

Appendix-B LTE Cat M1 Band 12

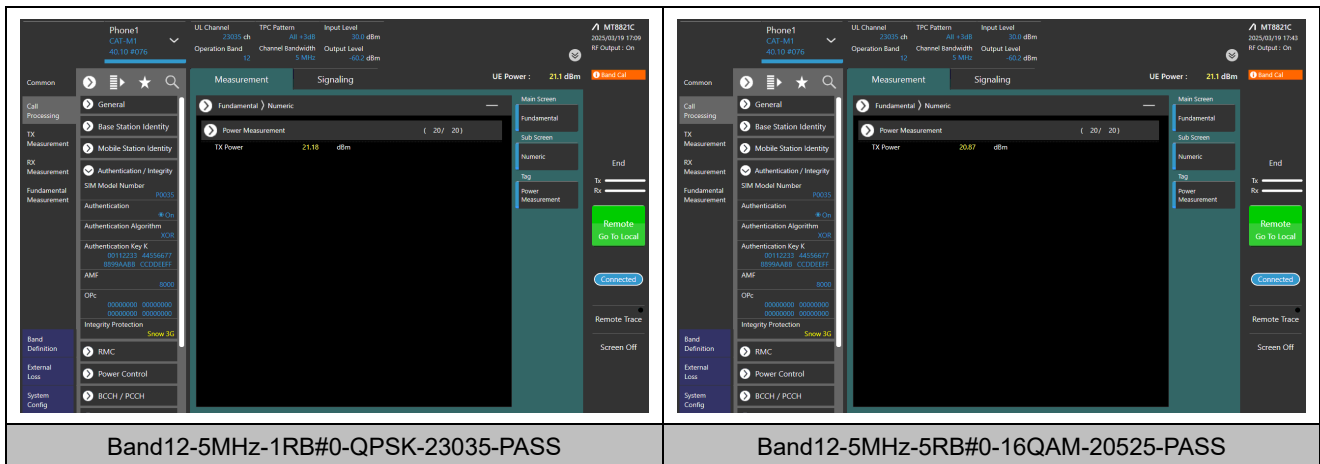
Effective (Isotropic) Radiated Power Output Data for M1

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	20.77	22.57	34.77	PASS
Band12	1.4MHz	QPSK	23017	1	5	Low	20.64	22.44	34.77	PASS
Band12	1.4MHz	QPSK	23017	6	0	Low	20.5	22.3	34.77	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	20.6	22.4	34.77	PASS
Band12	1.4MHz	QPSK	23095	1	5	Low	20.44	22.24	34.77	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	20.7	22.5	34.77	PASS
Band12	1.4MHz	QPSK	23173	1	0	High	20.32	22.12	34.77	PASS
Band12	1.4MHz	QPSK	23173	1	5	High	20.14	21.94	34.77	PASS
Band12	1.4MHz	QPSK	23173	6	0	High	20.4	22.2	34.77	PASS
Band12	3MHz	QPSK	23025	1	0	Low	20.48	22.28	34.77	PASS
Band12	3MHz	QPSK	23025	1	5	Low	20.69	22.49	34.77	PASS
Band12	3MHz	QPSK	23025	6	0	Low	20.56	22.36	34.77	PASS
Band12	3MHz	QPSK	23095	1	0	Low	20.63	22.43	34.77	PASS
Band12	3MHz	QPSK	23095	1	5	Low	20.43	22.23	34.77	PASS
Band12	3MHz	QPSK	23095	6	0	Low	20.77	22.57	34.77	PASS
Band12	3MHz	QPSK	23165	1	0	High	20.32	22.12	34.77	PASS
Band12	3MHz	QPSK	23165	1	5	High	20.1	21.9	34.77	PASS
Band12	3MHz	QPSK	23165	6	0	High	20.37	22.17	34.77	PASS
Band12	5MHz	QPSK	23035	1	0	Low	21.18	22.98	34.77	PASS
Band12	5MHz	QPSK	23035	1	5	Low	20.44	22.24	34.77	PASS
Band12	5MHz	QPSK	23035	6	0	Low	20.94	22.74	34.77	PASS
Band12	5MHz	QPSK	23095	1	0	Low	20.41	22.21	34.77	PASS
Band12	5MHz	QPSK	23095	1	5	Low	20.6	22.4	34.77	PASS
Band12	5MHz	QPSK	23095	6	0	Low	20.75	22.55	34.77	PASS
Band12	5MHz	QPSK	23155	1	0	High	20.51	22.31	34.77	PASS
Band12	5MHz	QPSK	23155	1	5	High	20.32	22.12	34.77	PASS
Band12	5MHz	QPSK	23155	6	0	High	20.41	22.21	34.77	PASS
Band12	10MHz	QPSK	23060	1	0	Low	21.15	22.95	34.77	PASS
Band12	10MHz	QPSK	23060	1	5	Low	20.77	22.57	34.77	PASS
Band12	10MHz	QPSK	23060	6	0	Low	20.83	22.63	34.77	PASS
Band12	10MHz	QPSK	23095	1	0	Low	20.48	22.28	34.77	PASS
Band12	10MHz	QPSK	23095	1	5	Low	20.65	22.45	34.77	PASS
Band12	10MHz	QPSK	23095	6	0	Low	20.83	22.63	34.77	PASS
Band12	10MHz	QPSK	23130	1	0	High	20.43	22.23	34.77	PASS
Band12	10MHz	QPSK	23130	1	5	High	20.22	22.02	34.77	PASS
Band12	10MHz	QPSK	23130	6	0	High	20.38	22.18	34.77	PASS

Band12	1.4MHz	16QAM	23017	1	0	Low	20.67	22.47	34.77	PASS
Band12	1.4MHz	16QAM	23017	1	5	Low	20.56	22.36	34.77	PASS
Band12	1.4MHz	16QAM	23017	5	0	Low	20.49	22.29	34.77	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	20.46	22.26	34.77	PASS
Band12	1.4MHz	16QAM	23095	1	5	Low	20.35	22.15	34.77	PASS
Band12	1.4MHz	16QAM	23095	5	0	Low	20.54	22.34	34.77	PASS
Band12	1.4MHz	16QAM	23173	1	0	High	20.21	22.01	34.77	PASS
Band12	1.4MHz	16QAM	23173	1	5	High	20.09	21.89	34.77	PASS
Band12	1.4MHz	16QAM	23173	5	0	High	20.38	22.18	34.77	PASS
Band12	3MHz	16QAM	23025	1	0	Low	20.78	22.58	34.77	PASS
Band12	3MHz	16QAM	23025	1	5	Low	20.58	22.38	34.77	PASS
Band12	3MHz	16QAM	23025	5	0	Low	20.55	22.35	34.77	PASS
Band12	3MHz	16QAM	23095	1	0	Low	20.42	22.22	34.77	PASS
Band12	3MHz	16QAM	23095	1	5	Low	20.41	22.21	34.77	PASS
Band12	3MHz	16QAM	23095	5	0	Low	20.6	22.4	34.77	PASS
Band12	3MHz	16QAM	23165	1	0	High	20.21	22.01	34.77	PASS
Band12	3MHz	16QAM	23165	1	5	High	20.05	21.85	34.77	PASS
Band12	3MHz	16QAM	23165	5	0	High	20.36	22.16	34.77	PASS
Band12	5MHz	16QAM	23035	1	0	Low	20.47	22.27	34.77	PASS
Band12	5MHz	16QAM	23035	1	5	Low	20.68	22.48	34.77	PASS
Band12	5MHz	16QAM	23035	5	0	Low	20.87	22.67	34.77	PASS
Band12	5MHz	16QAM	23095	1	0	Low	20.77	22.57	34.77	PASS
Band12	5MHz	16QAM	23095	1	5	Low	20.52	22.32	34.77	PASS
Band12	5MHz	16QAM	23095	5	0	Low	20.54	22.34	34.77	PASS
Band12	5MHz	16QAM	23155	1	0	High	20.45	22.25	34.77	PASS
Band12	5MHz	16QAM	23155	1	5	High	20.17	21.97	34.77	PASS
Band12	5MHz	16QAM	23155	5	0	High	20.23	22.03	34.77	PASS
Band12	10MHz	16QAM	23060	1	0	Low	20.43	22.23	34.77	PASS
Band12	10MHz	16QAM	23060	1	5	Low	20.64	22.44	34.77	PASS
Band12	10MHz	16QAM	23060	5	0	Low	20.79	22.59	34.77	PASS
Band12	10MHz	16QAM	23095	1	0	Low	20.78	22.58	34.77	PASS
Band12	10MHz	16QAM	23095	1	5	Low	20.55	22.35	34.77	PASS
Band12	10MHz	16QAM	23095	5	0	Low	20.69	22.49	34.77	PASS
Band12	10MHz	16QAM	23130	1	0	High	20.4	22.2	34.77	PASS
Band12	10MHz	16QAM	23130	1	5	High	20.24	22.04	34.77	PASS
Band12	10MHz	16QAM	23130	5	0	High	20.32	22.12	34.77	PASS

Test Graphs

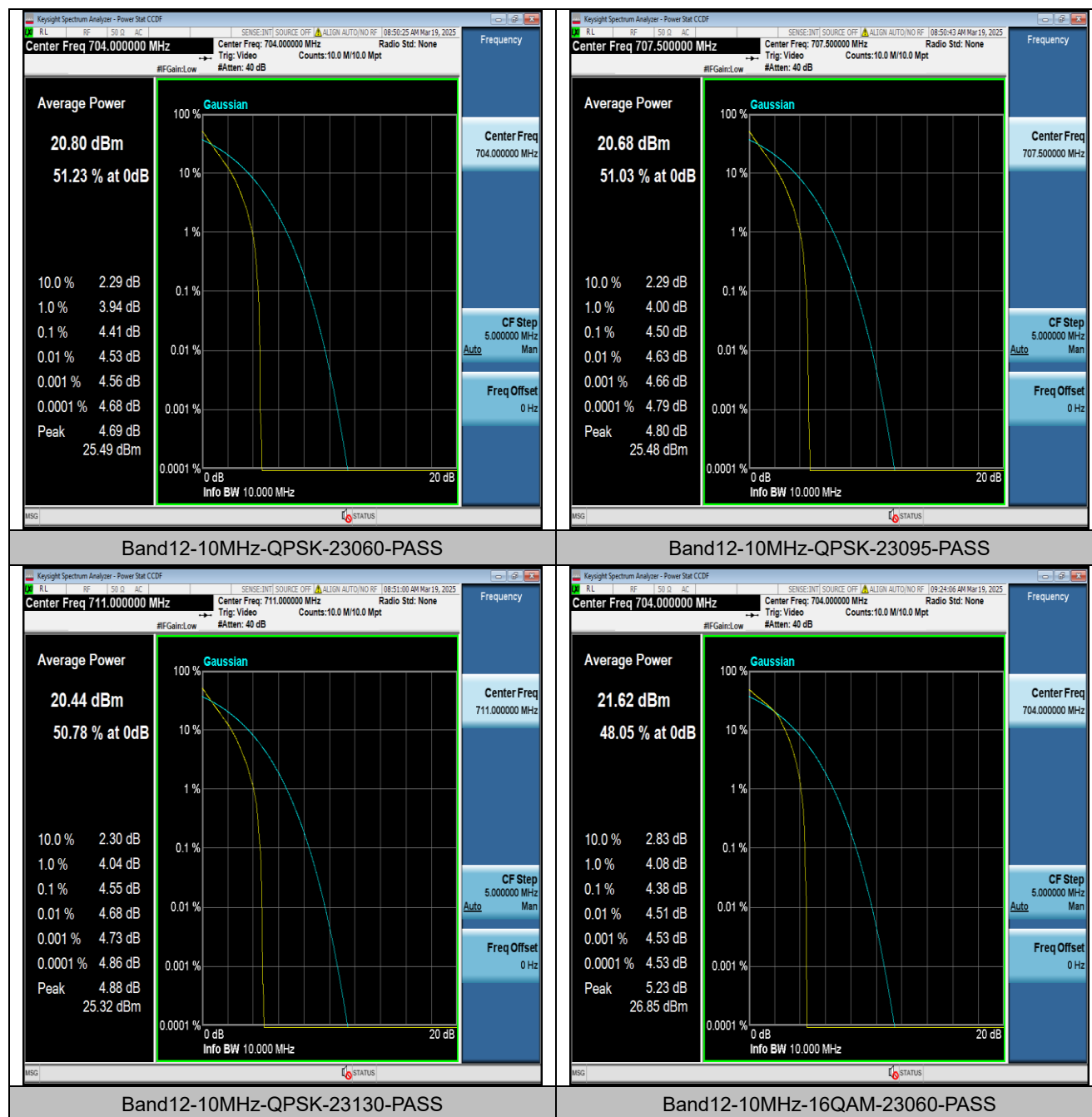


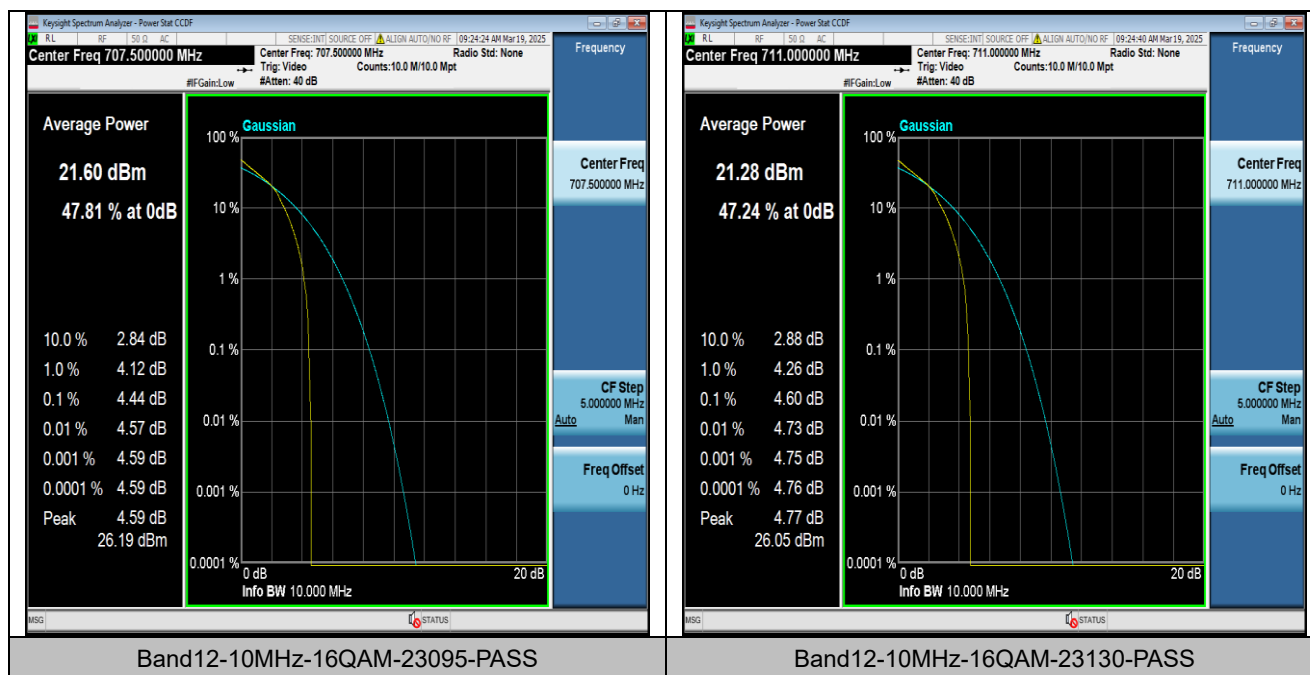
Peak-to-Average Ratio(CCDF) for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	6	0	Low	4.41	<=13	PASS
Band12	10MHz	QPSK	23095	6	0	Low	4.50	<=13	PASS
Band12	10MHz	QPSK	23130	6	0	High	4.55	<=13	PASS
Band12	10MHz	16QAM	23060	5	0	Low	4.38	<=13	PASS
Band12	10MHz	16QAM	23095	5	0	Low	4.44	<=13	PASS
Band12	10MHz	16QAM	23130	5	0	High	4.60	<=13	PASS

Test Graphs

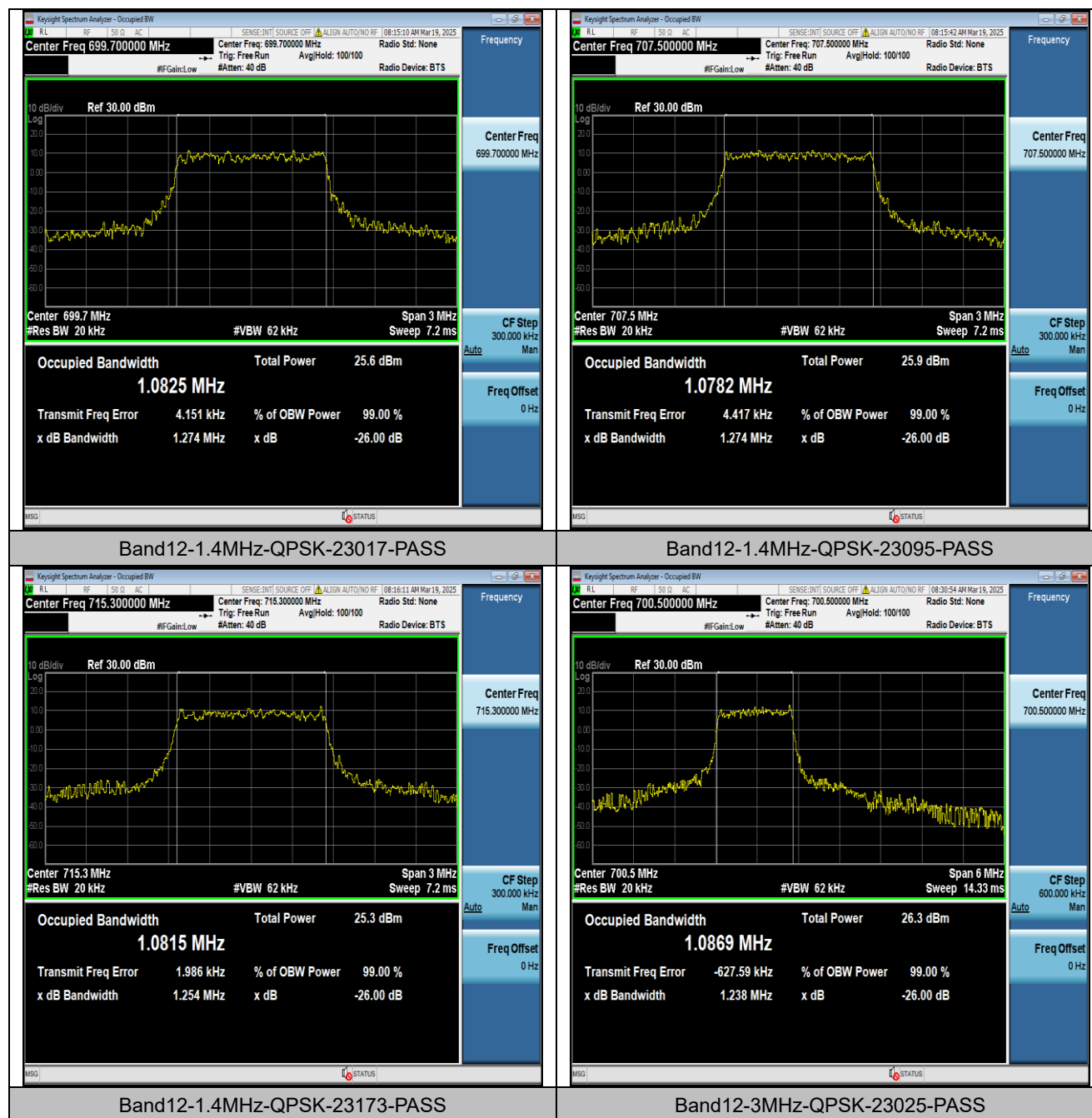


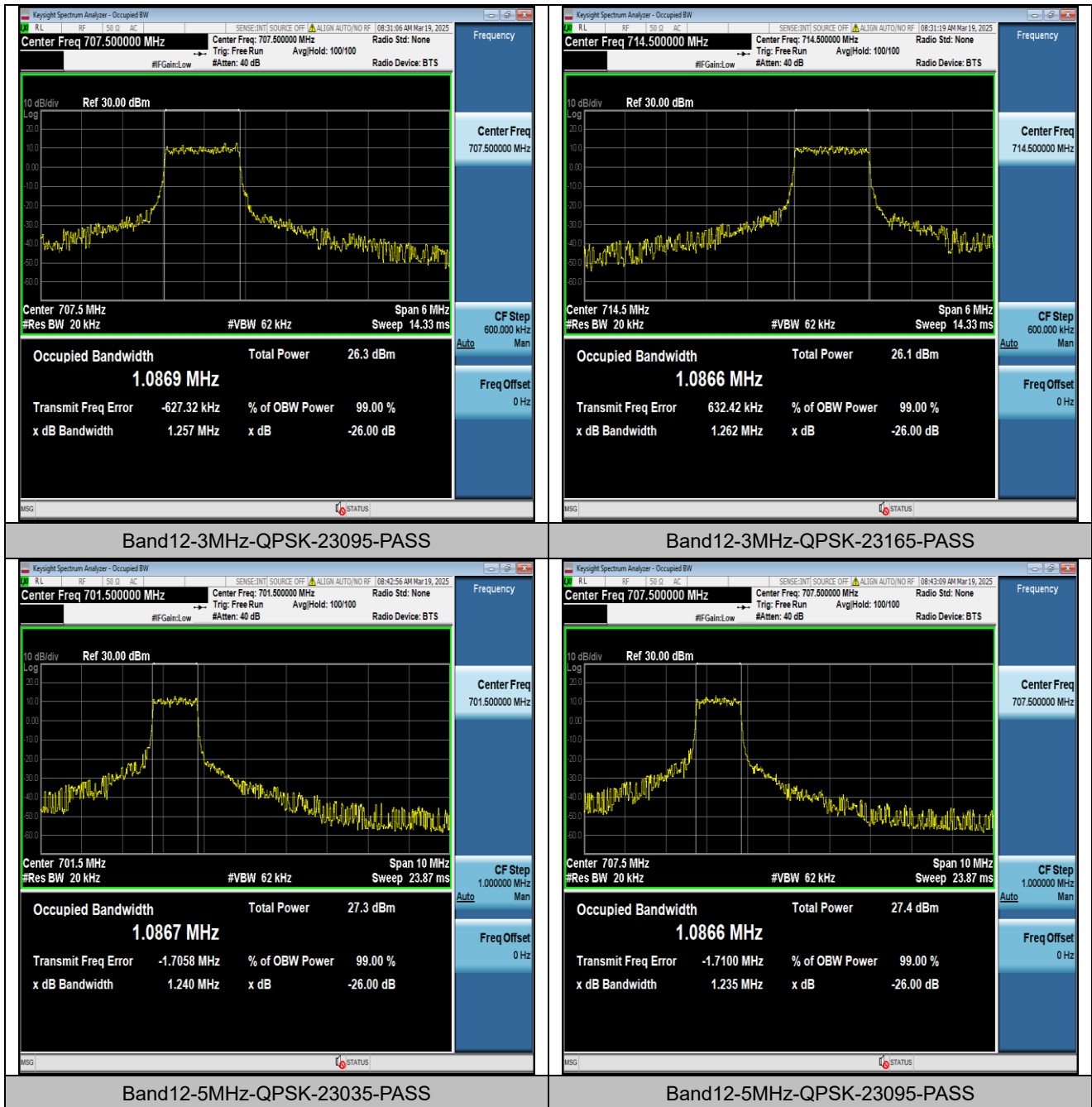


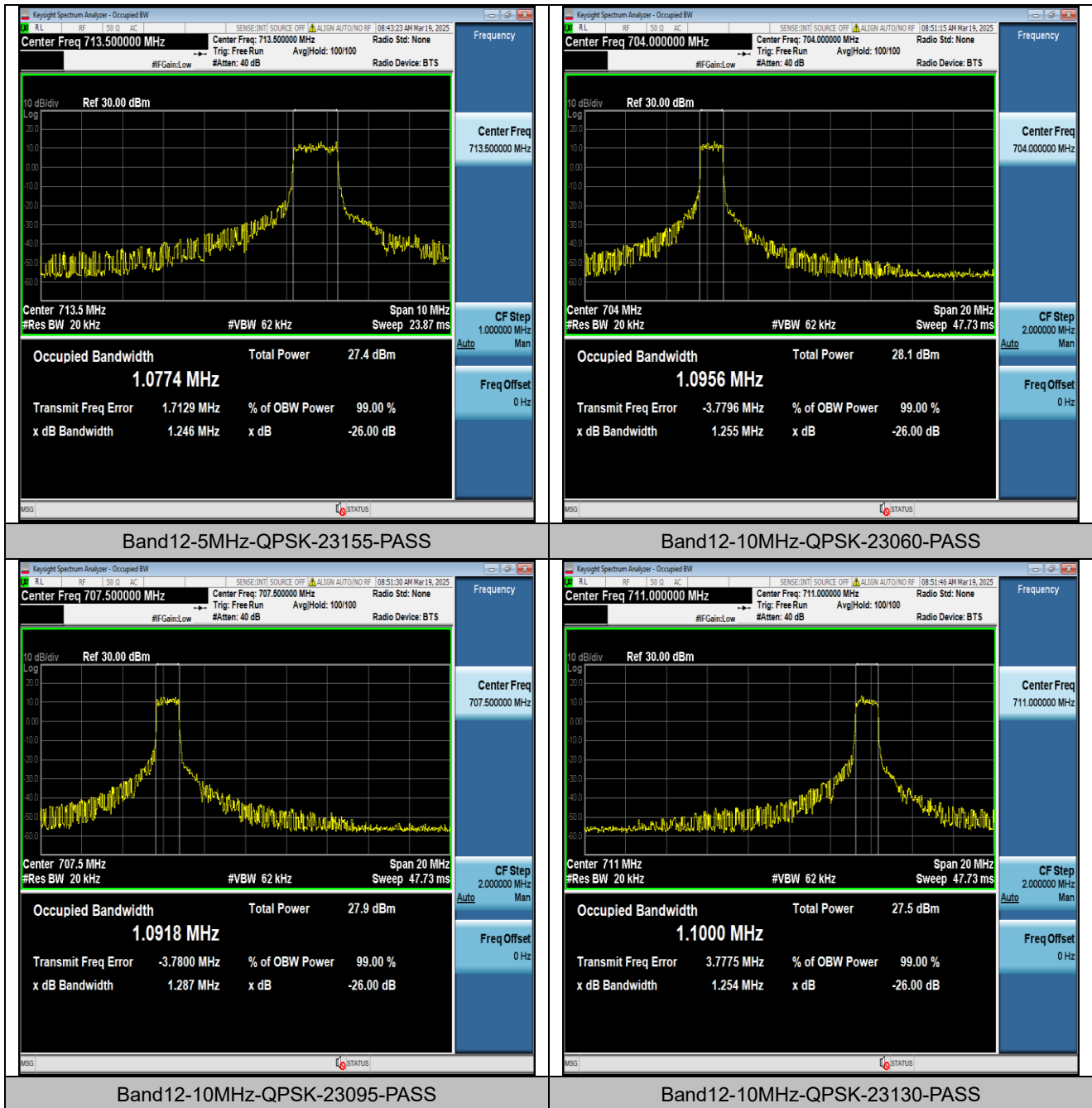
26dB Bandwidth and Occupied Bandwidth for M1**Test Result**

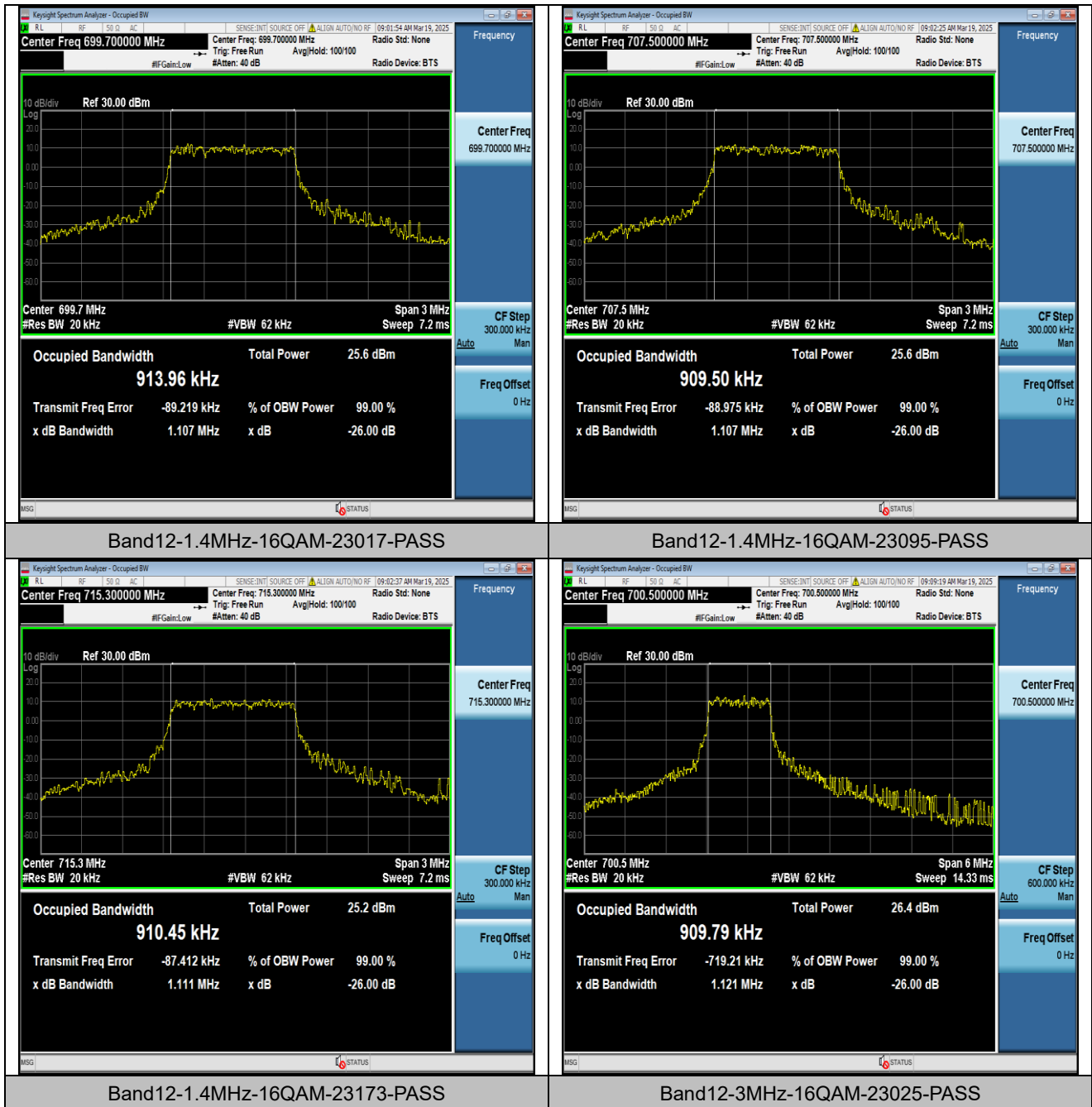
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6	0	Low	1.0825	1.274	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	1.0782	1.274	PASS
Band12	1.4MHz	QPSK	23173	6	0	High	1.0815	1.254	PASS
Band12	3MHz	QPSK	23025	6	0	Low	1.0869	1.238	PASS
Band12	3MHz	QPSK	23095	6	0	Low	1.0869	1.257	PASS
Band12	3MHz	QPSK	23165	6	0	High	1.0866	1.262	PASS
Band12	5MHz	QPSK	23035	6	0	Low	1.0867	1.240	PASS
Band12	5MHz	QPSK	23095	6	0	Low	1.0866	1.235	PASS
Band12	5MHz	QPSK	23155	6	0	High	1.0774	1.246	PASS
Band12	10MHz	QPSK	23060	6	0	Low	1.0956	1.255	PASS
Band12	10MHz	QPSK	23095	6	0	Low	1.0918	1.287	PASS
Band12	10MHz	QPSK	23130	6	0	High	1.1000	1.254	PASS
Band12	1.4MHz	16QAM	23017	5	0	Low	0.91396	1.107	PASS
Band12	1.4MHz	16QAM	23095	5	0	Low	0.90950	1.107	PASS
Band12	1.4MHz	16QAM	23173	5	0	High	0.91045	1.111	PASS
Band12	3MHz	16QAM	23025	5	0	Low	0.90979	1.121	PASS
Band12	3MHz	16QAM	23095	5	0	Low	0.91077	1.089	PASS
Band12	3MHz	16QAM	23165	5	0	High	0.91246	1.077	PASS
Band12	5MHz	16QAM	23035	5	0	Low	0.92137	1.109	PASS
Band12	5MHz	16QAM	23095	5	0	Low	0.91921	1.097	PASS
Band12	5MHz	16QAM	23155	5	0	High	0.91951	1.132	PASS
Band12	10MHz	16QAM	23060	5	0	Low	0.92862	1.119	PASS
Band12	10MHz	16QAM	23095	5	0	Low	0.92992	1.150	PASS
Band12	10MHz	16QAM	23130	5	0	High	0.92781	1.096	PASS

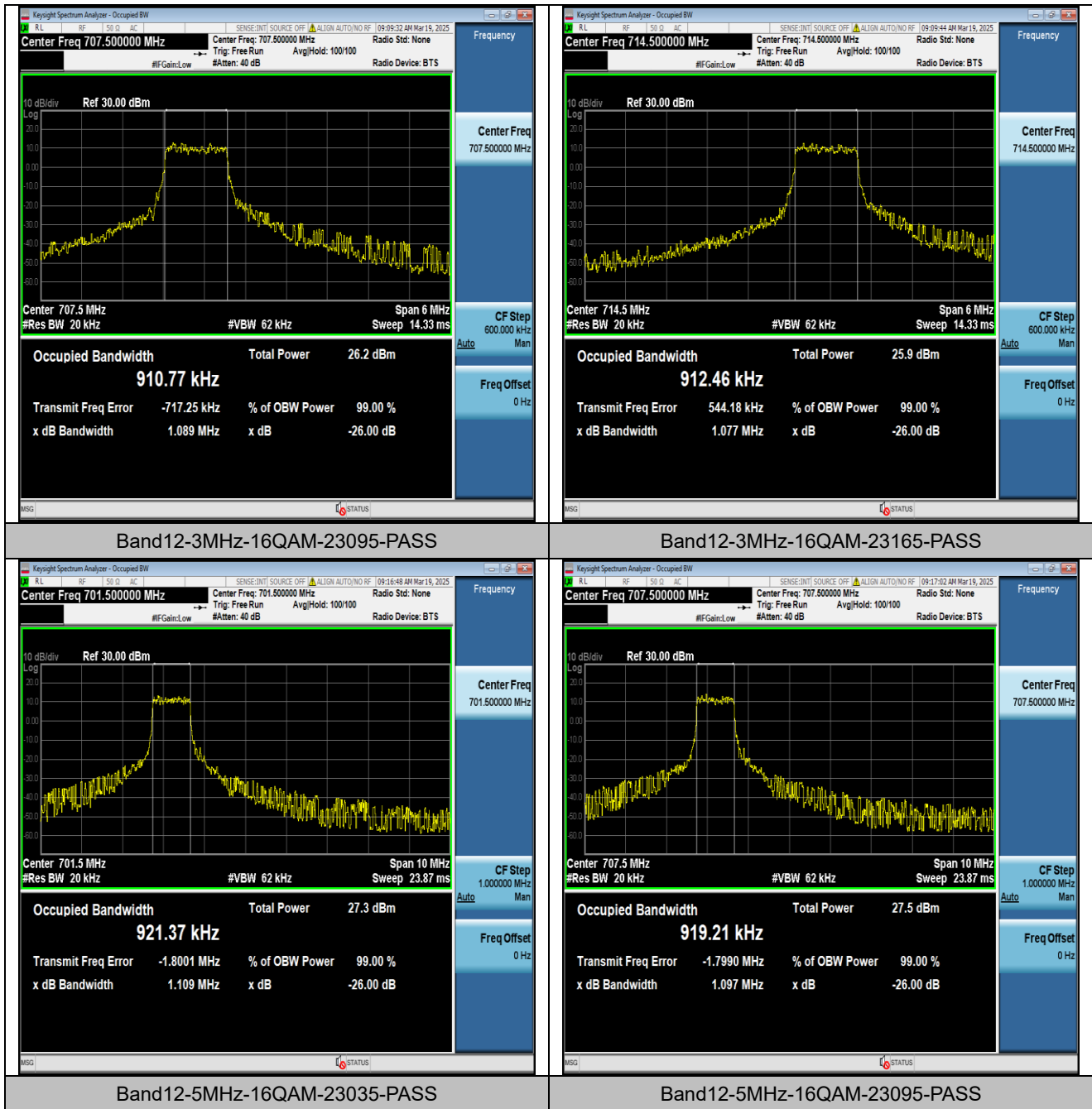
Test Graphs

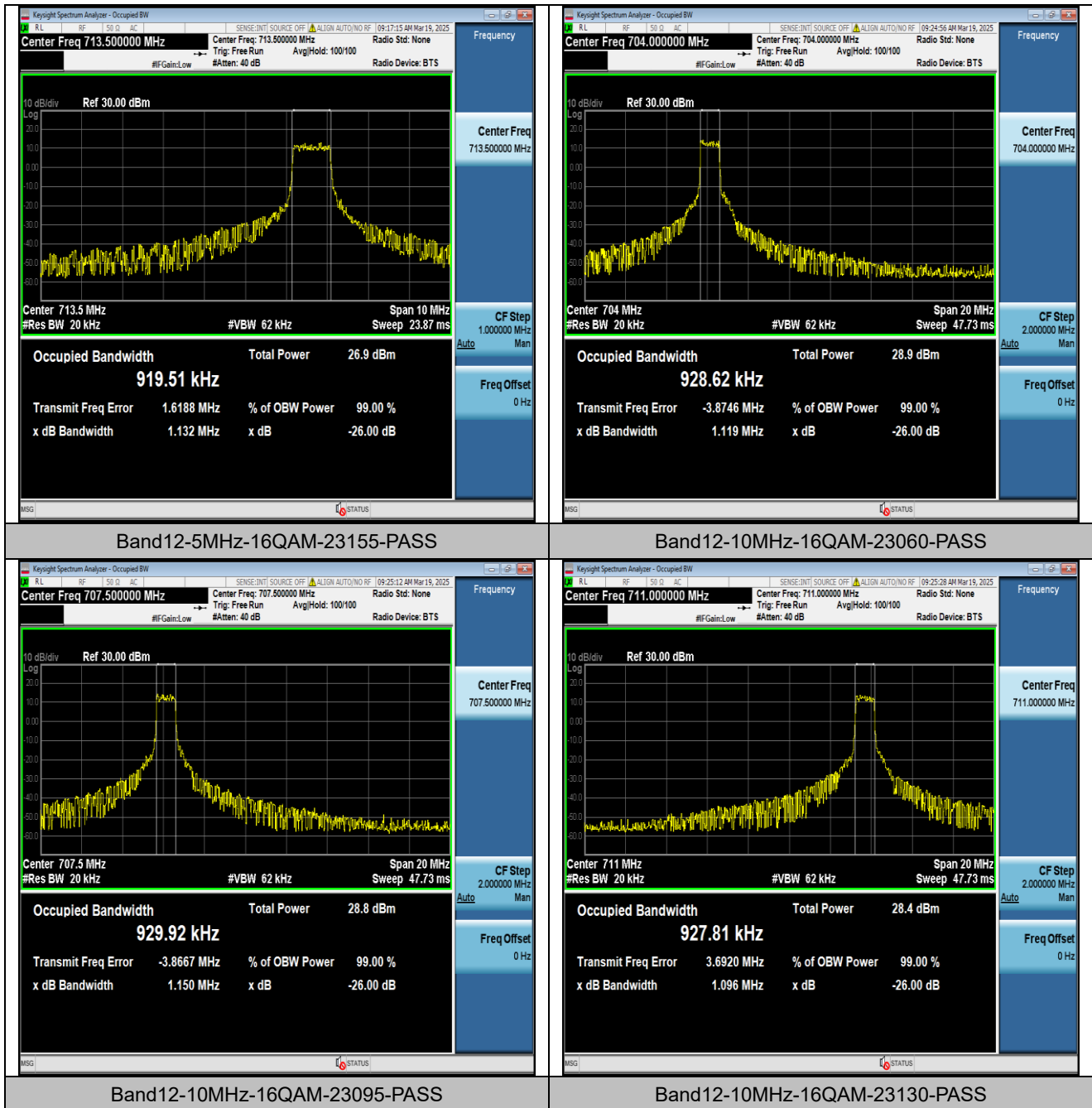






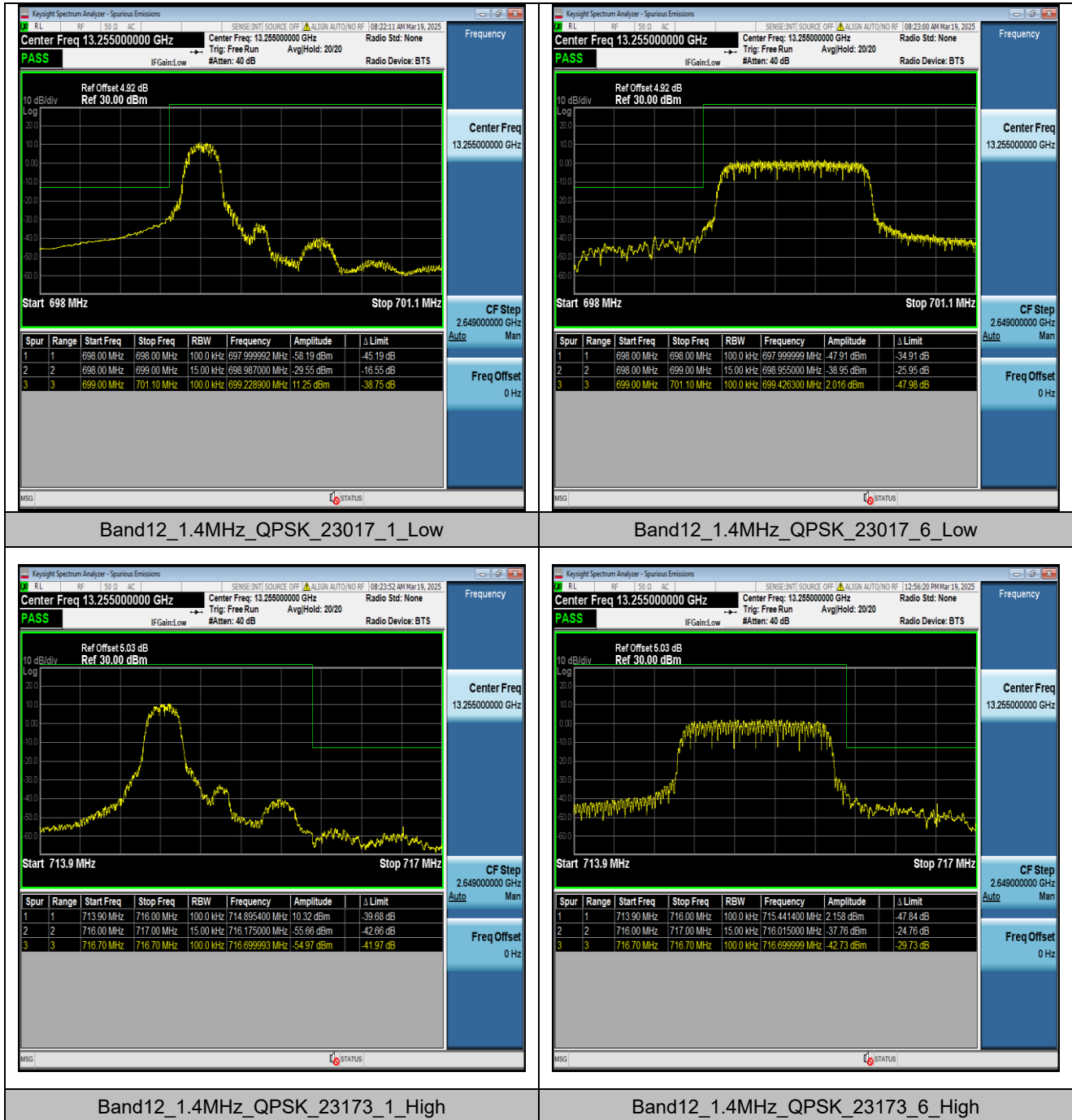


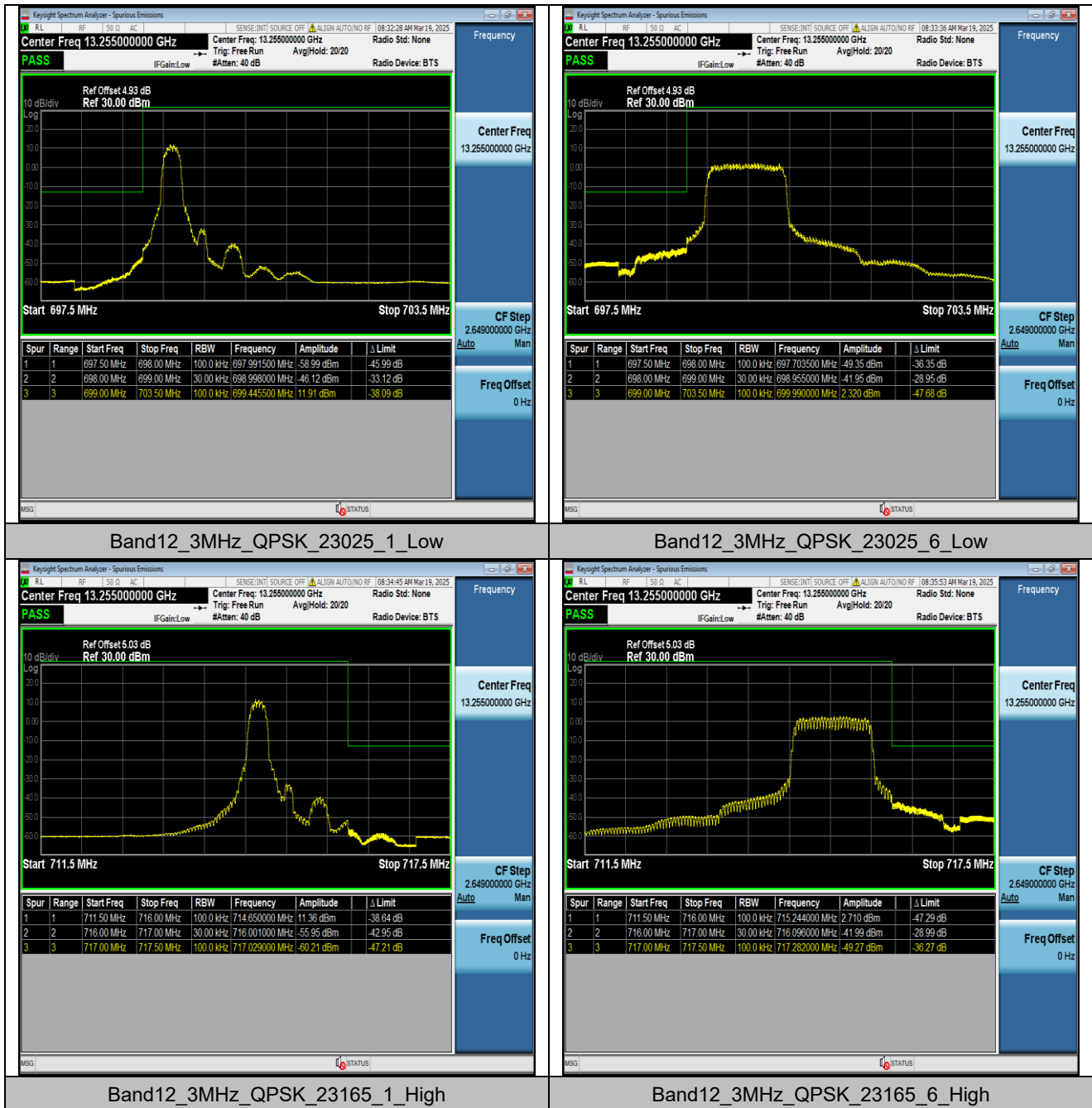


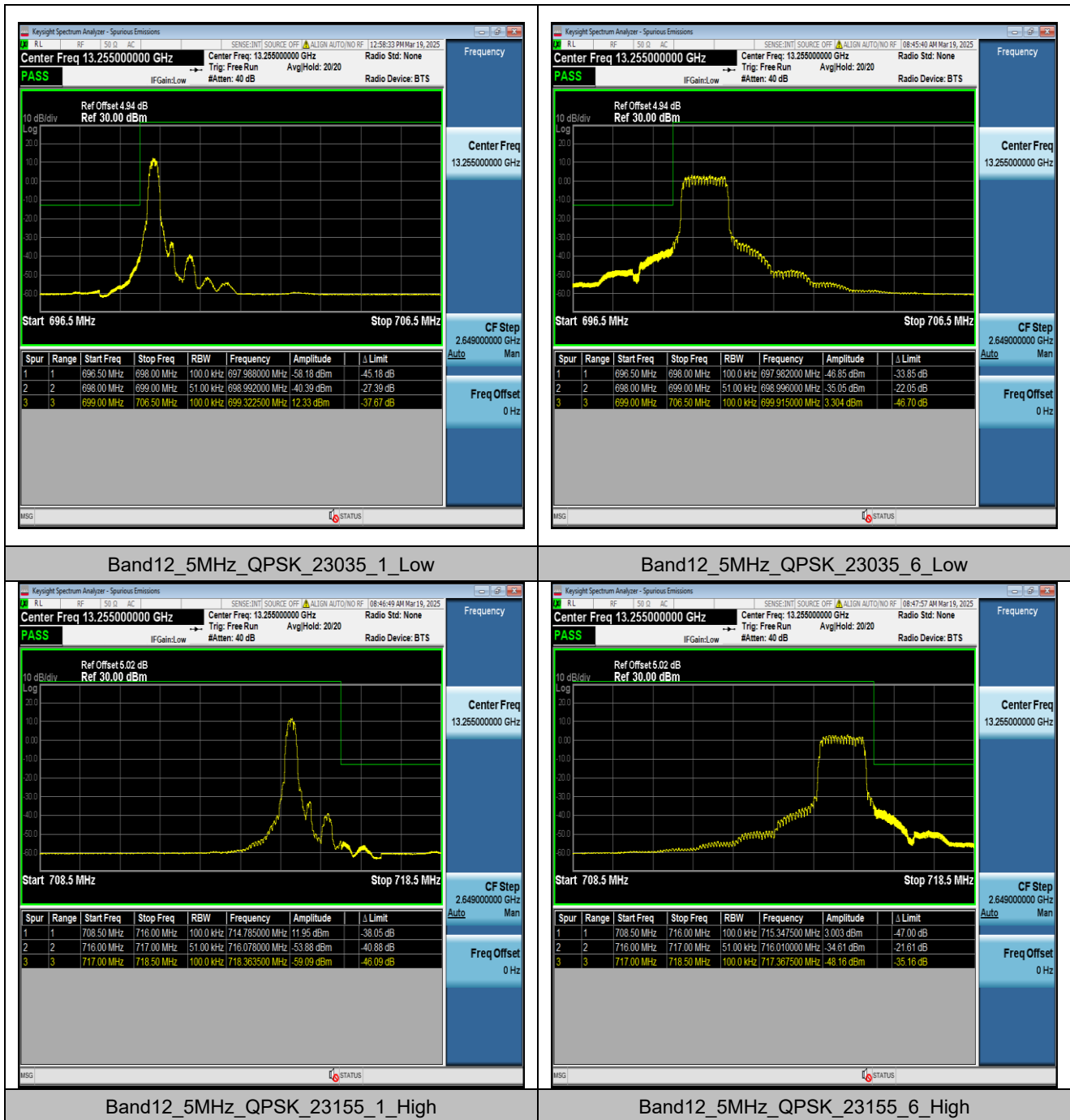


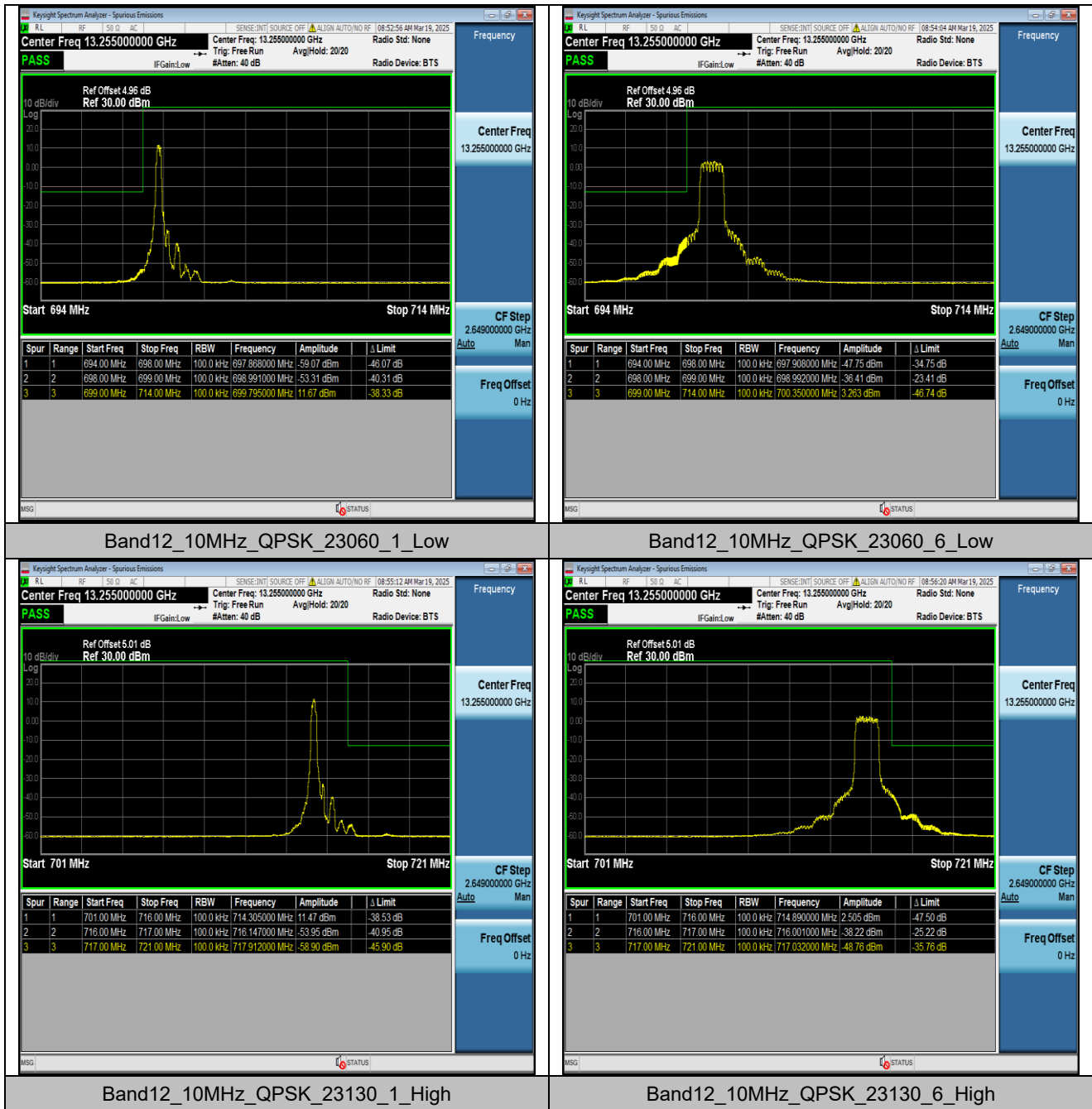
Band Edge for M1

Test Graphs



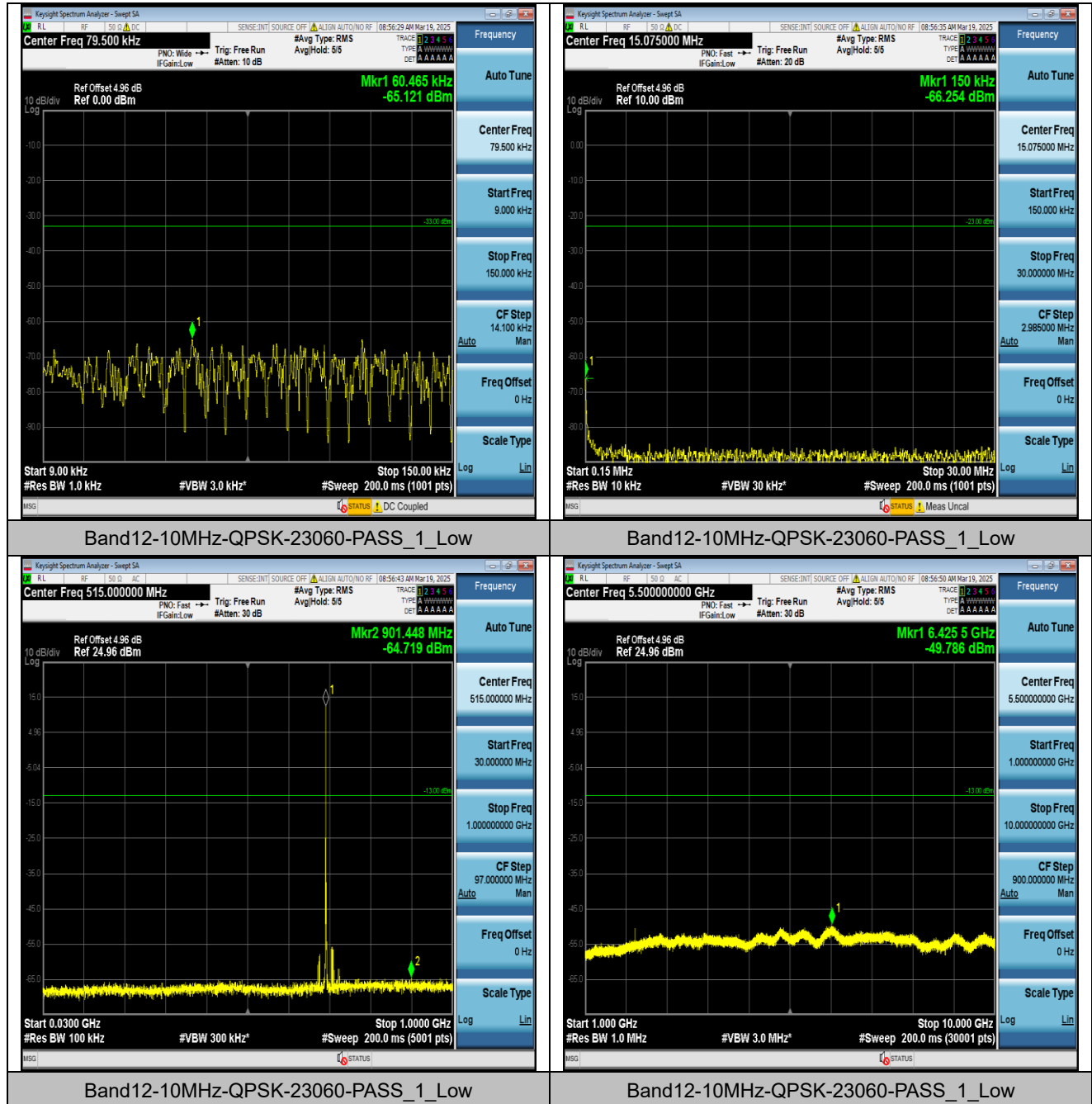


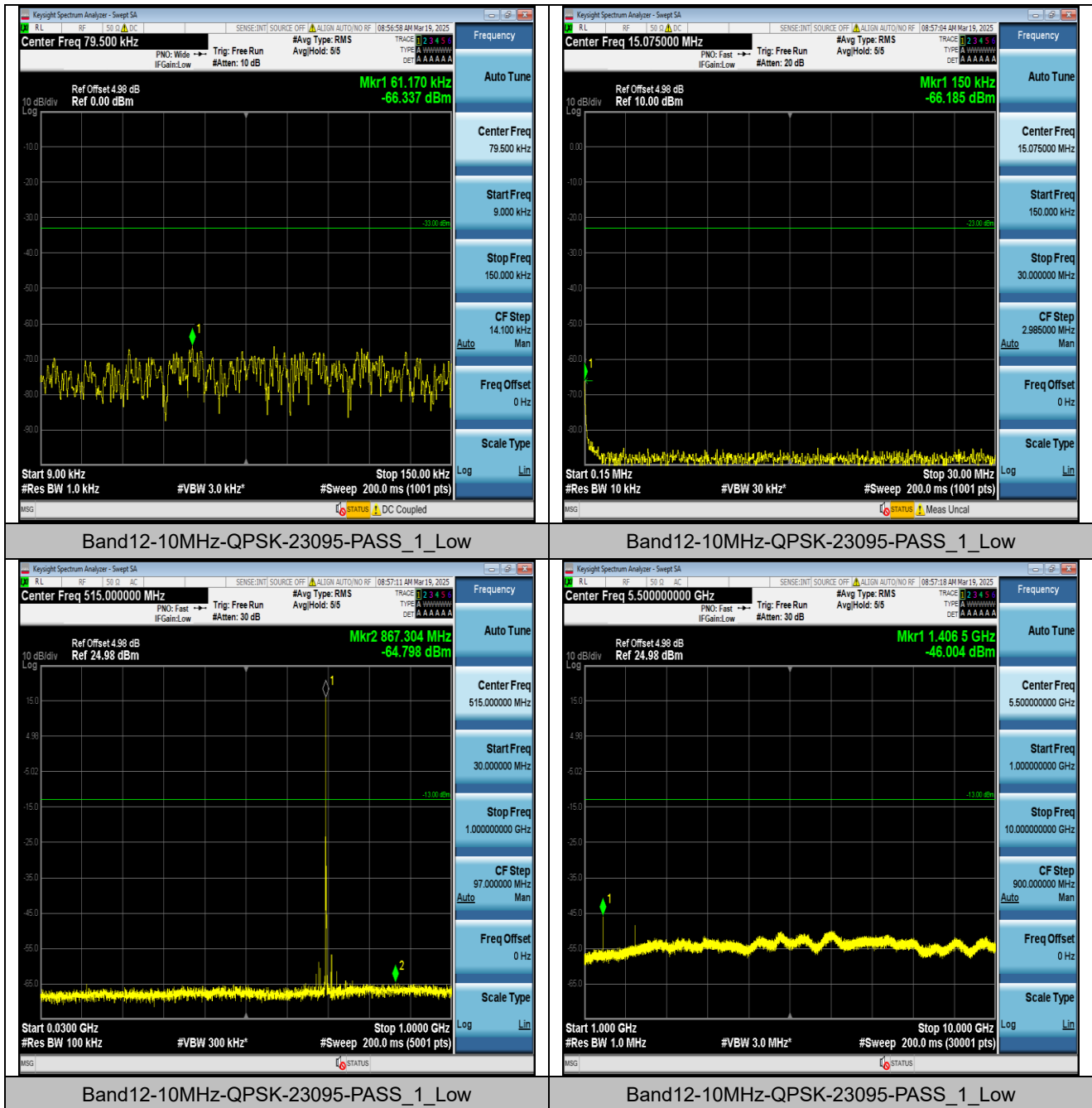


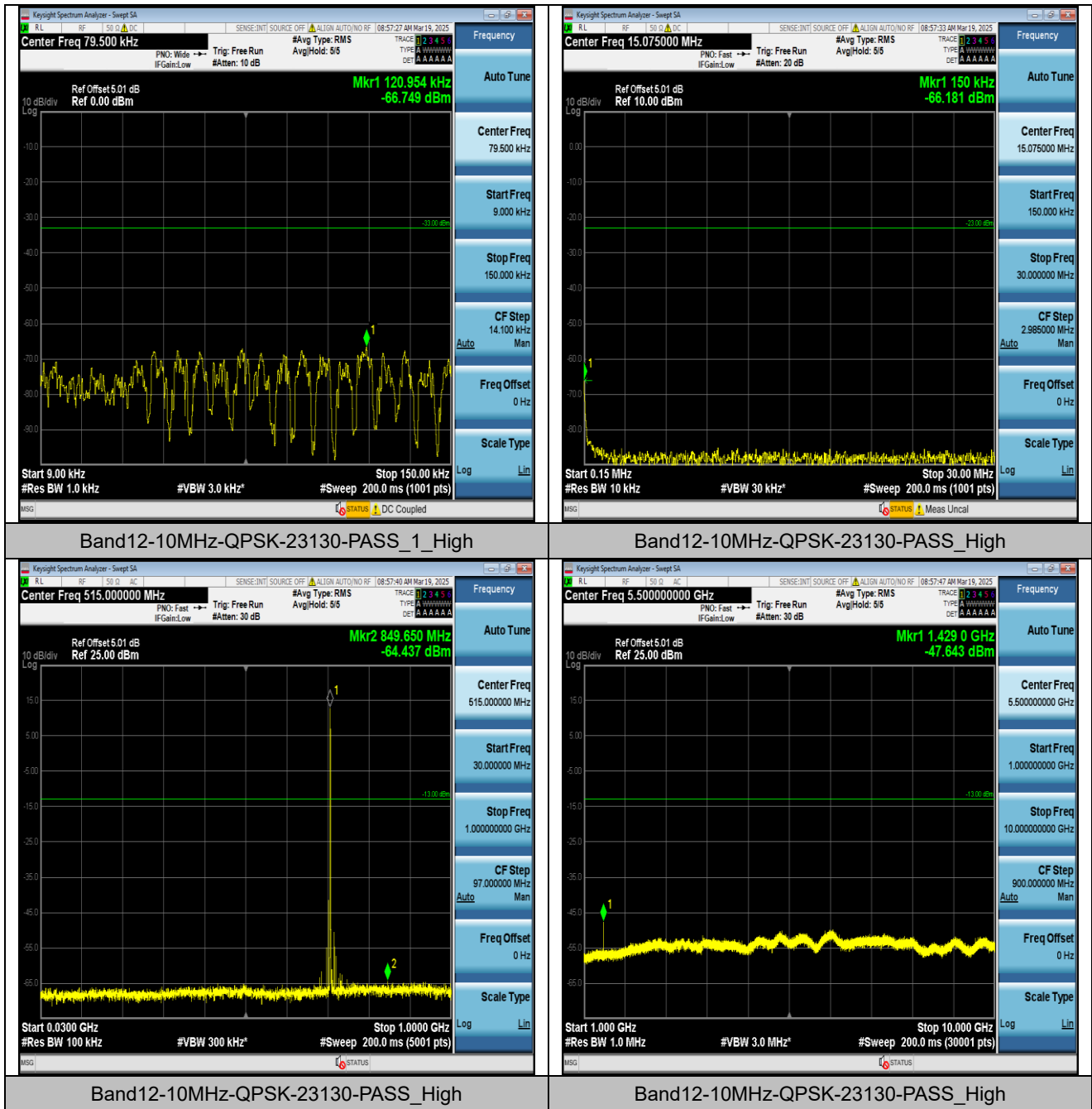


Conducted Spurious Emission for M1

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	-4.40	-0.006219	PASS
Band12	10MHz	QPSK	23095	6	0	Low	VL	NT	-2.90	-0.004099	PASS
Band12	10MHz	QPSK	23095	6	0	Low	VH	NT	-2.70	-0.003816	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	-5.20	-0.007350	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	-20	-4.40	-0.006219	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	-10	-5.20	-0.007350	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	0	-4.30	-0.006078	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	10	-2.50	-0.003534	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	20	-4.80	-0.006784	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	30	-4.00	-0.005654	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	40	-3.40	-0.004806	PASS
Band12	10MHz	QPSK	23095	6	0	Low	NV	50	-3.90	-0.005512	PASS

~The End~