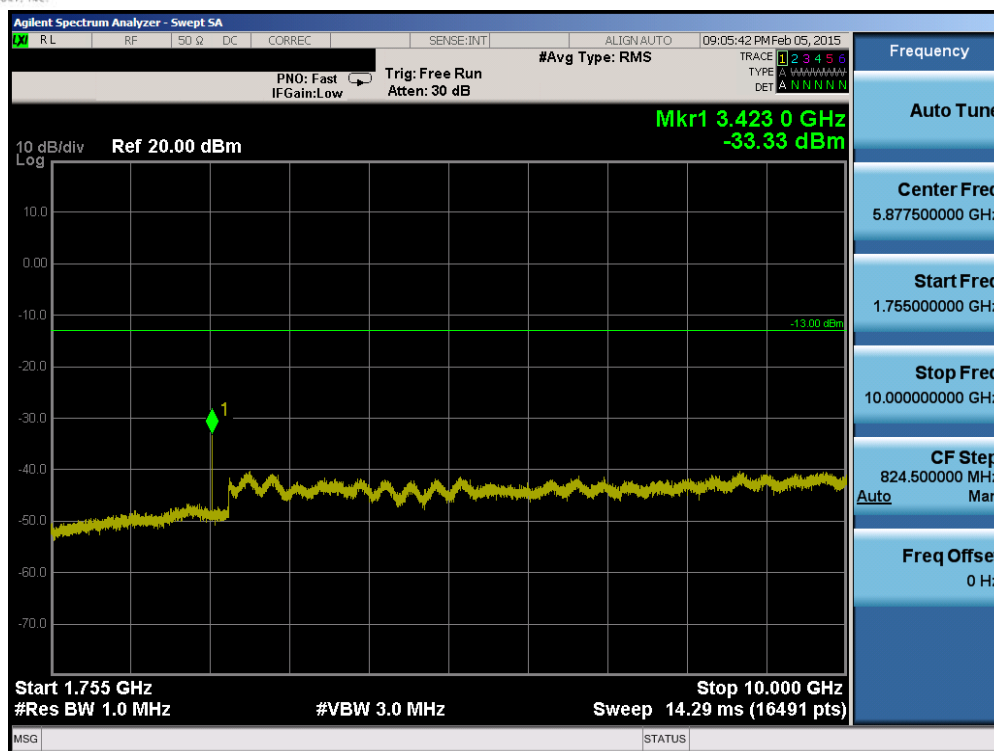
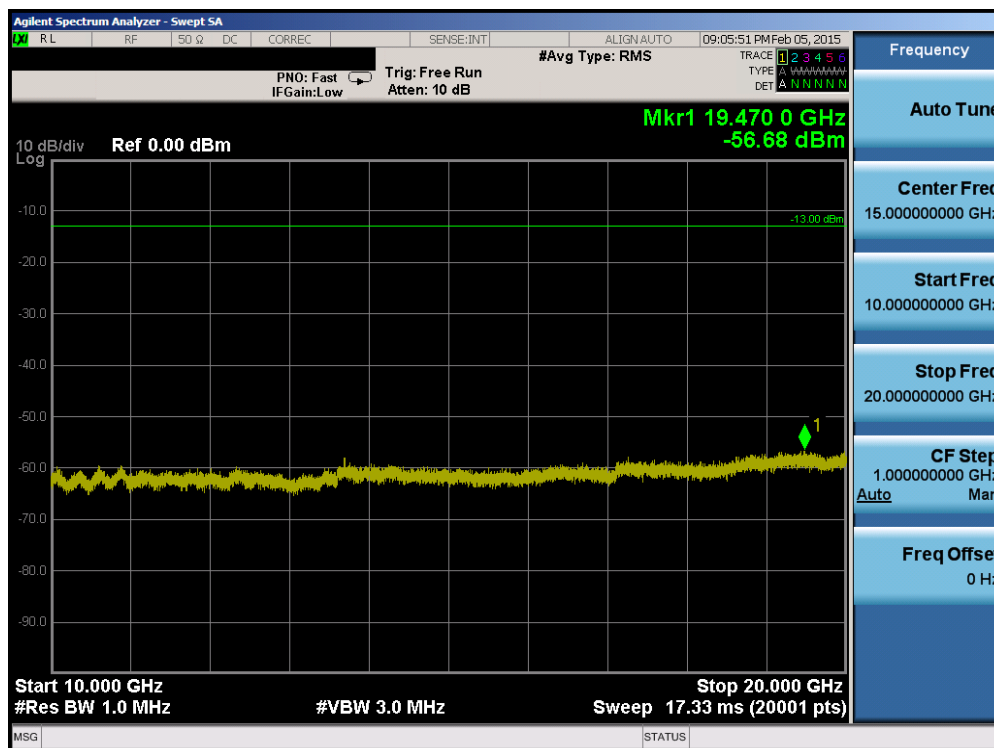


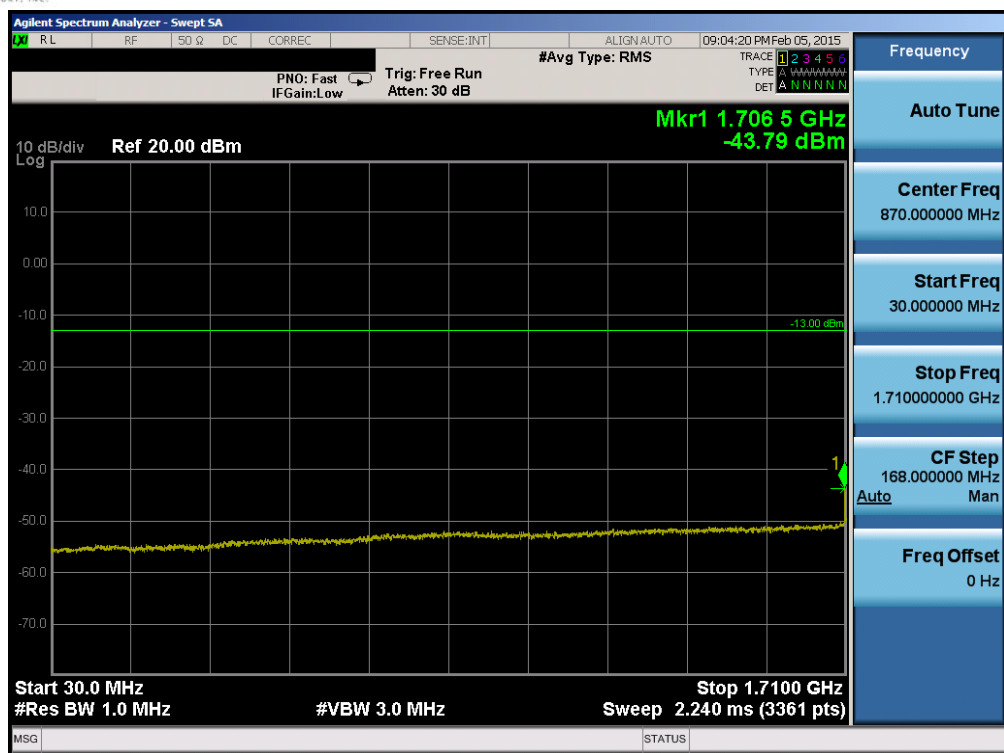


Plot 6-131. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

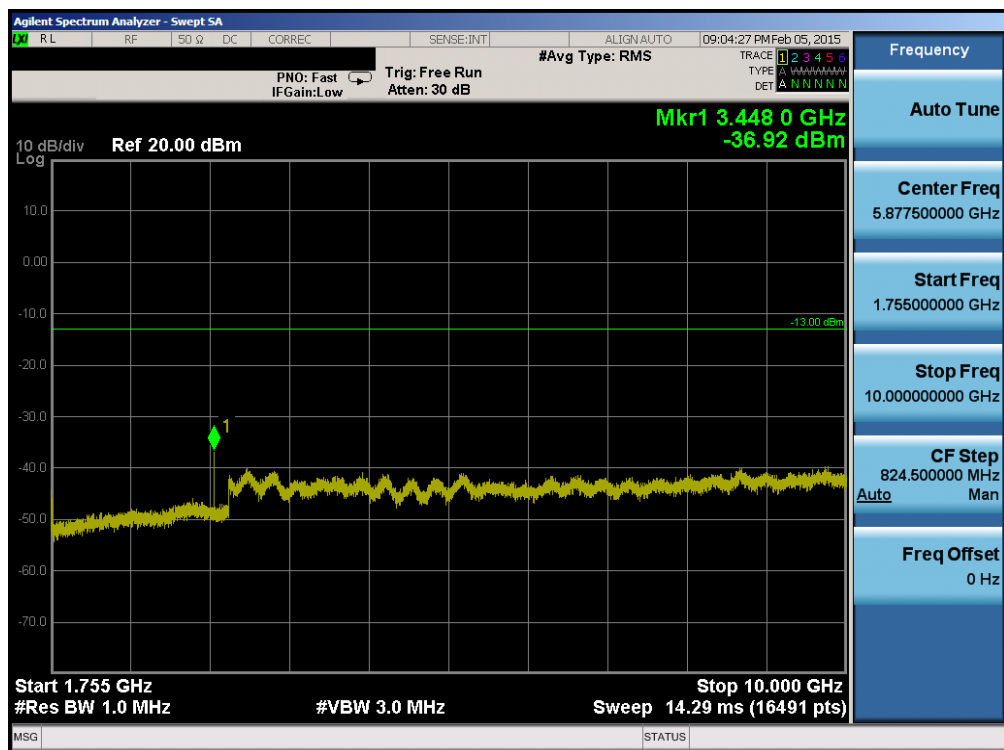


Plot 6-132. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 79 of 175

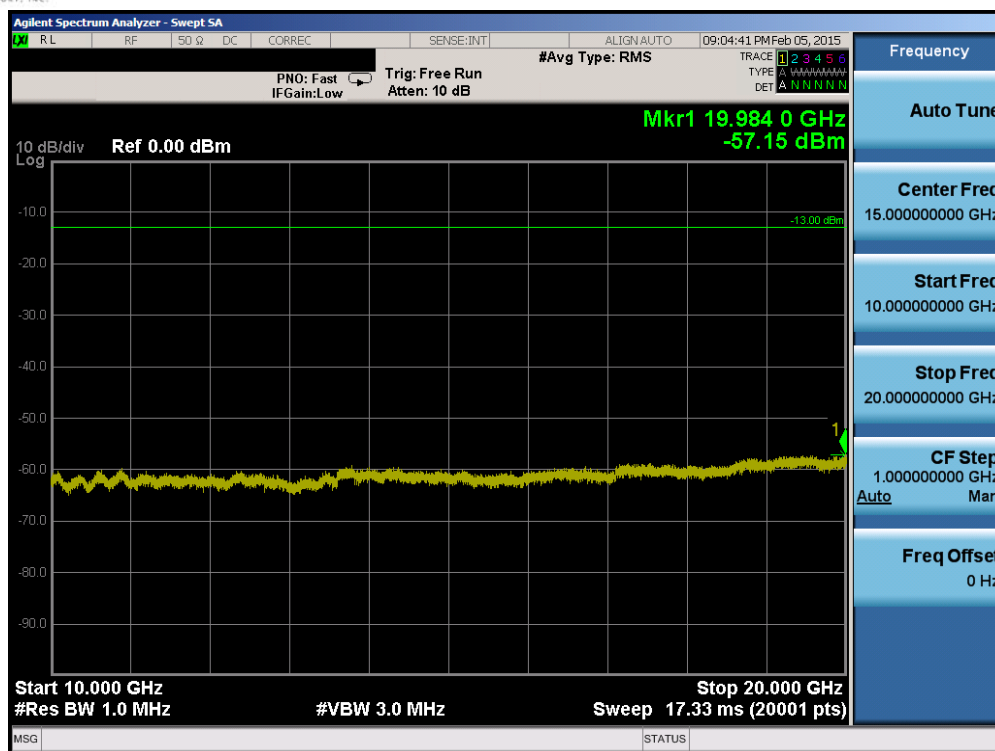


Plot 6-133. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

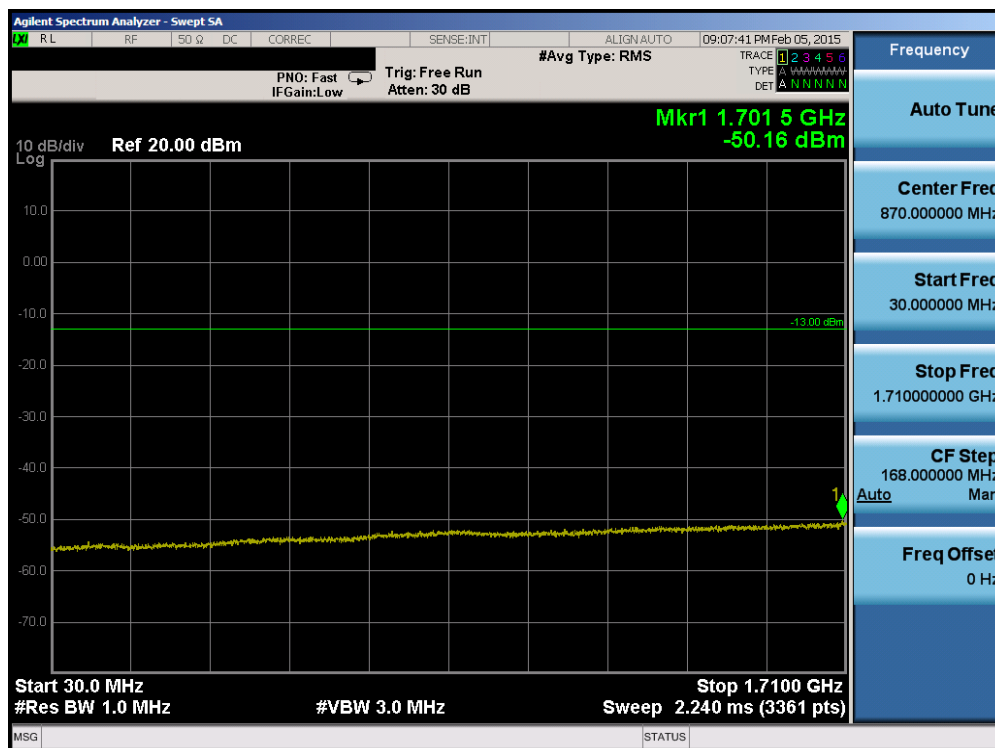


Plot 6-134. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 80 of 175

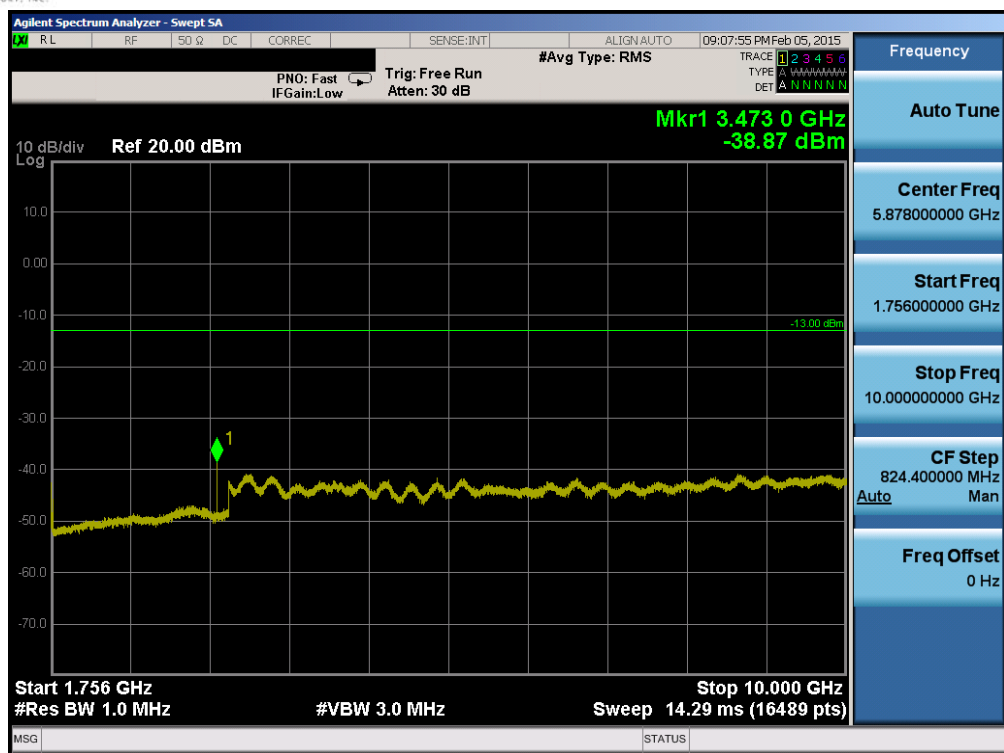


Plot 6-135. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

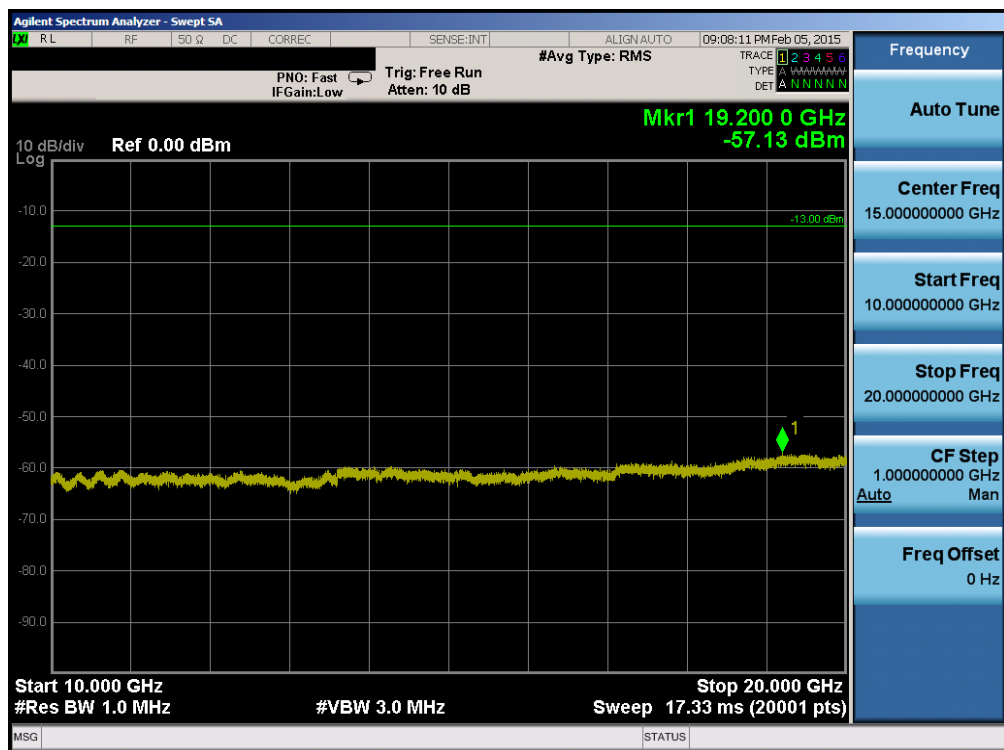


Plot 6-136. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 81 of 175

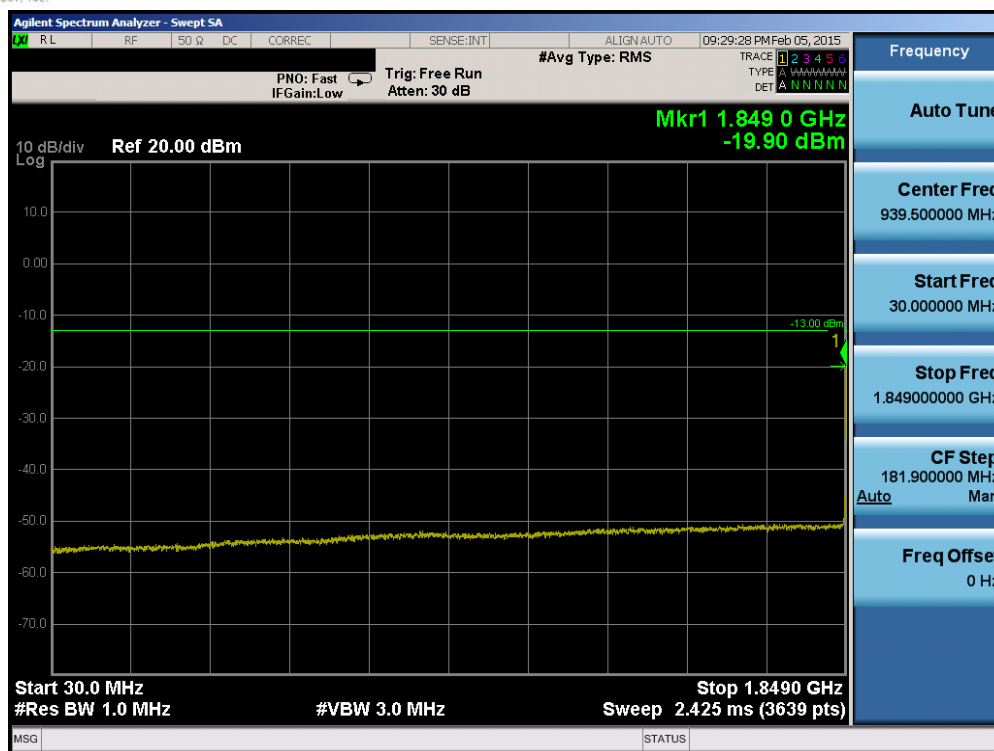


Plot 6-137. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

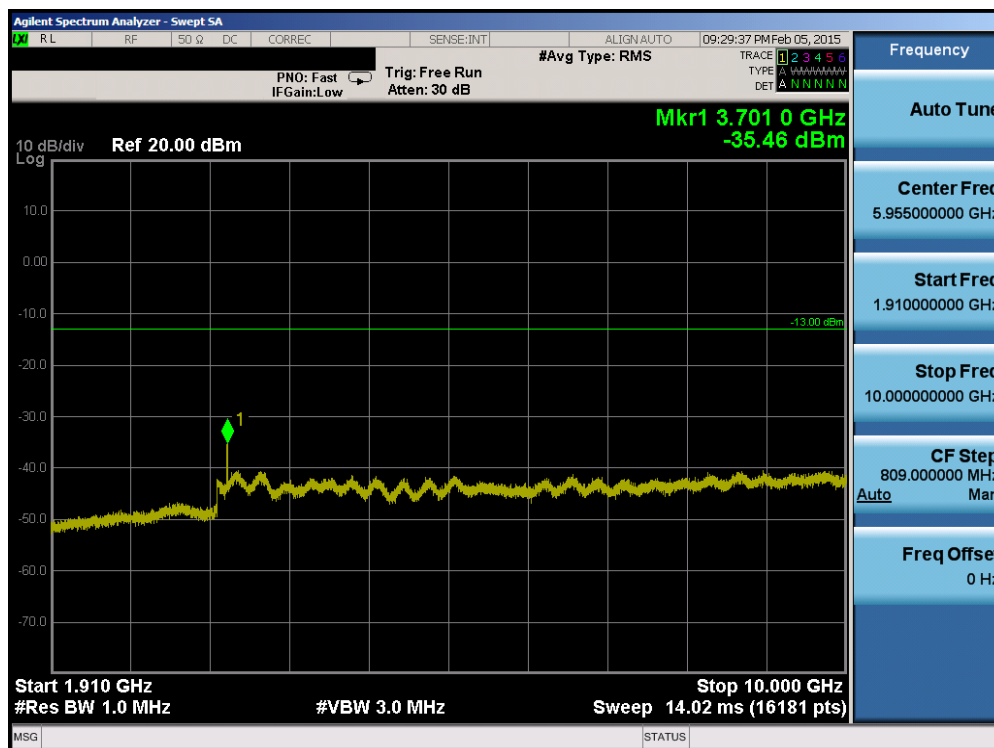


Plot 6-138. Conducted Spurious Plot (Band 4 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 82 of 175

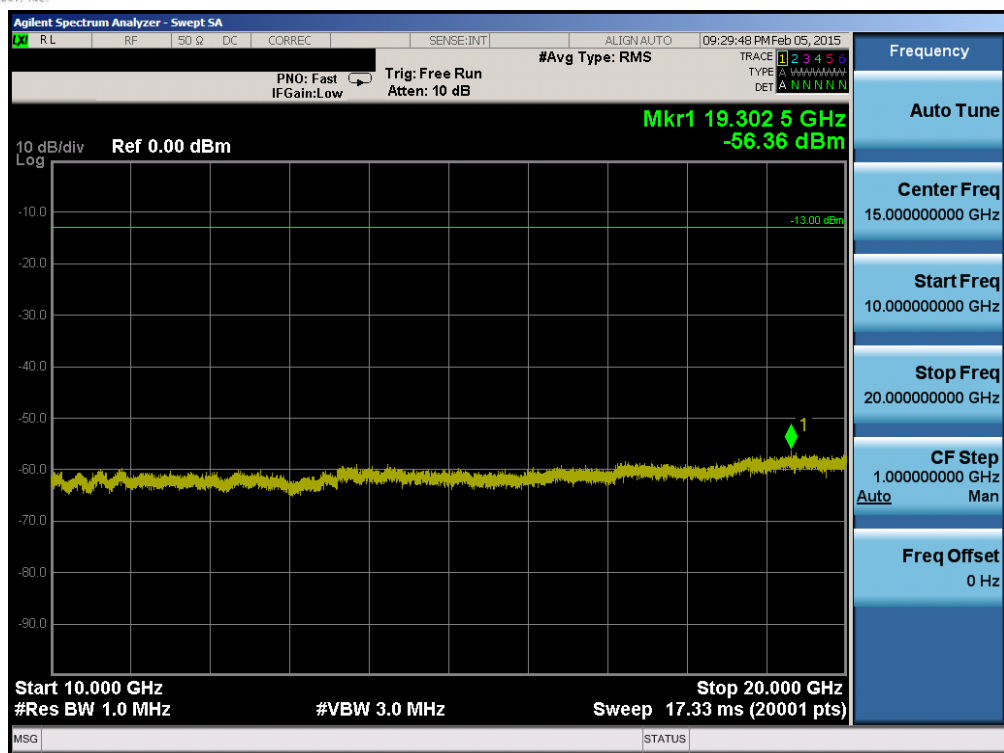


Plot 6-139. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

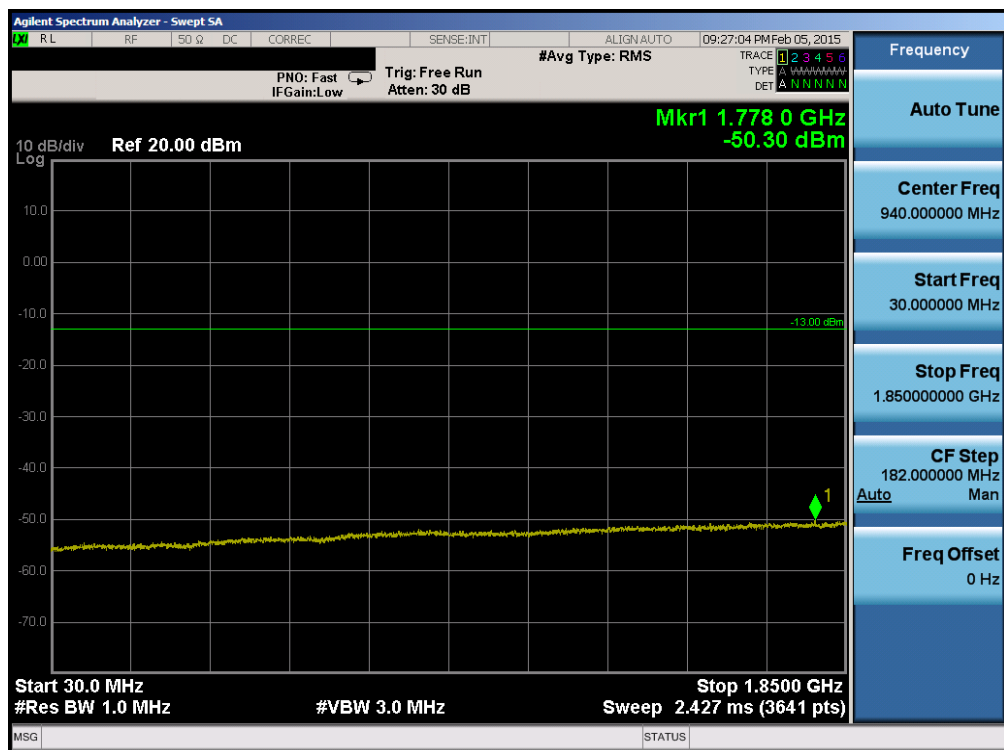


Plot 6-140. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 83 of 175

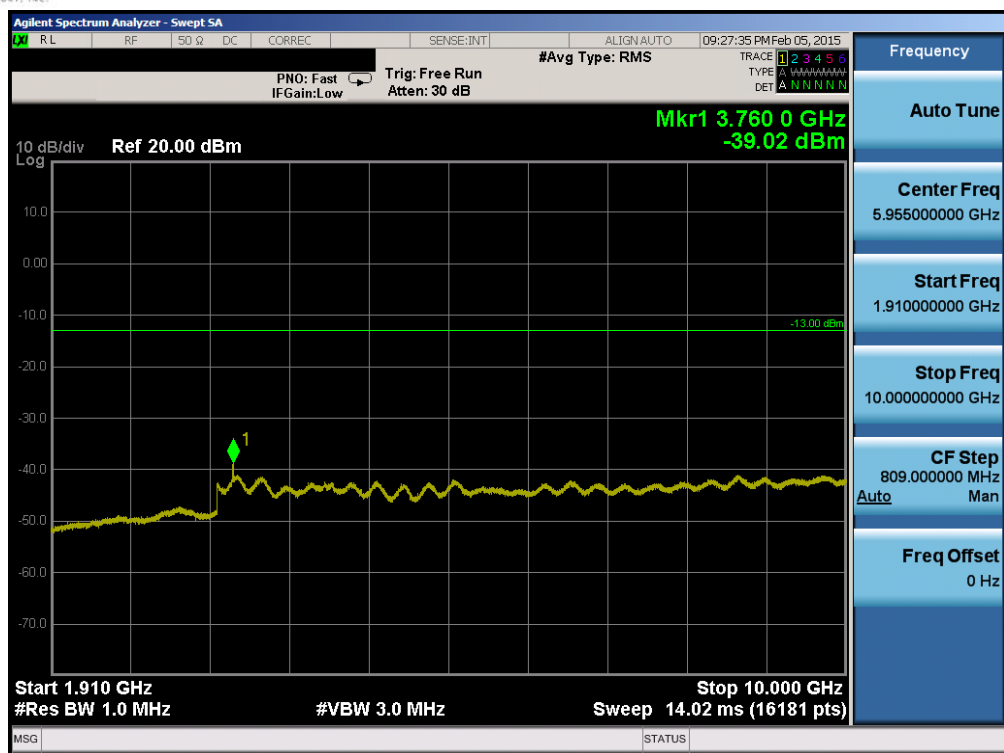


Plot 6-141. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

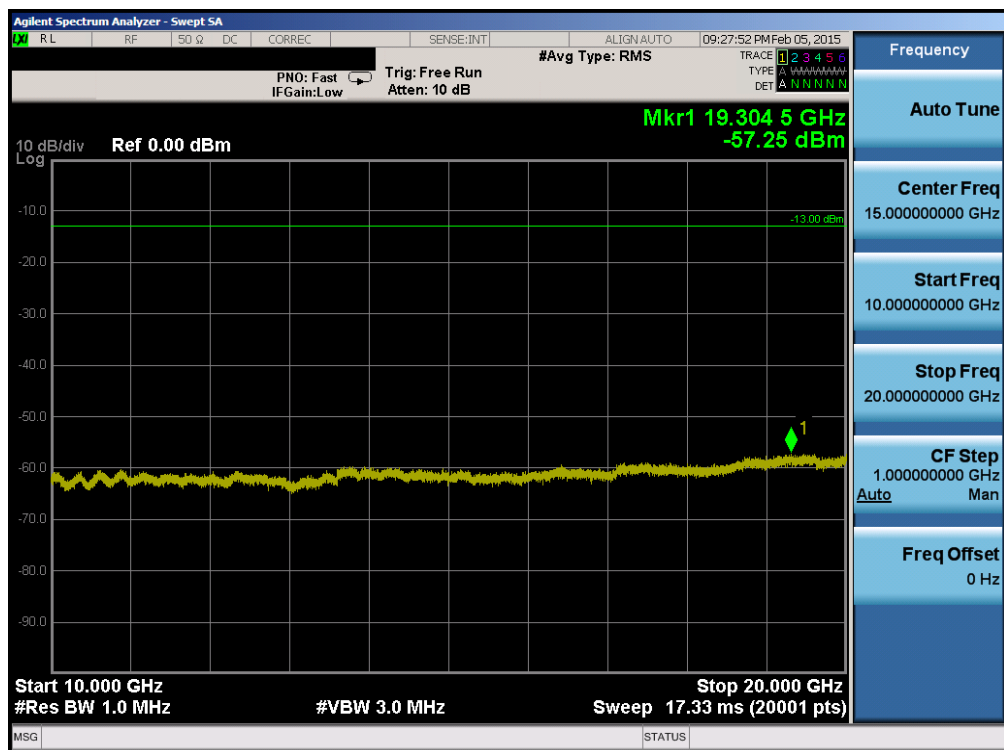


Plot 6-142. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 84 of 175

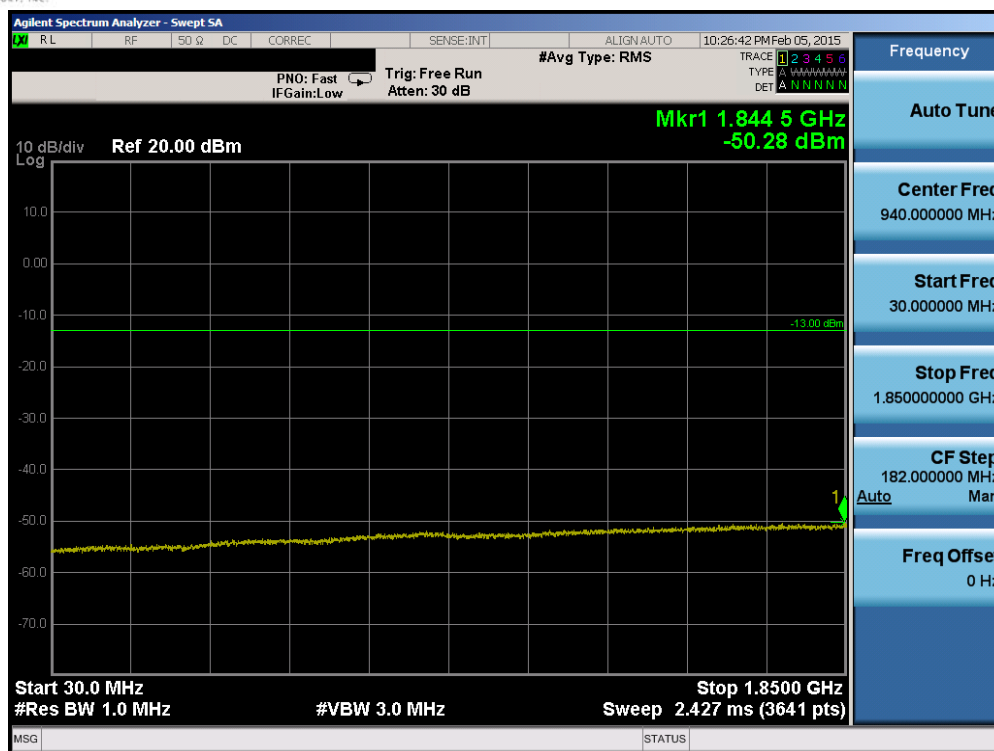


Plot 6-143. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

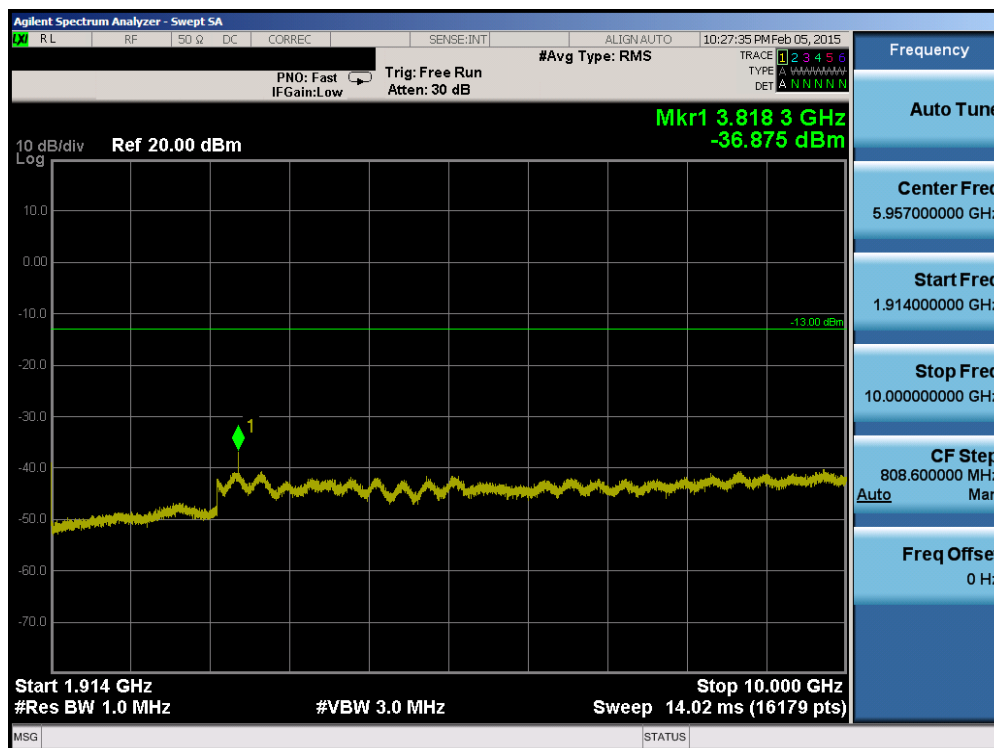


Plot 6-144. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 85 of 175

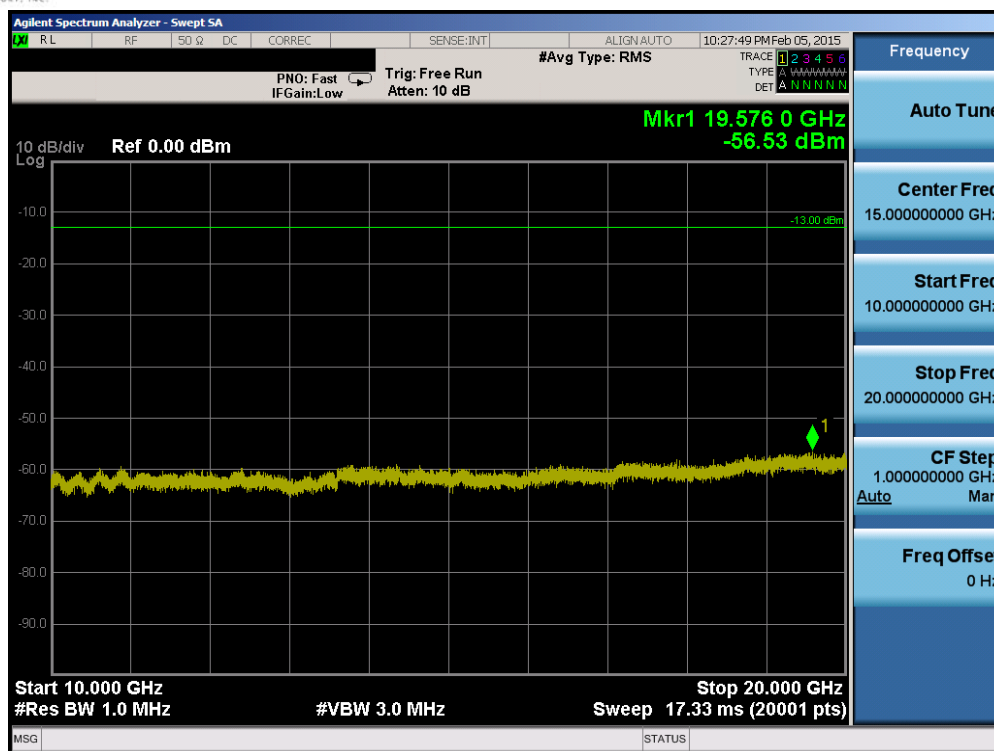


Plot 6-145. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

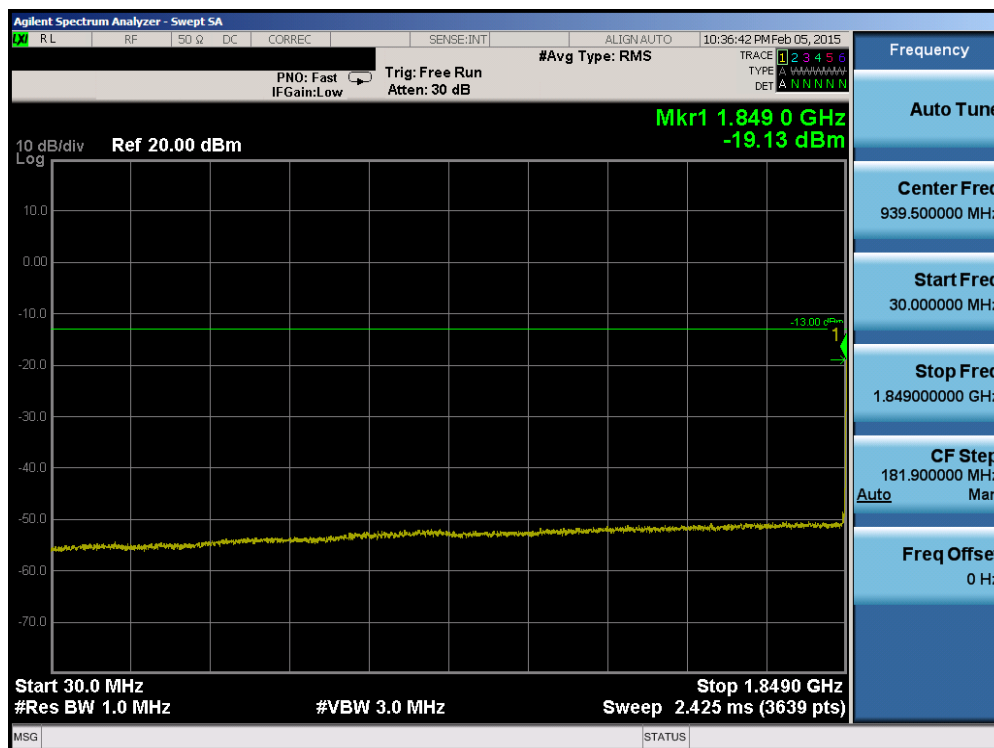


Plot 6-146. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 86 of 175

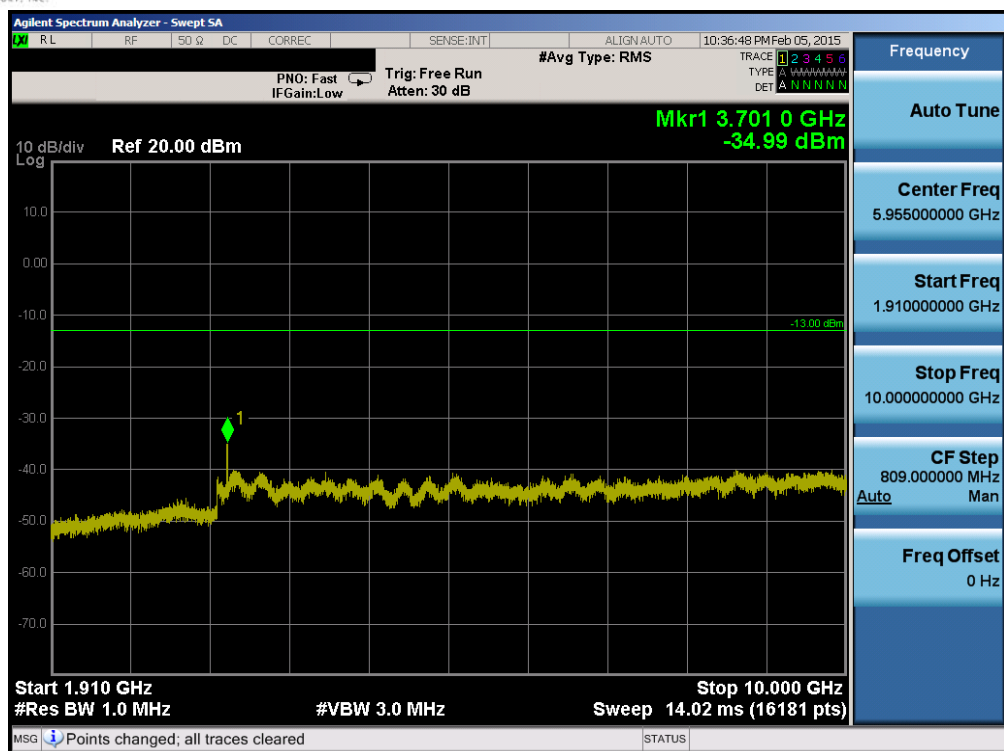


Plot 6-147. Conducted Spurious Plot (Band 2 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

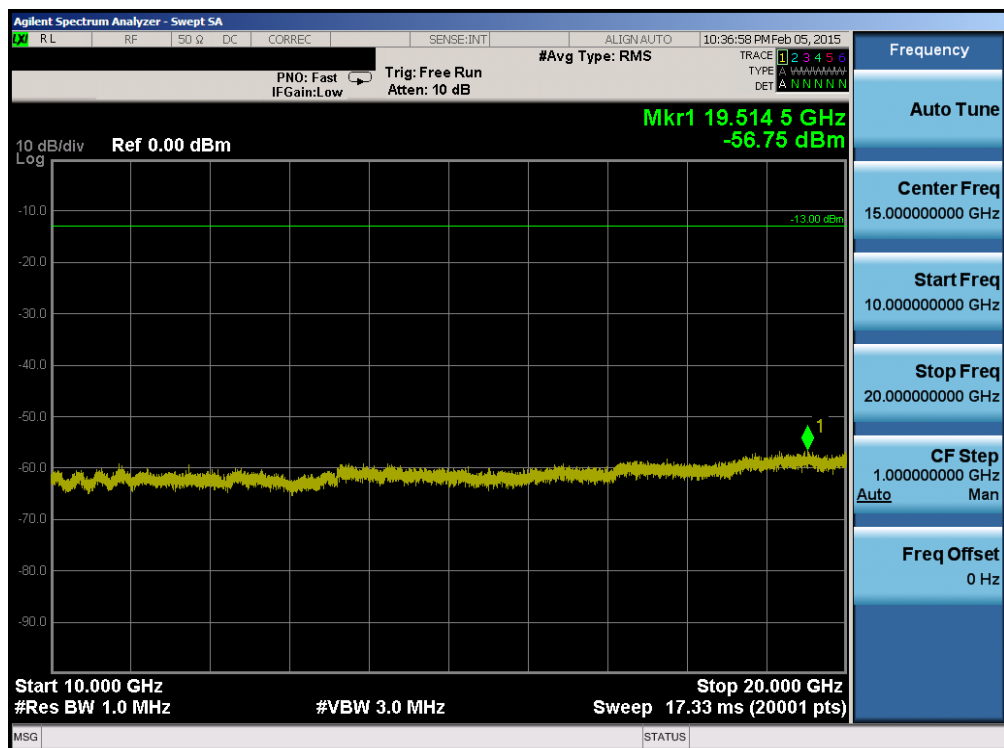


Plot 6-148. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 87 of 175

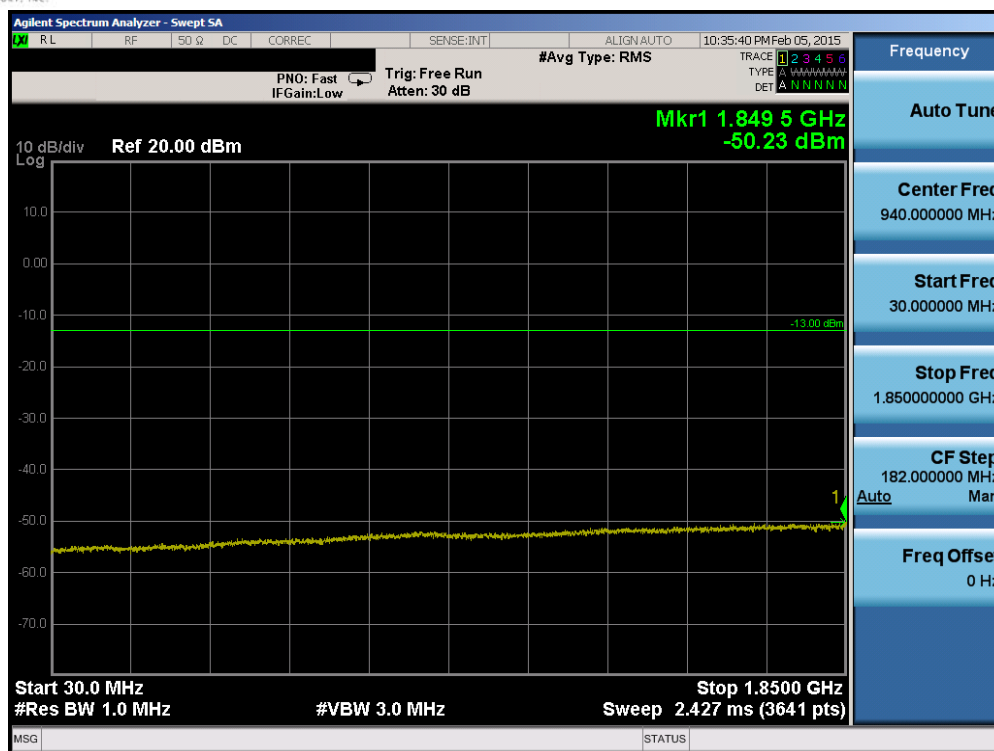


Plot 6-149. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

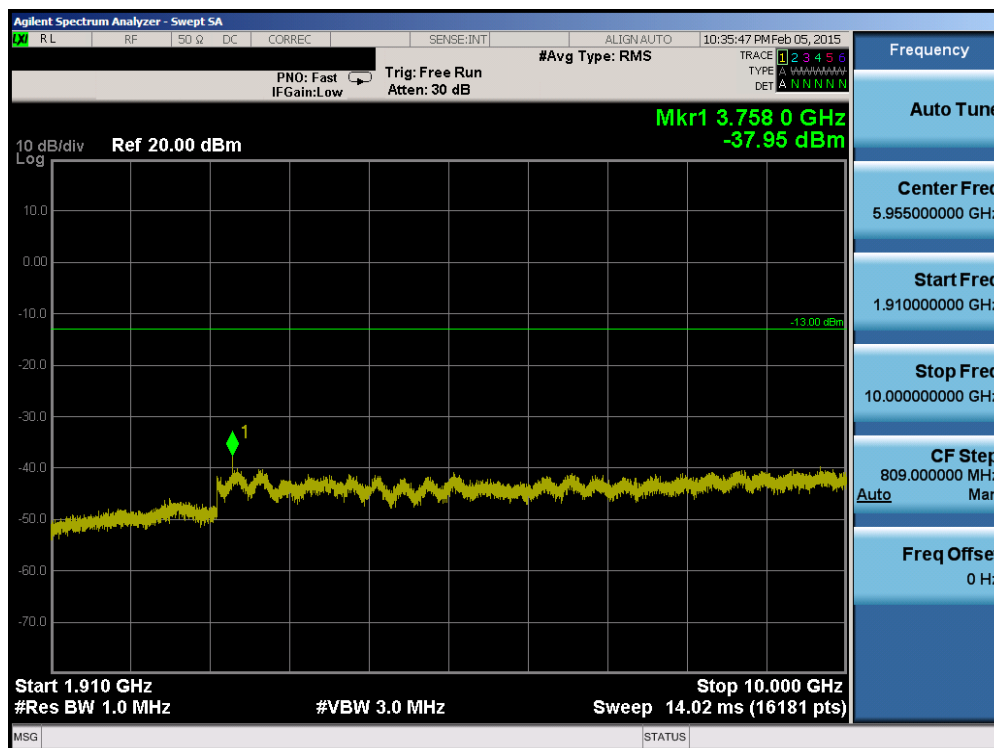


Plot 6-150. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 88 of 175

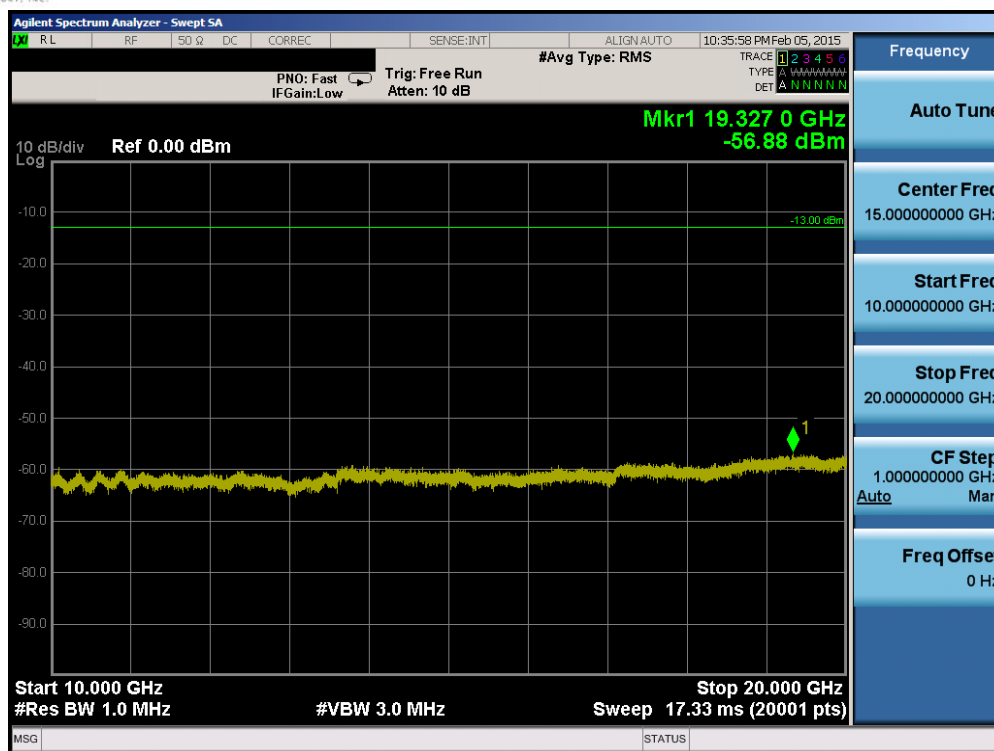


Plot 6-151. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

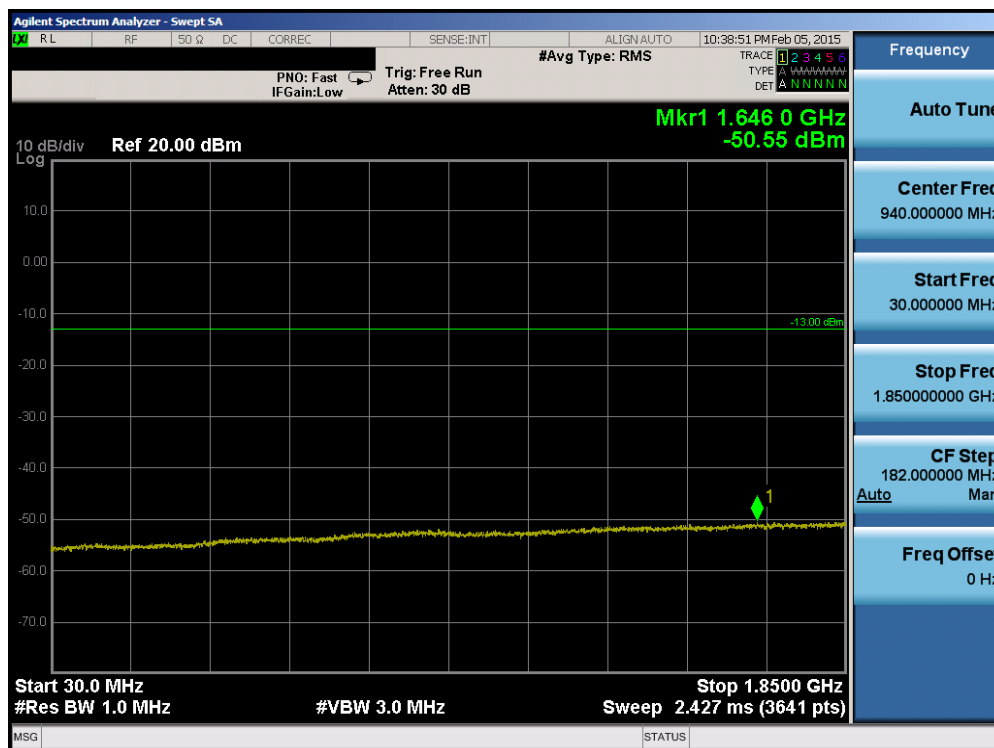


Plot 6-152. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 89 of 175

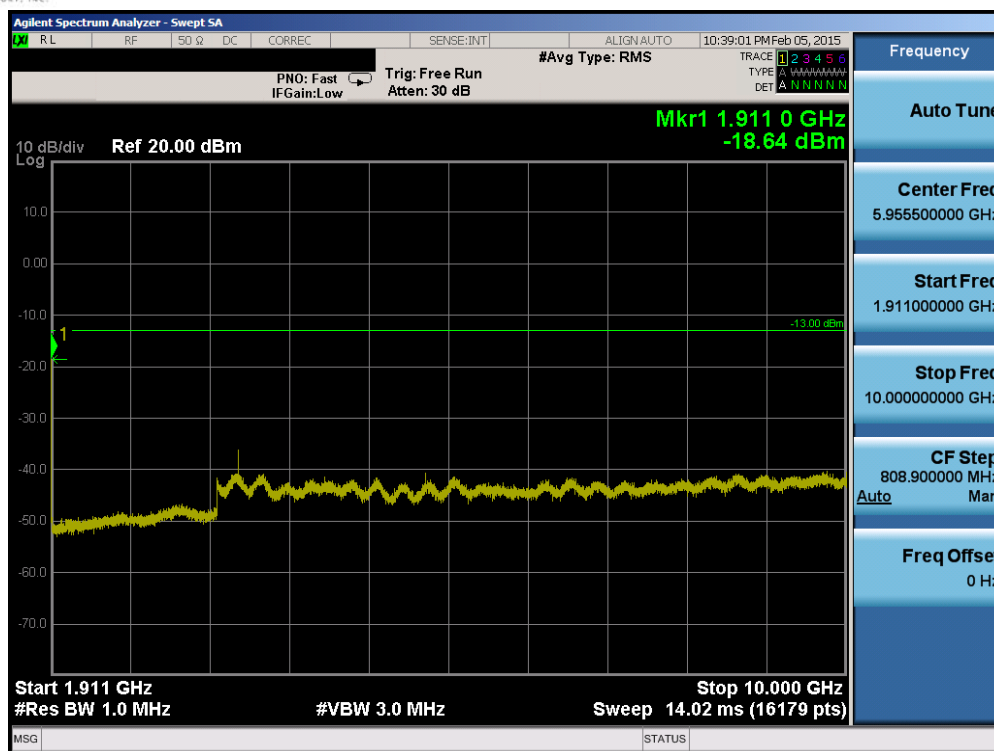


Plot 6-153. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

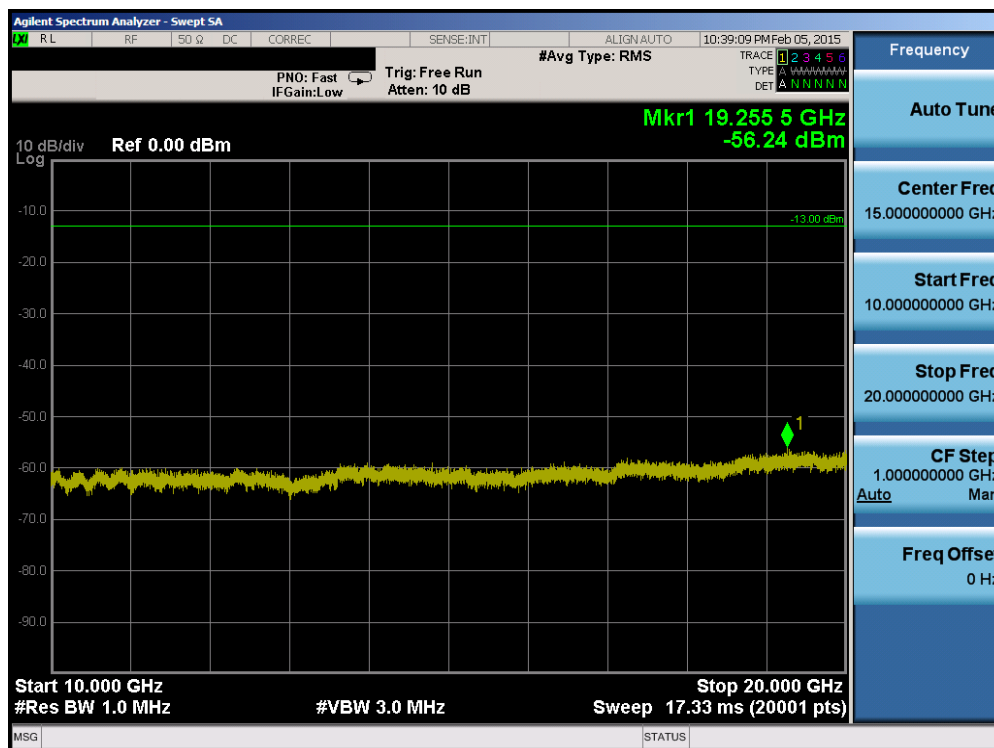


Plot 6-154. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 90 of 175

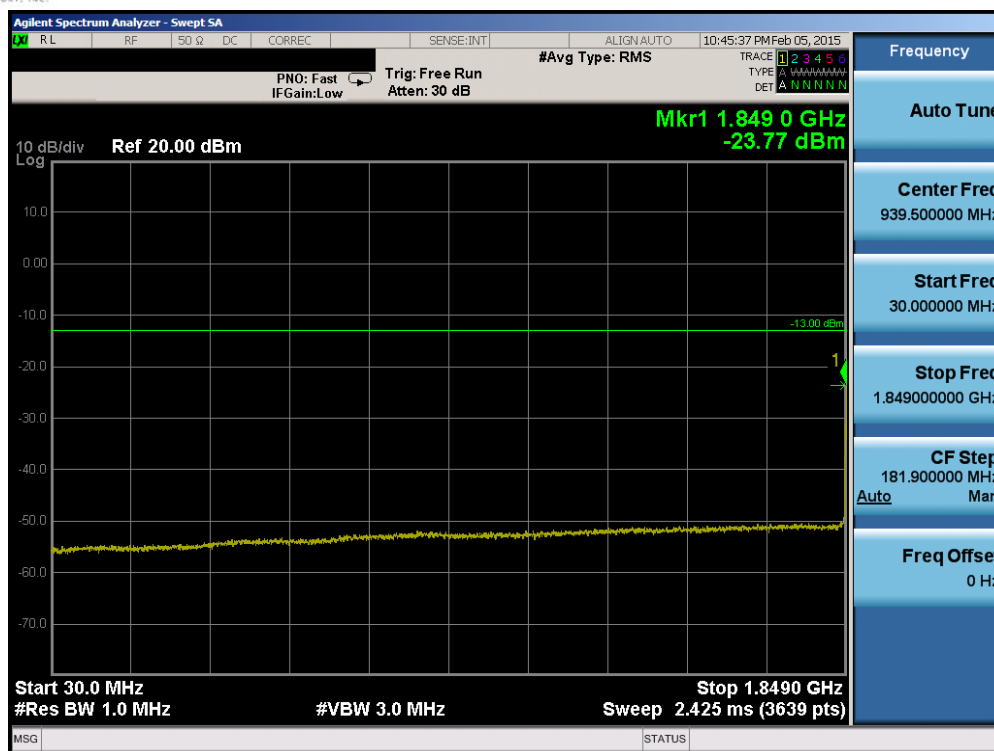


Plot 6-155. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

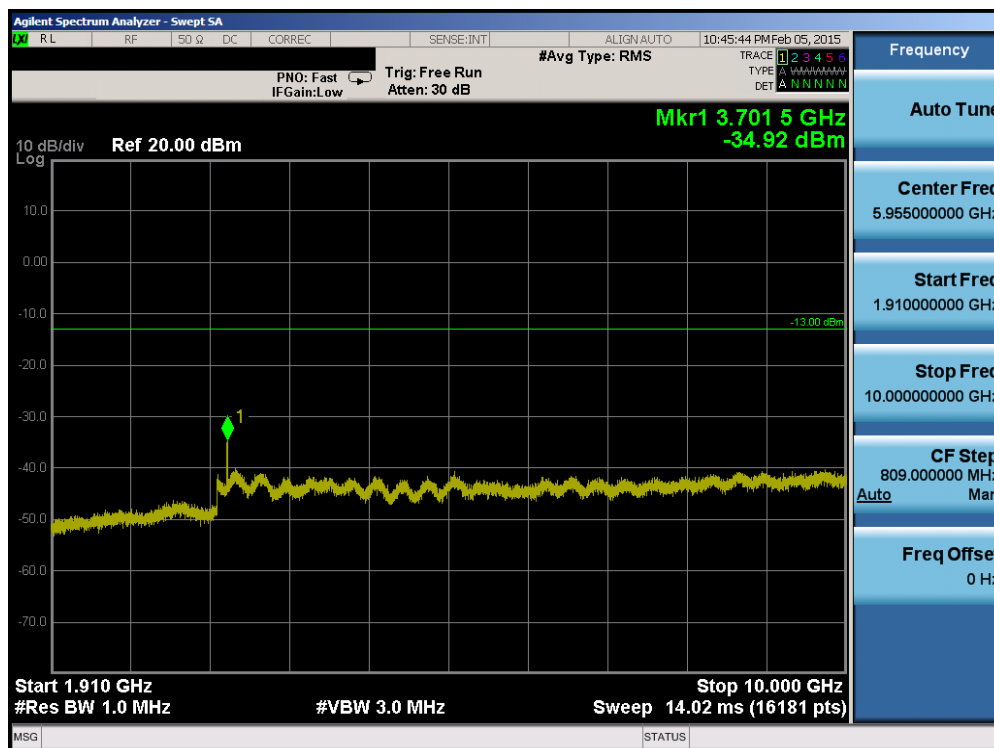


Plot 6-156. Conducted Spurious Plot (Band 2 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 91 of 175

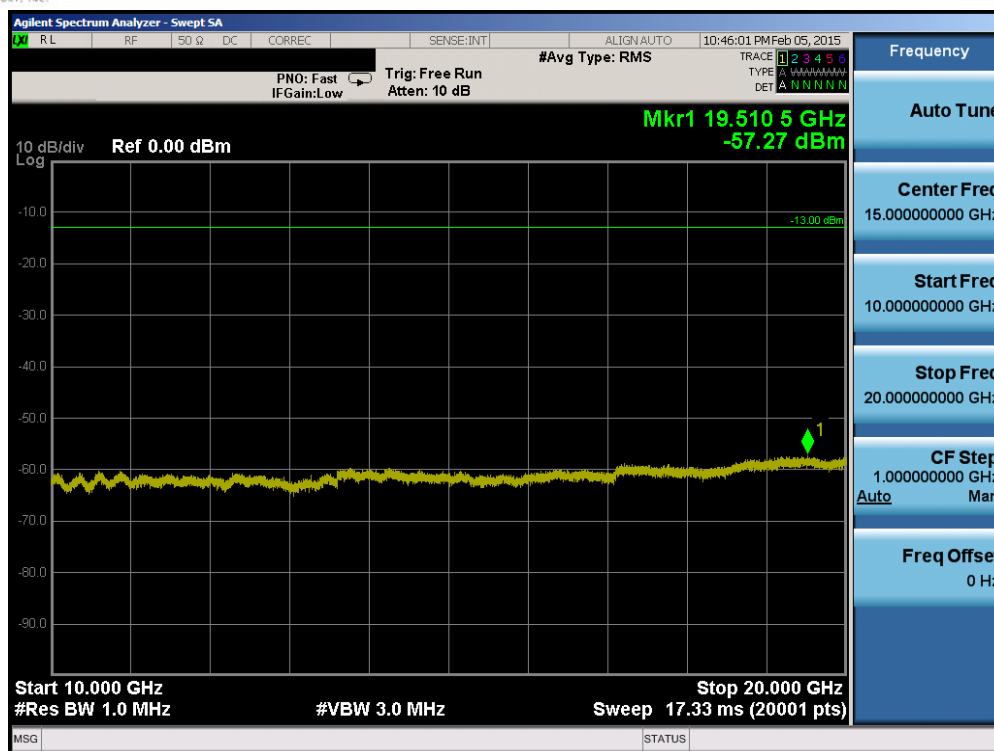


Plot 6-157. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

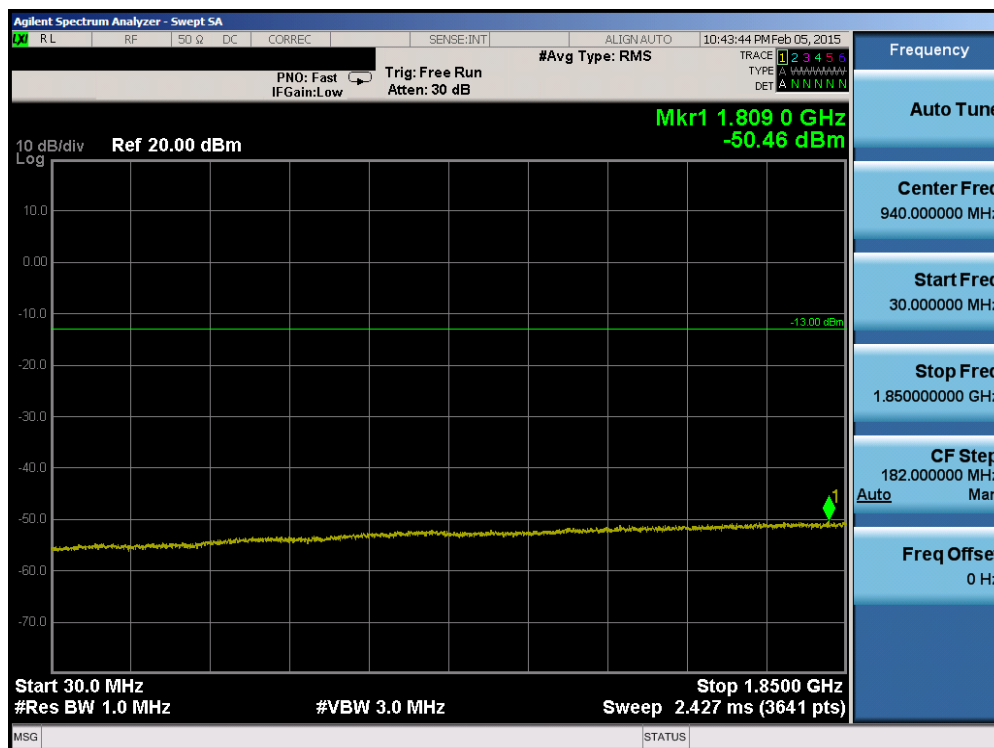


Plot 6-158. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 92 of 175

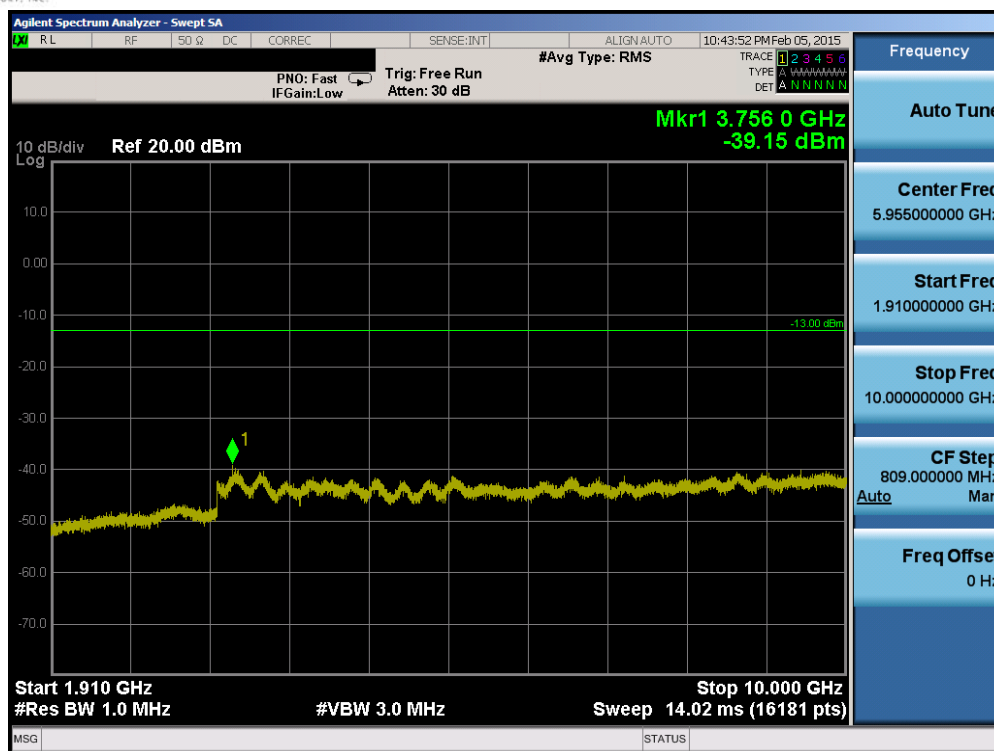


Plot 6-159. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

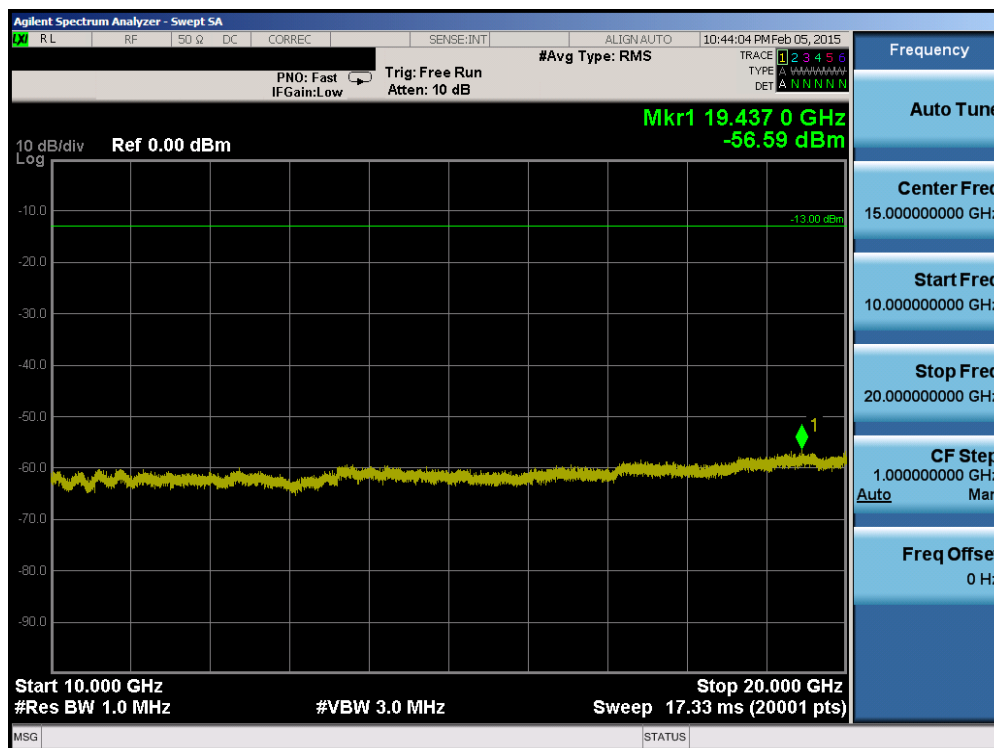


Plot 6-160. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 93 of 175

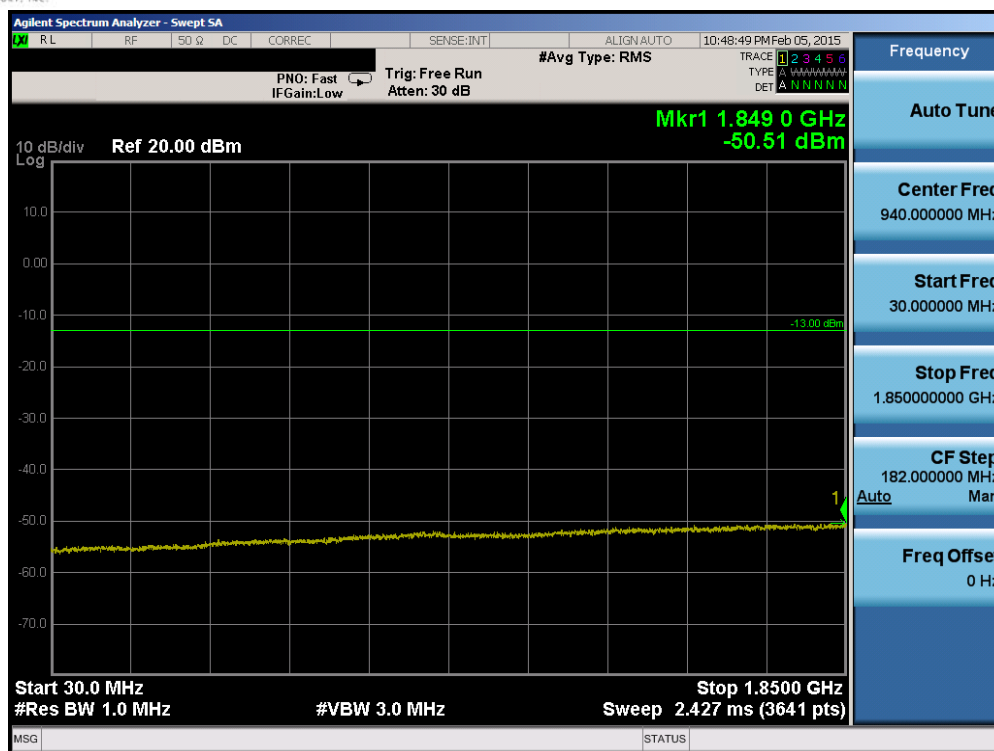


Plot 6-161. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

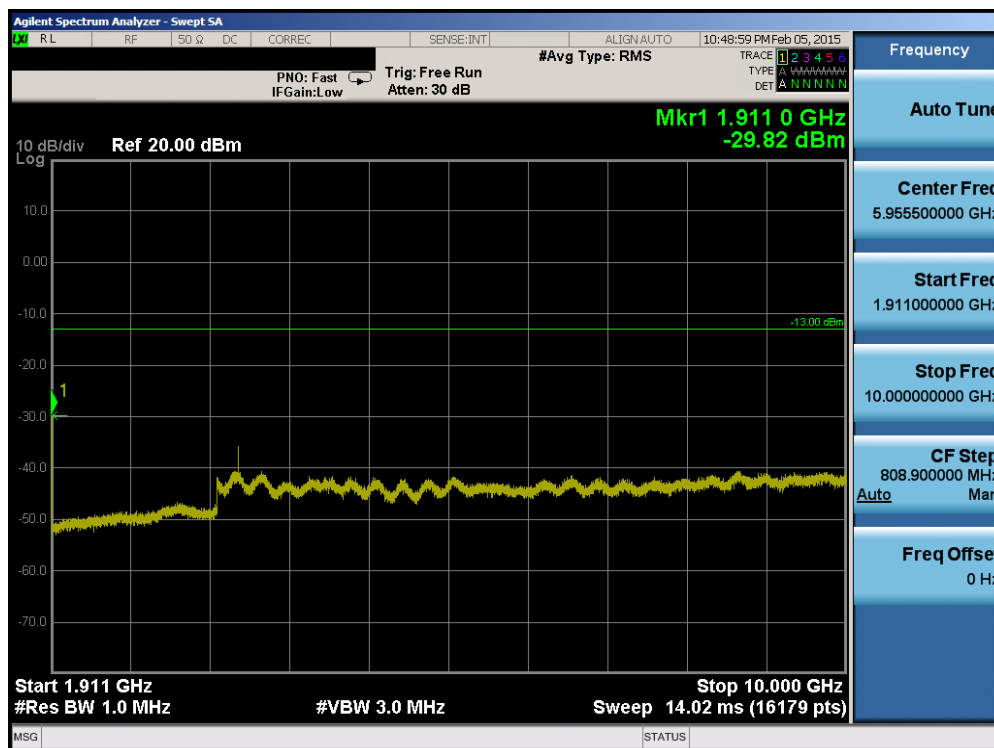


Plot 6-162. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 94 of 175

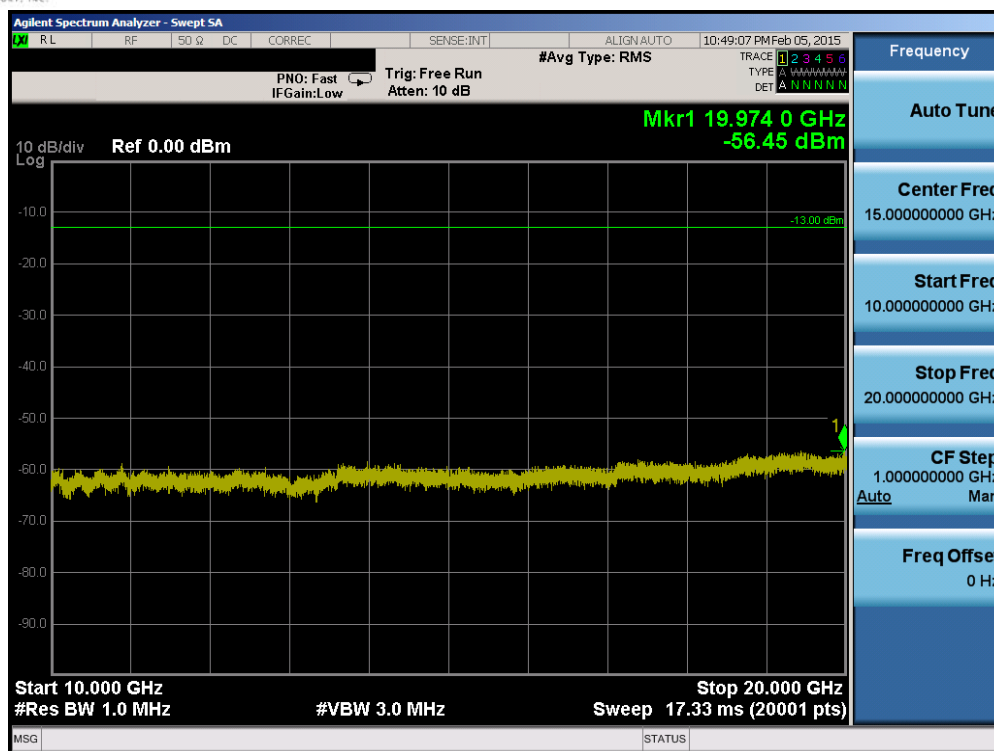


Plot 6-163. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

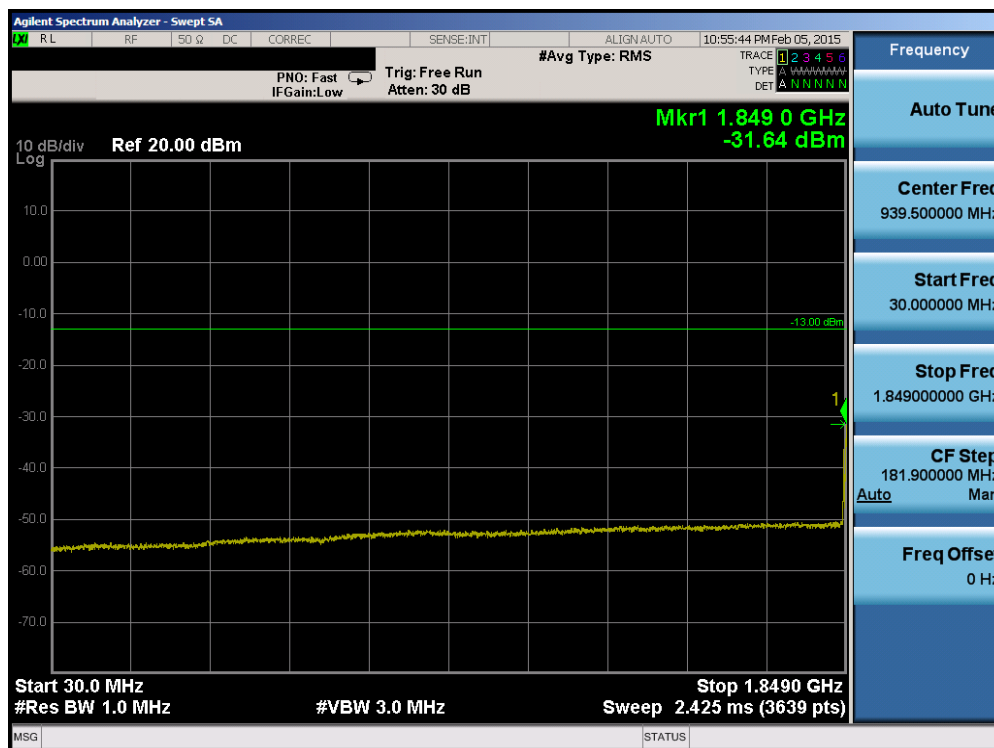


Plot 6-164. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 95 of 175

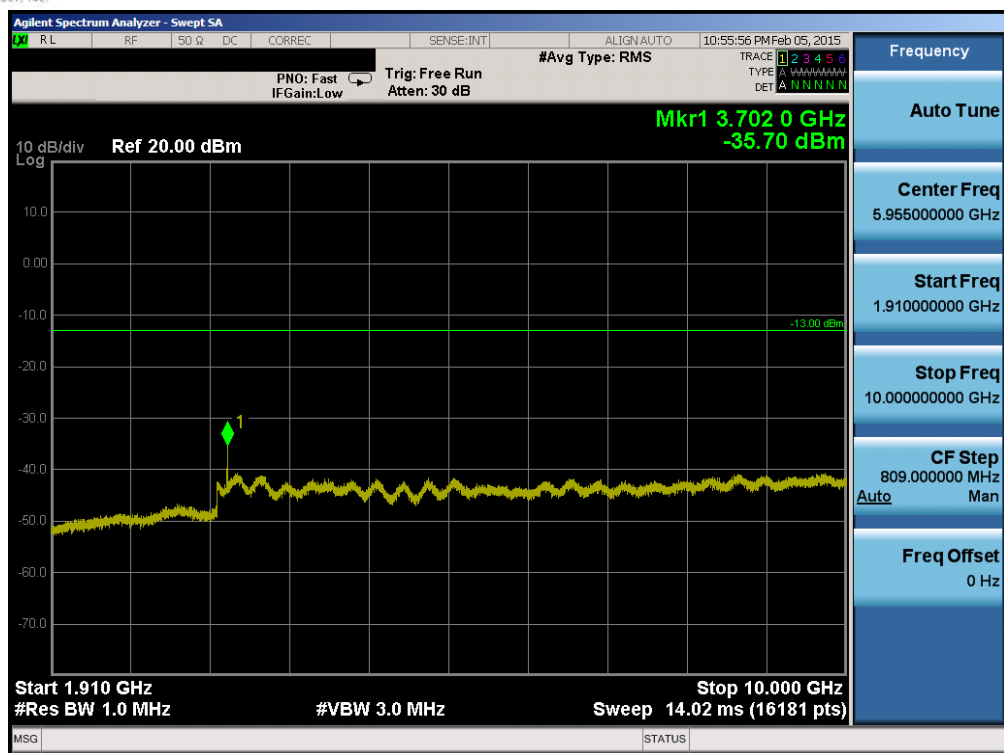


Plot 6-165. Conducted Spurious Plot (Band 2 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

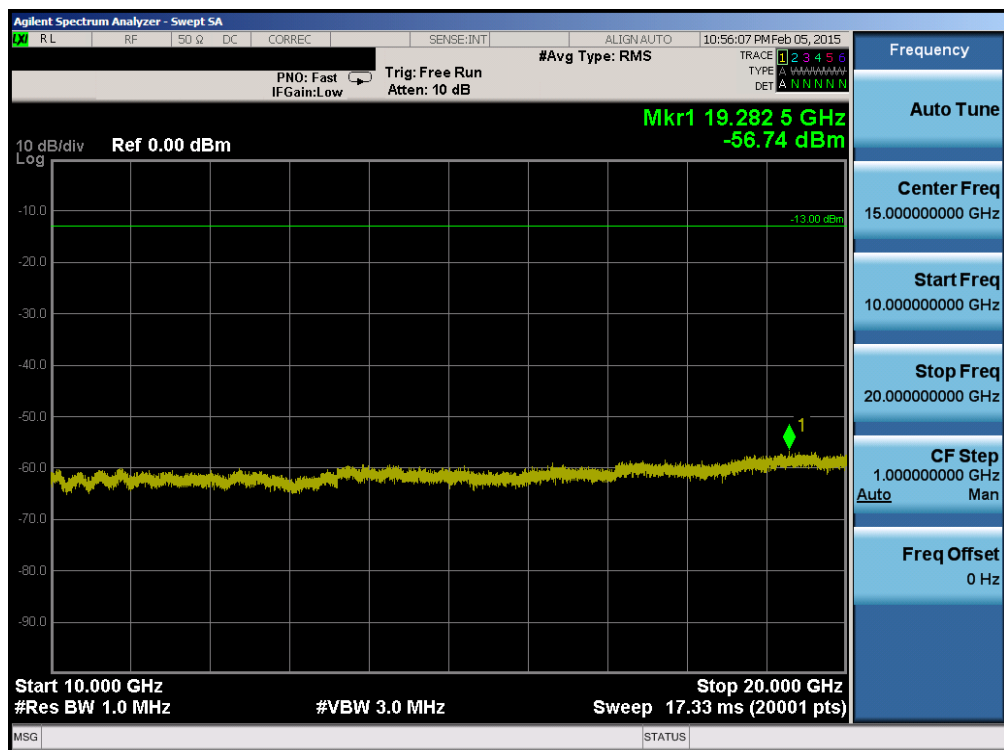


Plot 6-166. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 96 of 175

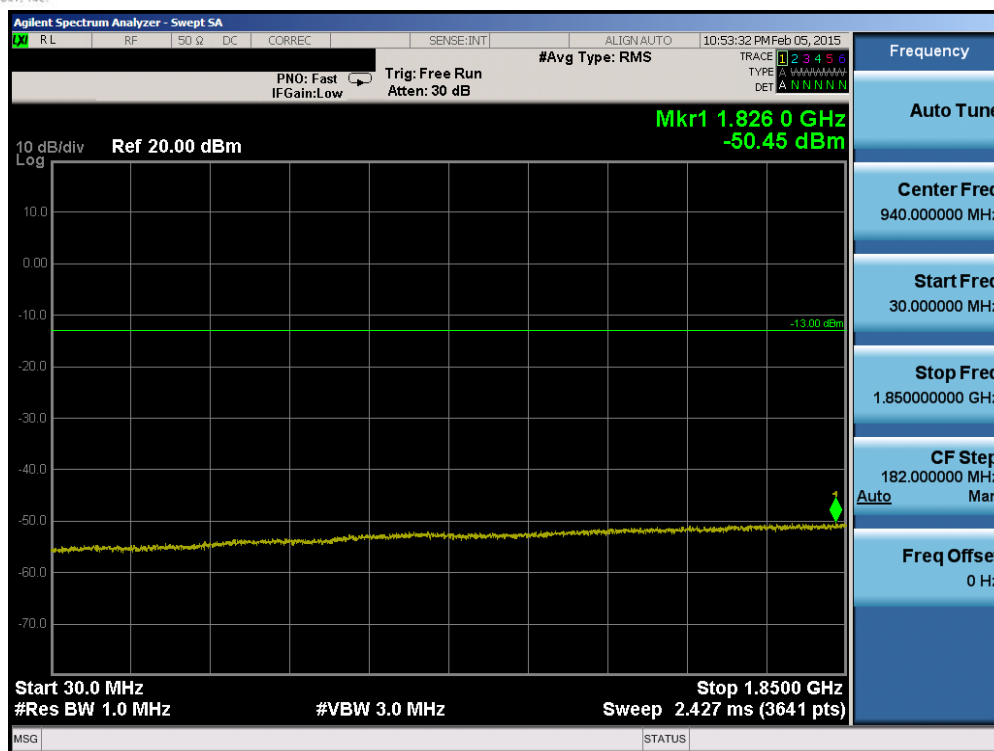


Plot 6-167. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

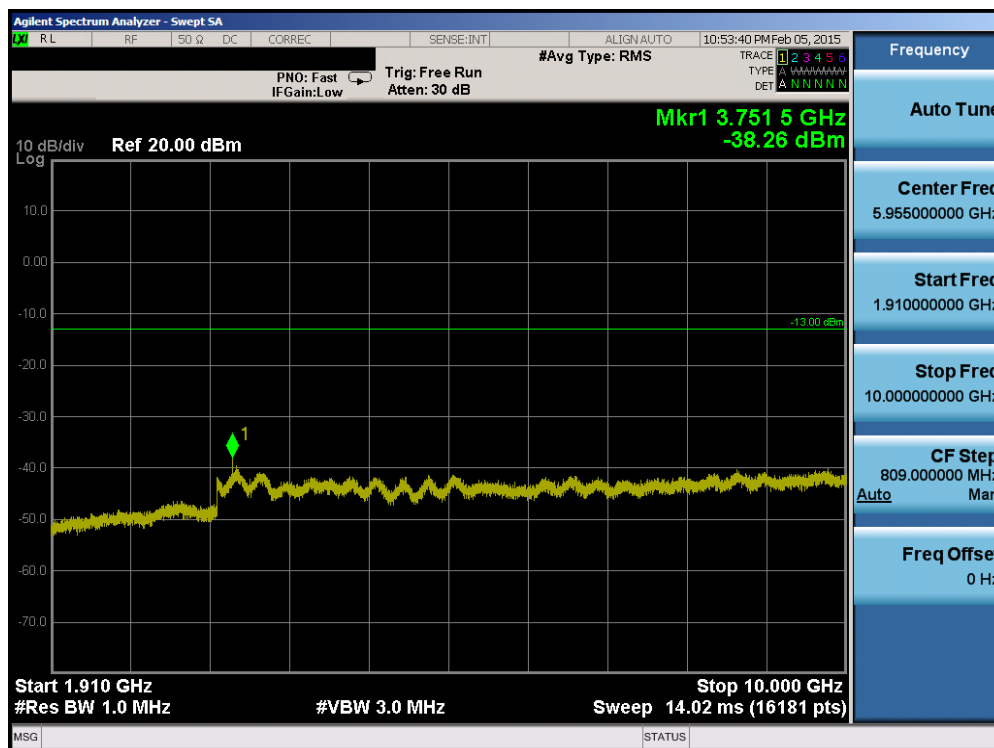


Plot 6-168. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 97 of 175

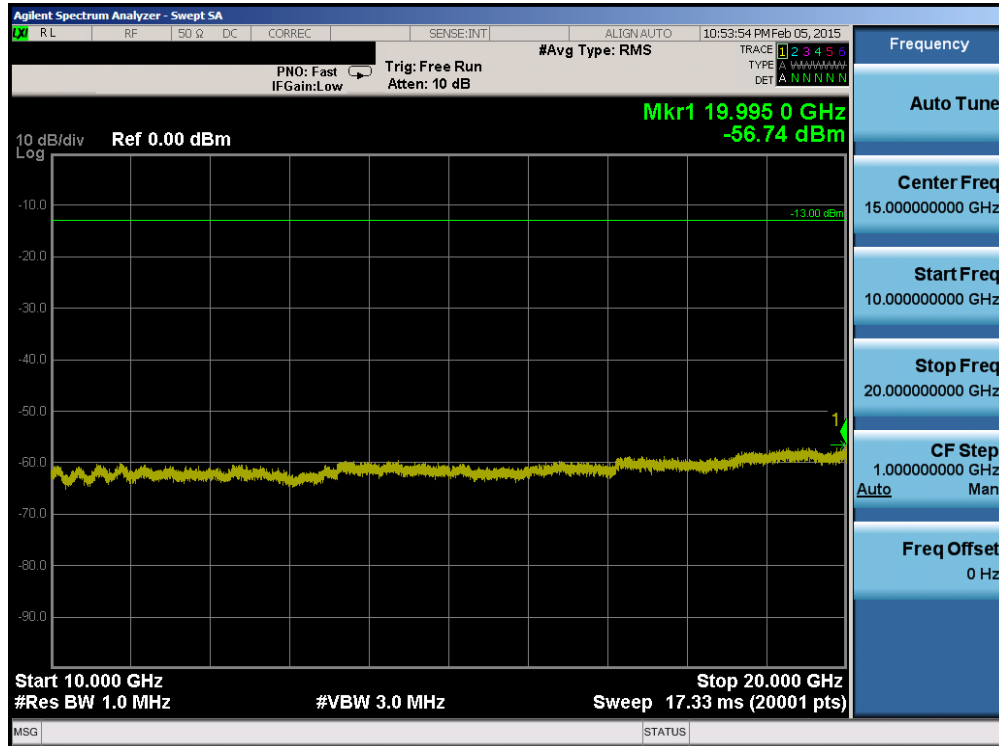


Plot 6-169. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

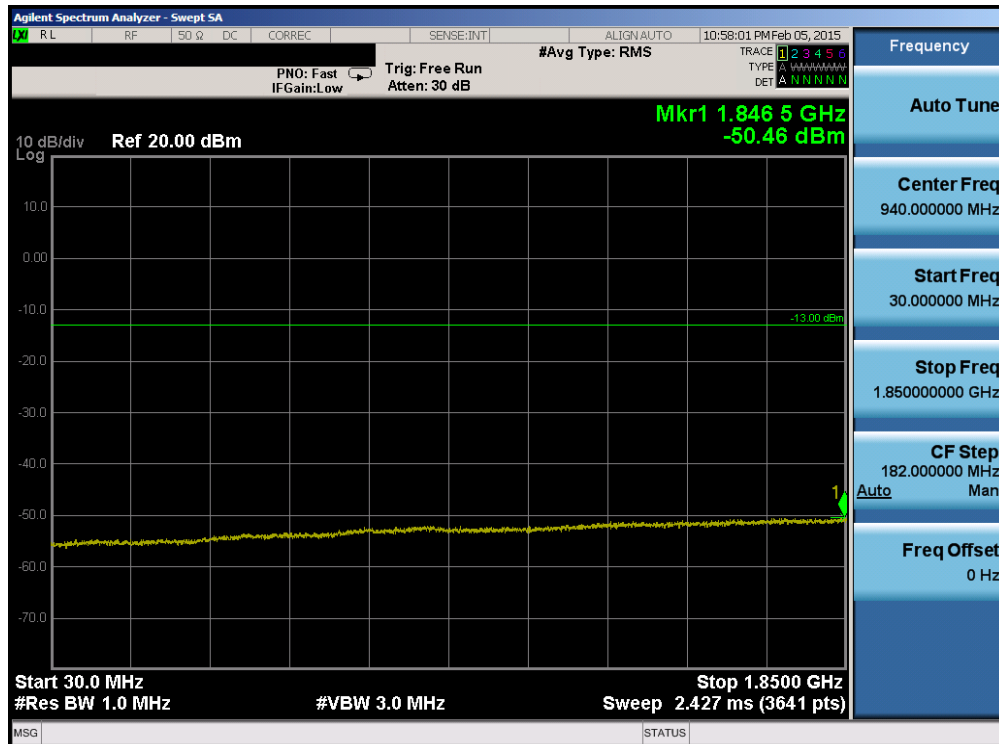


Plot 6-170. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 98 of 175

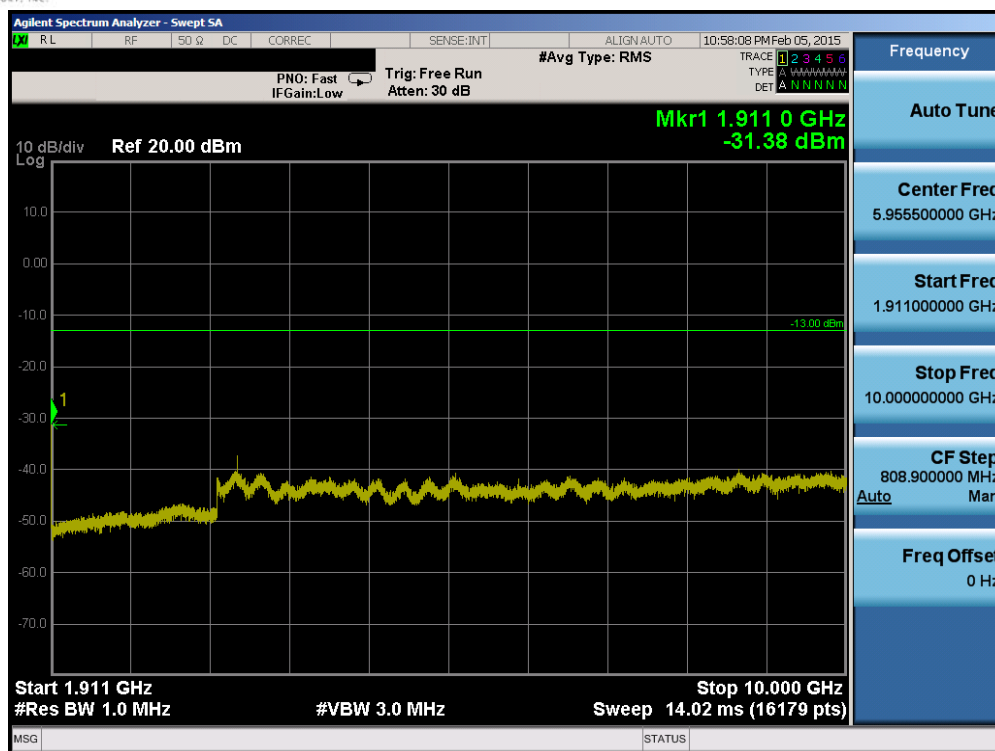


Plot 6-171. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

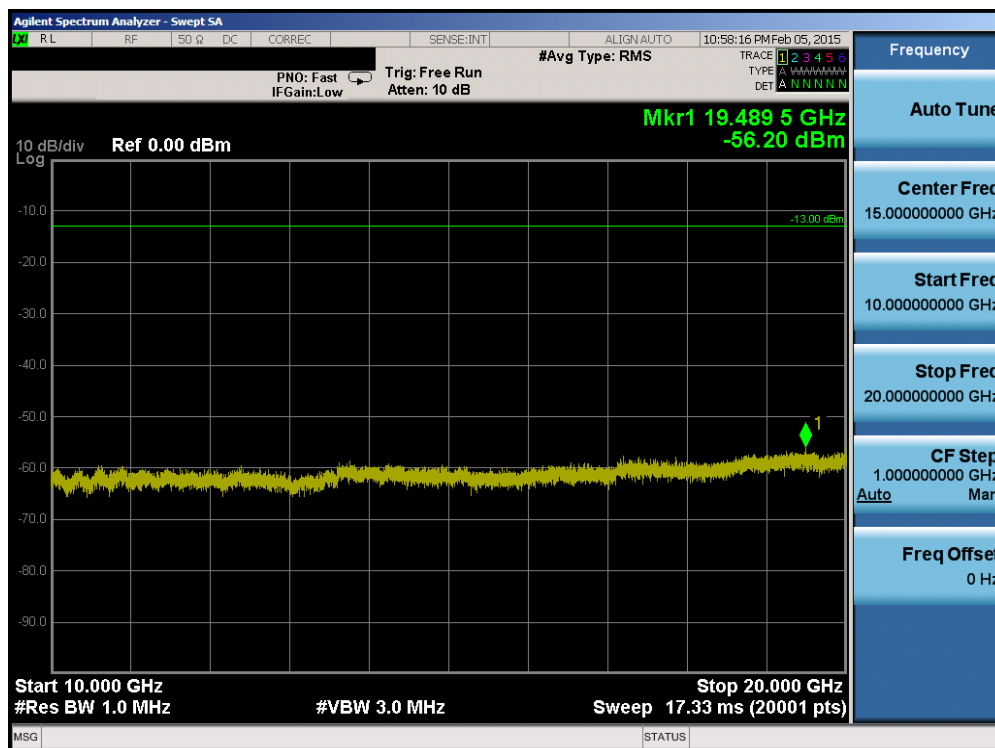


Plot 6-172. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 99 of 175



Plot 6-173. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

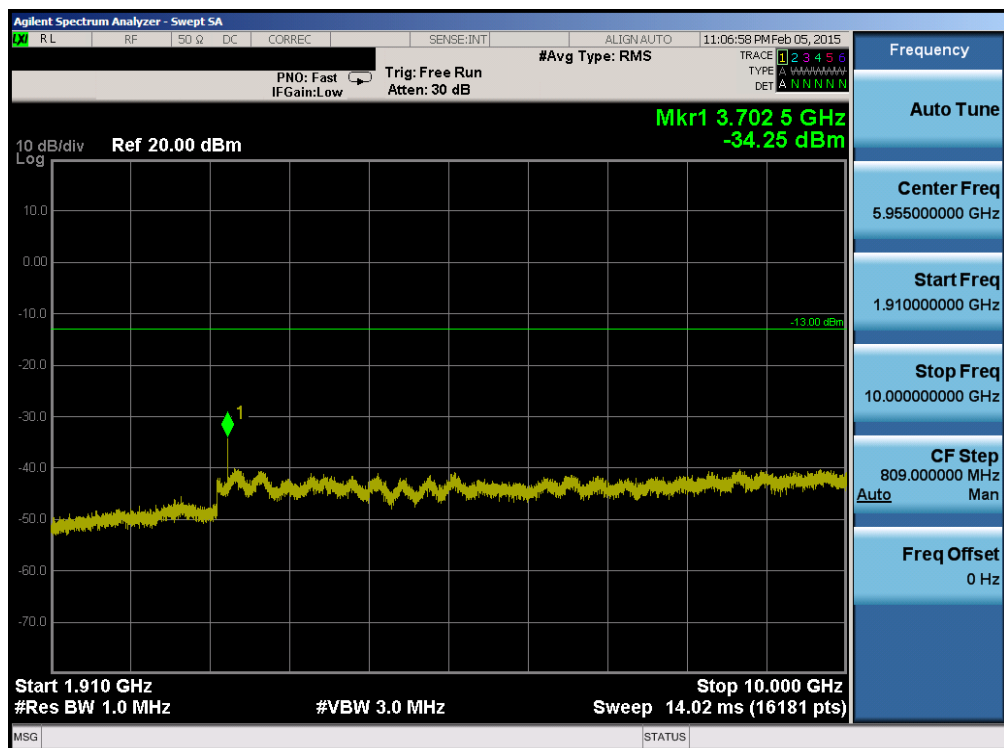


Plot 6-174. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 100 of 175

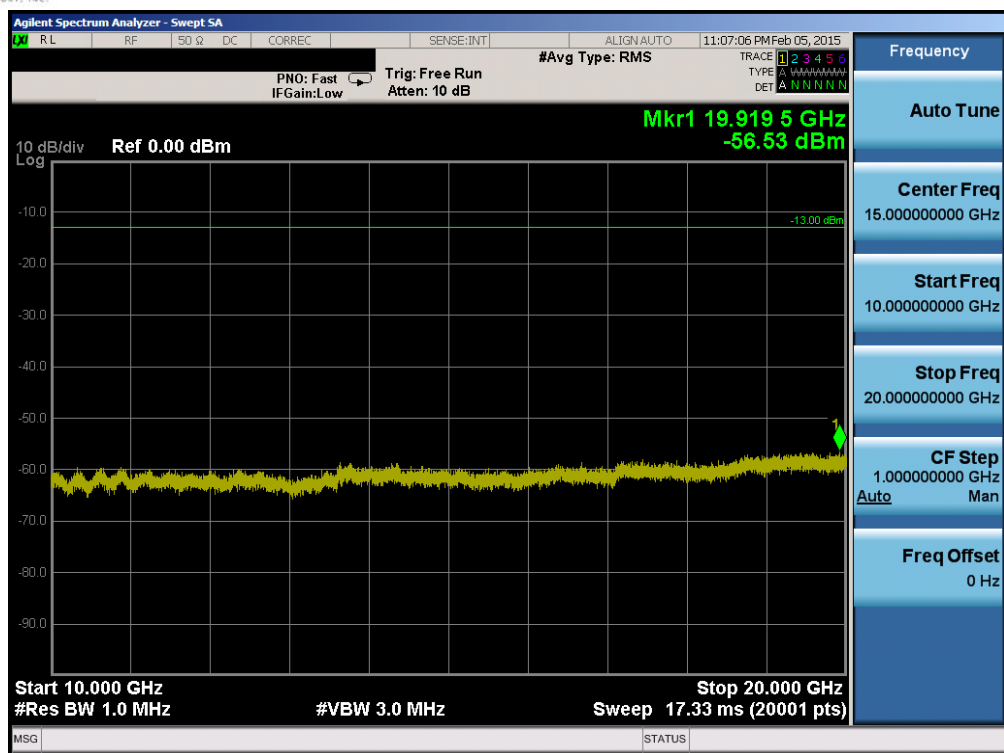


Plot 6-175. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

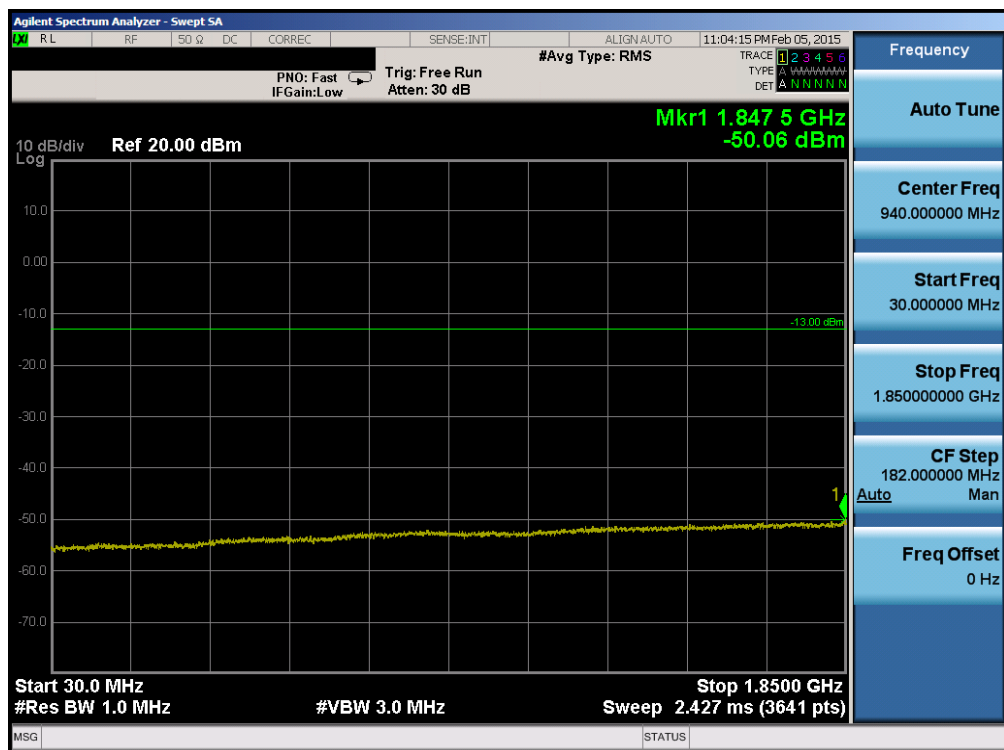


Plot 6-176. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 101 of 175

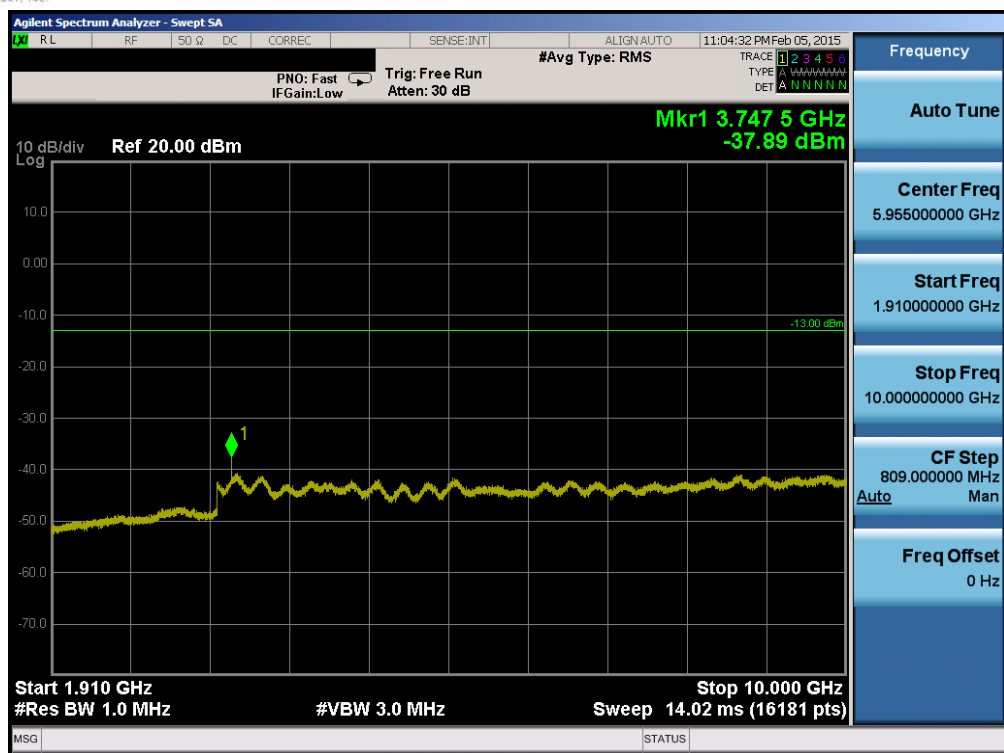


Plot 6-177. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

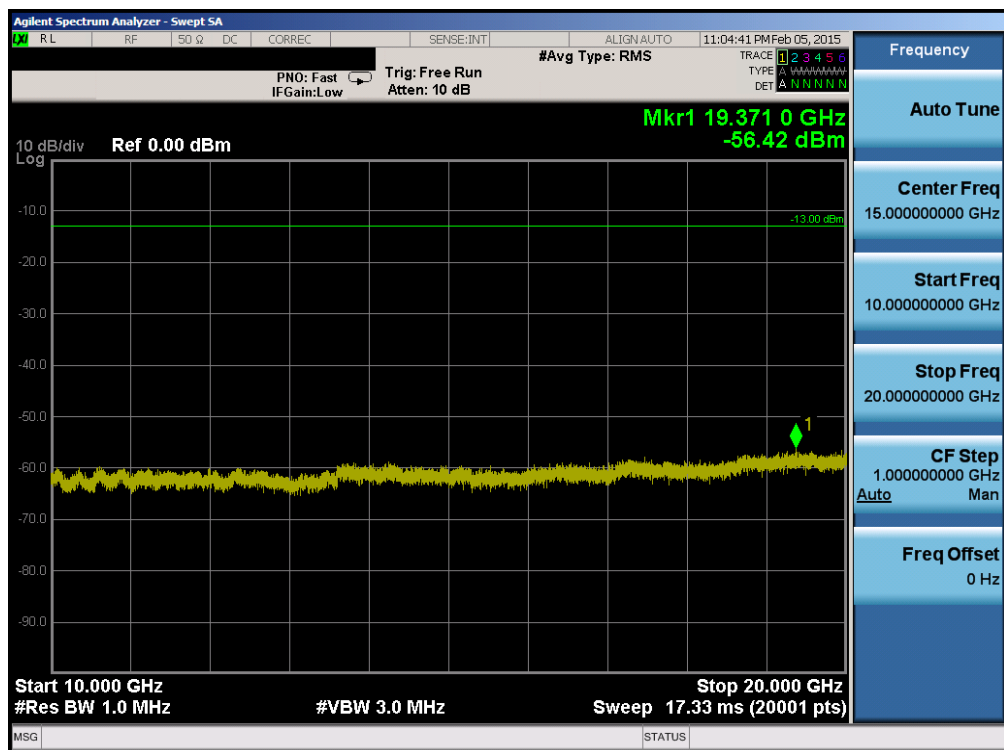


Plot 6-178. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 102 of 175

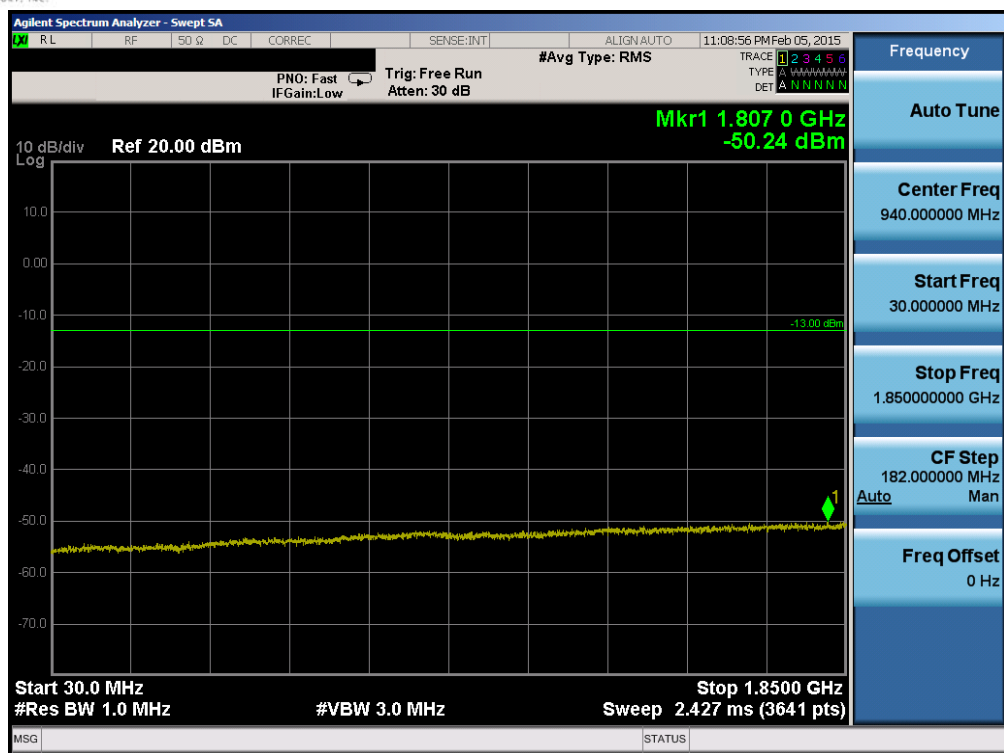


Plot 6-179. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

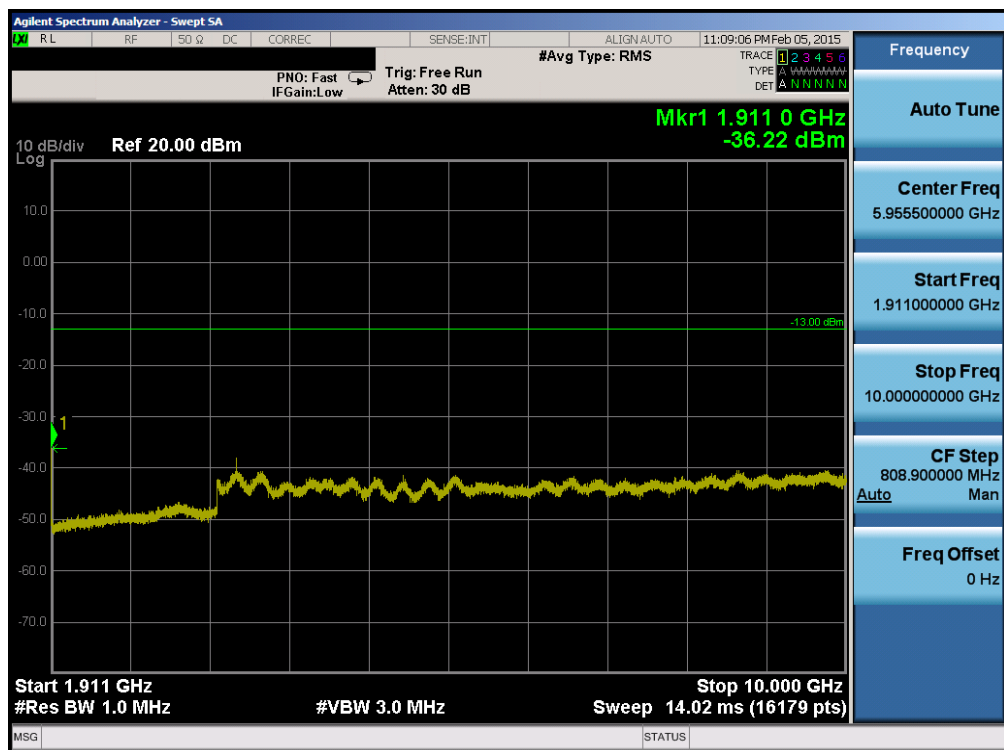


Plot 6-180. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 103 of 175

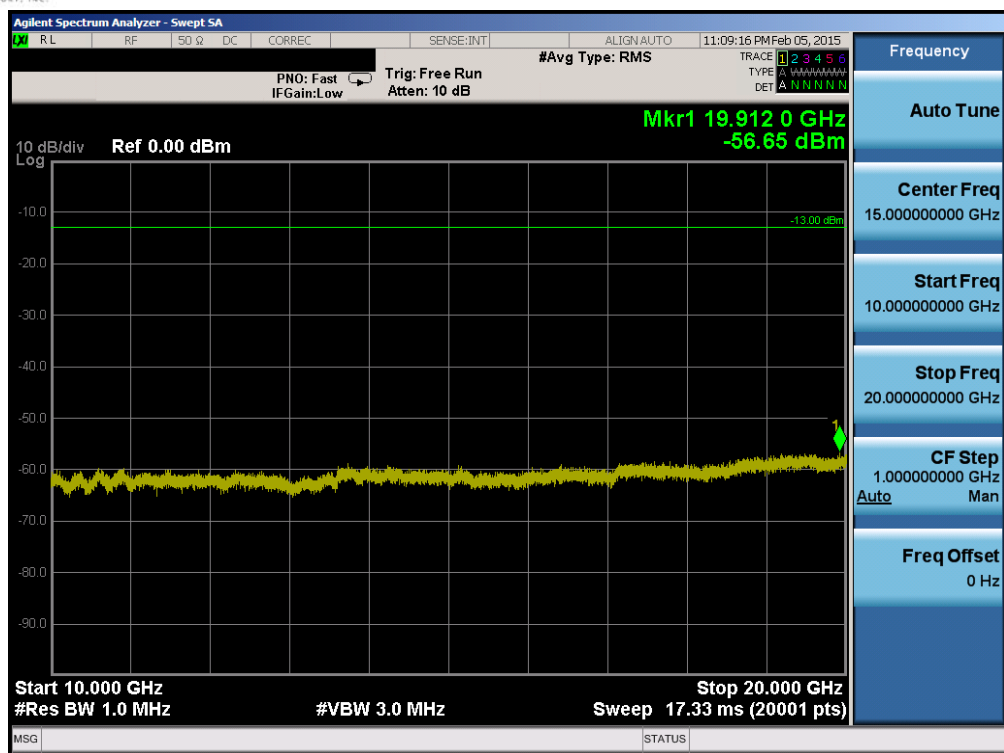


Plot 6-181. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 6-182. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 104 of 175

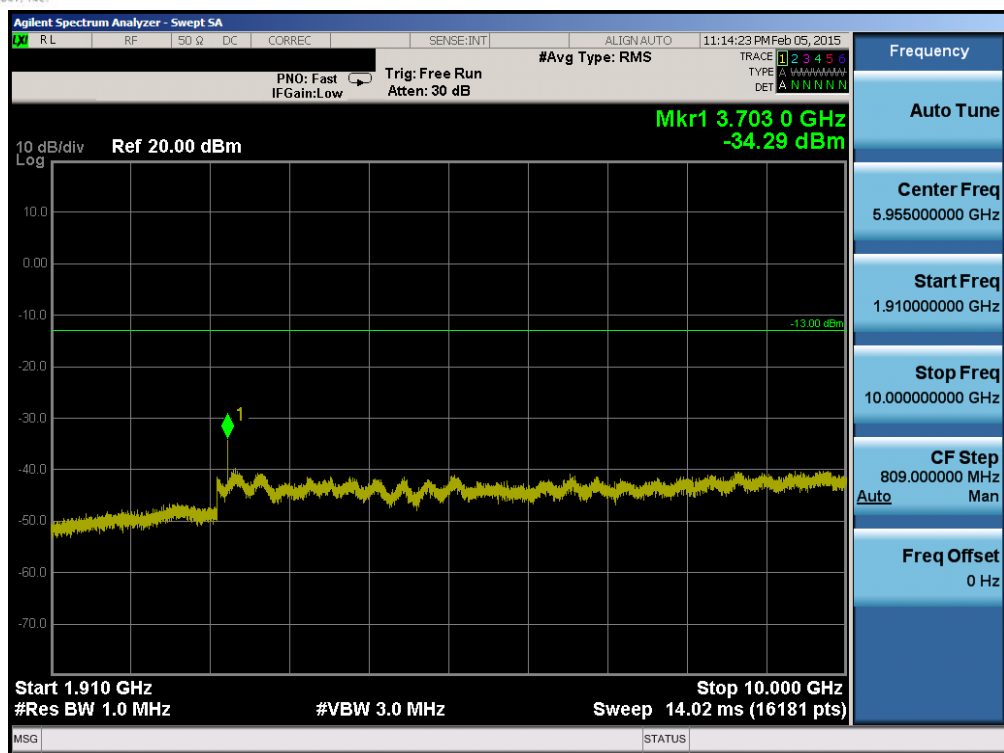


Plot 6-183. Conducted Spurious Plot (Band 2 – 15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

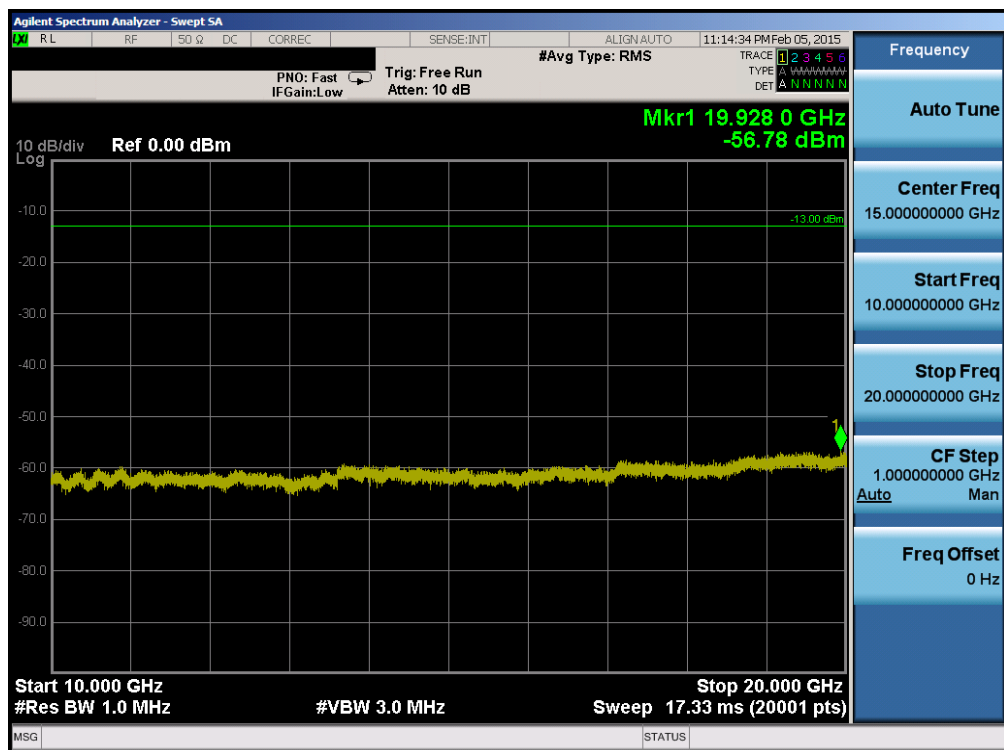


Plot 6-184. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 105 of 175

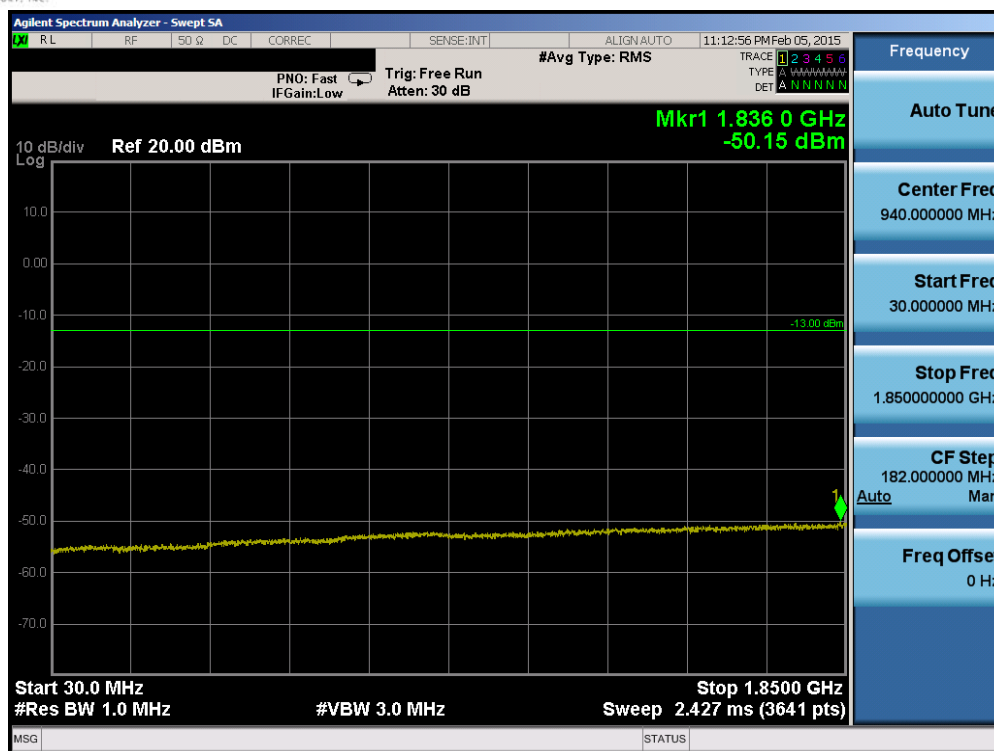


Plot 6-185. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

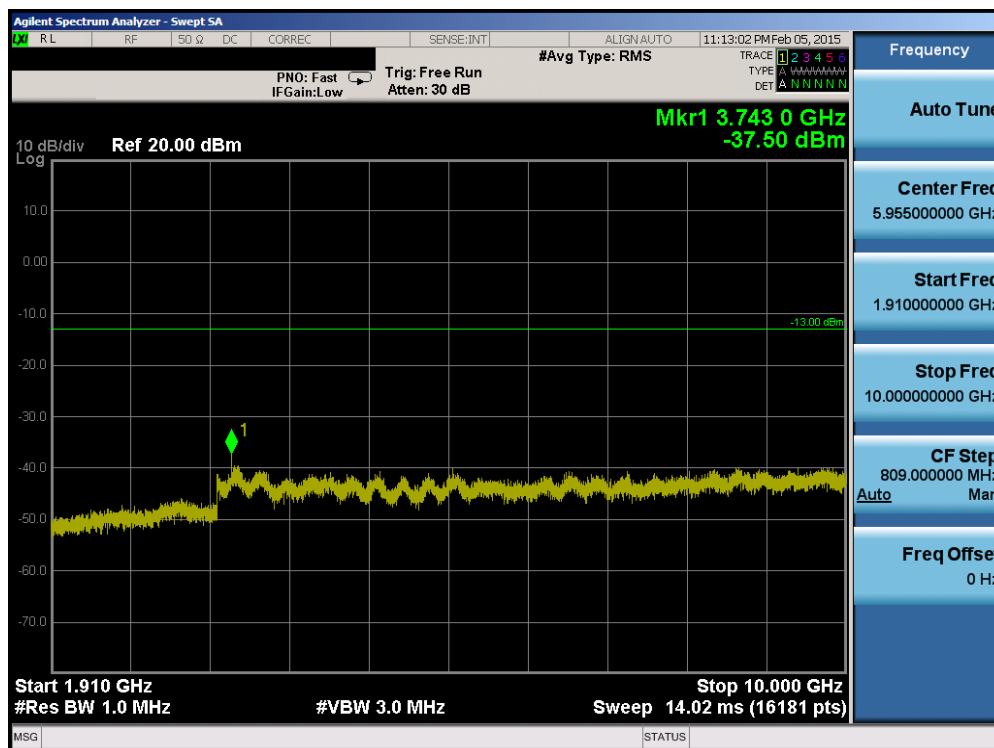


Plot 6-186. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 106 of 175

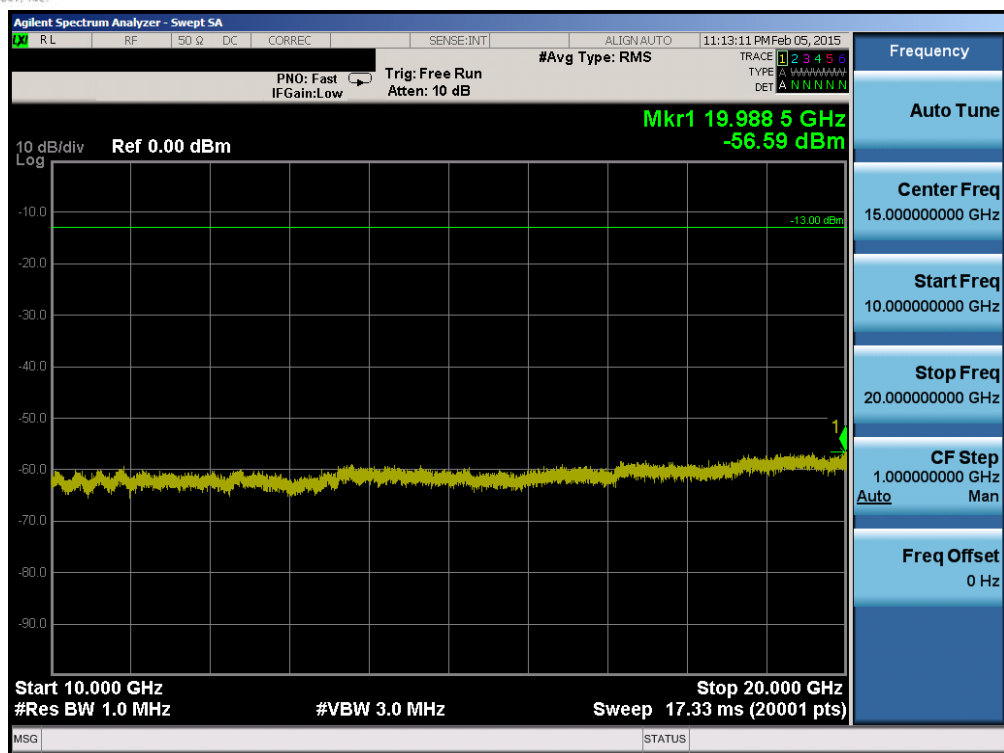


Plot 6-187. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

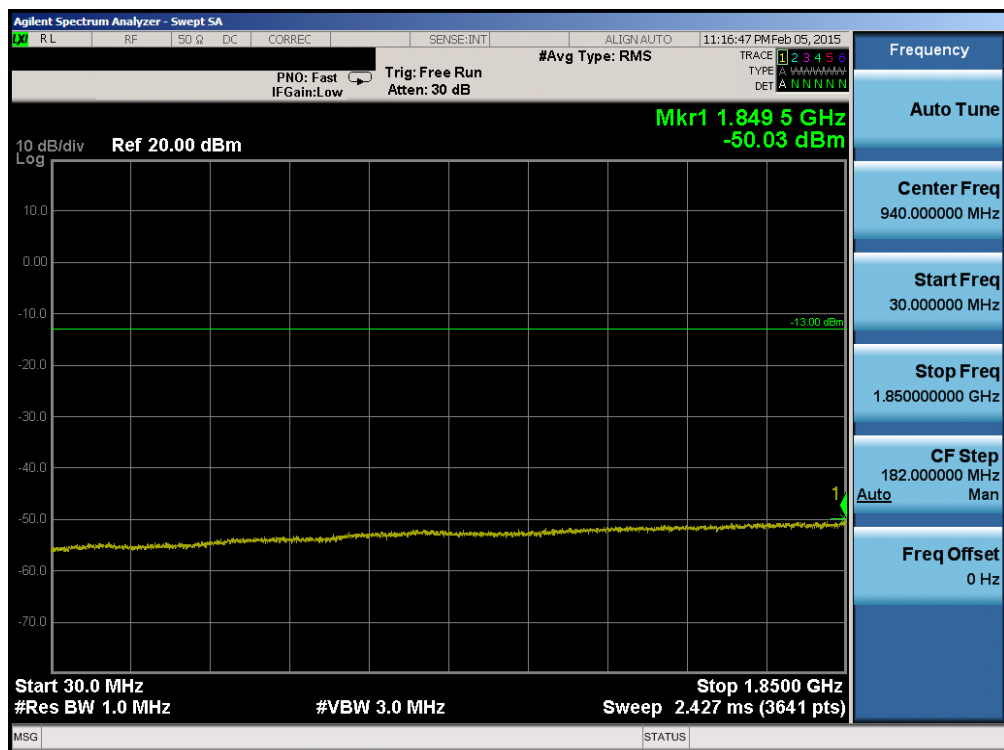


Plot 6-188. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 107 of 175

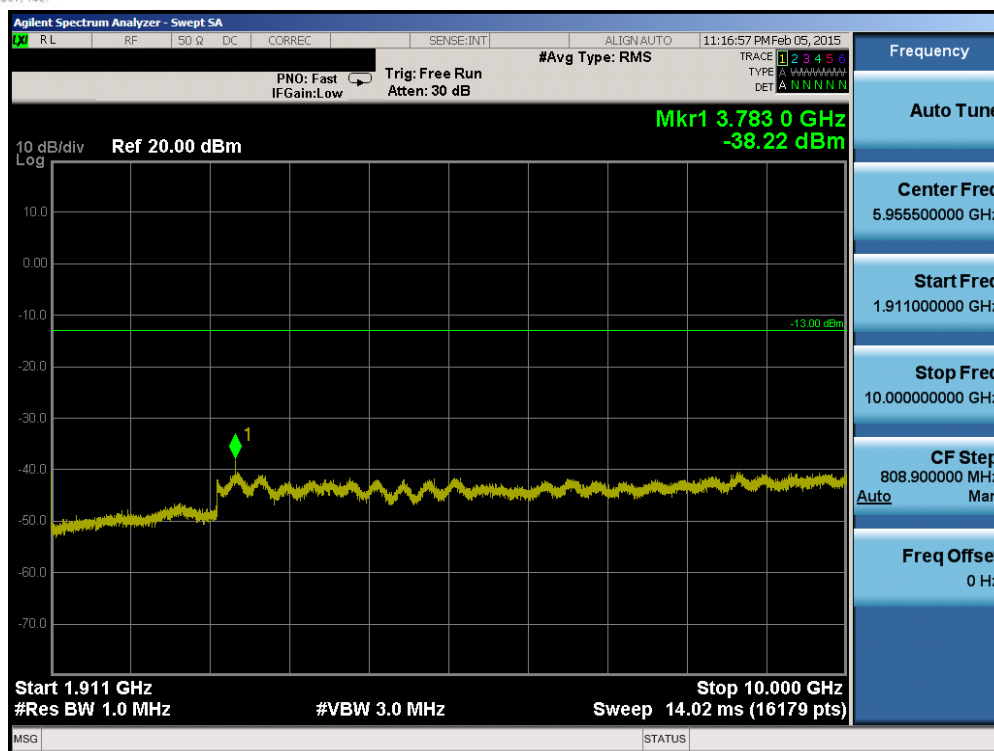


Plot 6-189. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

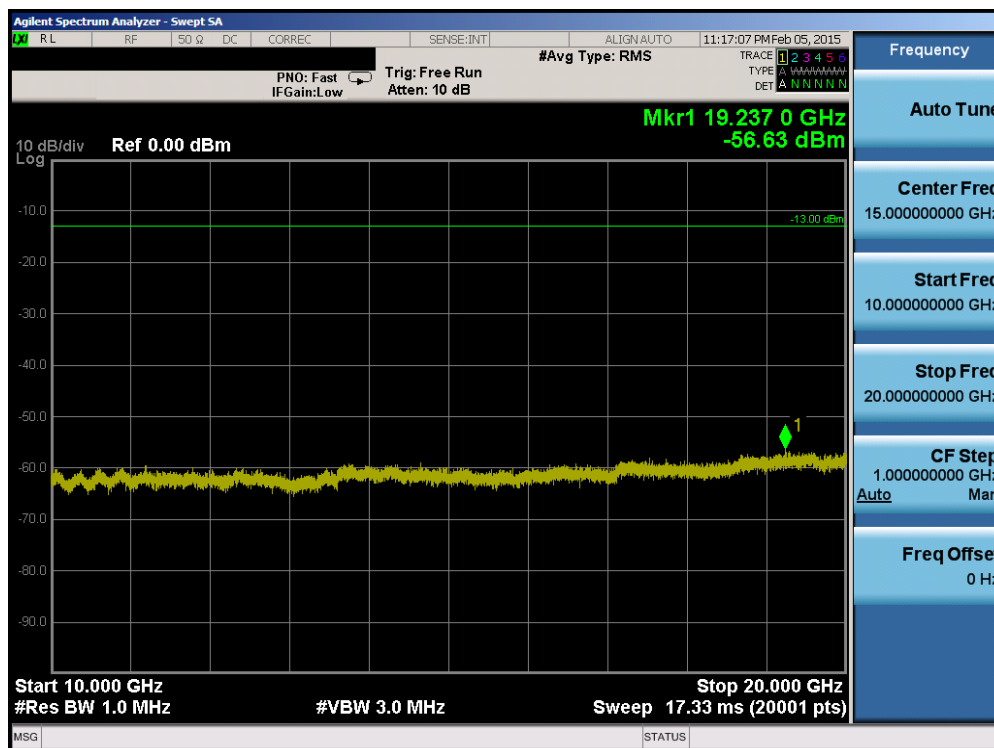


Plot 6-190. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 108 of 175



Plot 6-191. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 6-192. Conducted Spurious Plot (Band 2 – 20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 109 of 175

6.4 Band Edge Emissions at Antenna Terminal

§2.1051 §22.917(a) §24.238(a) §27.53(c) §27.53(h)

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 $43 + \log_{10}(P_{\text{Watts}})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 v02r02 – 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 $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = max hold
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.

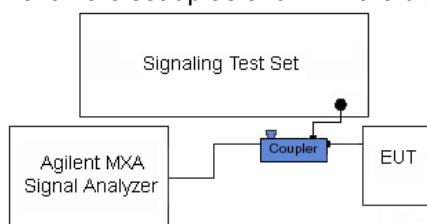


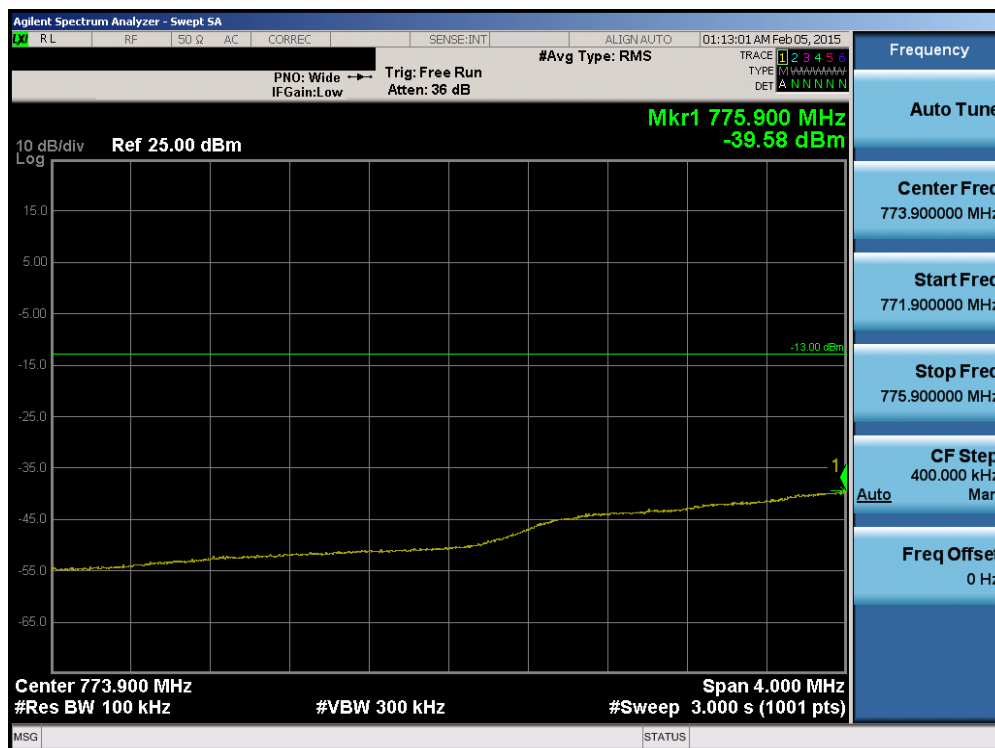
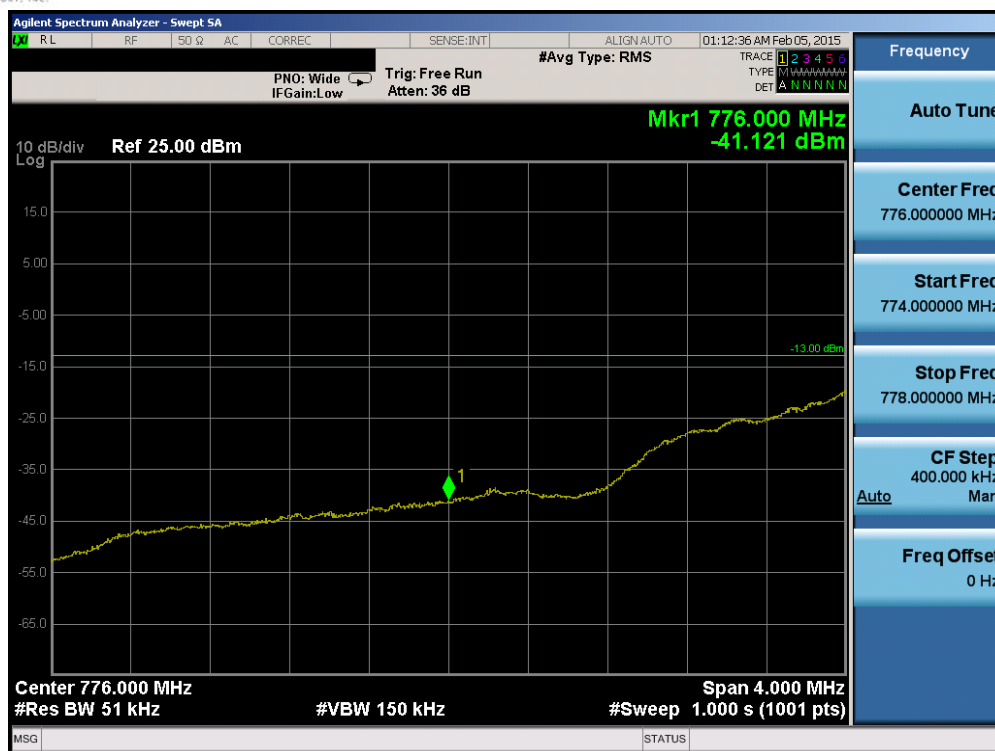
Figure 6-3. Test Instrument & Measurement Setup

Test Notes

Per 22.917(b) 24.238(a) 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.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is $65 + 10\log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

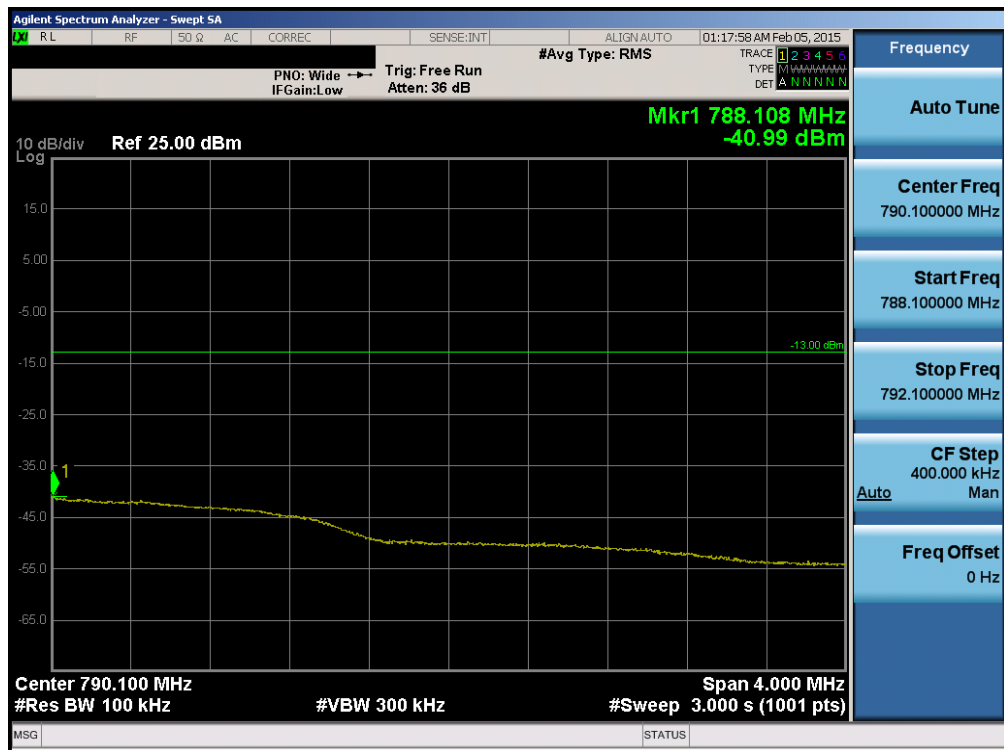
FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 110 of 175



FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 111 of 175

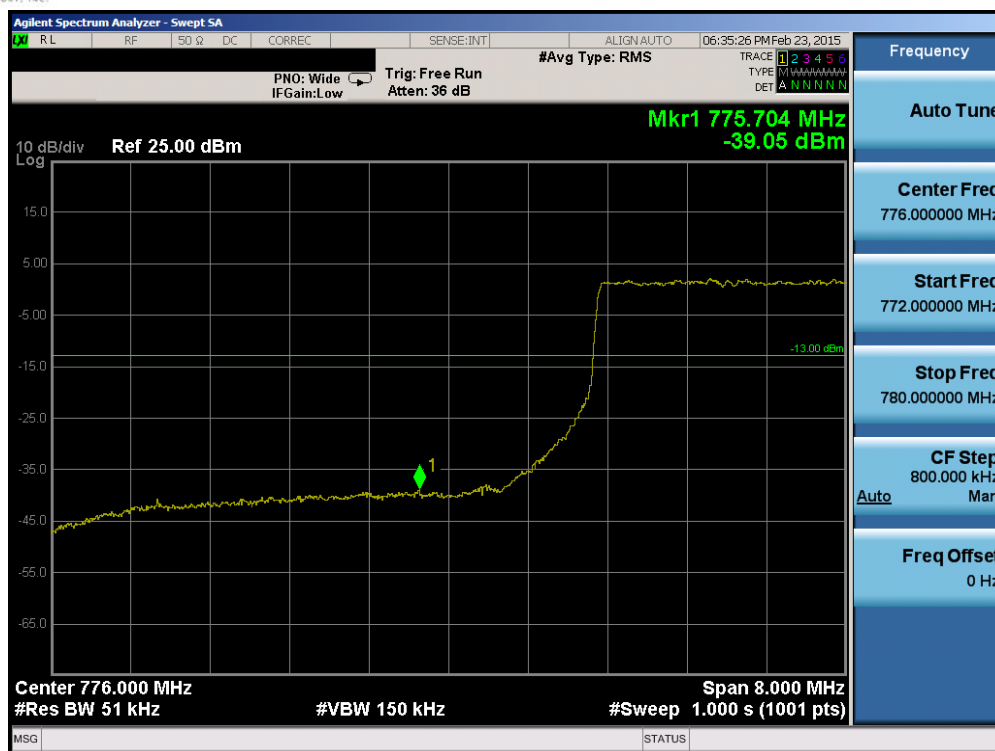


Plot 6-195. Upper Band Edge Plot (Band 13 – 5.0MHz QPSK – RB Size 25)

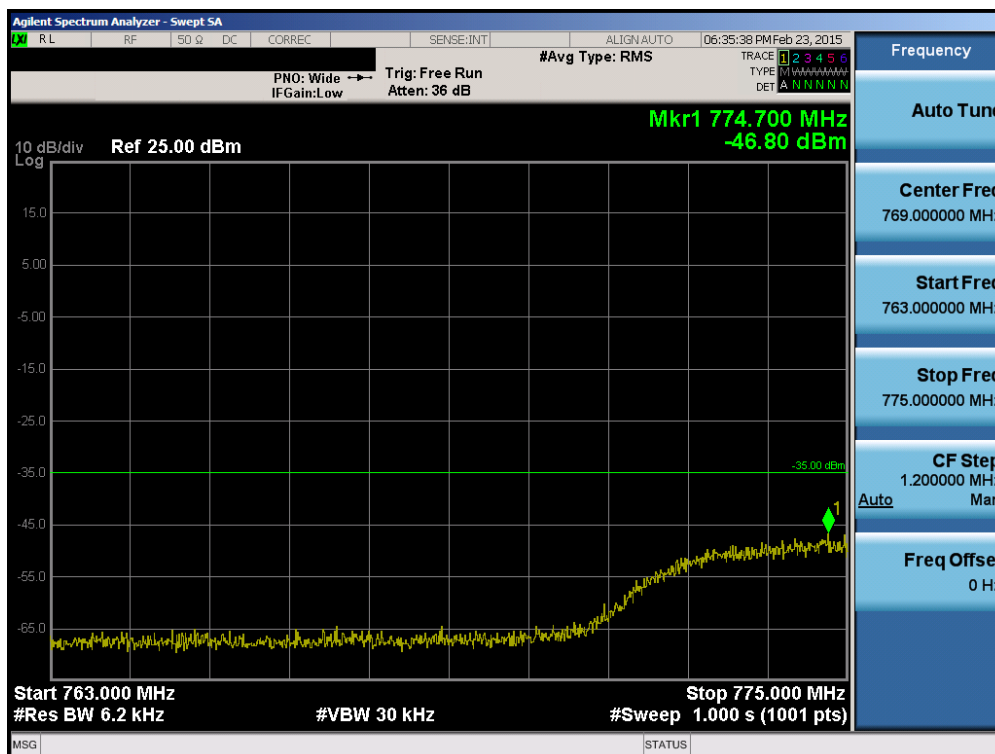


Plot 6-196. Upper Extended Band Edge Plot (Band 13 – 5.0MHz QPSK – RB Size 25)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 112 of 175

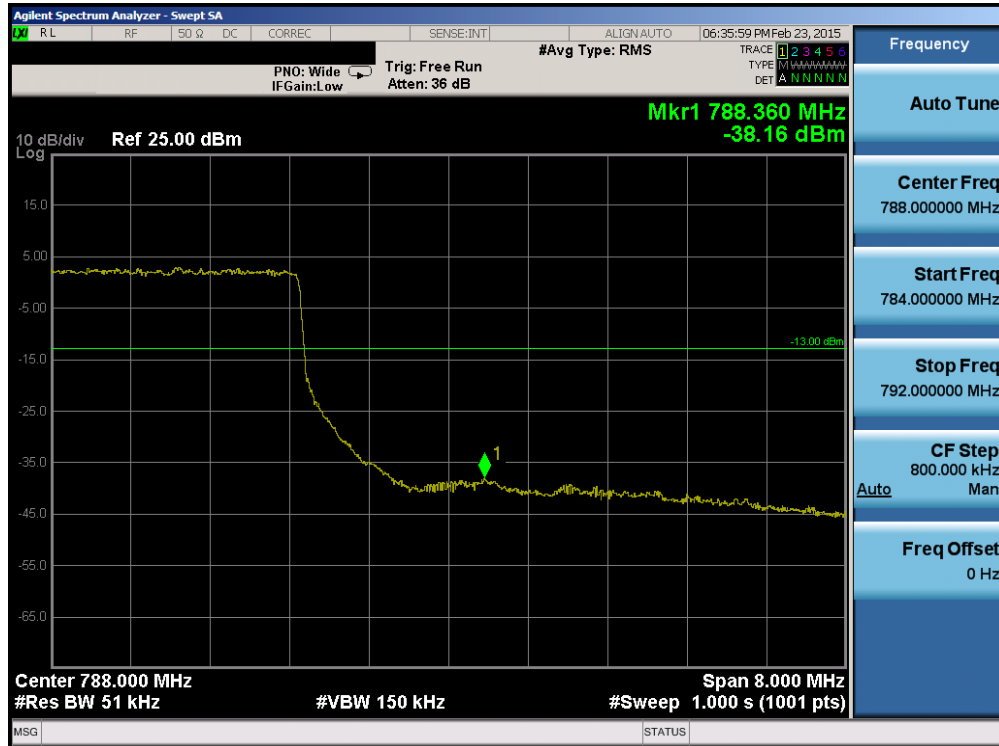


Plot 6-197. Lower Band Edge Plot (Band 13 – 10.0MHz QPSK – RB Size 50)

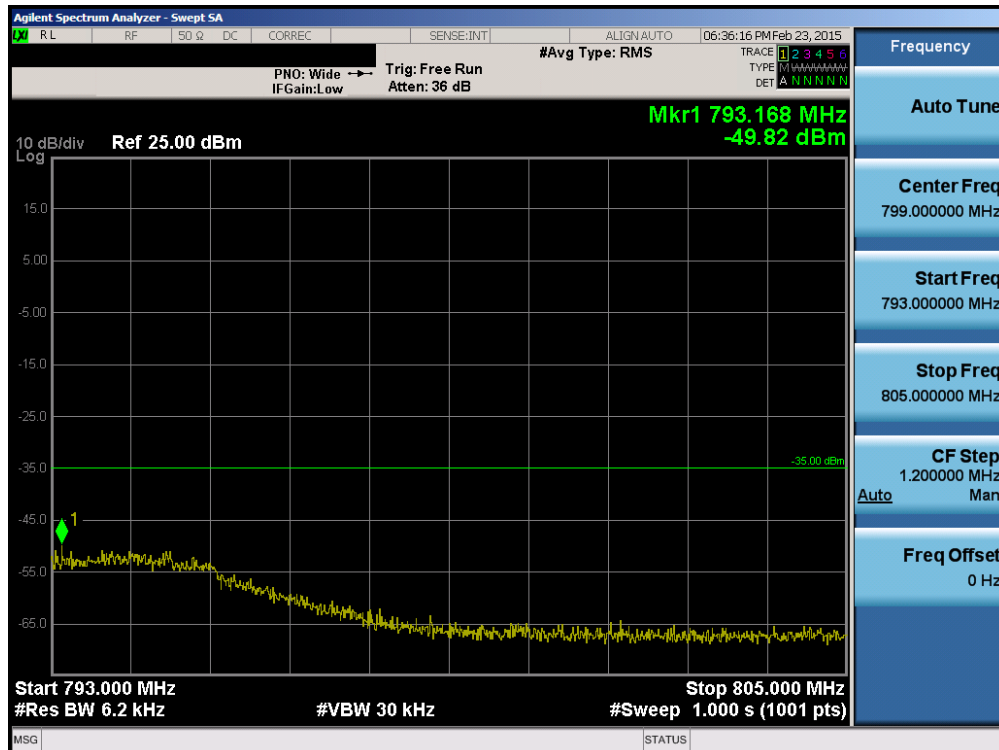


Plot 6-198. Lower Emission Mask Plot (Band 13 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 113 of 175

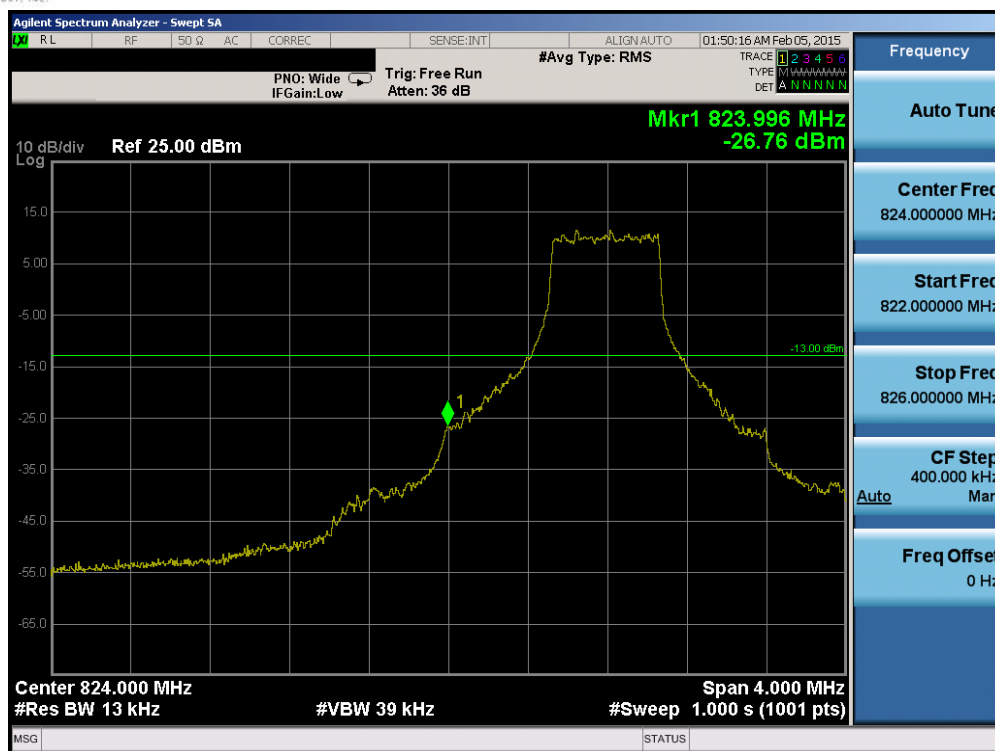


Plot 6-199. Upper Band Edge Plot (Band 13 – 10.0MHz QPSK – RB Size 50)



Plot 6-200. Upper Emission Mask Plot (Band 13 – 10.0MHz QPSK – RB Size 50)

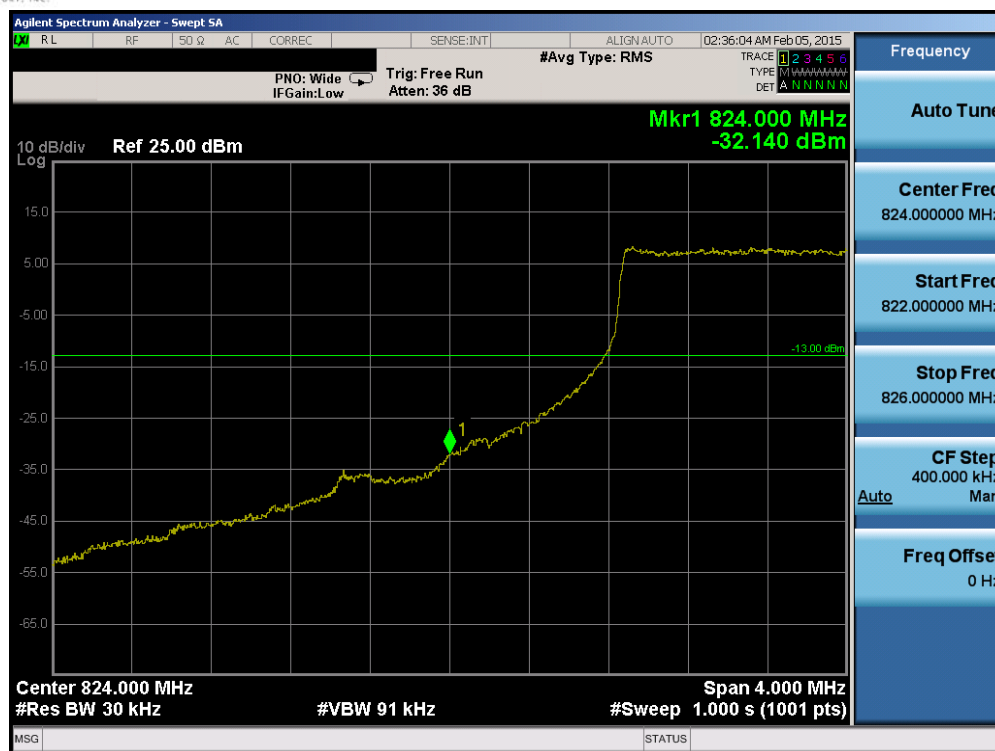
FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 114 of 175

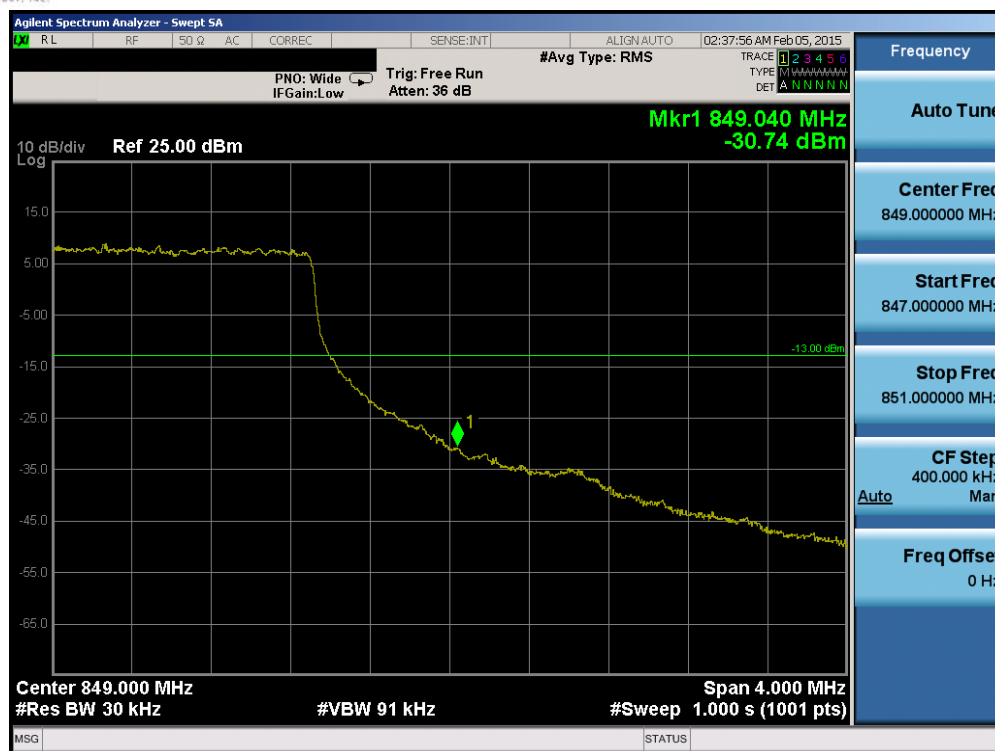


Plot 6-201. Lower Band Edge Plot (Band 5 – 1.4MHz QPSK – RB Size 6)

Plot 6-202. Lower Extended Band Edge Plot (Band 5 – 1.4MHz QPSK – RB Size 6)

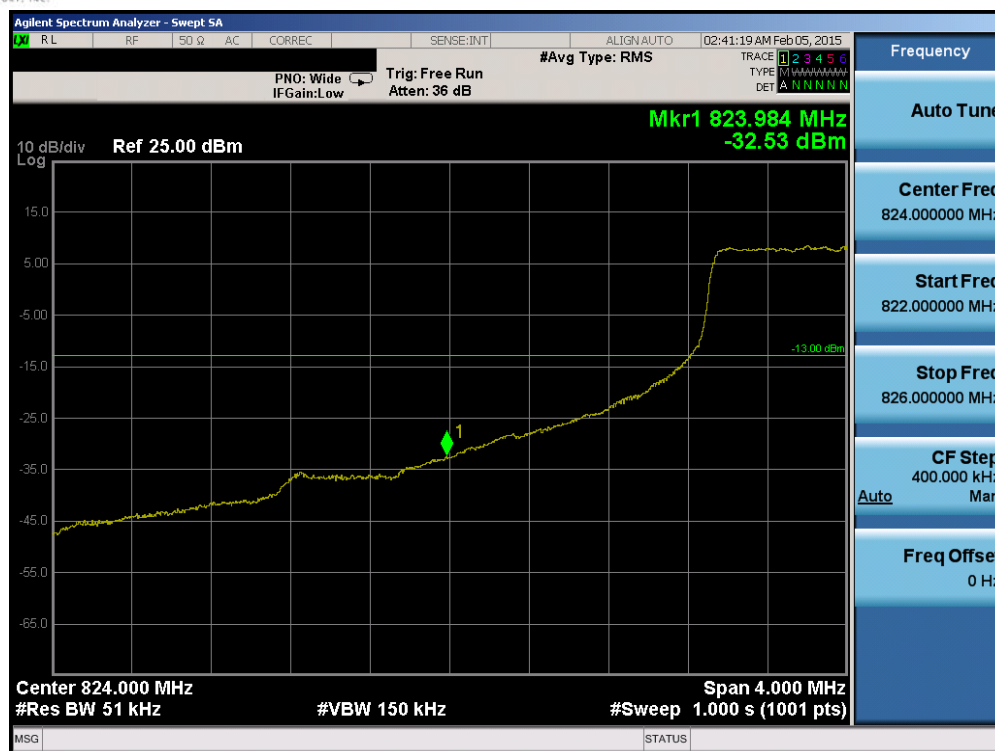
FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 115 of 175



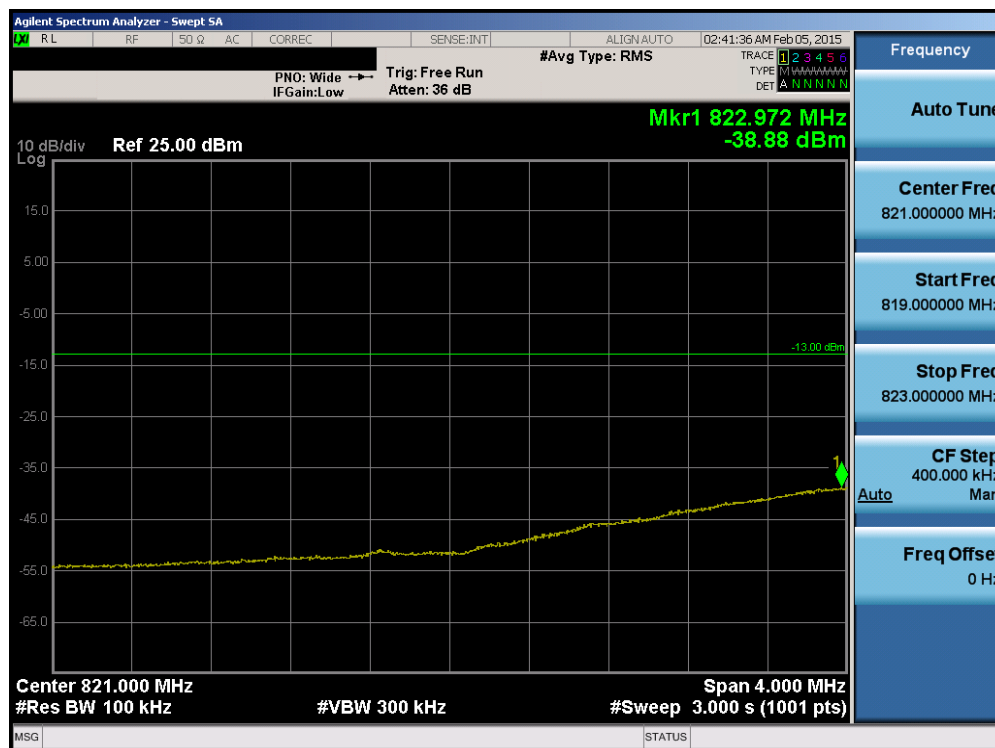


Plot 6-207. Upper Band Edge Plot (Band 5 – 3.0MHz QPSK – RB Size 15)

Plot 6-208. Upper Extended Band Edge Plot (Band 5 – Band 5 – 3.0MHz QPSK – RB Size 15)



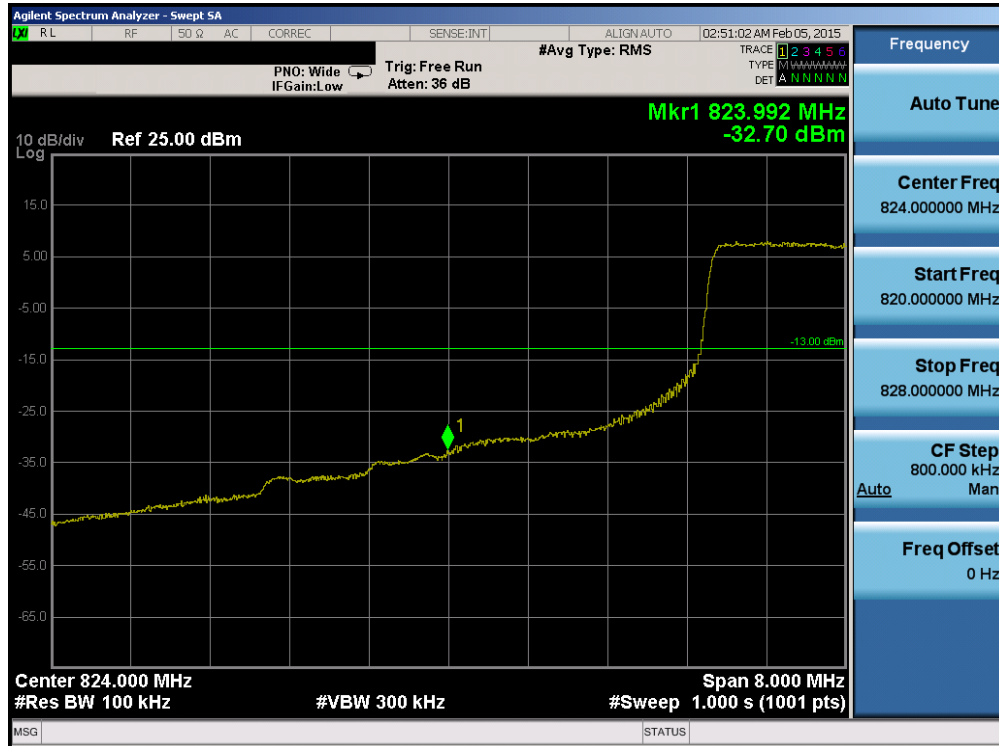
Plot 6-209. Lower Band Edge Plot (Band 5 – 5.0MHz QPSK – RB Size 25)



Plot 6-210. Lower Extended Band Edge Plot (Band 5 – 5.0MHz QPSK – RB Size 25)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 119 of 175



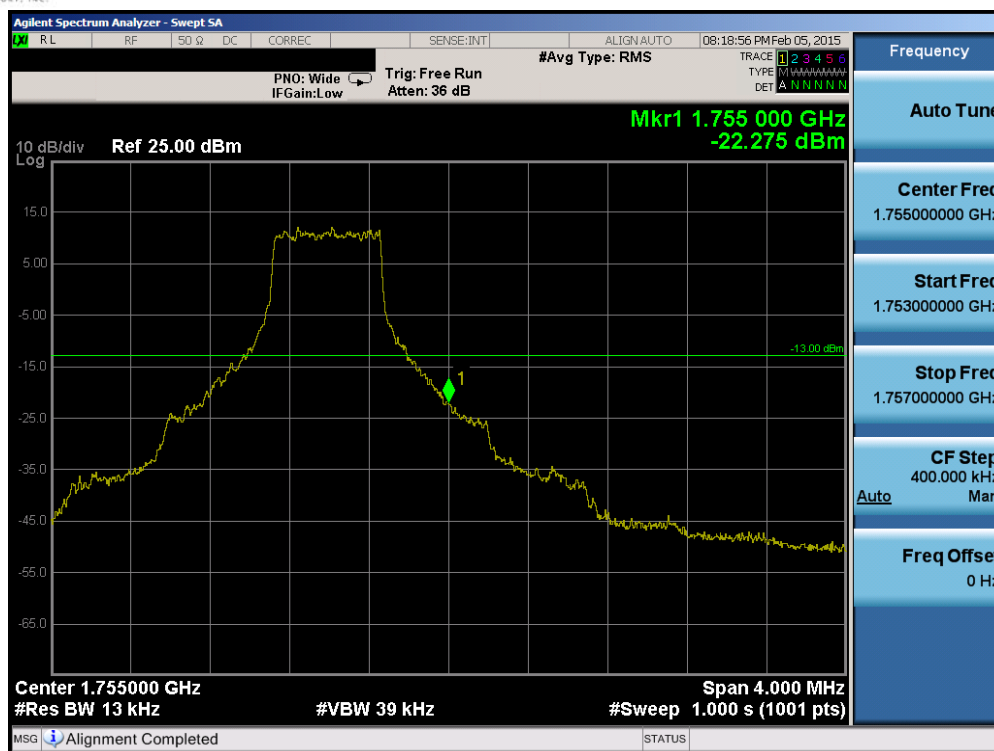


Plot 6-213. Lower Band Edge Plot (Band 5 – 10.0MHz QPSK – RB Size 50)



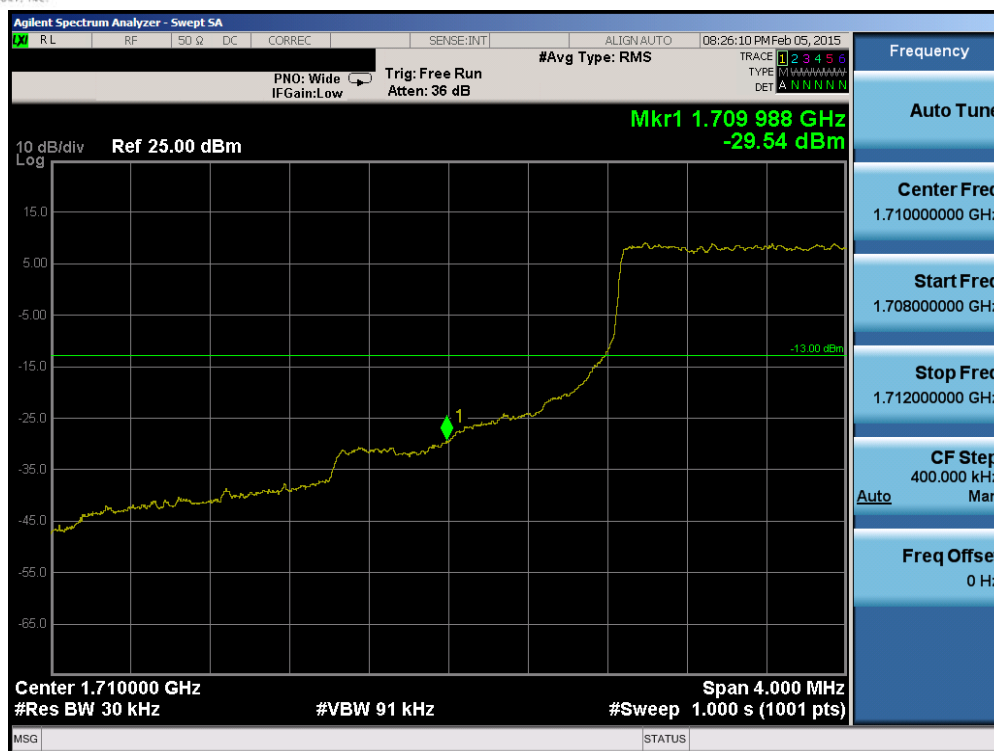
Plot 6-214. Lower Extended Band Edge Plot (Band 5 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 121 of 175

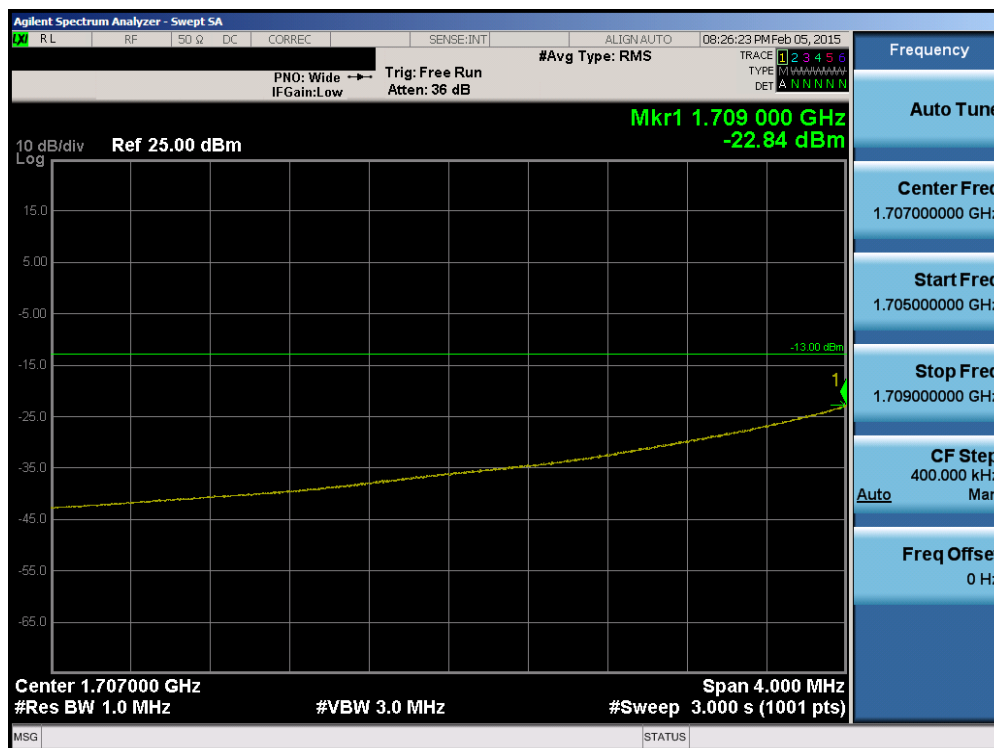


Plot 6-219. Upper Band Edge Plot (Band 4 – 1.4MHz QPSK – RB Size 6)

Plot 6-220. Upper Extended Band Edge Plot (Band 4 – 1.4MHz QPSK – RB Size 6)



Plot 6-221. Lower Band Edge Plot (Band 4 – 3.0MHz QPSK – RB Size 15)



Plot 6-222. Lower Extended Band Edge Plot (Band 4 – 3.0MHz QPSK – RB Size 15)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 125 of 175



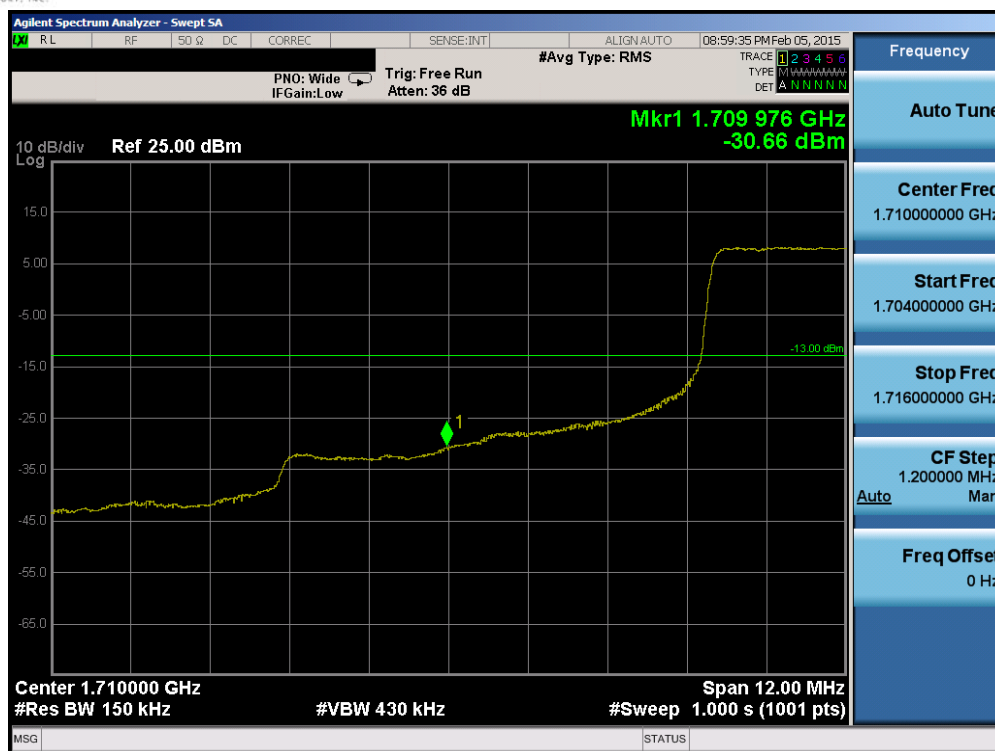
Plot 6-229. Lower Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)



Plot 6-230. Lower Extended Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)

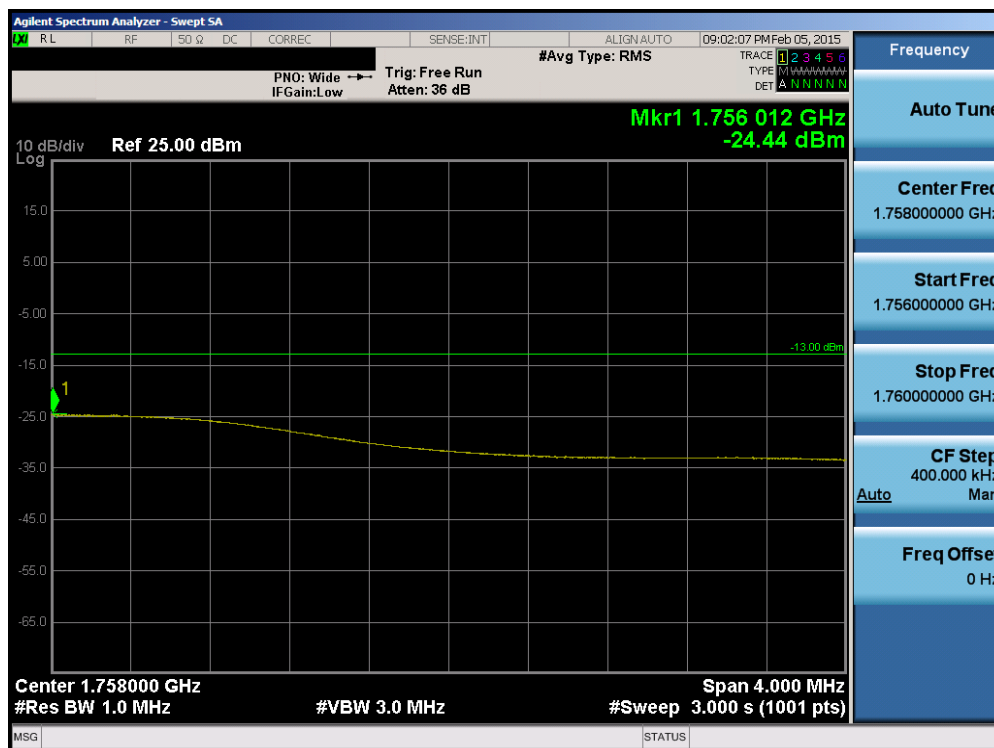
FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 129 of 175





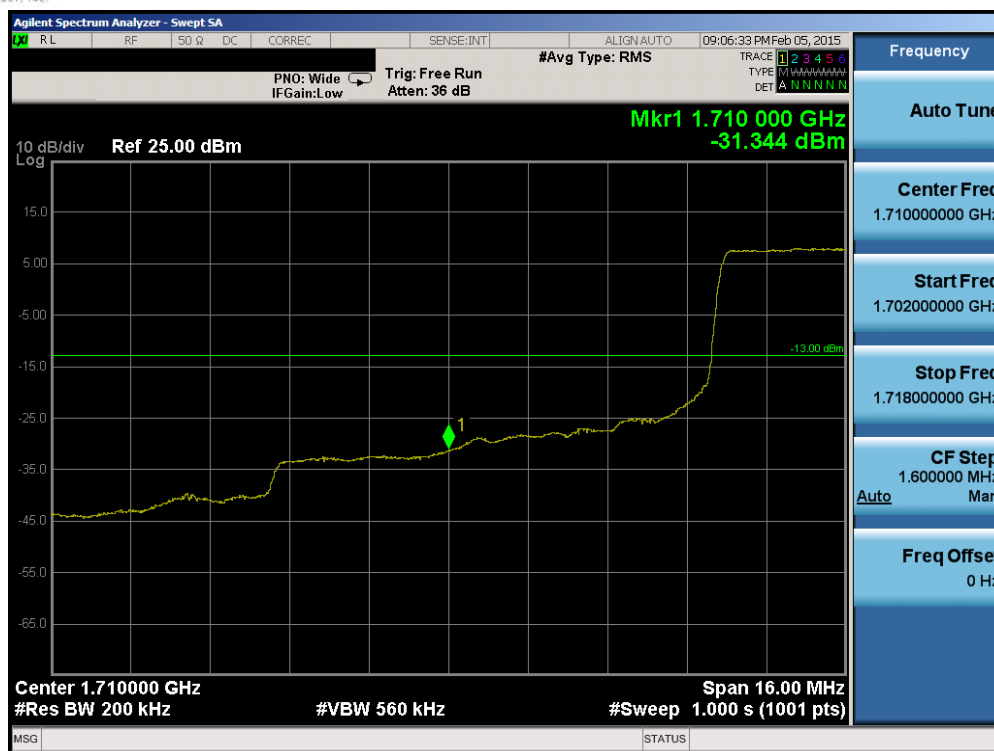


Plot 6-235. Upper Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)

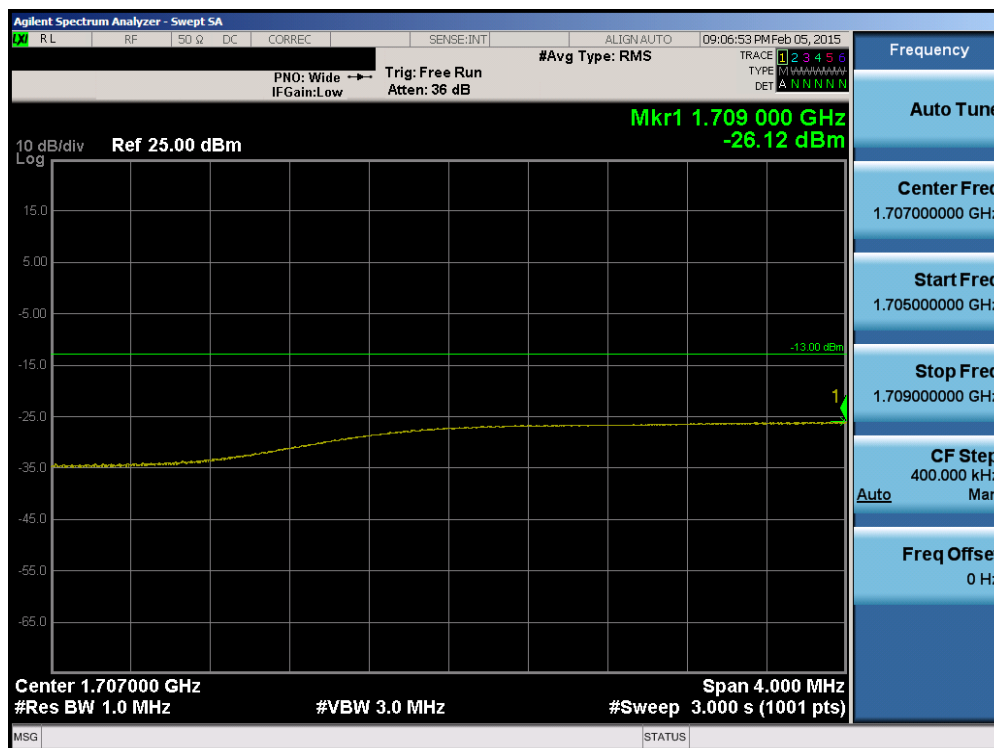


Plot 6-236. Upper Extended Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 132 of 175



Plot 6-237. Lower Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

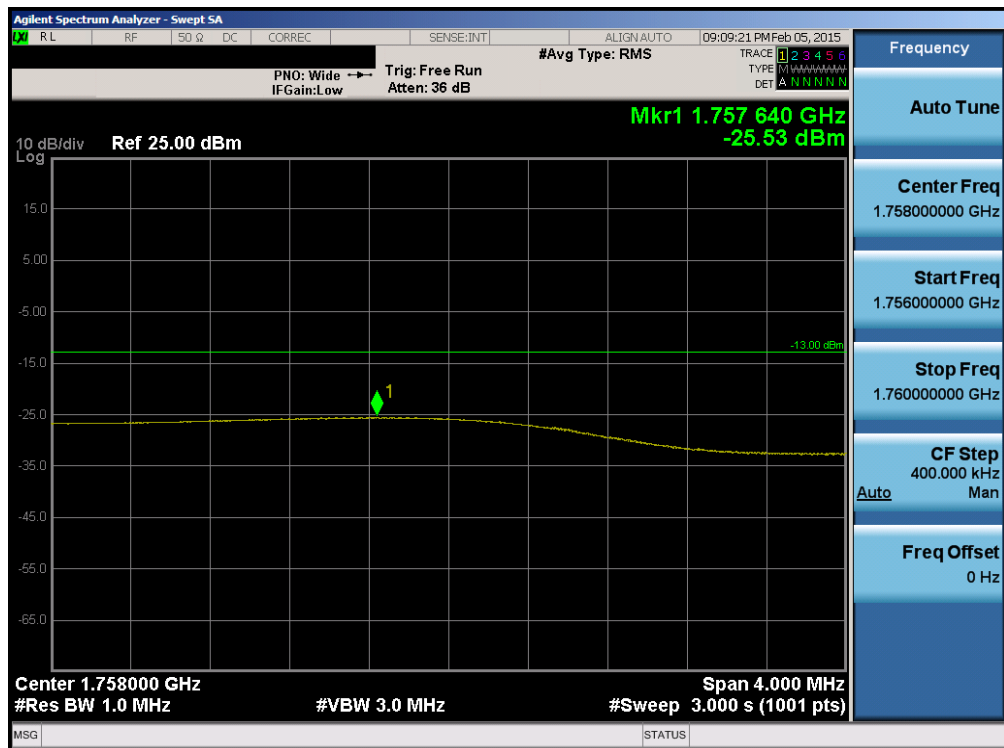


Plot 6-238. Lower Extended Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 133 of 175

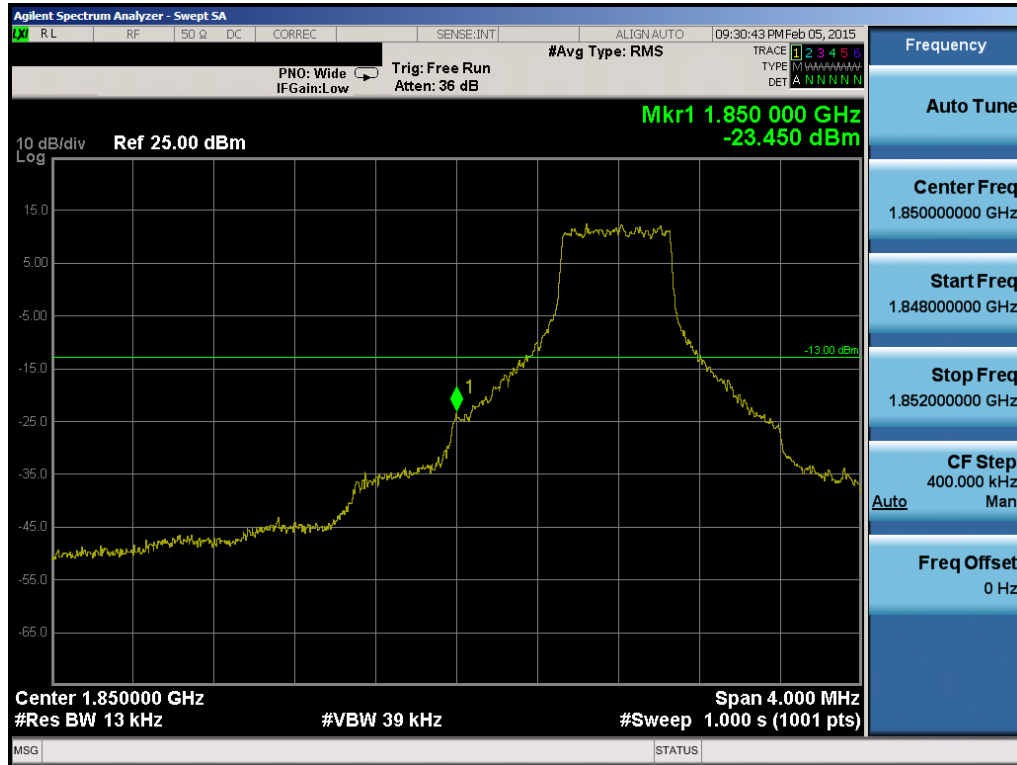


Plot 6-239. Upper Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

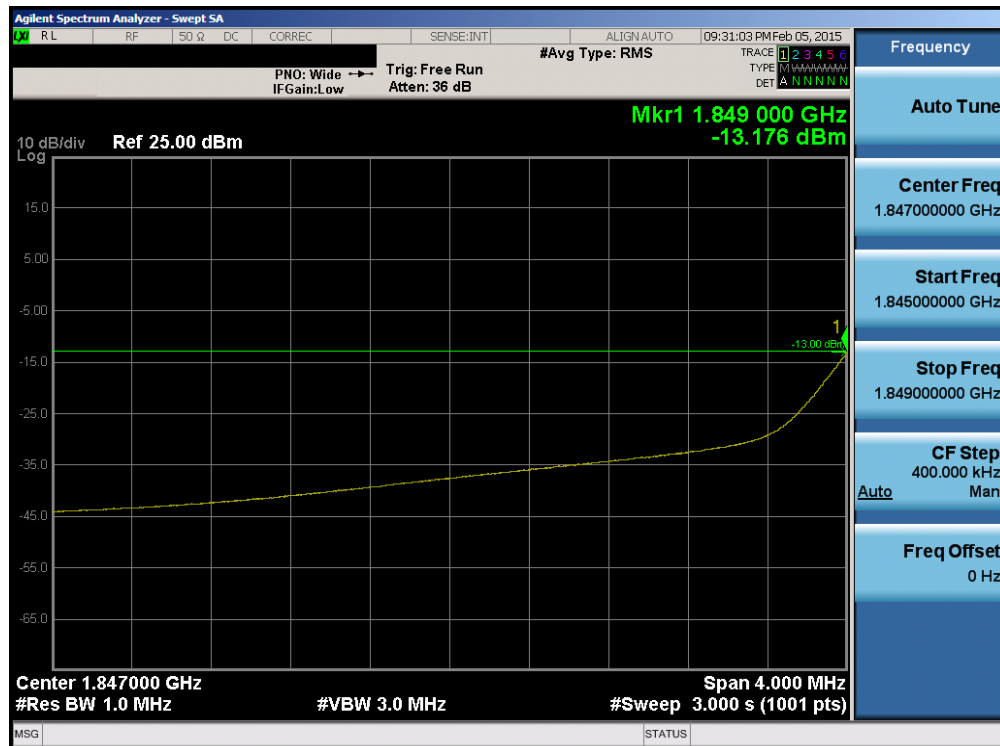


Plot 6-240. Upper Extended Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 134 of 175

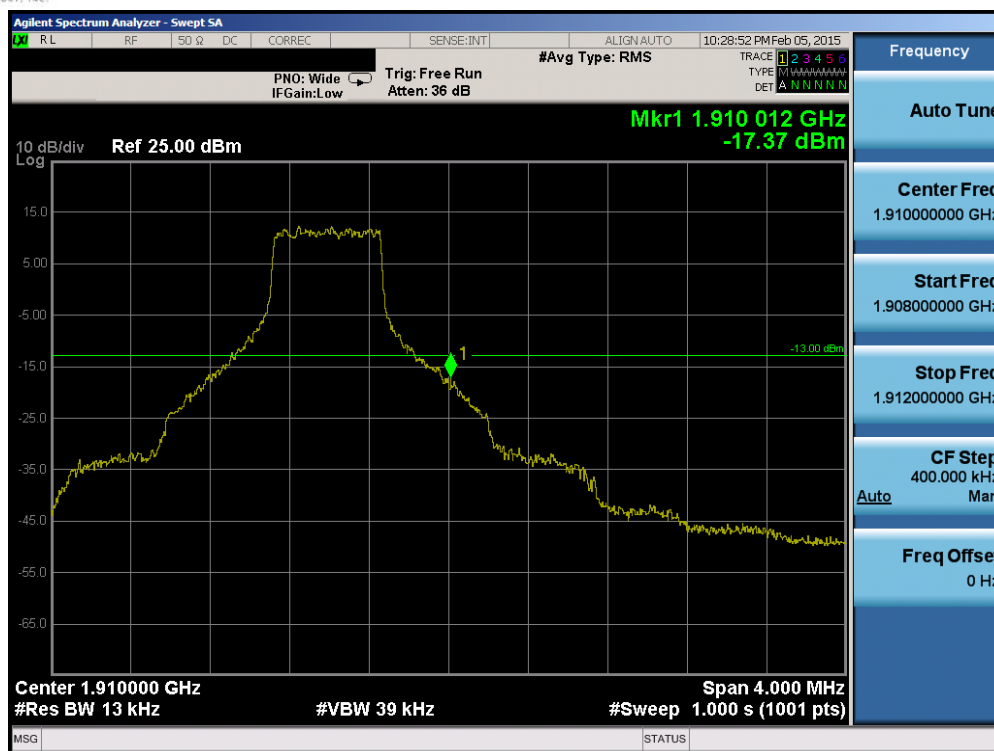


Plot 6-241. Lower Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

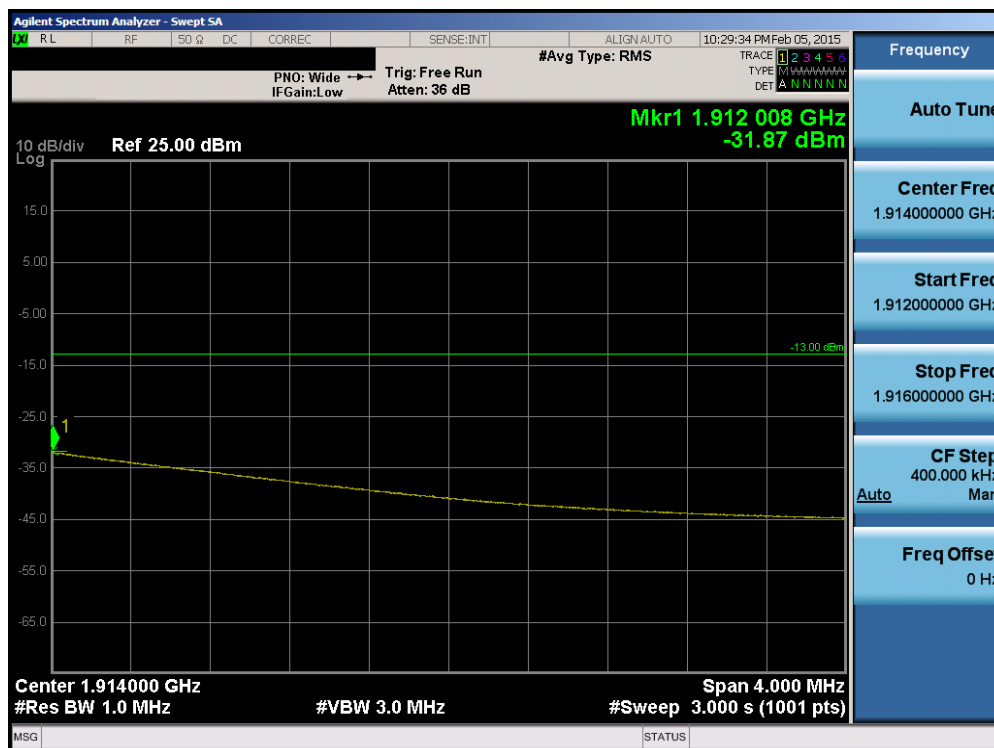


Plot 6-242. Lower Extended Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 135 of 175

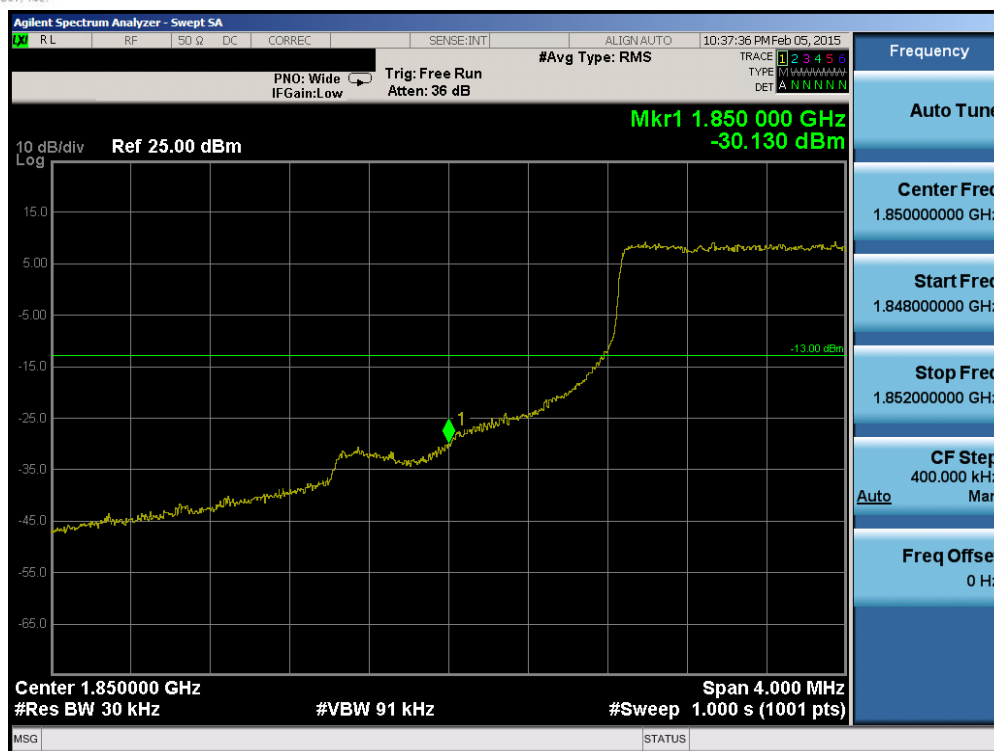


Plot 6-243. Upper Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

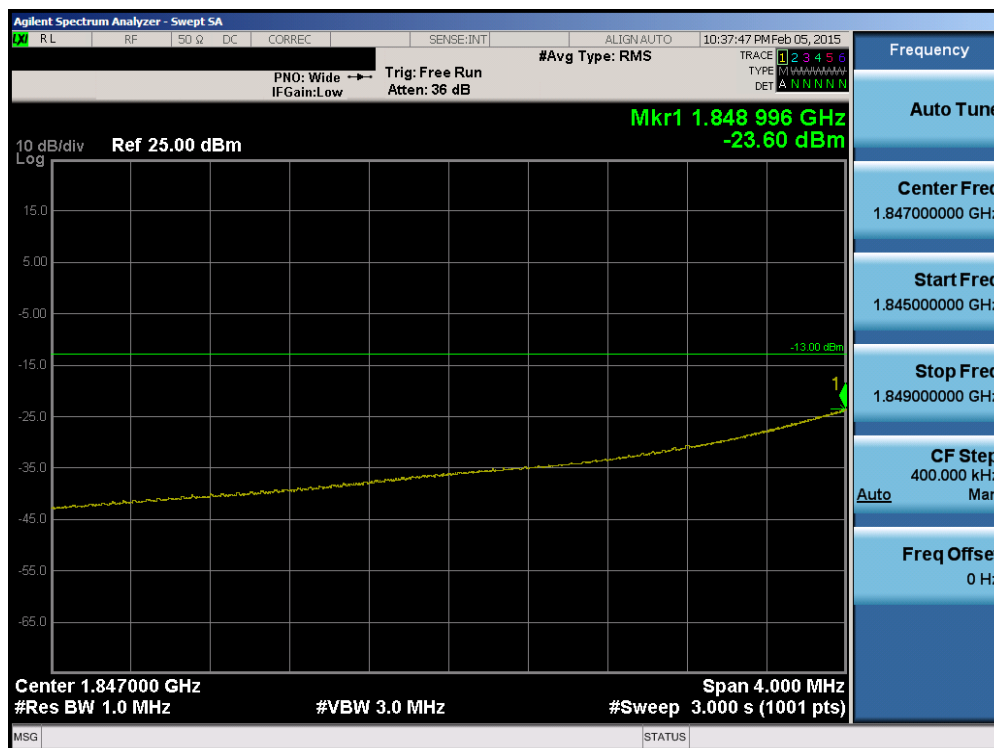


Plot 6-244. Upper Extended Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 136 of 175



Plot 6-245. Lower Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

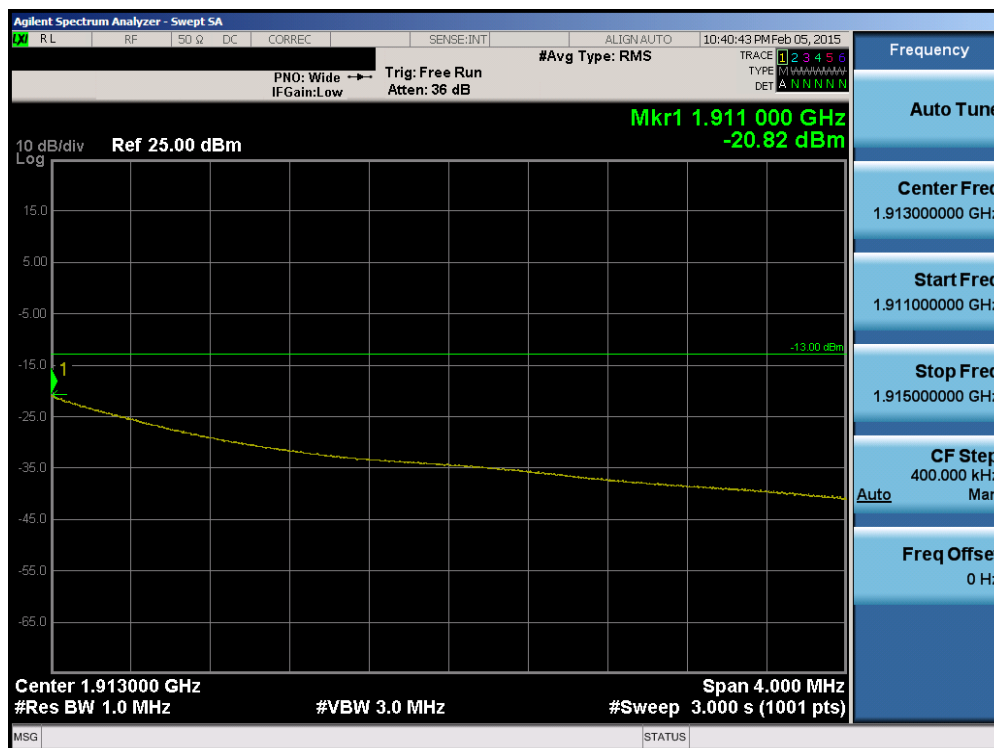


Plot 6-246. Lower Extended Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 137 of 175

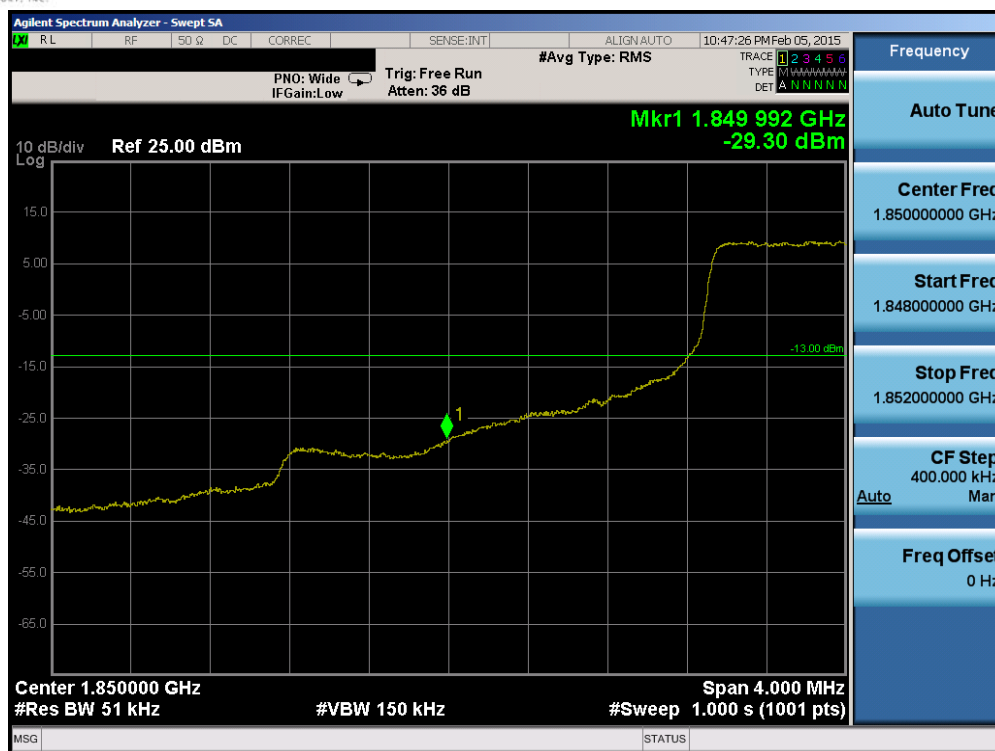


Plot 6-247. Upper Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

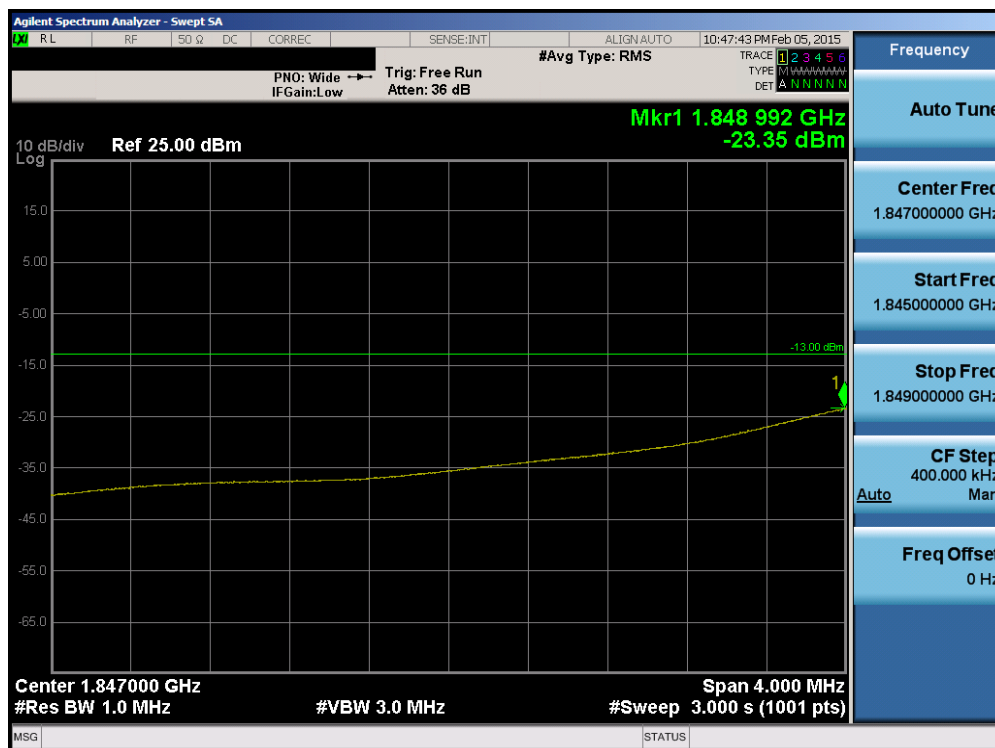


Plot 6-248. Upper Extended Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 138 of 175

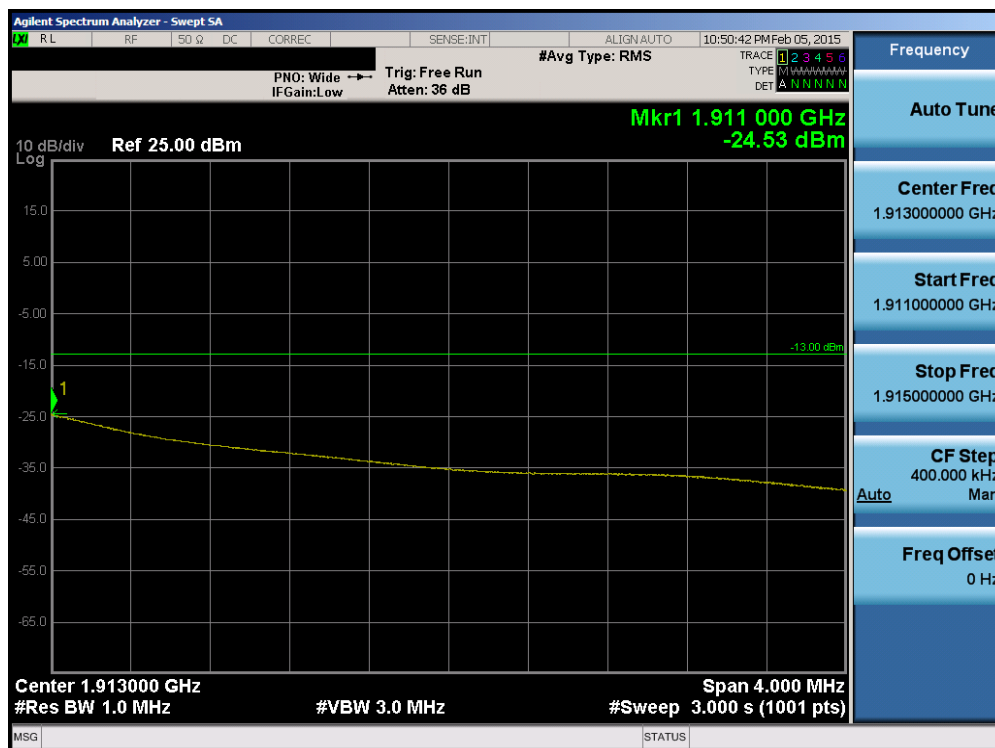


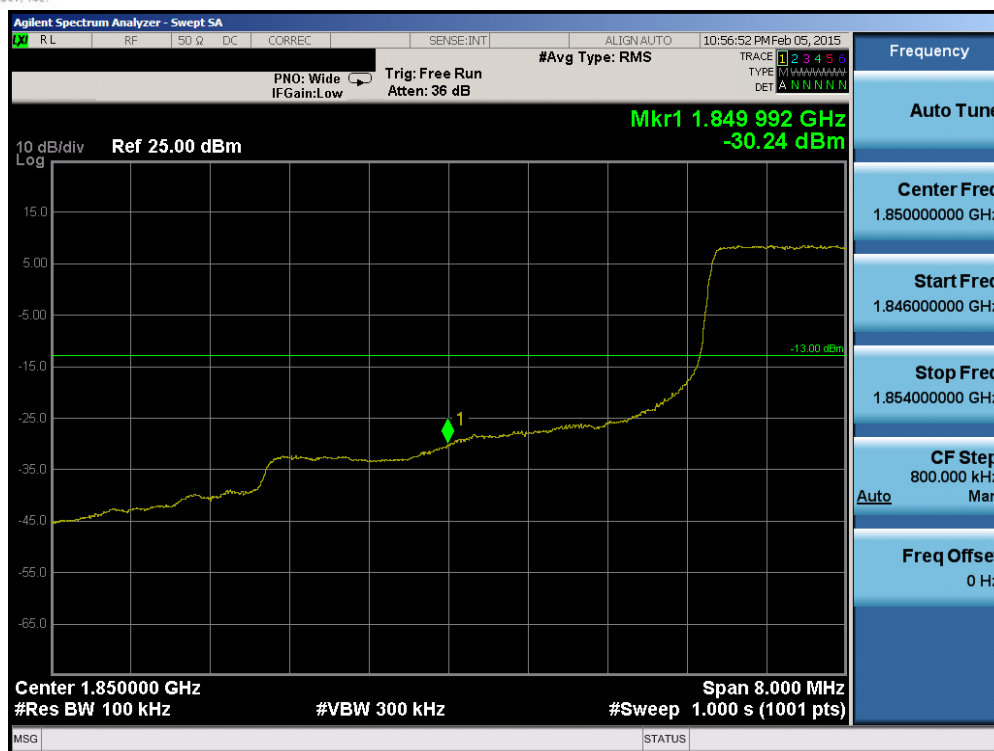
Plot 6-249. Lower Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)



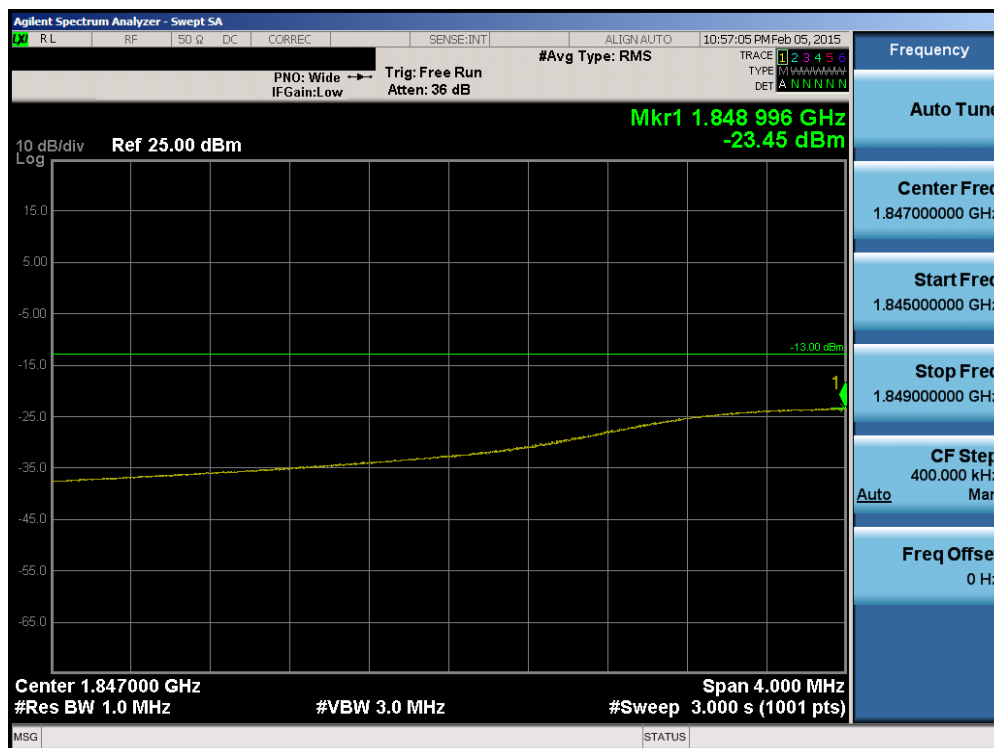
Plot 6-250. Lower Extended Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 139 of 175



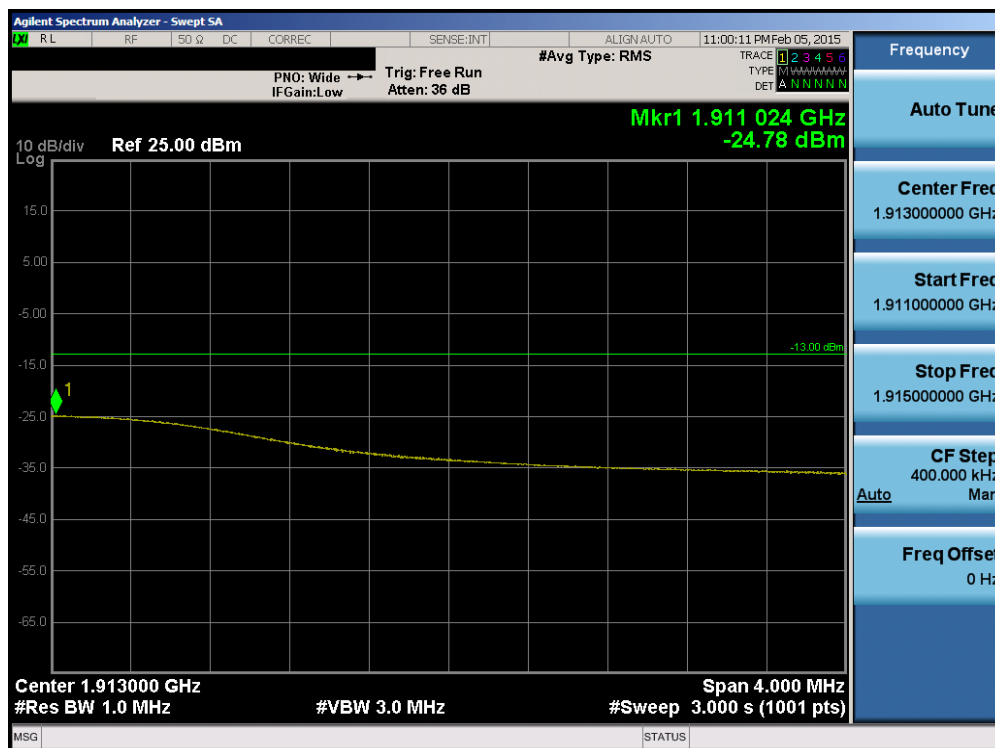


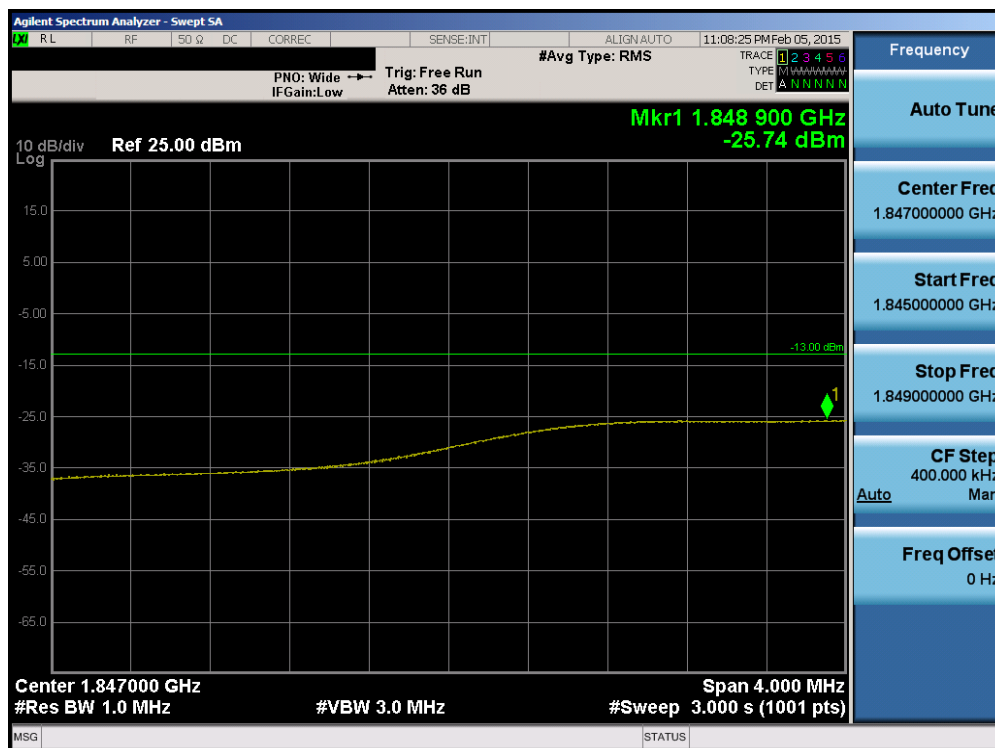
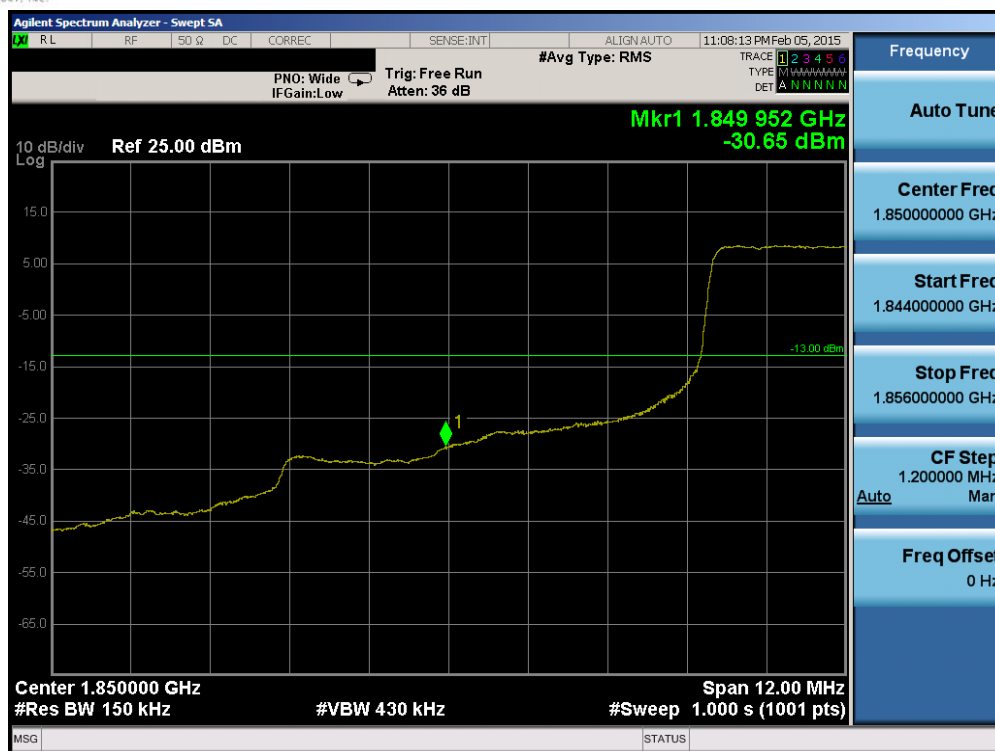
Plot 6-253. Lower Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)

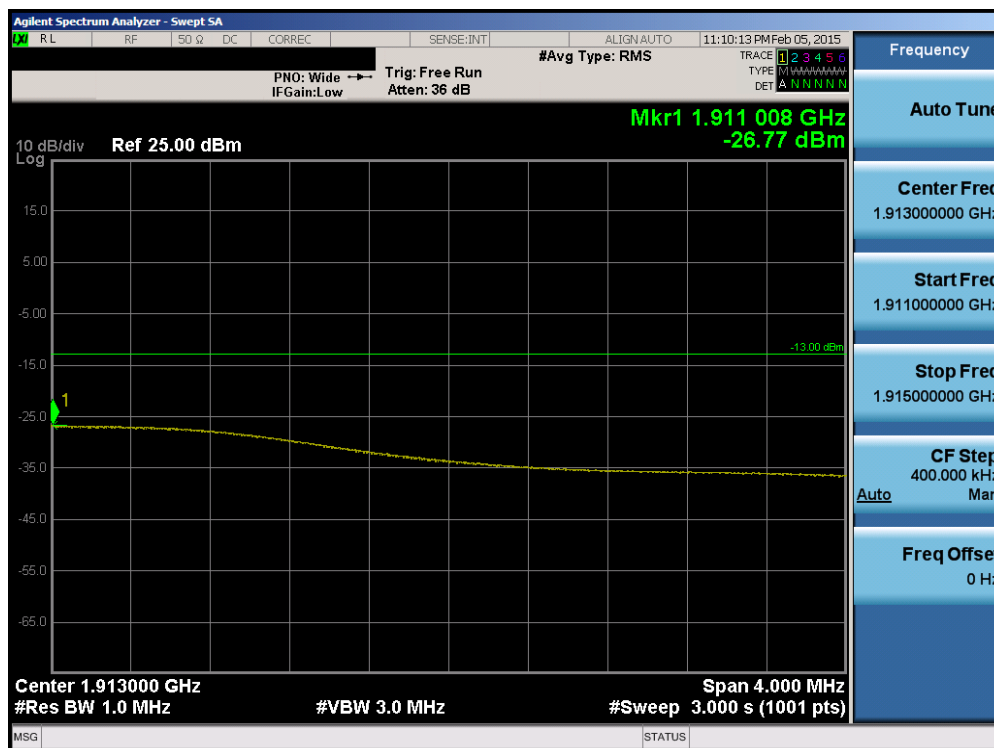


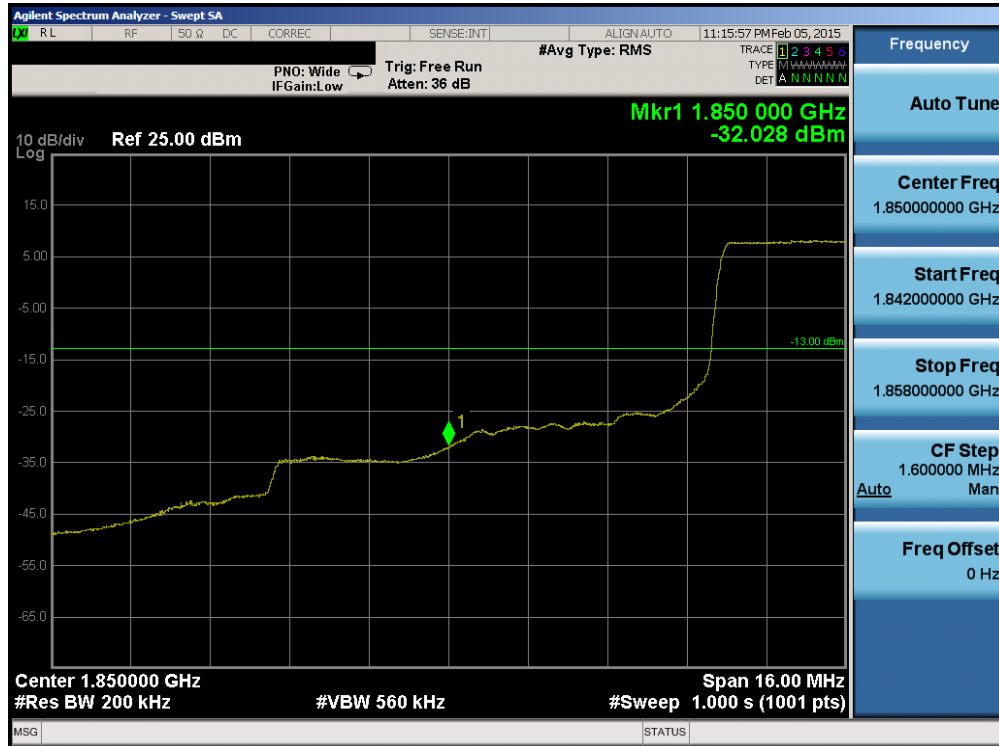
Plot 6-254. Lower Extended Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 141 of 175

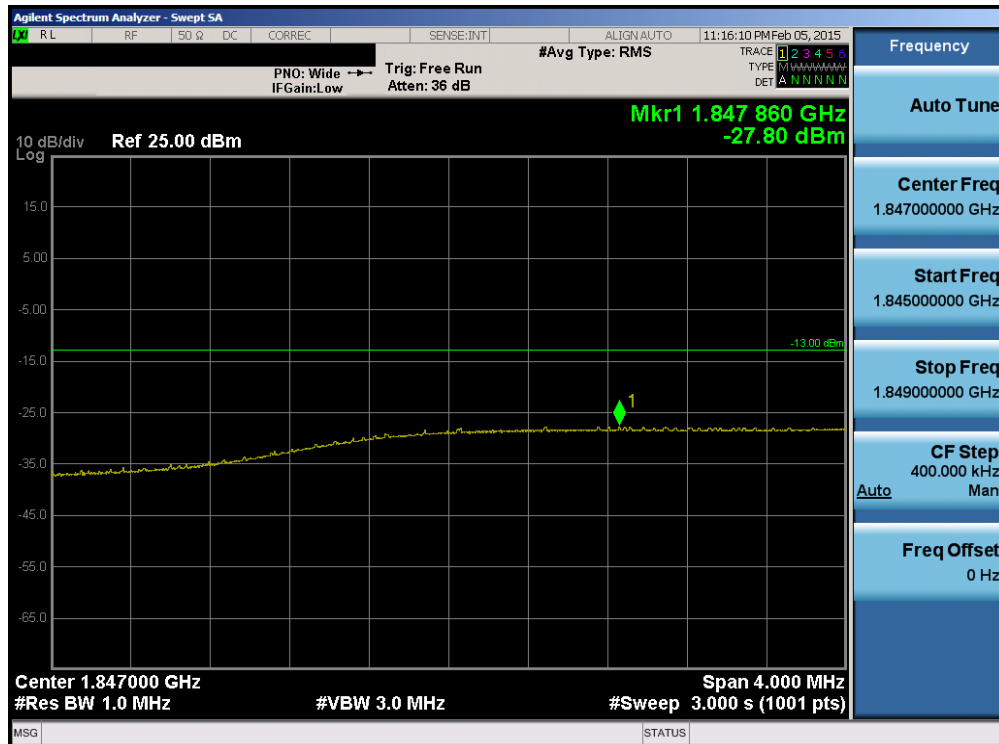








Plot 6-261. Lower Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)

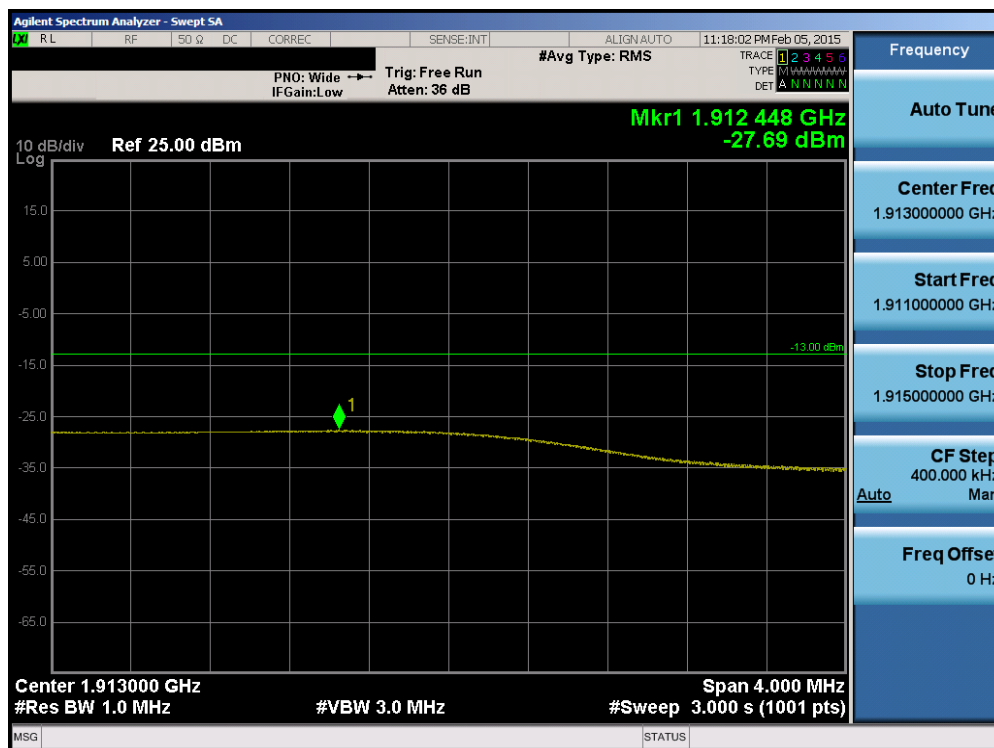


Plot 6-262. Lower Extended Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 145 of 175



Plot 6-263. Upper Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)



Plot 6-264. Upper Extended Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 146 of 175

6.5 Peak-Average Ratio

§24.232(d)

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 v02r02 – Section 5.7.1

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
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.

Test Setup

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

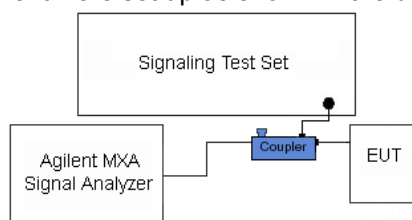
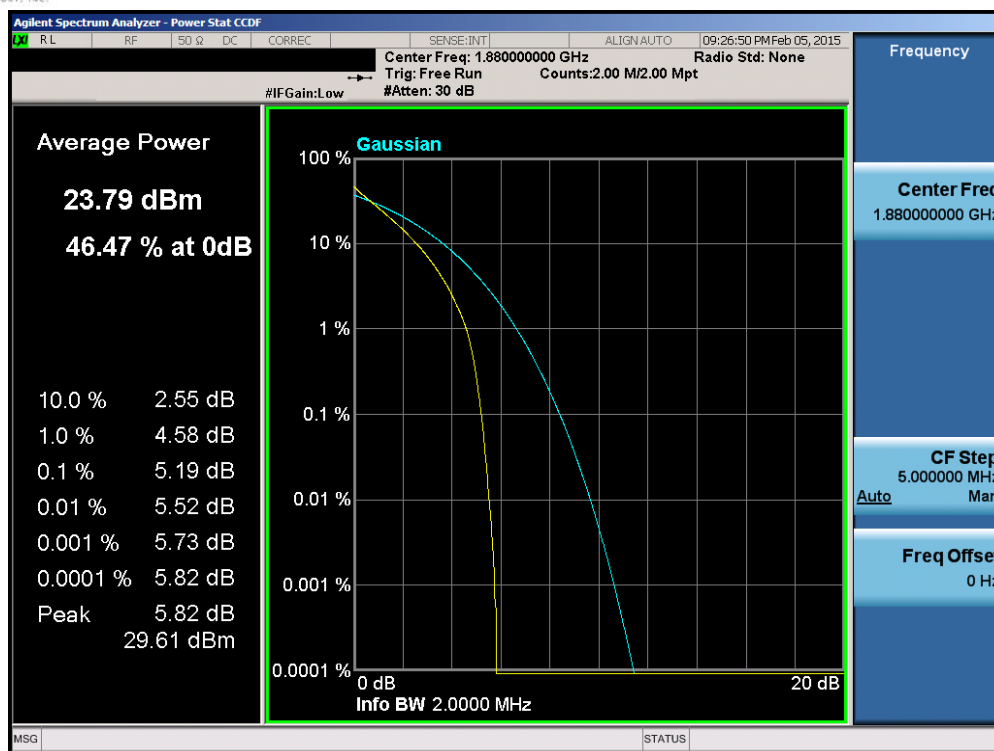


Figure 6-4. Test Instrument & Measurement Setup

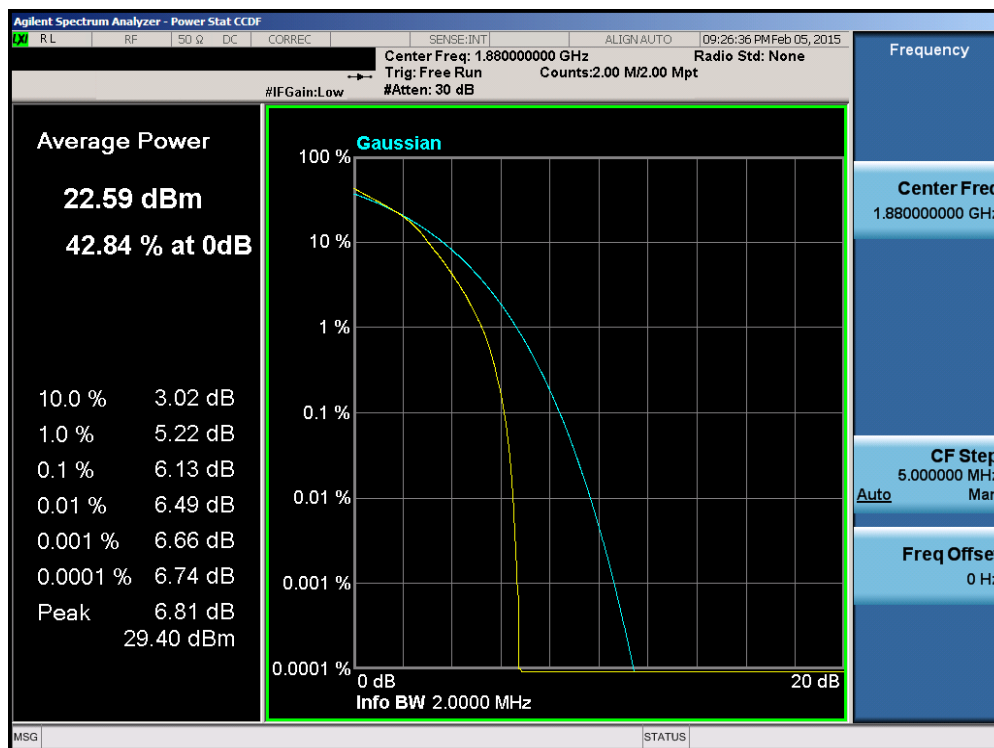
Test Notes

None.

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 147 of 175

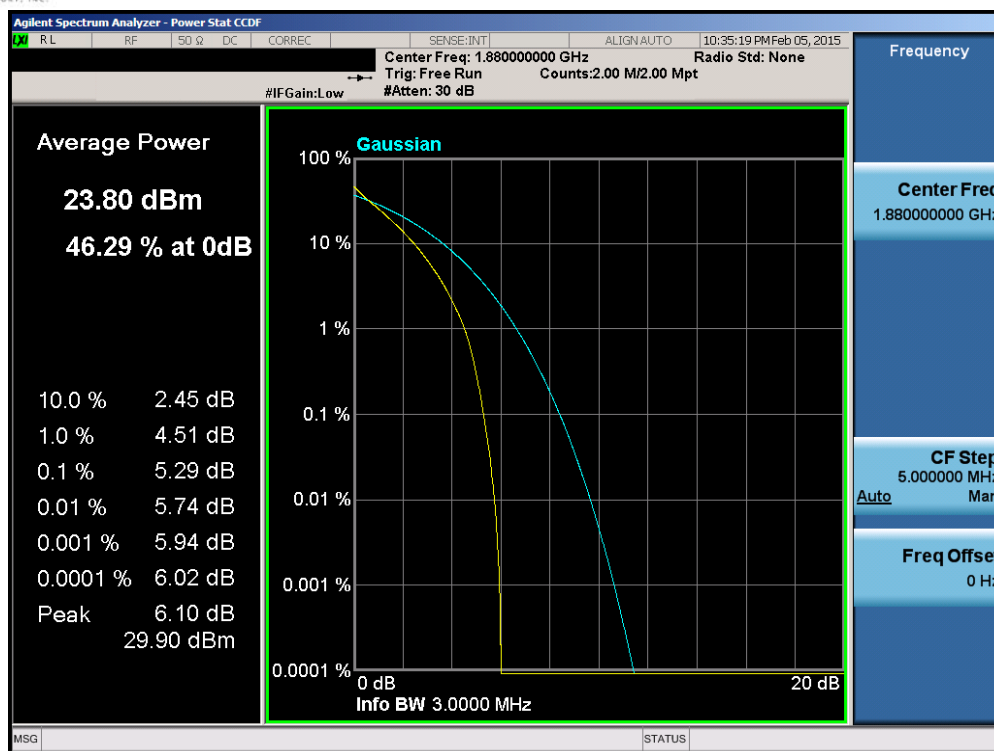


Plot 6-265. PAR Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

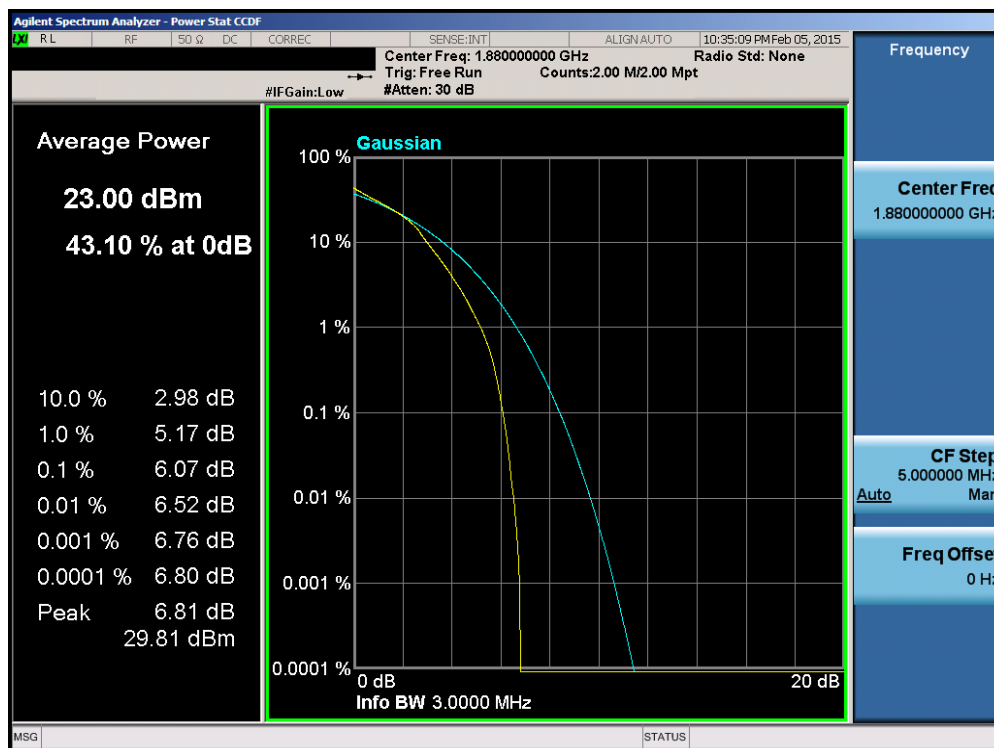


Plot 6-266. PAR Plot (Band 2 – 1.4MHz 16-QAM – RB Size 6)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 148 of 175

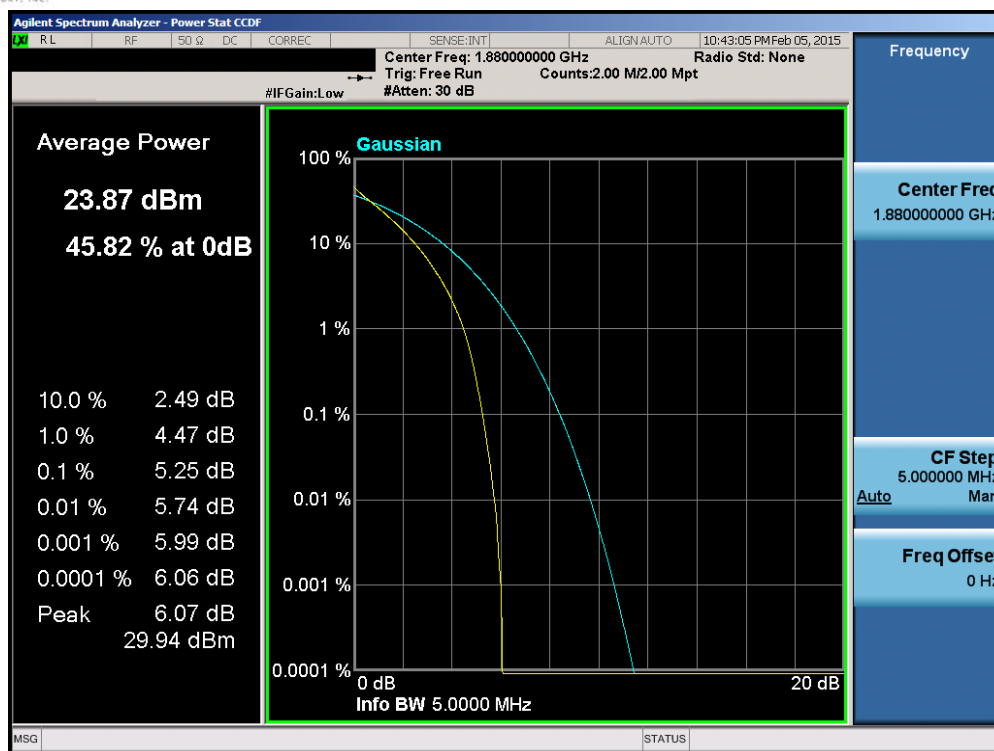


Plot 6-267. PAR Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

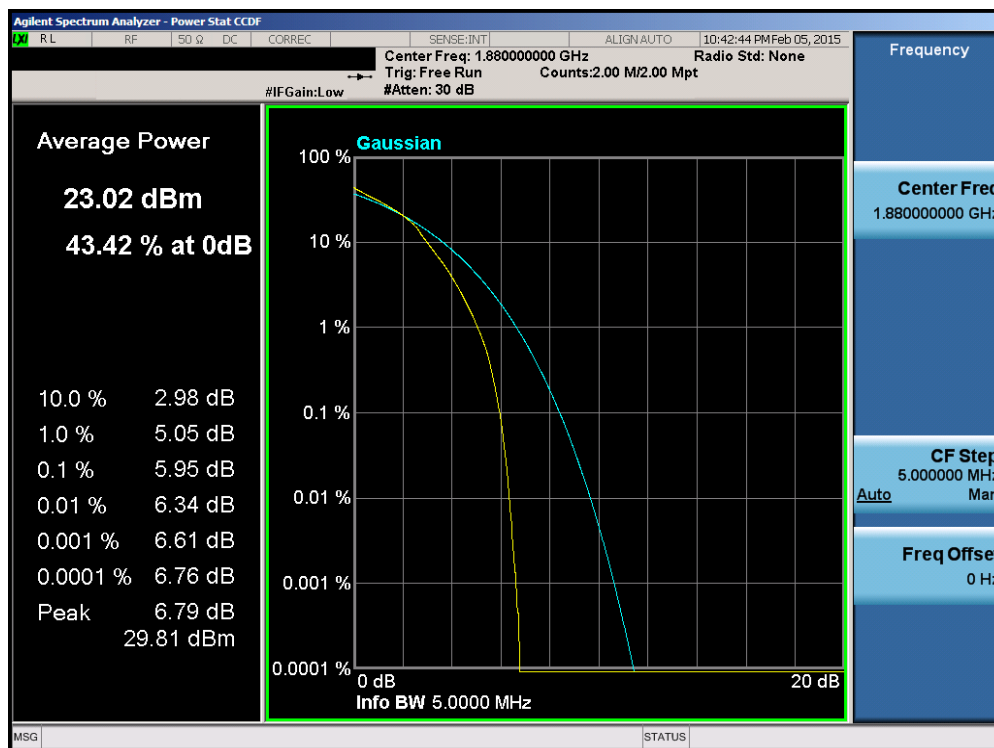


Plot 6-268. PAR Plot (Band 2 – 3.0MHz 16-QAM – RB Size 15)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 149 of 175

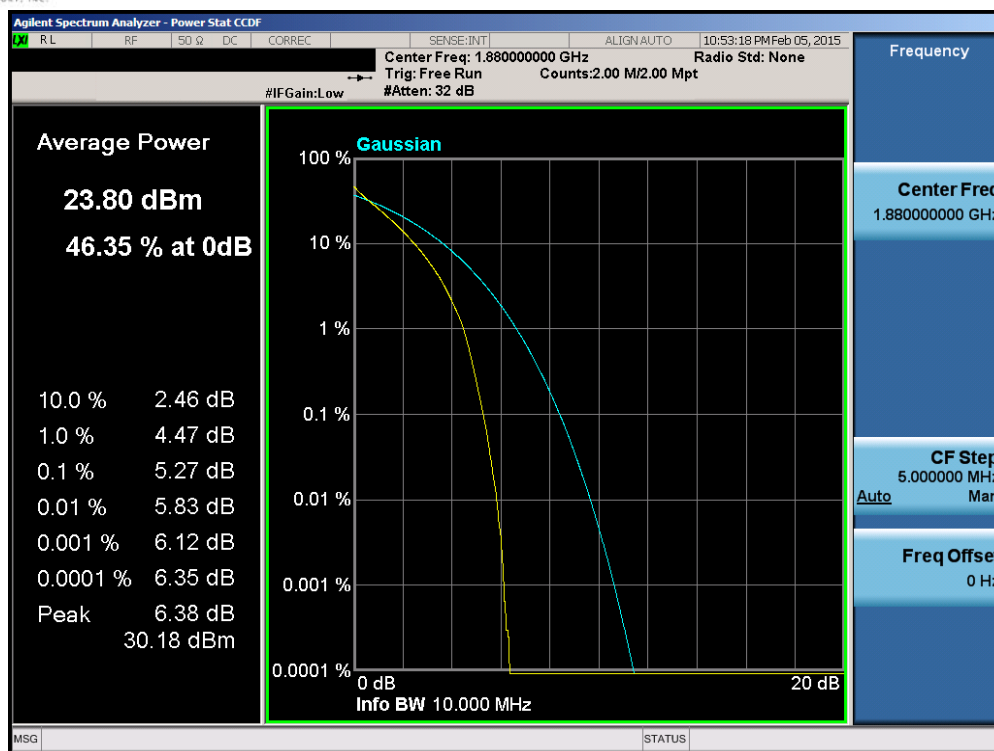


Plot 6-269. PAR Plot (Band 2 – 5.0MHz QPSK – RB Size 25)

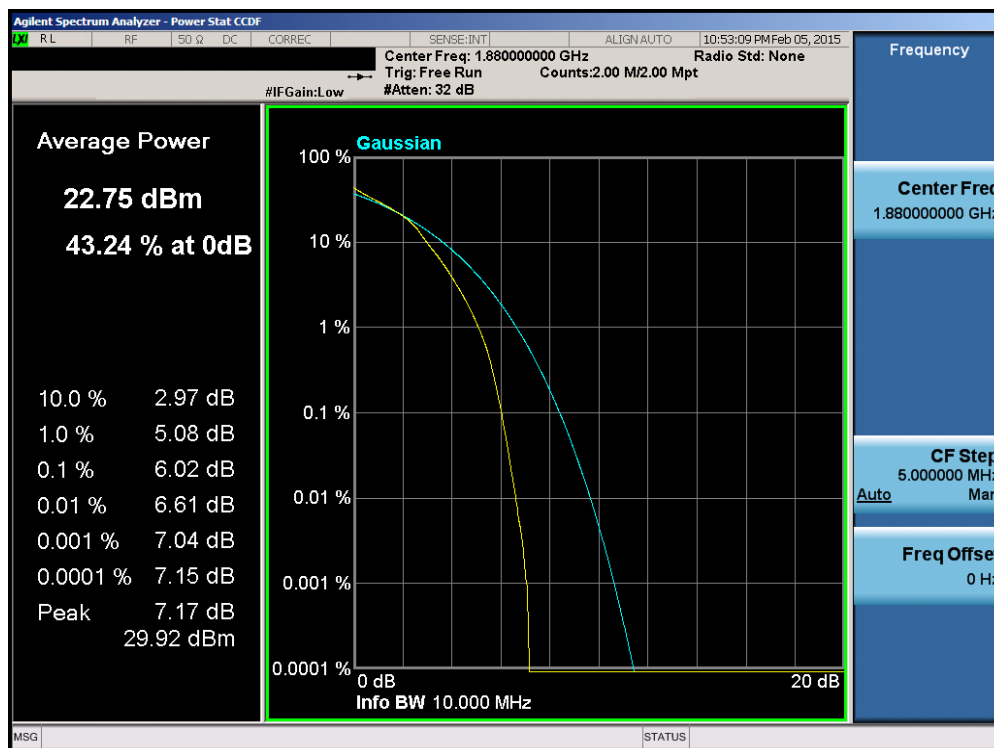


Plot 6-270. PAR Plot (Band 2 – 5.0MHz 16-QAM – RB Size 25)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 150 of 175

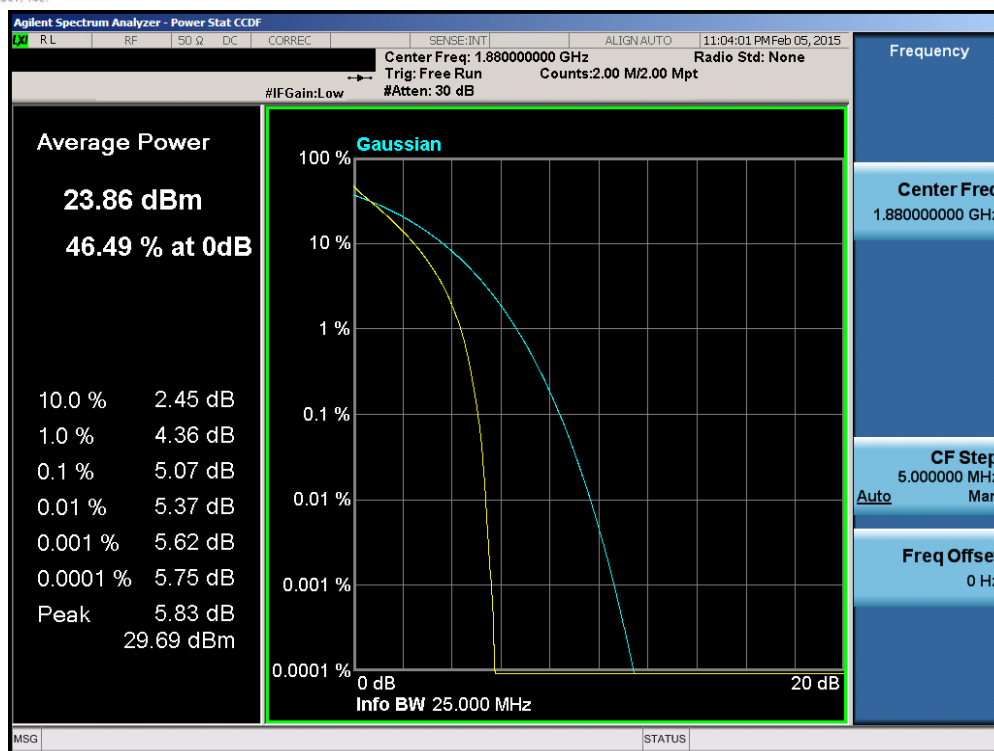


Plot 6-271. PAR Plot (Band 2 – 10.0MHz QPSK – RB Size 50)

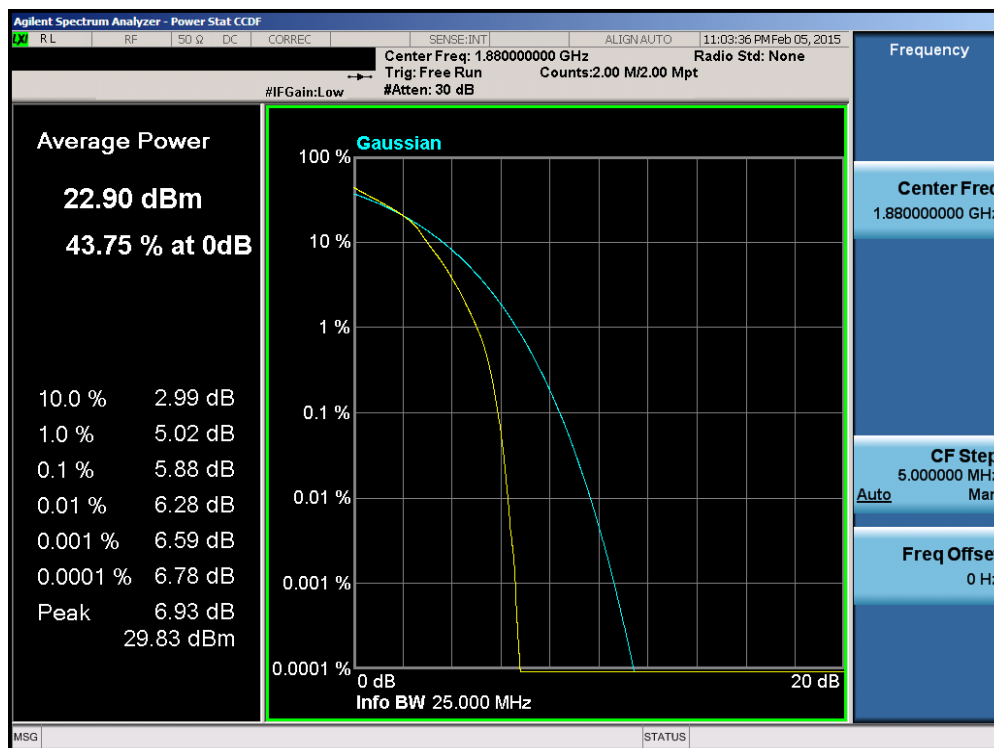


Plot 6-272. PAR Plot (Band 2 – 10.0MHz 16-QAM – RB Size 50)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 151 of 175

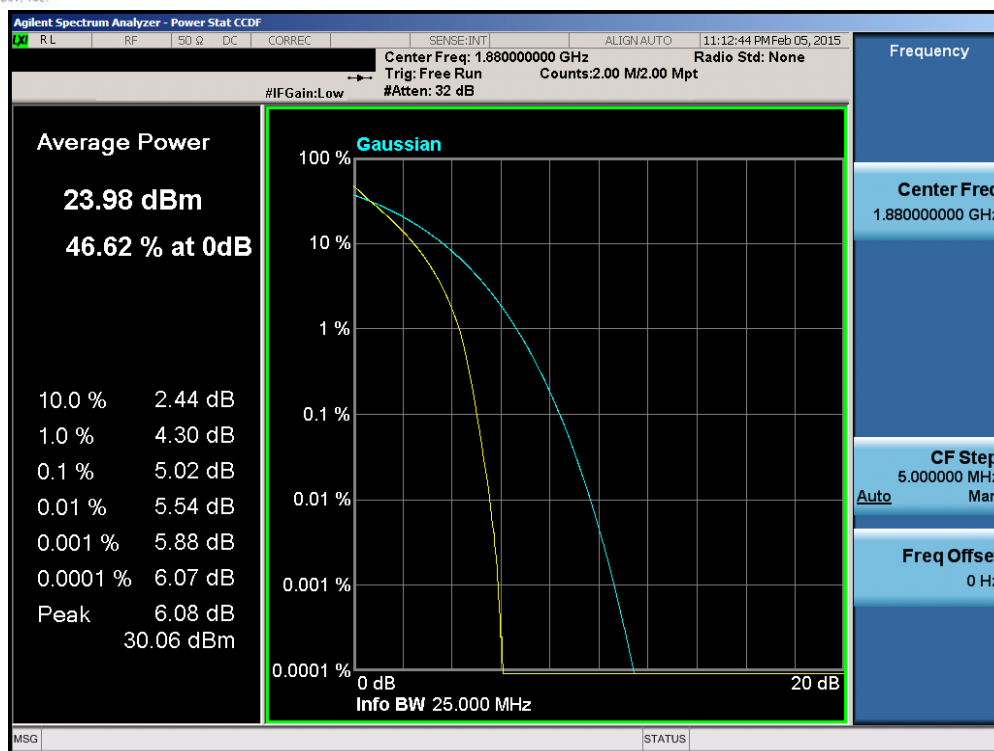


Plot 6-273. PAR Plot (Band 2 – 15.0MHz QPSK – RB Size 75)

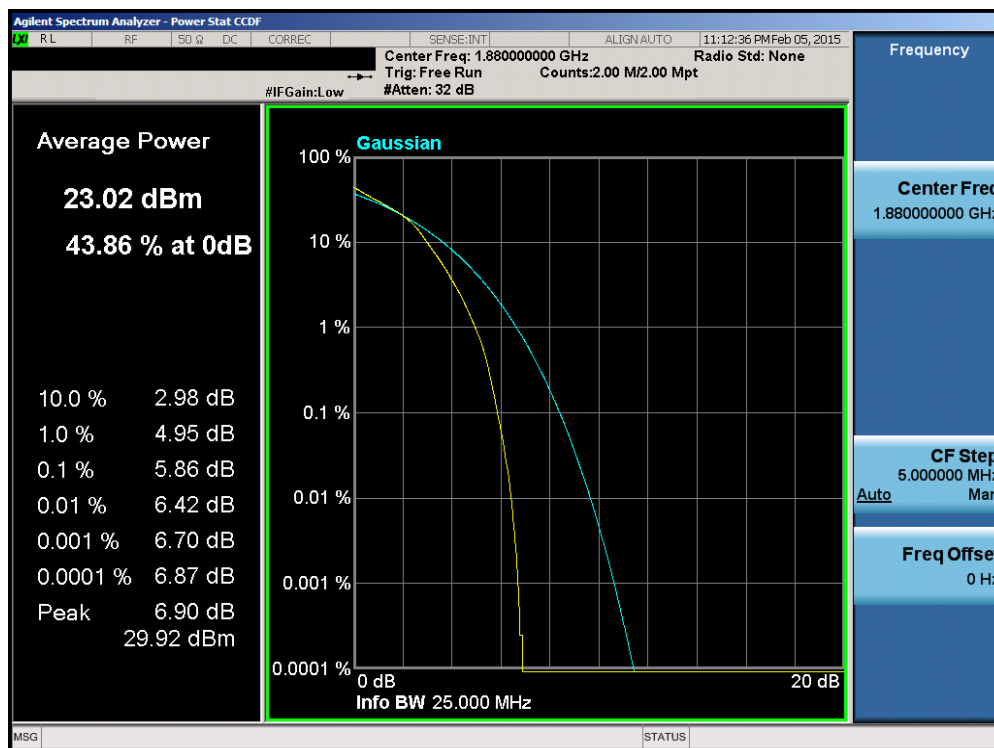


Plot 6-274. PAR Plot (Band 2 – 15.0MHz 16-QAM – RB Size 75)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 152 of 175



Plot 6-275. PAR Plot (Band 2 – 20.0MHz QPSK – RB Size 100)



Plot 6-276. PAR Plot (Band 2 – 20.0MHz 16-QAM – RB Size 100)

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 153 of 175

6.6 Radiated Power (ERP/EIRP)

§22.913(a.2) §24.232(c.2) §27.50(b.10) §27.50(d.4)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-C-2004 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 v02r02 – Section 5.2.1

ANSI/TIA-603-C-2004 – Section 2.2.17

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 154 of 175

Test Setup

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

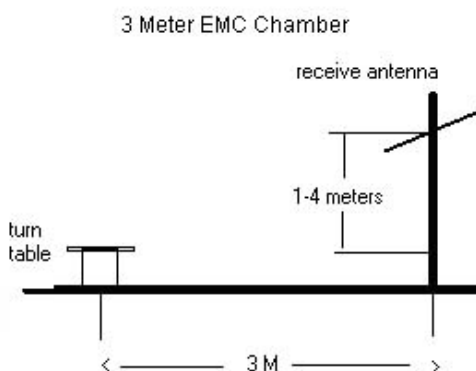


Figure 6-5. Test Instrument & Measurement Setup

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The "H" positioning is defined with the EUT lying flat on the test surface, the "H2" positioning is defined with the EUT standing up on its side, and the "V" positioning is defined with the EUT standing upright. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Battery	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBd]	Ant. Pol. [H/V]	ERP [dBm]	ERP Limit [dBm]	Margin [dB]
779.50	5	QPSK	Standard	25 / 0	16.83	2.47	V	19.30	34.77	-15.47
782.00	5	QPSK	Standard	1 / 0	16.85	2.51	V	19.36	34.77	-15.41
784.50	5	QPSK	Standard	1 / 0	16.63	2.56	V	19.19	34.77	-15.58
779.50	5	16QAM	Standard	25 / 0	15.94	2.47	V	18.41	34.77	-16.36
782.00	5	16QAM	Standard	1 / 0	15.92	2.51	V	18.43	34.77	-16.34
784.50	5	16QAM	Standard	1 / 0	16.06	2.56	V	18.62	34.77	-16.15
782.00	10	QPSK	Standard	1 / 0	17.04	2.51	V	19.55	34.77	-15.22
782.00	10	16QAM	Standard	1 / 0	16.49	2.51	V	19.00	34.77	-15.77

Table 6-2. ERP Data (Band 13)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 155 of 175

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Battery	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBd]	Ant. Pol. [H/V]	ERP [dBm]	ERP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	Standard	1 / 0	14.38	2.98	V	17.36	38.45	-21.09
836.50	1.4	QPSK	Standard	1 / 0	13.05	3.04	V	16.09	38.45	-22.36
848.30	1.4	QPSK	Standard	1 / 5	13.24	3.10	V	16.34	38.45	-22.11
824.70	1.4	16-QAM	Standard	1 / 0	13.74	2.98	V	16.72	38.45	-21.73
836.50	1.4	16-QAM	Standard	1 / 0	12.37	3.04	V	15.41	38.45	-23.04
848.30	1.4	16-QAM	Standard	1 / 5	12.46	3.10	V	15.56	38.45	-22.89
825.50	3	QPSK	Standard	1 / 0	13.59	2.98	V	16.57	38.45	-21.88
836.50	3	QPSK	Standard	1 / 14	12.66	3.04	V	15.70	38.45	-22.75
847.50	3	QPSK	Standard	1 / 0	13.29	3.10	V	16.39	38.45	-22.06
825.50	3	16-QAM	Standard	1 / 0	12.76	2.98	V	15.74	38.45	-22.71
836.50	3	16-QAM	Standard	1 / 14	11.81	3.04	V	14.85	38.45	-23.60
847.50	3	16-QAM	Standard	1 / 0	12.55	3.10	V	15.65	38.45	-22.80
826.50	5	QPSK	Standard	1 / 0	13.70	2.99	V	16.69	38.45	-21.76
836.50	5	QPSK	Standard	1 / 24	12.97	3.04	V	16.01	38.45	-22.44
846.50	5	QPSK	Standard	1 / 0	13.46	3.09	V	16.55	38.45	-21.90
826.50	5	16-QAM	Standard	1 / 0	12.93	2.99	V	15.92	38.45	-22.53
836.50	5	16-QAM	Standard	1 / 24	12.11	3.04	V	15.15	38.45	-23.30
846.50	5	16-QAM	Standard	1 / 0	12.77	3.09	V	15.86	38.45	-22.59
829.00	10	QPSK	Standard	1 / 0	14.46	3.00	V	17.46	38.45	-20.99
836.50	10	QPSK	Standard	1 / 0	12.80	3.04	V	15.84	38.45	-22.61
844.00	10	QPSK	Standard	1 / 49	13.76	3.08	V	16.84	38.45	-21.61
829.00	10	16-QAM	Standard	1 / 0	13.39	3.00	V	16.39	38.45	-22.06
836.50	10	16-QAM	Standard	1 / 0	12.88	3.04	V	15.92	38.45	-22.53
844.00	10	16-QAM	Standard	1 / 49	12.81	3.08	V	15.89	38.45	-22.56

Table 6-3. ERP Data (Band 5)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 156 of 175

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Battery	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	Ant. Pol. [H/V]	EIRP [dBm]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	Standard	1 / 0	17.02	8.21	V	25.23	30.000	-4.77
1732.50	1.4	QPSK	Standard	1 / 0	16.67	8.13	V	24.80	30.000	-5.20
1754.30	1.4	QPSK	Standard	1 / 0	15.36	8.05	V	23.41	30.000	-6.59
1710.70	1.4	16-QAM	Standard	1 / 0	15.87	8.21	V	24.08	30.000	-5.92
1732.50	1.4	16-QAM	Standard	1 / 0	15.77	8.13	V	23.90	30.000	-6.10
1754.30	1.4	16-QAM	Standard	1 / 0	14.53	8.05	V	22.58	30.000	-7.42
1711.50	3	QPSK	Standard	1 / 0	17.02	8.21	V	25.23	30.000	-4.77
1732.50	3	QPSK	Standard	1 / 0	16.73	8.13	V	24.86	30.000	-5.14
1753.50	3	QPSK	Standard	1 / 0	15.20	8.05	V	23.25	30.000	-6.75
1711.50	3	16-QAM	Standard	1 / 0	16.19	8.21	V	24.40	30.000	-5.60
1732.50	3	16-QAM	Standard	1 / 0	15.91	8.13	V	24.04	30.000	-5.96
1753.50	3	16-QAM	Standard	1 / 0	14.36	8.05	V	22.41	30.000	-7.59
1712.50	5	QPSK	Standard	1 / 0	17.73	8.21	V	25.94	30.000	-4.06
1732.50	5	QPSK	Standard	1 / 0	17.04	8.13	V	25.17	30.000	-4.83
1752.50	5	QPSK	Standard	1 / 0	16.18	8.05	V	24.23	30.000	-5.77
1712.50	5	16-QAM	Standard	1 / 0	17.10	8.21	V	25.31	30.000	-4.69
1732.50	5	16-QAM	Standard	1 / 0	15.77	8.13	V	23.90	30.000	-6.10
1752.50	5	16-QAM	Standard	1 / 0	15.52	8.05	V	23.57	30.000	-6.43
1715.00	10	QPSK	Standard	1 / 0	16.72	8.21	V	24.93	30.000	-5.07
1732.50	10	QPSK	Standard	1 / 0	16.25	8.13	V	24.38	30.000	-5.62
1750.00	10	QPSK	Standard	1 / 0	16.70	8.05	V	24.75	30.000	-5.25
1715.00	10	16-QAM	Standard	1 / 0	16.60	8.21	V	24.81	30.000	-5.19
1732.50	10	16-QAM	Standard	1 / 0	15.16	8.13	V	23.29	30.000	-6.71
1750.00	10	16-QAM	Standard	1 / 0	16.44	8.05	V	24.49	30.000	-5.51
1717.50	15	QPSK	Standard	1 / 0	17.56	8.21	V	25.77	30.000	-4.23
1732.50	15	QPSK	Standard	1 / 0	16.77	8.13	V	24.90	30.000	-5.10
1747.50	15	QPSK	Standard	1 / 0	16.08	8.05	V	24.13	30.000	-5.87
1717.50	15	16-QAM	Standard	1 / 0	16.16	8.21	V	24.37	30.000	-5.63
1732.50	15	16-QAM	Standard	1 / 0	16.66	8.13	V	24.79	30.000	-5.21
1747.50	15	16-QAM	Standard	1 / 0	15.84	8.05	V	23.89	30.000	-6.11
1720.00	20	QPSK	Standard	1 / 0	17.43	8.21	V	25.64	30.000	-4.36
1732.50	20	QPSK	Standard	1 / 0	16.55	8.13	V	24.68	30.000	-5.32
1745.00	20	QPSK	Standard	1 / 0	16.19	8.05	V	24.24	30.000	-5.76
1720.00	20	16-QAM	Standard	1 / 0	16.25	8.21	V	24.46	30.000	-5.54
1732.50	20	16-QAM	Standard	1 / 0	16.00	8.13	V	24.13	30.000	-5.87
1745.00	20	16-QAM	Standard	1 / 0	15.48	8.05	V	23.53	30.000	-6.47

Table 6-4. EIRP Data (Band 4)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 157 of 175

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Battery	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	Ant. Pol. [H/V]	EIRP [dBm]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	Standard	1 / 0	16.60	7.98	V	24.58	33.010	-8.43
1880.00	1.4	QPSK	Standard	1 / 0	16.74	8.02	V	24.76	33.010	-8.25
1909.30	1.4	QPSK	Standard	1 / 0	16.65	8.08	V	24.73	33.010	-8.28
1850.70	1.4	16-QAM	Standard	1 / 0	15.66	7.98	V	23.64	33.010	-9.37
1880.00	1.4	16-QAM	Standard	1 / 0	15.51	8.02	V	23.53	33.010	-9.48
1909.30	1.4	16-QAM	Standard	1 / 0	14.99	8.08	V	23.07	33.010	-9.94
1851.50	3	QPSK	Standard	1 / 0	16.56	7.98	V	24.54	33.010	-8.47
1880.00	3	QPSK	Standard	1 / 0	17.80	8.02	V	25.82	33.010	-7.19
1908.50	3	QPSK	Standard	1 / 0	16.65	8.08	V	24.73	33.010	-8.28
1851.50	3	16-QAM	Standard	1 / 0	16.23	7.98	V	24.21	33.010	-8.80
1880.00	3	16-QAM	Standard	1 / 0	15.96	8.02	V	23.98	33.010	-9.03
1908.50	3	16-QAM	Standard	1 / 0	15.92	8.08	V	24.00	33.010	-9.01
1852.50	5	QPSK	Standard	1 / 0	16.74	7.98	V	24.72	33.010	-8.29
1880.00	5	QPSK	Standard	1 / 0	17.29	8.02	V	25.31	33.010	-7.70
1907.50	5	QPSK	Standard	1 / 0	16.28	8.08	V	24.36	33.010	-8.65
1852.50	5	16-QAM	Standard	1 / 0	15.89	7.98	V	23.87	33.010	-9.14
1880.00	5	16-QAM	Standard	1 / 0	16.82	8.02	V	24.84	33.010	-8.17
1907.50	5	16-QAM	Standard	1 / 0	15.36	8.08	V	23.44	33.010	-9.57
1855.00	10	QPSK	Standard	1 / 0	17.28	7.98	V	25.26	33.010	-7.75
1880.00	10	QPSK	Standard	1 / 0	17.70	8.02	V	25.72	33.010	-7.29
1905.00	10	QPSK	Standard	1 / 0	17.07	8.08	V	25.15	33.010	-7.86
1855.00	10	16-QAM	Standard	1 / 0	16.12	7.98	V	24.10	33.010	-8.91
1880.00	10	16-QAM	Standard	1 / 0	17.44	8.02	V	25.46	33.010	-7.55
1905.00	10	16-QAM	Standard	1 / 0	16.08	8.08	V	24.16	33.010	-8.85
1857.50	15	QPSK	Standard	1 / 0	17.41	7.98	V	25.39	33.010	-7.62
1880.00	15	QPSK	Standard	1 / 0	17.51	8.02	V	25.53	33.010	-7.48
1902.50	15	QPSK	Standard	1 / 0	17.42	8.08	V	25.50	33.010	-7.51
1857.50	15	16-QAM	Standard	1 / 0	16.95	7.98	V	24.93	33.010	-8.08
1880.00	15	16-QAM	Standard	1 / 0	16.77	8.02	V	24.79	33.010	-8.22
1902.50	15	16-QAM	Standard	1 / 0	16.77	8.08	V	24.85	33.010	-8.16
1860.00	20	QPSK	Standard	1 / 0	17.48	7.98	V	25.46	33.010	-7.55
1880.00	20	QPSK	Standard	1 / 0	18.44	8.02	V	26.46	33.010	-6.55
1900.00	20	QPSK	Standard	1 / 0	17.63	8.08	V	25.71	33.010	-7.30
1860.00	20	16-QAM	Standard	1 / 0	16.71	7.98	V	24.69	33.010	-8.32
1880.00	20	16-QAM	Standard	1 / 0	17.76	8.02	V	25.78	33.010	-7.23
1900.00	20	16-QAM	Standard	1 / 0	16.92	8.08	V	25.00	33.010	-8.01

Table 6-5. EIRP Data (Band 2)

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 			Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 158 of 175

6.7 Radiated Spurious Emissions Measurements

§2.1053 §22.917(a) §24.238(a) §27.53(c) §27.53(f) §27.53(h)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-C-2004 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 v02r02 – Section 5.8

ANSI/TIA-603-C-2004 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = Peak
6. Trace mode = max hold
7. The trace was allowed to stabilize

Test Setup

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

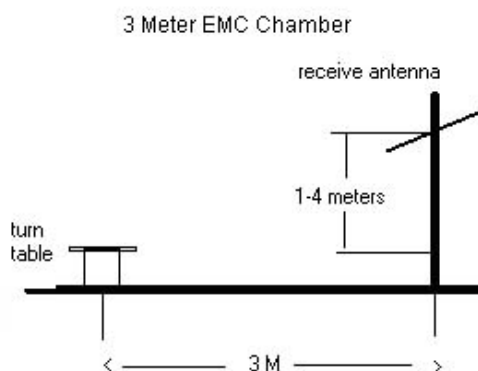


Figure 6-6. Test Instrument & Measurement Setup

FCC ID: ZNFVK815	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 159 of 175

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The "H" positioning is defined with the EUT lying flat on the test surface, the "H2" positioning is defined with the EUT standing up on its side, and the "V" positioning is defined with the EUT standing upright. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

OPERATING FREQUENCY: 782.00 MHz
 CHANNEL: 23230
 MEASURED OUTPUT POWER: 19.55 dBm = 0.090 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) = 32.55$ dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
1564.00	-66.88	6.54	-60.34	H	79.9
2346.00	-63.70	6.82	-56.89	H	76.4

Table 6-6. Radiated Spurious Data (Band 13 – Mid Channel)

OPERATING FREQUENCY: 782.00 MHz
 CHANNEL: 23230
 MEASURED OUTPUT POWER: 19.55 dBm = 0.090 W
 MODULATION SIGNAL: QPSK
 DISTANCE: 3 meters
 JARROWBAND EMISSION LIMIT: -50 dBm
 WIDEBAND EMISSION LIMIT: -40 dBm/MHz

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
1562.00	-65.84	6.53	-59.31	H	-19.3

Table 6-7. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 160 of 175

OPERATING FREQUENCY: 829.00 MHz
 CHANNEL: 20450
 MEASURED OUTPUT POWER: 17.46 dBm = 0.056 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 30.46 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
1658.00	-54.50	6.59	-47.91	V	65.4
2487.00	-59.35	7.31	-52.05	V	69.5
3316.00	-62.87	7.40	-55.47	V	72.9
4145.00	-60.49	8.14	-52.35	V	69.8
4974.00	-60.21	8.78	-51.43	V	68.9

Table 6-8. Radiated Spurious Data (Band 5 – Low Channel)

OPERATING FREQUENCY: 836.50 MHz
 CHANNEL: 20525
 MEASURED OUTPUT POWER: 15.84 dBm = 0.038 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 28.84 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
1673.00	-52.26	6.59	-45.67	V	61.5
2509.50	-62.90	7.34	-55.57	V	71.4
3346.00	-63.43	7.45	-55.97	V	71.8
4182.50	-60.55	8.25	-52.30	V	68.1
5019.00	-59.60	8.76	-50.84	V	66.7

Table 6-9. Radiated Spurious Data (Band 5 – Mid Channel)

OPERATING FREQUENCY: 844.00 MHz
 CHANNEL: 20600
 MEASURED OUTPUT POWER: 16.84 dBm = 0.048 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 29.84 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
1688.00	-56.31	6.58	-49.73	V	66.6
2532.00	-57.28	7.36	-49.93	V	66.8
3376.00	-62.69	7.50	-55.18	V	72.0
4220.00	-60.86	8.36	-52.50	V	69.3
5064.00	-59.76	8.66	-51.10	V	67.9

Table 6-10. Radiated Spurious Data (Band 5 – High Channel)

OPERATING FREQUENCY: 1712.50 MHz
 CHANNEL: 19975
 MEASURED OUTPUT POWER: 25.94 dBm = 0.393 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 38.94 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3425.00	-50.21	9.57	-40.64	H	66.6
5137.50	-63.66	10.95	-52.70	H	78.6

Table 6-11. Radiated Spurious Data (Band 4 – Low Channel)

OPERATING FREQUENCY: 1732.50 MHz
 CHANNEL: 20175
 MEASURED OUTPUT POWER: 25.17 dBm = 0.329 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.17 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3465.00	-47.78	9.63	-38.14	H	63.3
5197.50	-63.52	10.93	-52.59	H	77.8

Table 6-12. Radiated Spurious Data (Band 4 – Mid Channel)

OPERATING FREQUENCY: 1752.50 MHz
 CHANNEL: 20375
 MEASURED OUTPUT POWER: 24.23 dBm = 0.265 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 37.23 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3505.00	-52.63	9.71	-42.91	H	67.1
5257.50	-62.96	11.00	-51.97	H	76.2

Table 6-13. Radiated Spurious Data (Band 4 – High Channel)

OPERATING FREQUENCY: 1860.00 MHz
 CHANNEL: 18700
 MEASURED OUTPUT POWER: 25.46 dBm = 0.352 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.46 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3720.00	-48.86	9.85	-39.01	H	64.5
5580.00	-62.53	11.17	-51.36	H	76.8
7440.00	-57.48	10.82	-46.66	H	72.1

Table 6-14. Radiated Spurious Data (Band 2 – Low Channel)

OPERATING FREQUENCY: 1880.00 MHz
 CHANNEL: 18900
 MEASURED OUTPUT POWER: 26.46 dBm = 0.443 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 39.46 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3760.00	-56.35	9.70	-46.65	H	73.1
5640.00	-62.45	11.25	-51.20	H	77.7
7520.00	-58.56	10.99	-47.57	H	74.0

Table 6-15. Radiated Spurious Data (Band 2 – Mid Channel)

OPERATING FREQUENCY: 1900.00 MHz
 CHANNEL: 19100
 MEASURED OUTPUT POWER: 25.71 dBm = 0.373 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.71 dBc

Frequency [MHz]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Ant. Pol. [H/V]	[dBc]
3800.00	-56.71	9.55	-47.17	H	72.9
5700.00	-59.01	11.29	-47.72	H	73.4
7600.00	-57.80	11.17	-46.63	H	72.3

Table 6-16. Radiated Spurious Data (Band 2 – High Channel)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 165 of 175

6.8 Frequency Stability / Temperature Variation

\$2.1055 \$22.355 \$24.235 \$27.54

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-C-2004. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24 and Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-C-2004

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 166 of 175

Band 13 Frequency Stability Measurements

§2.1055 §27.54

OPERATING FREQUENCY: 782,000,000 Hz

CHANNEL: 23230

REFERENCE VOLTAGE: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	782,000,019	19	0.0000024
100 %		- 30	782,000,082	82	0.0000105
100 %		- 20	782,000,040	40	0.0000051
100 %		- 10	782,000,071	71	0.0000090
100 %		0	782,000,005	5	0.0000006
100 %		+ 10	782,000,074	74	0.0000095
100 %		+ 20	782,000,060	60	0.0000077
100 %		+ 30	782,000,071	71	0.0000090
100 %		+ 40	782,000,037	37	0.0000047
100 %		+ 50	782,000,035	35	0.0000045
BATT. ENDPOINT	3.40	+ 20	782,000,093	93	0.0000119

Table 6-17. Frequency Stability Data (Band 13)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 167 of 175

Band 13 Frequency Stability Measurements

§2.1055 §27.54

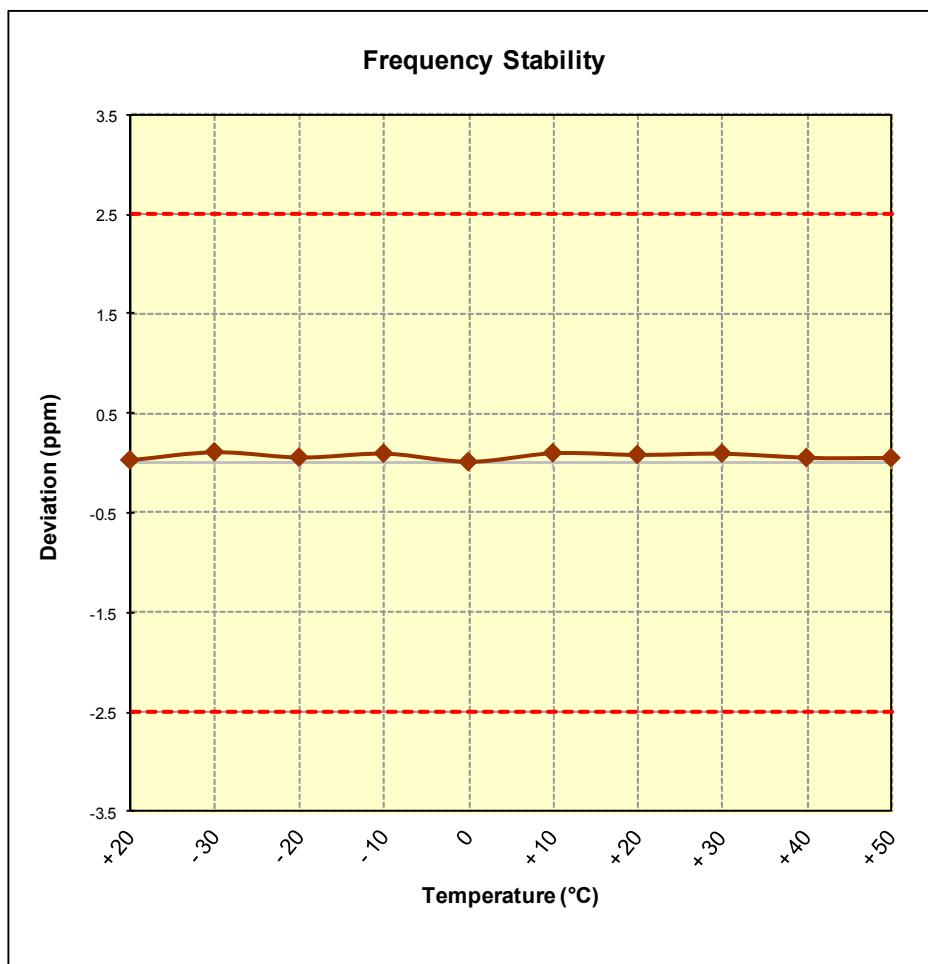


Figure 6-7. Frequency Stability Graph (Band 13)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 168 of 175

Band 5 Frequency Stability Measurements

§2.1055 §22.355

OPERATING FREQUENCY: 836,500,000 Hz

CHANNEL: 20525

REFERENCE VOLTAGE: 3.80 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	836,500,066	66	0.0000079
100 %		- 30	836,500,092	92	0.0000110
100 %		- 20	836,500,018	18	0.0000021
100 %		- 10	836,500,020	20	0.0000023
100 %		0	836,500,063	63	0.0000075
100 %		+ 10	836,500,048	48	0.0000057
100 %		+ 20	836,500,004	4	0.0000005
100 %		+ 30	836,500,080	80	0.0000096
100 %		+ 40	836,500,095	95	0.0000114
100 %		+ 50	836,500,011	11	0.0000013
BATT. ENDPOINT	3.40	+ 20	836,500,088	88	0.0000105

Table 6-18. Frequency Stability Data (Band 5)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)			Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet			Page 169 of 175

Band 5 Frequency Stability Measurements

§2.1055 §22.355

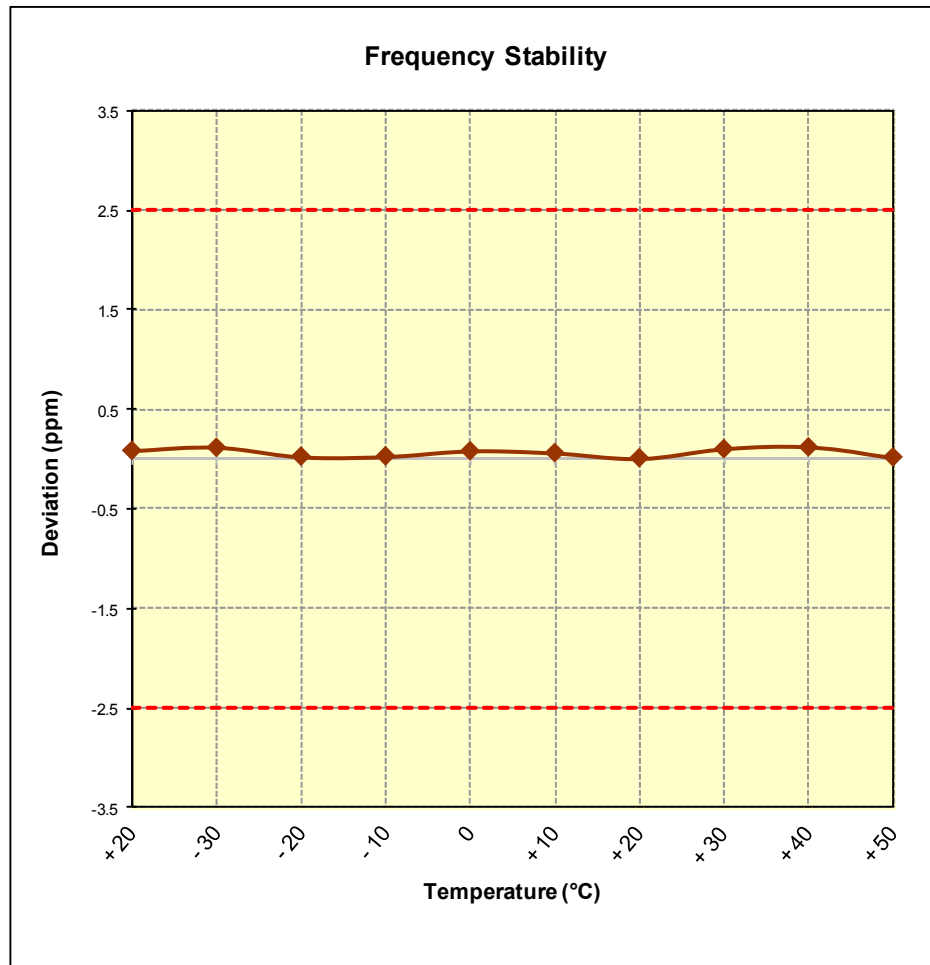


Figure 6-8. Frequency Stability Graph (Band 5)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	 Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 170 of 175

Band 4 Frequency Stability Measurements

§2.1055 §§27.54

OPERATING FREQUENCY: 1,732,500,000 Hz
 CHANNEL: 20175
 REFERENCE VOLTAGE: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,732,500,033	33	0.0000019
100 %		- 30	1,732,500,074	74	0.0000043
100 %		- 20	1,732,500,037	37	0.0000021
100 %		- 10	1,732,500,079	79	0.0000046
100 %		0	1,732,500,012	12	0.0000007
100 %		+ 10	1,732,500,067	67	0.0000039
100 %		+ 20	1,732,500,054	54	0.0000031
100 %		+ 30	1,732,500,028	28	0.0000016
100 %		+ 40	1,732,500,053	53	0.0000030
100 %		+ 50	1,732,500,008	8	0.0000005
BATT. ENDPOINT	3.40	+ 20	1,732,500,017	17	0.0000010

Table 6-19. Frequency Stability Data (Band 4)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 171 of 175

Band 4 Frequency Stability Measurements

§2.1055 §§27.54

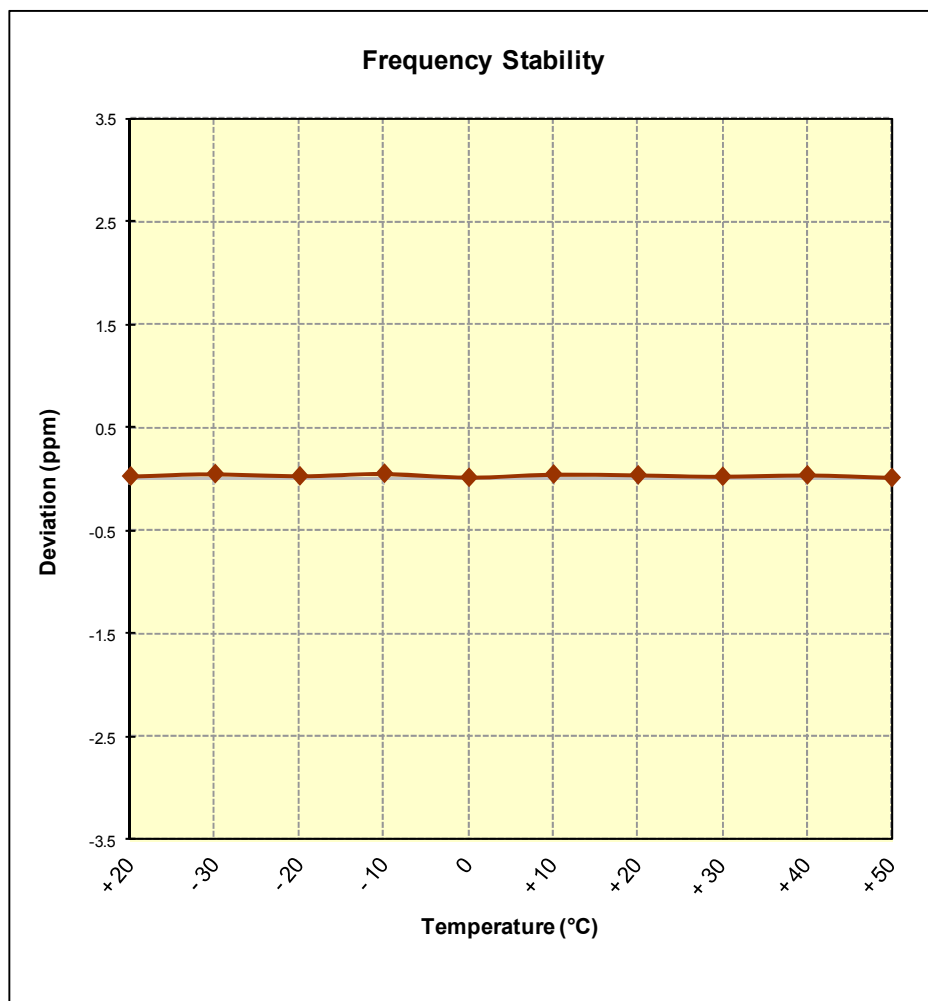


Figure 6-9. Frequency Stability Graph (Band 4)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 172 of 175

Band 2 Frequency Stability Measurements

§2.1055 §24.235

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 18900

REFERENCE VOLTAGE: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,880,000,018	18	0.0000010
100 %		- 30	1,880,000,071	71	0.0000038
100 %		- 20	1,880,000,097	97	0.0000052
100 %		- 10	1,880,000,009	9	0.0000005
100 %		0	1,880,000,066	66	0.0000035
100 %		+ 10	1,880,000,090	90	0.0000048
100 %		+ 20	1,880,000,079	79	0.0000042
100 %		+ 30	1,880,000,097	97	0.0000052
100 %		+ 40	1,880,000,041	41	0.0000022
100 %		+ 50	1,880,000,057	57	0.0000030
BATT. ENDPOINT	3.40	+ 20	1,880,000,052	52	0.0000027

Table 6-20. Frequency Stability Data (Band 2)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: ZNFVK815	 FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet	Page 173 of 175

Band 2 Frequency Stability Measurements

§2.1055 §24.235

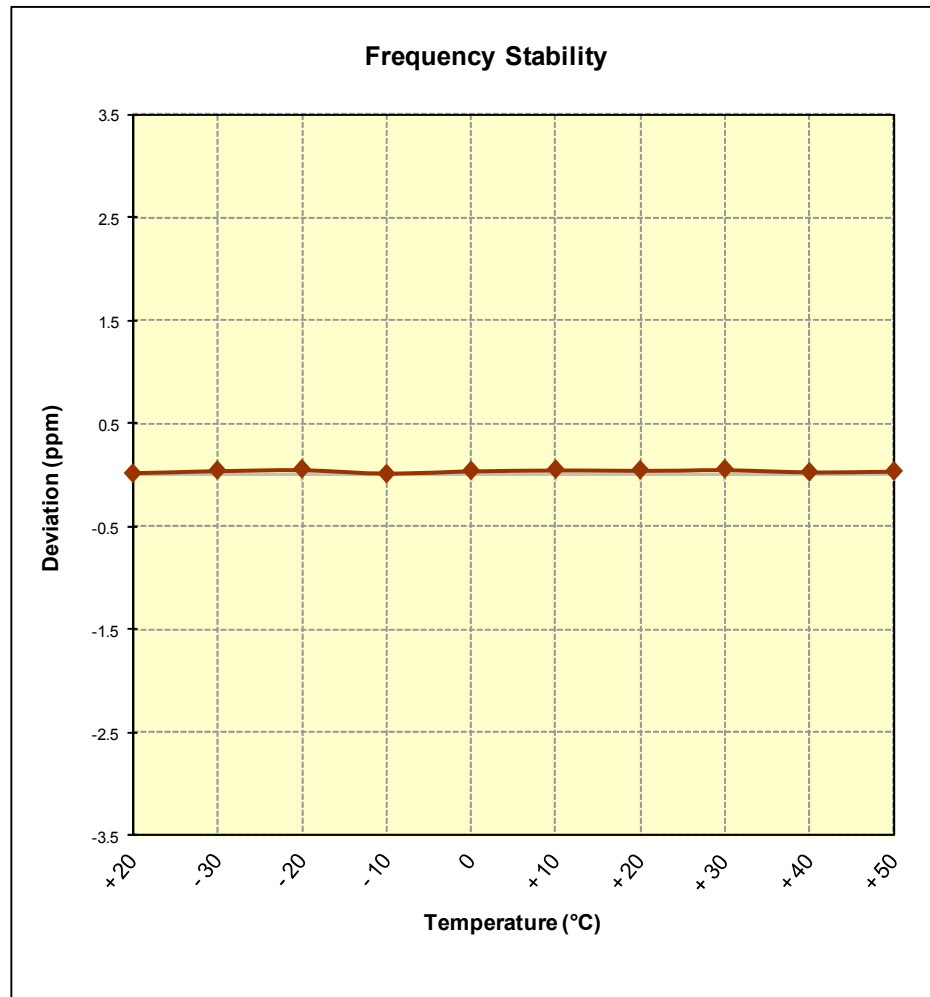


Figure 6-10. Frequency Stability Graph (Band 2)

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 174 of 175

7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LG Portable Tablet FCC ID: ZNFVK815** complies with all the requirements of Parts 22, 24, & 27 of the FCC rules for LTE operation only.

FCC ID: ZNFVK815		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1502020339.ZNF	Test Dates: 2/3/2015 - 2/20/2015	EUT Type: Portable Tablet		Page 175 of 175