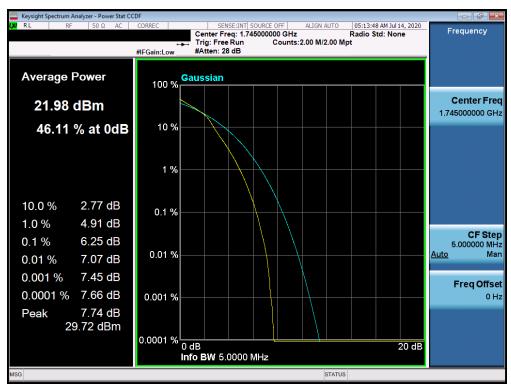


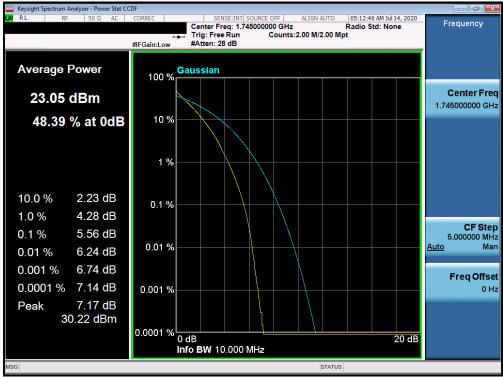
Plot 7-280. PAR Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



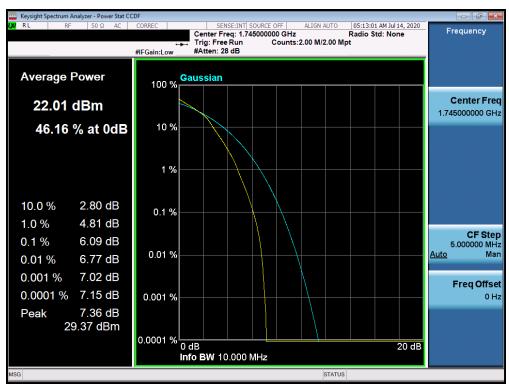
Plot 7-281. PAR Plot (Band 66 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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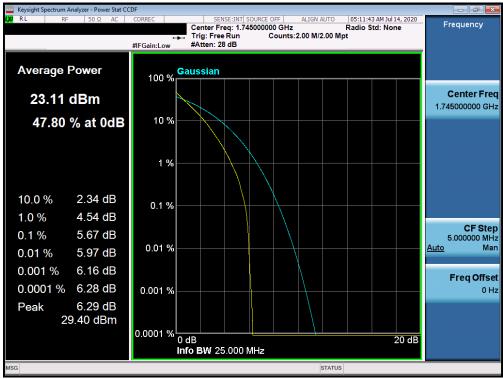
Plot 7-282. PAR Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



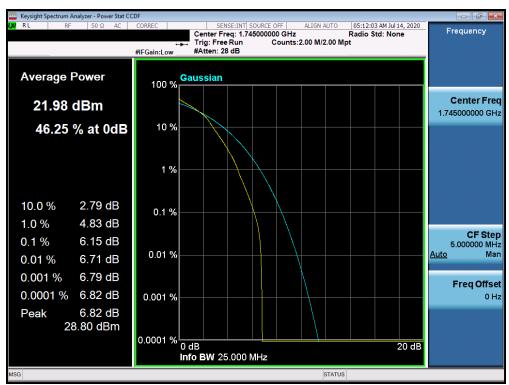
Plot 7-283. PAR Plot (Band 66 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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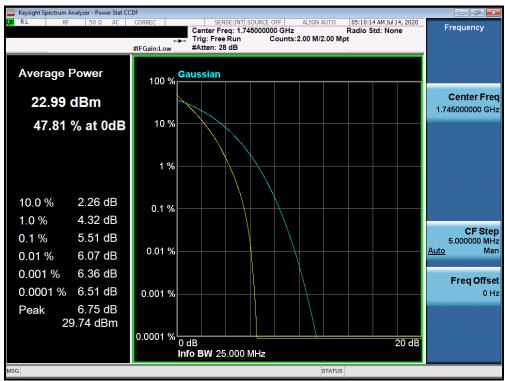
Plot 7-284. PAR Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



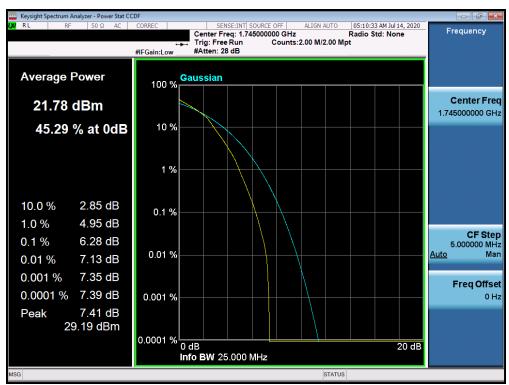
Plot 7-285. PAR Plot (Band 66 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-286. PAR Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

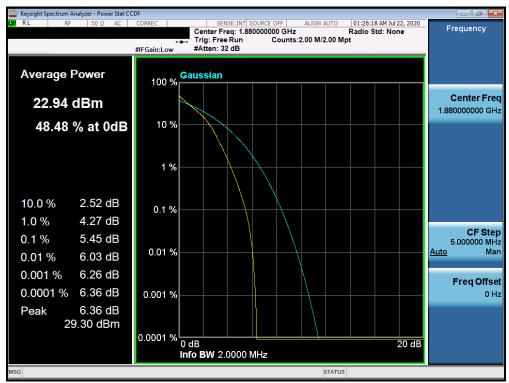


Plot 7-287. PAR Plot (Band 66 - 20.0MHz 16-QAM - Full RB Configuration)

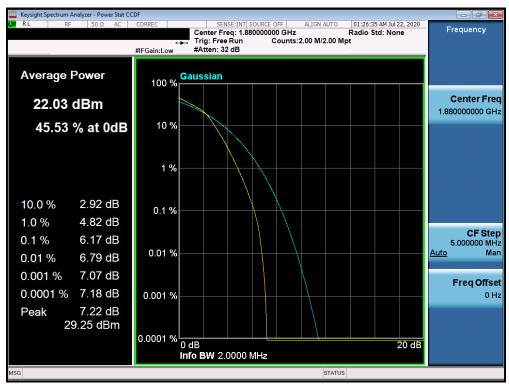
FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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### Band 2



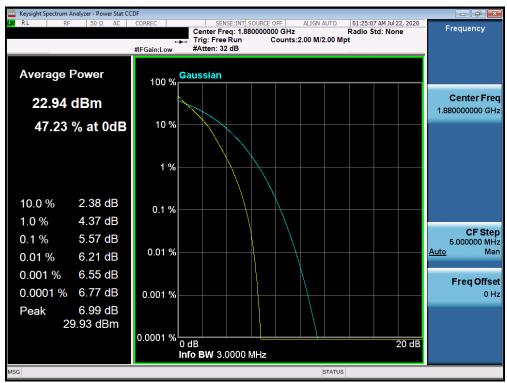
Plot 7-288. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



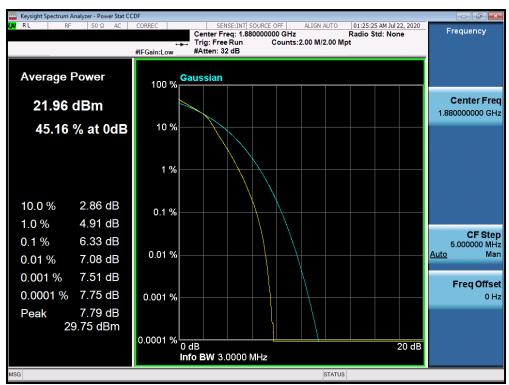
Plot 7-289. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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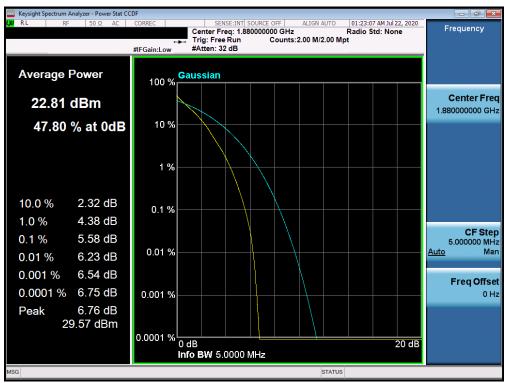
Plot 7-290. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



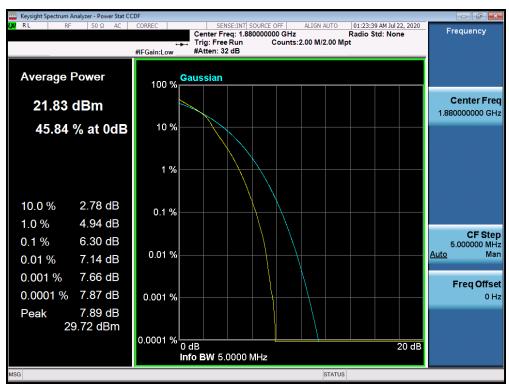
Plot 7-291. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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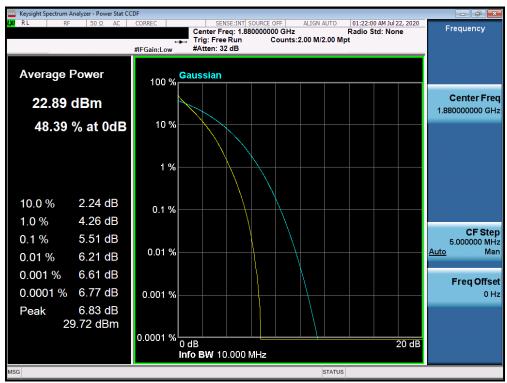
Plot 7-292. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



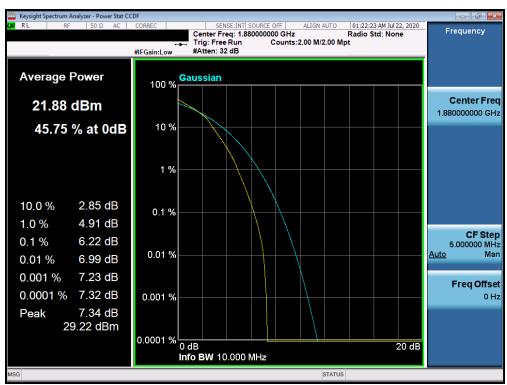
Plot 7-293. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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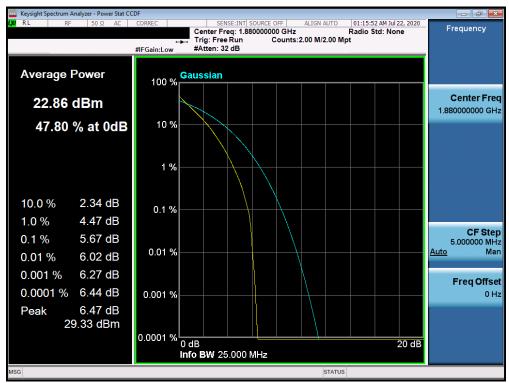
Plot 7-294. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



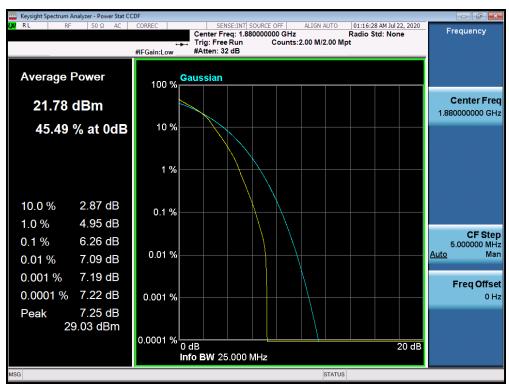
Plot 7-295. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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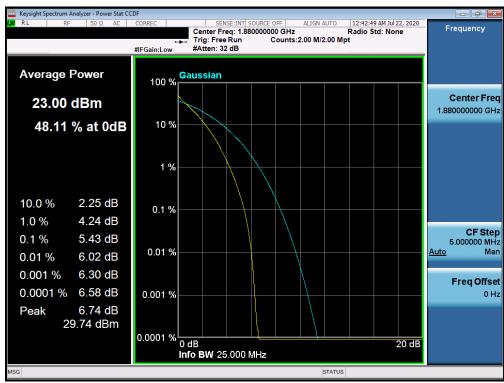
Plot 7-296. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



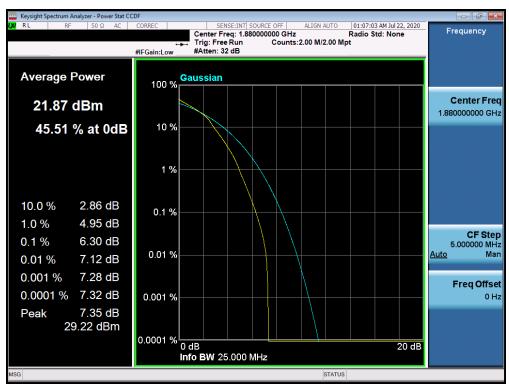
Plot 7-297. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-298. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

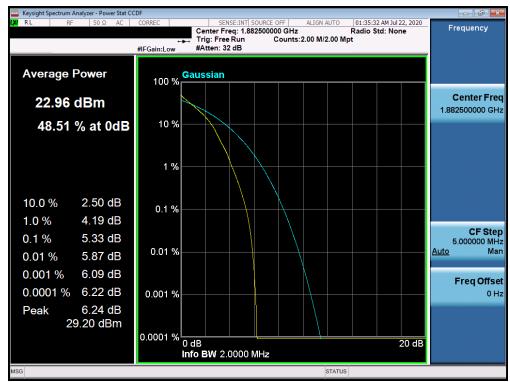


Plot 7-299. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

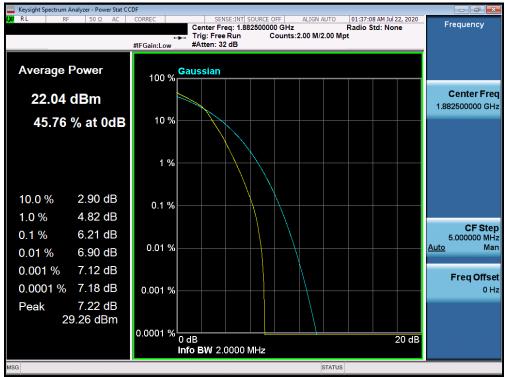
FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# Band 25



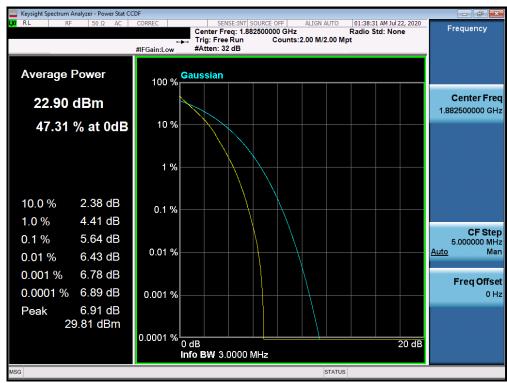
Plot 7-300. PAR Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



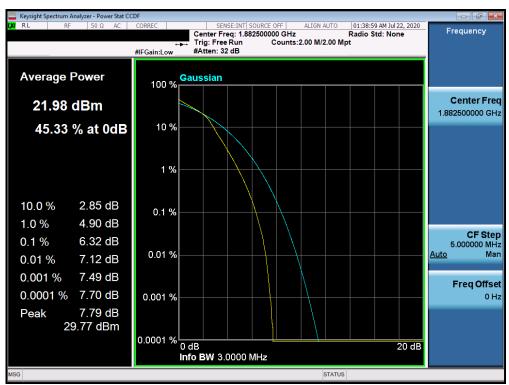
Plot 7-301. PAR Plot (Band 25 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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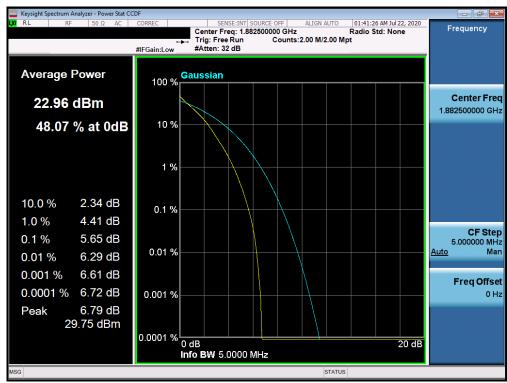
Plot 7-302. PAR Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-303. PAR Plot (Band 25 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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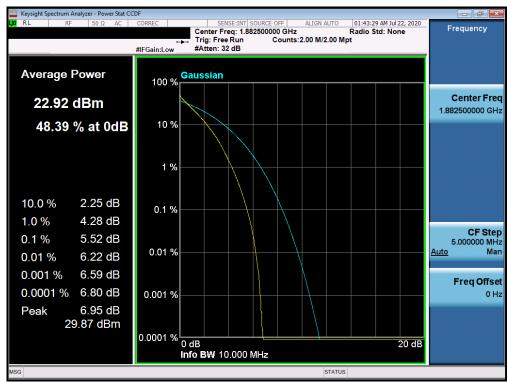
Plot 7-304. PAR Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



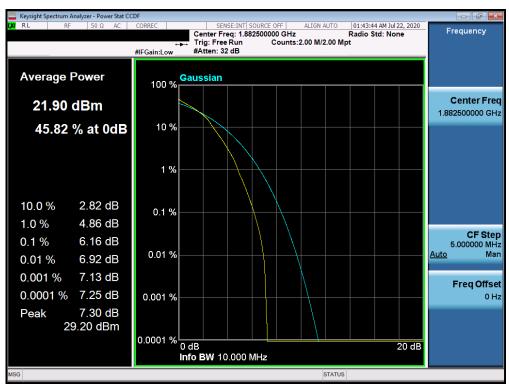
Plot 7-305. PAR Plot (Band 25 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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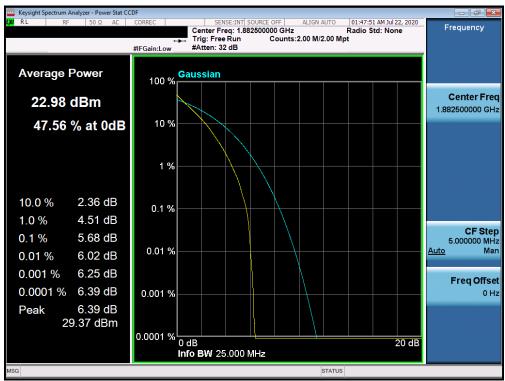
Plot 7-306. PAR Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



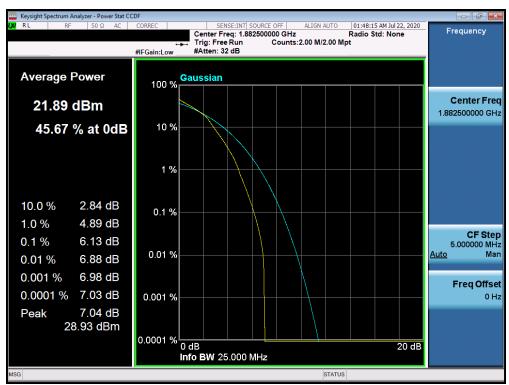
Plot 7-307. PAR Plot (Band 25 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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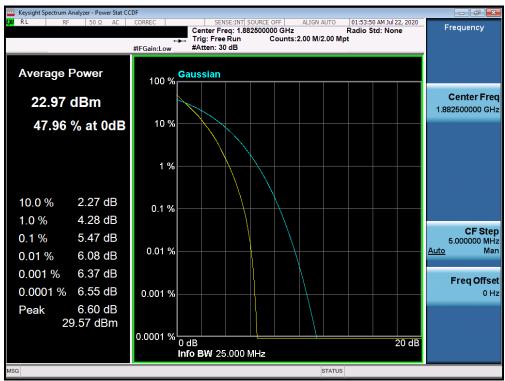
Plot 7-308. PAR Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-309. PAR Plot (Band 25 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-310. PAR Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-311. PAR Plot (Band 25 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# 7.6 Radiated Power (ERP/EIRP)

### **Test Overview**

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are calculated by adding highest antenna gain to maximum measured conducted output power. 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 C63.26-2015 - Section 5.2.5.5

### **Test Settings**

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured is:

ERP/EIRP = PMeas - LC + GT

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm)

PMeas = measured transmitter output power or PSD, in dBW or dBm

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

### **Test Setup**

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



Figure 7-5. ERP/EIRP Measurement Setup

### **Test Notes**

- 1) The EUT was tested in all possible test configurations. The worst case emissions are reported with the EUT 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 Level (dBm) readings in the table were taken with a correction table loaded into the base station simulator. The correction table was used to account for the signal attenuation in the connecting cable between the transmitter and antenna.
- 4) The Ant. Gains (GT) are listed in dBi.
- 5) This device only supports 27RBs or less for 16-QAM uplink.

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [mW]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	1/5	24.45	-30.20	-7.90	0.162	34.77	-42.67	-5.75	0.266	36.99	-42.74
707.50	1.4	QPSK	1/0	24.60	-30.20	-7.75	0.168	34.77	-42.52	-5.60	0.275	36.99	-42.59
715.30	1.4	QPSK	1/0	24.64	-30.20	-7.71	0.169	34.77	-42.48	-5.56	0.278	36.99	-42.55
715.30	1.4	16-QAM	1/5	23.75	-30.20	-8.60	0.138	34.77	-43.37	-6.45	0.226	36.99	-43.44
700.50	3	QPSK	1/7	24.46	-30.20	-7.89	0.163	34.77	-42.66	-5.74	0.267	36.99	-42.73
707.50	3	QPSK	1/7	24.56	-30.20	-7.79	0.166	34.77	-42.56	-5.64	0.273	36.99	-42.63
714.50	3	QPSK	1/7	24.42	-30.20	-7.93	0.161	34.77	-42.70	-5.78	0.264	36.99	-42.77
707.50	3	16-QAM	1/0	24.00	-30.20	-8.35	0.146	34.77	-43.12	-6.20	0.240	36.99	-43.19
701.50	5	QPSK	1 / 24	24.74	-30.20	-7.61	0.173	34.77	-42.38	-5.46	0.284	36.99	-42.45
707.50	5	QPSK	1/0	24.75	-30.20	-7.60	0.174	34.77	-42.37	-5.45	0.285	36.99	-42.44
713.50	5	QPSK	1 / 12	24.42	-30.20	-7.93	0.161	34.77	-42.70	-5.78	0.264	36.99	-42.77
707.50	5	16-QAM	1 / 12	23.97	-30.20	-8.38	0.145	34.77	-43.15	-6.23	0.238	36.99	-43.22
704.00	10	QPSK	1 / 25	24.56	-30.20	-7.79	0.166	34.77	-42.56	-5.64	0.273	36.99	-42.63
707.50	10	QPSK	1 / 25	24.63	-30.20	-7.72	0.169	34.77	-42.49	-5.57	0.277	36.99	-42.56
711.00	10	QPSK	1/0	24.49	-30.20	-7.86	0.164	34.77	-42.63	-5.71	0.269	36.99	-42.70
707.50	10	16-QAM	1/0	24.17	-30.20	-8.18	0.152	34.77	-42.95	-6.03	0.249	36.99	-43.02

# Table 7-7. ERP/EIRP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [mW]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
706.50	5	QPSK	1 / 12	24.74	-30.20	-7.61	0.173	34.77	-42.38	-5.46	0.284	36.99	-42.45
710.00	5	QPSK	1/0	24.67	-30.20	-7.68	0.171	34.77	-42.45	-5.53	0.280	36.99	-42.52
713.50	5	QPSK	1 / 12	24.41	-30.20	-7.94	0.161	34.77	-42.71	-5.79	0.264	36.99	-42.78
706.50	5	16-QAM	1/0	24.06	-30.20	-8.29	0.148	34.77	-43.06	-6.14	0.243	36.99	-43.13
709.00	10	QPSK	1/0	24.60	-30.20	-7.75	0.168	34.77	-42.52	-5.60	0.275	36.99	-42.59
710.00	10	QPSK	1 / 49	24.59	-30.20	-7.76	0.167	34.77	-42.53	-5.61	0.275	36.99	-42.60
711.00	10	QPSK	1/0	24.47	-30.20	-7.88	0.163	34.77	-42.65	-5.73	0.267	36.99	-42.72
709.00	10	16-QAM	1 / 27	23.83	-30.20	-8.52	0.141	34.77	-43.29	-6.37	0.231	36.99	-43.36

Table 7-8. ERP/EIRP Data (Band 17)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [mW]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	1/0	24.84	-28.60	-5.91	0.256	34.77	-40.68	-3.76	0.421	36.99	-40.75
782.00	5	QPSK	1/0	24.79	-28.60	-5.96	0.254	34.77	-40.73	-3.81	0.416	36.99	-40.80
784.50	5	QPSK	1/0	24.54	-28.60	-6.21	0.239	34.77	-40.98	-4.06	0.393	36.99	-41.05
779.50	5	16-QAM	1 / 24	24.09	-28.60	-6.66	0.216	34.77	-41.43	-4.51	0.354	36.99	-41.50
782.00	10	QPSK	1/0	24.62	-28.60	-6.13	0.244	34.77	-40.90	-3.98	0.400	36.99	-40.97
782.00	10	16-QAM	1 / 13	24.12	-28.60	-6.63	0.217	34.77	-41.40	-4.48	0.356	36.99	-41.47

Table 7-9. ERP\EIRP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [mW]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1/2	24.99	-28.80	-5.96	0.254	38.45	-44.41	-3.81	0.416	40.61	-44.42
836.50	1.4	QPSK	1/5	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
848.30	1.4	QPSK	1/0	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
836.50	1.4	16-QAM	1/0	24.41	-28.80	-6.54	0.222	38.45	-44.99	-4.39	0.364	40.61	-45.00
825.50	3	QPSK	1/7	24.99	-28.80	-5.96	0.254	38.45	-44.41	-3.81	0.416	40.61	-44.42
836.50	3	QPSK	1/7	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
847.50	3	QPSK	1/7	24.95	-28.80	-6.00	0.251	38.45	-44.45	-3.85	0.412	40.61	-44.46
836.50	3	16-QAM	1/7	24.45	-28.80	-6.50	0.224	38.45	-44.95	-4.35	0.367	40.61	-44.96
826.50	5	QPSK	1/0	24.86	-28.80	-6.09	0.246	38.45	-44.54	-3.94	0.404	40.61	-44.55
836.50	5	QPSK	1 / 24	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
846.50	5	QPSK	1/0	24.91	-28.80	-6.04	0.249	38.45	-44.49	-3.89	0.408	40.61	-44.50
836.50	5	16-QAM	1 / 24	24.21	-28.80	-6.74	0.212	38.45	-45.19	-4.59	0.348	40.61	-45.20
829.00	10	QPSK	1/0	24.99	-28.80	-5.96	0.254	38.45	-44.41	-3.81	0.416	40.61	-44.42
836.50	10	QPSK	1 / 25	24.96	-28.80	-5.99	0.252	38.45	-44.44	-3.84	0.413	40.61	-44.45
844.00	10	QPSK	1/0	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
844.00	10	16-QAM	1 / 13	24.29	-28.80	-6.66	0.216	38.45	-45.11	-4.51	0.354	40.61	-45.12

Table 7-10. ERP/EIRP Data (Band 5)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [mW]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1/0	24.99	-28.80	-5.96	0.254	38.45	-44.41	-3.81	0.416	40.61	-44.42
836.50	1.4	QPSK	1/2	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
848.30	1.4	QPSK	1/5	24.99	-28.80	-5.96	0.254	38.45	-44.41	-3.81	0.416	40.61	-44.42
836.50	1.4	16-QAM	1/2	24.53	-28.80	-6.42	0.228	38.45	-44.87	-4.27	0.374	40.61	-44.88
825.50	3	QPSK	1/7	24.95	-28.80	-6.00	0.251	38.45	-44.45	-3.85	0.412	40.61	-44.46
836.50	3	QPSK	1/7	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
847.50	3	QPSK	1/7	24.90	-28.80	-6.05	0.248	38.45	-44.50	-3.90	0.407	40.61	-44.51
836.50	3	16-QAM	1/7	24.49	-28.80	-6.46	0.226	38.45	-44.91	-4.31	0.371	40.61	-44.92
826.50	5	QPSK	1/0	24.91	-28.80	-6.04	0.249	38.45	-44.49	-3.89	0.408	40.61	-44.50
836.50	5	QPSK	1 / 24	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
846.50	5	QPSK	1/0	24.87	-28.80	-6.08	0.247	38.45	-44.53	-3.93	0.405	40.61	-44.54
836.50	5	16-QAM	1 / 12	24.27	-28.80	-6.68	0.215	38.45	-45.13	-4.53	0.352	40.61	-45.14
829.00	10	QPSK	1/0	24.96	-28.80	-5.99	0.252	38.45	-44.44	-3.84	0.413	40.61	-44.45
836.50	10	QPSK	1 / 25	25.00	-28.80	-5.95	0.254	38.45	-44.40	-3.80	0.417	40.61	-44.41
844.00	10	QPSK	1/0	24.97	-28.80	-5.98	0.252	38.45	-44.43	-3.83	0.414	40.61	-44.44
836.50	10	16-QAM	1 / 13	24.49	-28.80	-6.46	0.226	38.45	-44.91	-4.31	0.371	40.61	-44.92

Table 7-11. ERP/EIRP Data (Band 26)

FCC ID: BCG-A2293	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 191 of 237	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1/2	23.99	-12.50	11.49	14.093	30.00	-18.51
1732.50	1.4	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1754.30	1.4	QPSK	1/0	23.94	-12.50	11.44	13.932	30.00	-18.56
1732.50	1.4	16-QAM	1/2	23.66	-12.50	11.16	13.062	30.00	-18.84
1711.50	3	QPSK	1/7	23.98	-12.50	11.48	14.060	30.00	-18.52
1732.50	3	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1753.50	3	QPSK	1/7	23.80	-12.50	11.30	13.490	30.00	-18.70
1732.50	3	16-QAM	1/7	23.53	-12.50	11.03	12.677	30.00	-18.97
1712.50	5	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1732.50	5	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1752.50	5	QPSK	1 / 24	23.75	-12.50	11.25	13.335	30.00	-18.75
1712.50	5	16-QAM	1 / 12	23.20	-12.50	10.70	11.749	30.00	-19.30
1715.00	10	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1732.50	10	QPSK	1/0	23.99	-12.50	11.49	14.093	30.00	-18.51
1750.00	10	QPSK	1 / 49	23.79	-12.50	11.29	13.459	30.00	-18.71
1715.00	10	16-QAM	1/0	23.46	-12.50	10.96	12.474	30.00	-19.04
1717.50	15	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1732.50	15	QPSK	1/0	23.98	-12.50	11.48	14.060	30.00	-18.52
1747.50	15	QPSK	1/0	23.80	-12.50	11.30	13.490	30.00	-18.70
1717.50	15	16-QAM	1 / 27	23.09	-12.50	10.59	11.455	30.00	-19.41
1720.00	20	QPSK	1 / 99	24.00	-12.50	11.50	14.125	30.00	-18.50
1732.50	20	QPSK	1/0	23.93	-12.50	11.43	13.900	30.00	-18.57
1745.00	20	QPSK	1 / 99	23.98	-12.50	11.48	14.060	30.00	-18.52
1720.00	20	16-QAM	1/0	23.22	-12.50	10.72	11.803	30.00	-19.28

# Table 7-12. EIRP Data (Band 4)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Page 192 of 237	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1/2	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	1.4	QPSK	1/0	23.77	-12.50	11.27	13.397	30.00	-18.73
1779.30	1.4	QPSK	1/2	23.99	-12.50	11.49	14.093	30.00	-18.51
1710.70	1.4	16-QAM	1/0	23.40	-12.50	10.90	12.303	30.00	-19.10
1711.50	3	QPSK	1/7	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	3	QPSK	1/7	23.78	-12.50	11.28	13.428	30.00	-18.72
1778.50	3	QPSK	1/7	23.81	-12.50	11.31	13.521	30.00	-18.69
1711.50	3	16-QAM	1/7	23.36	-12.50	10.86	12.190	30.00	-19.14
1712.50	5	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	5	QPSK	1 / 12	23.93	-12.50	11.43	13.900	30.00	-18.57
1777.50	5	QPSK	1 / 24	23.83	-12.50	11.33	13.583	30.00	-18.67
1712.50	5	16-QAM	1/0	23.24	-12.50	10.74	11.858	30.00	-19.26
1715.00	10	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	10	QPSK	1/0	23.94	-12.50	11.44	13.932	30.00	-18.56
1775.00	10	QPSK	1 / 49	23.90	-12.50	11.40	13.804	30.00	-18.60
1715.00	10	16-QAM	1/0	23.34	-12.50	10.84	12.134	30.00	-19.16
1717.50	15	QPSK	1/0	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	15	QPSK	1/0	23.93	-12.50	11.43	13.900	30.00	-18.57
1772.50	15	QPSK	1/0	23.81	-12.50	11.31	13.521	30.00	-18.69
1717.50	15	16-QAM	1 / 27	23.08	-12.50	10.58	11.429	30.00	-19.42
1720.00	20	QPSK	1 / 99	24.00	-12.50	11.50	14.125	30.00	-18.50
1745.00	20	QPSK	1/0	23.84	-12.50	11.34	13.614	30.00	-18.66
1770.00	20	QPSK	1 / 50	23.97	-12.50	11.47	14.028	30.00	-18.53
1720.00	20	16-QAM	1 / 27	23.27	-12.50	10.77	11.940	30.00	-19.23

# Table 7-13. EIRP Data (Band 66)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 193 of 237	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1/5	23.72	-13.90	9.82	9.594	33.01	-23.19
1880.00	1.4	QPSK	1/0	23.90	-13.90	10.00	10.000	33.01	-23.01
1909.30	1.4	QPSK	1/0	23.83	-13.90	9.93	9.840	33.01	-23.08
1880.00	1.4	16-QAM	1/0	23.35	-13.90	9.45	8.810	33.01	-23.56
1851.50	3	QPSK	1/7	23.72	-13.90	9.82	9.594	33.01	-23.19
1880.00	3	QPSK	1/7	23.85	-13.90	9.95	9.886	33.01	-23.06
1908.50	3	QPSK	1/0	23.67	-13.90	9.77	9.484	33.01	-23.24
1880.00	3	16-QAM	1/0	23.29	-13.90	9.39	8.690	33.01	-23.62
1852.50	5	QPSK	1/0	23.93	-13.90	10.03	10.069	33.01	-22.98
1880.00	5	QPSK	1/0	23.99	-13.90	10.09	10.209	33.01	-22.92
1907.50	5	QPSK	1/0	23.74	-13.90	9.84	9.638	33.01	-23.17
1880.00	5	16-QAM	1/0	23.42	-13.90	9.52	8.954	33.01	-23.49
1855.00	10	QPSK	1 / 49	23.72	-13.90	9.82	9.594	33.01	-23.19
1880.00	10	QPSK	1/0	23.85	-13.90	9.95	9.886	33.01	-23.06
1905.00	10	QPSK	1/0	23.79	-13.90	9.89	9.750	33.01	-23.12
1880.00	10	16-QAM	1 / 27	23.37	-13.90	9.47	8.851	33.01	-23.54
1857.50	15	QPSK	1 / 74	24.00	-13.90	10.10	10.233	33.01	-22.91
1880.00	15	QPSK	1 / 36	23.90	-13.90	10.00	10.000	33.01	-23.01
1902.50	15	QPSK	1 / 36	23.78	-13.90	9.88	9.727	33.01	-23.13
1857.50	15	16-QAM	1 / 13	23.05	-13.90	9.15	8.222	33.01	-23.86
1860.00	20	QPSK	1 / 99	23.76	-13.90	9.86	9.683	33.01	-23.15
1880.00	20	QPSK	1/0	23.89	-13.90	9.99	9.977	33.01	-23.02
1900.00	20	QPSK	1 / 50	23.86	-13.90	9.96	9.908	33.01	-23.05
1880.00	20	16-QAM	1/0	23.35	-13.90	9.45	8.810	33.01	-23.56

# Table 7-14. EIRP Data (Band 2)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dags 404 of 227	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1/5	23.71	-13.90	9.81	9.572	33.01	-23.20
1882.50	1.4	QPSK	1/0	23.84	-13.90	9.94	9.863	33.01	-23.07
1914.30	1.4	QPSK	1/0	23.91	-13.90	10.01	10.023	33.01	-23.00
1914.30	1.4	16-QAM	1/2	23.02	-13.90	9.12	8.166	33.01	-23.89
1851.50	3	QPSK	1/7	23.70	-13.90	9.80	9.550	33.01	-23.21
1882.50	3	QPSK	1/7	23.85	-13.90	9.95	9.886	33.01	-23.06
1913.50	3	QPSK	1/7	23.69	-13.90	9.79	9.528	33.01	-23.22
1882.50	3	16-QAM	1/0	23.31	-13.90	9.41	8.730	33.01	-23.60
1852.50	5	QPSK	1/0	23.90	-13.90	10.00	10.000	33.01	-23.01
1882.50	5	QPSK	1 / 24	23.97	-13.90	10.07	10.162	33.01	-22.94
1912.50	5	QPSK	1 / 24	23.79	-13.90	9.89	9.750	33.01	-23.12
1882.50	5	16-QAM	1 / 24	23.42	-13.90	9.52	8.954	33.01	-23.49
1855.00	10	QPSK	1 / 49	23.72	-13.90	9.82	9.594	33.01	-23.19
1882.50	10	QPSK	1/0	23.87	-13.90	9.97	9.931	33.01	-23.04
1910.00	10	QPSK	1/0	23.78	-13.90	9.88	9.727	33.01	-23.13
1882.50	10	16-QAM	1/0	23.38	-13.90	9.48	8.872	33.01	-23.53
1857.50	15	QPSK	1 / 74	23.96	-13.90	10.06	10.139	33.01	-22.95
1882.50	15	QPSK	1/0	23.86	-13.90	9.96	9.908	33.01	-23.05
1907.50	15	QPSK	1/0	23.79	-13.90	9.89	9.750	33.01	-23.12
1857.50	15	16-QAM	1 / 27	23.12	-13.90	9.22	8.356	33.01	-23.79
1860.00	20	QPSK	1 / 99	23.97	-13.90	10.07	10.162	33.01	-22.94
1882.50	20	QPSK	1/0	23.80	-13.90	9.90	9.772	33.01	-23.11
1905.00	20	QPSK	1 / 99	23.97	-13.90	10.07	10.162	33.01	-22.94
1860.00	20	16-QAM	1 / 27	23.26	-13.90	9.36	8.630	33.01	-23.65

# Table 7-15. EIRP Data (Band 25)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 195 of 237	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	1 / 12	23.36	-6.90	16.46	44.259	33.01	-16.55
2535.00	5	QPSK	1/0	23.18	-6.90	16.28	42.462	33.01	-16.73
2567.50	5	QPSK	1 / 24	22.90	-6.90	16.00	39.811	33.01	-17.01
2502.50	5	16-QAM	1 / 12	22.80	-6.90	15.90	38.905	33.01	-17.11
2505.00	10	QPSK	1/0	23.21	-6.90	16.31	42.756	33.01	-16.70
2535.00	10	QPSK	1/0	23.17	-6.90	16.27	42.364	33.01	-16.74
2565.00	10	QPSK	1 / 49	22.90	-6.90	16.00	39.811	33.01	-17.01
2505.00	10	16-QAM	1 / 27	22.72	-6.90	15.82	38.194	33.01	-17.19
2507.50	15	QPSK	1 / 74	23.49	-6.90	16.59	45.604	33.01	-16.42
2535.00	15	QPSK	1/0	23.17	-6.90	16.27	42.364	33.01	-16.74
2562.50	15	QPSK	1 / 74	22.87	-6.90	15.97	39.537	33.01	-17.04
2507.50	15	16-QAM	1 / 27	22.67	-6.90	15.77	37.757	33.01	-17.24
2510.00	20	QPSK	1 / 99	23.44	-6.90	16.54	45.082	33.01	-16.47
2535.00	20	QPSK	1/0	23.11	-6.90	16.21	41.783	33.01	-16.80
2560.00	20	QPSK	1 / 99	23.13	-6.90	16.23	41.976	33.01	-16.78
2510.00	20	16-QAM	1 / 27	22.71	-6.90	15.81	38.107	33.01	-17.20

Table 7-16. EIRP Data (Band 7)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogg 400 of 227	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	1 / 24	23.50	-6.90	16.60	45.709	33.01	-16.41
2593.00	5	QPSK	1/0	23.47	-6.90	16.57	45.394	33.01	-16.44
2687.50	5	QPSK	1 / 12	23.48	-6.90	16.58	45.499	33.01	-16.43
2687.50	5	16-QAM	1 / 12	22.60	-6.90	15.70	37.154	33.01	-17.31
2501.00	10	QPSK	1 / 25	23.39	-6.90	16.49	44.566	33.01	-16.52
2593.00	10	QPSK	1/0	23.40	-6.90	16.50	44.668	33.01	-16.51
2685.00	10	QPSK	1 / 49	23.41	-6.90	16.51	44.771	33.01	-16.50
2593.00	10	16-QAM	1/0	22.59	-6.90	15.69	37.068	33.01	-17.32
2503.50	15	QPSK	1 / 36	23.40	-6.90	16.50	44.668	33.01	-16.51
2593.00	15	QPSK	1 / 36	23.43	-6.90	16.53	44.978	33.01	-16.48
2682.50	15	QPSK	1 / 74	23.47	-6.90	16.57	45.394	33.01	-16.44
2682.50	15	16-QAM	1 / 13	22.39	-6.90	15.49	35.400	33.01	-17.52
2506.00	20	QPSK	1 / 99	23.50	-6.90	16.60	45.709	33.01	-16.41
2593.00	20	QPSK	1 / 99	23.48	-6.90	16.58	45.499	33.01	-16.43
2680.00	20	QPSK	1 / 99	23.38	-6.90	16.48	44.463	33.01	-16.53
2593.00	20	16-QAM	1 / 13	22.54	-6.90	15.64	36.644	33.01	-17.37

Table 7-17. EIRP Data (Band 41)

FCC ID: BCG-A2293	Proud to be part of @ element	(OFFICIOATION)	
Test Report S/N:	Test Dates:	EUT Type:	Page 197 of 237
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# 7.7 Radiated Spurious Emissions

### **Test Overview**

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 and 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 C63.26-2015

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  $\geq$  3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points  $\geq 2 \times \text{span} / \text{RBW}$
- 5. Detector = RMS
- 6. Trace mode = Average (Max Hold for pulsed emissions)
- 7. The trace was allowed to stabilize

assembly of contents thereof, please contact INFO@PCTEST.COM.

FCC ID: BCG-A2293	PCTEST° Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 109 of 227	
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O COOC DOTEOT			11.40.4.00/04/0000	



### **Test Setup**

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

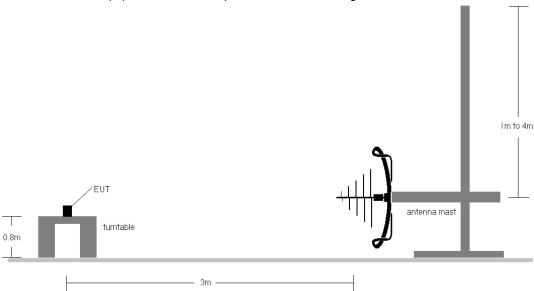


Figure 7-6. Radiated Measurement Setup < 1GHz

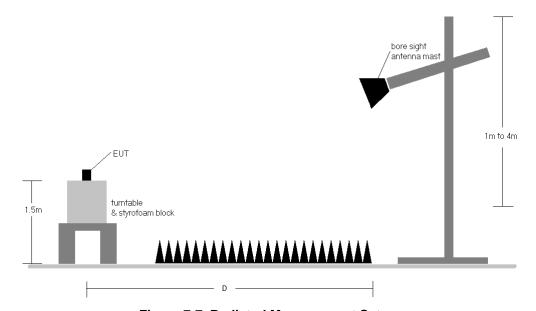


Figure 7-7. Radiated Measurement Setup

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dogg 100 of 227	
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### **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 modulations, offsets and channel bandwidth configurations in this section. QPSK/10MHz/1RB was found and reported as worst case configuration for low bands and QPSK/20MHz/1RB was found and reported as worst case configuration for mid/high bands.
- 2) This unit was tested with its standard battery.

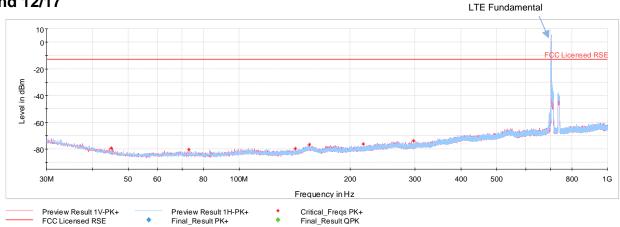
assembly of contents thereof, please contact INFO@PCTEST.COM

- 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) D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters 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) No significant emissions were found for below 1GHz and Above 18GHz measurement.
- 7) The intermodulation emissions were tested against the less stringent limit across all rule parts applicable to simultaneous transmitters.
- 8) All harmonics have been measured with the worst case simultaneous configuration and no emissions have been found at UWB and WLAN 2.4GHz harmonic frequencies.

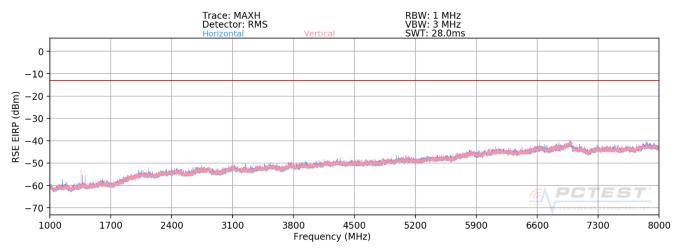
FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 200 of 227	
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# **Band 12/17**



Plot 7-312. Radiated Spurious Emissions below 1GHz (Band 12/17)



Plot 7-313. Radiated Spurious Emissions above 1GHz (Band 12/17)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 201 of 227	
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704.00 OPERATING FREQUENCY: MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 10.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	>	121	276	-66.17	3.20	-62.97	-50.0
2112.00	>	182	180	-64.03	3.13	-60.91	-47.9
2816.00	>	-	-	-67.09	5.31	-61.77	-48.8
3520.00	V	-	-	-67.99	6.80	-61.18	-48.2
4224.00	V	-	-	-68.54	8.03	-60.51	-47.5

Table 7-18. Radiated Spurious Data (Band 12/17 - 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]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	>	4	86	-65.90	3.26	-62.64	-49.6
2122.50	>	125	240	-58.41	3.18	-55.23	-42.2
2830.00	>	-	-	-67.93	5.30	-62.63	-49.6
3537.50	<b>V</b>	-	-	-68.81	6.80	-62.02	-49.0
4245.00	>	-	-	-69.53	8.05	-61.47	-48.5

Table 7-19. Radiated Spurious Data (Band 12/17 - Mid Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	(0)	
Test Report S/N:	Test Dates:	EUT Type:	Page 202 of 237
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OPERATING FREQUENCY: 711.00 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 10.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

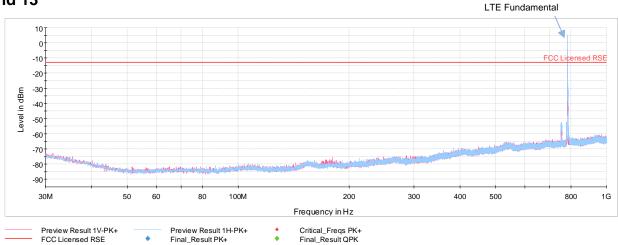
Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	>	231	181	-64.33	3.35	-60.98	-48.0
2133.00	>	157	189	-65.73	3.23	-62.50	-49.5
2844.00	>	-	-	-67.45	5.37	-62.08	-49.1
3555.00	V	-	-	-67.93	6.81	-61.12	-48.1
4266.00	V	-	-	-68.58	8.05	-60.53	-47.5

Table 7-20. Radiated Spurious Data (Band 12/17 - High Channel)

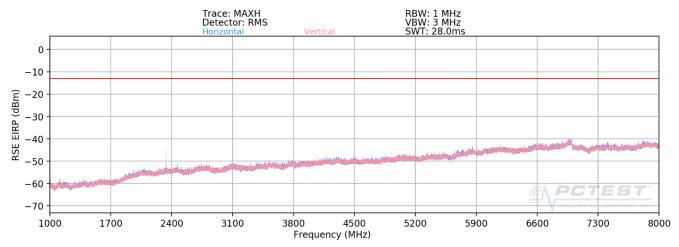
FCC ID: BCG-A2293	PCTEST* Proud to be part of @ element  MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dags 202 of 227	
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# Band 13



Plot 7-314. Radiated Spurious Emissions below 1GHz (Band 13)



Plot 7-315. Radiated Spurious Emissions above 1GHz (Band 13)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 204 of 227	
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OPERATING FREQUENCY: 779.50 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 5.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	V	150	129	-63.30	3.95	-59.35	-46.4
3118.00	V	-	-	-68.60	6.09	-62.51	-49.5
3897.50	V	-	-	-69.47	7.65	-61.82	-48.8
4677.00	V	-	-	-69.50	8.55	-60.96	-48.0

Table 7-21. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY: 782.00 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 10.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	>	352	266	-62.26	3.97	-58.29	-45.3
3128.00	V	156	295	-62.95	6.13	-56.82	-43.8
3910.00	V	-	-	-69.64	7.67	-61.97	-49.0
4692.00	V	-	-	-69.37	8.57	-60.80	-47.8

Table 7-22. Radiated Spurious Data (Band 13 - Mid Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 205 of 227
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OPERATING FREQUENCY: 784.50 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 5.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	V	150	107	-58.90	3.94	-54.96	-42.0
3138.00	V	-	-	-68.92	6.17	-62.75	-49.8
3922.50	V	-	-	-69.71	7.69	-62.02	-49.0
4707.00	V	-	-	-69.47	8.59	-60.88	-47.9

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

MODULATION SIGNAL: QPSK

BANDWIDTH: 5.00 MHz

DISTANCE: 3 meters

NARROWBAND EMISSION LIMIT: -50 dBm

WIDEBAND EMISSION LIMIT: -40 dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	V	150	257	-70.84	3.73	-67.11	-27.1
1564.00	V	150	245	-70.97	3.71	-67.26	-27.3
1569.00	V	150	254	-69.92	3.68	-66.24	-26.2

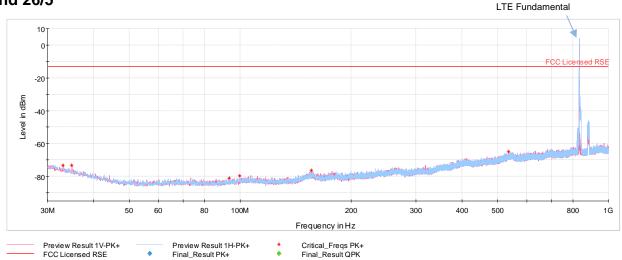
Table 7-24. Radiated Spurious Data (Band 13 - 1559-1610MHz Band)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 206 of 237	
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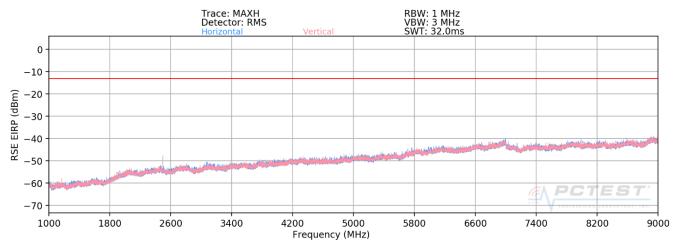
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# **Band 26/5**



Plot 7-316. Radiated Spurious Emissions below 1GHz (Band 26/5)



Plot 7-317. Radiated Spurious Emissions above 1GHz (Band 26/5)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 207 of 237	
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OPERATING FREQUENCY: 829.00 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 10.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	>	18	108	-71.33	3.80	-67.52	-54.5
2487.00	>	94	91	-60.61	4.34	-56.27	-43.3
3316.00	>	-	-	-68.57	6.51	-62.06	-49.1
4145.00	V	-	-	-68.57	7.88	-60.69	-47.7
4974.00	V	-	-	-68.11	8.83	-59.27	-46.3

Table 7-25. Radiated Spurious Data (Band 26/5 - Low Channel)

OPERATING FREQUENCY: 836.50 MHz

MODULATION SIGNAL: **QPSK** 

> BANDWIDTH: 10.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	V	150	20	-72.34	3.69	-68.64	-55.6
2509.50	V	150	91	-59.42	4.20	-55.23	-42.2
3346.00	V	-	-	-69.20	6.55	-62.64	-49.6
4182.50	V	-	-	-69.10	7.97	-61.13	-48.1
5019.00	V	-	-	-69.09	8.86	-60.23	-47.2

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

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 200 of 227	
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OPERATING FREQUENCY: 844.00 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 10.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

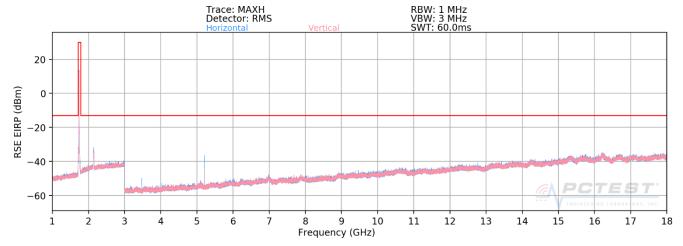
Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	>	150	245	-70.82	3.70	-67.12	-54.1
2532.00	>	150	223	-62.33	4.36	-57.97	-45.0
3376.00	>	-	-	-68.67	6.60	-62.08	-49.1
4220.00	V	-	-	-69.35	8.03	-61.32	-48.3
5064.00	V	-	-	-69.51	8.93	-60.58	-47.6

Table 7-27. Radiated Spurious Data (Band 26/5 - High Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 200 of 227
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### **Band 66/4**



Plot 7-318. Radiated Spurious Emissions 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]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	Η	138	158	-67.95	6.69	-61.26	-48.3
5160.00	Н	77	20	-66.14	9.08	-57.06	-44.1
6880.00	Н	-	-	-66.23	9.54	-56.68	-43.7
8600.00	Н	-	-	-65.43	9.65	-55.77	-42.8
10320.00	Н	-	-	-62.52	9.56	-52.96	-40.0

Table 7-28. Radiated Spurious Data (Band 66/4 - Low Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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OPERATING FREQUENCY: 1745.00 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	Н	84	221	-65.04	6.79	-58.26	-45.3
5235.00	Н	92	309	-51.96	9.16	-42.80	-29.8
6980.00	Н	-	ı	-64.34	9.49	-54.85	-41.9
8725.00	Н	-	ı	-64.65	9.63	-55.02	-42.0
10470.00	Н	-	-	-60.90	9.46	-51.44	-38.4

Table 7-29. 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]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	Н	88	229	-64.22	6.80	-57.42	-44.4
5310.00	Н	268	40	-47.36	9.11	-38.24	-25.2
7080.00	Н	-	-	-67.46	9.46	-58.01	-45.0
8850.00	Н	-	-	-65.53	9.58	-55.95	-42.9
10620.00	Н	-	-	-61.26	9.42	-51.85	-38.8

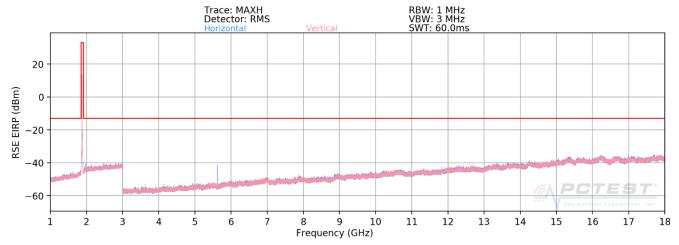
Table 7-30. Radiated Spurious Data (Band 66/4 - High Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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### **Band 25/2**



Plot 7-319. Radiated Spurious Emissions above 1GHz (Band 25/2)

OPERATING FREQUENCY: 1860.00 MHz

MODULATION SIGNAL: **QPSK** 

**BANDWIDTH:** 20.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	Н	26	353	-67.82	7.29	-60.53	-47.5
5580.00	Η	290	33	-58.66	9.37	-49.29	-36.3
7440.00	Н	-	-	-65.53	9.44	-56.09	-43.1
9300.00	Н	-	-	-62.83	9.53	-53.30	-40.3
11160.00	Н	-	-	-60.76	9.74	-51.02	-38.0

Table 7-31. Radiated Spurious Data (Band 25/2 - Low Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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OPERATING FREQUENCY: 1882.50 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	Ι	187	65	-67.19	7.30	-59.89	-46.9
5647.50	Ι	253	220	-66.49	9.37	-57.12	-44.1
7530.00	Η	-	-	-66.78	9.44	-57.33	-44.3
9412.50	Ι	-	-	-63.43	9.56	-53.88	-40.9
11295.00	Н	-	-	-61.07	9.63	-51.44	-38.4

Table 7-32. Radiated Spurious Data (Band 25/2 - Mid Channel)

OPERATING FREQUENCY: 1905.00 MHz

MODULATION SIGNAL: **QPSK** 

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	Н	185	225	-66.52	7.37	-59.14	-46.1
5715.00	Н	260	49	-49.01	9.38	-39.63	-26.6
7620.00	Н	-	-	-65.61	9.38	-56.23	-43.2
9525.00	Н	-	-	-63.39	9.56	-53.83	-40.8
11430.00	Н	-	-	-60.87	9.54	-51.33	-38.3

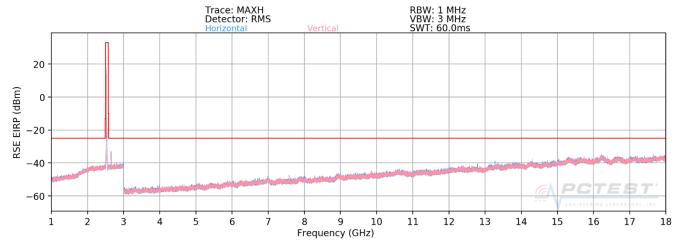
Table 7-33. Radiated Spurious Data (Band 25/2 - High Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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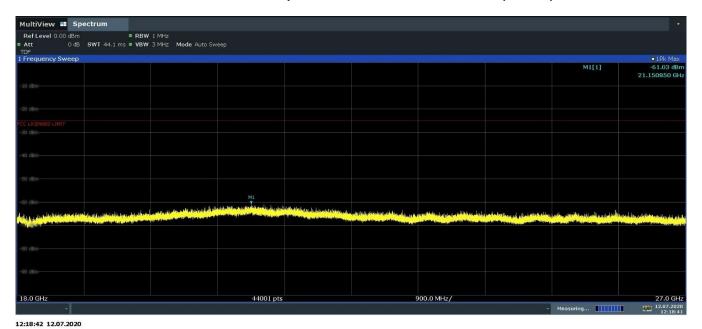
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### Band 7



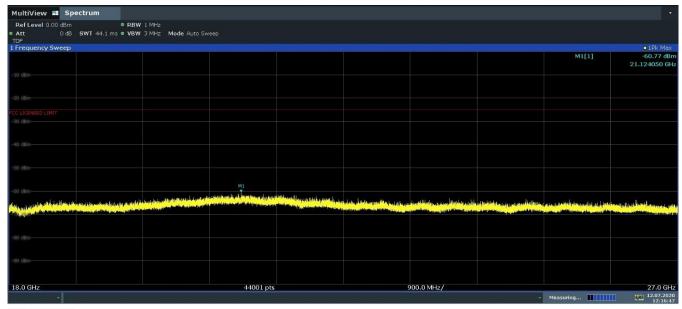
Plot 7-320. Radiated Spurious Emissions 1GHz - 18GHz (Band 7)



Plot 7-321. Radiated Spurious Emissions 18GHz - 27GHz (Band 7, Pol. H)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-322. Radiated Spurious Emissions 18GHz – 27GHz (Band 7, Pol. V)

OPERATING FREQUENCY: 2510.00 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters

LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	V	39	303	-69.24	8.86	-60.38	-35.4
7530.00	V	-	-	-66.64	9.44	-57.19	-32.2
10040.00	V	-	-	-62.85	9.55	-53.29	-28.3
12550.00	V	-	-	-59.33	9.30	-50.02	-25.0

Table 7-34. Radiated Spurious Data (Band 7 - Low Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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OPERATING FREQUENCY: 2535.00 MHz

**QPSK** MODULATION SIGNAL:

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	V	356	279	-68.67	8.94	-59.73	-34.7
7605.00	V	-	-	-66.55	9.37	-57.18	-32.2
10140.00	V	-	-	-62.41	9.59	-52.82	-27.8
12675.00	V	-	-	-58.74	9.27	-49.47	-24.5

Table 7-35. Radiated Spurious Data (Band 7 - Mid Channel)

OPERATING FREQUENCY: 2560.00 MHz

MODULATION SIGNAL: **QPSK** 

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	150	340	-68.64	9.01	-59.63	-34.6
7680.00	V	150	344	-64.79	9.40	-55.38	-30.4
10240.00	V	-	-	-62.50	9.56	-52.94	-27.9
12800.00	V	-	-	-58.92	9.28	-49.63	-24.6

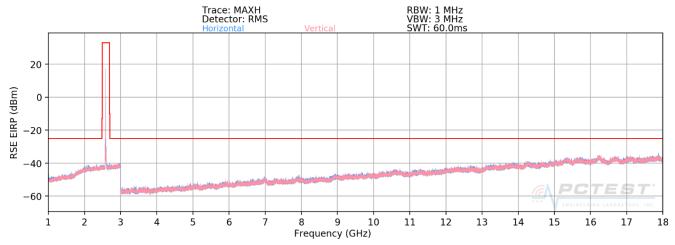
Table 7-36. Radiated Spurious Data (Band 7 - High Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 216 of 237
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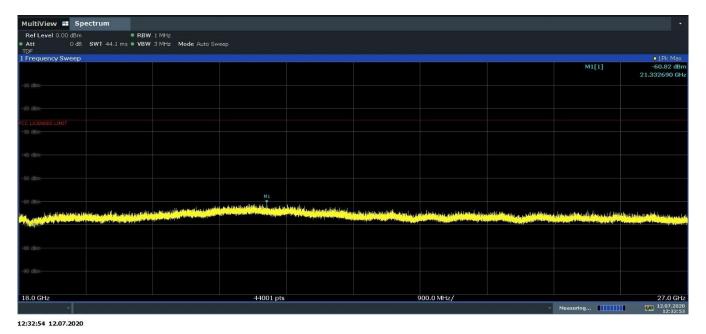
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### Band 41



Plot 7-323. Radiated Spurious Emissions 1GHz - 18GHz (Band 41)

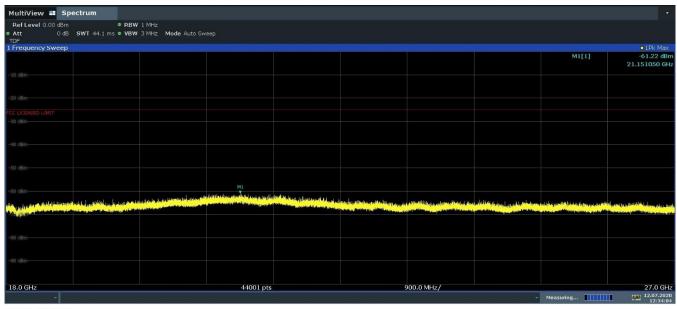


Plot 7-324. Radiated Spurious Emissions 18GHz - 27GHz (Band 41, Pol. H)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-325. Radiated Spurious Emissions 18GHz - 27GHz (Band 41, Pol. V)

OPERATING FREQUENCY: 2506.00 MHz
MODULATION SIGNAL: QPSK

BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	>	387	362	-58.48	8.85	-49.63	-24.6
7518.00	V	7	110	-57.73	9.44	-48.29	-23.3
10024.00	V	-	-	-57.32	9.54	-47.78	-22.8
12530.00	V	-	-	-54.83	9.29	-45.54	-20.5

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

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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OPERATING FREQUENCY: 2593.00 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters

LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	V	0	340	-58.60	9.13	-49.47	-24.5
7779.00	V	-	-	-60.94	9.38	-51.57	-26.6
10372.00	V	-	-	-56.52	9.52	-47.00	-22.0
12965.00	V	-	-	-52.87	9.17	-43.71	-18.7

Table 7-38. 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]	Positioner Azimuth [degree]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	>	132	16	-58.91	9.13	-49.78	-24.8
8040.00	٧	-	-	-59.89	9.41	-50.48	-25.5
10720.00	٧	-	-	-54.41	9.49	-44.92	-19.9
13400.00	٧	-	-	-51.38	9.03	-42.35	-17.4

Table 7-39. Radiated Spurious Data (Band 41 - High Channel)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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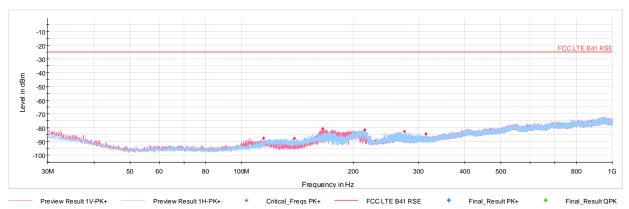
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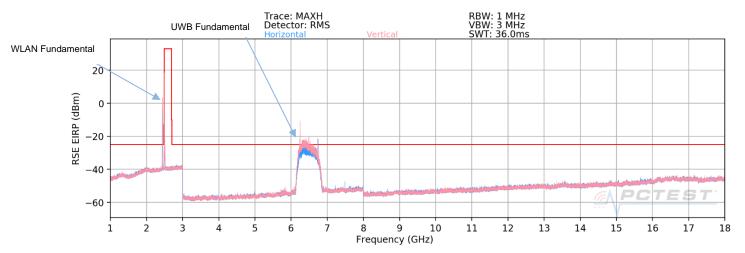
#### **Simultaneous Tx Radiated Spurious Emissions Measurements** 7.7.1

Description	WLAN	LTE (Band 41)	UWB
Antenna	FCM	FCM	FCM
Channel	6	39750	5
Operating Frequency (MHz)	2437	2506	6500
Mode/Modulation	802.11b	QPSK/1RB/20MHz	Config 3/Payload 125

Table 7-40. Worst Case Simultaneous Transmission Configuration



Plot 7-326. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz



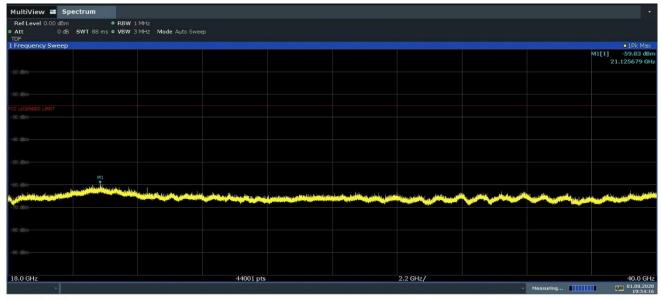
Plot 7-327. Radiated Spurious Emissions - Simultaneous Transmission 1-18GHz

Note: Only the LTE B41 limit was shown in the plot above. The 2 other fundamentals are WLAN and UWB.

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dogo 220 of 227	
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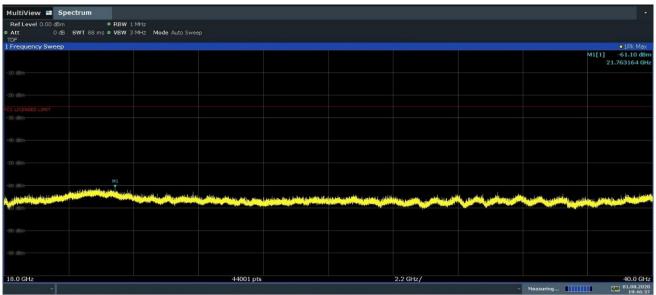
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Plot 7-328. Radiated Spurious Emissions - Simultaneous Transmission 18GHz-40GHz Pol. H



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Plot 7-329. Radiated Spurious Emissions - Simultaneous Transmission 18GHz-40GHz Pol. V

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]		Margin [dB]
5012.00	Avg	Н	101	219	-61.54	10.15	-51.39	-25.0	-26.39
7518.00	Avg	Н	249	115	-60.59	12.11	-48.49	-25.0	-23.49
10024.00	Avg	V	-	-	-63.04	13.33	-49.71	-25.0	-24.71
12530.00	Avg	V	-	=	-61.12	13.36	-47.76	-25.0	-22.76
2387.00	Avg	V	139	189	-44.88	6.16	-38.71	-25.0	-13.71

Table 7-41. LTE Harmonics and Intermodulations Emissions Measurements in Simultaneous Transmission Mode

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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### 7.8 Frequency Stability / Temperature Variation

#### **Test Overview and Limit**

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015 and 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  $\pm 0.00025\%$  ( $\pm 2.5$  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**

TIA-603-E-2016

ANSI C63.26.2015

#### **Test Settings**

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 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 wideband radio communication tester with the EUT placed inside an environmental chamber.



Figure 7-8. Test Instrument & Measurement Setup

#### **Test Notes**

None

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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### **Band 12/17 Frequency Stability Measurements**

OPERATING FREQUENCY: 707,500,000 Hz

CHANNEL: 23790

REFERENCE VOLTAGE: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	707,500,009	8.9	0.000013
100 %		- 20	707,500,008	8.0	0.0000011
100 %		- 10	707,499,998	-1.6	-0.0000002
100 %	3.80	0	707,500,020	20.0	0.0000028
100 %		+ 10	707,500,005	5.0	0.000007
100 %		+ 20	707,500,006	6.0	0.0000008
100 %		+ 30	707,500,006	6.0	0.0000008
100 %		+ 40	707,500,005	5.0	0.000007
100 %		+ 50	707,500,005	5.0	0.000007
BATT. ENDPOINT	3.40	+ 20	707,500,005	5.4	0.000008

Table 7-42. Frequency Stability Data (Band 12/17 – 10MHz QPSK – Full RB Configuration)

#### 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.

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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# **Band 12/17 Frequency Stability Measurements**

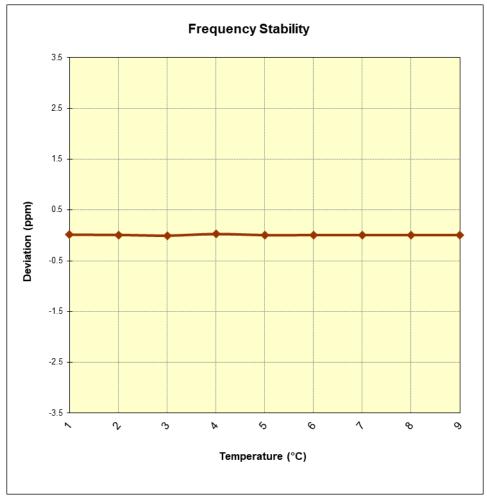


Figure 7-9. Frequency Stability Graph (Band 12/17 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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### **Band 13 Frequency Stability Measurements**

OPERATING FREQUENCY: 782,000,000 Hz

> CHANNEL: 23230

3.80 REFERENCE VOLTAGE: **VDC** 

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	782,000,002	1.5	0.0000002
100 %		- 20	781,999,998	-2.1	-0.0000003
100 %		- 10	781,999,999	-1.3	-0.0000002
100 %	3.80	0	782,000,007	7.0	0.0000009
100 %		+ 10	782,000,036	36.0	0.000046
100 %		+ 20	782,000,003	3.0	0.000004
100 %		+ 30	782,000,003	3.0	0.000004
100 %		+ 40	782,000,008	8.0	0.0000010
100 %		+ 50	782,000,007	7.0	0.0000009
BATT. ENDPOINT	3.40	+ 20	782,000,008	7.9	0.0000010

Table 7-43. Frequency Stability Data (Band 13 - 10MHz QPSK - Full RB Configuration)

#### 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.

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Band 13 Frequency Stability Measurements**

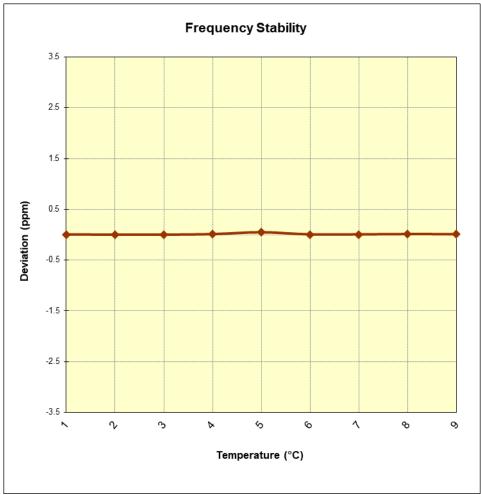


Figure 7-10. Frequency Stability Graph (Band 13 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Band 26/5 Frequency Stability Measurements**

OPERATING FREQUENCY: 836,500,000 Hz

> CHANNEL: 26865

REFERENCE VOLTAGE: 3.80 **VDC** 

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	836,500,004	3.8	0.000005
100 %		- 20	836,500,004	3.7	0.000004
100 %		- 10	836,499,998	-1.6	-0.0000002
100 %		0	836,500,004	4.0	0.000005
100 %	3.80	+ 10	836,500,003	3.0	0.000004
100 %		+ 20	836,500,003	3.0	0.000004
100 %		+ 30	836,500,003	3.0	0.000004
100 %		+ 40	836,500,004	4.0	0.000005
100 %		+ 50	836,500,003	3.0	0.000004
BATT. ENDPOINT	3.40	+ 20	836,500,004	4.4	0.000005

Table 7-44. Frequency Stability Data (Band 26/5 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Band 26/5 Frequency Stability Measurements**

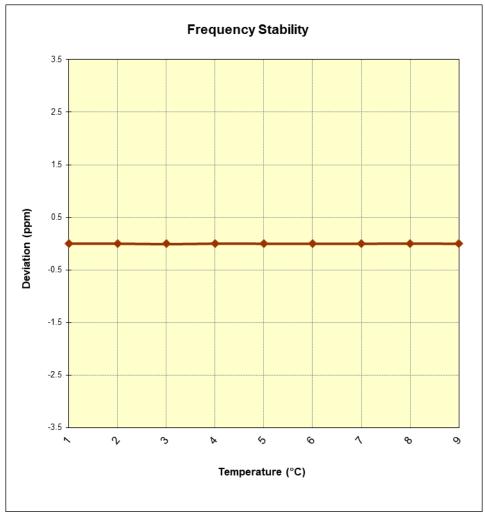


Figure 7-11. Frequency Stability Graph (Band 26/5 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 228 of 237
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# **Band 66/4 Frequency Stability Measurements**

OPERATING FREQUENCY: 1,745,000,000 Hz

> CHANNEL: 132322

REFERENCE VOLTAGE: \_\_\_\_\_ 3.80 **VDC** 

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	1,745,000,002	1.8	0.0000010
100 %		- 20	1,745,000,002	1.8	0.0000010
100 %		- 10	1,745,000,001	0.7	0.0000004
100 %		0	1,744,999,999	-1.5	-0.00000008
100 %	3.80	+ 10	1,744,999,999	-1.1	-0.00000006
100 %		+ 20	1,745,000,002	2.0	0.0000012
100 %		+ 30	1,745,000,002	2.0	0.0000011
100 %		+ 40	1,744,999,999	-0.7	-0.0000004
100 %		+ 50	1,745,000,001	1.2	0.0000007
BATT. ENDPOINT	3.40	+ 20	1,744,999,999	-0.6	-0.0000004

Table 7-45. Frequency Stability Data (Band 66/4 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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1C2004270017-03-R1.BCG	04/09/2020-08/17/2020	Watch	Fage 229 01 237



# **Band 66/4 Frequency Stability Measurements**

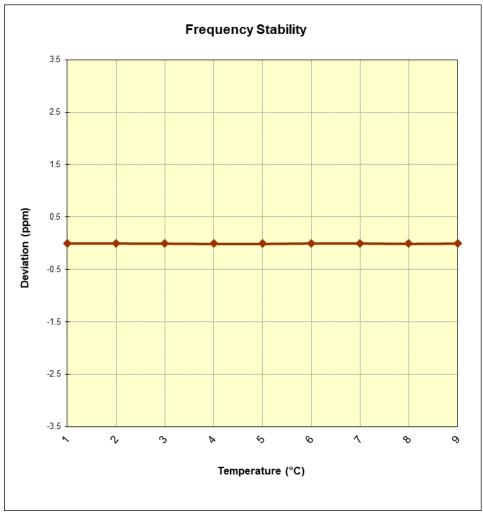


Figure 7-12. Frequency Stability Graph (Band 66/4 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Band 25/2 Frequency Stability Measurements**

OPERATING FREQUENCY: 1,882,500,000 Hz

> CHANNEL: 26365

REFERENCE VOLTAGE: 3.80 **VDC** 

DEVIATION LIMIT:  $\pm 0.00025$  % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	1,882,499,999	-1.1	-0.00000006
100 %		- 20	1,882,500,002	2.2	0.0000012
100 %		- 10	1,882,499,999	-1.2	-0.0000007
100 %		0	1,882,500,003	3.0	0.0000016
100 %	3.80	+ 10	1,882,500,004	4.0	0.00000021
100 %		+ 20	1,882,499,998	-1.7	-0.00000009
100 %		+ 30	1,882,500,001	1.0	0.0000005
100 %		+ 40	1,882,499,998	-1.9	-0.0000010
100 %		+ 50	1,882,499,998	-2.5	-0.0000013
BATT. ENDPOINT	3.40	+ 20	1,882,500,001	0.6	0.0000003

Table 7-46. Frequency Stability Data (Band 25/2 – 20MHz QPSK – Full RB Configuration)

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# **Band 25/2 Frequency Stability Measurements**

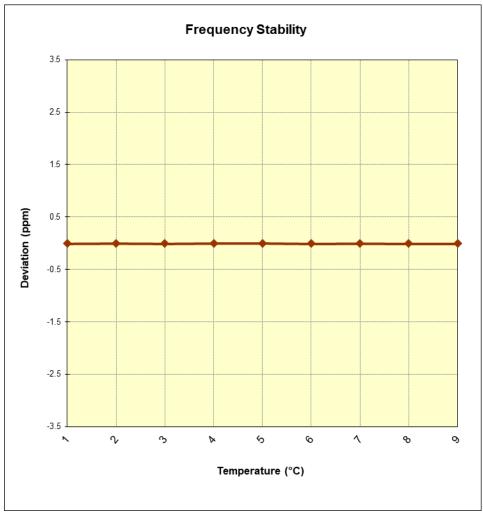


Figure 7-13. Frequency Stability Graph (Band 25/2 – 20MHz QPSK – Full RB Configuration)

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### **Band 7 Frequency Stability Measurements**

OPERATING FREQUENCY: 2,535,000,000 Hz

> CHANNEL: 21100

REFERENCE VOLTAGE: \_\_\_\_\_ 3.80 **VDC** 

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	2,535,000,002	2.5	0.000001
100 %		- 20	2,535,000,002	2.3	0.000001
100 %		- 10	2,535,000,002	2.3	0.000001
100 %		0	2,535,000,002	2.4	0.000001
100 %	3.80	+ 10	2,535,000,002	1.7	0.000001
100 %		+ 20	2,535,000,002	2.1	0.000001
100 %		+ 30	2,535,000,005	5.0	0.0000002
100 %		+ 40	2,535,000,003	3.2	0.000001
100 %		+ 50	2,535,000,003	3.3	0.000001
BATT. ENDPOINT	3.40	+ 20	2,535,000,002	2.3	0.0000001

Table 7-47. Frequency Stability Data (Band 7 - 20MHz QPSK - Full RB Configuration)

#### 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.

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# **Band 7 Frequency Stability Measurements**

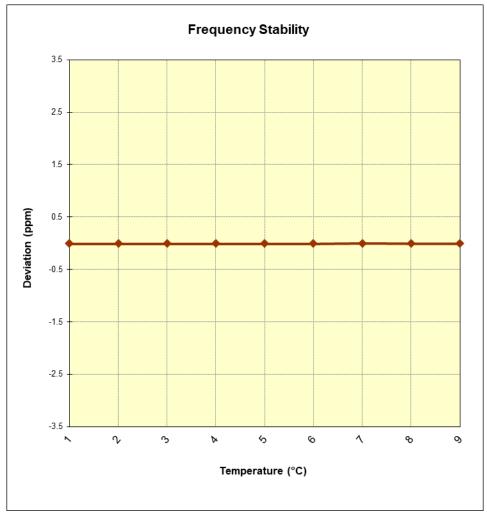


Figure 7-14. Frequency Stability Graph (Band 7 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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### **Band 41 Frequency Stability Measurements**

OPERATING FREQUENCY: 2,593,000,000 Hz

> CHANNEL: 40620

REFERENCE VOLTAGE: 3.80 **VDC** 

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	2,592,999,984	-16.0	-0.00000062
100 %		- 20	2,592,999,984	-16.2	-0.0000063
100 %		- 10	2,592,999,980	-19.8	-0.00000076
100 %		0	2,592,999,983	-17.0	-0.00000066
100 %	3.80	+ 10	2,592,999,978	-21.9	-0.00000084
100 %		+ 20	2,593,000,042	41.7	0.00000161
100 %		+ 30	2,593,000,009	9.0	0.0000035
100 %		+ 40	2,593,000,038	37.7	0.00000145
100 %		+ 50	2,592,999,990	-10.3	-0.0000040
BATT. ENDPOINT	3.40	+ 20	2,593,000,000	0.2	0.00000001

Table 7-48. Frequency Stability Data (Band 41 – 20MHz QPSK – Full RB Configuration)

#### 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.

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Band 41 Frequency Stability Measurements**

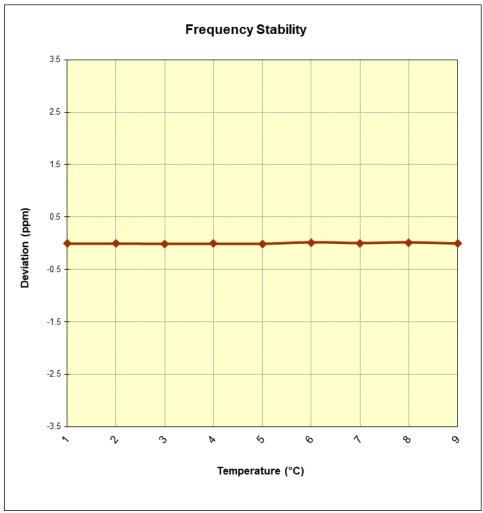


Figure 7-15. Frequency Stability Graph (Band 41 – 20MHz QPSK – Full RB Configuration)

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### CONCLUSION

The data collected relate only to the item(s) tested and show that the Apple Watch FCC ID: BCG-A2293 complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

FCC ID: BCG-A2293	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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