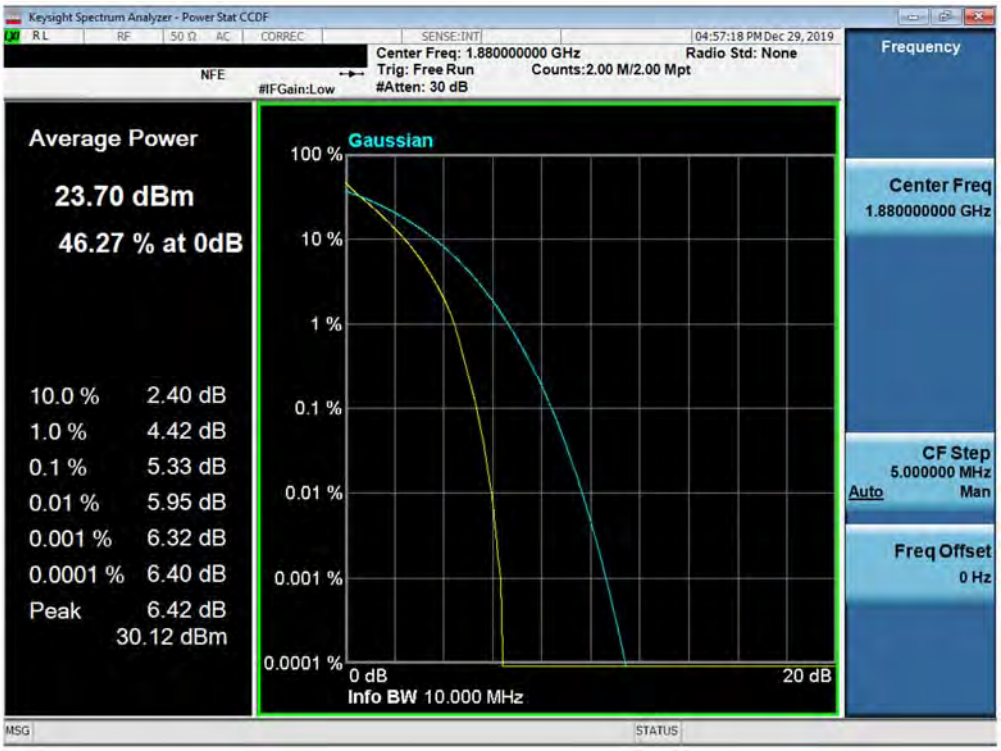
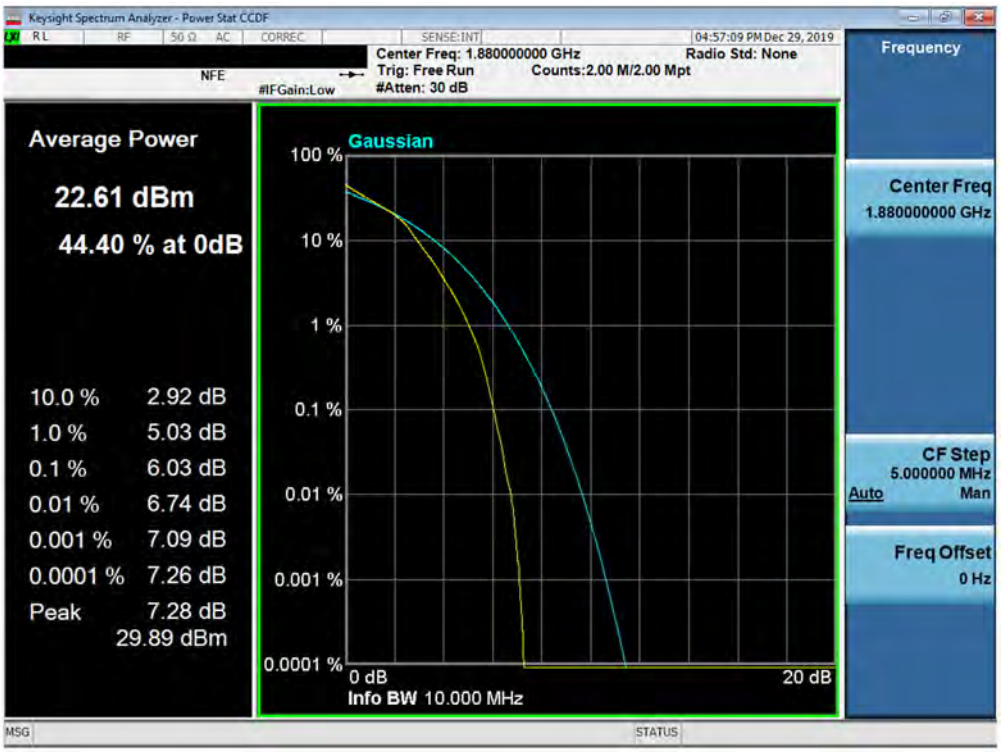
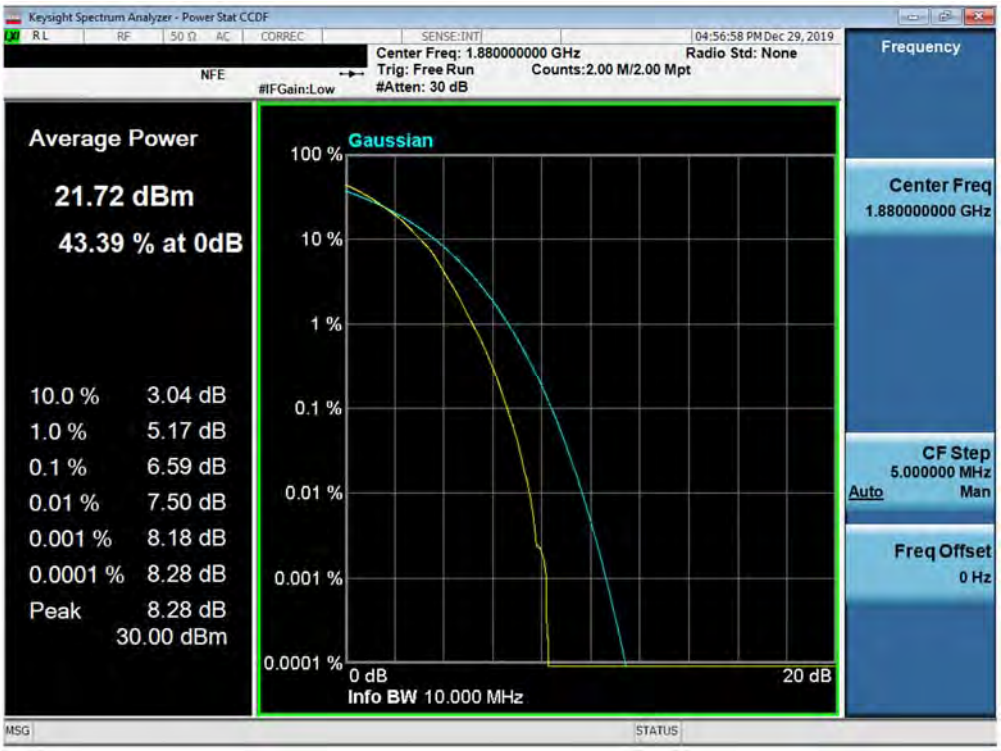


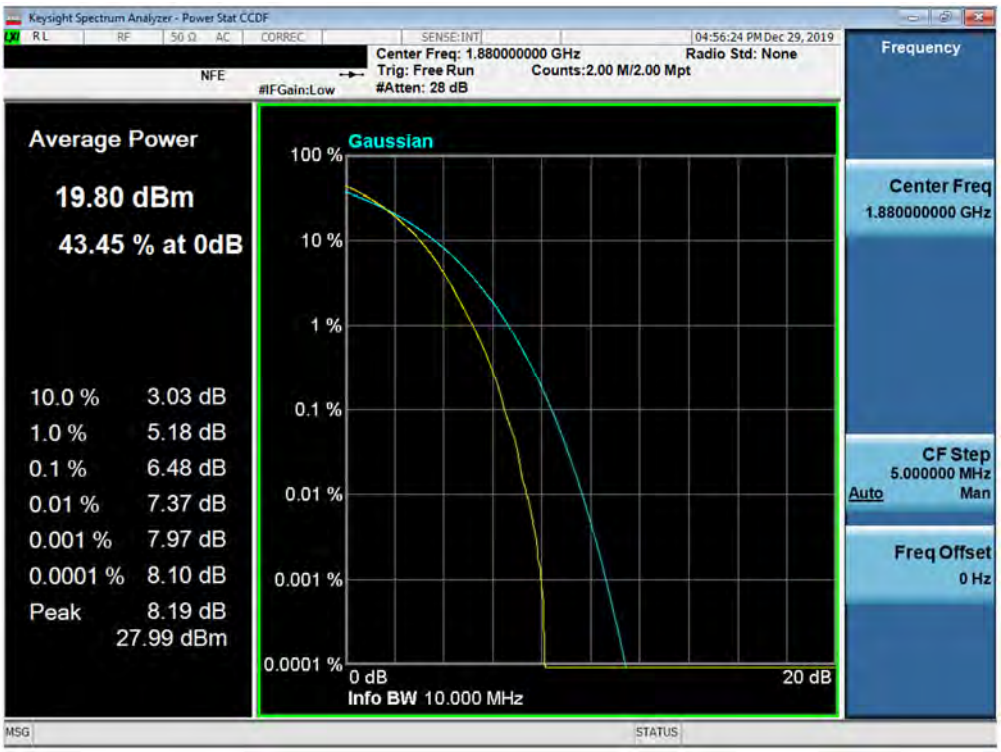
Plot 7-423. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



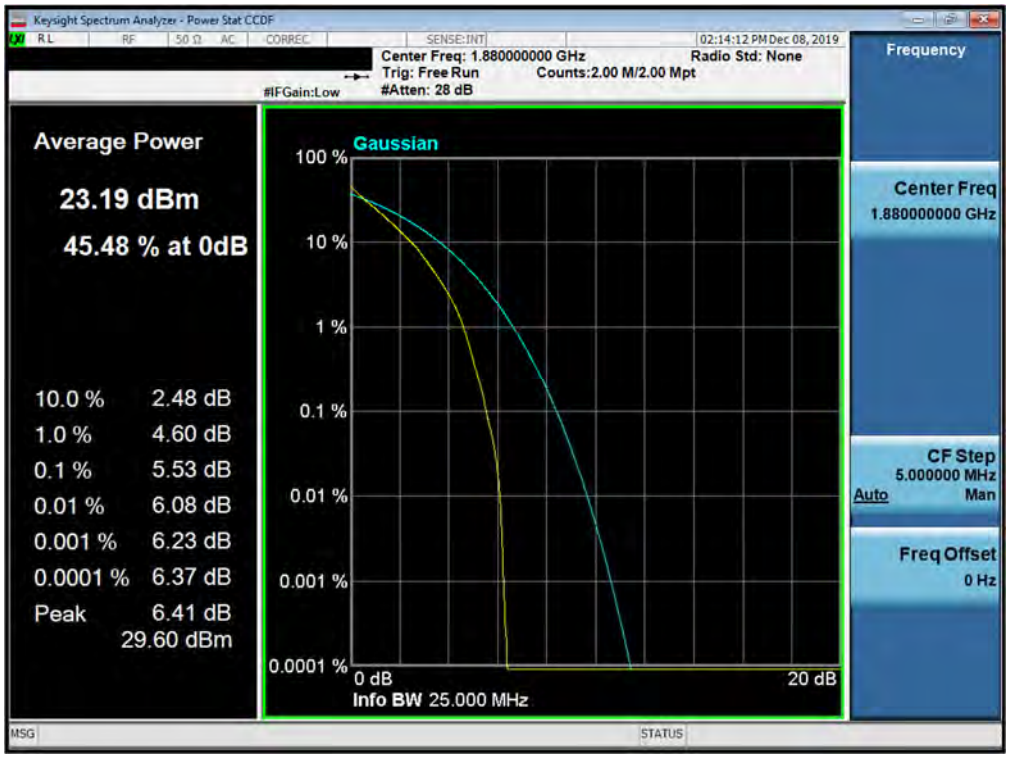
Plot 7-424. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)



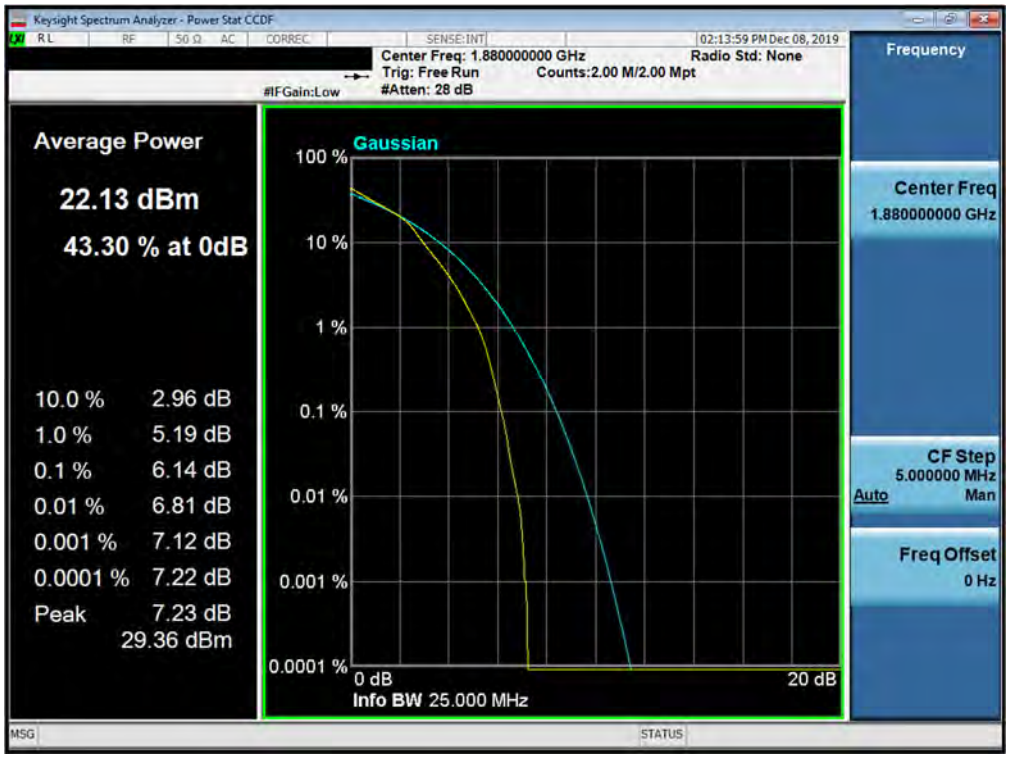
Plot 7-425. PAR Plot (Band 2 - 10.0MHz 64-QAM - Full RB Configuration)



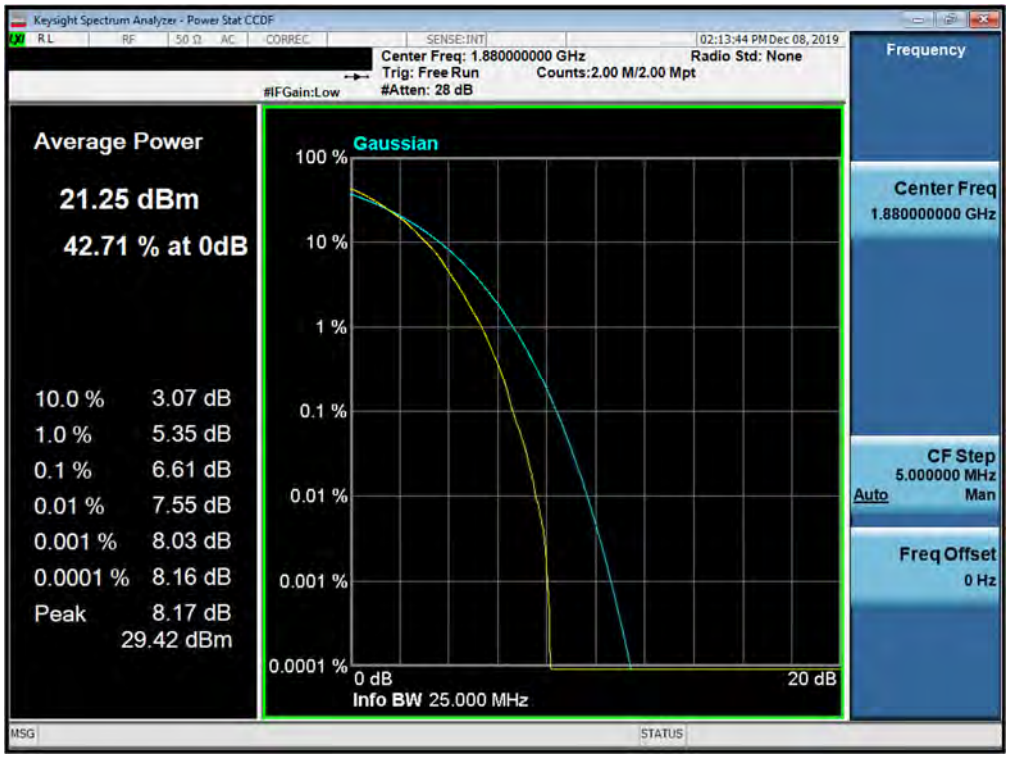
Plot 7-426. PAR Plot (Band 2 - 10.0MHz 256-QAM - Full RB Configuration)



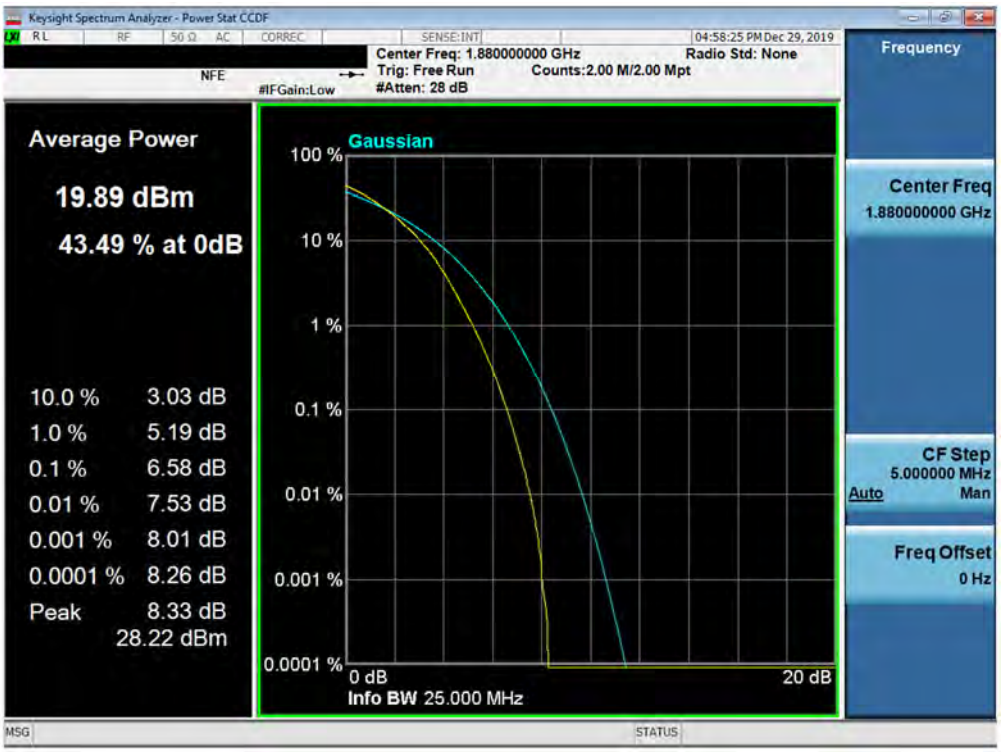
Plot 7-427. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



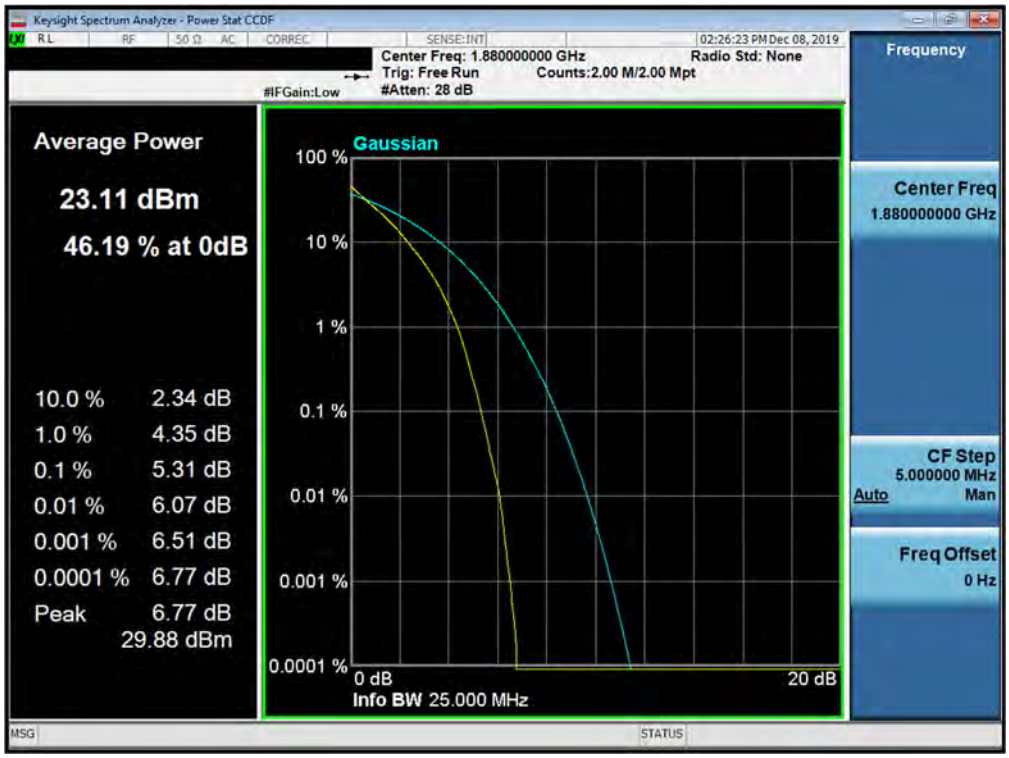
Plot 7-428. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)



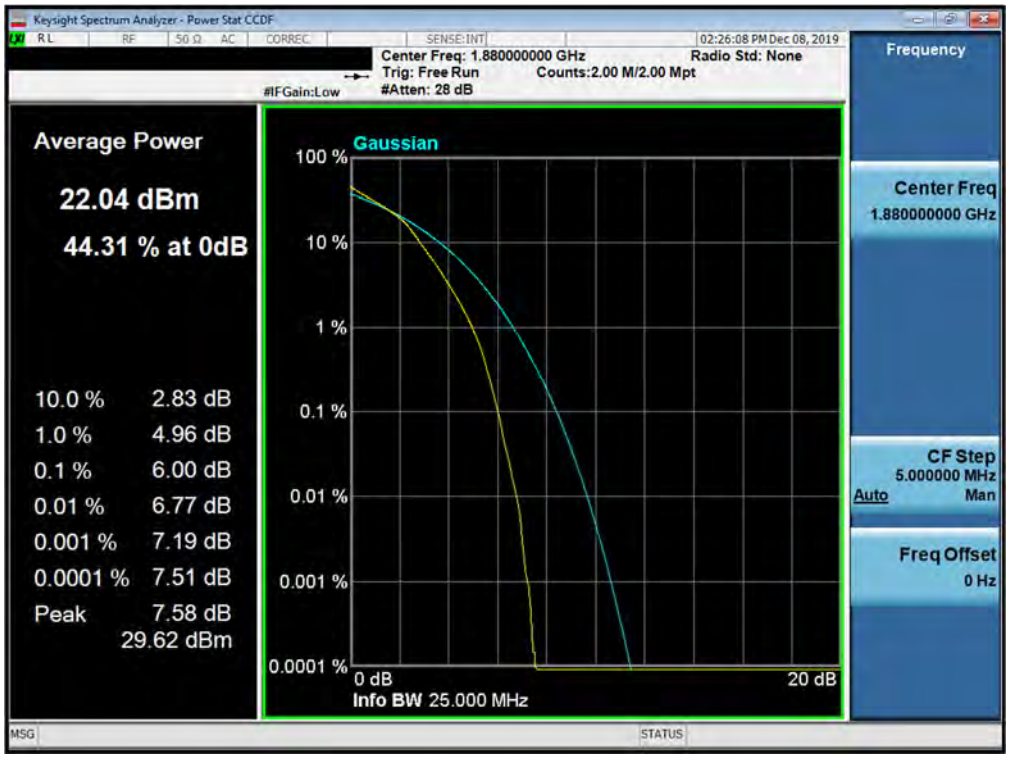
Plot 7-429. PAR Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)



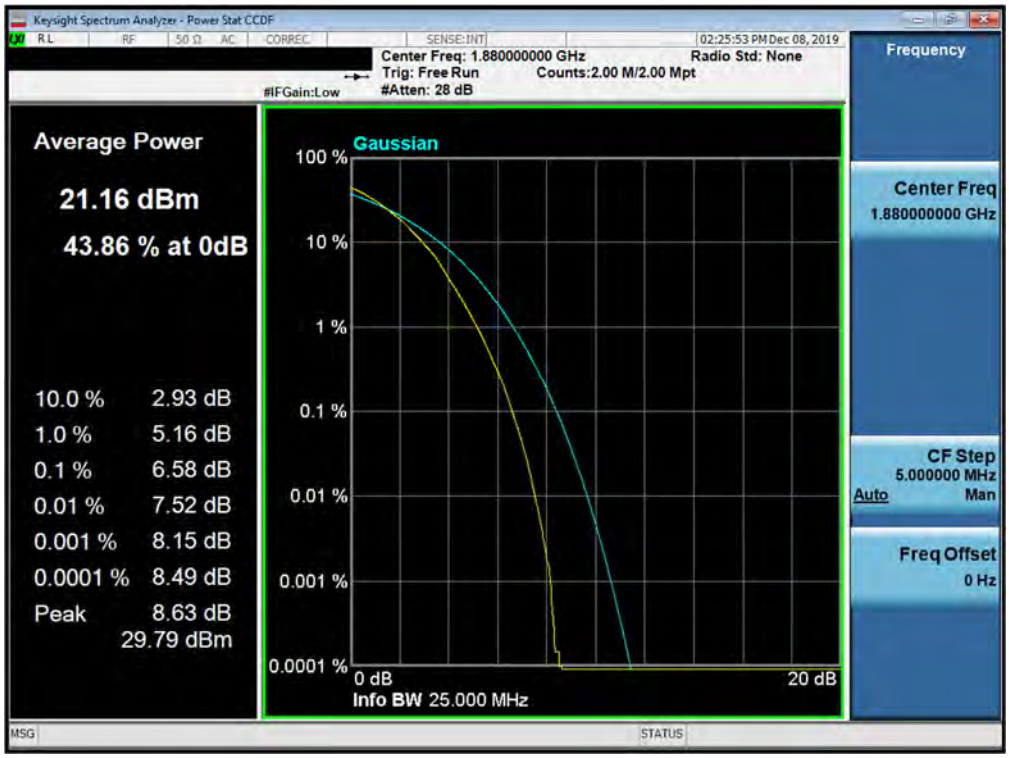
Plot 7-430. PAR Plot (Band 2 - 15.0MHz 256-QAM - Full RB Configuration)



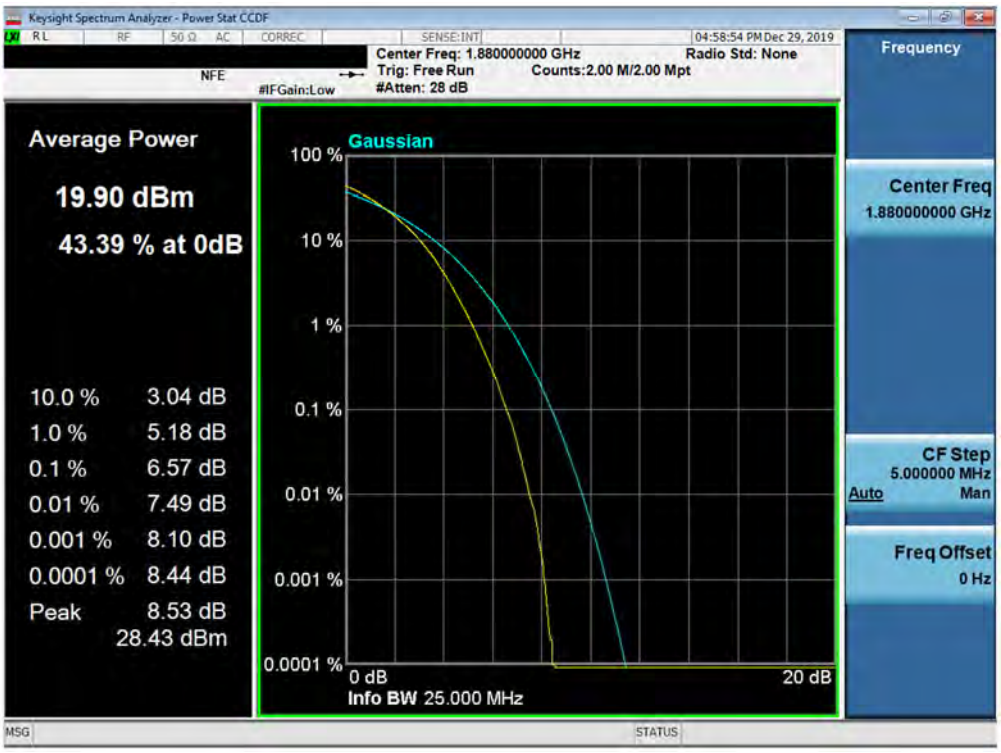
Plot 7-431. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-432. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

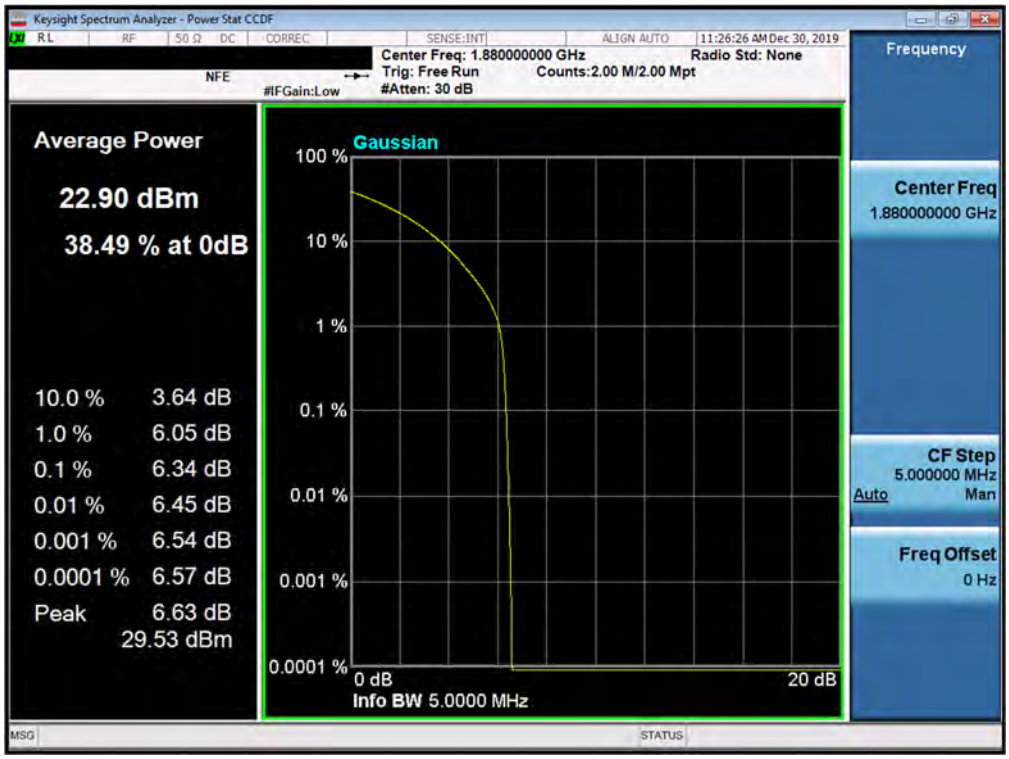


Plot 7-433. PAR Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)

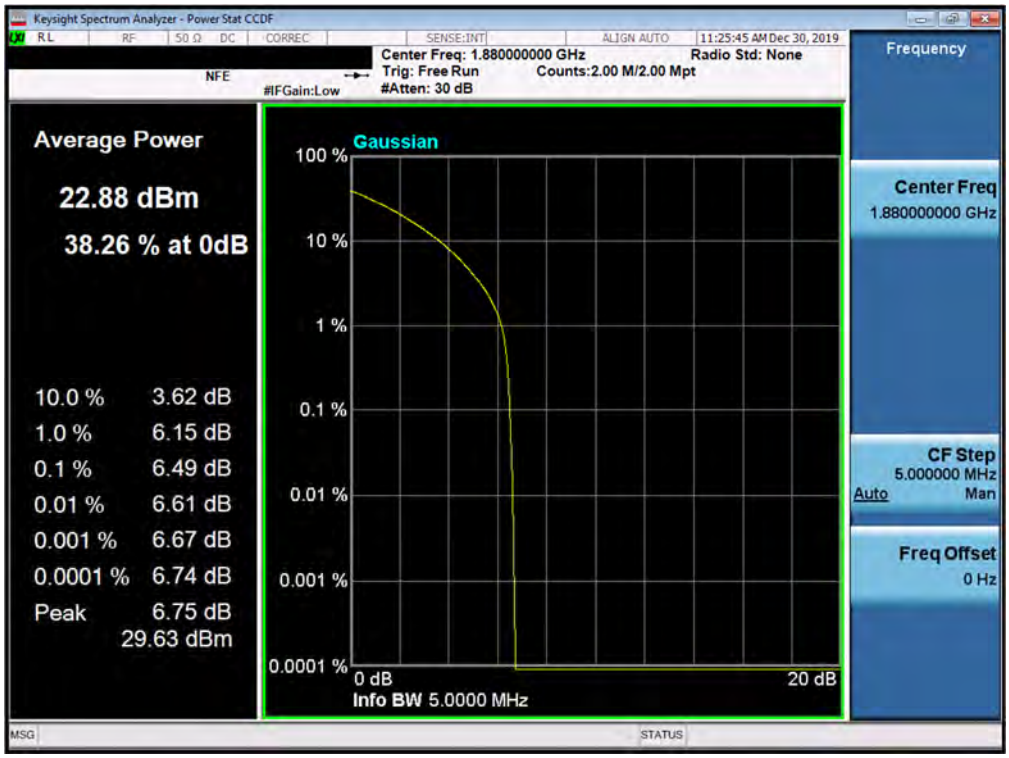


Plot 7-434. PAR Plot (Band 2 - 20.0MHz 256-QAM - Full RB Configuration)

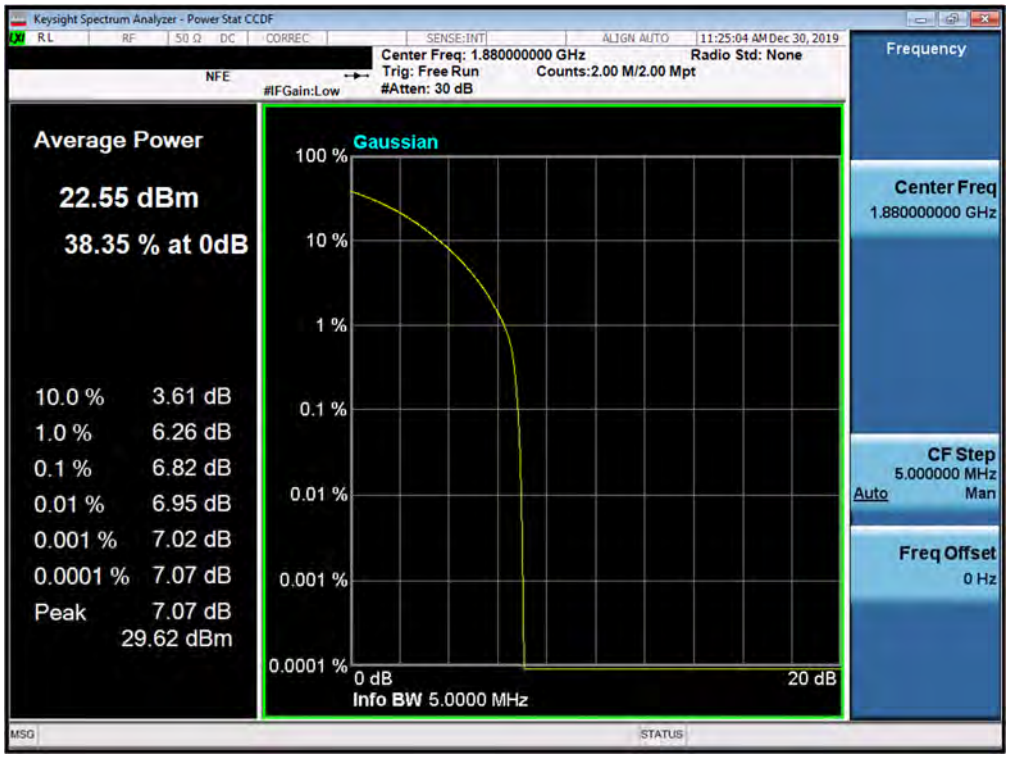
5G NR n2



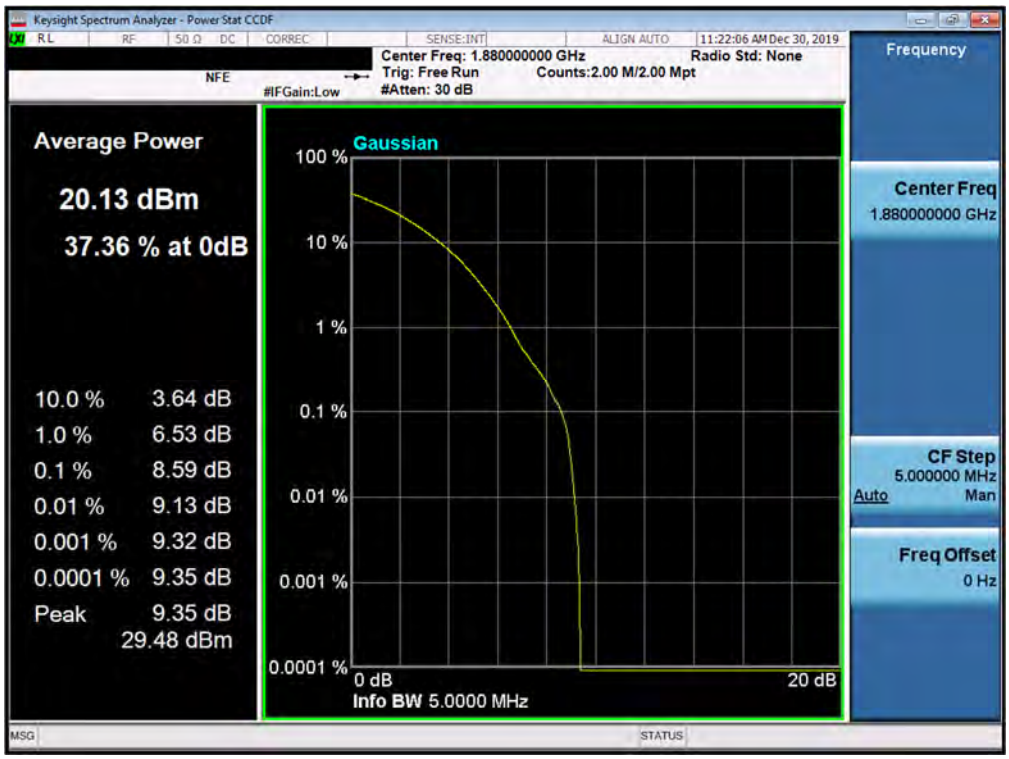
Plot 7-435. PAR Plot (5G NR n2 - 5.0MHz QPSK - CP - CP - Full RB Configuration)



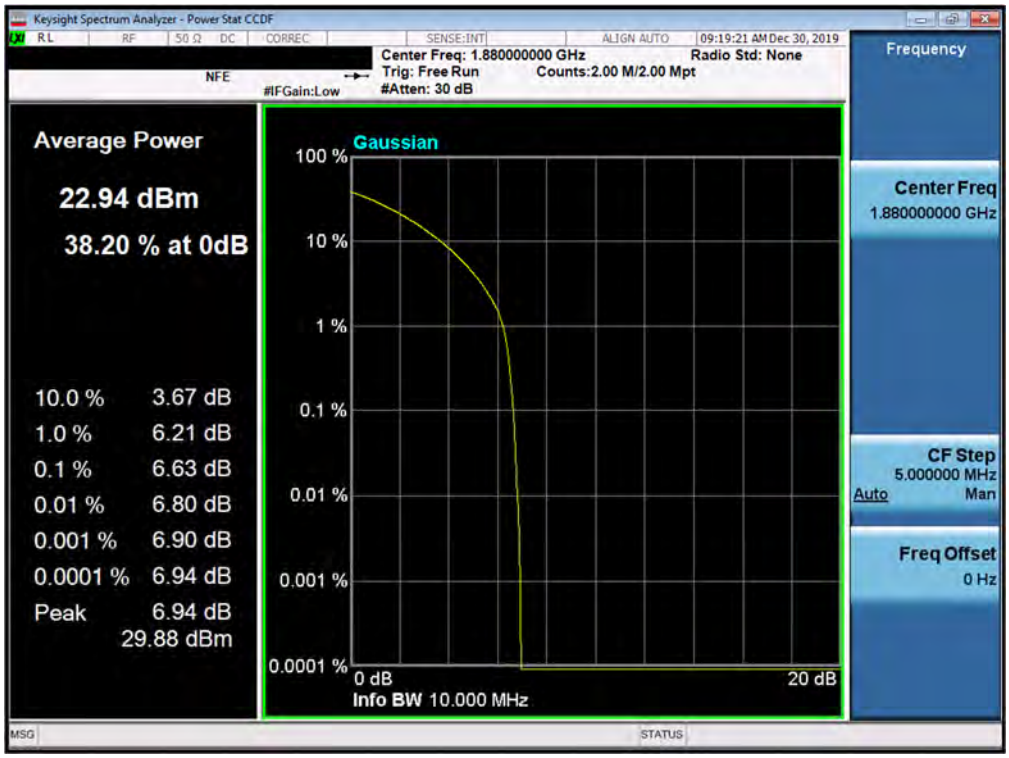
Plot 7-436. PAR Plot (5G NR n2 - 5.0MHz 16-QAM - CP - Full RB Configuration)



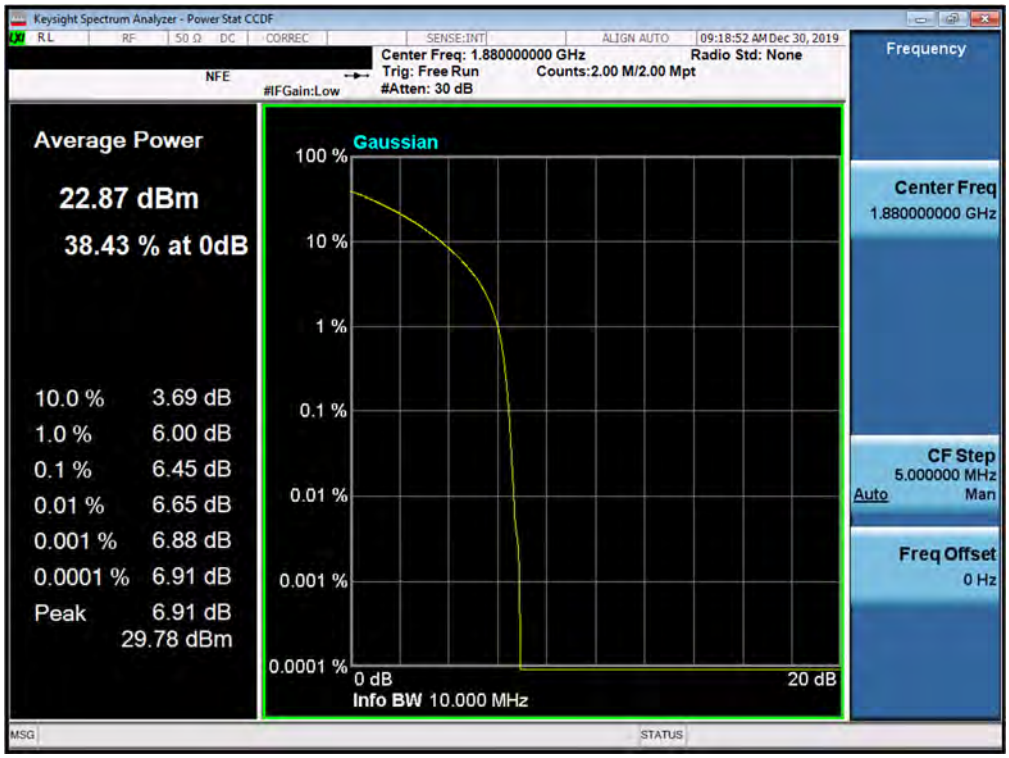
Plot 7-437. PAR Plot (5G NR n2 - 5.0MHz 64-QAM - CP - Full RB Configuration)



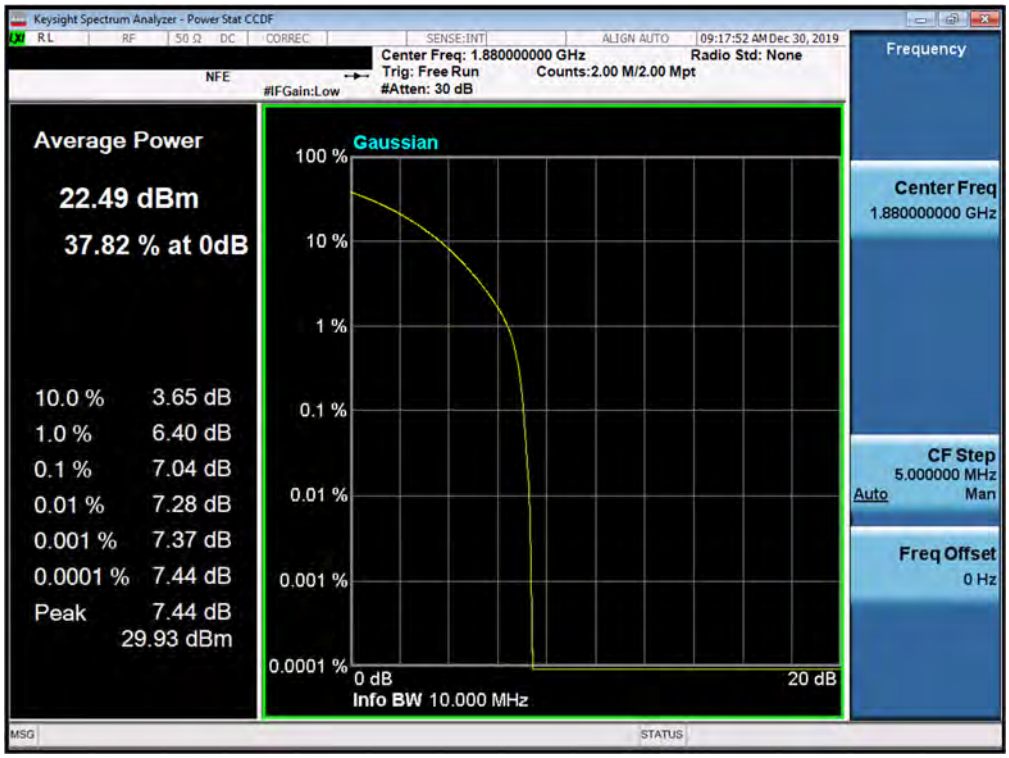
Plot 7-438. PAR Plot (5G NR n2 - 5.0MHz 256-QAM - CP - Full RB Configuration)



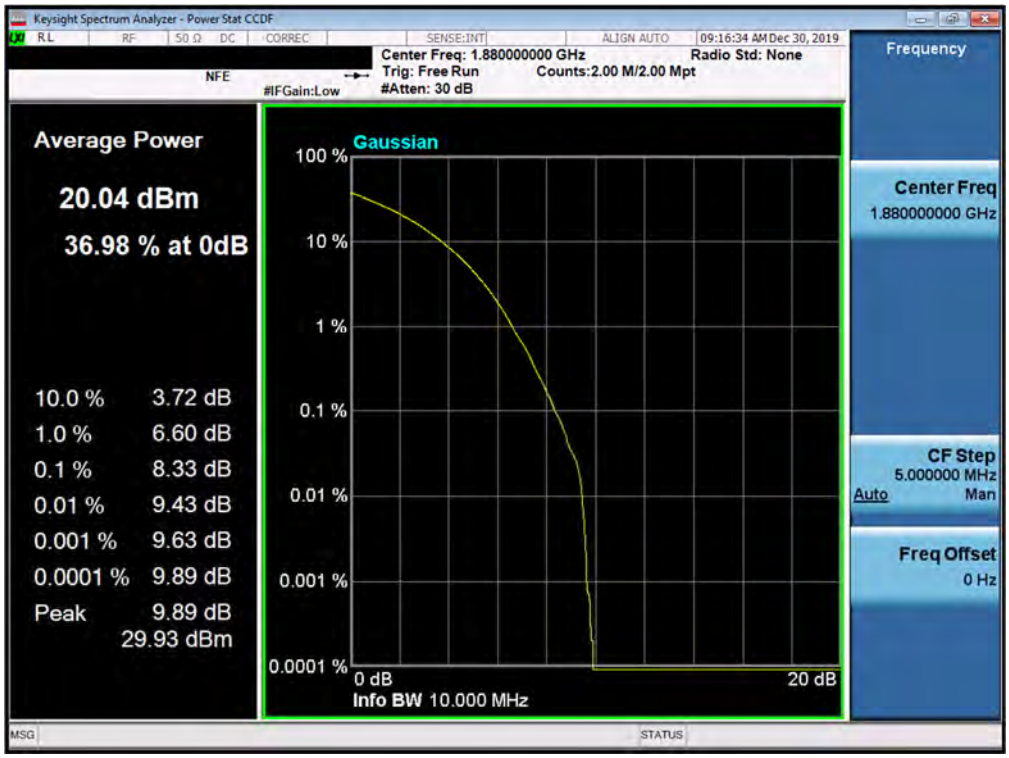
Plot 7-439. PAR Plot (5G NR n2 - 10.0MHz QPSK - CP - CP - Full RB Configuration)



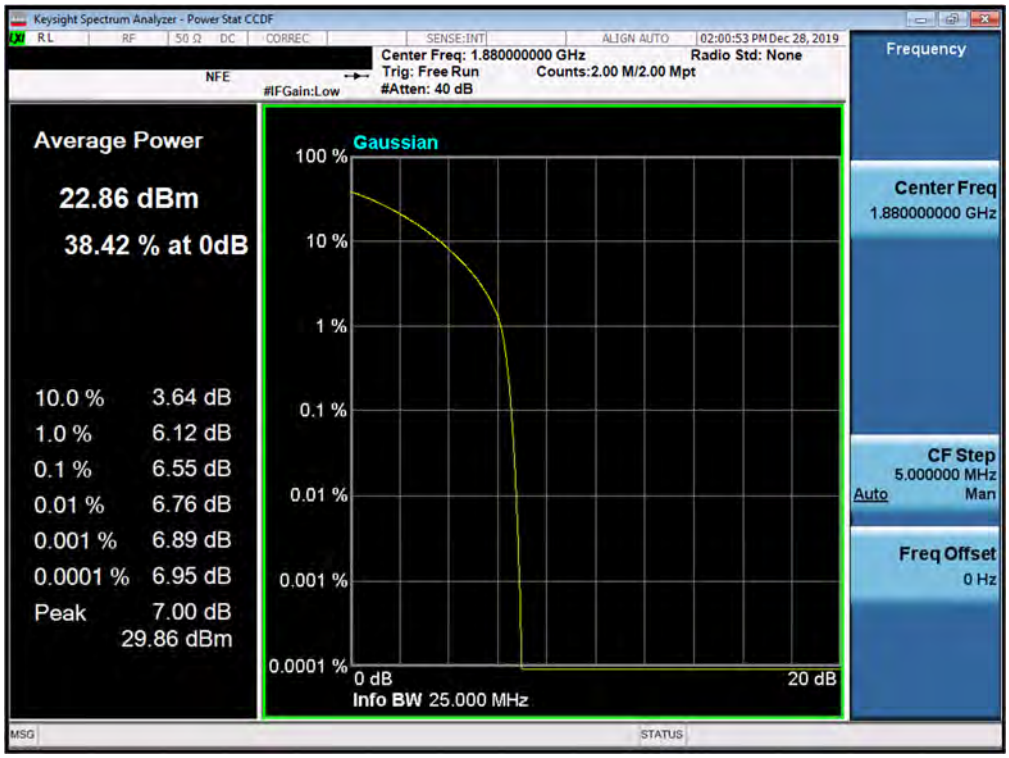
Plot 7-440. PAR Plot (5G NR n2 - 10.0MHz 16-QAM - CP - Full RB Configuration)



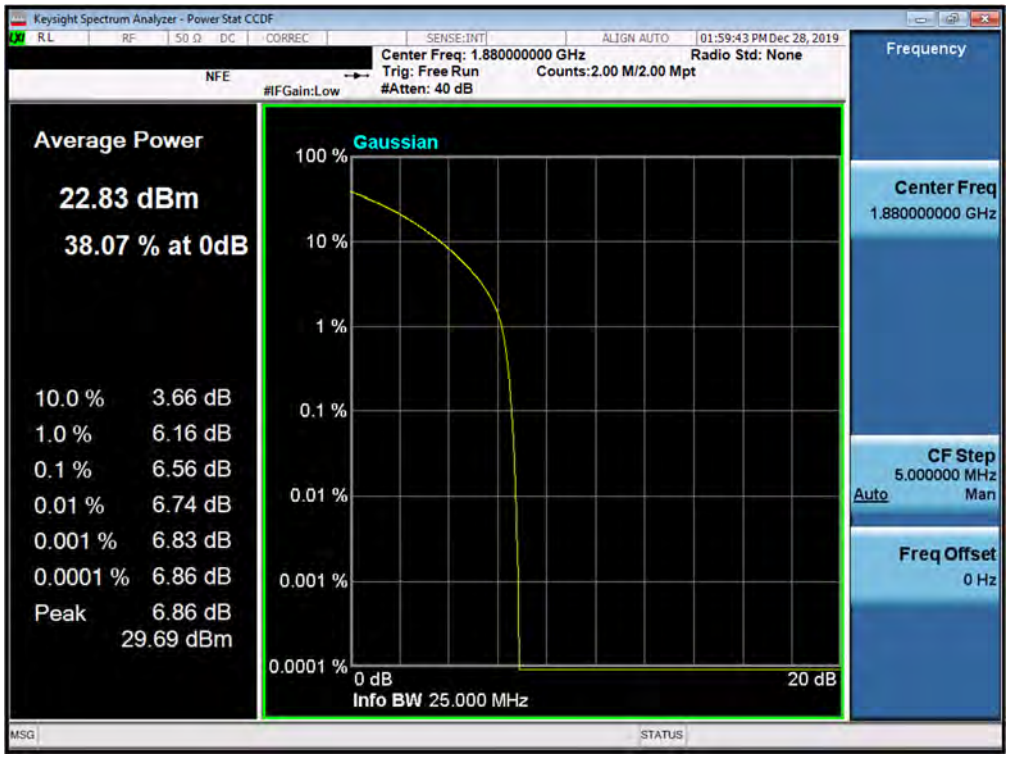
Plot 7-441. PAR Plot (5G NR n2 - 10.0MHz 64-QAM - CP - Full RB Configuration)



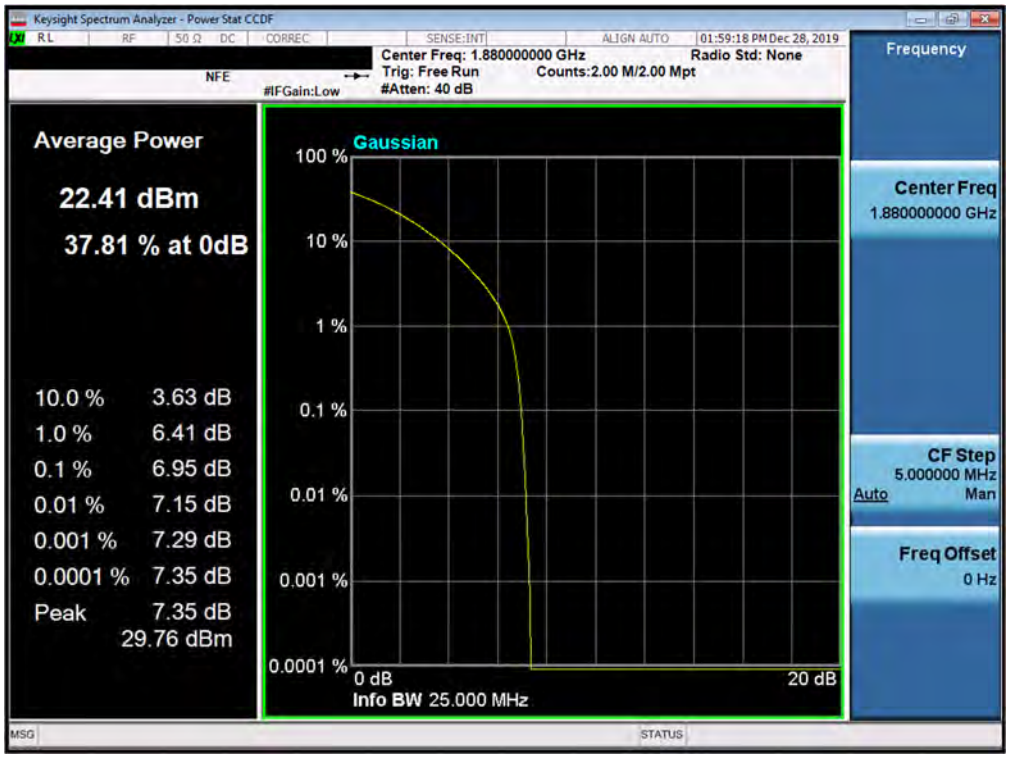
Plot 7-442. PAR Plot (5G NR n2 - 10.0MHz 256-QAM - CP - Full RB Configuration)



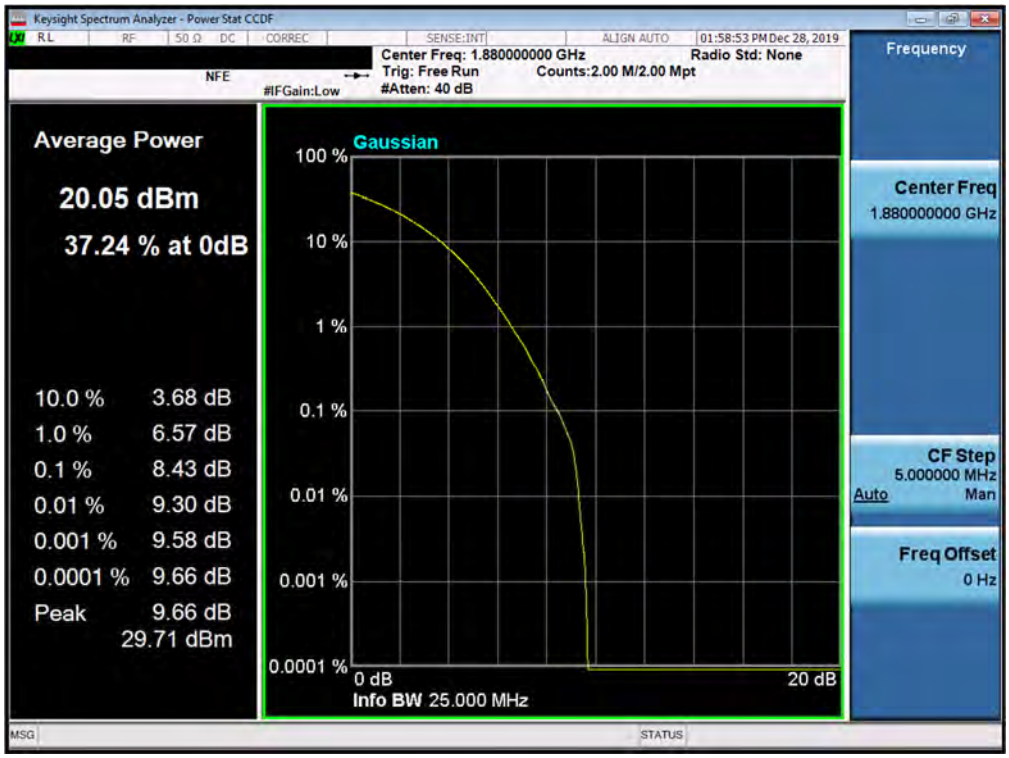
Plot 7-443. PAR Plot (5G NR n2 - 15.0MHz QPSK - CP - CP - Full RB Configuration)



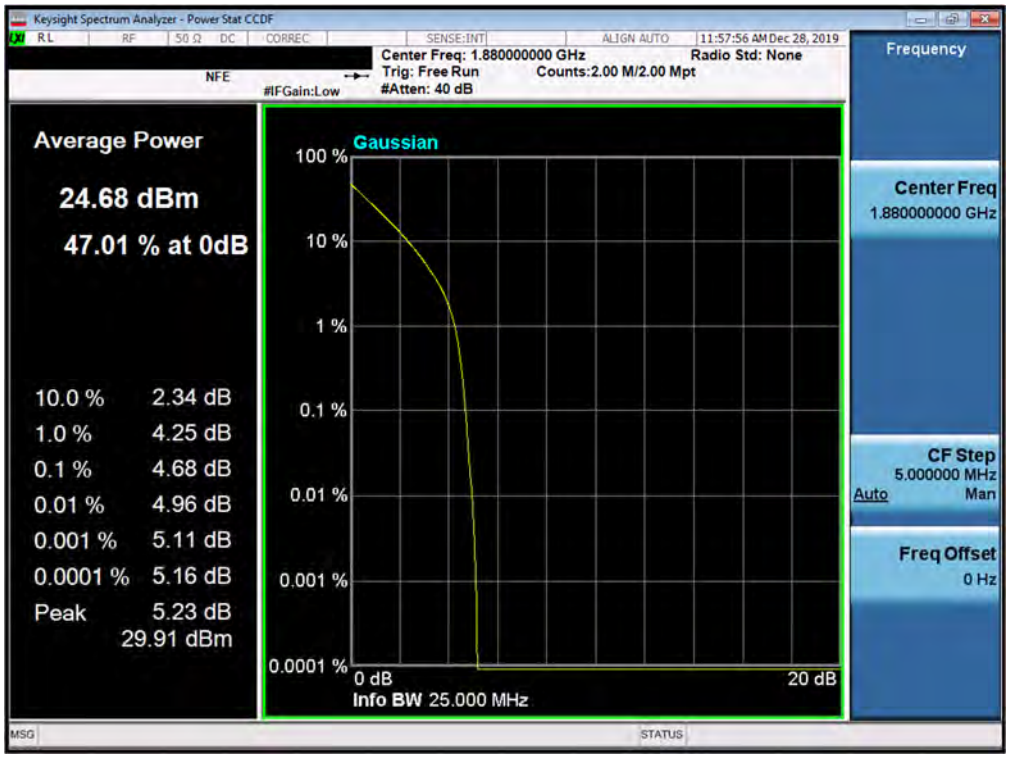
Plot 7-444. PAR Plot (5G NR n2 - 15.0MHz 16-QAM - CP - Full RB Configuration)



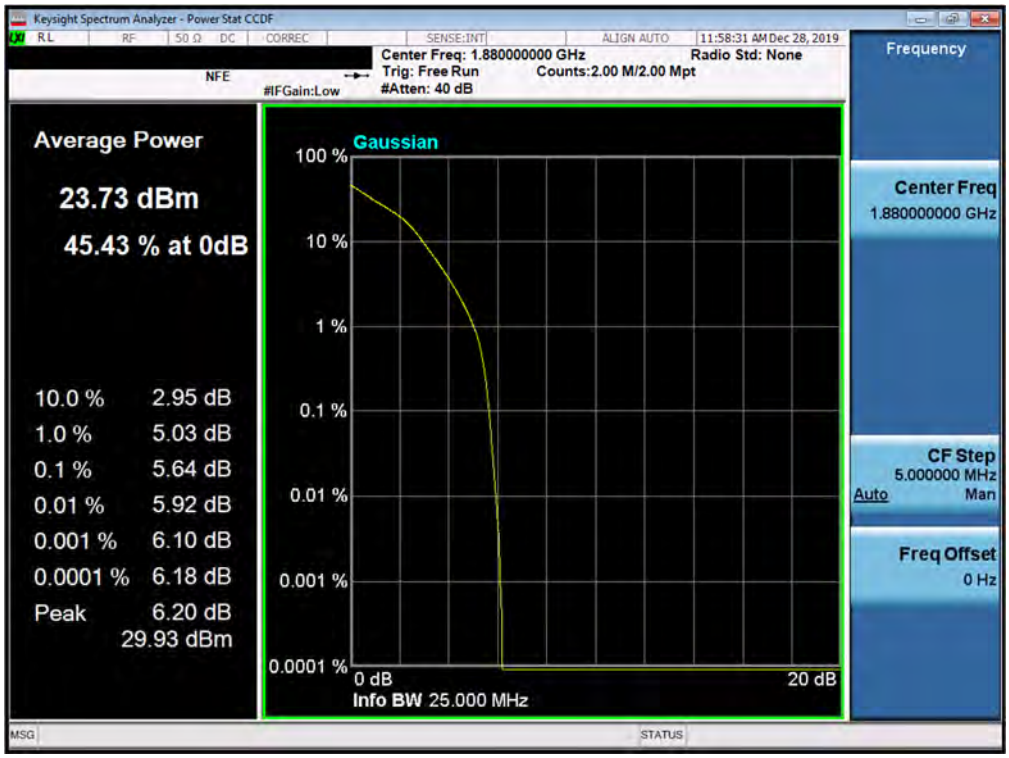
Plot 7-445. PAR Plot (5G NR n2 - 15.0MHz 64-QAM - CP - Full RB Configuration)



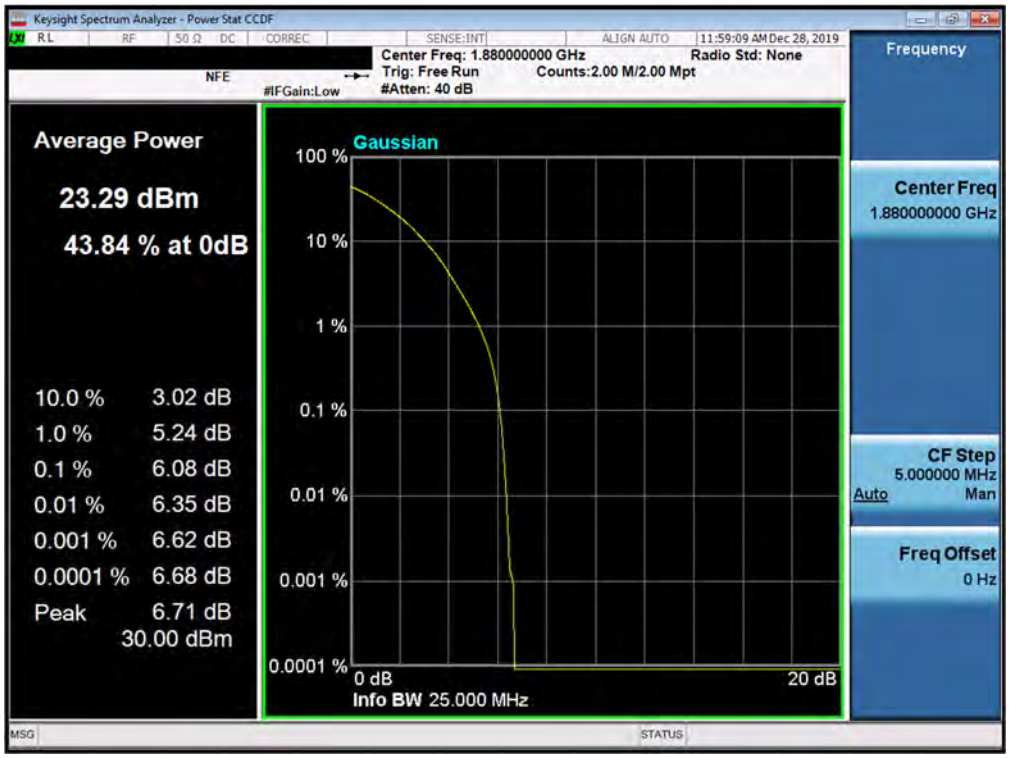
Plot 7-446. PAR Plot (5G NR n2 - 15.0MHz 256-QAM - CP - Full RB Configuration)



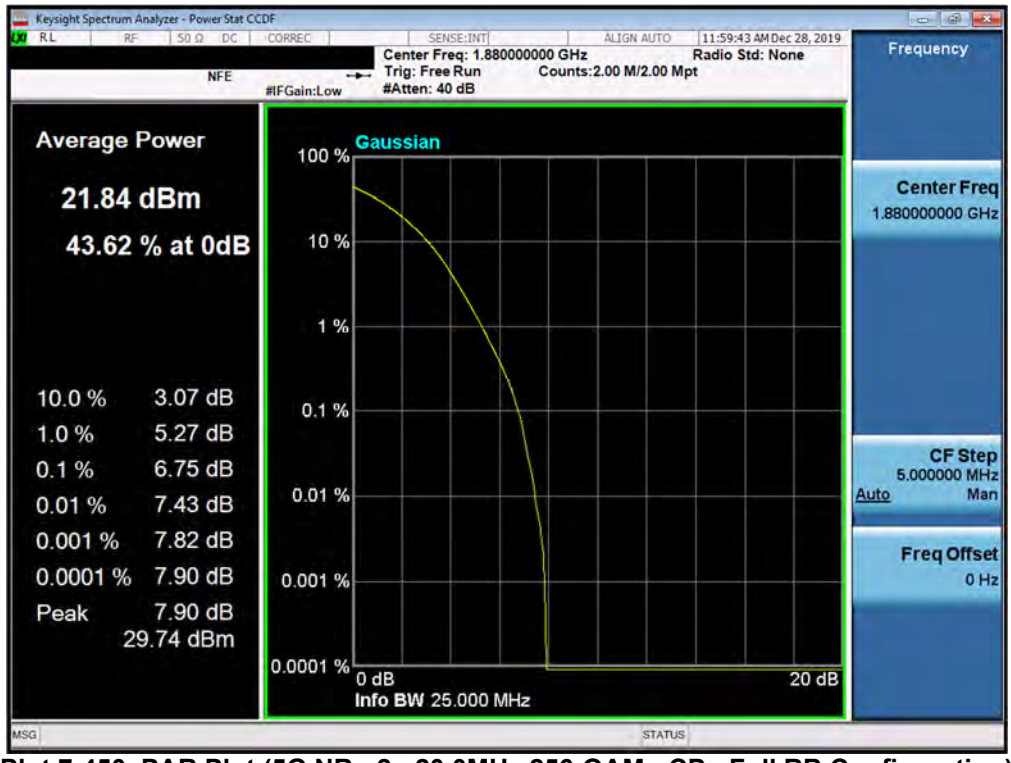
Plot 7-447. PAR Plot (5G NR n2 - 20.0MHz QPSK - CP - CP - Full RB Configuration)



Plot 7-448. PAR Plot (5G NR n2 - 20.0MHz 16-QAM - CP - Full RB Configuration)



Plot 7-449. PAR Plot (5G NR n2 - 20.0MHz 64-QAM - CP - Full RB Configuration)



Plot 7-450. PAR Plot (5G NR n2 - 20.0MHz 256-QAM - CP - Full RB Configuration)

7.7 Uplink Carrier Aggregation

§22.917(a)

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. Uplink carrier aggregation is only supported in this EUT while operating in Power Class 3.

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

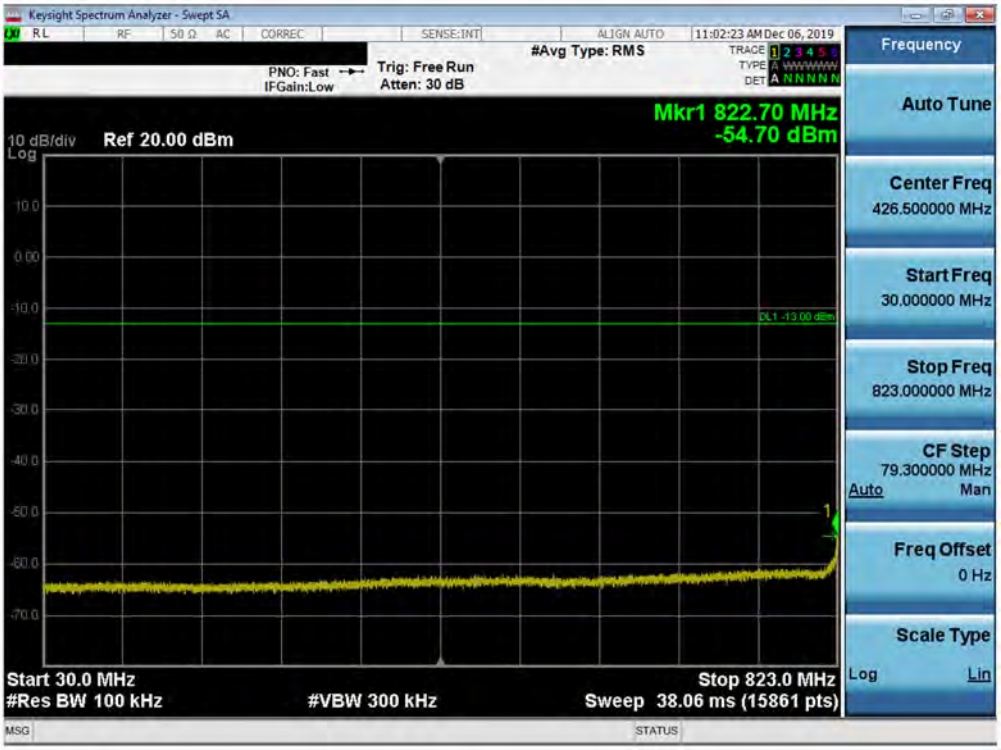
Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B5	10	20450	829	QPSK	1	49	LTE B5	10	20549	838.9	QPSK	1	0	25.48
Max	LTE B5	10	20525	836.5	QPSK	1	49	LTE B5	5	20597	843.7	QPSK	1	0	25.06
Max	LTE B5	10	20600	844	QPSK	1	0	LTE B5	10	20501	834.1	QPSK	1	49	25.49

Table 7-5. Conducted Powers (B5 – Left Carrier: RB Size 1 Offset Max Right Carrier: RB Size 1 Offset 0)

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B5	10	20600	844	QPSK	1	0	LTE B5	10	20501	834.1	QPSK	1	0	15.37
Max	LTE B5	10	20600	844	QPSK	1	49	LTE B5	10	20501	834.1	QPSK	1	49	15.30
Max	LTE B5	10	20600	844	QPSK	1	0	LTE B5	10	20501	834.1	QPSK	1	49	25.49
Max	LTE B5	10	20600	844	QPSK	1	25	LTE B5	10	20501	834.1	QPSK	1	25	15.38
Max	LTE B5	10	20600	844	QPSK	1	49	LTE B5	10	20501	834.1	QPSK	1	0	15.35
Max	LTE B5	10	20600	844	QPSK	50	0	LTE B5	10	20501	834.1	QPSK	50	0	23.89
Max	LTE B5	10	20600	844	16-QAM	50	0	LTE B5	10	20501	834.1	16-QAM	50	0	23.01
Max	LTE B5	10	20600	844	64-QAM	50	0	LTE B5	10	20501	834.1	64-QAM	50	0	22.87

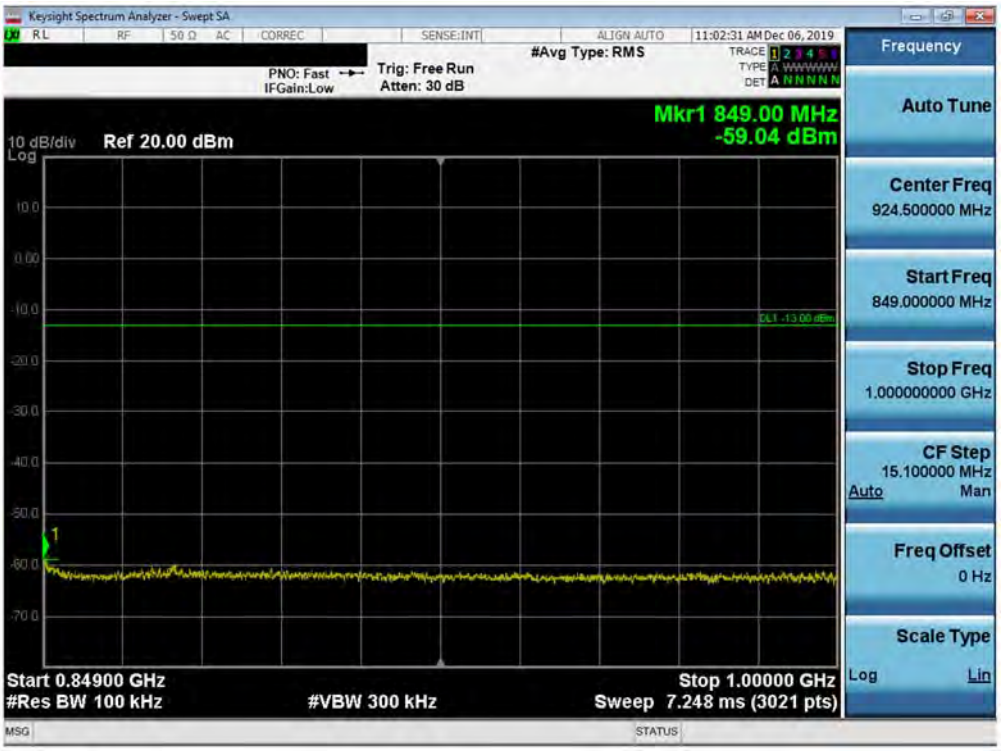
Table 7-6. Conducted Powers (B5 with Various Combinations)

Band 5

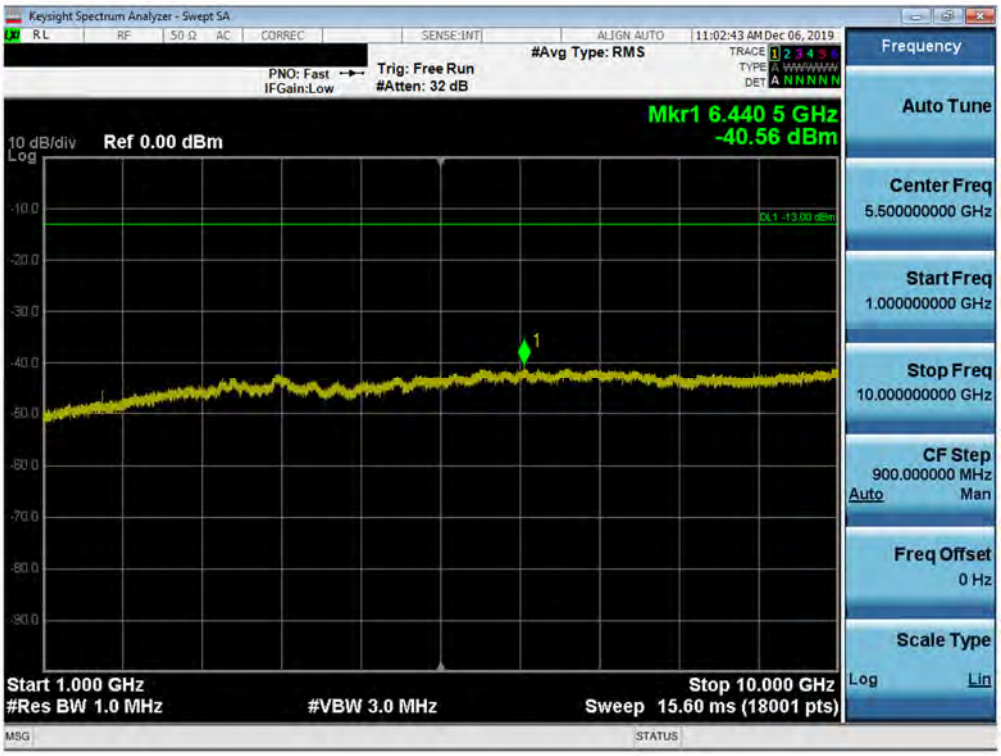


Plot 7-451. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Low Channel)

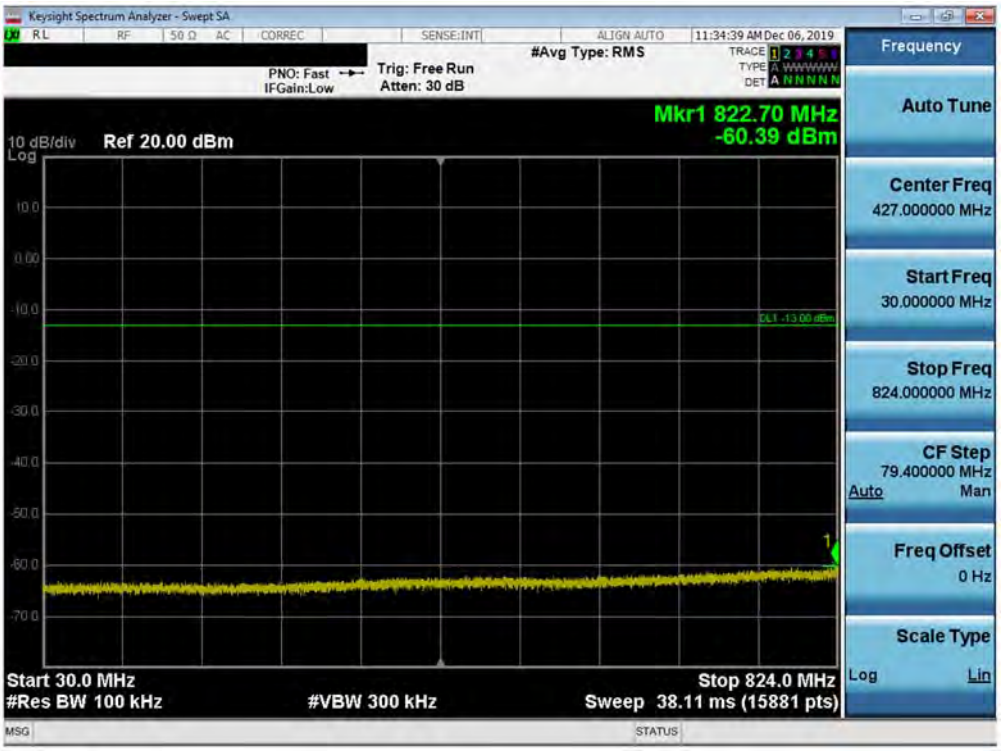
Plot 7-452. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Low Channel)



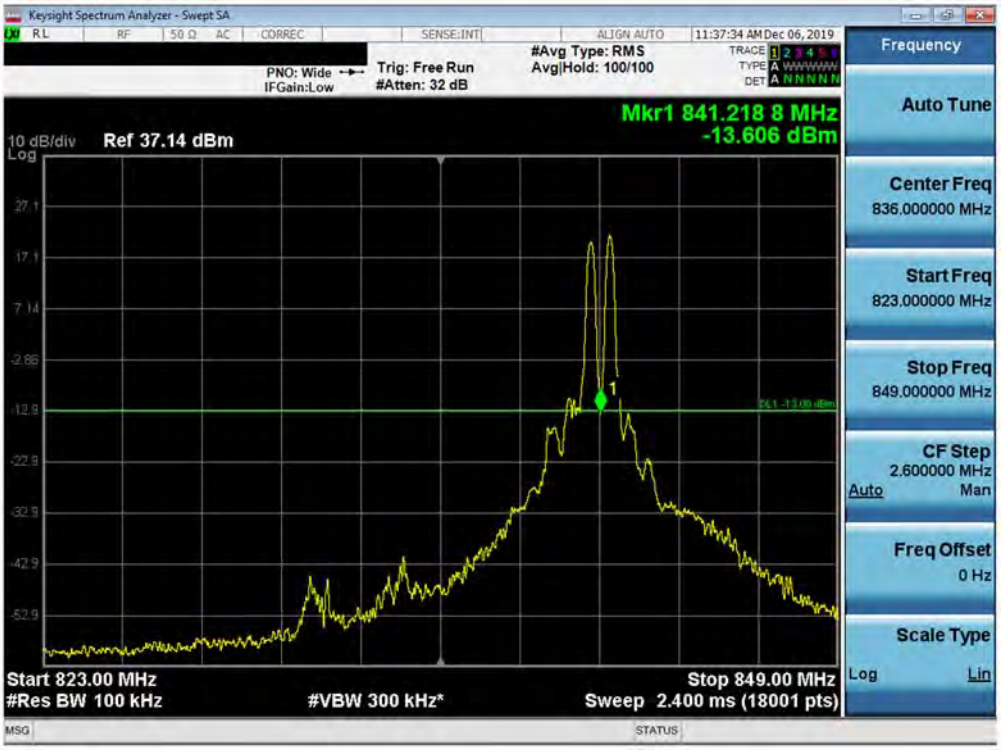
Plot 7-453. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Low Channel)



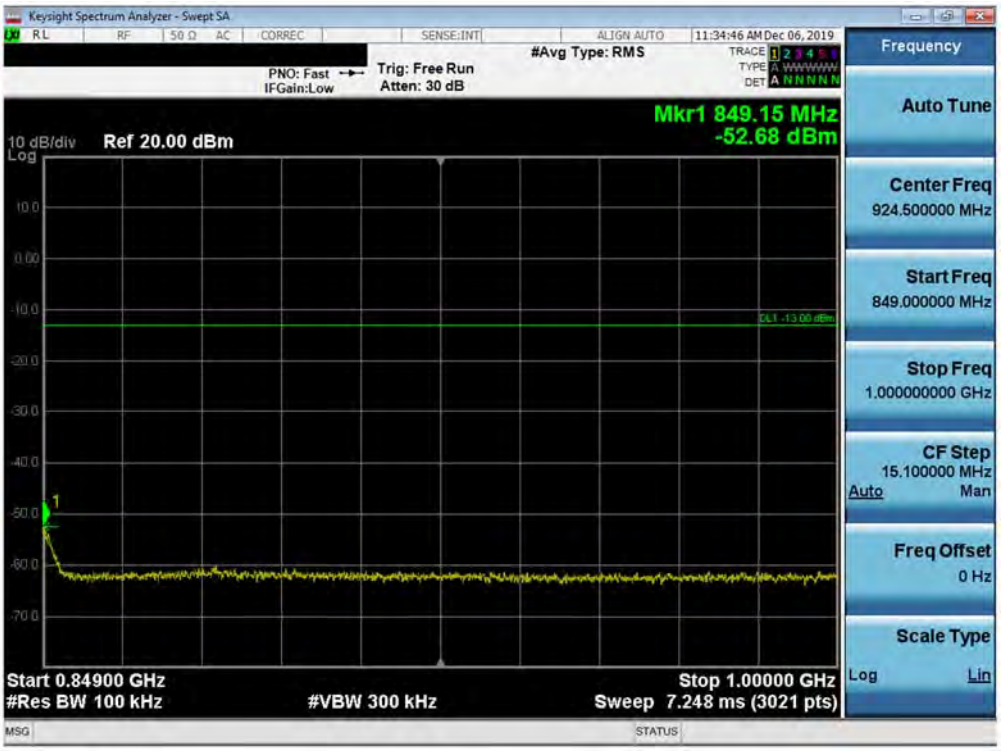
Plot 7-454. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Low Channel)



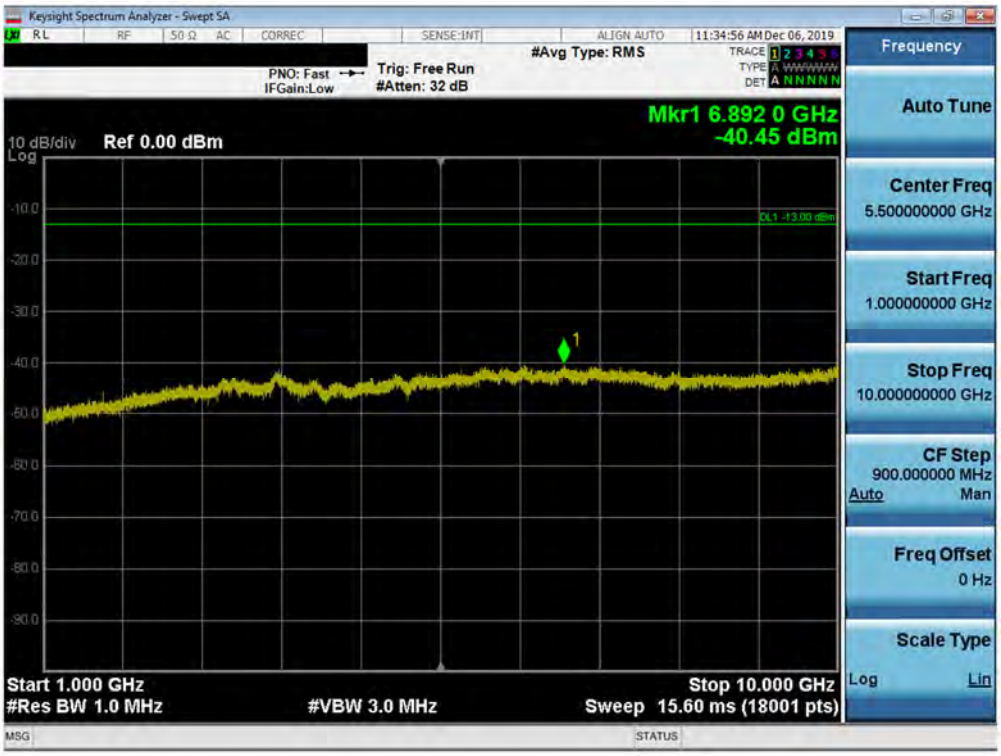
Plot 7-455. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Mid Channel)



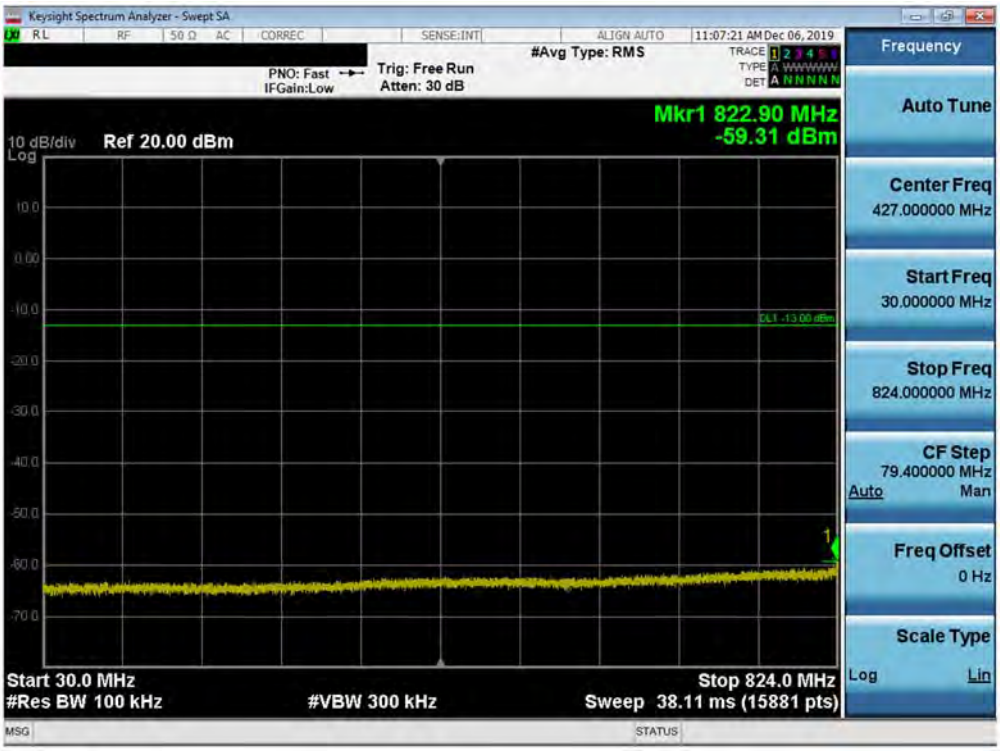
Plot 7-456. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Mid Channel)



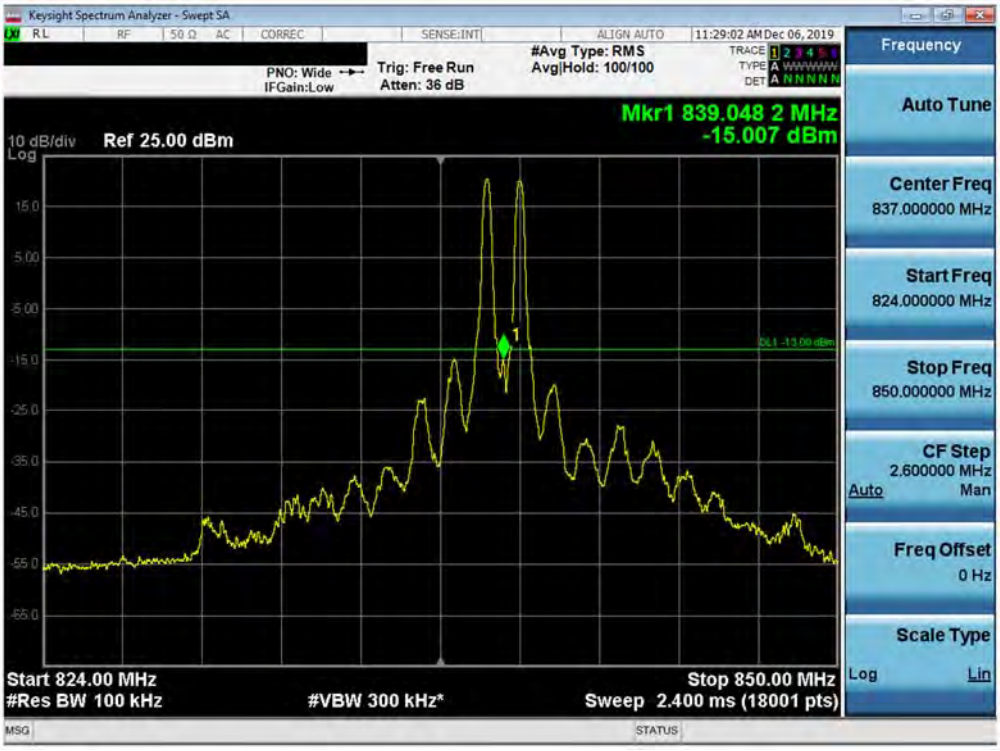
Plot 7-457. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Mid Channel)



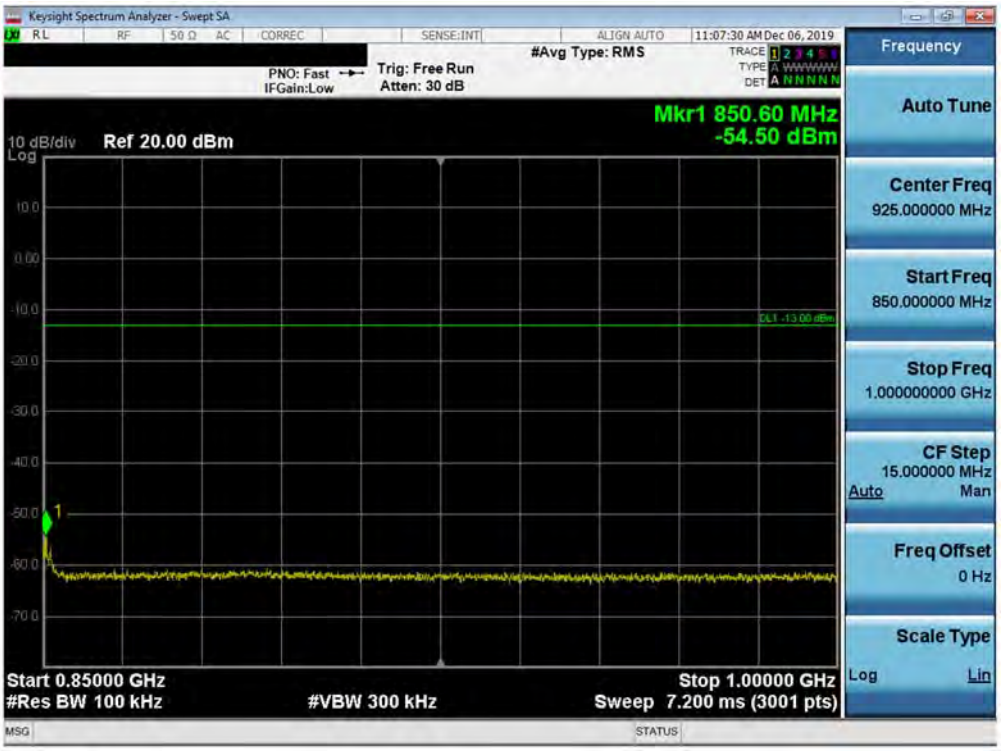
Plot 7-458. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - Mid Channel)



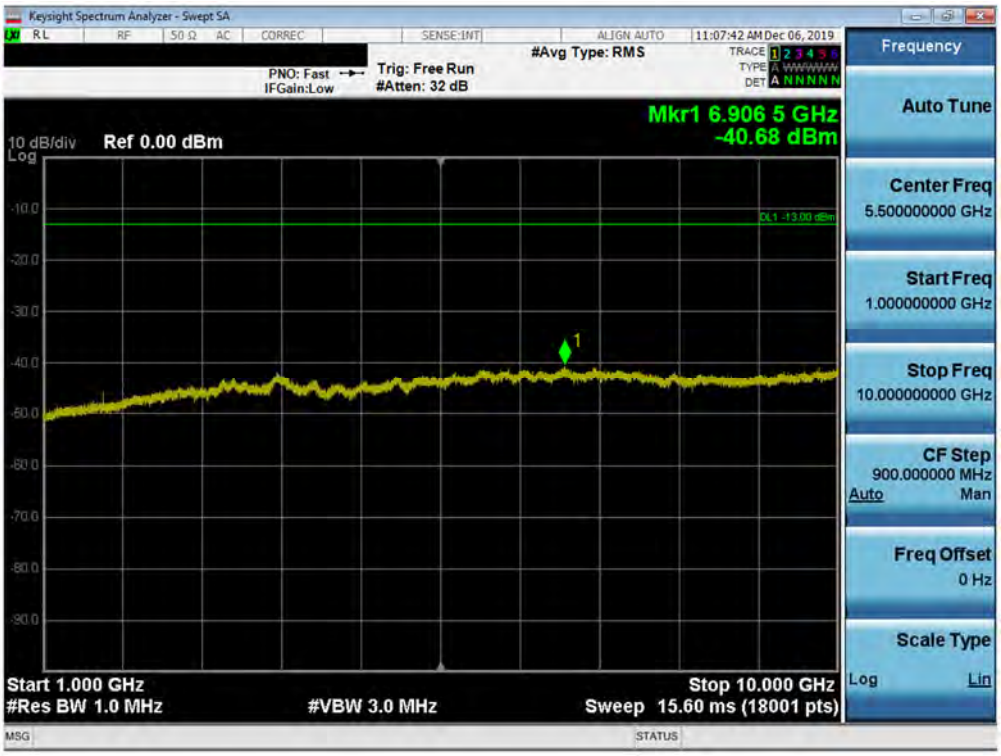
Plot 7-459. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - High Channel)



Plot 7-460. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - High Channel)



Plot 7-461. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - High Channel)



Plot 7-462. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - Left Carrier 1/49 Right Carrier 1/0 - High Channel)

Table 7-463. Lower ACP Plot (Band 5 QPSK – Left Carrier:10 MHz Right Carrier:10 MHz – Full RB)

Table 7-464. Upper ACP Plot (Band 5 QPSK – Left Carrier:10 MHz Right Carrier:10 MHz – Full RB)

7.8 Radiated Power (ERP/EIRP)

Test Overview

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

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Setup

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

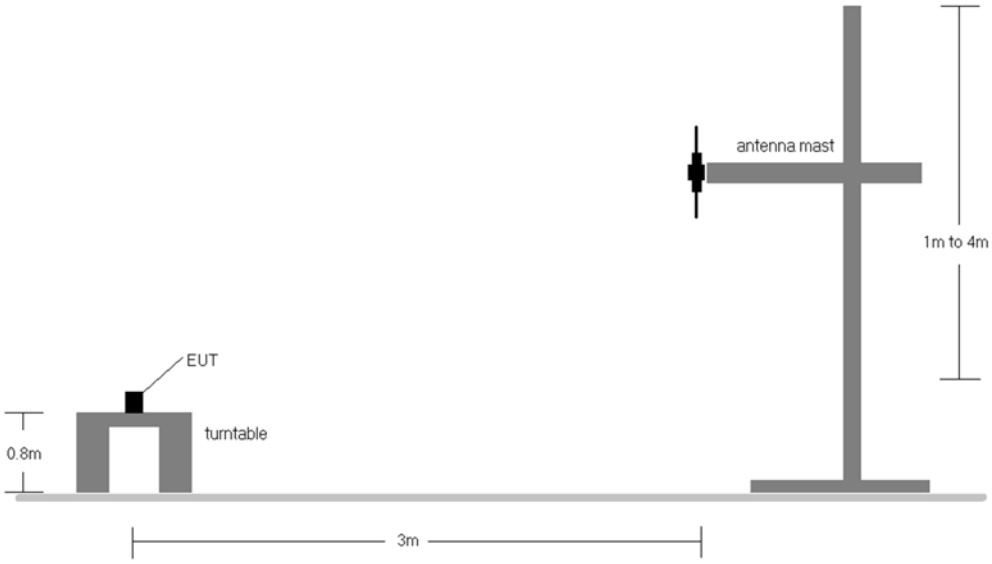


Figure 7-6. Radiated Test Setup <1GHz

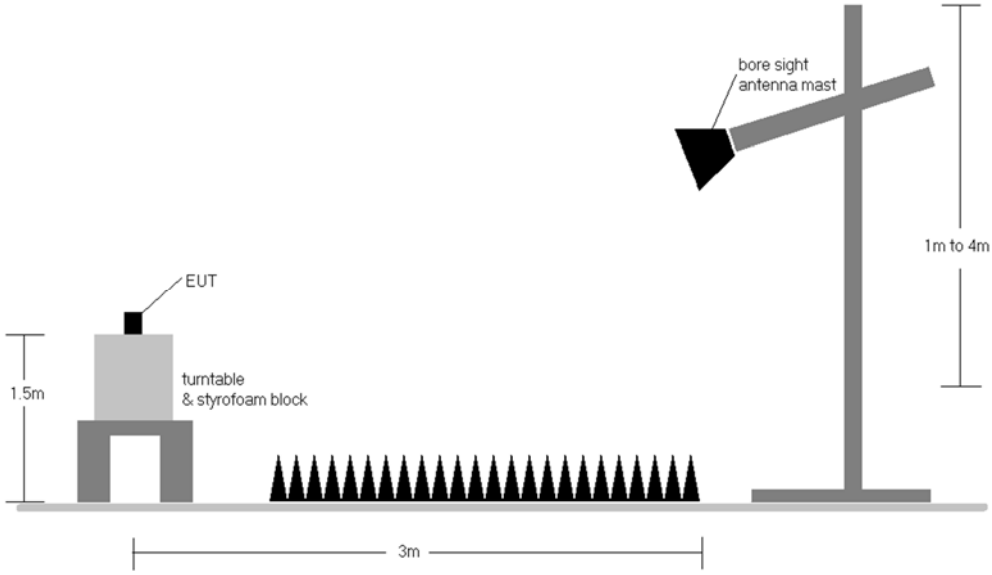


Figure 7-7. Radiated Test Setup >1GHz

Test Notes

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

2) This unit was tested with its standard battery.

3) This device employs Sub 6GHz NR technologies. All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) 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. Additional Data added representing other configurations (eg. CP-OFDM).

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]
699.70	1.4	QPSK	V	167	142	1 / 0	14.98	4.50	17.33	0.054	34.77	-17.44
707.50	1.4	QPSK	V	193	140	1 / 0	14.73	4.60	17.18	0.052	34.77	-17.59
715.30	1.4	QPSK	V	182	133	1 / 0	15.21	4.63	**17.69**	0.059	34.77	-17.08
715.30	1.4	16-QAM	V	182	133	1 / 0	14.78	4.63	**17.26**	0.053	34.77	-17.51
715.30	1.4	64-QAM	V	182	133	1 / 0	13.65	4.63	**16.13**	0.041	34.77	-18.64
715.30	1.4	256-QAM	V	182	133	3 / 2	10.76	4.63	**13.24**	**0.021**	34.77	-21.53
700.50	3	QPSK	V	166	138	1 / 0	15.05	4.55	17.45	0.056	34.77	-17.32
707.50	3	QPSK	V	192	145	1 / 0	14.73	4.60	17.18	0.052	34.77	-17.59
714.50	3	QPSK	V	183	135	1 / 0	15.27	4.60	**17.72**	0.059	34.77	-17.05
714.50	3	16-QAM	V	183	135	1 / 0	14.86	4.60	**17.31**	0.054	34.77	-17.46
714.50	3	64-QAM	V	183	135	1 / 0	13.70	4.60	**16.15**	0.041	34.77	-18.62
714.50	3	256-QAM	V	183	135	8 / 4	10.77	4.60	**13.22**	**0.021**	34.77	-21.55
701.50	5	QPSK	V	163	140	1 / 0	15.05	4.60	17.50	0.056	34.77	-17.27
707.50	5	QPSK	V	188	135	1 / 0	14.77	4.60	17.22	0.053	34.77	-17.55
713.50	5	QPSK	V	181	130	1 / 0	15.25	4.60	**17.70**	0.059	34.77	-17.07
713.50	5	16-QAM	V	181	130	1 / 0	14.72	4.60	**17.17**	0.052	34.77	-17.60
713.50	5	64-QAM	V	181	130	1 / 0	13.75	4.60	**16.20**	0.042	34.77	-18.57
713.50	5	256-QAM	V	181	130	12 / 6	10.78	4.60	**13.23**	**0.021**	34.77	-21.54
704.00	10	QPSK	V	168	141	1 / 0	15.12	4.50	17.47	0.056	34.77	-17.30
707.50	10	QPSK	V	193	139	1 / 0	14.86	4.60	17.31	0.054	34.77	-17.46
711.00	10	QPSK	V	184	133	1 / 0	15.44	4.60	**17.89**	**0.062**	34.77	-16.88
711.00	10	16-QAM	V	184	133	1 / 0	14.94	4.60	**17.39**	0.055	34.77	-17.38
711.00	10	64-QAM	V	184	133	1 / 0	13.76	4.60	**16.21**	0.042	34.77	-18.56
711.00	10	256-QAM	V	184	133	25 / 12	11.04	4.60	**13.49**	**0.022**	34.77	-21.28
711.00	10	QPSK	H	283	90	1 / 0	14.40	3.70	15.95	0.039	34.77	-18.82
711.00	10 (WCP)	QPSK	V	268	225	1 / 0	11.20	4.60	13.65	0.023	34.77	-21.12

Table 7-7. 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]
779.50	5	QPSK	H	100	101	1 / 24	14.00	5.80	17.65	0.058	34.77	-17.12
782.00	5	QPSK	H	101	102	1 / 24	14.19	5.80	**17.84**	**0.061**	34.77	-16.93
784.50	5	QPSK	H	101	100	1 / 24	14.06	5.90	17.81	0.060	34.77	-16.96
782.00	5	16-QAM	H	101	102	1 / 24	13.61	5.80	**17.26**	0.053	34.77	-17.51
782.00	5	64-QAM	H	101	102	1 / 24	12.07	5.80	**15.72**	0.037	34.77	-19.05
782.00	5	256-QAM	H	101	102	12 / 6	10.07	5.80	**13.72**	0.024	34.77	-21.05
782.00	10	QPSK	H	100	101	1 / 49	14.17	5.80	**17.82**	0.061	34.77	-16.95
782.00	10	16-QAM	H	100	101	1 / 49	13.55	5.80	**17.20**	0.052	34.77	-17.57
782.00	10	64-QAM	H	100	101	1 / 49	12.58	5.80	**16.23**	0.042	34.77	-18.54
782.00	10	256-QAM	H	100	101	25 / 12	9.81	5.80	**13.46**	**0.022**	34.77	-21.31
782.00	5	QPSK	V	100	111	1 / 24	11.71	5.80	15.36	0.034	34.77	-19.41

Table 7-8. 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]
824.70	1.4	QPSK	H	100	106	1 / 0	11.73	6.70	**16.28**	0.042	38.45	-22.17
836.50	1.4	QPSK	H	222	96	1 / 0	11.09	6.70	15.64	0.037	38.45	-22.81
848.30	1.4	QPSK	H	227	93	1 / 0	10.53	6.70	15.08	0.032	38.45	-23.37
824.70	1.4	16-QAM	H	100	106	1 / 0	10.95	6.70	**15.50**	0.035	38.45	-22.95
824.70	1.4	64-QAM	H	100	106	1 / 0	10.06	6.70	**14.61**	0.029	38.45	-23.84
824.70	1.4	256-QAM	H	100	106	3 / 2	7.71	6.70	**12.26**	**0.017**	38.45	-26.19
825.50	3	QPSK	H	101	107	1 / 0	11.77	6.70	**16.32**	0.043	38.45	-22.13
836.50	3	QPSK	H	220	99	1 / 0	11.13	6.70	15.68	0.037	38.45	-22.77
847.50	3	QPSK	H	229	93	1 / 0	10.60	6.65	15.10	0.032	38.45	-23.35
825.50	3	16-QAM	H	101	107	1 / 0	11.02	6.70	**15.57**	0.036	38.45	-22.88
825.50	3	64-QAM	H	101	107	1 / 0	10.05	6.70	**14.60**	0.029	38.45	-23.85
825.50	3	256-QAM	H	101	107	8 / 4	7.73	6.70	**12.28**	**0.017**	38.45	-26.17
826.50	5	QPSK	H	104	107	1 / 0	11.70	6.70	**16.25**	0.042	38.45	-22.20
836.50	5	QPSK	H	223	97	1 / 0	11.14	6.70	15.69	0.037	38.45	-22.76
846.50	5	QPSK	H	219	95	1 / 0	10.64	6.60	15.09	0.032	38.45	-23.36
826.50	5	16-QAM	H	104	107	1 / 0	10.88	6.70	**15.43**	0.035	38.45	-23.02
826.50	5	64-QAM	H	104	107	1 / 0	10.05	6.70	**14.60**	0.029	38.45	-23.85
826.50	5	256-QAM	H	104	107	12 / 6	7.72	6.70	**12.27**	**0.017**	38.45	-26.18
829.00	10	QPSK	H	100	105	1 / 0	11.80	6.70	**16.35**	**0.043**	38.45	-22.10
836.50	10	QPSK	H	222	98	1 / 0	11.18	6.70	15.73	0.037	38.45	-22.72
844.00	10	QPSK	H	226	92	1 / 0	10.77	6.60	15.22	0.033	38.45	-23.23
829.00	10	16-QAM	H	100	105	1 / 0	11.20	6.70	**15.75**	0.038	38.45	-22.70
829.00	10	64-QAM	H	100	105	1 / 0	10.02	6.70	**14.57**	0.029	38.45	-23.88
829.00	10	256-QAM	H	100	105	25 / 12	7.61	6.70	**12.16**	**0.016**	38.45	-26.29
829.00	10	QPSK	V	172	80	1 / 0	11.24	6.30	15.39	0.035	38.45	-23.06
829.00	10 (WCP)	QPSK	H	192	336	1 / 0	6.77	6.70	11.32	0.014	38.45	-27.13

Table 7-9. ERP Data (Band 5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	125	54	1 / 5	11.78	9.44	**21.22**	0.133	30.00	-8.78
1745.00	1.4	QPSK	H	138	127	1 / 5	11.51	9.23	20.74	0.119	30.00	-9.26
1779.30	1.4	QPSK	H	126	25	1 / 5	11.41	9.26	20.67	0.117	30.00	-9.33
1710.70	1.4	16-QAM	H	125	54	1 / 5	9.70	9.44	**19.14**	0.082	30.00	-10.86
1710.70	1.4	64-QAM	H	125	54	1 / 5	8.26	9.44	**17.70**	0.059	30.00	-12.30
1710.70	1.4	256-QAM	H	125	54	6 / 0	6.27	9.44	**15.71**	0.037	30.00	-14.29
1711.50	3	QPSK	H	124	51	1 / 14	11.79	9.44	**21.23**	0.133	30.00	-8.77
1745.00	3	QPSK	H	142	129	1 / 14	11.58	9.23	20.81	0.121	30.00	-9.19
1778.50	3	QPSK	H	128	22	1 / 14	11.41	9.26	20.67	0.117	30.00	-9.33
1711.50	3	16-QAM	H	124	51	1 / 14	9.64	9.44	19.08	0.081	30.00	-10.92
1711.50	3	64-QAM	H	124	51	1 / 14	8.13	9.44	**17.57**	0.057	30.00	-12.43
1711.50	3	256-QAM	H	124	51	15 / 0	6.31	9.44	**15.75**	0.038	30.00	-14.25
1712.50	5	QPSK	H	125	51	1 / 24	11.74	9.43	**21.17**	0.131	30.00	-8.83
1745.00	5	QPSK	H	138	127	1 / 24	11.52	9.23	20.75	0.119	30.00	-9.25
1777.50	5	QPSK	H	129	23	1 / 24	11.42	9.26	20.68	0.117	30.00	-9.32
1712.50	5	16-QAM	H	125	51	1 / 24	9.51	9.43	**18.94**	0.078	30.00	-11.06
1712.50	5	64-QAM	H	125	51	1 / 24	8.14	9.43	**17.57**	0.057	30.00	-12.43
1712.50	5	256-QAM	H	125	51	25 / 0	6.27	9.43	**15.70**	0.037	30.00	-14.30
1715.00	10	QPSK	H	126	56	1 / 49	11.67	9.42	**21.09**	0.128	30.00	-8.91
1745.00	10	QPSK	H	142	125	1 / 49	11.48	9.23	20.71	0.118	30.00	-9.29
1775.00	10	QPSK	H	131	23	1 / 49	11.36	9.25	20.61	0.115	30.00	-9.39
1715.00	10	16-QAM	H	126	56	1 / 49	9.51	9.42	18.93	0.078	30.00	-11.07
1715.00	10	64-QAM	H	126	56	1 / 49	8.06	9.42	**17.48**	0.056	30.00	-12.52
1715.00	10	256-QAM	H	126	56	50 / 0	6.06	9.42	**15.48**	0.035	30.00	-14.52
1717.50	15	QPSK	H	125	52	1 / 74	11.96	9.40	**21.36**	**0.137**	30.00	-8.64
1745.00	15	QPSK	H	141	128	1 / 74	11.64	9.23	20.87	0.122	30.00	-9.13
1772.50	15	QPSK	H	129	24	1 / 74	11.57	9.25	20.82	0.121	30.00	-9.18
1717.50	15	16-QAM	H	125	52	1 / 74	9.91	9.40	**19.31**	0.085	30.00	-10.69
1717.50	15	64-QAM	H	125	52	1 / 74	8.34	9.40	**17.74**	0.059	30.00	-12.26
1717.50	15	256-QAM	H	125	52	75 / 0	6.40	9.40	**15.80**	0.038	30.00	-14.20
1720.00	20	QPSK	H	123	56	1 / 99	11.75	9.38	**21.13**	0.130	30.00	-8.87
1745.00	20	QPSK	H	139	128	1 / 99	11.79	9.23	21.02	0.126	30.00	-8.98
1770.00	20	QPSK	H	128	23	1 / 99	11.78	9.24	21.02	0.126	30.00	-8.98
1720.00	20	16-QAM	H	123	56	1 / 99	9.46	9.38	**18.84**	0.077	30.00	-11.16
1720.00	20	64-QAM	H	123	56	1 / 99	8.21	9.38	**17.59**	0.057	30.00	-12.41
1720.00	20	256-QAM	H	123	56	100 / 0	6.41	9.38	**15.79**	0.038	30.00	-14.21
1717.50	15	QPSK	V	136	46	1 / 74	11.71	9.28	20.99	0.126	30.00	-9.01
1717.50	15 (WCP)	QPSK	H	109	28	1 / 74	11.47	9.38	20.85	0.122	30.00	-9.15

Table 7-10. EIRP Data (Band 66/4)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	122	354	1 / 0	12.54	9.48	22.02	0.159	33.01	-10.99
1880.00	1.4	QPSK	H	107	350	1 / 0	12.36	9.90	22.26	0.168	33.01	-10.75
1909.30	1.4	QPSK	H	110	346	1 / 0	13.00	10.25	**23.25**	0.211	33.01	-9.76
1909.30	1.4	16-QAM	H	110	346	1 / 0	12.95	10.25	**23.20**	0.209	33.01	-9.81
1909.30	1.4	64-QAM	H	110	346	1 / 0	11.59	10.25	**21.84**	0.153	33.01	-11.17
1909.30	1.4	256-QAM	H	110	346	6 / 0	10.83	10.25	**21.08**	**0.128**	33.01	-11.93
1851.50	3	QPSK	H	123	349	1 / 0	12.48	9.50	21.98	0.158	33.01	-11.03
1880.00	3	QPSK	H	111	346	1 / 0	12.37	9.90	22.27	0.169	33.01	-10.74
1908.50	3	QPSK	H	113	344	1 / 0	13.08	10.25	**23.33**	**0.215**	33.01	-9.68
1908.50	3	16-QAM	H	113	344	1 / 0	12.97	10.25	**23.22**	0.210	33.01	-9.79
1908.50	3	64-QAM	H	113	344	1 / 0	11.39	10.25	**21.64**	0.146	33.01	-11.37
1908.50	3	256-QAM	H	113	344	15 / 0	10.76	10.25	**21.01**	**0.126**	33.01	-12.00
1852.50	5	QPSK	H	124	349	1 / 0	12.29	9.51	21.80	0.151	33.01	-11.21
1880.00	5	QPSK	H	108	350	1 / 0	12.36	9.90	22.26	0.168	33.01	-10.75
1907.50	5	QPSK	H	109	348	1 / 0	13.07	10.24	**23.31**	0.214	33.01	-9.70
1907.50	5	16-QAM	H	109	348	1 / 0	12.77	10.24	**23.01**	0.200	33.01	-10.00
1907.50	5	64-QAM	H	109	348	1 / 0	11.72	10.24	**21.96**	0.157	33.01	-11.05
1907.50	5	256-QAM	H	109	348	25 / 0	10.75	10.24	**20.99**	**0.126**	33.01	-12.02
1855.00	10	QPSK	H	122	351	1 / 0	12.28	9.55	21.83	0.152	33.01	-11.18
1880.00	10	QPSK	H	108	349	1 / 0	12.18	9.90	22.08	0.161	33.01	-10.93
1905.00	10	QPSK	H	112	349	1 / 0	12.94	10.22	**23.16**	0.207	33.01	-9.85
1905.00	10	16-QAM	H	112	349	1 / 0	12.91	10.22	**23.13**	0.206	33.01	-9.88
1905.00	10	64-QAM	H	112	349	1 / 0	11.56	10.22	**21.78**	0.151	33.01	-11.23
1905.00	10	256-QAM	H	112	349	50 / 0	10.84	10.22	**21.06**	**0.128**	33.01	-11.95
1857.50	15	QPSK	H	124	351	1 / 0	12.39	9.58	21.97	0.157	33.01	-11.04
1880.00	15	QPSK	H	107	351	1 / 0	12.37	9.90	22.27	0.169	33.01	-10.74
1902.50	15	QPSK	H	108	348	1 / 0	13.07	10.20	**23.27**	0.212	33.01	-9.74
1902.50	15	16-QAM	H	108	348	1 / 0	12.97	10.20	**23.17**	0.207	33.01	-9.84
1902.50	15	64-QAM	H	108	348	1 / 0	11.64	10.20	**21.84**	0.153	33.01	-11.17
1902.50	15	256-QAM	H	108	348	75 / 0	10.91	10.20	**21.11**	**0.129**	33.01	-11.90
1860.00	20	QPSK	H	122	352	1 / 0	12.43	9.62	22.05	0.160	33.01	-10.96
1880.00	20	QPSK	H	107	351	1 / 0	12.49	9.90	22.39	0.173	33.01	-10.62
1900.00	20	QPSK	H	109	346	1 / 0	13.13	10.18	**23.31**	0.214	33.01	-9.70
1900.00	20	16-QAM	H	109	346	1 / 0	12.83	10.18	**23.01**	0.200	33.01	-10.00
1900.00	20	64-QAM	H	109	346	1 / 0	11.96	10.18	**22.14**	0.164	33.01	-10.87
1900.00	20	256-QAM	H	109	346	100 / 0	6.97	10.18	**17.15**	0.052	33.01	-15.86
1908.50	3	QPSK	V	139	45	1 / 0	11.13	10.30	21.43	0.139	33.01	-11.58
1908.50	3 (WCP)	QPSK	H	160	43	1 / 0	8.69	10.25	18.94	0.078	33.01	-14.07

Table 7-11. EIRP Data (Band 2)

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	122	36	1 / 24	9.07	10.31	19.38	0.087	23.98	-4.60
2312.50	5	QPSK	H	123	38	1 / 24	9.15	10.31	**19.46**	0.088	23.98	-4.52
2312.50	5	16-QAM	H	123	38	1 / 24	8.77	10.31	**19.08**	0.081	23.98	-4.90
2312.50	5	64-QAM	H	123	38	1 / 24	7.51	10.31	**17.82**	0.061	23.98	-6.16
2312.50	5	256-QAM	H	123	38	25 / 0	2.00	10.31	**12.31**	0.017	23.98	-11.67
2310.00	10	QPSK	H	123	38	1 / 49	9.22	10.31	**19.53**	**0.090**	23.98	-4.45
2310.00	10	16-QAM	H	123	38	1 / 49	8.94	10.31	**19.25**	0.084	23.98	-4.73
2310.00	10	64-QAM	H	123	38	1 / 49	7.52	10.31	**17.83**	0.061	23.98	-6.15
2310.00	10	256-QAM	H	352	178	50 / 0	1.80	10.31	**12.11**	**0.016**	23.98	-11.87
2310.00	10	QPSK	V	100	316	1 / 49	8.32	10.22	18.54	0.071	23.98	-5.44
2310.00	10 (WCP)	QPSK	H	191	6	1 / 49	8.36	10.31	18.67	0.074	23.98	-5.31

Table 7-12. 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	H	130	225	1 / 24	13.50	9.43	22.93	0.196	33.01	-10.08
2593.00	5	QPSK	H	113	197	1 / 0	12.51	9.55	22.06	0.161	33.01	-10.95
2687.50	5	QPSK	H	158	197	1 / 24	13.37	9.82	**23.19**	0.208	33.01	-9.82
2687.50	5	16-QAM	H	158	197	1 / 24	13.28	9.82	**23.10**	0.204	33.01	-9.91
2687.50	5	64-QAM	H	158	197	1 / 24	12.03	9.82	**21.85**	0.153	33.01	-11.16
2687.50	5	256-QAM	H	158	197	1 / 24	8.88	9.82	**18.70**	**0.074**	33.01	-14.31
2501.00	10	QPSK	H	127	226	1 / 49	13.49	9.43	22.92	0.196	33.01	-10.09
2593.00	10	QPSK	H	114	195	1 / 0	12.44	9.55	21.99	0.158	33.01	-11.02
2685.00	10	QPSK	H	152	197	1 / 49	13.35	9.82	**23.17**	0.208	33.01	-9.84
2685.00	10	16-QAM	H	152	197	1 / 49	13.34	9.82	**23.16**	0.207	33.01	-9.85
2685.00	10	64-QAM	H	152	197	1 / 49	11.90	9.82	**21.72**	0.149	33.01	-11.29
2685.00	10	256-QAM	H	152	197	1 / 49	8.85	9.82	**18.67**	**0.074**	33.01	-14.34
2503.50	15	QPSK	H	124	229	1 / 74	13.91	9.43	23.34	0.216	33.01	-9.67
2593.00	15	QPSK	H	113	194	1 / 0	12.84	9.55	22.39	0.174	33.01	-10.62
2682.50	15	QPSK	H	154	194	1 / 74	13.71	9.83	**23.54**	**0.226**	33.01	-9.47
2682.50	15	16-QAM	H	154	194	1 / 74	13.49	9.83	**23.32**	0.215	33.01	-9.69
2682.50	15	64-QAM	H	154	194	1 / 74	12.62	9.83	**22.45**	0.176	33.01	-10.56
2682.50	15	256-QAM	H	154	194	1 / 74	9.34	9.83	**19.17**	**0.083**	33.01	-13.84
2506.00	20	QPSK	H	126	227	1 / 99	13.75	9.42	23.17	0.208	33.01	-9.84
2593.00	20	QPSK	H	113	196	1 / 0	12.63	9.55	22.18	0.165	33.01	-10.83
2680.00	20	QPSK	H	155	196	1 / 99	13.67	9.83	**23.50**	0.224	33.01	-9.51
2680.00	20	16-QAM	H	155	196	1 / 99	13.15	9.83	**22.98**	0.199	33.01	-10.03
2680.00	20	64-QAM	H	155	196	1 / 99	12.40	9.83	**22.23**	0.167	33.01	-10.78
2680.00	20	256-QAM	H	155	196	1 / 99	9.08	9.83	**18.91**	**0.078**	33.01	-14.10
2682.50	15	QPSK	V	117	11	1 / 74	10.46	9.68	20.14	0.103	33.01	-12.87
2682.50	15 (WCP)	QPSK	H	147	180	1 / 74	11.41	9.83	21.24	0.133	33.01	-11.77

Table 7-13. EIRP Data (Band 41 – PC3)

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]
826.50	5	QPSK	V	177	127	1 / 5	7.84	6.30	11.99	0.016	38.45	-26.46
836.50	5	QPSK	V	168	90	1 / 5	9.93	6.40	**14.18**	0.026	38.45	-24.27
846.50	5	QPSK	V	166	123	1 / 5	8.54	6.50	12.89	0.019	38.45	-25.56
836.50	5	16-QAM	V	168	90	1 / 5	8.83	6.40	**13.08**	0.020	38.45	-25.37
836.50	5	64-QAM	V	168	90	1 / 5	6.93	6.40	**11.18**	0.013	38.45	-27.27
836.50	5	256-QAM	V	168	90	1 / 5	5.63	6.40	**9.88**	**0.010**	38.45	-28.57
829.00	10	QPSK	V	182	129	1 / 14	7.67	6.30	11.82	0.015	38.45	-26.63
836.50	10	QPSK	V	173	92	1 / 14	9.63	6.40	**13.88**	0.024	38.45	-24.57
844.00	10	QPSK	V	171	125	1 / 14	8.74	6.40	12.99	0.020	38.45	-25.46
836.50	10	16-QAM	V	173	92	1 / 14	8.53	6.40	**12.78**	0.019	38.45	-25.67
836.50	10	64-QAM	V	173	92	1 / 14	6.63	6.40	**10.88**	0.012	38.45	-27.57
836.50	10	256-QAM	V	173	92	1 / 14	5.33	6.40	**9.58**	**0.009**	38.45	-28.87
831.50	15	QPSK	V	178	133	1 / 24	7.52	6.35	11.72	0.015	38.45	-26.73
836.50	15	QPSK	V	169	96	1 / 24	9.25	6.40	**13.50**	0.022	38.45	-24.95
841.50	15	QPSK	V	167	129	1 / 24	8.84	6.40	13.09	0.020	38.45	-25.36
836.50	15	16-QAM	V	169	96	1 / 24	8.15	6.40	**12.40**	0.017	38.45	-26.05
836.50	15	64-QAM	V	169	96	1 / 24	6.25	6.40	**10.50**	0.011	38.45	-27.95
836.50	15	256-QAM	V	169	96	1 / 24	4.95	6.40	**9.20**	**0.008**	38.45	-29.25
834.00	20	QPSK	V	173	135	1 / 53	8.96	6.40	13.21	0.021	38.45	-25.24
836.50	20	QPSK	V	164	98	1 / 53	10.28	6.40	14.53	0.028	38.45	-23.92
839.00	20	QPSK	V	162	131	1 / 53	10.50	6.40	**14.75**	**0.030**	38.45	-23.70
839.00	20	16-QAM	V	162	131	1 / 53	9.28	6.40	**13.53**	0.023	38.45	-24.92
839.00	20	64-QAM	V	162	131	1 / 53	8.64	6.40	**12.89**	0.019	38.45	-25.56
839.00	20	256-QAM	V	162	131	1 / 53	5.98	6.40	**10.23**	0.011	38.45	-28.22
839.00	20	QPSK	H	207	92	1 / 53	9.64	6.70	14.19	0.026	38.45	-24.26
839.00	20 (WCP)	QPSK	H	183	336	1 / 53	8.56	6.70	13.11	0.020	38.45	-25.34

Table 7-14. ERP Data (5G NR 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]
1712.50	5	QPSK	H	93	334	1 / 24	10.43	9.34	19.77	0.095	30.00	-10.23
1745.00	5	QPSK	H	109	332	1 / 24	11.53	9.11	**20.64**	0.116	30.00	-9.36
1777.50	5	QPSK	H	122	311	1 / 24	11.14	9.16	20.30	0.107	30.00	-9.70
1745.00	5	16-QAM	H	109	332	1 / 24	10.43	9.11	**19.54**	0.090	30.00	-10.46
1745.00	5	64-QAM	H	109	332	1 / 24	8.53	9.11	**17.64**	0.058	30.00	-12.36
1745.00	5	256-QAM	H	109	332	1 / 24	7.23	9.11	**16.34**	**0.043**	30.00	-13.66
1715.00	10	QPSK	H	105	324	1 / 49	10.75	9.32	20.07	0.102	30.00	-9.93
1745.00	10	QPSK	H	121	322	1 / 49	11.12	9.11	**20.23**	0.105	30.00	-9.77
1775.00	10	QPSK	H	134	301	1 / 49	10.97	9.16	20.13	0.103	30.00	-9.87
1745.00	10	16-QAM	H	121	322	1 / 49	9.92	9.11	**19.03**	0.080	30.00	-10.97
1745.00	10	64-QAM	H	121	322	1 / 49	7.97	9.11	**17.08**	0.051	30.00	-12.92
1745.00	10	256-QAM	H	121	322	1 / 49	6.64	9.11	**15.75**	**0.038**	30.00	-14.25
1717.50	15	QPSK	H	100	329	1 / 74	9.83	9.30	19.13	0.082	30.00	-10.87
1745.00	15	QPSK	H	89	328	1 / 74	11.69	9.11	**20.80**	**0.120**	30.00	-9.20
1772.50	15	QPSK	H	114	299	1 / 74	11.24	9.15	20.39	0.109	30.00	-9.61
1745.00	15	16-QAM	H	89	328	1 / 74	10.52	9.11	**19.63**	0.092	30.00	-10.37
1745.00	15	64-QAM	H	89	328	1 / 74	8.69	9.11	**17.80**	0.060	30.00	-12.20
1745.00	15	256-QAM	H	89	328	1 / 74	7.38	9.11	**16.49**	**0.045**	30.00	-13.51
1720.00	20	QPSK	H	112	319	1 / 104	10.15	9.28	19.43	0.088	30.00	-10.57
1745.00	20	QPSK	H	101	318	1 / 104	11.28	9.11	**20.39**	0.109	30.00	-9.61
1770.00	20	QPSK	H	126	289	1 / 104	11.07	9.14	20.21	0.105	30.00	-9.79
1745.00	20	16-QAM	H	101	318	1 / 104	10.74	9.11	**19.85**	0.097	30.00	-10.15
1745.00	20	64-QAM	H	101	318	1 / 104	10.52	9.11	**19.63**	0.092	30.00	-10.37
1745.00	20	256-QAM	H	101	318	1 / 104	9.49	9.11	**18.60**	**0.072**	30.00	-11.40
1745.00	15	QPSK	V	136	28	1 / 74	8.89	9.23	18.12	0.065	30.00	-11.88
1745.00	15 (WCP)	QPSK	H	147	310	1 / 74	10.49	9.11	19.60	0.091	30.00	-10.40

Table 7-15. EIRP Data (5G NR 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]
1852.50	5	QPSK	V	170	138	1 / 24	11.11	9.89	**21.00**	0.126	33.01	-12.01
1880.00	5	QPSK	V	148	89	1 / 24	10.86	10.10	20.96	0.125	33.01	-12.05
1907.50	5	QPSK	V	147	10	1 / 24	9.50	10.30	19.80	0.095	33.01	-13.21
1852.50	5	16-QAM	V	170	138	1 / 24	9.97	9.89	**19.86**	0.097	33.01	-13.15
1852.50	5	64-QAM	V	170	138	1 / 24	8.01	9.89	**17.90**	0.062	33.01	-15.11
1852.50	5	256-QAM	V	170	138	1 / 24	6.74	9.89	**16.63**	**0.046**	33.01	-16.38
1855.00	10	QPSK	V	166	136	1 / 49	10.19	9.91	20.10	0.102	33.01	-12.91
1880.00	10	QPSK	V	152	94	1 / 49	11.43	10.10	**21.53**	**0.142**	33.01	-11.48
1905.00	10	QPSK	V	146	17	1 / 49	9.77	10.28	20.05	0.101	33.01	-12.96
1880.00	10	16-QAM	V	152	94	1 / 49	10.26	10.10	**20.36**	0.109	33.01	-12.65
1880.00	10	64-QAM	V	152	94	1 / 49	7.93	10.10	**18.03**	0.064	33.01	-14.98
1880.00	10	256-QAM	V	152	94	1 / 49	7.08	10.10	**17.18**	**0.052**	33.01	-15.83
1857.50	15	QPSK	V	161	138	1 / 74	10.02	9.93	19.95	0.099	33.01	-13.06
1880.00	15	QPSK	V	147	96	1 / 74	11.05	10.10	**21.15**	0.130	33.01	-11.86
1902.50	15	QPSK	V	141	19	1 / 74	10.01	10.27	20.28	0.107	33.01	-12.73
1880.00	15	16-QAM	V	147	96	1 / 74	9.81	10.10	**19.91**	0.098	33.01	-13.10
1880.00	15	64-QAM	V	147	96	1 / 74	7.81	10.10	**17.91**	0.062	33.01	-15.10
1880.00	15	256-QAM	V	147	96	1 / 74	6.57	10.10	**16.67**	**0.046**	33.01	-16.34
1860.00	20	QPSK	V	156	140	1 / 1	10.17	9.95	20.12	0.103	33.01	-12.89
1880.00	20	QPSK	V	142	98	1 / 1	10.82	10.10	20.92	0.124	33.01	-12.09
1900.00	20	QPSK	V	136	21	1 / 1	10.76	10.26	**21.02**	0.126	33.01	-11.99
1900.00	20	16-QAM	V	136	21	1 / 1	10.28	10.26	**20.54**	0.113	33.01	-12.47
1900.00	20	64-QAM	V	136	21	1 / 1	9.18	10.26	**19.44**	0.088	33.01	-13.57
1900.00	20	256-QAM	V	136	21	1 / 1	7.91	10.26	**18.17**	**0.066**	33.01	-14.84
1880.00	10	QPSK	H	146	30	1 / 49	10.32	10.10	20.42	0.110	33.01	-12.59
1880.00	10 (WCP)	QPSK	V	163	97	1 / 49	6.54	10.10	16.64	0.046	33.01	-16.37

Table 7-16. EIRP Data (5G NR n2)

7.9 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.

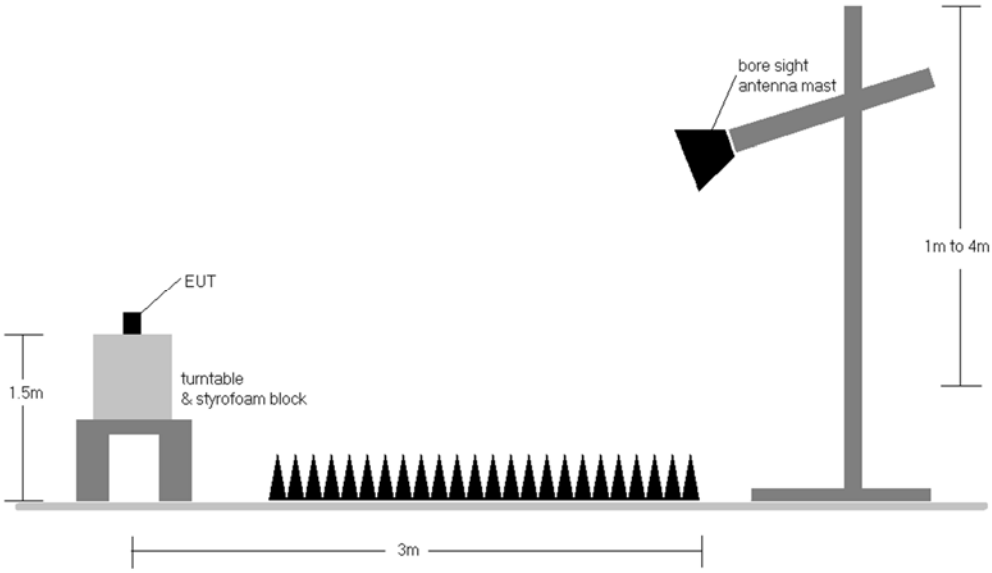


Figure 7-8. Test Instrument & Measurement Setup

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.

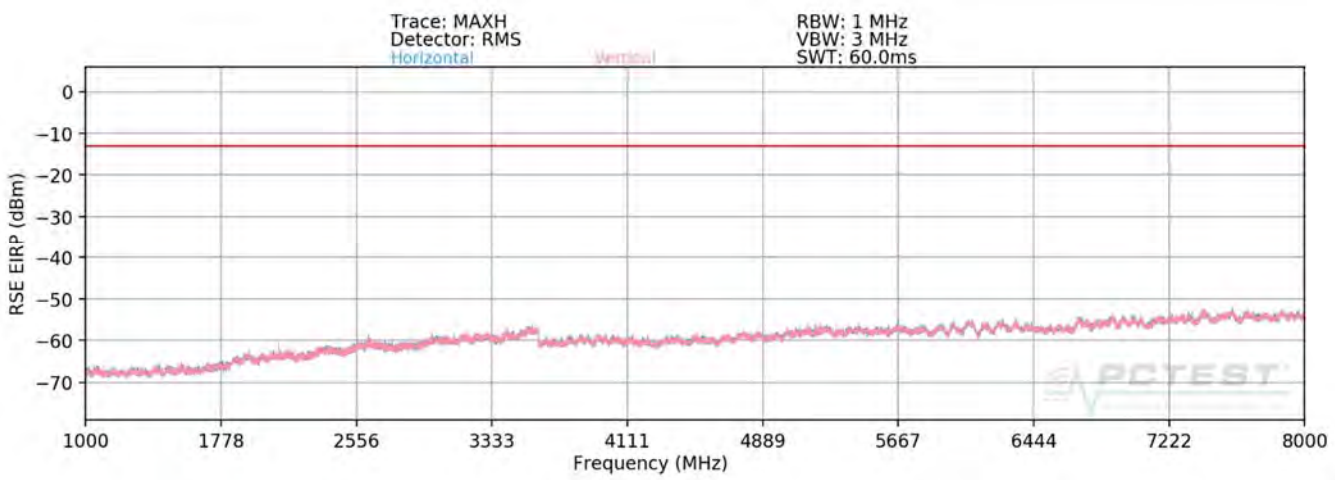
5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

6) All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) 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.

   Per FCC Guidance, KDB 328880, Radiated Spurious Measurements were made based of the worst case modulation and RB configuraton as determined by EIRP measurement, and grouping the available combinations by Low Band, Mid Band, and High Band.

   Spurious emissions shown in this section are measured while operating in EN-DC mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor). Per KDB 968740, spurious emissions from the NR carrier device, is subject to the rules under which the NR carrier operates. Spurious emission caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates. If the spurious emission is caused by the simultaneous operation of both devices, the limit is the highest level allowed by either rule part.

Band 12



Plot 7-465. 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	-	-	-75.67	3.17	-72.50	-59.5
2112.00	H	142	226	-70.26	3.10	-67.16	-54.2
2816.00	H	-	-	-72.96	5.28	-67.67	-54.7

Table 7-17. 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	-	-	-74.70	3.24	-71.46	-58.5
2122.50	H	116	213	-70.49	3.15	-67.34	-54.3
2830.00	H	-	-	-74.25	5.27	-68.98	-56.0

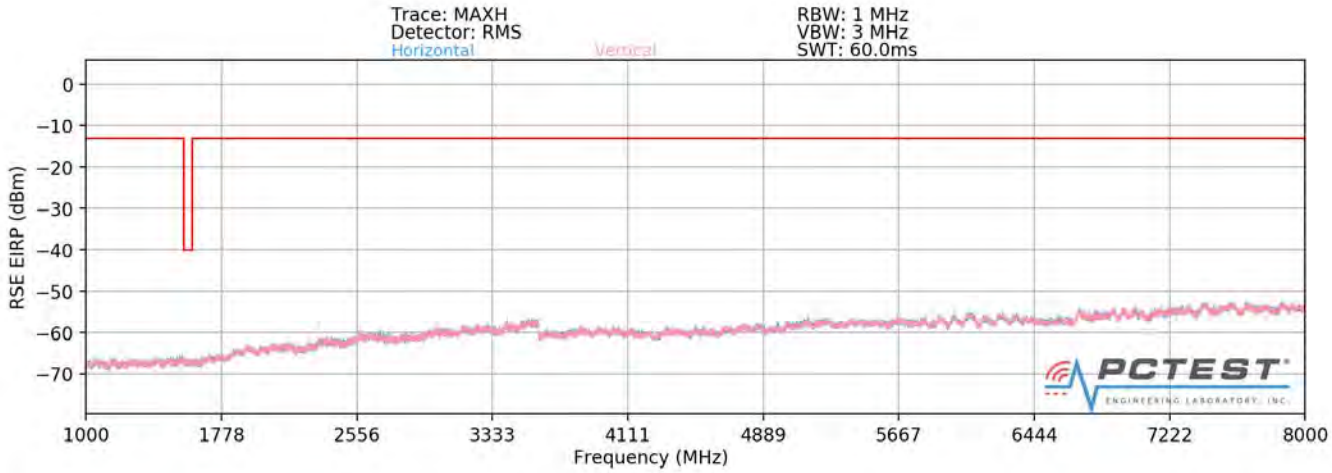
Table 7-18. Radiated Spurious Data (Band 12 – Mid Channel)

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	-	-	-75.45	3.32	-72.13	-59.1
2133.00	H	150	220	-71.07	3.20	-67.87	-54.9
2844.00	H	-	-	-74.84	5.34	-69.50	-56.5

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

Band 13



Plot 7-466. 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	142	232	-70.86	3.94	-66.92	-53.9
3128.00	H	-	-	-74.02	6.10	-67.92	-54.9

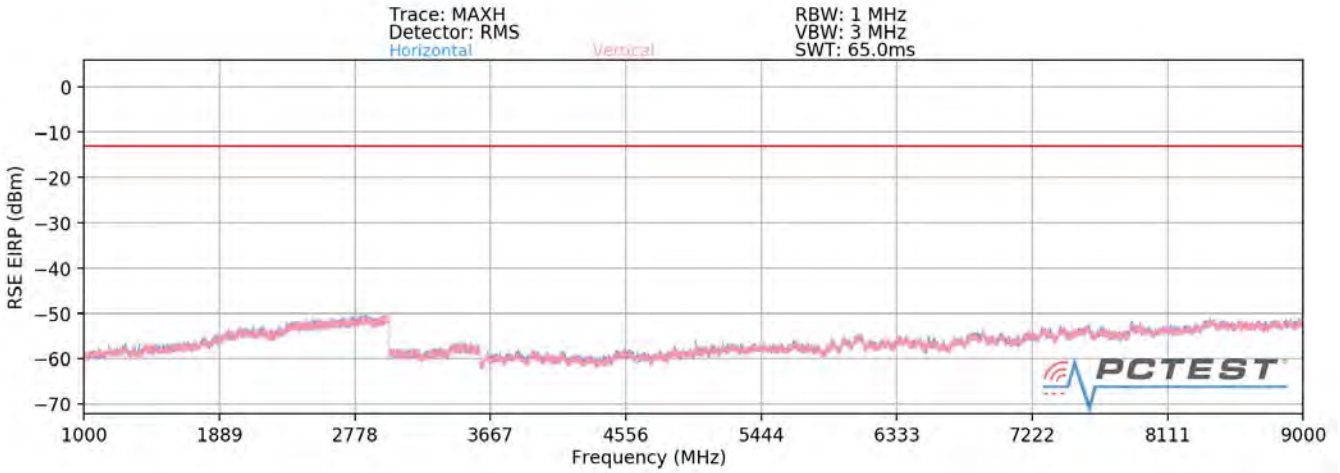
Table 7-20. Radiated Spurious Data (Band 13 – Mid Channel)

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	-	-	-76.26	3.70	-72.56	-32.6

Table 7-21. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 5



Plot 7-467. 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	-	-	-76.66	3.77	-72.88	-59.9
2487.00	H	207	54	-68.77	4.31	-64.46	-51.5
3316.00	H	-	-	-73.68	6.48	-67.19	-54.2

Table 7-22. 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	-	-	-76.65	3.66	-72.99	-60.0
2509.50	H	180	49	-69.75	4.17	-65.58	-52.6
3346.00	H	-	-	-73.98	6.52	-67.46	-54.5

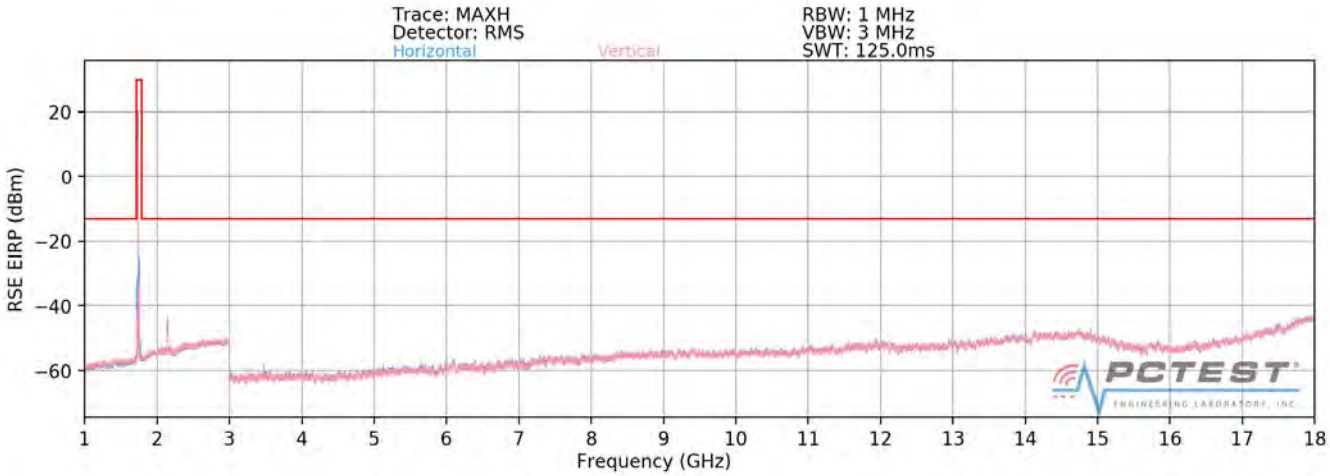
Table 7-23. Radiated Spurious Data (Band 5 – Mid Channel)

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	-	-	-75.73	3.67	-72.06	-59.1
2532.00	H	140	48	-68.08	4.33	-63.75	-50.8
3376.00	H	-	-	-67.33	6.57	-60.77	-47.8

Table 7-24. Radiated Spurious Data (Band 5 – High Channel)

Band 66/4



Plot 7-468. Radiated Spurious Plot above 1GHz (Band 66/4)

OPERATING FREQUENCY:	1717.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	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]
3435.00	V	334	250	-68.16	6.65	-61.51	-48.5
5152.50	V	-	-	-71.17	9.04	-62.13	-49.1

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

OPERATING FREQUENCY:	1745.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	V	213	255	-69.21	6.76	-62.45	-49.5
5235.00	V	-	-	-68.92	9.13	-59.79	-46.8
6980.00	V	-	-	-69.49	9.46	-60.04	-47.0

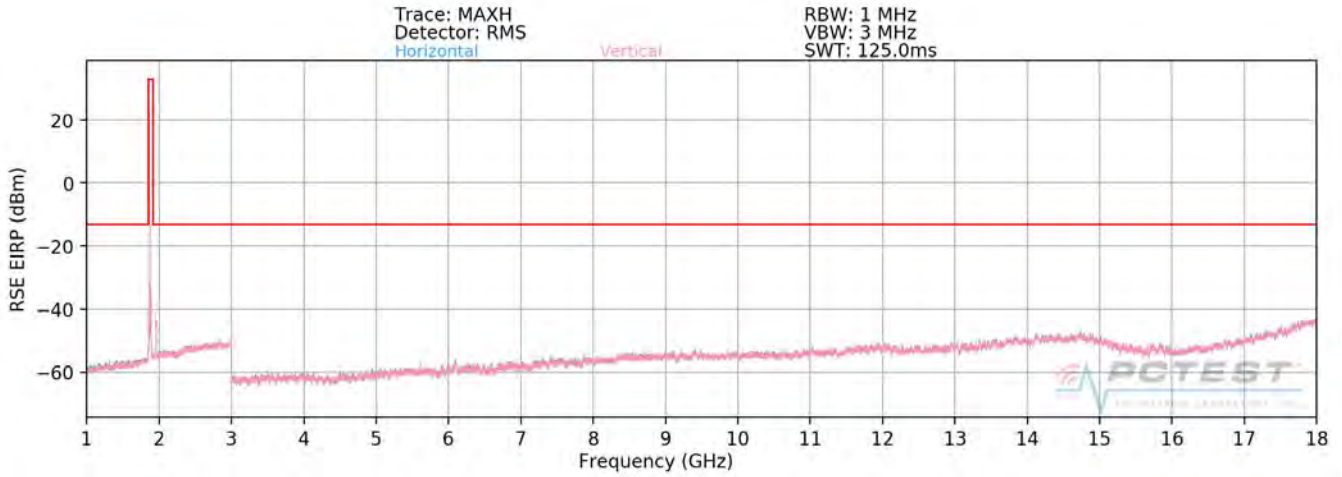
Table 7-26. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1772.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	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]
3545.00	V	400	117	-70.07	6.77	-63.30	-50.3
5317.50	V	-	-	-67.64	9.08	-58.56	-45.6
7090.00	V	-	-	-66.68	9.42	-57.25	-44.3

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

Band 2



Plot 7-469. Radiated Spurious Plot above 1GHz (Band 2)

OPERATING FREQUENCY:	1851.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	3.0	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]
3703.00	H	228	353	-70.16	7.26	-62.90	-49.9
5554.50	H	114	313	-60.43	9.30	-51.13	-38.1
7406.00	H	-	-	-68.46	9.40	-59.06	-46.1

Table 7-28. Radiated Spurious Data (Band 2 – Low Channel)

OPERATING FREQUENCY:	1880.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	3.0	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	164	332	-70.71	7.27	-63.44	-50.4
5640.00	H	-	-	-70.96	9.34	-61.62	-48.6

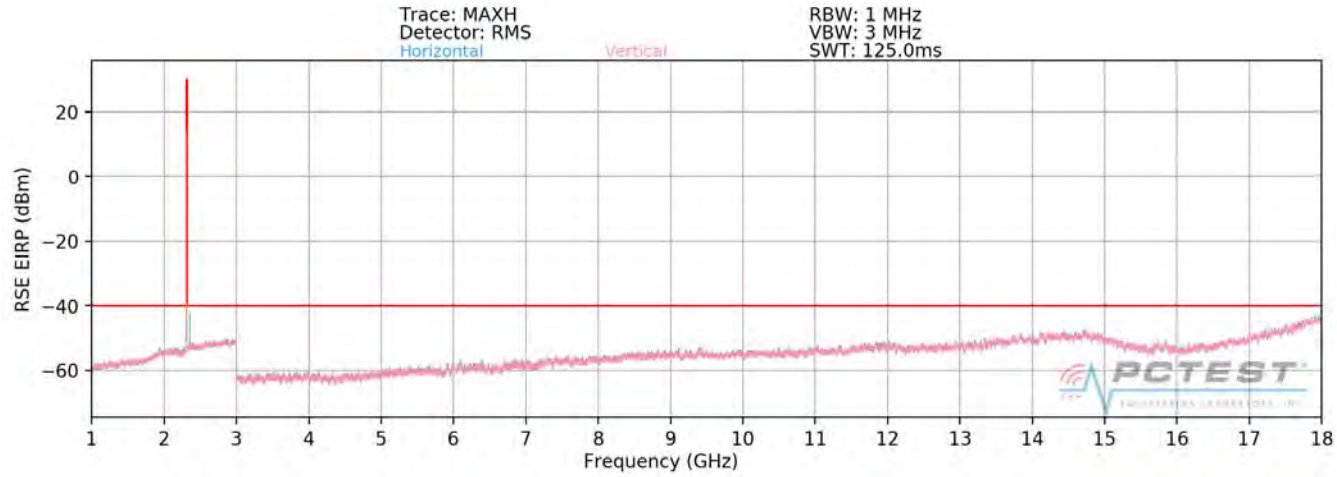
Table 7-29. Radiated Spurious Data (Band 2 – Mid Channel)

OPERATING FREQUENCY:	1908.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	3.0	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]
3817.00	H	181	12	-71.78	7.37	-64.41	-51.4
5725.50	H	111	313	-60.52	9.38	-51.14	-38.1
7634.00	H	-	-	-69.67	9.36	-60.31	-47.3

Table 7-30. Radiated Spurious Data (Band 2 – High Channel)

Band 30



Plot 7-470. Radiated Spurious Plot 1GHz - 18GHz (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	-	-	-72.51	8.41	-64.10	-24.1
6930.00	H	-	-	-70.58	9.48	-61.10	-21.1

Table 7-31. Radiated Spurious Data (Band 30 – Low Channel)

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	-	-	-75.72	8.41	-67.31	-27.3
6930.00	H	-	-	-73.45	9.48	-63.97	-24.0

Table 7-32. Radiated Spurious Data (Band 30 – Mid Channel)

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	-	-	-73.64	8.41	-65.23	-25.2
6930.00	H	-	-	-70.92	9.48	-61.44	-21.4

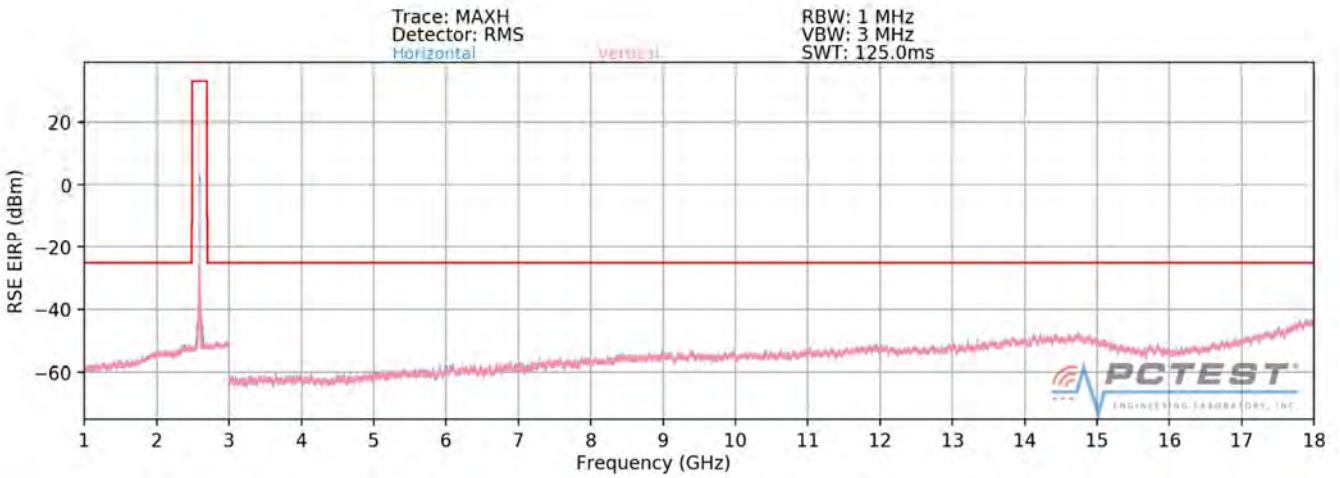
Table 7-33. Radiated Spurious Data (Band 30 – High Channel)

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	-	-	-73.64	8.41	-65.23	-25.2
6930.00	H	-	-	-70.92	9.48	-61.44	-21.4

Table 7-34. Radiated Spurious Data with WCP (Band 30 – High Channel)

Band 41



Plot 7-471. Radiated Spurious Plot 1GHz - 18GHz (Band 41)

OPERATING FREQUENCY:	2506.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	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	309	59	-64.41	8.82	-55.59	-30.6
7518.00	H	132	106	-66.66	9.41	-57.25	-32.3
10024.00	H	-	-	-65.83	9.51	-56.32	-31.3

Table 7-35. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	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	117	50	-66.01	9.10	-56.91	-31.9
7779.00	H	-	-	-66.97	9.35	-57.63	-32.6
10372.00	H	-	-	-65.28	9.49	-55.78	-30.8

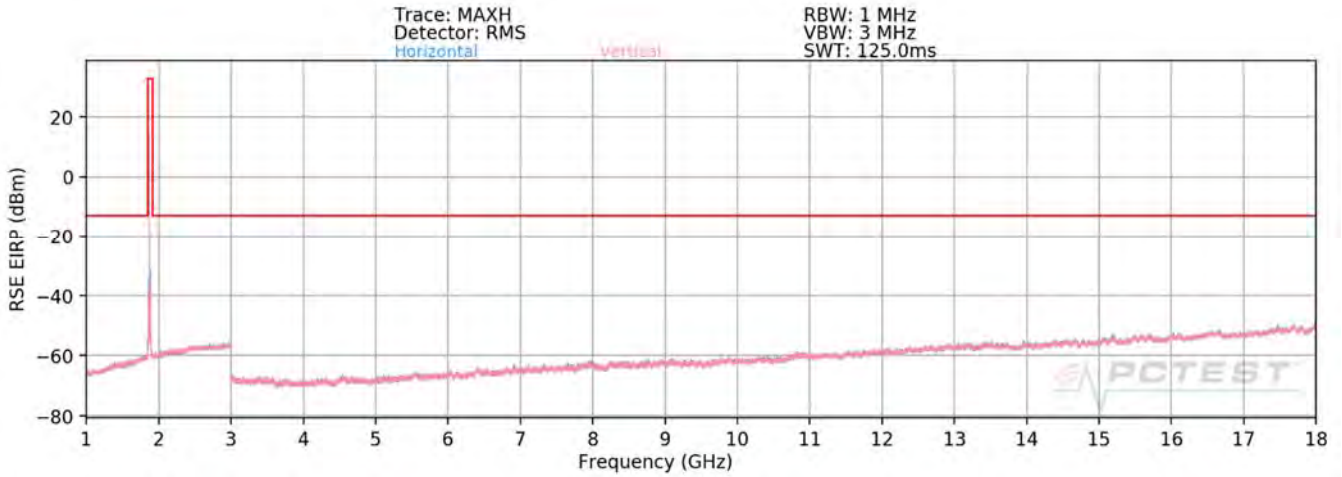
Table 7-36. Radiated Spurious Data (Band 41 – Mid Channel)

OPERATING FREQUENCY:	2682.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	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]
5365.00	H	113	33	-63.81	9.11	-54.70	-29.7
8047.50	H	216	350	-66.11	9.38	-56.73	-31.7
10730.00	H	-	-	-65.61	9.45	-56.16	-31.2

Table 7-37. Radiated Spurious Data (Band 41 – High Channel)

5G NR n2 + B5



Plot 7-472. Radiated Spurious Plot above 1GHz (5G NR n2 + B5)

n2 OPERATING FREQUENCY	1860.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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	-	-	-52.14	3.09	-49.05	-36.0
5580.00	H	-	-	-50.05	3.92	-46.13	-33.1

Table 7-38. Radiated Spurious Data (5G NR n2 + B5 – Low Channel)

n2 OPERATING FREQUENCY	1880.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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	-	-	-54.88	3.10	-51.78	-38.8
5640.00	H	-	-	-49.89	4.02	-45.88	-32.9

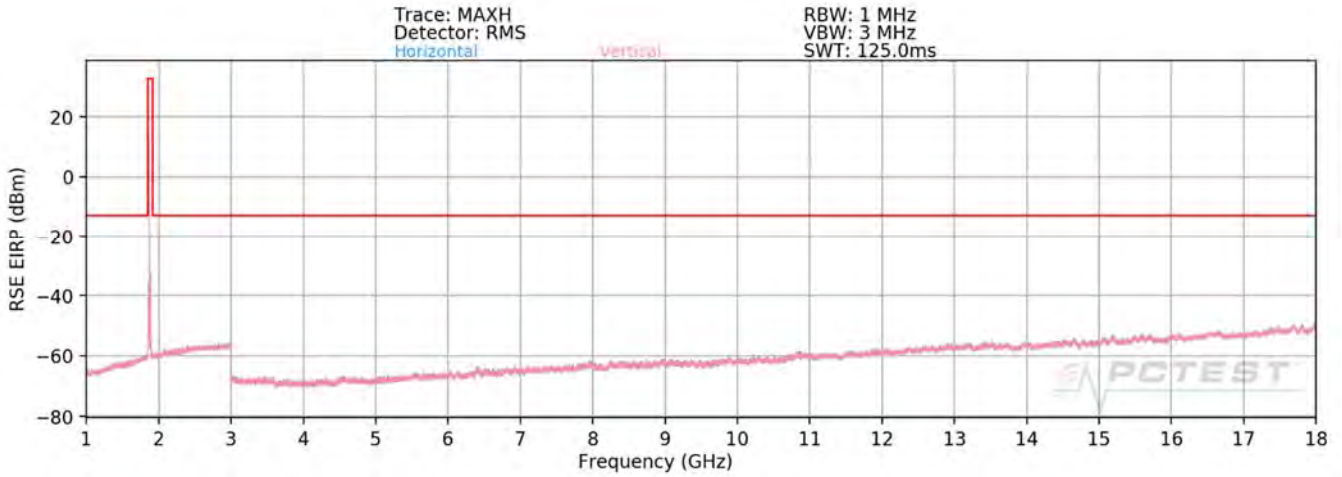
Table 7-39. Radiated Spurious Data (5G NR n2 + B5 – Mid Channel)

n2 OPERATING FREQUENCY	1900.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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	-	-	-54.33	3.13	-51.20	-38.2
5700.00	H	-	-	-51.61	4.05	-47.56	-34.6

Table 7-40. Radiated Spurious Data (5G NR n2 + B5– High Channel)

5G NR n5 + B2



Plot 7-473. Radiated Spurious Plot above 1GHz (5G NR n5 + B2)

n5 OPERATING FREQUENCY	834.00	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1880.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	20	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]
1668.00	H	-	-	-60.15	3.09	-57.06	-44.1
2502.00	H	-	-	-56.18	3.92	-52.26	-39.3

Table 7-41. Radiated Spurious Data (5G NR n5 + B2 – Low Channel)

n5 OPERATING FREQUENCY	836.50	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1880.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	20	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	-	-	-57.14	3.10	-54.04	-41.0
2509.50	H	-	-	-55.14	4.02	-51.13	-38.1

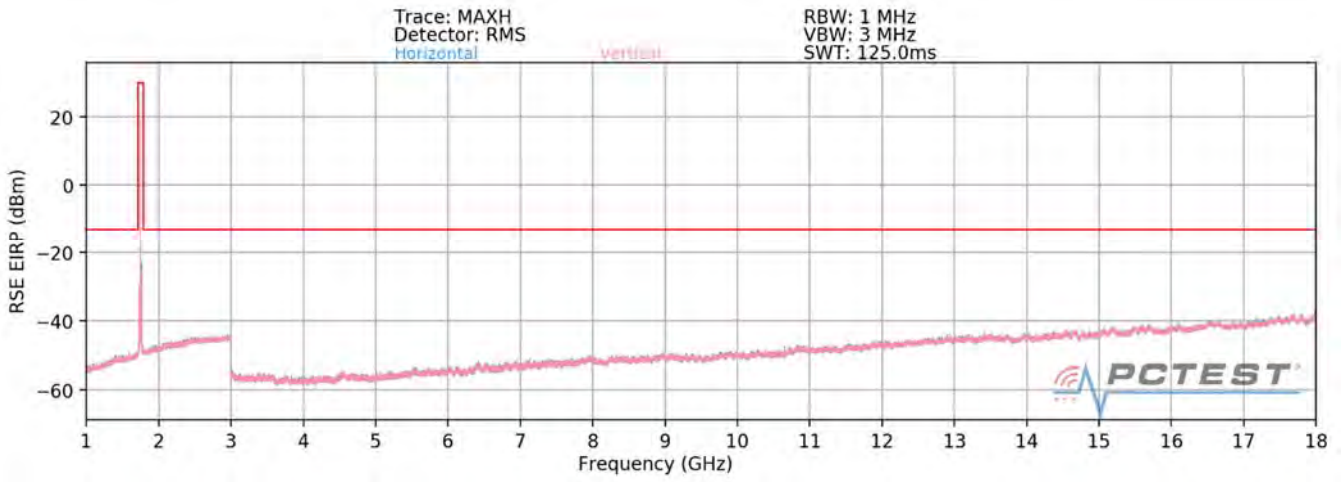
Table 7-42. Radiated Spurious Data (5G NR n5 + B2 – Mid Channel)

n5 OPERATING FREQUENCY	839.00	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1880.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	20	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]
1678.00	H	-	-	-59.14	3.13	-56.01	-43.0
2517.00	H	-	-	-57.16	4.05	-53.11	-40.1

Table 7-43. Radiated Spurious Data (5G NR n5 + B2– High Channel)

5G NR n66 + B66



Plot 7-474. Radiated Spurious Plot above 1GHz (5G NR n66 + B66)

n66 OPERATING FREQUENCY	1720.00	MHz
n66 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n66 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1745.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	MHz
DISTANCE	3	meters
LIMIT	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	V	-	-	-47.63	6.28	-41.35	-28.4
5160.00	V	-	-	-48.57	8.98	-39.59	-26.6

Table 7-44. Radiated Spurious Data (5G NR n66 + B66 – Low Channel)

n66 OPERATING FREQUENCY	1745.00	MHz
n66 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n66 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1745.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	MHz
DISTANCE	3	meters
LIMIT	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	V	-	-	-50.03	6.47	-43.57	-30.6
5235.00	V	-	-	-49.23	8.97	-40.26	-27.3

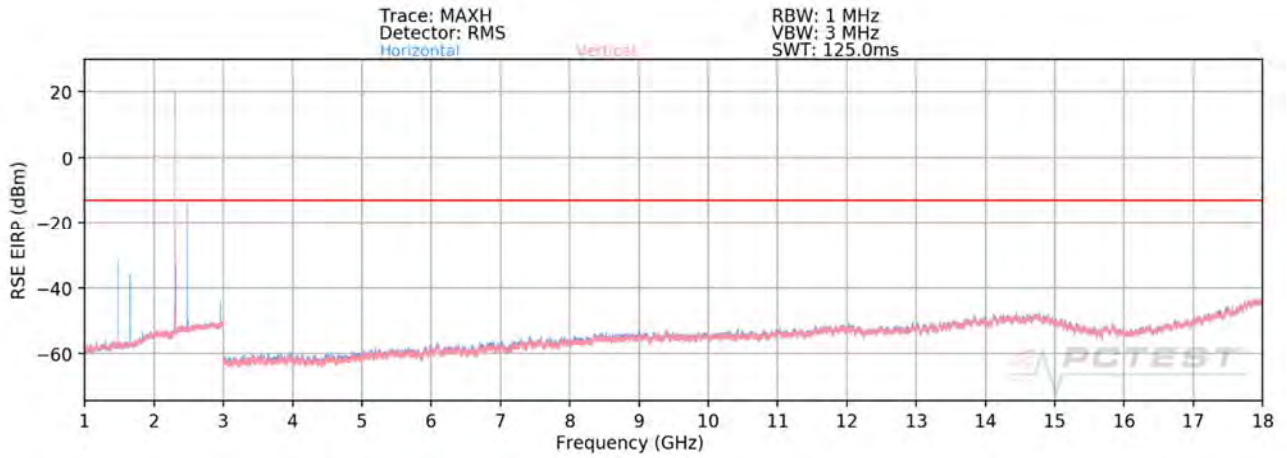
Table 7-45. Radiated Spurious Data (5G NR n66 + B66 – Mid Channel)

n66 OPERATING FREQUENCY	1770.00	MHz
n66 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n66 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	1745.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	MHz
DISTANCE	3	meters
LIMIT	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	V	-	-	-50.10	6.45	-43.65	-30.7
5310.00	V	-	-	-49.26	9.09	-40.17	-27.2

Table 7-46. Radiated Spurious Data (5G NR n66 + B66– High Channel)

5G NR n5 + B30



Plot 7-475. Radiated Spurious Plot above 1GHz (5G NR n5 + B30)

n5 OPERATING FREQUENCY	834.00	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1481.00	H	-	-	-76.27	3.62	-72.65	-59.7
1668.00	H	170	146	-71.44	4.29	-67.15	-54.2
2502.00	H	167	140	-55.19	5.89	-49.30	-36.3
3131.50	H	-	-	-74.01	7.69	-66.32	-53.3

Table 7-47. Radiated Spurious Data (5G NR n5 + B30 – Low Channel)

n5 OPERATING FREQUENCY	836.50	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1478.50	H	-	-	-76.35	3.14	-73.21	-60.2
1673.00	H	168	154	-72.35	3.62	-68.73	-55.7
2509.50	H	111	52	-62.70	4.33	-58.37	-45.4
3100.10	H	-	-	-73.53	5.34	-68.18	-55.2

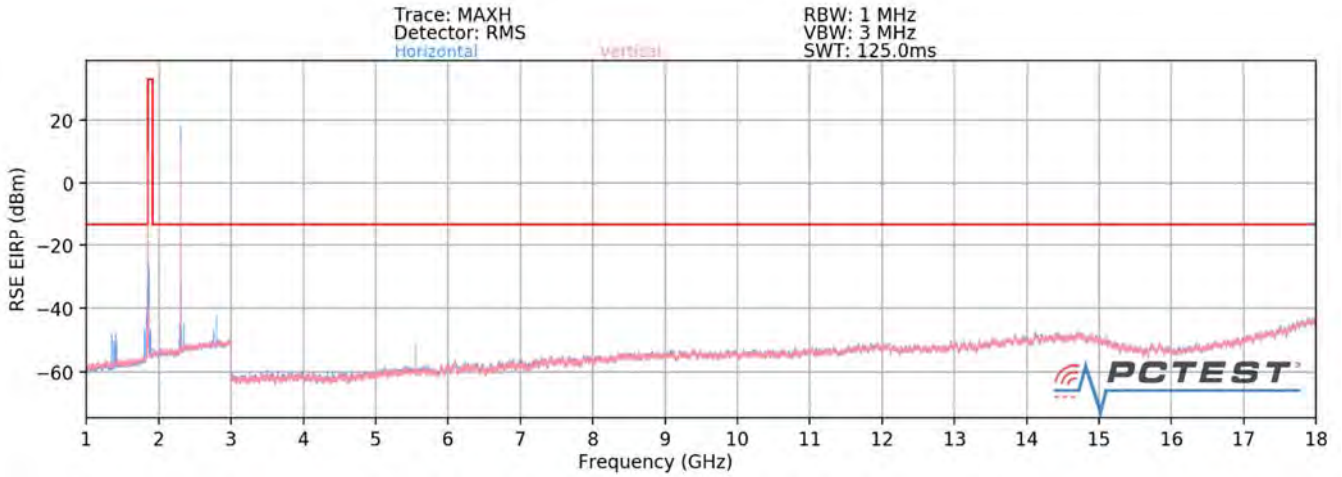
Table 7-48. Radiated Spurious Data (5G NR n5 + B30 – Mid Channel)

n5 OPERATING FREQUENCY	839.00	MHz
n5 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n5 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1476.00	H	-	-	-76.06	3.62	-72.44	-59.4
1678.00	H	112	144	-68.72	4.38	-64.34	-51.3
2517.00	H	211	0	-60.65	5.96	-54.69	-41.7
3134.00	H	-	-	-72.91	7.70	-65.21	-52.2

Table 7-49. Radiated Spurious Data (5G NR n5 + B30– High Channel)

5G NR n2 + B30



Plot 7-476. Radiated Spurious Plot above 1GHz (5G NR n2 + B30)

n2 OPERATING FREQUENCY	1860.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1395.00	H	149	351	-28.68	3.09	-25.59	-12.6
2760.00	H	148	353	-34.72	3.92	-30.80	-17.8
3720.00	H	111	22	-73.50	9.51	-63.99	-51.0
5580.00	H	-	-	-73.03	10.99	-62.04	-49.0

Table 7-50. Radiated Spurious Data (5G NR n2 + B30 – Low Channel)

n2 OPERATING FREQUENCY	1880.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1435.00	H	178	346	-27.81	3.10	-24.71	-11.7
2740.00	H	217	195	-32.25	4.02	-28.24	-15.2
3760.00	H	111	137	-75.49	9.37	-66.12	-53.1
5640.00	H	127	272	-72.60	11.17	-61.43	-48.4

Table 7-51. Radiated Spurious Data (5G NR n2 + B30 – Mid Channel)

n2 OPERATING FREQUENCY	1900.00	MHz
n2 MODULATION SIGNAL	QPSK-DFT-s-ODFM	
n2 BANDWIDTH	20.0	MHz
LTE OPERATING FREQUENCY	2310.00	MHz
LTE MODULATION SIGNAL	QPSK	
LTE BANDWIDTH	10	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]
1475.00	H	124	345	-30.76	3.13	-27.63	-14.6
2720.00	H	175	192	-30.21	4.05	-26.16	-13.2
3800.00	H	111	332	-72.58	9.28	-63.30	-50.3
5700.00	H	154	214	-60.60	11.31	-49.29	-36.3

Table 7-52. Radiated Spurious Data (5G NR n2 + B30– High Channel)

7.10 Uplink Carrier Aggregation Radiated Measurements

§2.1053, §27.53(m)

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.

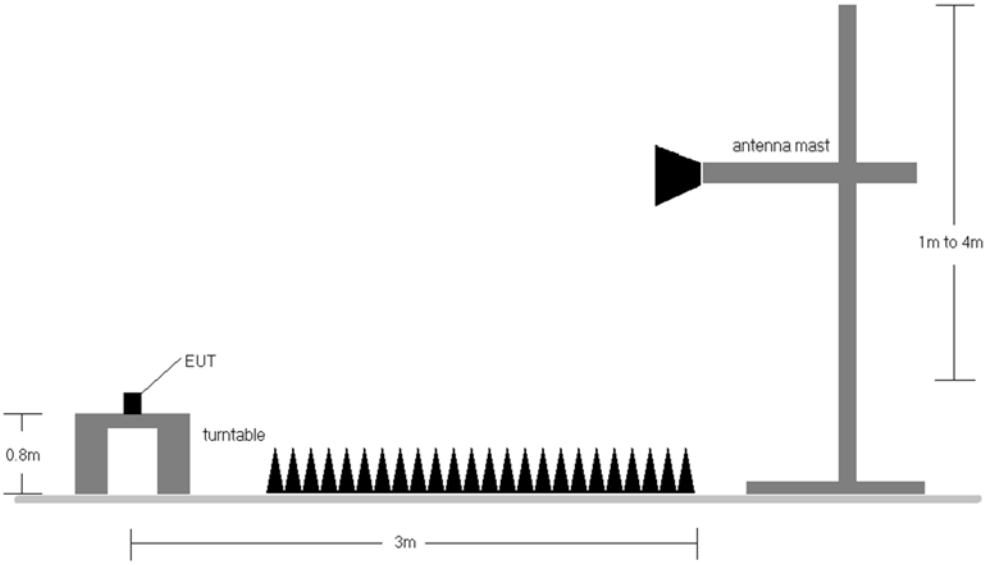


Figure 7-9. Test Instrument & Measurement Setup

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.

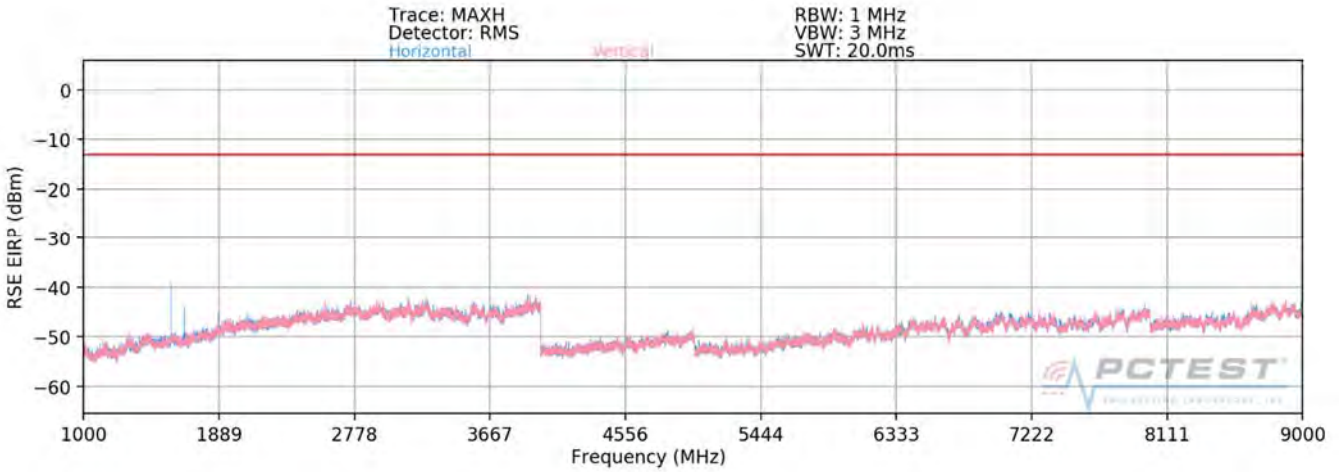
2) This unit was tested with its standard battery.

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.



Plot 7-53. Radiated Spurious Plot (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0)

OPERATING FREQUENCY (PCC):	829.00	MHz
OPERATING FREQUENCY (SCC):	838.90	MHz
CHANNEL (PCC):	20450	
CHANNEL (SCC):	20549	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	V	-	-	-58.71	3.12	-55.59	-42.6
2487.00	V	111	322	-52.90	3.87	-49.03	-36.0
3316.00	V	-	-	-59.17	6.01	-53.16	-40.2
4145.00	V	-	-	-59.72	7.77	-51.95	-39.0

Table 7-54. Radiated Spurious Data (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0)

OPERATING FREQUENCY (PCC):	844.00	MHz
OPERATING FREQUENCY (SCC):	834.10	MHz
CHANNEL (PCC):	20600	
CHANNEL (SCC):	20501	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	V	-	-	-60.12	3.18	-56.94	-43.9
2532.00	V	289	86	-57.39	4.10	-53.29	-40.3
3376.00	V	-	-	-57.79	6.15	-51.64	-38.6
4220.00	V	-	-	-60.61	7.88	-52.73	-39.7

Table 7-55. Radiated Spurious Data (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0)

7.11 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

Band 12 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	707,499,957	-43	-0.0000061
100 %		- 20	707,499,895	-105	-0.0000148
100 %		- 10	707,500,264	264	0.0000373
100 %		0	707,499,880	-120	-0.0000170
100 %		+ 10	707,500,052	52	0.0000073
100 %		+ 20	707,499,682	-318	-0.0000449
100 %		+ 30	707,500,035	35	0.0000049
100 %		+ 40	707,500,017	17	0.0000024
100 %		+ 50	707,499,934	-66	-0.0000093
BATT. ENDPOINT	2.86	+ 20	707,500,055	55	0.0000078

Table 7-56. Frequency Stability Data (Band 12)

Note:

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

Band 12 Frequency Stability Measurements

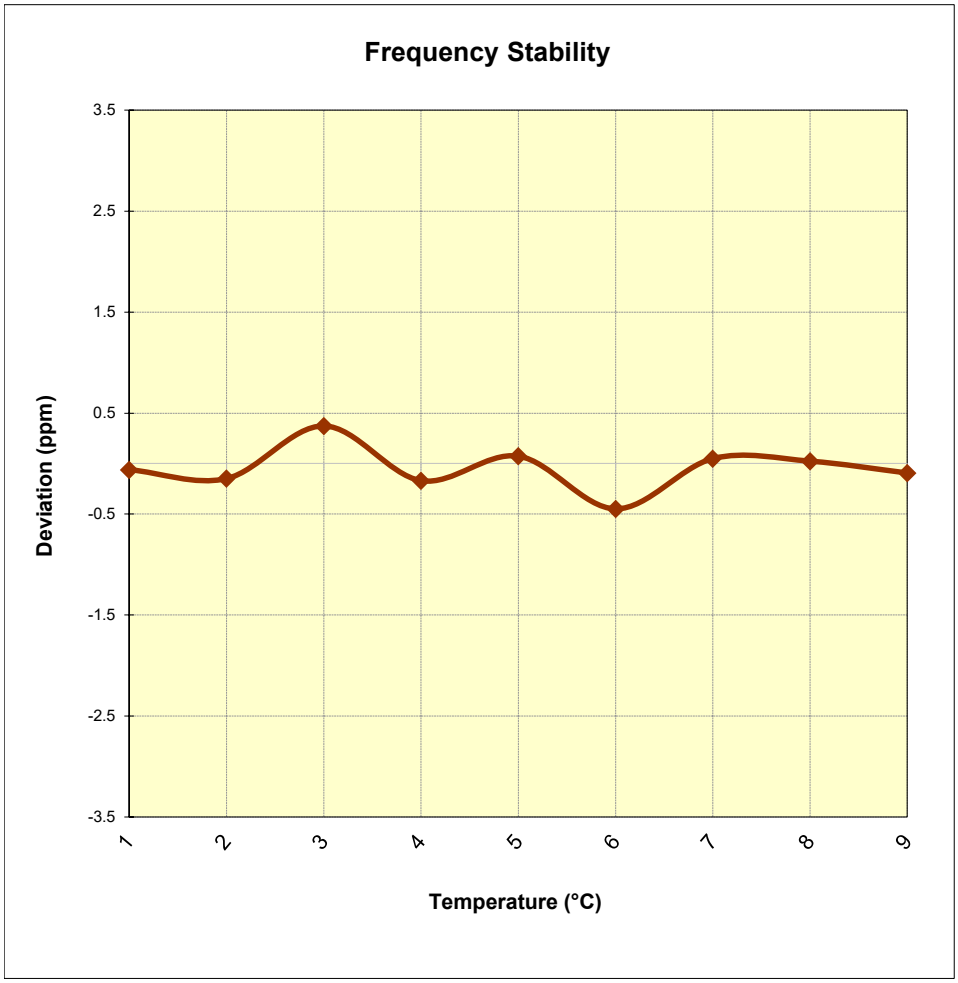


Figure 7-10. Frequency Stability Graph (Band 12)

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	781,999,949	-51	-0.0000065
100 %		- 20	782,000,093	93	0.0000119
100 %		- 10	781,999,756	-244	-0.0000312
100 %		0	782,000,146	146	0.0000187
100 %		+ 10	782,000,014	14	0.0000018
100 %		+ 20	782,000,169	169	0.0000216
100 %		+ 30	782,000,040	40	0.0000051
100 %		+ 40	781,999,906	-94	-0.0000120
100 %		+ 50	782,000,005	5	0.0000006
BATT. ENDPOINT	2.86	+ 20	782,000,170	170	0.0000217

Table 7-57. Frequency Stability Data (Band 13)

Note:

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

Band 13 Frequency Stability Measurements

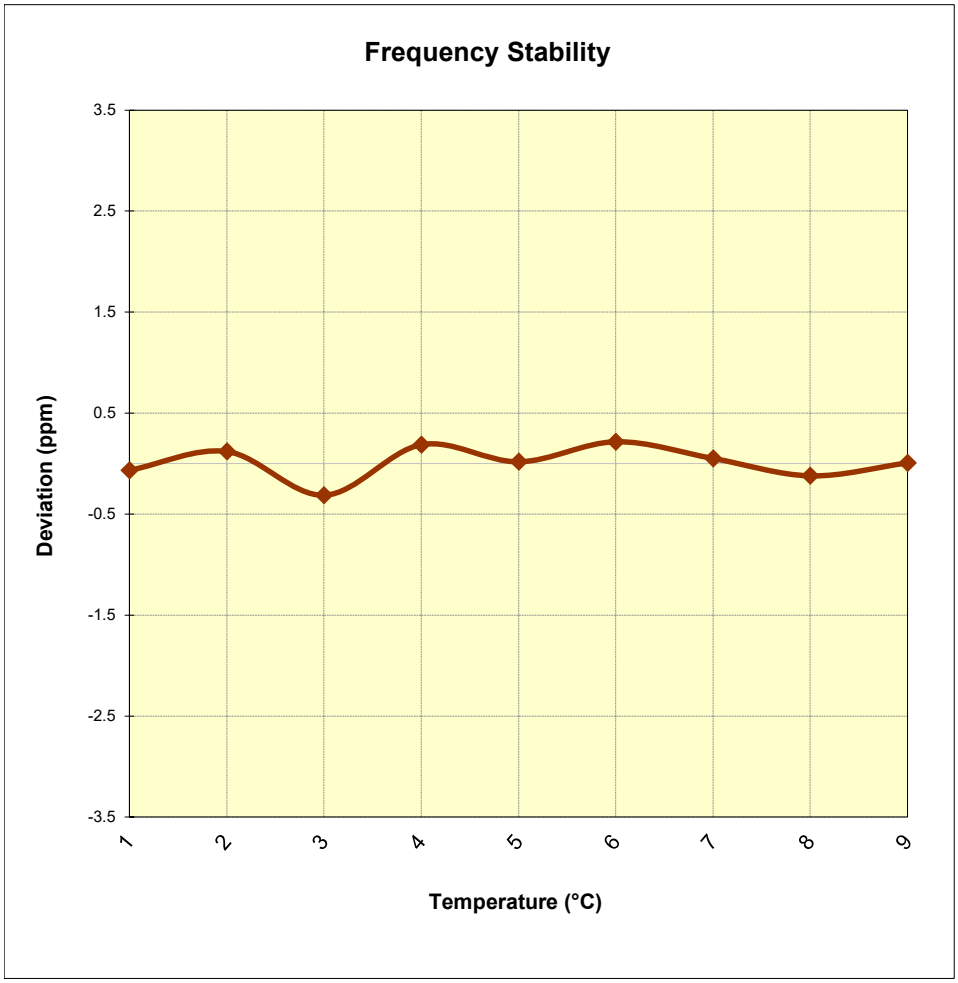


Figure 7-11. Frequency Stability Graph (Band 13)

Band 5 Frequency Stability Measurements

OPERATING FREQUENCY:	836,500,000	Hz
CHANNEL:	20525	
REFERENCE VOLTAGE:	4.31	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	836,500,062	62	0.0000074
100 %		- 20	836,499,957	-43	-0.0000051
100 %		- 10	836,499,766	-234	-0.0000280
100 %		0	836,500,148	148	0.0000177
100 %		+ 10	836,499,714	-286	-0.0000342
100 %		+ 20	836,499,774	-226	-0.0000270
100 %		+ 30	836,499,984	-16	-0.0000019
100 %		+ 40	836,500,015	15	0.0000018
100 %		+ 50	836,500,074	74	0.0000088
BATT. ENDPOINT	2.86	+ 20	836,500,227	227	0.0000271

Table 7-58. Frequency Stability Data (Band 5)

Band 5 Frequency Stability Measurements

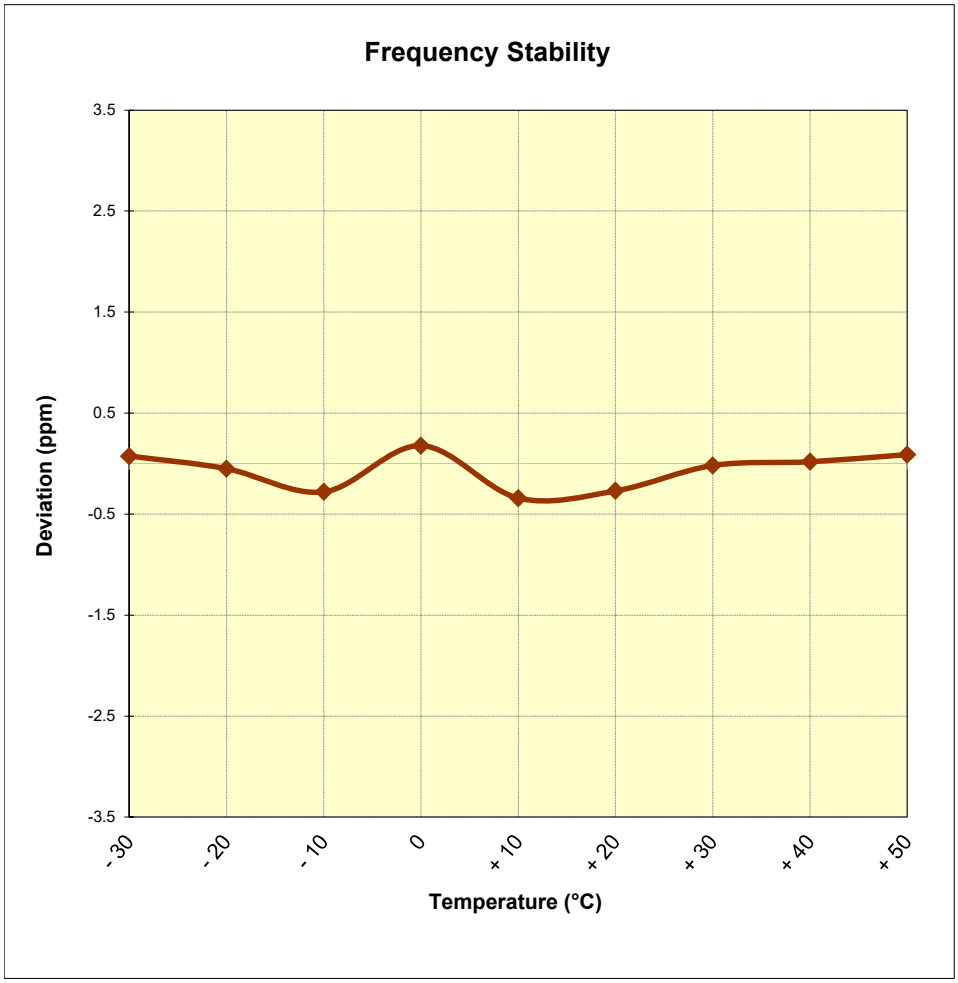


Figure 7-12. Frequency Stability Graph (Band 5)

Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY:	1,745,000,000	Hz
CHANNEL:	132322	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	1,744,999,935	-65	-0.0000037
100 %		- 20	1,744,999,831	-169	-0.0000097
100 %		- 10	1,744,999,991	-9	-0.0000005
100 %		0	1,745,000,140	140	0.0000080
100 %		+ 10	1,745,000,326	326	0.0000187
100 %		+ 20	1,744,999,854	-146	-0.0000084
100 %		+ 30	1,745,000,432	432	0.0000248
100 %		+ 40	1,745,000,087	87	0.0000050
100 %		+ 50	1,744,999,958	-42	-0.0000024
BATT. ENDPOINT	2.86	+ 20	1,744,999,843	-157	-0.0000090

Table 7-59. Frequency Stability Data (Band 66/4)

Note:

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

Band 66/4 Frequency Stability Measurements

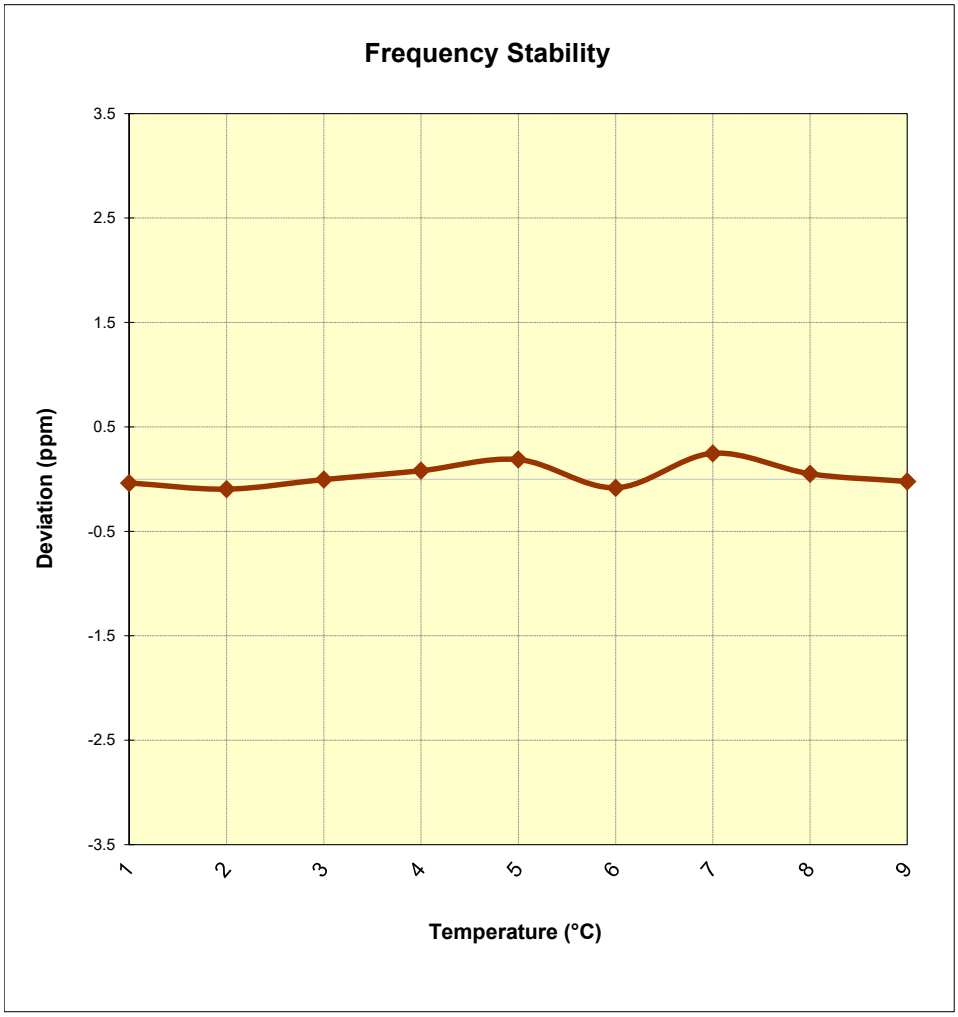


Figure 7-13. Frequency Stability Graph (Band 66/4)

Band 2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	18900	
REFERENCE VOLTAGE:	4.31	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	1,879,999,676	-324	-0.0000172
100 %		- 20	1,880,000,098	98	0.0000052
100 %		- 10	1,879,999,682	-318	-0.0000169
100 %		0	1,880,000,140	140	0.0000074
100 %		+ 10	1,879,999,901	-99	-0.0000053
100 %		+ 20	1,880,000,072	72	0.0000038
100 %		+ 30	1,879,999,693	-307	-0.0000163
100 %		+ 40	1,879,999,943	-57	-0.0000030
100 %		+ 50	1,880,000,060	60	0.0000032
BATT. ENDPOINT	2.86	+ 20	1,879,999,691	-309	-0.0000164

Table 7-60. Frequency Stability Data (Band 2)

Band 2 Frequency Stability Measurements

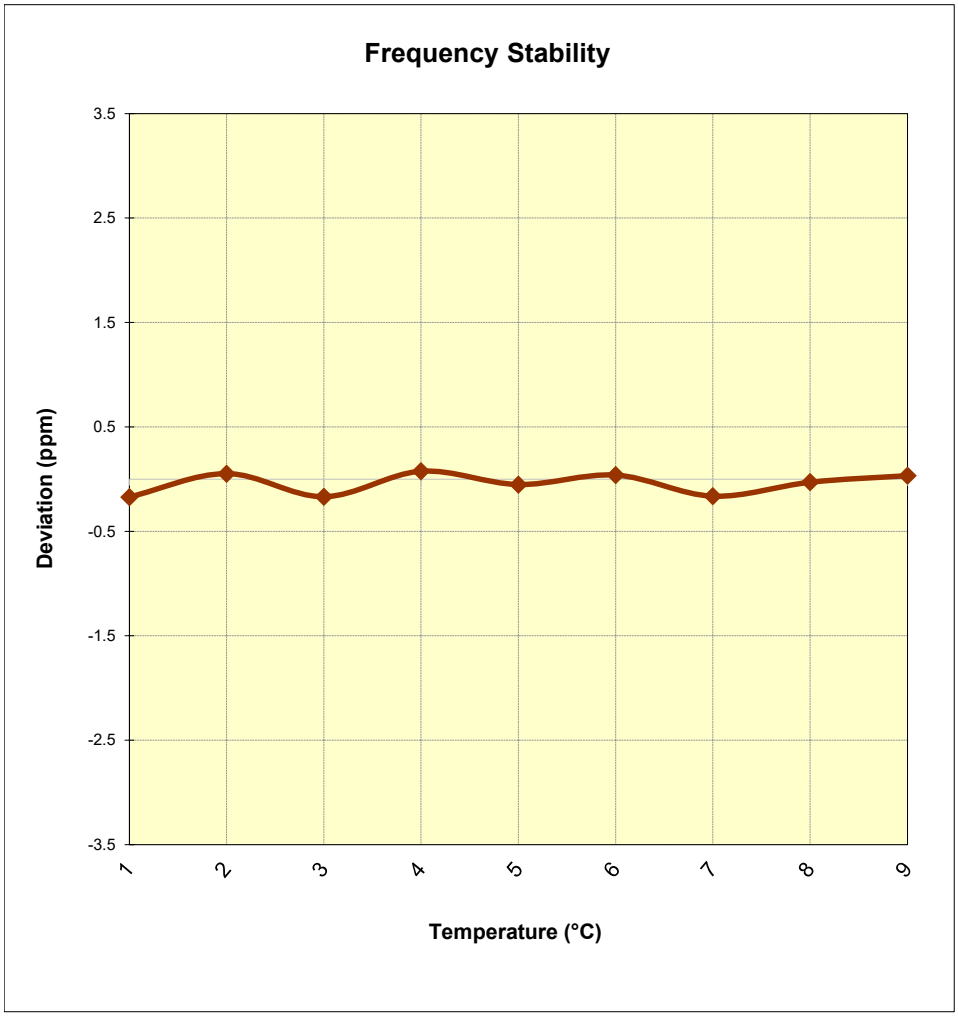


Figure 7-14. Frequency Stability Graph (Band 2)

Band 30 Frequency Stability Measurements

OPERATING FREQUENCY:	2,310,000,000	Hz
CHANNEL:	27710	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	2,309,999,750	-250	-0.0000108
100 %		- 20	2,310,000,001	1	0.0000000
100 %		- 10	2,310,000,134	134	0.0000058
100 %		0	2,310,000,086	86	0.0000037
100 %		+ 10	2,309,999,740	-260	-0.0000113
100 %		+ 20	2,309,999,597	-403	-0.0000174
100 %		+ 30	2,309,999,949	-51	-0.0000022
100 %		+ 40	2,310,000,133	133	0.0000058
100 %		+ 50	2,309,999,789	-211	-0.0000091
BATT. ENDPOINT	2.86	+ 20	2,310,000,011	11	0.0000005

Table 7-61. Frequency Stability Data (Band 30)

Note:

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

Band 30 Frequency Stability Measurements

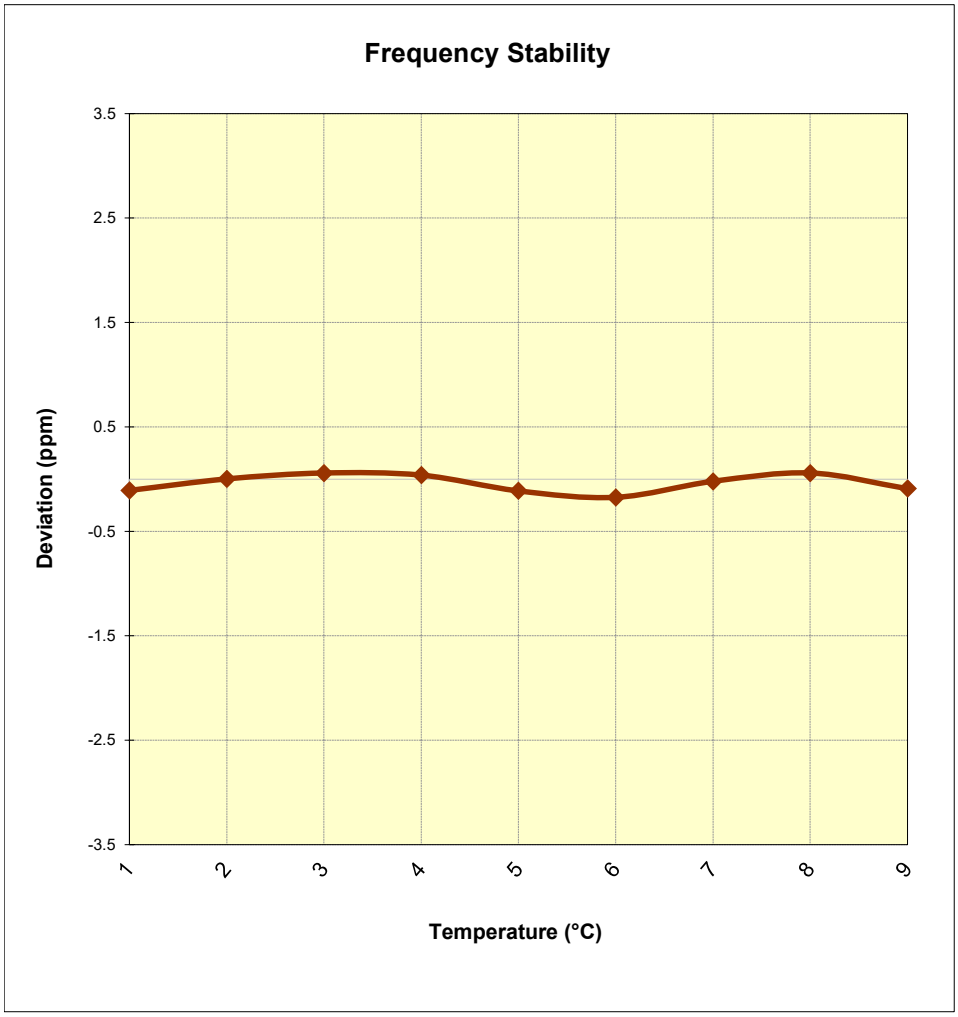


Figure 7-15. Frequency Stability Graph (Band 30)

Band 41 Frequency Stability Measurements

OPERATING FREQUENCY:	2,593,000,000	Hz
CHANNEL:	40620	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	2,592,999,692	-308	-0.0000119
100 %		- 20	2,592,999,760	-240	-0.0000093
100 %		- 10	2,592,999,885	-115	-0.0000044
100 %		0	2,592,999,905	-95	-0.0000037
100 %		+ 10	2,593,000,287	287	0.0000111
100 %		+ 20	2,593,000,219	219	0.0000084
100 %		+ 30	2,592,999,983	-17	-0.0000007
100 %		+ 40	2,592,999,922	-78	-0.0000030
100 %		+ 50	2,593,000,269	269	0.0000104
BATT. ENDPOINT	2.86	+ 20	2,593,000,163	163	0.0000063

Table 7-62. Frequency Stability Data (Band 41)

Note:

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

Band 41 Frequency Stability Measurements

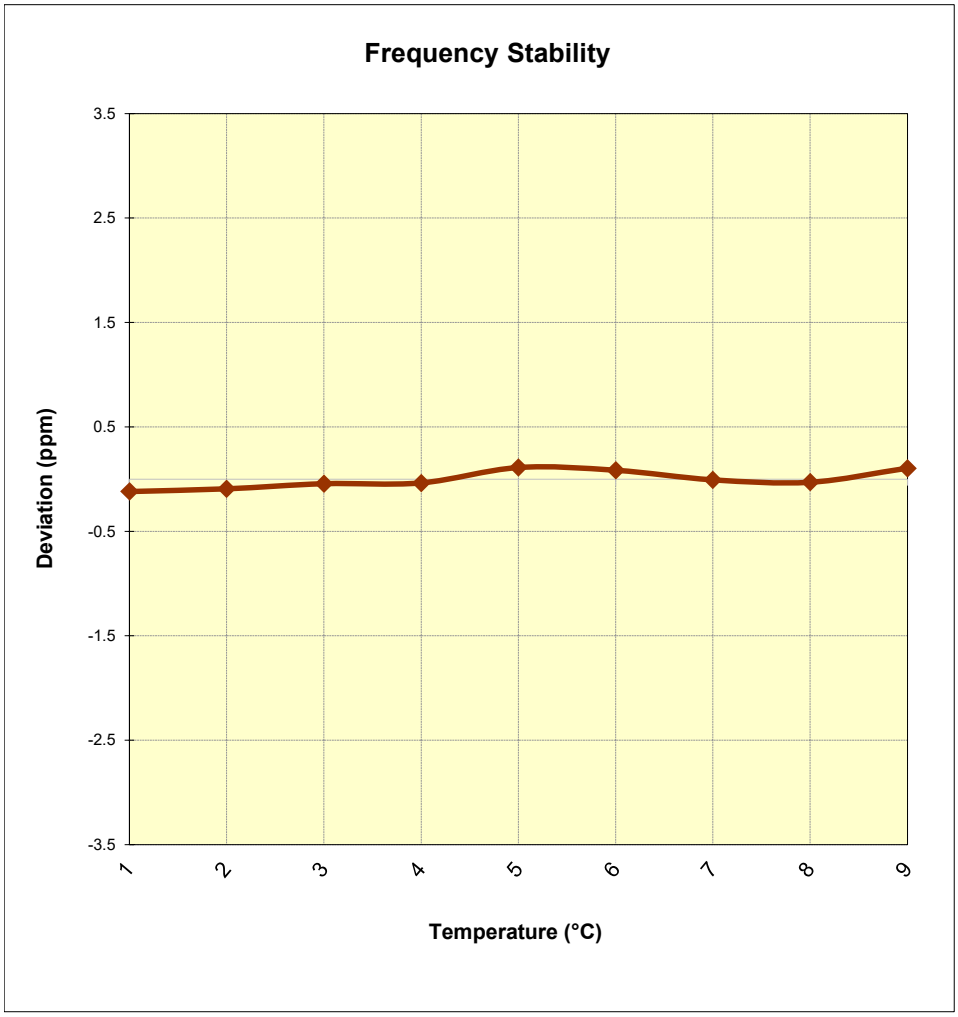


Figure 7-16. Frequency Stability Graph (Band 41)

5G NR n5 Frequency Stability Measurements

OPERATING FREQUENCY: 836,500,000 Hz

CHANNEL: 167300

REFERENCE VOLTAGE: 4.31 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	836,500,002	2	0.0000002
100 %		- 20	836,499,632	-368	-0.0000440
100 %		- 10	836,500,008	8	0.0000010
100 %		0	836,500,085	85	0.0000102
100 %		+ 10	836,499,956	-44	-0.0000053
100 %		+ 20	836,500,078	78	0.0000093
100 %		+ 30	836,499,952	-48	-0.0000057
100 %		+ 40	836,499,928	-72	-0.0000086
100 %		+ 50	836,500,095	95	0.0000114
BATT. ENDPOINT	2.86	+ 20	836,499,992	-8	-0.0000010

Table 7-63. Frequency Stability Data (5G NR n5)

5G NR n5 Frequency Stability Measurements

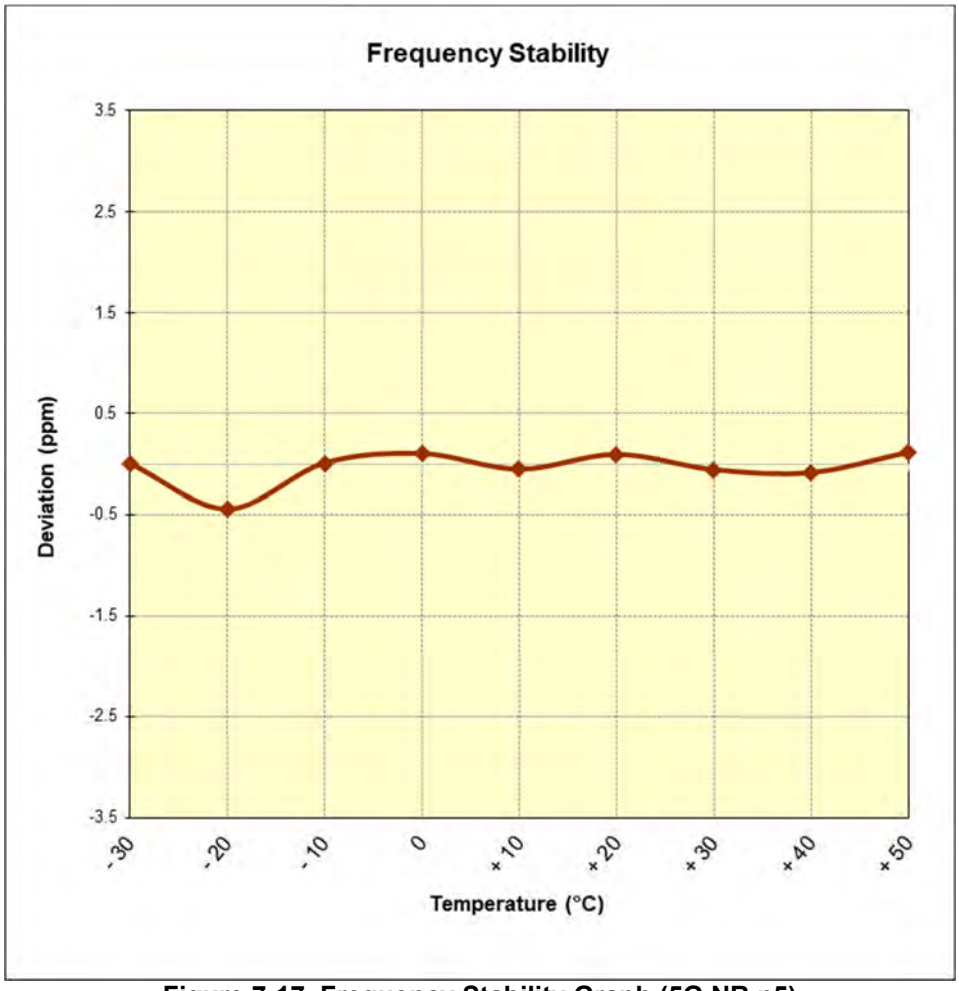


Figure 7-17. Frequency Stability Graph (5G NR n5)

5G NR n66 Frequency Stability Measurements

OPERATING FREQUENCY:	1,745,000,000	Hz
CHANNEL:	349000	
REFERENCE VOLTAGE:	4.31	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	1,745,000,098	98	0.0000056
100 %		- 20	1,744,999,892	-108	-0.0000062
100 %		- 10	1,744,999,899	-101	-0.0000058
100 %		0	1,745,000,345	345	0.0000198
100 %		+ 10	1,745,000,109	109	0.0000062
100 %		+ 20	1,745,000,082	82	0.0000047
100 %		+ 30	1,745,000,135	135	0.0000077
100 %		+ 40	1,744,999,784	-216	-0.0000124
100 %		+ 50	1,744,999,921	-79	-0.0000045
BATT. ENDPOINT	2.86	+ 20	1,744,999,841	-159	-0.0000091

Table 7-64. Frequency Stability Data (5G NR n66)

Note:

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

5G NR n66 Frequency Stability Measurements

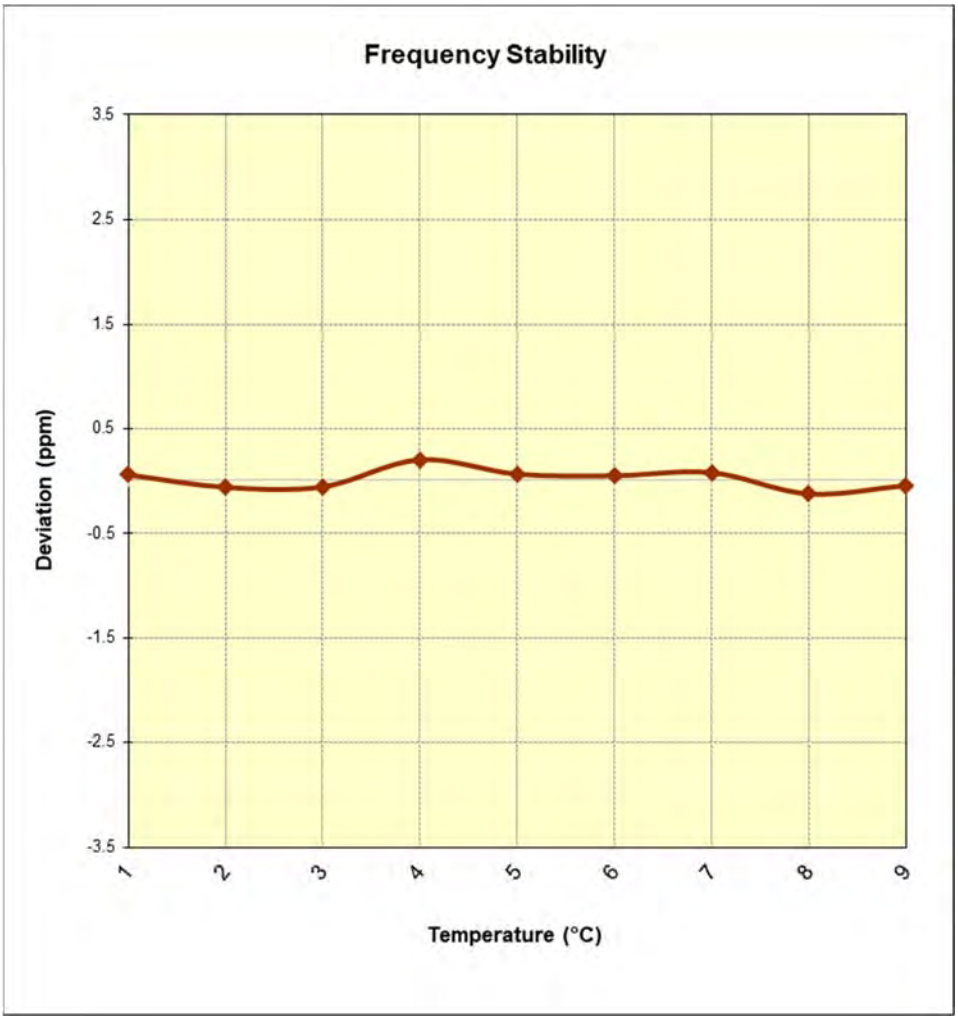


Figure 7-18. Frequency Stability Graph (5G NR n66)

5G NR n2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	376000	
REFERENCE VOLTAGE:	3.90	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.90	- 30	1,880,000,019	19	0.0000010
100 %		- 20	1,880,000,254	254	0.0000135
100 %		- 10	1,880,000,048	48	0.0000026
100 %		0	1,879,999,868	-132	-0.0000070
100 %		+ 10	1,880,000,352	352	0.0000187
100 %		+ 20	1,879,999,755	-245	-0.0000130
100 %		+ 30	1,880,000,004	4	0.0000002
100 %		+ 40	1,879,999,818	-182	-0.0000097
100 %		+ 50	1,879,999,831	-169	-0.0000090
BATT. ENDPOINT	2.86	+ 20	1,880,000,134	134	0.0000071

Table 7-65. Frequency Stability Data (5G NR n2)

5G NR n2 Frequency Stability Measurements

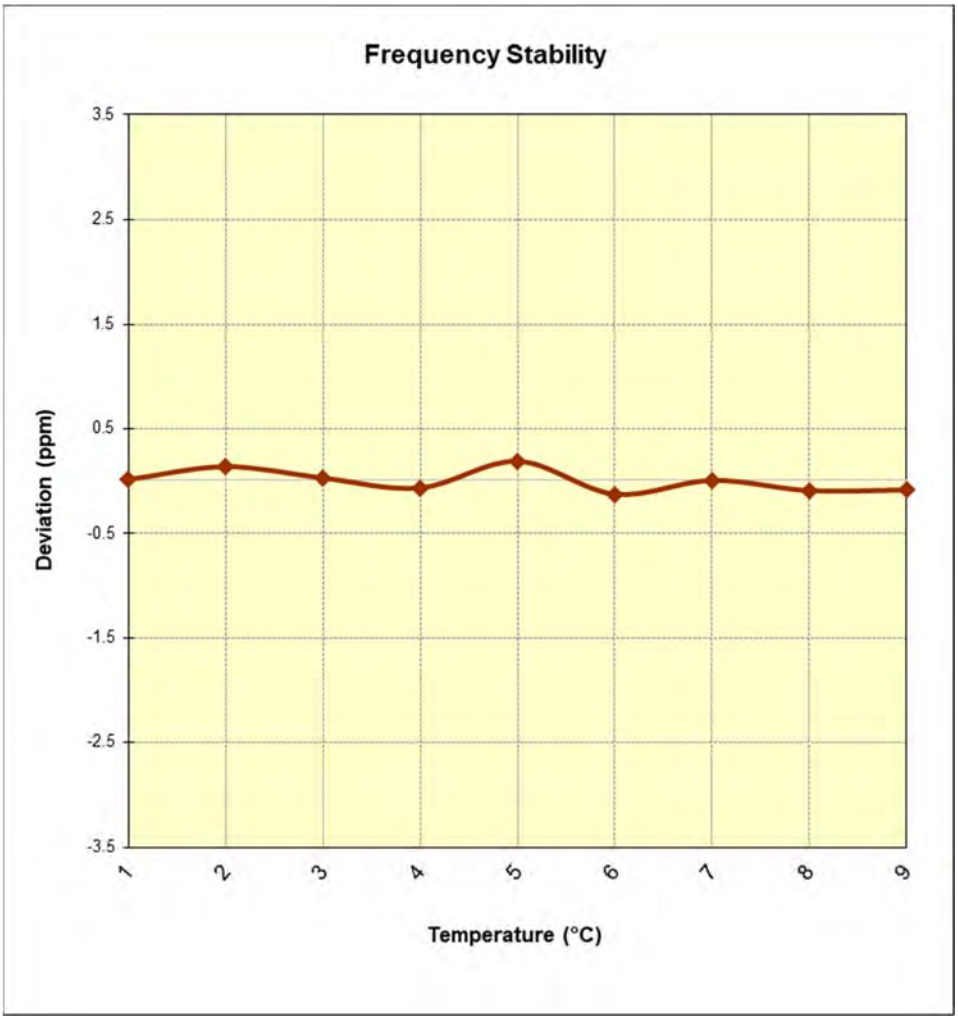


Figure 7-19. Frequency Stability Graph (5G NR n2)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LG Portable Handset FCC ID: ZNFV600VM** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.