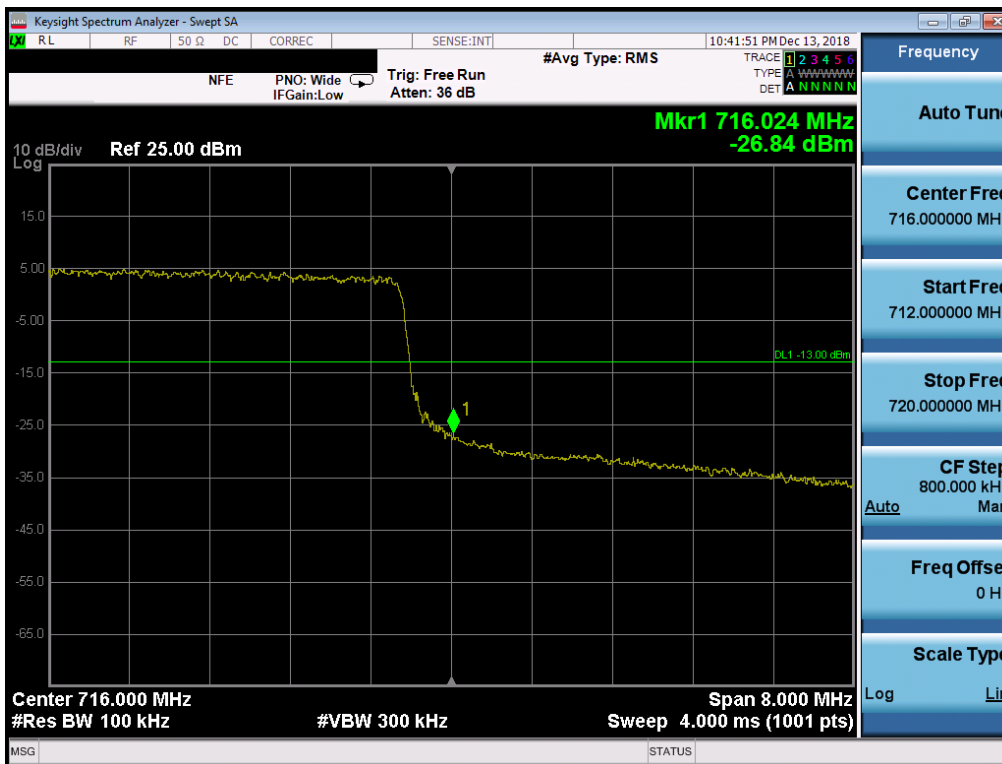


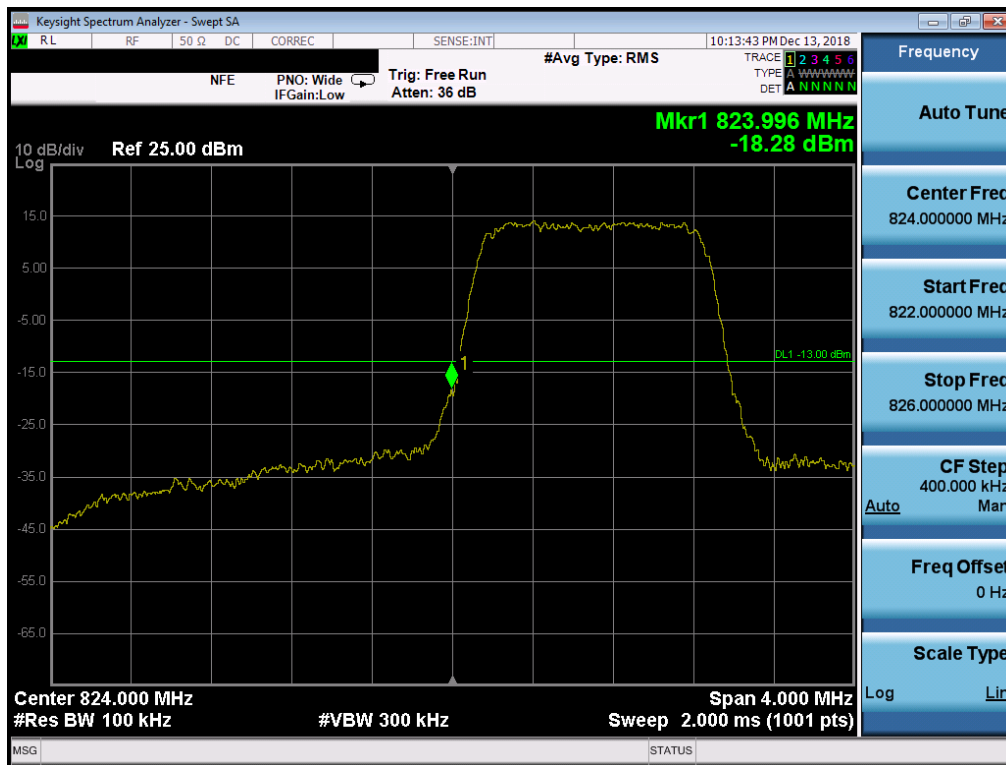
Plot 7-83. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-84. Upper Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 62 of 134

## Band 5

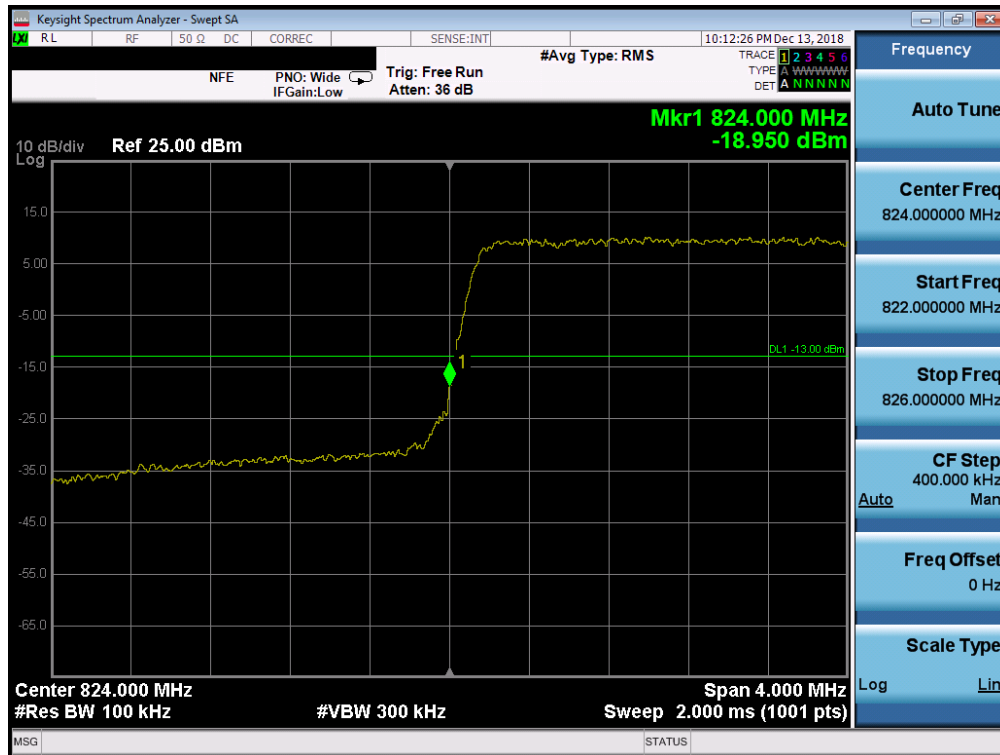


Plot 7-85. Lower Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

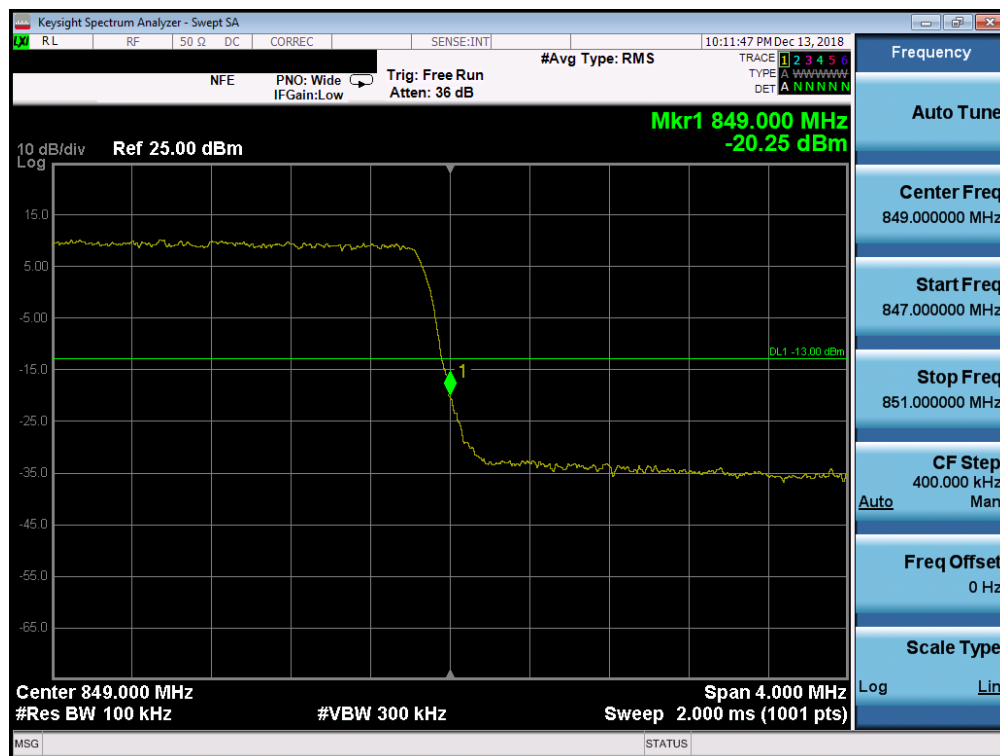


Plot 7-86. Upper Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 63 of 134

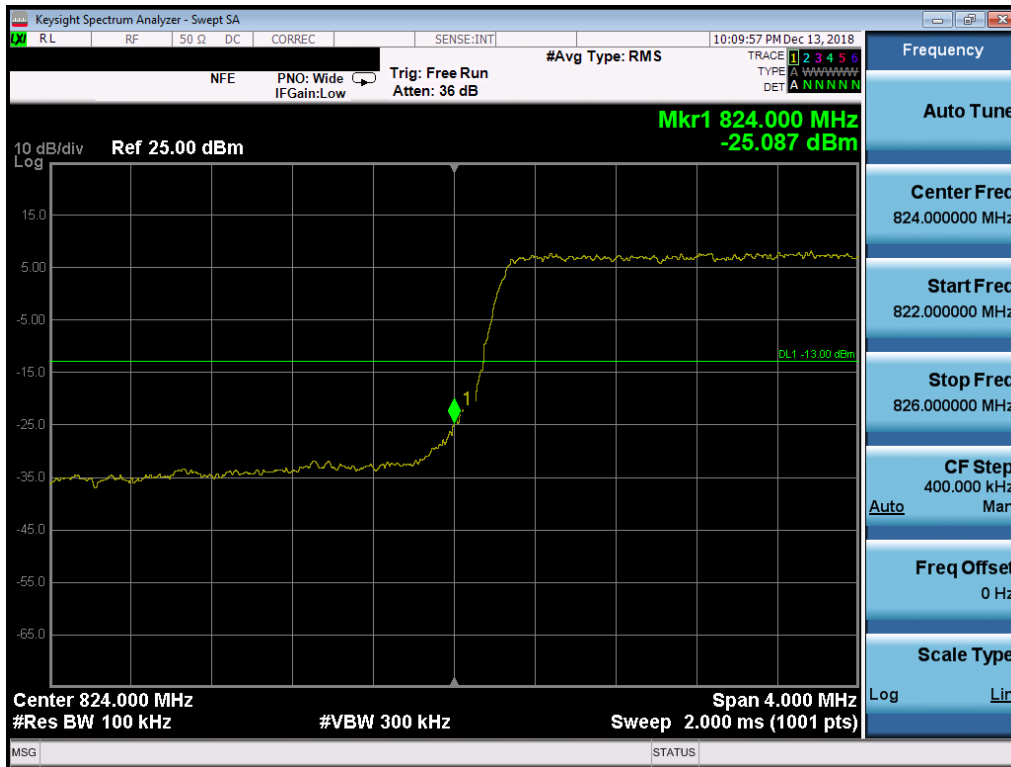


Plot 7-87. Lower Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

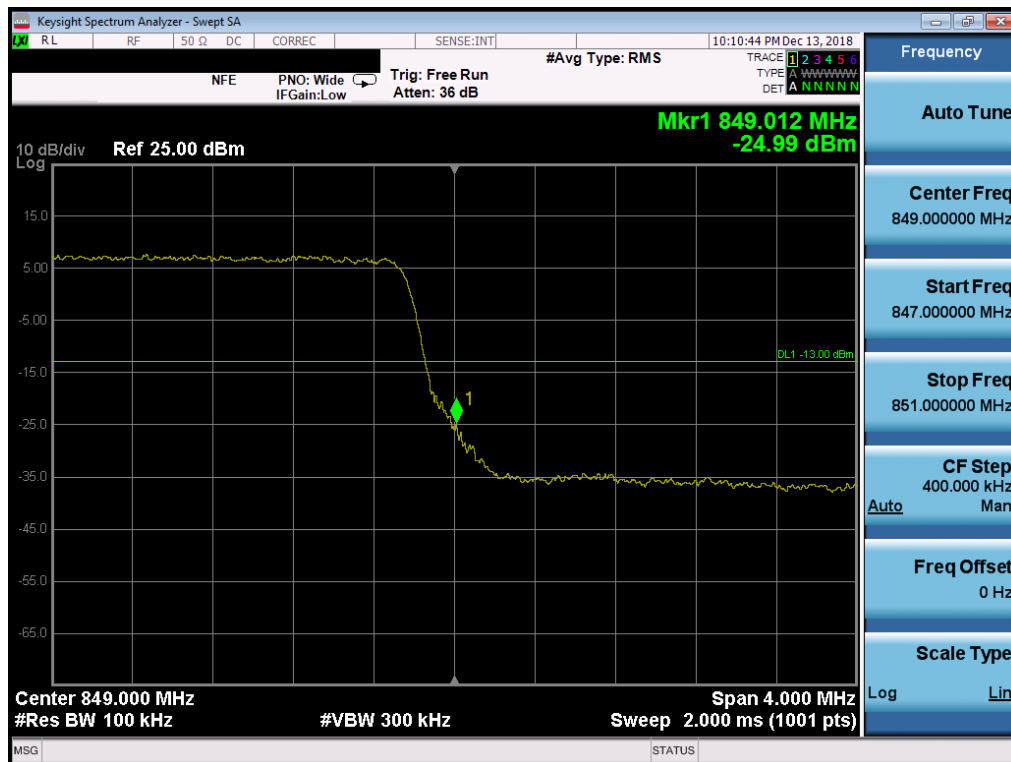


Plot 7-88. Upper Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 64 of 134

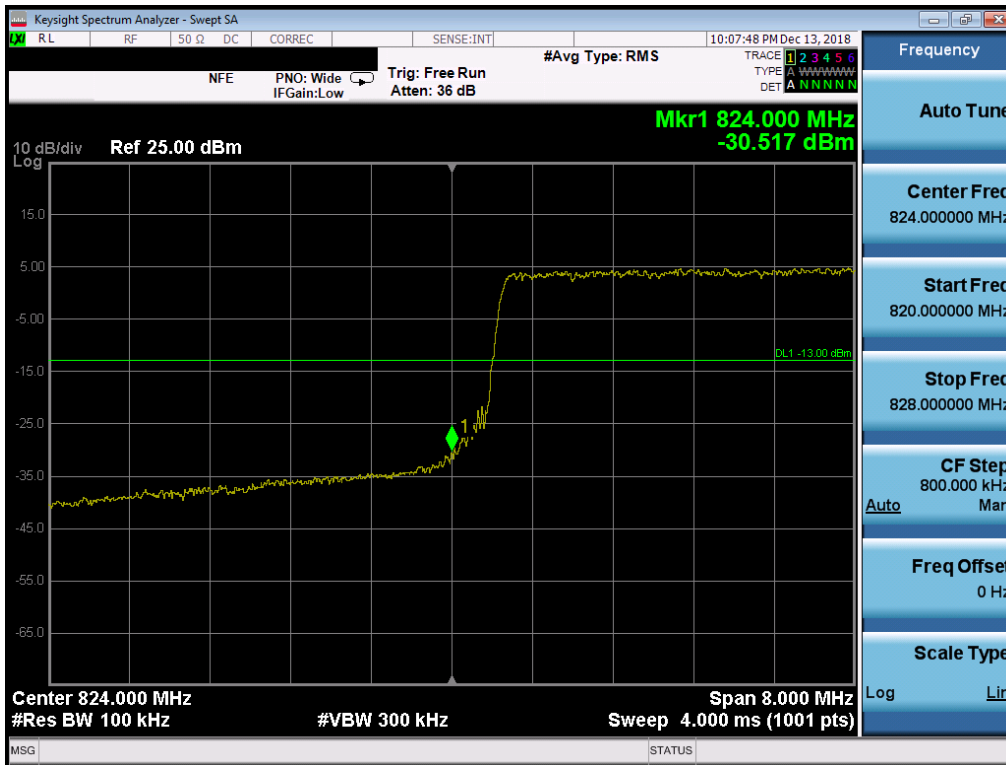


Plot 7-89. Lower Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-90. Upper Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 65 of 134



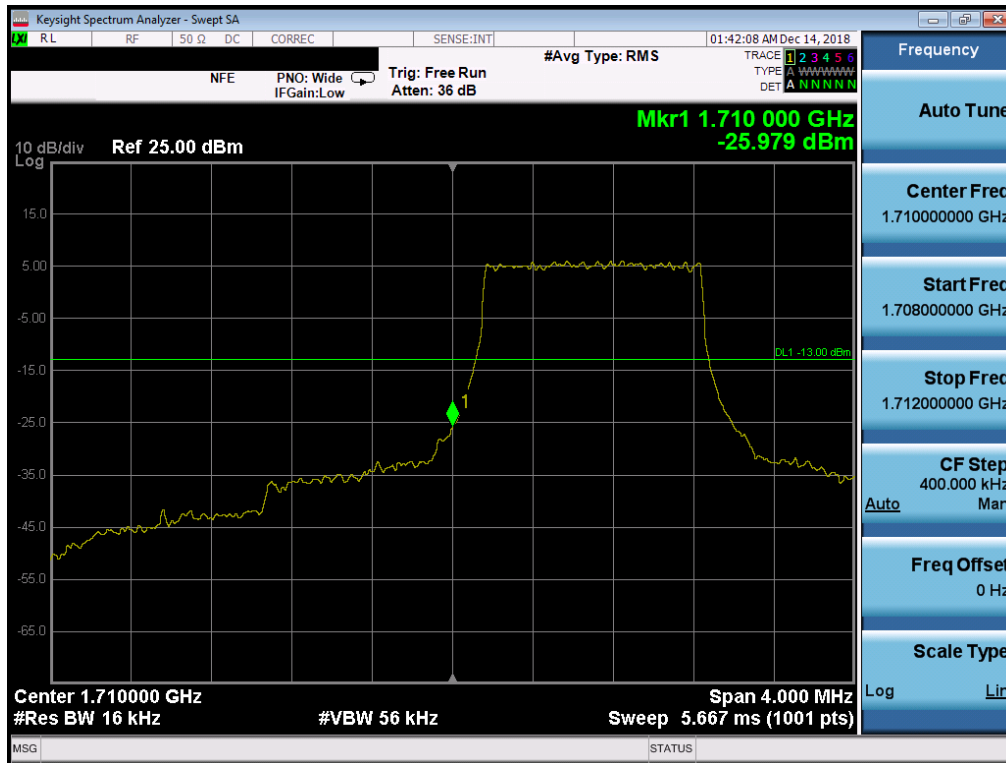
Plot 7-91. Lower Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)



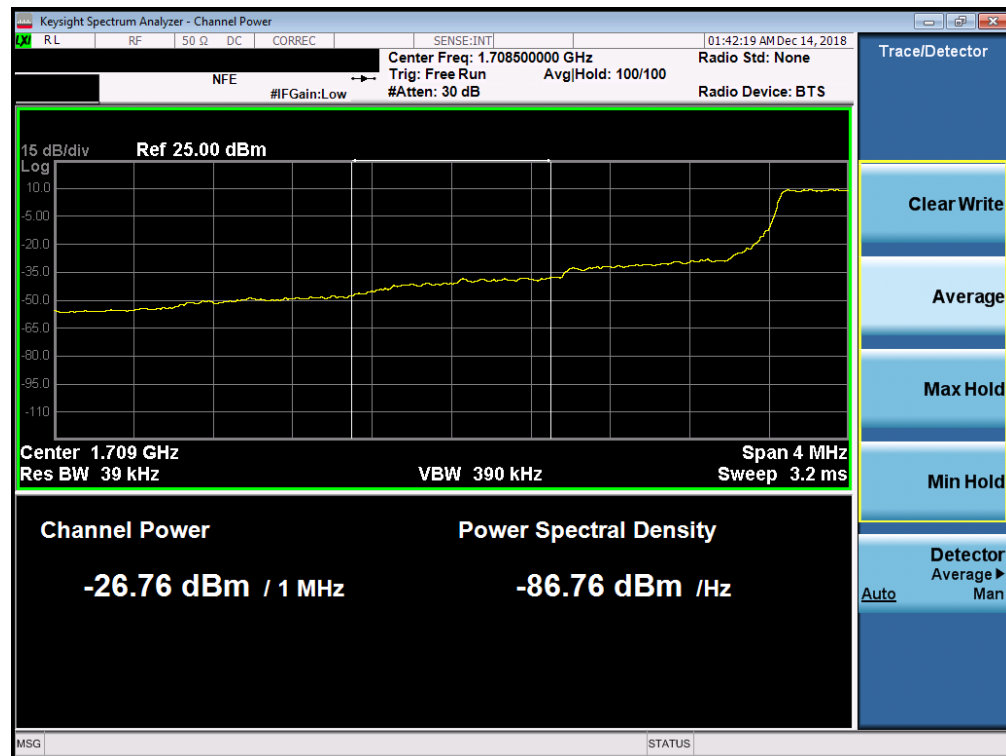
Plot 7-92. Upper Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 66 of 134

## Band 4



Plot 7-93. Lower Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

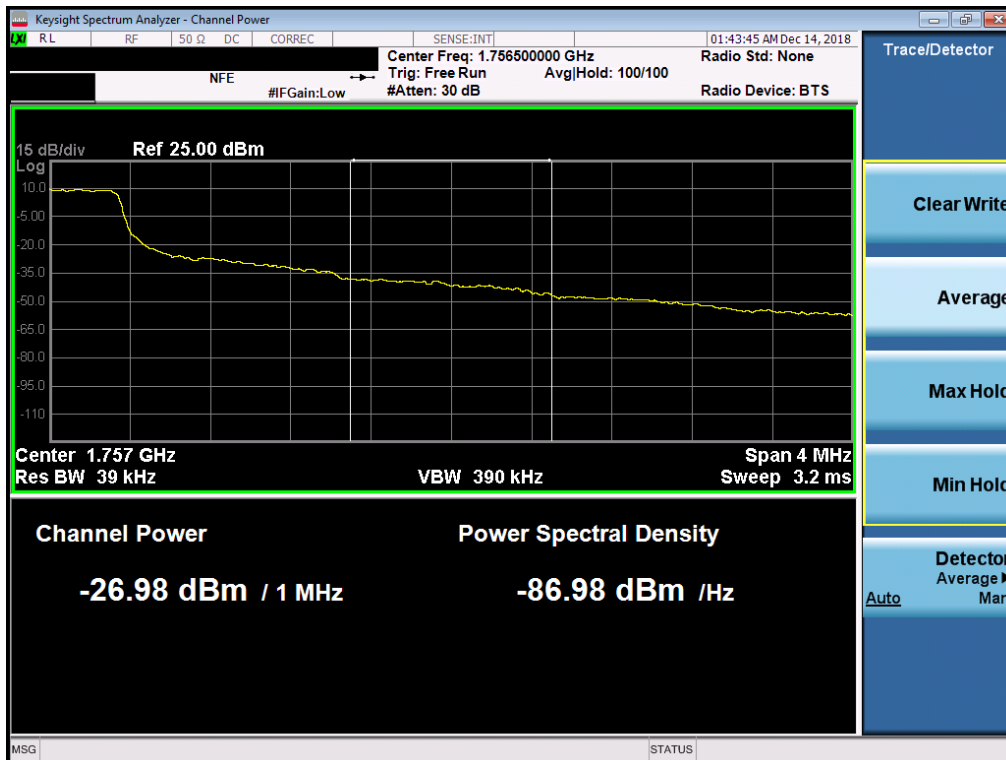


Plot 7-94. Lower Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 67 of 134



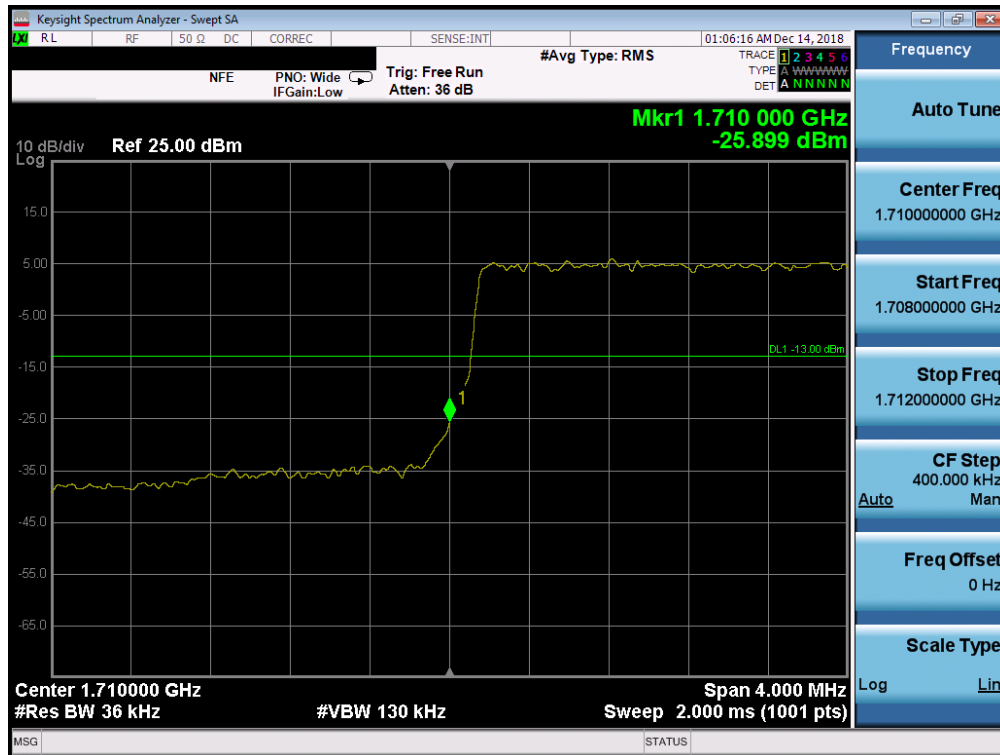
Plot 7-95. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



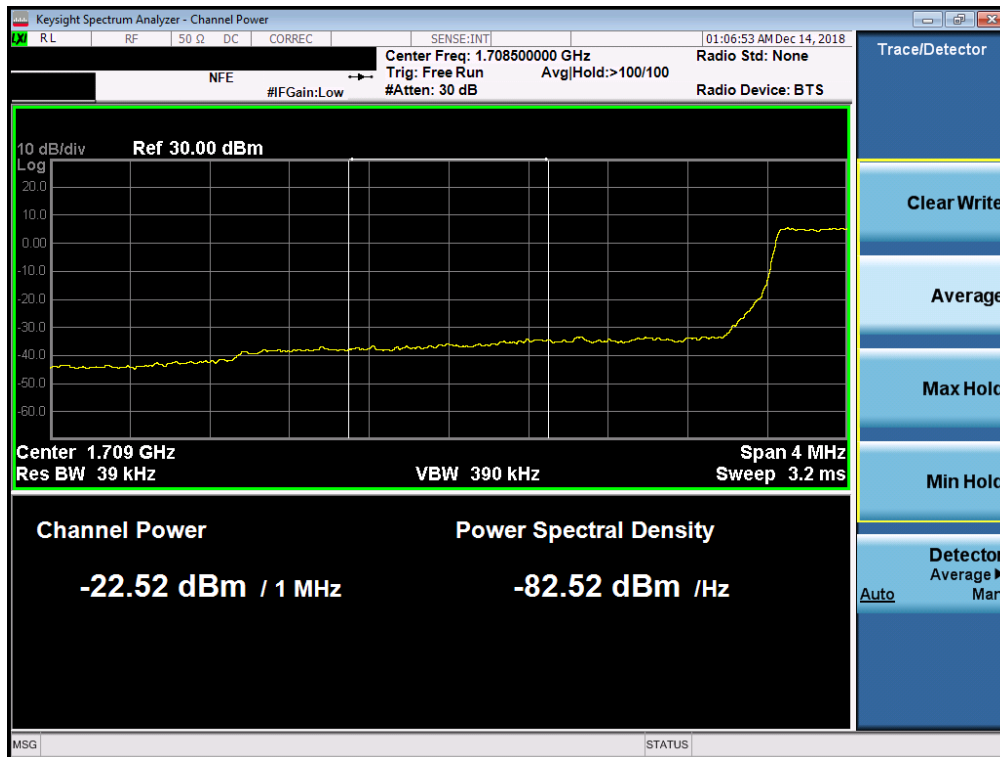
Plot 7-96. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 68 of 134





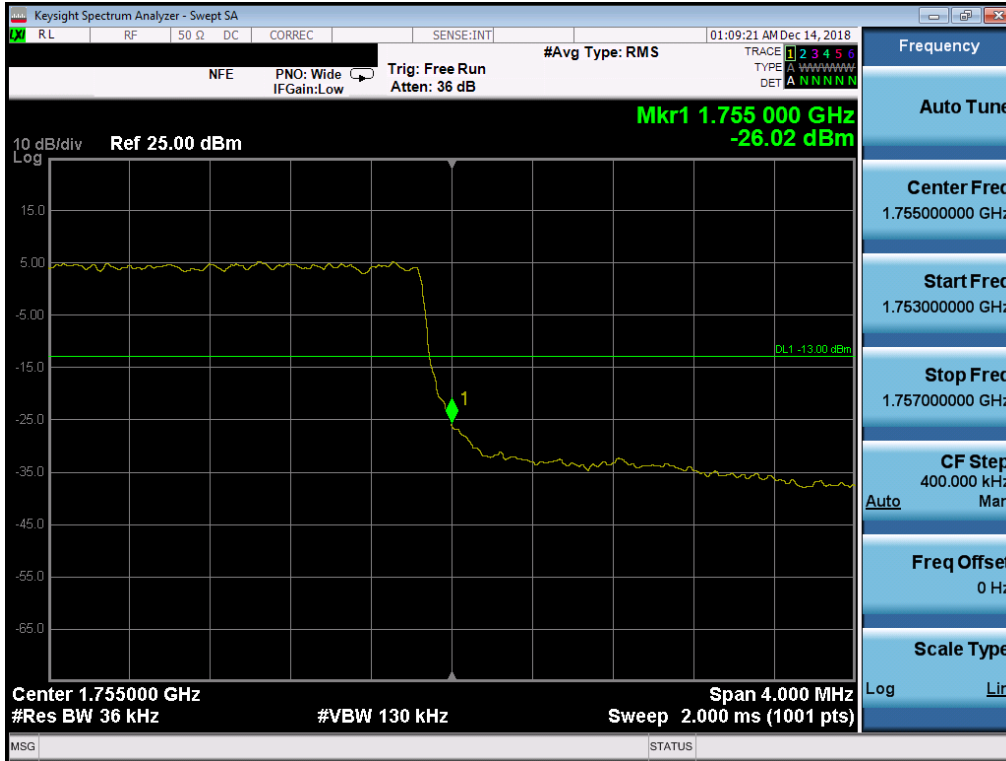
Plot 7-97. Lower Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



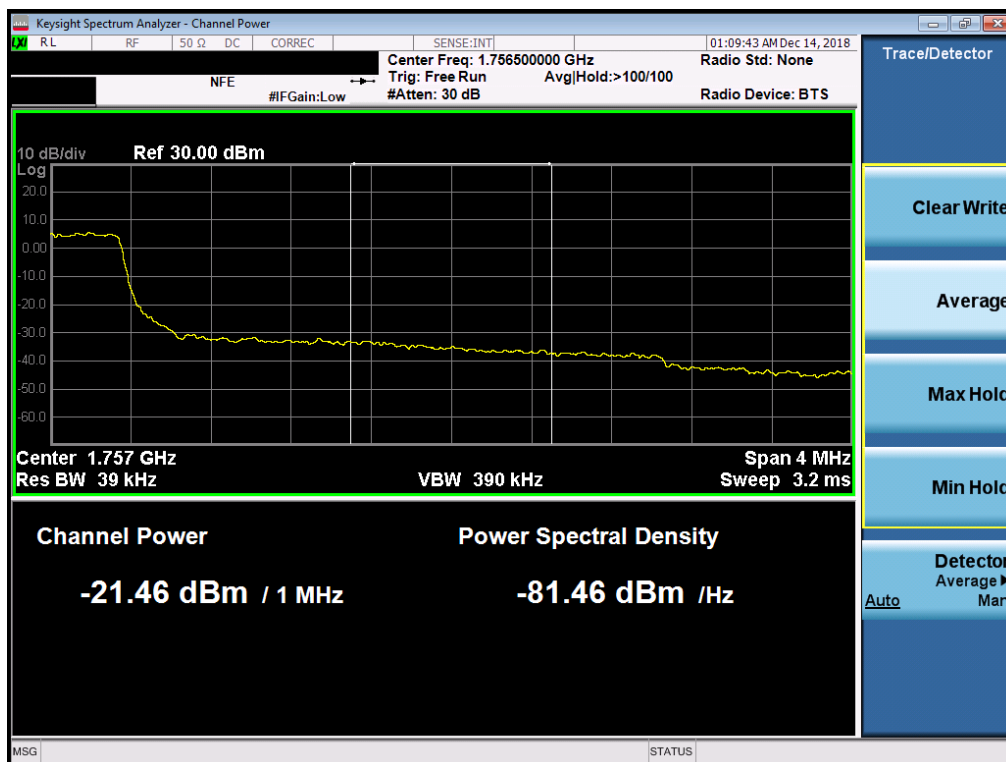
Plot 7-98. Lower Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 69 of 134



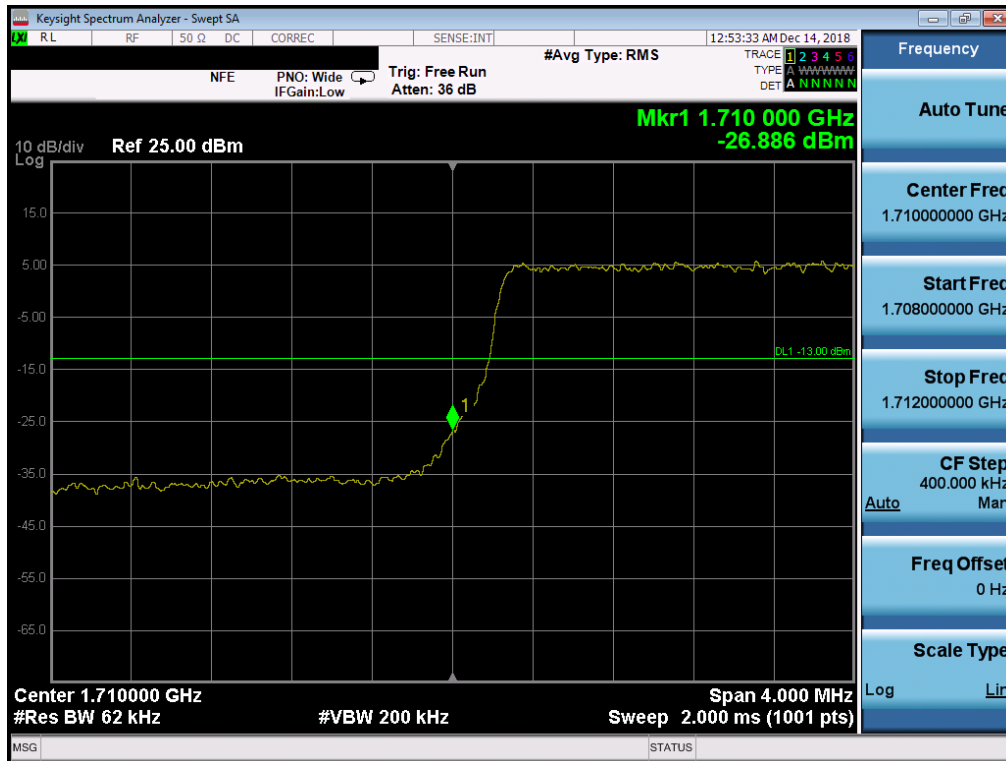


Plot 7-99. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

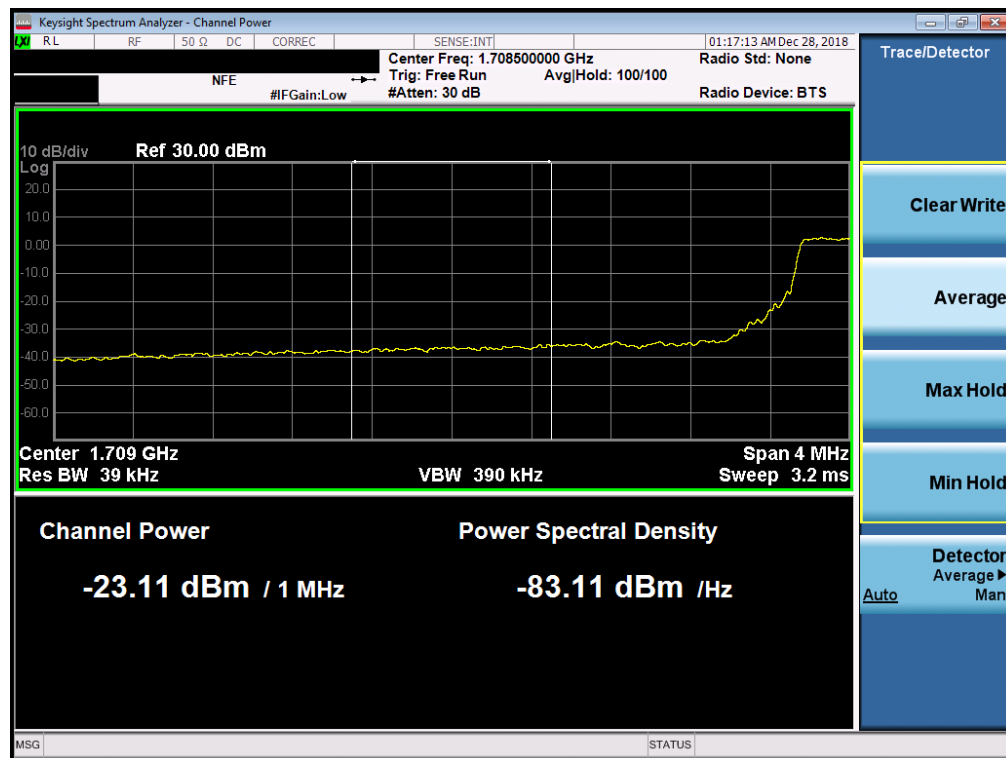


Plot 7-100. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 70 of 134

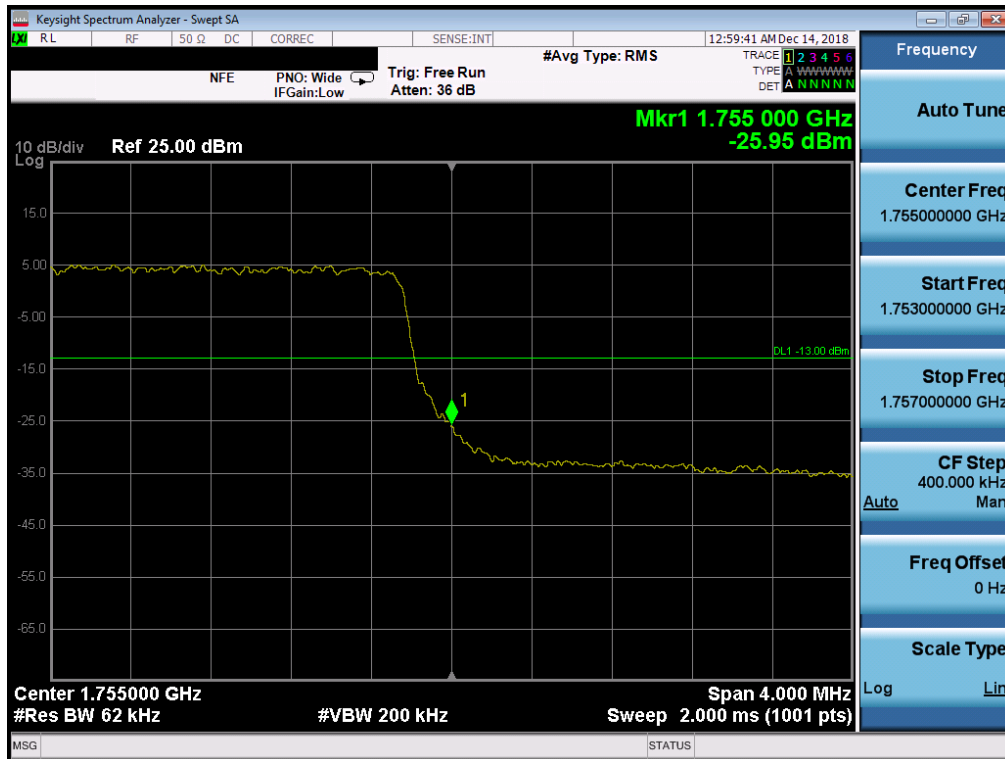


Plot 7-101. Lower Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

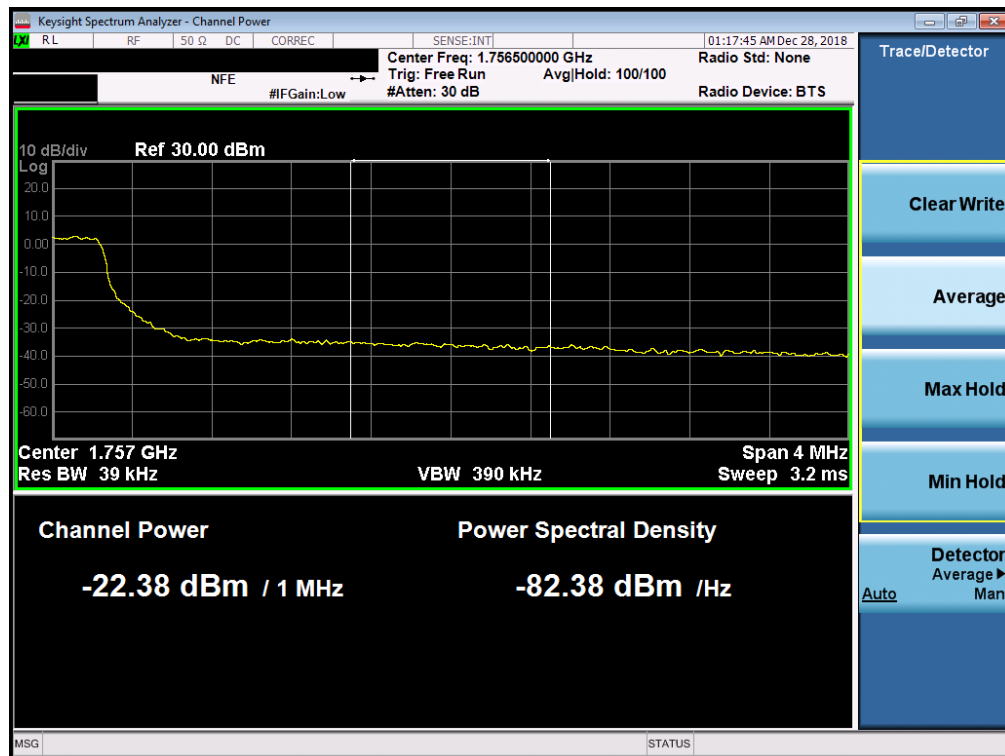


Plot 7-102. Lower Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 71 of 134

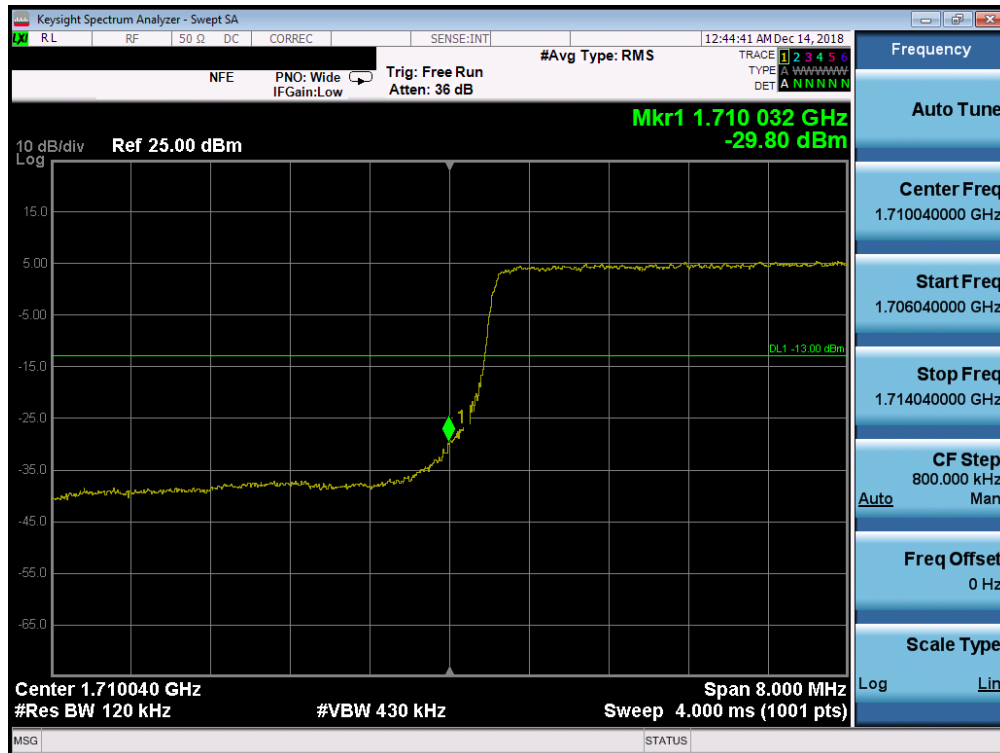


Plot 7-103. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

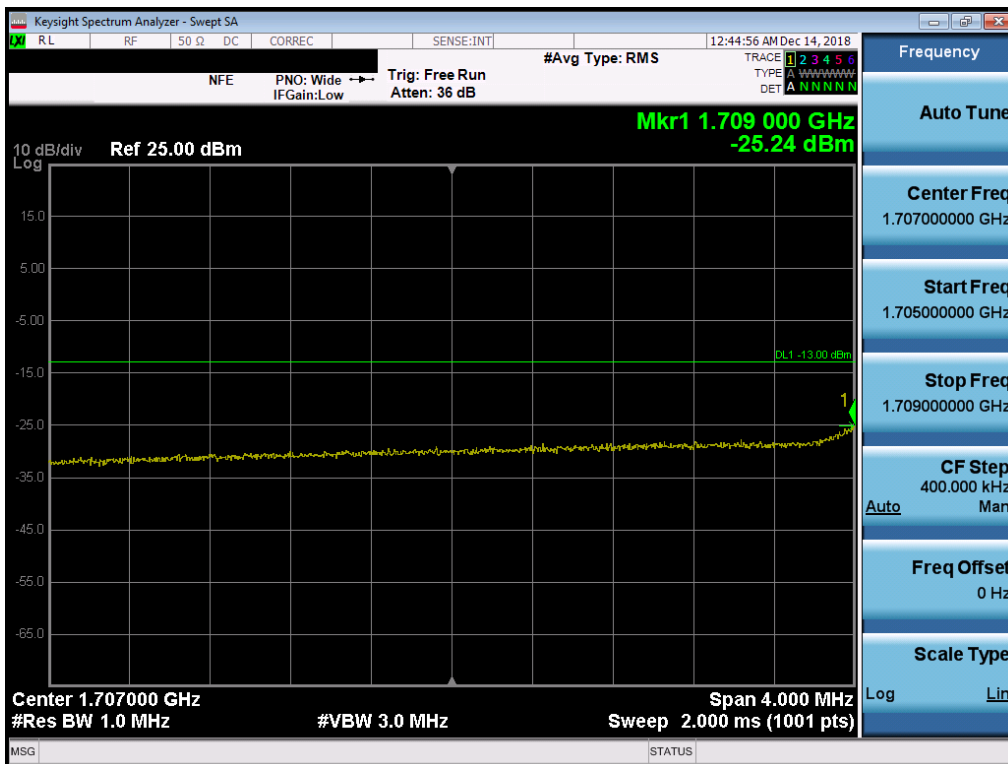


Plot 7-104. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 72 of 134

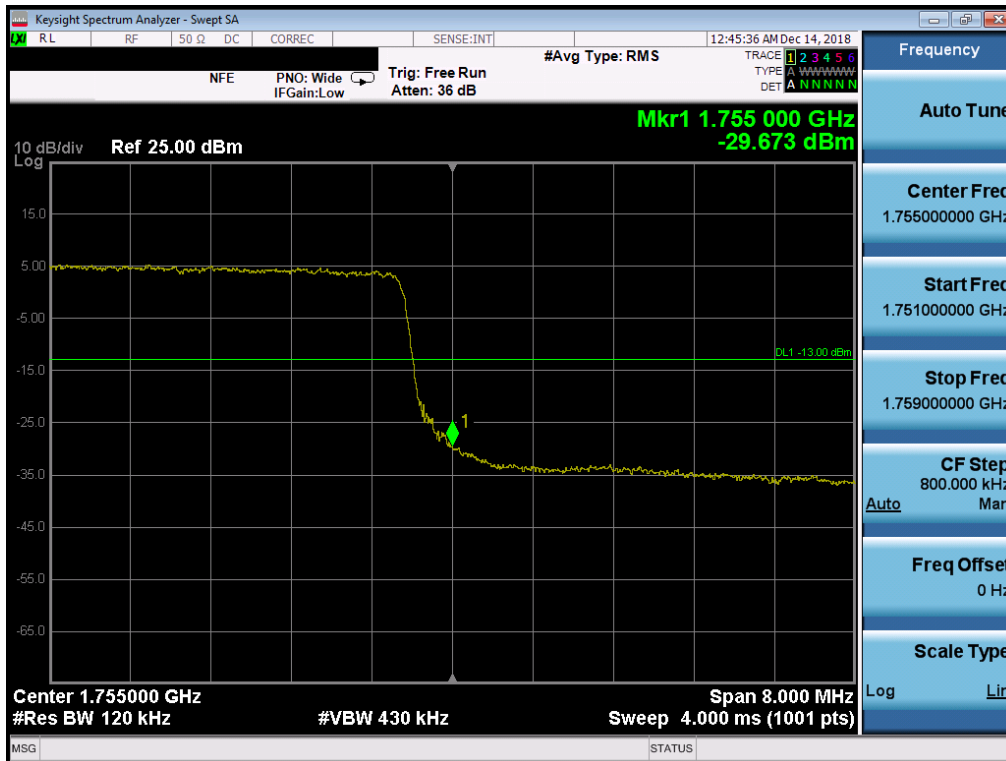


Plot 7-105. Lower Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-106. Lower Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 73 of 134

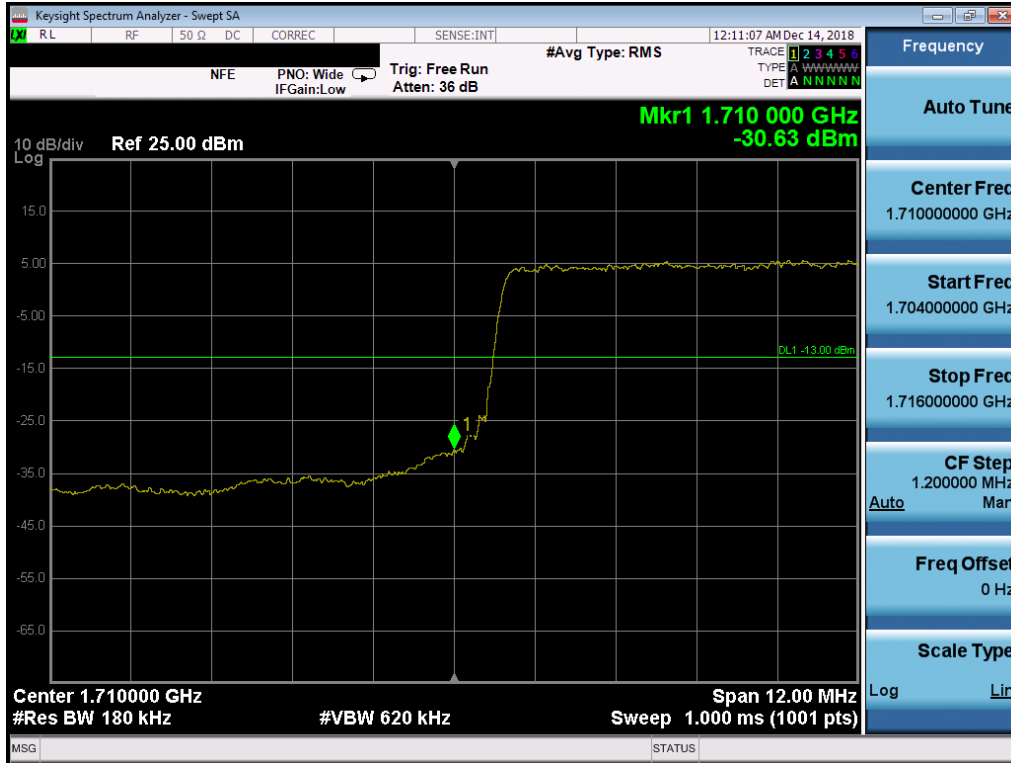


Plot 7-107. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

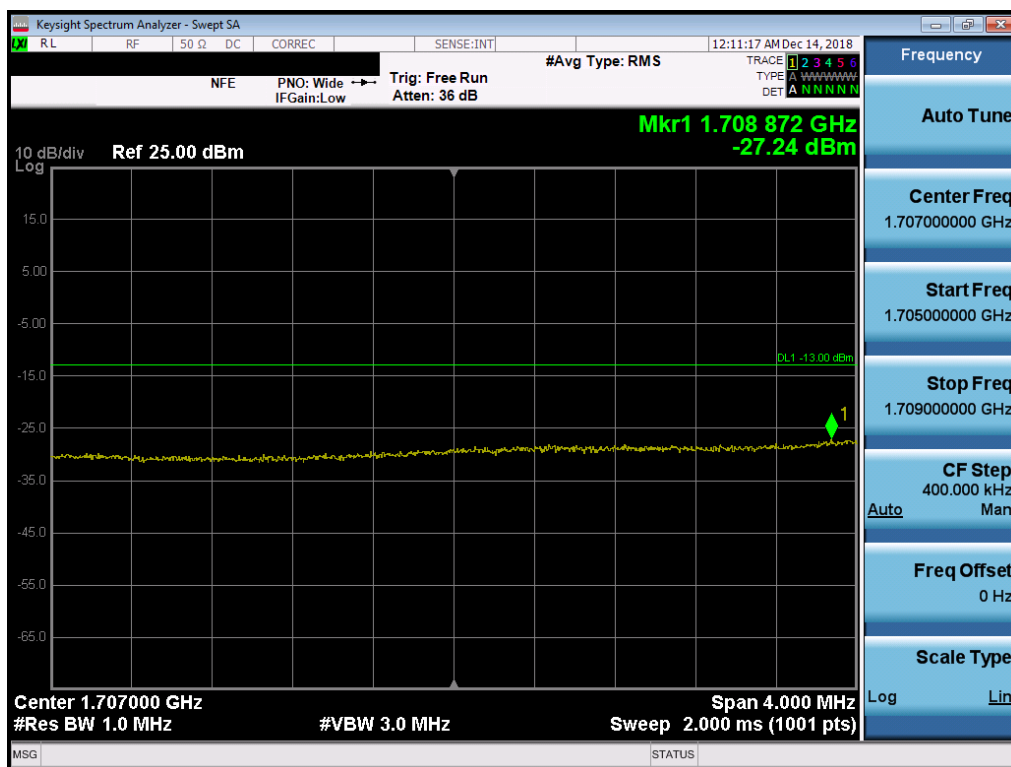


Plot 7-108. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 74 of 134

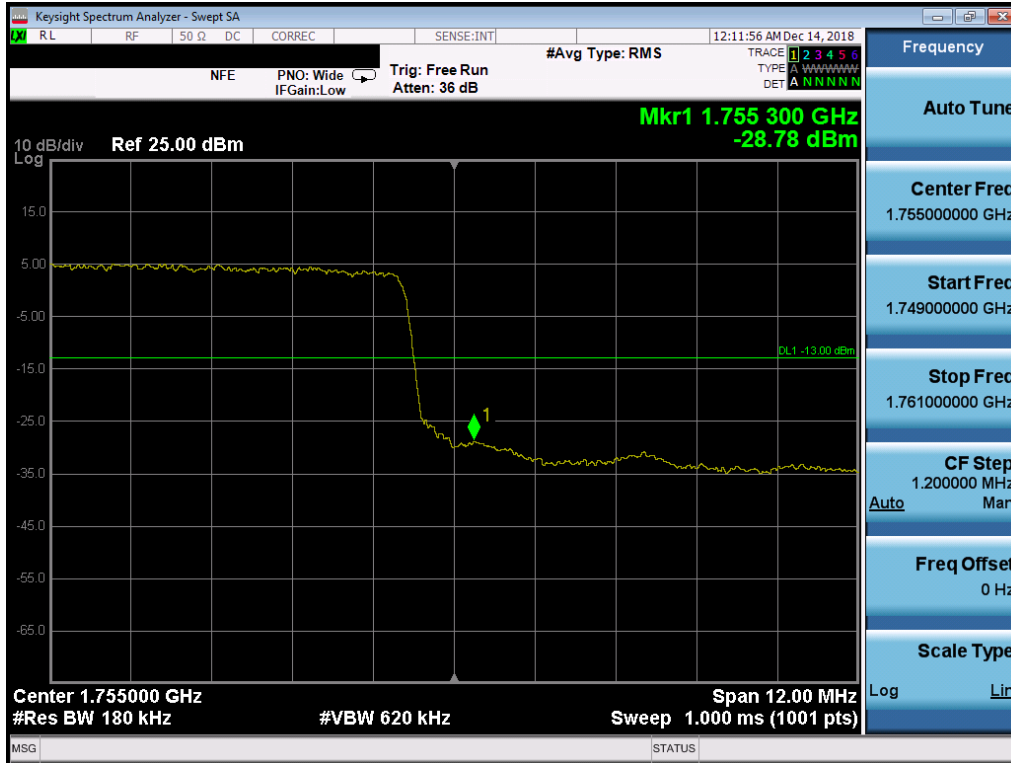


Plot 7-109. Lower Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

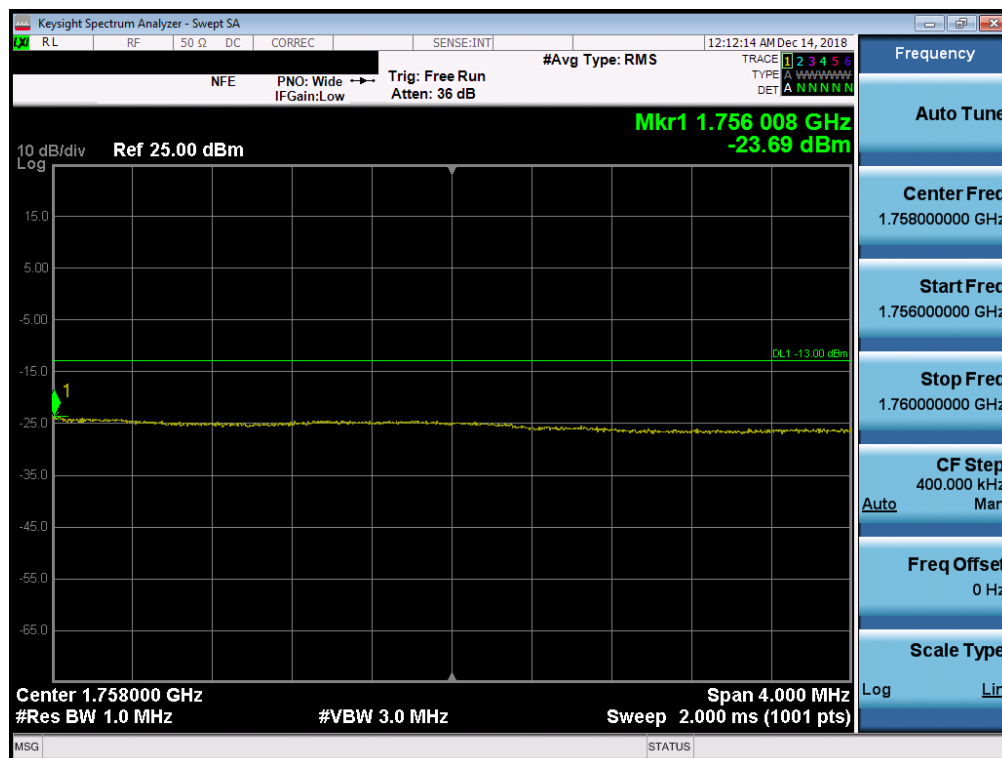


Plot 7-110. Lower Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 75 of 134



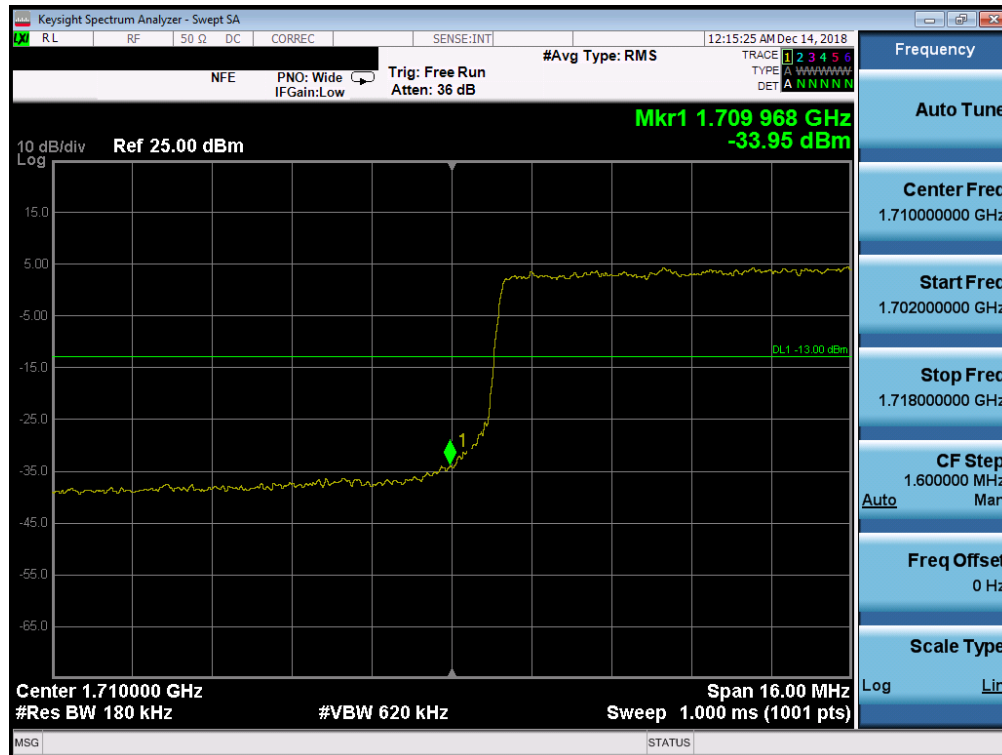
Plot 7-111. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



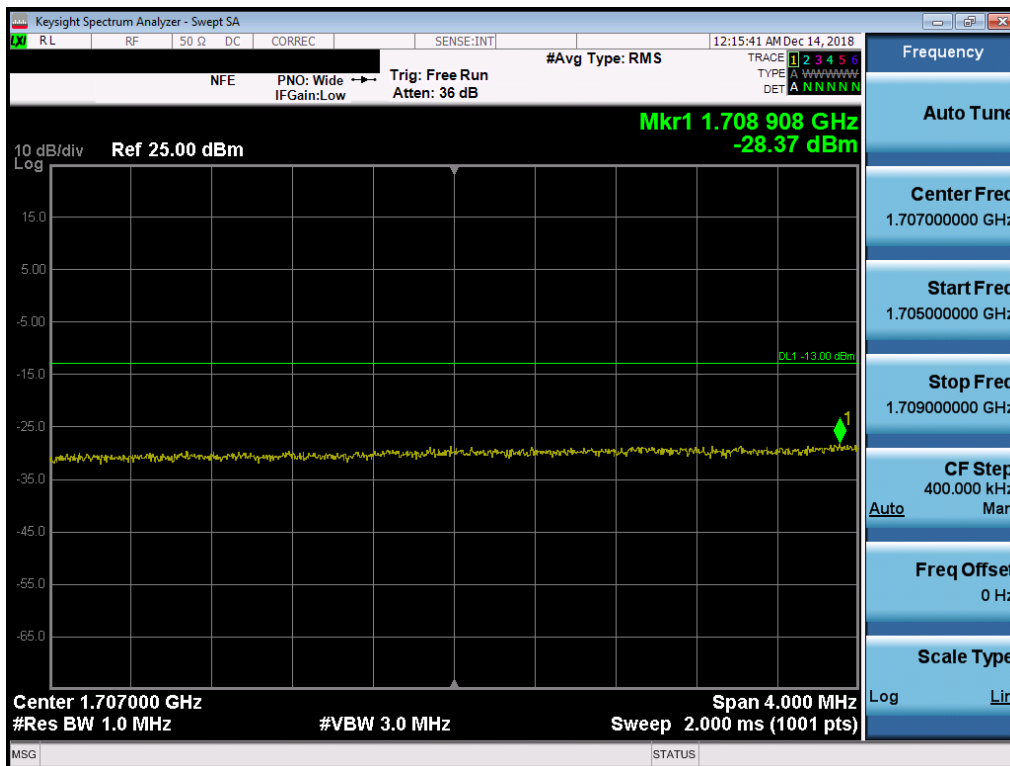
Plot 7-112. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 76 of 134



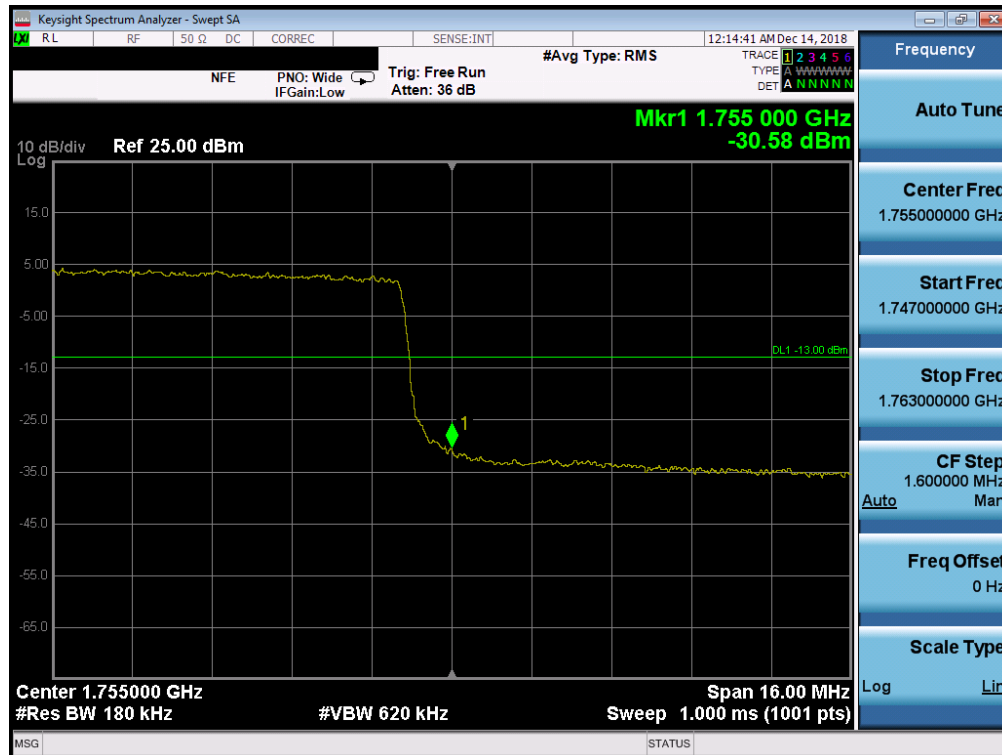


Plot 7-113. Lower Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-114. Lower Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 77 of 134



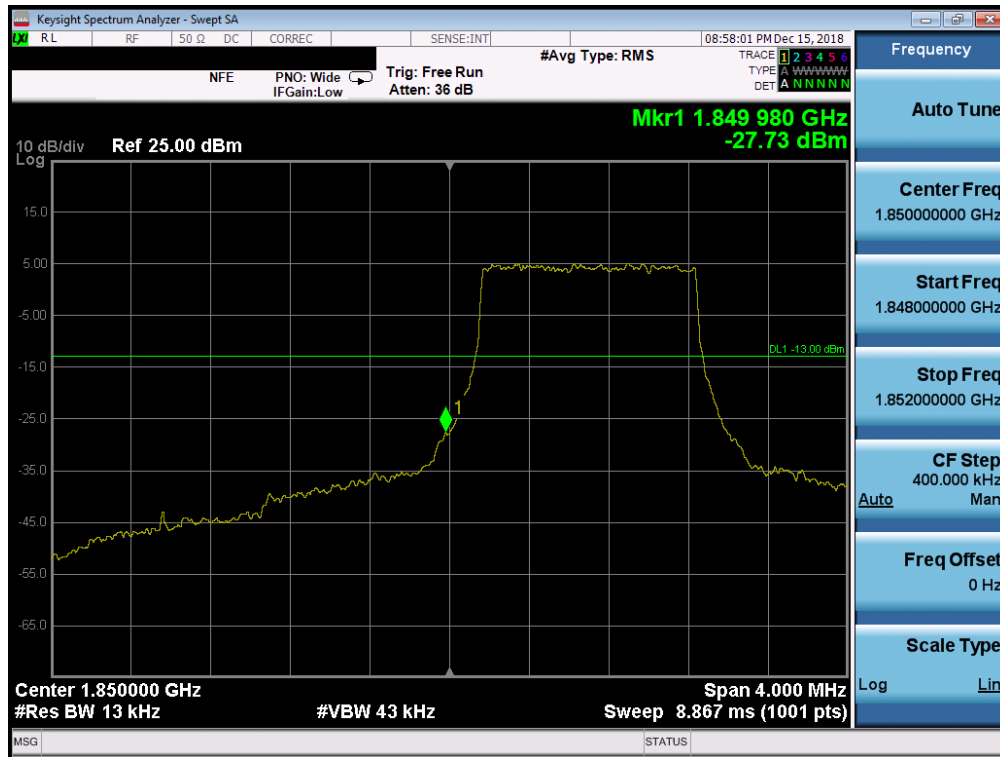
Plot 7-115. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



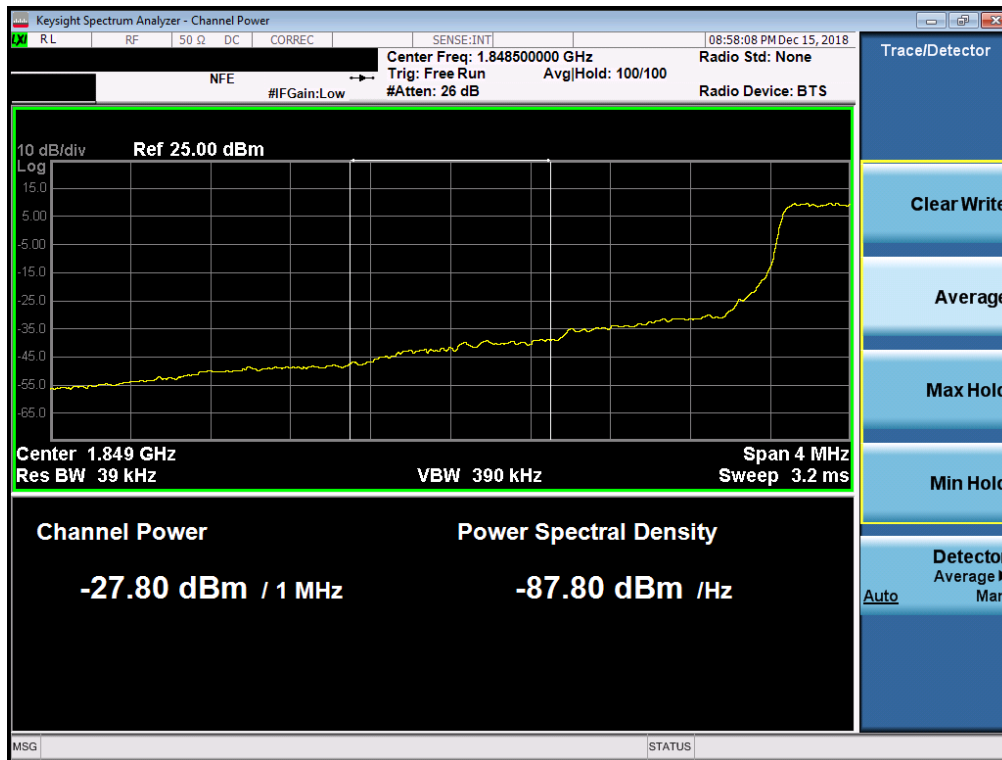
Plot 7-116. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 78 of 134

## Band 25/2

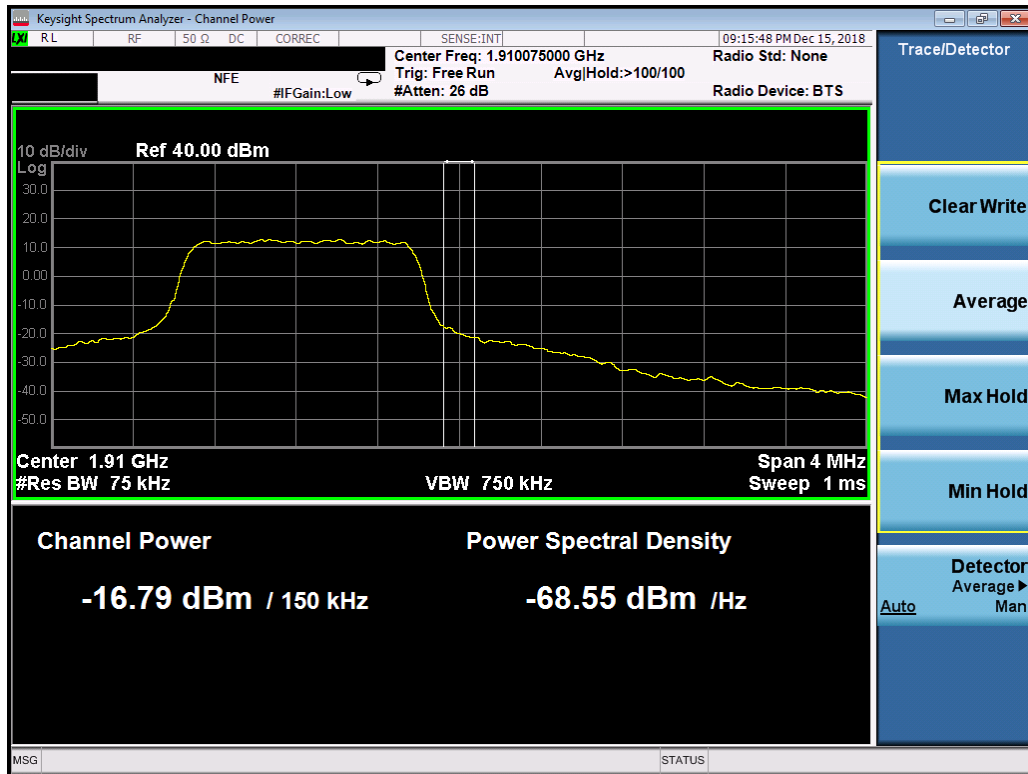


Plot 7-117. Lower Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

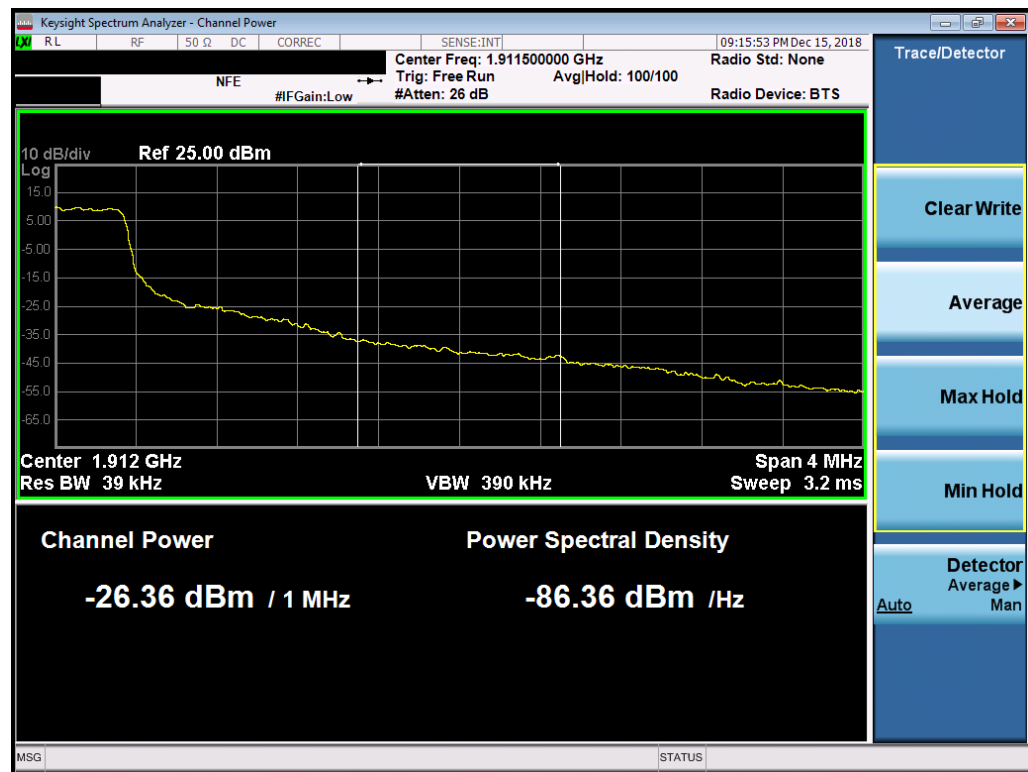


Plot 7-118. Lower Extended Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 79 of 134

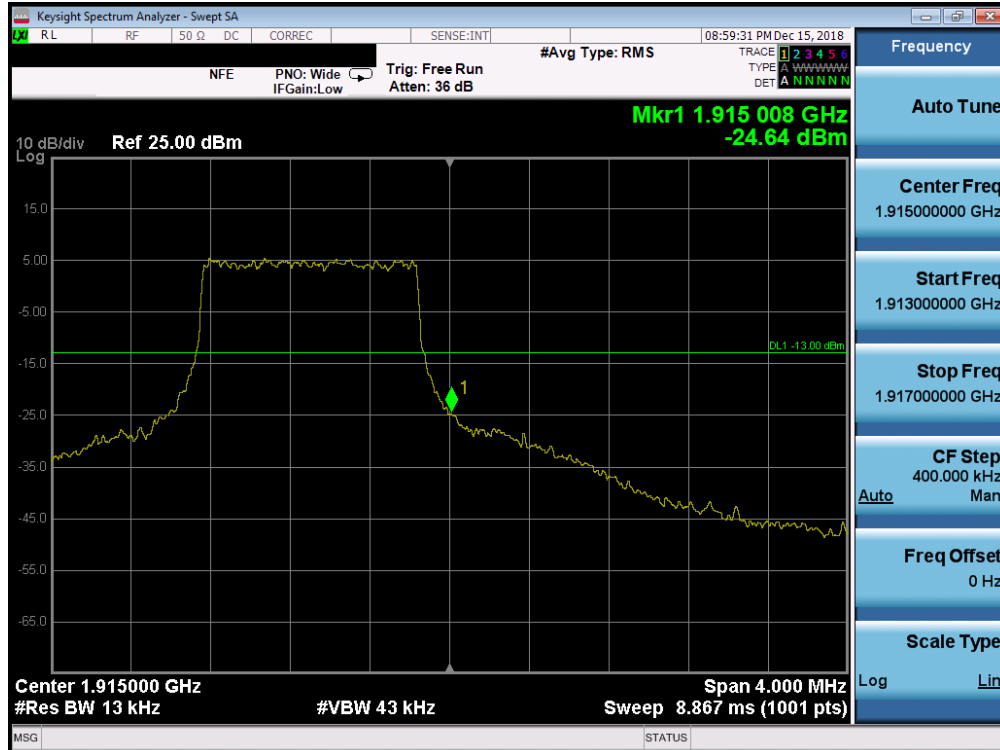


Plot 7-119. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

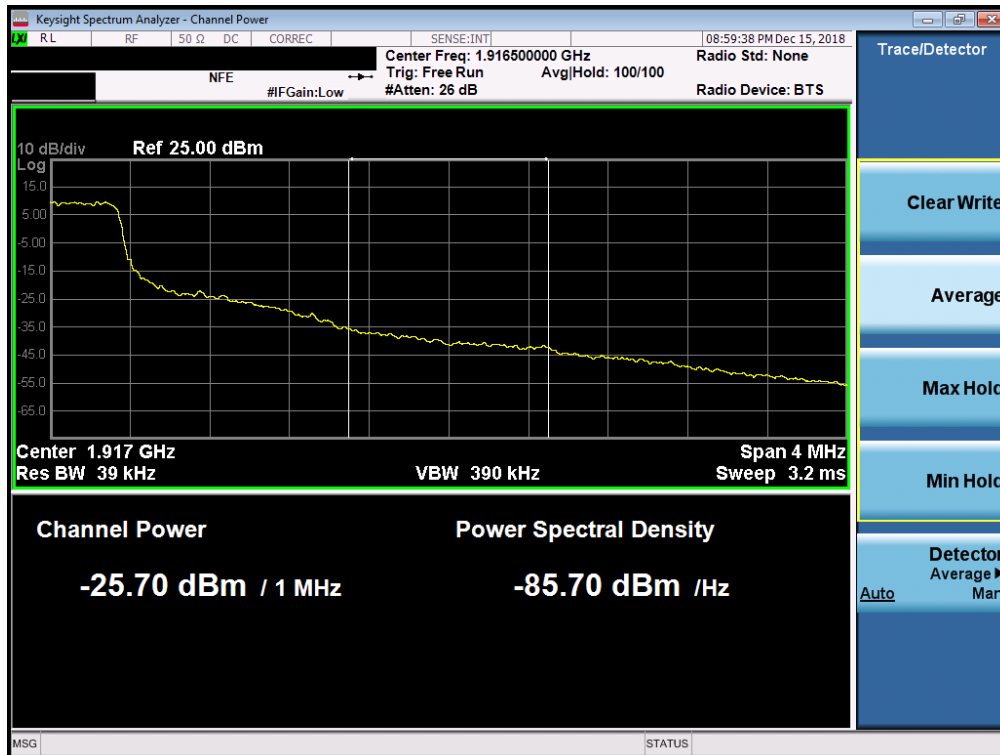


Plot 7-120. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 80 of 134

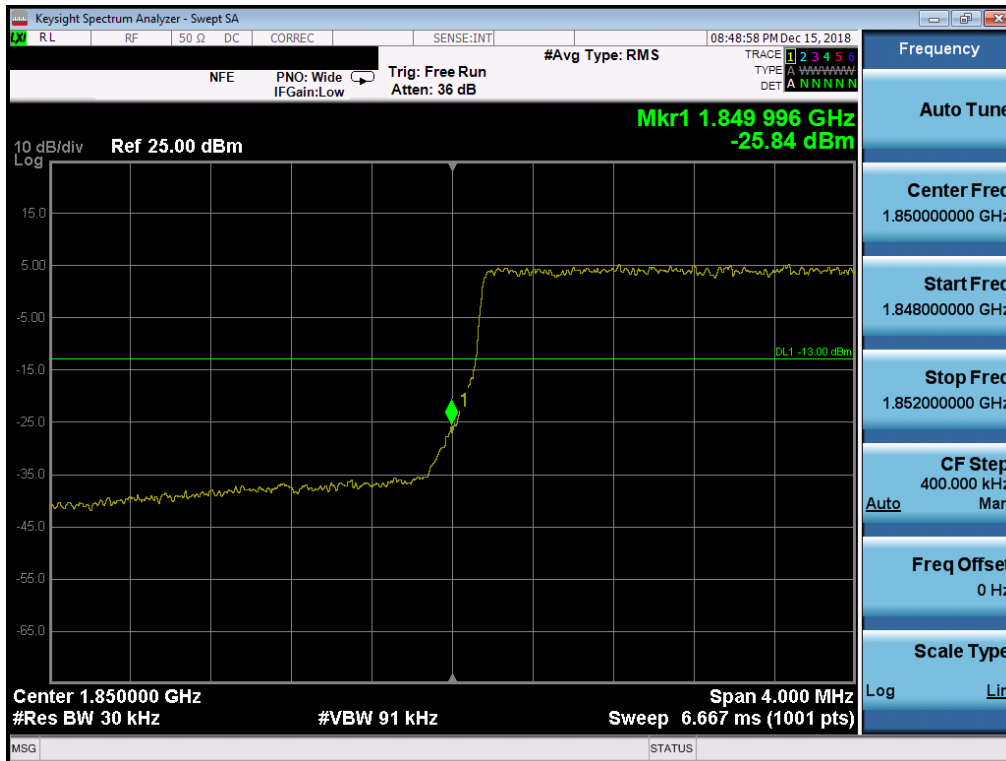


Plot 7-121. Upper Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

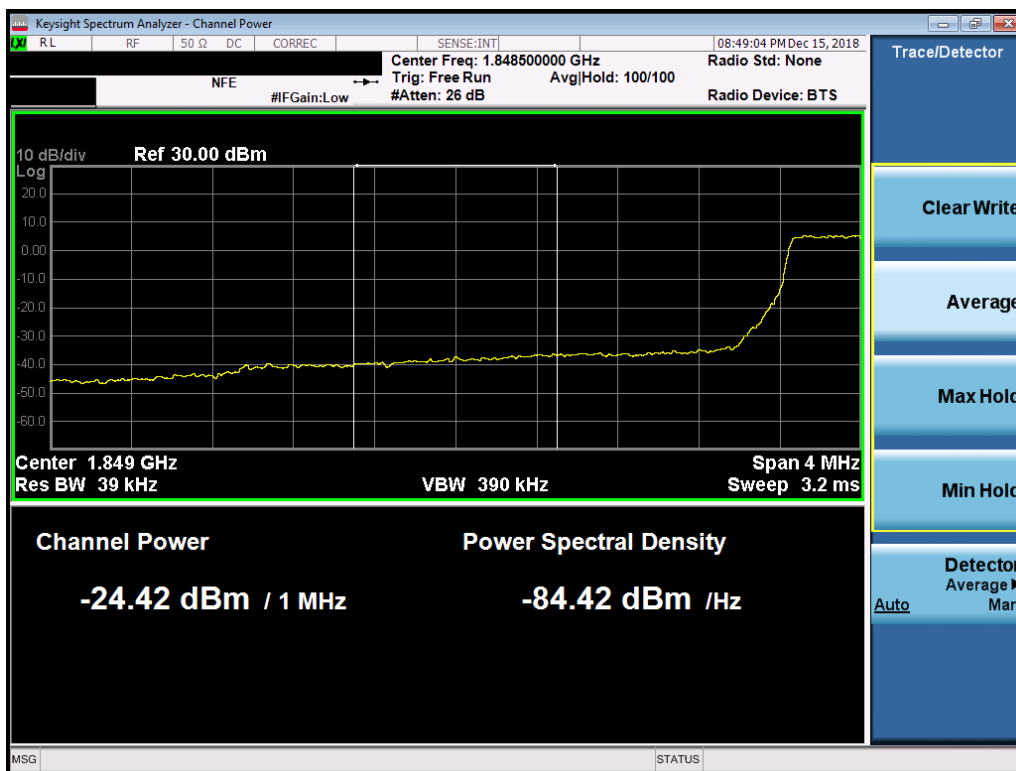


Plot 7-122. Upper Extended Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 81 of 134

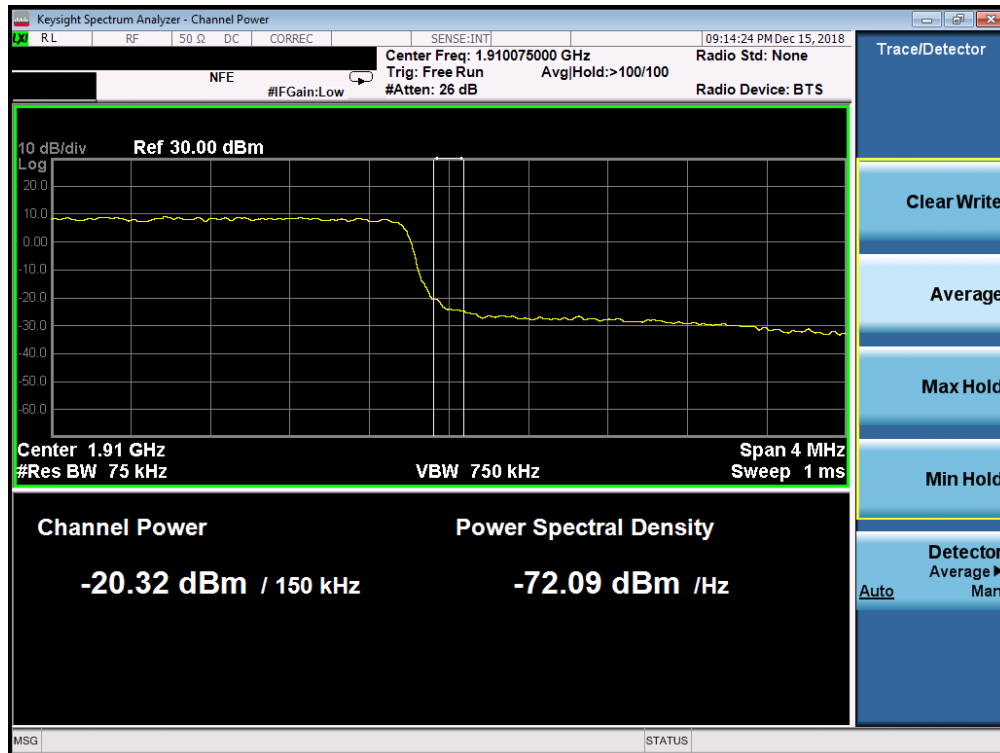


Plot 7-123. Lower Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

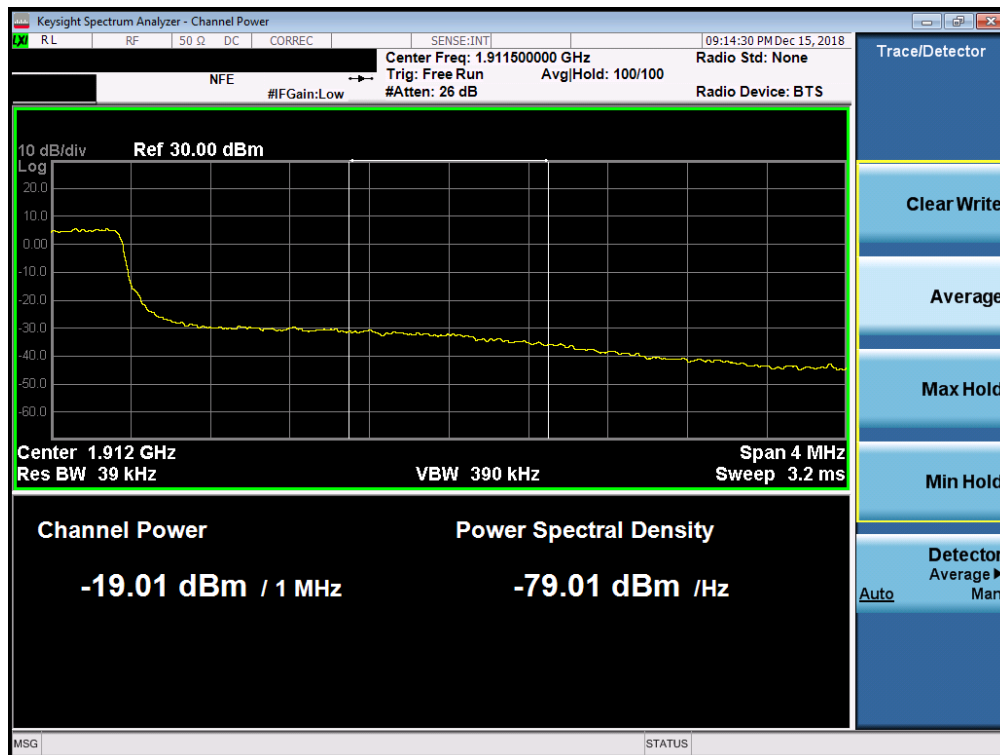


Plot 7-124. Lower Extended Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 82 of 134



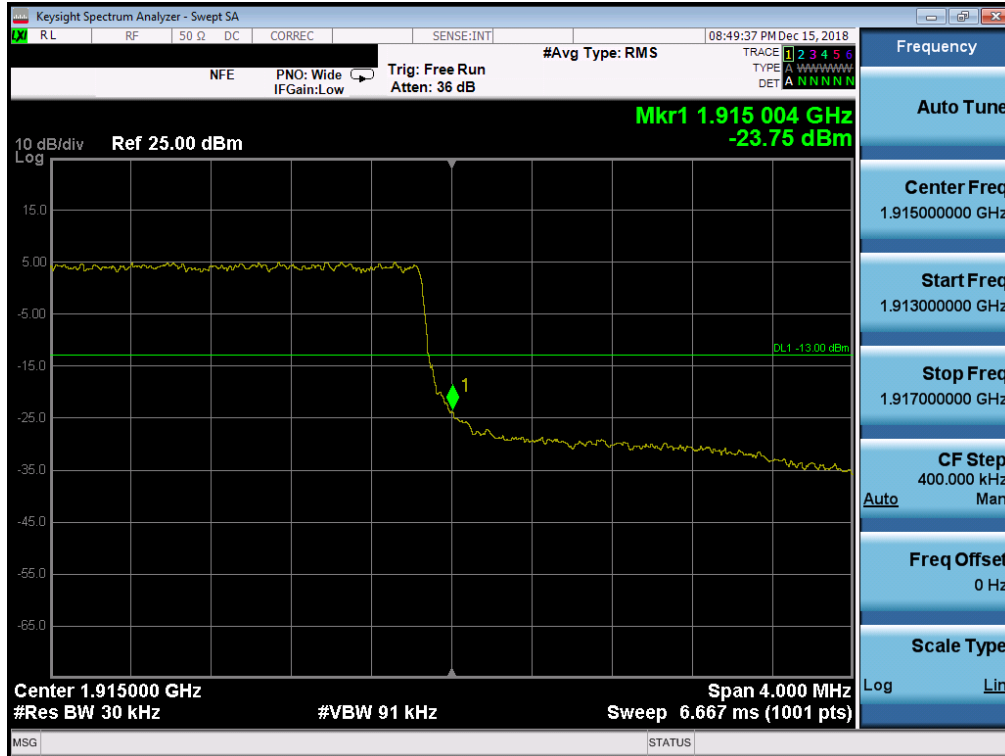
Plot 7-125. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



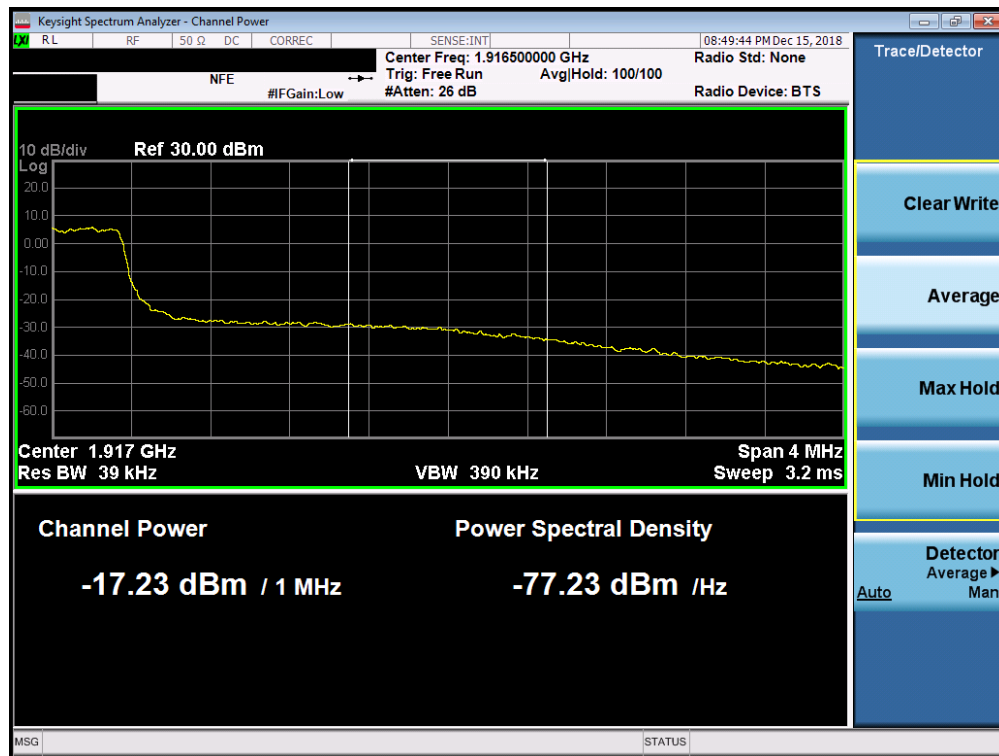
Plot 7-126. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 83 of 134



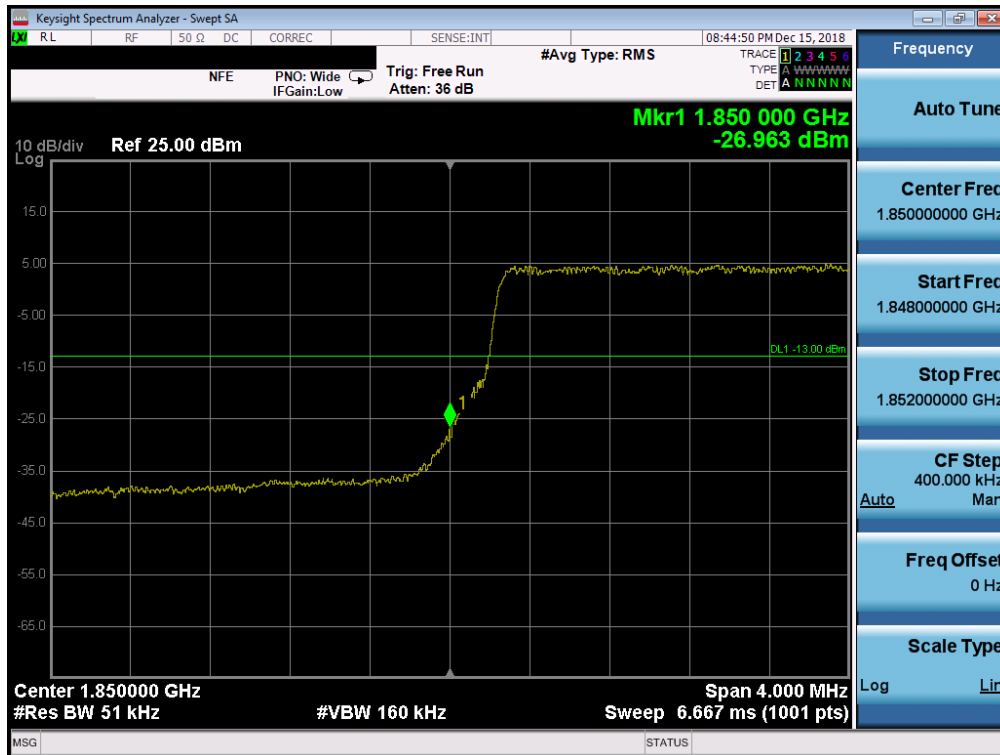


Plot 7-127. Upper Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

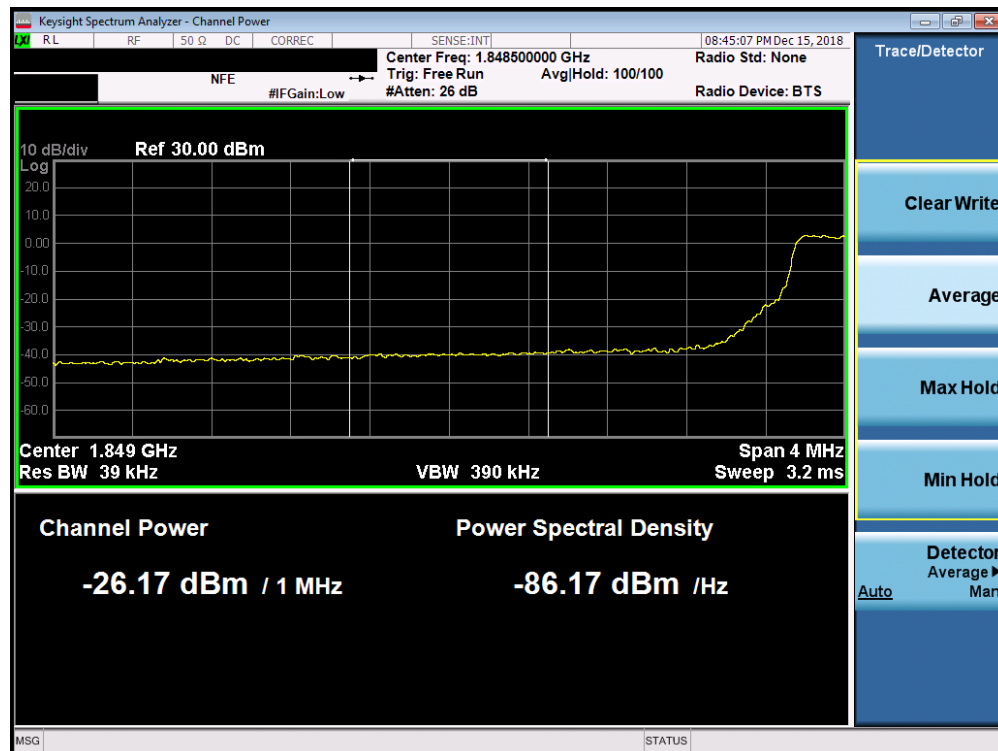


Plot 7-128. Upper Extended Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 84 of 134

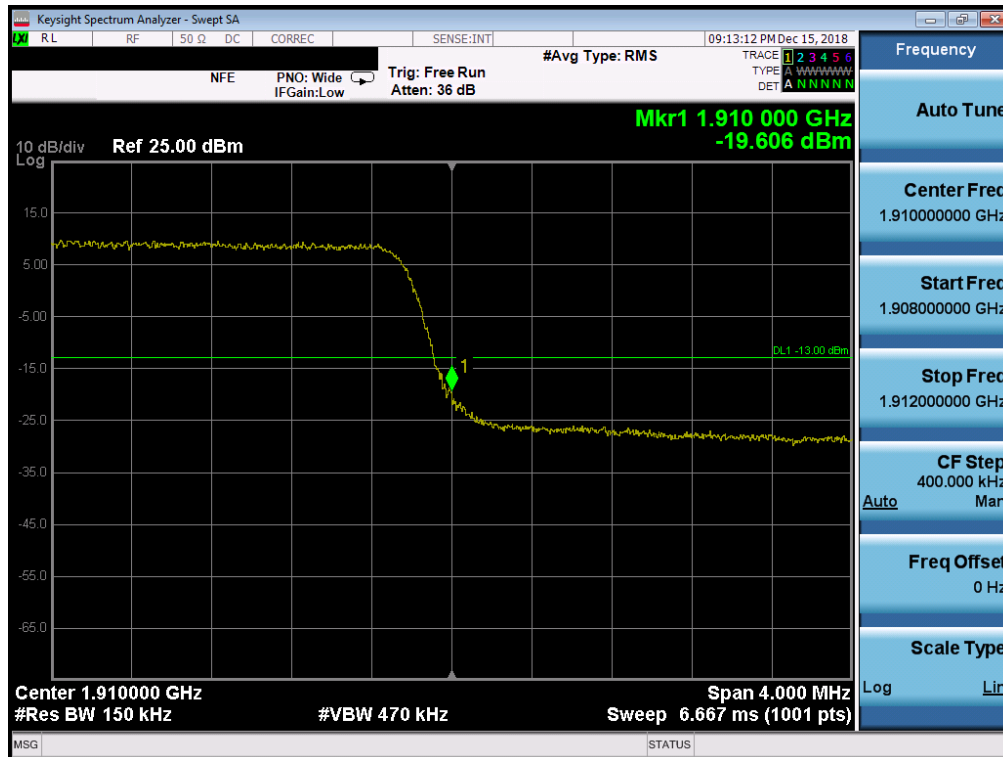


Plot 7-129. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

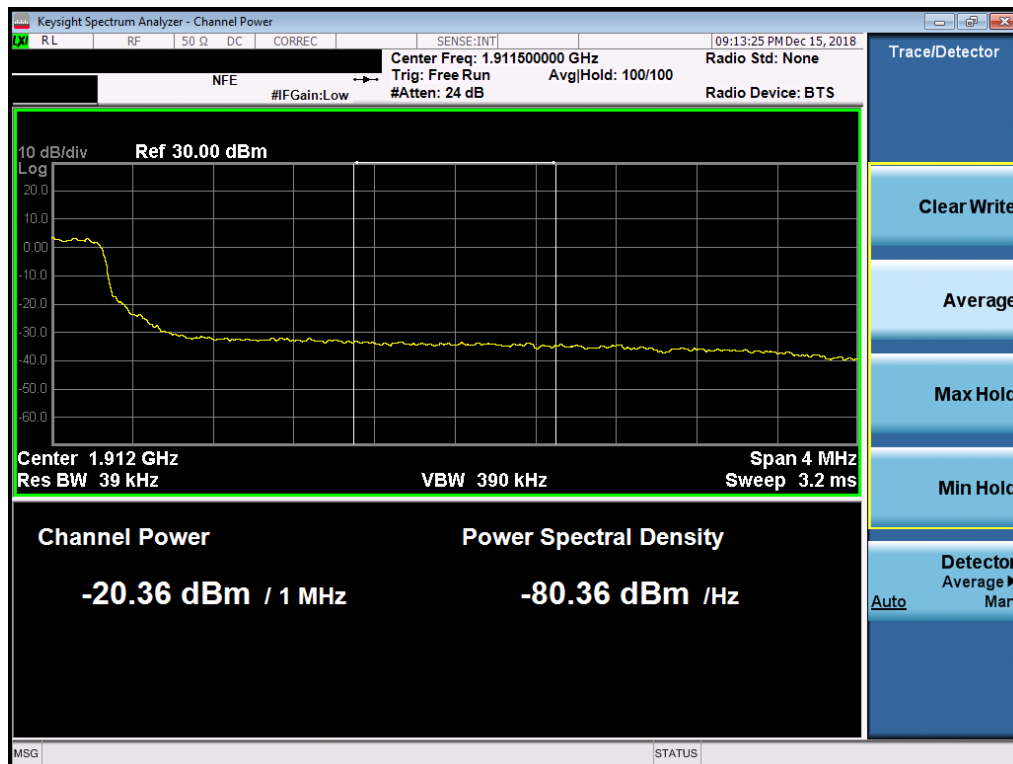


Plot 7-130. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 85 of 134

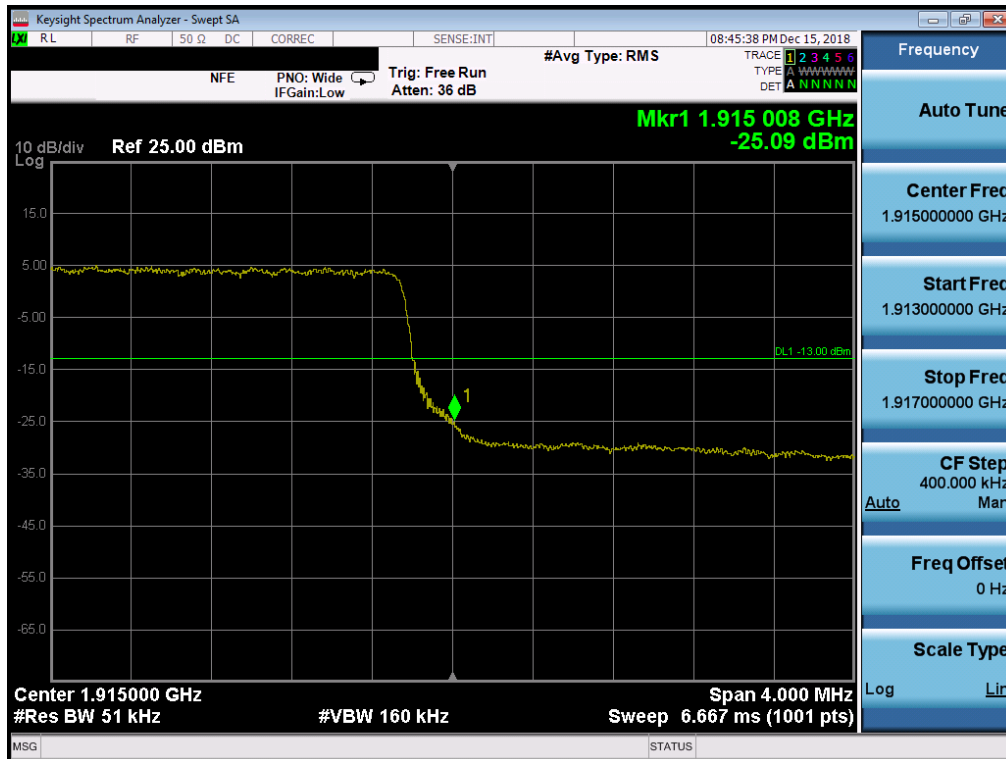


Plot 7-131. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

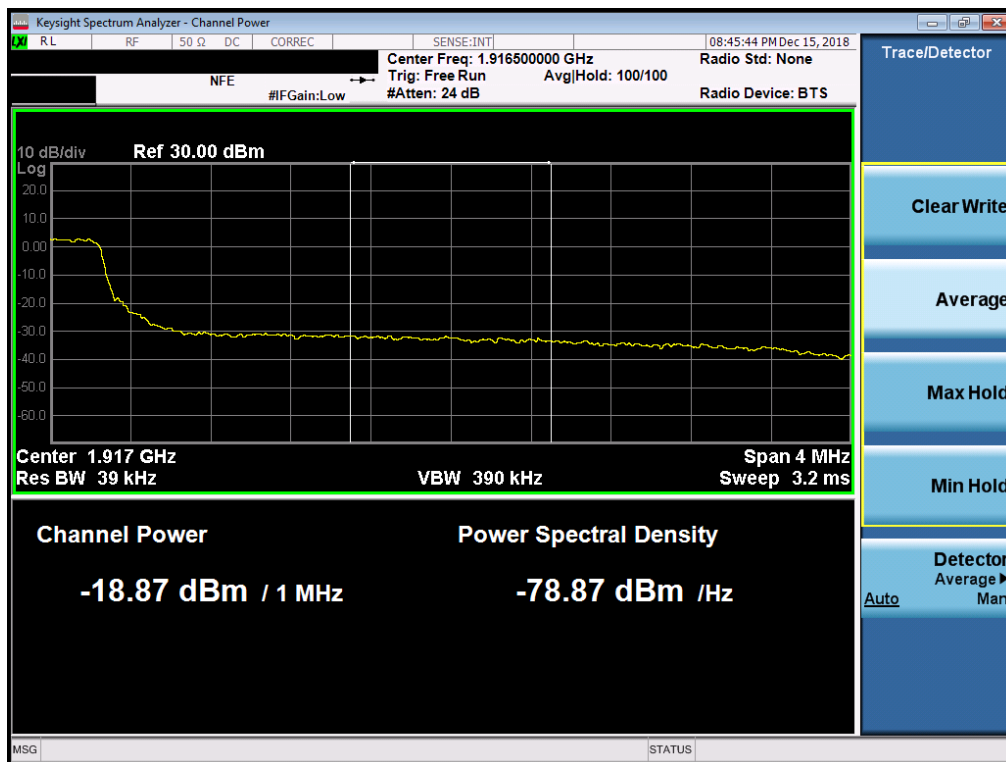


Plot 7-132. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 86 of 134

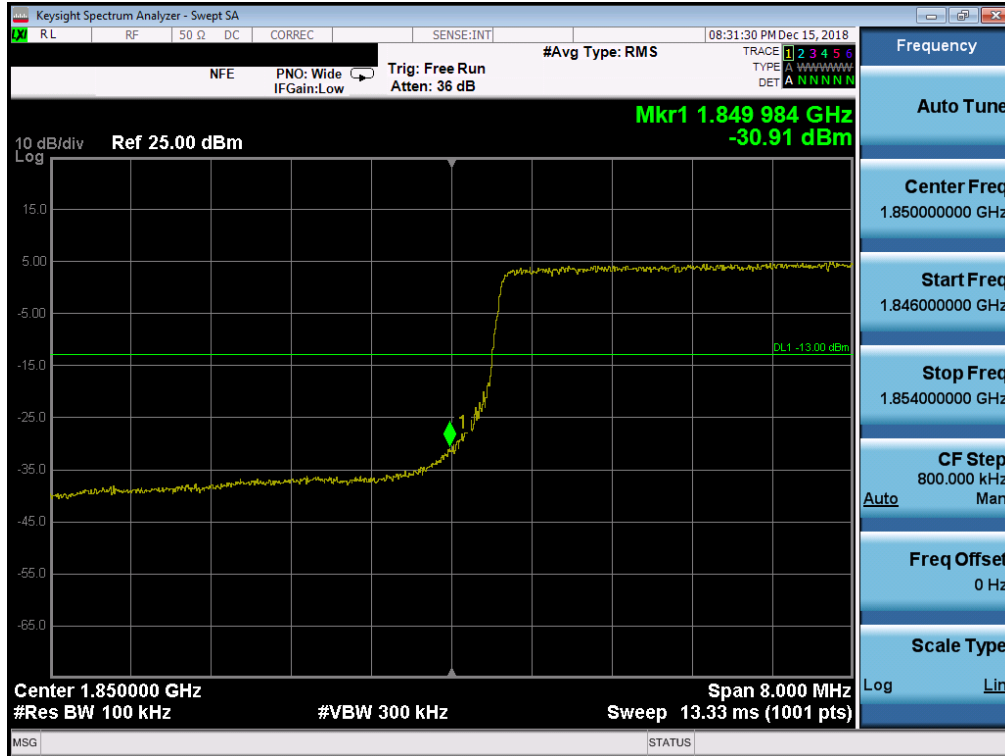


Plot 7-133. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

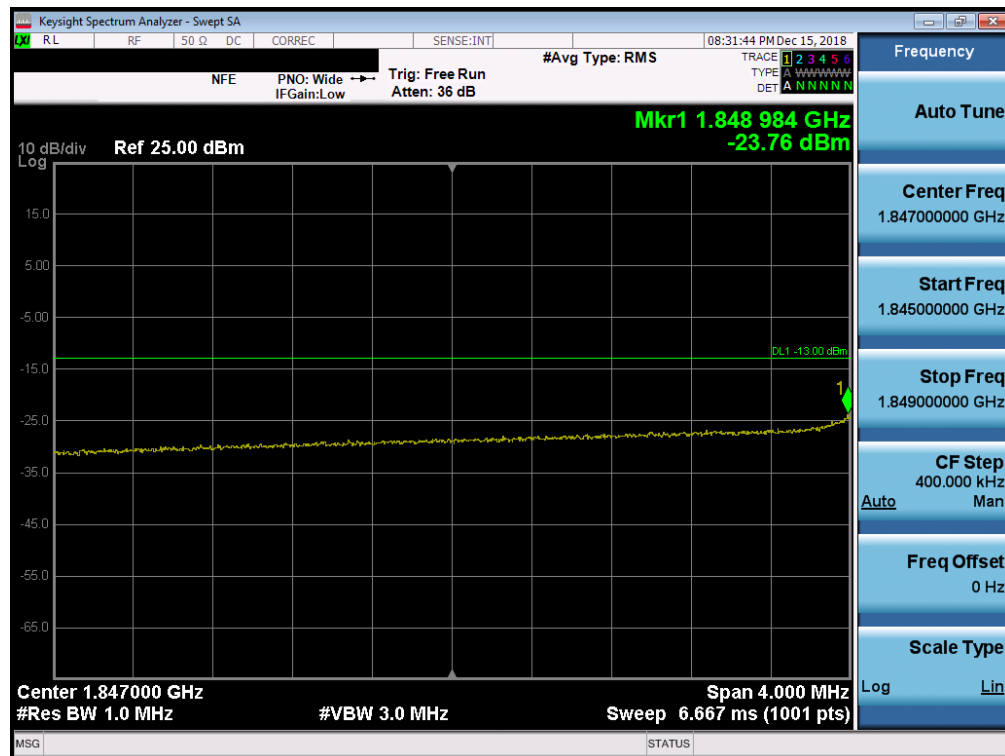


Plot 7-134. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 87 of 134

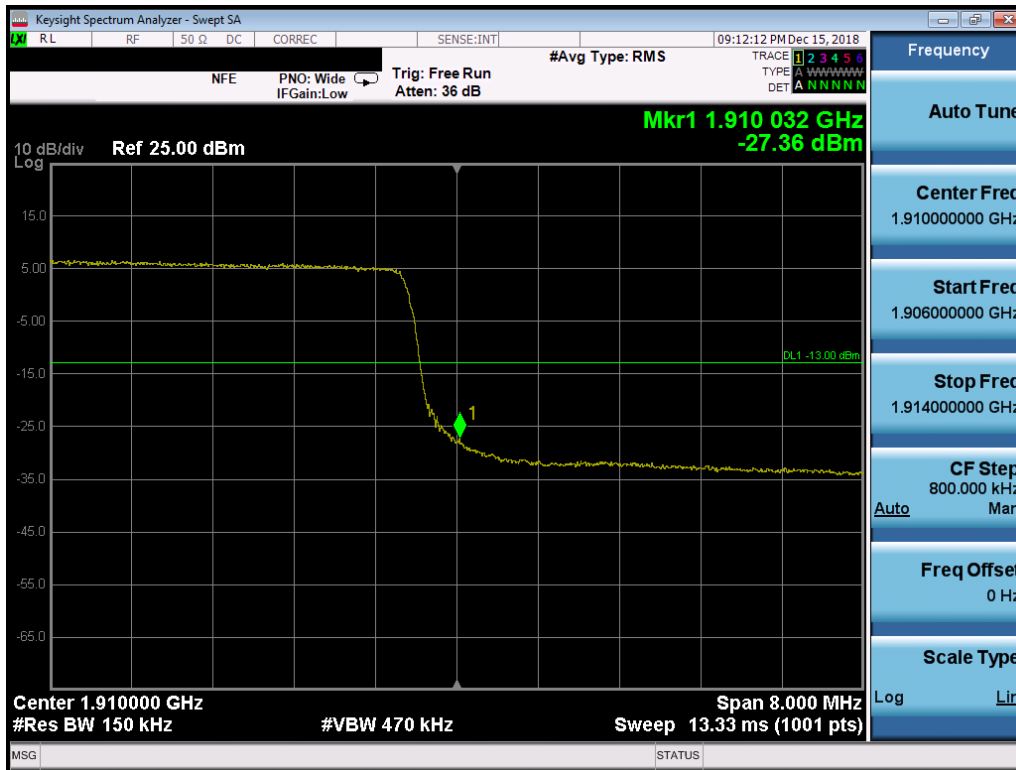


Plot 7-135. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

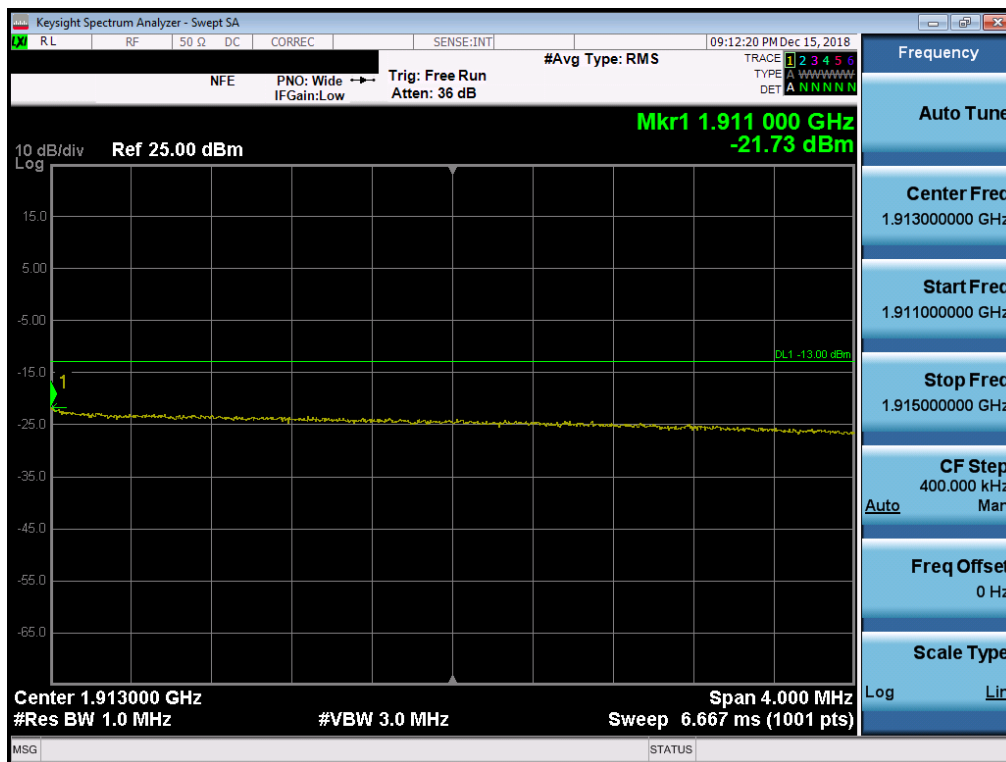


Plot 7-136. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 88 of 134



Plot 7-137. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

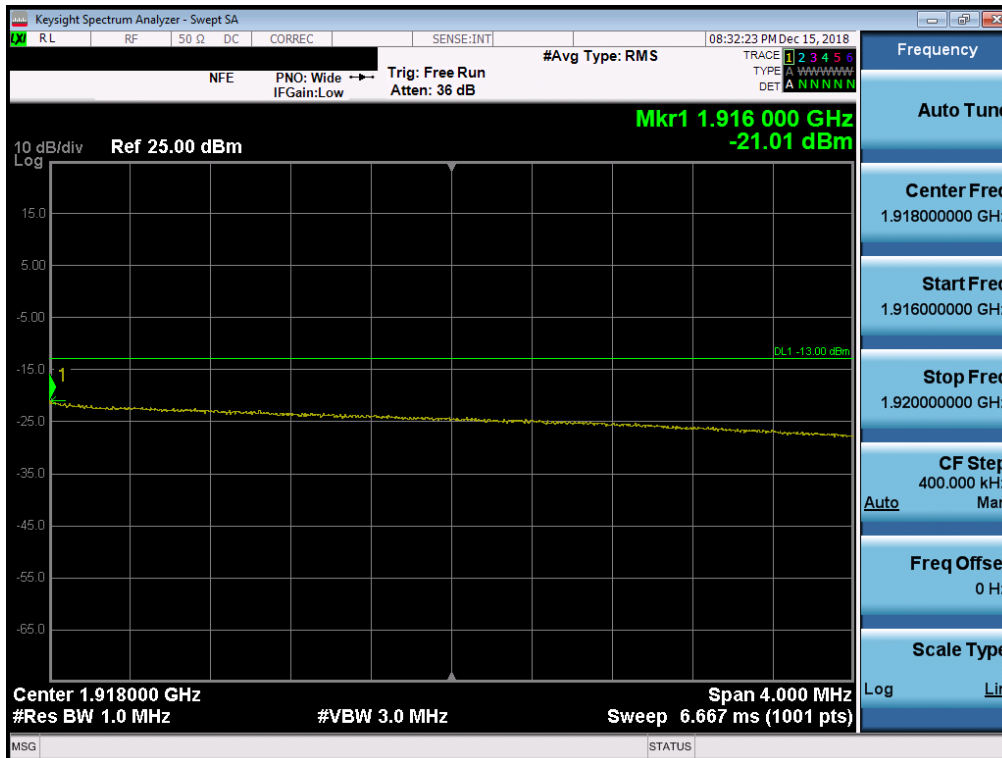


Plot 7-138. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 89 of 134



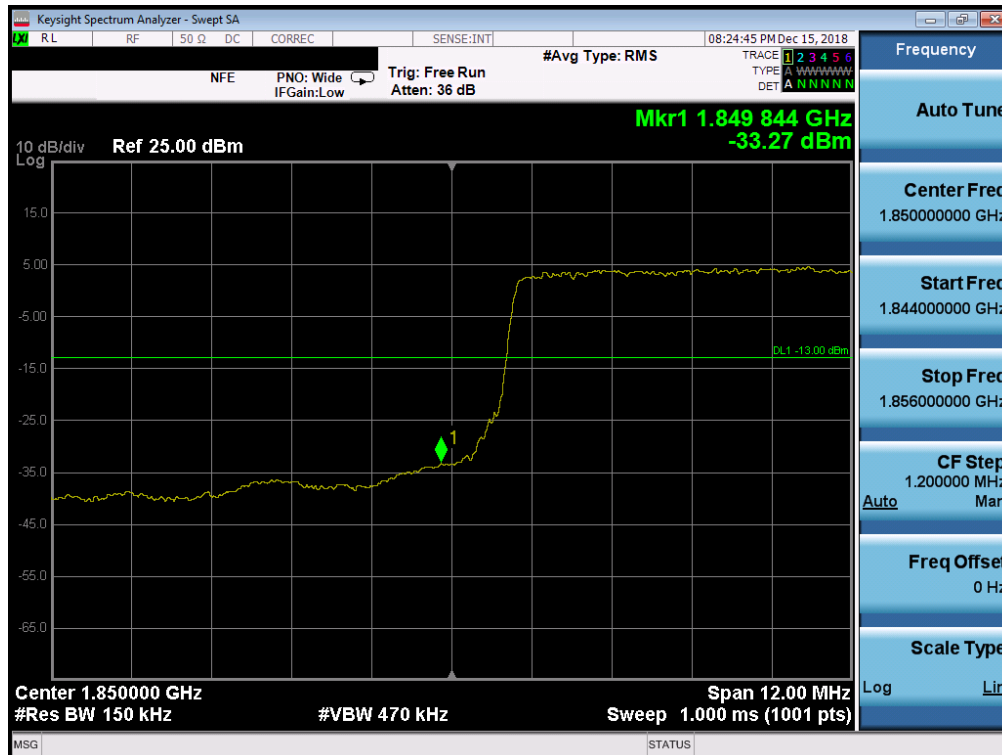
Plot 7-139. Upper Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



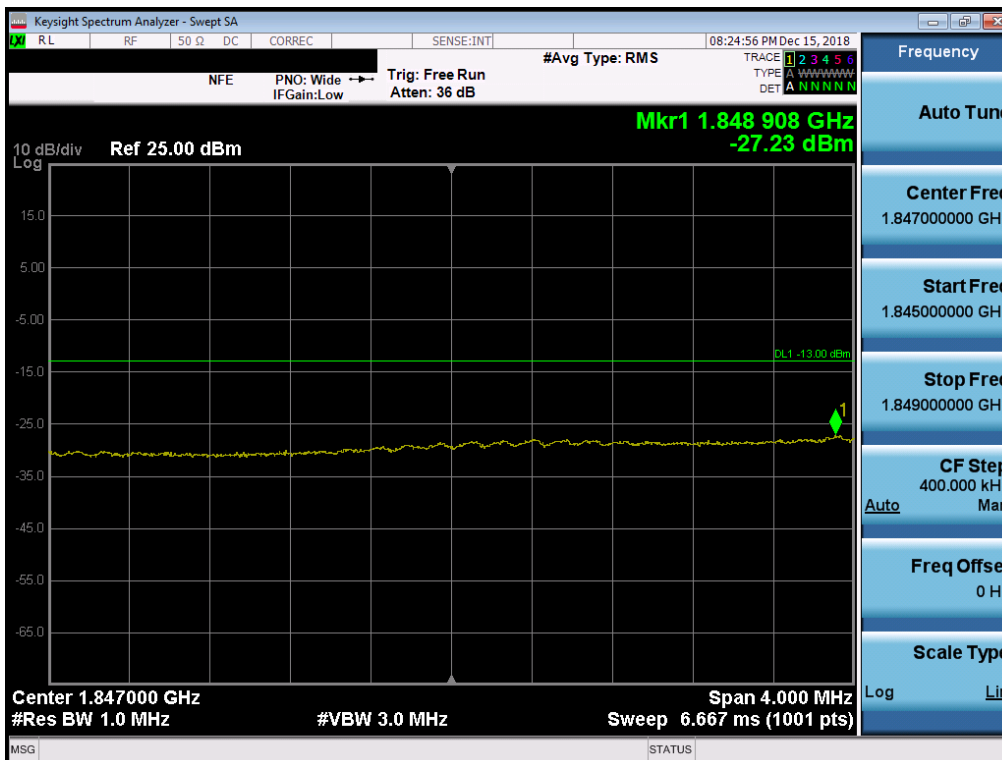
Plot 7-140. Upper Extended Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 90 of 134



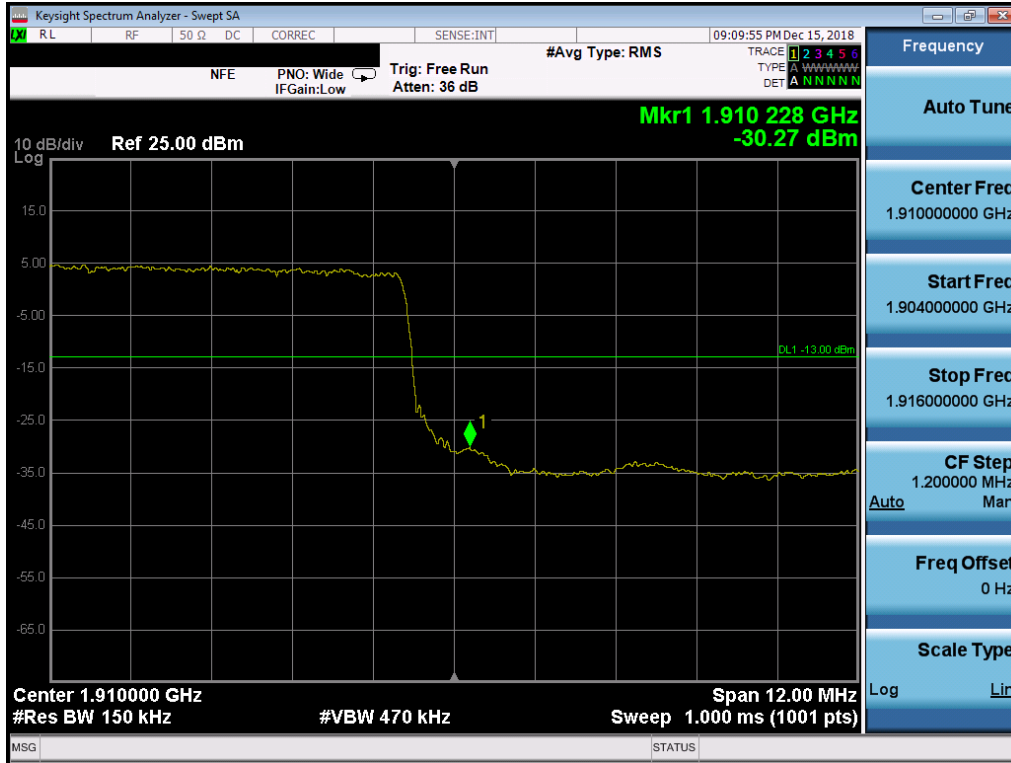


Plot 7-141. Lower Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

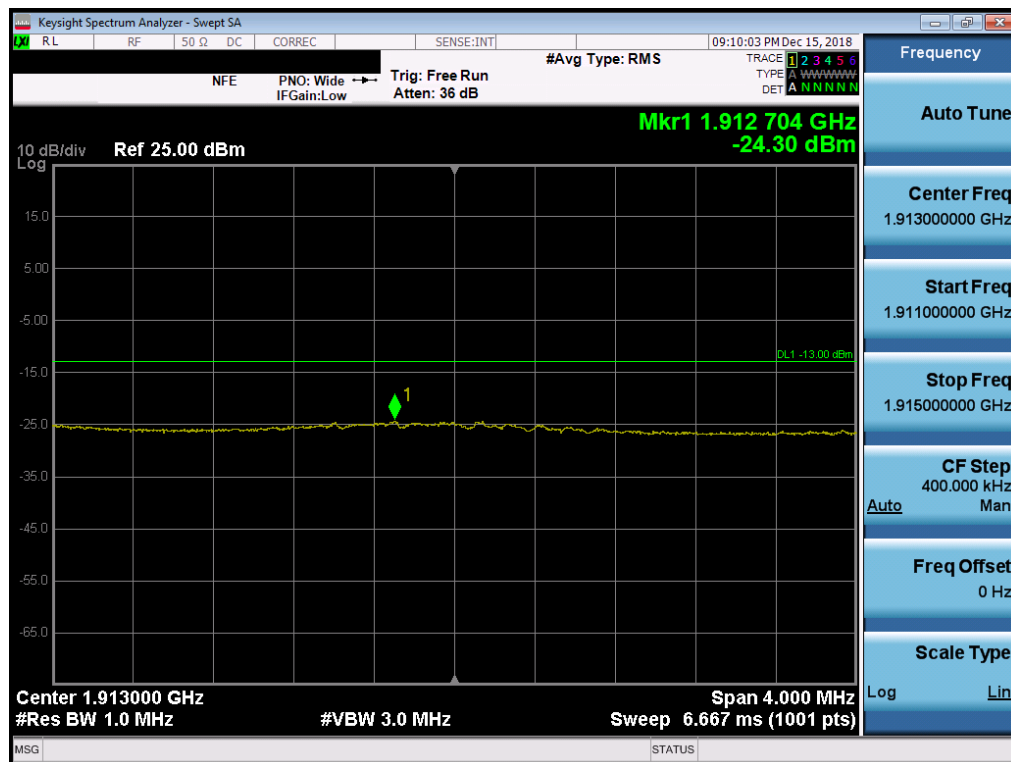


Plot 7-142. Lower Extended Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 91 of 134

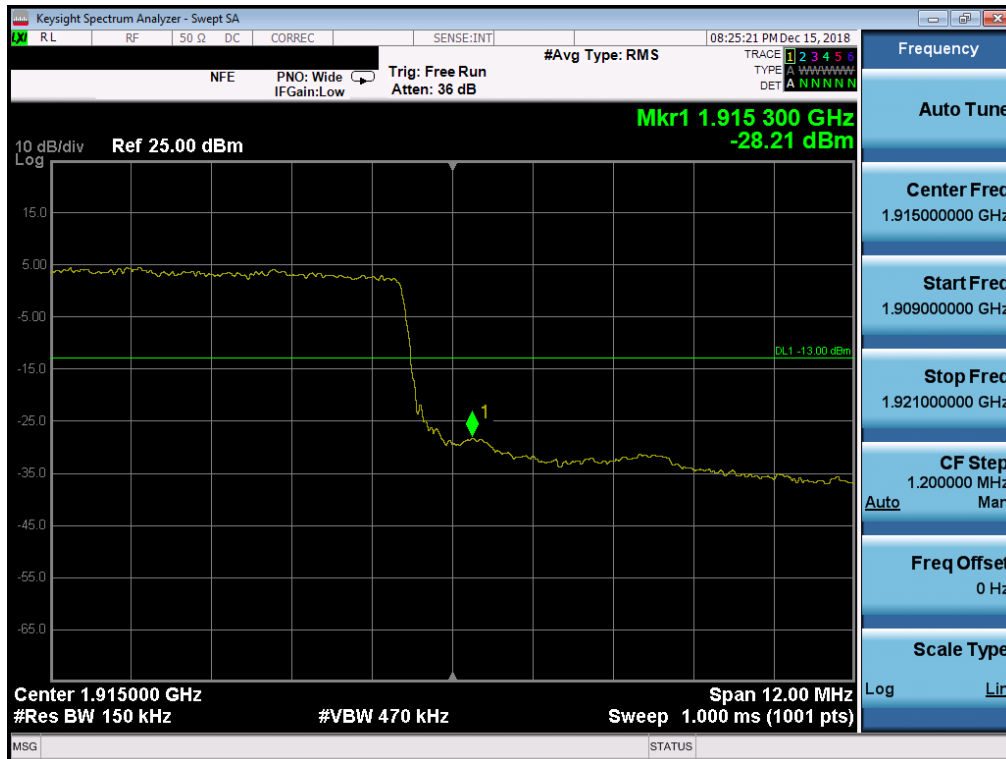


Plot 7-143. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-144. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 92 of 134

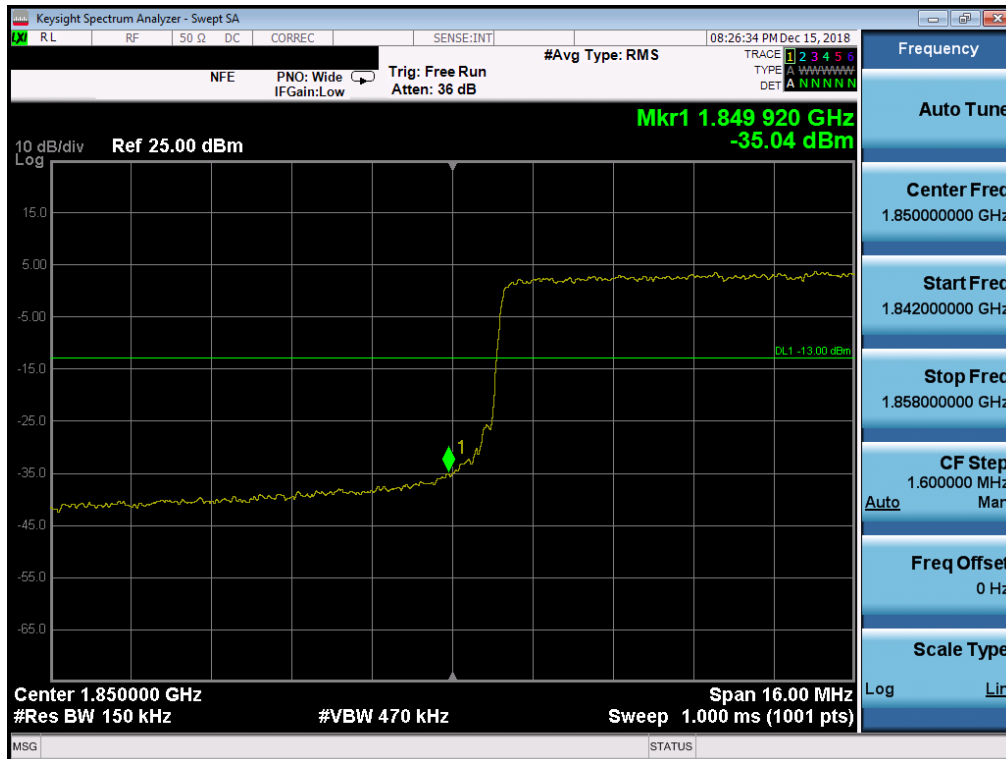


Plot 7-145. Upper Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

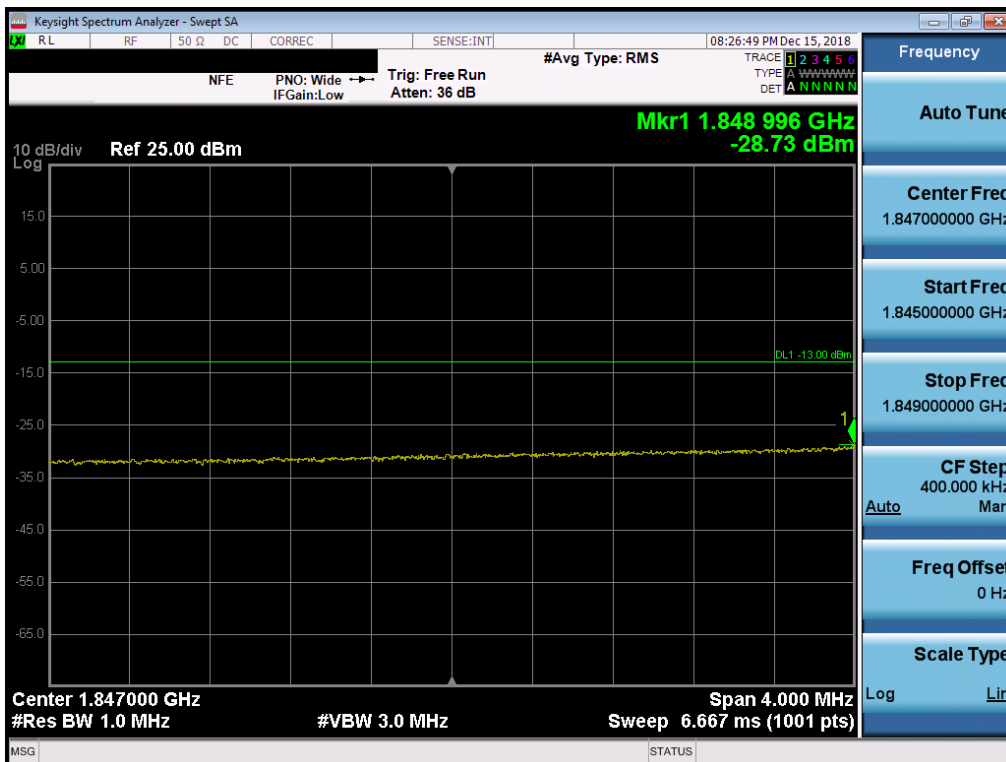


Plot 7-146. Upper Extended Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 93 of 134

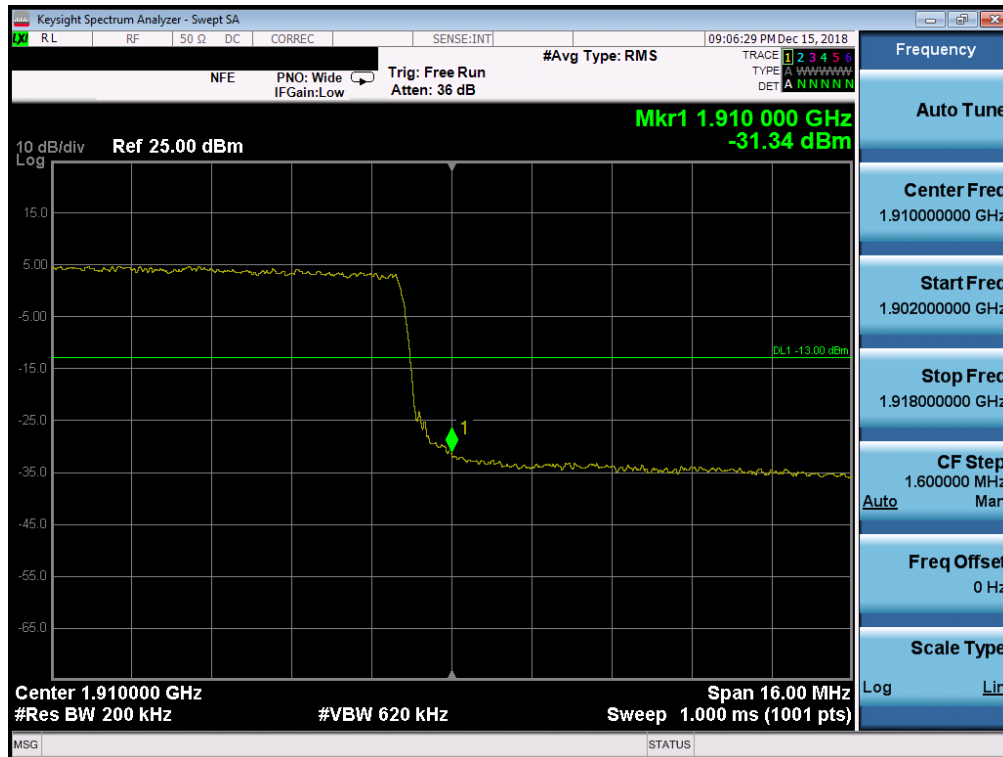


Plot 7-147. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

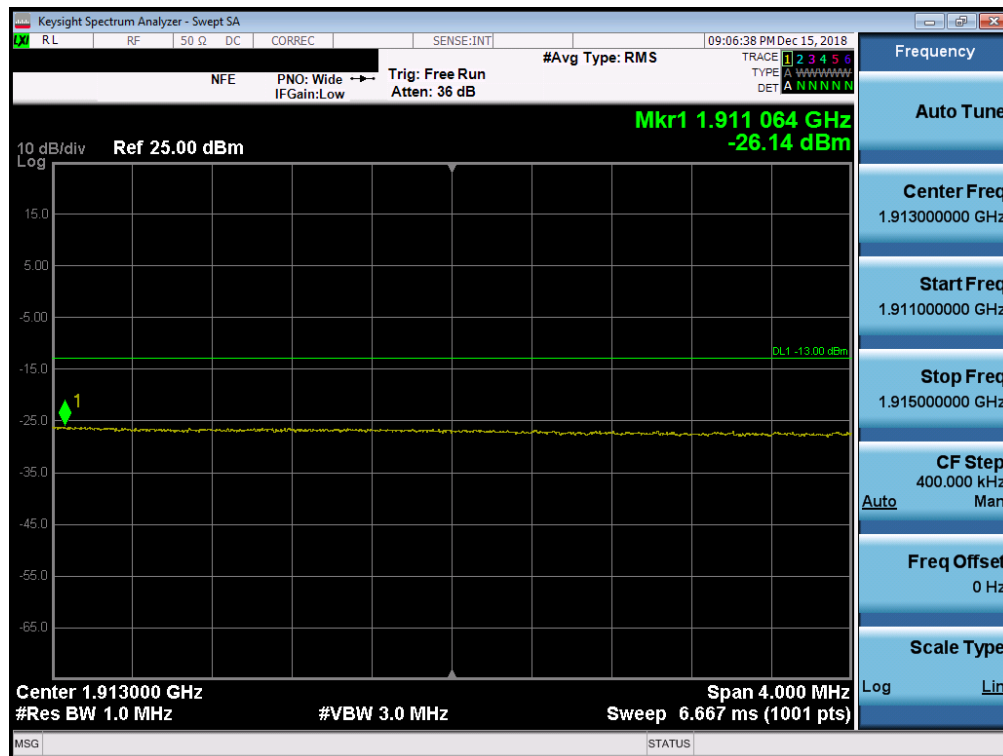


Plot 7-148. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 94 of 134

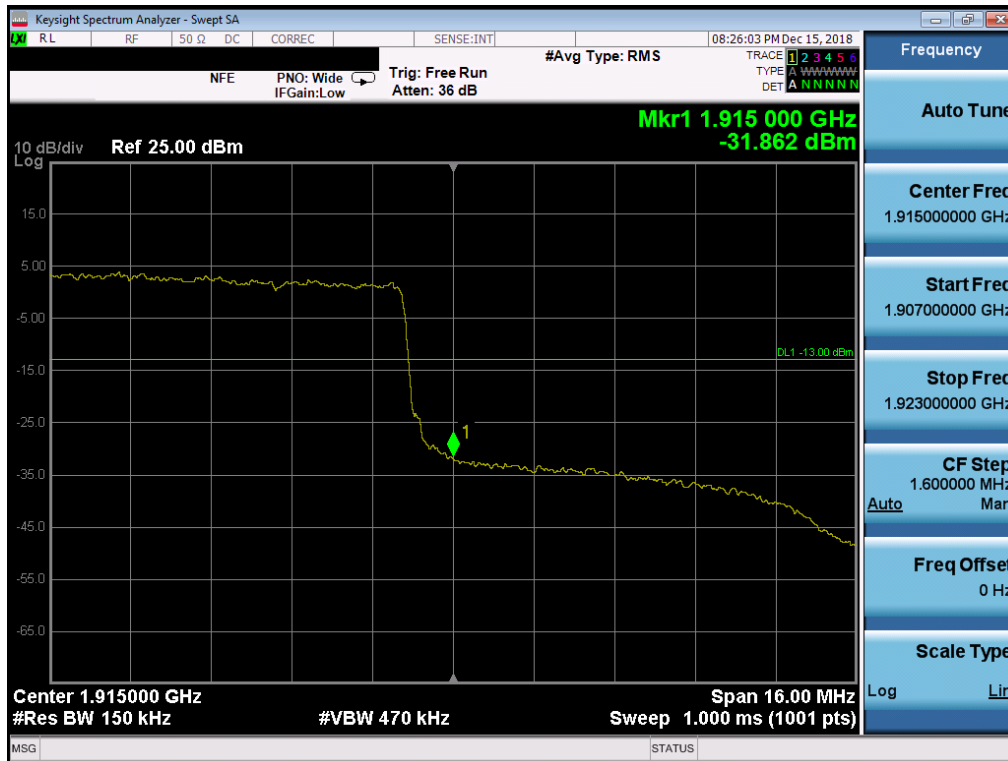


Plot 7-149. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

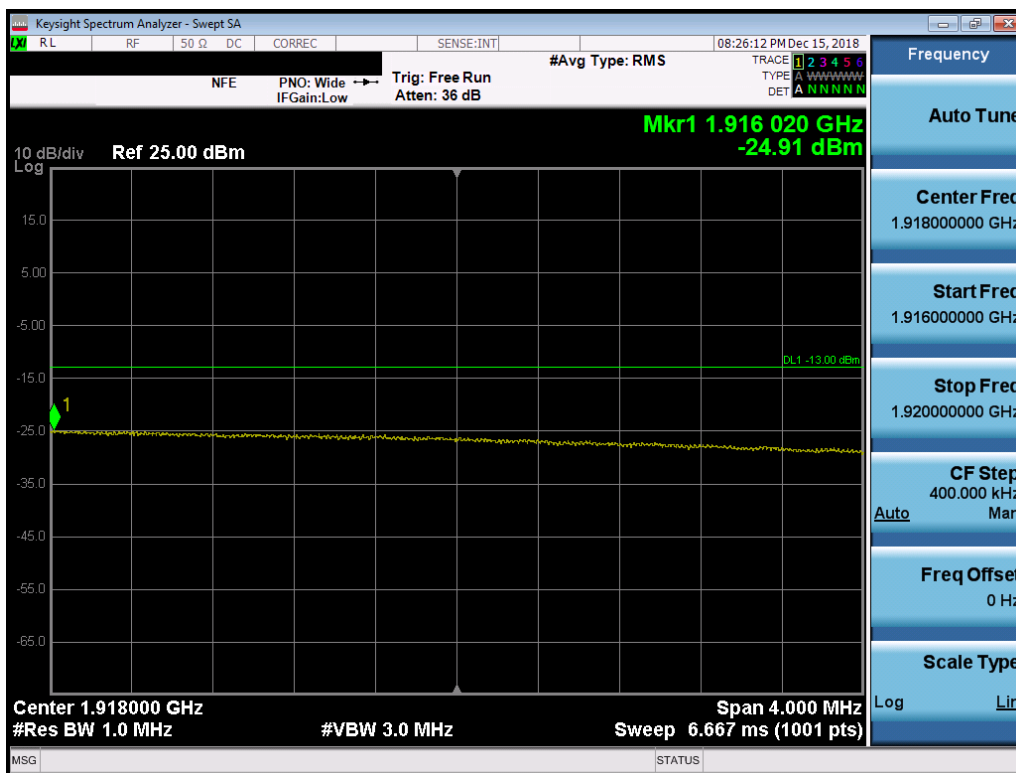


Plot 7-150. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 95 of 134



Plot 7-151. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-152. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 96 of 134

## 7.5 Peak-Average Ratio

### Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

### Test Procedure Used

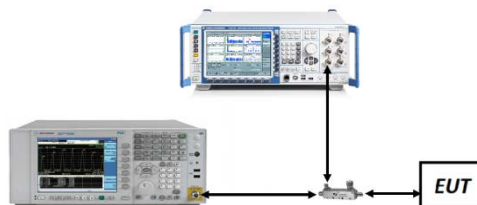
KDB 971168 D01 v03r01 – Section 5.7.1

### Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW  $\geq$  OBW or specified reference bandwidth
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

### Test Setup

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



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

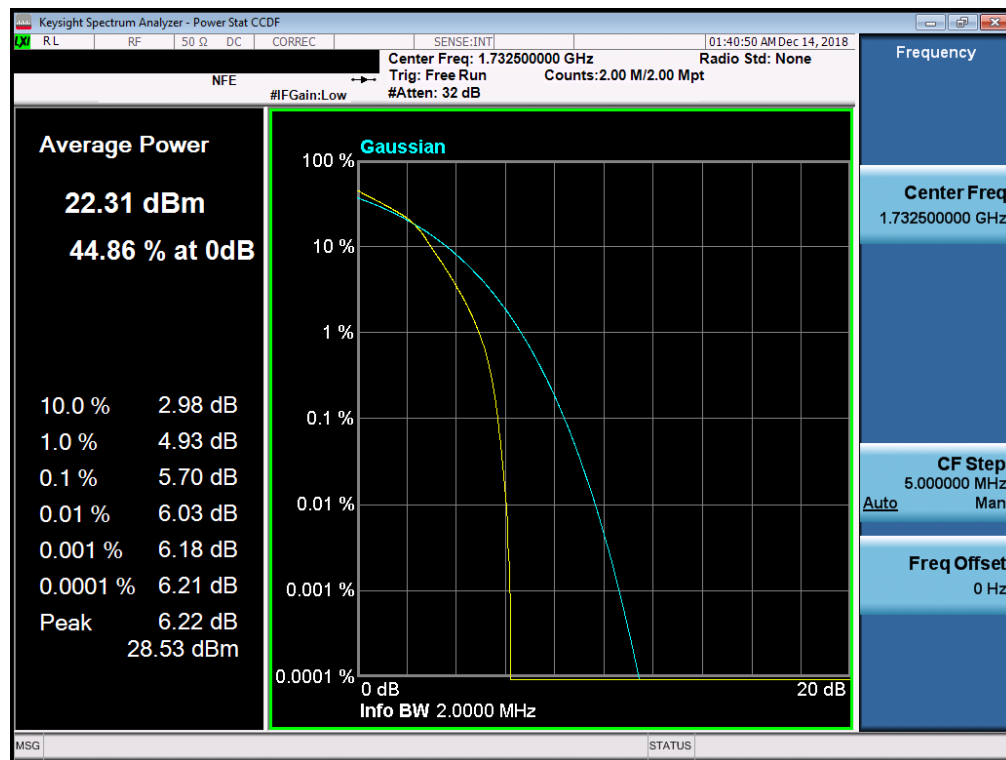
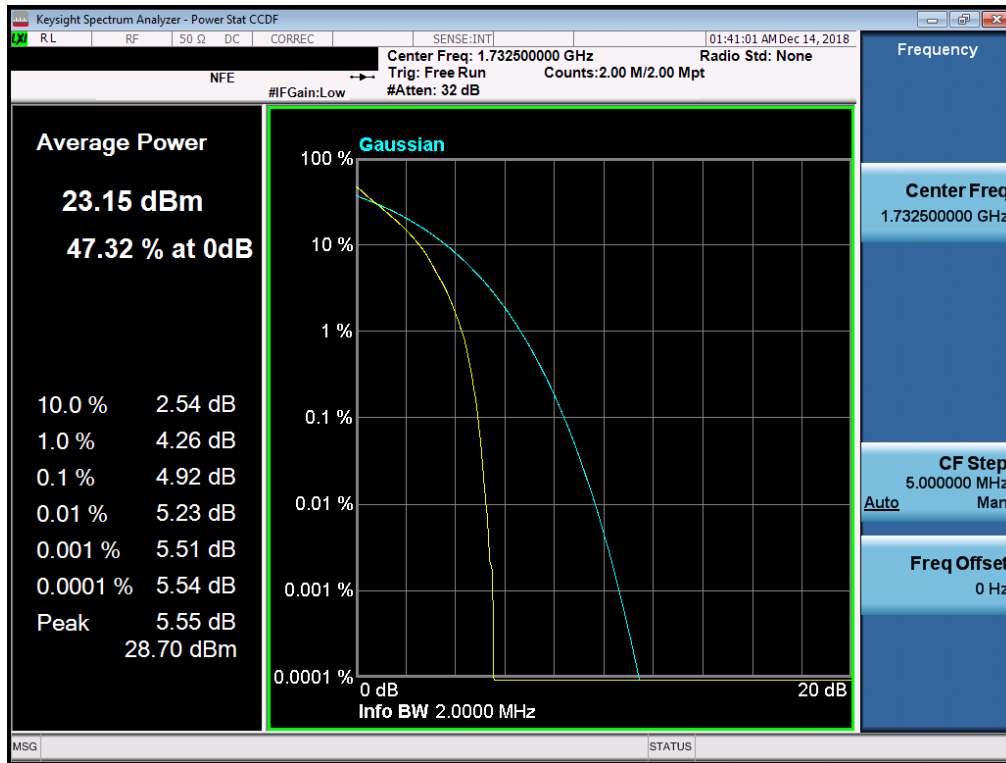
### Test Notes

None.

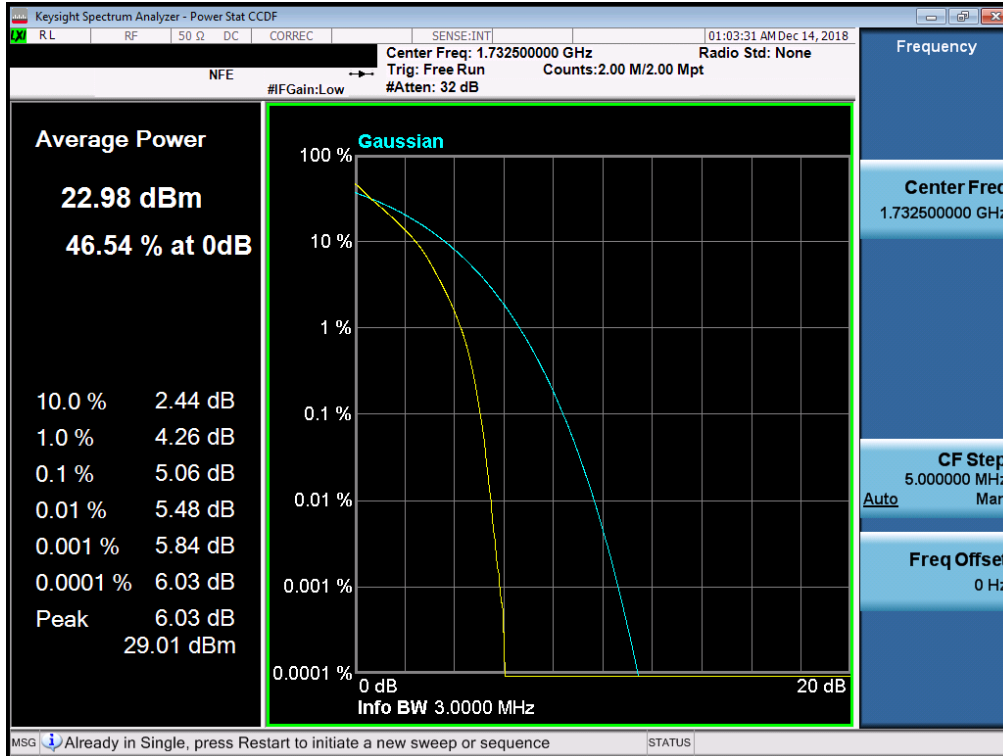
FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 97 of 134



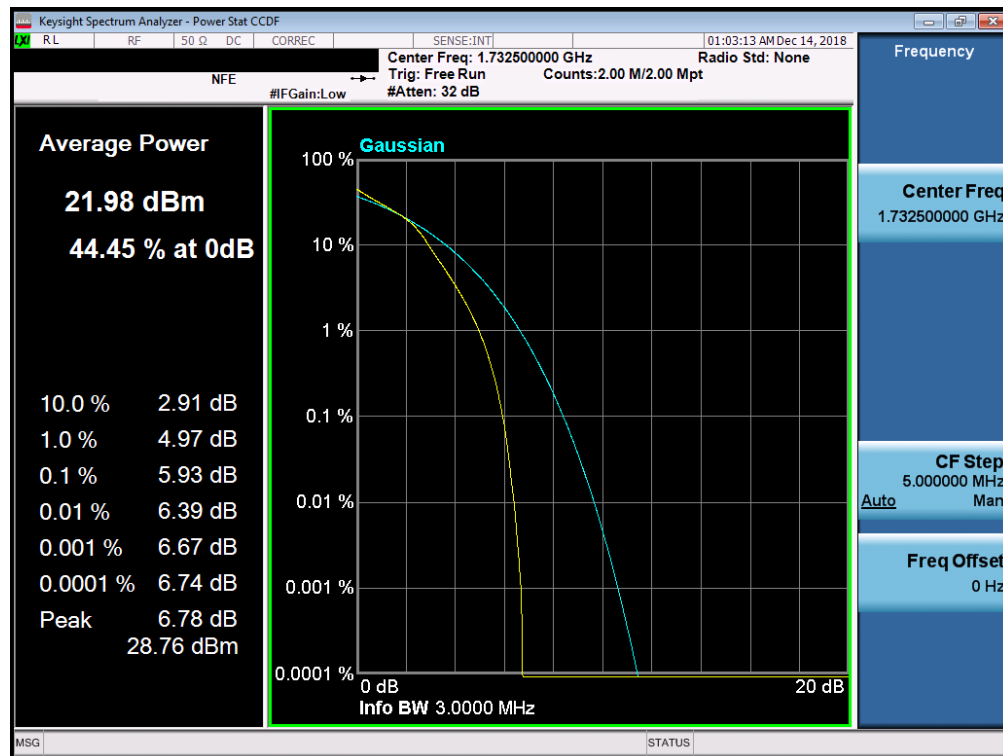
## Band 4



FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset	Page 98 of 134

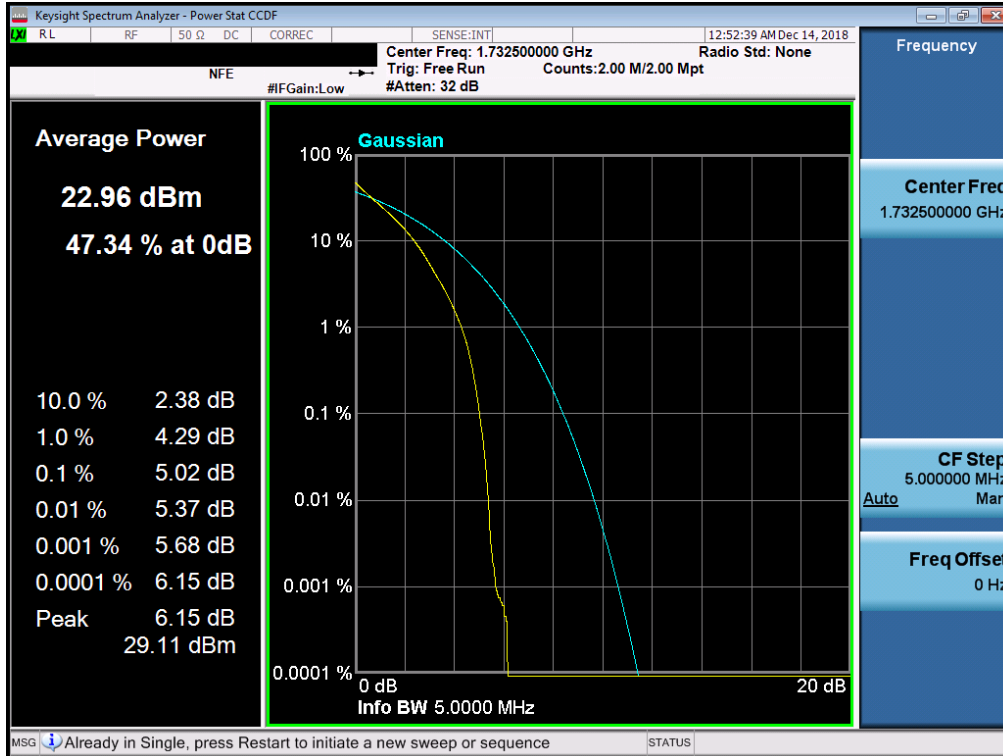


Plot 7-155. PAR Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

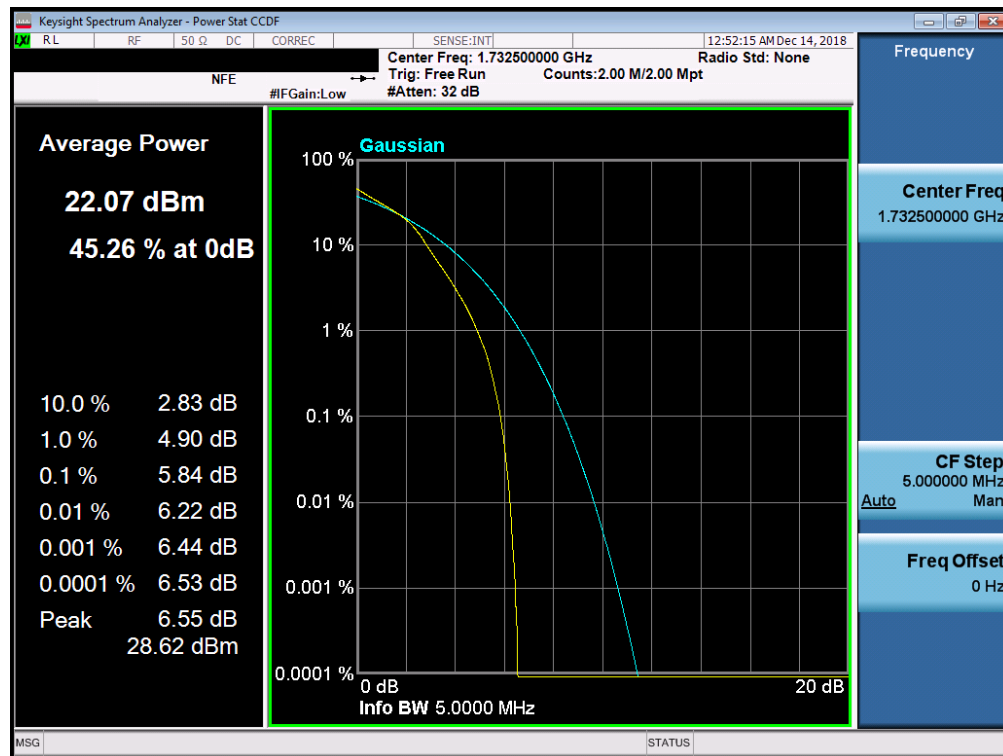


Plot 7-156. PAR Plot (Band 4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset	Page 99 of 134

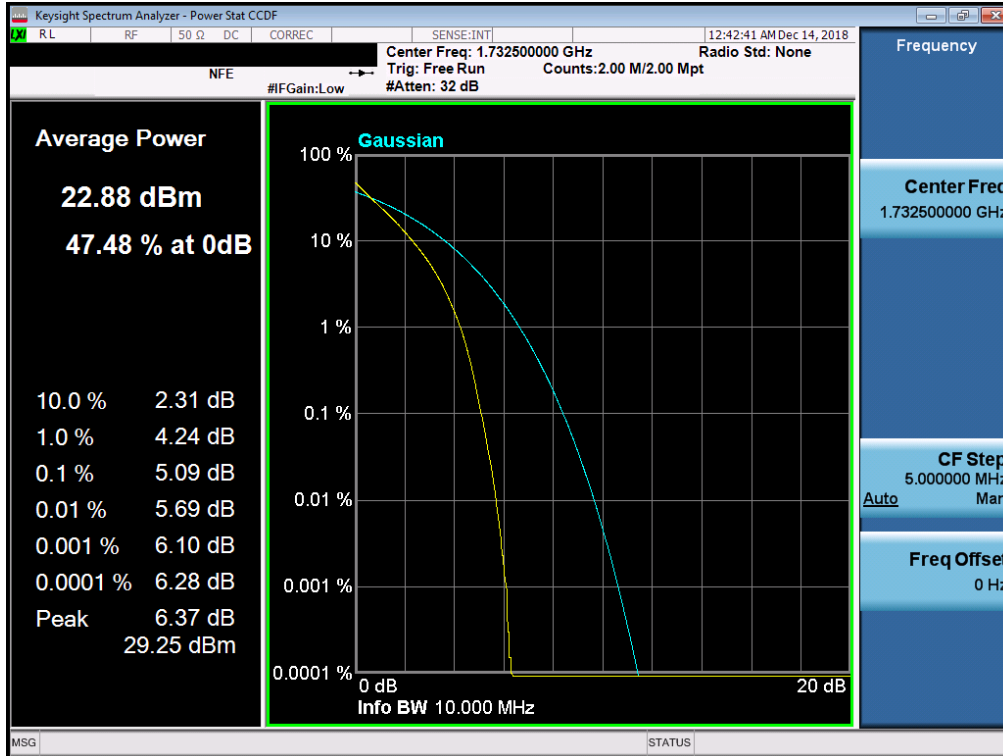


Plot 7-157. PAR Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

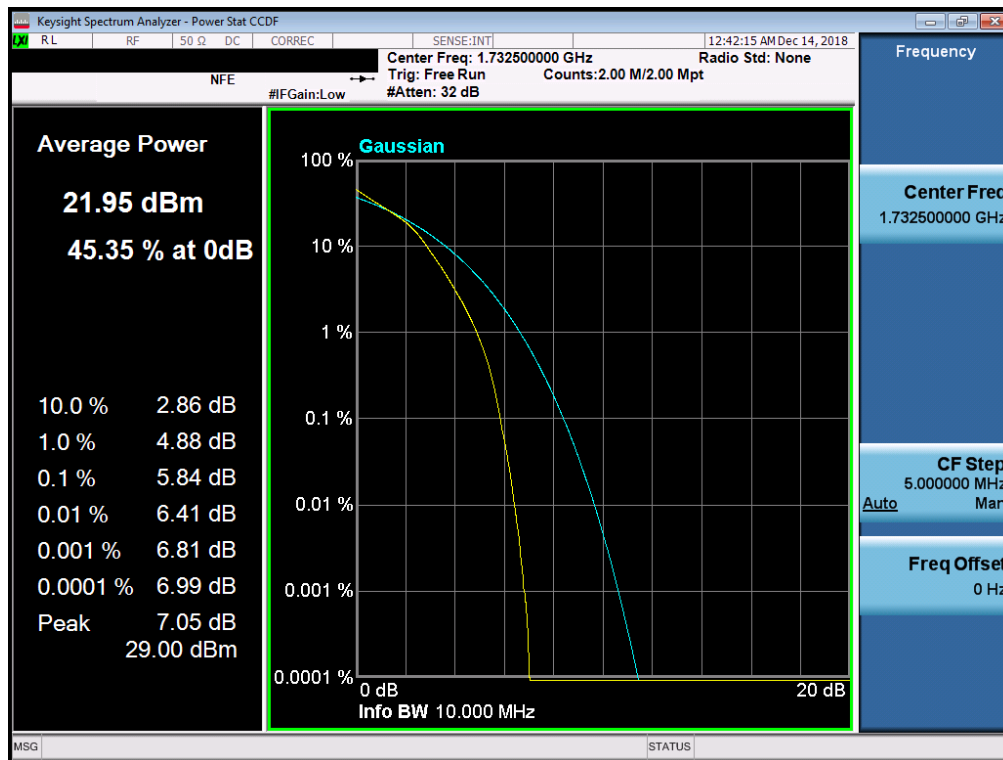


Plot 7-158. PAR Plot (Band 4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 100 of 134

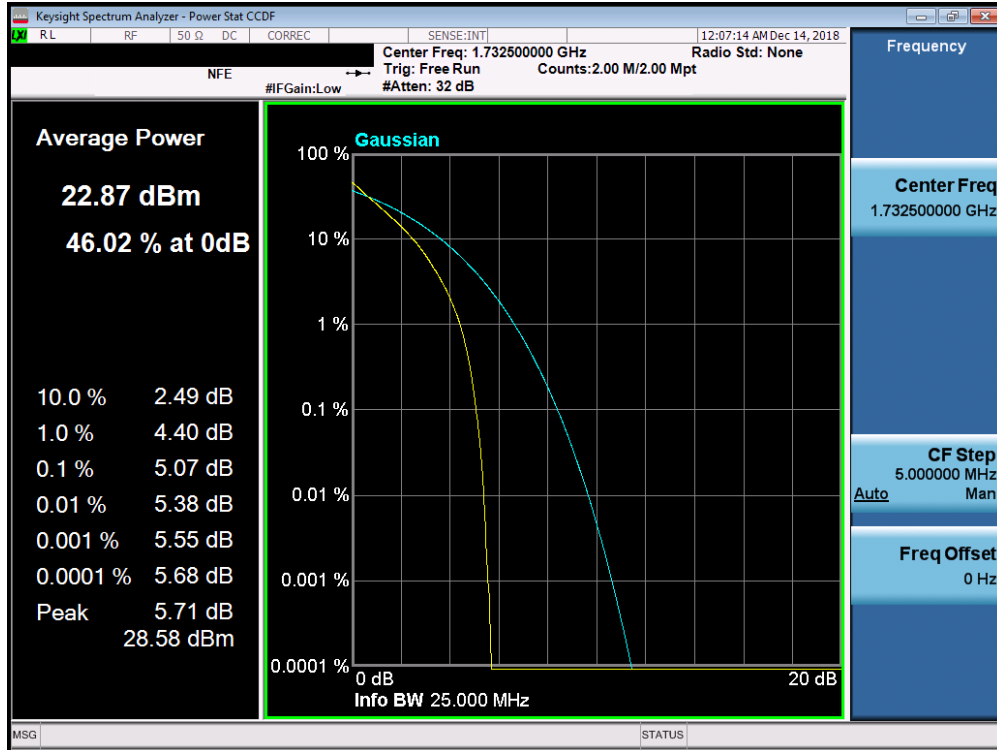


Plot 7-159. PAR Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

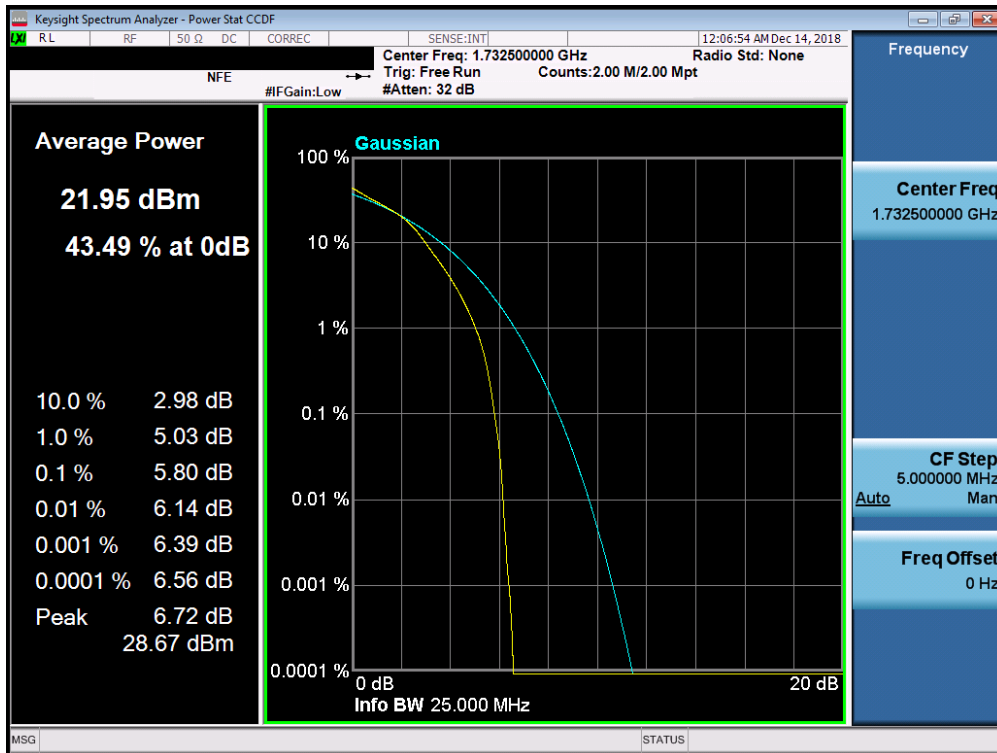


Plot 7-160. PAR Plot (Band 4 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 101 of 134

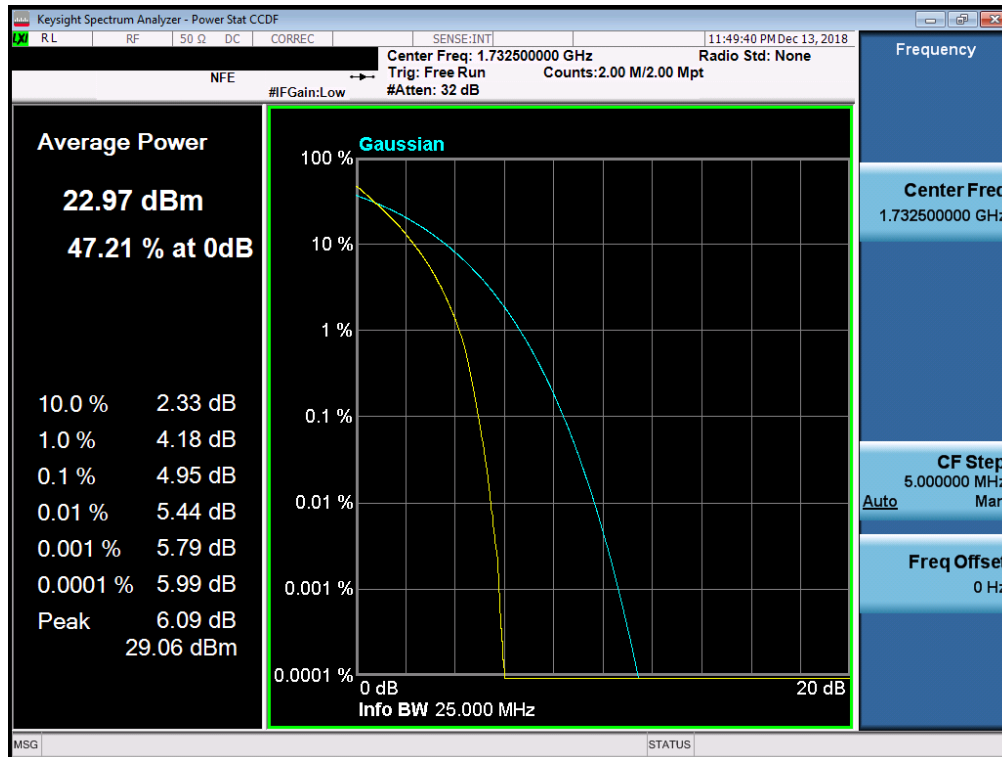


Plot 7-161. PAR Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

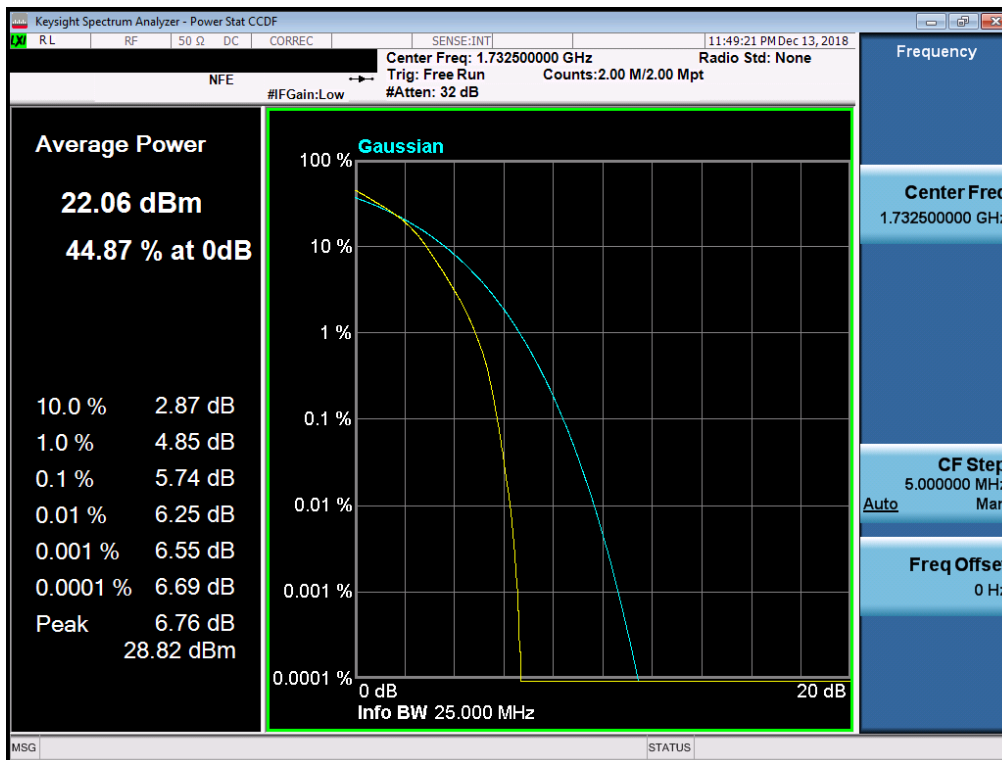


Plot 7-162. PAR Plot (Band 4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 102 of 134



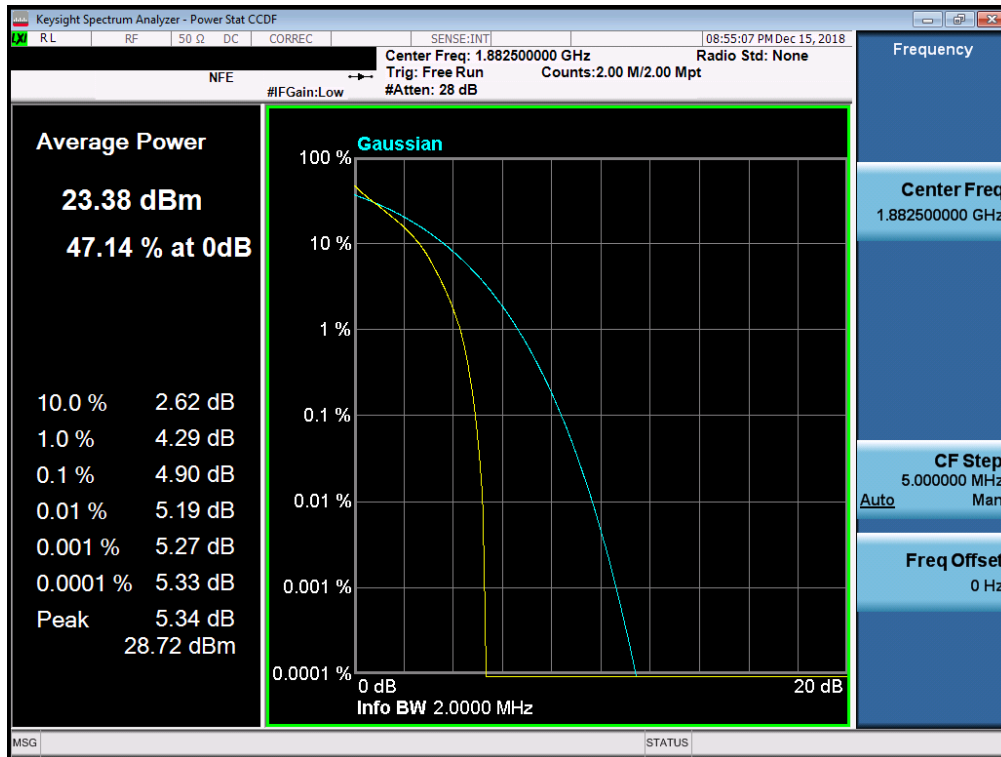
Plot 7-163. PAR Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



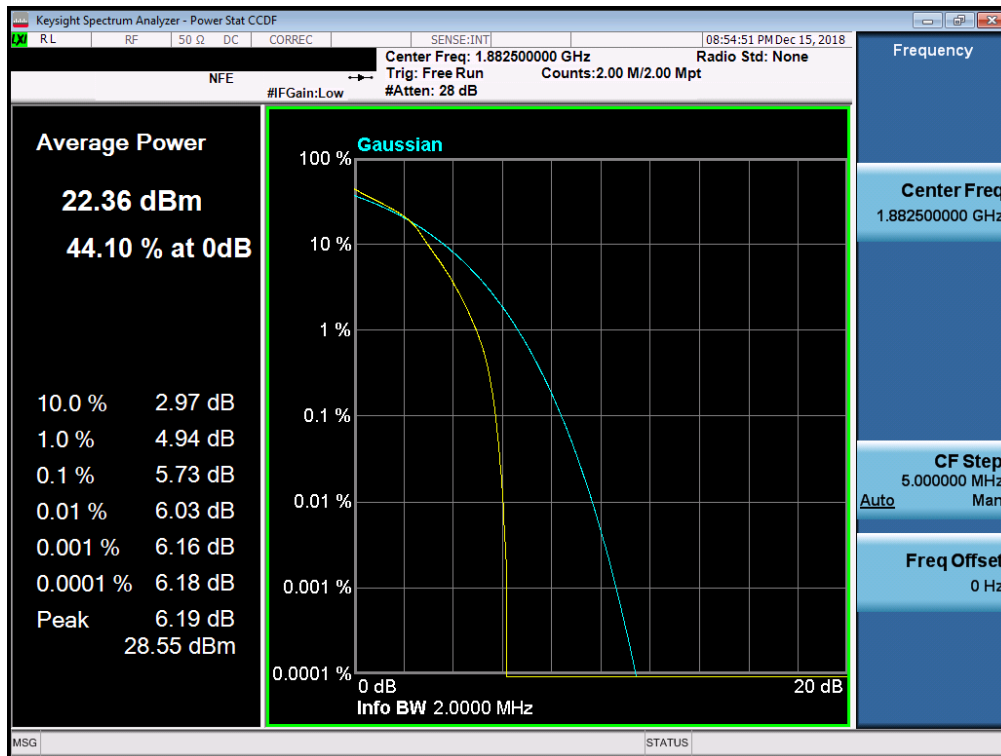
Plot 7-164. PAR Plot (Band 4 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 103 of 134

## Band 25/2



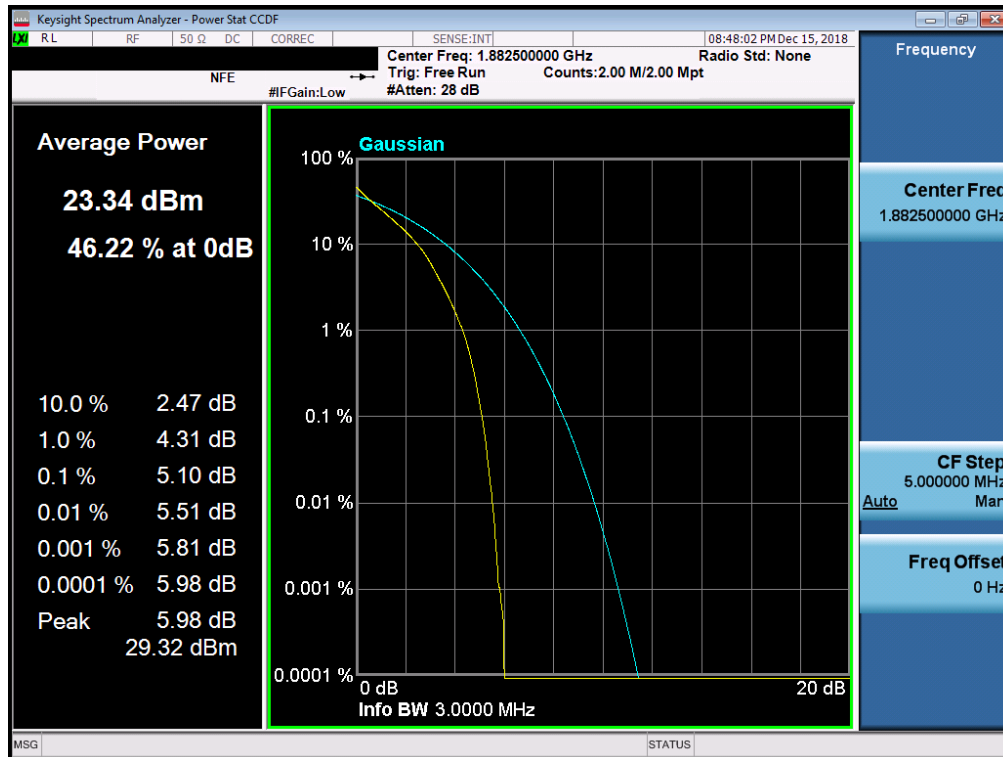
Plot 7-165. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



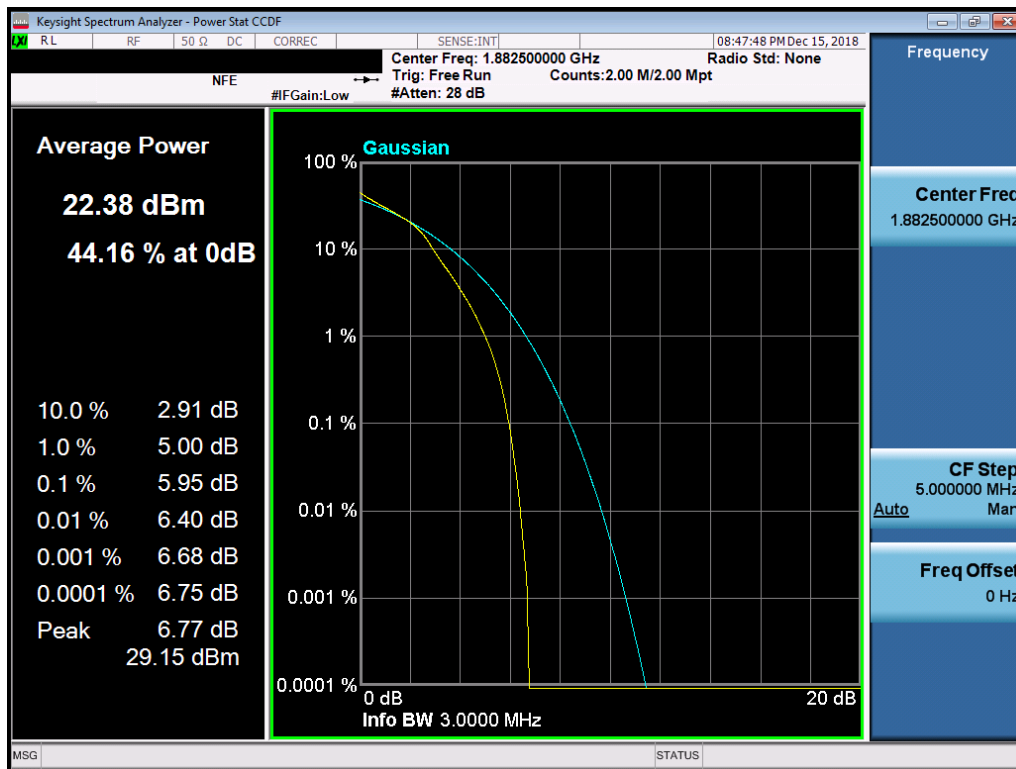
Plot 7-166. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 104 of 134



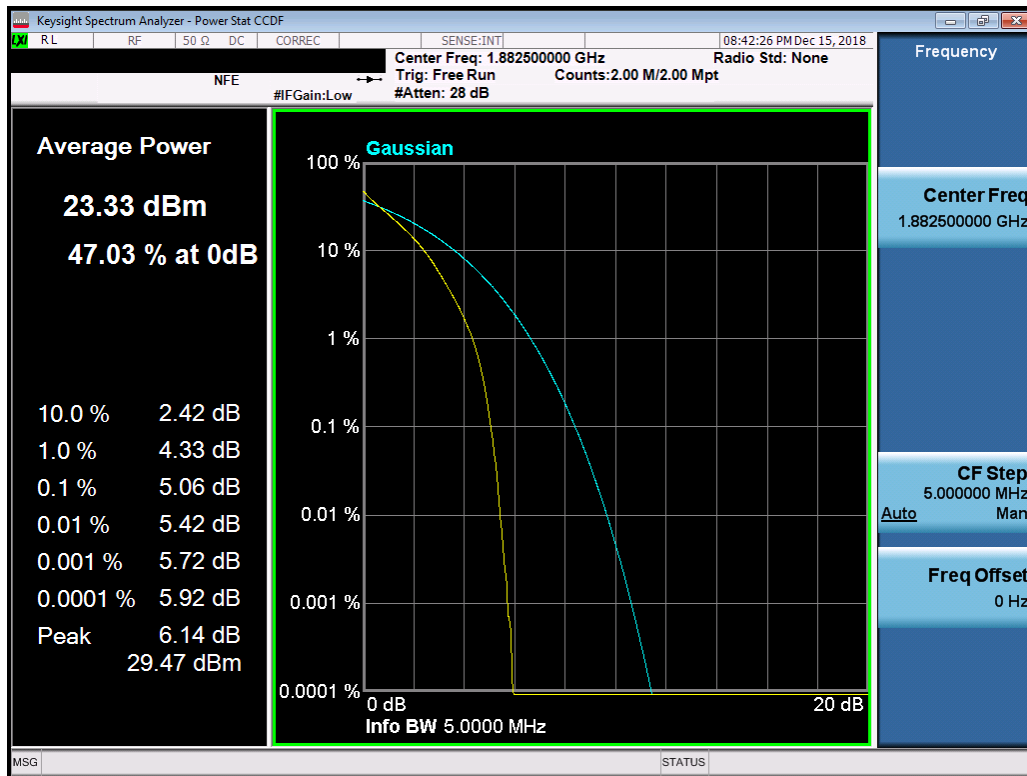


Plot 7-167. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

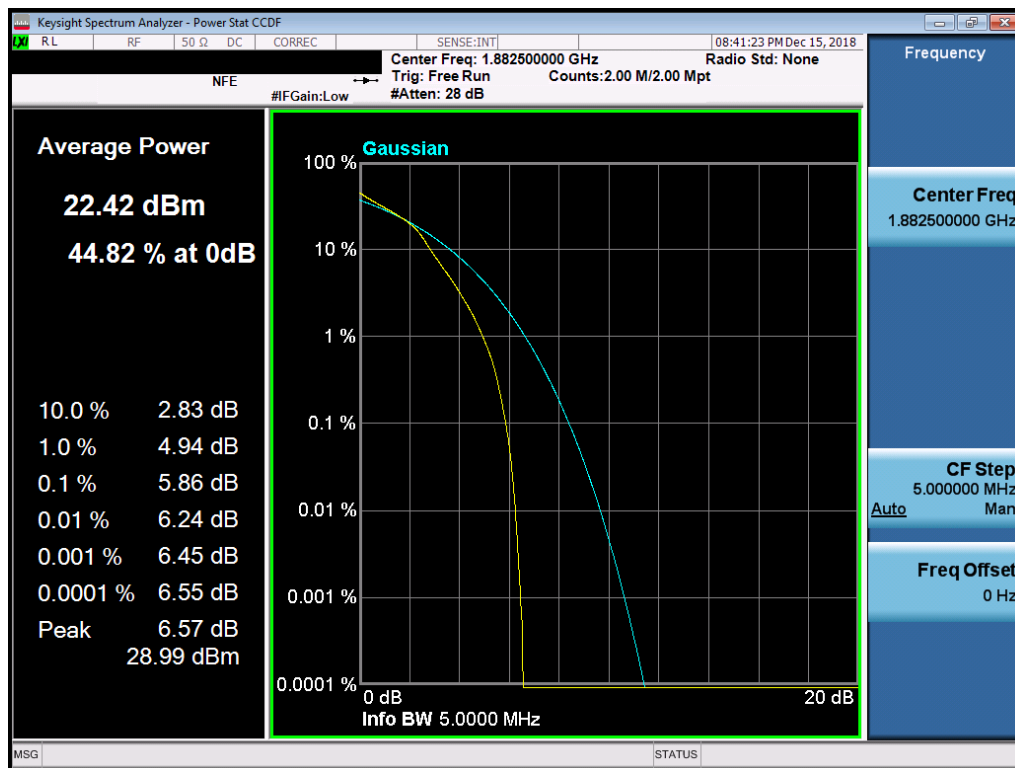


Plot 7-168. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 105 of 134

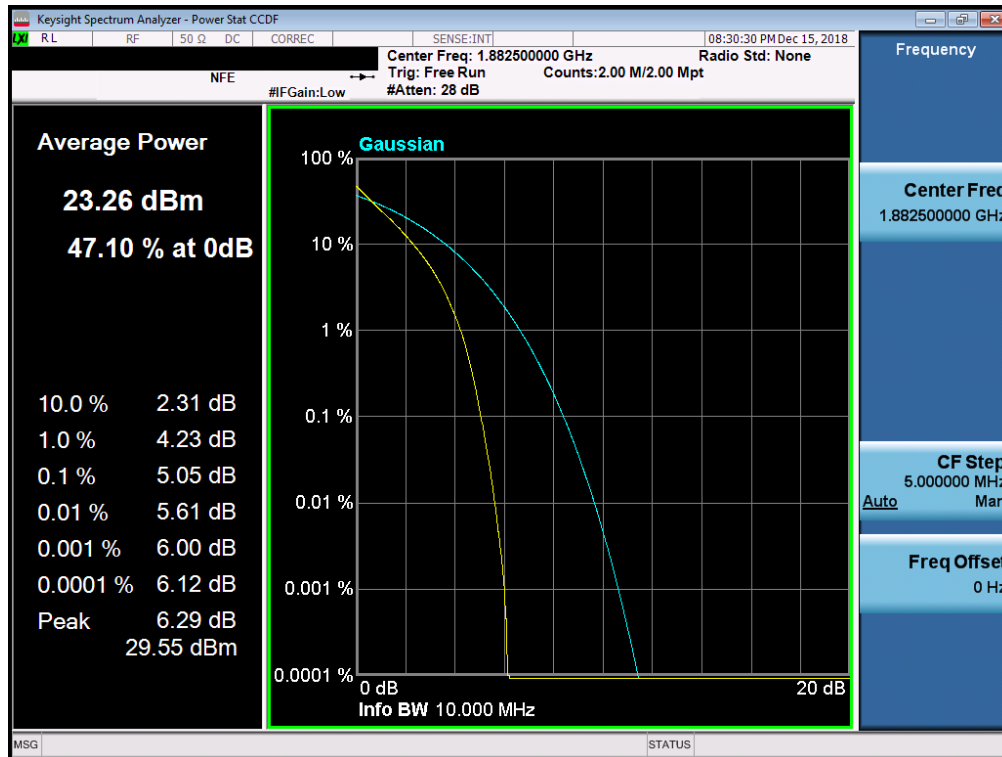


Plot 7-169. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

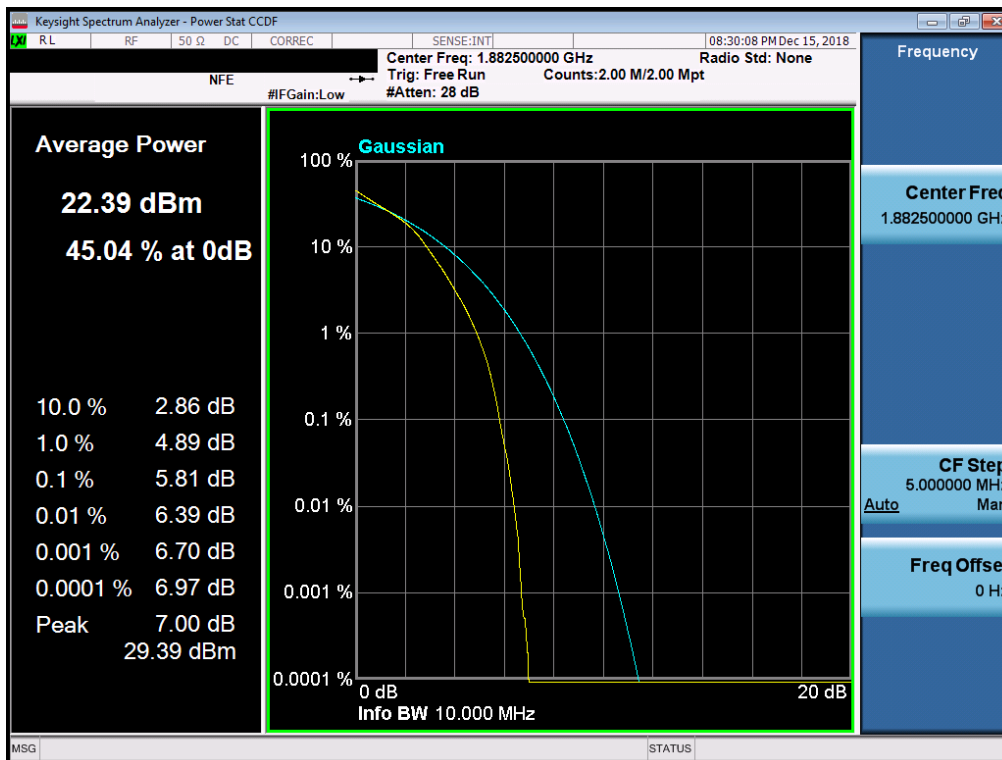


Plot 7-170. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset	Page 106 of 134

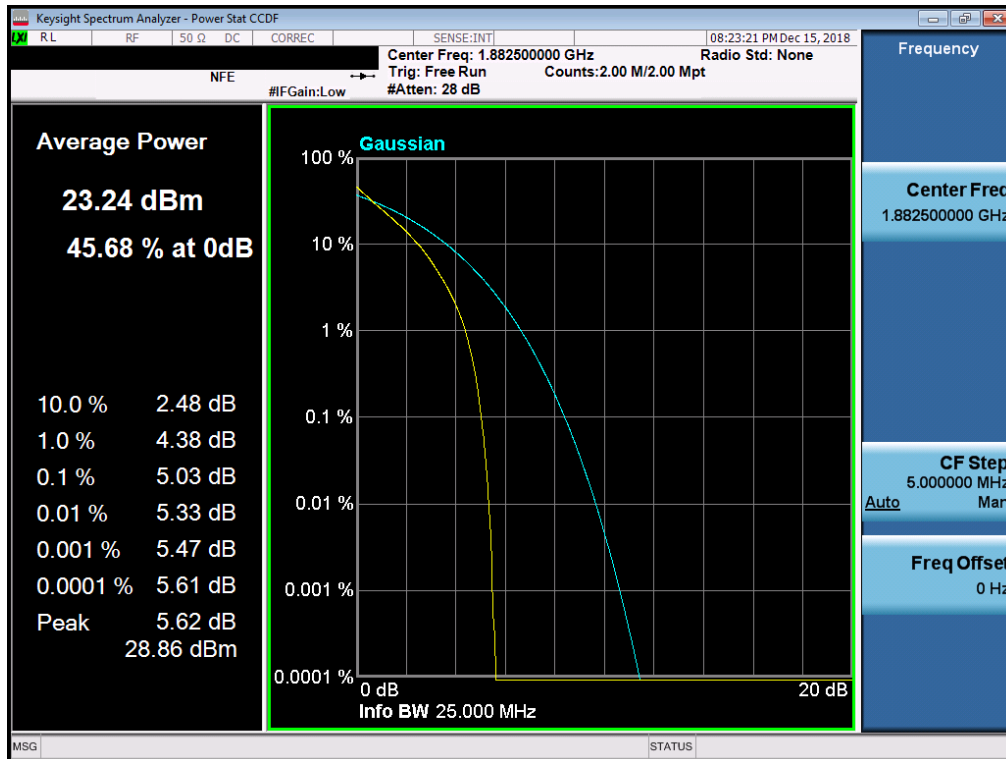


Plot 7-171. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

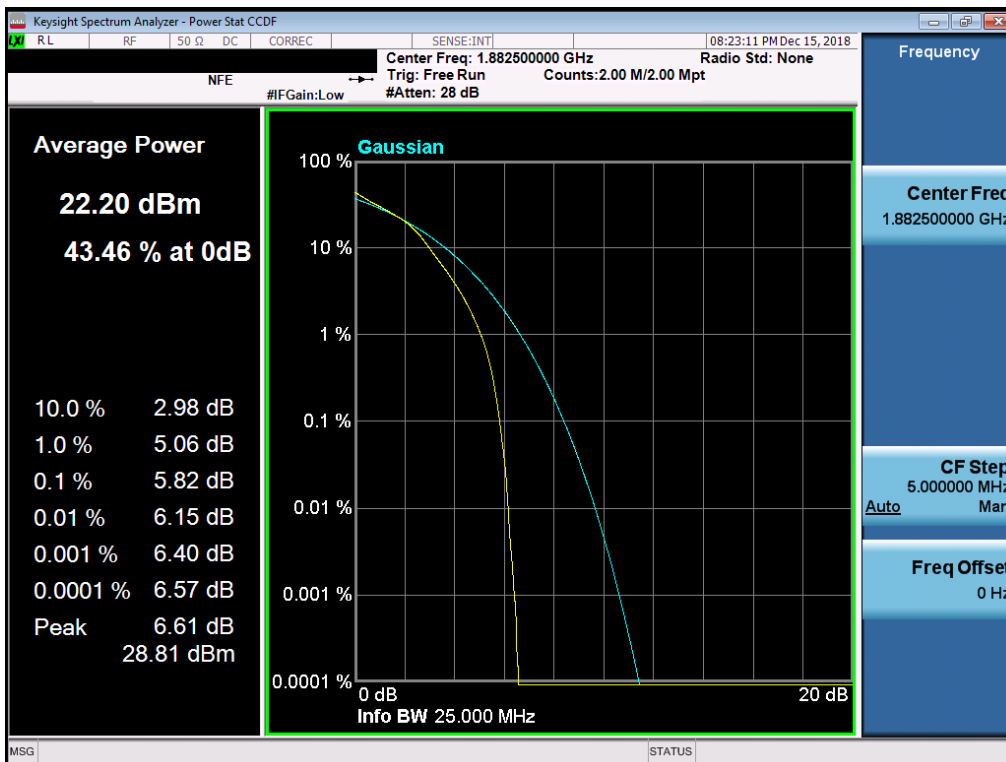


Plot 7-172. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>LG</b>	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 107 of 134



Plot 7-173. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-174. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFX220QM	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1812110223-03.ZNF	Test Dates: 12/10-12/21/2018	EUT Type: Portable Handset		Page 108 of 134