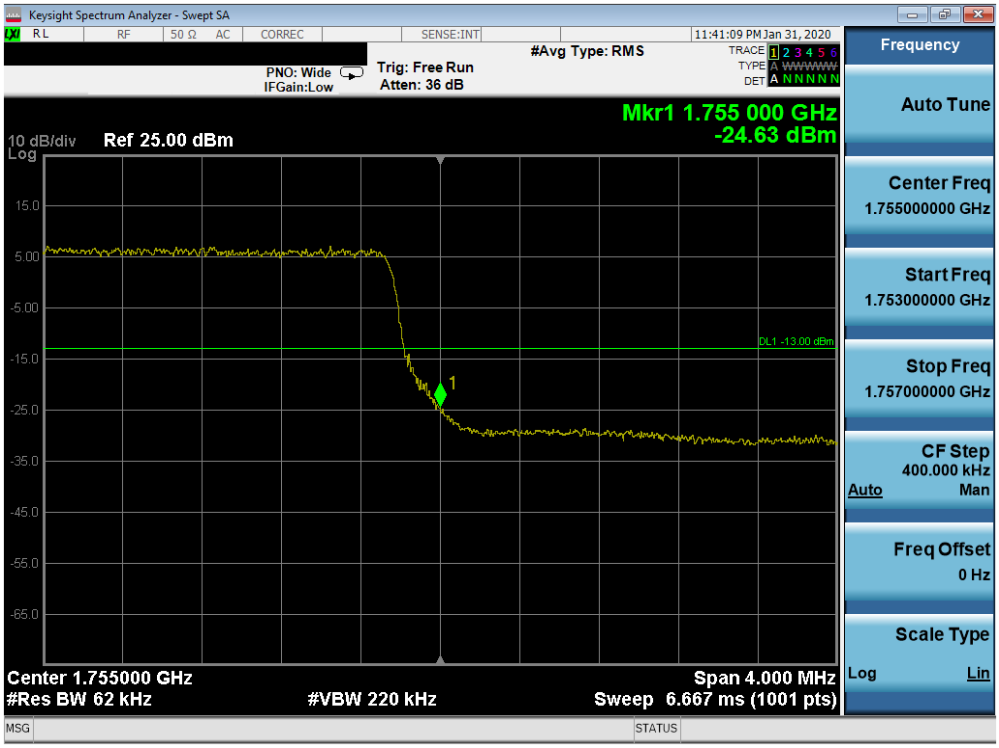
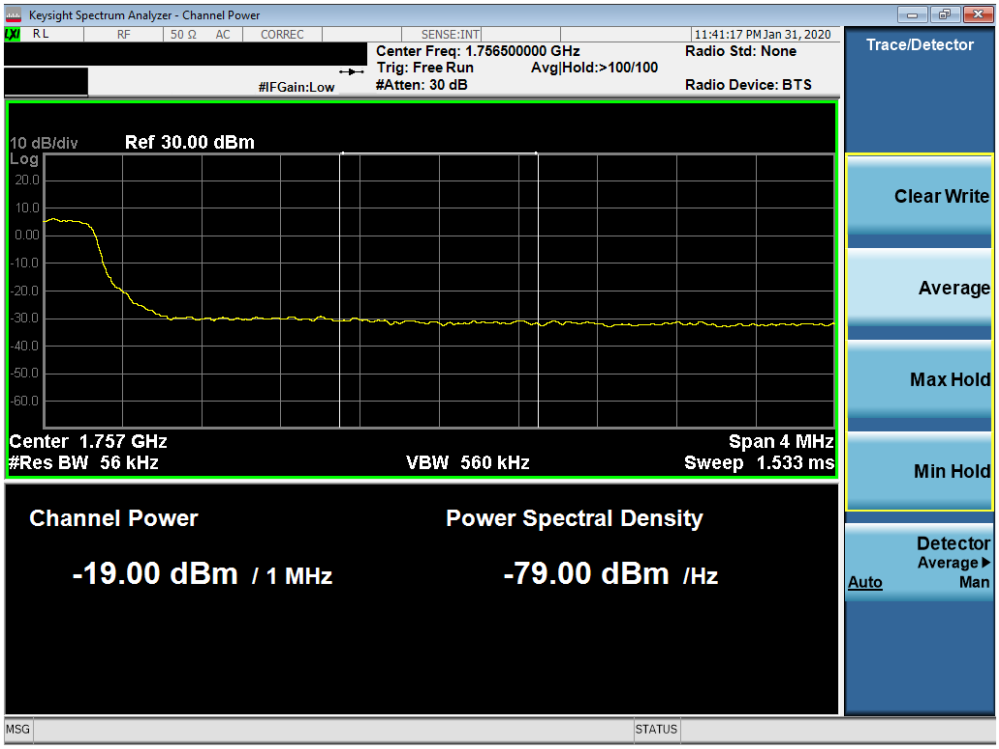
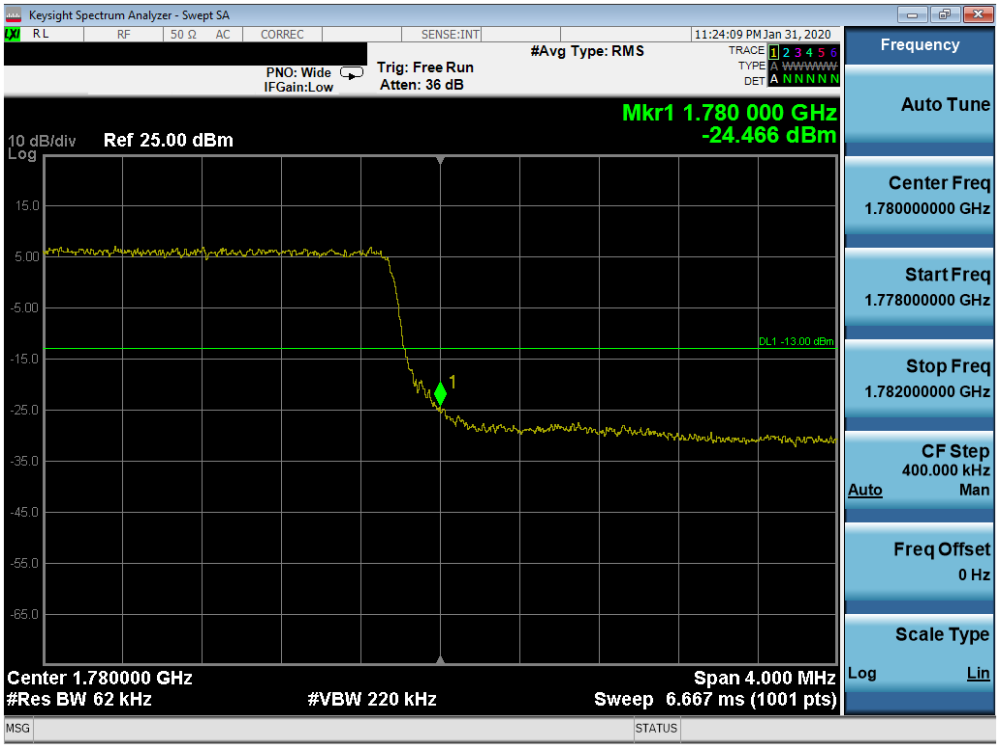


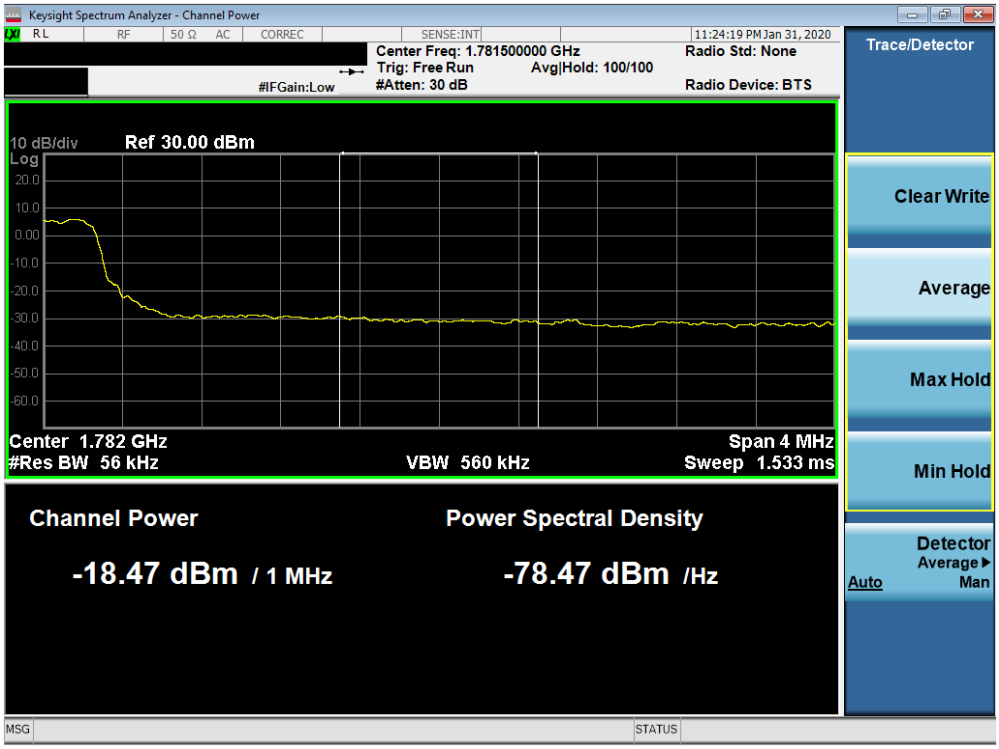
Plot 7-199. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



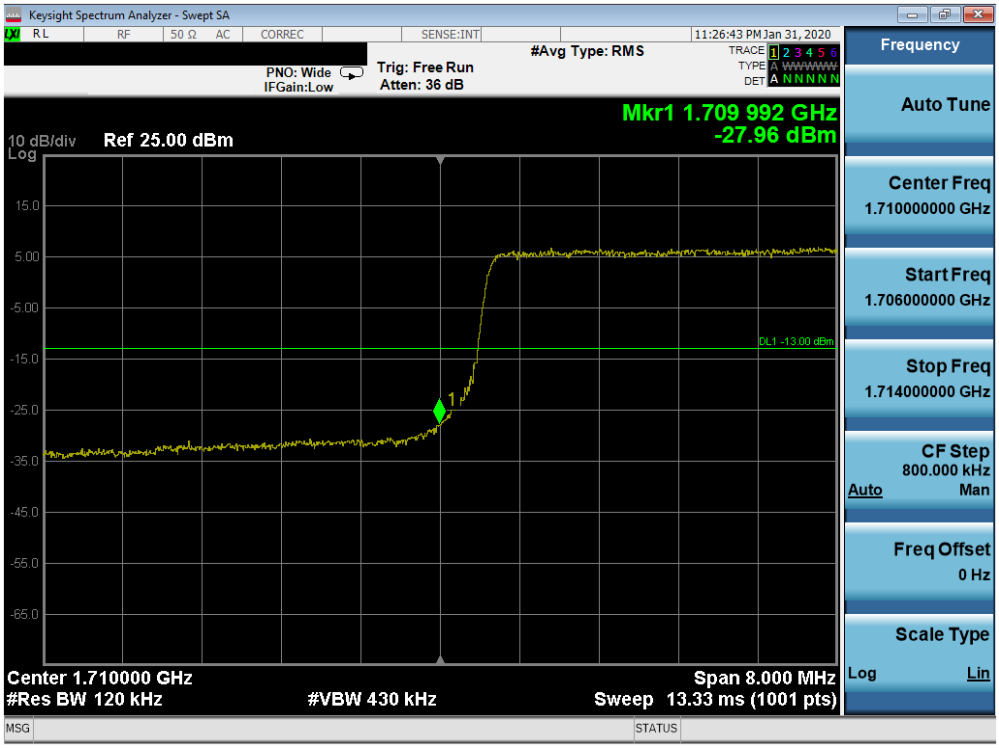
Plot 7-200. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



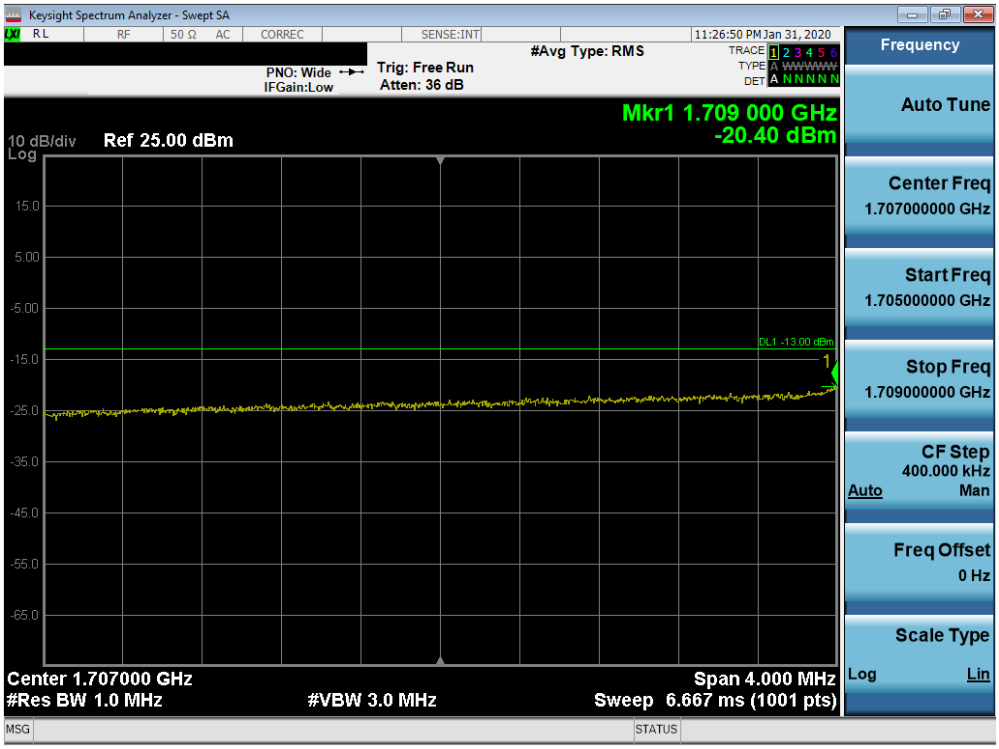
Plot 7-201. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



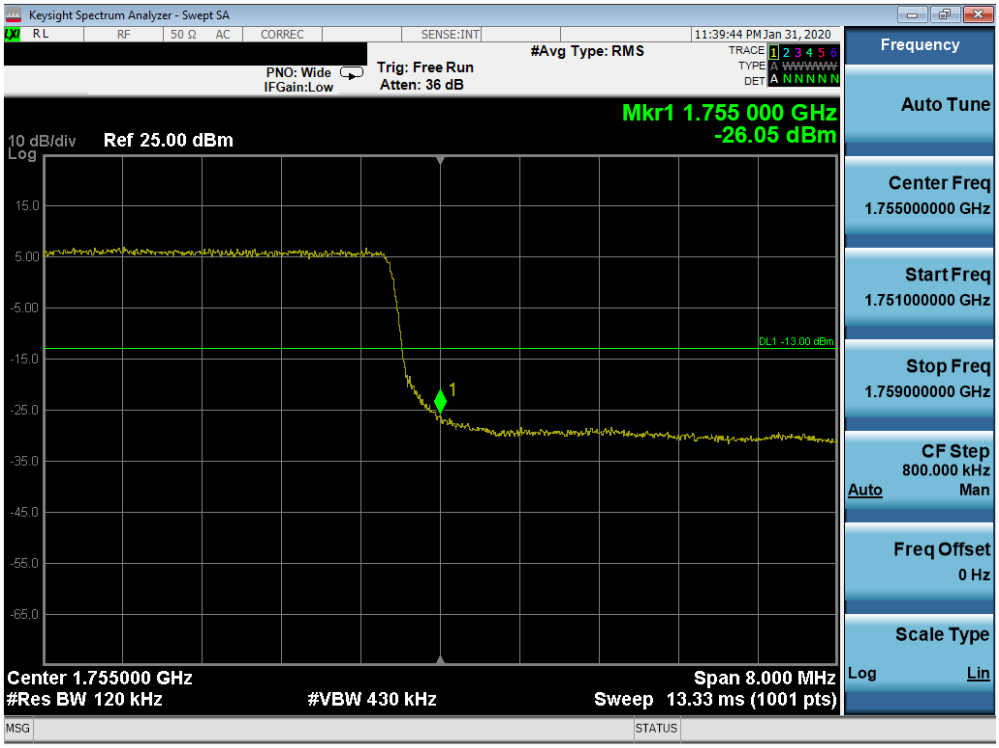
Plot 7-202. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



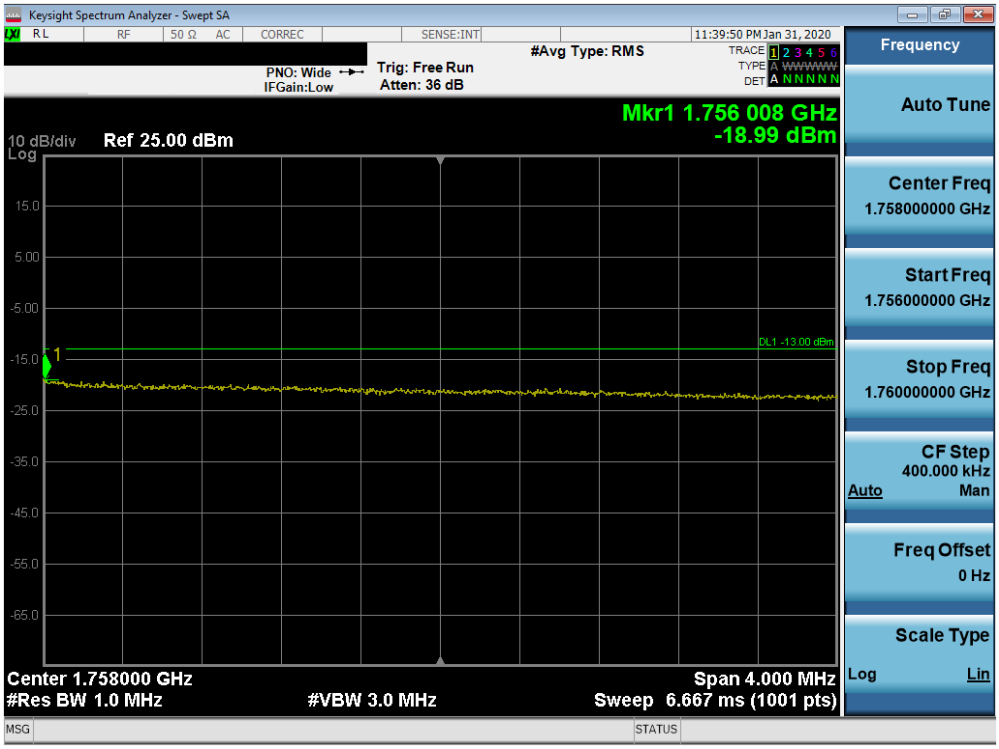
Plot 7-203. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



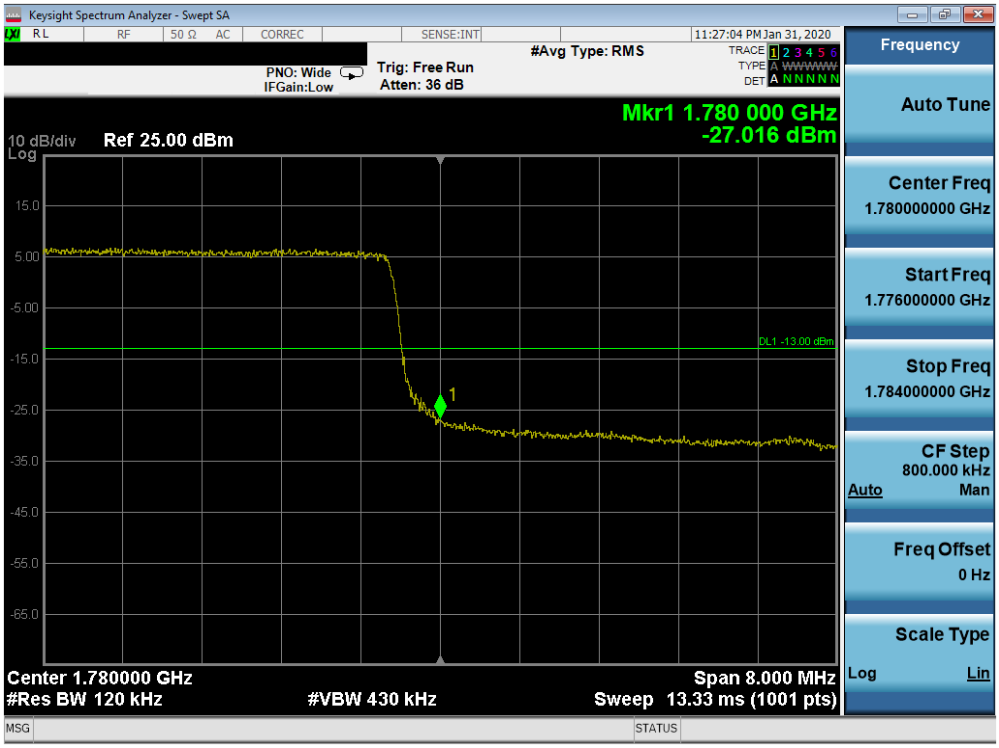
Plot 7-204. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



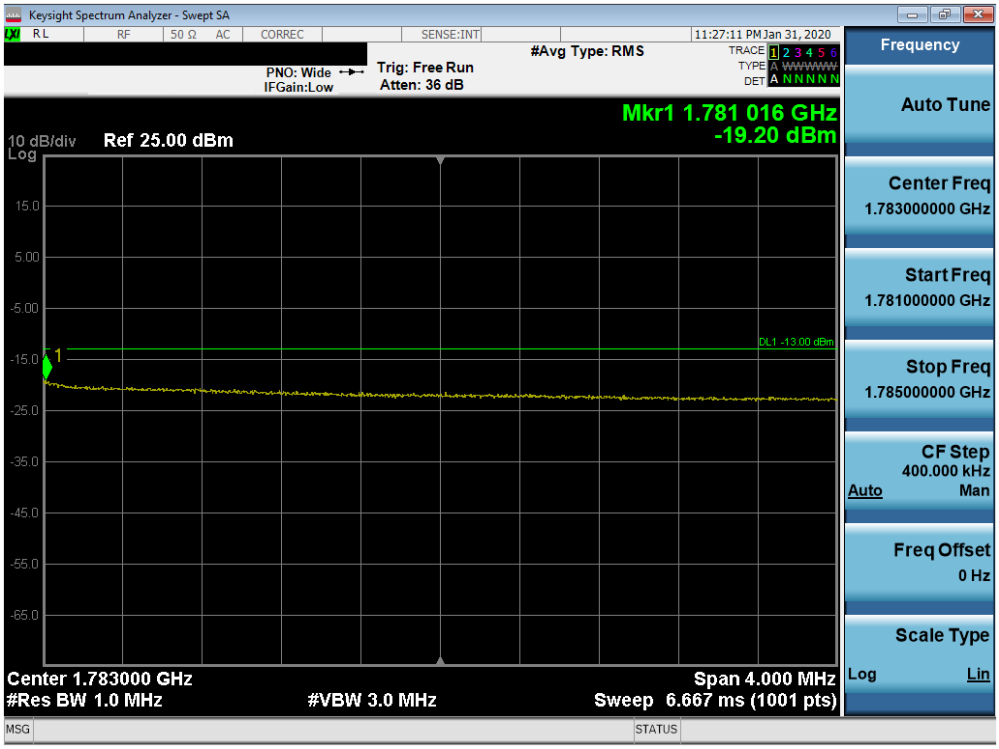
Plot 7-205. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



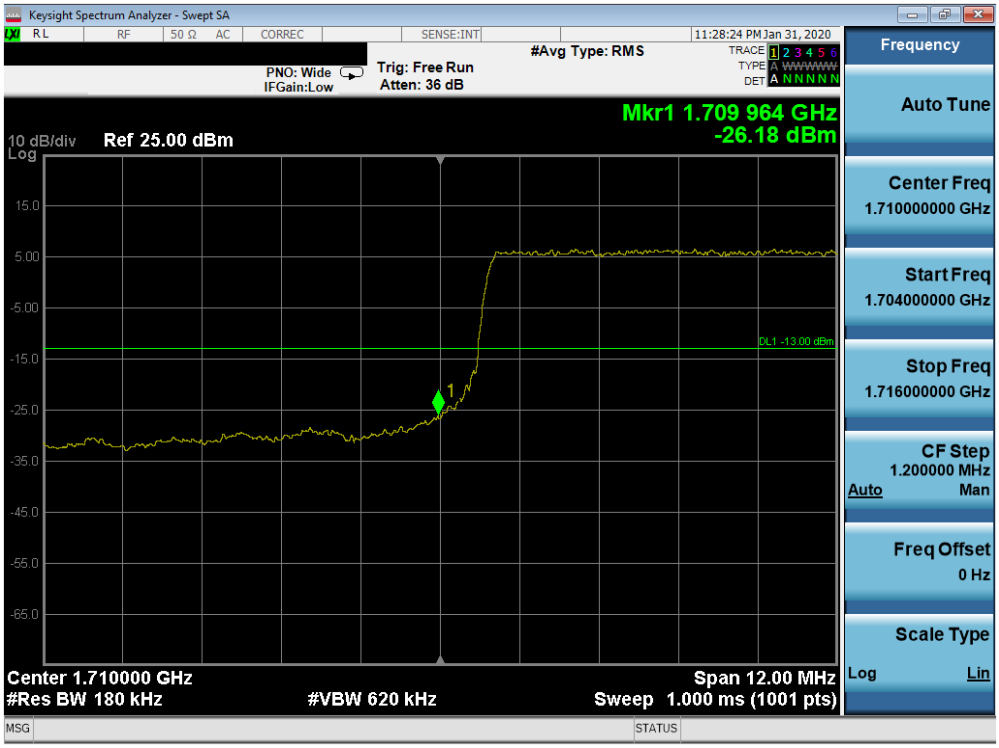
Plot 7-206. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



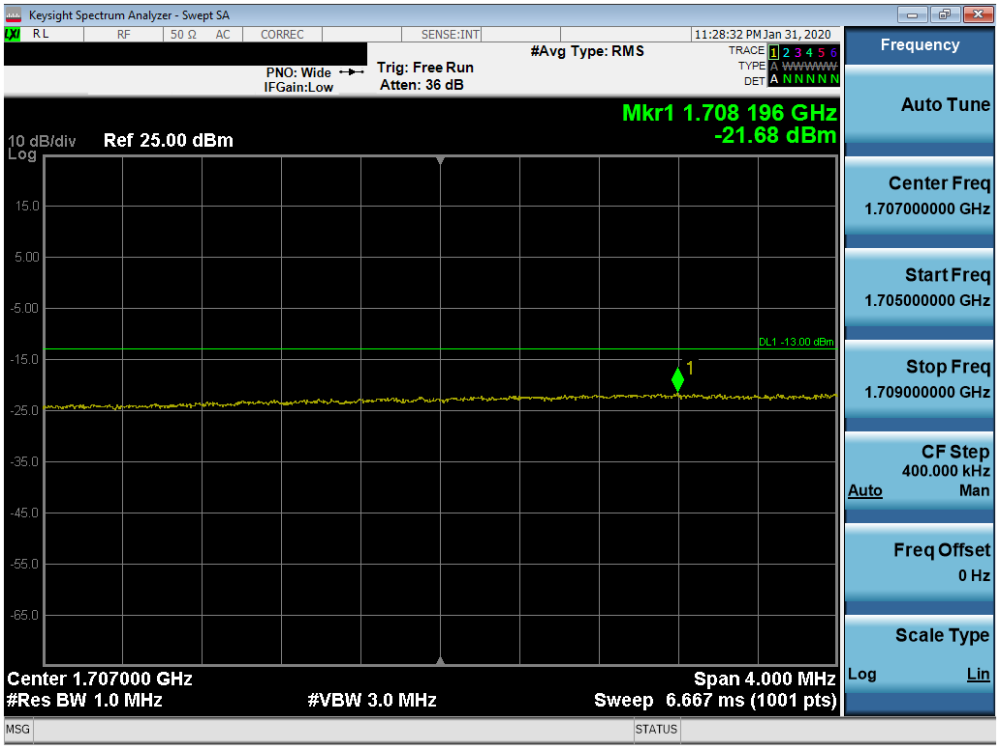
Plot 7-207. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



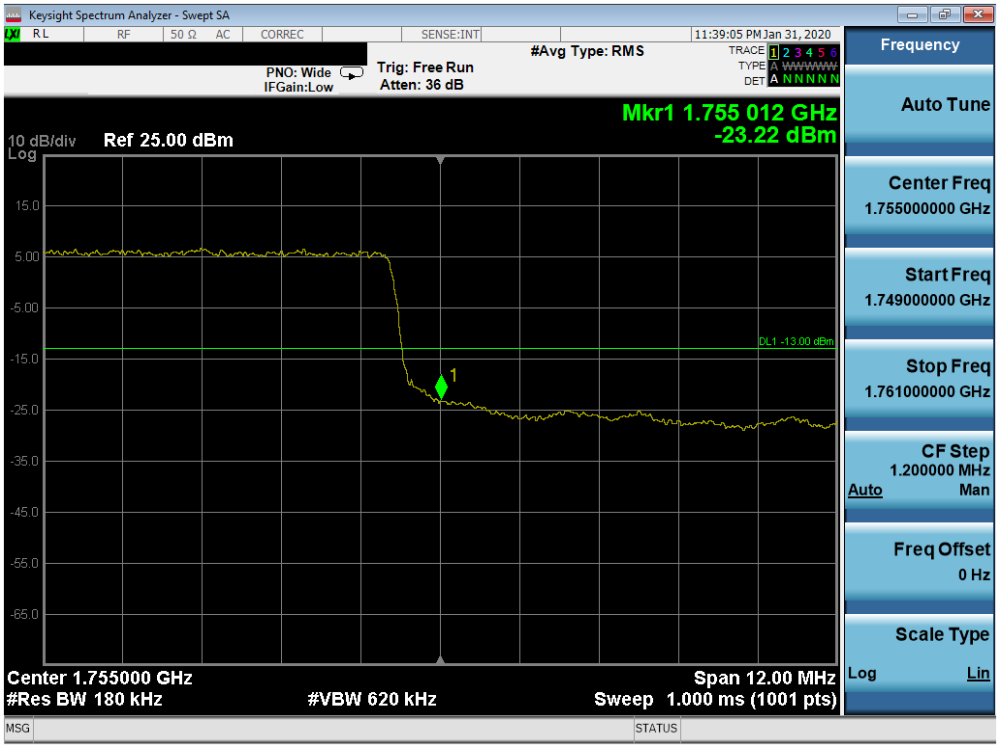
Plot 7-208. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



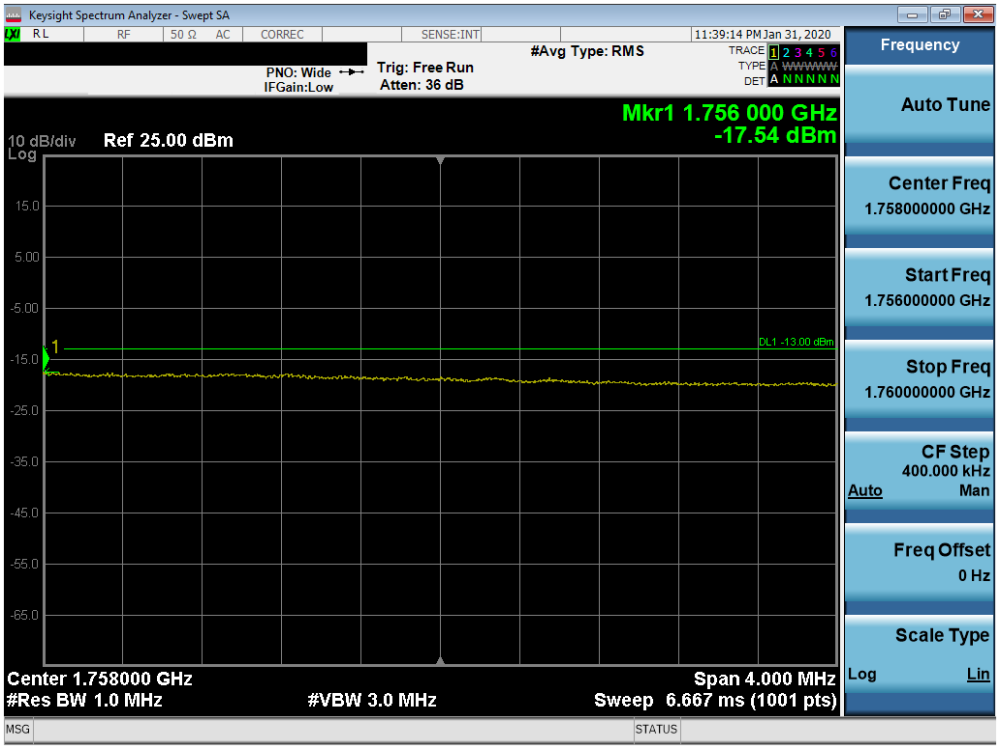
Plot 7-209. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



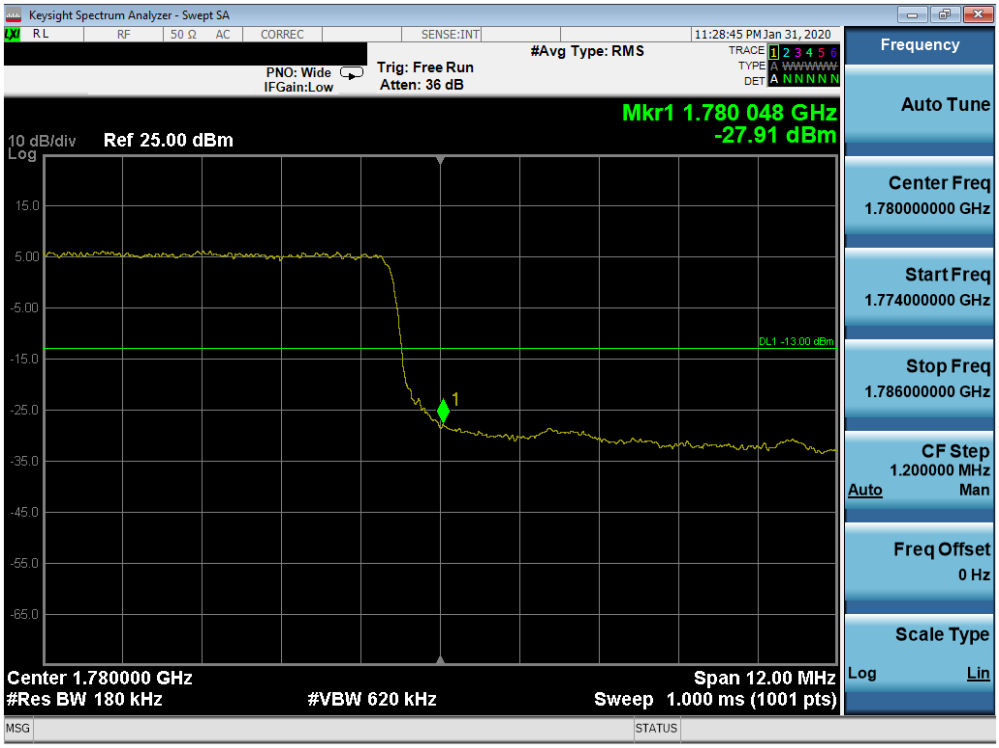
Plot 7-210. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



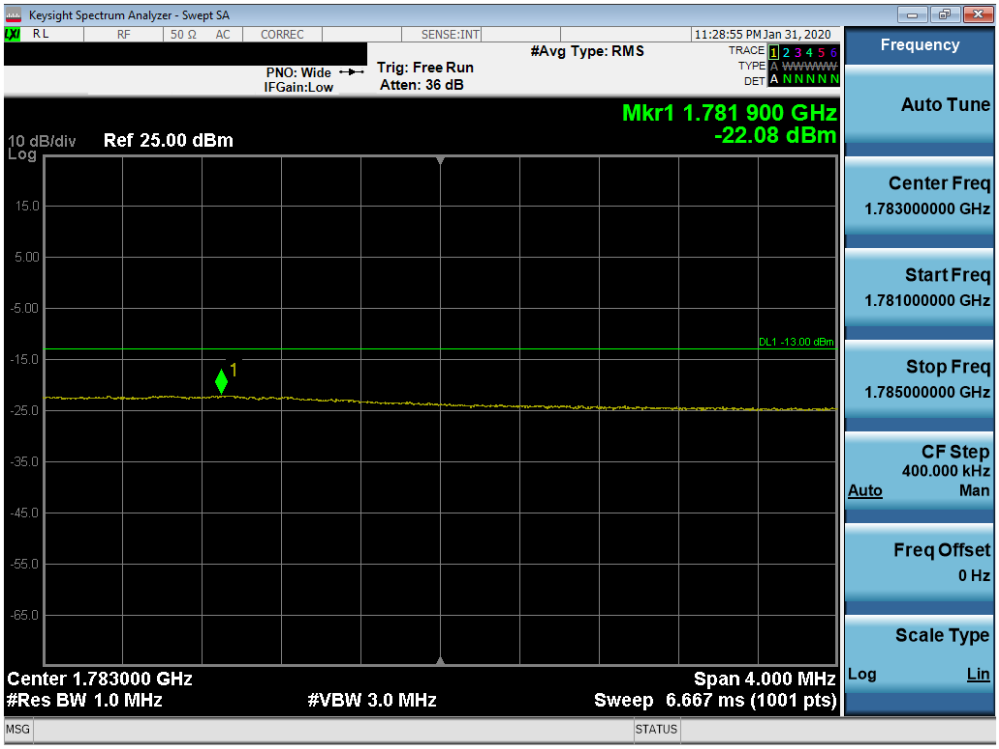
Plot 7-211. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



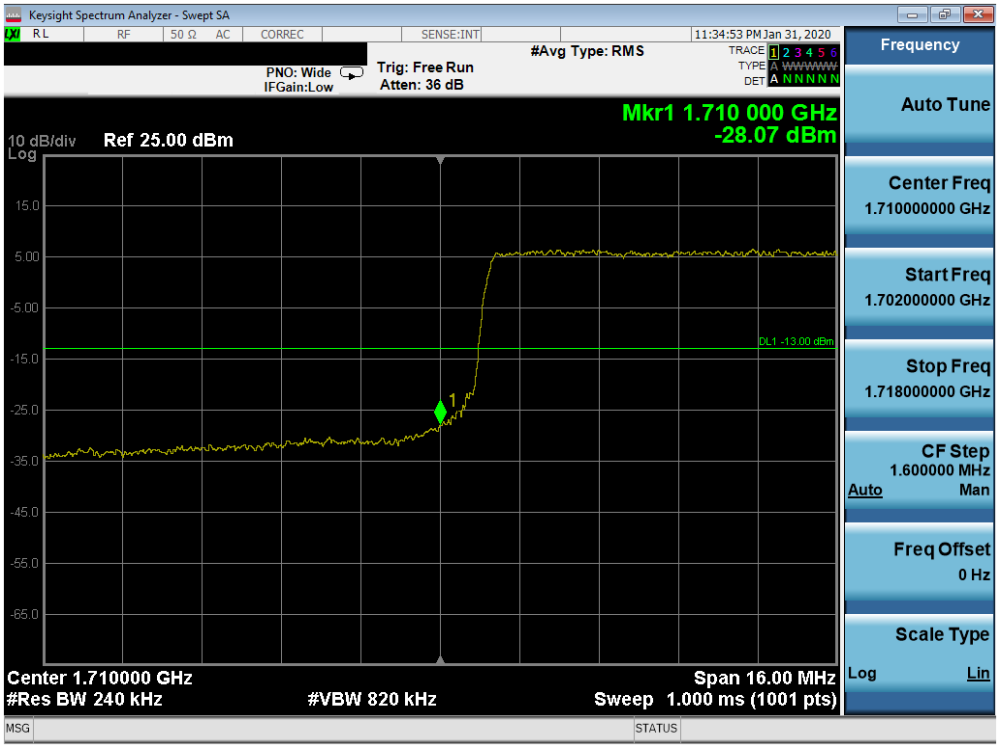
Plot 7-212. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



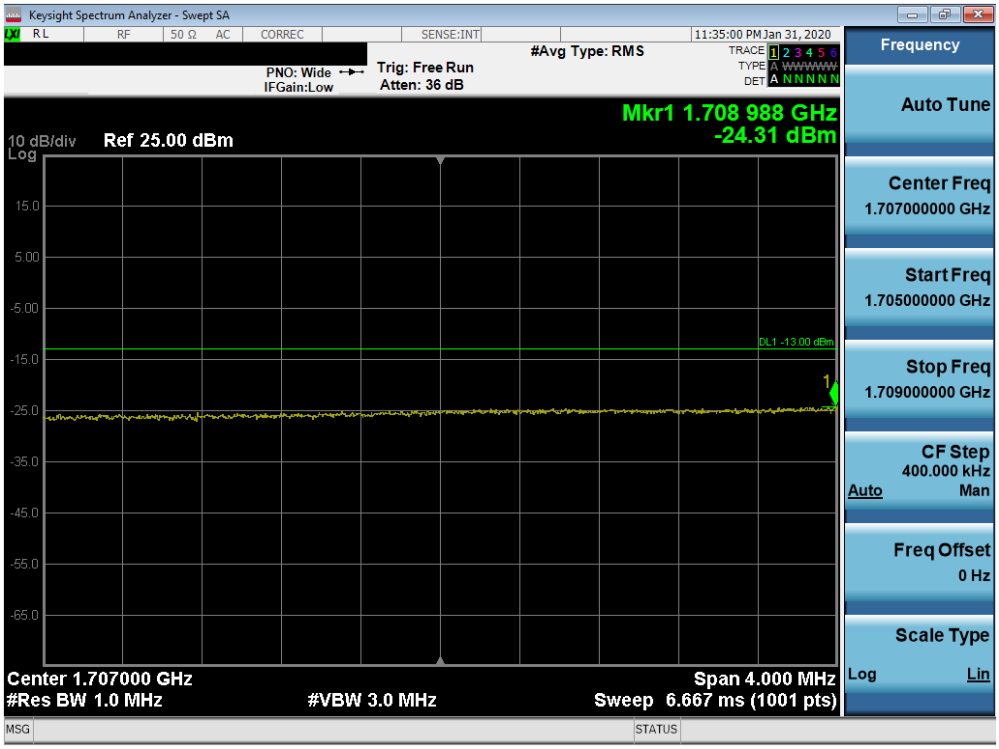
Plot 7-213. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



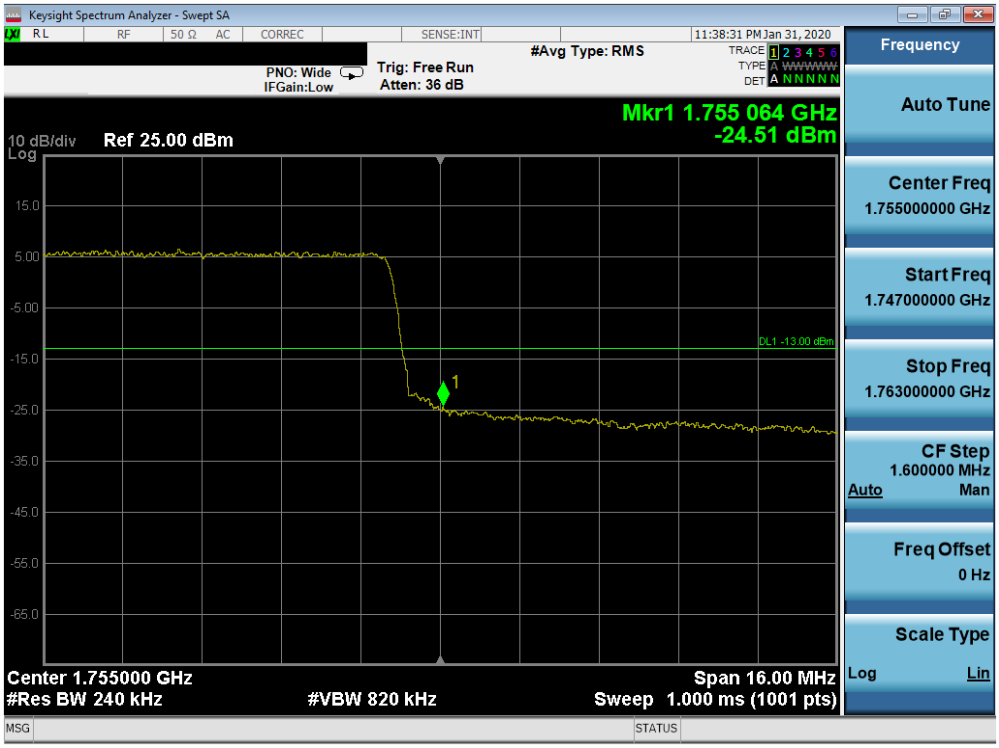
Plot 7-214. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



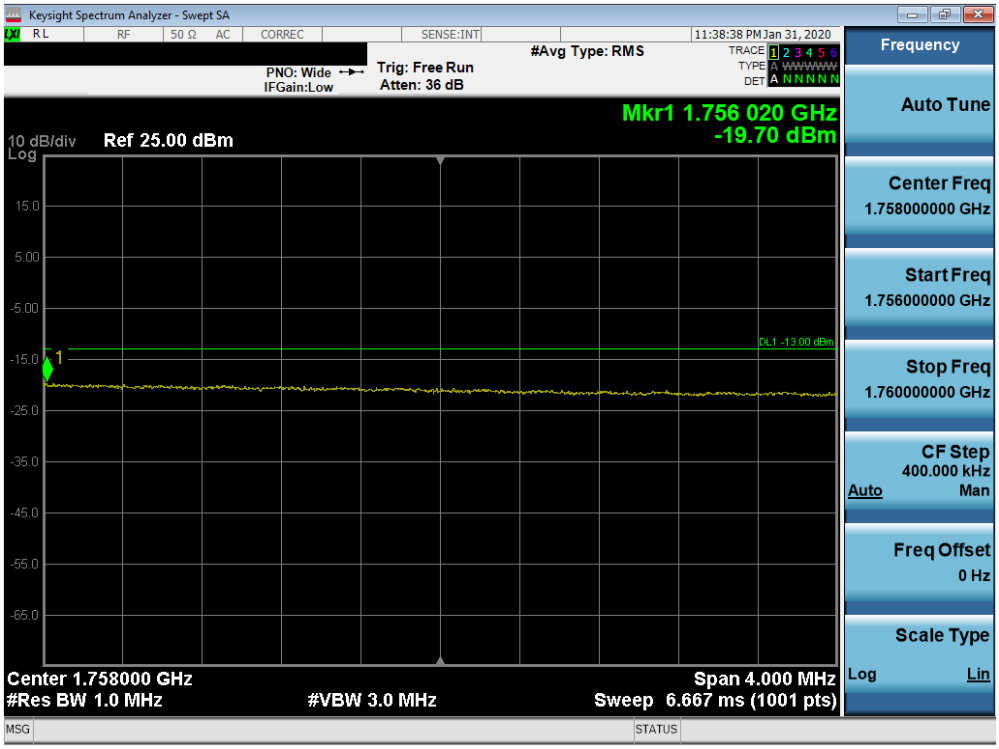
Plot 7-215. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



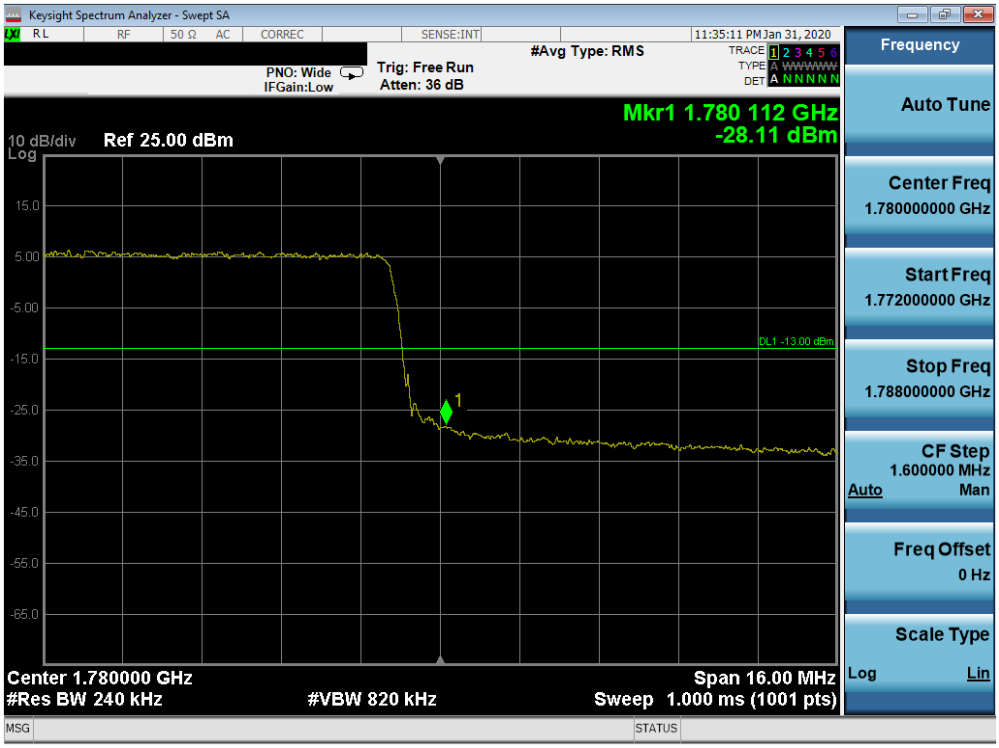
Plot 7-216. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



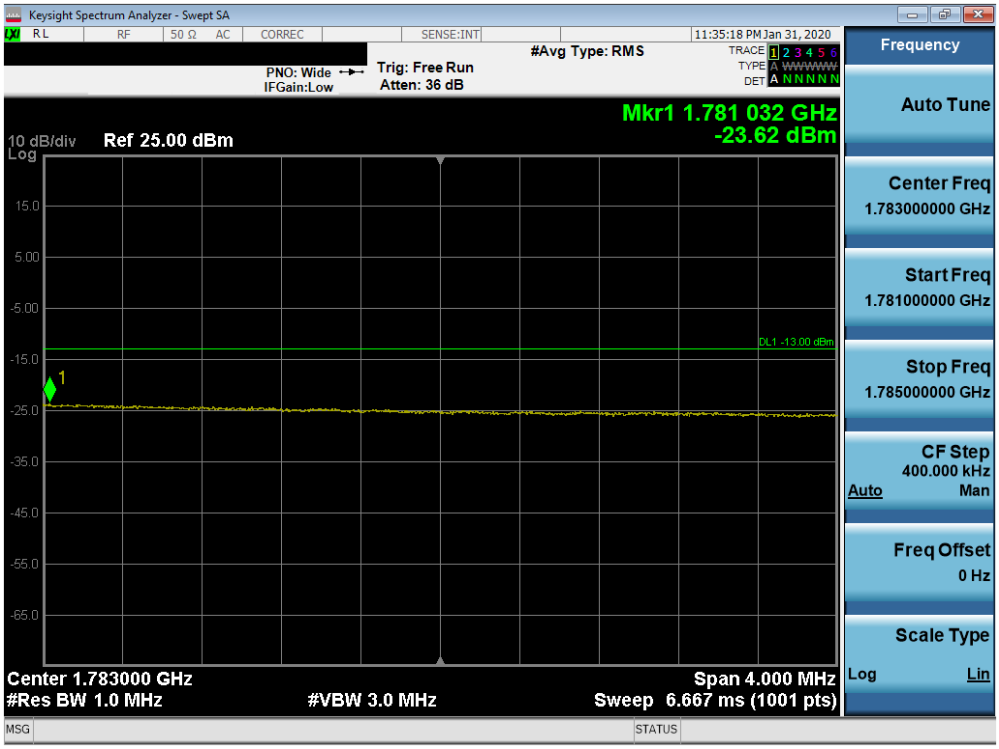
Plot 7-217. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-218. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



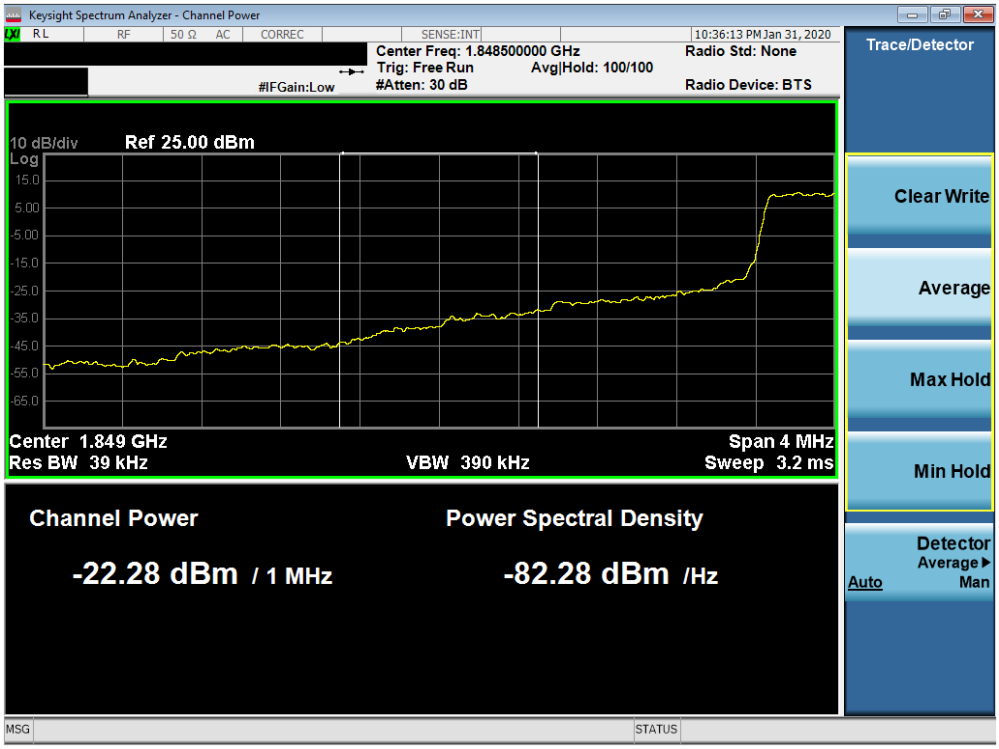
Plot 7-219. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)



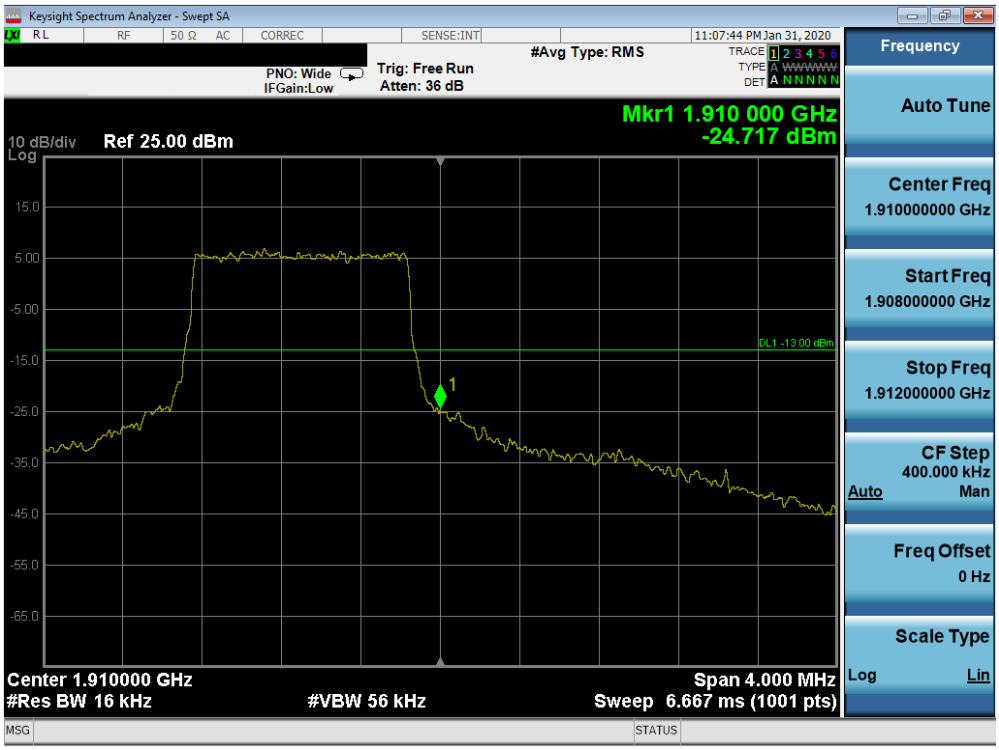
Plot 7-220. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

Band 25/2

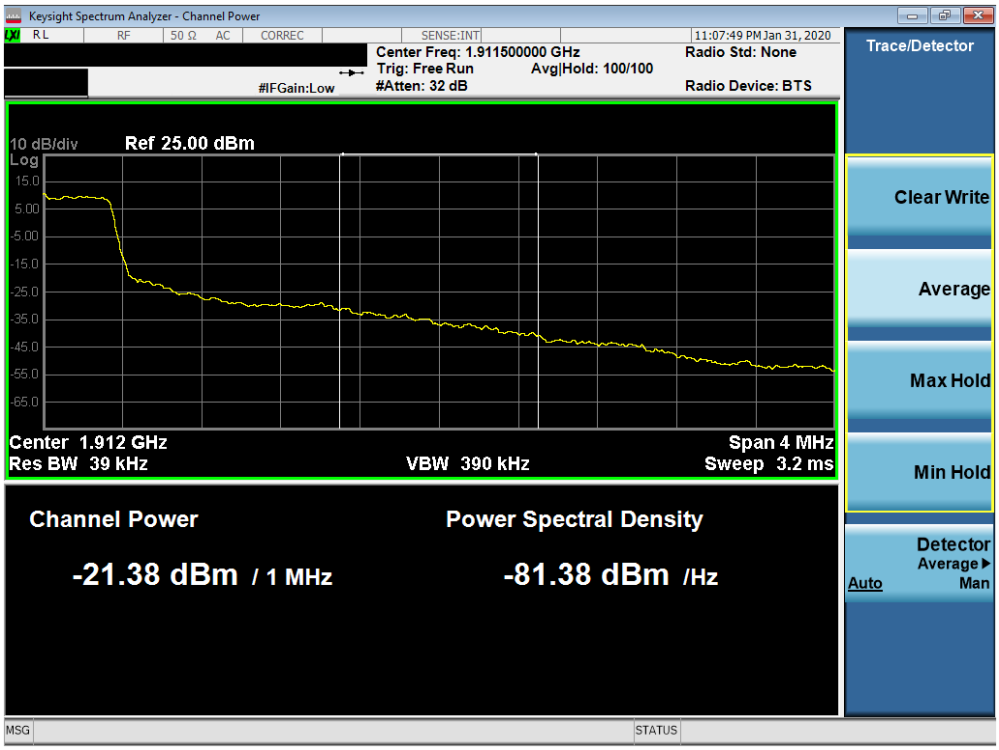
Plot 7-221. Lower Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



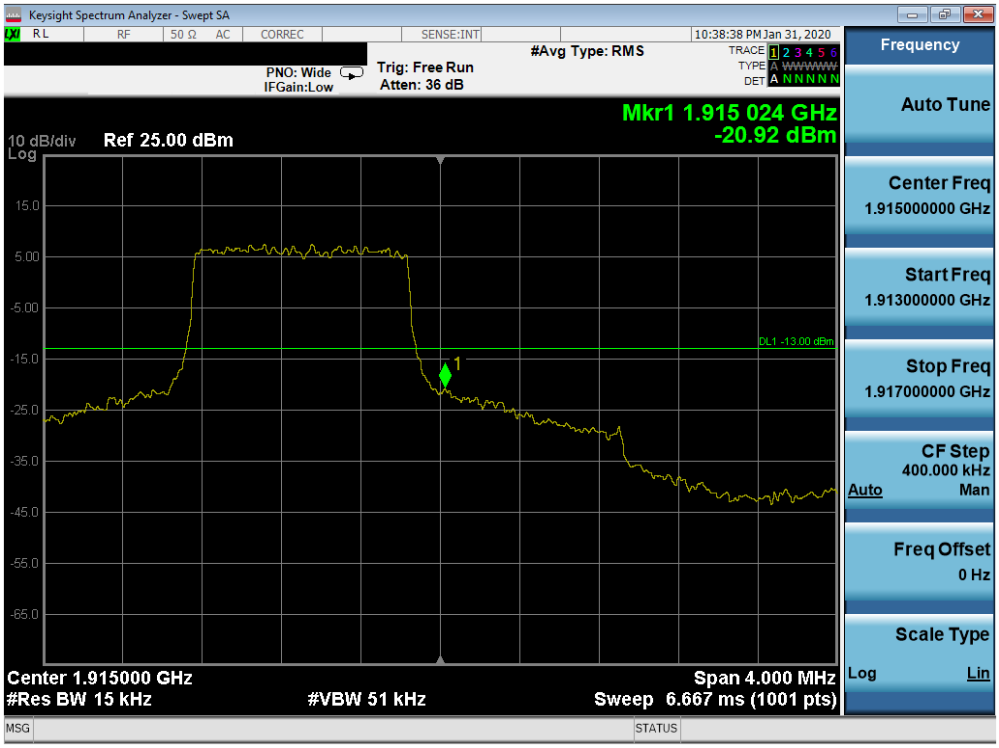
Plot 7-222. Lower Extended Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



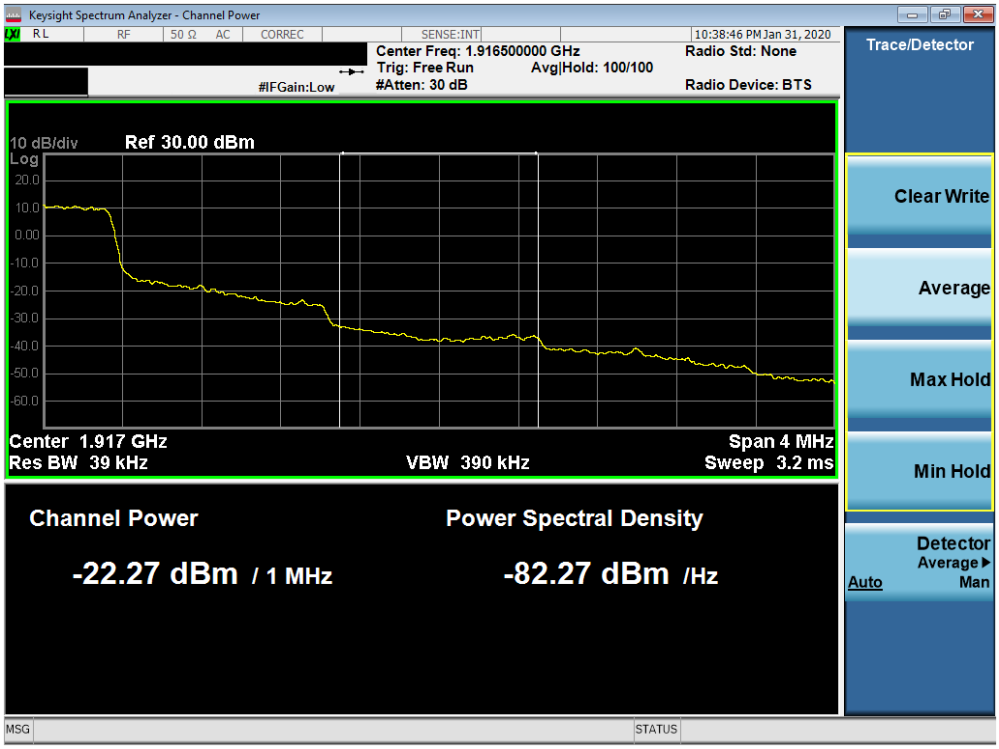
Plot 7-223. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



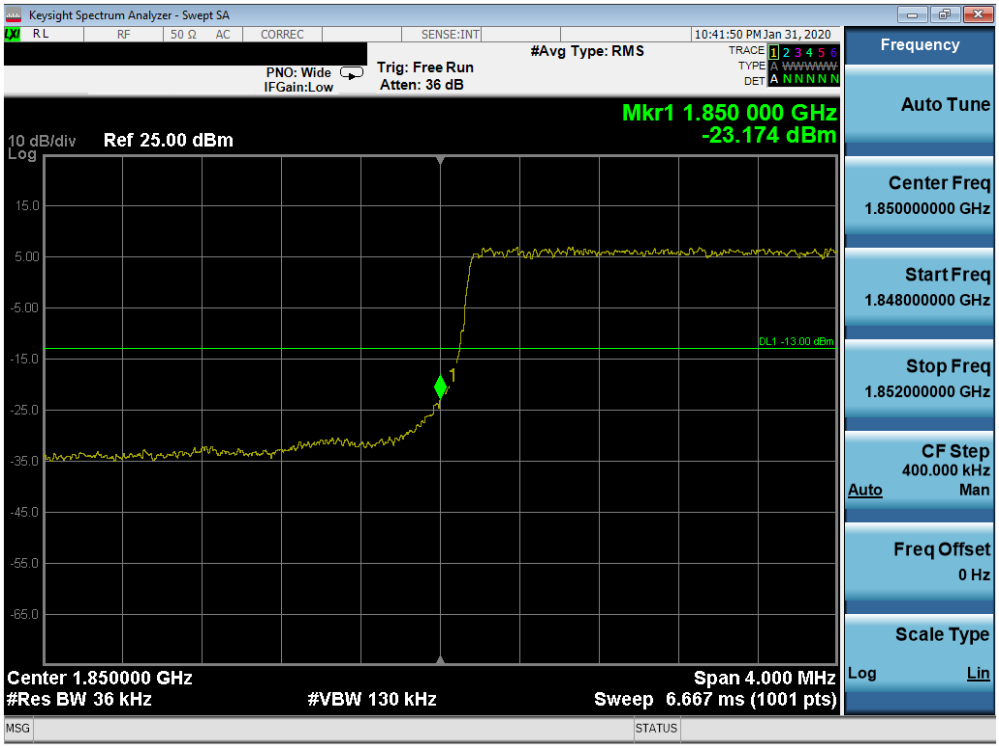
Plot 7-224. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



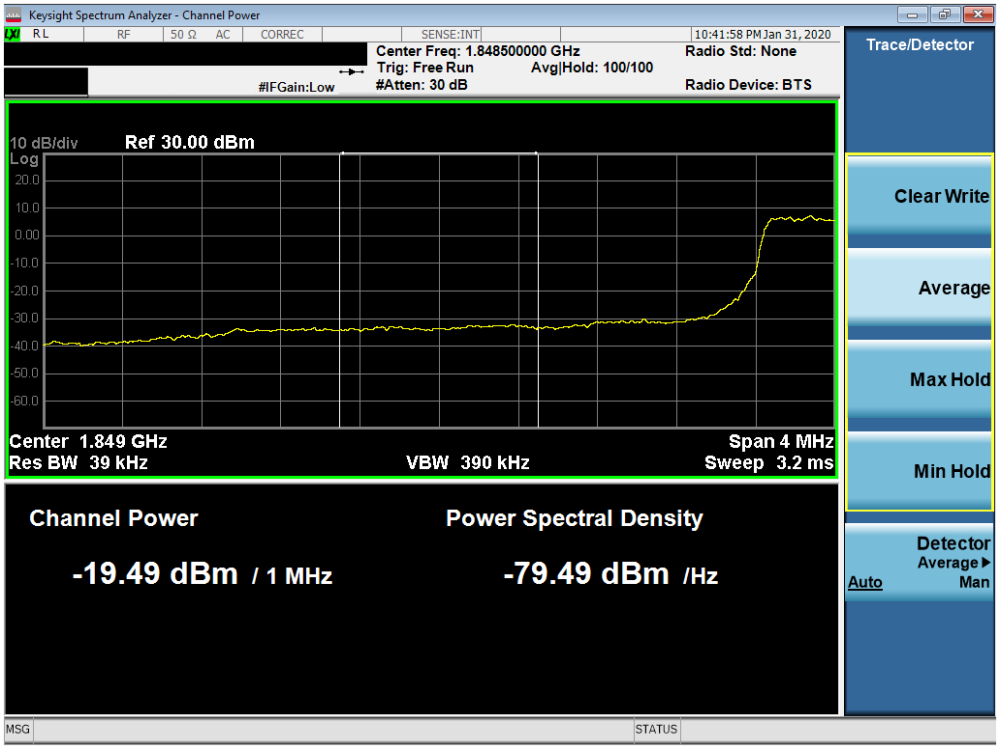
Plot 7-225. Upper Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



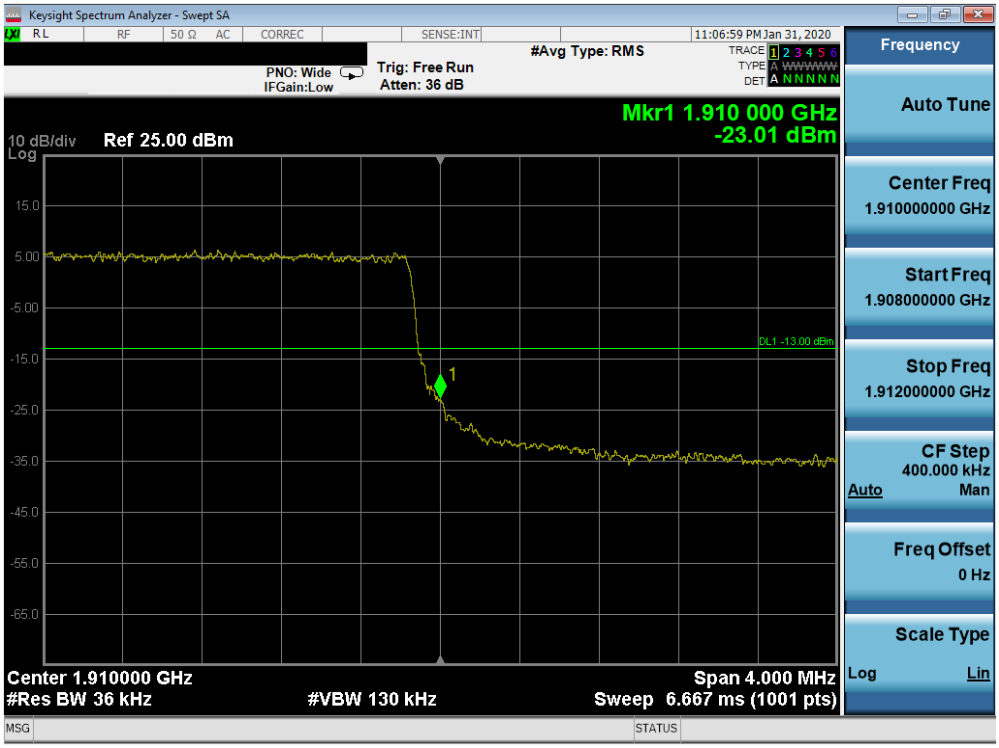
Plot 7-226. Upper Extended Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



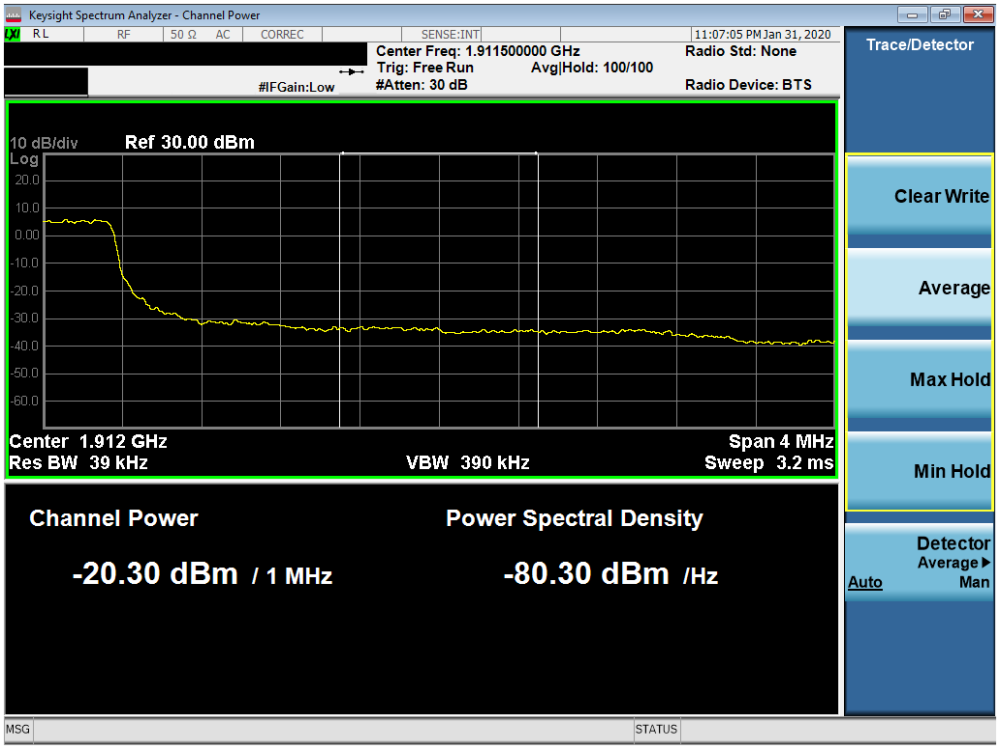
Plot 7-227. Lower Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



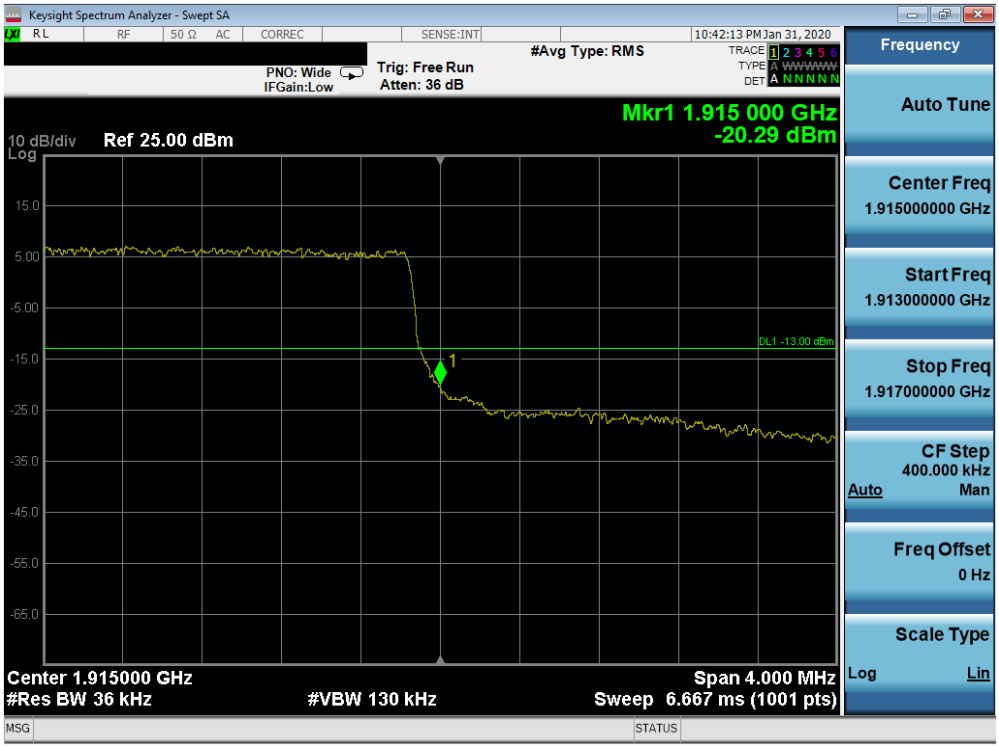
Plot 7-228. Lower Extended Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



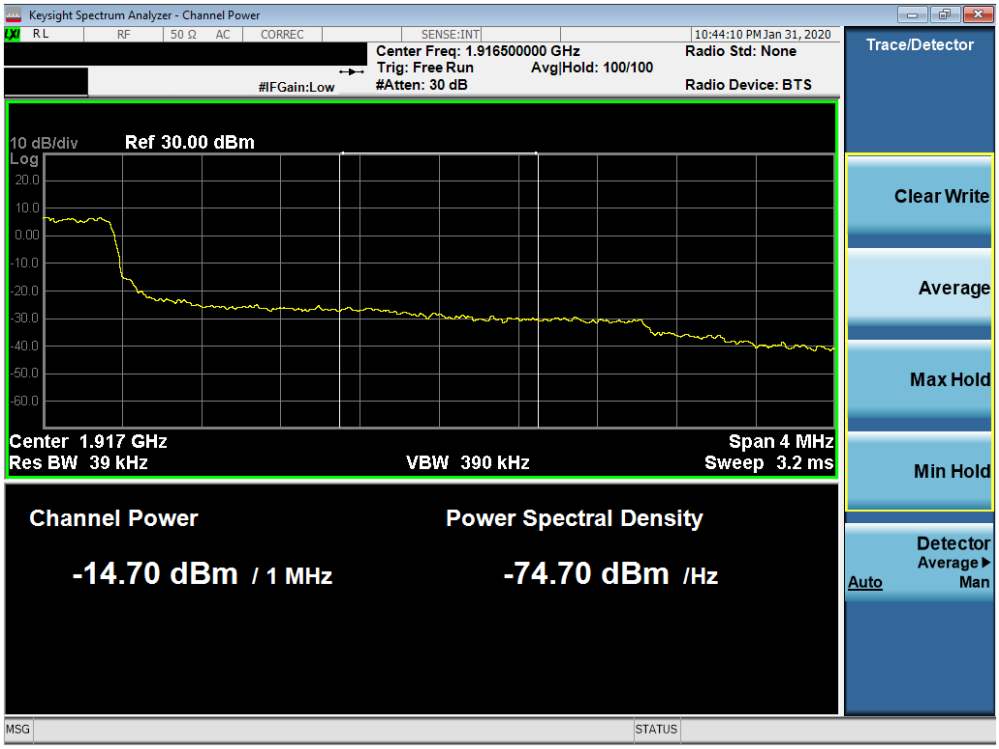
Plot 7-229. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



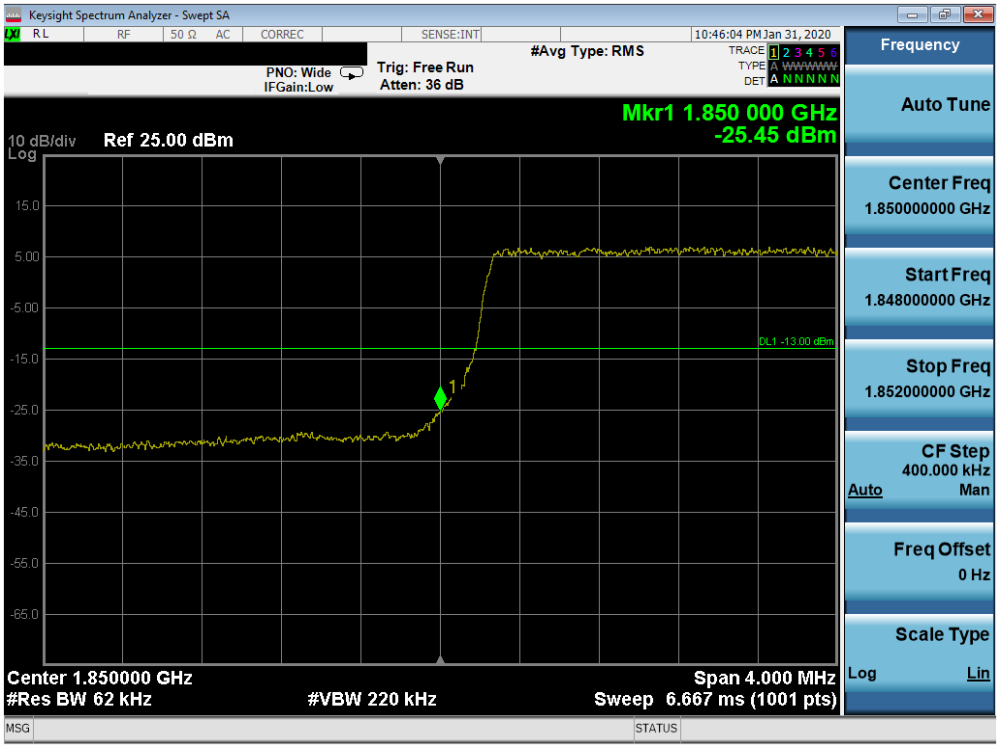
Plot 7-230. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



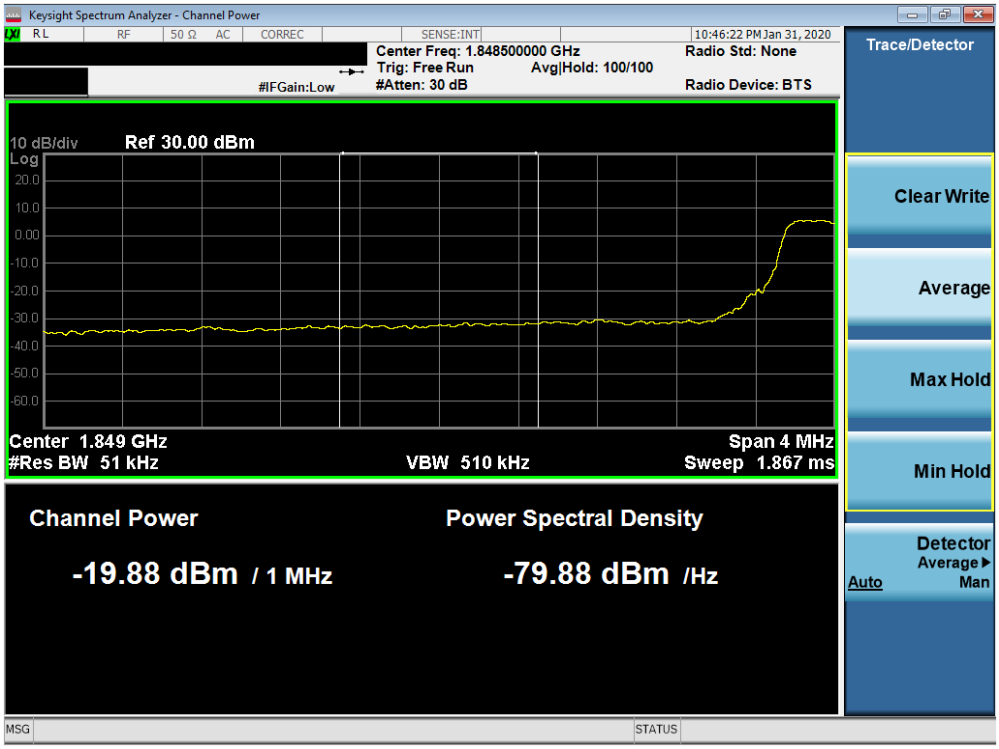
Plot 7-231. Upper Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



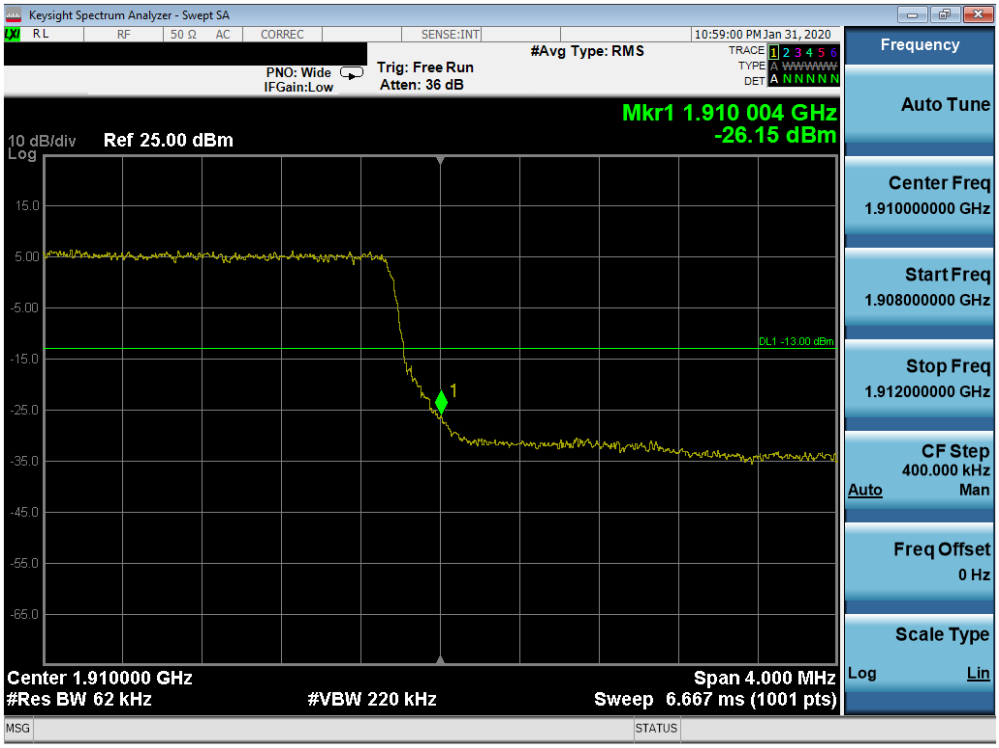
Plot 7-232. Upper Extended Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



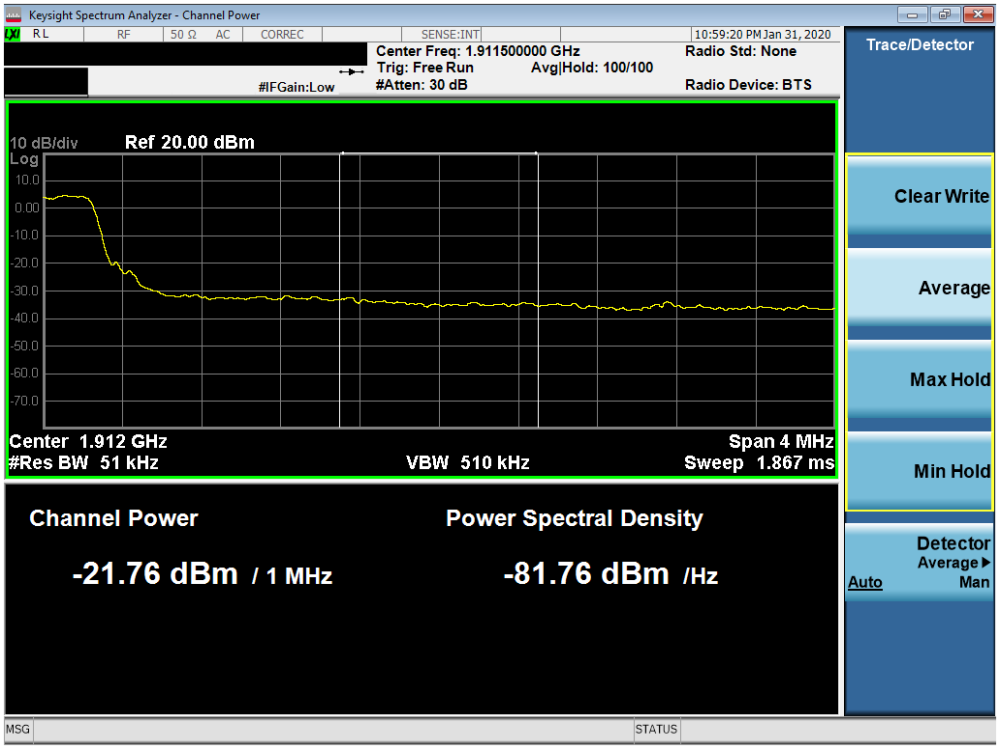
Plot 7-233. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



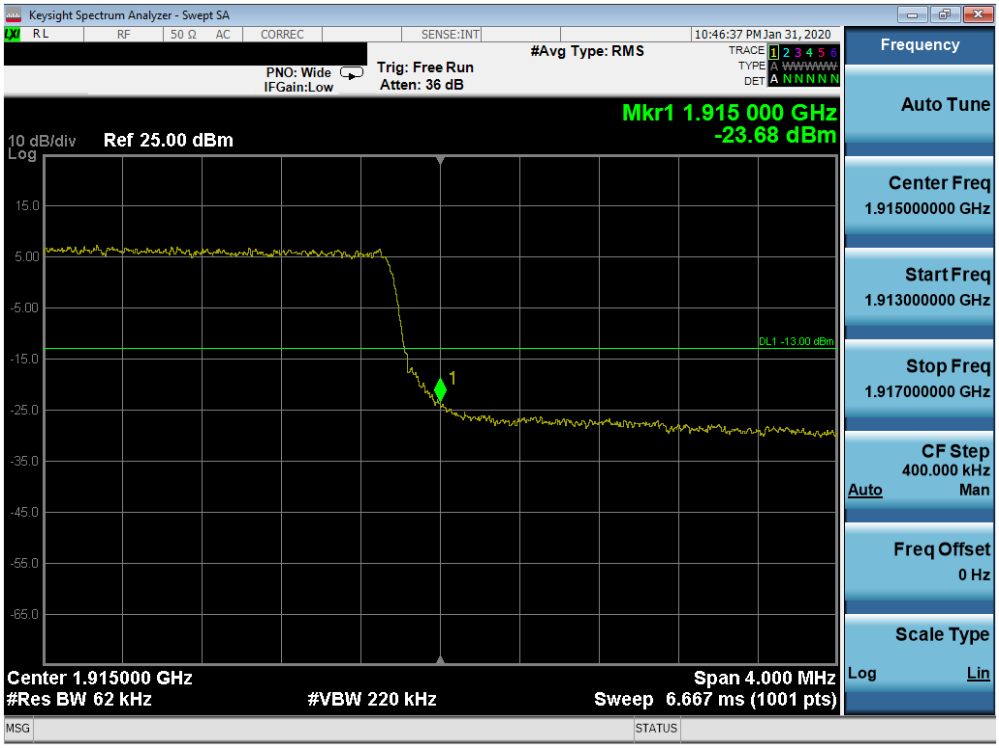
Plot 7-234. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



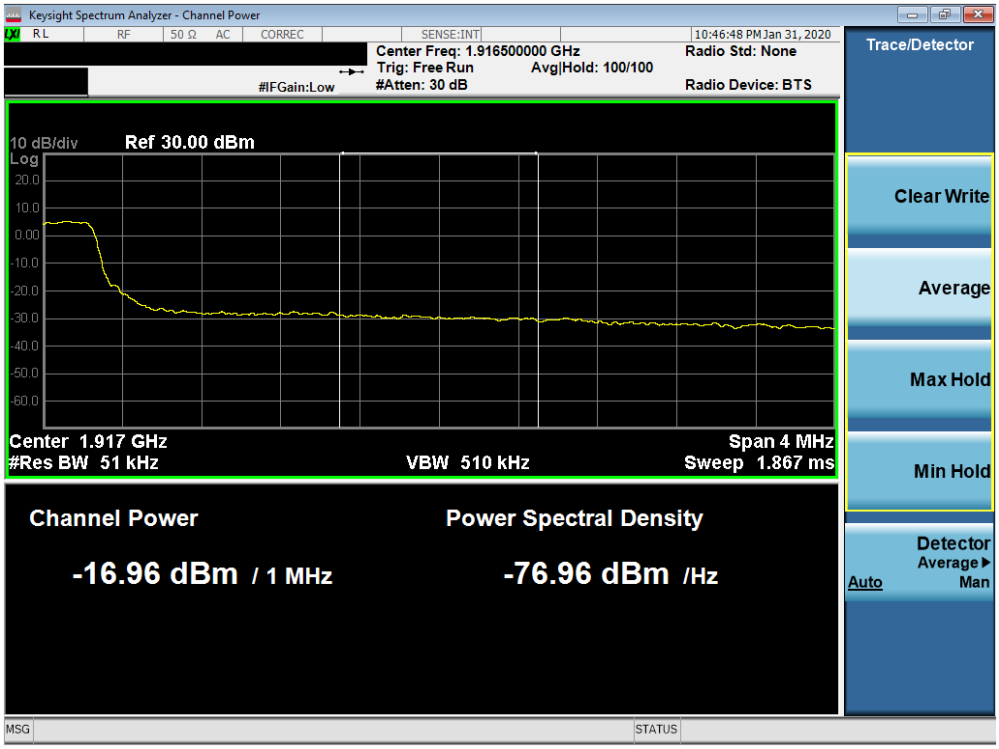
Plot 7-235. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



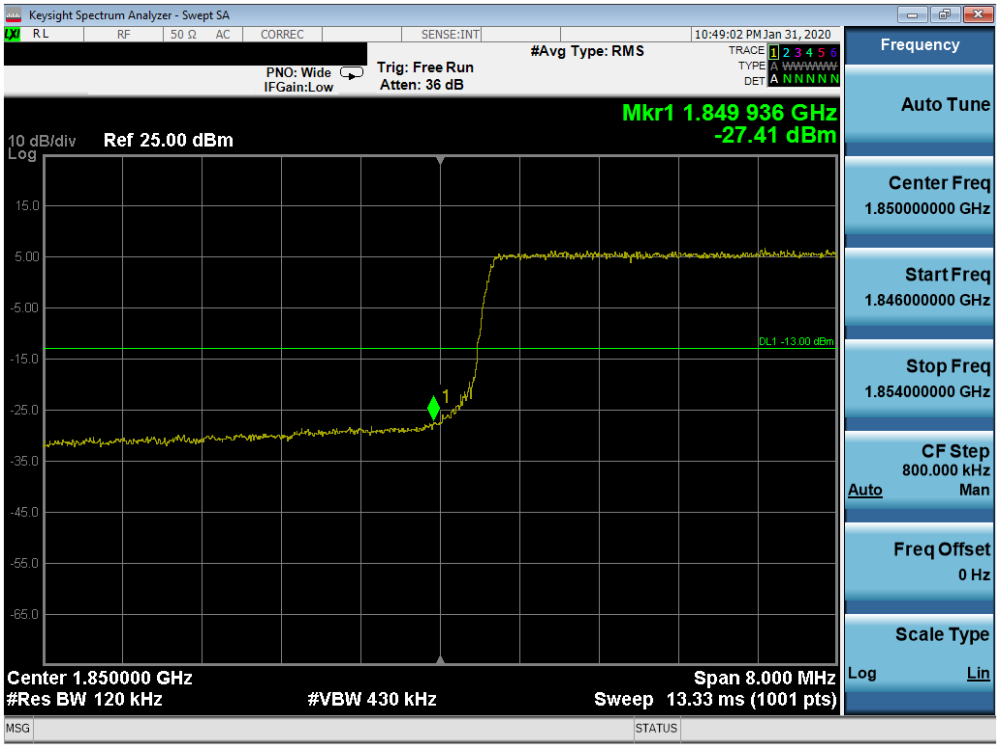
Plot 7-236. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



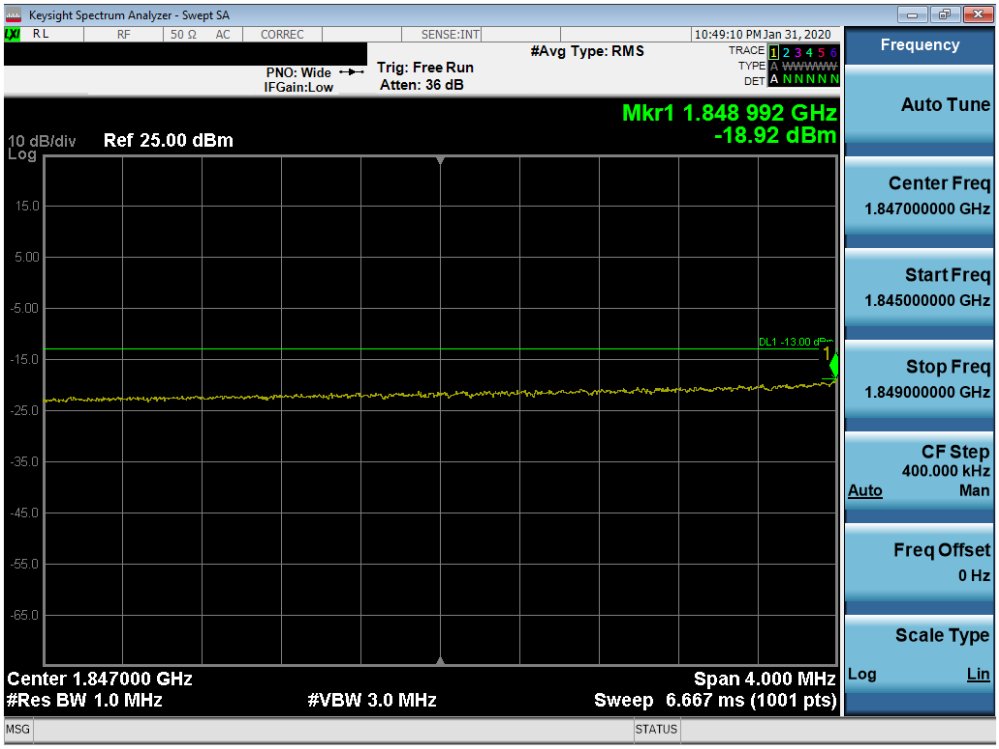
Plot 7-237. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



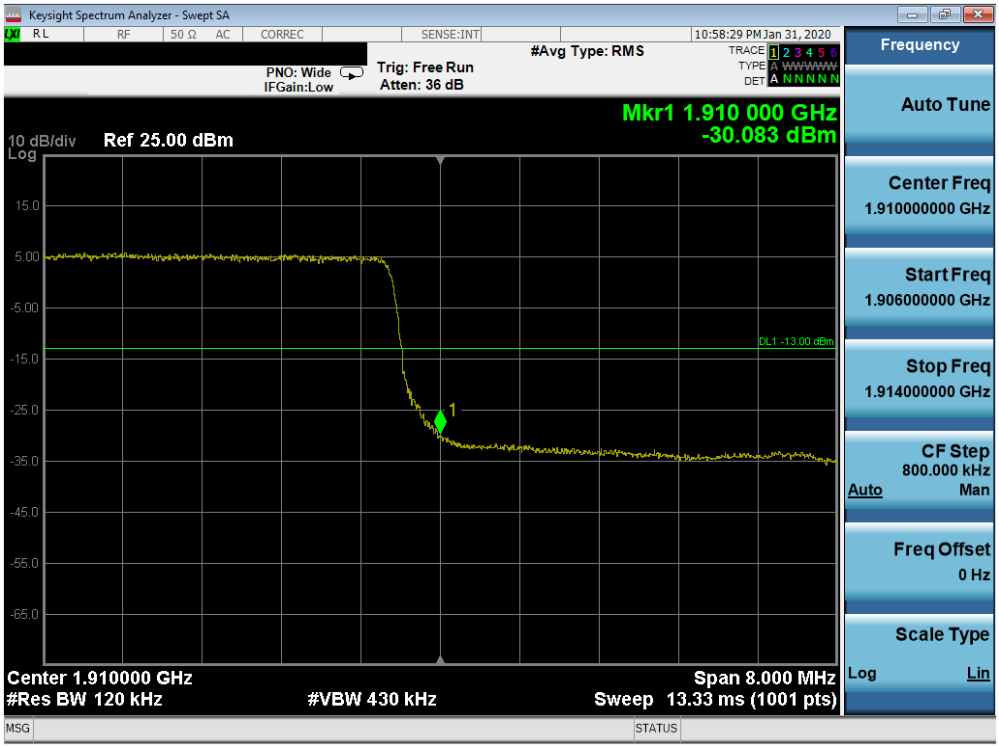
Plot 7-238. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



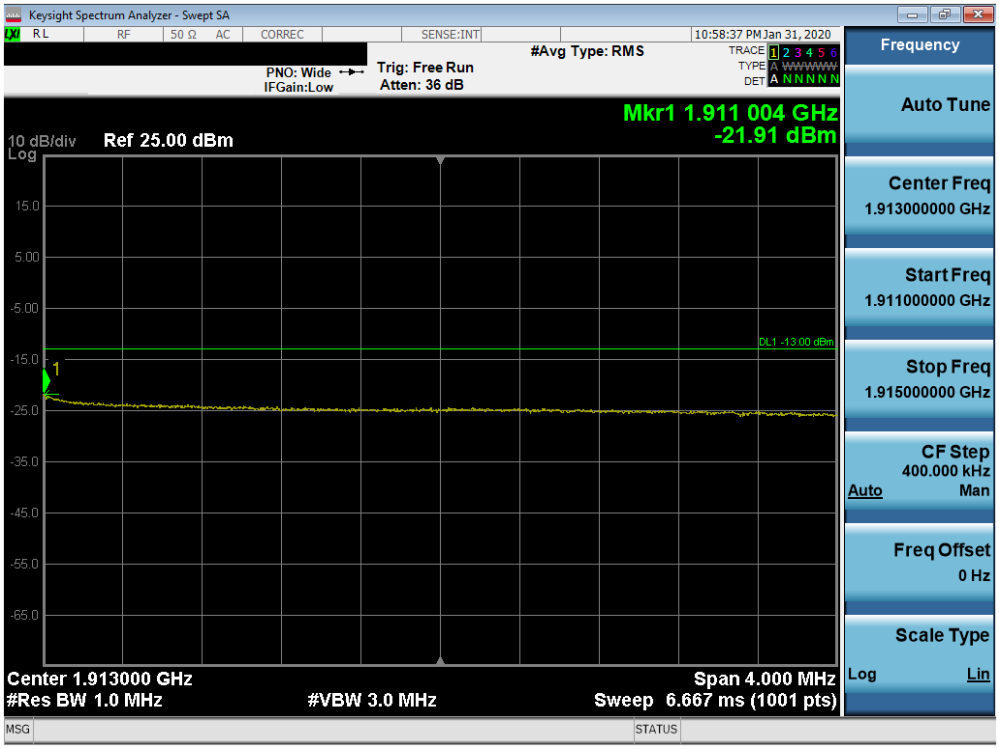
Plot 7-239. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



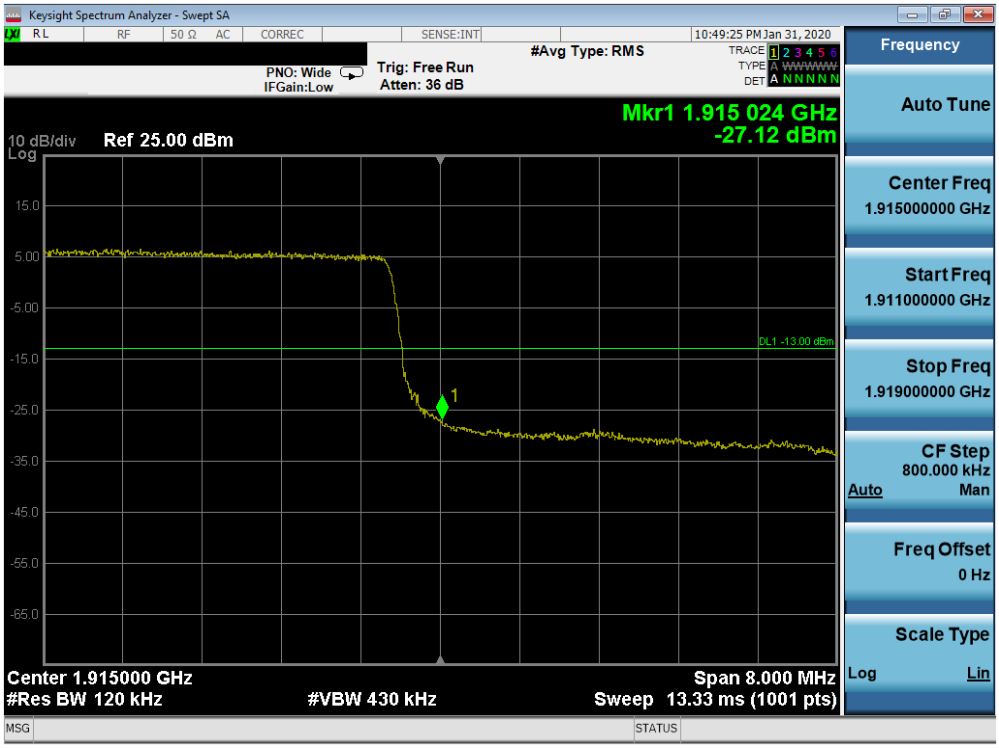
Plot 7-240. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



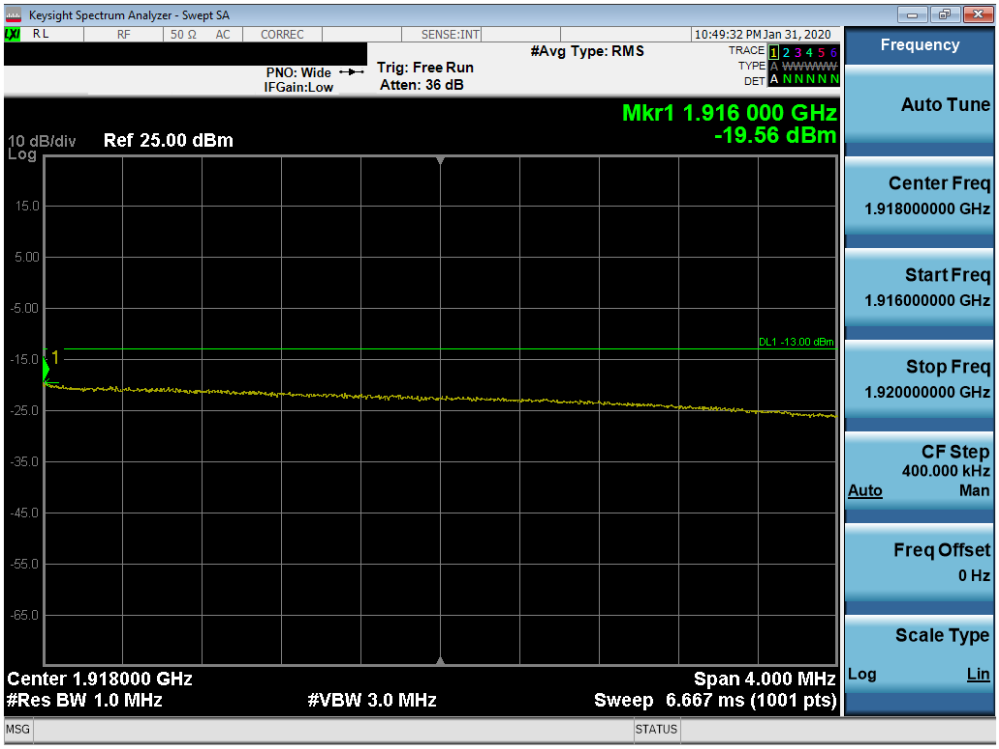
Plot 7-241. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



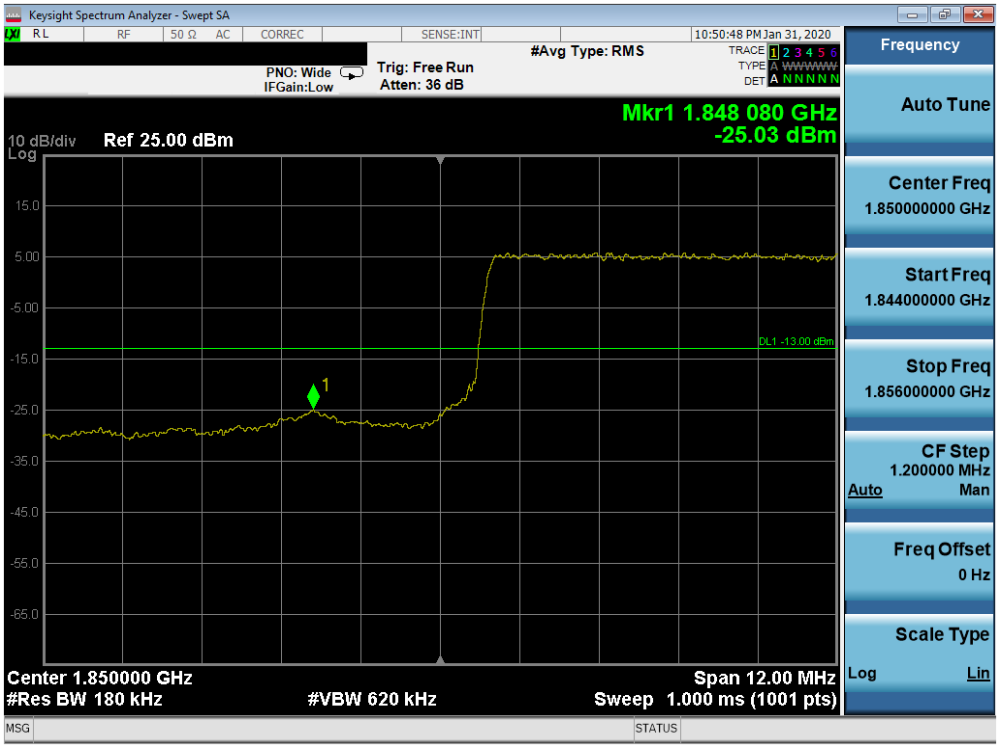
Plot 7-242. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



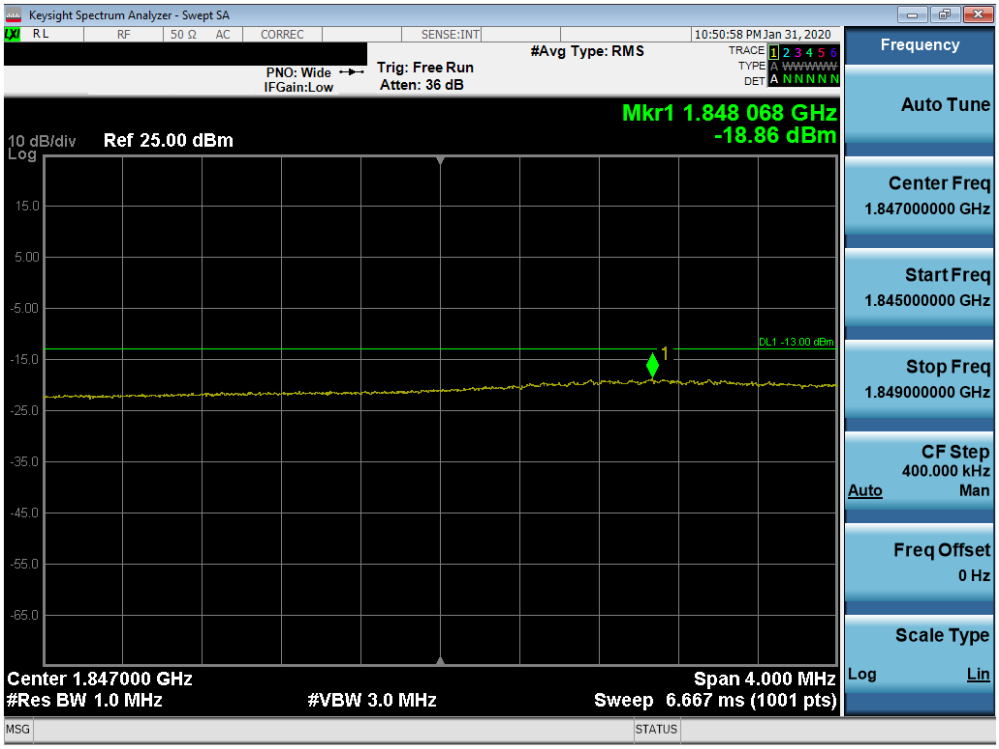
Plot 7-243. Upper Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



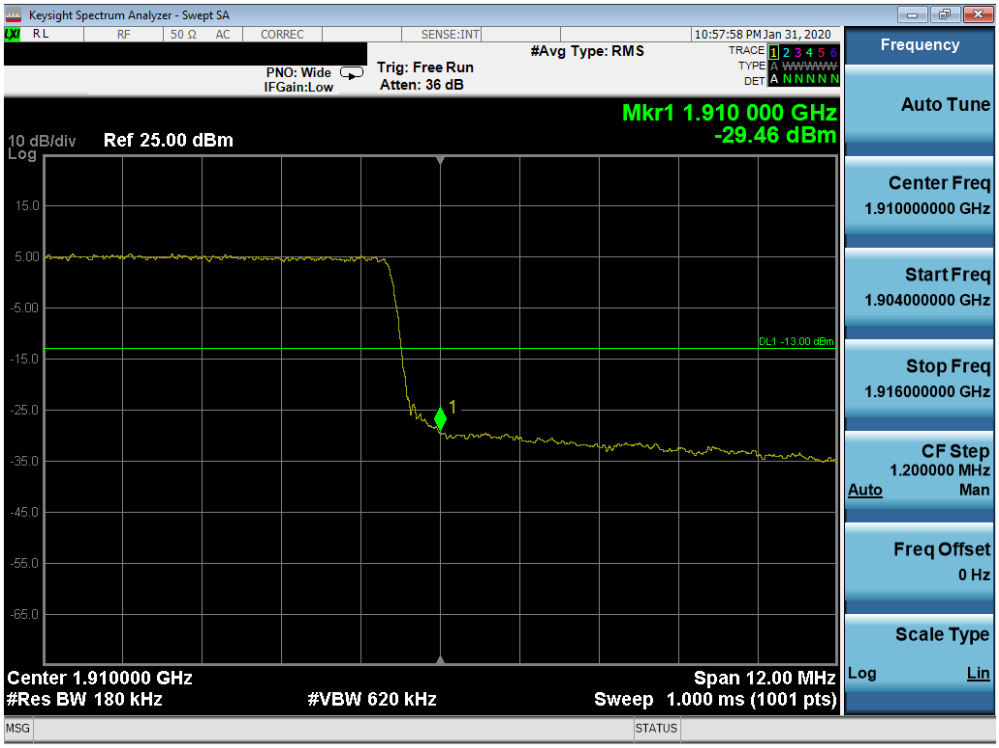
Plot 7-244. Upper Extended Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



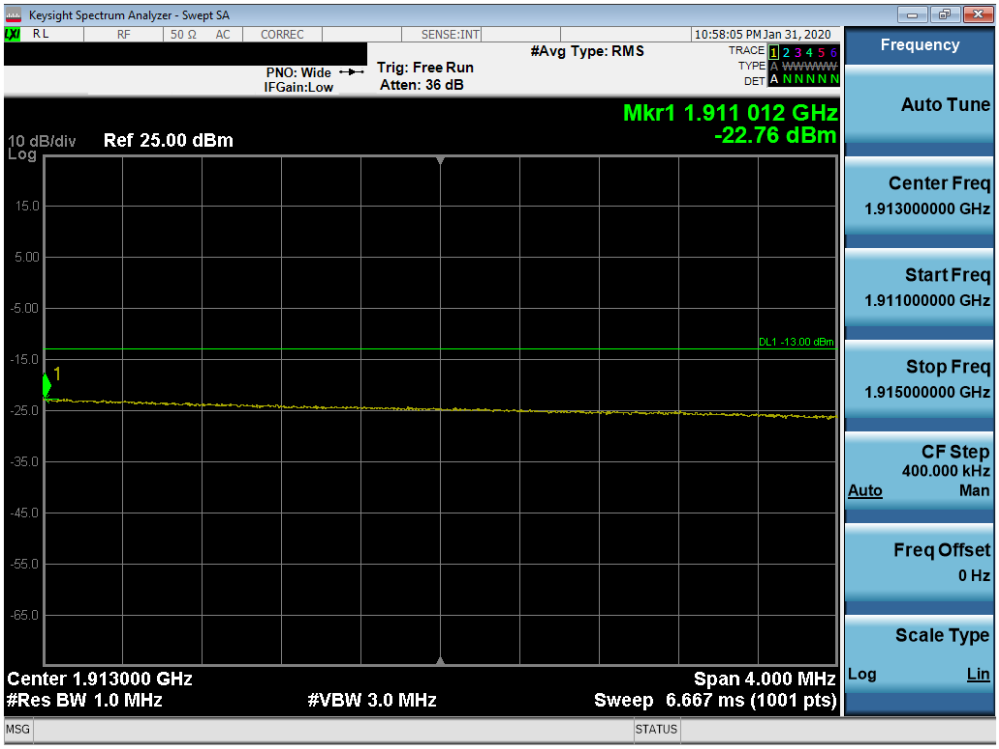
Plot 7-245. Lower Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



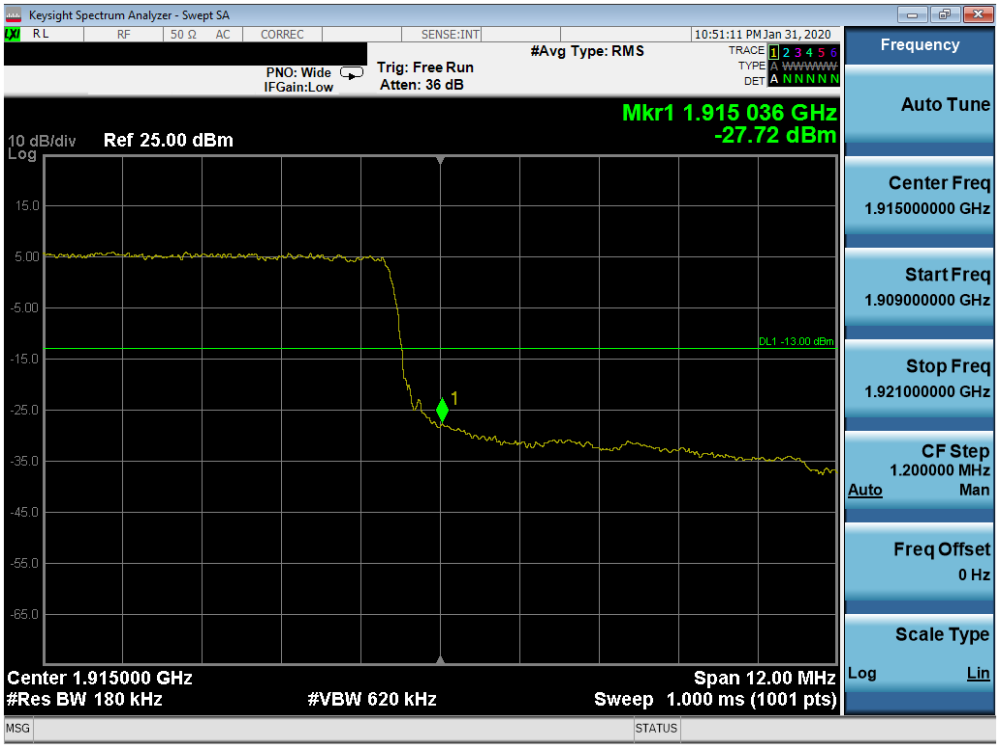
Plot 7-246. Lower Extended Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



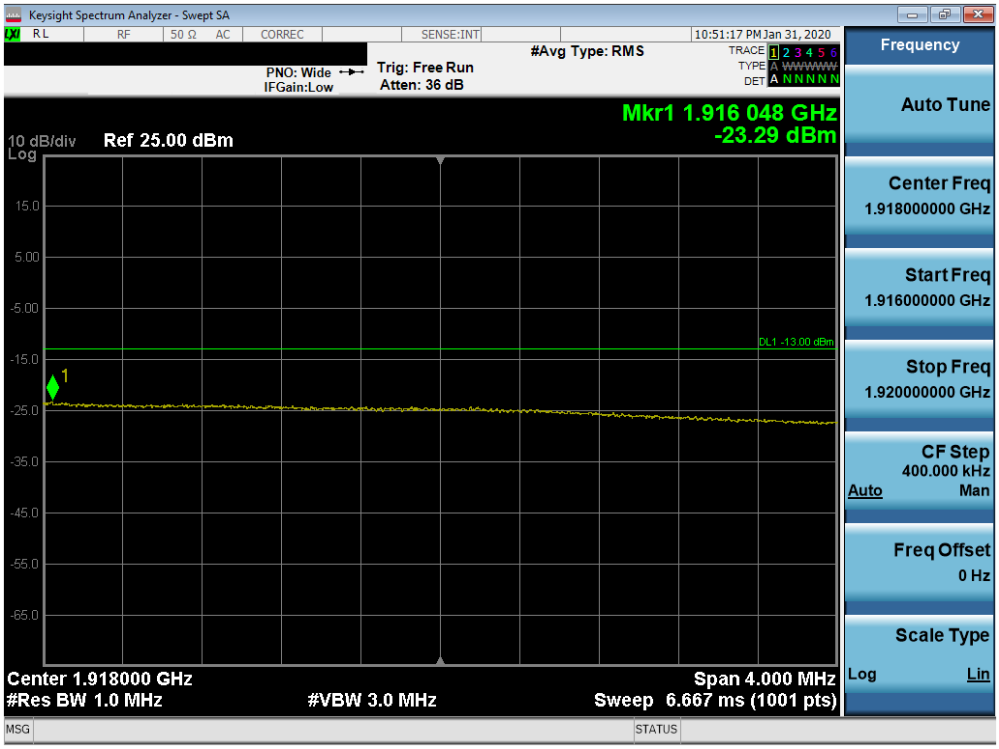
Plot 7-247. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



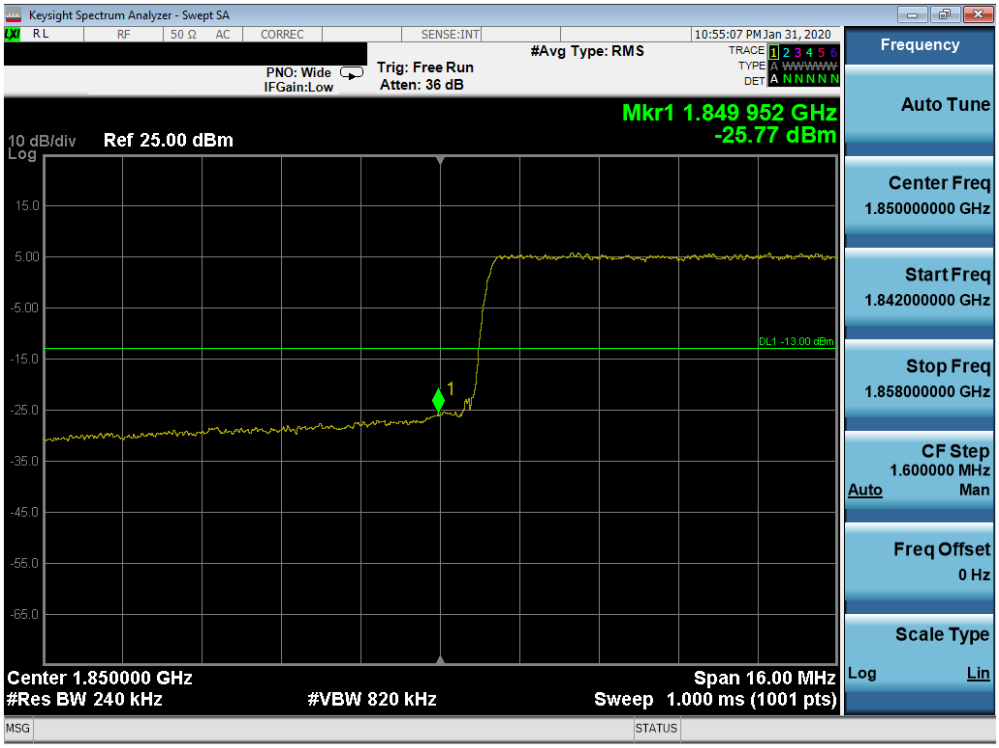
Plot 7-248. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



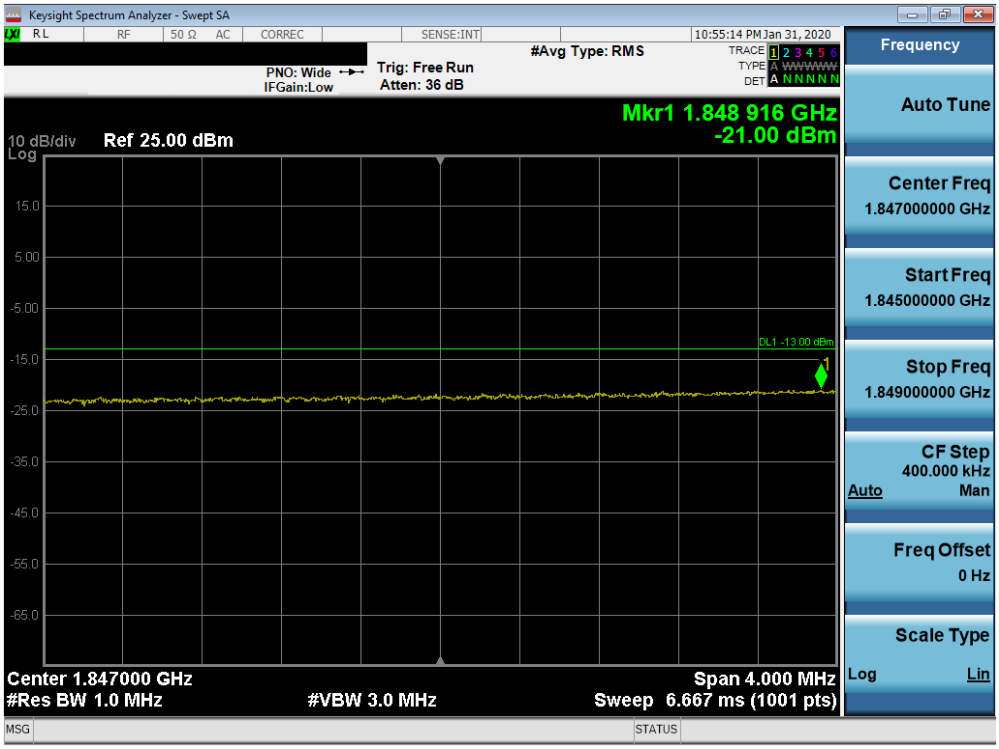
Plot 7-249. Upper Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



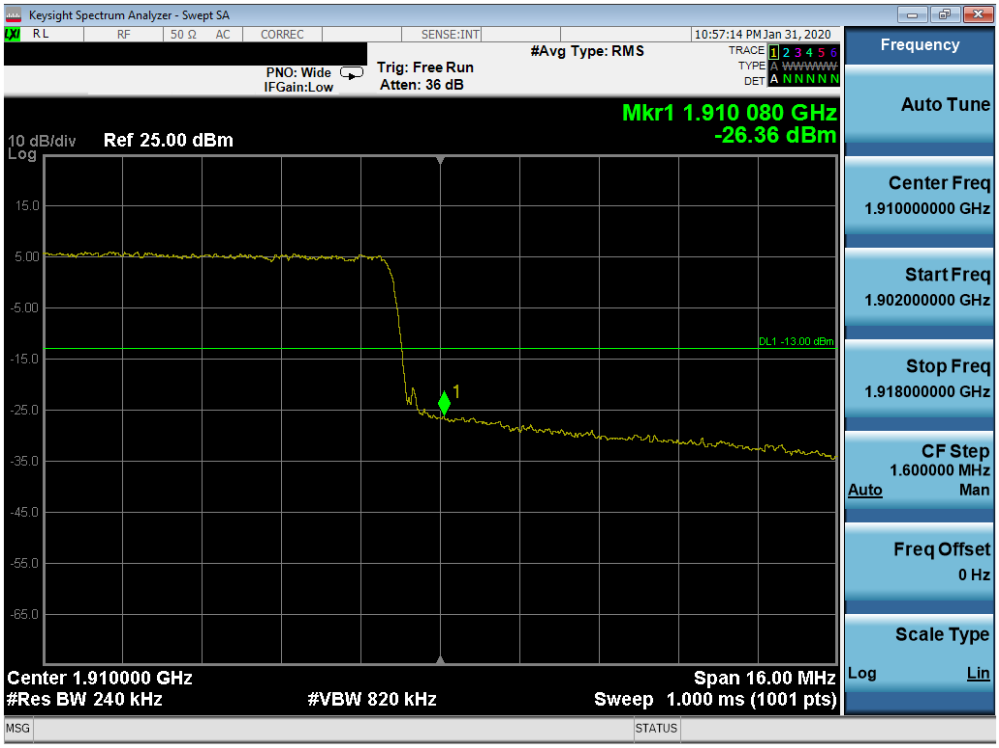
Plot 7-250. Upper Extended Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



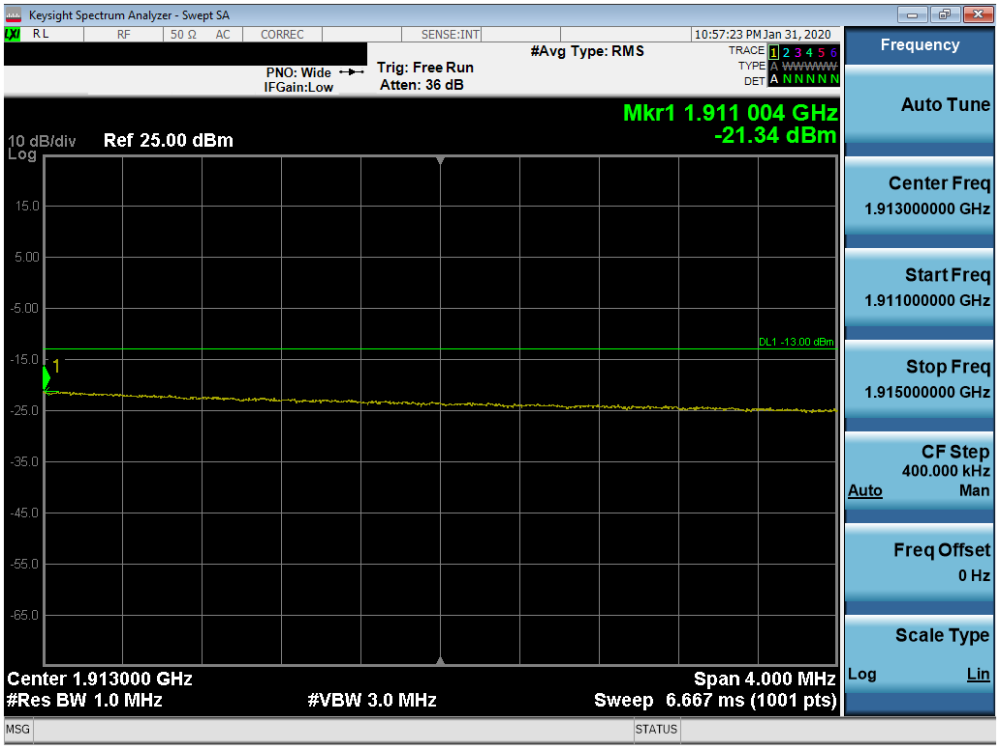
Plot 7-251. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



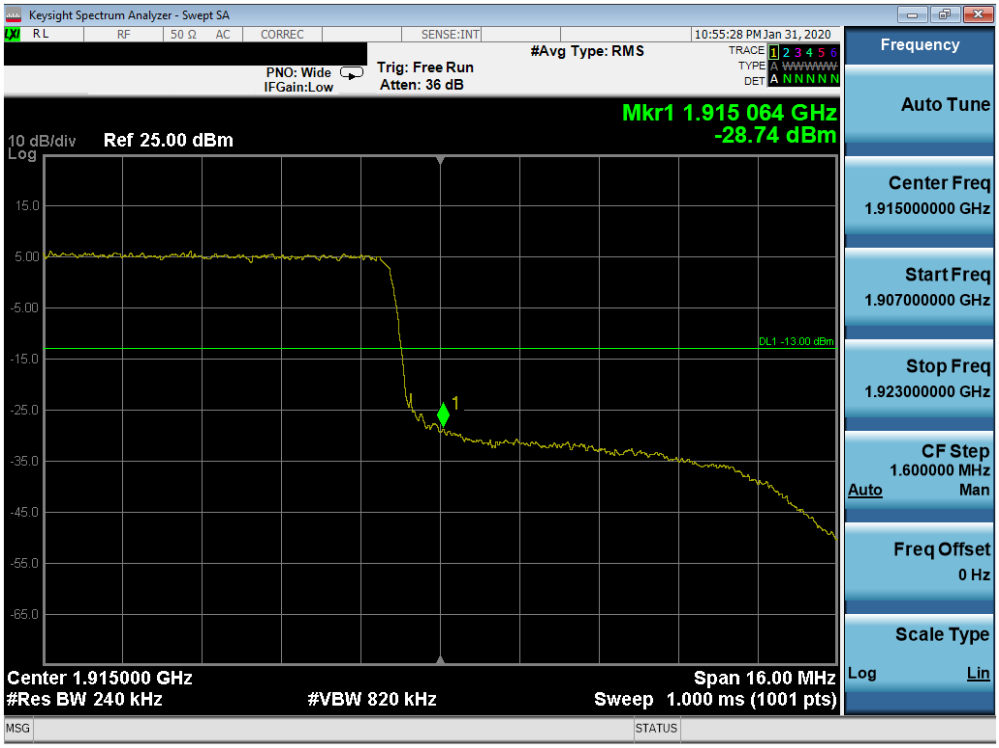
Plot 7-252. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



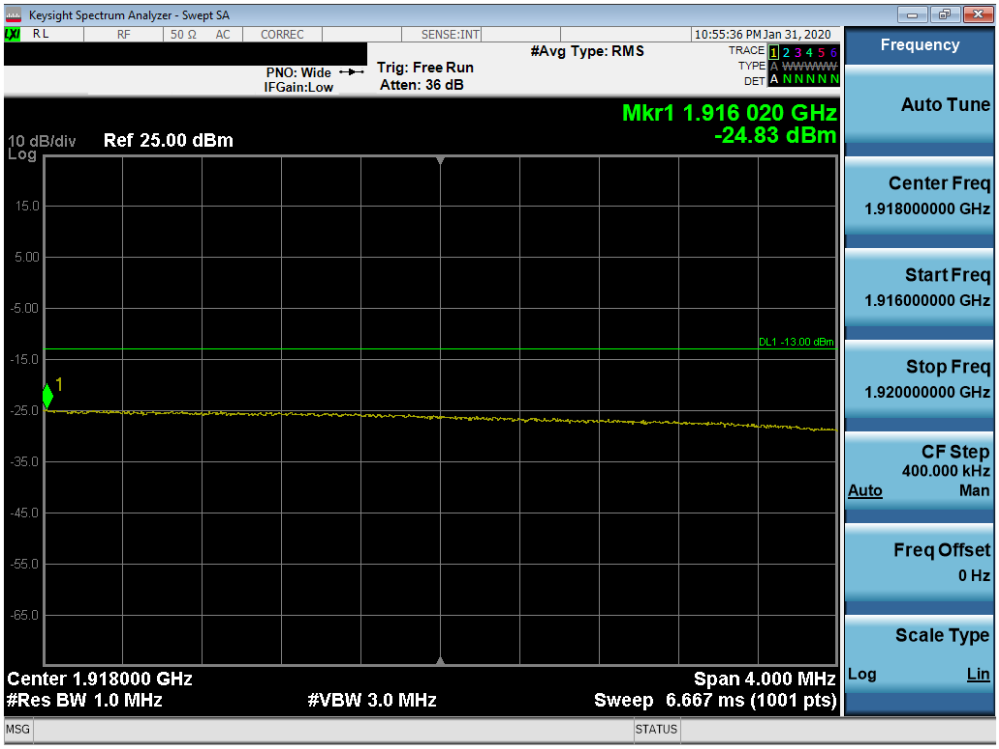
Plot 7-253. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-254. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

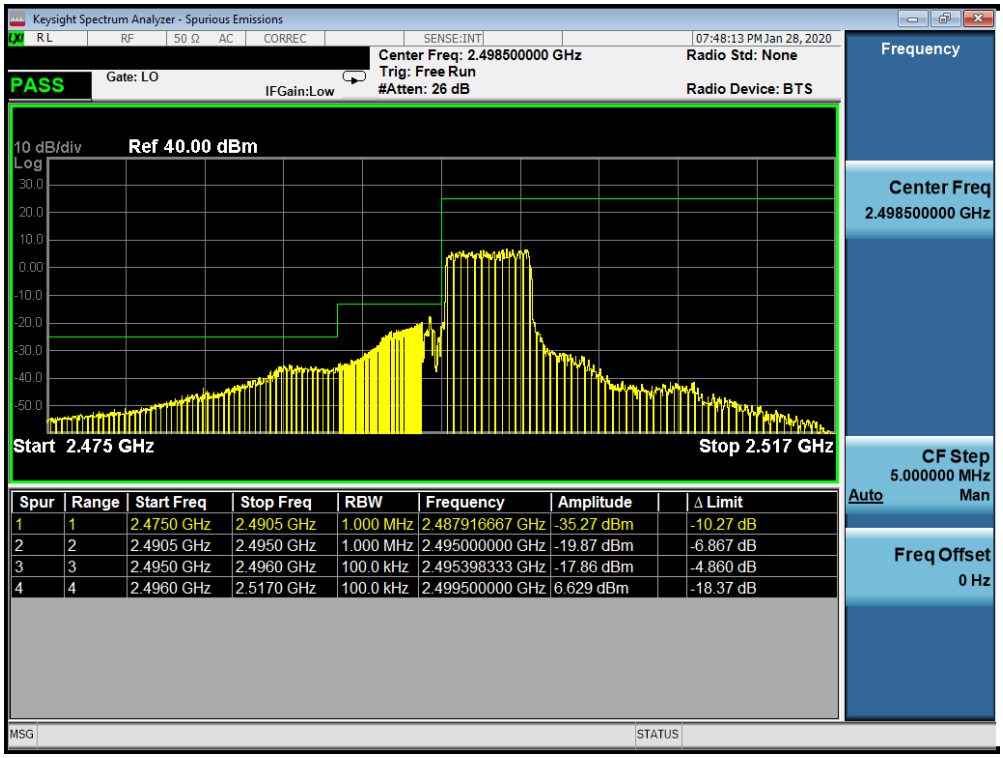


Plot 7-255. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



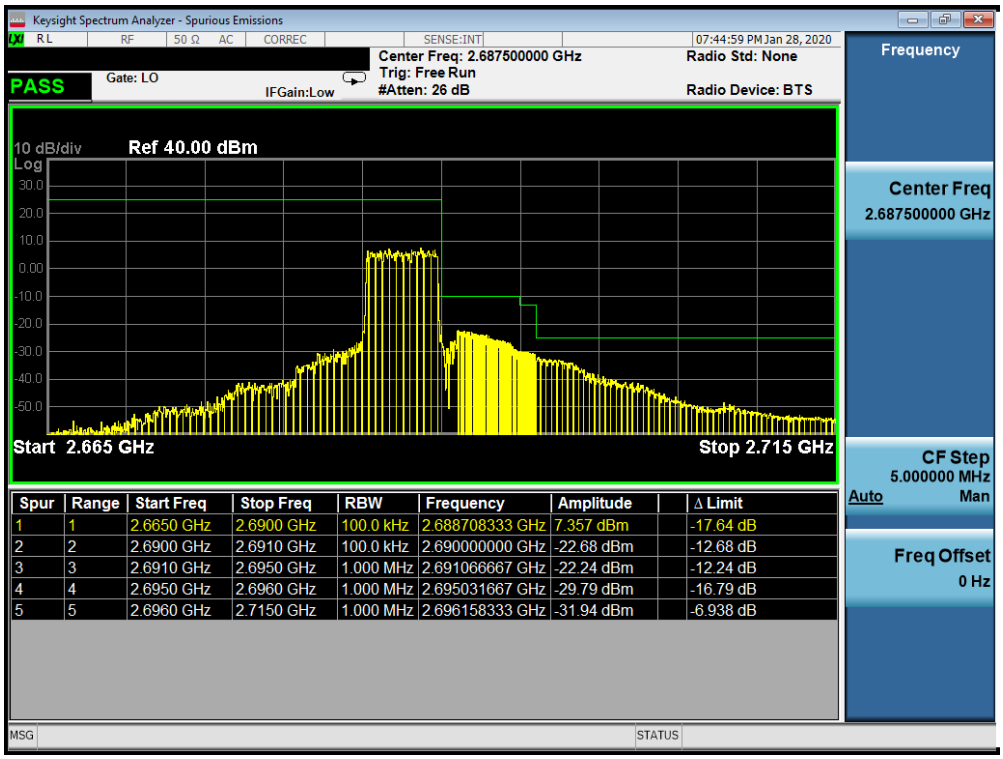
Plot 7-256. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

Band 41 (PC2)



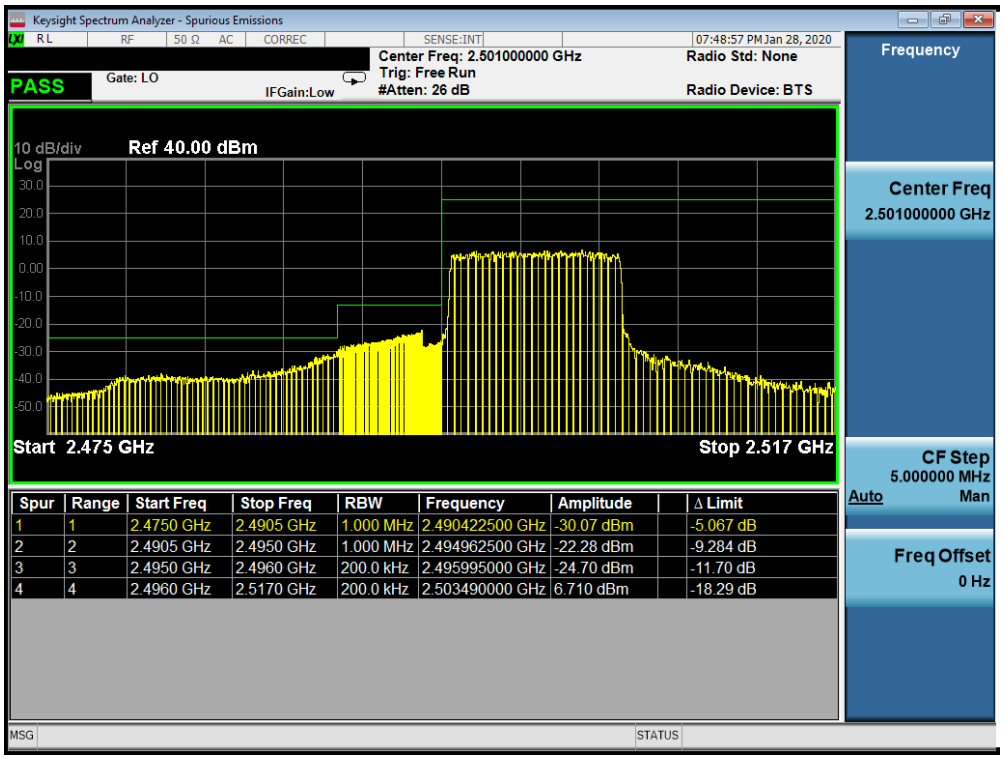
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.487916667 GHz	-35.27 dBm	-10.27 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.495000000 GHz	-19.87 dBm	-6.867 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495398333 GHz	-17.86 dBm	-4.860 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.499500000 GHz	6.629 dBm	-18.37 dB

Plot 7-257. Lower ACP Plot (Band 41 - PC2 - 5.0MHz QPSK - Full RB Configuration)



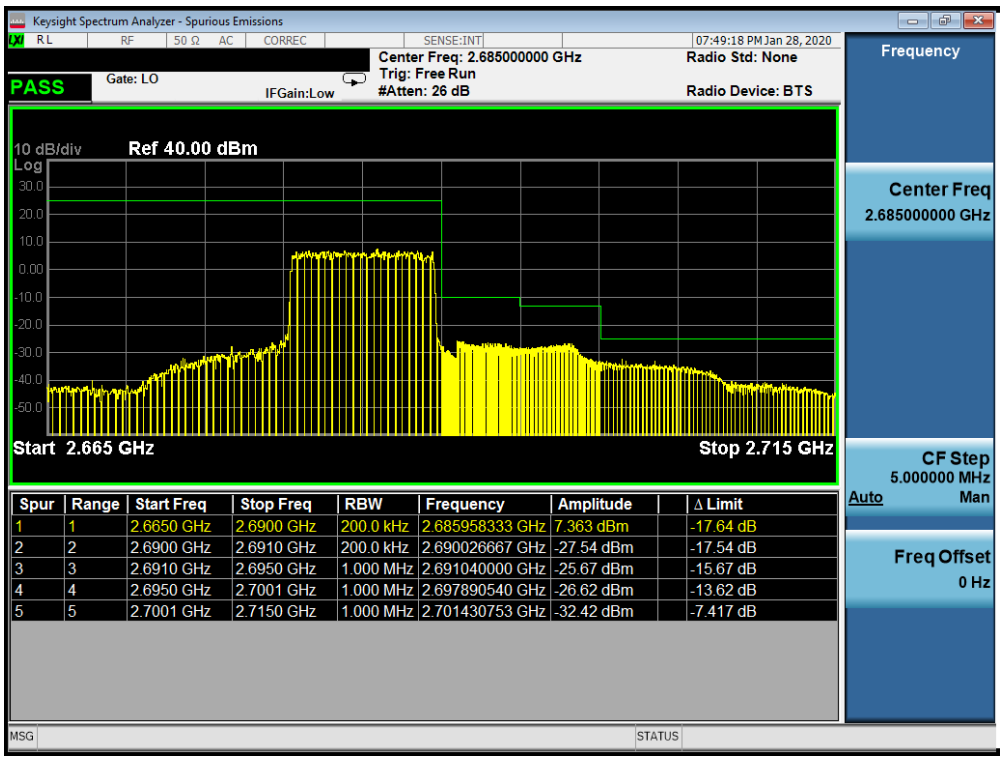
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.688708333 GHz	7.357 dBm	-17.64 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690000000 GHz	-22.68 dBm	-12.68 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691066667 GHz	-22.24 dBm	-12.24 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695031667 GHz	-29.79 dBm	-16.79 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696158333 GHz	-31.94 dBm	-6.938 dB

Plot 7-258. Upper ACP Plot (Band 41 - PC2 - 5.0MHz QPSK - Full RB Configuration)



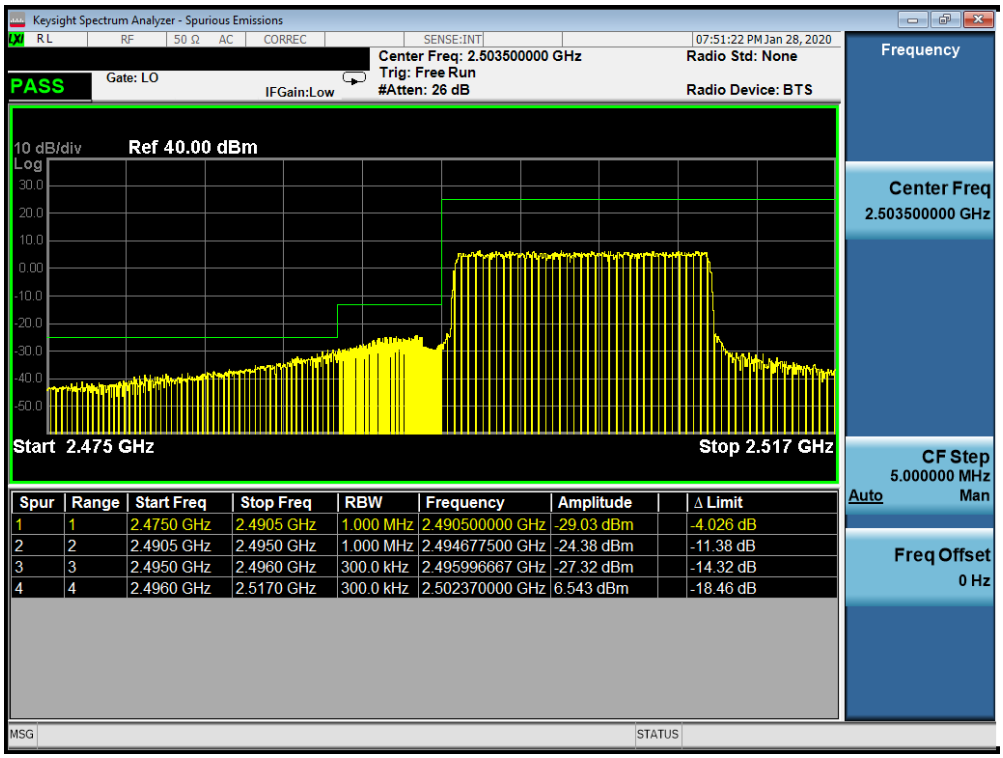
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490422500 GHz	-30.07 dBm	-5.067 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494962500 GHz	-22.28 dBm	-9.284 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495995000 GHz	-24.70 dBm	-11.70 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.503490000 GHz	6.710 dBm	-18.29 dB

Plot 7-259. Lower ACP Plot (Band 41 - PC2 - 10.0MHz QPSK - Full RB Configuration)



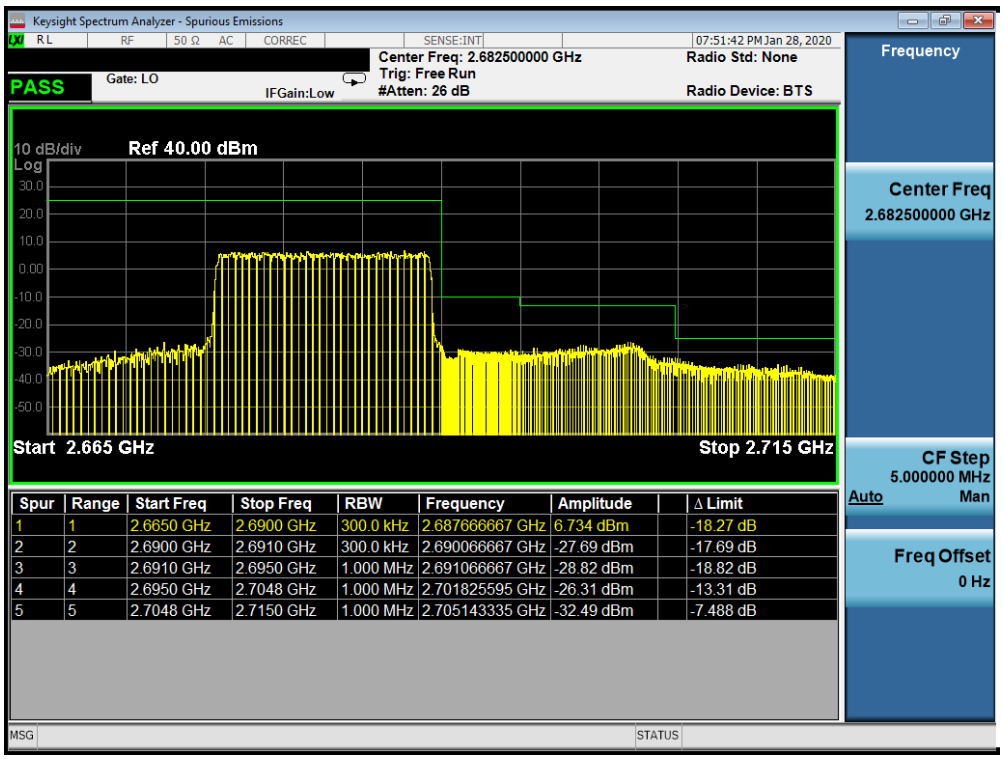
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	200.0 kHz	2.685958333 GHz	7.363 dBm	-17.64 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690026667 GHz	-27.54 dBm	-17.54 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691040000 GHz	-25.67 dBm	-15.67 dB
4	4	2.6950 GHz	2.7001 GHz	1.000 MHz	2.697890540 GHz	-26.62 dBm	-13.62 dB
5	5	2.7001 GHz	2.7150 GHz	1.000 MHz	2.701430753 GHz	-32.42 dBm	-7.417 dB

Plot 7-260. Upper ACP Plot (Band 41 - PC2 - 10.0MHz QPSK - Full RB Configuration)



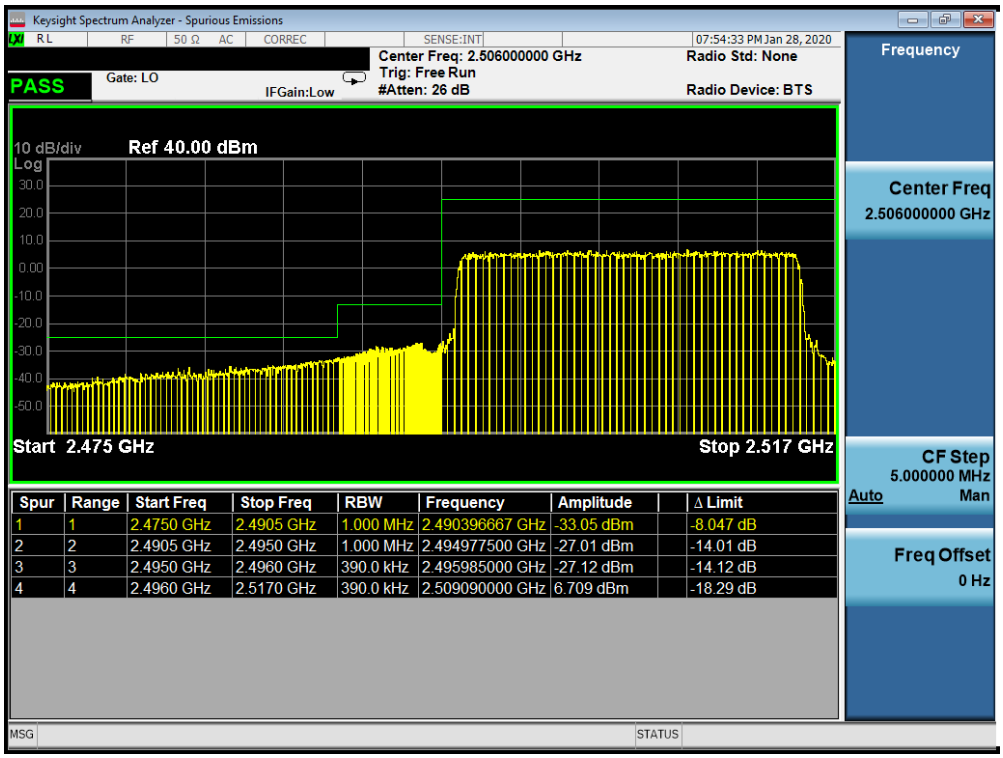
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-29.03 dBm	-4.026 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494677500 GHz	-24.38 dBm	-11.38 dB
3	3	2.4950 GHz	2.4960 GHz	300.0 kHz	2.495996667 GHz	-27.32 dBm	-14.32 dB
4	4	2.4960 GHz	2.5170 GHz	300.0 kHz	2.502370000 GHz	6.543 dBm	-18.46 dB

Plot 7-261. Lower ACP Plot (Band 41 - PC2 - 15.0MHz QPSK - Full RB Configuration)



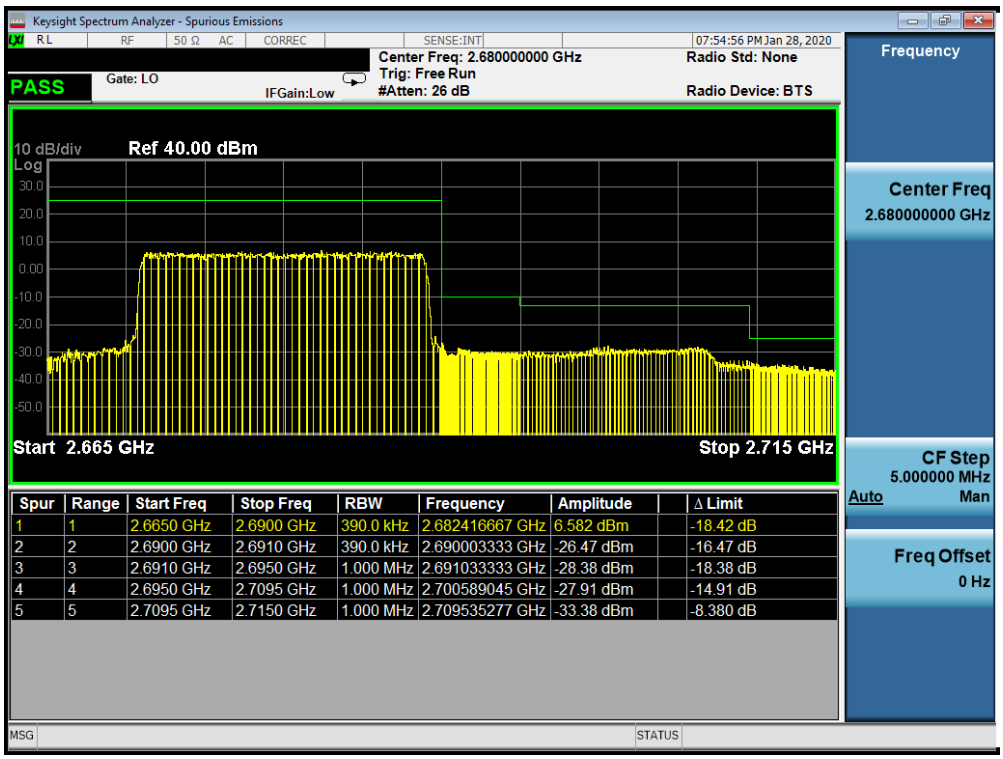
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	300.0 kHz	2.687666667 GHz	6.734 dBm	-18.27 dB
2	2	2.6900 GHz	2.6910 GHz	300.0 kHz	2.690066667 GHz	-27.69 dBm	-17.69 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691066667 GHz	-28.82 dBm	-18.82 dB
4	4	2.6950 GHz	2.7048 GHz	1.000 MHz	2.701825595 GHz	-26.31 dBm	-13.31 dB
5	5	2.7048 GHz	2.7150 GHz	1.000 MHz	2.705143335 GHz	-32.49 dBm	-7.488 dB

Plot 7-262. Upper ACP Plot (Band 41 - PC2 - 15.0MHz QPSK - Full RB Configuration)



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490396667 GHz	-33.05 dBm	-8.047 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494977500 GHz	-27.01 dBm	-14.01 dB
3	3	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495985000 GHz	-27.12 dBm	-14.12 dB
4	4	2.4960 GHz	2.5170 GHz	390.0 kHz	2.509090000 GHz	6.709 dBm	-18.29 dB

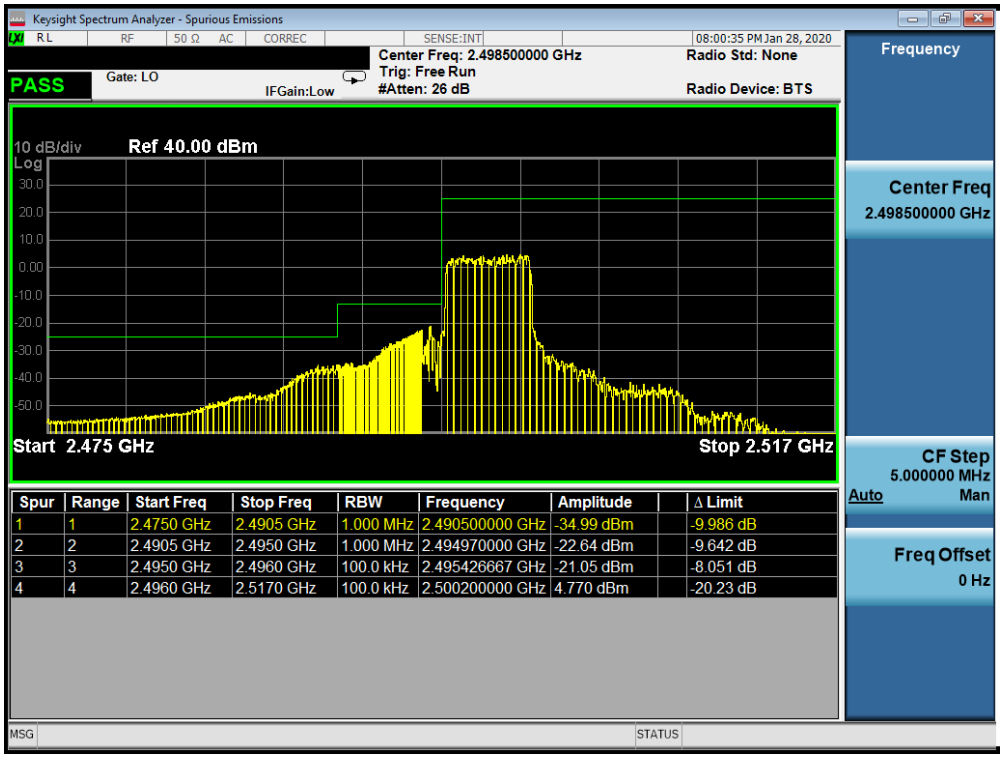
Plot 7-263. Lower ACP Plot (Band 41 - PC2 - 20.0MHz QPSK - Full RB Configuration)



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	390.0 kHz	2.682416667 GHz	6.582 dBm	-18.42 dB
2	2	2.6900 GHz	2.6910 GHz	390.0 kHz	2.690003333 GHz	-26.47 dBm	-16.47 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691033333 GHz	-28.38 dBm	-18.38 dB
4	4	2.6950 GHz	2.7095 GHz	1.000 MHz	2.700589045 GHz	-27.91 dBm	-14.91 dB
5	5	2.7095 GHz	2.7150 GHz	1.000 MHz	2.709535277 GHz	-33.38 dBm	-8.380 dB

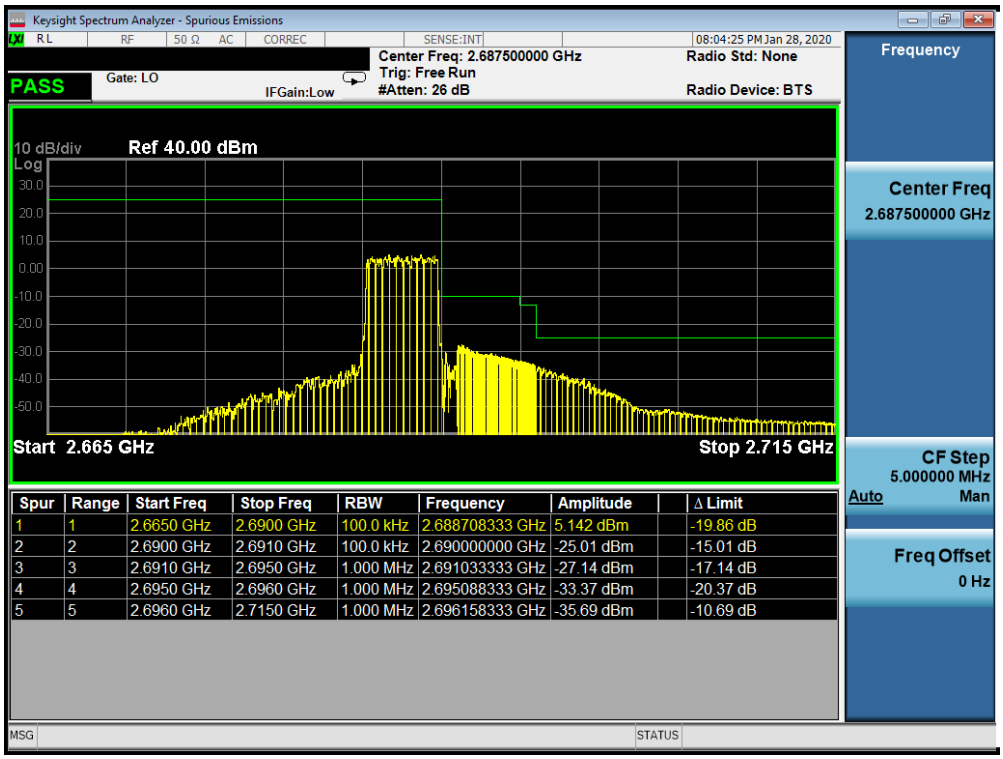
Plot 7-264. Upper ACP Plot (Band 41 - PC2 - 20.0MHz QPSK - Full RB Configuration)

Band 41 (PC3)



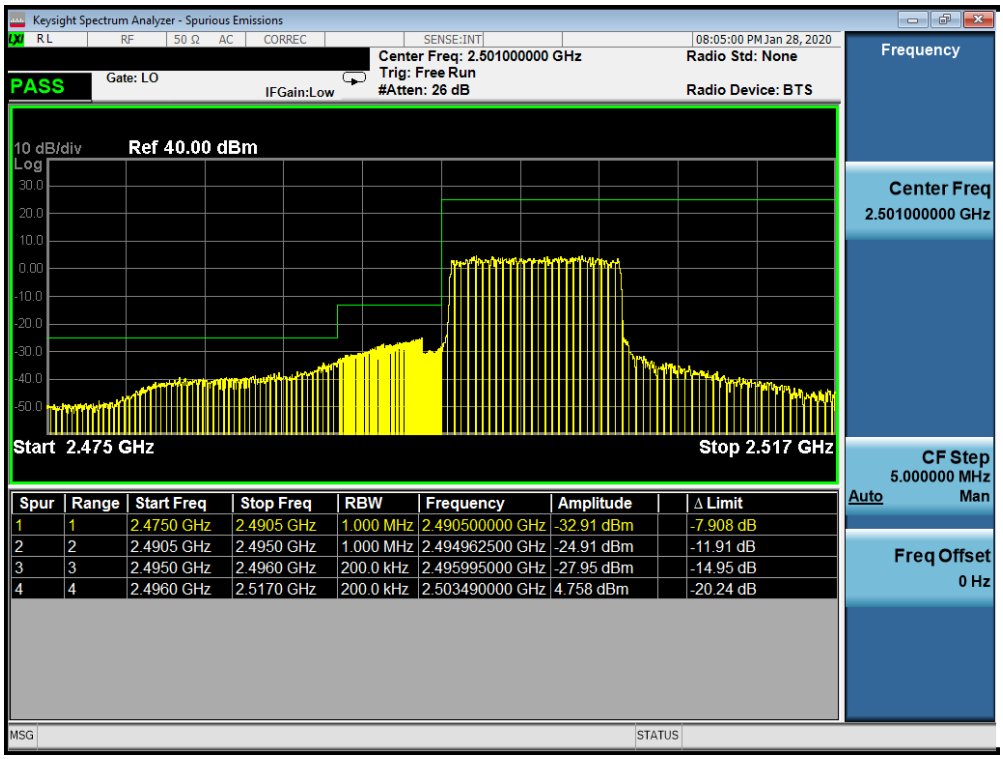
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-34.99 dBm	-9.986 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494970000 GHz	-22.64 dBm	-9.642 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495426667 GHz	-21.05 dBm	-8.051 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.500200000 GHz	4.770 dBm	-20.23 dB

Plot 7-265. Lower ACP Plot (Band 41 - PC3 - 5.0MHz QPSK - Full RB Configuration)



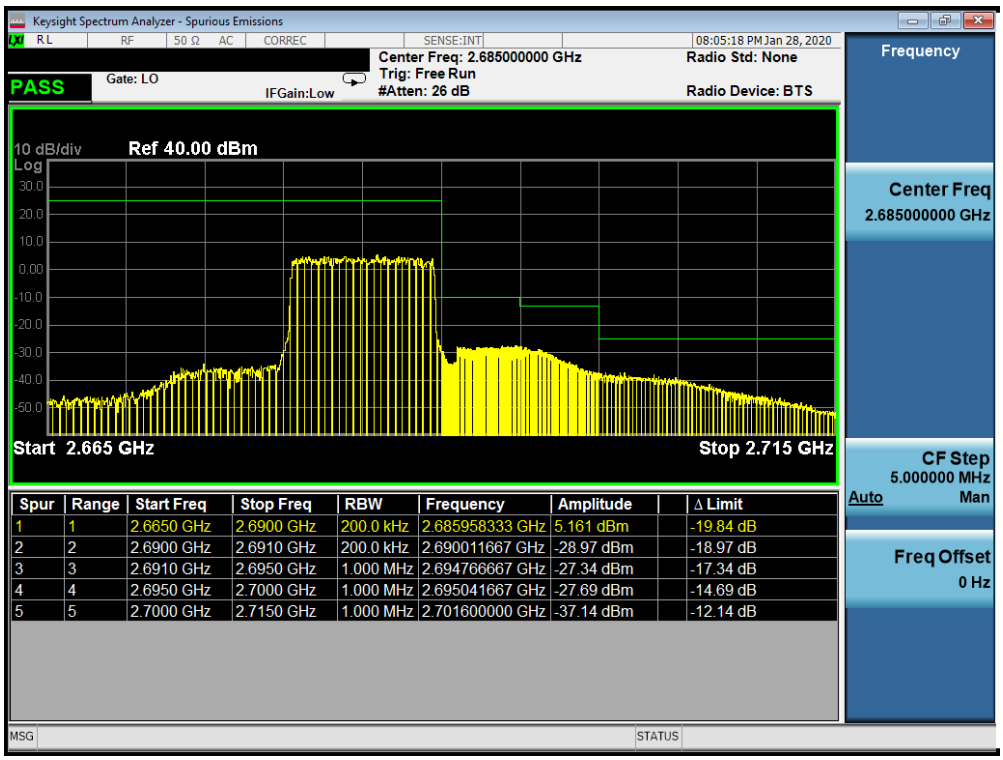
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.688708333 GHz	5.142 dBm	-19.86 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690000000 GHz	-25.01 dBm	-15.01 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691033333 GHz	-27.14 dBm	-17.14 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695088333 GHz	-33.37 dBm	-20.37 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696158333 GHz	-35.69 dBm	-10.69 dB

Plot 7-266. Upper ACP Plot (Band 41 - PC3 - 5.0MHz QPSK - Full RB Configuration)



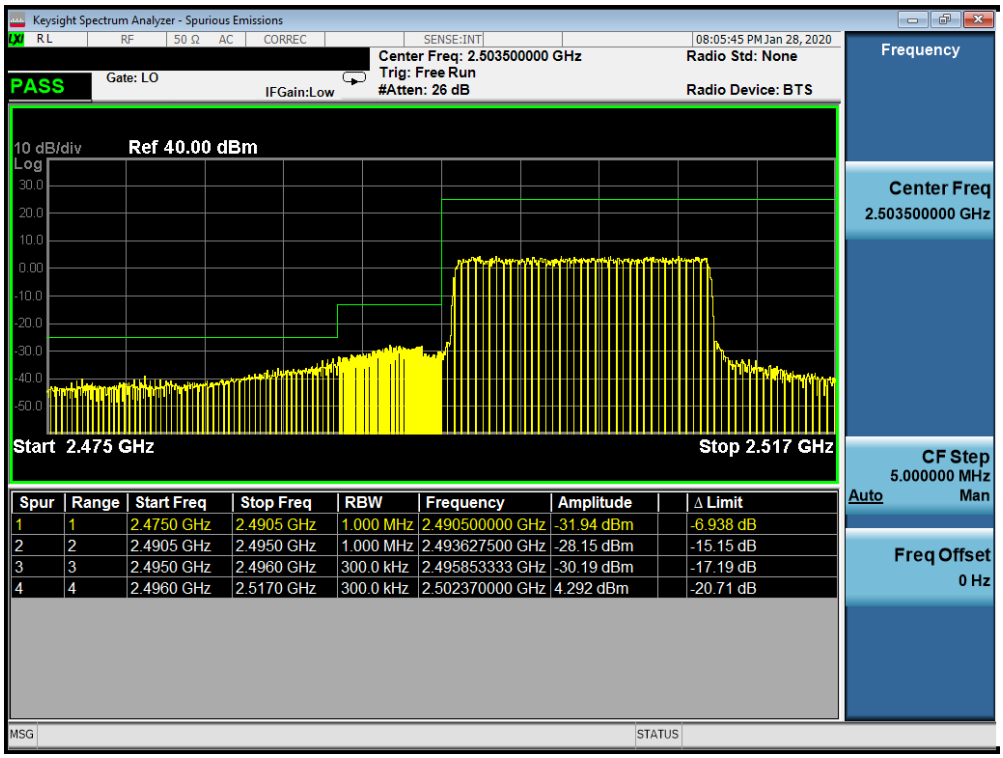
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-32.91 dBm	-7.908 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494962500 GHz	-24.91 dBm	-11.91 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495995000 GHz	-27.95 dBm	-14.95 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.503490000 GHz	4.758 dBm	-20.24 dB

Plot 7-267. Lower ACP Plot (Band 41 - PC3 - 10.0MHz QPSK - Full RB Configuration)



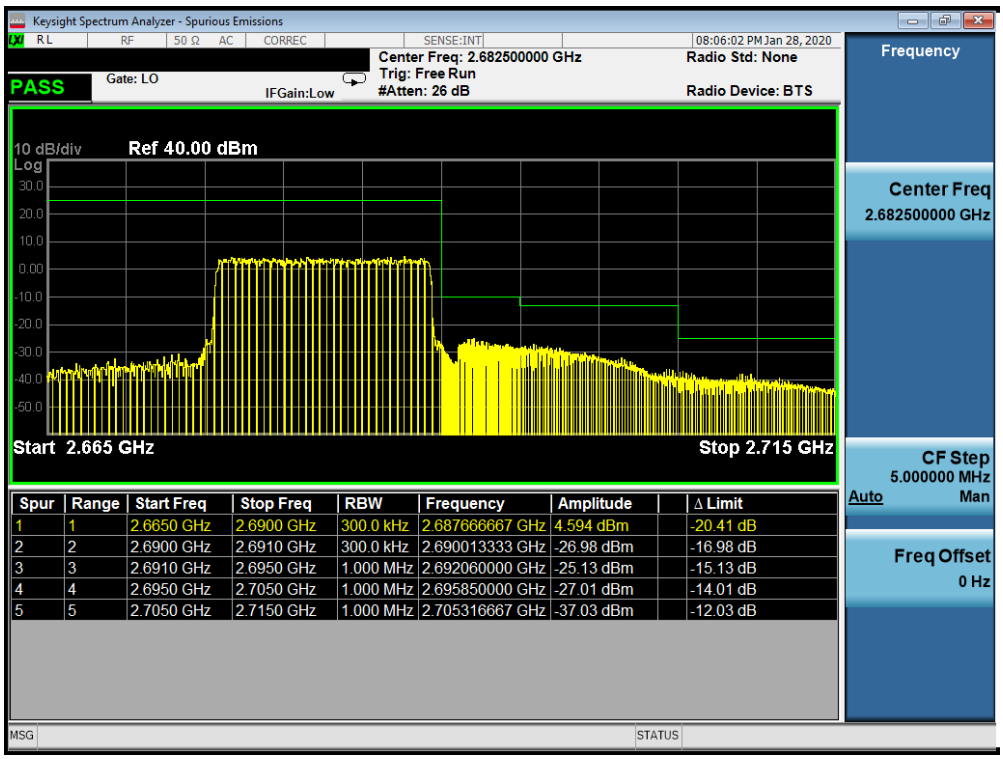
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	200.0 kHz	2.685958333 GHz	5.161 dBm	-19.84 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690011667 GHz	-28.97 dBm	-18.97 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.694766667 GHz	-27.34 dBm	-17.34 dB
4	4	2.6950 GHz	2.7000 GHz	1.000 MHz	2.695041667 GHz	-27.69 dBm	-14.69 dB
5	5	2.7000 GHz	2.7150 GHz	1.000 MHz	2.701600000 GHz	-37.14 dBm	-12.14 dB

Plot 7-268. Upper ACP Plot (Band 41 - PC3 - 10.0MHz QPSK - Full RB Configuration)



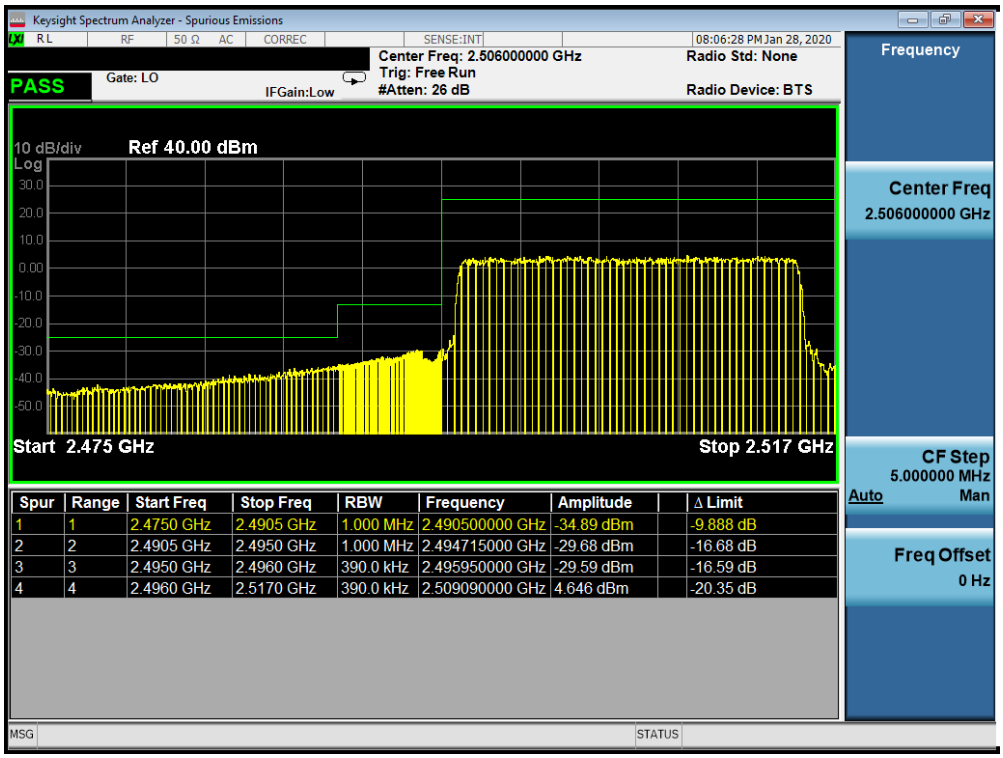
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-31.94 dBm	-6.938 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.493627500 GHz	-28.15 dBm	-15.15 dB
3	3	2.4950 GHz	2.4960 GHz	300.0 kHz	2.495853333 GHz	-30.19 dBm	-17.19 dB
4	4	2.4960 GHz	2.5170 GHz	300.0 kHz	2.502370000 GHz	4.292 dBm	-20.71 dB

Plot 7-269. Lower ACP Plot (Band 41 - PC3 - 15.0MHz QPSK - Full RB Configuration)



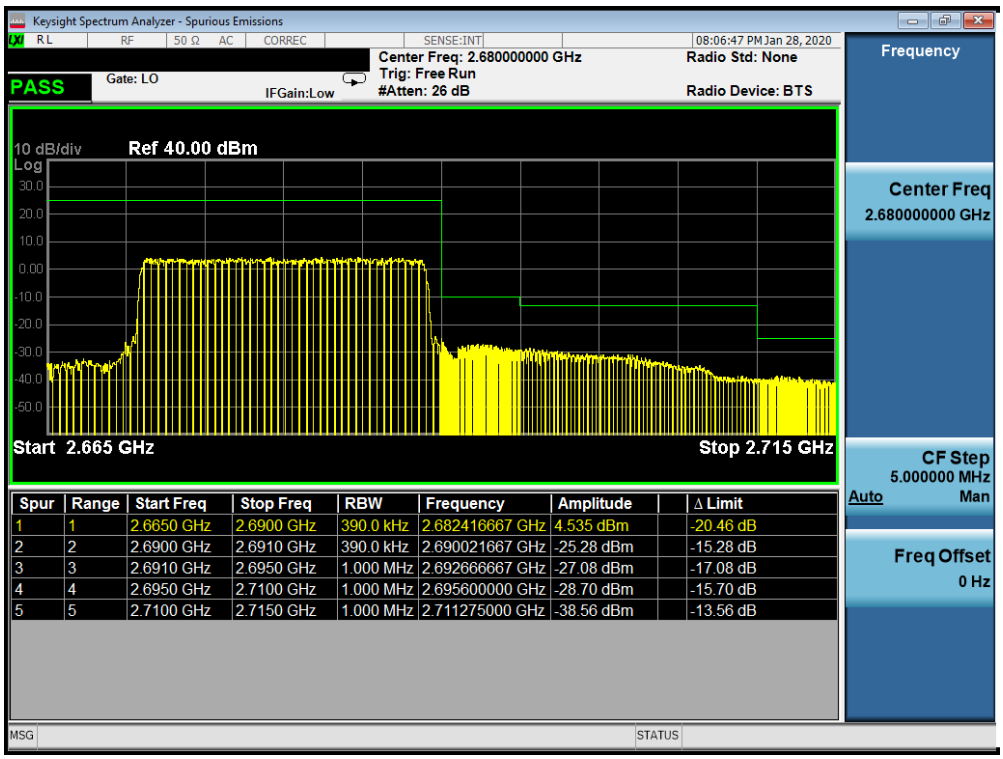
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	300.0 kHz	2.687666667 GHz	4.594 dBm	-20.41 dB
2	2	2.6900 GHz	2.6910 GHz	300.0 kHz	2.690013333 GHz	-26.98 dBm	-16.98 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692060000 GHz	-25.13 dBm	-15.13 dB
4	4	2.6950 GHz	2.7050 GHz	1.000 MHz	2.695850000 GHz	-27.01 dBm	-14.01 dB
5	5	2.7050 GHz	2.7150 GHz	1.000 MHz	2.705316667 GHz	-37.03 dBm	-12.03 dB

Plot 7-270. Upper ACP Plot (Band 41 - PC3 - 15.0MHz QPSK - Full RB Configuration)



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-34.89 dBm	-9.888 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494715000 GHz	-29.68 dBm	-16.68 dB
3	3	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495950000 GHz	-29.59 dBm	-16.59 dB
4	4	2.4960 GHz	2.5170 GHz	390.0 kHz	2.509090000 GHz	4.646 dBm	-20.35 dB

Plot 7-271. Lower ACP Plot (Band 41 - PC3 - 20.0MHz QPSK - Full RB Configuration)



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	390.0 kHz	2.682416667 GHz	4.535 dBm	-20.46 dB
2	2	2.6900 GHz	2.6910 GHz	390.0 kHz	2.690021667 GHz	-25.28 dBm	-15.28 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692666667 GHz	-27.08 dBm	-17.08 dB
4	4	2.6950 GHz	2.7100 GHz	1.000 MHz	2.695600000 GHz	-28.70 dBm	-15.70 dB
5	5	2.7100 GHz	2.7150 GHz	1.000 MHz	2.711275000 GHz	-38.56 dBm	-13.56 dB

Plot 7-272. Upper ACP Plot (Band 41 - PC3 - 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. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

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

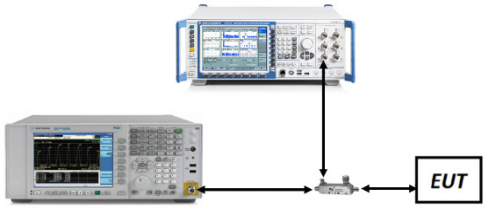
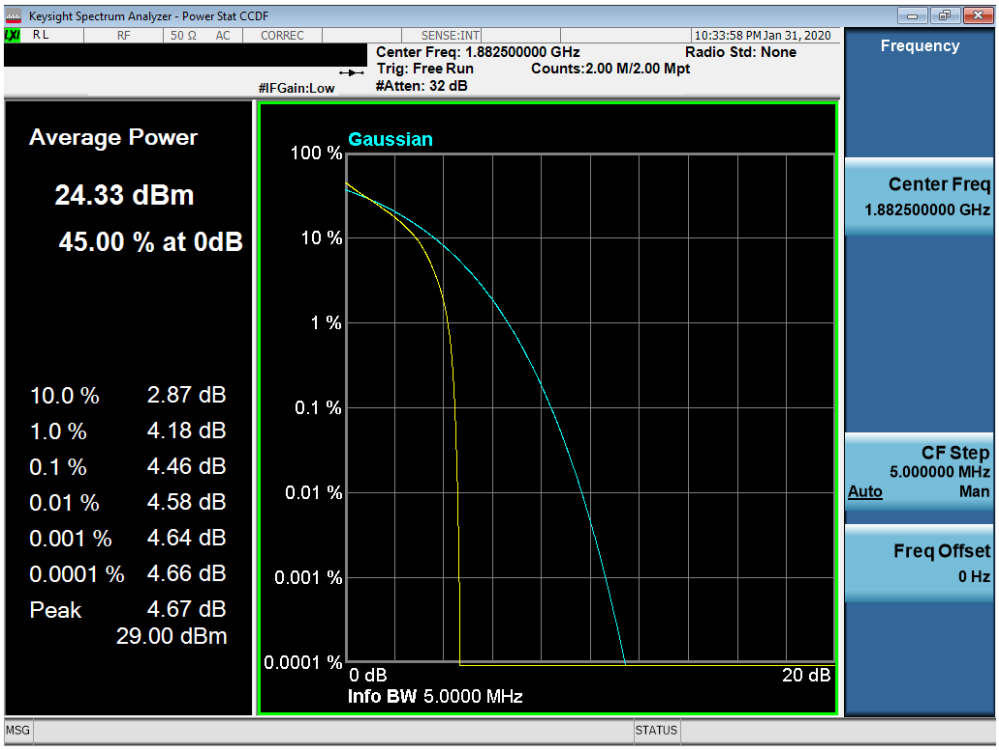


Figure 7-4. Test Instrument & Measurement Setup

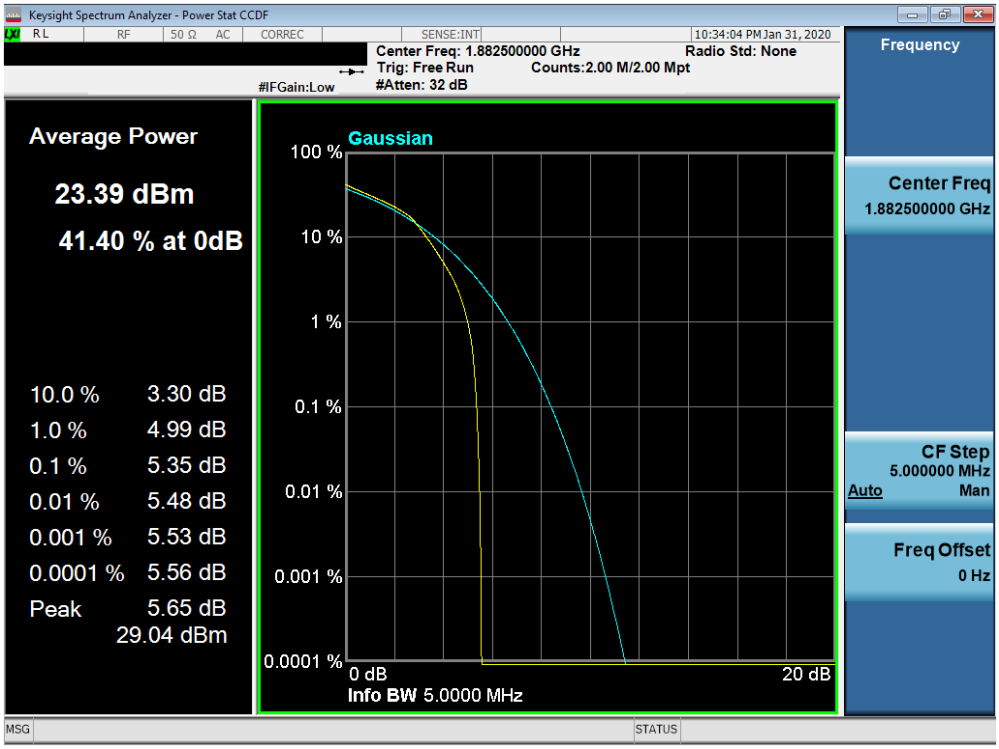
Test Notes

None.

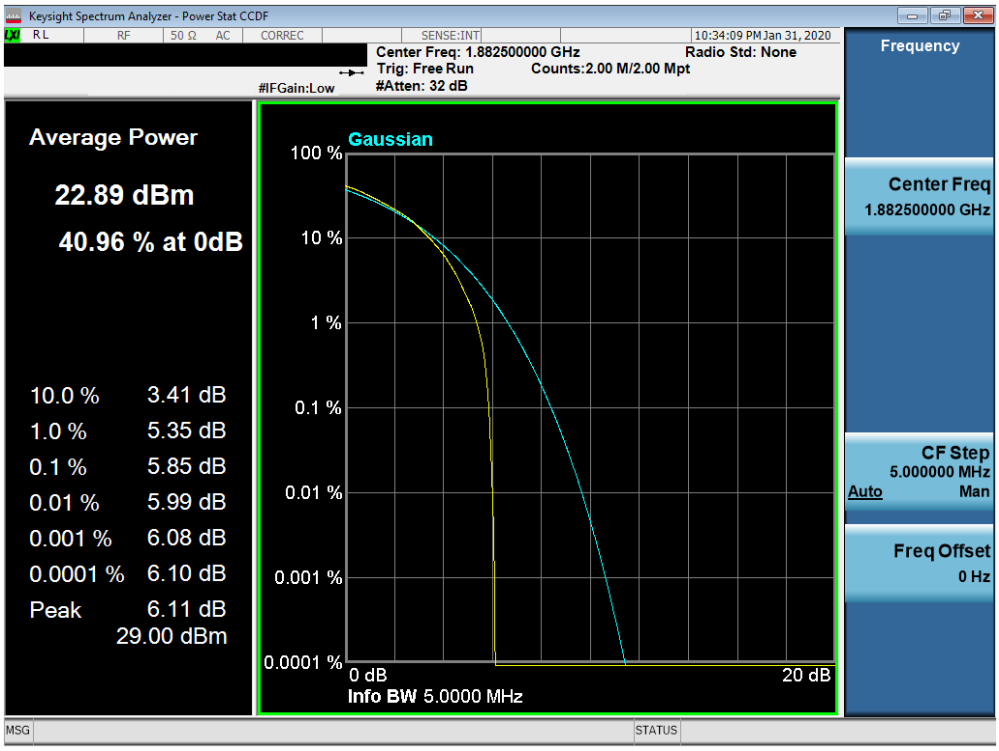
Band 25/2



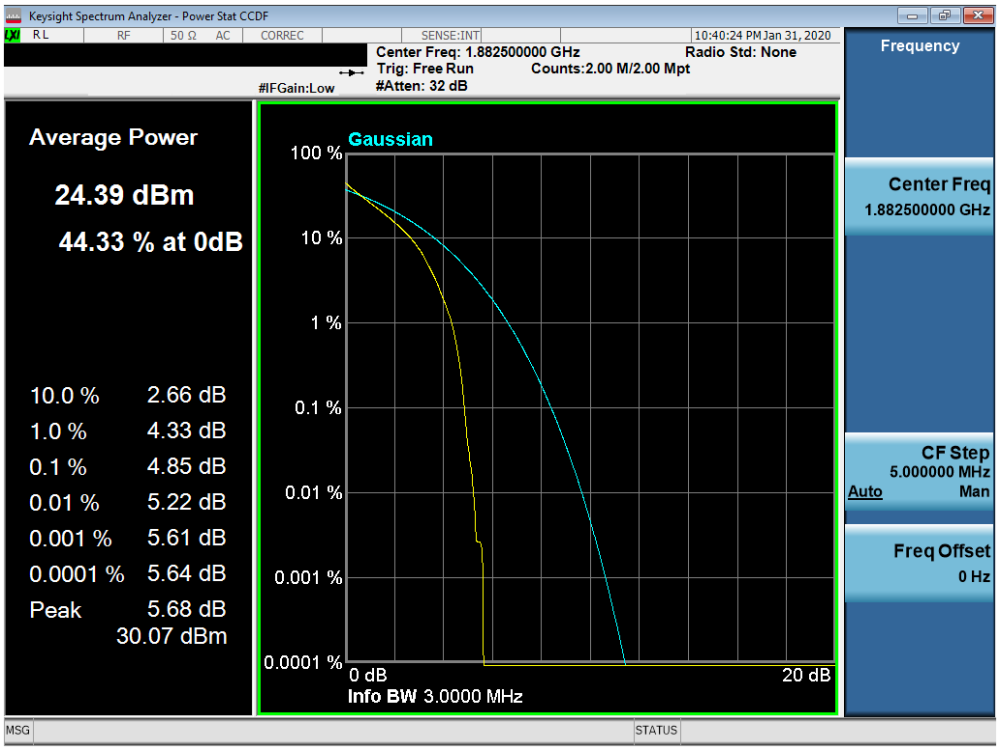
Plot 7-273. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



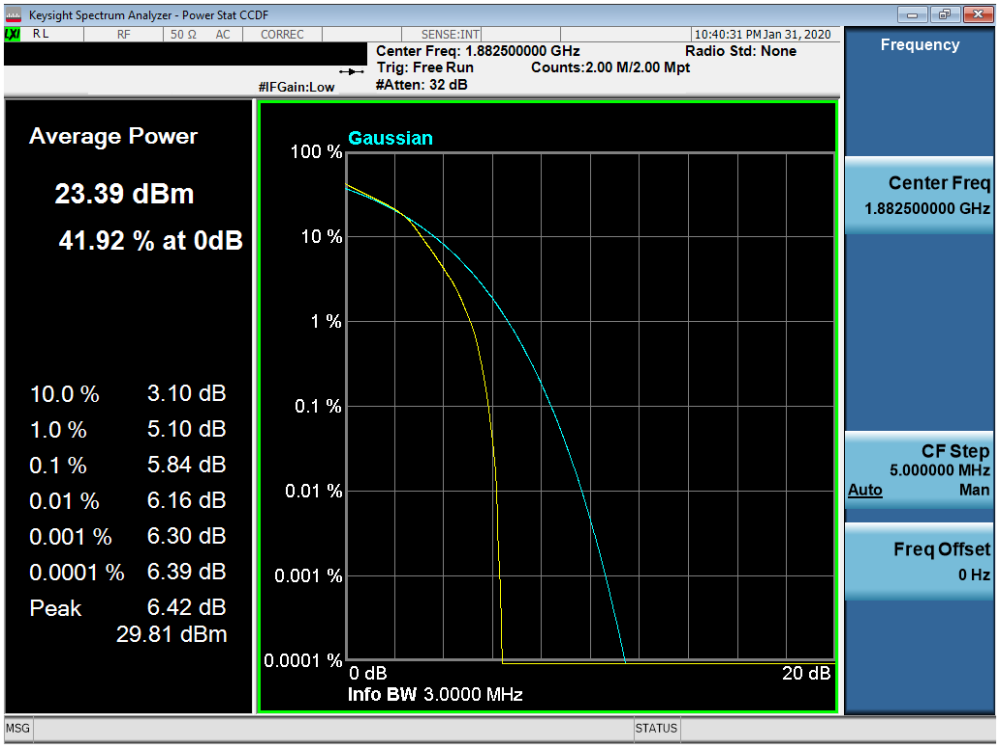
Plot 7-274. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)



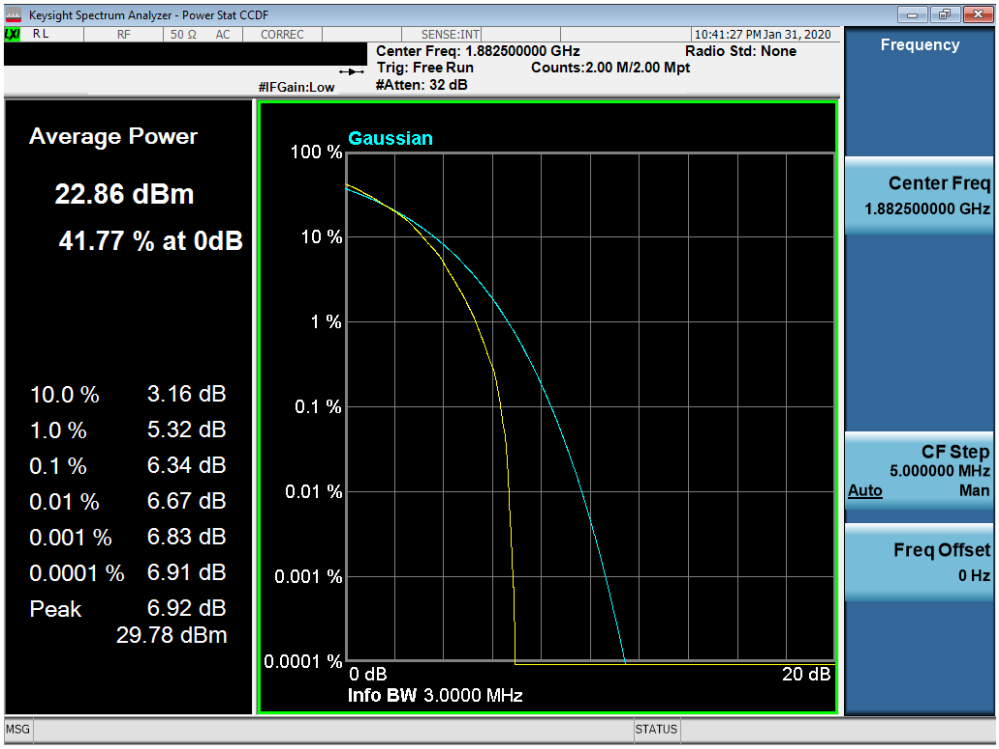
Plot 7-275. PAR Plot (Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)



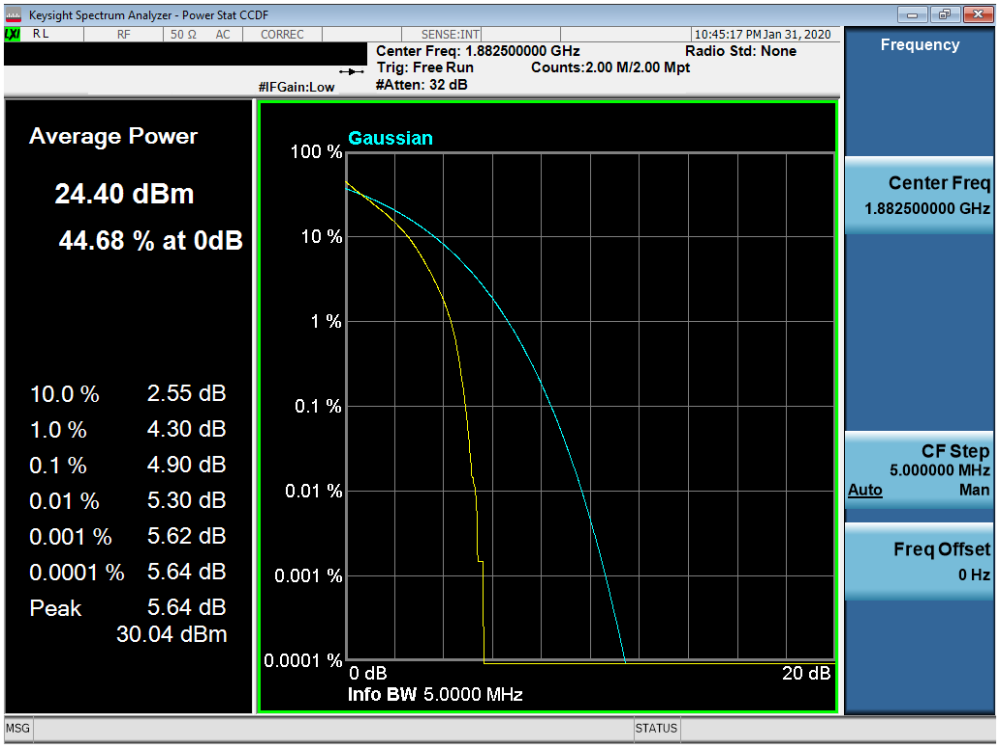
Plot 7-276. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



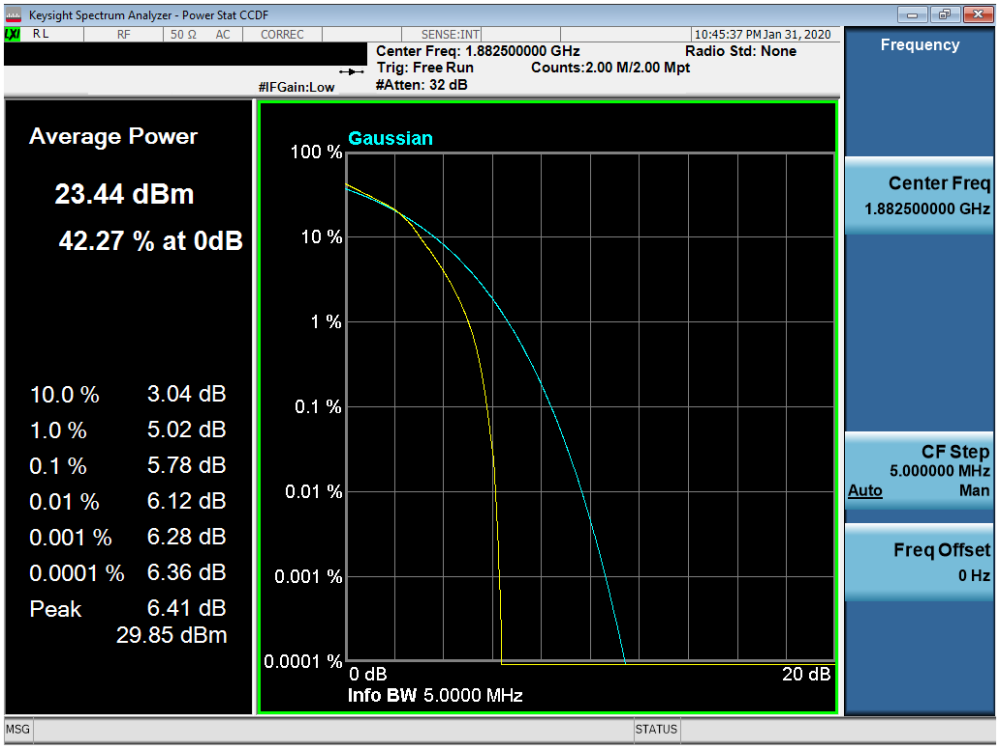
Plot 7-277. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)



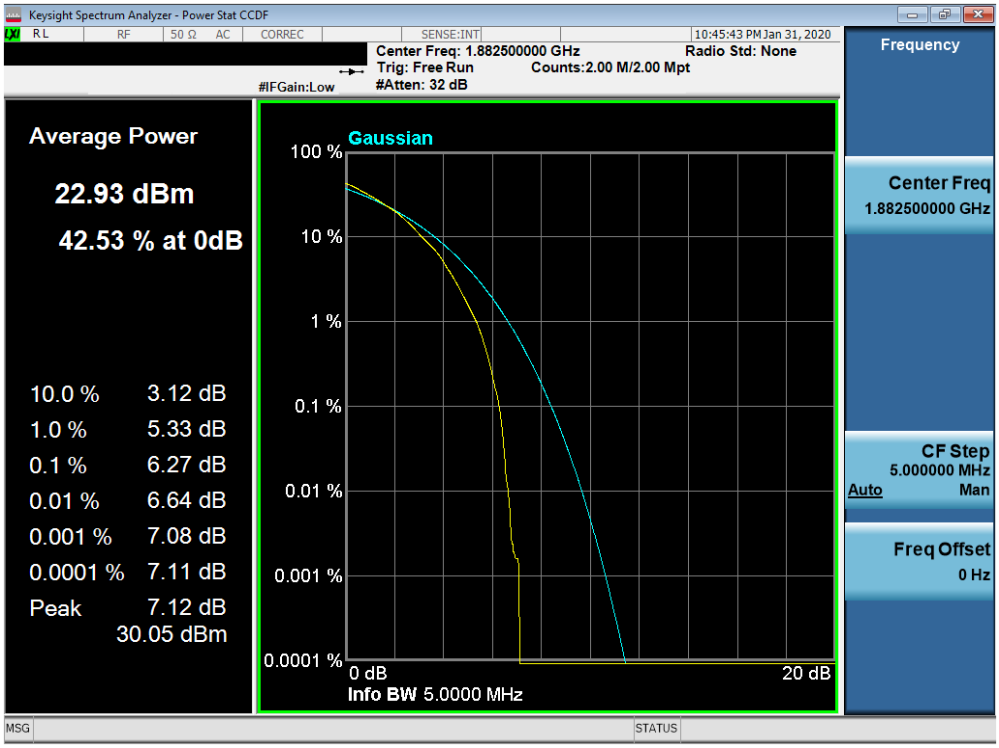
Plot 7-278. PAR Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)



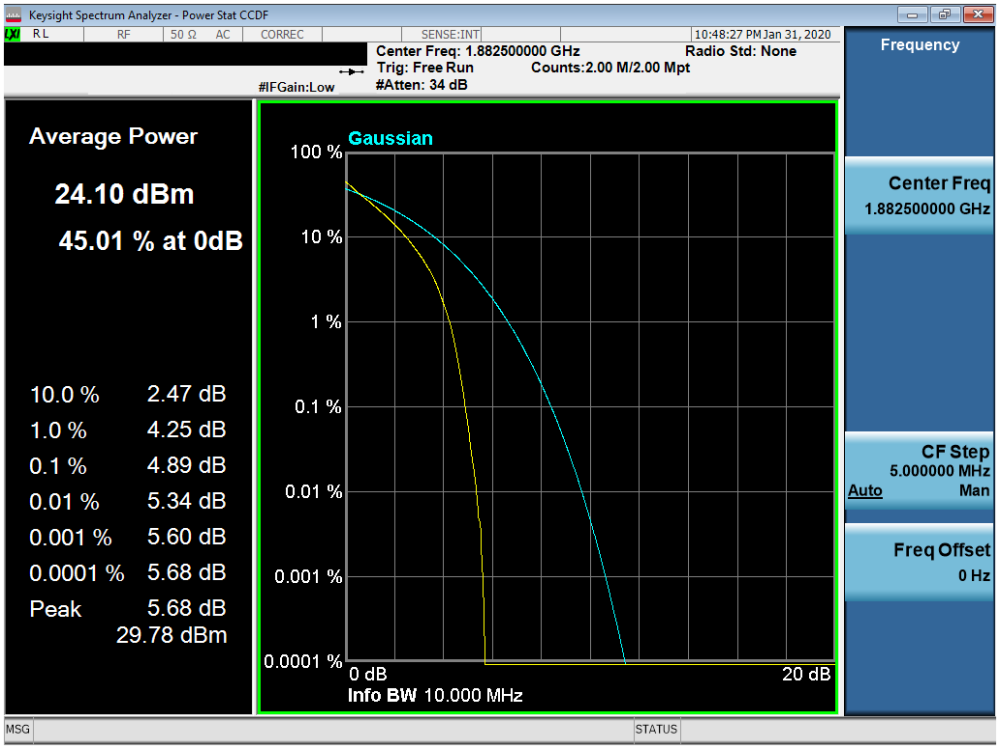
Plot 7-279. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



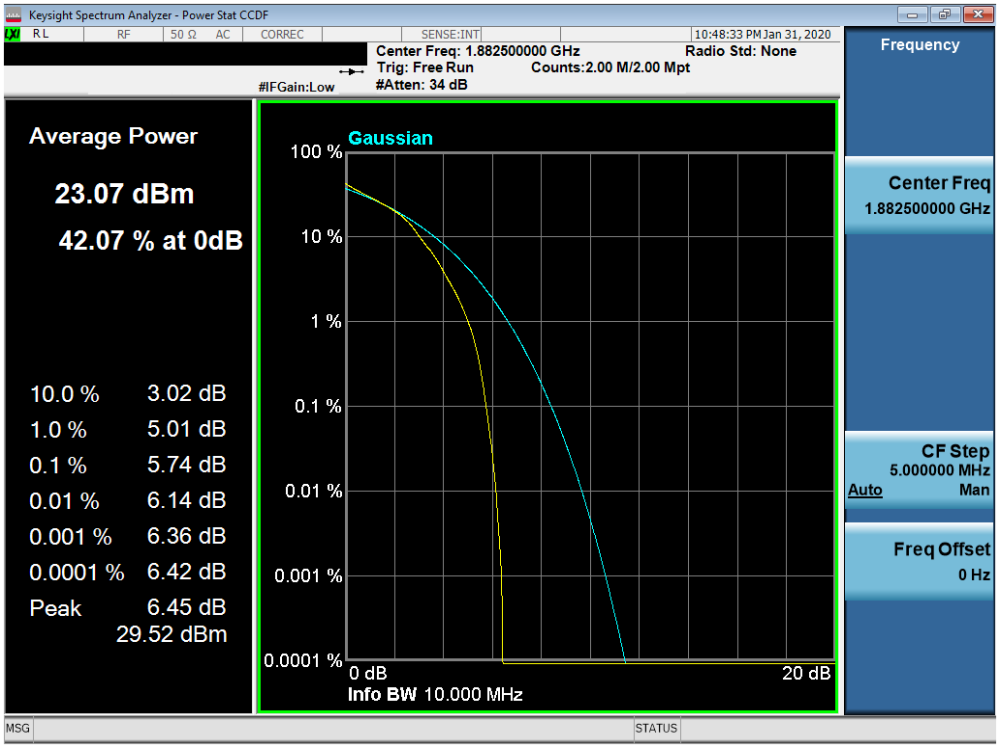
Plot 7-280. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)



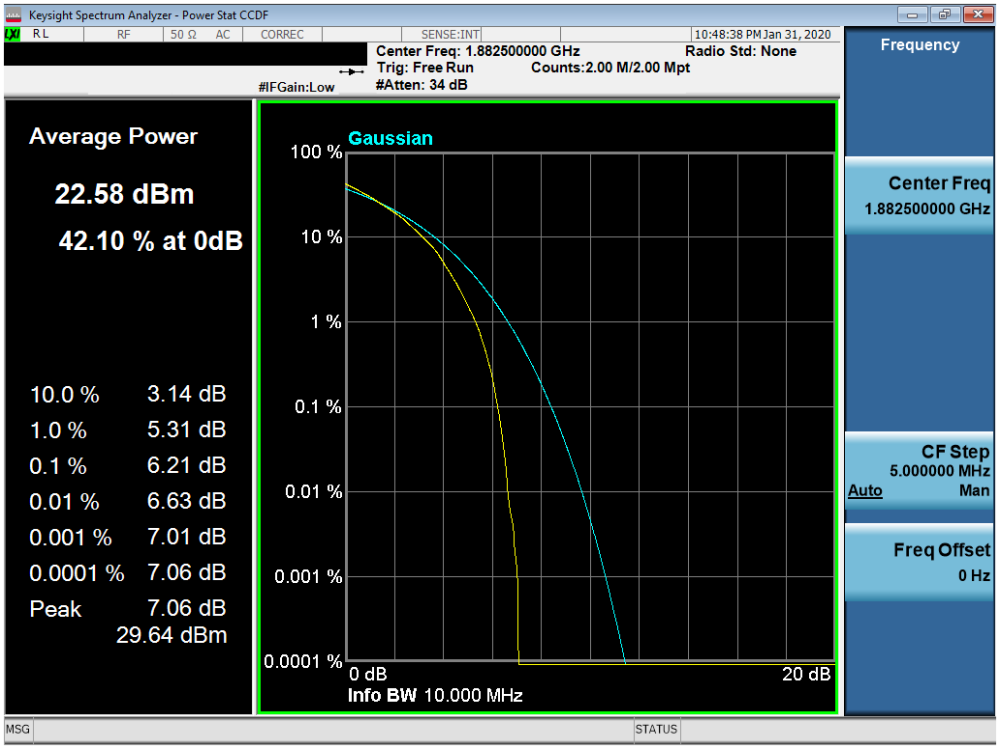
Plot 7-281. PAR Plot (Band 25/2 - 5.0MHz 64-QAM - Full RB Configuration)



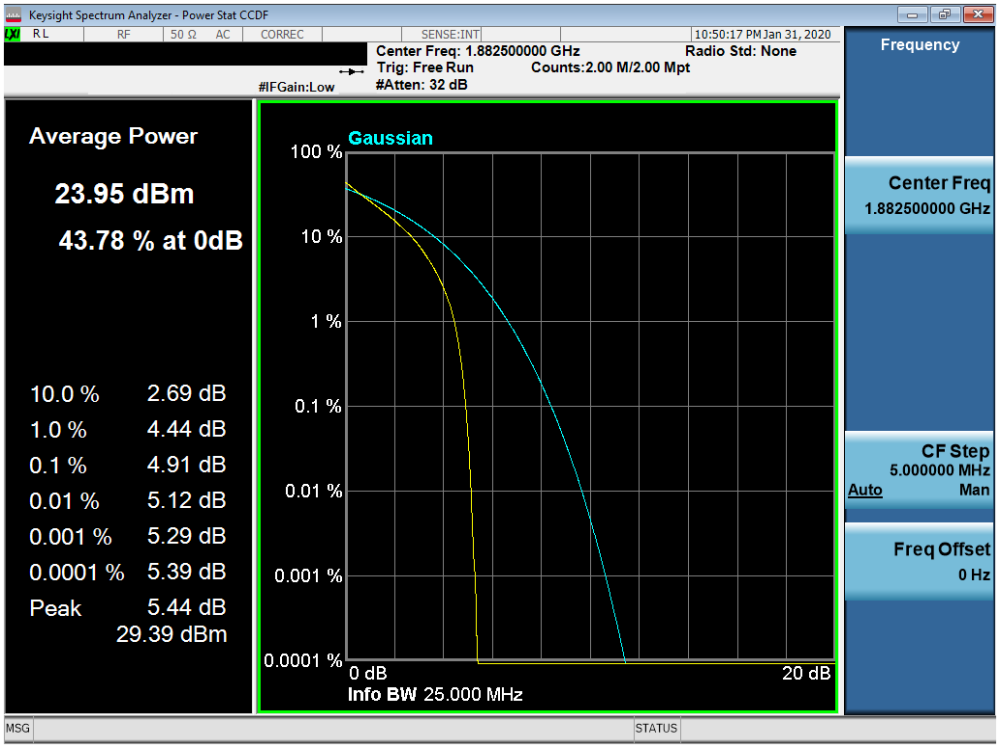
Plot 7-282. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



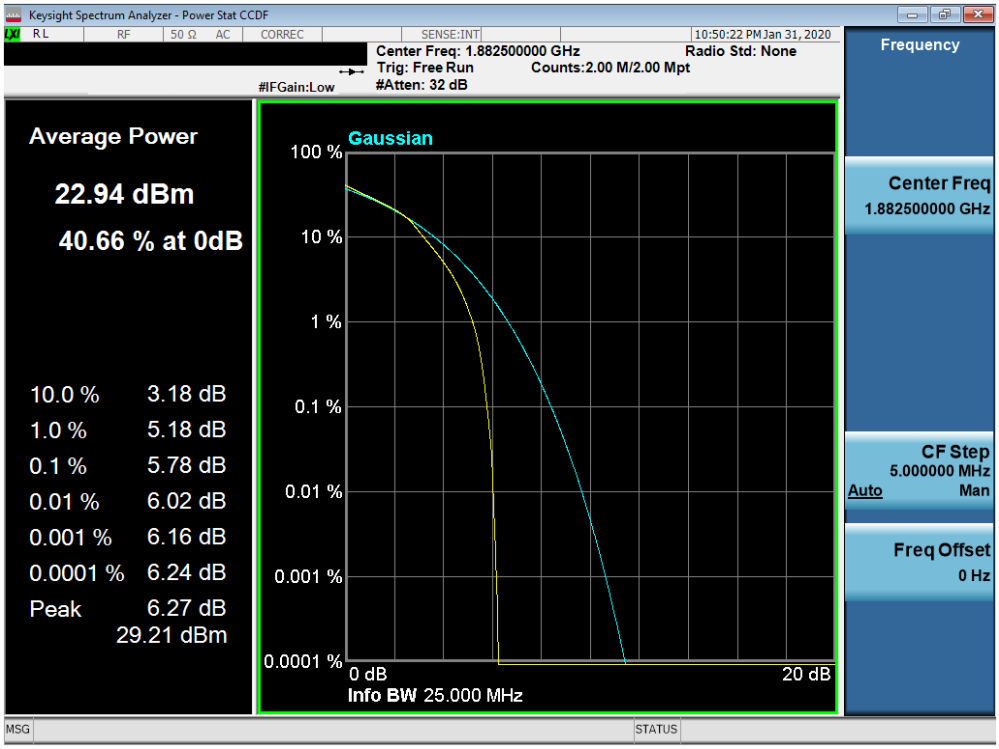
Plot 7-283. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)



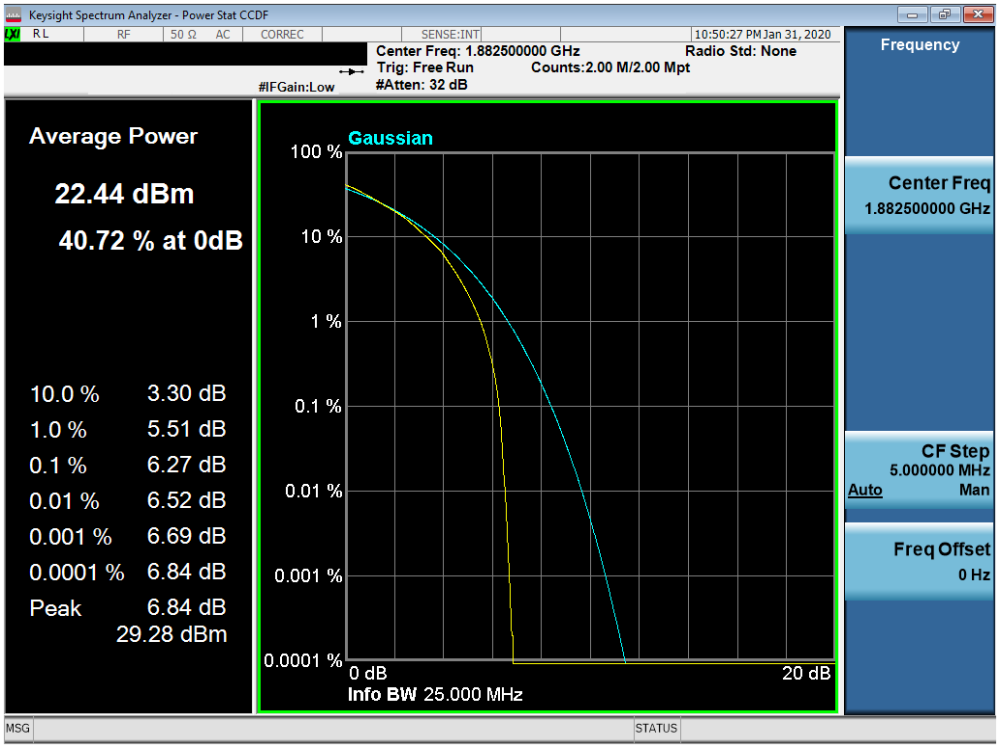
Plot 7-284. PAR Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)



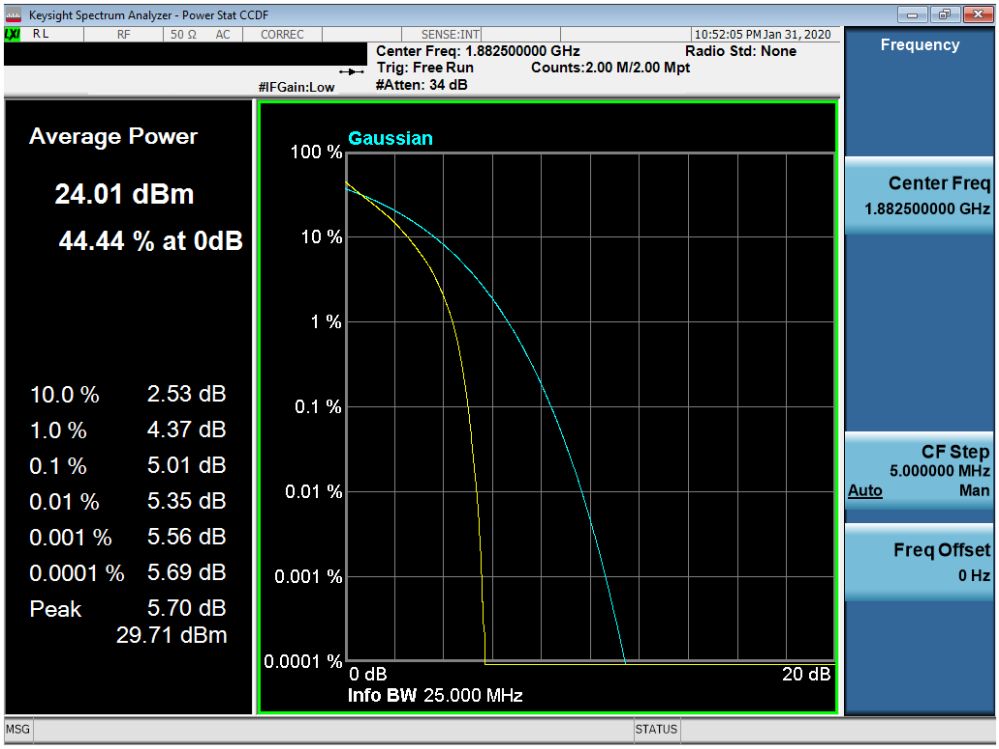
Plot 7-285. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



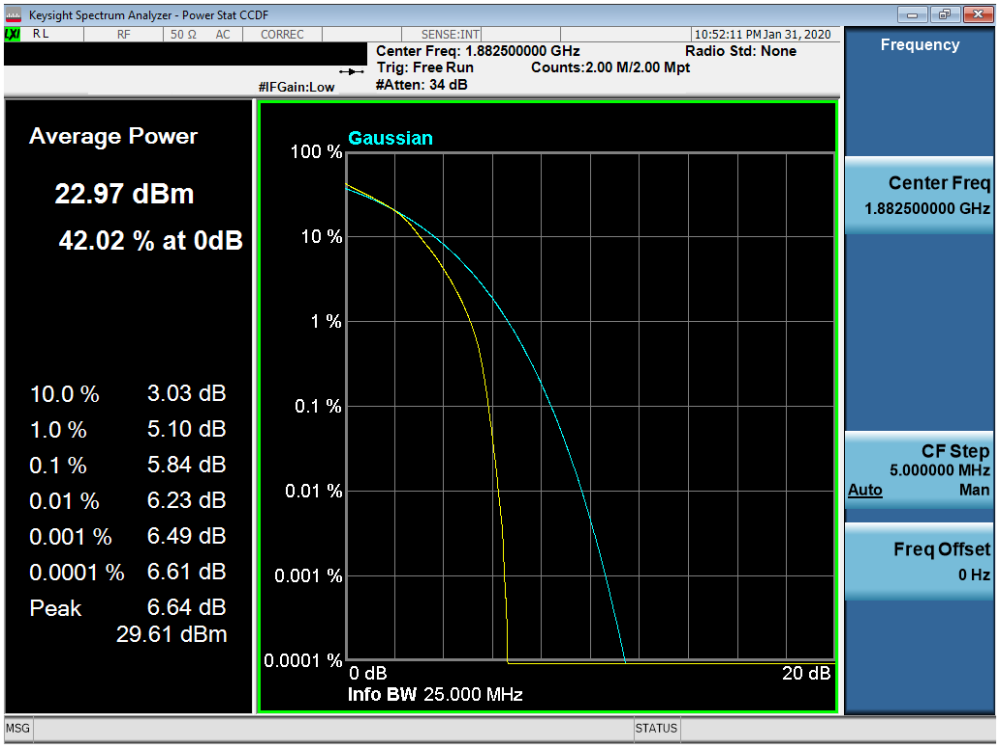
Plot 7-286. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)



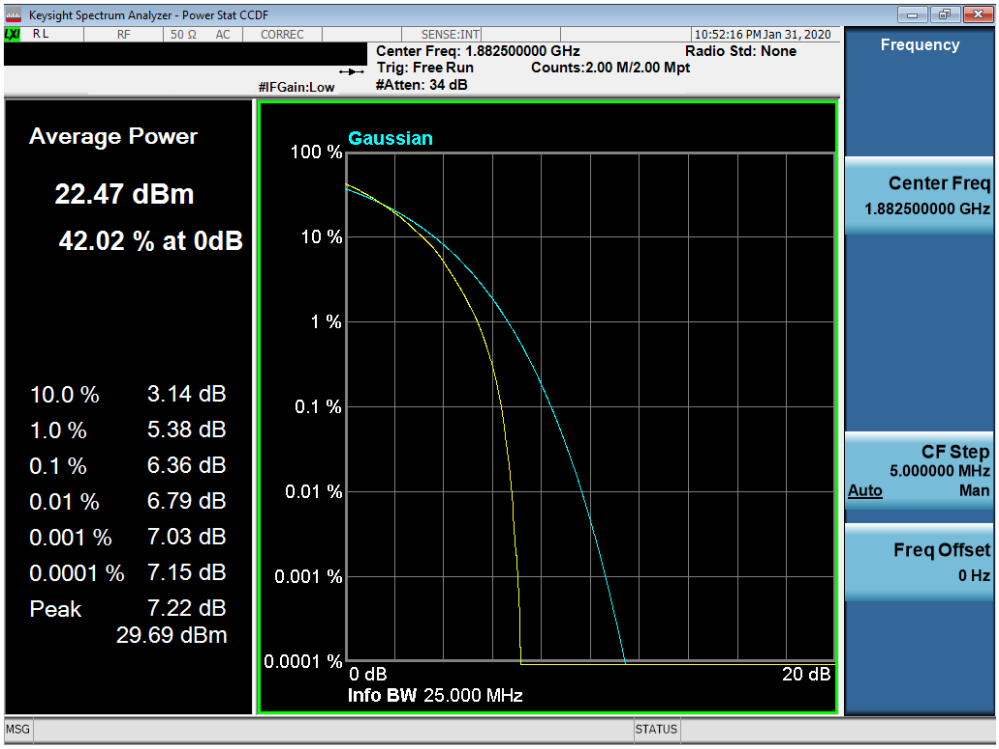
Plot 7-287. PAR Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-288. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-289. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-290. PAR Plot (Band 25/2 - 20.0MHz 64-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. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
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". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
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.

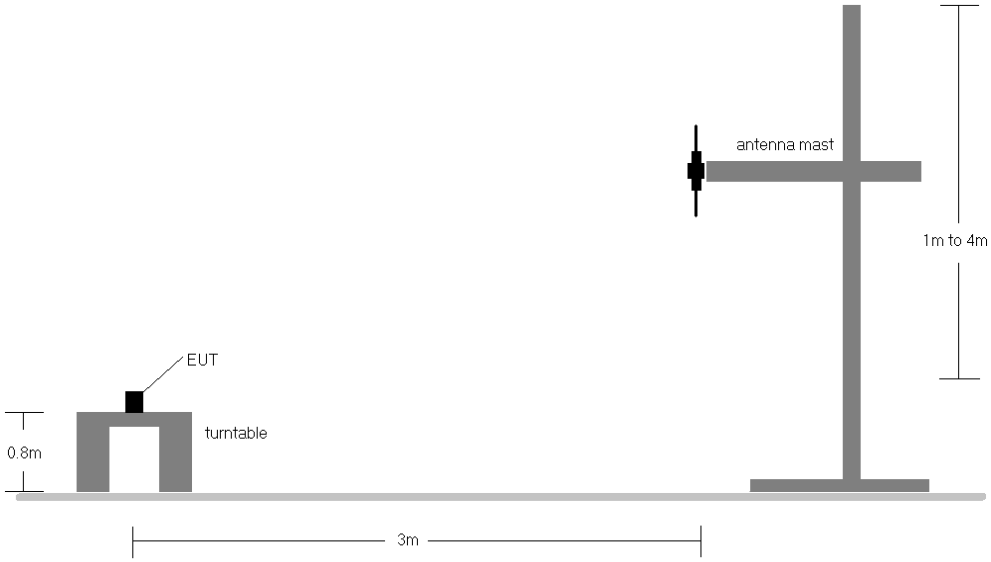


Figure 7-5. Radiated Test Setup <1GHz

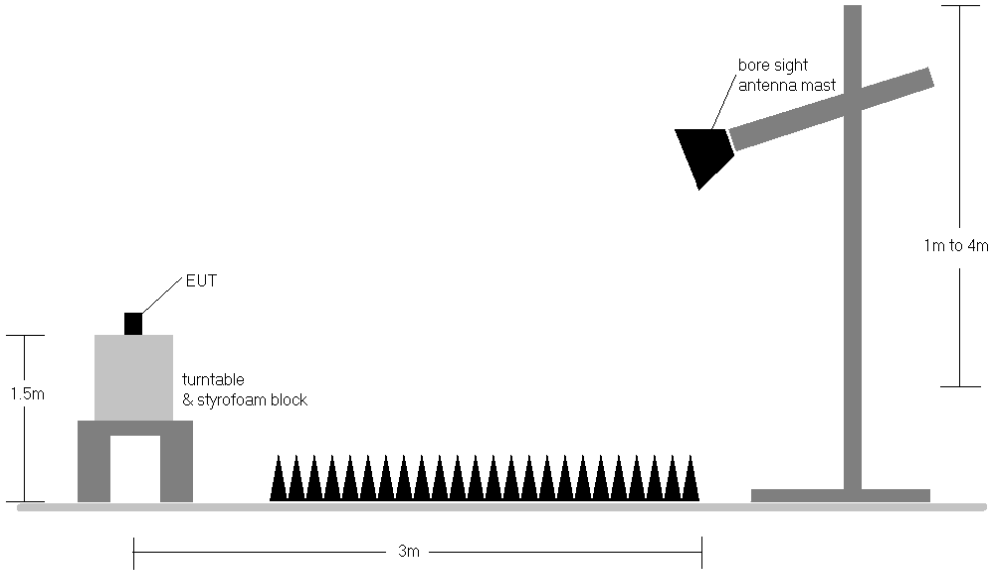


Figure 7-6. Radiated Test Setup >1GHz

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]
665.50	5	QPSK	V	165	265	1 / 24	16.11	3.75	17.71	0.059	34.77	-17.06
680.50	5	QPSK	V	151	271	1 / 0	15.67	4.20	17.72	0.059	34.77	-17.05
695.50	5	QPSK	V	149	256	1 / 24	16.30	4.50	**18.65**	0.073	34.77	-16.12
695.50	5	16-QAM	V	149	256	1 / 24	14.82	4.50	**17.17**	0.052	34.77	-17.60
695.50	5	64-QAM	V	149	256	1 / 24	14.29	4.50	**16.64**	0.046	34.77	-18.13
668.00	10	QPSK	V	162	263	1 / 49	15.92	3.80	17.57	0.057	34.77	-17.20
680.50	10	QPSK	V	154	259	1 / 0	15.77	4.20	17.82	0.061	34.77	-16.95
693.00	10	QPSK	V	167	253	1 / 49	15.85	4.40	**18.10**	0.065	34.77	-16.67
693.00	10	16-QAM	V	167	253	1 / 49	14.44	4.40	**16.69**	0.047	34.77	-18.08
693.00	10	64-QAM	V	167	253	1 / 49	14.03	4.40	**16.28**	0.042	34.77	-18.49
670.50	15	QPSK	V	155	267	1 / 0	16.25	3.90	18.00	0.063	34.77	-16.77
680.50	15	QPSK	V	153	257	1 / 0	16.25	4.20	18.30	0.068	34.77	-16.47
690.50	15	QPSK	V	155	259	1 / 74	16.53	4.40	**18.78**	**0.076**	34.77	-15.99
690.50	15	16-QAM	V	155	259	1 / 74	15.00	4.40	**17.25**	0.053	34.77	-17.52
690.50	15	64-QAM	V	155	259	1 / 74	14.57	4.40	**16.82**	0.048	34.77	-17.95
673.00	20	QPSK	V	160	262	1 / 0	16.45	4.00	18.30	0.068	34.77	-16.47
680.50	20	QPSK	V	156	275	1 / 0	16.43	4.20	18.48	0.070	34.77	-16.29
688.00	20	QPSK	V	149	263	1 / 99	16.52	4.40	**18.77**	0.075	34.77	-16.00
688.00	20	16-QAM	V	149	263	1 / 99	15.16	4.40	**17.41**	0.055	34.77	-17.36
688.00	20	64-QAM	V	149	263	1 / 99	14.66	4.40	**16.91**	0.049	34.77	-17.86
690.50	15	QPSK	H	170	166	1 / 74	16.67	3.30	17.82	0.061	34.77	-16.95

Table 7-3. ERP Data (Band 71)

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]
699.70	1.4	QPSK	V	150	251	1 / 5	16.24	4.50	18.59	0.072	34.77	-16.18
707.50	1.4	QPSK	V	144	255	1 / 0	16.94	4.60	19.39	0.087	34.77	-15.38
715.30	1.4	QPSK	V	138	254	1 / 0	17.48	4.63	**19.96**	0.099	34.77	-14.81
715.30	1.4	16-QAM	V	138	254	1 / 0	15.83	4.63	**18.31**	0.068	34.77	-16.46
715.30	1.4	64-QAM	V	138	254	1 / 0	15.47	4.63	**17.95**	0.062	34.77	-16.82
700.50	3	QPSK	V	147	255	1 / 14	16.60	4.55	19.00	0.079	34.77	-15.77
707.50	3	QPSK	V	142	248	1 / 0	16.77	4.60	19.22	0.084	34.77	-15.55
714.50	3	QPSK	V	140	252	1 / 14	17.42	4.60	**19.87**	0.097	34.77	-14.90
714.50	3	16-QAM	V	140	252	1 / 14	15.99	4.60	**18.44**	0.070	34.77	-16.33
714.50	3	64-QAM	V	140	252	1 / 14	15.53	4.60	**17.98**	0.063	34.77	-16.79
701.50	5	QPSK	V	148	253	1 / 24	16.70	4.60	19.15	0.082	34.77	-15.62
707.50	5	QPSK	V	144	255	1 / 0	16.97	4.60	19.42	0.087	34.77	-15.35
713.50	5	QPSK	V	135	245	1 / 24	17.17	4.60	**19.62**	0.092	34.77	-15.15
713.50	5	16-QAM	V	135	245	1 / 24	15.81	4.60	**18.26**	0.067	34.77	-16.51
713.50	5	64-QAM	V	135	245	1 / 24	15.28	4.60	**17.73**	0.059	34.77	-17.04
704.00	10	QPSK	V	152	255	1 / 49	16.70	4.50	19.05	0.080	34.77	-15.72
707.50	10	QPSK	V	148	254	1 / 49	17.39	4.60	19.84	0.096	34.77	-14.93
711.00	10	QPSK	V	146	254	1 / 49	17.56	4.60	**20.01**	**0.100**	34.77	-14.76
711.00	10	16-QAM	V	146	254	1 / 49	16.07	4.60	**18.52**	0.071	34.77	-16.25
711.00	10	64-QAM	V	146	254	1 / 49	15.68	4.60	**18.13**	0.065	34.77	-16.64
711.00	10	QPSK	H	169	281	1 / 49	16.61	3.70	18.16	0.065	34.77	-16.61

Table 7-4. 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]
779.50	5	QPSK	H	146	157	1 / 12	14.47	5.80	18.12	0.065	34.77	-16.65	20.27	0.106	36.99	-16.72
782.00	5	QPSK	H	156	156	1 / 24	14.41	5.80	18.06	0.064	34.77	-16.71	20.21	0.105	36.99	-16.78
784.50	5	QPSK	H	124	359	1 / 24	15.85	5.90	**19.60**	**0.091**	34.77	-15.17	**21.75**	**0.150**	36.99	-15.24
784.50	5	16-QAM	H	124	359	1 / 24	14.38	5.90	**18.13**	0.065	34.77	-16.64	**20.28**	0.107	36.99	-16.71
784.50	5	64-QAM	H	124	359	1 / 24	13.88	5.90	**17.63**	0.058	34.77	-17.14	**19.78**	0.095	36.99	-17.21
782.00	10	QPSK	H	143	152	1 / 25	14.51	5.80	**18.16**	0.065	34.77	-16.61	**20.31**	0.107	36.99	-16.68
782.00	10	16-QAM	H	143	152	1 / 25	12.94	5.80	**16.59**	0.046	34.77	-18.18	**18.74**	0.075	36.99	-18.25
782.00	10	64-QAM	H	143	152	1 / 25	12.47	5.80	**16.12**	0.041	34.77	-18.65	**18.27**	0.067	36.99	-18.72
784.50	5	QPSK	V	218	92	1 / 24	15.80	5.80	19.45	0.088	34.77	-15.32	21.60	0.145	36.99	-15.39

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]
824.70	1.4	QPSK	H	136	353	1 / 5	15.67	6.70	20.22	0.105	38.45	-18.23
836.50	1.4	QPSK	H	128	355	1 / 5	16.01	6.70	**20.56**	0.114	38.45	-17.89
848.30	1.4	QPSK	H	125	358	1 / 5	15.69	6.70	20.24	0.106	38.45	-18.21
836.50	1.4	16-QAM	H	128	355	1 / 5	14.42	6.70	**18.97**	0.079	38.45	-19.48
836.50	1.4	64-QAM	H	128	355	1 / 5	13.92	6.70	**18.47**	0.070	38.45	-19.98
825.50	3	QPSK	H	141	355	1 / 0	15.67	6.70	20.22	0.105	38.45	-18.23
836.50	3	QPSK	H	141	357	1 / 0	16.04	6.70	**20.59**	0.115	38.45	-17.86
847.50	3	QPSK	H	126	4	1 / 0	15.66	6.65	20.16	0.104	38.45	-18.29
836.50	3	16-QAM	H	141	357	1 / 0	14.44	6.70	**18.99**	0.079	38.45	-19.46
836.50	3	64-QAM	H	141	357	1 / 0	13.98	6.70	**18.53**	0.071	38.45	-19.92
826.50	5	QPSK	H	148	354	1 / 0	15.68	6.70	**20.23**	0.105	38.45	-18.22
836.50	5	QPSK	H	138	358	1 / 0	15.36	6.70	19.91	0.098	38.45	-18.54
846.50	5	QPSK	H	133	359	1 / 0	15.70	6.60	20.15	0.104	38.45	-18.30
836.50	5	16-QAM	H	138	358	1 / 0	14.73	6.70	**19.28**	0.085	38.45	-19.17
836.50	5	64-QAM	H	138	358	1 / 0	14.14	6.70	**18.69**	0.074	38.45	-19.76
829.00	10	QPSK	H	142	355	1 / 49	15.71	6.70	20.26	0.106	38.45	-18.19
836.50	10	QPSK	H	136	356	1 / 49	15.97	6.70	**20.52**	0.113	38.45	-17.93
844.00	10	QPSK	H	132	356	1 / 0	15.92	6.60	20.37	0.109	38.45	-18.08
829.00	10	16-QAM	H	142	355	1 / 49	14.46	6.70	**19.01**	0.080	38.45	-19.44
836.50	10	64-QAM	H	136	356	1 / 49	13.96	6.70	**18.51**	0.071	38.45	-19.94

Table 7-6. ERP Data (Band 26/5)

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]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
831.50	15	QPSK	H	133	356	1 / 74	16.08	6.70	**20.63**	**0.116**	38.45	-17.82
836.50	15	QPSK	H	137	1360	1 / 74	15.72	6.70	20.27	0.106	38.45	-18.18
841.50	15	QPSK	H	124	356	1 / 0	15.74	6.60	20.19	0.104	38.45	-18.26
831.50	15	16-QAM	H	133	356	1 / 74	14.51	6.70	**19.06**	0.081	38.45	-19.39
831.50	15	64-QAM	H	133	356	1 / 74	14.07	6.70	**18.62**	0.073	38.45	-19.83
831.50	15	QPSK	V	176	225	1 / 74	15.82	6.35	20.02	0.100	38.45	-18.43

Table 7-7. ERP Data (Band 26)

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	145	215	1 / 5	11.68	9.44	21.12	0.130	30.00	-8.88
1745.00	1.4	QPSK	H	182	320	1 / 5	12.62	9.23	21.85	0.153	30.00	-8.15
1779.30	1.4	QPSK	H	102	322	1 / 5	13.06	9.26	**22.32**	0.171	30.00	-7.68
1779.30	1.4	16-QAM	H	102	322	1 / 5	11.41	9.26	**20.67**	0.117	30.00	-9.33
1779.30	1.4	64-QAM	H	102	322	1 / 5	10.84	9.26	**20.10**	0.102	30.00	-9.90
1711.50	3	QPSK	H	147	215	1 / 14	11.81	9.44	21.25	0.133	30.00	-8.75
1745.00	3	QPSK	H	101	319	1 / 14	12.24	9.23	21.47	0.140	30.00	-8.53
1778.50	3	QPSK	H	134	315	1 / 0	13.14	9.26	**22.40**	0.174	30.00	-7.60
1778.50	3	16-QAM	H	134	315	1 / 0	11.56	9.26	**20.82**	0.121	30.00	-9.18
1778.50	3	64-QAM	H	134	315	1 / 0	10.87	9.26	**20.13**	0.103	30.00	-9.87
1712.50	5	QPSK	H	146	214	1 / 0	12.45	9.43	21.88	0.154	30.00	-8.12
1745.00	5	QPSK	H	180	314	1 / 0	12.84	9.23	22.07	0.161	30.00	-7.93
1777.50	5	QPSK	H	133	324	1 / 0	13.28	9.26	**22.54**	0.179	30.00	-7.46
1777.50	5	16-QAM	H	133	324	1 / 0	11.36	9.26	**20.62**	0.115	30.00	-9.38
1745.00	5	64-QAM	H	180	314	1 / 0	10.84	9.23	**20.07**	0.102	30.00	-9.93
1715.00	10	QPSK	H	146	216	1 / 0	12.58	9.42	22.00	0.158	30.00	-8.00
1745.00	10	QPSK	H	182	313	1 / 0	13.66	9.23	**22.89**	0.195	30.00	-7.11
1775.00	10	QPSK	H	145	216	1 / 0	13.00	9.25	22.25	0.168	30.00	-7.75
1745.00	10	16-QAM	H	182	313	1 / 0	12.07	9.23	**21.30**	0.135	30.00	-8.70
1745.00	10	64-QAM	H	182	313	1 / 0	11.42	9.23	**20.65**	0.116	30.00	-9.35
1717.50	15	QPSK	H	144	206	1 / 0	13.20	9.40	22.60	0.182	30.00	-7.40
1745.00	15	QPSK	H	207	317	1 / 0	13.92	9.23	**23.15**	**0.207**	30.00	-6.85
1772.50	15	QPSK	H	160	209	1 / 0	13.41	9.25	22.66	0.184	30.00	-7.34
1745.00	15	16-QAM	H	207	317	1 / 0	12.65	9.23	**21.88**	0.154	30.00	-8.12
1745.00	15	64-QAM	H	207	317	1 / 0	11.92	9.23	**21.15**	0.130	30.00	-8.85
1720.00	20	QPSK	H	102	207	1 / 0	13.56	9.38	22.94	0.197	30.00	-7.06
1745.00	20	QPSK	H	117	323	1 / 0	13.91	9.23	**23.14**	0.206	30.00	-6.86
1770.00	20	QPSK	H	195	218	1 / 50	13.37	9.24	22.61	0.182	30.00	-7.39
1745.00	20	16-QAM	H	117	323	1 / 0	12.49	9.23	**21.72**	0.149	30.00	-8.28
1745.00	20	64-QAM	H	117	323	1 / 0	11.80	9.23	**21.03**	0.127	30.00	-8.97
1745.00	15	QPSK	V	399	272	1 / 0	11.40	9.11	20.51	0.112	30.00	-9.49

Table 7-8. 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	V	125	25	1 / 0	12.07	9.88	21.95	0.157	33.01	-11.06
1882.50	1.4	QPSK	V	137	38	1 / 0	13.24	10.12	23.36	0.217	33.01	-9.65
1914.30	1.4	QPSK	V	133	47	1 / 5	13.46	10.34	**23.80**	0.240	33.01	-9.21
1914.30	1.4	16-QAM	V	133	47	1 / 5	11.85	10.34	**22.19**	0.165	33.01	-10.82
1914.30	1.4	64-QAM	V	133	47	1 / 5	11.27	10.34	**21.61**	0.145	33.01	-11.40
1851.50	3	QPSK	V	144	59	1 / 0	12.69	9.88	22.57	0.181	33.01	-10.44
1882.50	3	QPSK	V	133	44	1 / 0	12.88	10.12	23.00	0.200	33.01	-10.01
1913.50	3	QPSK	V	133	57	1 / 0	12.99	10.33	**23.32**	0.215	33.01	-9.69
1913.50	3	16-QAM	V	133	57	1 / 0	11.43	10.33	**21.76**	0.150	33.01	-11.25
1913.50	3	64-QAM	V	133	57	1 / 0	10.74	10.33	**21.07**	0.128	33.01	-11.94
1852.50	5	QPSK	V	144	63	1 / 0	13.03	9.89	22.92	0.196	33.01	-10.09
1882.50	5	QPSK	V	130	48	1 / 0	12.78	10.12	22.90	0.195	33.01	-10.11
1912.50	5	QPSK	V	132	62	1 / 0	13.25	10.33	**23.58**	0.228	33.01	-9.43
1912.50	5	16-QAM	V	132	62	1 / 0	11.65	10.33	**21.98**	0.158	33.01	-11.03
1912.50	5	64-QAM	V	132	62	1 / 0	11.16	10.33	**21.49**	0.141	33.01	-11.52
1855.00	10	QPSK	V	143	76	1 / 0	13.24	9.91	23.15	0.207	33.01	-9.86
1882.50	10	QPSK	V	141	86	1 / 0	12.77	10.12	22.89	0.195	33.01	-10.12
1910.00	10	QPSK	V	131	72	1 / 0	13.39	10.31	**23.70**	0.235	33.01	-9.31
1910.00	10	16-QAM	V	131	72	1 / 0	11.80	10.31	**22.11**	0.163	33.01	-10.90
1910.00	10	64-QAM	V	131	72	1 / 0	11.22	10.31	**21.53**	0.142	33.01	-11.48
1857.50	15	QPSK	V	108	93	1 / 0	13.02	9.93	22.95	0.197	33.01	-10.06
1882.50	15	QPSK	V	102	78	1 / 0	12.96	10.12	23.08	0.203	33.01	-9.93
1907.50	15	QPSK	V	133	77	1 / 0	13.73	10.30	**24.03**	0.253	33.01	-8.98
1907.50	15	16-QAM	V	133	77	1 / 0	12.10	10.30	**22.40**	0.174	33.01	-10.61
1907.50	15	64-QAM	V	133	77	1 / 0	11.50	10.30	**21.80**	0.151	33.01	-11.21
1860.00	20	QPSK	V	103	89	1 / 0	13.43	9.95	23.38	0.218	33.01	-9.63
1882.50	20	QPSK	V	103	90	1 / 0	13.94	10.12	24.06	0.255	33.01	-8.95
1905.00	20	QPSK	V	100	91	1 / 0	14.30	10.28	**24.58**	**0.287**	33.01	-8.43
1905.00	20	16-QAM	V	100	91	1 / 0	12.72	10.28	**23.00**	0.200	33.01	-10.01
1905.00	20	64-QAM	V	100	91	1 / 0	12.08	10.28	**22.36**	0.172	33.01	-10.65
1905.00	20	QPSK	H	109	313	1 / 0	14.30	10.22	24.52	0.283	33.01	-8.49

Table 7-9. EIRP Data (Band 25/2)

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]
2498.50	5	QPSK	V	285	268	1 / 12	15.93	9.40	**25.33**	0.341	33.01	-7.68
2593.00	5	QPSK	V	359	273	1 / 0	15.42	9.56	24.98	0.315	33.01	-8.03
2687.50	5	QPSK	V	218	89	1 / 12	15.40	9.69	25.09	0.323	33.01	-7.92
2498.50	5	16-QAM	V	285	268	1 / 12	15.08	9.40	**24.48**	0.281	33.01	-8.53
2498.50	5	64-QAM	V	285	268	1 / 12	14.18	9.40	**23.58**	0.228	33.01	-9.43
2501.00	10	QPSK	V	279	265	1 / 0	16.09	9.40	25.49	0.354	33.01	-7.52
2593.00	10	QPSK	V	336	260	1 / 49	16.02	9.56	**25.58**	**0.361**	33.01	-7.43
2685.00	10	QPSK	V	280	281	1 / 0	15.48	9.68	25.16	0.328	33.01	-7.85
2593.00	10	16-QAM	V	336	260	1 / 49	14.74	9.56	**24.30**	0.269	33.01	-8.71
2593.00	10	64-QAM	V	336	260	1 / 49	14.23	9.56	**23.79**	0.239	33.01	-9.22
2503.50	15	QPSK	V	279	270	1 / 0	15.90	9.39	**25.29**	0.338	33.01	-7.72
2593.00	15	QPSK	V	368	274	1 / 36	15.43	9.56	24.99	0.315	33.01	-8.02
2682.50	15	QPSK	V	287	269	1 / 0	15.53	9.68	25.21	0.332	33.01	-7.80
2503.50	15	16-QAM	V	279	270	1 / 0	15.28	9.39	**24.67**	0.293	33.01	-8.34
2593.00	15	64-QAM	V	368	274	1 / 36	14.24	9.56	**23.80**	0.240	33.01	-9.21
2506.00	20	QPSK	V	398	271	1 / 50	15.52	9.39	24.91	0.310	33.01	-8.10
2593.00	20	QPSK	V	267	262	1 / 50	15.88	9.56	**25.44**	0.350	33.01	-7.57
2680.00	20	QPSK	V	182	89	1 / 50	14.59	9.68	24.27	0.267	33.01	-8.74
2593.00	20	16-QAM	V	267	262	1 / 50	14.92	9.56	**24.48**	0.280	33.01	-8.53
2593.00	20	64-QAM	V	267	262	1 / 50	15.00	9.56	**24.56**	0.286	33.01	-8.45
2593.00	10	QPSK	H	104	352	1 / 50	14.76	9.55	24.31	0.270	33.01	-8.70

Table 7-10. EIRP Data (Band 41 – PC2)

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]
2593.00	10	QPSK	V	132	316	1 / 25	13.41	9.56	**22.97**	**0.198**	33.01	-10.04
2593.00	10	16-QAM	V	132	316	1 / 25	12.43	9.56	**21.99**	0.158	33.01	-11.02
2593.00	10	64-QAM	V	132	316	1 / 25	12.73	9.56	**22.29**	0.169	33.01	-10.72

Table 7-11. EIRP Data (Band 41 – PC3)

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.

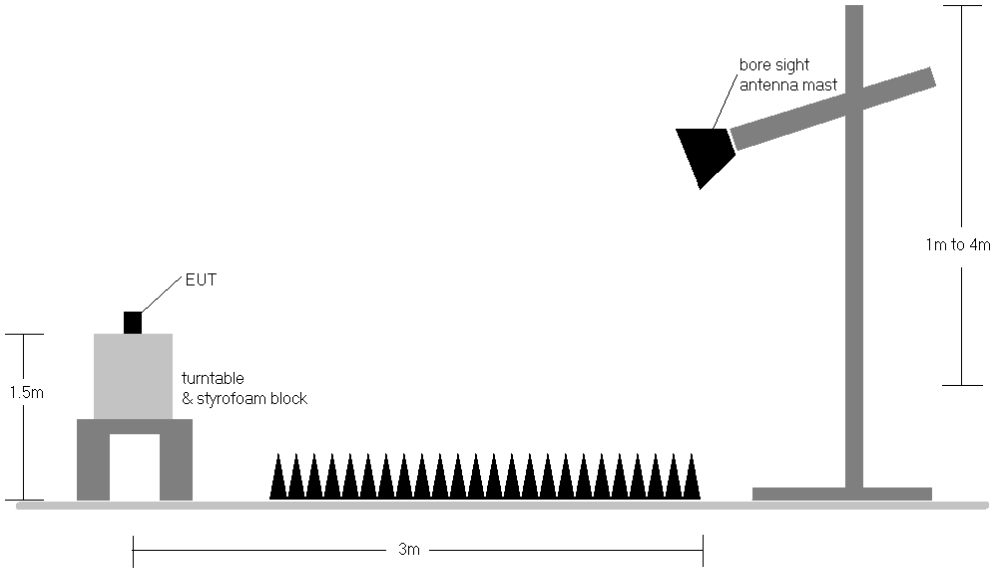


Figure 7-7. Test Instrument & Measurement Setup

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.

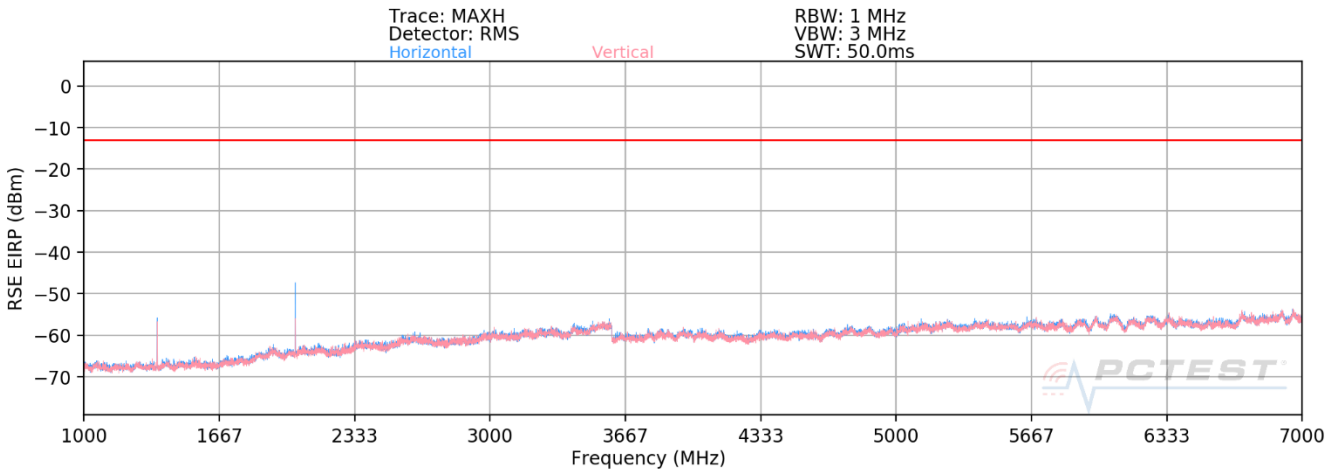
2) This unit was tested with its standard battery.

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.

Band 71



Plot 7-291. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	673.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1346.00	H	173	19	-63.59	7.47	-56.12	-43.1
2019.00	H	162	317	-54.78	8.68	-46.09	-33.1
2692.00	H	-	-	-76.85	9.99	-66.86	-53.9
3365.00	H	-	-	-75.28	9.66	-65.62	-52.6

Table 7-12. Radiated Spurious Data (Band 71 – Low Channel)

OPERATING FREQUENCY:	680.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	H	162	354	-64.13	7.48	-56.64	-43.6
2041.50	H	153	319	-60.59	8.76	-51.82	-38.8
2722.00	H	-	-	-77.18	10.08	-67.10	-54.1
3402.50	H	-	-	-74.51	9.80	-64.71	-51.7

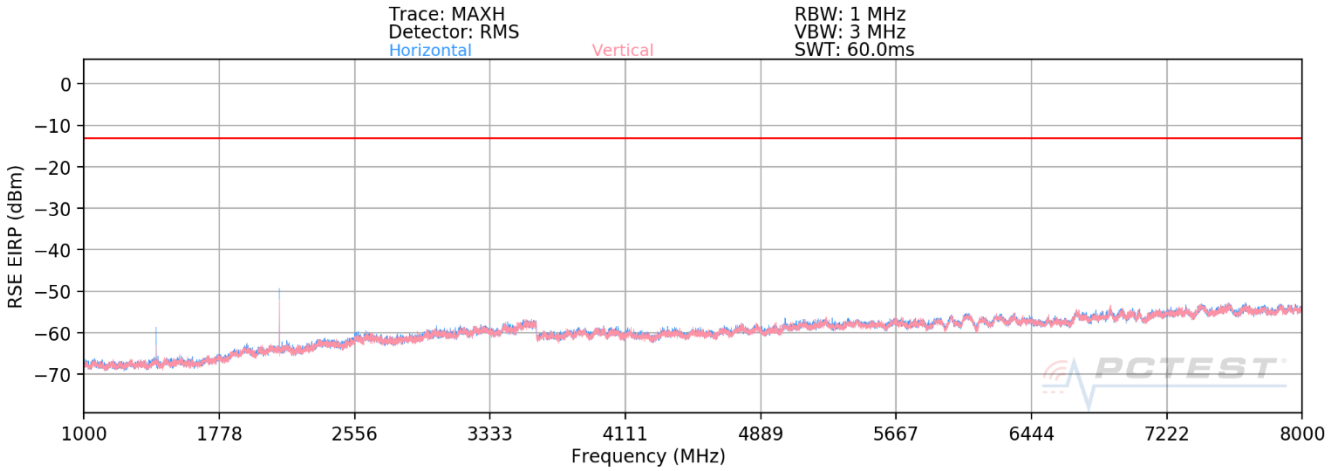
Table 7-13. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	688.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	H	158	343	-64.30	7.46	-56.83	-43.8
2064.00	H	165	305	-55.37	8.80	-46.56	-33.6
2752.00	H	-	-	-77.80	10.17	-67.63	-54.6
3440.00	H	-	-	-74.17	9.84	-64.33	-51.3

Table 7-14. Radiated Spurious Data (Band 71 – High Channel)

Band 12



Plot 7-292. Radiated Spurious Plot above 1GHz (Band 12)

OPERATING FREQUENCY:	704.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	147	23	-67.55	7.54	-60.01	-47.0
2112.00	H	160	306	-61.17	8.85	-52.32	-39.3
2816.00	H	-	-	-77.51	10.12	-67.39	-54.4
3520.00	H	-	-	-74.38	9.91	-64.47	-51.5

Table 7-15. Radiated Spurious Data (Band 12 – Low Channel)

OPERATING FREQUENCY:	707.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	217	15	-67.83	7.63	-60.20	-47.2
2122.50	H	140	316	-61.42	8.86	-52.55	-39.6
2830.00	H	-	-	-77.03	10.10	-66.93	-53.9
3537.50	H	-	-	-73.70	9.90	-63.80	-50.8

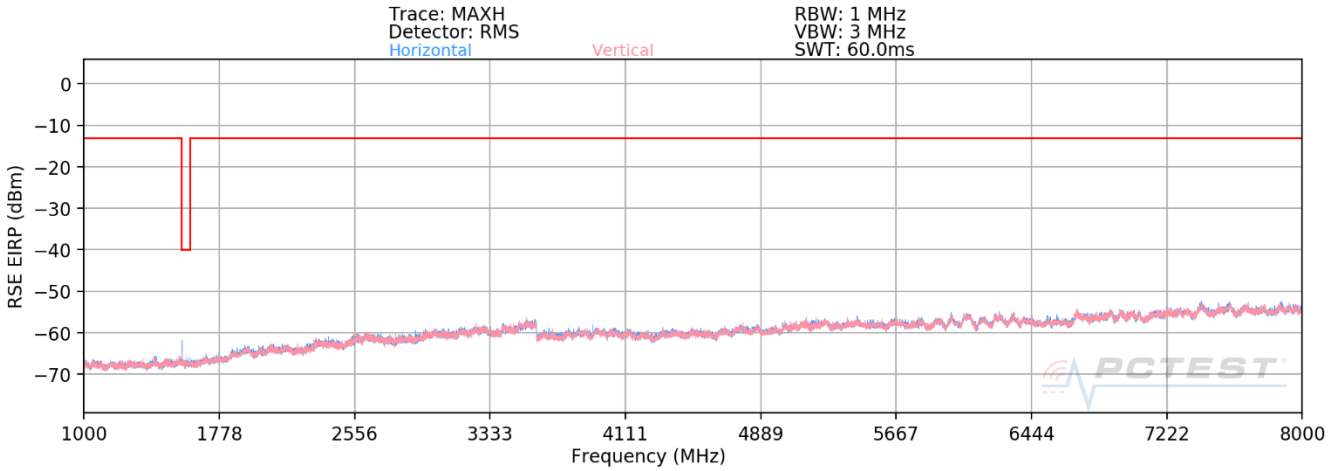
Table 7-16. Radiated Spurious Data (Band 12 – Mid Channel)

OPERATING FREQUENCY:	711.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	158	22	-67.25	7.72	-59.53	-46.5
2133.00	H	195	310	-58.06	8.87	-49.19	-36.2
2844.00	H	-	-	-77.24	10.07	-67.17	-54.2
3555.00	H	-	-	-73.68	9.89	-63.78	-50.8

Table 7-17. Radiated Spurious Data (Band 12 – High Channel)

Band 13



Plot 7-293. Radiated Spurious Plot above 1GHz (Band 13)

OPERATING FREQUENCY:	779.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	142	327	-74.29	9.47	-64.82	-51.8
3118.00	H	-	-	-74.97	9.35	-65.62	-52.6
3897.50	H	-	-	-73.74	9.35	-64.39	-51.4

Table 7-18. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY:	782.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	187	327	-75.02	9.43	-65.59	-52.6
3128.00	H	-	-	-75.23	9.34	-65.89	-52.9
3910.00	H	-	-	-74.28	9.37	-64.91	-51.9

Table 7-19. Radiated Spurious Data (Band 13 – Mid Channel)

OPERATING FREQUENCY:	784.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	148	10	-76.53	9.41	-67.12	-54.1
3138.00	H	-	-	-75.30	9.33	-65.97	-53.0
3922.50	H	-	-	-74.05	9.40	-64.65	-51.6

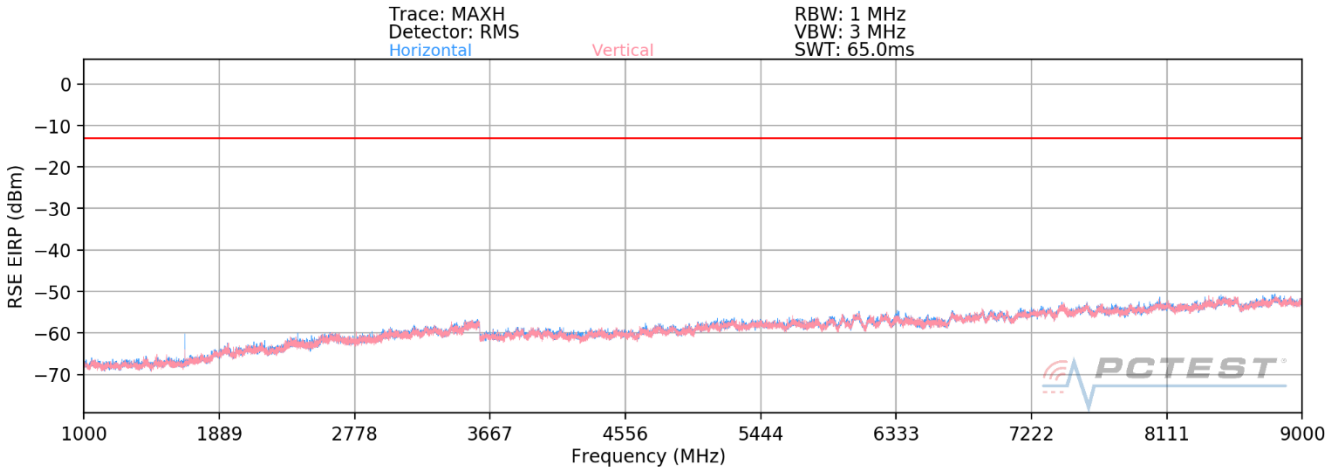
Table 7-20. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	241	38	-71.56	8.51	-63.04	-23.0
1564.00	H	231	34	-73.35	8.53	-64.82	-24.8
1569.00	H	230	40	-72.84	8.55	-64.29	-24.3

Table 7-21. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-294. Radiated Spurious Plot above 1GHz (Band 26/5)

OPERATING FREQUENCY:	829.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	163	46	-73.63	8.95	-64.68	-51.7
2487.00	H	156	294	-75.09	9.73	-65.36	-52.4
3316.00	H	-	-	-74.39	9.59	-64.79	-51.8
4145.00	H	-	-	-74.61	10.25	-64.36	-51.4

Table 7-22. Radiated Spurious Data (Band 26/5 – Low Channel)

OPERATING FREQUENCY:	836.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	147	42	-71.33	8.95	-62.38	-49.4
2509.50	H	189	355	-72.83	9.75	-63.08	-50.1
3346.00	H	-	-	-74.83	9.60	-65.23	-52.2
4182.50	H	-	-	-75.06	10.34	-64.72	-51.7

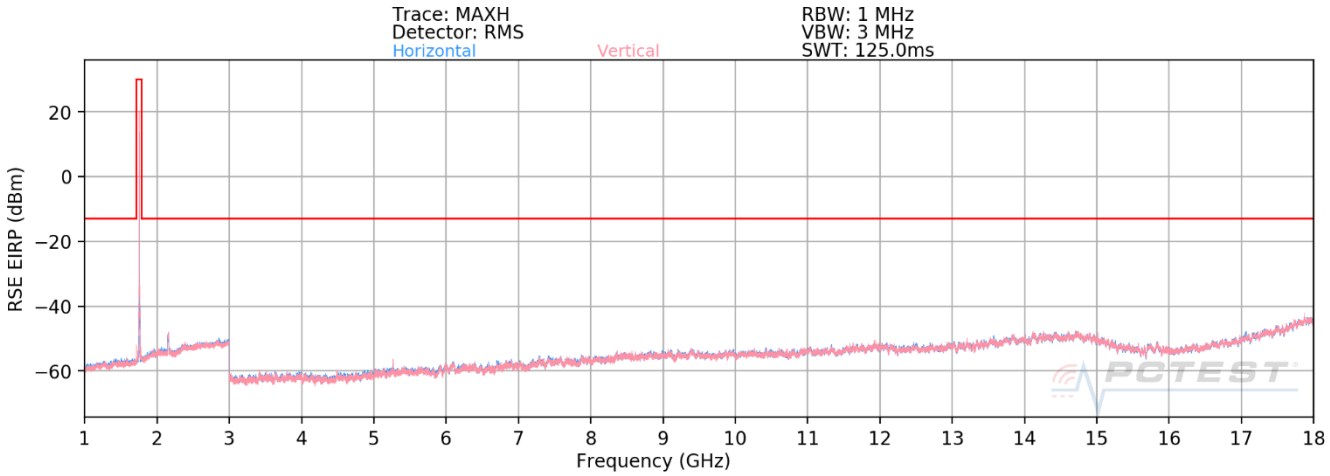
Table 7-23. Radiated Spurious Data (Band 26/5 – Mid Channel)

OPERATING FREQUENCY:	844.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	191	35	-72.35	8.95	-63.40	-50.4
2532.00	H	202	304	-76.01	9.75	-66.26	-53.3
3376.00	H	-	-	-75.73	9.67	-66.06	-53.1
4220.00	H	-	-	-75.21	10.44	-64.78	-51.8

Table 7-24. Radiated Spurious Data (Band 26/5 – High Channel)

Band 66/4



Plot 7-295. Radiated Spurious Plot above 1GHz (Band 66/4)

OPERATING FREQUENCY:	1717.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3435.00	H	115	350	-68.15	9.84	-58.30	-45.3
5152.50	H	102	242	-65.91	10.71	-55.20	-42.2
6870.00	H	208	134	-68.77	11.68	-57.09	-44.1
8587.50	H	-	-	-68.16	11.08	-57.08	-44.1
10305.00	H	-	-	-65.83	12.38	-53.45	-40.5

Table 7-25. Radiated Spurious Data (Band 66/4 – Low Channel)

OPERATING FREQUENCY:	1745.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	184	305	-71.09	9.91	-61.17	-48.2
5235.00	H	101	243	-66.64	10.73	-55.91	-42.9
6980.00	H	356	138	-68.31	11.82	-56.49	-43.5
8725.00	H	-	-	-66.68	11.00	-55.68	-42.7
10470.00	H	-	-	-66.71	12.58	-54.13	-41.1

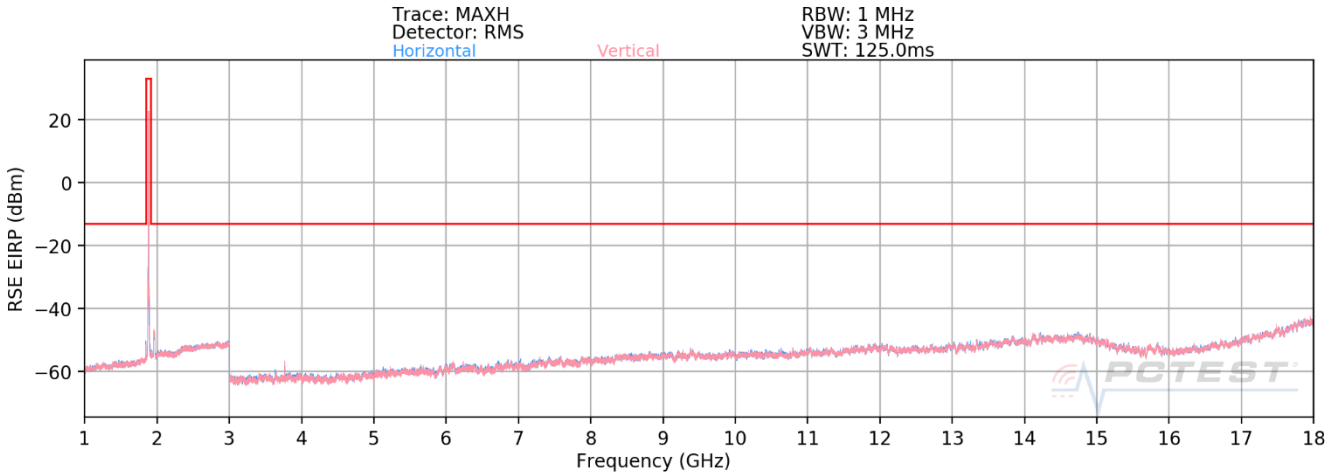
Table 7-26. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1772.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3545.00	H	127	26	-53.56	9.89	-43.67	-30.7
5317.50	H	109	243	-67.38	10.69	-56.70	-43.7
7090.00	H	-	-	-69.32	11.79	-57.53	-44.5
8862.50	H	-	-	-66.86	11.00	-55.87	-42.9

Table 7-27. Radiated Spurious Data (Band 66/4 – High Channel)

Band 25/2



Plot 7-296. Radiated Spurious Plot above 1GHz (Band 25/2)

OPERATING FREQUENCY:	1860.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	V	144	81	-63.49	9.51	-53.98	-41.0
5580.00	V	-	-	-72.11	10.99	-61.13	-48.1
7440.00	V	-	-	-69.53	10.99	-58.54	-45.5

Table 7-28. Radiated Spurious Data (Band 25/2 – Low Channel)

OPERATING FREQUENCY:	1882.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	V	241	105	-67.71	9.36	-58.35	-45.4
5647.50	V	-	-	-71.84	11.19	-60.65	-47.6
7530.00	V	-	-	-68.95	11.13	-57.82	-44.8

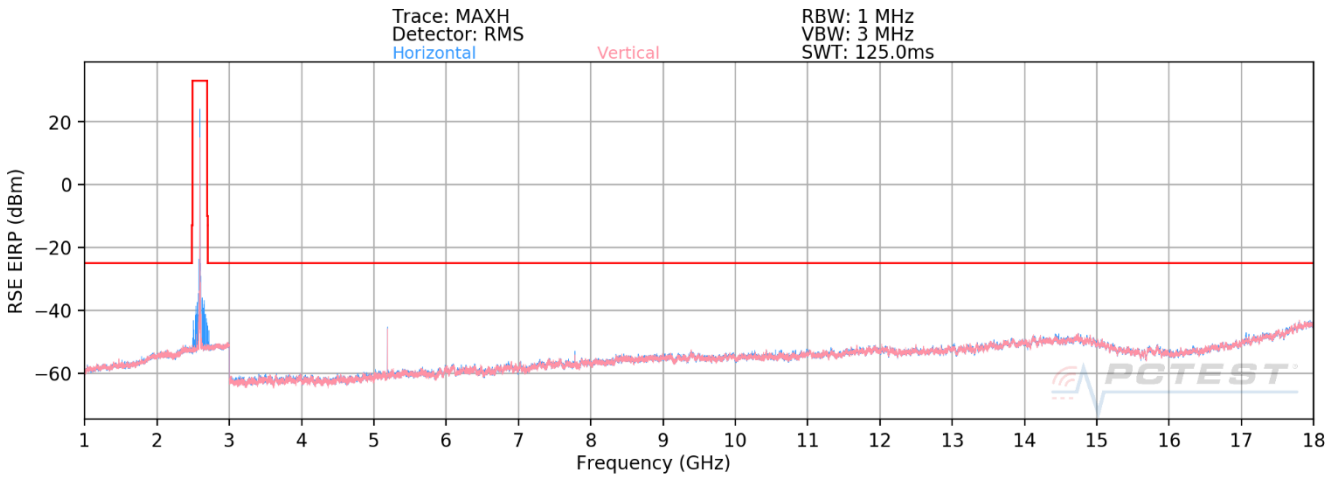
Table 7-29. Radiated Spurious Data (Band 25/2 – Mid Channel)

OPERATING FREQUENCY:	1905.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

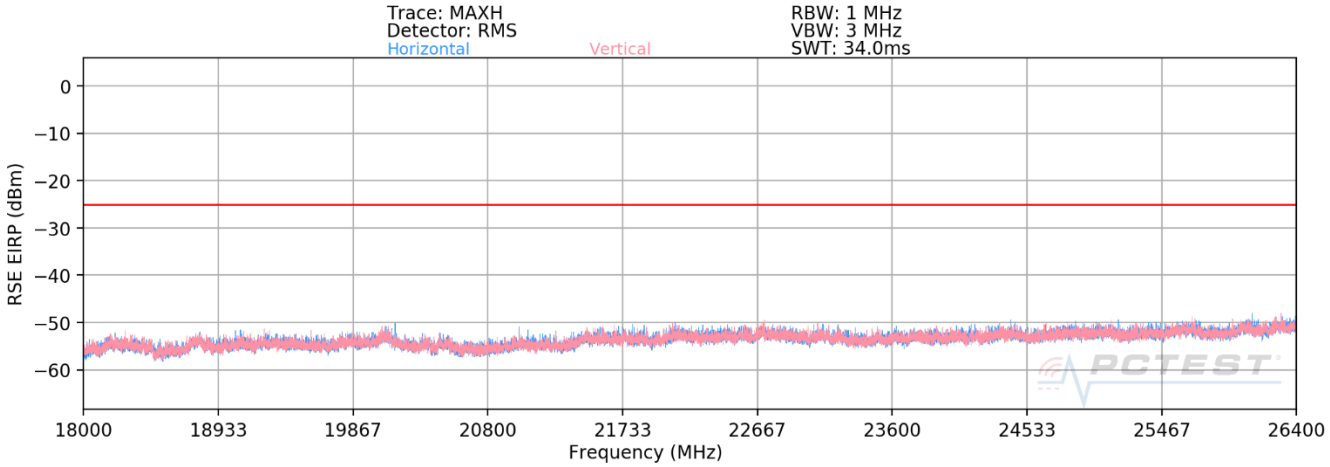
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	V	205	71	-65.67	9.29	-56.38	-43.4
5715.00	V	387	56	-65.12	11.35	-53.77	-40.8
7620.00	V	-	-	-68.23	11.29	-56.94	-43.9
9525.00	V	-	-	-66.66	11.73	-54.93	-41.9

Table 7-30. Radiated Spurious Data (Band 25/2 – High Channel)

Band 41 (PC2)



Plot 7-297. Radiated Spurious Plot 1GHz - 18GHz (Band 41 PC2)



Plot 7-298. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41 PC2)

OPERATING FREQUENCY:	2506.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	321	289	-51.66	8.75	-42.91	-17.9
7518.00	H	283	110	-57.22	9.32	-47.90	-22.9
10024.00	H	-	-	-55.16	9.80	-45.36	-20.4
12530.00	H	-	-	-50.33	8.87	-41.46	-16.5

Table 7-31. Radiated Spurious Data (Band 41 – PC2 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	105	114	-47.93	9.03	-38.90	-13.9
7779.00	H	101	291	-50.83	9.29	-41.54	-16.5
10372.00	H	-	-	-54.03	9.50	-44.53	-19.5
12965.00	H	-	-	-49.90	8.75	-41.14	-16.1

Table 7-32. Radiated Spurious Data (Band 41 – PC2 – Mid Channel)

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	159	127	-48.03	8.99	-39.04	-14.0
8040.00	H	104	133	-56.80	9.35	-47.44	-22.4
10720.00	H	-	-	-53.28	9.39	-43.89	-18.9
13400.00	H	-	-	-47.38	8.67	-38.71	-13.7

Table 7-33. Radiated Spurious Data (Band 41 - PC2 – High Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	102	116	-49.92	9.03	-40.89	-15.9
7779.00	H	133	109	-55.20	9.29	-45.91	-20.9
10372.00	H	-	-	-54.30	9.50	-44.80	-19.8
12965.00	H	-	-	-49.76	8.75	-41.00	-16.0

Table 7-34. Radiated Spurious Data (Band 41 – PC3 – Mid Channel)

7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. 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 ±0.00025% (±2.5 ppm) of the center frequency. For Part 24, 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-E-2016

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

Band 71 Frequency Stability Measurements

OPERATING FREQUENCY:	680,500,000	Hz
CHANNEL:	133297	
REFERENCE VOLTAGE:	4.27	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.27	- 30	680,499,921	-79	-0.0000116
100 %		- 20	680,500,255	255	0.0000375
100 %		- 10	680,499,978	-22	-0.0000032
100 %		0	680,500,202	202	0.0000297
100 %		+ 10	680,499,633	-367	-0.0000539
100 %		+ 20	680,499,885	-115	-0.0000169
100 %		+ 30	680,500,035	35	0.0000051
100 %		+ 40	680,500,188	188	0.0000276
100 %		+ 50	680,500,163	163	0.0000240
BATT. ENDPOINT	3.51	+ 20	680,499,700	-300	-0.0000441

Table 7-35. Frequency Stability Data (Band 71)

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.

Band 71 Frequency Stability Measurements

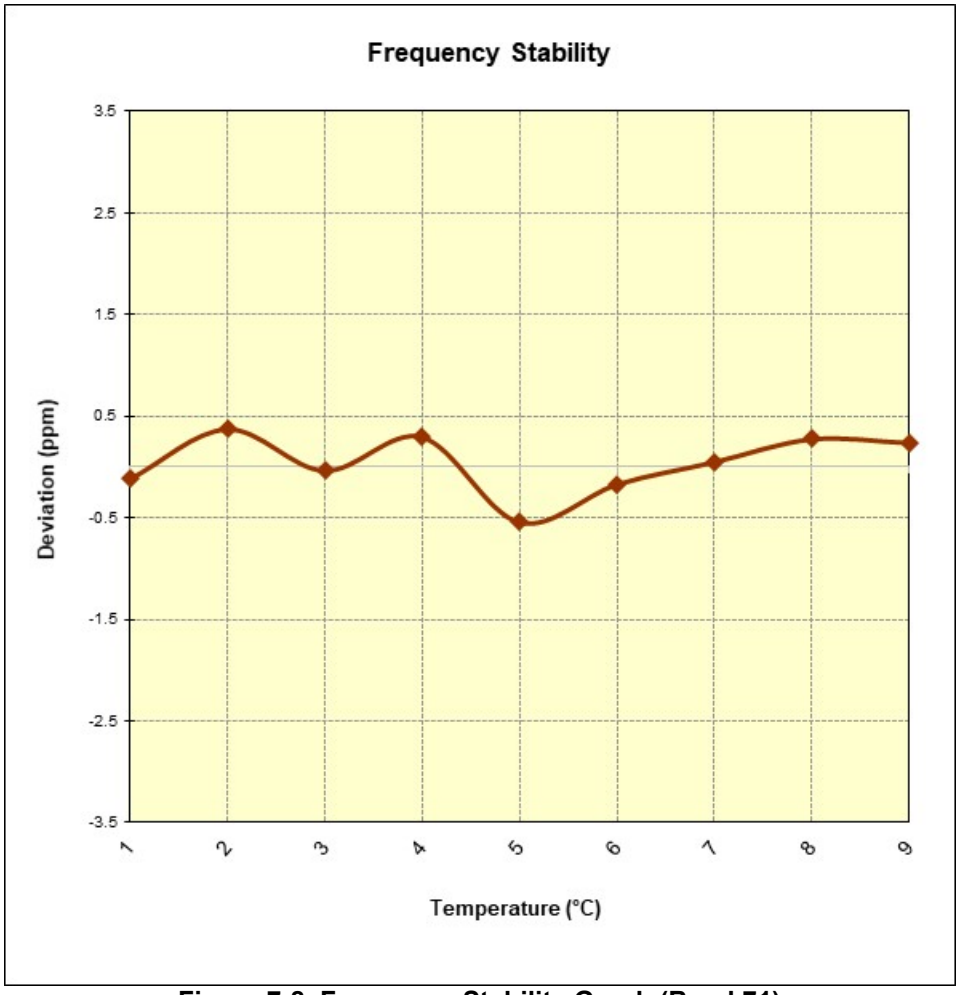


Figure 7-8. Frequency Stability Graph (Band 71)

Band 12 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	
REFERENCE VOLTAGE:	4.27	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.27	- 30	707,500,356	356	0.0000503
100 %		- 20	707,499,995	-5	-0.0000007
100 %		- 10	707,500,078	78	0.0000110
100 %		0	707,500,258	258	0.0000365
100 %		+ 10	707,500,039	39	0.0000055
100 %		+ 20	707,499,992	-8	-0.0000011
100 %		+ 30	707,500,098	98	0.0000139
100 %		+ 40	707,500,154	154	0.0000218
100 %		+ 50	707,499,916	-84	-0.0000119
BATT. ENDPOINT	3.51	+ 20	707,500,006	6	0.0000008

Table 7-36. Frequency Stability Data (Band 12)

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.

Band 12 Frequency Stability Measurements

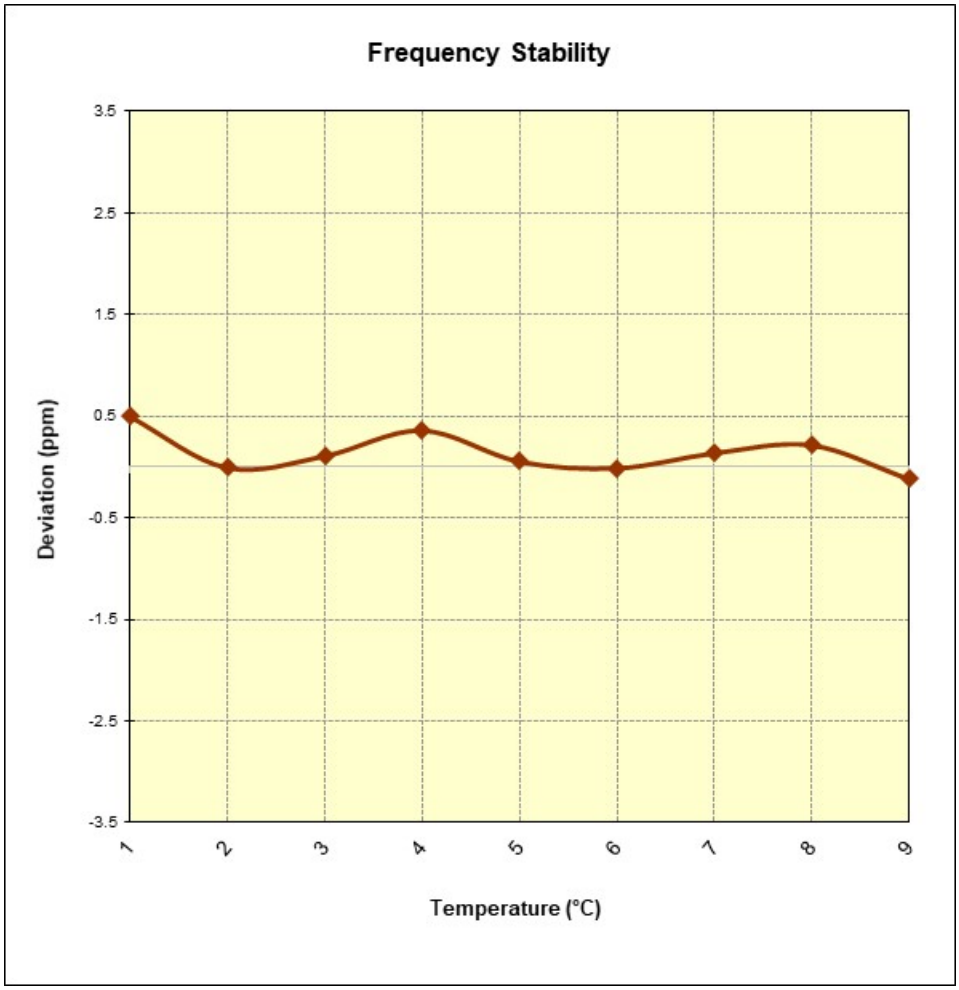


Figure 7-9. Frequency Stability Graph (Band 12)

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	
REFERENCE VOLTAGE:	4.27	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.27	- 30	781,999,984	-16	-0.0000020
100 %		- 20	782,000,354	354	0.0000453
100 %		- 10	781,999,866	-134	-0.0000171
100 %		0	782,000,060	60	0.0000077
100 %		+ 10	781,999,922	-78	-0.0000100
100 %		+ 20	781,999,705	-295	-0.0000377
100 %		+ 30	782,000,349	349	0.0000446
100 %		+ 40	782,000,031	31	0.0000040
100 %		+ 50	781,999,850	-150	-0.0000192
BATT. ENDPOINT	3.51	+ 20	781,999,992	-8	-0.0000010

Table 7-37. 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.