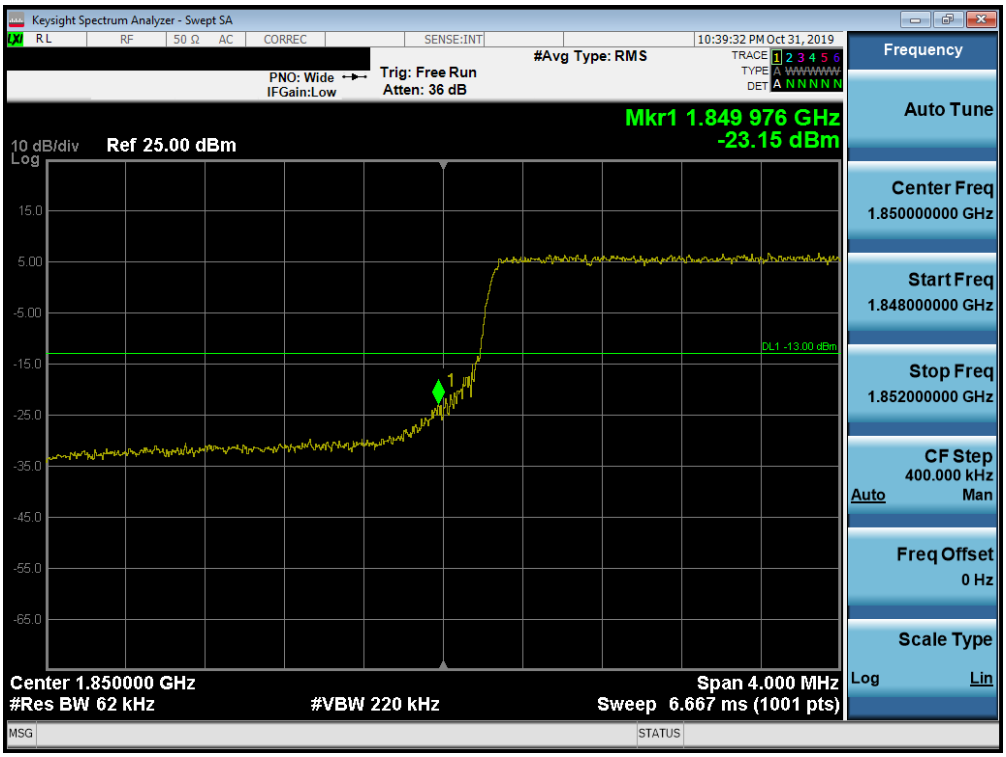
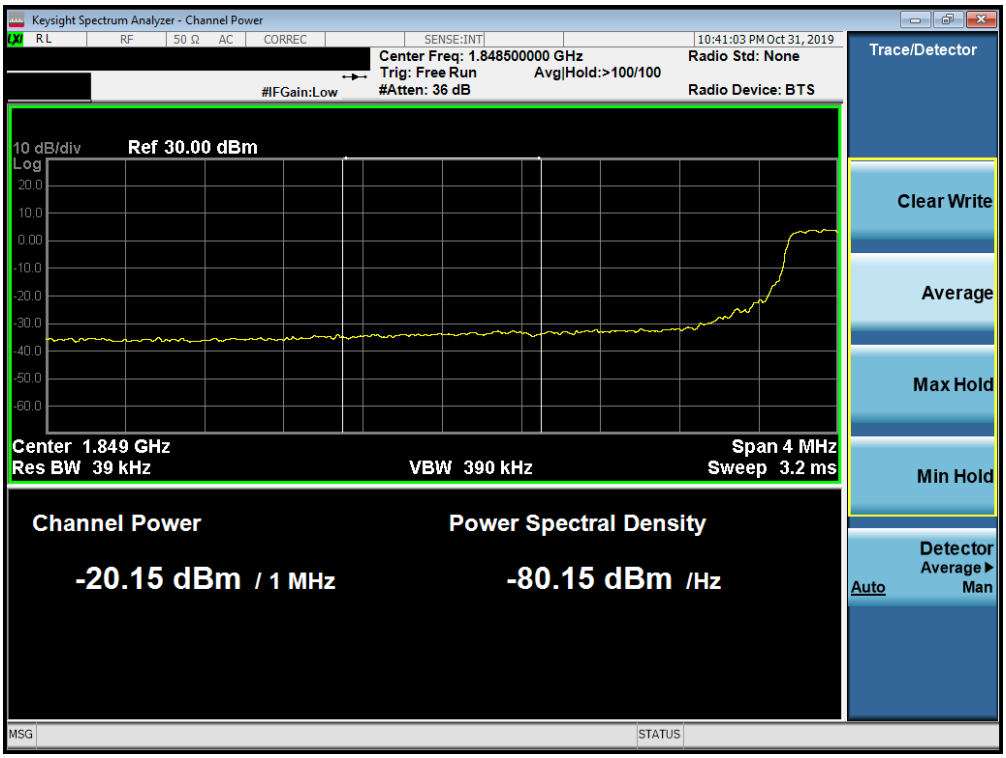


Plot 7-255. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-256. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

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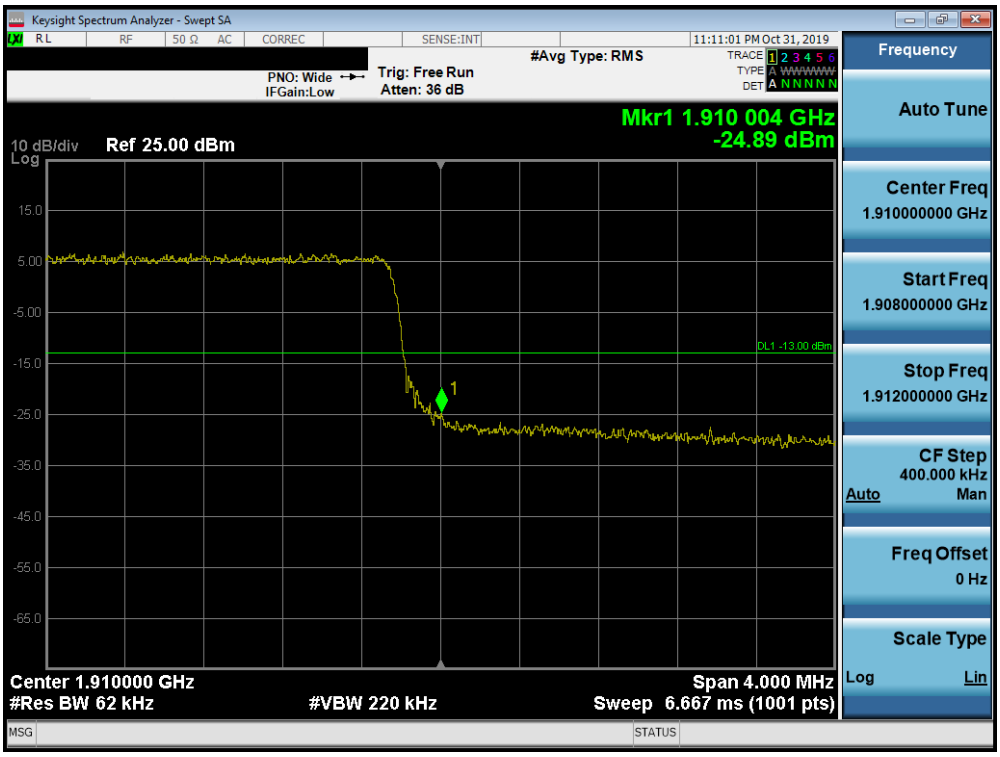
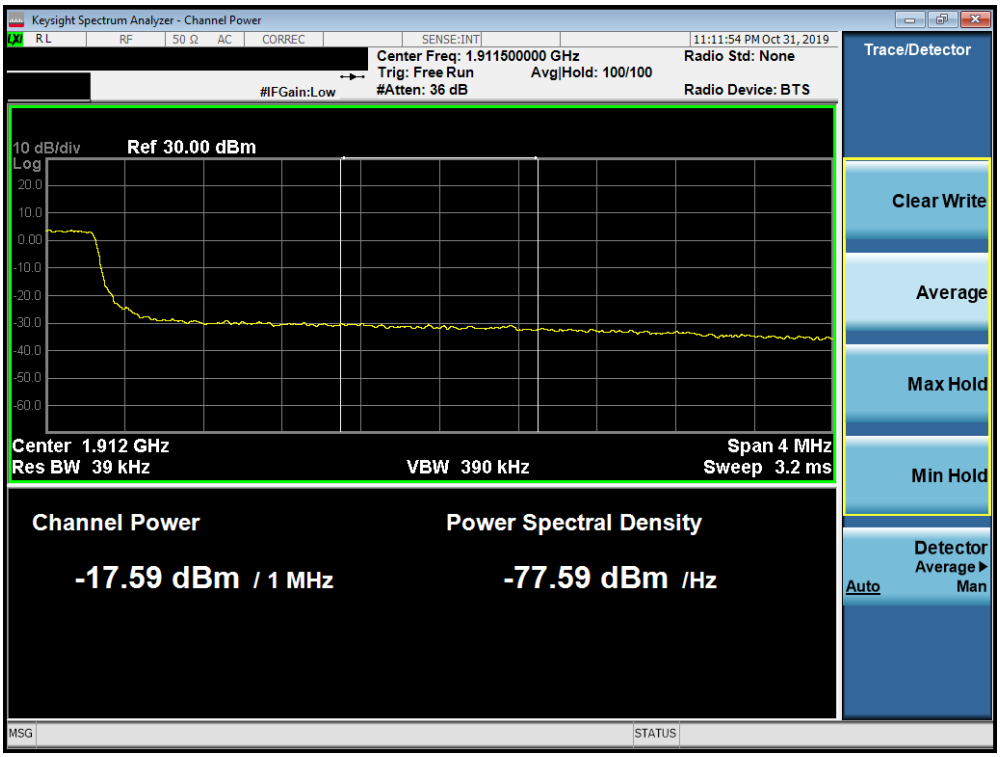


Plot 7-257. Upper Band Edge Plot (Band 2 – 5.0MHz QPSK - Full RB Configuration)



Plot 7-258. Upper Extended Band Edge Plot (Band 2 – 5.0MHz QPSK - Full RB Configuration)

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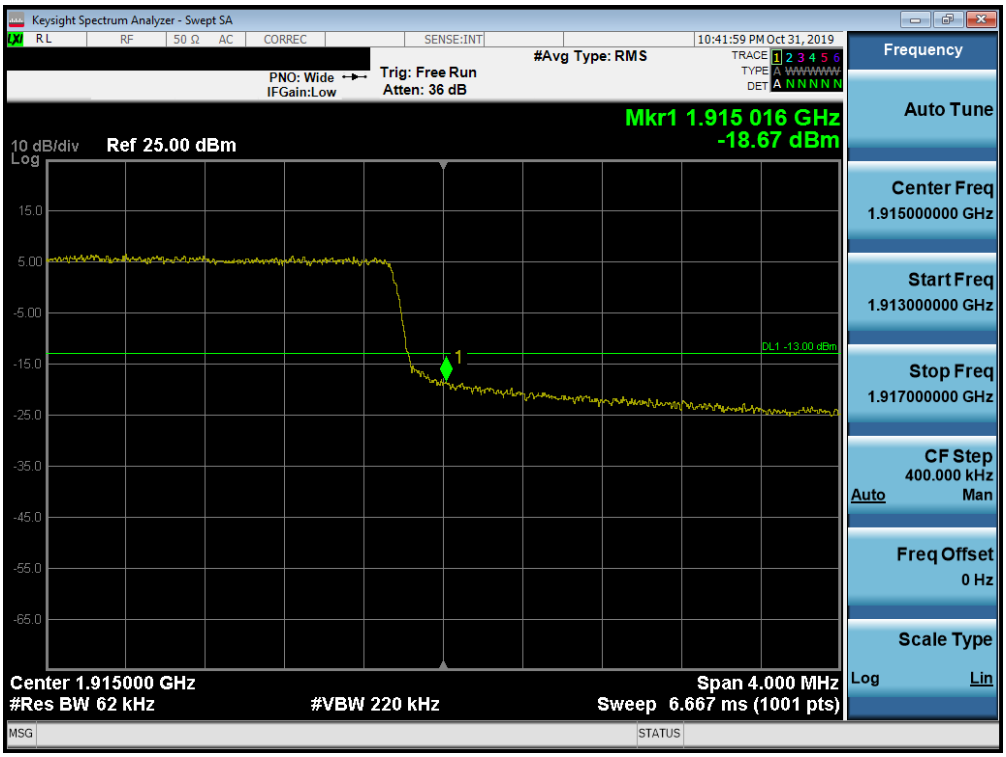
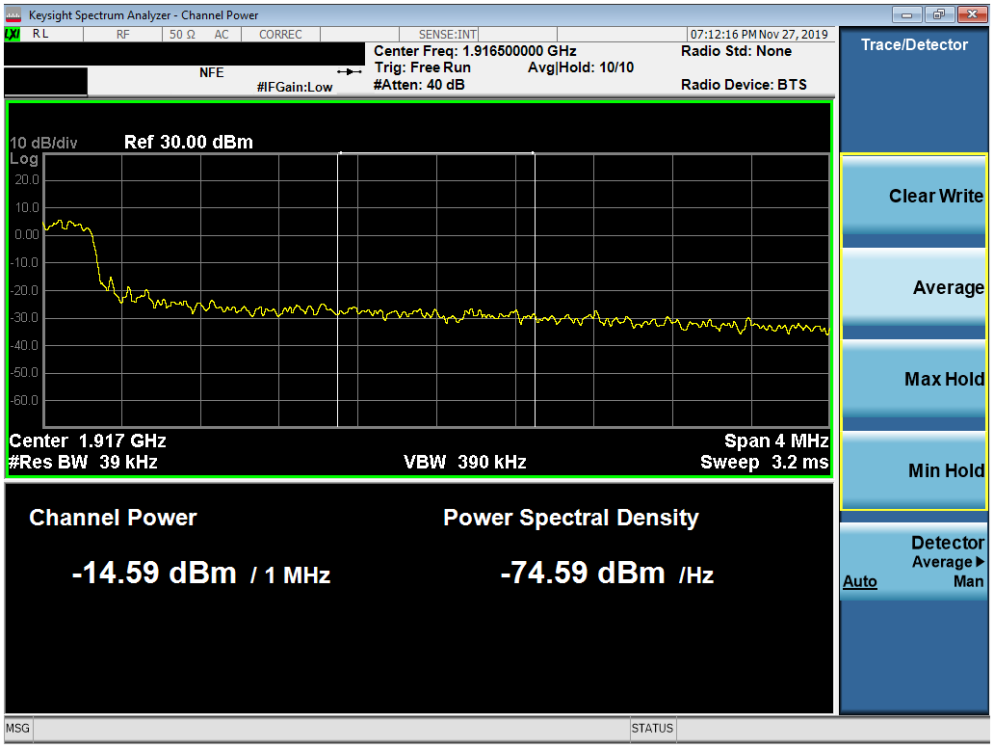


Plot 7-259. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-260. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

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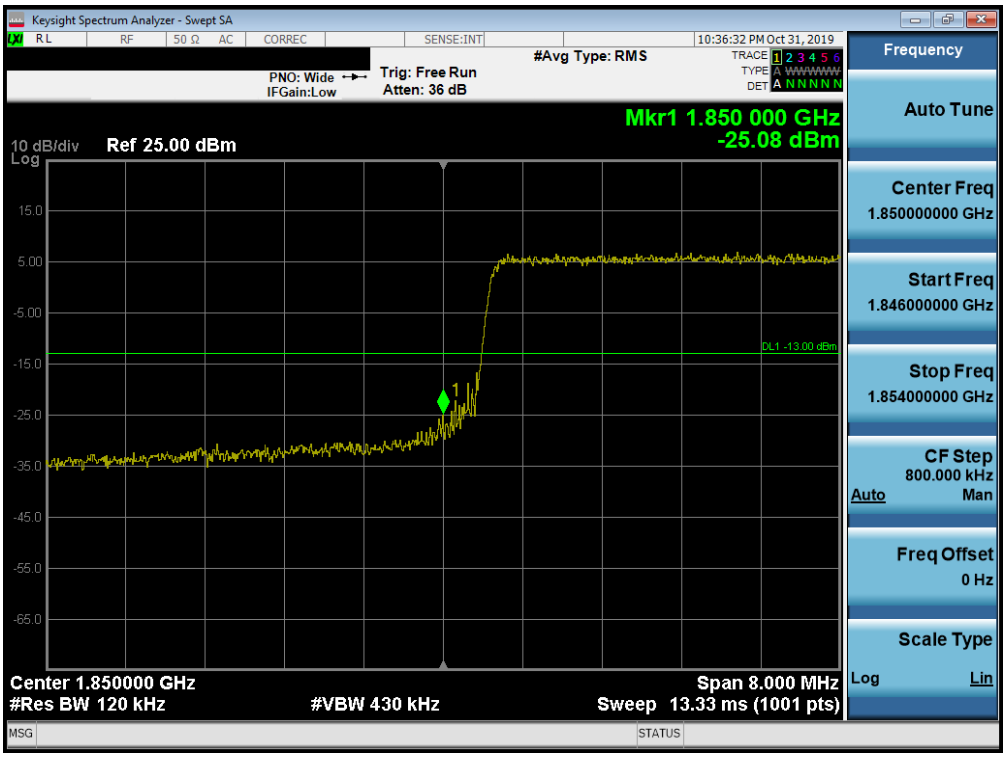
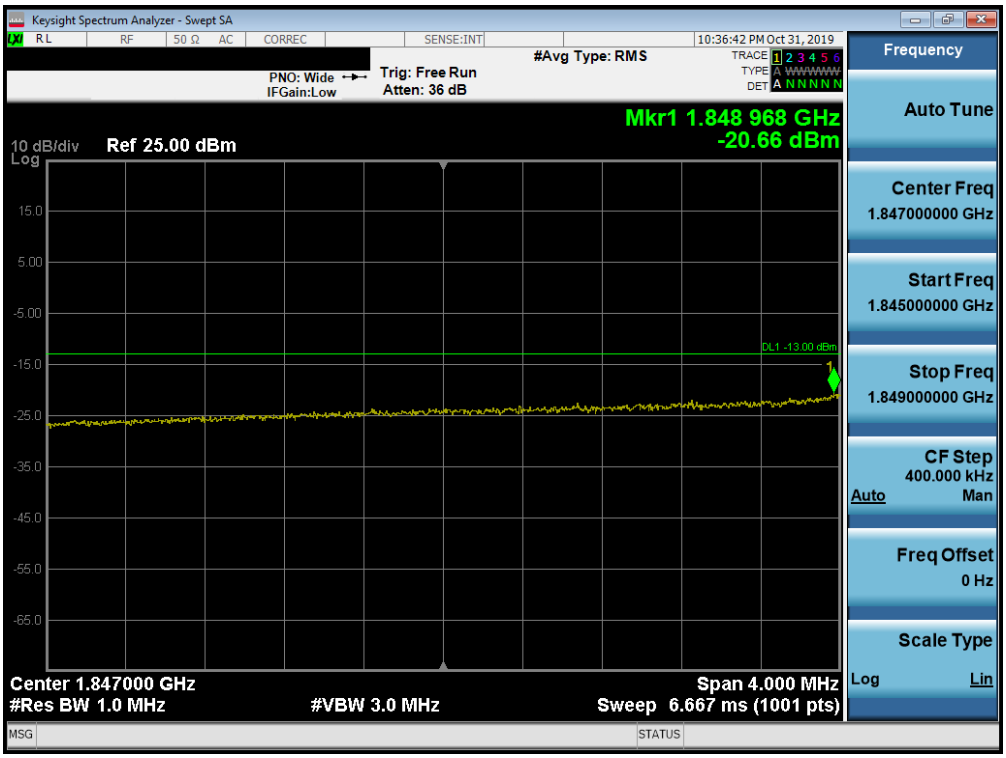


Plot 7-261. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-262. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

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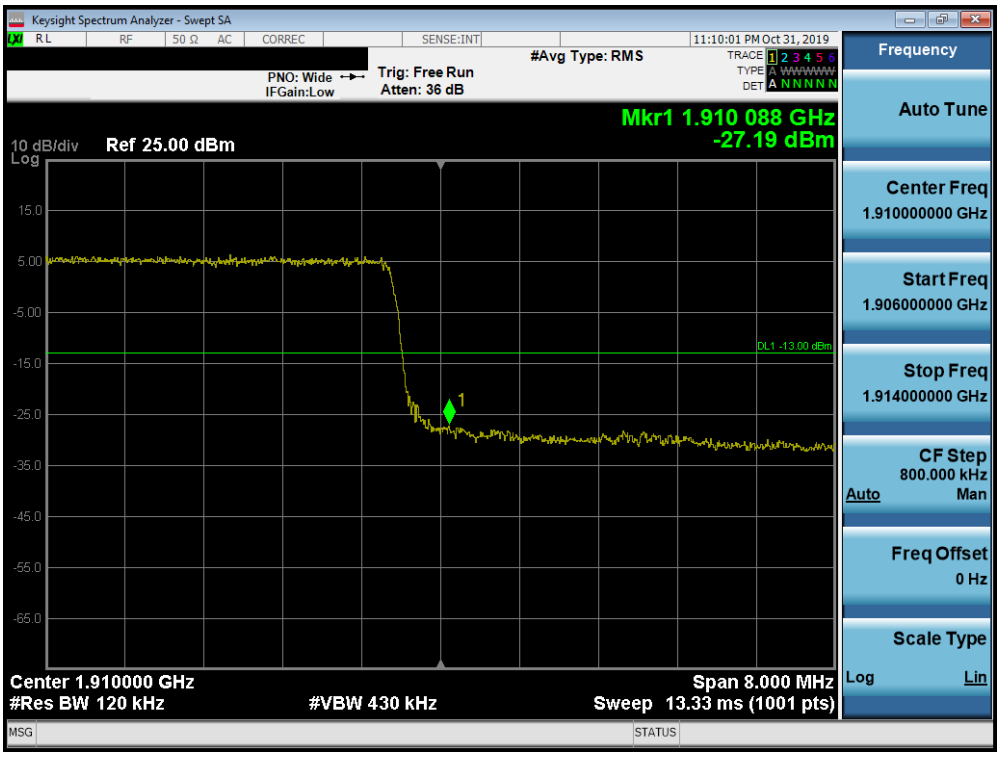
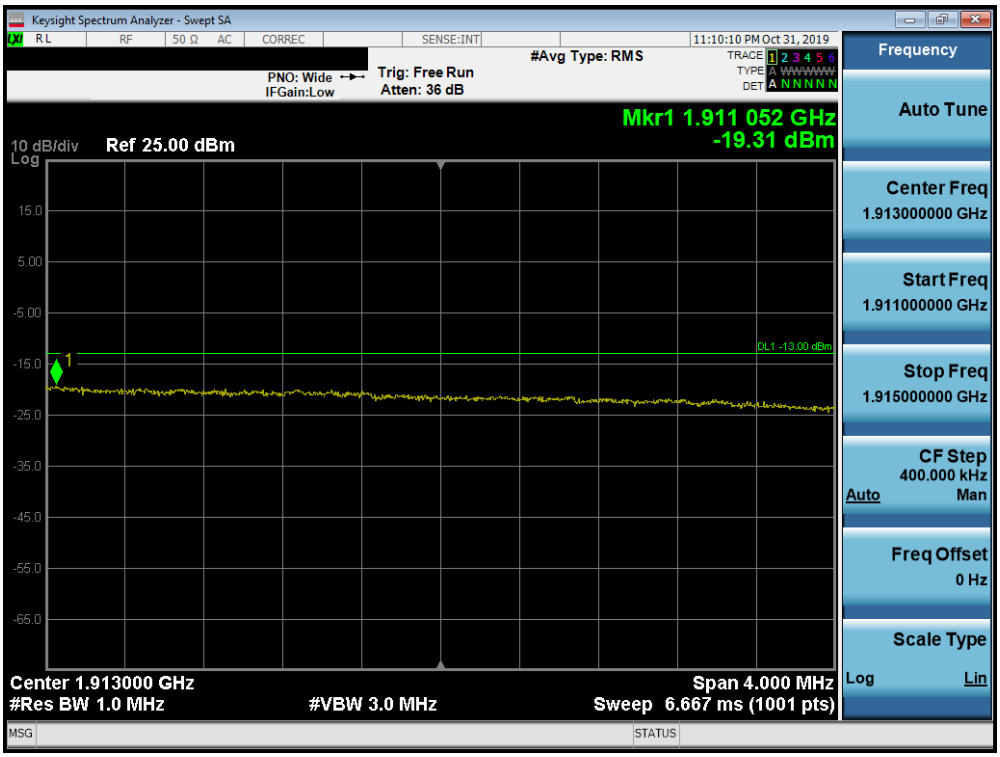


Plot 7-263. Upper Band Edge Plot (Band 2 – 10.0MHz QPSK - Full RB Configuration)



Plot 7-264. Upper Extended Band Edge Plot (Band 2 – 10.0MHz QPSK - Full RB Configuration)

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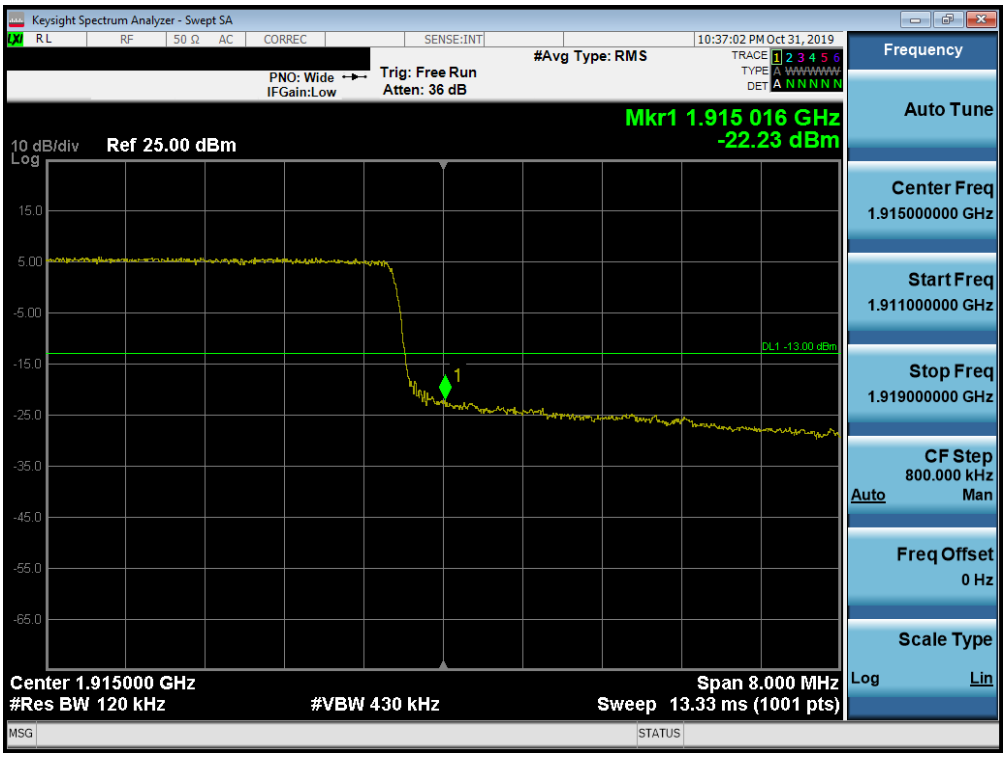
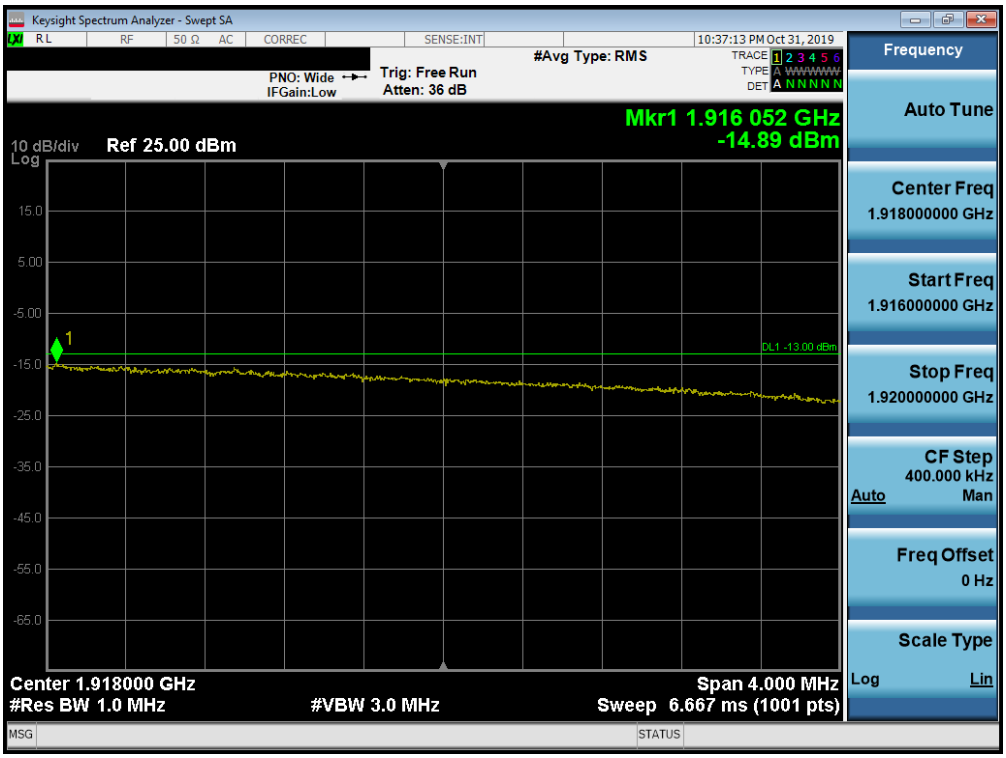


Plot 7-265. Upper Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-266. Upper Extended Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

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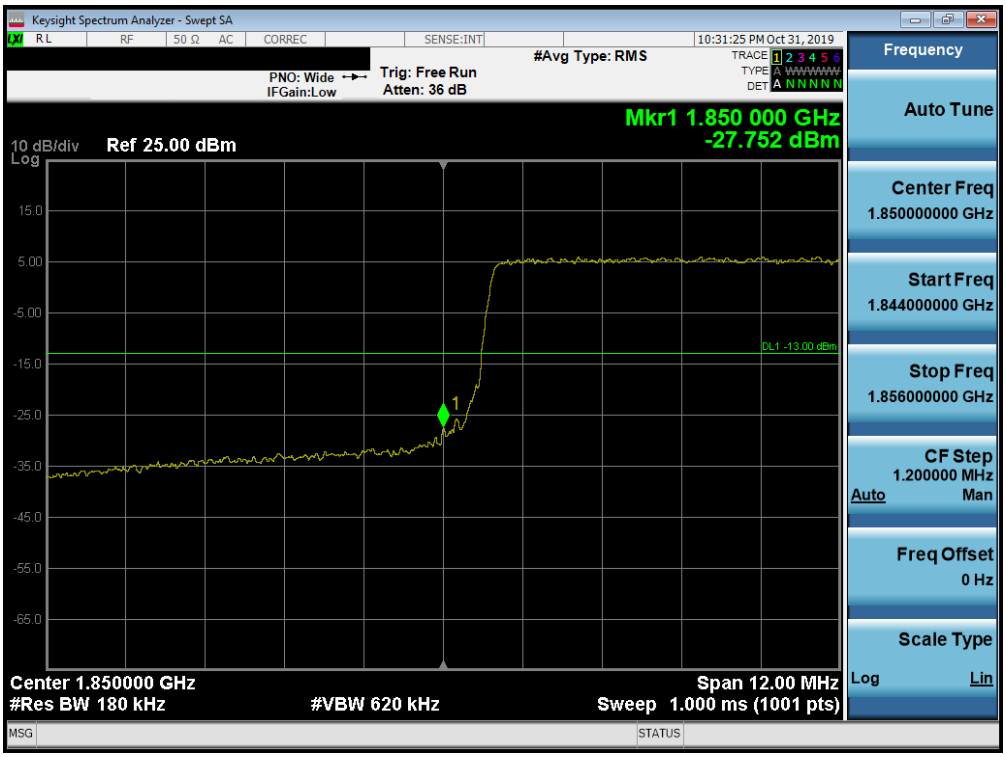
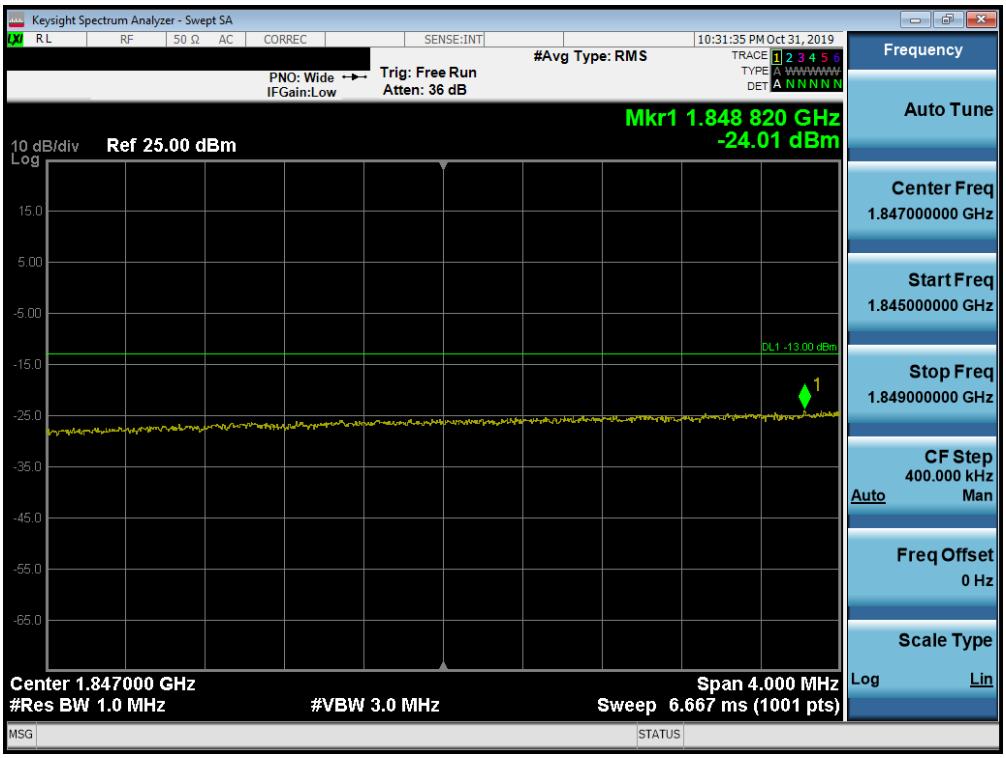


Plot 7-267. Lower Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-268. Lower Extended Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

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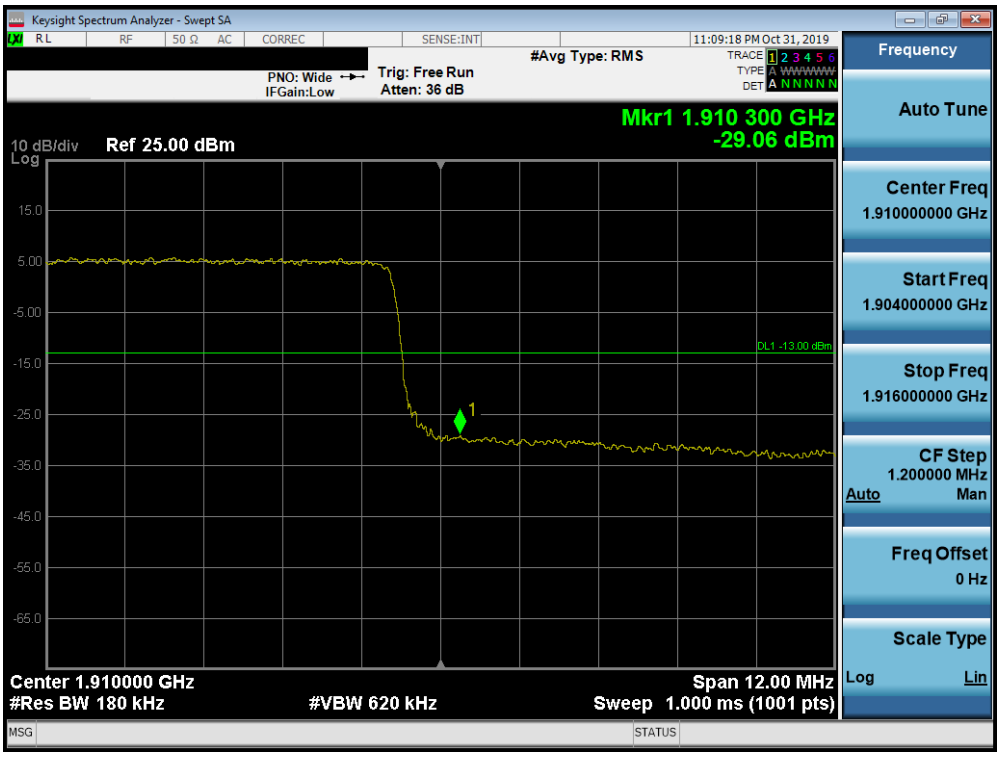
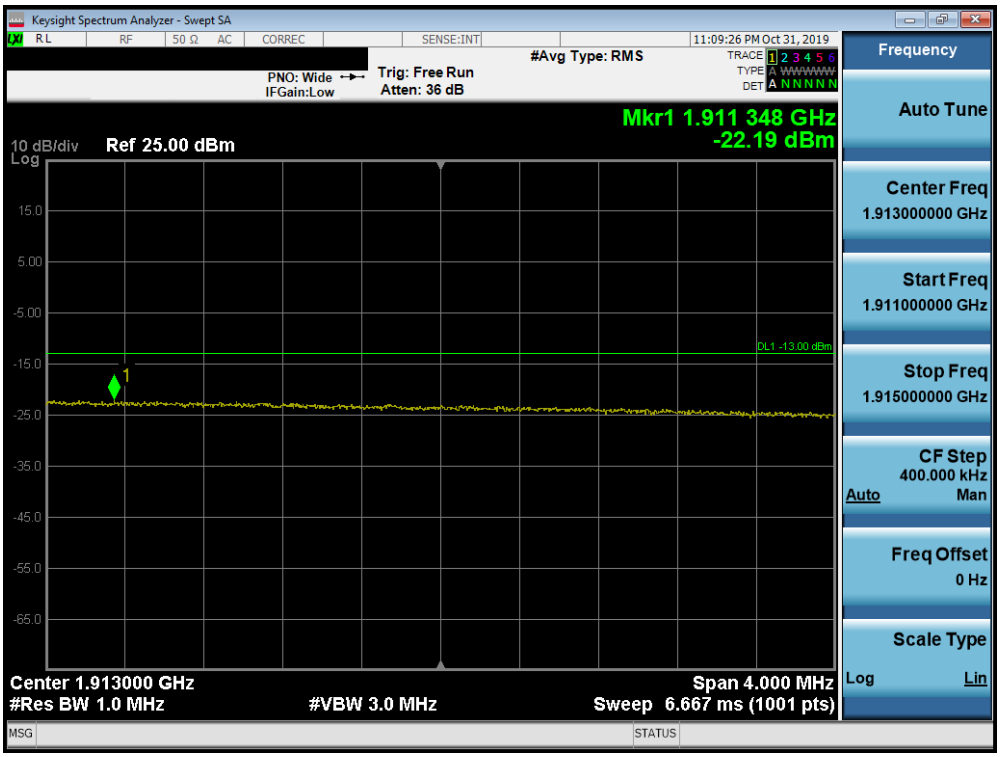


Plot 7-269. Upper Band Edge Plot (Band 2 – 15.0MHz QPSK - Full RB Configuration)



Plot 7-270. Upper Extended Band Edge Plot (Band 2 – 15.0MHz QPSK - Full RB Configuration)

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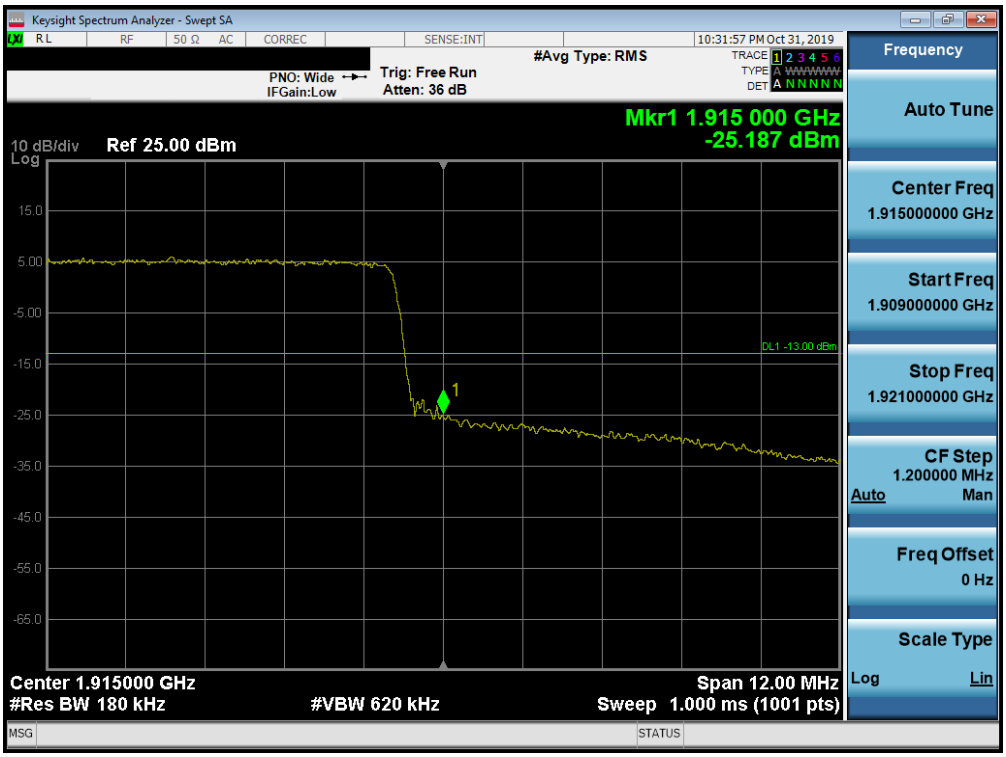
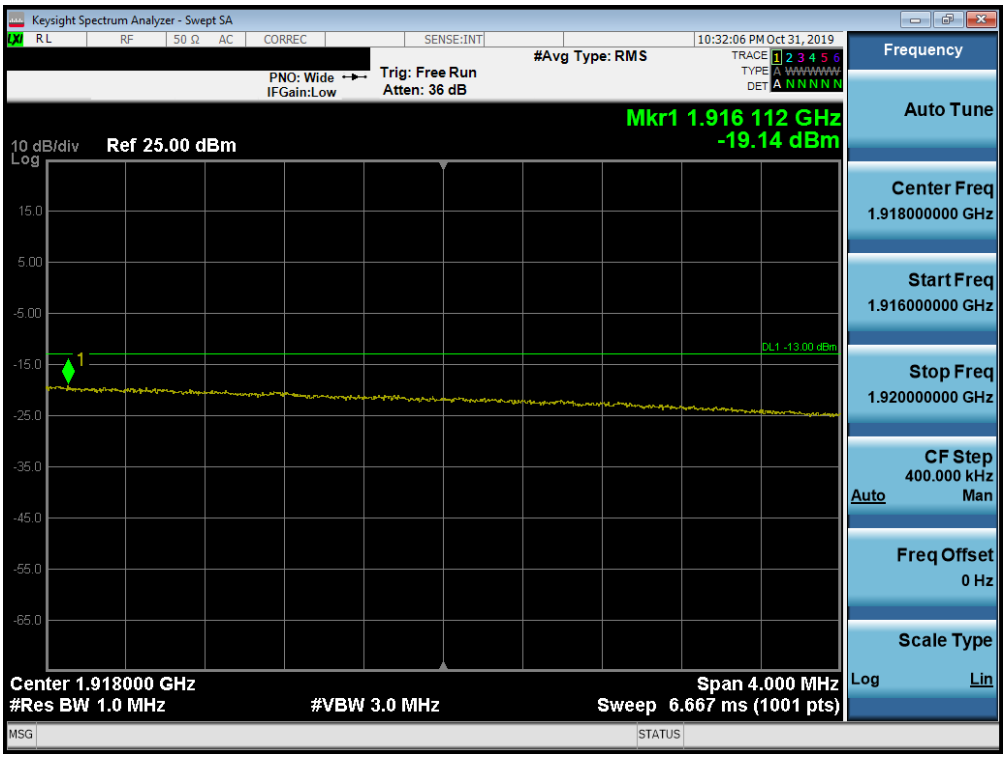


Plot 7-271. Upper Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-272. Upper Extended Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

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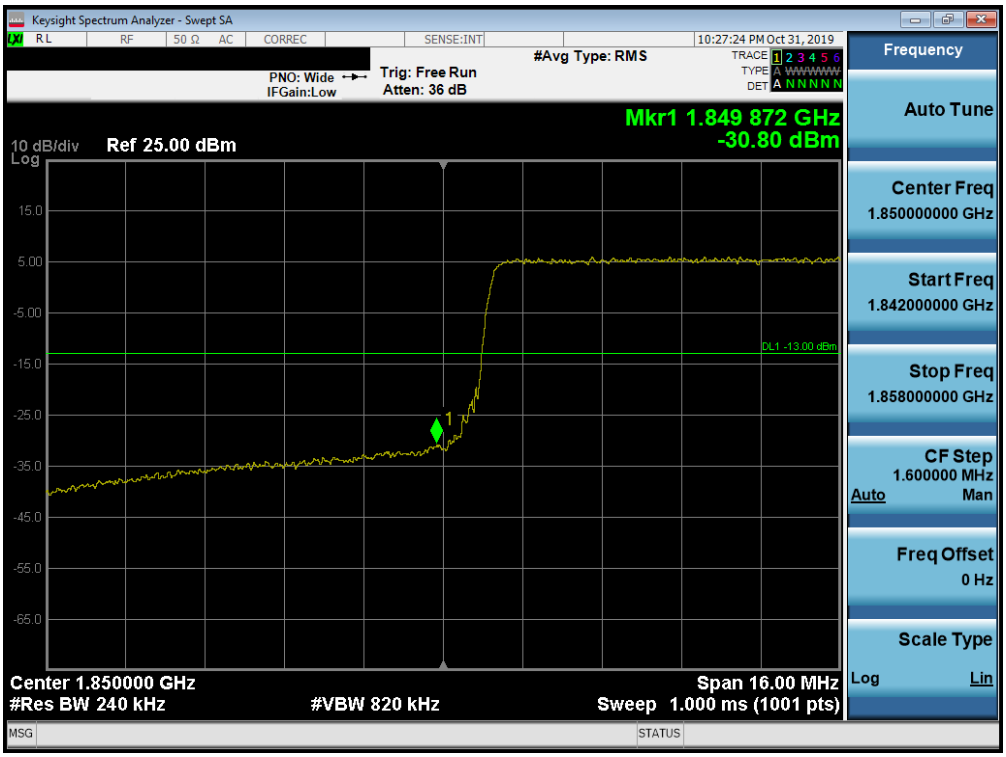
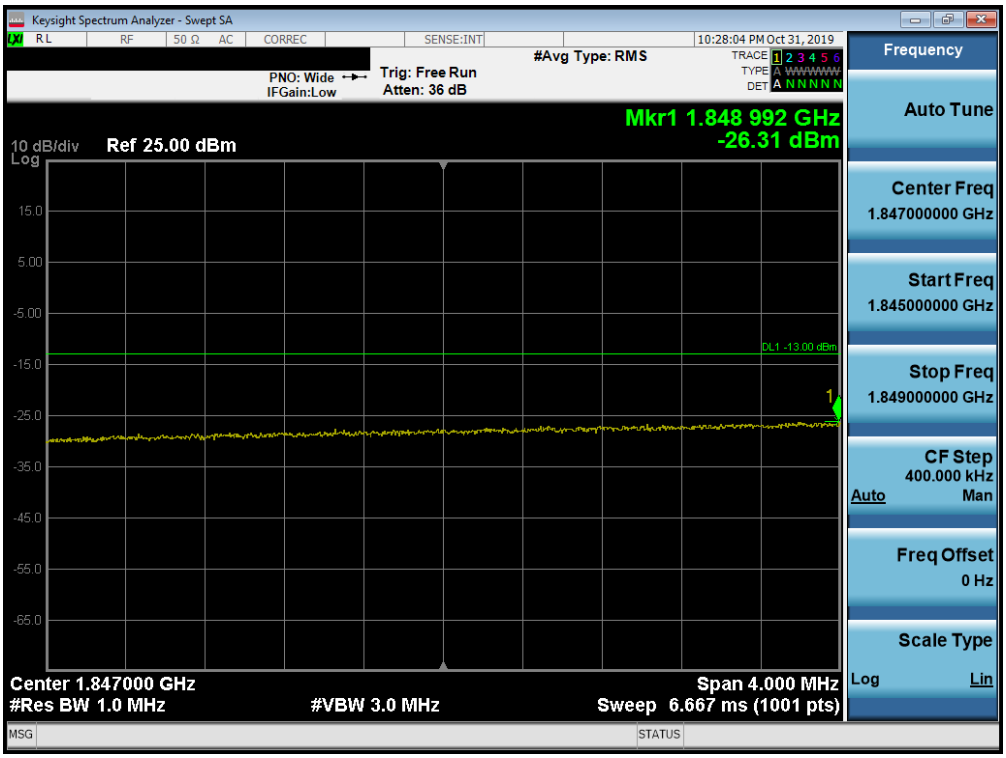


Plot 7-273. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-274. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

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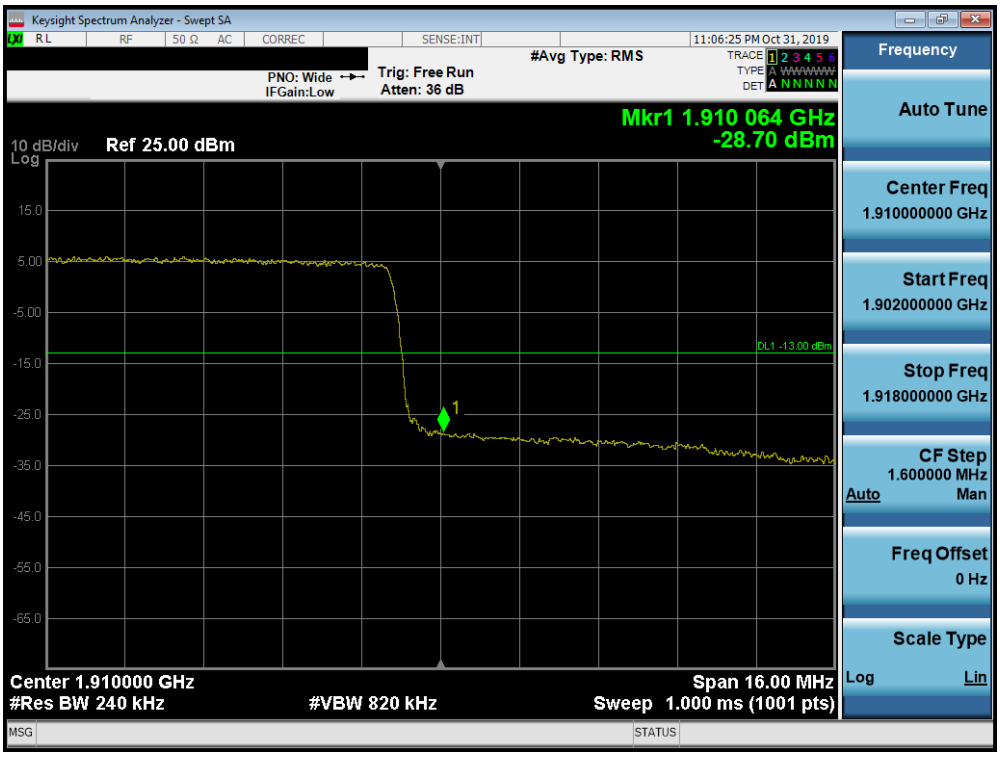
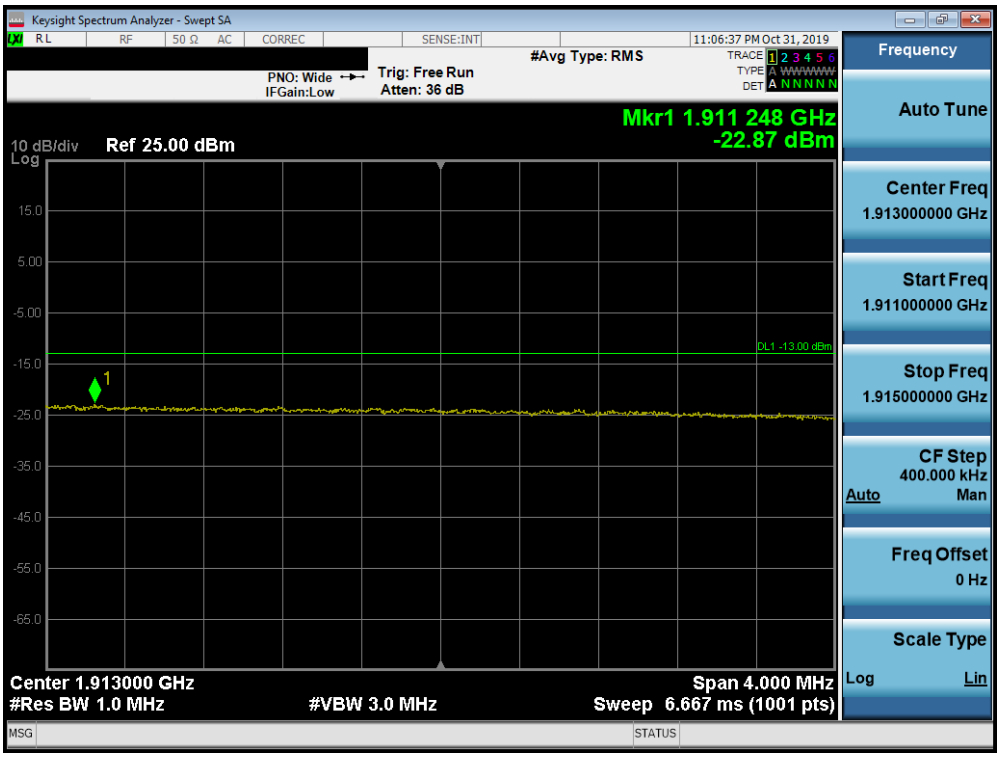


Plot 7-275. Upper Band Edge Plot (Band 2 – 20.0MHz QPSK - Full RB Configuration)



Plot 7-276. Upper Extended Band Edge Plot (Band 2 – 20.0MHz QPSK - Full RB Configuration)

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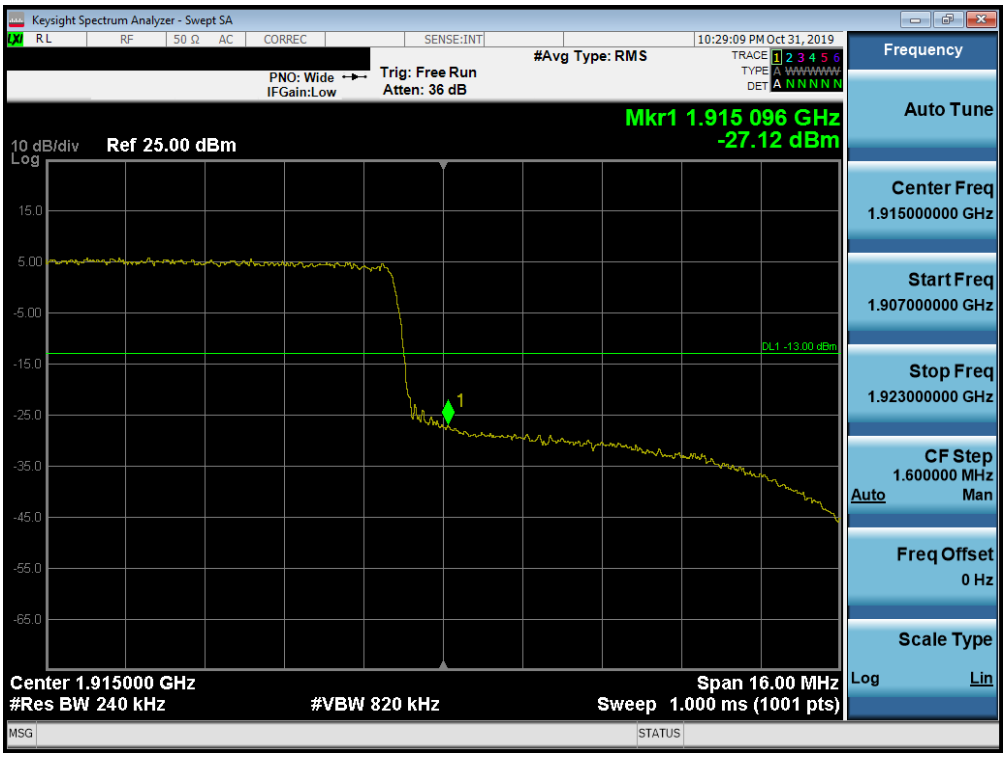
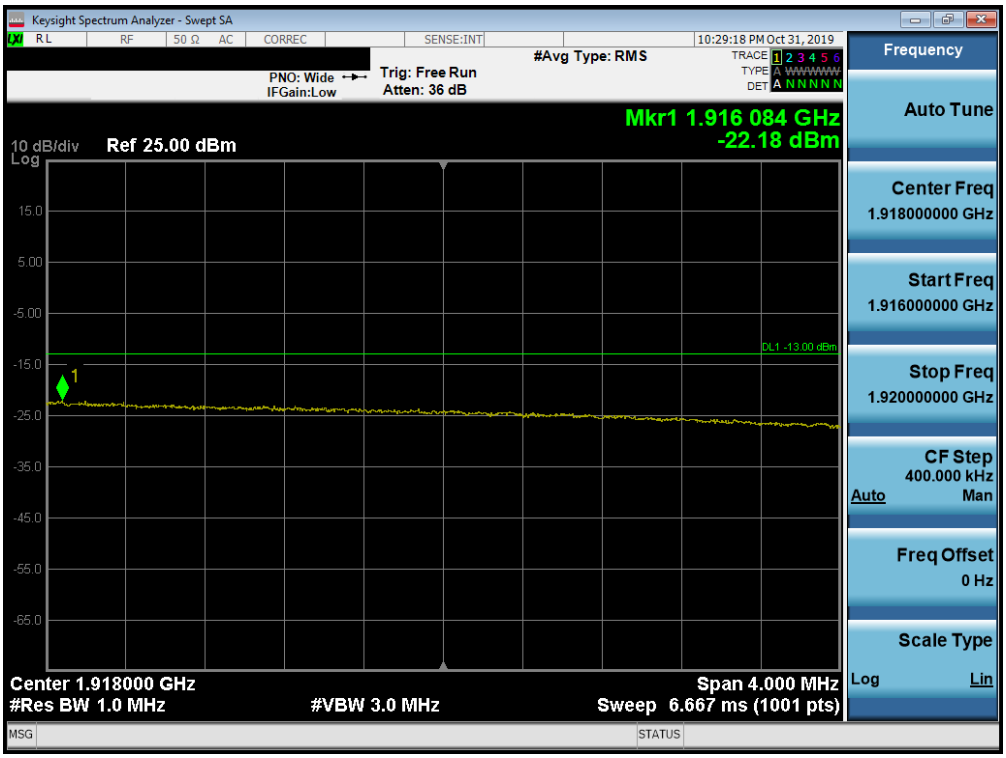


Plot 7-277. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-278. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

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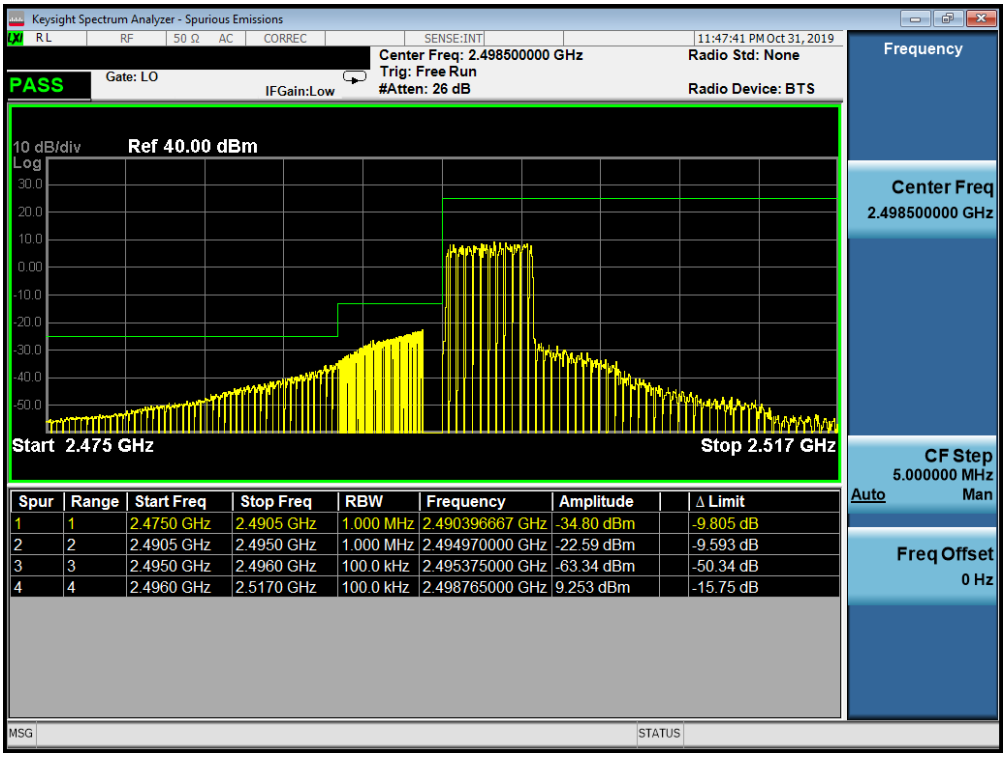
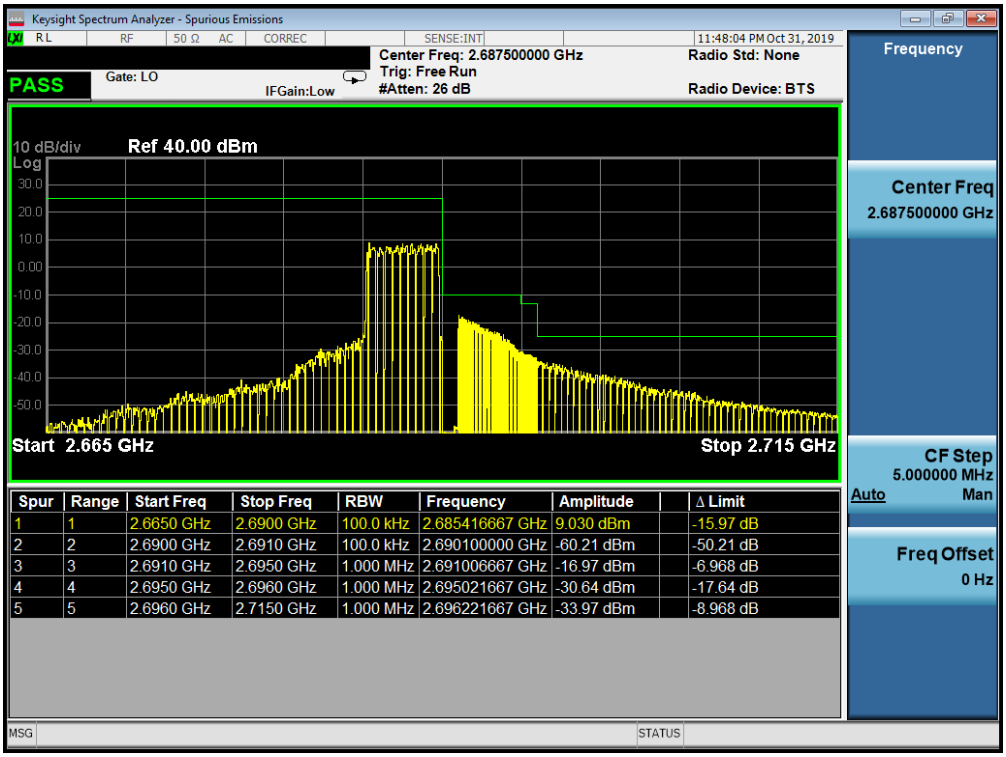
Band 41 PC2



Plot 7-279. Lower ACP Plot at 2496 MHz (Band 41 PC2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-280. Upper ACP Plot (Band 41 PC2 - 5.0MHz QPSK - Full RB Configuration)

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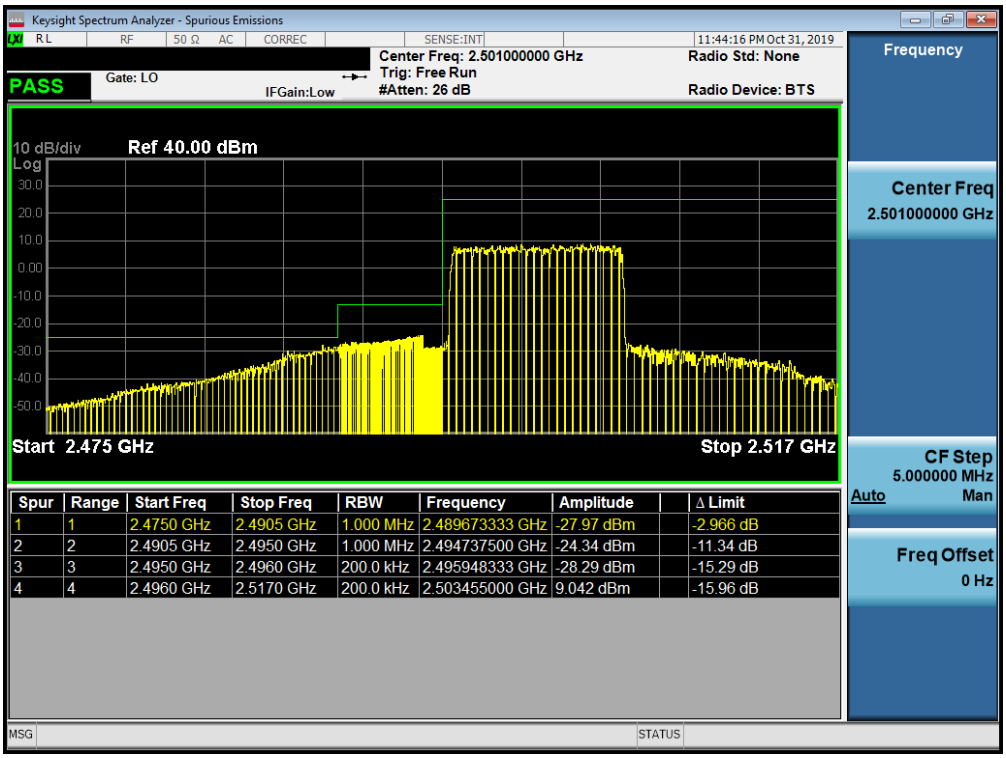
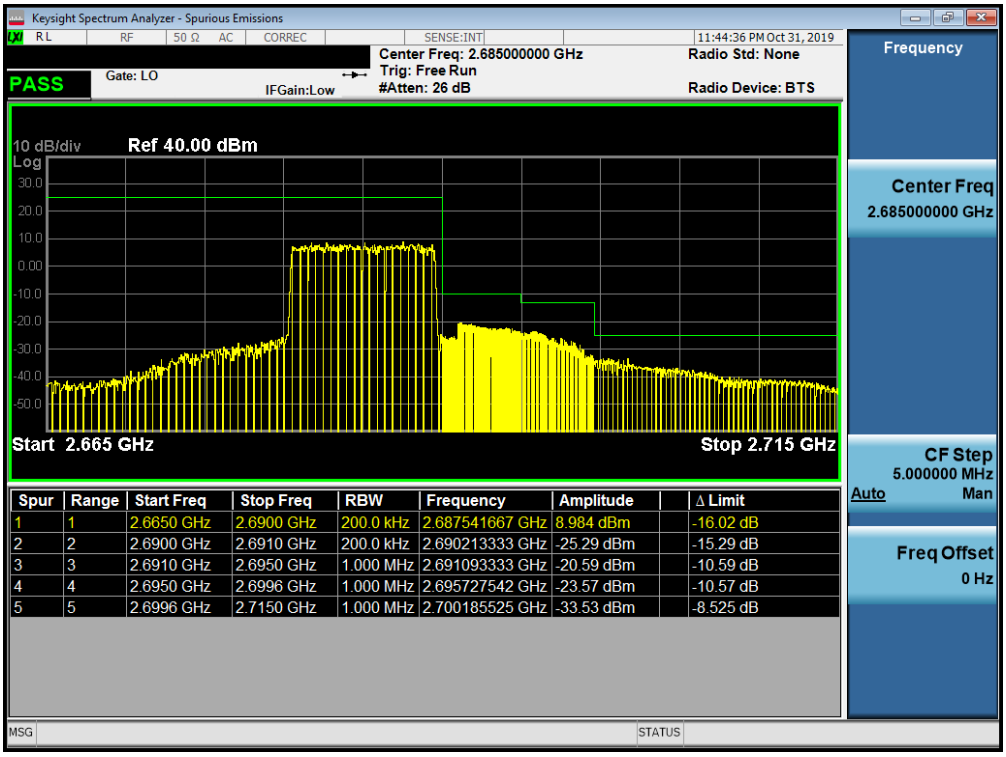


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.489673333 GHz	-27.97 dBm	-2.966 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494737500 GHz	-24.34 dBm	-11.34 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495948333 GHz	-28.29 dBm	-15.29 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.503455000 GHz	9.042 dBm	-15.96 dB

Plot 7-281. Lower ACP Plot at 2496 MHz (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	2.687541667 GHz	8.984 dBm	-16.02 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690213333 GHz	-25.29 dBm	-15.29 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691093333 GHz	-20.59 dBm	-10.59 dB
4	4	2.6950 GHz	2.6996 GHz	1.000 MHz	2.695727542 GHz	-23.57 dBm	-10.57 dB
5	5	2.6996 GHz	2.7150 GHz	1.000 MHz	2.700185525 GHz	-33.53 dBm	-8.525 dB

Plot 7-282. Upper ACP Plot (Band 41 PC2 - 10.0MHz QPSK - Full RB Configuration)

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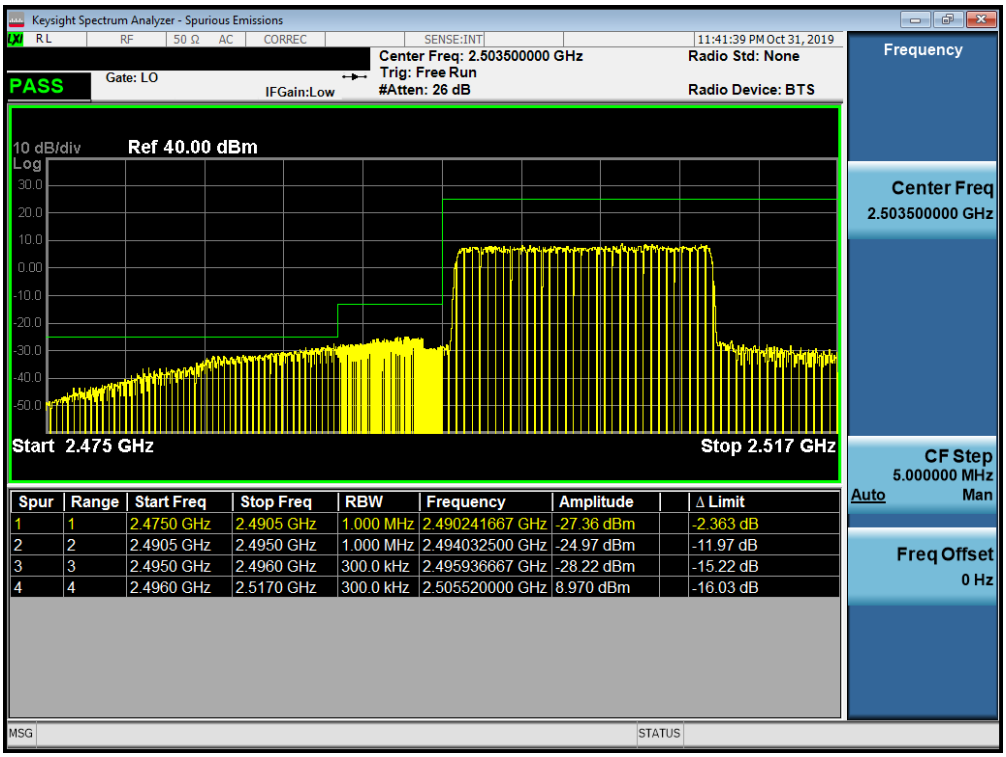
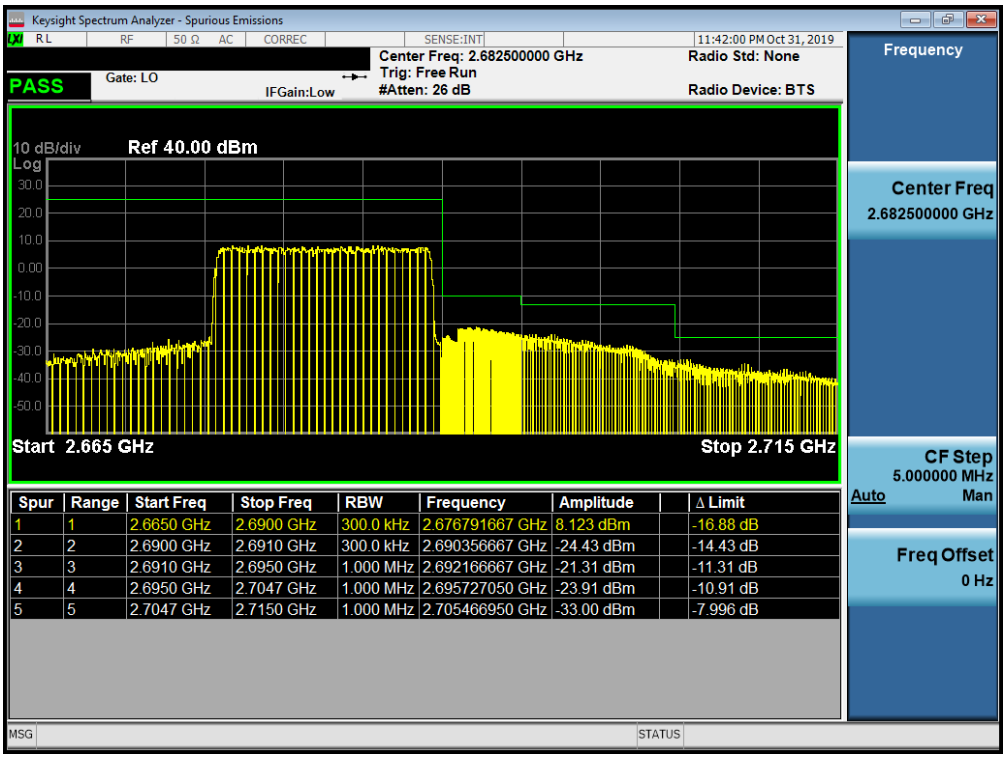


Plot 7-283. Lower ACP Plot at 2496 MHz (Band 41 PC2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-284. Upper ACP Plot (Band 41 PC2 - 15.0MHz QPSK - Full RB Configuration)

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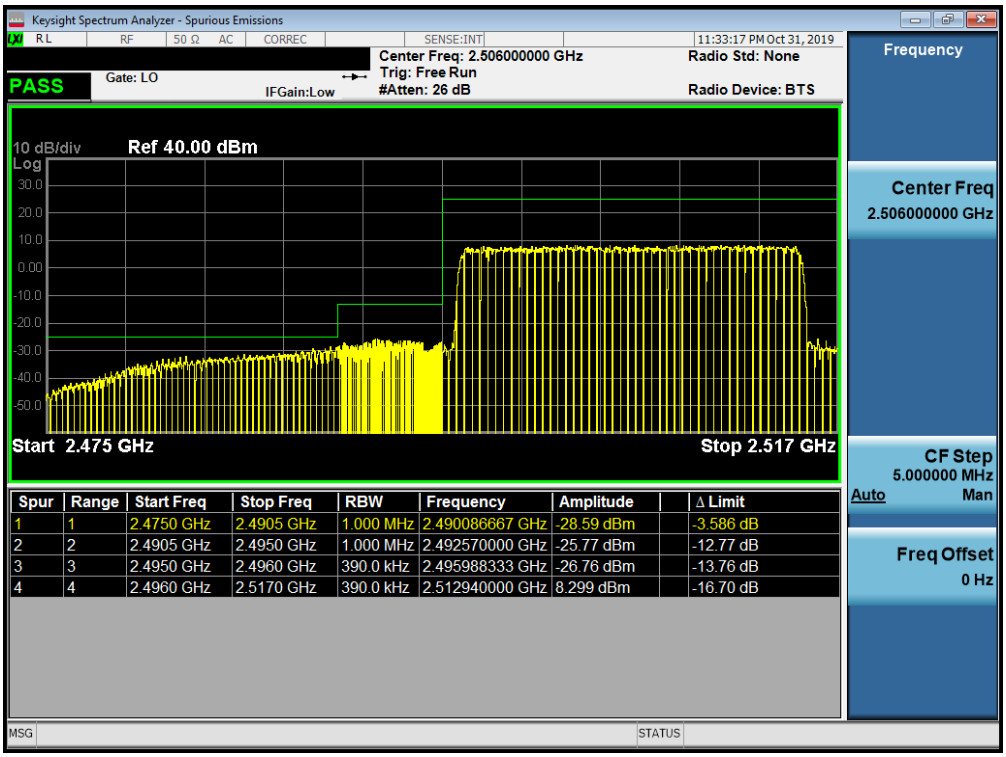
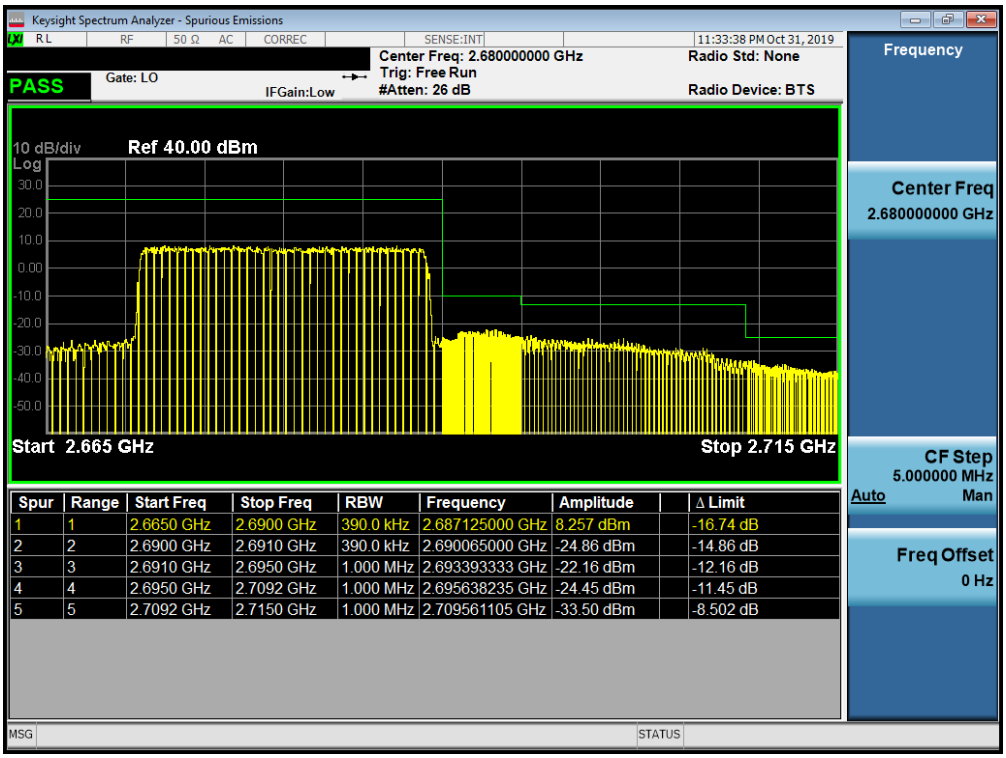


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude		Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490086667 GHz	-28.59 dBm		-3.586 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.492570000 GHz	-25.77 dBm		-12.77 dB
3	3	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495988333 GHz	-26.76 dBm		-13.76 dB
4	4	2.4960 GHz	2.5170 GHz	390.0 kHz	2.512940000 GHz	8.299 dBm		-16.70 dB

Plot 7-285. Lower ACP Plot at 2496 MHz (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	2.687125000 GHz	8.257 dBm		-16.74 dB
2	2	2.6900 GHz	2.6910 GHz	390.0 kHz	2.690065000 GHz	-24.86 dBm		-14.86 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.693393333 GHz	-22.16 dBm		-12.16 dB
4	4	2.6950 GHz	2.7092 GHz	1.000 MHz	2.695638235 GHz	-24.45 dBm		-11.45 dB
5	5	2.7092 GHz	2.7150 GHz	1.000 MHz	2.709561105 GHz	-33.50 dBm		-8.502 dB

Plot 7-286. Upper ACP Plot (Band 41 PC2 - 20.0MHz QPSK - Full RB Configuration)

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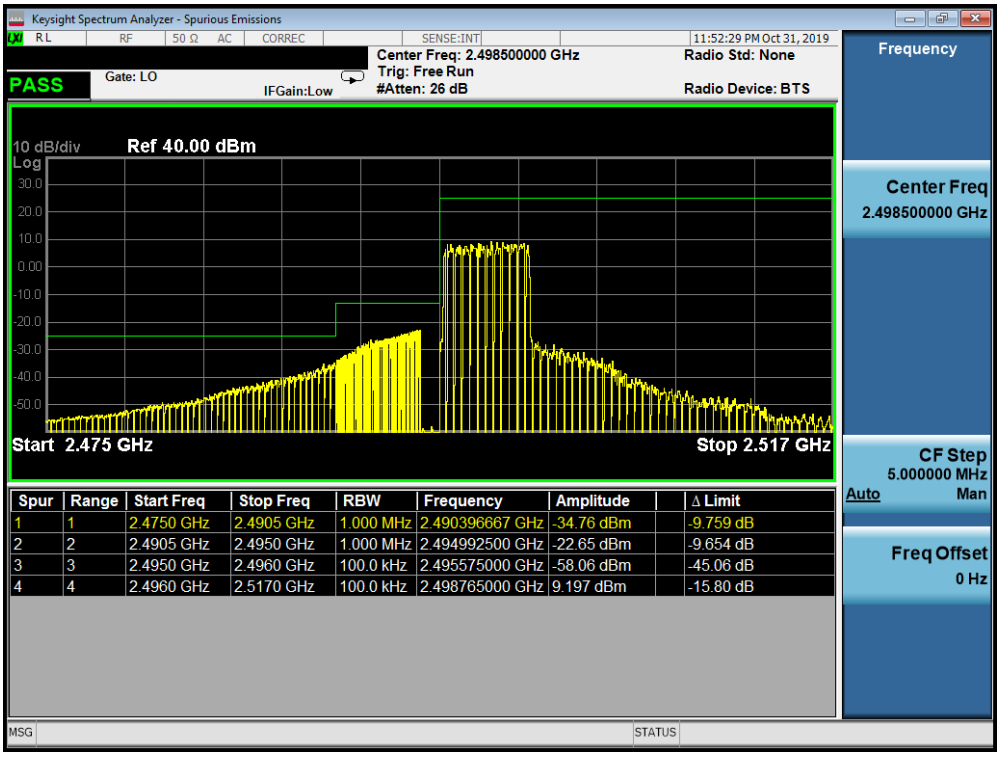
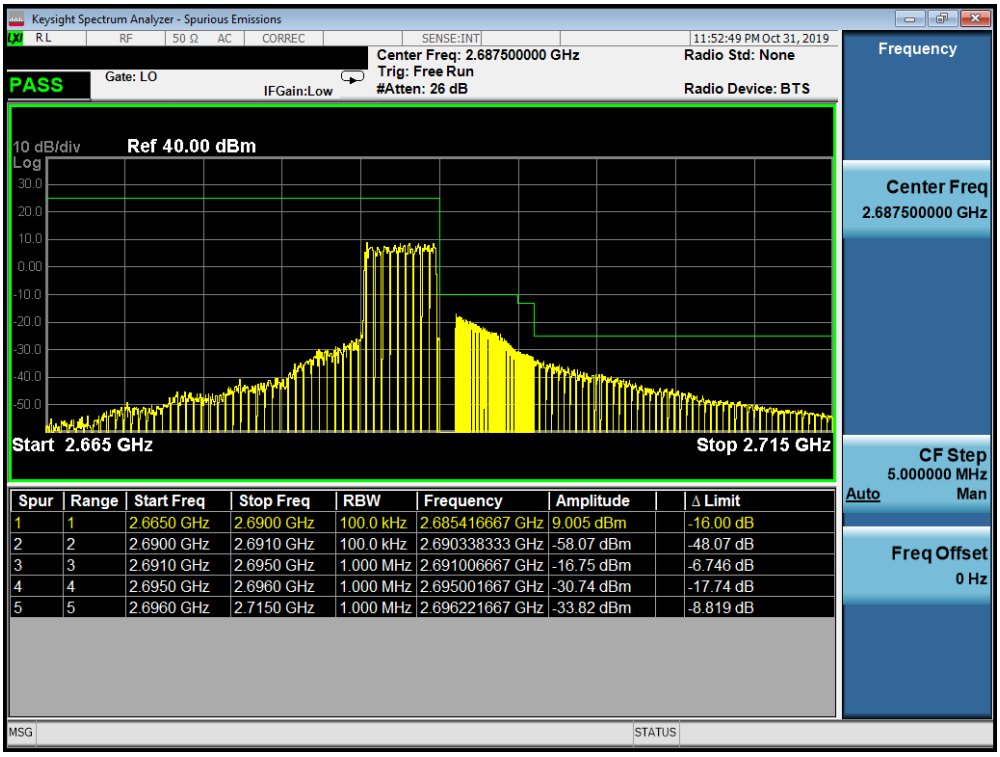
Band 41 PC3



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490396667 GHz	-34.76 dBm	-9.759 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494992500 GHz	-22.65 dBm	-9.654 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495575000 GHz	-58.06 dBm	-45.06 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.498765000 GHz	9.197 dBm	-15.80 dB

Plot 7-287. Lower ACP Plot at 2496 MHz (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	2.685416667 GHz	9.005 dBm	-16.00 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690338333 GHz	-58.07 dBm	-48.07 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691006667 GHz	-16.75 dBm	-6.746 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695001667 GHz	-30.74 dBm	-17.74 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696221667 GHz	-33.82 dBm	-8.819 dB

Plot 7-288. Upper ACP Plot (Band 41 PC3 - 5.0MHz QPSK - Full RB Configuration)

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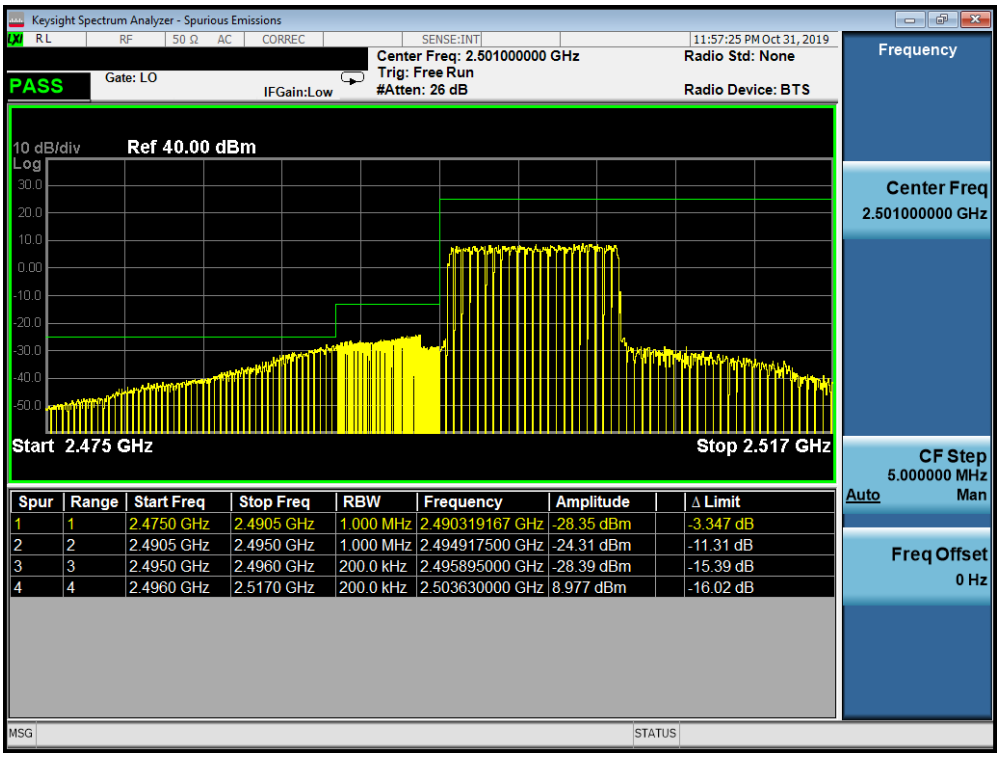
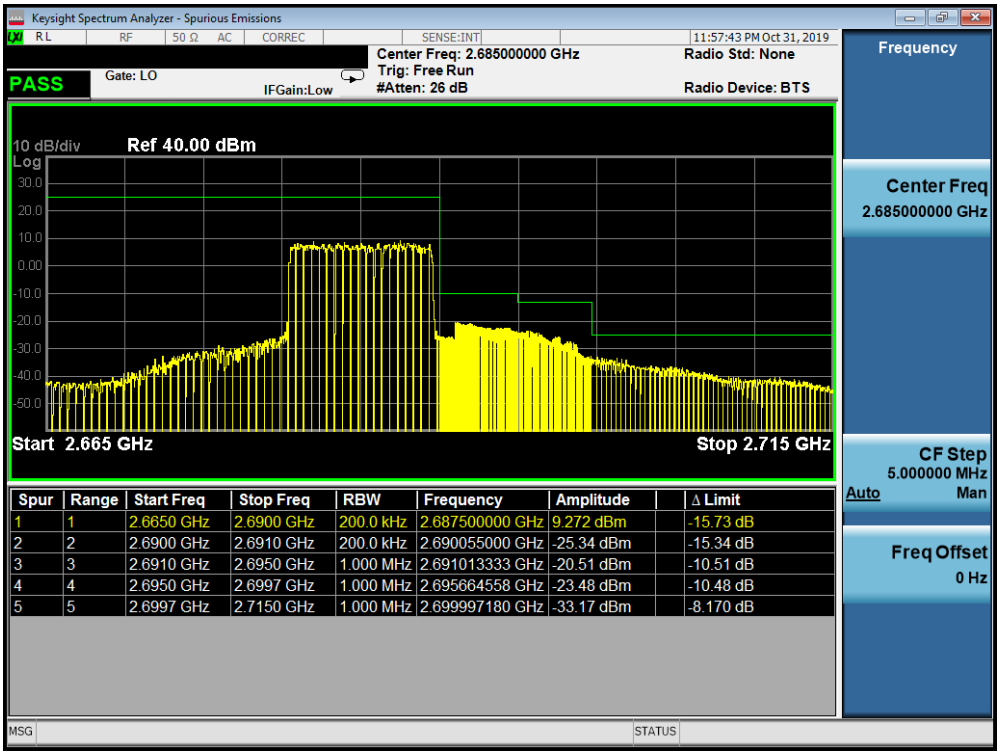


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490319167 GHz	-28.35 dBm	-3.347 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494917500 GHz	-24.31 dBm	-11.31 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495895000 GHz	-28.39 dBm	-15.39 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.503630000 GHz	8.977 dBm	-16.02 dB

Plot 7-289. Lower ACP Plot at 2496 MHz (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	2.687500000 GHz	9.272 dBm	-15.73 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690055000 GHz	-25.34 dBm	-15.34 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691013333 GHz	-20.51 dBm	-10.51 dB
4	4	2.6950 GHz	2.6997 GHz	1.000 MHz	2.695664558 GHz	-23.48 dBm	-10.48 dB
5	5	2.6997 GHz	2.7150 GHz	1.000 MHz	2.699997180 GHz	-33.17 dBm	-8.170 dB

Plot 7-290. Upper ACP Plot (Band 41 PC3 - 10.0MHz QPSK - Full RB Configuration)

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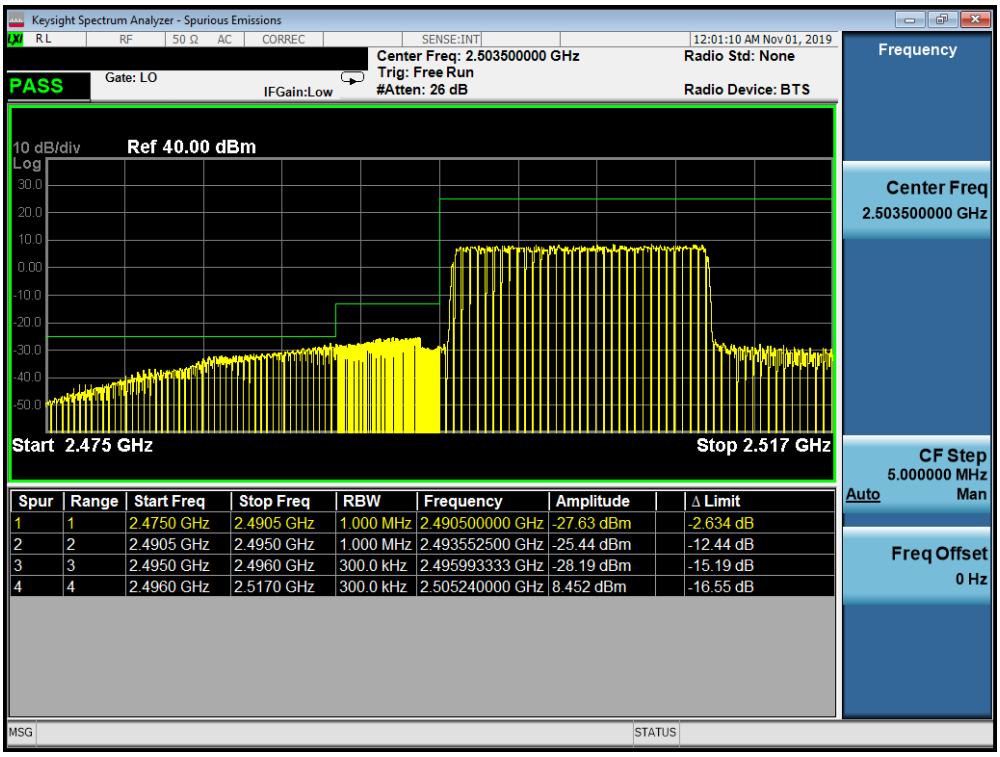
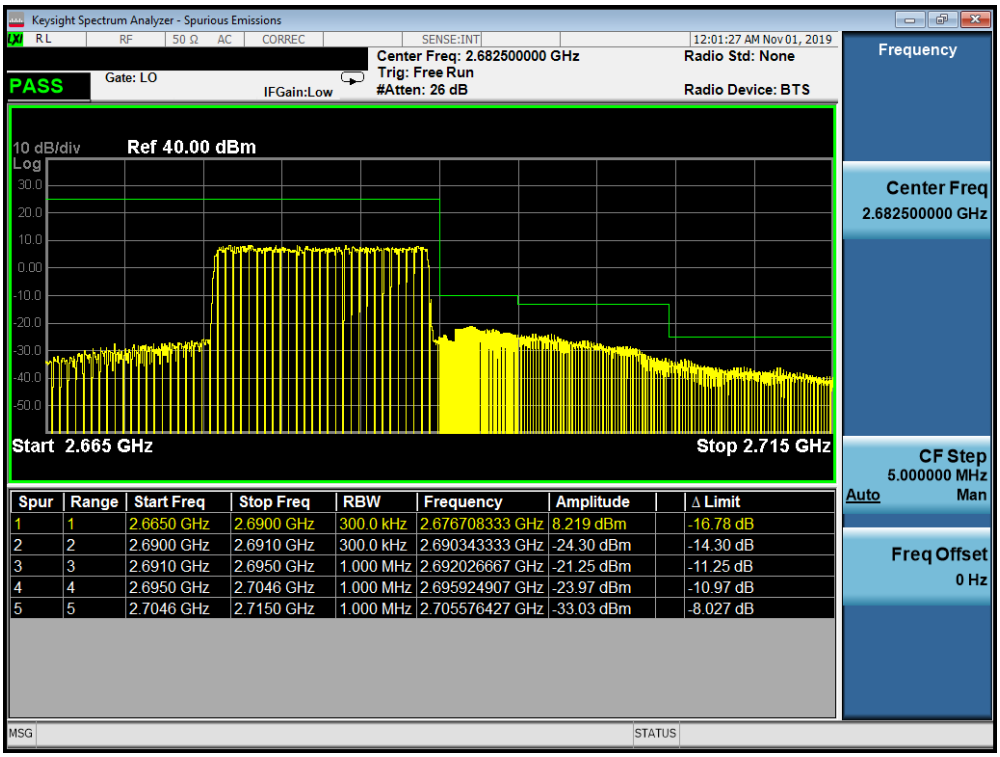


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490500000 GHz	-27.63 dBm	-2.634 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.493552500 GHz	-25.44 dBm	-12.44 dB
3	3	2.4950 GHz	2.4960 GHz	300.0 kHz	2.495993333 GHz	-28.19 dBm	-15.19 dB
4	4	2.4960 GHz	2.5170 GHz	300.0 kHz	2.505240000 GHz	8.452 dBm	-16.55 dB

Plot 7-291. Lower ACP Plot at 2496 MHz (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	2.676708333 GHz	8.219 dBm	-16.78 dB
2	2	2.6900 GHz	2.6910 GHz	300.0 kHz	2.690343333 GHz	-24.30 dBm	-14.30 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692026667 GHz	-21.25 dBm	-11.25 dB
4	4	2.6950 GHz	2.7046 GHz	1.000 MHz	2.695924907 GHz	-23.97 dBm	-10.97 dB
5	5	2.7046 GHz	2.7150 GHz	1.000 MHz	2.705576427 GHz	-33.03 dBm	-8.027 dB

Plot 7-292. Upper ACP Plot (Band 41 PC3 - 15.0MHz QPSK - Full RB Configuration)

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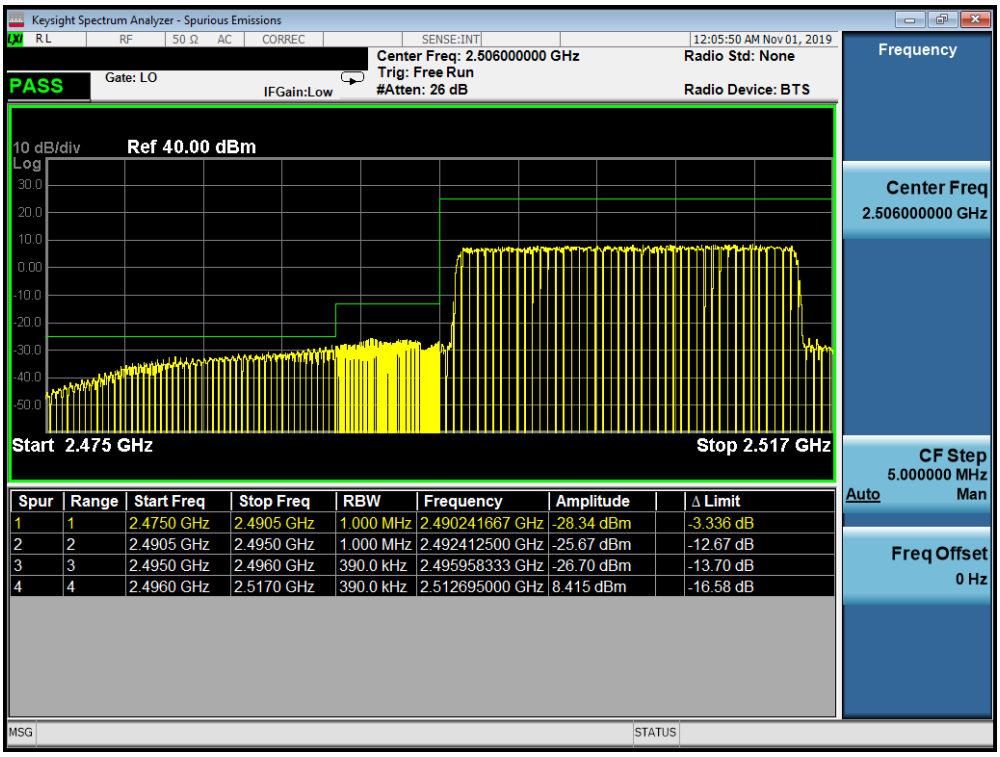
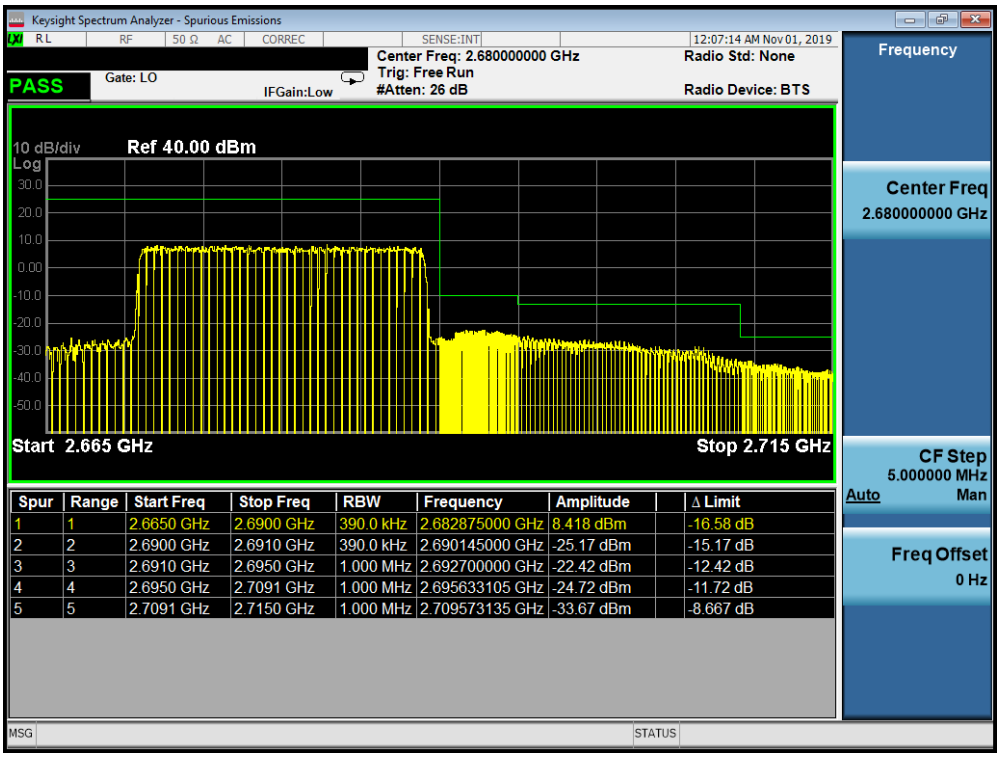


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490241667 GHz	-28.34 dBm	-3.336 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.492412500 GHz	-25.67 dBm	-12.67 dB
3	3	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495958333 GHz	-26.70 dBm	-13.70 dB
4	4	2.4960 GHz	2.5170 GHz	390.0 kHz	2.512695000 GHz	8.415 dBm	-16.58 dB

Plot 7-293. Lower ACP Plot at 2496 MHz (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	2.682875000 GHz	8.418 dBm	-16.58 dB
2	2	2.6900 GHz	2.6910 GHz	390.0 kHz	2.690145000 GHz	-25.17 dBm	-15.17 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692700000 GHz	-22.42 dBm	-12.42 dB
4	4	2.6950 GHz	2.7091 GHz	1.000 MHz	2.695633105 GHz	-24.72 dBm	-11.72 dB
5	5	2.7091 GHz	2.7150 GHz	1.000 MHz	2.709573135 GHz	-33.67 dBm	-8.667 dB

Plot 7-294. Upper ACP Plot (Band 41 PC3 - 20.0MHz QPSK - Full RB Configuration)

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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.

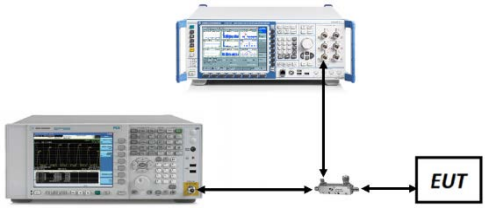

Figure 7-4. Test Instrument & Measurement Setup

Test Notes

None.

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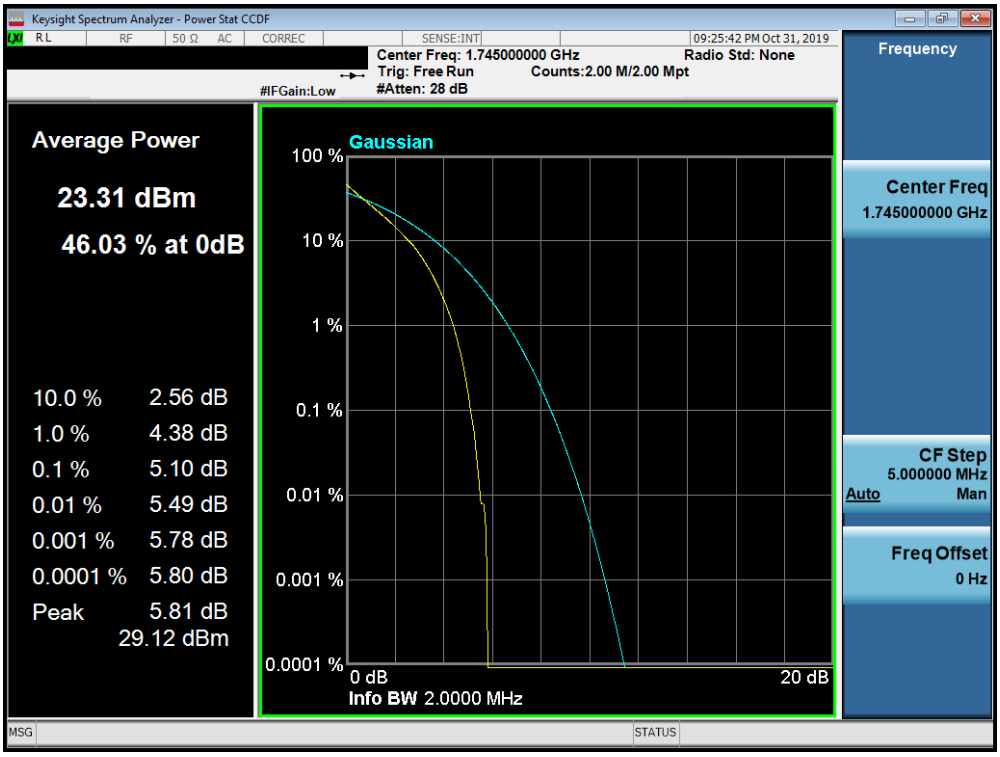
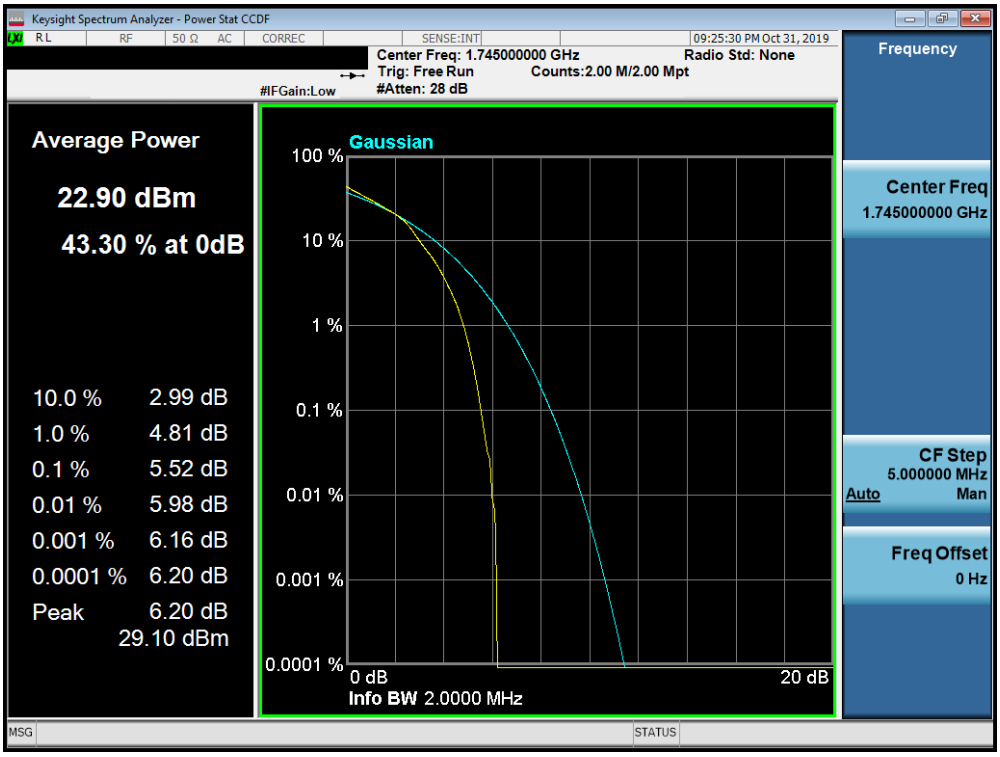
Band 66/4



Plot 7-295. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-296. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

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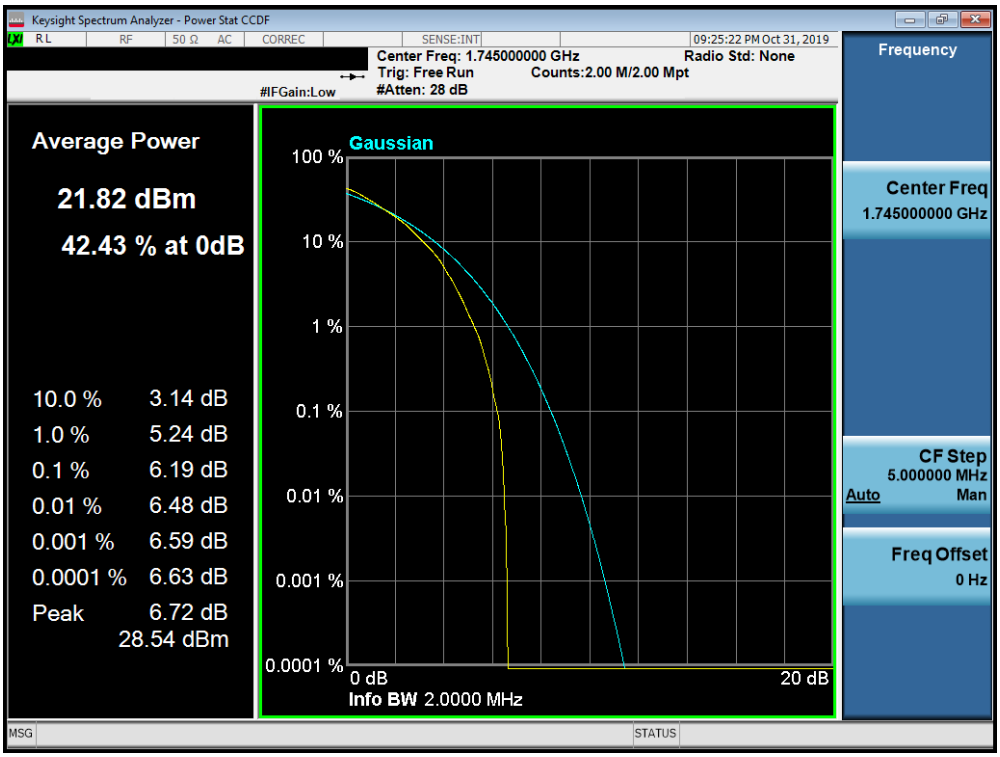
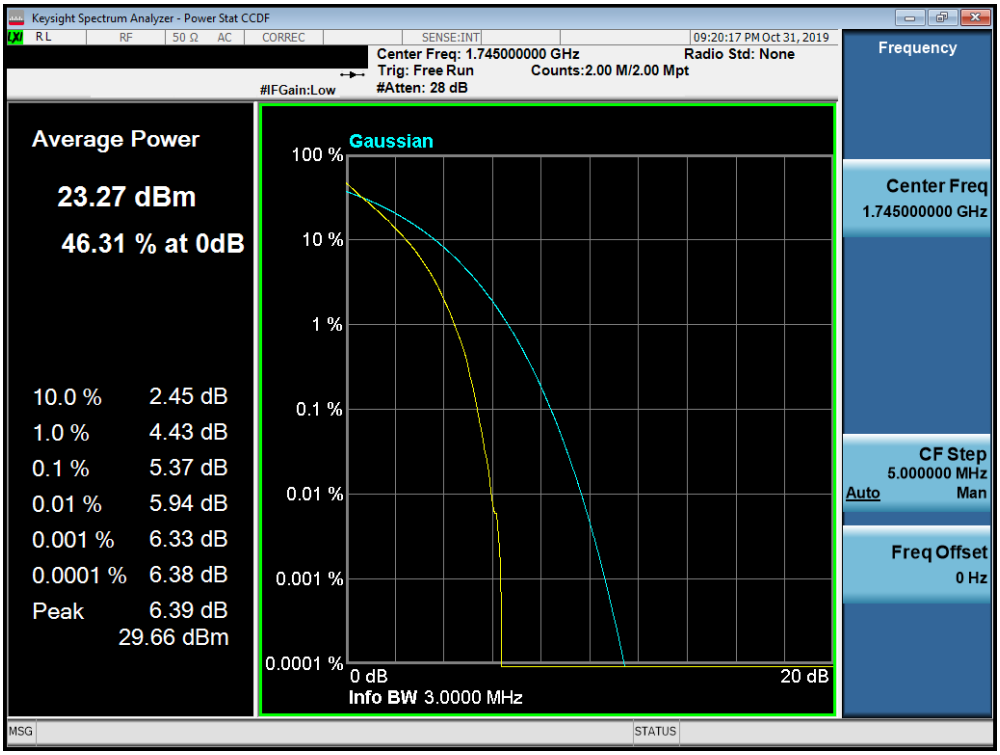


Plot 7-297. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-298. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

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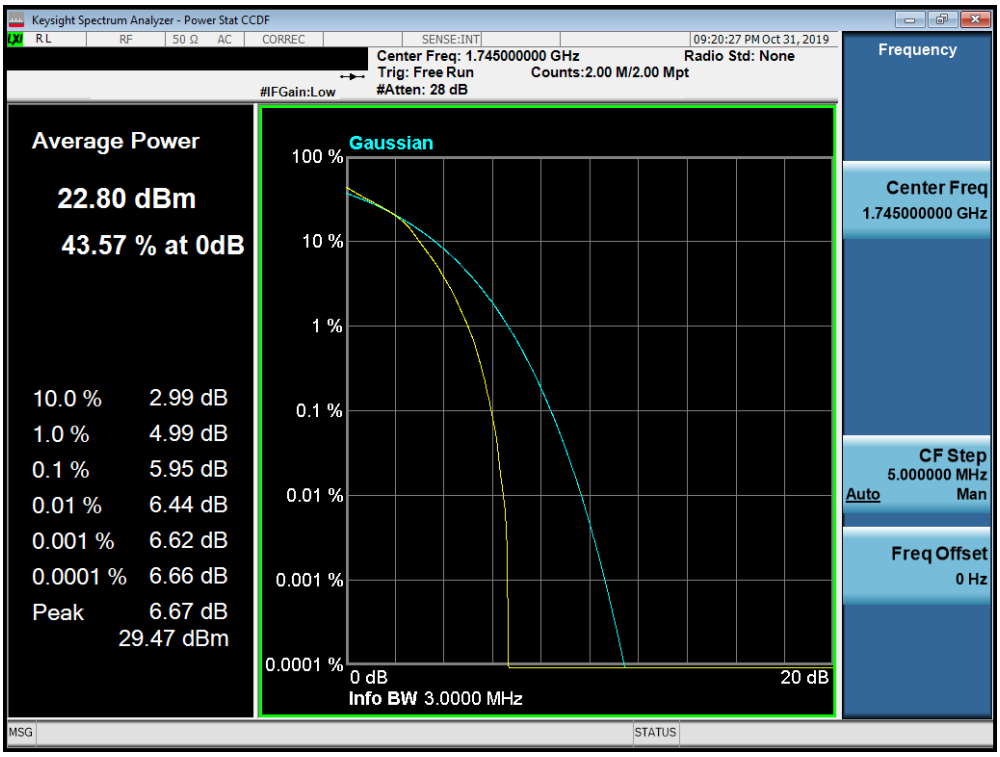
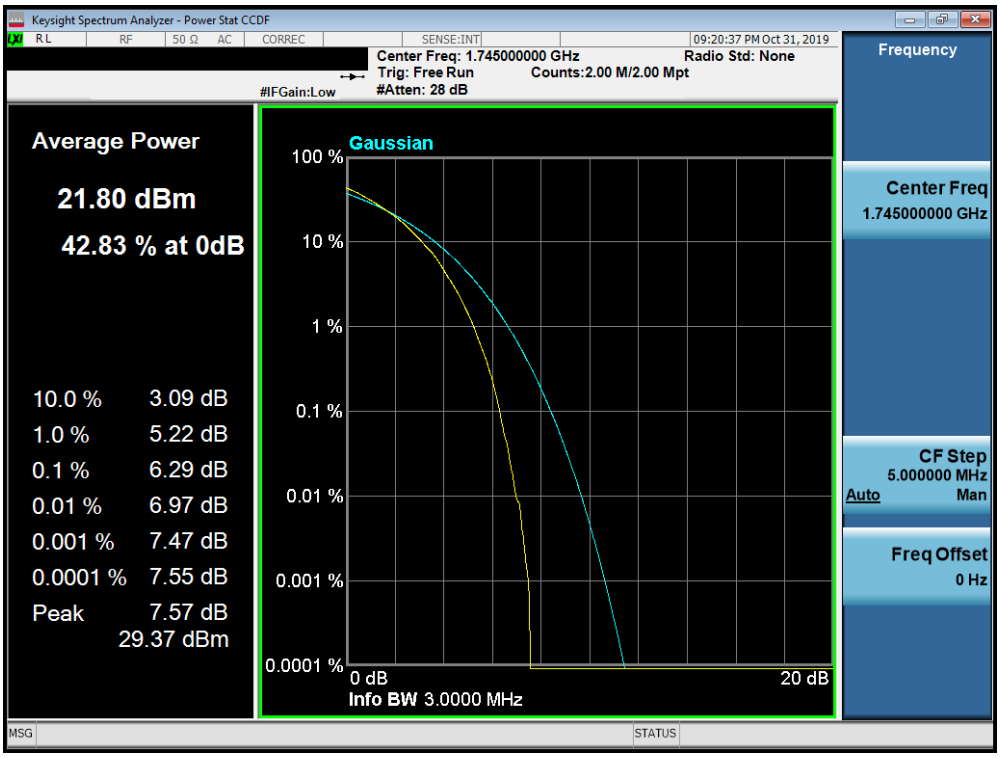


Plot 7-299. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-300. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

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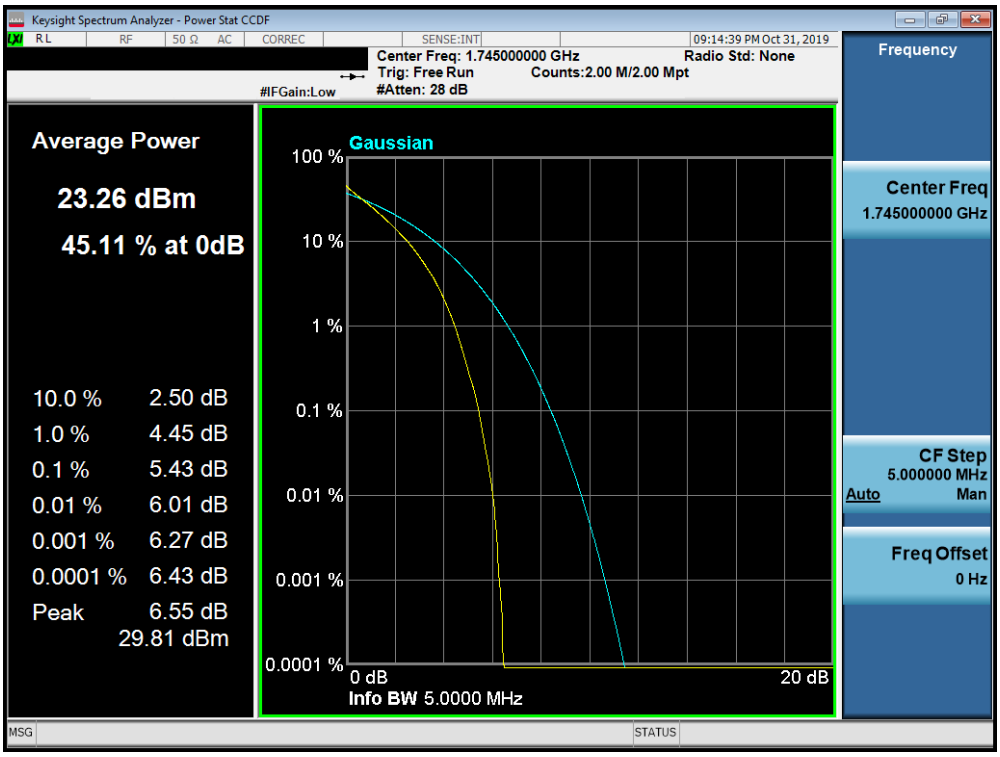
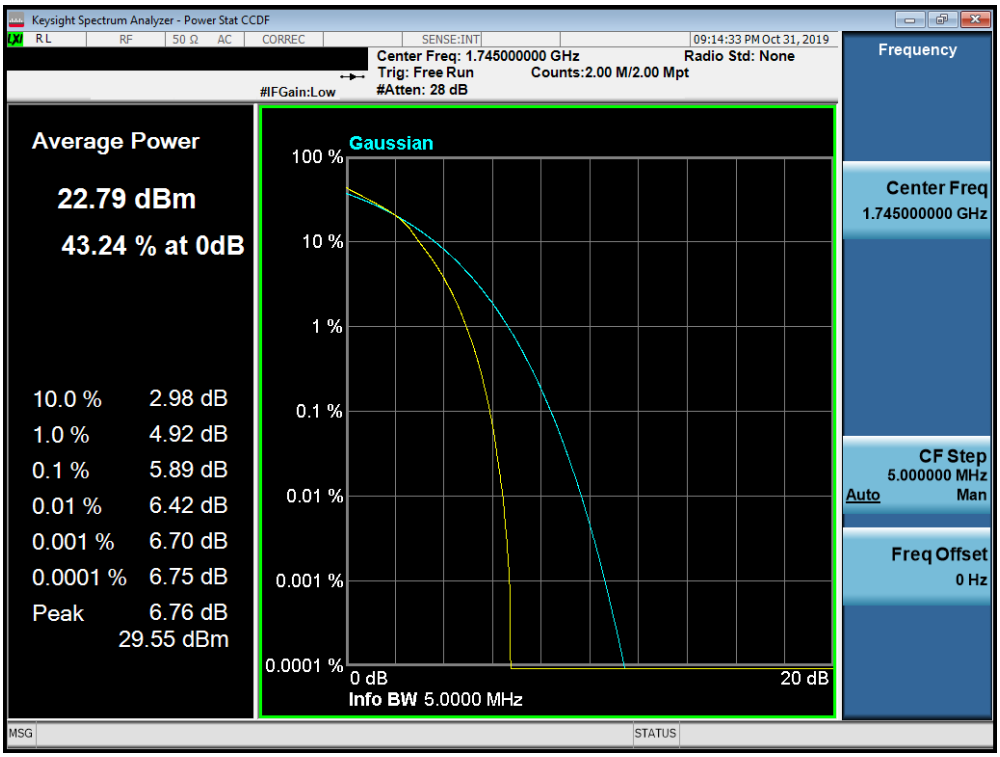


Plot 7-301. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-302. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

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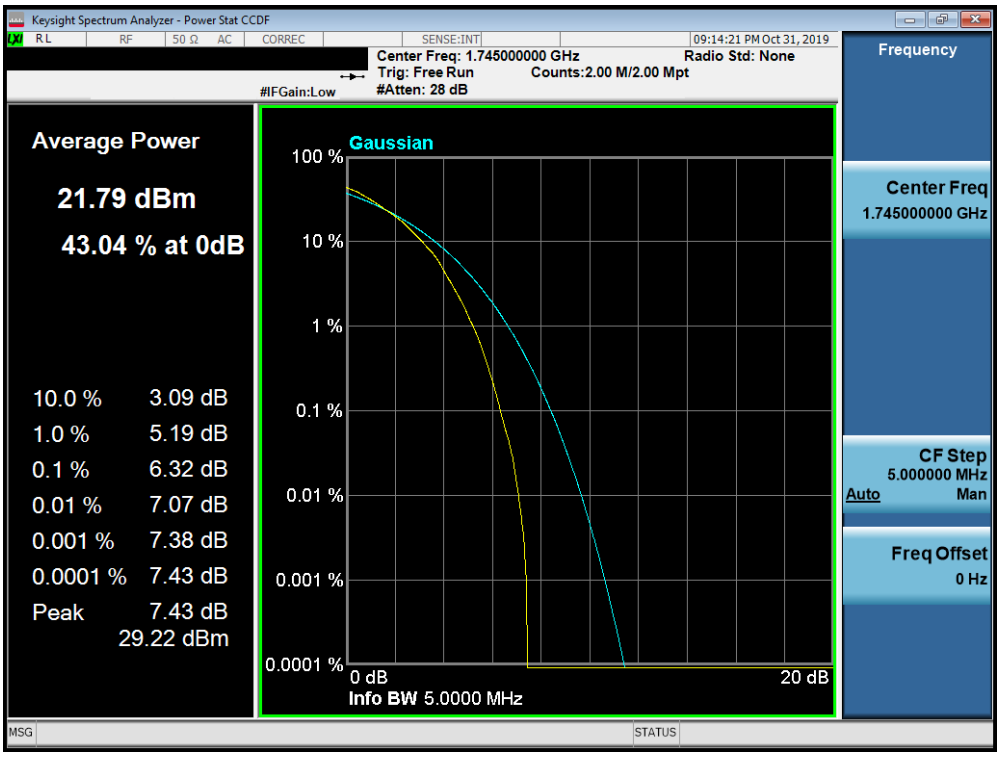
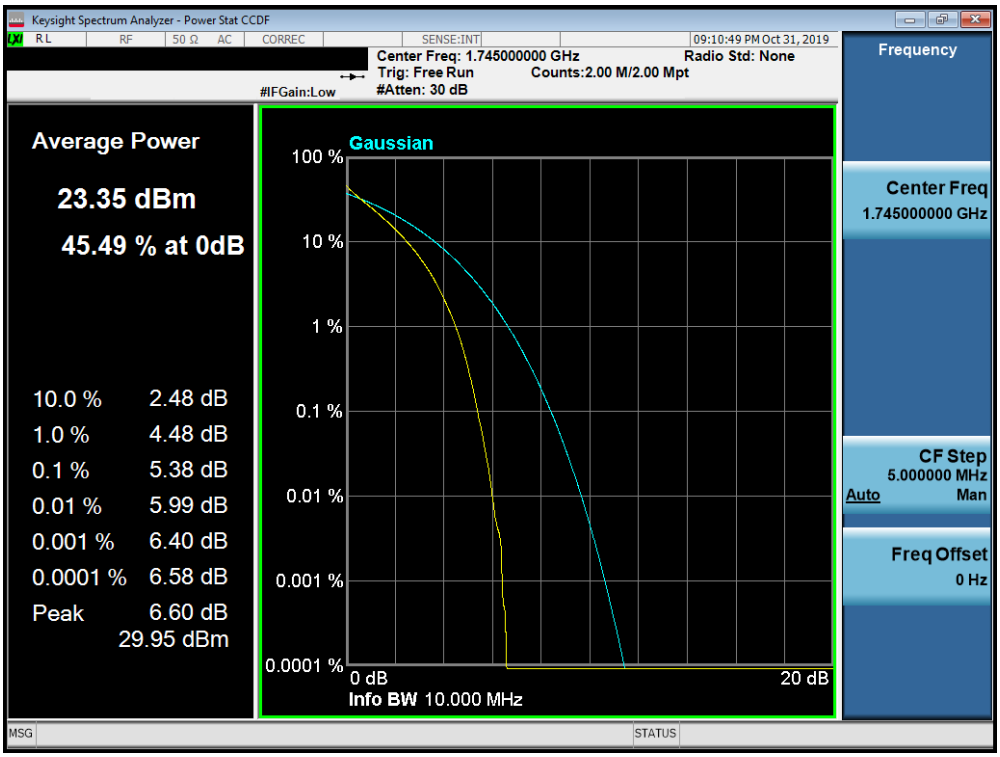


Plot 7-303. PAR Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-304. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

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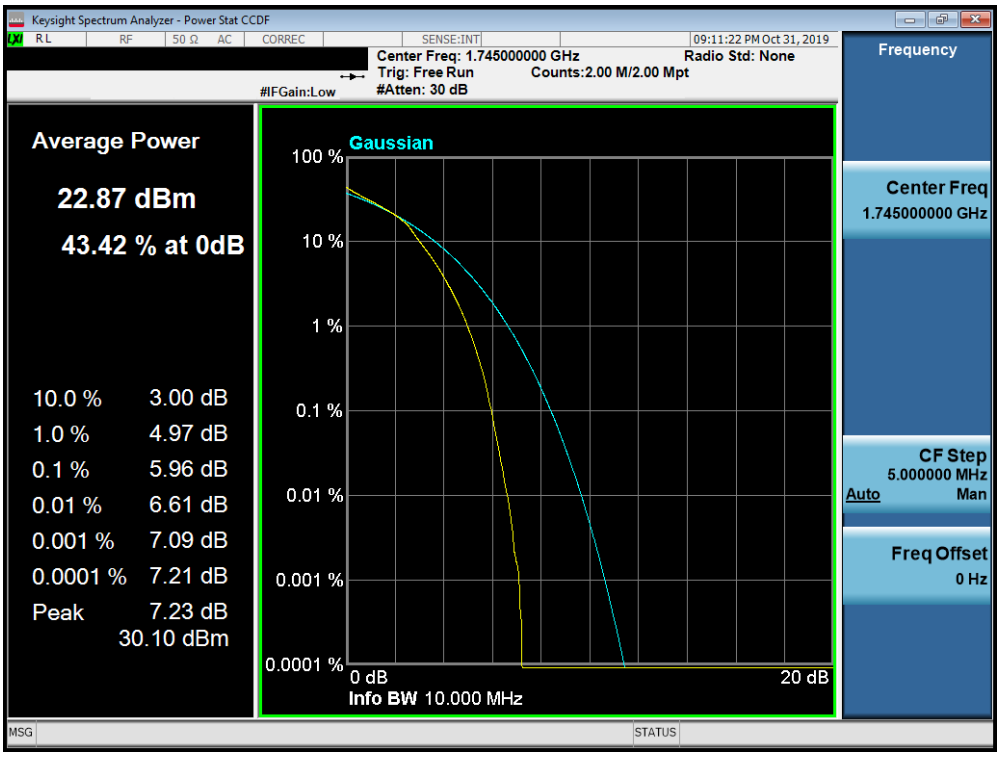
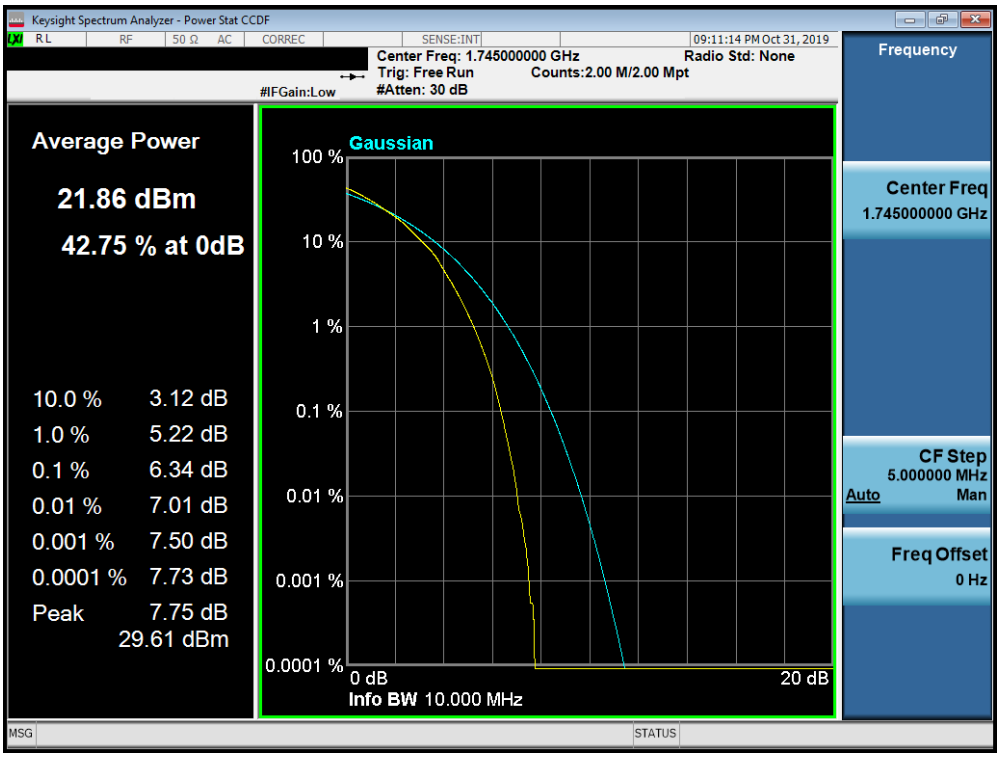


Plot 7-305. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-306. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

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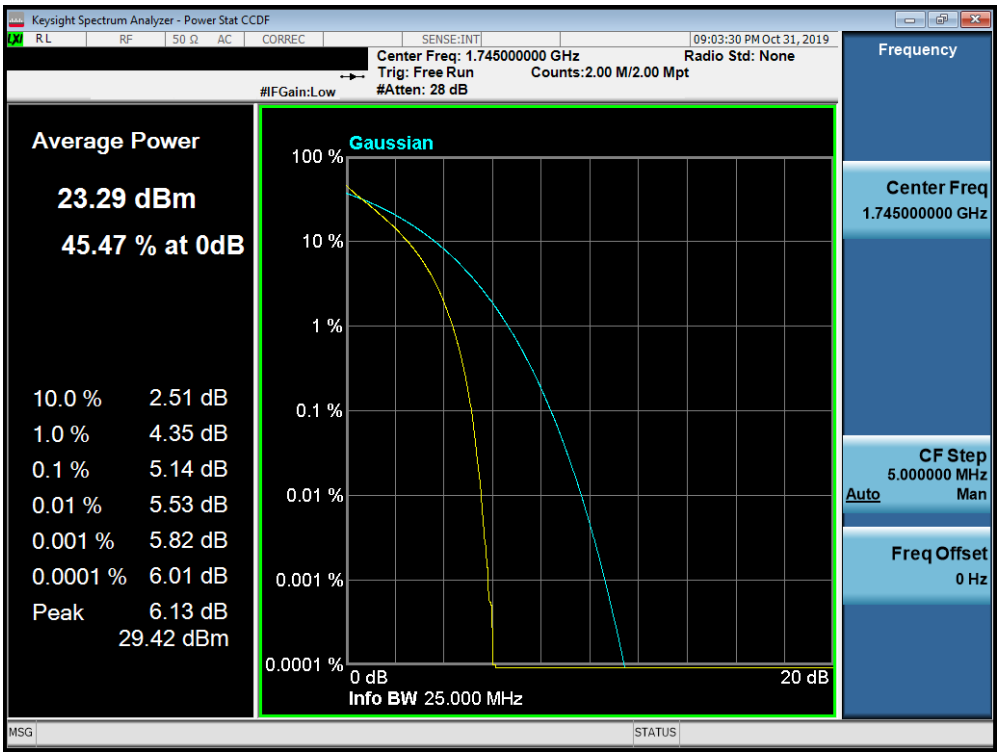
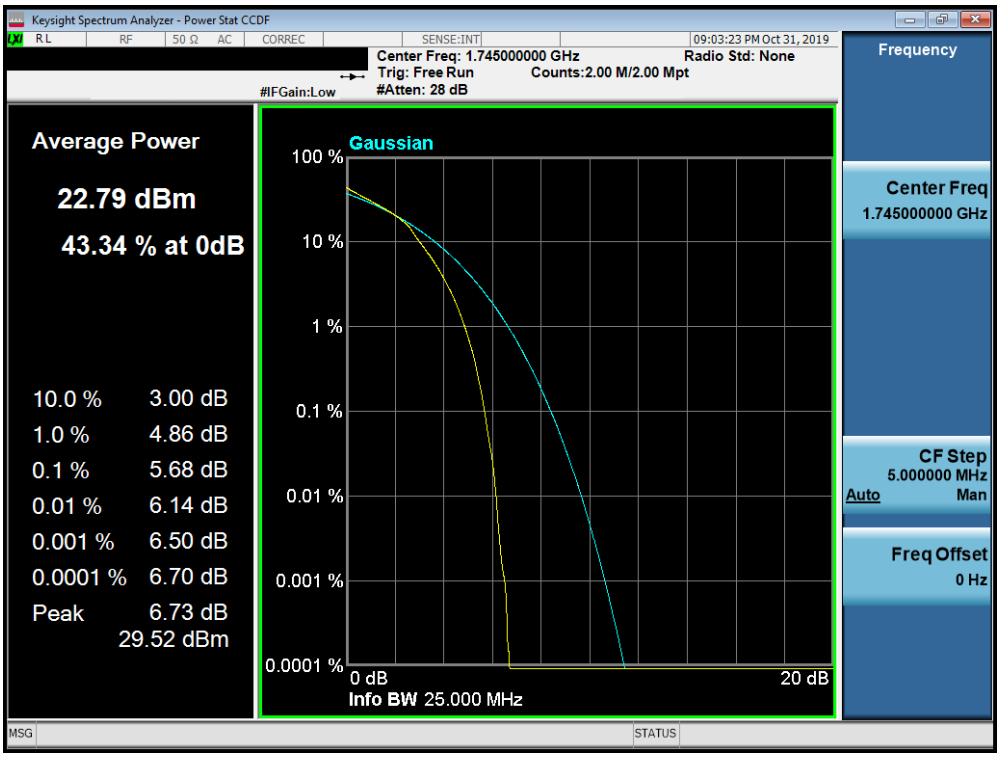


Plot 7-307. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-308. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

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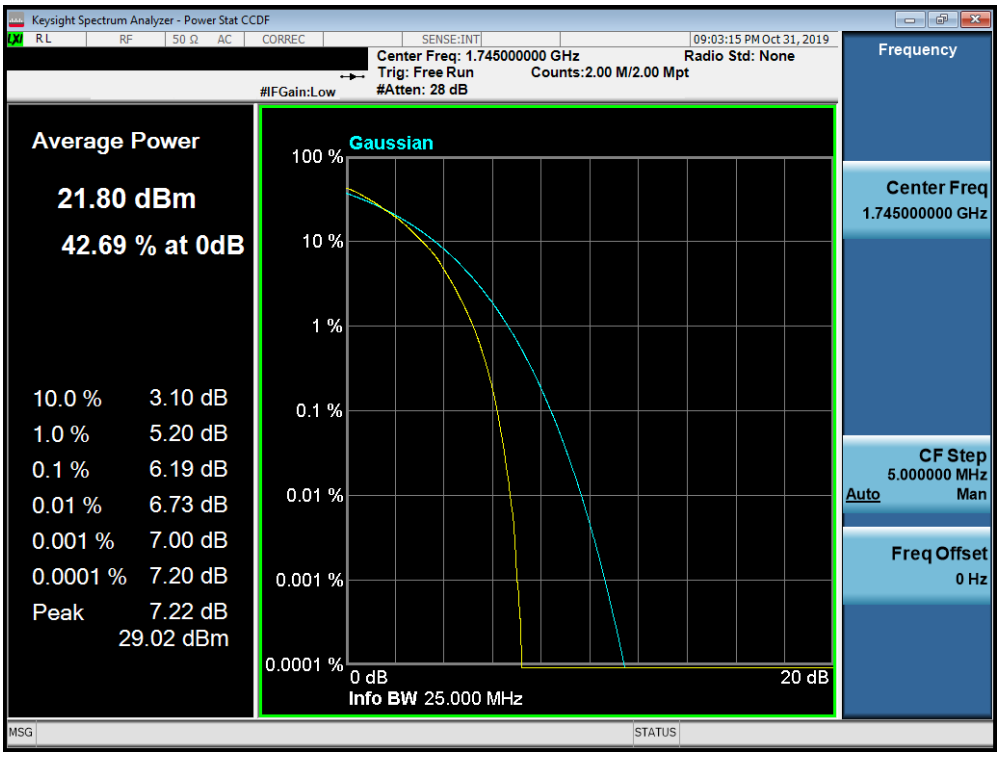
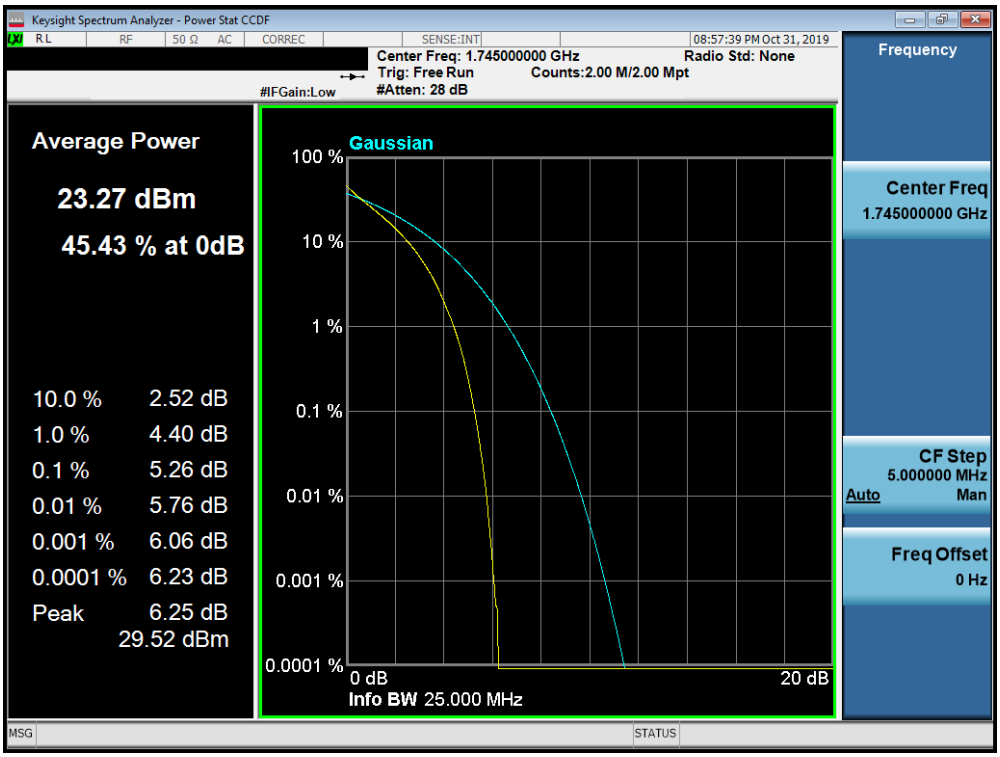


Plot 7-309. PAR Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-310. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

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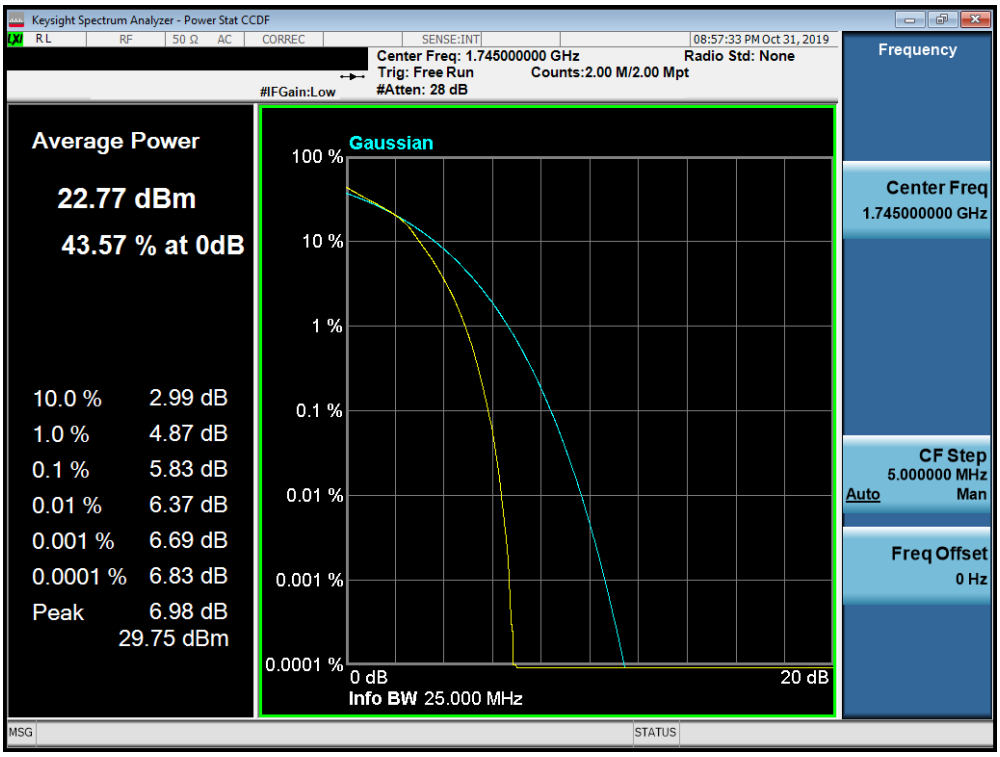
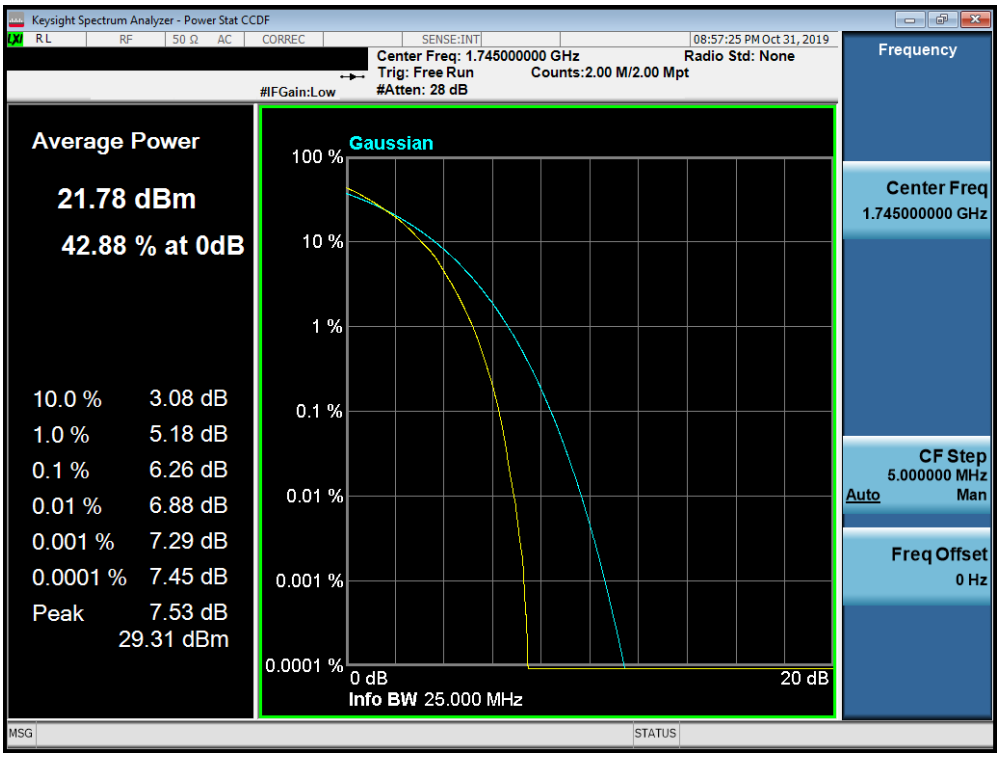


Plot 7-311. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-312. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

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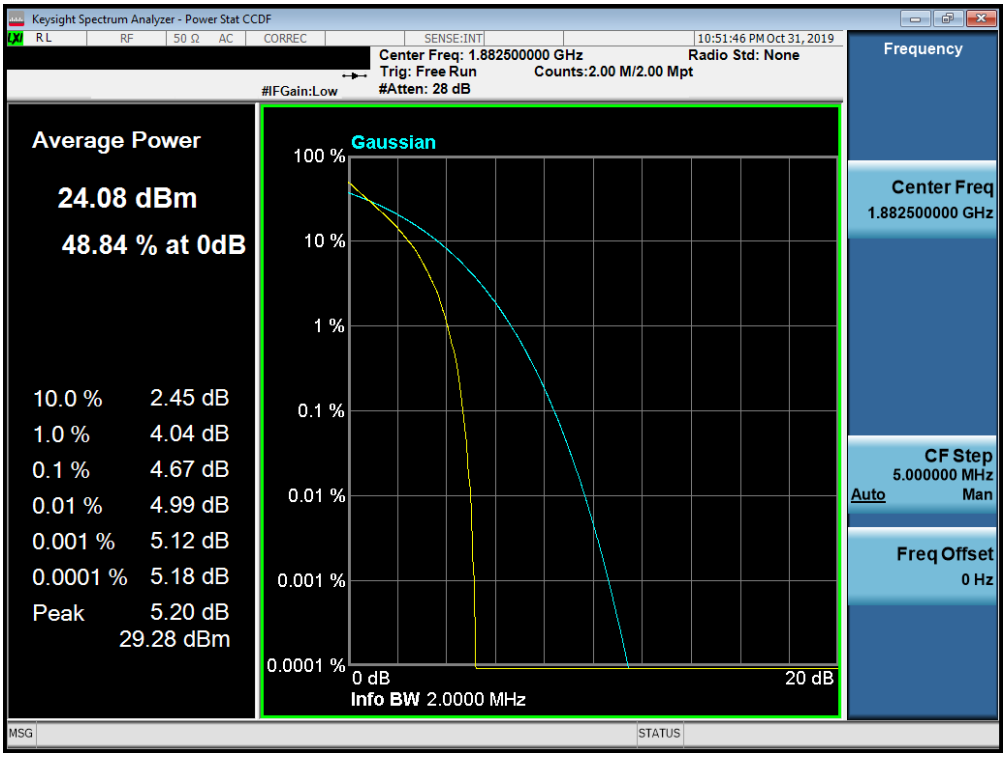
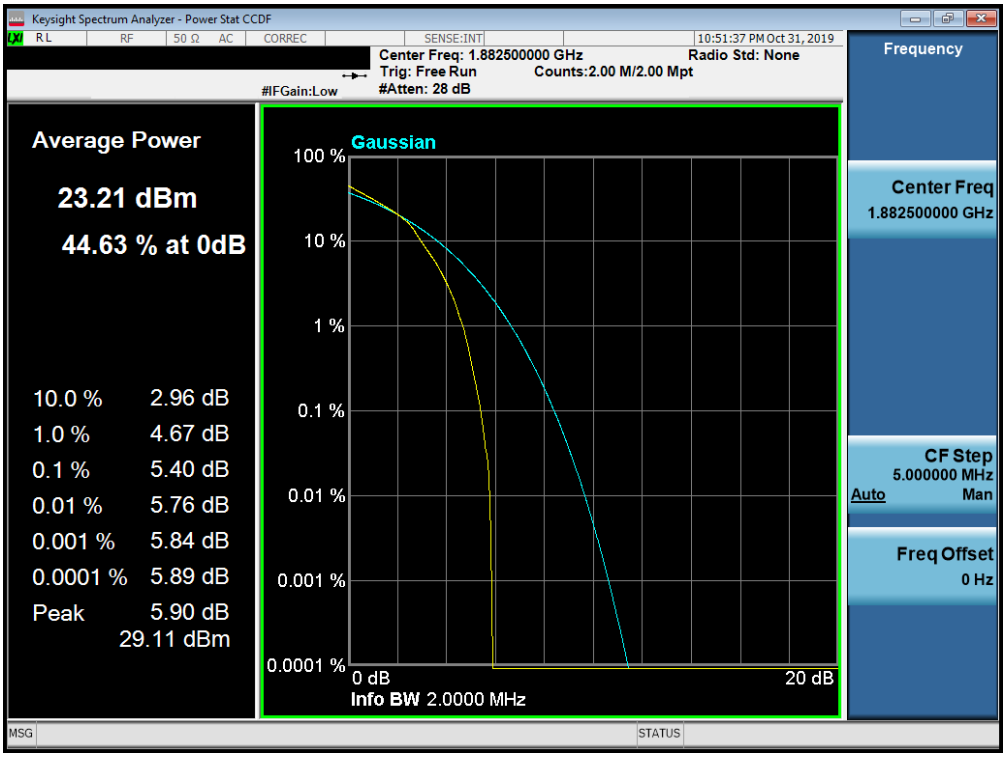
Band 25/2



Plot 7-313. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-314. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

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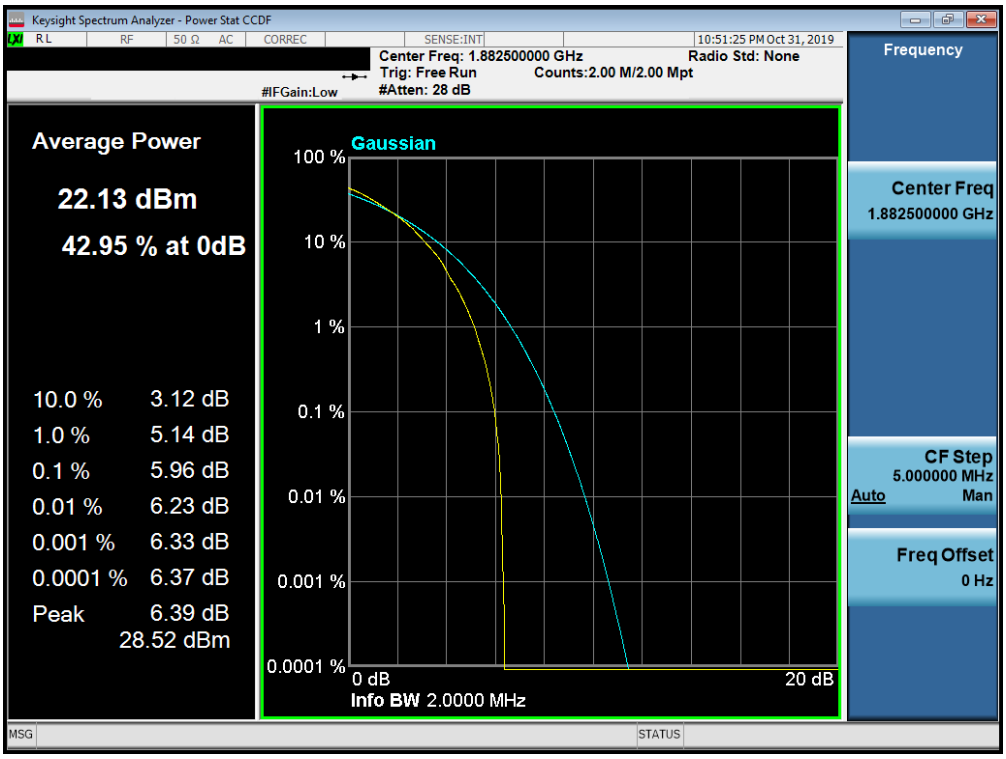
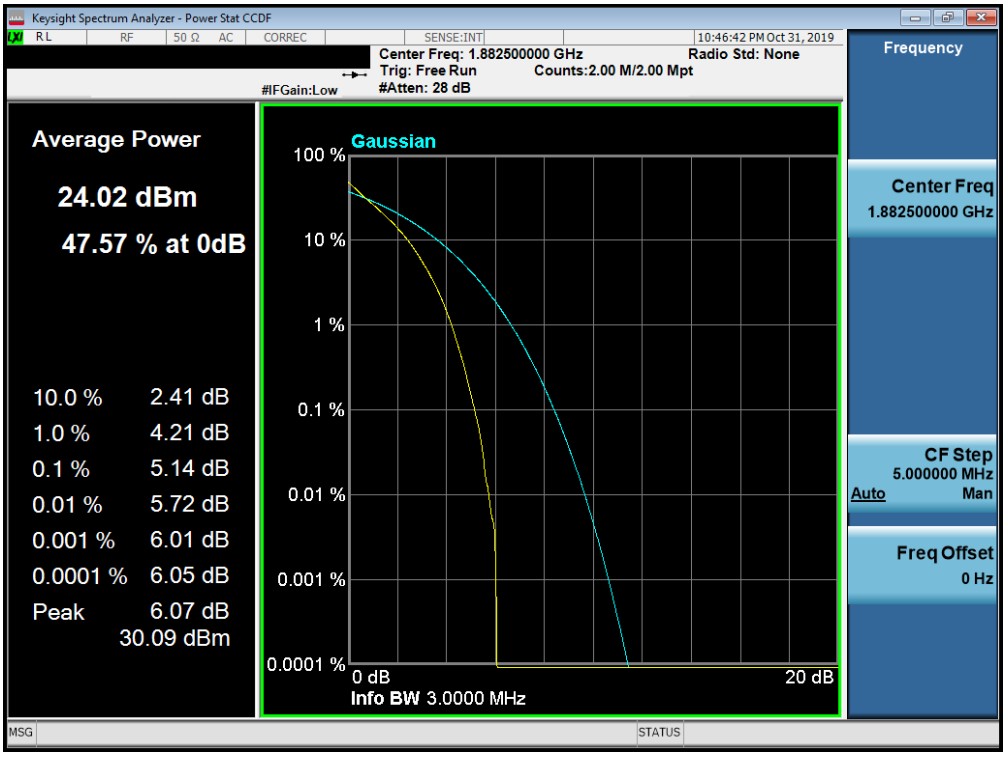


Plot 7-315. PAR Plot (Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-316. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

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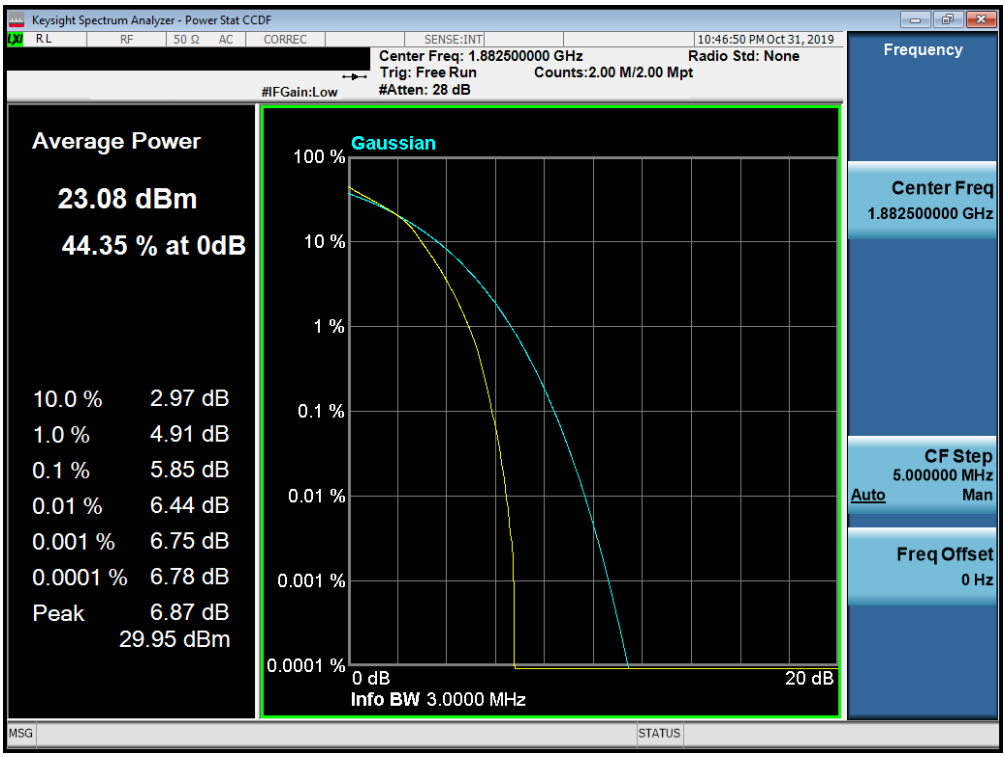
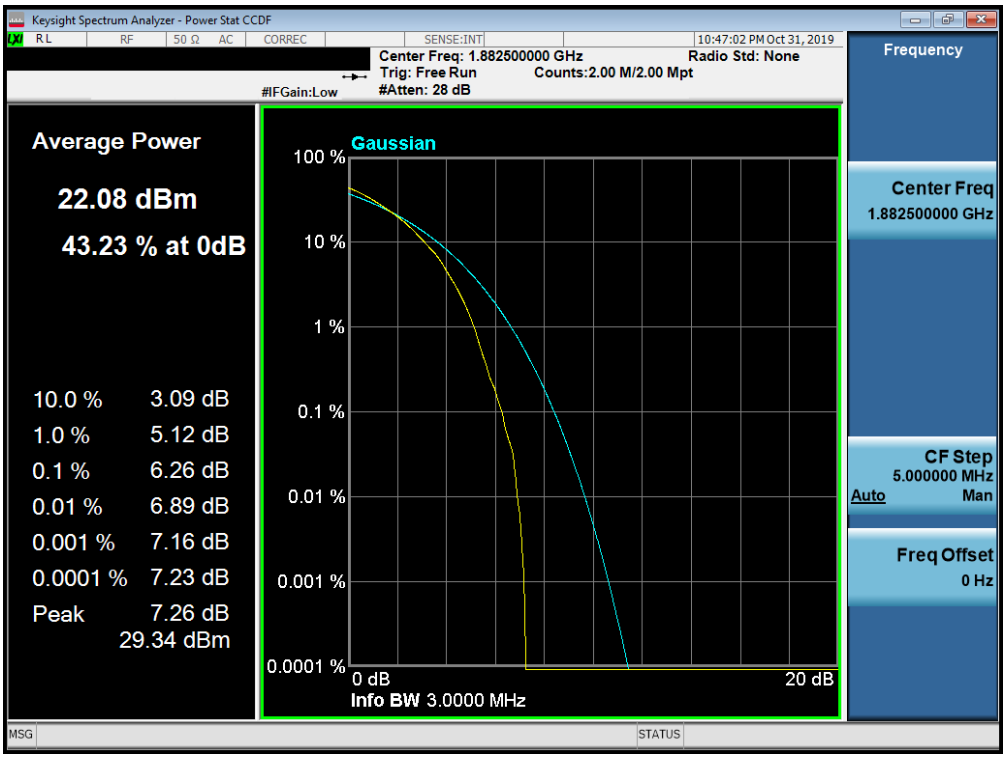


Plot 7-317. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-318. PAR Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)

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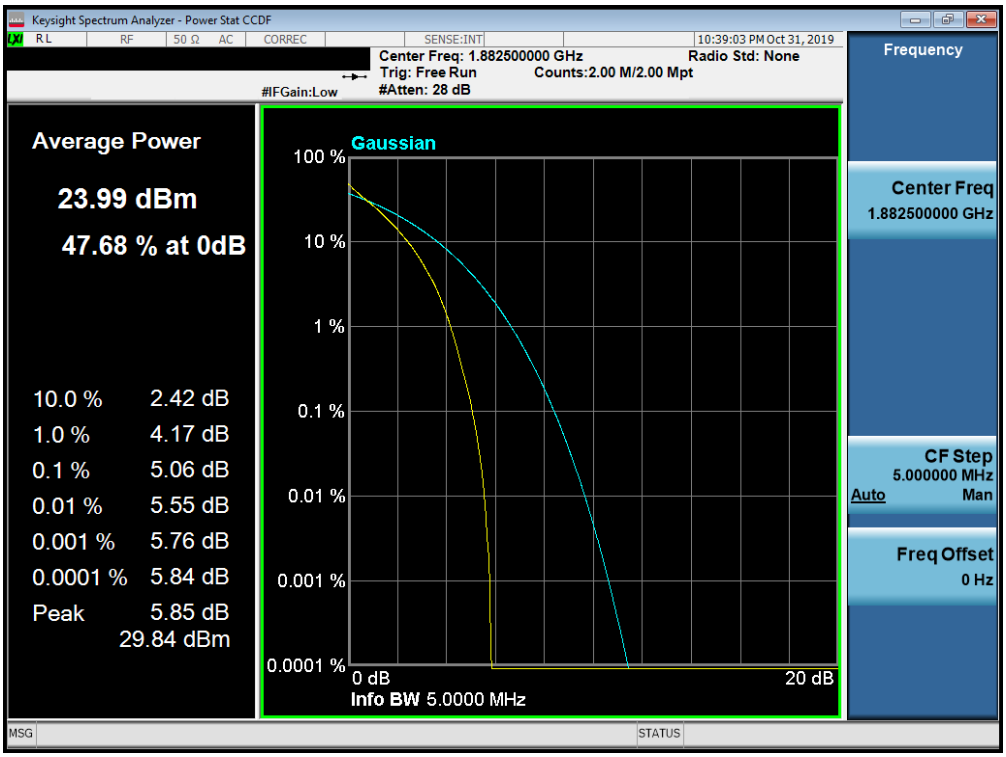
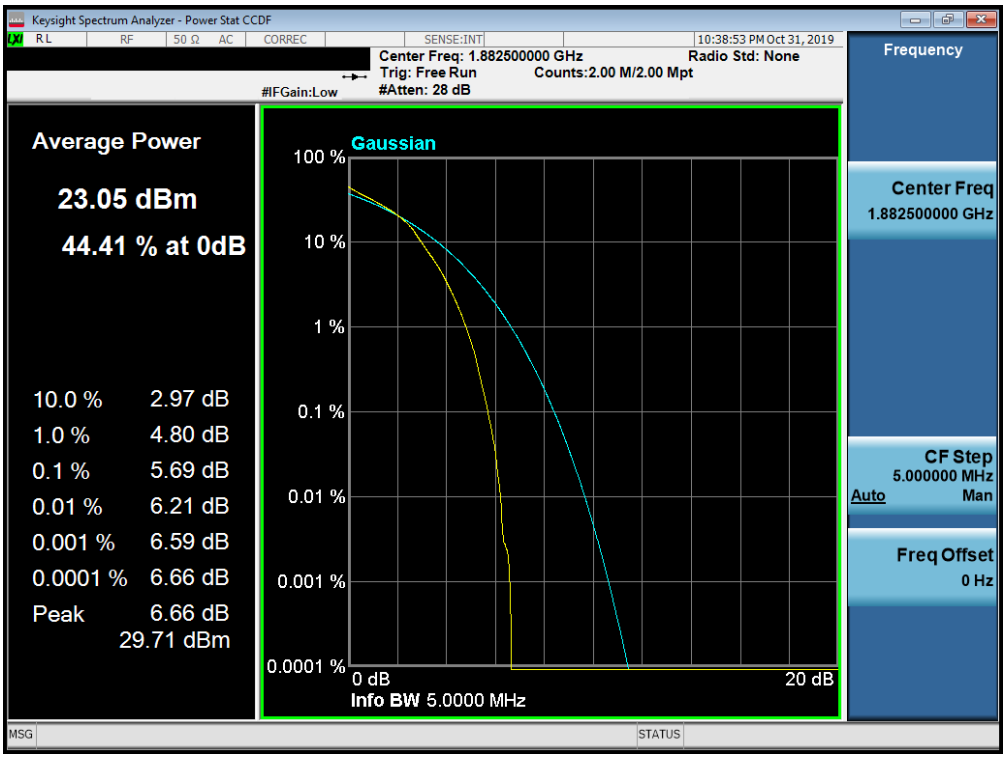


Plot 7-319. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-320. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

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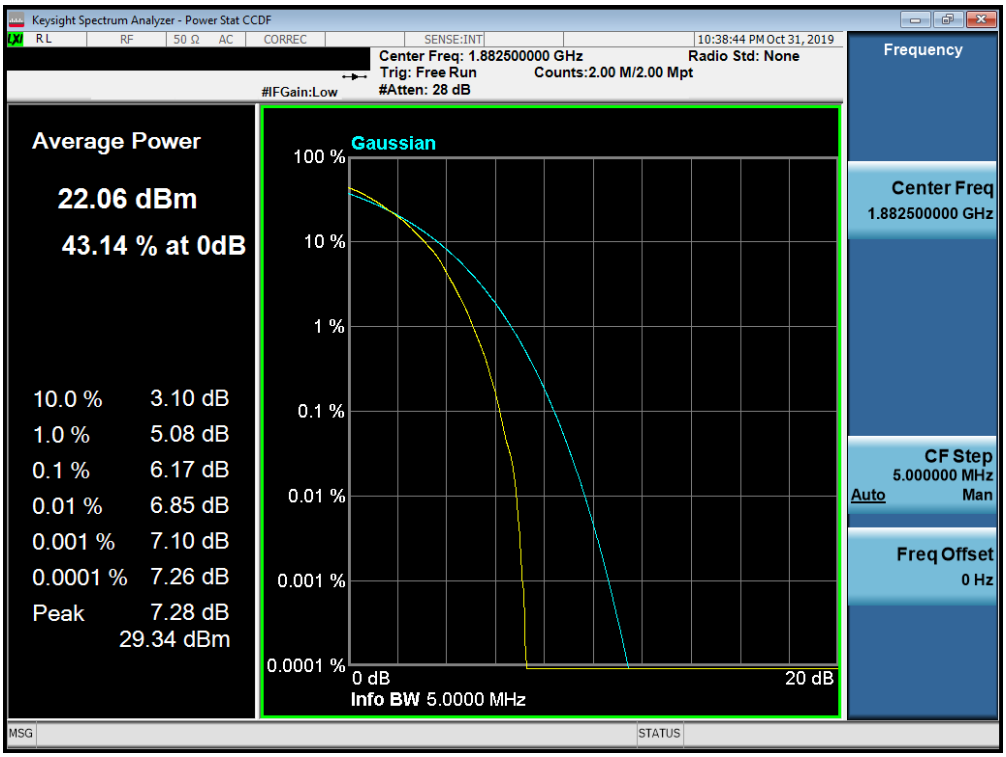
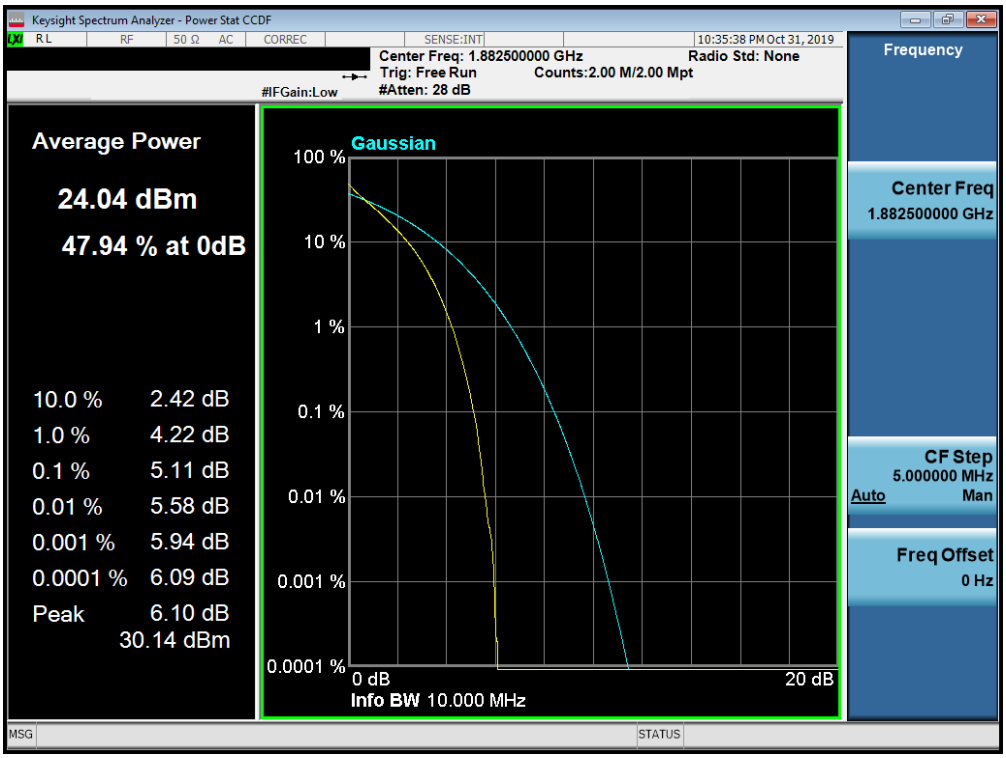


Plot 7-321. PAR Plot (Band 25/2 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-322. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

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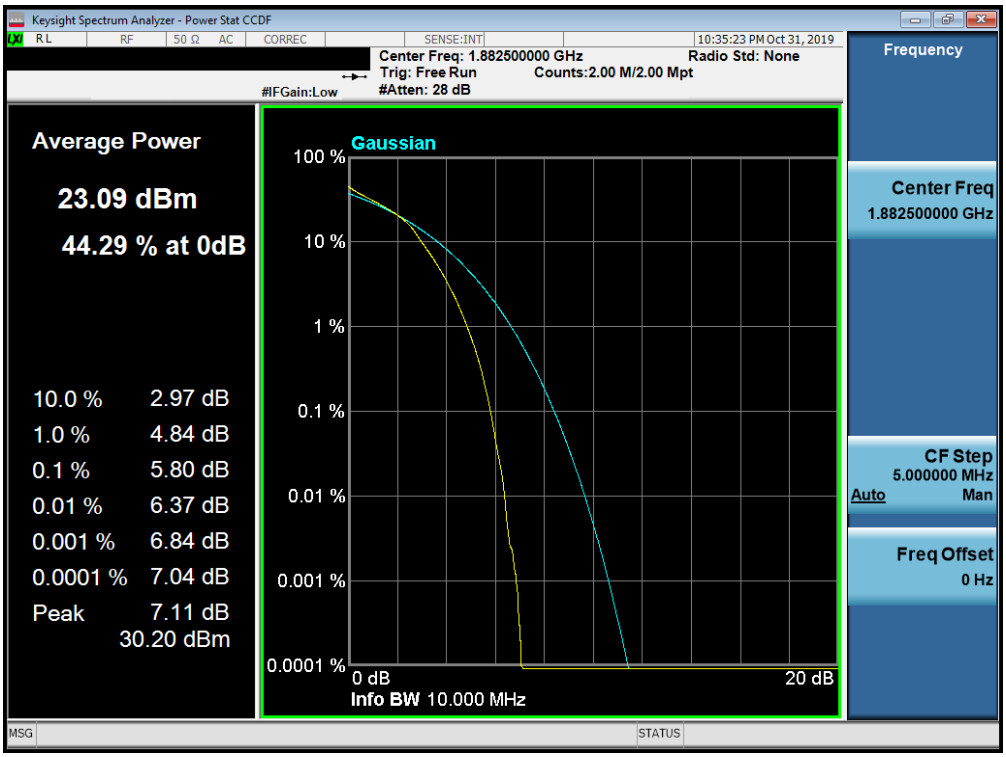
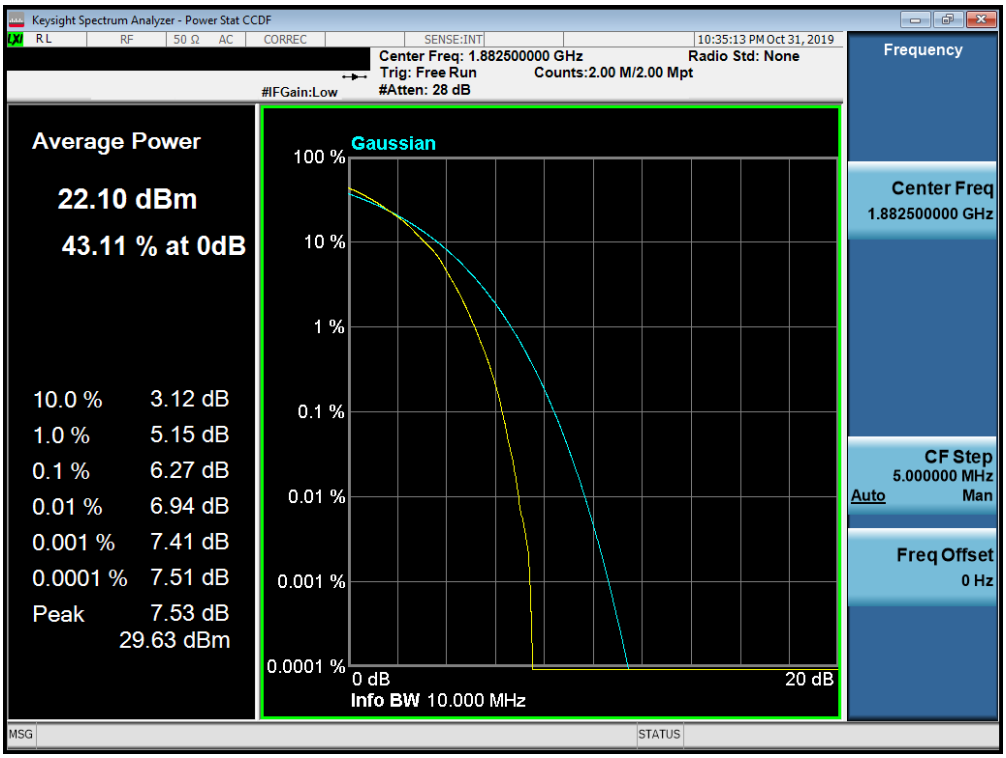


Plot 7-323. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-324. PAR Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)

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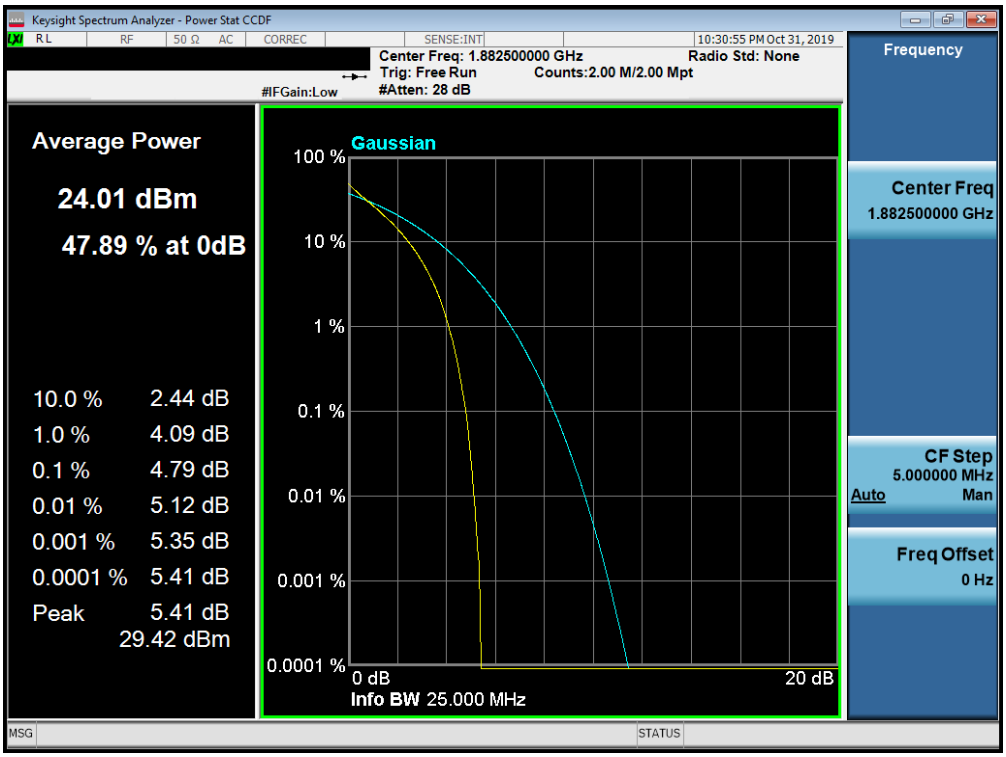
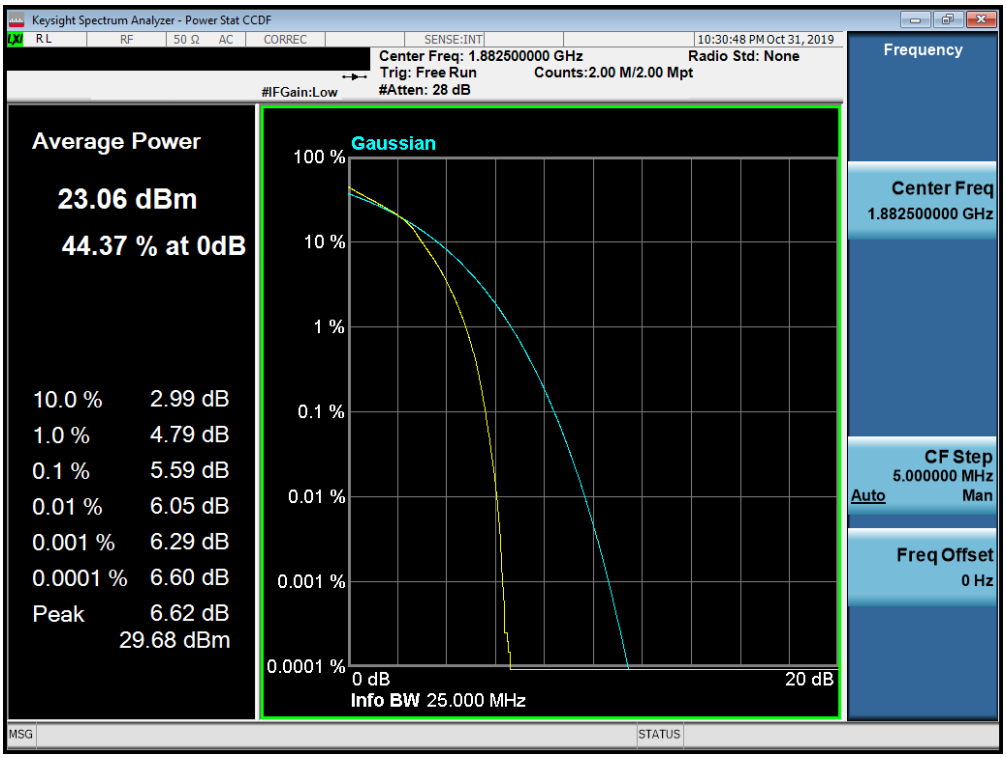


Plot 7-325. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-326. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

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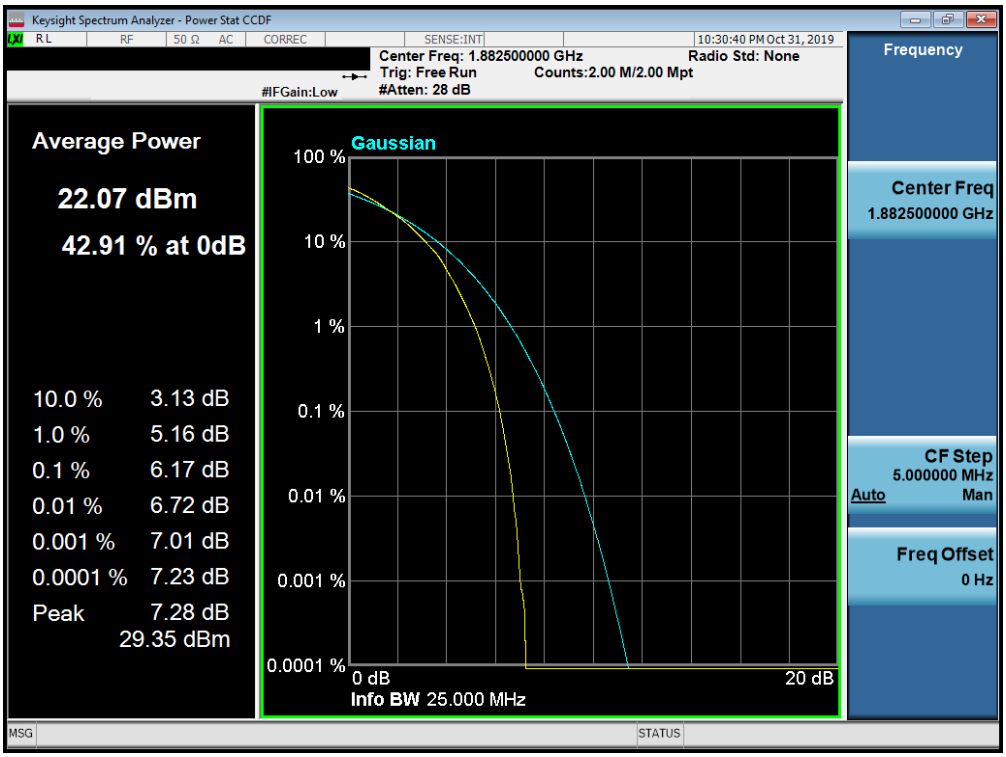
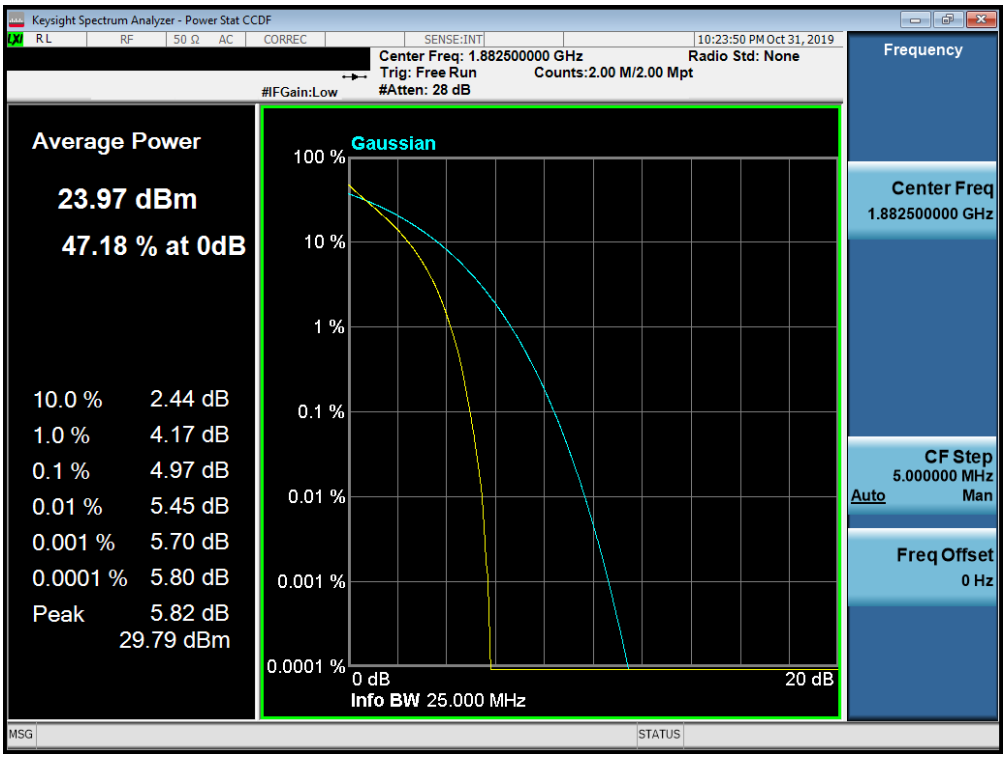


Plot 7-327. PAR Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-328. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

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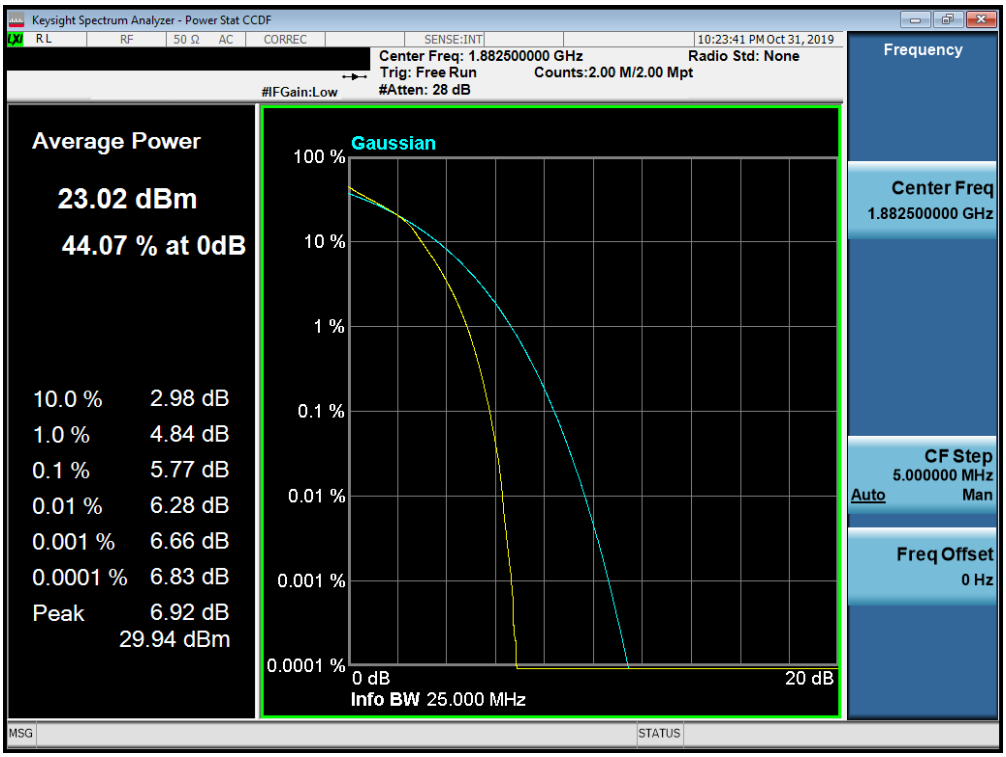
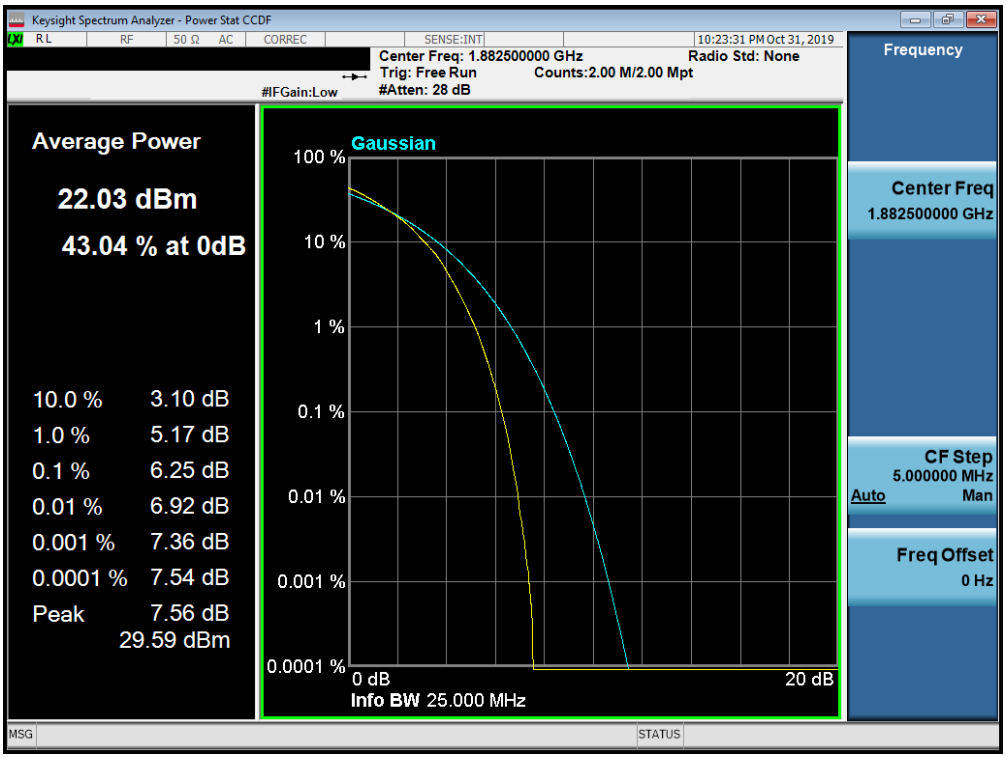


Plot 7-329. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-330. PAR Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

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7.6 Uplink Carrier Aggregation

§27.53(m)

Test Overview

The EUT is set up to transmit two contiguous LTE channels. The power level of both carriers and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

For Band 41, the minimum permissible attenuation level of any spurious emission is 55 + 10 $\log_{10}(P_{[Watts]})$.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

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

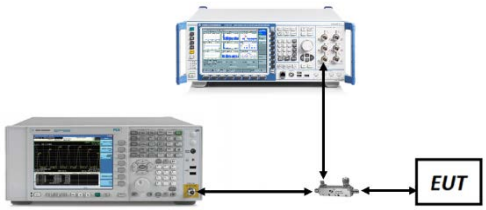

Figure 7-5. Test Instrument & Measurement Setup

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Test Notes

1. Uplink carrier aggregation is supported in this EUT while operating in Power Class 2 and 3.

2. Conducted power and spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device. The worst case (highest) powers were found while operating with QPSK modulation, as shown in Table 7-503 and 7-504 below, with both carriers set to transmit using 1RB.

3. Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

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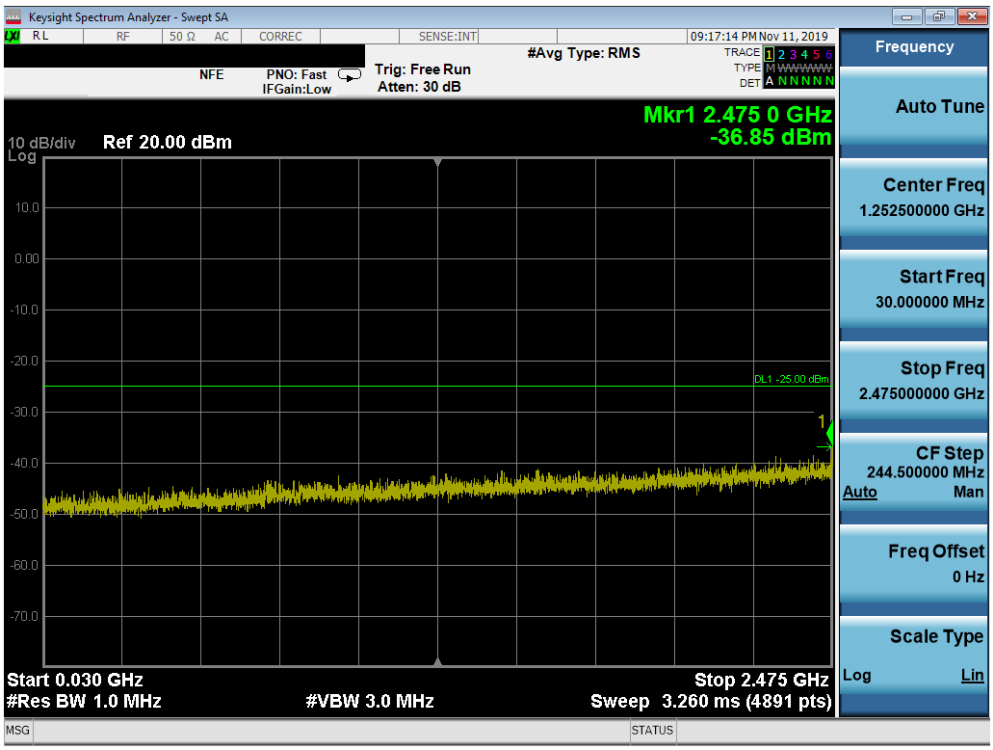
Band 41 PC2

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	26.27
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	26.30
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	26.26

Table 7-3. Conducted Powers (Band 41 PC2 – Left Carrier: RB Size 1 Offset Max Right Carrier: RB Size 1 Offset 0)

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	40620	2593	QPSK	100	0	LTE B41	20	40818	2612.8	QPSK	100	0	25.40
Max	LTE B41	20	40620	2593	16-QAM	100	0	LTE B41	20	40818	2612.8	16-QAM	100	0	24.03
Max	LTE B41	20	40620	2593	64-QAM	100	0	LTE B41	20	40818	2612.8	64-QAM	100	0	23.15

Table 7-4. Conducted Powers (Band 41 PC2 with Various Combinations for 20MHz Channel Bandwidth)



Plot 7-331. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

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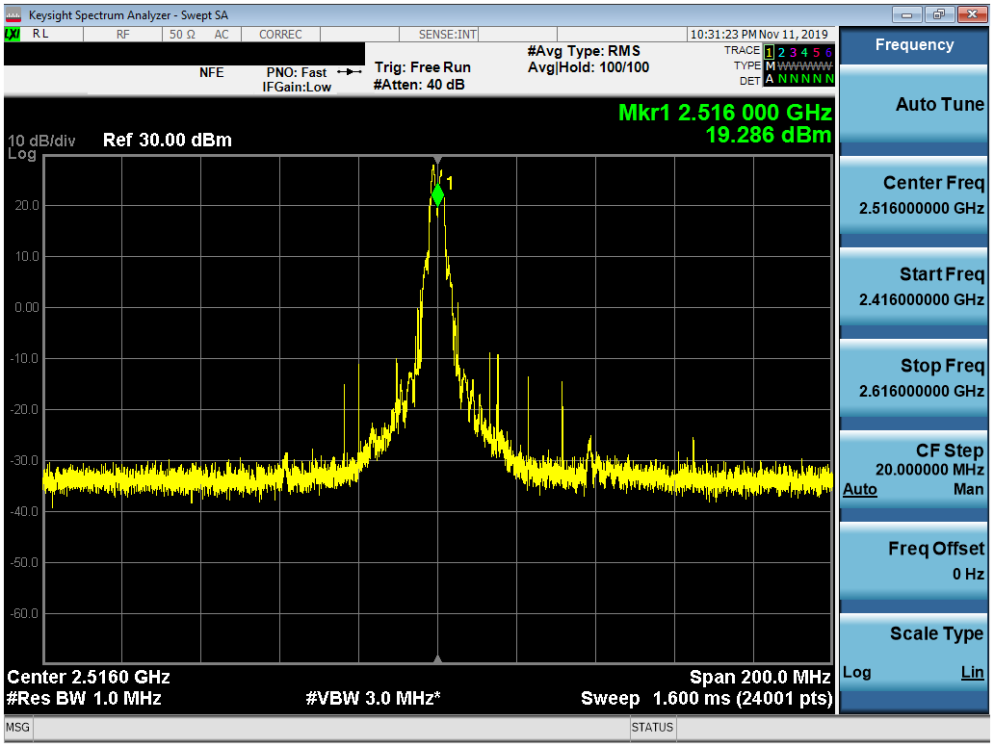
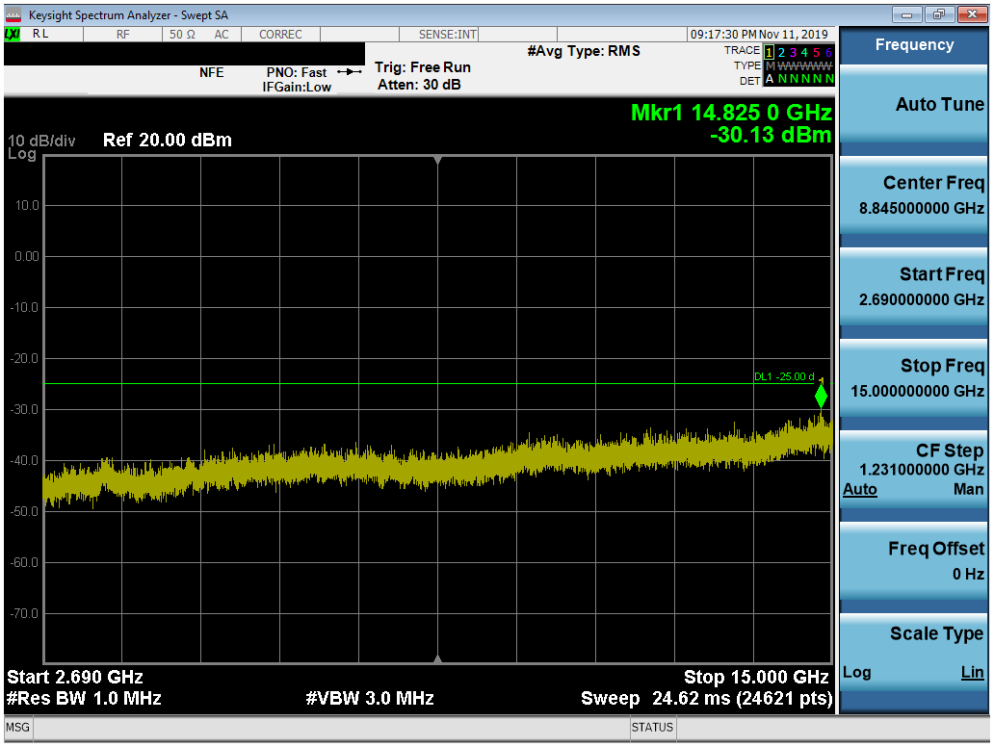


Plot 7-332. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)



Plot 7-333. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

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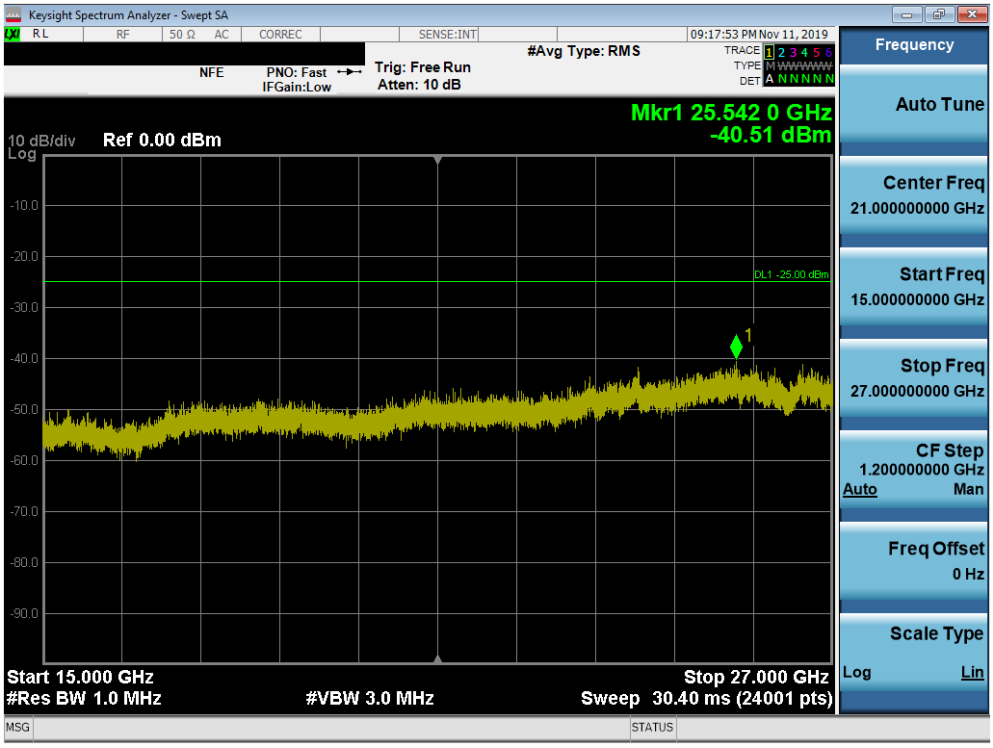
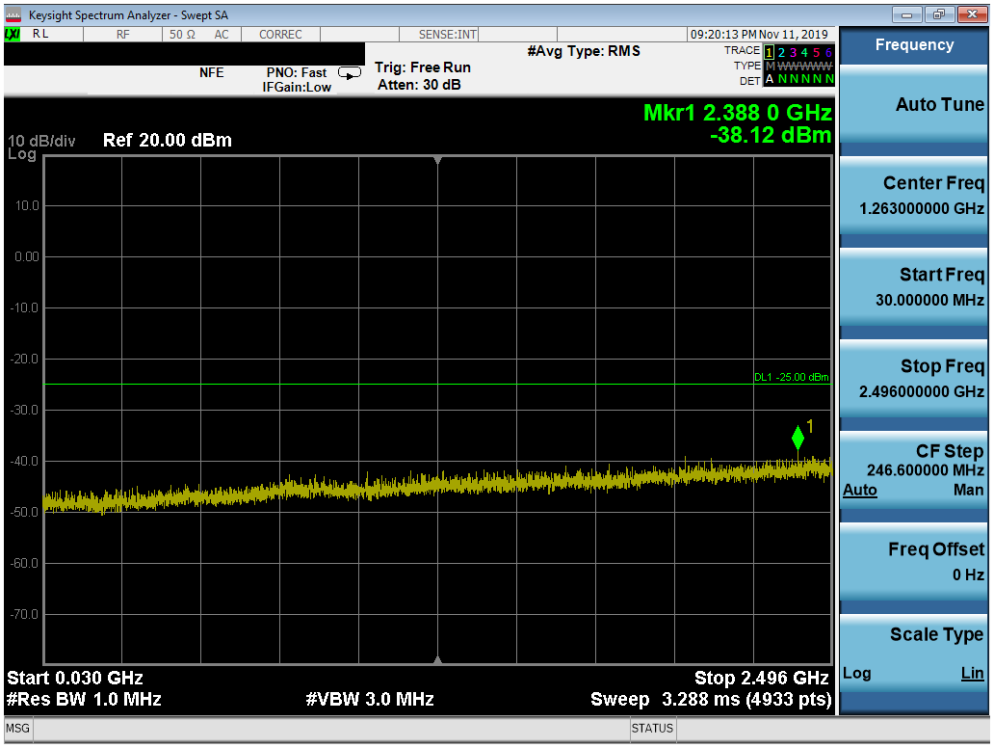


Plot 7-334. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)



Plot 7-335. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

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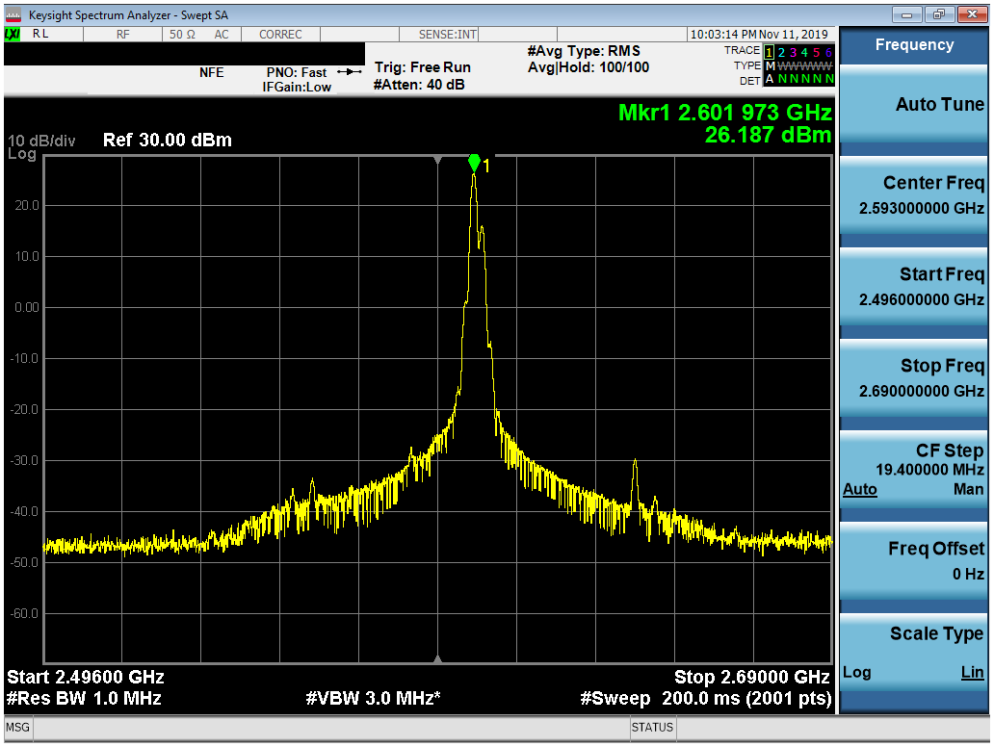
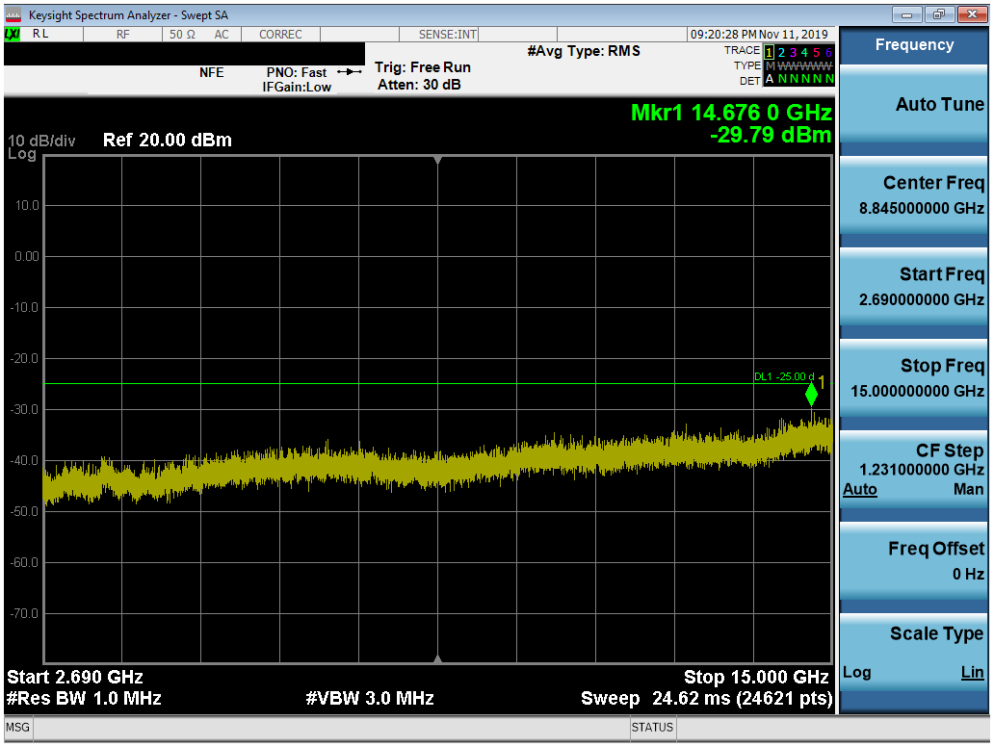


Plot 7-336. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-337. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

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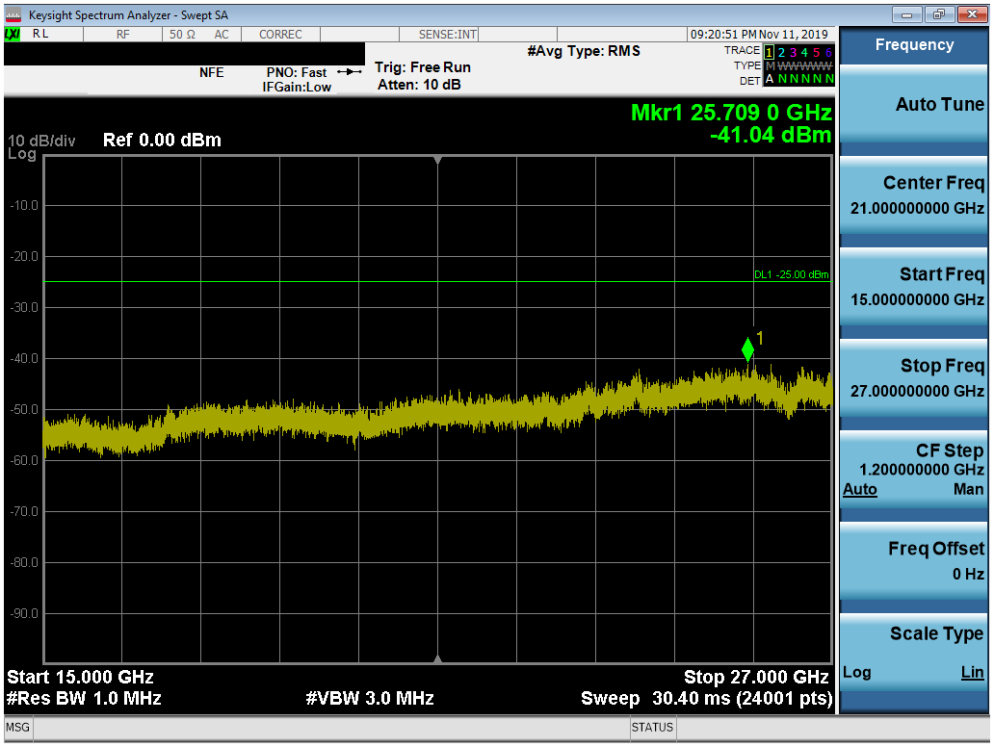
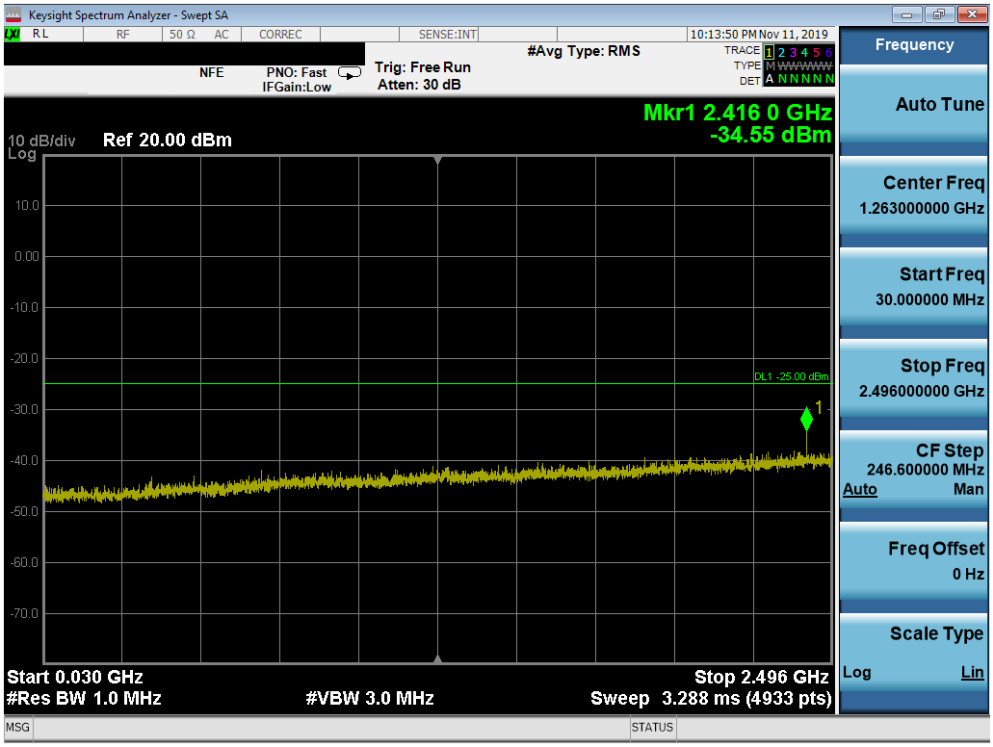


Plot 7-338. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-339. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

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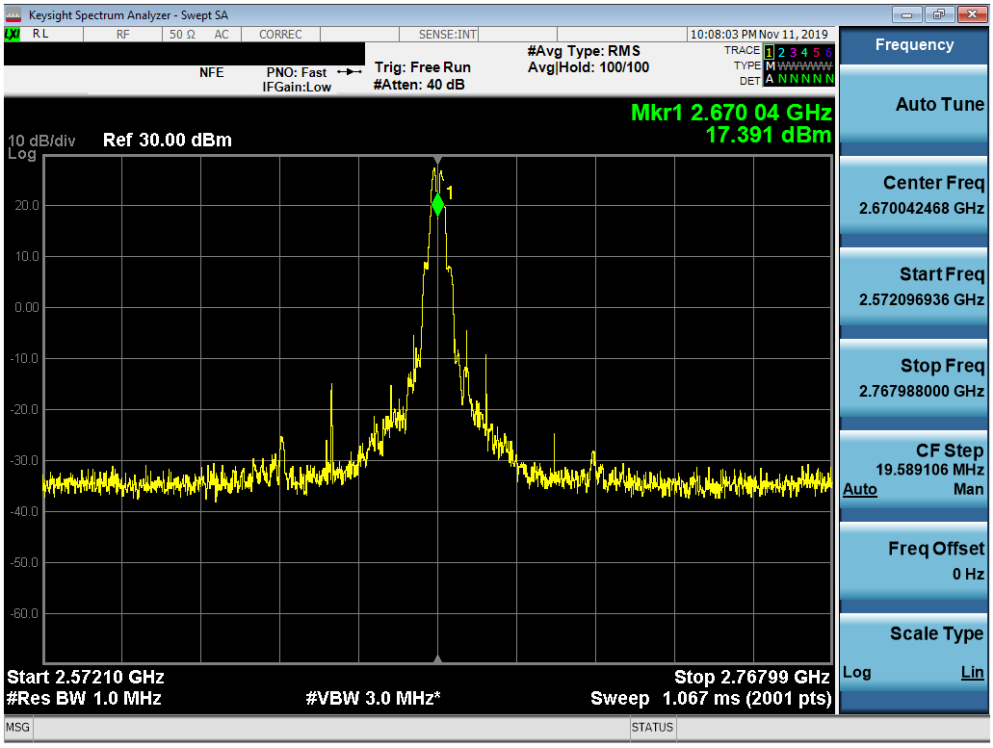
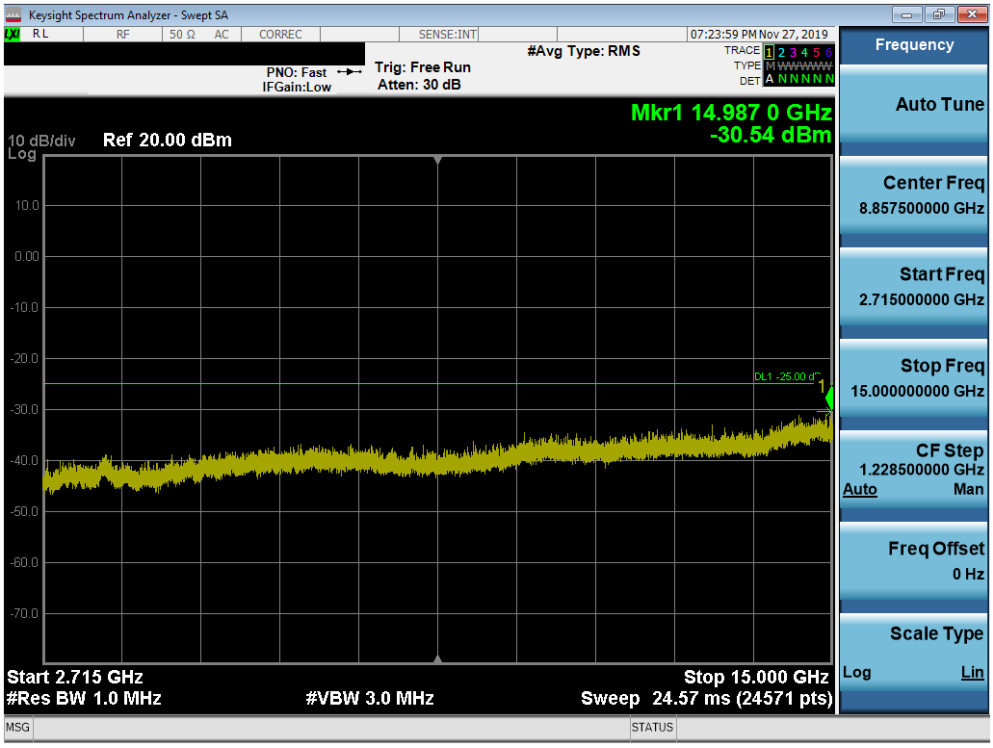


Plot 7-340. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)



Plot 7-341. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

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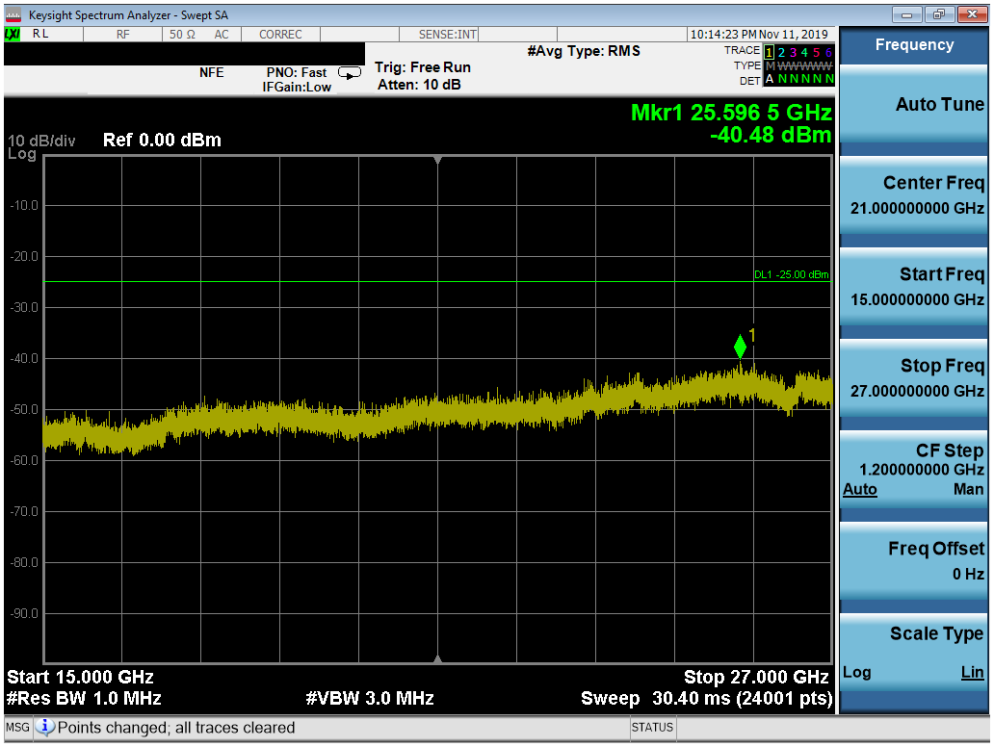
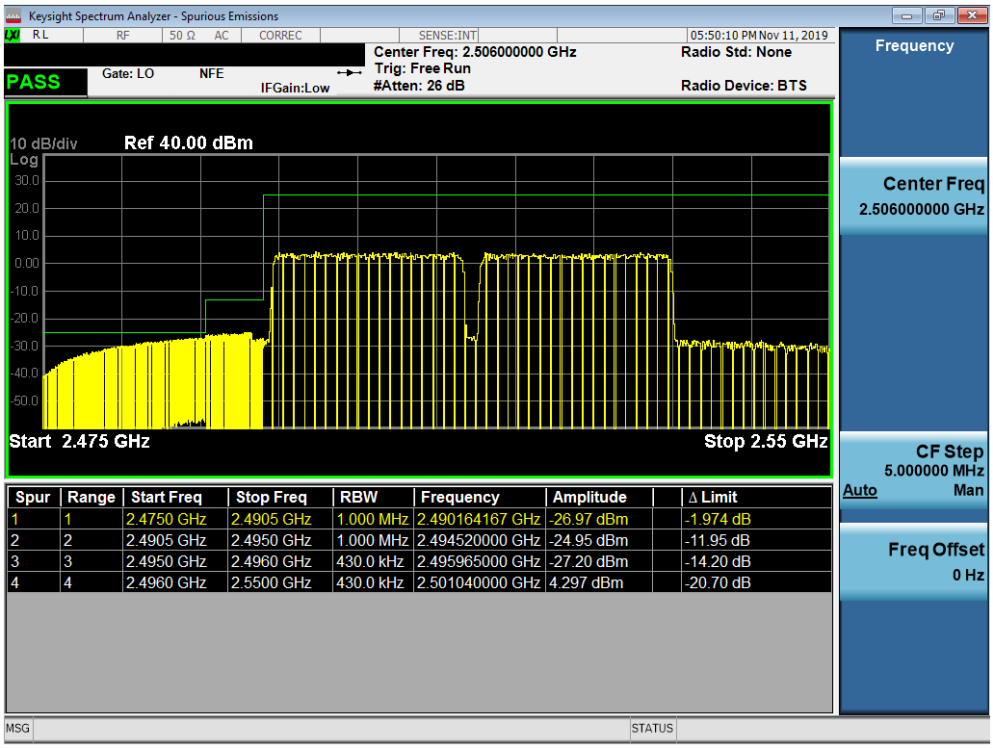


Plot 7-342. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)



Plot 7-343. Lower ACP Plot (Band 41 PC2 QPSK – Left Carrier:20 MHz Right Carrier:20 MHz – Full RB)

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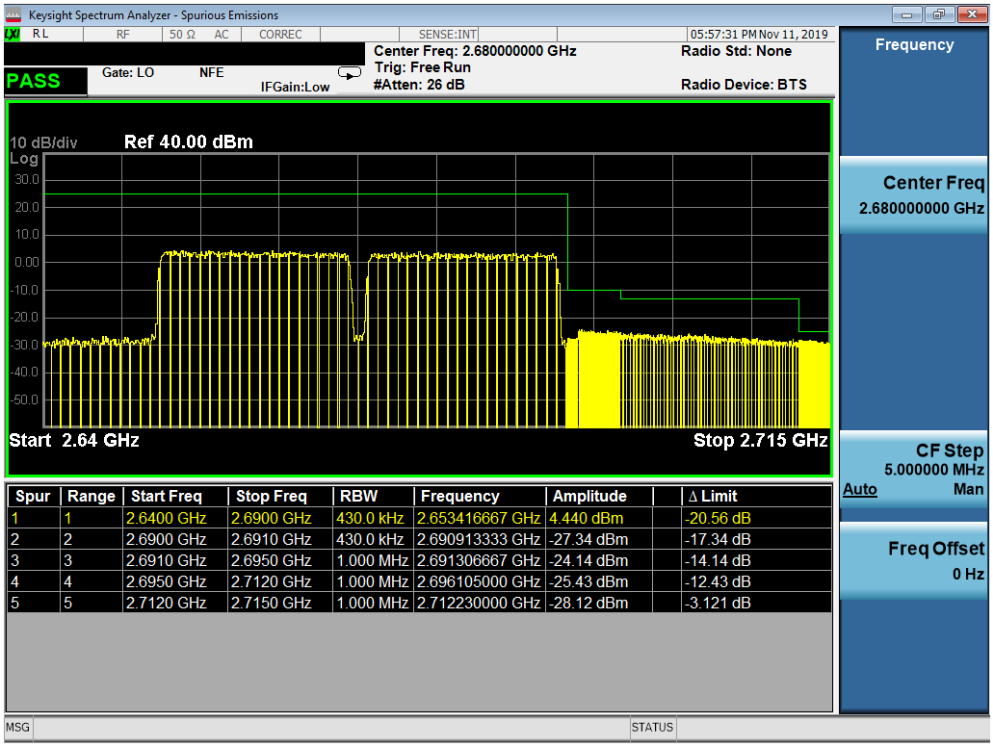

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude		Δ Limit
1	1	2.6400 GHz	2.6900 GHz	430.0 kHz	2.653416667 GHz	4.440 dBm		-20.56 dB
2	2	2.6900 GHz	2.6910 GHz	430.0 kHz	2.690913333 GHz	-27.34 dBm		-17.34 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691306667 GHz	-24.14 dBm		-14.14 dB
4	4	2.6950 GHz	2.7120 GHz	1.000 MHz	2.696105000 GHz	-25.43 dBm		-12.43 dB
5	5	2.7120 GHz	2.7150 GHz	1.000 MHz	2.712230000 GHz	-28.12 dBm		-3.121 dB

Plot 7-344. Upper ACP Plot (Band 41 PC2 QPSK – Left Carrier:20 MHz Right Carrier:20 MHz – Full RB)

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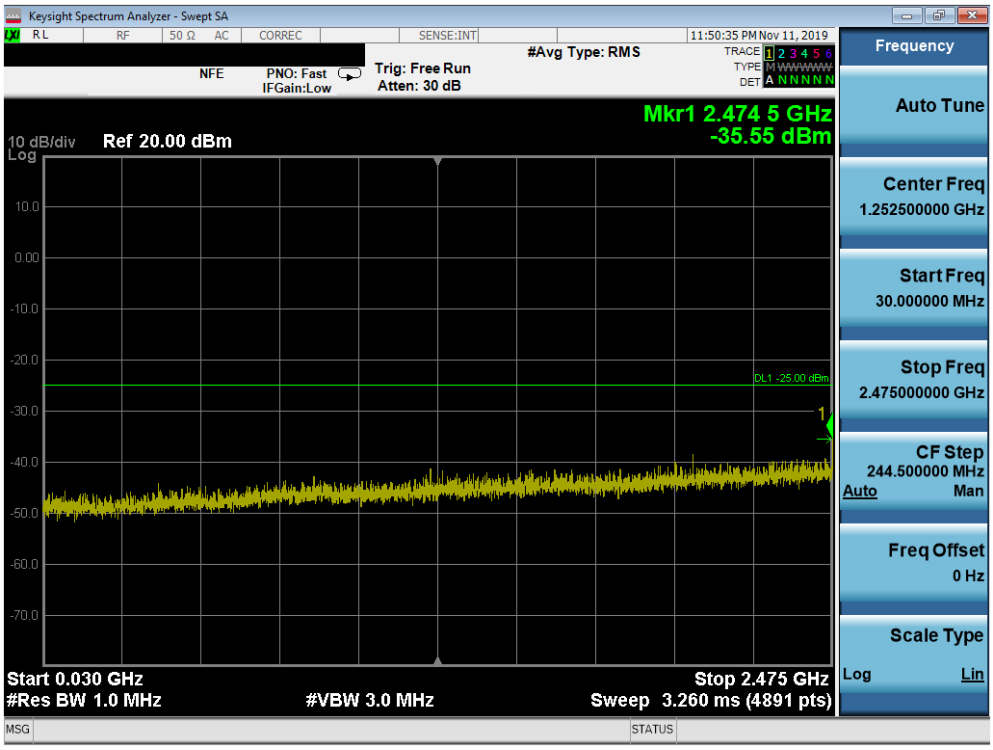
Band 41 PC3

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.37
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	24.67
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	24.60

Table 7-5. Conducted Powers (Band 41 PC3 – Left Carrier: RB Size 1 Offset Max Right Carrier: RB Size 1 Offset 0)

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	40620	2593	QPSK	100	0	LTE B41	20	40818	2612.8	QPSK	100	0	23.11
Max	LTE B41	20	40620	2593	16-QAM	100	0	LTE B41	20	40818	2612.8	16-QAM	100	0	22.12
Max	LTE B41	20	40620	2593	64-QAM	100	0	LTE B41	20	40818	2612.8	64-QAM	100	0	21.10

Table 7-6. Conducted Powers (Band 41 PC3 with Various Combinations for 20MHz Channel Bandwidth)



Plot 7-345. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

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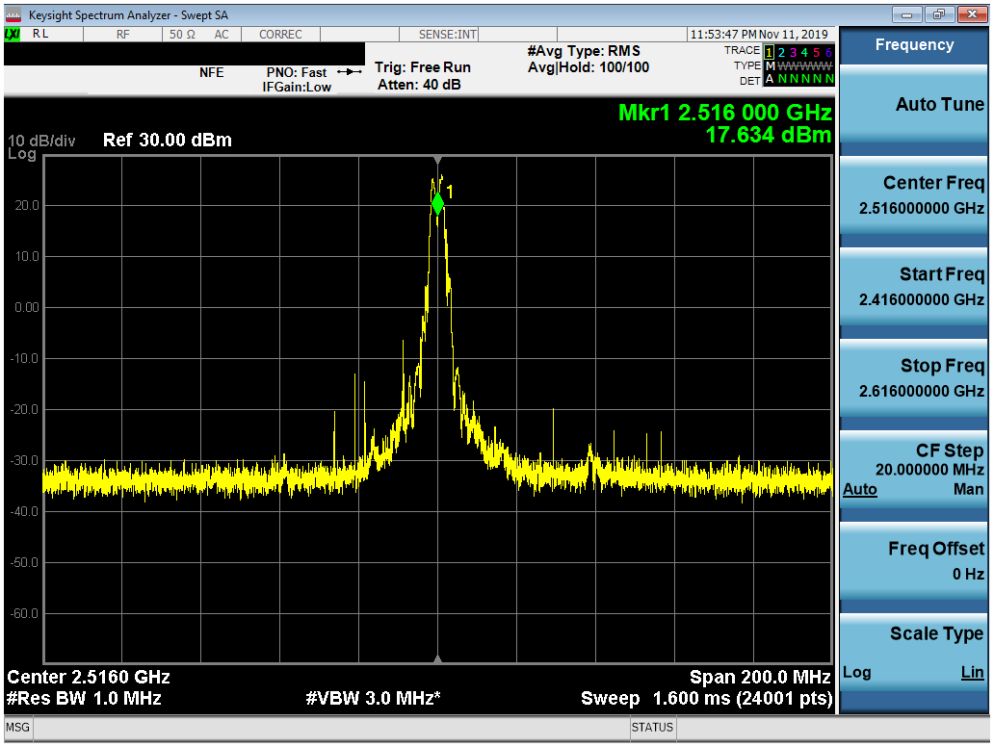
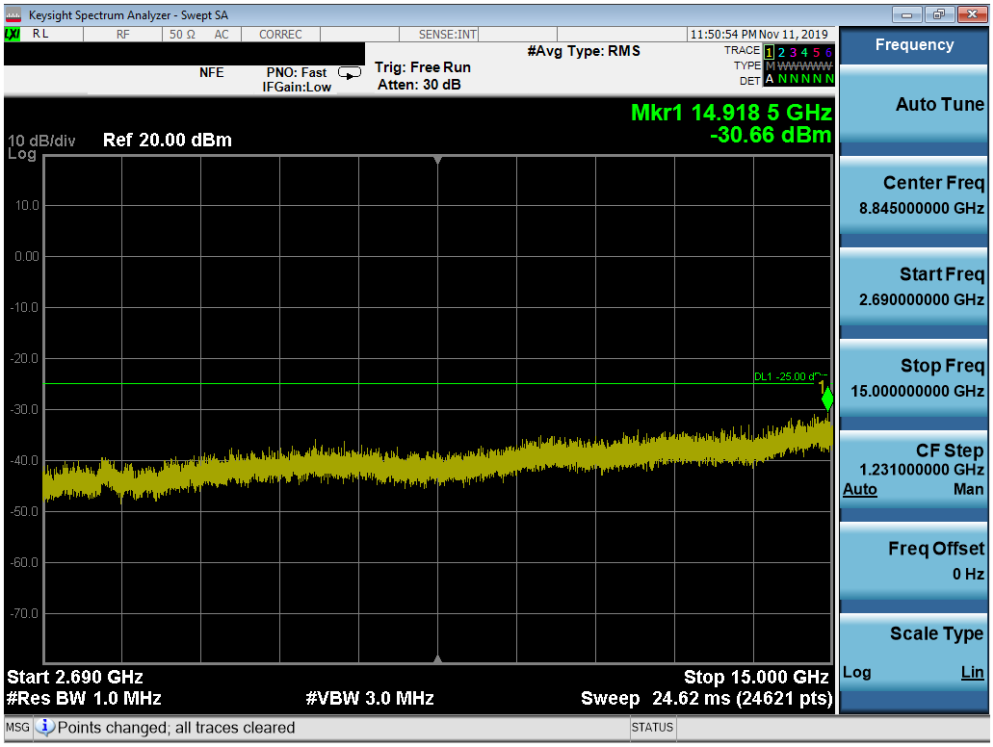


Plot 7-346. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)



Plot 7-347. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

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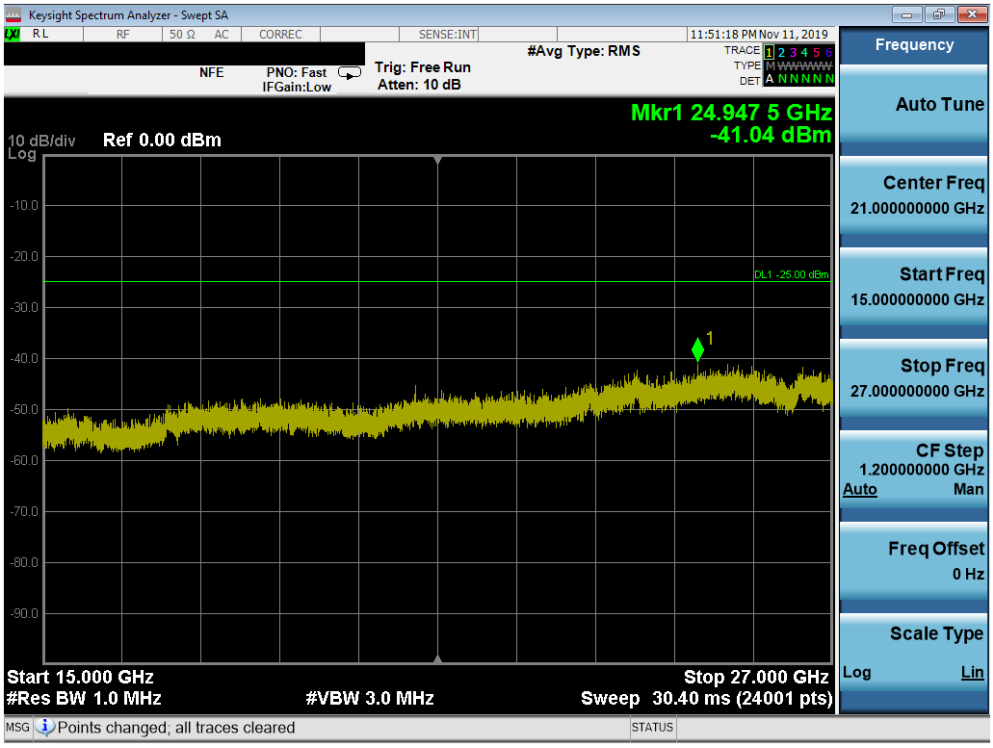
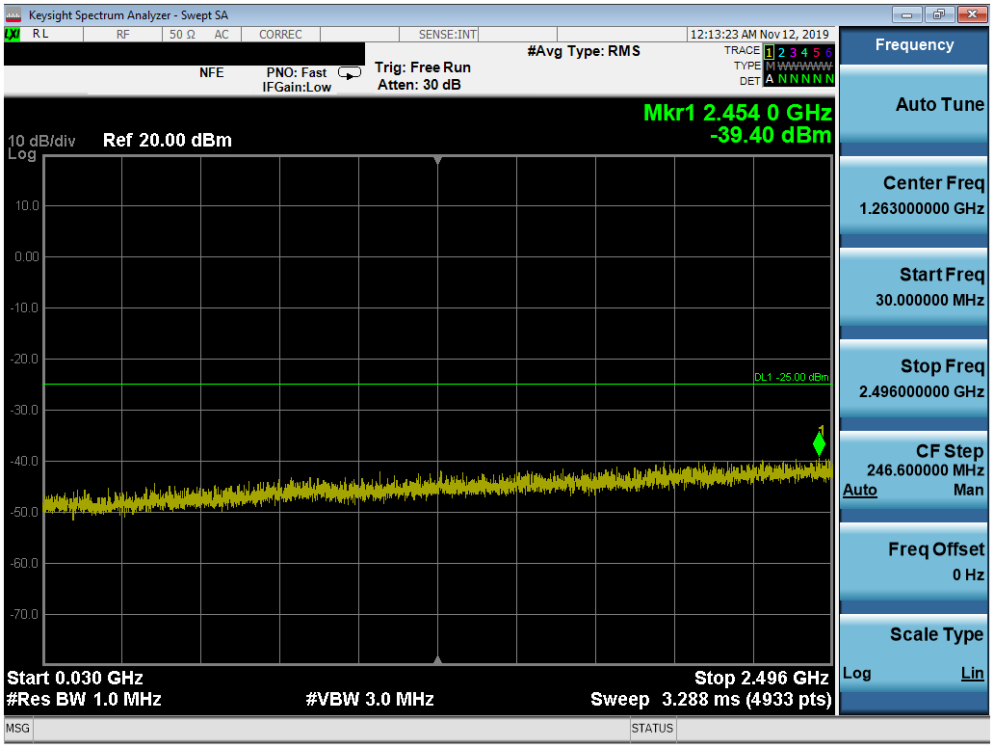


Plot 7-348. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)



Plot 7-349. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

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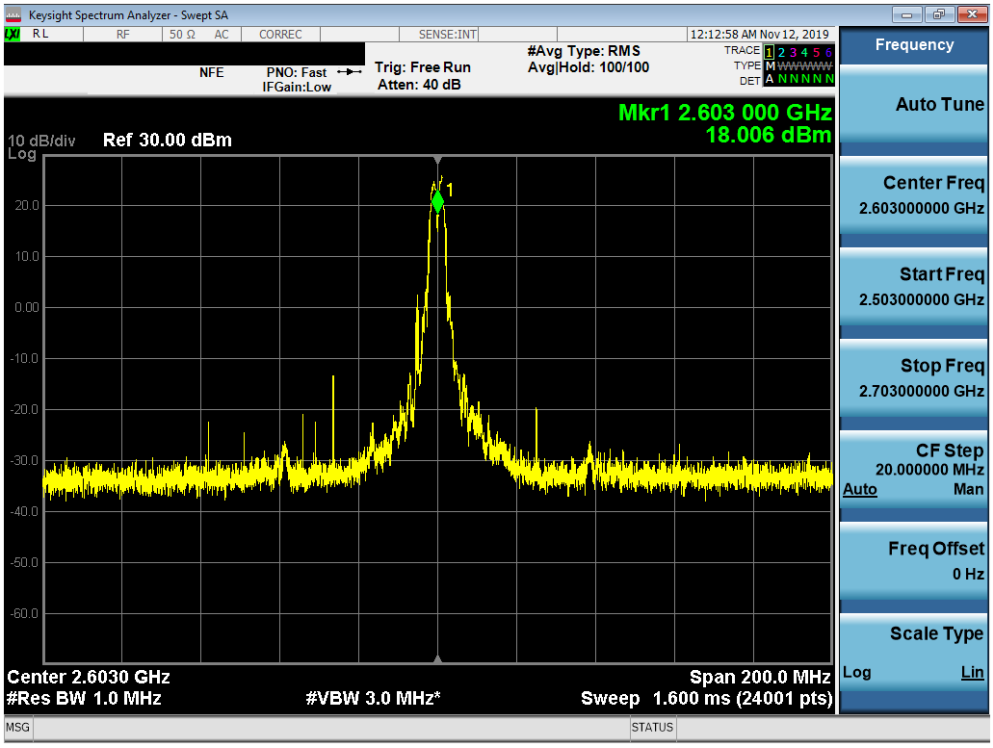
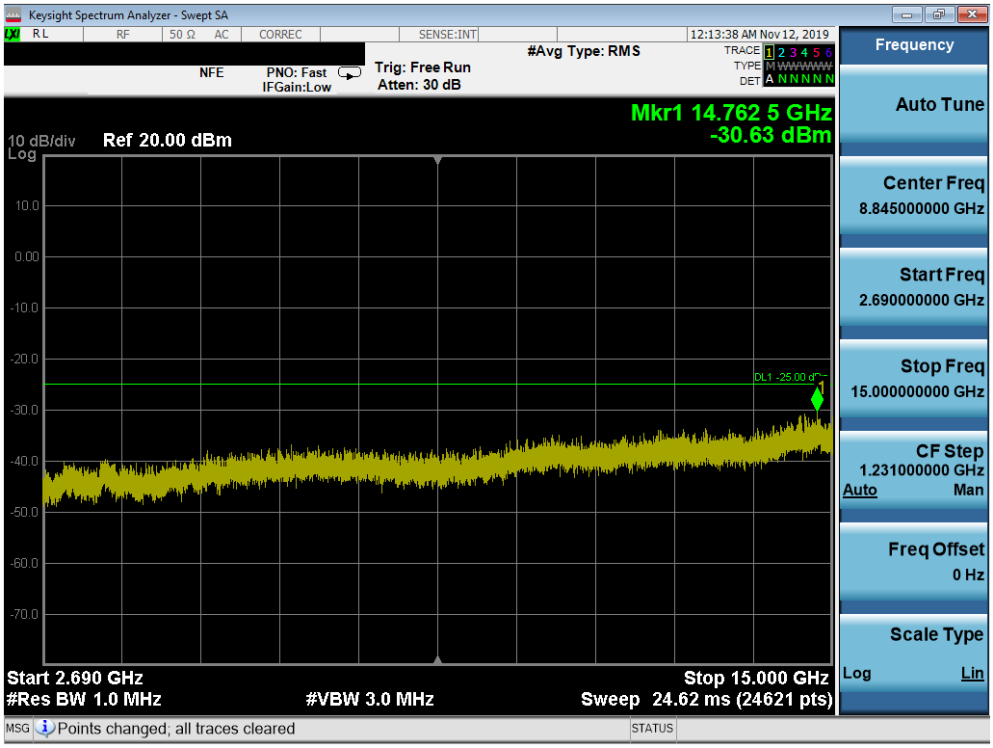


Plot 7-350. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-351. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

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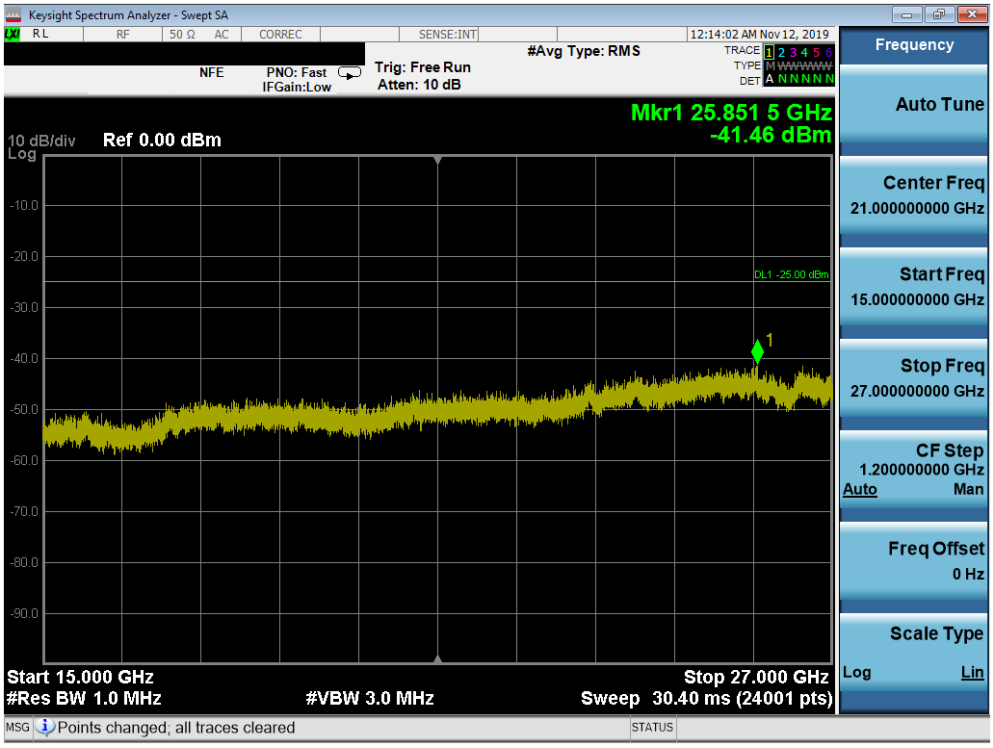
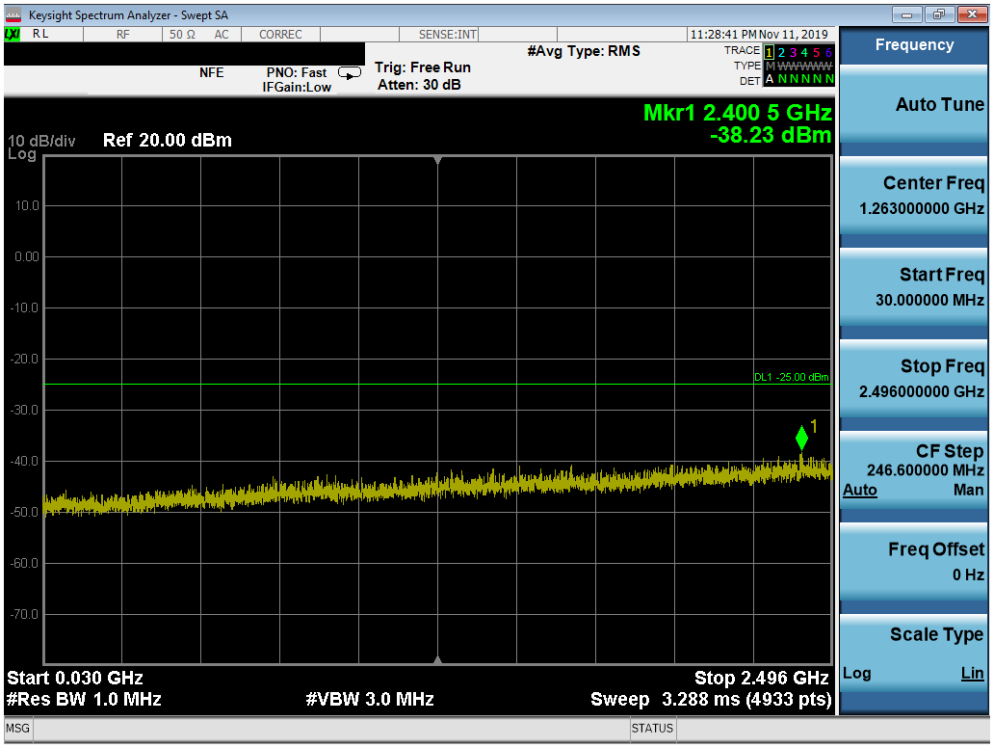


Plot 7-352. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-353. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

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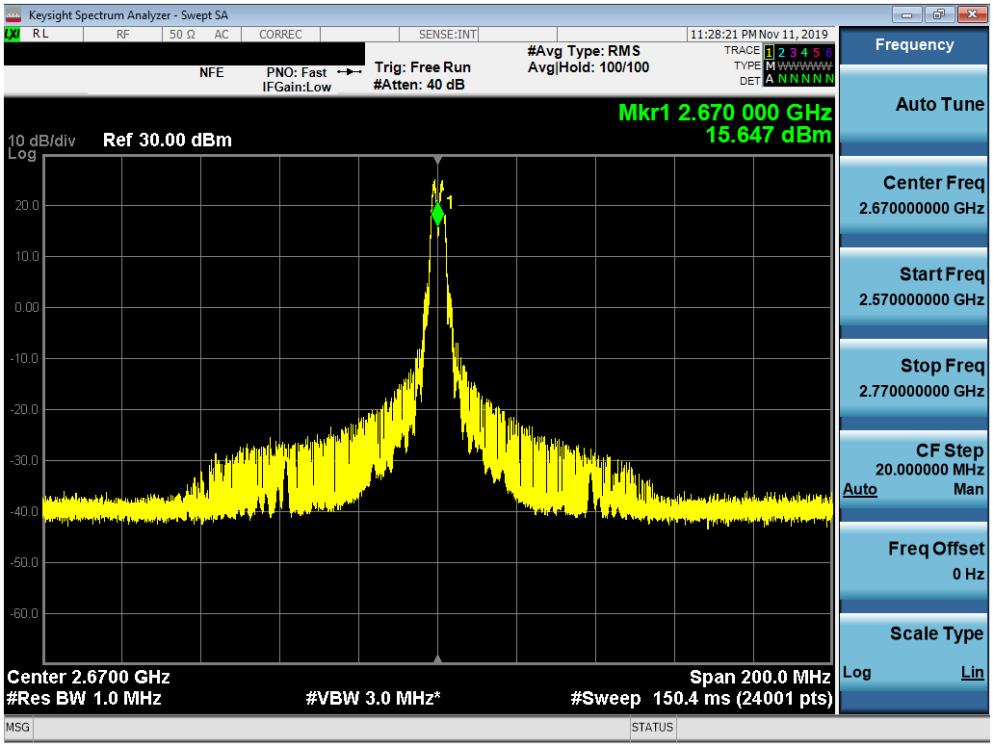
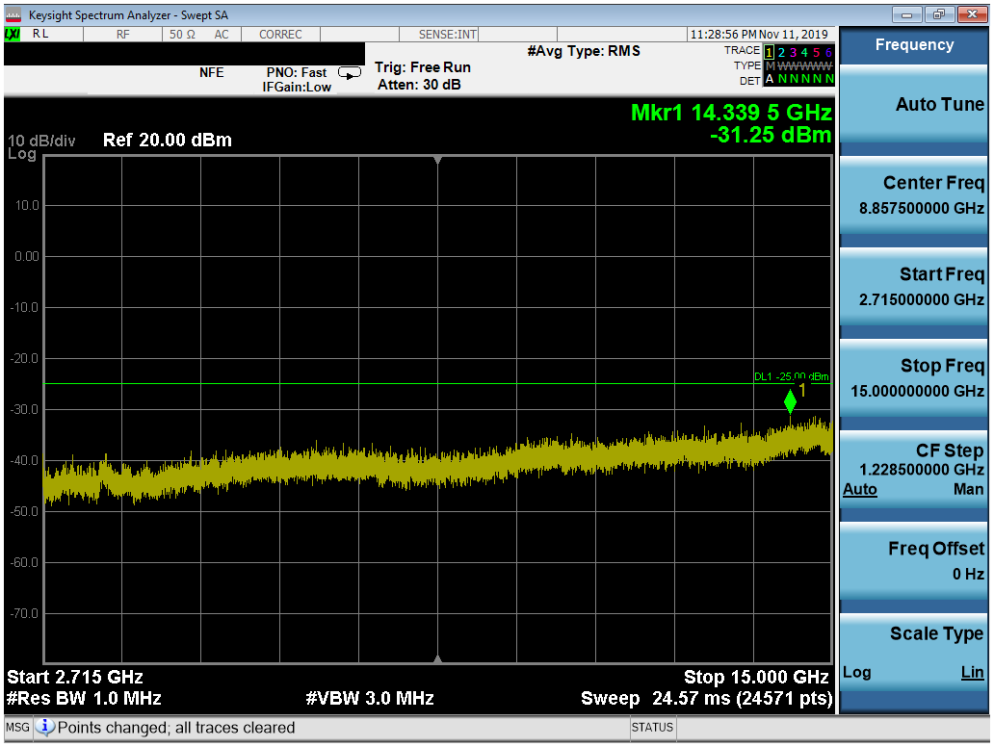


Plot 7-354. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)



Plot 7-355. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

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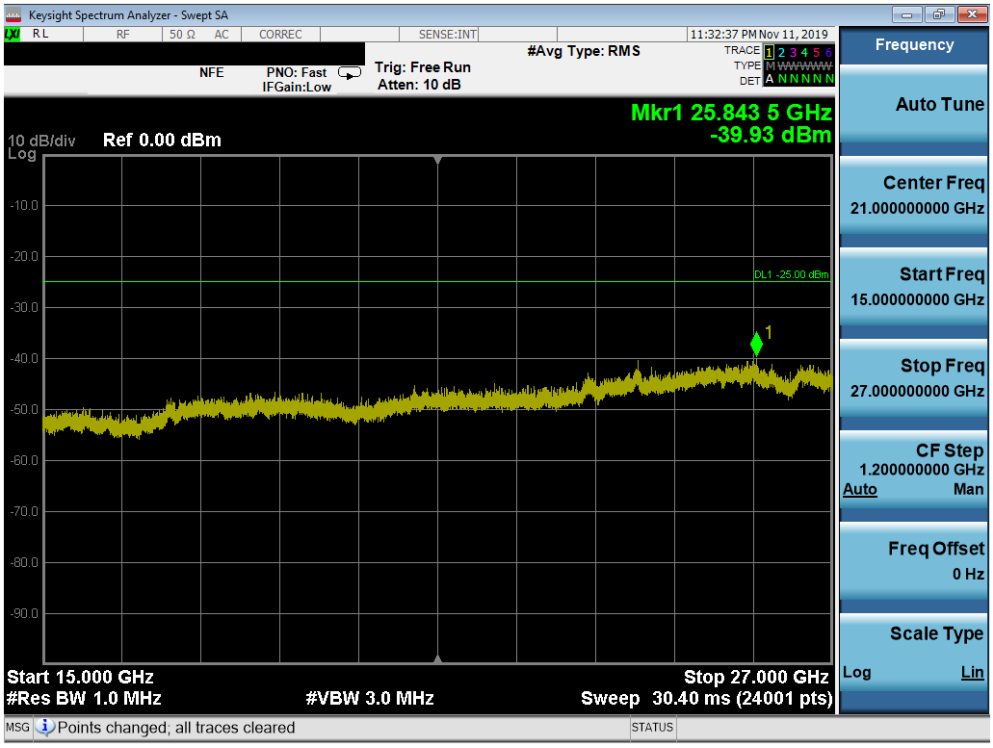
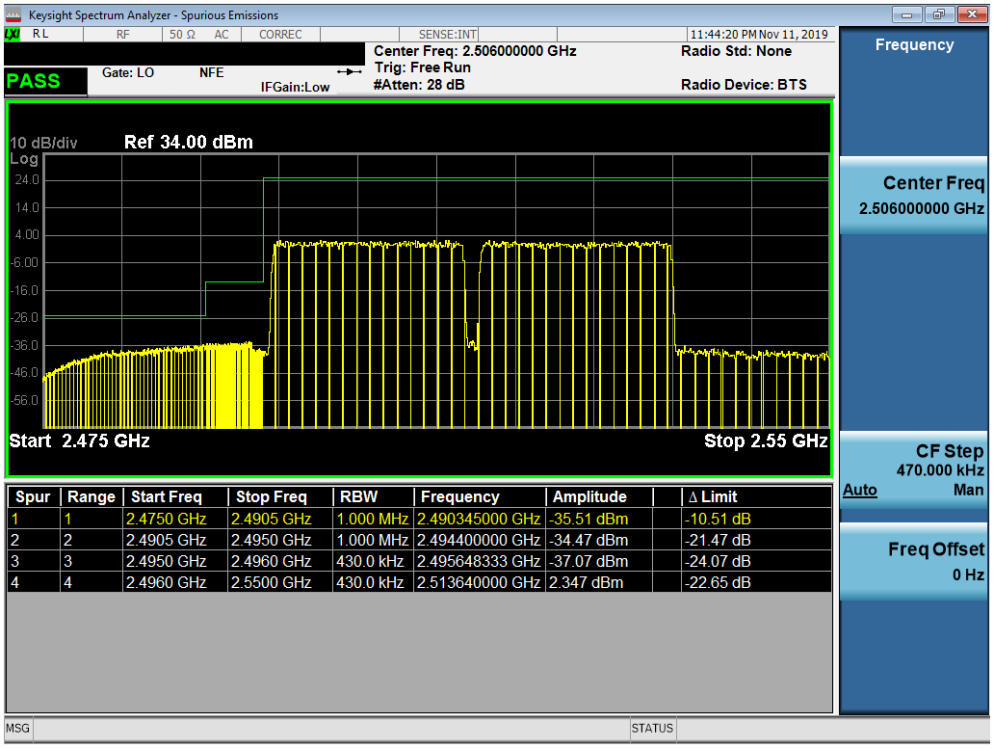


Plot 7-356. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490345000 GHz	-35.51 dBm	-10.51 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494400000 GHz	-34.47 dBm	-21.47 dB
3	3	2.4950 GHz	2.4960 GHz	430.0 kHz	2.495648333 GHz	-37.07 dBm	-24.07 dB
4	4	2.4960 GHz	2.5500 GHz	430.0 kHz	2.513640000 GHz	2.347 dBm	-22.65 dB

Plot 7-357. Lower ACP Plot (Band 41 PC3 QPSK – Left Carrier:20 MHz Right Carrier:20 MHz – Full RB)

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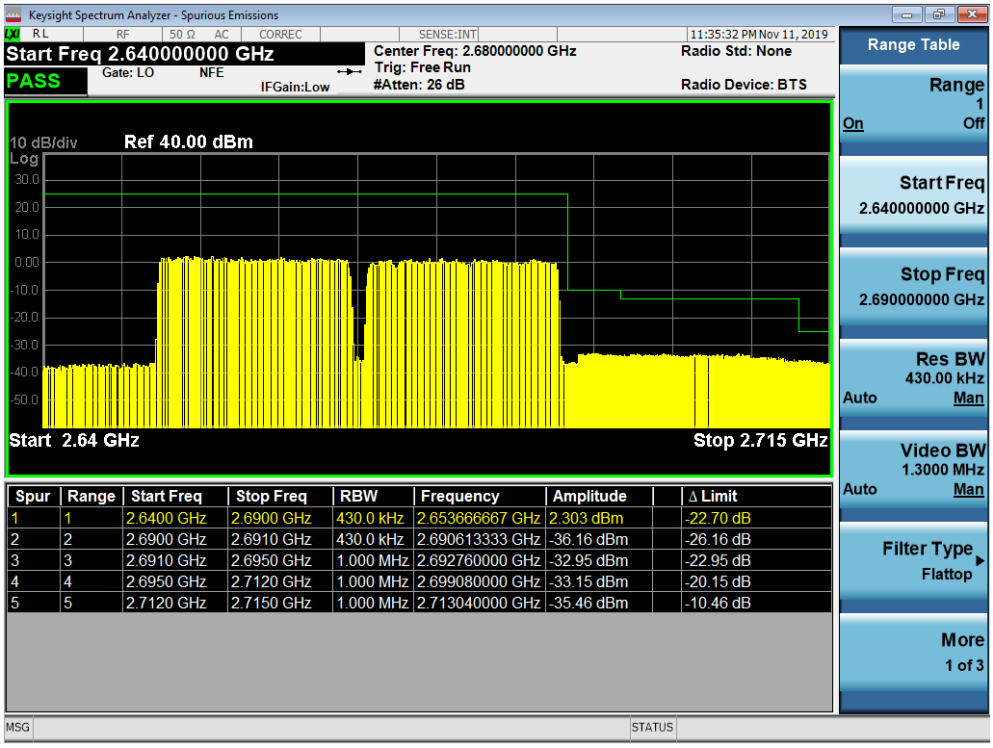

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude		Δ Limit
1	1	2.6400 GHz	2.6900 GHz	430.0 kHz	2.653666667 GHz	2.303 dBm		-22.70 dB
2	2	2.6900 GHz	2.6910 GHz	430.0 kHz	2.690613333 GHz	-36.16 dBm		-26.16 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692760000 GHz	-32.95 dBm		-22.95 dB
4	4	2.6950 GHz	2.7120 GHz	1.000 MHz	2.699080000 GHz	-33.15 dBm		-20.15 dB
5	5	2.7120 GHz	2.7150 GHz	1.000 MHz	2.713040000 GHz	-35.46 dBm		-10.46 dB

Plot 7-358. Upper ACP Plot (Band 41 PC3 QPSK – Left Carrier:20 MHz Right Carrier:20 MHz – Full RB)

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7.7 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

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Test Setup

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

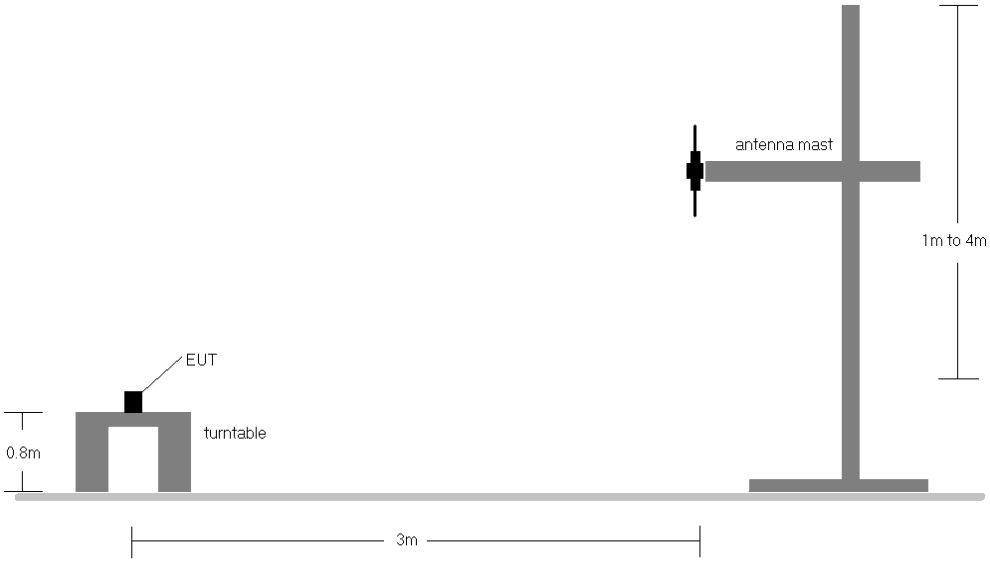

Figure 7-6. Radiated Test Setup <1GHz

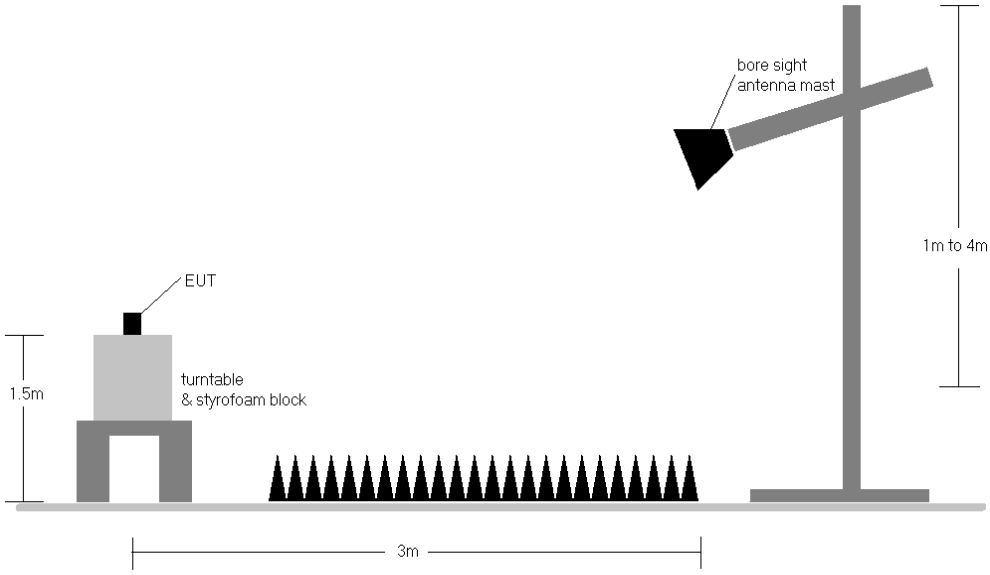

Figure 7-7. Radiated Test Setup >1GHz

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.

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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	H	155	280	1 / 12	16.35	2.90	17.10	0.051	34.77	-17.67
680.50	5	QPSK	H	146	286	1 / 12	15.72	3.20	16.77	0.048	34.77	-18.00
695.50	5	QPSK	H	298	300	1 / 12	16.52	3.30	**17.67**	0.058	34.77	-17.10
695.50	5	16-QAM	H	298	300	1 / 12	15.59	3.30	**16.74**	0.047	34.77	-18.03
695.50	5	64-QAM	H	298	300	1 / 12	14.71	3.30	**15.86**	0.039	34.77	-18.91
668.00	10	QPSK	H	161	283	1 / 25	16.19	2.90	16.94	0.049	34.77	-17.83
680.50	10	QPSK	H	144	296	1 / 25	15.62	3.20	16.67	0.046	34.77	-18.10
693.00	10	QPSK	H	303	281	1 / 25	16.38	3.30	**17.53**	0.057	34.77	-17.24
693.00	10	16-QAM	H	303	281	1 / 25	15.48	3.30	**16.63**	0.046	34.77	-18.14
693.00	10	64-QAM	H	303	281	1 / 25	14.06	3.30	**15.21**	0.033	34.77	-19.56
670.50	15	QPSK	H	160	280	1 / 36	16.02	3.00	16.87	0.049	34.77	-17.90
680.50	15	QPSK	H	136	289	1 / 36	15.52	3.20	16.57	0.045	34.77	-18.20
690.50	15	QPSK	H	303	285	1 / 36	16.17	3.30	**17.32**	0.054	34.77	-17.45
690.50	15	16-QAM	H	303	285	1 / 36	15.29	3.30	**16.44**	0.044	34.77	-18.33
690.50	15	64-QAM	H	303	285	1 / 36	14.40	3.30	**15.55**	0.036	34.77	-19.22
673.00	20	QPSK	H	162	283	1 / 50	16.36	3.10	17.31	0.054	34.77	-17.46
680.50	20	QPSK	H	141	291	1 / 50	16.06	3.20	17.11	0.051	34.77	-17.66
688.00	20	QPSK	H	300	286	1 / 50	16.67	3.30	**17.82**	**0.061**	34.77	-16.95
688.00	20	16-QAM	H	300	286	1 / 50	15.72	3.30	**16.87**	0.049	34.77	-17.90
688.00	20	64-QAM	H	300	286	1 / 50	14.69	3.30	**15.84**	0.038	34.77	-18.93
688.00	20	QPSK	V	199	186	1 / 50	15.53	3.20	16.58	0.045	34.77	-18.19

Table 7-7. ERP Data (Band 71)

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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	272	293	1 / 0	16.16	3.40	17.41	0.055	34.77	-17.36	19.56	0.090	36.99	-17.43
707.50	1.4	QPSK	H	285	294	1 / 0	17.02	3.65	**18.52**	0.071	34.77	-16.25	**20.67**	0.117	36.99	-16.32
715.30	1.4	QPSK	H	275	290	1 / 0	16.52	3.70	18.07	0.064	34.77	-16.70	20.22	0.105	36.99	-16.77
707.50	1.4	16-QAM	H	285	294	1 / 0	16.05	3.65	**17.55**	0.057	34.77	-17.22	**19.70**	0.093	36.99	-17.29
707.50	1.4	64-QAM	H	285	294	1 / 0	15.26	3.65	**16.76**	0.047	34.77	-18.01	**18.91**	0.078	36.99	-18.08
700.50	3	QPSK	H	276	291	1 / 0	16.49	3.40	17.74	0.059	34.77	-17.03	19.89	0.097	36.99	-17.10
707.50	3	QPSK	H	280	289	1 / 0	17.22	3.65	**18.72**	0.074	34.77	-16.05	**20.87**	0.122	36.99	-16.12
714.50	3	QPSK	H	270	292	1 / 0	16.77	3.70	18.32	0.068	34.77	-16.45	20.47	0.111	36.99	-16.52
707.50	3	16-QAM	H	280	289	1 / 0	16.26	3.65	**17.76**	0.060	34.77	-17.01	**19.91**	0.098	36.99	-17.08
707.50	3	64-QAM	H	280	289	1 / 0	15.38	3.65	**16.88**	0.049	34.77	-17.89	**19.03**	0.080	36.99	-17.96
701.50	5	QPSK	H	274	290	1 / 0	16.38	3.40	17.63	0.058	34.77	-17.14	19.78	0.095	36.99	-17.21
707.50	5	QPSK	H	280	285	1 / 0	17.36	3.65	**18.86**	**0.077**	34.77	-15.91	**21.01**	**0.126**	36.99	-15.98
713.50	5	QPSK	H	271	298	1 / 0	16.84	3.70	18.39	0.069	34.77	-16.38	20.54	0.113	36.99	-16.45
707.50	5	16-QAM	H	280	285	1 / 0	16.84	3.65	**18.34**	0.068	34.77	-16.43	**20.49**	0.112	36.99	-16.50
707.50	5	64-QAM	H	280	285	1 / 0	16.05	3.65	**17.55**	0.057	34.77	-17.22	**19.70**	0.093	36.99	-17.29
704.00	10	QPSK	H	275	292	1 / 0	15.91	3.50	17.26	0.053	34.77	-17.51	19.41	0.087	36.99	-17.58
707.50	10	QPSK	H	278	288	1 / 0	17.08	3.65	**18.58**	0.072	34.77	-16.19	**20.73**	0.118	36.99	-16.26
711.00	10	QPSK	H	277	299	1 / 0	16.44	3.70	17.99	0.063	34.77	-16.78	20.14	0.103	36.99	-16.85
707.50	10	16-QAM	H	278	288	1 / 0	16.13	3.65	**17.63**	0.058	34.77	-17.14	**19.78**	0.095	36.99	-17.21
707.50	10	64-QAM	H	278	288	1 / 0	14.76	3.65	**16.26**	0.042	34.77	-18.51	**18.41**	0.069	36.99	-18.58
707.50	5	QPSK	V	189	183	1 / 0	16.86	3.65	18.36	0.069	34.77	-16.41	20.51	0.112	36.99	-16.48

Table 7-8. 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	245	285	1 / 0	15.01	5.80	18.66	0.073	34.77	-16.11	20.81	0.121	36.99	-16.18
782.00	5	QPSK	H	245	287	1 / 0	15.07	5.80	18.72	0.074	34.77	-16.05	20.87	0.122	36.99	-16.12
784.50	5	QPSK	H	244	283	1 / 0	15.02	5.90	**18.77**	0.075	34.77	-16.00	**20.92**	0.124	36.99	-16.07
782.00	5	16-QAM	H	245	287	1 / 0	14.22	5.80	**17.87**	0.061	34.77	-16.90	**20.02**	0.100	36.99	-16.97
782.00	5	64-QAM	H	245	287	1 / 0	13.31	5.80	**16.96**	0.050	34.77	-17.81	**19.11**	0.081	36.99	-17.88
782.00	10	QPSK	H	242	299	1 / 0	15.51	5.80	**19.16**	**0.082**	34.77	-15.61	**21.31**	**0.135**	36.99	-15.68
782.00	10	16-QAM	H	242	299	1 / 0	14.57	5.80	**18.22**	0.066	34.77	-16.55	**20.37**	0.109	36.99	-16.62
782.00	10	64-QAM	H	242	299	1 / 0	13.61	5.80	**17.26**	0.053	34.77	-17.51	**19.41**	0.087	36.99	-17.58
782.00	10	QPSK	V	201	171	1 / 0	15.29	5.80	18.94	0.078	34.77	-15.83	21.09	0.129	36.99	-15.90

Table 7-9. ERP Data (Band 13)

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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	101	304	1 / 0	15.27	6.70	19.82	0.096	38.45	-18.63	21.97	0.157	40.61	-18.64
836.50	1.4	QPSK	H	100	301	1 / 0	15.58	6.70	**20.13**	0.103	38.45	-18.32	**22.28**	0.169	40.61	-18.33
848.30	1.4	QPSK	H	101	305	1 / 0	15.33	6.70	19.88	0.097	38.45	-18.57	22.03	0.160	40.61	-18.58
836.50	1.4	16-QAM	H	100	301	1 / 0	14.64	6.70	**19.19**	0.083	38.45	-19.26	**21.34**	0.136	40.61	-19.27
836.50	1.4	64-QAM	H	100	301	1 / 0	13.76	6.70	**18.31**	0.068	38.45	-20.14	**20.46**	0.111	40.61	-20.15
825.50	3	QPSK	H	105	307	1 / 0	15.34	6.70	19.89	0.097	38.45	-18.56	22.04	0.160	40.61	-18.57
836.50	3	QPSK	H	100	308	1 / 0	15.86	6.70	**20.41**	**0.110**	38.45	-18.04	**22.56**	**0.180**	40.61	-18.05
847.50	3	QPSK	H	100	306	1 / 0	15.20	6.65	19.70	0.093	38.45	-18.75	21.85	0.153	40.61	-18.76
836.50	3	16-QAM	H	100	308	1 / 0	14.94	6.70	**19.49**	0.089	38.45	-18.96	**21.64**	0.146	40.61	-18.97
836.50	3	64-QAM	H	100	308	1 / 0	13.81	6.70	**18.36**	0.069	38.45	-20.09	**20.51**	0.112	40.61	-20.10
826.50	5	QPSK	H	103	285	1 / 0	14.74	6.70	19.29	0.085	38.45	-19.16	21.44	0.139	40.61	-19.17
836.50	5	QPSK	H	101	292	1 / 0	15.26	6.70	**19.81**	0.096	38.45	-18.64	**21.96**	0.157	40.61	-18.65
846.50	5	QPSK	H	101	299	1 / 0	14.34	6.60	18.79	0.076	38.45	-19.66	20.94	0.124	40.61	-19.67
836.50	5	16-QAM	H	101	292	1 / 0	14.24	6.70	**18.79**	0.076	38.45	-19.66	**20.94**	0.124	40.61	-19.67
836.50	5	64-QAM	H	101	292	1 / 0	13.33	6.70	**17.88**	0.061	38.45	-20.57	**20.03**	0.101	40.61	-20.58
829.00	10	QPSK	H	101	282	1 / 0	14.83	6.70	19.38	0.087	38.45	-19.07	21.53	0.142	40.61	-19.08
836.50	10	QPSK	H	100	290	1 / 0	15.36	6.70	**19.91**	0.098	38.45	-18.54	**22.06**	0.161	40.61	-18.55
844.00	10	QPSK	H	101	297	1 / 0	14.48	6.60	18.93	0.078	38.45	-19.52	21.08	0.128	40.61	-19.53
836.50	10	16-QAM	H	100	290	1 / 0	14.40	6.70	**18.95**	0.079	38.45	-19.50	**21.10**	0.129	40.61	-19.51
836.50	10	64-QAM	H	100	290	1 / 0	13.43	6.70	**17.98**	0.063	38.45	-20.47	**20.13**	0.103	40.61	-20.48
836.50	3	QPSK	V	222	111	1 / 0	15.02	6.70	19.57	0.091	38.45	-18.88	21.72	0.149	40.61	-18.89

Table 7-10. 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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
831.50	15	QPSK	H	102	291	1 / 0	14.86	6.70	19.41	0.087	38.45	-19.04	21.56	0.143	40.61	-19.05
836.50	15	QPSK	H	100	295	1 / 0	15.29	6.70	**19.84**	0.096	38.45	-18.61	**21.99**	0.158	40.61	-18.61
841.50	15	QPSK	H	103	296	1 / 0	14.87	6.60	19.32	0.086	38.45	-19.13	21.47	0.140	40.61	-19.14
836.50	15	16-QAM	H	100	295	1 / 0	14.30	6.70	**18.85**	0.077	38.45	-19.60	**21.00**	0.126	40.61	-19.61
836.50	15	64-QAM	H	100	295	1 / 0	13.64	6.70	**18.19**	0.066	38.45	-20.26	**20.34**	0.108	40.61	-20.27

Table 7-11. ERP Data (Band 26)

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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	159	40	1 / 0	13.96	9.44	23.40	0.219	30.00	-6.60
1745.00	1.4	QPSK	H	140	23	1 / 5	14.55	9.23	**23.78**	0.239	30.00	-6.22
1779.30	1.4	QPSK	H	150	15	1 / 0	14.46	9.26	23.72	0.235	30.00	-6.28
1745.00	1.4	16-QAM	H	140	23	1 / 0	13.30	9.23	**22.53**	0.179	30.00	-7.47
1745.00	1.4	64-QAM	H	140	23	1 / 0	12.33	9.23	**21.56**	0.143	30.00	-8.44
1711.50	3	QPSK	H	155	38	1 / 0	14.26	9.44	23.70	0.234	30.00	-6.30
1745.00	3	QPSK	H	137	23	1 / 0	14.66	9.23	**23.89**	0.245	30.00	-6.11
1778.50	3	QPSK	H	151	16	1 / 0	14.43	9.26	23.69	0.234	30.00	-6.31
1745.00	3	16-QAM	H	137	23	1 / 0	13.76	9.23	**22.99**	0.199	30.00	-7.01
1745.00	3	64-QAM	H	137	23	1 / 0	12.90	9.23	**22.13**	0.163	30.00	-7.87
1712.50	5	QPSK	H	125	35	1 / 0	14.02	9.43	23.45	0.221	30.00	-6.55
1745.00	5	QPSK	H	142	25	1 / 0	14.32	9.23	**23.55**	0.226	30.00	-6.45
1777.50	5	QPSK	H	155	17	1 / 0	13.96	9.26	23.22	0.210	30.00	-6.78
1745.00	5	16-QAM	H	142	25	1 / 0	13.44	9.23	**22.67**	0.185	30.00	-7.33
1745.00	5	64-QAM	H	142	25	1 / 0	12.53	9.23	**21.76**	0.150	30.00	-8.24
1715.00	10	QPSK	H	116	37	1 / 0	13.90	9.42	23.32	0.215	30.00	-6.68
1745.00	10	QPSK	H	141	22	1 / 0	14.30	9.23	**23.53**	0.225	30.00	-6.47
1775.00	10	QPSK	H	148	16	1 / 0	13.93	9.25	23.18	0.208	30.00	-6.82
1745.00	10	16-QAM	H	141	22	1 / 0	13.49	9.23	**22.72**	0.187	30.00	-7.28
1745.00	10	64-QAM	H	141	22	1 / 0	12.46	9.23	**21.69**	0.148	30.00	-8.31
1717.50	15	QPSK	H	115	35	1 / 0	13.96	9.40	23.36	0.217	30.00	-6.64
1745.00	15	QPSK	H	136	21	1 / 0	14.25	9.23	**23.48**	0.223	30.00	-6.52
1772.50	15	QPSK	H	141	15	1 / 0	13.90	9.25	23.15	0.206	30.00	-6.85
1745.00	15	16-QAM	H	136	21	1 / 0	13.19	9.23	**22.42**	0.175	30.00	-7.58
1745.00	15	64-QAM	H	136	21	1 / 0	12.29	9.23	**21.52**	0.142	30.00	-8.48
1720.00	20	QPSK	H	110	33	1 / 0	15.12	9.38	**24.50**	**0.282**	30.00	-5.50
1745.00	20	QPSK	H	100	21	1 / 0	14.82	9.23	24.05	0.254	30.00	-5.95
1770.00	20	QPSK	H	144	16	1 / 0	13.62	9.24	22.86	0.193	30.00	-7.14
1720.00	20	16-QAM	H	110	33	1 / 0	14.20	9.38	**23.58**	0.228	30.00	-6.42
1720.00	20	64-QAM	H	110	33	1 / 0	13.30	9.38	**22.68**	0.186	30.00	-7.32
1720.00	20	QPSK	V	211	89	1 / 0	13.21	9.38	22.59	0.182	30.00	-7.41

Table 7-12. EIRP Data (Band 66/4)

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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	125	17	1 / 0	15.33	9.48	24.81	0.303	33.01	-8.20
1882.50	1.4	QPSK	H	132	19	1 / 0	15.58	9.94	**25.52**	0.356	33.01	-7.50
1914.30	1.4	QPSK	H	122	14	1 / 0	14.95	10.29	25.24	0.334	33.01	-7.77
1882.50	1.4	16-QAM	H	132	19	1 / 0	14.76	9.94	**24.70**	0.295	33.01	-8.32
1882.50	1.4	64-QAM	H	132	19	1 / 0	13.84	9.94	**23.78**	0.239	33.01	-9.24
1851.50	3	QPSK	H	130	16	1 / 0	15.23	9.50	24.73	0.297	33.01	-8.28
1882.50	3	QPSK	H	119	14	1 / 0	15.59	9.94	**25.53**	0.357	33.01	-7.49
1913.50	3	QPSK	H	129	17	1 / 0	15.03	10.29	25.32	0.340	33.01	-7.70
1882.50	3	16-QAM	H	119	14	1 / 0	14.51	9.94	**24.45**	0.278	33.01	-8.57
1882.50	3	64-QAM	H	119	14	1 / 0	13.50	9.94	**23.44**	0.221	33.01	-9.58
1852.50	5	QPSK	H	133	15	1 / 0	15.47	9.51	24.98	0.315	33.01	-8.03
1882.50	5	QPSK	H	118	18	1 / 0	15.82	9.94	**25.76**	0.376	33.01	-7.26
1912.50	5	QPSK	H	115	15	1 / 0	15.25	10.28	25.53	0.357	33.01	-7.48
1882.50	5	16-QAM	H	118	18	1 / 0	14.68	9.94	**24.62**	0.289	33.01	-8.40
1882.50	5	64-QAM	H	118	18	1 / 0	13.61	9.94	**23.55**	0.226	33.01	-9.47
1855.00	10	QPSK	H	131	19	1 / 0	15.58	9.55	25.13	0.325	33.01	-7.88
1882.50	10	QPSK	H	112	13	1 / 0	15.81	9.94	**25.75**	0.375	33.01	-7.27
1910.00	10	QPSK	H	110	15	1 / 0	15.47	10.26	25.73	0.374	33.01	-7.28
1882.50	10	16-QAM	H	112	13	1 / 0	14.93	9.94	**24.87**	0.307	33.01	-8.15
1882.50	10	64-QAM	H	112	13	1 / 0	14.03	9.94	**23.97**	0.249	33.01	-9.05
1857.50	15	QPSK	H	129	18	1 / 0	15.48	9.58	25.06	0.321	33.01	-7.95
1882.50	15	QPSK	H	112	17	1 / 0	15.75	9.94	**25.69**	0.370	33.01	-7.33
1907.50	15	QPSK	H	111	16	1 / 0	15.25	10.24	25.49	0.354	33.01	-7.52
1882.50	15	16-QAM	H	112	17	1 / 0	14.81	9.94	**24.75**	0.298	33.01	-8.27
1882.50	15	64-QAM	H	112	17	1 / 0	14.01	9.94	**23.95**	0.248	33.01	-9.07
1860.00	20	QPSK	H	124	19	1 / 0	15.95	9.62	25.57	0.360	33.01	-7.44
1882.50	20	QPSK	H	121	18	1 / 0	15.98	9.94	**25.92**	**0.390**	33.01	-7.10
1905.00	20	QPSK	H	110	15	1 / 0	15.35	10.22	25.57	0.361	33.01	-7.44
1882.50	20	16-QAM	H	121	18	1 / 0	15.13	9.94	**25.07**	0.321	33.01	-7.95
1882.50	20	64-QAM	H	121	18	1 / 0	14.25	9.94	**24.19**	0.262	33.01	-8.83
1882.50	20	QPSK	V	199	56	1 / 0	14.06	9.94	24.00	0.251	33.01	-9.02

Table 7-13. EIRP Data (Band 25/2)

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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	121	94	1 / 24	12.64	9.40	22.04	0.160	33.01	-10.97
2593.00	5	QPSK	V	114	271	1 / 0	13.32	9.56	**22.88**	0.194	33.01	-10.13
2687.50	5	QPSK	V	121	94	1 / 24	12.52	9.69	22.21	0.166	33.01	-10.80
2593.00	5	16-QAM	V	114	271	1 / 0	11.97	9.56	**21.53**	0.142	33.01	-11.48
2593.00	5	64-QAM	V	114	271	1 / 0	11.03	9.56	**20.59**	0.115	33.01	-12.42
2501.00	10	QPSK	V	111	93	1 / 49	12.66	9.40	22.06	0.161	33.01	-10.95
2593.00	10	QPSK	V	109	267	1 / 0	13.27	9.56	**22.83**	0.192	33.01	-10.18
2685.00	10	QPSK	V	121	95	1 / 49	12.64	9.68	22.32	0.171	33.01	-10.69
2593.00	10	16-QAM	V	109	267	1 / 0	11.83	9.56	**21.39**	0.138	33.01	-11.62
2593.00	10	64-QAM	V	109	267	1 / 0	10.91	9.56	**20.47**	0.111	33.01	-12.54
2503.50	15	QPSK	V	105	93	1 / 74	12.70	9.39	22.09	0.162	33.01	-10.92
2593.00	15	QPSK	V	112	267	1 / 0	13.23	9.56	**22.79**	0.190	33.01	-10.22
2682.50	15	QPSK	V	120	92	1 / 74	12.67	9.68	22.35	0.172	33.01	-10.66
2593.00	15	16-QAM	V	112	267	1 / 0	12.17	9.56	**21.73**	0.149	33.01	-11.28
2593.00	15	64-QAM	V	112	267	1 / 0	11.06	9.56	**20.62**	0.115	33.01	-12.39
2506.00	20	QPSK	V	109	91	1 / 99	12.83	9.39	22.22	0.167	33.01	-10.79
2593.00	20	QPSK	V	104	269	1 / 0	13.37	9.56	**22.93**	**0.196**	33.01	-10.08
2680.00	20	QPSK	V	123	94	1 / 99	12.65	9.68	22.33	0.171	33.01	-10.68
2593.00	20	16-QAM	V	104	269	1 / 0	12.41	9.56	**21.97**	0.157	33.01	-11.04
2593.00	20	64-QAM	V	104	269	1 / 0	11.51	9.56	**21.07**	0.128	33.01	-11.94
2593.00	20	QPSK	H	112	148	1 / 0	11.70	9.42	21.12	0.129	33.01	-11.89

Table 7-14. EIRP Data (Band 41 – PC2)

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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	129	95	1 / 0	10.02	9.40	19.42	0.088	33.01	-13.59
2593.00	5	QPSK	V	122	283	1 / 0	10.51	9.56	**20.07**	0.102	33.01	-12.94
2687.50	5	QPSK	V	123	98	1 / 0	9.69	9.69	19.38	0.087	33.01	-13.63
2593.00	5	16-QAM	V	122	283	1 / 0	9.67	9.56	**19.23**	0.084	33.01	-13.78
2593.00	5	64-QAM	V	122	283	1 / 0	8.57	9.56	**18.13**	0.065	33.01	-14.88
2501.00	10	QPSK	V	119	94	1 / 0	10.10	9.40	19.50	0.089	33.01	-13.51
2593.00	10	QPSK	V	116	282	1 / 0	10.46	9.56	**20.02**	0.100	33.01	-12.99
2685.00	10	QPSK	V	125	96	1 / 0	9.65	9.68	19.33	0.086	33.01	-13.68
2593.00	10	16-QAM	V	116	282	1 / 0	9.61	9.56	**19.17**	0.083	33.01	-13.84
2593.00	10	64-QAM	V	116	282	1 / 0	8.60	9.56	**18.16**	0.065	33.01	-14.85
2503.50	15	QPSK	V	115	93	1 / 0	10.06	9.39	19.45	0.088	33.01	-13.56
2593.00	15	QPSK	V	111	281	1 / 0	10.47	9.56	**20.03**	0.101	33.01	-12.98
2682.50	15	QPSK	V	123	93	1 / 0	9.72	9.68	19.40	0.087	33.01	-13.61
2593.00	15	16-QAM	V	111	281	1 / 0	9.54	9.56	**19.10**	0.081	33.01	-13.91
2593.00	15	64-QAM	V	111	281	1 / 0	8.64	9.56	**18.20**	0.066	33.01	-14.81
2506.00	20	QPSK	V	110	95	1 / 0	10.20	9.39	19.59	0.091	33.01	-13.42
2593.00	20	QPSK	V	104	284	1 / 0	10.56	9.56	**20.12**	**0.103**	33.01	-12.89
2680.00	20	QPSK	V	120	93	1 / 0	9.67	9.68	19.35	0.086	33.01	-13.66
2593.00	20	16-QAM	V	104	284	1 / 0	10.02	9.56	**19.58**	0.091	33.01	-13.43
2593.00	20	64-QAM	V	104	284	1 / 0	8.80	9.56	**18.36**	0.069	33.01	-14.65
20.00	QPSK	V	H	199	262	1 / 0	8.35	9.56	17.91	0.062	33.01	-15.10

Table 7-15. EIRP Data (Band 41 – PC3)

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7.8 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

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Test Setup

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

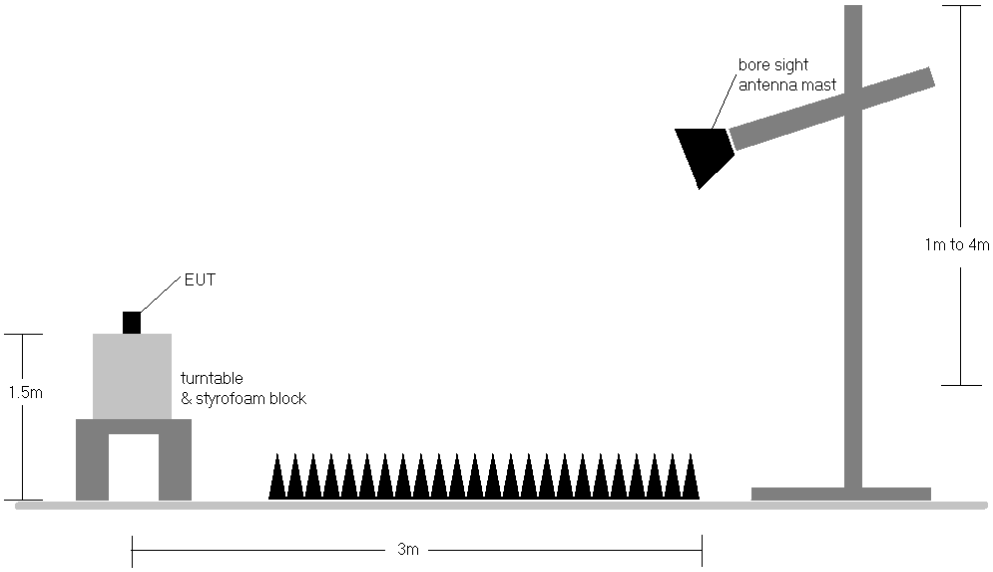

Figure 7-8. Test Instrument & Measurement Setup

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.

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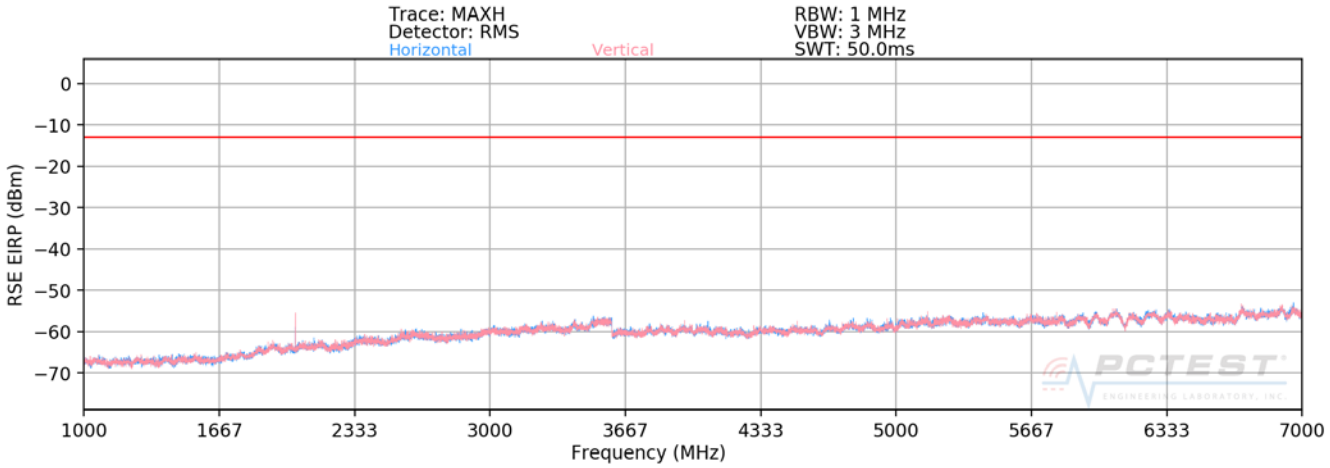
Band 71



Plot 7-359. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	673.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20MHz	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	-	-	-74.38	3.15	-71.23	-58.2
2019.00	H	110	180	-62.29	3.52	-58.77	-45.8
2692.00	H	-	-	-70.74	4.77	-65.97	-53.0
3365.00	H	-	-	-70.87	6.00	-64.88	-51.9

Table 7-16. Radiated Spurious Data (Band 71 – Low Channel)

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OPERATING FREQUENCY: 680.50 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20MHz 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	-	-	-74.04	3.04	-70.99	-58.0
2041.50	H	116	176	-64.76	3.49	-61.27	-48.3
2722.00	H	-	-	-73.39	4.83	-68.56	-55.6
3402.50	H	-	-	-70.74	6.16	-64.58	-51.6

Table 7-17. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY: 688.00 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20MHz 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	-	-	-74.11	2.88	-71.23	-58.2
2064.00	H	113	175	-64.98	3.50	-61.48	-48.5
2752.00	H	-	-	-72.47	4.88	-67.59	-54.6
3440.00	H	-	-	-70.52	6.22	-64.30	-51.3

Table 7-18. Radiated Spurious Data (Band 71 – High Channel)

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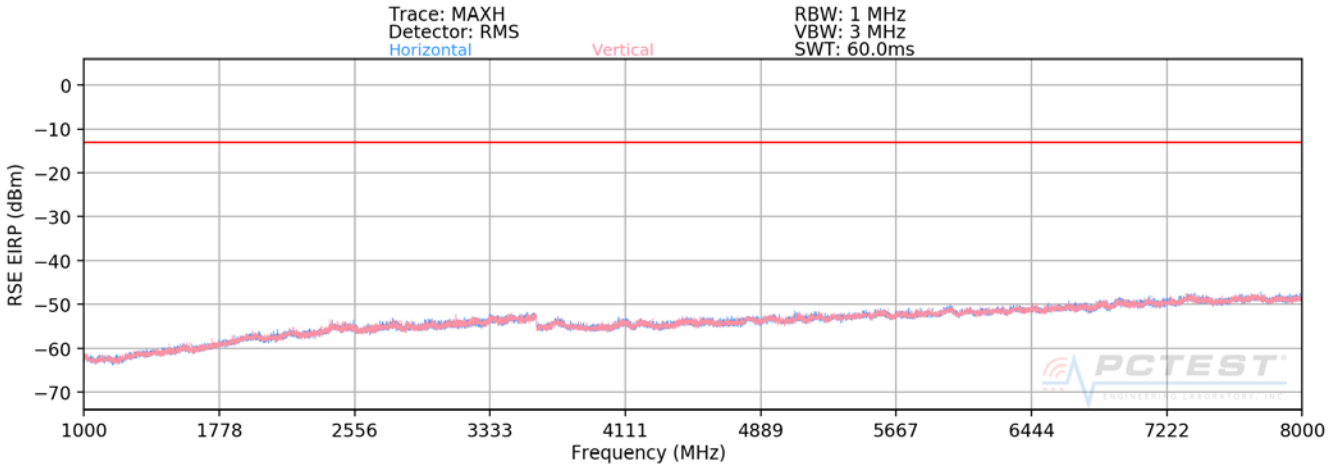
Band 12



Plot 7-360. Radiated Spurious Plot above 1GHz (Band 12)

OPERATING FREQUENCY:	701.50	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]
1403.00	H	-	-	-68.62	2.65	-65.96	-53.0
2104.50	H	158	215	-63.28	3.56	-59.72	-46.7
2806.00	H	-	-	-66.07	4.94	-61.13	-48.1

Table 7-19. Radiated Spurious Data (Band 12 – Low Channel)

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OPERATING FREQUENCY:	707.50	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]
1415.00	H	-	-	-65.93	2.80	-63.13	-50.1
2122.50	H	161	209	-63.31	3.57	-59.74	-46.7
2830.00	H	-	-	-66.93	5.02	-61.91	-48.9

Table 7-20. Radiated Spurious Data (Band 12 – Mid Channel)

OPERATING FREQUENCY:	713.50	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]
1427.00	H	-	-	-69.05	2.94	-66.11	-53.1
2140.50	H	155	201	-63.02	3.59	-59.43	-46.4
2854.00	H	-	-	-66.34	5.10	-61.24	-48.2

Table 7-21. Radiated Spurious Data (Band 12 – High Channel)

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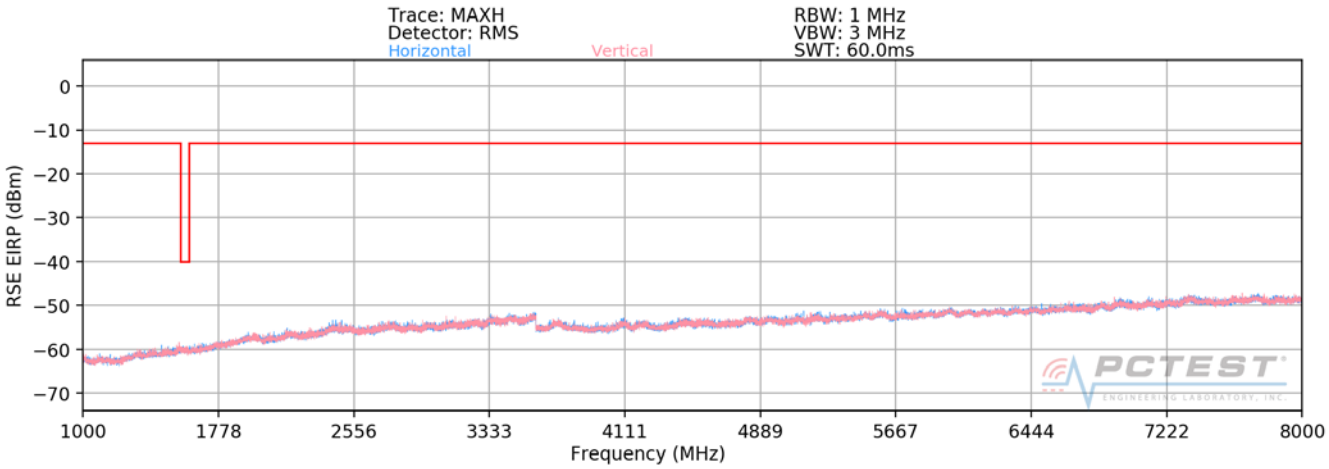
Band 13



Plot 7-361. Radiated Spurious Plot above 1GHz (Band 13)

OPERATING FREQUENCY:	782.00	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]
2346.00	H	126	352	-56.51	4.00	-52.51	-39.5
3128.00	H	-	-	-70.81	5.38	-65.43	-52.4
3910.00	H	-	-	-71.20	7.09	-64.11	-51.1

Table 7-22. Radiated Spurious Data (Band 13 – Mid Channel)

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MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.00	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]
1564.00	H	-	-	-75.05	3.53	-71.52	-31.5

Table 7-23. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

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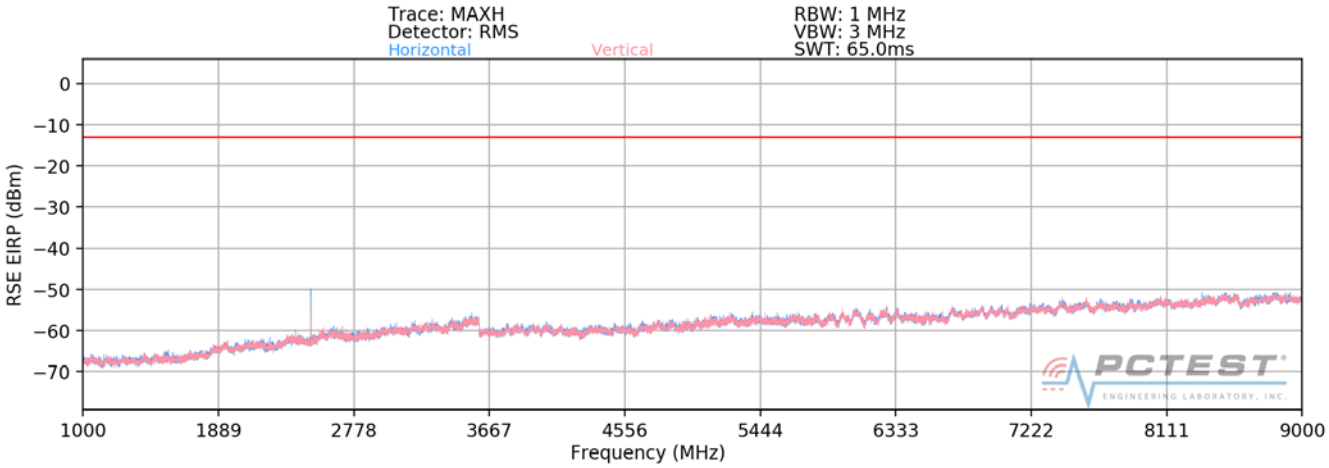
Band 26/5



Plot 7-362. 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	-	-	-75.64	3.61	-72.03	-59.0
2487.00	H	144	351	-56.22	4.25	-51.97	-39.0
3316.00	H	-	-	-71.79	5.83	-65.96	-53.0
4145.00	H	-	-	-72.71	7.66	-65.05	-52.0

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

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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	-	-	-75.56	3.62	-71.94	-58.9
2509.50	H	148	331	-53.89	4.33	-49.56	-36.6
3346.00	H	-	-	-72.95	5.92	-67.03	-54.0
4182.50	H	-	-	-73.40	7.69	-65.70	-52.7

Table 7-25. 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	-	-	-75.44	3.63	-71.81	-58.8
2532.00	H	138	338	-52.82	4.47	-48.35	-35.4
3376.00	H	-	-	-72.62	6.05	-66.57	-53.6
4220.00	H	-	-	-73.41	7.75	-65.66	-52.7

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

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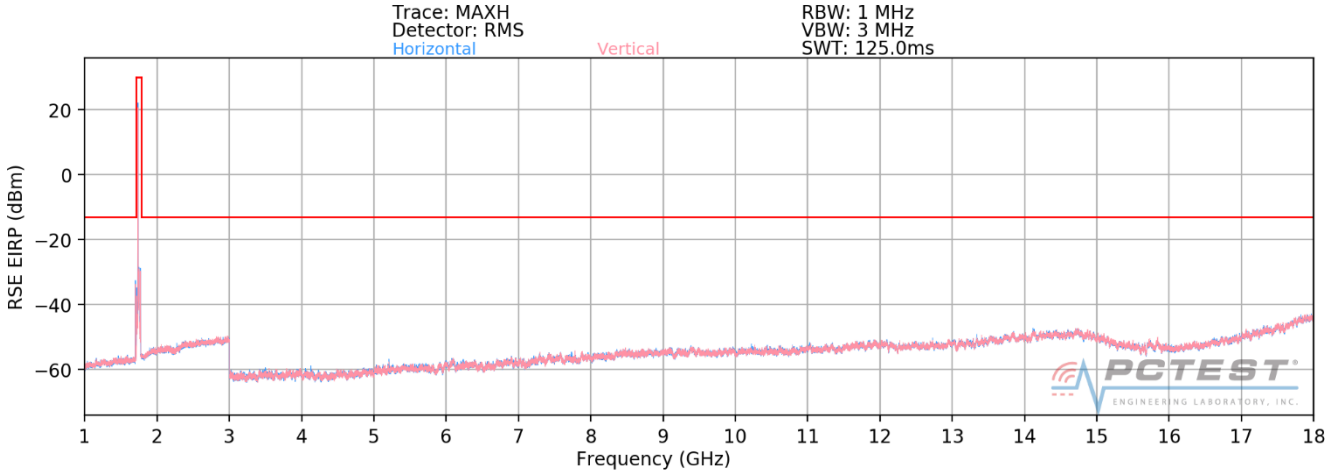
Band 66/4



Plot 7-363. Radiated Spurious Plot above 1GHz (Band 66/4)

OPERATING FREQUENCY:	1720.00	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]
3440.00	V	-	-	-68.56	6.22	-62.34	-49.3
5160.00	V	-	-	-69.82	8.68	-61.15	-48.1

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

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OPERATING FREQUENCY:	1745.00	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]
3490.00	V	-	-	-69.07	6.32	-62.74	-49.7
5235.00	V	-	-	-69.38	8.71	-60.67	-47.7

Table 7-28. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1770.00	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]
3540.00	V	-	-	-70.17	6.31	-63.87	-50.9
5310.00	V	-	-	-69.82	8.74	-61.09	-48.1

Table 7-29. Radiated Spurious Data (Band 66/4 – High Channel)

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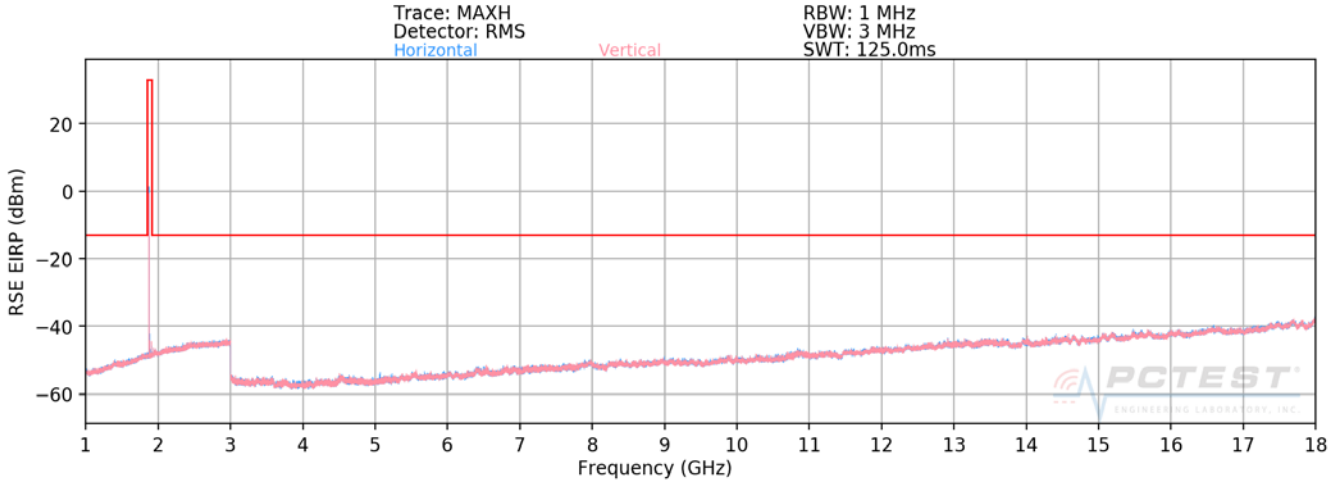
Band 25/2



Plot 7-364. 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	H	-	-	-66.23	6.57	-59.65	-46.7
5580.00	H	-	-	-64.52	8.73	-55.79	-42.8

Table 7-30. 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	H	-	-	-65.04	6.70	-58.35	-45.3
5647.50	H	-	-	-64.85	8.83	-56.02	-43.0

Table 7-31. Radiated Spurious Data (Band 25 – Mid Channel)

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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	H	-	-	-66.23	7.00	-59.23	-46.2
5715.00	H	-	-	-64.72	8.77	-55.95	-43.0

Table 7-32. Radiated Spurious Data (Band 25 – High Channel)

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