

Appendix-B LTE NB-IoT Band 12

Effective (Isotropic) Radiated Power Output Data for NB

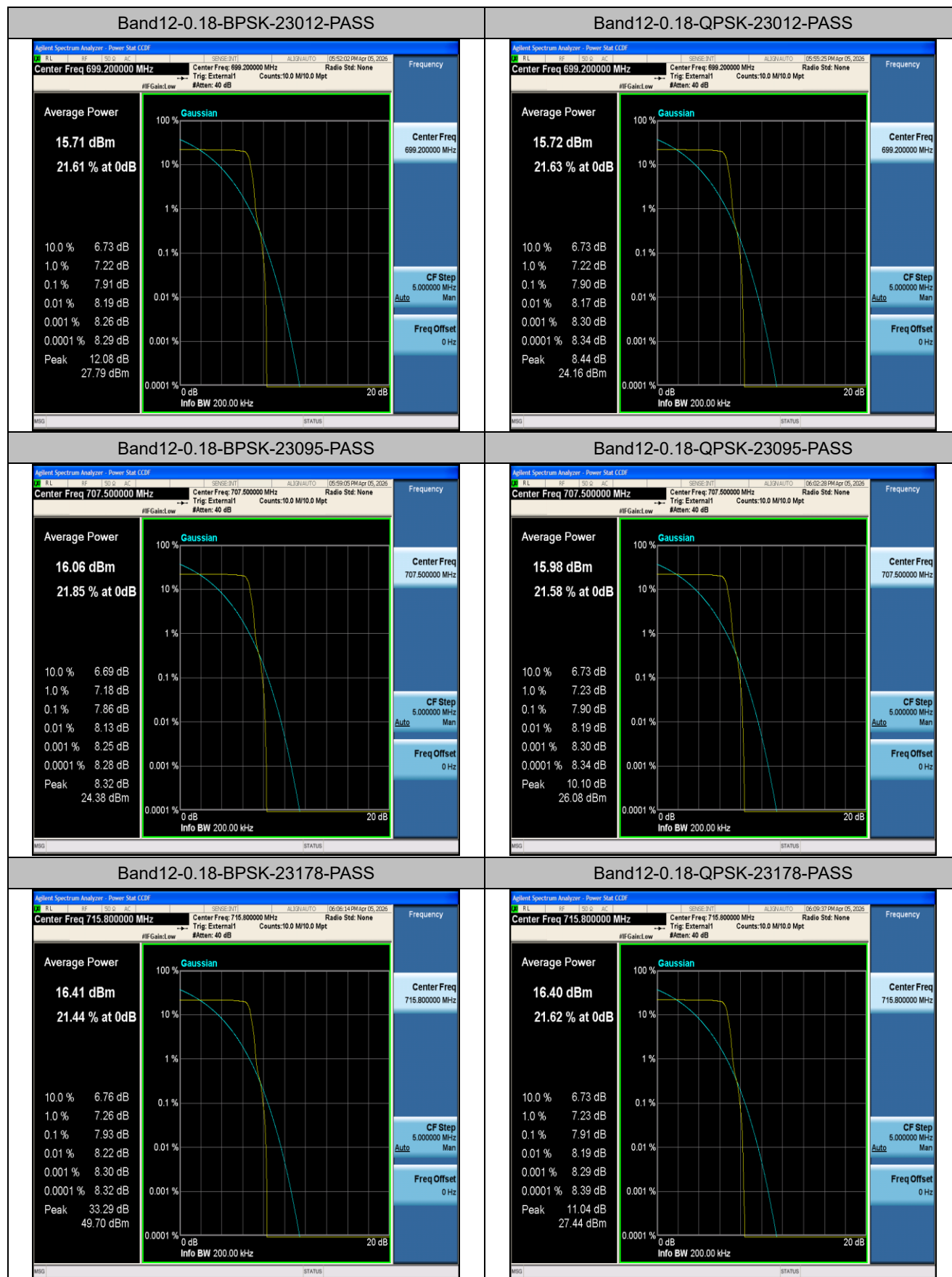
Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23012	1@0	20.93	25.18	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23012	1@0	20.91	25.16	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23012	1@47	20.98	25.23	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23012	1@47	20.88	25.13	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23095	1@0	21.24	25.49	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23095	1@0	21.32	25.57	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23095	1@47	21.28	25.53	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23095	1@47	21.24	25.49	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23178	1@0	21.49	25.74	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23178	1@0	21.47	25.72	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23178	1@47	21.45	25.7	34.77	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23178	1@47	21.48	25.73	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23012	1@0	21.53	25.78	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	1@0	21.53	25.78	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23012	1@11	21.55	25.8	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	1@11	21.55	25.8	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	1@0	21.79	26.04	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	1@0	21.74	25.99	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	1@11	21.75	26	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	1@11	21.79	26.04	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23178	1@0	21.92	26.17	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	1@0	21.86	26.11	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23178	1@11	21.85	26.1	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	1@11	21.91	26.16	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	3@3	22.37	26.62	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	3@3	22.56	26.81	34.77	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	3@3	22.68	26.93	34.77	PASS

Peak-to-Average Ratio(CCDF) for NB**Test Result**

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dB)	Limit (dB)	Verdict
Band12	Stand-Alone	15kHz	0.18	BPSK	23012	12@0	7.91	<=13	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	12@0	7.9	<=13	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	7.86	<=13	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	12@0	7.9	<=13	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23178	12@0	7.93	<=13	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	12@0	7.91	<=13	PASS

Test Graphs

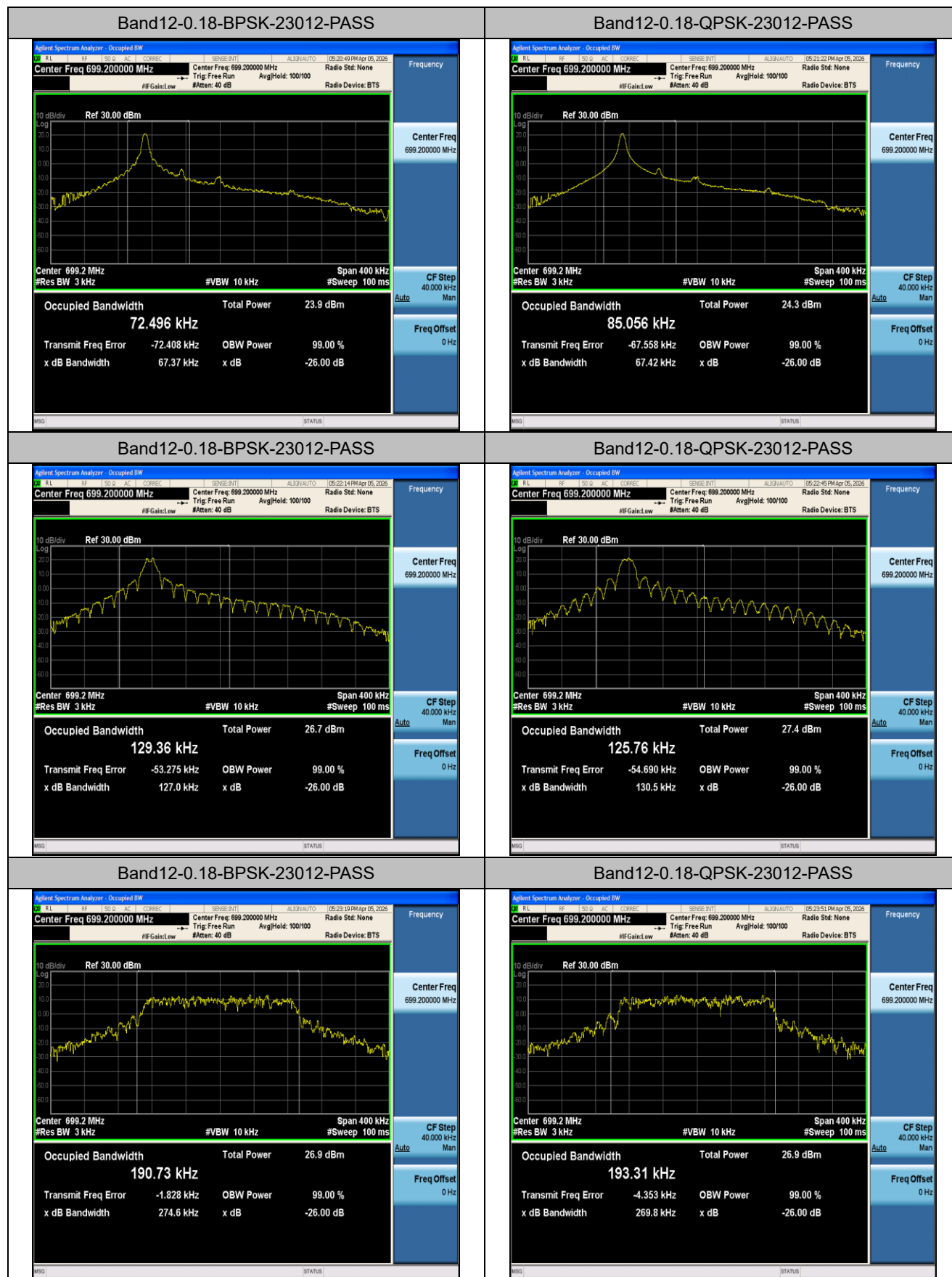


Emission Bandwidth for NB

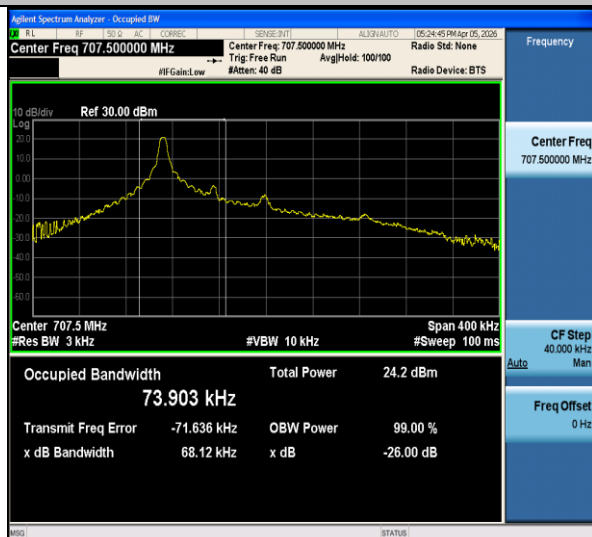
Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23012	1@0	0.07250	0.0674	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23012	1@0	0.08506	0.0674	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23012	1@0	0.12936	0.1270	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	1@0	0.12576	0.1305	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23012	12@0	0.19073	0.2746	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23012	12@0	0.19331	0.2698	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23095	1@0	0.07390	0.0681	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23095	1@0	0.08549	0.0677	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	1@0	0.12959	0.1272	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	1@0	0.12609	0.1309	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	0.19291	0.2630	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23095	12@0	0.18811	0.2681	PASS
Band12	Stand-Alone	3.75kHz	0.18	BPSK	23178	1@0	0.07275	0.0673	PASS
Band12	Stand-Alone	3.75kHz	0.18	QPSK	23178	1@0	0.08489	0.0670	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23178	1@0	0.12895	0.1266	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	1@0	0.12755	0.1416	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23178	12@0	0.18961	0.2750	PASS
Band12	Stand-Alone	15kHz	0.18	QPSK	23178	12@0	0.18933	0.2603	PASS

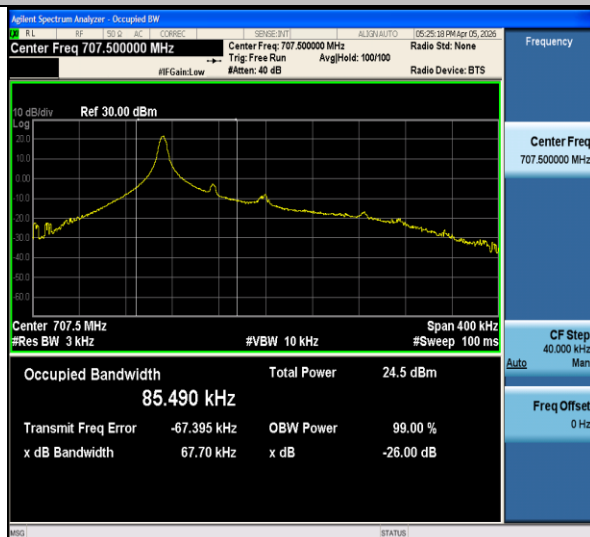
Test Graphs



Band12-0.18-BPSK-23095-PASS



Band12-0.18-QPSK-23095-PASS



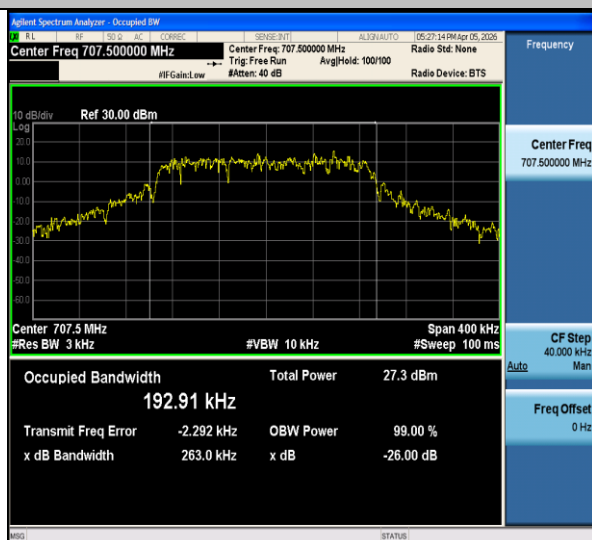
Band12-0.18-BPSK-23095-PASS



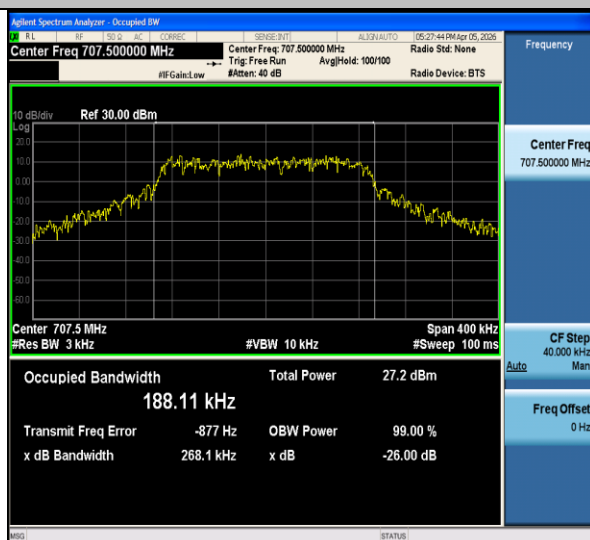
Band12-0.18-QPSK-23095-PASS

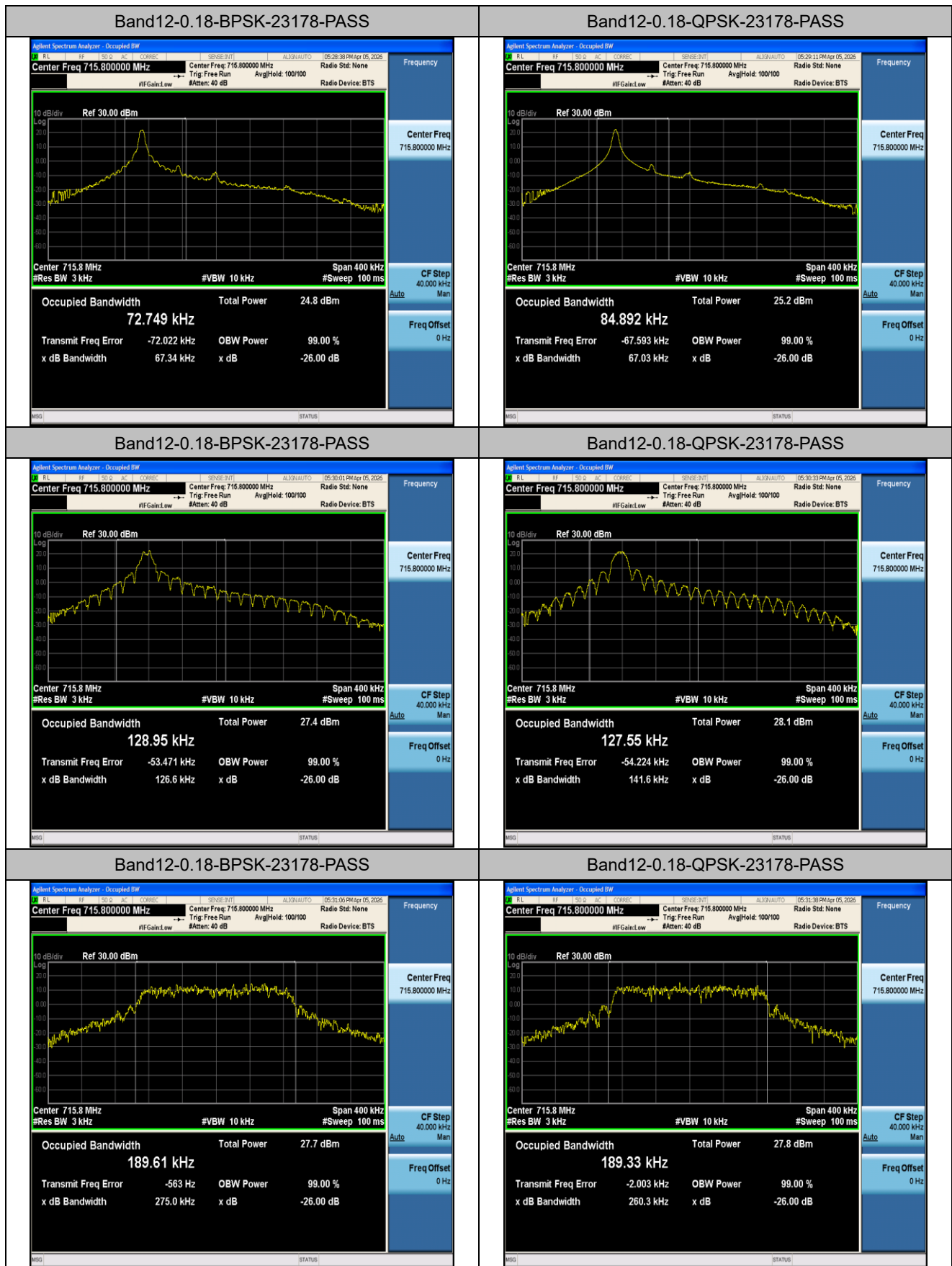


Band12-0.18-BPSK-23095-PASS



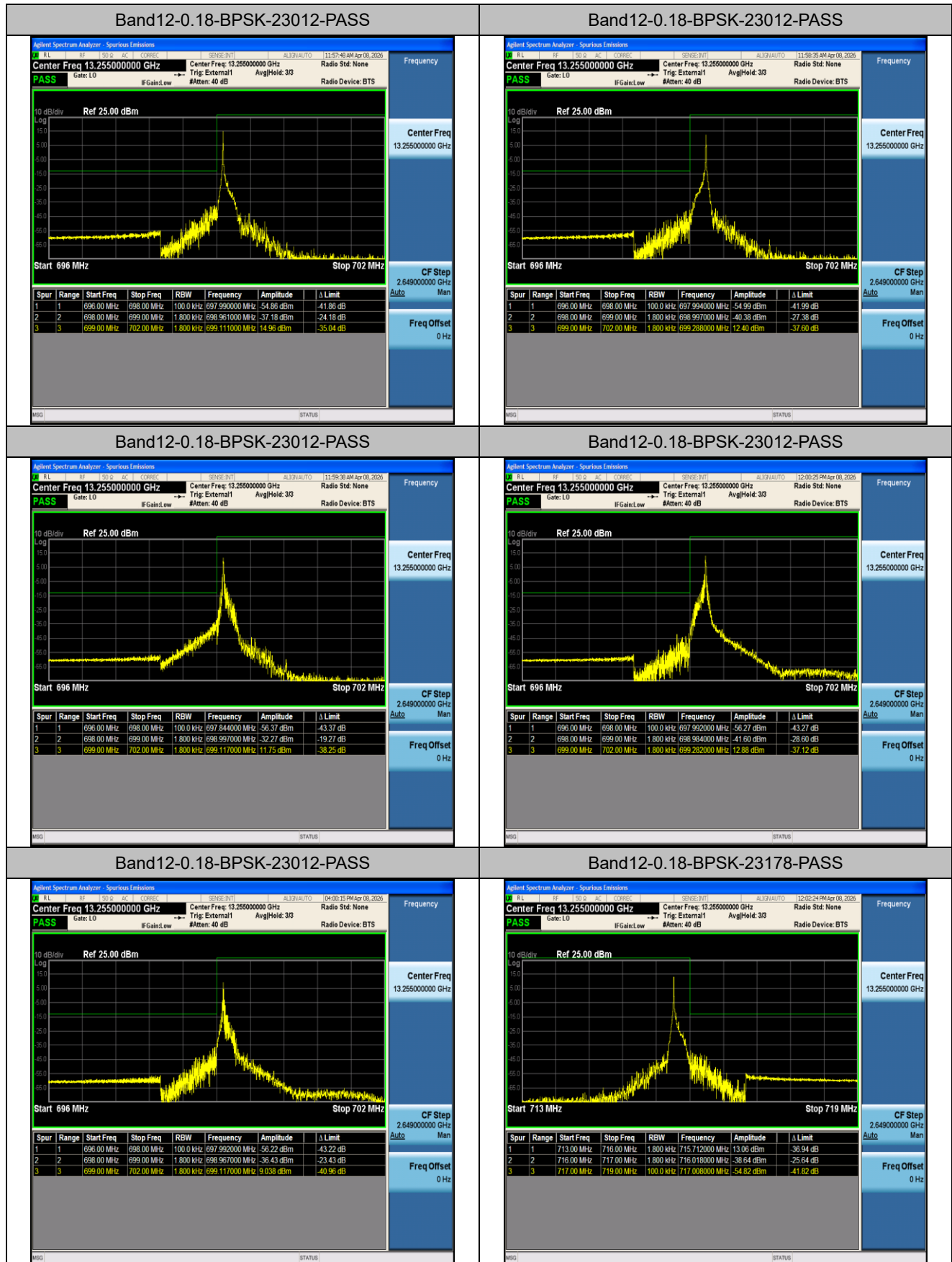
Band12-0.18-QPSK-23095-PASS

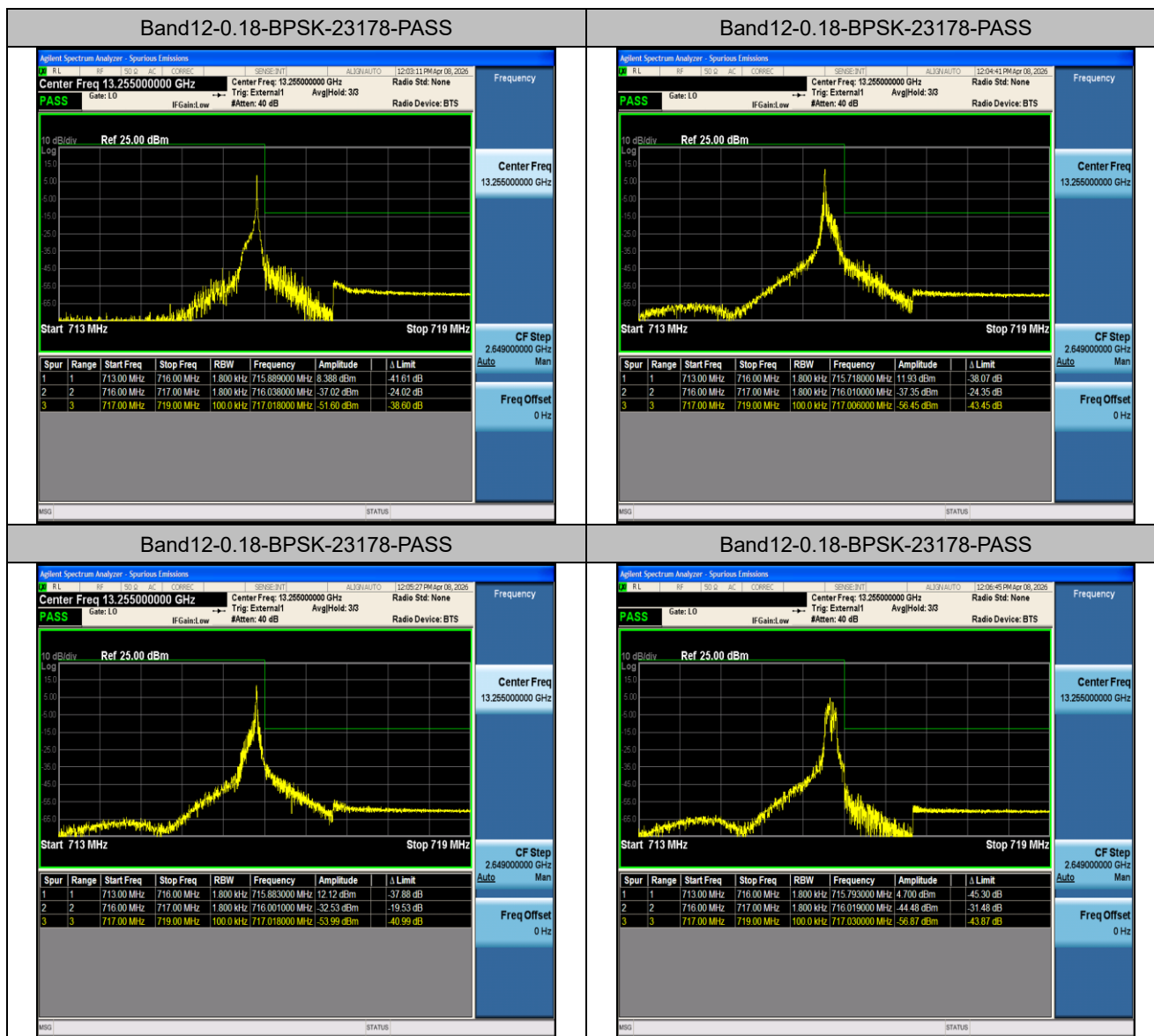




Band Edge for NB

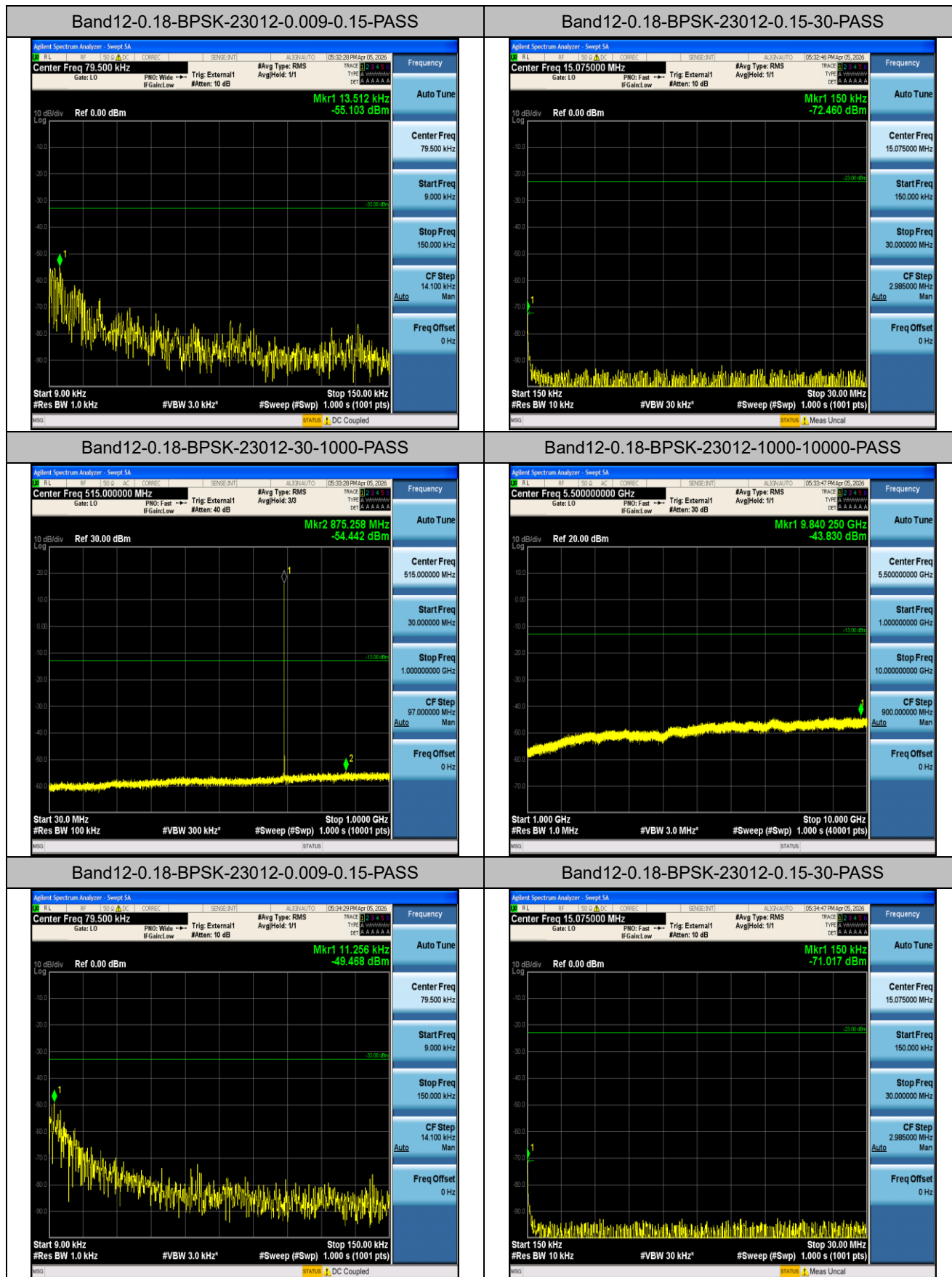
Test Graphs



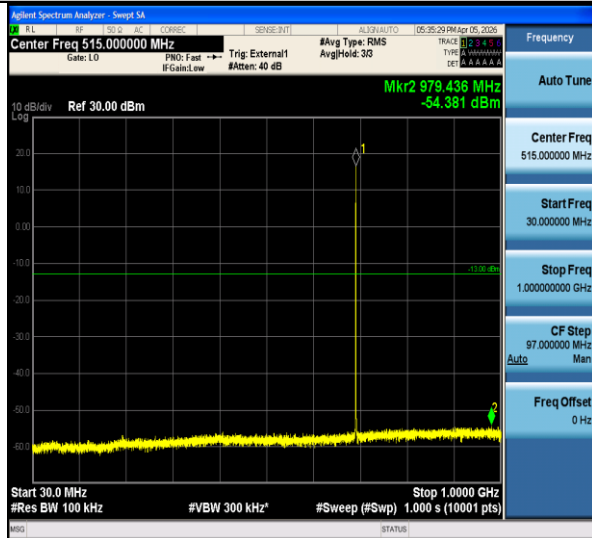


Conducted Spurious Emission for NB

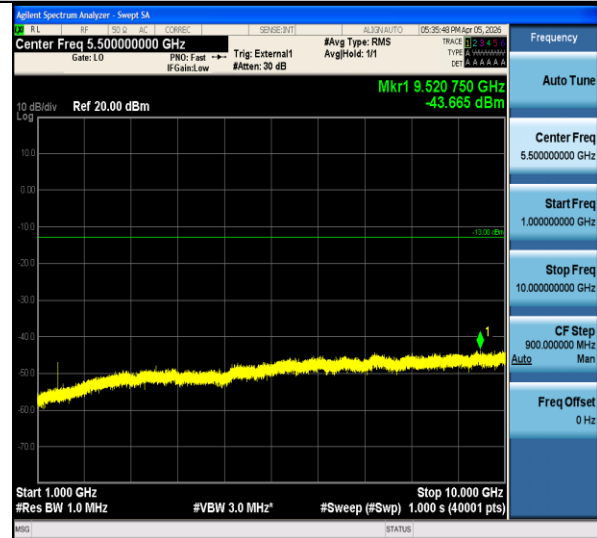
Test Graphs



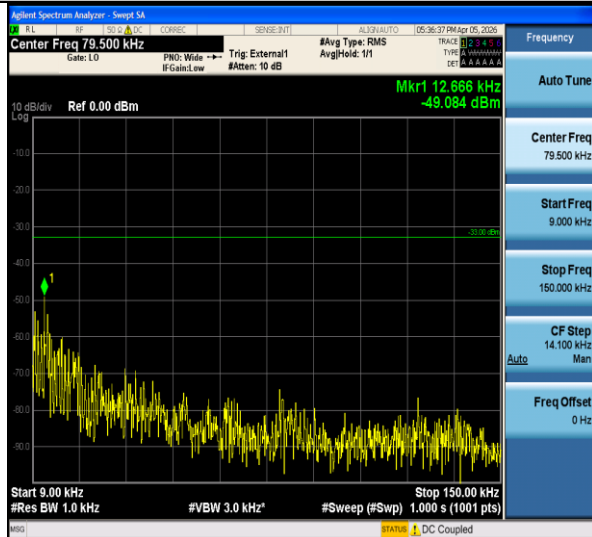
Band12-0.18-BPSK-23012-30-1000-PASS



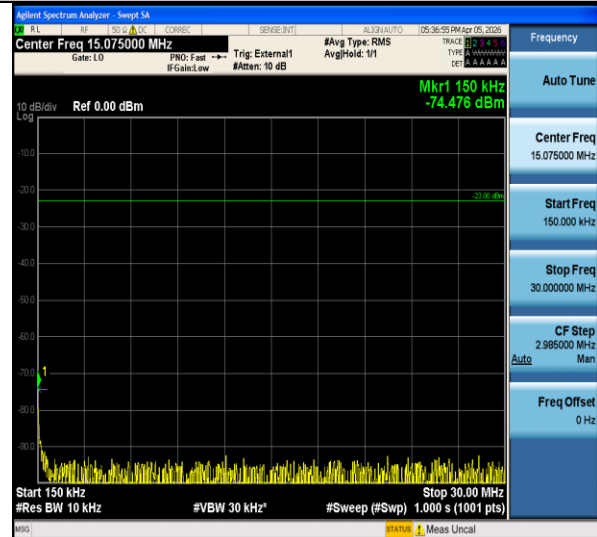
Band12-0.18-BPSK-23012-1000-10000-PASS



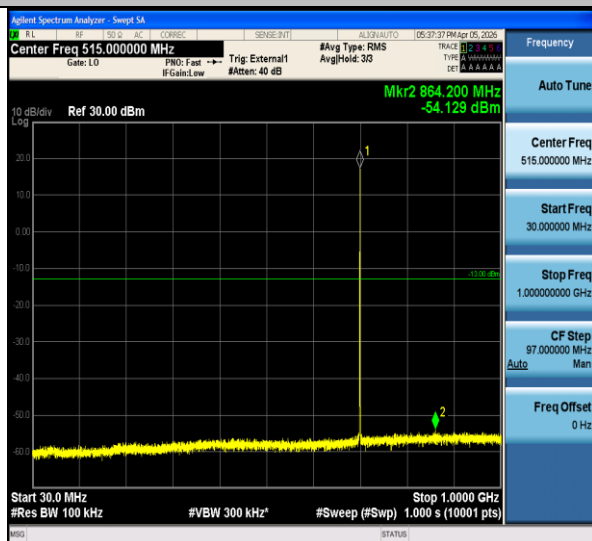
Band12-0.18-BPSK-23095-0.009-0.15-PASS



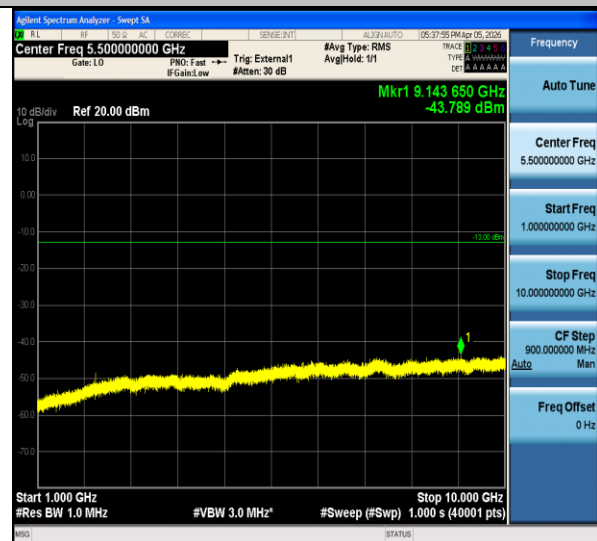
Band12-0.18-BPSK-23095-0.15-30-PASS

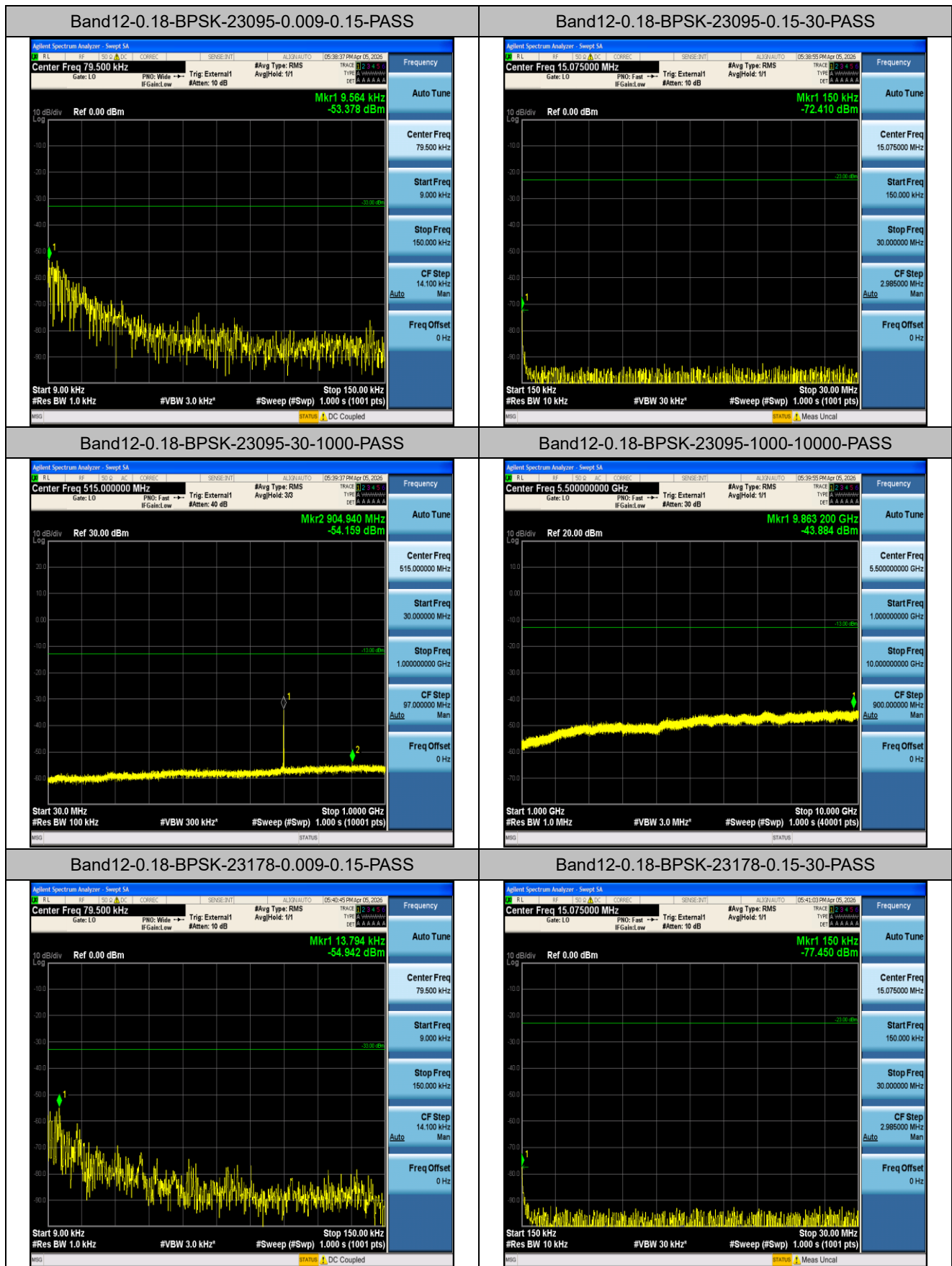


Band12-0.18-BPSK-23095-30-1000-PASS

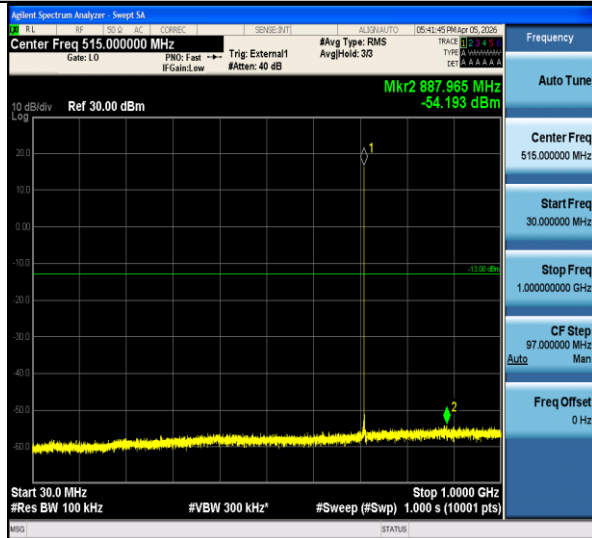


Band12-0.18-BPSK-23095-1000-10000-PASS

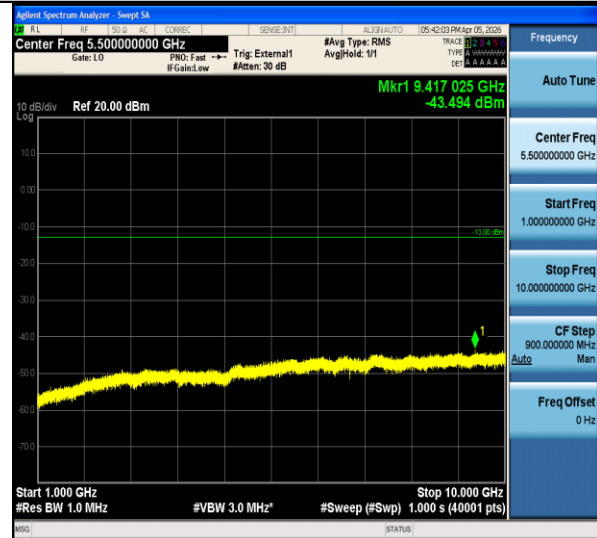




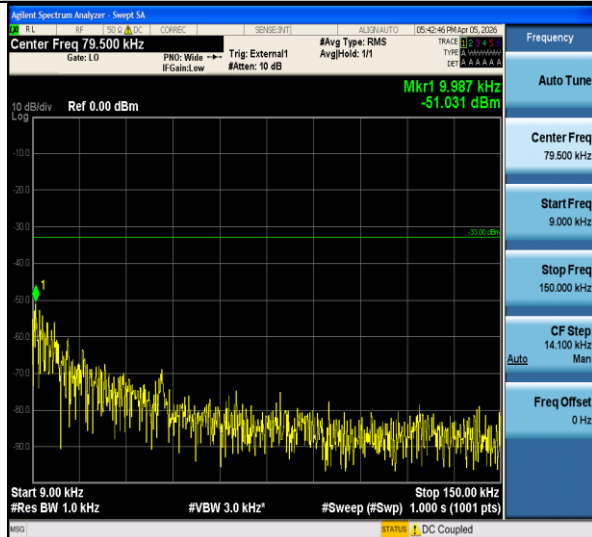
Band12-0.18-BPSK-23178-30-1000-PASS



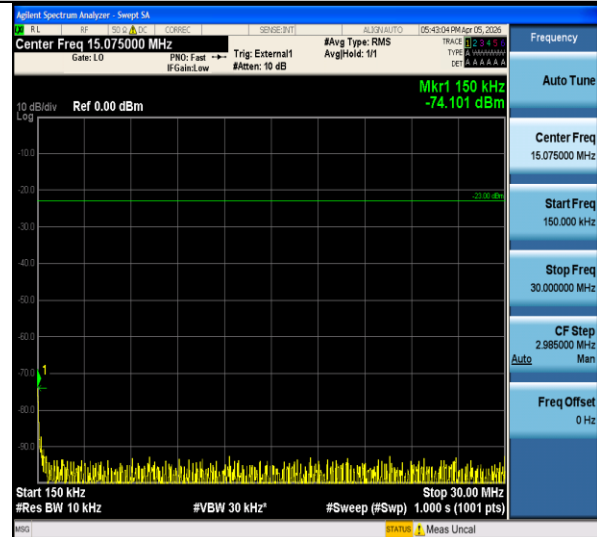
Band12-0.18-BPSK-23178-1000-10000-PASS



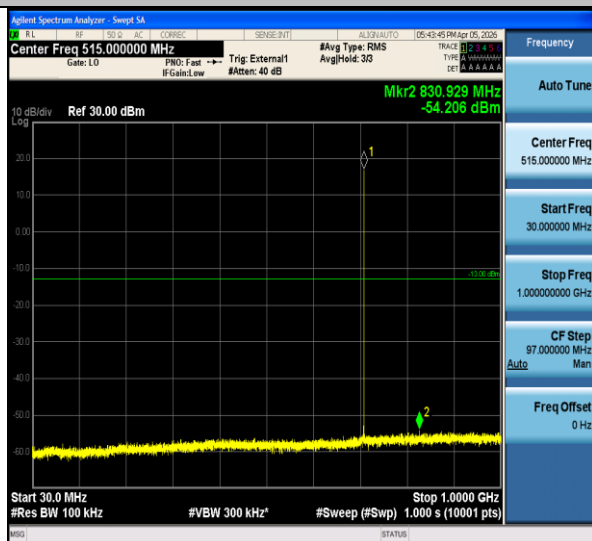
Band12-0.18-BPSK-23178-0.009-0.15-PASS



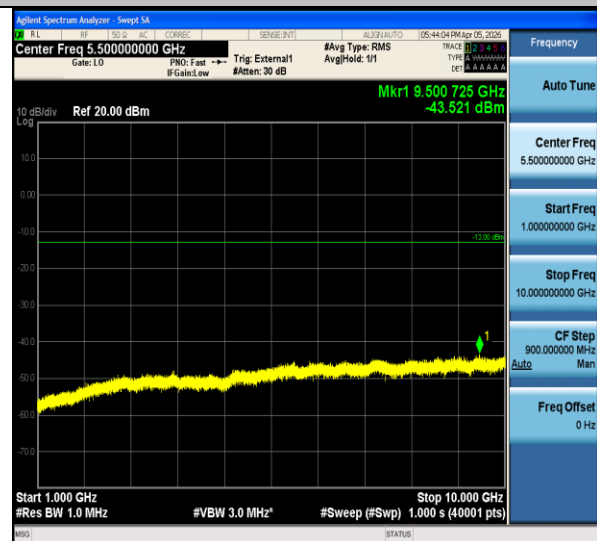
Band12-0.18-BPSK-23178-0.15-30-PASS



Band12-0.18-BPSK-23178-30-1000-PASS



Band12-0.18-BPSK-23178-1000-10000-PASS



Frequency Stability for NB

Test Result

Voltage											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	VN	NT	-0.80	-0.001131	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	VL	NT	-0.90	-0.001272	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	VH	NT	-0.30	-0.000424	PASS

Temperature											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	-30	-1.00	-0.001413	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	-20	-0.10	-0.000141	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	-10	-0.30	-0.000424	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	0	1.60	0.002261	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	10	-0.30	-0.000424	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	20	-0.10	-0.000141	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	30	-1.60	-0.002261	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	40	-2.00	-0.002827	PASS
Band12	Stand-Alone	15kHz	0.18	BPSK	23095	12@0	NV	50	-1.10	-0.001555	PASS

~The End~