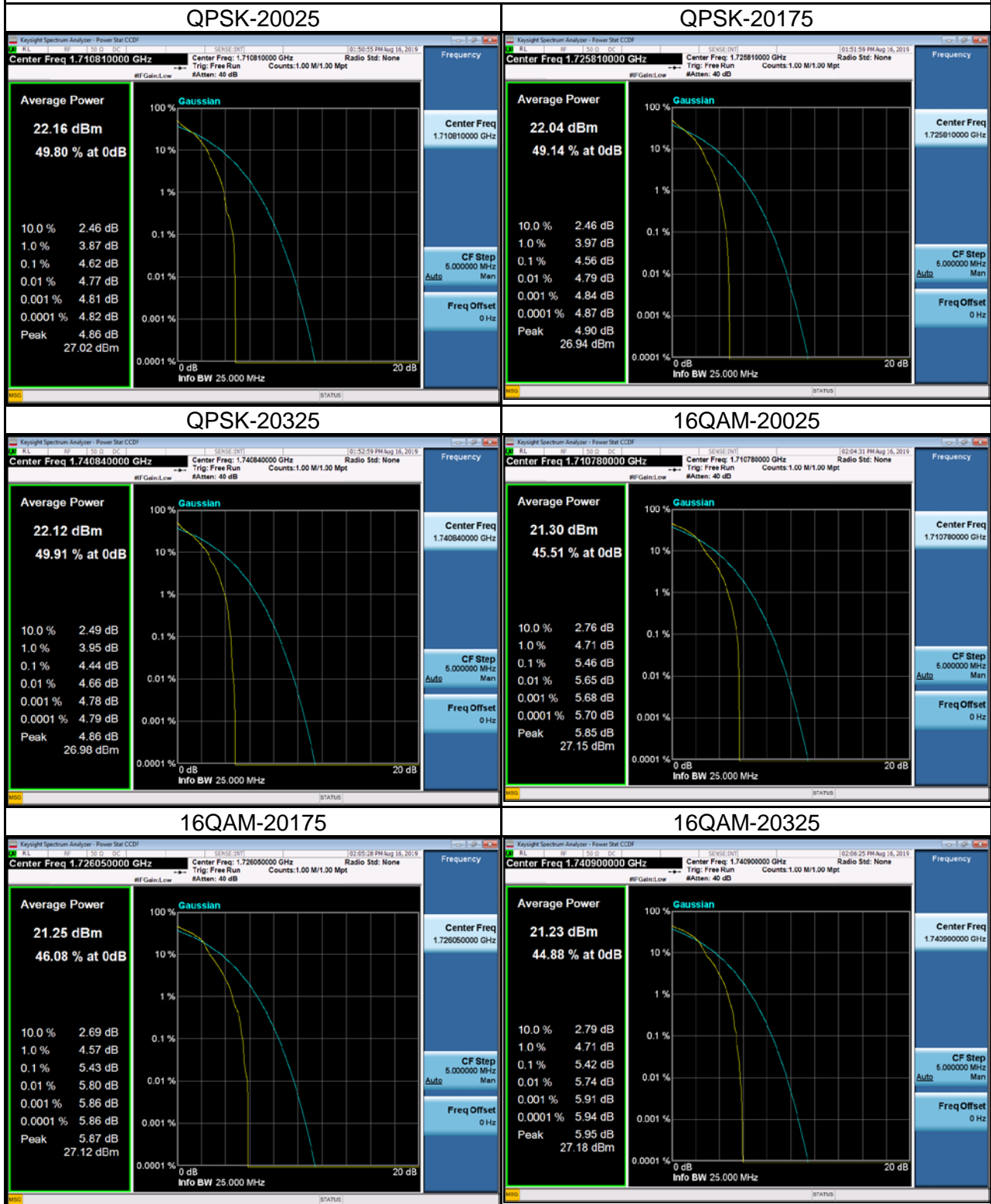
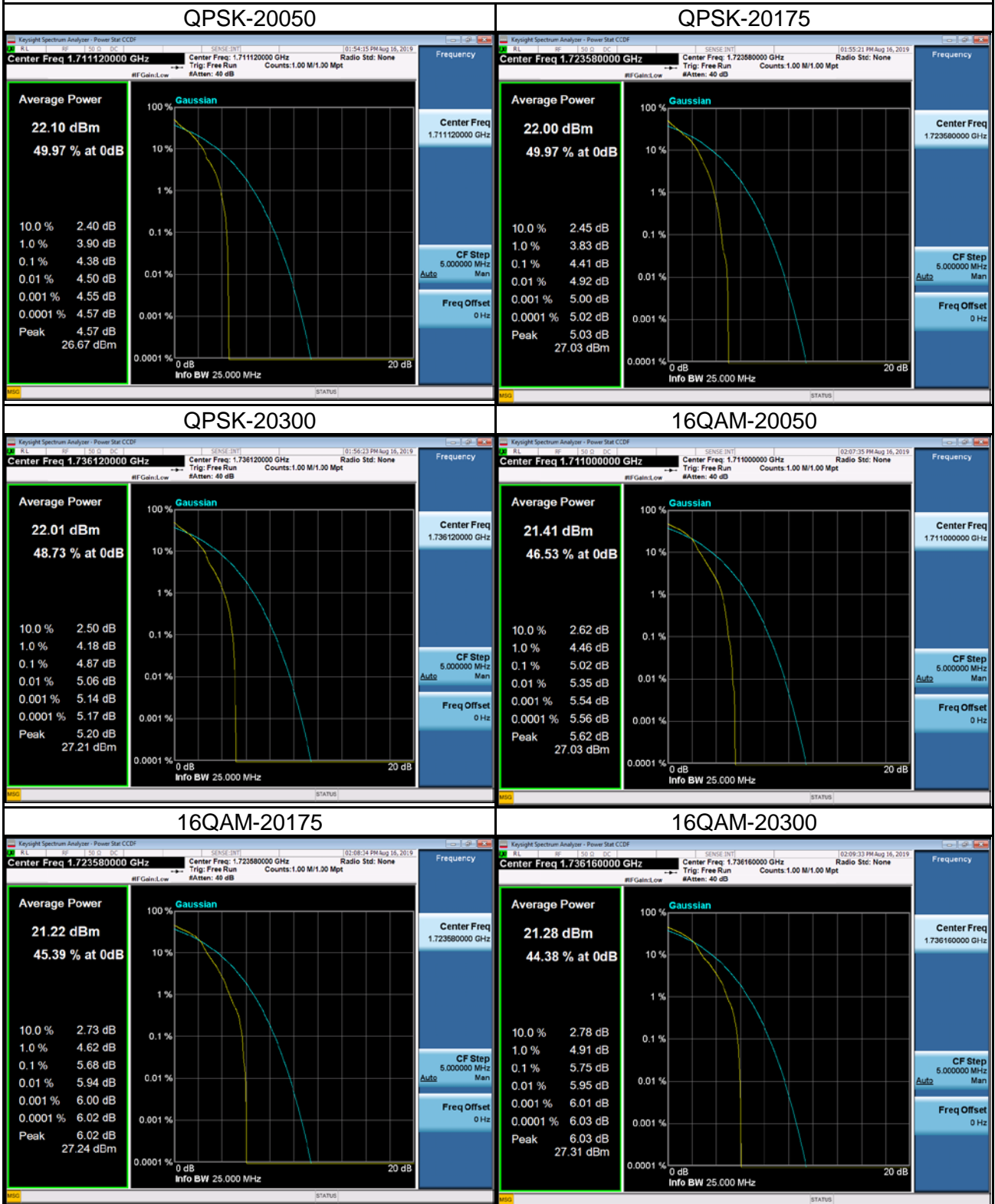


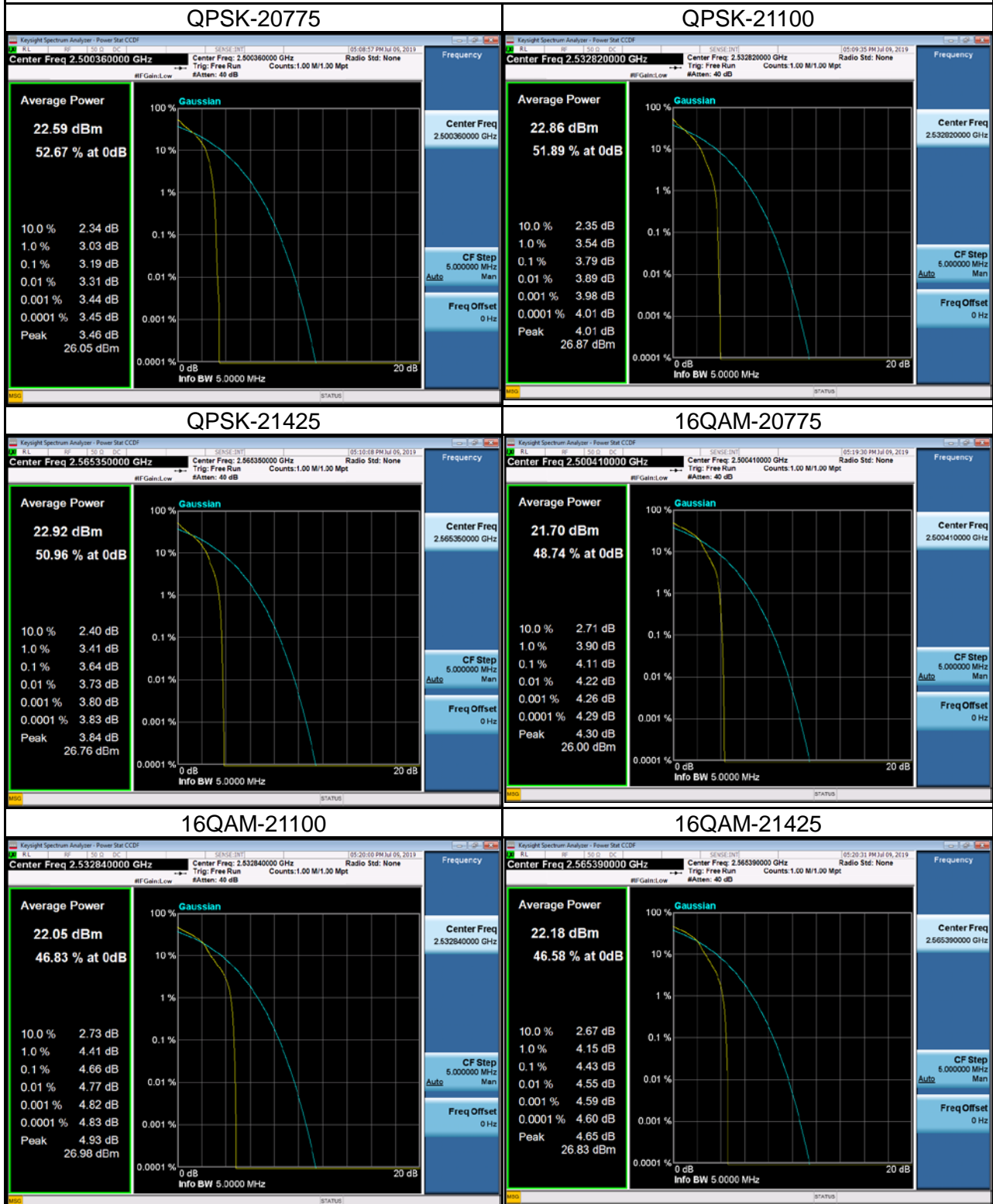
LTE Band 4 Spectrum Plot_15M



LTE Band 4 Spectrum Plot_20M



LTE Band 7 Spectrum Plot_5M



LTE Band 7 Spectrum Plot_10M



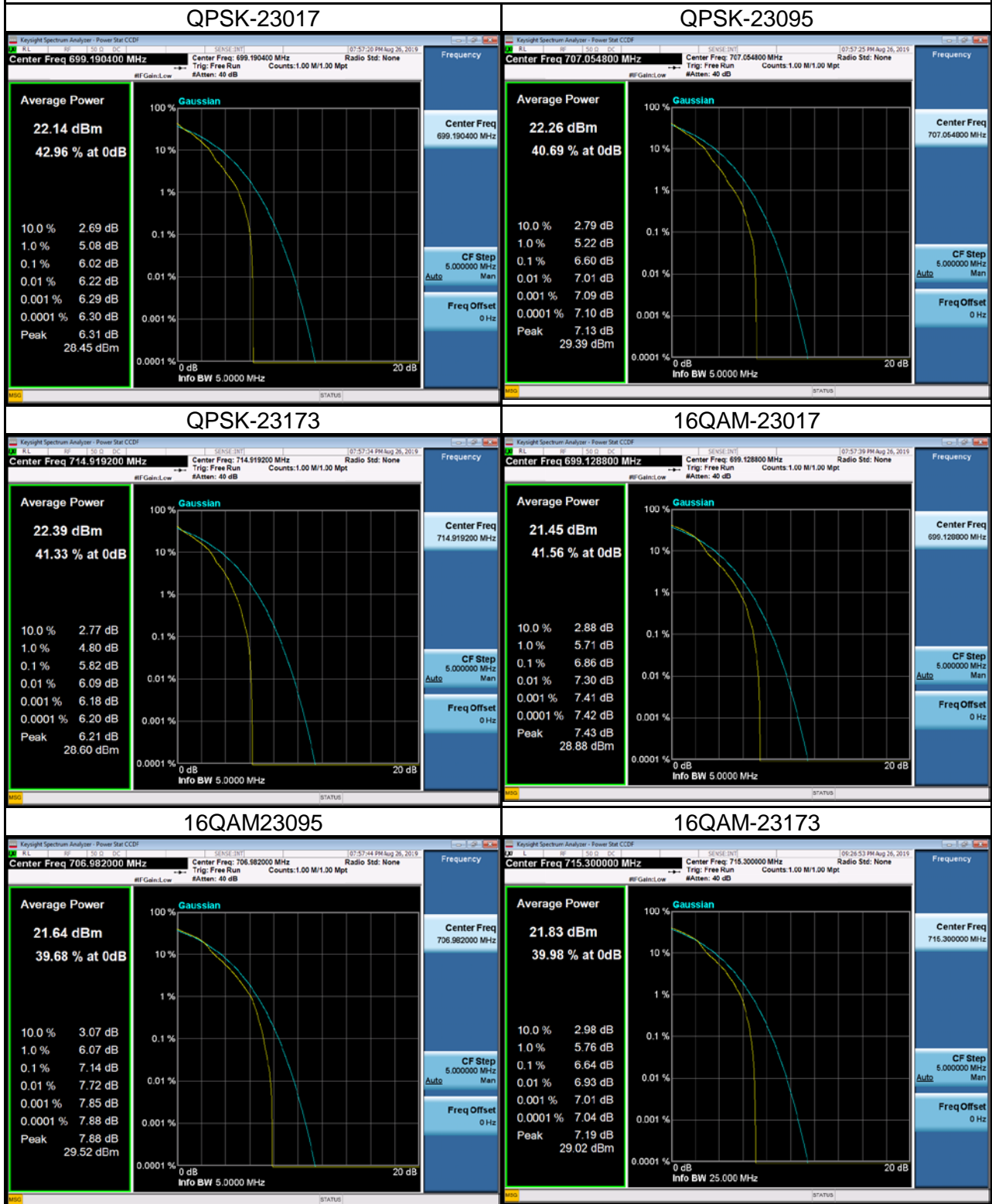
LTE Band 7 Spectrum Plot_15M



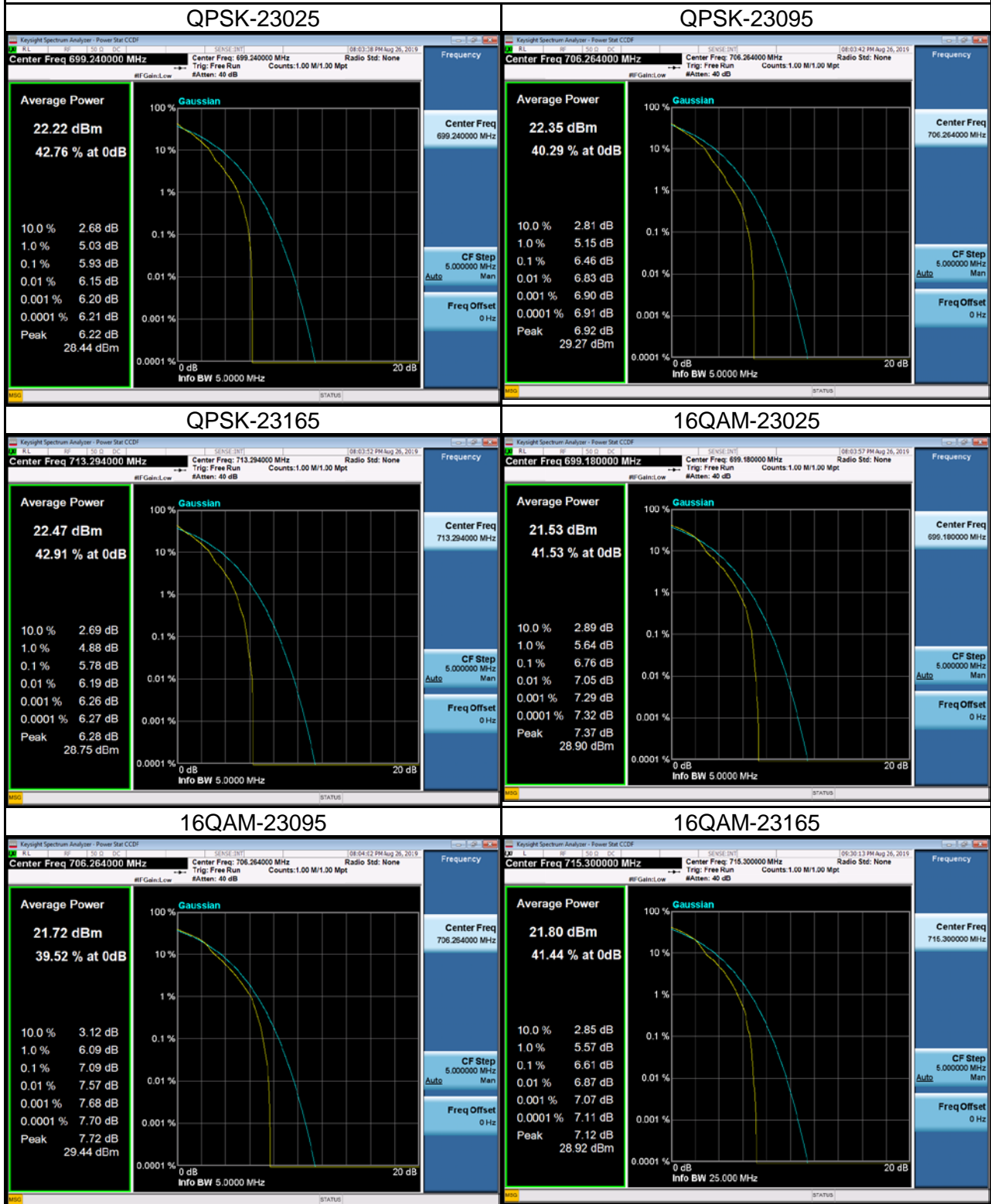
LTE Band 7 Spectrum Plot_20M



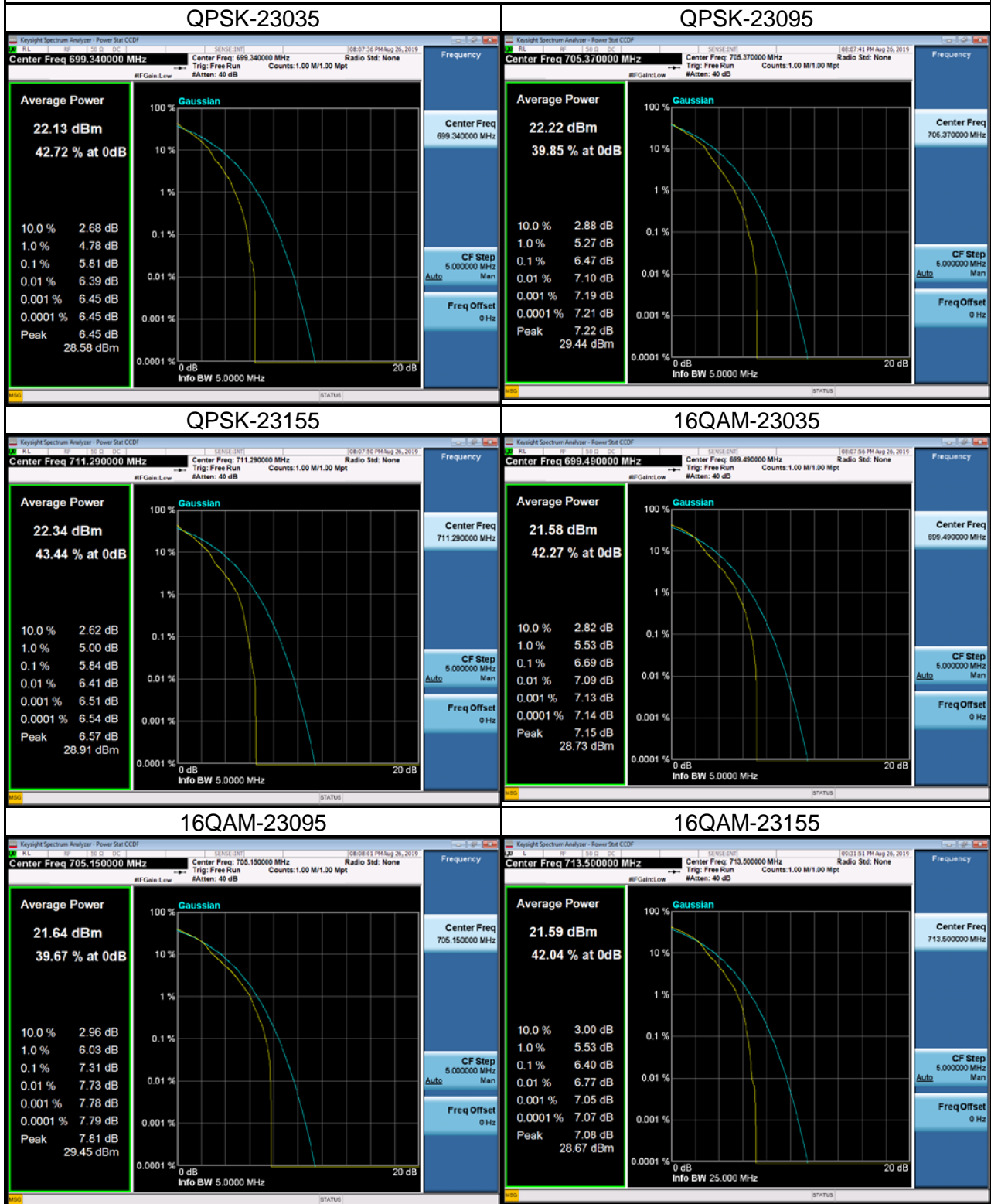
LTE Band 12 Spectrum Plot_1.4M



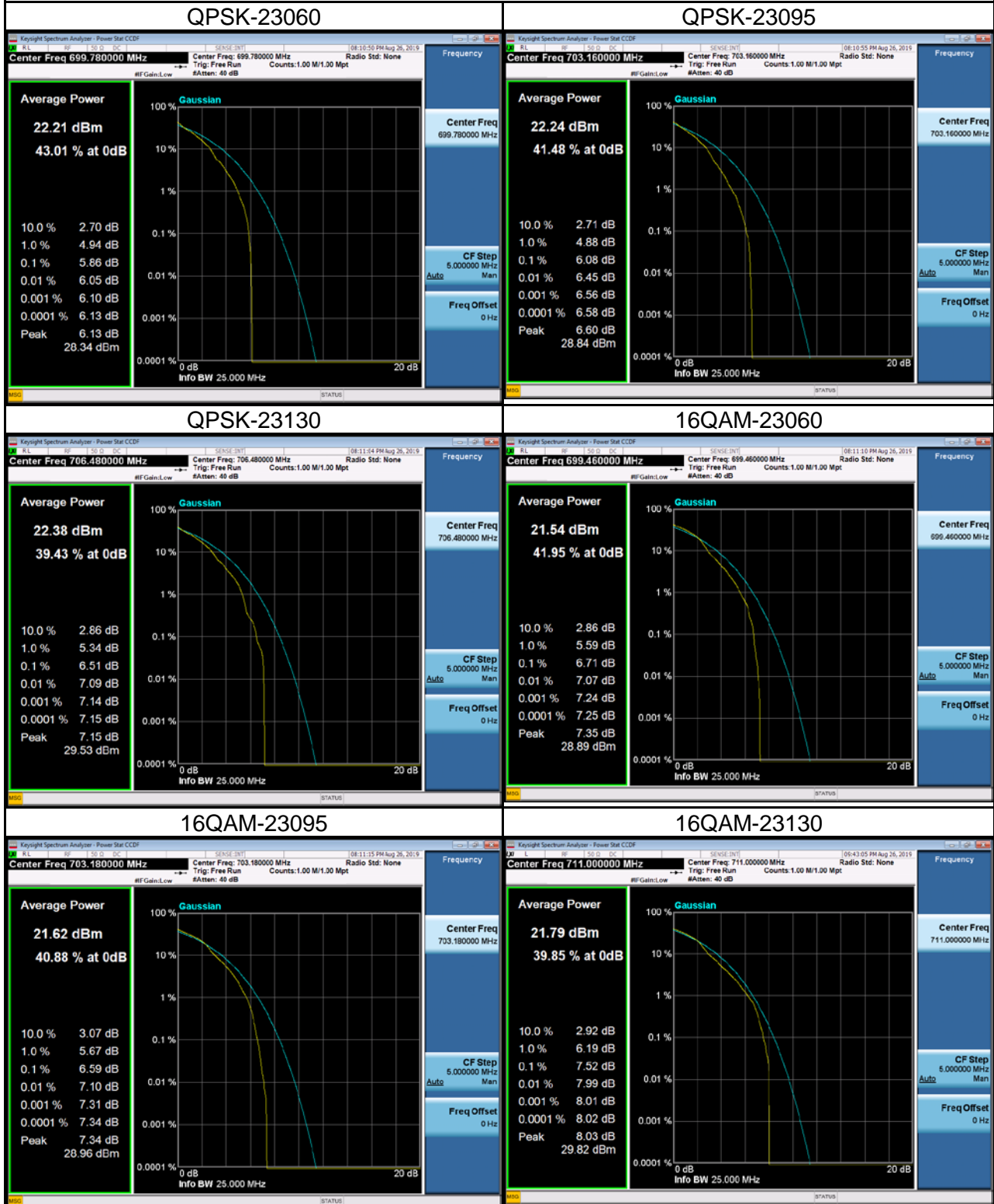
LTE Band 12 Spectrum Plot_3M



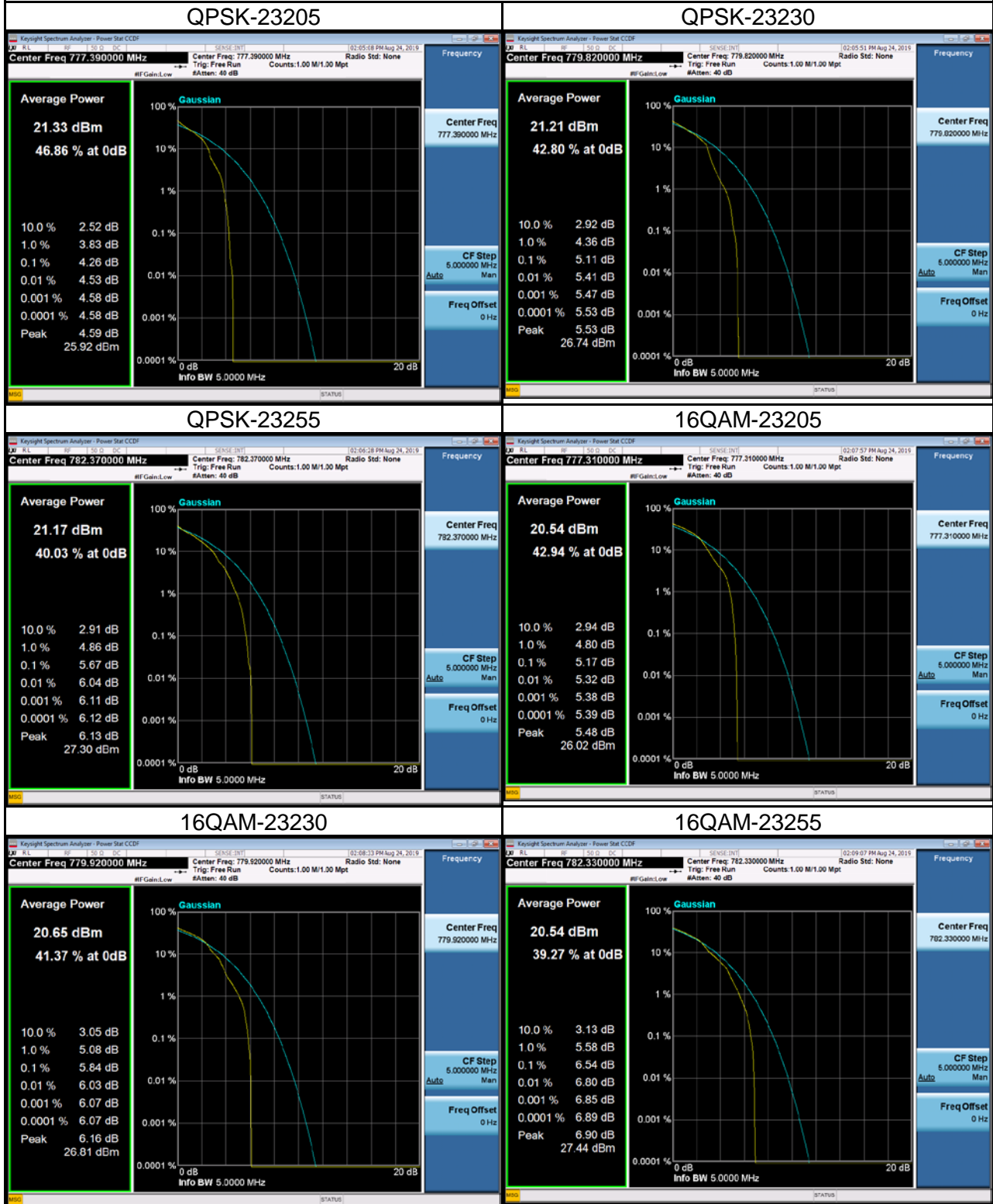
LTE Band 12 Spectrum Plot_5M



LTE Band 12 Spectrum Plot_10M



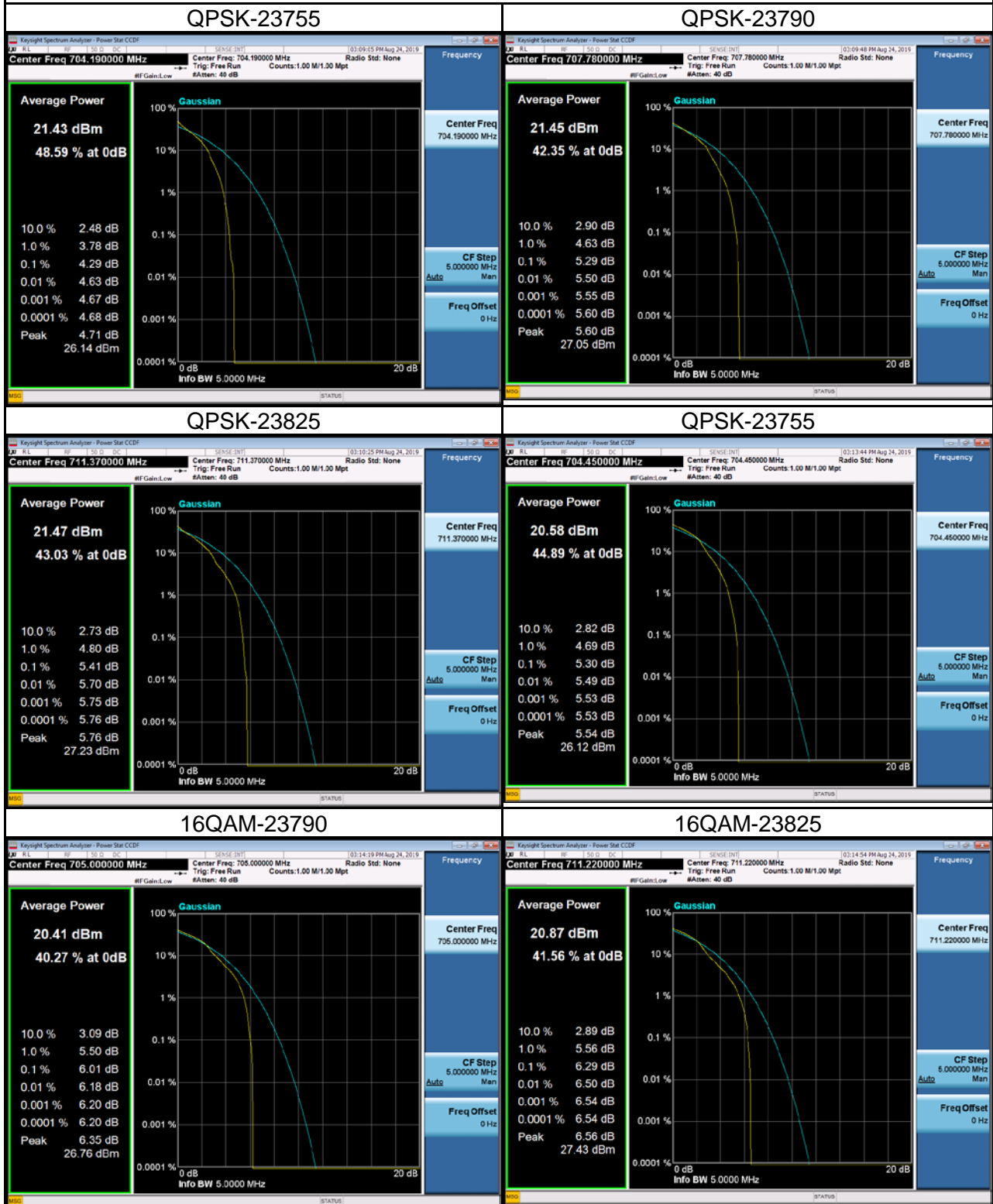
LTE Band 13 Spectrum Plot_5M



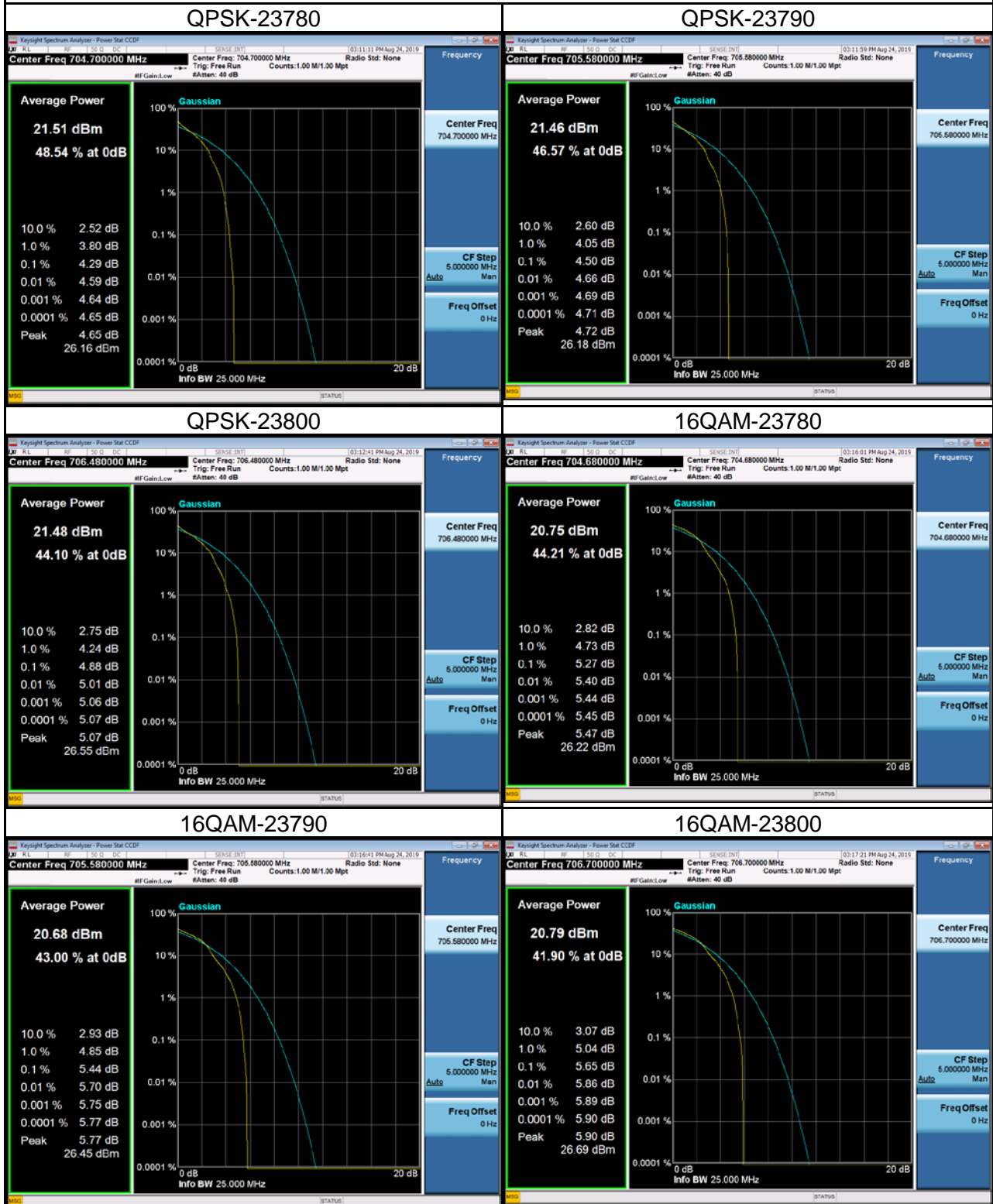
LTE Band 13 Spectrum Plot_10M



LTE Band 17 Spectrum Plot_5M



LTE Band 17 Spectrum Plot_10M



APPENDIX I - FREQUENCY STABILITY

Test Mode: WCDMA Band IV _CH1413

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	2.13	0.001229366	±2.5
10	1.86	0.001073531	
20	2.84	0.001639155	
30	3.27	0.001887337	
40	4.32	0.002493363	
50	5.21	0.003007041	
Max. Deviation (ppm)	5.21	0.003007041	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	3.17	0.00182962	±2.5
4.0	1.87	0.001079303	
3.6	2.64	0.001523722	
Max. Deviation (ppm)	3.17	0.00182962	

Test Mode:	LTE Band 4_CH20175_1.4M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-5.90	-0.003405483	±2.5
10	5.56	0.003209235	
20	2.03	0.001171717	
30	-2.38	-0.001373737	
40	1.89	0.001090909	
50	1.20	0.000692641	
Max. Deviation (ppm)	-5.9	-0.003405483	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-5.41	-0.003122655	±2.5
4.0	3.57	0.002060606	
3.6	-2.45	-0.001414141	
Max. Deviation (ppm)	-5.41	-0.003122655	

Test Mode:	LTE Band 4_CH20175_3M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	2.07	0.001194805	±2.5
10	0.52	0.000300144	
20	6.57	0.003792208	
30	-2.60	-0.001500722	
40	6.20	0.003578644	
50	-4.54	-0.002620491	
Max. Deviation (ppm)	6.57	0.003792208	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	5.21	0.003007215	±2.5
4.0	-3.26	-0.001881674	
3.6	2.17	0.001252525	
Max. Deviation (ppm)	5.21	0.003007215	

Test Mode: LTE Band 4_CH20175_5M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	3.24	0.00187013	±2.5
10	4.07	0.002349206	
20	-3.91	-0.002256854	
30	2.37	0.001367965	
40	-0.79	-0.000455988	
50	-5.48	-0.003163059	
Max. Deviation (ppm)	-5.48	-0.003163059	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-1.56	-0.000900433	±2.5
4.0	2.43	0.001402597	
3.6	3.13	0.001806638	
Max. Deviation (ppm)	3.13	0.001806638	

Test Mode:	LTE Band 4_CH20175_10M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	5.64	0.003255411	±2.5
10	3.75	0.002164502	
20	-5.48	-0.003163059	
30	0.99	0.000571429	
40	3.48	0.002008658	
50	1.64	0.000946609	
Max. Deviation (ppm)	5.64	0.003255411	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	1.98	0.001142857	±2.5
4.0	-2.16	-0.001246753	
3.6	-3.02	-0.001743146	
Max. Deviation (ppm)	-3.02	-0.001743146	

Test Mode:	LTE Band 4_CH20175_15M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-3.24	-0.00187013	±2.5
10	4.07	0.002349206	
20	2.91	0.001679654	
30	-4.73	-0.002730159	
40	2.75	0.001587302	
50	-2.81	-0.001621934	
Max. Deviation (ppm)	-4.73	-0.002730159	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-5.78	-0.003336219	±2.5
4.0	4.34	0.002505051	
3.6	-4.07	-0.002349206	
Max. Deviation (ppm)	-5.78	-0.003336219	

Test Mode: LTE Band 4_CH20175_20M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	2.65	0.001529582	±2.5
10	-3.54	-0.00204329	
20	5.64	0.003255411	
30	6.12	0.003532468	
40	-3.15	-0.001818182	
50	5.27	0.003041847	
Max. Deviation (ppm)	6.12	0.003532468	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	4.37	0.002522367	±2.5
4.0	2.80	0.001616162	
3.6	-3.46	-0.001997114	
Max. Deviation (ppm)	4.37	0.002522367	

Test Mode: LTE Band 7_CH21100_5M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	4.40	0.0017357	± 2.5
10	-5.03	-0.001984221	
20	3.47	0.001368836	
30	5.49	0.00216568	
40	-2.00	-0.000788955	
50	2.87	0.00113215	
Max. Deviation (ppm)	5.49	0.00216568	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-1.78	-0.00070217	±2.5
4.0	0.95	0.000374753	
3.6	2.07	0.000816568	
Max. Deviation (ppm)	2.07	0.000816568	

Test Mode: LTE Band 7_CH21100_10M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	3.10	0.00122288	±2.5
10	-2.64	-0.00104142	
20	-3.27	-0.001289941	
30	6.21	0.002449704	
40	-3.50	-0.001380671	
50	1.17	0.000461538	
Max. Deviation (ppm)	6.21	0.002449704	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-3.01	-0.001187377	±2.5
4.0	1.74	0.000686391	
3.6	-2.56	-0.001009862	
Max. Deviation (ppm)	-3.01	-0.001187377	

Test Mode:	LTE Band 7_CH21100_15M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	3.62	0.001428008	±2.5
10	-5.93	-0.00233925	
20	-1.16	-0.000457594	
30	4.56	0.001798817	
40	4.99	0.001968442	
50	-3.50	-0.001380671	
Max. Deviation (ppm)	-5.93	-0.00233925	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	3.21	0.001266272	±2.5
4.0	-4.09	-0.001613412	
3.6	1.87	0.000737673	
Max. Deviation (ppm)	-4.09	-0.001613412	

Test Mode:	LTE Band 7_CH21100_20M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	1.38	0.000544379	± 2.5
10	6.66	0.002627219	
20	-7.05	-0.002781065	
30	2.31	0.000911243	
40	-3.58	-0.001412229	
50	-5.19	-0.002047337	
Max. Deviation (ppm)	-7.05	-0.002781065	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-2.50	-0.000986193	± 2.5
4.0	4.24	0.001672584	
3.6	4.18	0.001648915	
Max. Deviation (ppm)	4.24	0.001672584	

Test Mode:	LTE Band 12_CH23095_1.4M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	6.42	0.009074205	±2.5
10	3.78	0.005342756	
20	8.41	0.011886926	
30	-5.14	0.007265018	
40	5.40	0.007632509	
50	-0.60	0.000848057	
Max. Deviation (ppm)	8.41	0.011886926	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	2.32	0.003279152	±2.5
4.0	-3.27	0.004621908	
3.6	1.57	0.002219081	
Max. Deviation (ppm)	-3.27	0.004621908	

Test Mode:	LTE Band 12_CH23095_3M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-1.20	0.001696113	± 2.5
10	4.52	0.006388693	
20	4.57	0.006459364	
30	-0.95	0.001342756	
40	5.43	0.007674912	
50	5.84	0.008254417	
Max. Deviation (ppm)	5.84	0.008254417	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-5.25	0.007420495	± 2.5
4.0	3.73	0.005272085	
3.6	2.27	0.003208481	
Max. Deviation (ppm)	-5.25	0.007420495	

Test Mode:	LTE Band 12_CH23095_5M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-0.93	-0.001314488	±2.5
10	5.48	0.007745583	
20	-4.58	-0.006473498	
30	5.40	0.007632509	
40	6.93	0.009795053	
50	-1.90	-0.002685512	
Max. Deviation (ppm)	6.93	0.009795053	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-3.14	-0.004438163	±2.5
4.0	-0.78	-0.001102473	
3.6	1.59	0.00224735	
Max. Deviation (ppm)	-3.14	-0.004438163	

Test Mode:	LTE Band 12_CH23095_10M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	5.61	0.007929329	± 2.5
10	3.40	0.004805654	
20	-0.98	-0.001385159	
30	5.62	0.007943463	
40	3.74	0.005286219	
50	4.16	0.005879859	
Max. Deviation (ppm)	5.62	0.007943463	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-0.80	-0.001130742	±2.5
4.0	1.87	0.00264311	
3.6	-3.29	-0.004650177	
Max. Deviation (ppm)	-3.29	-0.004650177	

Test Mode:	LTE Band 13_CH23230_5M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	5.24	0.007380282	±2.5
10	-3.79	-0.005338028	
20	2.74	0.003859155	
30	1.87	0.002633803	
40	-4.31	-0.006070423	
50	0.75	0.001056338	
Max. Deviation (ppm)	5.24	0.007380282	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-3.30	-0.004647887	±2.5
4.0	-0.10	-0.000140845	
3.6	1.18	0.001661972	
Max. Deviation (ppm)	-3.3	-0.004647887	

Test Mode:	LTE Band 13_CH23230_10M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-0.34	-0.000478873	± 2.5
10	-4.29	-0.006042254	
20	2.08	0.002929577	
30	0.52	0.000732394	
40	3.75	0.00528169	
50	-2.19	-0.003084507	
Max. Deviation (ppm)	-4.29	-0.006042254	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-0.28	-0.000394366	± 2.5
4.0	2.74	0.003859155	
3.6	-1.34	-0.001887324	
Max. Deviation (ppm)	2.74	0.003859155	

Test Mode:	LTE Band 17_CH23790_5M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	4.33	0.006098592	±2.5
10	-2.77	-0.003901408	
20	5.12	0.007211268	
30	4.37	0.00615493	
40	-1.99	-0.002802817	
50	0.72	0.001014085	
Max. Deviation (ppm)	5.12	0.007211268	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-3.16	-0.004450704	±2.5
4.0	-0.04	-5.6338E-05	
3.6	2.05	0.002887324	
Max. Deviation (ppm)	-3.16	-0.004450704	

Test Mode:	LTE Band 17_CH23790_10M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-0.37	-0.000521127	±2.5
10	-3.48	-0.004901408	
20	1.15	0.001619718	
30	0.53	0.000746479	
40	0.71	0.001	
50	-2.49	-0.003507042	
Max. Deviation (ppm)	-3.48	-0.004901408	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.25	-0.31	-0.00043662	±2.5
4.0	4.27	0.006014085	
3.6	-1.38	-0.001943662	
Max. Deviation (ppm)	4.27	0.006014085	

End of Test Report