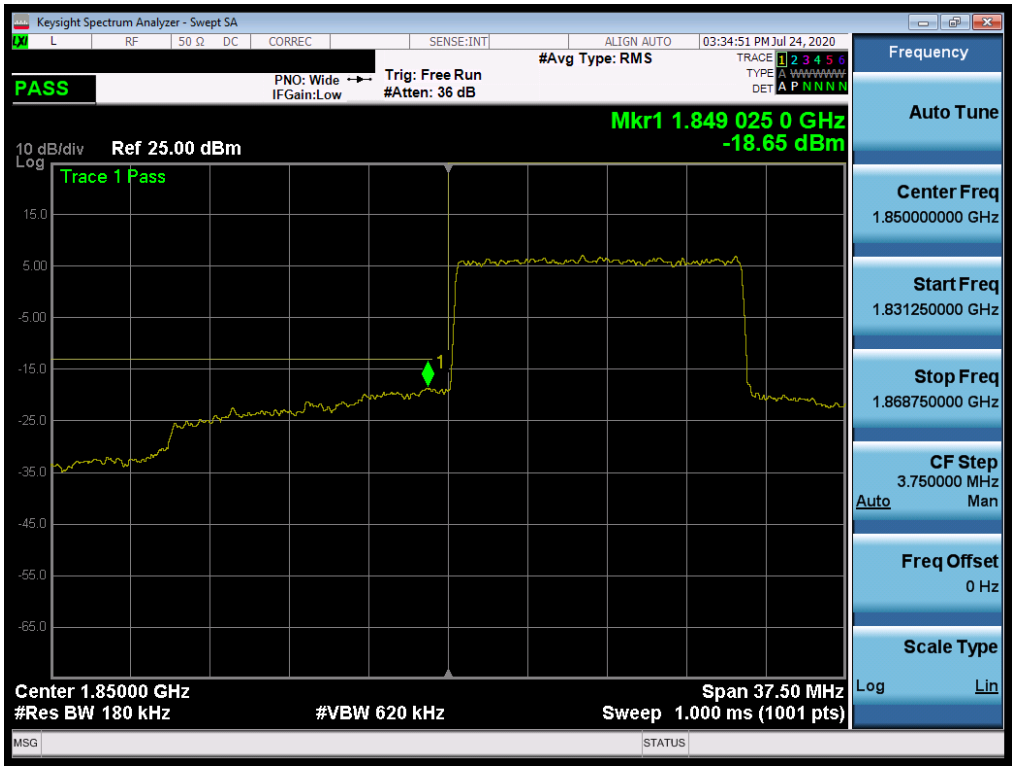
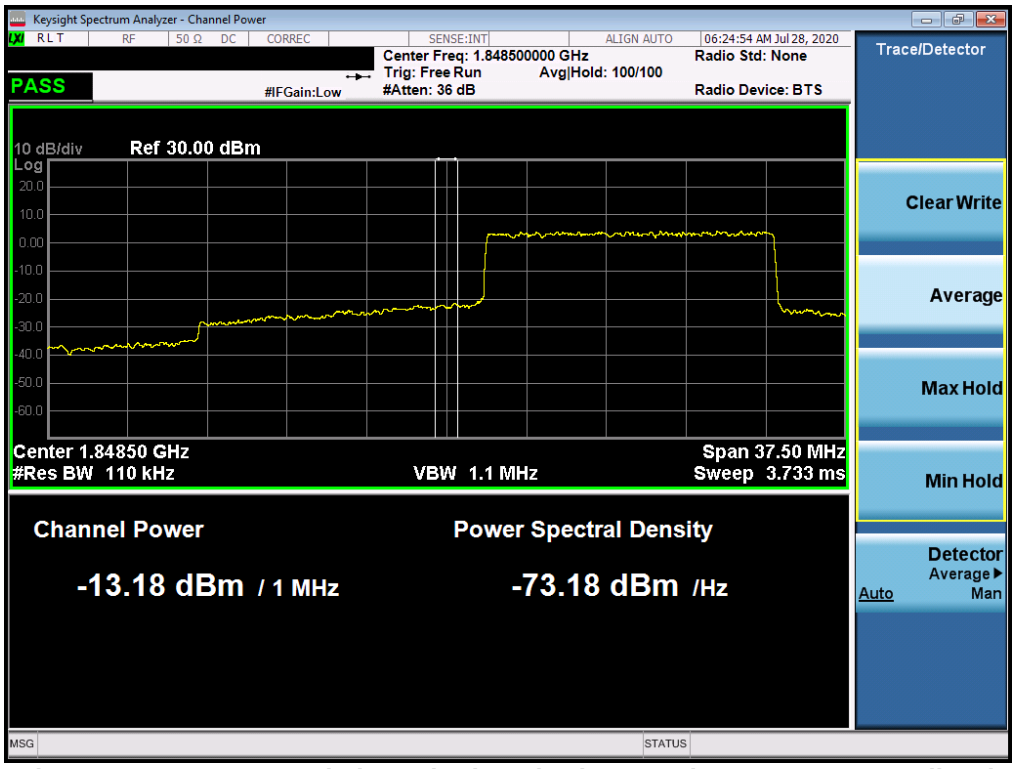
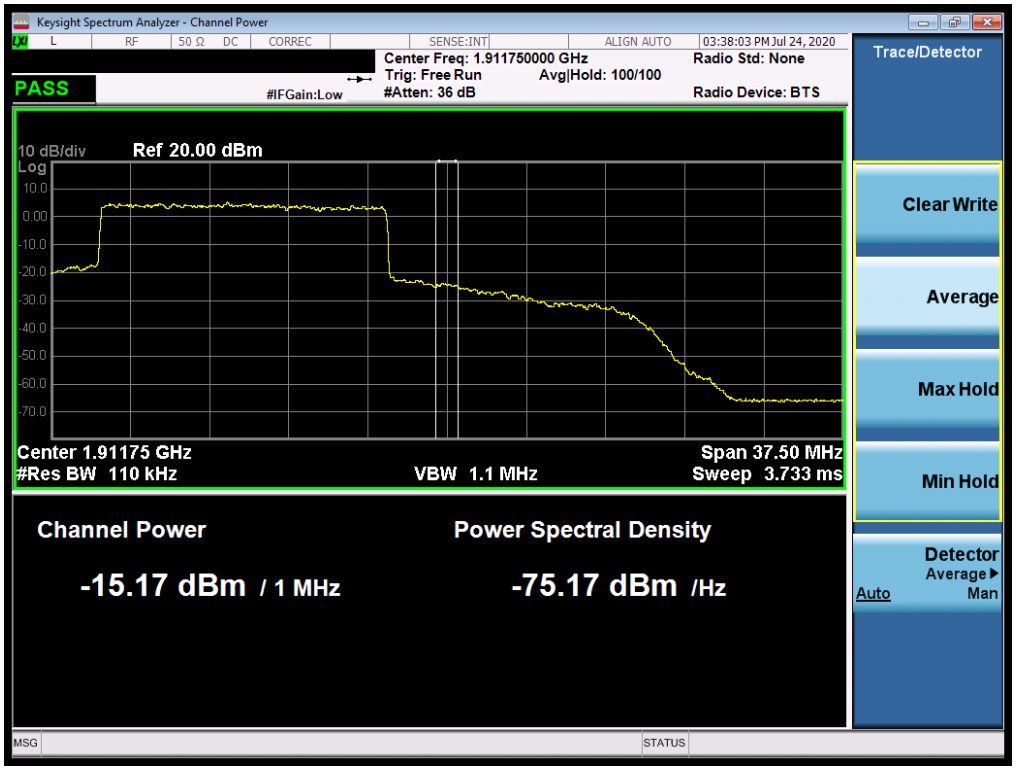


Plot 7-336. Lower Band Edge Plot (NR Band n2 – 15.0MHz - Full RB)

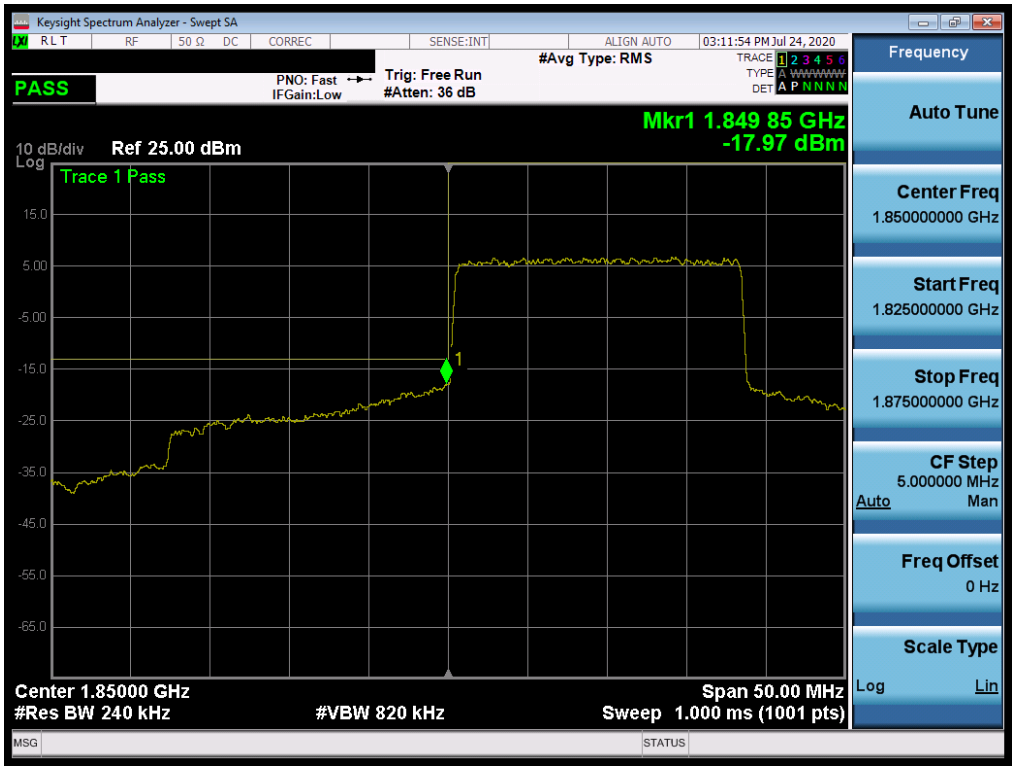


Plot 7-337. Lower Extended Band Edge Plot (NR Band n2 – 15.0MHz - Full RB)

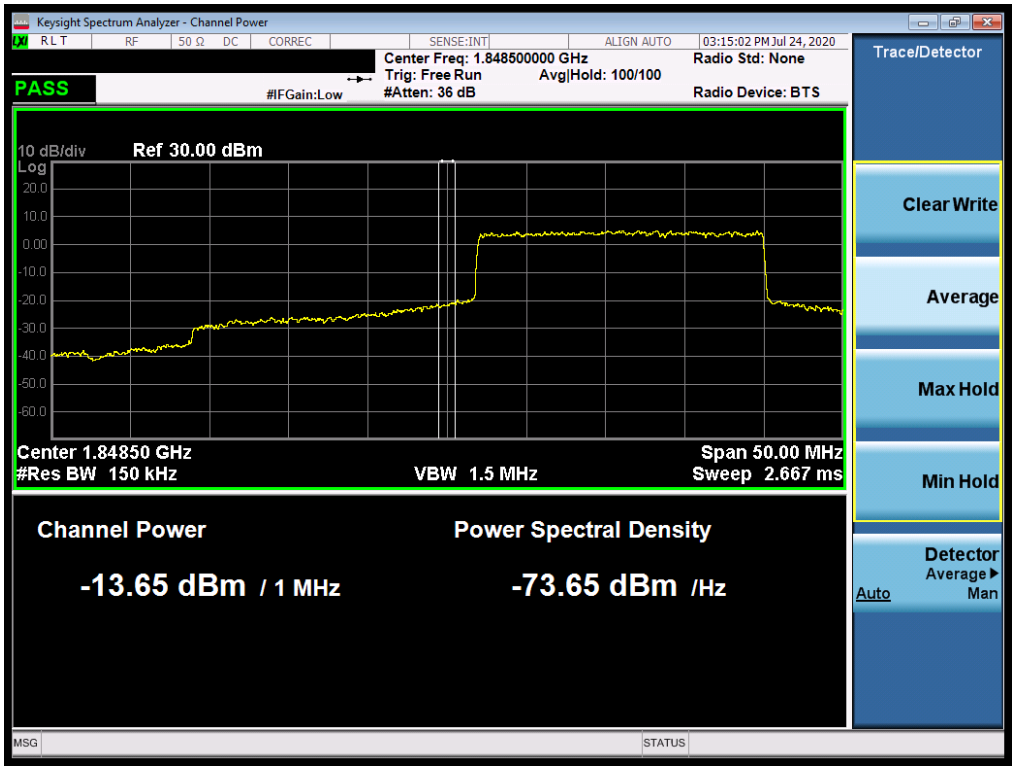
Plot 7-338. Upper Band Edge Plot (NR Band n2 – 15.0MHz - Full RB)



Plot 7-339. Upper Extended Band Edge Plot (NR Band n2 – 15.0MHz - Full RB)

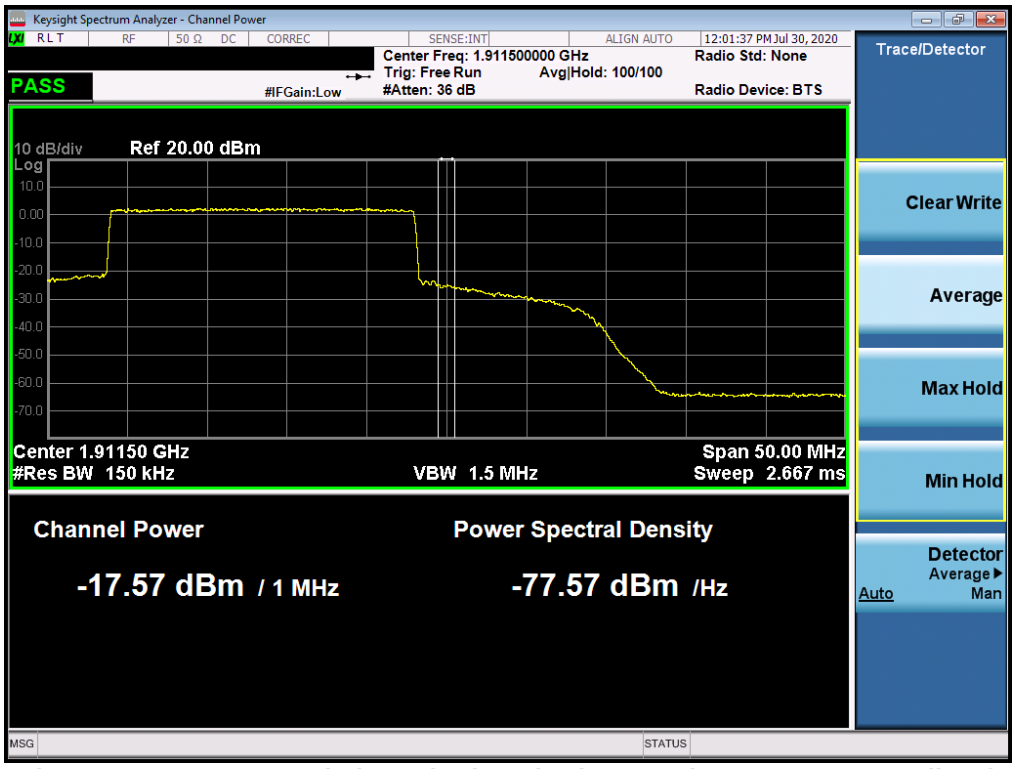


Plot 7-340. Lower Band Edge Plot (NR Band n2 – 20.0MHz - Full RB)



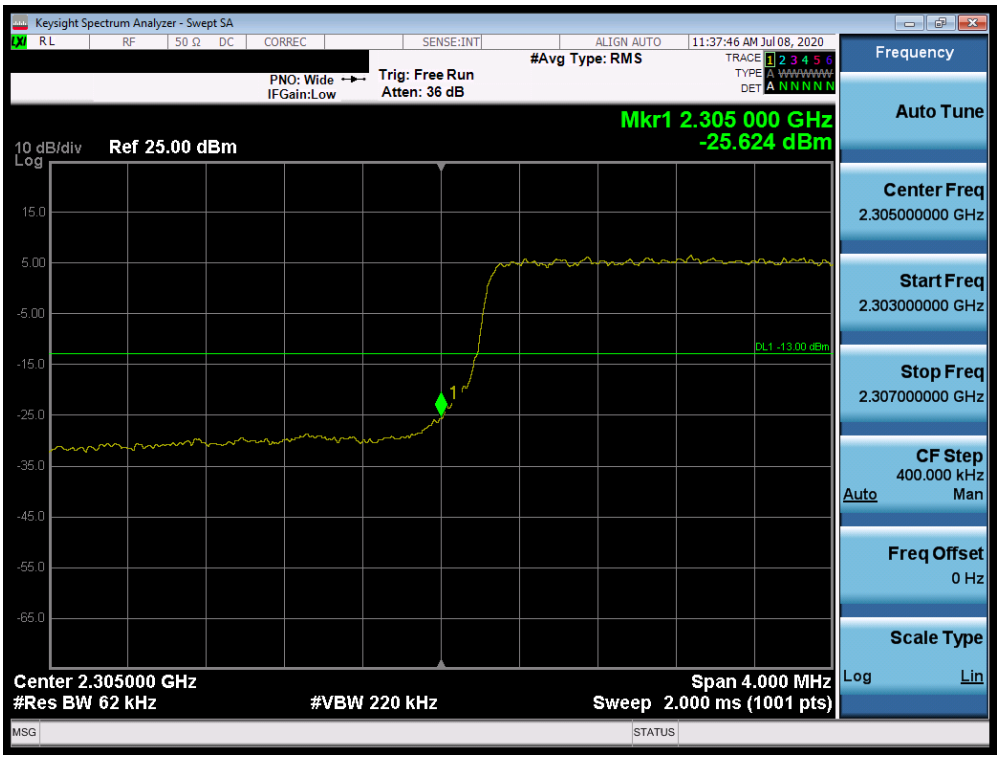
Plot 7-341. Lower Extended Band Edge Plot (NR Band n2 – 20.0MHz - Full RB)

Plot 7-342. Upper Band Edge Plot (NR Band n2 – 20.0MHz - Full RB)



Plot 7-343. Upper Extended Band Edge Plot (NR Band n2 – 20.0MHz - Full RB)

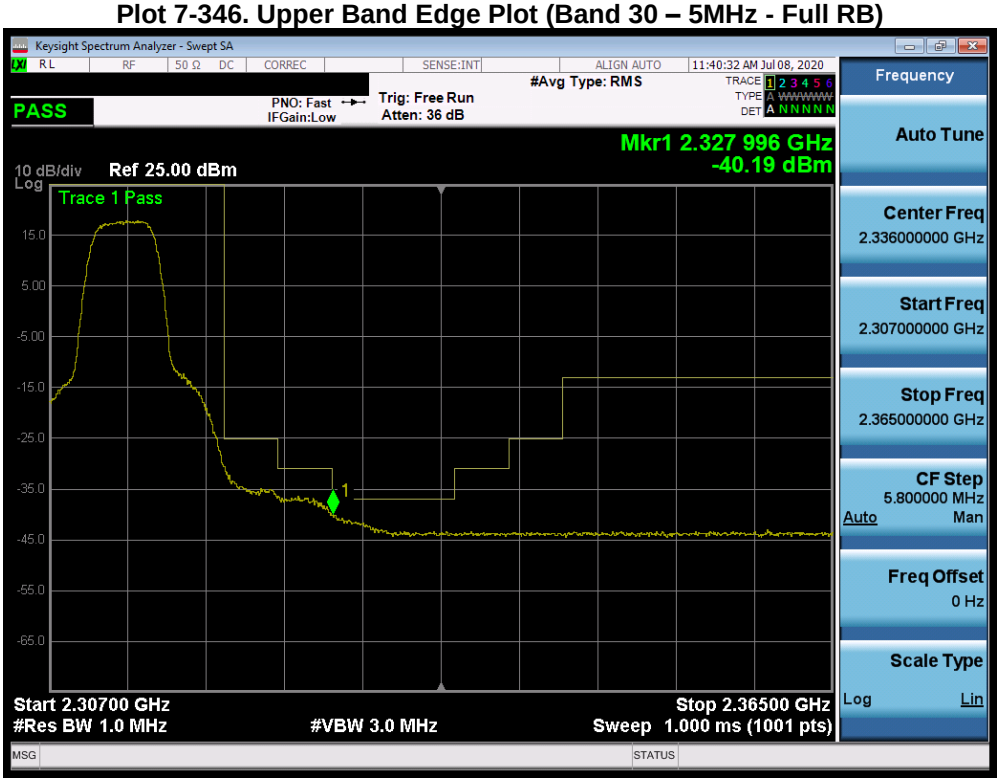
Band 30



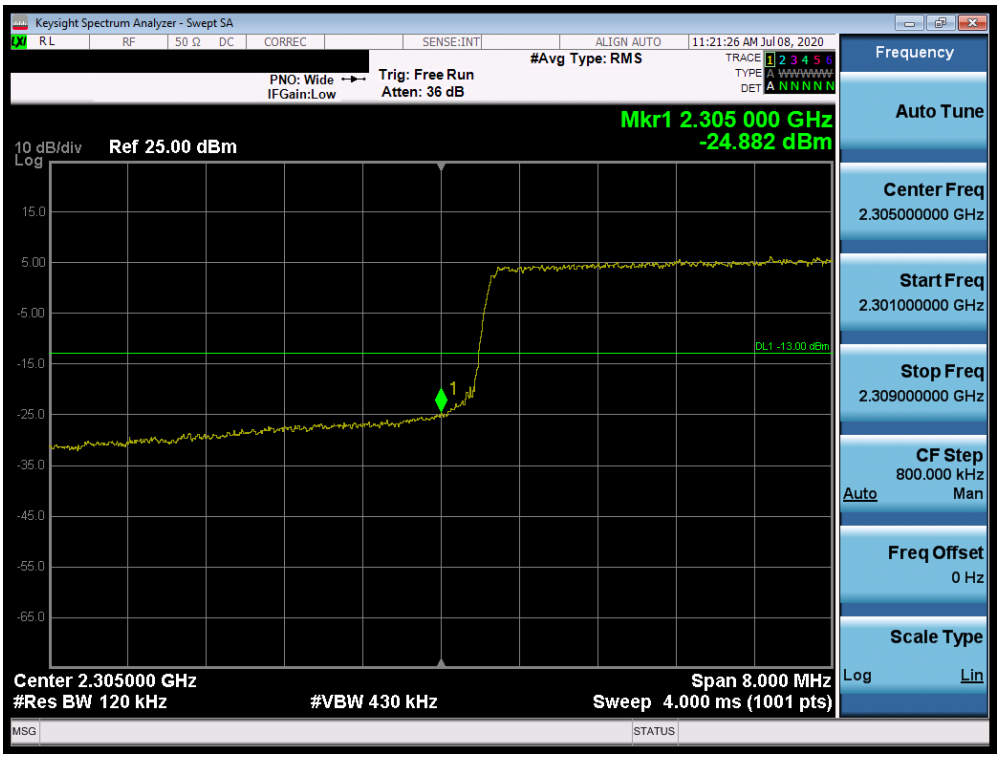
Plot 7-344. Lower Band Edge Plot (Band 30 – 5MHz - Full RB)

Plot 7-345. Lower Extended Band Edge Plot (Band 30 – 5MHz - Full RB)

Plot 7-346. Upper Band Edge Plot (Band 30 – 5MHz - Full RB)



Plot 7-347. Upper Extended Band Edge Plot (Band 30 – 5MHz - Full RB)



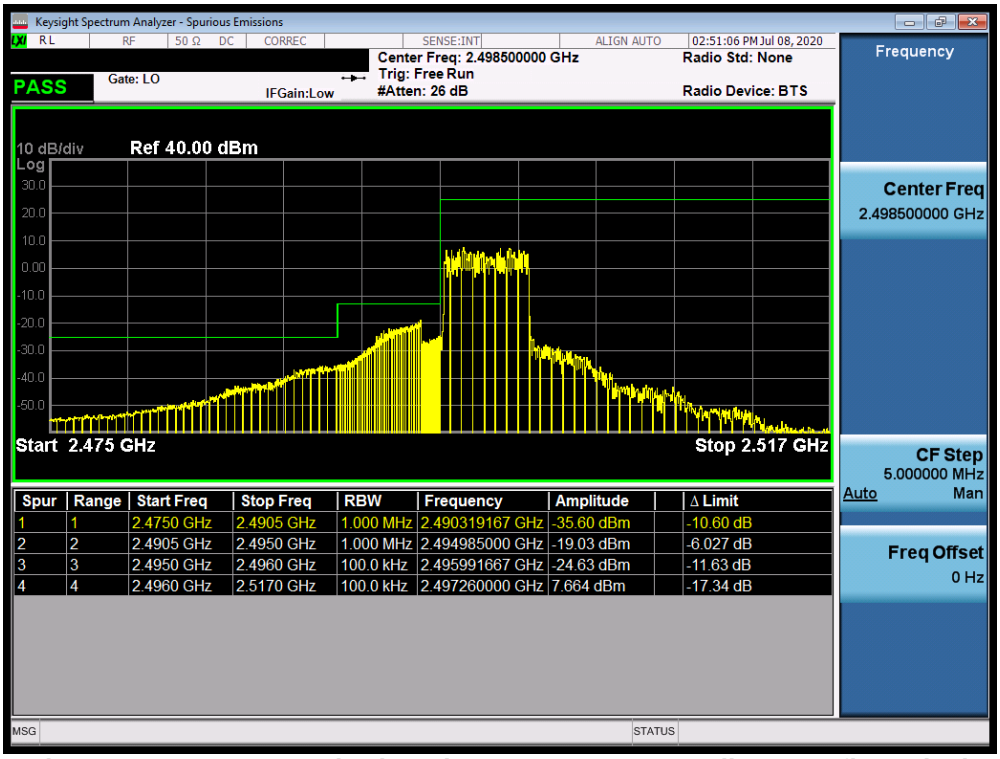
Plot 7-348. Lower Band Edge Plot (Band 30 – 10MHz - Full RB)

Plot 7-349. Lower Extended Band Edge Plot (Band 30 – 10MHz - Full RB)

Plot 7-350. Upper Band Edge Plot (Band 30 – 10MHz - Full RB)

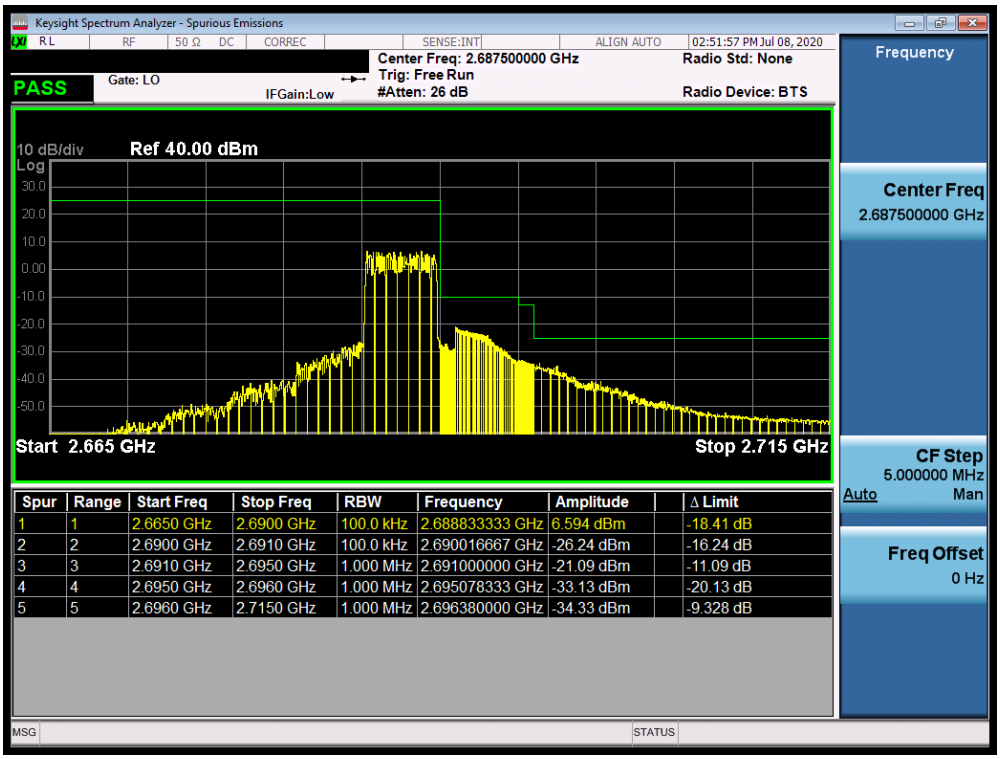
Plot 7-351. Upper Extended Band Edge Plot (Band 30 – 10MHz - Full RB)

Band 41 (PC3)



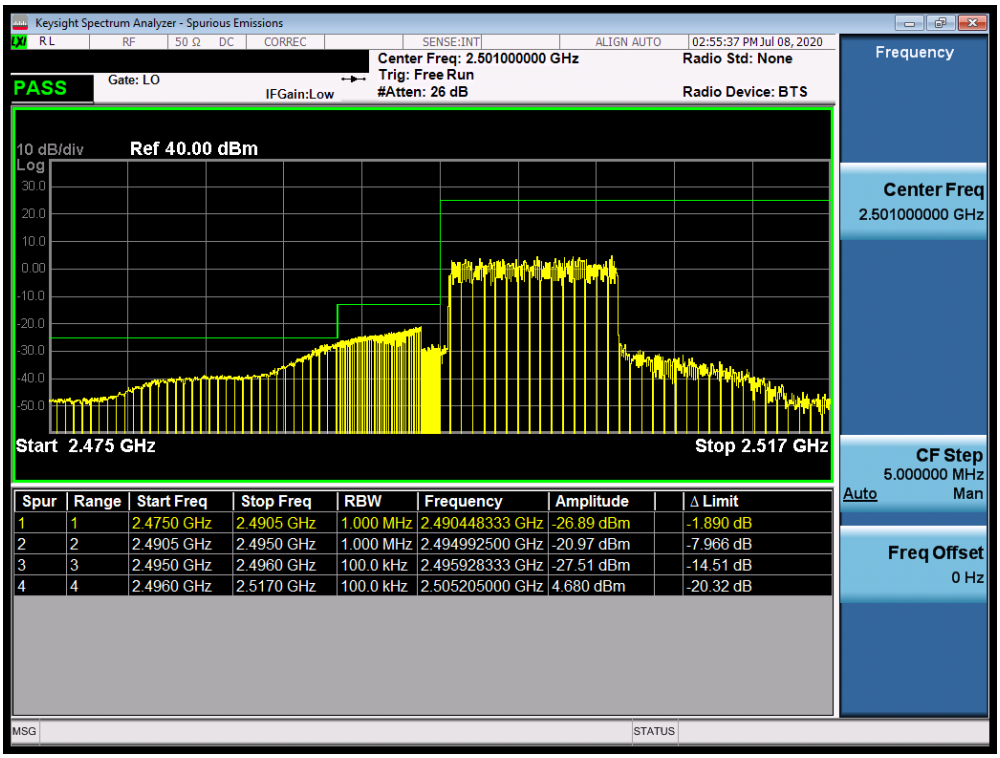
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490319167 GHz	-35.60 dBm	-10.60 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494985000 GHz	-19.03 dBm	-6.027 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495991667 GHz	-24.63 dBm	-11.63 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.497260000 GHz	7.664 dBm	-17.34 dB

Plot 7-352. Lower ACP Plot (Band 41 - 5MHz QPSK - Full RB Configuration)



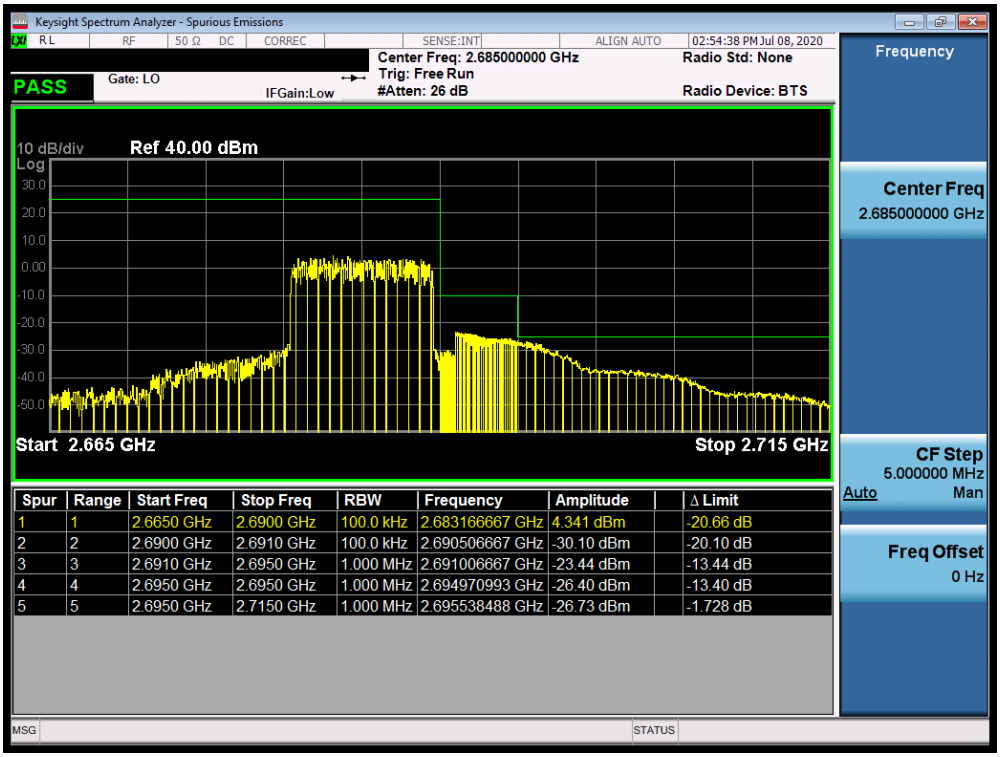
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.688833333 GHz	6.594 dBm	-18.41 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690016667 GHz	-26.24 dBm	-16.24 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691000000 GHz	-21.09 dBm	-11.09 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695078333 GHz	-33.13 dBm	-20.13 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696380000 GHz	-34.33 dBm	-9.328 dB

Plot 7-353. Upper ACP Plot (Band 41 - 5MHz QPSK - Full RB Configuration)



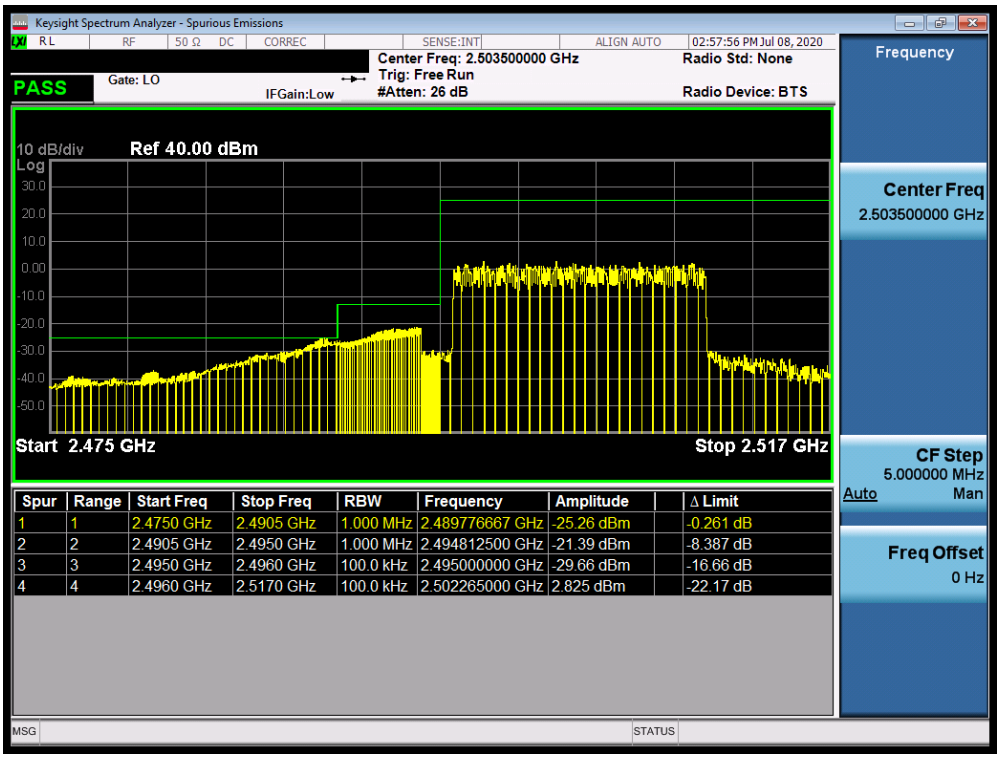
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490448333 GHz	-26.89 dBm	-1.890 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494992500 GHz	-20.97 dBm	-7.966 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495928333 GHz	-27.51 dBm	-14.51 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.505205000 GHz	4.680 dBm	-20.32 dB

Plot 7-354. Lower ACP Plot (Band 41 - 10MHz QPSK - Full RB Configuration)



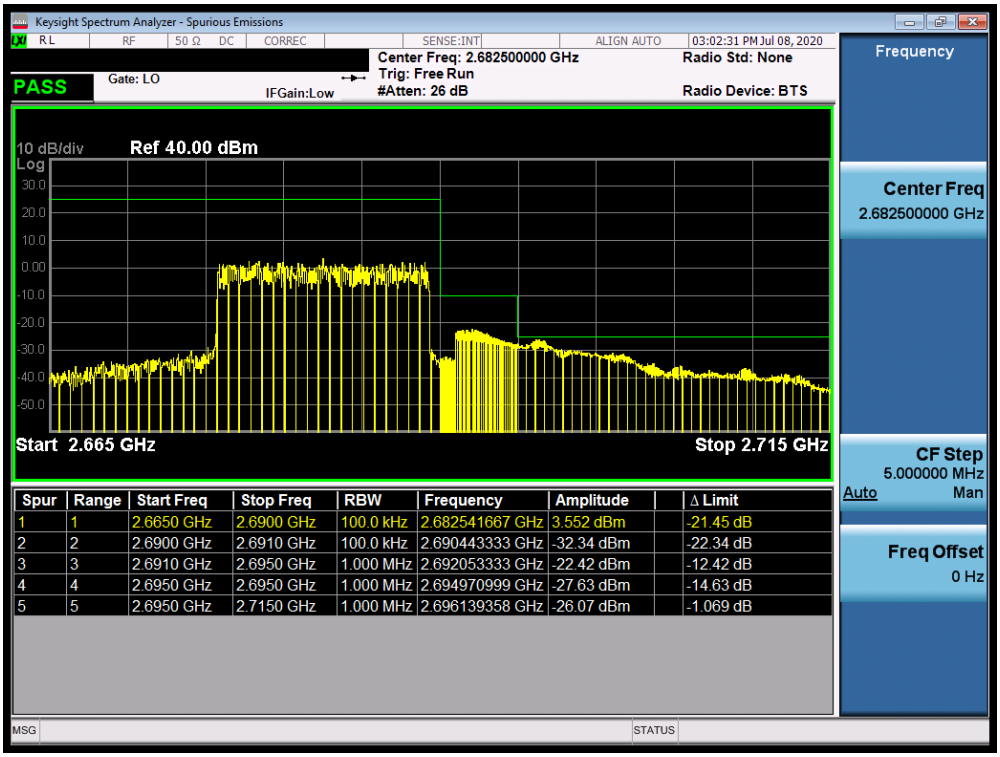
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.683166667 GHz	4.341 dBm	-20.66 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690506667 GHz	-30.10 dBm	-20.10 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.691006667 GHz	-23.44 dBm	-13.44 dB
4	4	2.6950 GHz	2.6950 GHz	1.000 MHz	2.694970993 GHz	-26.40 dBm	-13.40 dB
5	5	2.6950 GHz	2.7150 GHz	1.000 MHz	2.695538488 GHz	-26.73 dBm	-1.728 dB

Plot 7-355. Upper ACP Plot (Band 41 - 10MHz QPSK - Full RB Configuration)



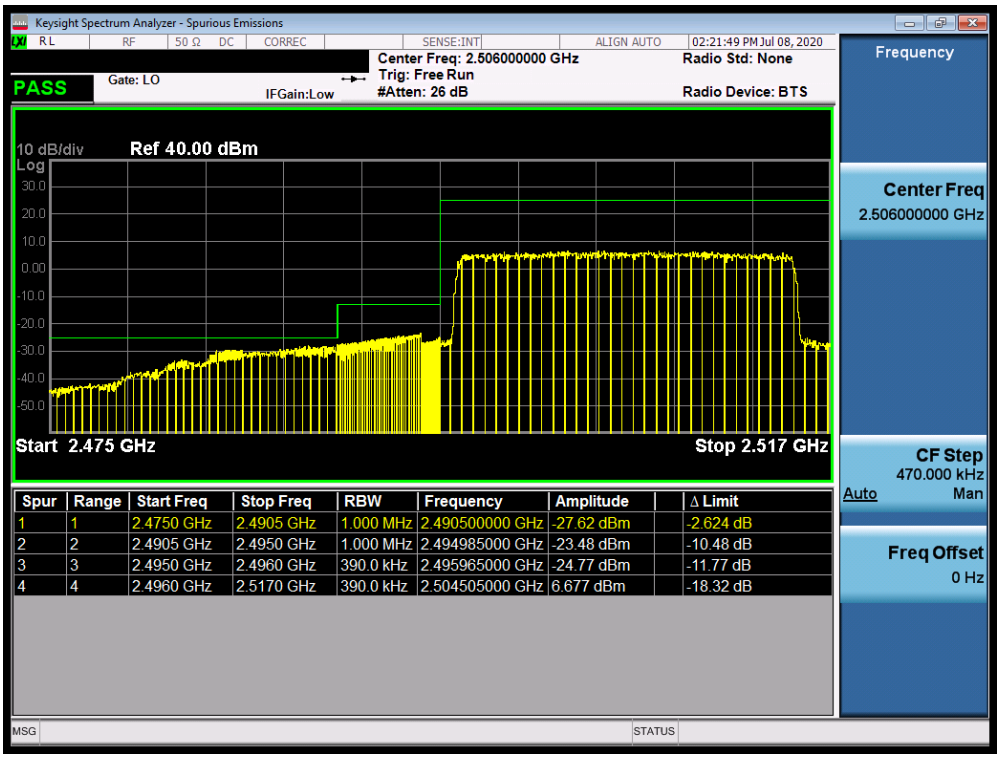
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.489776667 GHz	-25.26 dBm	-0.261 dB
2	2	2.4905 GHz	2.4950 GHz	1.000 MHz	2.494812500 GHz	-21.39 dBm	-8.387 dB
3	3	2.4950 GHz	2.4960 GHz	100.0 kHz	2.495000000 GHz	-29.66 dBm	-16.66 dB
4	4	2.4960 GHz	2.5170 GHz	100.0 kHz	2.502265000 GHz	2.825 dBm	-22.17 dB

Plot 7-356. Lower ACP Plot (Band 41 - 15MHz QPSK - Full RB Configuration)

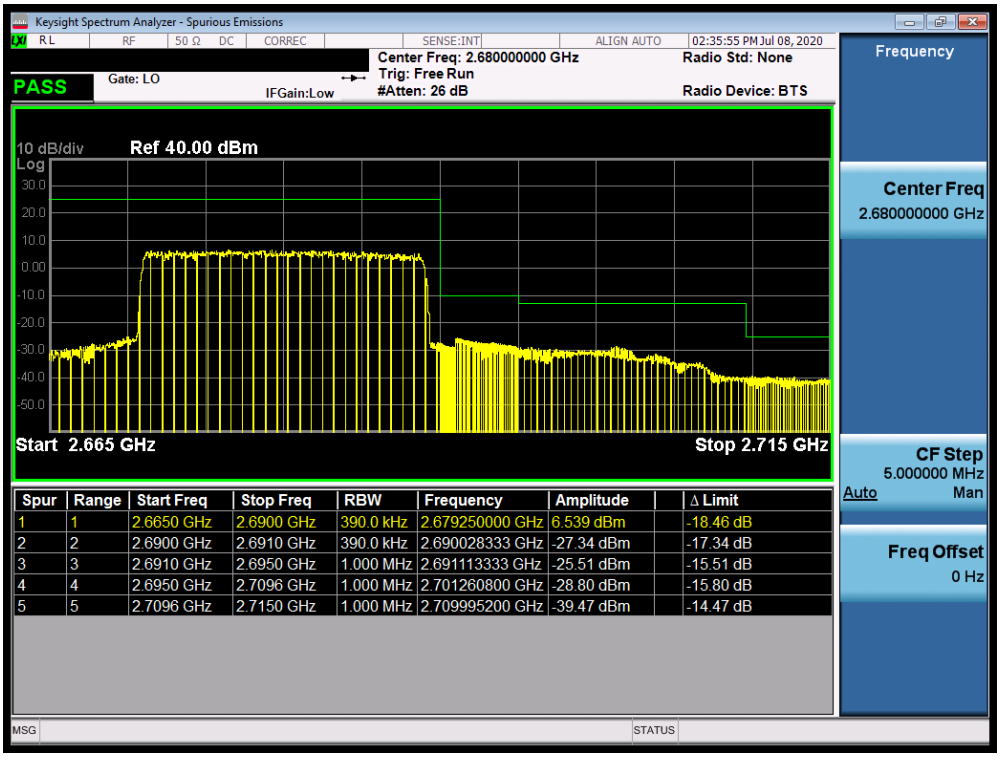


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6650 GHz	2.6900 GHz	100.0 kHz	2.682541667 GHz	3.552 dBm	-21.45 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 kHz	2.690443333 GHz	-32.34 dBm	-22.34 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.692053333 GHz	-22.42 dBm	-12.42 dB
4	4	2.6950 GHz	2.6950 GHz	1.000 MHz	2.694970999 GHz	-27.63 dBm	-14.63 dB
5	5	2.6950 GHz	2.7150 GHz	1.000 MHz	2.696139358 GHz	-26.07 dBm	-1.069 dB

Plot 7-357. Upper ACP Plot (Band 41 - 15MHz QPSK - Full RB Configuration)



Plot 7-358. Lower ACP Plot (Band 41 - 20MHz QPSK - Full RB Configuration)



Plot 7-359. Upper ACP Plot (Band 41 - 20MHz QPSK - Full RB Configuration)

7.5 Peak-Average Ratio

Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.7.1

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW ≥ OBW or specified reference bandwidth
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.

Test Setup

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

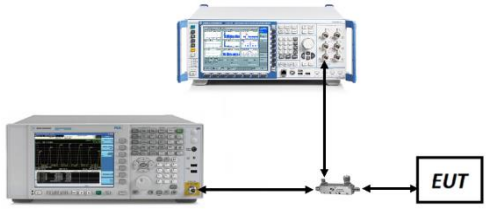
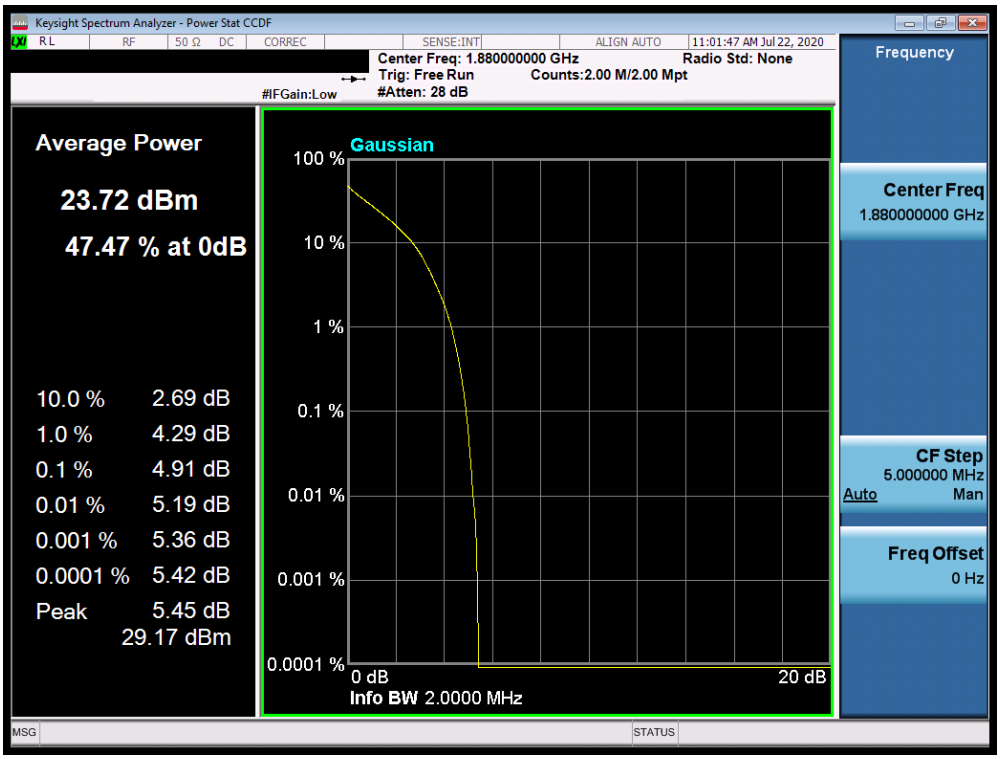


Figure 7-4. Test Instrument & Measurement Setup

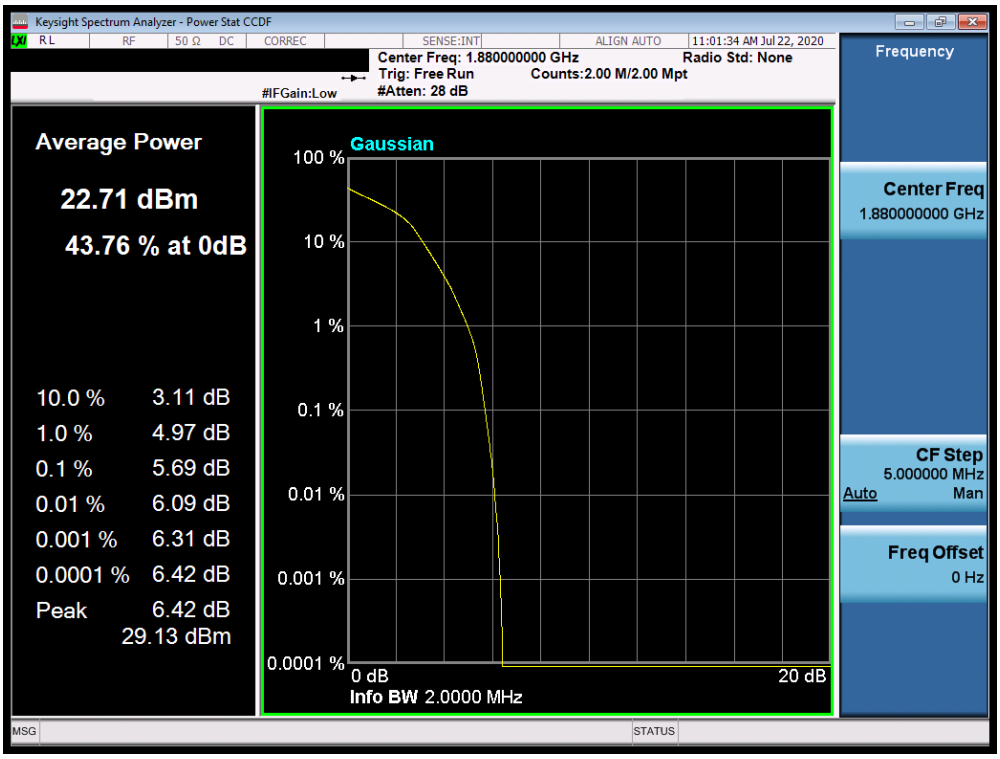
Test Notes

None.

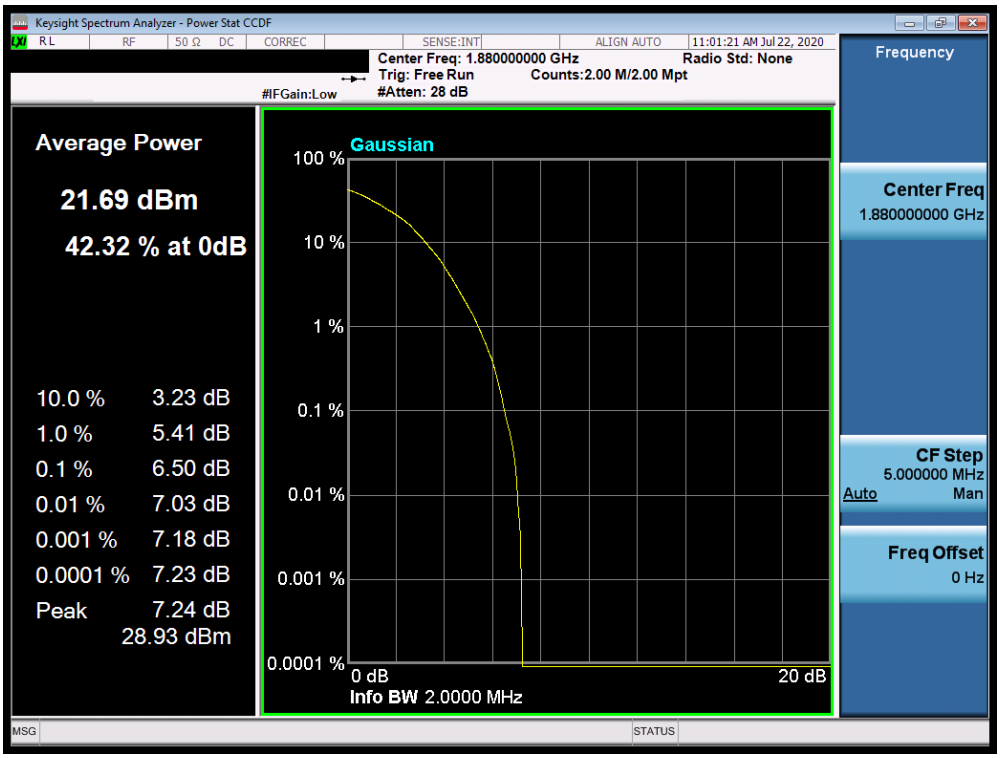
Band 2



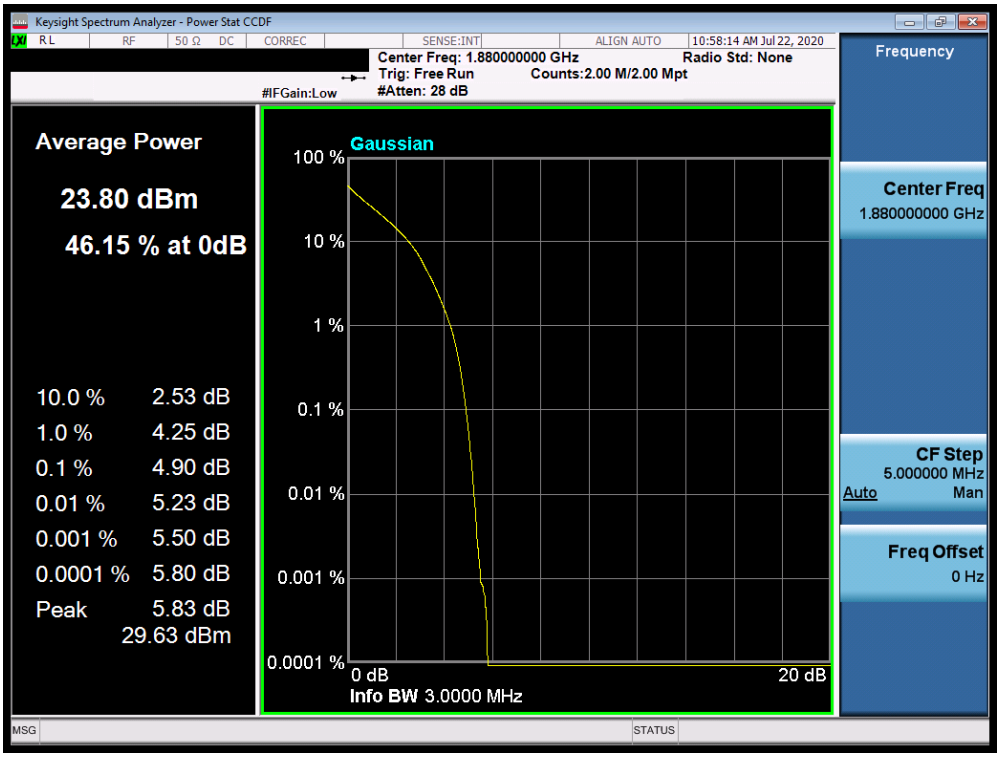
Plot 7-360. PAR Plot (Band 2 - 1.4.0MHz QPSK - Full RB Configuration)



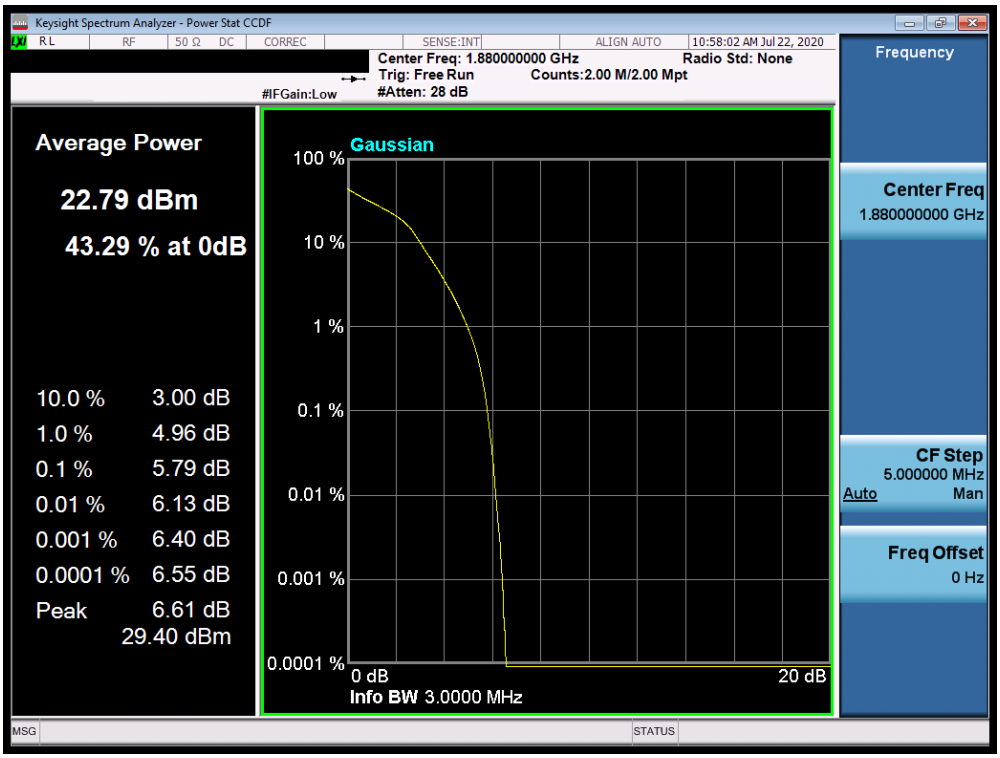
Plot 7-361. PAR Plot (Band 2 - 1.4.0MHz 16-QAM - Full RB Configuration)



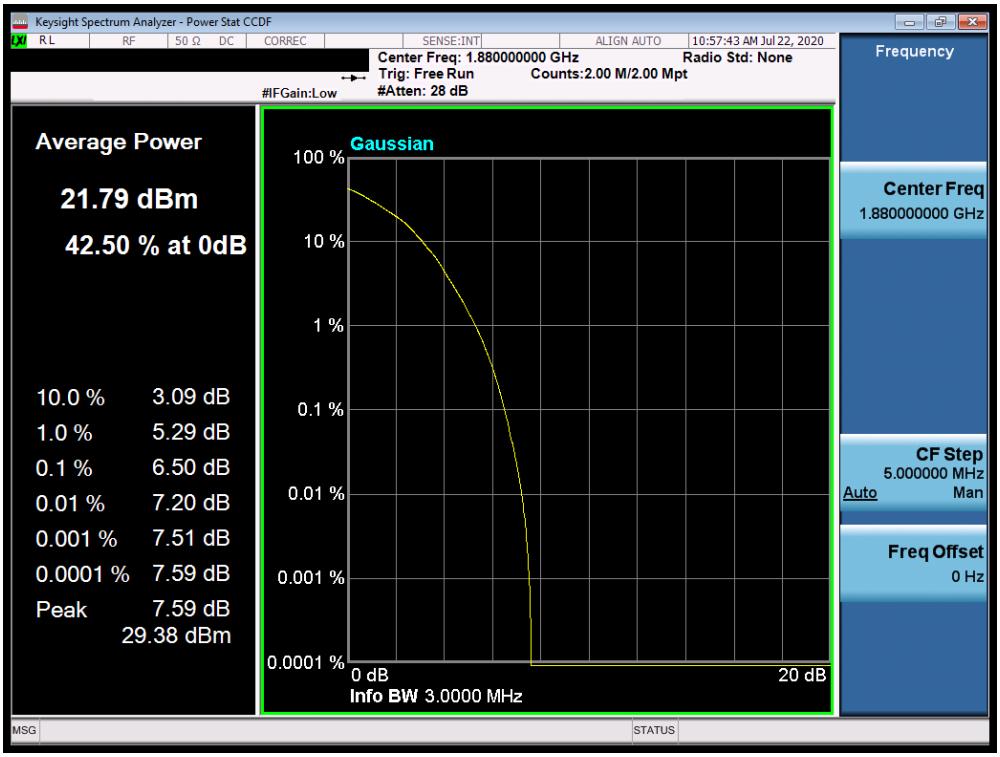
Plot 7-362. PAR Plot (Band 2 - 1.4.0MHz 64-QAM - Full RB Configuration)



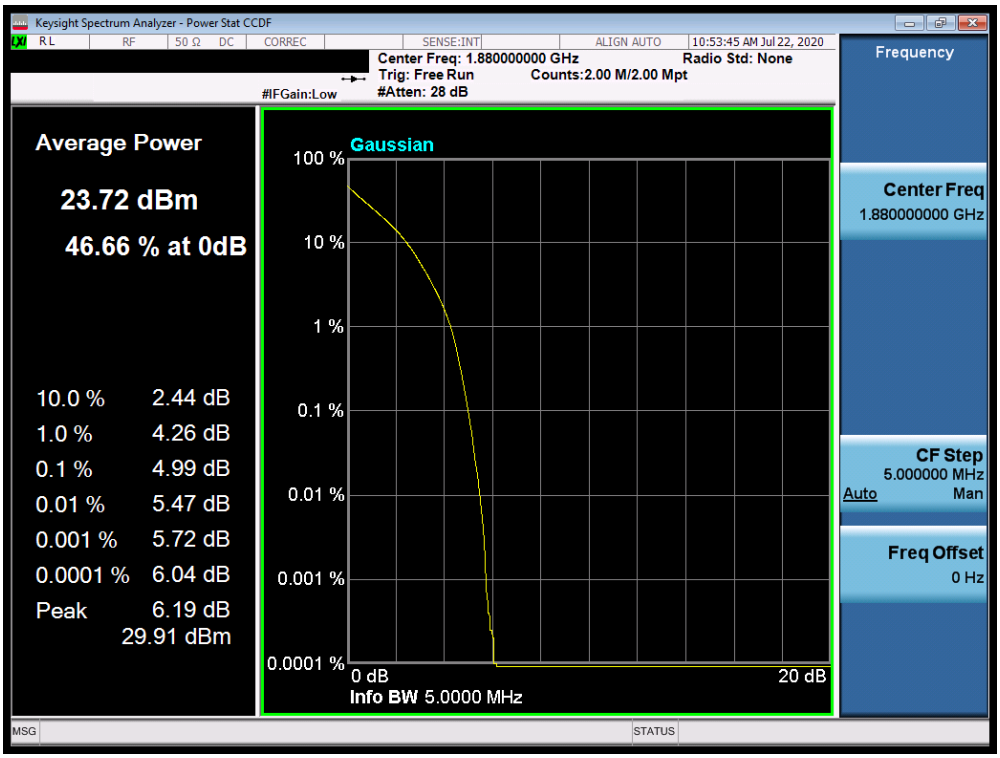
Plot 7-363. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



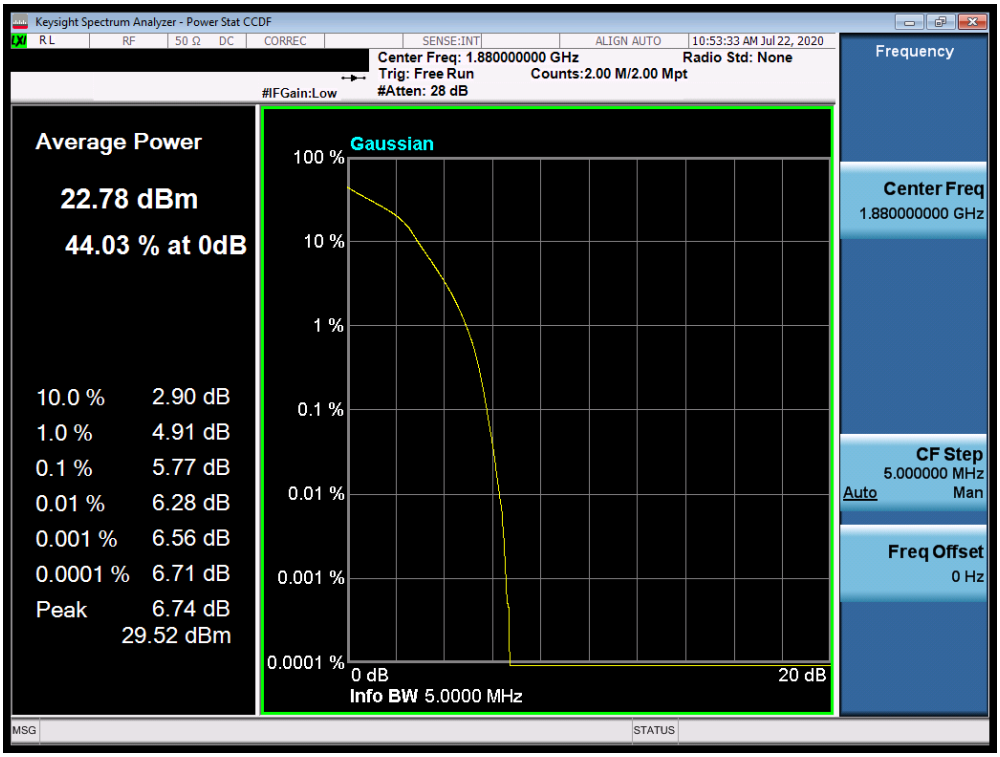
Plot 7-364. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)



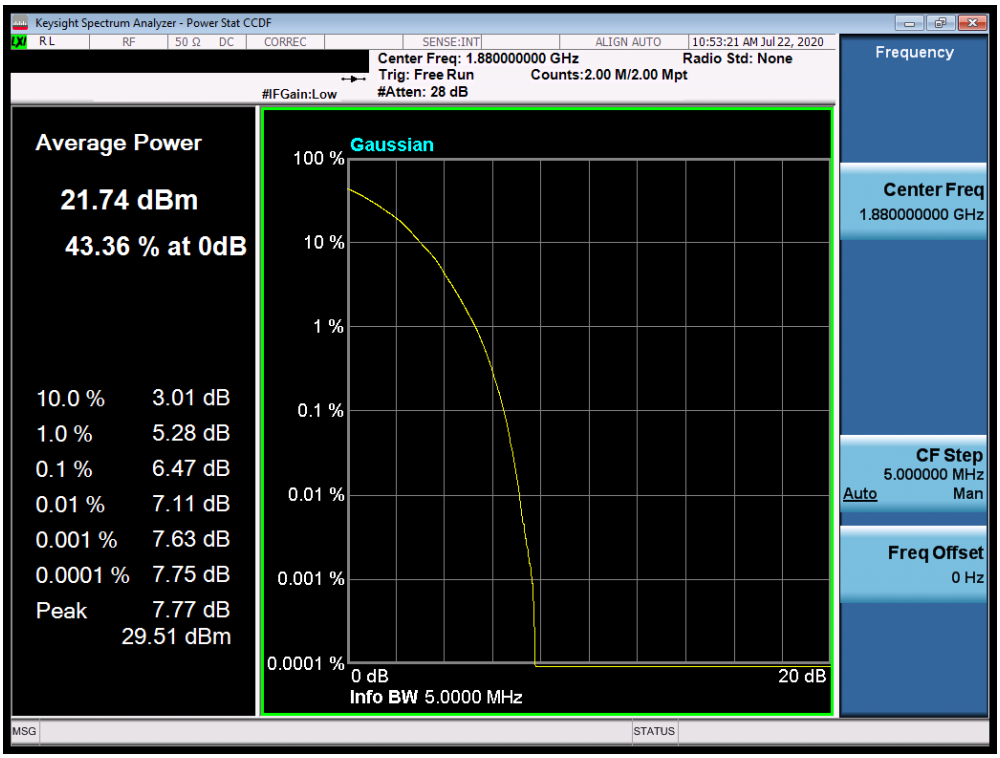
Plot 7-365. PAR Plot (Band 2 - 3.0MHz 64-QAM - Full RB Configuration)



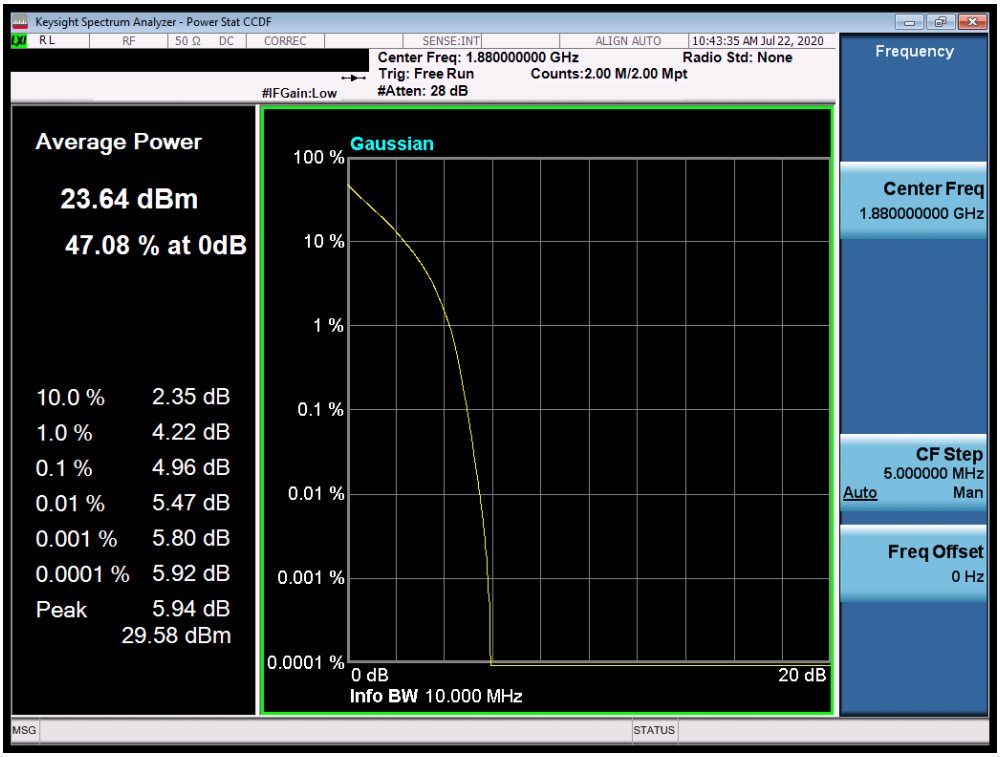
Plot 7-366. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



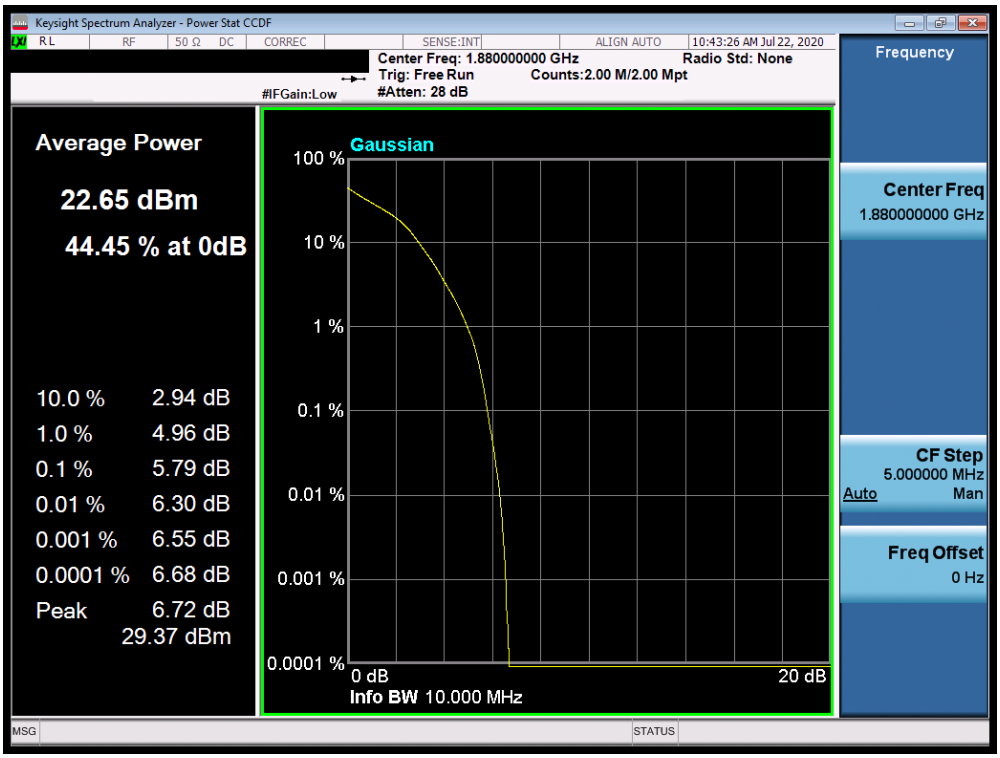
Plot 7-367. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)



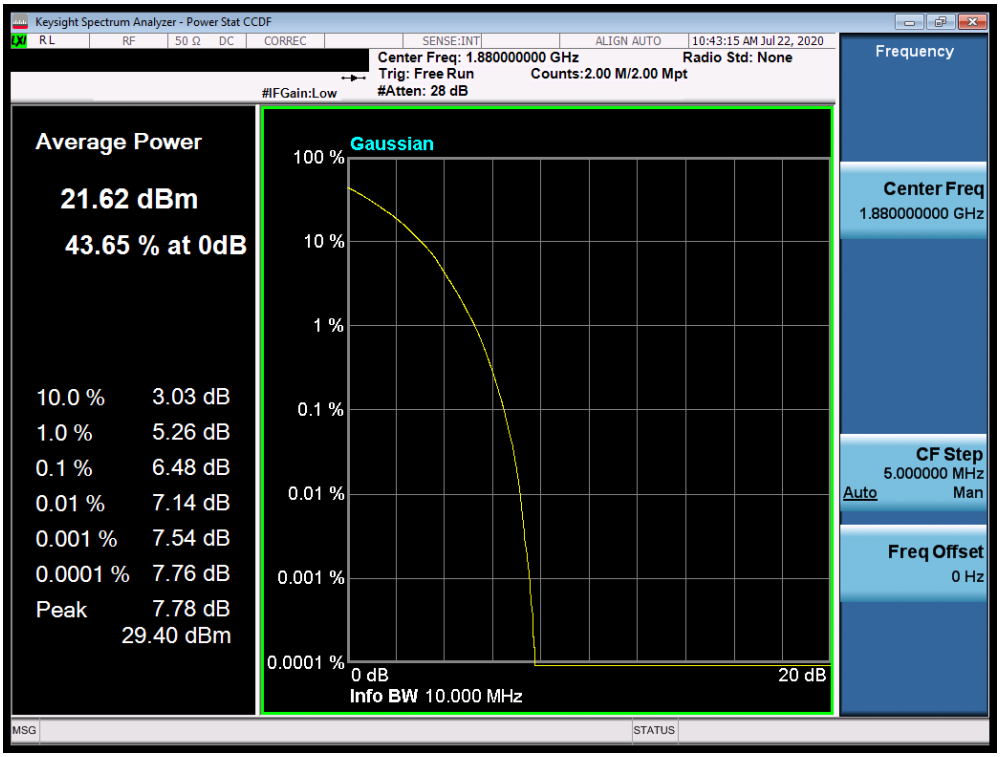
Plot 7-368. PAR Plot (Band 2 - 5.0MHz 64-QAM - Full RB Configuration)



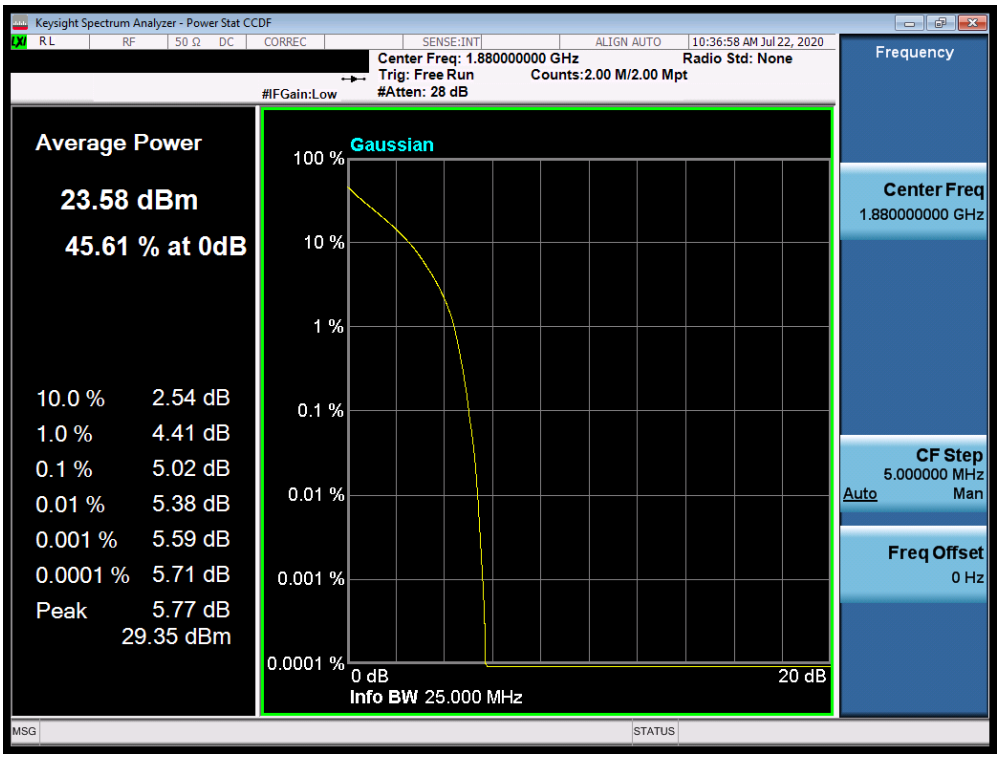
Plot 7-369. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



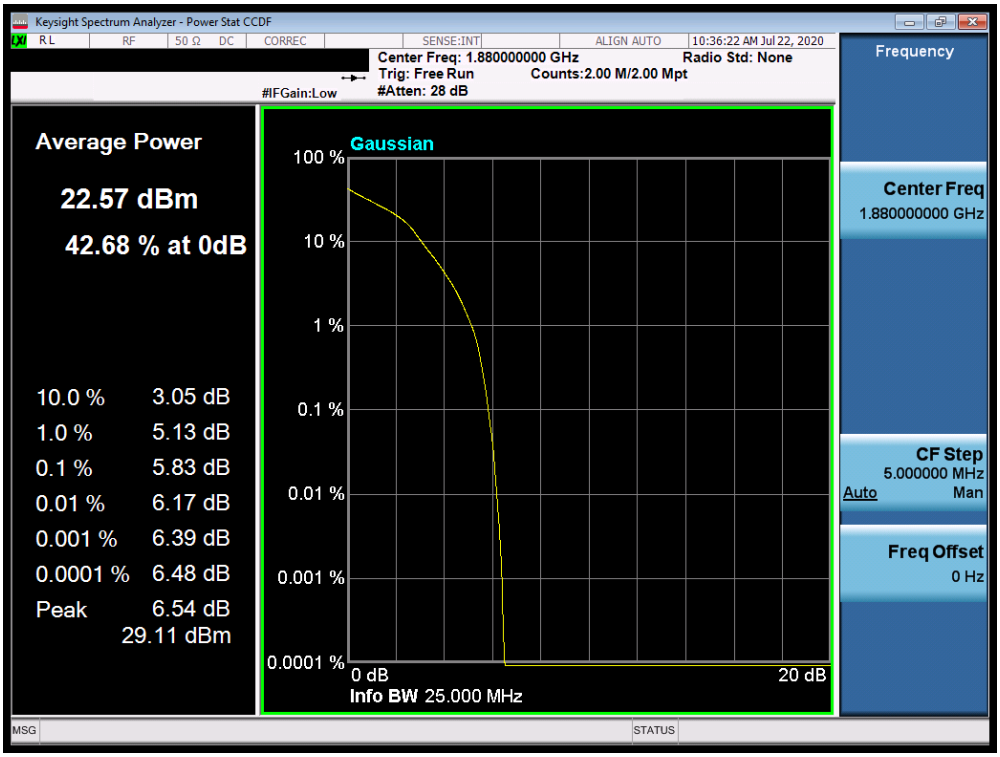
Plot 7-370. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)



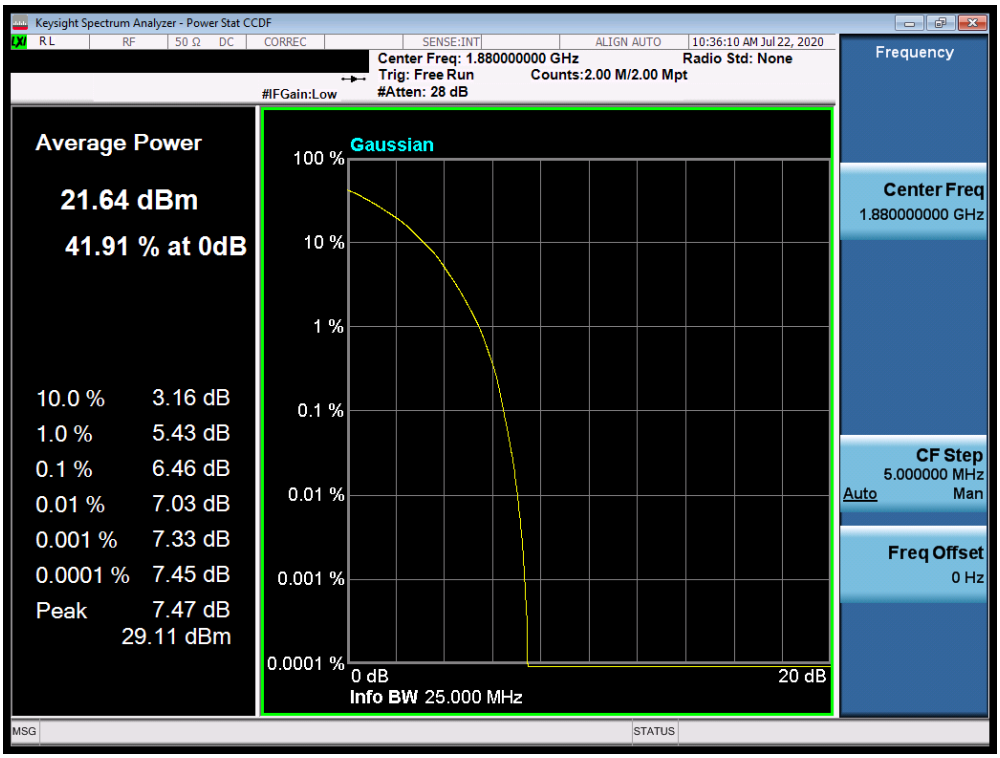
Plot 7-371. PAR Plot (Band 2 - 10.0MHz 64-QAM - Full RB Configuration)



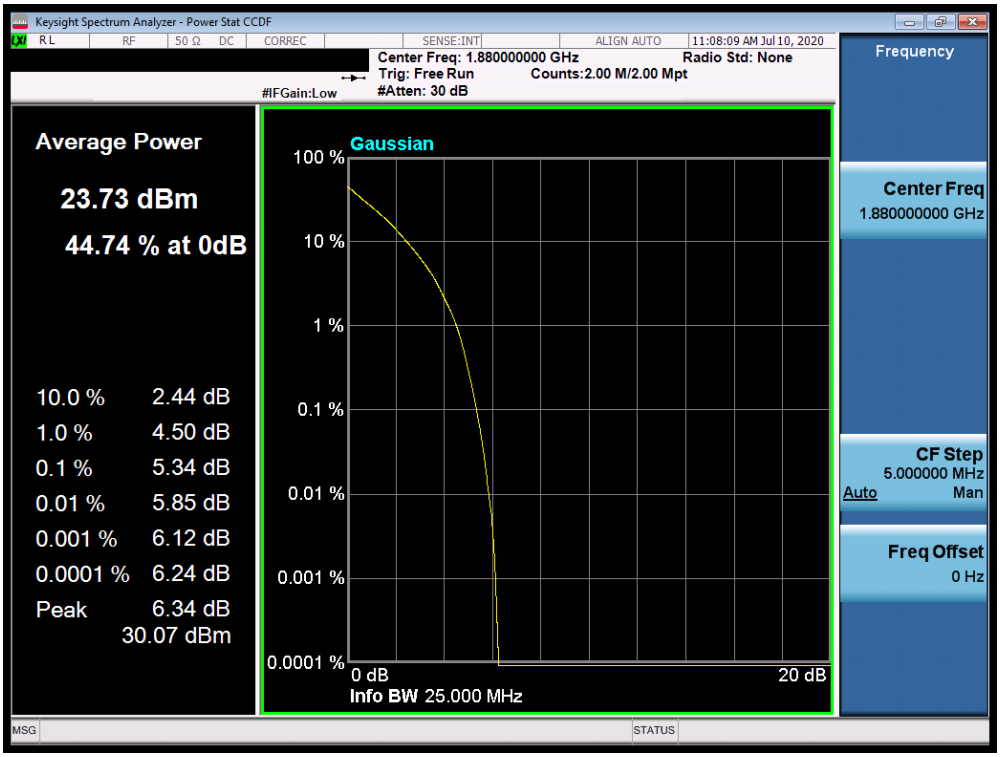
Plot 7-372. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



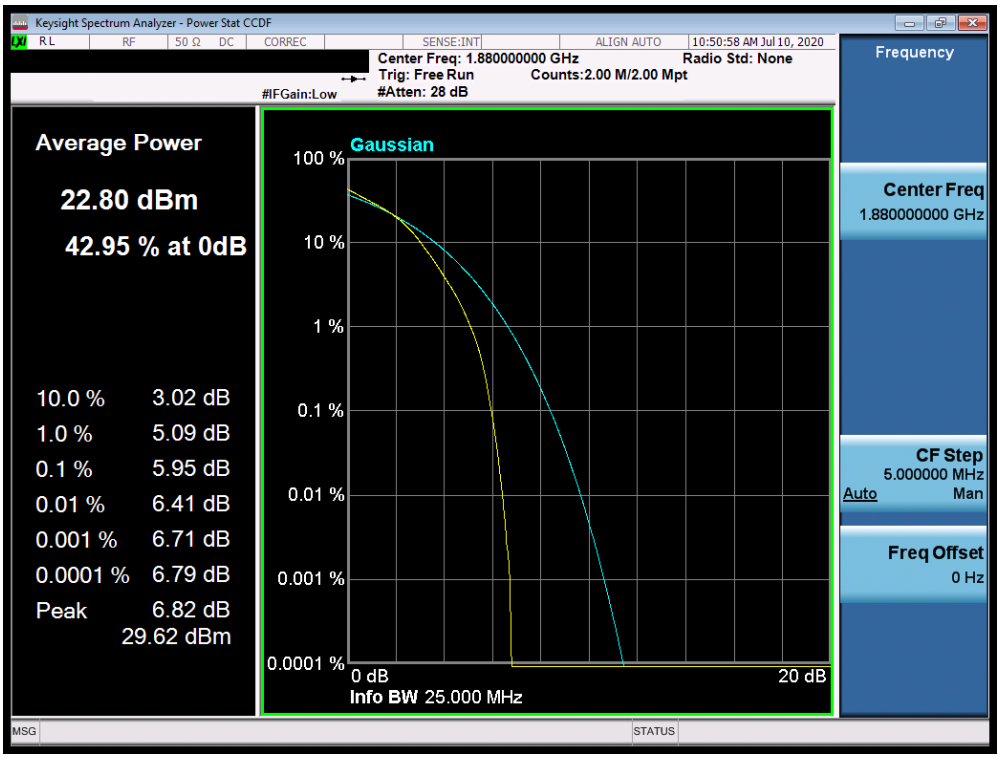
Plot 7-373. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)



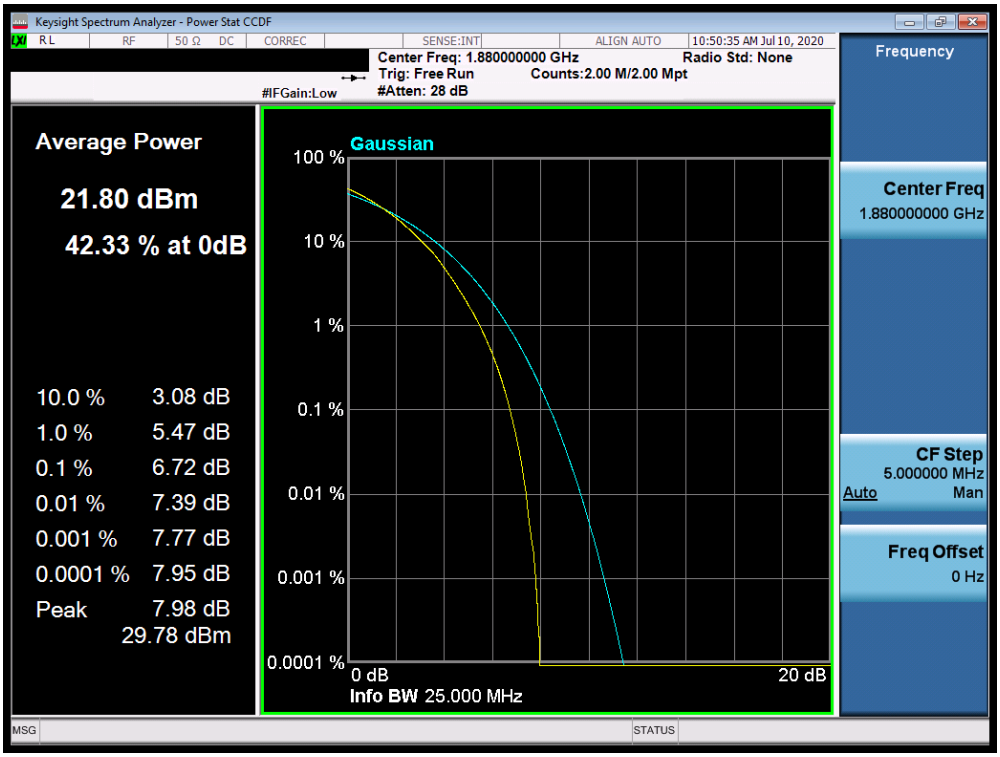
Plot 7-374. PAR Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-375. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

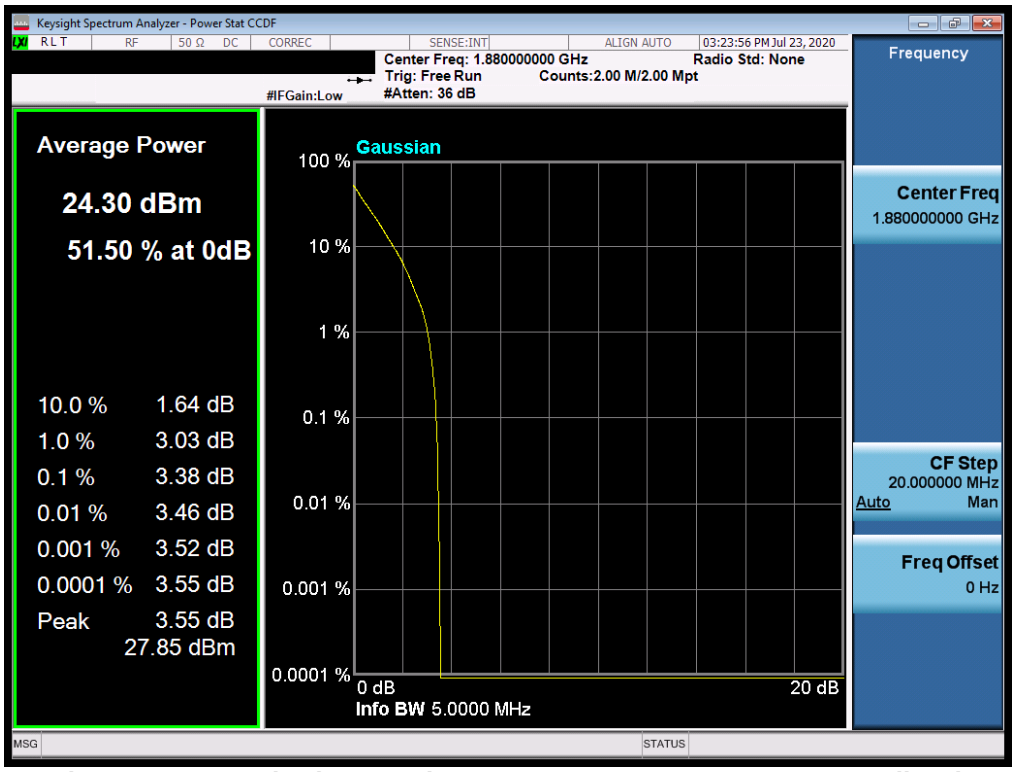


Plot 7-376. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

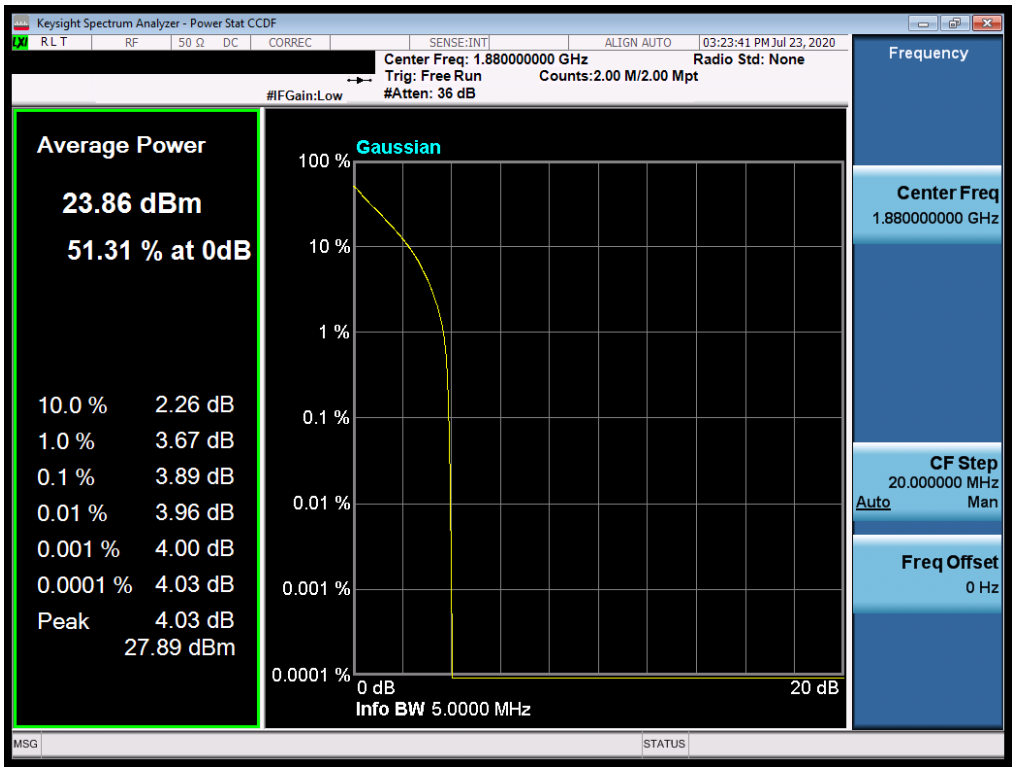


Plot 7-377. PAR Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)

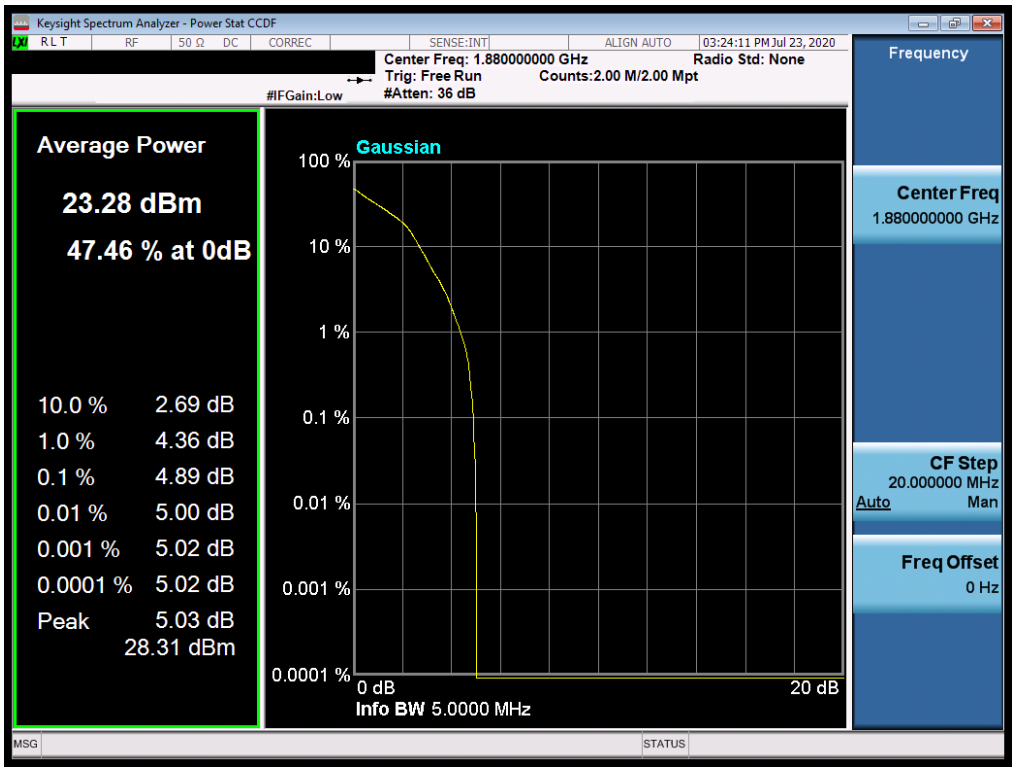
NR Band n2



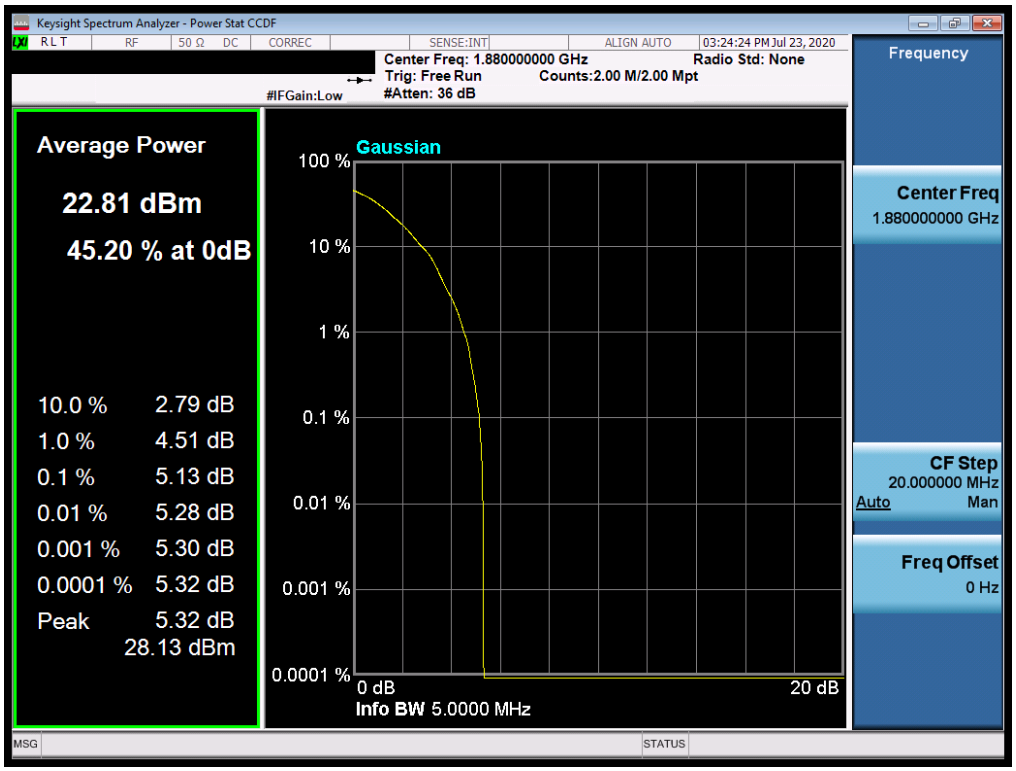
Plot 7-378. PAR Plot (NR Band n2 - 5.0MHz DFT-s-OFDM BPSK - Full RB)



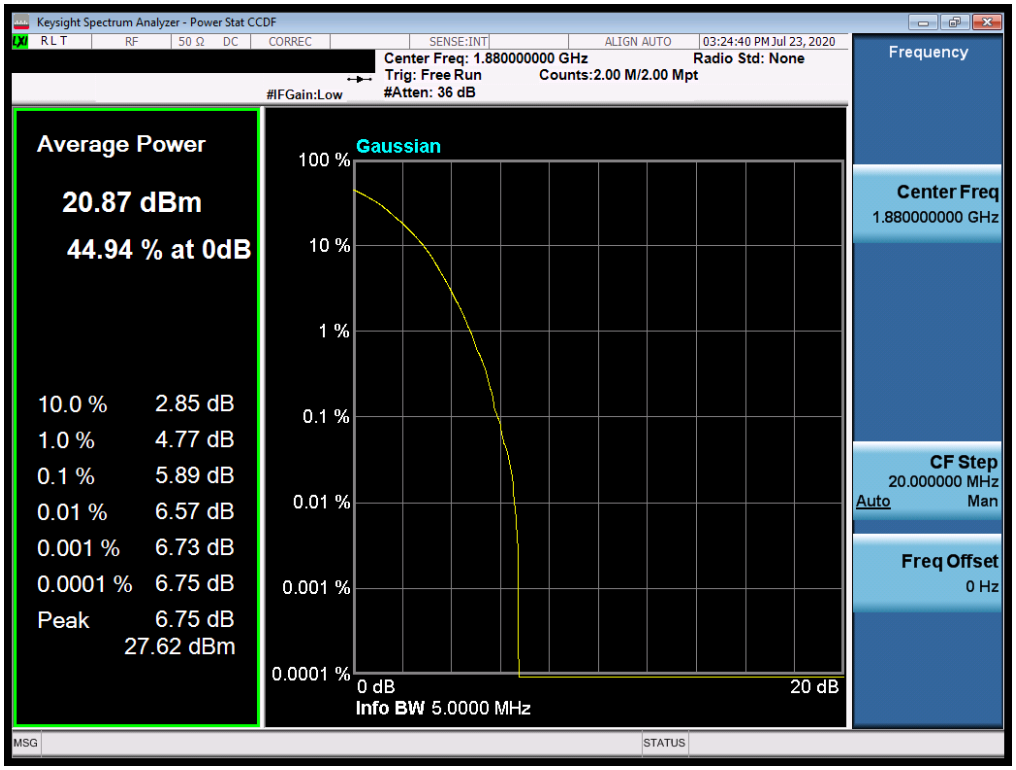
Plot 7-379. PAR Plot (NR Band n2 - 5.0MHz CP-OFDM-CP-OFDM QPSK - Full RB)



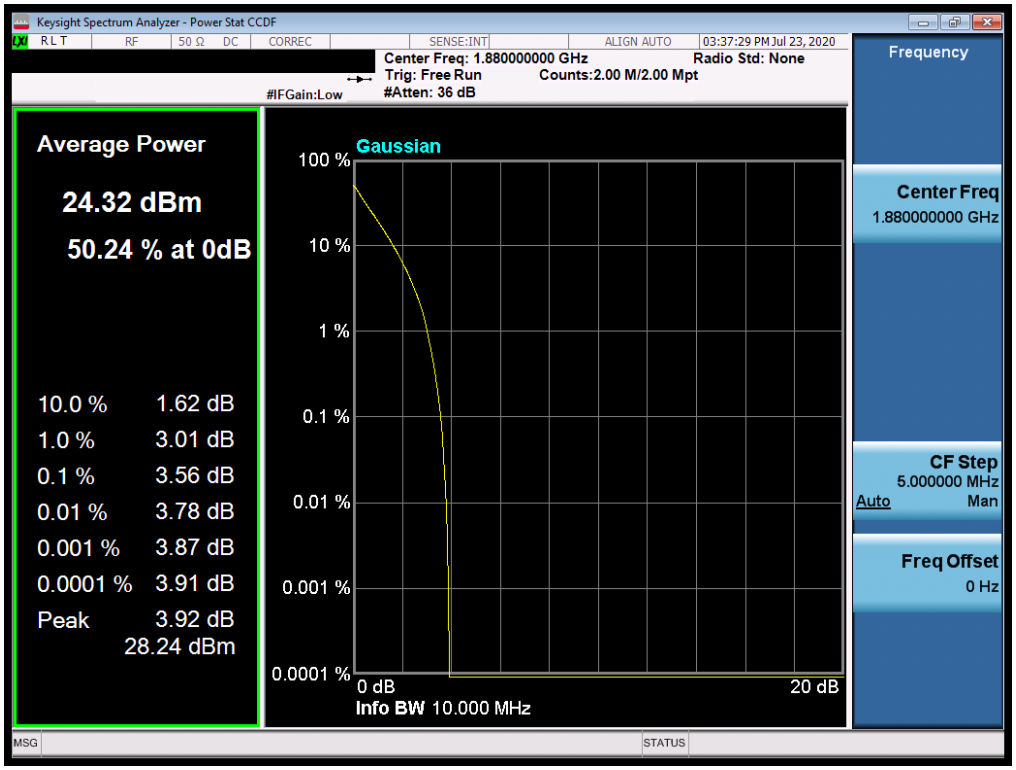
Plot 7-380. PAR Plot (NR Band n2 - 5.0MHz CP-OFDM-CP-OFDM 16-QAM - Full RB)



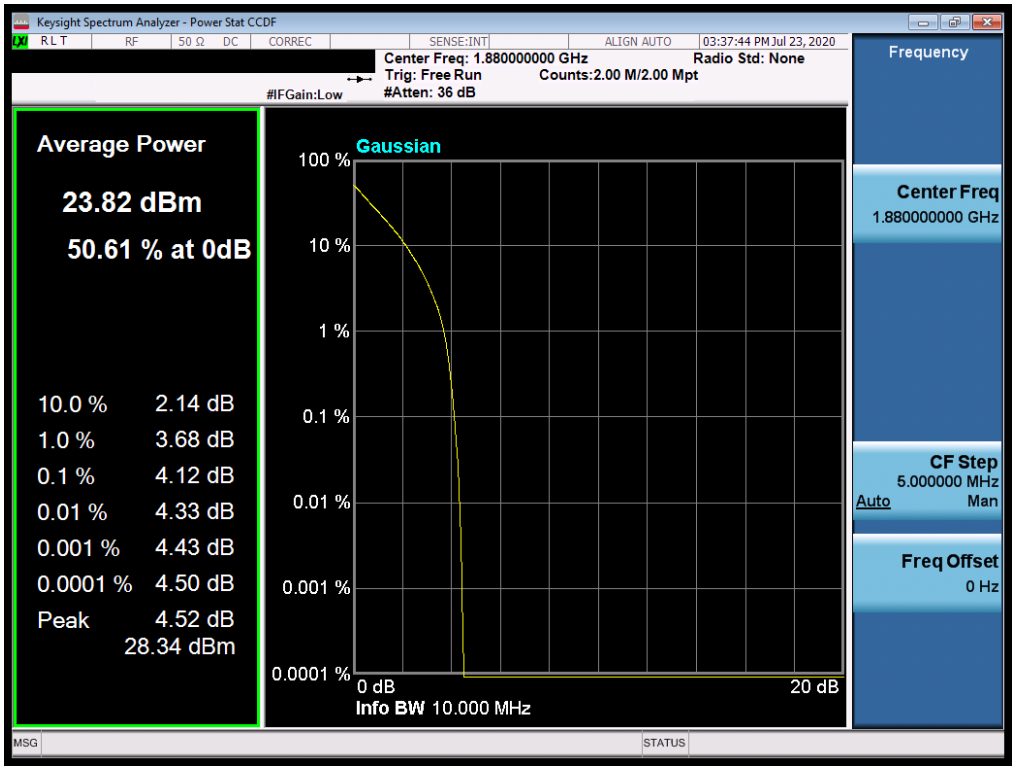
Plot 7-381. PAR Plot (NR Band n2 - 5.0MHz CP-OFDM-CP-OFDM 64-QAM - Full RB)



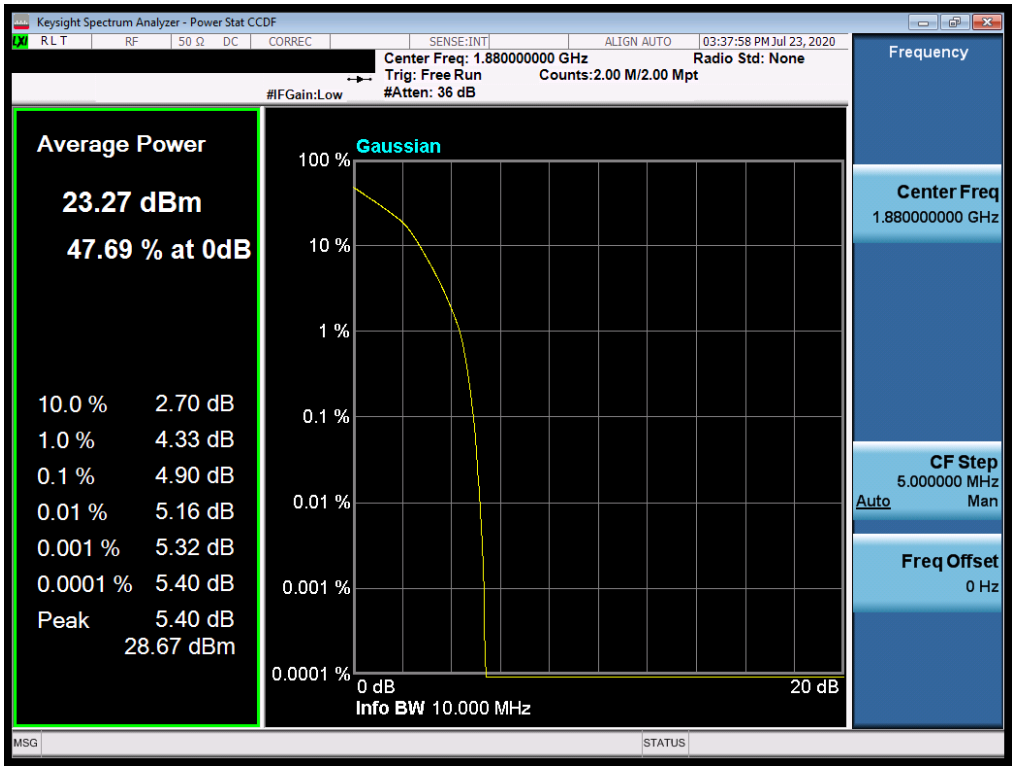
Plot 7-382. PAR Plot (NR Band n2 - 5.0MHz CP-OFDM-CP-OFDM 256-QAM - Full RB)



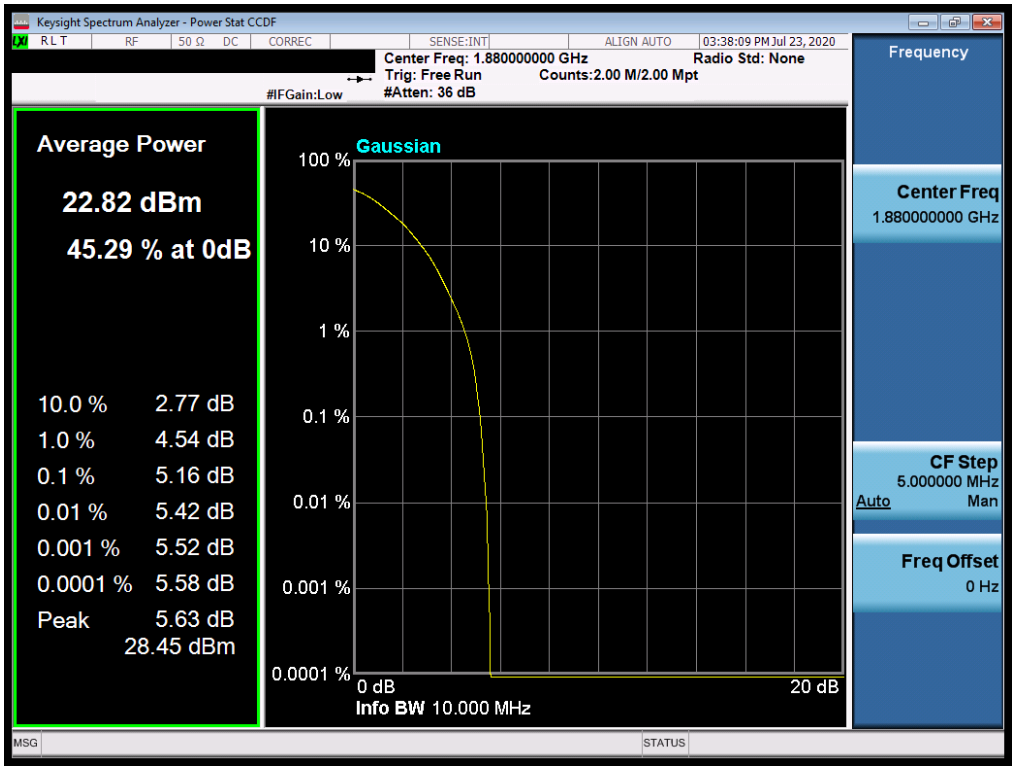
Plot 7-383. PAR Plot (NR Band n2 - 10.0MHz DFT-s-OFDM BPSK - Full RB)



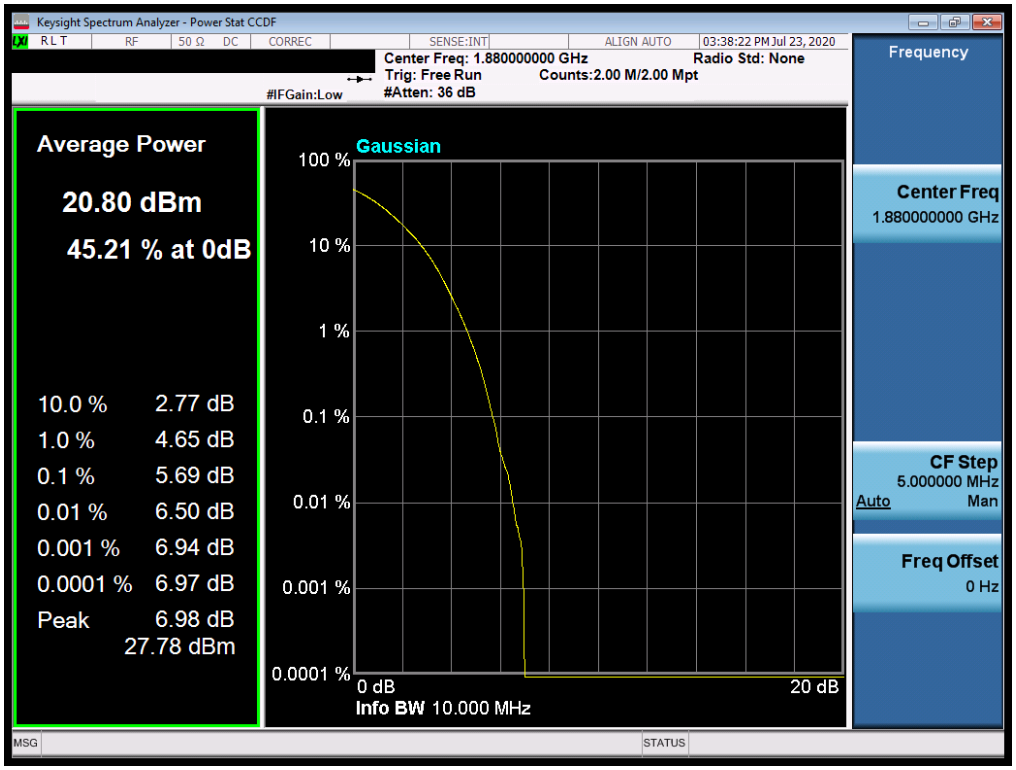
Plot 7-384. PAR Plot (NR Band n2 - 10.0MHz CP-OFDM-CP-OFDM QPSK - Full RB)



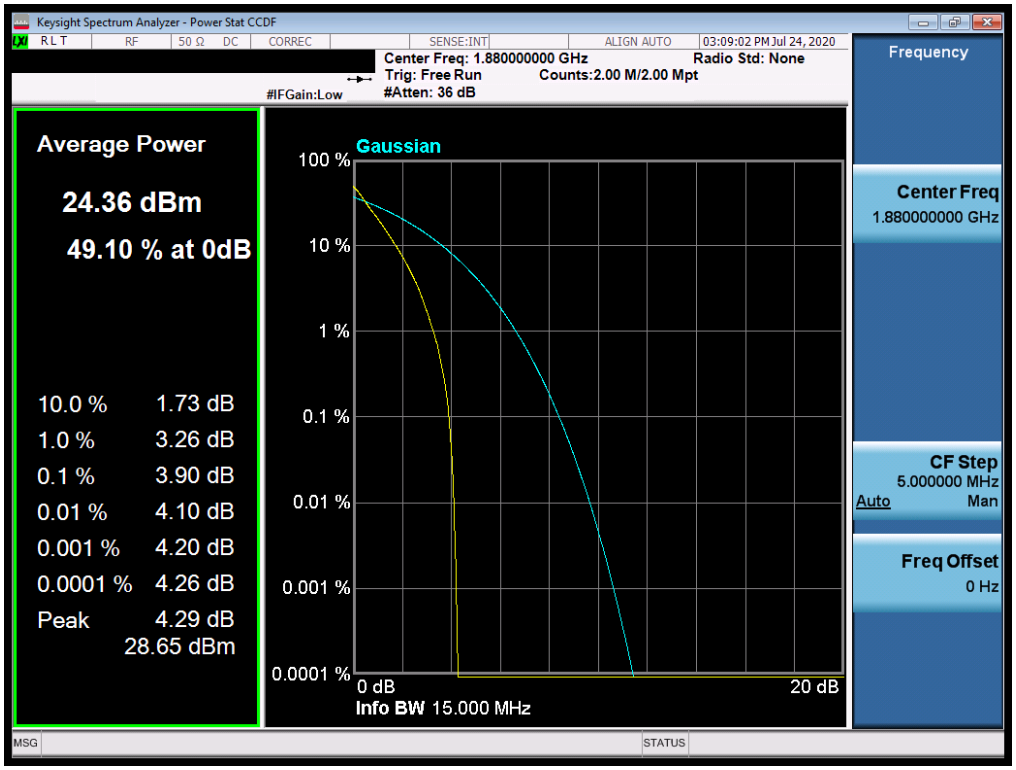
Plot 7-385. PAR Plot (NR Band n2 - 10.0MHz CP-OFDM-CP-OFDM 16-QAM - Full RB)



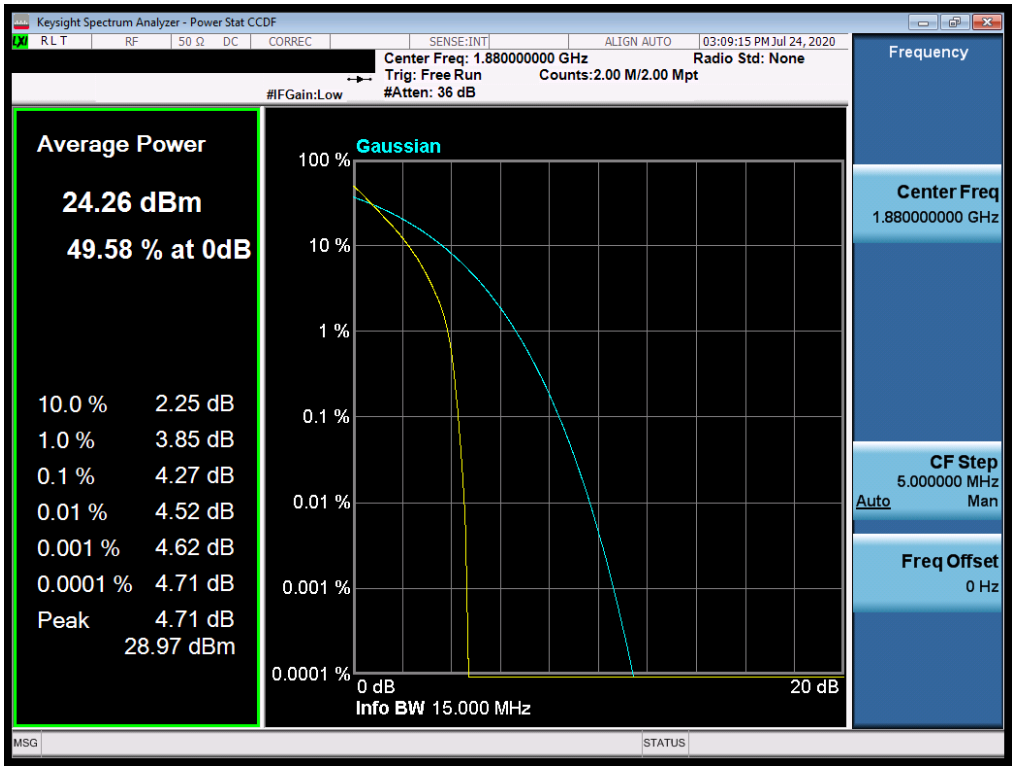
Plot 7-386. PAR Plot (NR Band n2 - 10.0MHz CP-OFDM-CP-OFDM 64-QAM - Full RB)



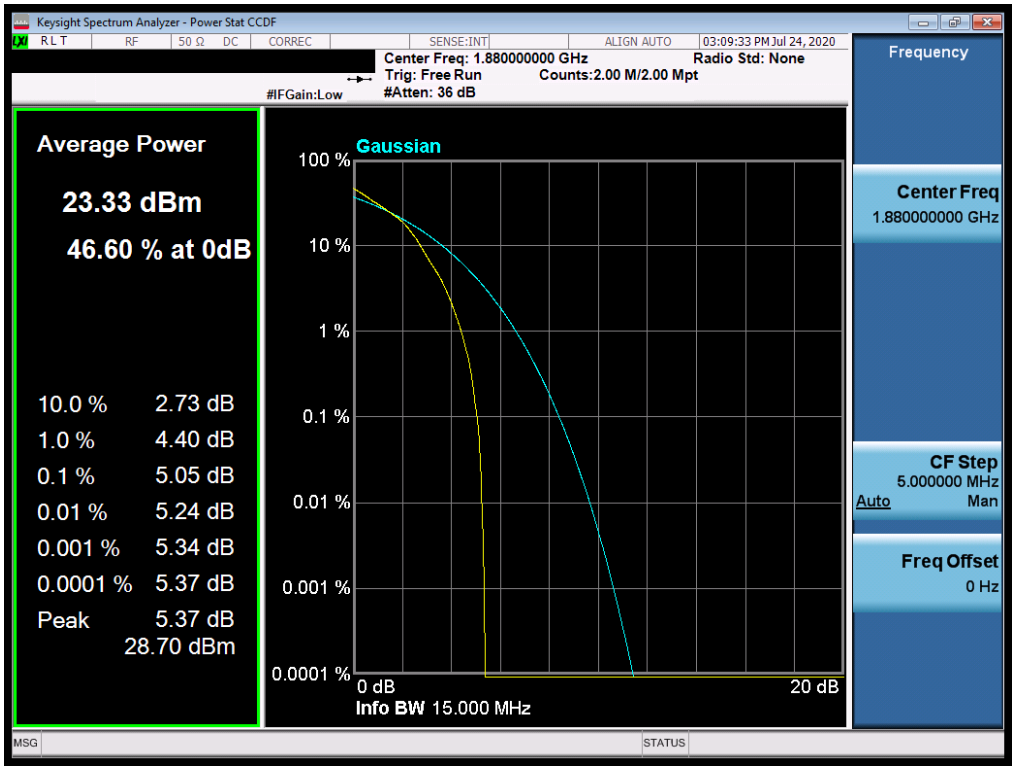
Plot 7-387. PAR Plot (NR Band n2 - 10.0MHz CP-OFDM-CP-OFDM 256-QAM - Full RB)



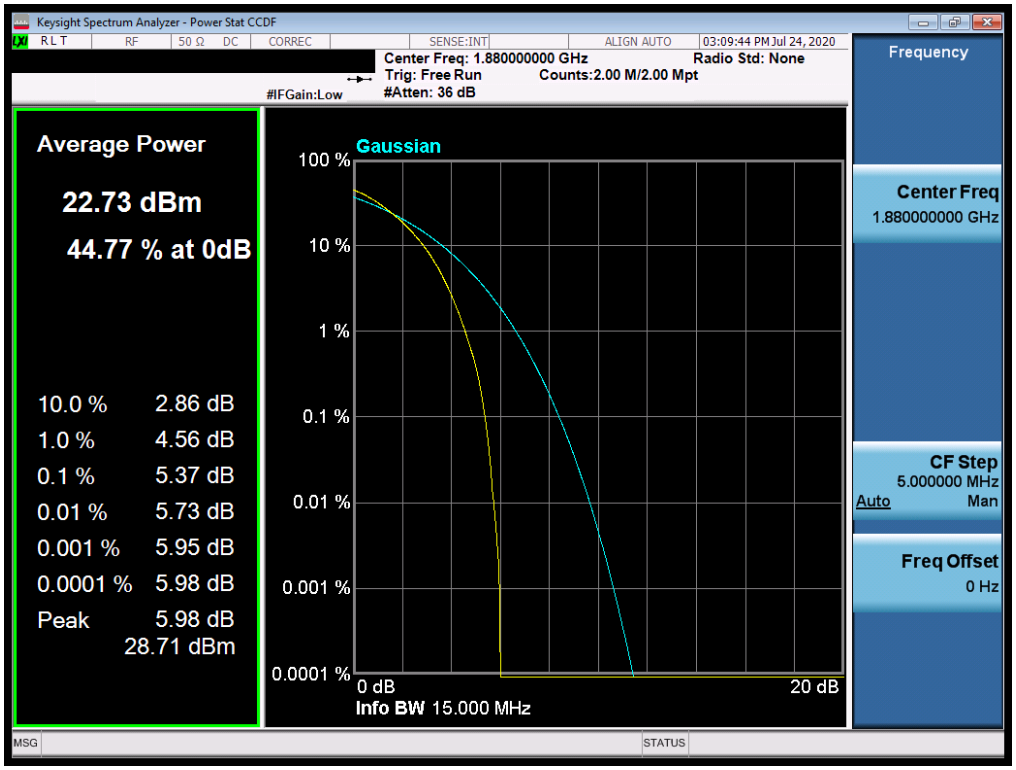
Plot 7-388. PAR Plot (NR Band n2 - 15.0MHz DFT-s-OFDM BPSK - Full RB)



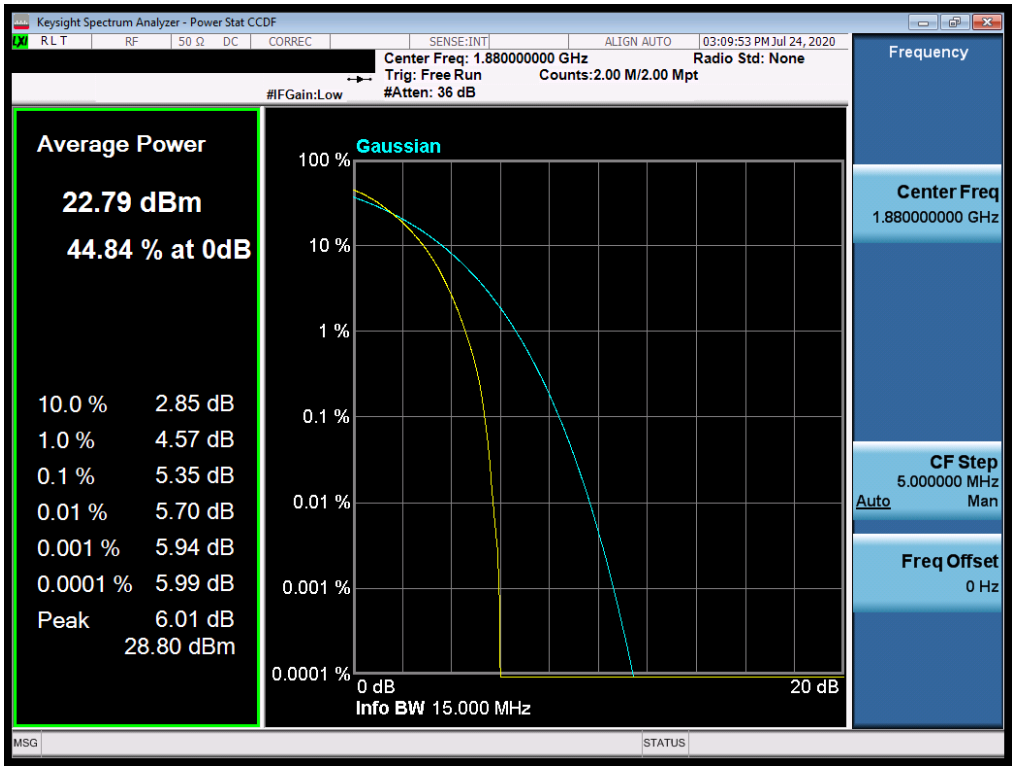
Plot 7-389. PAR Plot (NR Band n2 - 15.0MHz CP-OFDM-CP-OFDM QPSK - Full RB)



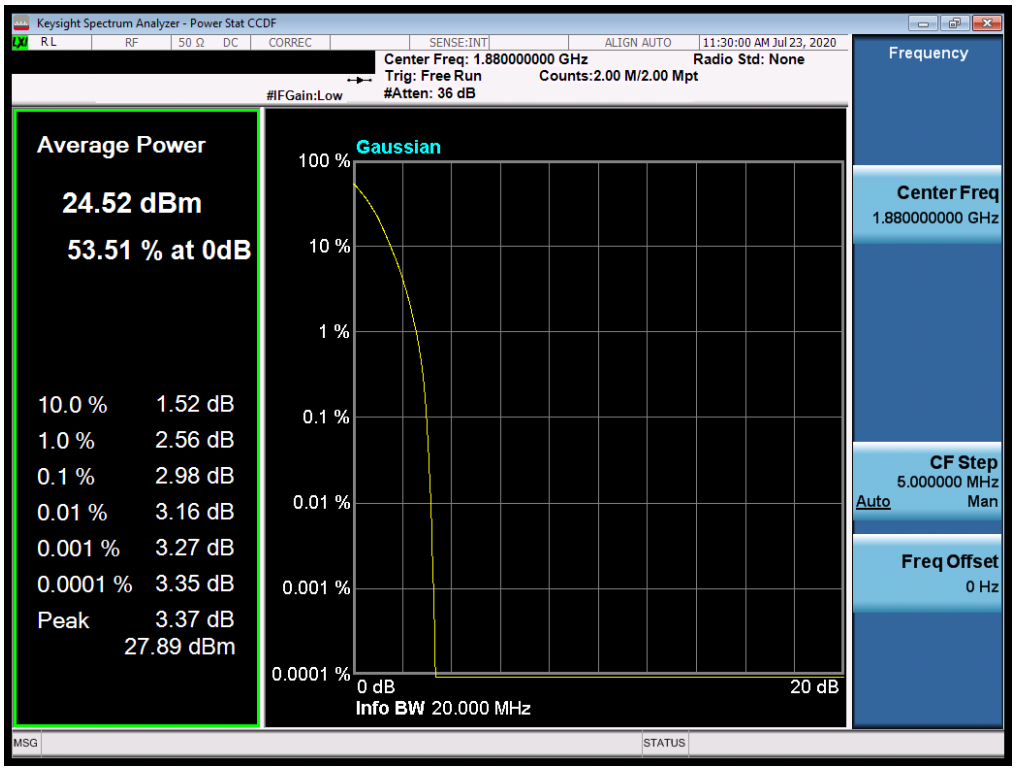
Plot 7-390. PAR Plot (NR Band n2 - 15.0MHz CP-OFDM-CP-OFDM 16-QAM - Full RB)



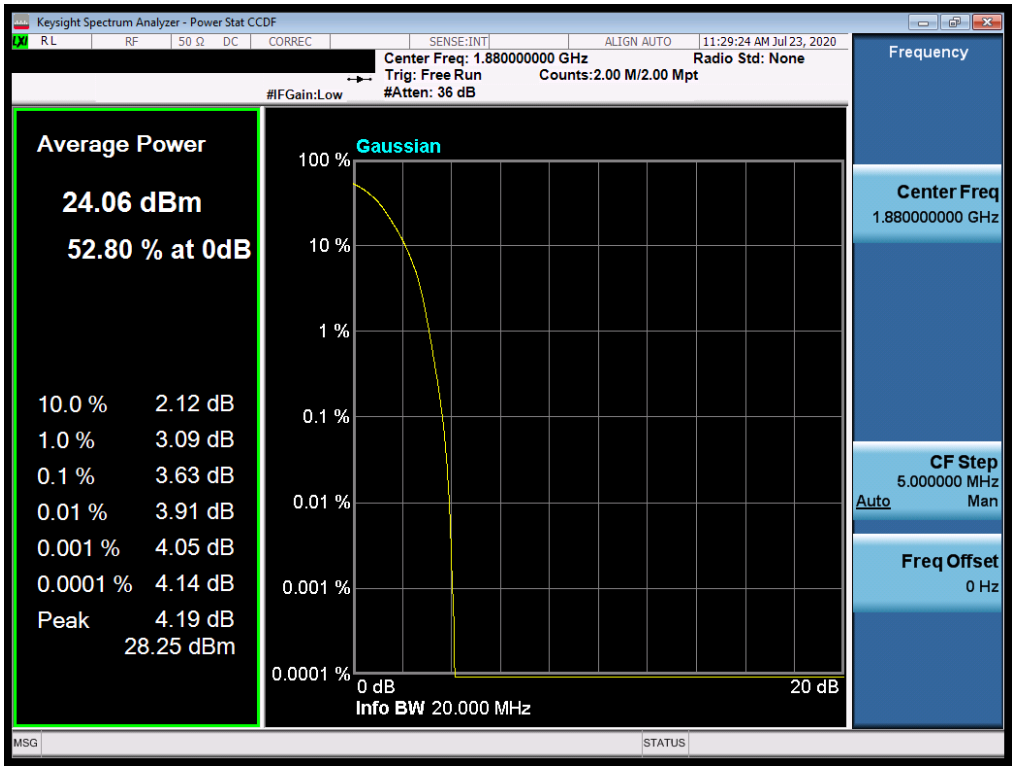
Plot 7-391. PAR Plot (NR Band n2 - 15.0MHz CP-OFDM-CP-OFDM 64-QAM - Full RB)



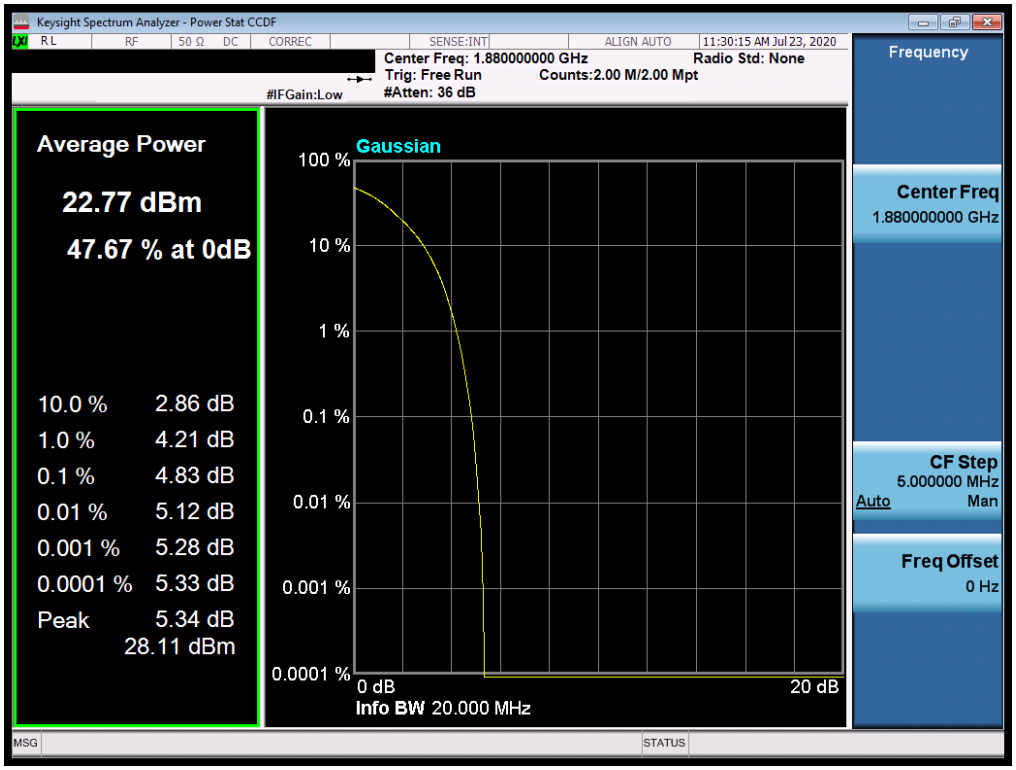
Plot 7-392. PAR Plot (NR Band n2 - 15.0MHz CP-OFDM-CP-OFDM 256-QAM - Full RB)



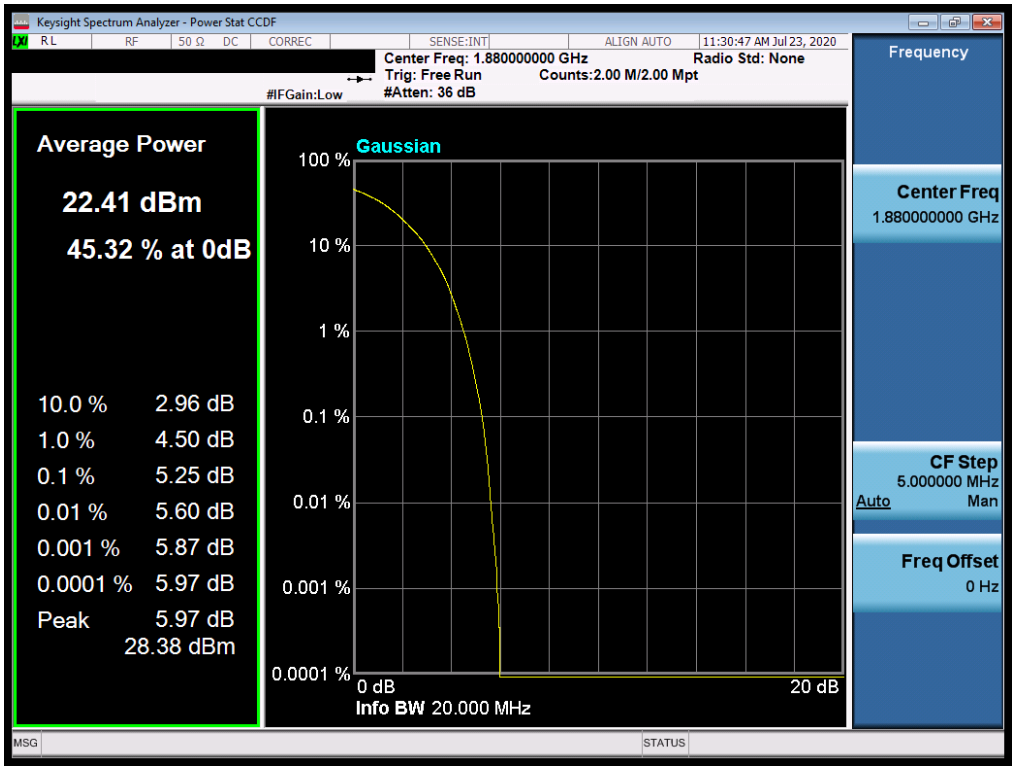
Plot 7-393. PAR Plot (NR Band n2 - 20.0MHz DFT-s-OFDM BPSK - Full RB)



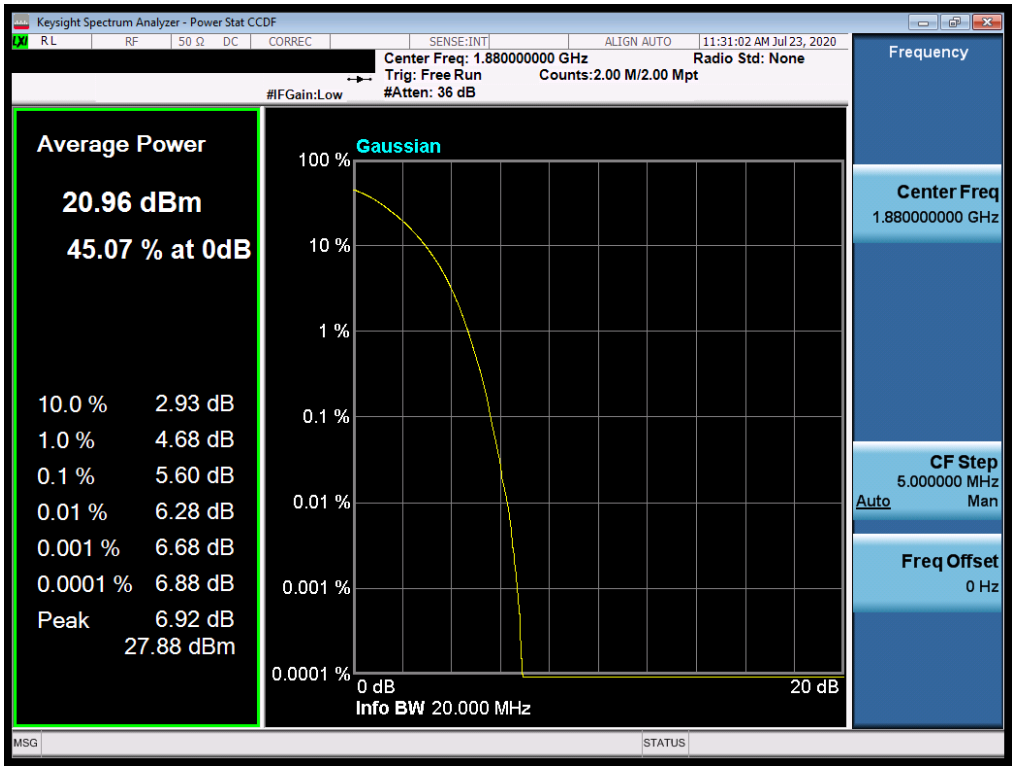
Plot 7-394. PAR Plot (NR Band n2 - 20.0MHz CP-OFDM-CP-OFDM QPSK - Full RB)



Plot 7-395. PAR Plot (NR Band n2 - 20.0MHz CP-OFDM-CP-OFDM 16-QAM - Full RB)



Plot 7-396. PAR Plot (NR Band n2 - 20.0MHz CP-OFDM-CP-OFDM 64-QAM - Full RB)



Plot 7-397. PAR Plot (NR Band n2 - 20.0MHz CP-OFDM-CP-OFDM 256-QAM - Full RB)

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.

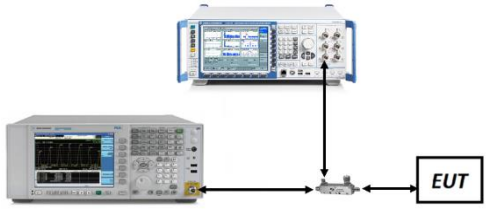


Figure 7-5. Test Instrument & Measurement Setup

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 7-3 and 7-4 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.

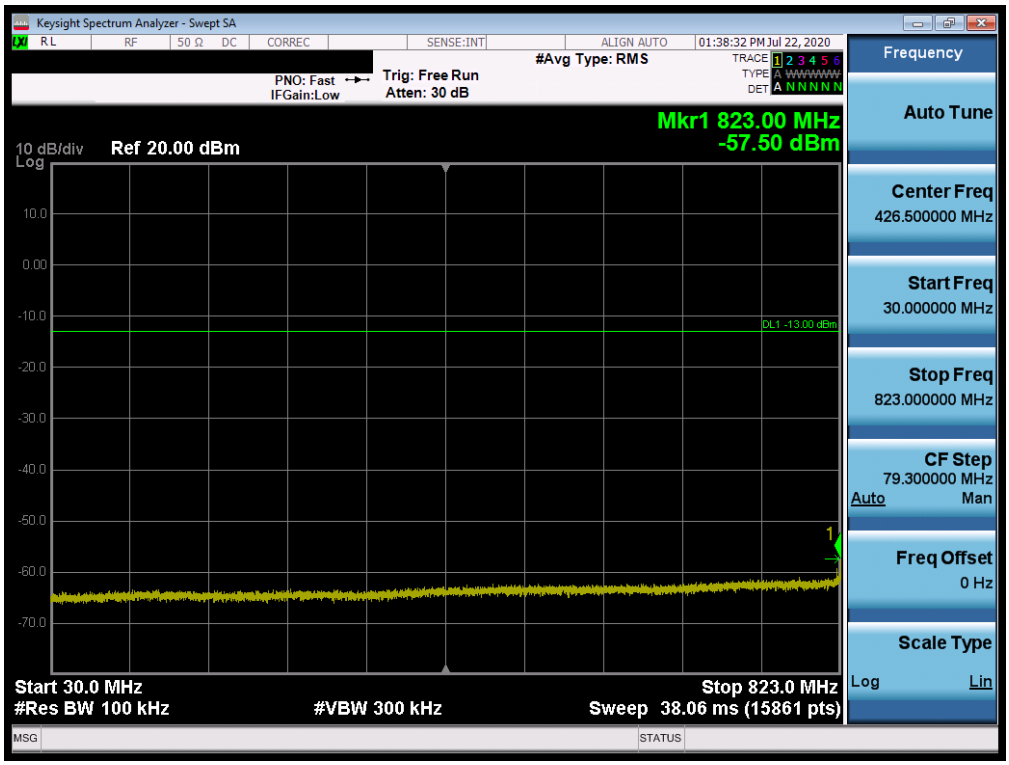
Uplink CA Configuration 5B

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 B5	10	20450	829	QPSK	1	49	LTE B5	10	20549	838.9	QPSK	1	0	24.90
Max	LTE B5	10	20525	836.5	QPSK	1	49	LTE B5	5	20597	843.7	QPSK	1	0	24.88
Max	LTE B5	10	20600	844	QPSK	1	0	LTE B5	10	20501	834.1	QPSK	1	49	24.62

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

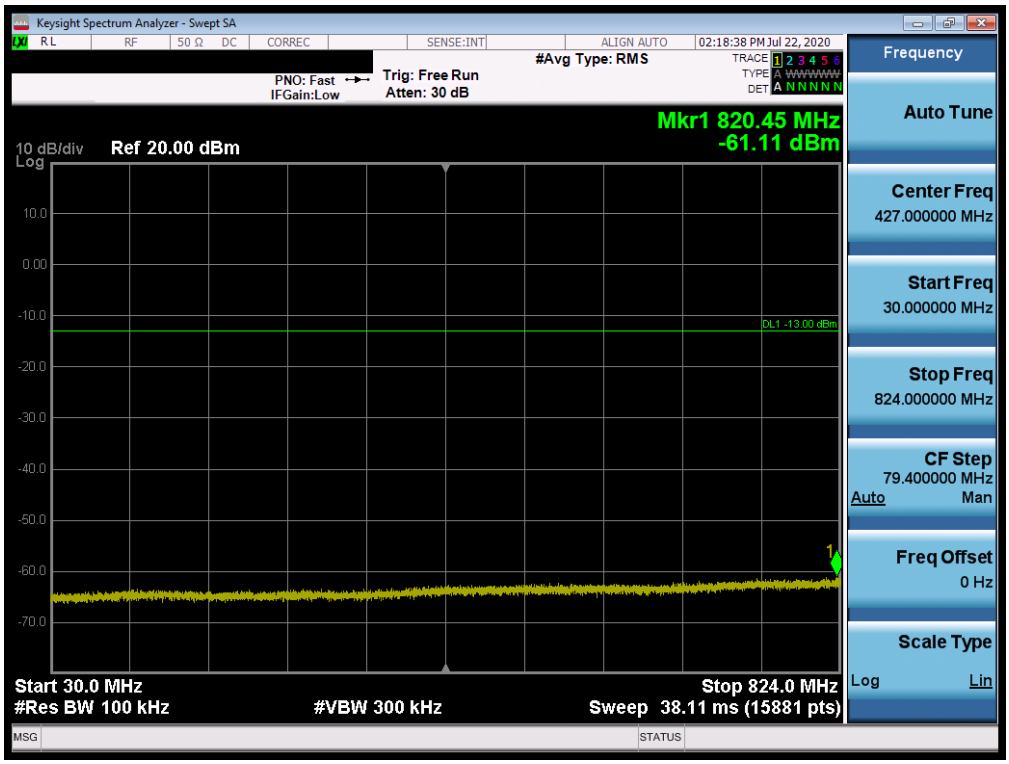
Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B5	10	20450	829	QPSK	50	0	LTE B5	10	20549	838.9	QPSK	50	0	22.86
Max	LTE B5	10	20450	829	16-QAM	50	0	LTE B5	10	20549	838.9	16-QAM	50	0	21.89
Max	LTE B5	10	20450	829	64-QAM	50	0	LTE B5	10	20549	838.9	64-QAM	50	0	21.82

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

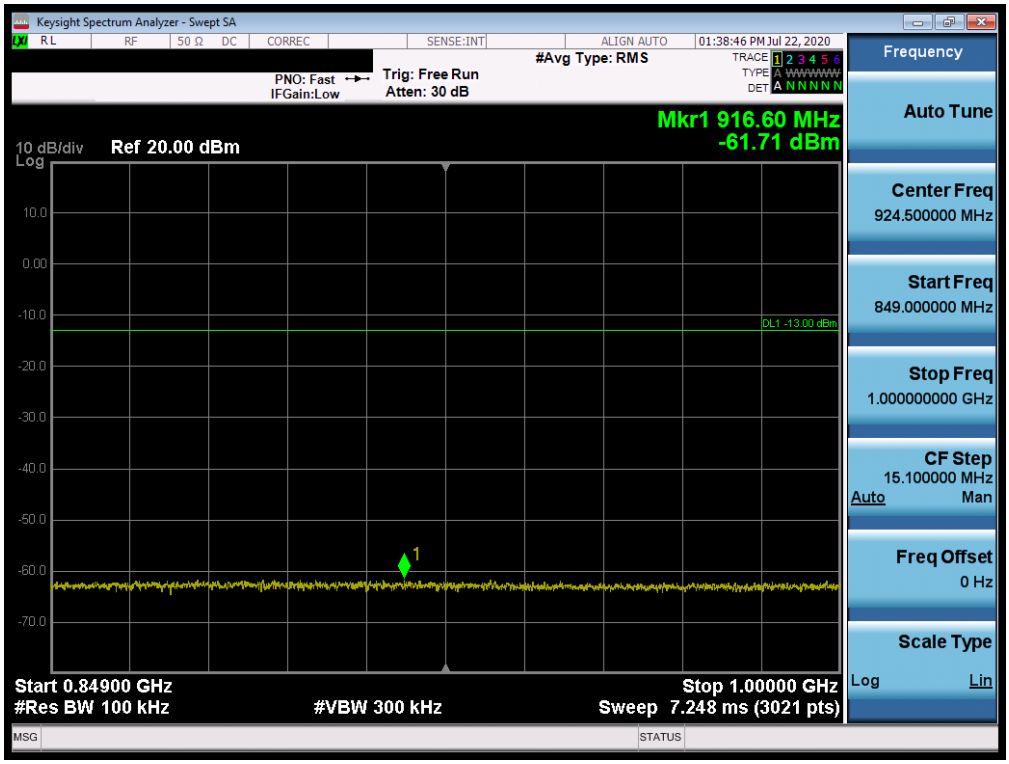


Plot 7-398. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)

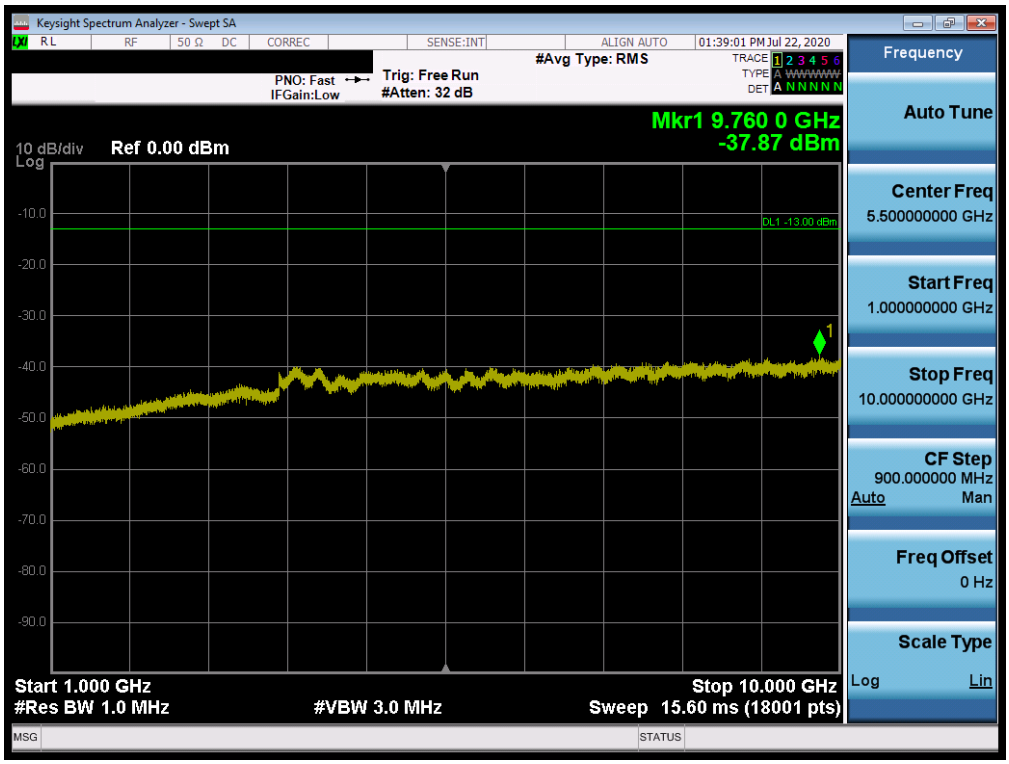
Plot 7-399. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)



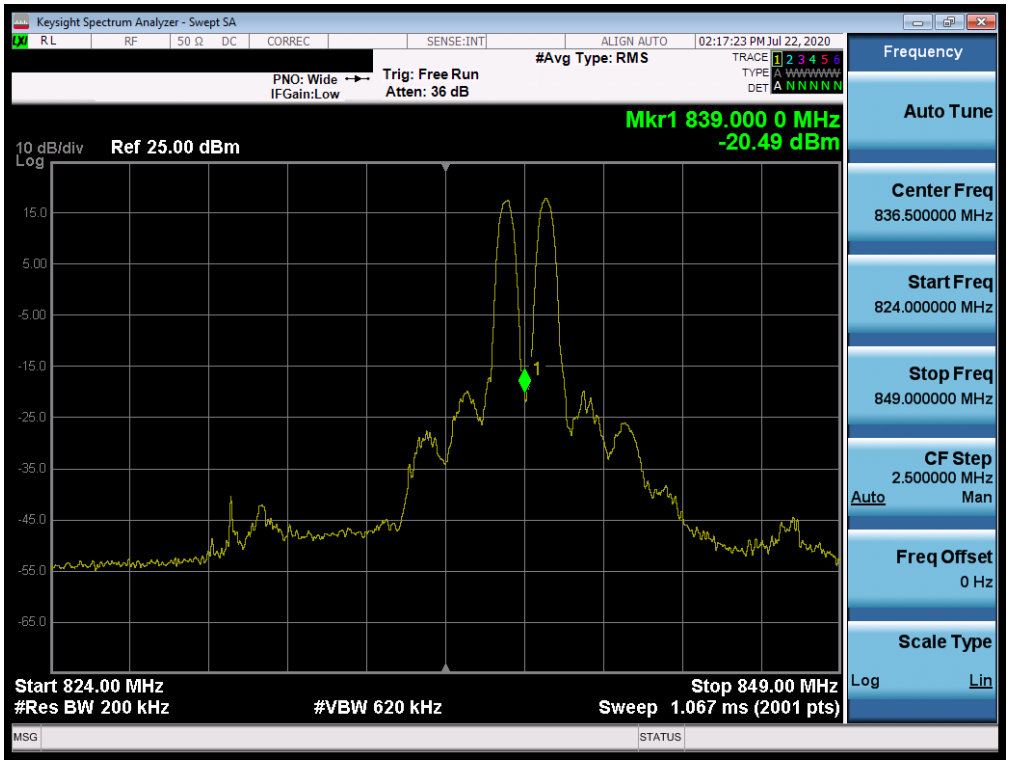
Plot 7-400. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)



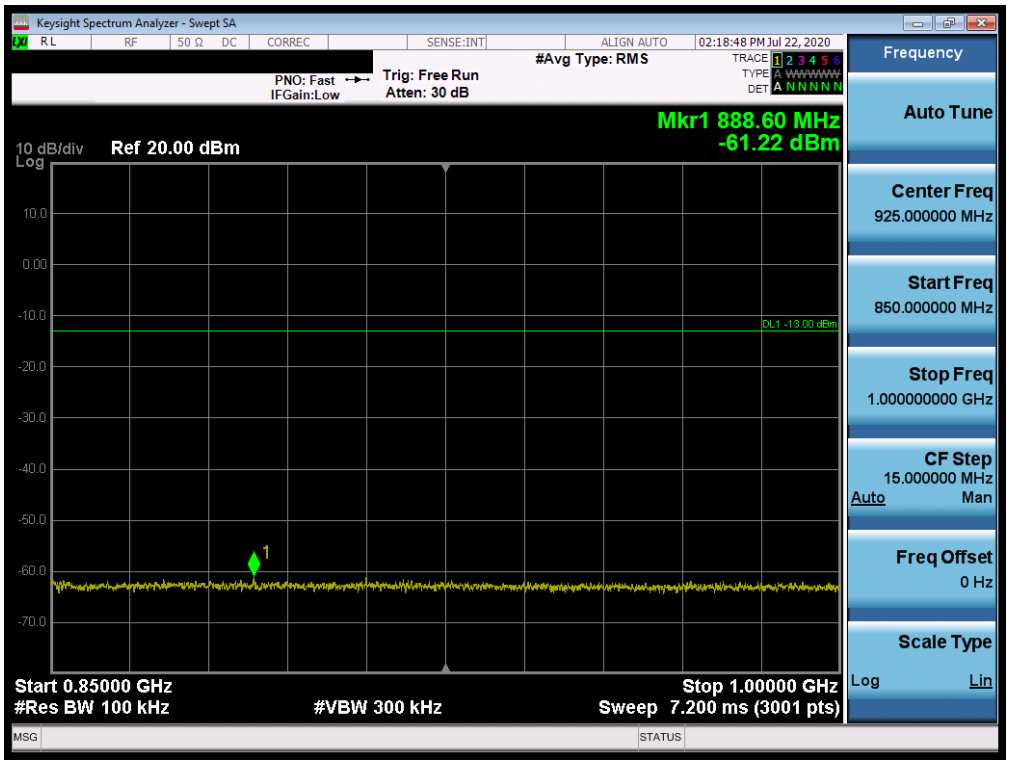
Plot 7-401. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)



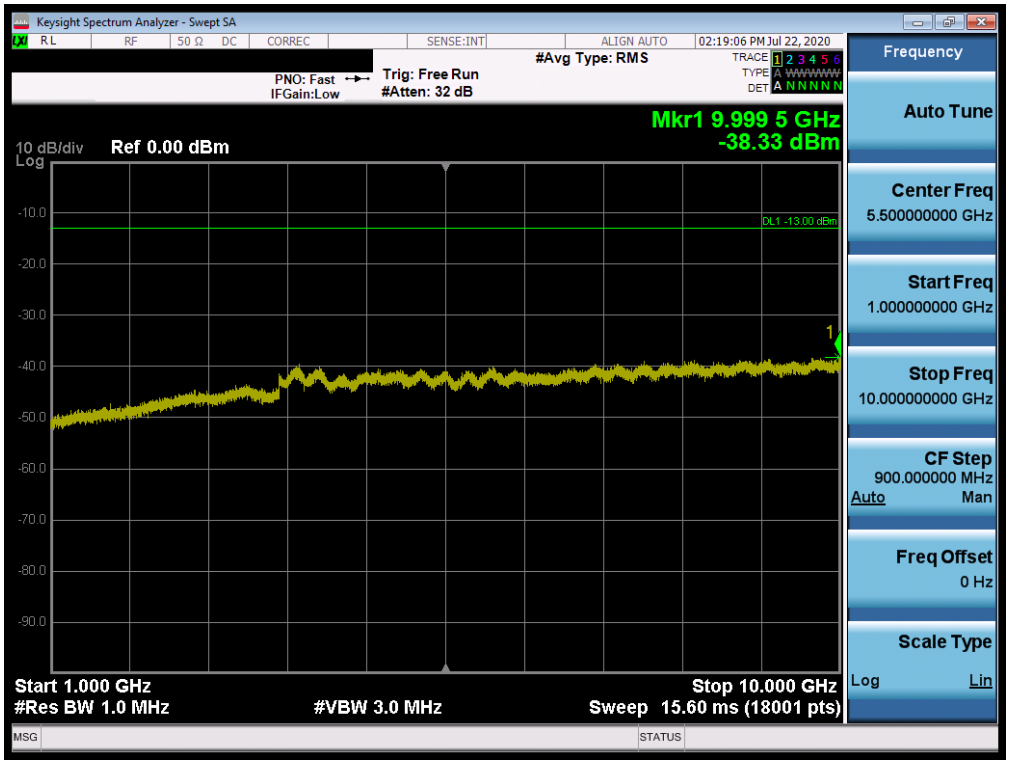
Plot 7-402. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/49 SCC 1/0 – Low Channel)



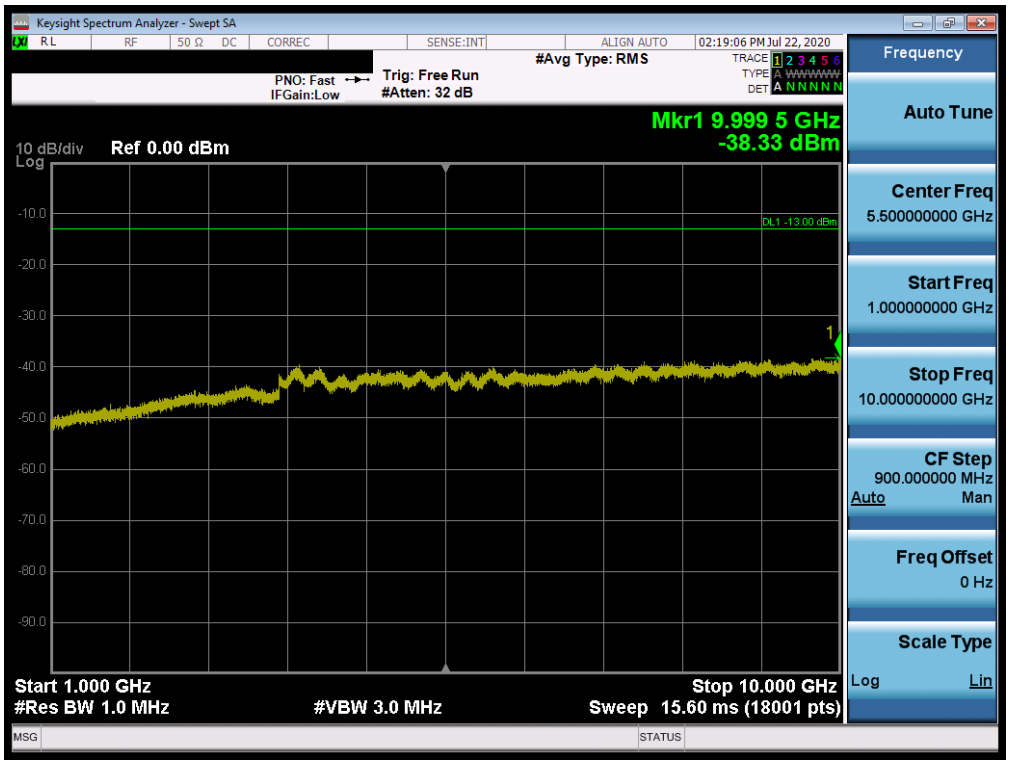
Plot 7-403. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/0 SCC 1/49 – High Channel)



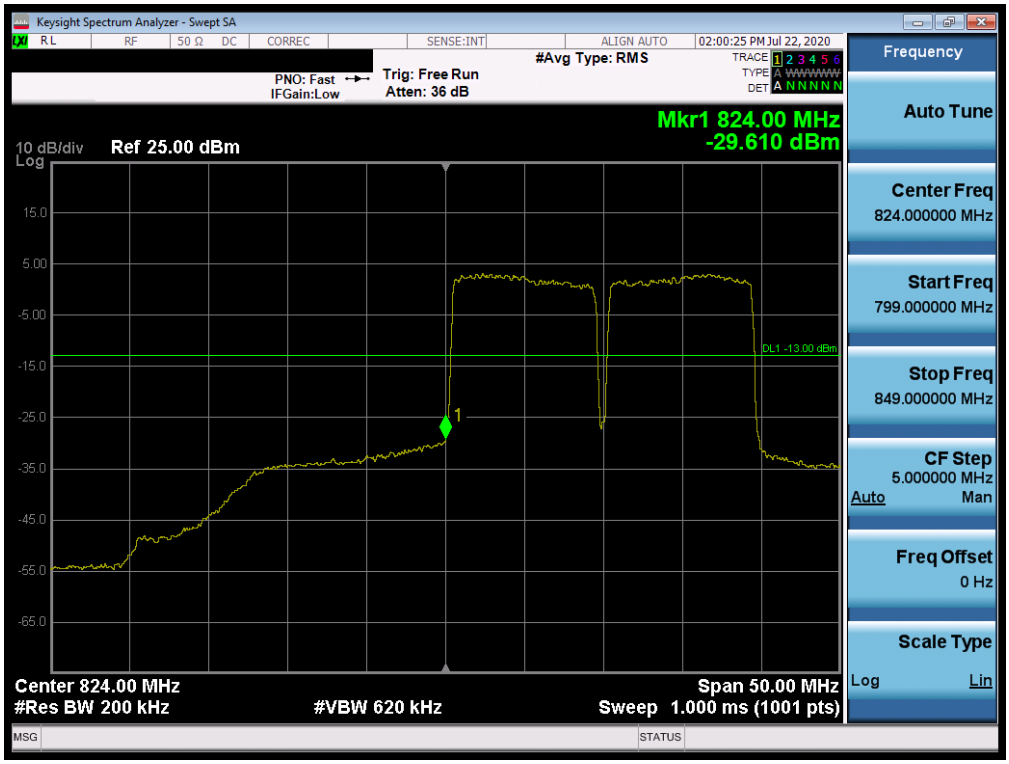
Plot 7-404. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/0 SCC 1/49 – High Channel)



Plot 7-405. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/0 SCC 1/49 – High Channel)



Plot 7-406. Conducted Spurious Plot (Band 5 – 10.0MHz QPSK – PCC 1/0 SCC 1/49 – High Channel)



Plot 7-407. Lower Band Edge Plot (Band 5 QPSK – PCC:10 MHz SCC:10 MHz – Full RB)

Plot 7-408. Upper Band Edge Plot (Band 5 QPSK – PCC:10 MHz SCC:10 MHz – Full RB)

Inter-band Uplink CA Conducted Powers 12A-66A

Power State	PCC					SCC					PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	Mod.	SCC UL RB#/Offset			
Max	B12	10	Mid	QPSK	1 / 25	B66	20	Mid	QPSK	1 / 50	21.76	15.77	22.74
Max	B12	10	Mid	16QAM	1 / 25	B66	20	High	16QAM	1 / 50	20.90	15.38	21.97
Max	B12	10	Mid	64QAM	1 / 25	B66	20	High	64QAM	1 / 50	20.32	14.85	21.40
Max	B12	10	Mid	QPSK	50 / 0	B66	20	Mid	QPSK	100 / 0	20.86	15.61	21.99
Max	B12	10	Mid	16QAM	50 / 0	B66	20	Mid	16QAM	100 / 0	19.70	14.48	20.84
Max	B12	10	Mid	64QAM	50 / 0	B66	20	Mid	64QAM	100 / 0	18.83	13.63	19.98

Table 7-5. Conducted Powers (12A-66A)

Inter-band Uplink CA Conducted Powers 2A-12A

Power State	PCC					SCC					PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	Mod.	SCC UL RB#/Offset			
Max	B2	20	Mid	QPSK	1 / 50	B12	10	Mid	QPSK	1 / 25	22.01	15.14	22.82
Max	B2	20	Mid	16QAM	1 / 50	B12	10	High	16QAM	1 / 25	21.14	14.96	22.08
Max	B2	20	Mid	64QAM	1 / 50	B12	10	High	64QAM	1 / 25	20.52	14.64	21.52
Max	B2	20	Mid	QPSK	100 / 0	B12	10	Mid	QPSK	50 / 0	21.08	14.89	22.02
Max	B2	20	Mid	16QAM	100 / 0	B12	10	Mid	16QAM	50 / 0	19.93	14.10	20.94
Max	B2	20	Mid	64QAM	100 / 0	B12	10	Mid	64QAM	50 / 0	19.11	13.36	20.13

Table 7-6. Conducted Powers (2A-12A)

Inter-band Uplink CA Conducted Powers 2A-5A

Power State	PCC					SCC					PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	Mod.	SCC UL RB#/Offset			
Max	B2	20	Mid	QPSK	1 / 50	B5	10	Mid	QPSK	1 / 25	22.10	15.21	22.91
Max	B2	20	Mid	16QAM	1 / 50	B5	10	High	16QAM	1 / 25	21.31	15.39	22.30
Max	B2	20	Mid	64QAM	1 / 50	B5	10	High	64QAM	1 / 25	20.27	14.21	21.23
Max	B2	20	Mid	QPSK	100 / 0	B5	10	Mid	QPSK	50 / 0	20.95	15.58	22.06
Max	B2	20	Mid	16QAM	100 / 0	B5	10	Mid	16QAM	50 / 0	20.08	14.72	21.19
Max	B2	20	Mid	64QAM	100 / 0	B5	10	Mid	64QAM	50 / 0	19.09	13.73	20.20

Table 7-7. Conducted Powers (2A-5A)

Inter-band Uplink CA Conducted Powers 2A-66A

Power State	PCC					SCC					PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	Mod.	SCC UL RB#/Offset			
Max	LB2	20	Mid	QPSK	1 / 50	LB66	20	Mid	QPSK	1 / 50	21.91	15.17	22.74
Max	LB2	20	Mid	16QAM	1 / 50	LB66	20	Mid	16QAM	1 / 50	21.05	15.32	22.08
Max	LB2	20	Mid	64QAM	1 / 50	LB66	20	Mid	64QAM	1 / 50	20.18	14.56	21.23
Max	LB2	20	Mid	QPSK	100 / 0	LB66	20	Mid	QPSK	100 / 0	20.89	15.68	22.03
Max	LB2	20	Mid	16QAM	100 / 0	LB66	20	Mid	16QAM	100 / 0	19.86	14.53	20.98
Max	LB2	20	Mid	64QAM	100 / 0	LB66	20	Mid	64QAM	100 / 0	18.86	13.60	19.99

Table 7-8. Conducted Powers (2A-66A)

Inter-band Uplink CA Conducted Powers 5A-66A

Power State	PCC					SCC					PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	Mod.	SCC UL RB#/Offset			
Max	B5	10	Mid	QPSK	1 / 25	B66	20	Mid	QPSK	1 / 50	22.01	15.21	22.83
Max	B5	10	Mid	16QAM	1 / 25	B66	20	High	16QAM	1 / 50	21.12	15.35	22.14
Max	B5	10	Mid	64QAM	1 / 25	B66	20	High	64QAM	1 / 50	20.26	14.58	21.30
Max	B5	10	Mid	QPSK	50 / 0	B66	20	Mid	QPSK	100 / 0	20.96	15.57	22.06
Max	B5	10	Mid	16QAM	50 / 0	B66	20	Mid	16QAM	100 / 0	19.81	14.51	20.93
Max	B5	10	Mid	64QAM	50 / 0	B66	20	Mid	64QAM	100 / 0	18.97	13.60	20.08

Table 7-9. Conducted Powers (5A-66A)

7.7 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Setup

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

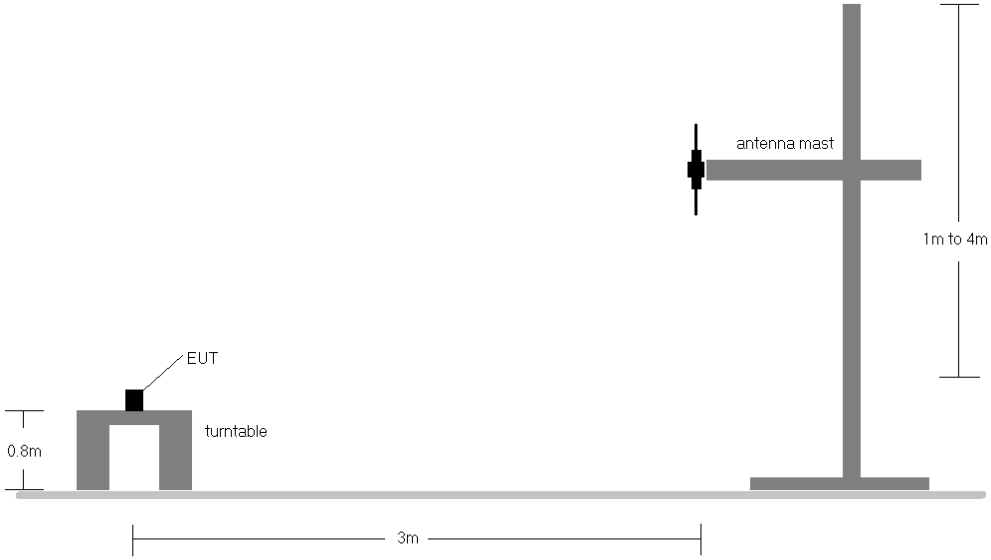


Figure 7-6. Radiated Test Setup <1GHz

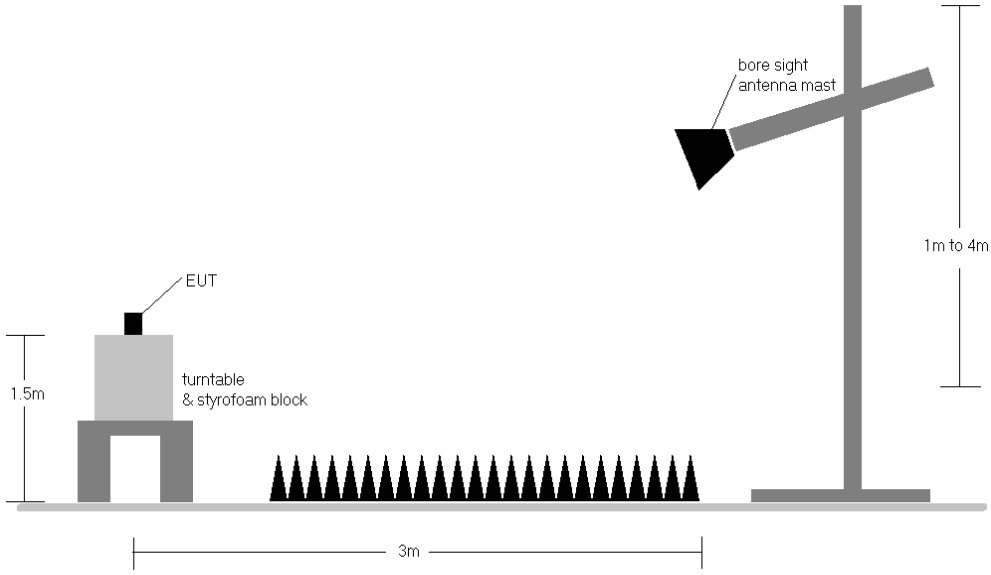


Figure 7-7. Radiated Test Setup >1GHz

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) This unit was tested with its standard battery.

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	V-Swivel	181	60	1 / 2	14.80	4.56	17.21	0.053	34.77	-17.56	19.36	0.086	36.99	-17.63
707.50	1.4	QPSK	V-Swivel	172	46	1 / 2	14.36	4.62	16.83	0.048	34.77	-17.94	18.98	0.079	36.99	-18.01
715.30	1.4	QPSK	V-Swivel	156	53	1 / 2	14.91	4.72	**17.48**	0.056	34.77	-17.29	**19.63**	0.092	36.99	-17.36
715.30	1.4	16-QAM	V-Swivel	156	53	1 / 2	13.13	4.72	**15.70**	0.037	34.77	-19.07	**17.85**	0.061	36.99	-19.14
715.30	1.4	64-QAM	V-Swivel	156	53	1 / 0	12.58	4.72	**15.15**	0.033	34.77	-19.62	**17.30**	0.054	36.99	-19.69
700.50	3	QPSK	V-Swivel	181	60	1 / 7	14.88	4.59	17.32	0.054	34.77	-17.45	19.47	0.089	36.99	-17.52
707.50	3	QPSK	V-Swivel	172	46	1 / 2	14.33	4.62	16.80	0.048	34.77	-17.97	18.95	0.079	36.99	-18.04
714.50	3	QPSK	V-Swivel	156	53	1 / 0	14.89	4.71	**17.45**	0.056	34.77	-17.32	**19.60**	0.091	36.99	-17.39
714.50	3	16-QAM	V-Swivel	156	53	1 / 0	13.45	4.71	**16.01**	0.040	34.77	-18.76	**18.16**	0.065	36.99	-18.83
714.50	3	64-QAM	V-Swivel	156	53	1 / 0	12.24	4.71	**14.80**	0.030	34.77	-19.97	**16.95**	0.050	36.99	-20.04
701.50	5	QPSK	V-Swivel	181	60	1 / 12	14.78	4.60	17.23	0.053	34.77	-17.54	19.38	0.087	36.99	-17.61
707.50	5	QPSK	V-Swivel	172	46	1 / 24	14.51	4.62	16.98	0.050	34.77	-17.79	19.13	0.082	36.99	-17.86
713.50	5	QPSK	V-Swivel	156	53	1 / 12	14.97	4.70	**17.52**	0.056	34.77	-17.25	**19.67**	0.093	36.99	-17.32
713.50	5	16-QAM	V-Swivel	156	53	1 / 12	13.37	4.70	**15.92**	0.039	34.77	-18.85	**18.07**	0.064	36.99	-18.92
713.50	5	64-QAM	V-Swivel	156	53	1 / 12	12.43	4.70	**14.98**	0.031	34.77	-19.79	**17.13**	0.052	36.99	-19.86
704.00	10	QPSK	V-Swivel	181	60	1 / 0	15.00	4.58	17.43	0.055	34.77	-17.34	19.58	0.091	36.99	-17.41
707.50	10	QPSK	V-Swivel	172	46	1 / 25	14.77	4.62	17.24	0.053	34.77	-17.53	19.39	0.087	36.99	-17.60
711.00	10	QPSK	V-Swivel	156	53	1 / 49	15.17	4.67	**17.69**	**0.059**	34.77	-17.08	**19.84**	**0.096**	36.99	-17.15
711.00	10	16-QAM	V-Swivel	156	53	1 / 49	13.55	4.67	**16.07**	0.040	34.77	-18.70	**18.22**	0.066	36.99	-18.77
711.00	10	64-QAM	V-Swivel	156	53	1 / 49	12.61	4.67	**15.13**	0.033	34.77	-19.64	**17.28**	0.053	36.99	-19.71
711.00	10	QPSK	H-Swivel	126	84	1 / 49	11.54	3.72	13.11	0.020	34.77	-21.66	15.26	0.034	36.99	-21.73
711.00	10(WCP)	QPSK	V-Swivel	156	53	1 / 49	13.16	4.67	15.68	0.037	34.77	-19.09	17.83	0.061	36.99	-19.16
711.00	10	QPSK	V	156	53	1 / 49	13.47	4.67	**15.99**	**0.040**	34.77	-18.78	**18.14**	**0.065**	36.99	-18.85

Table 7-10. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	H-Swivel	251	81	1 / 12	13.79	5.82	17.45	0.056	34.77	-17.32	19.60	0.091	36.99	-17.39
782.00	5	QPSK	H-Swivel	251	81	1 / 0	13.74	5.89	**17.48**	0.056	34.77	-17.29	**19.63**	0.092	36.99	-17.36
784.50	5	QPSK	H-Swivel	251	81	1 / 0	13.70	5.92	17.47	0.056	34.77	-17.30	19.62	0.092	36.99	-17.37
782.00	5	16-QAM	H-Swivel	251	81	1 / 0	11.59	5.89	**15.33**	0.034	34.77	-19.44	**17.48**	0.056	36.99	-19.51
782.00	5	64-QAM	H-Swivel	251	81	1 / 0	10.47	5.89	**14.21**	0.026	34.77	-20.56	**16.36**	0.043	36.99	-20.63
782.00	10	QPSK	H-Swivel	251	81	1 / 25	13.80	5.89	**17.54**	**0.057**	34.77	-17.23	**19.69**	**0.093**	36.99	-17.30
782.00	10	16-QAM	H-Swivel	251	81	1 / 25	11.82	5.89	**15.56**	0.036	34.77	-19.21	**17.71**	0.059	36.99	-19.28
782.00	10	64-QAM	H-Swivel	251	81	1 / 25	10.55	5.89	**14.29**	0.027	34.77	-20.48	**16.44**	0.044	36.99	-20.55
782.00	10	QPSK	V-Swivel	137	265	1 / 25	11.73	5.79	15.37	0.034	34.77	-19.40	17.52	0.056	36.99	-19.47
782.00	10 (WCP)	QPSK	H-Swivel	230	96	1 / 25	12.44	5.89	16.18	0.042	34.77	-18.59	18.33	0.068	36.99	-18.66
782.00	10	QPSK	H	251	81	1 / 25	11.29	5.89	**15.03**	**0.032**	34.77	-19.74	**17.18**	**0.052**	36.99	-19.81

Table 7-11. ERP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	V-Swivel	184	4	1 / 2	12.78	6.36	**16.98**	0.050	38.45	-21.47	**19.13**	0.082	40.61	-21.48
836.50	1.4	QPSK	V-Swivel	202	177	1 / 2	12.61	6.38	16.84	0.048	38.45	-21.61	18.99	0.079	40.61	-21.62
848.30	1.4	QPSK	V-Swivel	180	358	1 / 2	11.98	6.50	16.33	0.043	38.45	-22.12	18.48	0.070	40.61	-22.13
824.70	1.4	16-QAM	V-Swivel	184	4	1 / 2	10.59	6.36	**14.79**	0.030	38.45	-23.66	**16.94**	0.049	40.61	-23.67
824.70	1.4	64-QAM	V-Swivel	184	4	1 / 2	9.89	6.36	**14.09**	0.026	38.45	-24.36	**16.24**	0.042	40.61	-24.37
825.50	3	QPSK	V-Swivel	184	4	1 / 0	12.78	6.36	**16.99**	0.050	38.45	-21.46	**19.14**	0.082	40.61	-21.47
836.50	3	QPSK	V-Swivel	202	177	1 / 14	12.42	6.38	16.65	0.046	38.45	-21.80	18.80	0.076	40.61	-21.81
847.50	3	QPSK	V-Swivel	180	358	1 / 0	11.96	6.49	16.31	0.043	38.45	-22.14	18.46	0.070	40.61	-22.15
825.50	3	16-QAM	V-Swivel	184	4	1 / 0	10.86	6.36	**15.07**	0.032	38.45	-23.38	**17.22**	0.053	40.61	-23.39
825.50	3	64-QAM	V-Swivel	184	4	1 / 0	9.90	6.36	**14.11**	0.026	38.45	-24.34	**16.26**	0.042	40.61	-24.35
826.50	5	QPSK	V-Swivel	184	4	1 / 12	12.72	6.37	**16.94**	0.049	38.45	-21.51	**19.09**	0.081	40.61	-21.52
836.50	5	QPSK	V-Swivel	202	177	1 / 12	12.44	6.38	16.67	0.046	38.45	-21.78	18.82	0.076	40.61	-21.79
846.50	5	QPSK	V-Swivel	180	358	1 / 12	12.12	6.48	16.46	0.044	38.45	-21.99	18.61	0.073	40.61	-22.00
826.50	5	16-QAM	V-Swivel	184	4	1 / 12	10.80	6.37	**15.02**	0.032	38.45	-23.43	**17.17**	0.052	40.61	-23.44
826.50	5	64-QAM	V-Swivel	184	4	1 / 12	10.07	6.37	**14.29**	0.027	38.45	-24.16	**16.44**	0.044	40.61	-24.17
829.00	10	QPSK	V-Swivel	184	4	1 / 49	12.75	6.40	**17.00**	**0.050**	38.45	-21.45	**19.15**	**0.082**	40.61	-21.46
836.50	10	QPSK	V-Swivel	202	177	1 / 25	12.47	6.38	16.70	0.047	38.45	-21.75	18.85	0.077	40.61	-21.76
844.00	10	QPSK	V-Swivel	180	358	1 / 25	12.21	6.46	16.52	0.045	38.45	-21.93	18.67	0.074	40.61	-21.94
829.00	10	16-QAM	V-Swivel	184	4	1 / 49	10.79	6.40	**15.04**	0.032	38.45	-23.41	**17.19**	0.052	40.61	-23.42
829.00	10	64-QAM	V-Swivel	184	4	1 / 49	10.10	6.40	**14.35**	0.027	38.45	-24.10	**16.50**	0.045	40.61	-24.11
829.00	10	QPSK	H-Swivel	141	81	1 / 49	12.01	6.40	16.26	0.042	38.45	-22.19	18.41	0.069	40.61	-22.20
829.00	10 (WCP)	QPSK	V-Swivel	145	95	1 / 49	9.68	6.40	13.93	0.025	38.45	-24.52	16.08	0.041	40.61	-24.53
829.00	10	QPSK	V	184	4	1 / 49	9.62	6.40	**13.87**	**0.024**	38.45	-24.58	**16.02**	**0.040**	40.61	-24.59

Table 7-12. ERP Data (Band 5)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	π/2 BPSK	834.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.17	17.77	0.060	38.45	-20.68	19.92	0.098	40.61	-20.69
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.68	**18.21**	0.066	38.45	-20.24	**20.36**	0.109	40.61	-20.25
		839.0	V-Swivel	143.0	106.0	6.70	1 / 50	13.33	17.88	0.061	38.45	-20.57	20.03	0.101	40.61	-20.58
	QPSK	834.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.25	17.85	0.061	38.45	-20.60	20.00	0.100	40.61	-20.61
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.44	**17.97**	0.063	38.45	-20.48	**20.12**	0.103	40.61	-20.49
		839.0	V-Swivel	143.0	106.0	6.70	1 / 50	12.86	17.41	0.055	38.45	-21.04	19.56	0.090	40.61	-21.05
	16-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	12.67	**17.20**	0.052	38.45	-21.25	**19.35**	0.086	40.61	-21.26
	64-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	11.72	**16.25**	0.042	38.45	-22.20	**18.40**	0.069	40.61	-22.21
	256-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	10.02	**14.55**	0.029	38.45	-23.90	**16.70**	0.047	40.61	-23.91
15 MHz	π/2 BPSK	831.5	V-Swivel	141.0	102.0	6.75	1 / 0	13.16	17.76	0.060	38.45	-20.69	19.91	0.098	40.61	-20.70
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.67	**18.20**	0.066	38.45	-20.25	**20.35**	0.108	40.61	-20.26
		841.5	V-Swivel	143.0	106.0	6.70	1 / 50	13.32	17.87	0.061	38.45	-20.58	20.02	0.100	40.61	-20.59
	QPSK	831.5	V-Swivel	141.0	102.0	6.75	1 / 0	13.21	17.81	0.060	38.45	-20.64	19.96	0.099	40.61	-20.65
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.40	**17.93**	0.062	38.45	-20.52	**20.08**	0.102	40.61	-20.53
		841.5	V-Swivel	143.0	106.0	6.70	1 / 50	12.82	17.37	0.055	38.45	-21.08	19.52	0.090	40.61	-21.09
	16-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	12.54	**17.07**	0.051	38.45	-21.38	**19.22**	0.084	40.61	-21.39
	64-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	11.59	**16.12**	0.041	38.45	-22.33	**18.27**	0.067	40.61	-22.34
	256-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	9.89	**14.42**	0.028	38.45	-24.03	**16.57**	0.045	40.61	-24.04
10 MHz	π/2 BPSK	829.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.13	17.73	0.059	38.45	-20.72	19.88	0.097	40.61	-20.73
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.64	**18.17**	0.066	38.45	-20.28	**20.32**	0.108	40.61	-20.29
		844.0	V-Swivel	143.0	106.0	6.70	1 / 50	13.29	17.84	0.061	38.45	-20.61	19.99	0.100	40.61	-20.62
	QPSK	829.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.21	17.81	0.060	38.45	-20.64	19.96	0.099	40.61	-20.65
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.40	**17.93**	0.062	38.45	-20.52	**20.08**	0.102	40.61	-20.53
		844.0	V-Swivel	143.0	106.0	6.70	1 / 50	12.82	17.37	0.055	38.45	-21.08	19.52	0.090	40.61	-21.09
	16-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	12.57	**17.10**	0.051	38.45	-21.35	**19.25**	0.084	40.61	-21.36
	64-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	11.62	**16.15**	0.041	38.45	-22.30	**18.30**	0.068	40.61	-22.31
	256-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	9.92	**14.45**	0.028	38.45	-24.00	**16.60**	0.046	40.61	-24.01
5 MHz	π/2 BPSK	829.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.09	17.69	0.059	38.45	-20.76	19.84	0.096	40.61	-20.77
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.60	**18.13**	0.065	38.45	-20.32	**20.28**	0.107	40.61	-20.33
		844.0	V-Swivel	143.0	106.0	6.70	1 / 50	13.25	17.80	0.060	38.45	-20.65	19.95	0.099	40.61	-20.66
	QPSK	829.0	V-Swivel	141.0	102.0	6.75	1 / 0	13.17	17.77	0.060	38.45	-20.68	19.92	0.098	40.61	-20.69
		836.5	V-Swivel	145.0	106.0	6.68	1 / 50	13.36	**17.89**	0.062	38.45	-20.56	**20.04**	0.101	40.61	-20.57
		844.0	V-Swivel	143.0	106.0	6.70	1 / 50	12.78	17.33	0.054	38.45	-21.12	19.48	0.089	40.61	-21.13
	16-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	12.55	**17.08**	0.051	38.45	-21.37	**19.23**	0.084	40.61	-21.38
	64-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	11.60	**16.13**	0.041	38.45	-22.32	**18.28**	0.067	40.61	-22.33
	256-QAM	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	9.90	**14.43**	0.028	38.45	-24.02	16.58	0.045	40.61	-24.03
	QPSK (CP-OFDM)	836.5	V-Swivel	145.0	106.0	6.68	1 / 50	10.14	**16.82**	0.048	38.45	-21.63	**18.97**	0.079	40.61	-21.64
	QPSK (Opposite Pol.)	836.5	H-Swivel	198.0	87.0	6.68	1 / 50	8.56	15.24	0.033	38.45	-23.21	17.39	0.055	40.61	-23.22
	QPSK	836.5	V	145.0	106.0	6.68	1 / 50	12.43	16.96	0.050	38.45	-21.49	19.11	0.081	40.61	-21.50
	QPSK (WCP)	836.5	V-Swivel	145.0	94.0	6.68	1 / 50	8.13	14.81	0.030	38.45	-23.64	16.96	0.050	40.61	-23.65

Table 7-13. ERP Data (Band n5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H-Swivel	133	352	1 / 2	11.97	9.38	21.35	0.136	30.00	-8.65
1745.00	1.4	QPSK	H-Swivel	176	346	1 / 2	12.89	9.14	**22.03**	0.160	30.00	-7.97
1779.30	1.4	QPSK	H-Swivel	134	342	1 / 2	12.75	9.20	21.95	0.157	30.00	-8.05
1745.00	1.4	16-QAM	H-Swivel	176	346	1 / 2	10.89	9.14	**20.03**	0.101	30.00	-9.97
1745.00	1.4	64-QAM	H-Swivel	176	346	1 / 2	10.11	9.14	**19.25**	0.084	30.00	-10.75
1711.50	3	QPSK	H-Swivel	133	352	1 / 0	12.00	9.37	21.37	0.137	30.00	-8.63
1745.00	3	QPSK	H-Swivel	176	346	1 / 7	12.88	9.14	**22.02**	0.159	30.00	-7.98
1778.50	3	QPSK	H-Swivel	134	342	1 / 0	12.78	9.20	21.98	0.158	30.00	-8.02
1745.00	3	16-QAM	H-Swivel	176	346	1 / 7	11.05	9.14	**20.19**	0.104	30.00	-9.81
1745.00	3	64-QAM	H-Swivel	176	346	1 / 7	9.66	9.14	**18.80**	0.076	30.00	-11.20
1712.50	5	QPSK	H-Swivel	133	352	1 / 0	12.05	9.37	21.42	0.139	30.00	-8.58
1745.00	5	QPSK	H-Swivel	176	346	1 / 24	12.89	9.14	**22.03**	0.160	30.00	-7.97
1777.50	5	QPSK	H-Swivel	134	342	1 / 0	12.77	9.19	21.96	0.157	30.00	-8.04
1745.00	5	16-QAM	H-Swivel	176	346	1 / 24	10.96	9.14	**20.10**	0.102	30.00	-9.90
1745.00	5	64-QAM	H-Swivel	176	346	1 / 24	9.85	9.14	**18.99**	0.079	30.00	-11.01
1715.00	10	QPSK	H-Swivel	133	352	1 / 25	11.91	9.35	21.26	0.134	30.00	-8.74
1745.00	10	QPSK	H-Swivel	176	346	1 / 0	12.83	9.14	**21.97**	0.157	30.00	-8.03
1775.00	10	QPSK	H-Swivel	134	342	1 / 0	12.70	9.18	21.88	0.154	30.00	-8.12
1745.00	10	16-QAM	H-Swivel	176	346	1 / 0	10.97	9.14	**20.11**	0.103	30.00	-9.89
1745.00	10	64-QAM	H-Swivel	176	346	1 / 0	9.77	9.14	**18.91**	0.078	30.00	-11.09
1717.50	15	QPSK	H-Swivel	133	352	1 / 36	12.03	9.33	21.36	0.137	30.00	-8.64
1745.00	15	QPSK	H-Swivel	176	346	1 / 36	12.84	9.14	**21.98**	0.158	30.00	-8.02
1772.50	15	QPSK	H-Swivel	134	342	1 / 74	12.75	9.18	21.93	0.156	30.00	-8.07
1745.00	15	16-QAM	H-Swivel	176	346	1 / 36	11.00	9.14	**20.14**	0.103	30.00	-9.86
1745.00	15	64-QAM	H-Swivel	176	346	1 / 36	9.67	9.14	**18.81**	0.076	30.00	-11.19
1720.00	20	QPSK	H-Swivel	133	352	1 / 50	12.12	9.41	21.53	0.142	30.00	-8.47
1745.00	20	QPSK	H-Swivel	176	346	1 / 50	12.81	9.26	**22.07**	**0.161**	30.00	-7.93
1770.00	20	QPSK	H-Swivel	134	342	1 / 50	12.77	9.27	22.04	0.160	30.00	-7.96
1745.00	20	16-QAM	H-Swivel	176	346	1 / 50	11.13	9.26	**20.39**	0.109	30.00	-9.61
1745.00	20	64-QAM	H-Swivel	176	346	1 / 50	10.11	9.26	**19.37**	0.086	30.00	-10.63
1745.00	20	QPSK	V-Swivel	192	49	1 / 50	12.74	9.14	21.88	0.154	30.00	-8.12
1745.00	20 (WCP)	QPSK	H-Swivel	119	357	1 / 50	10.86	9.26	20.12	0.103	30.00	-9.88
1745.00	20	QPSK	H	176	346	1 / 50	11.95	9.26	**21.21**	**0.132**	30.00	-8.79

Table 7-14. EIRP Data (Band 66/4)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	π/2 BPSK	1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	12.17	**21.44**	0.139	30.00	-8.56
	QPSK	1720.0	H-Swivel	199.0	351.0	9.41	1 / 0	11.97	21.38	0.137	30.00	-8.62
		1745.0	H-Swivel	188.0	313.0	9.26	1 / 50	11.60	20.86	0.122	30.00	-9.14
		1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	12.31	**21.58**	0.144	30.00	-8.42
	16-QAM	1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	10.90	**20.17**	0.104	30.00	-9.83
	64-QAM	1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	9.78	**19.05**	0.080	30.00	-10.95
	256-QAM	1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	7.44	**16.71**	0.047	30.00	-13.29
15 MHz	π/2 BPSK	1772.5	H-Swivel	174.0	298.0	9.27	1 / 37	11.85	**21.12**	0.129	30.00	-8.88
	QPSK	1717.5	H-Swivel	199.0	351.0	9.41	1 / 37	12.00	21.41	0.138	30.00	-8.59
		1745.0	H-Swivel	188.0	313.0	9.26	1 / 37	11.55	20.81	0.121	30.00	-9.19
		1772.5	H-Swivel	174.0	298.0	9.27	1 / 37	12.17	**21.44**	0.139	30.00	-8.56
	16-QAM	1772.5	H-Swivel	174.0	298.0	9.27	1 / 37	10.92	**20.19**	0.104	30.00	-9.81
	64-QAM	1772.5	H-Swivel	174.0	298.0	9.27	1 / 37	9.80	**19.07**	0.081	30.00	-10.93
	256-QAM	1772.5	H-Swivel	174.0	298.0	9.27	1 / 37	7.46	**16.73**	0.047	30.00	-13.27
10 MHz	π/2 BPSK	1775.0	H-Swivel	174.0	298.0	9.27	1 / 25	11.71	**20.98**	0.125	30.00	-9.02
	QPSK	1715.0	H-Swivel	199.0	351.0	9.41	1 / 25	12.00	21.41	0.138	30.00	-8.59
		1745.0	H-Swivel	188.0	313.0	9.26	1 / 25	11.63	20.89	0.123	30.00	-9.11
		1775.0	H-Swivel	174.0	298.0	9.27	1 / 25	12.27	**21.54**	0.143	30.00	-8.46
	16-QAM	1775.0	H-Swivel	174.0	298.0	9.27	1 / 25	10.73	**20.00**	0.100	30.00	-10.00
	64-QAM	1775.0	H-Swivel	174.0	298.0	9.27	1 / 25	9.61	**18.88**	0.077	30.00	-11.12
	256-QAM	1775.0	H-Swivel	174.0	298.0	9.27	1 / 25	7.27	**16.54**	0.045	30.00	-13.46
5 MHz	π/2 BPSK	1777.5	H-Swivel	174.0	298.0	9.27	1 / 12	11.66	**20.93**	0.124	30.00	-9.07
	QPSK	1712.5	H-Swivel	199.0	351.0	9.41	1 / 12	11.87	21.28	0.134	30.00	-8.72
		1745.0	H-Swivel	188.0	313.0	9.26	1 / 12	11.47	20.73	0.118	30.00	-9.27
		1777.5	H-Swivel	174.0	298.0	9.27	1 / 12	12.14	**21.41**	0.138	30.00	-8.59
	16-QAM	1777.5	H-Swivel	174.0	298.0	9.27	1 / 12	10.71	**19.98**	0.100	30.00	-10.02
	64-QAM	1777.5	H-Swivel	174.0	298.0	9.27	1 / 12	9.59	**18.86**	0.077	30.00	-11.14
	256-QAM	1777.5	H-Swivel	174.0	298.0	9.27	1 / 12	7.25	**16.52**	0.045	30.00	-13.48
	QPSK (CP-OFDM)	1770.0	H-Swivel	174.0	298.0	9.27	1 / 0	10.07	**19.34**	0.086	30.00	-10.66
	QPSK (Opposite Pol.)	1770.0	V-Swivel	246.0	195.0	9.27	1 / 0	9.47	18.74	0.075	30.00	-11.26
	QPSK	1770.0	H	170.0	278.0	9.27	1 / 0	11.19	20.46	0.111	30.00	-9.54
	QPSK (WCP)	1770.0	H-Swivel	196.0	321.0	9.27	1 / 0	9.62	18.89	0.077	30.00	-11.11

Table 7-15. EIRP Data (Band n66)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H-Swivel	154	354	1 / 2	13.07	9.51	22.58	0.181	33.01	-10.43
1880.00	1.4	QPSK	H-Swivel	149	357	1 / 2	13.04	9.93	**22.97**	0.198	33.01	-10.04
1909.30	1.4	QPSK	H-Swivel	150	348	1 / 2	12.05	10.28	22.33	0.171	33.01	-10.68
1880.00	1.4	16-QAM	H-Swivel	149	357	1 / 2	11.56	9.93	**21.49**	0.141	33.01	-11.52
1880.00	1.4	64-QAM	H-Swivel	149	357	1 / 2	10.46	9.93	**20.39**	0.109	33.01	-12.62
1851.50	3	QPSK	H-Swivel	154	354	1 / 0	13.05	9.52	22.57	0.181	33.01	-10.44
1880.00	3	QPSK	H-Swivel	149	357	1 / 0	13.00	9.93	**22.93**	0.196	33.01	-10.08
1908.50	3	QPSK	H-Swivel	150	348	1 / 0	12.01	10.27	22.28	0.169	33.01	-10.73
1880.00	3	16-QAM	H-Swivel	149	357	1 / 0	11.60	9.93	**21.53**	0.142	33.01	-11.48
1880.00	3	64-QAM	H-Swivel	149	357	1 / 0	10.44	9.93	**20.37**	0.109	33.01	-12.64
1852.50	5	QPSK	H-Swivel	154	354	1 / 12	12.96	9.54	22.50	0.178	33.01	-10.51
1880.00	5	QPSK	H-Swivel	149	357	1 / 12	12.97	9.93	**22.90**	0.195	33.01	-10.11
1907.50	5	QPSK	H-Swivel	150	348	1 / 12	12.03	10.26	22.29	0.169	33.01	-10.72
1880.00	5	16-QAM	H-Swivel	149	357	1 / 12	11.47	9.93	**21.40**	0.138	33.01	-11.61
1880.00	5	64-QAM	H-Swivel	149	357	1 / 12	10.65	9.93	**20.58**	0.114	33.01	-12.43
1855.00	10	QPSK	H-Swivel	154	354	1 / 25	12.99	9.57	22.56	0.180	33.01	-10.45
1880.00	10	QPSK	H-Swivel	149	357	1 / 25	13.00	9.93	**22.93**	0.196	33.01	-10.08
1905.00	10	QPSK	H-Swivel	150	348	1 / 25	12.11	10.24	22.35	0.172	33.01	-10.66
1880.00	10	16-QAM	H-Swivel	149	357	1 / 25	11.43	9.93	**21.36**	0.137	33.01	-11.65
1880.00	10	64-QAM	H-Swivel	149	357	1 / 25	10.65	9.93	**20.58**	0.114	33.01	-12.43
1857.50	15	QPSK	H-Swivel	154	354	1 / 74	12.88	9.61	22.49	0.177	33.01	-10.52
1880.00	15	QPSK	H-Swivel	149	357	1 / 74	13.02	9.93	**22.95**	0.197	33.01	-10.06
1902.50	15	QPSK	H-Swivel	150	348	1 / 74	11.94	10.22	22.16	0.164	33.01	-10.85
1880.00	15	16-QAM	H-Swivel	149	357	1 / 74	11.24	9.93	**21.17**	0.131	33.01	-11.84
1880.00	15	64-QAM	H-Swivel	149	357	1 / 74	10.39	9.93	**20.32**	0.108	33.01	-12.69
1860.00	20	QPSK	H-Swivel	154	354	1 / 50	13.01	9.64	22.65	0.184	33.01	-10.36
1880.00	20	QPSK	H-Swivel	149	357	1 / 50	13.15	9.93	**23.08**	**0.203**	33.01	-9.93
1900.00	20	QPSK	H-Swivel	150	348	1 / 99	12.03	10.20	22.23	0.167	33.01	-10.78
1880.00	20	16-QAM	H-Swivel	149	357	1 / 50	11.55	9.93	**21.48**	0.141	33.01	-11.53
1880.00	20	64-QAM	H-Swivel	149	357	1 / 50	10.43	9.93	**20.36**	0.109	33.01	-12.65
1880.00	20	QPSK	V-Swivel	189	301	1 / 50	12.07	10.13	22.20	0.166	33.01	-10.81
1880.00	20 (WCP)	QPSK	H-Swivel	153	8	1 / 50	12.52	9.93	22.45	0.176	33.01	-10.56
1880.00	20	QPSK	H	149	357	1 / 50	12.29	9.93	**22.22**	**0.167**	33.01	-10.79

Table 7-16. EIRP Data (Band 2)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	π/2 BPSK	1860.0	H-Swivel	160.0	298.0	9.64	1 / 53	13.72	**23.36**	0.217	33.01	-9.65
	QPSK	1860.0	H-Swivel	160.0	298.0	9.64	1 / 53	13.76	**23.40**	0.219	33.01	-9.61
		1880.0	H-Swivel	151.0	304.0	9.93	1 / 76	12.51	22.44	0.175	33.01	-10.57
		1900.0	H-Swivel	149.0	241.0	10.20	1 / 76	12.68	22.88	0.194	33.01	-10.13
	16-QAM	1860.0	H-Swivel	160.0	298.0	9.64	1 / 53	12.29	**21.93**	0.156	33.01	-11.08
	64-QAM	1860.0	H-Swivel	160.0	298.0	9.64	1 / 53	11.21	**20.85**	0.122	33.01	-12.16
	256-QAM	1860.0	H-Swivel	160.0	298.0	9.64	1 / 53	8.84	**18.48**	0.071	33.01	-14.53
15 MHz	π/2 BPSK	1857.5	H-Swivel	160.0	298.0	9.61	1 / 37	13.71	**23.31**	0.215	33.01	-9.70
	QPSK	1857.5	H-Swivel	160.0	298.0	9.61	1 / 37	13.81	**23.41**	0.220	33.01	-9.60
		1880.0	H-Swivel	151.0	304.0	9.93	1 / 37	12.31	22.24	0.167	33.01	-10.77
		1902.5	H-Swivel	149.0	241.0	10.22	1 / 37	12.46	22.68	0.186	33.01	-10.33
	16-QAM	1857.5	H-Swivel	160.0	298.0	9.61	1 / 37	12.00	**21.60**	0.145	33.01	-11.41
	64-QAM	1857.5	H-Swivel	160.0	298.0	9.61	1 / 37	10.93	**20.53**	0.113	33.01	-12.48
	256-QAM	1857.5	H-Swivel	160.0	298.0	9.61	1 / 37	8.56	**18.16**	0.066	33.01	-14.85
10 MHz	π/2 BPSK	1855.0	H-Swivel	160.0	298.0	9.57	1 / 25	13.63	**23.20**	0.209	33.01	-9.81
	QPSK	1855.0	H-Swivel	160.0	298.0	9.57	1 / 25	13.77	**23.34**	0.216	33.01	-9.67
		1880.0	H-Swivel	151.0	304.0	9.93	1 / 25	12.35	22.28	0.169	33.01	-10.73
		1905.0	H-Swivel	149.0	241.0	10.24	1 / 25	12.55	22.79	0.190	33.01	-10.22
	16-QAM	1855.0	H-Swivel	160.0	298.0	9.57	1 / 25	12.19	**21.76**	0.150	33.01	-11.25
	64-QAM	1855.0	H-Swivel	160.0	298.0	9.57	1 / 25	11.11	**20.68**	0.117	33.01	-12.33
	256-QAM	1855.0	H-Swivel	160.0	298.0	9.57	1 / 25	8.74	**18.31**	0.068	33.01	-14.70
5 MHz	π/2 BPSK	1852.5	H-Swivel	160.0	298.0	9.54	1 / 12	13.70	**23.23**	0.211	33.01	-9.78
	QPSK	1852.5	H-Swivel	160.0	298.0	9.54	1 / 12	13.81	**23.34**	0.216	33.01	-9.67
		1880.0	H-Swivel	151.0	304.0	9.93	1 / 12	12.16	22.09	0.162	33.01	-10.92
		1907.5	H-Swivel	149.0	241.0	10.26	1 / 12	12.47	22.73	0.188	33.01	-10.28
	16-QAM	1852.5	H-Swivel	160.0	298.0	9.54	1 / 12	12.55	**22.08**	0.162	33.01	-10.93
	64-QAM	1852.5	H-Swivel	160.0	298.0	9.54	1 / 12	11.47	**21.00**	0.126	33.01	-12.01
	256-QAM	1852.5	H-Swivel	160.0	298.0	9.54	1 / 12	9.10	**18.63**	0.073	33.01	-14.38
	QPSK (CP-OFDM)	1907.5	H-Swivel	160.0	298.0	10.26	1 / 12	12.07	**22.33**	0.171	33.01	-10.68
	QPSK (Opposite Pol.)	1907.5	V-Swivel	275.0	85.0	10.26	1 / 12	10.17	20.43	0.110	33.01	-12.58
	QPSK (Normal)	1907.5	H	154.0	222.0	10.26	1 / 12	12.20	22.46	0.176	33.01	-10.55
	QPSK (WCP)	1907.5	H-Swivel	100.0	296.0	10.26	1 / 12	10.88	21.14	0.130	33.01	-11.87

Table 7-17. EIRP Data (Band n2)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2307.50	5	QPSK	H-Swivel	133	195	1 / 12	10.88	10.33	21.22	0.132	23.98	-2.76
2312.50	5	QPSK	H-Swivel	133	195	1 / 12	10.90	10.34	**21.24**	0.133	23.98	-2.74
2312.50	5	16-QAM	H-Swivel	133	195	1 / 12	9.27	10.34	**19.61**	0.091	23.98	-4.37
2312.50	5	64-QAM	H-Swivel	133	195	1 / 12	8.32	10.34	**18.66**	0.073	23.98	-5.32
2310.00	10	QPSK	H-Swivel	133	195	1 / 25	10.97	10.34	**21.31**	**0.135**	23.98	-2.67
2310.00	10	16-QAM	H-Swivel	133	195	1 / 25	9.06	10.34	19.40	0.087	23.98	-4.58
2310.00	10	64-QAM	H-Swivel	133	195	1 / 25	8.25	10.34	18.59	0.072	23.98	-5.39
2310.00	10	QPSK	V-Swivel	178	304	1 / 25	10.92	10.25	21.17	0.131	23.98	-2.81
2310.00	10 (WCP)	QPSK	H-Swivel	119	194	1 / 25	9.33	10.34	19.67	0.093	23.98	-4.31
2310.00	10	QPSK	H	133	195	1 / 25	10.27	10.34	**20.61**	**0.115**	23.98	-3.37

Table 7-18. EIRP Data (Band 30)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	V	122	336	1 / 0	11.12	9.43	20.55	0.114	33.01	-12.46
2593.00	5	QPSK	V	132	314	1 / 0	11.04	9.59	**20.63**	0.116	33.01	-12.38
2687.50	5	QPSK	V	320	326	1 / 0	10.74	9.71	20.45	0.111	33.01	-12.56
2593.00	5	16-QAM	V	132	314	1 / 0	9.84	9.59	**19.43**	0.088	33.01	-13.58
2593.00	5	64-QAM	V	132	314	1 / 0	9.16	9.59	**18.75**	0.075	33.01	-14.26
2501.00	10	QPSK	V	122	336	1 / 49	11.07	9.42	20.49	0.112	33.01	-12.52
2593.00	10	QPSK	V	132	314	1 / 49	11.01	9.59	**20.60**	0.115	33.01	-12.41
2685.00	10	QPSK	V	320	326	1 / 49	10.74	9.71	20.45	0.111	33.01	-12.56
2593.00	10	16-QAM	V	132	314	1 / 49	9.85	9.59	**19.44**	0.088	33.01	-13.57
2593.00	10	64-QAM	V	132	314	1 / 49	8.78	9.59	**18.37**	0.069	33.01	-14.64
2503.50	15	QPSK	V	122	336	1 / 74	11.13	9.42	20.55	0.114	33.01	-12.46
2593.00	15	QPSK	V	132	314	1 / 74	11.02	9.59	**20.61**	0.115	33.01	-12.40
2682.50	15	QPSK	V	320	326	1 / 74	10.69	9.71	20.40	0.110	33.01	-12.61
2593.00	15	16-QAM	V	132	314	1 / 74	9.86	9.59	**19.45**	0.088	33.01	-13.56
2593.00	15	64-QAM	V	132	314	1 / 74	8.70	9.59	**18.29**	0.067	33.01	-14.72
2506.00	20	QPSK	V	122	336	1 / 50	11.17	9.42	20.59	0.115	33.01	-12.42
2593.00	20	QPSK	V	132	314	1 / 50	11.05	9.59	**20.64**	**0.116**	33.01	-12.37
2680.00	20	QPSK	V	320	326	1 / 50	10.70	9.71	20.41	0.110	33.01	-12.60
2593.00	20	16-QAM	V	132	314	1 / 50	9.61	9.59	**19.20**	0.083	33.01	-13.81
2593.00	20	64-QAM	V	132	314	1 / 50	8.52	9.59	**18.11**	0.065	33.01	-14.90
2680.00	20	QPSK	H	119	344	1 / 50	10.73	9.58	20.31	0.107	33.01	-12.70
2680.00	20	)PSK (WCF	V	124	312	1 / 50	10.43	9.59	20.02	0.100	33.01	-12.99
2593.00	20	QPSK	V-Swivel	132	314	1 / 50	11.02	9.59	**20.61**	**0.115**	33.01	-12.40

Table 7-19. EIRP Data (Band 41 PC3)

7.8 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

Test Setup

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

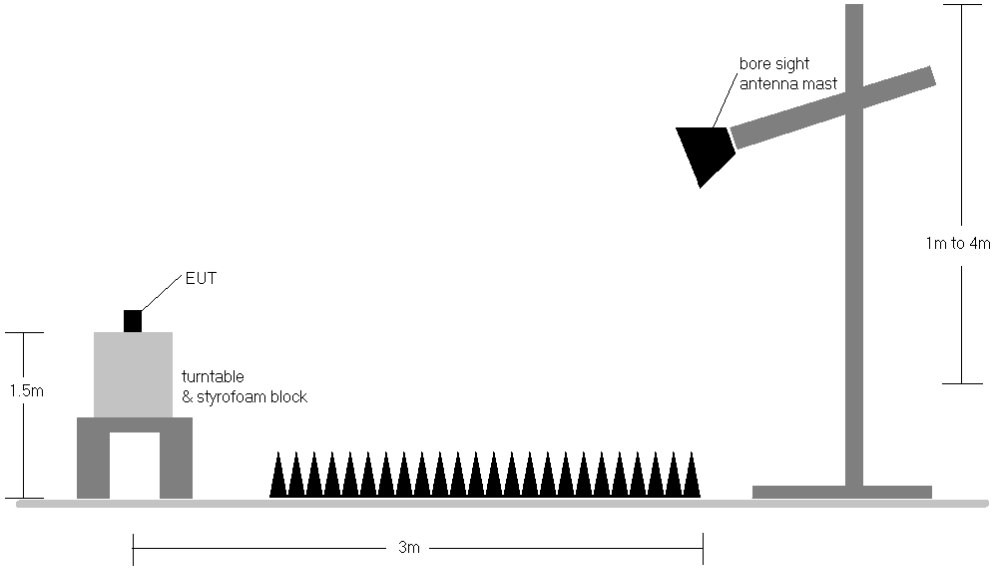


Figure 7-8. Test Instrument & Measurement Setup

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

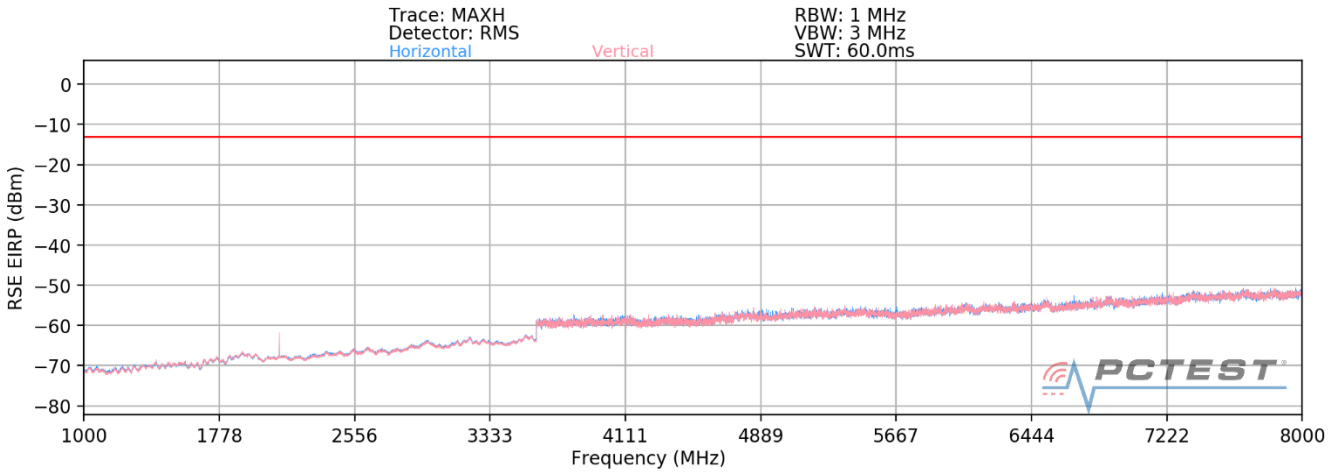
2) This unit was tested with its standard battery.

3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Band 12



Plot 7-409. Radiated Spurious Plot above 1GHz (Band 12)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	400	18	-77.98	7.57	-70.41	-57.4
2112.00	H	115	11	-63.55	8.88	-54.68	-41.7
2816.00	H	-	-	-78.52	10.15	-68.37	-55.4
3520.00	H	400	165	-73.58	9.94	-63.65	-50.6
4224.00	H	-	-	-74.94	10.53	-64.41	-51.4
4928.00	H	-	-	-73.44	10.90	-62.55	-49.5

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

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	298	340	-74.69	7.66	-67.03	-54.0
2122.50	H	376	210	-65.80	8.89	-56.91	-43.9
2830.00	H	-	-	-77.98	10.12	-67.85	-54.9
3537.50	H	400	141	-72.22	9.93	-62.29	-49.3
4245.00	H	-	-	-75.43	10.61	-64.82	-51.8
4952.50	H	-	-	-74.05	10.95	-63.11	-50.1

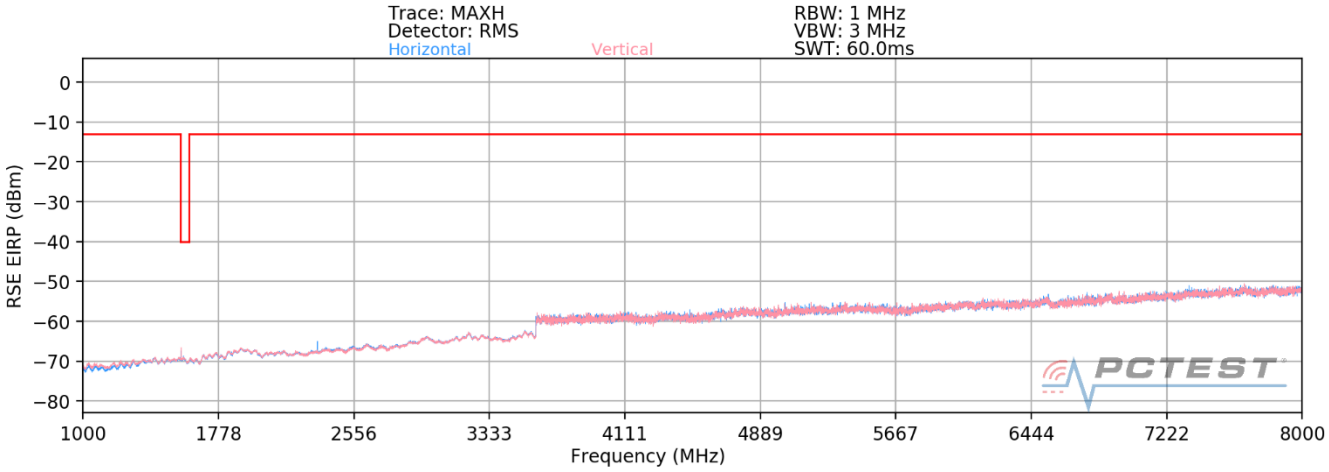
Table 7-21. Radiated Spurious Data (Band 12 – Mid Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	387	362	-78.30	7.75	-70.55	-57.6
2133.00	H	172	24	-62.92	8.90	-54.01	-41.0
2844.00	H	-	-	-77.74	10.10	-67.64	-54.6
3555.00	H	400	148	-73.77	9.92	-63.85	-50.8
4266.00	H	-	-	-75.14	10.68	-64.46	-51.5
4977.00	H	-	-	-74.05	10.96	-63.09	-50.1

Table 7-22. Radiated Spurious Data (Band 12 – High Channel)

Band 13



Plot 7-410. Radiated Spurious Plot above 1GHz (Band 13)

OPERATING FREQUENCY:	782.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	115	344	-70.63	9.46	-61.17	-48.2
3128.00	H	-	-	-76.19	9.37	-66.82	-53.8
3910.00	H	-	-	-73.76	9.40	-64.36	-51.4

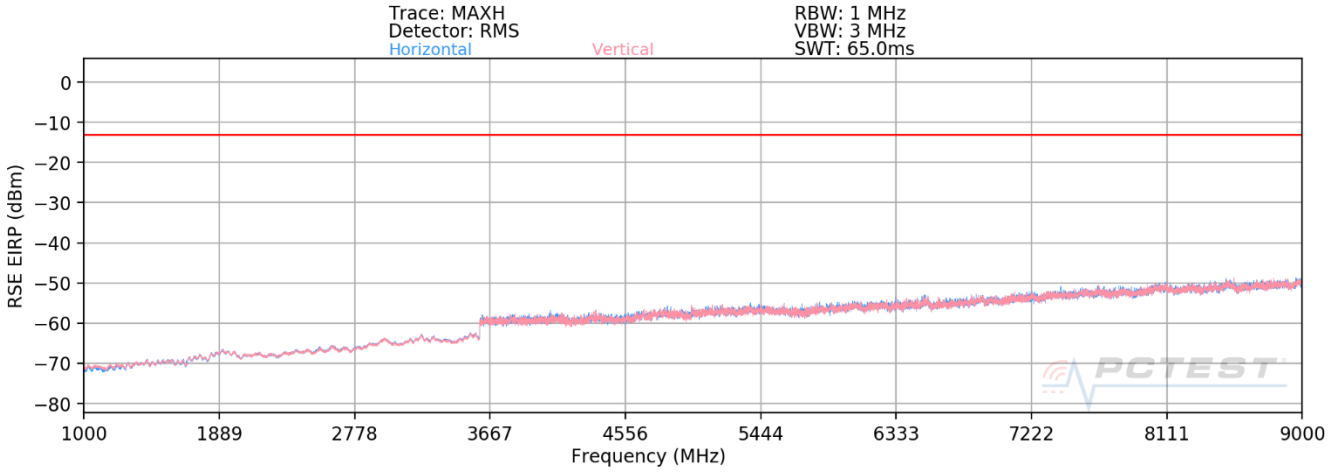
Table 7-23. Radiated Spurious Data (Band 13 – Mid Channel)

MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1564.00	H	395	34	-78.34	8.56	-69.78	-29.8

Table 7-24. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 5



Plot 7-411. Radiated Spurious Plot above 1GHz (Band 5)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	400	17	-79.01	8.98	-70.03	-57.0
2487.00	H	-	-	-79.12	9.73	-69.38	-56.4
3316.00	H	-	-	-75.64	9.62	-66.02	-53.0

Table 7-25. Radiated Spurious Data (Band 5 – Low Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	285	359	-77.35	8.98	-68.36	-55.4
2509.50	H	-	-	-79.43	9.78	-69.65	-56.6
3346.00	H	-	-	-76.02	9.63	-66.39	-53.4

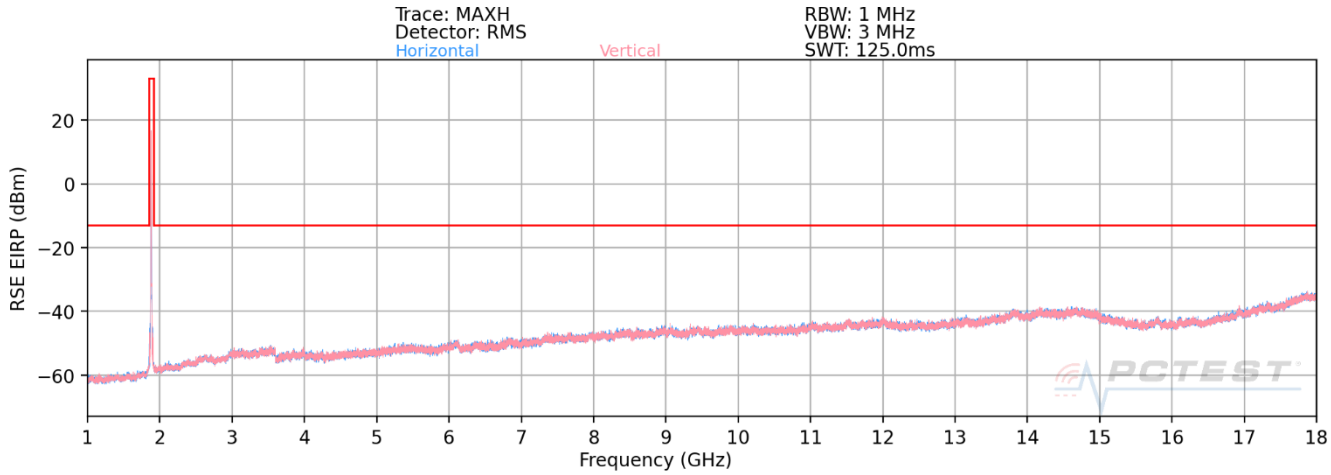
Table 7-26. Radiated Spurious Data (Band 5 – Mid Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	400	349	-78.15	8.98	-69.17	-56.2
2532.00	H	-	-	-78.85	9.78	-69.08	-56.1
3376.00	H	-	-	-76.50	9.74	-66.77	-53.8

Table 7-27. Radiated Spurious Data (Band 5 – High Channel)

Band n5



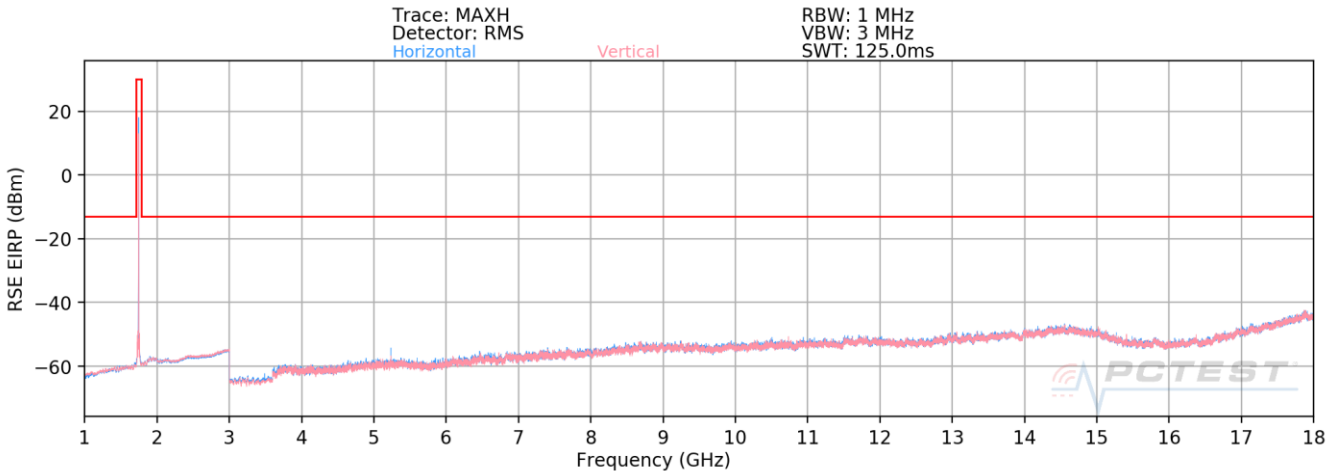
Plot 7-412. Radiated Spurious Plot above 1GHz (EN-DC Band n5+ B2)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1673.0	H	120	91	-76.50	-3.56	26.94	-68.31	-13.00	-55.31
2509.5	H	240	176	-76.31	-1.74	28.95	-66.30	-13.00	-53.30
3760.0	H	-	-	-78.02	3.58	32.56	-62.70	-13.00	-49.70
5640.0	H	-	-	-78.89	6.08	34.19	-61.07	-13.00	-48.07

Table 7-28. Radiated Spurious Data (EN-DC Band n5 + B2 – Mid Channel)

Band 66/4



Plot 7-413. Radiated Spurious Plot above 1GHz (Band 66/4)

OPERATING FREQUENCY:	1720.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	H	400	352	-74.37	9.87	-64.50	-51.5
5160.00	H	400	10	-71.29	10.74	-60.55	-47.6
6880.00	H	-	-	-71.50	11.71	-59.79	-46.8
8600.00	H	-	-	-67.59	11.11	-56.48	-43.5

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

OPERATING FREQUENCY:	1745.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	298	333	-71.82	9.94	-61.88	-48.9
5235.00	H	114	243	-72.63	10.76	-61.87	-48.9
6980.00	H	-	-	-72.35	11.85	-60.50	-47.5
8725.00	H	-	-	-67.90	11.03	-56.88	-43.9

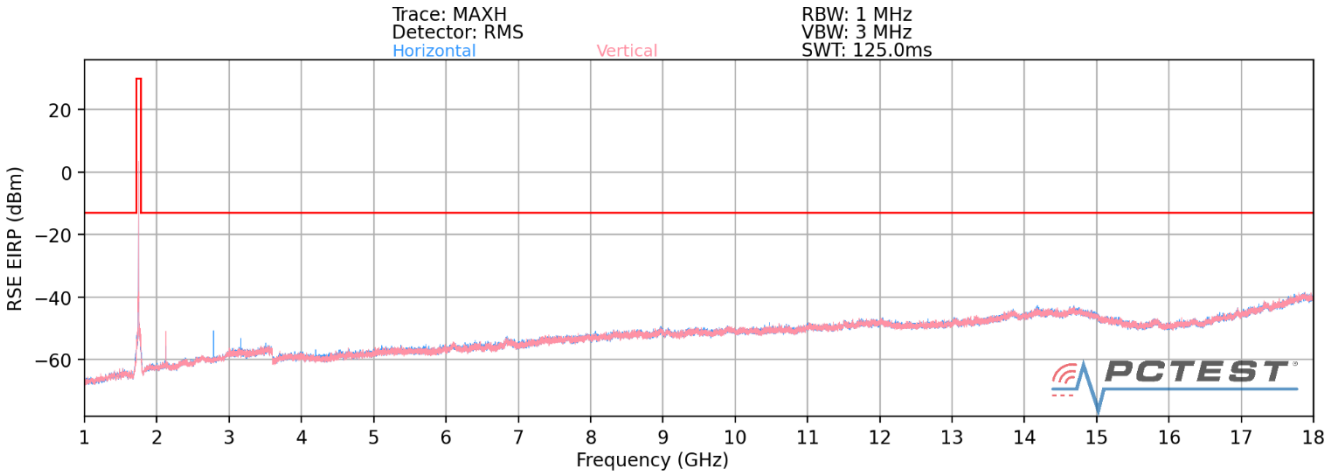
Table 7-30. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1770.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	H	119	310	-95.68	31.29	-64.39	-51.4
5310.00	H	400	127	-95.34	34.01	-61.33	-48.3
7080.00	H	-	-	-95.66	35.41	-60.25	-47.2
8850.00	H	-	-	-95.05	38.14	-56.90	-43.9

Table 7-31. Radiated Spurious Data (Band 66/4 – High Channel)

NR Band n66

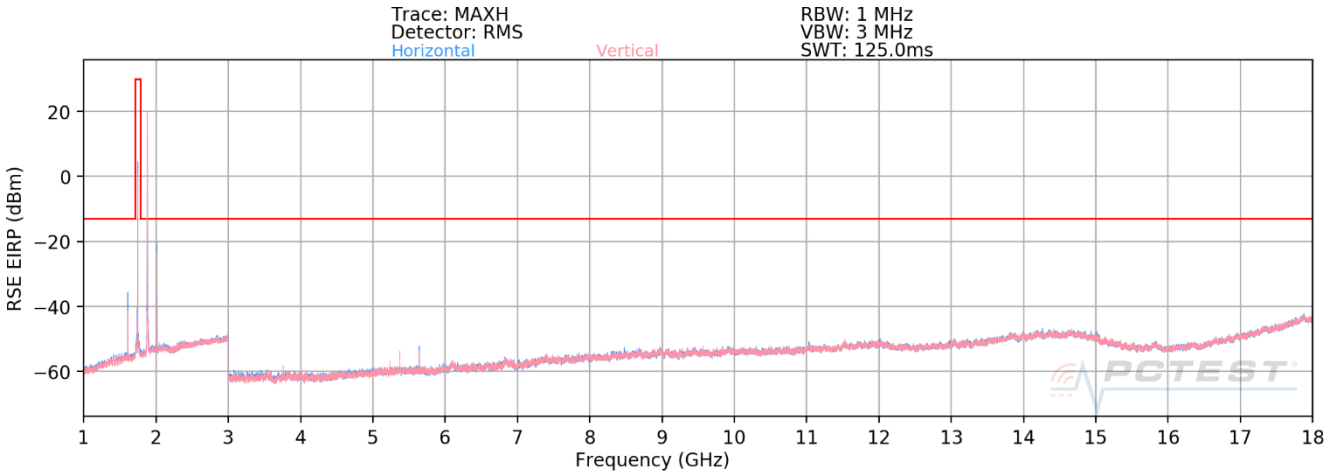


Plot 7-414. Radiated Spurious Plot above 1GHz (EN-DC Band n66 + B12)

Bandwidth (MHz):	20
Frequency (MHz):	1745.0
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B12

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3490.0	H	-	-	-80.12	2.58	29.46	-65.80	-13.00	-52.80
5235.0	H	395	75	-71.46	6.00	41.54	-53.72	-13.00	-40.72
6980.0	H	-	-	-80.61	7.78	34.17	-61.09	-13.00	-48.09
1415.0	H	145	37	-77.47	-2.79	26.74	-68.52	-13.00	-55.52
2122.5	H	112	139	-66.02	-1.19	39.79	-55.47	-13.00	-42.47
2830.0	H	-	-	-78.75	-0.13	28.12	-67.14	-13.00	-54.14

Table 7-32. Radiated Spurious Data (EN-DC Band n66 + B12 – Mid Channel)

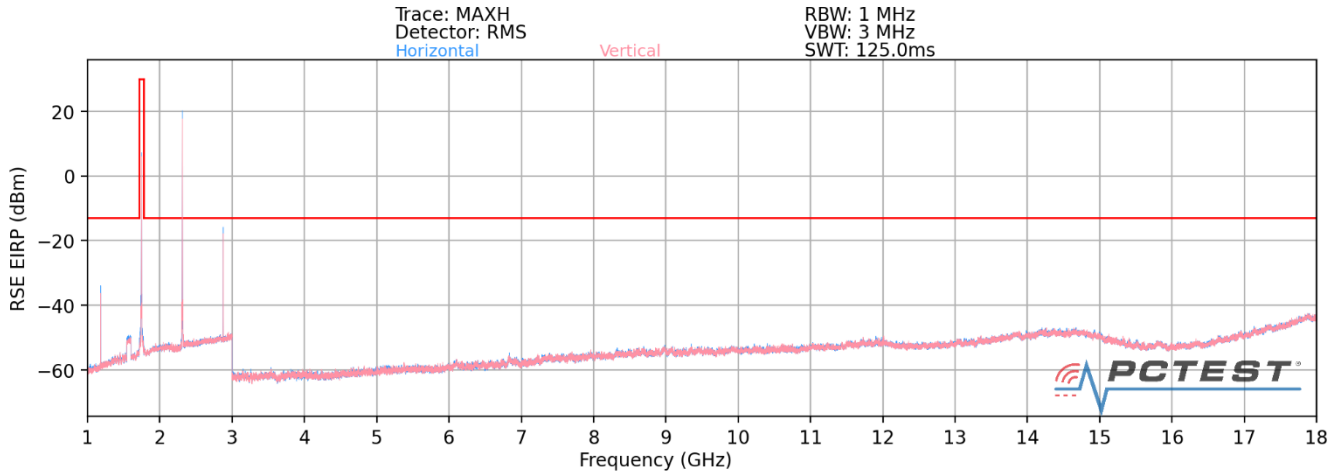


Plot 7-415. Radiated Spurious Plot above 1GHz (EN-DC Band n66 + B2)

Bandwidth (MHz):	20
Frequency (MHz):	1745.0
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3490.0	H	-	-	-80.09	2.58	29.49	-65.77	-13.00	-52.77
5235.0	H	386	351	-72.14	6.00	40.86	-54.40	-13.00	-41.40
6980.0	H	-	-	-81.06	7.78	33.72	-61.54	-13.00	-48.54
3760.0	H	400	40	-75.19	3.58	35.39	-59.87	-13.00	-46.87
5640.0	H	352	354	-72.10	6.08	40.98	-54.28	-13.00	-41.28
7520.0	H	-	-	-80.95	9.88	35.93	-59.33	-13.00	-46.33

Table 7-33. Radiated Spurious Data (EN-DC Band n66 + B2 – Mid Channel)



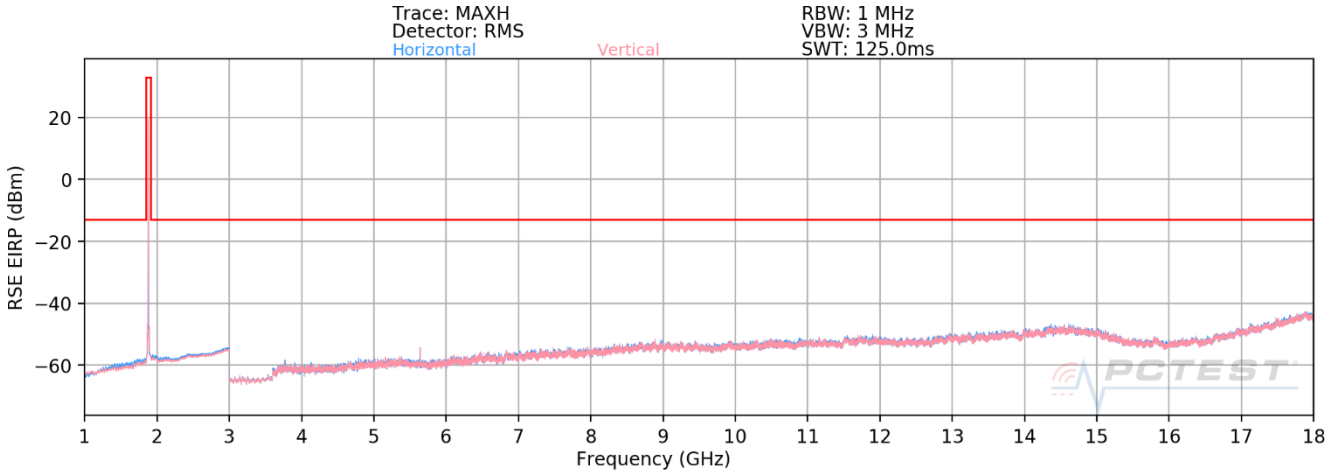
Plot 7-416. Radiated Spurious Plot above 1GHz (EN-DC Band n66 + B30)

Bandwidth (MHz):	20
Frequency (MHz):	1745.0
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3490.0	H	-	-	-79.88	2.58	29.70	-65.56	-13.00	-52.56
5235.0	H	-	-	-80.12	6.00	32.88	-62.38	-13.00	-49.38
4320.0	H	395	345	-79.01	4.31	32.30	-62.95	-13.00	-49.95
6430.0	H	-	-	-80.04	8.34	35.30	-59.96	-13.00	-46.96

Table 7-34. Radiated Spurious Data (EN-DC Band n66 + B30 – Mid Channel)

Band 2



Plot 7-417. Radiated Spurious Plot above 1GHz (Band B2)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	398	10	-69.38	9.54	-59.84	-46.8
5580.00	H	400	7	-62.09	11.02	-51.08	-38.1
7440.00	H	-	-	-69.88	11.01	-58.86	-45.9
9300.00	H	-	-	-69.47	11.64	-57.83	-44.8

Table 7-35. Radiated Spurious Data (Band 2 – Low Channel)

OPERATING FREQUENCY:	1880.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	398	131	-68.67	9.40	-59.27	-46.3
5640.00	H	400	11	-63.36	11.20	-52.16	-39.2
7520.00	H	-	-	-69.87	11.14	-58.73	-45.7
9400.00	H	-	-	-69.21	11.60	-57.61	-44.6

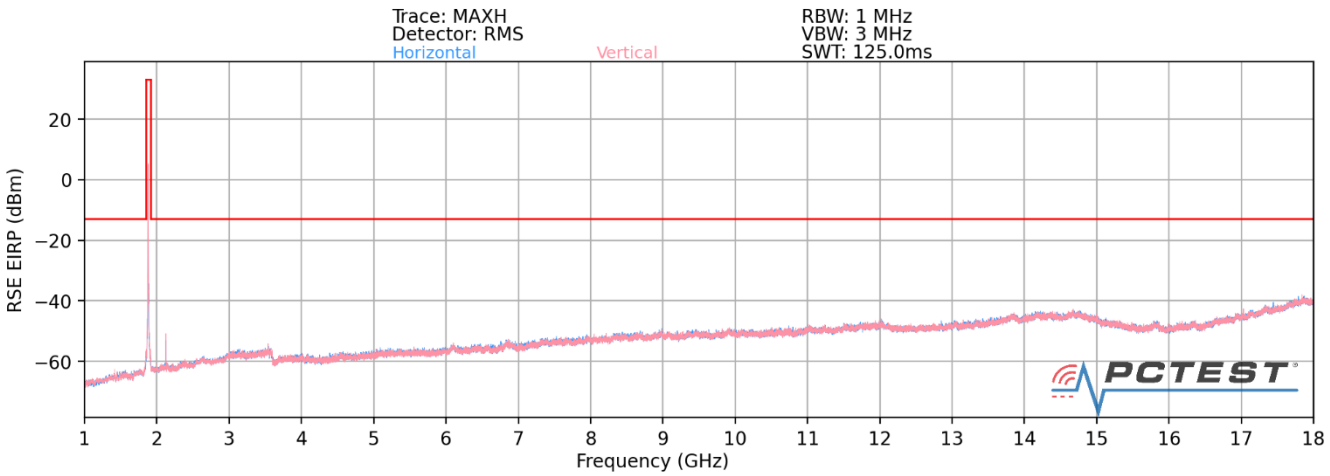
Table 7-36. Radiated Spurious Data (Band 2 – Mid Channel)

OPERATING FREQUENCY:	1900.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3800.00	H	400	317	-72.21	9.31	-62.90	-49.9
5700.00	H	373	34	-63.94	11.34	-52.60	-39.6
7600.00	H	343	37	-68.73	11.27	-57.46	-44.5
9500.00	H	-	-	-69.37	11.70	-57.67	-44.7

Table 7-37. Radiated Spurious Data (Band 2 – High Channel)

NR Band n2

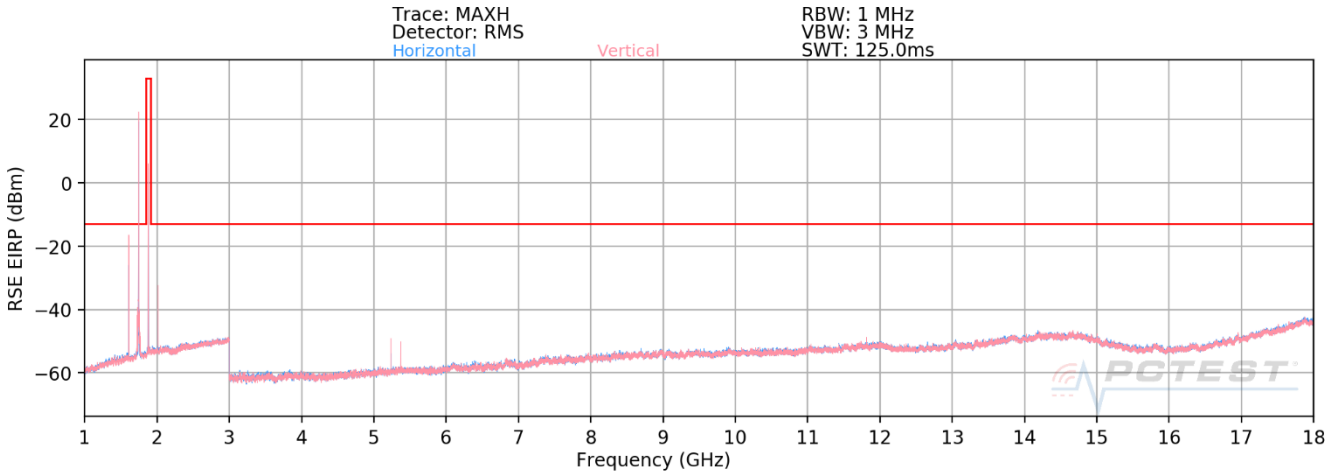


Plot 7-418. Radiated Spurious Plot above 1GHz (EN-DC Band n2 + B12)

Bandwidth (MHz):	20
Frequency (MHz):	1880.0
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B12

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3760.0	V	-	-	-80.09	3.58	30.49	-64.77	-13.00	-51.77
5640.0	V	282	32	-78.03	6.08	35.05	-60.21	-13.00	-47.21
7520.0	V	-	-	36.61	-107.49	36.12	-59.14	-13.00	-46.14
1415.0	V	368	329	-79.08	-2.79	25.13	-70.13	-13.00	-57.13
2122.5	V	360	144	-69.43	-1.19	36.38	-58.88	-13.00	-45.88
2830.0	V	-	-	-79.07	-0.13	27.80	-67.46	-13.00	-54.46

Table 7-38. Radiated Spurious Data (EN-DC Band n2 + B12– Mid Channel)

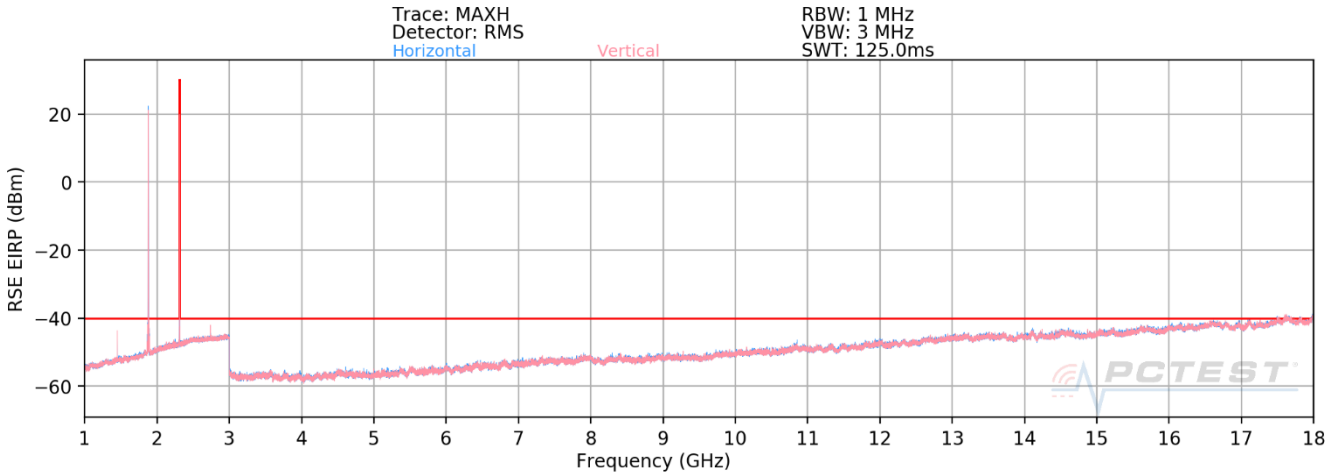


Plot 7-419. Radiated Spurious Plot above 1GHz (EN-DC Band n2 + B66)

Bandwidth (MHz):	20
Frequency (MHz):	1880.0
RB / Offset:	1/53
Mode:	EN-DC
Anchor Band:	B66

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3760.0	V	-	-	-79.40	3.58	31.18	-64.08	-13.00	-51.08
5640.0	V	-	-	-81.07	6.08	32.01	-63.25	-13.00	-50.25
3490.0	V	332	10	-78.60	2.58	30.98	-64.28	-13.00	-51.28
5235.0	V	299	16	-74.12	6.00	38.88	-56.38	-13.00	-43.38
6980.0	V	-	-	-80.07	7.78	34.71	-60.55	-13.00	-47.55

Table 7-39. Radiated Spurious Data (EN-DC Band n2 + B66– Mid Channel)



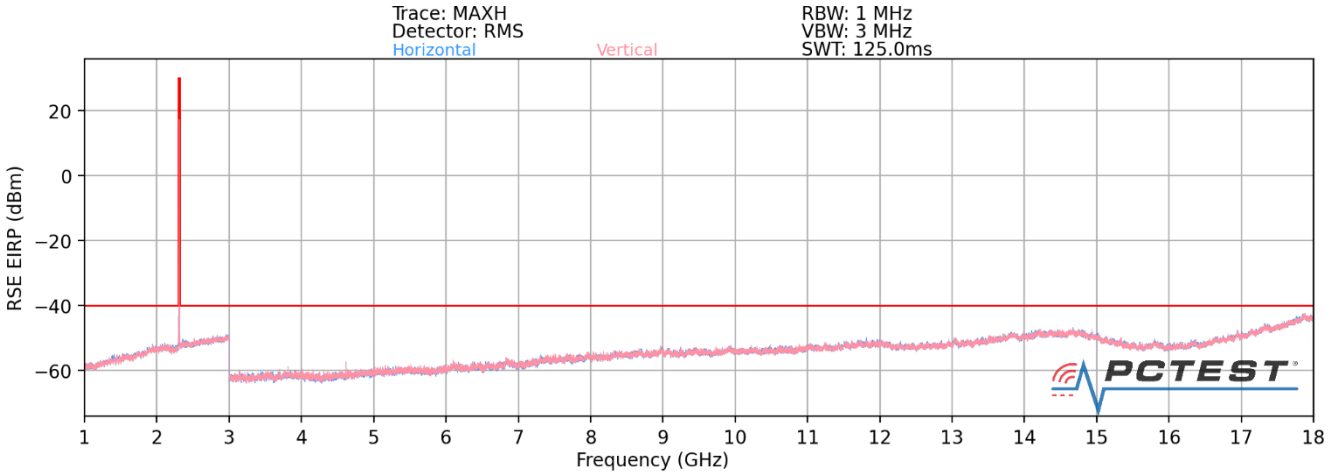
Plot 7-420. Radiated Spurious Plot above 1GHz (EN-DC Band n2 + B30)

Bandwidth (MHz):	20
Frequency (MHz):	1880.0
RB / Offset:	1 / 53
Mode:	EN-DC
Anchor Band:	B30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1450.0	V	377	197	-75.52	7.26	38.74	-56.52	-40.00	-16.52
2740.0	V	121	314	-76.99	12.51	42.52	-52.73	-40.00	-12.73
3760.0	V	-	-	-79.51	5.49	32.98	-62.28	-40.00	-22.28

Table 7-40. Radiated Spurious Data (EN-DC Band n2 + B30– Mid Channel)

Band 30



Plot 7-421. Radiated Spurious Plot above 1GHz (Band 30)

OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	381	350	-68.62	10.95	-57.67	-17.7
6930.00	H	-	-	-72.75	11.77	-60.98	-21.0
9240.00	H	-	-	-69.20	11.65	-57.55	-17.5

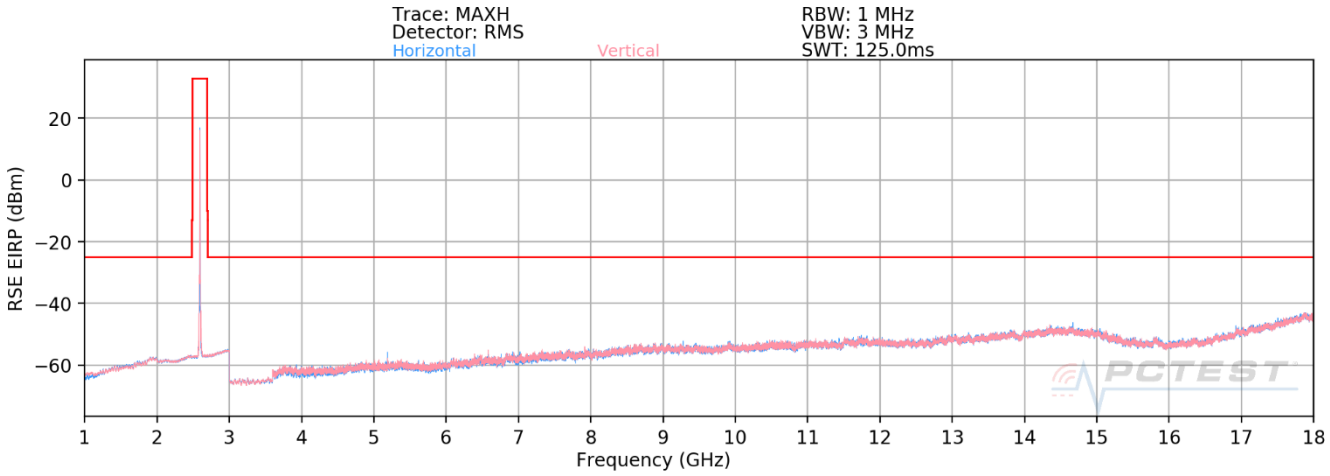
Table 7-41. Radiated Spurious Data (Band 30 – Mid Channel)

OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	30.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	113	345	-60.72	0.00	-60.72	-20.7
6930.00	H	-	-	-60.76	0.00	-60.76	-20.8
9240.00	H	-	-	-57.37	0.00	-57.37	-17.4

Table 7-42. Radiated Spurious Data with WCP (Band 30 – Mid Channel)

Band 41 (PC3)



Plot 7-422. Radiated Spurious Plot above 1GHz (Band 41(PC3))

OPERATING FREQUENCY:	2506.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	400	164	-67.85	10.93	-56.92	-31.9
7518.00	H	-	-	-68.27	11.14	-57.13	-32.1
10024.00	H	-	-	-67.20	12.03	-55.17	-30.2

Table 7-43. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	301	176	-60.15	10.77	-49.38	-24.4
7779.00	H	116	215	-66.84	11.47	-55.37	-30.4
10372.00	H	-	-	-67.09	12.48	-54.61	-29.6
12965.00	H	-	-	-65.48	13.34	-52.13	-27.1

Table 7-44. Radiated Spurious Data (Band 41 – Mid Channel)

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	398	174	-63.61	10.73	-52.88	-27.9
8040.00	H	-	-	-67.57	11.19	-56.38	-31.4
10720.00	H	-	-	-66.47	12.63	-53.84	-28.8

Table 7-45. Radiated Spurious Data (Band 41 – High Channel)

7.9 Uplink Carrier Aggregation Radiated Measurements

§2.1053,

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 – Section 5.8

ANSI/TIA-603-D-2010 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. No. of sweep points ≥ 2 x span / RBW
4. Detector = RMS
5. Trace mode = trace average for continuous emissions, max hold for pulse emissions
6. The trace was allowed to stabilize

Test Setup

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

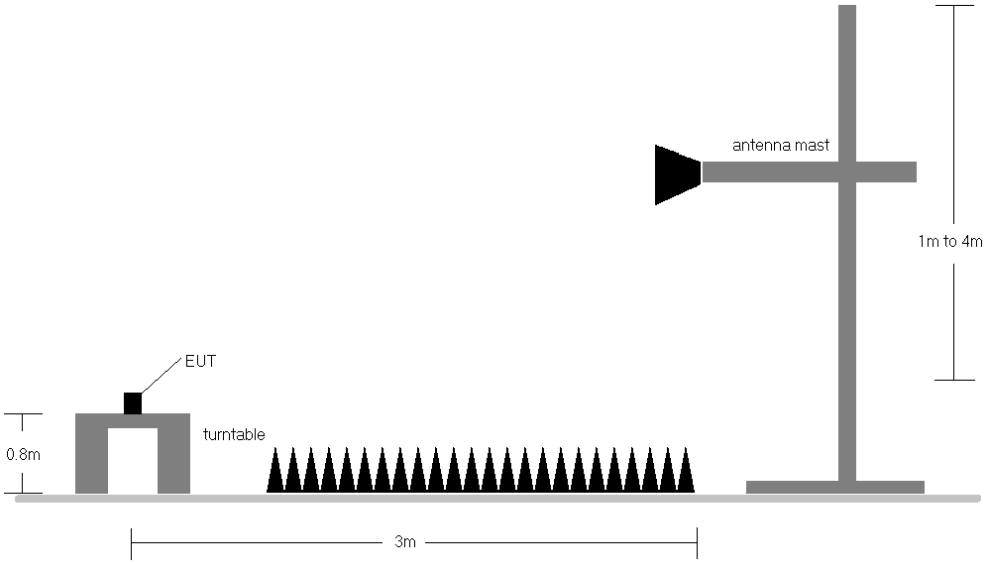


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) This unit was tested with its standard battery.

3) Radiated spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. The worst case (highest) emissions were found while operating with QPSK modulation with both carriers set to transmit using 1RB.

4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

6) No significant emissions were found as a result of two uplink carriers operating contiguously.