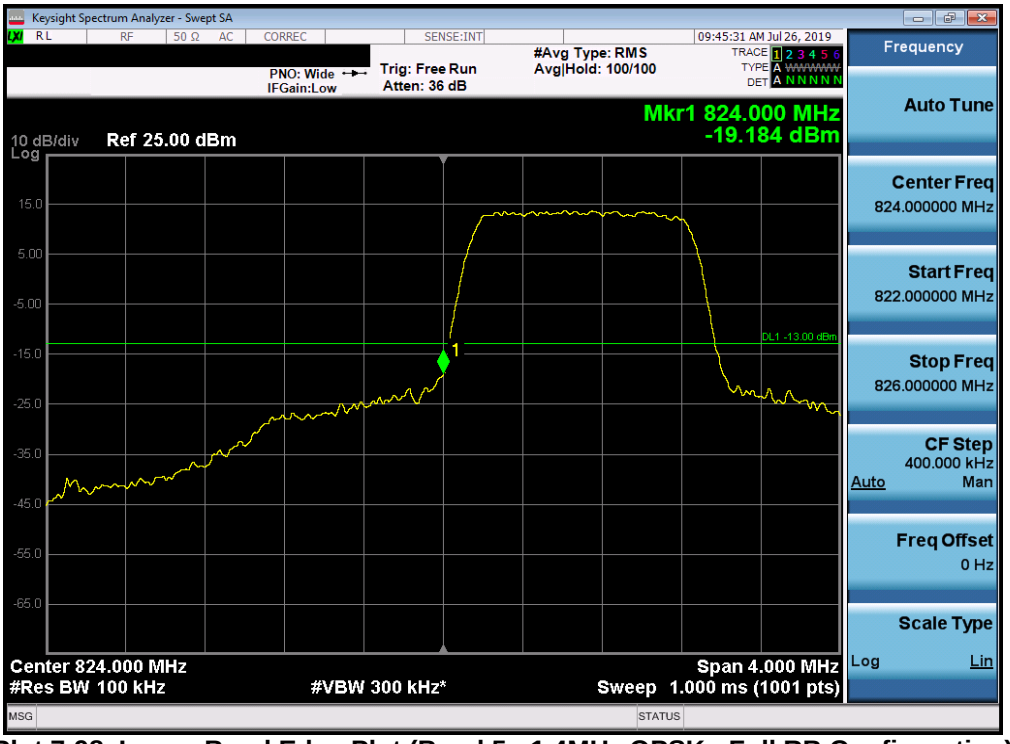
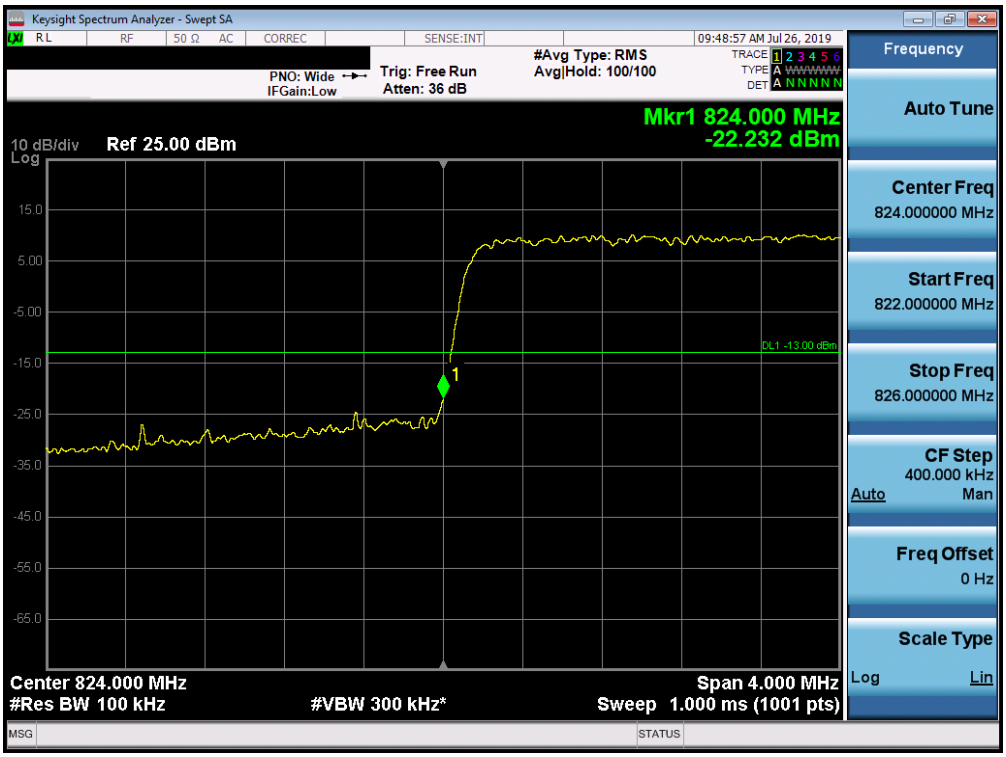
Band 5



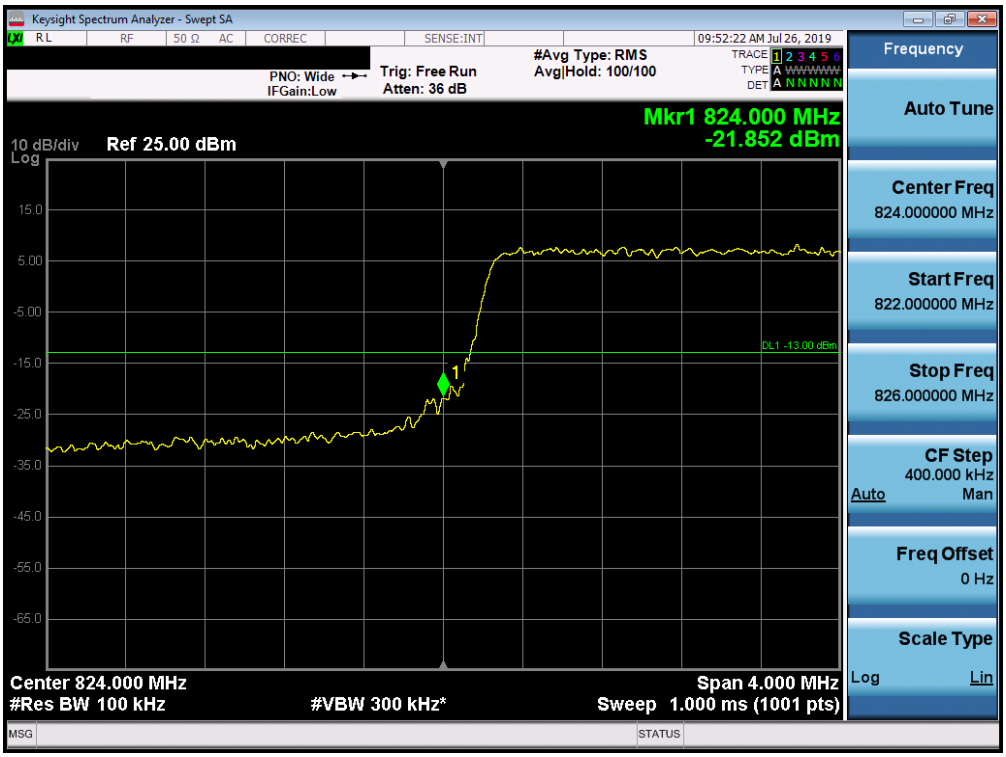
Plot 7-98. Lower Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

Plot 7-99. Upper Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

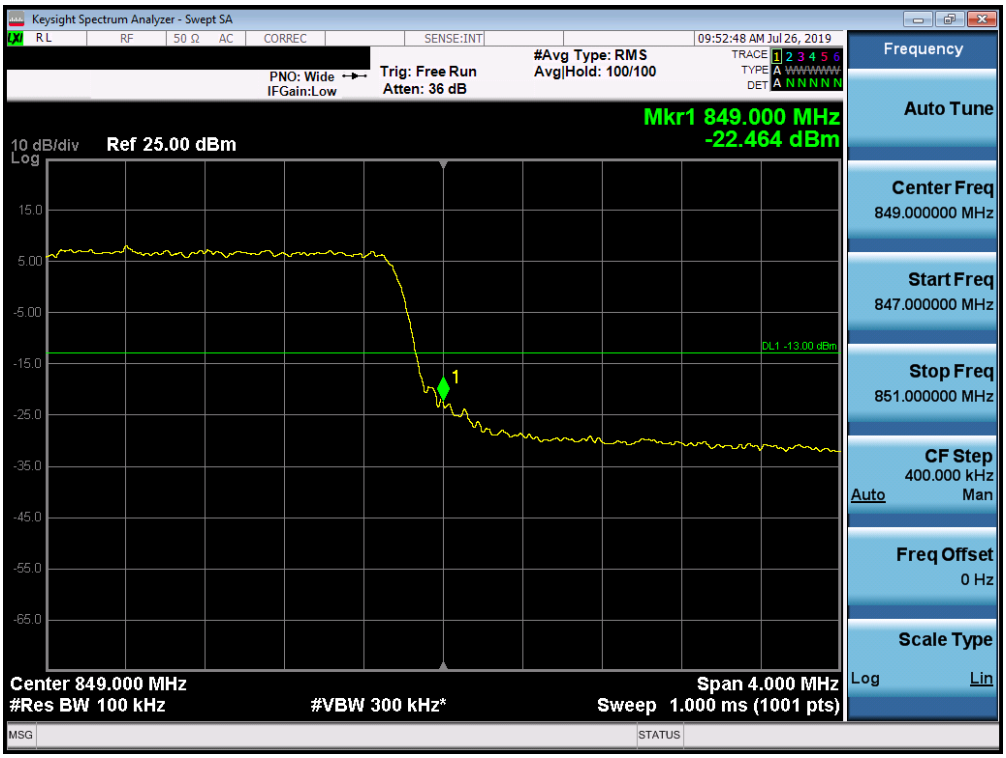


Plot 7-100. Lower Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

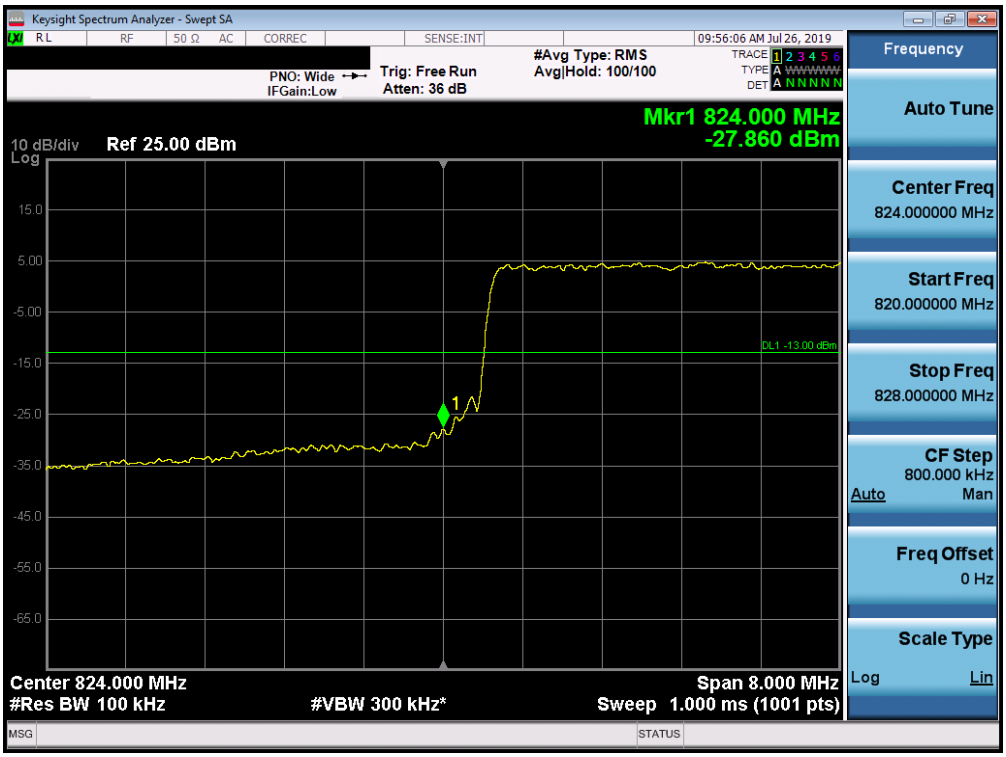
Plot 7-101. Upper Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)



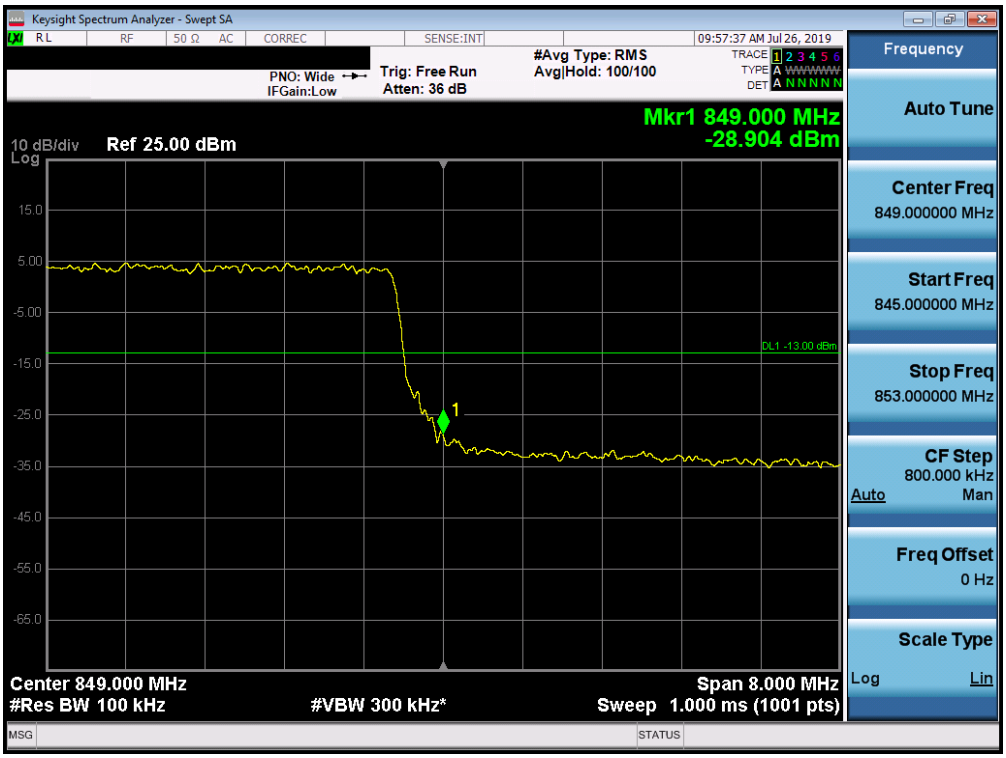
Plot 7-102. Lower Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-103. Upper Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

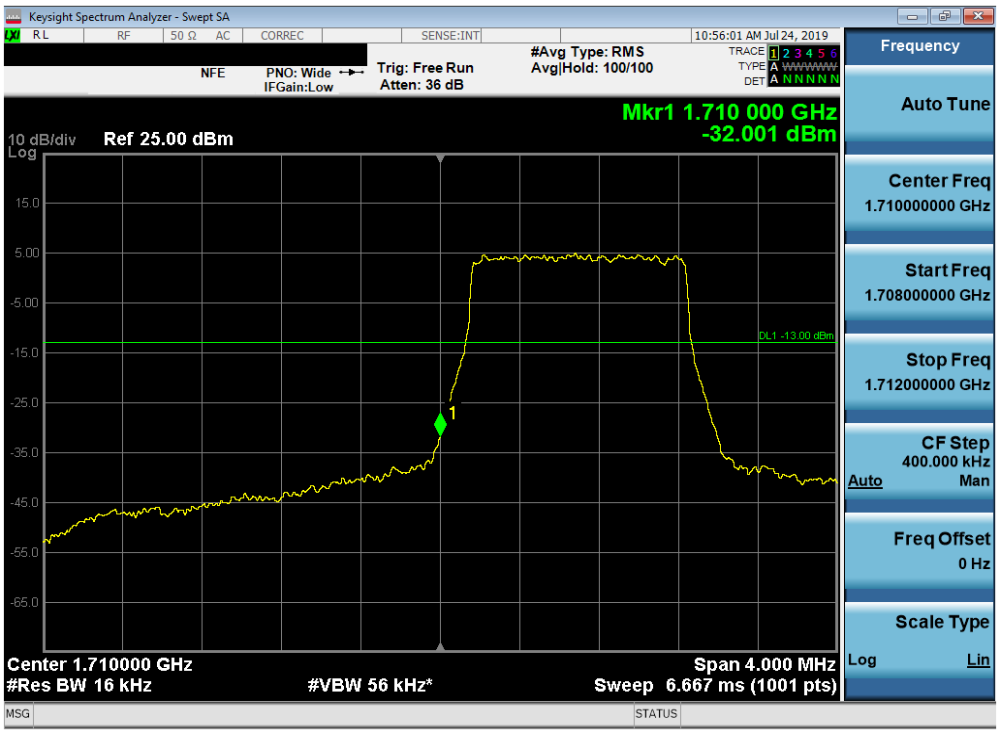


Plot 7-104. Lower Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

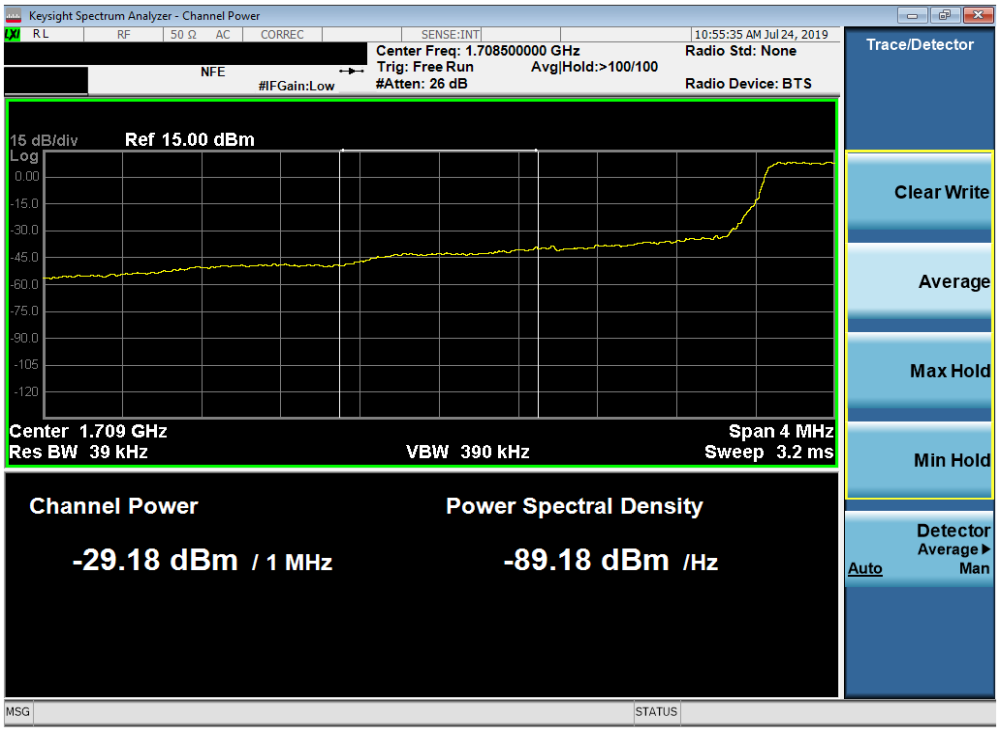


Plot 7-105. Upper Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

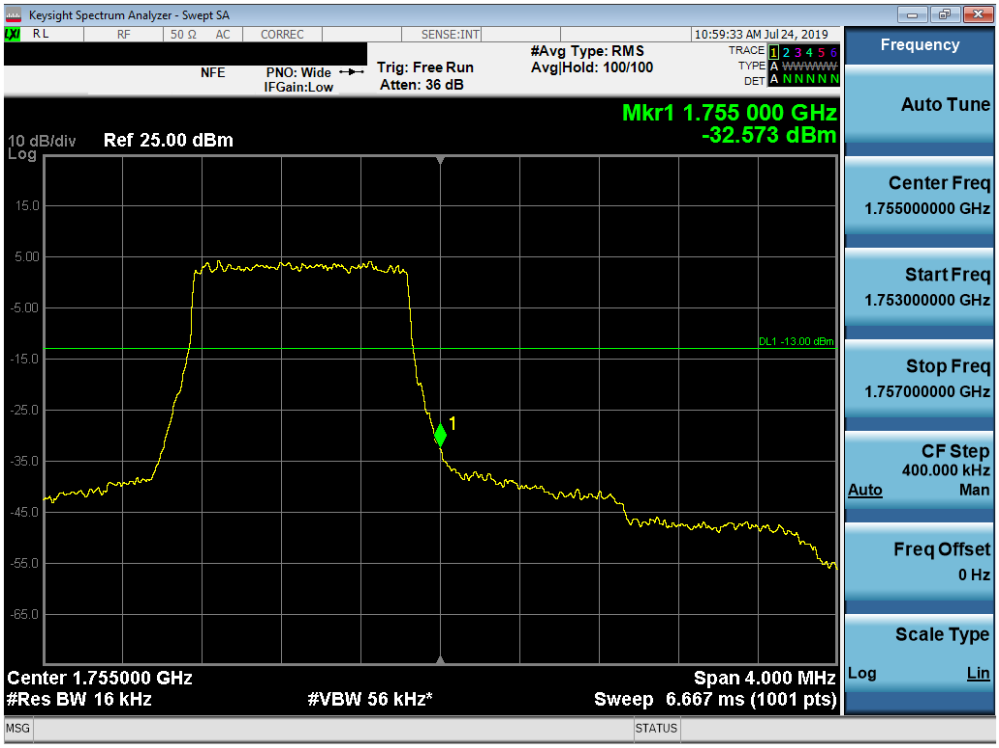
Band 66/4



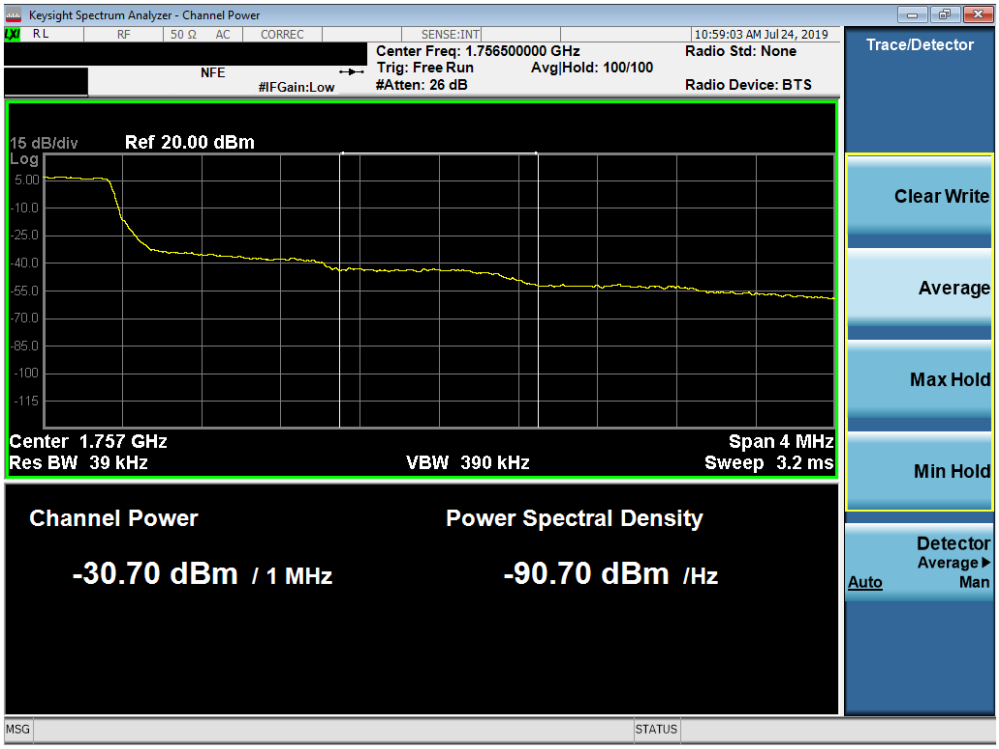
Plot 7-106. Lower Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



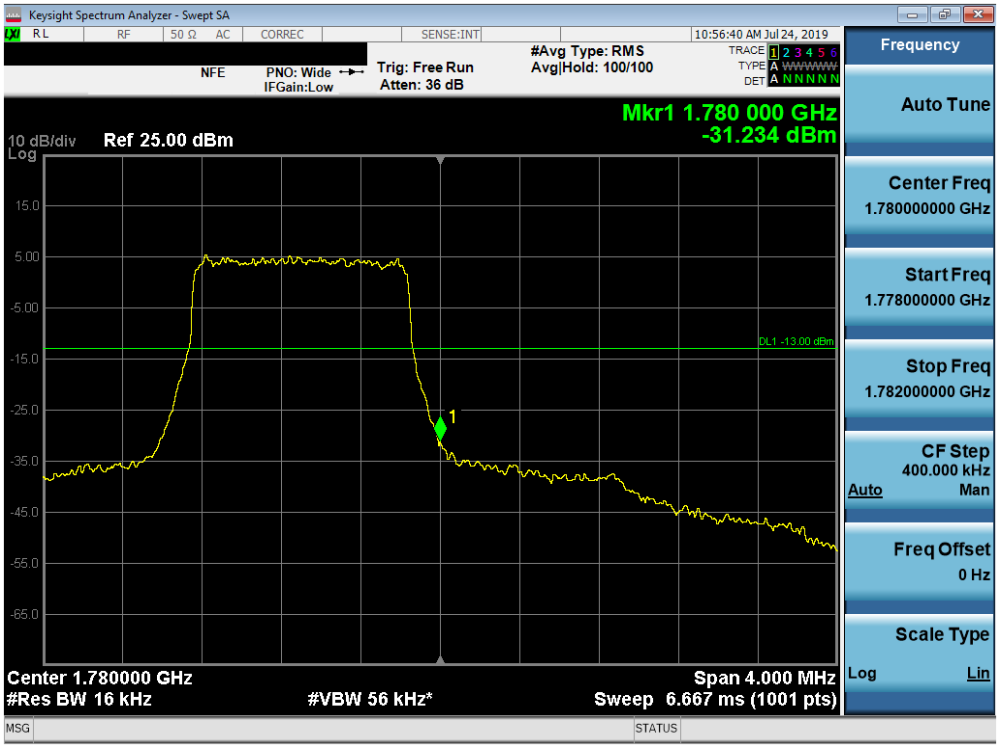
Plot 7-107. Lower Extended Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



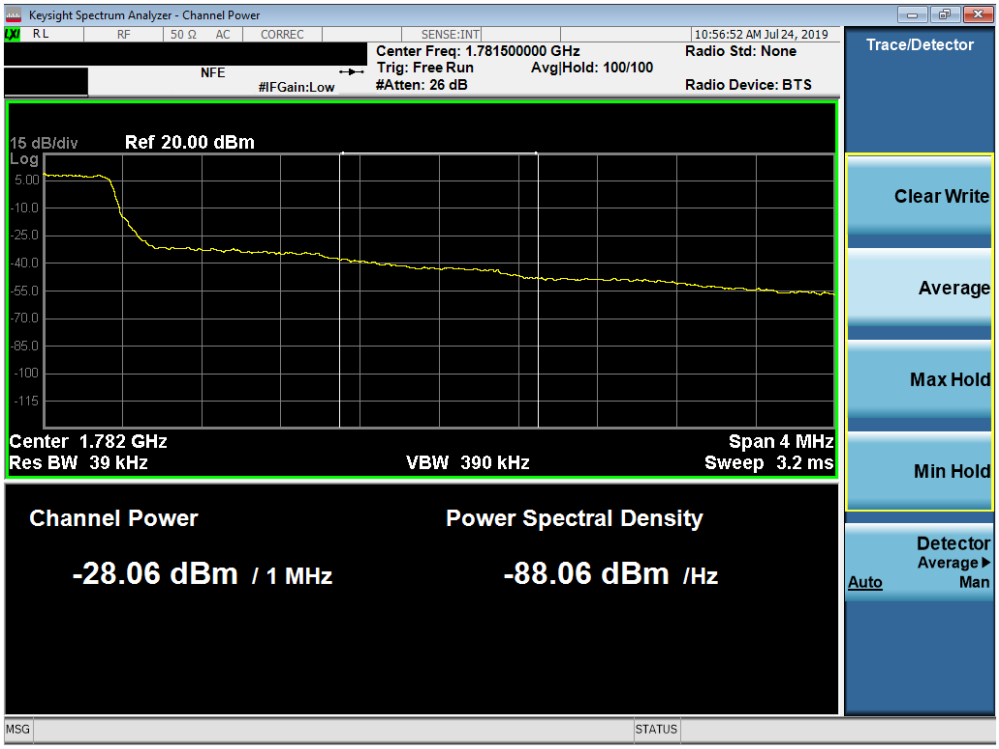
Plot 7-108. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



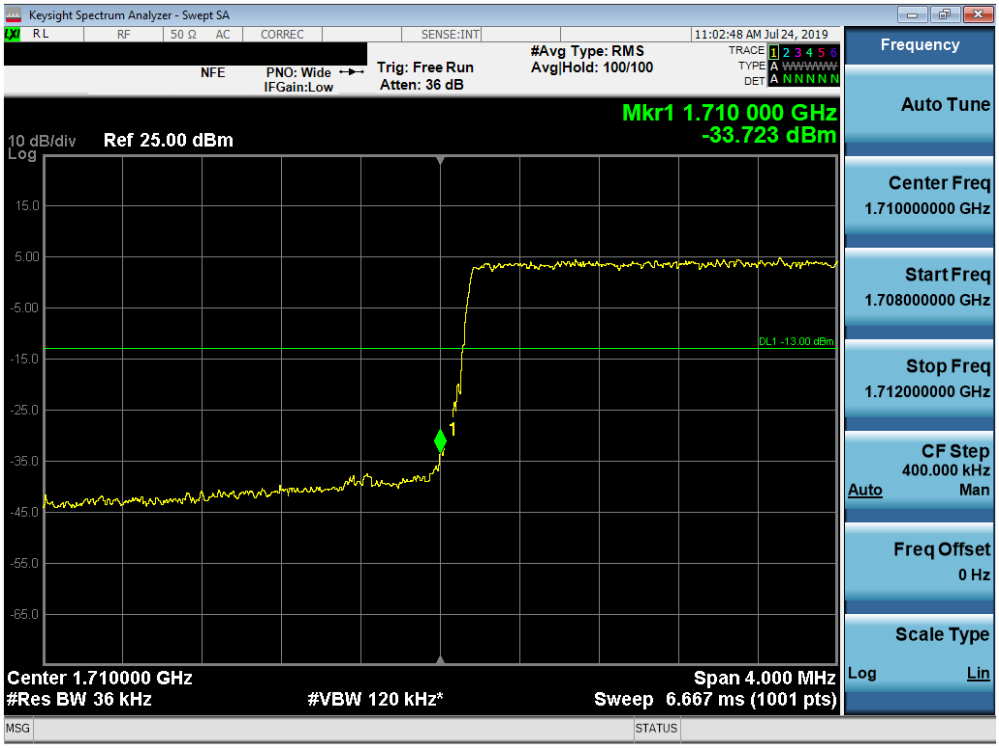
Plot 7-109. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



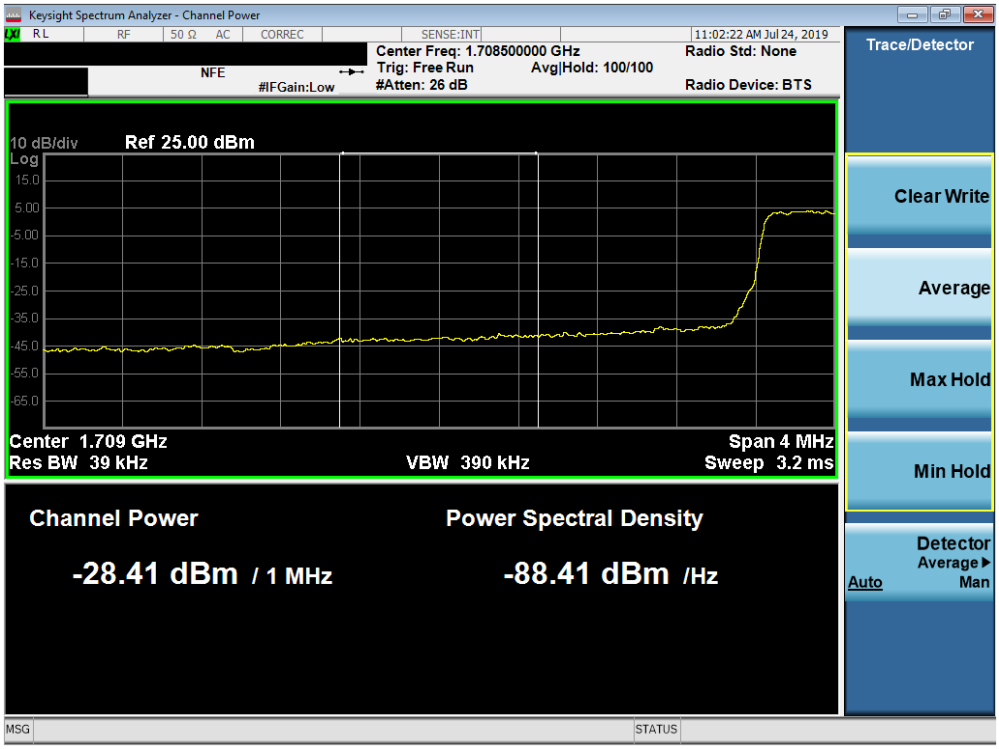
Plot 7-110. Upper Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



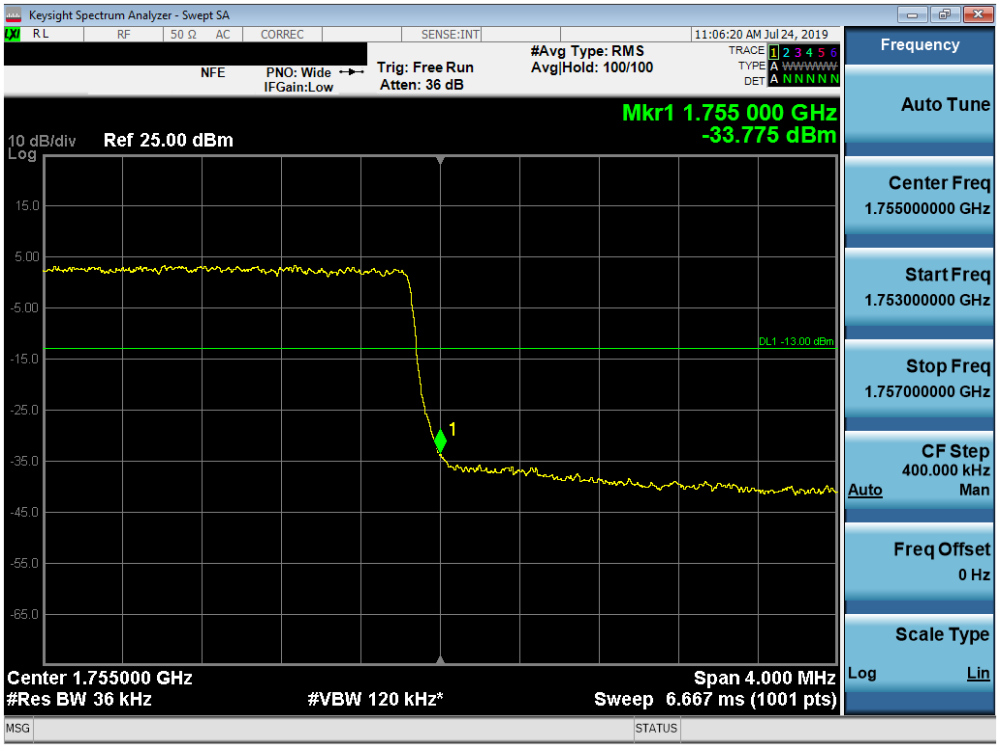
Plot 7-111. Upper Extended Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



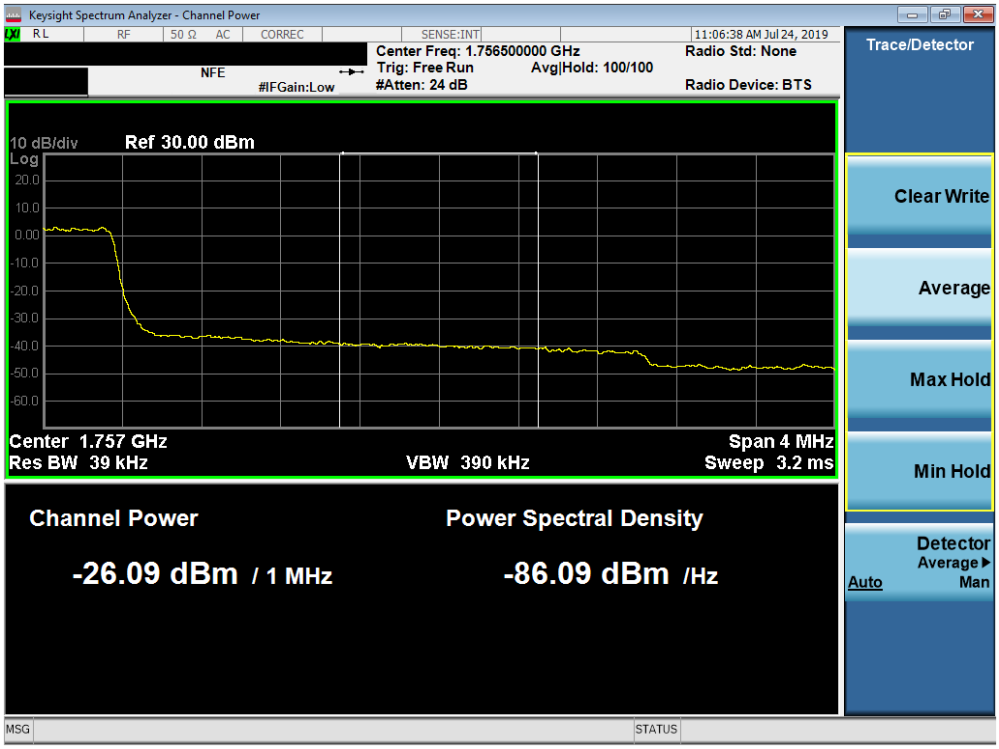
Plot 7-112. Lower Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



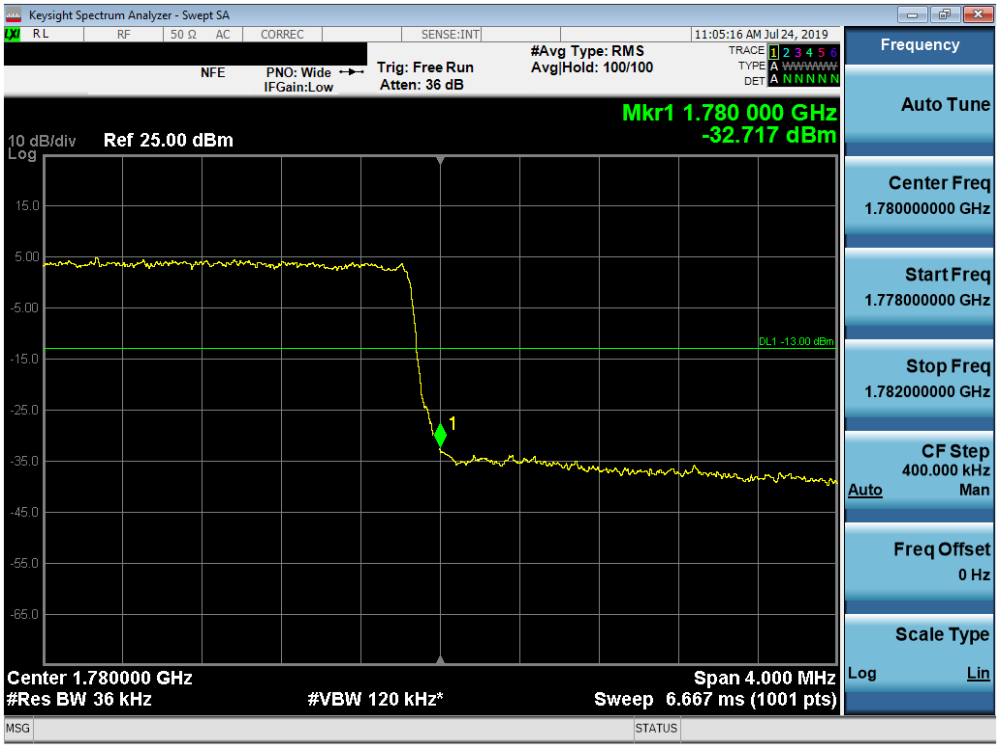
Plot 7-113. Lower Extended Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



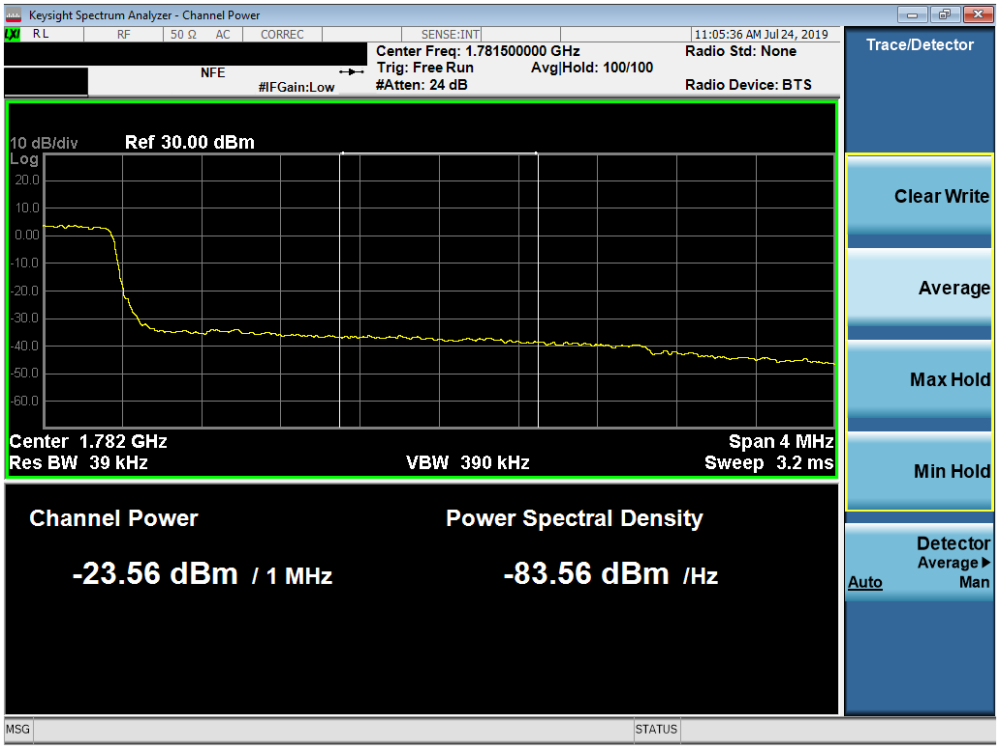
Plot 7-114. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



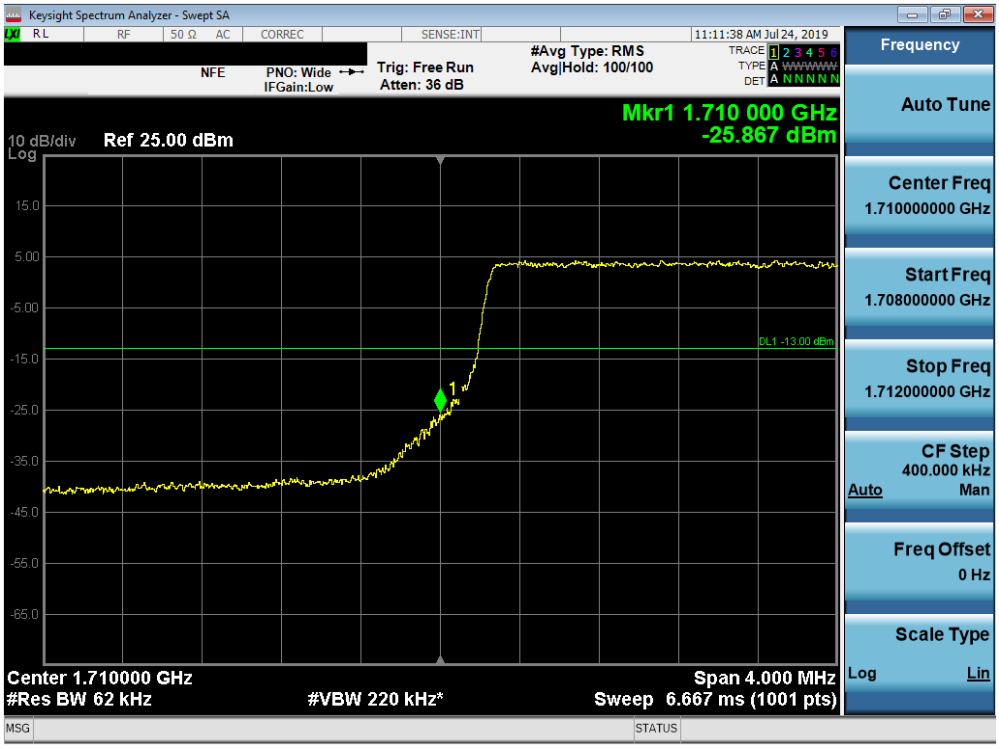
Plot 7-115. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



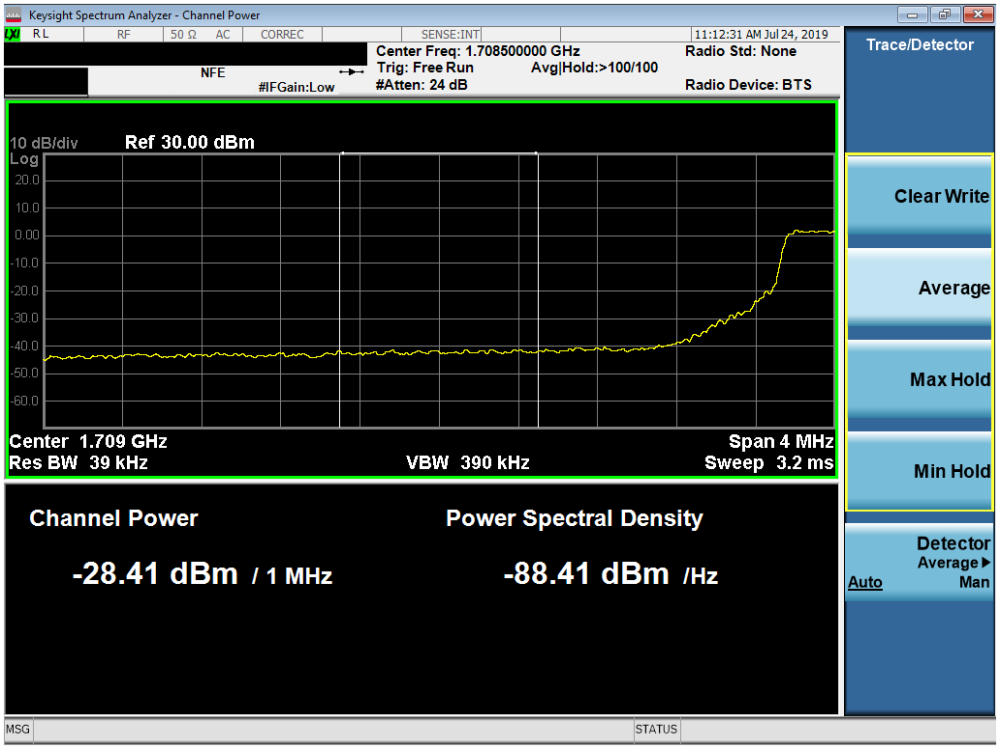
Plot 7-116. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



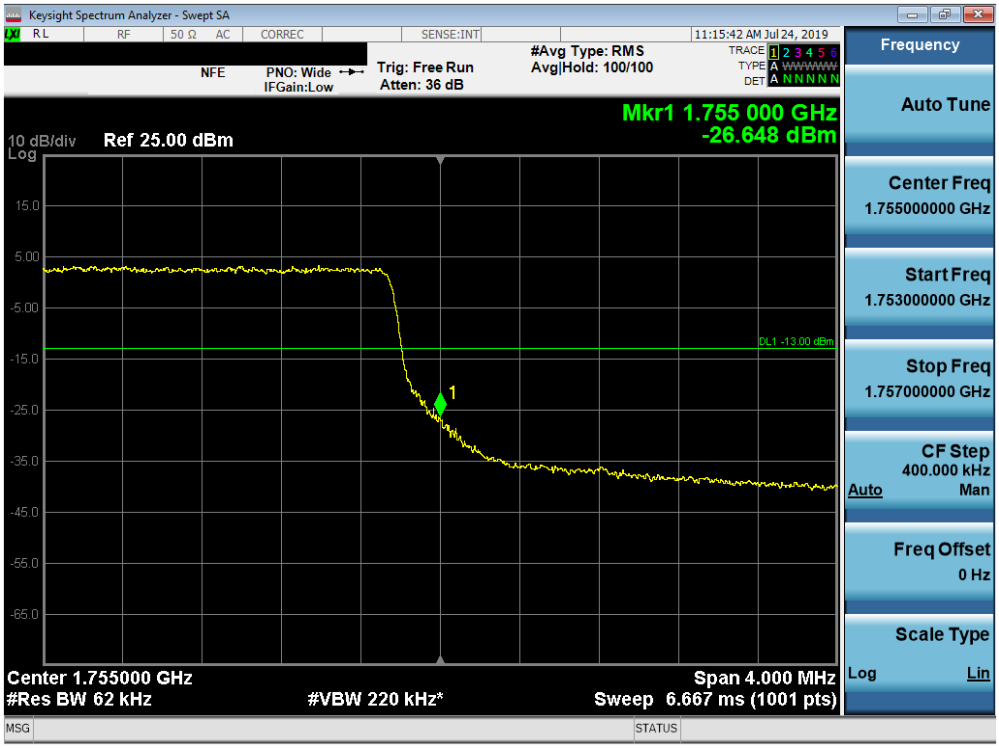
Plot 7-117. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



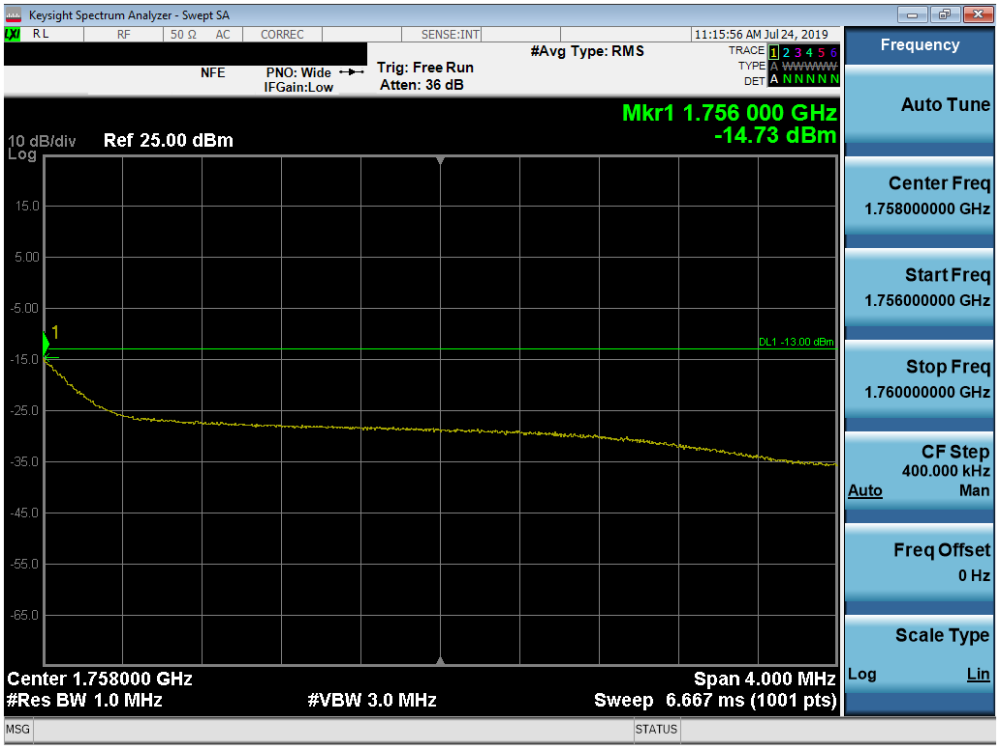
Plot 7-118. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



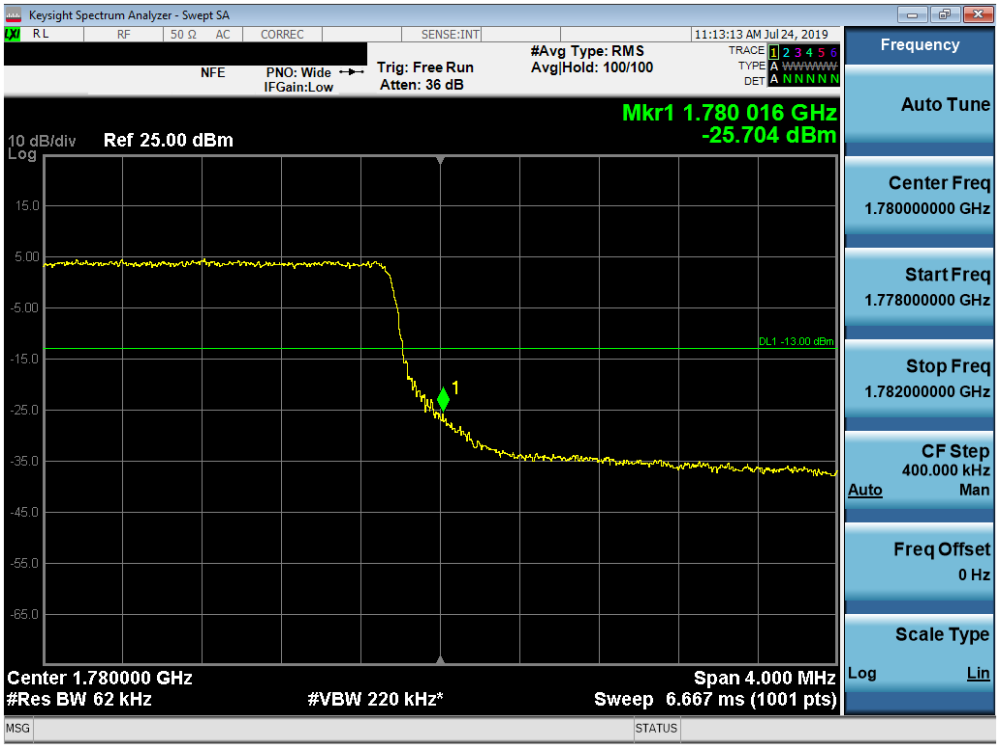
Plot 7-119. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



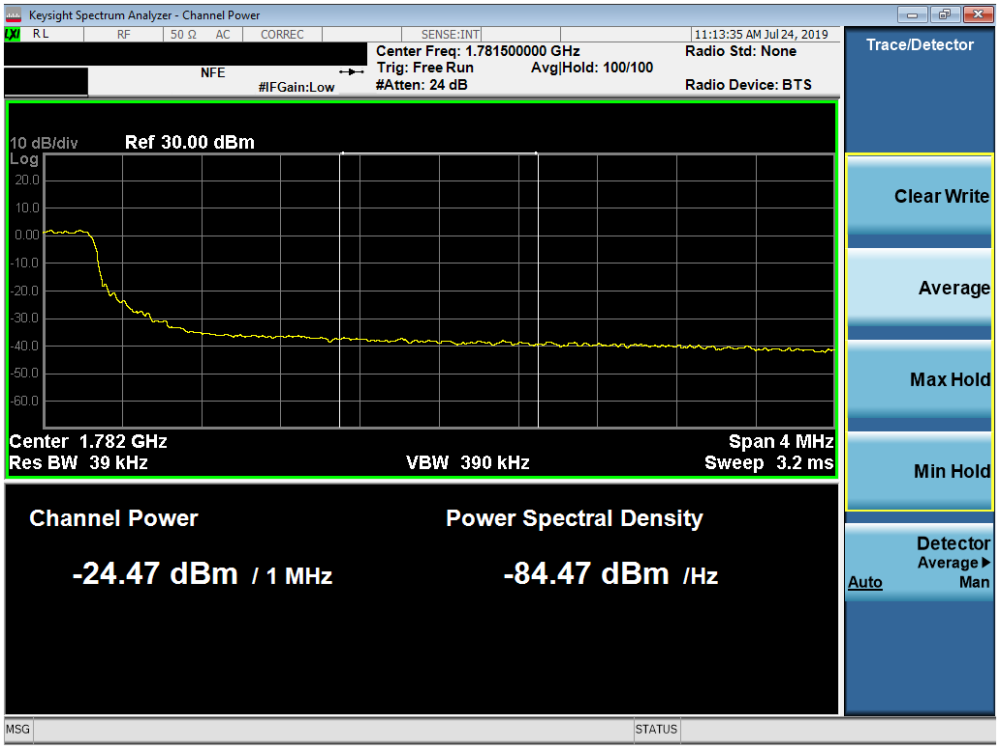
Plot 7-120. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



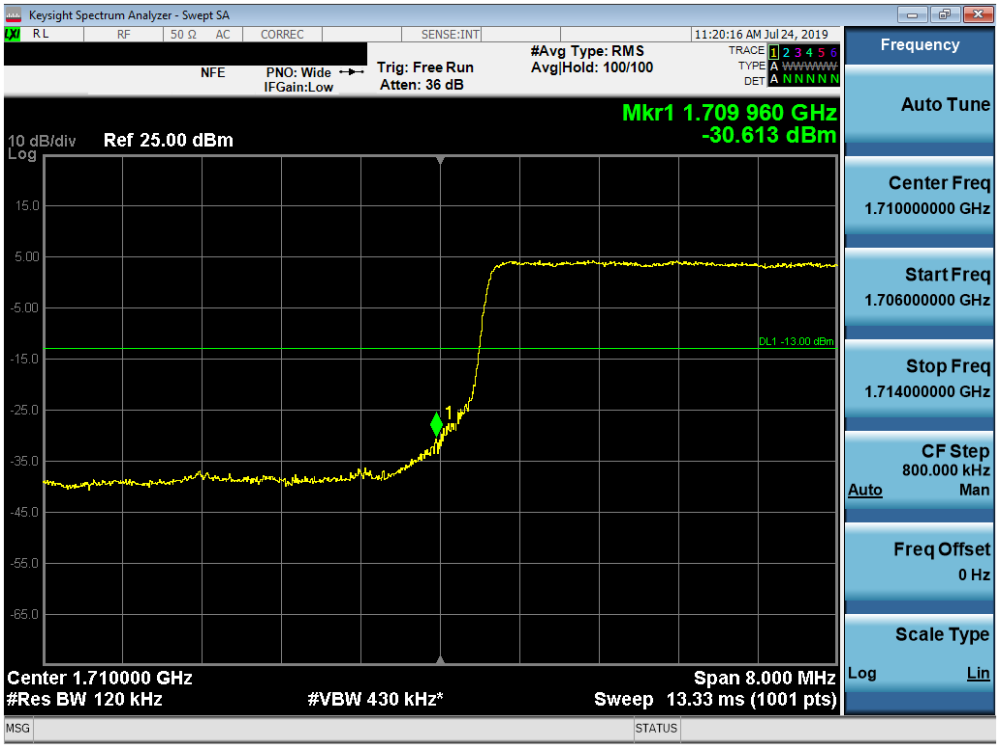
Plot 7-121. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



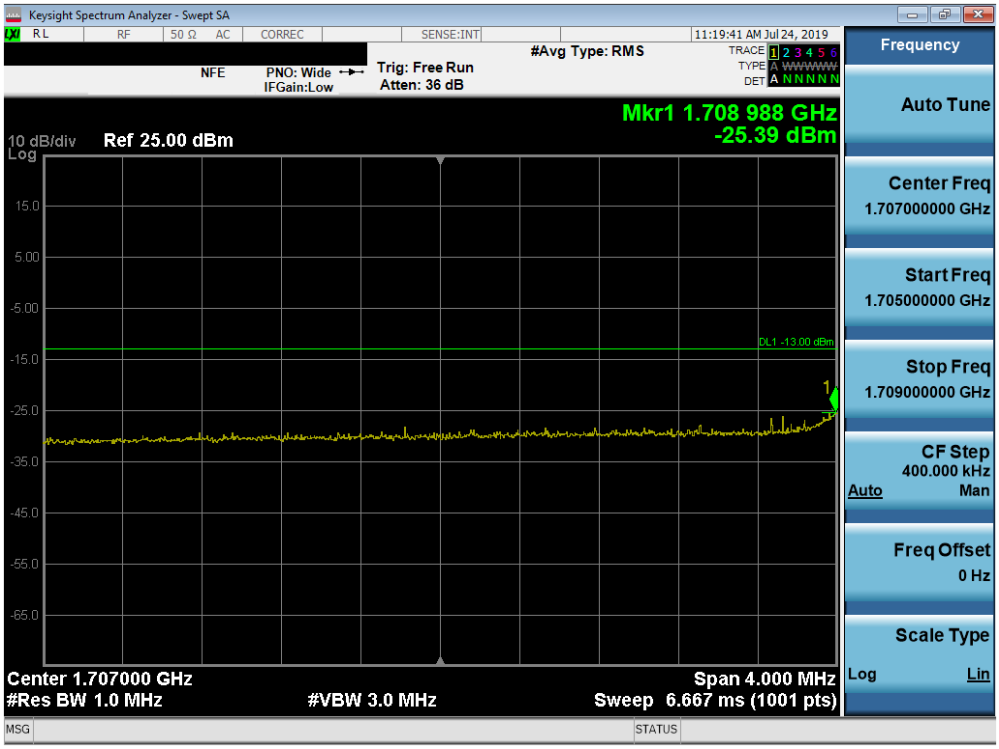
Plot 7-122. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



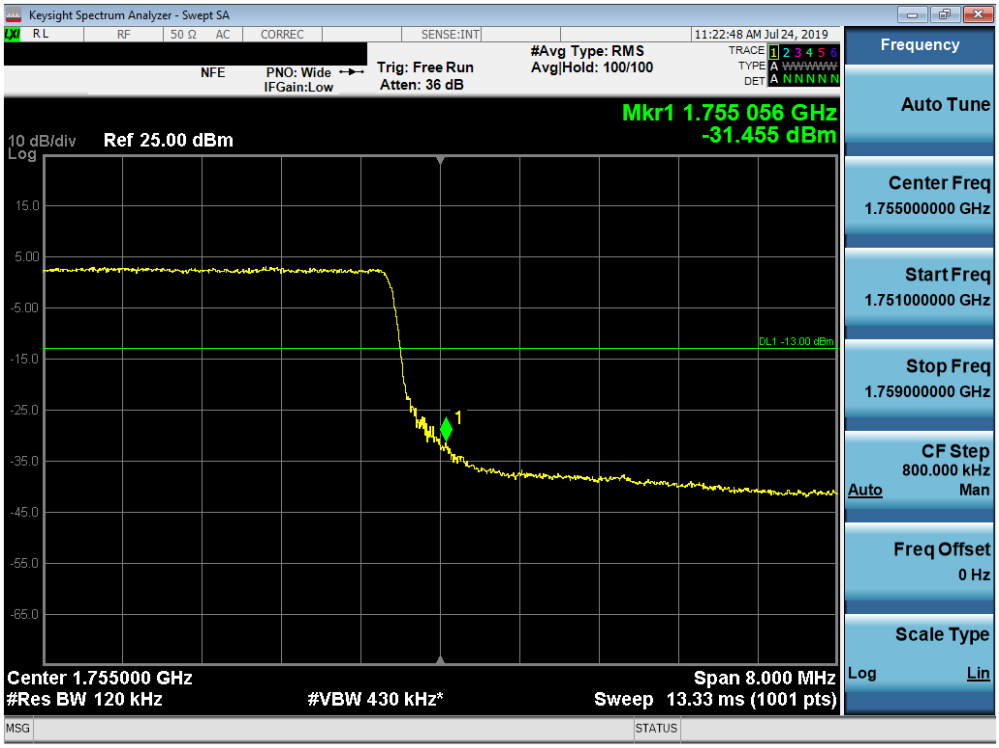
Plot 7-123. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



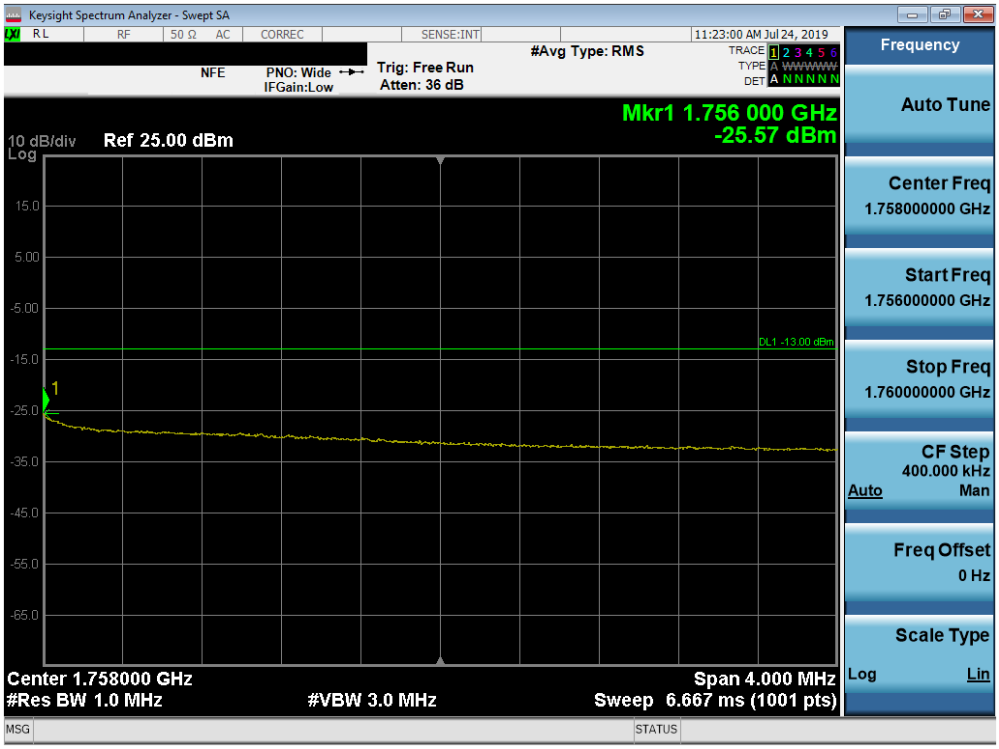
Plot 7-124. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



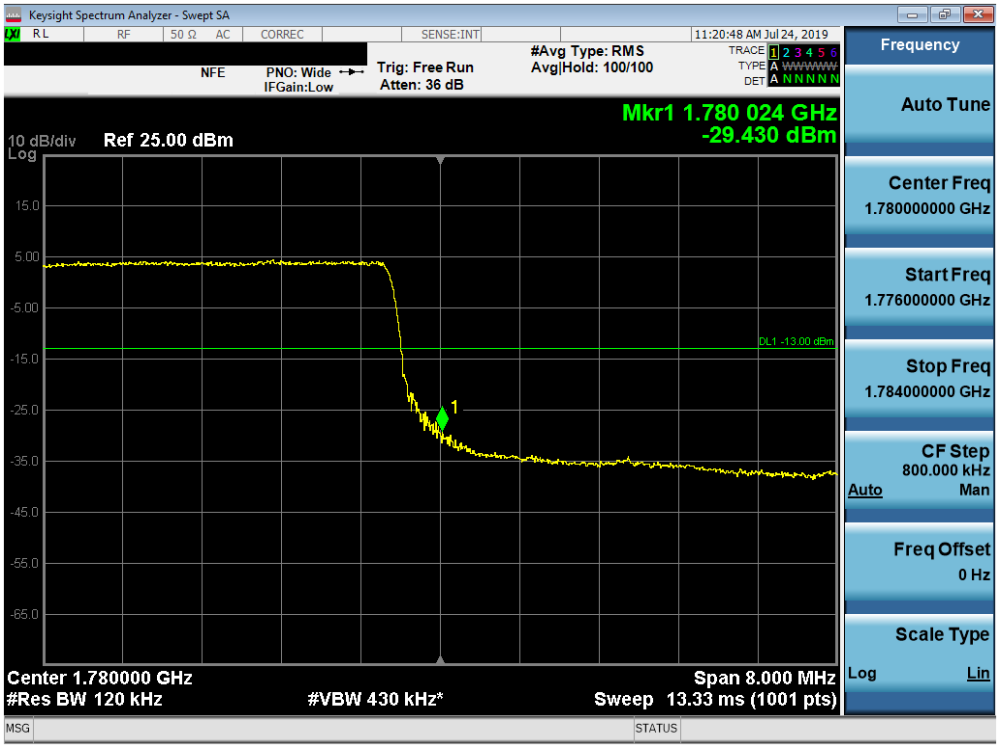
Plot 7-125. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



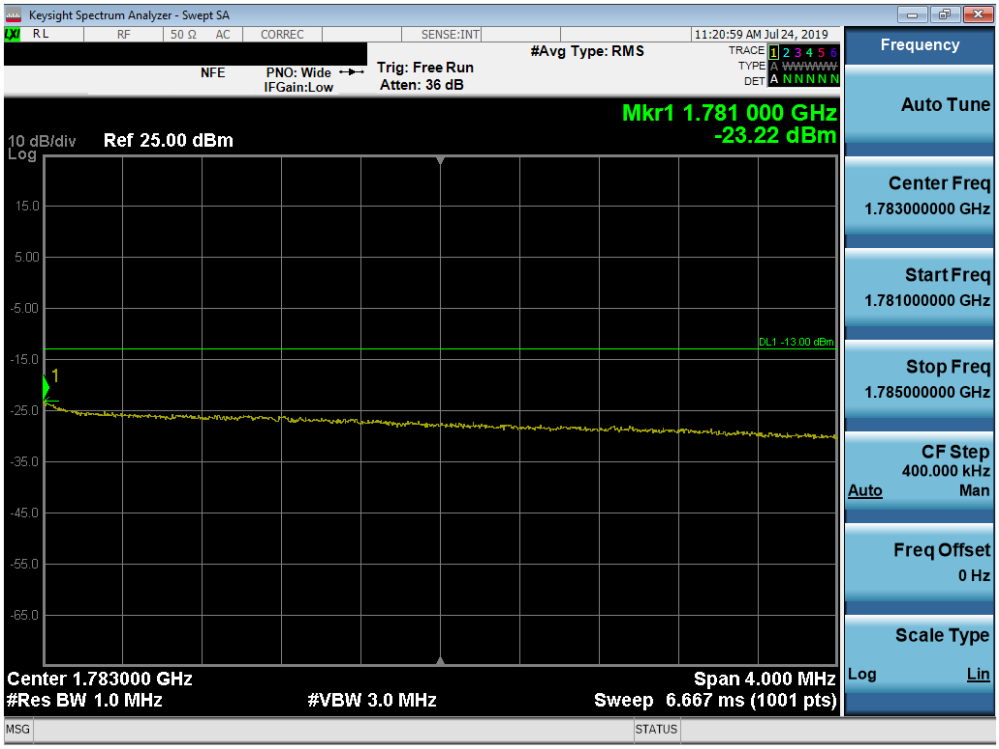
Plot 7-126. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



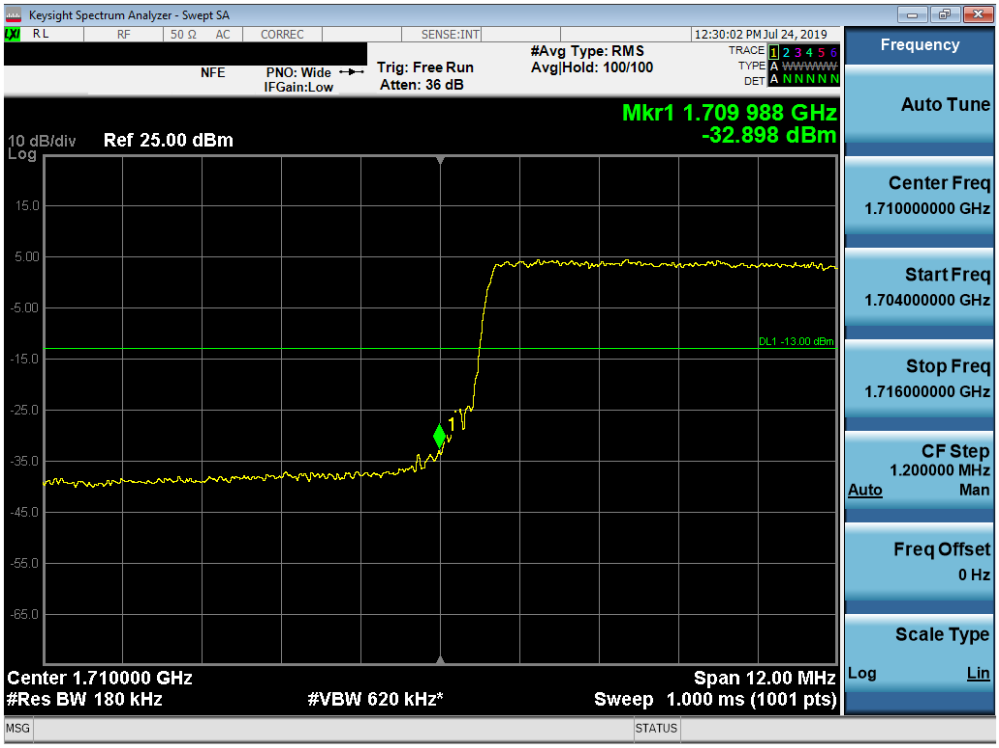
Plot 7-127. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



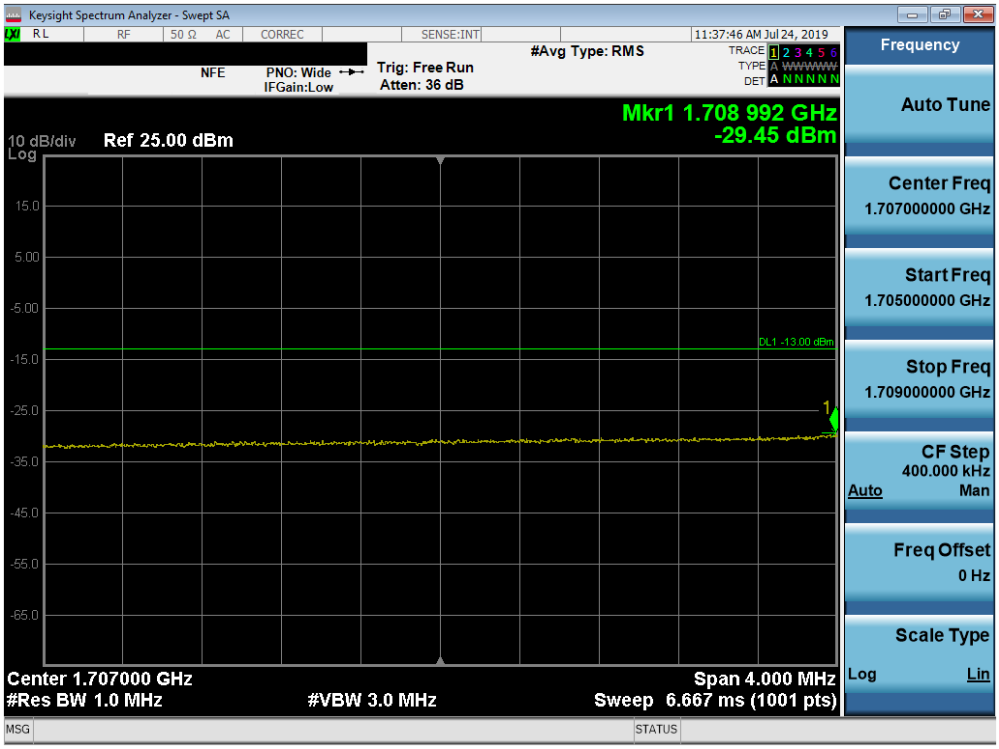
Plot 7-128. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



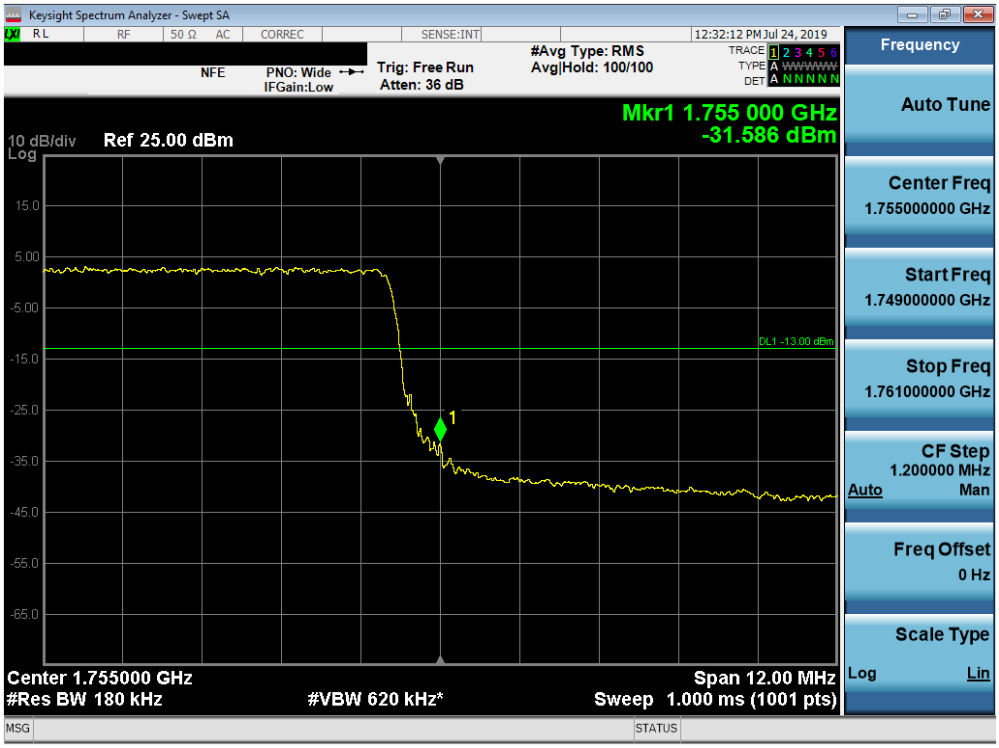
Plot 7-129. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



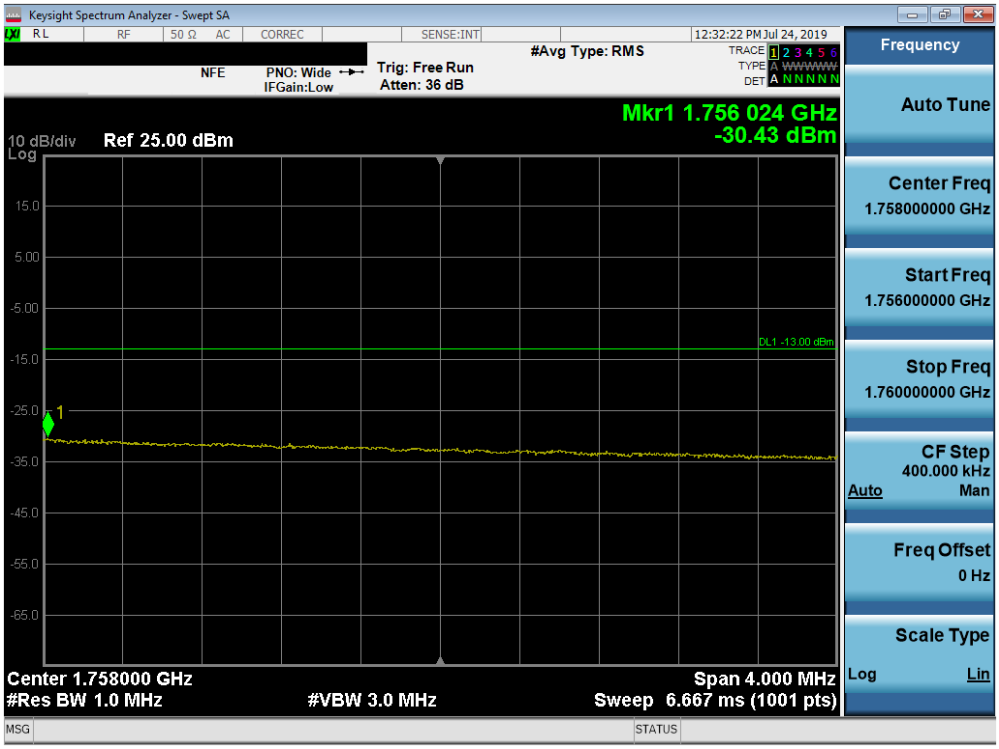
Plot 7-130. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



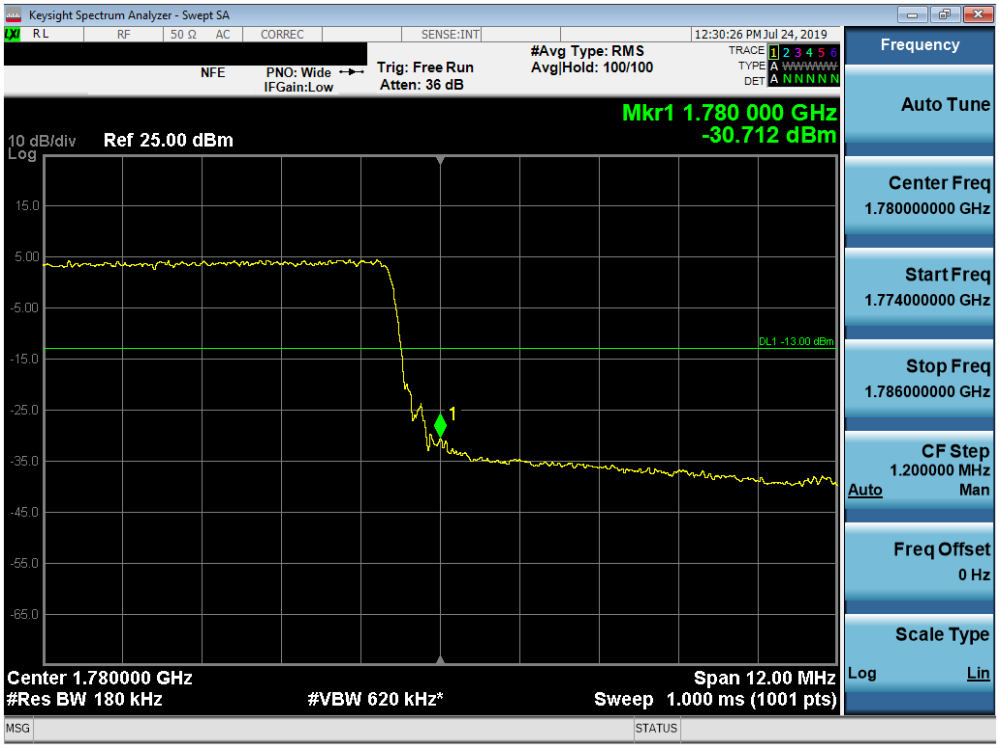
Plot 7-131. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



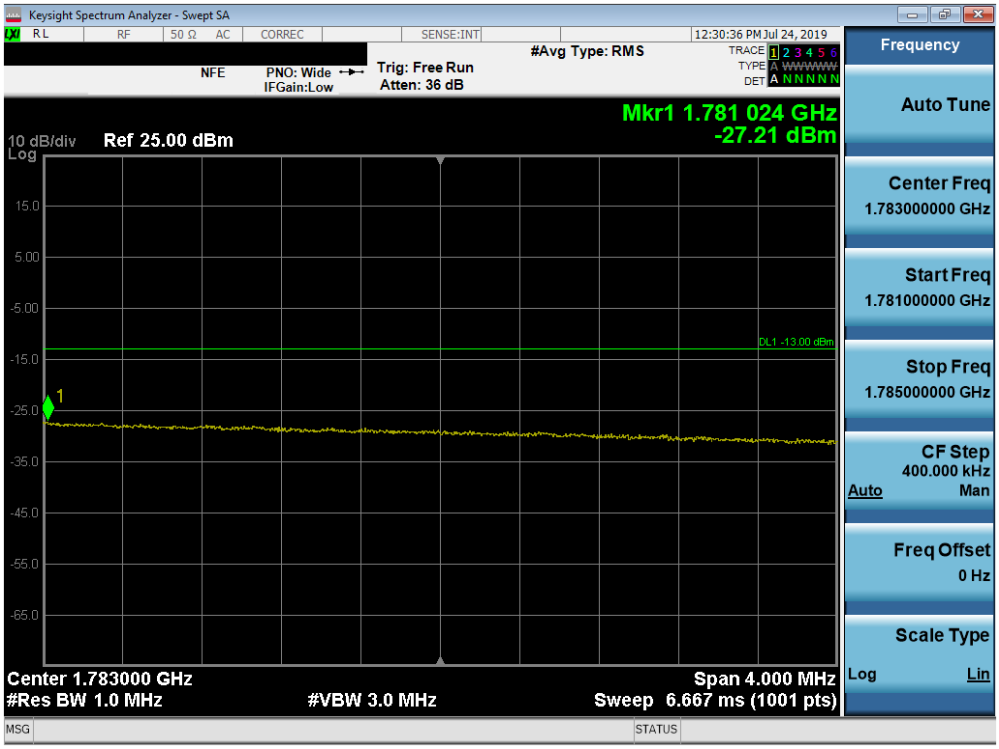
Plot 7-132. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



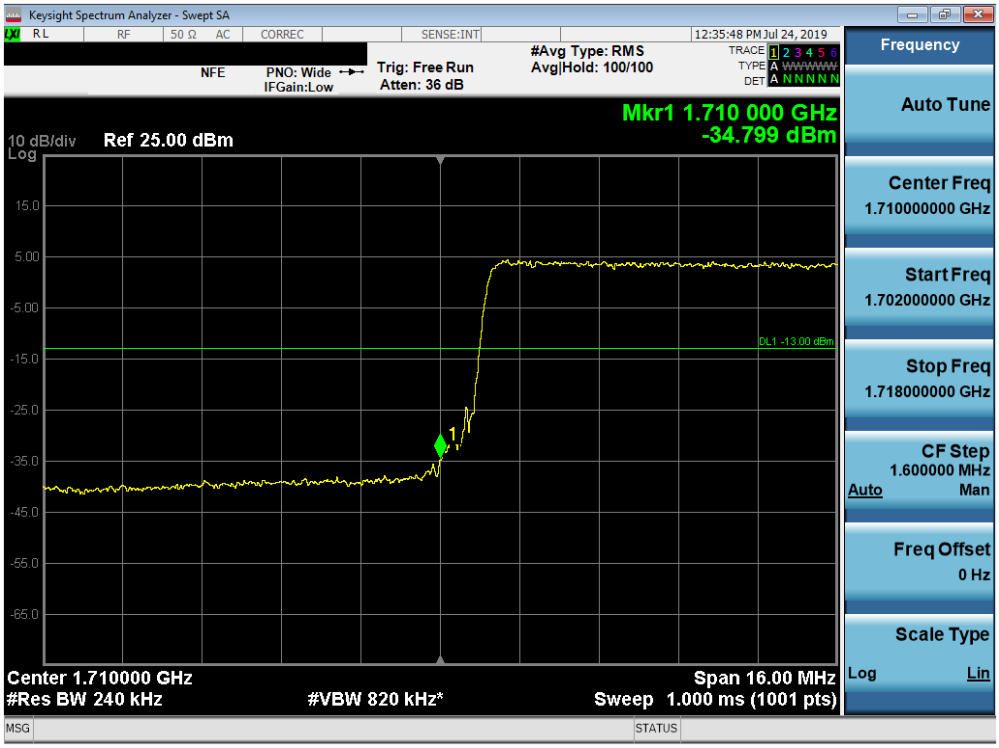
Plot 7-133. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



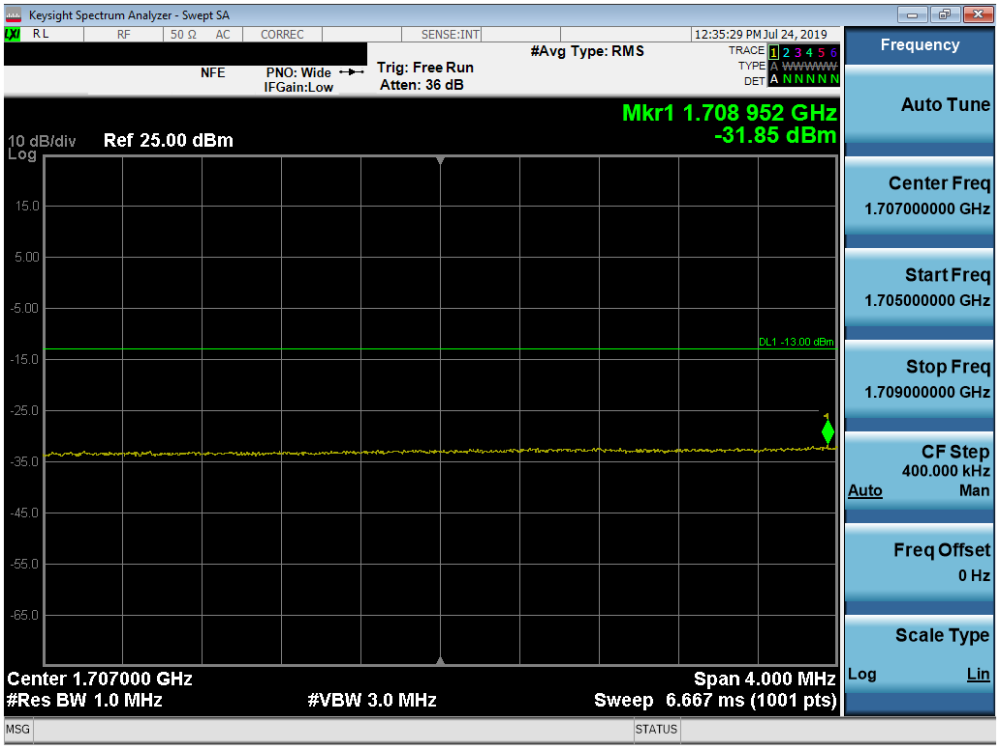
Plot 7-134. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



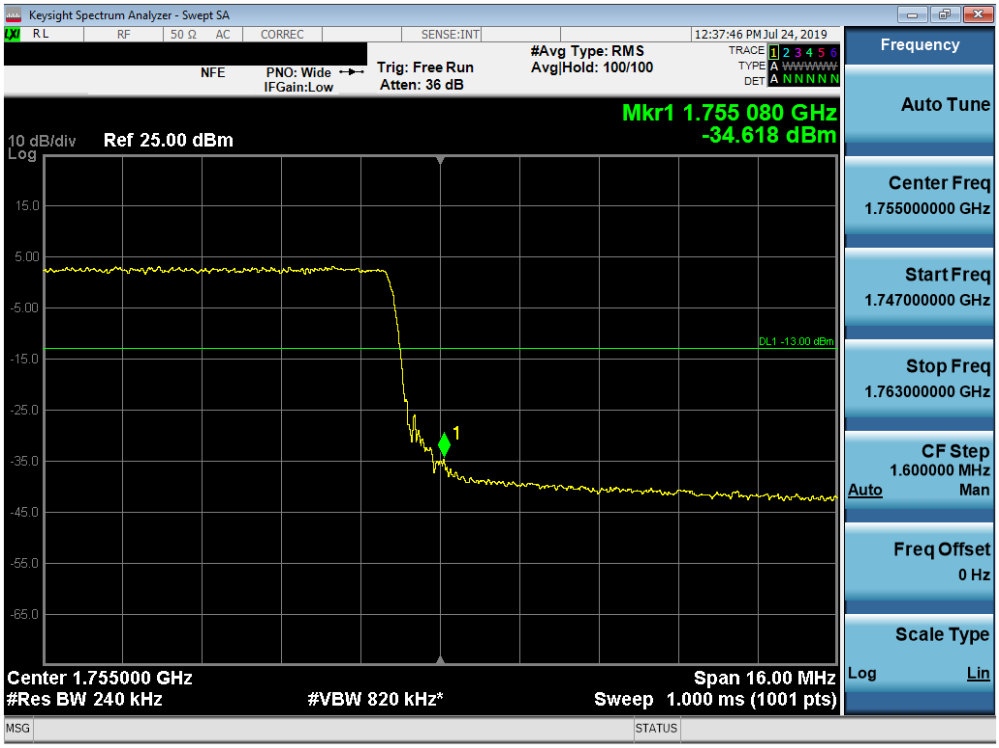
Plot 7-135. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



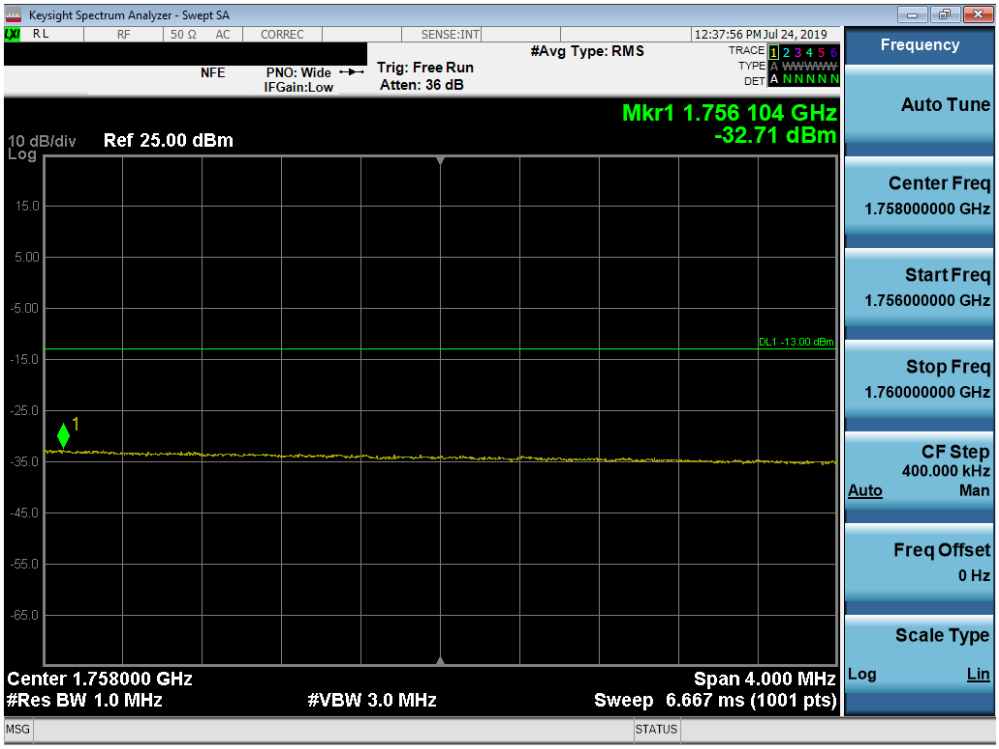
Plot 7-136. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



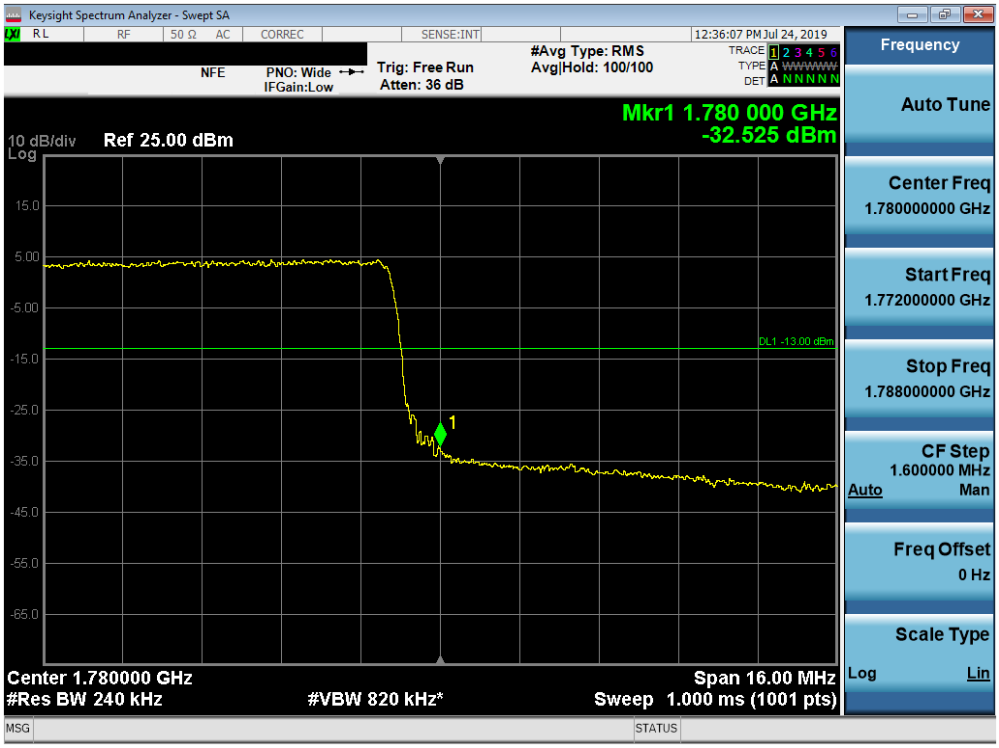
Plot 7-137. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



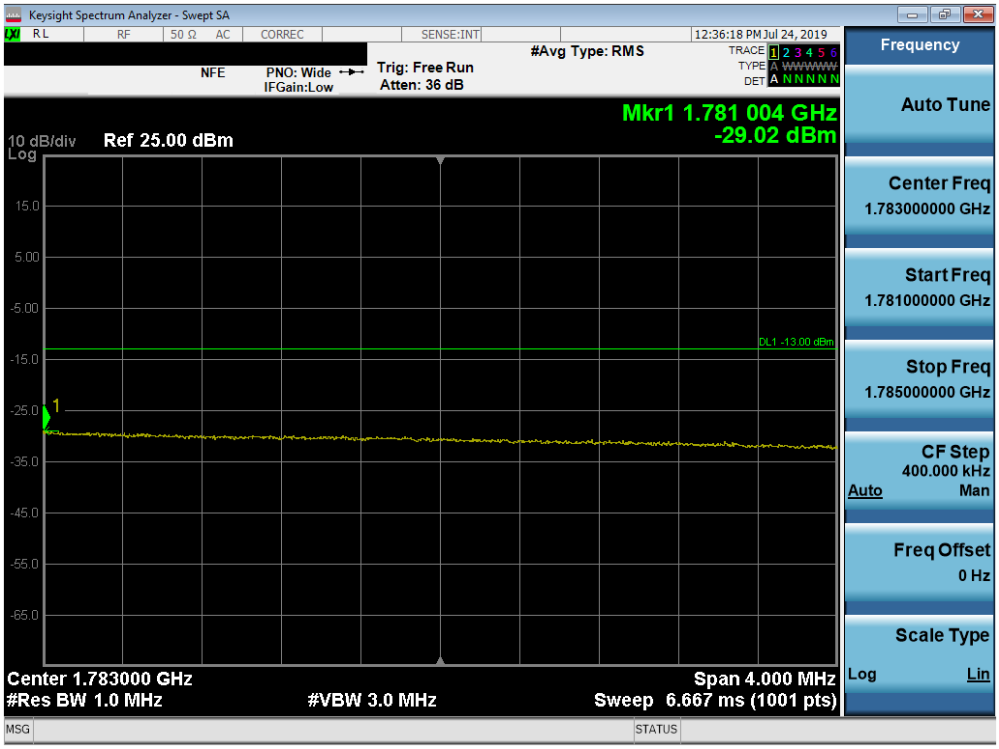
Plot 7-138. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-139. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

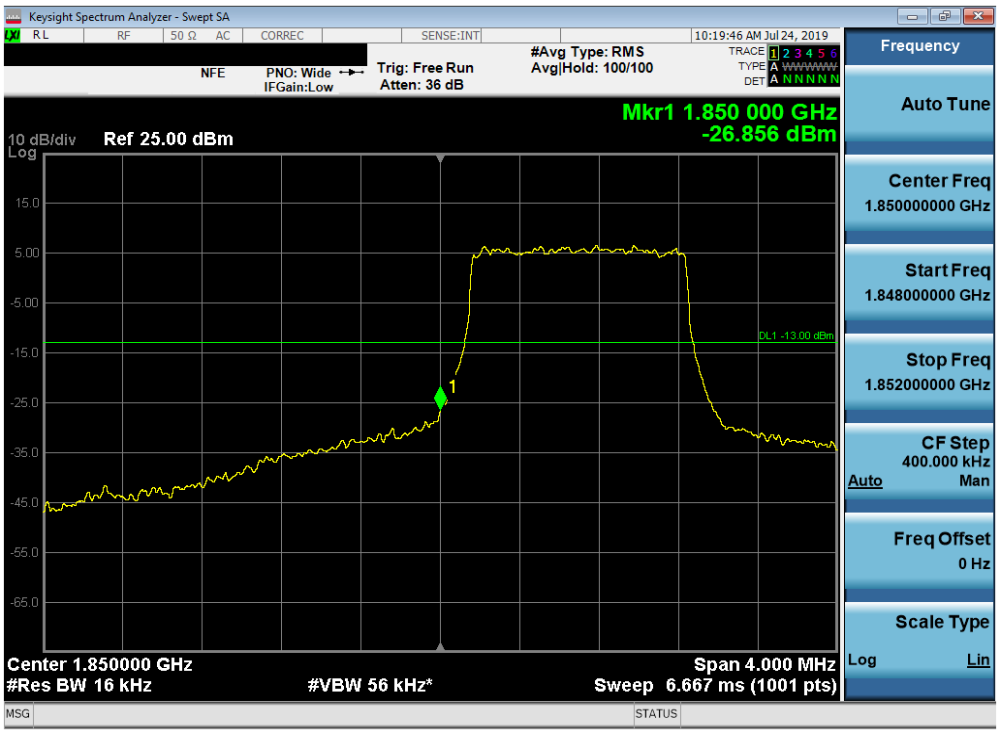


Plot 7-140. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

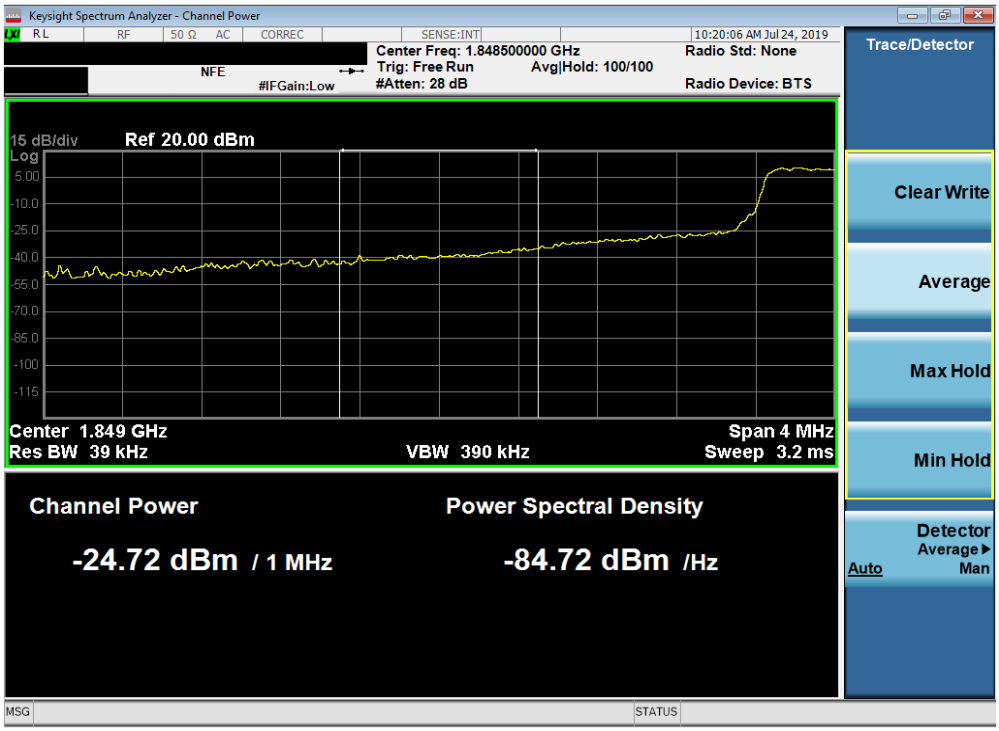


Plot 7-141. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

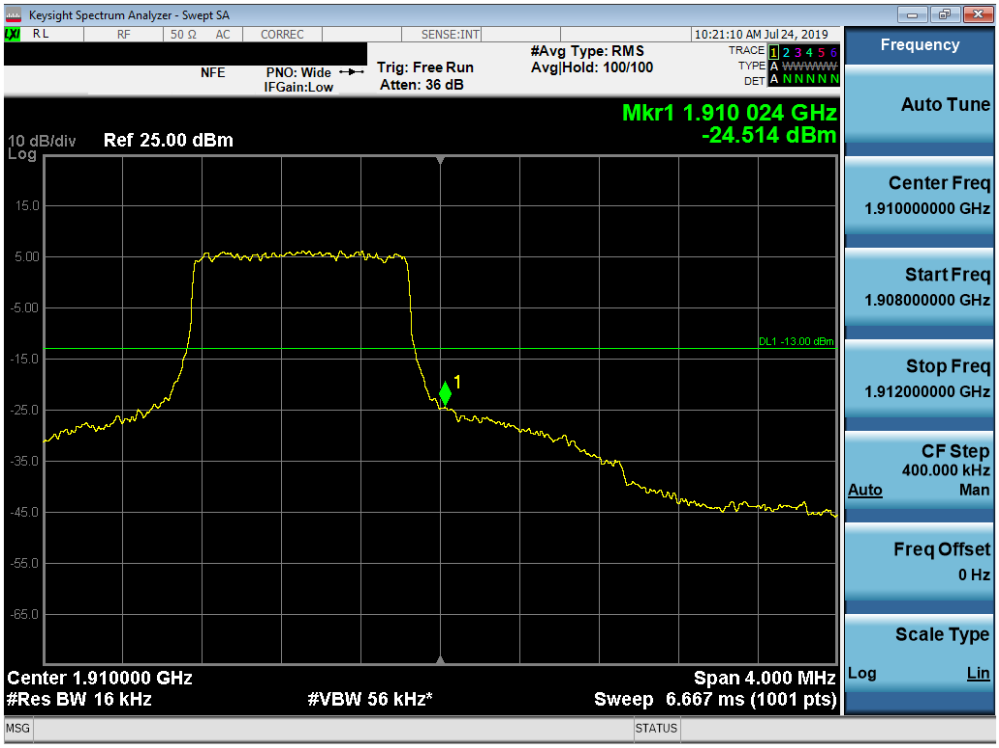
Band 2



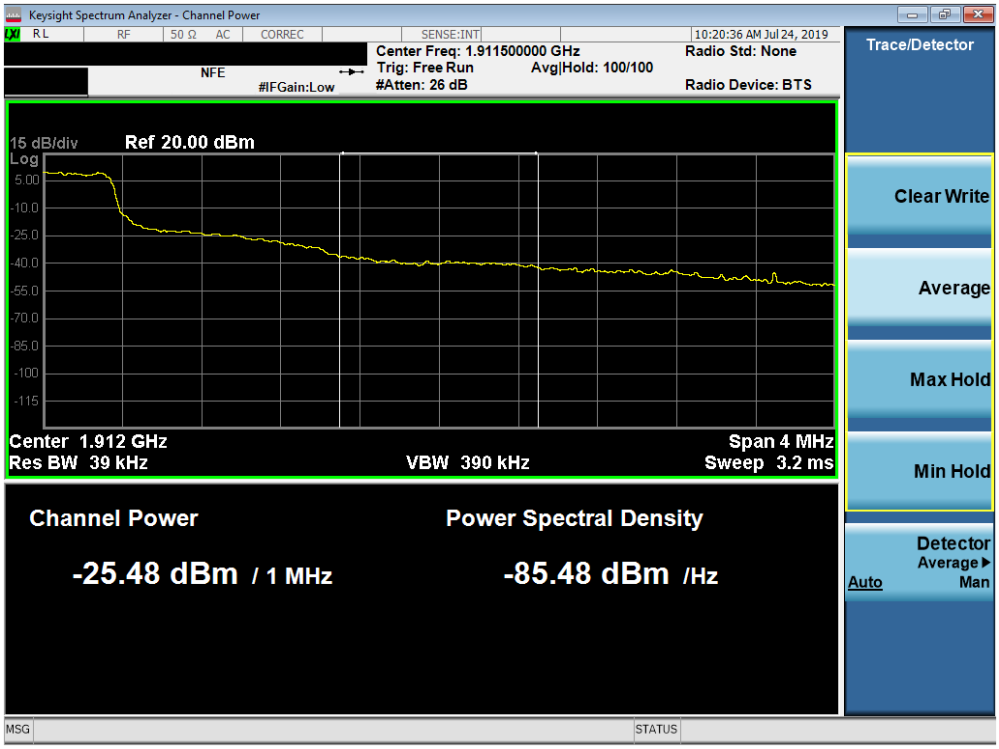
Plot 7-142. Lower Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



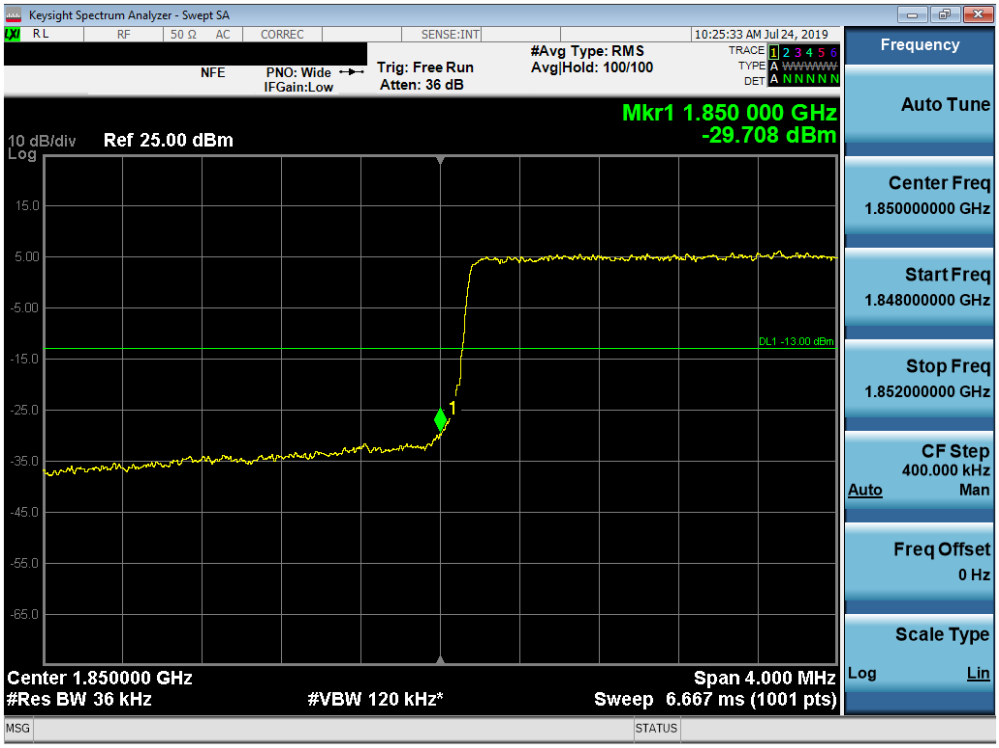
Plot 7-143. Lower Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



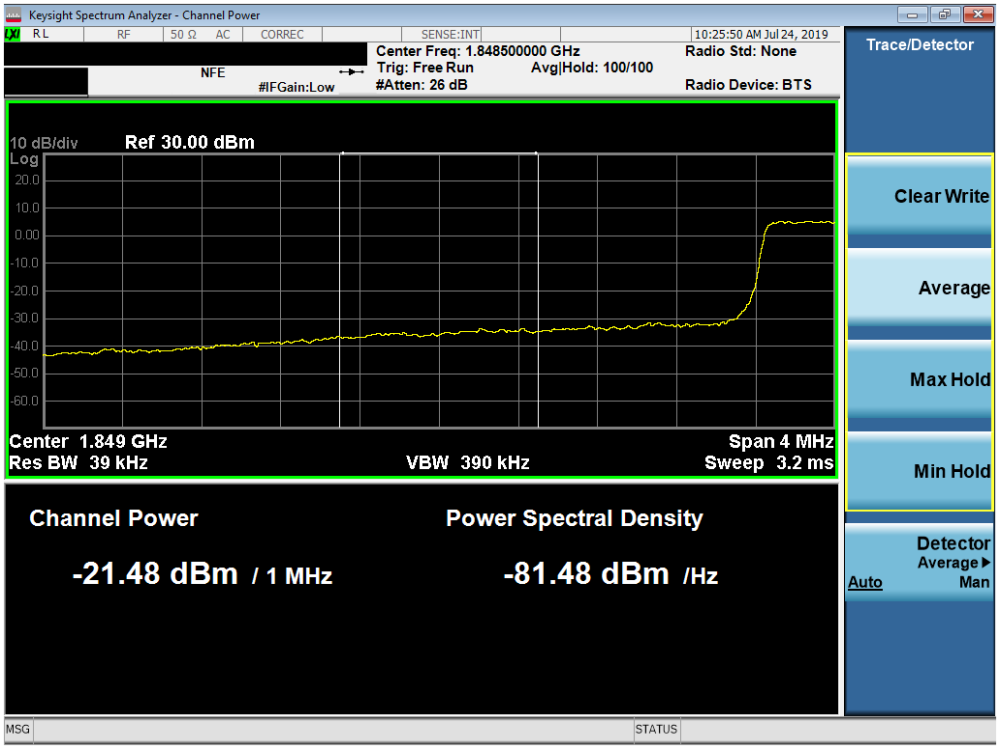
Plot 7-144. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



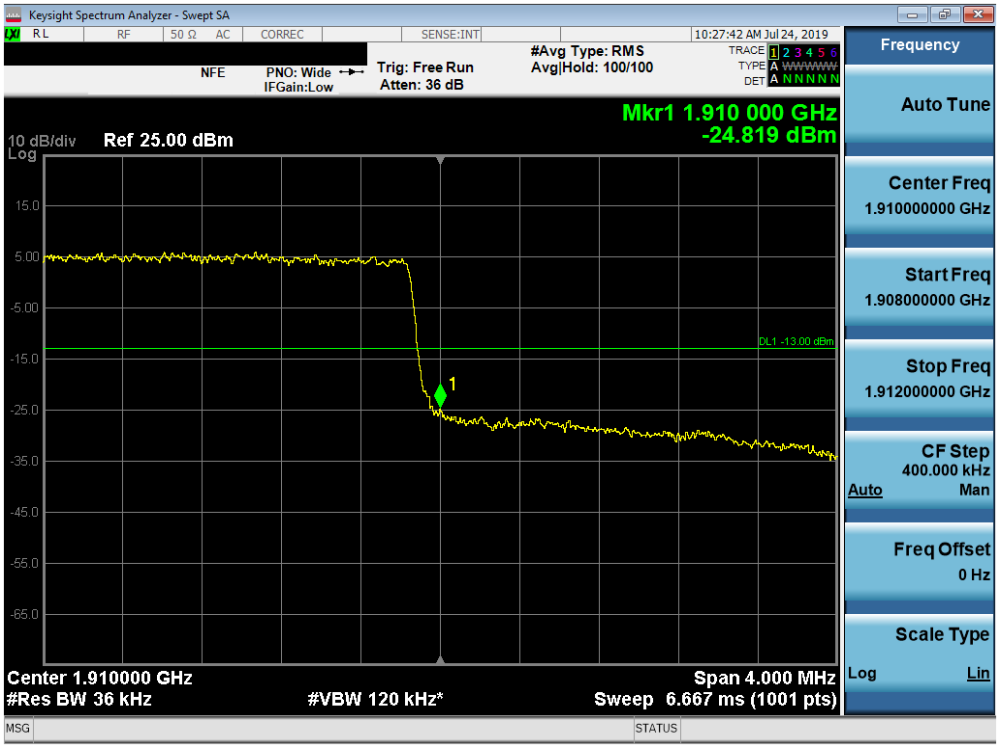
Plot 7-145. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



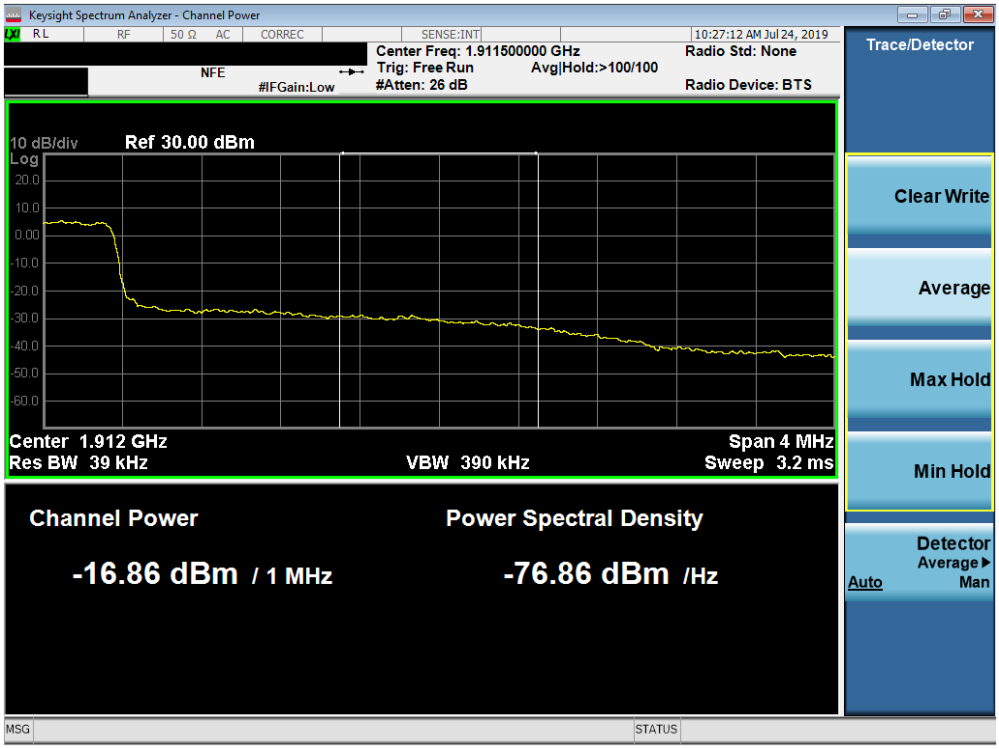
Plot 7-146. Lower Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



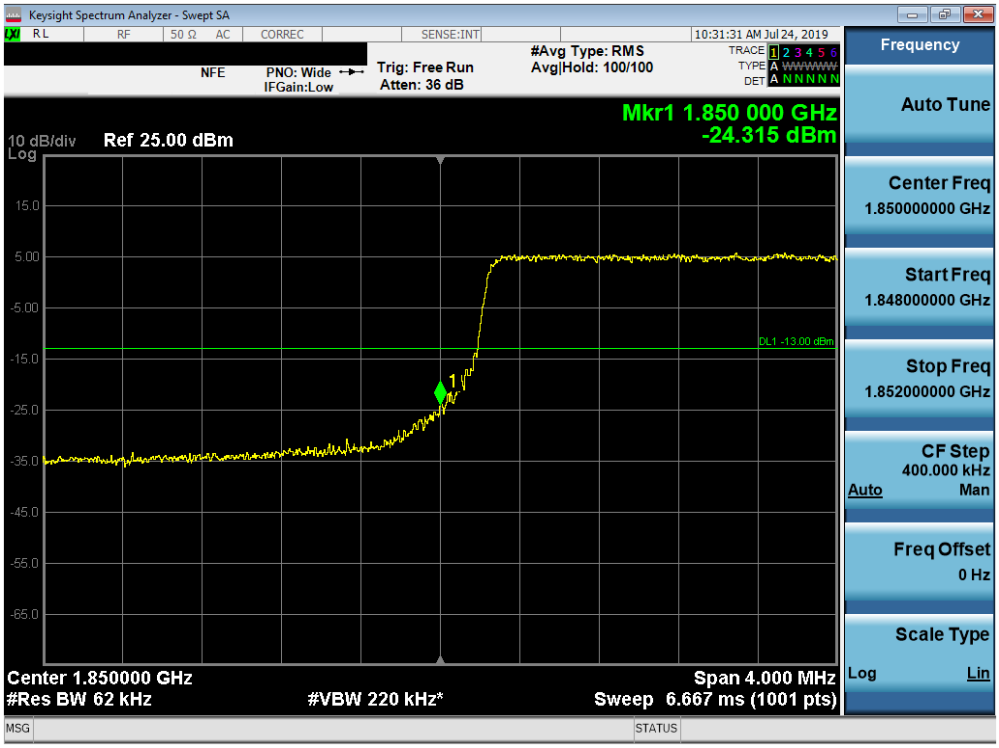
Plot 7-147. Lower Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



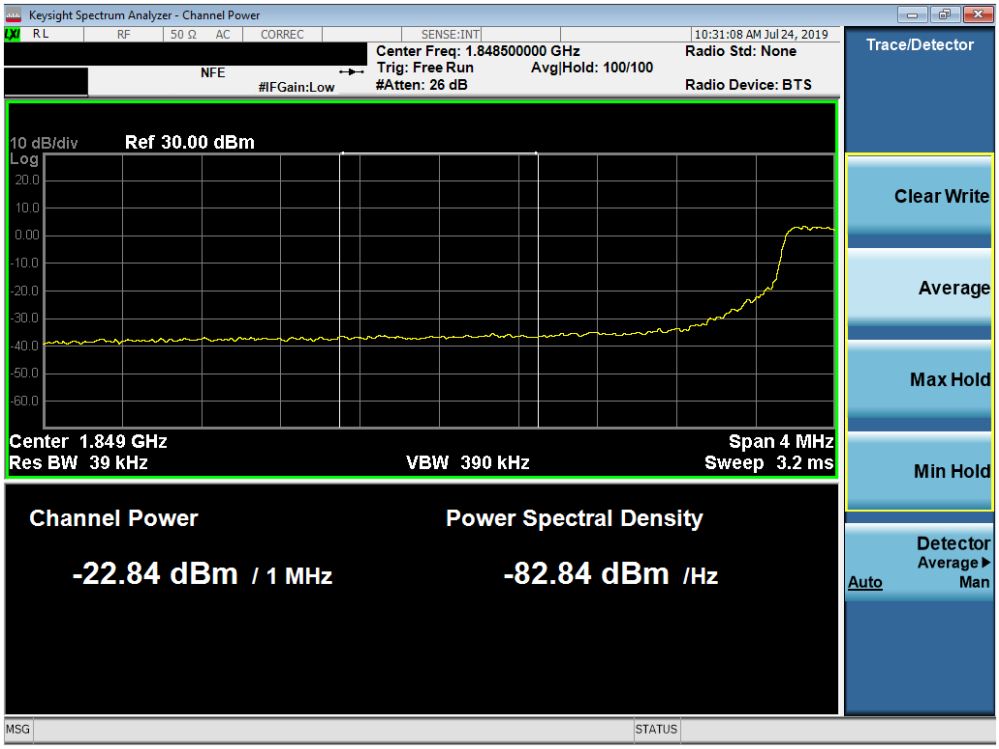
Plot 7-148. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



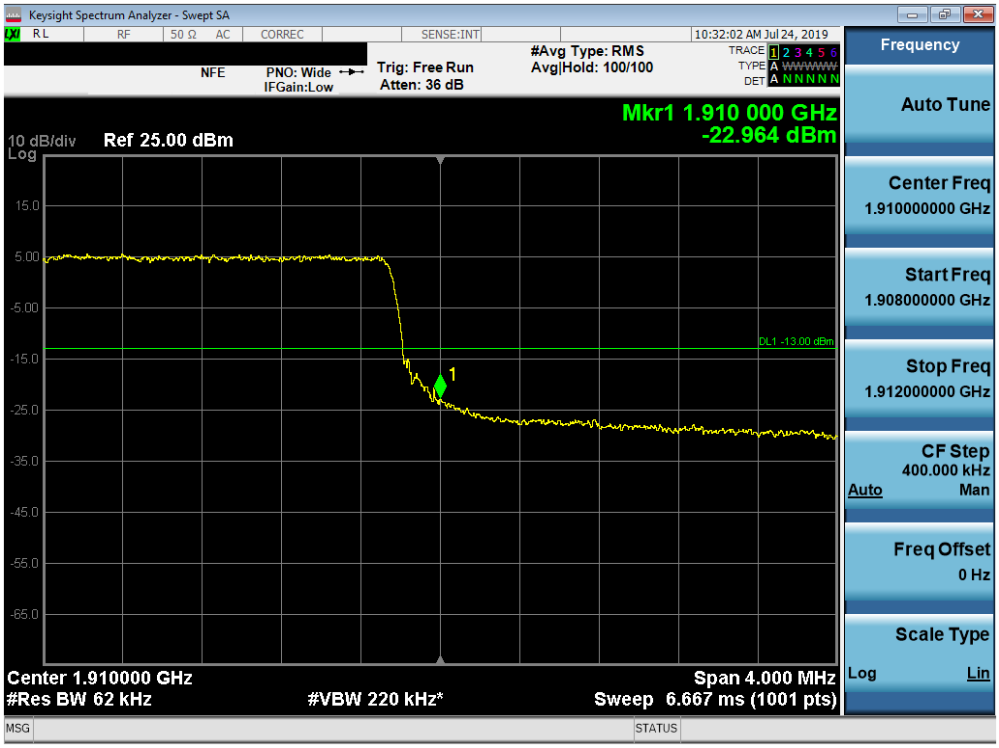
Plot 7-149. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



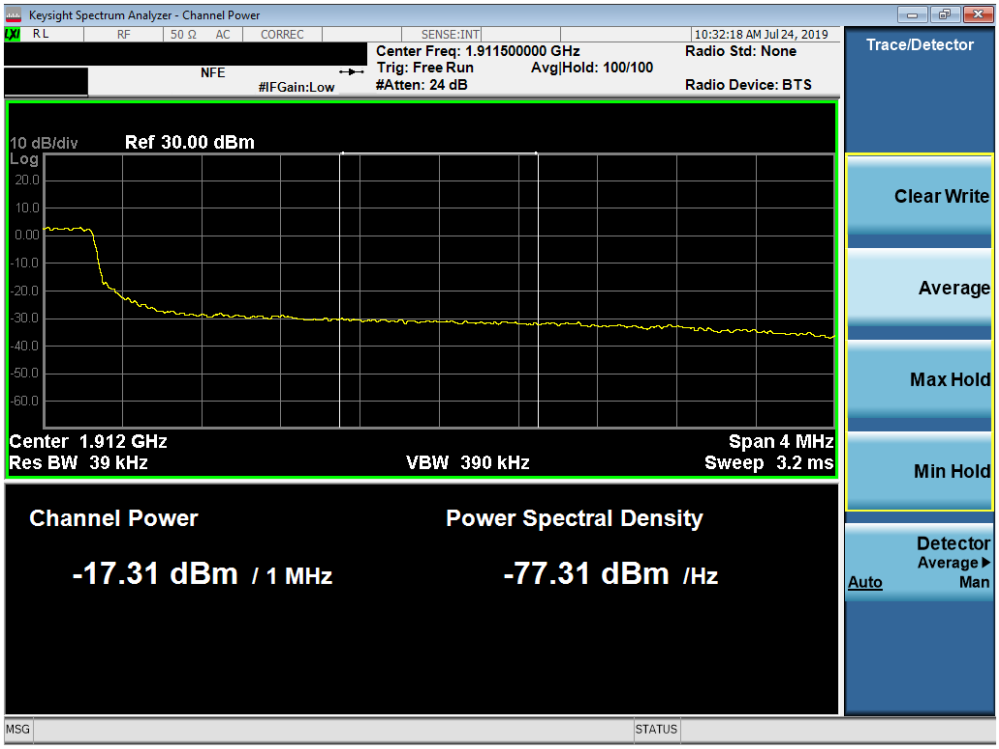
Plot 7-150. Lower Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



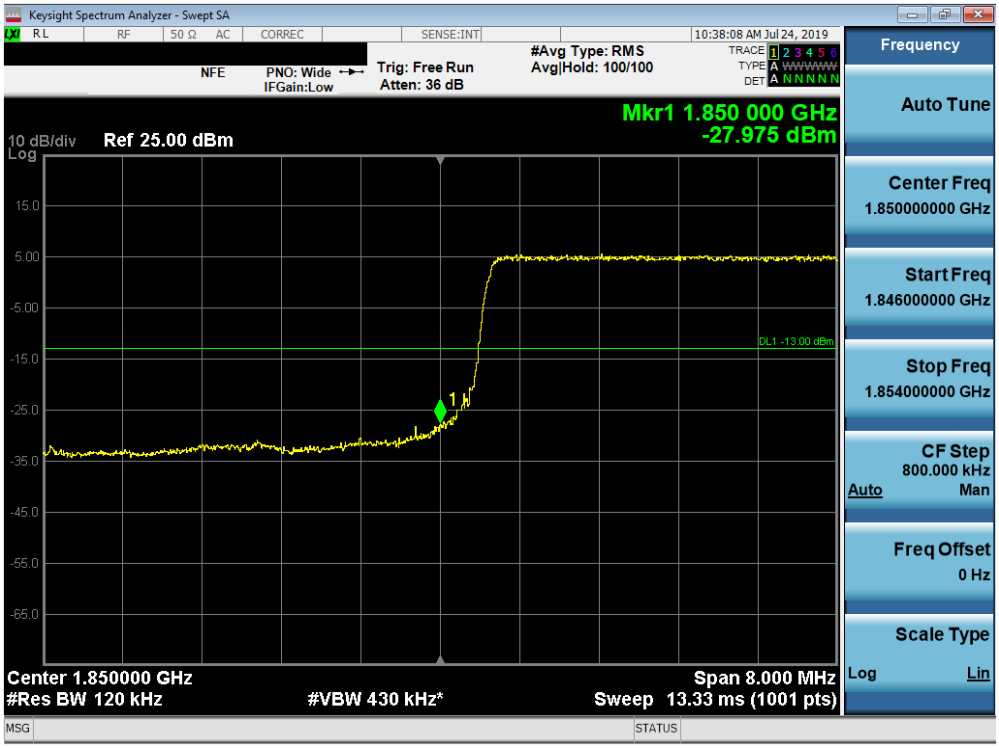
Plot 7-151. Lower Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



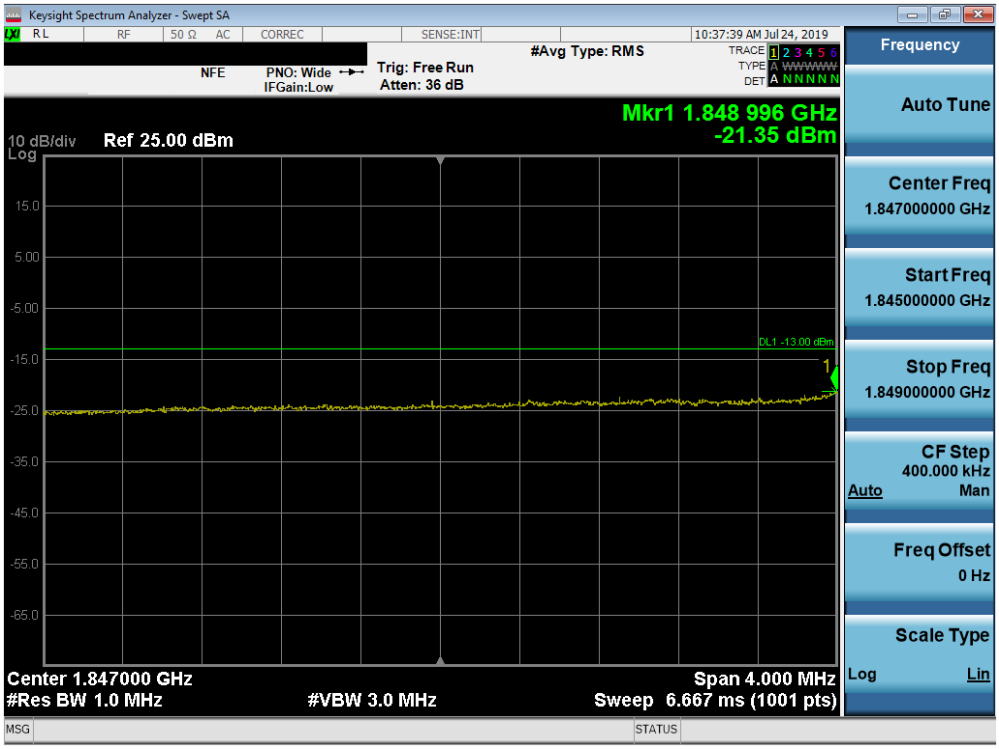
Plot 7-152. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



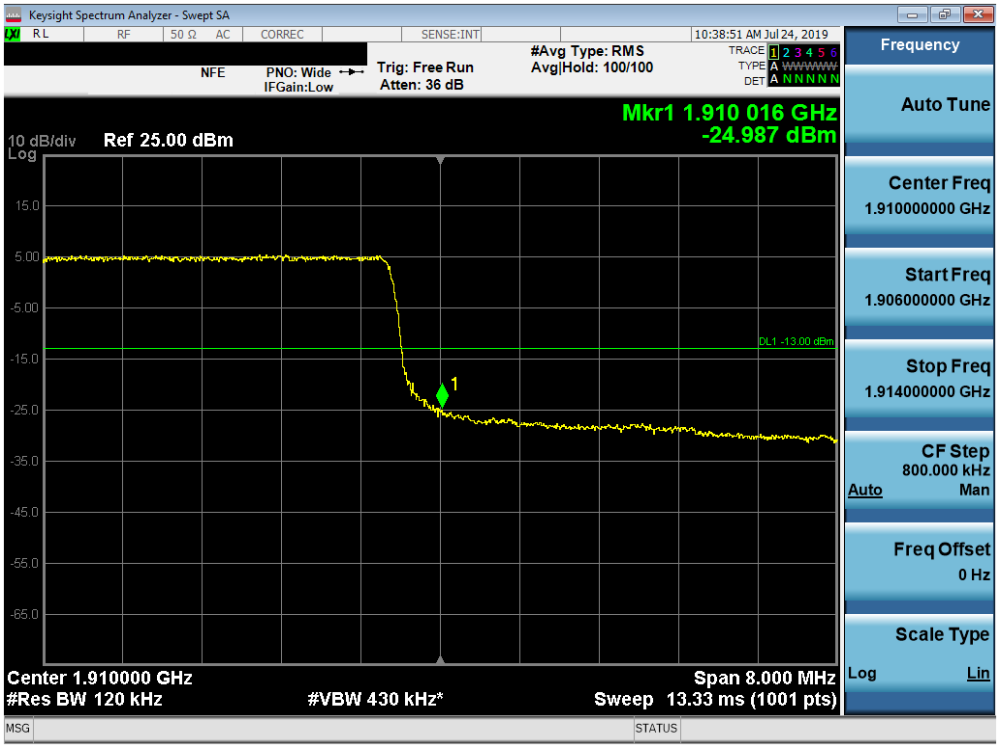
Plot 7-153. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



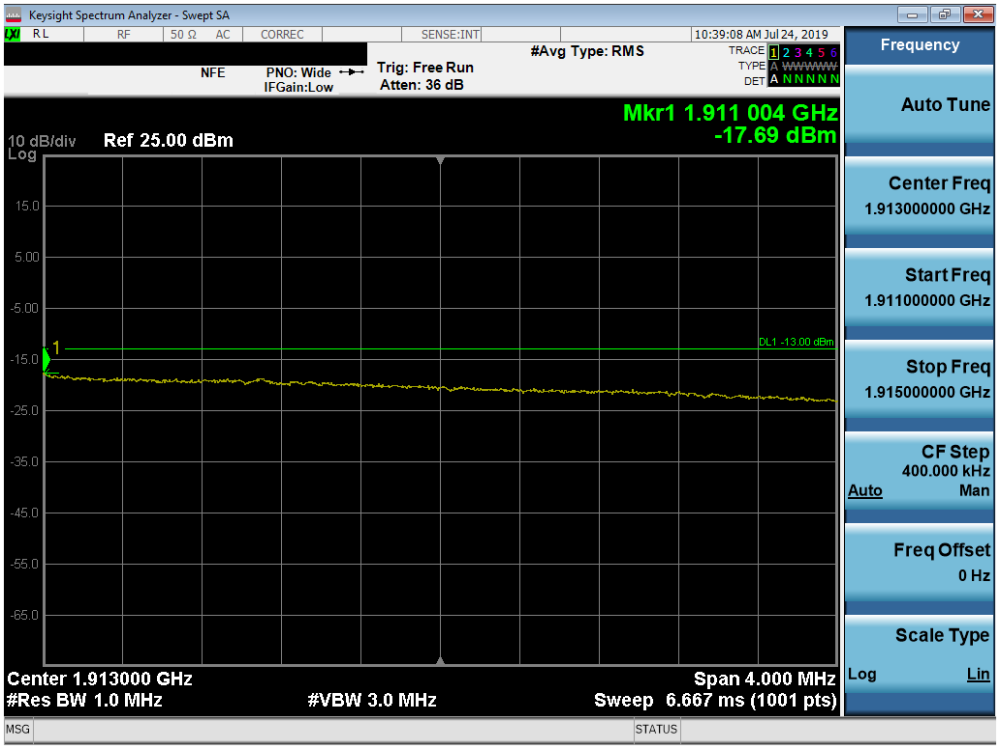
Plot 7-154. Lower Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



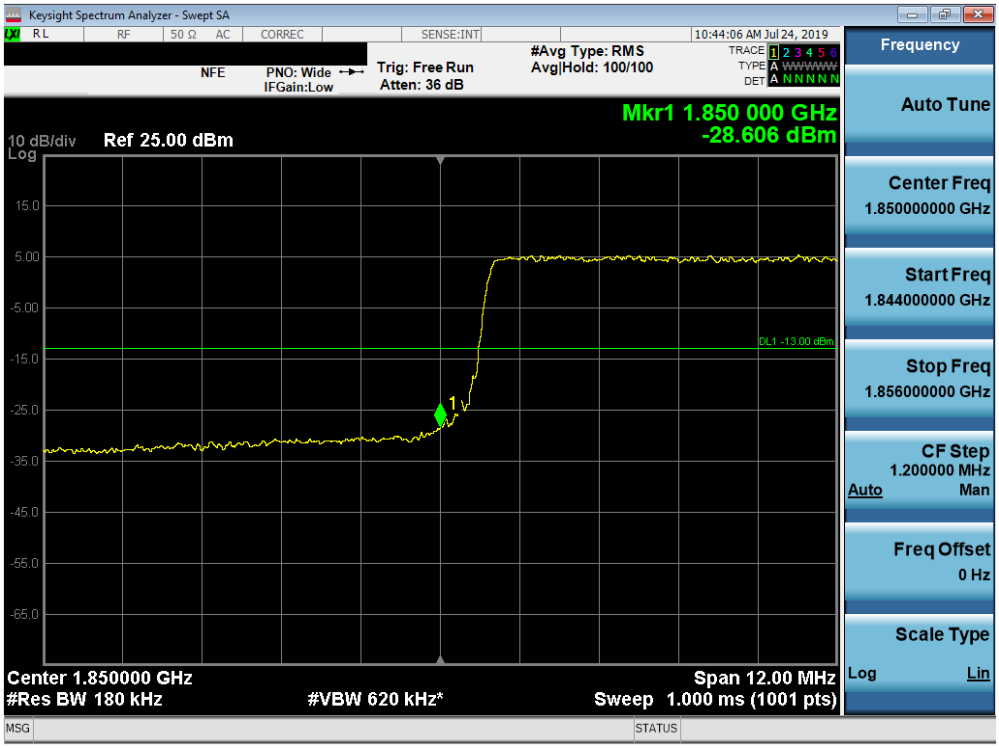
Plot 7-155. Lower Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



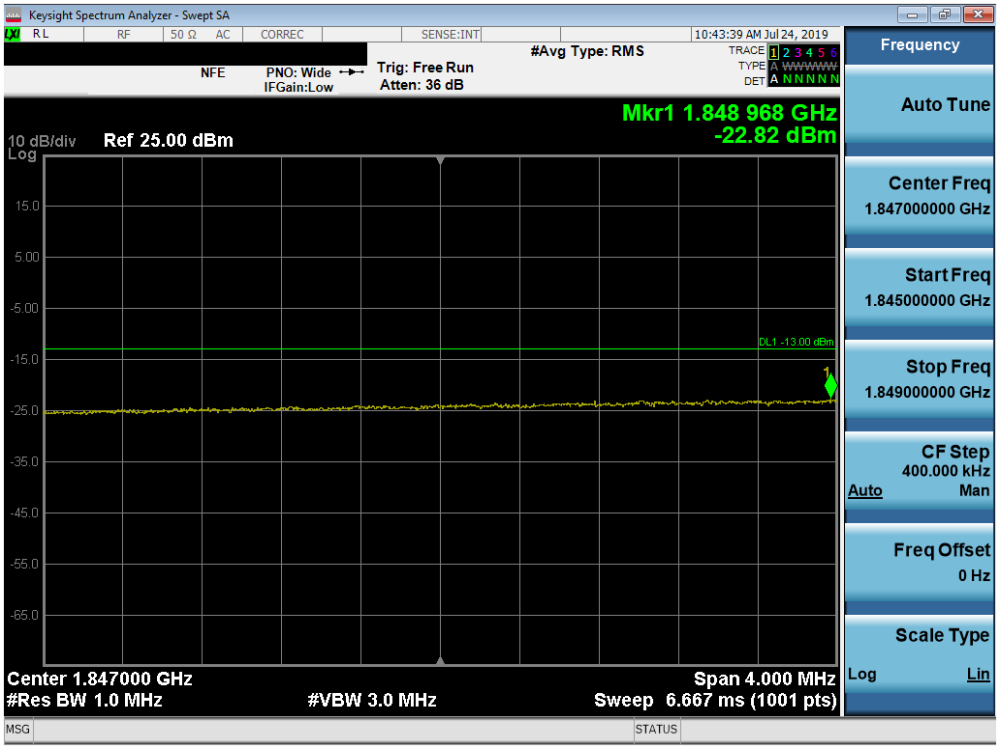
Plot 7-156. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



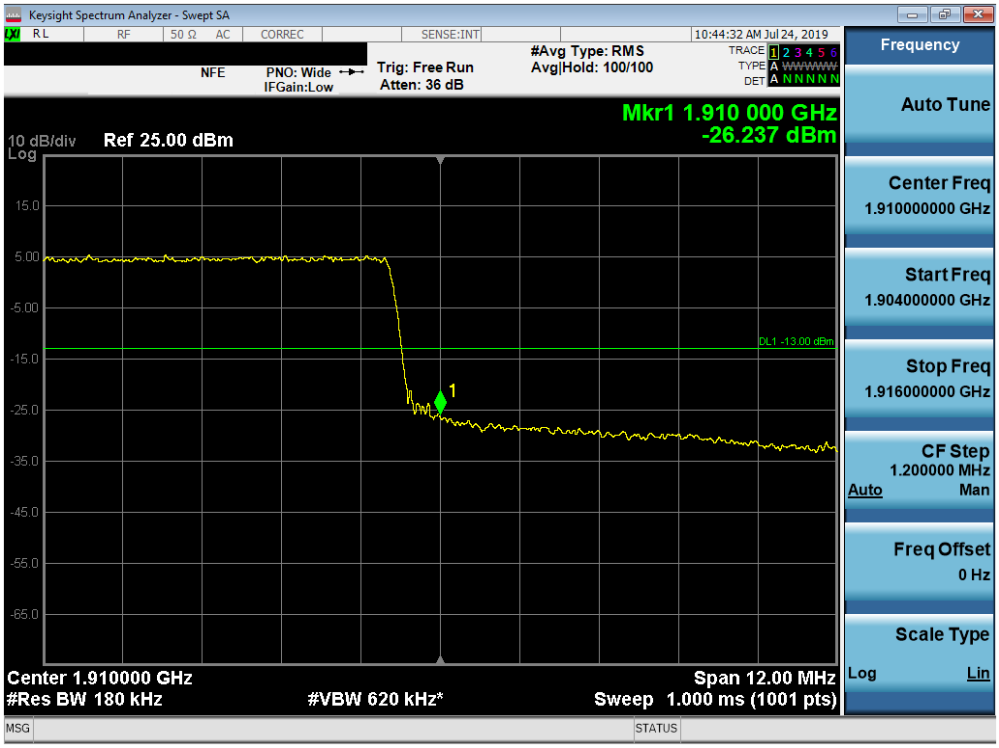
Plot 7-157. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



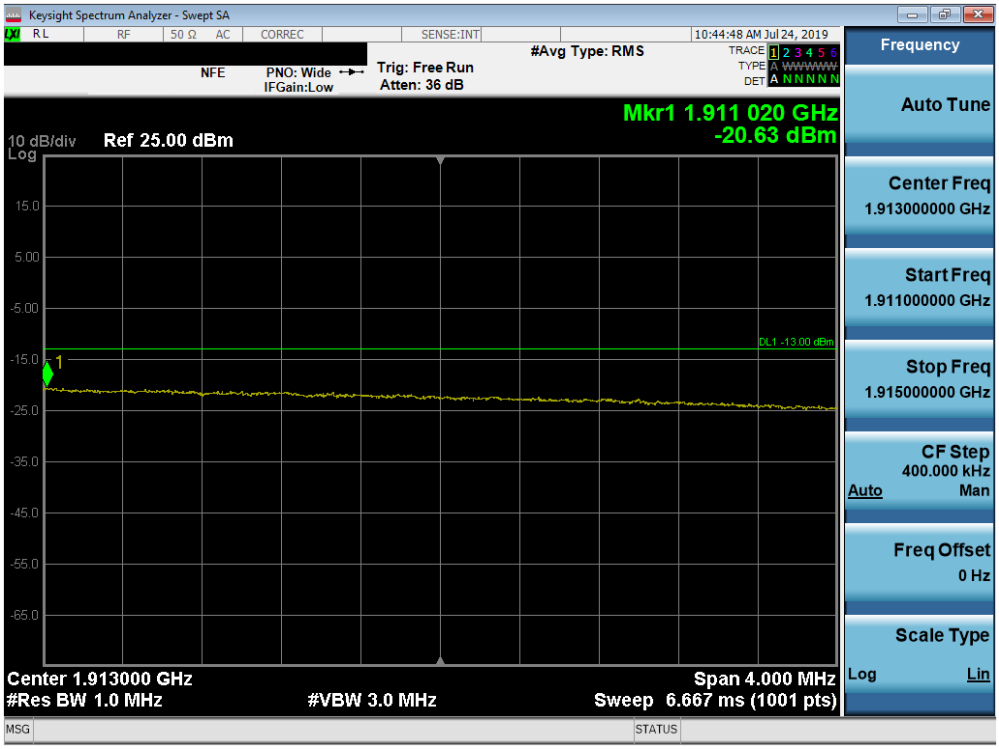
Plot 7-158. Lower Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



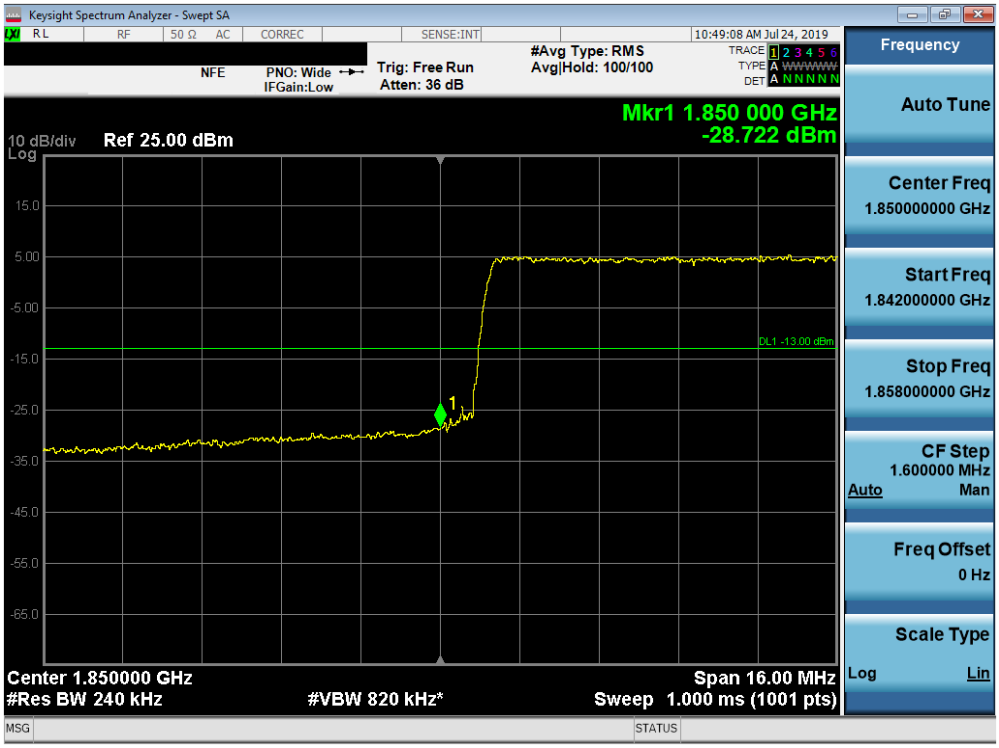
Plot 7-159. Lower Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



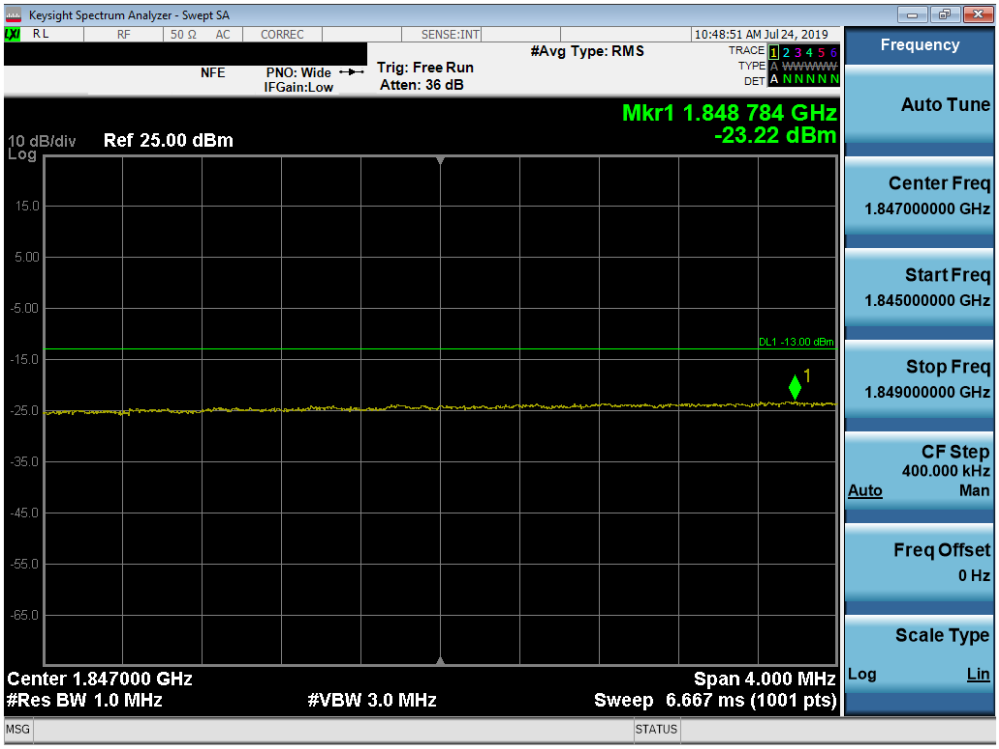
Plot 7-160. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



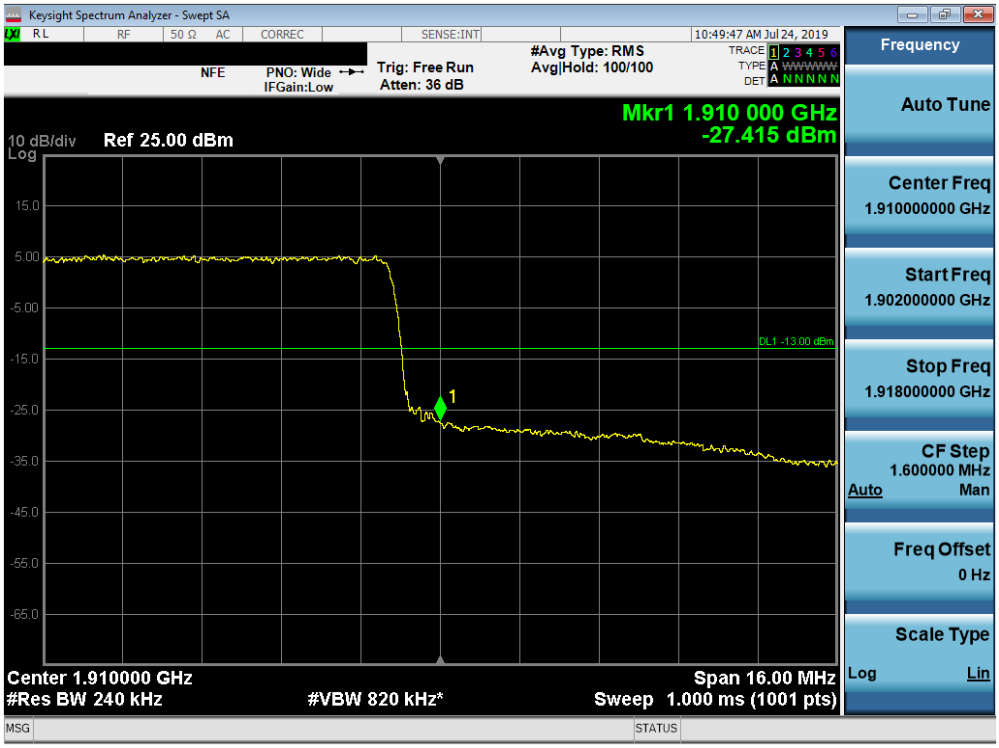
Plot 7-161. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



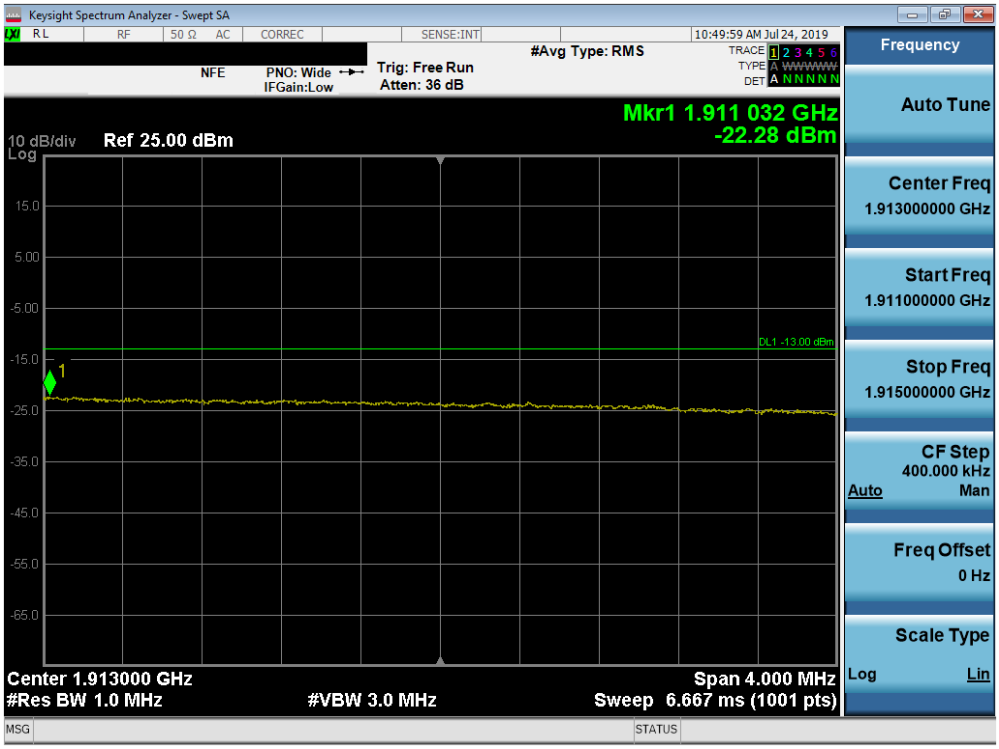
Plot 7-162. Lower Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-163. Lower Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-164. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-165. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

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 ≥ 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.

Test Setup

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

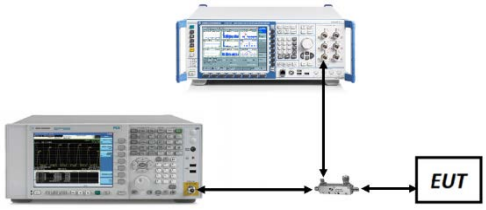
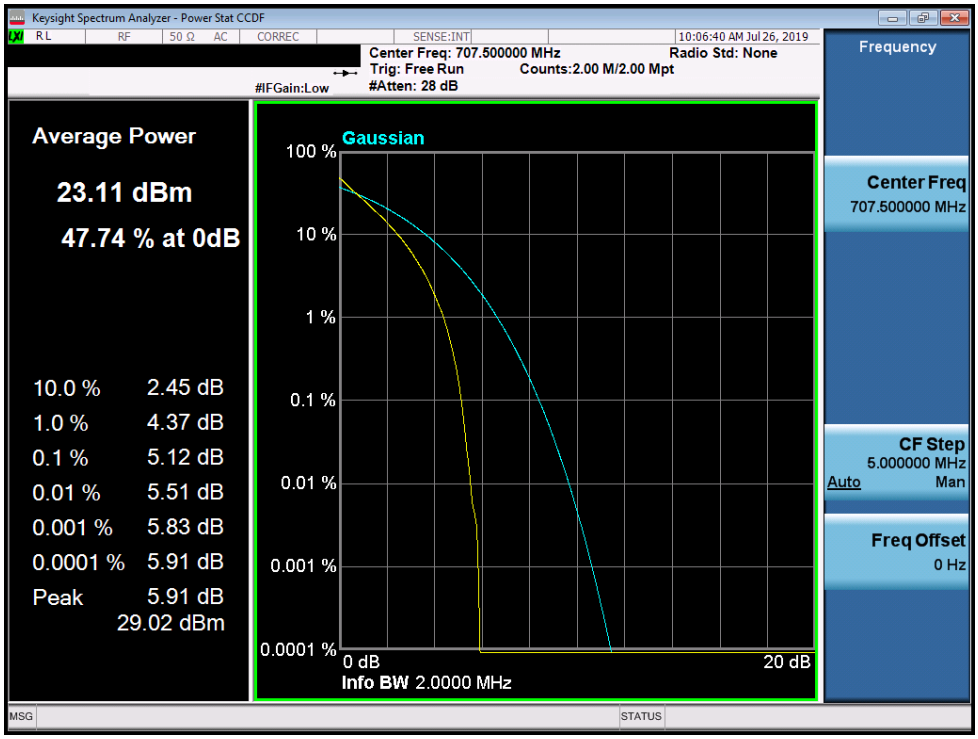


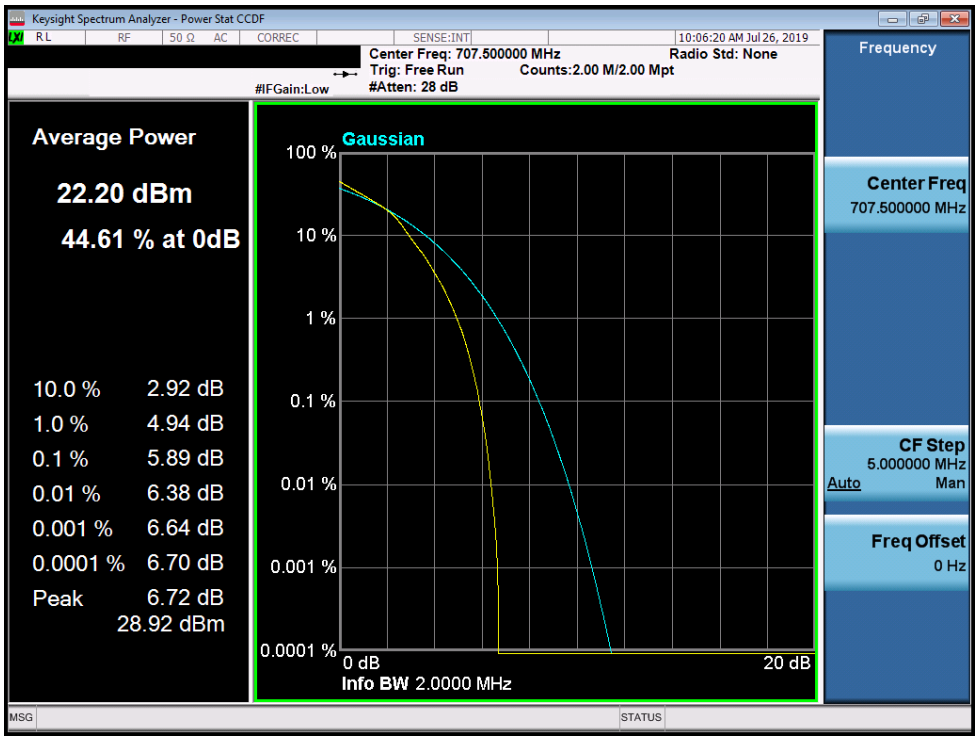
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

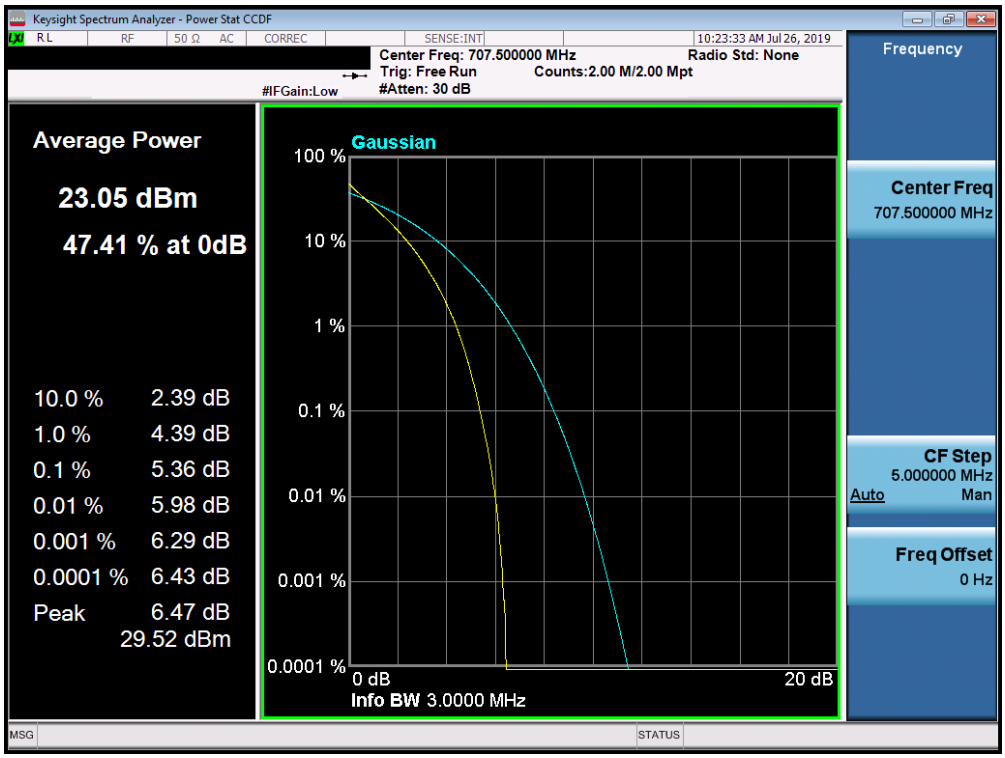
None.



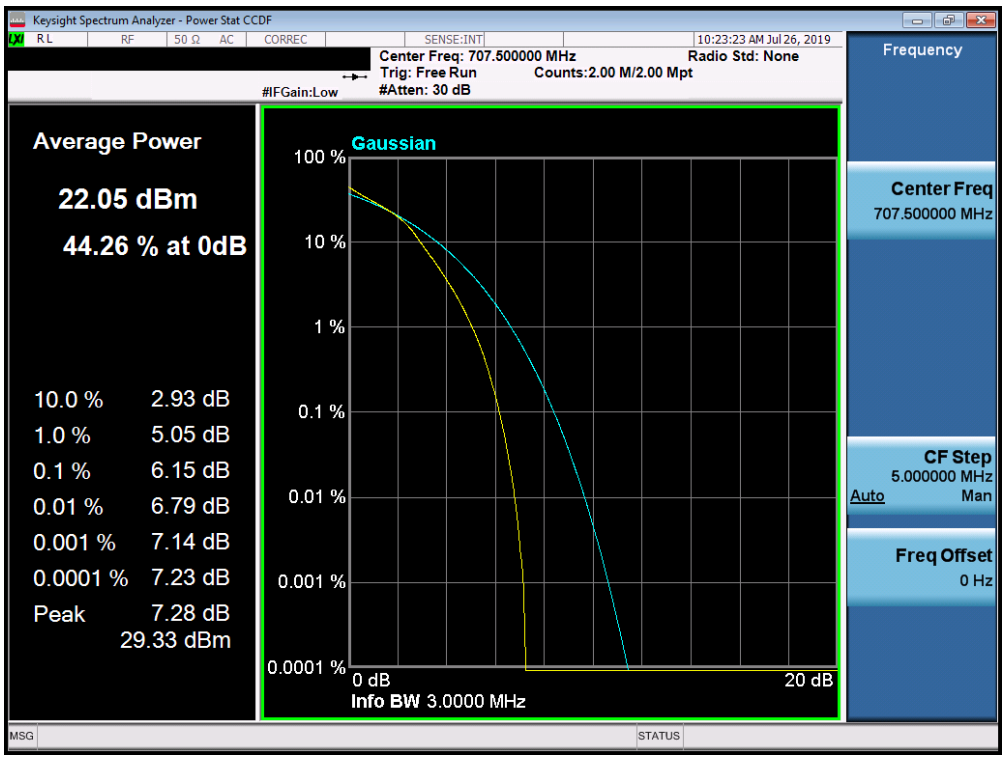
Plot 7-166. PAR Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



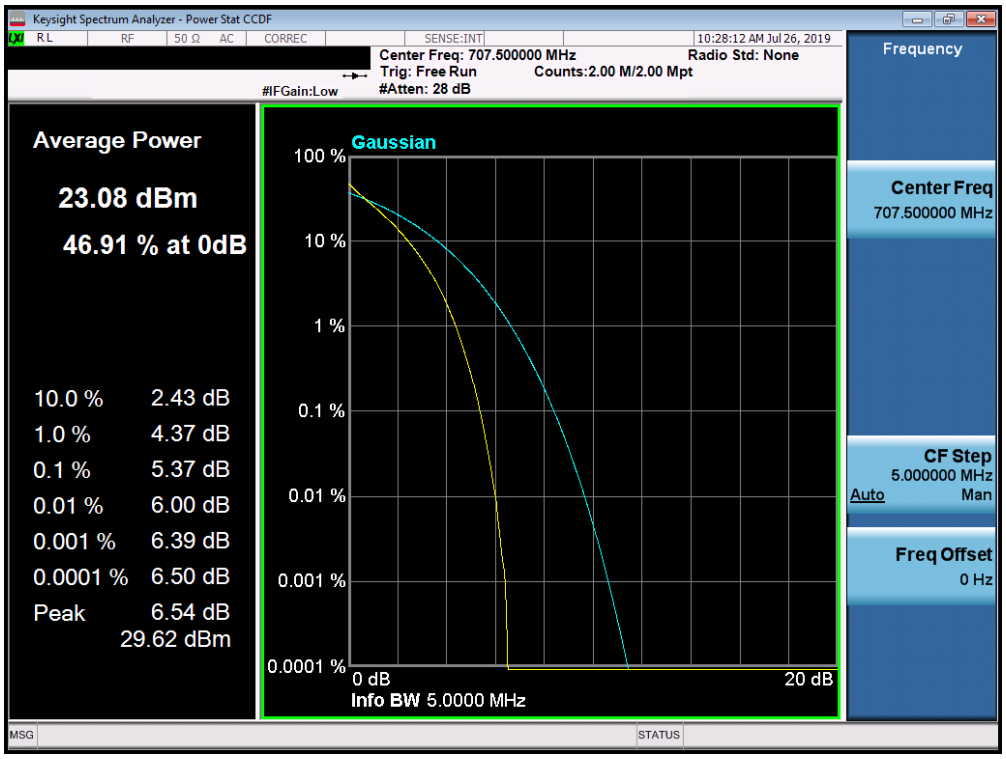
Plot 7-167. PAR Plot (Band 12 - 1.4MHz 16-QAM - Full RB Configuration)



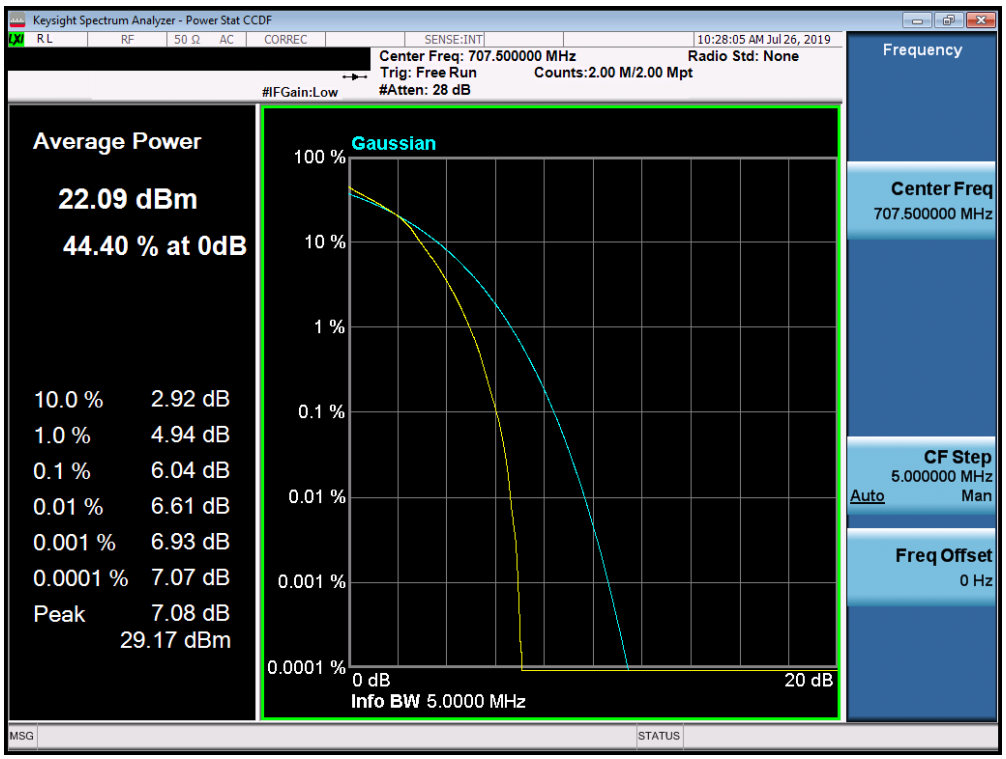
Plot 7-168. PAR Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)



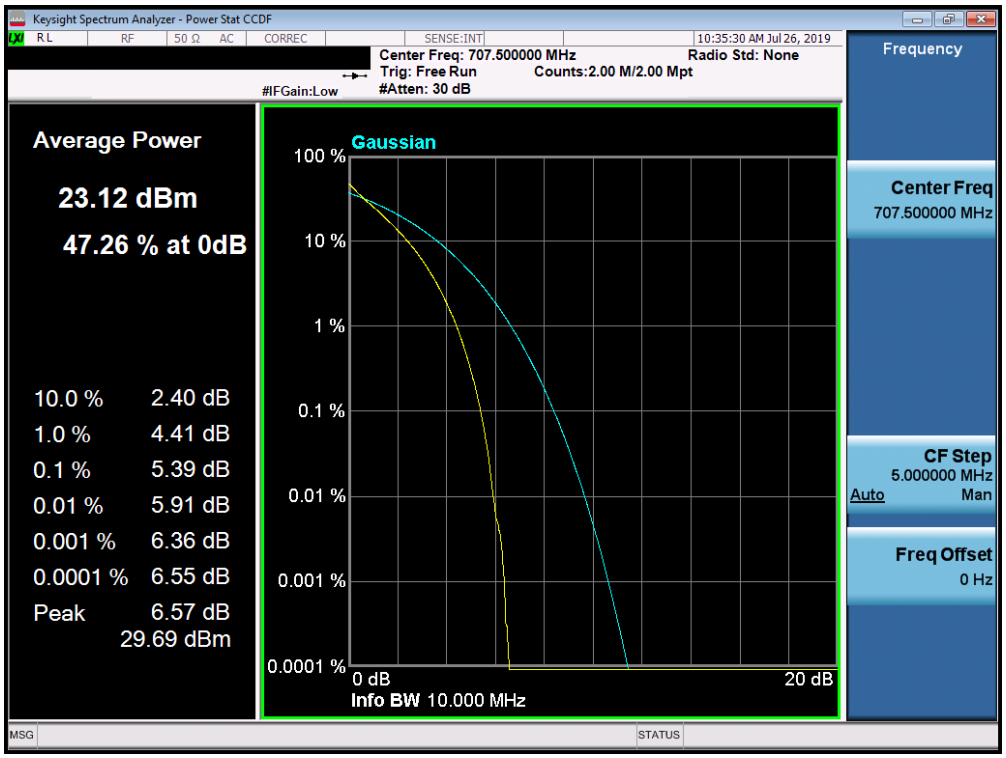
Plot 7-169. PAR Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)



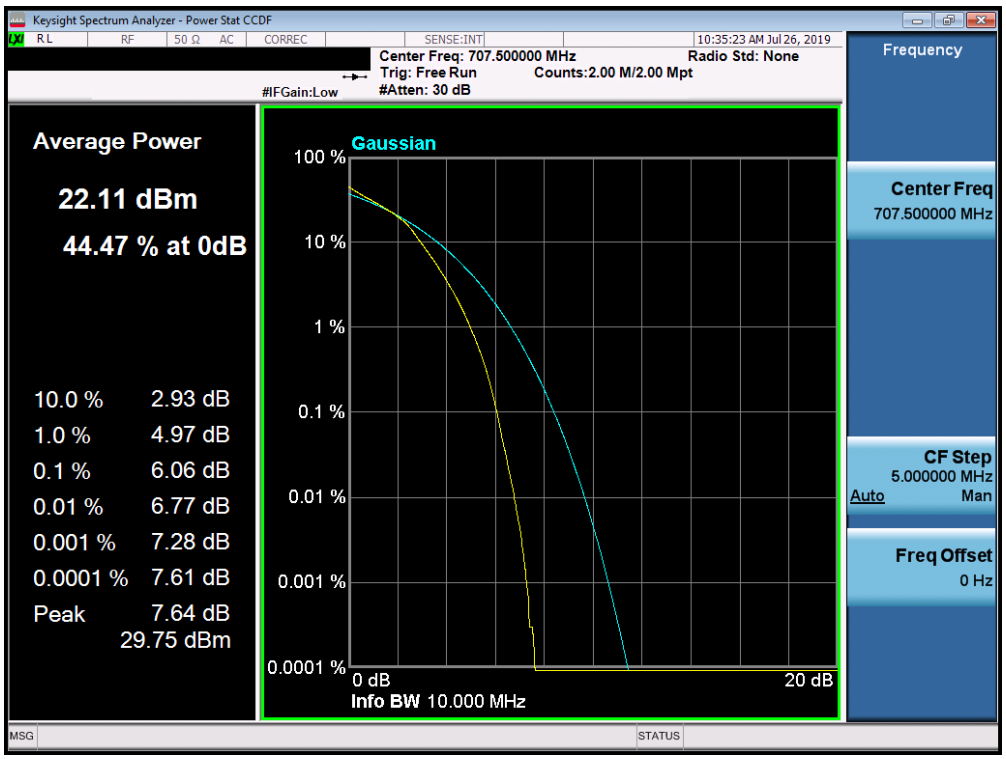
Plot 7-170. PAR Plot (Band 12/17 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-171. PAR Plot (Band 12/17 - 5.0MHz 16-QAM - Full RB Configuration)

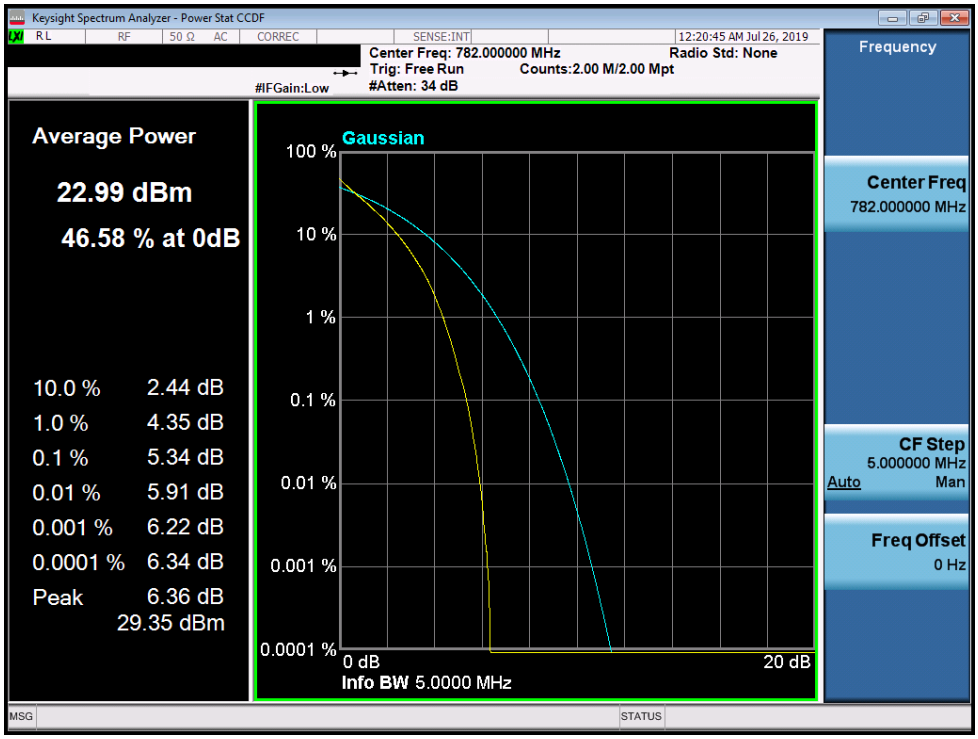


Plot 7-172. PAR Plot (Band 12/17 - 10.0MHz QPSK - Full RB Configuration)

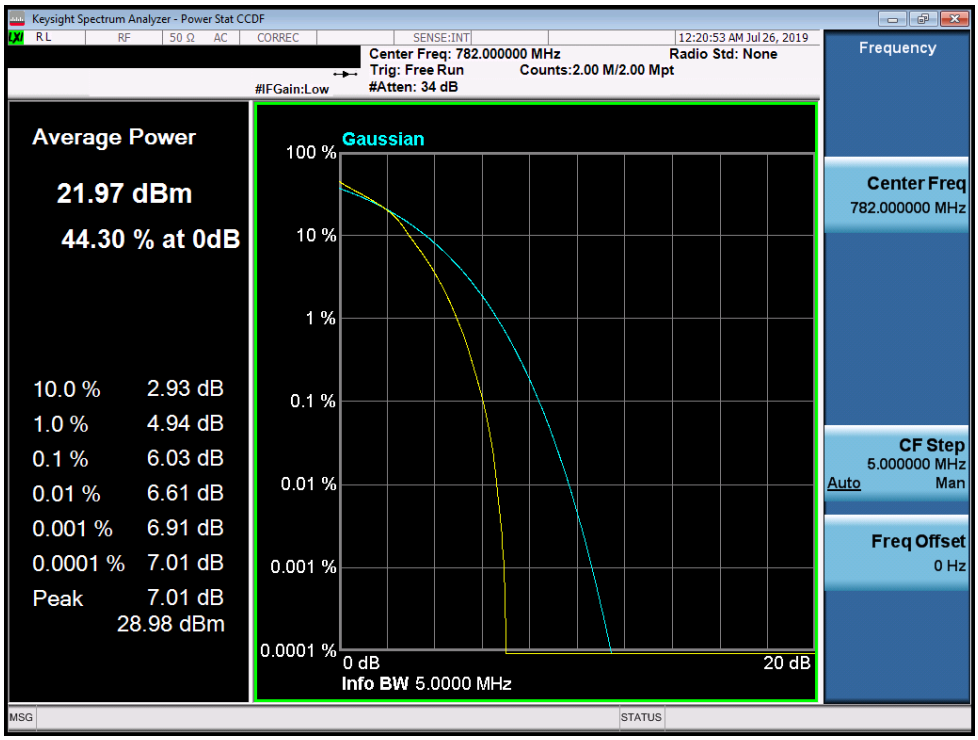


Plot 7-173. PAR Plot (Band 12/17 - 10.0MHz 16-QAM - Full RB Configuration)

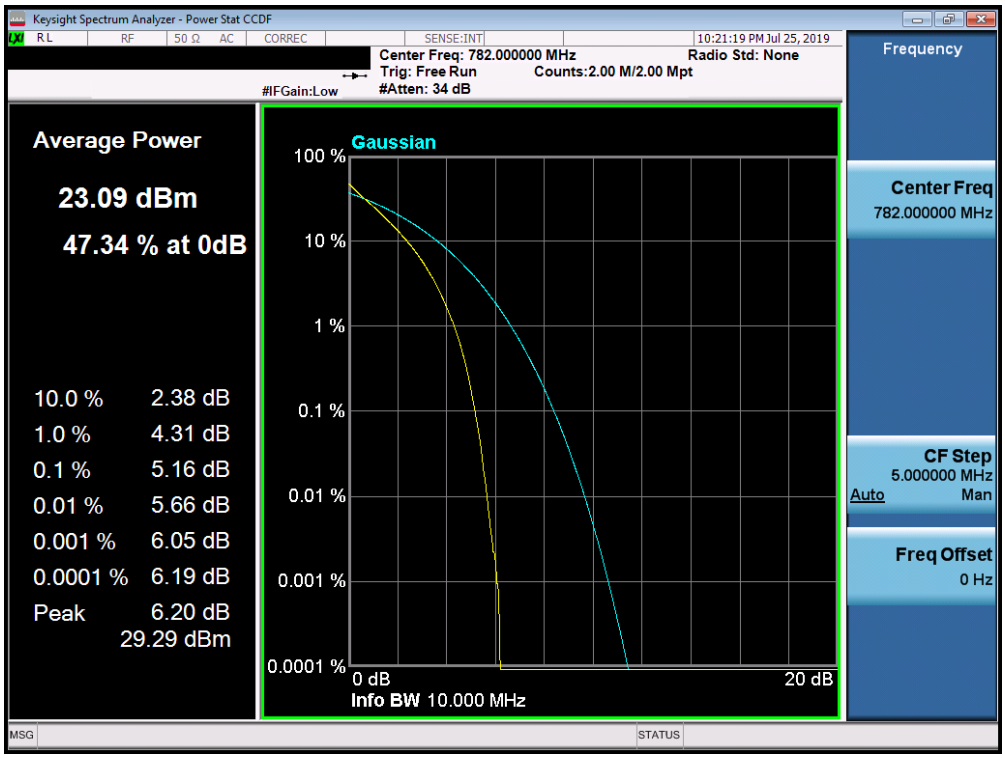
Band 13



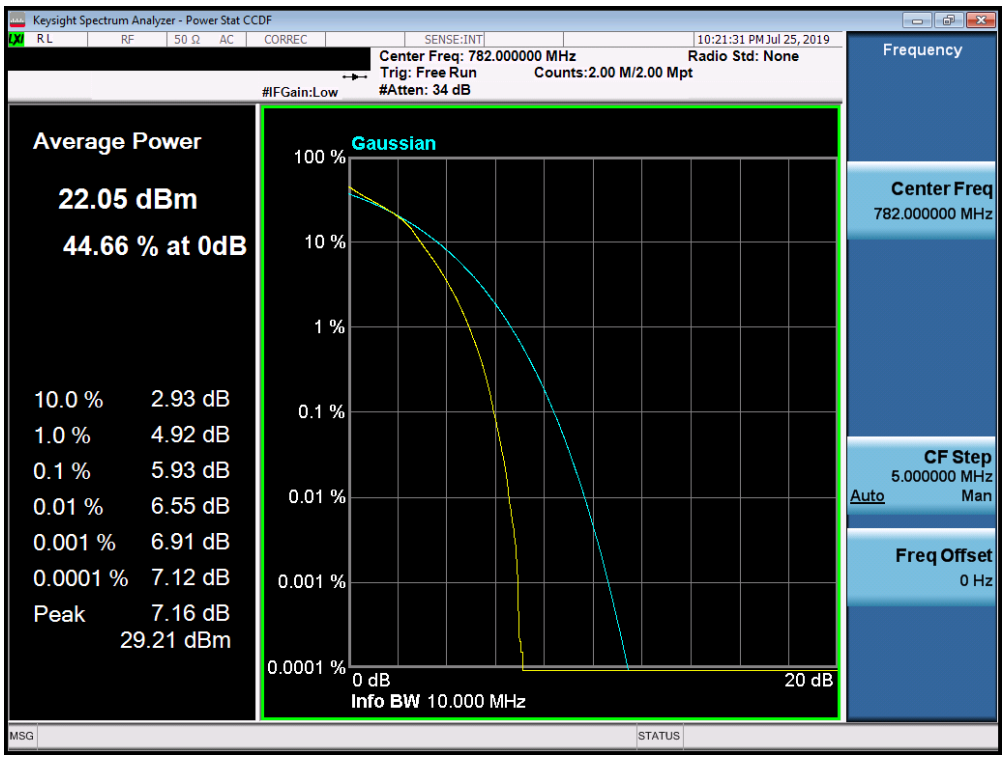
Plot 7-174. PAR Plot (Band 13 – 5.0MHz QPSK - Full RB Configuration)



Plot 7-175. PAR Plot (Band 13 – 5.0MHz 16-QAM - Full RB Configuration)

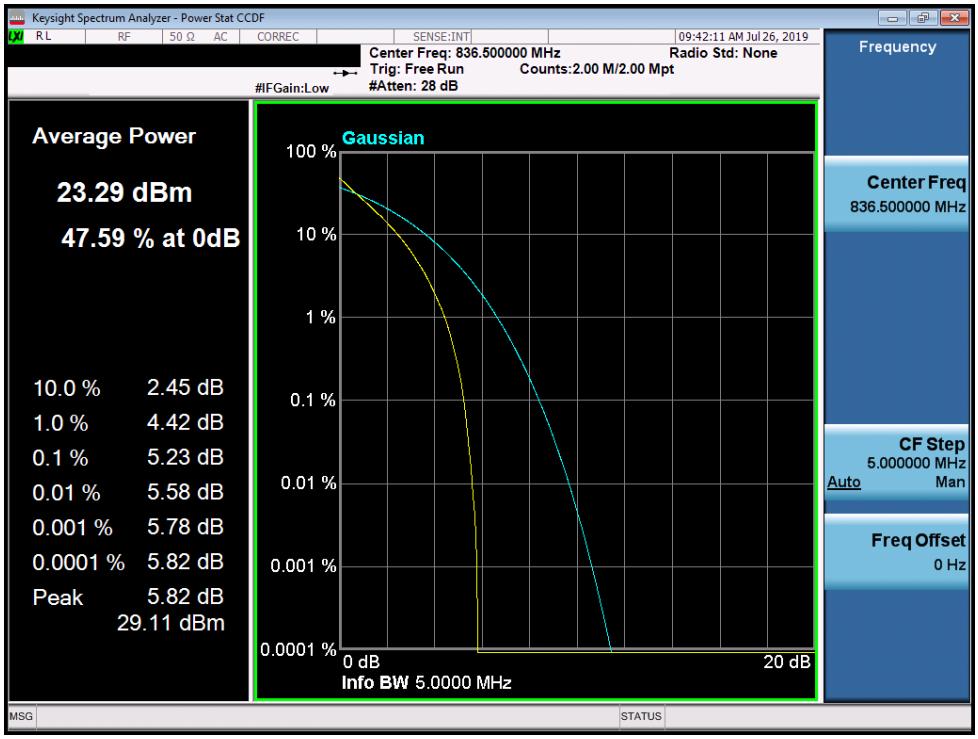


Plot 7-176. PAR Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

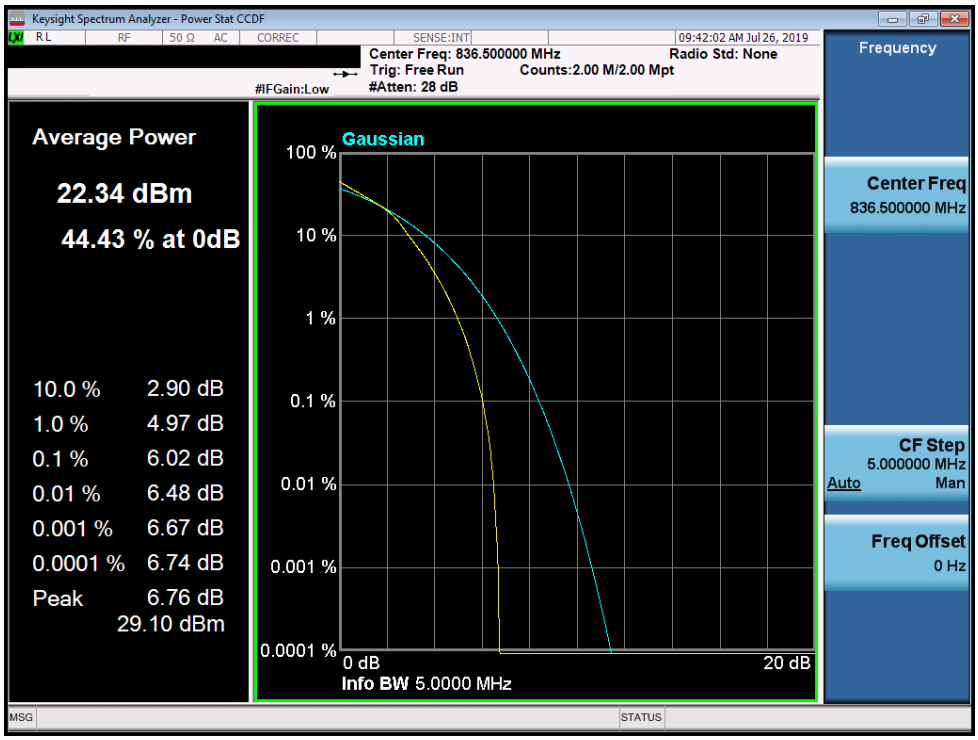


Plot 7-177. PAR Plot (Band 13 - 10.0MHz 16-QAM - Full RB Configuration)

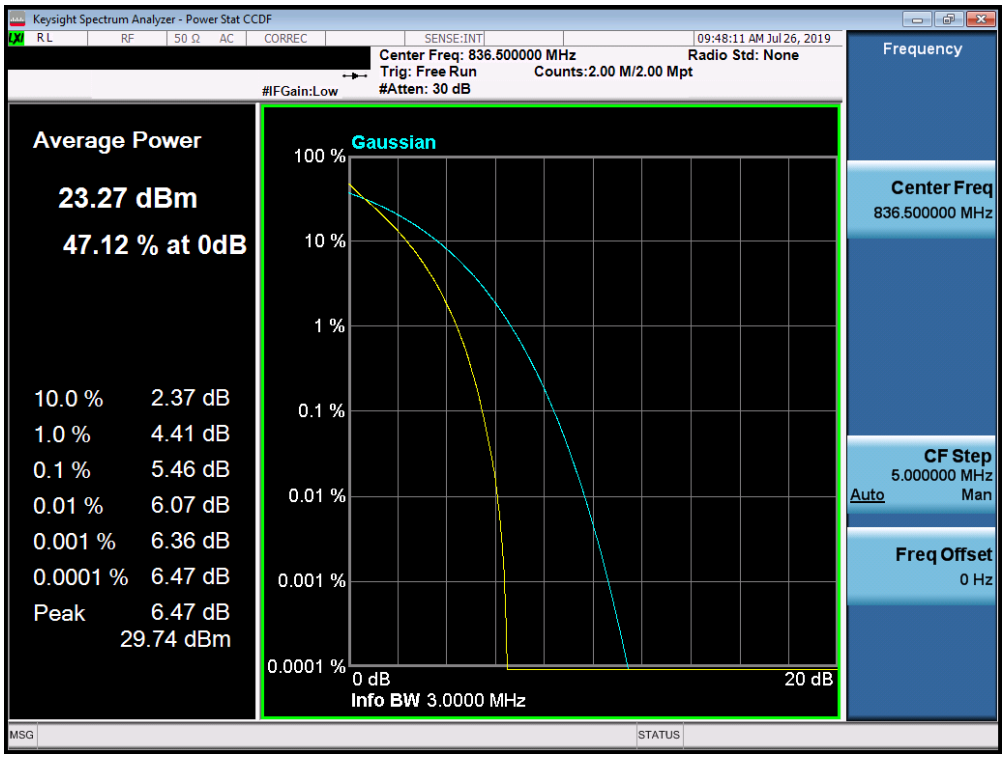
Band 5



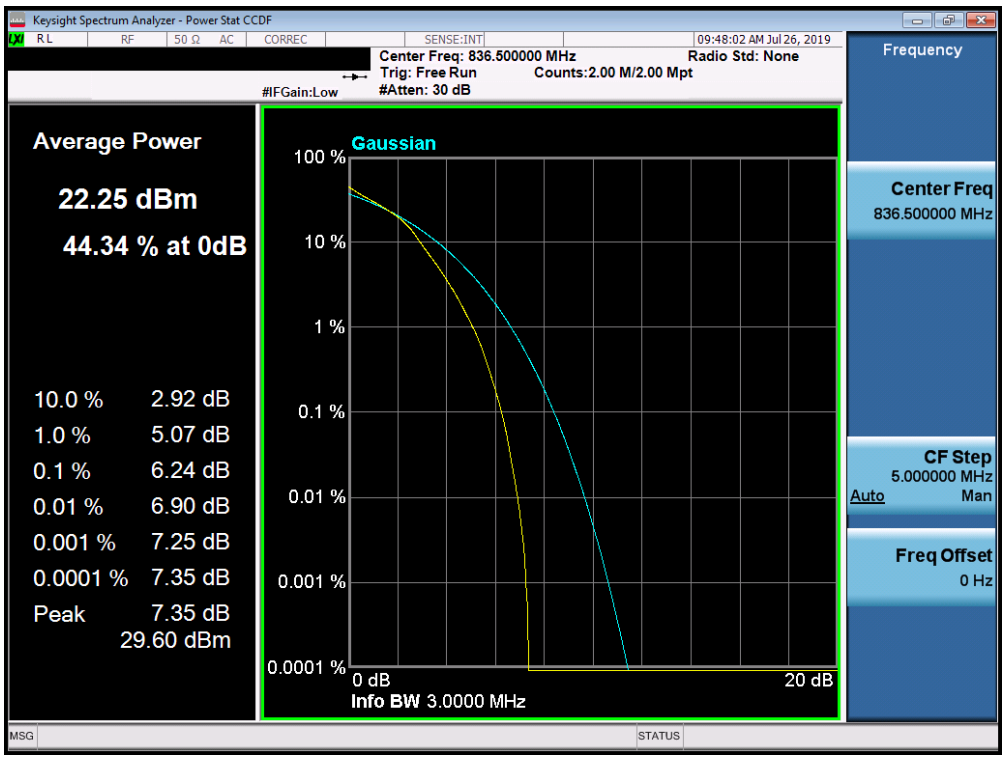
Plot 7-178. PAR Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)



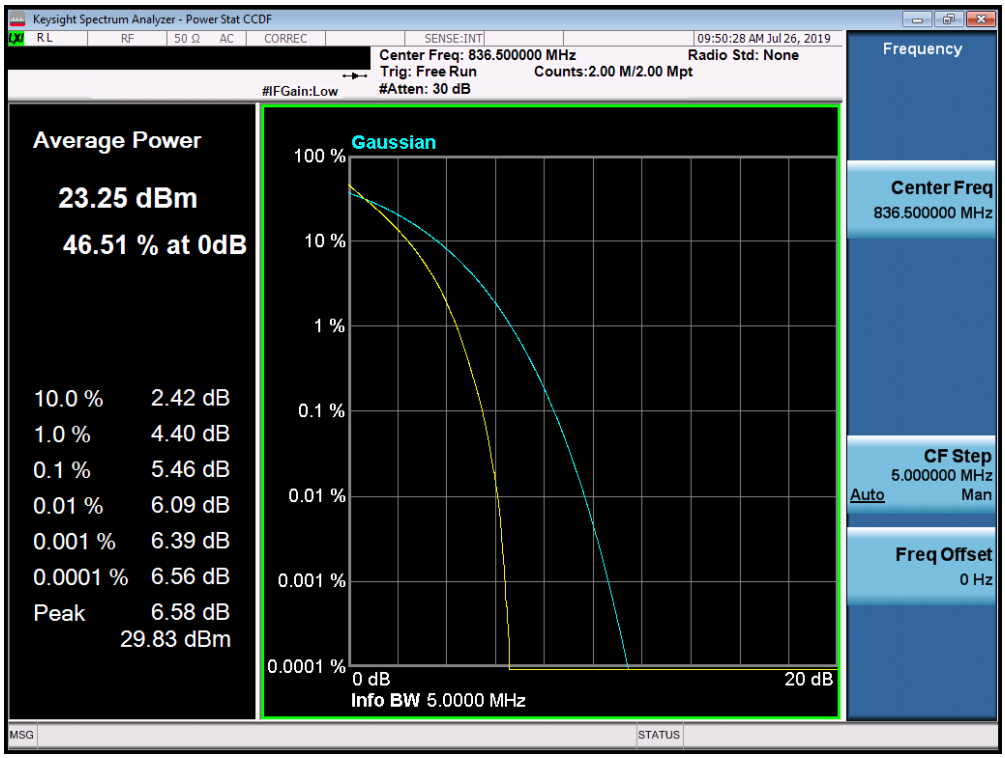
Plot 7-179. PAR Plot (Band 5 - 1.4MHz 16-QAM - Full RB Configuration)



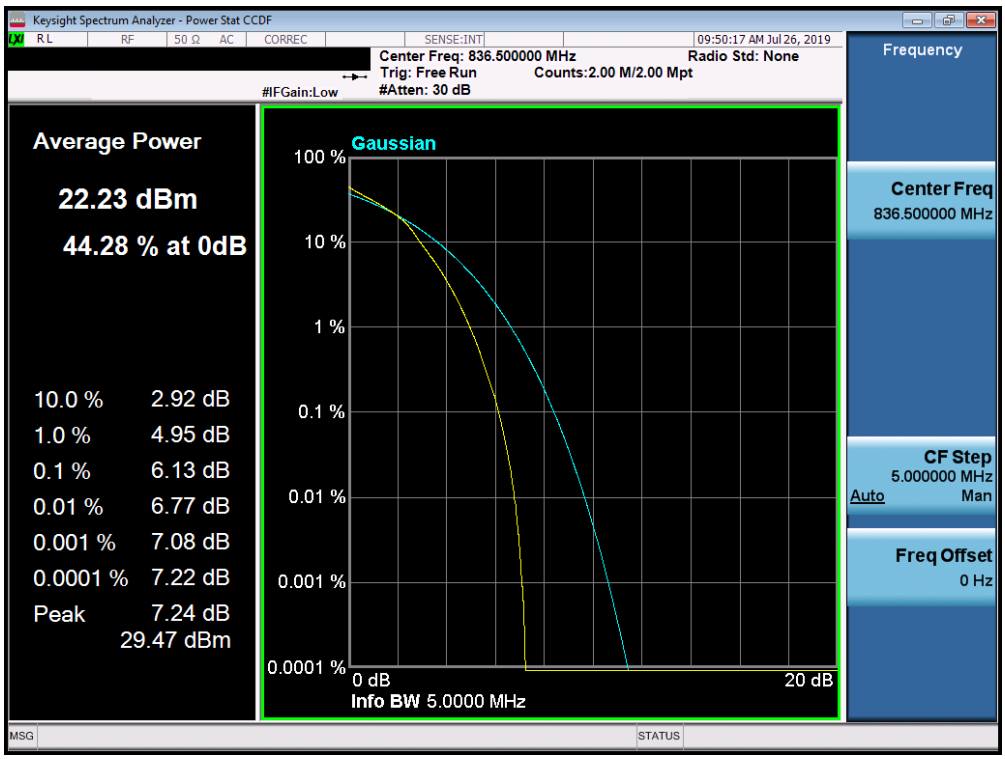
Plot 7-180. PAR Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)



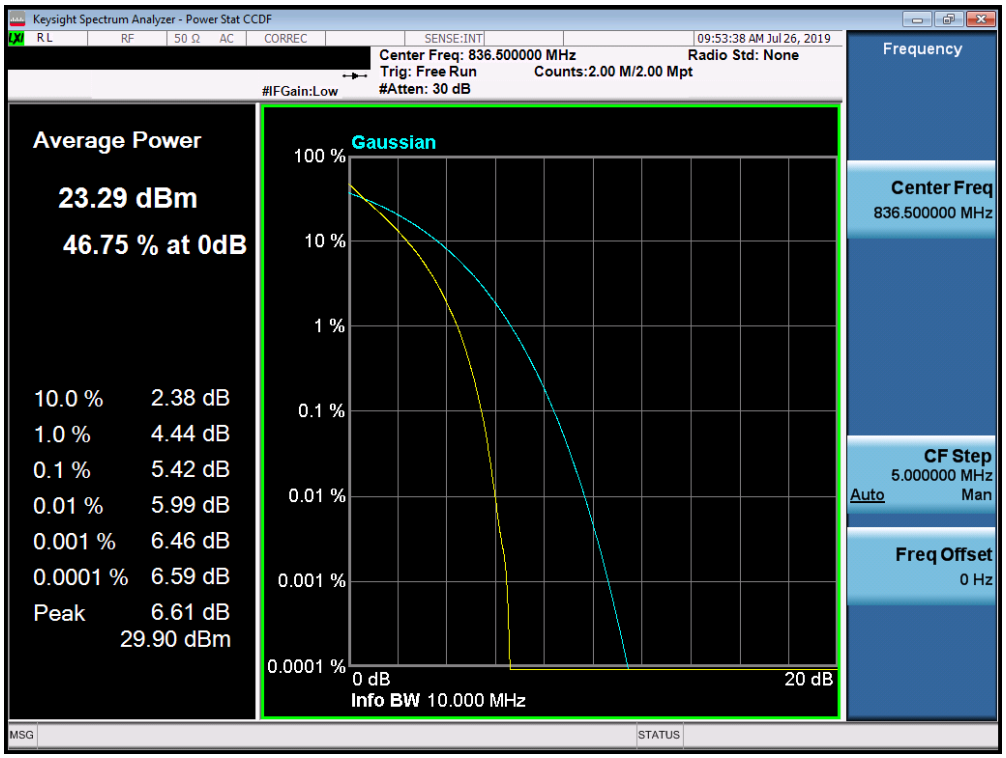
Plot 7-181. PAR Plot (Band 5 - 3.0MHz 16-QAM - Full RB Configuration)



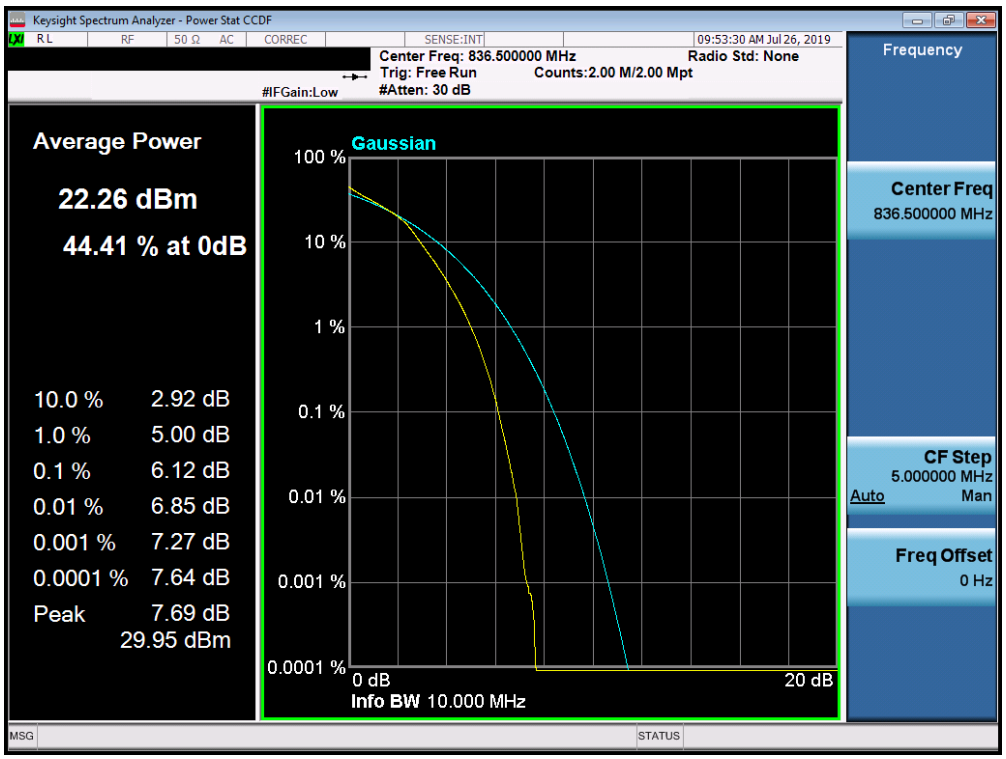
Plot 7-182. PAR Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-183. PAR Plot (Band 5 - 5.0MHz 16-QAM - Full RB Configuration)

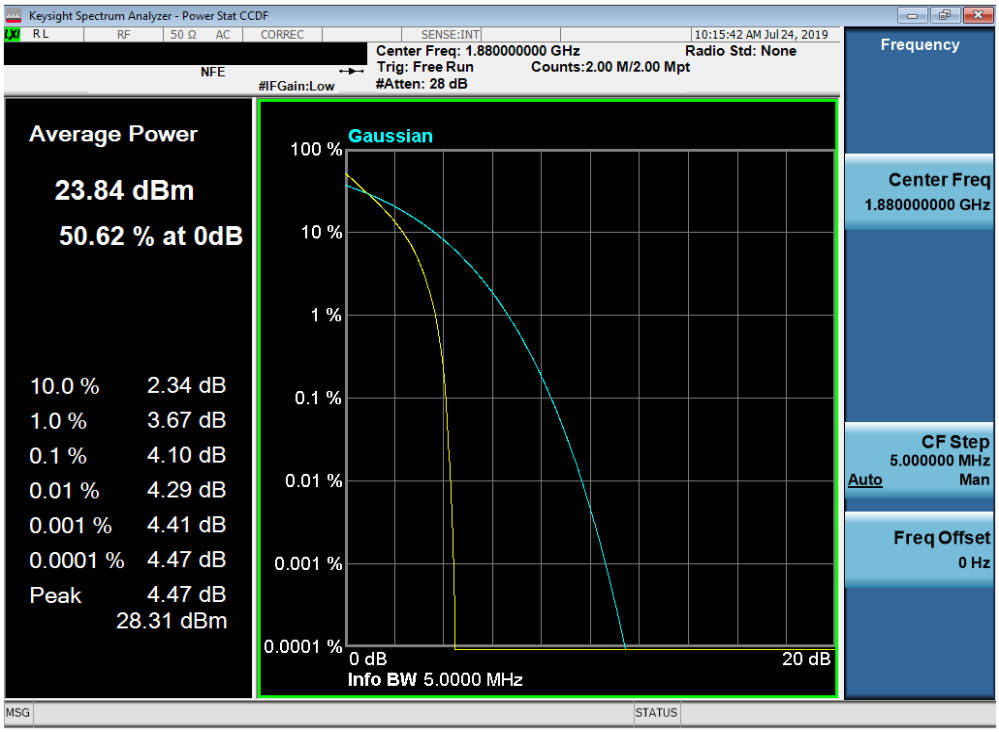


Plot 7-184. PAR Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

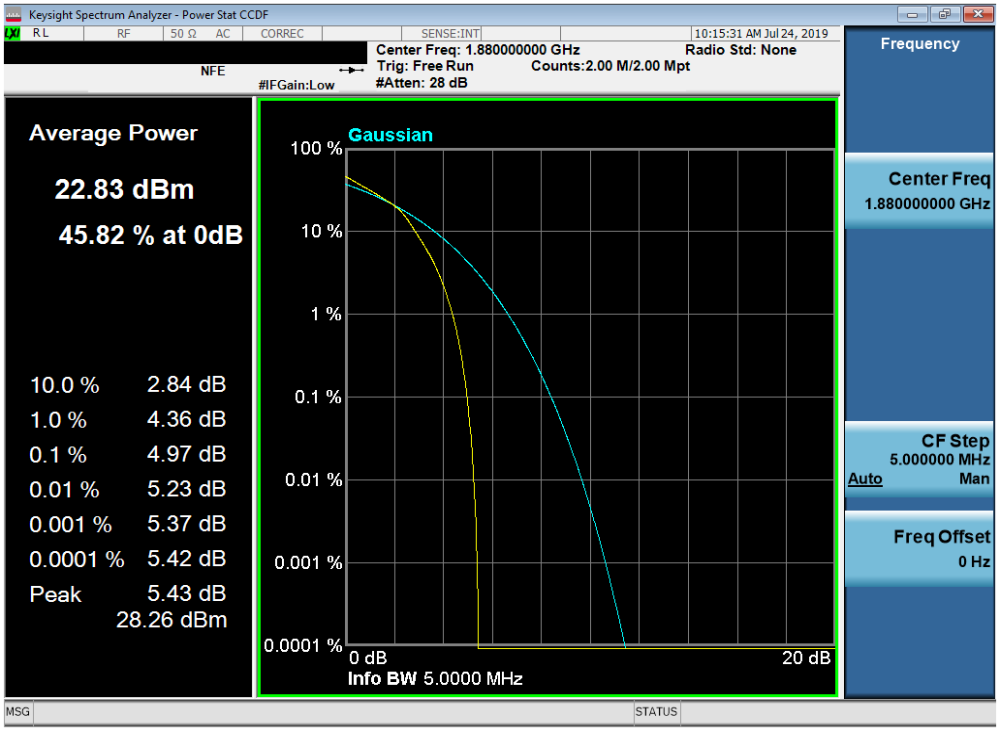


Plot 7-185. PAR Plot (Band 5 - 10.0MHz 16-QAM - Full RB Configuration)

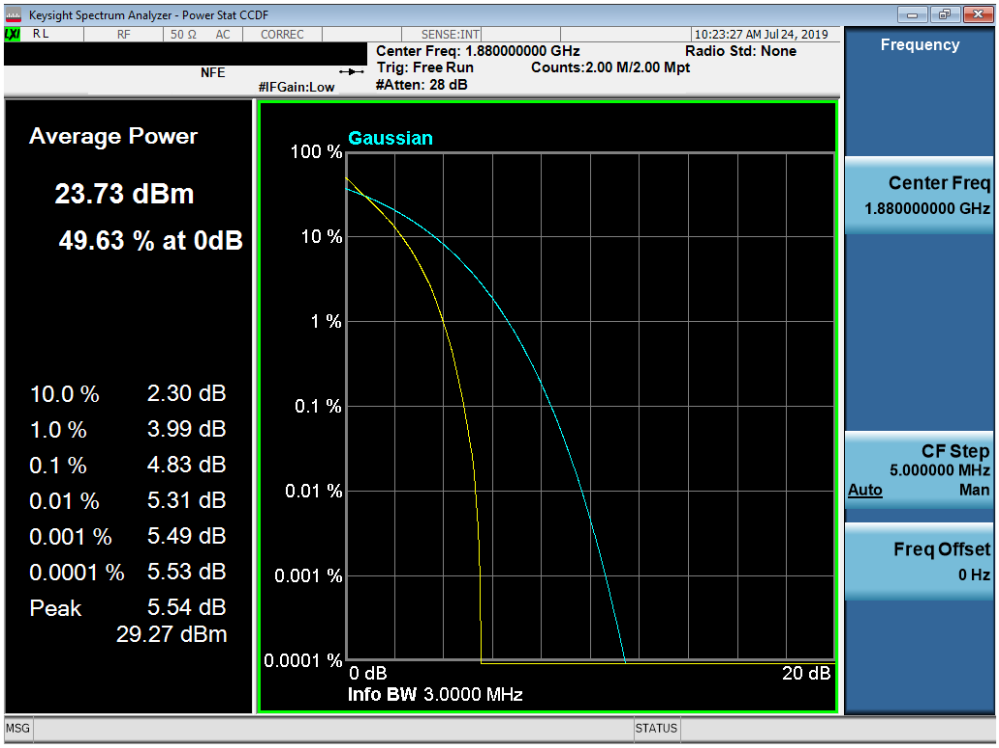
Band 2



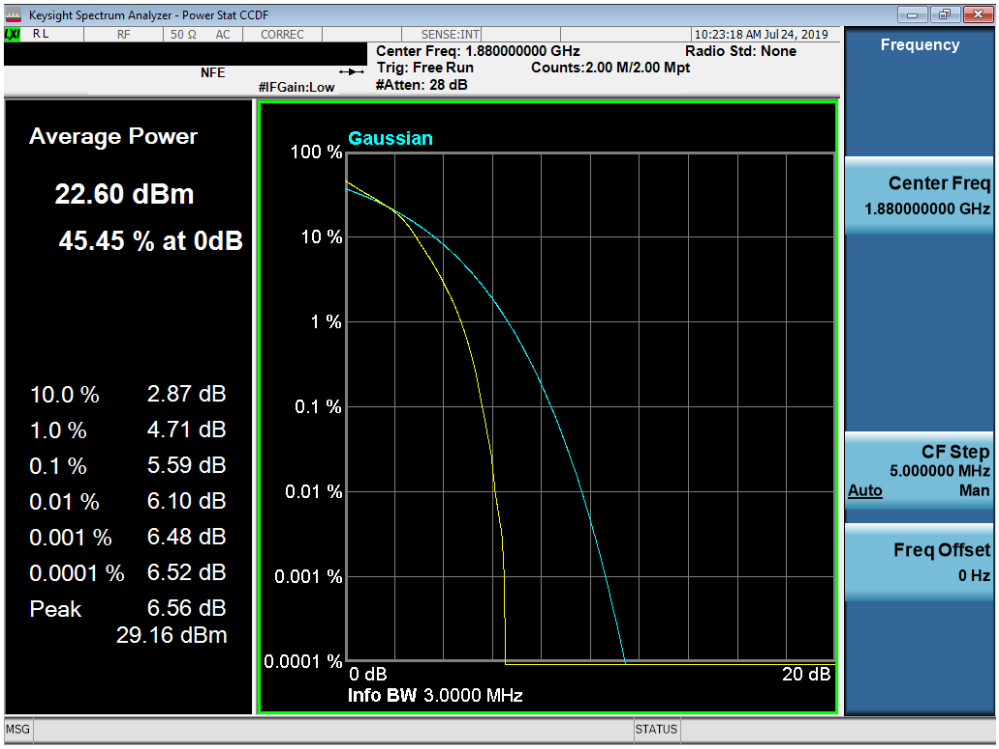
Plot 7-186. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



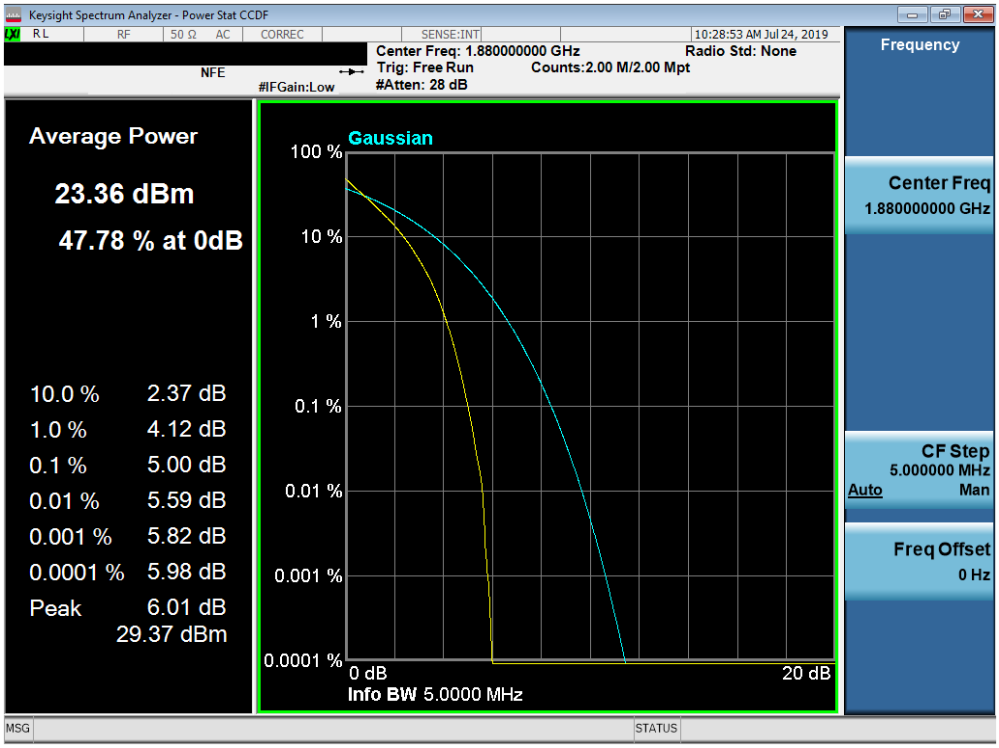
Plot 7-187. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)



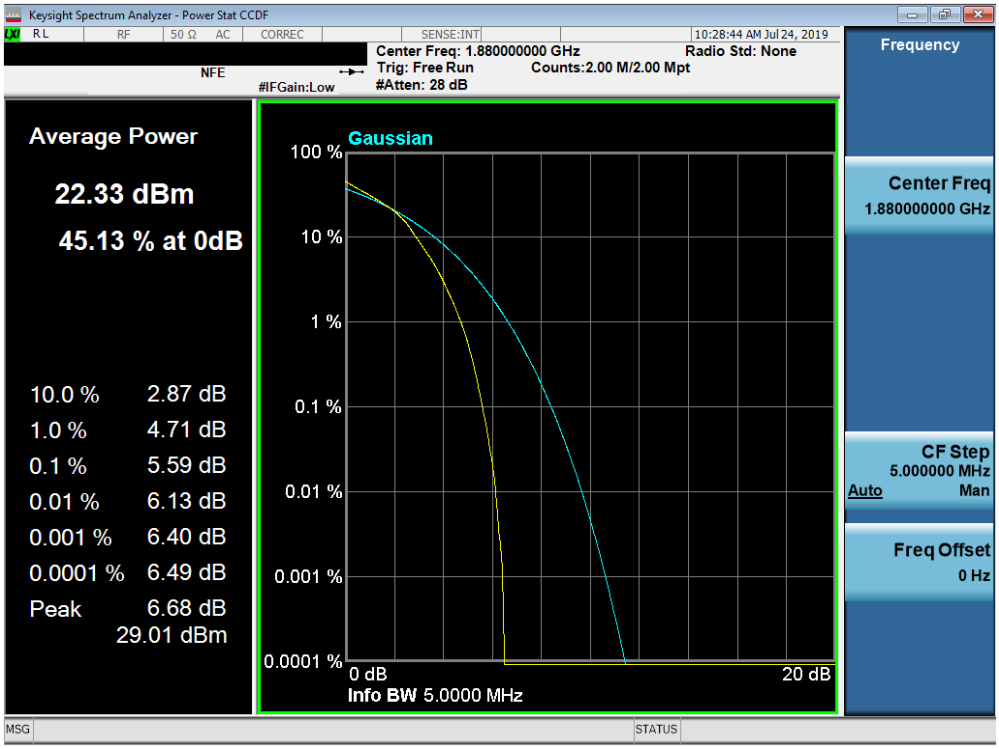
Plot 7-188. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



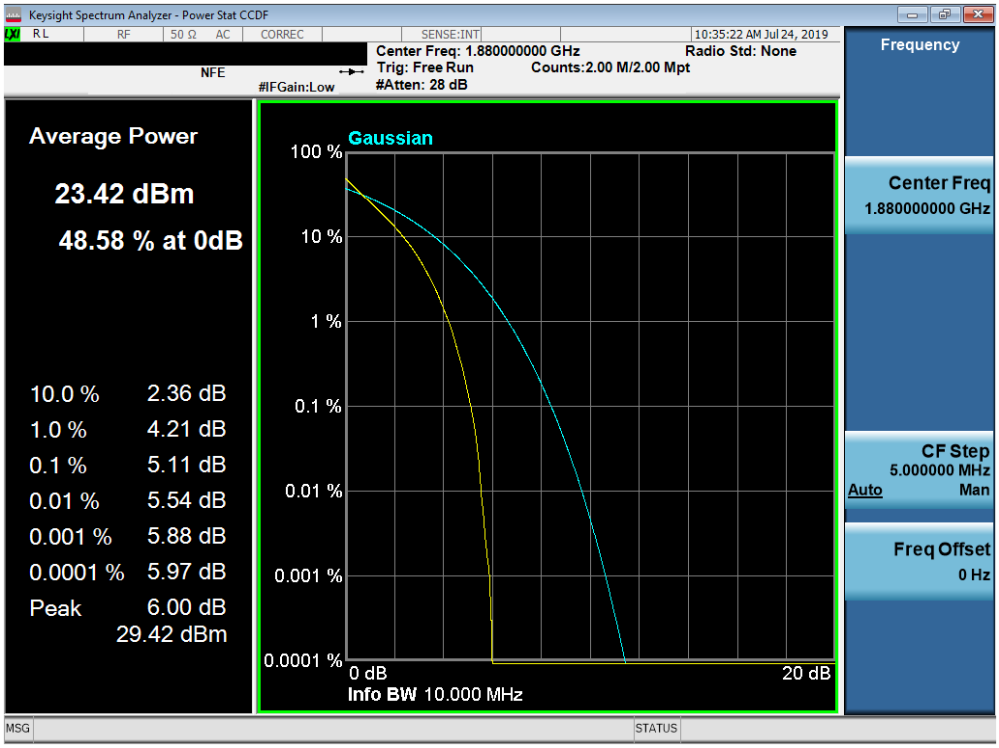
Plot 7-189. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)



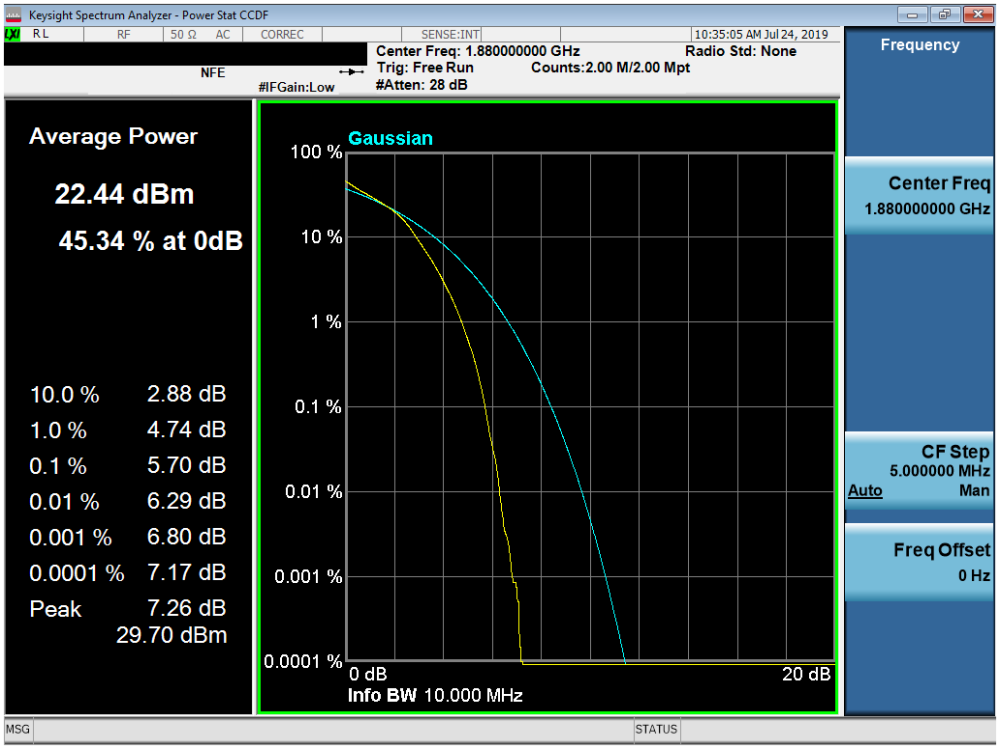
Plot 7-190. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



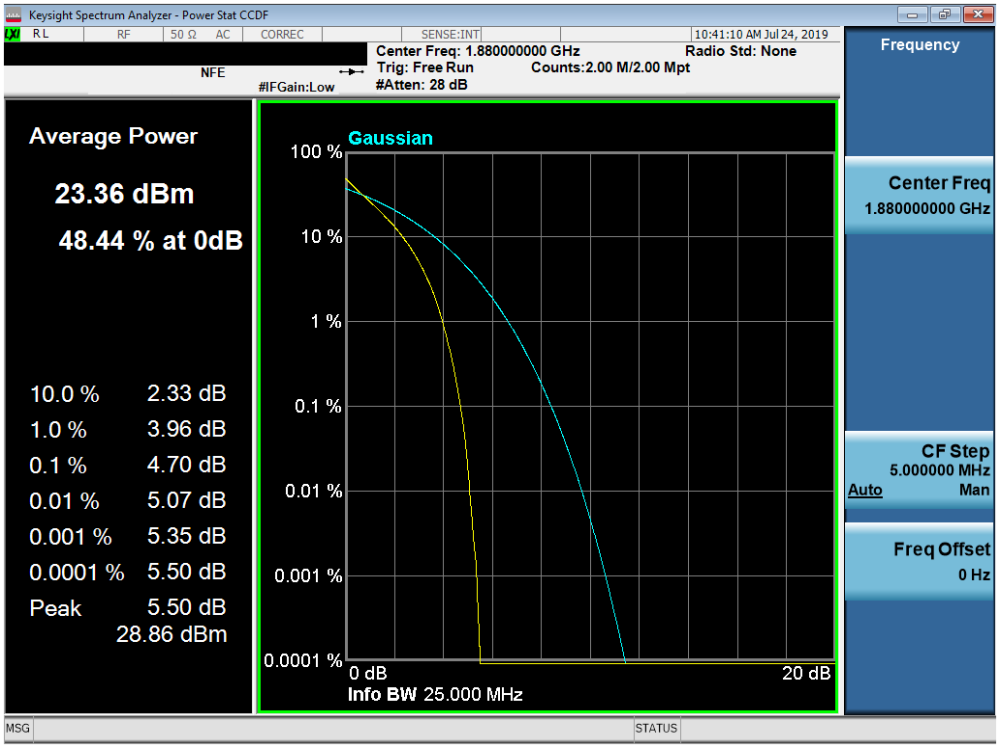
Plot 7-191. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)



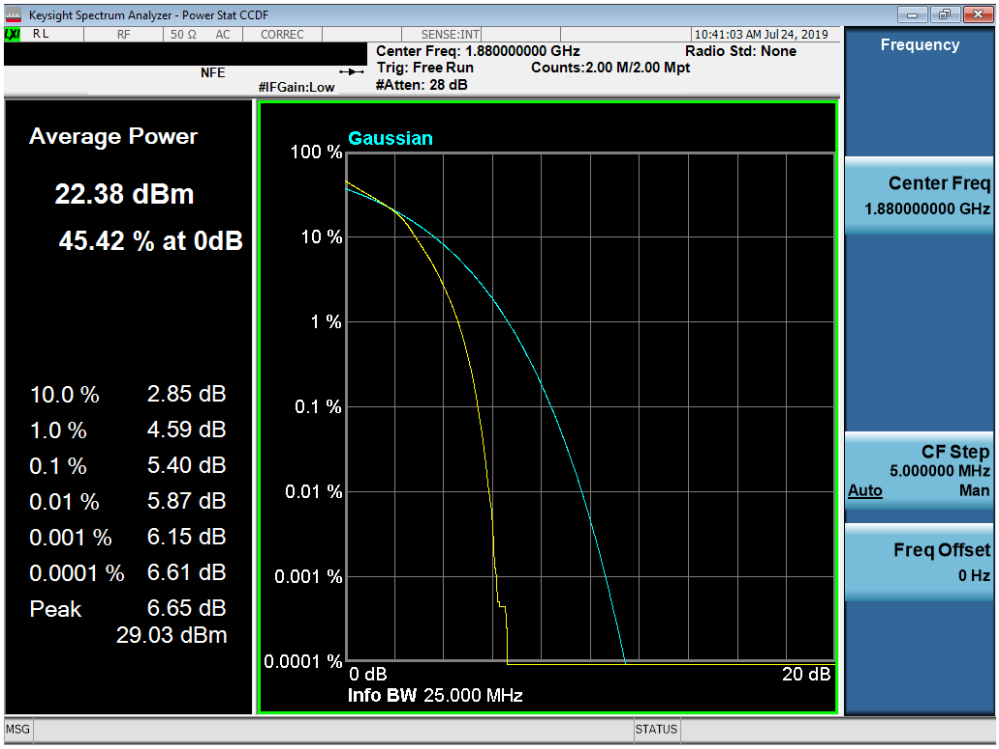
Plot 7-192. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



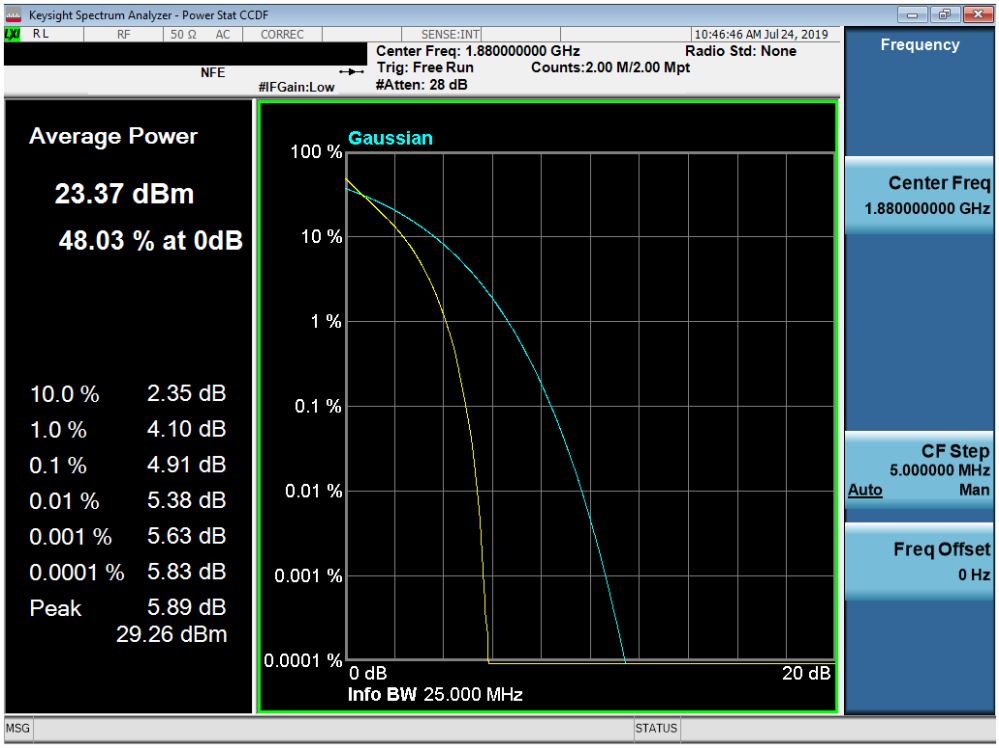
Plot 7-193. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)



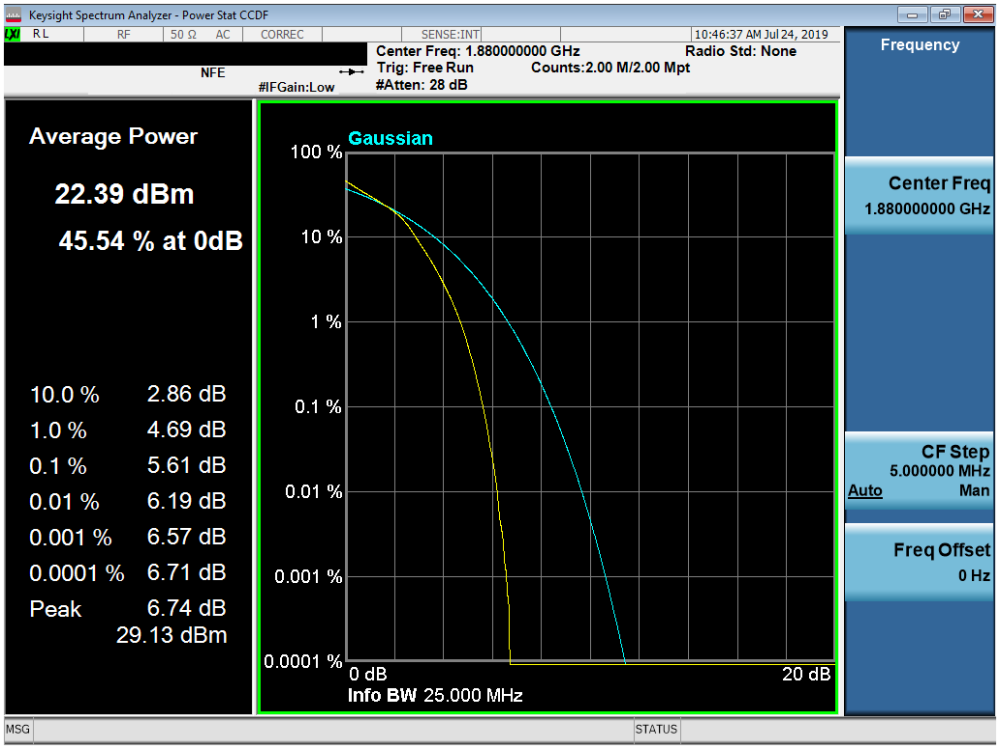
Plot 7-194. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



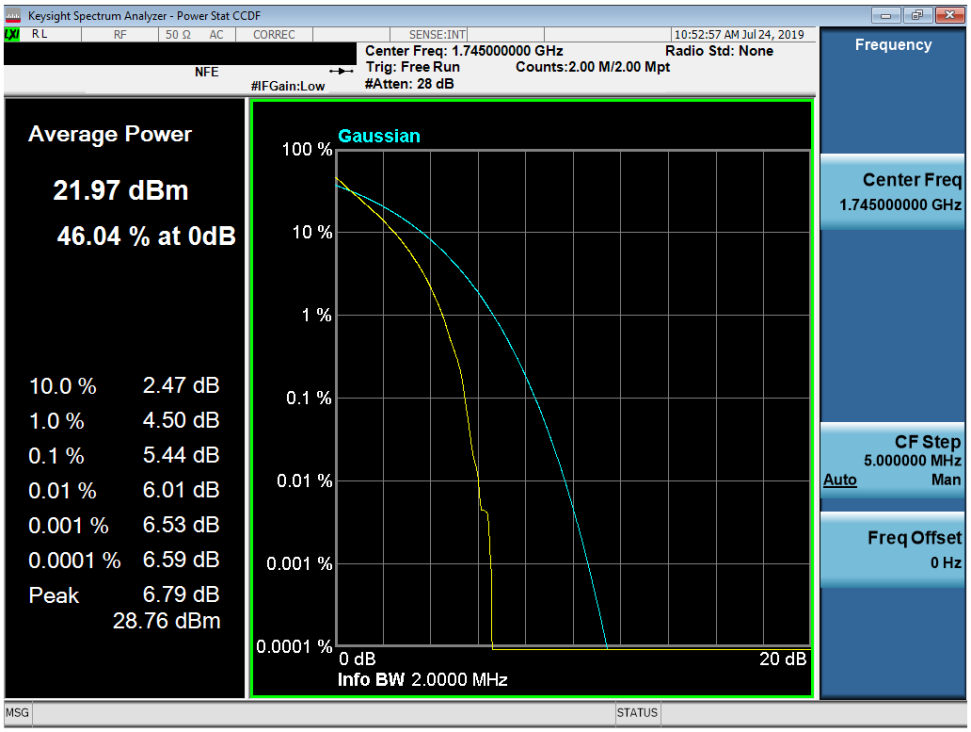
Plot 7-195. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)



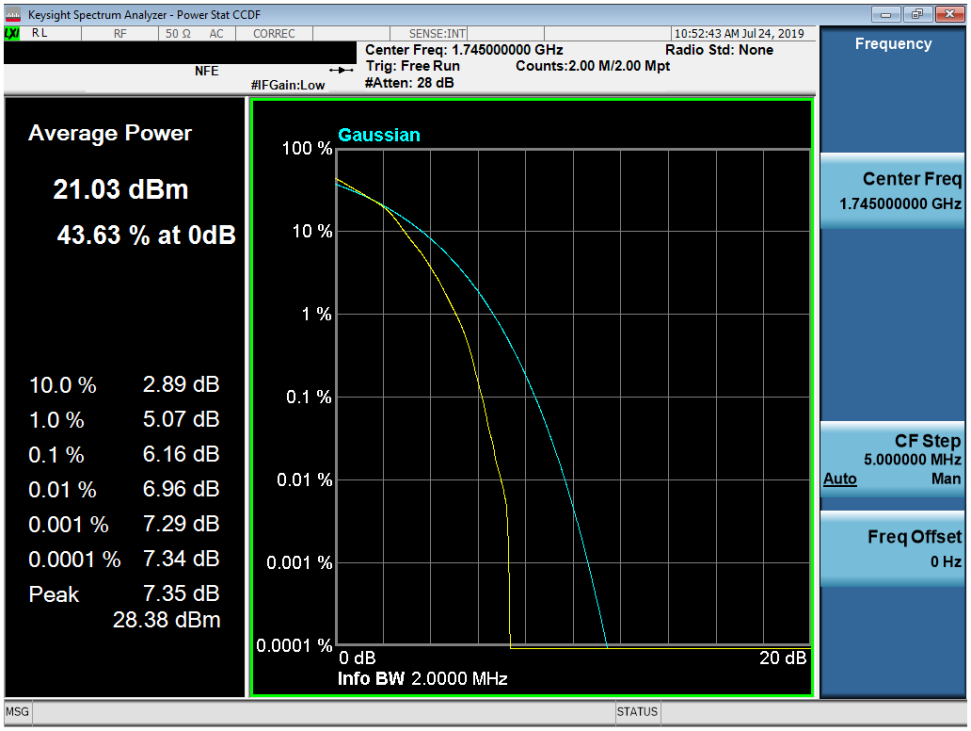
Plot 7-196. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



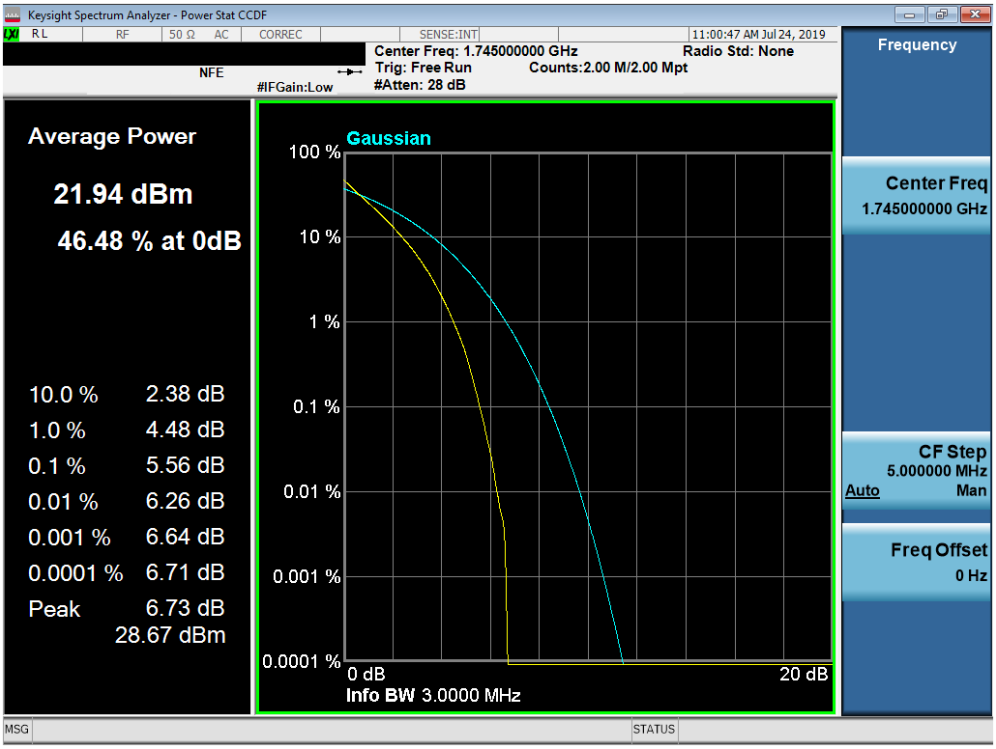
Plot 7-197. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)



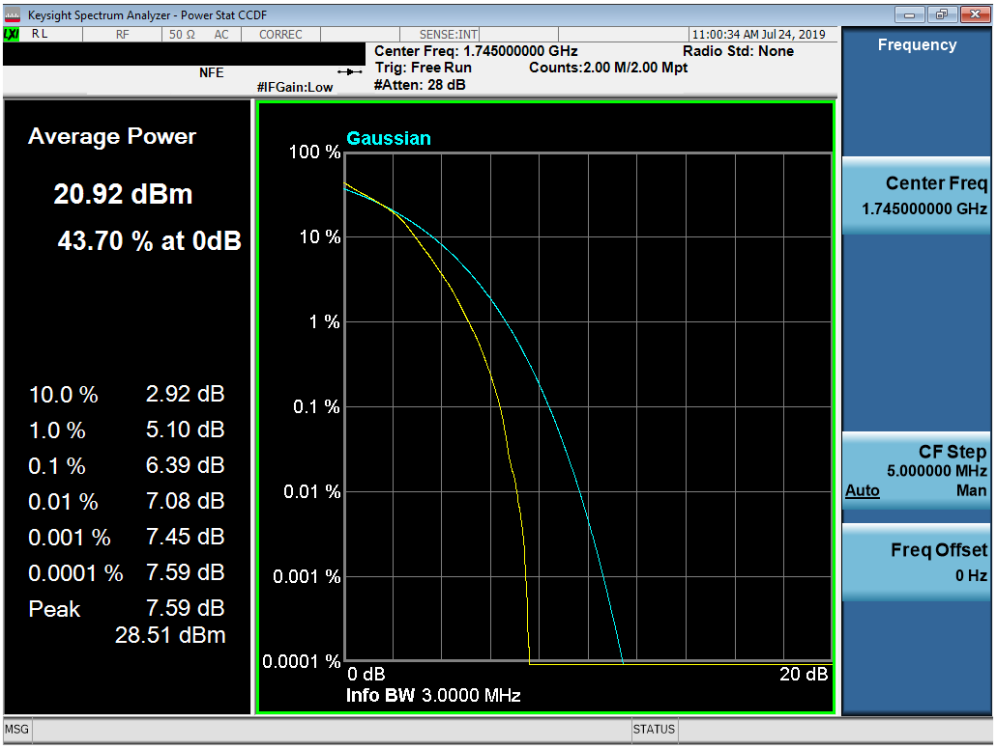
Plot 7-198. PAR Plot (Band 4/66 - 1.4MHz QPSK - Full RB Configuration)



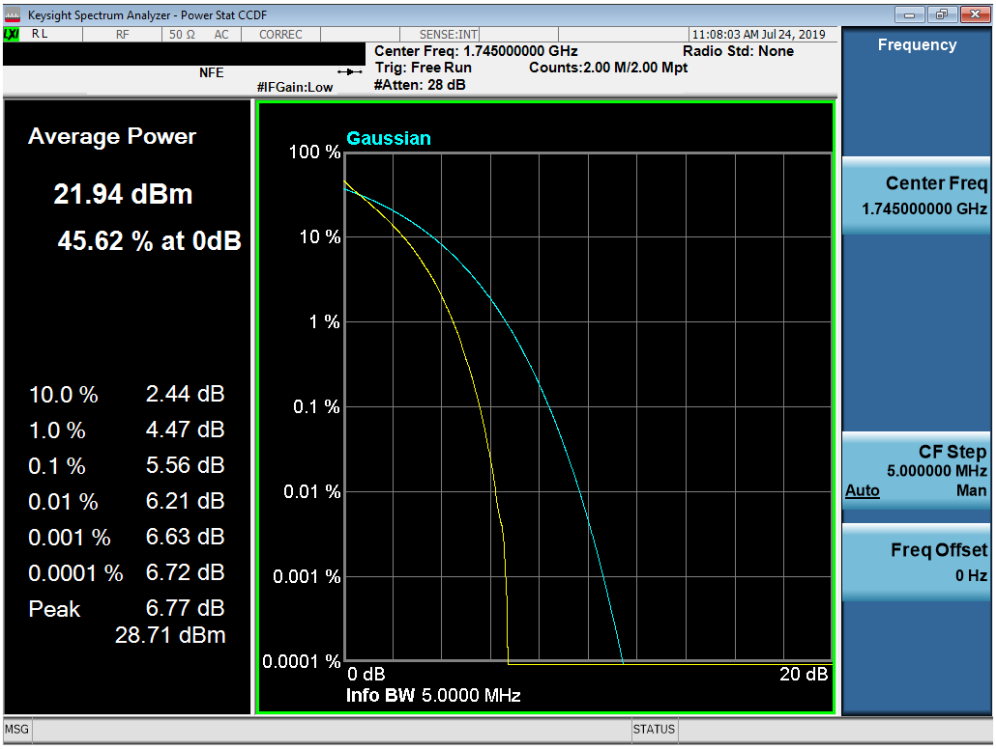
Plot 7-199. PAR Plot (Band 4/66 - 1.4MHz 16-QAM - Full RB Configuration)



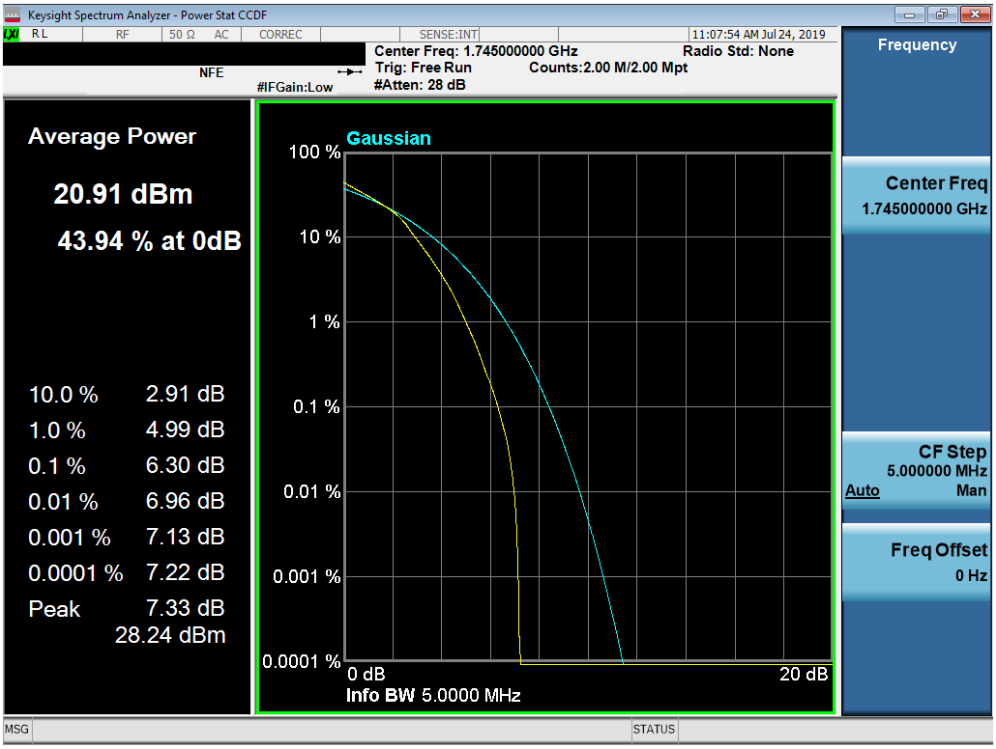
Plot 7-200. PAR Plot (Band 4/66 - 3.0MHz QPSK - Full RB Configuration)



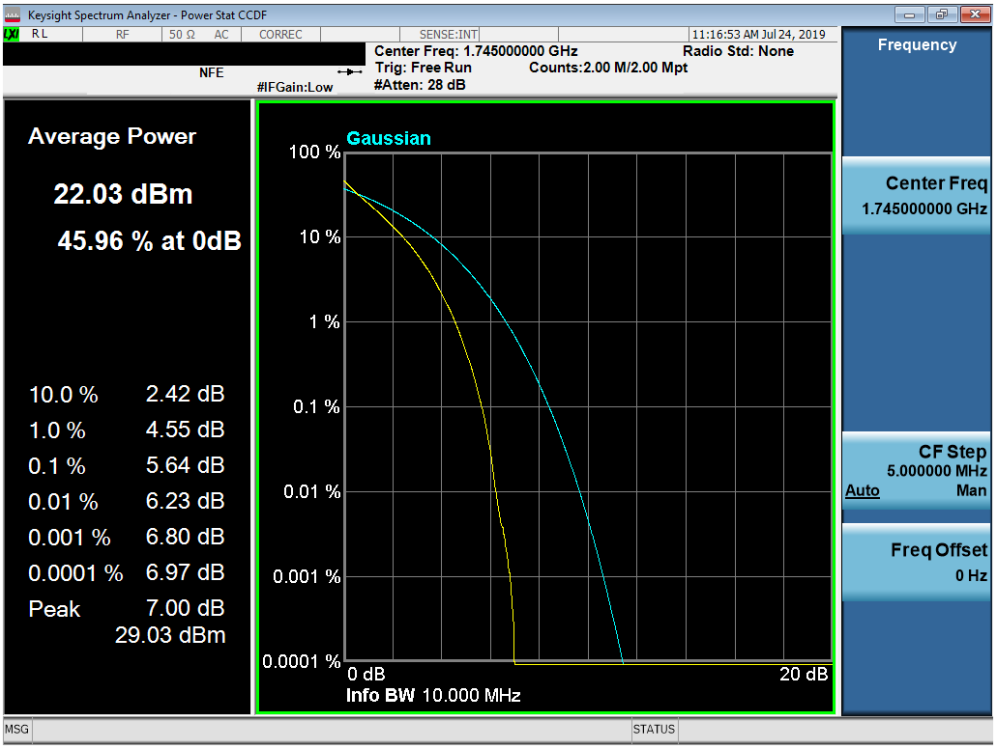
Plot 7-201. PAR Plot (Band 4/66 - 3.0MHz 16-QAM - Full RB Configuration)



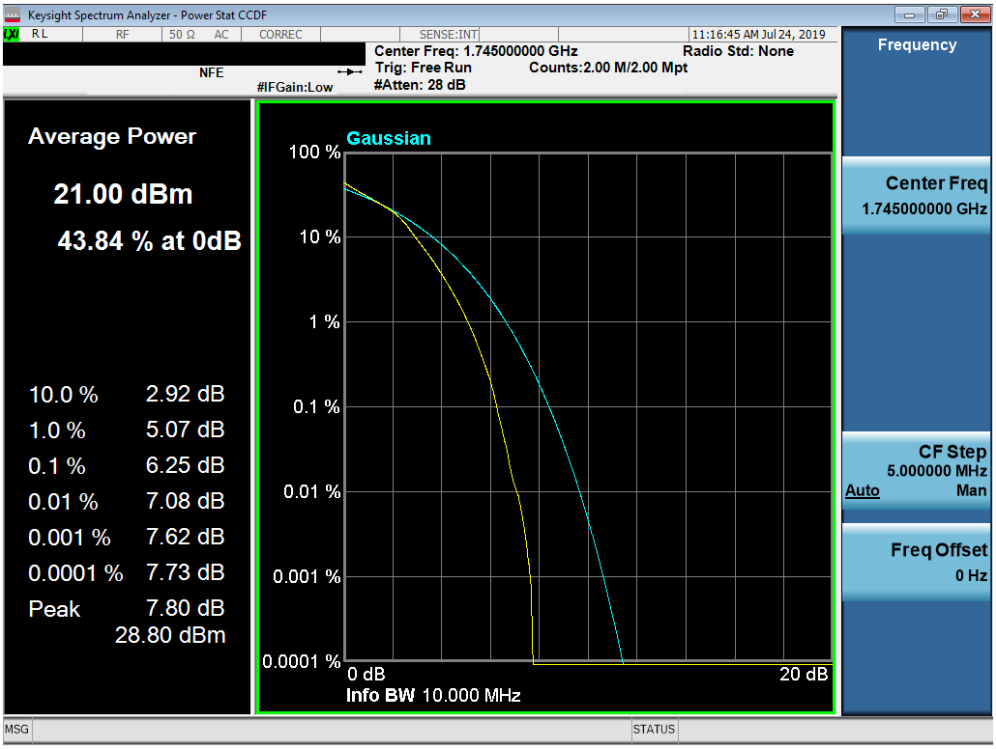
Plot 7-202. PAR Plot (Band 4/66 - 5.0MHz QPSK - Full RB Configuration)



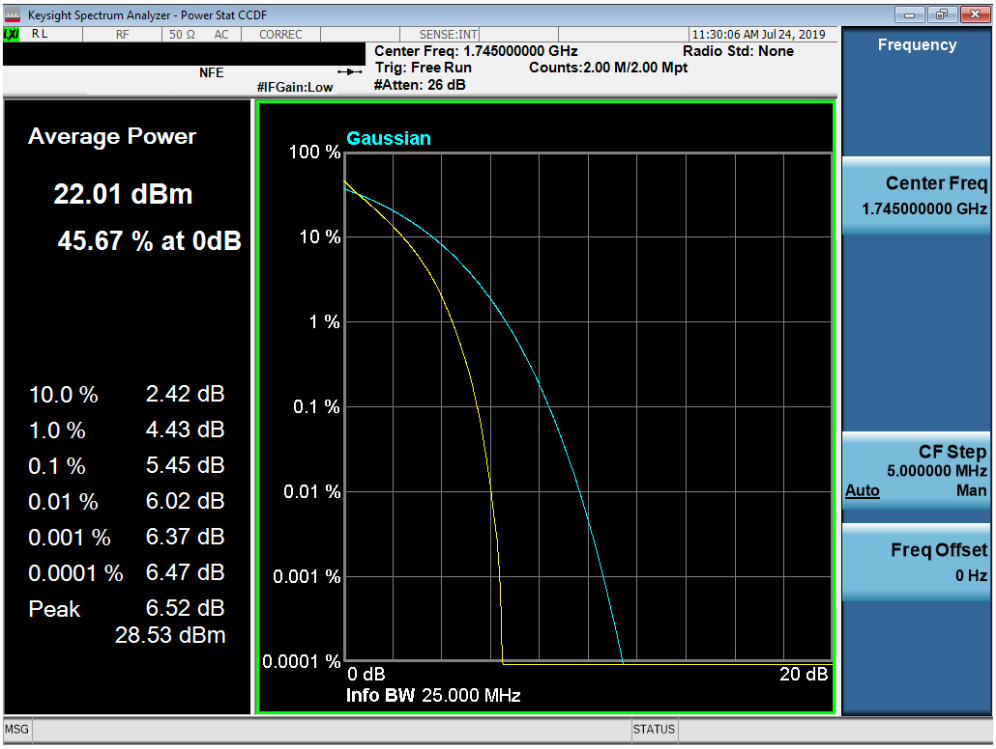
Plot 7-203. PAR Plot (Band 4/66 - 5.0MHz 16-QAM - Full RB Configuration)



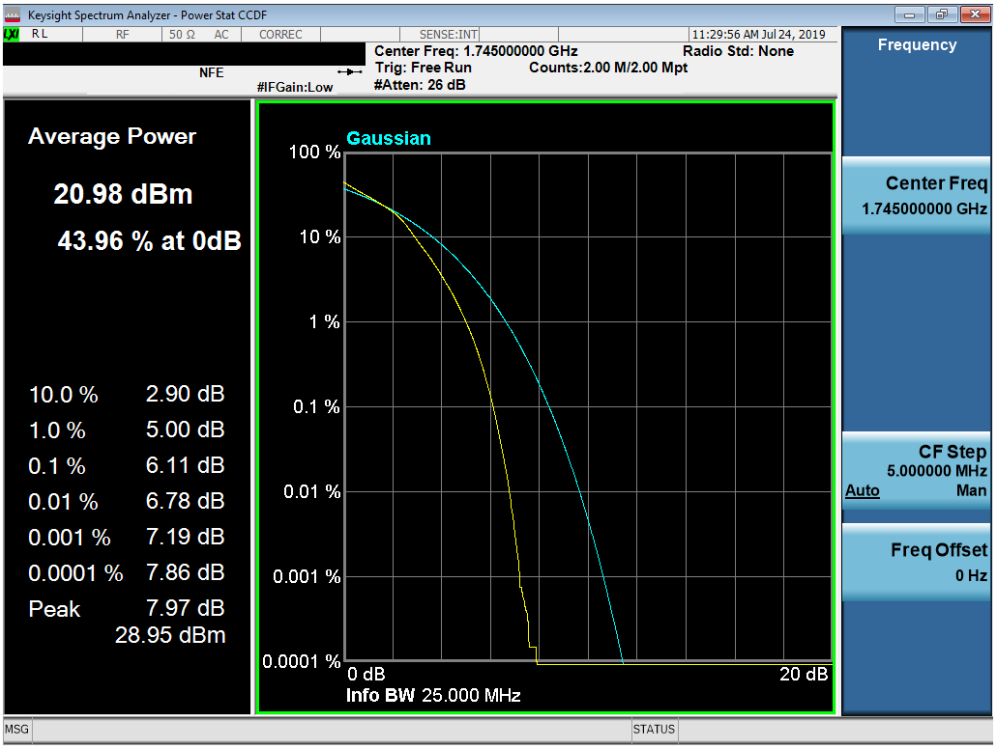
Plot 7-204. PAR Plot (Band 4/66 - 10.0MHz QPSK - Full RB Configuration)



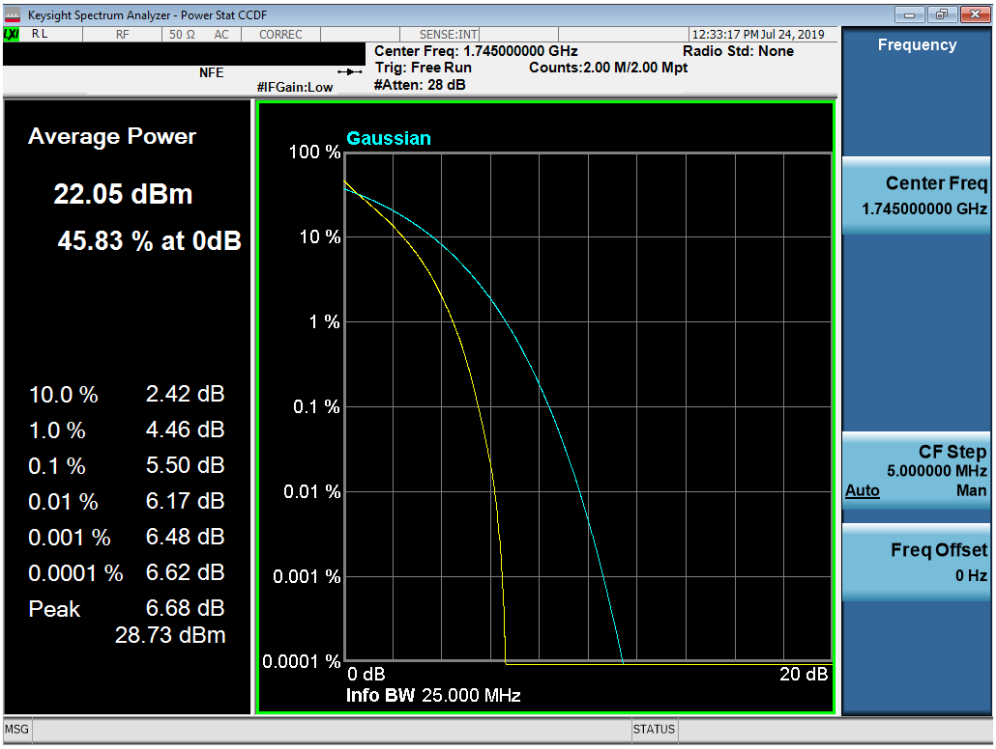
Plot 7-205. PAR Plot (Band 4/66 - 10.0MHz 16-QAM - Full RB Configuration)



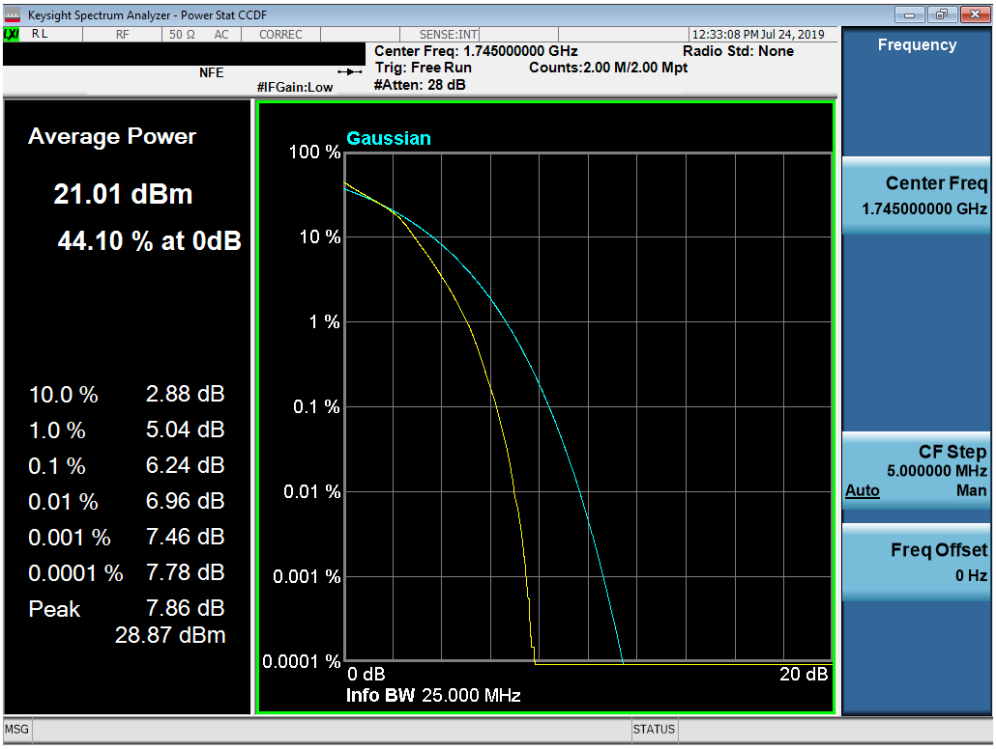
Plot 7-206. PAR Plot (Band 4/66 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-207. PAR Plot (Band 4/66 - 15.0MHz 16-QAM - Full RB Configuration)



Plot 7-208. PAR Plot (Band 4/66 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-209. PAR Plot (Band 4/66 - 20.0MHz 16-QAM - Full RB Configuration)

7.6 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 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 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 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – 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 ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 2 x 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

Test Setup

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

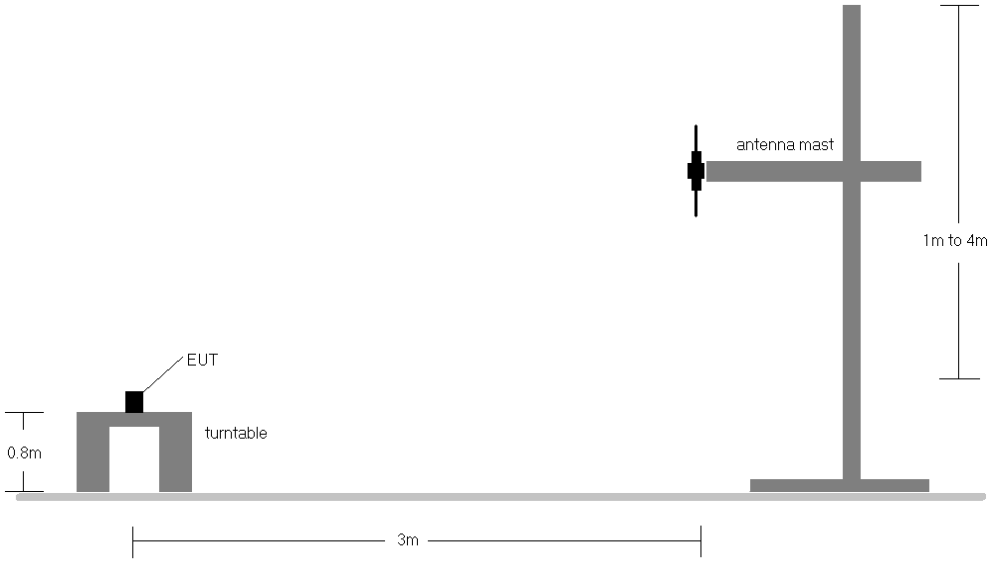


Figure 7-5. Radiated Test Setup <1GHz

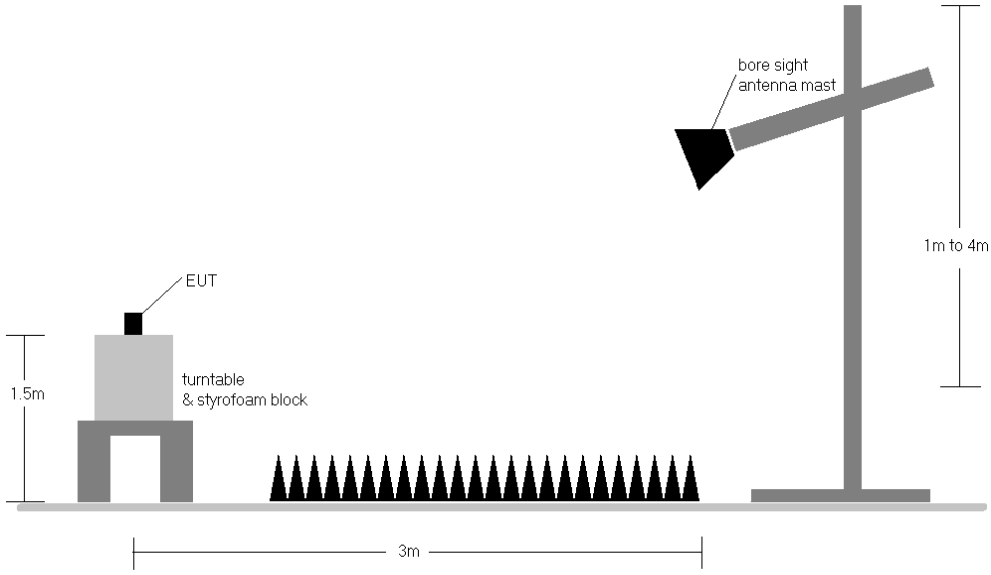


Figure 7-6. Radiated Test Setup >1GHz

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. 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.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	H	294	190	1 / 5	16.71	3.40	17.96	0.063	34.77	-16.81	20.11	0.103	36.99	-16.88
707.50	1.4	QPSK	H	308	216	1 / 5	16.37	3.65	17.87	0.061	34.77	-16.90	20.02	0.100	36.99	-16.97
715.30	1.4	QPSK	H	156	187	1 / 3	16.56	3.70	**18.11**	0.065	34.77	-16.66	**20.26**	0.106	36.99	-16.73
707.50	1.4	16-QAM	H	308	216	1 / 5	15.48	3.65	**16.98**	0.050	34.77	-17.79	**19.13**	0.082	36.99	-17.86
700.50	3	QPSK	H	294	190	1 / 14	16.60	3.40	17.85	0.061	34.77	-16.92	20.00	0.100	36.99	-16.99
707.50	3	QPSK	H	308	216	1 / 14	16.35	3.65	17.85	0.061	34.77	-16.92	20.00	0.100	36.99	-16.99
714.50	3	QPSK	H	156	187	1 / 7	16.55	3.70	**18.10**	0.065	34.77	-16.67	**20.25**	0.106	36.99	-16.74
714.50	3	16-QAM	H	156	187	1 / 7	15.91	3.70	**17.46**	0.056	34.77	-17.31	**19.61**	0.091	36.99	-17.38

Table 7-3. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
701.50	5	QPSK	H	294	190	1 / 24	16.62	3.40	17.87	0.061	34.77	-16.90	20.02	0.100	36.99	-16.97
707.50	5	QPSK	H	308	216	1 / 24	16.40	3.65	17.90	0.062	34.77	-16.87	20.05	0.101	36.99	-16.94
713.50	5	QPSK	H	156	187	1 / 12	16.64	3.70	**18.19**	**0.066**	34.77	-16.58	**20.34**	**0.108**	36.99	-16.65
713.50	5	16-QAM	H	156	187	1 / 12	15.85	3.70	**17.40**	0.055	34.77	-17.37	**19.55**	0.090	36.99	-17.44
704.00	10	QPSK	H	294	190	1 / 49	16.54	3.50	17.89	0.062	34.77	-16.88	20.04	0.101	36.99	-16.95
707.50	10	QPSK	H	308	216	1 / 49	16.38	3.65	17.88	0.061	34.77	-16.89	20.03	0.101	36.99	-16.96
711.00	10	QPSK	H	156	187	1 / 25	16.61	3.70	**18.16**	0.065	34.77	-16.61	**20.31**	0.107	36.99	-16.68
711.00	10	16-QAM	H	156	187	1 / 25	15.76	3.70	**17.31**	0.054	34.77	-17.46	**19.46**	0.088	36.99	-17.53
713.50	5	QPSK	V	120	348	1 / 12	15.91	3.70	17.46	0.056	34.77	-17.31	19.61	0.091	36.99	-17.38

Table 7-4. ERP Data (Band 17)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	H	146	136	1 / 0	12.60	5.80	16.25	0.042	34.77	-18.52	18.40	0.069	36.99	-18.59
782.00	5	QPSK	H	146	136	1 / 0	12.63	5.80	**16.28**	0.042	34.77	-18.49	**18.43**	0.070	36.99	-18.56
784.50	5	QPSK	H	146	136	1 / 0	12.51	5.90	16.26	0.042	34.77	-18.51	18.41	0.069	36.99	-18.58
782.00	5	16-QAM	H	146	136	1 / 0	11.64	5.80	**15.29**	0.034	34.77	-19.48	**17.44**	0.055	36.99	-19.55
782.00	10	QPSK	H	146	136	1 / 0	12.64	5.80	**16.29**	**0.043**	34.77	-18.48	**18.44**	**0.070**	36.99	-18.55
782.00	10	16-QAM	H	146	136	1 / 0	11.85	5.80	**15.50**	0.035	34.77	-19.27	**17.65**	0.058	36.99	-19.34
782.00	10	QPSK	V	117	351	1 / 0	12.12	5.80	15.77	0.038	34.77	-19.00	17.92	0.062	36.99	-19.07

Table 7-5. ERP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	185	19	1 / 5	13.30	6.70	17.85	0.061	38.45	-20.60	20.00	0.100	40.61	-20.61
836.50	1.4	QPSK	H	354	10	1 / 0	12.63	6.70	17.18	0.052	38.45	-21.27	19.33	0.086	40.61	-21.28
848.30	1.4	QPSK	H	185	15	1 / 0	13.86	6.70	**18.41**	0.069	38.45	-20.04	**20.56**	0.114	40.61	-20.05
848.30	1.4	16-QAM	H	185	15	1 / 0	12.91	6.70	**17.46**	0.056	38.45	-20.99	**19.61**	0.091	40.61	-21.00
825.50	3	QPSK	H	185	19	1 / 14	13.38	6.70	17.93	0.062	38.45	-20.52	20.08	0.102	40.61	-20.53
836.50	3	QPSK	H	354	10	1 / 0	12.85	6.70	17.40	0.055	38.45	-21.05	19.55	0.090	40.61	-21.06
847.50	3	QPSK	H	185	15	1 / 0	13.93	6.65	**18.43**	0.070	38.45	-20.02	**20.58**	0.114	40.61	-20.03
847.50	3	16-QAM	H	185	15	1 / 0	12.94	6.65	**17.44**	0.055	38.45	-21.01	**19.59**	0.091	40.61	-21.02
826.50	5	QPSK	H	185	19	1 / 24	13.28	6.70	17.83	0.061	38.45	-20.62	19.98	0.100	40.61	-20.63
836.50	5	QPSK	H	354	10	1 / 0	12.85	6.70	17.40	0.055	38.45	-21.05	19.55	0.090	40.61	-21.06
846.50	5	QPSK	H	185	15	1 / 0	13.99	6.60	**18.44**	**0.070**	38.45	-20.01	**20.59**	**0.115**	40.61	-20.02
846.50	5	16-QAM	H	185	15	1 / 0	12.98	6.60	**17.43**	0.055	38.45	-21.02	**19.58**	0.091	40.61	-21.03
829.00	10	QPSK	H	185	19	1 / 49	13.36	6.70	17.91	0.062	38.45	-20.54	20.06	0.101	40.61	-20.55
836.50	10	QPSK	H	354	10	1 / 25	12.58	6.70	17.13	0.052	38.45	-21.32	19.28	0.085	40.61	-21.33
844.00	10	QPSK	H	185	15	1 / 25	13.87	6.60	**18.32**	0.068	38.45	-20.13	**20.47**	0.111	40.61	-20.14
844.00	10	16-QAM	H	185	15	1 / 25	12.73	6.60	**17.18**	0.052	38.45	-21.27	**19.33**	0.086	40.61	-21.28
846.50	5	QPSK	V	125	346	1 / 0	13.09	6.60	17.54	0.057	38.45	-20.91	19.69	0.093	40.61	-20.92

Table 7-4. ERP Data (Band 5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	100	306	1 / 0	12.12	9.44	**21.56**	0.143	30.00	-8.44
1745.00	1.4	QPSK	H	100	27	1 / 5	12.33	9.23	21.56	0.143	30.00	-8.44
1779.30	1.4	QPSK	H	100	29	1 / 0	11.76	9.26	21.02	0.126	30.00	-8.98
1710.70	1.4	16-QAM	H	100	306	1 / 0	11.06	9.44	**20.50**	0.112	30.00	-9.50
1711.50	3	QPSK	H	100	306	1 / 0	12.22	9.44	**21.66**	**0.146**	30.00	-8.34
1745.00	3	QPSK	H	100	27	1 / 14	12.39	9.23	21.62	0.145	30.00	-8.38
1778.50	3	QPSK	H	100	29	1 / 0	11.82	9.26	21.08	0.128	30.00	-8.92
1711.50	3	16-QAM	H	100	306	1 / 0	11.10	9.44	**20.54**	0.113	30.00	-9.46
1712.50	5	QPSK	H	100	306	1 / 0	11.89	9.43	**21.32**	0.136	30.00	-8.68
1745.00	5	QPSK	H	100	27	1 / 24	12.05	9.23	21.28	0.134	30.00	-8.72
1777.50	5	QPSK	H	100	29	1 / 0	11.76	9.26	21.02	0.126	30.00	-8.98
1777.50	5	16-QAM	H	100	29	1 / 0	11.01	9.26	**20.27**	0.106	30.00	-9.73
1715.00	10	QPSK	H	100	306	1 / 0	12.17	9.42	**21.59**	0.144	30.00	-8.41
1745.00	10	QPSK	H	100	27	1 / 49	12.32	9.23	21.55	0.143	30.00	-8.45
1775.00	10	QPSK	H	100	29	1 / 0	11.88	9.25	21.13	0.130	30.00	-8.87
1715.00	10	16-QAM	H	100	306	1 / 0	11.10	9.42	**20.52**	0.113	30.00	-9.48
1717.50	15	QPSK	H	100	306	1 / 0	12.04	9.40	21.44	0.139	30.00	-8.56
1745.00	15	QPSK	H	100	27	1 / 74	12.25	9.23	**21.48**	0.141	30.00	-8.52
1772.50	15	QPSK	H	100	29	1 / 0	11.82	9.25	21.07	0.128	30.00	-8.93
1717.50	15	16-QAM	H	100	306	1 / 0	11.10	9.40	**20.50**	0.112	30.00	-9.50
1720.00	20	QPSK	H	100	306	1 / 50	11.97	9.38	21.35	0.137	30.00	-8.65
1745.00	20	QPSK	H	100	27	1 / 99	12.21	9.23	**21.44**	0.139	30.00	-8.56
1770.00	20	QPSK	H	100	29	1 / 0	12.05	9.24	21.29	0.135	30.00	-8.71
1770.00	20	16-QAM	H	100	29	1 / 0	11.03	9.24	**20.27**	0.106	30.00	-9.73
1711.50	3	QPSK	V	393	345	1 / 0	10.19	9.44	19.63	0.092	30.00	-10.37

Table 7-5. EIRP Data (Band 66/4)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	102	136	1 / 3	14.32	9.48	23.80	0.240	33.01	-9.21
1880.00	1.4	QPSK	H	102	139	1 / 0	13.34	9.90	23.24	0.211	33.01	-9.77
1909.30	1.4	QPSK	H	100	49	1 / 5	14.12	10.25	**24.37**	**0.274**	33.01	-8.64
1909.30	1.4	16-QAM	H	100	49	1 / 5	12.22	10.25	**22.47**	0.177	33.01	-10.54
1851.50	3	QPSK	H	102	136	1 / 7	14.36	9.50	23.86	0.243	33.01	-9.15
1880.00	3	QPSK	H	102	139	1 / 0	13.36	9.90	23.26	0.212	33.01	-9.75
1908.50	3	QPSK	H	100	49	1 / 14	14.12	10.25	**24.37**	0.273	33.01	-8.64
1908.50	3	16-QAM	H	100	49	1 / 14	12.34	10.25	**22.59**	0.181	33.01	-10.42
1852.50	5	QPSK	H	102	136	1 / 12	14.33	9.51	23.84	0.242	33.01	-9.17
1880.00	5	QPSK	H	102	139	1 / 0	13.26	9.90	23.16	0.207	33.01	-9.85
1907.50	5	QPSK	H	100	49	1 / 24	14.01	10.24	**24.25**	0.266	33.01	-8.76
1907.50	5	16-QAM	H	100	49	1 / 24	12.24	10.24	**22.48**	0.177	33.01	-10.53
1855.00	10	QPSK	H	102	136	1 / 25	14.27	9.55	23.82	0.241	33.01	-9.19
1880.00	10	QPSK	H	102	139	1 / 0	13.36	9.90	23.26	0.212	33.01	-9.75
1905.00	10	QPSK	H	100	49	1 / 49	14.15	10.22	**24.37**	0.273	33.01	-8.64
1905.00	10	16-QAM	H	100	49	1 / 49	12.34	10.22	**22.56**	0.180	33.01	-10.45
1857.50	15	QPSK	H	102	136	1 / 36	14.16	9.58	23.74	0.237	33.01	-9.27
1880.00	15	QPSK	H	102	139	1 / 0	13.25	9.90	23.15	0.207	33.01	-9.86
1902.50	15	QPSK	H	100	49	1 / 74	14.03	10.20	**24.23**	0.265	33.01	-8.78
1902.50	15	16-QAM	H	100	49	1 / 74	12.30	10.20	**22.50**	0.178	33.01	-10.51
1860.00	20	QPSK	H	102	136	1 / 50	14.18	9.62	23.80	0.240	33.01	-9.21
1880.00	20	QPSK	H	102	139	1 / 0	13.23	9.90	23.13	0.206	33.01	-9.88
1900.00	20	QPSK	H	100	49	1 / 99	14.14	10.18	**24.32**	0.270	33.01	-8.69
1900.00	20	16-QAM	H	100	49	1 / 99	12.39	10.18	**22.57**	0.181	33.01	-10.44
1909.30	1	QPSK	V	400	316	1 / 5	12.29	10.25	22.54	0.180	33.01	-10.47

Table 7-6. EIRP Data (Band 2)

7.7 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 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.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

Test Setup

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

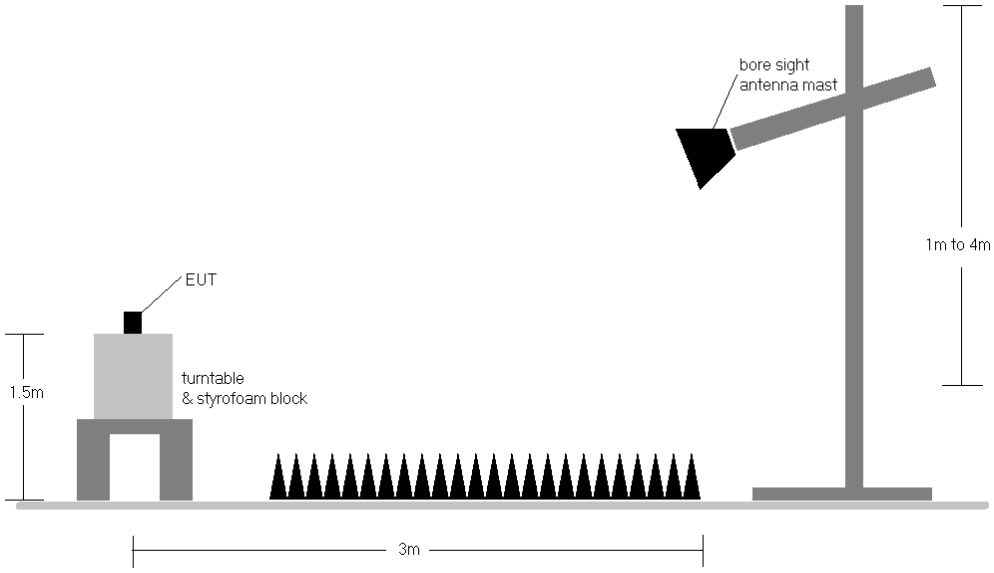


Figure 7-7. Test Instrument & Measurement Setup

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. 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.

5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.