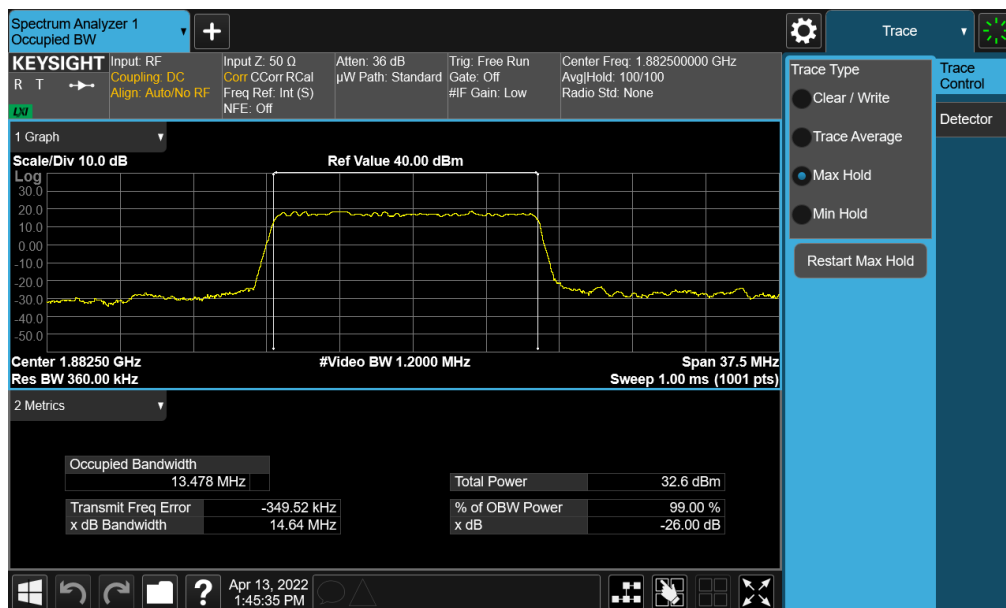
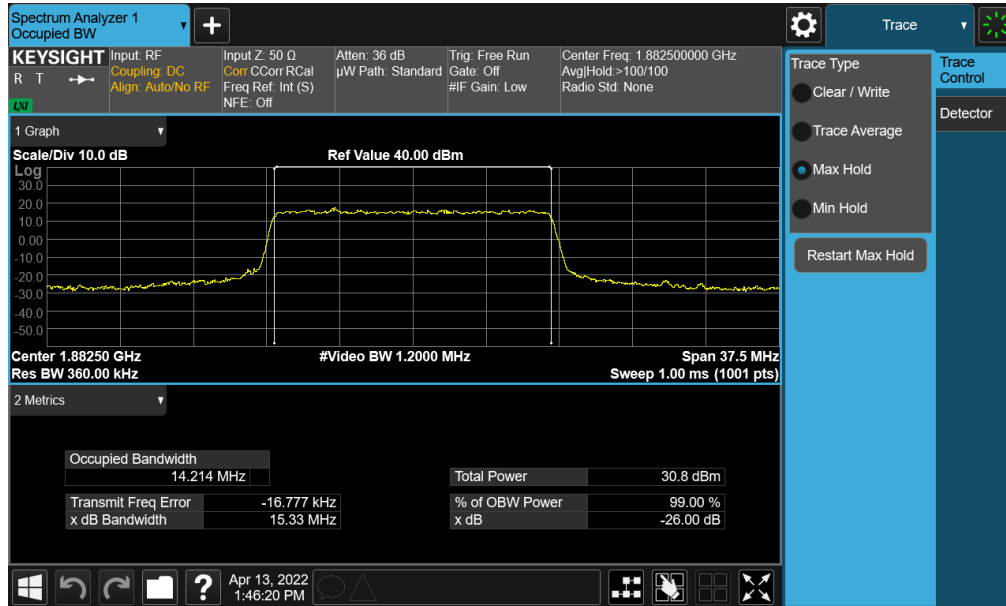


Plot 7-45. Occupied Bandwidth Plot (NR Band n25/2 - 20.0MHz CP-OFDM 16QAM - Full RB)

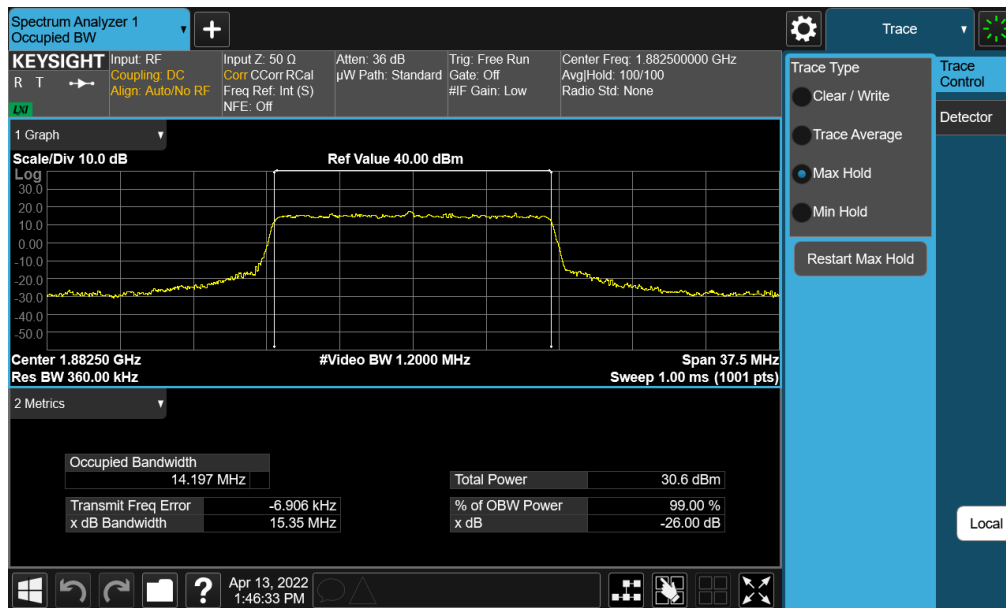


Plot 7-46. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz DFT-s-OFDM BPSK - Full RB)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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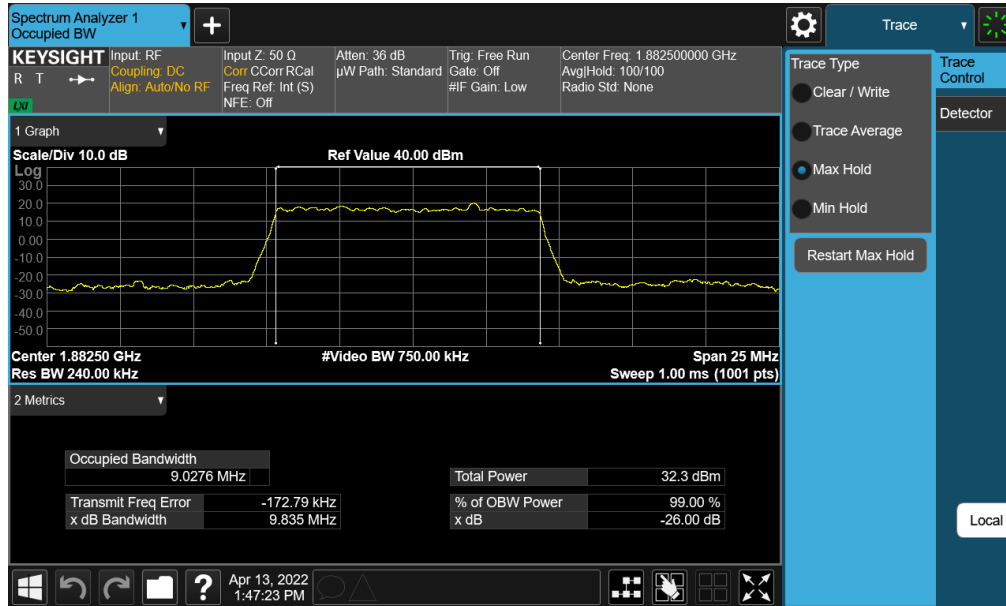


Plot 7-47. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz CP-OFDM QPSK - Full RB)

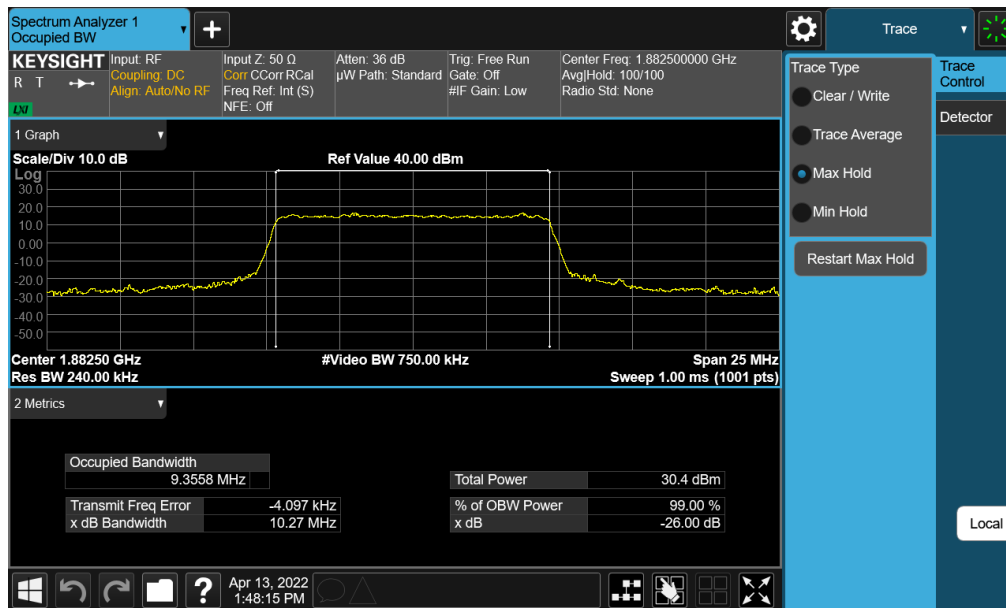


Plot 7-48. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz CP-OFDM 16QAM - Full RB)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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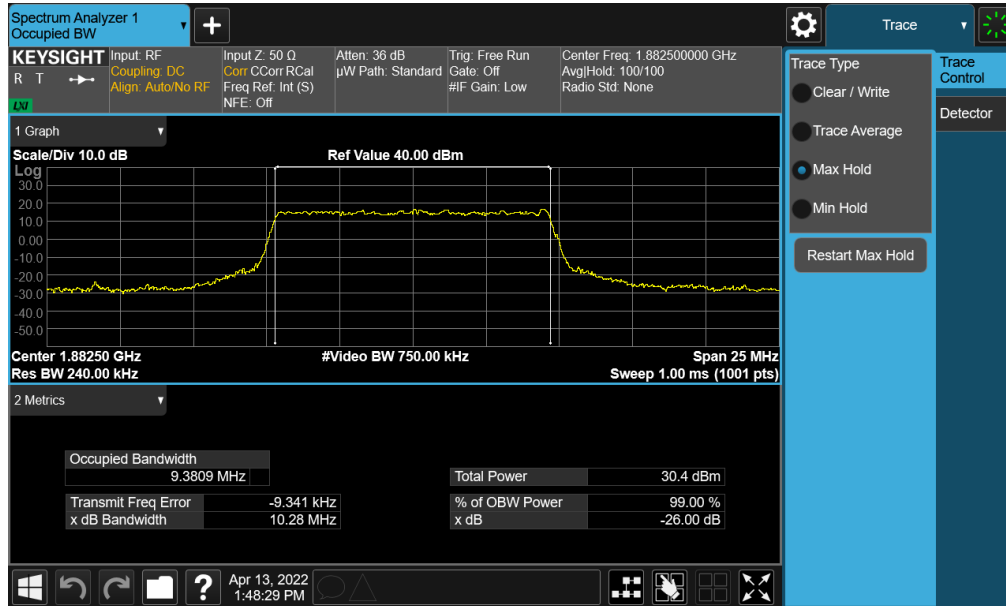


Plot 7-49. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz DFT-s-OFDM BPSK - Full RB)

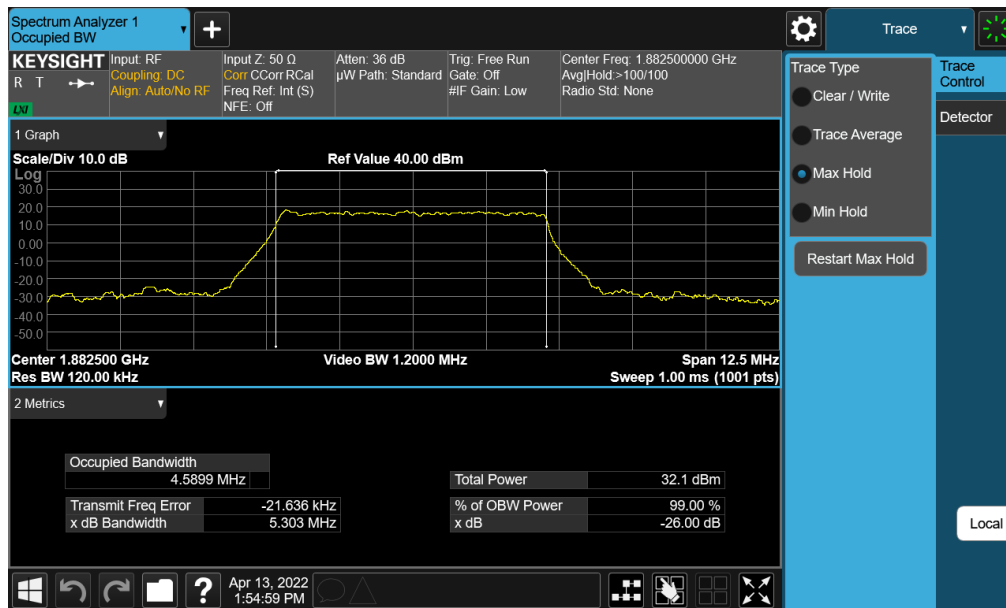


Plot 7-50. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz CP-OFDM QPSK - Full RB)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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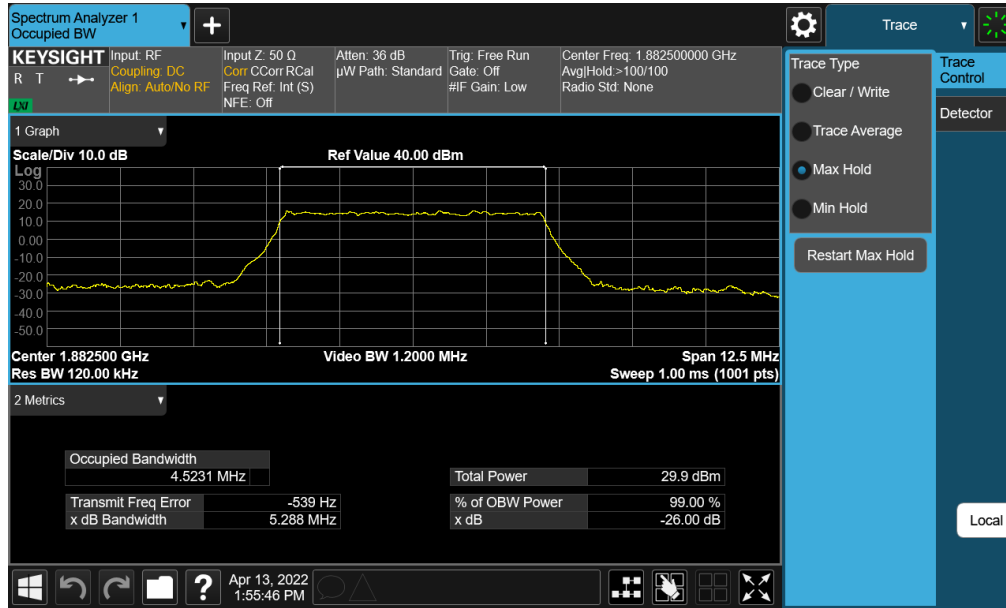


Plot 7-51. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz CP-OFDM 16QAM - Full RB)

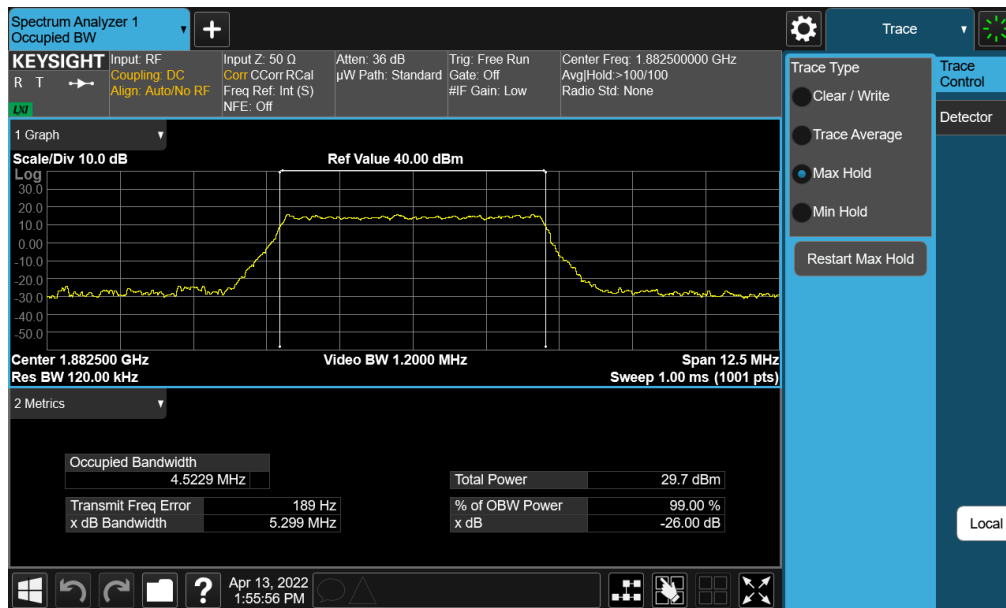


Plot 7-52. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz DFT-s-OFDM BPSK - Full RB)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-53. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz CP-OFDM QPSK - Full RB)

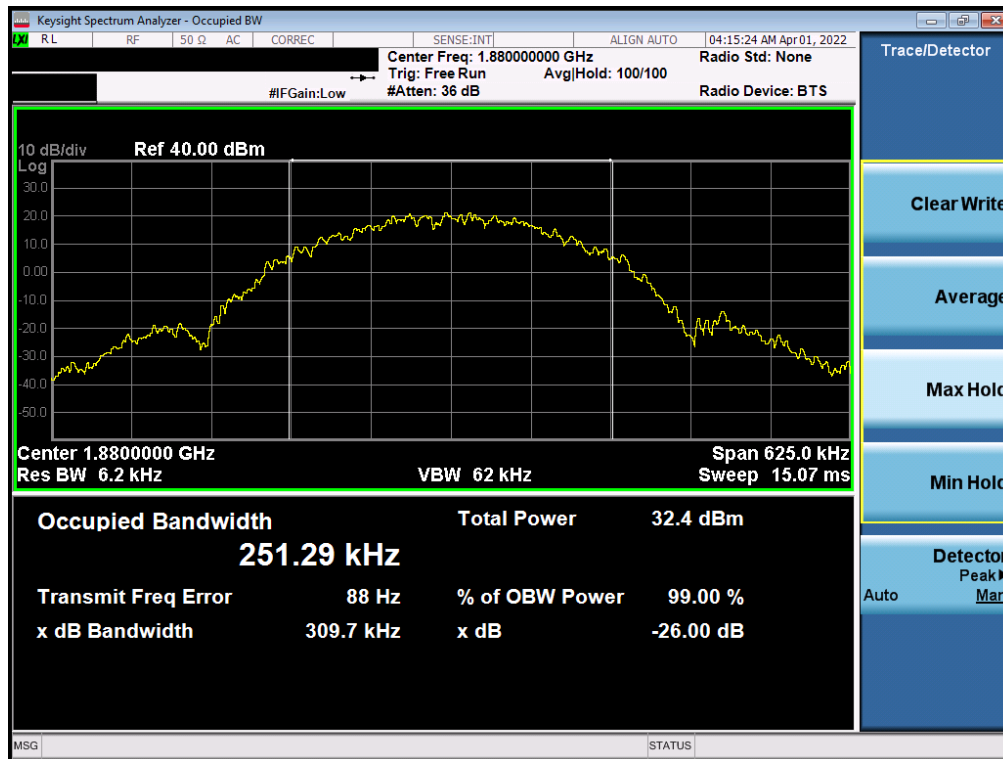


Plot 7-54. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz CP-OFDM 16QAM - Full RB)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2204080051-03.A3L	Test Dates: 04/01 - 06/02/2022	EUT Type: Portable Handset	Page 43 of 201



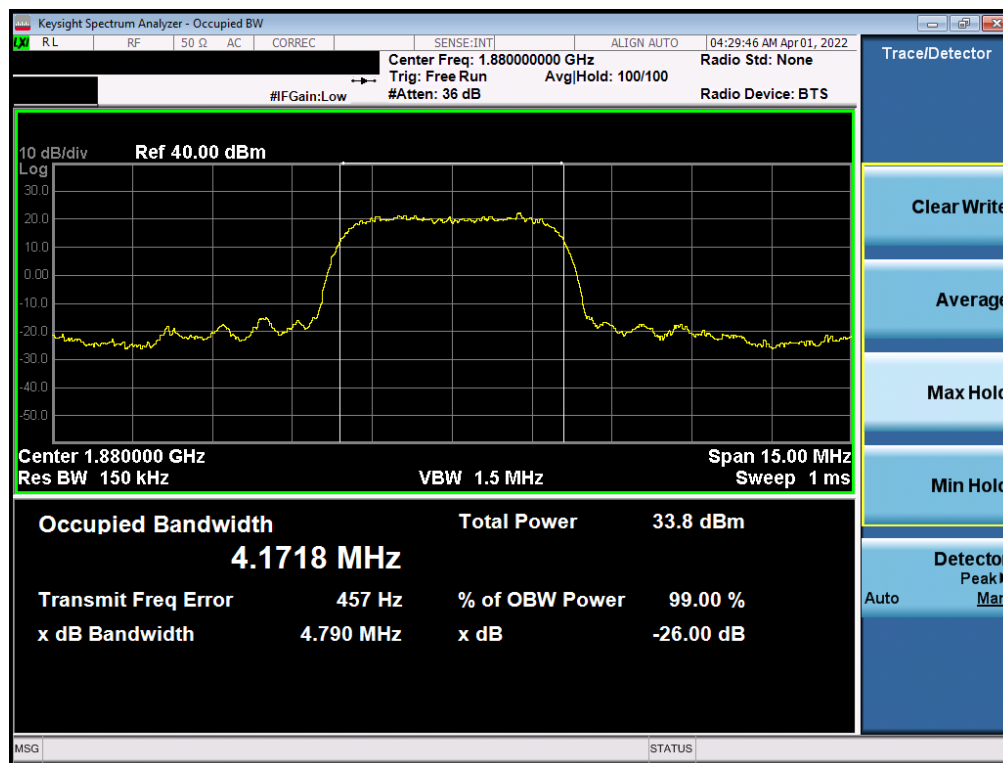
Plot 7-55. Occupied Bandwidth Plot (GPRS, Ch. 661)



Plot 7-56. Occupied Bandwidth Plot (EDGE, Ch. 661)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA PCS



Plot 7-57. Occupied Bandwidth Plot (WCDMA, Ch. 9400)

FCC ID: A3LSMF721U	PART 24 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 20GHz (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.

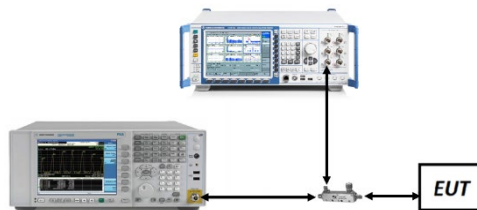


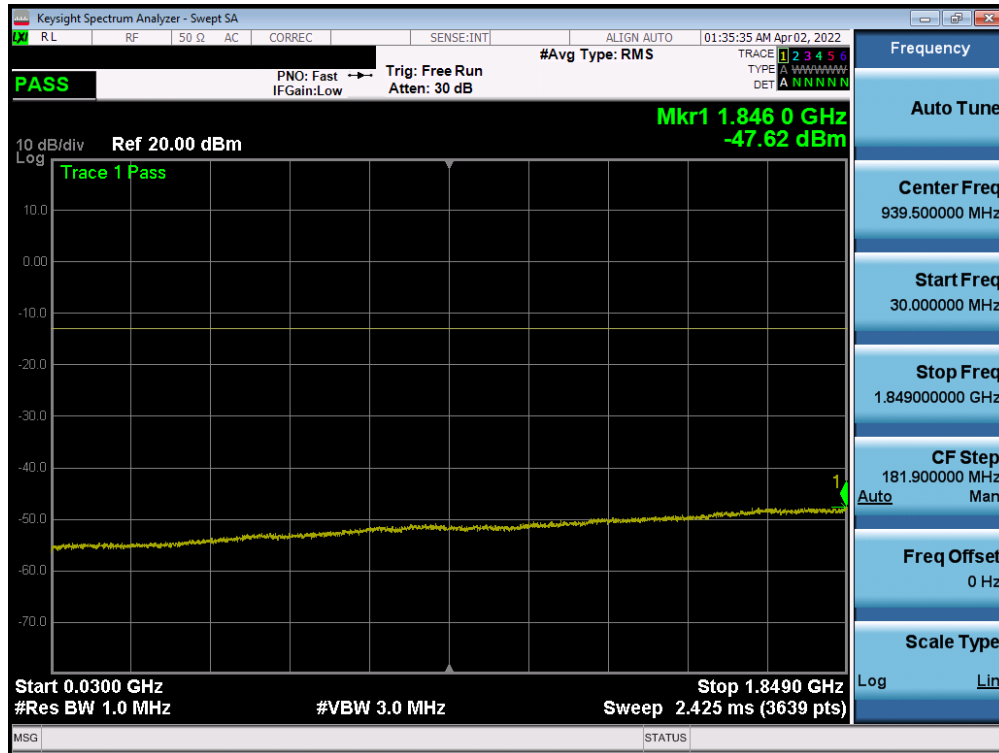
Figure 7-3. Test Instrument & Measurement Setup

Test Notes

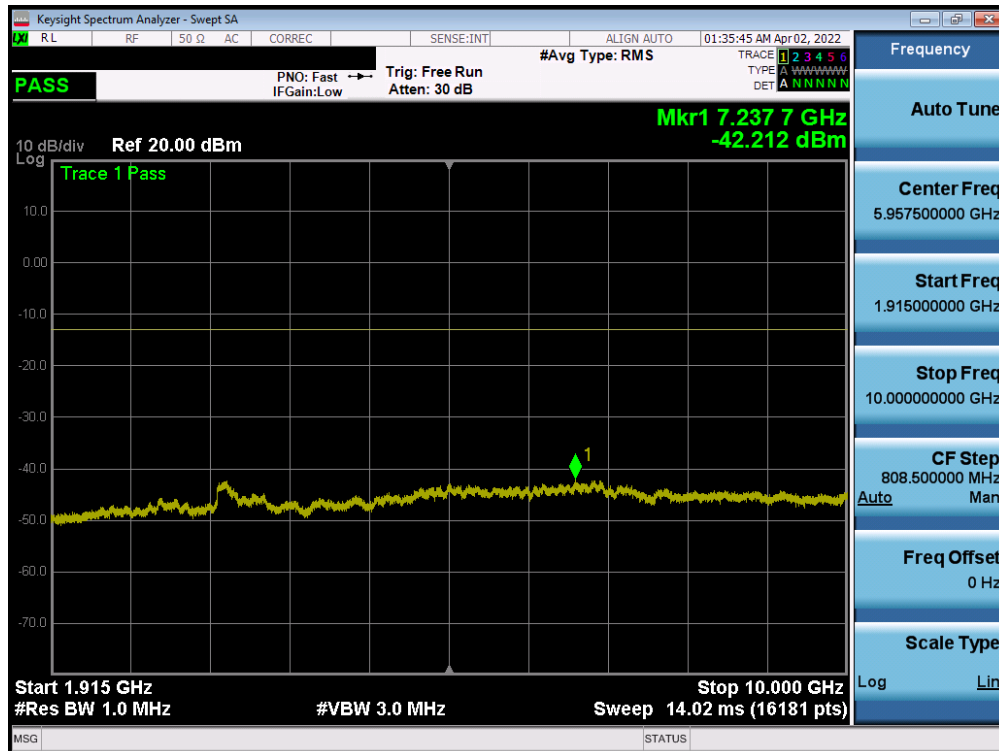
1. Per Part 24 and RSS-133, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz.
2. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 25/2



Plot 7-58. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Low Channel)

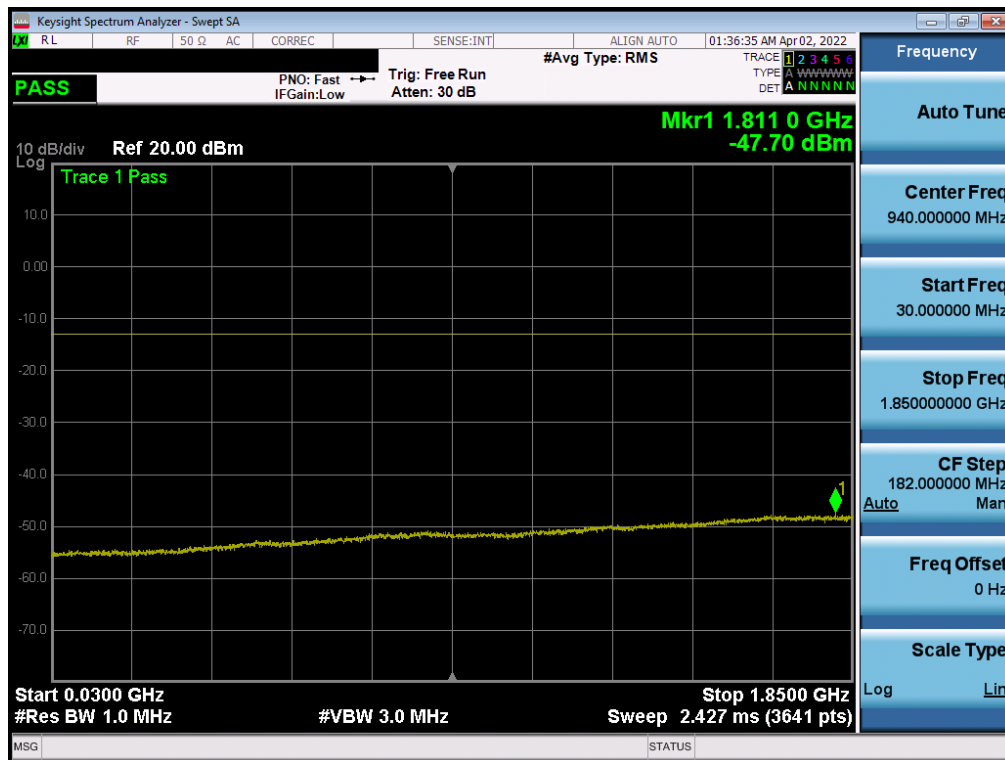


Plot 7-59. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Low Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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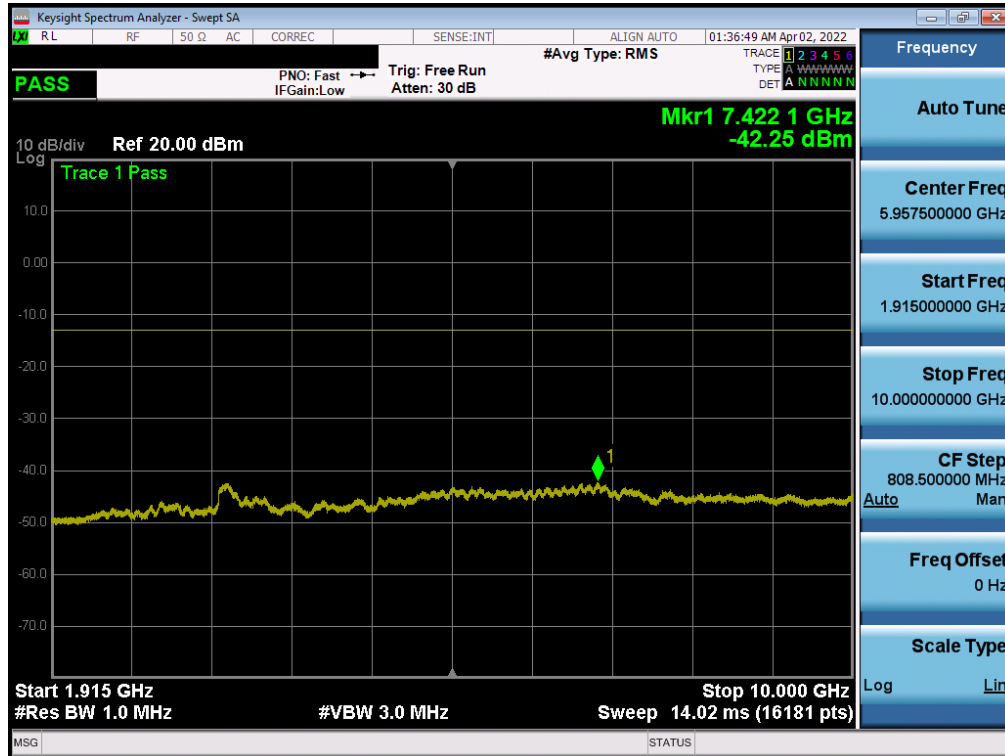


Plot 7-60. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Low Channel)

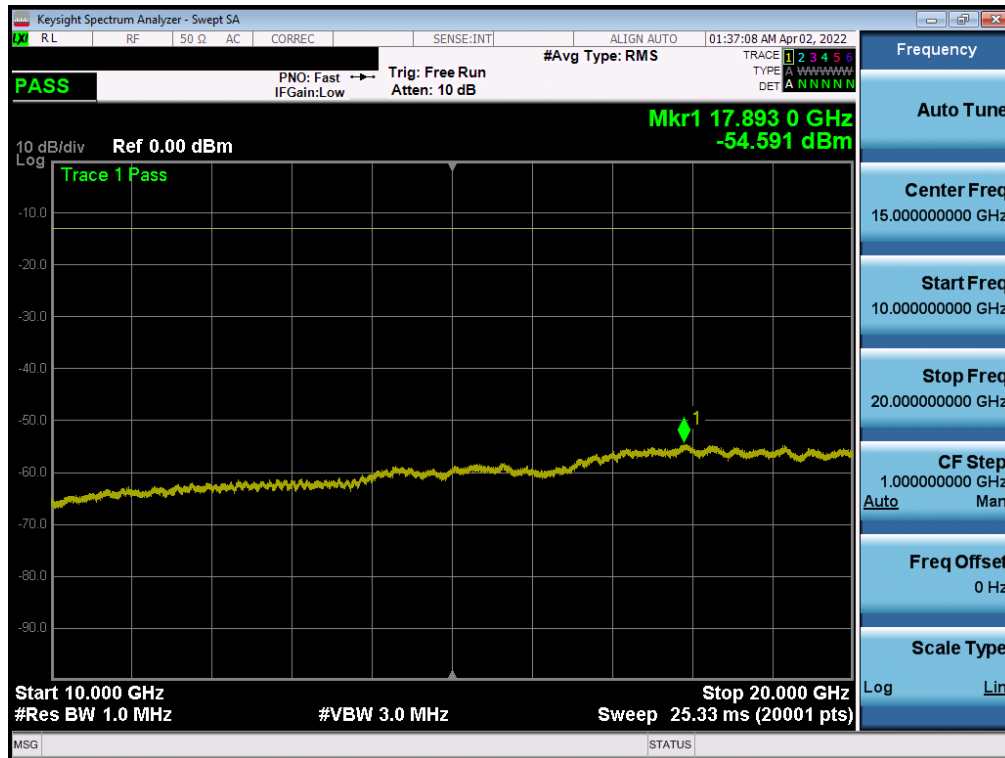


Plot 7-61. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-62. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Mid Channel)

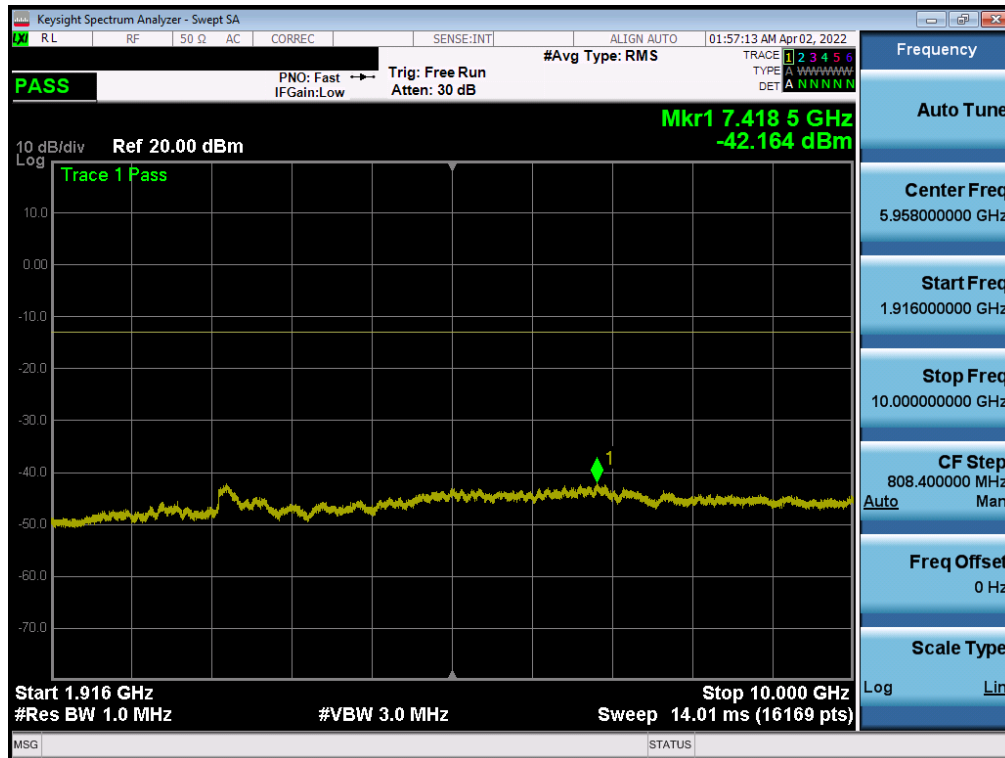


Plot 7-63. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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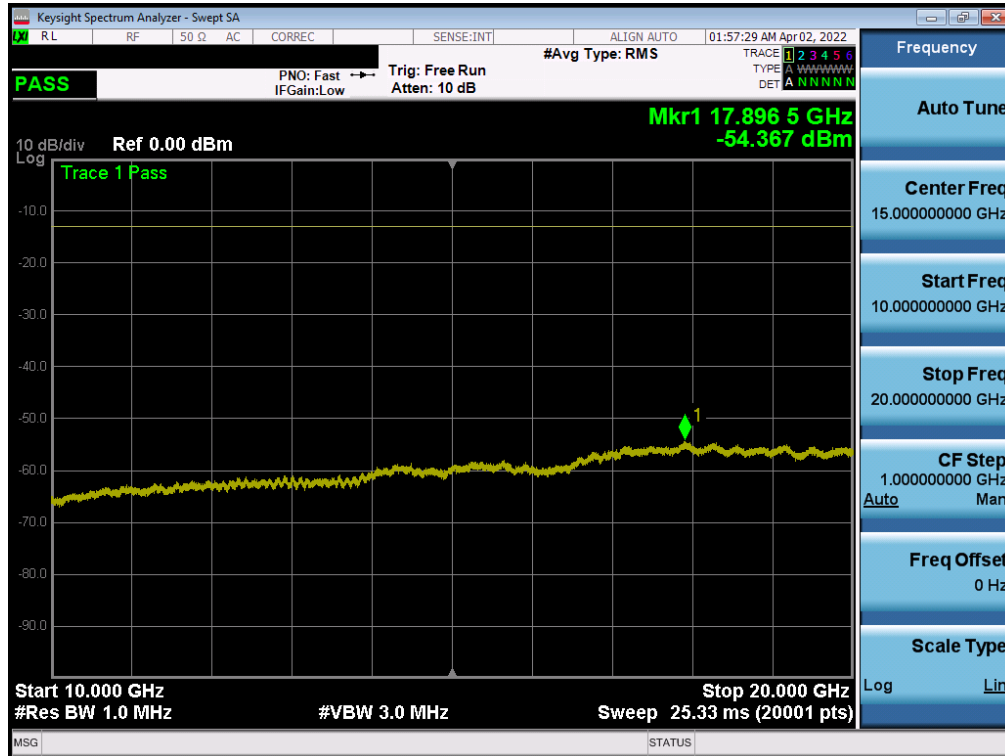


Plot 7-64. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - High Channel)



Plot 7-65. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - High Channel)

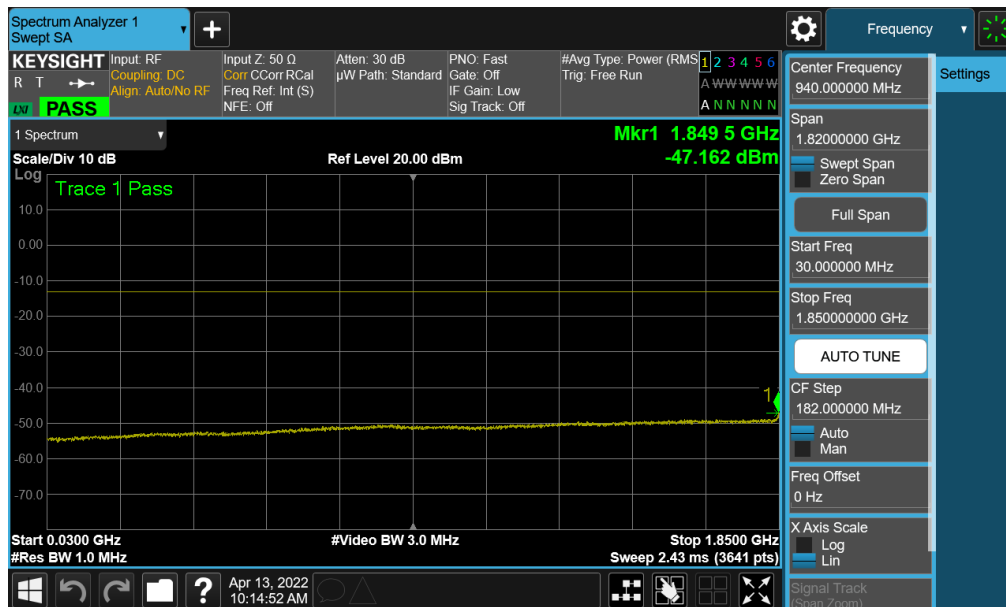
FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2204080051-03.A3L	Test Dates: 04/01 - 06/02/2022	EUT Type: Portable Handset	Page 50 of 201



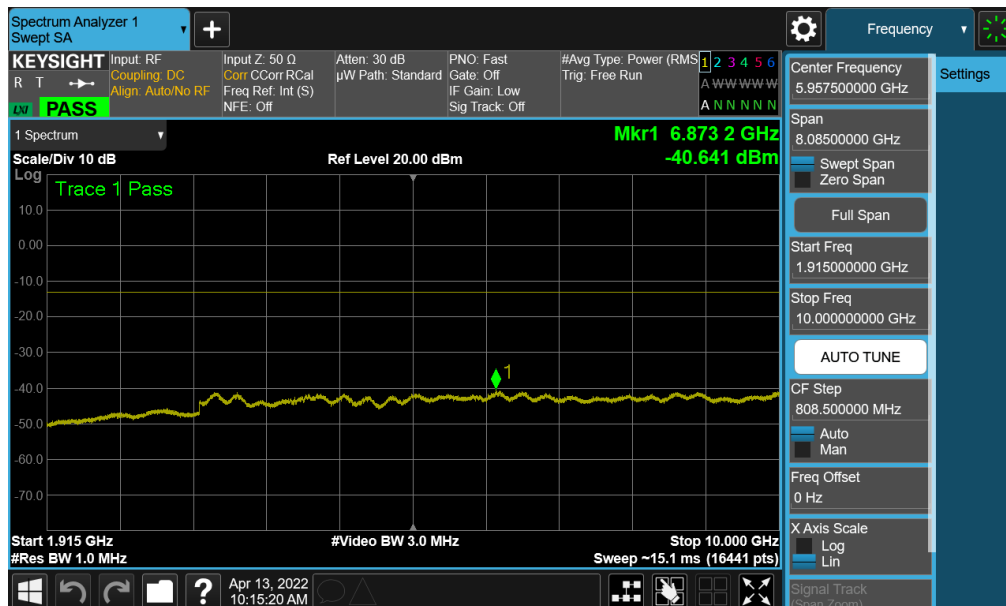
Plot 7-66. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - 1RB - High Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n25/2 – Ant A

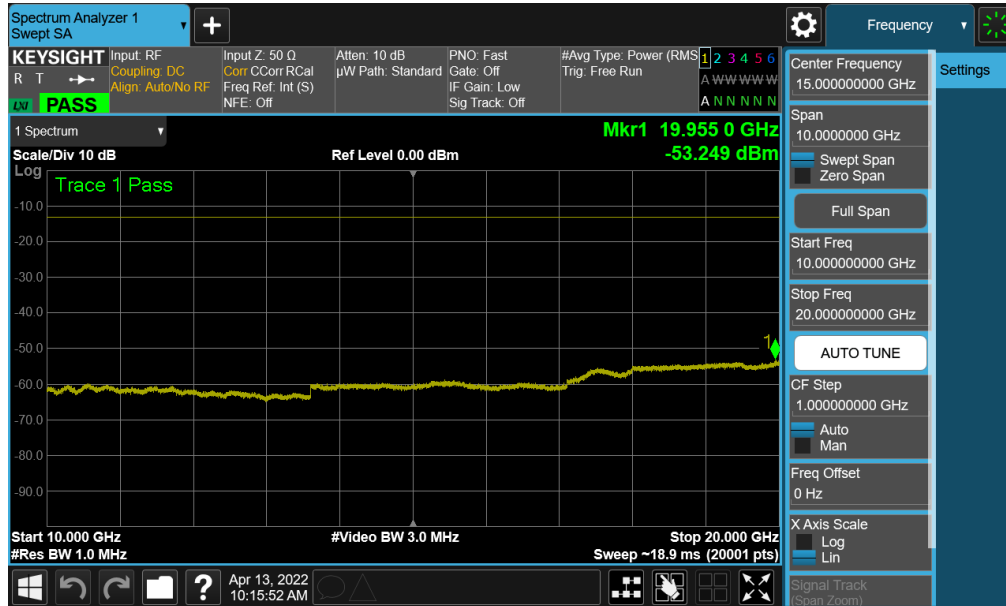


Plot 7-67. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

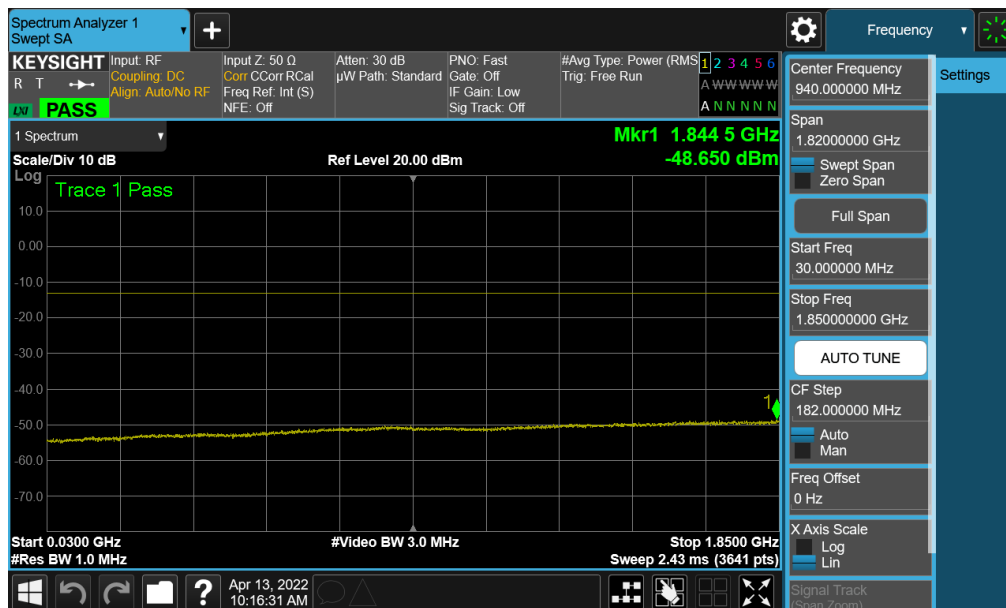


Plot 7-68. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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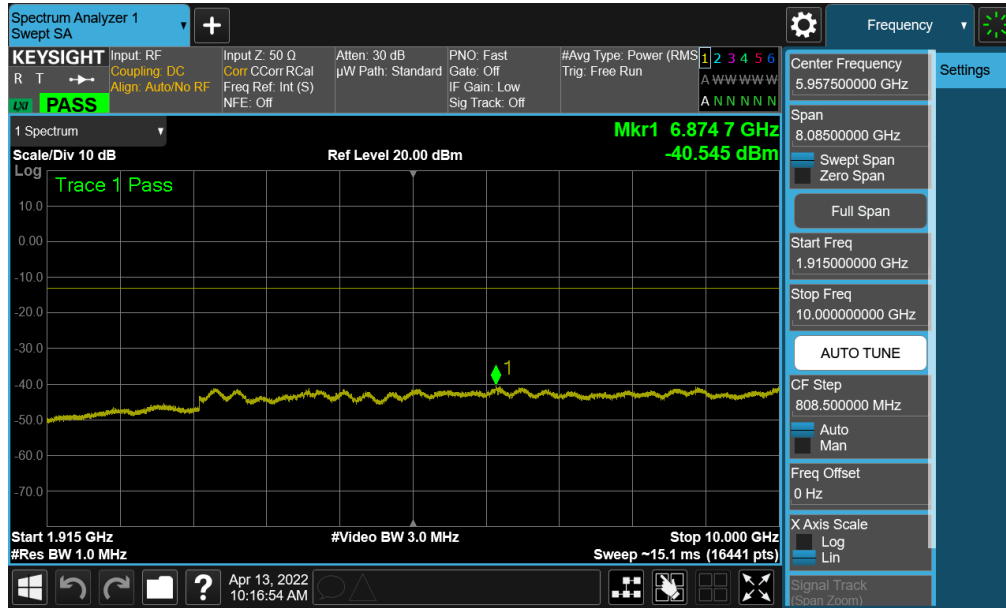


Plot 7-69. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

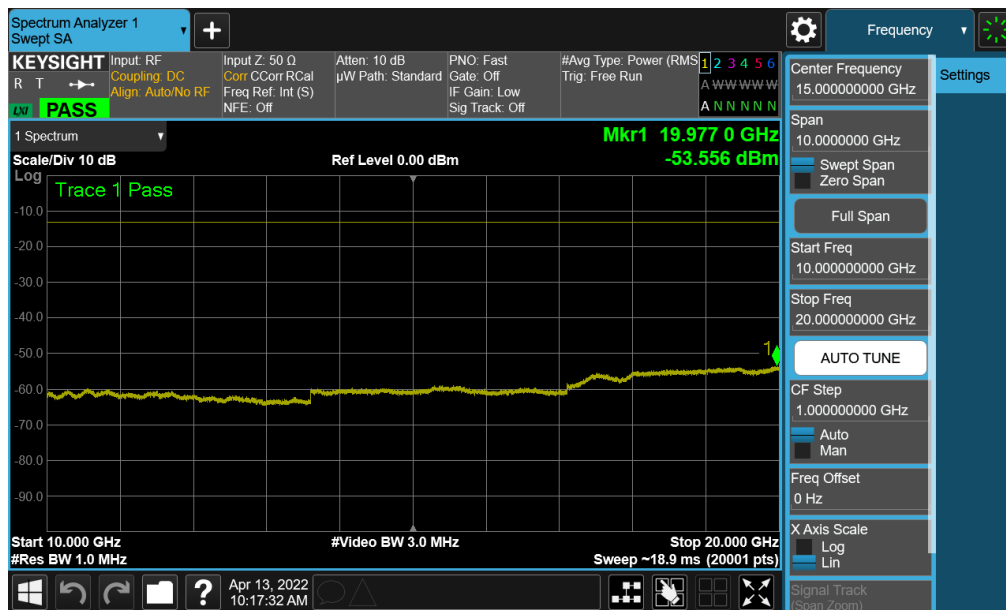


Plot 7-70. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-71. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

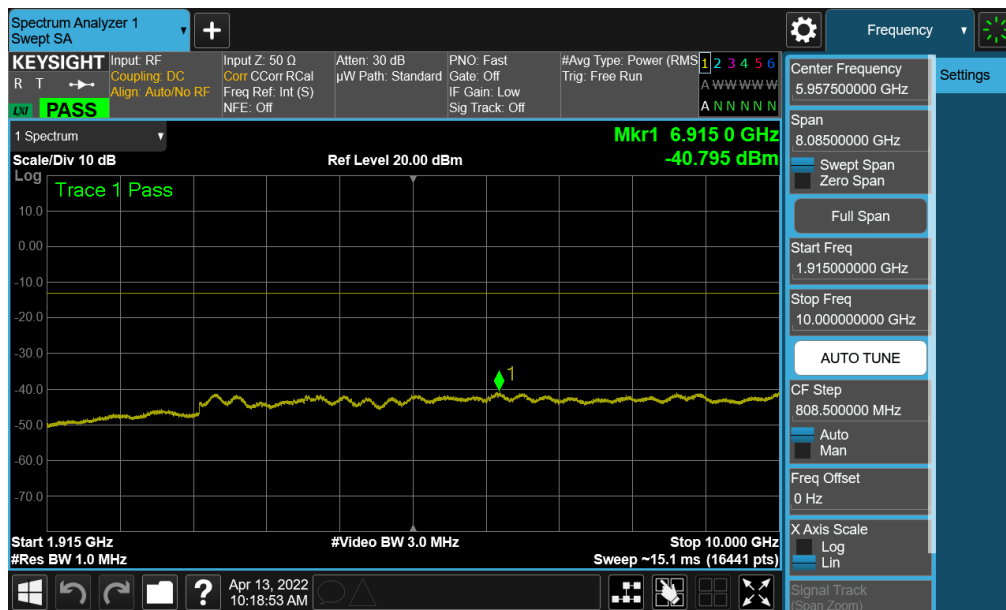


Plot 7-72. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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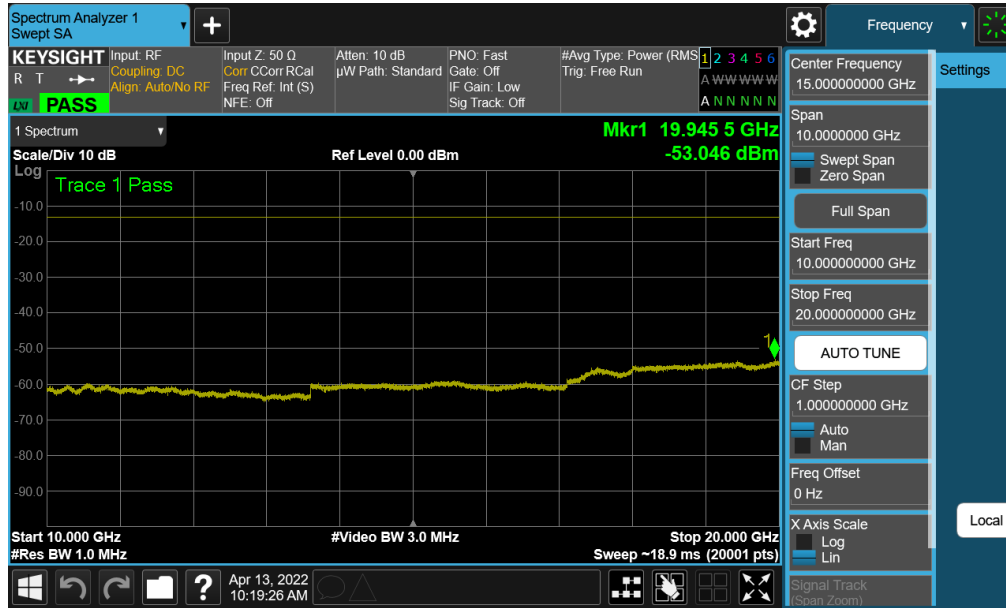


Plot 7-73. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)



Plot 7-74. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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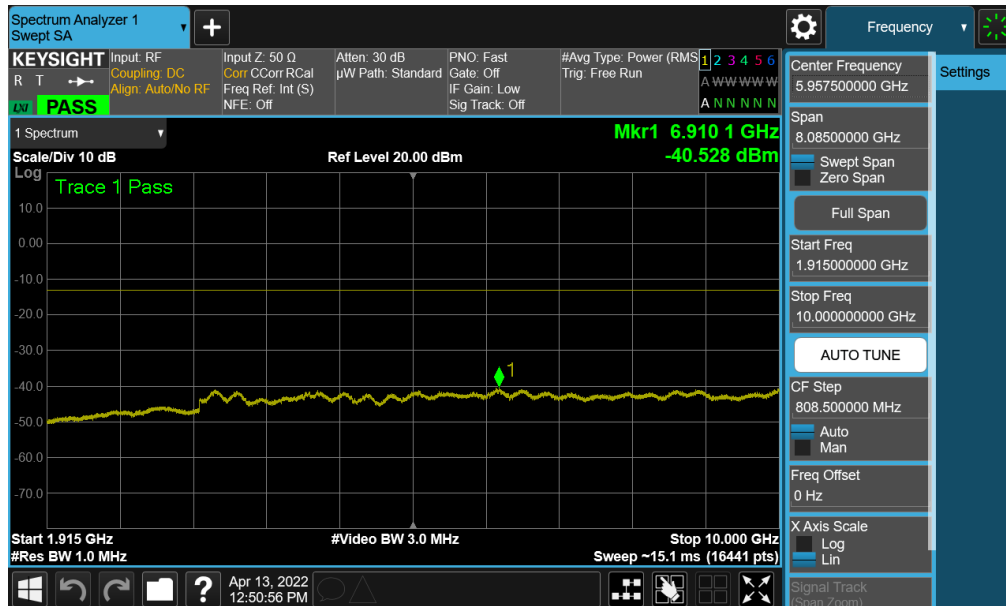
Plot 7-75. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n25/2 – Ant I

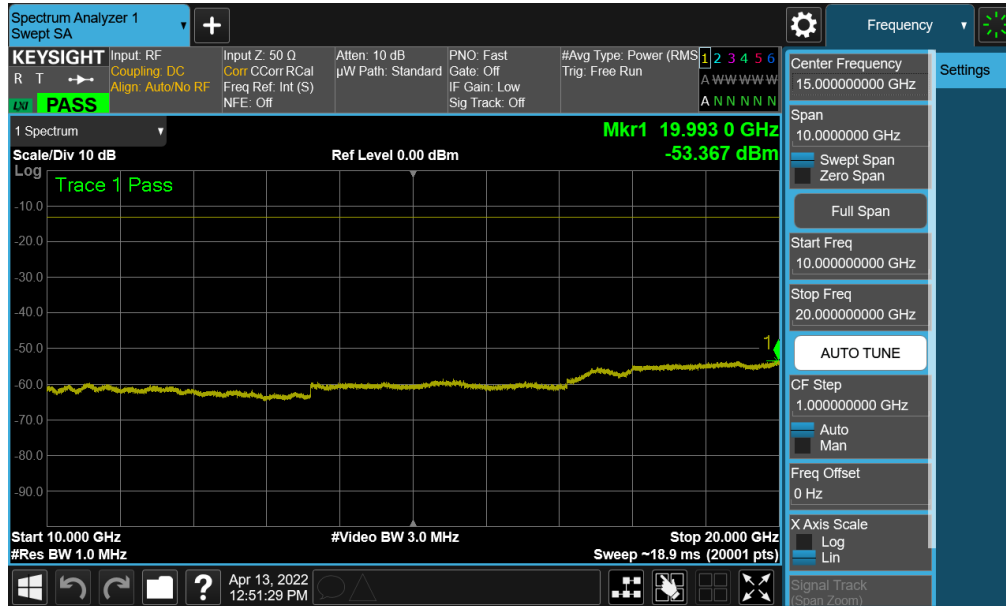


Plot 7-76. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

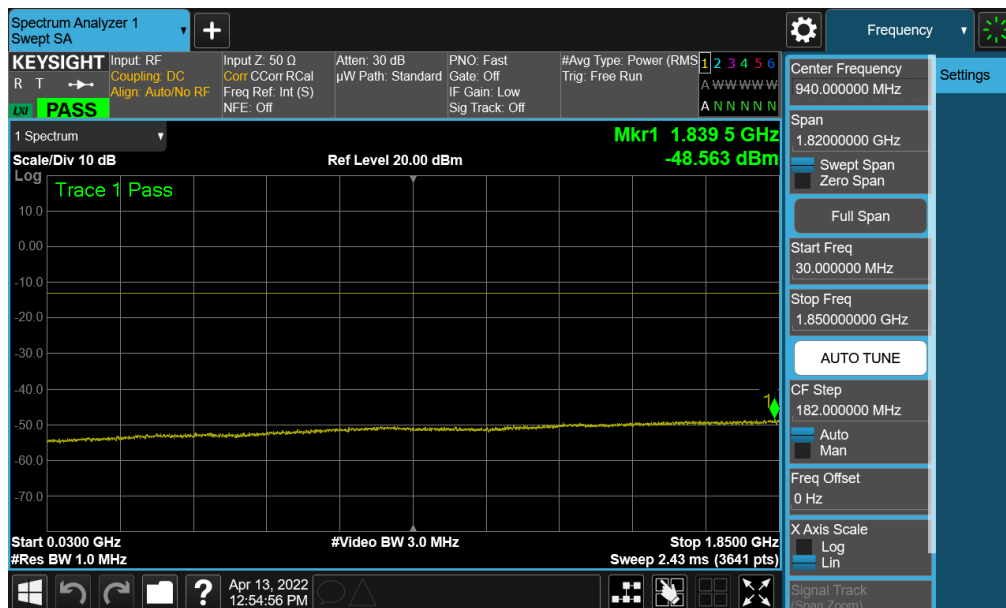


Plot 7-77. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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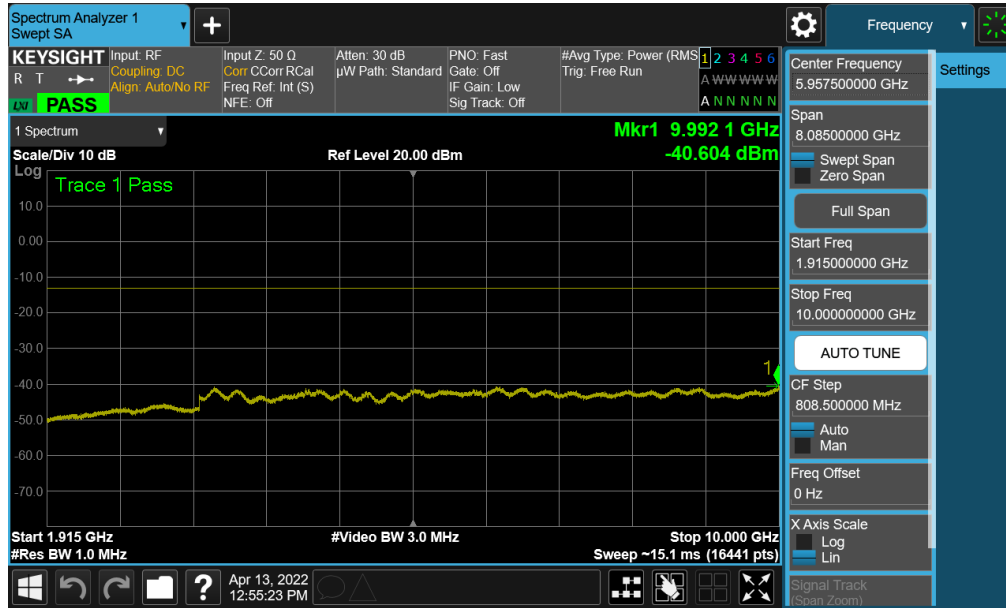


Plot 7-78. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Low Channel)

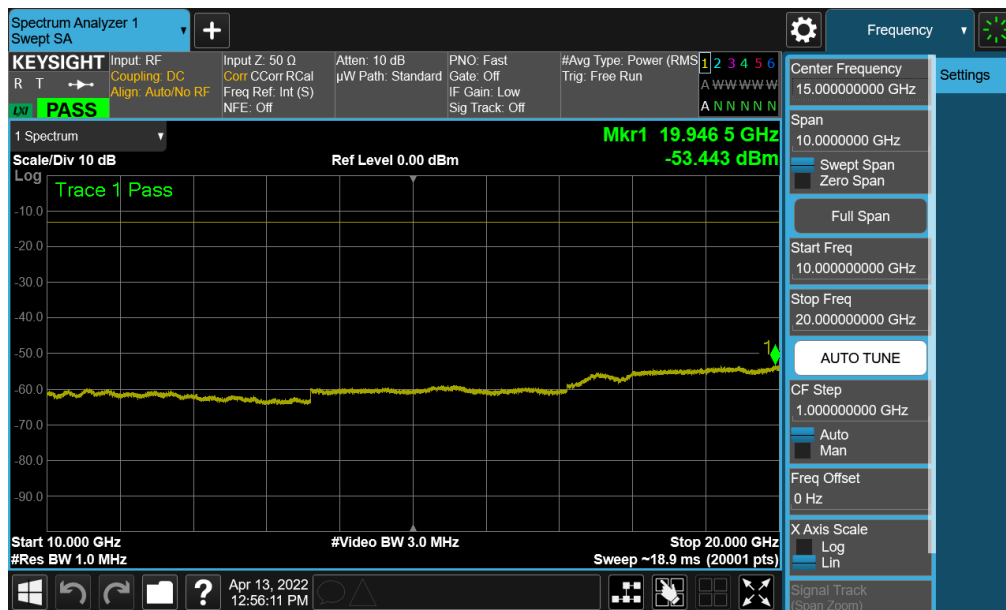


Plot 7-79. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-80. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

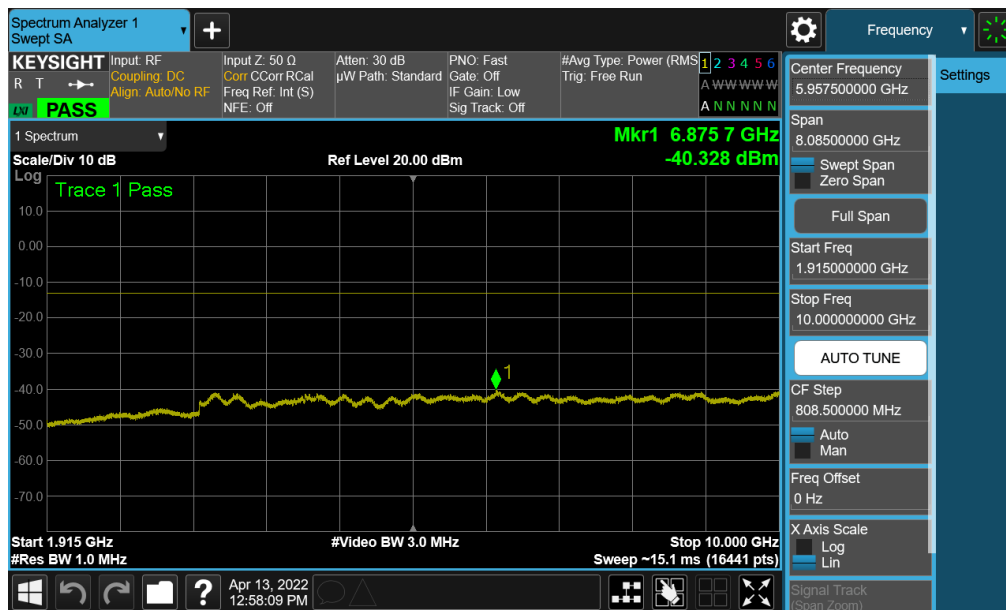


Plot 7-81. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - Mid Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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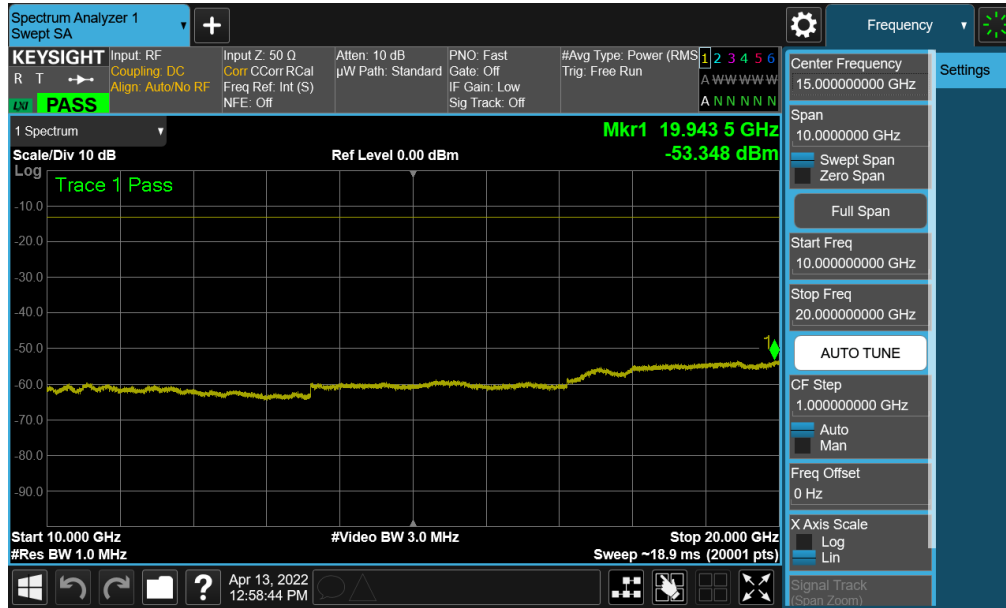


Plot 7-82. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)



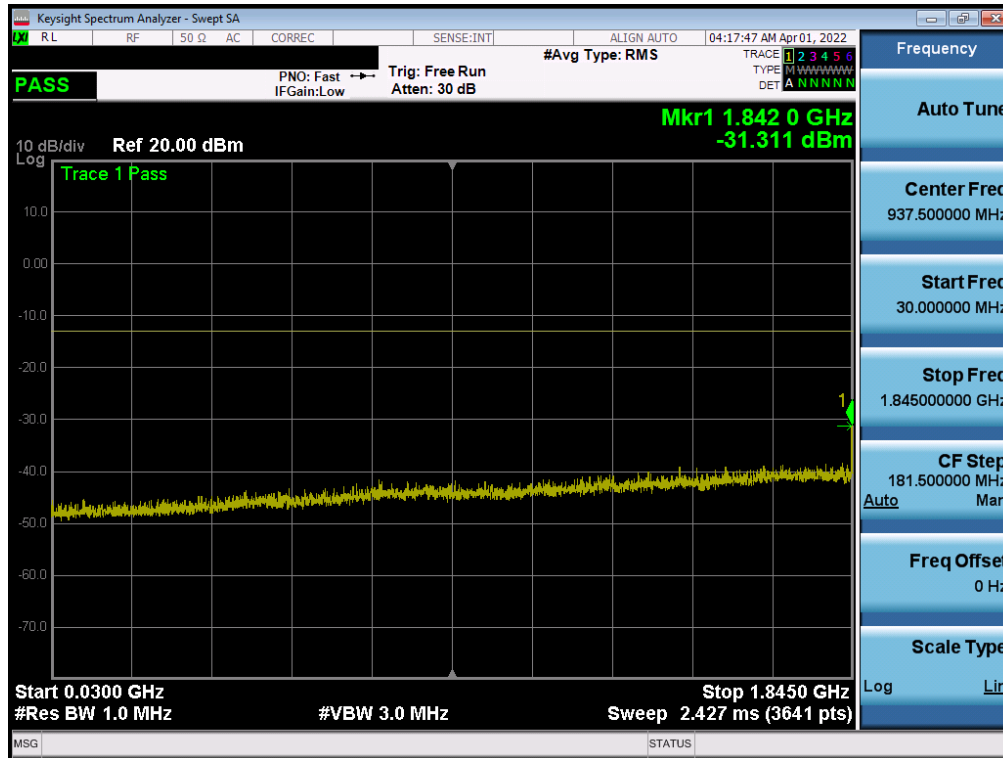
Plot 7-83. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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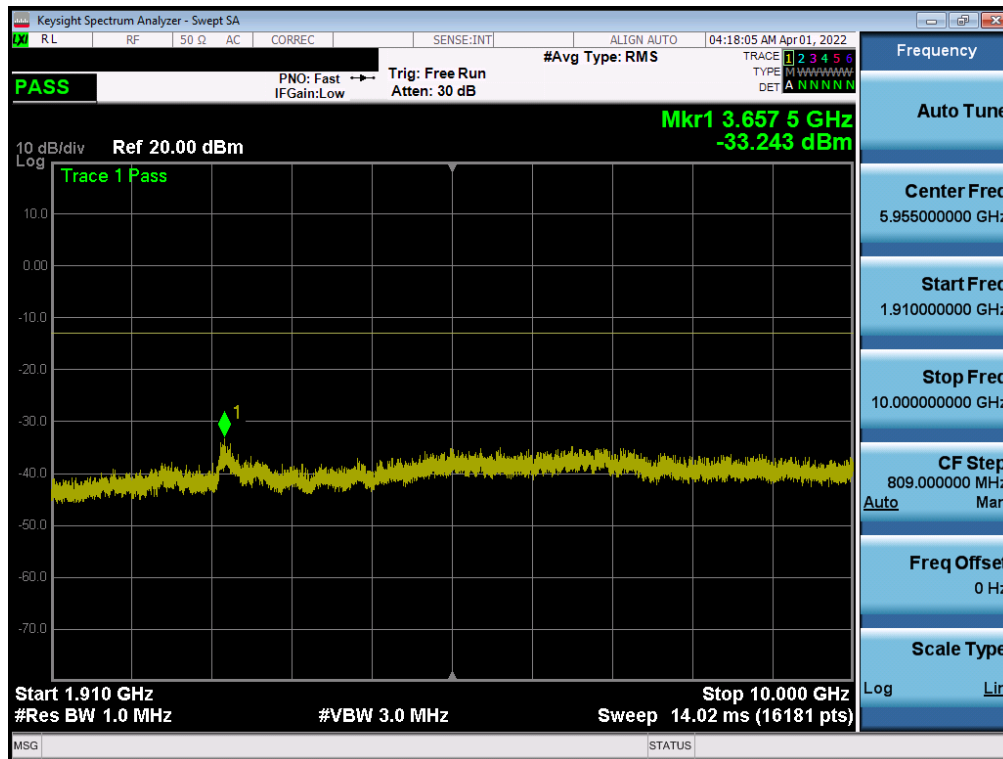


Plot 7-84. Conducted Spurious Plot (NR Band n25/2 - 20.0MHz - 1RB - High Channel)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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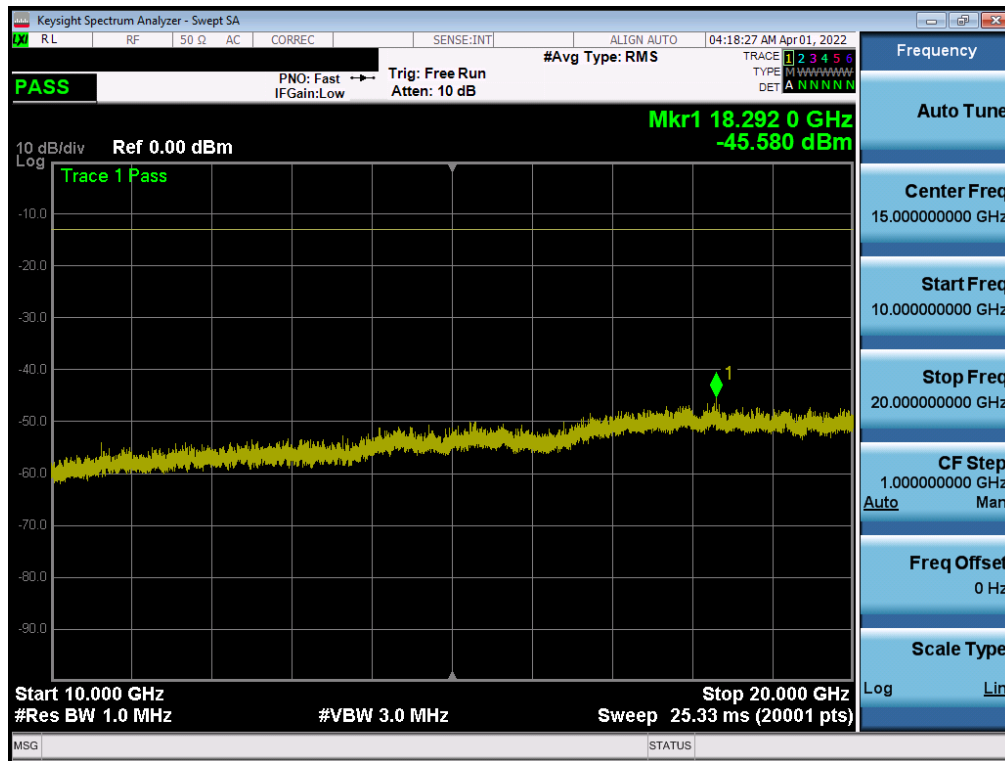


Plot 7-85. Conducted Spurious Plot (GPRS Ch. 512)

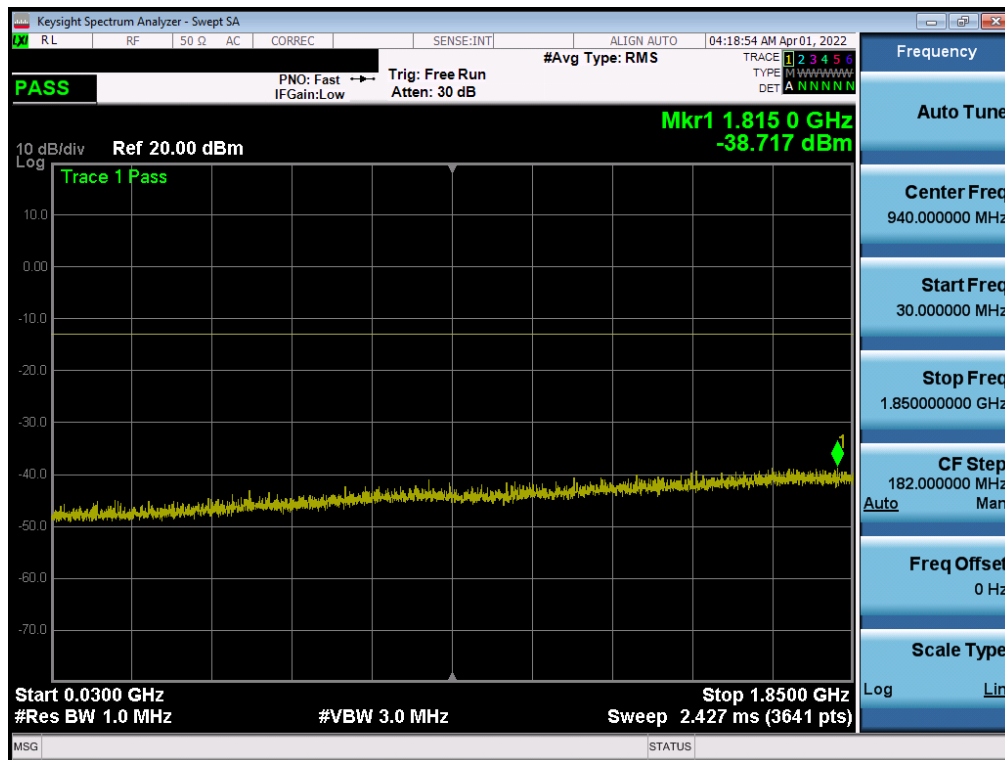


Plot 7-86. Conducted Spurious Plot (GPRS Ch. 512)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-87. Conducted Spurious Plot (GPRS Ch. 512)



Plot 7-88. Conducted Spurious Plot (GPRS Ch. 661)

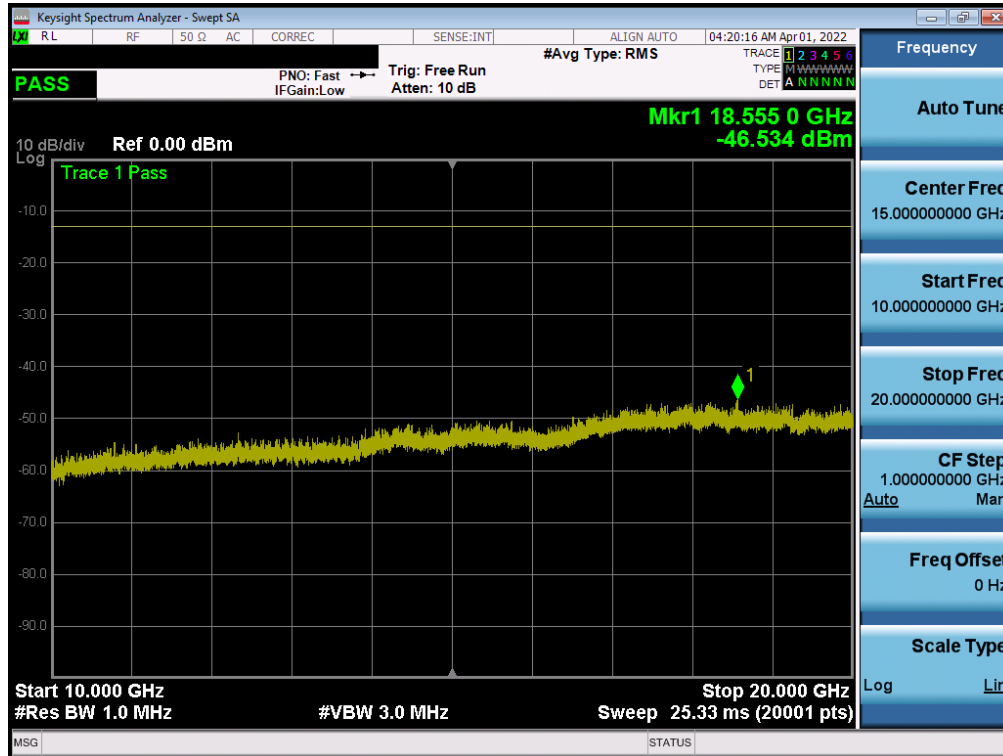
FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2204080051-03.A3L	Test Dates: 04/01 - 06/02/2022	EUT Type: Portable Handset	Page 63 of 201



Approved by:
Technical Manager



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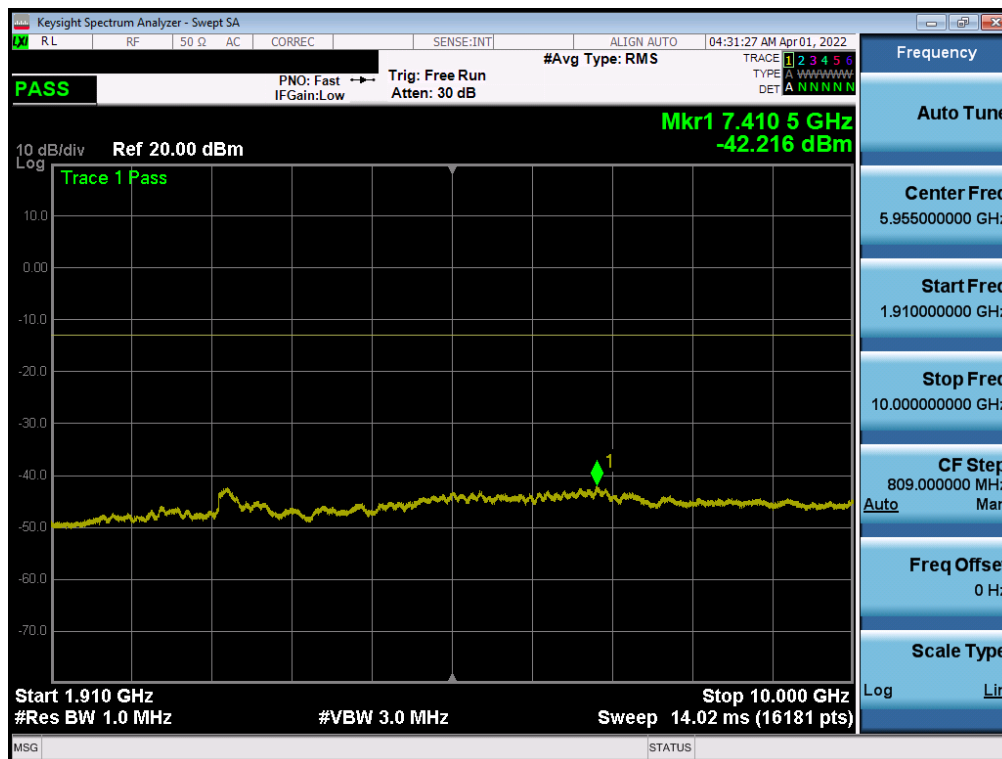


Plot 7-93. Conducted Spurious Plot (GPRS Ch. 810)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2204080051-03.A3L	Test Dates: 04/01 - 06/02/2022	EUT Type: Portable Handset	Page 66 of 201

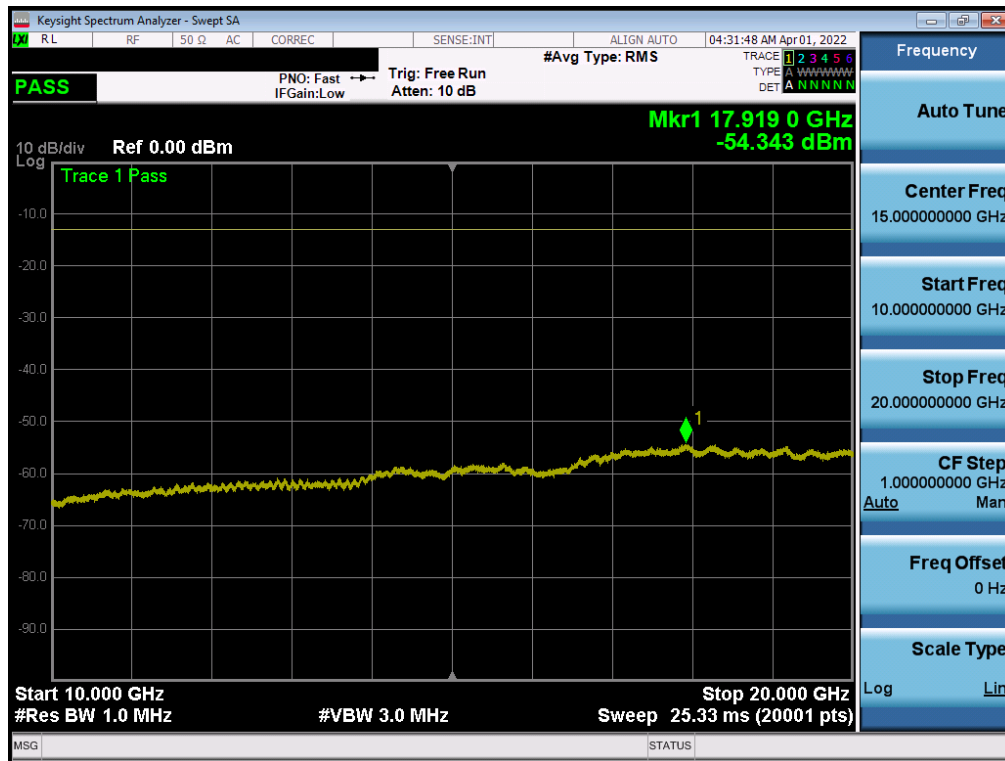


Plot 7-94. Conducted Spurious Plot (WCDMA Ch. 9262)

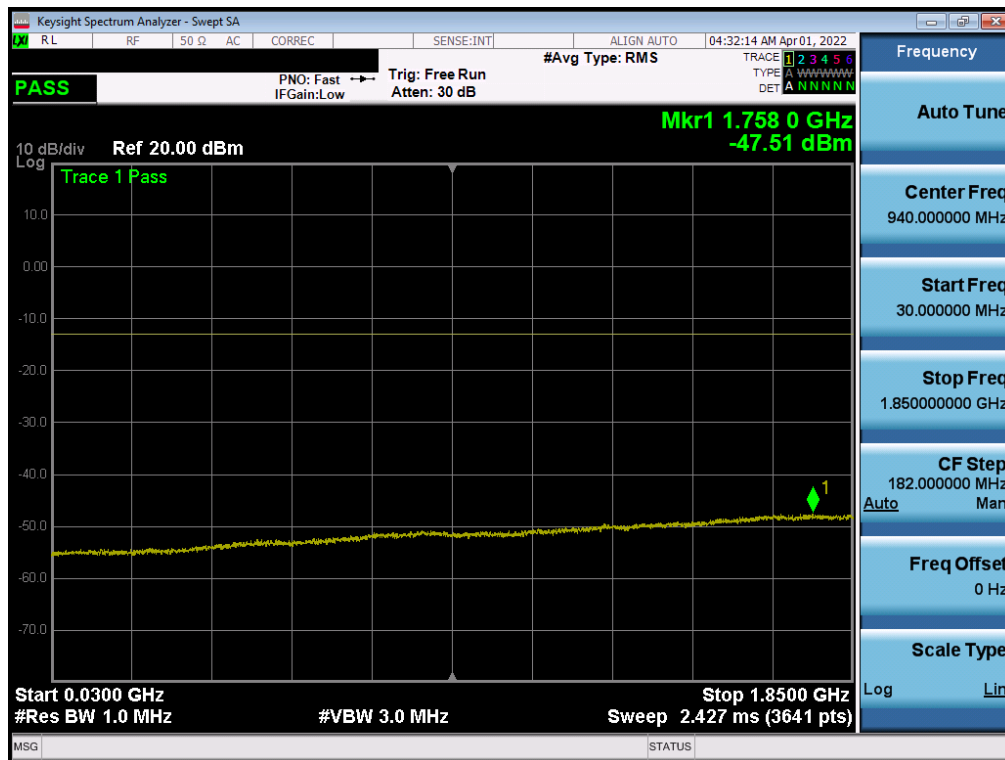


Plot 7-95. Conducted Spurious Plot (WCDMA Ch. 9262)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2204080051-03.A3L	Test Dates: 04/01 - 06/02/2022	EUT Type: Portable Handset	Page 67 of 201

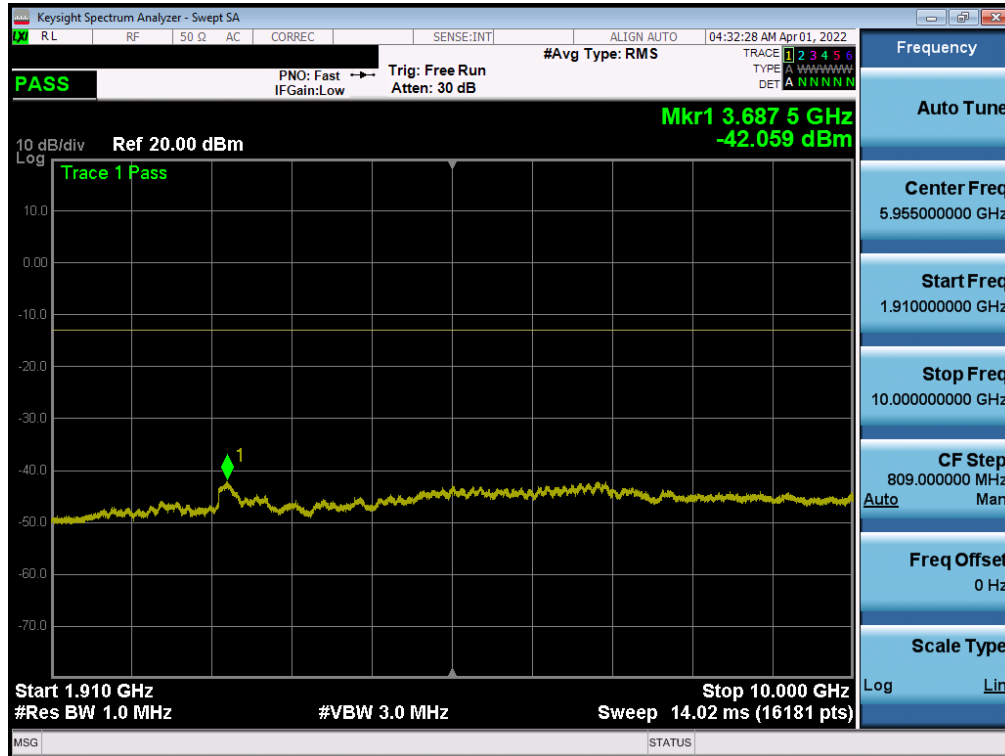


Plot 7-96. Conducted Spurious Plot (WCDMA Ch. 9262)

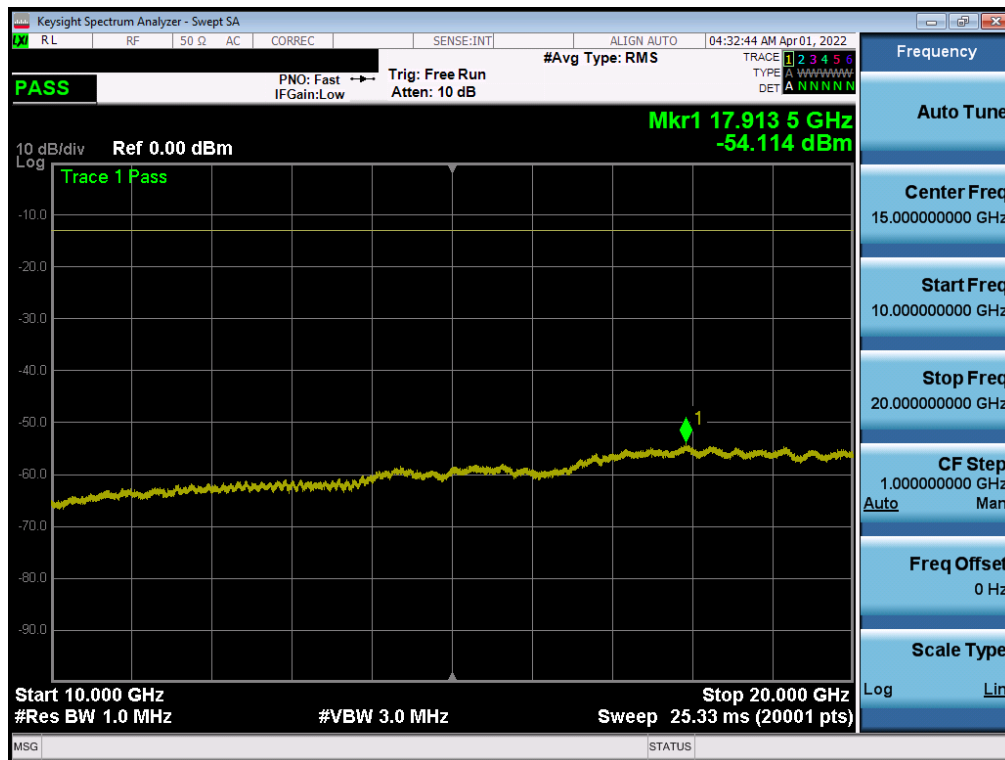


Plot 7-97. Conducted Spurious Plot (WCDMA Ch. 9400)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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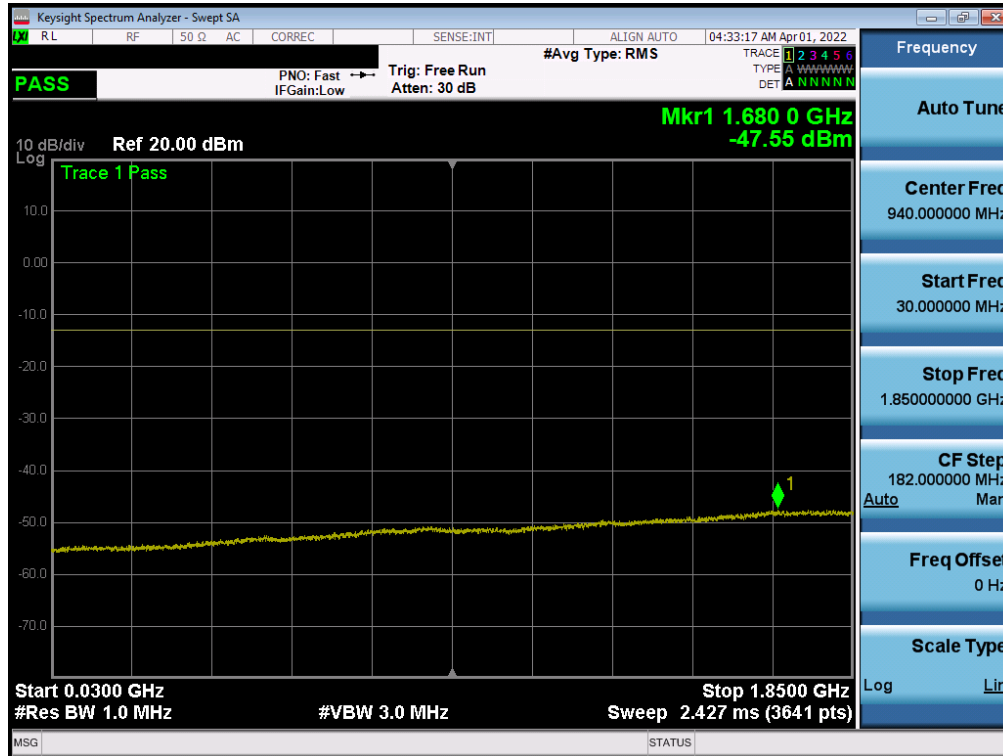


Plot 7-98. Conducted Spurious Plot (WCDMA Ch. 9400)

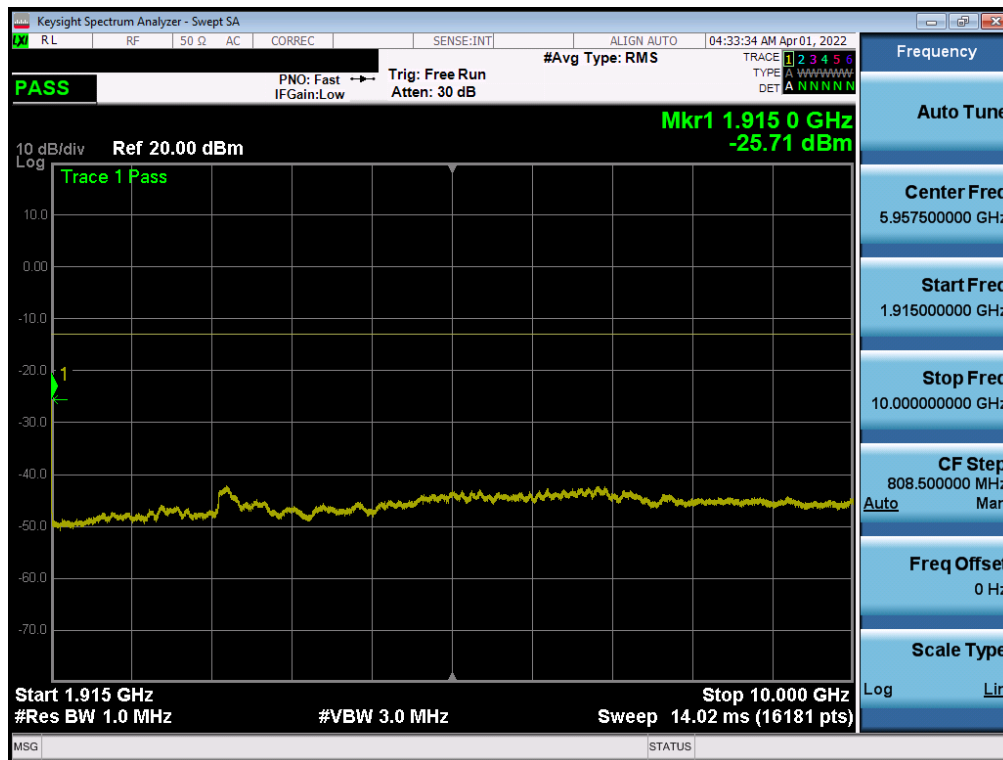


Plot 7-99. Conducted Spurious Plot (WCDMA Ch. 9400)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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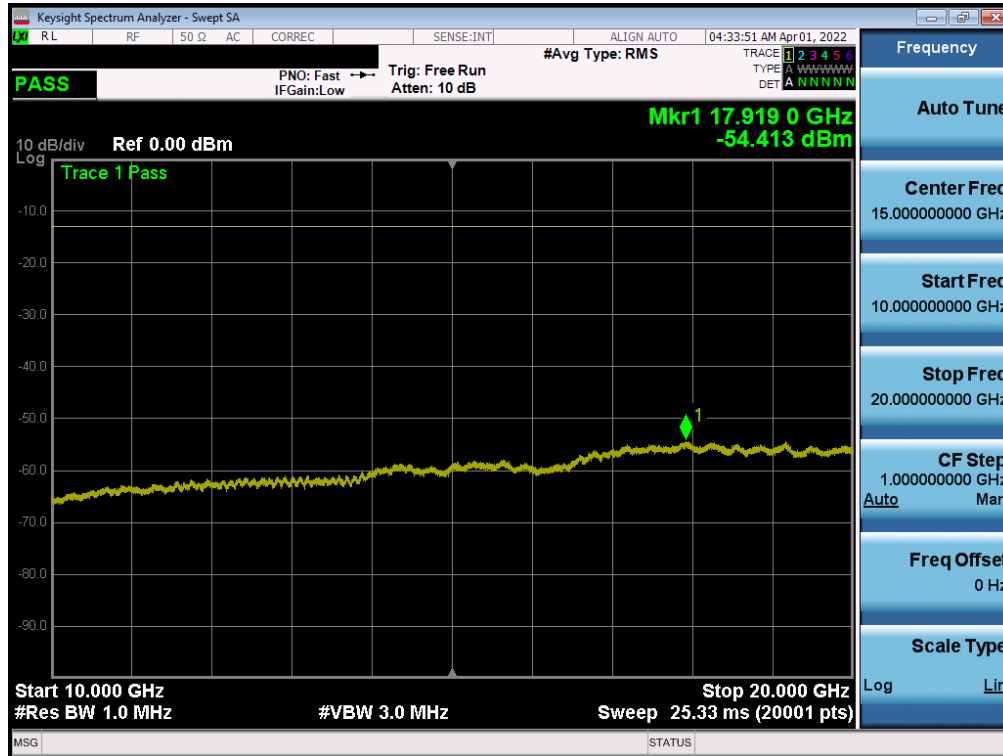


Plot 7-100. Conducted Spurious Plot (WCDMA Ch. 9538)



Plot 7-101. Conducted Spurious Plot (WCDMA Ch. 9538)

FCC ID: A3LSMF721U	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-102. Conducted Spurious Plot (WCDMA Ch. 9538)

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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.

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 5.7.3

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 $\geq 1\%$ of the emission bandwidth
4. VBW $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ 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.

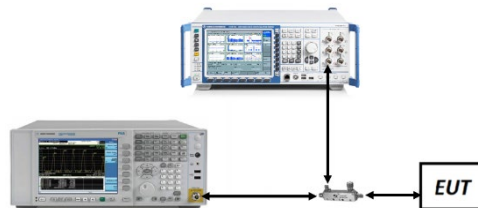


Figure 7-4. Test Instrument & Measurement Setup

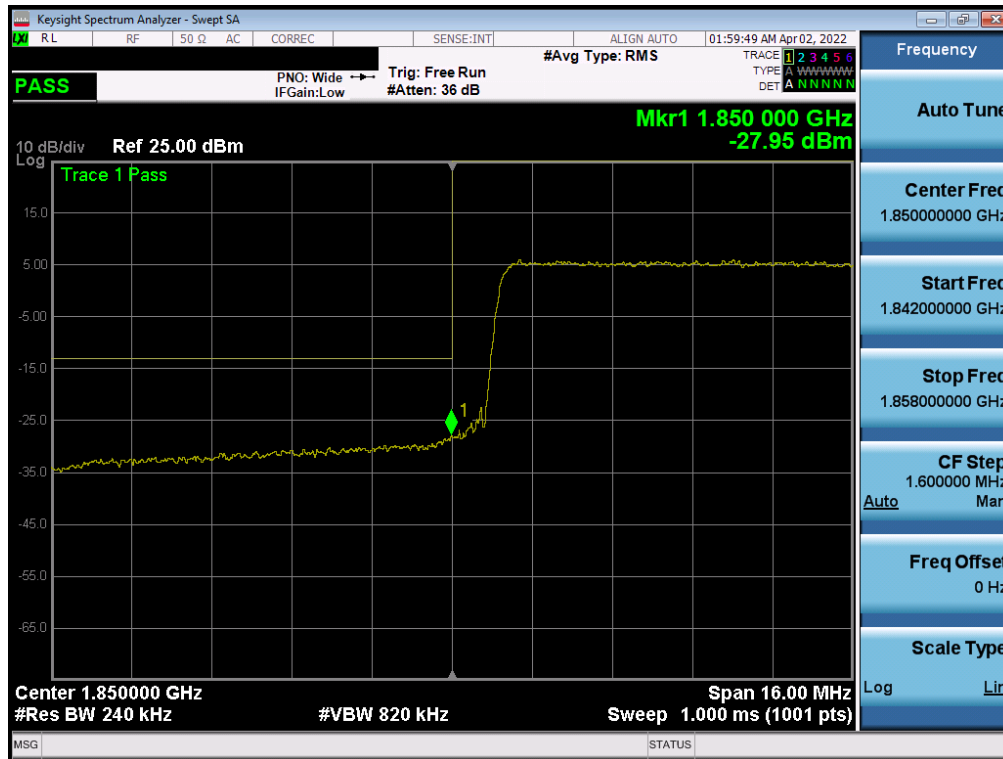
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Test Notes

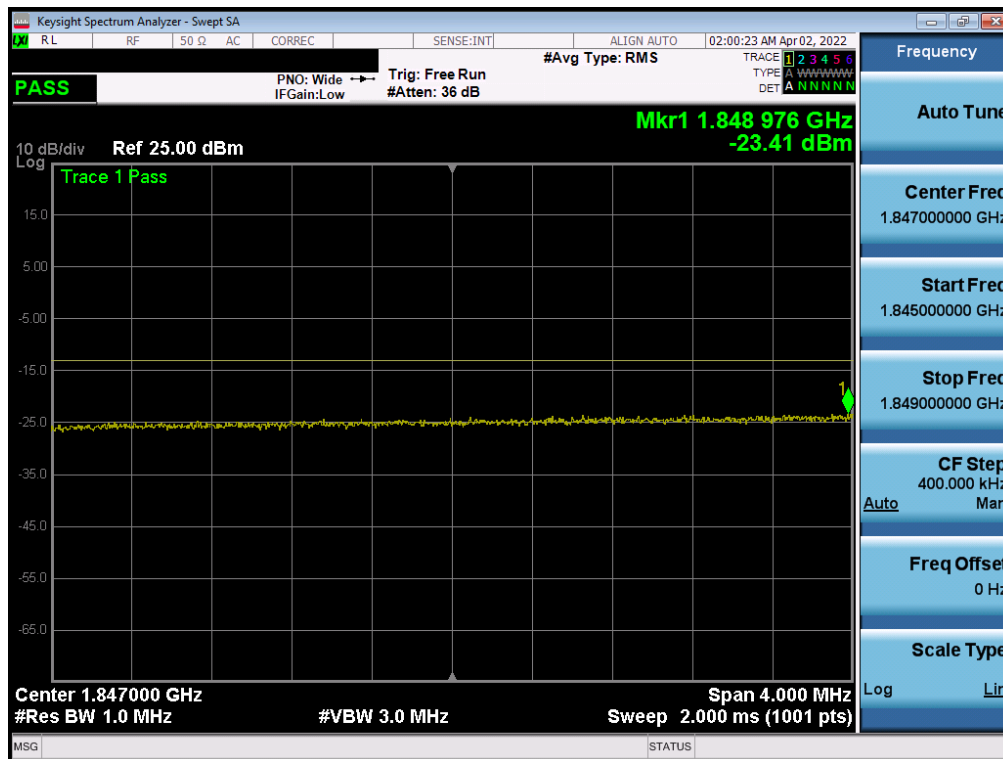
1. Per 24.238(a) and RSS-133(6.5), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. 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 emission are attenuated at least 26 dB below the transmitter power.
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.

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LTE Band 25/2



Plot 7-103. Lower Band Edge Plot (LTE Band 25/2 - 20MHz QPSK – Full RB)



Plot 7-104. Extended Lower Band Edge Plot (LTE Band 25/2 - 20MHz QPSK – Full RB)

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Plot 7-105. Upper Band Edge Plot (LTE Band 2 - 20MHz QPSK – Full RB)

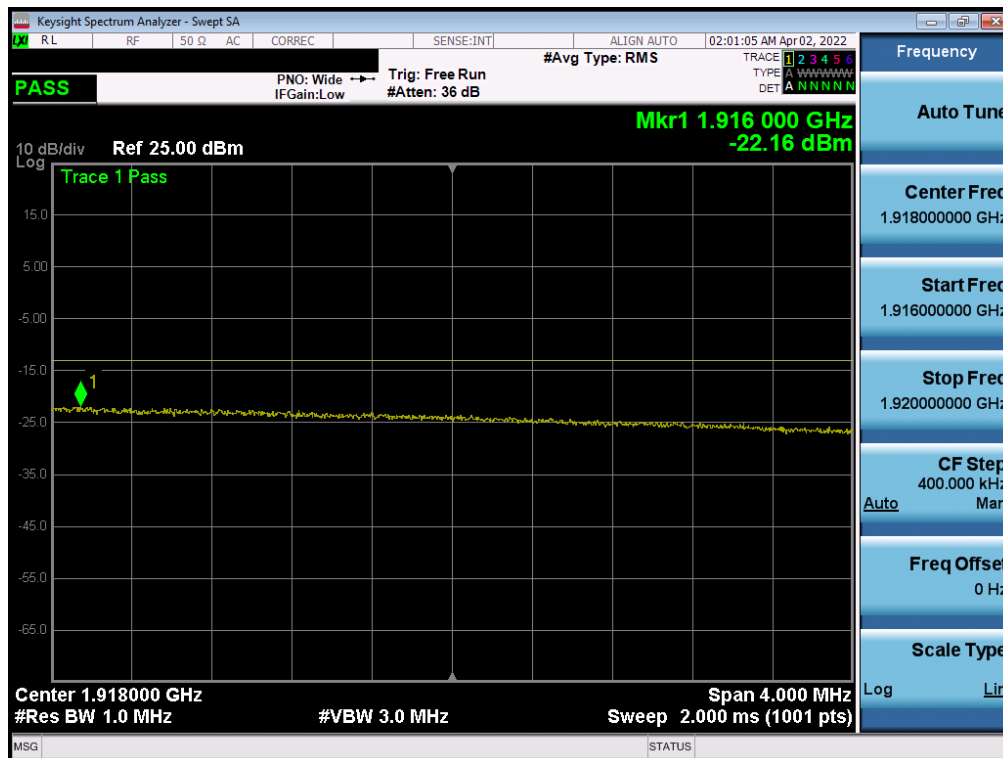


Plot 7-106. Extended Upper Band Edge Plot (LTE Band 2 - 20MHz QPSK – Full RB)

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Plot 7-107. Upper Band Edge Plot (LTE Band 25 - 20MHz QPSK – Full RB)



Plot 7-108. Extended Upper Band Edge Plot (LTE Band 25 - 20MHz QPSK – Full RB)

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