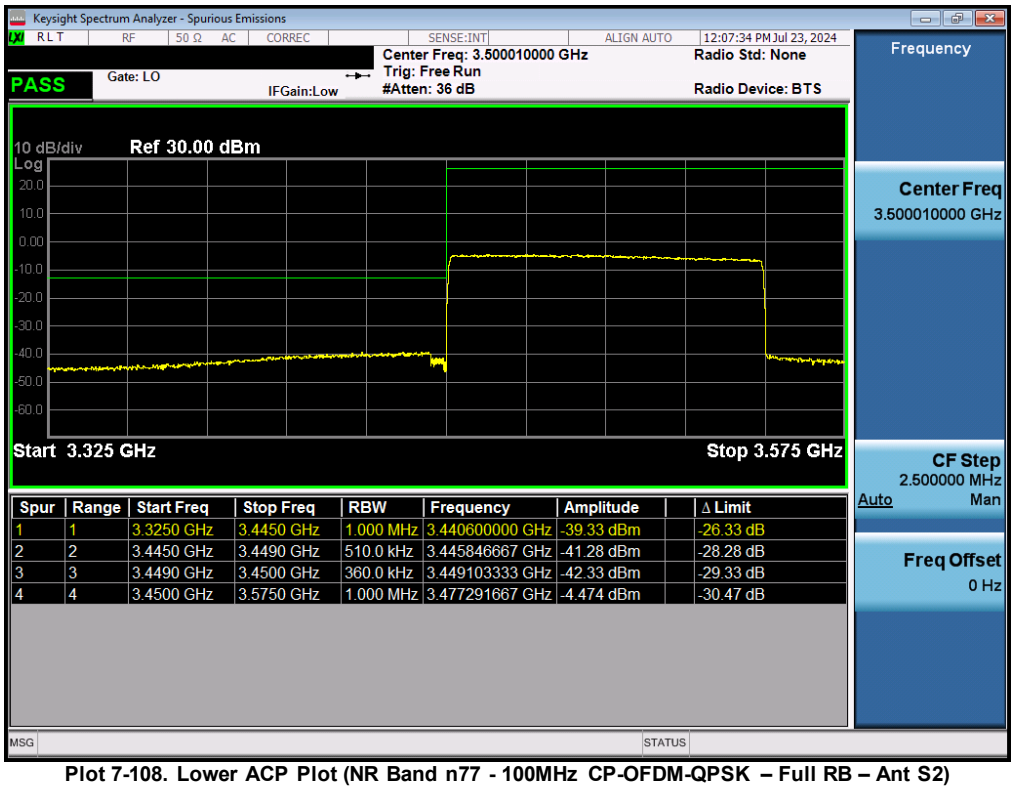

| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.9675 GHz | 3.9800 GHz | 1.000 MHz | 3.975562500 GHz | 15.71 dBm | -10.29 dB |
| 2 | 2 | 3.9800 GHz | 3.9810 GHz | 360.0 kHz | 3.980031000 GHz | -33.27 dBm | -20.27 dB |
| 3 | 3 | 3.9810 GHz | 3.9850 GHz | 510.0 kHz | 3.982108000 GHz | -32.00 dBm | -19.00 dB |
| 4 | 4 | 3.9850 GHz | 3.9925 GHz | 1.000 MHz | 3.985127500 GHz | -30.50 dBm | -17.50 dB |

**Plot 7-107. Upper ACP Plot (NR Band n77 - 10MHz DFT-s-OFDM-BPSK – Full RB - Ant M2)**

| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Low | Band Edge | -39.33 | -13 | -26.33 |
| | | High | Band Edge | -40.59 | -13 | -27.59 |

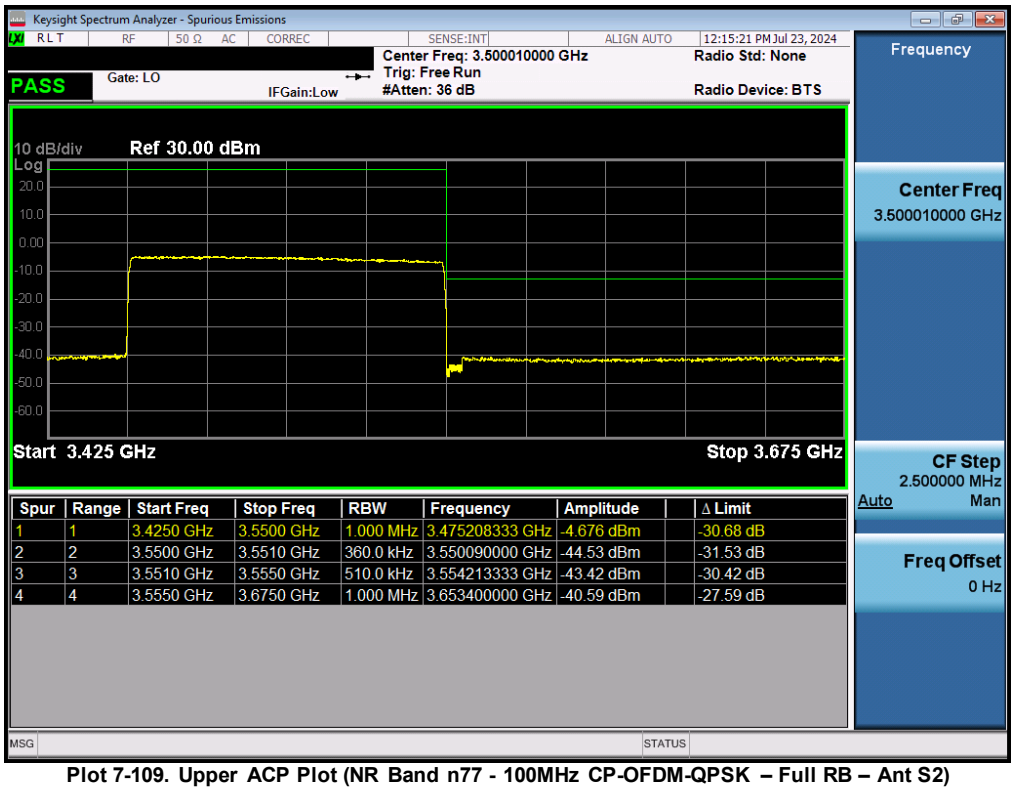
**Table 7-11. Conducted Band Edge Test Results – DoD Band – Ant S2**

## NR Band n77 DoD Band – Ant S2




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.3250 GHz | 3.4450 GHz | 1.000 MHz | 3.440600000 GHz | -39.33 dBm | -26.33 dB |
| 2 | 2 | 3.4450 GHz | 3.4490 GHz | 510.0 kHz | 3.445846667 GHz | -41.28 dBm | -28.28 dB |
| 3 | 3 | 3.4490 GHz | 3.4500 GHz | 360.0 kHz | 3.449103333 GHz | -42.33 dBm | -29.33 dB |
| 4 | 4 | 3.4500 GHz | 3.5750 GHz | 1.000 MHz | 3.477291667 GHz | -4.474 dBm | -30.47 dB |

**Plot 7-108. Lower ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S2)**



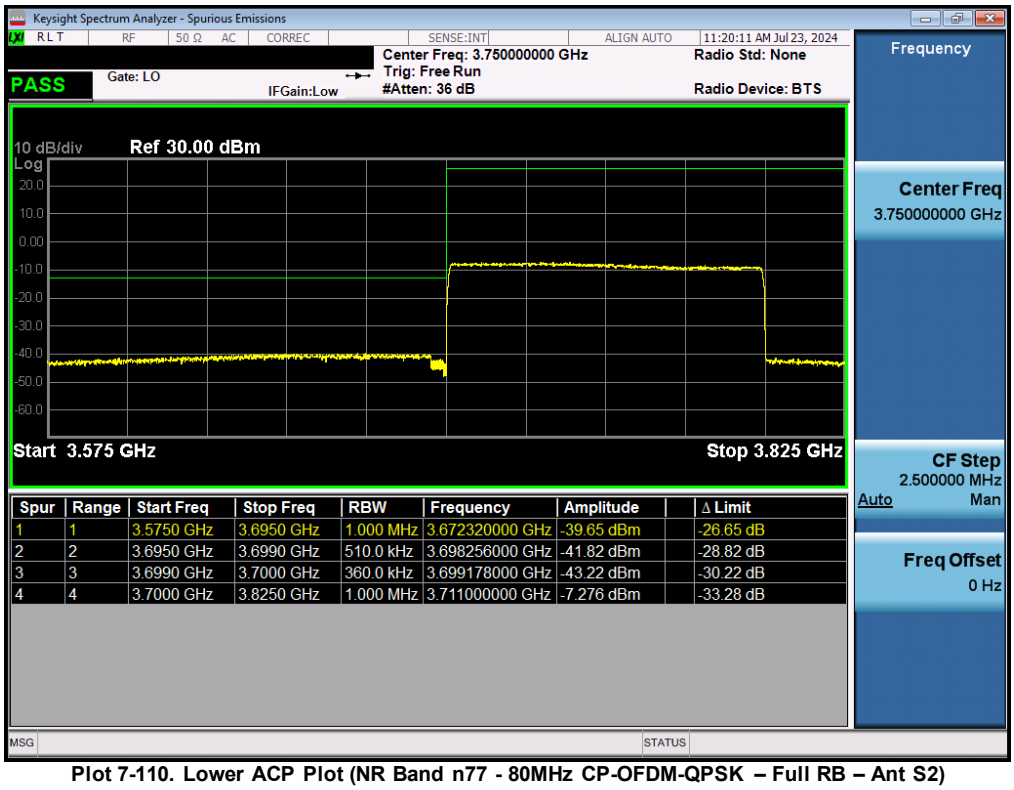

| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.4250 GHz | 3.5500 GHz | 1.000 MHz | 3.475208333 GHz | -4.676 dBm | -30.68 dB |
| 2 | 2 | 3.5500 GHz | 3.5510 GHz | 360.0 kHz | 3.550090000 GHz | -44.53 dBm | -31.53 dB |
| 3 | 3 | 3.5510 GHz | 3.5550 GHz | 510.0 kHz | 3.554213333 GHz | -43.42 dBm | -30.42 dB |
| 4 | 4 | 3.5550 GHz | 3.6750 GHz | 1.000 MHz | 3.653400000 GHz | -40.59 dBm | -27.59 dB |

**Plot 7-109. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S2)**

| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 C Band | 100MHz | Low | Band Edge | -39.65 | -13 | -26.65 |
| | | High | Band Edge | -29.82 | -13 | -16.82 |

**Table 7-12. Conducted Band Edge Test Results – C Band – Ant S2**

## NR Band n77 C Band – Ant S2



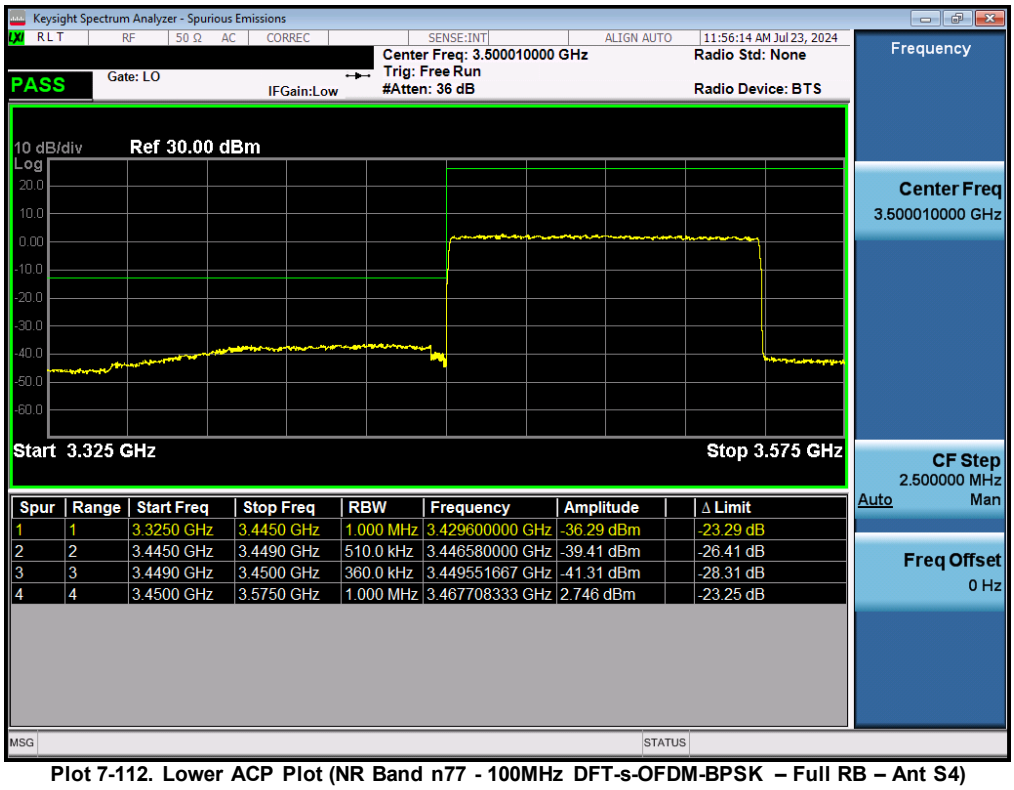

**Plot 7-110. Lower ACP Plot (NR Band n77 - 80MHz CP-OFDM-QPSK – Full RB – Ant S2)**


**Plot 7-111. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S2)**

| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Low | Band Edge | -36.29 | -13 | -23.29 |
| | | High | Band Edge | -39.13 | -13 | -26.13 |
| NR-n77 PC2 C Band | 100MHz | Low | Band Edge | -36.56 | -13 | -23.56 |
| | | High | Band Edge | -36.63 | -13 | -23.63 |

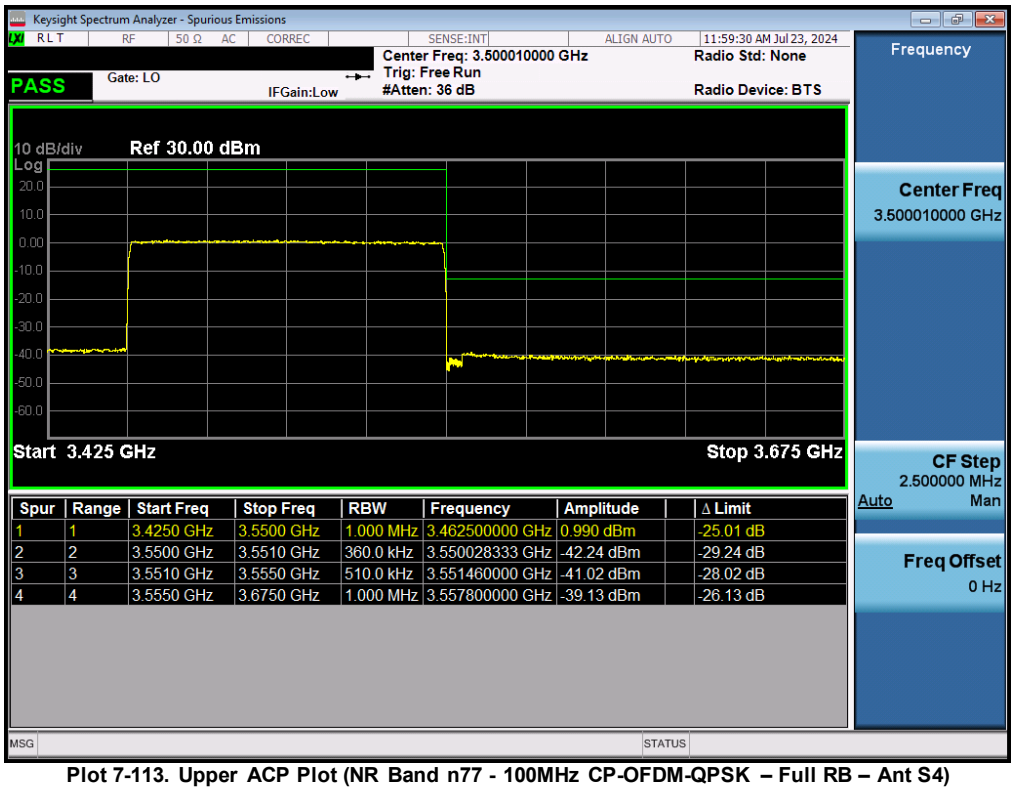
**Table 7-13. Conducted Band Edge Test Results – Ant S4**

## NR Band n77 DoD Band – Ant S4




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.3250 GHz | 3.4450 GHz | 1.000 MHz | 3.429600000 GHz | -36.29 dBm | -23.29 dB |
| 2 | 2 | 3.4450 GHz | 3.4490 GHz | 510.0 kHz | 3.446580000 GHz | -39.41 dBm | -26.41 dB |
| 3 | 3 | 3.4490 GHz | 3.4500 GHz | 360.0 kHz | 3.449551667 GHz | -41.31 dBm | -28.31 dB |
| 4 | 4 | 3.4500 GHz | 3.5750 GHz | 1.000 MHz | 3.467708333 GHz | 2.746 dBm | -23.25 dB |

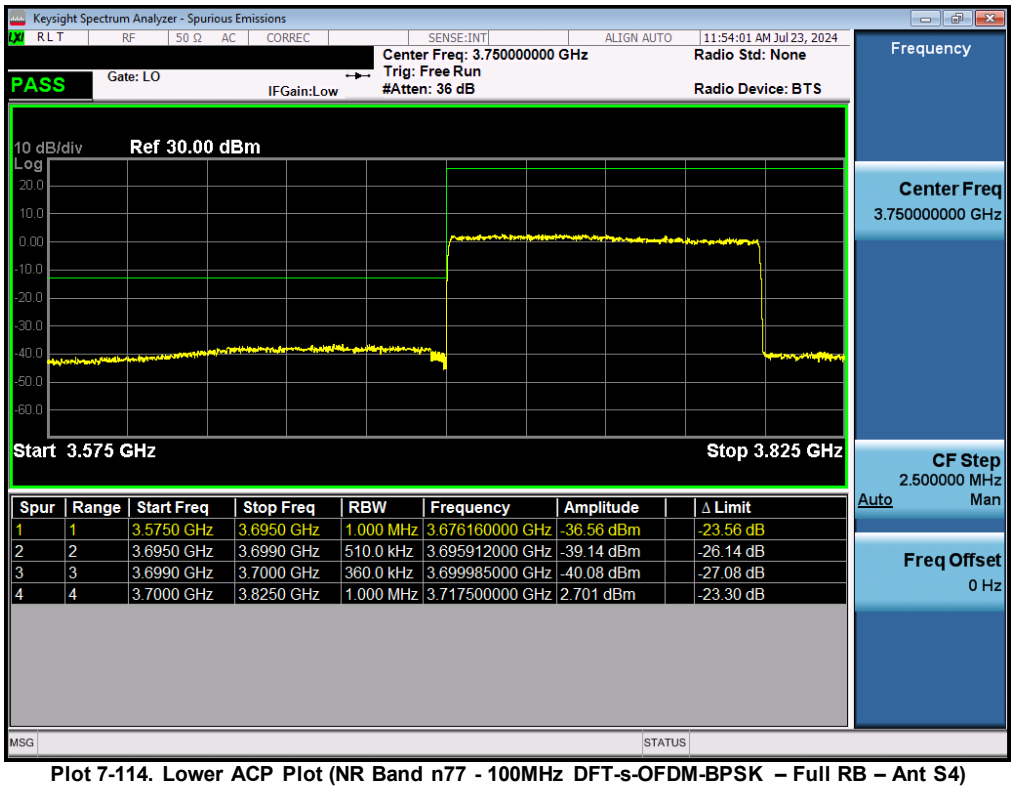
**Plot 7-112. Lower ACP Plot (NR Band n77 - 100MHz DFT-s-OFDM-BPSK – Full RB – Ant S4)**




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.4250 GHz | 3.5500 GHz | 1.000 MHz | 3.462500000 GHz | 0.990 dBm | -25.01 dB |
| 2 | 2 | 3.5500 GHz | 3.5510 GHz | 360.0 kHz | 3.550028333 GHz | -42.24 dBm | -29.24 dB |
| 3 | 3 | 3.5510 GHz | 3.5550 GHz | 510.0 kHz | 3.551460000 GHz | -41.02 dBm | -28.02 dB |
| 4 | 4 | 3.5550 GHz | 3.6750 GHz | 1.000 MHz | 3.557800000 GHz | -39.13 dBm | -26.13 dB |

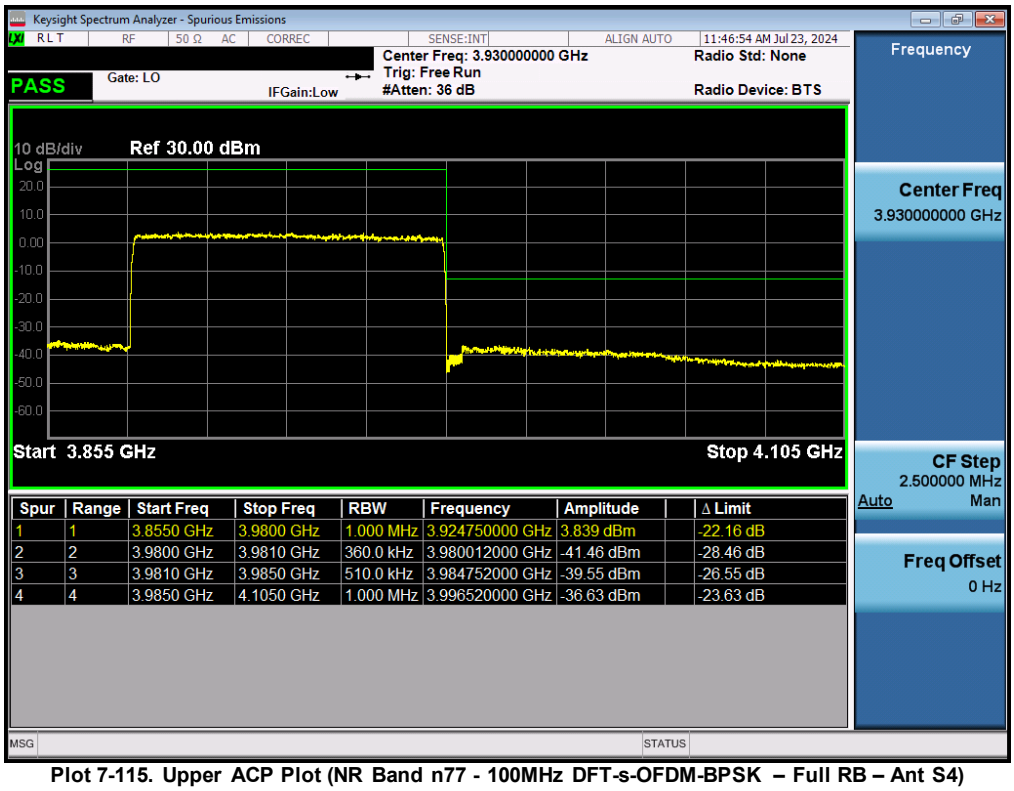
**Plot 7-113. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S4)**

## NR Band n77 C Band – Ant S4




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.5750 GHz | 3.6950 GHz | 1.000 MHz | 3.676160000 GHz | -36.56 dBm | -23.56 dB |
| 2 | 2 | 3.6950 GHz | 3.6990 GHz | 510.0 kHz | 3.695912000 GHz | -39.14 dBm | -26.14 dB |
| 3 | 3 | 3.6990 GHz | 3.7000 GHz | 360.0 kHz | 3.699985000 GHz | -40.08 dBm | -27.08 dB |
| 4 | 4 | 3.7000 GHz | 3.8250 GHz | 1.000 MHz | 3.717500000 GHz | 2.701 dBm | -23.30 dB |

**Plot 7-114. Lower ACP Plot (NR Band n77 - 100MHz DFT-s-OFDM-BPSK – Full RB – Ant S4)**



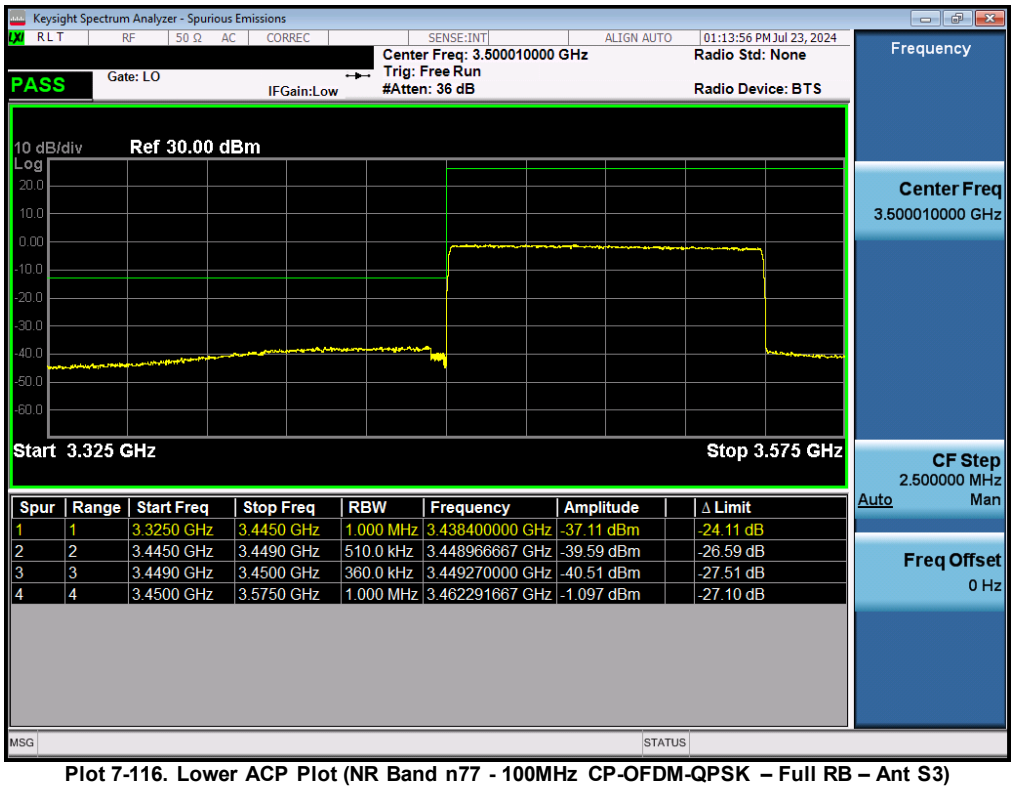

| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.8550 GHz | 3.9800 GHz | 1.000 MHz | 3.924750000 GHz | 3.839 dBm | -22.16 dB |
| 2 | 2 | 3.9800 GHz | 3.9810 GHz | 360.0 kHz | 3.980012000 GHz | -41.46 dBm | -28.46 dB |
| 3 | 3 | 3.9810 GHz | 3.9850 GHz | 510.0 kHz | 3.984752000 GHz | -39.55 dBm | -26.55 dB |
| 4 | 4 | 3.9850 GHz | 4.1050 GHz | 1.000 MHz | 3.996520000 GHz | -36.63 dBm | -23.63 dB |

**Plot 7-115. Upper ACP Plot (NR Band n77 - 100MHz DFT-s-OFDM-BPSK – Full RB – Ant S4)**

| Mode | Bandwidth | Channel | Test Case | Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|
| NR-n77 PC2 DoD Band | 100MHz | Low | Band Edge | -37.11 | -13 | -24.11 |
| | | High | Band Edge | -38.78 | -13 | -25.78 |
| NR-n77 PC2 C Band | 100MHz | Low | Band Edge | -36.87 | -13 | -23.87 |
| | | High | Band Edge | -34.99 | -13 | -21.99 |

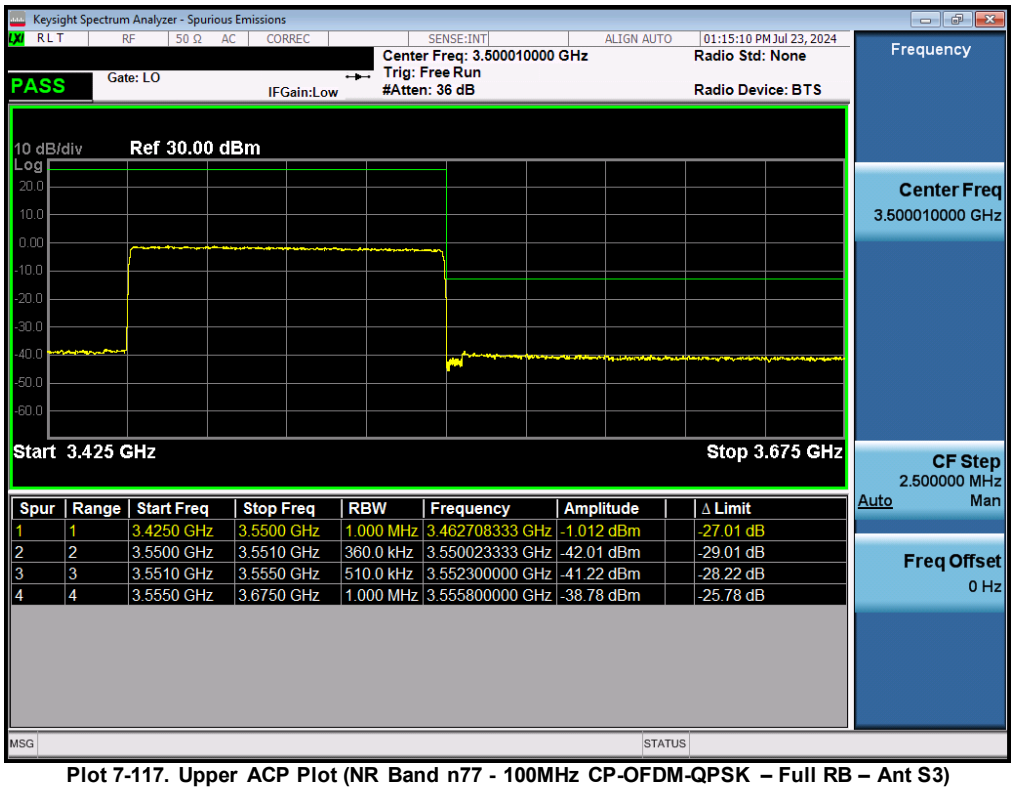
**Table 7-14. Conducted Band Edge Test Results – Ant S3**

## NR Band n77 DoD Band – Ant S3




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.3250 GHz | 3.4450 GHz | 1.000 MHz | 3.438400000 GHz | -37.11 dBm | -24.11 dB |
| 2 | 2 | 3.4450 GHz | 3.4490 GHz | 510.0 kHz | 3.448966667 GHz | -39.59 dBm | -26.59 dB |
| 3 | 3 | 3.4490 GHz | 3.4500 GHz | 360.0 kHz | 3.449270000 GHz | -40.51 dBm | -27.51 dB |
| 4 | 4 | 3.4500 GHz | 3.5750 GHz | 1.000 MHz | 3.462291667 GHz | -1.097 dBm | -27.10 dB |

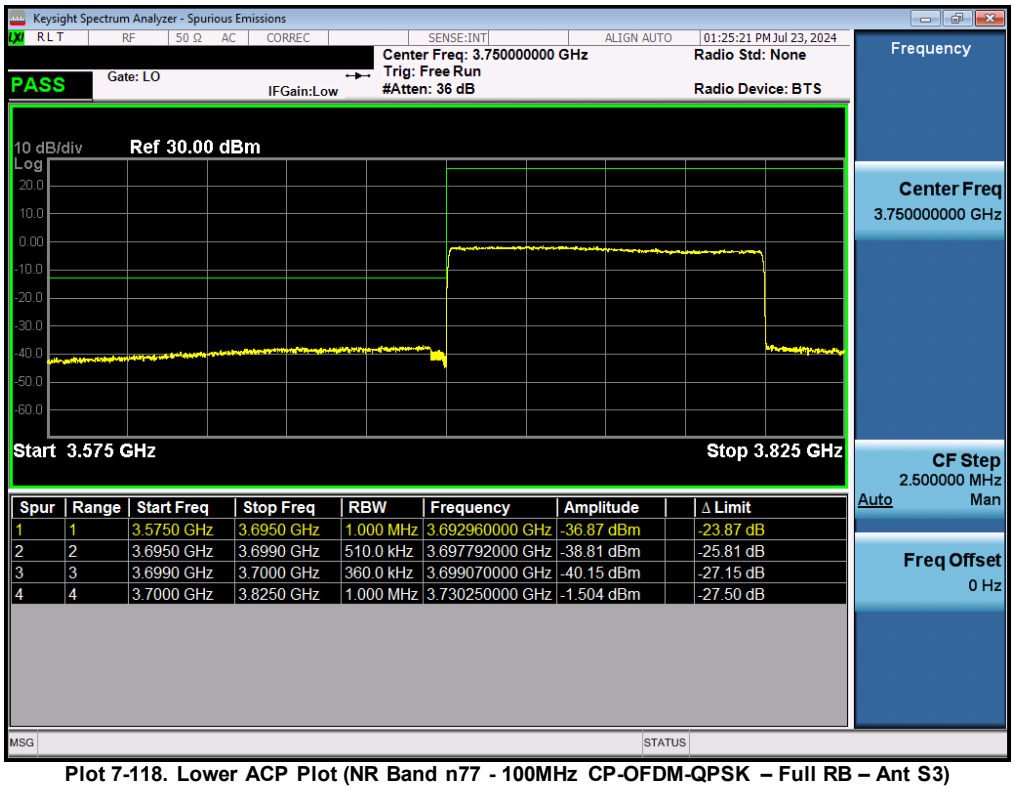
**Plot 7-116. Lower ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S3)**




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.4250 GHz | 3.5500 GHz | 1.000 MHz | 3.462708333 GHz | -1.012 dBm | -27.01 dB |
| 2 | 2 | 3.5500 GHz | 3.5510 GHz | 360.0 kHz | 3.550023333 GHz | -42.01 dBm | -29.01 dB |
| 3 | 3 | 3.5510 GHz | 3.5550 GHz | 510.0 kHz | 3.552300000 GHz | -41.22 dBm | -28.22 dB |
| 4 | 4 | 3.5550 GHz | 3.6750 GHz | 1.000 MHz | 3.555800000 GHz | -38.78 dBm | -25.78 dB |

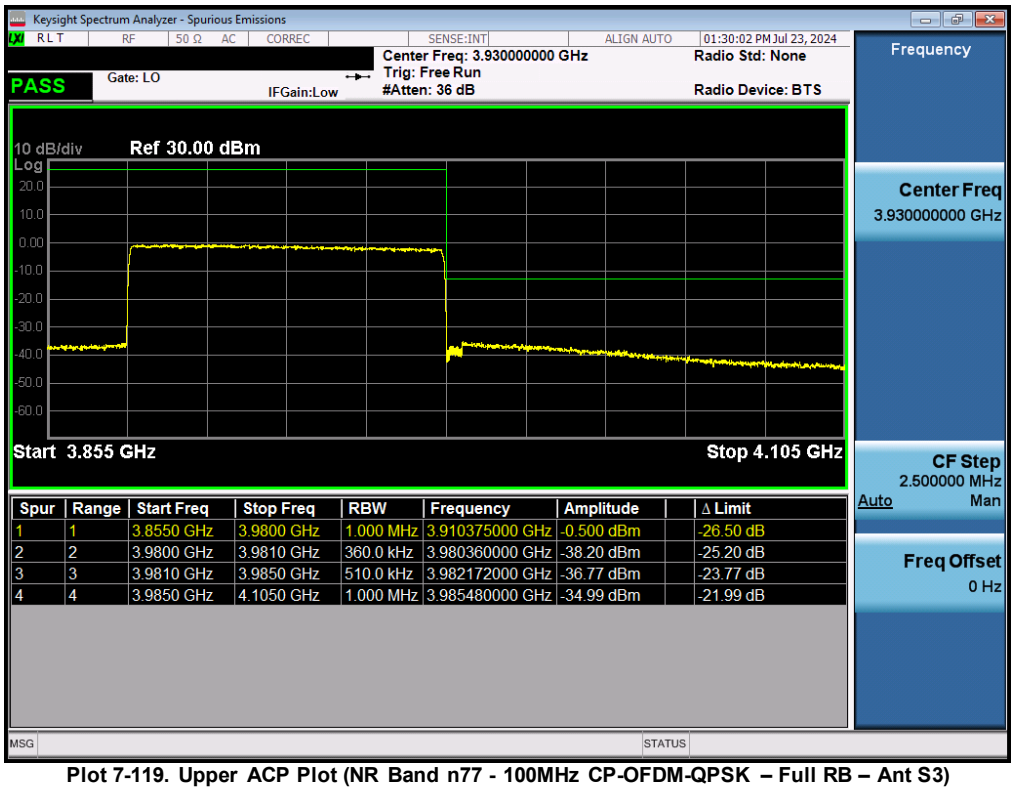
**Plot 7-117. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S3)**

## NR Band n77 C Band – Ant S3




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.5750 GHz | 3.6950 GHz | 1.000 MHz | 3.692960000 GHz | -36.87 dBm | -23.87 dB |
| 2 | 2 | 3.6950 GHz | 3.6990 GHz | 510.0 kHz | 3.697792000 GHz | -38.81 dBm | -25.81 dB |
| 3 | 3 | 3.6990 GHz | 3.7000 GHz | 360.0 kHz | 3.699070000 GHz | -40.15 dBm | -27.15 dB |
| 4 | 4 | 3.7000 GHz | 3.8250 GHz | 1.000 MHz | 3.730250000 GHz | -1.504 dBm | -27.50 dB |

**Plot 7-118. Lower ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S3)**




| Spur | Range | Start Freq | Stop Freq | RBW | Frequency | Amplitude | Δ Limit |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.8550 GHz | 3.9800 GHz | 1.000 MHz | 3.910375000 GHz | -0.500 dBm | -26.50 dB |
| 2 | 2 | 3.9800 GHz | 3.9810 GHz | 360.0 kHz | 3.980360000 GHz | -38.20 dBm | -25.20 dB |
| 3 | 3 | 3.9810 GHz | 3.9850 GHz | 510.0 kHz | 3.982172000 GHz | -36.77 dBm | -23.77 dB |
| 4 | 4 | 3.9850 GHz | 4.1050 GHz | 1.000 MHz | 3.985480000 GHz | -34.99 dBm | -21.99 dB |

**Plot 7-119. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB – Ant S3)**

## 7.6 Radiated Power (EIRP)

**Test Overview**

Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

**Test Procedures Used**

ANSI C63.26-2015 – Section 5.2.4.4

**Test Settings**

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration.
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize.

## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

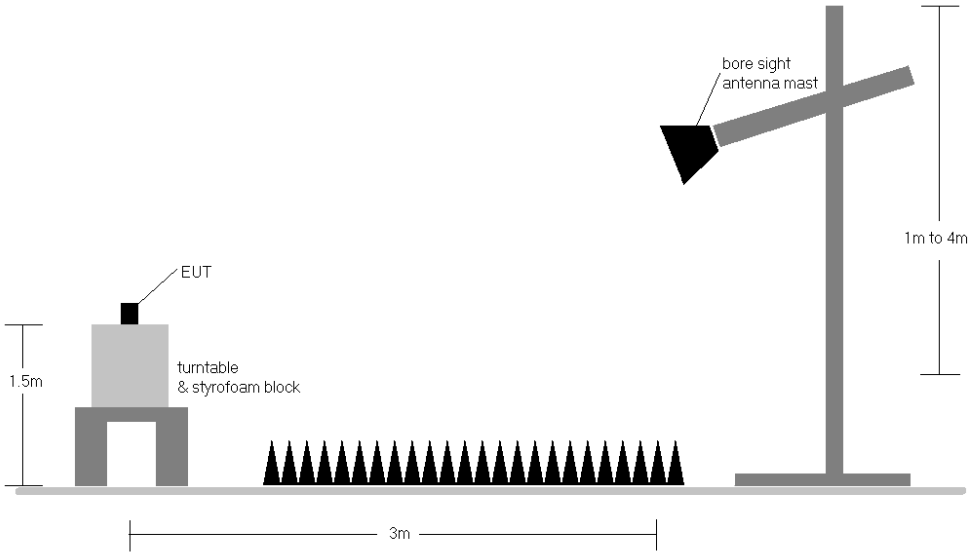



**Figure 7-5. Radiated Test Setup >1GHz**

## Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst-case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) This unit was tested with its standard battery.

3) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

| Bandwidth | Mod. | Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Ant. Gain [dBi] | RB Size/Offset | Substitute Level [dBm] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 MHz | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 271 | 19.04 | **28.75** | 0.750 | 30.00 | -1.25 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 271 | 18.60 | 28.31 | 0.678 | 30.00 | -1.69 |
| | 16-QAM | 3500.01 | H | 101 | 293 | 9.71 | 1 / 271 | 17.31 | 27.02 | 0.504 | 30.00 | -2.98 |
| 90 MHz | π/2 BPSK | 3495.00 | H | 101 | 293 | 9.71 | 1 / 122 | 19.10 | 28.81 | 0.760 | 30.00 | -1.19 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 122 | 19.12 | 28.83 | 0.764 | 30.00 | -1.17 |
| | π/2 BPSK | 3504.99 | H | 101 | 293 | 9.71 | 1 / 122 | 19.17 | **28.88** | 0.773 | 30.00 | -1.12 |
| | QPSK | 3495.00 | H | 101 | 293 | 9.71 | 1 / 122 | 18.58 | 28.29 | 0.675 | 30.00 | -1.71 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 122 | 18.59 | 28.30 | 0.676 | 30.00 | -1.70 |
| | QPSK | 3504.99 | H | 101 | 293 | 9.71 | 1 / 122 | 18.57 | 28.28 | 0.673 | 30.00 | -1.72 |
| | 16-QAM | 3495.00 | H | 101 | 293 | 9.71 | 1 / 122 | 17.14 | 26.85 | 0.484 | 30.00 | -3.15 |
| 80 MHz | π/2 BPSK | 3490.02 | H | 101 | 293 | 9.72 | 1 / 215 | 19.10 | 28.82 | 0.762 | 30.00 | -1.18 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 108 | 19.10 | 28.81 | 0.760 | 30.00 | -1.19 |
| | π/2 BPSK | 3510.00 | H | 101 | 293 | 9.71 | 1 / 108 | 19.13 | **28.84** | 0.766 | 30.00 | -1.16 |
| | QPSK | 3490.02 | H | 101 | 293 | 9.72 | 1 / 108 | 18.56 | 28.28 | 0.673 | 30.00 | -1.72 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 108 | 18.76 | 28.47 | 0.703 | 30.00 | -1.53 |
| | QPSK | 3510.00 | H | 101 | 293 | 9.71 | 1 / 215 | 18.57 | 28.28 | 0.673 | 30.00 | -1.72 |
| | 16-QAM | 3510.00 | H | 101 | 293 | 9.71 | 1 / 108 | 17.63 | 27.34 | 0.542 | 30.00 | -2.66 |
| 70 MHz | π/2 BPSK | 3485.01 | H | 101 | 293 | 9.72 | 1 / 94 | 19.04 | 28.76 | 0.752 | 30.00 | -1.24 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 94 | 19.13 | **28.84** | 0.766 | 30.00 | -1.16 |
| | π/2 BPSK | 3514.98 | H | 101 | 293 | 9.71 | 1 / 94 | 19.11 | 28.82 | 0.762 | 30.00 | -1.18 |
| | QPSK | 3485.01 | H | 101 | 293 | 9.72 | 1 / 187 | 18.59 | 28.31 | 0.678 | 30.00 | -1.69 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 94 | 18.68 | 28.39 | 0.690 | 30.00 | -1.61 |
| | QPSK | 3514.98 | H | 101 | 293 | 9.71 | 1 / 94 | 18.67 | 28.38 | 0.689 | 30.00 | -1.62 |
| | 16-QAM | 3514.98 | H | 101 | 293 | 9.71 | 1 / 94 | 17.48 | 27.19 | 0.524 | 30.00 | -2.81 |
| 60 MHz | π/2 BPSK | 3480.00 | H | 101 | 293 | 9.72 | 1 / 81 | 19.13 | 28.85 | 0.767 | 30.00 | -1.15 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 81 | 19.09 | 28.80 | 0.759 | 30.00 | -1.20 |
| | π/2 BPSK | 3519.99 | H | 101 | 293 | 9.70 | 1 / 81 | 19.23 | **28.93** | 0.782 | 30.00 | -1.07 |
| | QPSK | 3480.00 | H | 101 | 293 | 9.72 | 1 / 81 | 18.79 | 28.51 | 0.710 | 30.00 | -1.49 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 81 | 18.69 | 28.40 | 0.692 | 30.00 | -1.60 |
| | QPSK | 3519.99 | H | 101 | 293 | 9.70 | 1 / 81 | 18.65 | 28.35 | 0.684 | 30.00 | -1.65 |
| | 16-QAM | 3519.99 | H | 101 | 293 | 9.70 | 1 / 81 | 17.69 | 27.39 | 0.548 | 30.00 | -2.61 |
| 50 MHz | π/2 BPSK | 3475.02 | H | 101 | 293 | 9.73 | 1 / 1 | 19.14 | 28.87 | 0.771 | 30.00 | -1.13 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 66 | 19.03 | 28.74 | 0.748 | 30.00 | -1.26 |
| | π/2 BPSK | 3525.00 | H | 101 | 293 | 9.70 | 1 / 131 | 19.23 | **28.93** | 0.782 | 30.00 | -1.07 |
| | QPSK | 3475.02 | H | 101 | 293 | 9.73 | 1 / 131 | 18.80 | 28.53 | 0.713 | 30.00 | -1.47 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 66 | 18.72 | 28.43 | 0.697 | 30.00 | -1.57 |
| | QPSK | 3525.00 | H | 101 | 293 | 9.70 | 1 / 66 | 18.74 | 28.44 | 0.698 | 30.00 | -1.56 |
| | 16-QAM | 3525.00 | H | 101 | 293 | 9.70 | 1 / 131 | 17.70 | 27.40 | 0.550 | 30.00 | -2.60 |
| 40 MHz | π/2 BPSK | 3470.01 | H | 101 | 293 | 9.73 | 1 / 1 | 19.12 | 28.85 | 0.767 | 30.00 | -1.15 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 1 | 19.04 | 28.75 | 0.750 | 30.00 | -1.25 |
| | π/2 BPSK | 3529.98 | H | 101 | 293 | 9.70 | 1 / 1 | 19.25 | **28.95** | 0.785 | 30.00 | -1.05 |
| | QPSK | 3470.01 | H | 101 | 293 | 9.73 | 1 / 1 | 18.69 | 28.42 | 0.695 | 30.00 | -1.58 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 1 | 18.66 | 28.37 | 0.687 | 30.00 | -1.63 |
| | QPSK | 3529.98 | H | 101 | 293 | 9.70 | 1 / 104 | 18.75 | 28.45 | 0.700 | 30.00 | -1.55 |
| | 16-QAM | 3529.98 | H | 101 | 293 | 9.70 | 1 / 1 | 17.86 | 27.56 | 0.570 | 30.00 | -2.44 |
| 30 MHz | π/2 BPSK | 3465.00 | H | 101 | 293 | 9.73 | 1 / 1 | 19.12 | 28.85 | 0.767 | 30.00 | -1.15 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 1 | 19.10 | 28.81 | 0.760 | 30.00 | -1.19 |
| | π/2 BPSK | 3534.99 | H | 101 | 293 | 9.70 | 1 / 39 | 19.23 | **28.93** | 0.782 | 30.00 | -1.07 |
| | QPSK | 3465.00 | H | 101 | 293 | 9.73 | 1 / 1 | 18.63 | 28.36 | 0.686 | 30.00 | -1.64 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 39 | 18.66 | 28.37 | 0.687 | 30.00 | -1.63 |
| | QPSK | 3534.99 | H | 101 | 293 | 9.70 | 1 / 1 | 18.71 | 28.41 | 0.694 | 30.00 | -1.59 |
| | 16-QAM | 3534.99 | H | 101 | 293 | 9.70 | 1 / 39 | 17.14 | 26.84 | 0.483 | 30.00 | -3.16 |
| 25 MHz | π/2 BPSK | 3462.51 | H | 101 | 293 | 9.74 | 1 / 1 | 19.09 | 28.83 | 0.764 | 30.00 | -1.17 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 63 | 19.14 | 28.85 | 0.767 | 30.00 | -1.15 |
| | π/2 BPSK | 3537.48 | H | 101 | 293 | 9.70 | 1 / 1 | 19.25 | **28.95** | 0.785 | 30.00 | -1.05 |
| | QPSK | 3462.51 | H | 101 | 293 | 9.74 | 1 / 1 | 18.77 | 28.51 | 0.710 | 30.00 | -1.49 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 63 | 18.82 | 28.53 | 0.713 | 30.00 | -1.47 |
| | QPSK | 3537.48 | H | 101 | 293 | 9.70 | 1 / 1 | 18.86 | 28.56 | 0.718 | 30.00 | -1.44 |
| | 16-QAM | 3500.01 | H | 101 | 293 | 9.71 | 1 / 63 | 17.63 | 27.34 | 0.542 | 30.00 | -2.66 |
| 20 MHz | π/2 BPSK | 3460.02 | H | 101 | 293 | 9.74 | 1 / 25 | 19.19 | 28.93 | 0.782 | 30.00 | -1.07 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 1 | 19.15 | 28.86 | 0.769 | 30.00 | -1.14 |
| | π/2 BPSK | 3540.00 | H | 101 | 293 | 9.70 | 1 / 1 | 19.24 | **28.94** | 0.784 | 30.00 | -1.06 |
| | QPSK | 3460.02 | H | 101 | 293 | 9.74 | 1 / 1 | 18.78 | 28.52 | 0.711 | 30.00 | -1.48 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 49 | 18.89 | 28.60 | 0.725 | 30.00 | -1.40 |
| | QPSK | 3540.00 | H | 101 | 293 | 9.70 | 1 / 49 | 18.93 | 28.63 | 0.730 | 30.00 | -1.37 |
| | 16-QAM | 3540.00 | H | 101 | 293 | 9.70 | 1 / 49 | 18.01 | 27.71 | 0.590 | 30.00 | -2.29 |
| 15 MHz | π/2 BPSK | 3457.50 | H | 101 | 293 | 9.74 | 1 / 36 | 19.15 | 28.89 | 0.775 | 30.00 | -1.11 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 36 | 19.27 | **28.98** | 0.791 | 30.00 | -1.02 |
| | π/2 BPSK | 3542.49 | H | 101 | 293 | 9.70 | 1 / 36 | 19.17 | 28.87 | 0.771 | 30.00 | -1.13 |
| | QPSK | 3457.50 | H | 101 | 293 | 9.74 | 1 / 1 | 18.58 | 28.32 | 0.679 | 30.00 | -1.68 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 19 | 18.67 | 28.38 | 0.689 | 30.00 | -1.62 |
| | QPSK | 3542.49 | H | 101 | 293 | 9.70 | 1 / 36 | 18.78 | 28.48 | 0.705 | 30.00 | -1.52 |
| | 16-QAM | 3542.49 | H | 101 | 293 | 9.70 | 1 / 36 | 17.91 | 27.61 | 0.577 | 30.00 | -2.39 |
| 10 MHz | π/2 BPSK | 3455.01 | H | 101 | 293 | 9.74 | 1 / 22 | 19.03 | 28.77 | 0.753 | 30.00 | -1.23 |
| | π/2 BPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 1 | 19.27 | **28.98** | 0.791 | 30.00 | -1.02 |
| | π/2 BPSK | 3544.98 | H | 101 | 293 | 9.70 | 1 / 22 | 19.06 | 28.76 | 0.752 | 30.00 | -1.24 |
| | QPSK | 3455.01 | H | 101 | 293 | 9.74 | 1 / 22 | 19.03 | 28.77 | 0.753 | 30.00 | -1.23 |
| | QPSK | 3500.01 | H | 101 | 293 | 9.71 | 1 / 12 | 18.78 | 28.49 | 0.706 | 30.00 | -1.51 |
| | QPSK | 3544.98 | H | 101 | 293 | 9.70 | 1 / 1 | 18.65 | 28.35 | 0.684 | 30.00 | -1.65 |
| | 16-QAM | 3544.98 | H | 101 | 293 | 9.70 | 1 / 1 | 17.52 | 27.22 | 0.527 | 30.00 | -2.78 |
| 100 MHz | QPSK (CP-OFDM) | 3500.0 | H | 101 | 293 | 9.71 | 1 / 22 | 16.98 | 26.69 | 0.467 | 30.00 | -3.31 |
| | QPSK (Opposite Pol.) | 3500.0 | V | 297 | 259 | 9.71 | 1 / 22 | 16.15 | 25.86 | 0.386 | 30.00 | -4.14 |

**Table 7-15. EIRP Data (NR Band n77 (PC2) DoD Band) – Ant M2**

| Bandwidth | Mod. | Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Ant. Gain [dBi] | RB Size/Offset | Substitute Level [dBm] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 MHz | π/2 BPSK | 3750.00 | H | 100 | 294 | 9.64 | 1 / 1 | 18.15 | 27.79 | 0.601 | 30.00 | -2.21 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 271 | 18.19 | 27.80 | 0.603 | 30.00 | -2.20 |
| | π/2 BPSK | 3930.00 | H | 109 | 295 | 9.59 | 1 / 1 | 18.30 | **27.89** | 0.615 | 30.00 | -2.11 |
| | QPSK | 3750.00 | H | 100 | 294 | 9.64 | 1 / 1 | 18.14 | 27.78 | 0.600 | 30.00 | -2.22 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 271 | 18.17 | 27.78 | 0.600 | 30.00 | -2.22 |
| | QPSK | 3930.00 | H | 109 | 295 | 9.59 | 1 / 1 | 18.20 | 27.79 | 0.601 | 30.00 | -2.21 |
| | 16-QAM | 3930.00 | H | 109 | 295 | 9.59 | 1 / 1 | 17.30 | 26.89 | 0.489 | 30.00 | -3.11 |
| 90 MHz | π/2 BPSK | 3745.02 | H | 100 | 294 | 9.64 | 1 / 122 | 18.27 | 27.91 | 0.618 | 30.00 | -2.09 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 122 | 17.93 | 27.54 | 0.568 | 30.00 | -2.46 |
| | π/2 BPSK | 3934.98 | H | 109 | 295 | 9.59 | 1 / 122 | 17.90 | 27.49 | 0.561 | 30.00 | -2.51 |
| | QPSK | 3745.02 | H | 100 | 294 | 9.64 | 1 / 122 | 18.35 | **27.99** | 0.629 | 30.00 | -2.01 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 122 | 18.12 | 27.73 | 0.593 | 30.00 | -2.27 |
| | QPSK | 3934.98 | H | 109 | 295 | 9.59 | 1 / 122 | 18.09 | 27.68 | 0.586 | 30.00 | -2.32 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 122 | 17.96 | 27.57 | 0.572 | 30.00 | -2.43 |
| 80 MHz | π/2 BPSK | 3740.01 | H | 100 | 294 | 9.64 | 1 / 108 | 18.16 | 27.80 | 0.602 | 30.00 | -2.20 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 215 | 18.17 | 27.78 | 0.600 | 30.00 | -2.22 |
| | π/2 BPSK | 3939.99 | H | 109 | 295 | 9.59 | 1 / 108 | 17.96 | 27.55 | 0.569 | 30.00 | -2.45 |
| | QPSK | 3740.01 | H | 100 | 294 | 9.64 | 1 / 108 | 18.50 | **28.14** | 0.651 | 30.00 | -1.86 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 108 | 18.22 | 27.83 | 0.607 | 30.00 | -2.17 |
| | QPSK | 3939.99 | H | 109 | 295 | 9.59 | 1 / 108 | 17.91 | 27.50 | 0.562 | 30.00 | -2.50 |
| | 16-QAM | 3740.01 | H | 100 | 294 | 9.64 | 1 / 108 | 17.29 | 26.93 | 0.493 | 30.00 | -3.07 |
| 70 MHz | π/2 BPSK | 3735.00 | H | 100 | 294 | 9.64 | 1 / 94 | 18.32 | 27.96 | 0.625 | 30.00 | -2.04 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 187 | 18.08 | 27.69 | 0.588 | 30.00 | -2.31 |
| | π/2 BPSK | 3945.00 | H | 109 | 295 | 9.59 | 1 / 94 | 18.07 | 27.66 | 0.583 | 30.00 | -2.34 |
| | QPSK | 3735.00 | H | 100 | 294 | 9.64 | 1 / 94 | 18.46 | **28.10** | 0.645 | 30.00 | -1.90 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 187 | 18.17 | 27.78 | 0.600 | 30.00 | -2.22 |
| | QPSK | 3945.00 | H | 109 | 295 | 9.59 | 1 / 94 | 17.99 | 27.58 | 0.573 | 30.00 | -2.42 |
| | 16-QAM | 3735.00 | H | 100 | 294 | 9.64 | 1 / 94 | 17.30 | 26.94 | 0.494 | 30.00 | -3.06 |
| 60 MHz | π/2 BPSK | 3730.02 | H | 100 | 294 | 9.64 | 1 / 81 | 18.38 | 28.03 | 0.635 | 30.00 | -1.97 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 81 | 18.06 | 27.67 | 0.585 | 30.00 | -2.33 |
| | π/2 BPSK | 3949.98 | H | 109 | 295 | 9.58 | 1 / 81 | 17.78 | 27.36 | 0.544 | 30.00 | -2.64 |
| | QPSK | 3730.02 | H | 100 | 294 | 9.64 | 1 / 81 | 18.42 | **28.07** | 0.641 | 30.00 | -1.93 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 81 | 18.10 | 27.71 | 0.591 | 30.00 | -2.29 |
| | QPSK | 3949.98 | H | 109 | 295 | 9.58 | 1 / 81 | 18.03 | 27.61 | 0.577 | 30.00 | -2.39 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 81 | 17.23 | 26.84 | 0.483 | 30.00 | -3.16 |
| 50 MHz | π/2 BPSK | 3725.01 | H | 100 | 294 | 9.65 | 1 / 66 | 18.36 | 28.01 | 0.632 | 30.00 | -1.99 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 66 | 18.14 | 27.75 | 0.596 | 30.00 | -2.25 |
| | π/2 BPSK | 3954.99 | H | 109 | 295 | 9.58 | 1 / 1 | 17.90 | 27.48 | 0.560 | 30.00 | -2.52 |
| | QPSK | 3725.01 | H | 100 | 294 | 9.65 | 1 / 66 | 18.47 | **28.12** | 0.648 | 30.00 | -1.88 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 131 | 18.16 | 27.77 | 0.599 | 30.00 | -2.23 |
| | QPSK | 3954.99 | H | 109 | 295 | 9.58 | 1 / 1 | 17.85 | 27.43 | 0.553 | 30.00 | -2.57 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 131 | 17.39 | 27.00 | 0.502 | 30.00 | -3.00 |
| 40 MHz | π/2 BPSK | 3720.00 | H | 100 | 294 | 9.65 | 1 / 53 | 18.27 | 27.92 | 0.619 | 30.00 | -2.08 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 104 | 18.24 | 27.85 | 0.610 | 30.00 | -2.15 |
| | π/2 BPSK | 3960.00 | H | 109 | 295 | 9.58 | 1 / 1 | 17.79 | 27.37 | 0.546 | 30.00 | -2.63 |
| | QPSK | 3720.00 | H | 100 | 294 | 9.65 | 1 / 1 | 18.42 | **28.07** | 0.641 | 30.00 | -1.93 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 53 | 18.09 | 27.70 | 0.589 | 30.00 | -2.30 |
| | QPSK | 3960.00 | H | 109 | 295 | 9.58 | 1 / 1 | 17.80 | 27.38 | 0.547 | 30.00 | -2.62 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 104 | 17.39 | 27.00 | 0.502 | 30.00 | -3.00 |
| 30 MHz | π/2 BPSK | 3715.02 | H | 100 | 294 | 9.65 | 1 / 39 | 18.34 | 27.99 | 0.629 | 30.00 | -2.01 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 76 | 18.30 | 27.91 | 0.618 | 30.00 | -2.09 |
| | π/2 BPSK | 3964.98 | H | 109 | 295 | 9.58 | 1 / 39 | 17.55 | 27.13 | 0.516 | 30.00 | -2.87 |
| | QPSK | 3715.02 | H | 100 | 294 | 9.65 | 1 / 39 | 18.53 | **28.18** | 0.657 | 30.00 | -1.82 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 76 | 18.26 | 27.87 | 0.613 | 30.00 | -2.13 |
| | QPSK | 3964.98 | H | 109 | 295 | 9.58 | 1 / 1 | 17.73 | 27.31 | 0.538 | 30.00 | -2.69 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 76 | 17.41 | 27.02 | 0.504 | 30.00 | -2.98 |
| 25 MHz | π/2 BPSK | 3712.50 | H | 101 | 293 | 9.65 | 1 / 76 | 18.48 | **28.13** | 0.650 | 30.00 | -1.87 |
| | π/2 BPSK | 3840.00 | H | 101 | 293 | 9.61 | 1 / 76 | 18.41 | 28.02 | 0.634 | 30.00 | -1.98 |
| | π/2 BPSK | 3967.50 | H | 101 | 293 | 9.58 | 1 / 1 | 17.46 | 27.04 | 0.508 | 30.00 | -2.96 |
| | QPSK | 3712.50 | H | 101 | 293 | 9.65 | 1 / 1 | 18.47 | 28.12 | 0.648 | 30.00 | -1.88 |
| | QPSK | 3840.00 | H | 101 | 293 | 9.61 | 1 / 76 | 18.38 | 27.99 | 0.630 | 30.00 | -2.01 |
| | QPSK | 3967.50 | H | 101 | 293 | 9.58 | 1 / 1 | 17.79 | 27.37 | 0.546 | 30.00 | -2.63 |
| | 16-QAM | 3712.50 | H | 101 | 293 | 9.65 | 1 / 76 | 17.58 | 27.23 | 0.528 | 30.00 | -2.77 |
| 20 MHz | π/2 BPSK | 3710.01 | H | 100 | 294 | 9.65 | 1 / 1 | 18.37 | 28.02 | 0.634 | 30.00 | -1.98 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 1 | 18.35 | 27.96 | 0.626 | 30.00 | -2.04 |
| | π/2 BPSK | 3969.99 | H | 109 | 295 | 9.58 | 1 / 1 | 17.80 | 27.38 | 0.547 | 30.00 | -2.62 |
| | QPSK | 3710.01 | H | 100 | 294 | 9.65 | 1 / 1 | 18.76 | **28.41** | 0.693 | 30.00 | -1.59 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 1 | 18.37 | 27.98 | 0.629 | 30.00 | -2.02 |
| | QPSK | 3969.99 | H | 109 | 295 | 9.58 | 1 / 1 | 17.88 | 27.46 | 0.557 | 30.00 | -2.54 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 1 | 17.46 | 27.07 | 0.510 | 30.00 | -2.93 |
| 15 MHz | π/2 BPSK | 3707.52 | H | 100 | 294 | 9.65 | 1 / 36 | 18.44 | 28.09 | 0.644 | 30.00 | -1.91 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 36 | 18.22 | 27.83 | 0.607 | 30.00 | -2.17 |
| | π/2 BPSK | 3972.48 | H | 109 | 295 | 9.58 | 1 / 19 | 17.46 | 27.04 | 0.506 | 30.00 | -2.96 |
| | QPSK | 3707.52 | H | 100 | 294 | 9.65 | 1 / 1 | 18.67 | **28.32** | 0.679 | 30.00 | -1.68 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 19 | 18.38 | 27.99 | 0.630 | 30.00 | -2.01 |
| | QPSK | 3972.48 | H | 109 | 295 | 9.58 | 1 / 19 | 17.70 | 27.28 | 0.534 | 30.00 | -2.72 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 19 | 17.44 | 27.05 | 0.507 | 30.00 | -2.95 |
| 10 MHz | π/2 BPSK | 3705.00 | H | 100 | 294 | 9.65 | 1 / 1 | 18.52 | 28.17 | 0.656 | 30.00 | -1.83 |
| | π/2 BPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 22 | 19.09 | **28.70** | 0.742 | 30.00 | -1.30 |
| | π/2 BPSK | 3975.00 | H | 109 | 295 | 9.58 | 1 / 12 | 18.08 | 27.66 | 0.583 | 30.00 | -2.34 |
| | QPSK | 3705.00 | H | 100 | 294 | 9.65 | 1 / 12 | 18.60 | 28.25 | 0.668 | 30.00 | -1.75 |
| | QPSK | 3840.00 | H | 101 | 299 | 9.61 | 1 / 12 | 18.73 | 28.34 | 0.683 | 30.00 | -1.66 |
| | QPSK | 3975.00 | H | 109 | 295 | 9.58 | 1 / 1 | 17.98 | 27.56 | 0.570 | 30.00 | -2.44 |
| | 16-QAM | 3840.00 | H | 101 | 299 | 9.61 | 1 / 22 | 17.73 | 27.34 | 0.542 | 30.00 | -2.66 |
| 100 MHz | QPSK (CP-OFDM) | 3930.00 | H | 109 | 295 | 9.59 | 1 / 1 | 17.15 | 26.74 | 0.472 | 30.00 | -3.26 |
| | QPSK (Opposite Pol.) | 3930.00 | V | 295 | 259 | 9.59 | 1 / 1 | 16.13 | 25.72 | 0.373 | 30.00 | -4.28 |

**Table 7-16. EIRP Data (NR Band n77 (PC2) C Band) – Ant M2**