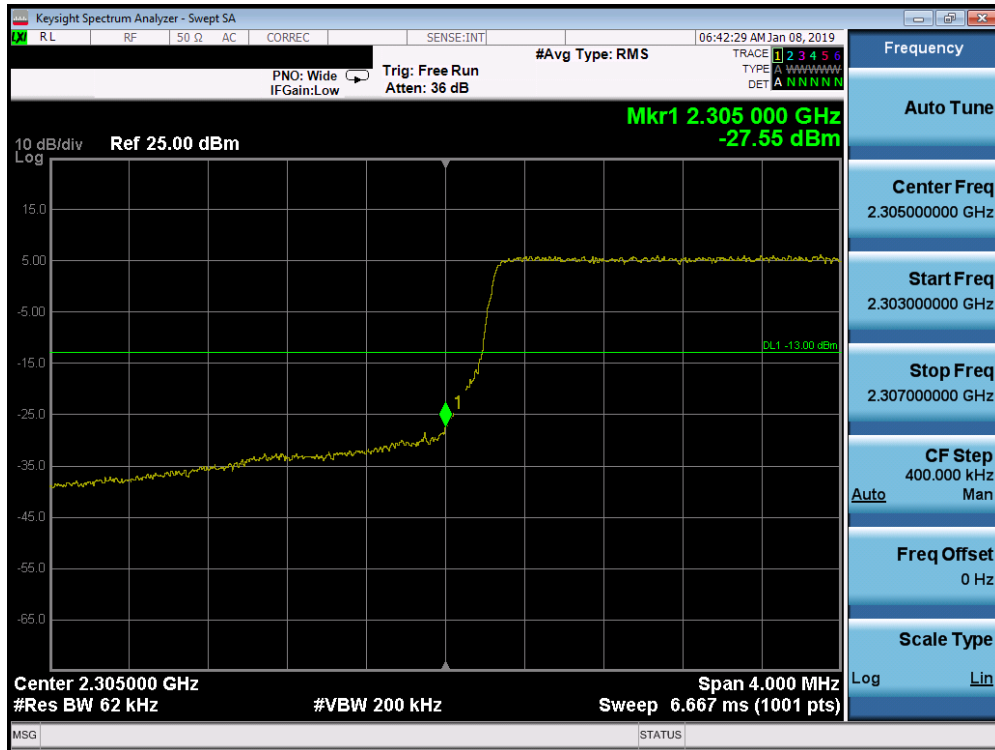
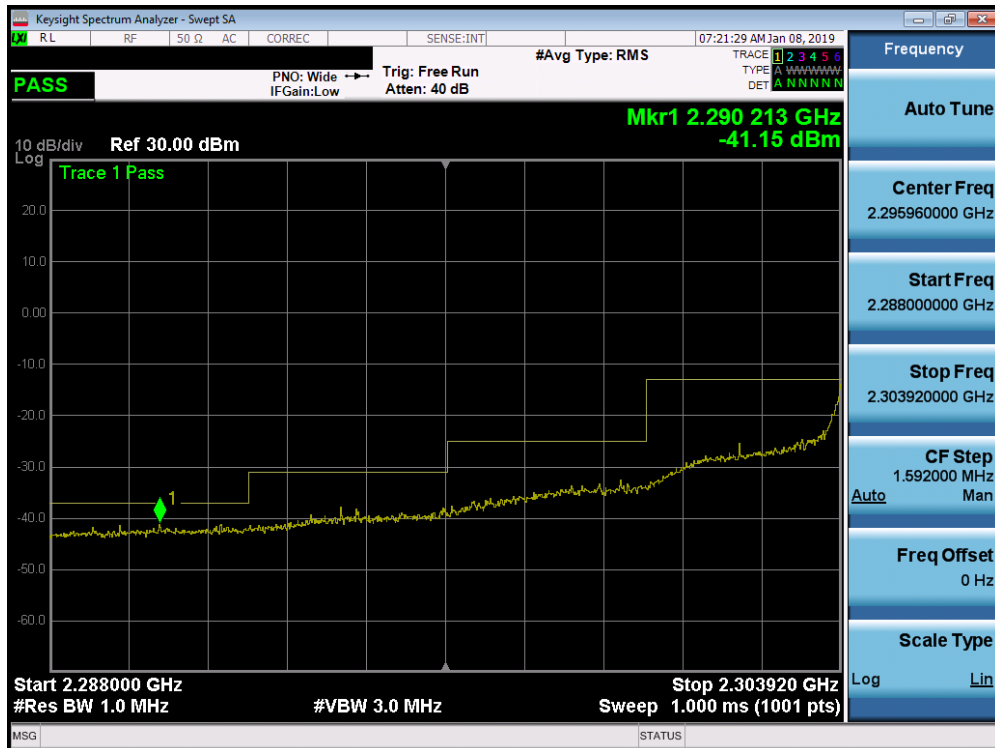


Band 30



Plot 7-326. Lower Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-327. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 192 of 363

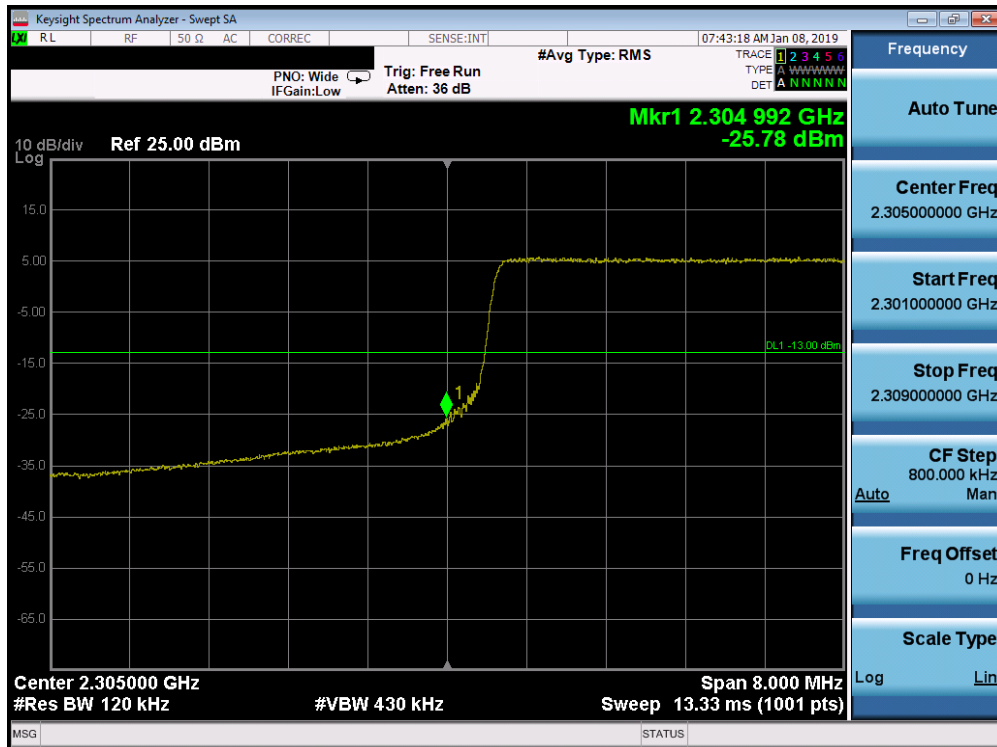


Plot 7-328. Upper Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-329. Upper Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 193 of 363

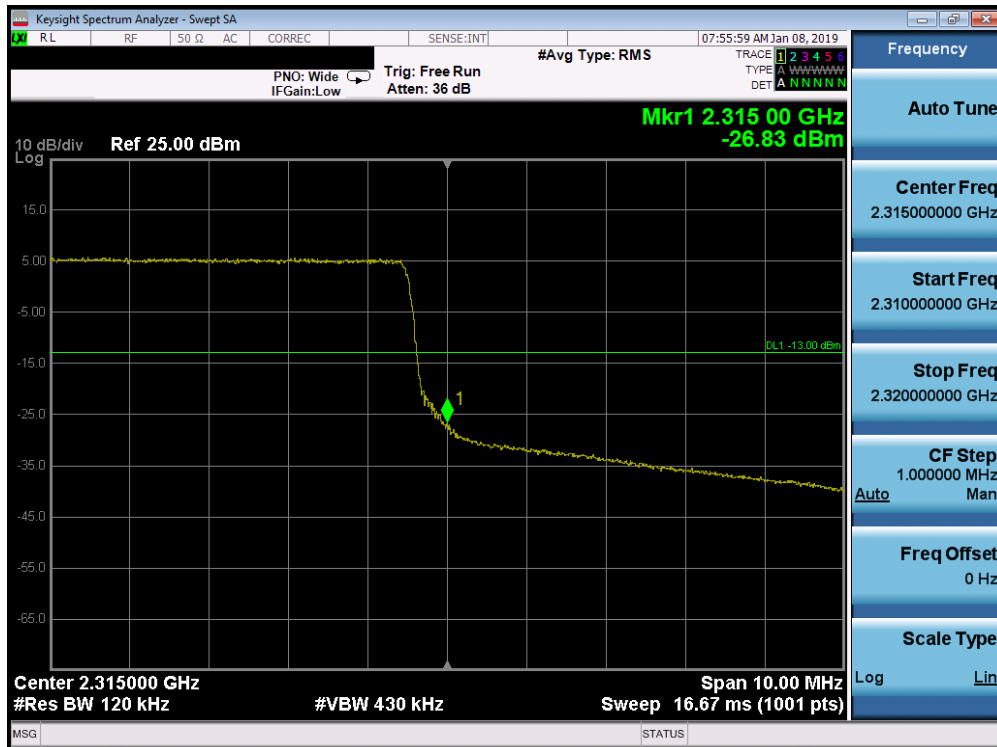


Plot 7-330. Lower Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-331. Lower Extended Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 194 of 363



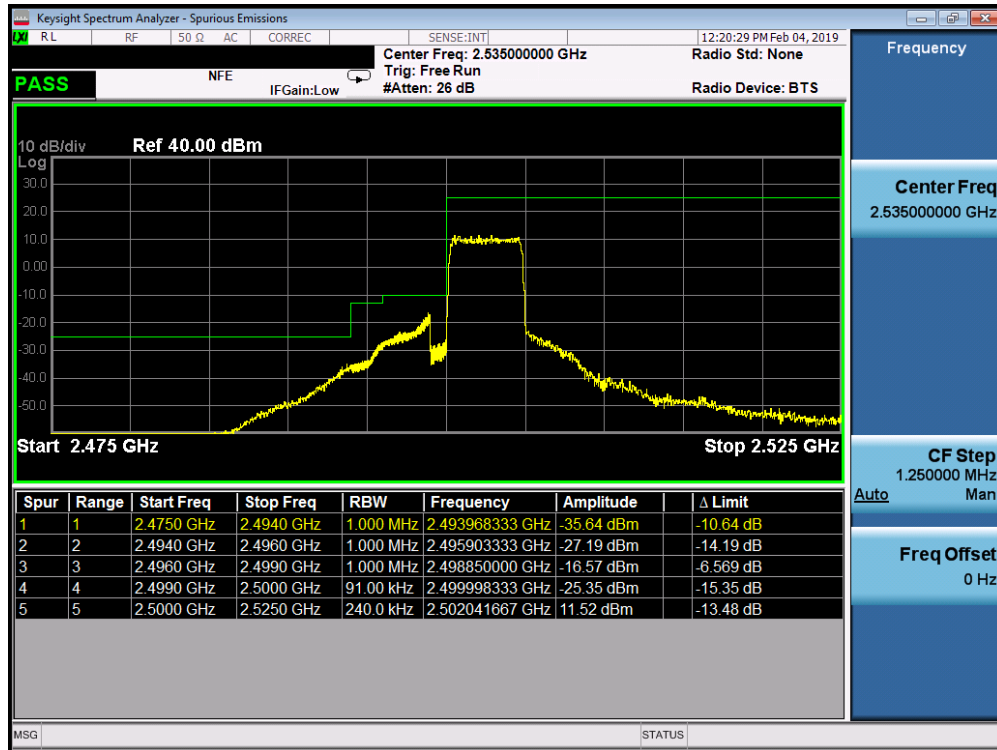
Plot 7-332. Upper Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)



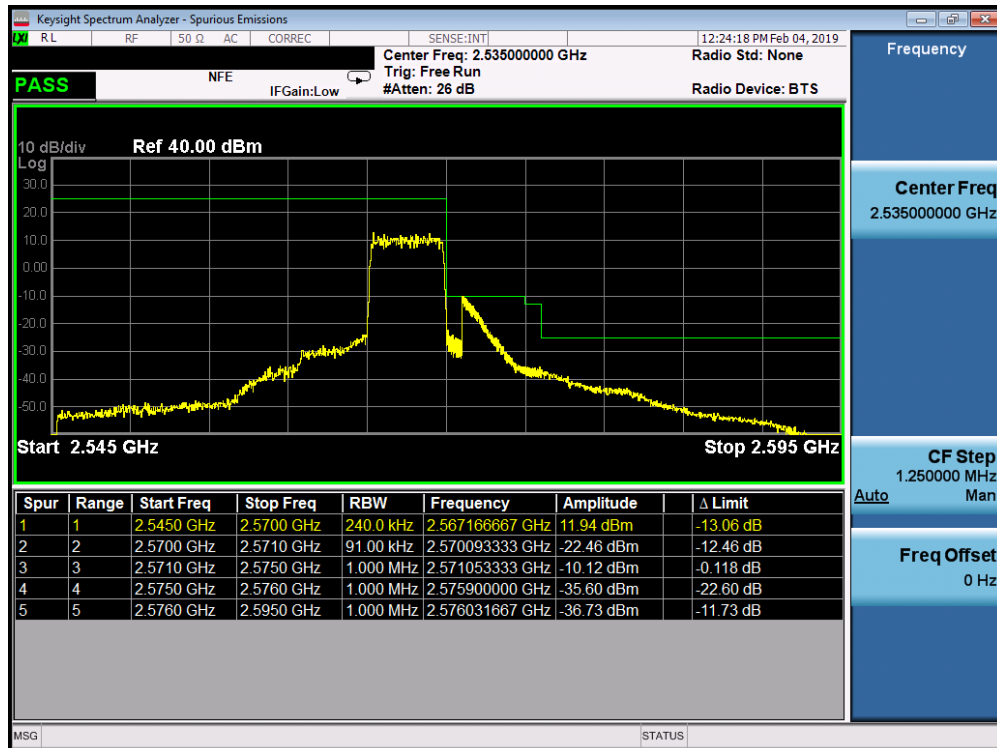
Plot 7-333. Upper Extended Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 195 of 363

Band 7

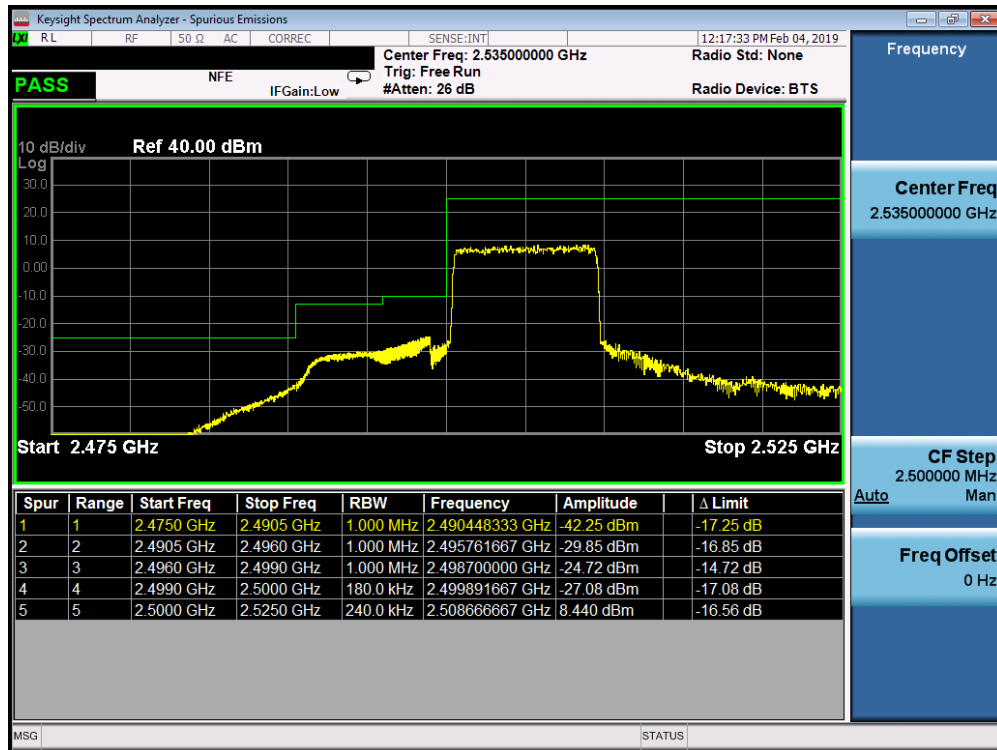


Plot 7-334. Lower ACP Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-335. Upper ACP Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 196 of 363

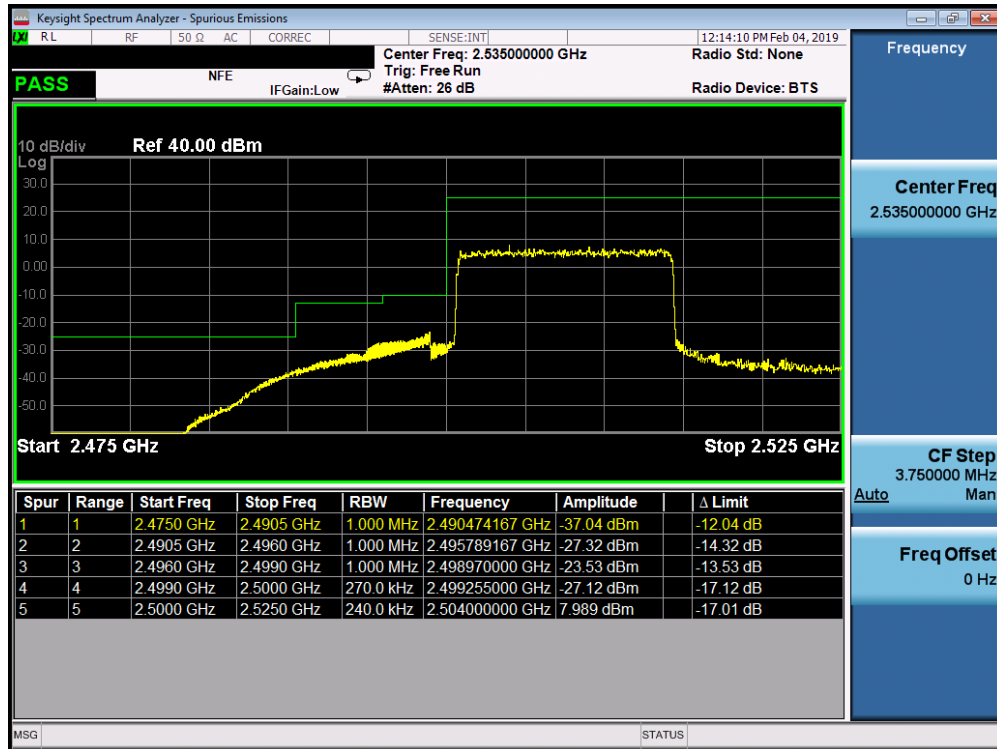


Plot 7-336. Lower ACP Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-337. Upper ACP Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	
			Page 197 of 363

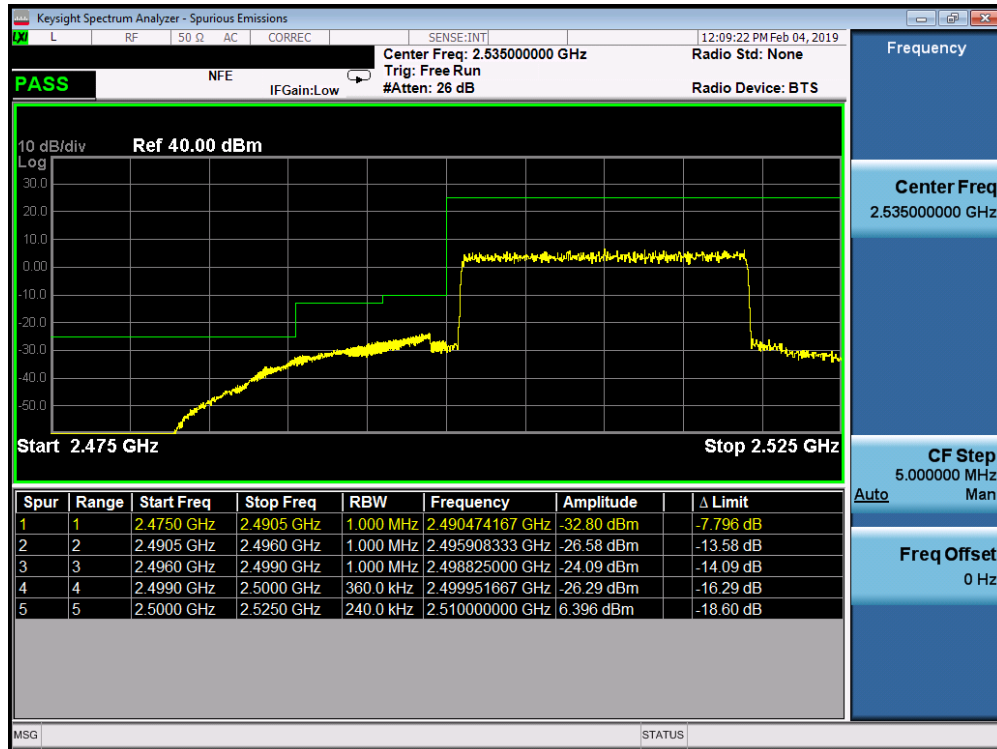


Plot 7-338. Lower ACP Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)

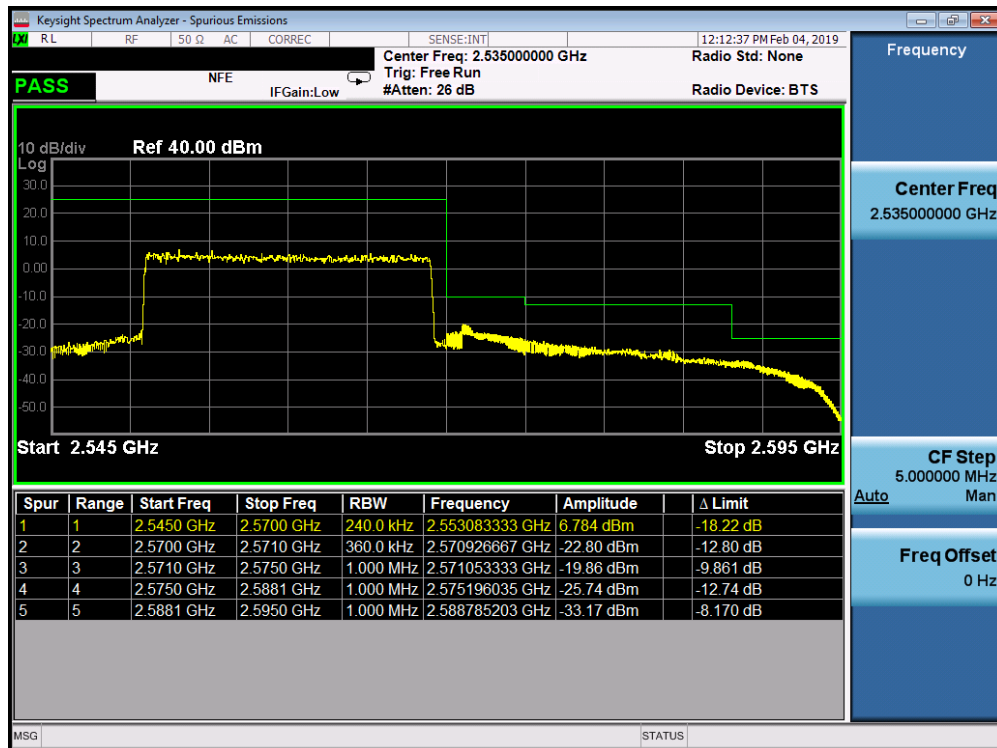


Plot 7-339. Upper ACP Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	
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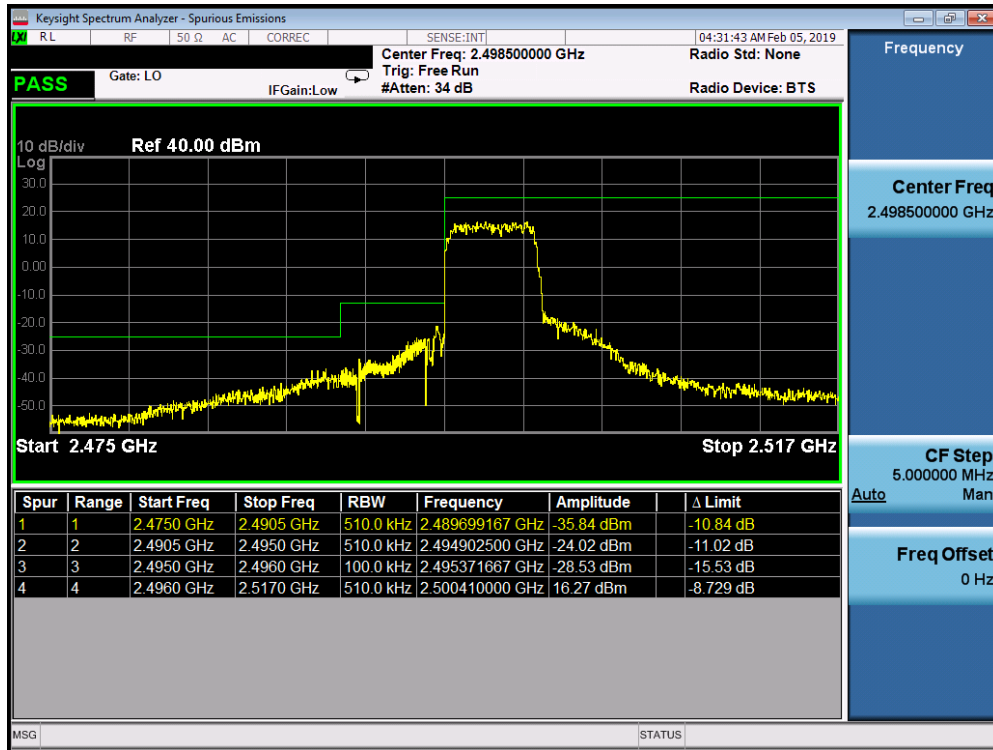
Plot 7-340. Lower ACP Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)



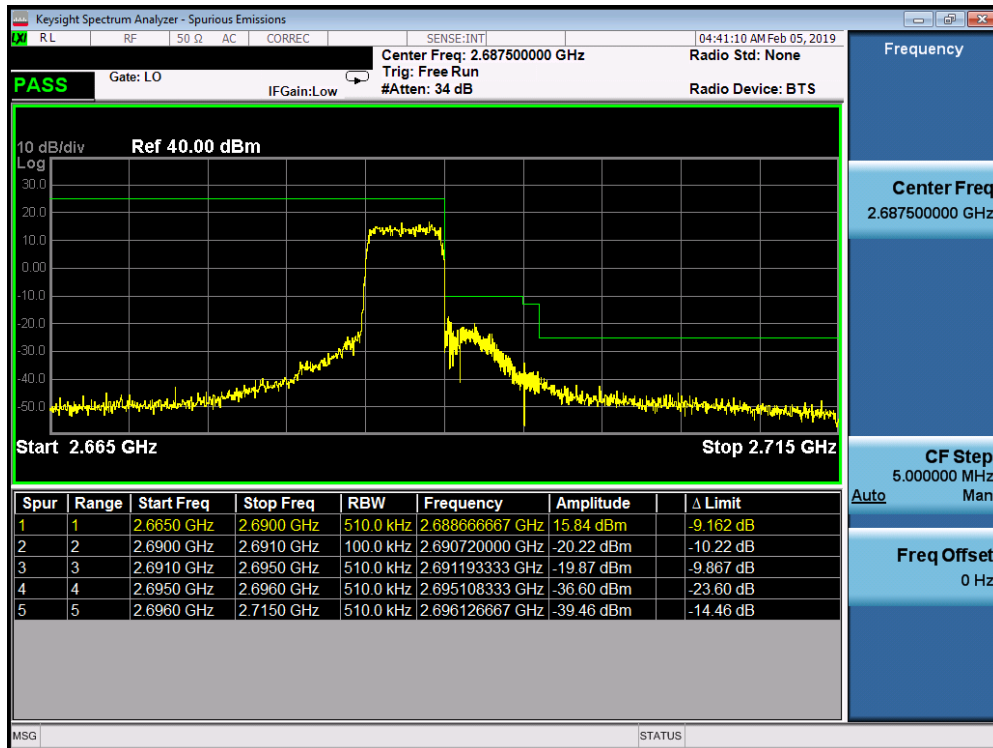
Plot 7-341. Upper ACP Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	
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Band 41

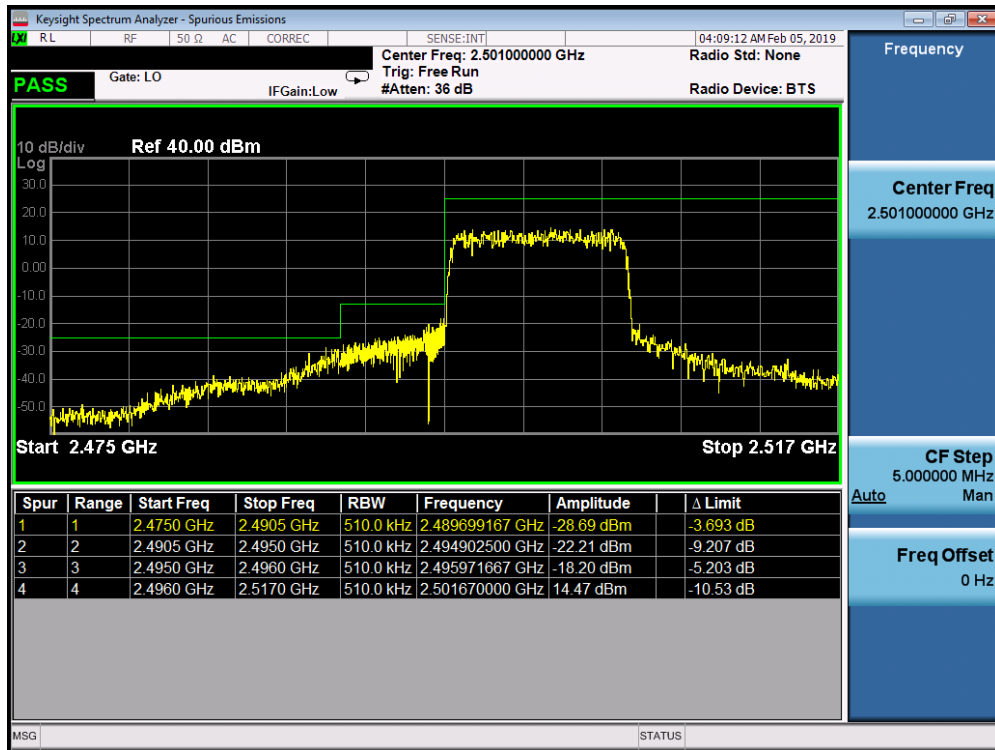


Plot 7-346. Lower ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

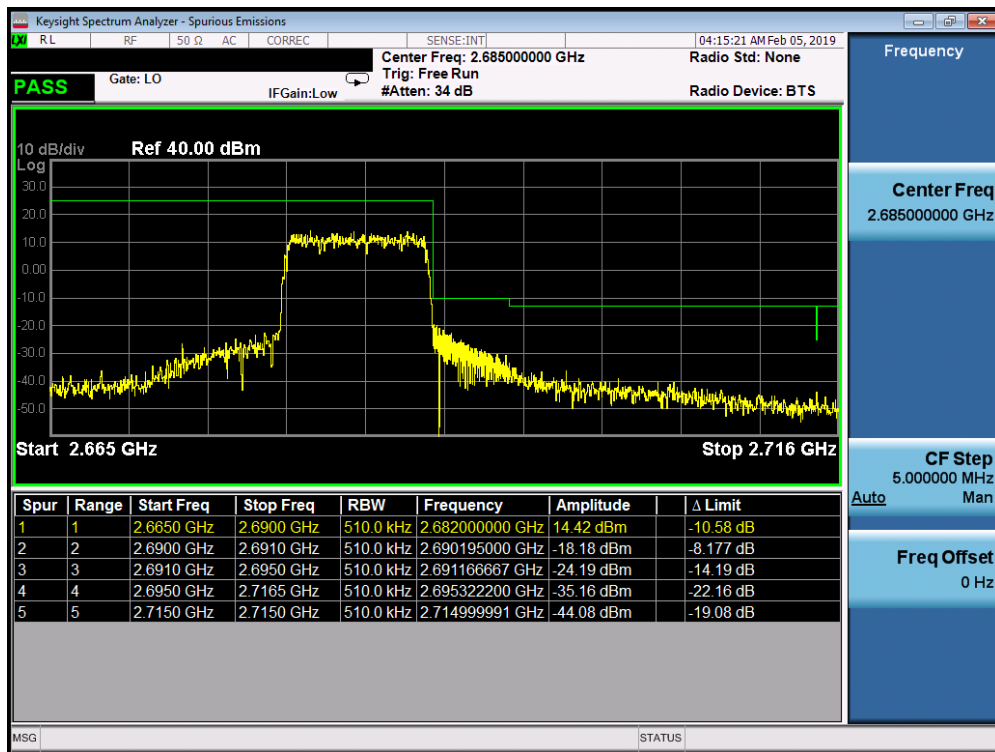


Plot 7-347. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 200 of 363

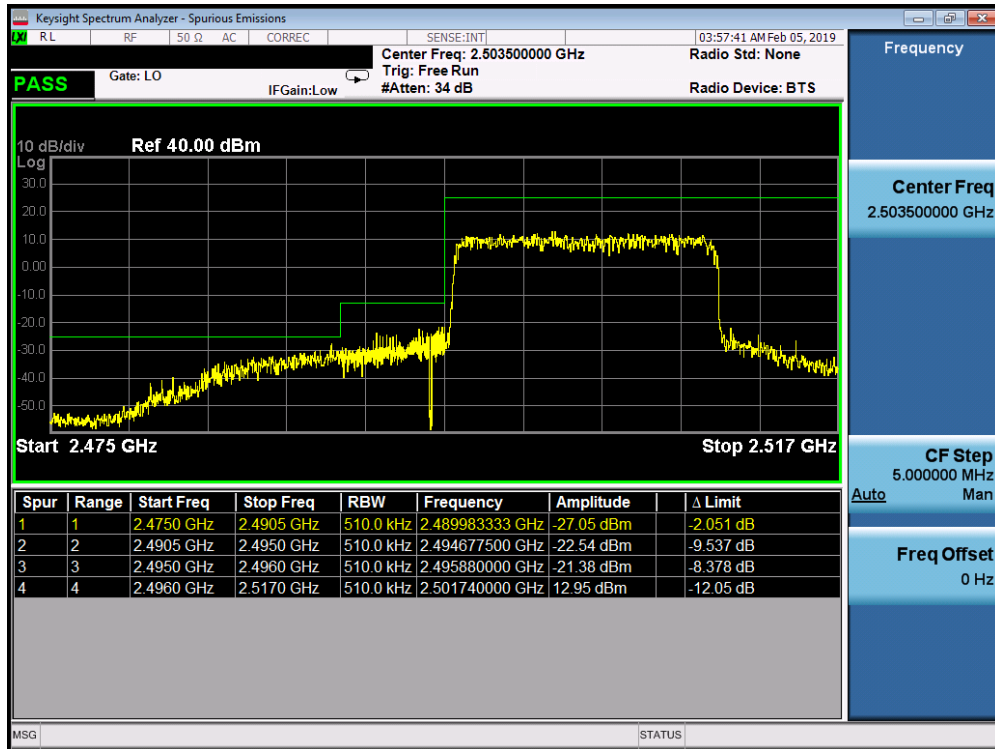


Plot 7-348. Lower ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

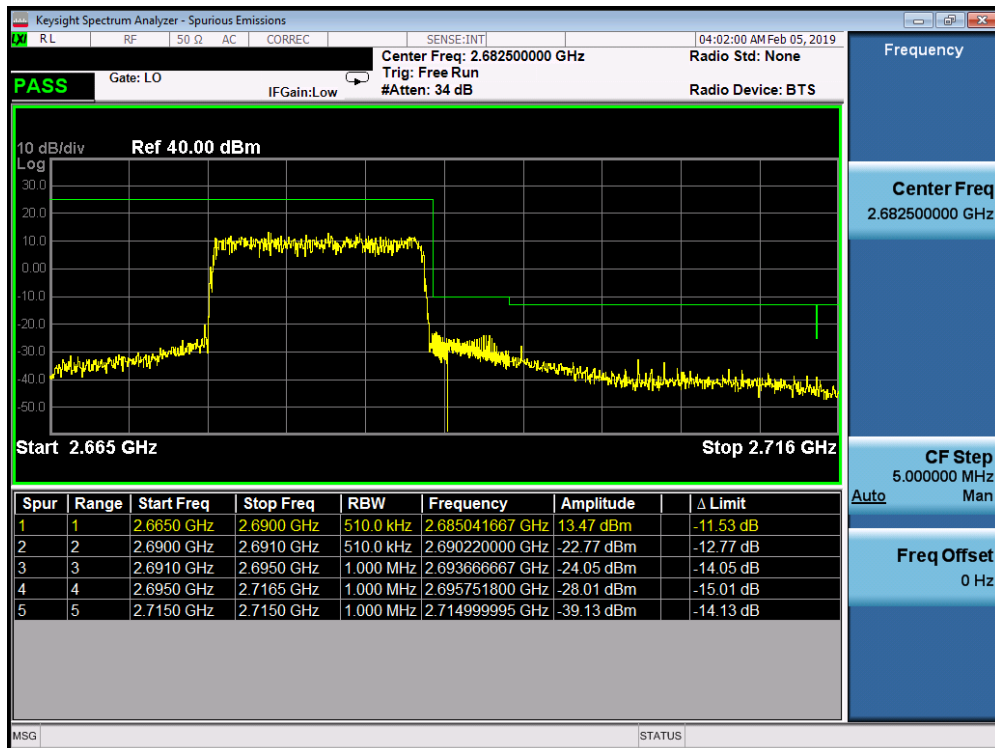


Plot 7-349. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	
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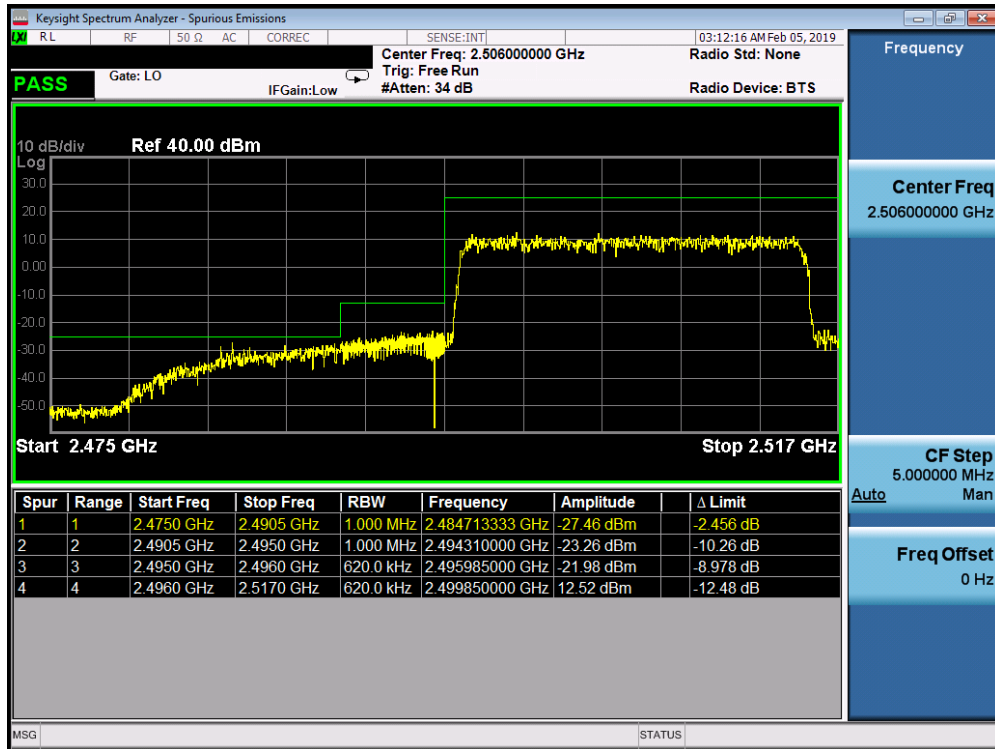


Plot 7-350. Lower ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)

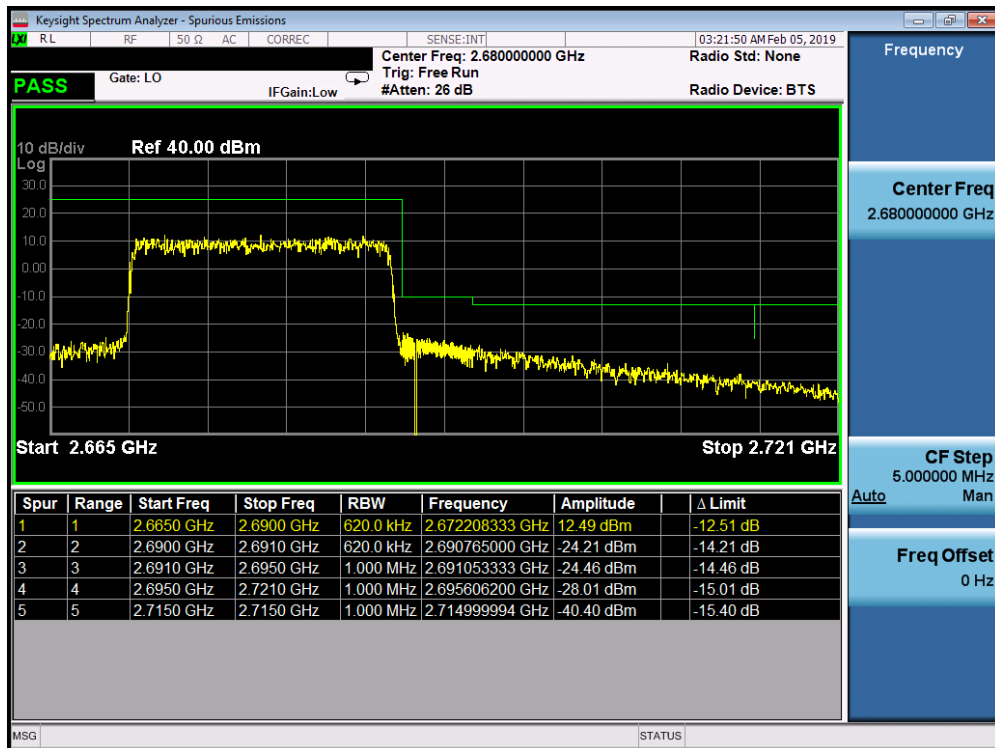


Plot 7-351. Upper ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 202 of 363



Plot 7-352. Lower ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-353. Upper ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 203 of 363

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 $\geq$ 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.

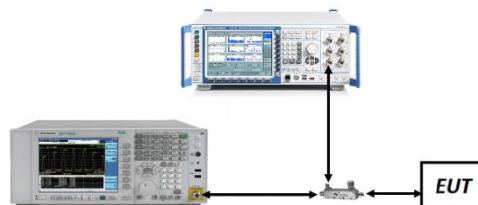


Figure 7-4. Test Instrument & Measurement Setup

Test Notes

None.

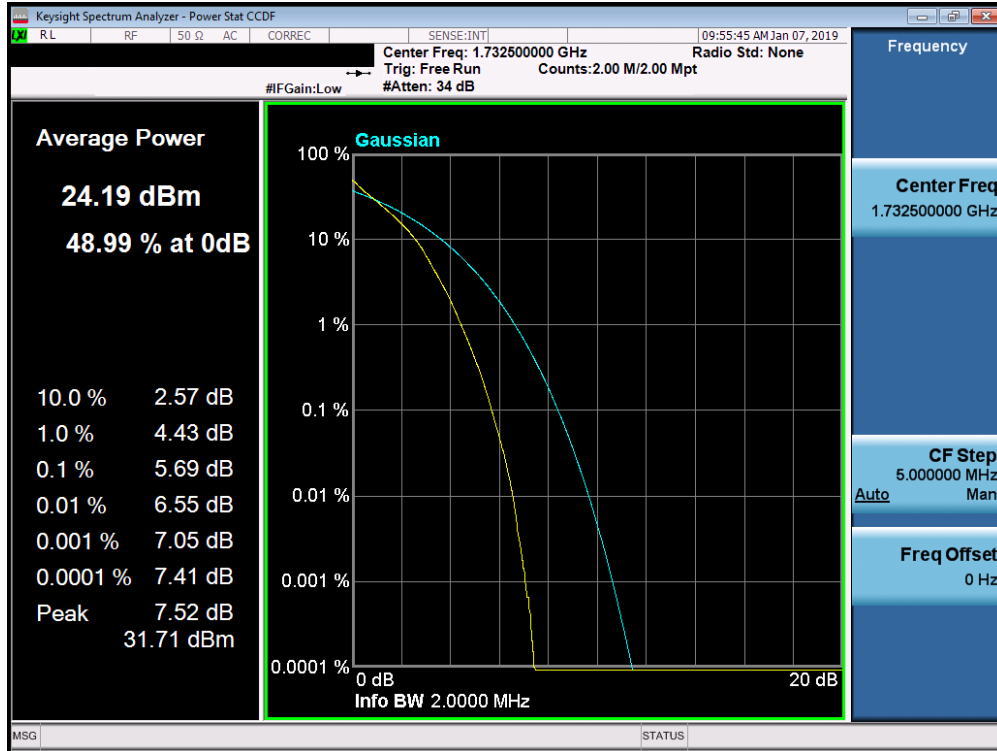
FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 204 of 363

Mode	BW (MHz)	Modulation	Average Power [dBm]	PAR at 0.1% [dB]	Limit [dB]	Margin [dB]
LTE Band 4	1.4	QPSK	24.19	5.69	13	-7.31
LTE Band 4	1.4	16QAM	23.21	6.41	13	-6.59
LTE Band 4	1.4	64QAM	22.23	6.65	13	-6.35
LTE Band 4	3	QPSK	24.20	5.74	13	-7.26
LTE Band 4	3	16QAM	23.21	6.4	13	-6.60
LTE Band 4	3	64QAM	22.18	6.62	13	-6.38
LTE Band 4	5	QPSK	24.23	5.74	13	-7.26
LTE Band 4	5	16QAM	23.23	6.42	13	-6.58
LTE Band 4	5	64QAM	22.25	6.52	13	-6.48
LTE Band 4	10	QPSK	24.16	5.71	13	-7.29
LTE Band 4	10	16QAM	23.16	6.36	13	-6.64
LTE Band 4	10	64QAM	22.11	6.56	13	-6.44
LTE Band 4	15	QPSK	24.21	5.94	13	-7.06
LTE Band 4	15	16QAM	23.14	6.40	13	-6.60
LTE Band 4	15	64QAM	22.11	6.52	13	-6.48
LTE Band 4	20	QPSK	24.22	5.58	13	-7.42
LTE Band 4	20	16QAM	23.24	6.30	13	-6.70
LTE Band 4	20	64QAM	22.13	6.51	13	-6.49
LTE Band 66	1.4	QPSK	24.10	5.64	13	-7.36
LTE Band 66	1.4	16QAM	23.10	6.39	13	-6.61
LTE Band 66	1.4	64QAM	22.12	6.57	13	-6.43
LTE Band 66	3	QPSK	24.14	5.68	13	-7.32
LTE Band 66	3	16QAM	23.07	6.42	13	-6.58
LTE Band 66	3	64QAM	22.08	6.60	13	-6.40
LTE Band 66	5	QPSK	24.20	5.66	13	-7.34
LTE Band 66	5	16QAM	23.14	6.35	13	-6.65
LTE Band 66	5	64QAM	22.10	6.57	13	-6.43
LTE Band 66	10	QPSK	24.16	5.66	13	-7.34
LTE Band 66	10	16QAM	23.10	6.36	13	-6.64
LTE Band 66	10	64QAM	22.12	6.45	13	-6.55
LTE Band 66	15	QPSK	24.09	6.02	13	-6.98
LTE Band 66	15	16QAM	23.14	6.34	13	-6.66
LTE Band 66	15	64QAM	22.06	6.52	13	-6.48
LTE Band 66	20	QPSK	24.20	5.69	13	-7.31
LTE Band 66	20	16QAM	23.18	6.35	13	-6.65
LTE Band 66	20	64QAM	22.06	6.61	13	-6.39
LTE Band 2	1.4	QPSK	24.24	5.90	13	-7.10
LTE Band 2	1.4	16QAM	23.30	6.64	13	-6.36
LTE Band 2	1.4	64QAM	22.27	6.88	13	-6.12
LTE Band 2	3	QPSK	24.22	5.83	13	-7.17
LTE Band 2	3	16QAM	23.24	6.60	13	-6.40
LTE Band 2	3	64QAM	22.24	6.82	13	-6.18
LTE Band 2	5	QPSK	24.25	5.85	13	-7.15
LTE Band 2	5	16QAM	23.31	6.56	13	-6.44
LTE Band 2	5	64QAM	22.27	6.78	13	-6.22
LTE Band 2	10	QPSK	24.33	5.87	13	-7.13
LTE Band 2	10	16QAM	23.24	6.62	13	-6.38
LTE Band 2	10	64QAM	22.28	6.82	13	-6.18
LTE Band 2	15	QPSK	24.30	6.16	13	-6.84
LTE Band 2	15	16QAM	23.39	6.57	13	-6.43
LTE Band 2	15	64QAM	22.35	6.76	13	-6.24
LTE Band 2	20	QPSK	24.49	5.67	13	-7.33
LTE Band 2	20	16QAM	23.36	6.57	13	-6.43
LTE Band 2	20	64QAM	22.41	6.71	13	-6.29
LTE Band 25	1.4	QPSK	24.25	5.93	13	-7.07
LTE Band 25	1.4	16QAM	23.33	6.66	13	-6.34
LTE Band 25	1.4	64QAM	22.35	6.86	13	-6.14
LTE Band 25	3	QPSK	24.29	5.82	13	-7.18
LTE Band 25	3	16QAM	23.29	6.57	13	-6.43
LTE Band 25	3	64QAM	22.30	6.84	13	-6.16
LTE Band 25	5	QPSK	24.34	5.85	13	-7.15
LTE Band 25	5	16QAM	23.34	6.57	13	-6.43
LTE Band 25	5	64QAM	22.34	6.78	13	-6.22
LTE Band 25	10	QPSK	24.32	5.86	13	-7.14
LTE Band 25	10	16QAM	23.31	6.65	13	-6.35
LTE Band 25	10	64QAM	22.31	6.83	13	-6.17
LTE Band 25	15	QPSK	24.32	6.15	13	-6.85
LTE Band 25	15	16QAM	23.39	6.60	13	-6.40
LTE Band 25	15	64QAM	22.36	6.77	13	-6.23
LTE Band 25	20	QPSK	24.33	5.81	13	-7.19
LTE Band 25	20	16QAM	23.40	6.52	13	-6.48
LTE Band 25	20	64QAM	22.40	6.75	13	-6.25

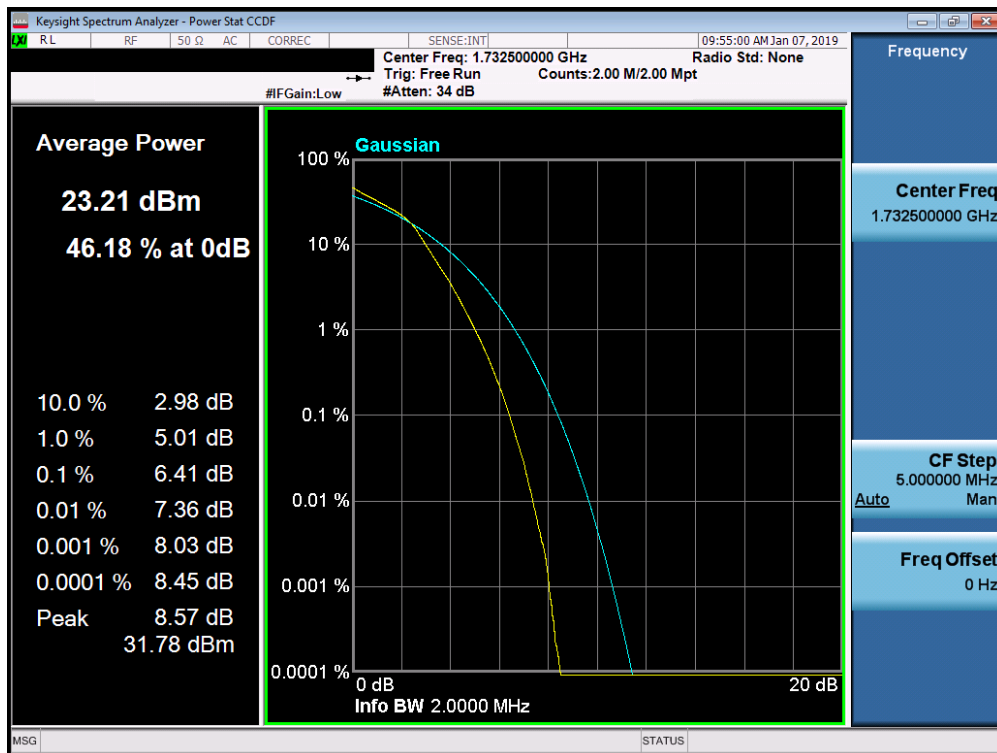
Table 7-6. PAR Table

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 205 of 363

Band 4

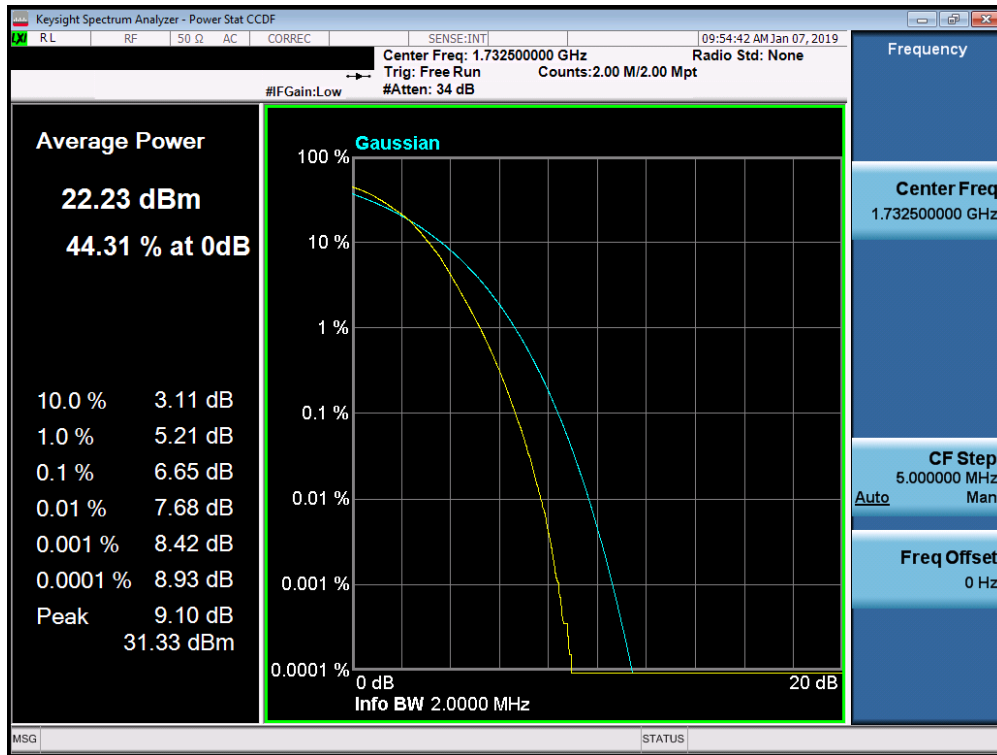


Plot 7-342. PAR Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

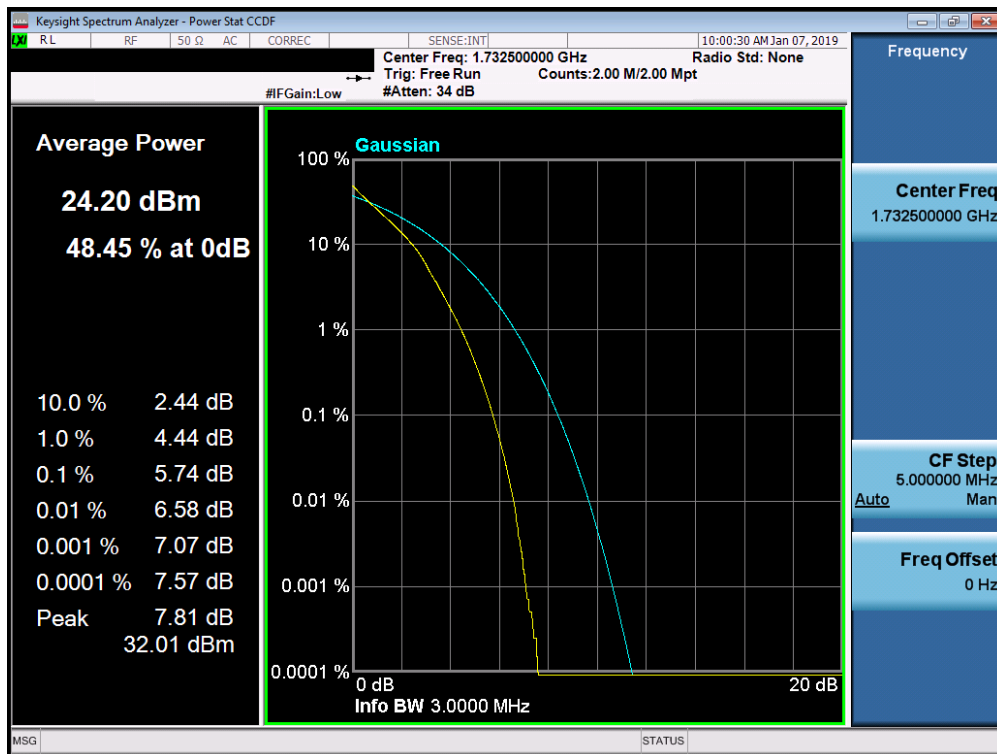


Plot 7-343. PAR Plot (Band 4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 206 of 363

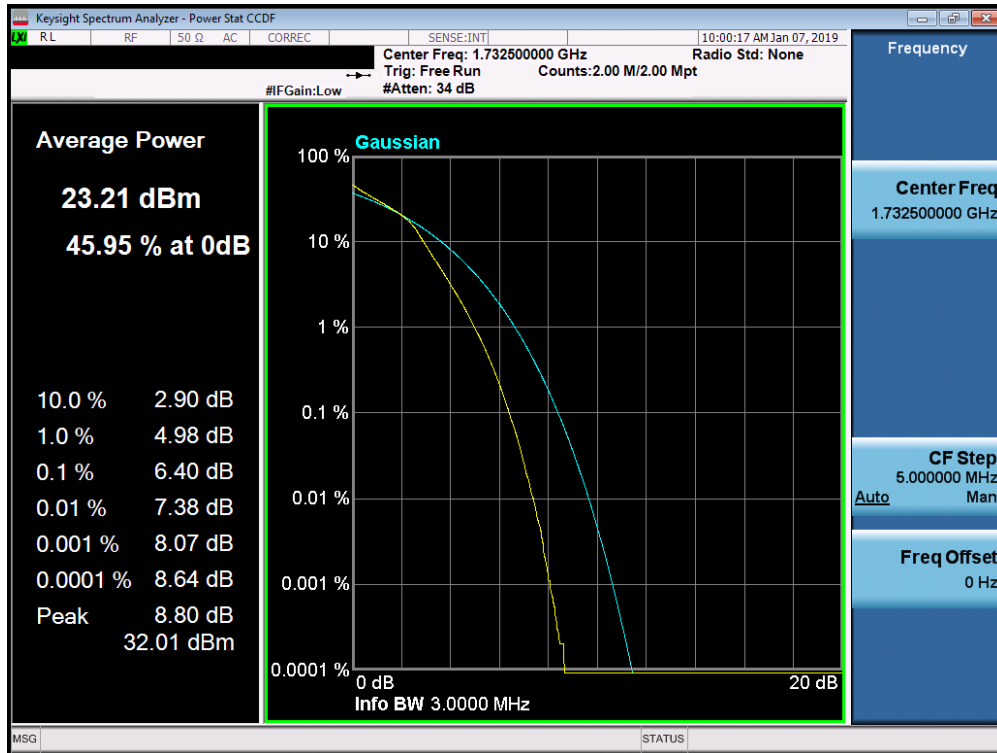


Plot 7-344. PAR Plot (Band 4 - 1.4MHz 64-QAM - Full RB Configuration)

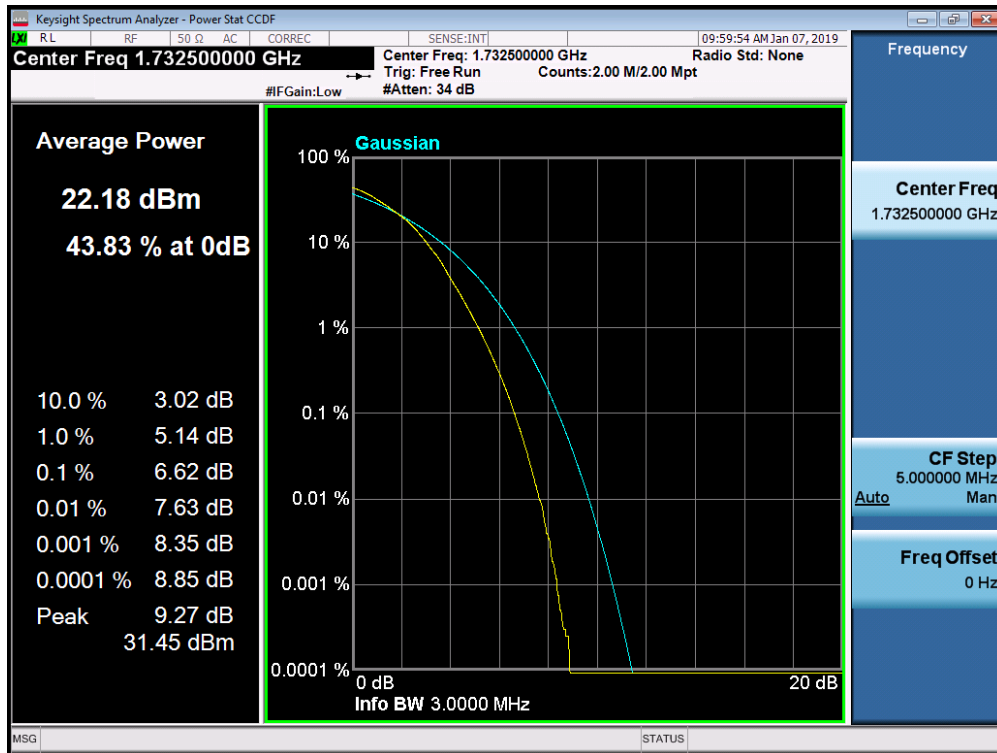


Plot 7-345. PAR Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 207 of 363

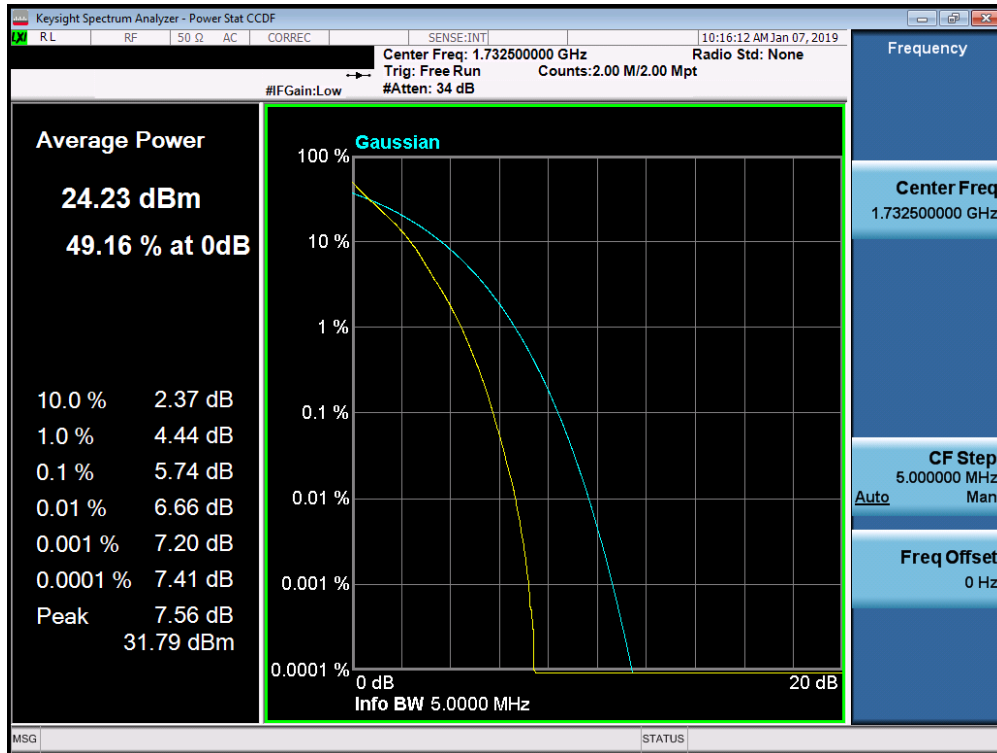


Plot 7-346. PAR Plot (Band 4 - 3.0MHz 16-QAM - Full RB Configuration)

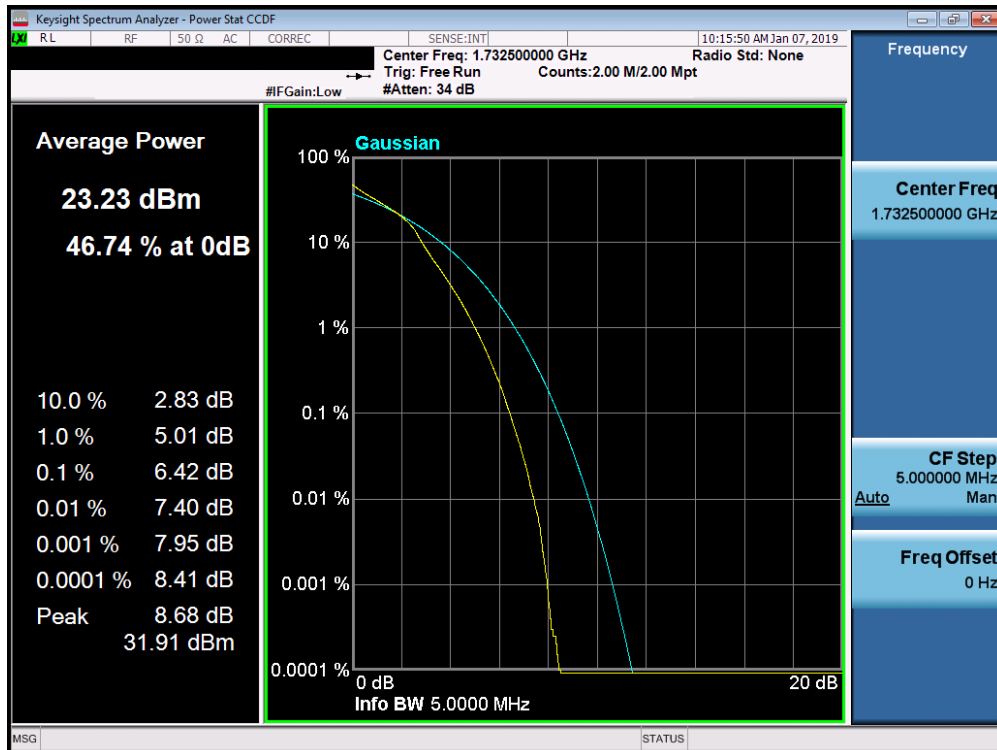


Plot 7-347. PAR Plot (Band 4 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 208 of 363

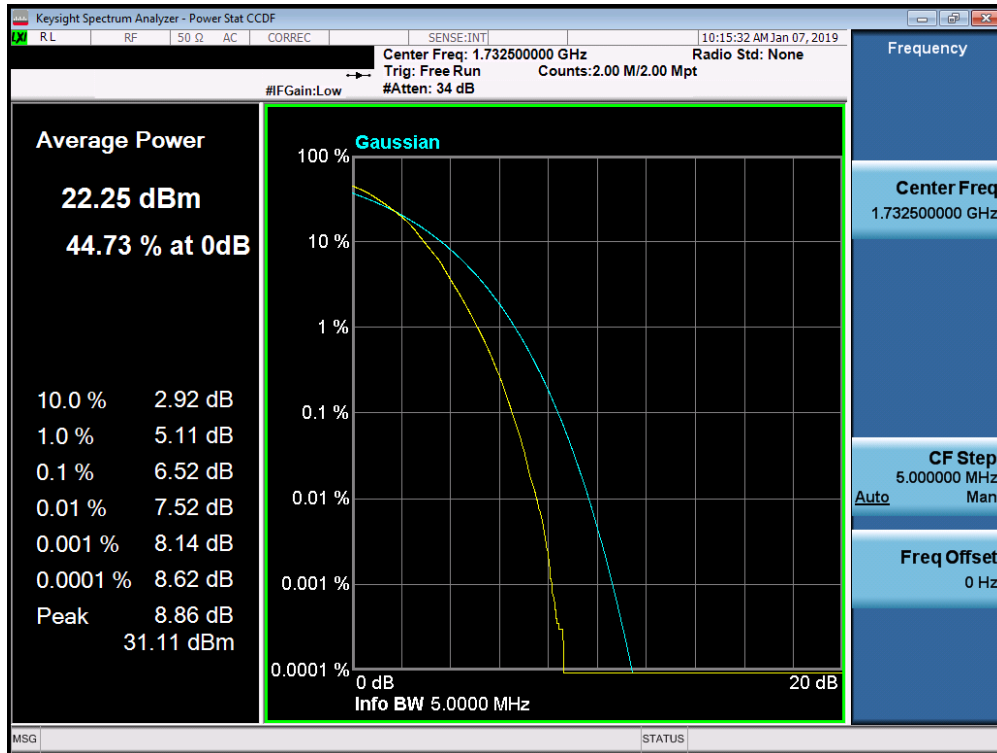


Plot 7-348. PAR Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

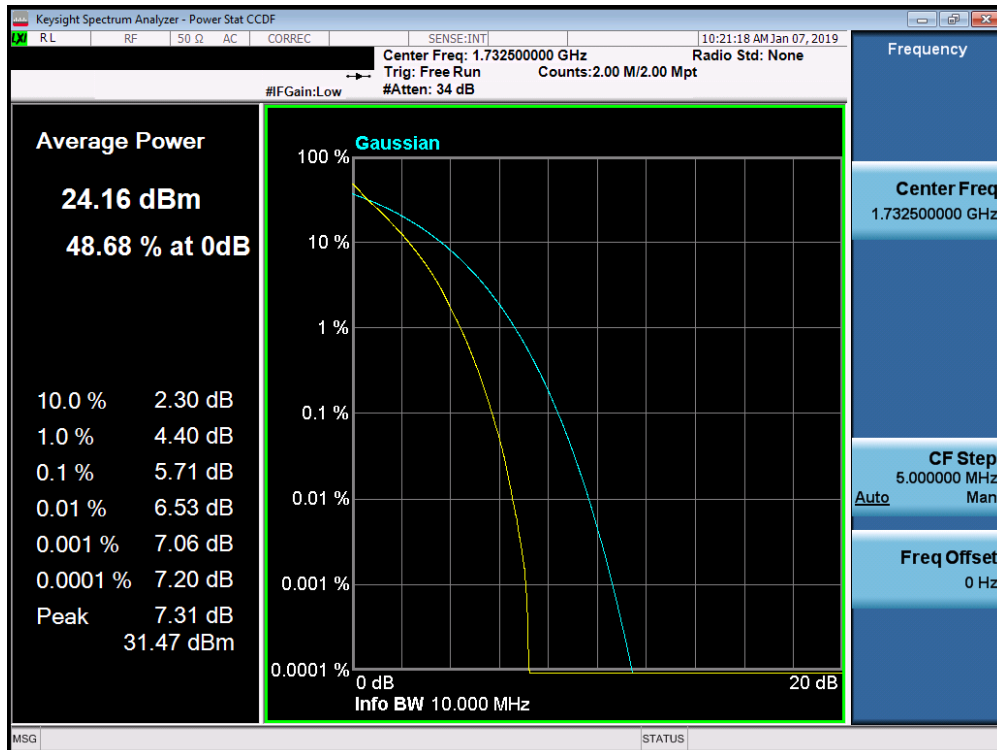


Plot 7-349. PAR Plot (Band 4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 209 of 363

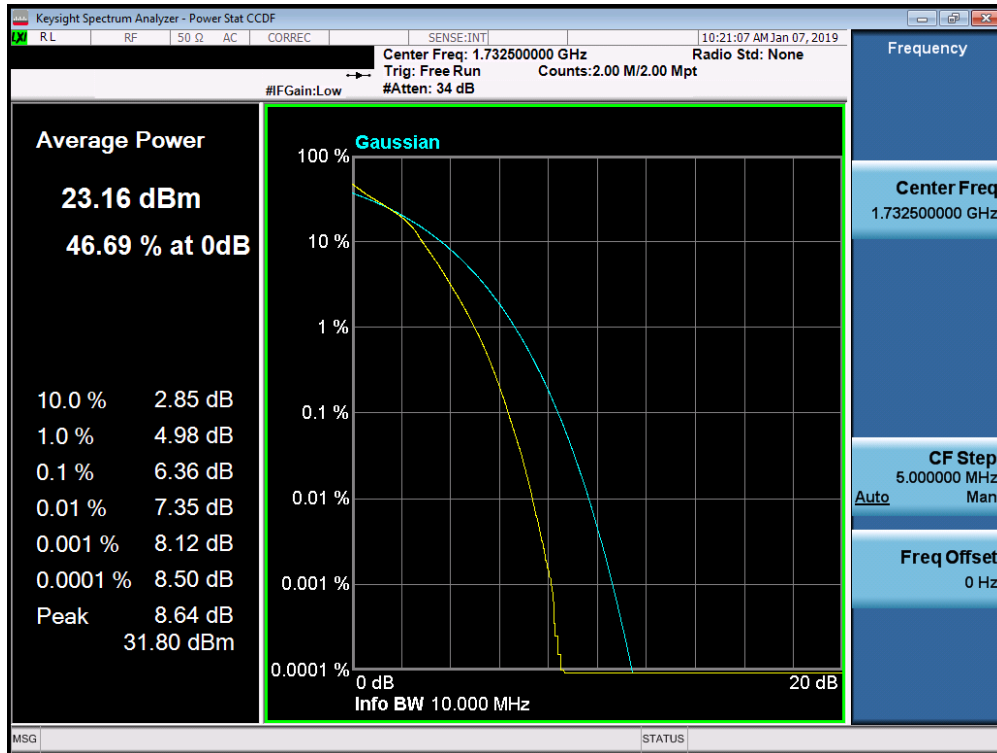


Plot 7-350. PAR Plot (Band 4 - 5.0MHz 64-QAM - Full RB Configuration)

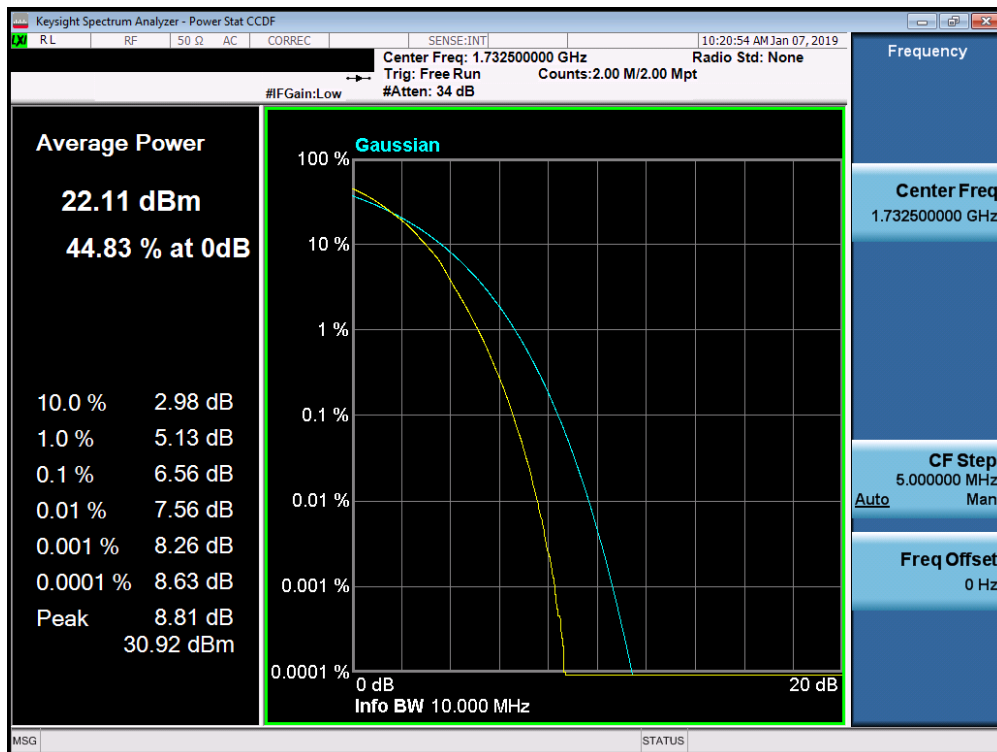


Plot 7-351. PAR Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 210 of 363

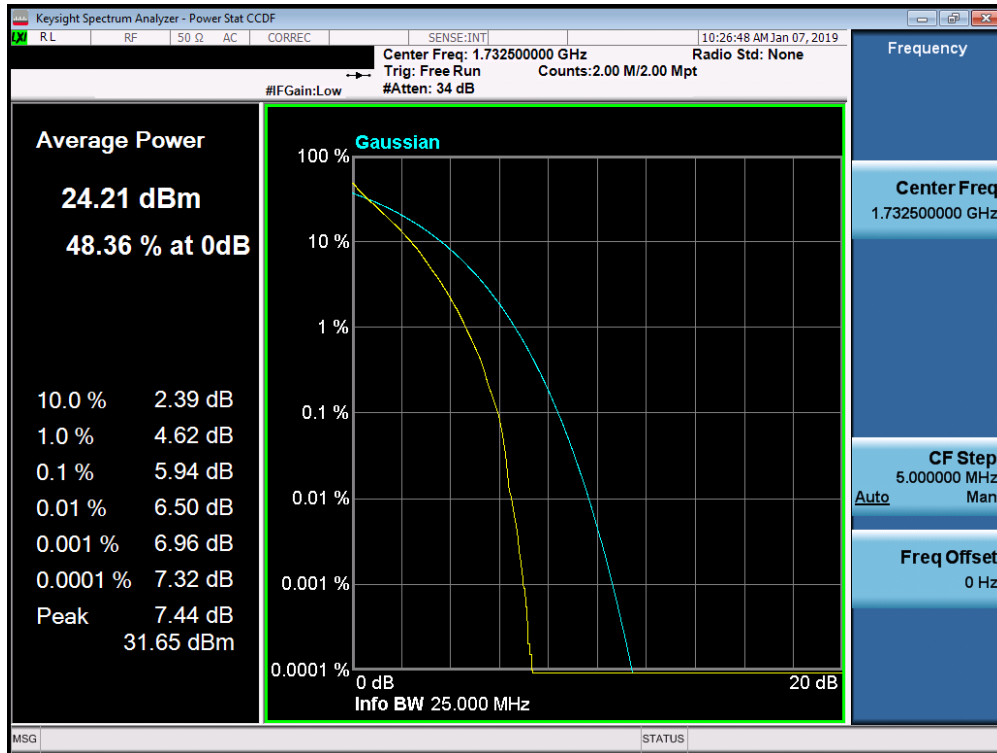


Plot 7-352. PAR Plot (Band 4 - 10.0MHz 16-QAM - Full RB Configuration)

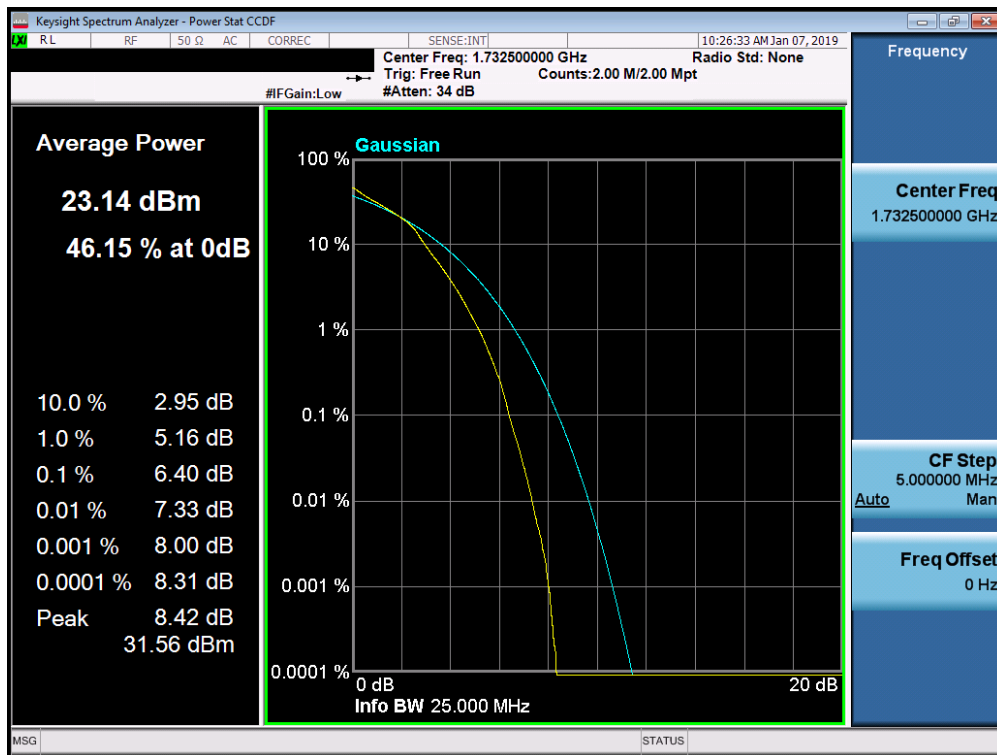


Plot 7-353. PAR Plot (Band 4 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 211 of 363

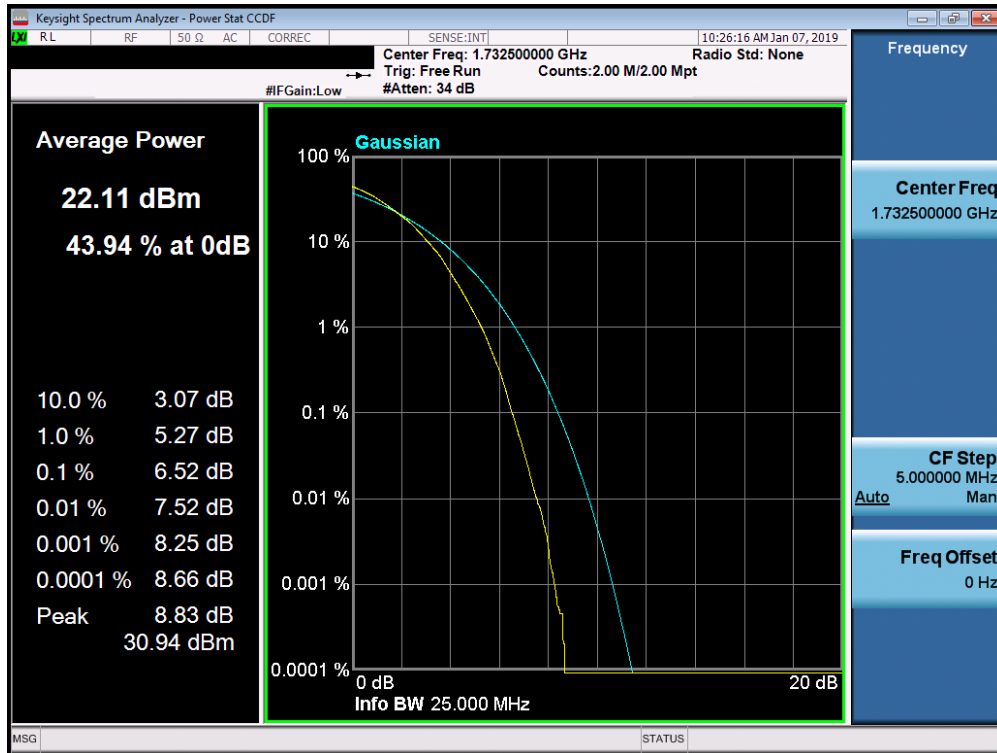


Plot 7-354. PAR Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

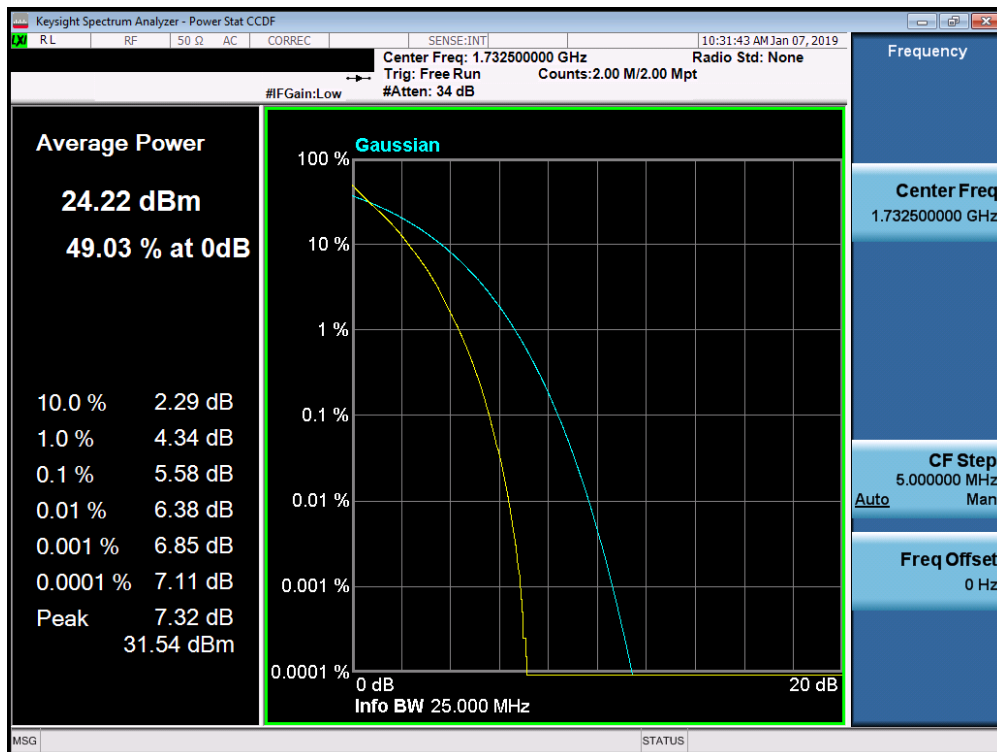


Plot 7-355. PAR Plot (Band 4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 212 of 363

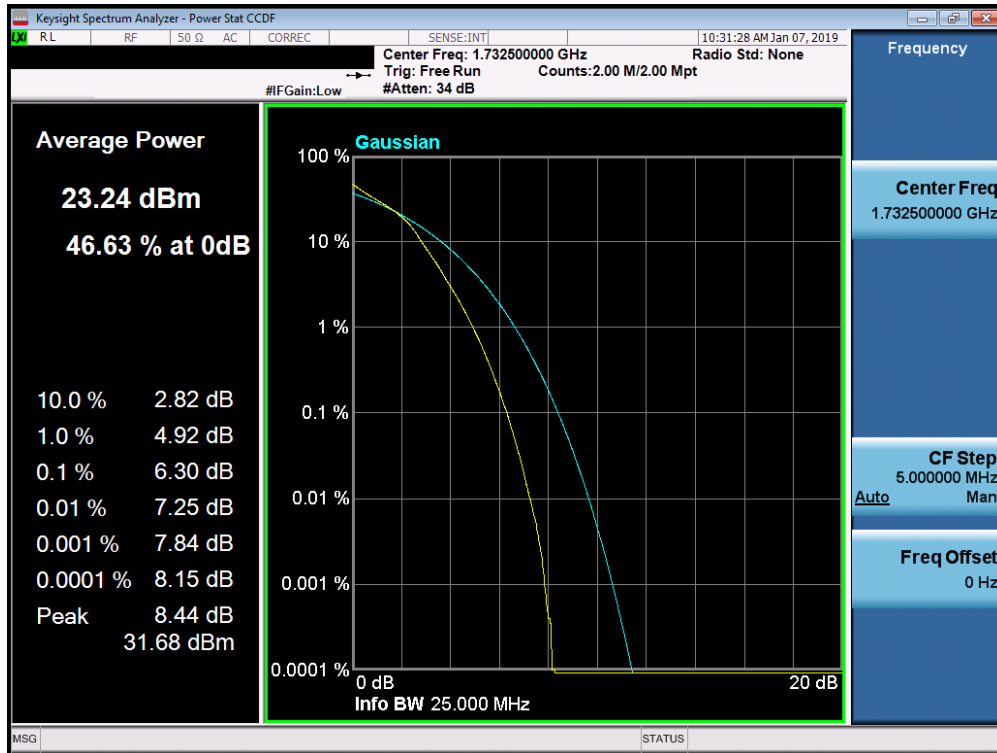


Plot 7-356. PAR Plot (Band 4 - 15.0MHz 64-QAM - Full RB Configuration)

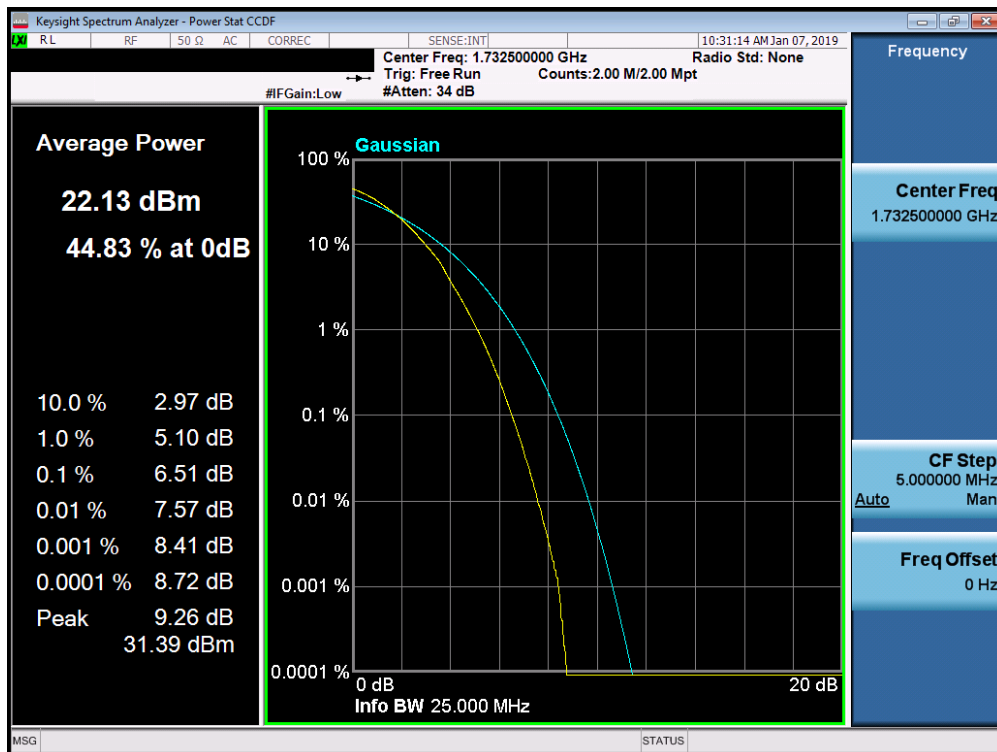


Plot 7-357. PAR Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 213 of 363



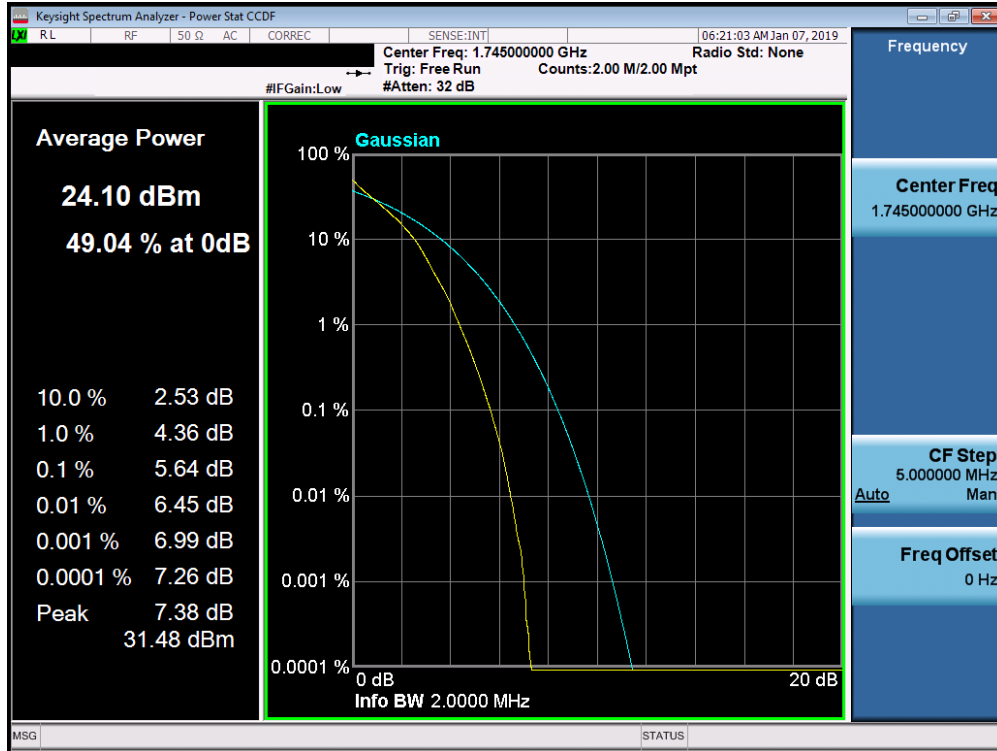
Plot 7-358. PAR Plot (Band 4 - 20.0MHz 16-QAM - Full RB Configuration)



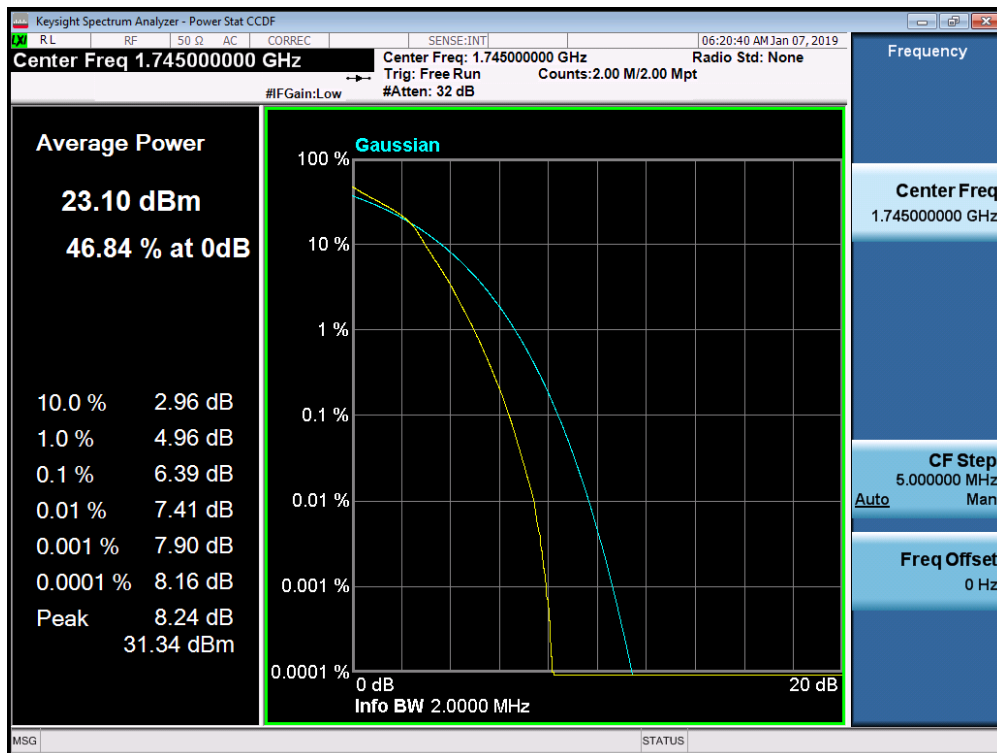
Plot 7-359. PAR Plot (Band 4 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 214 of 363

Band 66

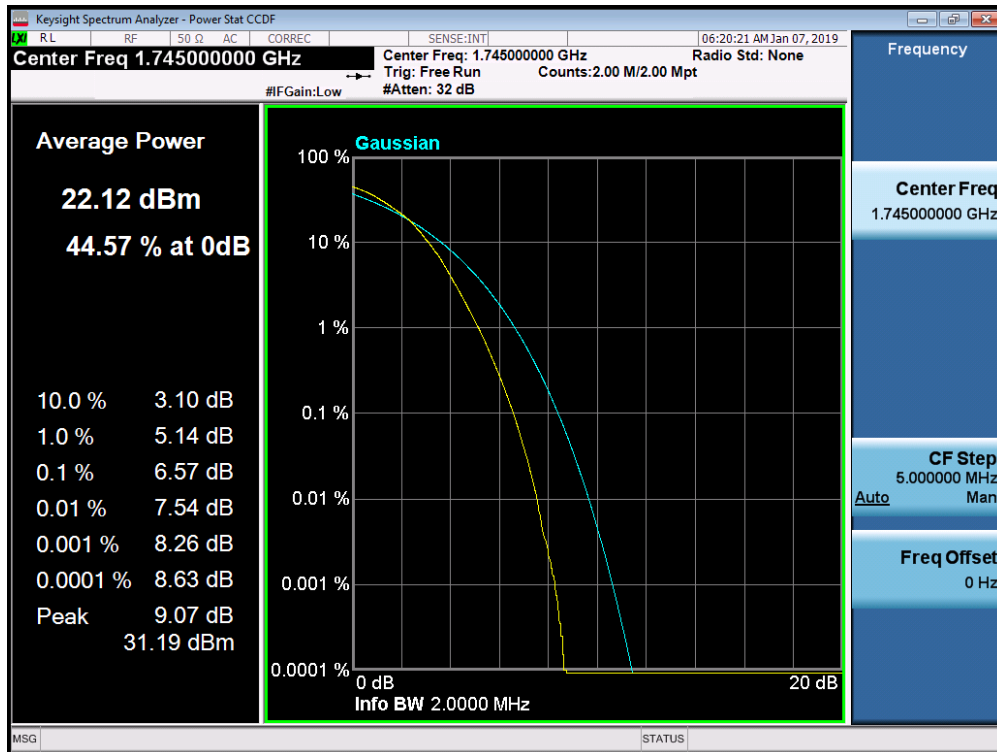


Plot 7-360. PAR Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

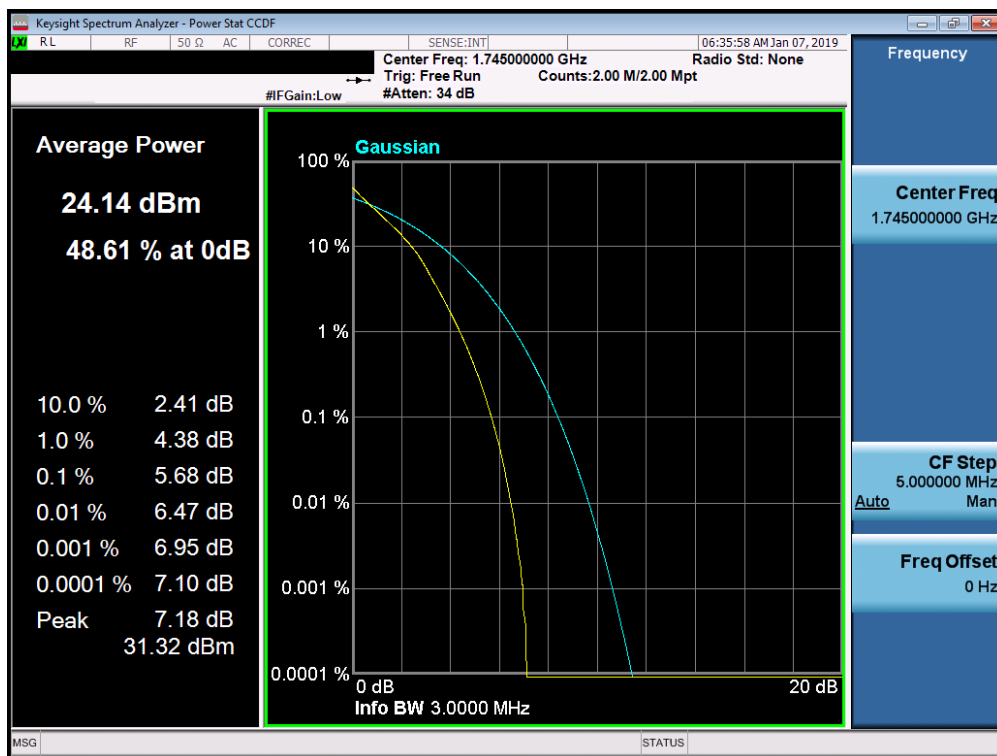


Plot 7-361. PAR Plot (Band 66 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 215 of 363

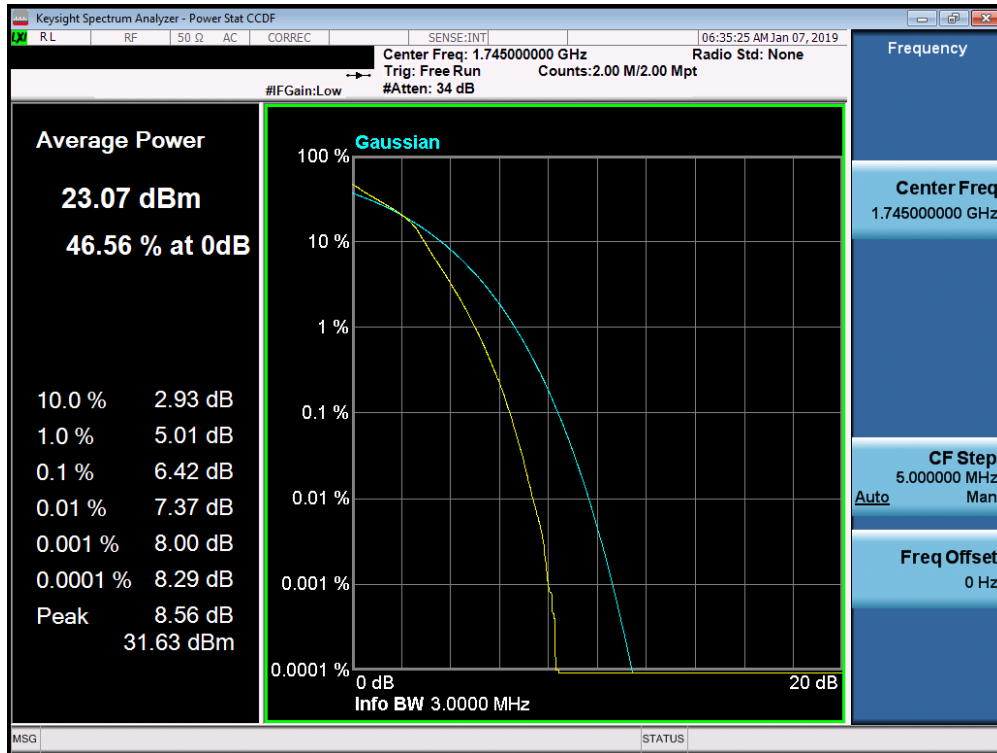


Plot 7-362. PAR Plot (Band 66 - 1.4MHz 64-QAM - Full RB Configuration)

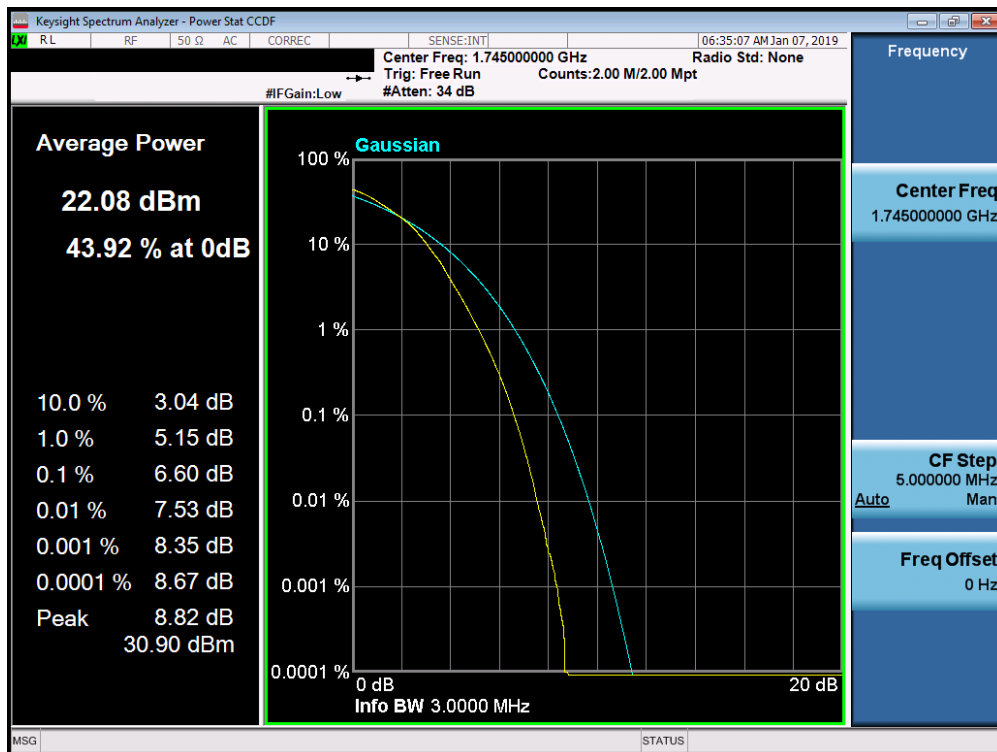


Plot 7-363. PAR Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 216 of 363

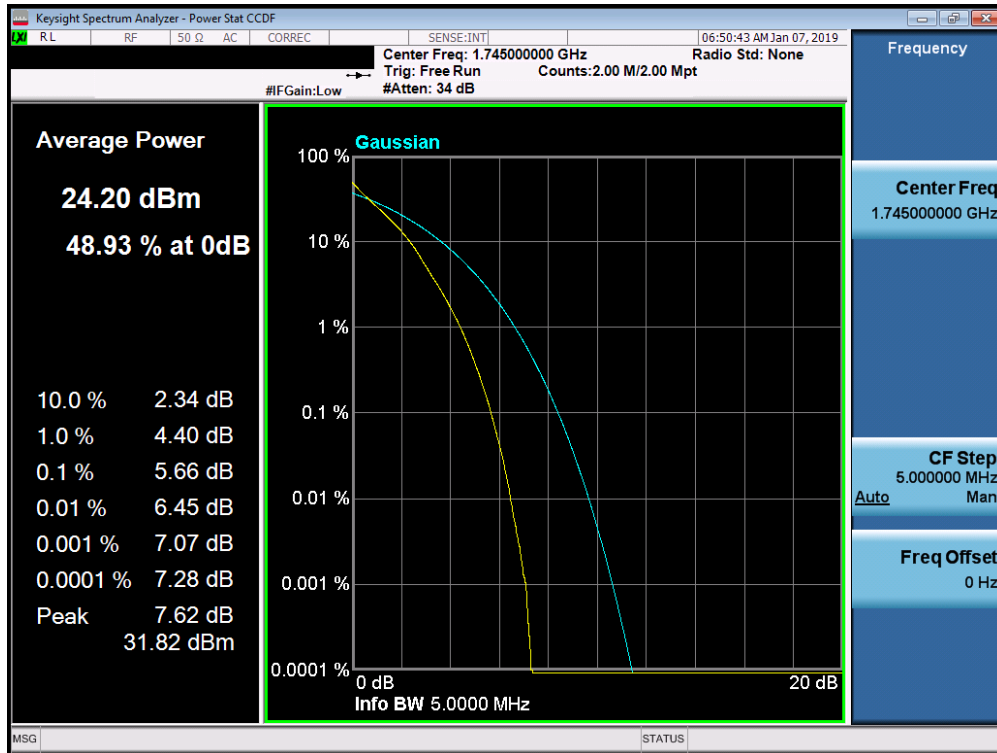


Plot 7-364. PAR Plot (Band 66 - 3.0MHz 16-QAM - Full RB Configuration)

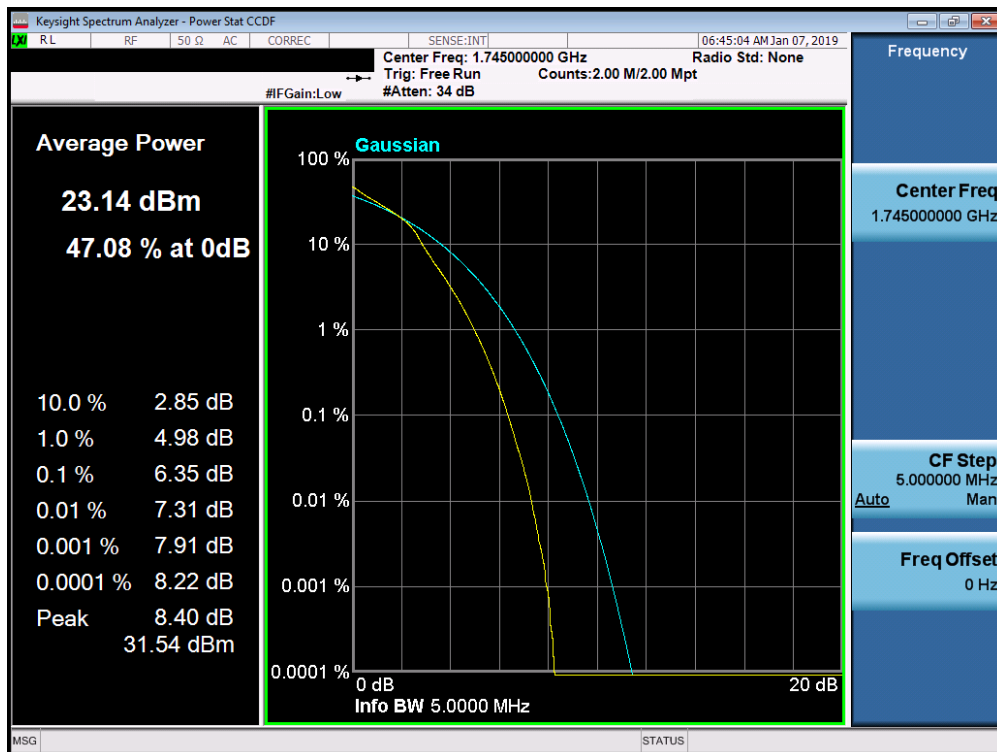


Plot 7-365. PAR Plot (Band 66 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 217 of 363

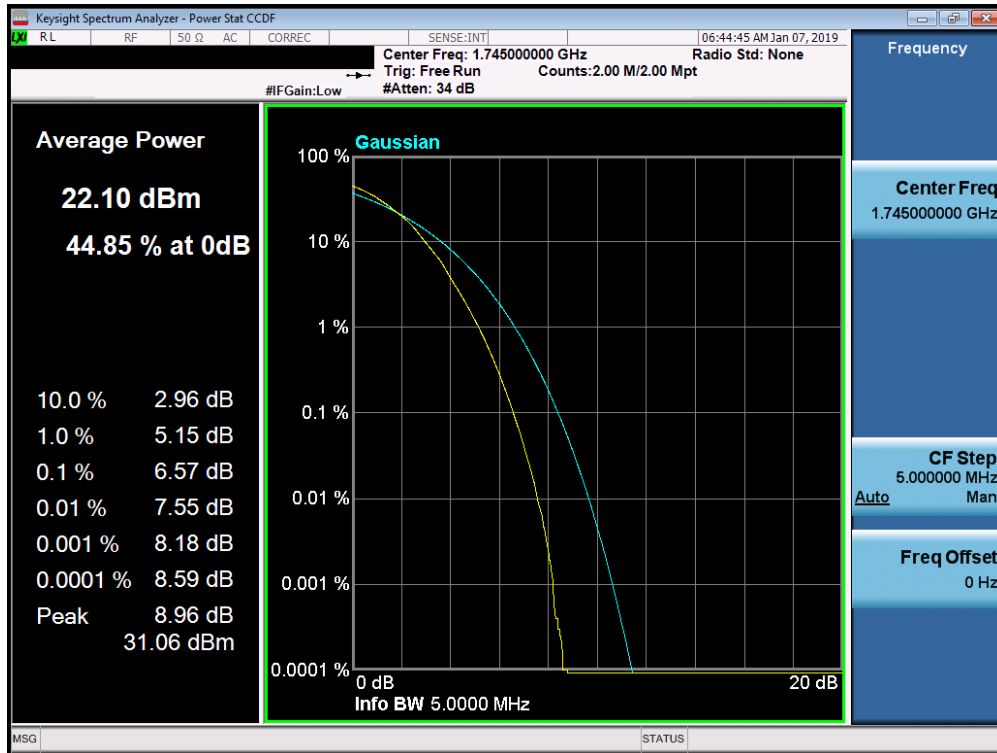


Plot 7-366. PAR Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

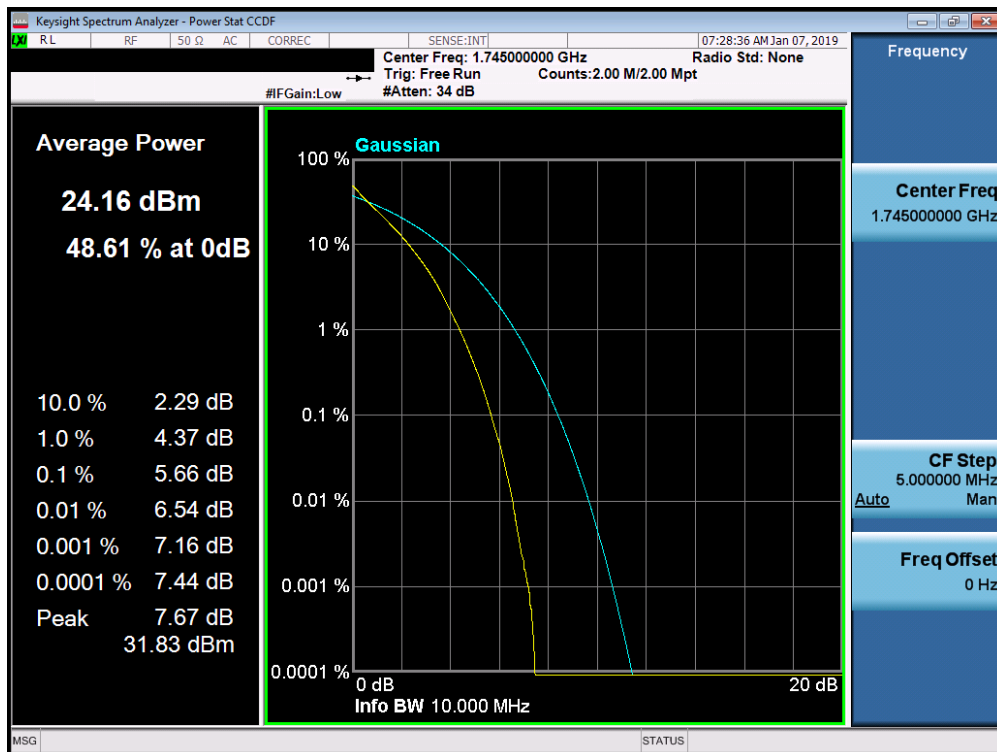


Plot 7-367. PAR Plot (Band 66 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 218 of 363

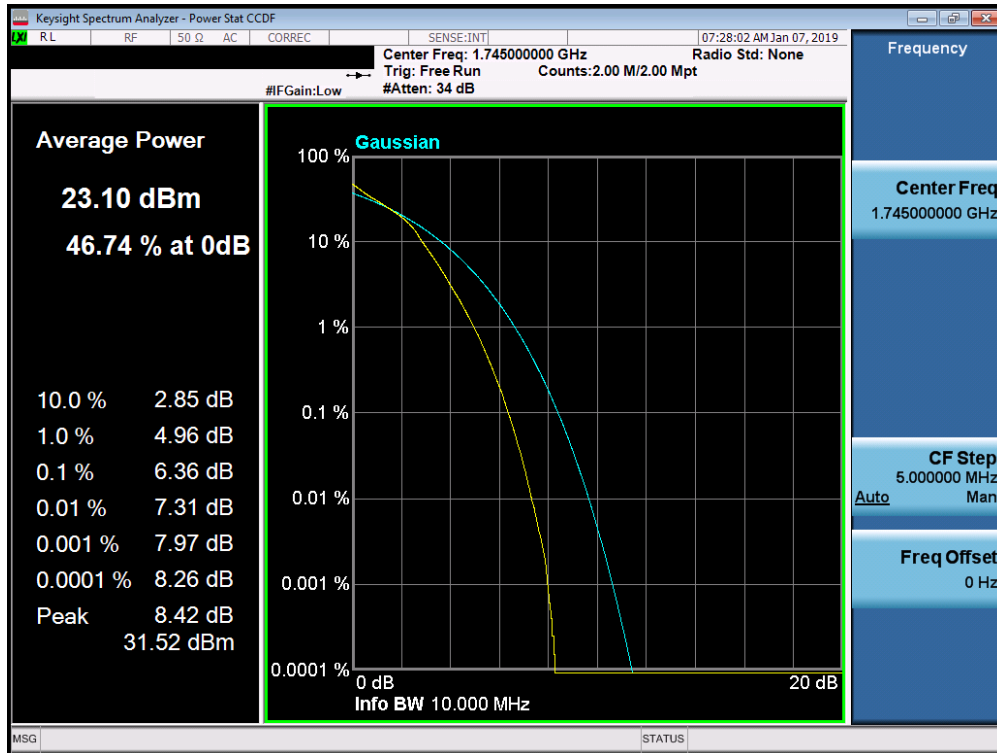


Plot 7-368. PAR Plot (Band 66 - 5.0MHz 64-QAM - Full RB Configuration)

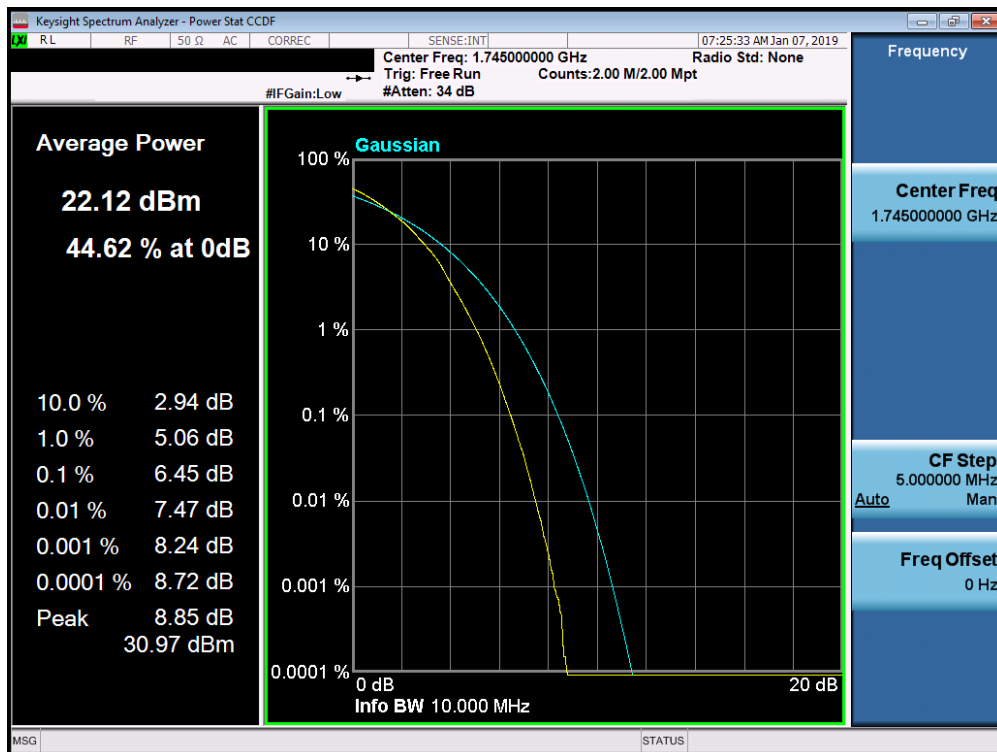


Plot 7-369. PAR Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 219 of 363

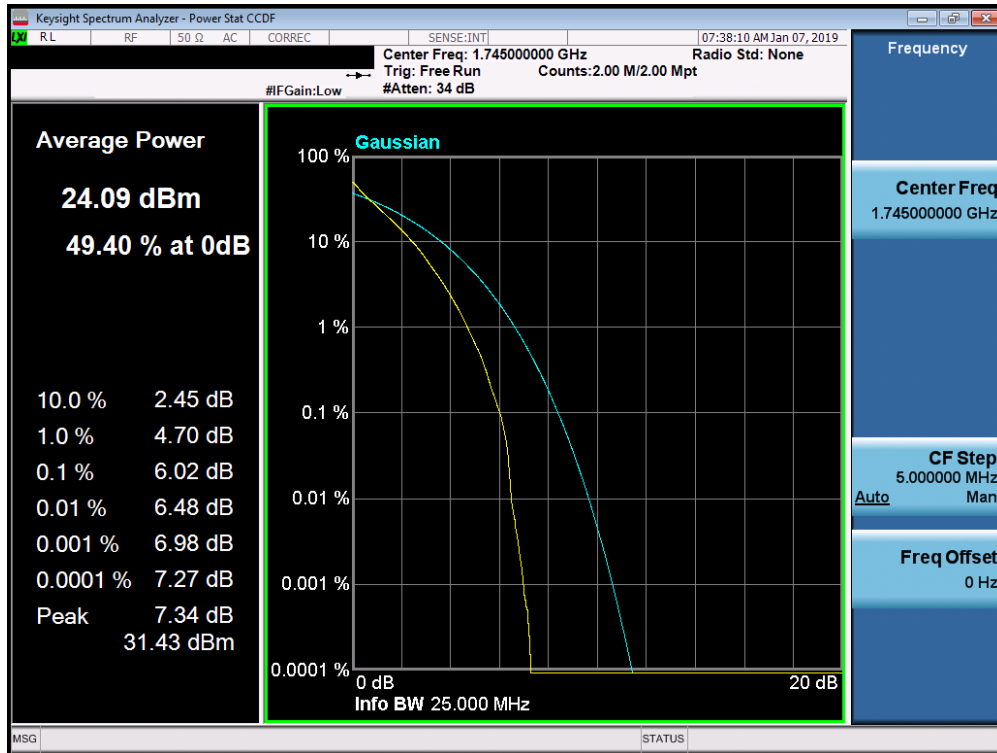


Plot 7-370. PAR Plot (Band 66 - 10.0MHz 16-QAM - Full RB Configuration)

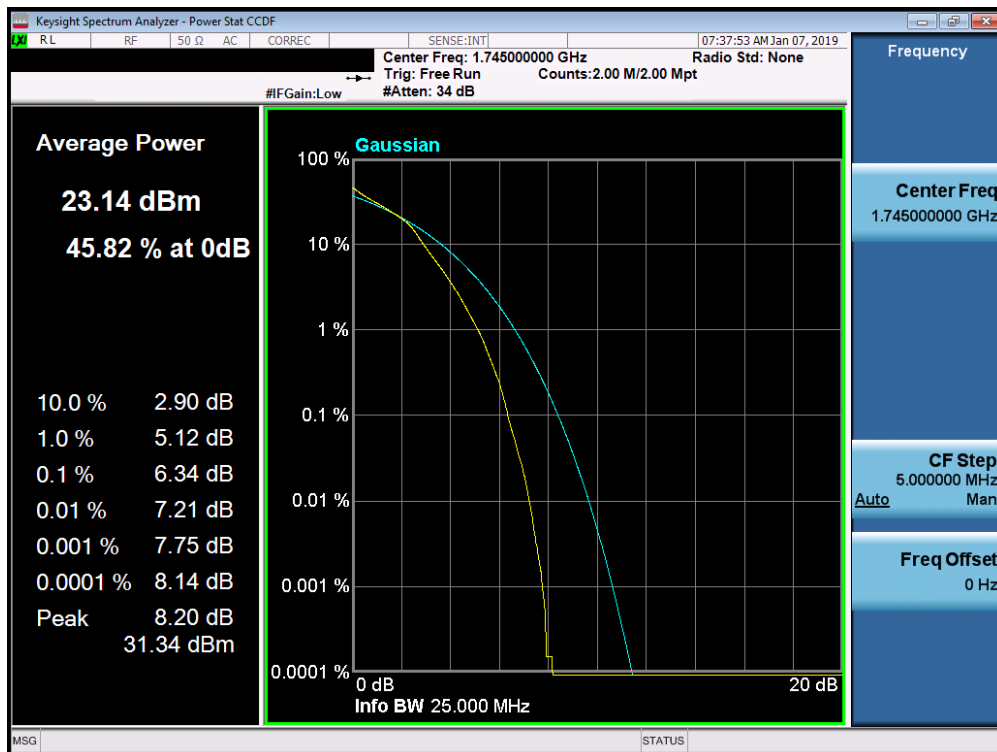


Plot 7-371. PAR Plot (Band 66 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 220 of 363

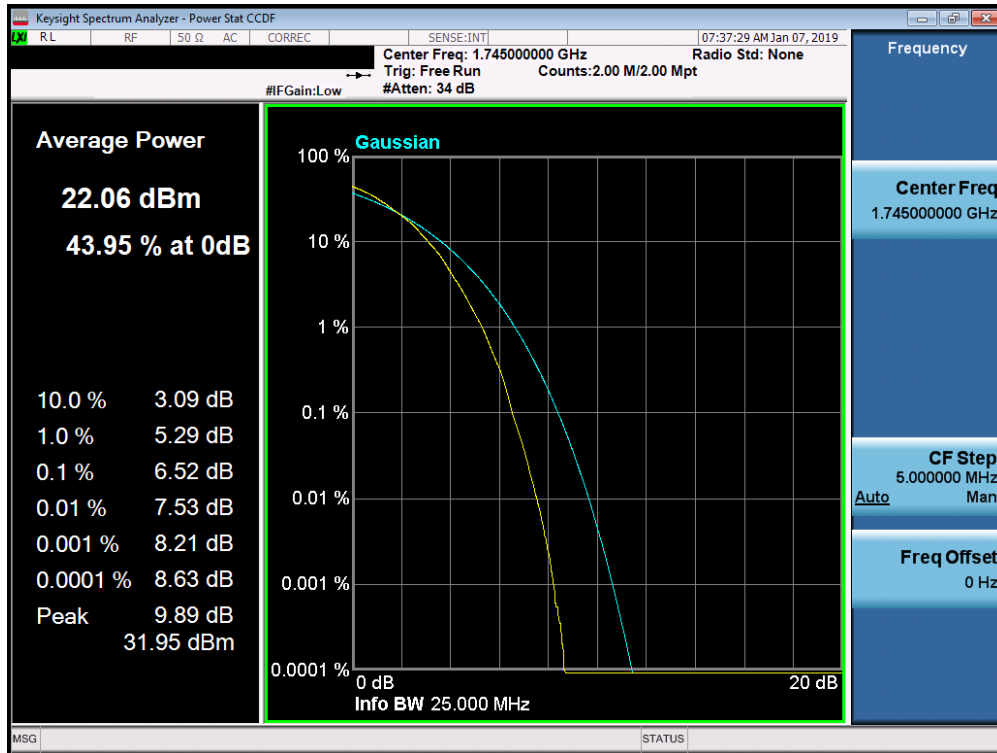


Plot 7-372. PAR Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

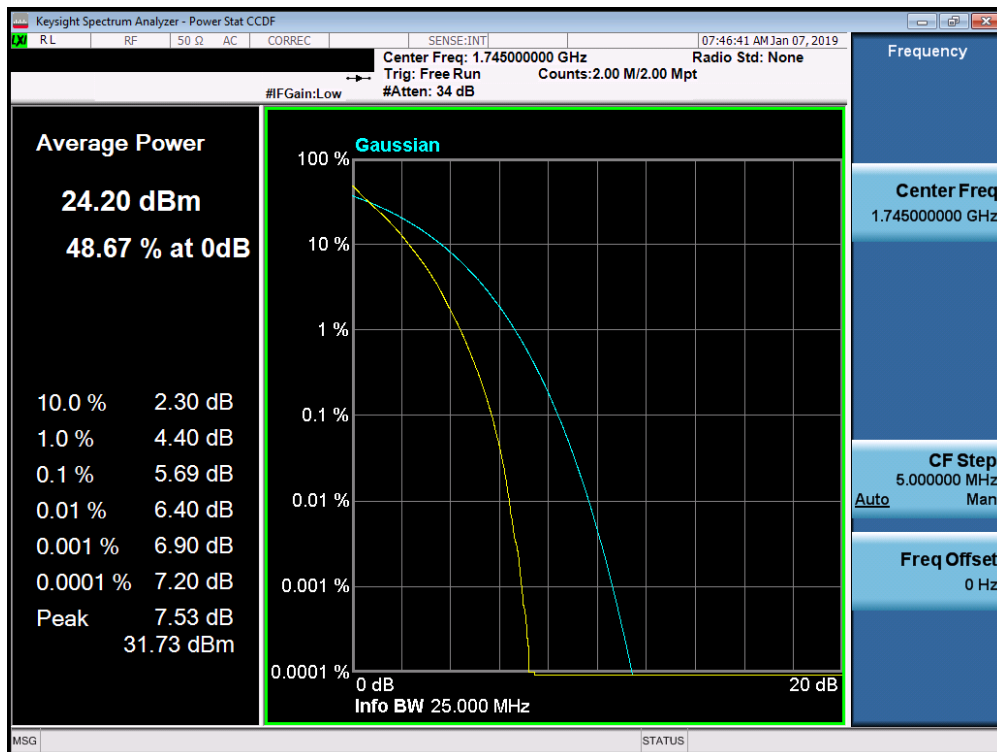


Plot 7-373. PAR Plot (Band 66 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 221 of 363

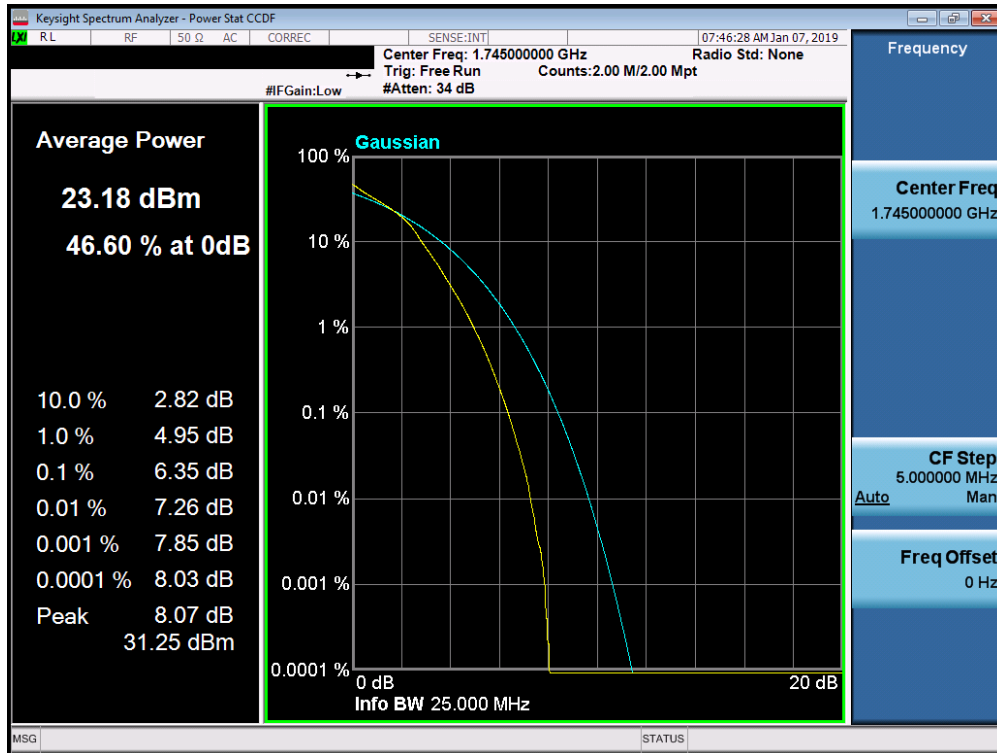


Plot 7-374. PAR Plot (Band 66 - 15.0MHz 64-QAM - Full RB Configuration)

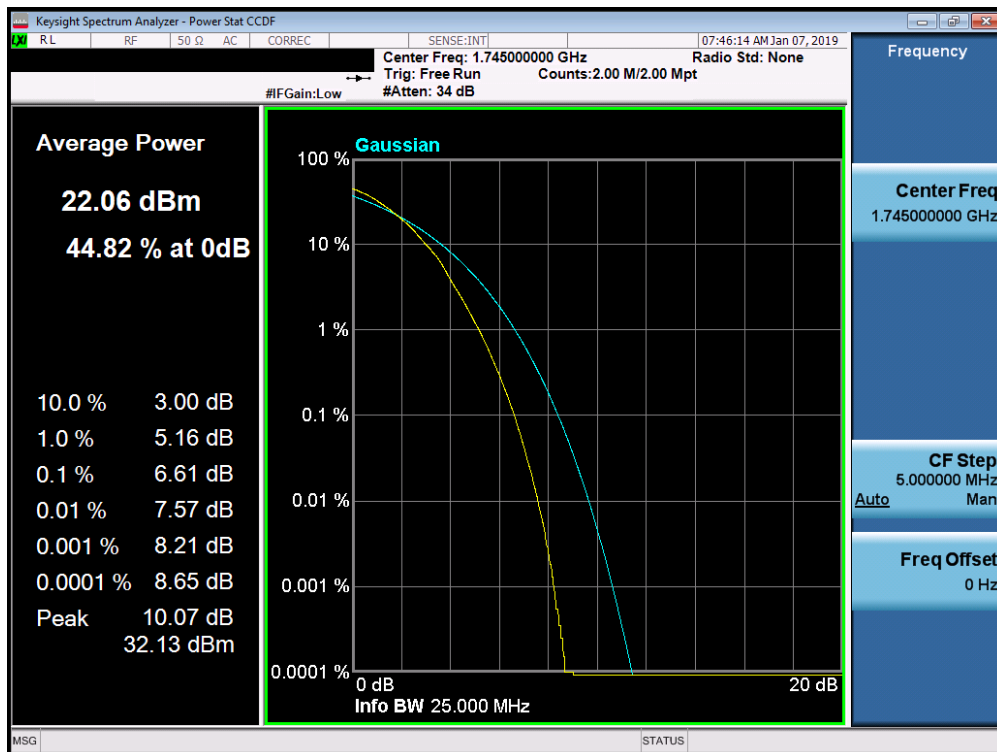


Plot 7-375. PAR Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 222 of 363



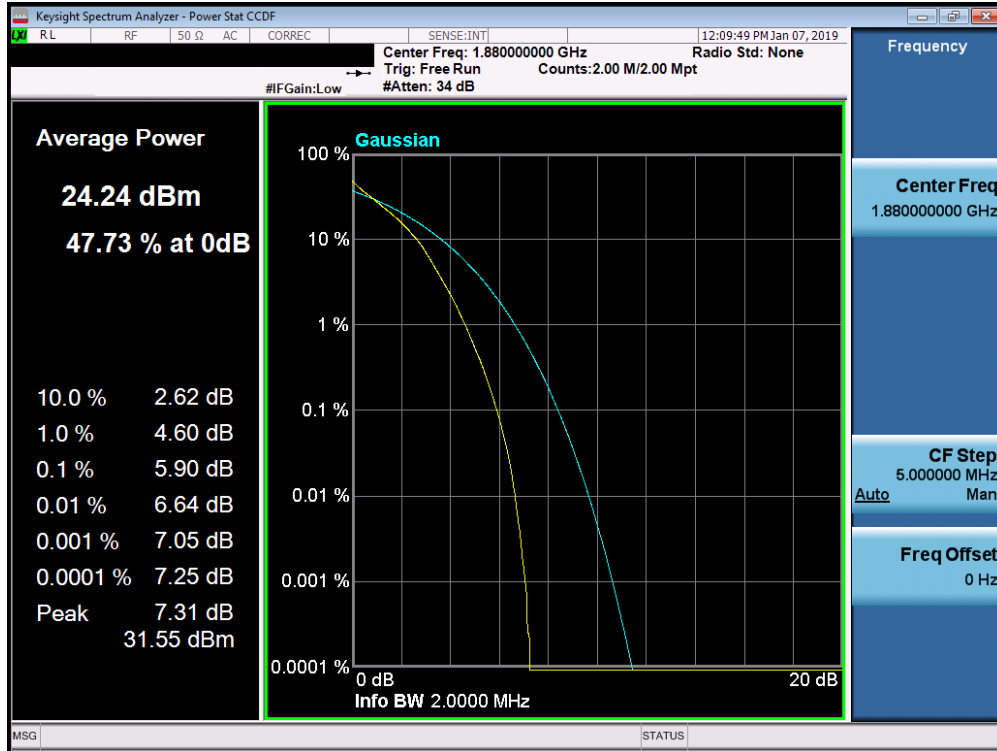
Plot 7-376. PAR Plot (Band 66 - 20.0MHz 16-QAM - Full RB Configuration)



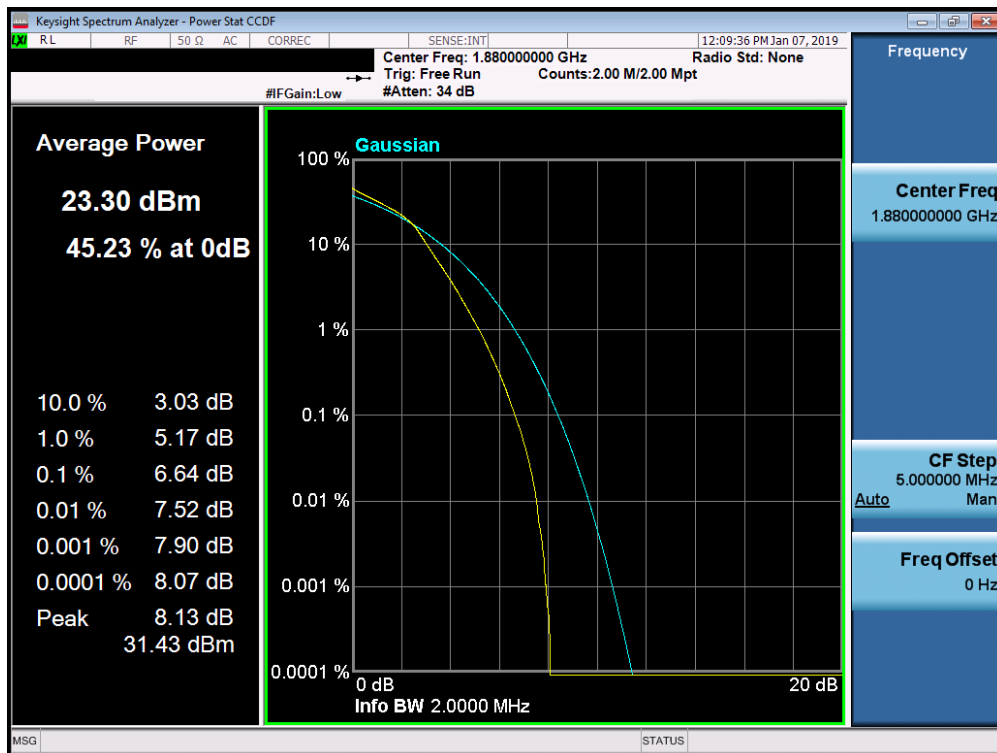
Plot 7-377. PAR Plot (Band 66 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 223 of 363

Band 2

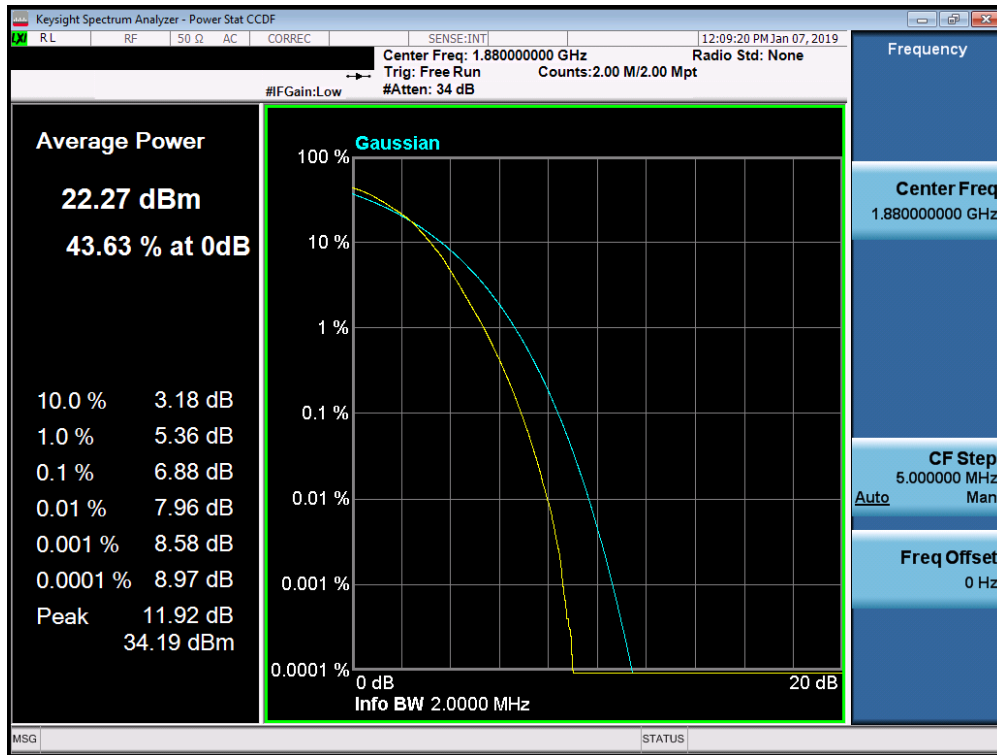


Plot 7-378. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

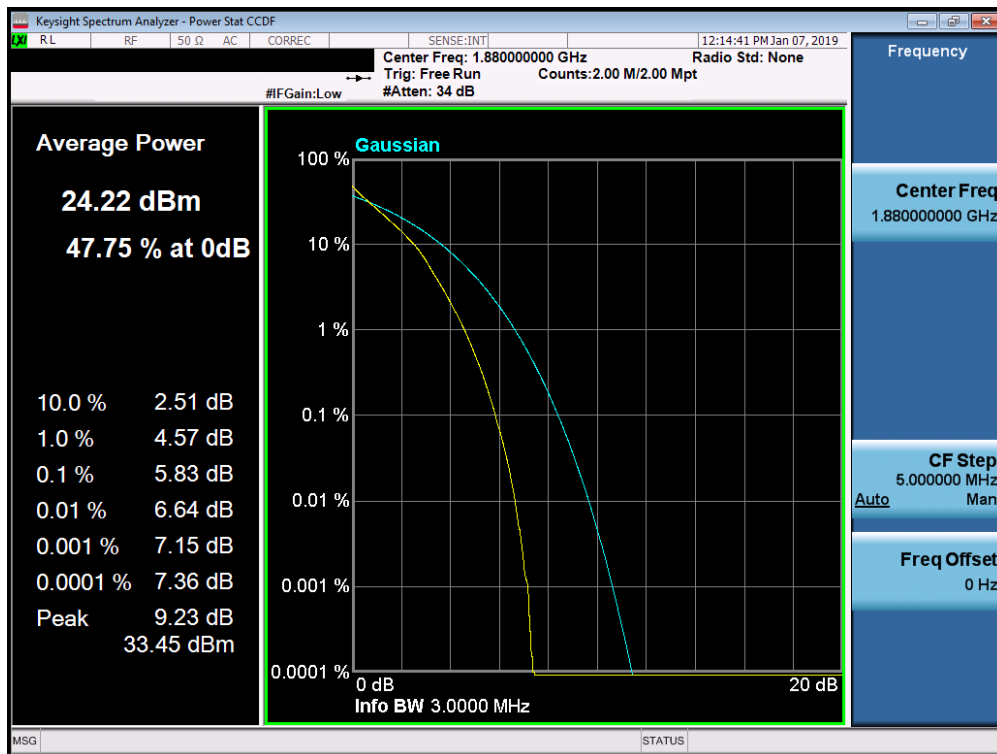


Plot 7-379. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 224 of 363

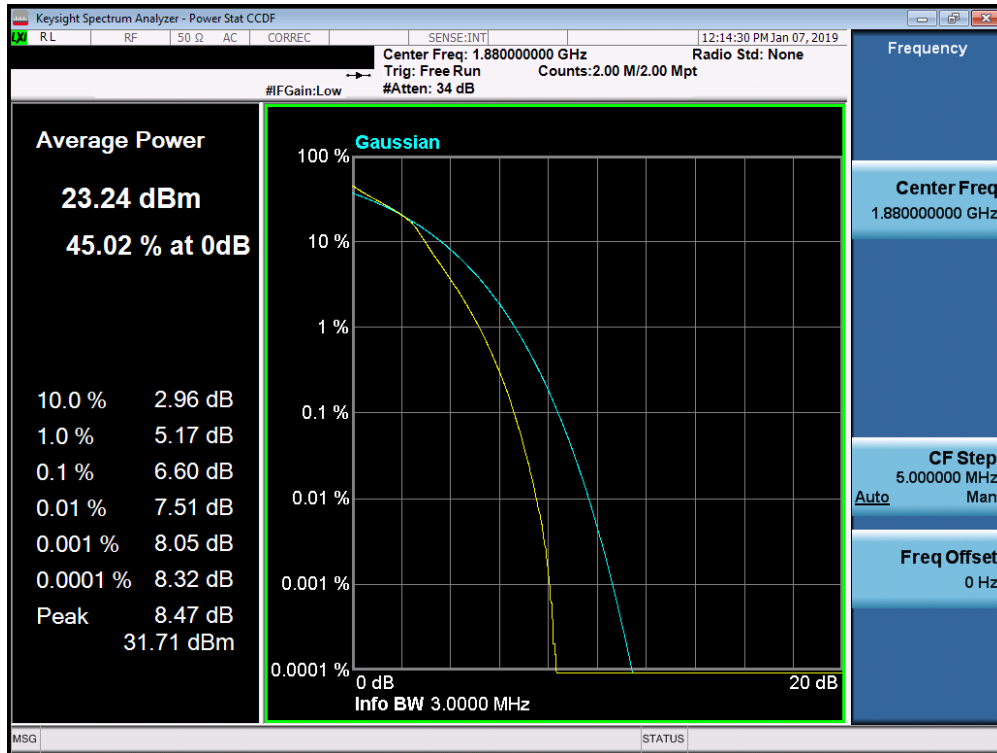


Plot 7-380. PAR Plot (Band 2 - 1.4MHz 64-QAM - Full RB Configuration)

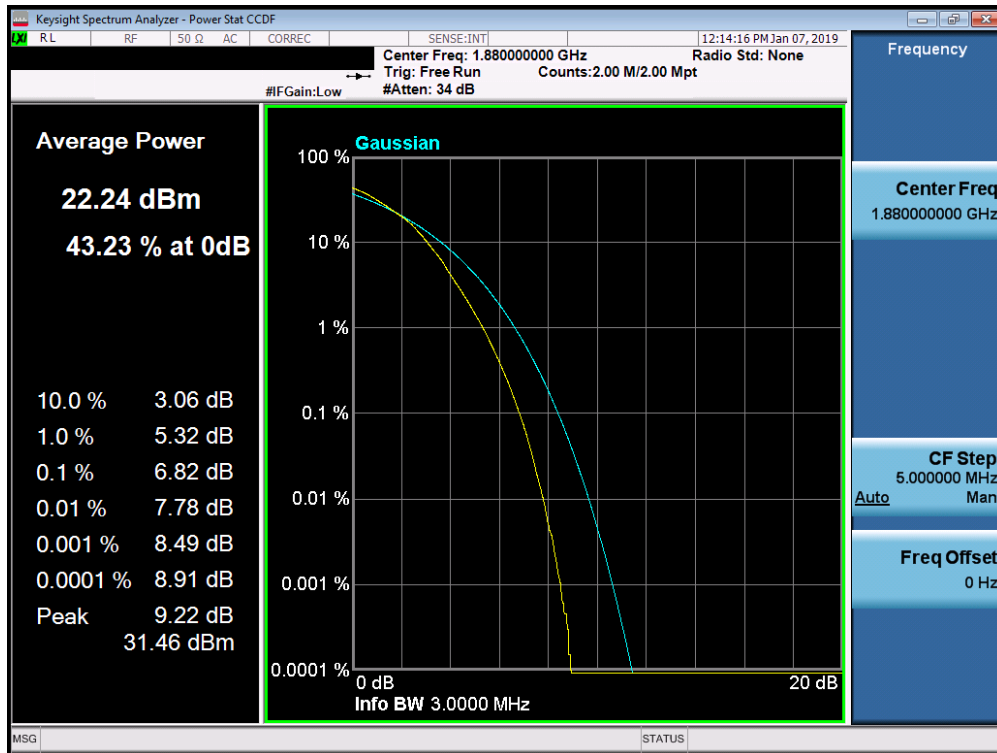


Plot 7-381. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 225 of 363

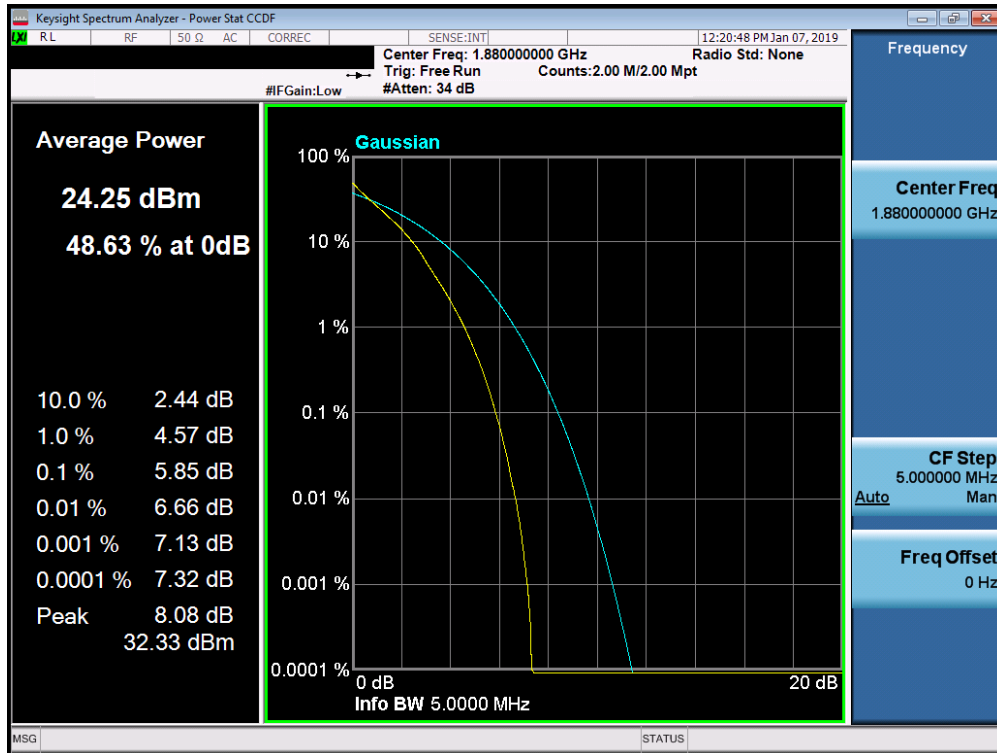


Plot 7-382. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

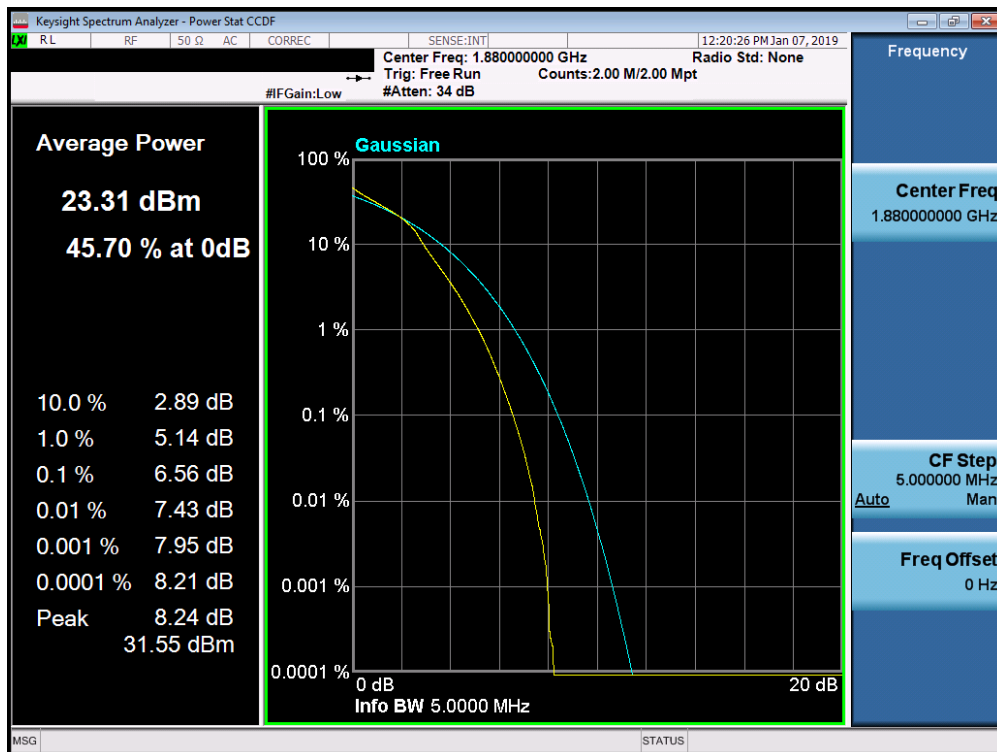


Plot 7-383. PAR Plot (Band 2 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 226 of 363

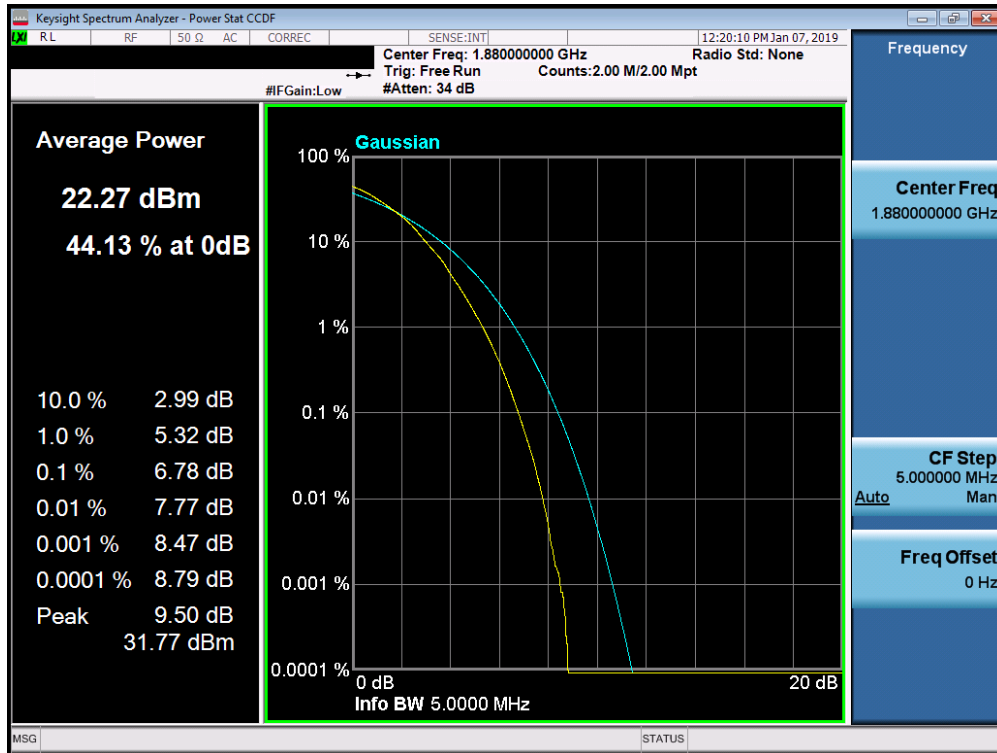


Plot 7-384. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

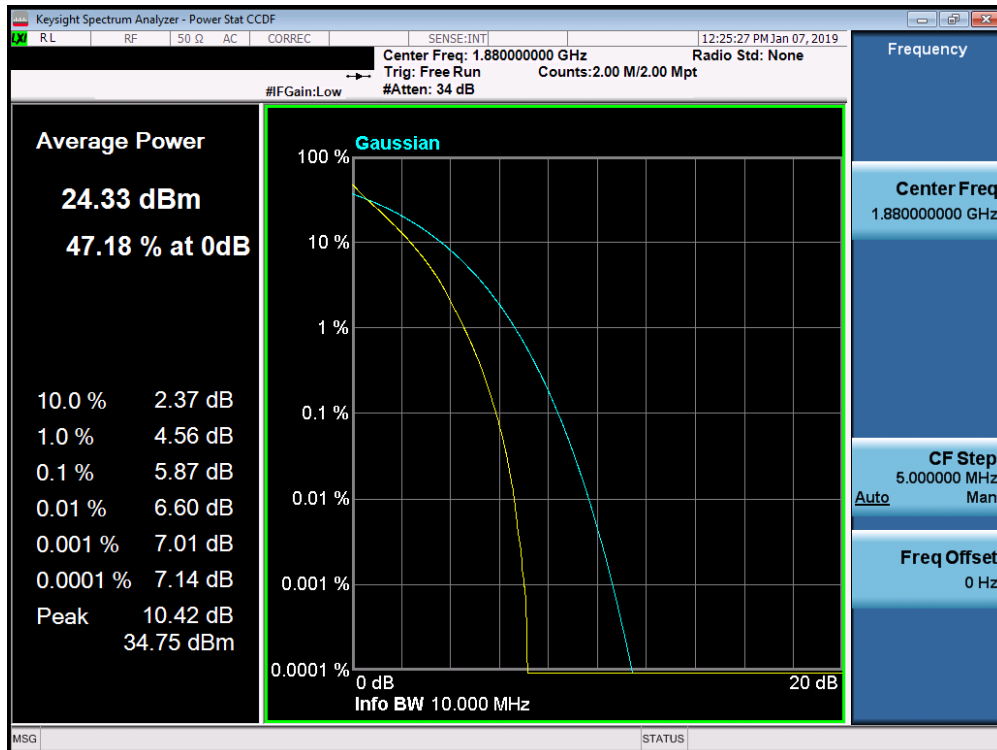


Plot 7-385. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 227 of 363

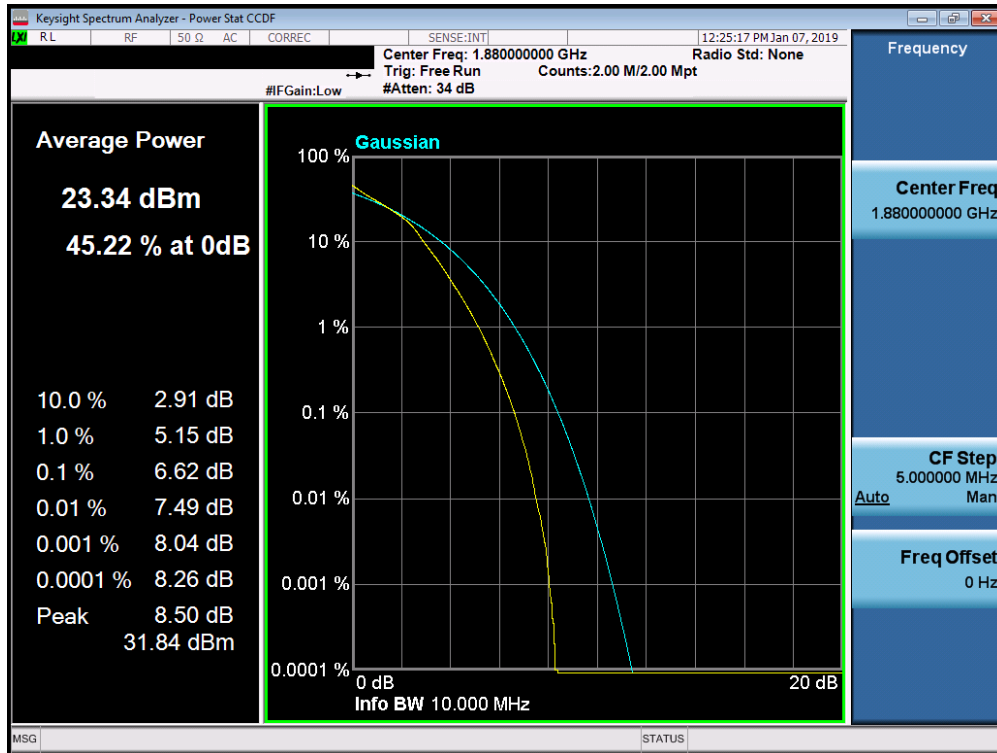


Plot 7-386. PAR Plot (Band 2 - 5.0MHz 64-QAM - Full RB Configuration)

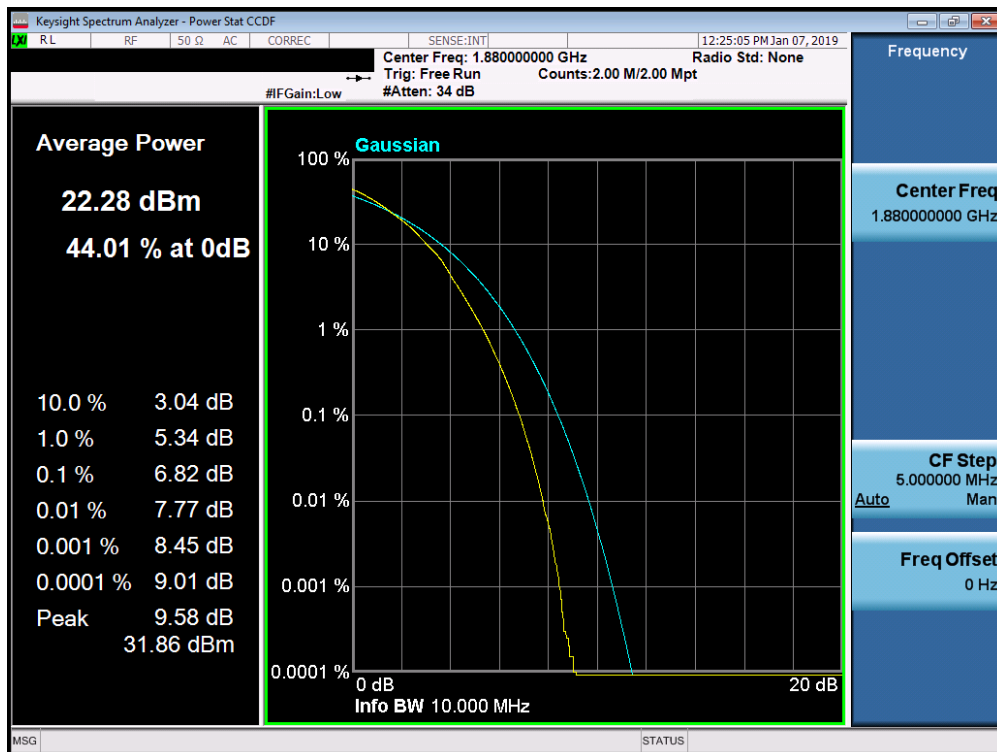


Plot 7-387. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 228 of 363

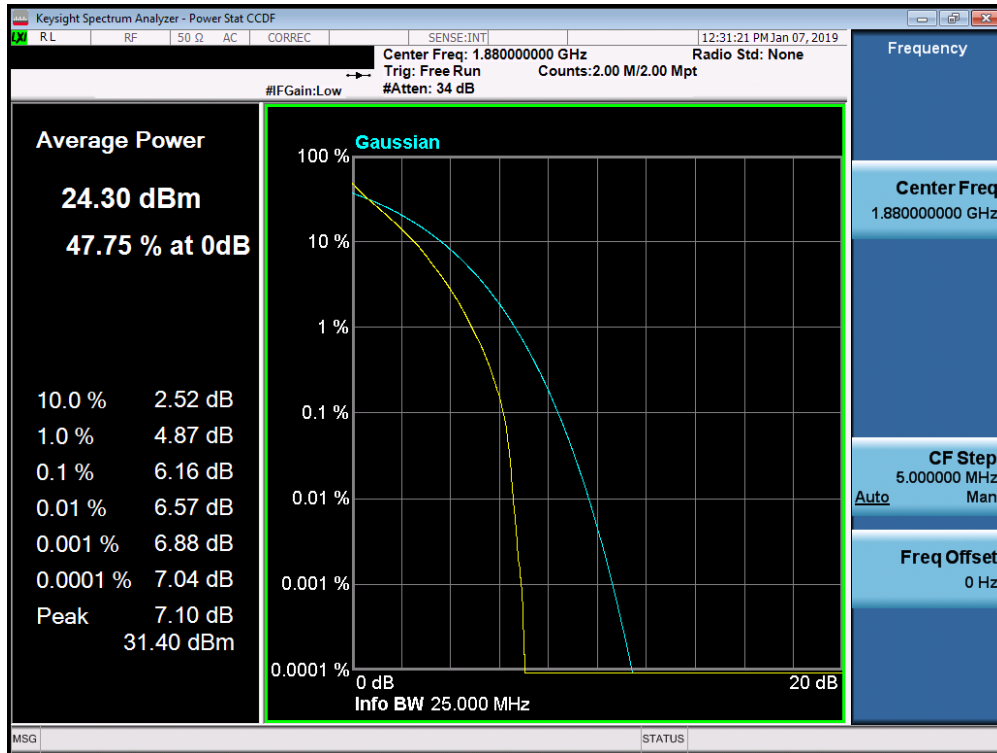


Plot 7-388. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

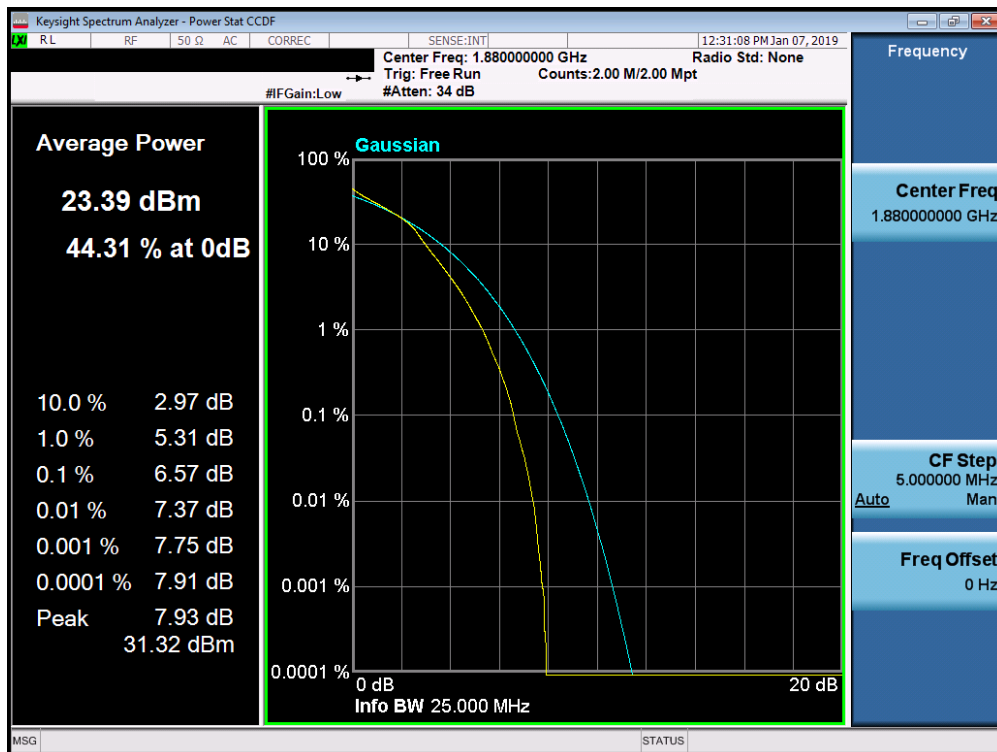


Plot 7-389. PAR Plot (Band 2 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 229 of 363

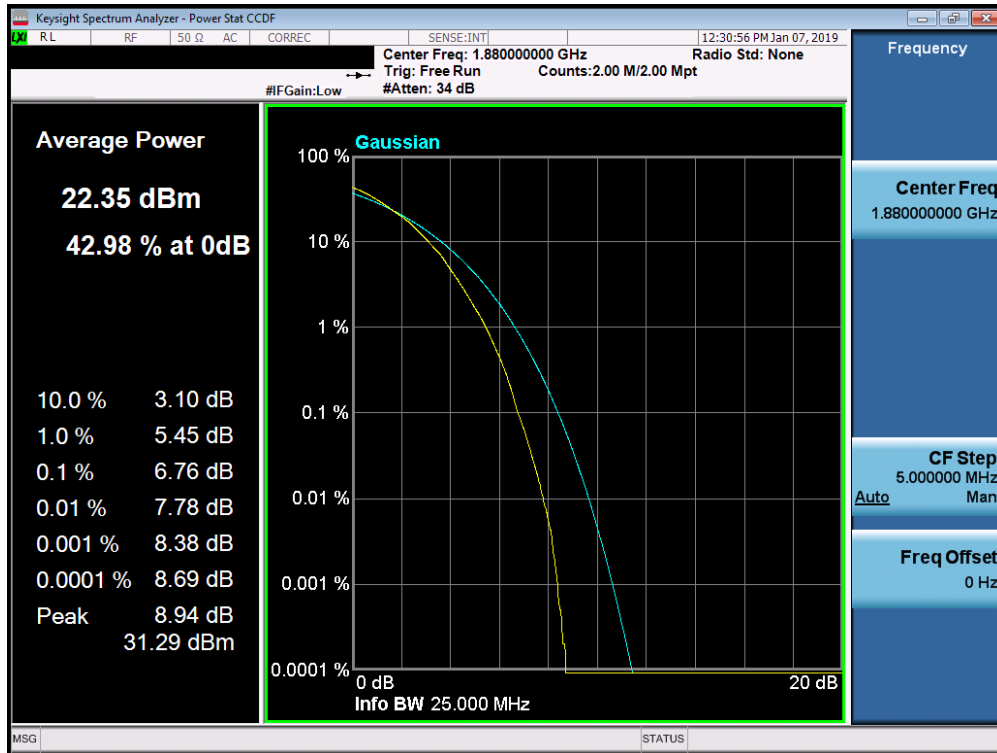


Plot 7-390. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

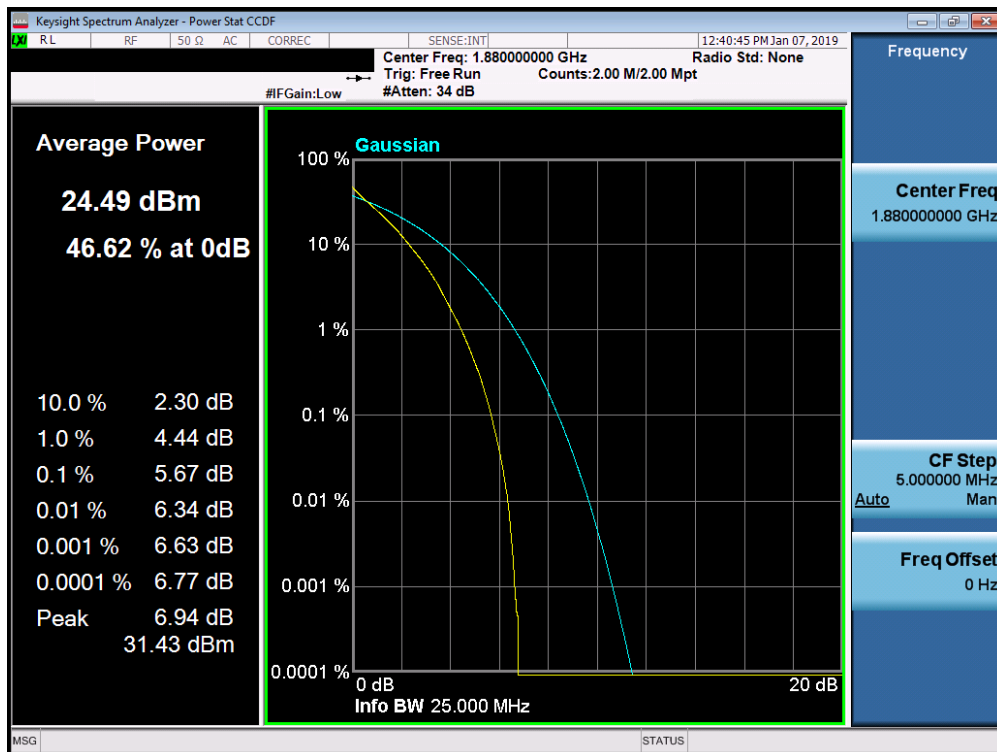


Plot 7-391. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 230 of 363

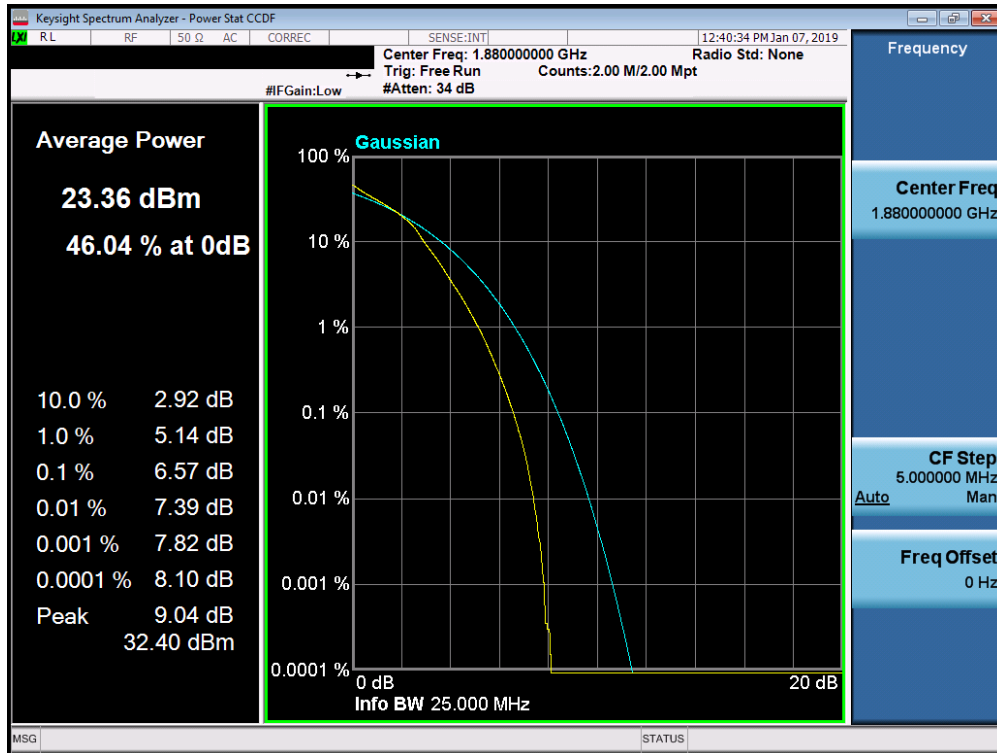


Plot 7-392. PAR Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)

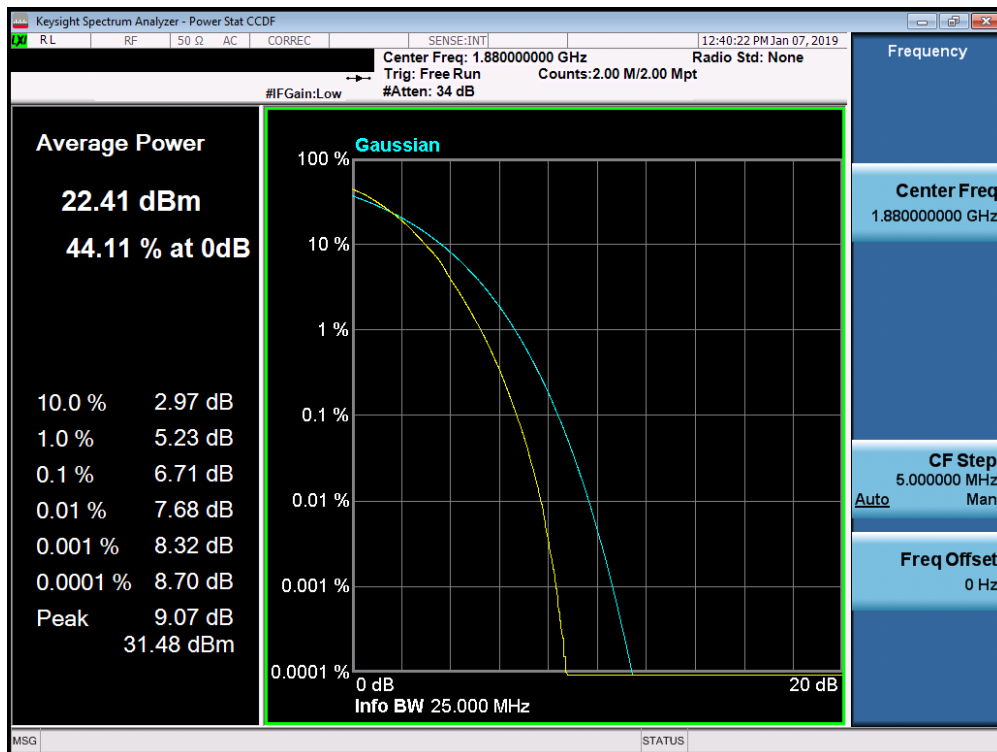


Plot 7-393. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 231 of 363



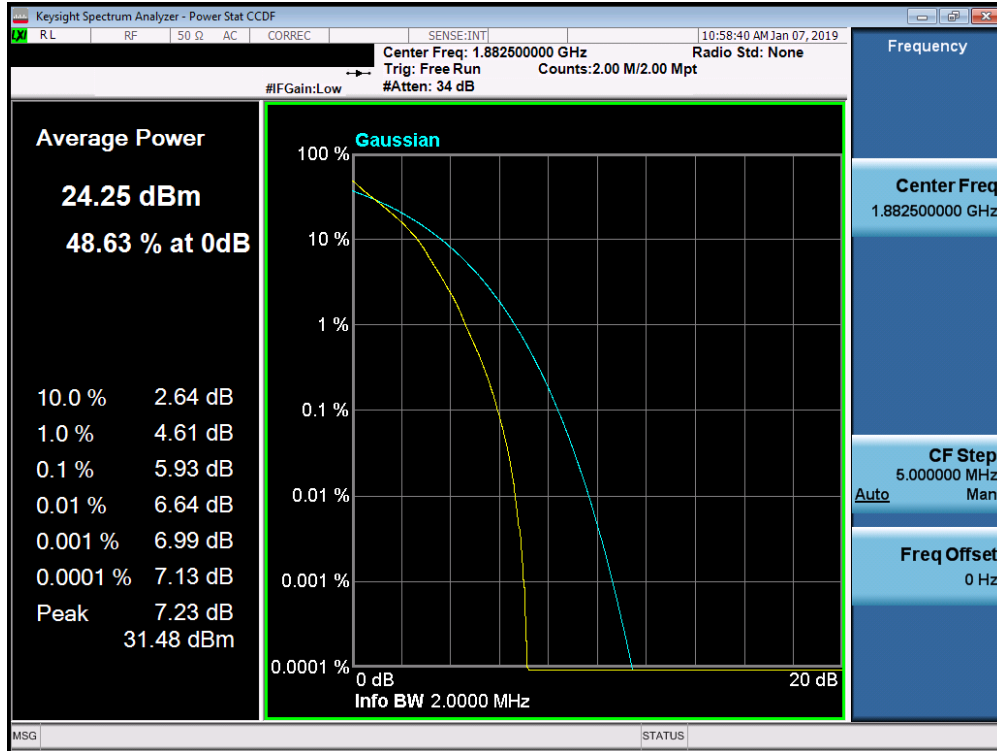
Plot 7-394. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)



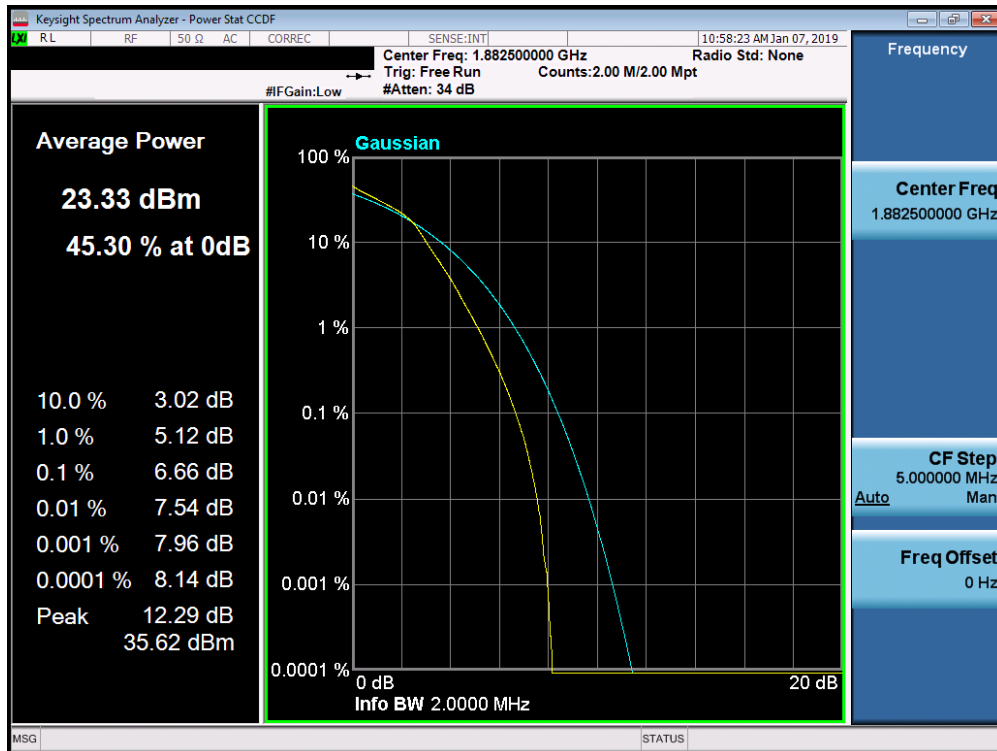
Plot 7-395. PAR Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 232 of 363

Band 25

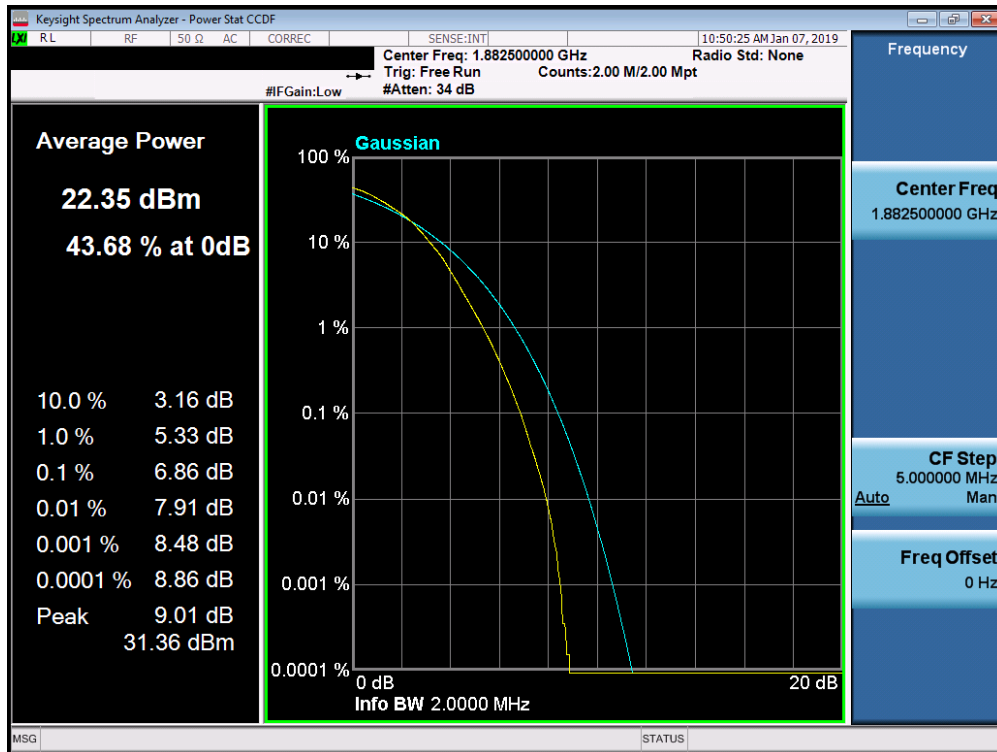


Plot 7-396. PAR Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

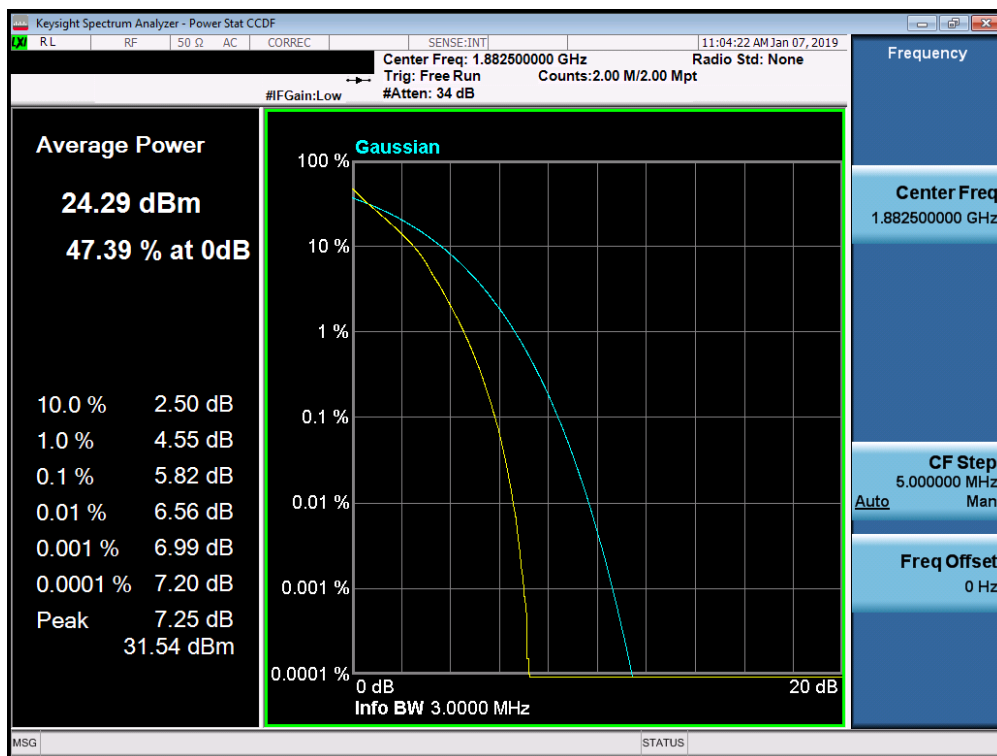


Plot 7-397. PAR Plot (Band 25 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 233 of 363

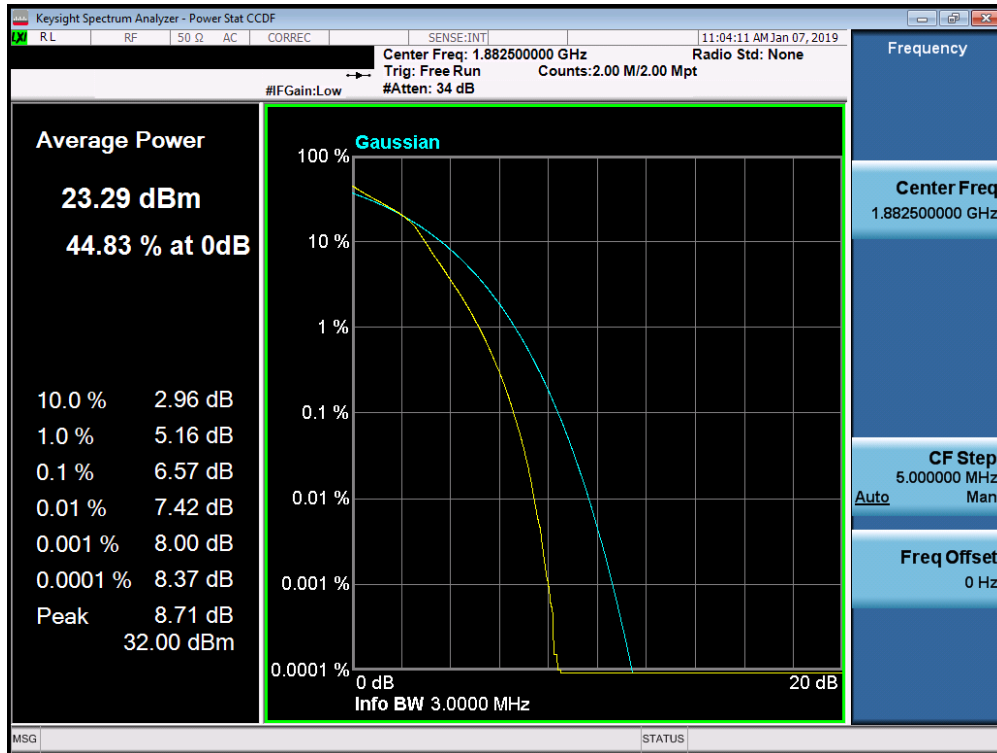


Plot 7-398. PAR Plot (Band 25 - 1.4MHz 64-QAM - Full RB Configuration)

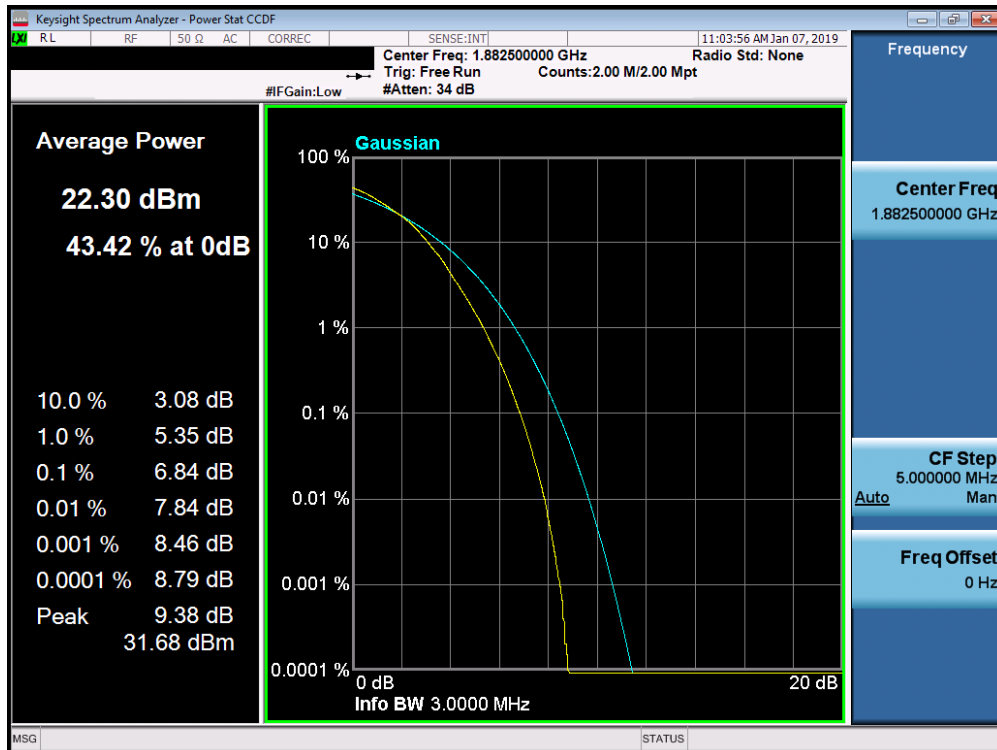


Plot 7-399. PAR Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 234 of 363

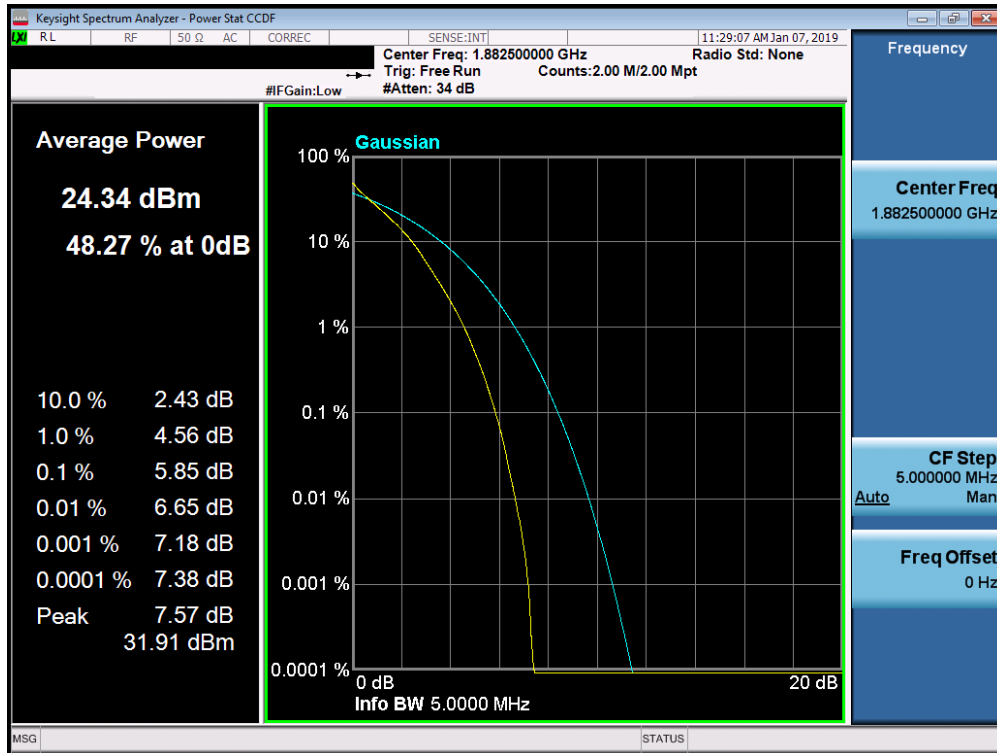


Plot 7-400. PAR Plot (Band 25 - 3.0MHz 16-QAM - Full RB Configuration)

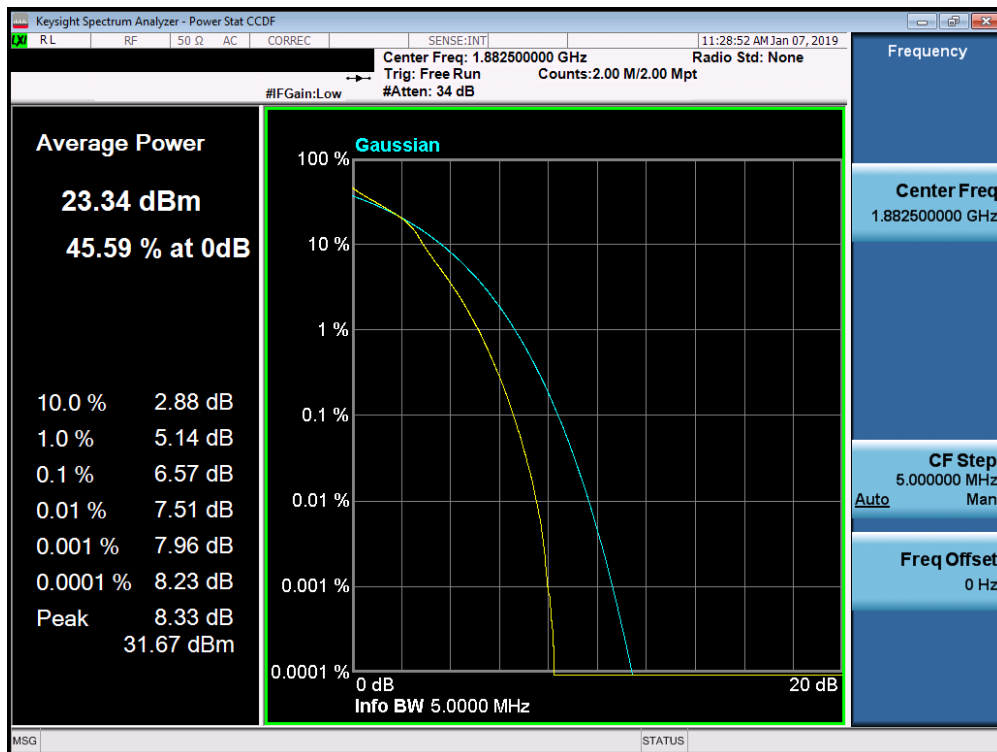


Plot 7-401. PAR Plot (Band 25 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 235 of 363

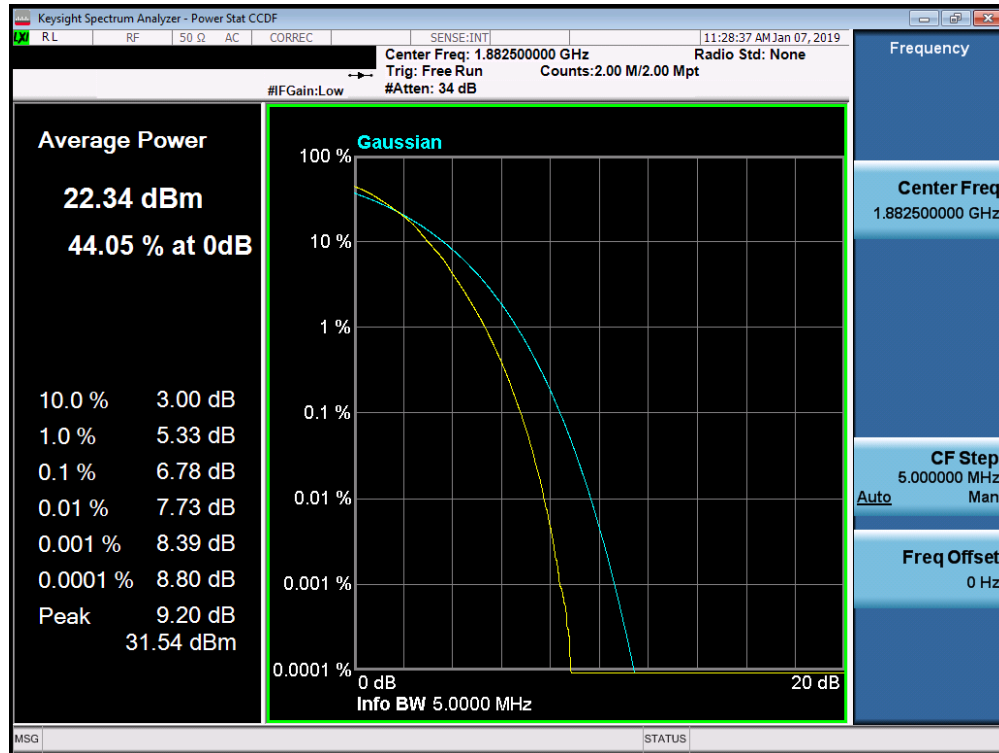


Plot 7-402. PAR Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

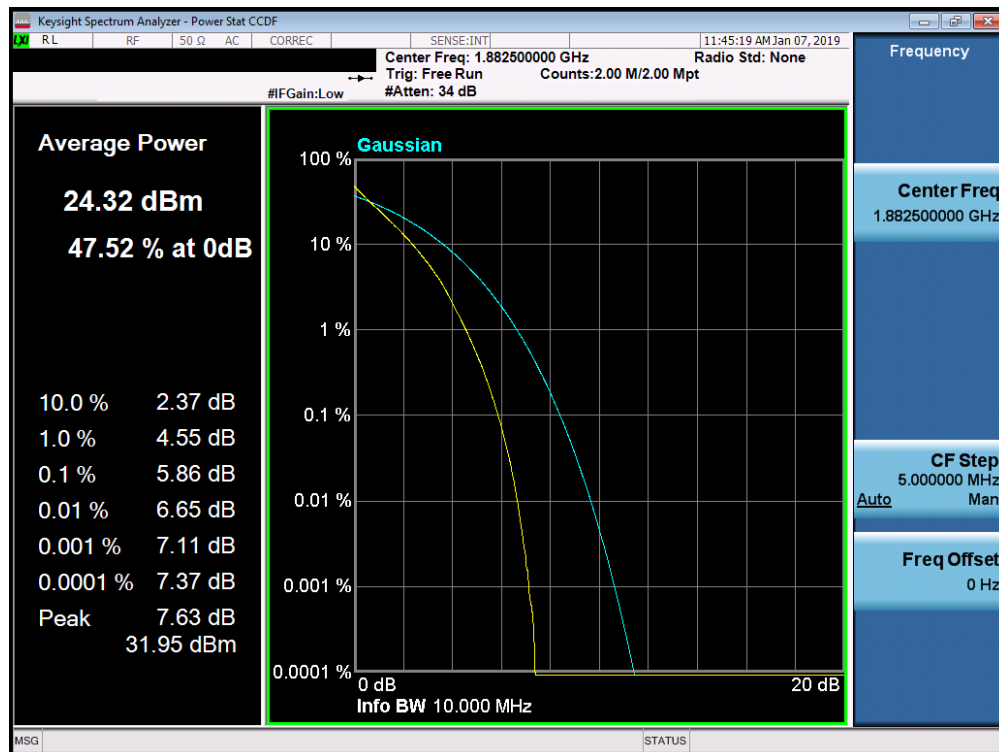


Plot 7-403. PAR Plot (Band 25 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 236 of 363

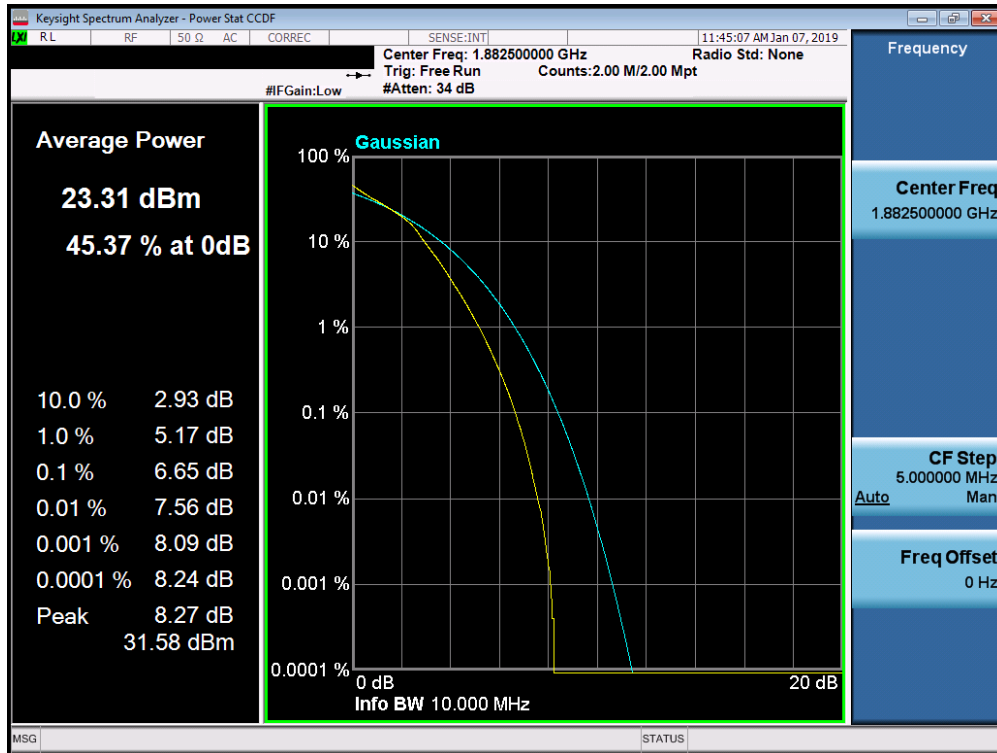


Plot 7-404. PAR Plot (Band 25 - 5.0MHz 64-QAM - Full RB Configuration)

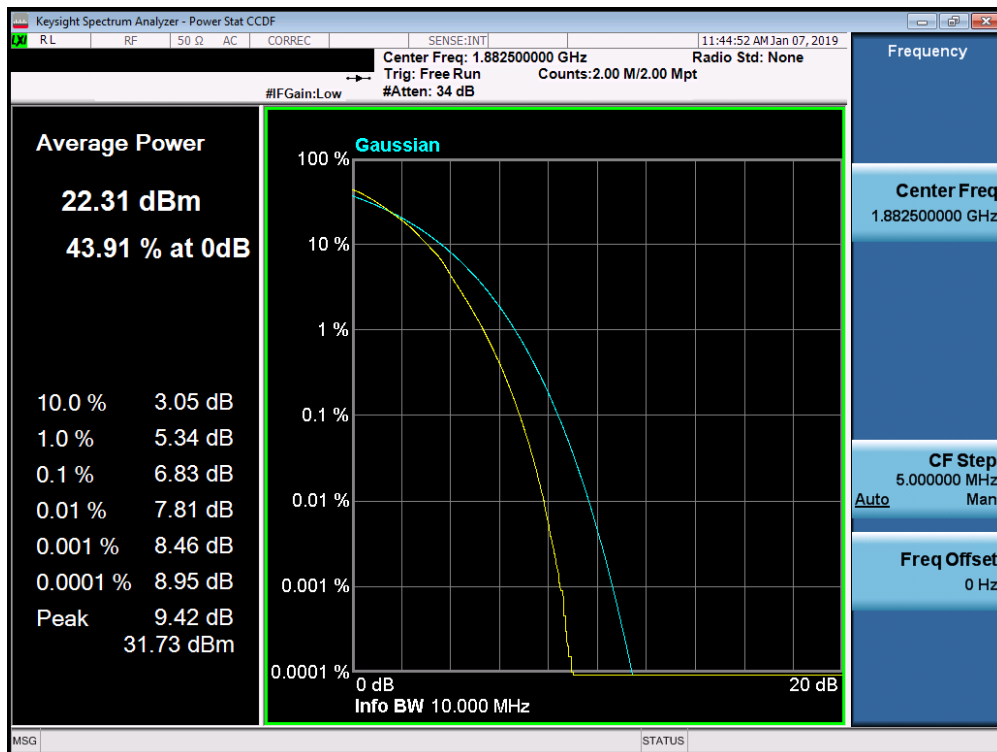


Plot 7-405. PAR Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 237 of 363

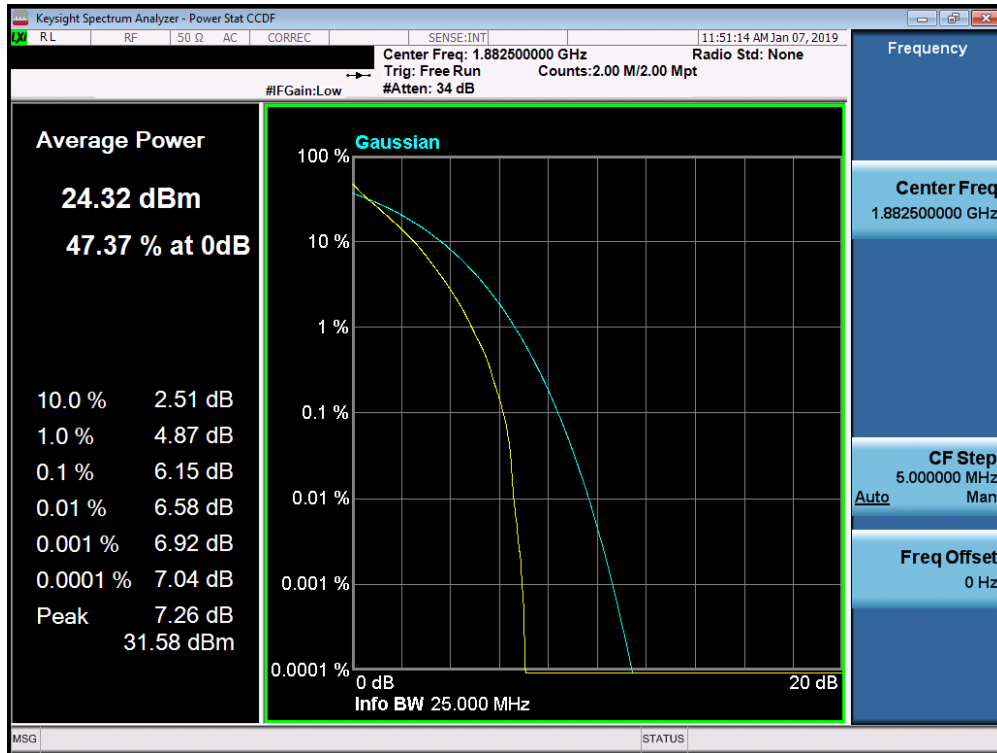


Plot 7-406. PAR Plot (Band 25 - 10.0MHz 16-QAM - Full RB Configuration)

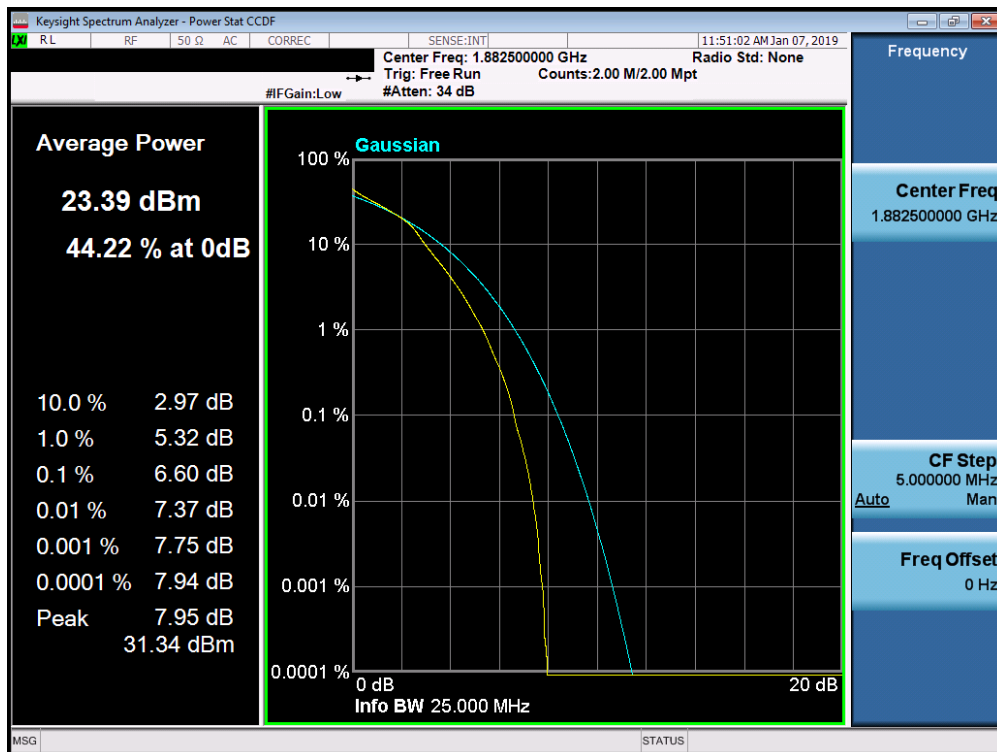


Plot 7-407. PAR Plot (Band 25 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 238 of 363

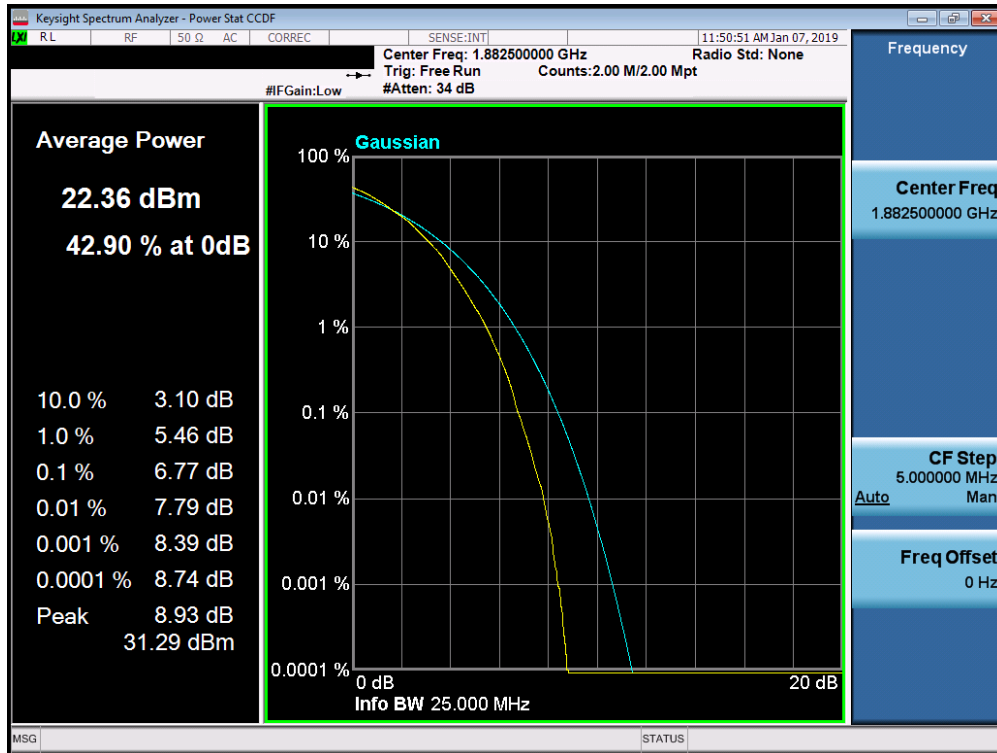


Plot 7-408. PAR Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

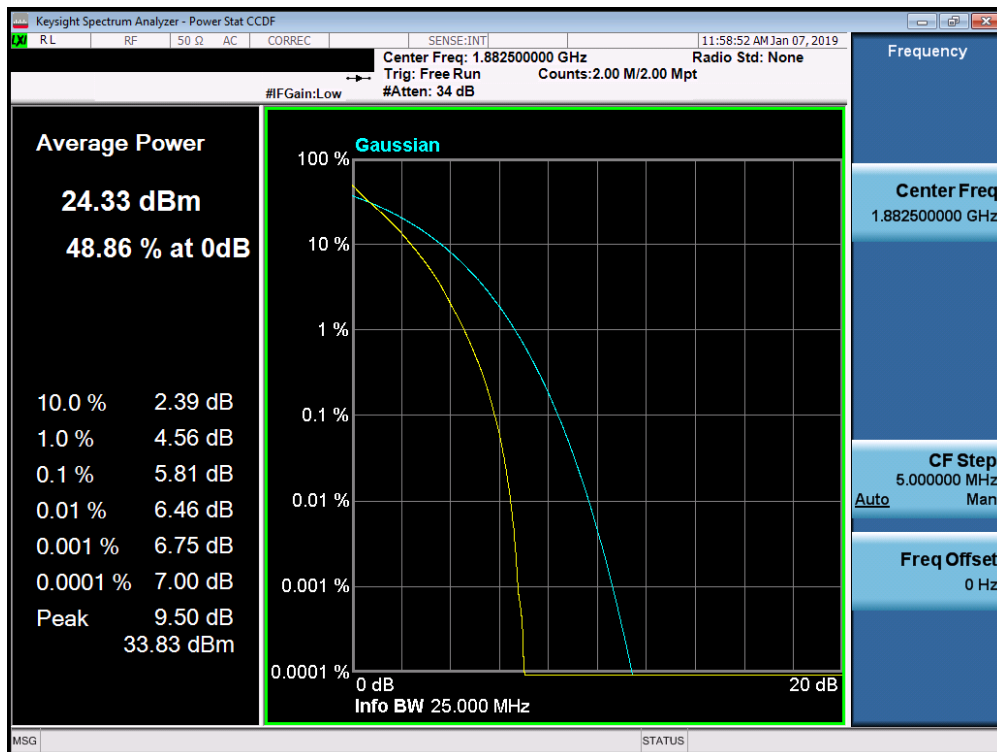


Plot 7-409. PAR Plot (Band 25 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 239 of 363

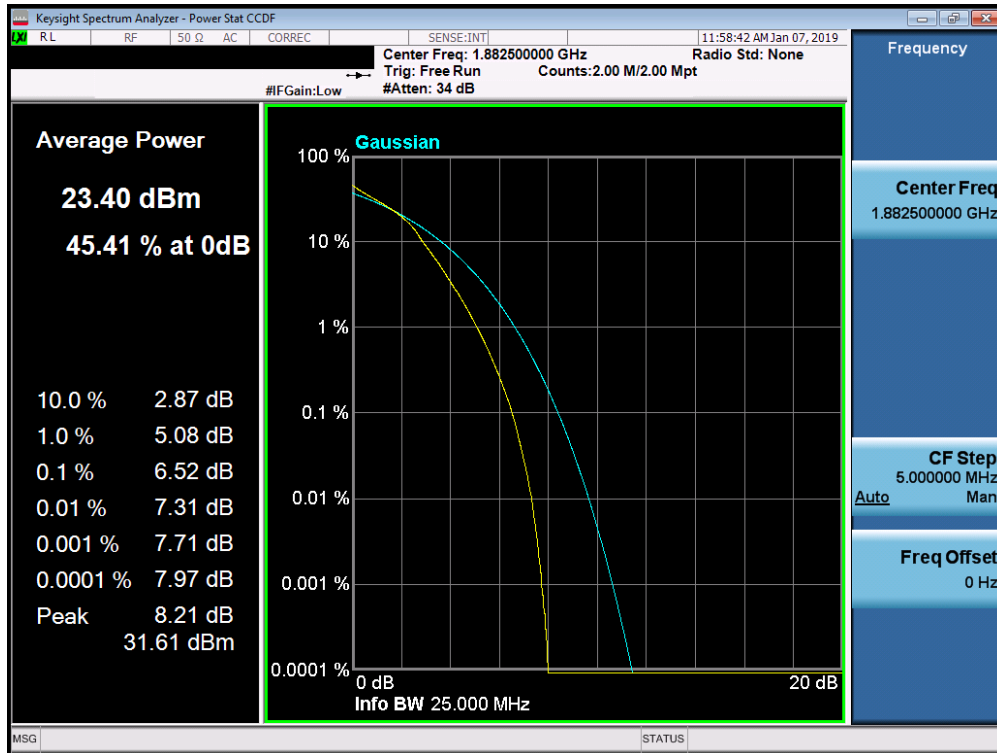


Plot 7-410. PAR Plot (Band 25 - 15.0MHz 64-QAM - Full RB Configuration)

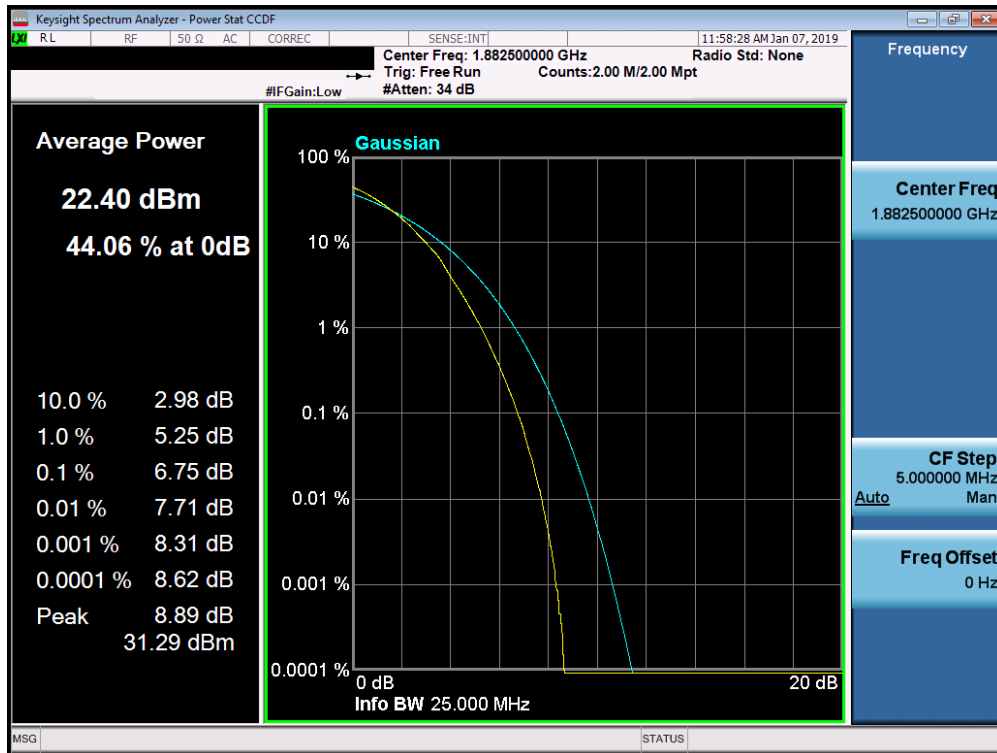


Plot 7-411. PAR Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

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Plot 7-412. PAR Plot (Band 25 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-413. PAR Plot (Band 25 - 20.0MHz 64-QAM - Full RB Configuration)

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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. Conducted power measurements are performed to measure the average output power of the EUT. The averaging is to be performed only over duration of active transmissions at maximum output power level. The average measurements do not include averaging over periods when the transmitter is quiescent or when operating at reduced power level.

Test Procedure Used

KDB 971168 D01 v03

Test Setup

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



Figure 7-5. Conducted Power Measurement Setup

Test Notes

None

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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	312	530	5	39675	2498.5	QPSK	1	0	0	≤ 3	24.65	23.5	1.15
							16-QAM			≤ 1		24.22	22.5	1.72
							64-QAM			≤ 2		23.31	21.5	1.81
2				5	39675	2498.5	QPSK	1	9	0	0	26.65	26.5	0.15
							16-QAM			≤ 1		26.14	25.5	0.64
							64-QAM			≤ 2		25.24	24.5	0.74
3				10	39700	2501	QPSK	1	0	0	≤ 5	23.63	21.5	2.13
							16-QAM	1	0	≤ 1		23.35	20.5	2.85
							64-QAM	1	0	≤ 2		22.05	19.5	2.55
4				10	39700	2501	QPSK	20	0	0	≤ 2	24.52	23.5	1.02
							16-QAM	20	0	≤ 1		23.57	22.5	1.07
							64-QAM	20	0	≤ 2		22.53	21.5	1.03
5				10	39700	2501	QPSK	50	0	0	≤ 3	23.45	22.5	0.95
							16-QAM	50	0	≤ 1		22.44	21.5	0.94
							64-QAM	50	0	≤ 2		21.45	20.5	0.95
6				10	39700	2501	QPSK	25	20	0	≤ 1	24.56	24.5	0.06
							16-QAM	25	20	≤ 1		23.52	23.5	0.02
							64-QAM	25	20	≤ 2		22.53	22.5	0.03
7				10	39700	2501	QPSK	1	36	0	0	26.52	26.5	0.02
							16-QAM	1	36	≤ 1		26.12	25.5	0.62
							64-QAM	1	36	≤ 2		24.92	24.5	0.42
8				15	39725	2503.5	QPSK	1	0	0	≤ 5	23.69	21.5	2.19
							16-QAM	1	0	≤ 1		23.12	20.5	2.62
							64-QAM	1	0	≤ 2		22.11	19.5	2.61
9				15	39725	2503.5	QPSK	20	0	0	≤ 2	24.53	23.5	1.03
							16-QAM	20	0	≤ 1		23.55	22.5	1.05
							64-QAM	20	0	≤ 2		22.54	21.5	1.04
10				15	39725	2503.5	QPSK	75	0	0	≤ 4	22.47	21.5	0.97
							16-QAM	75	0	≤ 1		21.46	20.5	0.96
							64-QAM	75	0	≤ 2		20.45	19.5	0.95
11				15	39725	2503.5	QPSK	50	15	0	≤ 3	24.48	22.5	1.98
							16-QAM	50	15	≤ 1		23.50	21.5	2.00
							64-QAM	50	15	≤ 2		22.47	20.5	1.97
12				15	39725	2503.5	QPSK	1	60	0	0	26.64	26.5	0.14
							16-QAM	1	60	≤ 1		26.02	25.5	0.52
							64-QAM	1	60	≤ 2		25.06	24.5	0.56
13				20	39750	2506	QPSK	1	0	0	≤ 5	23.69	21.5	2.19
							16-QAM	1	0	≤ 1		23.29	20.5	2.79
							64-QAM	1	0	≤ 2		22.14	19.5	2.64
14				20	39750	2506	QPSK	20	0	0	≤ 2	24.55	23.5	1.05
							16-QAM	20	0	≤ 1		23.57	22.5	1.07
							64-QAM	20	0	≤ 2		22.64	21.5	1.14
15				20	39750	2506	QPSK	100	0	0	≤ 4	22.56	21.5	1.06
							16-QAM	100	0	≤ 1		21.54	20.5	1.04
							64-QAM	100	0	≤ 2		20.56	19.5	1.06
16				20	39750	2506	QPSK	75	24	0	≤ 3	24.53	22.5	2.03
							16-QAM	75	24	≤ 1		23.54	21.5	2.04
							64-QAM	75	24	≤ 2		22.55	20.5	2.05
17				20	39750	2506	QPSK	1	77	0	0	26.57	26.5	0.07
							16-QAM	1	77	≤ 1		26.17	25.5	0.67
							64-QAM	1	77	≤ 2		24.97	24.5	0.47
18	01	311	490	5	39675	2498.5	QPSK	1	0	0	≤ 3	24.55	23.5	1.05
			16-QAM				≤ 1			24.27		22.5	1.77	
			64-QAM				≤ 2			23.21		21.5	1.71	
19	01	001	01	5	39675	2498.5	QPSK	1	0	0	0	26.58	26.5	0.08
			16-QAM				≤ 1			26.32		25.5	0.82	
			64-QAM				≤ 2			25.2		24.5	0.70	

Table 7-7. A-MPR Conducted Power Measurements

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7.7 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 38/41, the minimum permissible attenuation level of any spurious emission is $55 + \log_{10}(P_{[Watts]})$.

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.

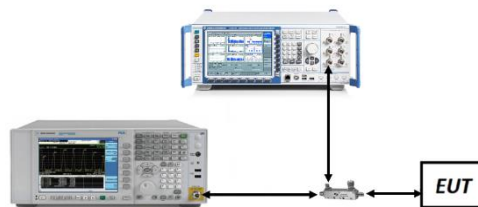


Figure 7-6. Test Instrument & Measurement Setup

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Test Notes

1. Uplink carrier aggregation is only supported in this EUT while operating in Power Class 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 the tables 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.
4. All ports were tested and only the worst case data were reported.
5. Refer to Table 2-1 Section 2.3 of this test report for correlation between Antennas and Ports.

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Port A

Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	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	PCC UL# RB	PCC UL RB Offset	
Max	LTE B7	10	20800	2505	QPSK	1	49	LTE B7	20	20944	2519.4	QPSK	1	0	24.72
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	10	20945	2519.5	QPSK	1	0	24.91
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	15	20975	2522.5	QPSK	1	0	24.82
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	20	20996	2524.6	QPSK	1	0	24.97
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	10	20994	2524.4	QPSK	1	0	24.94
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	15	21021	2527.1	QPSK	1	0	25.00
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	0	25.00
Max	LTE B7	10	21100	2535	QPSK	1	49	LTE B7	20	21244	2549.4	QPSK	1	0	24.91
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	10	21220	2547	QPSK	1	0	24.81
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	15	21250	2550	QPSK	1	0	24.88
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	20	21271	2552.1	QPSK	1	0	24.95
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	10	21244	2549.4	QPSK	1	0	24.81
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	15	21271	2552.1	QPSK	1	0	24.65
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	20	21298	2554.8	QPSK	1	0	24.62
Max	LTE B7	10	21400	2565	QPSK	1	0	LTE B7	20	21256	2550.6	QPSK	1	99	24.61
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	10	21255	2550.5	QPSK	1	49	24.74
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	15	21225	2547.5	QPSK	1	74	24.65
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	20	21204	2545.4	QPSK	1	99	24.86
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	10	21206	2545.6	QPSK	1	49	24.60
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	15	21179	2542.9	QPSK	1	74	24.59
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	20	21152	2540.2	QPSK	1	99	24.51

Table 7-8. Conducted Powers (B7 – PCC: RB Size 1 Offset Max SCC: RB Size 1 Offset 0)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B7	20	20850	2510	QPSK	1	0	LTE B7	20	21048	2529.8	QPSK	1	0	20.52
Max	LTE B7	20	20850	2510	16-QAM	1	0	LTE B7	20	21048	2529.8	16-QAM	1	0	20.85
Max	LTE B7	20	20850	2510	64-QAM	1	0	LTE B7	20	21048	2529.8	64-QAM	1	0	20.81
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	99	20.32
Max	LTE B7	20	20850	2510	QPSK	1	0	LTE B7	20	21048	2529.8	QPSK	1	99	16.37
Max	LTE B7	20	20850	2510	QPSK	1	50	LTE B7	20	21048	2529.8	QPSK	1	50	20.45
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	0	25.00
Max	LTE B7	20	20850	2510	QPSK	100	0	LTE B7	20	21048	2529.8	QPSK	100	0	23.18
Max	LTE B7	20	20850	2510	16-QAM	100	0	LTE B7	20	21048	2529.8	16-QAM	100	0	22.17
Max	LTE B7	20	20850	2510	64-QAM	100	0	LTE B7	20	21048	2529.8	64-QAM	100	0	22.15

Table 7-9. Conducted Powers (B7 with Various Combinations for 20MHz Channel Bandwidth)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	5	39675	2498.5	QPSK	1	24	LTE B41	20	39792	2510.2	QPSK	1	0	24.41
Max	LTE B41	10	39700	2501	QPSK	1	49	LTE B41	15	39820	2513	QPSK	1	0	24.70
Max	LTE B41	10	39700	2501	QPSK	1	49	LTE B41	20	39844	2515.4	QPSK	1	0	24.65
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	10	39845	2515.5	QPSK	1	0	24.54
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	15	39875	2518.5	QPSK	1	0	24.45
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	20	39896	2520.6	QPSK	1	0	24.65
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	5	39867	2517.7	QPSK	1	0	24.52
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	10	39894	2520.4	QPSK	1	0	24.53
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	15	39921	2523.1	QPSK	1	0	24.52
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.64
Max	LTE B41	5	40620	2593	QPSK	1	24	LTE B41	20	40737	2604.7	QPSK	1	0	24.62
Max	LTE B41	10	40620	2593	QPSK	1	49	LTE B41	15	40740	2605	QPSK	1	0	24.72
Max	LTE B41	10	40620	2593	QPSK	1	49	LTE B41	20	40764	2607.4	QPSK	1	0	24.74
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	10	40740	2605	QPSK	1	0	24.67
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	15	40770	2608	QPSK	1	0	24.60
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	20	40791	2610.1	QPSK	1	0	24.71
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	5	40737	2604.7	QPSK	1	0	25.00
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	10	40764	2607.4	QPSK	1	0	24.54
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	15	40791	2610.1	QPSK	1	0	24.58
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	24.79
Max	LTE B41	5	41565	2687.5	QPSK	1	0	LTE B41	20	41448	2675.8	QPSK	1	99	24.48
Max	LTE B41	10	41540	2685	QPSK	1	0	LTE B41	15	41420	2673	QPSK	1	74	24.43
Max	LTE B41	10	41540	2685	QPSK	1	0	LTE B41	20	41396	2670.6	QPSK	1	99	24.46
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	10	41395	2670.5	QPSK	1	49	24.58
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	15	41365	2667.5	QPSK	1	74	24.50
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	20	41344	2665.4	QPSK	1	99	24.45
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	5	41373	2668.3	QPSK	1	24	24.63
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	10	41346	2665.6	QPSK	1	49	24.65
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	15	41319	2662.9	QPSK	1	74	24.70
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	24.59

Table 7-10. Conducted Powers (B41 – PCC: RB Size 1 Offset Max SCC: RB Size 1 Offset 0)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	0	20.11
Max	LTE B41	20	39750	2506	16-QAM	1	0	LTE B7	20	39948	2525.8	16-QAM	1	0	20.09
Max	LTE B41	20	39750	2506	64-QAM	1	0	LTE B7	20	39948	2525.8	64-QAM	1	0	20.16
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	99	20.13
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	99	16.13
Max	LTE B41	20	39750	2506	QPSK	1	50	LTE B41	20	39948	2525.8	QPSK	1	50	20.05
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.66
Max	LTE B41	20	39750	2506	QPSK	100	0	LTE B41	20	39948	2525.8	QPSK	100	0	22.80
Max	LTE B41	20	39750	2506	16-QAM	100	0	LTE B41	20	39948	2525.8	16-QAM	100	0	21.81
Max	LTE B41	20	39750	2506	64-QAM	100	0	LTE B41	20	39948	2525.8	64-QAM	100	0	21.79

Table 7-11. Conducted Powers (B41 with Various Combinations for 20MHz Channel Bandwidth)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Port B

Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	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	PCC UL# RB	PCC UL RB Offset	
Max	LTE B7	10	20800	2505	QPSK	1	49	LTE B7	20	20944	2519.4	QPSK	1	0	22.58
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	10	20945	2519.5	QPSK	1	0	22.56
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	15	20975	2522.5	QPSK	1	0	22.36
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	20	20996	2524.6	QPSK	1	0	22.75
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	10	20994	2524.4	QPSK	1	0	22.39
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	15	21021	2527.1	QPSK	1	0	22.44
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	0	22.49
Max	LTE B7	10	21100	2535	QPSK	1	49	LTE B7	20	21244	2549.4	QPSK	1	0	22.50
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	10	21220	2547	QPSK	1	0	22.43
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	15	21250	2550	QPSK	1	0	22.42
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	20	21271	2552.1	QPSK	1	0	22.49
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	10	21244	2549.4	QPSK	1	0	22.45
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	15	21271	2552.1	QPSK	1	0	22.38
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	20	21298	2554.8	QPSK	1	0	22.54
Max	LTE B7	10	21400	2565	QPSK	1	0	LTE B7	20	21256	2550.6	QPSK	1	99	22.75
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	10	21255	2550.5	QPSK	1	49	22.32
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	15	21225	2547.5	QPSK	1	74	22.26
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	20	21204	2545.4	QPSK	1	99	22.36
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	10	21206	2545.6	QPSK	1	49	21.66
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	15	21179	2542.9	QPSK	1	74	22.38
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	20	21152	2540.2	QPSK	1	99	22.40

Table 7-12. Conducted Powers (B7 – PCC: RB Size 1 Offset Max SCC: RB Size 1 Offset 0)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 250 of 363

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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B7	20	20850	2510	QPSK	1	0	LTE B7	20	21048	2529.8	QPSK	1	0	18.21
Max	LTE B7	20	20850	2510	16-QAM	1	0	LTE B7	20	21048	2529.8	16-QAM	1	0	18.45
Max	LTE B7	20	20850	2510	64-QAM	1	0	LTE B7	20	21048	2529.8	64-QAM	1	0	18.57
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	99	17.86
Max	LTE B7	20	20850	2510	QPSK	1	0	LTE B7	20	21048	2529.8	QPSK	1	99	13.88
Max	LTE B7	20	20850	2510	QPSK	1	50	LTE B7	20	21048	2529.8	QPSK	1	50	18.06
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	0	22.62
Max	LTE B7	20	20850	2510	QPSK	100	0	LTE B7	20	21048	2529.8	QPSK	100	0	20.68
Max	LTE B7	20	20850	2510	16-QAM	100	0	LTE B7	20	21048	2529.8	16-QAM	100	0	19.72
Max	LTE B7	20	20850	2510	64-QAM	100	0	LTE B7	20	21048	2529.8	64-QAM	100	0	19.66

Table 7-13. Conducted Powers (B7 with Various Combinations for 20MHz Channel Bandwidth)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 251 of 363

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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	5	39675	2498.5	QPSK	1	24	LTE B41	20	39792	2510.2	QPSK	1	0	22.45
Max	LTE B41	10	39700	2501	QPSK	1	49	LTE B41	15	39820	2513	QPSK	1	0	22.42
Max	LTE B41	10	39700	2501	QPSK	1	49	LTE B41	20	39844	2515.4	QPSK	1	0	22.52
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	10	39845	2515.5	QPSK	1	0	22.16
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	15	39875	2518.5	QPSK	1	0	22.30
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	20	39896	2520.6	QPSK	1	0	22.42
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	5	39867	2517.7	QPSK	1	0	22.26
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	10	39894	2520.4	QPSK	1	0	22.25
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	15	39921	2523.1	QPSK	1	0	22.27
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	22.45
Max	LTE B41	5	40620	2593	QPSK	1	24	LTE B41	20	40737	2604.7	QPSK	1	0	22.31
Max	LTE B41	10	40620	2593	QPSK	1	49	LTE B41	15	40740	2605	QPSK	1	0	22.39
Max	LTE B41	10	40620	2593	QPSK	1	49	LTE B41	20	40764	2607.4	QPSK	1	0	22.40
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	10	40740	2605	QPSK	1	0	22.43
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	15	40770	2608	QPSK	1	0	22.44
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	20	40791	2610.1	QPSK	1	0	22.45
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	5	40737	2604.7	QPSK	1	0	22.22
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	10	40764	2607.4	QPSK	1	0	22.25
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	15	40791	2610.1	QPSK	1	0	22.31
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	22.44
Max	LTE B41	5	41565	2687.5	QPSK	1	0	LTE B41	20	41448	2675.8	QPSK	1	99	22.42
Max	LTE B41	10	41540	2685	QPSK	1	0	LTE B41	15	41420	2673	QPSK	1	74	22.41
Max	LTE B41	10	41540	2685	QPSK	1	0	LTE B41	20	41396	2670.6	QPSK	1	99	22.37
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	10	41395	2670.5	QPSK	1	49	22.42
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	15	41365	2667.5	QPSK	1	74	22.35
Max	LTE B41	15	41515	2682.5	QPSK	1	0	LTE B41	20	41344	2665.4	QPSK	1	99	22.34
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	5	41373	2668.3	QPSK	1	24	22.25
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	10	41346	2665.6	QPSK	1	49	22.45
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	15	41319	2662.9	QPSK	1	74	22.48
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	22.47

Table 7-14. Conducted Powers (B41 – PCC: RB Size 1 Offset Max SCC: RB Size 1 Offset 0)

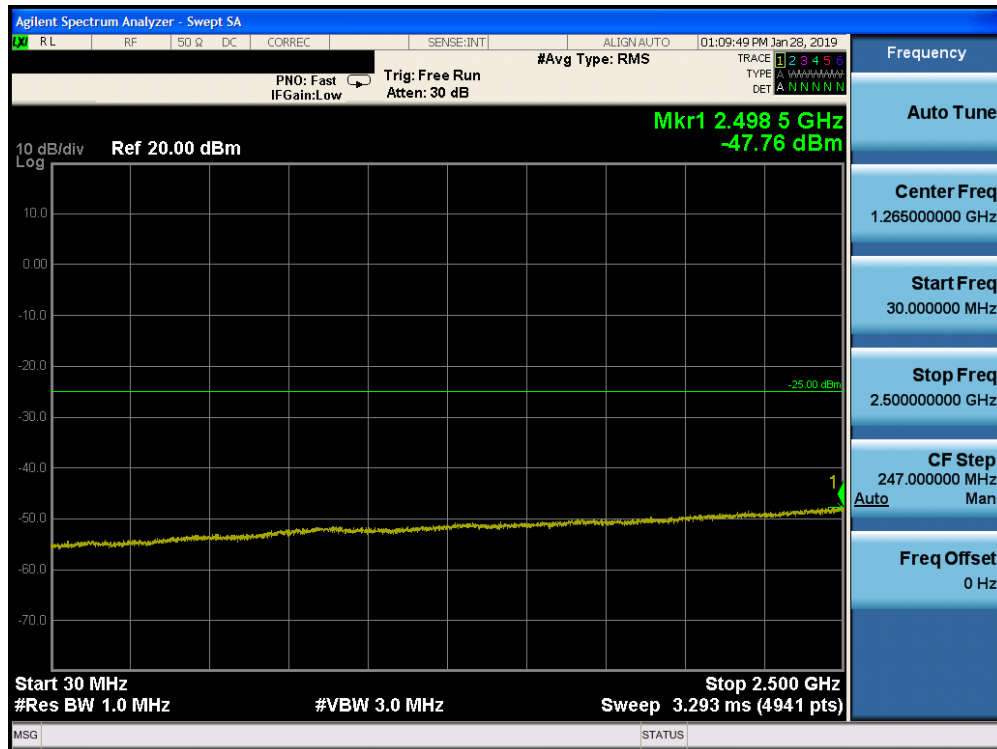
FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 252 of 363

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	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	0	17.78
Max	LTE B41	20	39750	2506	16-QAM	1	0	LTE B41	20	39948	2525.8	16-QAM	1	0	17.93
Max	LTE B41	20	39750	2506	64-QAM	1	0	LTE B41	20	39948	2525.8	64QAM	1	0	17.79
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	99	17.96
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	99	13.97
Max	LTE B41	20	39750	2506	QPSK	1	50	LTE B41	20	39948	2525.8	QPSK	1	50	17.62
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	22.47
Max	LTE B41	20	39750	2506	QPSK	100	0	LTE B41	20	39948	2525.8	QPSK	100	0	20.64
Max	LTE B41	20	39750	2506	16-QAM	100	0	LTE B41	20	39948	2525.8	16-QAM	100	0	19.62
Max	LTE B41	20	39750	2506	64-QAM	100	0	LTE B41	20	39948	2525.8	64-QAM	100	0	19.61

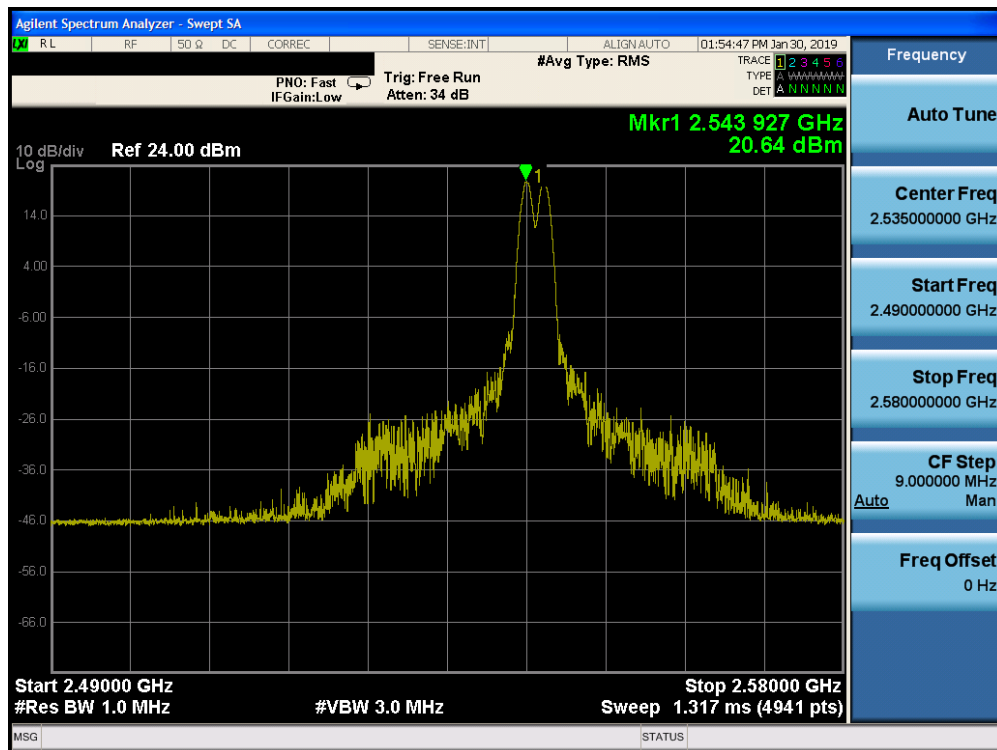
Table 7-15. Conducted Powers (B41 with Various Combinations for 20MHz Channel Bandwidth)

FCC ID: BCGA2153	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 253 of 363

Band 7



Plot 7-414. Conducted Spurious Plot (Band 7 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-415. Conducted Spurious Plot (Band 7 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: BCGA2153	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1811080028-03-R1.BCG	Test Dates: 11/09/2018-02/06/2019	EUT Type: Tablet Device	Page 254 of 363