

Appendix-B LTE NB-IoT Band 85

Effective (Isotropic) Radiated Power Output Data for NB1

Test Result

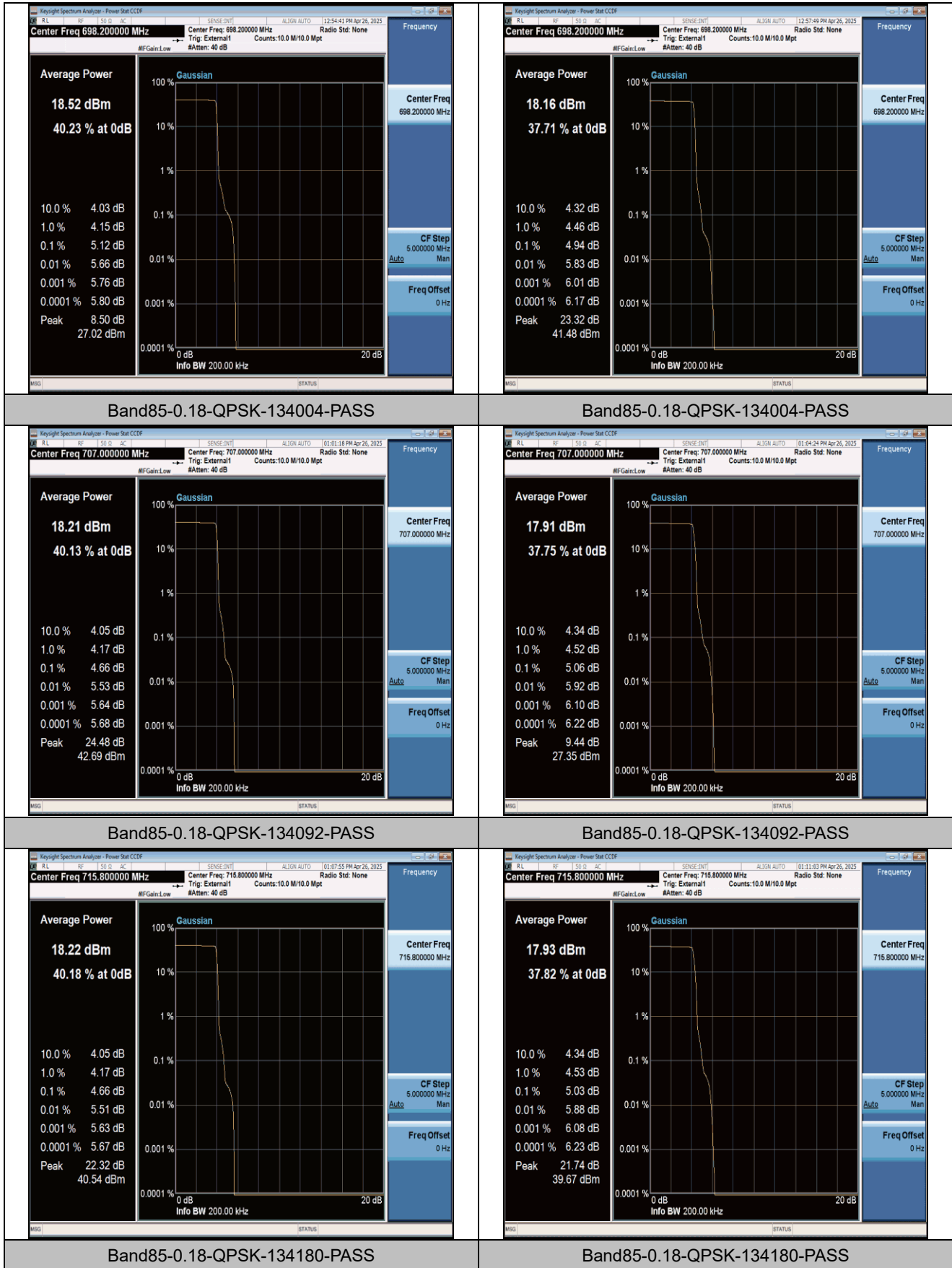
Band	OpMode	SCS	BW	Modulation	Channel	Tones	Power (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band85	Stand-Alone	3.75kHz	0.18	BPSK	134180	1@0	21.34	23.14	34.77	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134180	1@0	21.26	23.06	34.77	PASS
Band85	Stand-Alone	3.75kHz	0.18	BPSK	134180	1@47	21.28	23.08	34.77	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134180	1@47	21.25	23.05	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134004	1@0	20.46	22.26	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	1@0	20.51	22.31	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134004	1@11	20.43	22.23	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	1@11	20.44	22.24	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134092	1@0	21.68	23.48	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	21.70	23.5	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134092	1@11	21.61	23.41	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	21.62	23.42	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134180	1@0	21.48	23.28	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	1@0	21.52	23.32	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134180	1@11	21.41	23.21	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	1@11	21.42	23.22	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	3@3	21.63	23.43	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	3@3	21.67	23.47	34.77	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	3@3	21.52	23.32	34.77	PASS

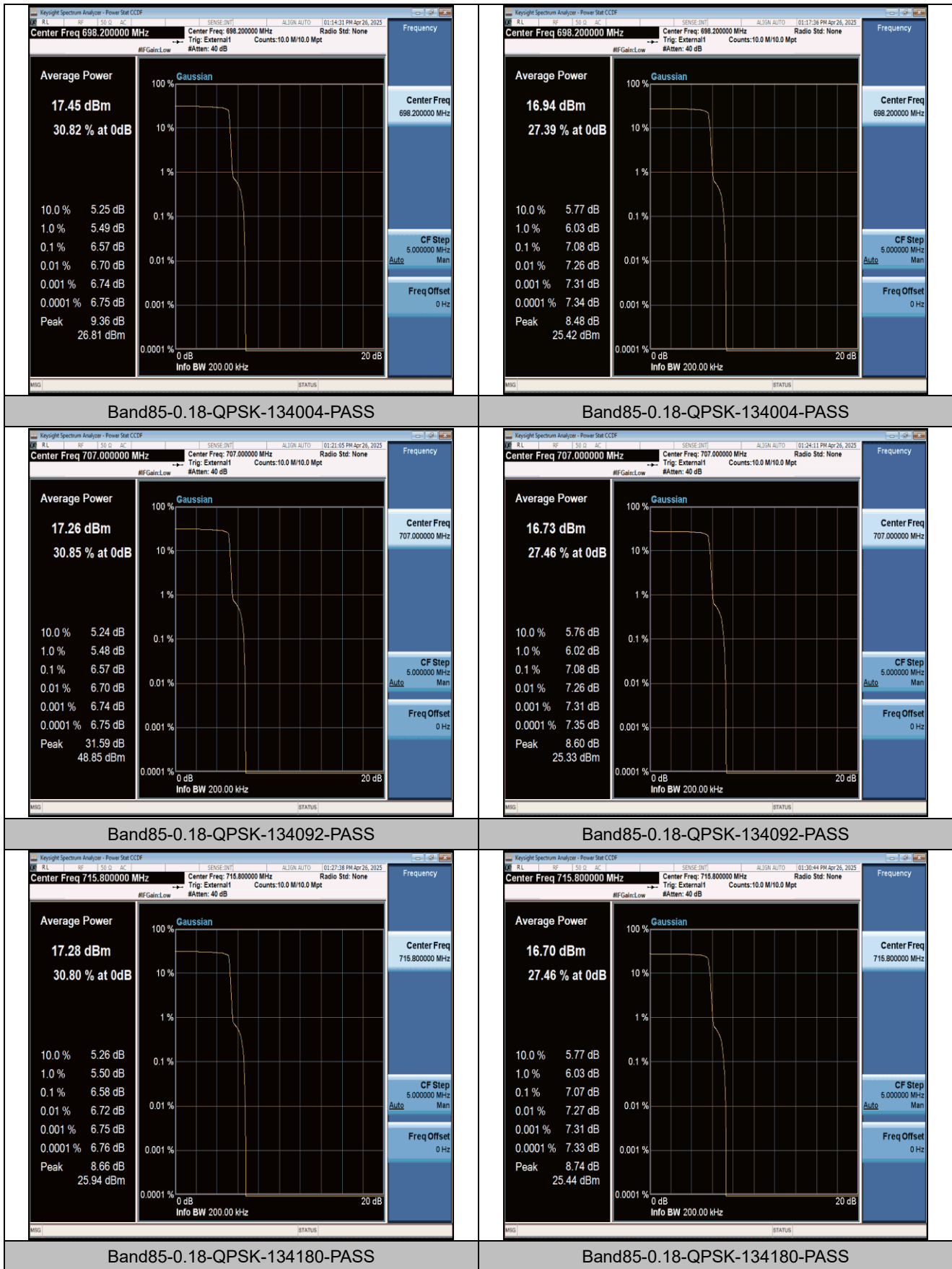
Peak-to-Average Ratio(CCDF) for NB1

Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134004	1@0	5.12	<=13	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134004	1@47	4.94	<=13	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	4.66	<=13	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	5.06	<=13	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134180	1@0	4.66	<=13	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134180	1@47	5.03	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	1@0	6.57	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	1@11	7.08	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	6.57	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	7.08	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	1@0	6.58	<=13	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	1@11	7.07	<=13	PASS

Test Graphs



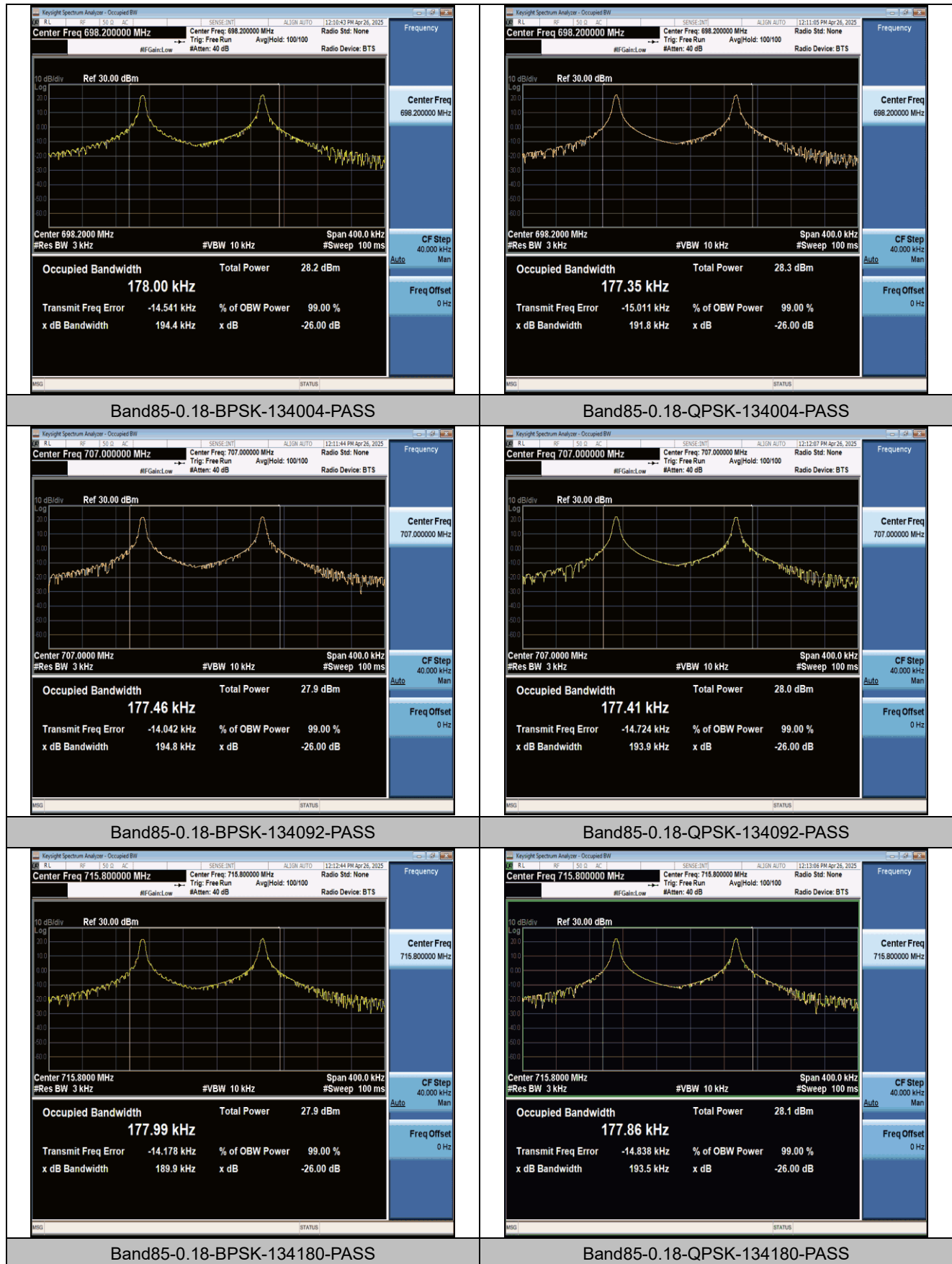


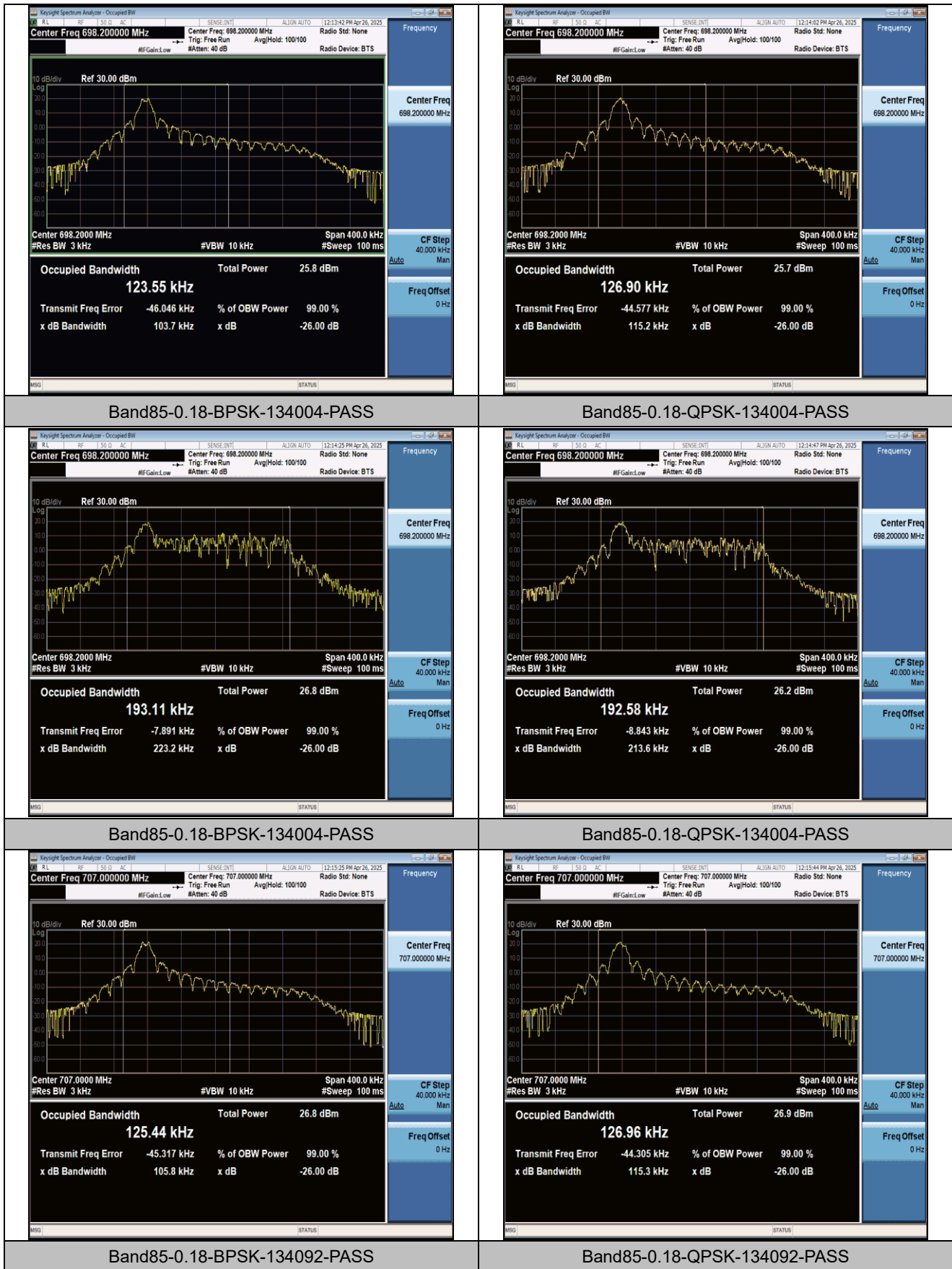
Emission Bandwidth for NB1

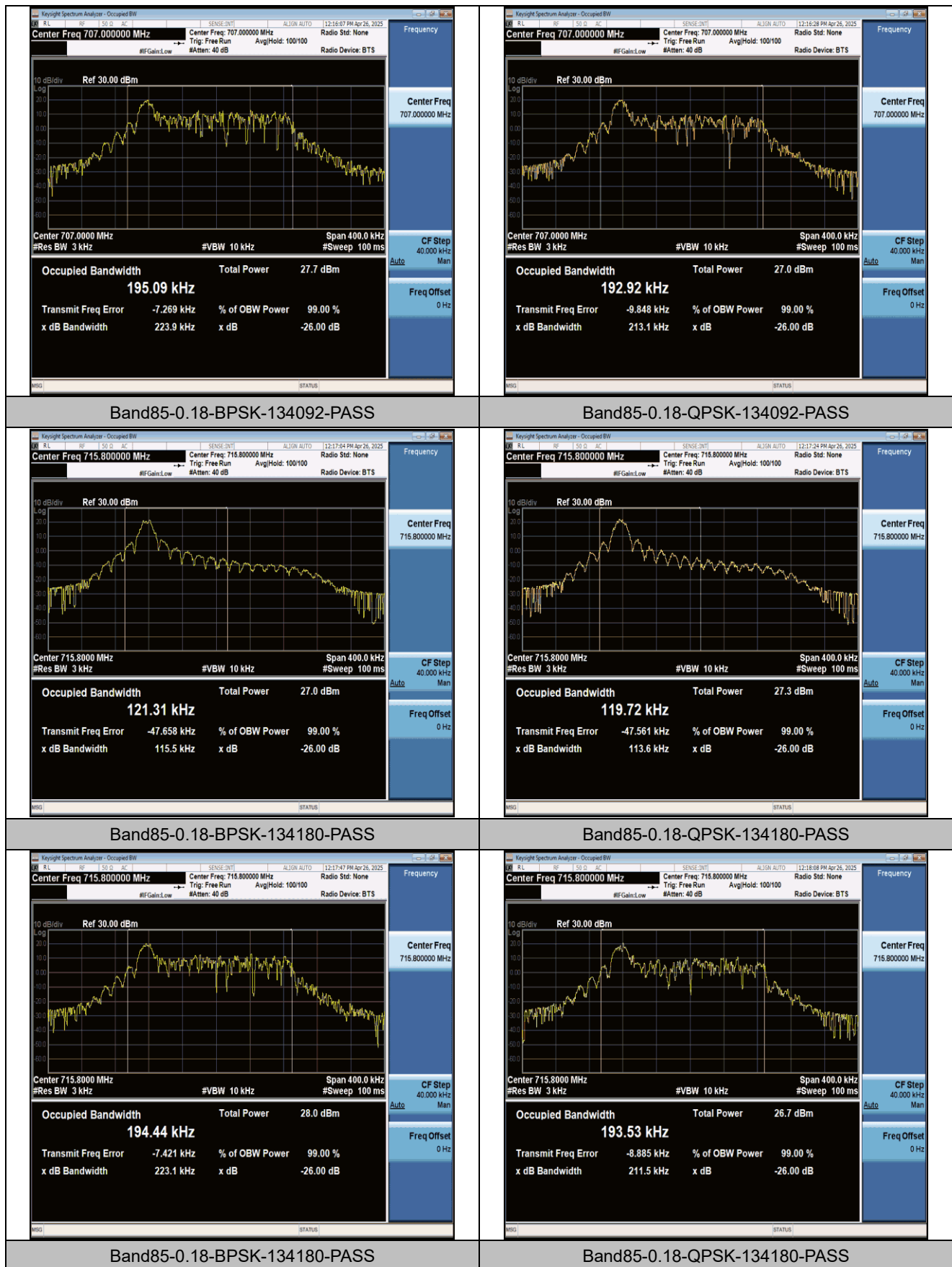
Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band85	Stand-Alone	3.75kHz	0.18	BPSK	134004	1@0	0.17800	0.1944	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134004	1@0	0.17735	0.1918	PASS
Band85	Stand-Alone	3.75kHz	0.18	BPSK	134092	1@0	0.17746	0.1948	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	0.17741	0.1939	PASS
Band85	Stand-Alone	3.75kHz	0.18	BPSK	134180	1@0	0.17799	0.1899	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134180	1@0	0.17786	0.1935	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134004	1@0	0.12355	0.1037	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	1@0	0.12690	0.1152	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134004	12@0	0.19311	0.2232	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134004	12@0	0.19258	0.2136	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134092	1@0	0.12544	0.1058	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	0.12696	0.1153	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134092	12@0	0.19509	0.2239	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	12@0	0.19292	0.2131	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134180	1@0	0.12131	0.1155	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	1@0	0.11972	0.1136	PASS
Band85	Stand-Alone	15kHz	0.18	BPSK	134180	12@0	0.19444	0.2231	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134180	12@0	0.19353	0.2115	PASS

Test Graphs

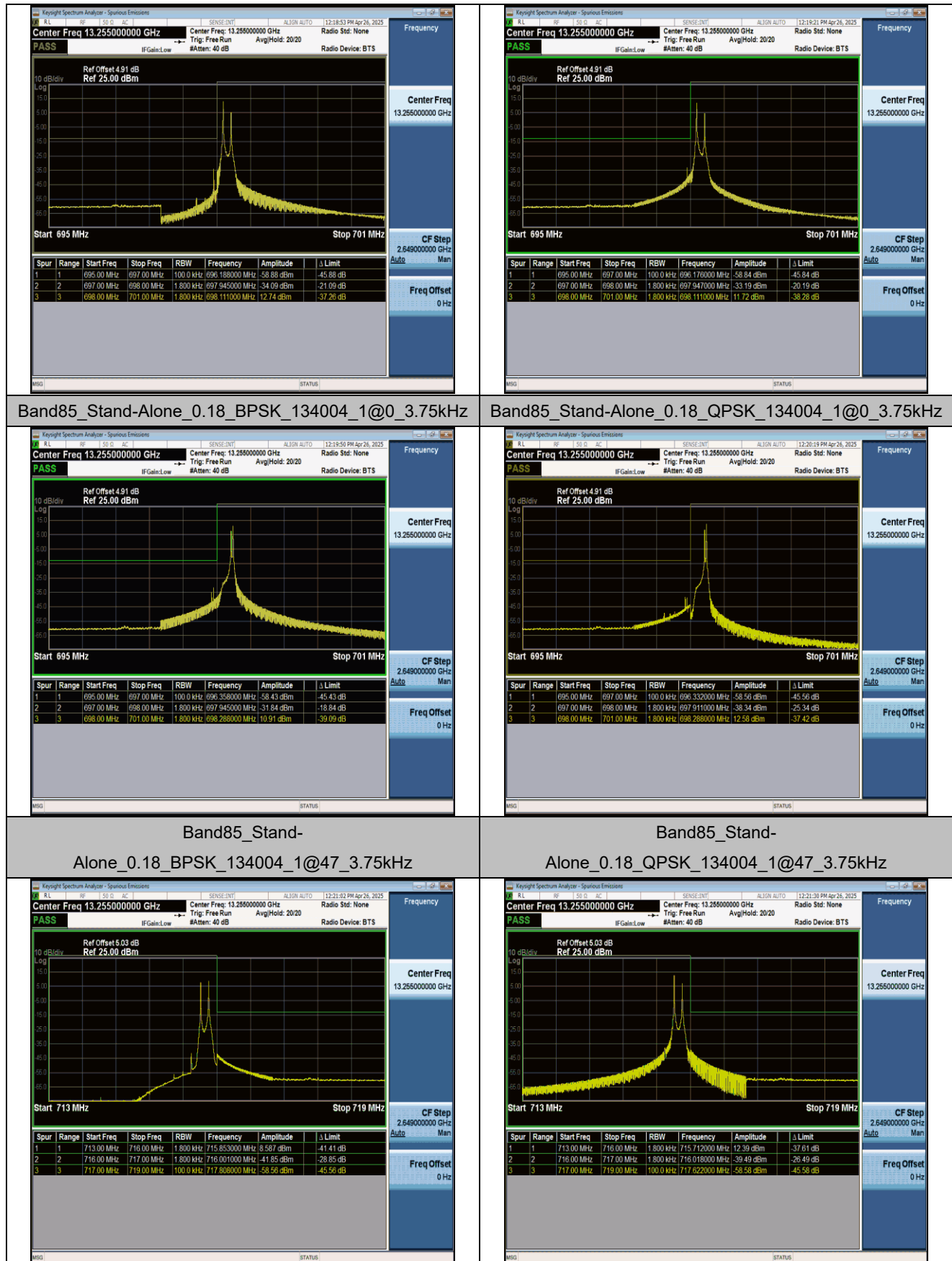




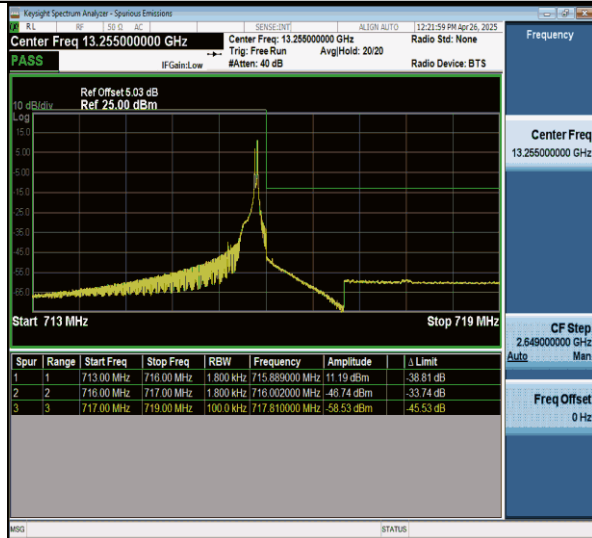


Band Edge for NB1

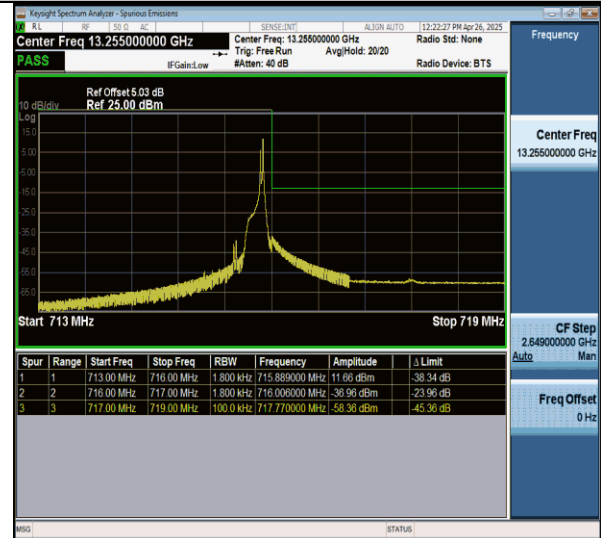
Test Graphs



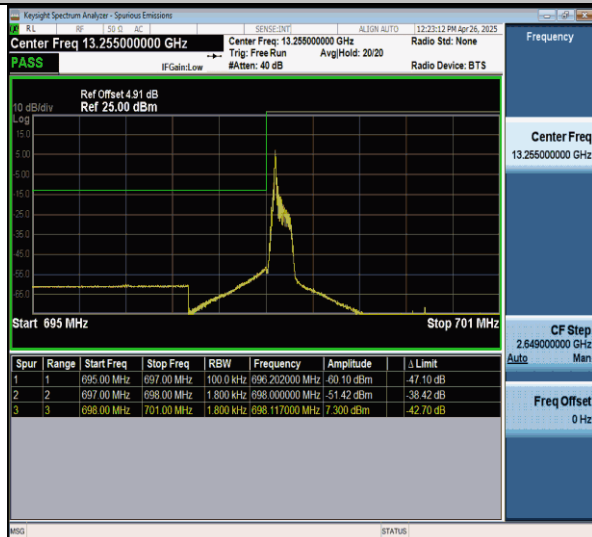
Band85_Stand-Alone_0.18_BPSK_134180_1@0_3.75kHz



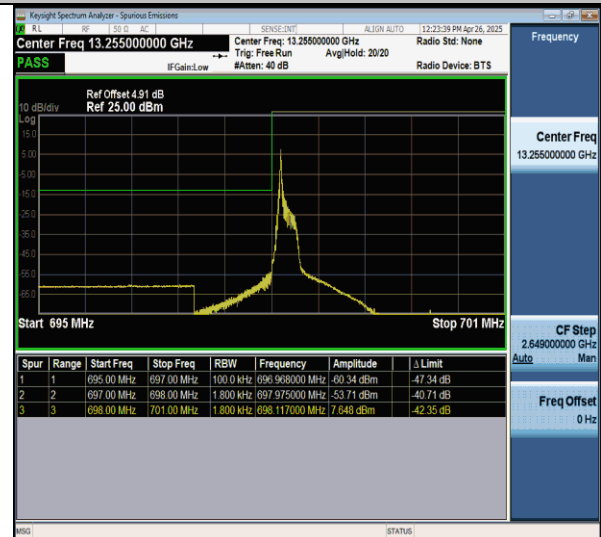
Band85_Stand-Alone_0.18_QPSK_134180_1@0_3.75kHz



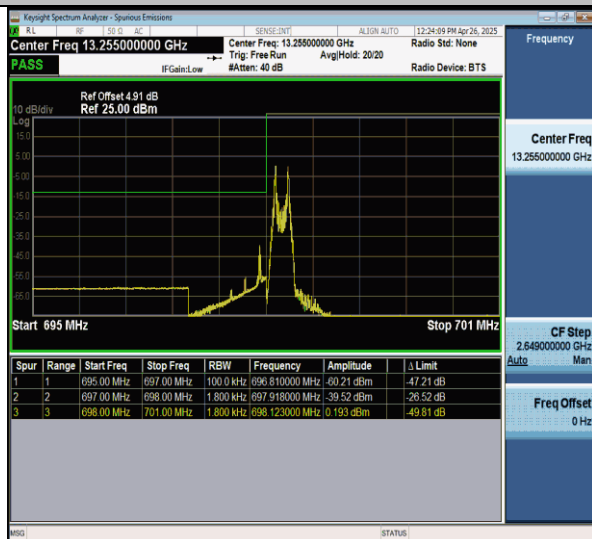
Band85_Stand-Alone_0.18_BPSK_134180_1@47_3.75kHz



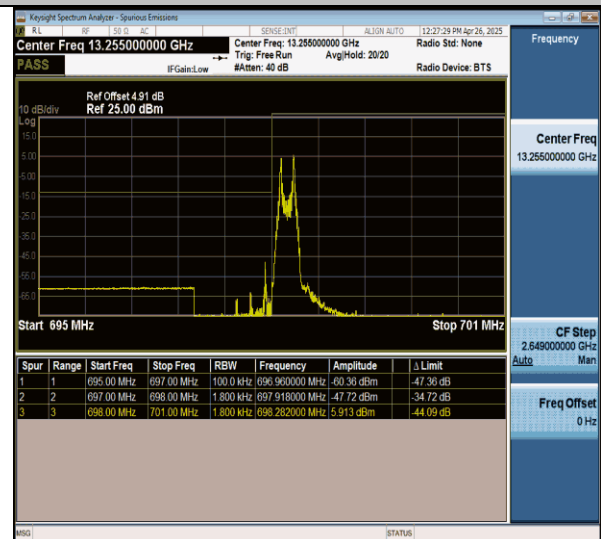
Band85_Stand-Alone_0.18_QPSK_134180_1@47_3.75kHz



Band85_Stand-Alone_0.18_BPSK_134004_1@0_15kHz

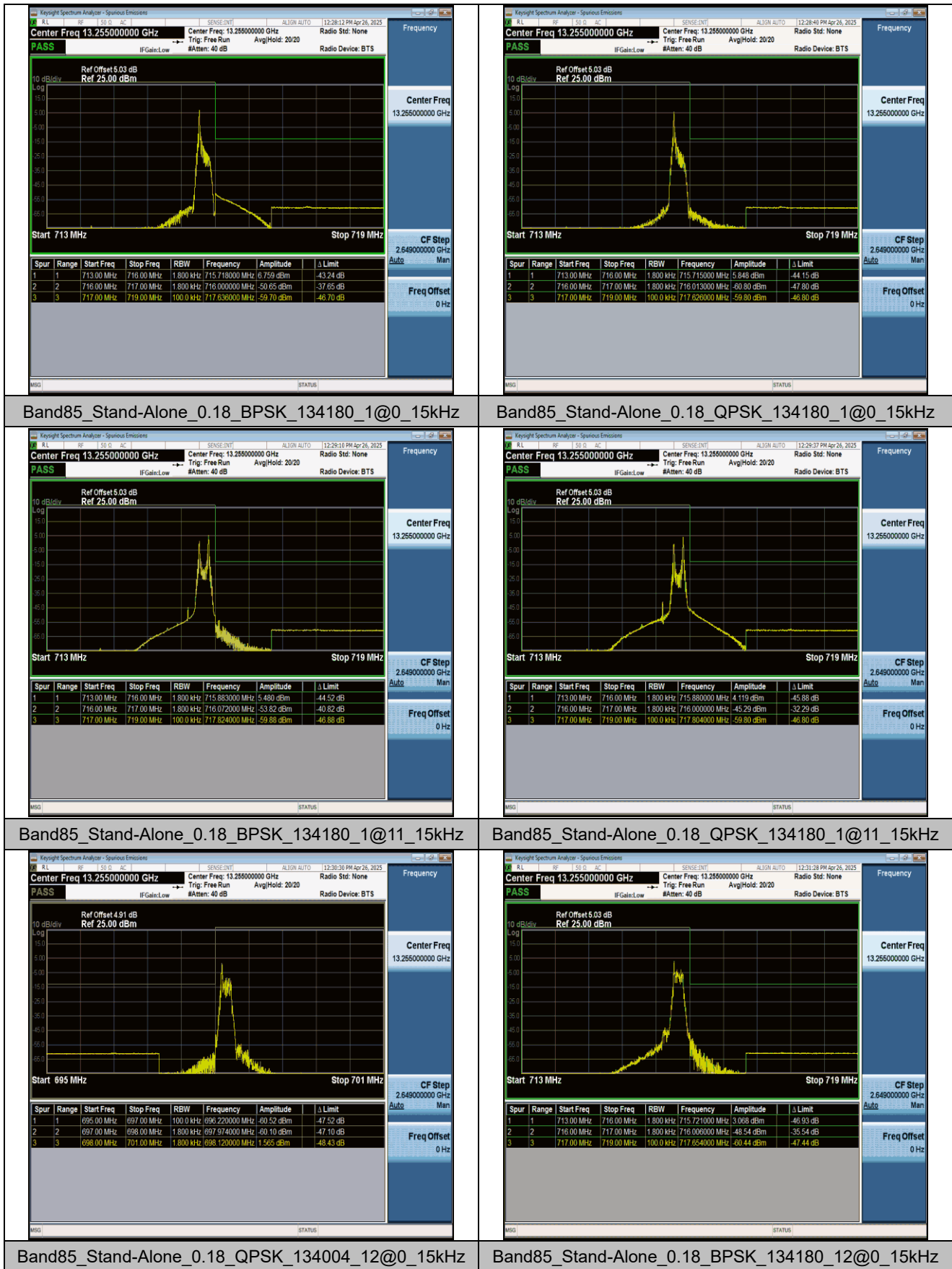


Band85_Stand-Alone_0.18_QPSK_134004_1@0_15kHz



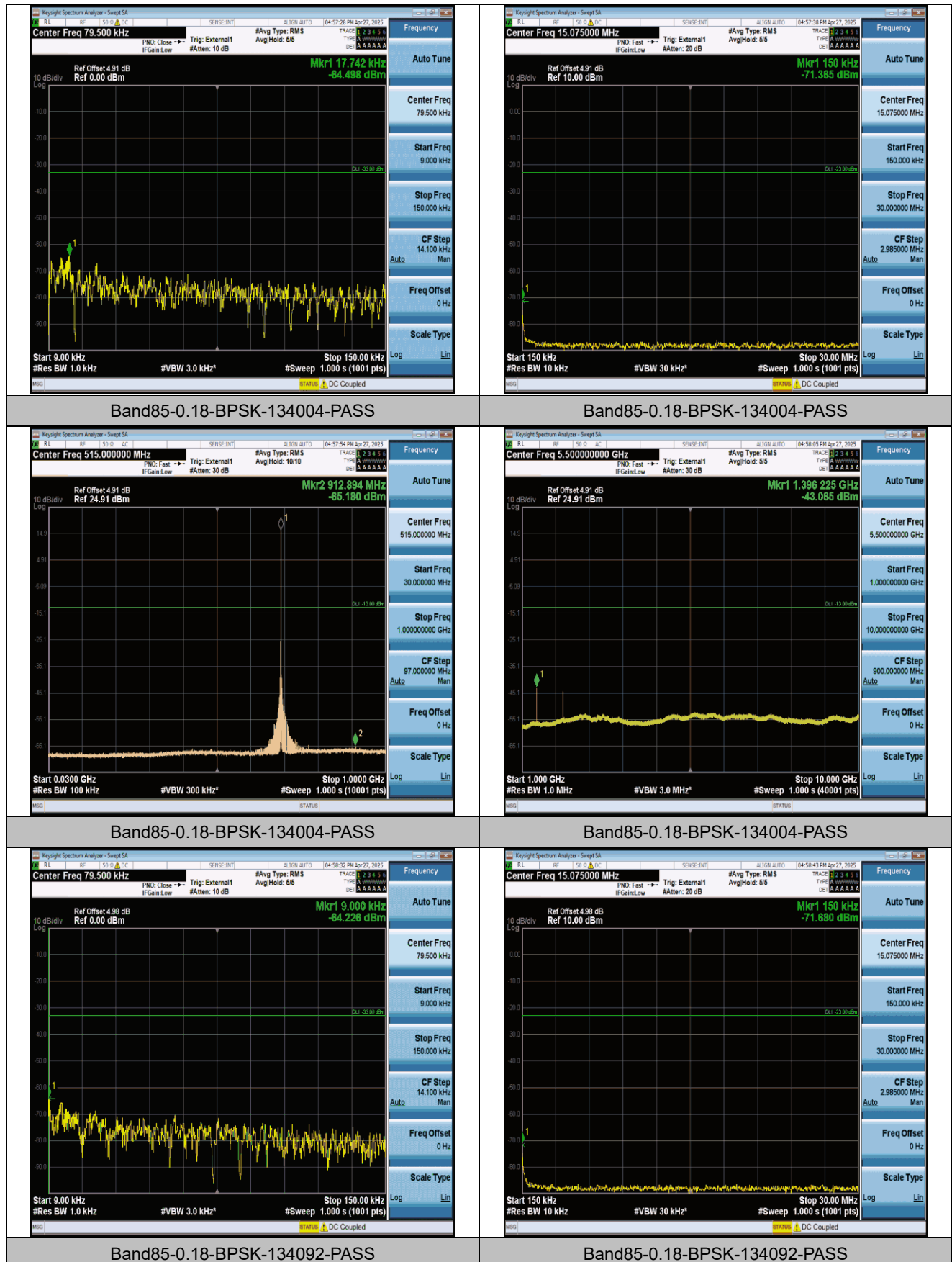
Band85_Stand-Alone_0.18_BPSK_134004_1@11_15kHz

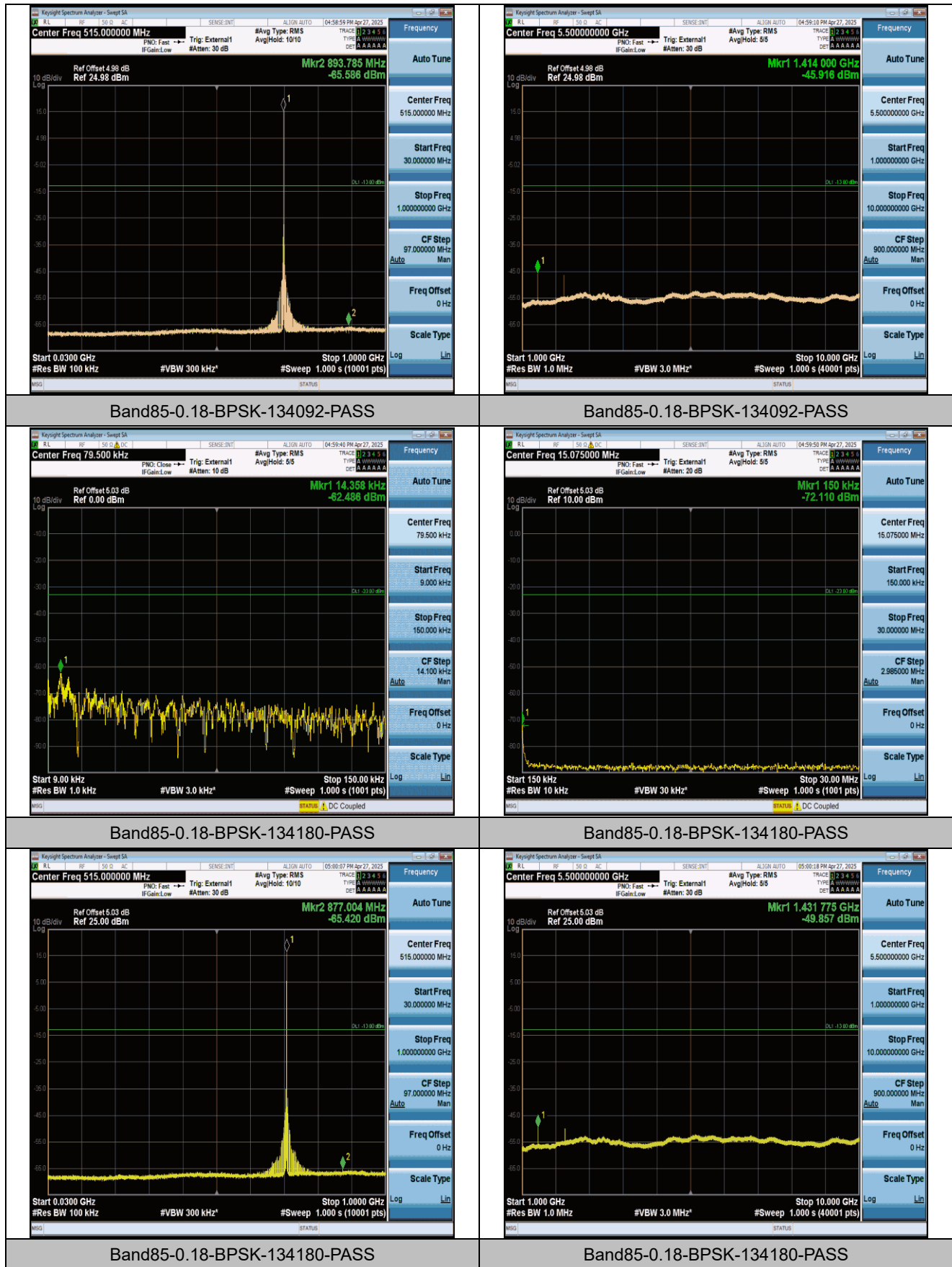
Band85_Stand-Alone_0.18_QPSK_134004_1@11_15kHz

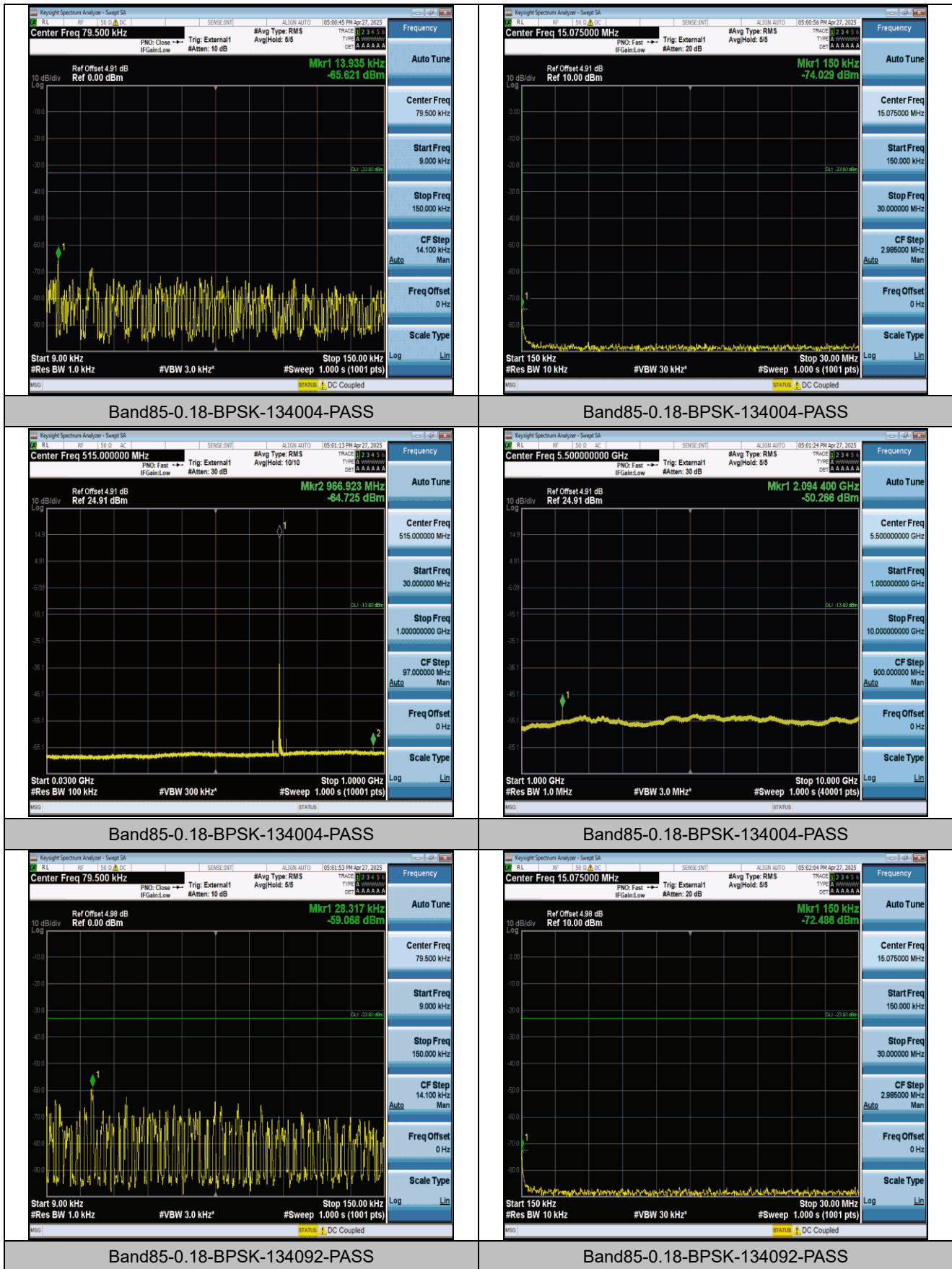


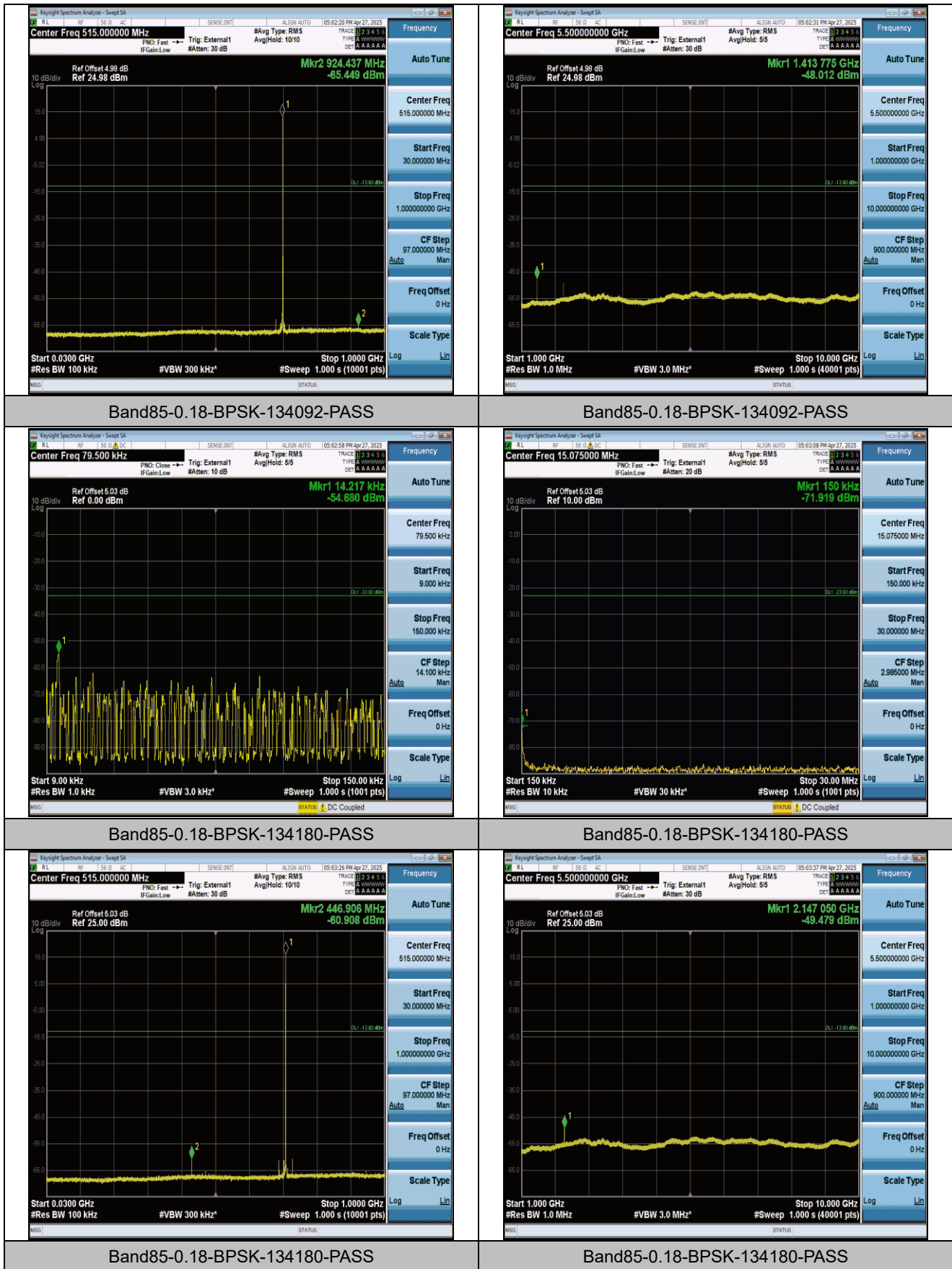
Conducted Spurious Emission for NB1

Test Graphs









Frequency Stability for NB1

Test Result

Voltage											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	VN	NT	-1.90	-0.002687	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	VL	NT	-2.20	-0.003112	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	VH	NT	-0.80	-0.001132	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	VN	NT	-2.60	-0.003678	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	VL	NT	-2.20	-0.003112	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	VH	NT	-2.90	-0.004102	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	VN	NT	-3.00	-0.004243	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	VL	NT	-2.90	-0.004102	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	VH	NT	-3.00	-0.004243	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	VN	NT	-2.50	-0.003536	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	VL	NT	-0.30	-0.000424	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	VH	NT	-0.80	-0.001132	PASS

Temperature											
Band	OpMode	Bandwidth	Modulation	Channel	Tones	SCS	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	-30	-1.30	-0.001839	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	-20	-2.90	-0.004102	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	-10	-1.70	-0.002405	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	0	-3.30	-0.004668	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	10	-2.70	-0.003819	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	20	-1.60	-0.002263	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	30	-2.50	-0.003536	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	40	-2.70	-0.003819	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@0	NV	50	-2.50	-0.003536	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	-30	-3.30	-0.004668	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	-20	-2.90	-0.004102	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	-10	-0.80	-0.001132	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	0	-3.40	-0.004809	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	10	-3.50	-0.004950	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	20	-3.20	-0.004526	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	30	-1.60	-0.002263	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	40	-3.20	-0.004526	PASS
Band85	Stand-Alone	3.75kHz	0.18	QPSK	134092	1@47	NV	50	-2.40	-0.003395	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	-30	-2.20	-0.003112	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	-20	-2.00	-0.002829	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	-10	-3.50	-0.004950	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	0	-1.20	-0.001697	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	10	-1.90	-0.002687	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	20	-2.60	-0.003678	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	30	-1.70	-0.002405	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	40	-3.10	-0.004385	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@0	NV	50	-1.50	-0.002122	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	-30	-1.20	-0.001697	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	-20	-2.90	-0.004102	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	-10	-2.70	-0.003819	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	0	-0.80	-0.001132	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	10	-2.80	-0.003960	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	20	-0.50	-0.000707	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	30	-3.10	-0.004385	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	40	-0.60	-0.000849	PASS
Band85	Stand-Alone	15kHz	0.18	QPSK	134092	1@11	NV	50	-1.00	-0.001414	PASS

~The End~