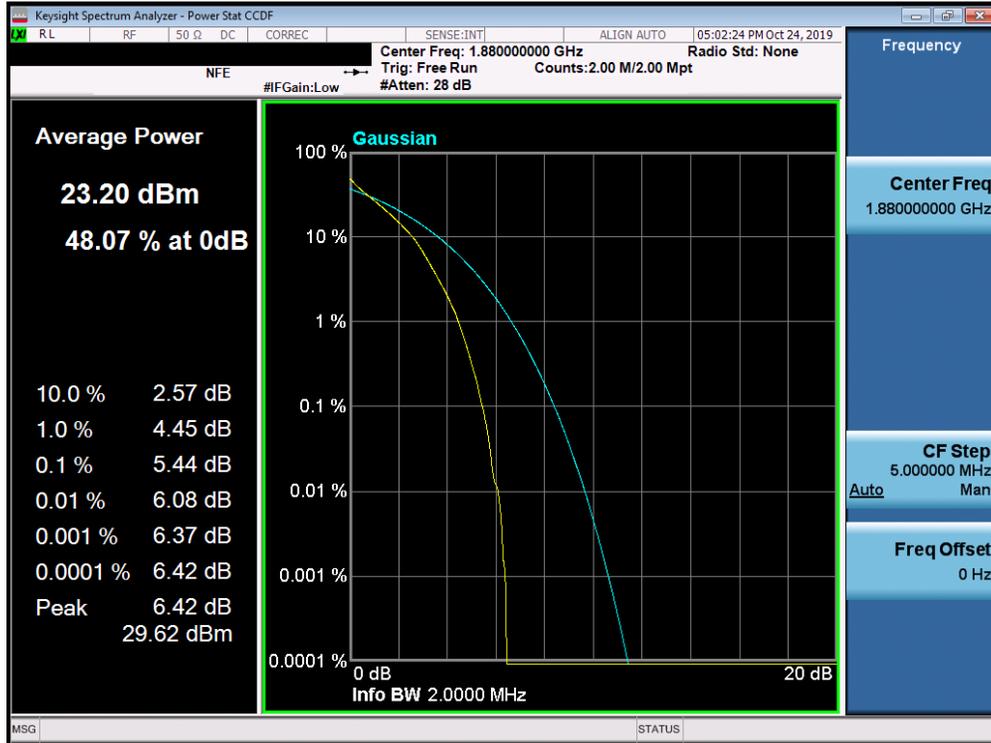
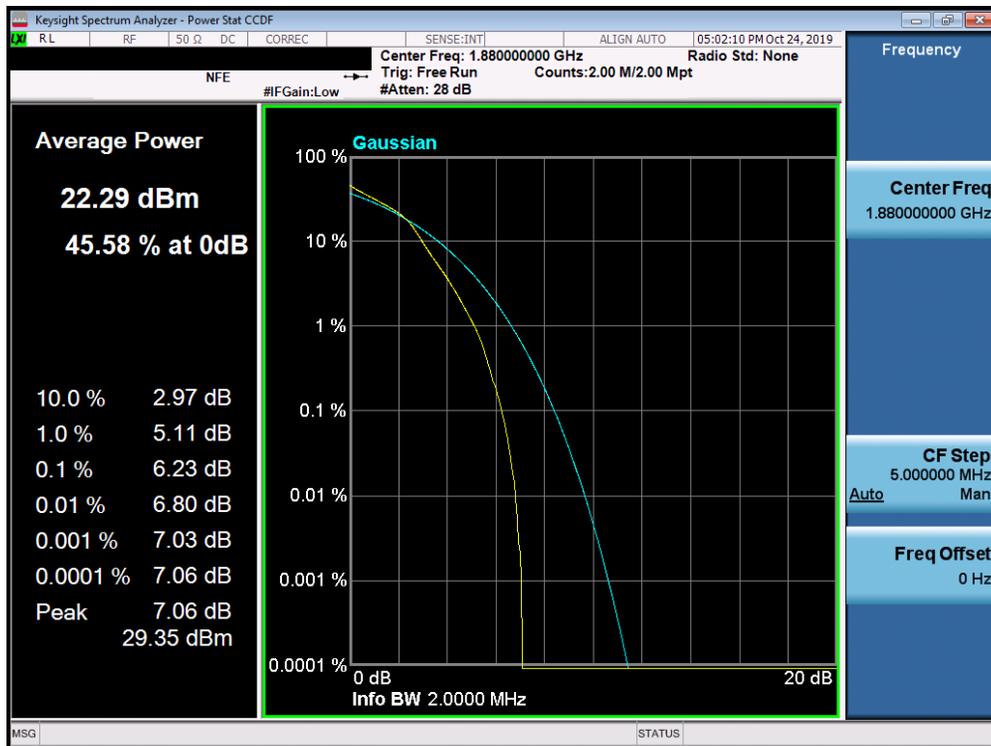


Band 2

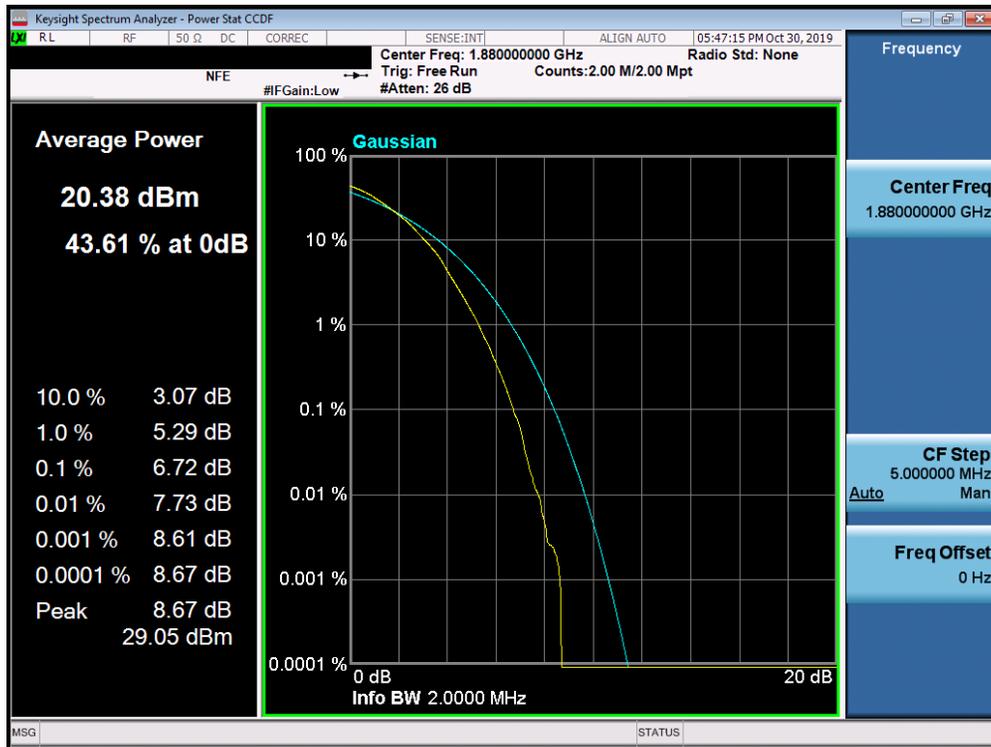


Plot 7-415. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

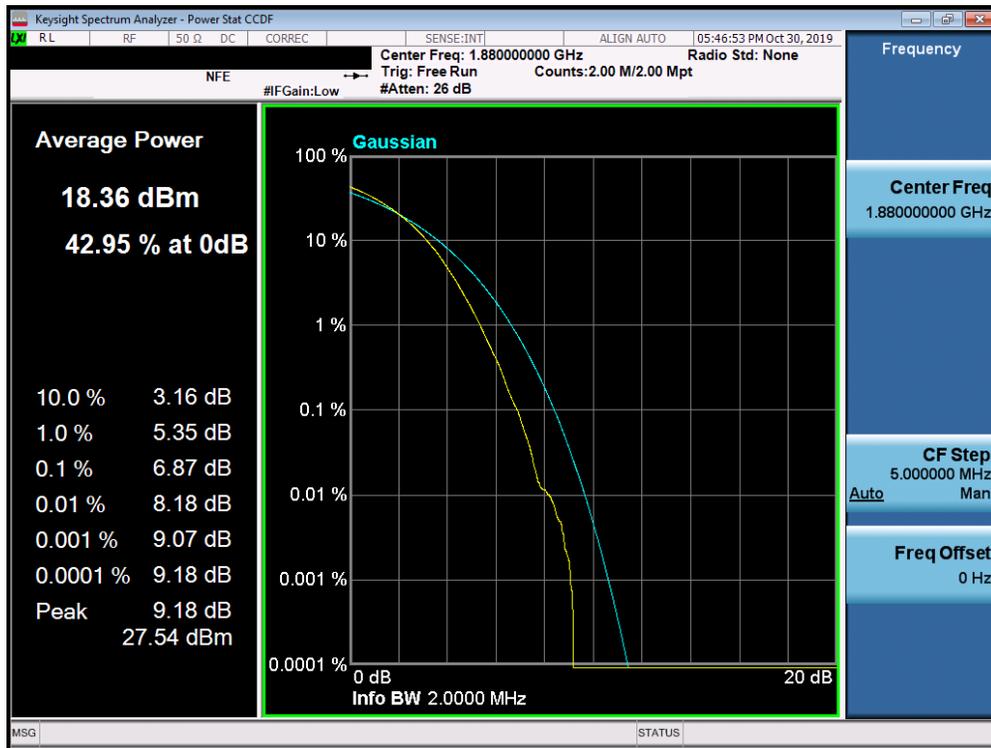


Plot 7-416. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 234 of 357

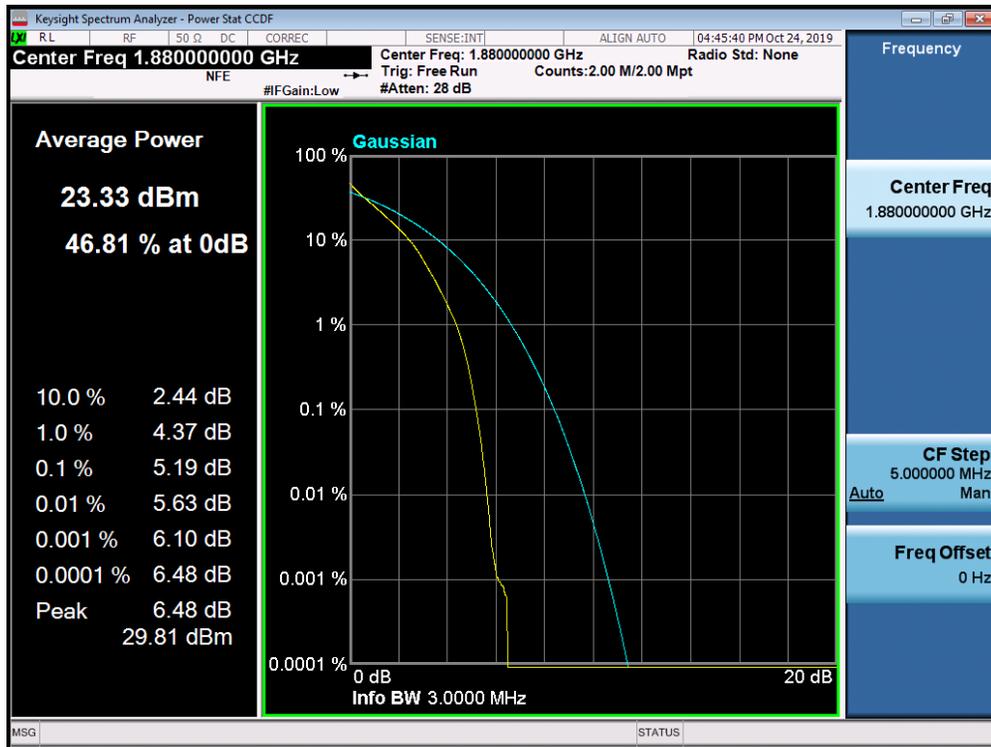


Plot 7-417. PAR Plot (Band 2 - 1.4MHz 64-QAM - Full RB Configuration)

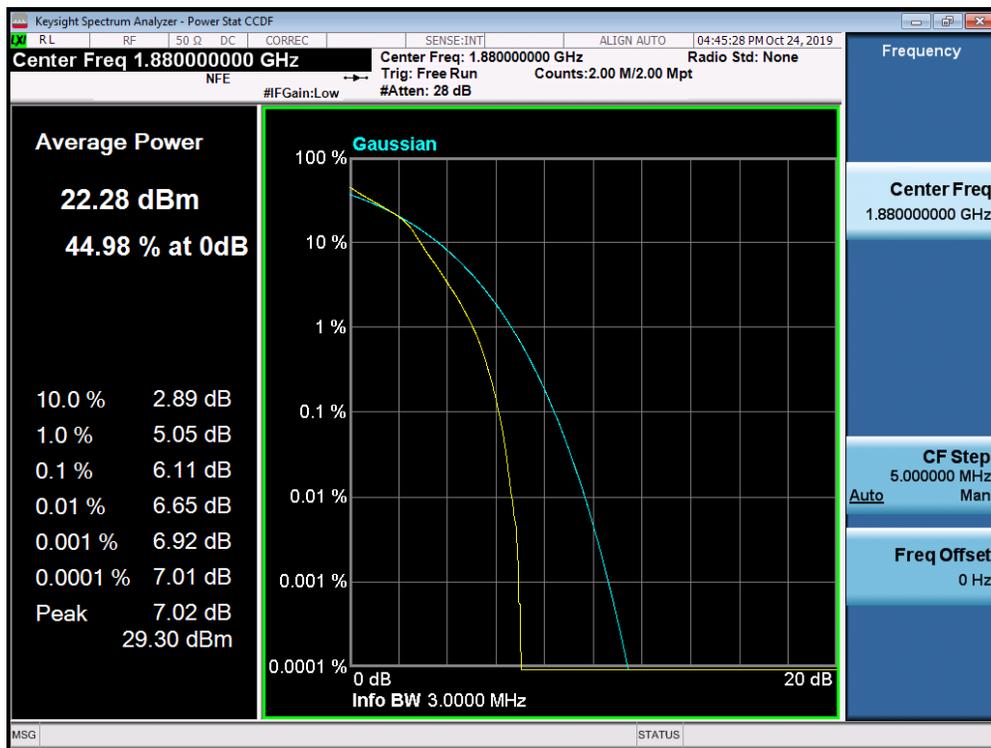


Plot 7-418. PAR Plot (Band 2 - 1.4MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 235 of 357

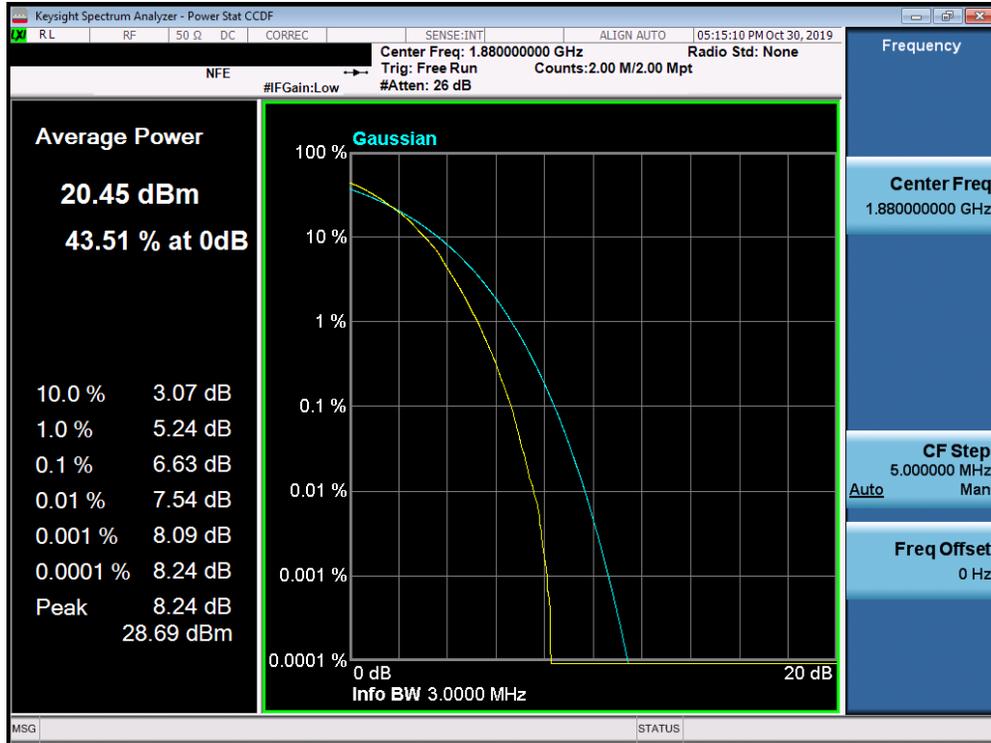


Plot 7-419. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

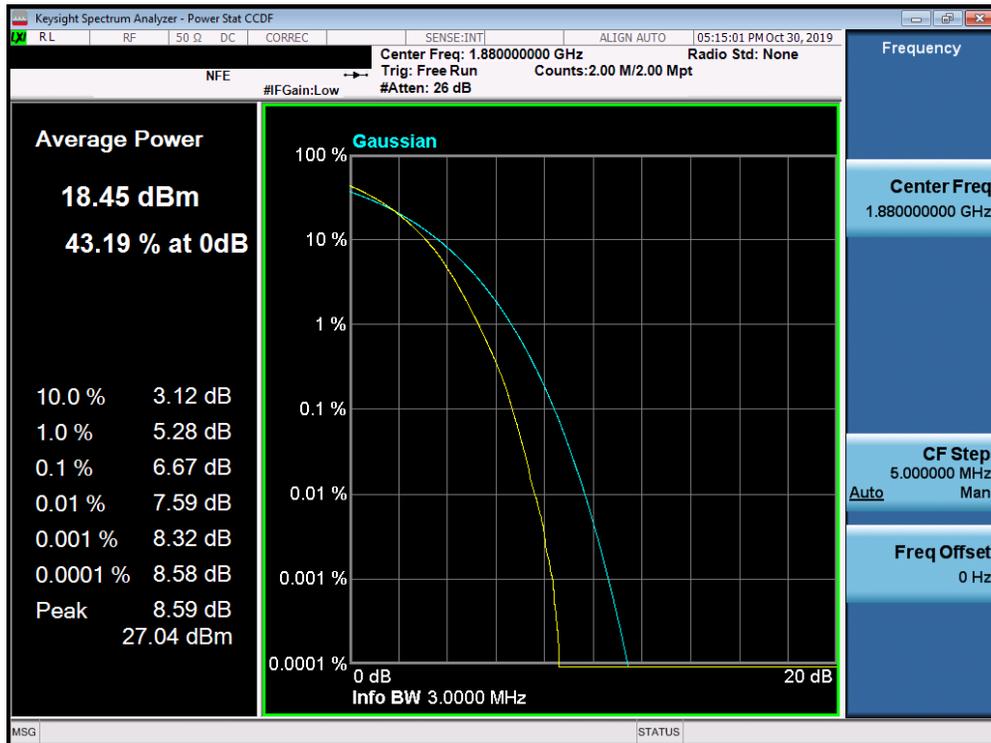


Plot 7-420. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 236 of 357

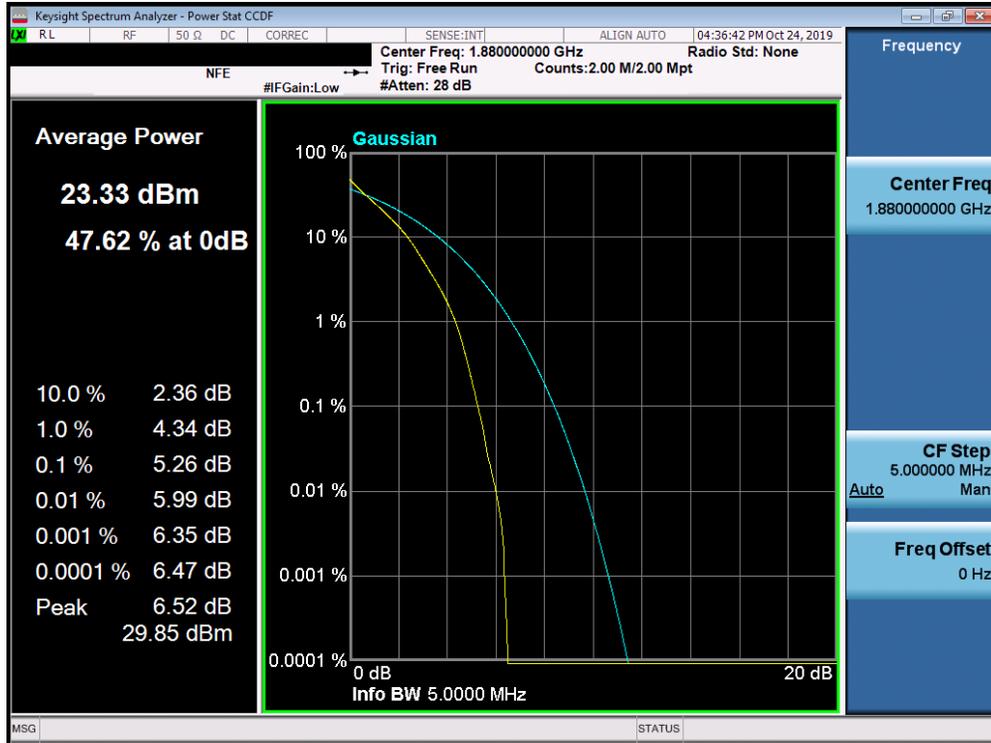


Plot 7-421. PAR Plot (Band 2 - 3.0MHz 64-QAM - Full RB Configuration)

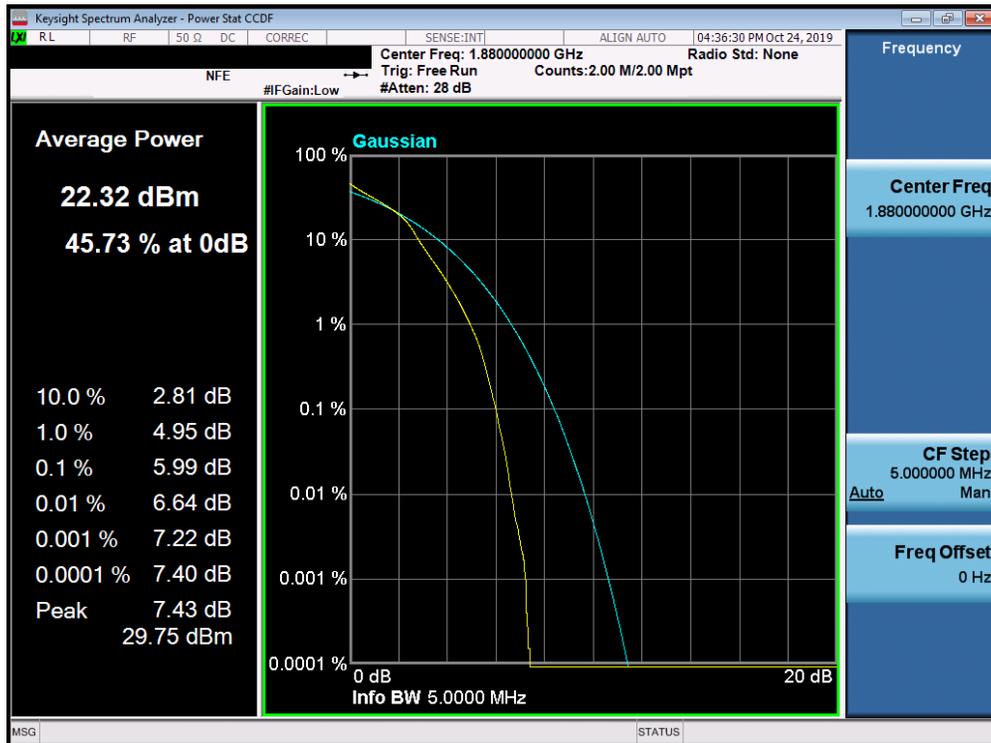


Plot 7-422. PAR Plot (Band 2 - 3.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 237 of 357

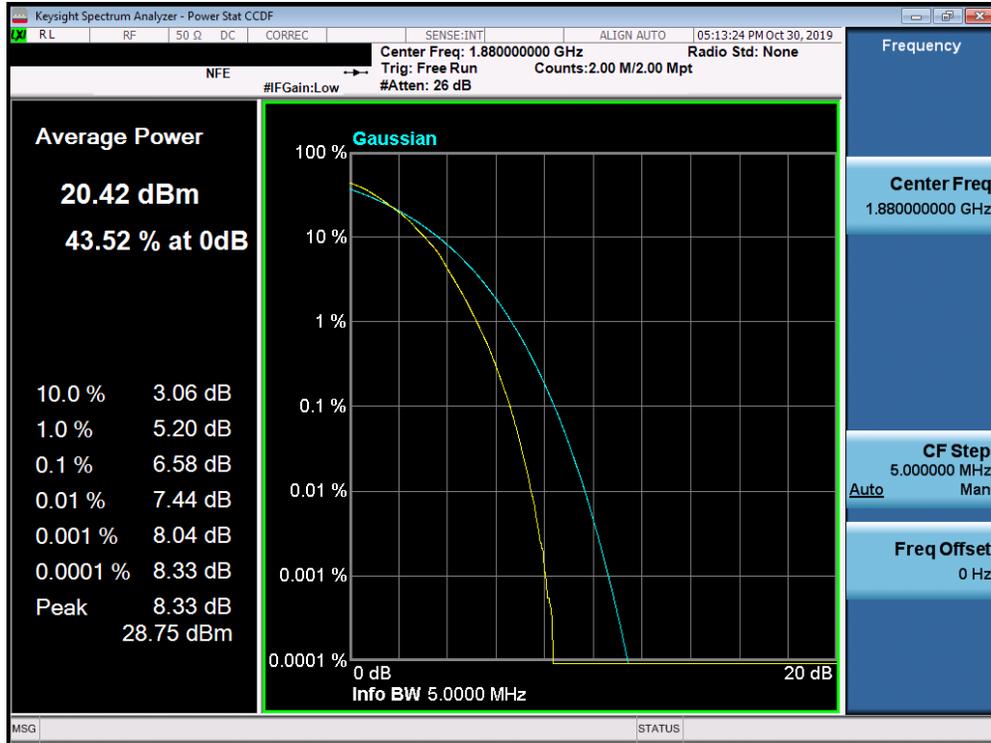


Plot 7-423. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

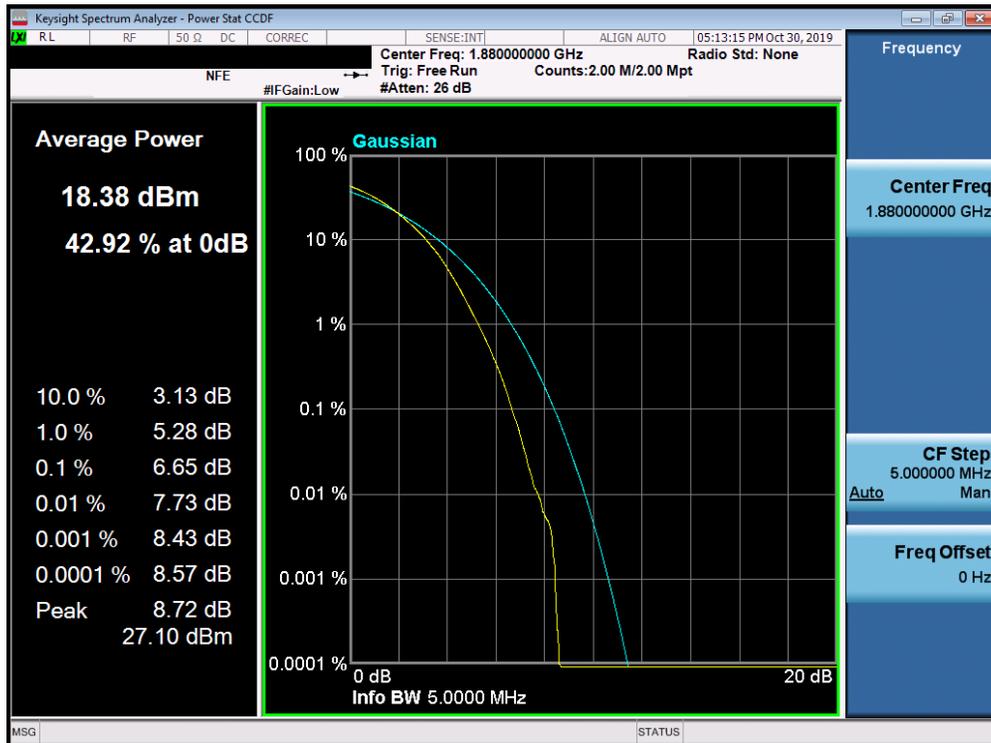


Plot 7-424. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 238 of 357

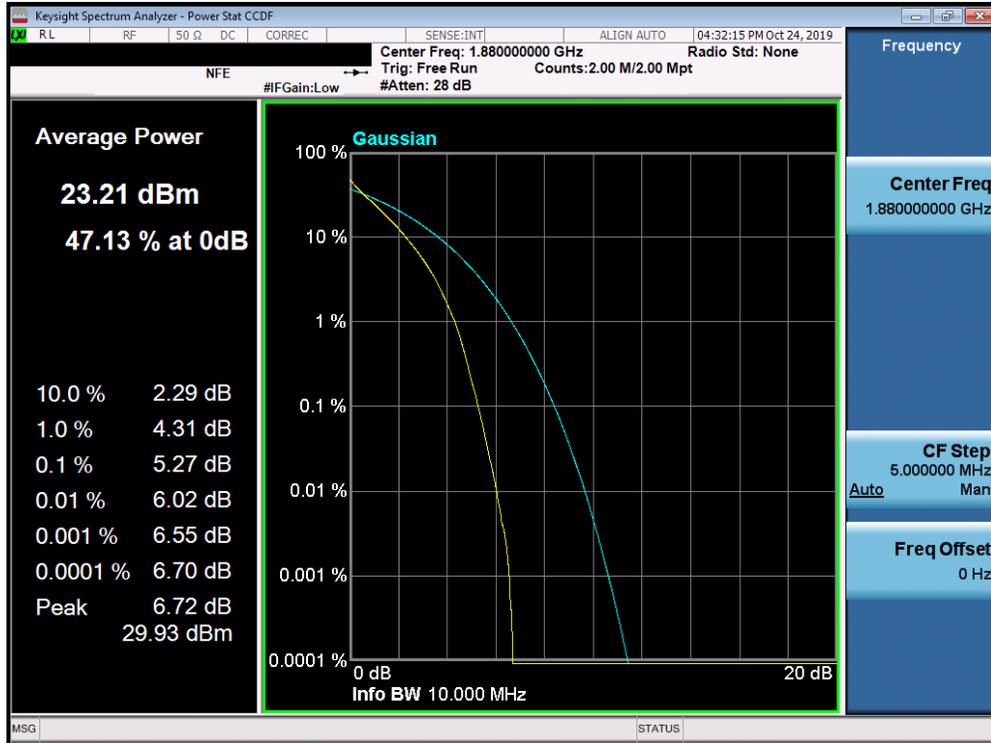


Plot 7-425. PAR Plot (Band 2 - 5.0MHz 64-QAM - Full RB Configuration)

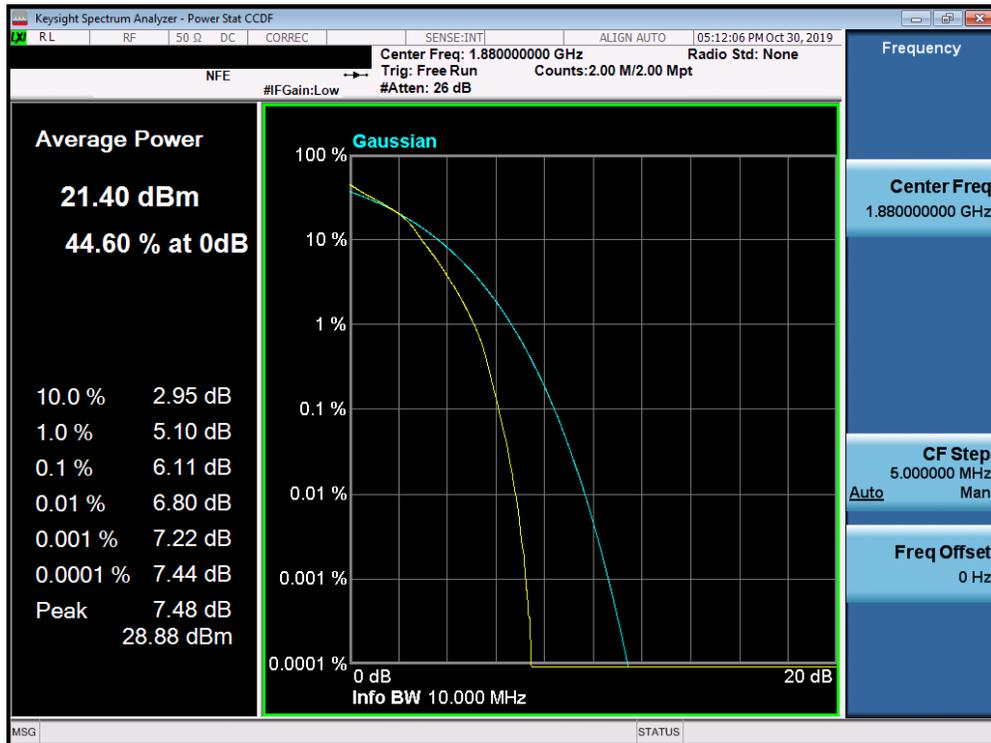


Plot 7-426. PAR Plot (Band 2 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 239 of 357

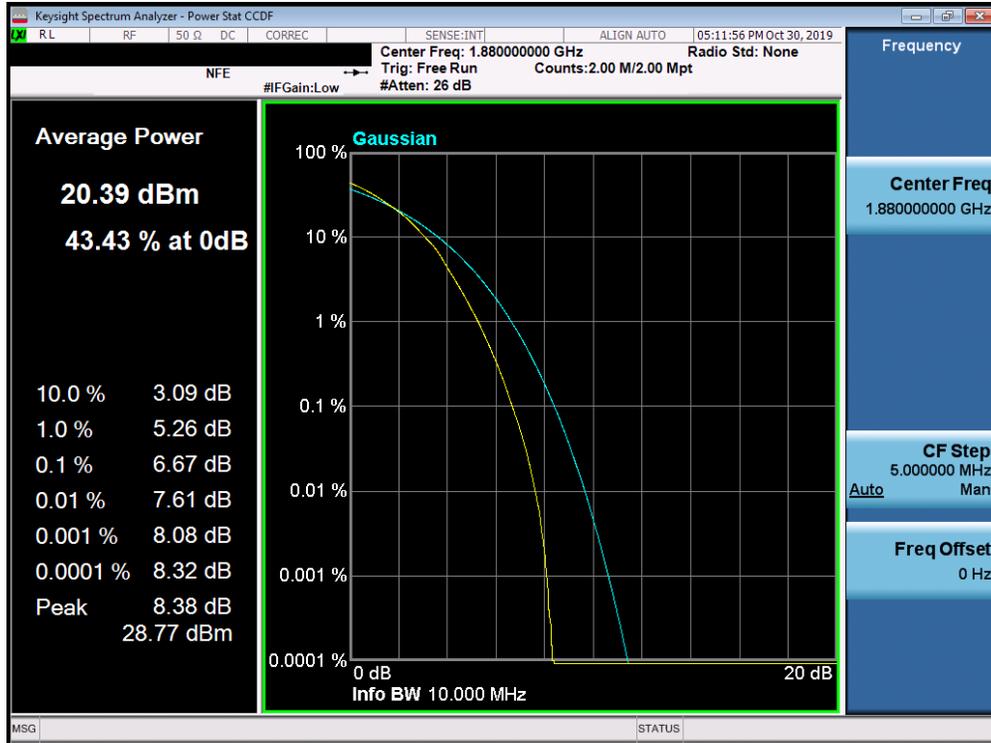


Plot 7-427. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

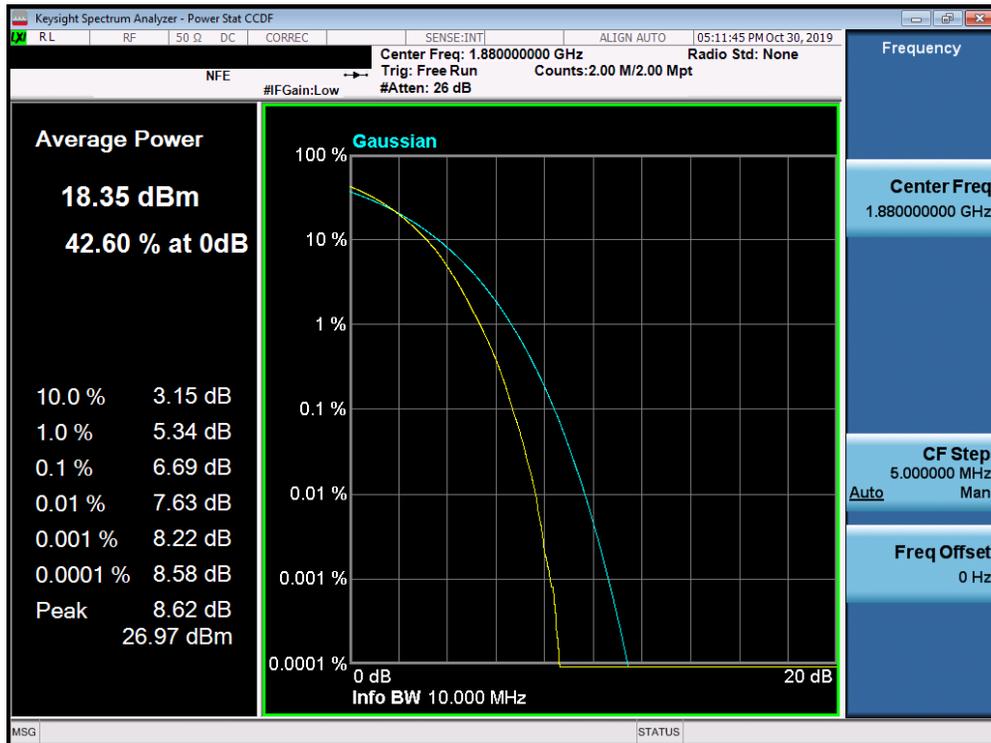


Plot 7-428. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 240 of 357

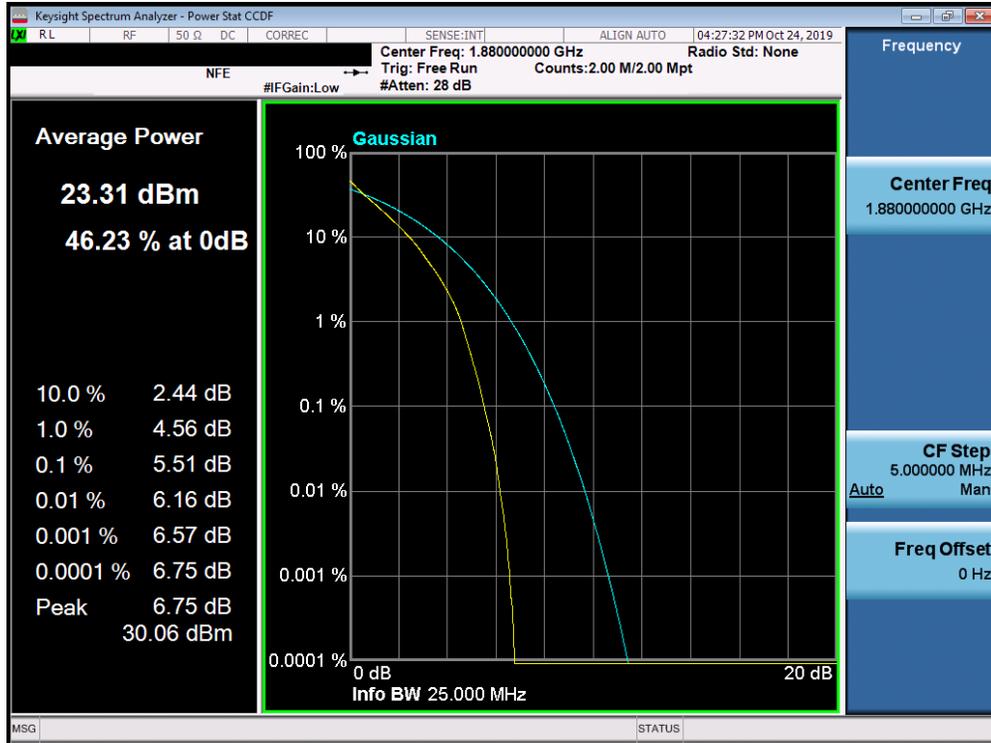


Plot 7-429. PAR Plot (Band 2 - 10.0MHz 64-QAM - Full RB Configuration)

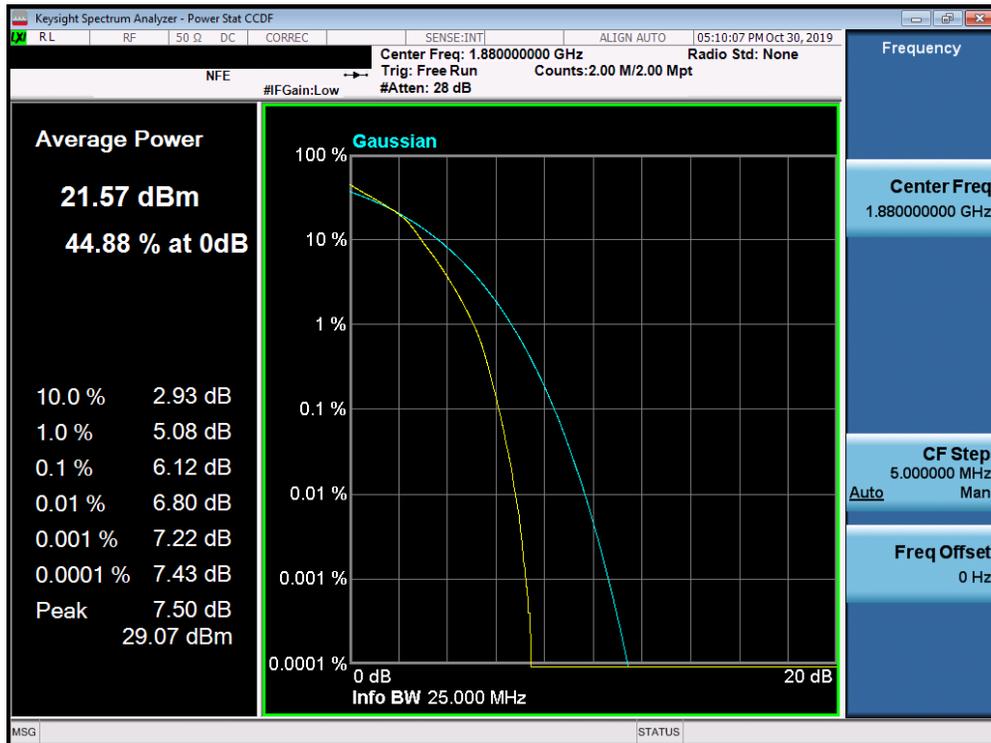


Plot 7-430. PAR Plot (Band 2 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 241 of 357

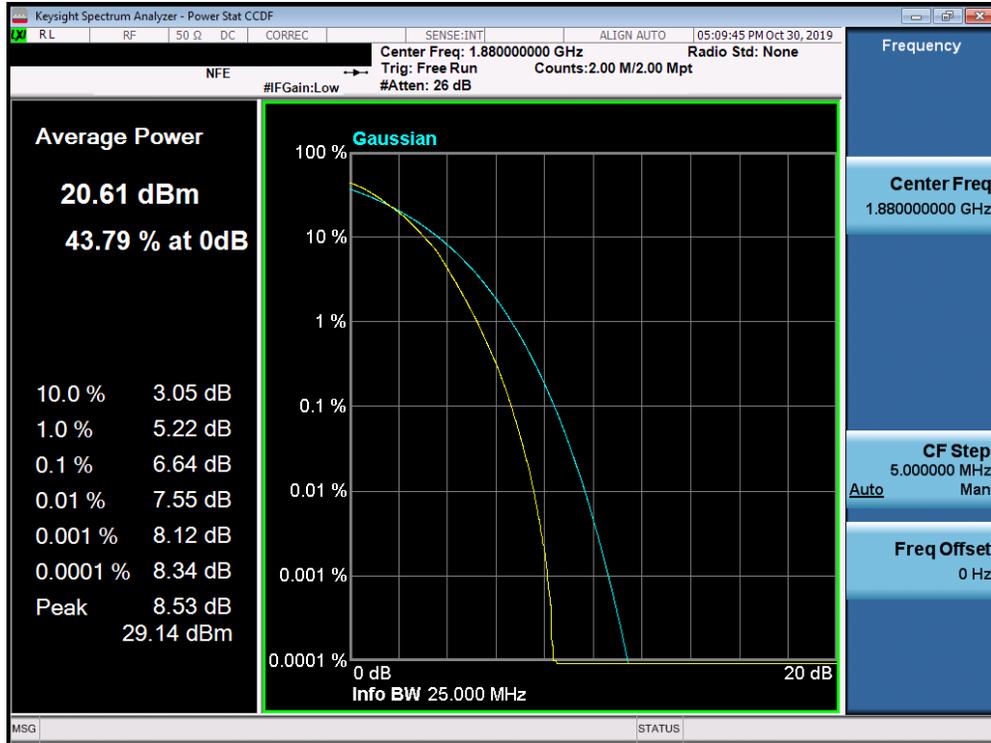


Plot 7-431. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

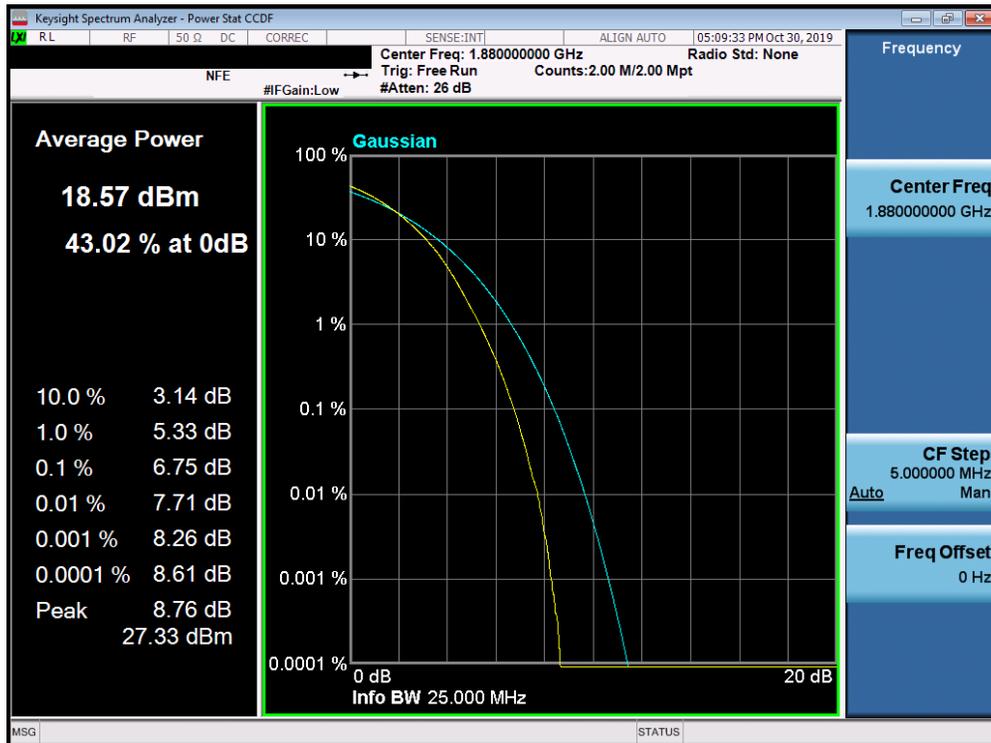


Plot 7-432. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 242 of 357

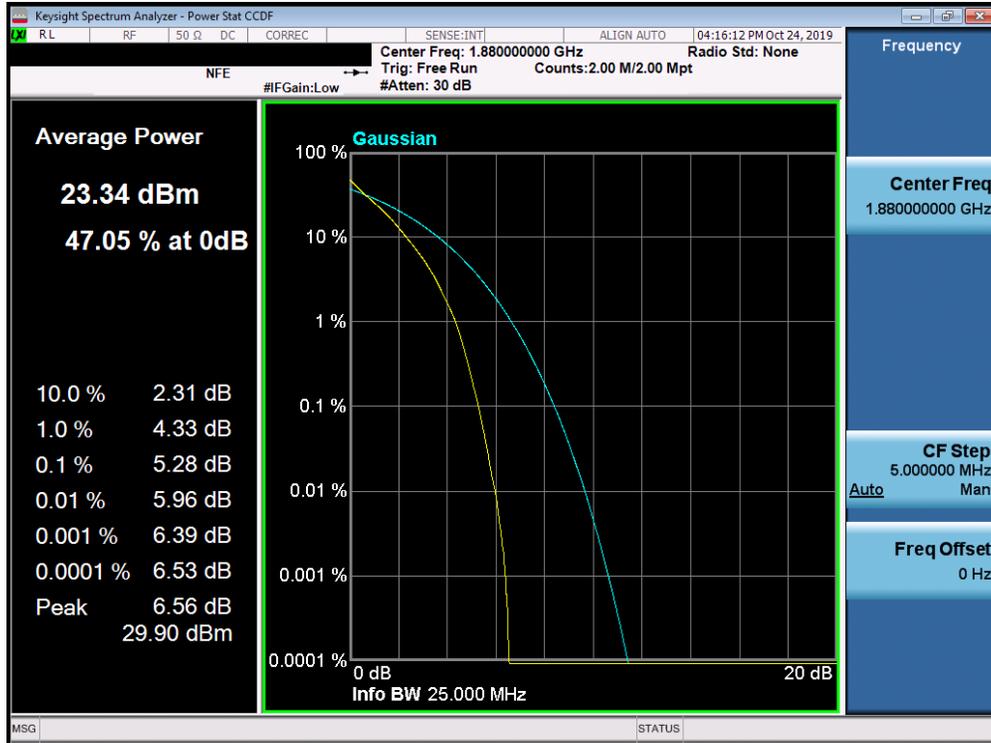


Plot 7-433. PAR Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)

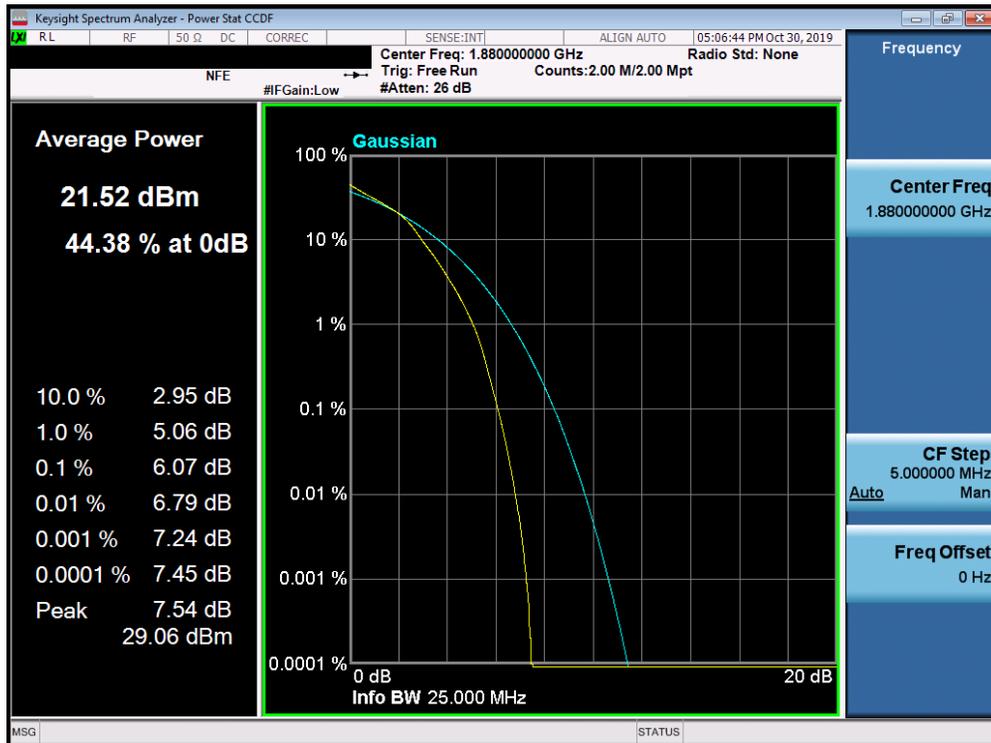


Plot 7-434. PAR Plot (Band 2 - 15.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 243 of 357

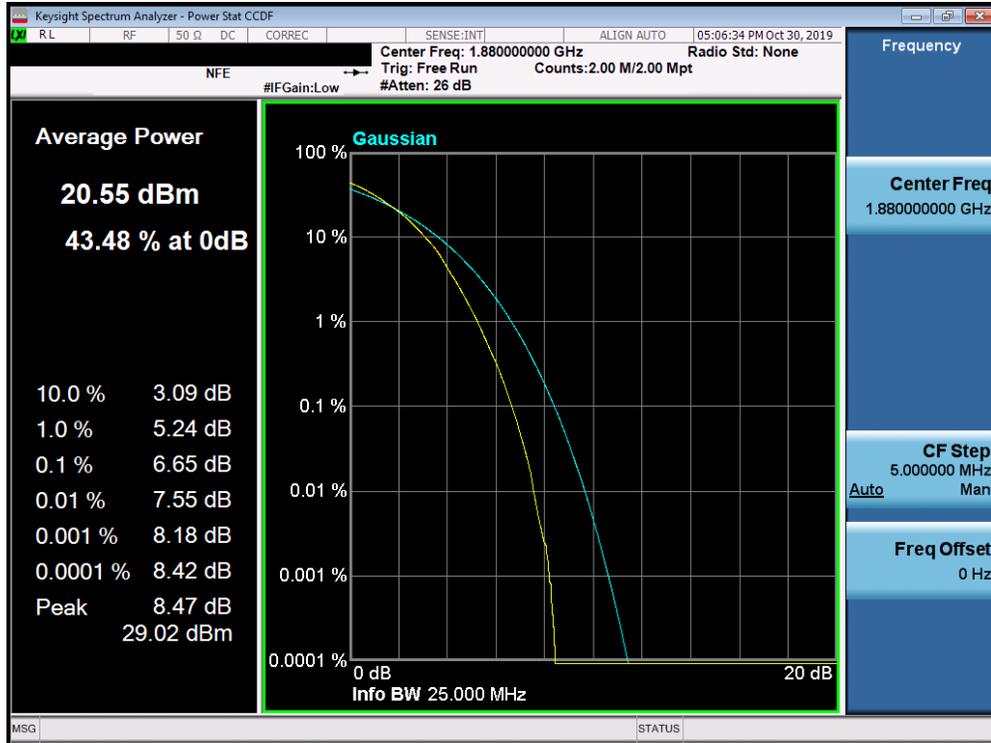


Plot 7-435. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

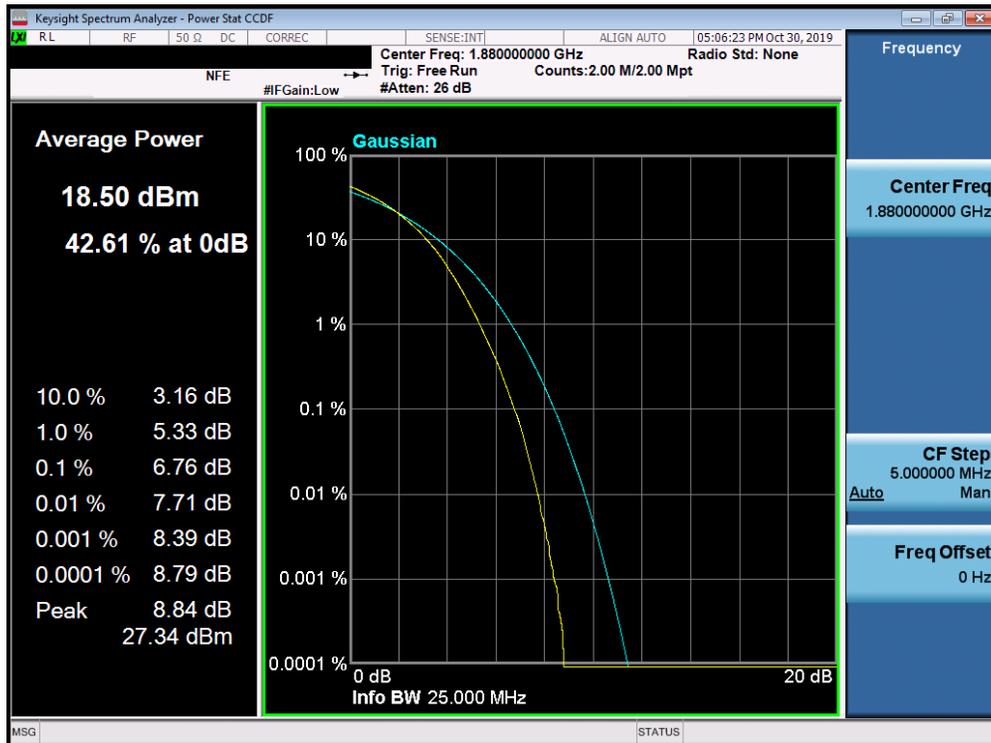


Plot 7-436. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 244 of 357



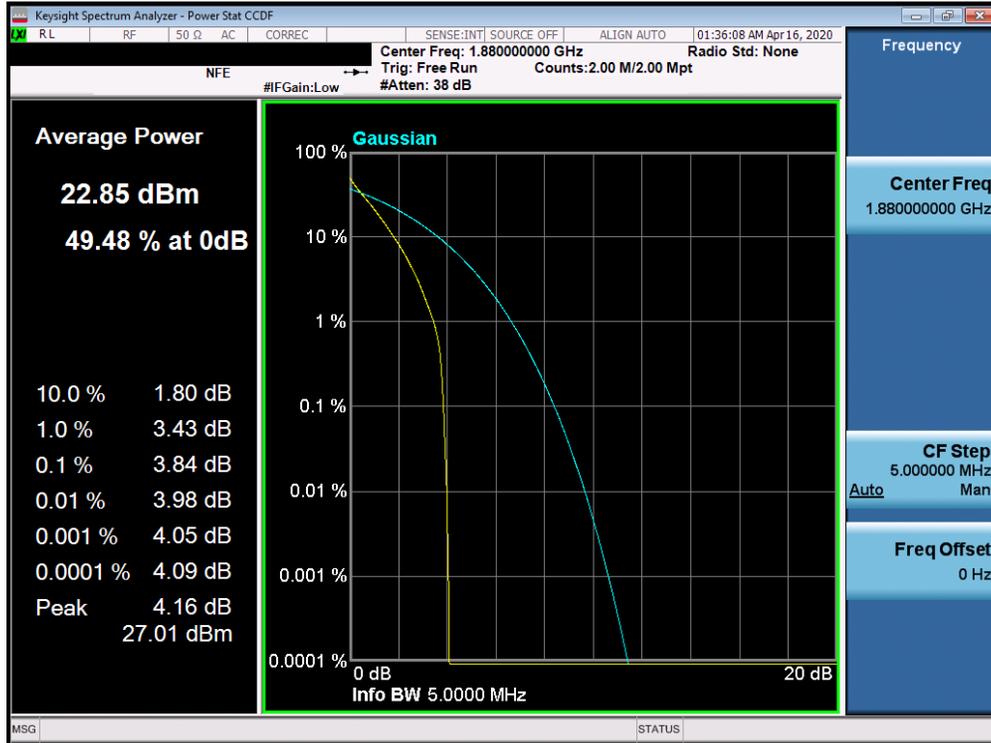
Plot 7-437. PAR Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)



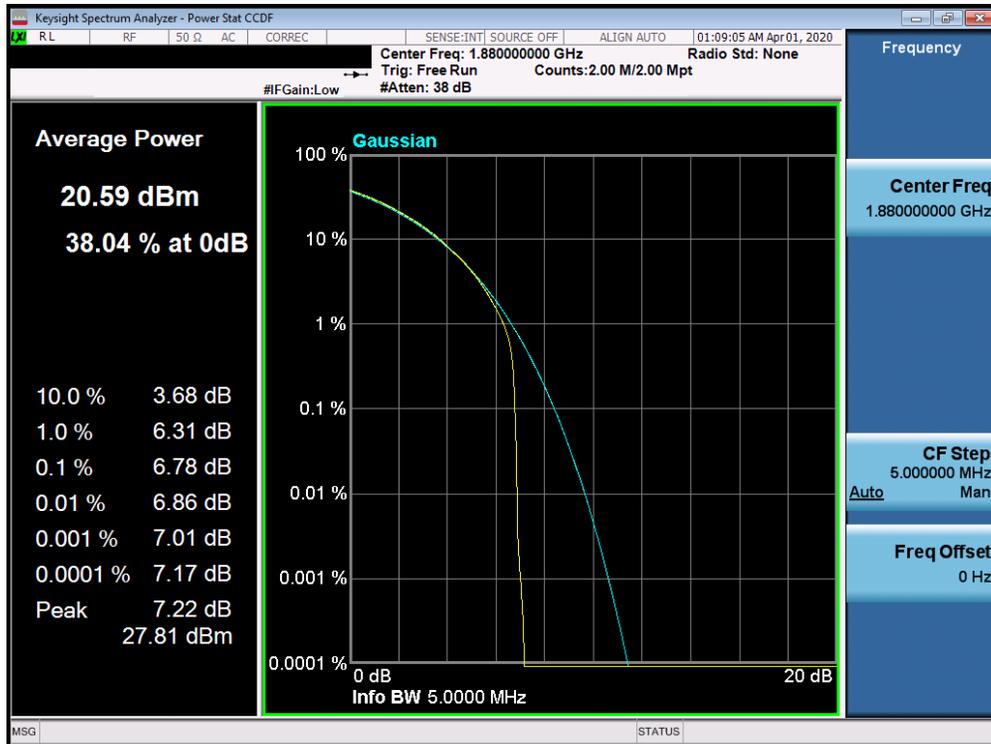
Plot 7-438. PAR Plot (Band 2 - 20.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 245 of 357

NR Band n2

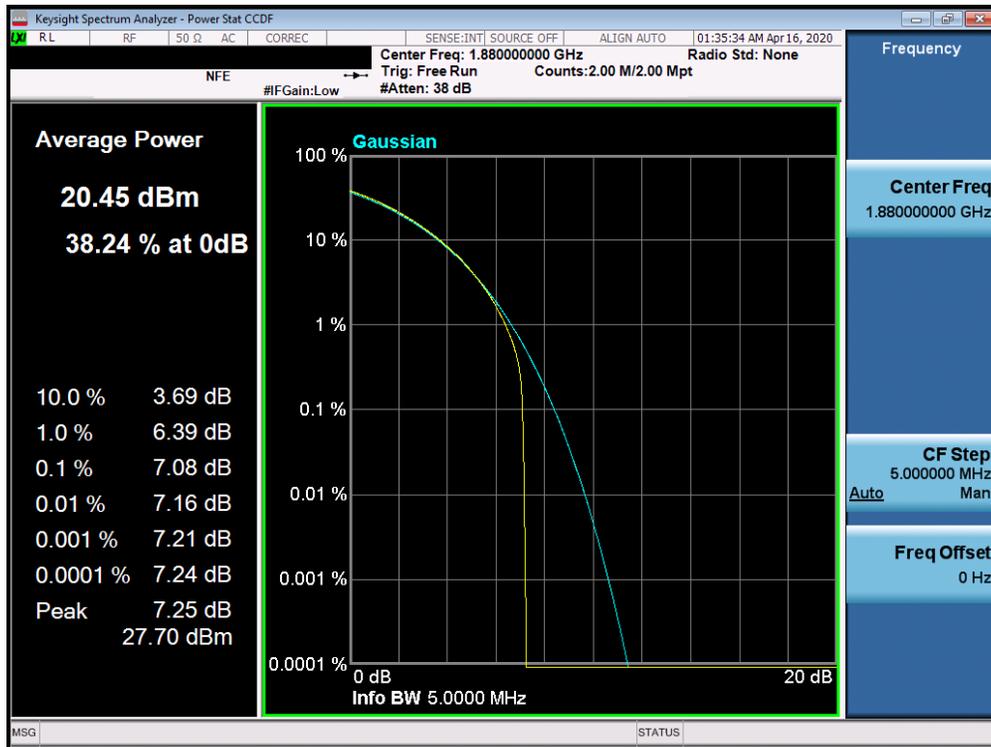


Plot 7-439. PAR Plot (n2 - 5.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

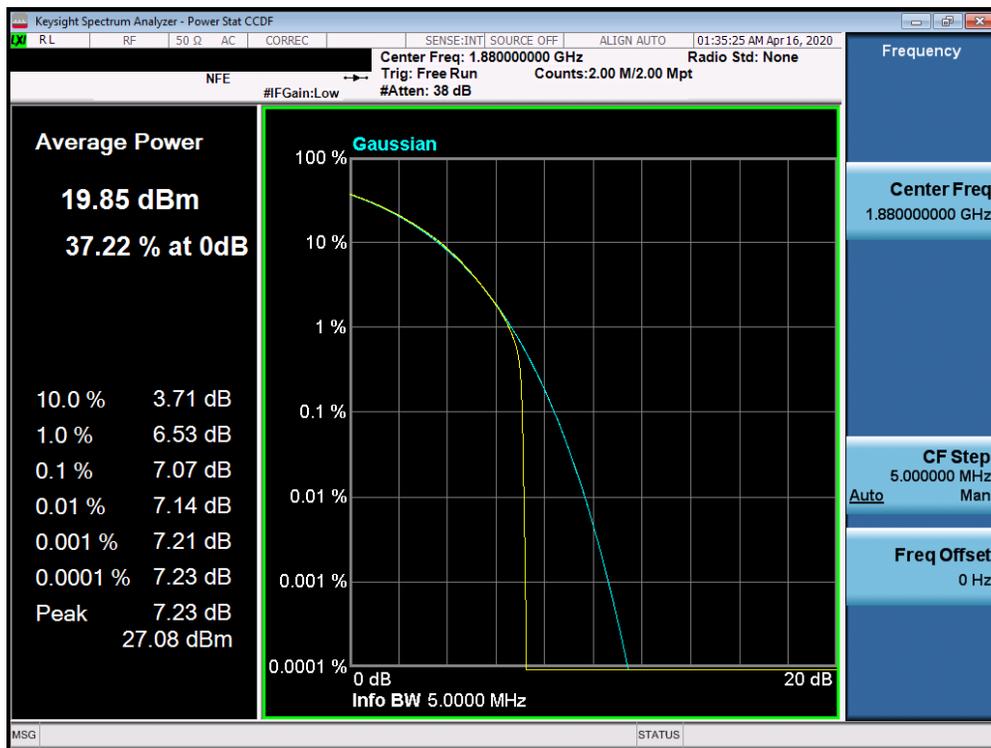


Plot 7-440. PAR Plot (n2 - 5.0MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 246 of 357

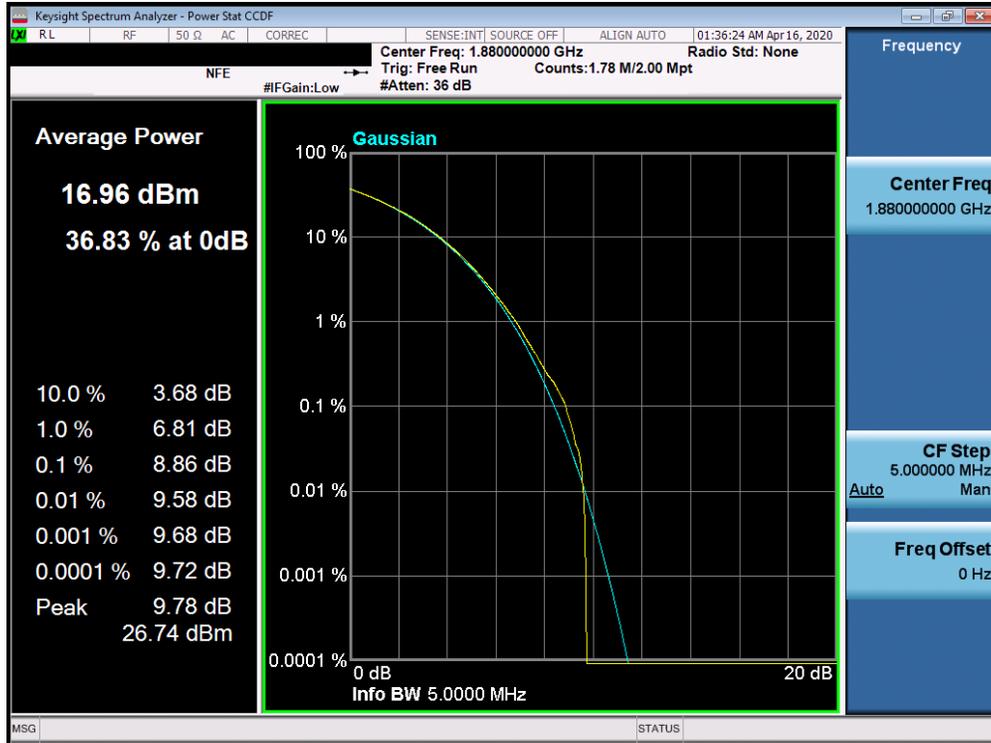


Plot 7-441. PAR Plot (n2 - 5.0MHz CP-OFDM-16-QAM - Full RB Configuration)

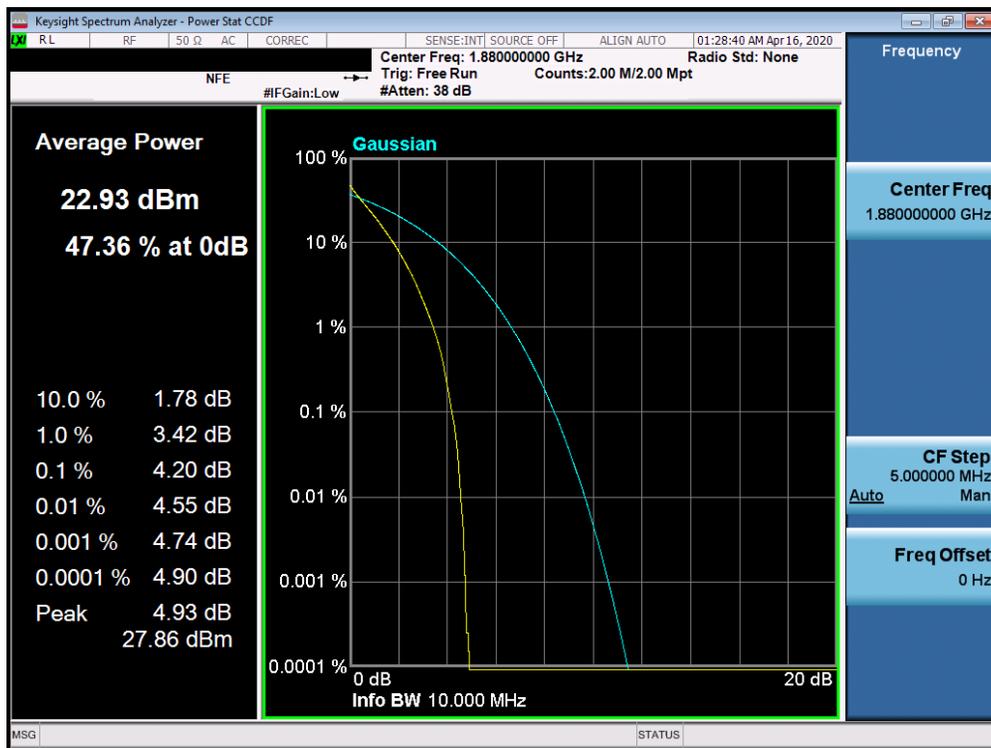


Plot 7-442. PAR Plot (n2 - 5.0MHz CP-OFDM-64-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 247 of 357

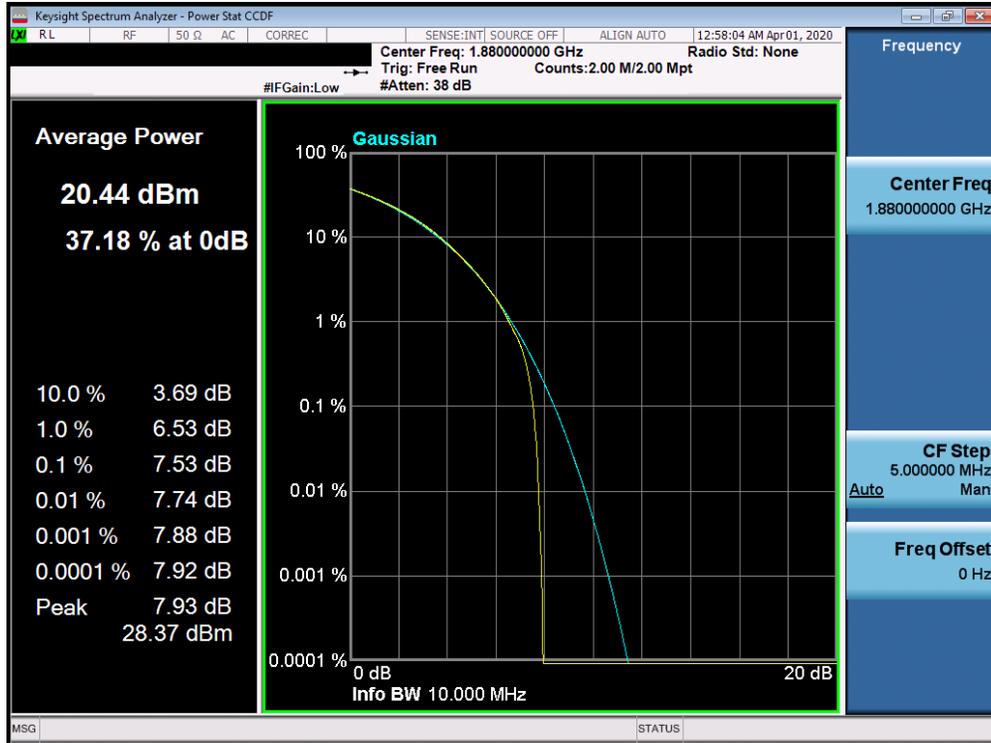


Plot 7-443. PAR Plot (n2 - 5.0MHz CP-OFDM-256-QAM - Full RB Configuration)

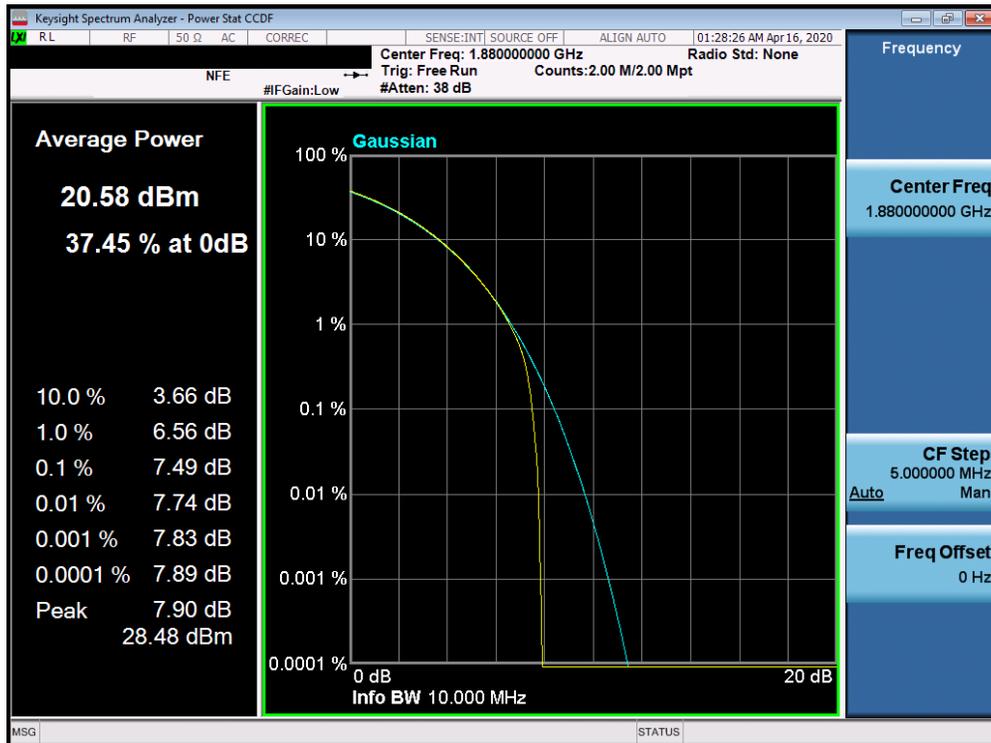


Plot 7-444. PAR Plot (n2 - 10.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 248 of 357

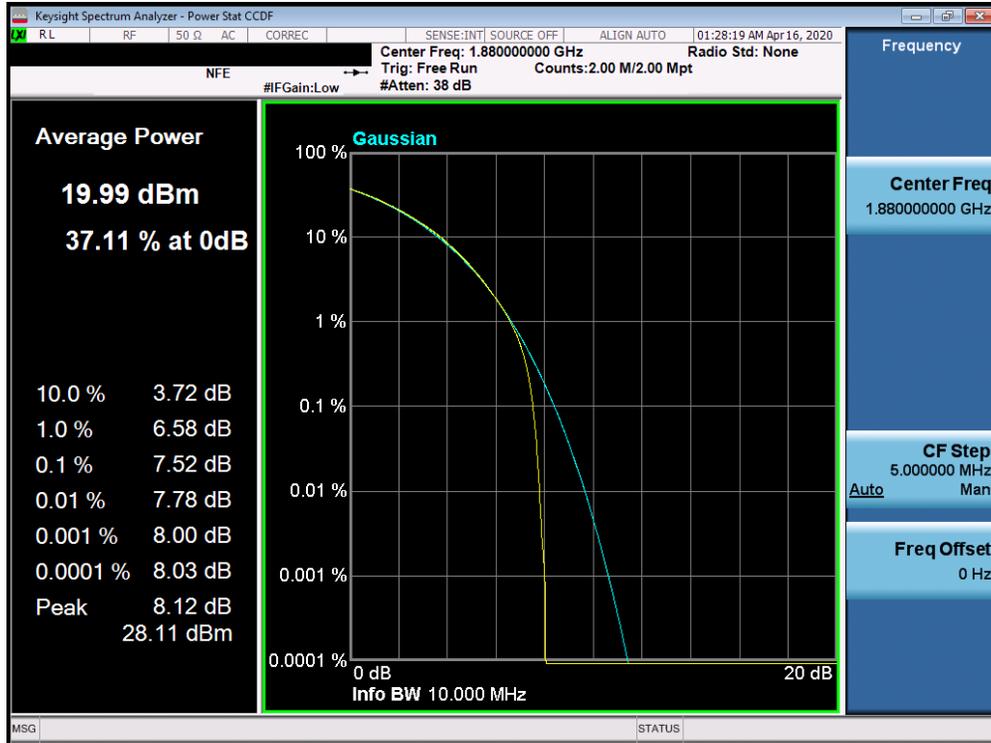


Plot 7-445. PAR Plot (n2 - 10.0MHz CP-OFDM-QPSK - Full RB Configuration)

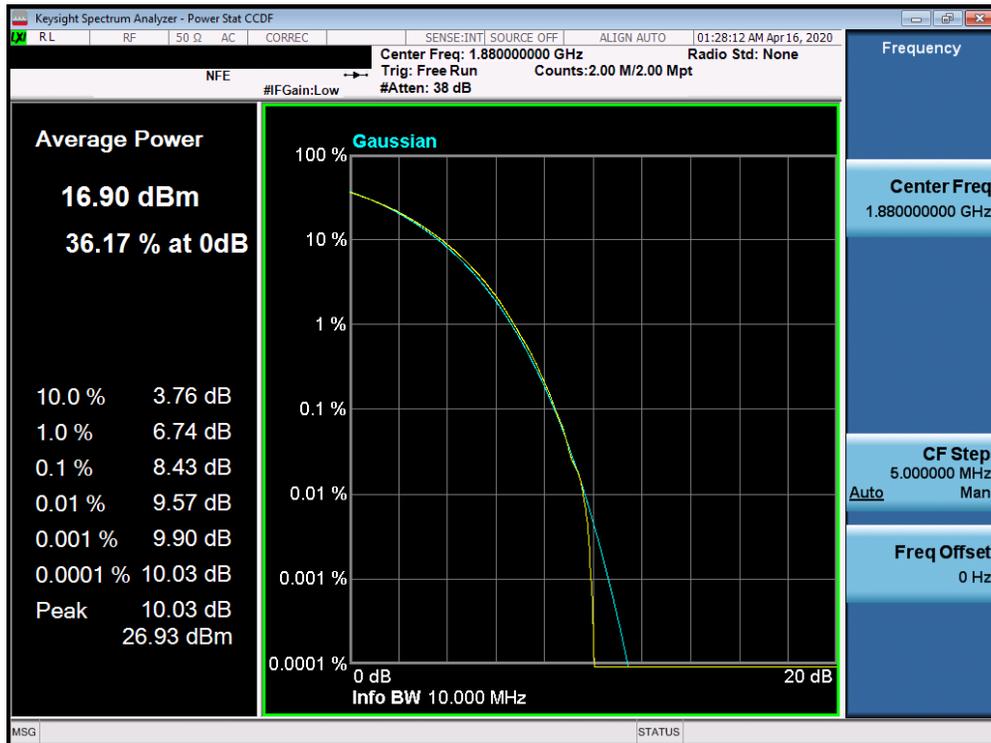


Plot 7-446. PAR Plot (n2 - 10.0MHz CP-OFDM-16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 249 of 357

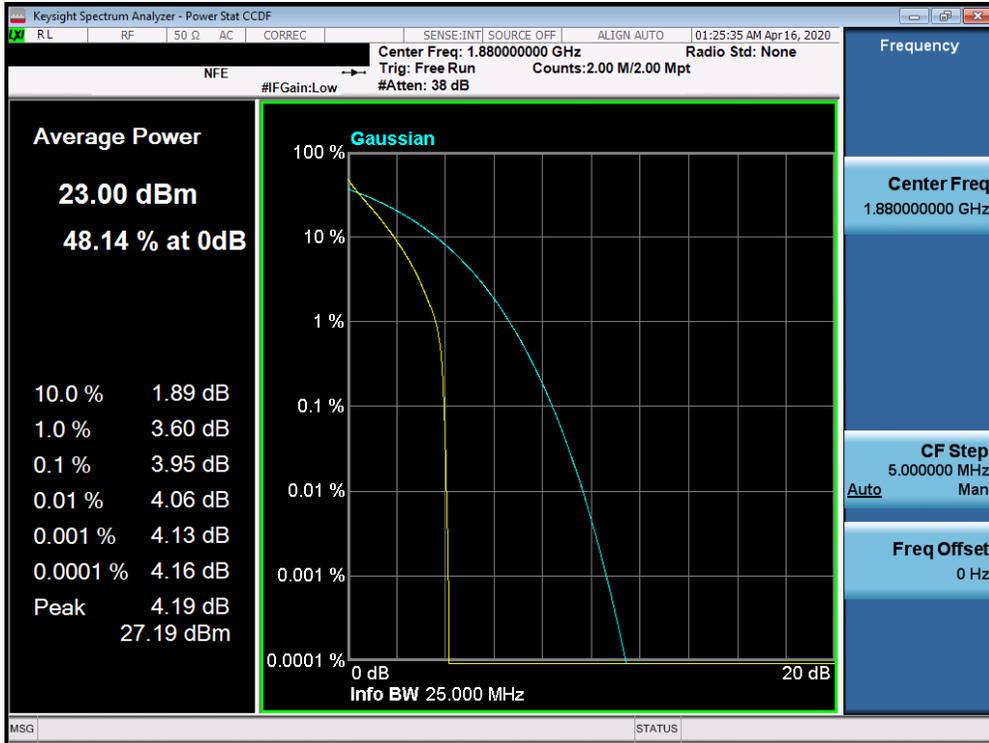


Plot 7-447. PAR Plot (n2 - 10.0MHz CP-OFDM-64-QAM - Full RB Configuration)

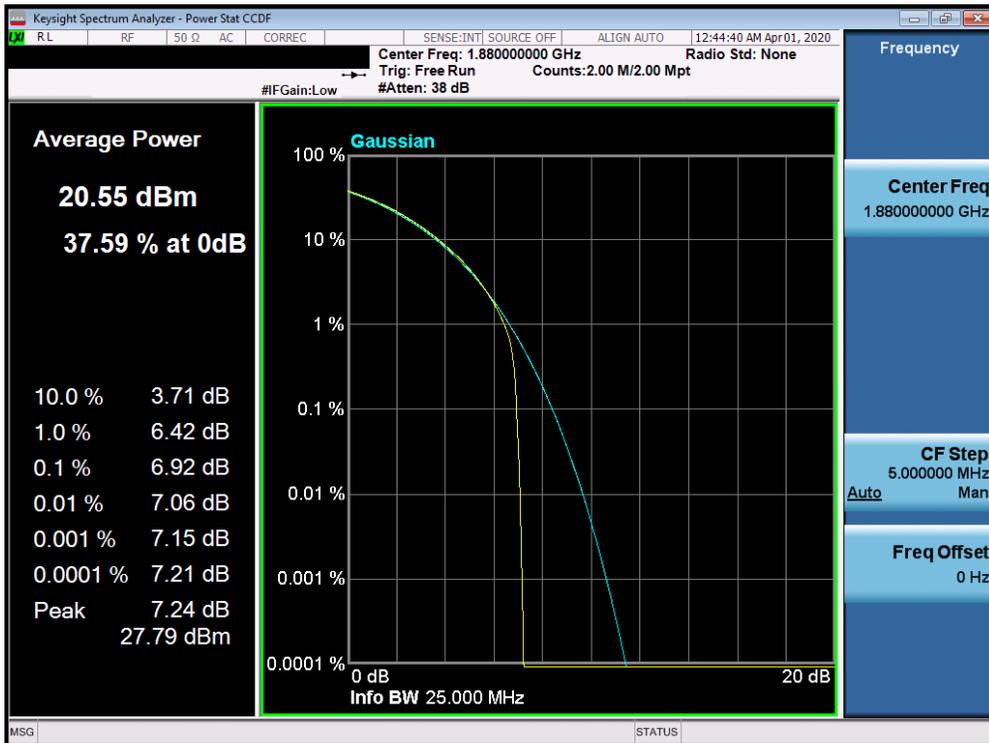


Plot 7-448. PAR Plot (n2 - 10.0MHz CP-OFDM-256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 250 of 357

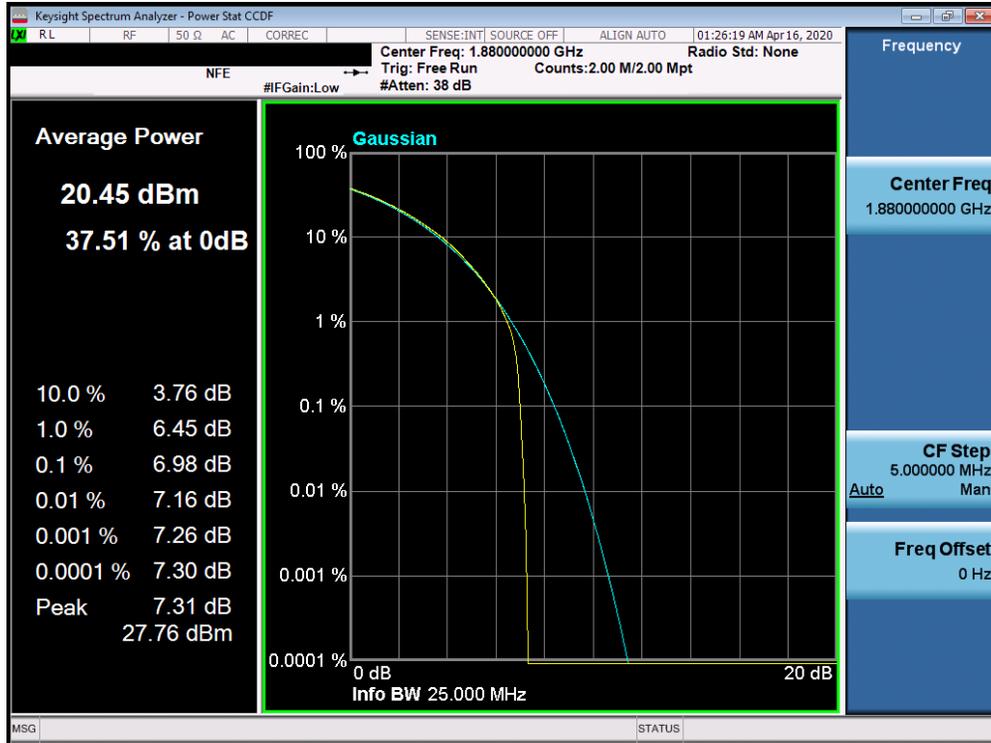


Plot 7-449. PAR Plot (n2 - 15.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

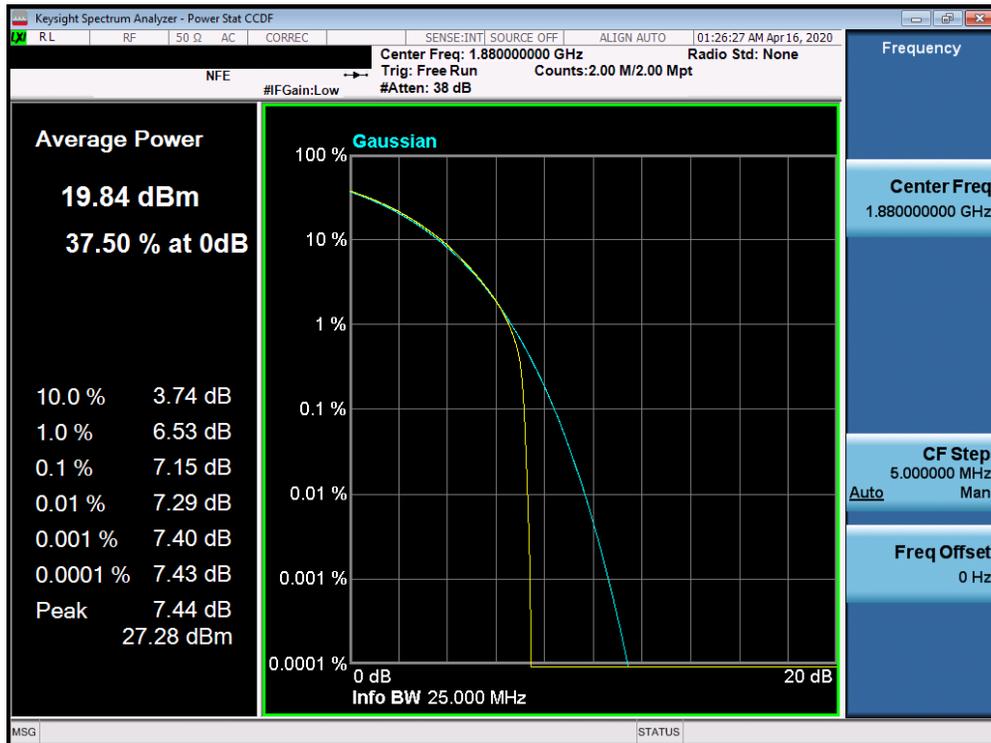


Plot 7-450. PAR Plot (n2 - 15.0MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 251 of 357

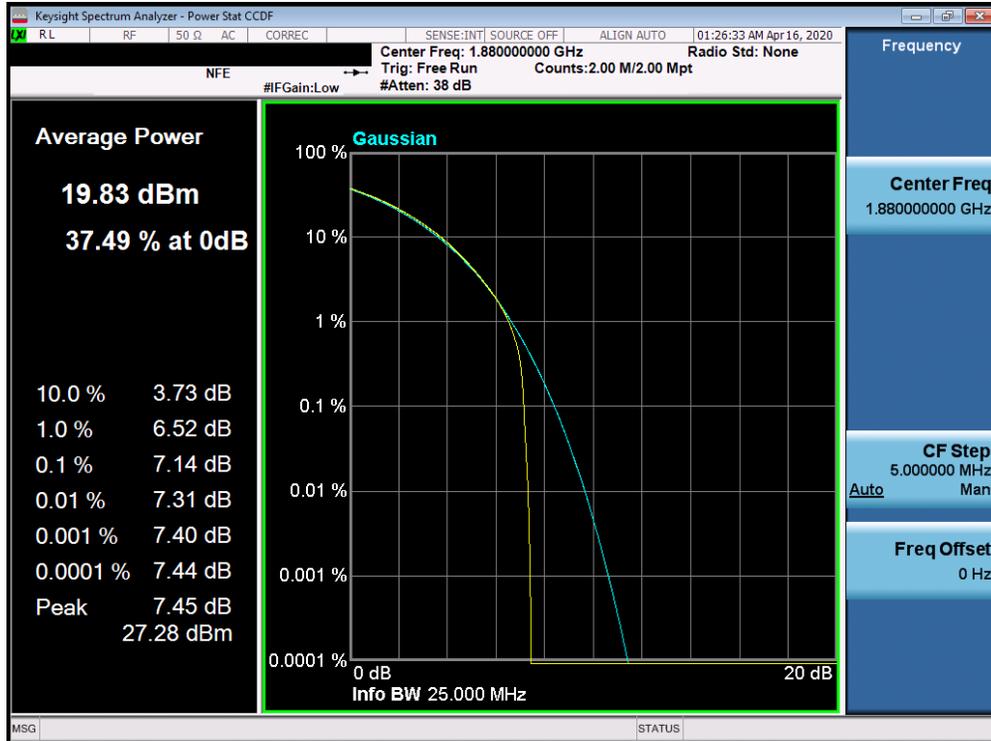


Plot 7-451. PAR Plot (n2 - 15.0MHz CP-OFDM-16-QAM - Full RB Configuration)

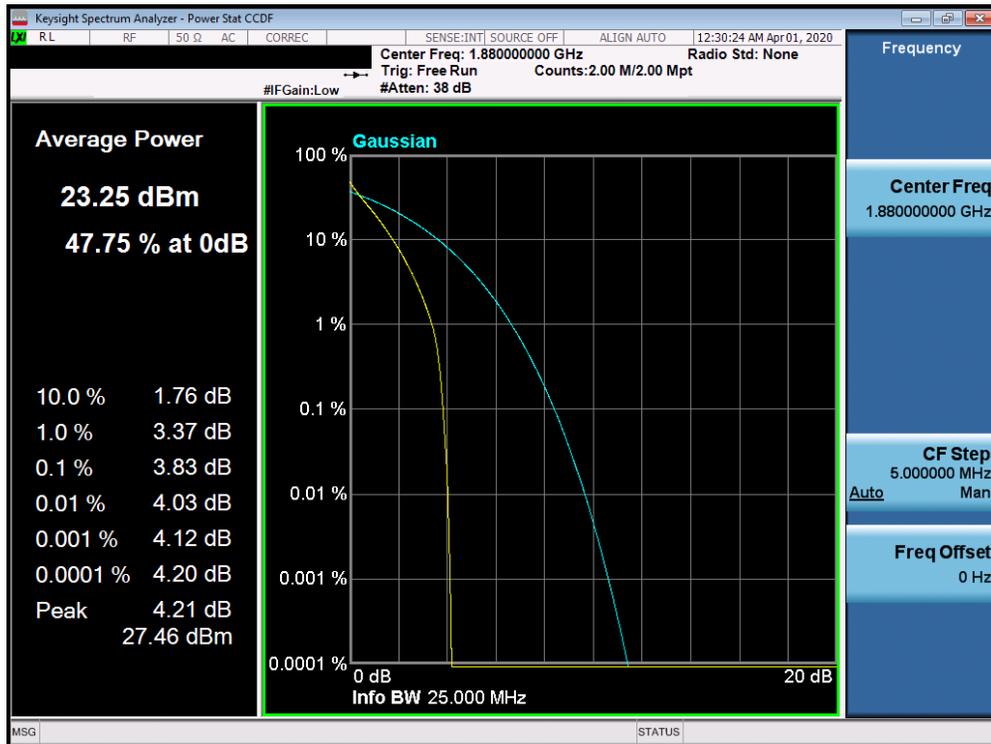


Plot 7-452. PAR Plot (n2 - 15.0MHz CP-OFDM-64-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 252 of 357

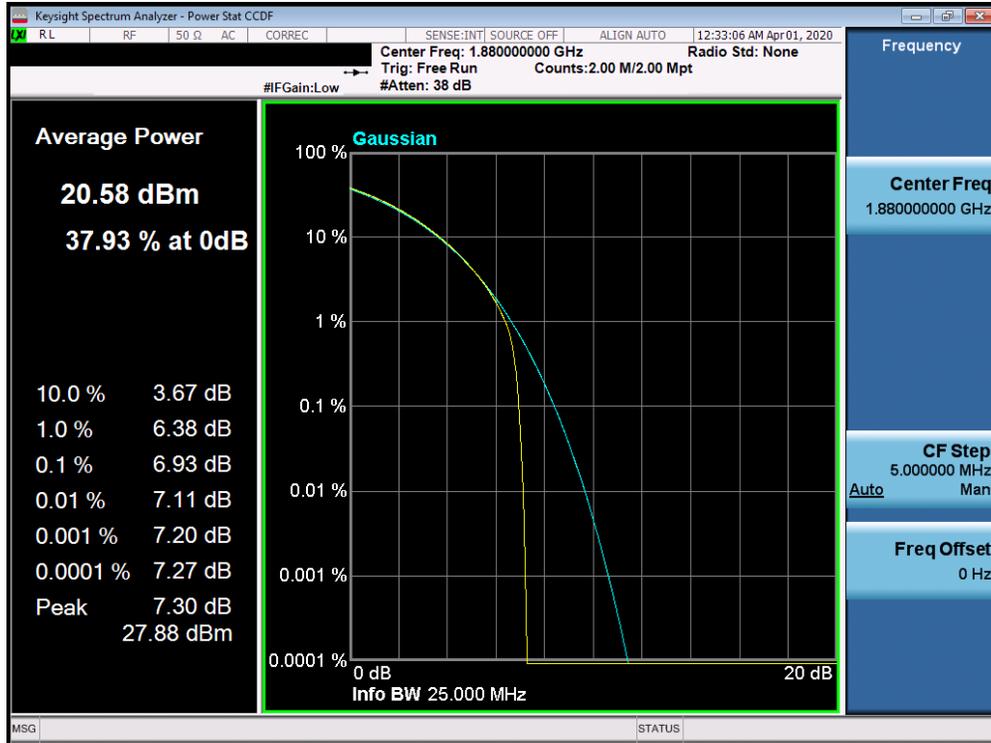


Plot 7-453. PAR Plot (n2 - 15.0MHz CP-OFDM-256-QAM - Full RB Configuration)

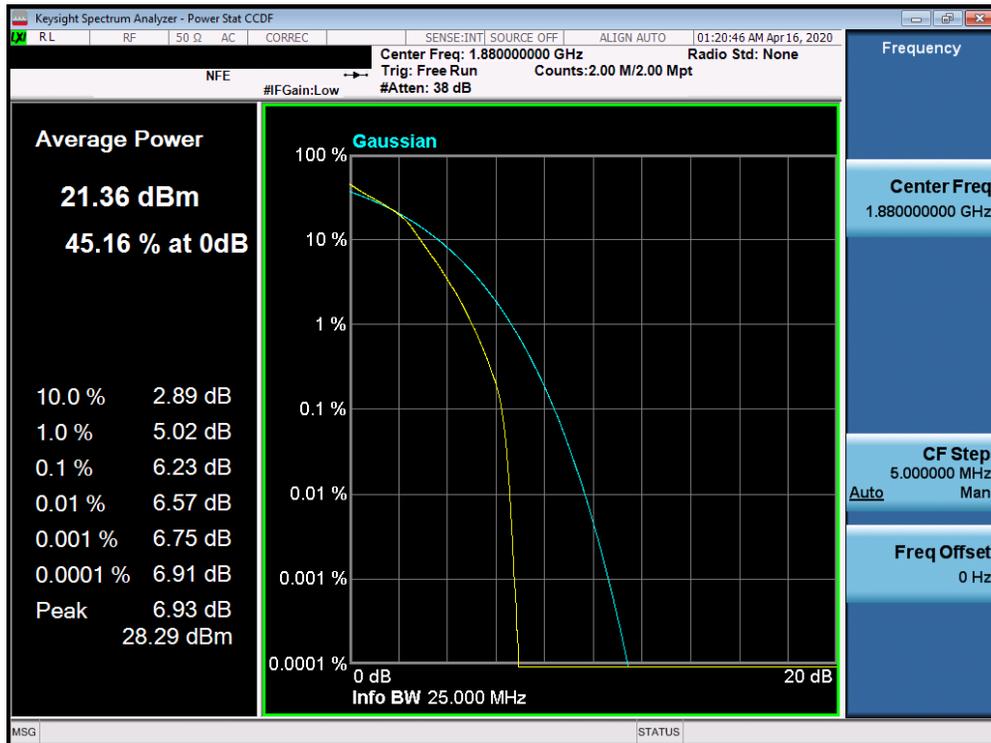


Plot 7-454. PAR Plot (n2 - 20.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 253 of 357

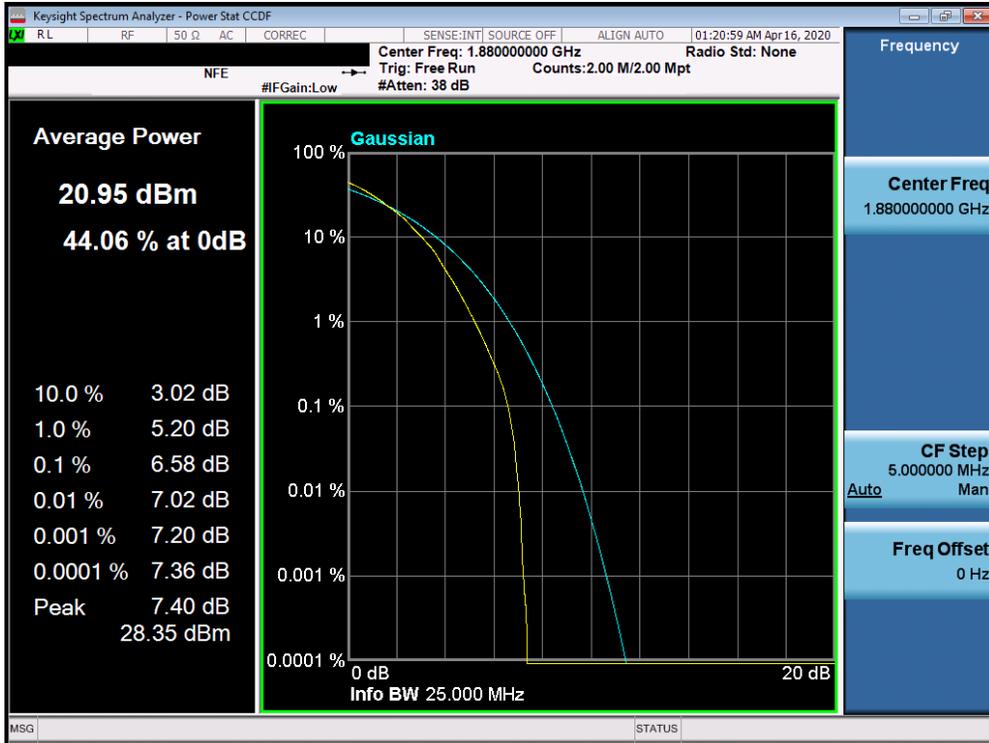


Plot 7-455. PAR Plot (n2 - 20.0MHz CP-OFDM-QPSK - Full RB Configuration)

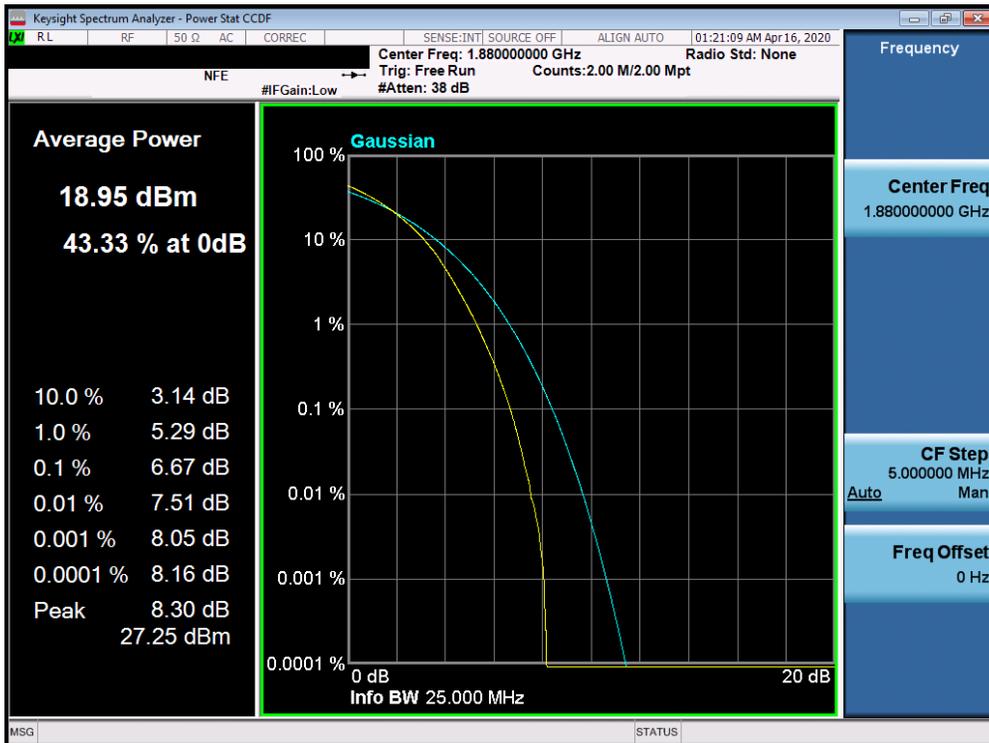


Plot 7-456. PAR Plot (n2 - 20.0MHz CP-OFDM-16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 254 of 357



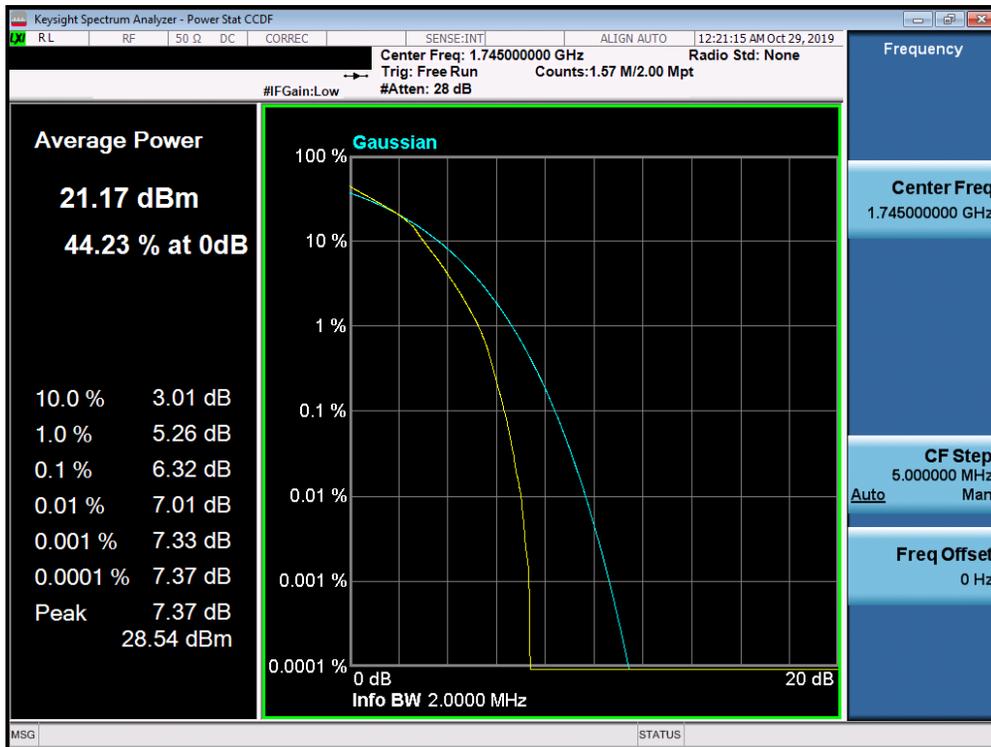
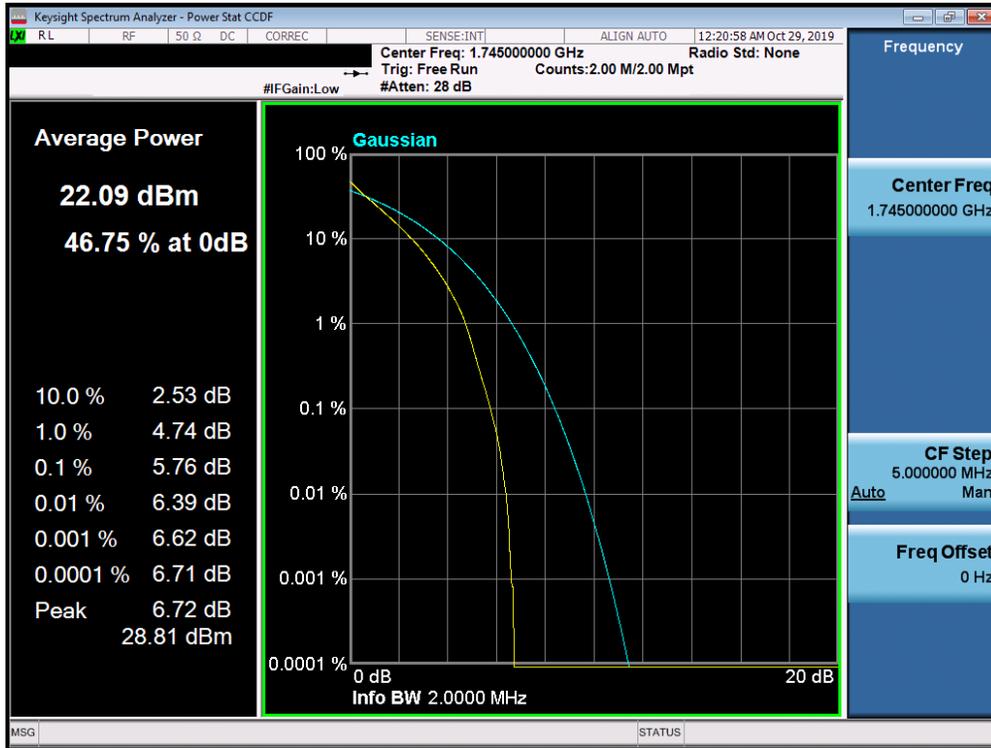
Plot 7-457. PAR Plot (n2 - 20.0MHz CP-OFDM-64-QAM - Full RB Configuration)



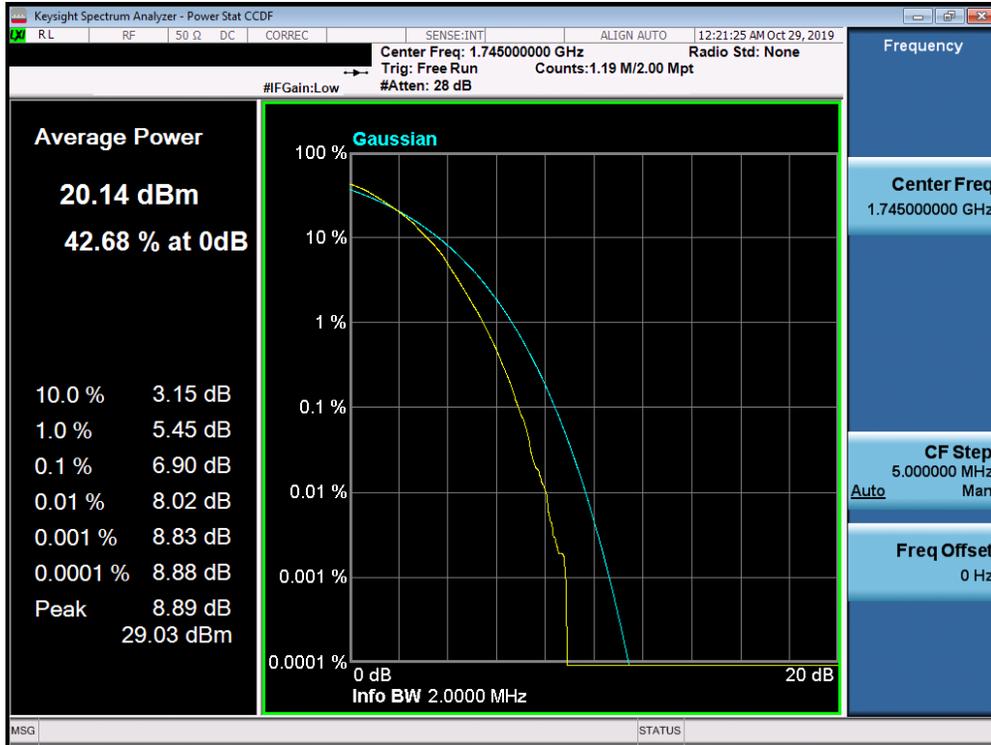
Plot 7-458. PAR Plot (n2 - 20.0MHz CP-OFDM-256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 255 of 357

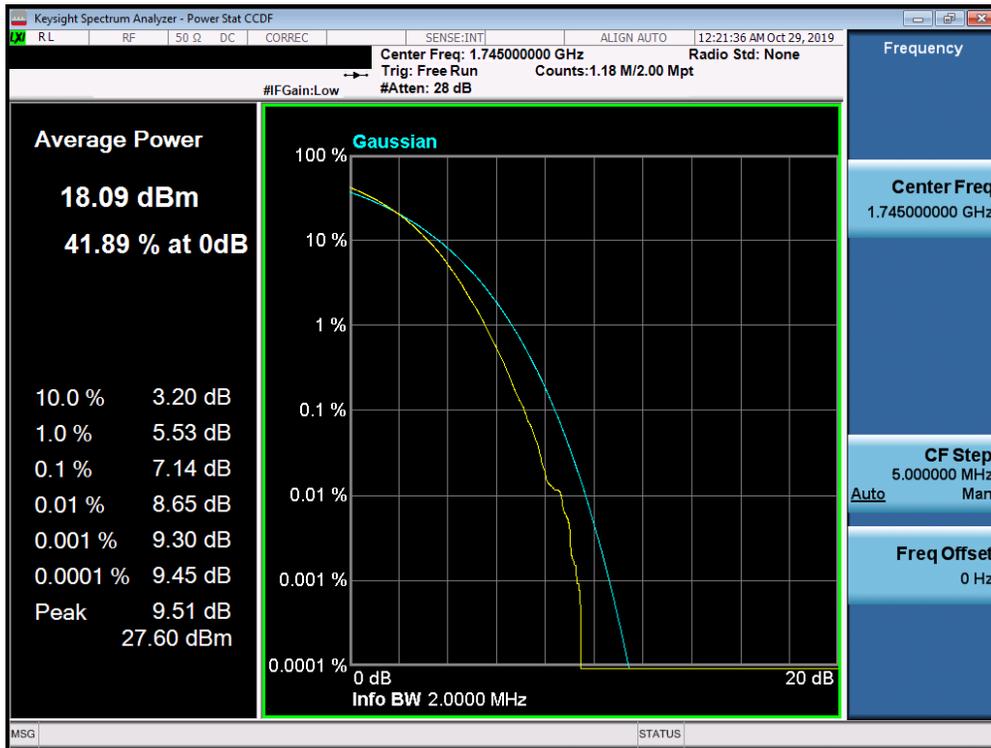
Band 66/4



FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 256 of 357

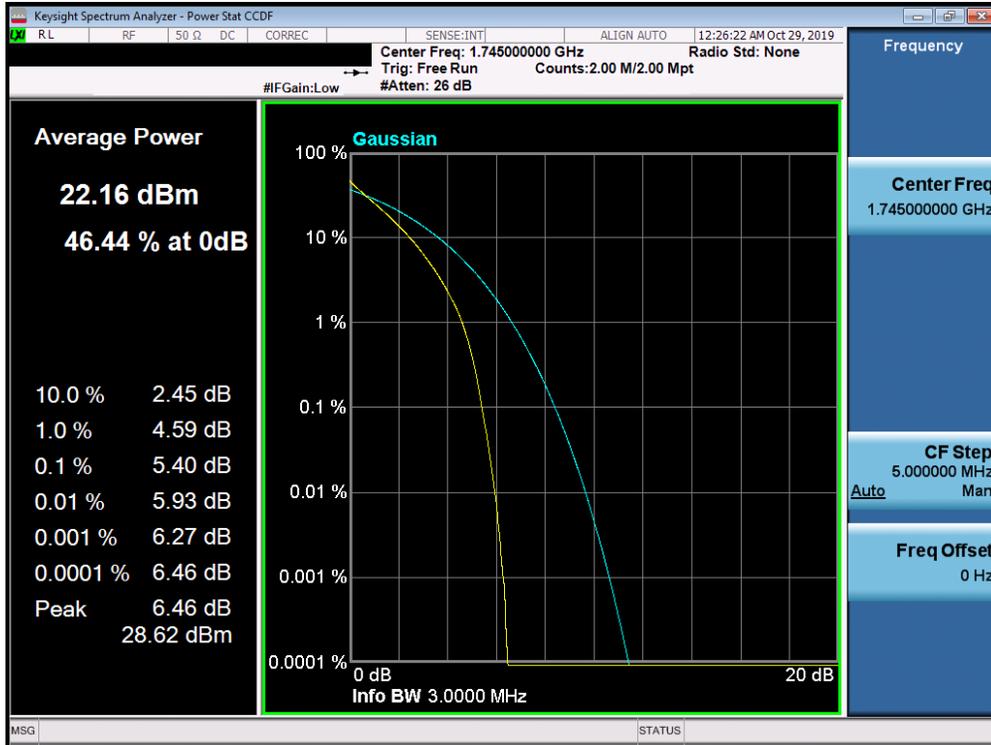


Plot 7-461. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)

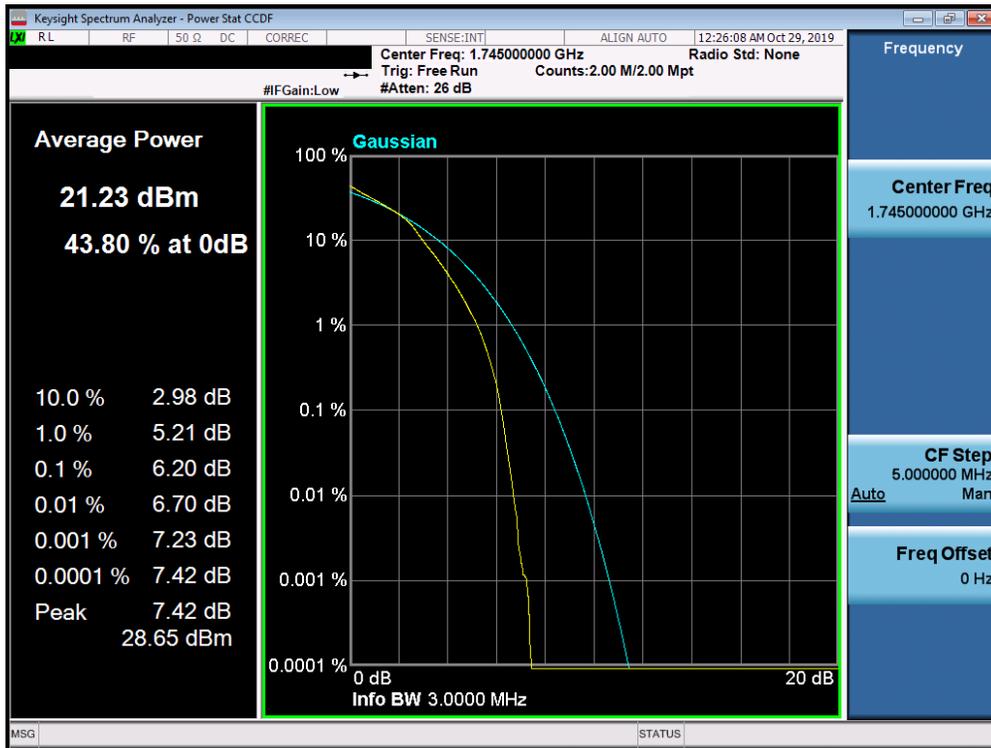


Plot 7-462. PAR Plot (Band 66/4 - 1.4MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 257 of 357

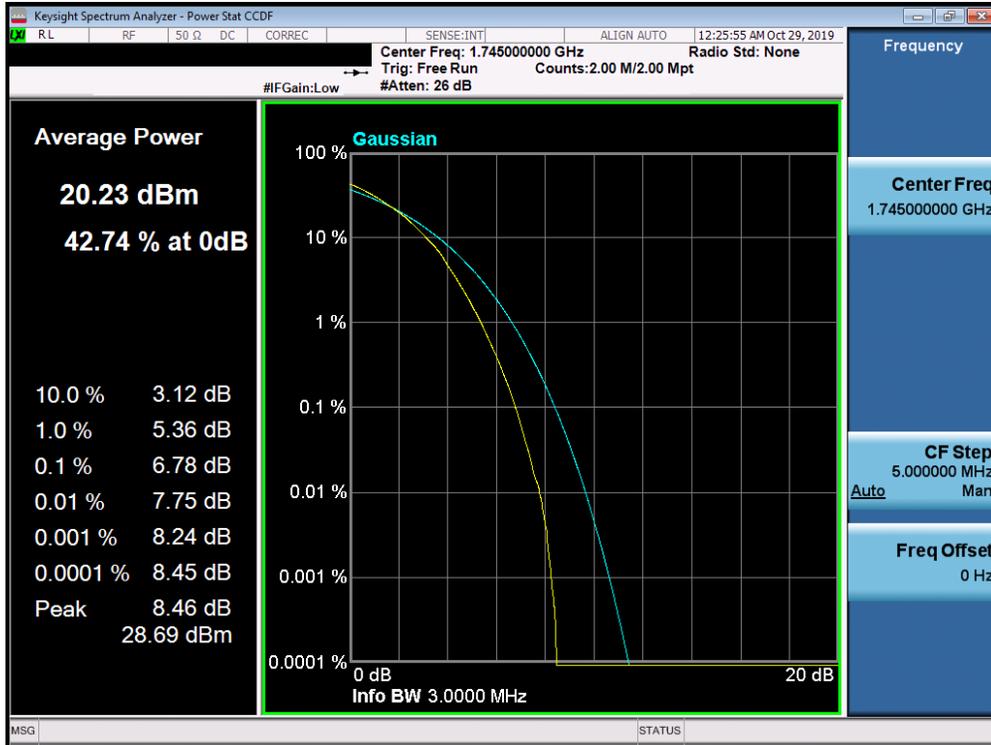


Plot 7-463. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

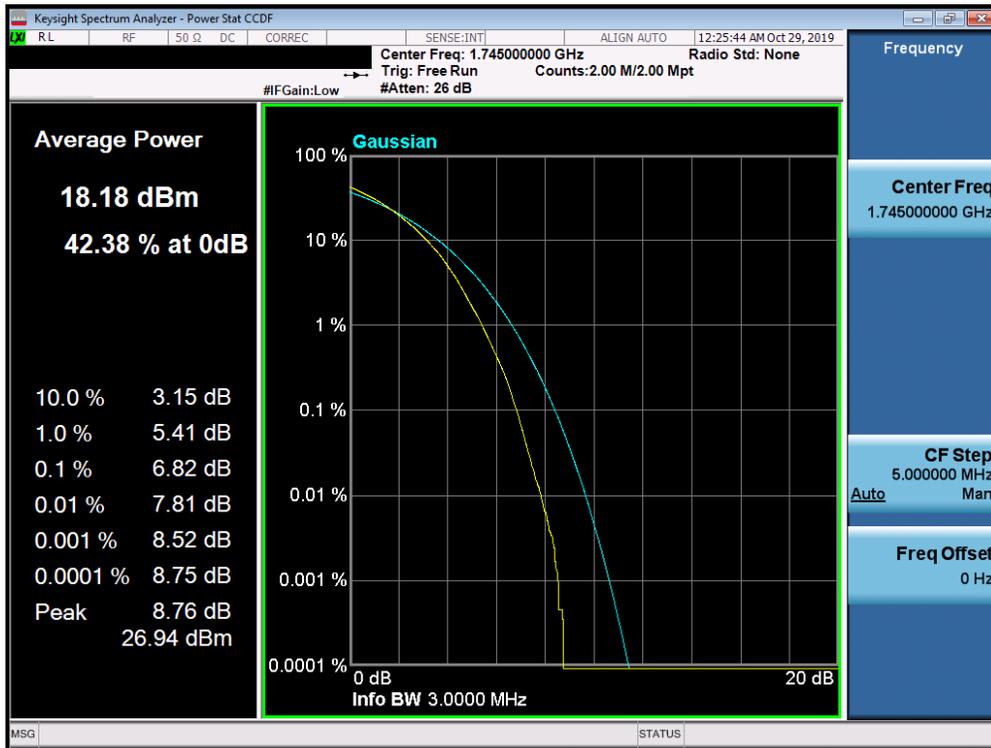


Plot 7-464. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 258 of 357

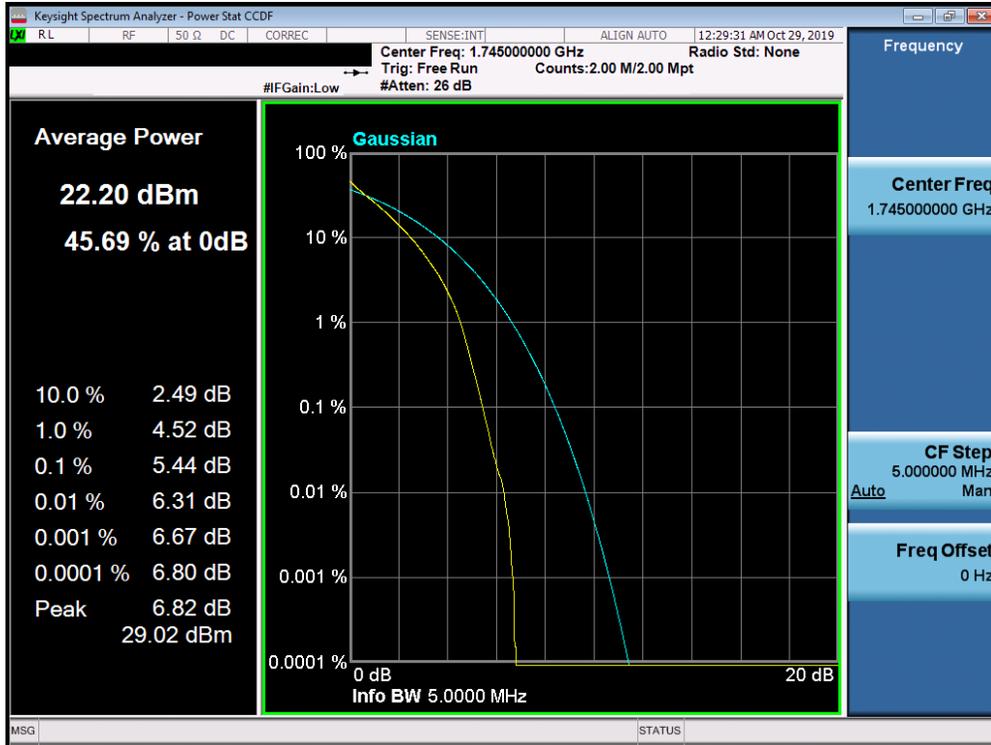


Plot 7-465. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

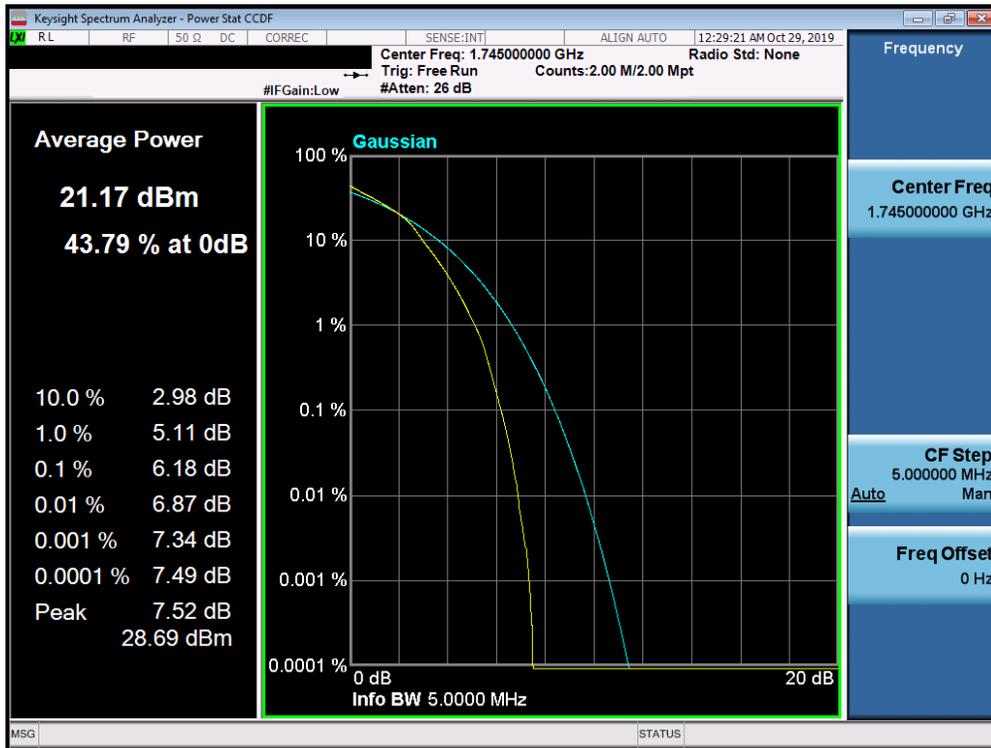


Plot 7-466. PAR Plot (Band 66/4 - 3.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 259 of 357

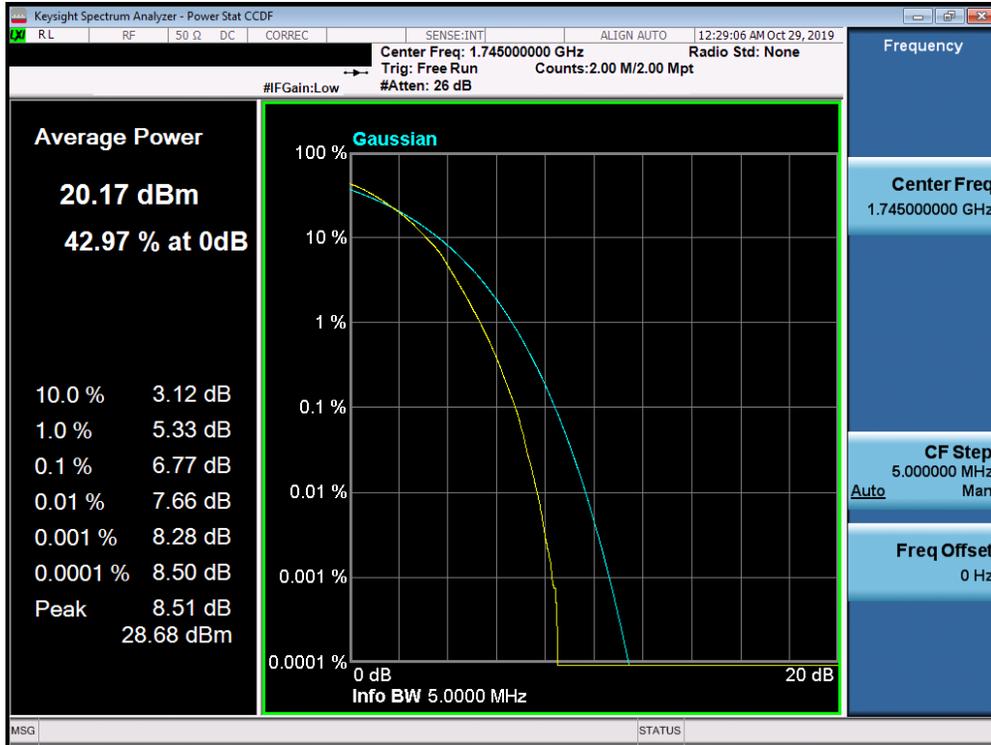


Plot 7-467. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

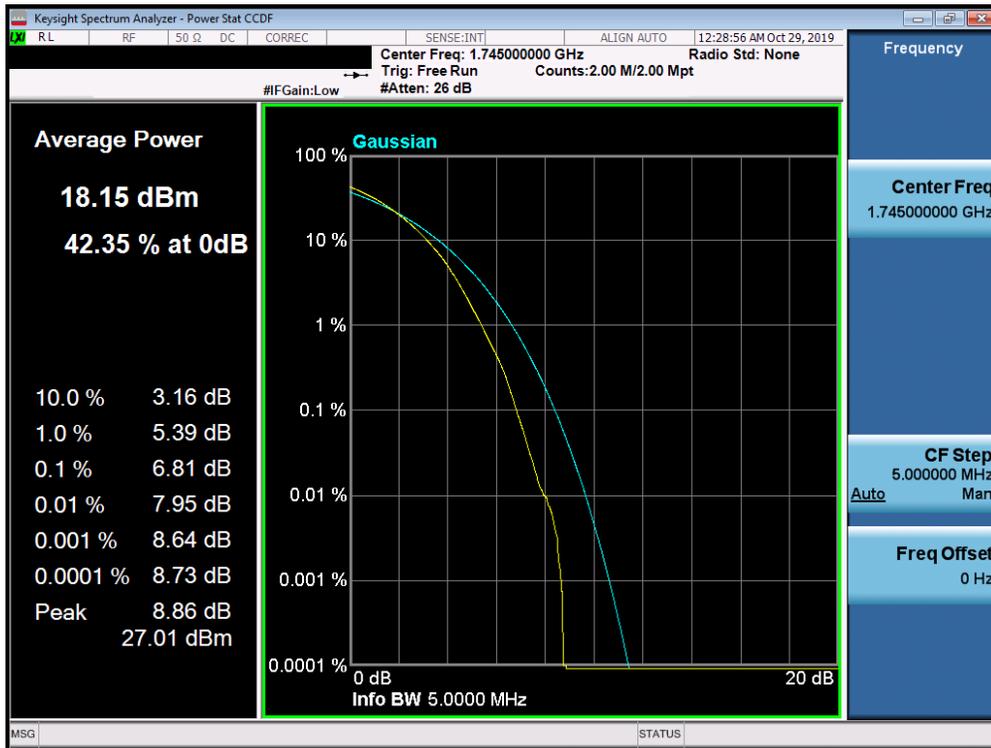


Plot 7-468. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 260 of 357

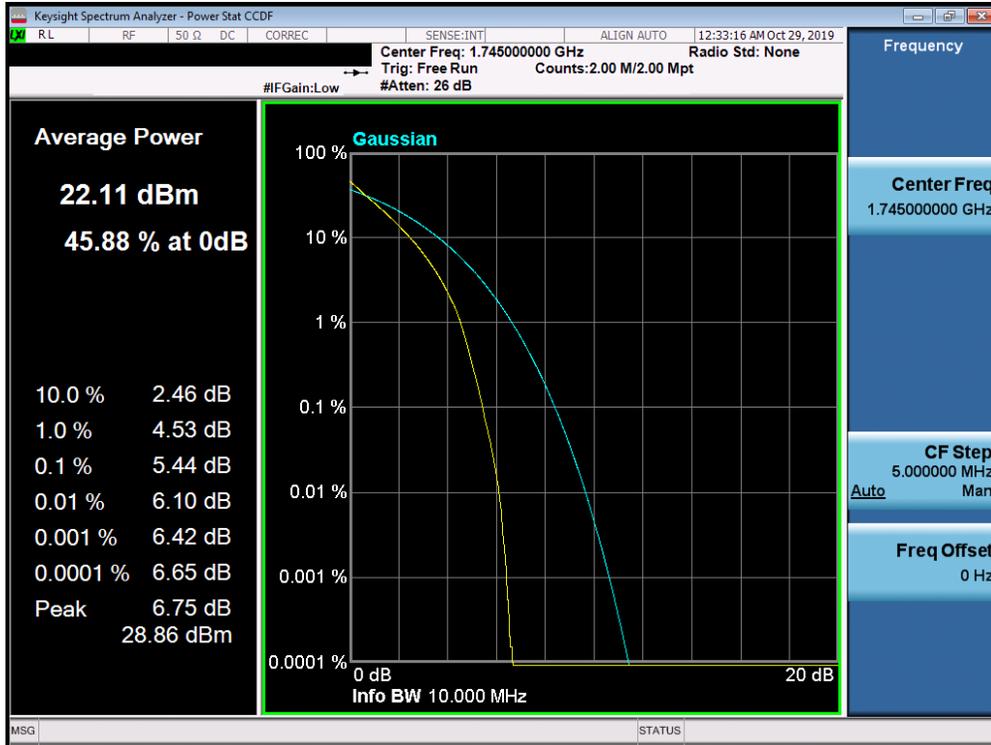


Plot 7-469. PAR Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)

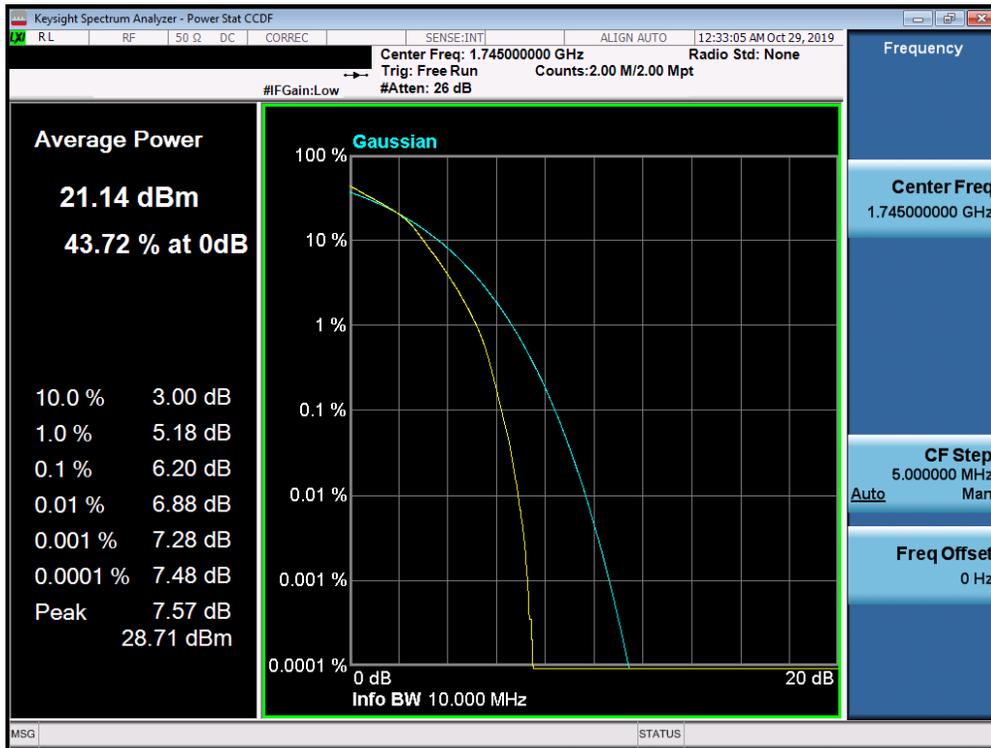


Plot 7-470. PAR Plot (Band 66/4 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 261 of 357

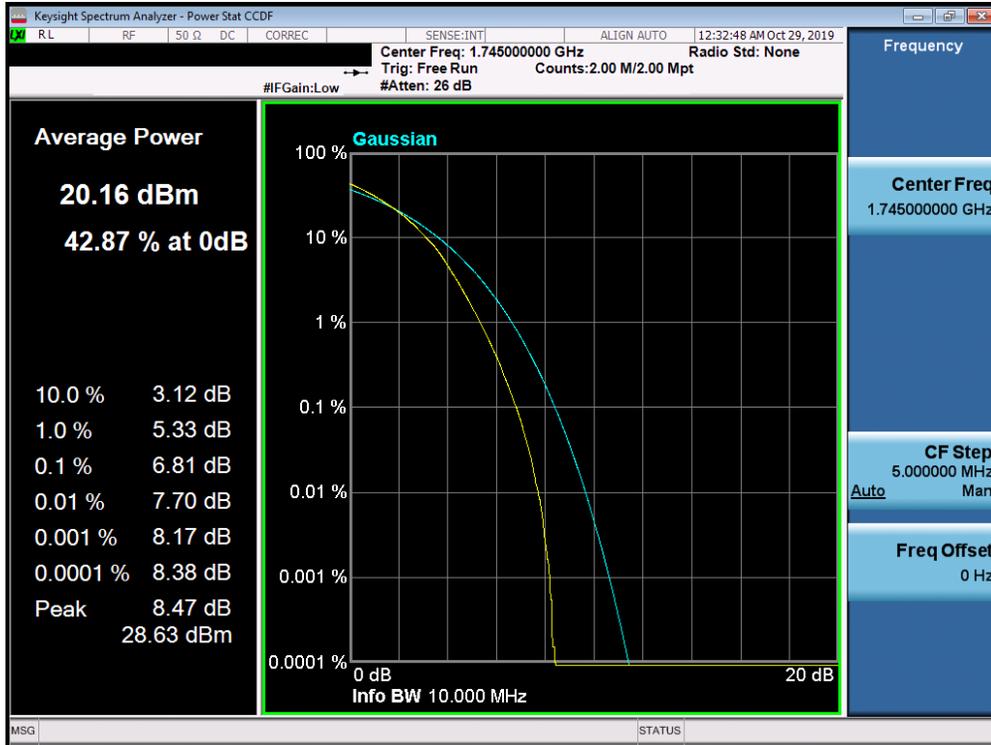


Plot 7-471. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

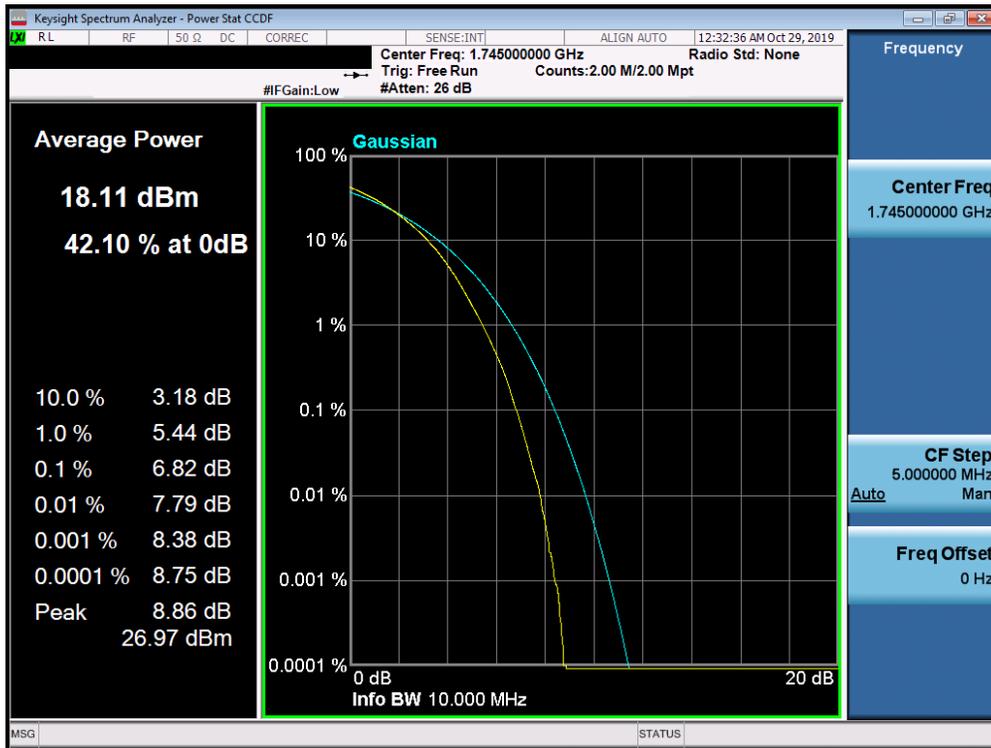


Plot 7-472. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 262 of 357

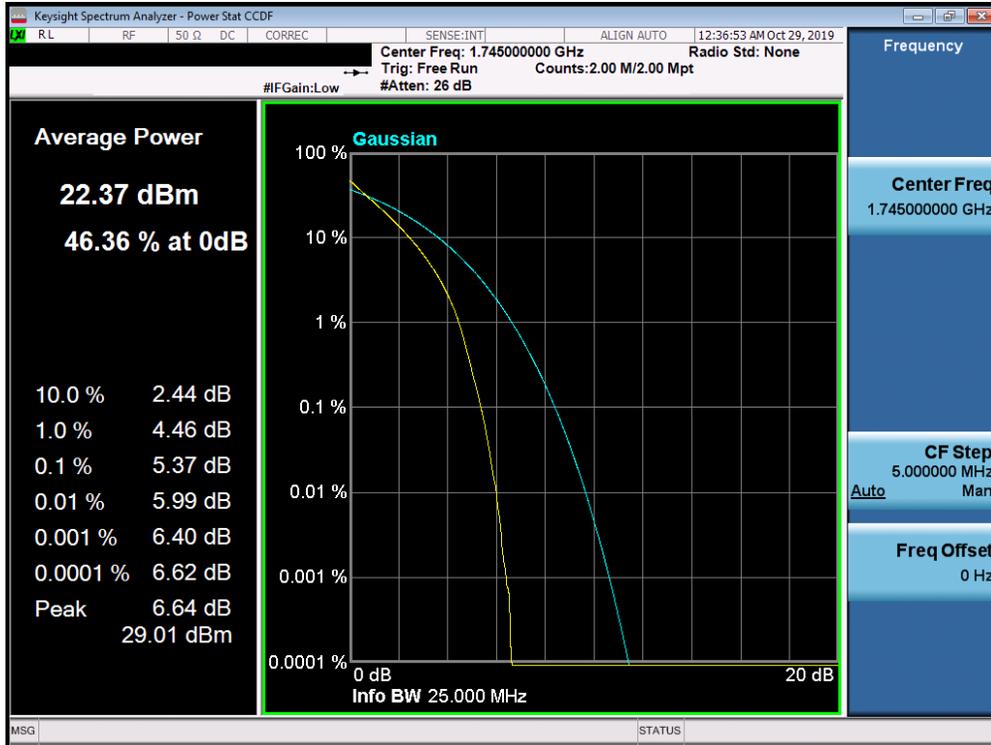


Plot 7-473. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

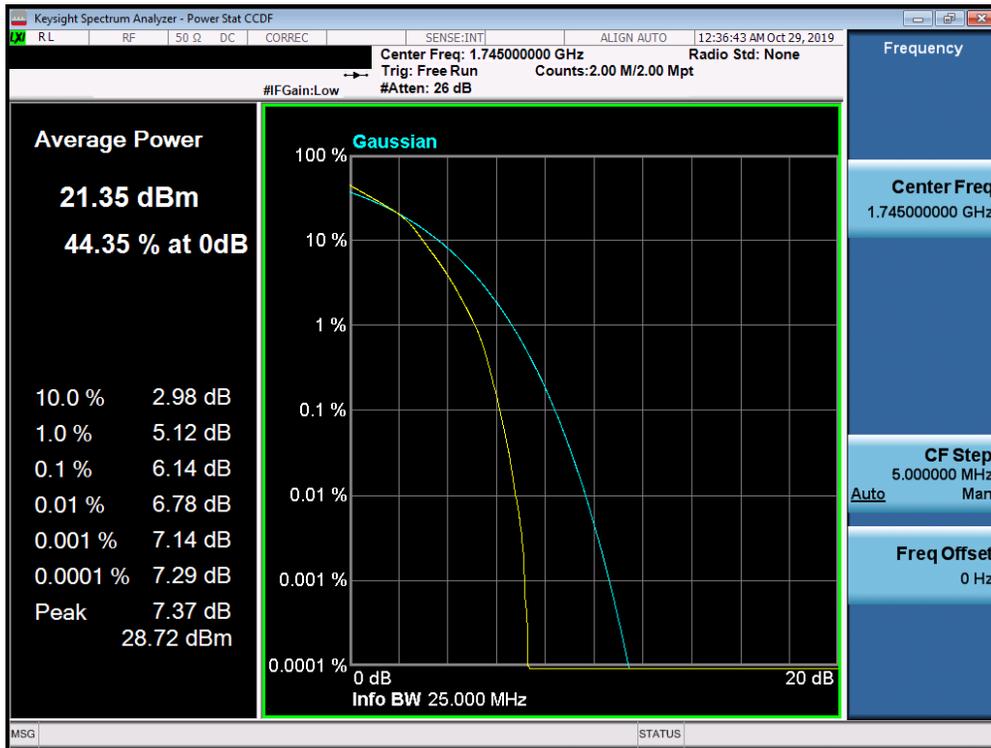


Plot 7-474. PAR Plot (Band 66/4 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 263 of 357

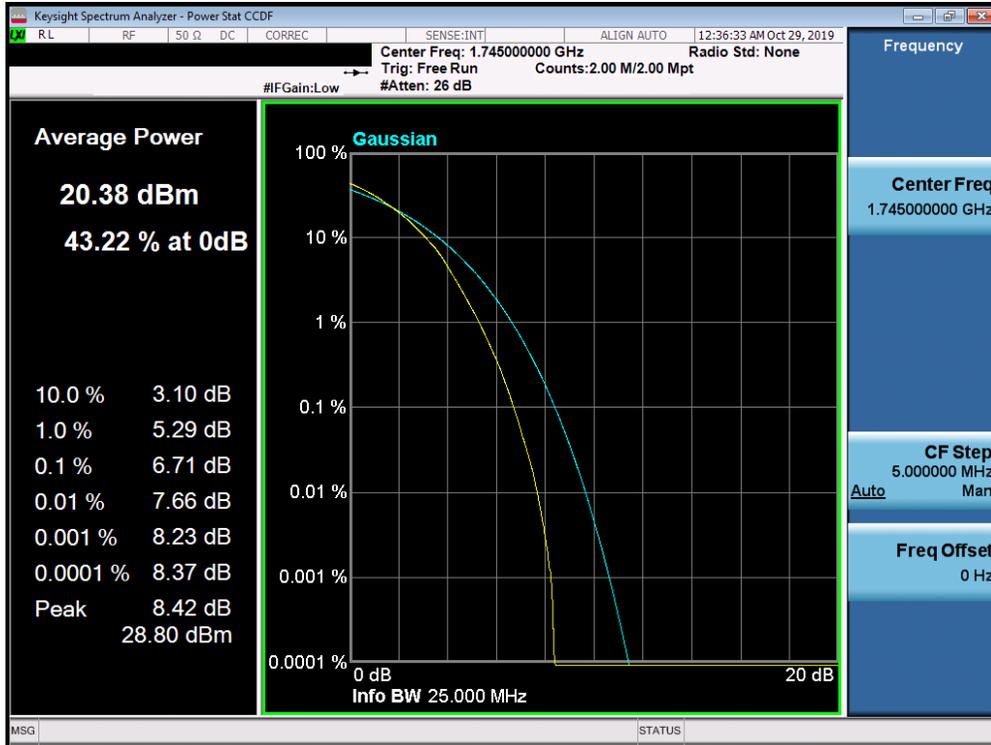


Plot 7-475. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

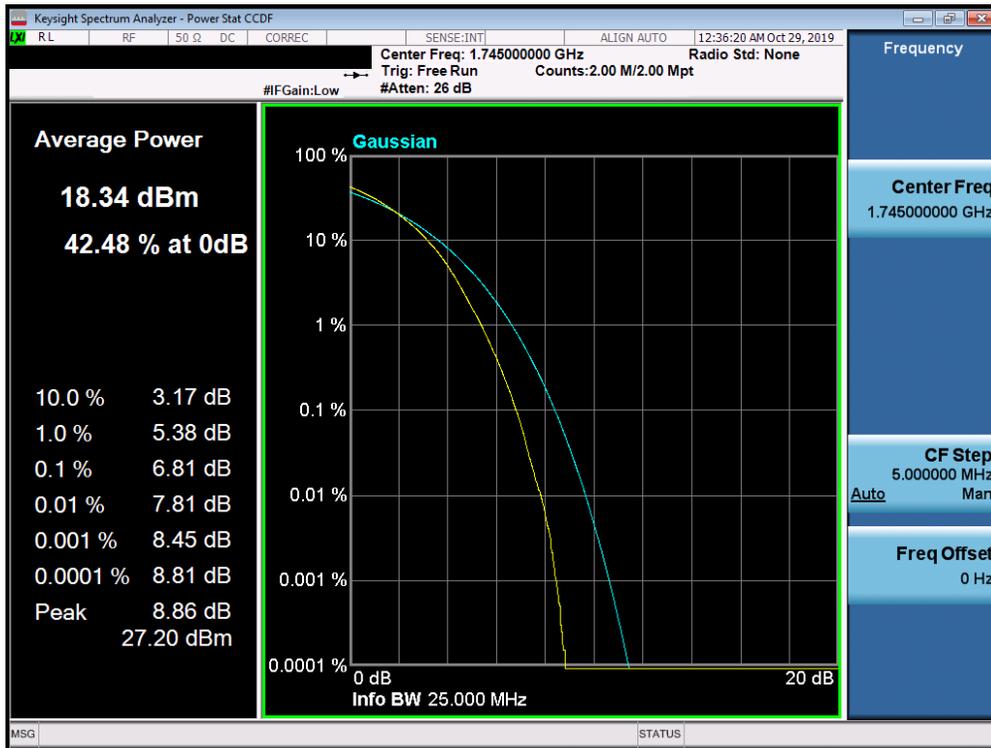


Plot 7-476. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 264 of 357

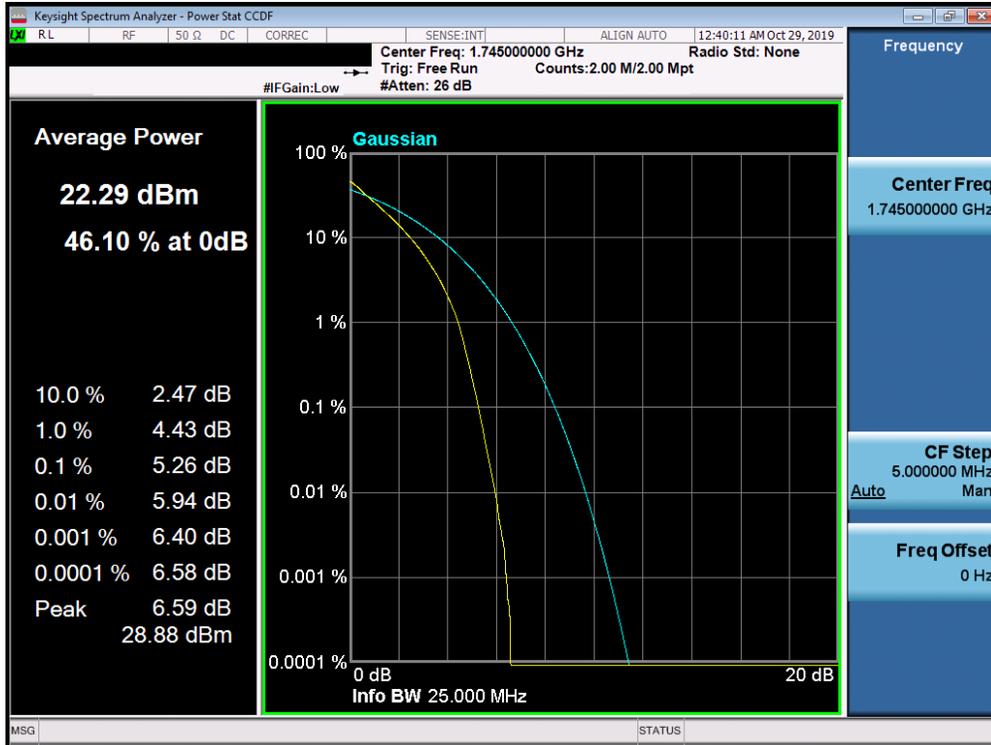


Plot 7-477. PAR Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)

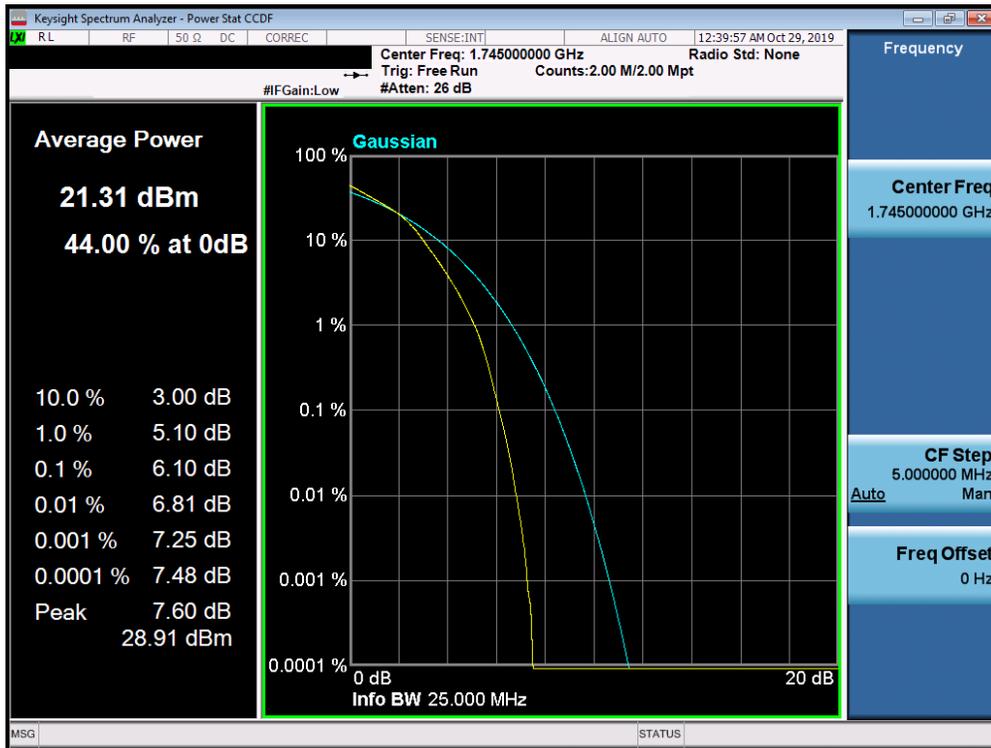


Plot 7-478. PAR Plot (Band 66/4 - 15.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 265 of 357

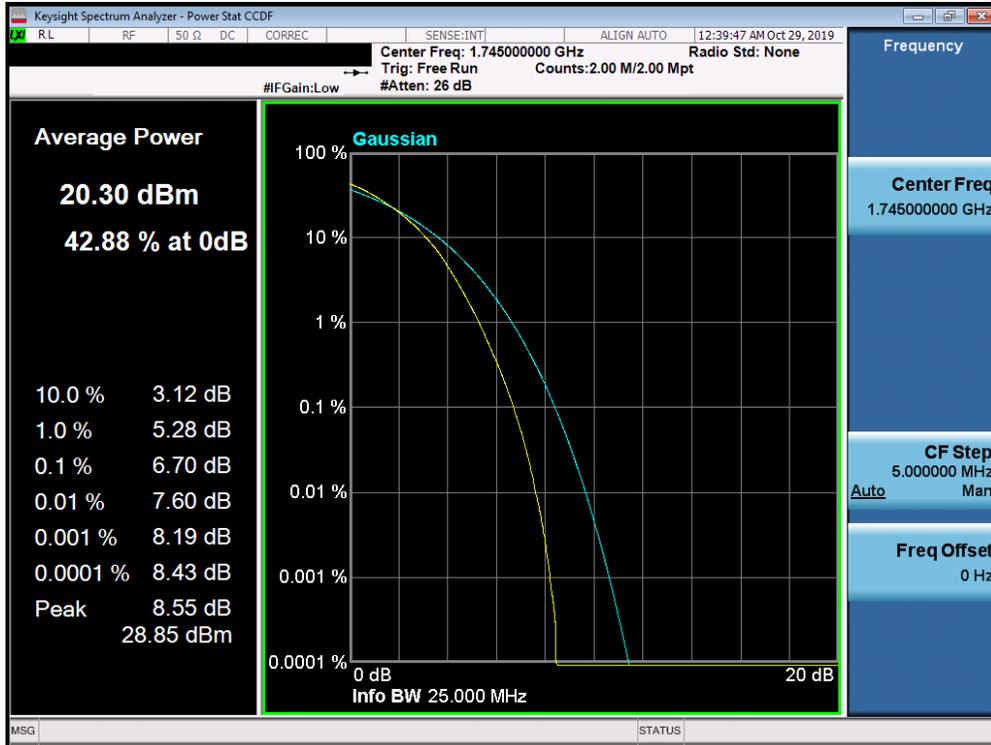


Plot 7-479. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

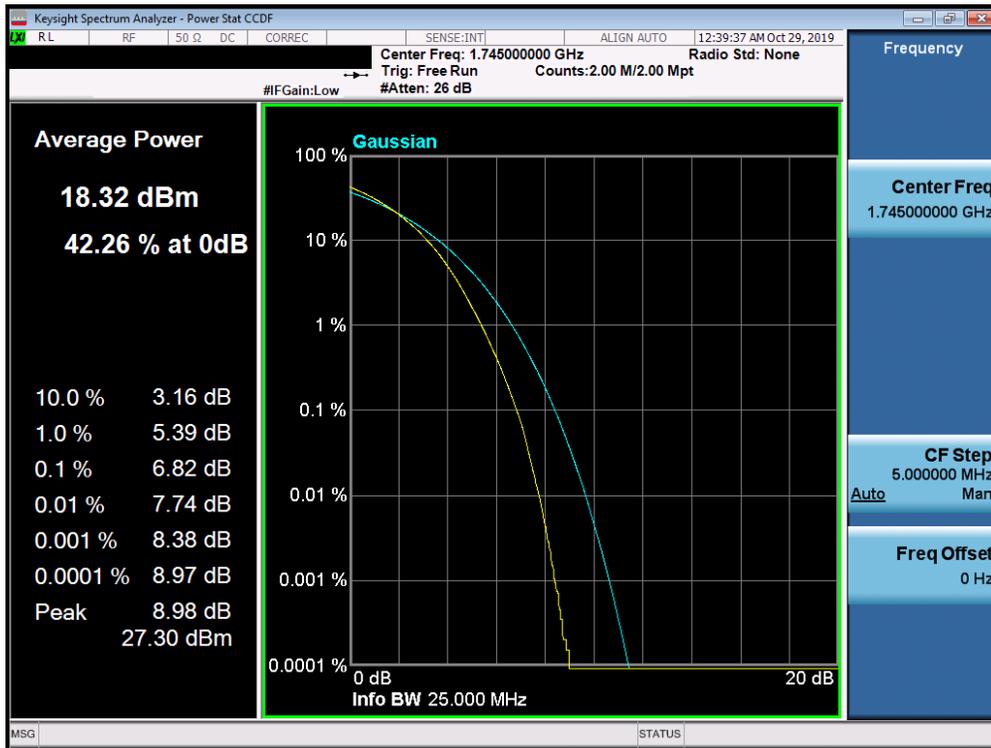


Plot 7-480. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 266 of 357



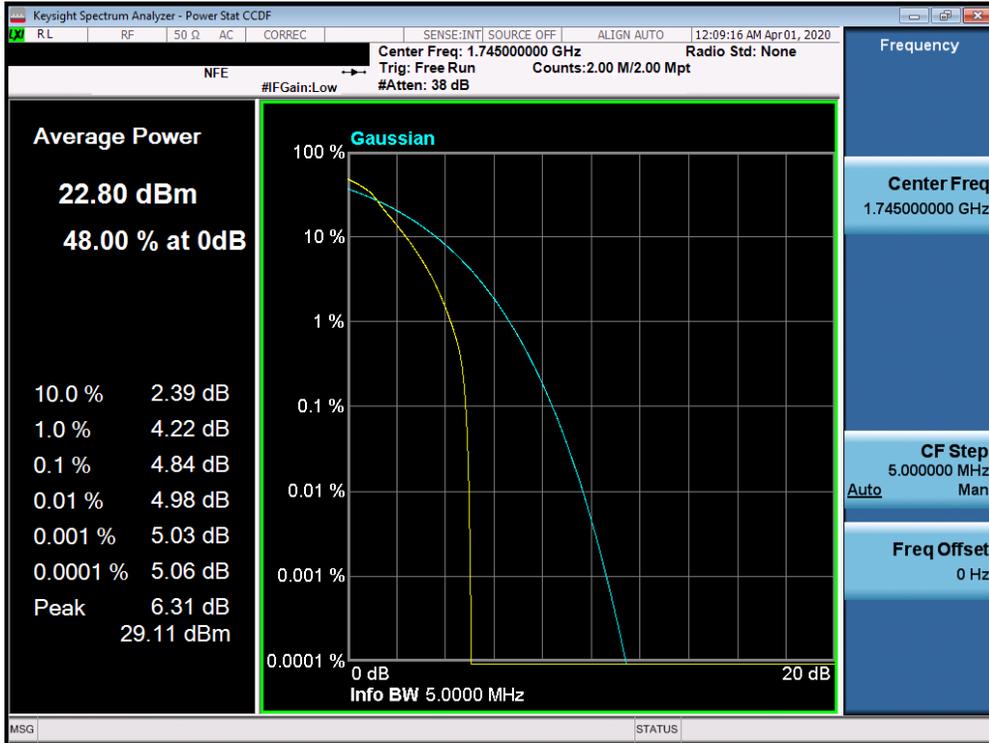
Plot 7-481. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)



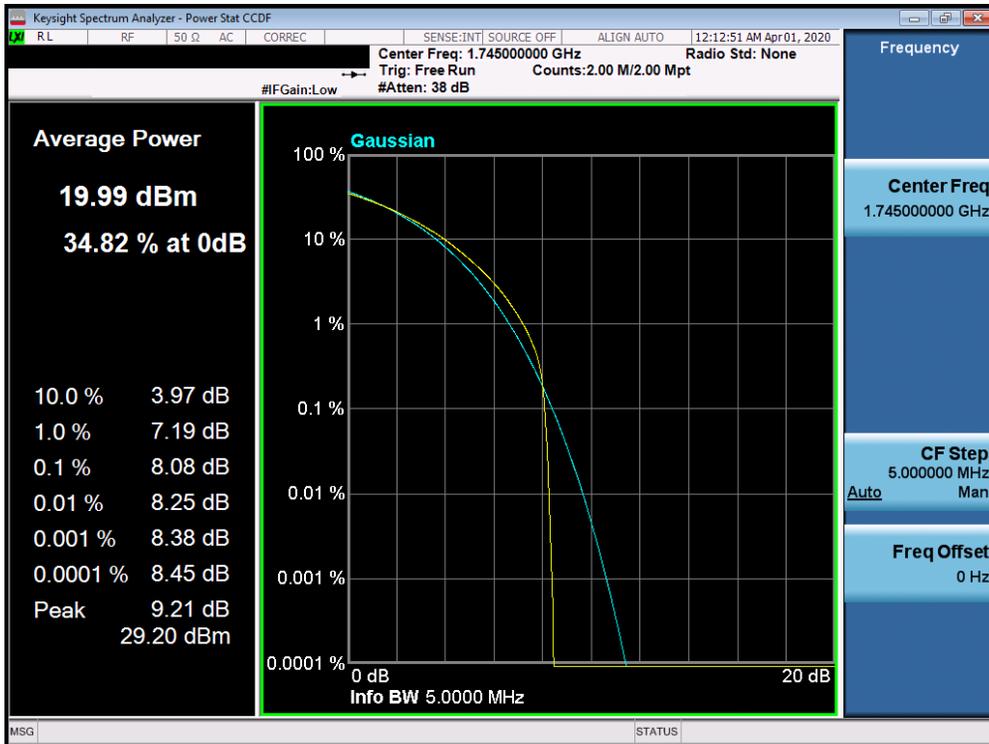
Plot 7-482. PAR Plot (Band 66/4 - 20.0MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 267 of 357

NR Band n66

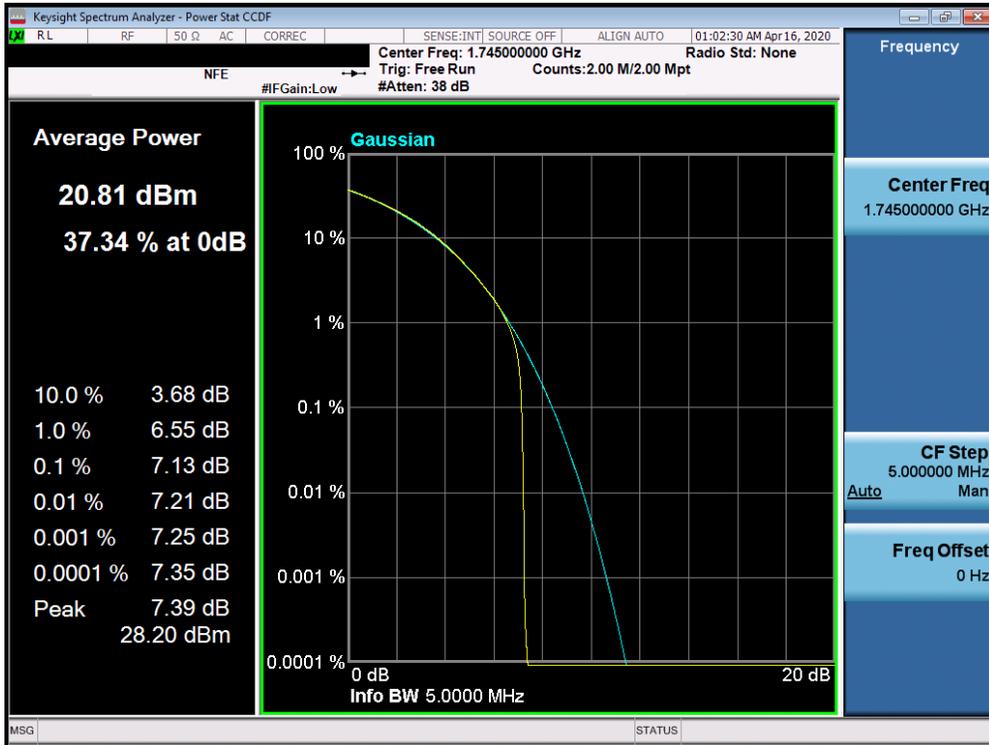


Plot 7-483. PAR Plot (n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

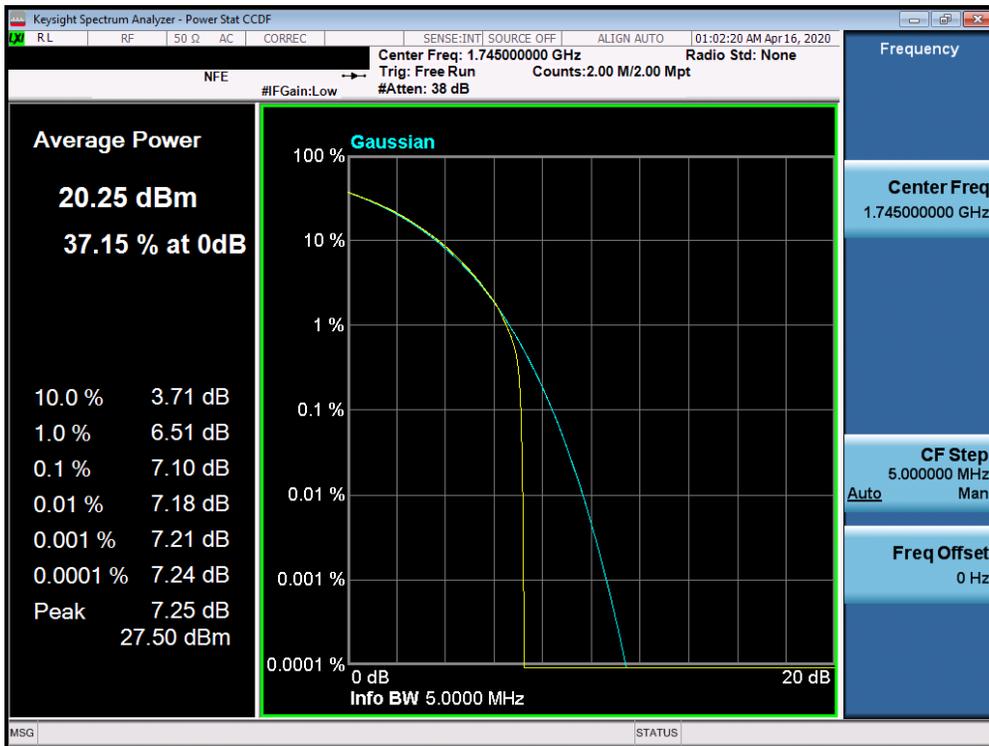


Plot 7-484. PAR Plot (n66 - 5.0MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 268 of 357

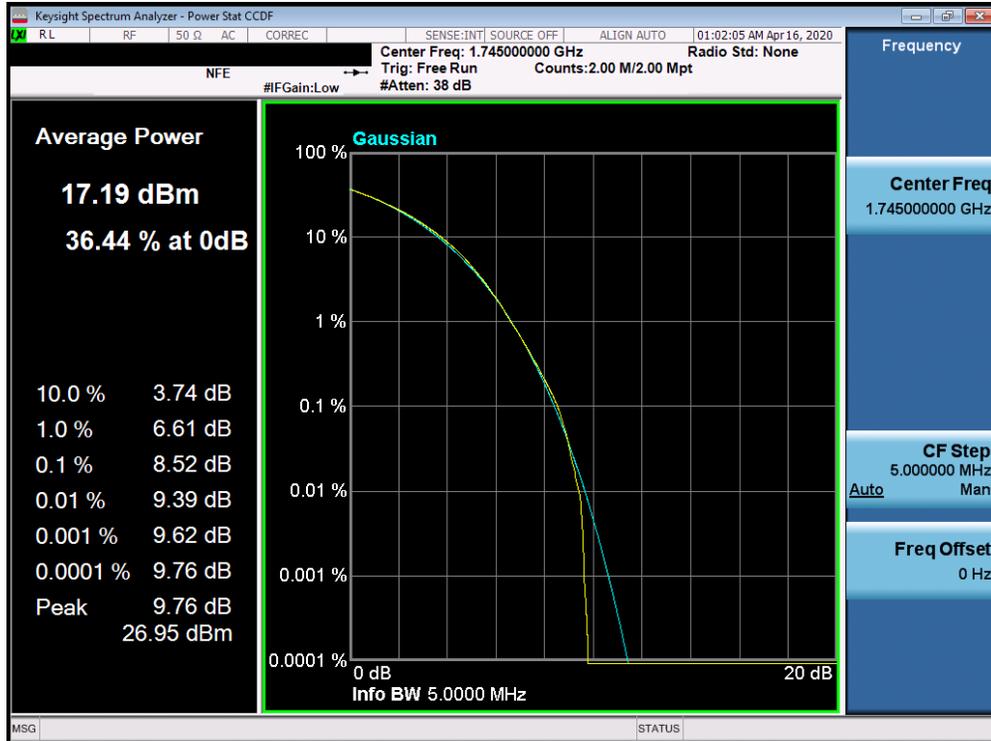


Plot 7-485. PAR Plot (n66 - 5.0MHz CP-OFDM-16-QAM - Full RB Configuration)

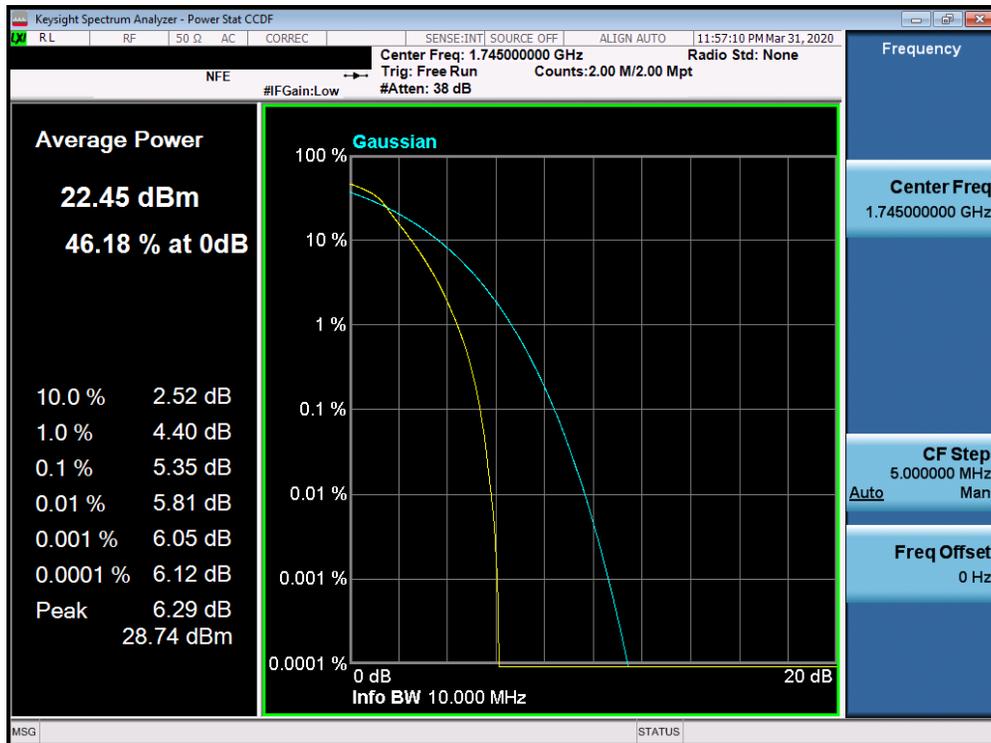


Plot 7-486. PAR Plot (n66 - 5.0MHz CP-OFDM-64-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 269 of 357

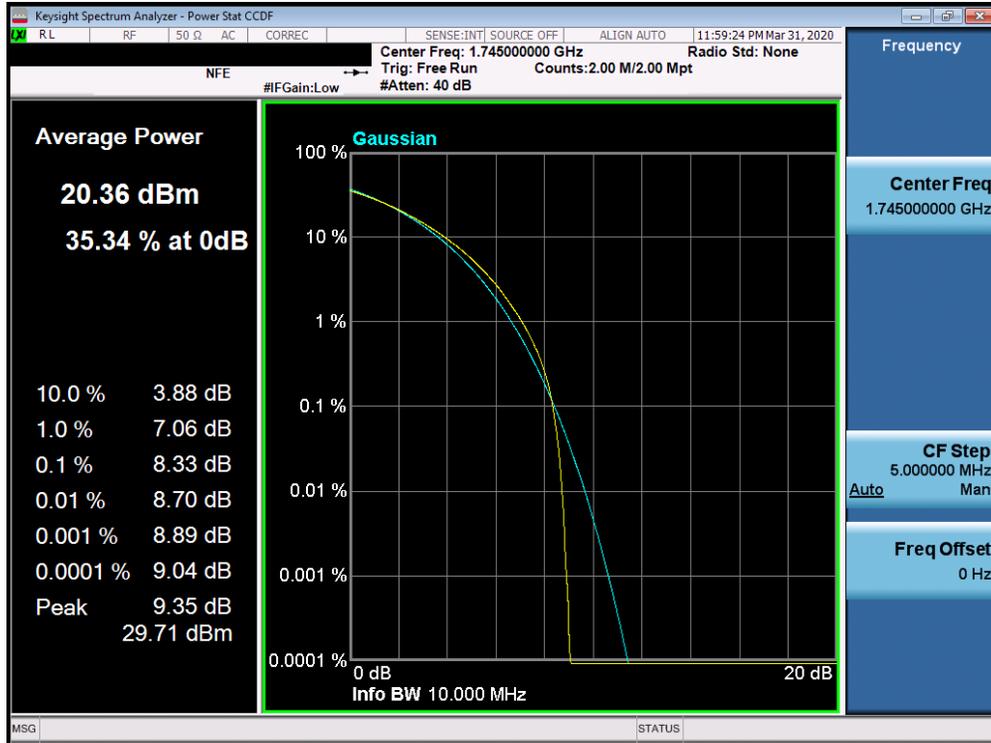


Plot 7-487. PAR Plot (n66 - 5.0MHz CP-OFDM-256-QAM - Full RB Configuration)

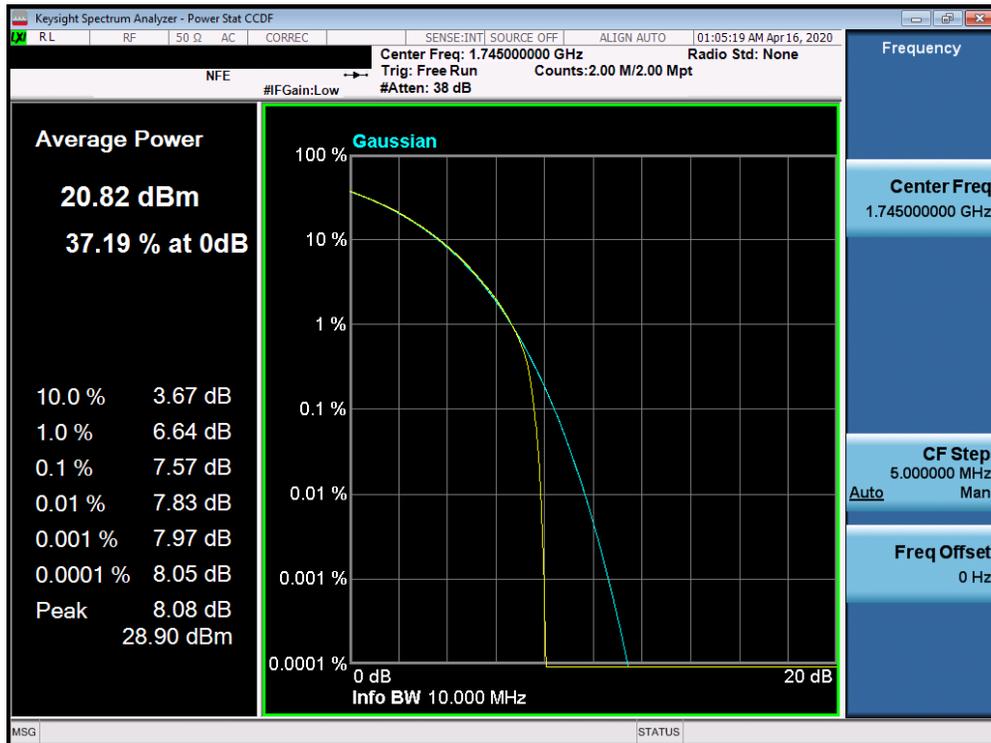


Plot 7-488. PAR Plot (n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 270 of 357

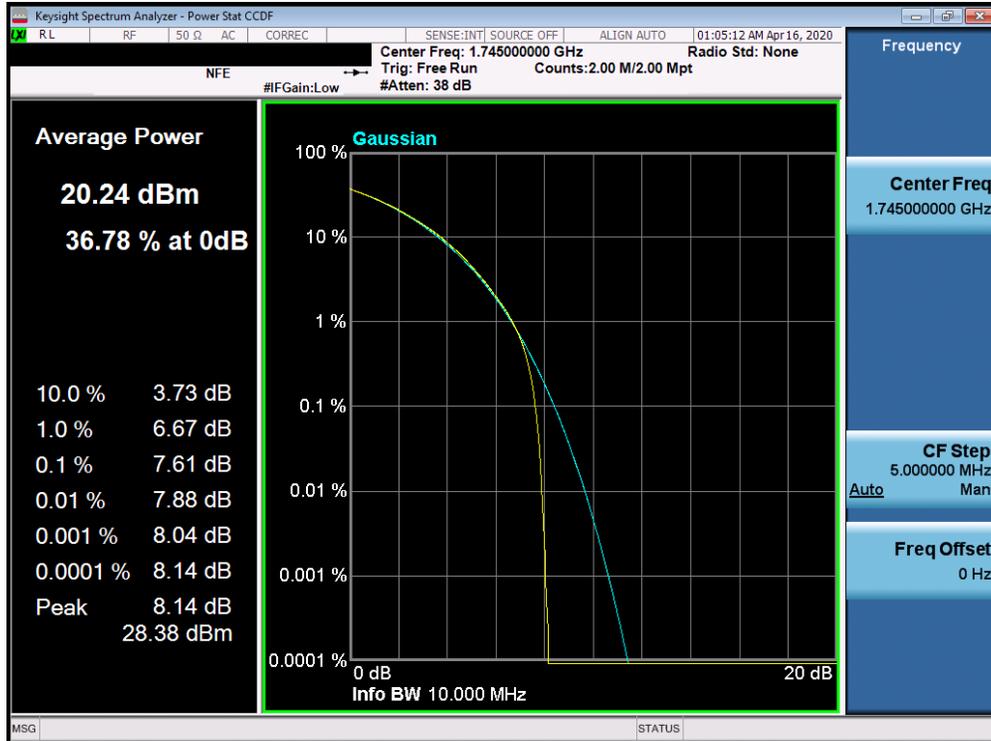


Plot 7-489. PAR Plot (n66 - 10.0MHz CP-OFDM-QPSK - Full RB Configuration)

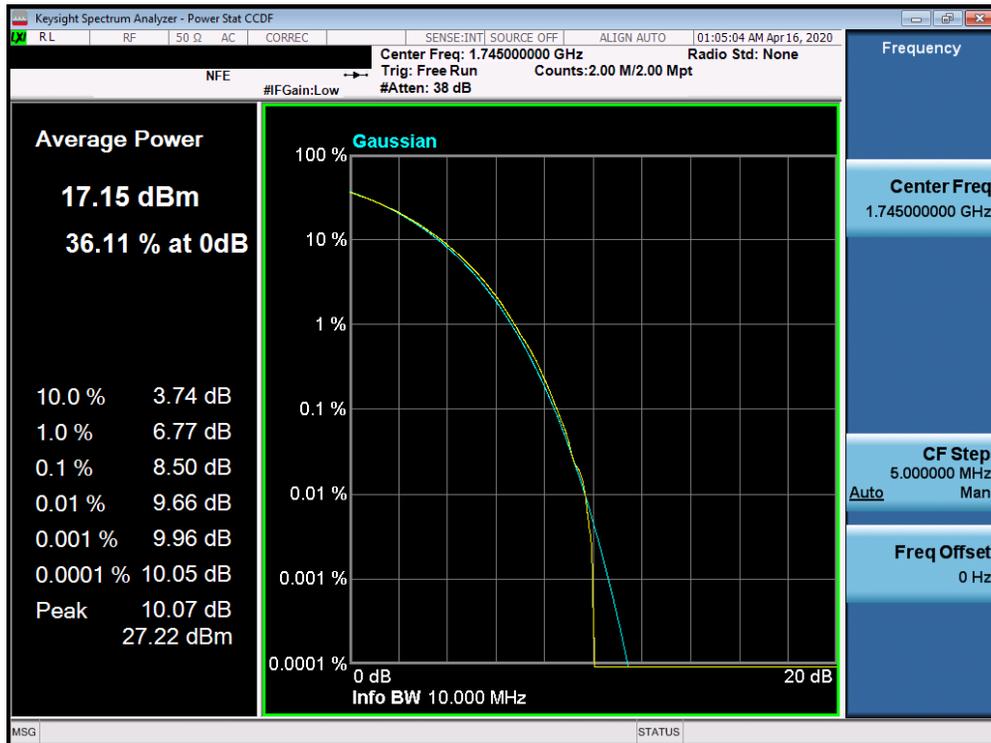


Plot 7-490. PAR Plot (n66 - 10.0MHz CP-OFDM-16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 271 of 357

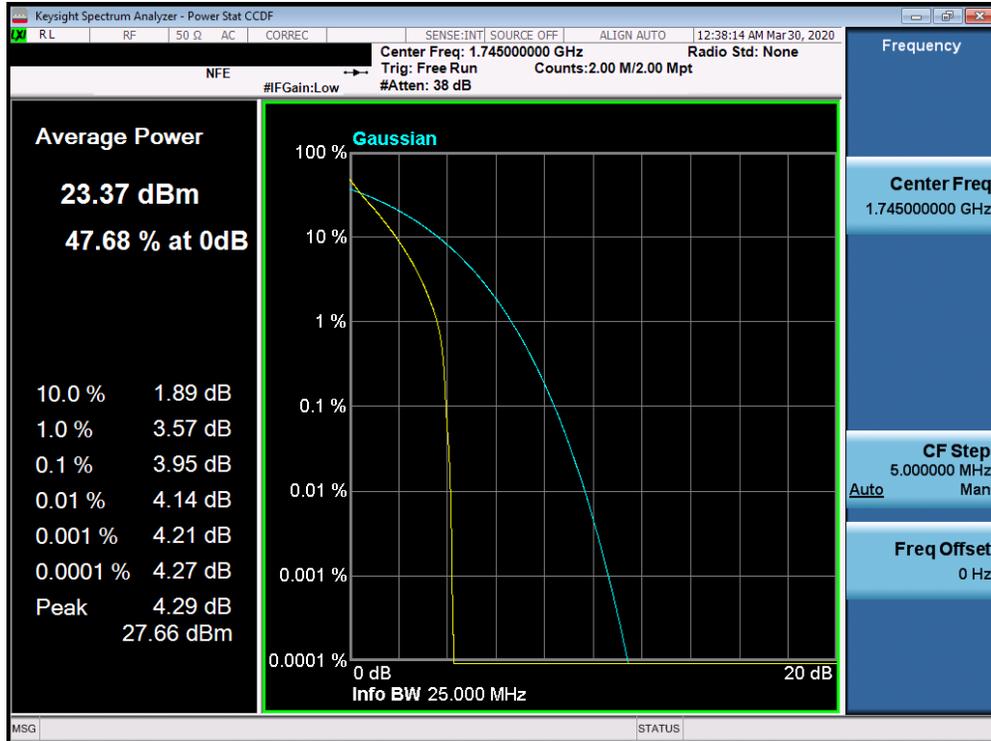


Plot 7-491. PAR Plot (n66 - 10.0MHz CP-OFDM-64-QAM - Full RB Configuration)

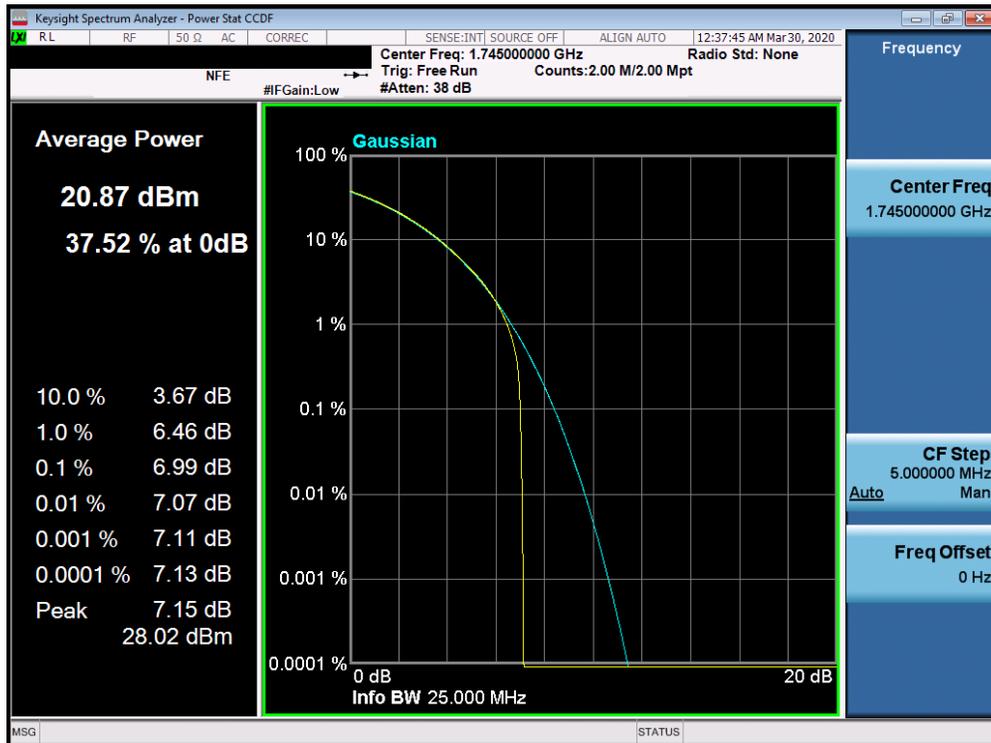


Plot 7-492. PAR Plot (n66 - 10.0MHz CP-OFDM-256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 272 of 357

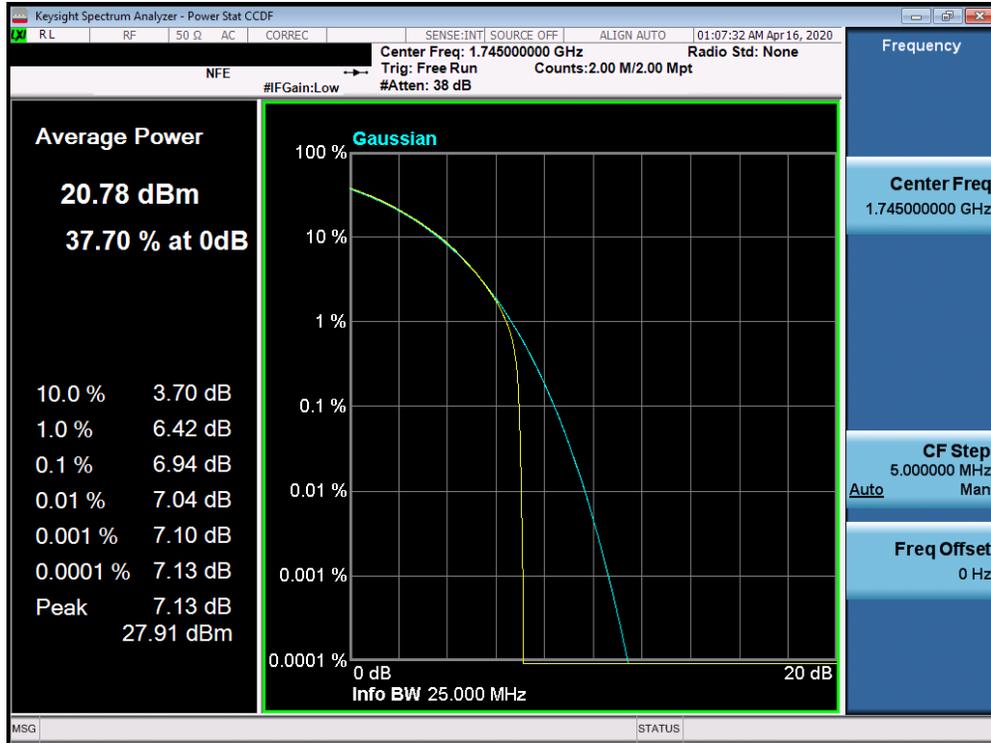


Plot 7-493. PAR Plot (n66 - 15.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

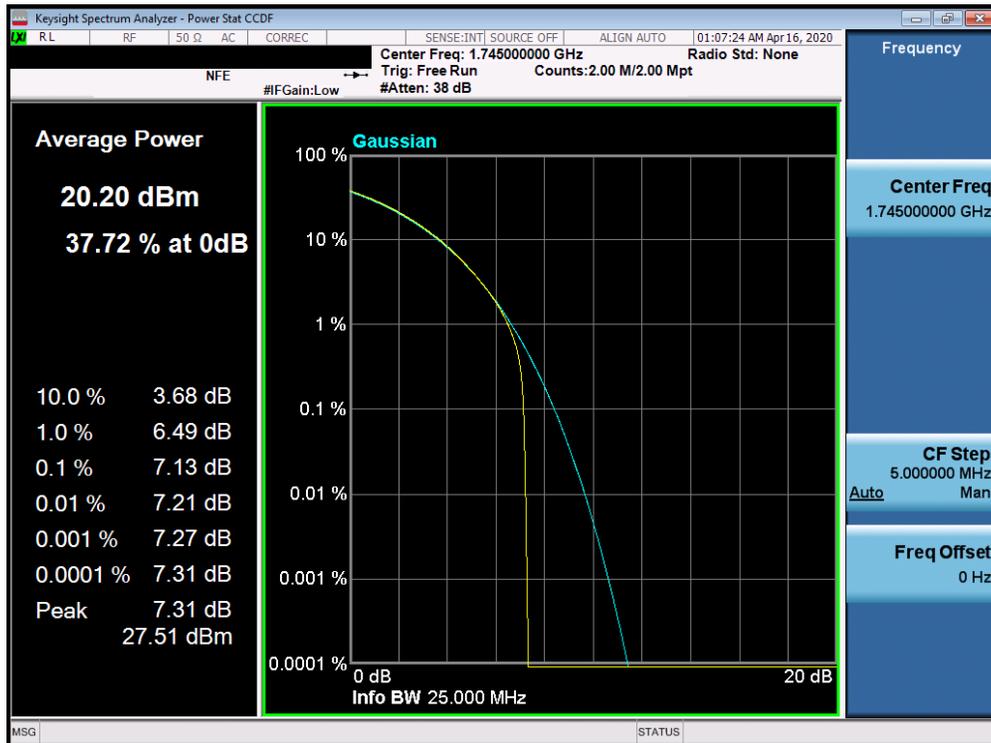


Plot 7-494. PAR Plot (n66 - 15.0MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 273 of 357

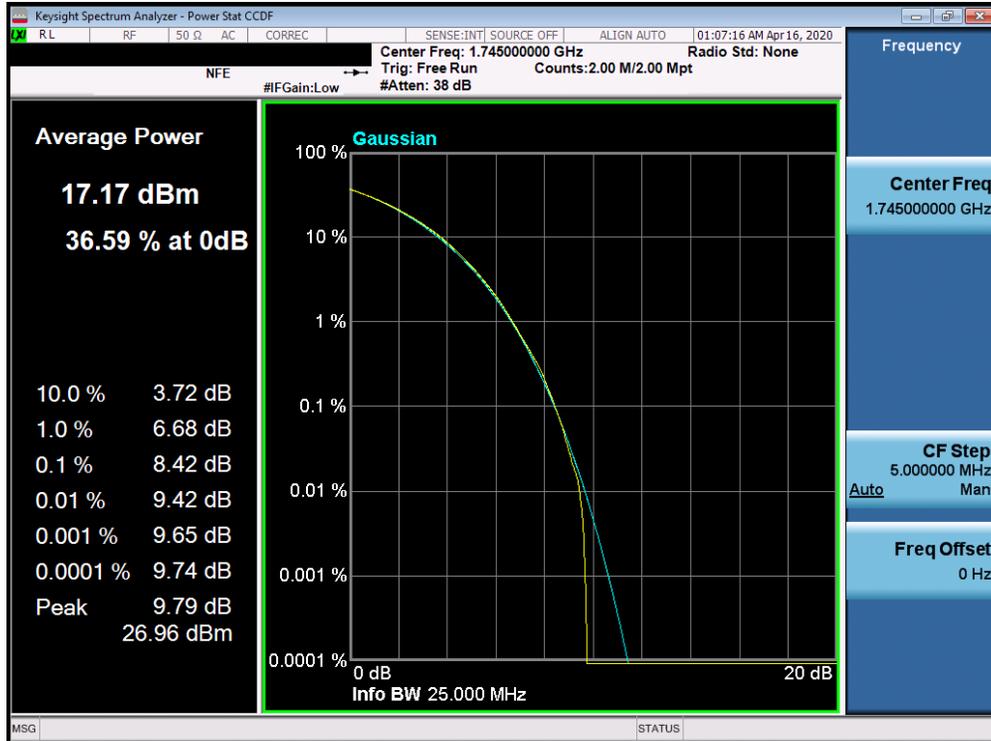


Plot 7-495. PAR Plot (n66 - 15.0MHz CP-OFDM-16-QAM - Full RB Configuration)

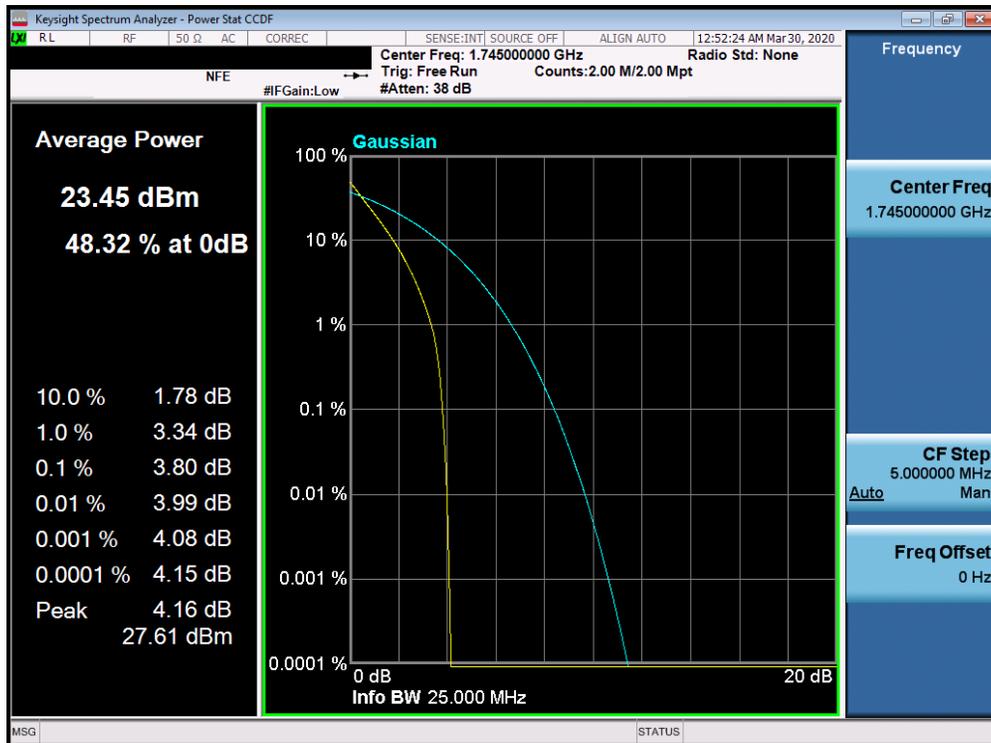


Plot 7-496. PAR Plot (n66 - 15.0MHz CP-OFDM-64-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 274 of 357

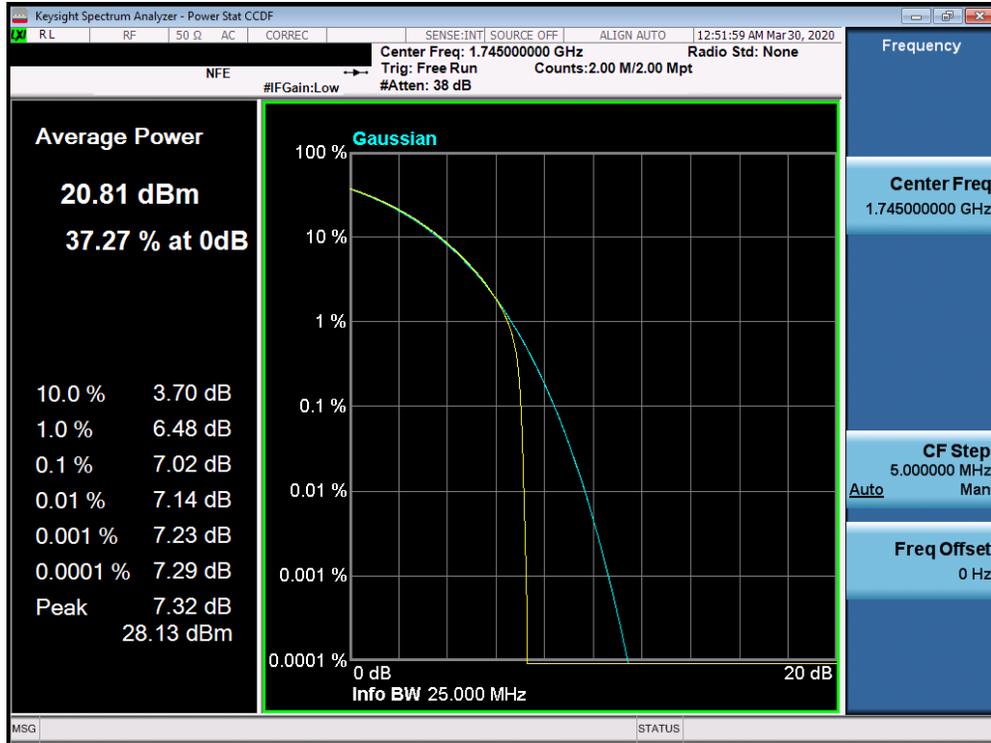


Plot 7-497. PAR Plot (n66 - 15.0MHz CP-OFDM-256-QAM - Full RB Configuration)

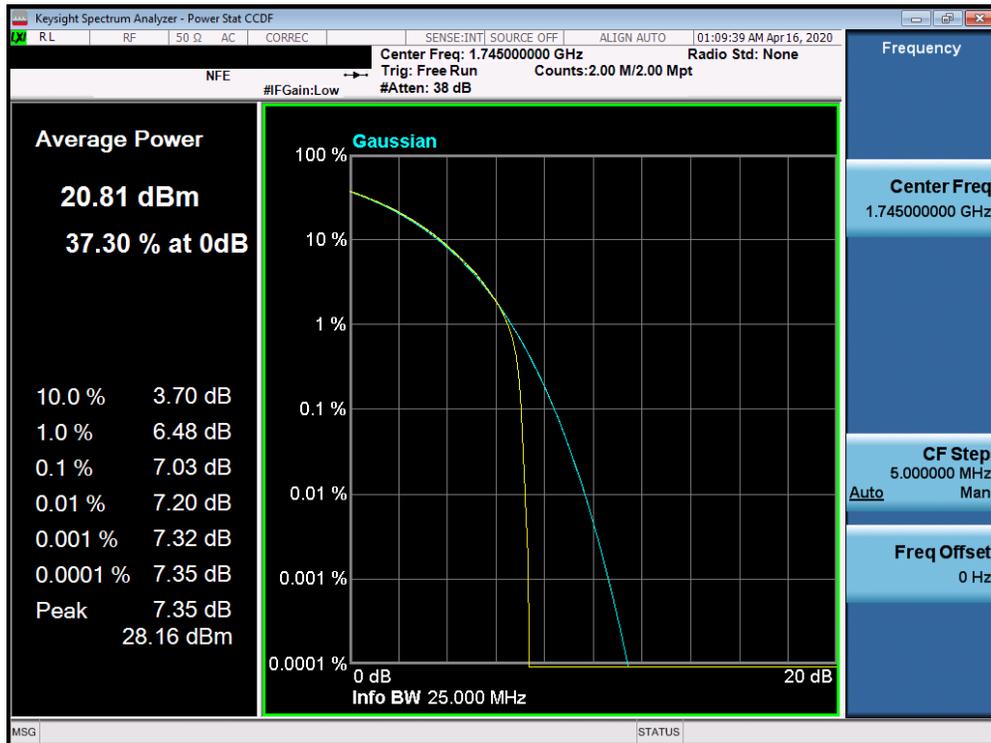


Plot 7-498. PAR Plot (n66 - 20.0MHz DFT-s-OFDM BPSK - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 275 of 357

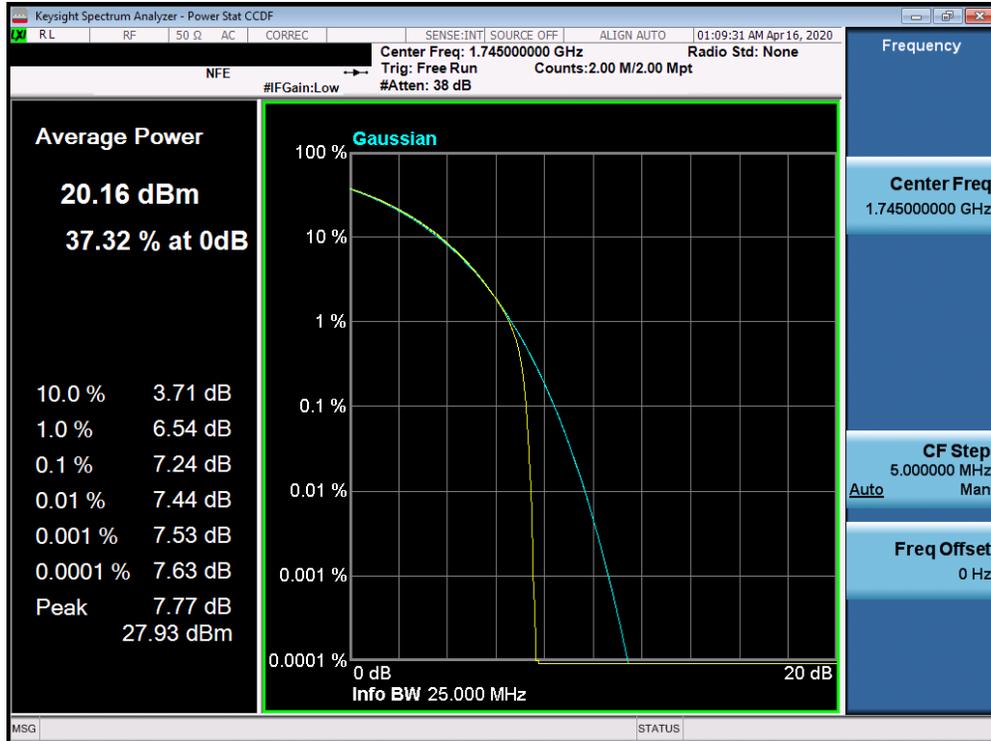


Plot 7-499. PAR Plot (n66 - 20.0MHz CP-OFDM-QPSK - Full RB Configuration)

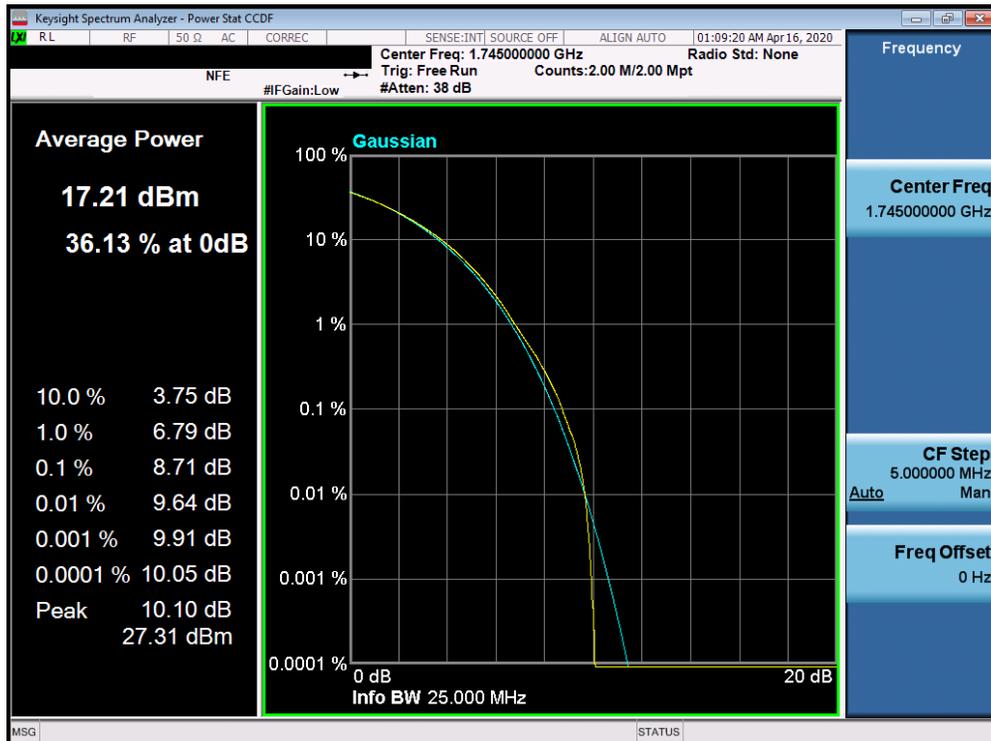


Plot 7-500. PAR Plot (n66 - 20.0MHz CP-OFDM-16-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 276 of 357



Plot 7-501. PAR Plot (n66 - 20.0MHz CP-OFDM-64-QAM - Full RB Configuration)



Plot 7-502. PAR Plot (n66 - 20.0MHz CP-OFDM-256-QAM - Full RB Configuration)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 277 of 357

7.6 Uplink Carrier Aggregation

§27.53(m)

Test Overview

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

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

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

Test Setup

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

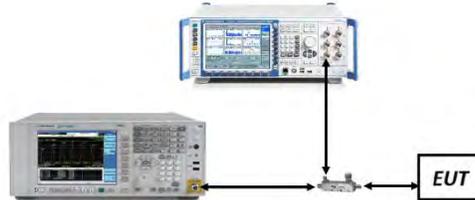


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 278 of 357

Test Notes

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

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 279 of 357

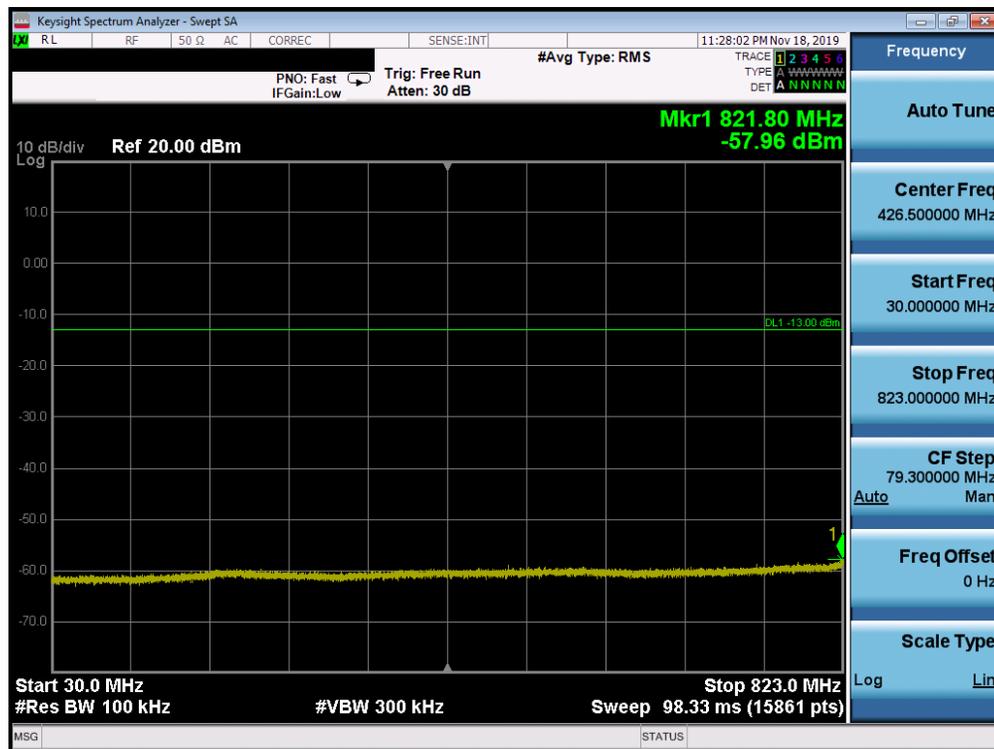
Uplink CA Configuration 5B

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 B5	10	20450	829	QPSK	1	49	LTE B5	10	20549	838.9	QPSK	1	0	24.27
Max	LTE B5	10	20525	836.5	QPSK	1	49	LTE B5	5	20597	843.7	QPSK	1	0	24.32
Max	LTE B5	10	20600	844	QPSK	1	0	LTE B5	10	20501	834.1	QPSK	1	49	24.56

Table 7-3. Conducted Powers (B5 – PCC/SCC: RB Size 1)

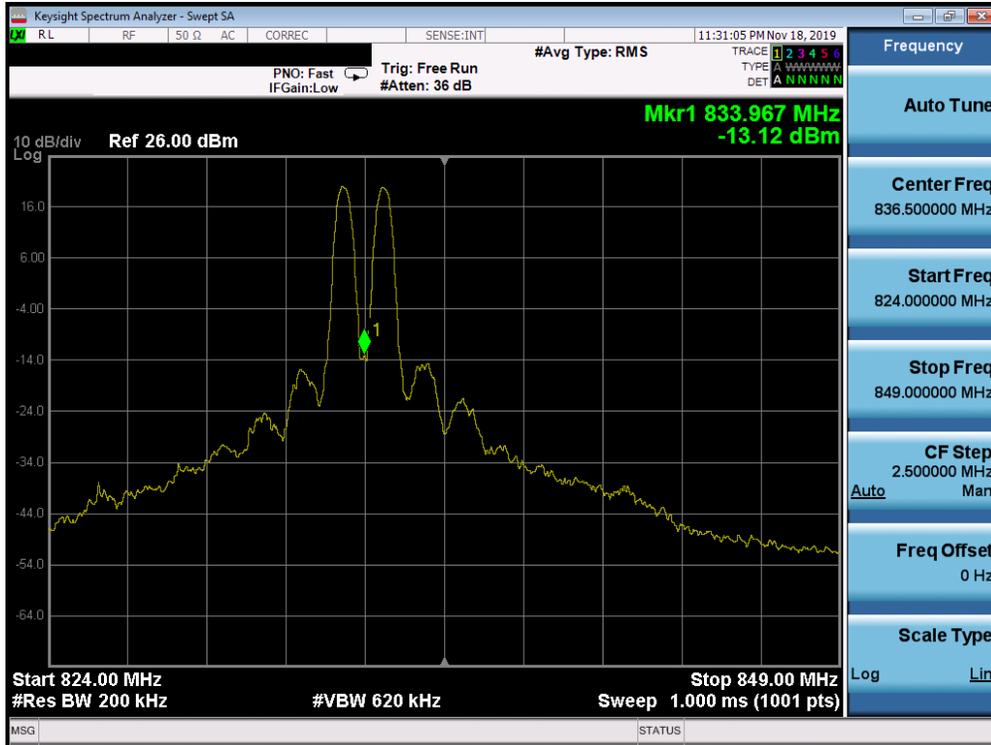
Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	
Max	LTE B5	10	20600	844	QPSK	50	0	LTE B5	10	20699	853.9	QPSK	50	0	22.69
Max	LTE B5	10	20600	844	16-QAM	50	0	LTE B5	10	20699	853.9	16-QAM	50	0	21.56
Max	LTE B5	10	20600	844	64-QAM	50	0	LTE B5	10	20699	853.9	64-QAM	50	0	20.49
Max	LTE B5	10	20600	844	256-QAM	50	0	LTE B5	10	20699	853.9	256-QAM	50	0	18.25

Table 7-4. Conducted Powers (B5 with Various Combinations for 10MHz Channel Bandwidth)

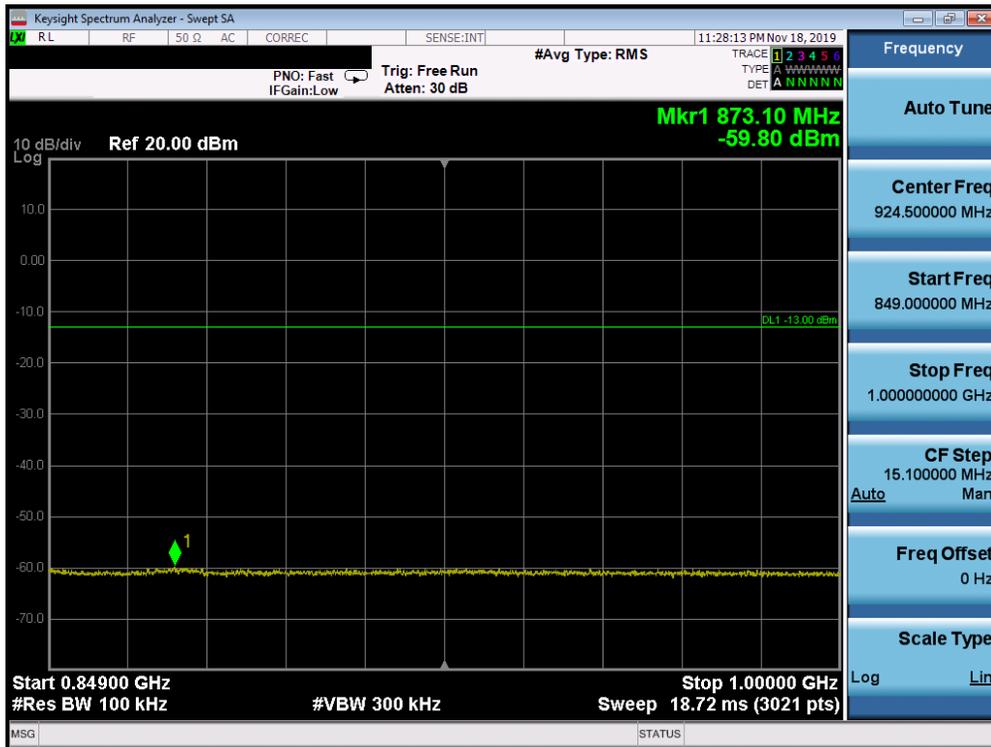


Plot 7-503. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 280 of 357

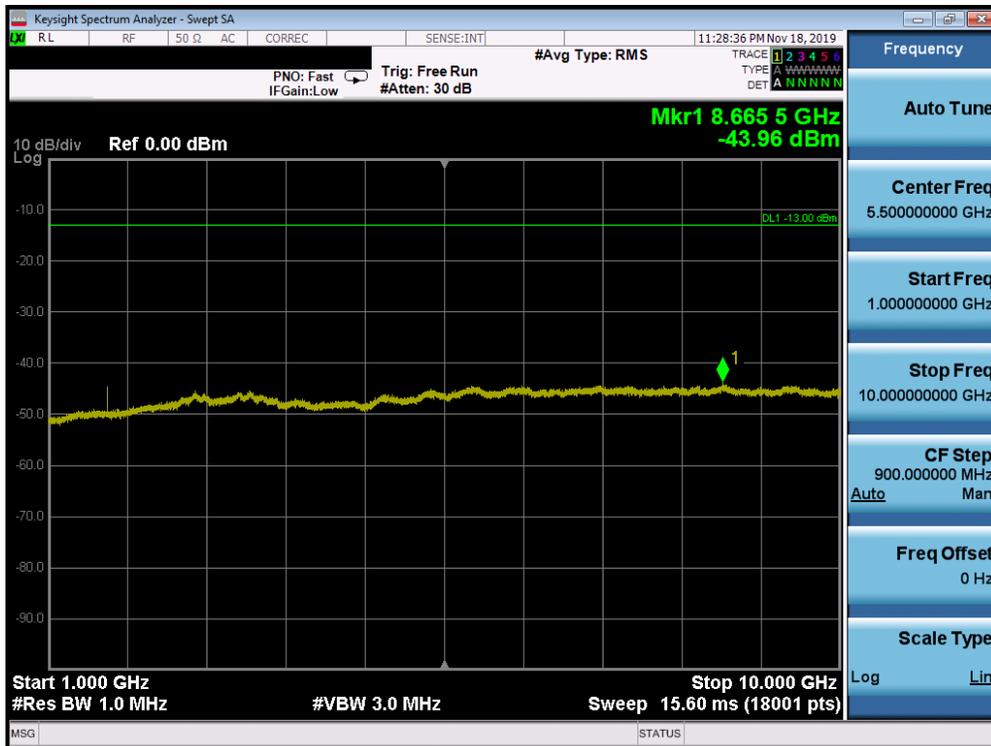


Plot 7-504. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)

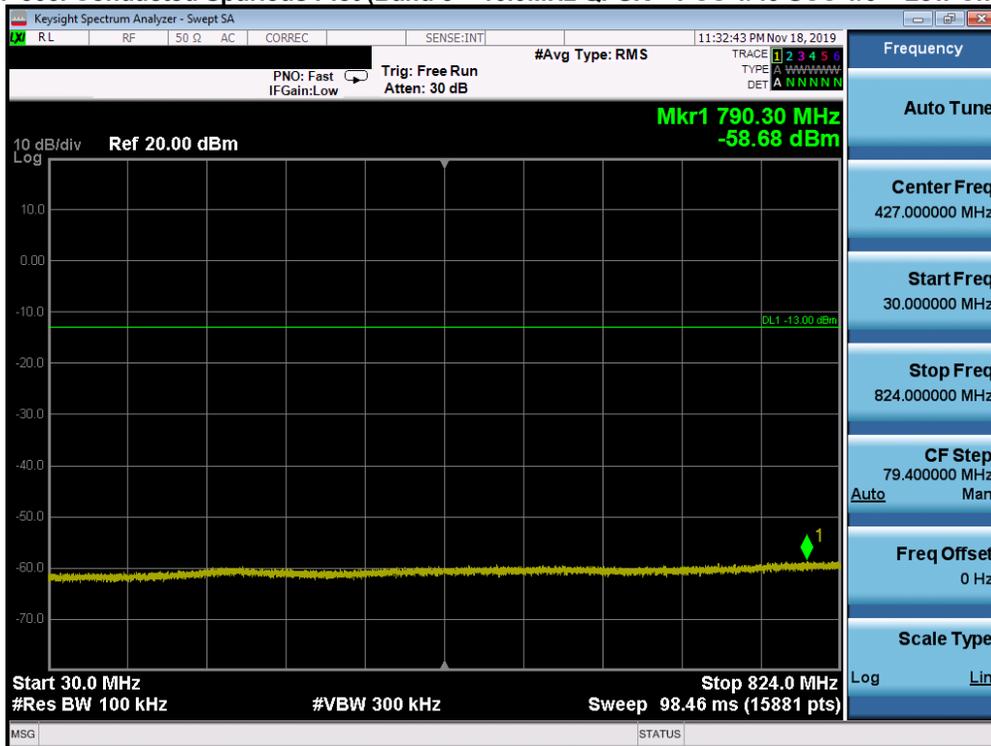


Plot 7-505. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)

FCC ID: A3LSMG981V	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 281 of 357



Plot 7-506. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)



Plot 7-507. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/0 SCC 1/49 – High Channel)

FCC ID: A3LSMG981V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2003090034-05.A3L	Test Dates: 10/22/2019-5/6/2020	EUT Type: Portable Handset		Page 282 of 357