

Appendix-A LTE Cat M1 Band 12

Effective (Isotropic) Radiated Power Output Data for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Power (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1	0	Low	20.60	22.40	34.77	PASS
Band12	1.4MHz	QPSK	23017	1	5	Low	20.21	22.01	34.77	PASS
Band12	1.4MHz	QPSK	23017	6	0	Low	18.66	20.46	34.77	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	20.81	22.61	34.77	PASS
Band12	1.4MHz	QPSK	23095	1	5	Low	20.42	22.22	34.77	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	18.72	20.52	34.77	PASS
Band12	1.4MHz	QPSK	23173	1	0	High	20.39	22.19	34.77	PASS
Band12	1.4MHz	QPSK	23173	1	5	High	20.04	21.84	34.77	PASS
Band12	1.4MHz	QPSK	23173	6	0	High	18.47	20.27	34.77	PASS
Band12	3MHz	QPSK	23025	1	0	Low	20.58	22.38	34.77	PASS
Band12	3MHz	QPSK	23025	1	5	Low	20.32	22.12	34.77	PASS
Band12	3MHz	QPSK	23025	6	0	Low	18.76	20.56	34.77	PASS
Band12	3MHz	QPSK	23095	1	0	Low	20.86	22.66	34.77	PASS
Band12	3MHz	QPSK	23095	1	5	Low	20.38	22.18	34.77	PASS
Band12	3MHz	QPSK	23095	6	0	Low	18.94	20.74	34.77	PASS
Band12	3MHz	QPSK	23165	1	0	High	20.61	22.41	34.77	PASS
Band12	3MHz	QPSK	23165	1	5	High	20.04	21.84	34.77	PASS
Band12	3MHz	QPSK	23165	6	0	High	18.52	20.32	34.77	PASS
Band12	5MHz	QPSK	23035	1	0	Low	20.81	22.61	34.77	PASS
Band12	5MHz	QPSK	23035	1	5	Low	20.43	22.23	34.77	PASS
Band12	5MHz	QPSK	23035	6	0	Low	19.94	21.74	34.77	PASS
Band12	5MHz	QPSK	23095	1	0	Low	20.92	22.72	34.77	PASS
Band12	5MHz	QPSK	23095	1	5	Low	20.63	22.43	34.77	PASS
Band12	5MHz	QPSK	23095	6	0	Low	19.93	21.73	34.77	PASS
Band12	5MHz	QPSK	23155	1	0	High	20.59	22.39	34.77	PASS
Band12	5MHz	QPSK	23155	1	5	High	20.23	22.03	34.77	PASS
Band12	5MHz	QPSK	23155	6	0	High	19.69	21.49	34.77	PASS
Band12	10MHz	QPSK	23060	1	0	Low	20.75	22.55	34.77	PASS
Band12	10MHz	QPSK	23060	1	5	Low	20.50	22.3	34.77	PASS
Band12	10MHz	QPSK	23060	6	0	Low	19.85	21.65	34.77	PASS
Band12	10MHz	QPSK	23095	1	0	Low	20.85	22.65	34.77	PASS
Band12	10MHz	QPSK	23095	1	5	Low	20.60	22.4	34.77	PASS
Band12	10MHz	QPSK	23095	6	0	Low	19.97	21.77	34.77	PASS
Band12	10MHz	QPSK	23130	1	0	High	20.42	22.22	34.77	PASS
Band12	10MHz	QPSK	23130	1	5	High	20.10	21.9	34.77	PASS
Band12	10MHz	QPSK	23130	6	0	High	19.74	21.54	34.77	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	19.55	21.35	34.77	PASS

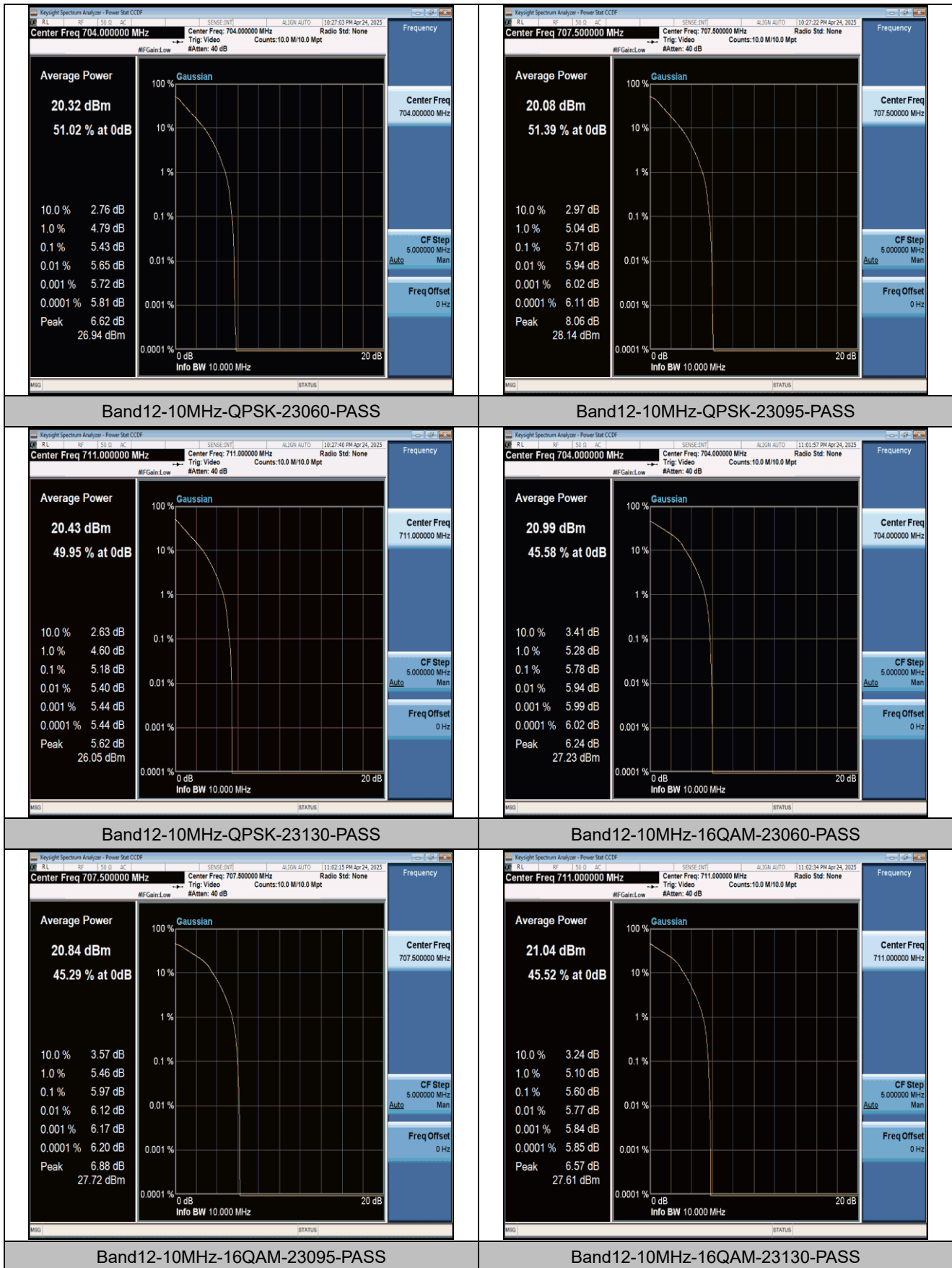
Band12	1.4MHz	16QAM	23017	1	5	Low	19.21	21.01	34.77	PASS
Band12	1.4MHz	16QAM	23017	5	0	Low	18.73	20.53	34.77	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	19.84	21.64	34.77	PASS
Band12	1.4MHz	16QAM	23095	1	5	Low	19.40	21.2	34.77	PASS
Band12	1.4MHz	16QAM	23095	5	0	Low	18.89	20.69	34.77	PASS
Band12	1.4MHz	16QAM	23173	1	0	High	19.46	21.26	34.77	PASS
Band12	1.4MHz	16QAM	23173	1	5	High	19.04	20.84	34.77	PASS
Band12	1.4MHz	16QAM	23173	5	0	High	18.60	20.4	34.77	PASS
Band12	3MHz	16QAM	23025	1	0	Low	19.52	21.32	34.77	PASS
Band12	3MHz	16QAM	23025	1	5	Low	19.16	20.96	34.77	PASS
Band12	3MHz	16QAM	23025	5	0	Low	18.79	20.59	34.77	PASS
Band12	3MHz	16QAM	23095	1	0	Low	19.57	21.37	34.77	PASS
Band12	3MHz	16QAM	23095	1	5	Low	19.23	21.03	34.77	PASS
Band12	3MHz	16QAM	23095	5	0	Low	19.01	20.81	34.77	PASS
Band12	3MHz	16QAM	23165	1	0	High	19.53	21.33	34.77	PASS
Band12	3MHz	16QAM	23165	1	5	High	19.12	20.92	34.77	PASS
Band12	3MHz	16QAM	23165	5	0	High	18.68	20.48	34.77	PASS
Band12	5MHz	16QAM	23035	1	0	Low	20.71	22.51	34.77	PASS
Band12	5MHz	16QAM	23035	1	5	Low	20.36	22.16	34.77	PASS
Band12	5MHz	16QAM	23035	5	0	Low	19.52	21.32	34.77	PASS
Band12	5MHz	16QAM	23095	1	0	Low	20.92	22.72	34.77	PASS
Band12	5MHz	16QAM	23095	1	5	Low	20.62	22.42	34.77	PASS
Band12	5MHz	16QAM	23095	5	0	Low	19.75	21.55	34.77	PASS
Band12	5MHz	16QAM	23155	1	0	High	20.51	22.31	34.77	PASS
Band12	5MHz	16QAM	23155	1	5	High	20.17	21.97	34.77	PASS
Band12	5MHz	16QAM	23155	5	0	High	19.51	21.31	34.77	PASS
Band12	10MHz	16QAM	23060	1	0	Low	20.68	22.48	34.77	PASS
Band12	10MHz	16QAM	23060	1	5	Low	20.31	22.11	34.77	PASS
Band12	10MHz	16QAM	23060	5	0	Low	20.55	22.35	34.77	PASS
Band12	10MHz	16QAM	23095	1	0	Low	20.93	22.73	34.77	PASS
Band12	10MHz	16QAM	23095	1	5	Low	20.41	22.21	34.77	PASS
Band12	10MHz	16QAM	23095	5	0	Low	20.66	22.46	34.77	PASS
Band12	10MHz	16QAM	23130	1	0	High	20.33	22.13	34.77	PASS
Band12	10MHz	16QAM	23130	1	5	High	20.10	21.9	34.77	PASS
Band12	10MHz	16QAM	23130	5	0	High	20.56	22.36	34.77	PASS

Peak-to-Average Ratio(CCDF) for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	6	0	Low	5.43	<=13	PASS
Band12	10MHz	QPSK	23095	6	0	Low	5.71	<=13	PASS
Band12	10MHz	QPSK	23130	6	0	High	5.18	<=13	PASS
Band12	10MHz	16QAM	23060	5	0	Low	5.78	<=13	PASS
Band12	10MHz	16QAM	23095	5	0	Low	5.97	<=13	PASS
Band12	10MHz	16QAM	23130	5	0	High	5.60	<=13	PASS

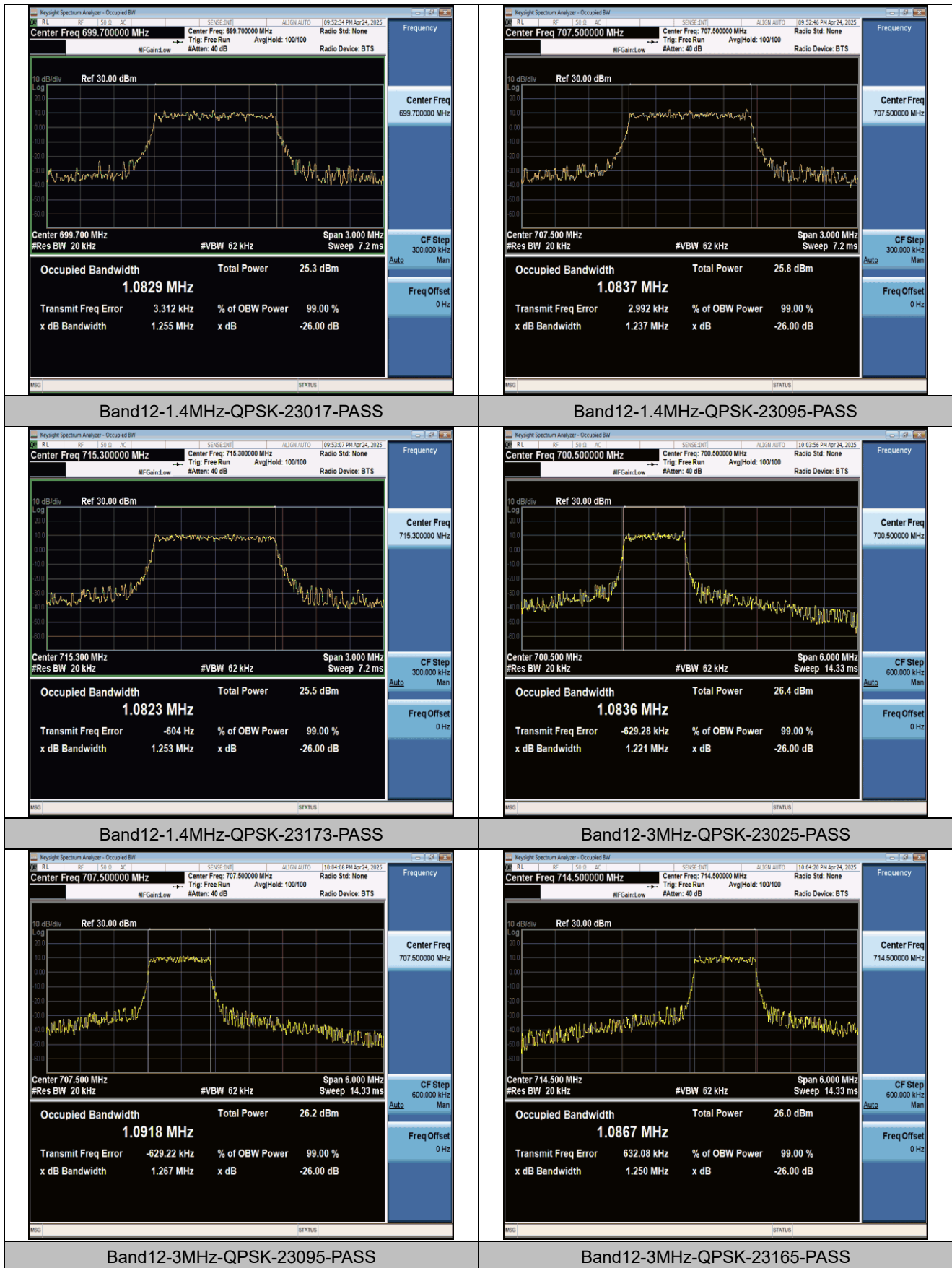
Test Graphs

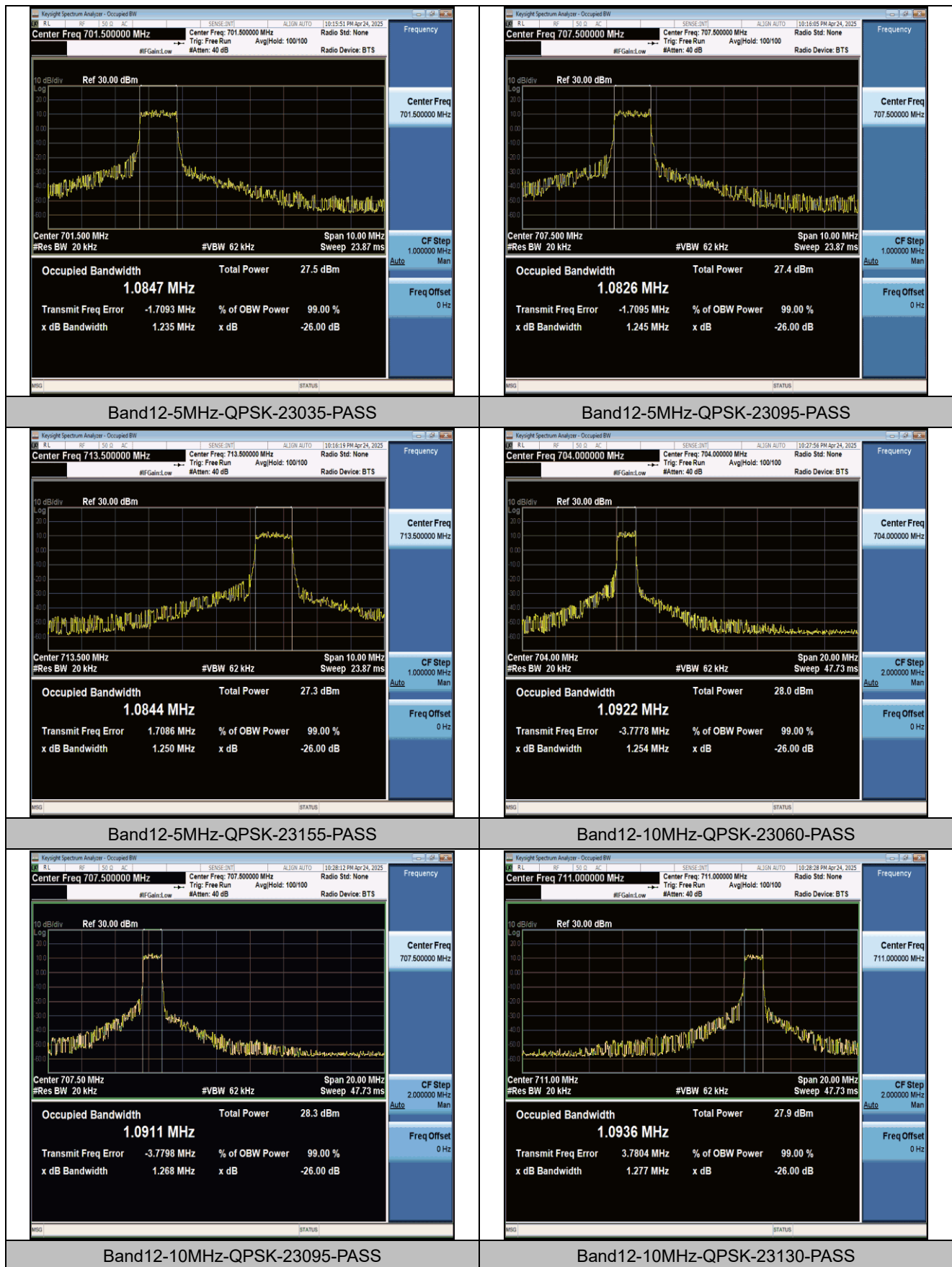


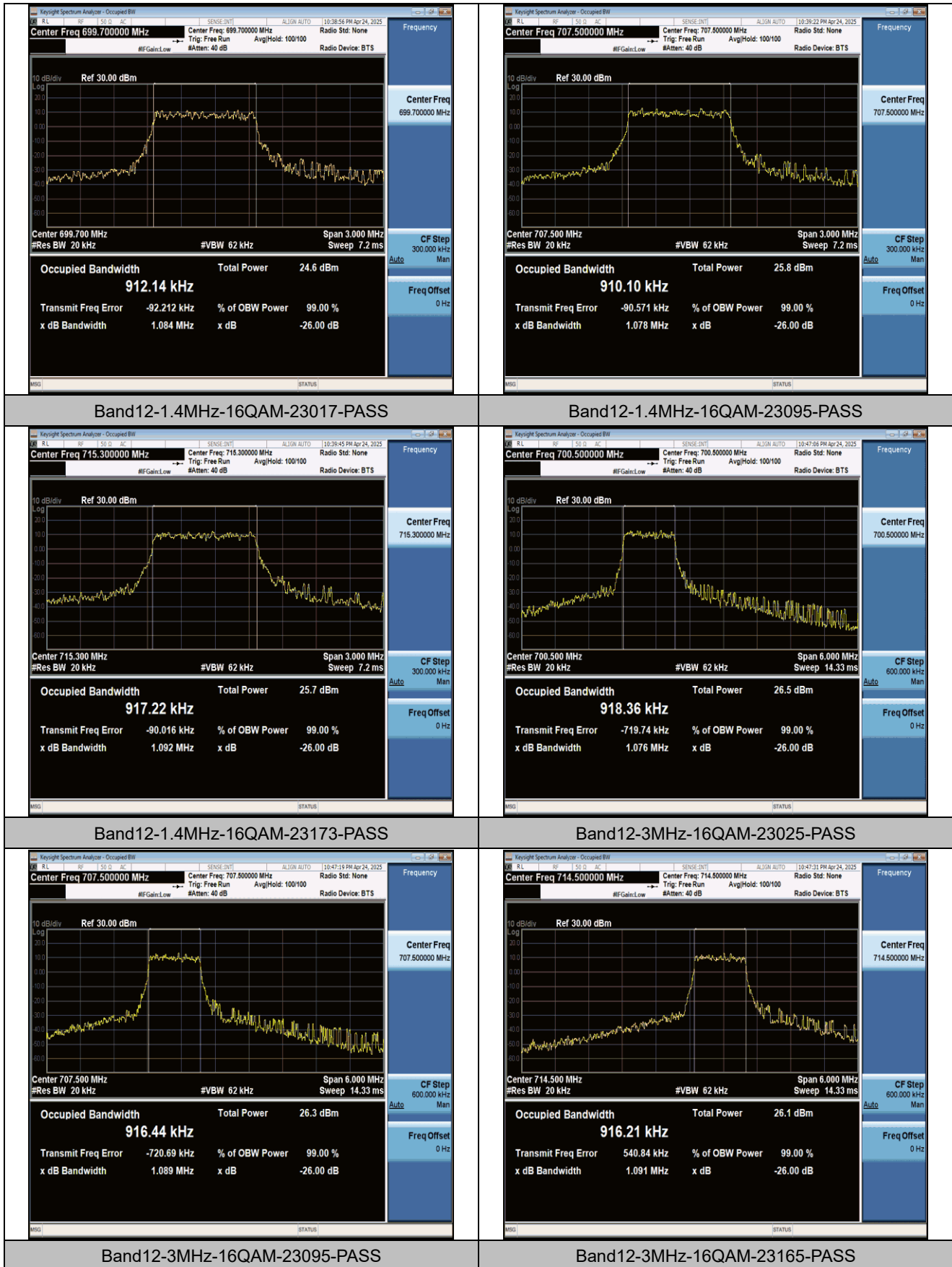
26dB Bandwidth and Occupied Bandwidth for M1**Test Result**

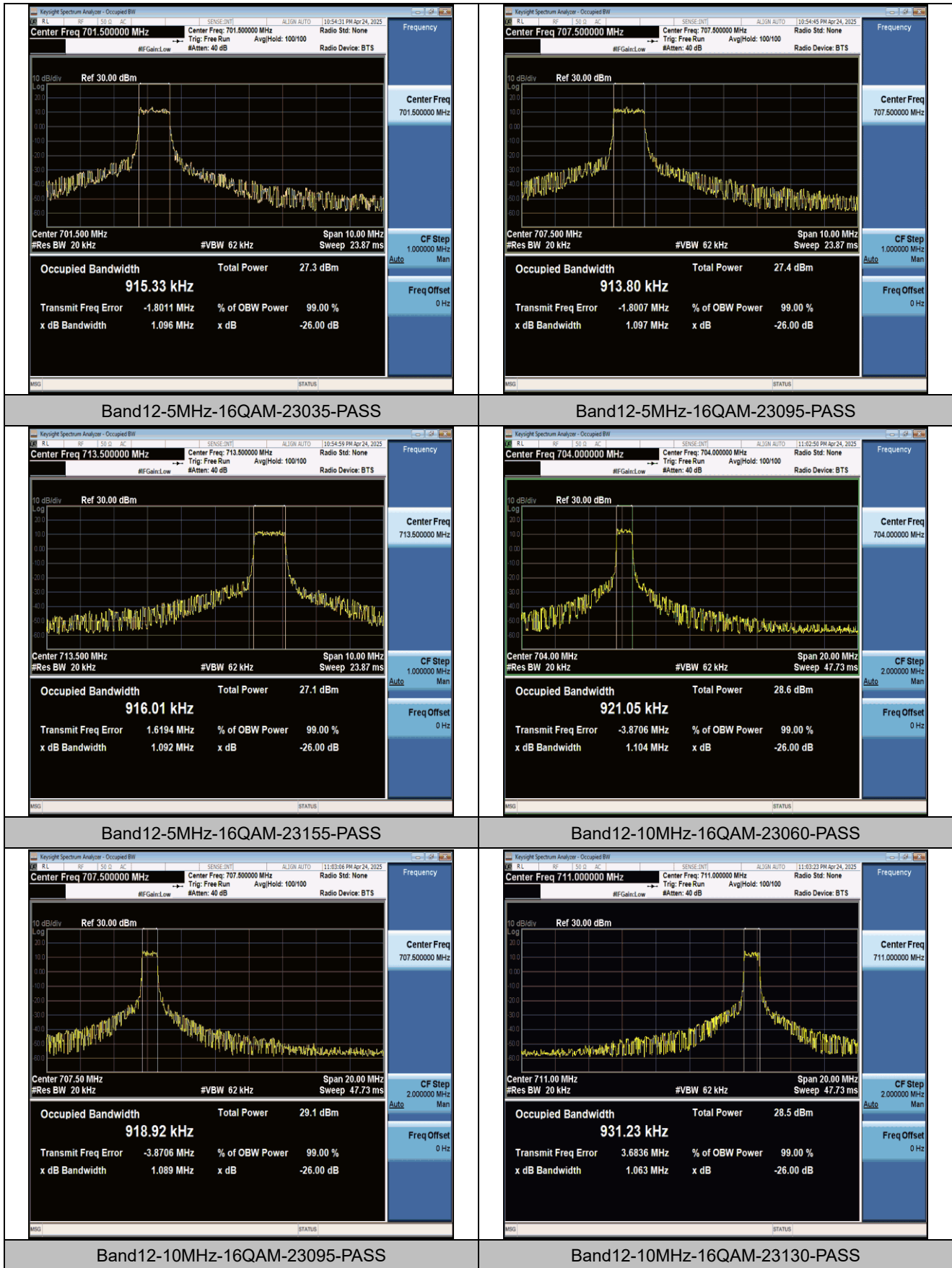
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6	0	Low	1.0829	1.255	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	1.0837	1.237	PASS
Band12	1.4MHz	QPSK	23173	6	0	High	1.0823	1.253	PASS
Band12	3MHz	QPSK	23025	6	0	Low	1.0836	1.221	PASS
Band12	3MHz	QPSK	23095	6	0	Low	1.0918	1.267	PASS
Band12	3MHz	QPSK	23165	6	0	High	1.0867	1.250	PASS
Band12	5MHz	QPSK	23035	6	0	Low	1.0847	1.235	PASS
Band12	5MHz	QPSK	23095	6	0	Low	1.0826	1.245	PASS
Band12	5MHz	QPSK	23155	6	0	High	1.0844	1.250	PASS
Band12	10MHz	QPSK	23060	6	0	Low	1.0922	1.254	PASS
Band12	10MHz	QPSK	23095	6	0	Low	1.0911	1.268	PASS
Band12	10MHz	QPSK	23130	6	0	High	1.0936	1.277	PASS
Band12	1.4MHz	16QAM	23017	5	0	Low	0.91214	1.084	PASS
Band12	1.4MHz	16QAM	23095	5	0	Low	0.91010	1.078	PASS
Band12	1.4MHz	16QAM	23173	5	0	High	0.91722	1.092	PASS
Band12	3MHz	16QAM	23025	5	0	Low	0.91836	1.076	PASS
Band12	3MHz	16QAM	23095	5	0	Low	0.91644	1.089	PASS
Band12	3MHz	16QAM	23165	5	0	High	0.91621	1.091	PASS
Band12	5MHz	16QAM	23035	5	0	Low	0.91533	1.096	PASS
Band12	5MHz	16QAM	23095	5	0	Low	0.91380	1.097	PASS
Band12	5MHz	16QAM	23155	5	0	High	0.91601	1.092	PASS
Band12	10MHz	16QAM	23060	5	0	Low	0.92105	1.104	PASS
Band12	10MHz	16QAM	23095	5	0	Low	0.91892	1.089	PASS
Band12	10MHz	16QAM	23130	5	0	High	0.93123	1.063	PASS

Test Graphs



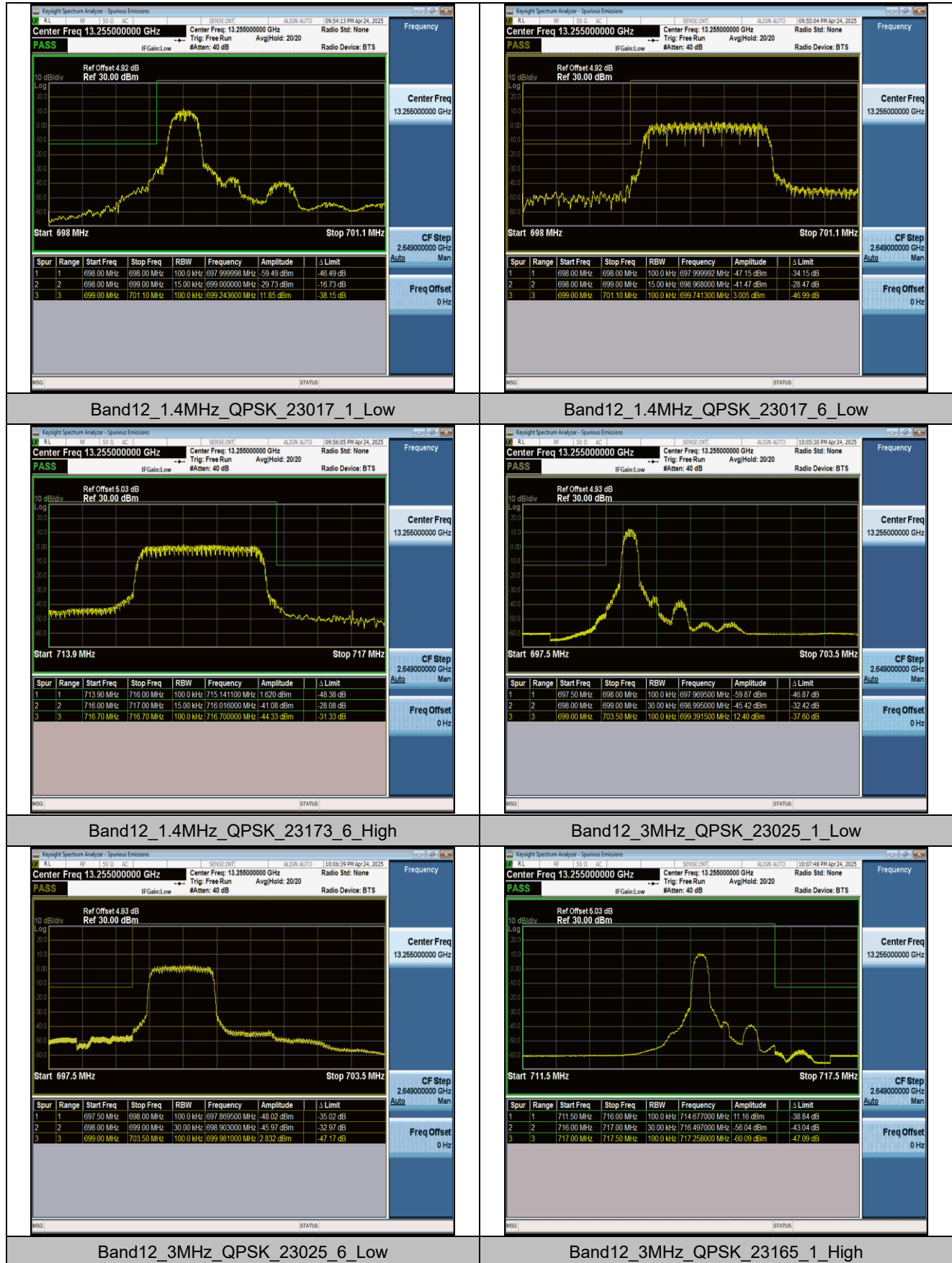


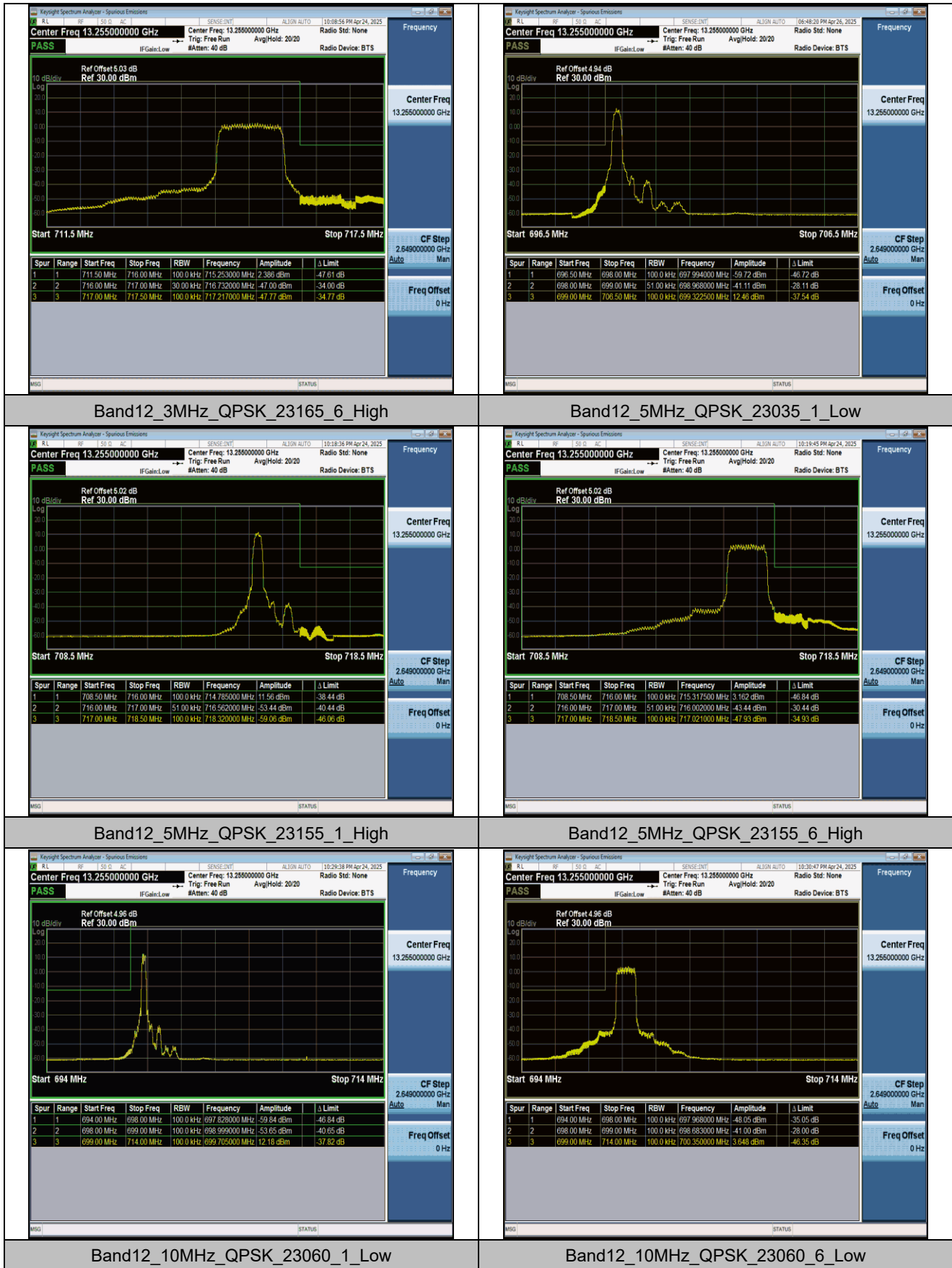


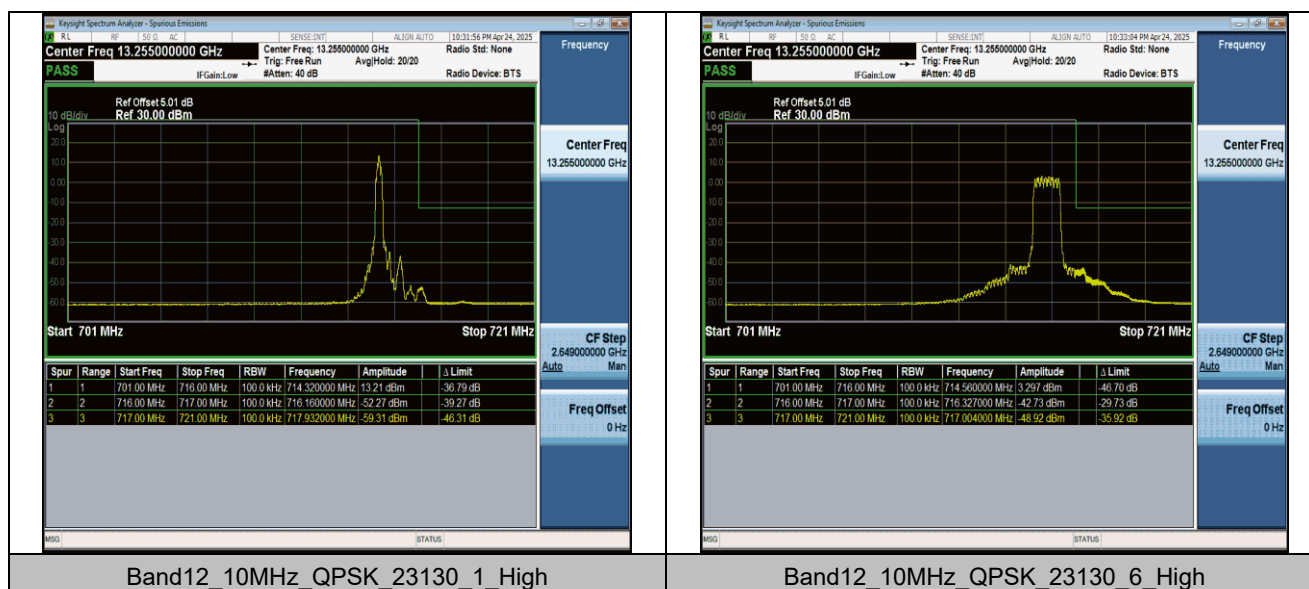


Band Edge for M1

Test Graphs

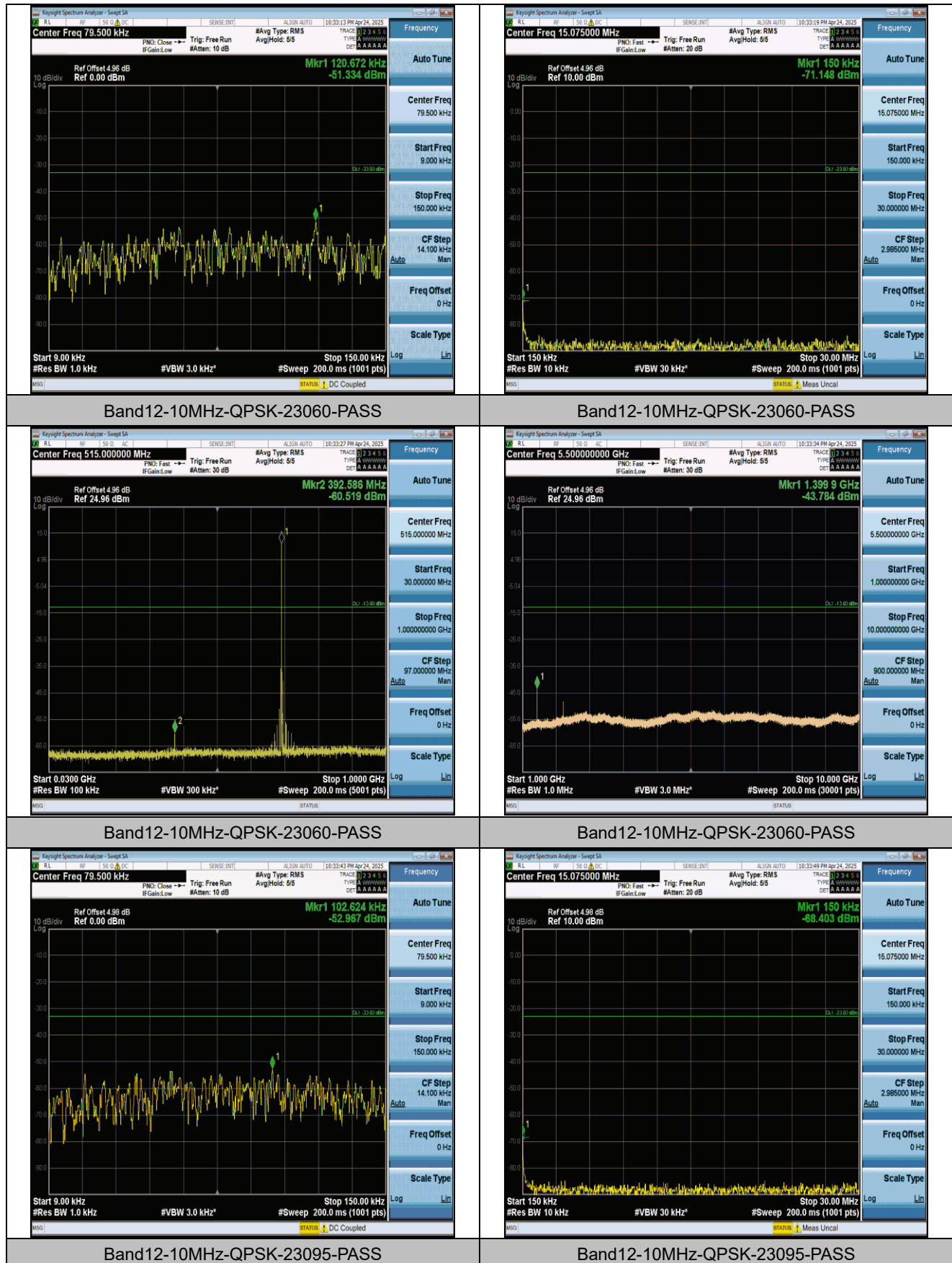


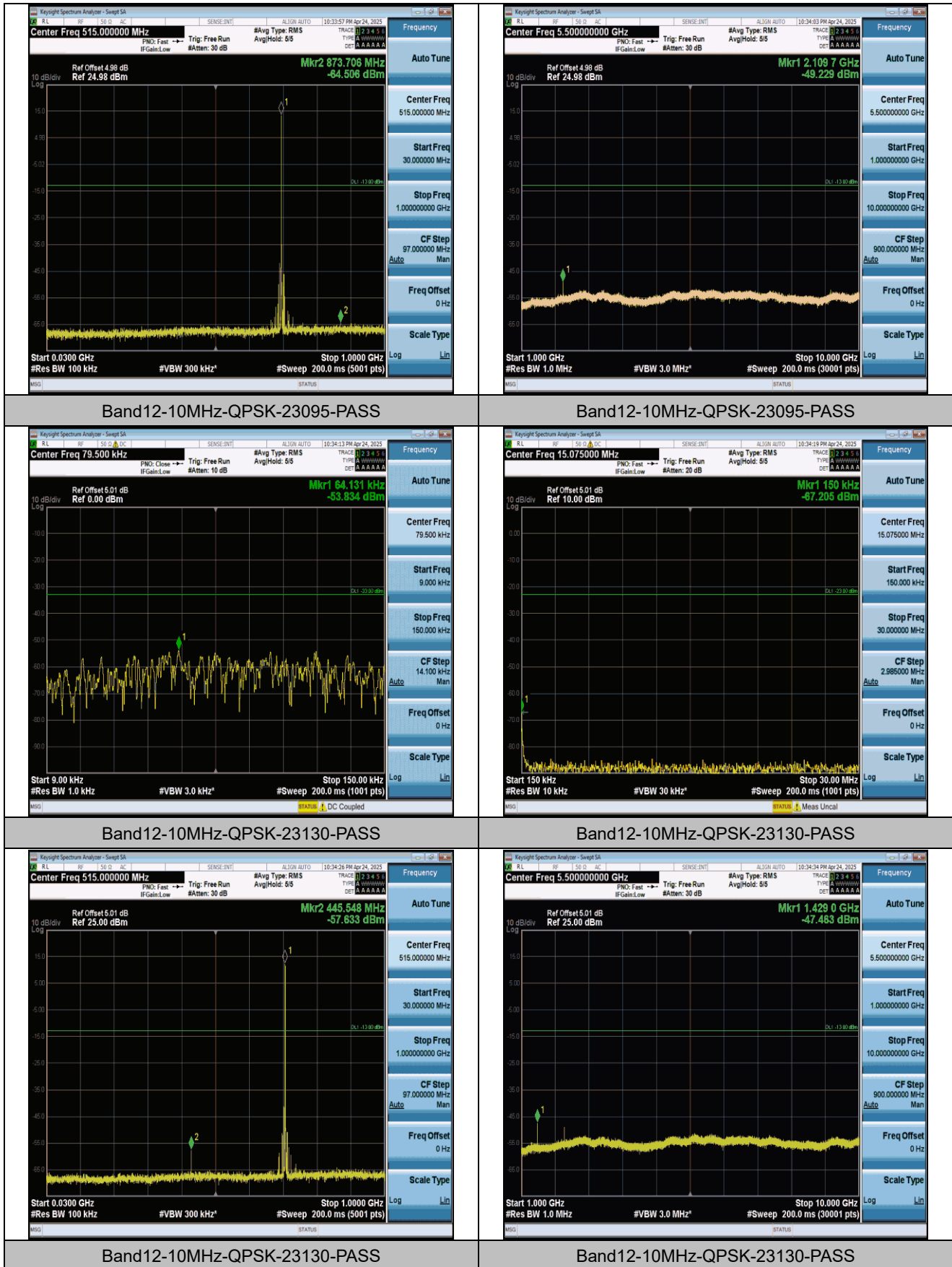




Conducted Spurious Emission for M1

Test Graphs





Frequency Stability for M1

Test Result

Voltage											
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	10MHz	QPSK	23095	6	0	Low	VN	NT	-2.50	-0.003534	PASS
Band12	10MHz	QPSK	23095	6	0	Low	VL	NT	-3.00	-0.004240	PASS
Band12	10MHz	QPSK	23095	6	0	Low	VH	NT	-2.90	-0.004099	PASS

Temperature											
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	10MHz	QPSK	23095	6	0	Low	NV	-30	-5.10	-0.007208	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	-20	-4.20	-0.005936	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	-10	-4.00	-0.005654	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	0	-5.50	-0.007774	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	10	-5.60	-0.007915	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	20	-3.50	-0.004947	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	30	-4.60	-0.006502	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	40	-5.40	-0.007633	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	50	-6.50	-0.009187	PASS

~The End~