

Appendix-A LTE Band 12

Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	23.32	20.67	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	23.49	20.84	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	23.50	20.85	34.77	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	22.56	19.91	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.17	19.52	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	22.48	19.83	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	22.20	19.55	34.77	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.66	19.01	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	23.62	20.97	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	23.58	20.93	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	23.50	20.85	34.77	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	22.71	20.06	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	22.89	20.24	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	22.86	20.21	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	22.26	19.61	34.77	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	21.73	19.08	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	23.74	21.09	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	23.84	21.19	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	23.76	21.11	34.77	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	22.74	20.09	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	22.65	20.00	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#2	22.69	20.04	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	22.97	20.32	34.77	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	21.65	19.00	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#0	23.32	20.67	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#8	23.18	20.53	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#14	23.41	20.76	34.77	PASS
Band12	3MHz	QPSK	23025	15RB#0	22.49	19.84	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#0	22.78	20.13	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#8	22.30	19.65	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#14	22.65	20.00	34.77	PASS
Band12	3MHz	16QAM	23025	15RB#0	21.49	18.84	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#0	23.35	20.70	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#8	23.33	20.68	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#14	23.35	20.7	34.77	PASS
Band12	3MHz	QPSK	23095	15RB#0	22.62	19.97	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#0	22.40	19.75	34.77	PASS

Band12	3MHz	16QAM	23095	1RB#8	22.57	19.92	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#14	22.54	19.89	34.77	PASS
Band12	3MHz	16QAM	23095	15RB#0	21.54	18.89	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#0	23.84	21.19	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#8	23.59	20.94	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#14	23.83	21.18	34.77	PASS
Band12	3MHz	QPSK	23165	15RB#0	22.77	20.12	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.37	19.72	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#8	22.54	19.89	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#14	22.87	20.22	34.77	PASS
Band12	3MHz	16QAM	23165	15RB#0	21.73	19.08	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#0	23.29	20.64	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#12	23.48	20.83	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#24	23.35	20.70	34.77	PASS
Band12	5MHz	QPSK	23035	25RB#0	22.45	19.8	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#0	22.63	19.98	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#12	22.38	19.73	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#24	22.57	19.92	34.77	PASS
Band12	5MHz	16QAM	23035	25RB#0	21.54	18.89	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#0	23.41	20.76	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#12	23.99	21.34	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#24	23.40	20.75	34.77	PASS
Band12	5MHz	QPSK	23095	25RB#0	22.63	19.98	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#0	22.60	19.95	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#12	22.54	19.89	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#24	22.28	19.63	34.77	PASS
Band12	5MHz	16QAM	23095	25RB#0	21.53	18.88	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#0	23.63	20.98	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#12	23.97	21.32	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#24	23.70	21.05	34.77	PASS
Band12	5MHz	QPSK	23155	25RB#0	22.63	19.98	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#0	22.67	20.02	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#12	23.23	20.58	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#24	22.93	20.28	34.77	PASS
Band12	5MHz	16QAM	23155	25RB#0	21.56	18.91	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#0	23.39	20.74	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#24	23.76	21.11	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#49	23.45	20.8	34.77	PASS
Band12	10MHz	QPSK	23060	50RB#0	22.64	19.99	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#0	22.50	19.85	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#24	23.12	20.47	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#49	22.47	19.82	34.77	PASS
Band12	10MHz	16QAM	23060	50RB#0	21.64	18.99	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#0	23.27	20.62	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#24	23.59	20.94	34.77	PASS

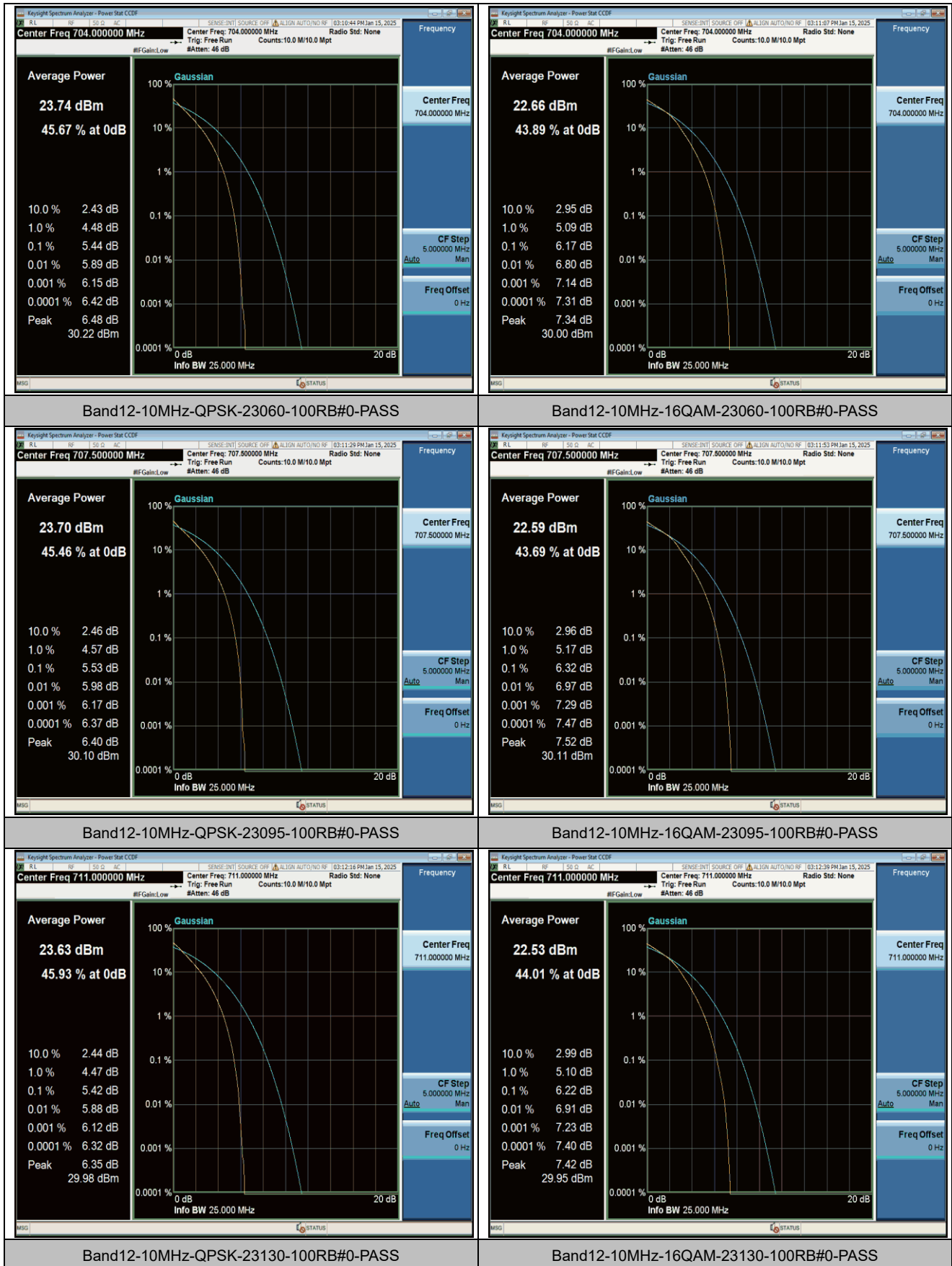
Band12	10MHz	QPSK	23095	1RB#49	23.61	20.96	34.77	PASS
Band12	10MHz	QPSK	23095	50RB#0	22.64	19.99	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#0	22.56	19.91	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#24	22.97	20.32	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#49	22.58	19.93	34.77	PASS
Band12	10MHz	16QAM	23095	50RB#0	21.54	18.89	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#0	23.67	21.02	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#24	23.69	21.04	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#49	23.47	20.82	34.77	PASS
Band12	10MHz	QPSK	23130	50RB#0	22.65	20.00	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.43	19.78	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#24	22.73	20.08	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.50	19.85	34.77	PASS
Band12	10MHz	16QAM	23130	50RB#0	21.75	19.10	34.77	PASS

Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
Band12	10MHz	QPSK	23060	100RB#0	5.44	13	PASS
Band12	10MHz	16QAM	23060	100RB#0	6.17	13	PASS
Band12	10MHz	QPSK	23095	100RB#0	5.53	13	PASS
Band12	10MHz	16QAM	23095	100RB#0	6.32	13	PASS
Band12	10MHz	QPSK	23130	100RB#0	5.42	13	PASS
Band12	10MHz	16QAM	23130	100RB#0	6.22	13	PASS

Test Graphs

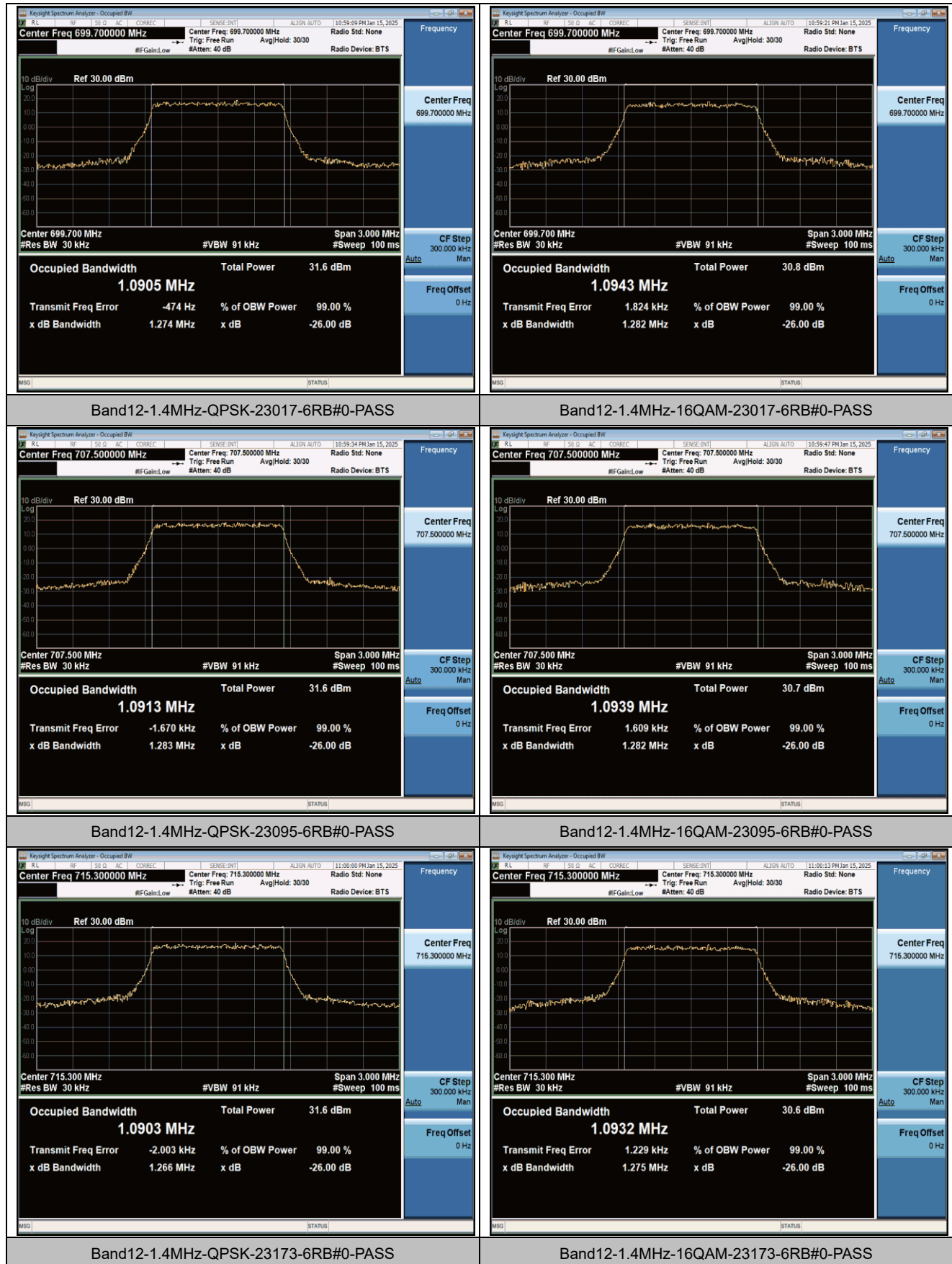


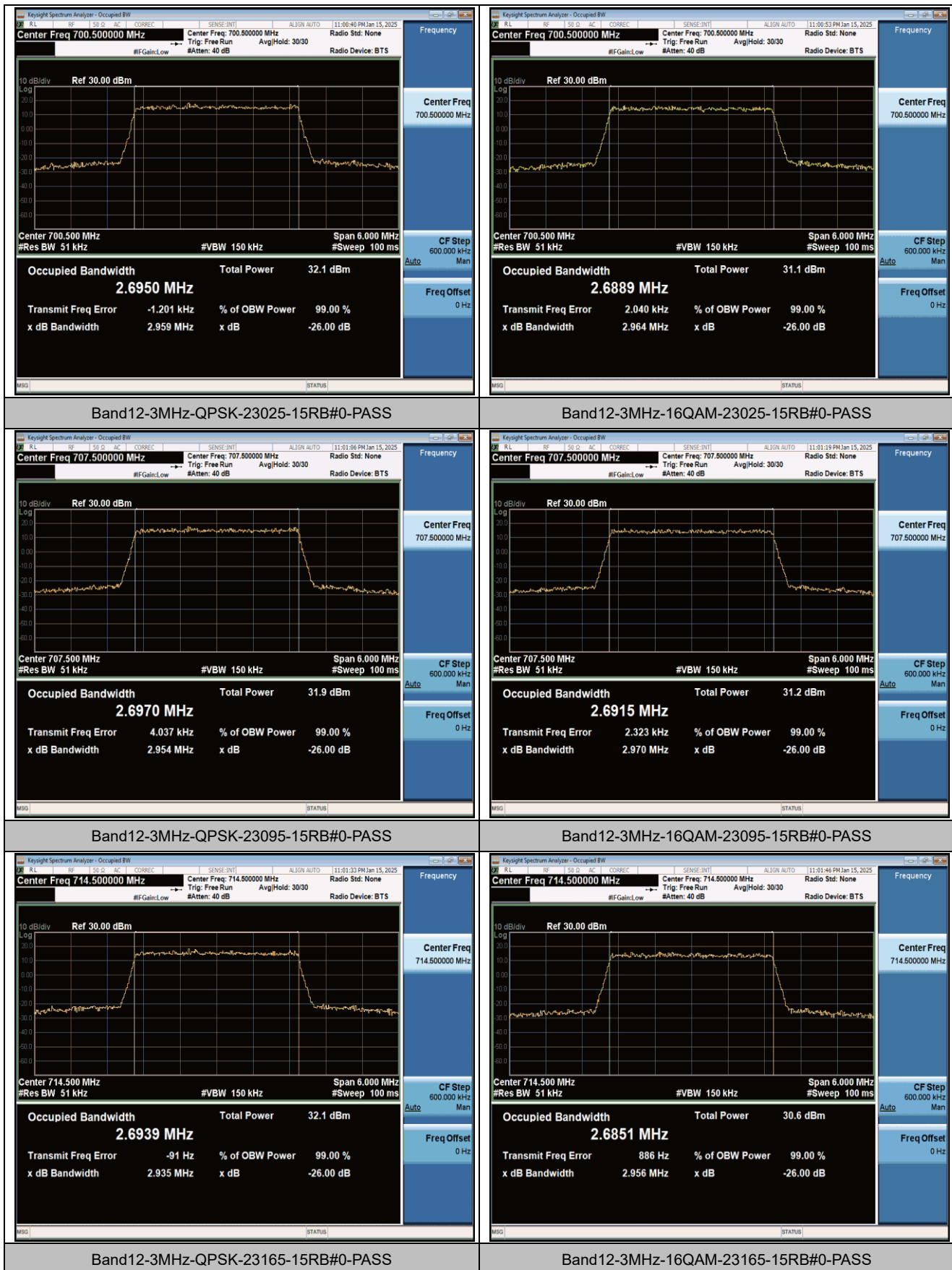
26dB Bandwidth and Occupied Bandwidth

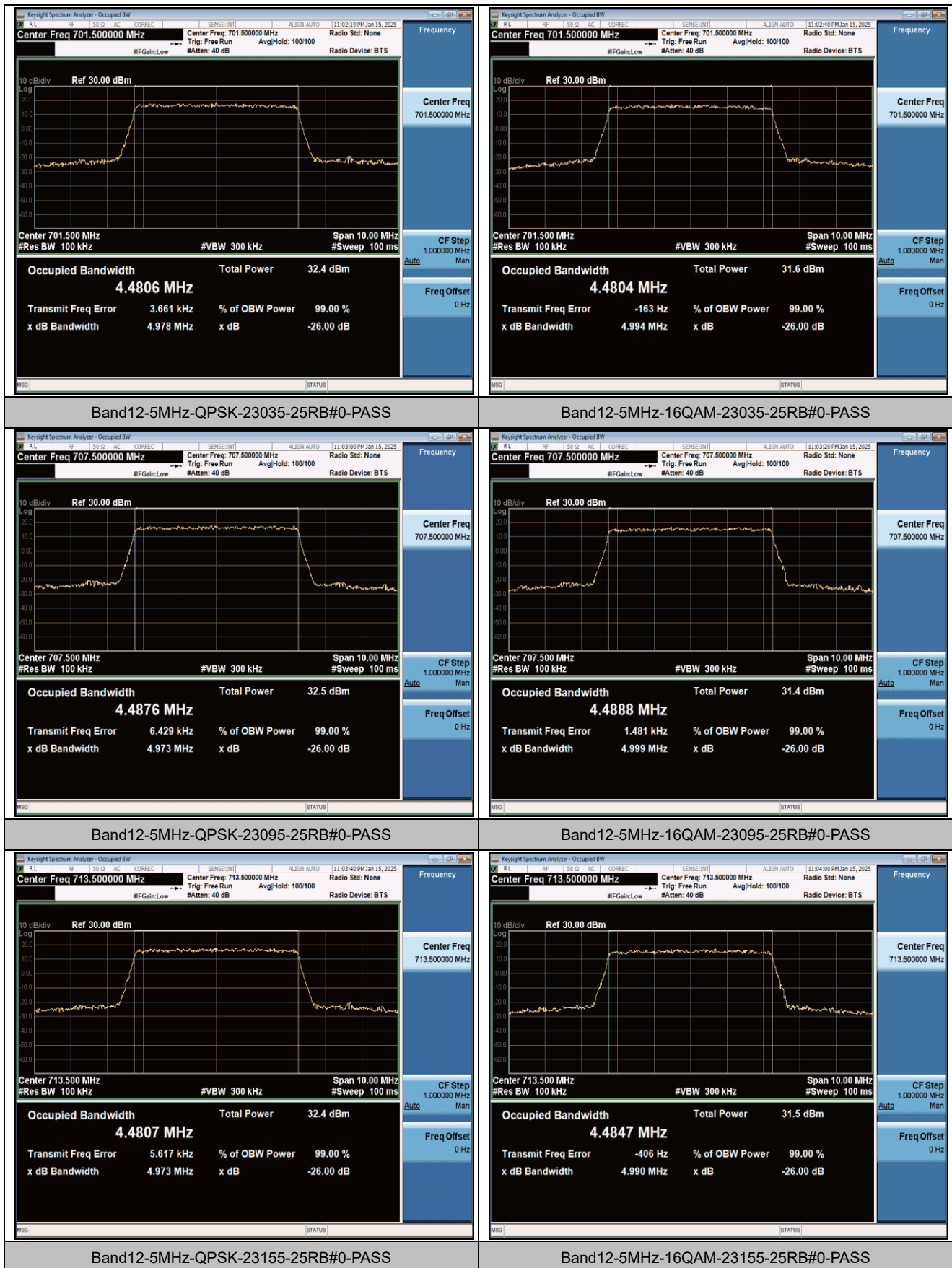
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	OBW (MHz)	26dB EBW (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.0905	1.274	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.0943	1.282	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.0913	1.283	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.0939	1.282	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.0903	1.266	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.0932	1.275	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.6950	2.959	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.6889	2.964	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.6970	2.954	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.6915	2.970	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.6939	2.935	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.6851	2.956	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.4806	4.978	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.4804	4.994	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.4876	4.973	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.4888	4.999	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.4807	4.973	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.4847	4.990	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.9700	9.794	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.9438	9.815	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.9837	9.825	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.9638	9.804	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.9618	9.816	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.9391	9.800	PASS

Test Graphs





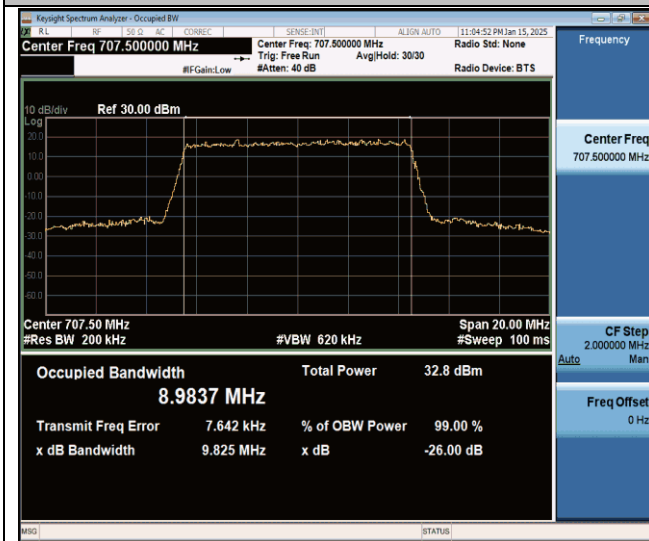




Band12-10MHz-QPSK-23060-50RB#0-PASS



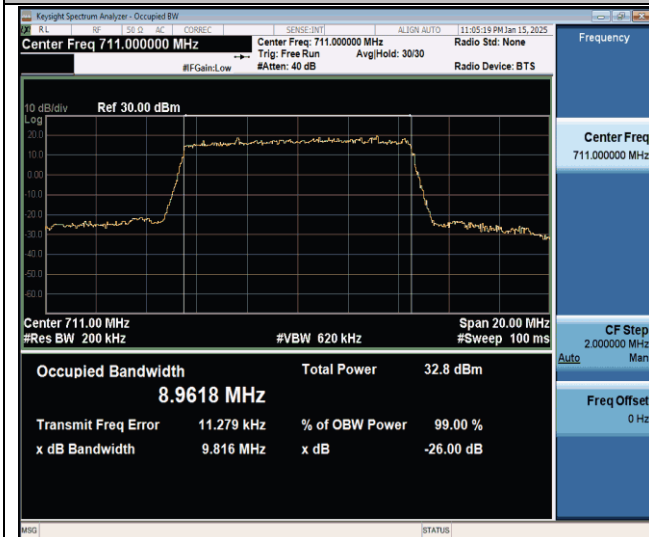
Band12-10MHz-16QAM-23060-50RB#0-PASS



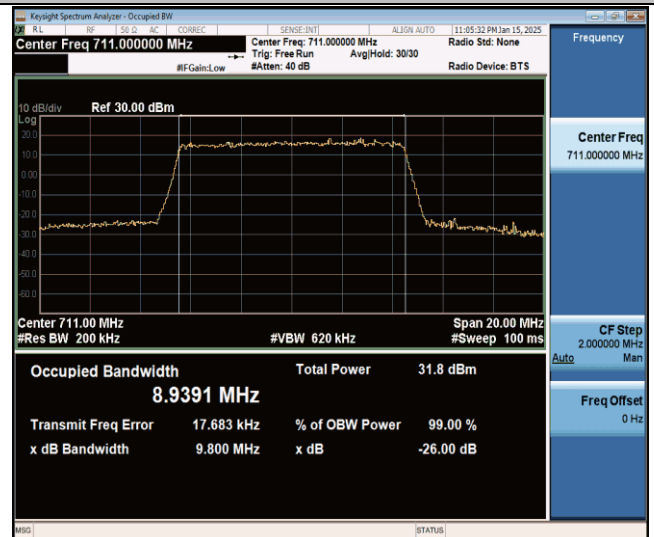
Band12-10MHz-QPSK-23095-50RB#0-PASS



Band12-10MHz-16QAM-23095-50RB#0-PASS



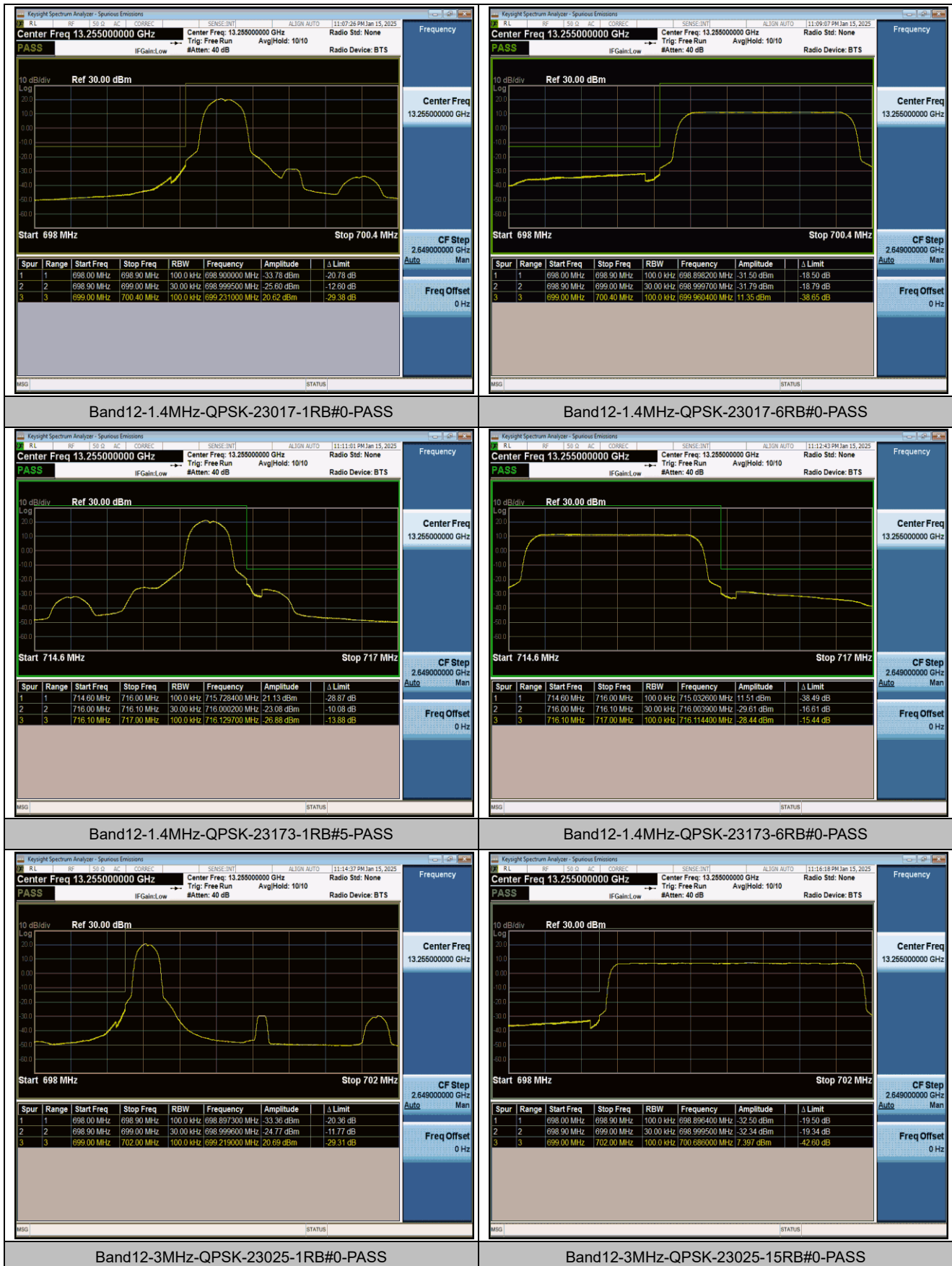
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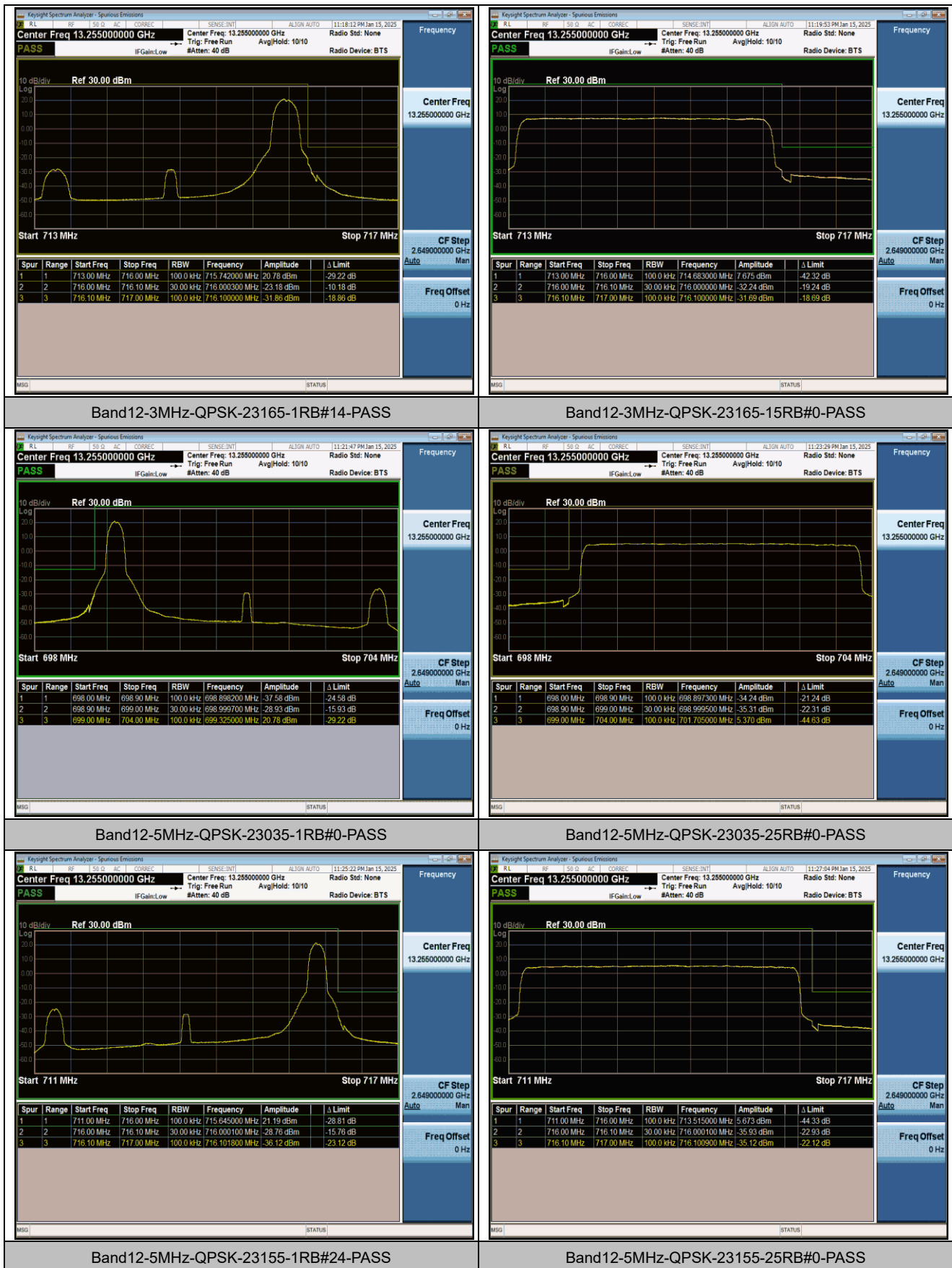


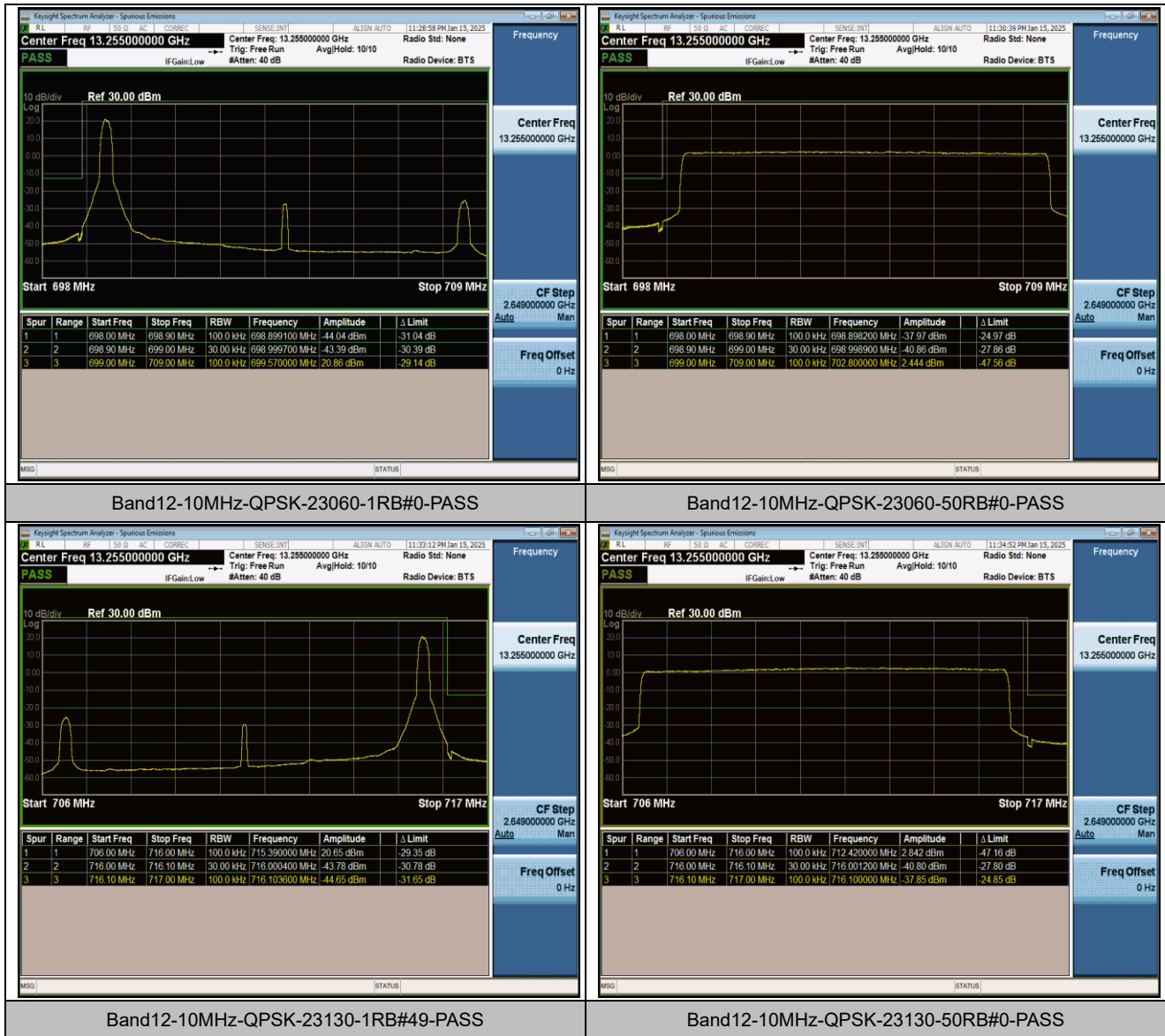
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Band Edge

Test Graphs

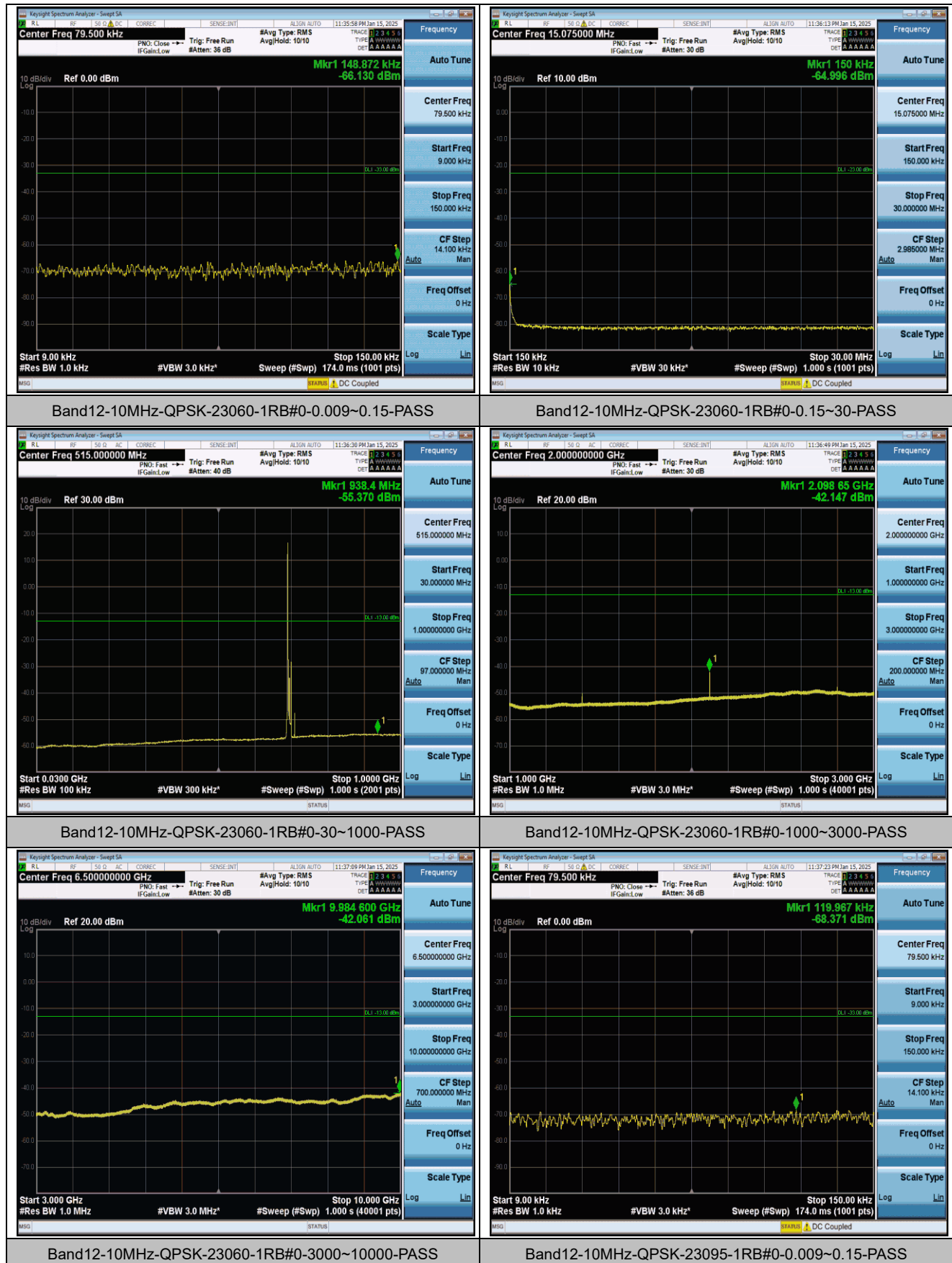


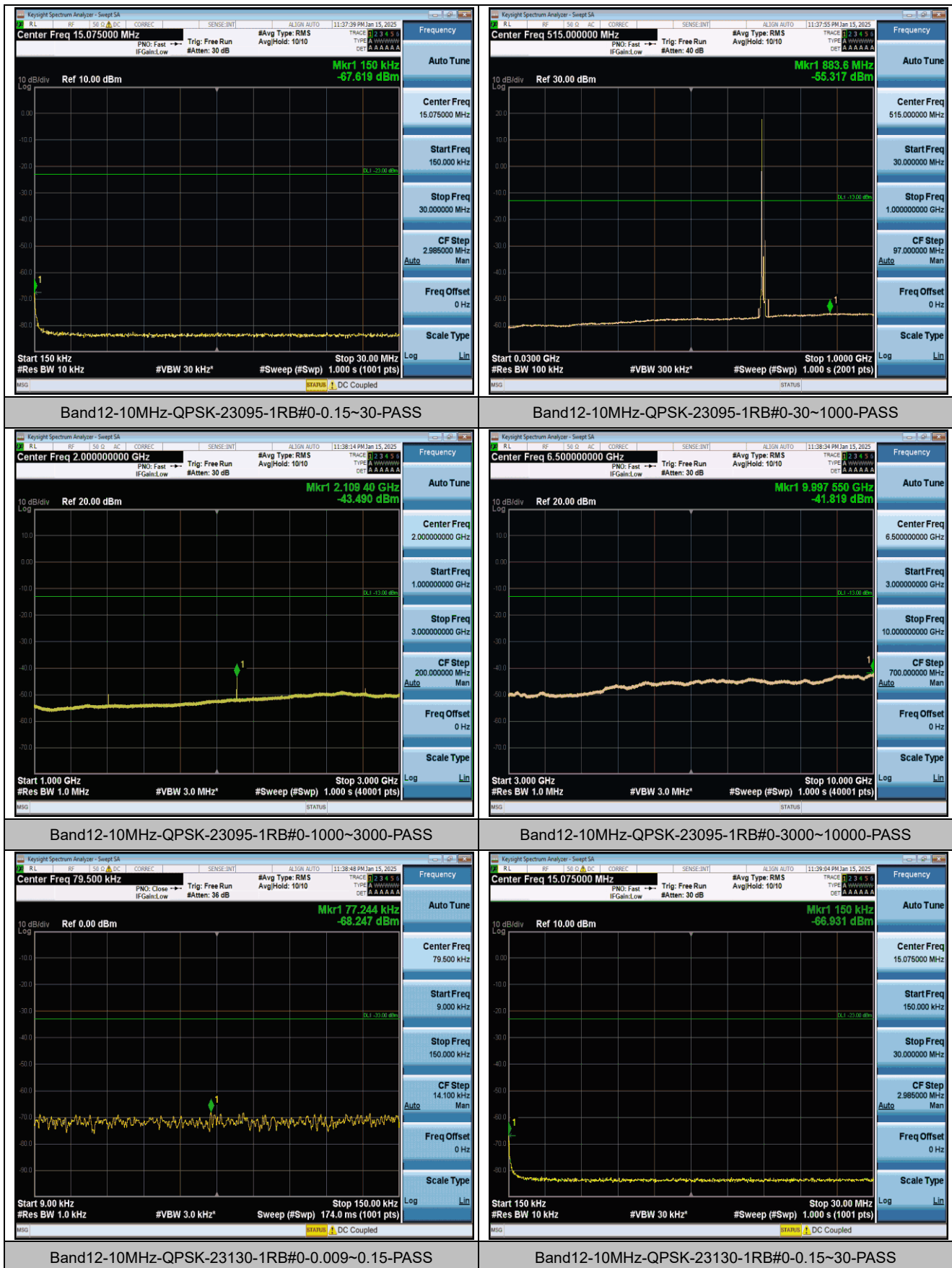




Conducted Spurious Emission

Test Graphs







Band12-10MHz-QPSK-23130-1RB#0-30~1000-PASS



Band12-10MHz-QPSK-23130-1RB#0-1000~3000-PASS



Band12-10MHz-QPSK-23130-1RB#0-3000~10000-PASS

Frequency Stability

Test Result

Voltage									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	10MHz	QPSK	23095	50RB#0	VN	NT	-0.80	-0.001131	PASS
Band12	10MHz	QPSK	23095	50RB#0	VL	NT	1.00	0.001413	PASS
Band12	10MHz	QPSK	23095	50RB#0	VH	NT	0.70	0.000989	PASS

Temperature									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	10MHz	QPSK	23095	50RB#0	NV	-30	-0.30	-0.000424	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-20	1.30	0.001837	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-10	-0.20	-0.000283	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	0	-0.50	-0.000707	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	10	0.20	0.000283	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	20	1.20	0.001696	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	30	0.70	0.000989	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	40	-0.70	-0.000989	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	50	-0.10	-0.000141	PASS

~The End~