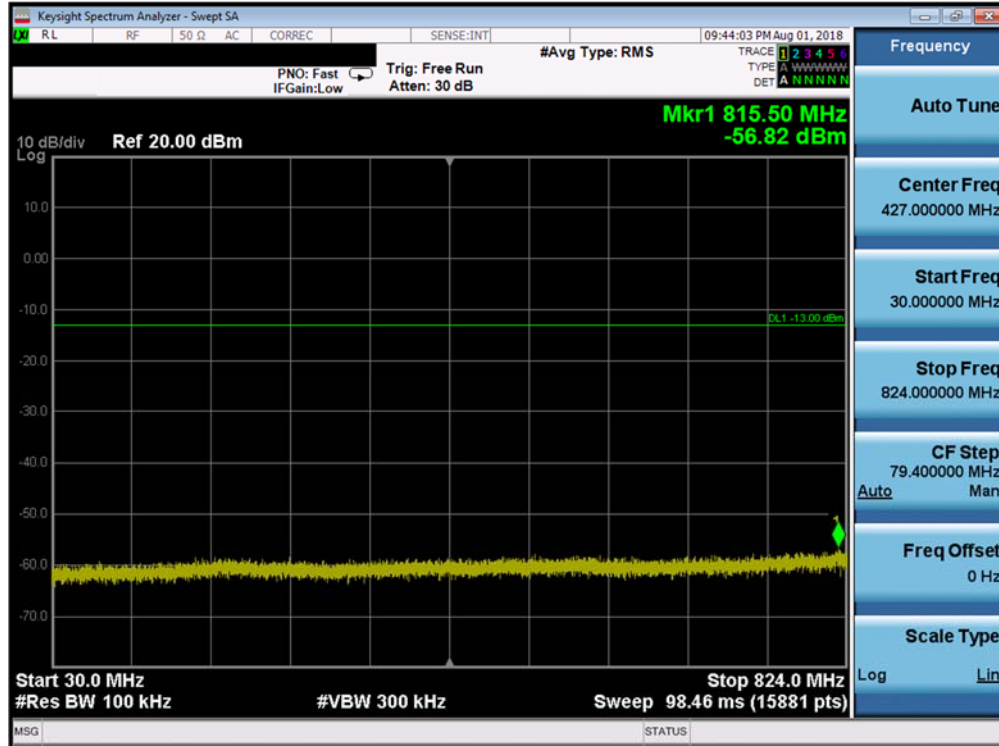
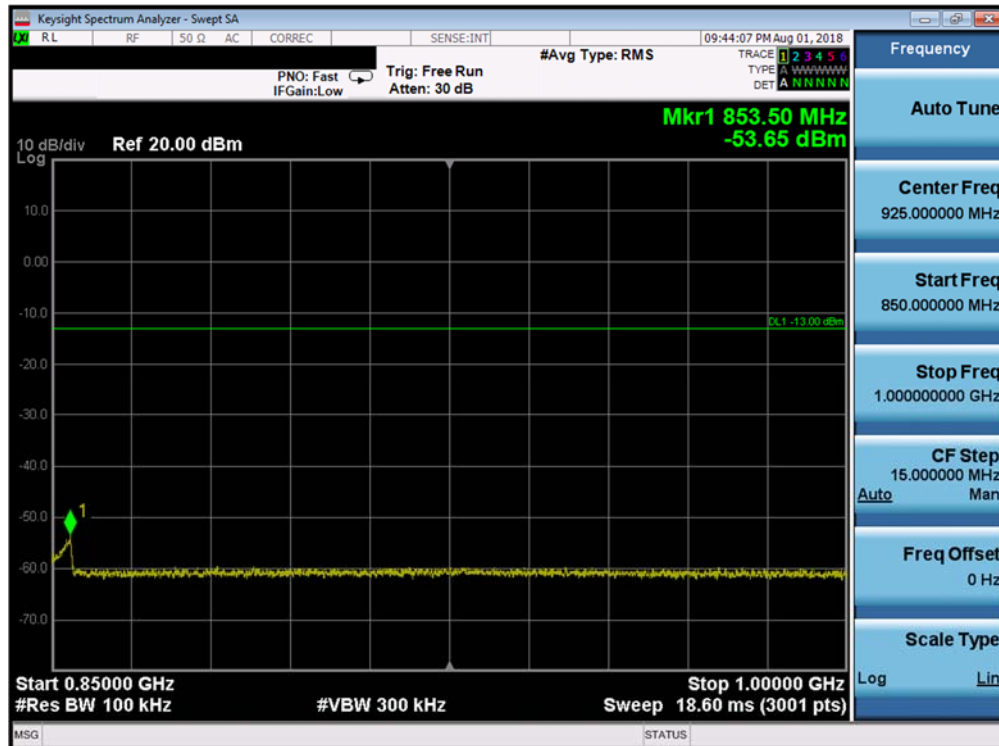


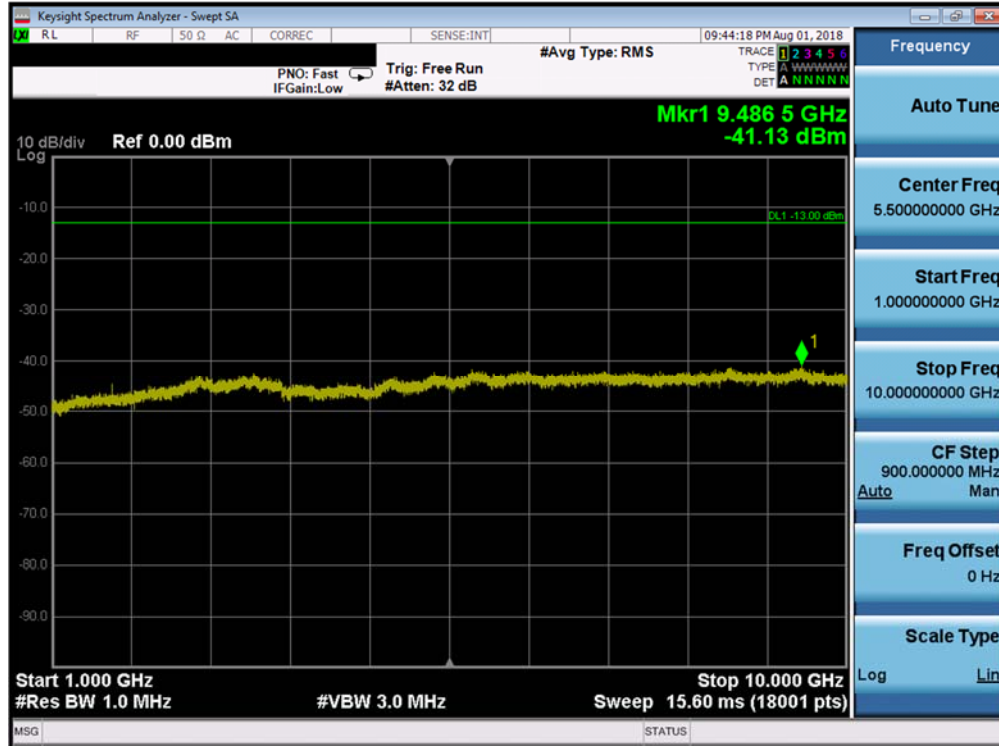


Plot 7-46. Conducted Spurious Plot (Band 26/5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-47. Conducted Spurious Plot (Band 26/5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

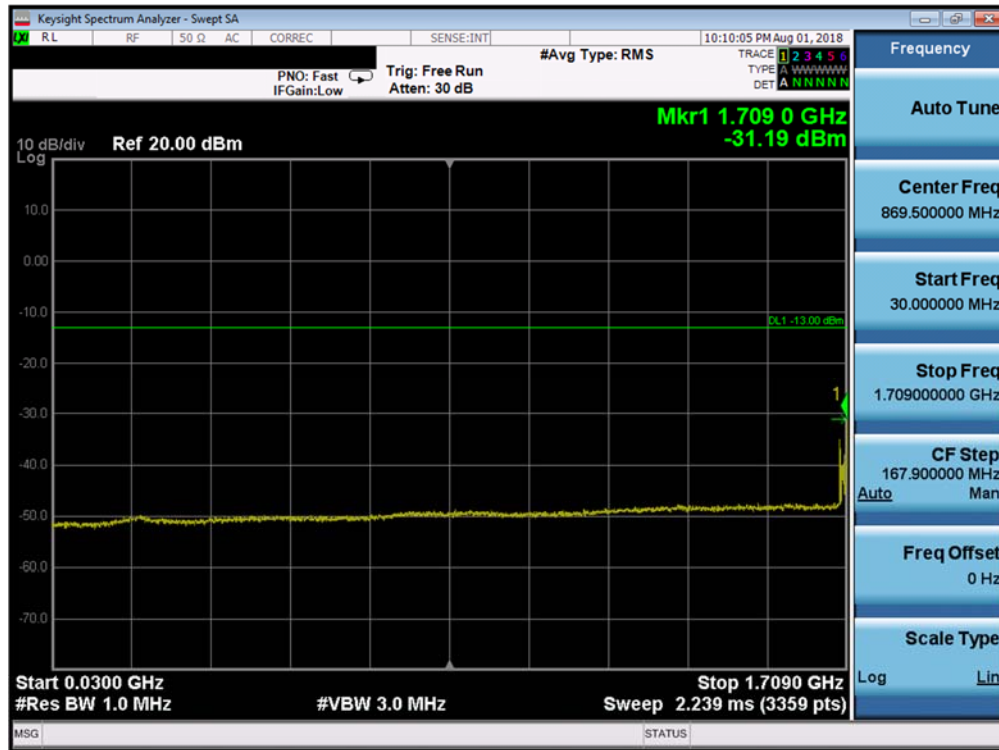
FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 39 of 89



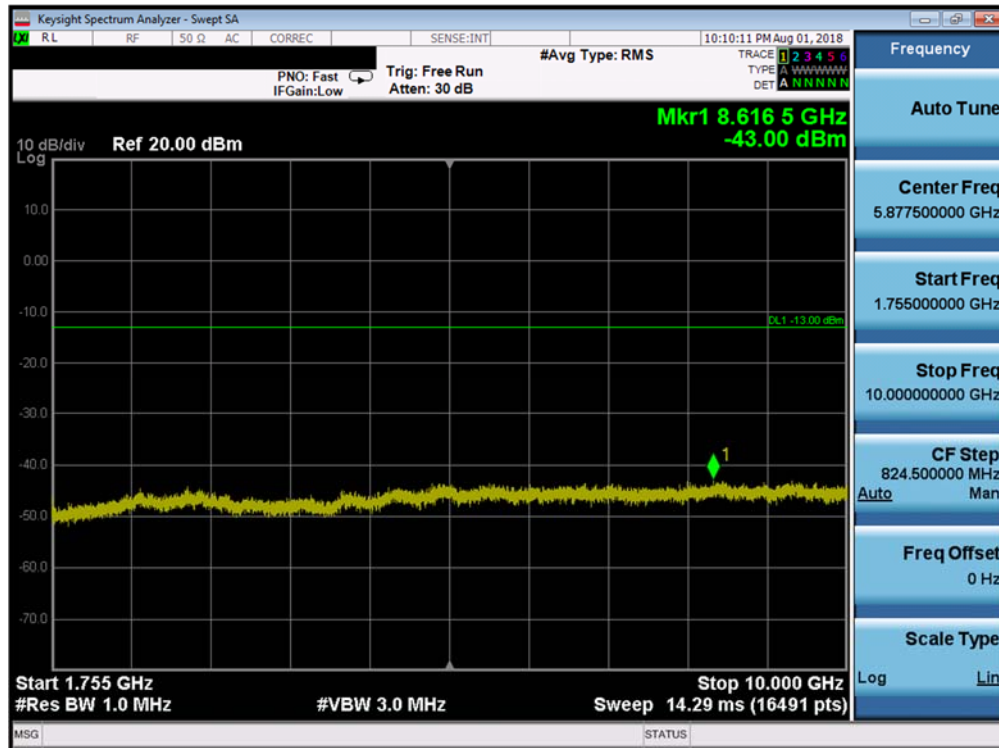
Plot 7-48. Conducted Spurious Plot (Band 26/5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFH871S	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 40 of 89

Band 4

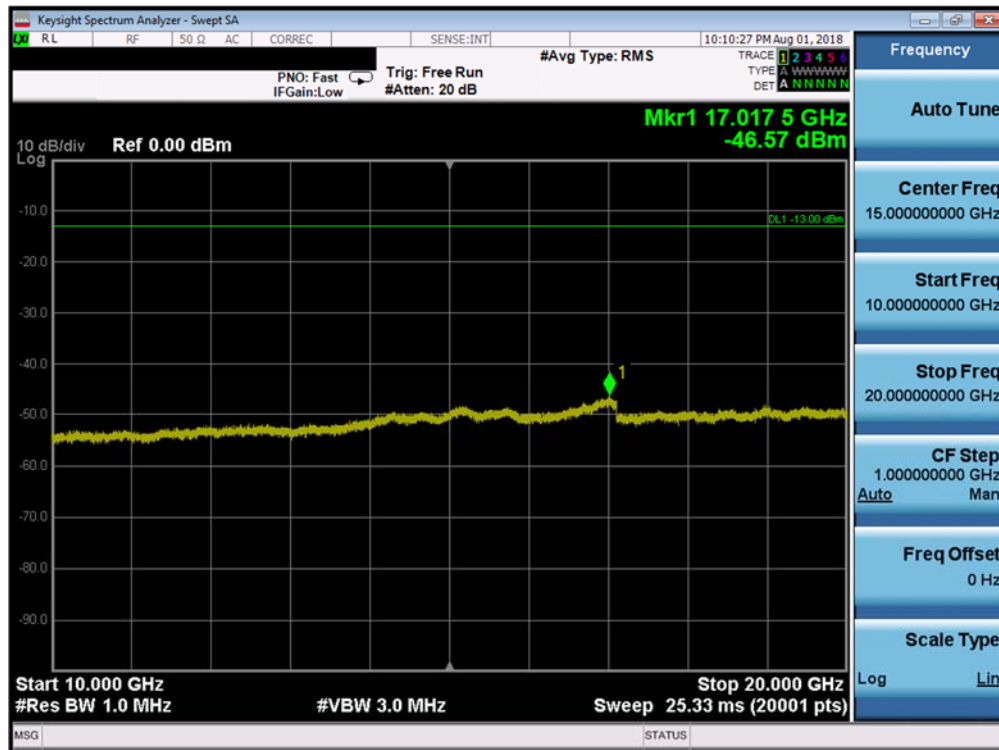


Plot 7-49. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

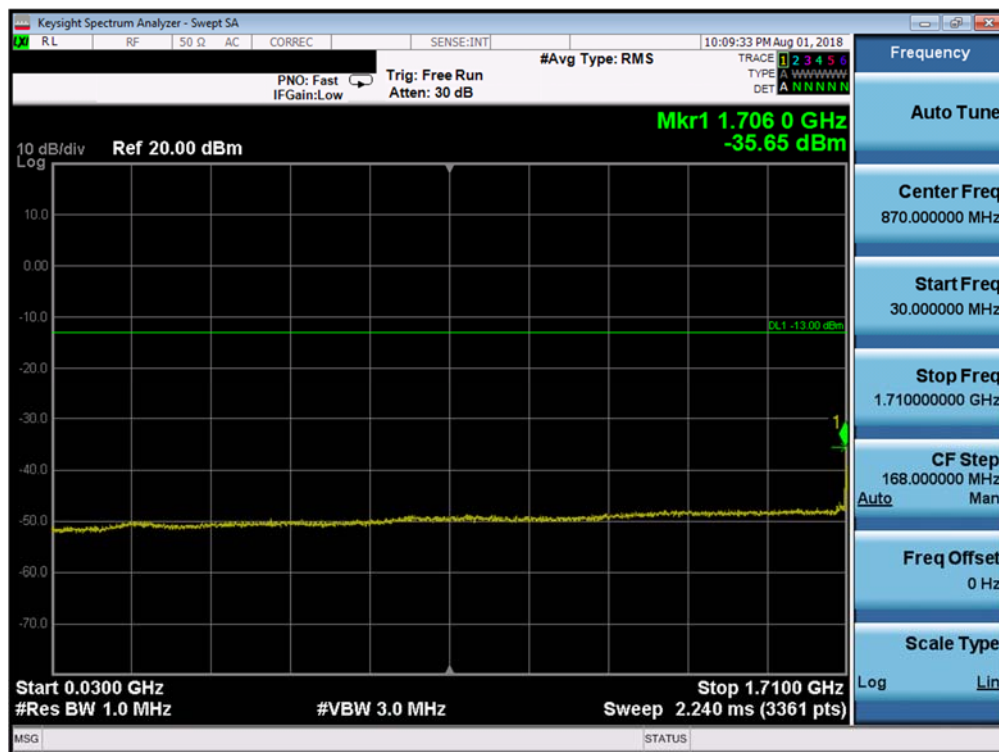


Plot 7-50. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 41 of 89

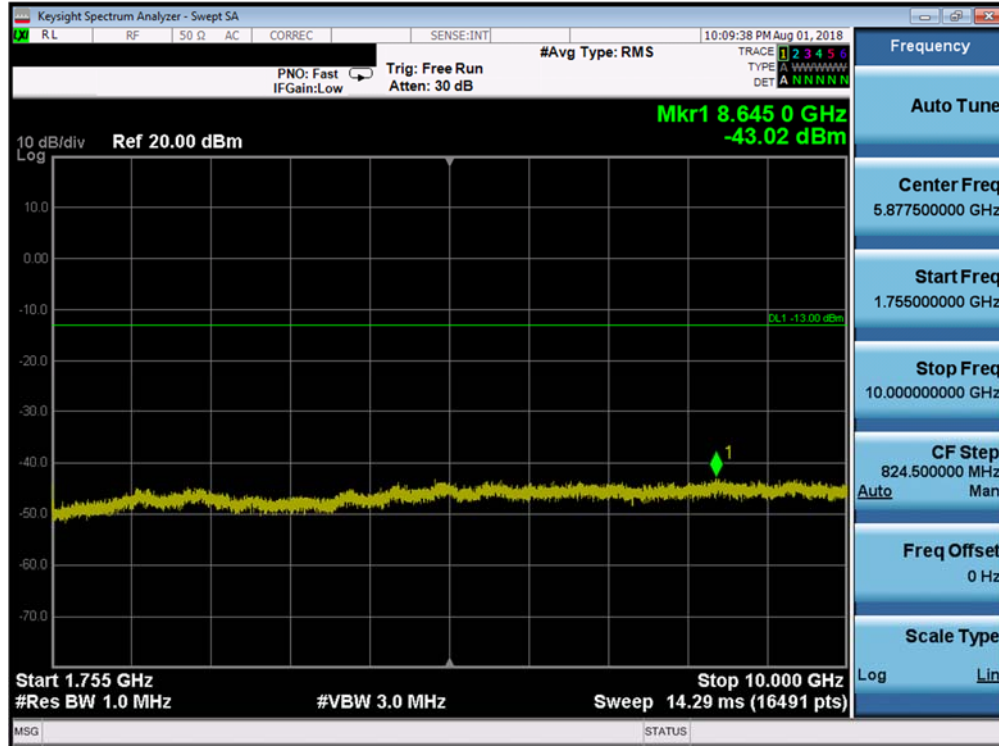


Plot 7-51. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

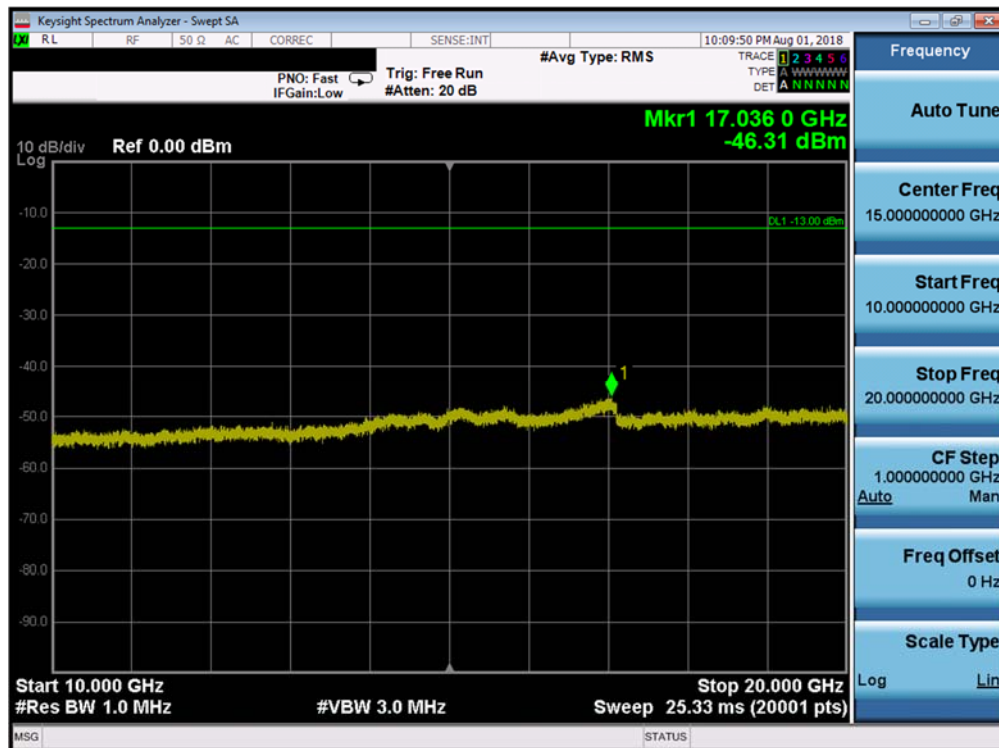


Plot 7-52. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 42 of 89

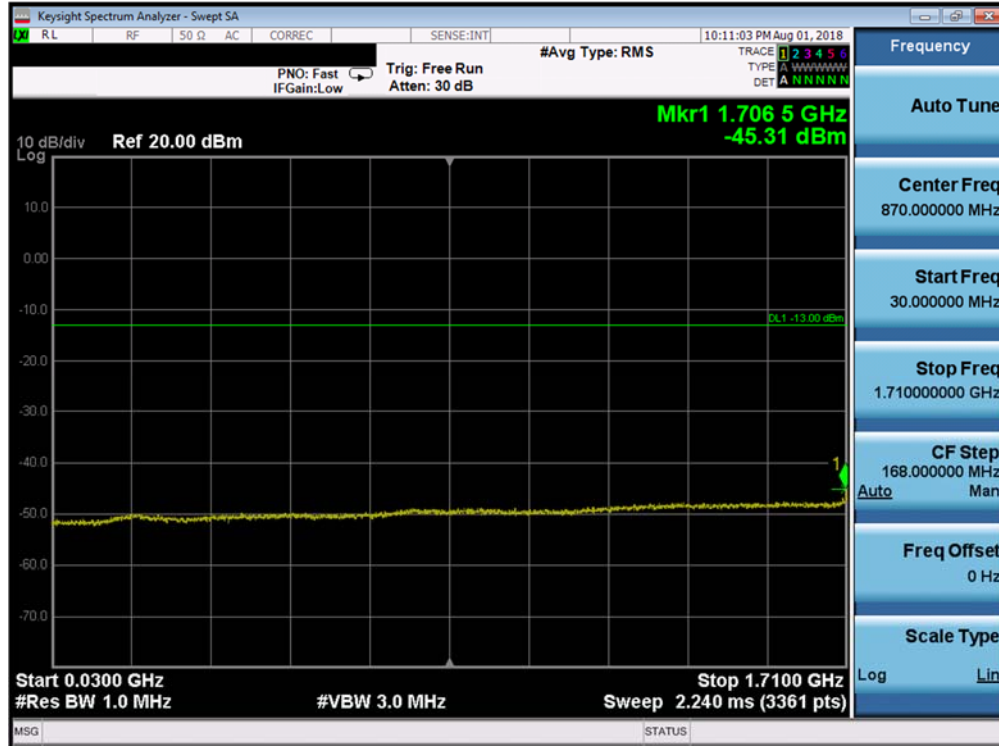


Plot 7-53. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

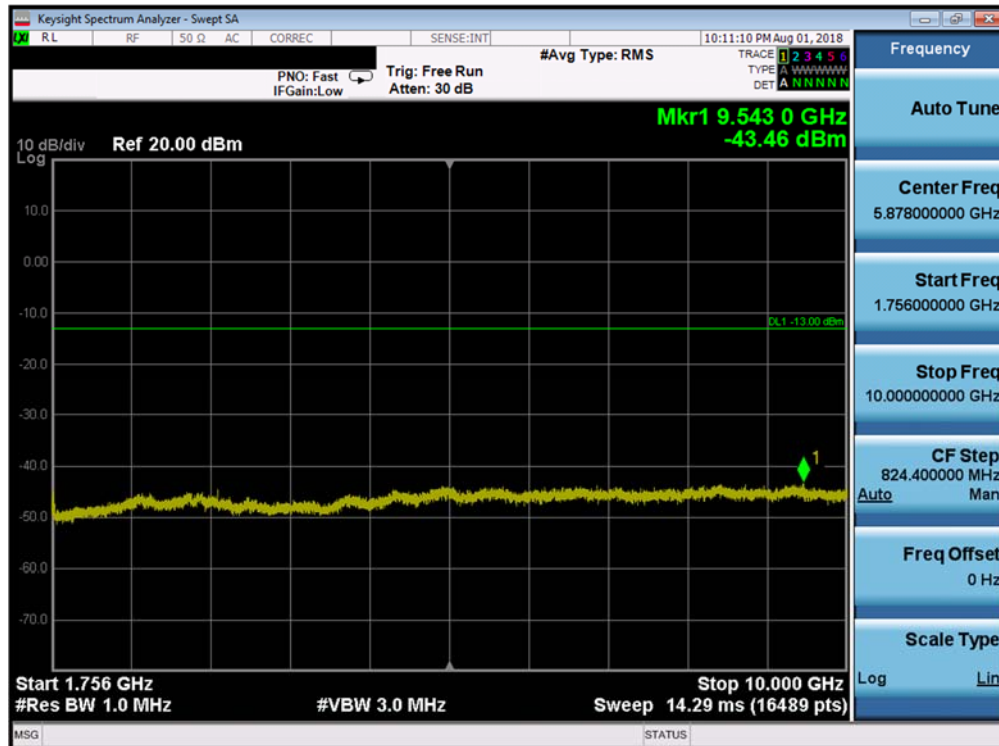


Plot 7-54. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 43 of 89

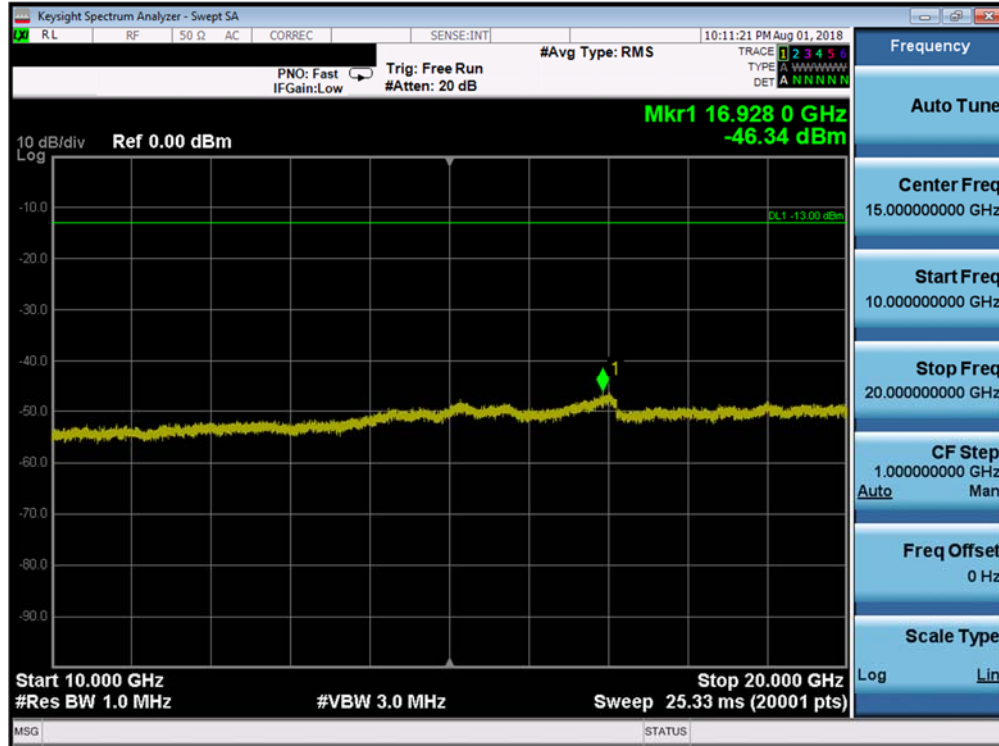


Plot 7-55. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-56. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 44 of 89



Plot 7-57. Conducted Spurious Plot (Band 4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFH871S	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 45 of 89

7.4 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 its maximum duty cycle, 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

KDB 971168 D01 v03r01 – Section 6.0

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 x RBW
5. Detector = RMS
6. Number of sweep points $\geq$ 2 x Span/RBW
7. Trace mode = trace average
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 7-3. Test Instrument & Measurement Setup

FCC ID: ZNFH871S	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 46 of 89

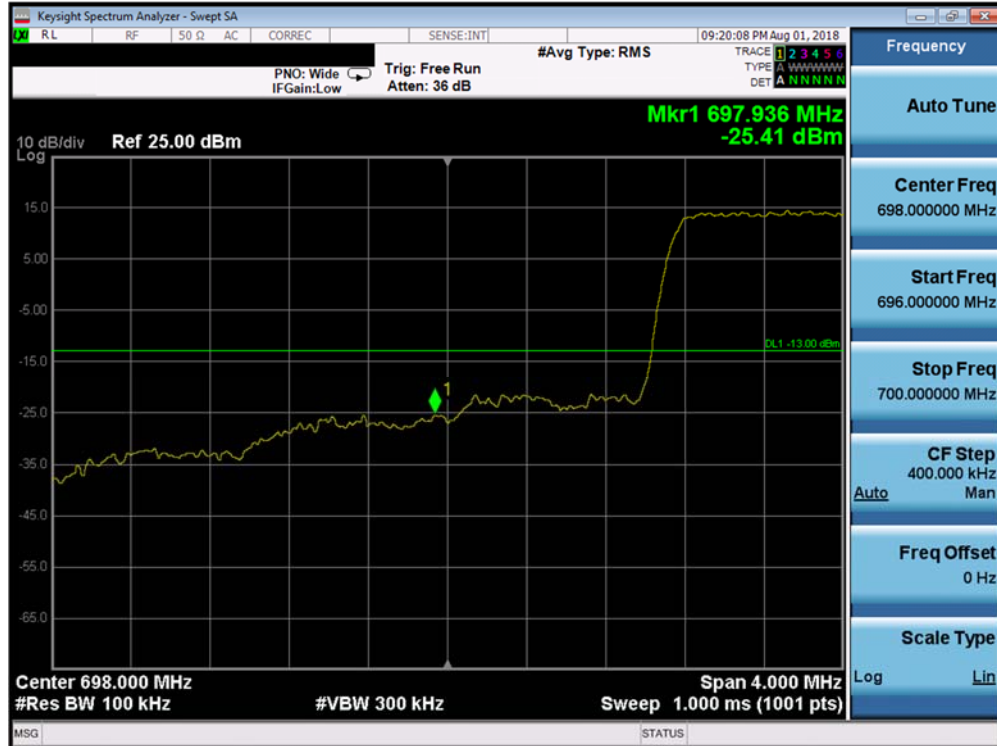
Test Notes

Per 22.917(b) 27.53(h) 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.

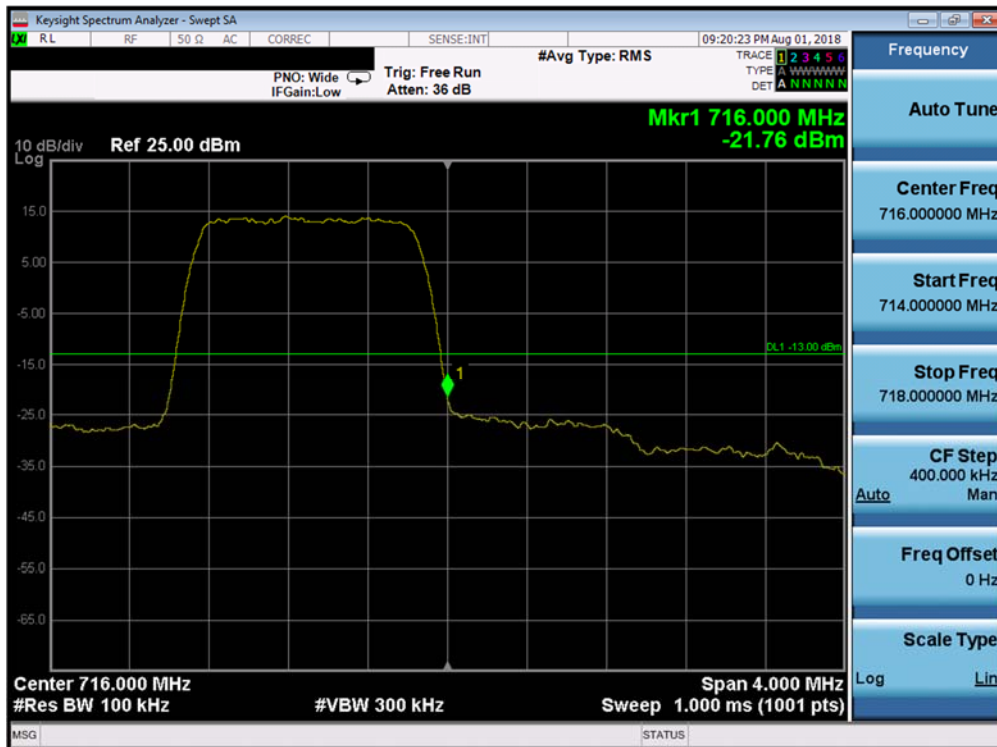
Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

FCC ID: ZNFH871S	 MEASUREMENT REPORT (CERTIFICATION)		 Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 47 of 89

Band 12

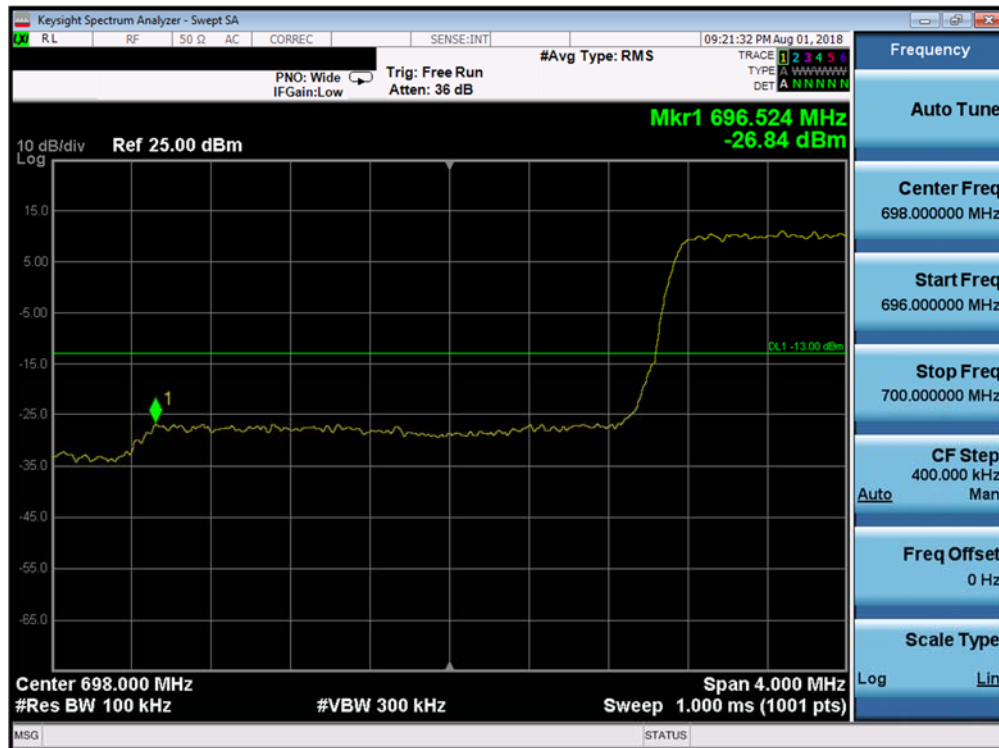


Plot 7-58. Lower Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

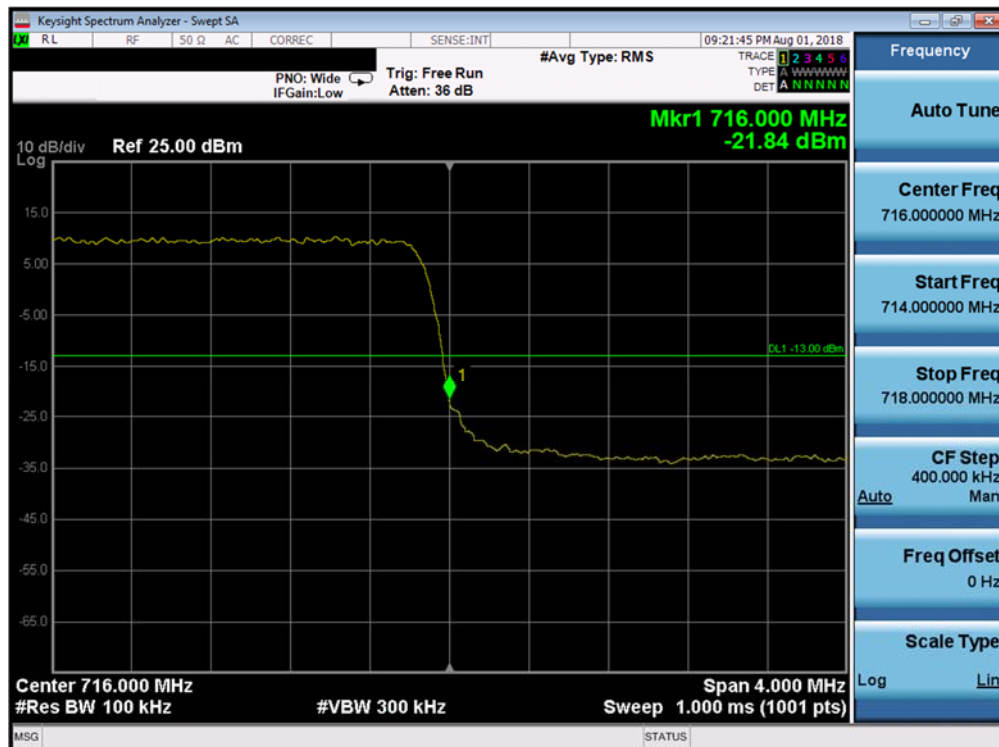


Plot 7-59. Upper Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 48 of 89

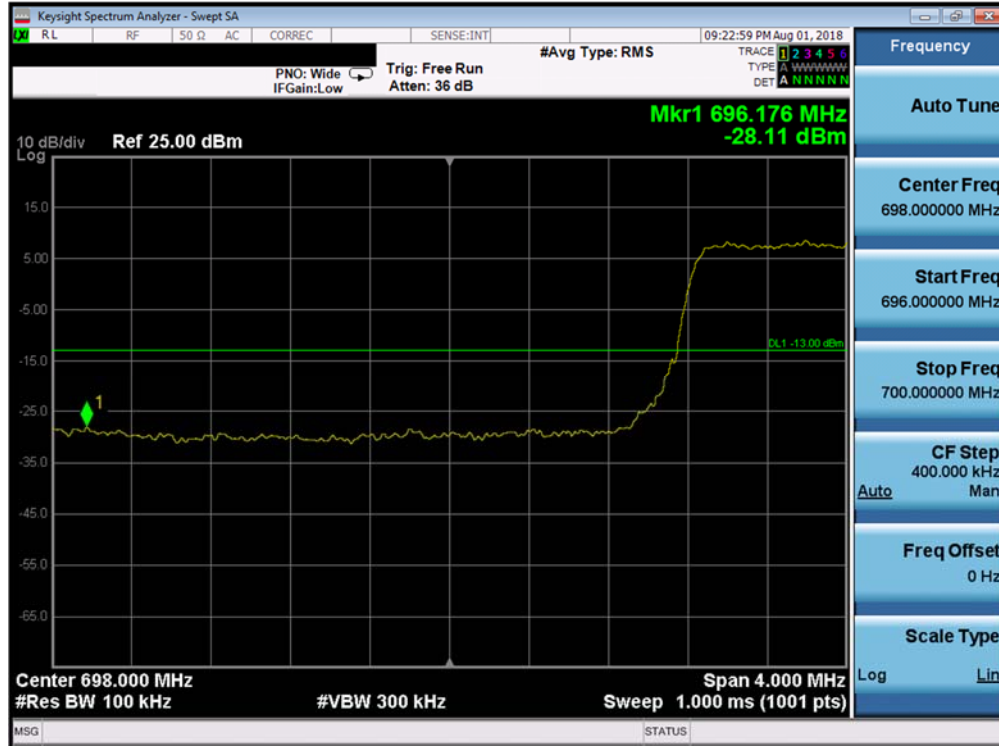


Plot 7-60. Lower Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

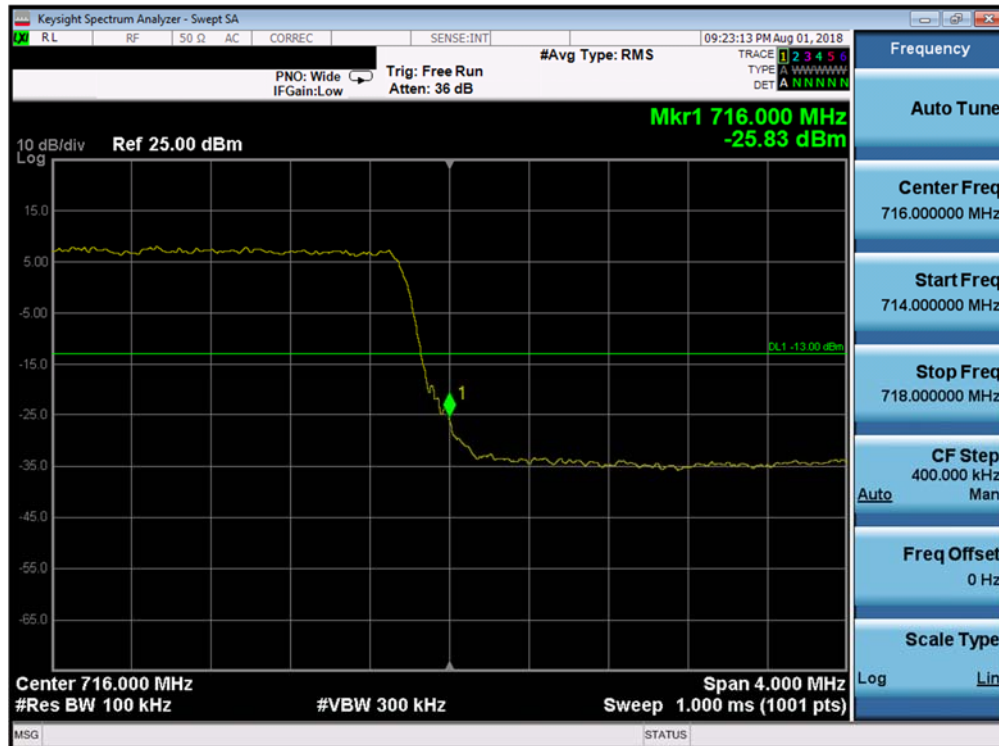


Plot 7-61. Upper Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 49 of 89

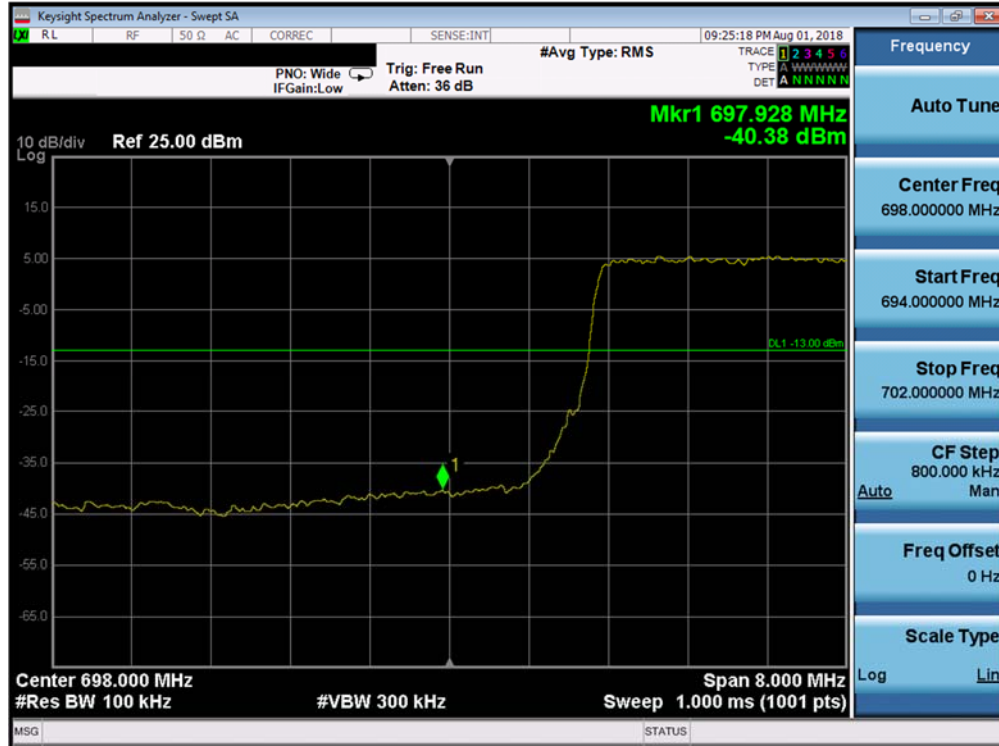


Plot 7-62. Lower Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

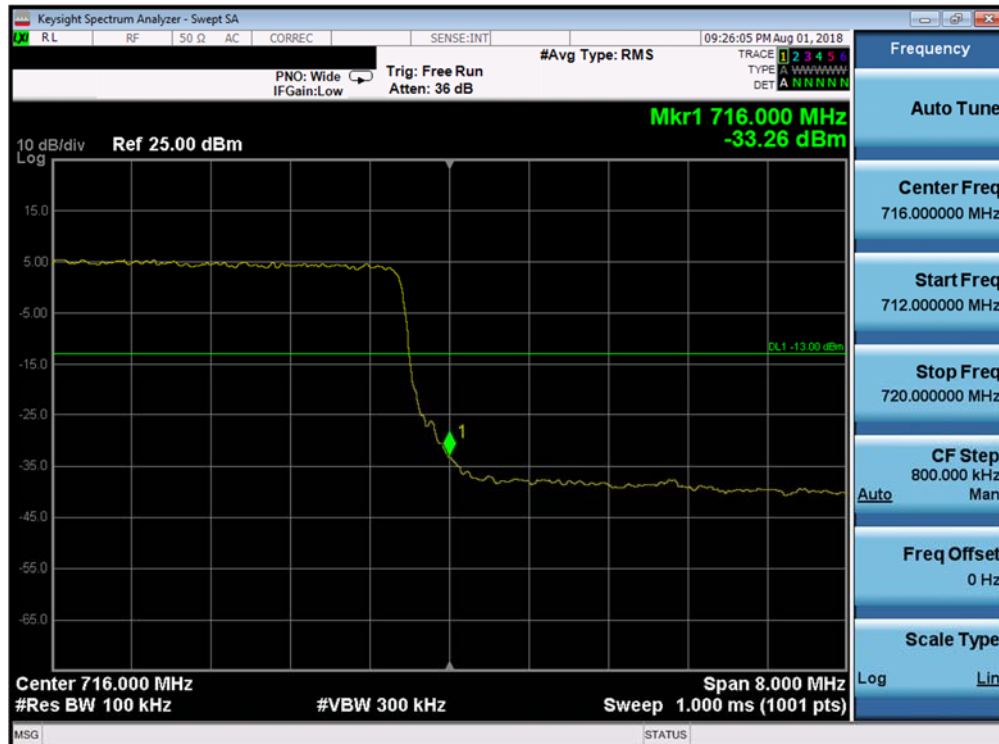


Plot 7-63. Upper Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 50 of 89



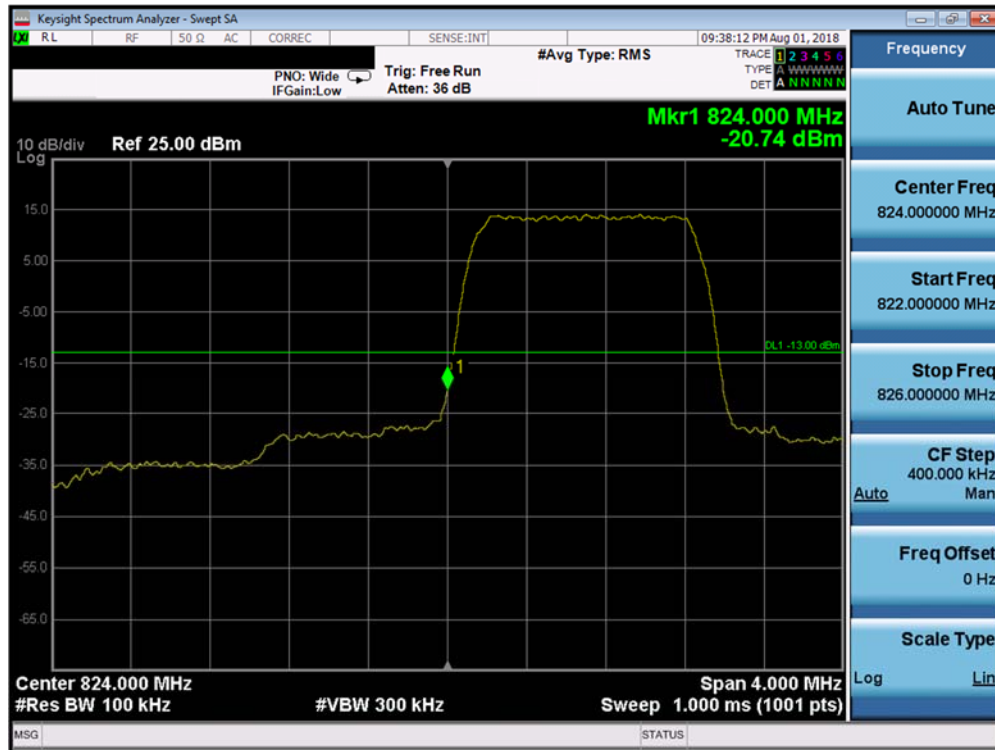
Plot 7-64. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



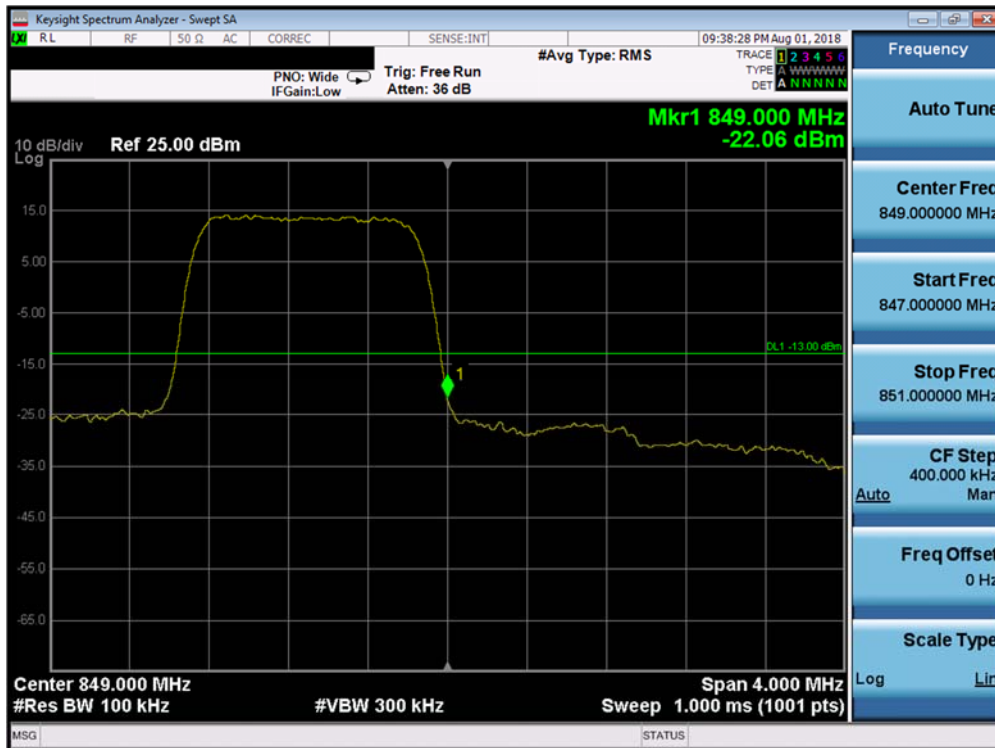
Plot 7-65. Upper Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 51 of 89

Band 26/5

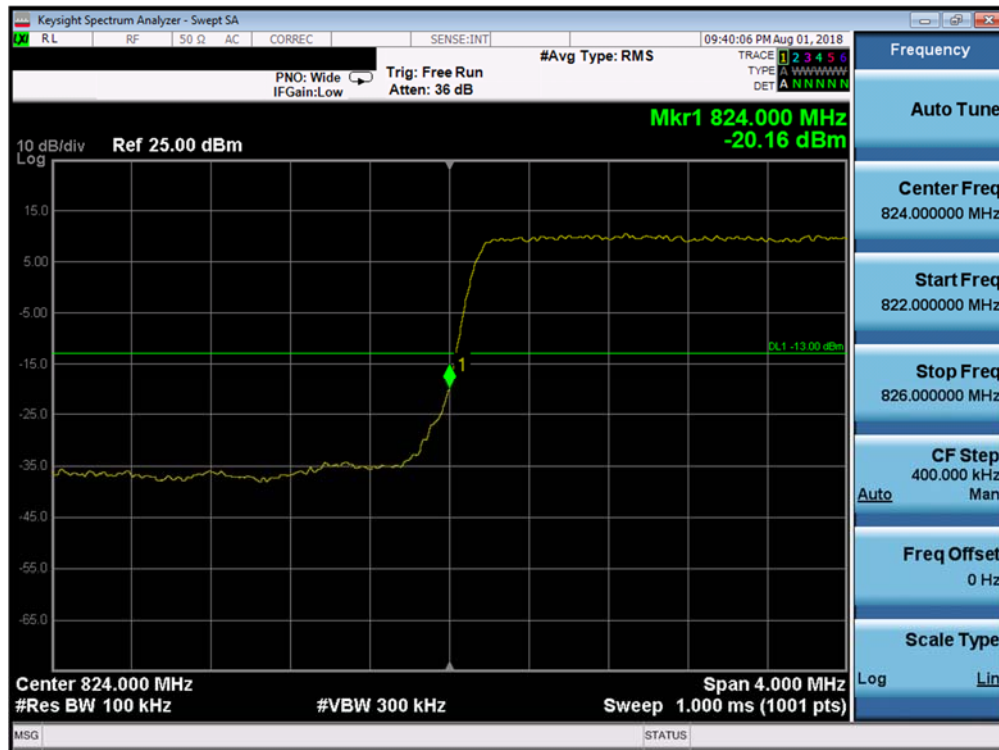


Plot 7-66. Lower Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)

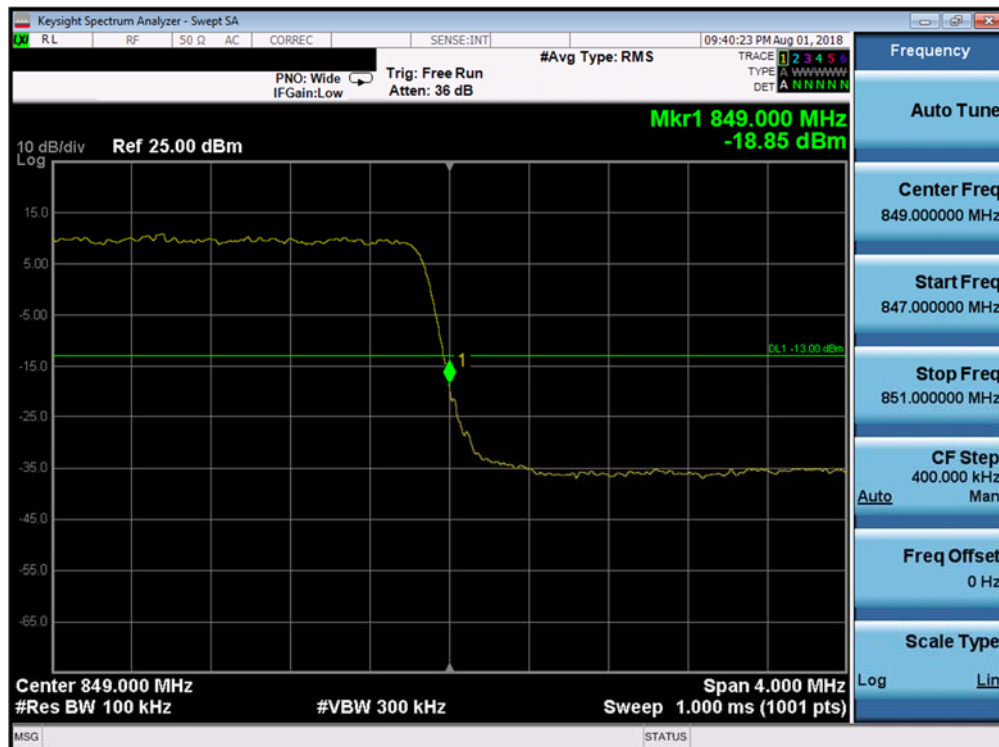


Plot 7-67. Upper Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 52 of 89

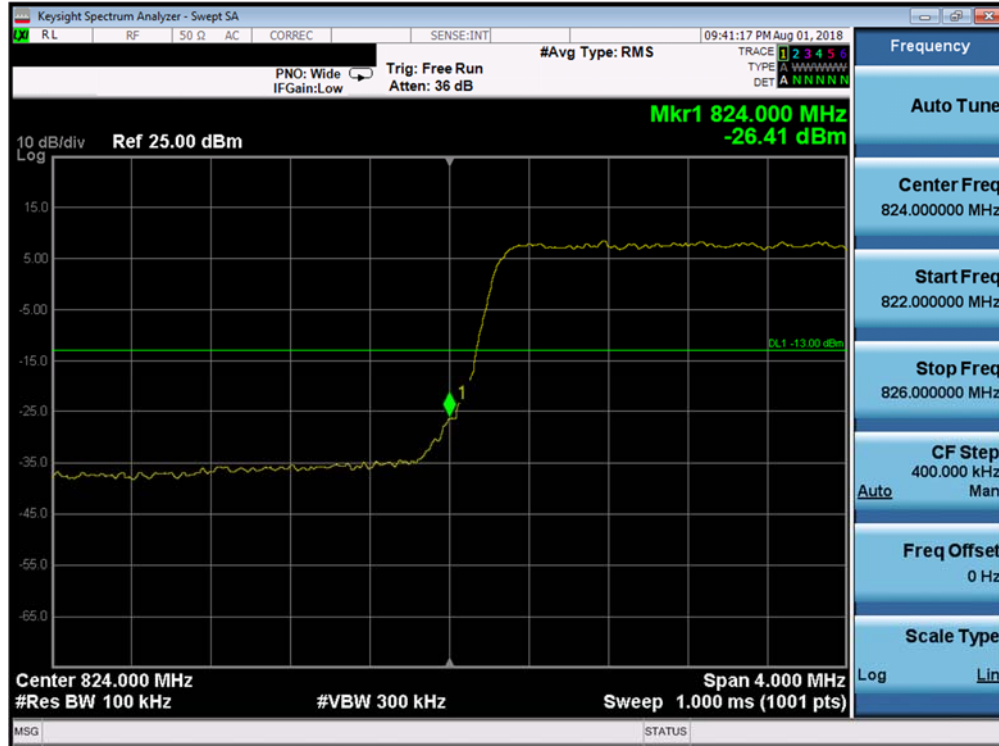


Plot 7-68. Lower Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

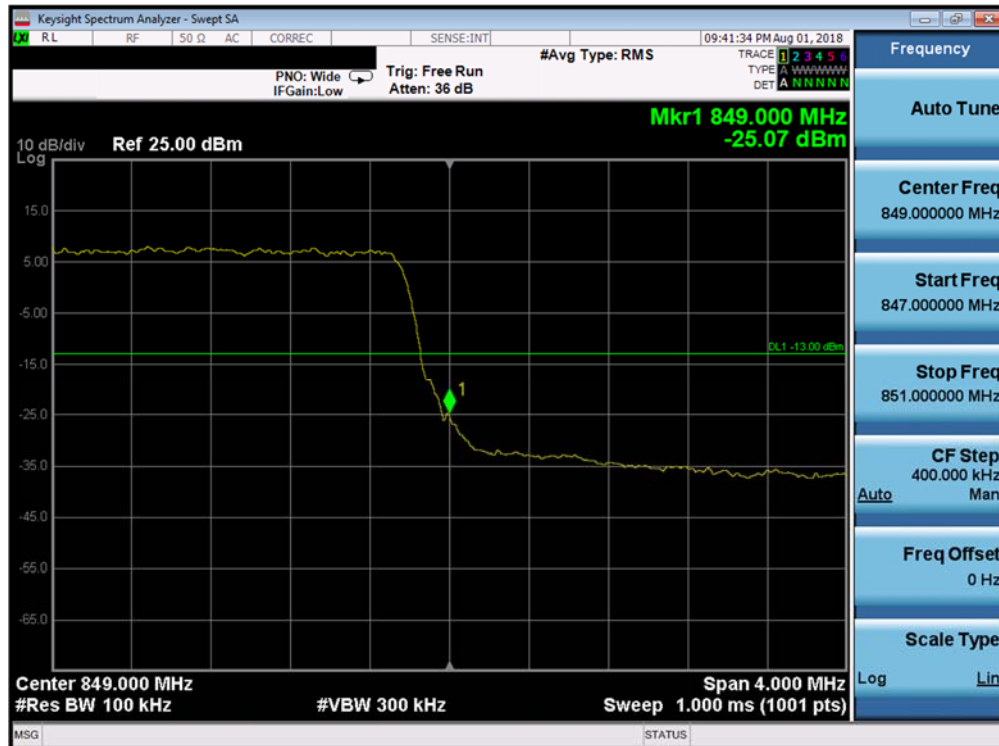


Plot 7-69. Upper Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 53 of 89

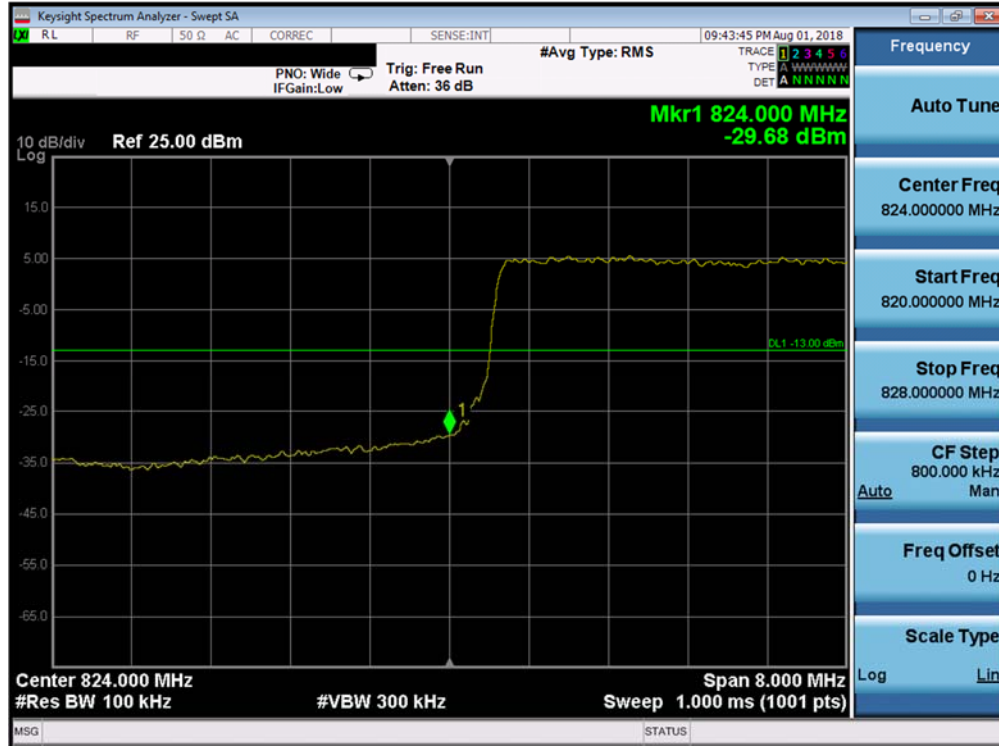


Plot 7-70. Lower Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)

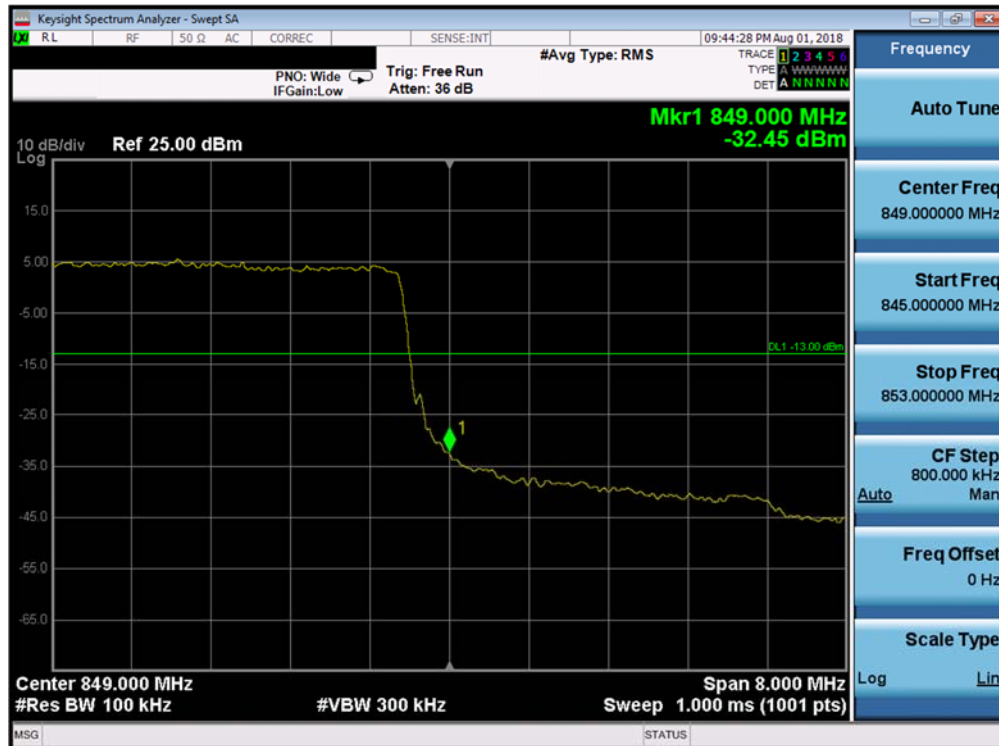


Plot 7-71. Upper Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset	Page 54 of 89	

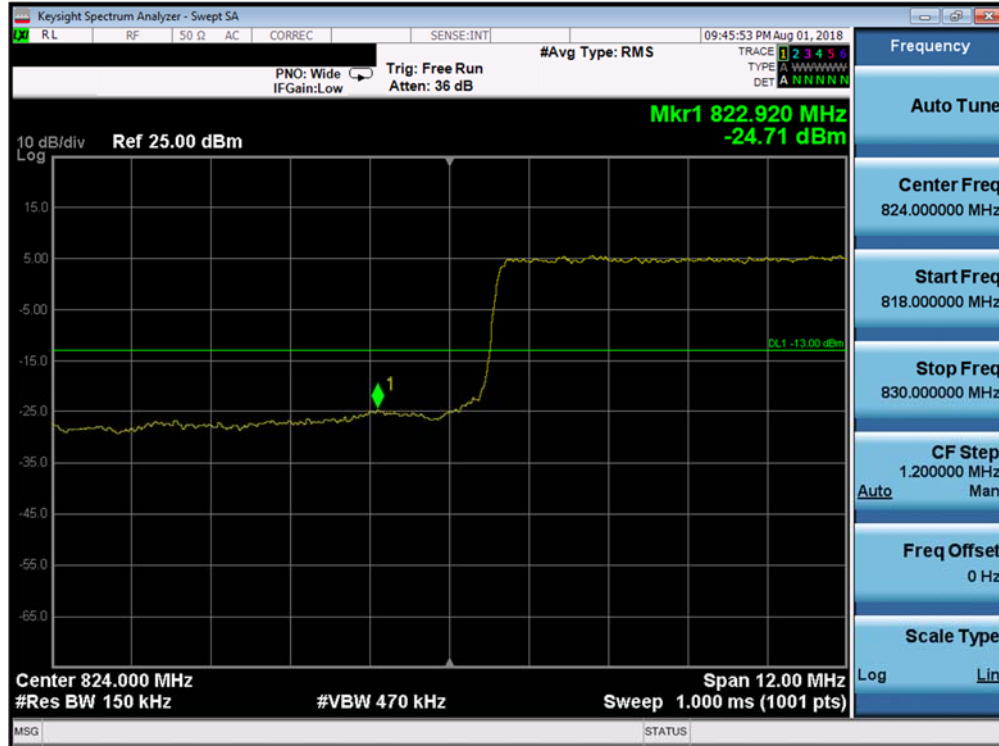


Plot 7-72. Lower Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)

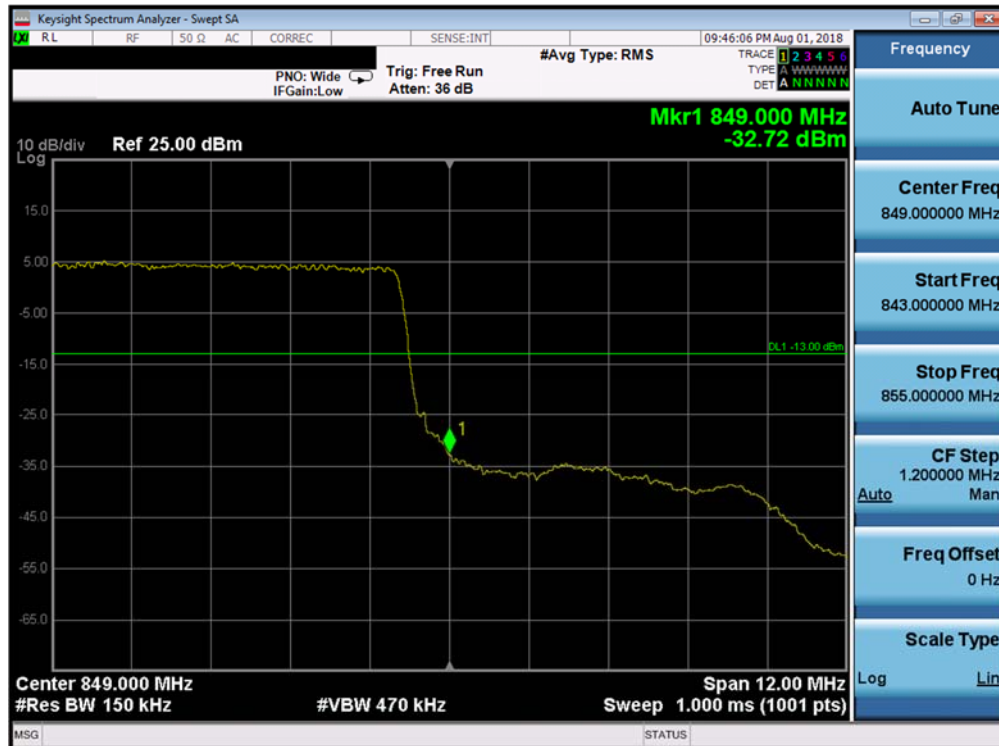


Plot 7-73. Upper Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 55 of 89



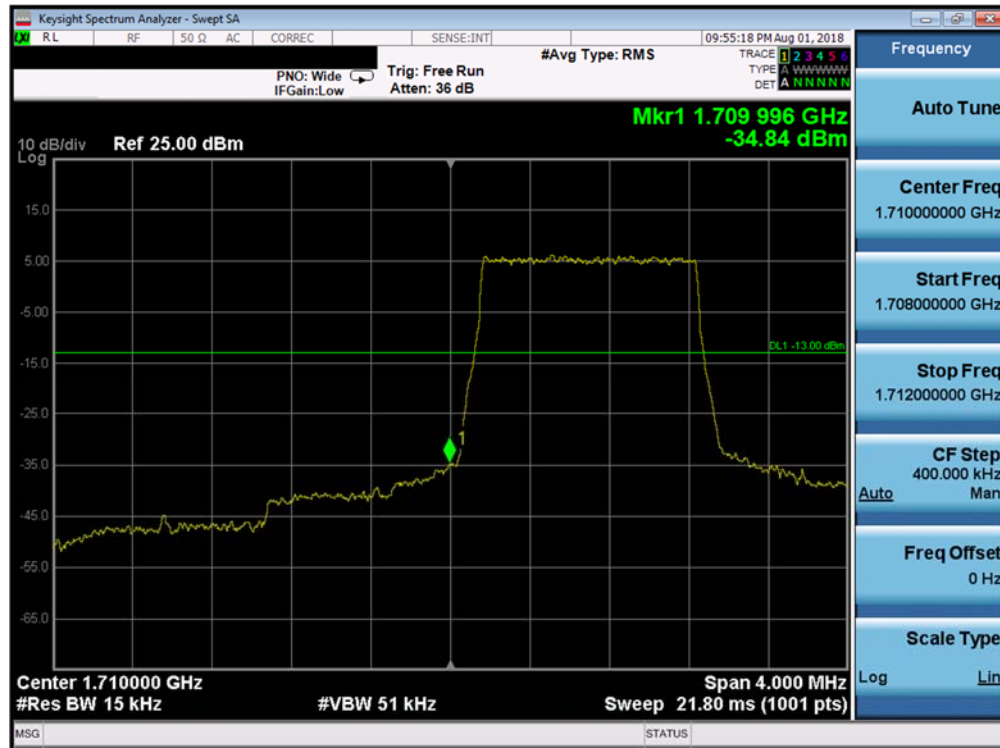
Plot 7-74. Lower Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)



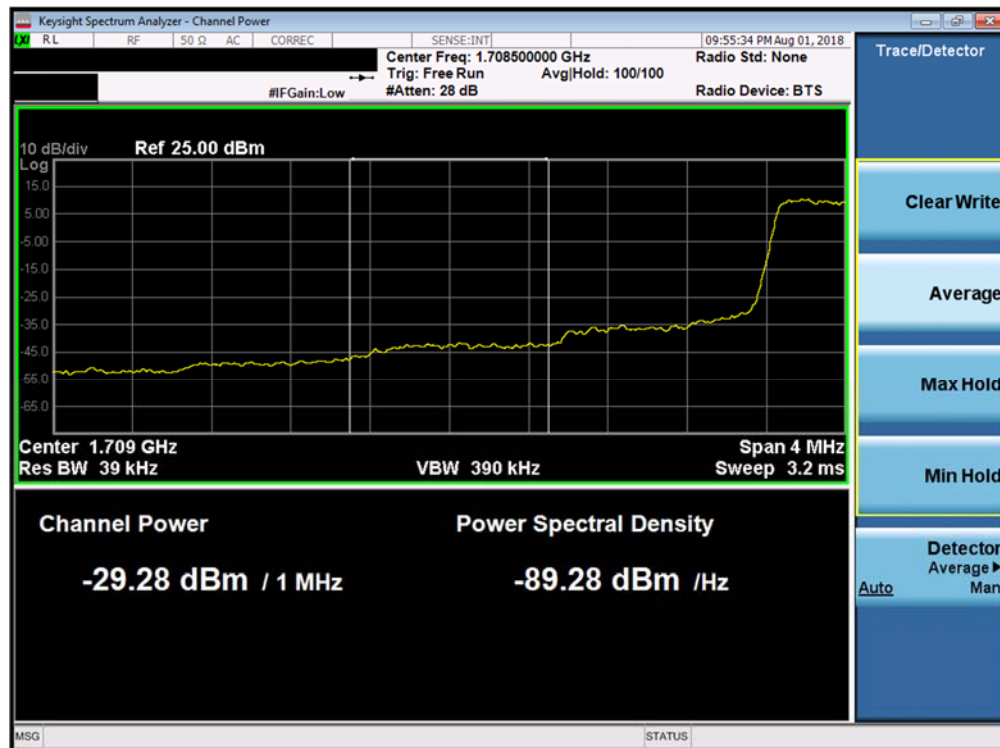
Plot 7-75. Upper Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 56 of 89

Band 4

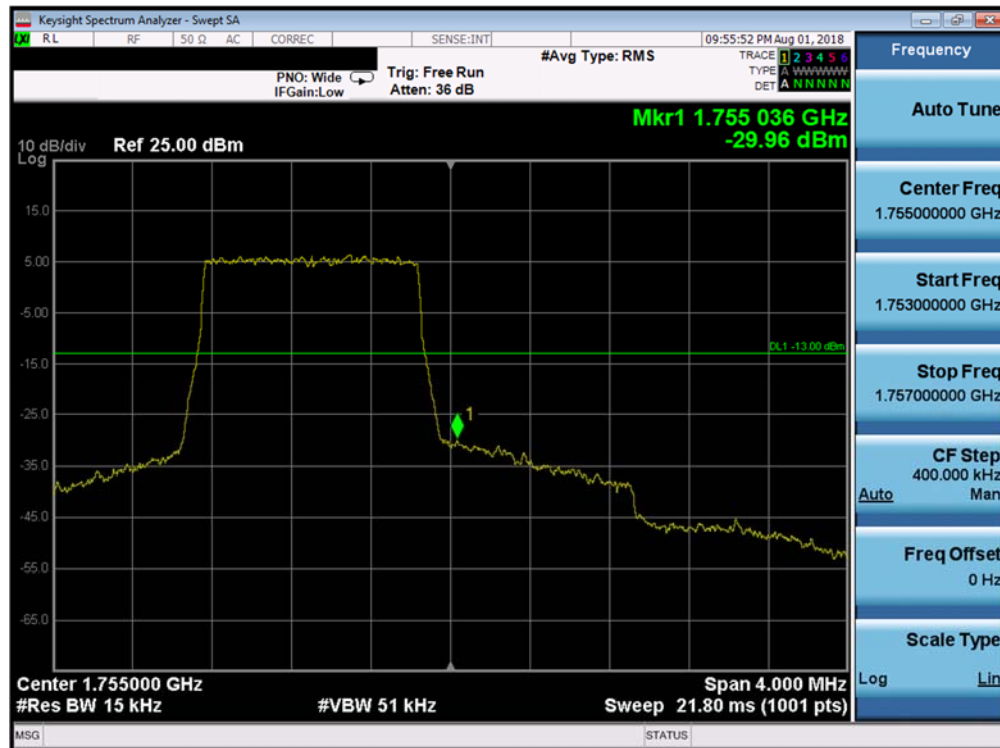


Plot 7-76. Lower Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

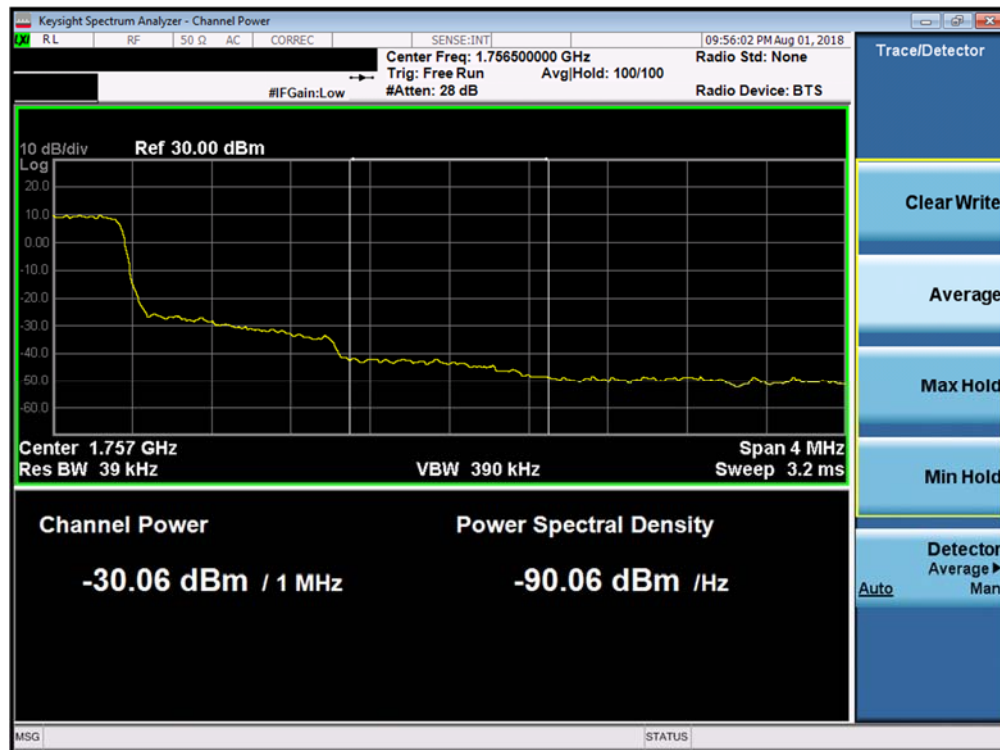


Plot 7-77. Lower Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 57 of 89

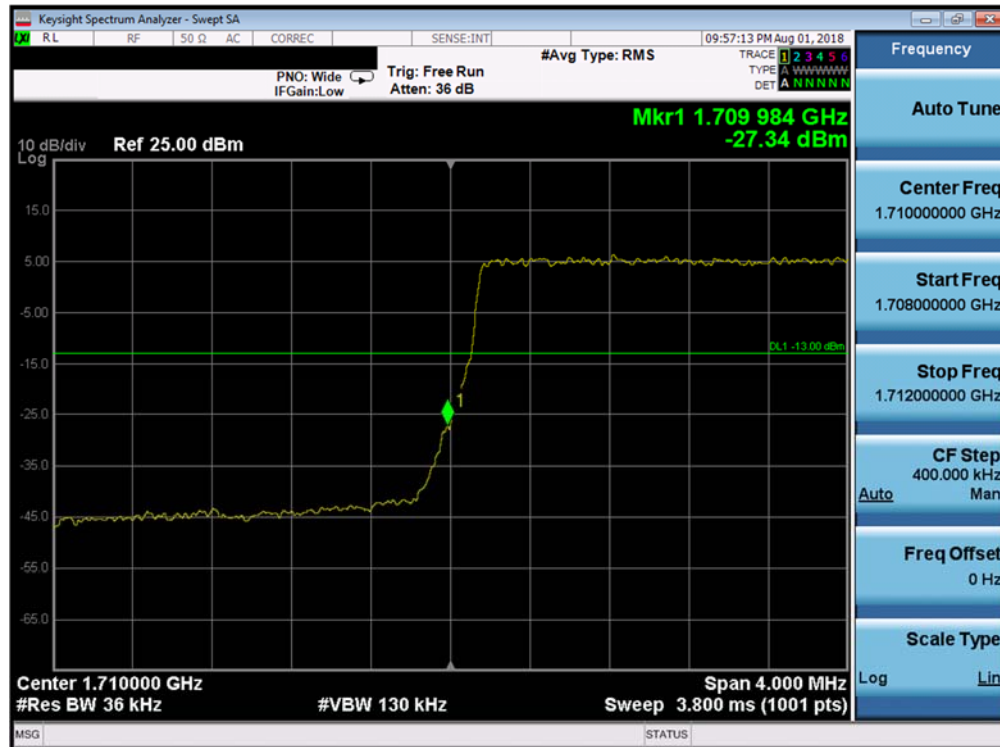


Plot 7-78. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

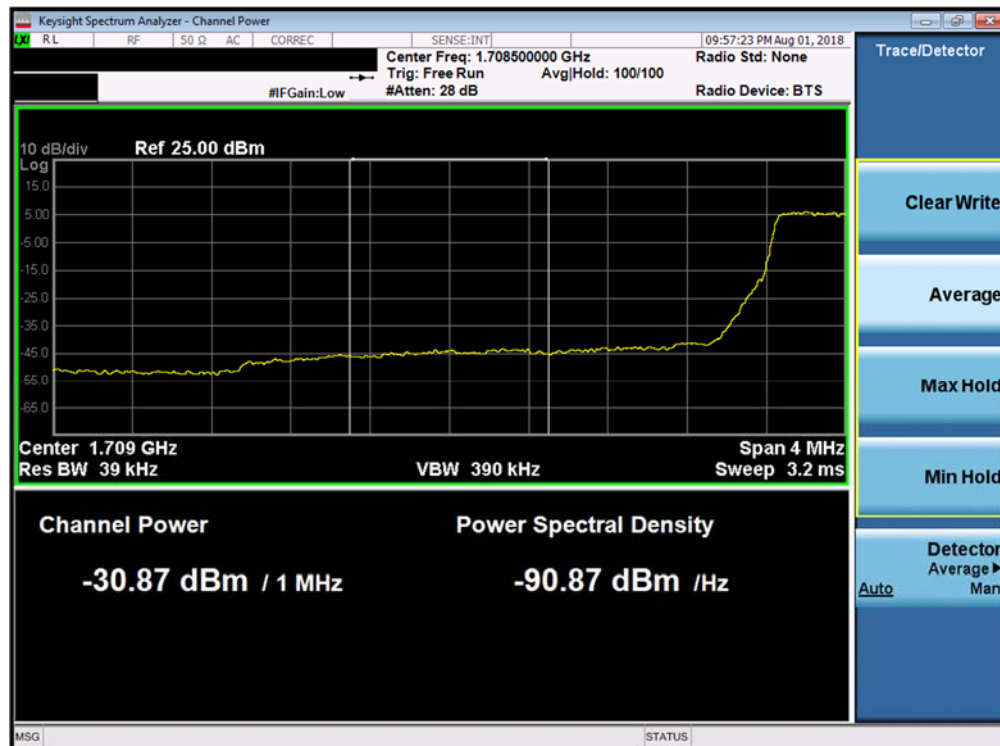


Plot 7-79. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 58 of 89

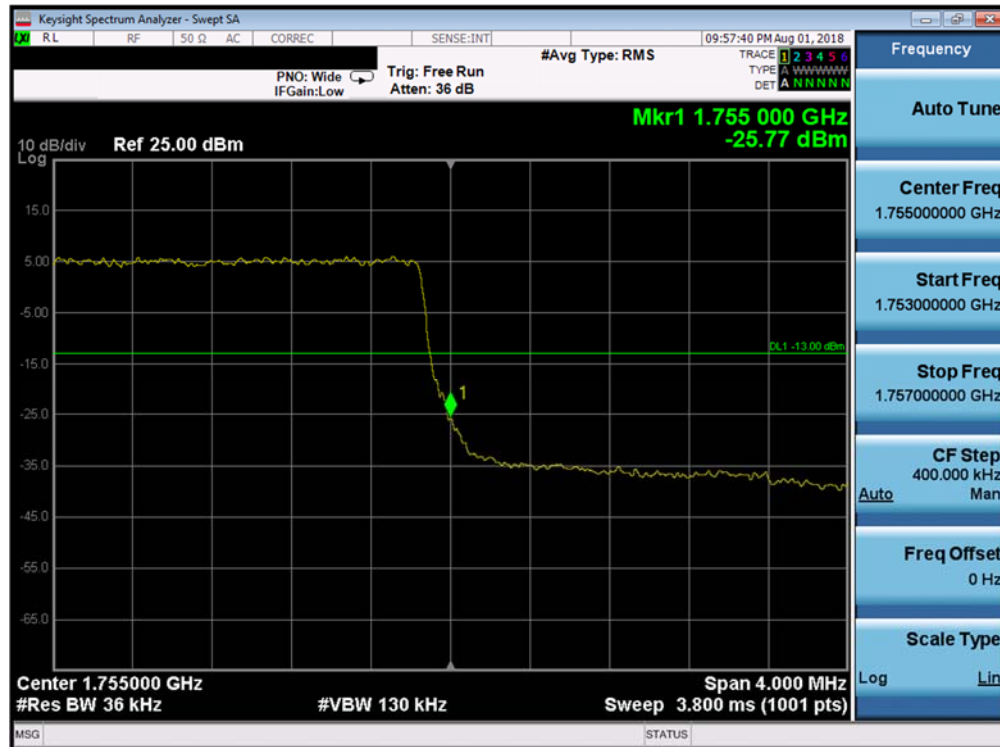


Plot 7-80. Lower Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

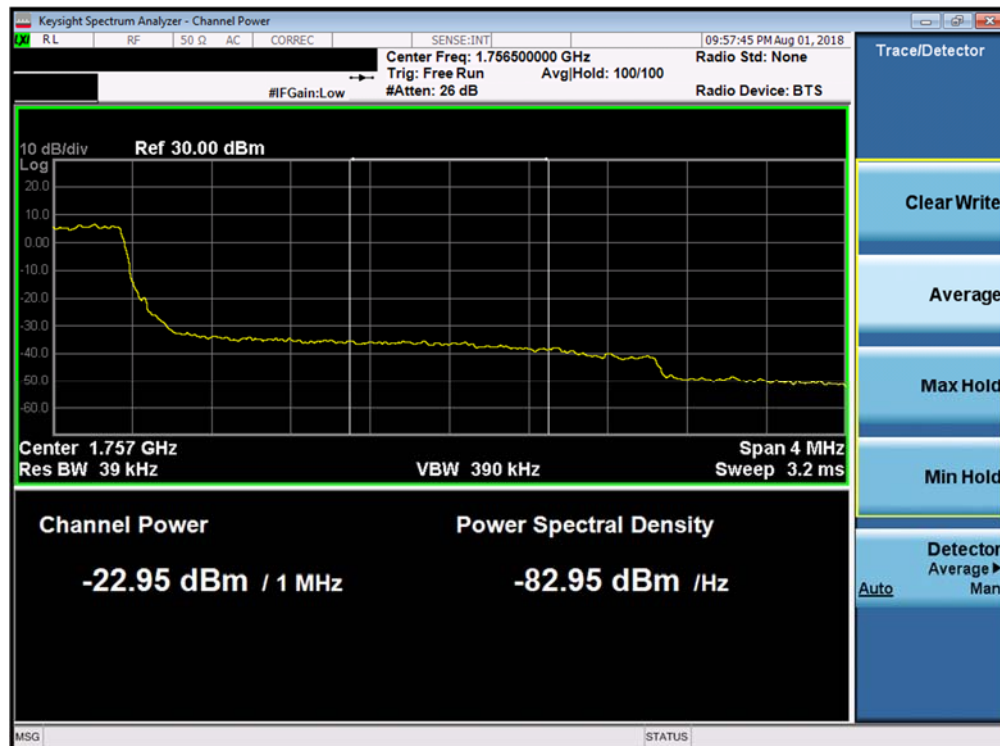


Plot 7-81. Lower Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 59 of 89

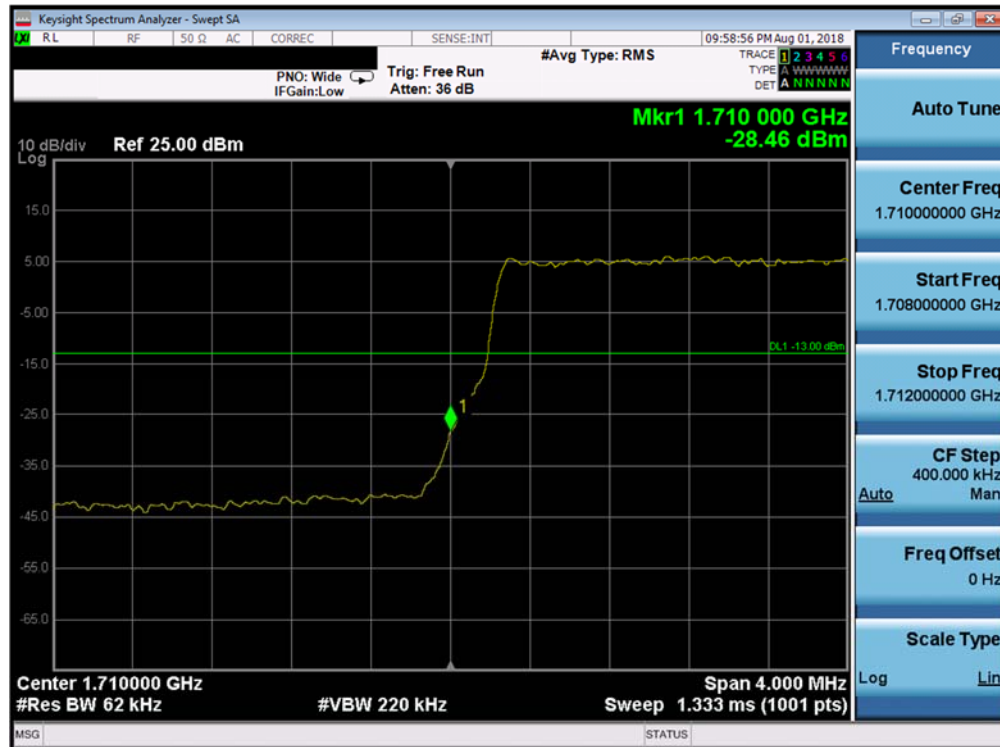


Plot 7-82. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

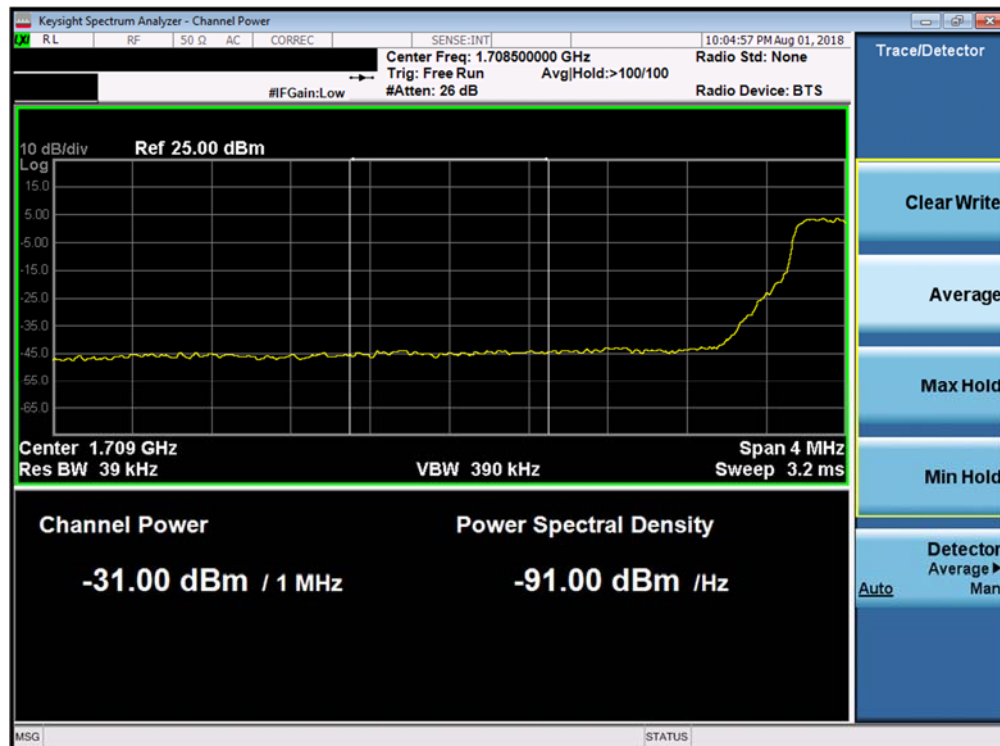


Plot 7-83. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 60 of 89

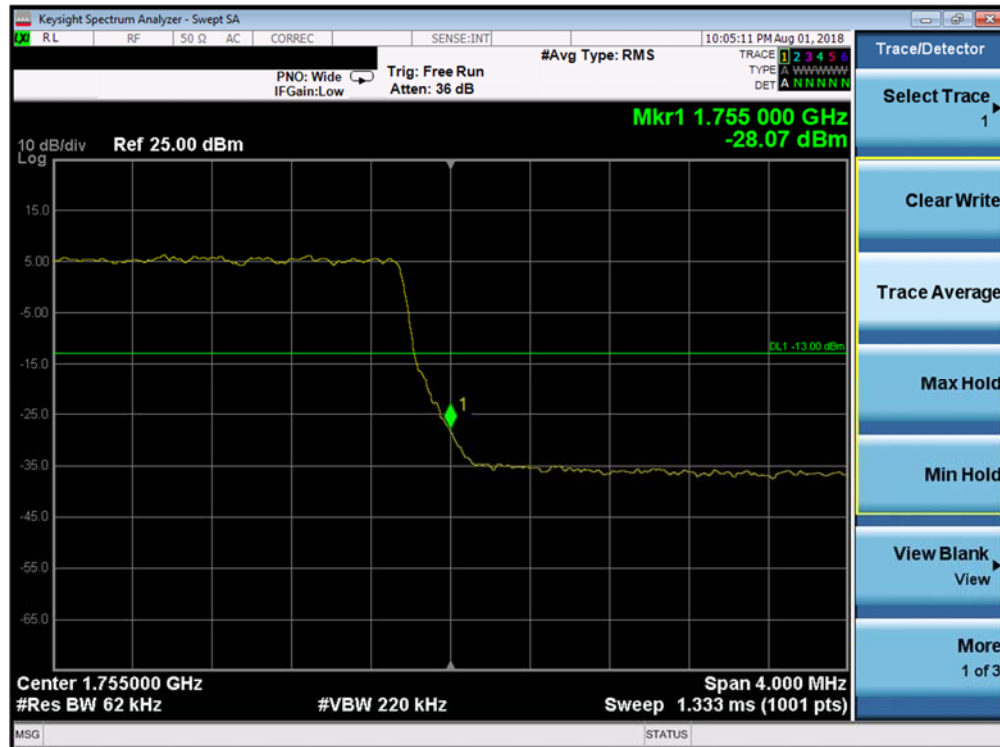


Plot 7-84. Lower Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

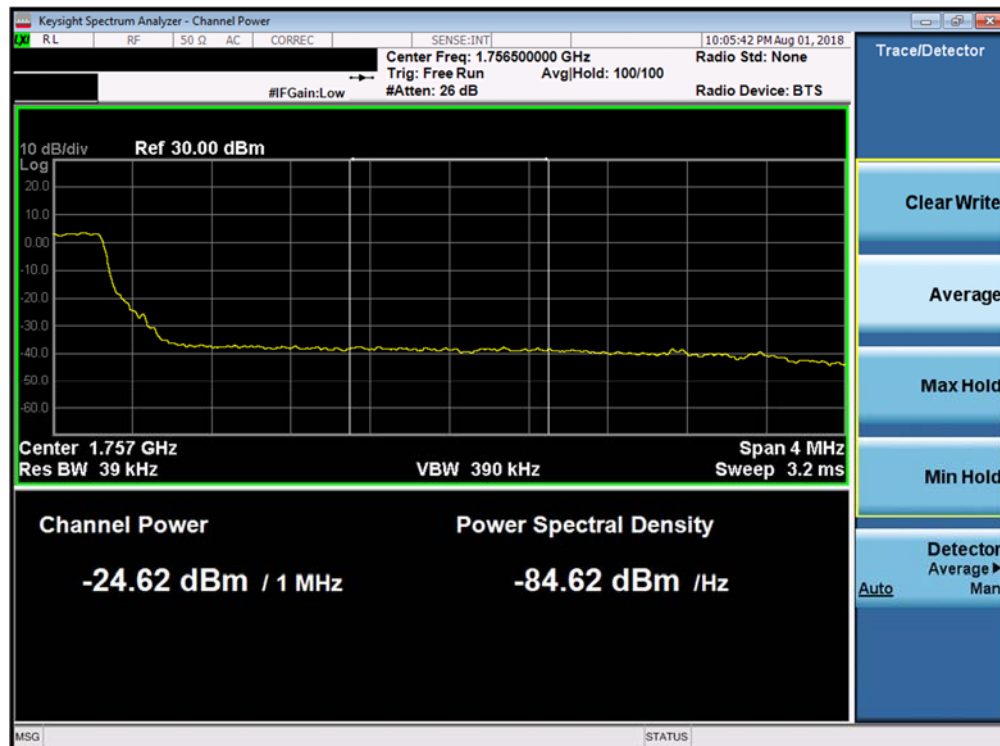


Plot 7-85. Lower Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 61 of 89

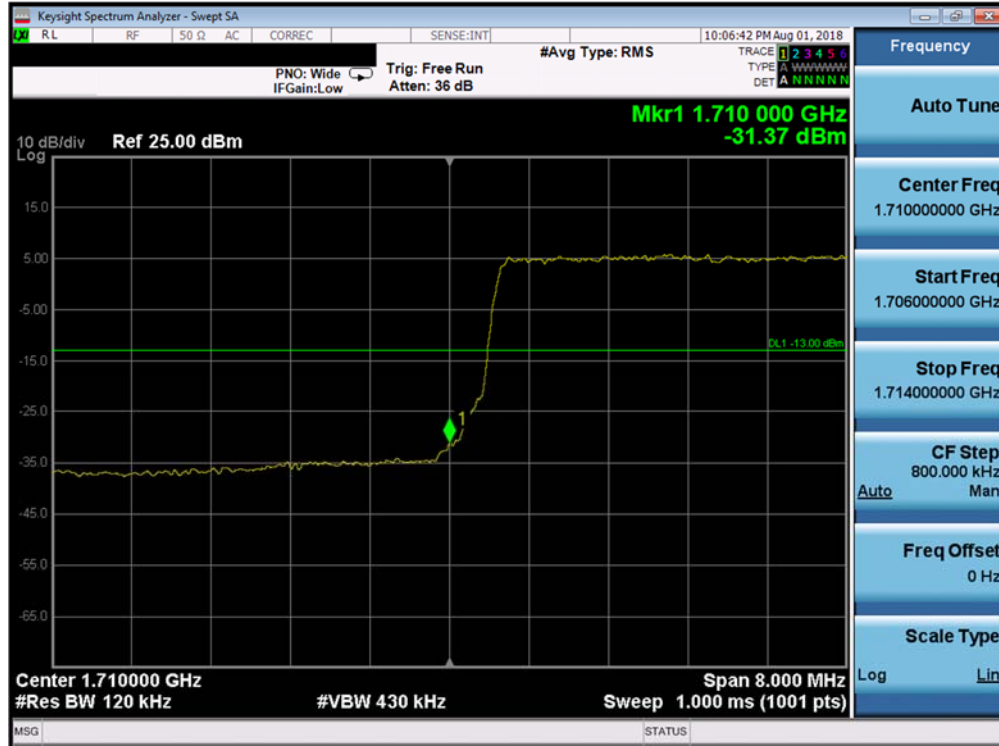


Plot 7-86. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

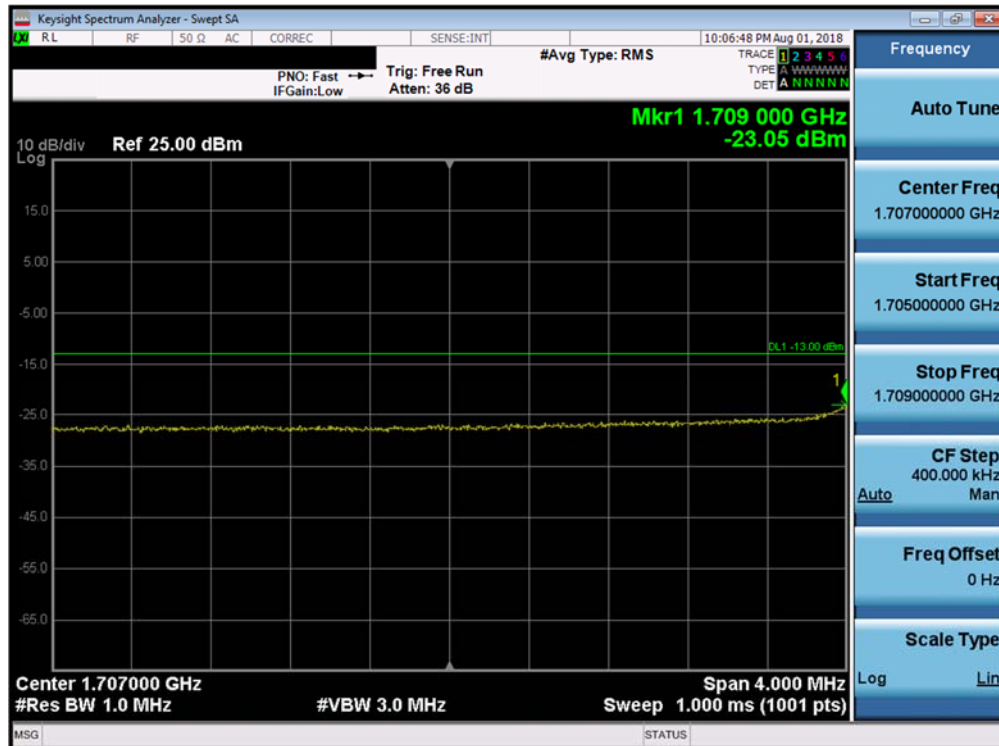


Plot 7-87. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 62 of 89

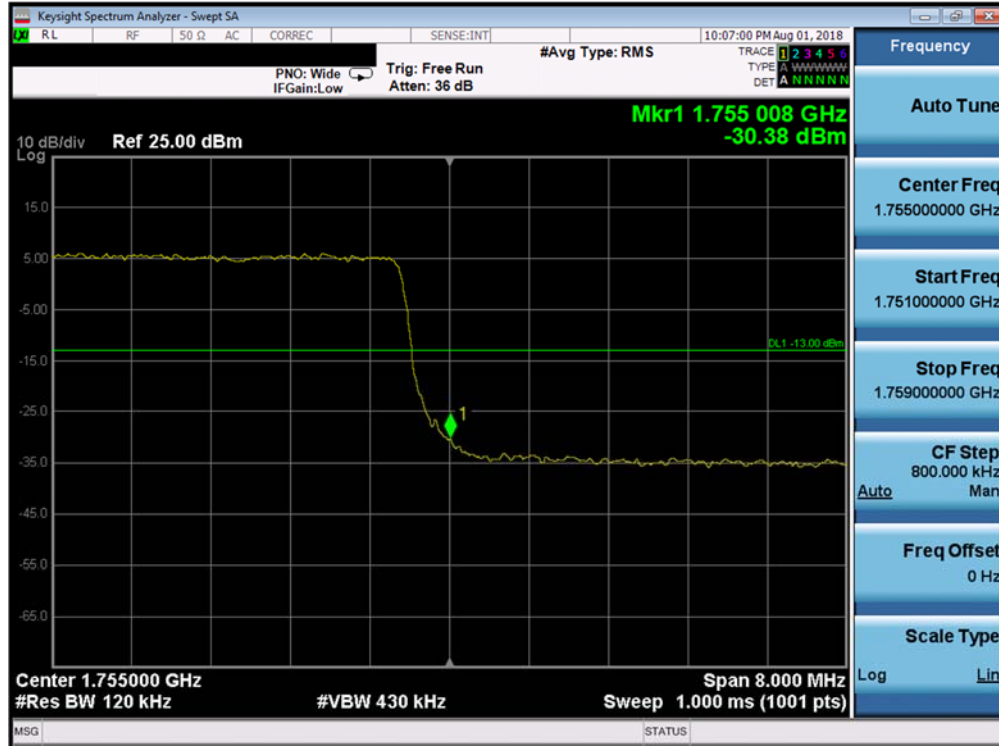


Plot 7-88. Lower Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

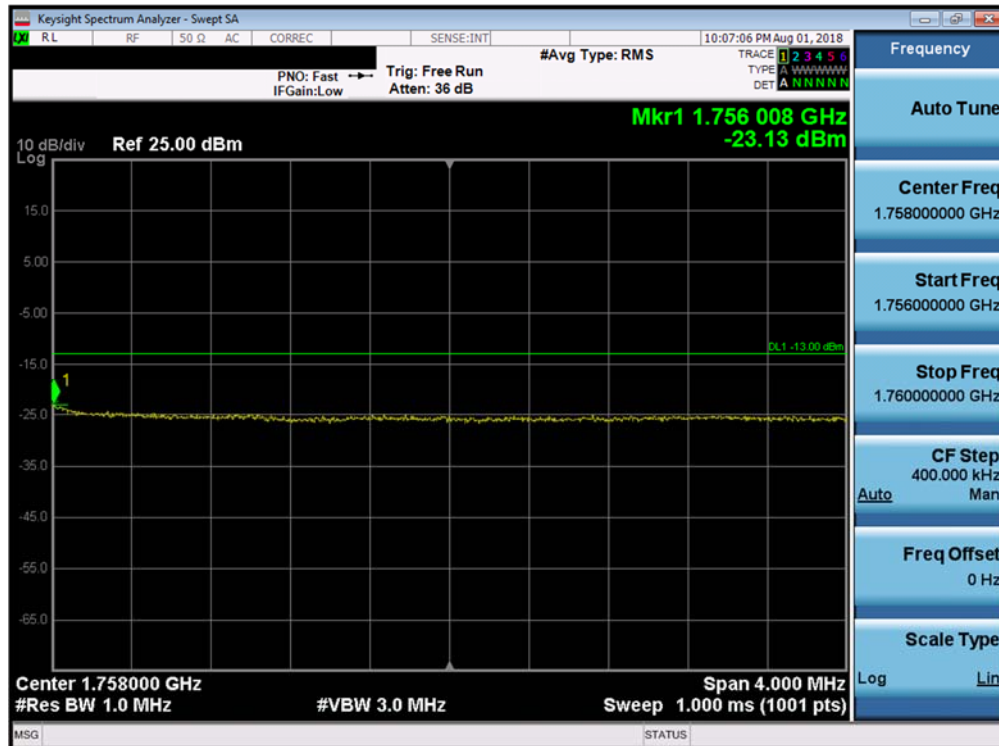


Plot 7-89. Lower Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 63 of 89



Plot 7-90. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-91. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFH871S	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1808100154-03.ZNF	Test Dates: 7/31 - 8/21/2018	EUT Type: Portable Handset		Page 64 of 89