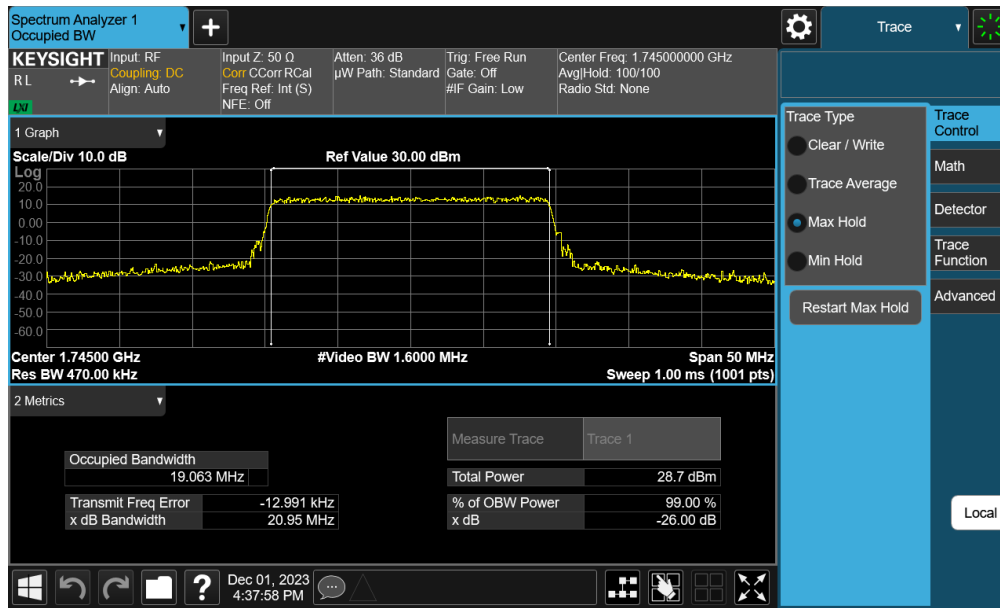
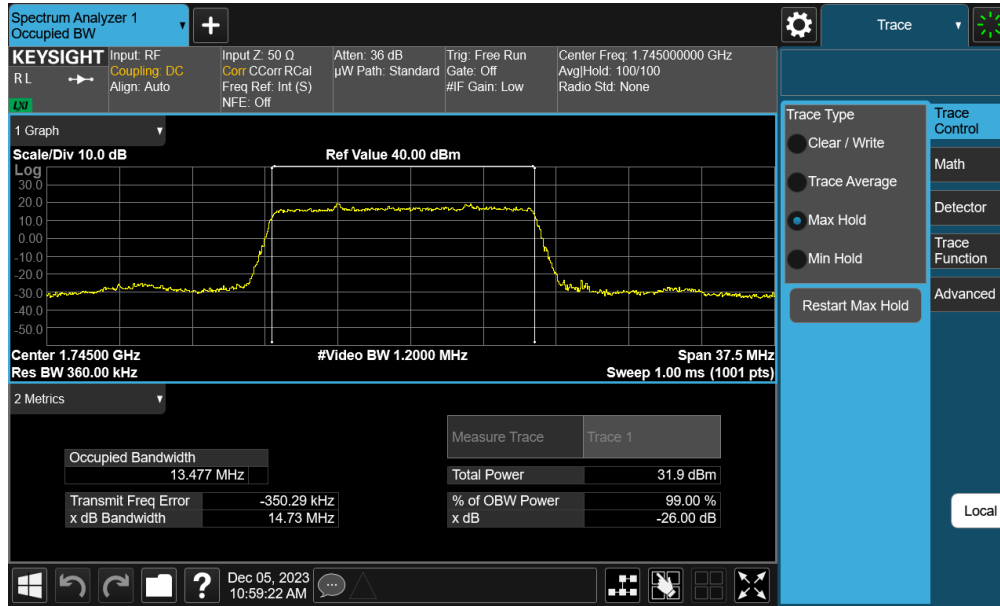


Plot 7-36. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM QPSK - Full RB – Ant B)

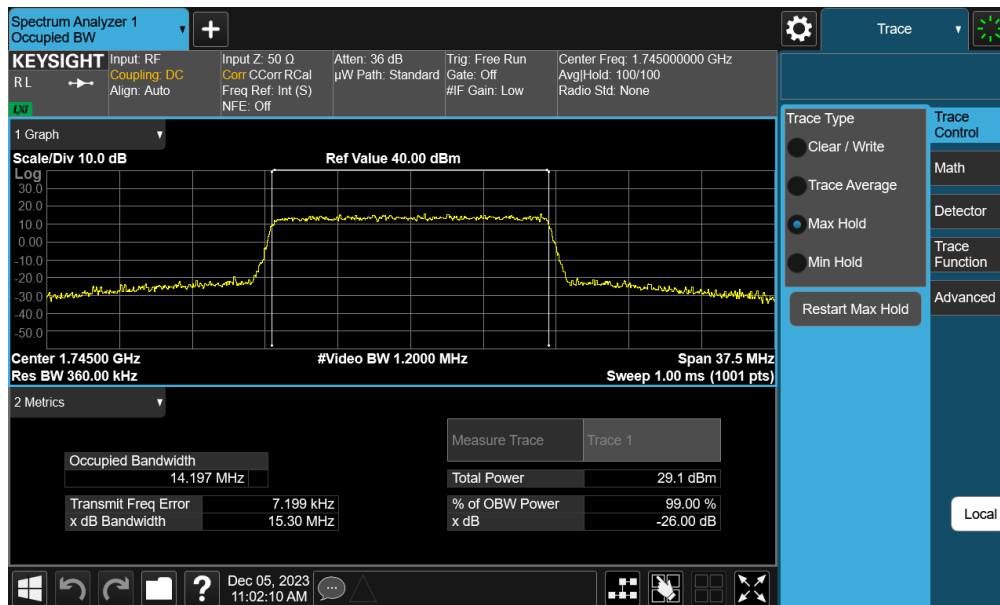


Plot 7-37. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM 16QAM - Full RB – Ant B)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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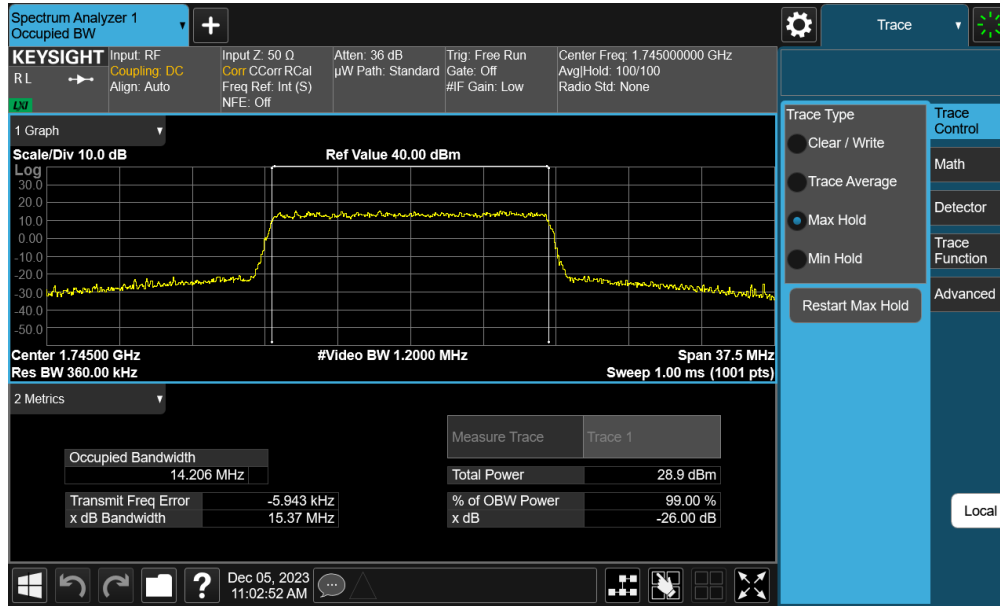


Plot 7-38. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz DFT-s-OFDM BPSK - Full RB – Ant B)

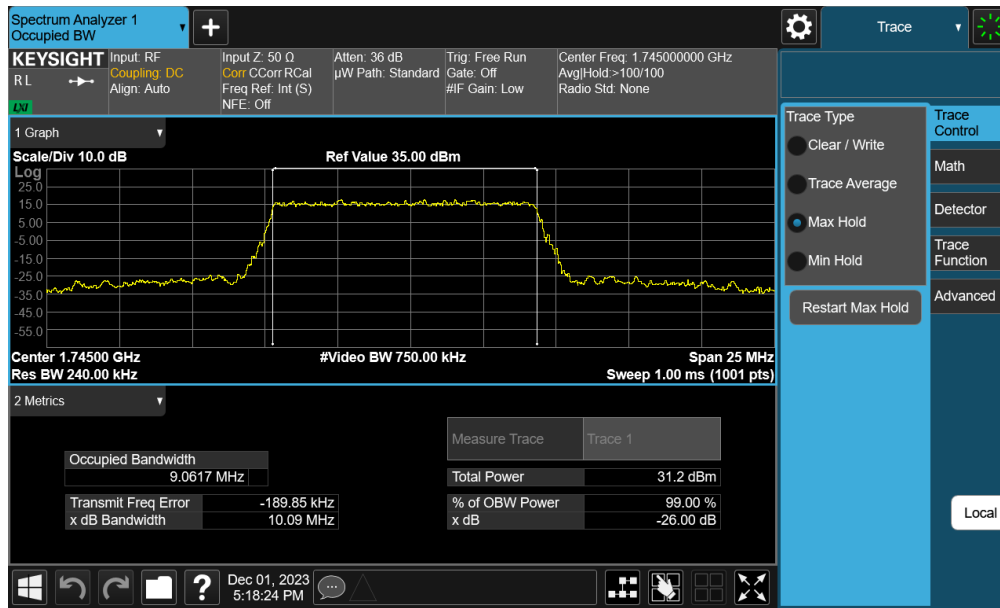


Plot 7-39. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM QPSK - Full RB – Ant B)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 41 of 137

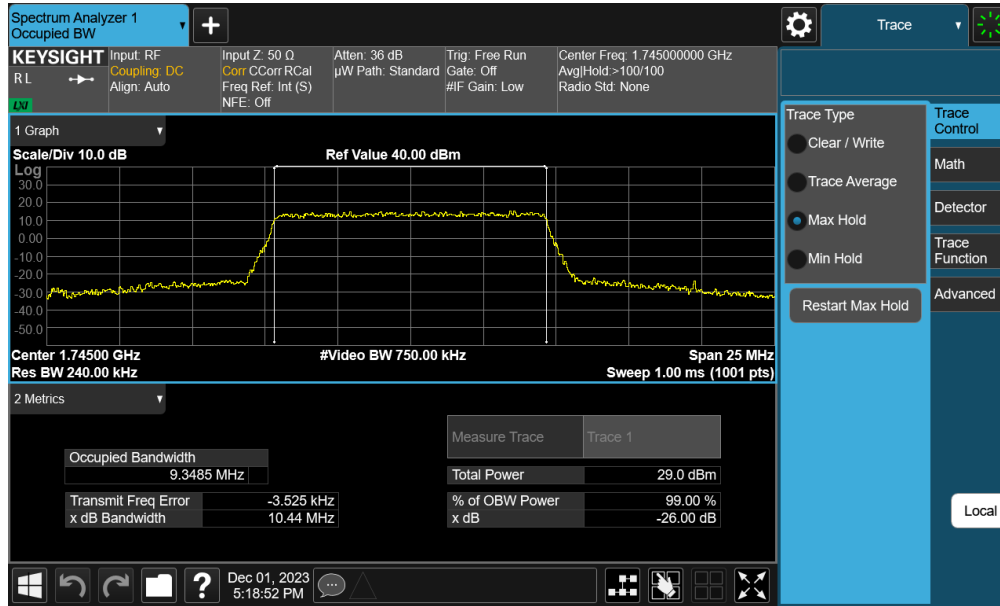


Plot 7-40. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM 16QAM - Full RB – Ant B)

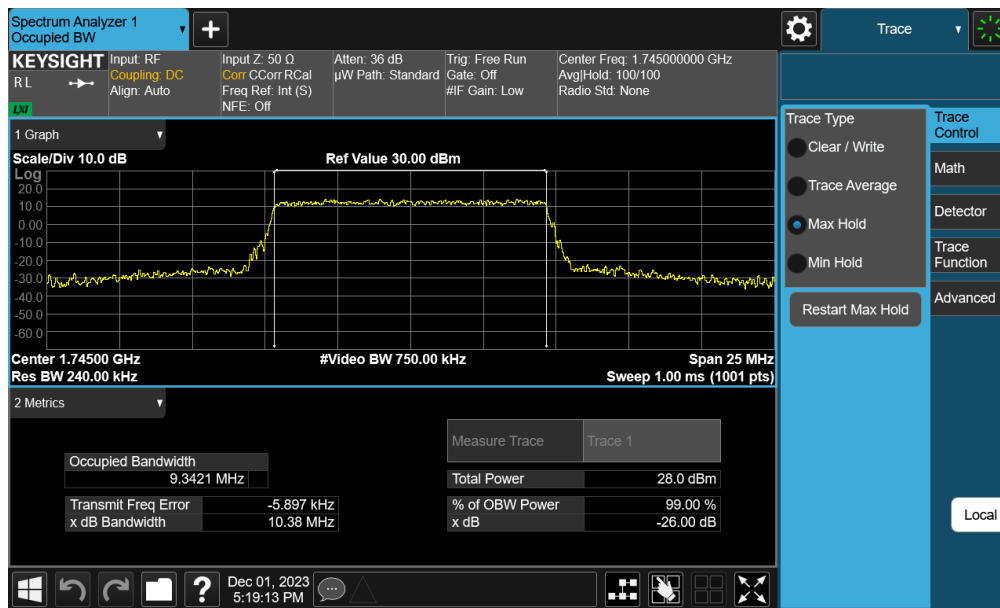


Plot 7-41. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB – Ant B)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 42 of 137

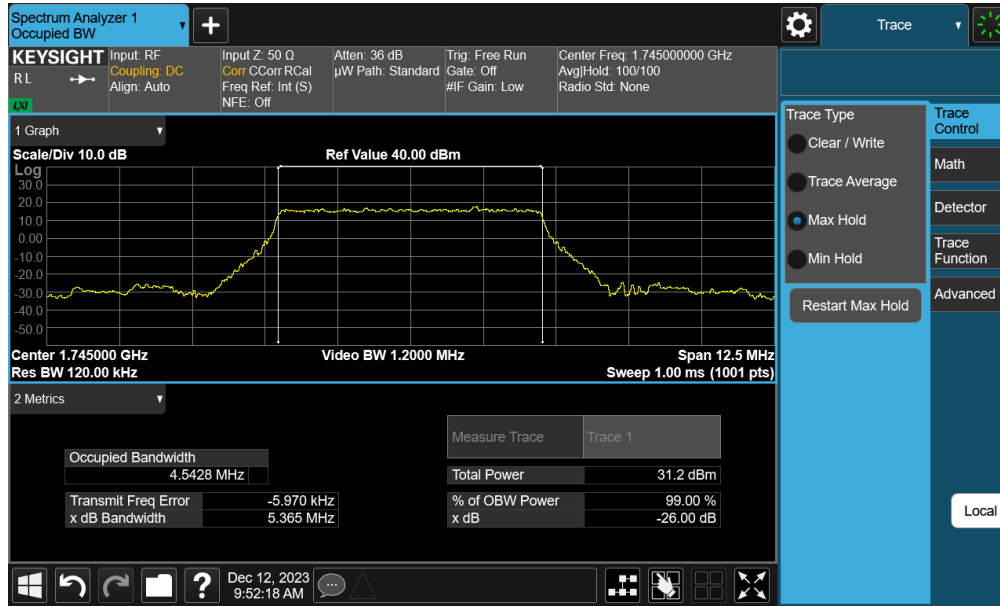


Plot 7-42. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB – Ant B)

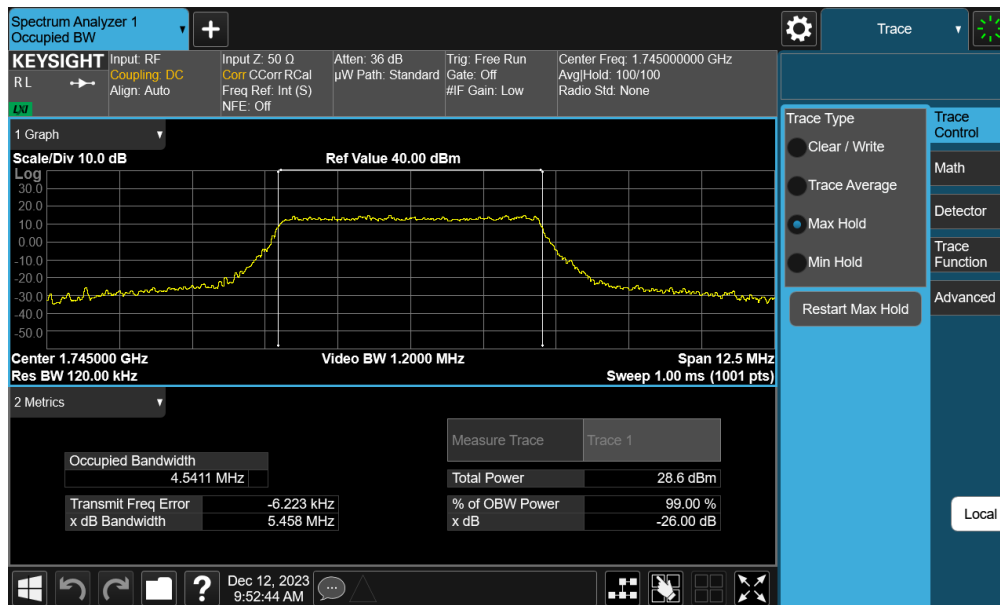


Plot 7-43. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM 16QAM - Full RB – Ant B)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 43 of 137

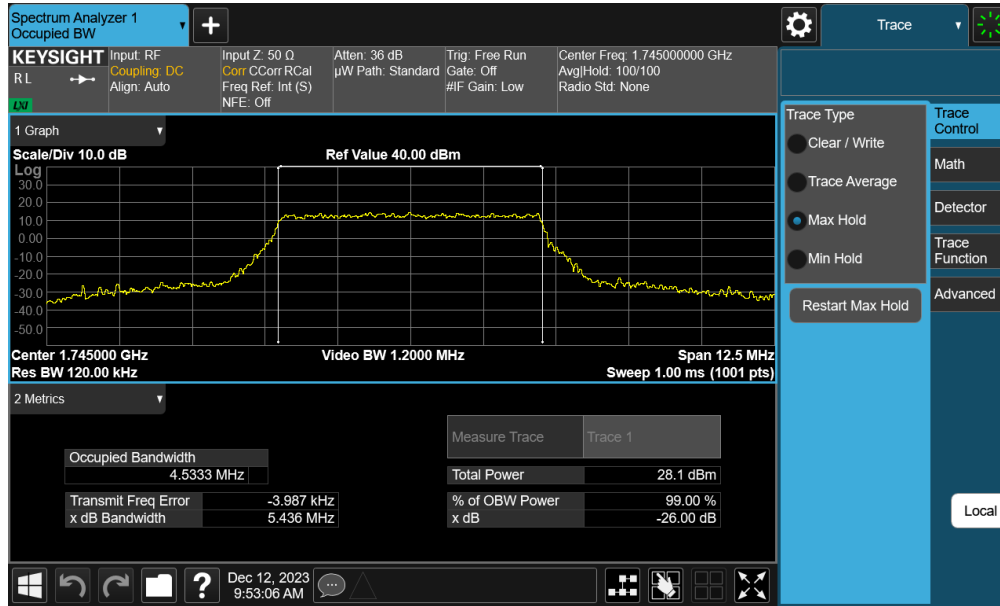


Plot 7-44. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB – Ant B)



Plot 7-45. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – Ant B)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 44 of 137



Plot 7-46. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM 16QAM - Full RB – Ant B)

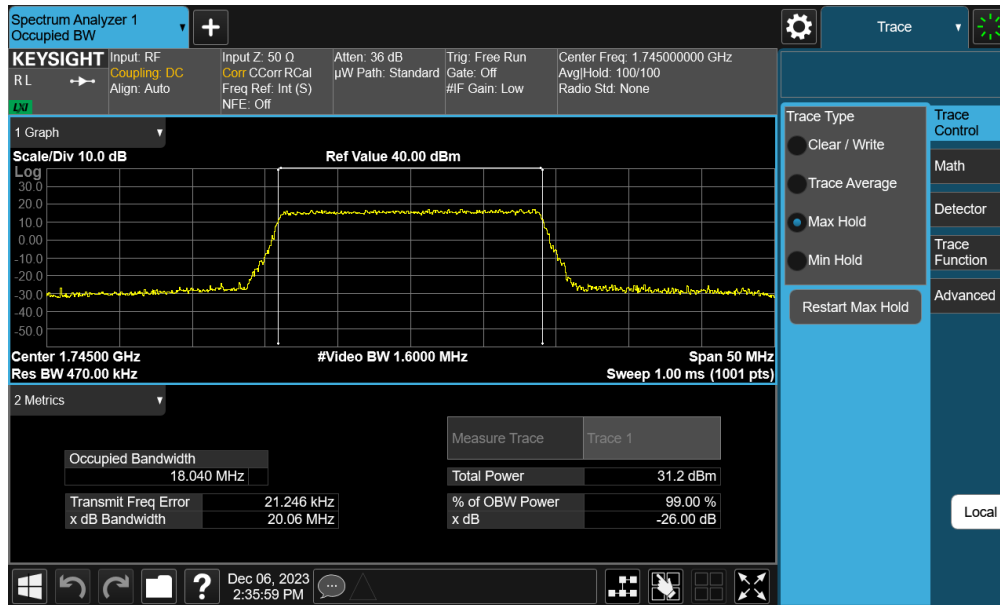
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 45 of 137

Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B66-4	20 MHz	QPSK	18.04
		16QAM	18.02
	15 MHz	QPSK	13.53
		16QAM	13.49
	10 MHz	QPSK	9.04
		16QAM	9.09
	5 MHz	QPSK	4.55
		16QAM	4.54
	3 MHz	QPSK	2.73
		16QAM	2.72
	1.4 MHz	QPSK	1.10
		16QAM	1.11
NR-n66	40 MHz	$\pi/2$ BPSK	38.91
		QPSK	38.87
		16QAM	38.76
	30 MHz	$\pi/2$ BPSK	28.85
		QPSK	28.79
		16QAM	28.74
	25 MHz	$\pi/2$ BPSK	23.11
		QPSK	23.91
		16QAM	23.89
	20 MHz	$\pi/2$ BPSK	17.99
		QPSK	19.08
		16QAM	19.03
	15 MHz	$\pi/2$ BPSK	13.53
		QPSK	14.21
		16QAM	14.16
	10 MHz	$\pi/2$ BPSK	9.03
		QPSK	9.34
		16QAM	9.37
	5 MHz	$\pi/2$ BPSK	4.55
		QPSK	4.54
		16QAM	4.53

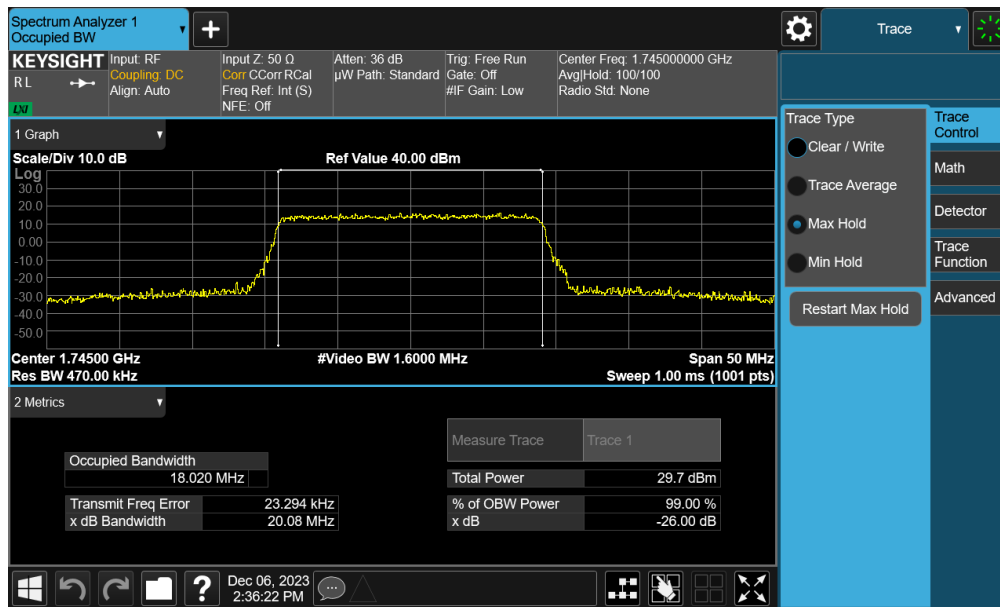
Table 7-9. Occupied Bandwidth Test Results – Above 1GHz – Ant F

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 46 of 137

LTE Band 66/4 - Ant F

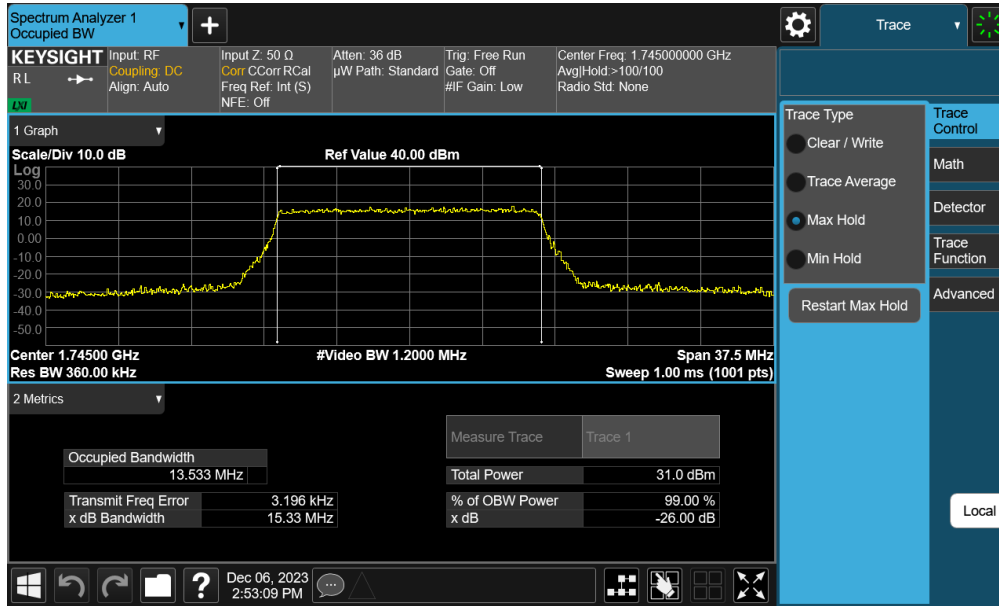


Plot 7-47. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz QPSK - Full RB - Ant F)

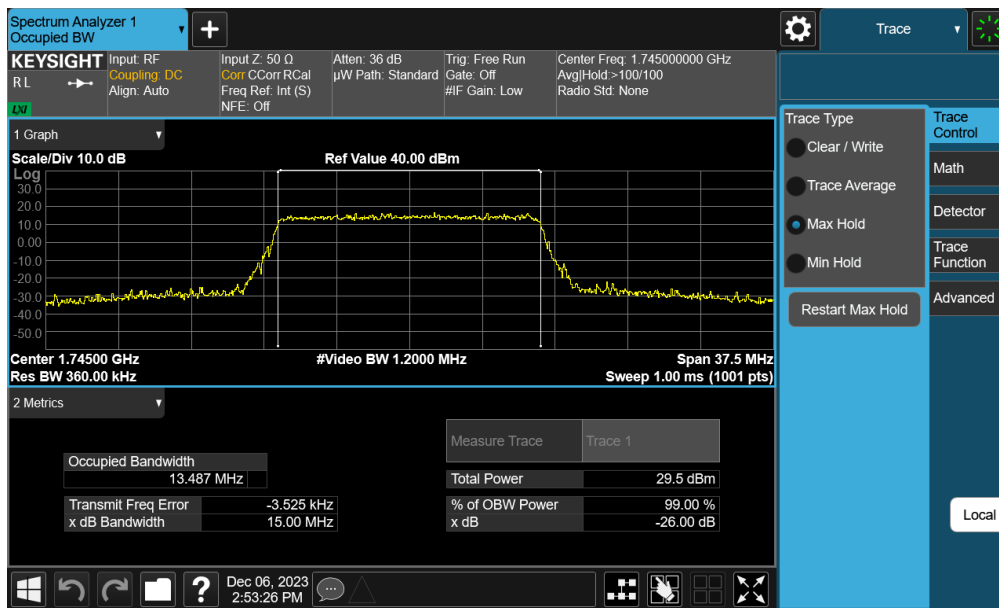


Plot 7-48. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 47 of 137

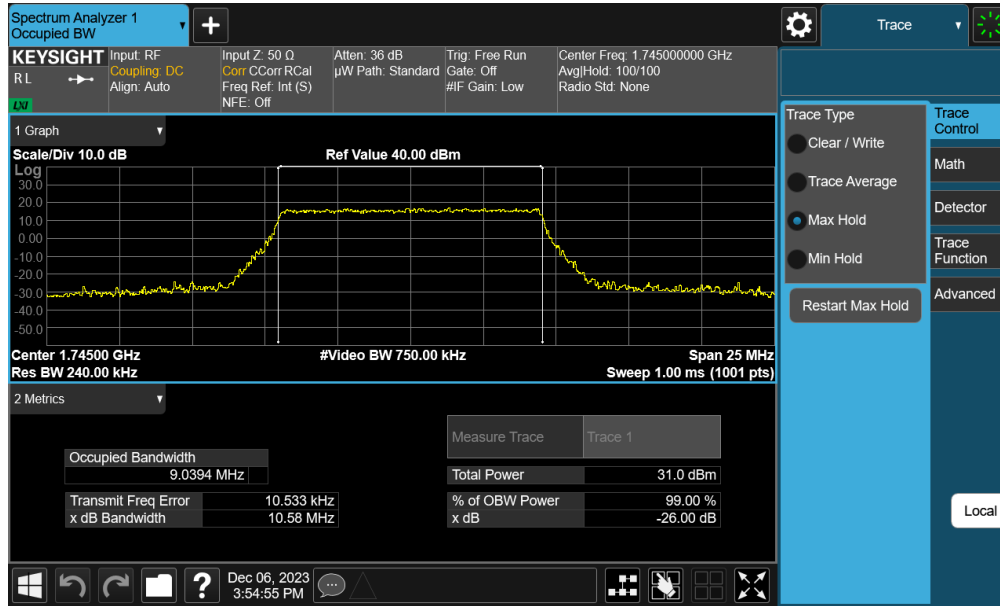


Plot 7-49. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz QPSK - Full RB - Ant F)

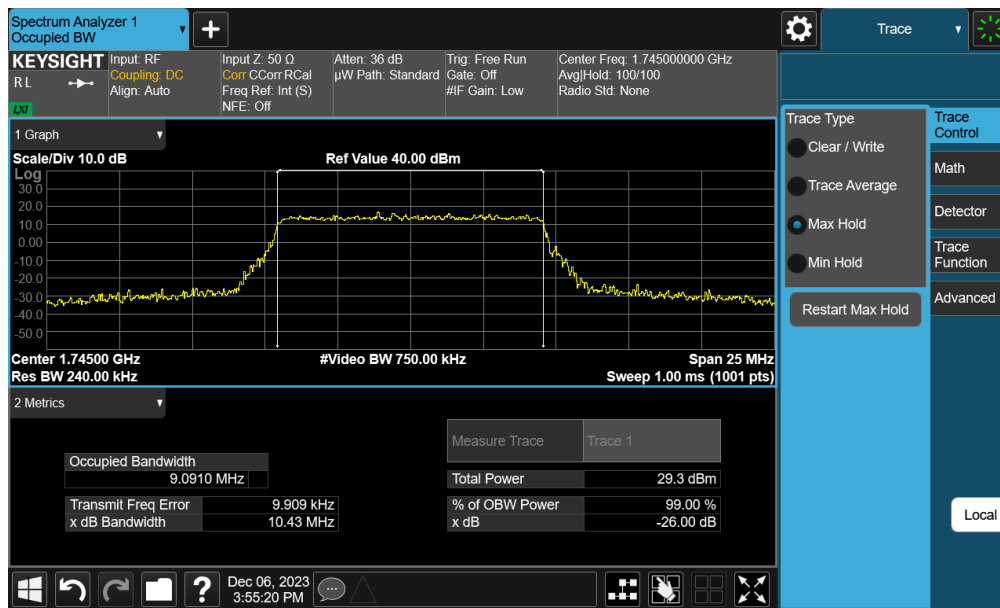


Plot 7-50. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 48 of 137

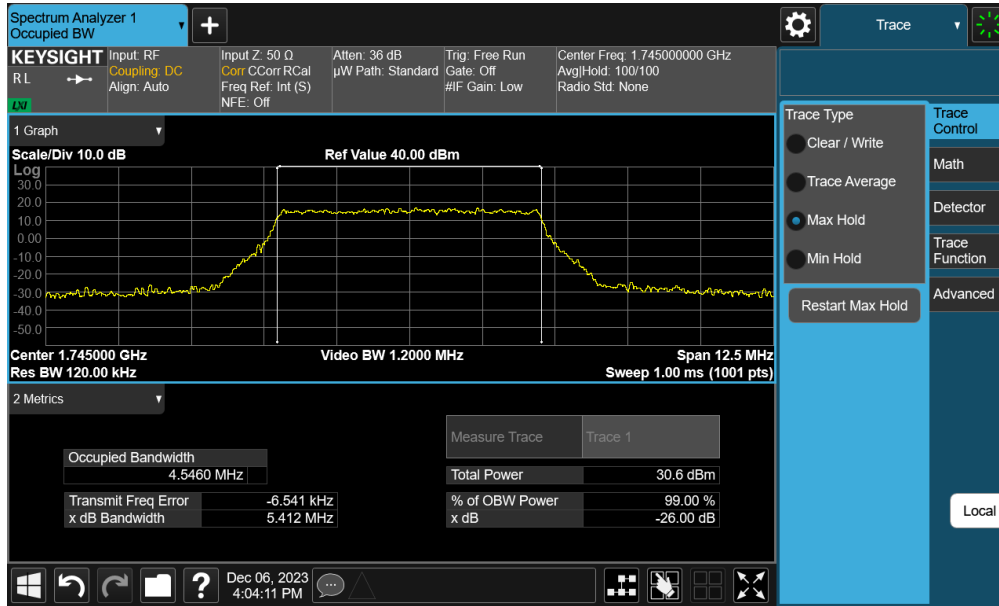


Plot 7-51. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz QPSK - Full RB - Ant F)

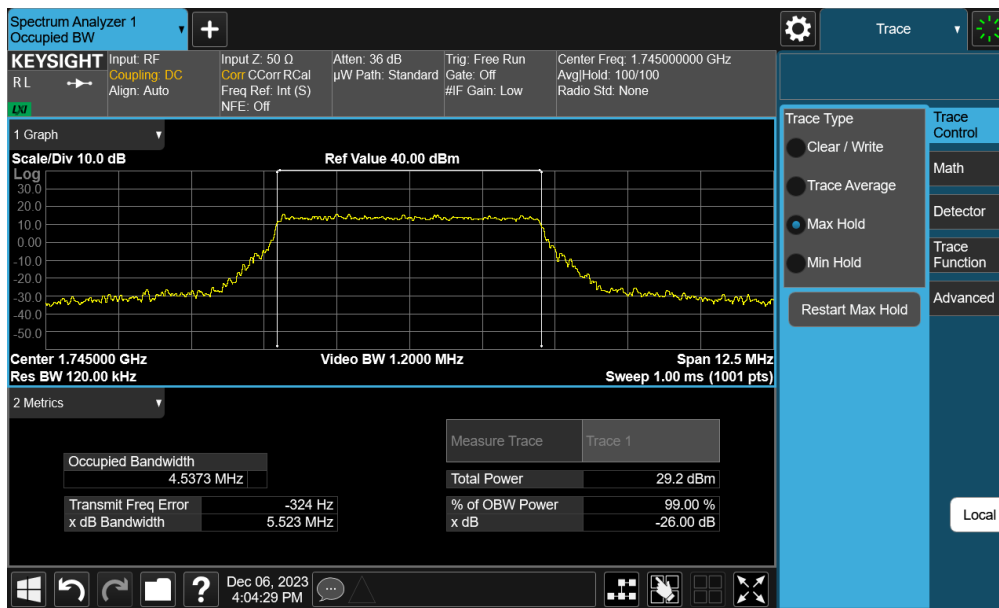


Plot 7-52. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 49 of 137

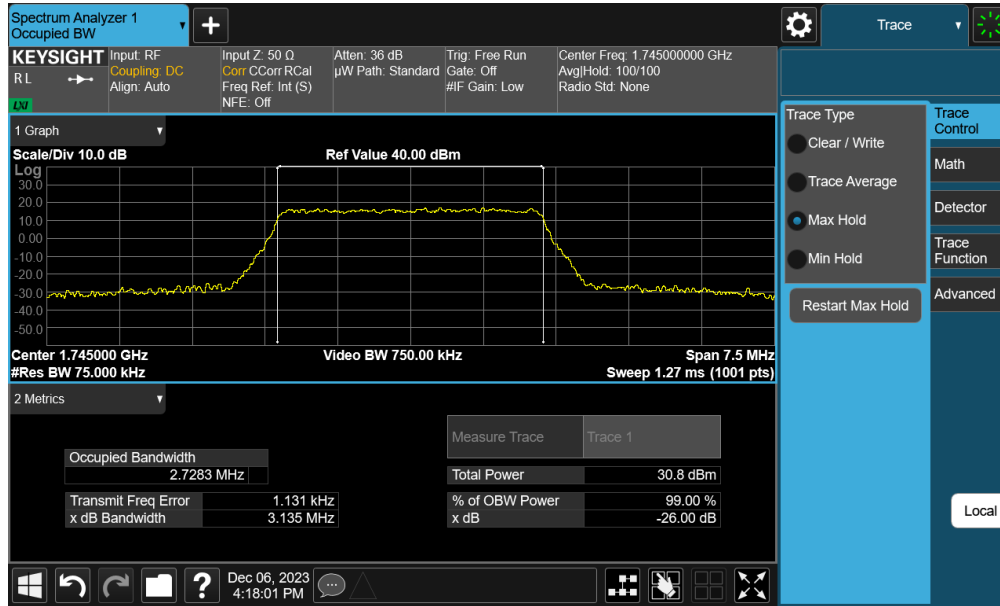


Plot 7-53. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz QPSK - Full RB - Ant F)

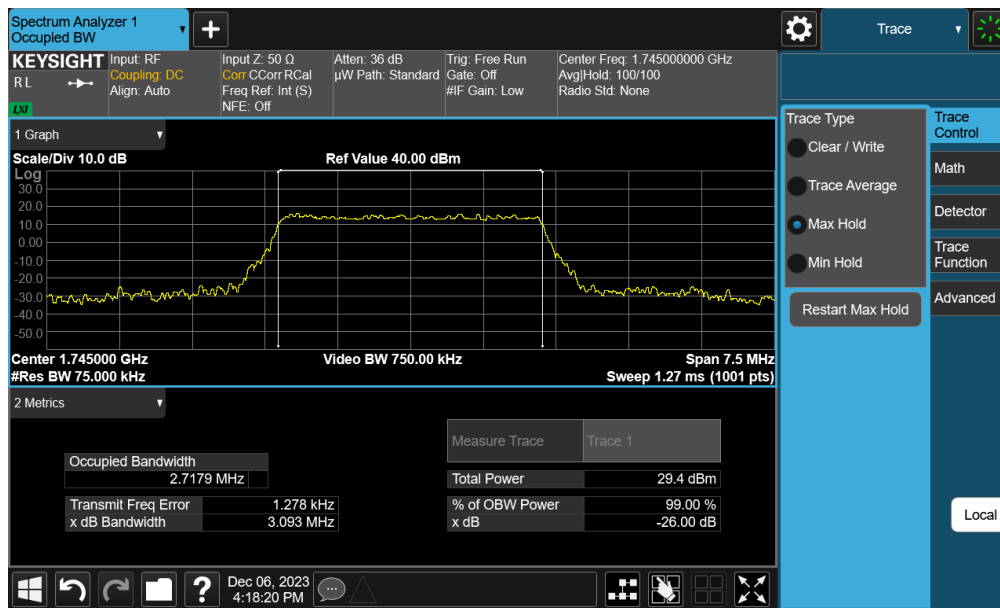


Plot 7-54. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 50 of 137

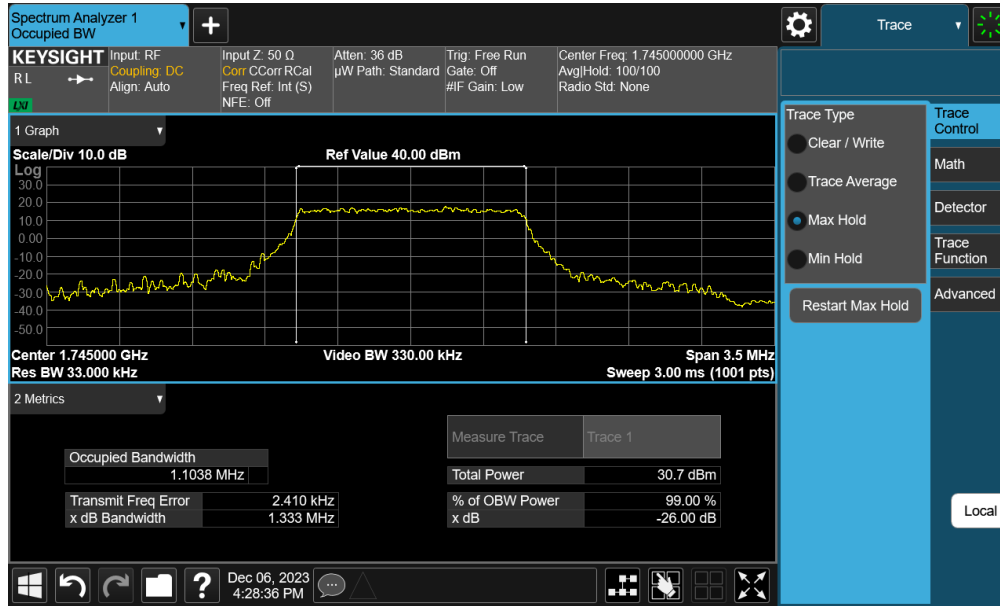


Plot 7-55. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz QPSK - Full RB - Ant F)

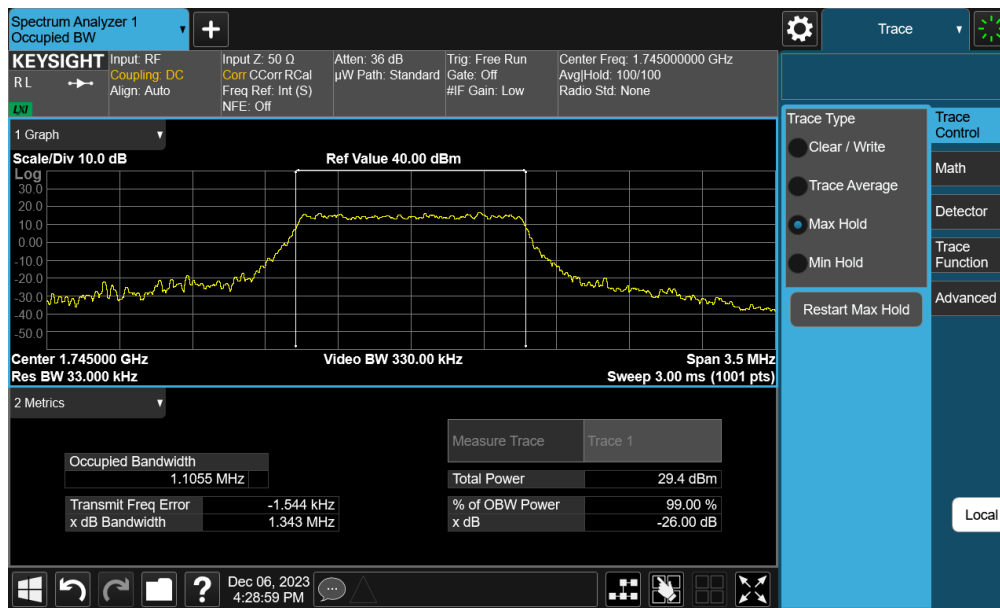


Plot 7-56. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 51 of 137



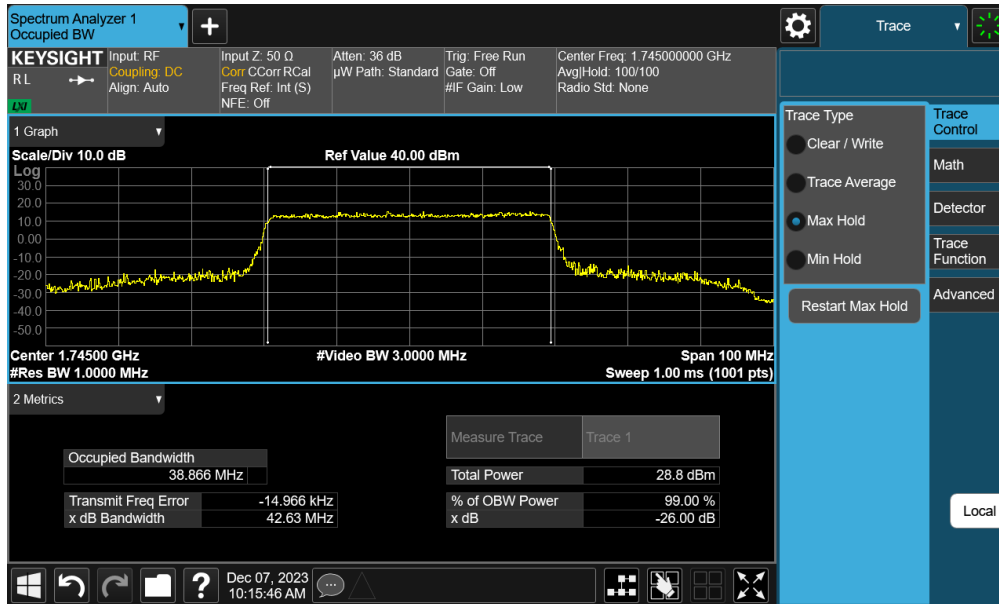
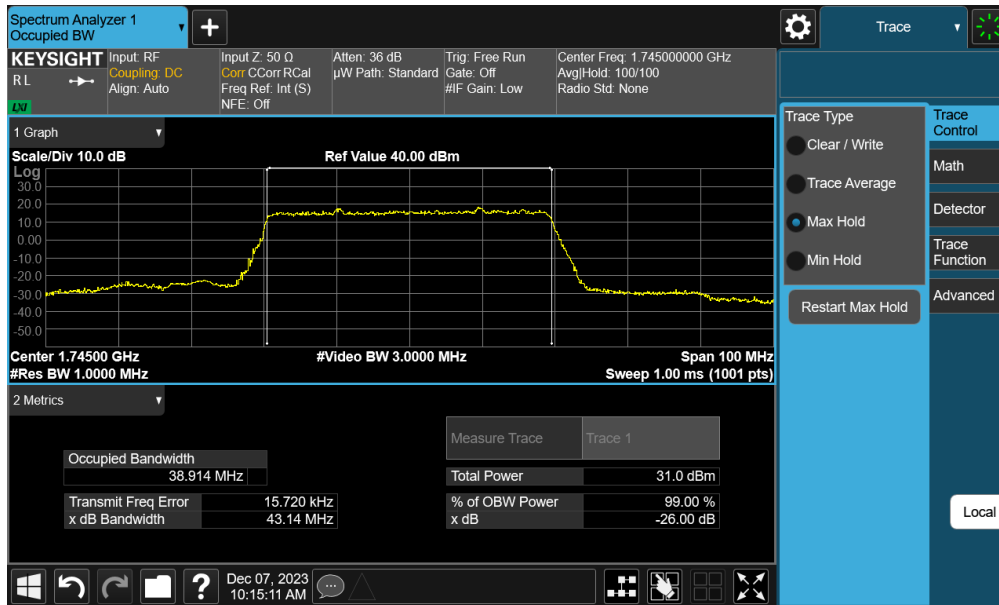
Plot 7-57. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz QPSK - Full RB - Ant F)



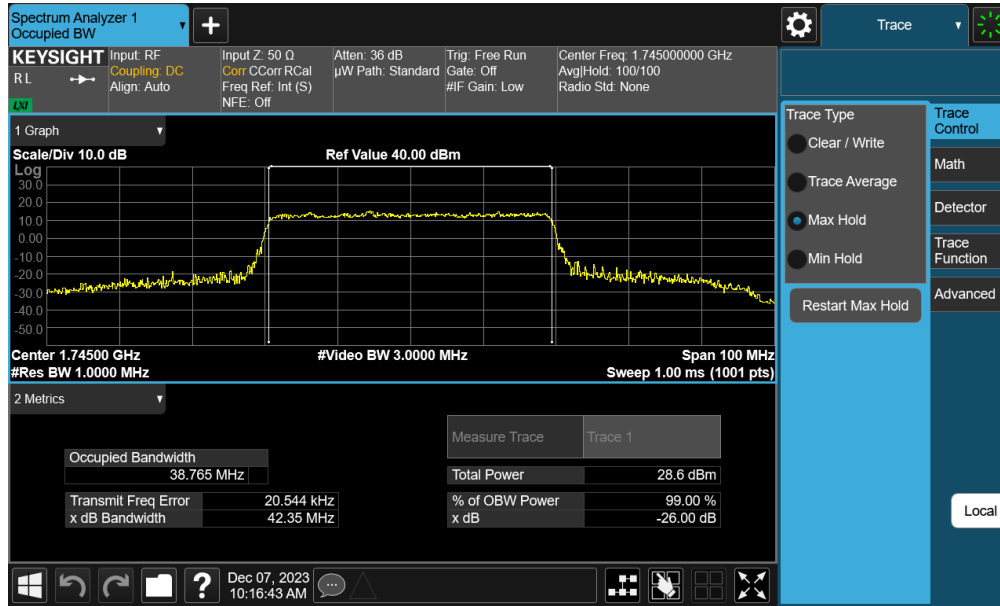
Plot 7-58. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 52 of 137

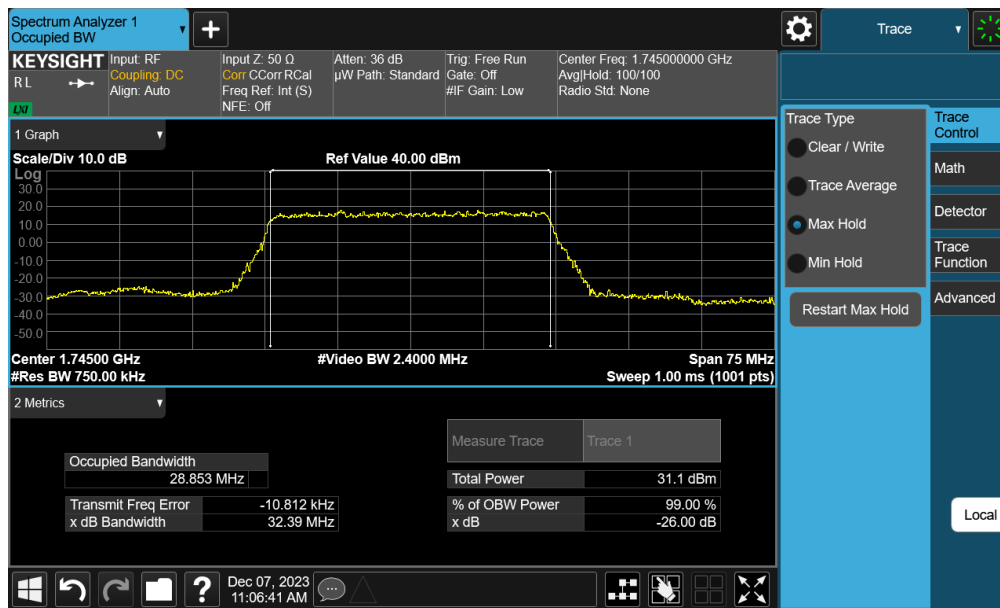
NR Band n66 – Ant F



FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 53 of 137

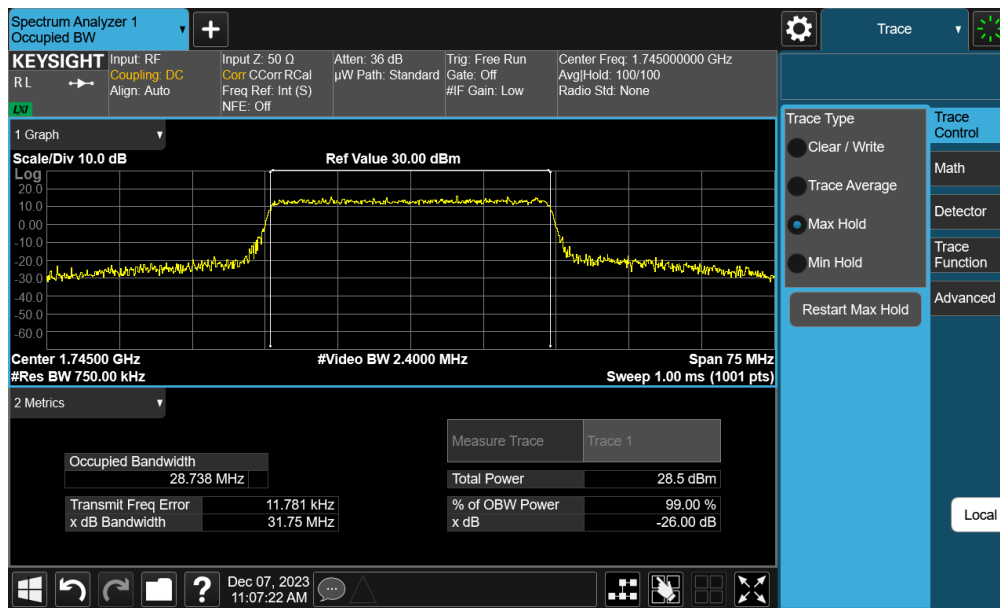
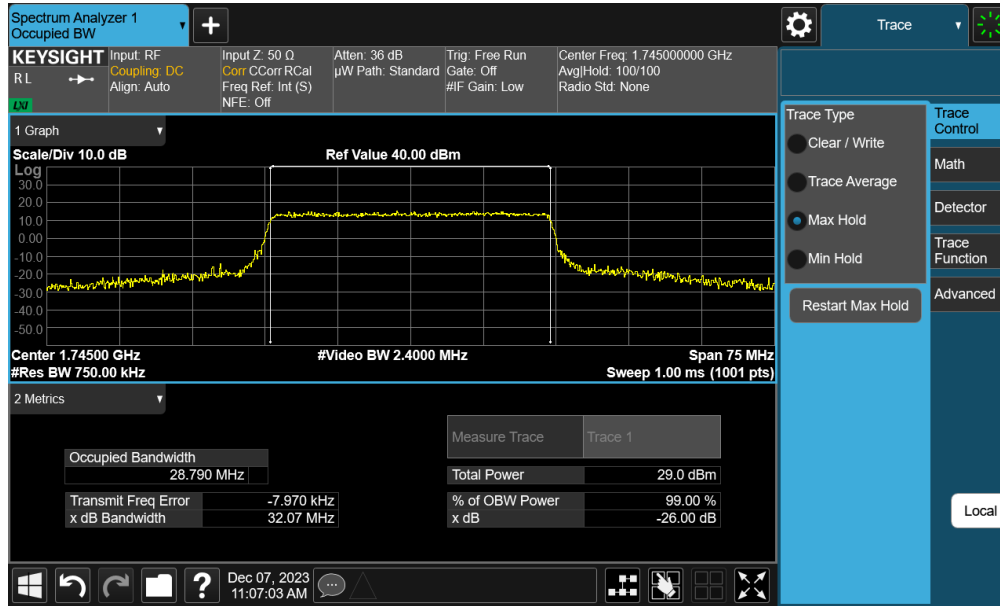


Plot 7-61. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz CP-OFDM 16QAM - Full RB – Ant F)

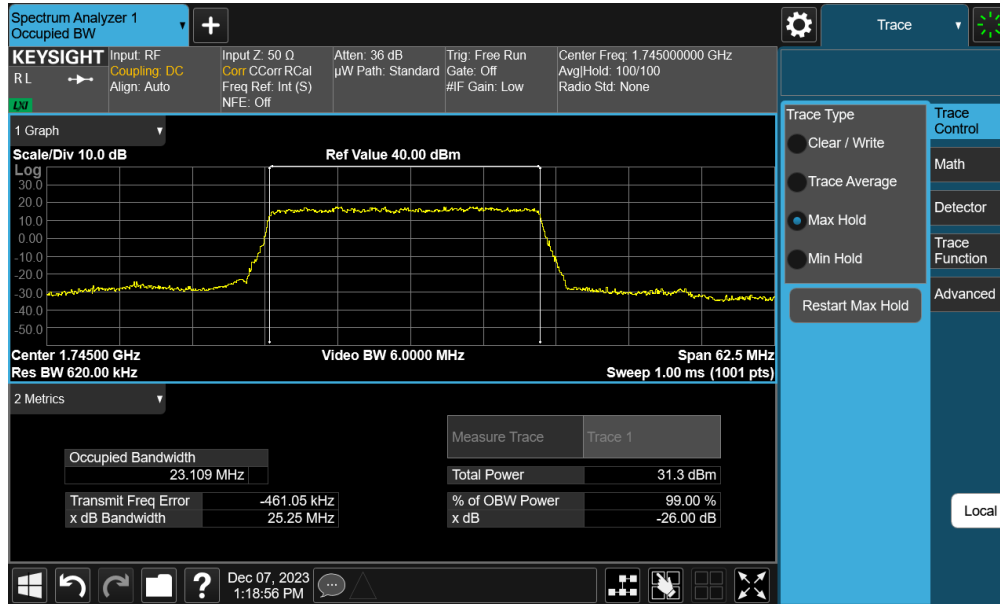


Plot 7-62. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)

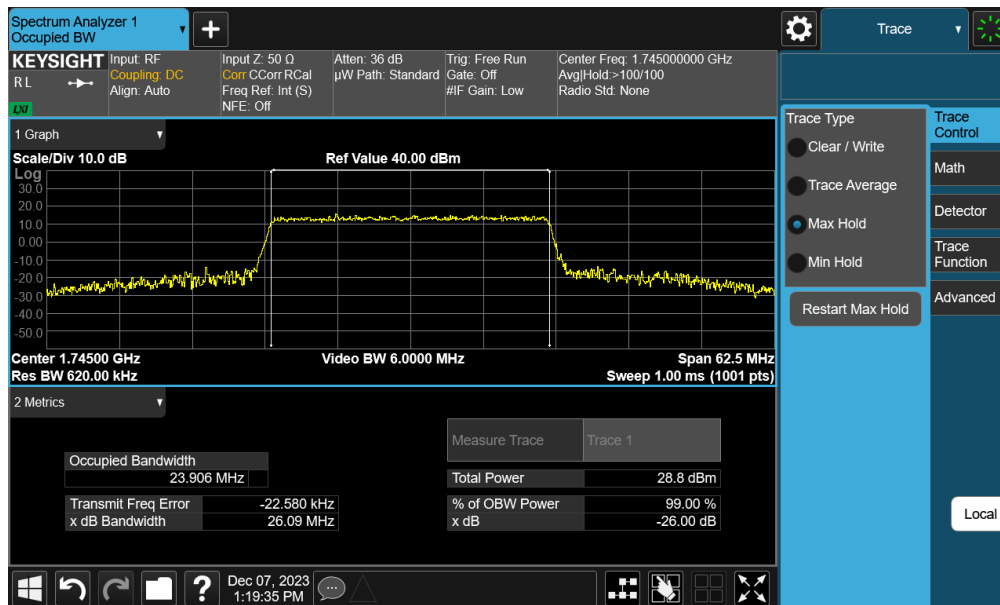
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 54 of 137



FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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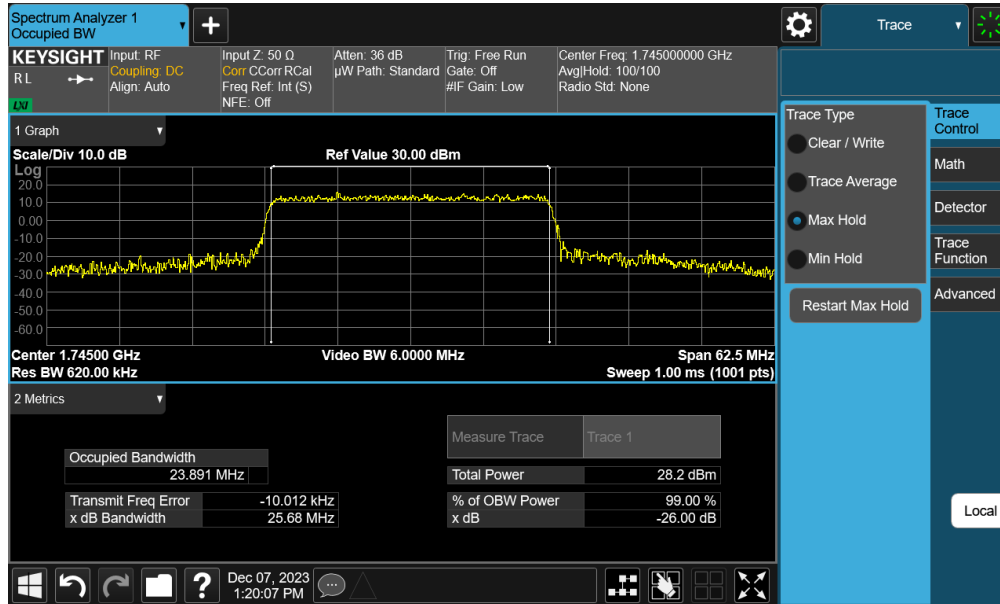


Plot 7-65. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)

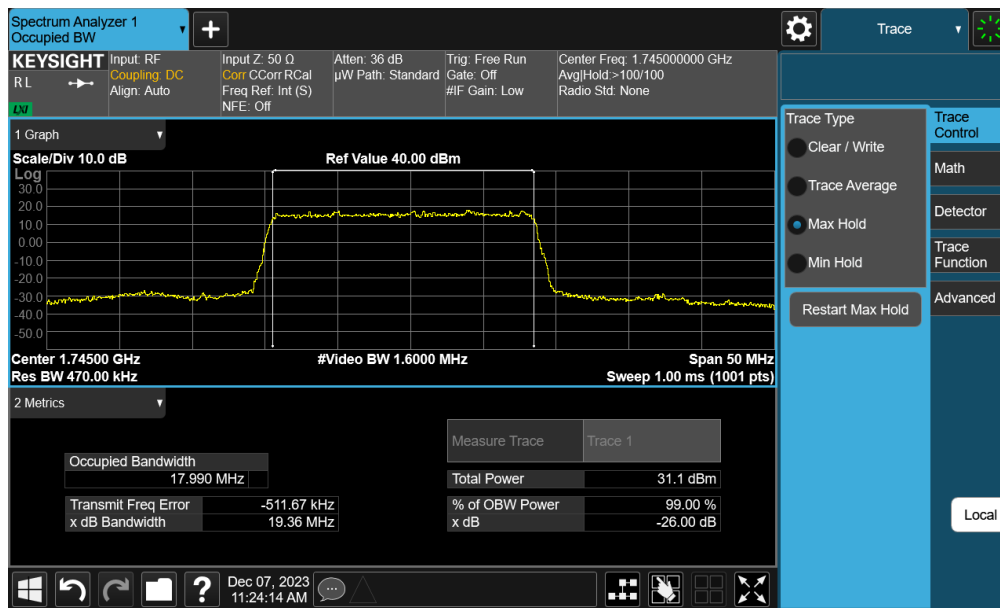


Plot 7-66. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM QPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 56 of 137

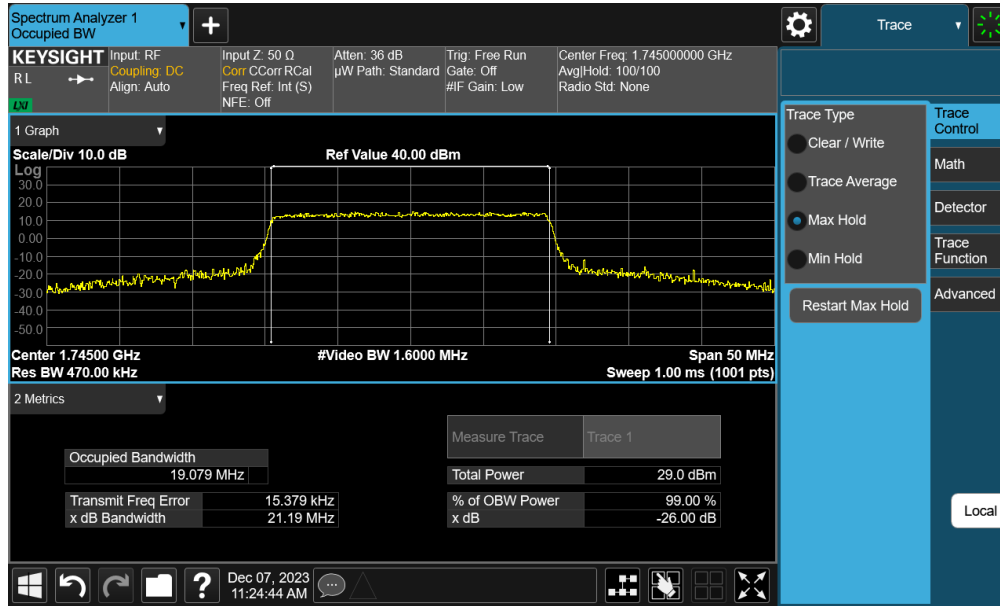


Plot 7-67. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM 16QAM - Full RB – Ant F)

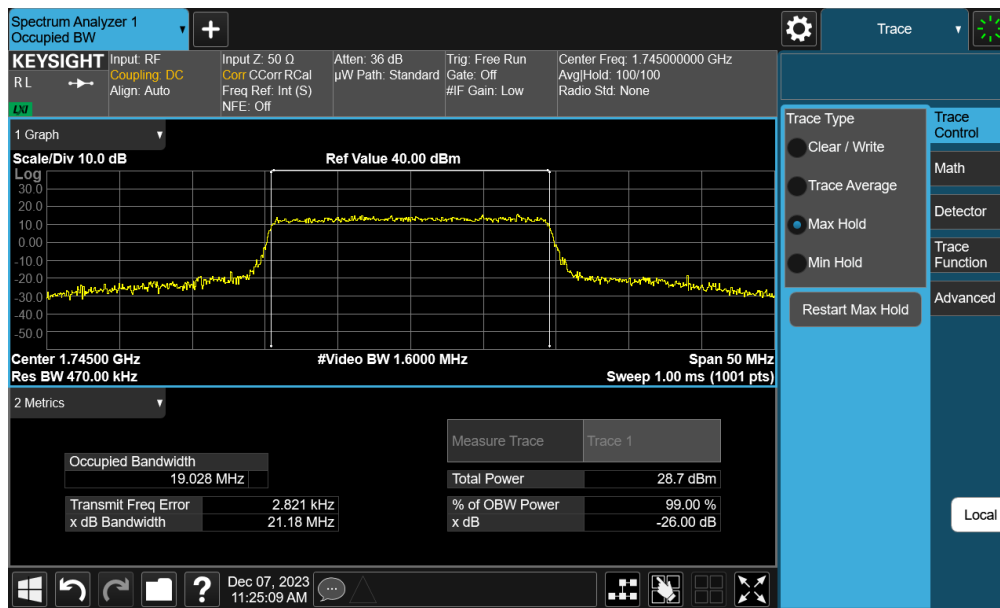


Plot 7-68. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 57 of 137

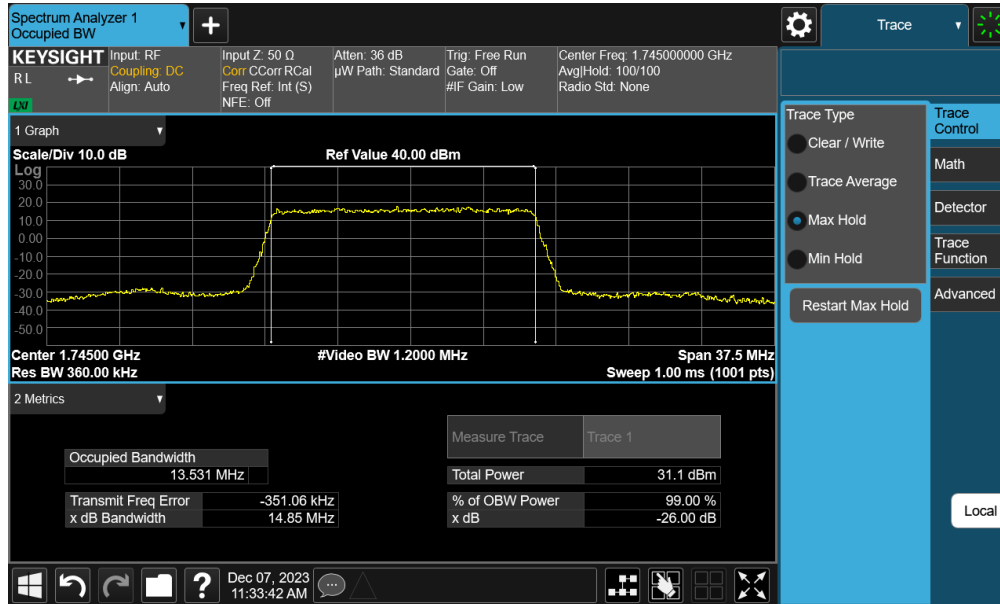


Plot 7-69. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM QPSK - Full RB – Ant F)

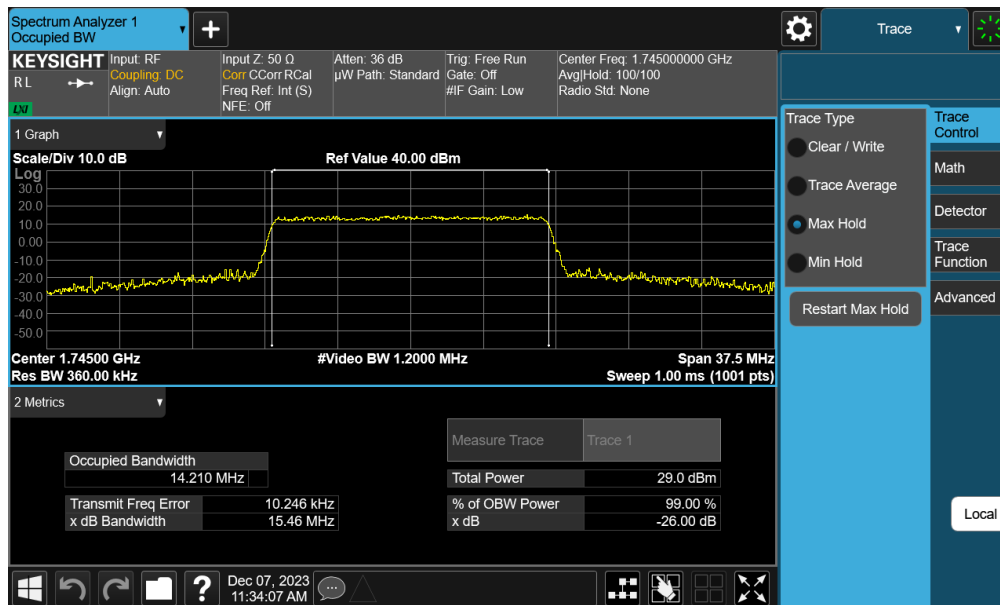


Plot 7-70. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM 16QAM - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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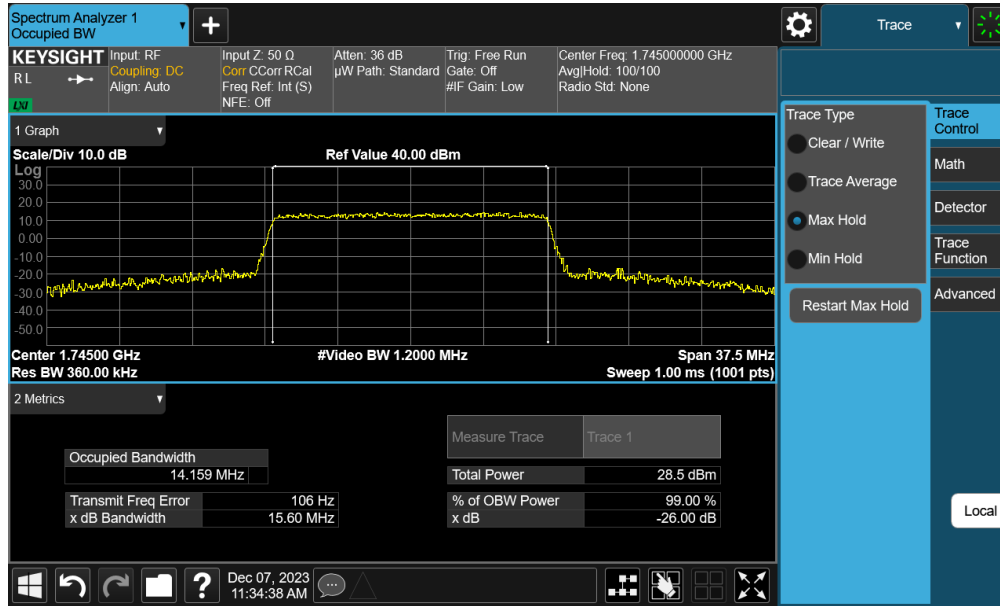


Plot 7-71. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)

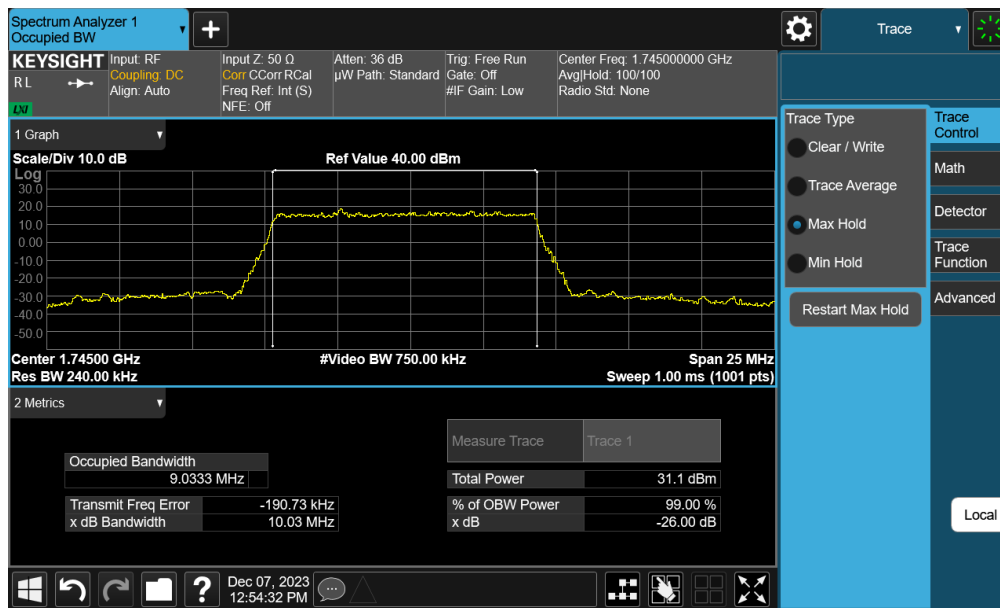


Plot 7-72. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM QPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 59 of 137

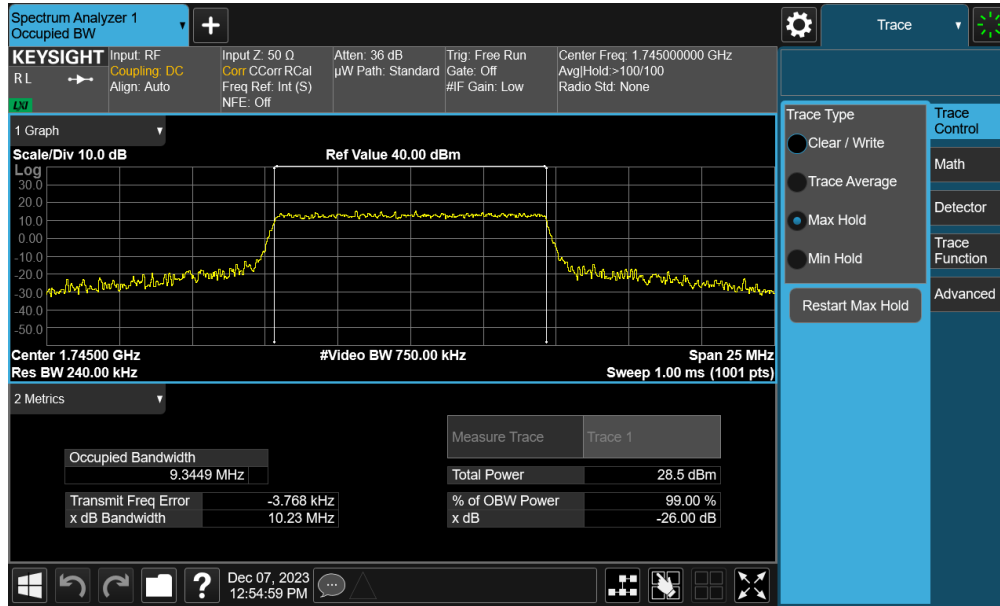


Plot 7-73. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM 16QAM - Full RB – Ant F)

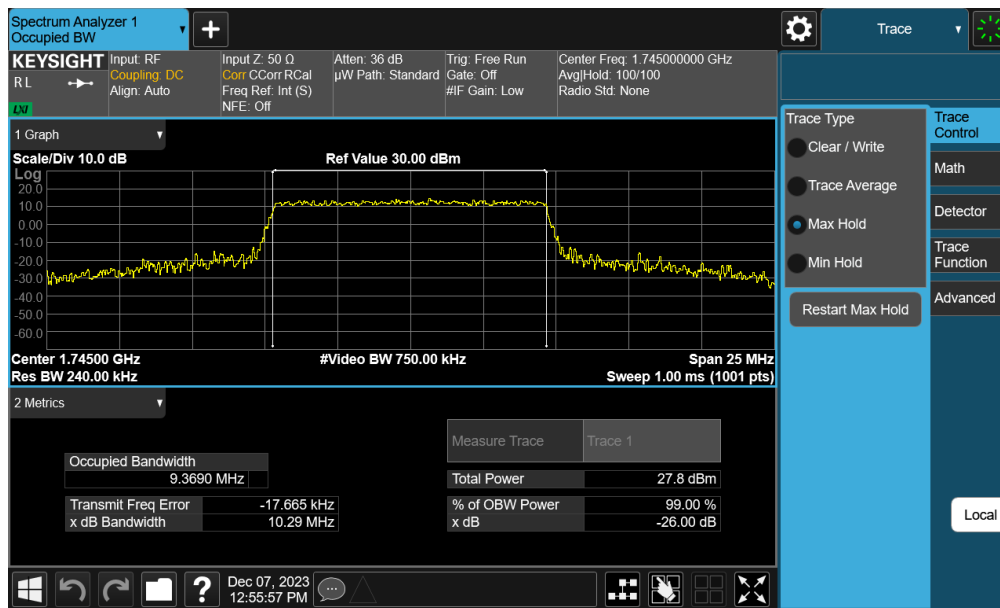


Plot 7-74. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 60 of 137

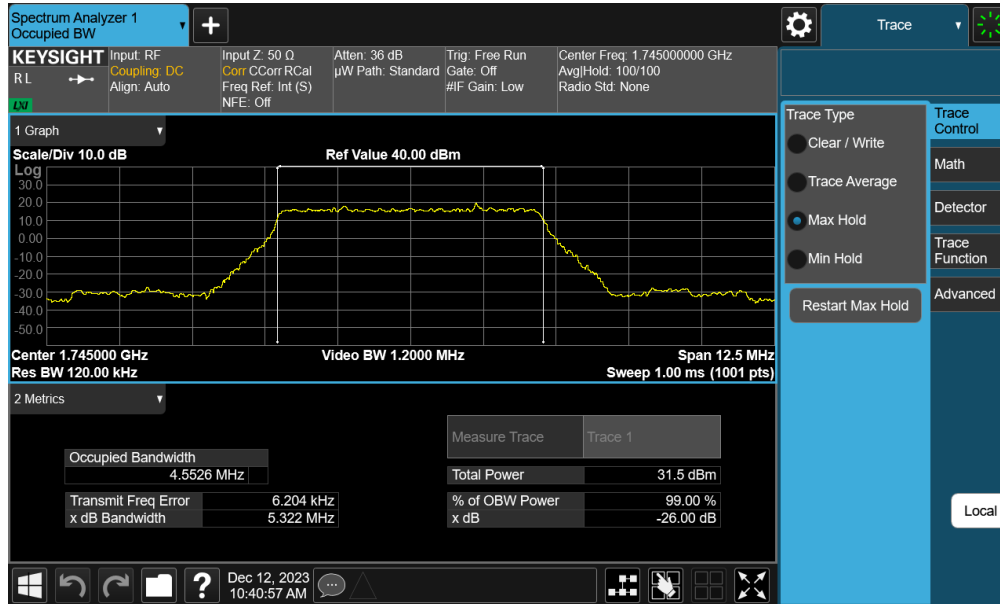


Plot 7-75. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB – Ant F)

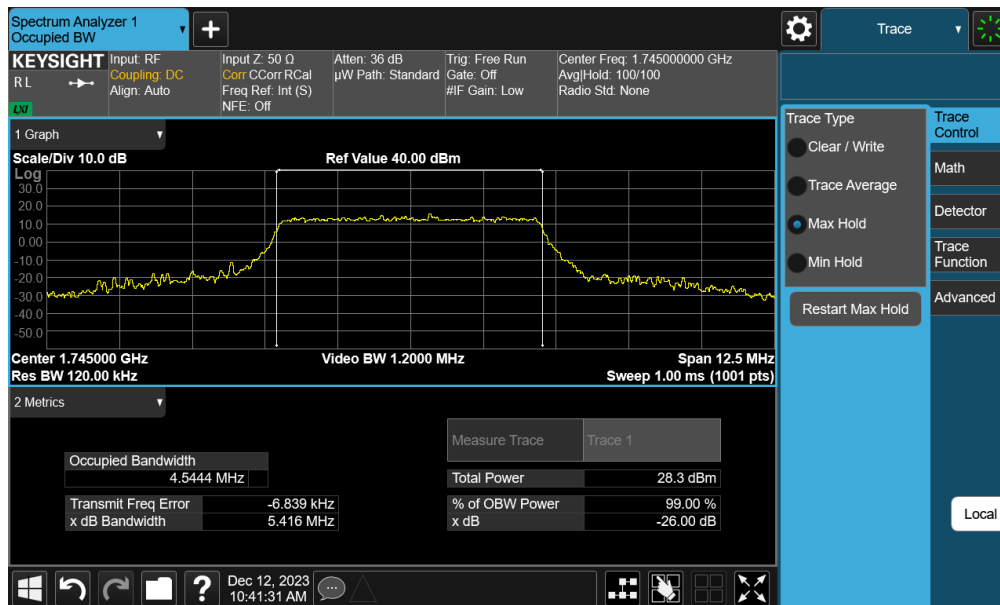


Plot 7-76. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM 16QAM - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 61 of 137

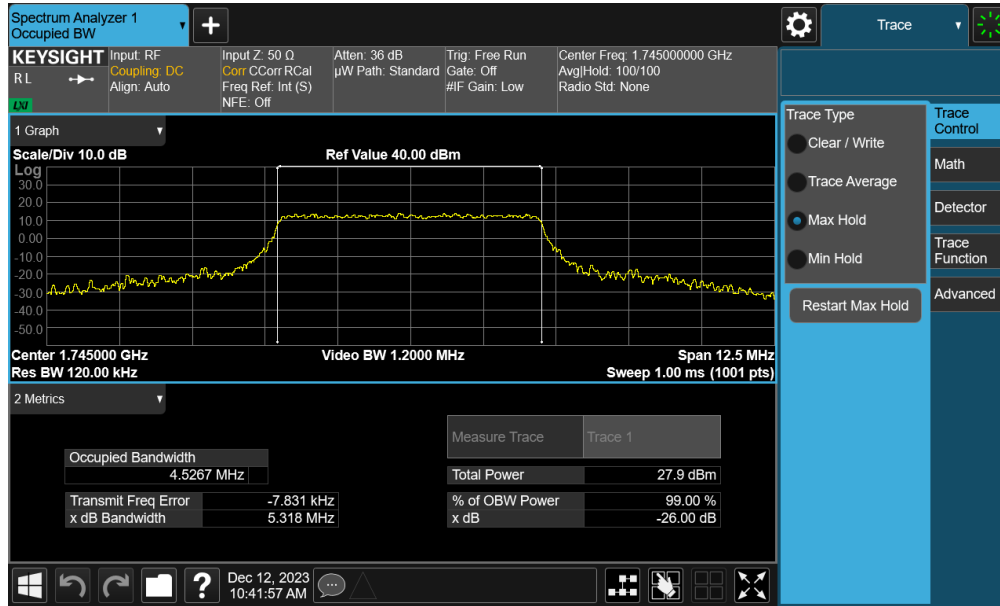


Plot 7-77. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB – Ant F)



Plot 7-78. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-04.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 62 of 137



Plot 7-79. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – Ant F)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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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.

The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

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 18GHz (separated into at least two plots per channel)
2. RBW \geq 100kHz
3. VBW \geq 3 x RBW
4. Detector = RMS
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

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

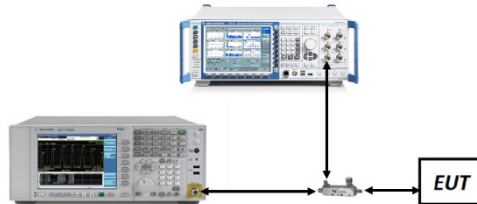


Figure 7-3. Test Instrument & Measurement Setup

Test Notes

1. Per Part 27 and RSS-139, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth 100 kHz or greater for measurements below 1GHz.
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.

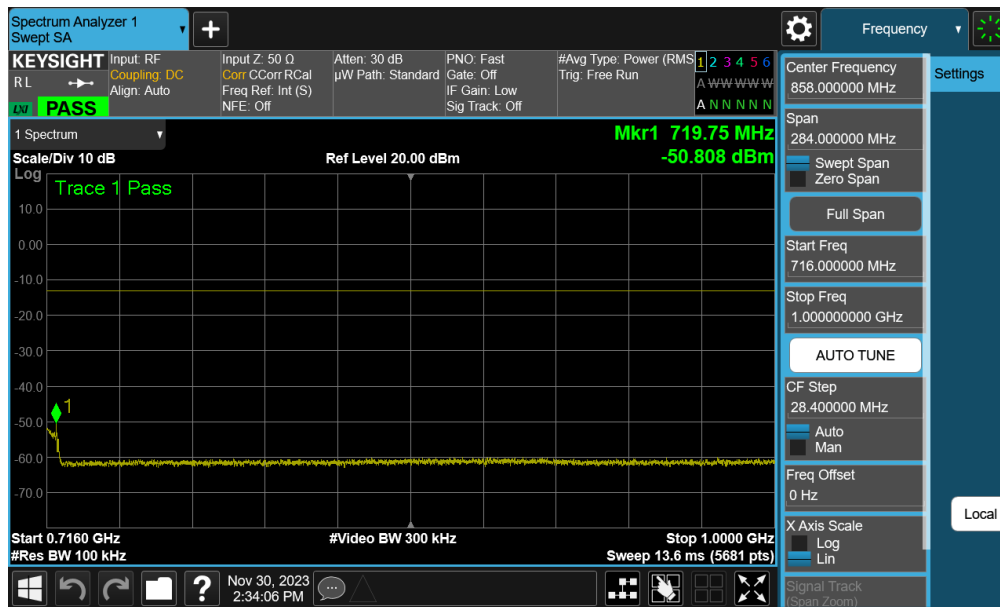
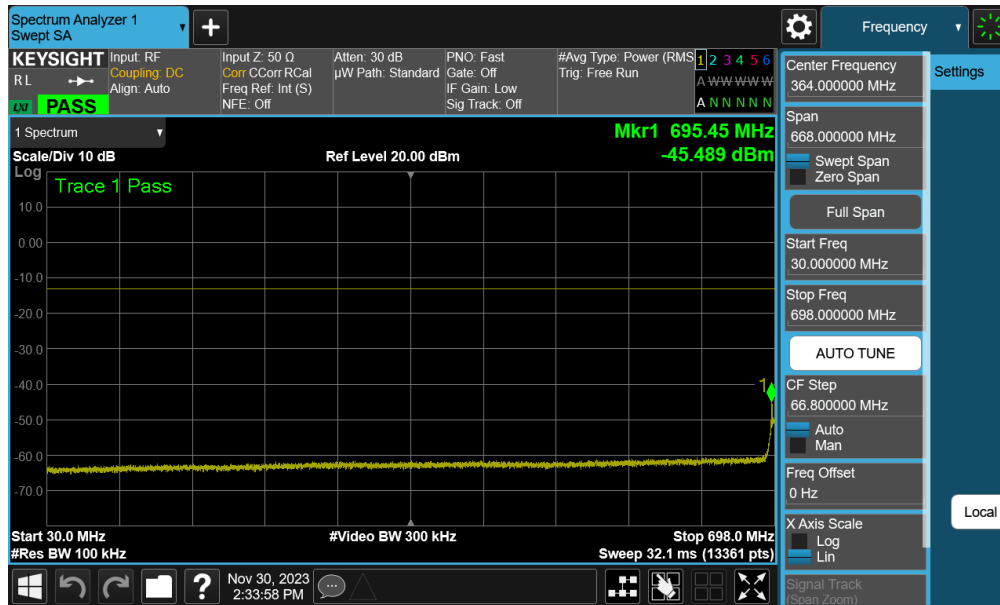
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE-B12-17	10MHz	Low	30.0 - 697.9	-45.52	-13	-32.52
		Low	716.0 - 1000.0	-48.09	-13	-35.09
		Low	1000.0 - 10000.0	-40.47	-13	-27.47
		Mid	30.0 - 698.0	-45.49	-13	-32.49
		Mid	716.0 - 1000.0	-50.81	-13	-37.81
		Mid	1000.0 - 10000.0	-40.50	-13	-27.50
		High	30.0 - 697.9	-52.23	-13	-39.23
		High	716.1 - 1000.0	-47.46	-13	-34.46
		High	1000.0 - 10000.0	-40.37	-13	-27.37
LTE-B13	10MHz	Mid	30.0 - 777.0	-49.29	-35	-14.29
		Mid	787.0 - 1000.0	-48.06	-35	-13.05
		Mid	1000.0 - 20000.0	-40.53	-13	-27.53

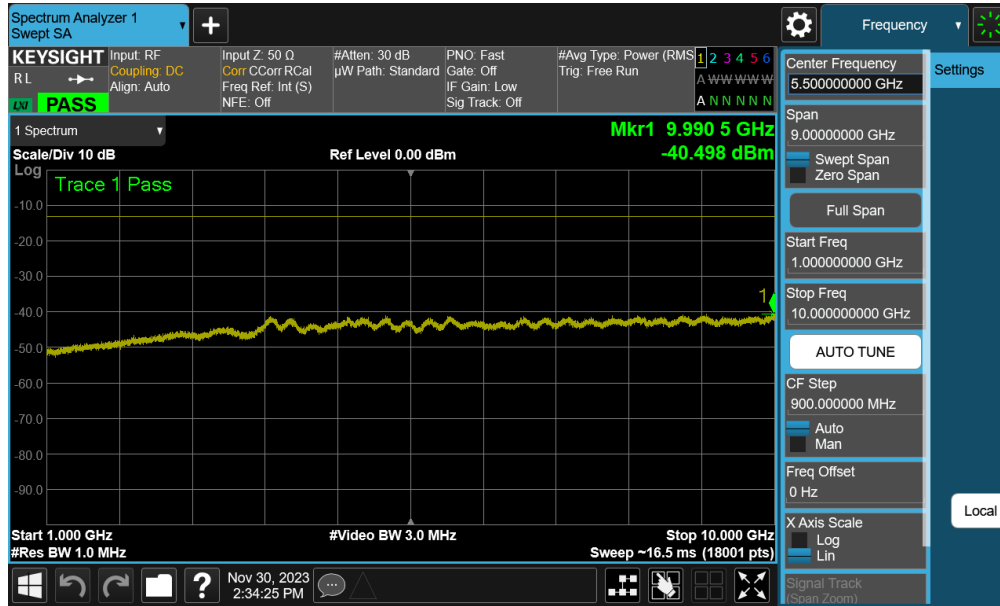
Table 7-10. Conducted Spurious Emission Results – Below 1GHz – Ant A

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LTE Band 12/17 – Ant A



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Plot 7-82. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - 1 RB - Mid Channel - Ant A)

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