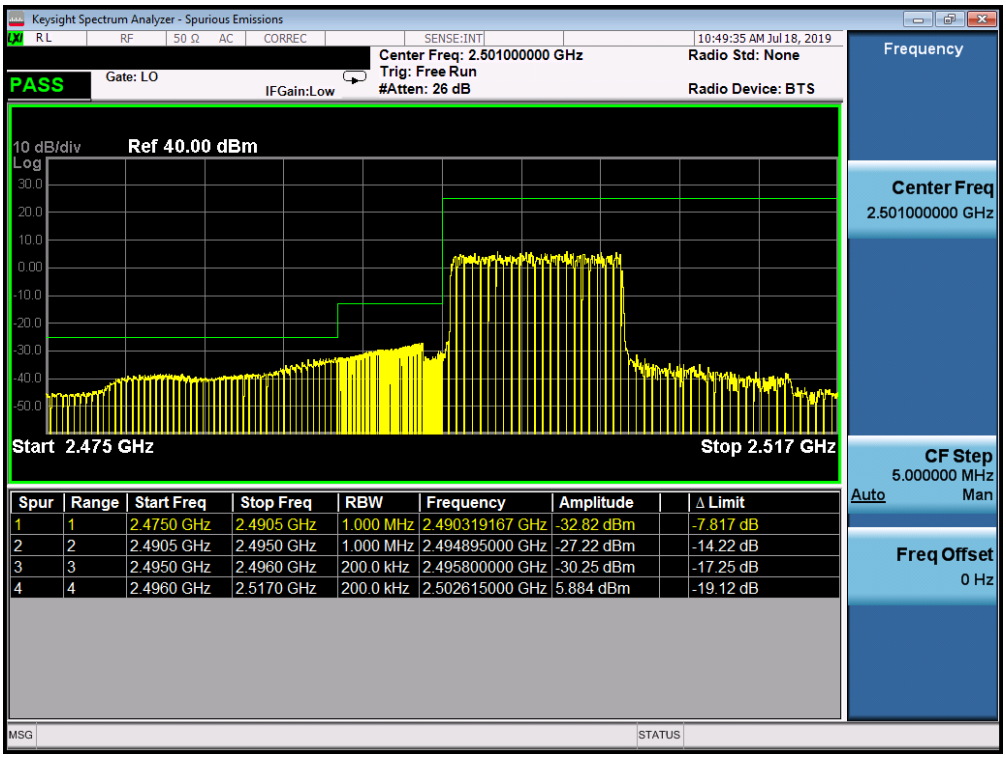
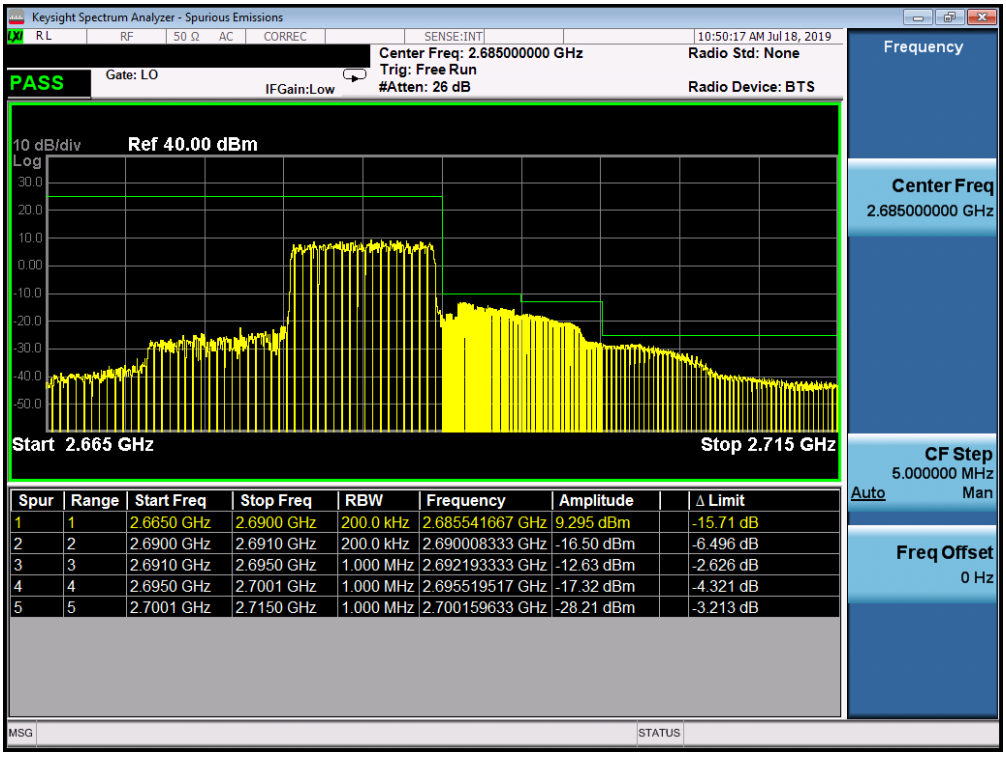


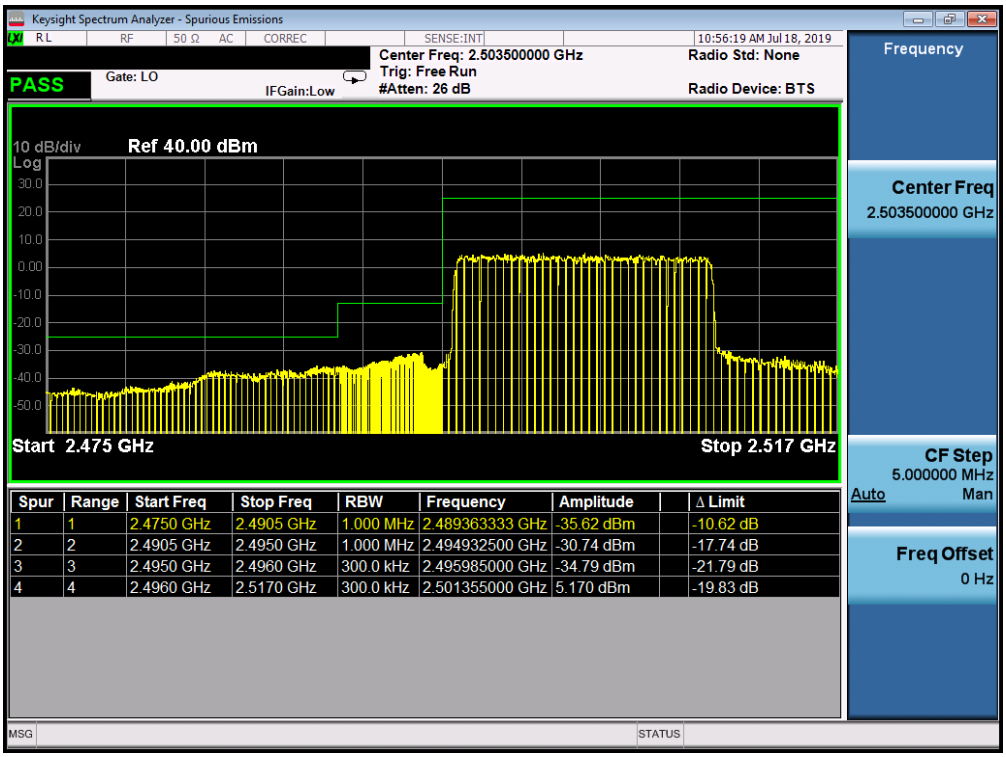
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490319167 GHz	-32.82 dBm	-7.817 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494895000 GHz	-27.22 dBm	-14.22 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495800000 GHz	-30.25 dBm	-17.25 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.502615000 GHz	5.884 dBm	-19.12 dB

Plot 7-272. Lower ACP Plot at 2496 MHz (Band 41 - 10.0MHz QPSK - Full RB Configuration)

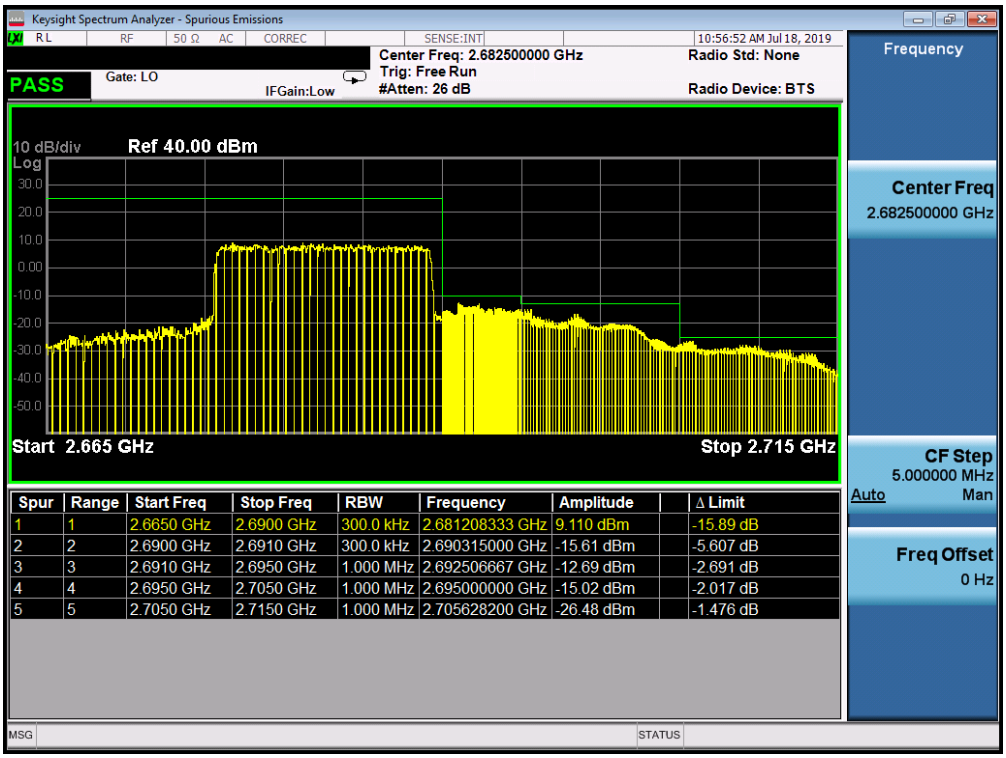


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	200.0 kHz	2.685541667 GHz	9.295 dBm	-15.71 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690008333 GHz	-16.50 dBm	-6.496 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692193333 GHz	-12.63 dBm	-2.626 dB
4	4	2.6950 GHz	2.7001 GHz	1.000 MHz	2.695519517 GHz	-17.32 dBm	-4.321 dB
5	5	2.7001 GHz	2.7150 GHz	1.000 MHz	2.700159633 GHz	-28.21 dBm	-3.213 dB

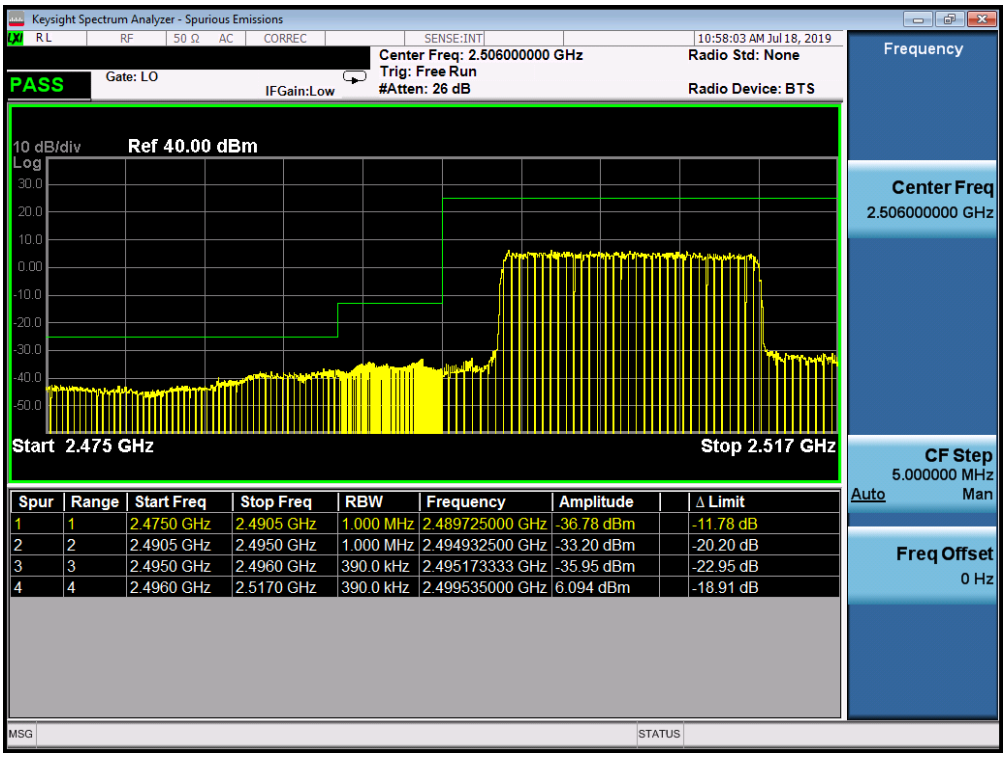
Plot 7-273. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)



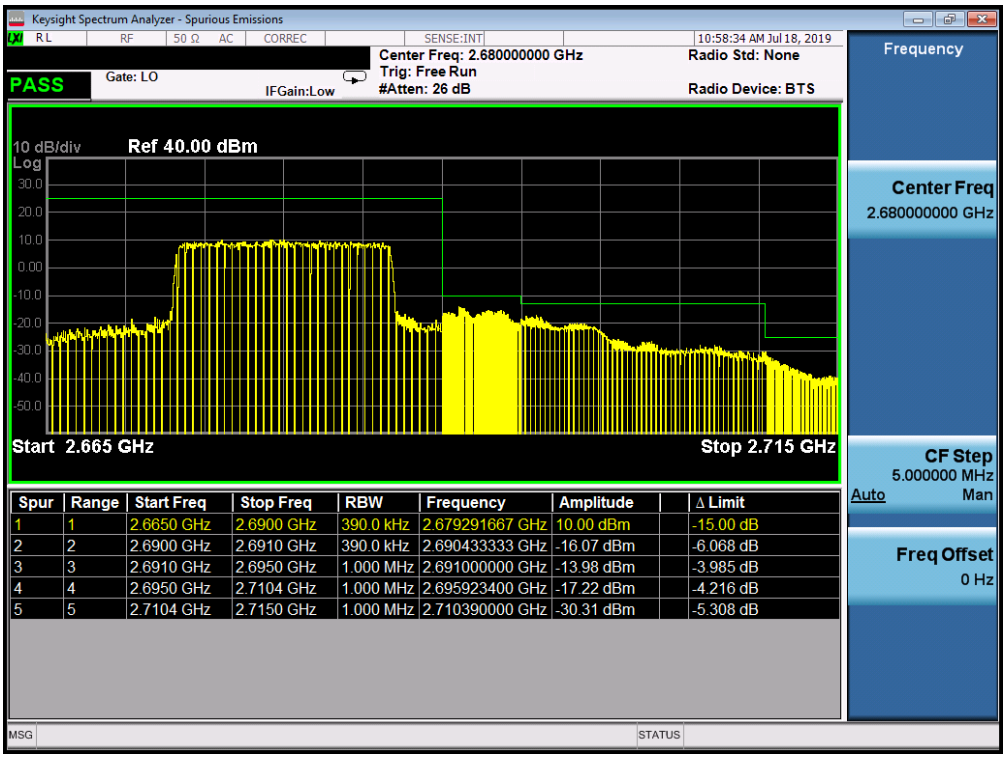
Plot 7-274. Lower ACP Plot at 2496 MHz (Band 41 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-275. Upper ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)

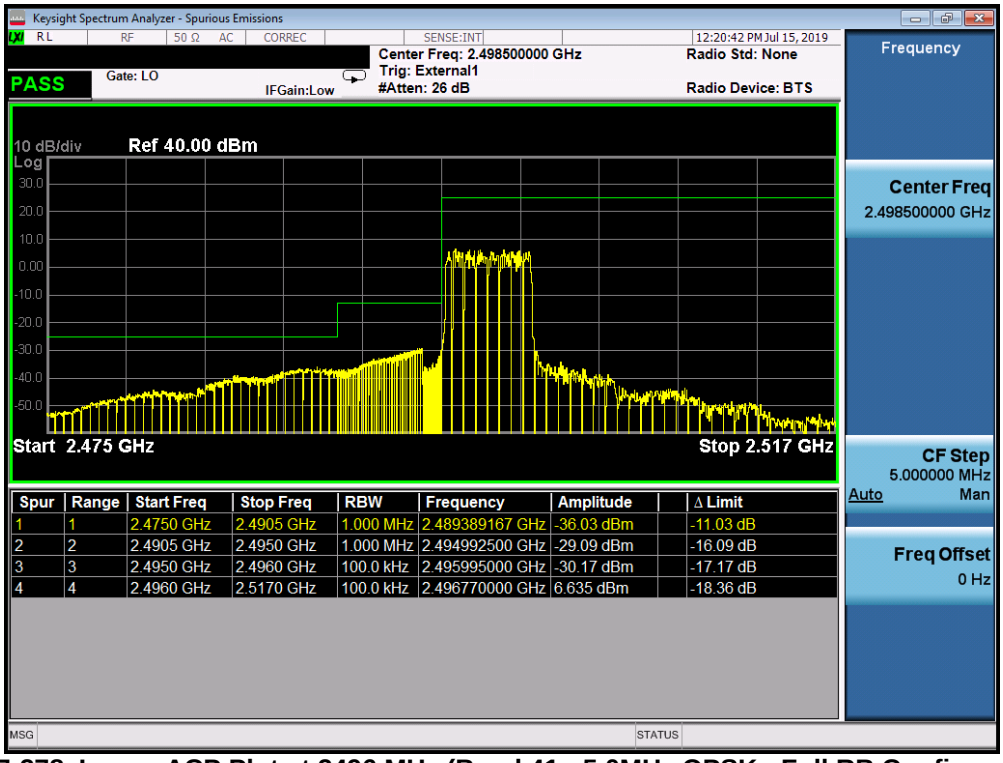


Plot 7-276. Lower ACP Plot at 2496 MHz (Band 41 - 20.0MHz QPSK - Full RB Configuration)



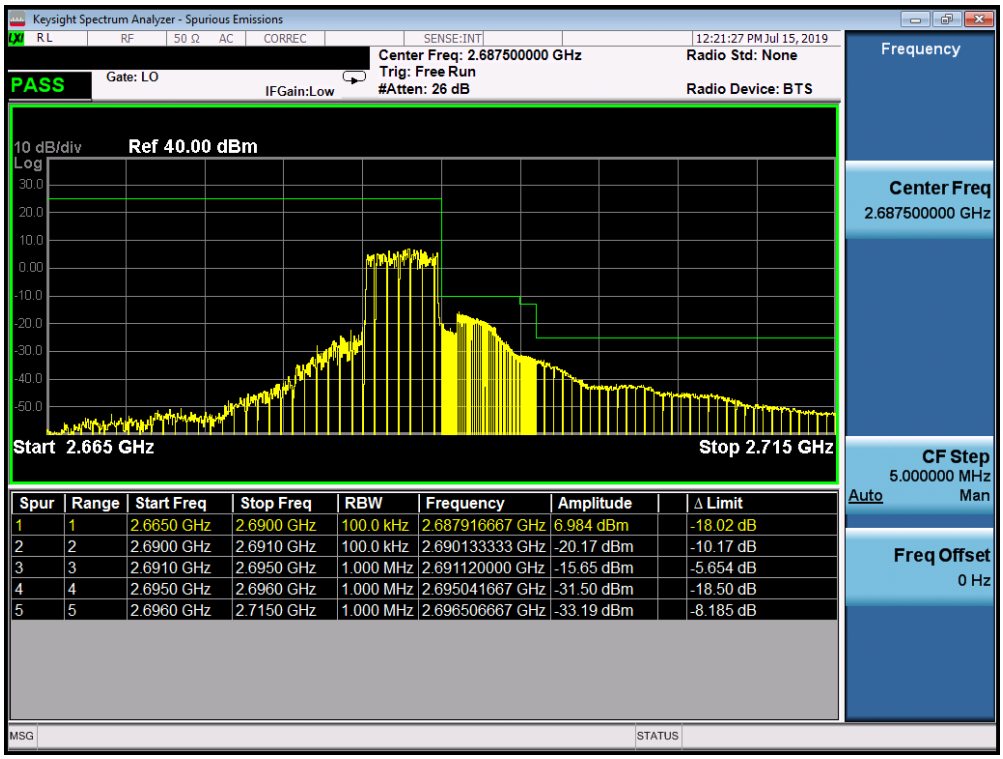
Plot 7-277. Upper ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)

Band 41 (PC3)



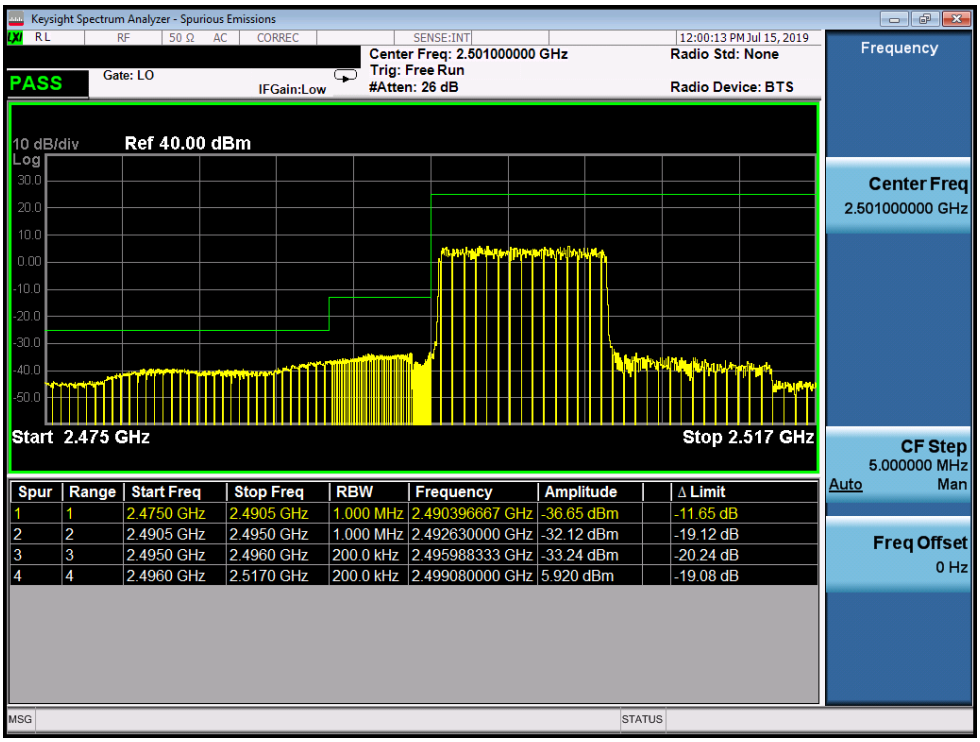
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.489389167 GHz	-36.03 dBm	-11.03 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494992500 GHz	-29.09 dBm	-16.09 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495995000 GHz	-30.17 dBm	-17.17 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.496770000 GHz	6.635 dBm	-18.36 dB

Plot 7-278. Lower ACP Plot at 2496 MHz (Band 41 - 5.0MHz QPSK - Full RB Configuration)



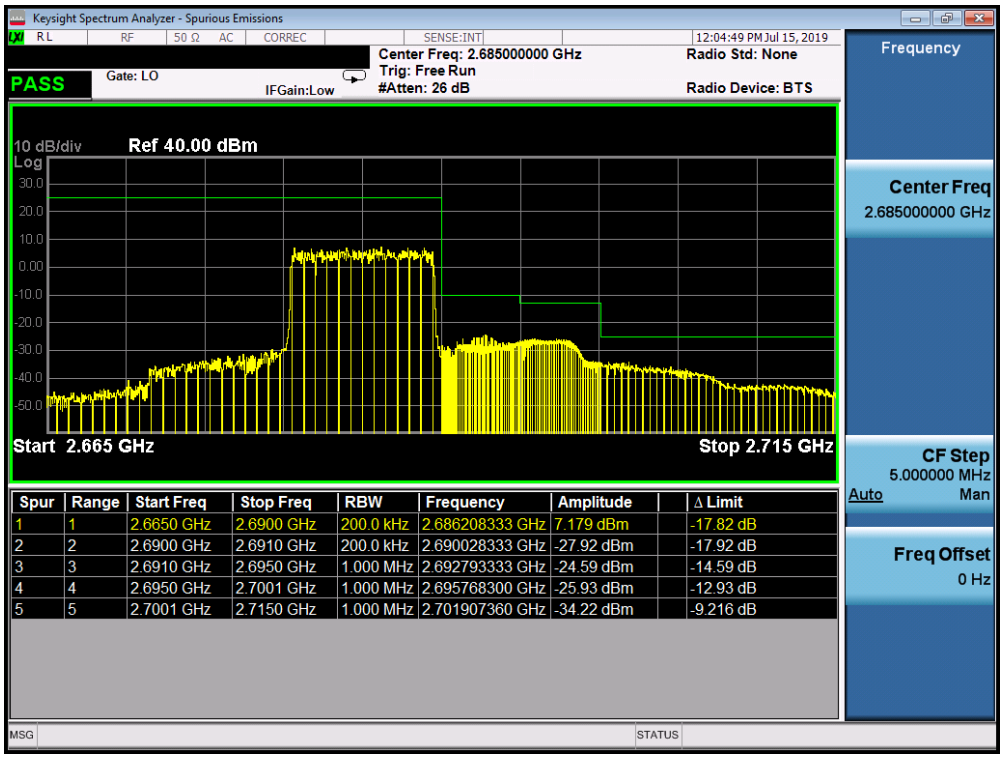
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.687916667 GHz	6.984 dBm	-18.02 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690133333 GHz	-20.17 dBm	-10.17 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691120000 GHz	-15.65 dBm	-5.654 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695041667 GHz	-31.50 dBm	-18.50 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696506667 GHz	-33.19 dBm	-8.185 dB

Plot 7-279. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)



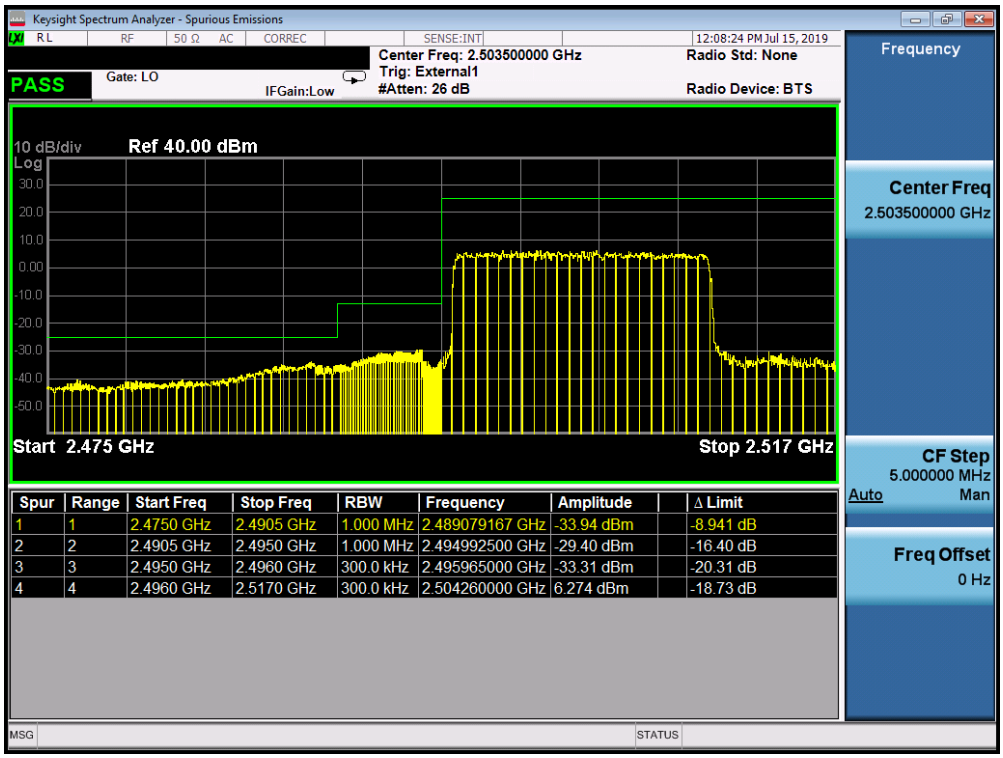
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490396667 GHz	-36.65 dBm	-11.65 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.492630000 GHz	-32.12 dBm	-19.12 dB
3	3	2.4950 GHz	2.4960 GHz	200.0 kHz	2.495988333 GHz	-33.24 dBm	-20.24 dB
4	4	2.4960 GHz	2.5170 GHz	200.0 kHz	2.499080000 GHz	5.920 dBm	-19.08 dB

Plot 7-280. Lower ACP Plot at 2496 MHz (Band 41 - 10.0MHz QPSK - Full RB Configuration)



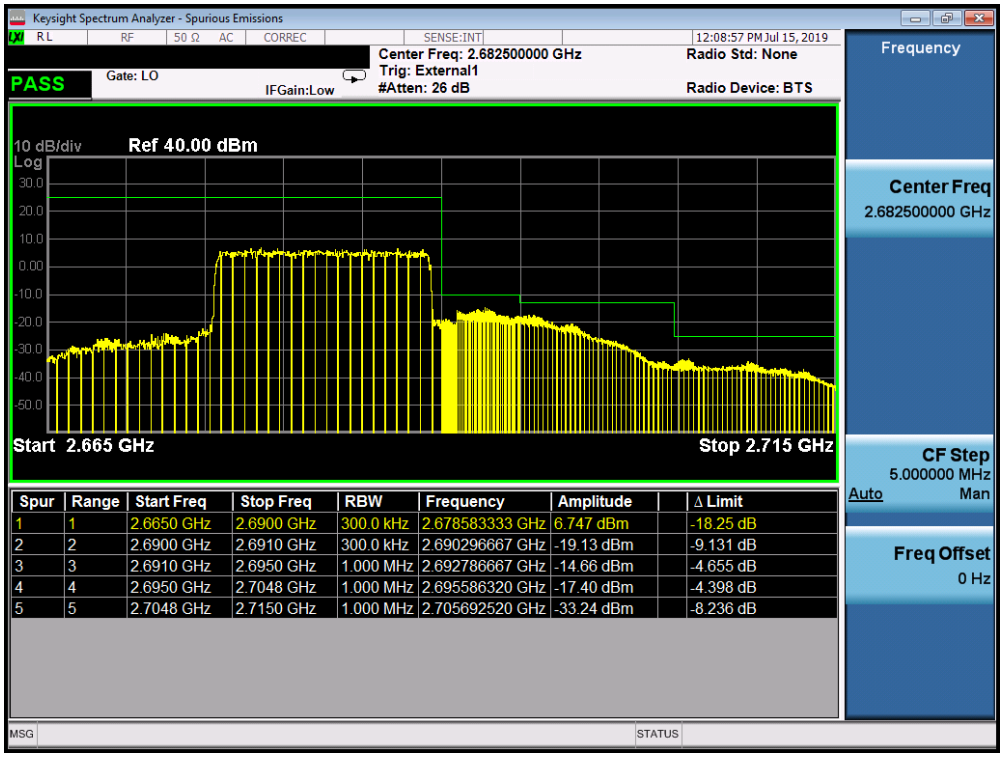
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	200.0 kHz	2.686208333 GHz	7.179 dBm	-17.82 dB
2	2	2.6900 GHz	2.6910 GHz	200.0 kHz	2.690028333 GHz	-27.92 dBm	-17.92 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692793333 GHz	-24.59 dBm	-14.59 dB
4	4	2.6950 GHz	2.7001 GHz	1.000 MHz	2.695768300 GHz	-25.93 dBm	-12.93 dB
5	5	2.7001 GHz	2.7150 GHz	1.000 MHz	2.701907360 GHz	-34.22 dBm	-9.216 dB

Plot 7-281. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)



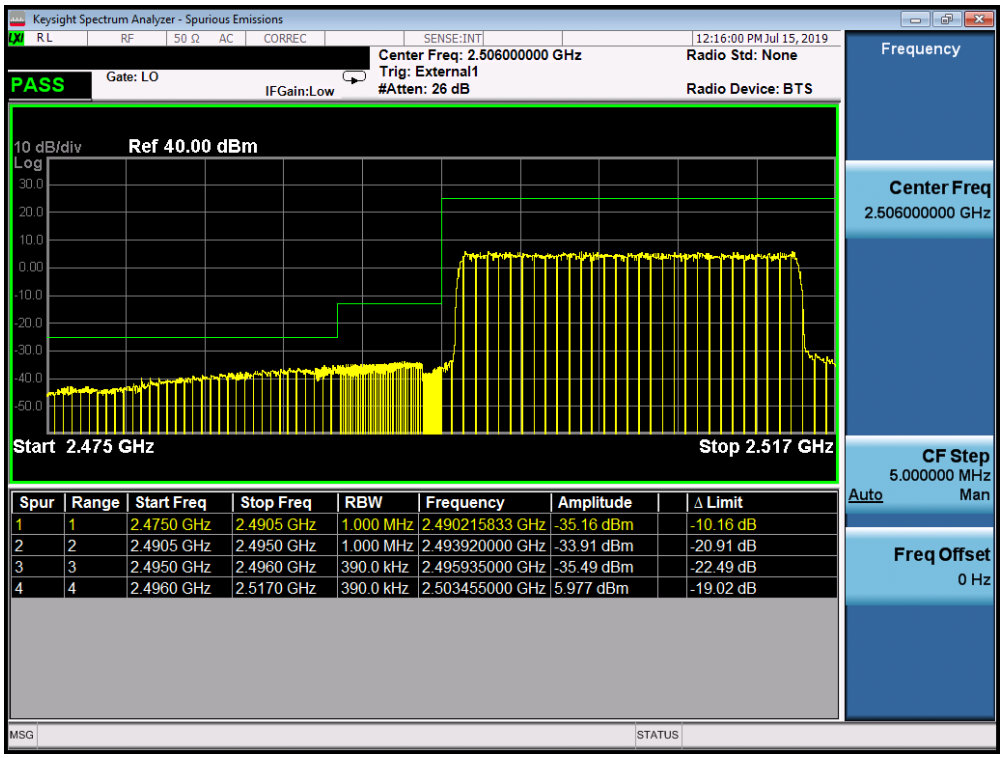
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.489079167 GHz	-33.94 dBm	-8.941 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494992500 GHz	-29.40 dBm	-16.40 dB
3	3	2.4950 GHz	2.4960 GHz	300.0 kHz	2.495965000 GHz	-33.31 dBm	-20.31 dB
4	4	2.4960 GHz	2.5170 GHz	300.0 kHz	2.504260000 GHz	6.274 dBm	-18.73 dB

Plot 7-282. Lower ACP Plot at 2496 MHz (Band 41 - 15.0MHz QPSK - Full RB Configuration)



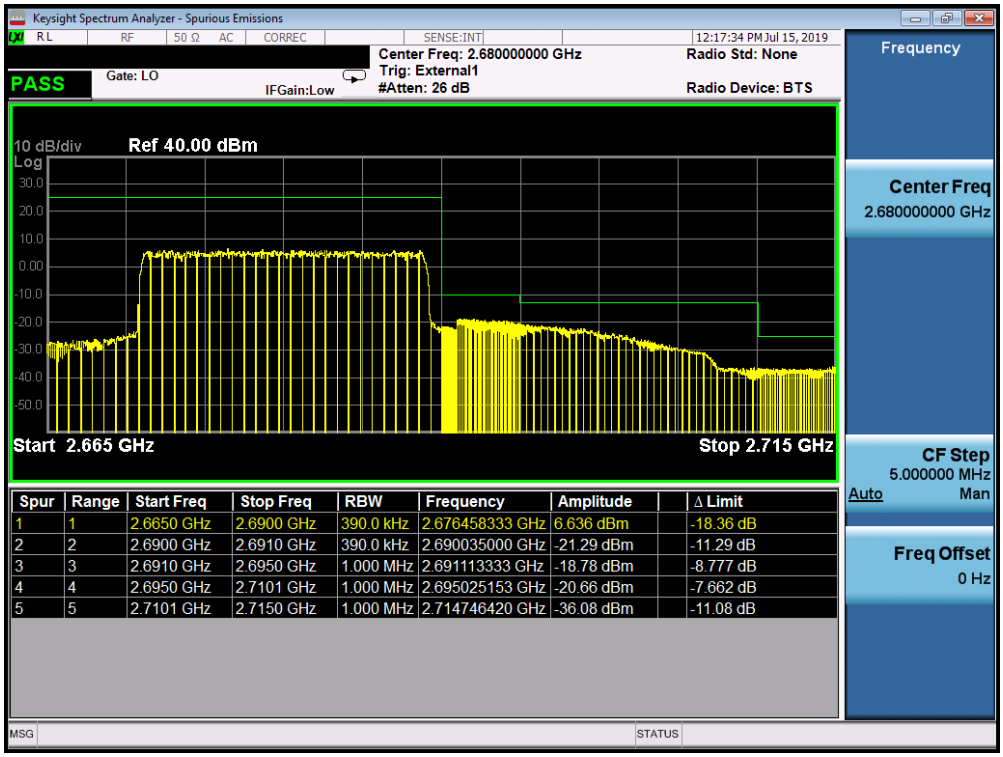
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	300.0 kHz	2.678583333 GHz	6.747 dBm	-18.25 dB
2	2	2.6900 GHz	2.6910 GHz	300.0 kHz	2.690296667 GHz	-19.13 dBm	-9.131 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692786667 GHz	-14.66 dBm	-4.655 dB
4	4	2.6950 GHz	2.7048 GHz	1.000 MHz	2.695586320 GHz	-17.40 dBm	-4.398 dB
5	5	2.7048 GHz	2.7150 GHz	1.000 MHz	2.705692520 GHz	-33.24 dBm	-8.236 dB

Plot 7-283. Upper ACP Plot (Band 41 - 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	2.490215833 GHz	-35.16 dBm	-10.16 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.493920000 GHz	-33.91 dBm	-20.91 dB
3	3	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495935000 GHz	-35.49 dBm	-22.49 dB
4	4	2.4960 GHz	2.5170 GHz	390.0 kHz	2.503455000 GHz	5.977 dBm	-19.02 dB

Plot 7-284. Lower ACP Plot at 2496 MHz (Band 41 - 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	2.676458333 GHz	6.636 dBm	-18.36 dB
2	2	2.6900 GHz	2.6910 GHz	390.0 kHz	2.690035000 GHz	-21.29 dBm	-11.29 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691113333 GHz	-18.78 dBm	-8.777 dB
4	4	2.6950 GHz	2.7101 GHz	1.000 MHz	2.695025153 GHz	-20.66 dBm	-7.662 dB
5	5	2.7101 GHz	2.7150 GHz	1.000 MHz	2.714746420 GHz	-36.08 dBm	-11.08 dB

Plot 7-285. Upper ACP Plot (Band 41 - 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.

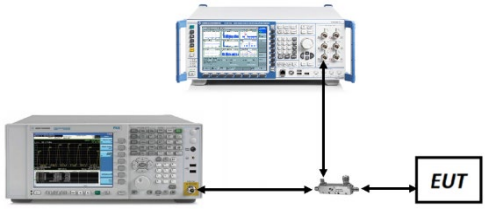
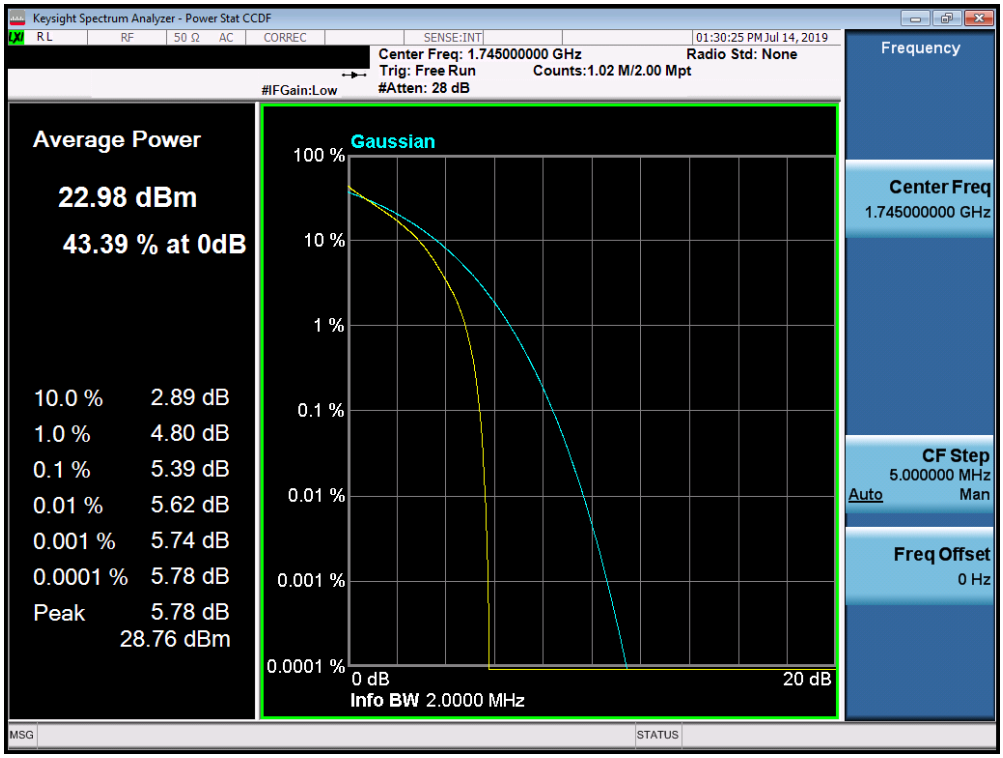


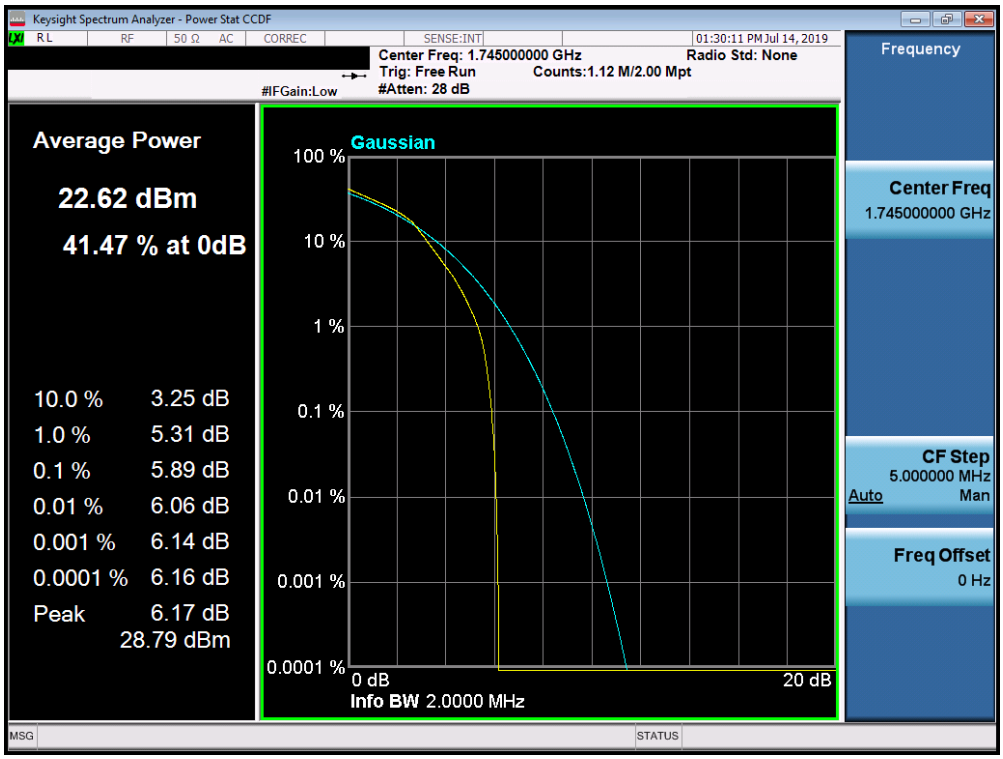
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

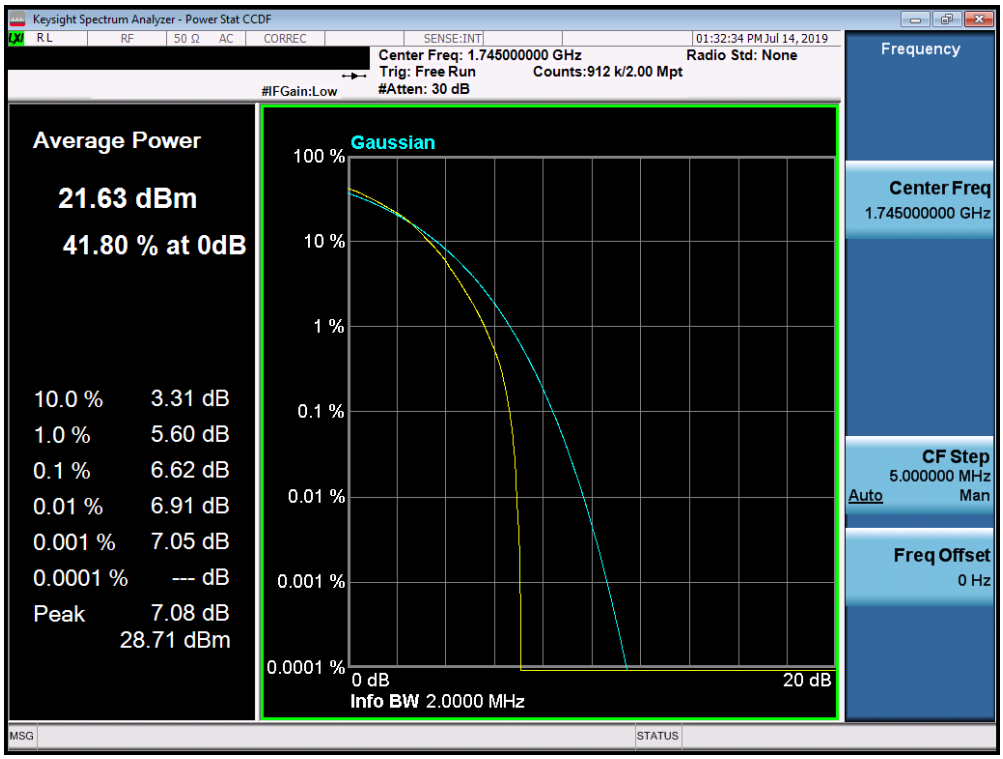
None.



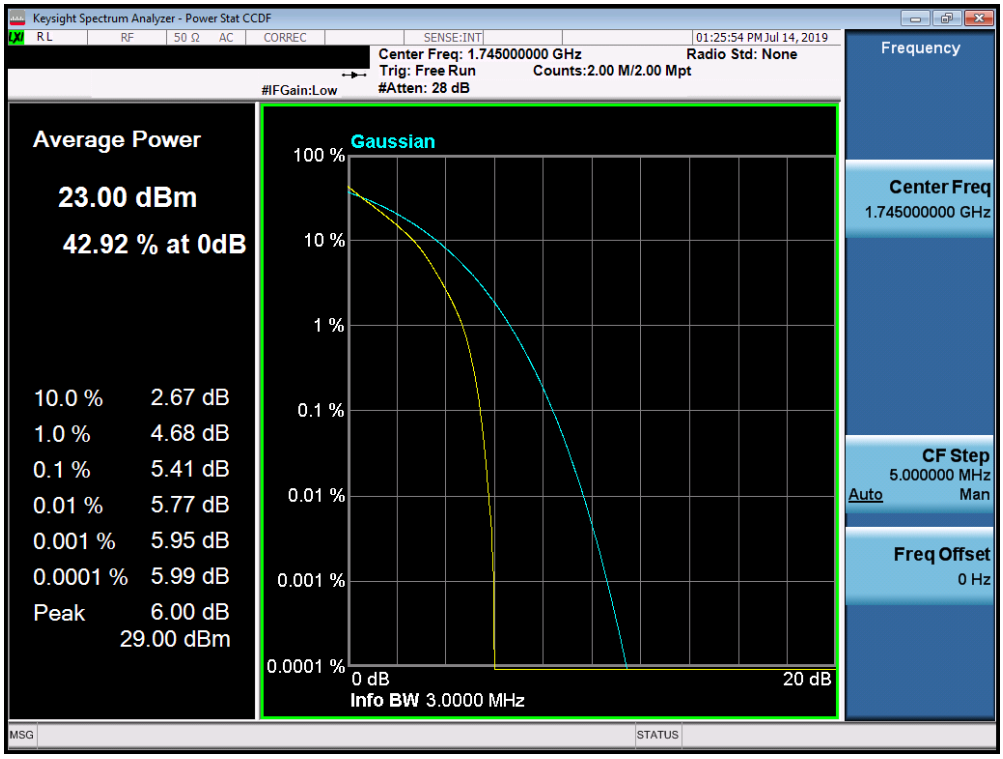
Plot 7-286. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



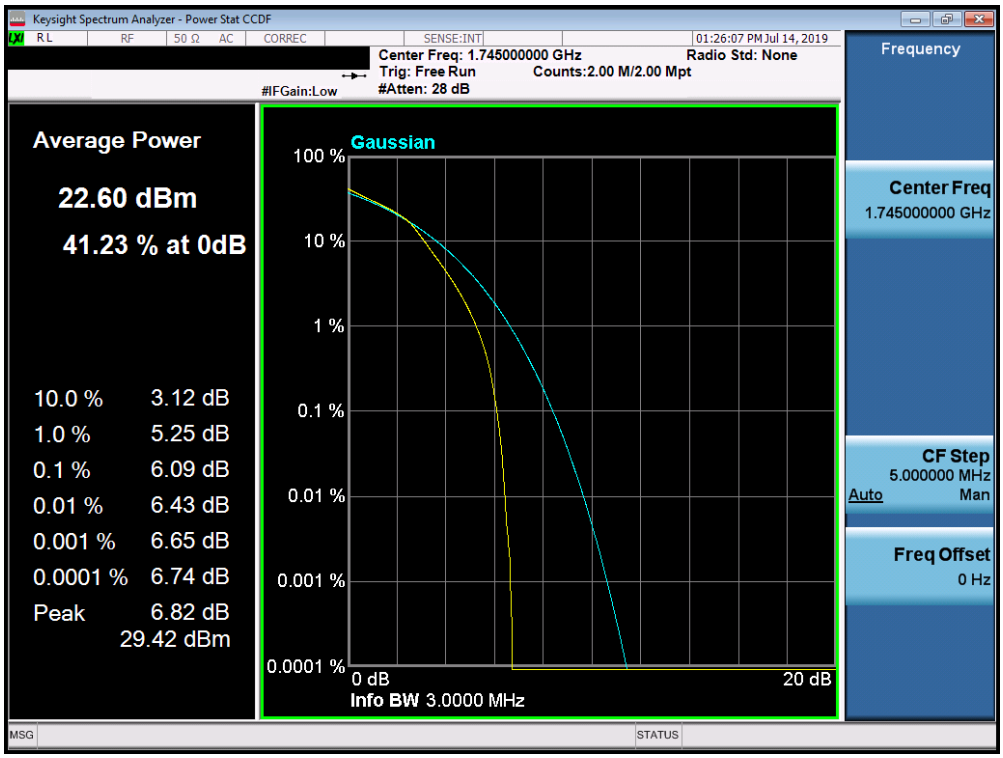
Plot 7-287. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)



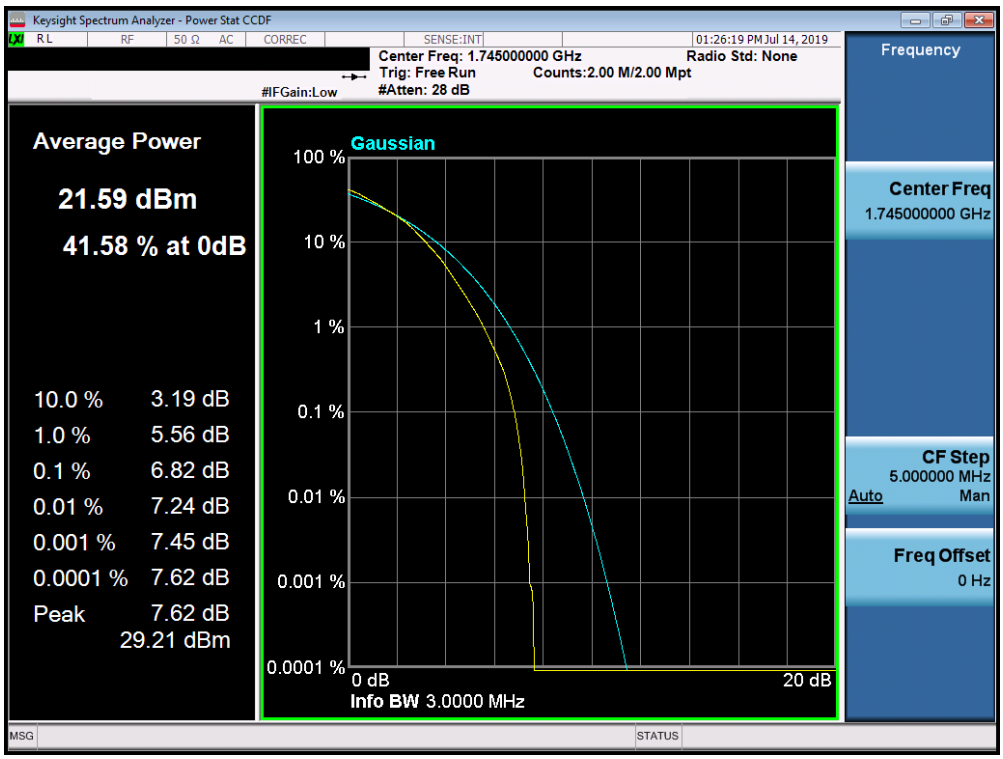
Plot 7-288. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



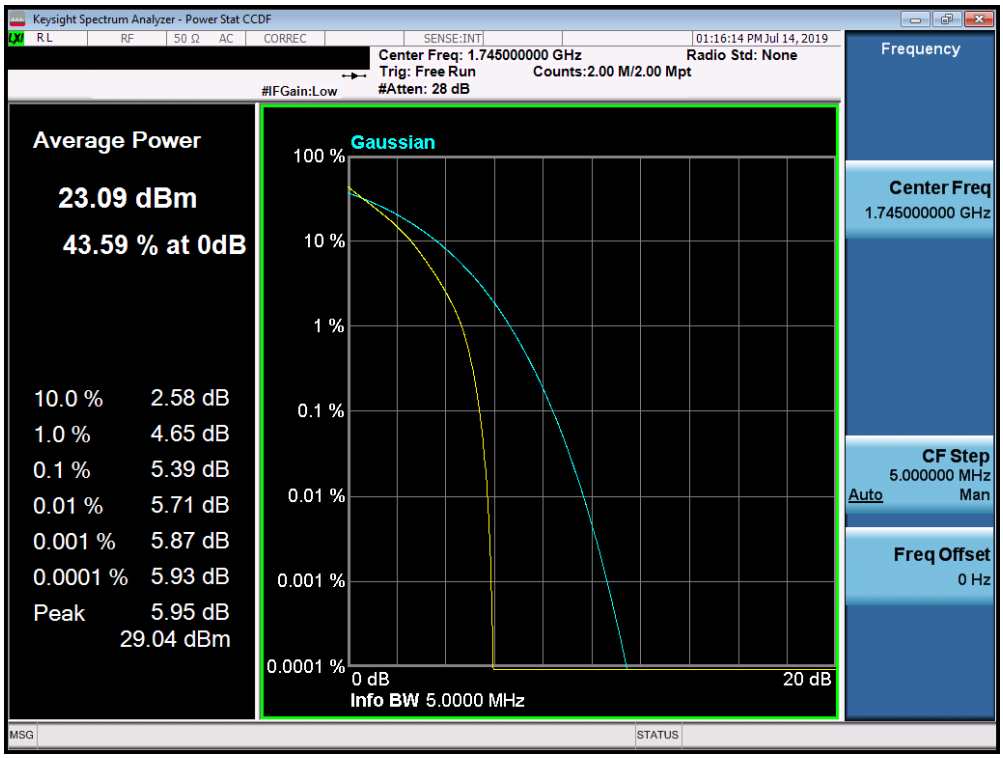
Plot 7-289. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



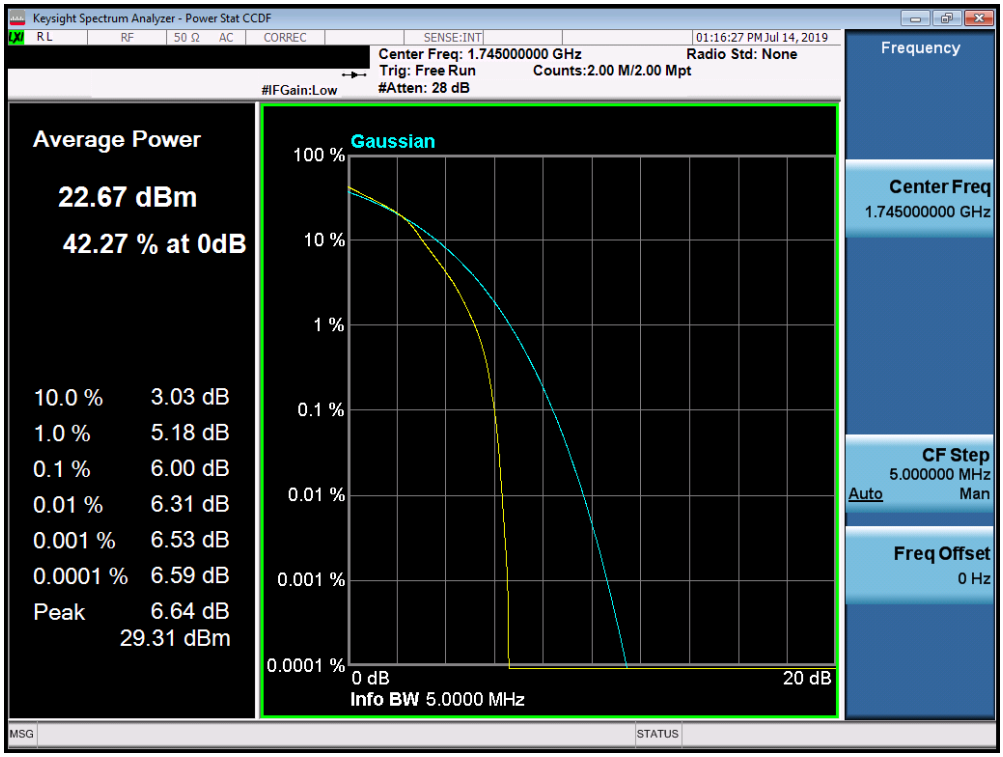
Plot 7-290. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)



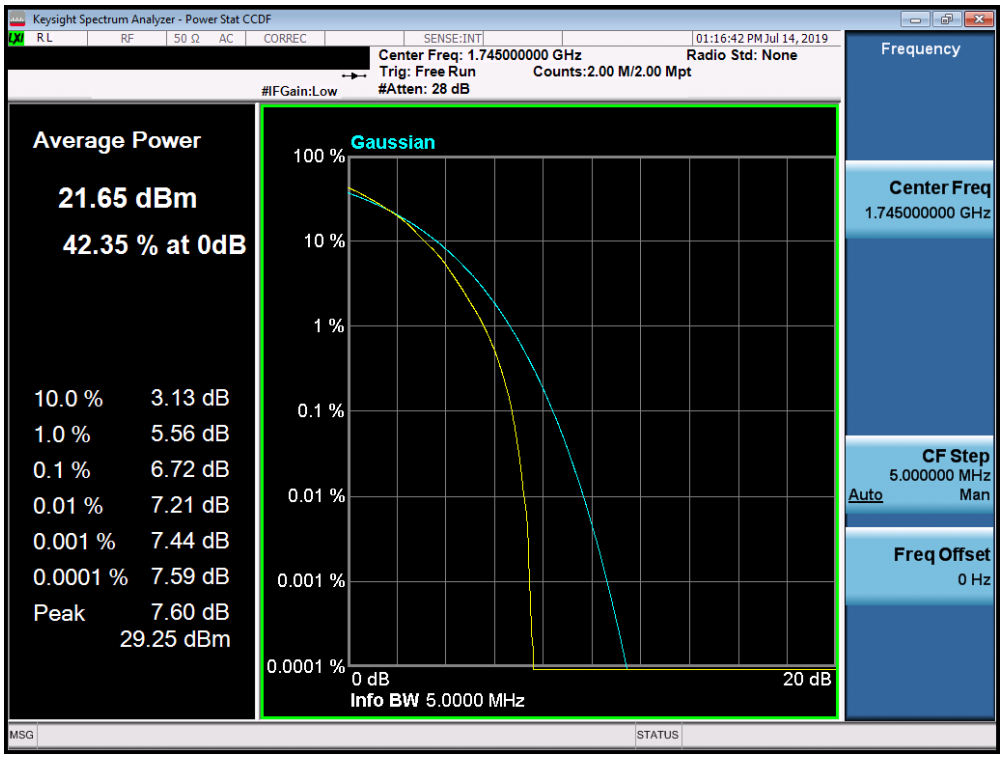
Plot 7-291. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)



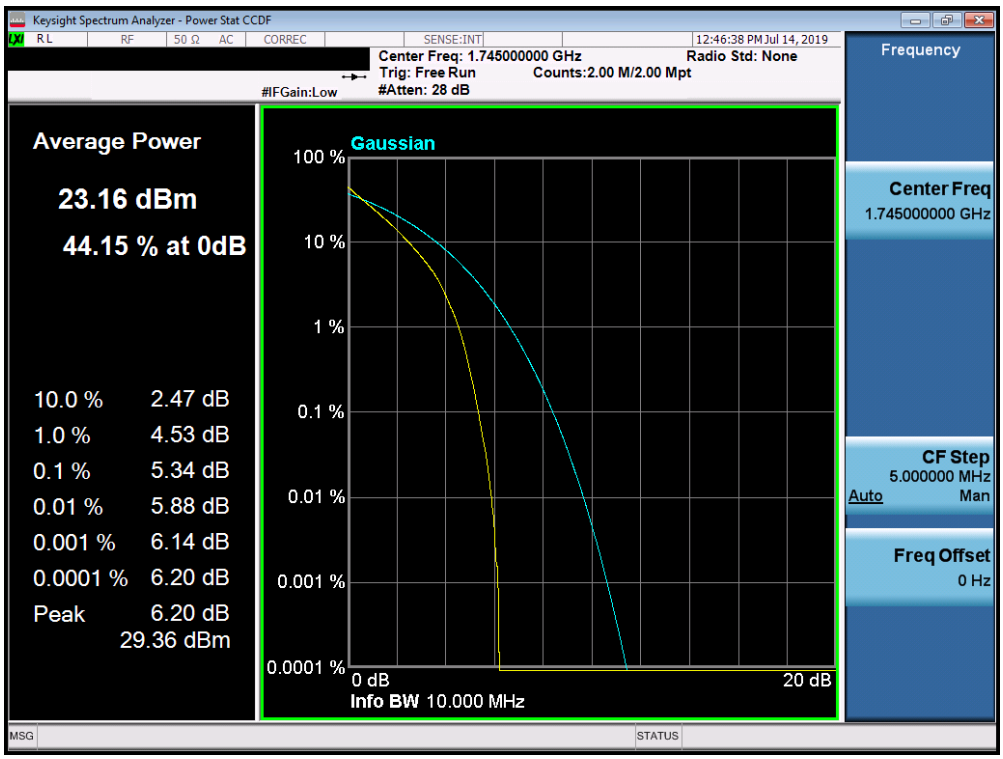
Plot 7-292. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



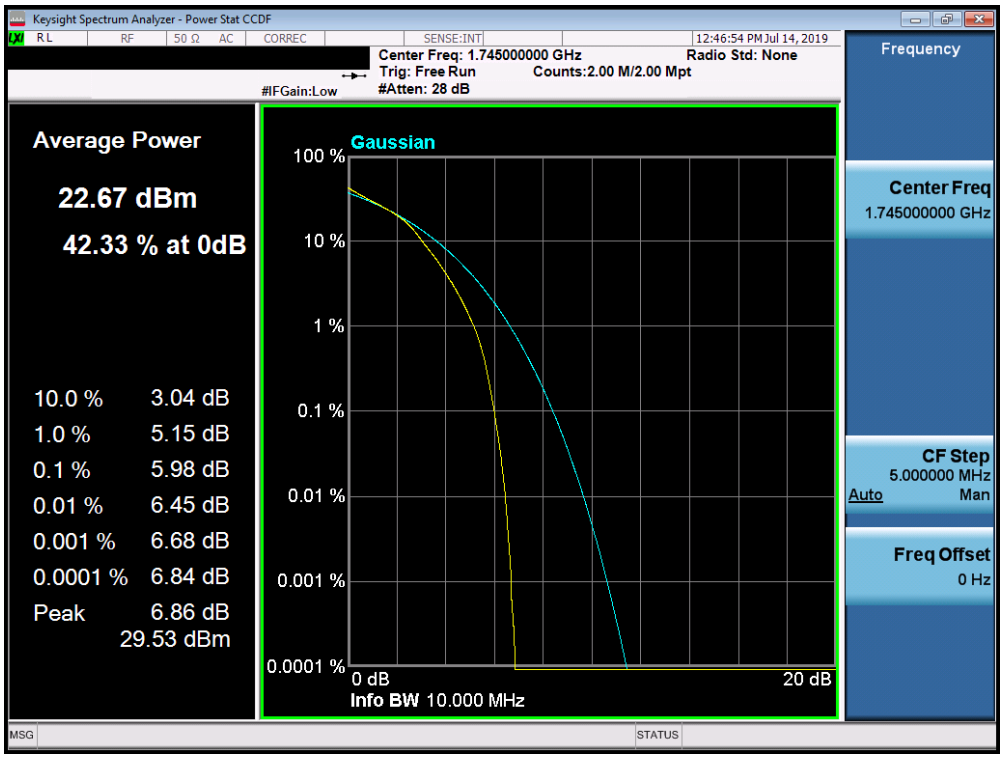
Plot 7-293. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)



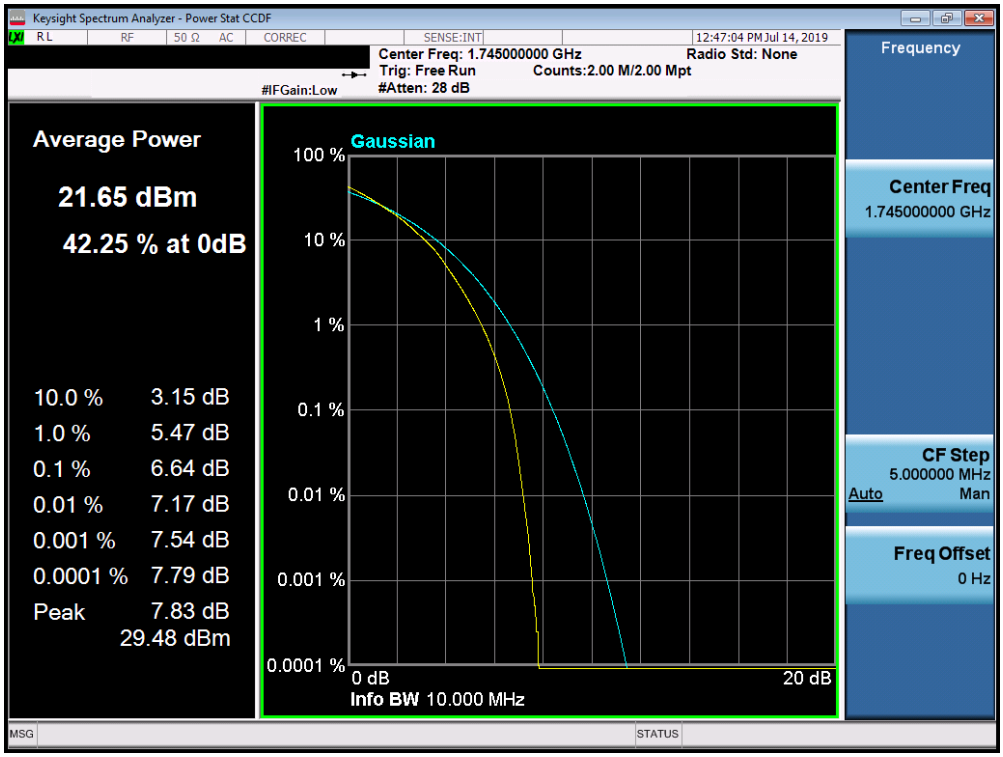
Plot 7-294. PAR Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)



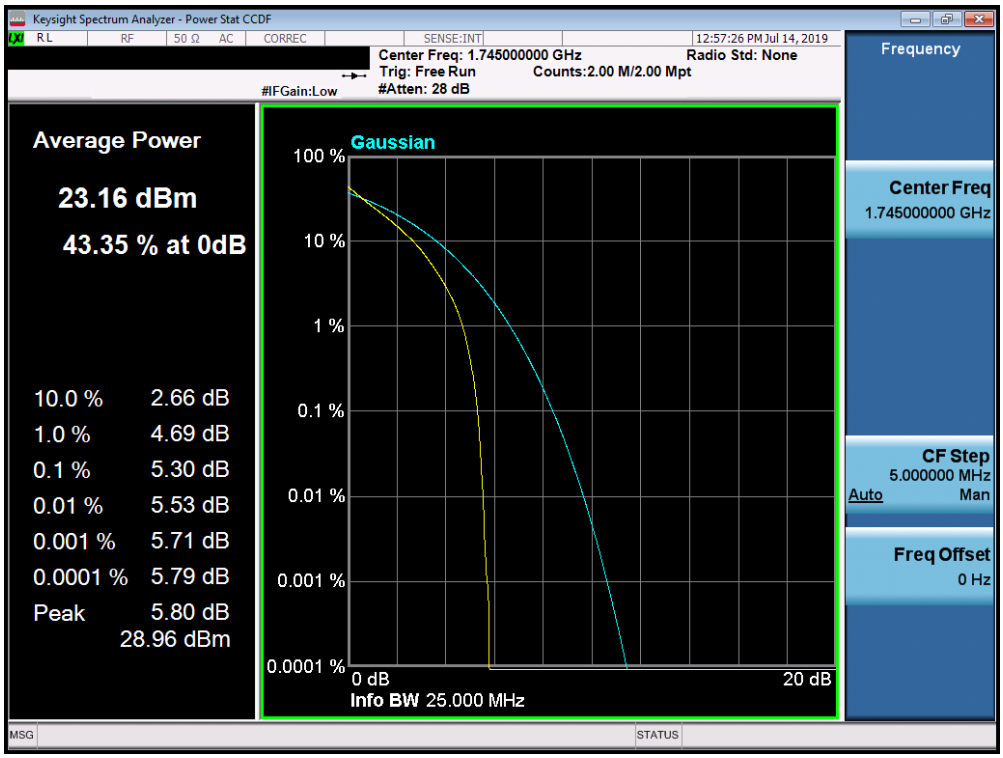
Plot 7-295. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



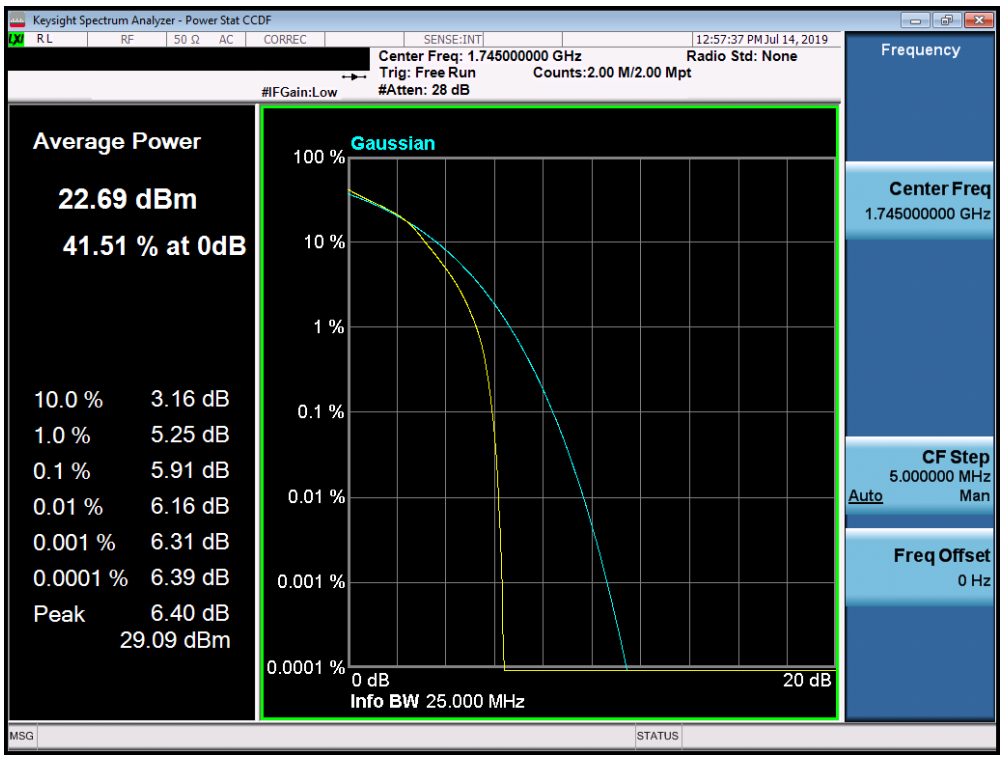
Plot 7-296. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)



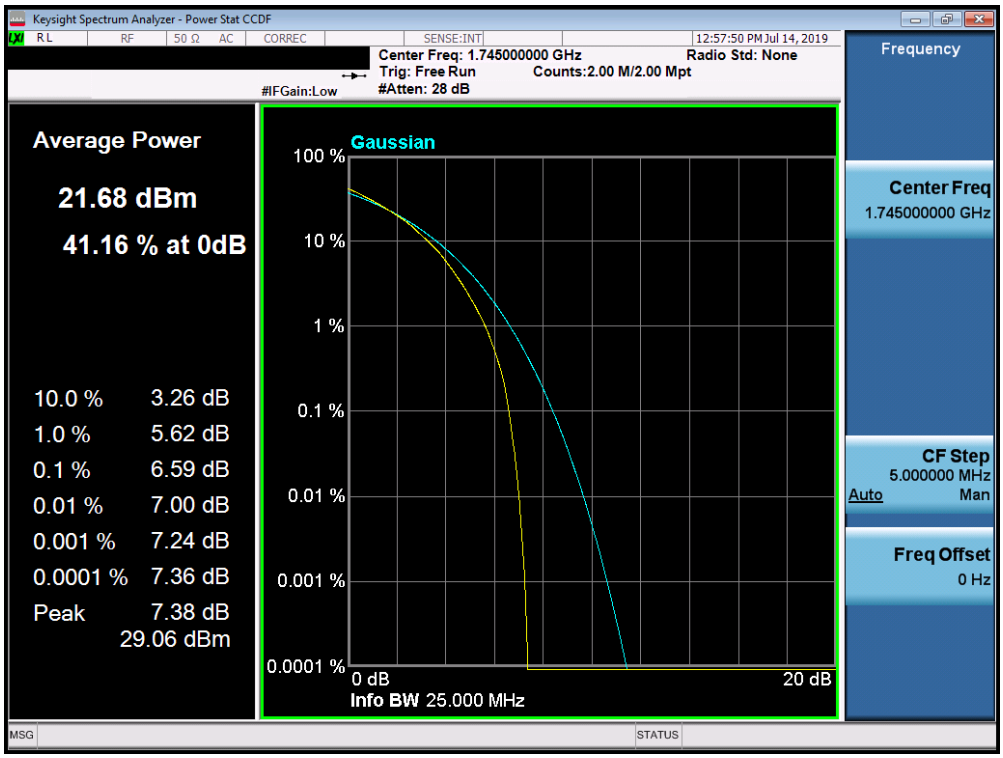
Plot 7-297. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)



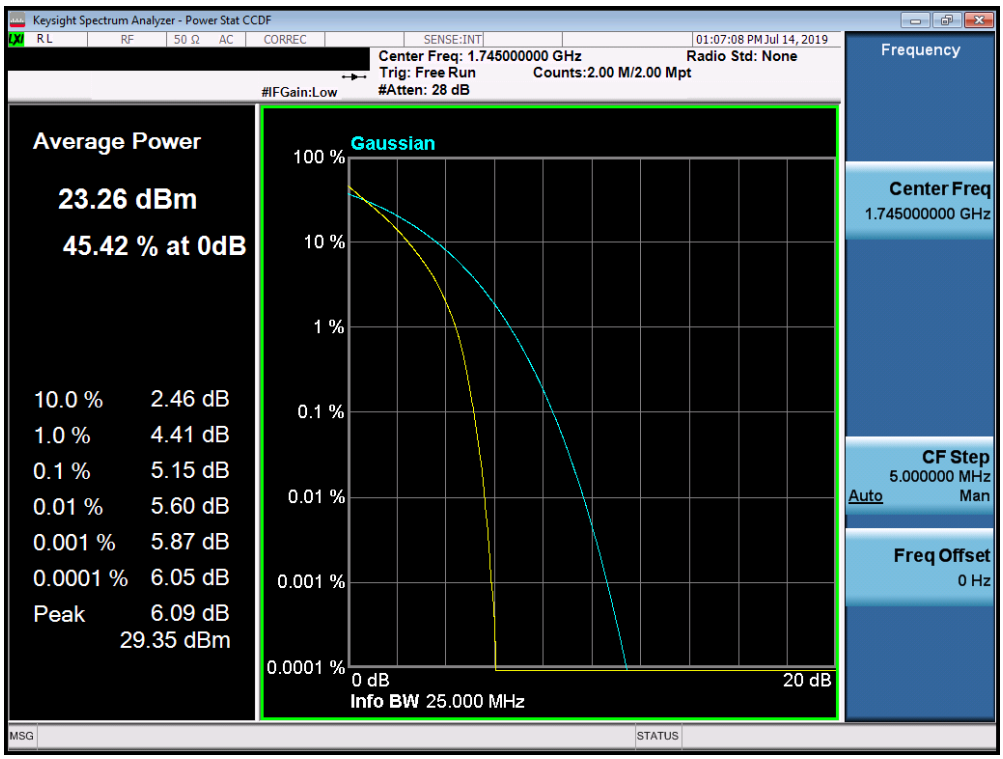
Plot 7-298. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



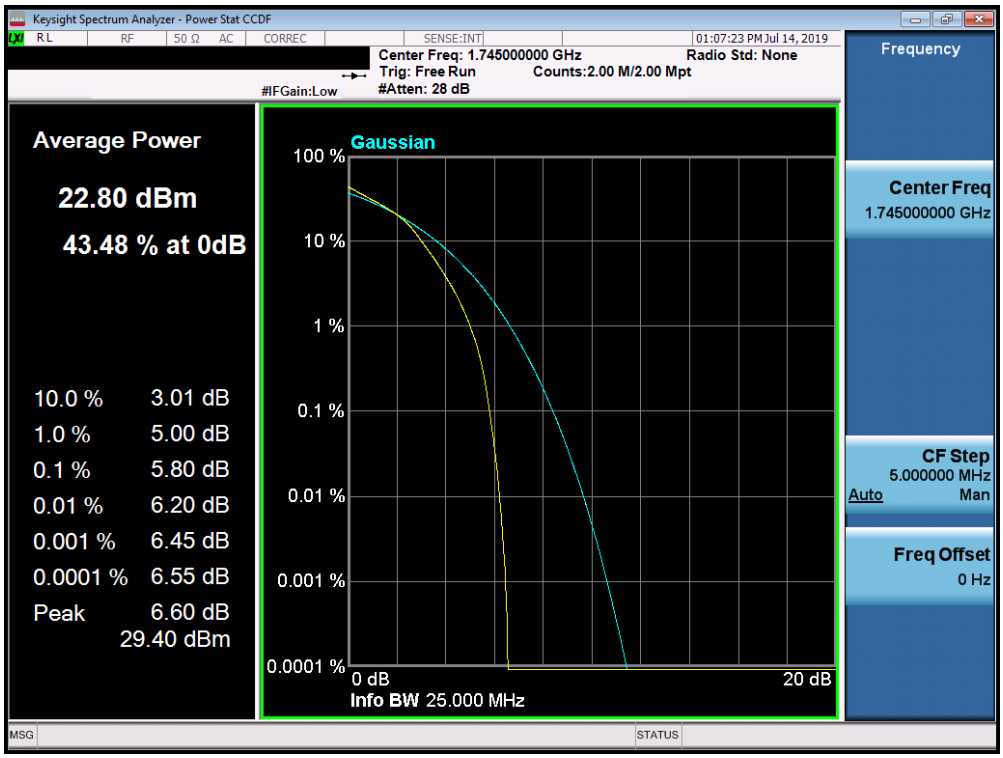
Plot 7-299. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)



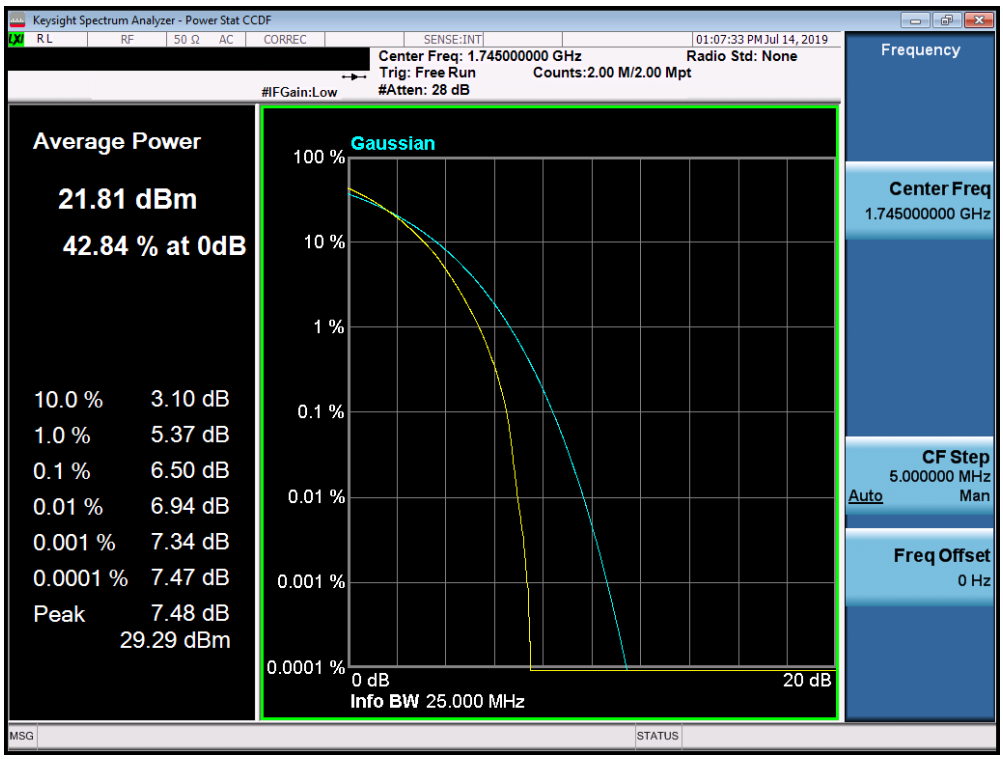
Plot 7-300. PAR Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-301. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

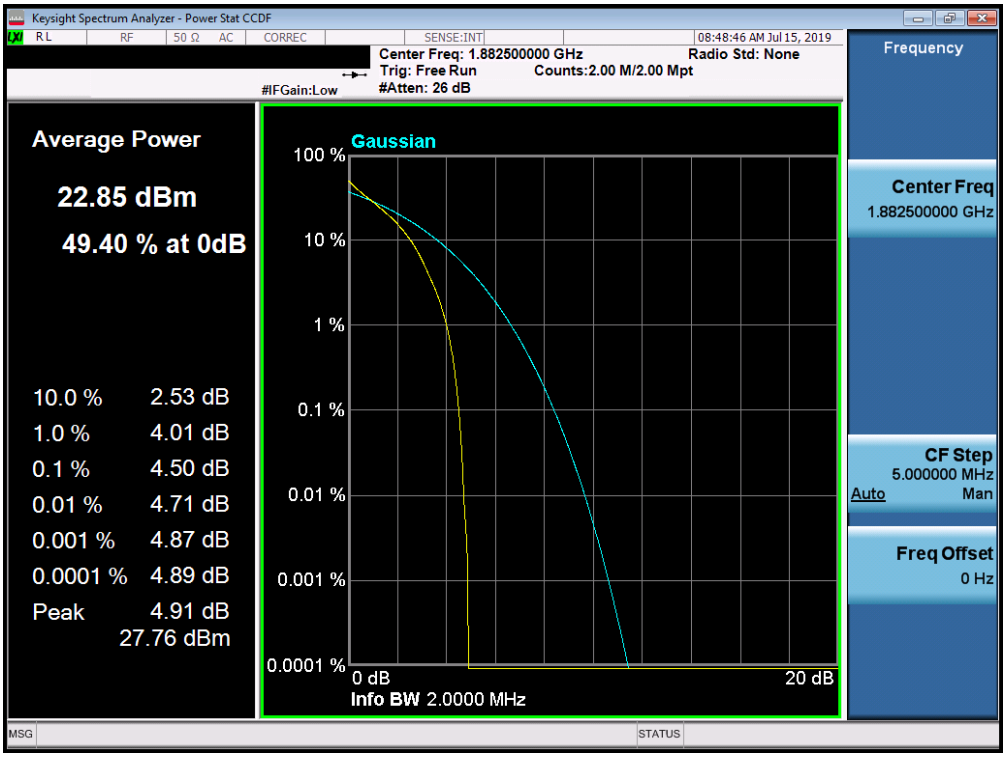


Plot 7-302. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)

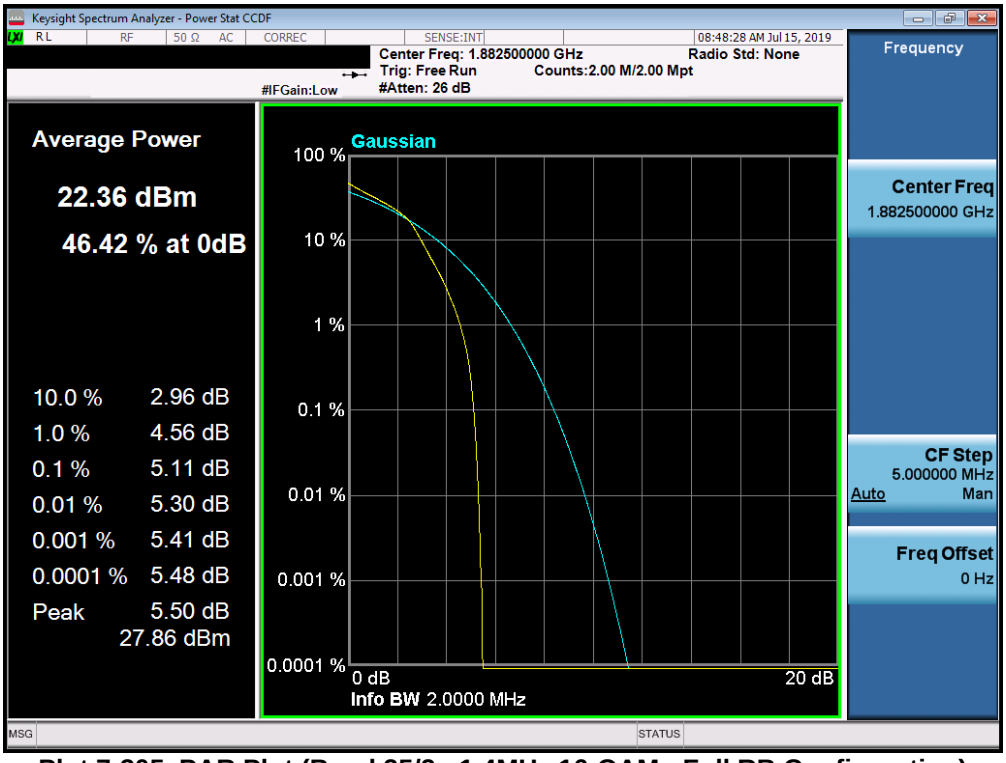


Plot 7-303. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

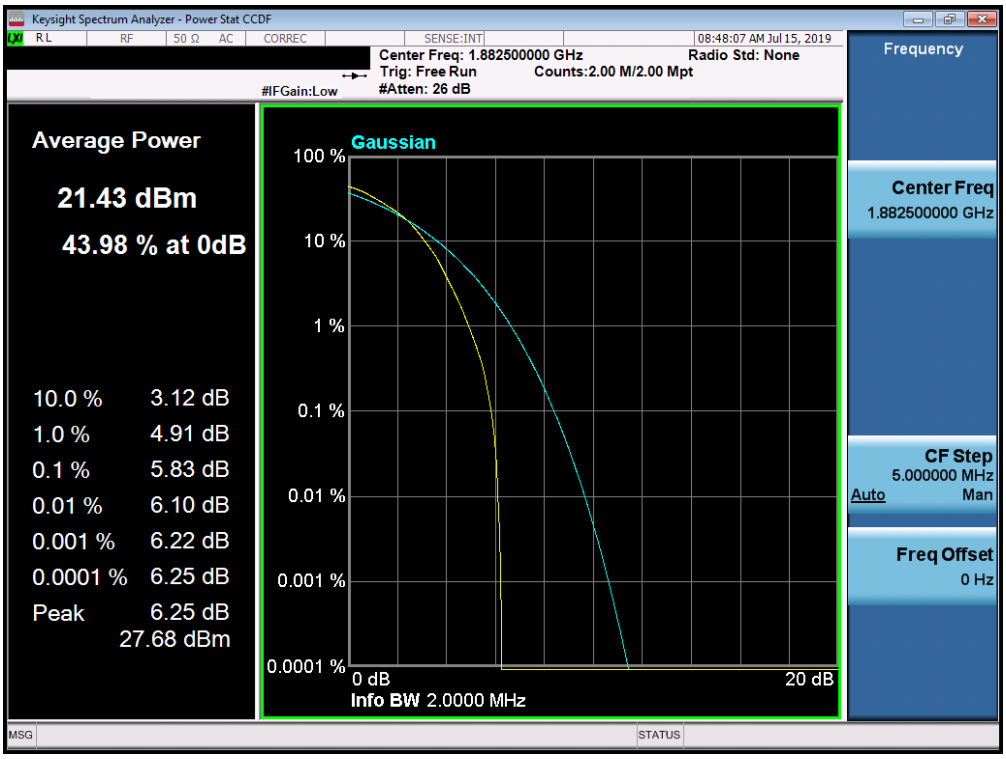
Band 25/2



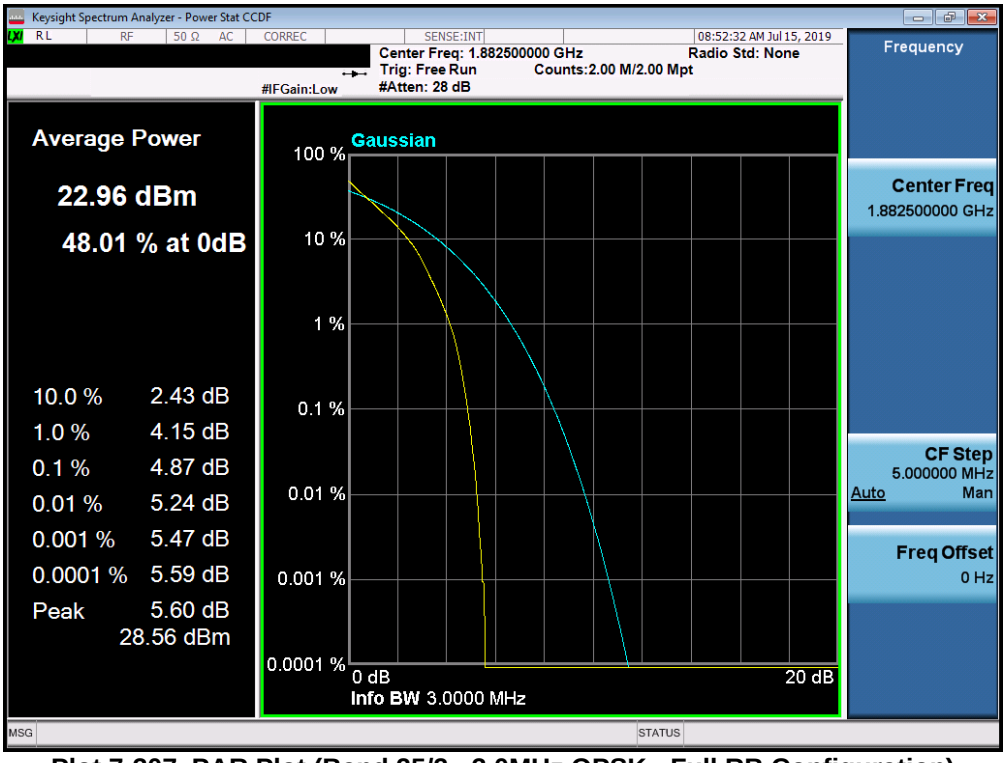
Plot 7-304. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



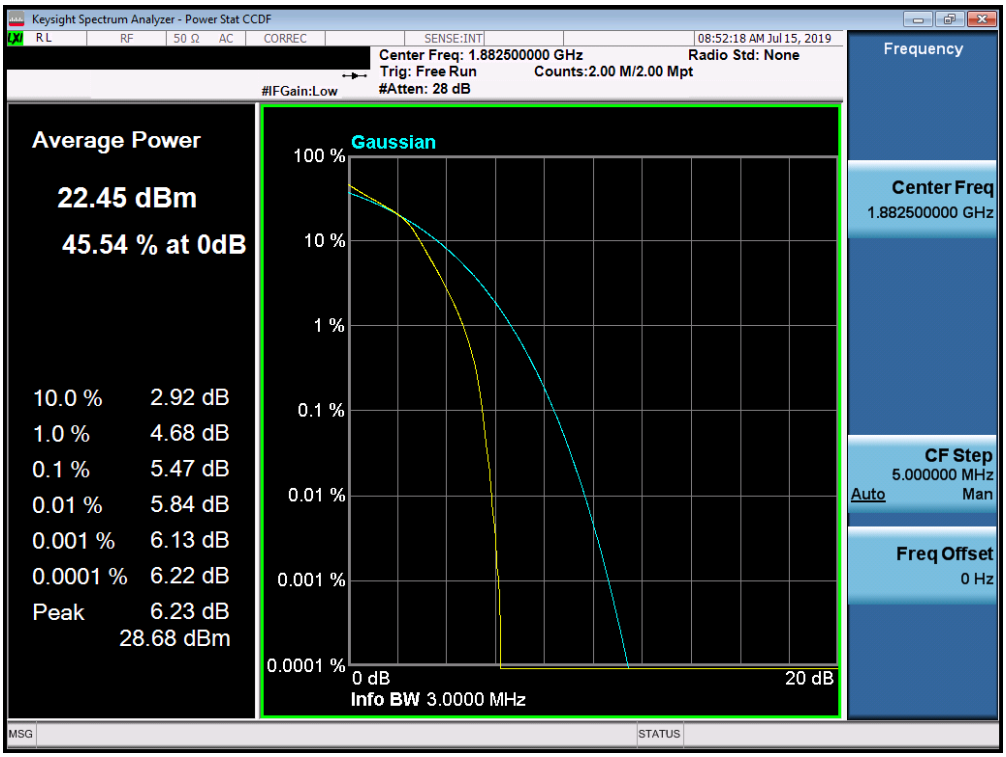
Plot 7-305. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)



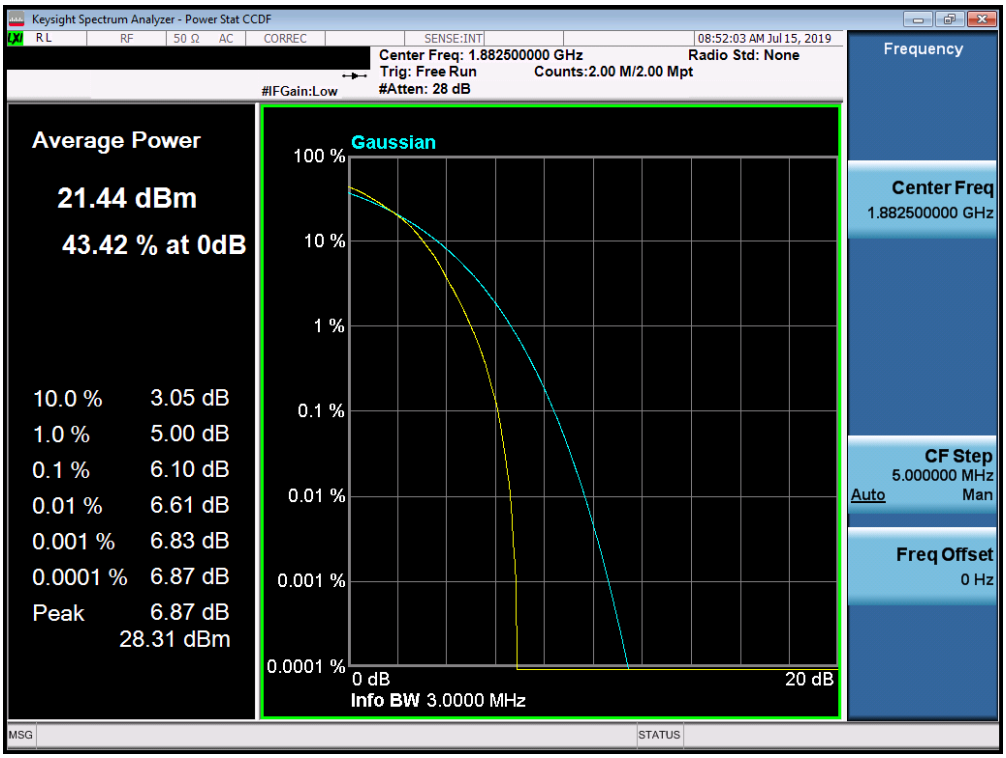
Plot 7-306. PAR Plot (Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)



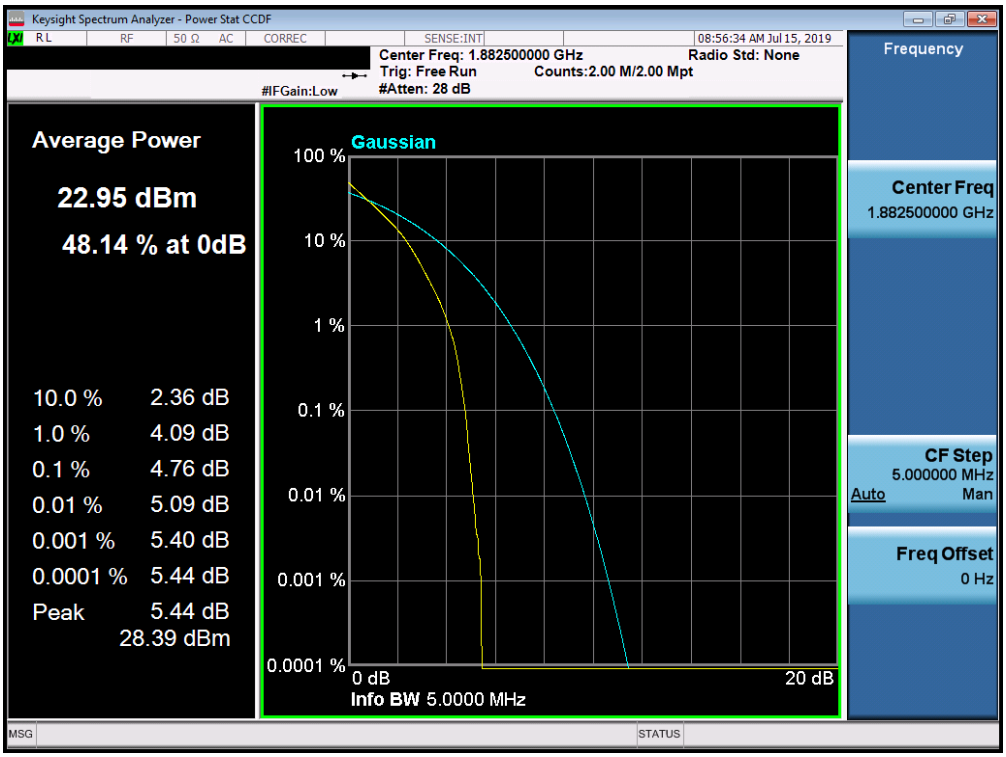
Plot 7-307. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



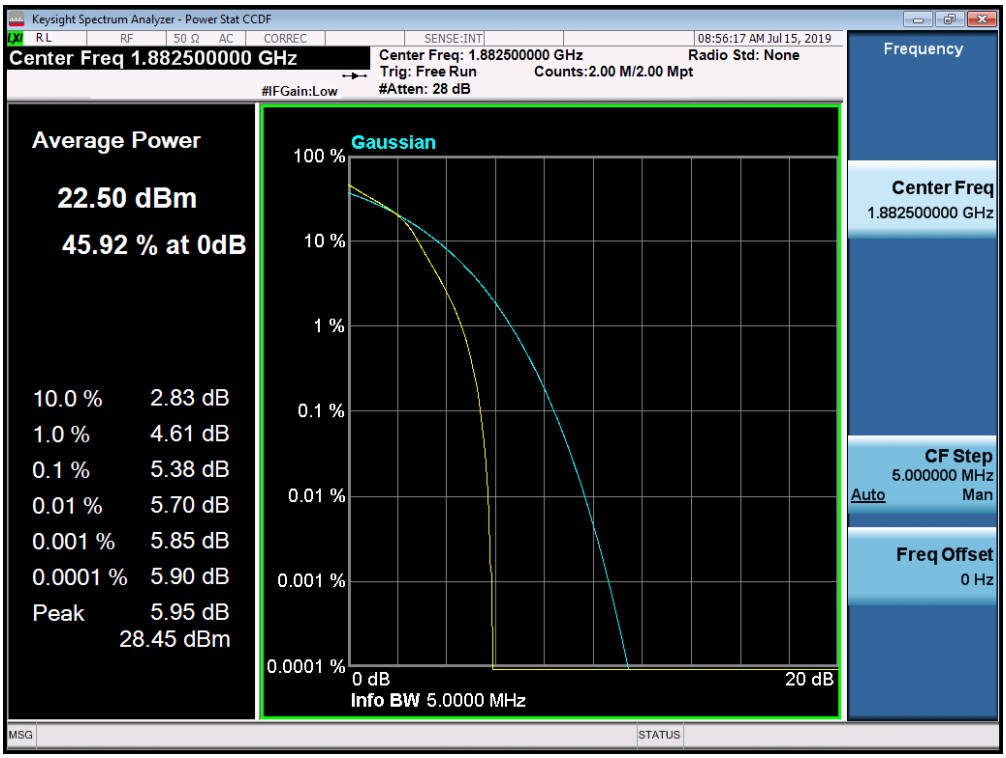
Plot 7-308. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)



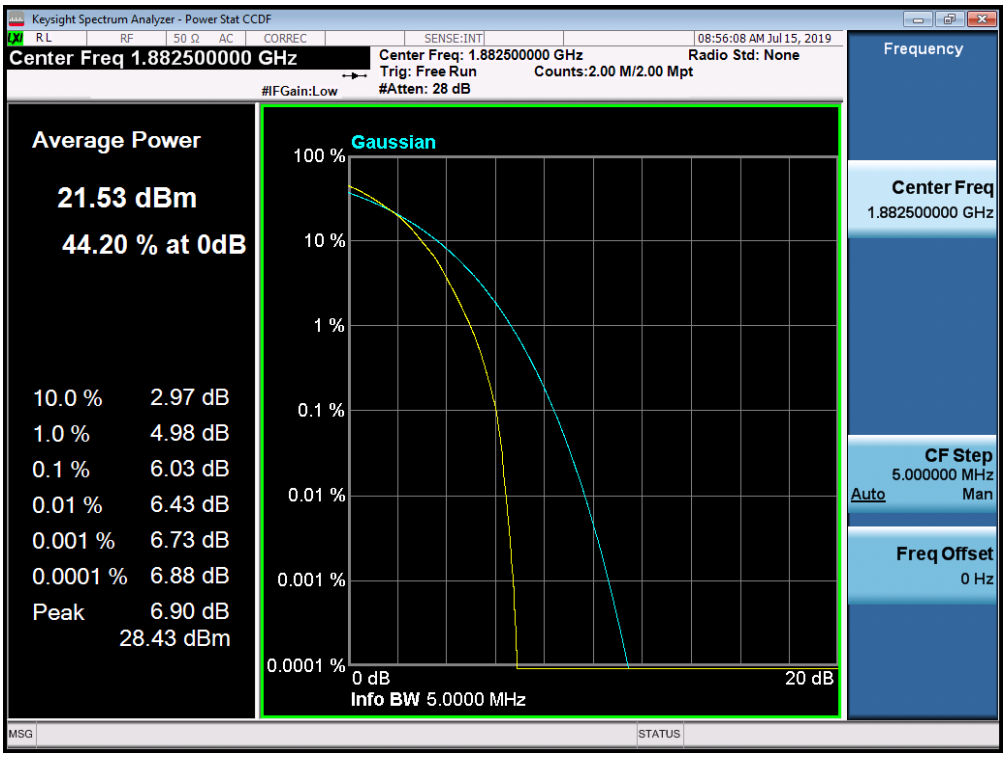
Plot 7-309. PAR Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)



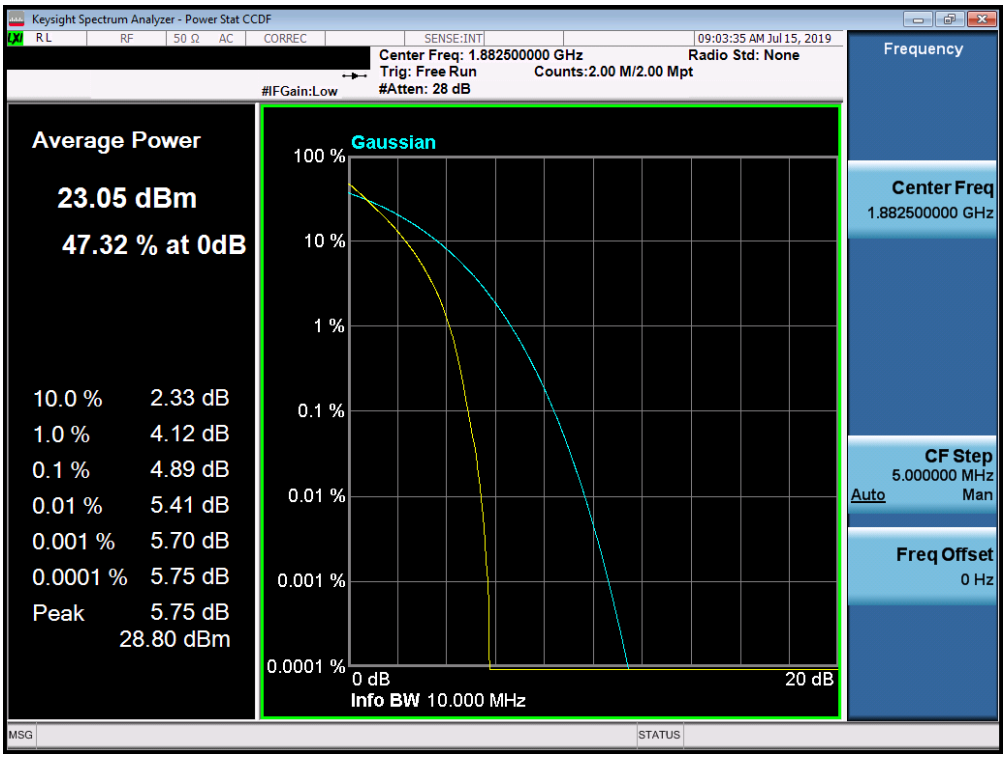
Plot 7-310. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



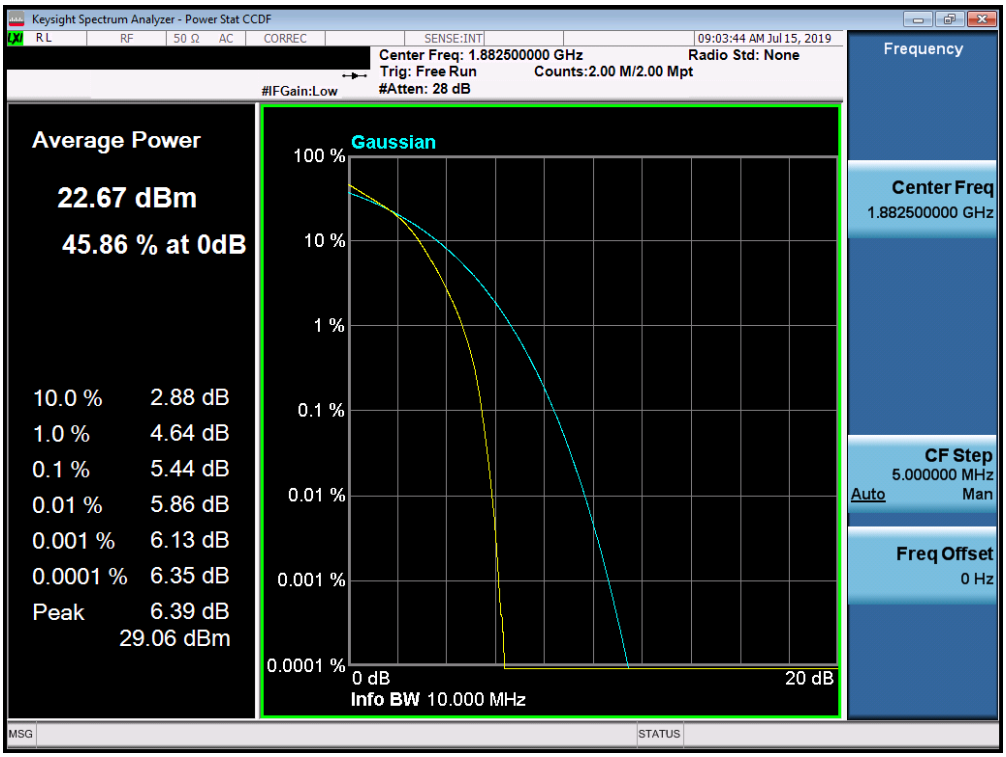
Plot 7-311. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)



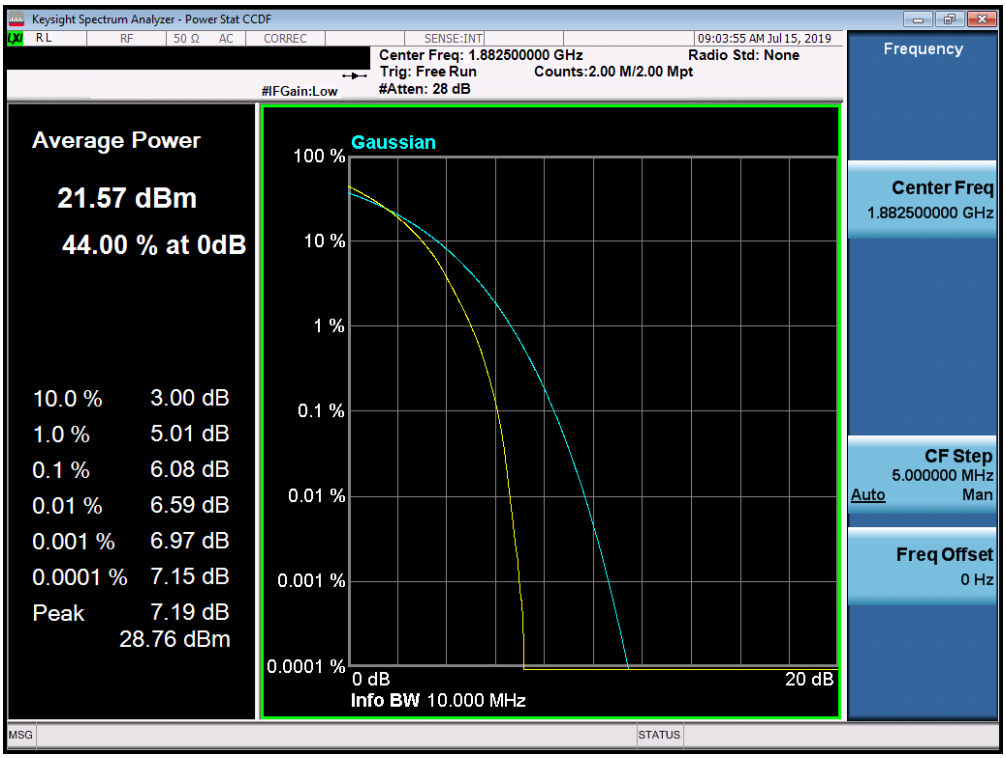
Plot 7-312. PAR Plot (Band 25/2 - 5.0MHz 64-QAM - Full RB Configuration)



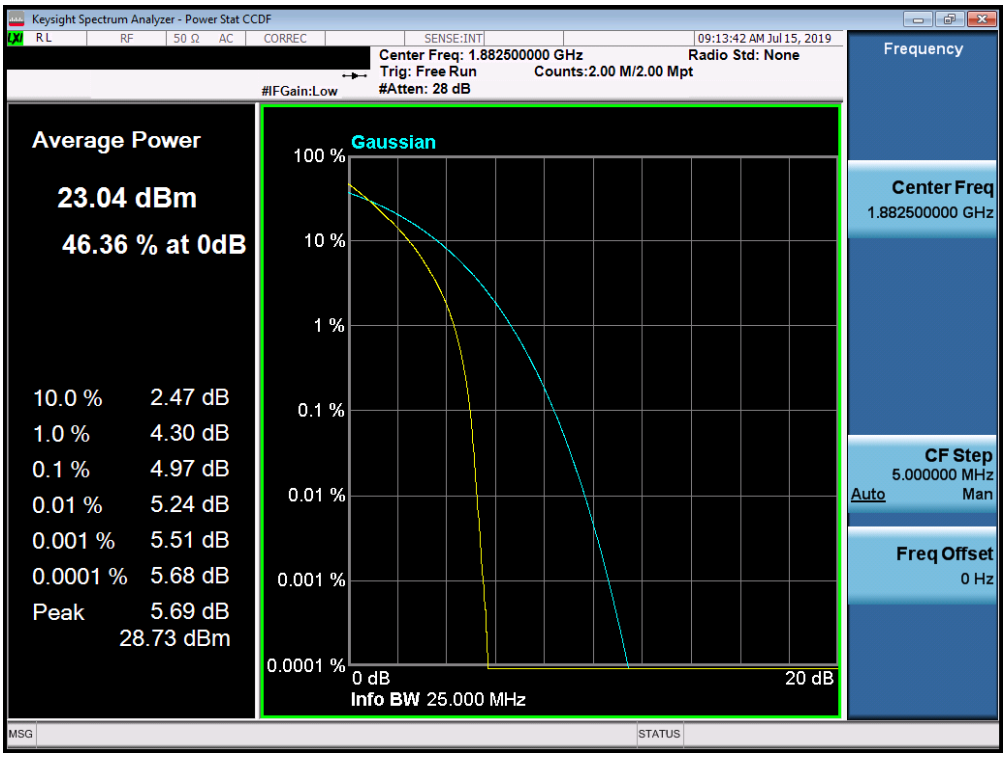
Plot 7-313. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



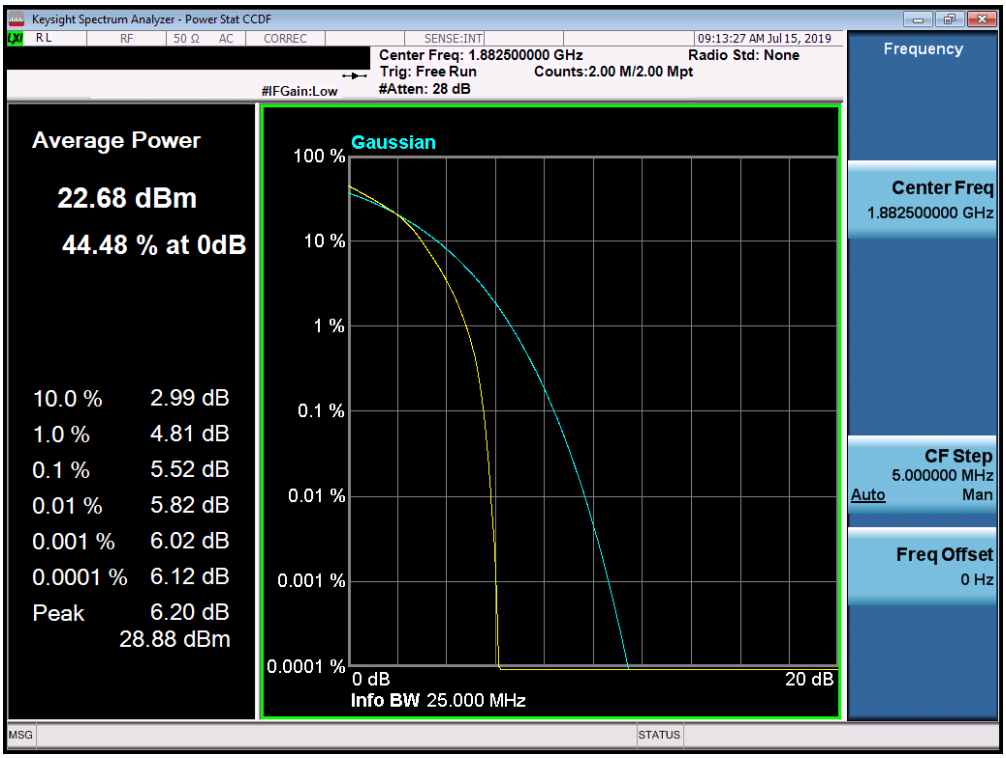
Plot 7-314. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)



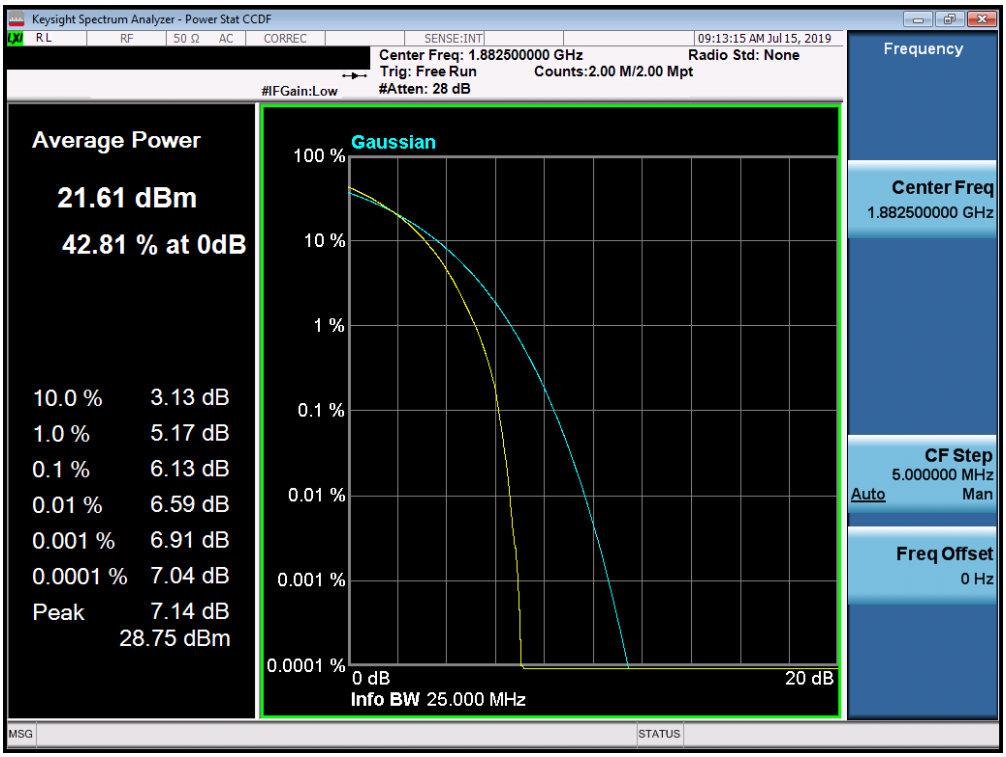
Plot 7-315. PAR Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)



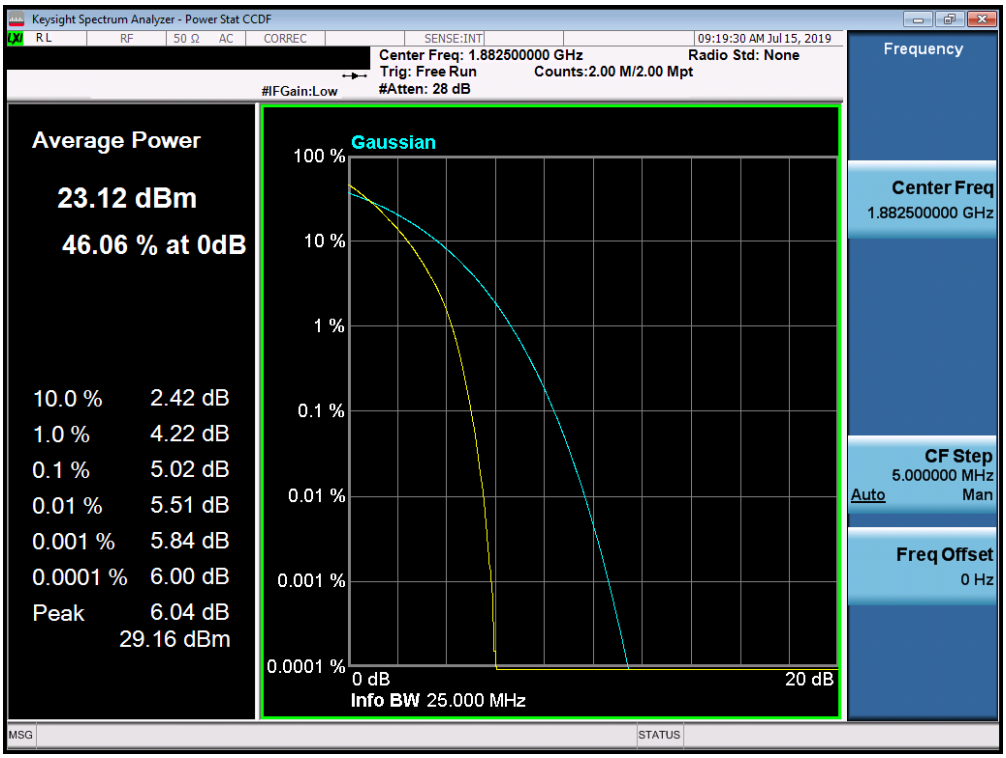
Plot 7-316. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



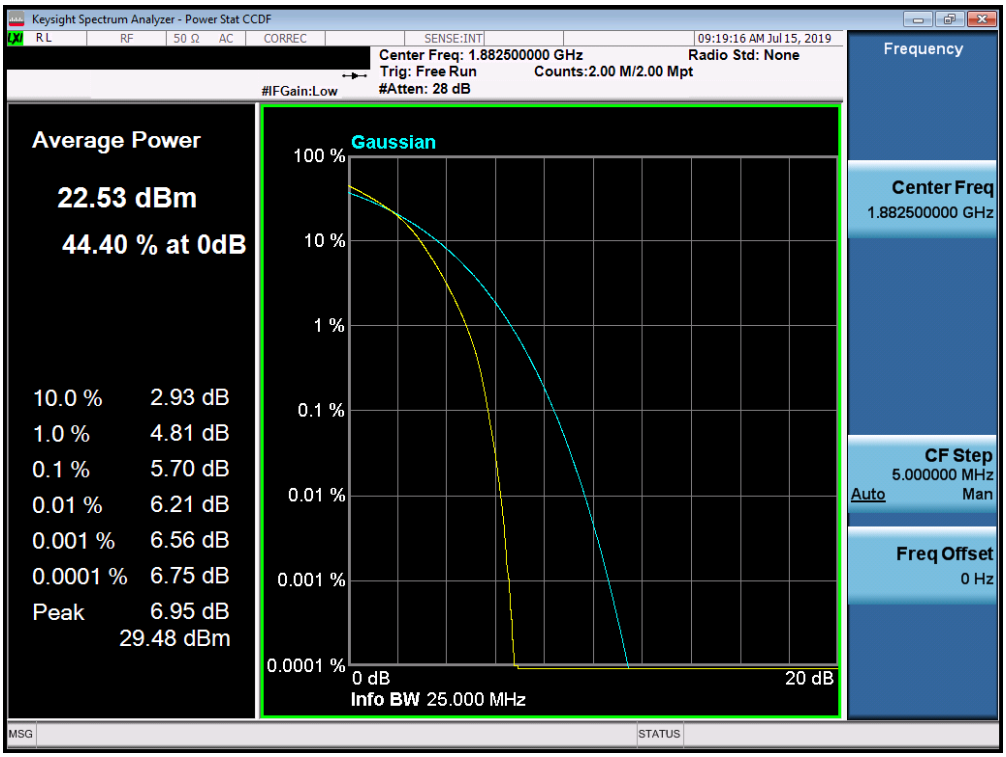
Plot 7-317. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)



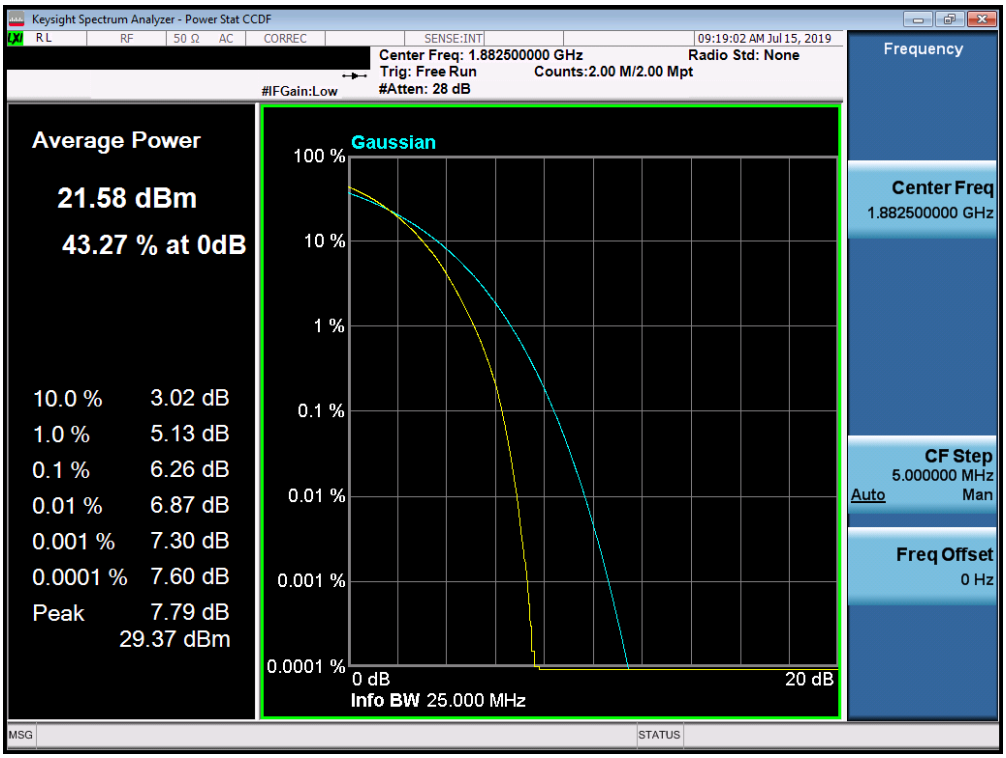
Plot 7-318. PAR Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-319. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-320. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-321. PAR Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

7.6 Additional Maximum Power Reduction (A-MPR)

§2.1046

Test Overview

A-MPR is implemented in this device when operating at Power Class 2 in LTE Band 41 per the A-MPR specification in 3GPP TS 36.101. The conducted powers are shown herein to cover the different A-MPR levels specified in the standard. Measurement equipment was set up with triggering/gating on the spectrum analyzer such that powers were measured only during the on-time of the signal.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.2.2

Test Settings

1. Span = 2 x OBW to 3 x OBW
2. RBW = 1% to 5% of the OBW
3. Number of measurement points in sweep ≥ 2 x span / RBW
4. Sweep = auto-couple (less than transmission burst duration)
5. Detector = RMS (power)
6. Trigger was set to enable power measurements only on full power bursts
7. Trace was allowed to stabilize
8. Spectrum analyzer's "Channel Power" function was used to compute the power by integrating the spectrum across the OBW of the signal

Test Setup

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

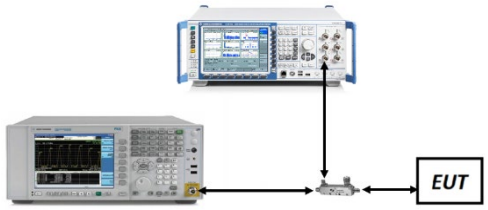


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

None.

Test Case	NS	MCC	MNC	Channel BW [MHz]	Channel Number	Channel Frequency [MHz]	Modulation	RB Size	RB Offset	MPR [dB]	A-MPR [dB]	Measured Power [dBm]	Lowest Typical Power [dBm]	Delta [dB]
1	01	310	120	5	39675	2498.5	QPSK	1	0	0	≤ 3	23.91	23.2	**0.71**
							16-QAM			≤ 1		23.33	22.2	**1.13**
							64-QAM			≤ 2		22.37	21.2	**1.17**
2				5	39675	2498.5	QPSK	1	9	0	0	26.70	26.2	**0.50**
							16-QAM			≤ 1		26.21	25.2	**1.01**
							64-QAM			≤ 2		25.70	24.2	**1.50**
3				10	39700	2501	QPSK	1	0	0	≤ 5	21.68	21.2	**0.48**
							16-QAM	1	0	≤ 1		20.91	20.2	**0.71**
							64-QAM	1	0	≤ 2		20.18	19.2	**0.98**
4				10	39700	2501	QPSK	20	0	0	≤ 2	23.41	23.2	**0.21**
							16-QAM	20	0	≤ 1		22.32	22.2	**0.12**
							64-QAM	20	0	≤ 2		21.50	21.2	**0.30**
5				10	39700	2501	QPSK	50	0	0	≤ 3	22.30	22.2	**0.10**
							16-QAM	50	0	≤ 1		21.25	21.2	**0.05**
							64-QAM	50	0	≤ 2		20.40	20.2	**0.20**
6				10	39700	2501	QPSK	25	20	0	≤ 1	24.37	24.2	**0.17**
							16-QAM	25	20	≤ 1		23.31	23.2	**0.11**
							64-QAM	25	20	≤ 2		22.44	22.2	**0.24**
7				10	39700	2501	QPSK	1	36	0	0	26.50	26.2	**0.30**
							16-QAM	1	36	≤ 1		25.54	25.2	**0.34**
							64-QAM	1	36	≤ 2		24.62	24.2	**0.42**
8				15	39725	2503.5	QPSK	1	0	0	≤ 5	21.90	21.2	**0.70**
							16-QAM	1	0	≤ 1		21.10	20.2	**0.90**
							64-QAM	1	0	≤ 2		20.40	19.2	**1.20**
9				15	39725	2503.5	QPSK	20	0	0	≤ 2	23.63	23.2	**0.43**
							16-QAM	20	0	≤ 1		22.50	22.2	**0.30**
							64-QAM	20	0	≤ 2		21.71	21.2	**0.51**
10				15	39725	2503.5	QPSK	75	0	0	≤ 4	21.58	21.2	**0.38**
							16-QAM	75	0	≤ 1		20.42	20.2	**0.22**
							64-QAM	75	0	≤ 2		19.55	19.2	**0.35**
11				15	39725	2503.5	QPSK	50	15	0	≤ 3	22.55	22.2	**0.35**
							16-QAM	50	15	≤ 1		21.38	21.2	**0.18**
							64-QAM	50	15	≤ 2		20.44	20.2	**0.24**
12				15	39725	2503.5	QPSK	1	60	0	0	26.29	26.2	**0.09**
							16-QAM	1	60	≤ 1		25.60	25.2	**0.40**
							64-QAM	1	60	≤ 2		25.07	24.2	**0.87**
13				20	39750	2506	QPSK	1	0	0	≤ 5	21.72	21.2	**0.52**
							16-QAM	1	0	≤ 1		21.17	20.2	**0.97**
							64-QAM	1	0	≤ 2		20.19	19.2	**0.99**
14				20	39750	2506	QPSK	20	0	0	≤ 2	23.66	23.2	**0.46**
							16-QAM	20	0	≤ 1		22.63	22.2	**0.43**
							64-QAM	20	0	≤ 2		21.72	21.2	**0.52**
15				20	39750	2506	QPSK	100	0	0	≤ 4	21.60	21.2	**0.40**
							16-QAM	100	0	≤ 1		20.46	20.2	**0.26**
							64-QAM	100	0	≤ 2		19.55	19.2	**0.35**
16				20	39750	2506	QPSK	75	24	0	≤ 3	22.50	22.2	**0.30**
							16-QAM	75	24	≤ 1		21.46	21.2	**0.26**
							64-QAM	75	24	≤ 2		20.51	20.2	**0.31**
17				20	39750	2506	QPSK	1	77	0	0	26.45	26.2	**0.25**
							16-QAM	1	77	≤ 1		25.75	25.2	**0.55**
							64-QAM	1	77	≤ 2		24.7	24.2	**0.50**

Table 7-3. A-MPR Conducted Power Measurements

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

Test Setup

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

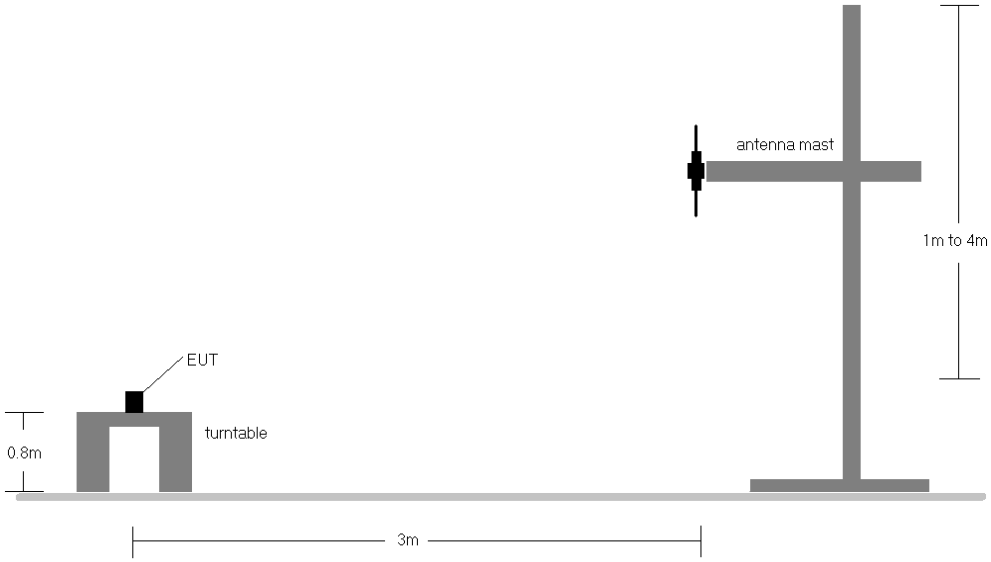


Figure 7-6. Radiated Test Setup <1GHz

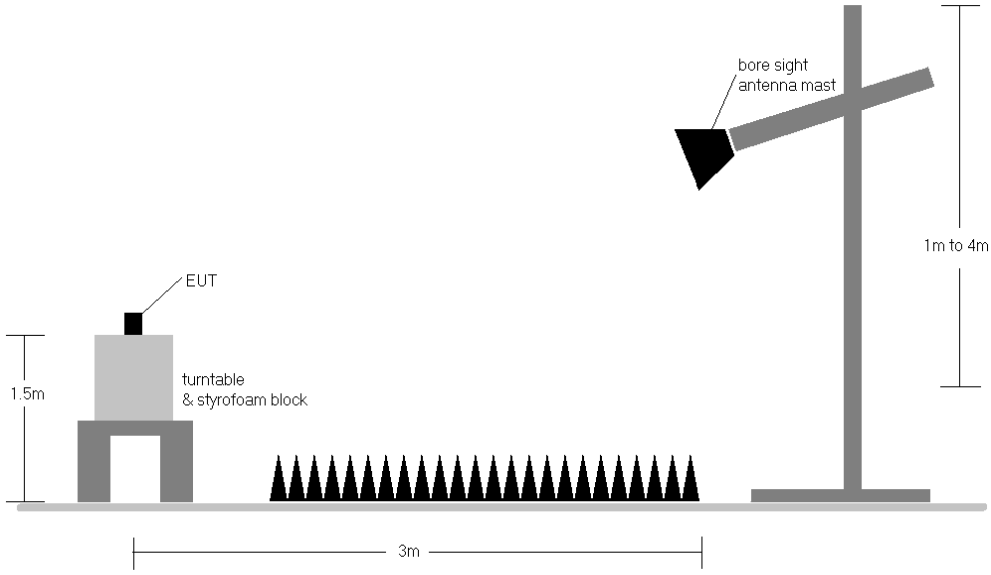


Figure 7-7. Radiated Test Setup >1GHz

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.

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	173	231	1 / 24	16.05	2.90	16.80	0.048	34.77	-17.97
680.50	5	QPSK	V	169	227	1 / 24	15.79	3.20	16.84	0.048	34.77	-17.93
695.50	5	QPSK	V	179	245	1 / 24	15.77	3.30	**16.92**	0.049	34.77	-17.85
695.50	5	16-QAM	V	179	245	1 / 24	15.25	3.30	**16.40**	0.044	34.77	-18.37
695.50	5	64-QAM	V	179	245	1 / 24	12.94	3.30	**14.09**	0.026	34.77	-20.68
668.00	10	QPSK	V	173	231	1 / 49	16.06	2.90	16.81	0.048	34.77	-17.96
680.50	10	QPSK	V	169	227	1 / 49	15.93	3.20	16.98	0.050	34.77	-17.79
693.00	10	QPSK	V	179	245	1 / 49	15.89	3.30	**17.04**	0.051	34.77	-17.73
693.00	10	16-QAM	V	179	245	1 / 49	15.32	3.30	**16.47**	0.044	34.77	-18.30
693.00	10	64-QAM	V	179	245	1 / 49	13.01	3.30	**14.16**	0.026	34.77	-20.61
670.50	15	QPSK	V	173	231	1 / 74	15.05	3.00	15.90	0.039	34.77	-18.87
680.50	15	QPSK	V	169	227	1 / 74	15.81	3.20	16.86	0.049	34.77	-17.91
690.50	15	QPSK	V	179	245	1 / 74	16.61	3.30	**17.76**	0.060	34.77	-17.01
690.50	15	16-QAM	V	179	245	1 / 74	16.11	3.30	**17.26**	0.053	34.77	-17.51
690.50	15	64-QAM	V	179	245	1 / 74	13.82	3.30	**14.97**	0.031	34.77	-19.80
673.00	20	QPSK	V	173	231	1 / 99	15.34	3.10	16.29	0.043	34.77	-18.48
680.50	20	QPSK	V	169	227	1 / 99	16.10	3.20	17.15	0.052	34.77	-17.62
688.00	20	QPSK	V	179	245	1 / 99	16.90	3.30	**18.05**	**0.064**	34.77	-16.72
688.00	20	16-QAM	V	179	245	1 / 99	16.13	3.30	**17.28**	0.053	34.77	-17.49
688.00	20	64-QAM	V	179	245	1 / 99	14.75	3.30	**15.90**	0.039	34.77	-18.87
688.00	20	QPSK	H	104	2	1 / 99	16.02	3.30	17.17	0.052	34.77	-17.60

Table 7-4. 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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	V	174	339	1 / 5	16.40	3.40	17.65	0.058	34.77	-17.12	19.80	0.095	36.99	-17.19
707.50	1.4	QPSK	V	101	302	1 / 5	16.19	3.65	**17.69**	0.059	34.77	-17.08	**19.84**	0.096	36.99	-17.15
715.30	1.4	QPSK	V	167	349	1 / 5	16.09	3.70	17.64	0.058	34.77	-17.13	19.79	0.095	36.99	-17.20
707.50	1.4	16-QAM	V	101	302	1 / 5	15.58	3.65	**17.08**	0.051	34.77	-17.69	**19.23**	0.084	36.99	-17.76
707.50	1.4	64-QAM	V	101	302	1 / 5	15.17	3.65	**16.67**	0.046	34.77	-18.10	**18.82**	0.076	36.99	-18.17
700.50	3	QPSK	V	174	339	1 / 14	16.50	3.40	17.75	0.060	34.77	-17.02	19.90	0.098	36.99	-17.09
707.50	3	QPSK	V	101	302	1 / 14	16.45	3.65	**17.95**	0.062	34.77	-16.82	**20.10**	0.102	36.99	-16.89
714.50	3	QPSK	V	167	349	1 / 14	16.34	3.70	17.89	0.062	34.77	-16.88	20.04	0.101	36.99	-16.95
707.50	3	16-QAM	V	101	302	1 / 14	15.69	3.65	**17.19**	0.052	34.77	-17.58	**19.34**	0.086	36.99	-17.65
707.50	3	64-QAM	V	101	302	1 / 14	15.19	3.65	**16.69**	0.047	34.77	-18.08	**18.84**	0.077	36.99	-18.15

Table 7-5. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
701.50	5	QPSK	V	174	339	1 / 24	16.49	3.40	17.74	0.059	34.77	-17.03	19.89	0.097	36.99	-17.10
707.50	5	QPSK	V	101	302	1 / 24	16.50	3.65	**18.00**	0.063	34.77	-16.77	**20.15**	0.104	36.99	-16.84
713.50	5	QPSK	V	167	349	1 / 24	16.44	3.70	17.99	0.063	34.77	-16.78	20.14	0.103	36.99	-16.85
707.50	5	16-QAM	V	101	302	1 / 24	15.74	3.65	**17.24**	0.053	34.77	-17.53	**19.39**	0.087	36.99	-17.60
707.50	5	64-QAM	V	101	302	1 / 24	15.24	3.65	**16.74**	0.047	34.77	-18.03	**18.89**	0.077	36.99	-18.10
704.00	10	QPSK	V	174	339	1 / 49	15.45	3.50	16.80	0.048	34.77	-17.97	18.95	0.079	36.99	-18.04
707.50	10	QPSK	V	101	302	1 / 49	16.67	3.65	**18.17**	0.066	34.77	-16.60	**20.32**	0.108	36.99	-16.67
711.00	10	QPSK	V	167	349	1 / 49	15.61	3.70	17.16	0.052	34.77	-17.61	19.31	0.085	36.99	-17.68
707.50	10	16-QAM	V	101	302	1 / 49	16.00	3.65	**17.50**	0.056	34.77	-17.27	**19.65**	0.092	36.99	-17.34
707.50	10	64-QAM	V	101	302	1 / 49	15.37	3.65	**16.87**	0.049	34.77	-17.90	**19.02**	0.080	36.99	-17.97
707.50	10	QPSK	H	102	177	1 / 49	17.00	3.65	18.50	**0.071**	34.77	-16.27	20.65	**0.116**	36.99	-16.34

Table 7-6. ERP Data (Band 12/17)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	V	152	227	1 / 24	13.80	5.80	17.45	0.056	34.77	-17.32	19.60	0.091	36.99	-17.39
782.00	5	QPSK	V	152	227	1 / 24	15.02	5.80	**18.67**	**0.074**	34.77	-16.10	**20.82**	**0.121**	36.99	-16.17
784.50	5	QPSK	V	152	227	1 / 24	13.96	5.90	17.71	0.059	34.77	-17.06	19.86	0.097	36.99	-17.13
782.00	5	16-QAM	V	152	227	1 / 24	14.12	5.80	**17.77**	0.060	34.77	-17.00	**19.92**	0.098	36.99	-17.07
782.00	5	64-QAM	V	152	227	1 / 24	13.12	5.80	**16.77**	0.048	34.77	-18.00	**18.92**	0.078	36.99	-18.07
782.00	10	QPSK	V	152	227	1 / 49	15.01	5.80	**18.66**	0.073	34.77	-16.11	**20.81**	0.121	36.99	-16.18
782.00	10	16-QAM	V	152	227	1 / 49	14.17	5.80	**17.82**	0.061	34.77	-16.95	**19.97**	0.099	36.99	-17.02
782.00	10	64-QAM	V	152	227	1 / 49	13.15	5.80	**16.80**	0.048	34.77	-17.97	**18.95**	0.079	36.99	-18.04
782.00	10	QPSK	H	232	355	1 / 24	14.84	5.80	18.49	0.071	34.77	-16.28	20.64	0.116	36.99	-16.35

Table 7-7. ERP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	V	100	232	1 / 0	13.85	6.70	18.40	0.069	38.45	-20.05	20.55	0.114	40.61	-20.06
836.50	1.4	QPSK	V	100	231	1 / 0	14.52	6.70	**19.07**	0.081	38.45	-19.38	**21.22**	0.132	40.61	-19.39
848.30	1.4	QPSK	V	100	230	1 / 0	13.49	6.70	18.04	0.064	38.45	-20.41	20.19	0.104	40.61	-20.42
836.50	1.4	16-QAM	V	100	231	1 / 0	13.52	6.70	**18.07**	0.064	38.45	-20.38	**20.22**	0.105	40.61	-20.39
836.50	1.4	64-QAM	V	100	231	1 / 0	12.48	6.70	**17.03**	0.050	38.45	-21.42	**19.18**	0.083	40.61	-21.43
825.50	3	QPSK	V	100	232	1 / 0	13.93	6.70	18.48	0.070	38.45	-19.97	20.63	0.116	40.61	-19.98
836.50	3	QPSK	V	100	231	1 / 0	14.66	6.70	**19.21**	0.083	38.45	-19.24	**21.36**	0.137	40.61	-19.25
847.50	3	QPSK	V	100	230	1 / 0	13.51	6.65	18.01	0.063	38.45	-20.44	20.16	0.104	40.61	-20.45
836.50	3	16-QAM	V	100	231	1 / 0	13.65	6.70	**18.20**	0.066	38.45	-20.25	**20.35**	0.108	40.61	-20.26
836.50	3	64-QAM	V	100	231	1 / 0	12.71	6.70	**17.26**	0.053	38.45	-21.19	**19.41**	0.087	40.61	-21.20
826.50	5	QPSK	V	100	232	1 / 0	13.87	6.70	18.42	0.070	38.45	-20.03	20.57	0.114	40.61	-20.04
836.50	5	QPSK	V	100	231	1 / 0	14.65	6.70	**19.20**	0.083	38.45	-19.25	**21.35**	0.136	40.61	-19.26
846.50	5	QPSK	V	100	230	1 / 0	13.65	6.60	18.10	0.065	38.45	-20.35	20.25	0.106	40.61	-20.36
836.50	5	16-QAM	V	100	231	1 / 0	13.59	6.70	**18.14**	0.065	38.45	-20.31	**20.29**	0.107	40.61	-20.32
836.50	5	64-QAM	V	100	231	1 / 0	12.59	6.70	**17.14**	0.052	38.45	-21.31	**19.29**	0.085	40.61	-21.32
829.00	10	QPSK	V	100	232	1 / 0	13.93	6.70	18.48	0.070	38.45	-19.97	20.63	0.116	40.61	-19.98
836.50	10	QPSK	V	100	231	1 / 0	14.65	6.70	**19.20**	0.083	38.45	-19.25	**21.35**	0.136	40.61	-19.26
844.00	10	QPSK	V	100	230	1 / 0	13.70	6.60	18.15	0.065	38.45	-20.30	20.30	0.107	40.61	-20.31
836.50	10	16-QAM	V	100	231	1 / 0	13.64	6.70	**18.19**	0.066	38.45	-20.26	**20.34**	0.108	40.61	-20.27
836.50	10	64-QAM	V	100	231	1 / 0	12.68	6.70	**17.23**	0.053	38.45	-21.22	**19.38**	0.087	40.61	-21.23
831.50	15	QPSK	V	100	232	1 / 0	14.06	6.70	18.61	0.073	38.45	-19.84	20.76	0.119	40.61	-19.85
836.50	15	QPSK	V	100	231	1 / 0	14.74	6.70	**19.29**	**0.085**	38.45	-19.16	**21.44**	**0.139**	40.61	-19.17
841.50	15	QPSK	V	100	230	1 / 0	13.79	6.60	18.24	0.067	38.45	-20.21	20.39	0.109	40.61	-20.22
836.50	15	16-QAM	V	100	231	1 / 0	13.74	6.70	**18.29**	0.067	38.45	-20.16	**20.44**	0.111	40.61	-20.17
836.50	15	64-QAM	V	100	231	1 / 0	12.79	6.70	**17.34**	0.054	38.45	-21.11	**19.49**	0.089	40.61	-21.12
836.50	10	QPSK	H	100	235	1 / 0	13.35	6.70	17.90	0.062	38.45	-20.55	20.05	0.101	40.61	-20.56

Table 7-8. 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	101	30	1 / 5	13.90	9.44	23.34	0.216	30.00	-6.66
1745.00	1.4	QPSK	H	101	26	1 / 5	13.94	9.23	23.17	0.208	30.00	-6.83
1779.30	1.4	QPSK	H	101	20	1 / 5	14.25	9.26	**23.51**	0.224	30.00	-6.49
1779.30	1.4	16-QAM	H	101	20	1 / 5	13.73	9.26	**22.99**	0.199	30.00	-7.01
1779.30	1.4	64-QAM	H	101	20	1 / 5	12.77	9.26	**22.03**	0.160	30.00	-7.97
1711.50	3	QPSK	H	101	30	1 / 14	13.69	9.44	23.13	0.205	30.00	-6.87
1745.00	3	QPSK	H	101	26	1 / 14	13.81	9.23	23.04	0.201	30.00	-6.96
1778.50	3	QPSK	H	101	20	1 / 14	14.13	9.26	**23.39**	0.218	30.00	-6.61
1778.50	3	16-QAM	H	101	20	1 / 14	13.53	9.26	**22.79**	0.190	30.00	-7.21
1778.50	3	64-QAM	H	101	20	1 / 14	12.60	9.26	**21.86**	0.153	30.00	-8.14
1712.50	5	QPSK	H	101	30	1 / 24	13.80	9.43	23.23	0.210	30.00	-6.77
1745.00	5	QPSK	H	101	26	1 / 24	13.79	9.23	23.02	0.200	30.00	-6.98
1777.50	5	QPSK	H	101	20	1 / 24	14.05	9.26	**23.31**	0.214	30.00	-6.69
1777.50	5	16-QAM	H	101	20	1 / 24	13.50	9.26	**22.76**	0.189	30.00	-7.24
1777.50	5	64-QAM	H	101	20	1 / 24	12.56	9.26	**21.82**	0.152	30.00	-8.18
1715.00	10	QPSK	H	101	30	1 / 49	13.80	9.42	23.22	0.210	30.00	-6.78
1745.00	10	QPSK	H	101	26	1 / 49	13.92	9.23	23.15	0.207	30.00	-6.85
1775.00	10	QPSK	H	101	20	1 / 49	14.02	9.25	**23.27**	0.212	30.00	-6.73
1775.00	10	16-QAM	H	101	20	1 / 49	13.67	9.25	**22.92**	0.196	30.00	-7.08
1775.00	10	64-QAM	H	101	20	1 / 49	12.59	9.25	**21.84**	0.153	30.00	-8.16
1717.50	15	QPSK	H	101	30	1 / 74	13.87	9.40	23.27	0.212	30.00	-6.73
1745.00	15	QPSK	H	101	26	1 / 74	13.89	9.23	23.12	0.205	30.00	-6.88
1772.50	15	QPSK	H	101	20	1 / 74	14.25	9.25	**23.50**	0.224	30.00	-6.50
1772.50	15	16-QAM	H	101	20	1 / 74	13.63	9.25	**22.88**	0.194	30.00	-7.12
1772.50	15	64-QAM	H	101	20	1 / 74	12.83	9.25	**22.08**	0.161	30.00	-7.92
1720.00	20	QPSK	H	101	30	1 / 99	14.18	9.38	23.56	0.227	30.00	-6.44
1745.00	20	QPSK	H	101	26	1 / 99	14.21	9.23	23.44	0.221	30.00	-6.56
1770.00	20	QPSK	H	101	20	1 / 99	14.76	9.24	**24.00**	**0.251**	30.00	-6.00
1770.00	20	16-QAM	H	101	20	1 / 99	14.11	9.24	**23.35**	0.216	30.00	-6.65
1770.00	20	64-QAM	H	101	20	1 / 99	13.21	9.24	**22.45**	0.176	30.00	-7.55
1770.00	20	QPSK	V	101	125	1 / 99	14.29	9.24	23.53	0.225	30.00	-6.47

Table 7-9. EIRP Data (Band 66/4)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	133	37	1 / 0	14.95	9.48	24.43	0.278	33.01	-8.58
1882.50	1.4	QPSK	H	125	21	1 / 0	14.79	9.94	24.73	0.297	33.01	-8.29
1914.30	1.4	QPSK	H	140	27	1 / 0	15.04	10.29	**25.33**	0.341	33.01	-7.68
1914.30	1.4	16-QAM	H	140	27	1 / 0	14.48	10.29	**24.77**	0.300	33.01	-8.24
1914.30	1.4	64-QAM	H	140	27	1 / 0	13.41	10.29	**23.70**	0.234	33.01	-9.31
1851.50	3	QPSK	H	132	35	1 / 0	14.98	9.50	24.48	0.280	33.01	-8.53
1882.50	3	QPSK	H	128	18	1 / 0	14.75	9.94	24.69	0.294	33.01	-8.33
1913.50	3	QPSK	H	131	25	1 / 0	15.24	10.29	**25.53**	0.357	33.01	-7.49
1913.50	3	16-QAM	H	131	25	1 / 0	14.65	10.29	**24.94**	0.312	33.01	-8.08
1913.50	3	64-QAM	H	131	25	1 / 0	13.47	10.29	**23.76**	0.237	33.01	-9.26
1852.50	5	QPSK	H	131	31	1 / 0	15.05	9.51	24.56	0.286	33.01	-8.45
1882.50	5	QPSK	H	126	15	1 / 0	14.93	9.94	24.87	0.307	33.01	-8.15
1912.50	5	QPSK	H	127	21	1 / 0	15.31	10.28	**25.59**	0.362	33.01	-7.42
1912.50	5	16-QAM	H	127	21	1 / 0	14.63	10.28	**24.91**	0.310	33.01	-8.10
1912.50	5	64-QAM	H	127	21	1 / 0	13.43	10.28	**23.71**	0.235	33.01	-9.30
1855.00	10	QPSK	H	128	30	1 / 0	14.93	9.55	24.48	0.280	33.01	-8.53
1882.50	10	QPSK	H	124	12	1 / 0	14.81	9.94	24.75	0.298	33.01	-8.27
1910.00	10	QPSK	H	122	17	1 / 0	15.18	10.26	**25.44**	0.350	33.01	-7.57
1910.00	10	16-QAM	H	122	17	1 / 0	14.64	10.26	**24.90**	0.309	33.01	-8.11
1910.00	10	64-QAM	H	122	17	1 / 0	13.34	10.26	**23.60**	0.229	33.01	-9.41
1857.50	15	QPSK	H	130	25	1 / 0	15.19	9.58	24.77	0.300	33.01	-8.24
1882.50	15	QPSK	H	125	10	1 / 0	14.95	9.94	24.89	0.308	33.01	-8.13
1907.50	15	QPSK	H	120	15	1 / 0	15.19	10.24	**25.43**	0.349	33.01	-7.58
1907.50	15	16-QAM	H	120	15	1 / 0	14.62	10.24	**24.86**	0.306	33.01	-8.15
1907.50	15	64-QAM	H	120	15	1 / 0	13.37	10.24	**23.61**	0.230	33.01	-9.40
1860.00	20	QPSK	H	127	22	1 / 0	15.27	9.62	24.89	0.308	33.01	-8.12
1882.50	20	QPSK	H	123	7	1 / 0	15.24	9.94	25.18	0.329	33.01	-7.84
1905.00	20	QPSK	H	112	9	1 / 0	15.38	10.22	**25.60**	**0.363**	33.01	-7.41
1905.00	20	16-QAM	H	112	9	1 / 0	14.66	10.22	**24.88**	0.308	33.01	-8.13
1905.00	20	64-QAM	H	112	9	1 / 0	13.47	10.22	**23.69**	0.234	33.01	-9.32
1905.00	20	QPSK	V	115	140	1 / 0	14.04	10.22	24.26	0.267	33.01	-8.75

Table 7-10. EIRP Data (Band 25)

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	H	132	55	1 / 0	16.25	9.43	25.68	0.370	33.01	-7.33
2593.00	5	QPSK	H	15	53	1 / 0	17.33	9.55	26.88	0.488	33.01	-6.13
2687.50	5	QPSK	H	110	51	1 / 0	17.33	9.82	**27.15**	0.519	33.01	-5.86
2593.00	5	16-QAM	H	15	53	1 / 0	16.03	9.55	**25.58**	0.362	33.01	-7.43
2593.00	5	64-QAM	H	15	53	1 / 0	15.11	9.55	**24.66**	0.293	33.01	-8.35
2501.00	10	QPSK	H	125	52	1 / 0	16.14	9.43	25.57	0.361	33.01	-7.44
2593.00	10	QPSK	H	11	51	1 / 0	16.43	9.55	25.98	0.397	33.01	-7.03
2685.00	10	QPSK	H	105	48	1 / 0	17.58	9.82	**27.40**	**0.550**	33.01	-5.61
2593.00	10	16-QAM	H	11	51	1 / 0	15.79	9.55	**25.34**	0.342	33.01	-7.67
2685.00	10	64-QAM	H	105	48	1 / 0	15.61	9.82	**25.43**	0.349	33.01	-7.58
2503.50	15	QPSK	H	125	55	1 / 0	16.23	9.43	25.66	0.368	33.01	-7.35
2593.00	15	QPSK	H	110	52	1 / 0	17.03	9.55	26.58	0.455	33.01	-6.43
2682.50	15	QPSK	H	105	51	1 / 0	17.50	9.83	**27.33**	0.541	33.01	-5.68
2593.00	15	16-QAM	H	110	52	1 / 0	15.70	9.55	**25.25**	0.335	33.01	-7.76
2682.50	15	64-QAM	H	105	51	1 / 0	15.64	9.83	**25.47**	0.352	33.01	-7.54
2506.00	20	QPSK	H	121	48	1 / 0	16.38	9.42	25.80	0.381	33.01	-7.21
2593.00	20	QPSK	H	104	47	1 / 0	17.12	9.55	26.67	0.465	33.01	-6.34
2680.00	20	QPSK	H	100	45	1 / 0	17.17	9.83	**27.00**	0.502	33.01	-6.01
2593.00	20	16-QAM	H	104	47	1 / 0	15.93	9.55	**25.48**	0.353	33.01	-7.53
2680.00	20	64-QAM	H	100	45	1 / 0	15.36	9.83	**25.19**	0.331	33.01	-7.82
2680.00	20	QPSK	V	205	86	1 / 0	15.73	9.82	25.55	0.359	33.01	-7.46

Table 7-11. 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]
2498.50	5	QPSK	H	121	49	1 / 24	13.80	9.43	23.23	0.211	33.01	-9.78
2593.00	5	QPSK	H	117	50	1 / 24	13.91	9.55	23.46	0.222	33.01	-9.55
2687.50	5	QPSK	H	107	45	1 / 24	13.93	9.82	**23.75**	0.237	33.01	-9.26
2687.50	5	16-QAM	H	107	45	1 / 24	12.88	9.82	**22.70**	0.186	33.01	-10.31
2593.00	5	64-QAM	H	117	50	1 / 24	12.47	9.55	**22.02**	0.159	33.01	-10.99
2501.00	10	QPSK	H	121	49	1 / 49	14.22	9.43	23.65	0.232	33.01	-9.36
2593.00	10	QPSK	H	117	50	1 / 49	14.09	9.55	23.64	0.231	33.01	-9.37
2685.00	10	QPSK	H	107	45	1 / 49	14.01	9.82	**23.83**	**0.242**	33.01	-9.18
2685.00	10	16-QAM	H	107	45	1 / 49	12.86	9.82	**22.68**	0.186	33.01	-10.33
2593.00	10	64-QAM	H	117	50	1 / 49	12.36	9.55	**21.91**	0.155	33.01	-11.10
2503.50	15	QPSK	H	121	49	1 / 74	14.03	9.43	23.46	0.222	33.01	-9.55
2593.00	15	QPSK	H	117	50	1 / 74	14.08	9.55	23.63	0.231	33.01	-9.38
2682.50	15	QPSK	H	107	45	1 / 74	13.94	9.83	**23.77**	0.238	33.01	-9.24
2503.50	15	16-QAM	H	121	49	1 / 74	13.29	9.43	**22.72**	0.187	33.01	-10.29
2593.00	15	64-QAM	H	117	50	1 / 74	12.04	9.55	**21.59**	0.144	33.01	-11.42
2506.00	20	QPSK	H	121	49	1 / 99	14.18	9.42	23.60	0.229	33.01	-9.41
2593.00	20	QPSK	H	117	50	1 / 99	14.04	9.55	23.59	0.229	33.01	-9.42
2680.00	20	QPSK	H	107	45	1 / 99	13.90	9.83	**23.73**	0.236	33.01	-9.28
2680.00	20	16-QAM	H	107	45	1 / 99	12.99	9.83	**22.82**	0.192	33.01	-10.19
2593.00	20	64-QAM	H	117	50	1 / 99	12.17	9.55	**21.72**	0.149	33.01	-11.29
2680.00	20	QPSK	V	207	94	1 / 49	12.74	9.82	22.56	0.180	33.01	-10.45

Table 7-12. EIRP Data (Band 41 – PC3)

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

Test Setup

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

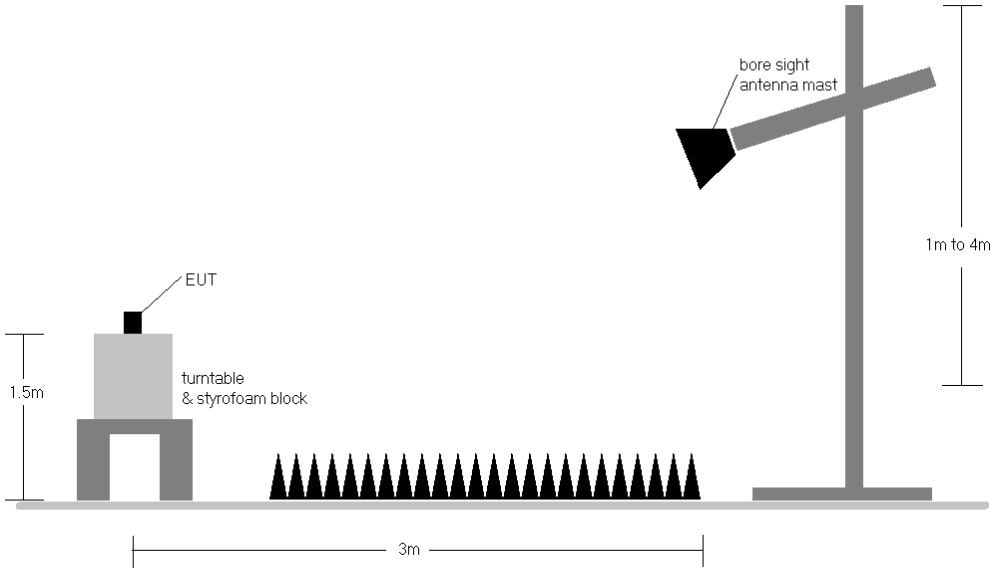


Figure 7-8. Test Instrument & Measurement Setup

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.

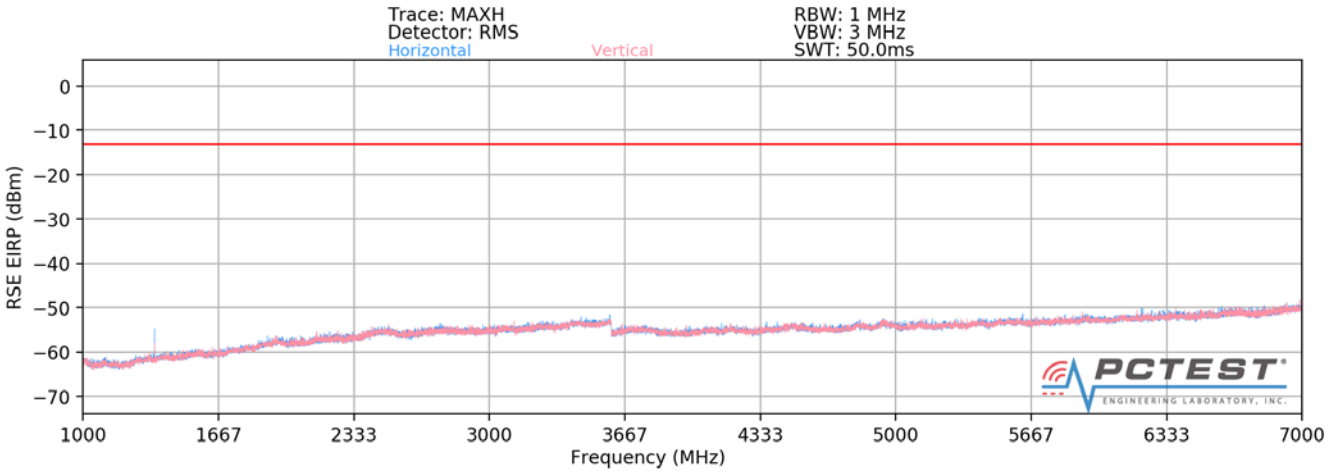
2) This unit was tested with its standard battery.

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.

Band 71



Plot 7-322. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	668.00	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]
1336.00	V	335	294	-67.61	7.41	-60.20	-47.2
2004.00	V	-	-	-77.12	8.63	-68.49	-55.5

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

OPERATING FREQUENCY:	680.50	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]
1361.00	V	397	305	-66.34	7.48	-58.85	-45.9
2041.50	V	-	-	-77.02	8.76	-68.26	-55.3

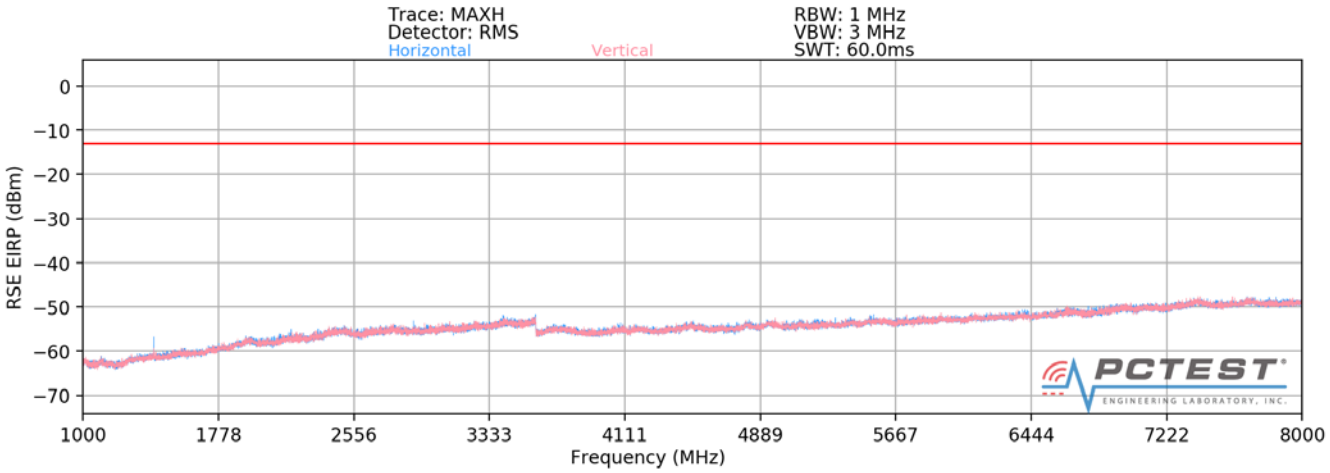
Table 7-14. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	693.00	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]
1386.00	V	396	302	-66.77	7.45	-59.32	-46.3
2079.00	V	-	-	-76.96	8.82	-68.14	-55.1

Table 7-15. Radiated Spurious Data (Band 71 – High Channel)

Band 12



Plot 7-323. Radiated Spurious Plot above 1GHz (Band 12)

OPERATING FREQUENCY:	704.00	MHz
MODULATION SIGNAL:	16-QAM	
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	V	398	205	-71.47	7.54	-63.93	-50.9
2112.00	V	-	-	-76.51	8.85	-67.66	-54.7

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

OPERATING FREQUENCY:	707.50	MHz
MODULATION SIGNAL:	16-QAM	
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	V	368	314	-70.03	7.63	-62.40	-49.4
2122.50	V	-	-	-76.52	8.86	-67.66	-54.7

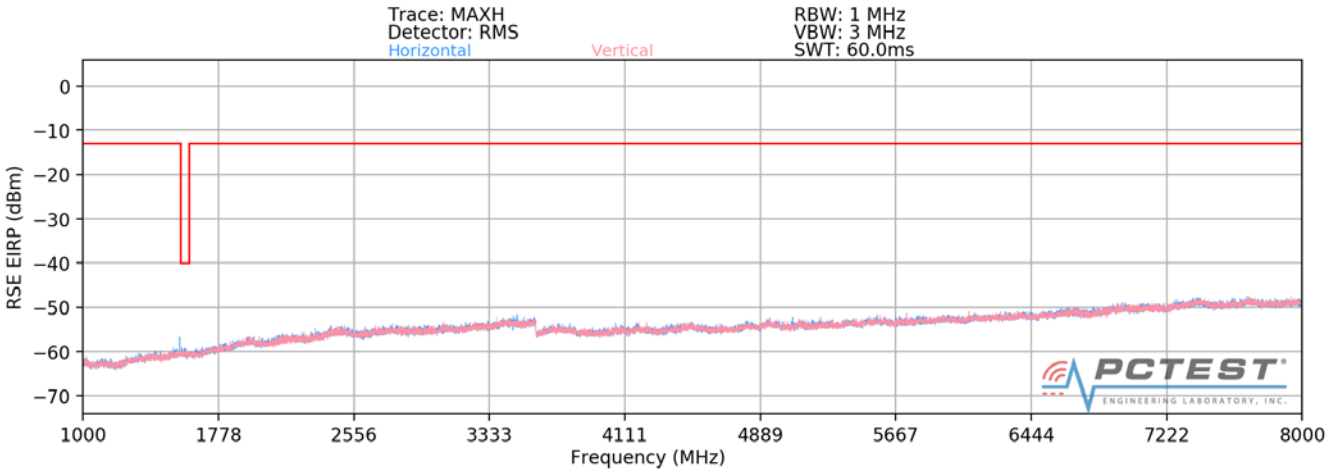
Table 7-17. Radiated Spurious Data (Band 12 – Mid Channel)

OPERATING FREQUENCY:	711.00	MHz
MODULATION SIGNAL:	16-QAM	
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	V	357	259	-68.59	7.72	-60.87	-47.9
2133.00	V	-	-	-76.81	8.87	-67.94	-54.9

Table 7-18. Radiated Spurious Data (Band 12 – High Channel)

Band 13



Plot 7-324. 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	V	-	-	-76.93	9.43	-67.50	-54.5

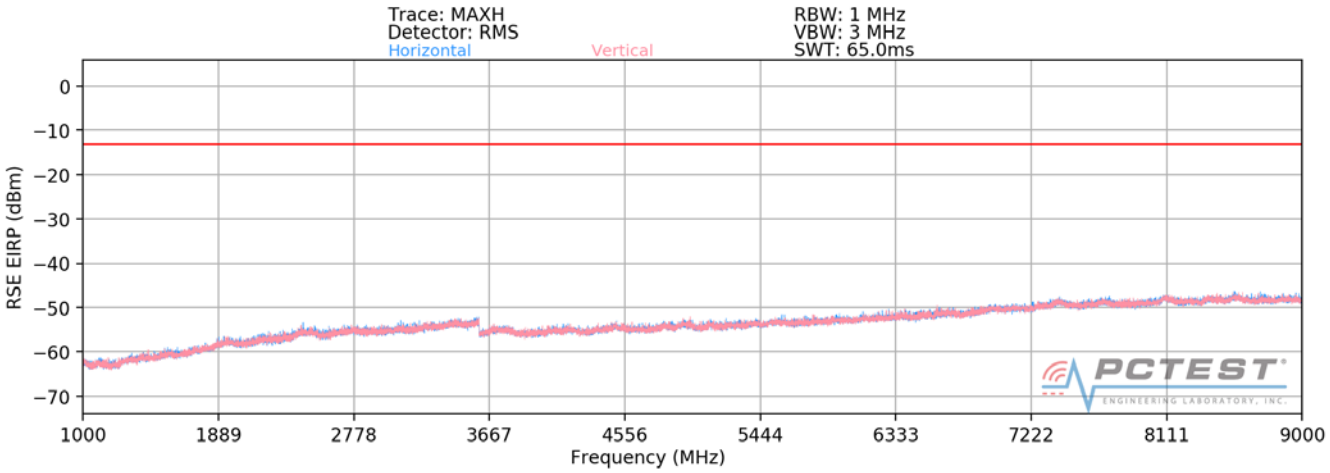
Table 7-19. Radiated Spurious Data (Band 13 – Mid Channel)

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	V	370	275	-71.49	8.53	-62.96	-23.0

Table 7-20. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-325. 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	V	400	238	-79.29	8.95	-70.34	-57.3
2487.00	V	-	-	-77.05	9.70	-67.34	-54.3

Table 7-21. 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	V	400	358	-79.53	8.95	-70.58	-57.6
2509.50	V	-	-	-77.18	9.75	-67.43	-54.4

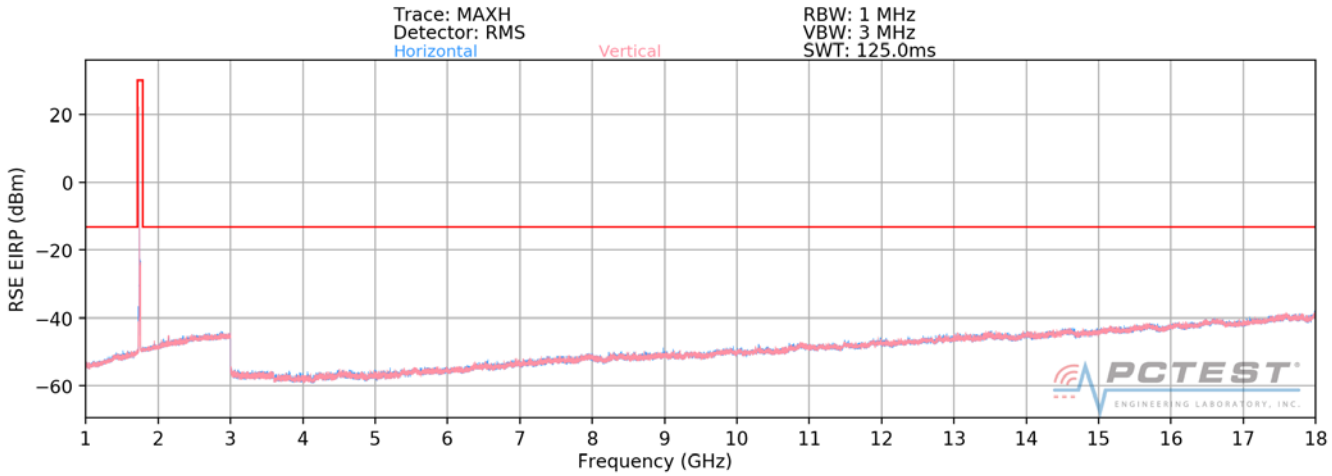
Table 7-22. Radiated Spurious Data (Band 26/5 – Mid Channel)

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	V	400	129	-79.06	8.95	-70.11	-57.1
2532.00	V	-	-	-76.30	9.75	-66.55	-53.6

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

Band 66/4



Plot 7-326. 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	H	112	25	-71.60	9.84	-61.76	-48.8
5160.00	H	-	-	-72.24	10.71	-61.53	-48.5

Table 7-24. Radiated Spurious Data (Band 66/4 – Low Channel)

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	H	147	12	-69.66	9.91	-59.75	-46.7
5235.00	H	-	-	-72.36	10.73	-61.62	-48.6

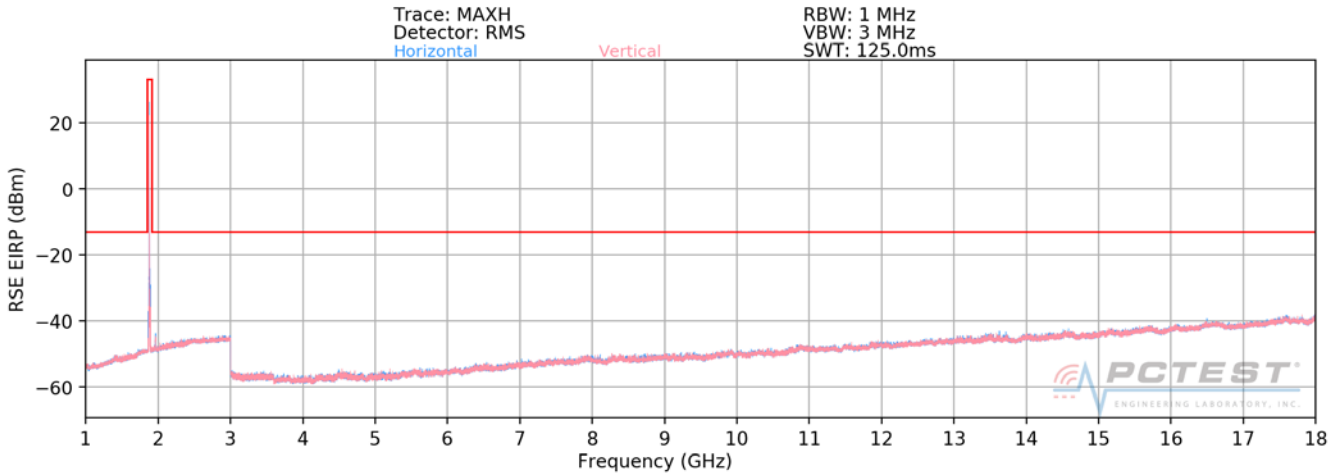
Table 7-25. Radiated Spurious Data (Band 66/4 – Mid Channel)

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	H	134	14	-71.35	9.89	-61.46	-48.5
5310.00	H	133	14	-72.42	10.69	-61.74	-48.7

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

Band 25/2



Plot 7-327. 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	112	2	-69.14	9.51	-59.64	-46.6
5580.00	H	-	-	-72.14	10.99	-61.15	-48.2

Table 7-27. 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	346	366	-72.01	9.36	-62.65	-49.7
5647.50	H	-	-	-72.01	11.19	-60.82	-47.8

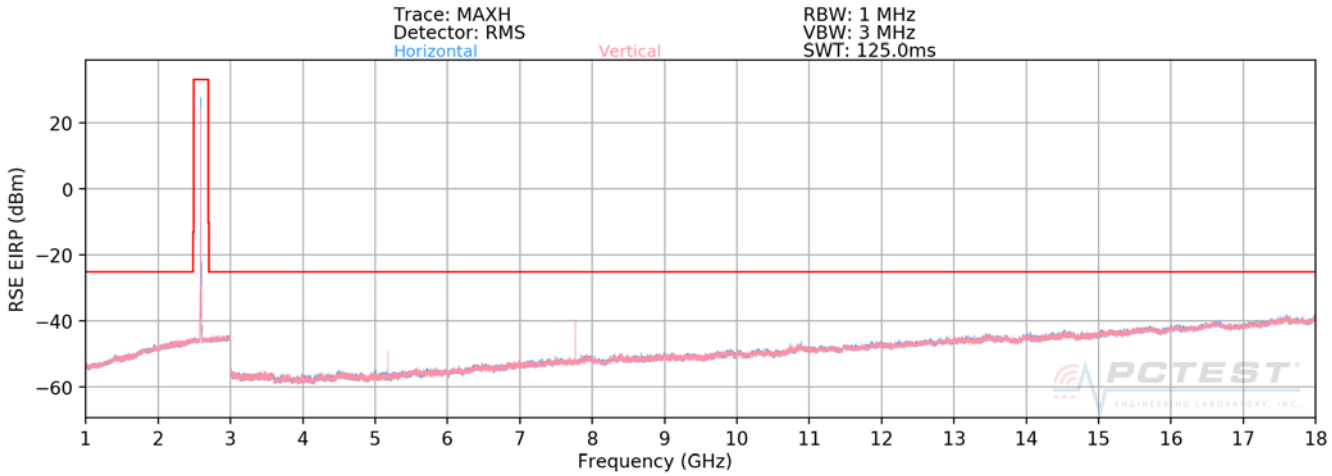
Table 7-28. Radiated Spurious Data (Band 25/2 – Mid Channel)

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

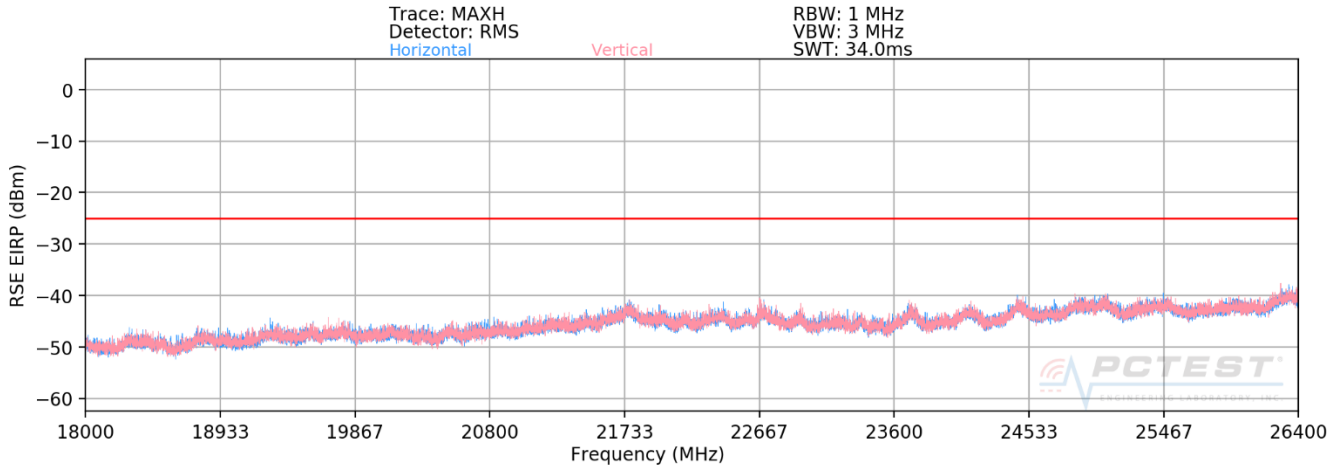
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	111	360	-64.98	9.29	-55.69	-42.7
5715.00	H	-	-	-72.73	11.35	-61.39	-48.4

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

Band 41



Plot 7-328. Radiated Spurious Plot 1GHz - 18GHz (Band 41)



Plot 7-329. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41)

OPERATING FREQUENCY:	2510.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	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]
5020.00	H	111	33	-59.42	10.88	-48.54	-23.5
7530.00	H	126	180	-55.39	11.13	-44.26	-19.3
10040.00	H	-	-	-65.02	11.99	-53.03	-28.0

Table 7-30. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	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	123	31	-60.47	10.74	-49.73	-24.7
7779.00	H	341	246	-55.60	11.44	-44.16	-19.2
10372.00	H	-	-	-68.51	12.42	-56.09	-31.1

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

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	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	113	328	-63.19	10.70	-52.49	-27.5
8040.00	H	118	185	-53.17	11.16	-42.01	-17.0
10720.00	H	-	-	-66.04	12.59	-53.44	-28.4

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

7.9 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:	4.36	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	680,499,896	-104	-0.0000153
100 %		- 20	680,500,079	79	0.0000116
100 %		- 10	680,499,631	-369	-0.0000542
100 %		0	680,500,073	73	0.0000107
100 %		+ 10	680,499,680	-320	-0.0000470
100 %		+ 20	680,500,021	21	0.0000031
100 %		+ 30	680,500,045	45	0.0000066
100 %		+ 40	680,500,044	44	0.0000065
100 %		+ 50	680,500,196	196	0.0000288
BATT. ENDPOINT	3.63	+ 20	680,500,307	307	0.0000451

Table 7-33. 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

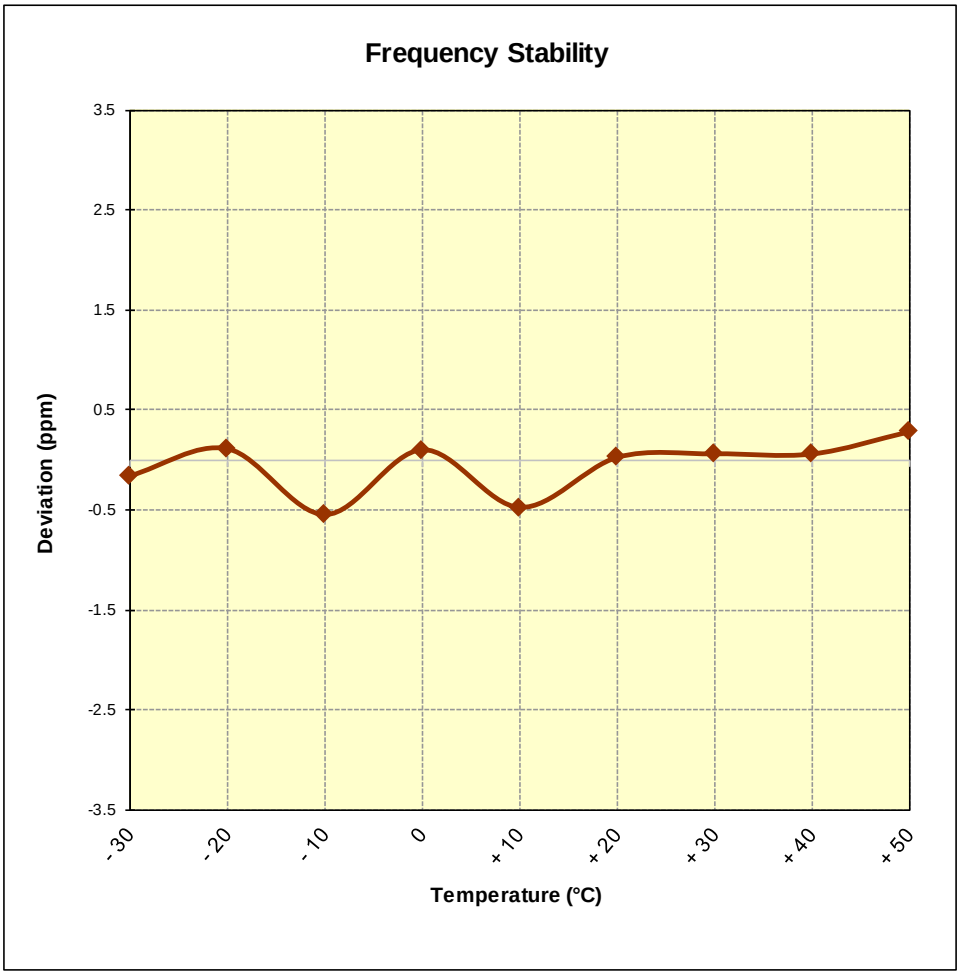


Figure 7-9. Frequency Stability Graph (Band 71)

Band 12/17 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	
REFERENCE VOLTAGE:	4.36	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	707,499,815	-185	-0.0000261
100 %		- 20	707,500,032	32	0.0000045
100 %		- 10	707,500,077	77	0.0000109
100 %		0	707,499,829	-171	-0.0000242
100 %		+ 10	707,499,926	-74	-0.0000105
100 %		+ 20	707,500,099	99	0.0000140
100 %		+ 30	707,499,983	-17	-0.0000024
100 %		+ 40	707,499,939	-61	-0.0000086
100 %		+ 50	707,499,999	-1	-0.0000001
BATT. ENDPOINT	3.63	+ 20	707,500,111	111	0.0000157

Table 7-34. Frequency Stability Data (Band 12/17)

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 12/17 Frequency Stability Measurements

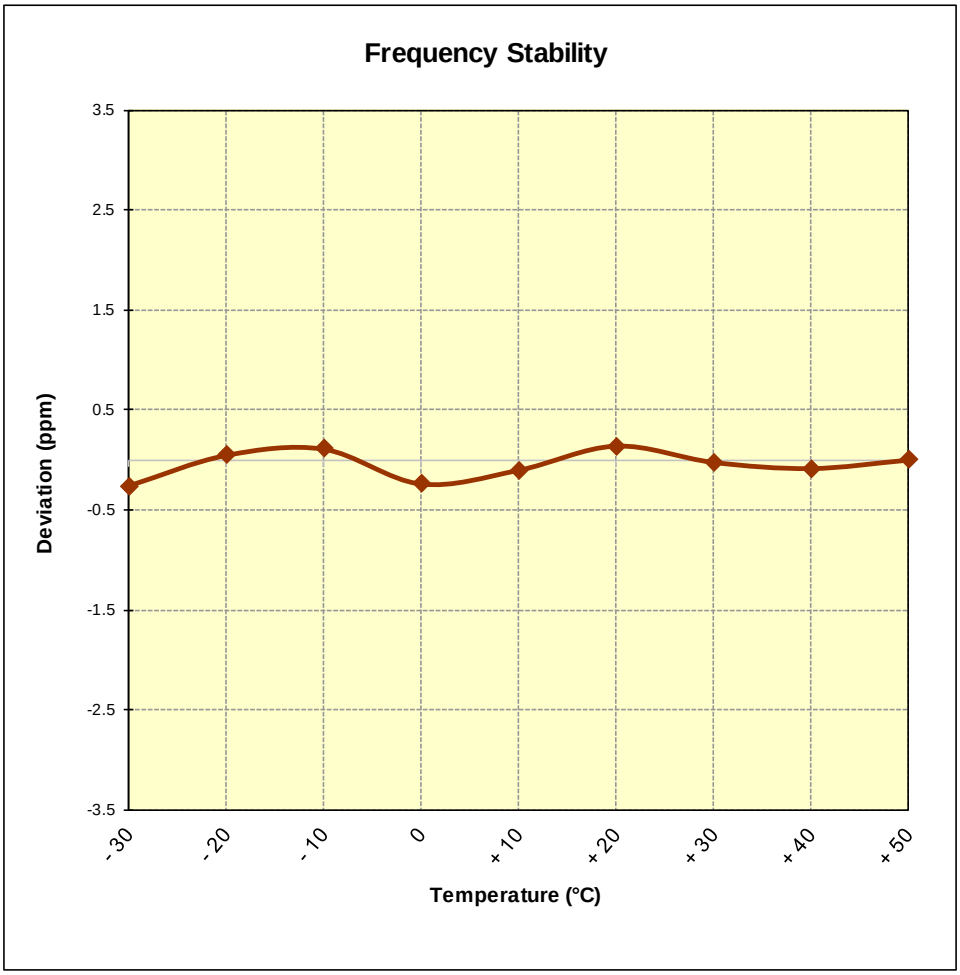


Figure 7-10. Frequency Stability Graph (Band 12/17)

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	
REFERENCE VOLTAGE:	4.36	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	781,999,903	-97	-0.0000124
100 %		- 20	781,999,891	-109	-0.0000139
100 %		- 10	781,999,650	-350	-0.0000448
100 %		0	782,000,063	63	0.0000081
100 %		+ 10	782,000,088	88	0.0000113
100 %		+ 20	781,999,935	-65	-0.0000083
100 %		+ 30	781,999,913	-87	-0.0000111
100 %		+ 40	782,000,297	297	0.0000380
100 %		+ 50	782,000,017	17	0.0000022
BATT. ENDPOINT	3.63	+ 20	782,000,187	187	0.0000239

Table 7-35. 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.

Band 13 Frequency Stability Measurements

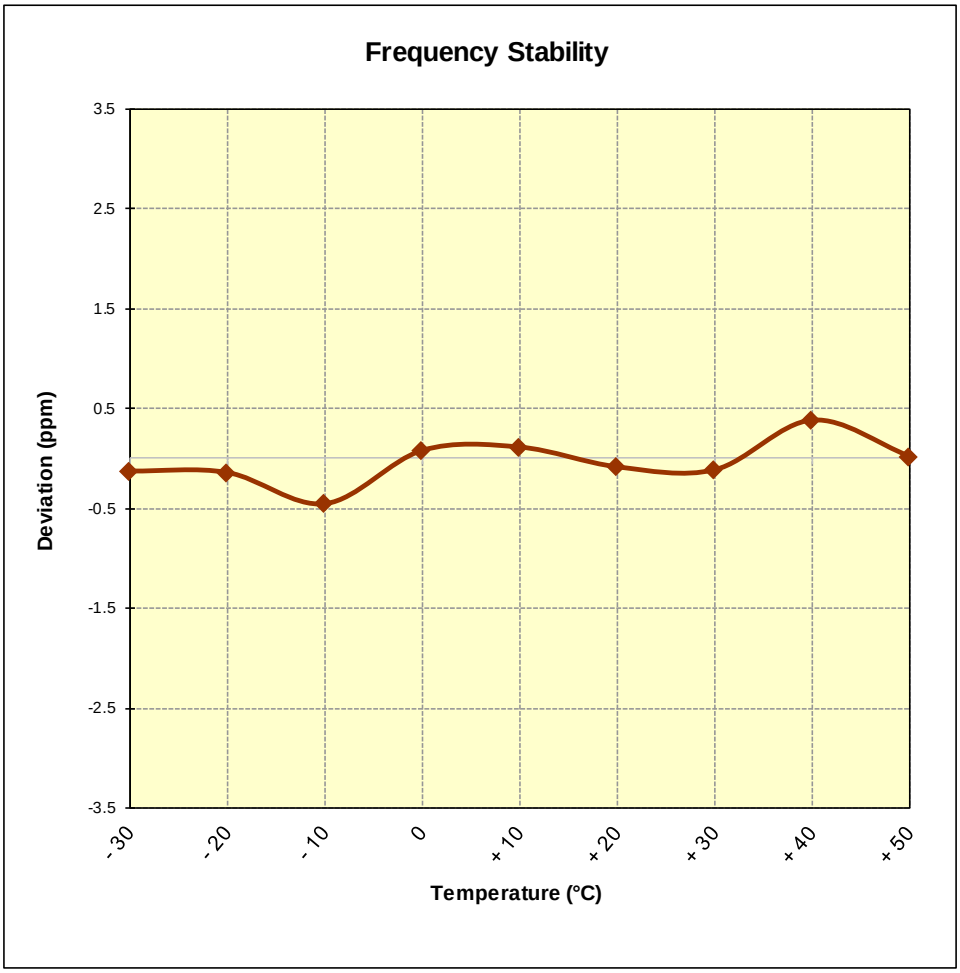


Figure 7-11. Frequency Stability Graph (Band 13)

Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY:	831,500,000	Hz
CHANNEL:	26865	
REFERENCE VOLTAGE:	4.36	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	831,499,913	-87	-0.0000105
100 %		- 20	831,500,233	233	0.0000280
100 %		- 10	831,500,066	66	0.0000079
100 %		0	831,499,819	-181	-0.0000218
100 %		+ 10	831,499,595	-405	-0.0000487
100 %		+ 20	831,499,824	-176	-0.0000212
100 %		+ 30	831,499,874	-126	-0.0000152
100 %		+ 40	831,500,129	129	0.0000155
100 %		+ 50	831,500,364	364	0.0000438
BATT. ENDPOINT	3.63	+ 20	831,500,215	215	0.0000259

Table 7-36. Frequency Stability Data (Band 26/5)

Band 26/5 Frequency Stability Measurements

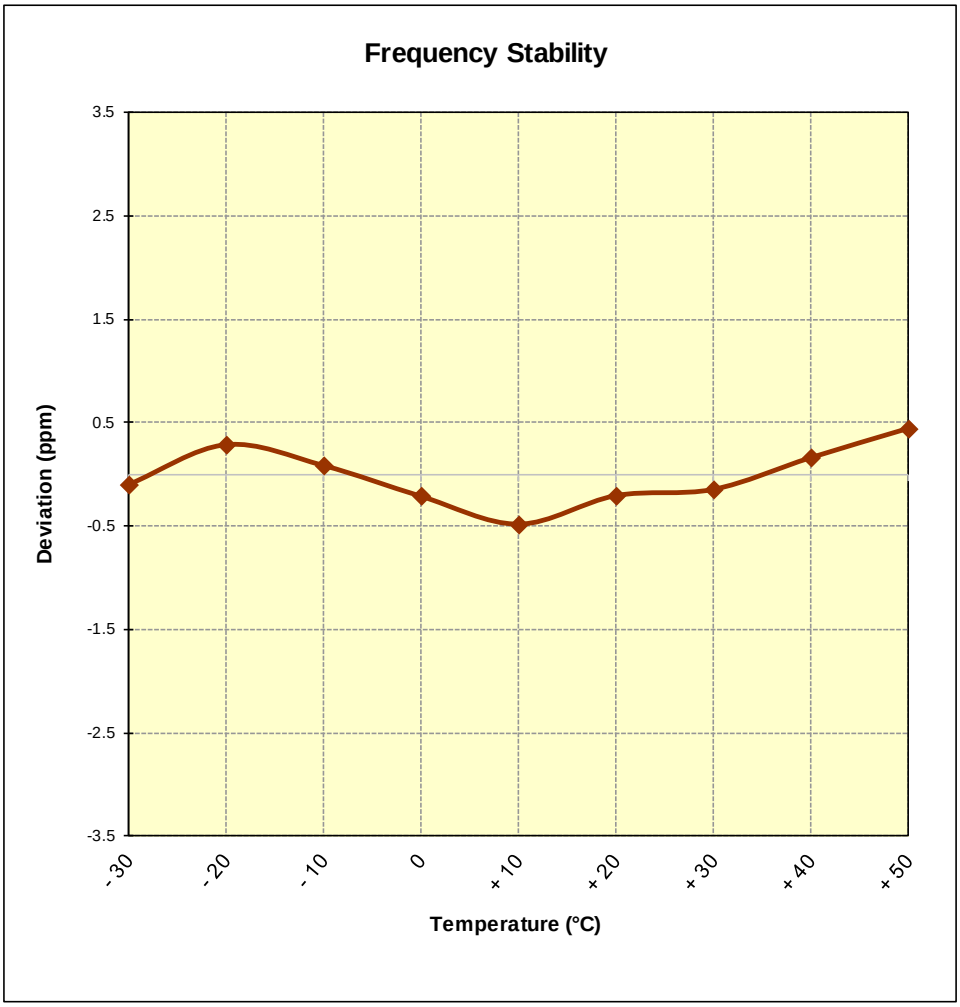


Figure 7-12. Frequency Stability Graph (Band 26/5)

Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY:	1,745,000,000	Hz
CHANNEL:	132322	
REFERENCE VOLTAGE:	4.36	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	1,744,999,761	-239	-0.0000137
100 %		- 20	1,745,000,122	122	0.0000070
100 %		- 10	1,744,999,934	-66	-0.0000038
100 %		0	1,744,999,697	-303	-0.0000174
100 %		+ 10	1,745,000,000	0	0.0000000
100 %		+ 20	1,744,999,962	-38	-0.0000022
100 %		+ 30	1,744,999,931	-69	-0.0000040
100 %		+ 40	1,744,999,953	-47	-0.0000027
100 %		+ 50	1,744,999,935	-65	-0.0000037
BATT. ENDPOINT	3.63	+ 20	1,745,000,033	33	0.0000019

Table 7-37. Frequency Stability Data (Band 66/4)

Note:

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

Band 66/4 Frequency Stability Measurements

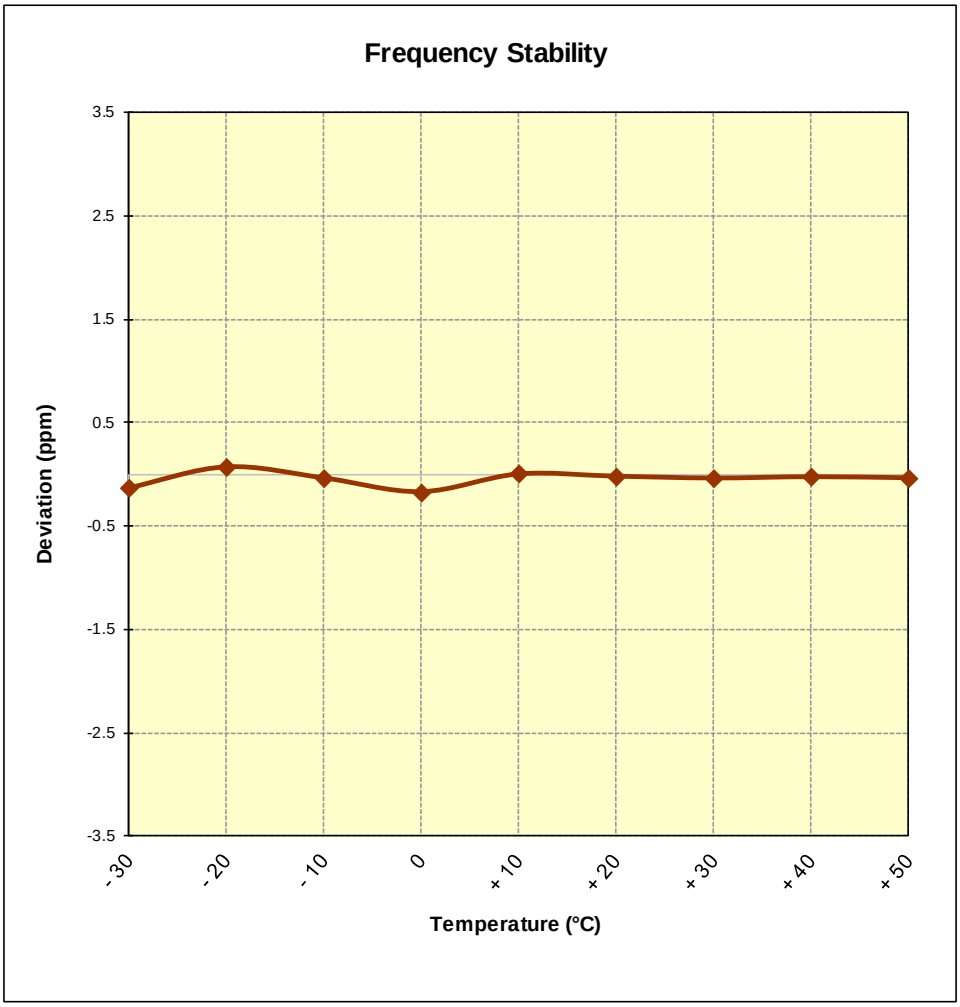


Figure 7-13. Frequency Stability Graph (Band 66/4)

Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,882,500,000	Hz
CHANNEL:	26365	
REFERENCE VOLTAGE:	4.36	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	1,882,500,299	299	0.0000159
100 %		- 20	1,882,499,674	-326	-0.0000173
100 %		- 10	1,882,500,191	191	0.0000101
100 %		0	1,882,500,449	449	0.0000239
100 %		+ 10	1,882,500,037	37	0.0000020
100 %		+ 20	1,882,499,802	-198	-0.0000105
100 %		+ 30	1,882,500,152	152	0.0000081
100 %		+ 40	1,882,500,304	304	0.0000161
100 %		+ 50	1,882,500,361	361	0.0000192
BATT. ENDPOINT	3.63	+ 20	1,882,499,964	-36	-0.0000019

Table 7-38. Frequency Stability Data (Band 25/2)

Band 25/2 Frequency Stability Measurements

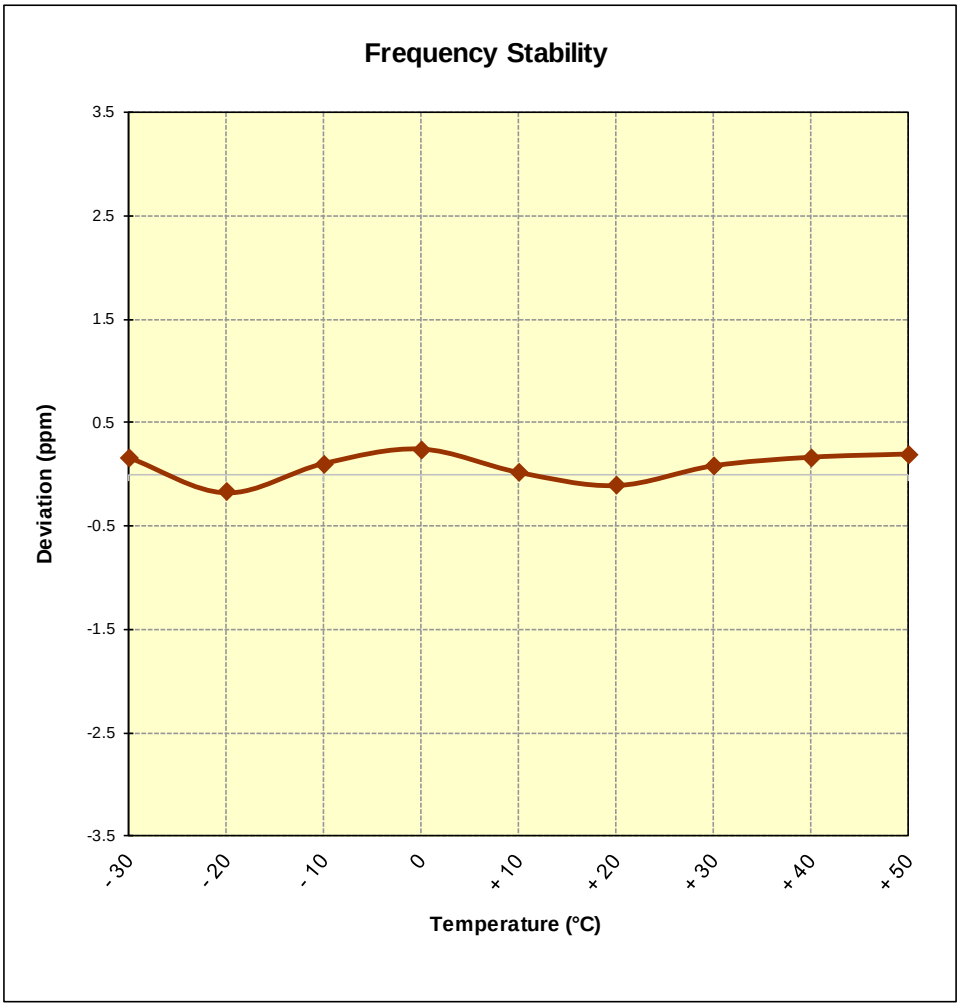


Figure 7-14. Frequency Stability Graph (Band 25)

Band 41 Frequency Stability Measurements

OPERATING FREQUENCY:	2,593,000,000	Hz
CHANNEL:	40620	
REFERENCE VOLTAGE:	4.36	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.36	- 30	2,592,999,835	-165	-0.0000064
100 %		- 20	2,593,000,203	203	0.0000078
100 %		- 10	2,593,000,180	180	0.0000069
100 %		0	2,592,999,928	-72	-0.0000028
100 %		+ 10	2,593,000,116	116	0.0000045
100 %		+ 20	2,593,000,193	193	0.0000074
100 %		+ 30	2,592,999,693	-307	-0.0000118
100 %		+ 40	2,593,000,295	295	0.0000114
100 %		+ 50	2,593,000,473	473	0.0000182
BATT. ENDPOINT	3.63	+ 20	2,592,999,902	-98	-0.0000038

Table 7-39. Frequency Stability Data (Band 41)

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 41 Frequency Stability Measurements

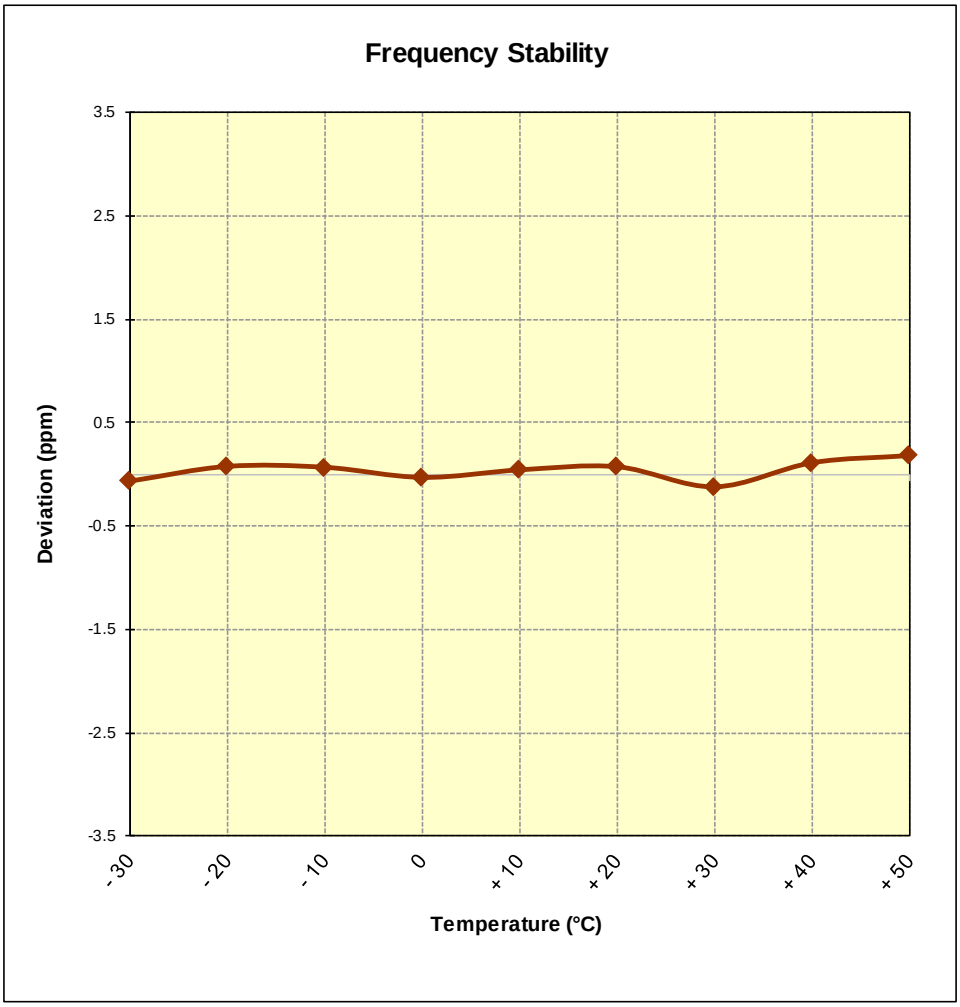


Figure 7-15. Frequency Stability Graph (Band 41)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LG Portable Handset FCC ID: ZNFX420TM** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.