



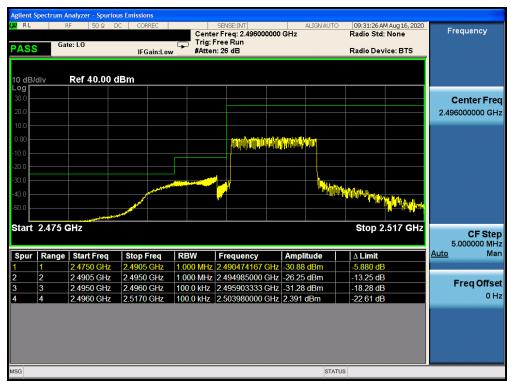
Plot 7-214. Lower ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-215. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-216. Lower ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-217. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-218. Lower ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-219. Upper ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-220. Lower ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-221. Upper ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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7.5 Peak-Average Ratio

Test Overview

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

Test Procedure Used

KDB 971168 D01 v03r01 - Section 5.7.1

Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW ≥ OBW or specified reference bandwidth
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

Test Notes

- 1. This device only supports 27RBs or less for 16-QAM uplink.
- 2. All RB sizes have been investigated and Full RB configuration was found and reported as worst case.

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			11.12.1.22/21/22

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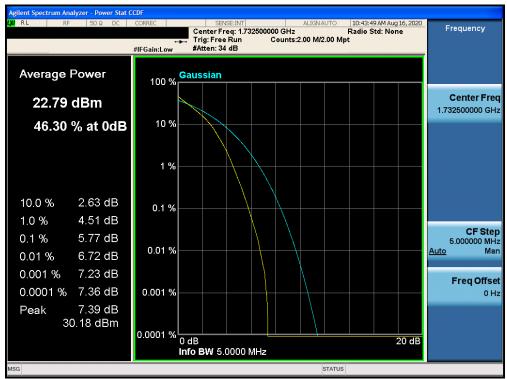
LTE	BW (MHz)	Modulation	Average Power [dBm]	PAR at 0.1% [dB]	Limit [dB]	Margin [dB]
Band 4	1.4	QPSK	22.79	5.77	13	-7.23
Band 4	1.4	16QAM	22.20	6.54	13	-6.46
Band 4	3	QPSK	22.92	5.96	13	-7.04
Band 4	3	16QAM	22.27	6.62	13	-6.38
Band 4	5	QPSK	22.85	5.79	13	-7.21
Band 4	5	16QAM	21.83	6.50	13	-6.50
Band 4	10	QPSK	22.82	5.78	13	-7.22
Band 4	10	16QAM	21.81	6.54	13	-6.46
Band 4	15	QPSK	22.90	5.73	13	-7.27
Band 4	15	16QAM	21.83	6.57	13	-6.43
Band 4	20	QPSK	22.81	5.68	13	-7.32
Band 4	20	16QAM	21.82	6.61	13	-6.39
Band 66	1.4	QPSK	22.94	5.82	13	-7.18
Band 66	1.4	16QAM	22.39	6.40	13	-6.60
Band 66	3	QPSK	23.00	5.86	13	-7.14
Band 66	3	16QAM	22.41	6.53	13	-6.47
Band 66	5	QPSK	22.94	5.88	13	-7.12
Band 66	5	16QAM	22.37	6.46	13	-6.54
Band 66	10	QPSK	22.92	5.76	13	-7.24
Band 66	10	16QAM	22.35	6.42	13	-6.58
Band 66	15	QPSK	22.97	5.90	13	-7.10
Band 66	15	16QAM	22.27	6.41	13	-6.59
Band 66	20	QPSK	22.97	5.64	13	-7.36
Band 66	20	16QAM	22.22	6.48	13	-6.52
Band 2	1.4	QPSK	23.02	5.68	13	-7.32
Band 2	1.4	16QAM	22.12	6.37	13	-6.63
Band 2	3	QPSK	23.02	5.83	13	-7.17
Band 2	3	16QAM	22.05	6.50	13	-6.50
Band 2	5	QPSK	22.98	5.82	13	-7.18
Band 2	5	16QAM	22.07	6.47	13	-6.53
Band 2	10	QPSK	22.97	5.70	13	-7.30
Band 2	10	16QAM	21.91	6.33	13	-6.67
Band 2	15	QPSK	23.00	5.94	13	-7.06
Band 2	15	16QAM	21.83	6.27	13	-6.73
Band 2	20	QPSK	23.00	5.66	13	-7.34
Band 2	20	16QAM	21.61	6.22	13	-6.78
Band 25	1.4	QPSK	22.91	5.69	13	-7.31
Band 25	1.4	16QAM	22.05	6.42	13	-6.58
Band 25	3	QPSK	22.92	5.77	13	-7.23
Band 25	3	16QAM	21.96	6.56	13	-6.44
Band 25	5	QPSK	22.91	5.71	13	-7.29
Band 25	5	16QAM	21.93	6.46	13	-6.54
Band 25	10	QPSK	23.04	5.69	13	-7.31
Band 25	10	16QAM	22.06	6.39	13	-6.61
Band 25	15	QPSK	23.08	5.94	13	-7.06
Band 25	15	16QAM	21.93	6.30	13	-6.70
Band 25	20	QPSK	22.80	5.72	13	-7.28
Band 25	20	16QAM	21.35	6.25	13	-6.75

Table 7-6. PAR Results (Mid Bands)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-222. PAR Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-223. PAR Plot (Band 4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-224. PAR Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



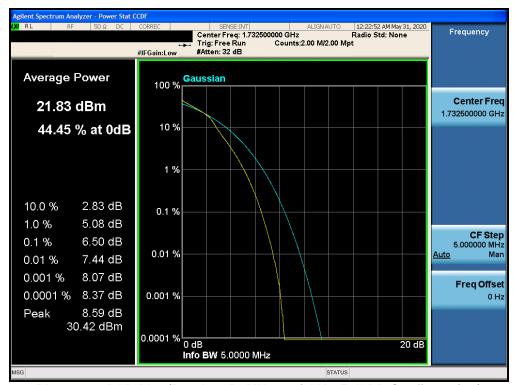
Plot 7-225. PAR Plot (Band 4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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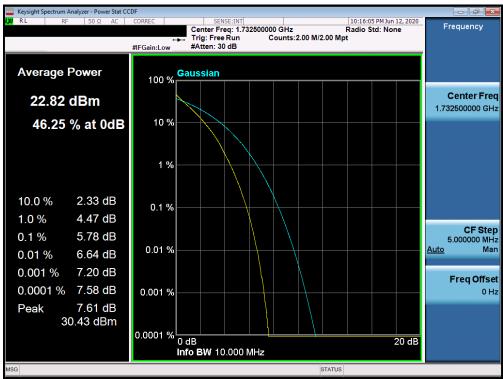
Plot 7-226. PAR Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



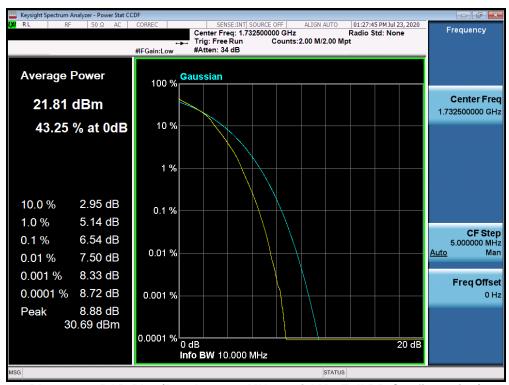
Plot 7-227. PAR Plot (Band 4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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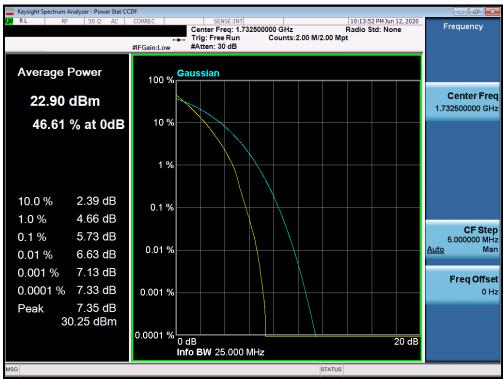
Plot 7-228. PAR Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



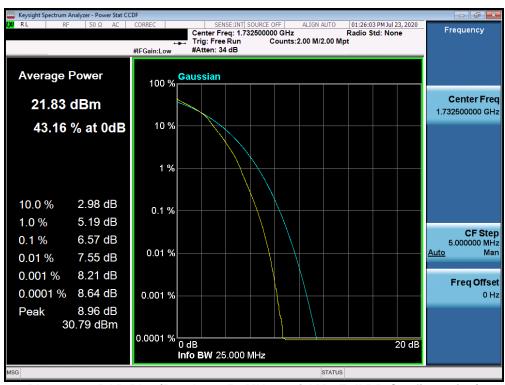
Plot 7-229. PAR Plot (Band 4 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-230. PAR Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-231. PAR Plot (Band 4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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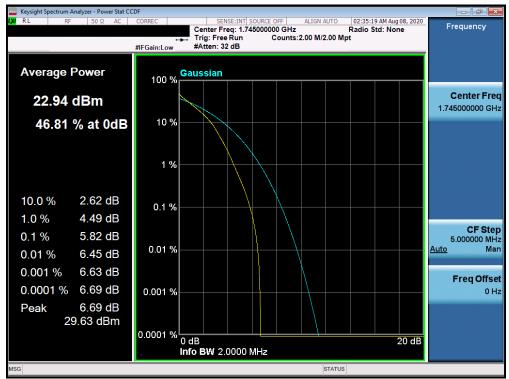
Plot 7-232. PAR Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



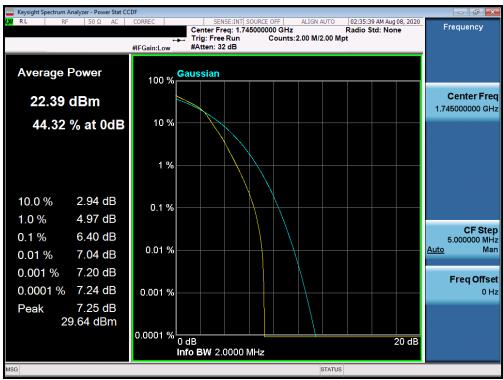
Plot 7-233. PAR Plot (Band 4 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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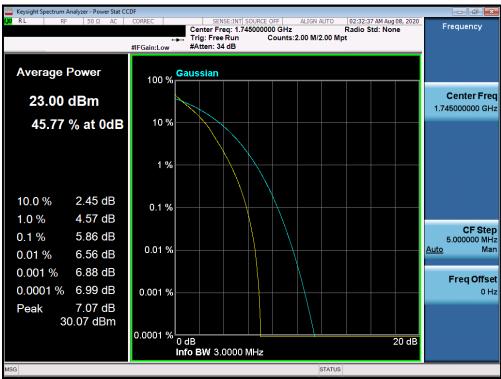
Plot 7-234. PAR Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



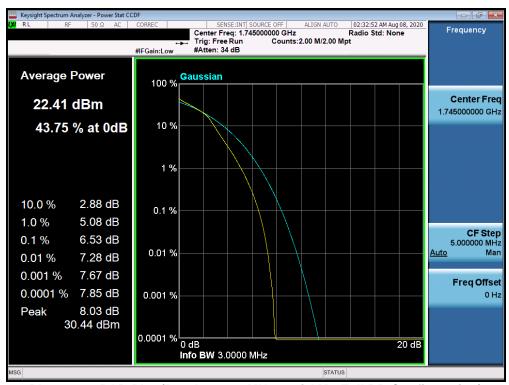
Plot 7-235. PAR Plot (Band 66 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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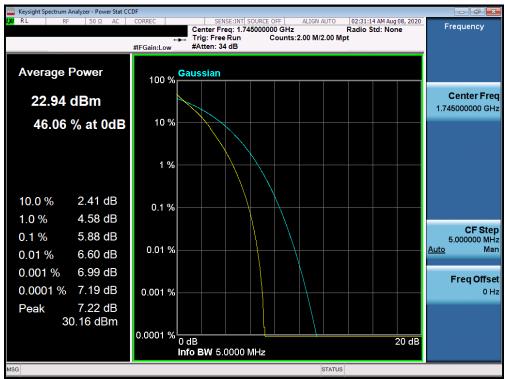
Plot 7-236. PAR Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



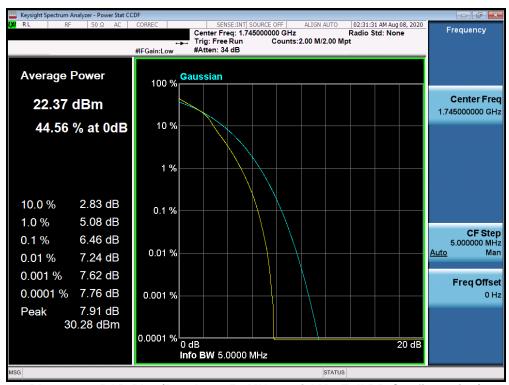
Plot 7-237. PAR Plot (Band 66 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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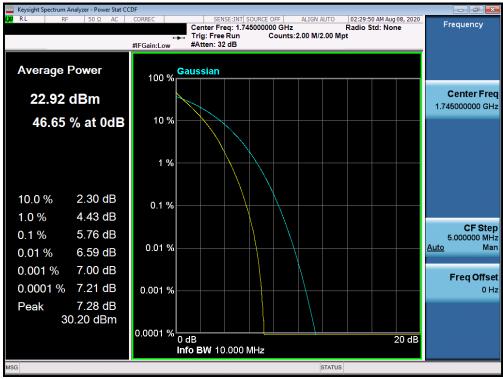
Plot 7-238. PAR Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



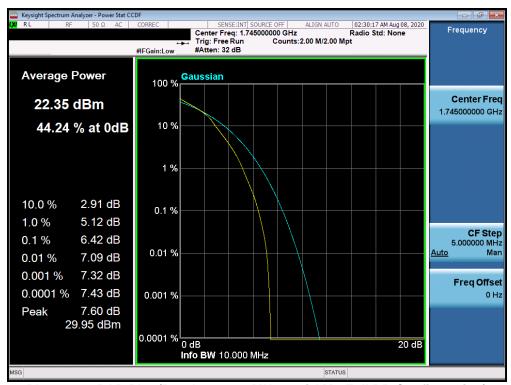
Plot 7-239. PAR Plot (Band 66 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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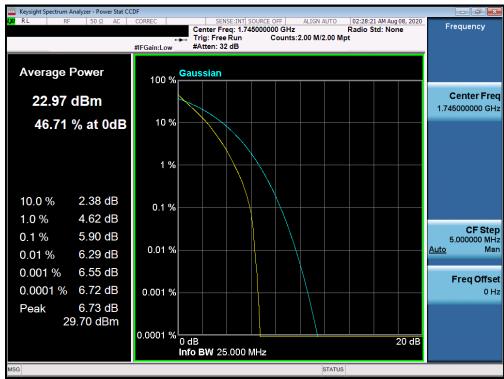
Plot 7-240. PAR Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



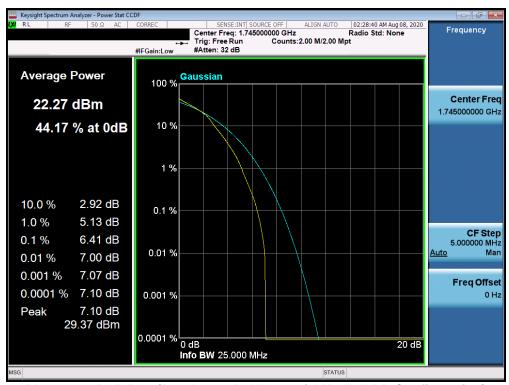
Plot 7-241. PAR Plot (Band 66 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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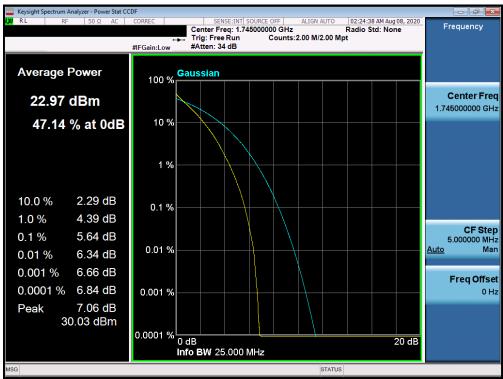
Plot 7-242. PAR Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



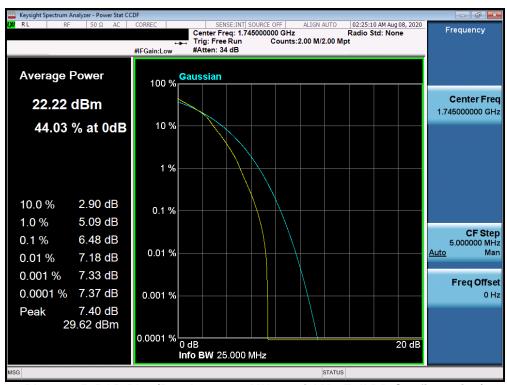
Plot 7-243. PAR Plot (Band 66 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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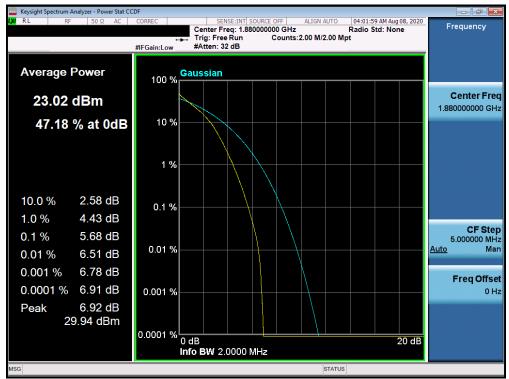
Plot 7-244. PAR Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)



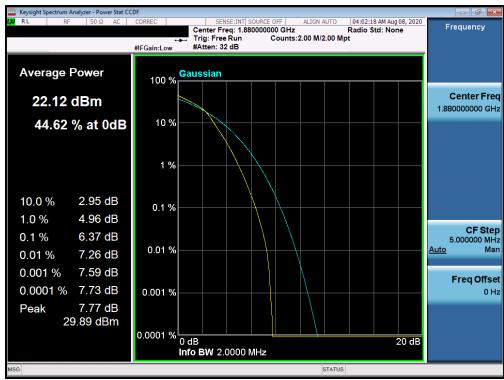
Plot 7-245. PAR Plot (Band 66 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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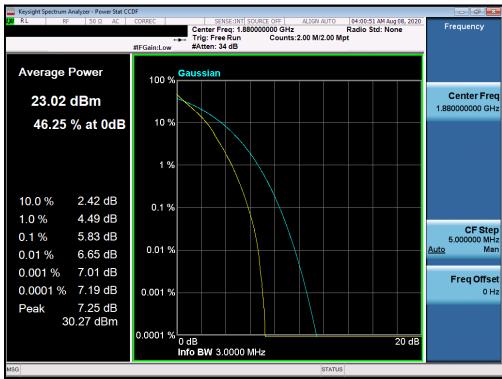
Plot 7-246. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



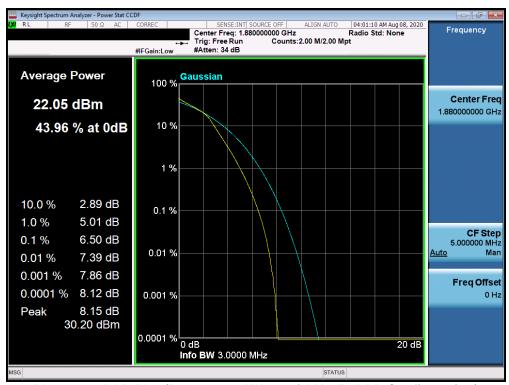
Plot 7-247. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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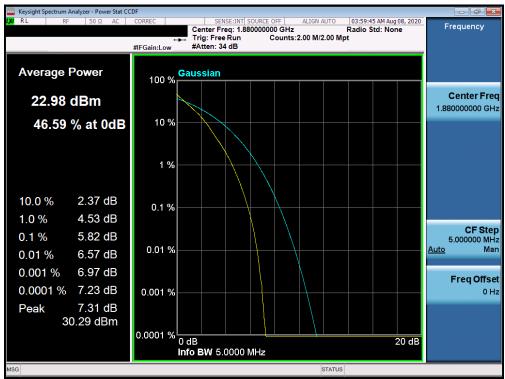
Plot 7-248. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



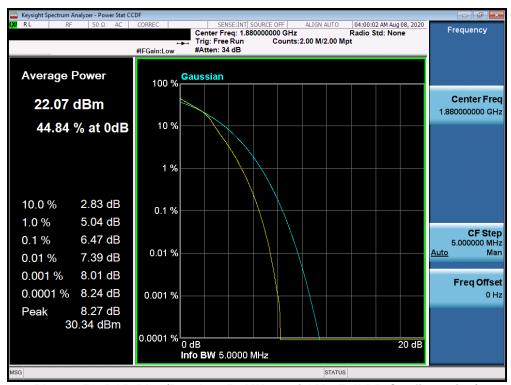
Plot 7-249. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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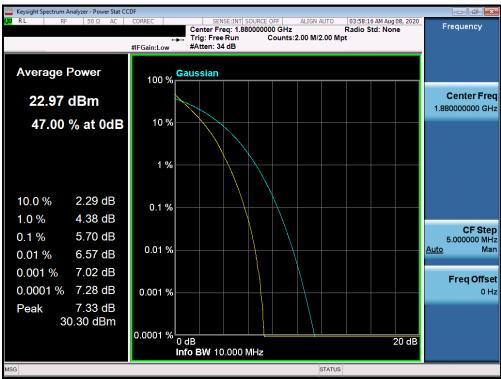
Plot 7-250. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



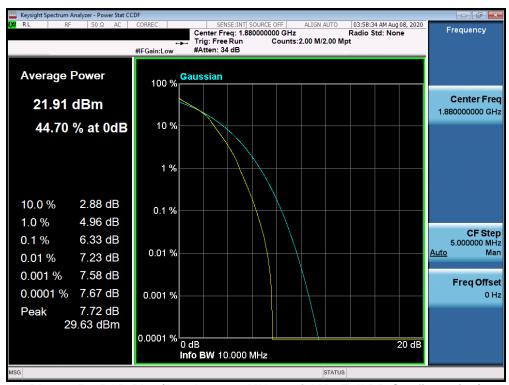
Plot 7-251. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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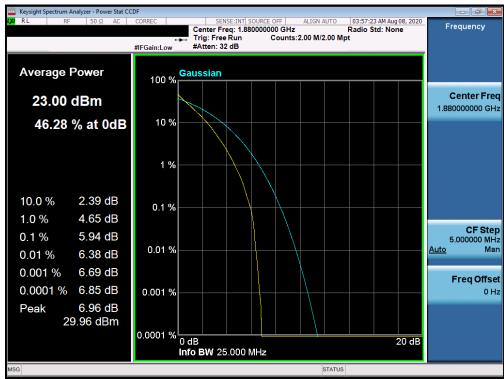
Plot 7-252. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



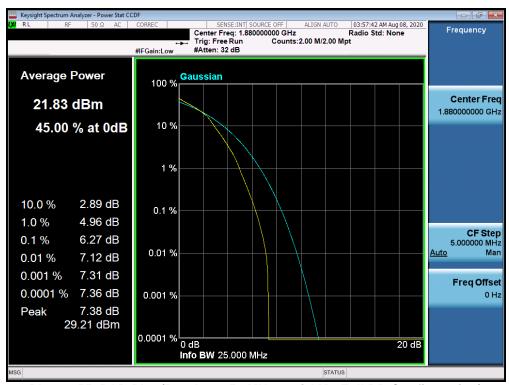
Plot 7-253. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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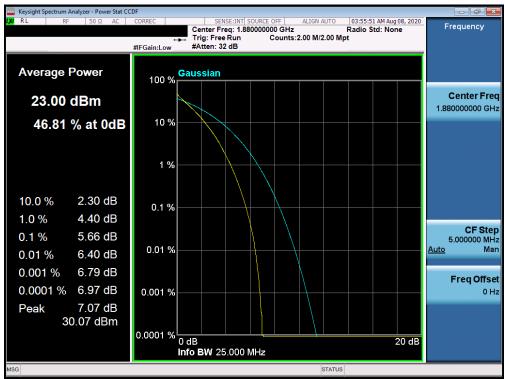
Plot 7-254. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



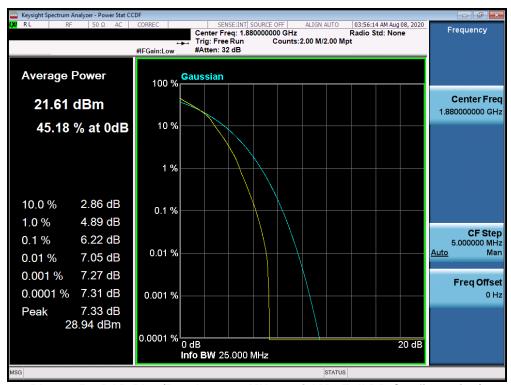
Plot 7-255. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-256. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



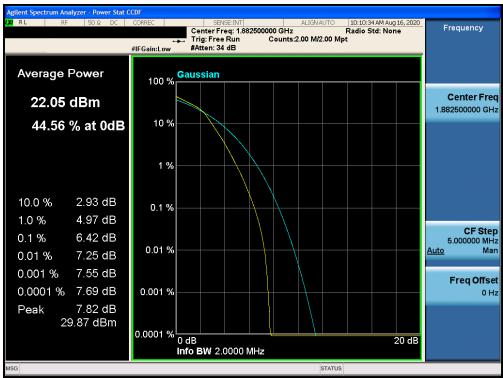
Plot 7-257. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-258. PAR Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-259. PAR Plot (Band 25 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-260. PAR Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



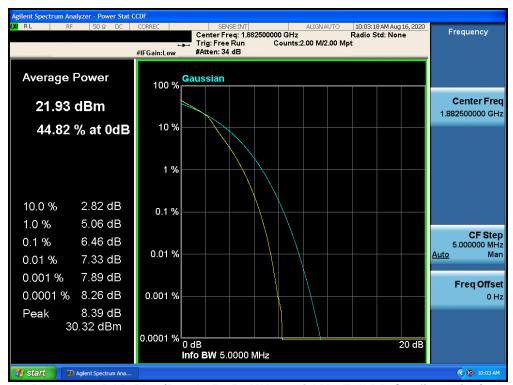
Plot 7-261. PAR Plot (Band 25 - 3.0MHz 16-QAM - Full RB Configuration)

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Plot 7-262. PAR Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-263. PAR Plot (Band 25 - 5.0MHz 16-QAM - Full RB Configuration)

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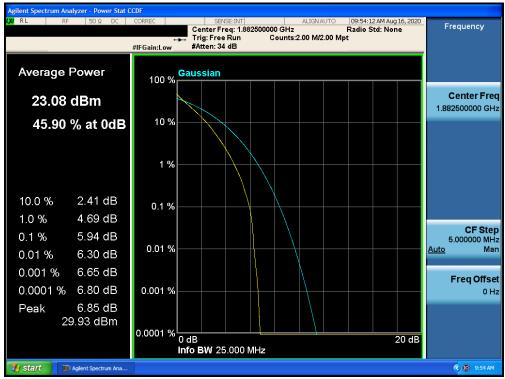
Plot 7-264. PAR Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-265. PAR Plot (Band 25 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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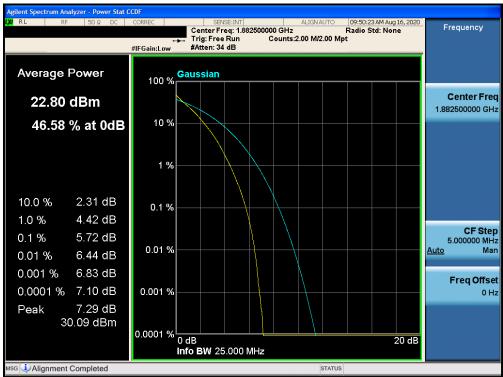
Plot 7-266. PAR Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-267. PAR Plot (Band 25 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-268. PAR Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-269. PAR Plot (Band 25 - 20.0MHz 16-QAM - Full RB Configuration)

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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]
824.70	1.4	QPSK	1/5	24.99	-25.90	-3.06	0.494	38.45	-41.51	-0.91	0.811	40.61	-41.52
836.50	1.4	QPSK	1/0	24.88	-25.90	-3.17	0.482	38.45	-41.62	-1.02	0.791	40.61	-41.63
848.30	1.4	QPSK	1/0	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	1.4	16-QAM	1/5	24.48	-25.90	-3.57	0.440	38.45	-42.02	-1.42	0.721	40.61	-42.03
825.50	3	QPSK	1/7	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	3	QPSK	1/7	24.91	-25.90	-3.14	0.485	38.45	-41.59	-0.99	0.796	40.61	-41.60
847.50	3	QPSK	1 / 14	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
847.50	3	16-QAM	1 / 14	24.44	-25.90	-3.61	0.436	38.45	-42.06	-1.46	0.714	40.61	-42.07
826.50	5	QPSK	1 / 24	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	5	QPSK	1/0	24.99	-25.90	-3.06	0.494	38.45	-41.51	-0.91	0.811	40.61	-41.52
846.50	5	QPSK	1/0	24.92	-25.90	-3.13	0.486	38.45	-41.58	-0.98	0.798	40.61	-41.59
826.50	5	16-QAM	1 / 24	24.41	-25.90	-3.64	0.433	38.45	-42.09	-1.49	0.710	40.61	-42.10
829.00	10	QPSK	1 / 49	24.96	-25.90	-3.09	0.491	38.45	-41.54	-0.94	0.805	40.61	-41.55
836.50	10	QPSK	1 / 49	24.94	-25.90	-3.11	0.489	38.45	-41.56	-0.96	0.802	40.61	-41.57
844.00	10	QPSK	1 / 25	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
844.00	10	16-QAM	1 / 13	24.41	-25.90	-3.64	0.433	38.45	-42.09	-1.49	0.710	40.61	-42.10

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

FCC ID: BCG-A2356	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	1/5	24.95	-25.90	-3.10	0.490	38.45	-41.55	-0.95	0.804	40.61	-41.56
836.50	1.4	QPSK	1/0	24.86	-25.90	-3.19	0.480	38.45	-41.64	-1.04	0.787	40.61	-41.65
848.30	1.4	QPSK	1/0	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	1.4	16-QAM	1/5	24.48	-25.90	-3.57	0.440	38.45	-42.02	-1.42	0.721	40.61	-42.03
825.50	3	QPSK	1/7	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	3	QPSK	1/7	24.97	-25.90	-3.08	0.492	38.45	-41.53	-0.93	0.807	40.61	-41.54
847.50	3	QPSK	1/7	24.96	-25.90	-3.09	0.491	38.45	-41.54	-0.94	0.805	40.61	-41.55
847.50	3	16-QAM	1/0	24.46	-25.90	-3.59	0.438	38.45	-42.04	-1.44	0.718	40.61	-42.05
826.50	5	QPSK	1 / 24	24.92	-25.90	-3.13	0.486	38.45	-41.58	-0.98	0.798	40.61	-41.59
836.50	5	QPSK	1/0	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
846.50	5	QPSK	1/0	24.90	-25.90	-3.15	0.484	38.45	-41.60	-1.00	0.794	40.61	-41.61
836.50	5	16-QAM	1 / 12	24.41	-25.90	-3.64	0.433	38.45	-42.09	-1.49	0.710	40.61	-42.10
829.00	10	QPSK	1 / 49	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
836.50	10	QPSK	1 / 49	24.94	-25.90	-3.11	0.489	38.45	-41.56	-0.96	0.802	40.61	-41.57
844.00	10	QPSK	1 / 25	25.00	-25.90	-3.05	0.495	38.45	-41.50	-0.90	0.813	40.61	-41.51
844.00	10	16-QAM	1 / 13	24.46	-25.90	-3.59	0.438	38.45	-42.04	-1.44	0.718	40.61	-42.05

Table 7-8. ERP/EIRP Data (Band 26)

FCC ID: BCG-A2356	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]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1/0	23.77	-11.70	12.07	16.106	30.00	-17.93
1732.50	1.4	QPSK	1/0	23.70	-11.70	12.00	15.849	30.00	-18.00
1754.30	1.4	QPSK	1/0	23.78	-11.70	12.08	16.144	30.00	-17.92
1732.50	1.4	16-QAM	1/0	23.29	-11.70	11.59	14.421	30.00	-18.41
1711.50	3	QPSK	1/7	23.76	-11.70	12.06	16.069	30.00	-17.94
1732.50	3	QPSK	1/7	23.68	-11.70	11.98	15.776	30.00	-18.02
1753.50	3	QPSK	1/0	23.69	-11.70	11.99	15.812	30.00	-18.01
1732.50	3	16-QAM	1/0	23.24	-11.70	11.54	14.256	30.00	-18.46
1712.50	5	QPSK	1 / 24	23.91	-11.70	12.21	16.634	30.00	-17.79
1732.50	5	QPSK	1/0	23.90	-11.70	12.20	16.596	30.00	-17.80
1752.50	5	QPSK	1/0	23.80	-11.70	12.10	16.218	30.00	-17.90
1712.50	5	16-QAM	1 / 12	23.36	-11.70	11.66	14.655	30.00	-18.34
1715.00	10	QPSK	1 / 25	23.81	-11.70	12.11	16.255	30.00	-17.89
1732.50	10	QPSK	1 / 49	23.63	-11.70	11.93	15.596	30.00	-18.07
1750.00	10	QPSK	1/0	23.81	-11.70	12.11	16.255	30.00	-17.89
1750.00	10	16-QAM	1 / 13	23.23	-11.70	11.53	14.223	30.00	-18.47
1717.50	15	QPSK	1 / 36	24.00	-11.70	12.30	16.982	30.00	-17.70
1732.50	15	QPSK	1/0	23.65	-11.70	11.95	15.668	30.00	-18.05
1747.50	15	QPSK	1/0	23.61	-11.70	11.91	15.524	30.00	-18.09
1747.50	15	16-QAM	1/0	23.33	-11.70	11.63	14.555	30.00	-18.37
1720.00	20	QPSK	1 / 50	23.92	-11.70	12.22	16.672	30.00	-17.78
1732.50	20	QPSK	1/0	23.65	-11.70	11.95	15.668	30.00	-18.05
1745.00	20	QPSK	1 / 50	23.80	-11.70	12.10	16.218	30.00	-17.90
1732.50	20	16-QAM	1/0	23.27	-11.70	11.57	14.355	30.00	-18.43

Table 7-9. EIRP Data (Band 4)

FCC ID: BCG-A2356	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]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1/5	23.76	-11.70	12.06	16.069	30.00	-17.94
1745.00	1.4	QPSK	1/0	24.00	-11.70	12.30	16.982	30.00	-17.70
1779.30	1.4	QPSK	1/0	23.68	-11.70	11.98	15.776	30.00	-18.02
1745.00	1.4	16-QAM	1/2	23.22	-11.70	11.52	14.191	30.00	-18.48
1711.50	3	QPSK	1 / 14	23.82	-11.70	12.12	16.293	30.00	-17.88
1745.00	3	QPSK	1/7	23.79	-11.70	12.09	16.181	30.00	-17.91
1778.50	3	QPSK	1/0	23.63	-11.70	11.93	15.596	30.00	-18.07
1711.50	3	16-QAM	1 / 14	23.30	-11.70	11.60	14.454	30.00	-18.40
1712.50	5	QPSK	1 / 24	23.95	-11.70	12.25	16.788	30.00	-17.75
1745.00	5	QPSK	1 / 12	23.82	-11.70	12.12	16.293	30.00	-17.88
1777.50	5	QPSK	1/0	23.51	-11.70	11.81	15.171	30.00	-18.19
1712.50	5	16-QAM	1 / 24	23.33	-11.70	11.63	14.555	30.00	-18.37
1715.00	10	QPSK	1 / 49	23.80	-11.70	12.10	16.218	30.00	-17.90
1745.00	10	QPSK	1/0	23.64	-11.70	11.94	15.631	30.00	-18.06
1775.00	10	QPSK	1 / 25	23.54	-11.70	11.84	15.276	30.00	-18.16
1715.00	10	16-QAM	1 / 27	23.28	-11.70	11.58	14.388	30.00	-18.42
1717.50	15	QPSK	1 / 36	23.77	-11.70	12.07	16.106	30.00	-17.93
1745.00	15	QPSK	1 / 36	23.83	-11.70	12.13	16.331	30.00	-17.87
1772.50	15	QPSK	1 / 36	23.49	-11.70	11.79	15.101	30.00	-18.21
1717.50	15	16-QAM	1 / 36	23.33	-11.70	11.63	14.555	30.00	-18.37
1720.00	20	QPSK	1 / 50	23.75	-11.70	12.05	16.032	30.00	-17.95
1745.00	20	QPSK	1 / 50	23.79	-11.70	12.09	16.181	30.00	-17.91
1770.00	20	QPSK	1 / 50	23.58	-11.70	11.88	15.417	30.00	-18.12
1720.00	20	16-QAM	1 / 13	23.29	-11.70	11.59	14.421	30.00	-18.41

Table 7-10. EIRP Data (Band 66)

FCC ID: BCG-A2356	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]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1/5	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	1.4	QPSK	1/5	24.00	-9.40	14.60	28.840	33.01	-18.41
1909.30	1.4	QPSK	1/0	23.97	-9.40	14.57	28.642	33.01	-18.44
1880.00	1.4	16-QAM	1/5	23.48	-9.40	14.08	25.586	33.01	-18.93
1851.50	3	QPSK	1/7	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	3	QPSK	1 / 14	23.96	-9.40	14.56	28.576	33.01	-18.45
1908.50	3	QPSK	1/7	23.87	-9.40	14.47	27.990	33.01	-18.54
1880.00	3	16-QAM	1 / 14	23.40	-9.40	14.00	25.119	33.01	-19.01
1852.50	5	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	5	QPSK	1 / 24	23.91	-9.40	14.51	28.249	33.01	-18.50
1907.50	5	QPSK	1/0	23.89	-9.40	14.49	28.119	33.01	-18.52
1907.50	5	16-QAM	1 / 12	23.30	-9.40	13.90	24.547	33.01	-19.11
1855.00	10	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	10	QPSK	1 / 49	24.00	-9.40	14.60	28.840	33.01	-18.41
1905.00	10	QPSK	1 / 25	23.88	-9.40	14.48	28.054	33.01	-18.53
1905.00	10	16-QAM	1 / 13	23.48	-9.40	14.08	25.586	33.01	-18.93
1857.50	15	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	15	QPSK	1 / 74	23.98	-9.40	14.58	28.708	33.01	-18.43
1902.50	15	QPSK	1/0	23.84	-9.40	14.44	27.797	33.01	-18.57
1880.00	15	16-QAM	1 / 27	23.46	-9.40	14.06	25.468	33.01	-18.95
1860.00	20	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1880.00	20	QPSK	1 / 99	23.96	-9.40	14.56	28.576	33.01	-18.45
1900.00	20	QPSK	1 / 50	23.96	-9.40	14.56	28.576	33.01	-18.45
1880.00	20	16-QAM	1 / 13	23.45	-9.40	14.05	25.410	33.01	-18.96

Table 7-11. EIRP Data (Band 2)

FCC ID: BCG-A2356		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]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1/5	23.90	-9.40	14.50	28.184	33.01	-18.51
1882.50	1.4	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1914.30	1.4	QPSK	1/0	23.79	-9.40	14.39	27.479	33.01	-18.62
1850.70	1.4	16-QAM	1/5	23.46	-9.40	14.06	25.468	33.01	-18.95
1851.50	3	QPSK	1/7	24.00	-9.40	14.60	28.840	33.01	-18.41
1882.50	3	QPSK	1/7	23.90	-9.40	14.50	28.184	33.01	-18.51
1913.50	3	QPSK	1/7	23.69	-9.40	14.29	26.853	33.01	-18.72
1851.50	3	16-QAM	1/0	23.44	-9.40	14.04	25.351	33.01	-18.97
1852.50	5	QPSK	1 / 24	24.00	-9.40	14.60	28.840	33.01	-18.41
1882.50	5	QPSK	1 / 24	23.87	-9.40	14.47	27.990	33.01	-18.54
1912.50	5	QPSK	1/0	23.78	-9.40	14.38	27.416	33.01	-18.63
1852.50	5	16-QAM	1/0	23.37	-9.40	13.97	24.946	33.01	-19.04
1855.00	10	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1882.50	10	QPSK	1 / 49	23.95	-9.40	14.55	28.510	33.01	-18.46
1910.00	10	QPSK	1/0	23.93	-9.40	14.53	28.379	33.01	-18.48
1855.00	10	16-QAM	1 / 13	23.44	-9.40	14.04	25.351	33.01	-18.97
1857.50	15	QPSK	1 / 74	23.93	-9.40	14.53	28.379	33.01	-18.48
1882.50	15	QPSK	1 / 36	24.00	-9.40	14.60	28.840	33.01	-18.41
1907.50	15	QPSK	1 / 36	23.91	-9.40	14.51	28.249	33.01	-18.50
1907.50	15	16-QAM	1 / 13	23.51	-9.40	14.11	25.763	33.01	-18.90
1860.00	20	QPSK	1/0	23.96	-9.40	14.56	28.576	33.01	-18.45
1882.50	20	QPSK	1 / 50	23.99	-9.40	14.59	28.774	33.01	-18.42
1905.00	20	QPSK	1/0	24.00	-9.40	14.60	28.840	33.01	-18.41
1860.00	20	16-QAM	1/0	23.44	-9.40	14.04	25.351	33.01	-18.97

Table 7-12. EIRP Data (Band 25)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 169 of 201
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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 / 24	23.28	-7.10	16.18	41.495	33.01	-16.83
2535.00	5	QPSK	1/0	23.04	-7.10	15.94	39.264	33.01	-17.07
2567.50	5	QPSK	1 / 24	23.42	-7.10	16.32	42.855	33.01	-16.69
2567.50	5	16-QAM	1 / 24	22.59	-7.10	15.49	35.400	33.01	-17.52
2505.00	10	QPSK	1 / 49	23.36	-7.10	16.26	42.267	33.01	-16.75
2535.00	10	QPSK	1 / 49	23.07	-7.10	15.97	39.537	33.01	-17.04
2565.00	10	QPSK	1 / 49	23.41	-7.10	16.31	42.756	33.01	-16.70
2565.00	10	16-QAM	1 / 27	22.75	-7.10	15.65	36.728	33.01	-17.36
2507.50	15	QPSK	1 / 74	23.36	-7.10	16.26	42.267	33.01	-16.75
2535.00	15	QPSK	1 / 74	23.07	-7.10	15.97	39.537	33.01	-17.04
2562.50	15	QPSK	1 / 74	23.40	-7.10	16.30	42.658	33.01	-16.71
2562.50	15	16-QAM	1 / 27	22.66	-7.10	15.56	35.975	33.01	-17.45
2510.00	20	QPSK	1 / 99	23.28	-7.10	16.18	41.495	33.01	-16.83
2535.00	20	QPSK	1 / 99	23.37	-7.10	16.27	42.364	33.01	-16.74
2560.00	20	QPSK	1 / 99	23.29	-7.10	16.19	41.591	33.01	-16.82
2560.00	20	16-QAM	1 / 27	22.69	-7.10	15.59	36.224	33.01	-17.42

Table 7-13. EIRP Data (Band 7)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 169 of 201
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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	-7.10	16.40	43.652	33.01	-16.61
2593.00	5	QPSK	1 / 24	23.35	-7.10	16.25	42.170	33.01	-16.76
2687.50	5	QPSK	1 / 24	23.35	-7.10	16.25	42.170	33.01	-16.76
2687.50	5	16-QAM	1 / 12	22.49	-7.10	15.39	34.594	33.01	-17.62
2501.00	10	QPSK	1 / 25	23.41	-7.10	16.31	42.756	33.01	-16.70
2593.00	10	QPSK	1 / 49	23.31	-7.10	16.21	41.783	33.01	-16.80
2685.00	10	QPSK	1 / 49	23.50	-7.10	16.40	43.652	33.01	-16.61
2501.00	10	16-QAM	1/0	22.63	-7.10	15.53	35.727	33.01	-17.48
2503.50	15	QPSK	1/0	23.35	-7.10	16.25	42.170	33.01	-16.76
2593.00	15	QPSK	1 / 74	23.27	-7.10	16.17	41.400	33.01	-16.84
2682.50	15	QPSK	1 / 74	23.50	-7.10	16.40	43.652	33.01	-16.61
2682.50	15	16-QAM	1 / 27	22.30	-7.10	15.20	33.113	33.01	-17.81
2506.00	20	QPSK	1/0	23.50	-7.10	16.40	43.652	33.01	-16.61
2593.00	20	QPSK	1 / 99	23.33	-7.10	16.23	41.976	33.01	-16.78
2680.00	20	QPSK	1 / 99	23.45	-7.10	16.35	43.152	33.01	-16.66
2680.00	20	16-QAM	1/0	22.44	-7.10	15.34	34.198	33.01	-17.67

Table 7-14. EIRP Data (Band 41)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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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/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

FCC ID: BCG-A2356	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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@ 2020 DCTECT			V 40 4 00/04/2020	



Test Setup

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

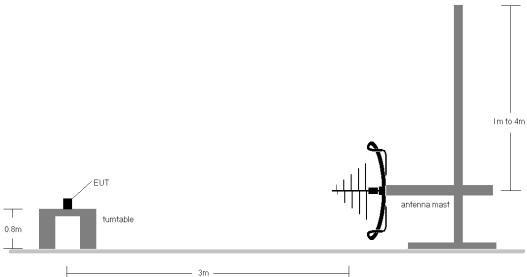


Figure 7-6. Radiated Measurement Setup < 1GHz

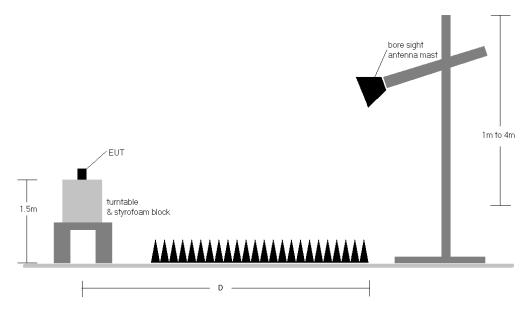


Figure 7-7. Radiated Measurement Setup > 1GHz

FCC ID: BCG-A2356		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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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.

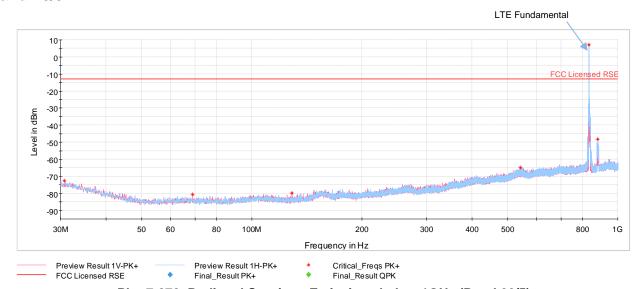
assembly of contents thereof, please contact INFO@PCTEST.COM

- 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 3 meter distance for 1GHz 18GHz measurements and 1 meter distance for above 18GHz 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.

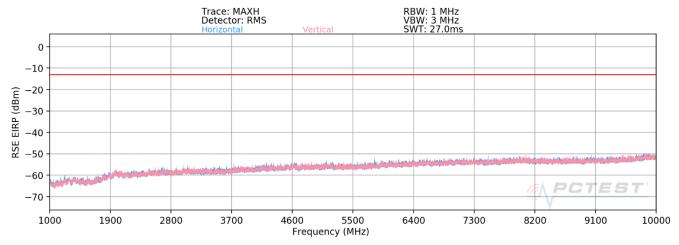
FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Band 26/5



Plot 7-270. Radiated Spurious Emissions below 1GHz (Band 26/5)



Plot 7-271. Radiated Spurious Emissions above 1GHz (Band 26/5)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 174 of 201
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V 10.1 02/01/2020



OPERATING FREQUENCY: 829.00 MHz

MODULATION SIGNAL: **QPSK**

> BANDWIDTH: 10.0 MHzDISTANCE: 3 meters LIMIT: -13 dBm

Frequency [MHz]	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]
1658.00	Н	-	-	-74.59	4.75	-69.84	-56.8
2487.00	Н	-	-	-70.52	4.37	-66.15	-53.1
3316.00	Н	-	-	-72.43	6.66	-65.77	-52.8

Table 7-15. 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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	Н	-	-	-74.25	4.71	-69.54	-56.5
2509.50	Н	-	-	-67.83	4.38	-63.45	-50.4
3346.00	Н	-	-	-69.60	6.70	-62.90	-49.9

Table 7-16. Radiated Spurious Data (Band 26/5 - Mid Channel)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 175 of 201
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OPERATING FREQUENCY: 844.00 MHz

MODULATION SIGNAL: QPSK

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

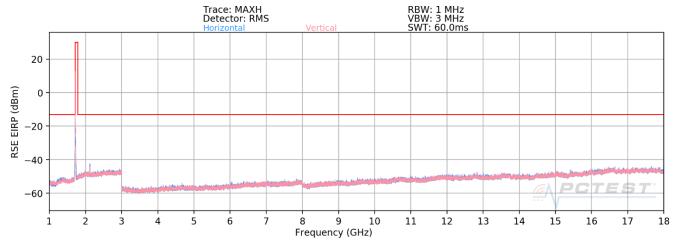
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	Н	-	-	-73.02	4.68	-68.34	-55.3
2532.00	Н	-	-	-69.23	4.46	-64.78	-51.8
3376.00	Н	-	-	-70.81	6.78	-64.03	-51.0

Table 7-17. Radiated Spurious Data (Band 26/5 – High Channel)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Band 66/4



Plot 7-272. Radiated Spurious Emissions above 1GHz (Band 66/4)

OPERATING FREQUENCY: 1720.00 MHz

MODULATION SIGNAL: **QPSK**

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

Frequency [MHz]	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]
3440.00	V	-	-	-69.86	6.93	-62.92	-49.9
5160.00	V	116	104	-65.78	9.13	-56.65	-43.6
6880.00	V	-	-	-70.28	9.86	-60.42	-47.4
8600.00	V	-	-	-69.19	10.01	-59.18	-46.2

Table 7-18. Radiated Spurious Data (Band 66/4 - Low Channel)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 177 of 201
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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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	V	-	-	-70.27	7.02	-63.25	-50.2
5235.00	V	101	223	-69.52	9.24	-60.27	-47.3
6980.00	V	-	-	-69.83	9.83	-59.99	-47.0
8725.00	V	-	-	-69.20	10.03	-59.17	-46.2

Table 7-19. Radiated Spurious Data (Band 66/4 - Mid Channel)

OPERATING FREQUENCY: 1770.00 MHz

MODULATION SIGNAL: **QPSK**

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

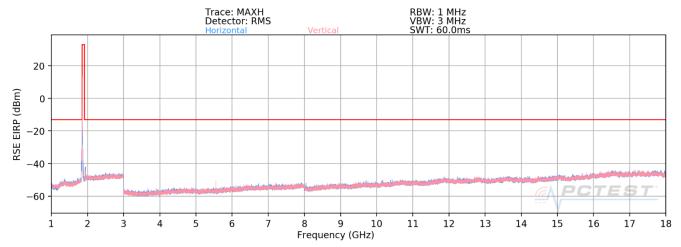
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	V	-	-	-69.97	6.98	-62.99	-50.0
5310.00	V	114	104	-66.81	9.24	-57.56	-44.6
7080.00	V	-	-	-69.26	9.86	-59.40	-46.4
8850.00	V	-	-	-69.07	10.05	-59.02	-46.0

Table 7-20. Radiated Spurious Data (Band 66/4 - High Channel)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 179 of 201
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Band 25/2



Plot 7-273. Radiated Spurious Emissions above 1GHz (Band 25/2)

OPERATING FREQUENCY: 1860.00 MHz

MODULATION SIGNAL: QPSK

BANDWIDTH: 20.0 MHz

DISTANCE: 3 meters

-13 dBm

Frequency [MHz]	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]
3720.00	V	-	-	-63.64	7.36	-63.64	-50.6
5580.00	V	367	223	-54.49	9.38	-54.49	-41.5
7440.00	V	-	-	-59.82	9.45	-59.82	-46.8
9300.00	V	-	-	-60.31	9.62	-60.31	-47.3

Table 7-21. Radiated Spurious Data (Band 25/2 - Low Channel)

FCC ID: BCG-A2356	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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	Ι	300	86	-70.35	7.43	-62.91	-49.9
5647.50	V	124	247	-67.34	9.49	-57.85	-44.8
7530.00	٧	-	-	-69.49	9.47	-60.01	-47.0
9412.50	>	-	-	-68.30	9.65	-58.65	-45.6
11295.00	٧	-	-	-65.95	9.84	-56.11	-43.1

Table 7-22. Radiated Spurious Data (Band 25/2 - Mid Channel)

OPERATING FREQUENCY: MHz 1905.00

MODULATION SIGNAL: **QPSK**

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

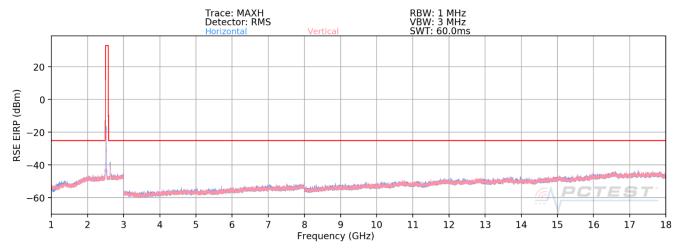
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	Н	-	-	-72.56	7.55	-65.01	-52.0
5715.00	Н	116	269	-66.90	9.48	-57.42	-44.4
7620.00	Η	-	-	-68.82	9.54	-59.28	-46.3
9525.00	Н	-	-	-68.25	9.73	-58.53	-45.5

Table 7-23. Radiated Spurious Data (Band 25/2 – High Channel)

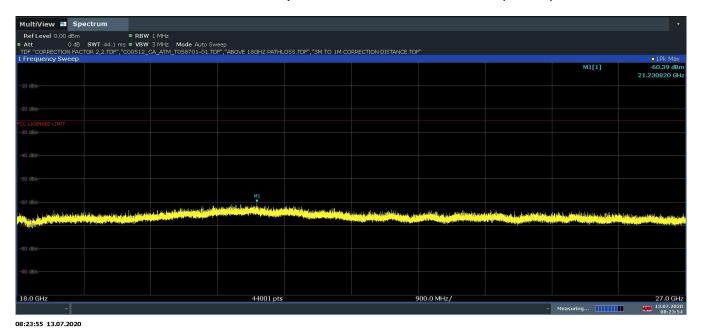
FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 180 of 201	
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Band 7



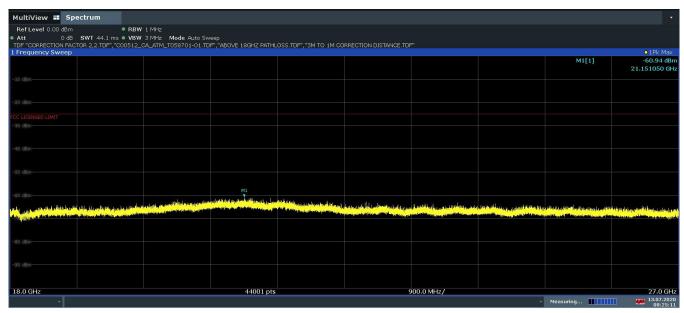
Plot 7-274. Radiated Spurious Emissions 1GHz - 18GHz (Band 7)



Plot 7-275. Radiated Spurious Emissions 18GHz – 27GHz (Band 7, Pol. H)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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08:25:12 13.07.2020

Plot 7-276. 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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	Η	101	178	-68.30	8.76	-59.53	-34.5
7530.00	Η	342	55	-63.91	9.47	-54.44	-29.4
10040.00	Н	-	-	-68.00	9.67	-58.34	-33.3
12550.00	Н	-	-	-65.43	9.56	-55.86	-30.9
15060.00	Н	-	-	-67.16	9.17	-57.99	-33.0

Table 7-24. Radiated Spurious Data (Band 7 - Low Channel)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 182 of 201
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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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	Ι	105	86	-67.77	8.88	-58.88	-33.9
7605.00	V	257	153	-66.05	9.53	-56.52	-31.5
10140.00	٧	-	-	-67.73	9.75	-57.98	-33.0
12675.00	>	1	-	-65.96	9.43	-56.54	-31.5
15210.00	>	1	-	-65.30	9.11	-56.19	-31.2

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

OPERATING FREQUENCY: MHz 2560.00

MODULATION SIGNAL: **QPSK**

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

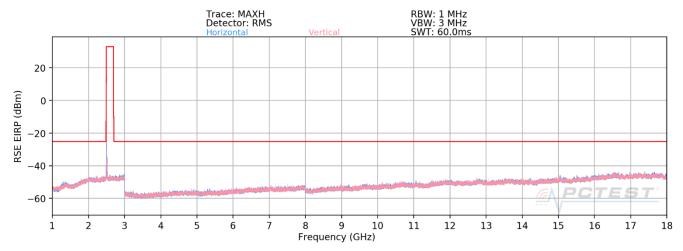
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	110	61	-67.61	9.00	-58.61	-33.6
7680.00	V	290	88	-64.73	9.58	-55.15	-30.2
10240.00	V	-	-	-69.02	9.73	-59.28	-34.3
12800.00	٧	-	-	-67.01	9.36	-57.65	-32.6
15360.00	V	-	-	-65.35	8.97	-56.38	-31.4

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

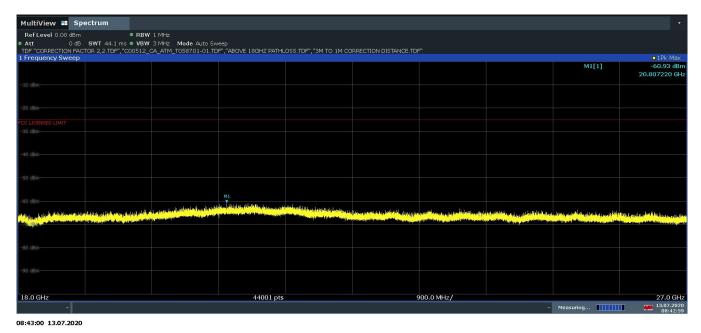
FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Band 41



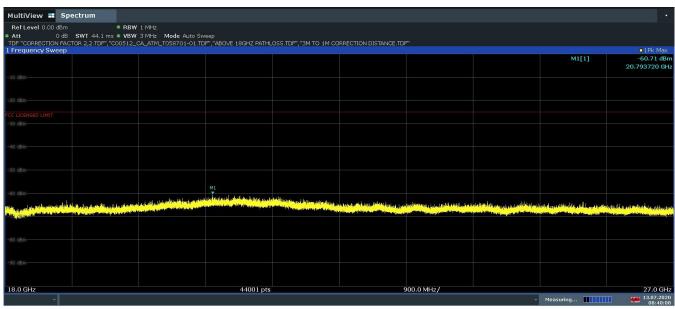
Plot 7-277. Radiated Spurious Emissions 1GHz - 18GHz (Band 41)



Plot 7-278. Radiated Spurious Emissions 18GHz - 27GHz (Band 41, Pol. H)

FCC ID: BCG-A2356	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-279. 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]	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	٧	216	258	-58.80	8.76	-50.03	-25.0
7518.00	Н	253	251	-57.50	9.47	-48.03	-23.0
10024.00	Ι	232	327	-52.07	9.67	-42.41	-17.4
12530.00	Ι	-	-	-55.04	9.56	-45.47	-20.5
15036.00	Η	-	-	-54.65	9.17	-45.48	-20.5
17542.00	Н	-	-	-50.70	8.40	-42.31	-17.3

Table 7-27. Radiated Spurious Data (Band 41 - Low Channel)

FCC ID: BCG-A2356	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]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	Ι	277	75	-60.40	9.21	-51.19	-26.2
7779.00	Н	342	211	-58.53	9.62	-48.90	-23.9
10372.00	Η	-	-	-57.51	9.75	-47.76	-22.8
12965.00	Ι	-	-	-54.95	9.37	-45.58	-20.6
15558.00	Н	-	-	-53.76	9.00	-44.76	-19.8

Table 7-28. Radiated Spurious Data (Band 41 - Mid Channel)

OPERATING FREQUENCY: 2680.00 MHz

MODULATION SIGNAL: QPSK

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	Н	257	110	-59.96	9.22	-50.74	-25.7
8040.00	Н	-	-	-59.19	9.70	-49.49	-24.5
10720.00	Η	1	-	-55.93	9.72	-46.20	-21.2
13400.00	Н	-	-	-54.78	9.31	-45.47	-20.5

Table 7-29. Radiated Spurious Data (Band 41 – High Channel)

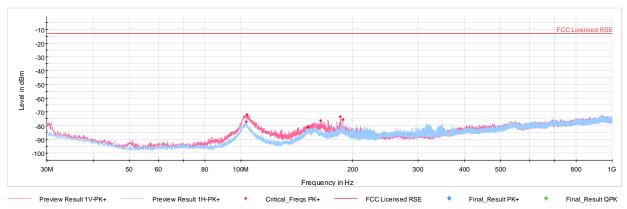
FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 186 of 201
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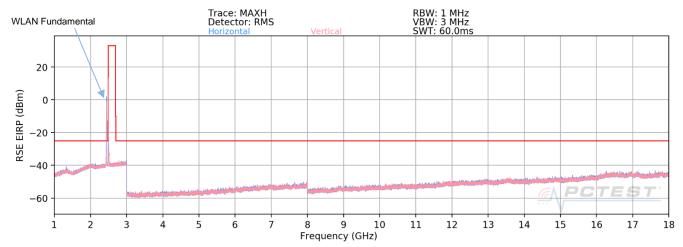
Simultaneous Tx Radiated Spurious Emissions Measurements 7.7.1

Description	WLAN	LTE (Band 41)
Antenna	FCM	FCM
Channel	6	39750
Operating Frequency (MHz)	2437	2506
Mode/Modulation	802.11b	QPSK/1RB/20MHz

Table 7-30. Worst Case Simultaneous Transmission Configuration



Plot 7-280. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz

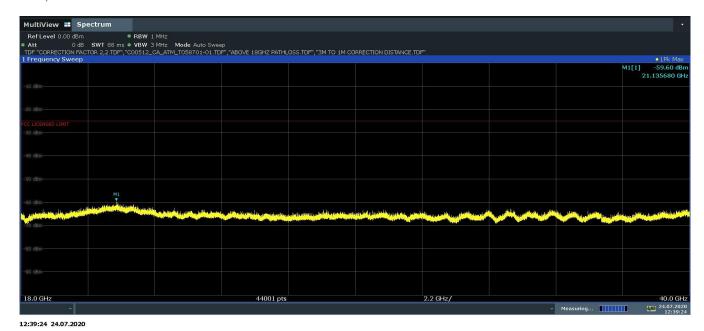


Plot 7-281. Radiated Spurious Emissions - Simultaneous Transmission 1GHz - 18GHz Note: Only the LTE B41 limit was shown in the plot above. The other fundamental is WLAN.

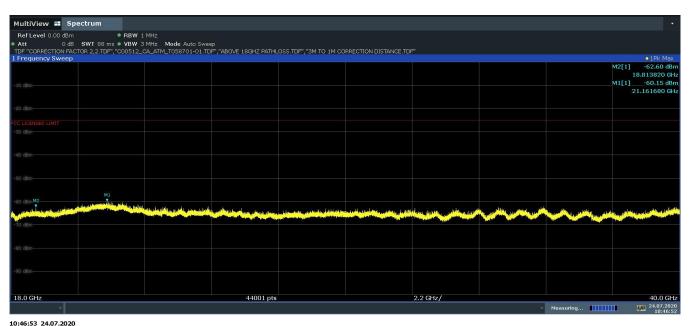
FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-282. Radiated Spurious Emissions - Simultaneous Transmission 18GHz - 40GHz (Pol. H)



Plot 7-283. Radiated Spurious Emissions – Simultaneous Transmission 18GHz – 40GHz (Pol. V)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	Н	-	-	-81.44	13.44	39.00	53.98	-14.98
4874.00	Peak	Н	•	-	-70.61	13.44	49.83	73.98	-24.15
7311.00	Avg	Н	•	-	-82.59	16.49	40.90	53.98	-13.08
7311.00	Peak	Н	-	-	-70.99	16.49	52.50	73.98	-21.48
12185.00	Avg	Η	1	-	-85.09	22.65	44.56	53.98	-9.42
12185.00	Peak	Н	-	-	-74.04	22.65	55.61	73.98	-18.37

Table 7-31. WLAN Harmonics Emissions Measurement in Simultaneous Transmission Mode

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]	Limit [dBm]	Margin [dB]
5012.00	Avg	Н	•	-	-57.97	10.02	-47.94	-25.0	-22.9
7518.00	Avg	Н	1	-	-56.20	12.00	-44.21	-25.0	-19.2
10024.00	Avg	Н	ı	-	-56.39	13.04	-43.35	-25.0	-18.3
12530.00	Avg	Н	-	-	-55.43	13.22	-42.21	-25.0	-17.2
2368.00	Avg	Н	139	231	-44.15	6.16	-37.99	-25.0	-13.0

Table 7-32. LTE Harmonics and Intermodulations Emissions Measurement in Simultaneous Transmission Mode

FCC ID: BCG-A2356	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/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 $\pm 0.00025\%$ (± 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 C63.26 2015 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 wideband radio communication tester with the EUT placed inside an environmental chamber.



Figure 7-8. Test Instrument & Measurement Setup

Test Notes

None

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Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY: 836,500,000 Hz

> CHANNEL: 26865

3.80 **VDC** REFERENCE VOLTAGE:

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	836,500,001	1.2	0.0000014
100 %		- 20	836,500,001	0.9	0.0000011
100 %		- 10	836,500,001	1.3	0.0000016
100 %		0	836,500,001	1.0	0.00000012
100 %	3.80	+ 10	836,500,001	1.1	0.0000013
100 %		+ 20	836,500,001	0.9	0.0000011
100 %		+ 30	836,500,001	0.9	0.0000011
100 %		+ 40	836,500,001	1.0	0.0000012
100 %		+ 50	836,500,001	0.7	0.00000009
BATT. ENDPOINT	3.40	+ 20	836,500,001	0.8	0.00000009

Table 7-33. Frequency Stability Data (Band 26/5 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Band 26/5 Frequency Stability Measurements

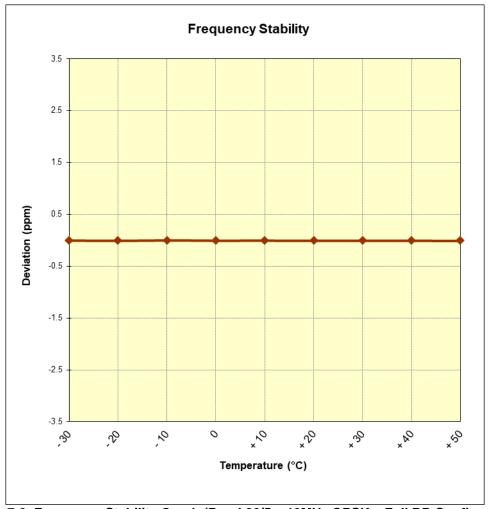


Figure 7-9. Frequency Stability Graph (Band 26/5 – 10MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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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	1,745,000,003	2.8	0.0000016
100 %		- 20	1,745,000,003	2.8	0.0000016
100 %		- 10	1,745,000,001	1.2	0.0000007
100 %	3.80	0	1,745,000,001	0.8	0.0000005
100 %		+ 10	1,745,000,001	1.0	0.0000006
100 %		+ 20	1,744,999,999	-1.5	-0.00000008
100 %		+ 30	1,744,999,999	-1.2	-0.00000007
100 %		+ 40	1,745,000,001	0.5	0.0000003
100 %		+ 50	1,745,000,001	0.8	0.0000004
BATT. ENDPOINT	3.40	+ 20	1,745,000,002	1.5	0.0000009

Table 7-34. Frequency Stability Data (Band 66/4 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Band 66/4 Frequency Stability Measurements

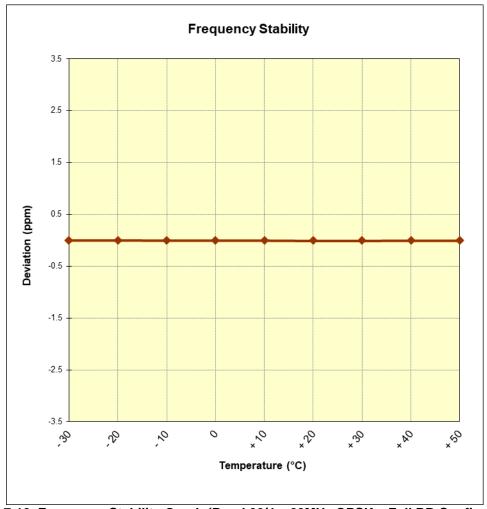


Figure 7-10. Frequency Stability Graph (Band 66/4 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	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: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %		- 30	1,882,500,002	1.5	0.00000008
100 %		- 20	1,882,500,001	1.0	0.0000005
100 %		- 10	1,882,500,001	1.1	0.00000006
100 %		0	1,882,500,001	0.8	0.0000004
100 %	3.80	+ 10	1,882,499,999	-1.2	-0.00000006
100 %		+ 20	1,882,500,001	1.2	0.0000007
100 %		+ 30	1,882,500,001	0.8	0.0000004
100 %		+ 40	1,882,500,001	1.3	0.0000007
100 %		+ 50	1,882,500,001	1.2	0.0000006
BATT. ENDPOINT	3.40	+ 20	1,882,500,001	1.3	0.0000007

Table 7-35. Frequency Stability Data (Band 25/2 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Band 25/2 Frequency Stability Measurements

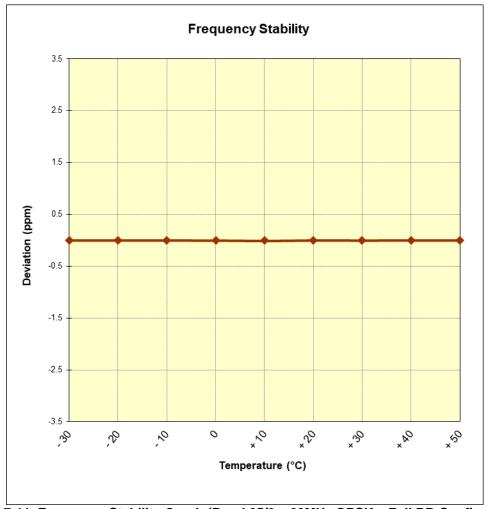


Figure 7-11. Frequency Stability Graph (Band 25/2 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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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	2,535,000,004	4.0	0.0000002
100 %		- 20	2,535,000,004	4.3	0.0000002
100 %		- 10	2,535,000,003	3.2	0.0000001
100 %		0	2,535,000,005	5.4	0.0000002
100 %	3.80	+ 10	2,535,000,003	3.3	0.0000001
100 %		+ 20	2,535,000,003	2.9	0.0000001
100 %		+ 30	2,535,000,004	3.6	0.0000001
100 %		+ 40	2,535,000,003	2.7	0.0000001
100 %		+ 50	2,535,000,003	2.9	0.000001
BATT. ENDPOINT	3.40	+ 20	2,535,000,004	3.9	0.0000002

Table 7-36. 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

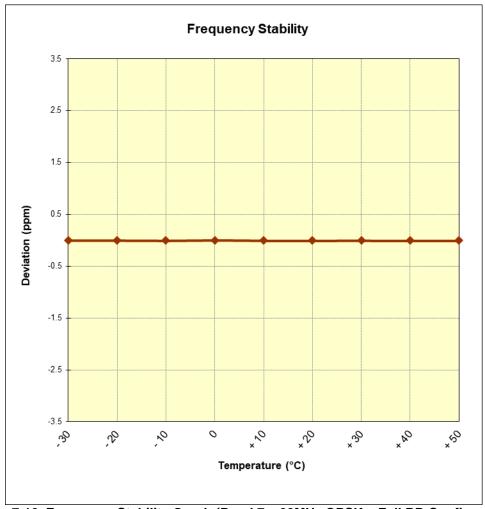


Figure 7-12. Frequency Stability Graph (Band 7 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A2356	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	2,593,000,046	46.0	0.000018
100 %		- 20	2,593,000,020	19.7	0.0000008
100 %	3.80	- 10	2,593,000,043	43.0	0.0000017
100 %		0	2,593,000,039	39.0	0.0000015
100 %		+ 10	2,592,999,978	-22.0	-0.0000008
100 %		+ 20	2,592,999,974	-26.0	-0.0000010
100 %		+ 30	2,592,999,978	-22.0	-0.0000008
100 %		+ 40	2,592,999,991	-9.0	-0.0000003
100 %		+ 50	2,593,000,008	8.4	0.000003
BATT. ENDPOINT	3.40	+ 20	2,593,000,035	35.0	0.000013

Table 7-37. 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.

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Band 41 Frequency Stability Measurements

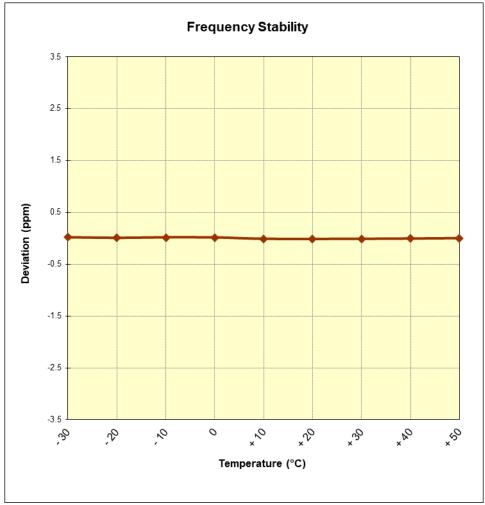


Figure 7-13. Frequency Stability Graph (Band 41 – 20MHz QPSK – Full RB Configuration)

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CONCLUSION

The data collected relate only to the item(s) tested and show that the Apple Watch FCC ID: BCG-A2356 complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

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