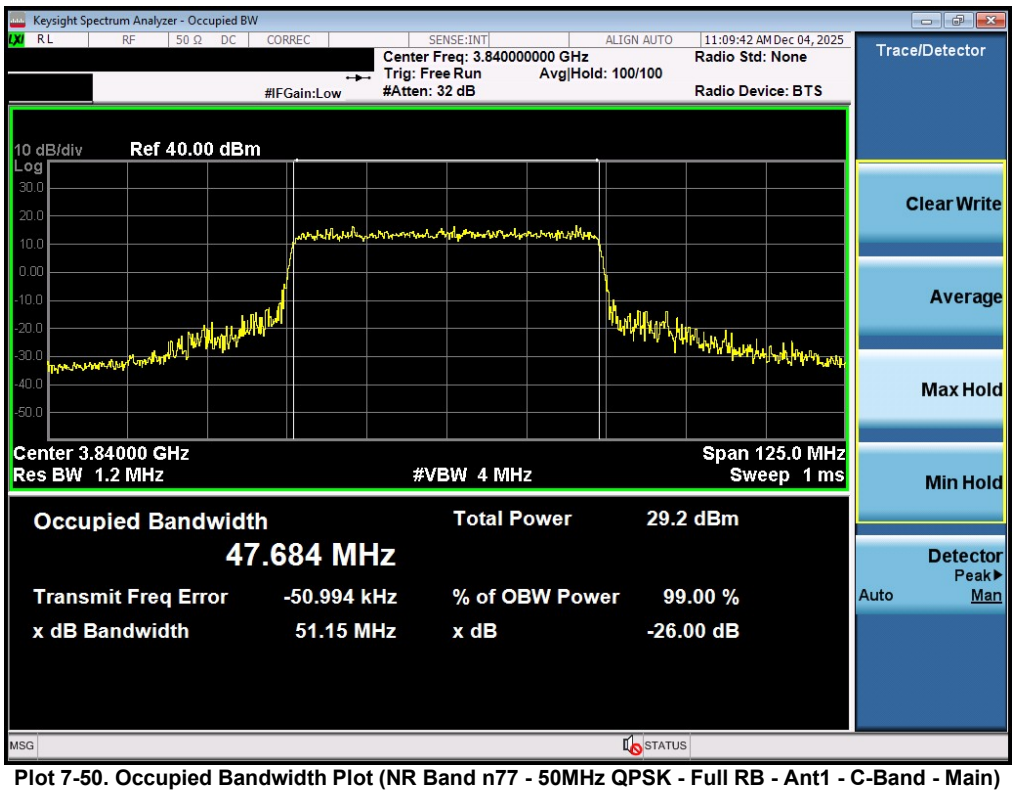
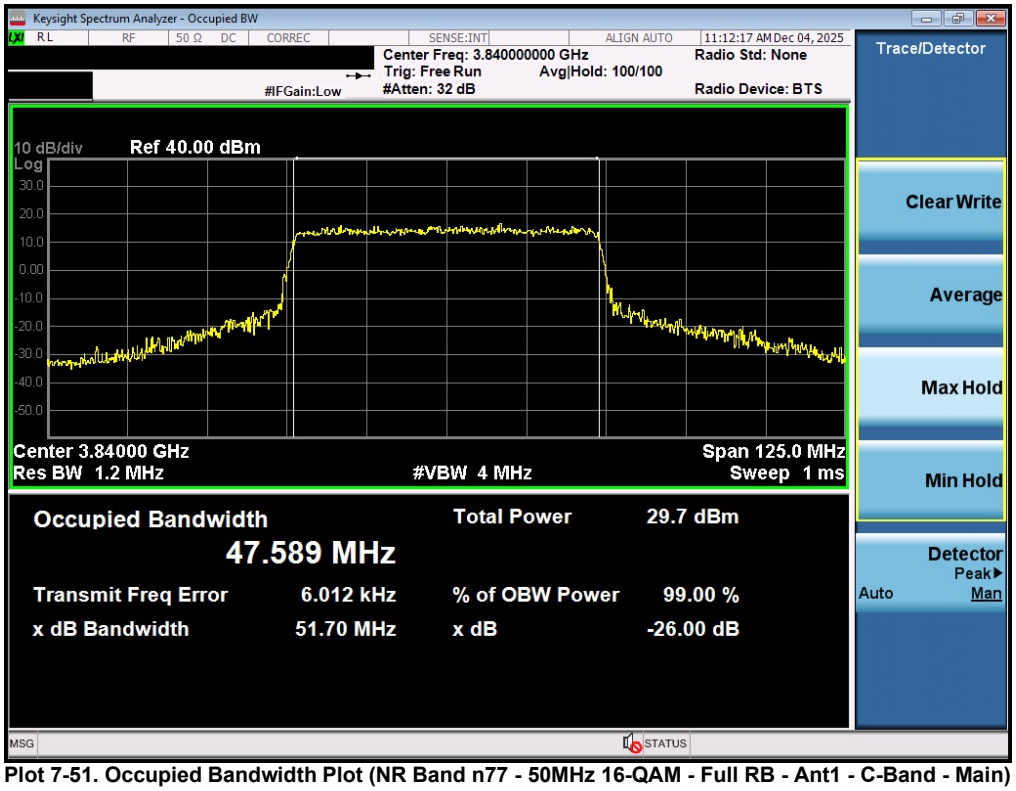
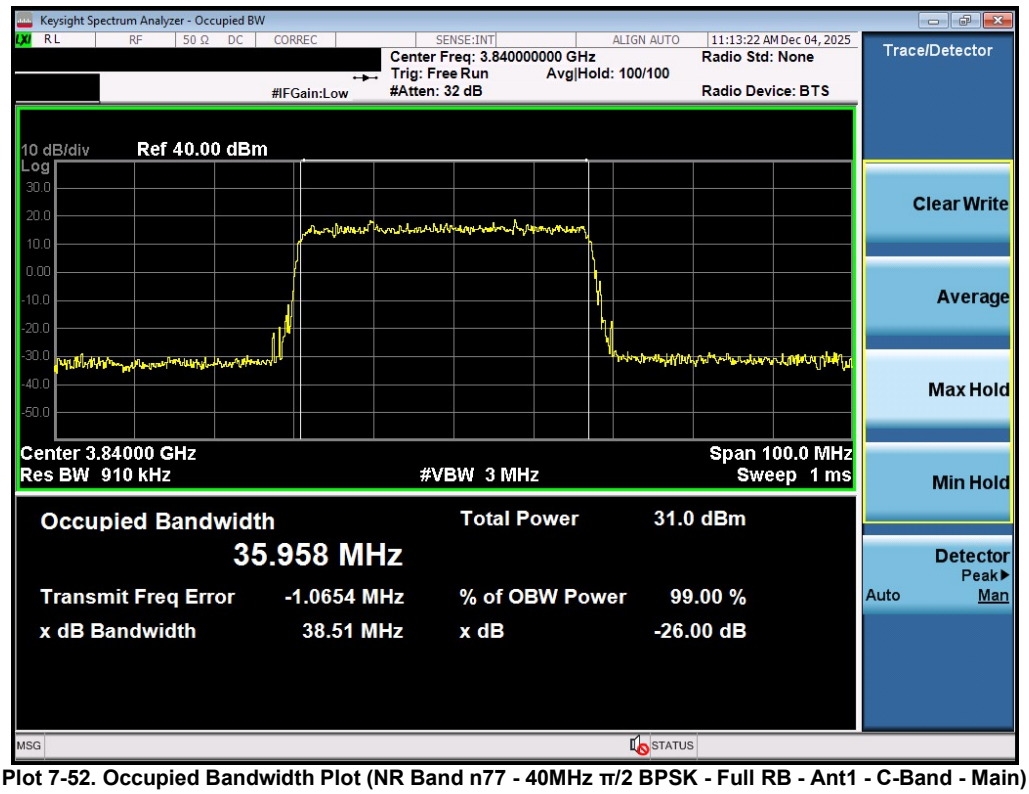


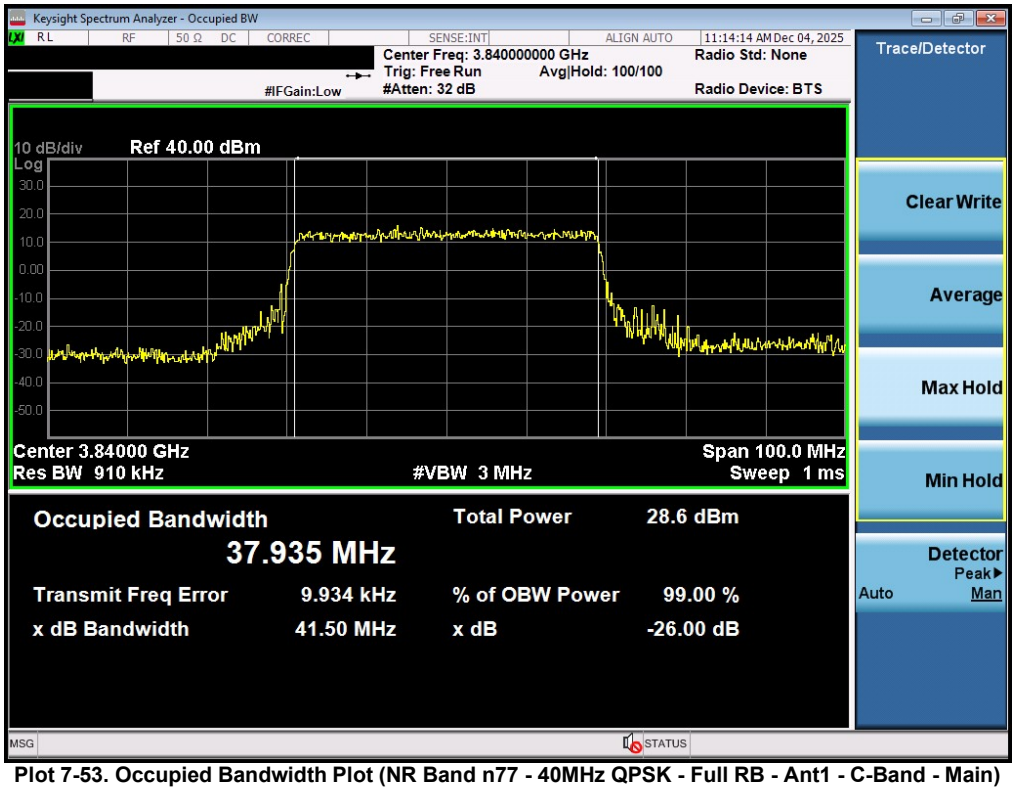
Plot 7-50. Occupied Bandwidth Plot (NR Band n77 - 50MHz QPSK - Full RB - Ant1 - C-Band - Main)



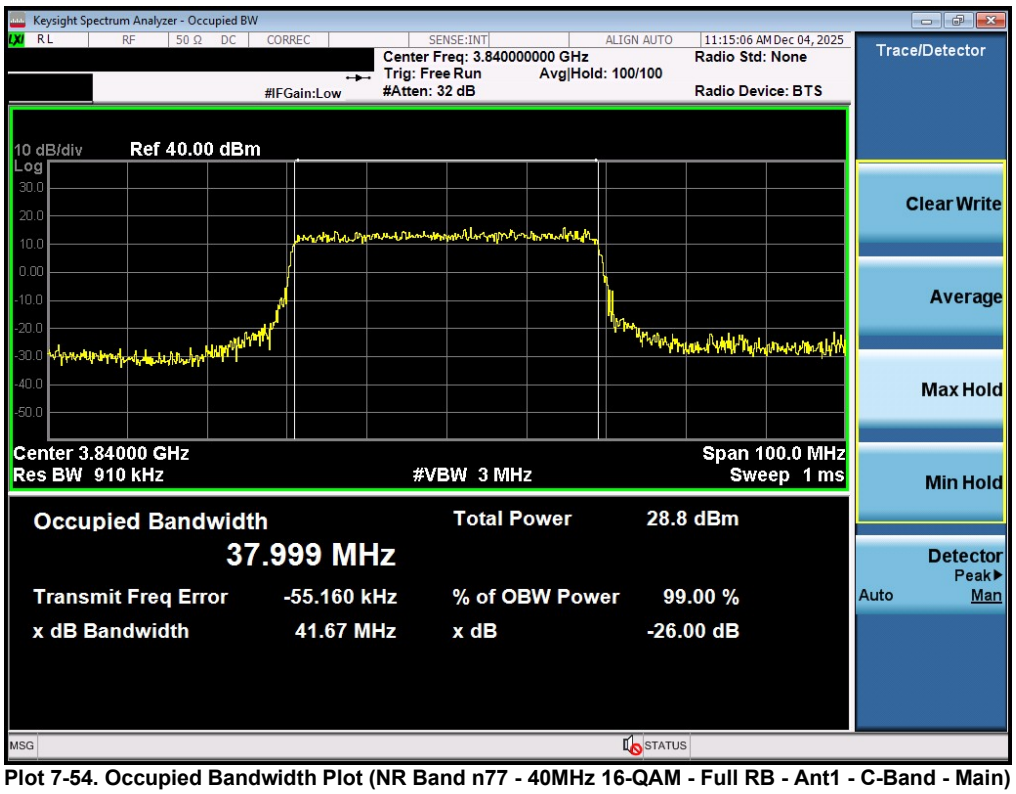
Plot 7-51. Occupied Bandwidth Plot (NR Band n77 - 50MHz 16-QAM - Full RB - Ant1 - C-Band - Main)



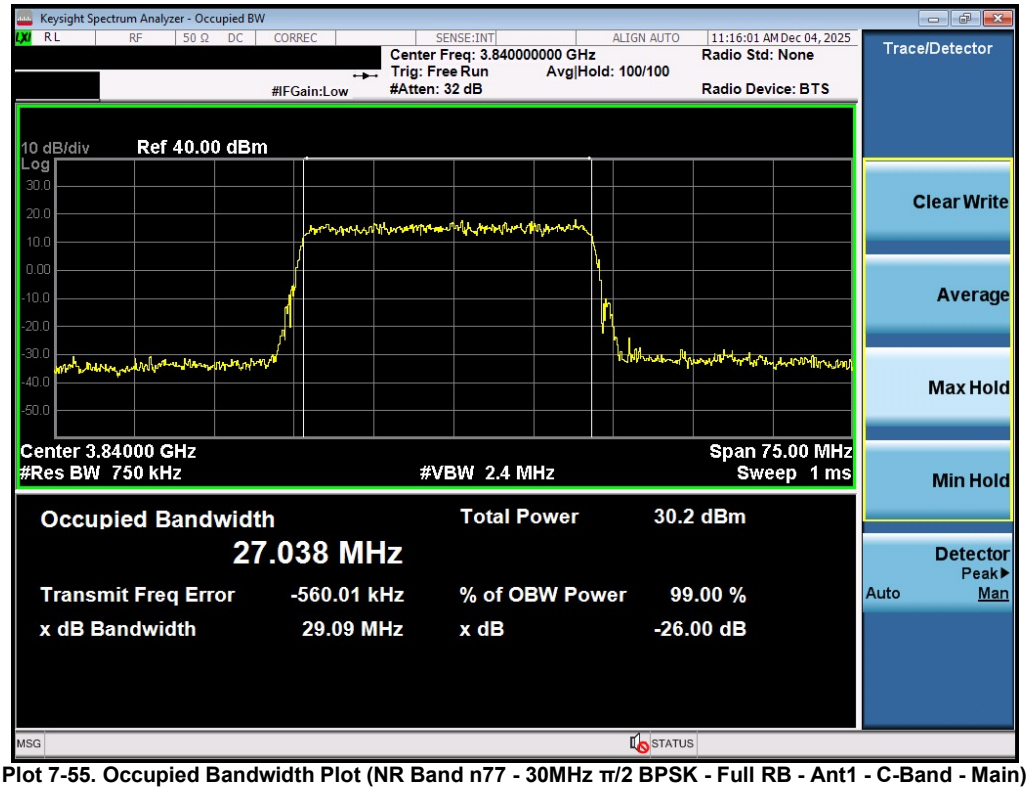
Plot 7-52. Occupied Bandwidth Plot (NR Band n77 - 40MHz π/2 BPSK - Full RB - Ant1 - C-Band - Main)



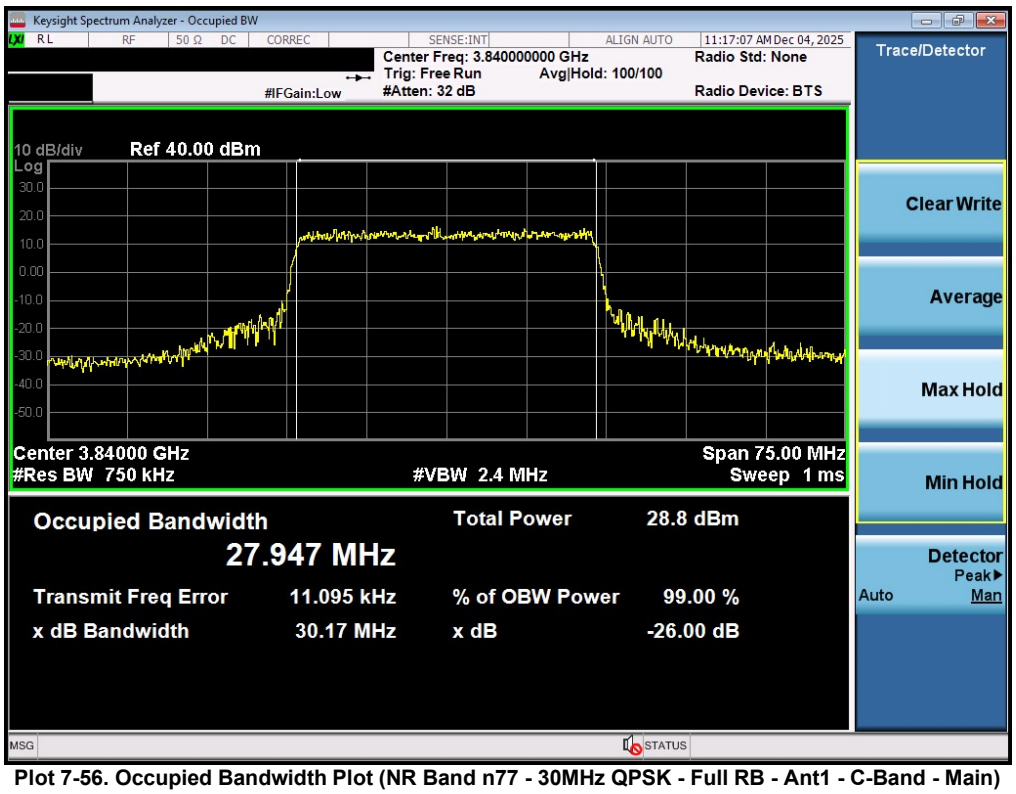
Plot 7-53. Occupied Bandwidth Plot (NR Band n77 - 40MHz QPSK - Full RB - Ant1 - C-Band - Main)



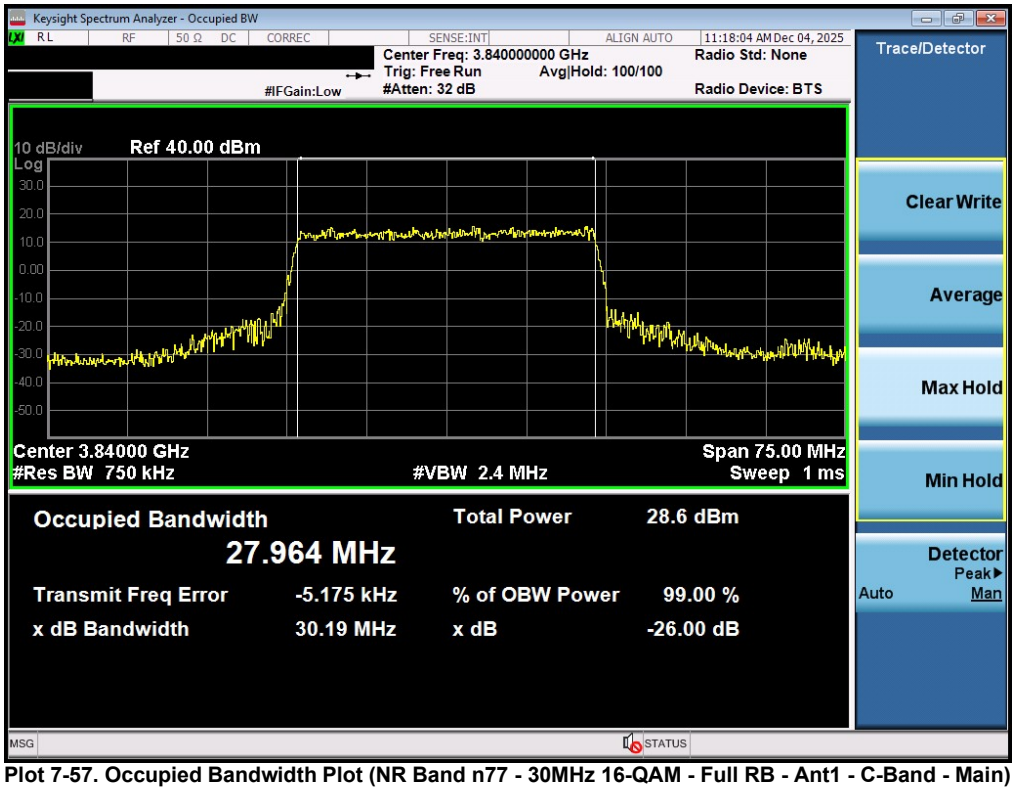
Plot 7-54. Occupied Bandwidth Plot (NR Band n77 - 40MHz 16-QAM - Full RB - Ant1 - C-Band - Main)



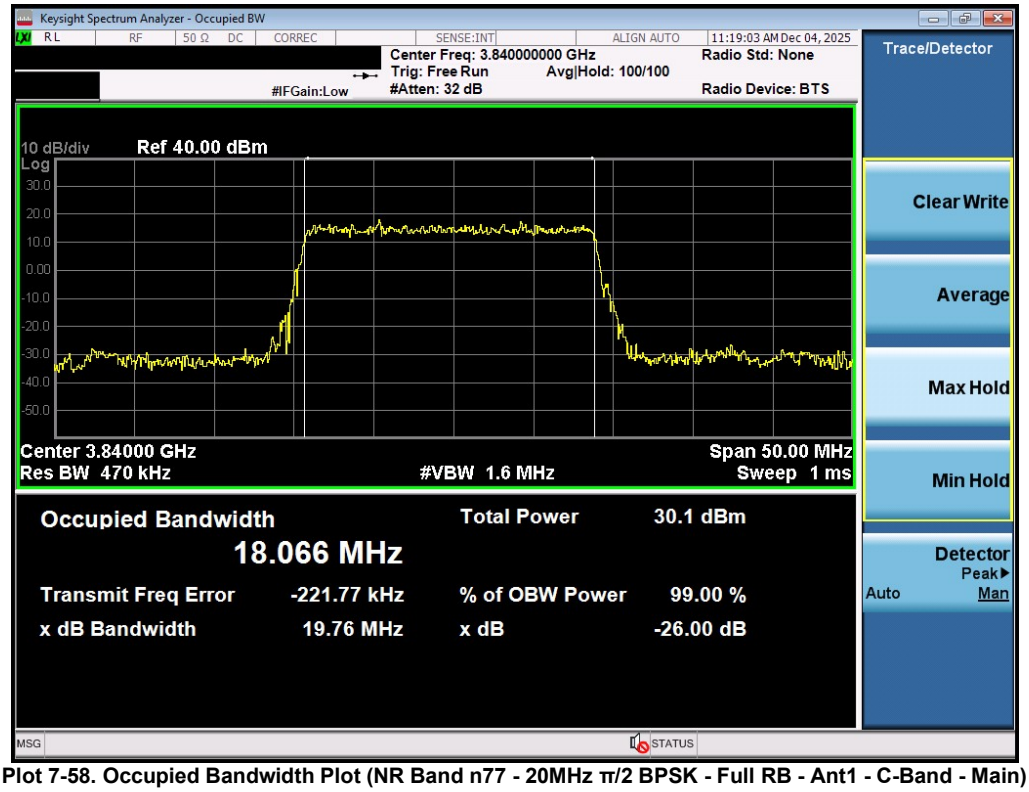
Plot 7-55. Occupied Bandwidth Plot (NR Band n77 - 30MHz π/2 BPSK - Full RB - Ant1 - C-Band - Main)



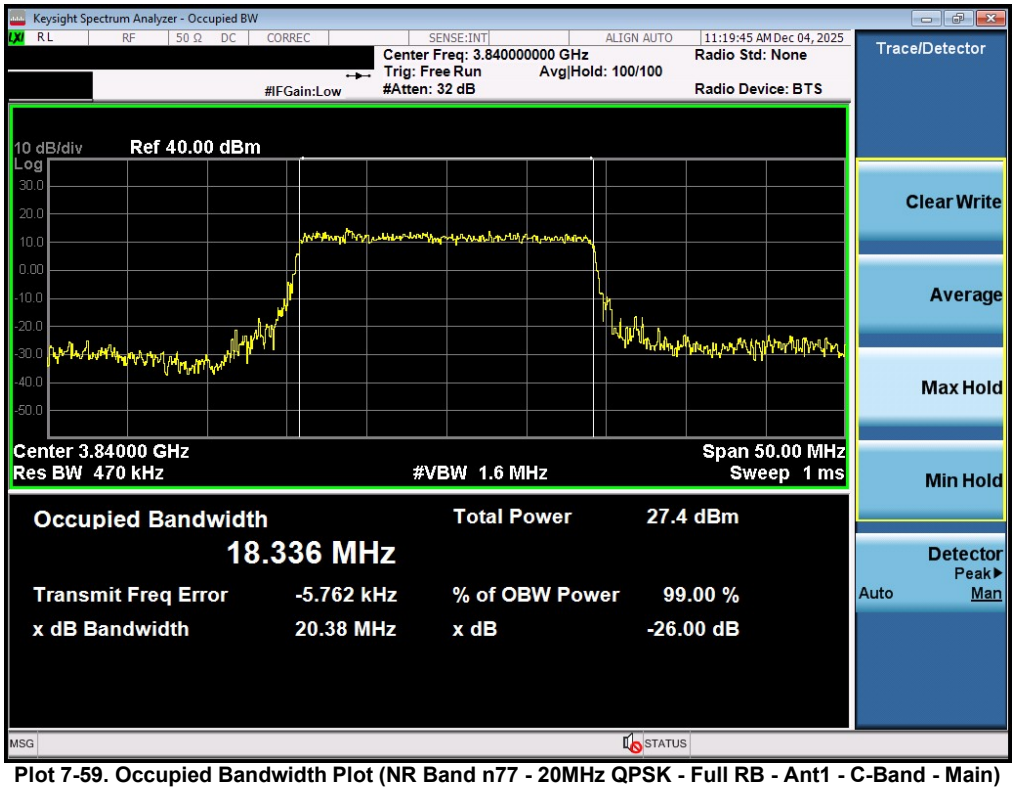
Plot 7-56. Occupied Bandwidth Plot (NR Band n77 - 30MHz QPSK - Full RB - Ant1 - C-Band - Main)



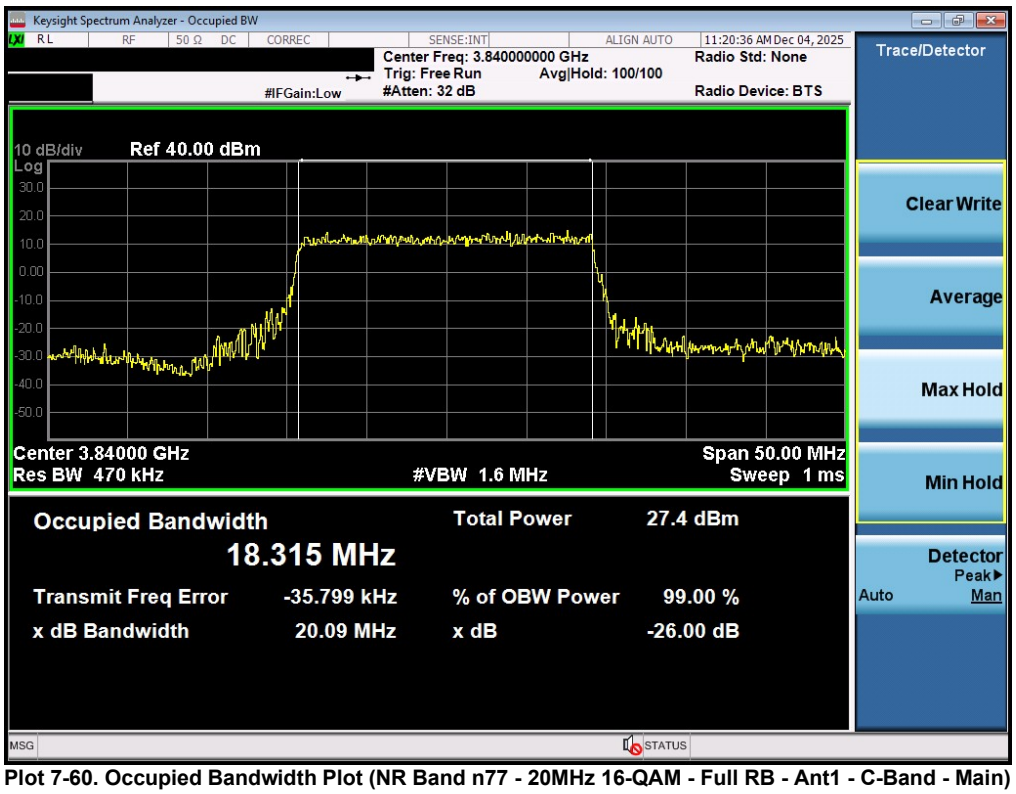
Plot 7-57. Occupied Bandwidth Plot (NR Band n77 - 30MHz 16-QAM - Full RB - Ant1 - C-Band - Main)



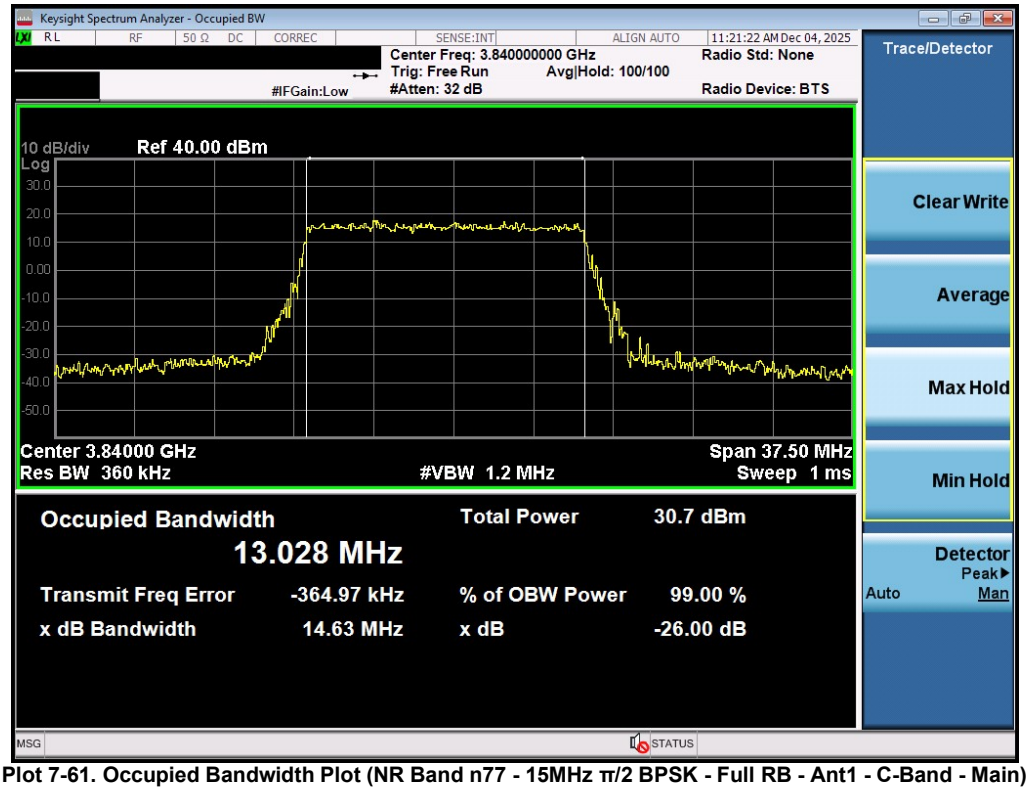
Plot 7-58. Occupied Bandwidth Plot (NR Band n77 - 20MHz π/2 BPSK - Full RB - Ant1 - C-Band - Main)



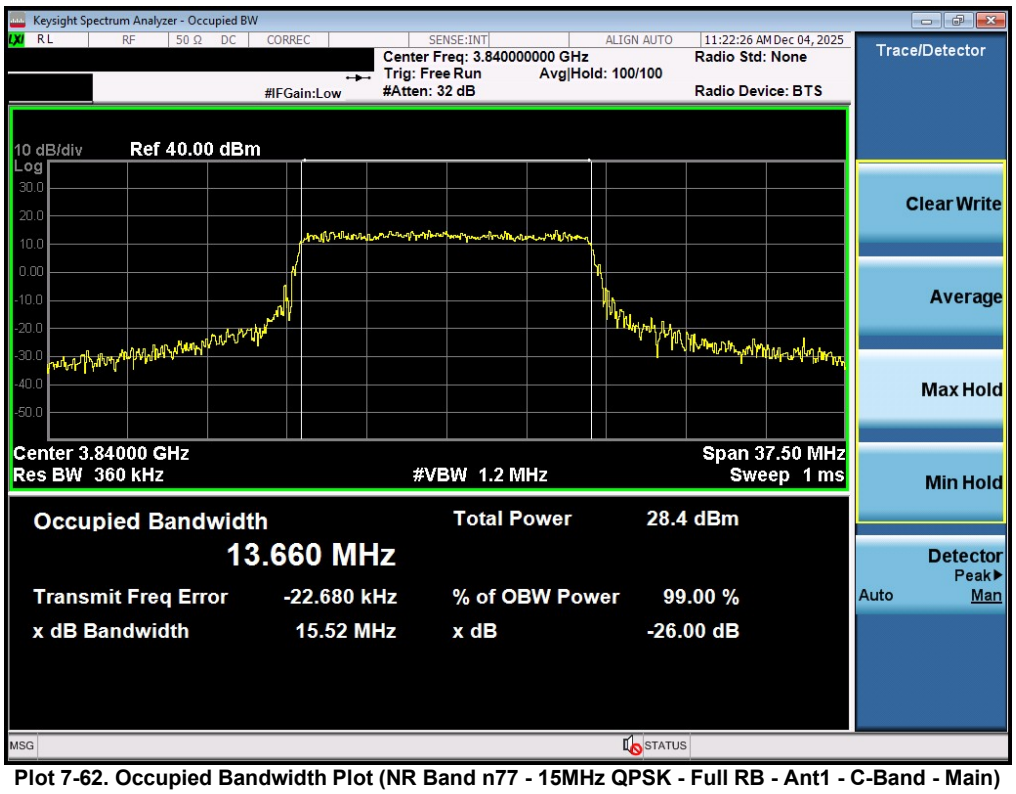
Plot 7-59. Occupied Bandwidth Plot (NR Band n77 - 20MHz QPSK - Full RB - Ant1 - C-Band - Main)



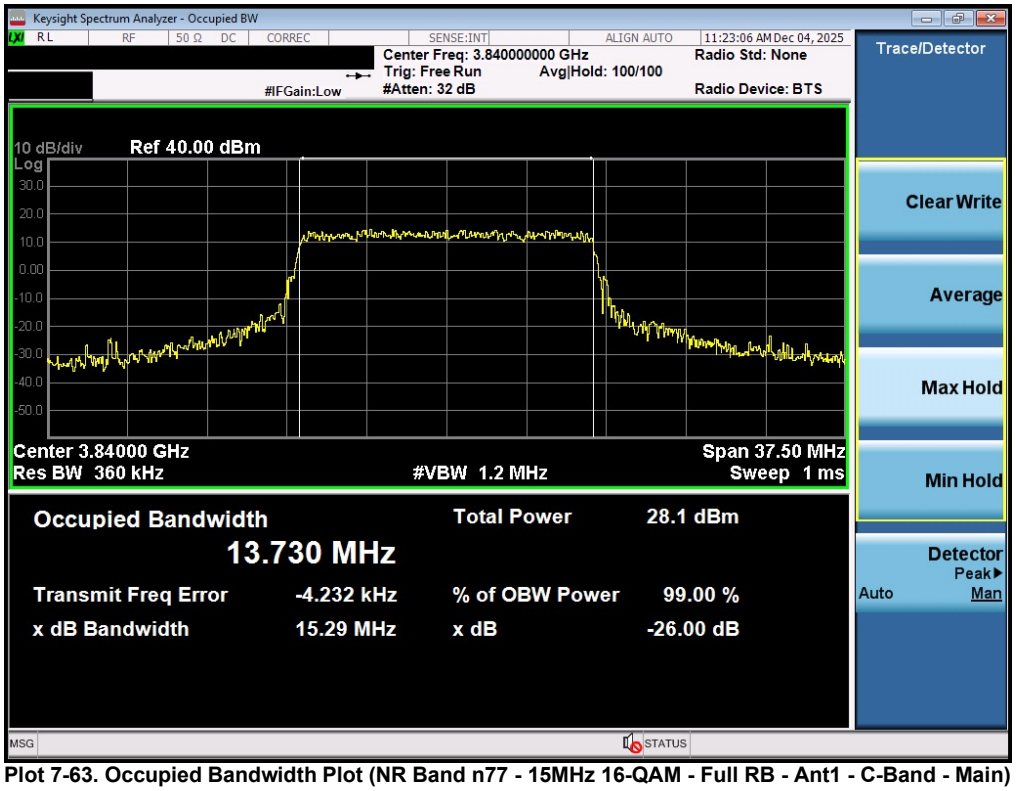
Plot 7-60. Occupied Bandwidth Plot (NR Band n77 - 20MHz 16-QAM - Full RB - Ant1 - C-Band - Main)



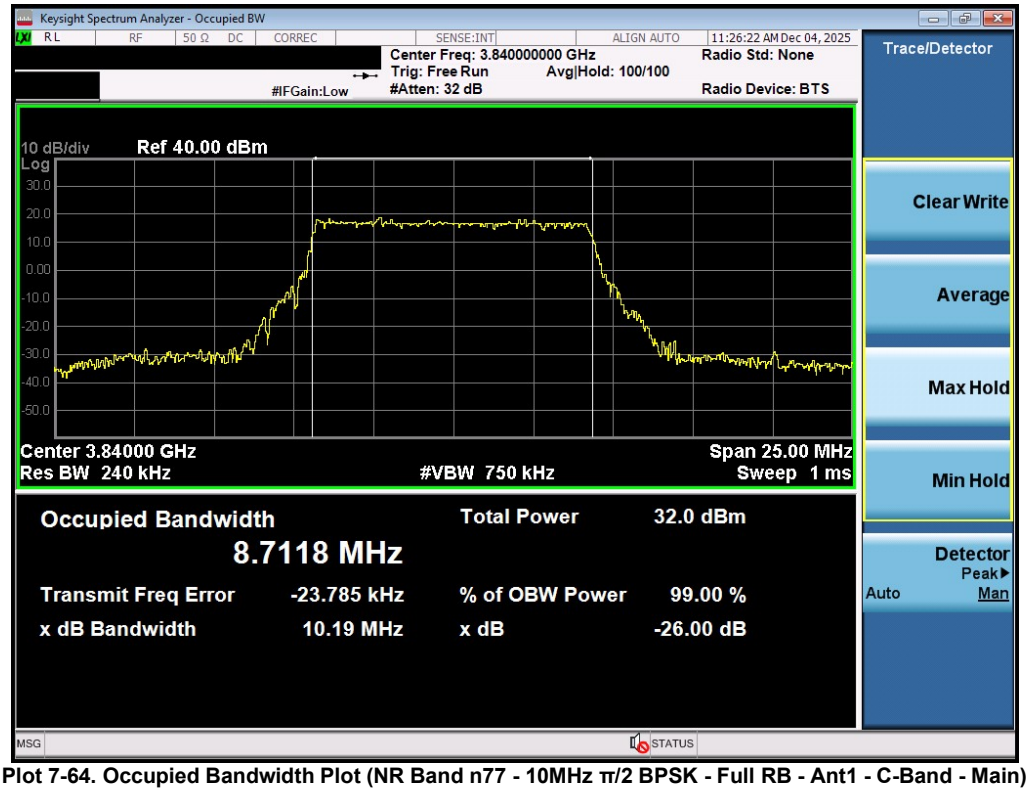
Plot 7-61. Occupied Bandwidth Plot (NR Band n77 - 15MHz π/2 BPSK - Full RB - Ant1 - C-Band - Main)



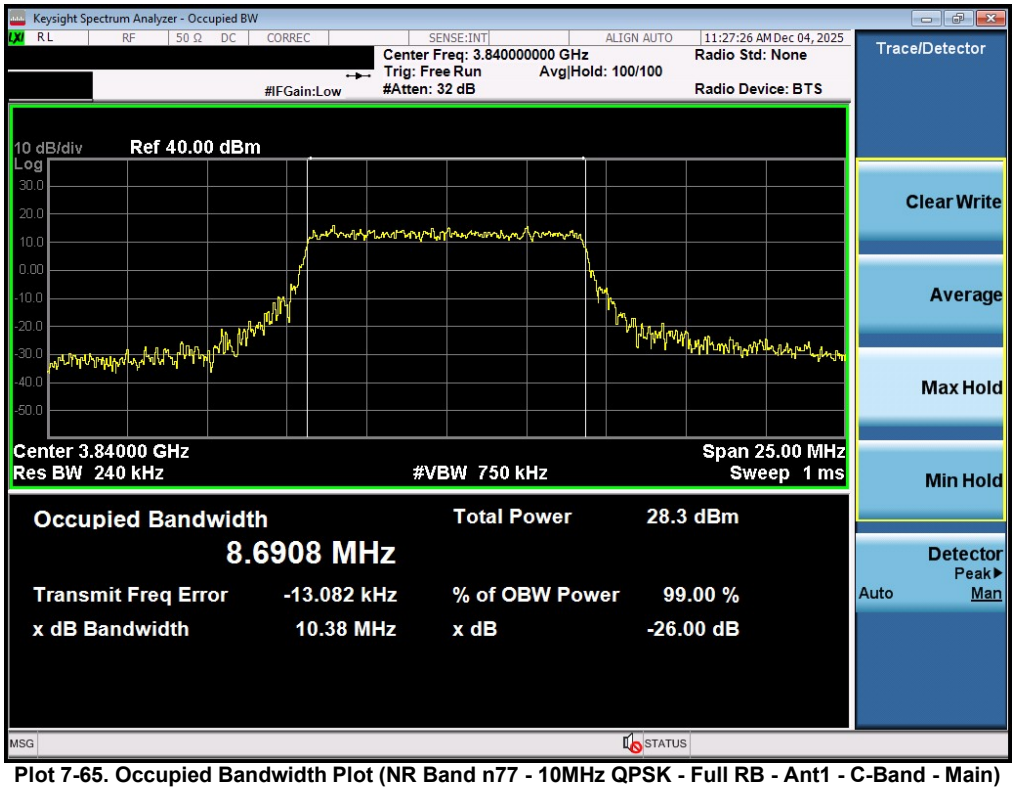
Plot 7-62. Occupied Bandwidth Plot (NR Band n77 - 15MHz QPSK - Full RB - Ant1 - C-Band - Main)



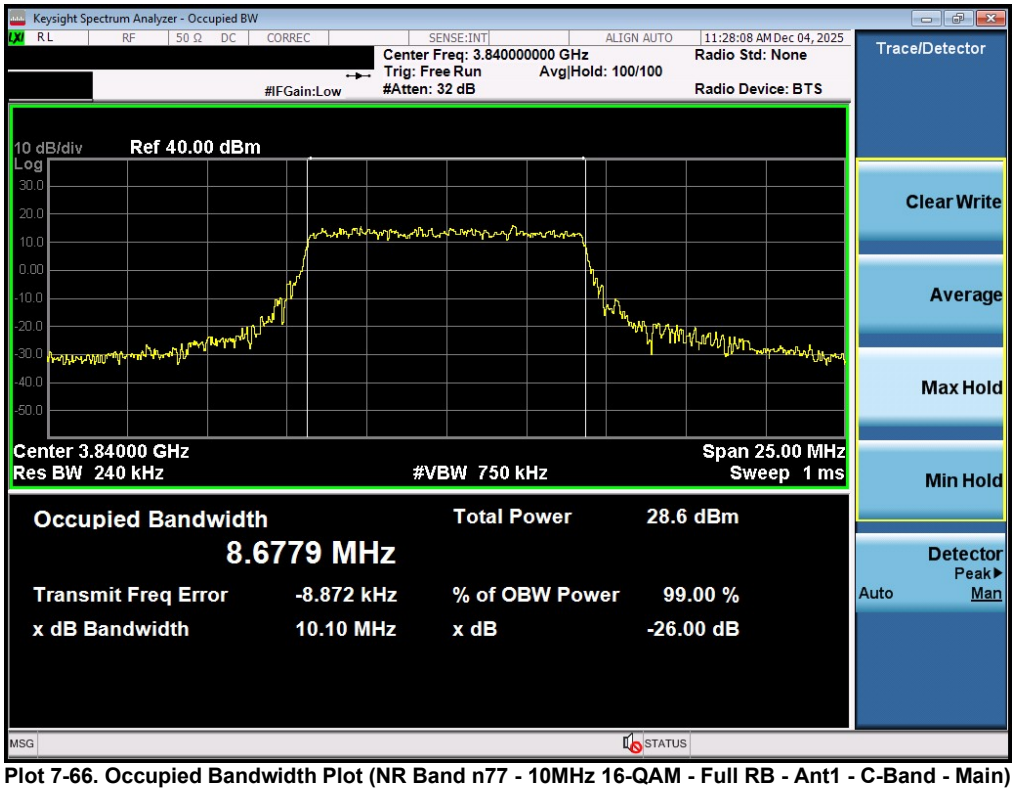
Plot 7-63. Occupied Bandwidth Plot (NR Band n77 - 15MHz 16-QAM - Full RB - Ant1 - C-Band - Main)



Plot 7-64. Occupied Bandwidth Plot (NR Band n77 - 10MHz π/2 BPSK - Full RB - Ant1 - C-Band - Main)



Plot 7-65. Occupied Bandwidth Plot (NR Band n77 - 10MHz QPSK - Full RB - Ant1 - C-Band - Main)



Plot 7-66. Occupied Bandwidth Plot (NR Band n77 - 10MHz 16-QAM - Full RB - Ant1 - C-Band - Main)

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.

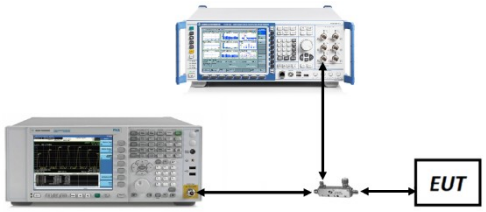


Figure 7-4. Test Instrument & Measurement Setup

Test Notes

1. Per Part 27.53(l), 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.

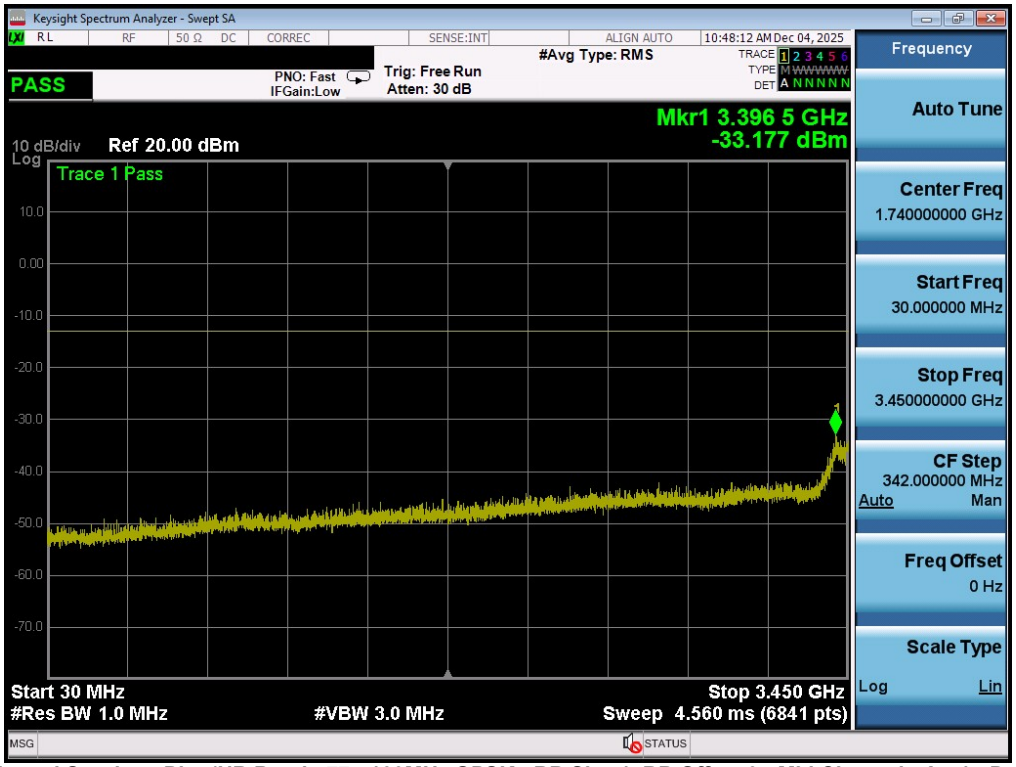
Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
NR-n77 PC2 DoD Band	100MHz	Mid	30.0 - 3450.0	-33.18	-13	-20.18
		Mid	3550.0 - 20000.0	-33.85	-13	-20.85
		Mid	20000.0 - 40000.0	-41.7	-13	-28.70

Table 7-12. Conducted Spurious Results – n77 – Ant1 – DoD Band – Main

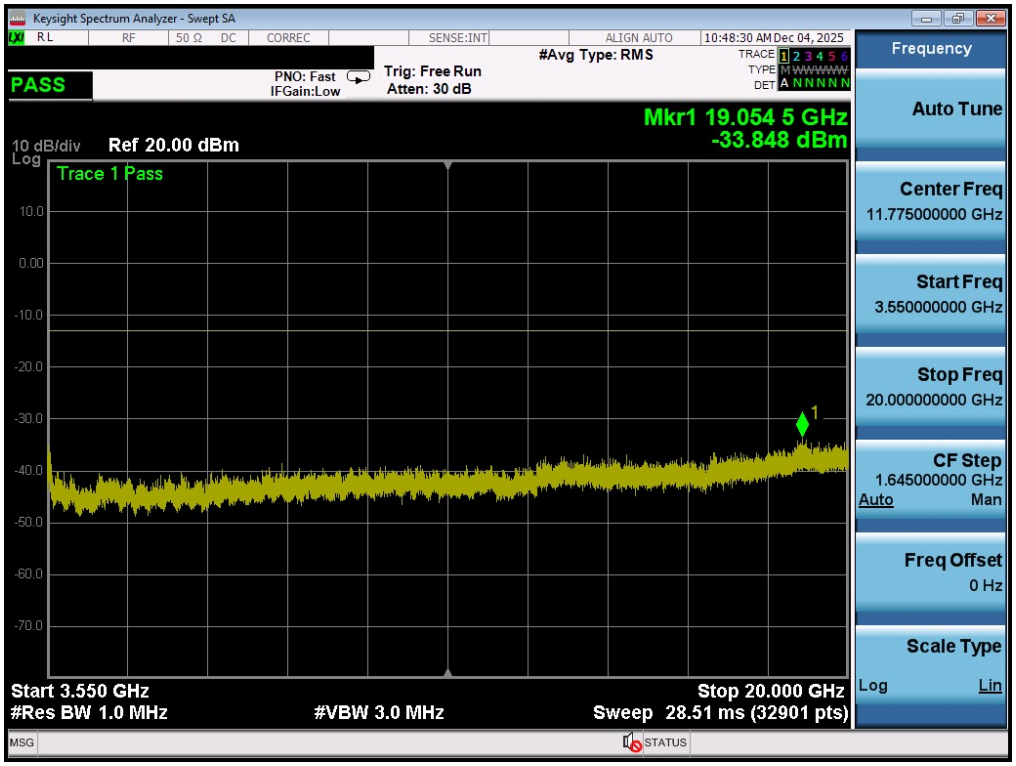
Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
NR-n77 PC2 C Band	100MHz	Low	30.0 - 3700.0	-34.14	-13	-21.14
		Low	3980.0 - 20000.0	-34.24	-13	-21.24
		Low	20000.0 - 40000.0	-42.08	-13	-29.08
		Mid	30.0 - 3700.0	-39.96	-13	-26.96
		Mid	3980.0 - 20000.0	-34.22	-13	-21.22
		Mid	20000.0 - 40000.0	-42.75	-13	-29.75
		High	30.0 - 3700.0	-41.52	-13	-28.52
		High	3980.0 - 20000.0	-33.64	-13	-20.64
		High	20000.0 - 40000.0	-42.24	-13	-29.24

Table 7-13. Conducted Spurious Results – n77 – Ant1 – C-Band – Main

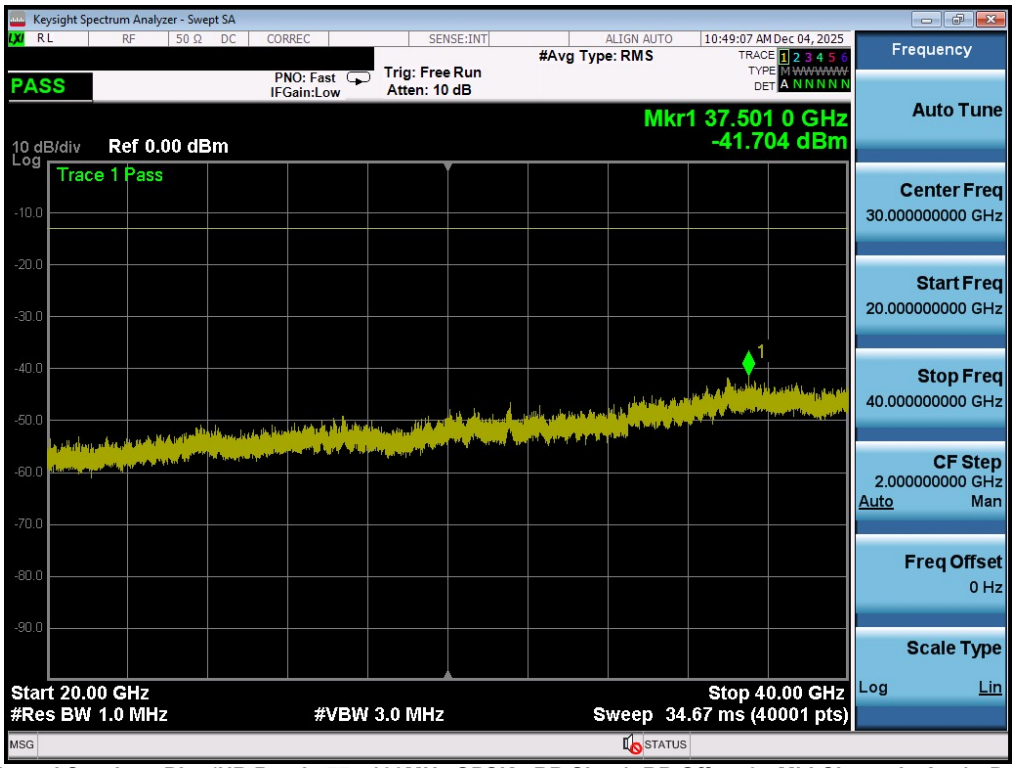
NR Band n77 – Ant1 – DoD Band – Main



Plot 7-67. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - DoD Band - Main)

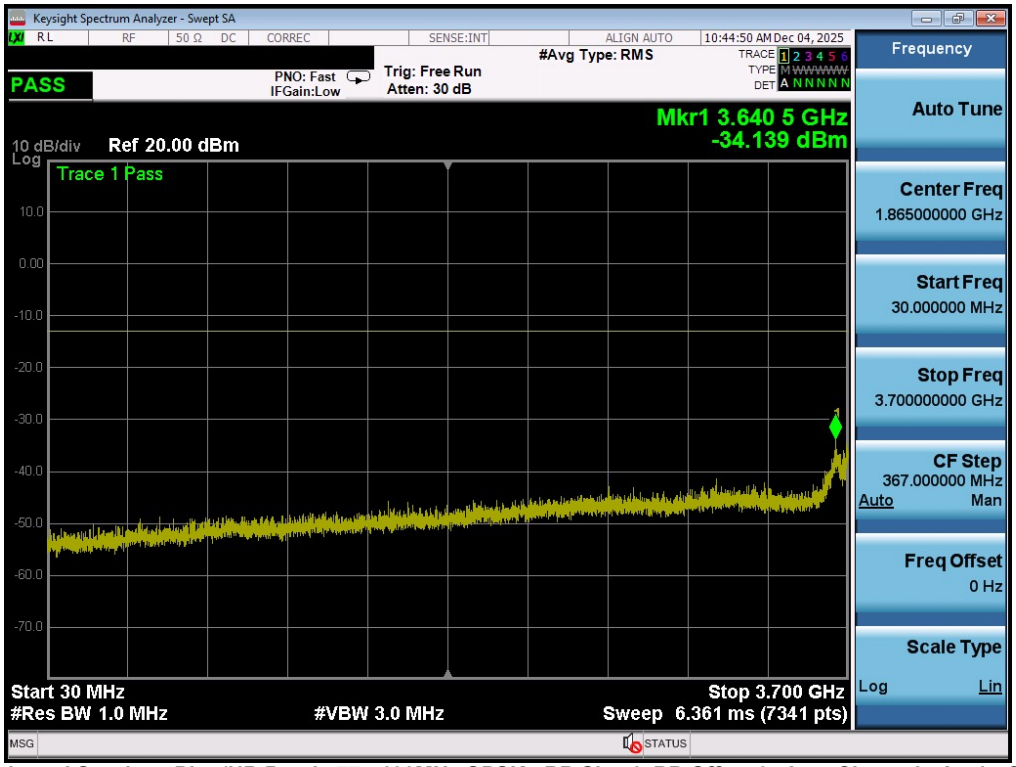


Plot 7-68. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - DoD Band - Main)

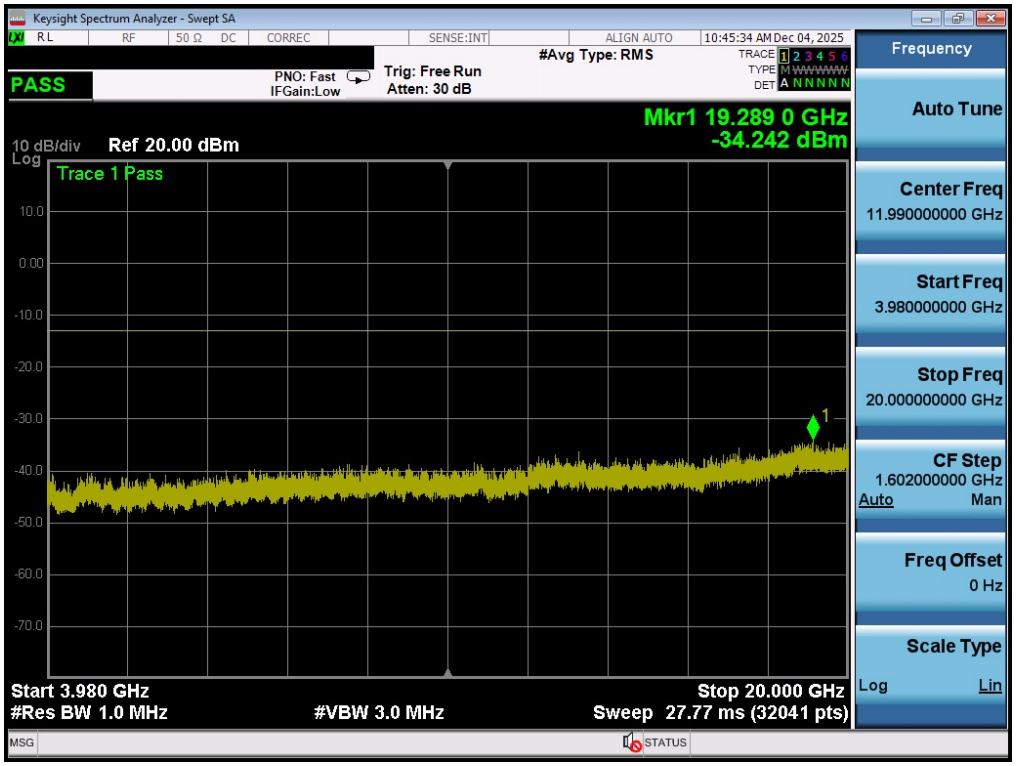


Plot 7-69. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - DoD Band - Main)

NR Band n77 – Ant1 – C-Band – Main

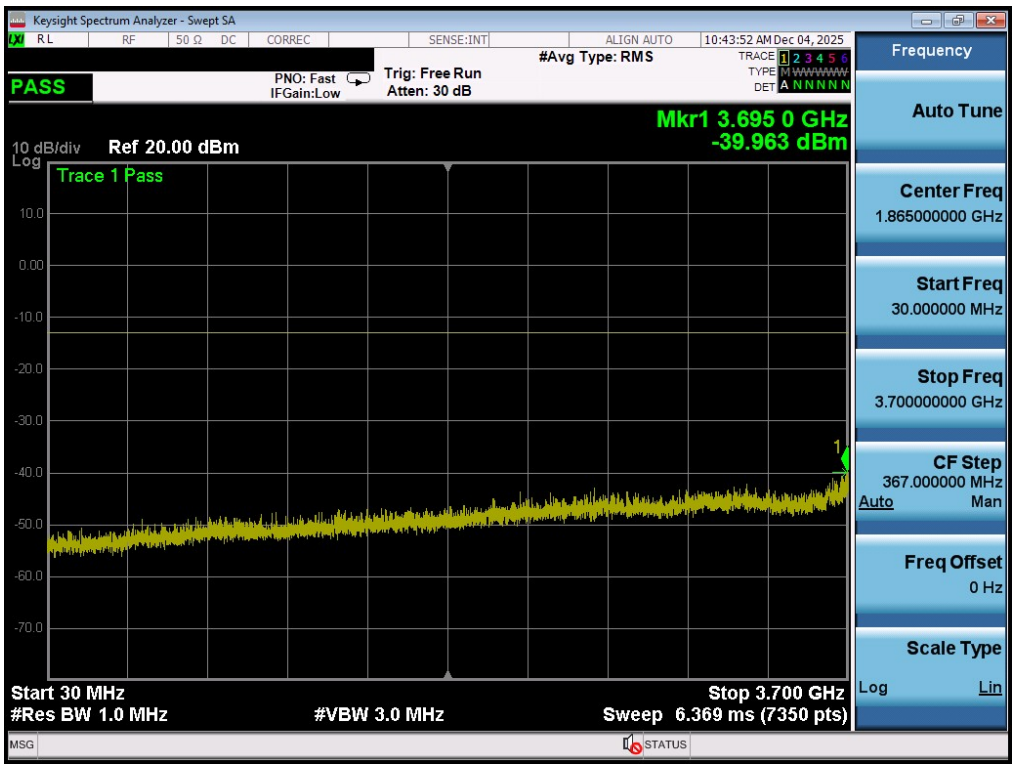


Plot 7-70. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant1 - C-Band - Main)

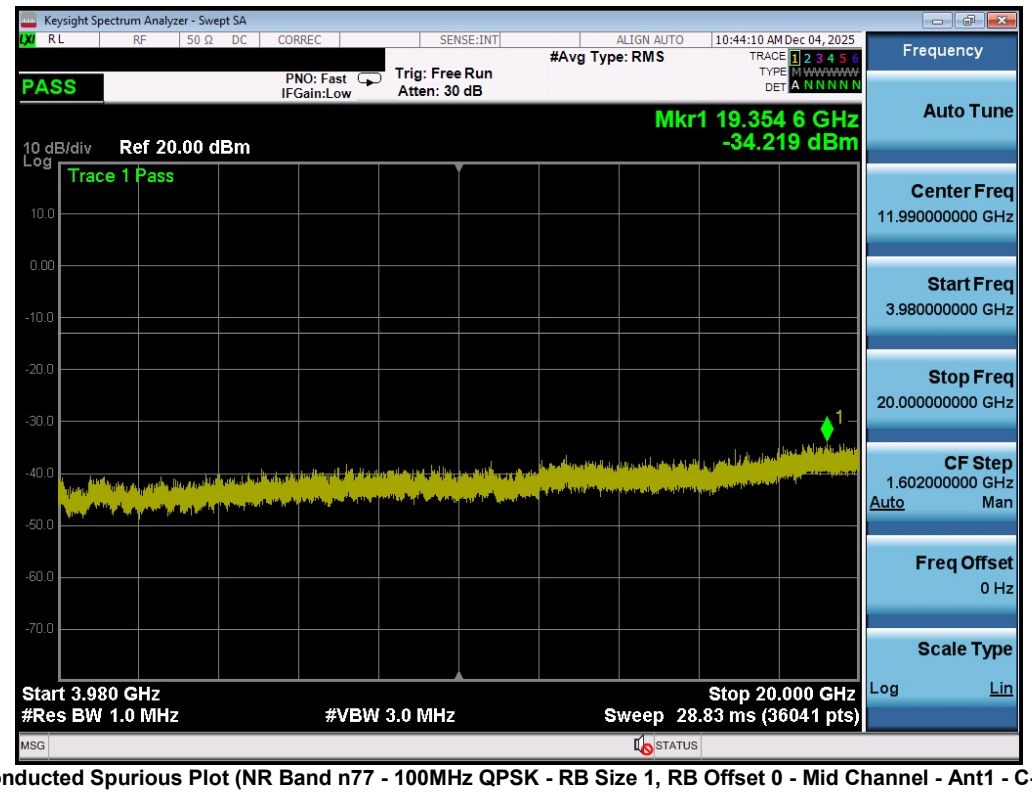


Plot 7-71. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant1 - C-Band - Main)

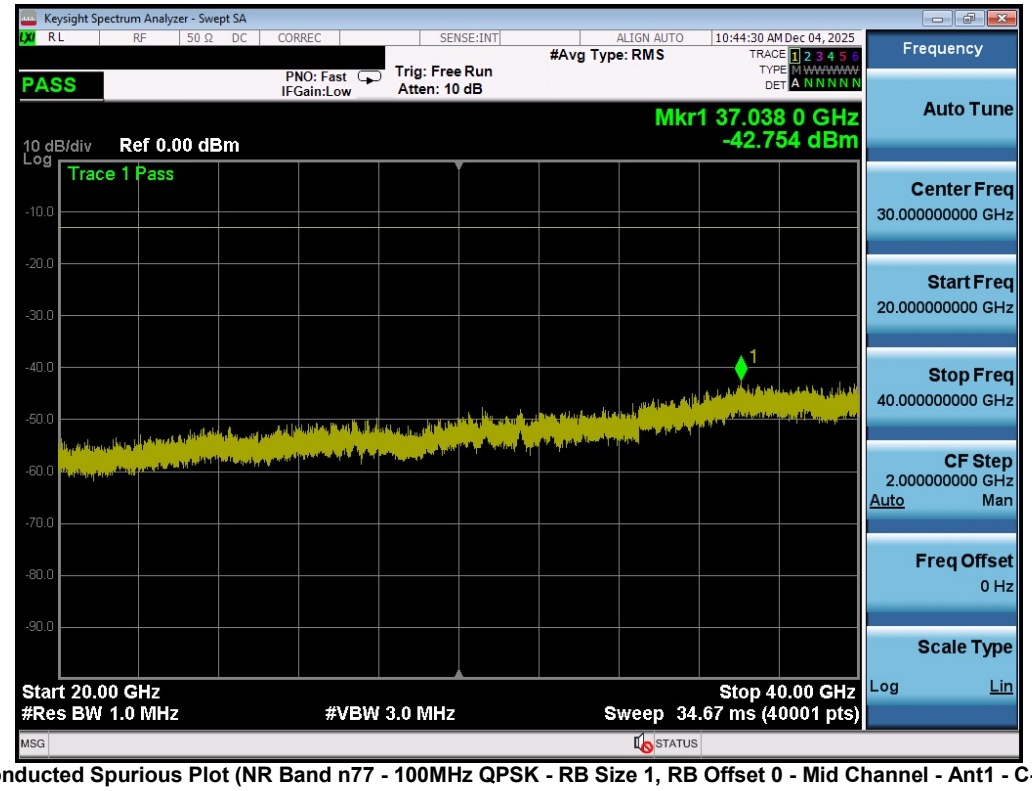
Plot 7-72. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant1 - C-Band - Main)



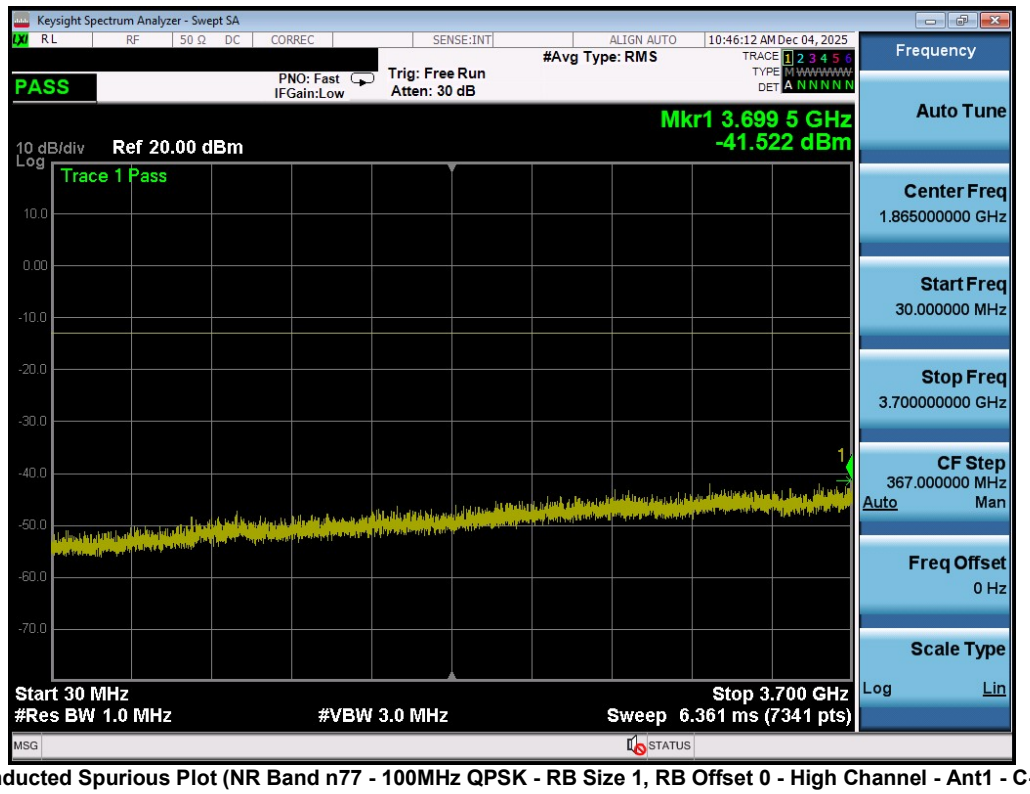
Plot 7-73. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - C-Band - Main)



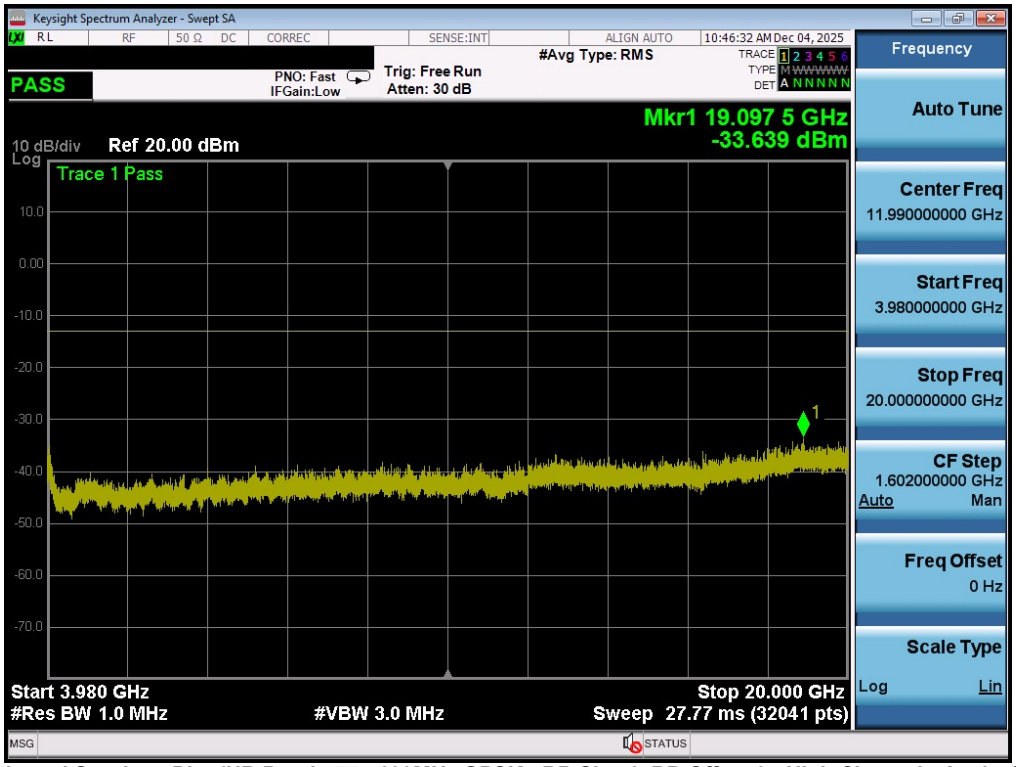
Plot 7-74. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - C-Band - Main)



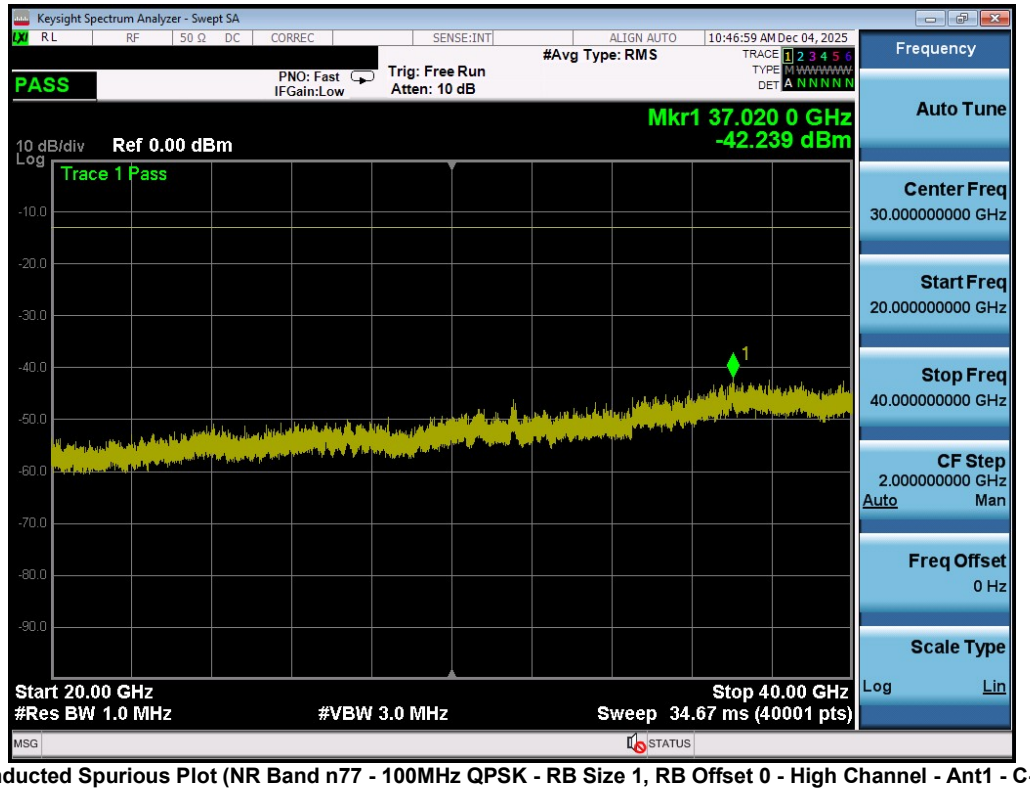
Plot 7-75. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant1 - C-Band - Main)



Plot 7-76. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant1 - C-Band - Main)



Plot 7-77. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant1 - C-Band - Main)



Plot 7-78. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant1 - C-Band - Main)