

Appendix-B LTE NB-IoT Band 13

Effective (Isotropic) Radiated Power Output Data for NB1

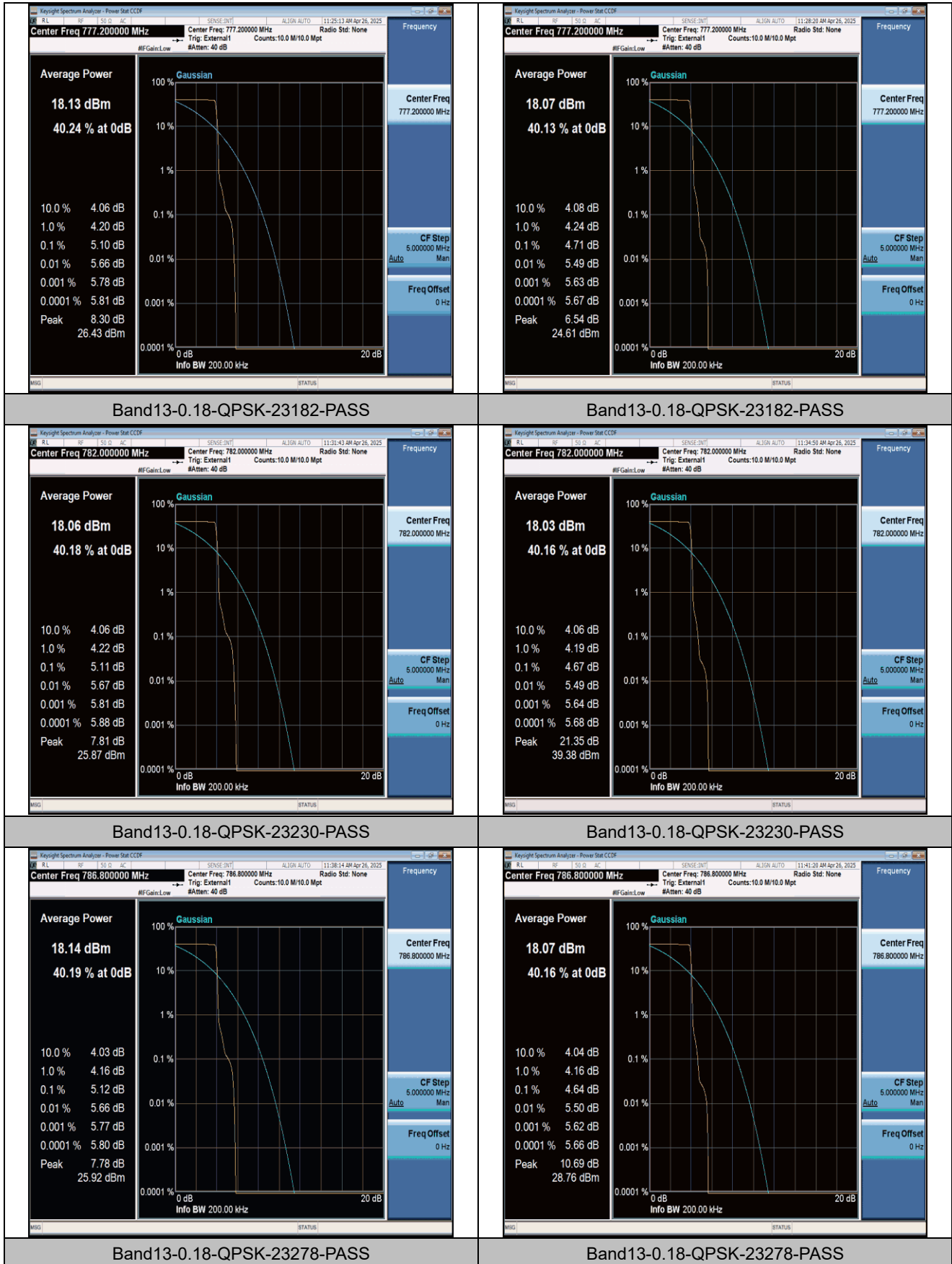
Test Result

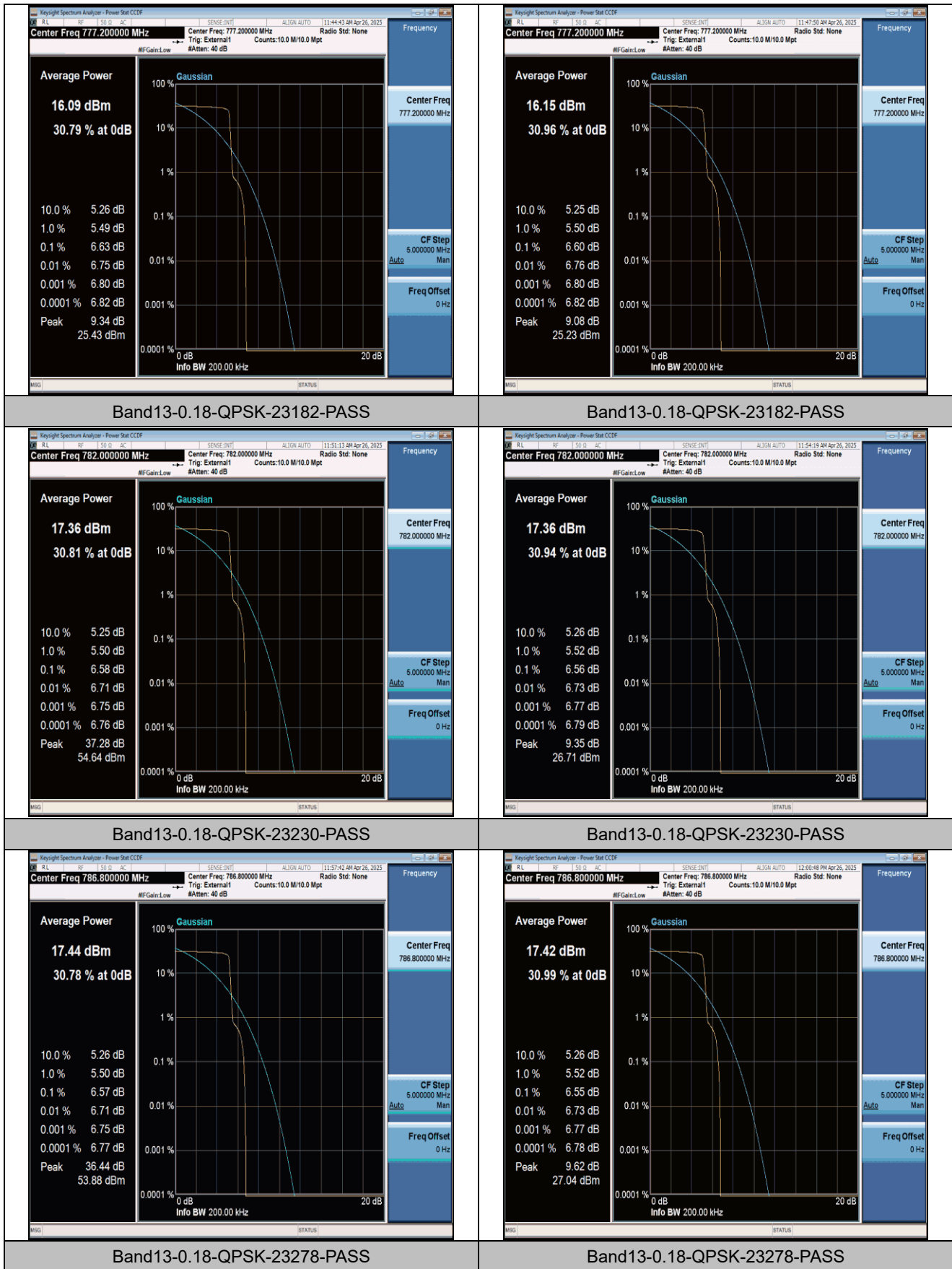
Band	OpMode	SCS	BW	Modulation	Channel	Tones	Power (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23182	1@0	21.12	23.42	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23182	1@0	21.11	23.41	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23182	1@47	21.12	23.42	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23182	1@47	21.12	23.42	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23230	1@0	21.21	23.51	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	21.26	23.56	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23230	1@47	21.17	23.47	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	21.21	23.51	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23278	1@0	21.32	23.62	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23278	1@0	21.37	23.67	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23278	1@47	21.28	23.58	44.77	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23278	1@47	21.26	23.56	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23182	1@0	20.04	22.34	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	1@0	20.07	22.37	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23182	1@11	19.98	22.28	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	1@11	20.01	22.31	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23230	1@0	20.38	22.68	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	20.39	22.69	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23230	1@11	20.31	22.61	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	20.31	22.61	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23278	1@0	20.44	22.74	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	1@0	20.44	22.74	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23278	1@11	20.34	22.64	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	1@11	20.37	22.67	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	3@3	20.10	22.4	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	3@3	20.32	22.62	44.77	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	3@3	21.53	23.83	44.77	PASS

Peak-to-Average Ratio(CCDF) for NB1**Test Result**

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23182	1@0	5.1	<=13	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23182	1@47	4.71	<=13	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	5.11	<=13	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	4.67	<=13	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23278	1@0	5.12	<=13	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23278	1@47	4.64	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	1@0	6.63	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	1@11	6.6	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	6.58	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	6.56	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	1@0	6.57	<=13	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	1@11	6.55	<=13	PASS

Test Graphs



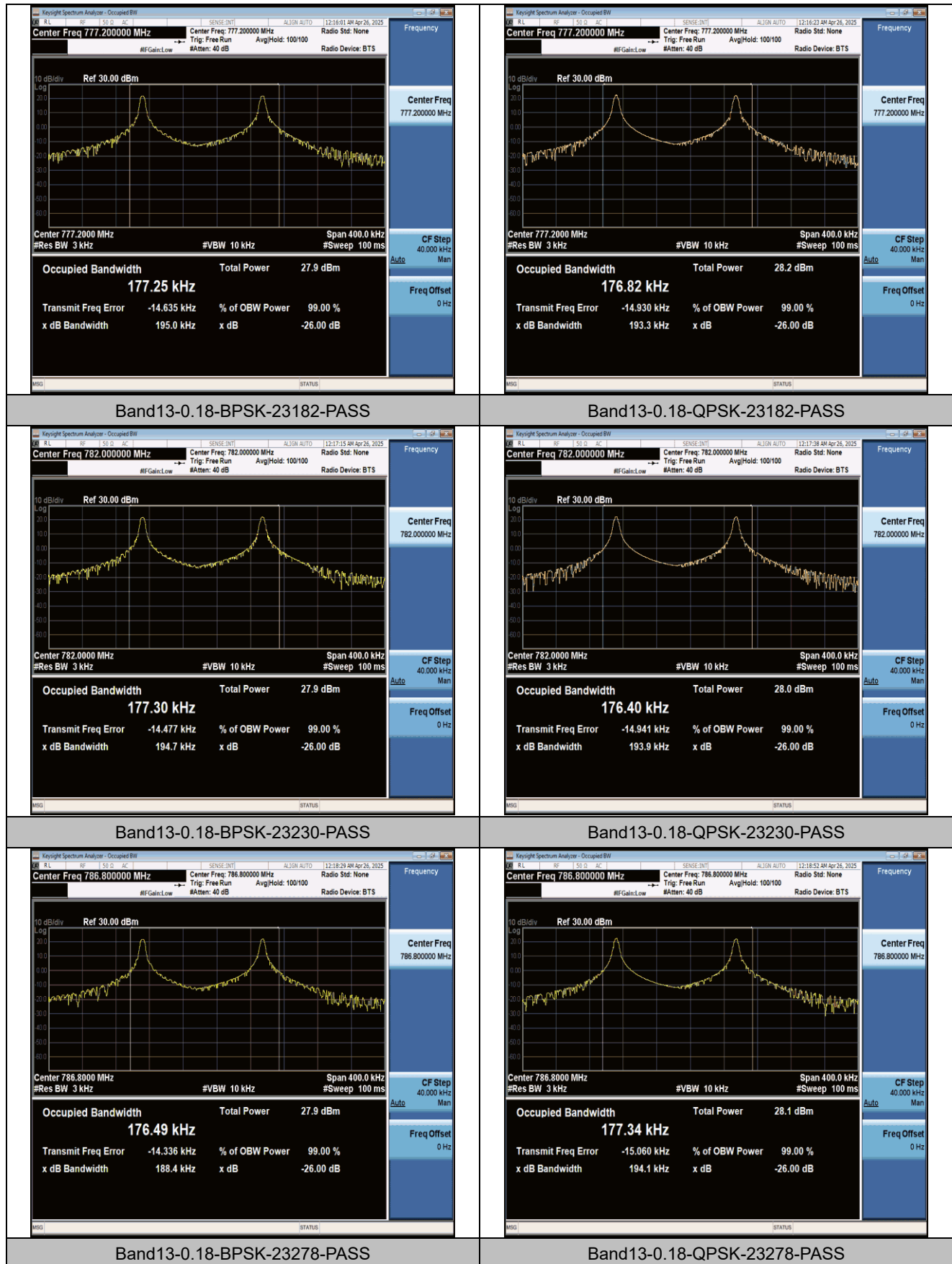


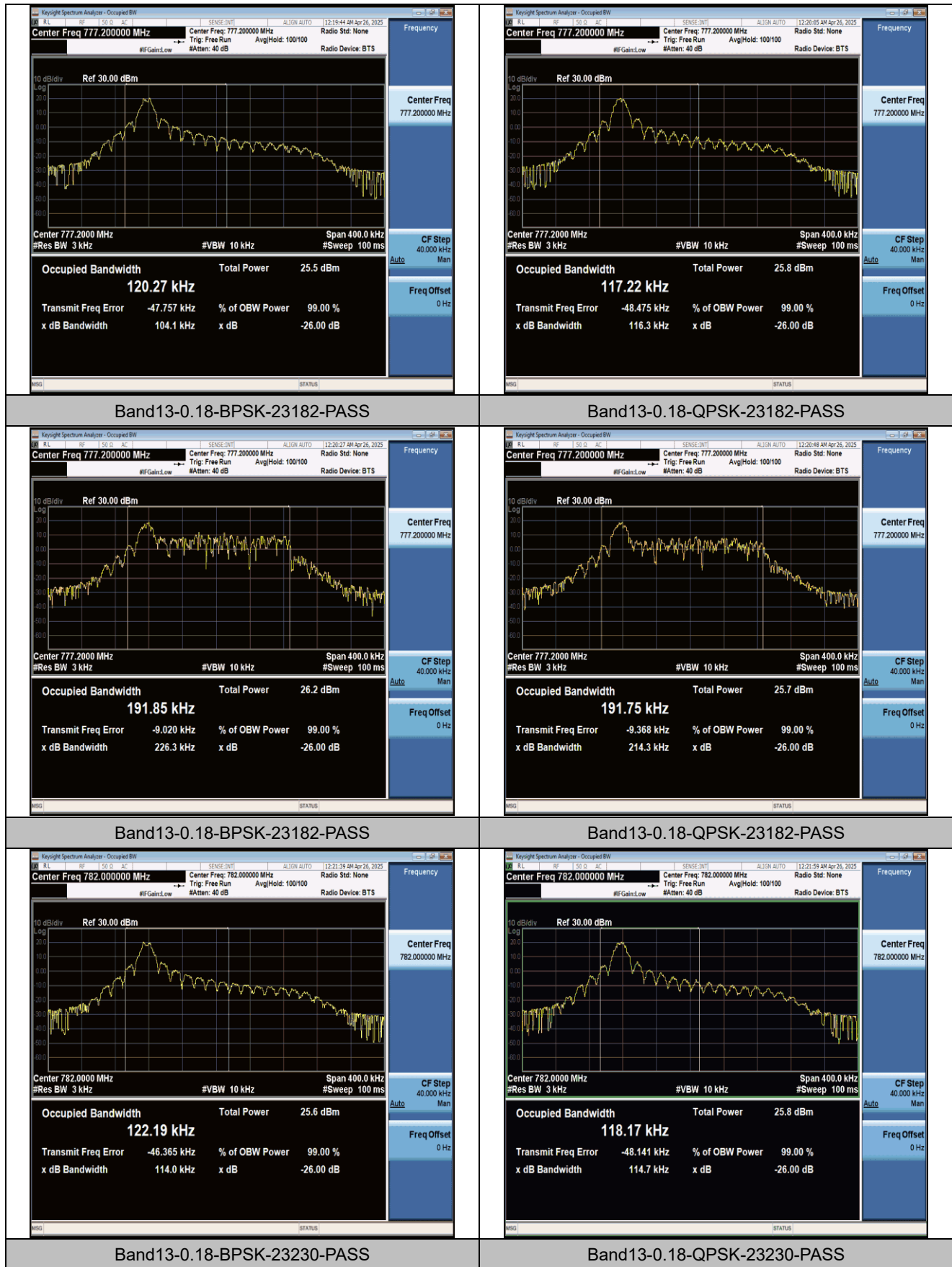
Emission Bandwidth for NB1

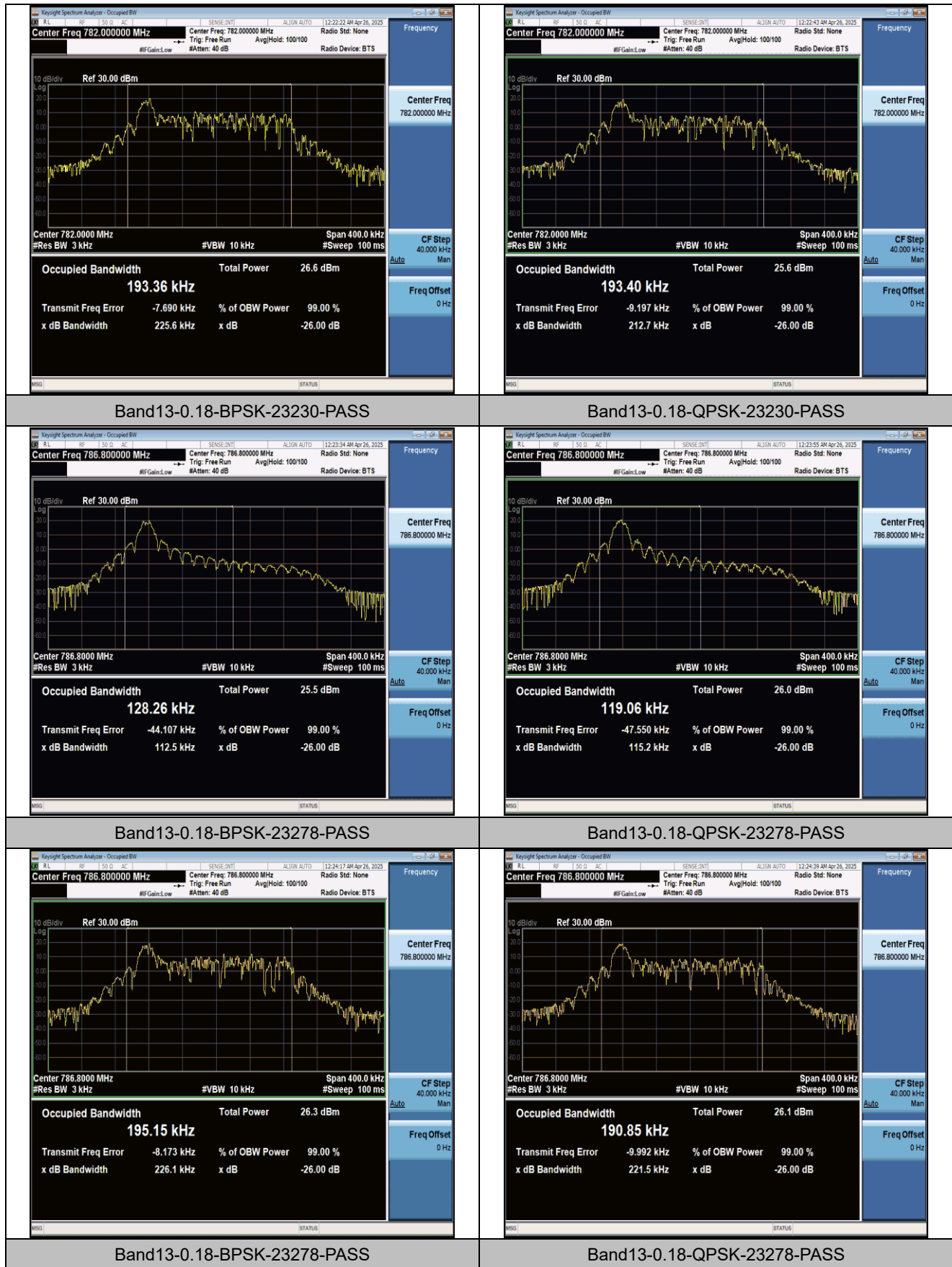
Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23182	1@0	0.17725	0.1950	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23182	1@0	0.17682	0.1933	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23230	1@0	0.17730	0.1947	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	0.17640	0.1939	PASS
Band13	Stand-Alone	3.75kHz	0.18	BPSK	23278	1@0	0.17649	0.1884	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23278	1@0	0.17734	0.1941	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23182	1@0	0.12027	0.1041	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	1@0	0.11722	0.1163	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23182	12@0	0.19185	0.2263	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23182	12@0	0.19175	0.2143	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23230	1@0	0.12219	0.1140	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	0.11817	0.1147	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23230	12@0	0.19336	0.2256	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	12@0	0.19340	0.2127	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23278	1@0	0.12826	0.1125	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	1@0	0.11906	0.1152	PASS
Band13	Stand-Alone	15kHz	0.18	BPSK	23278	12@0	0.19515	0.2261	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23278	12@0	0.19085	0.2215	PASS

Test Graphs

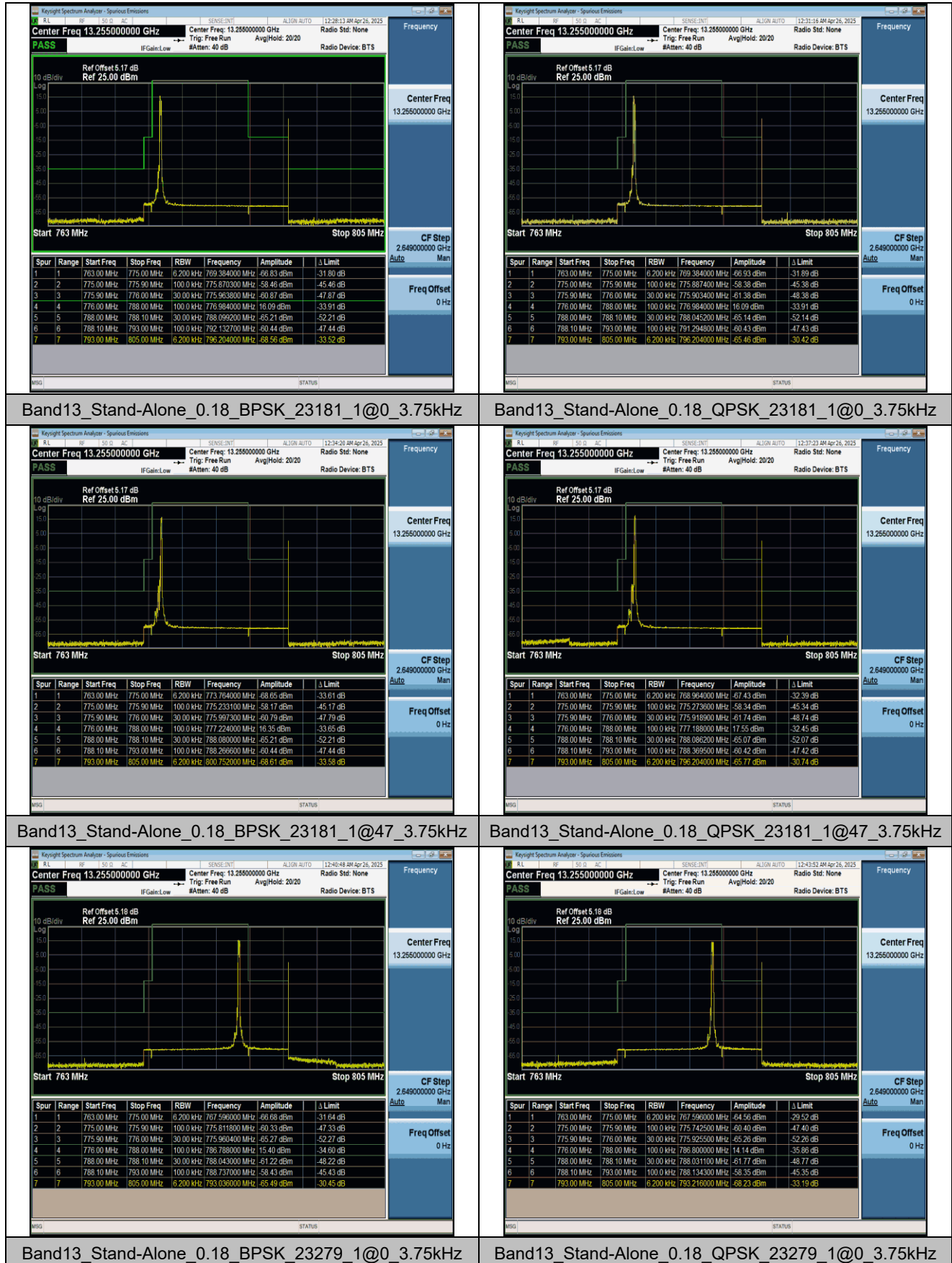


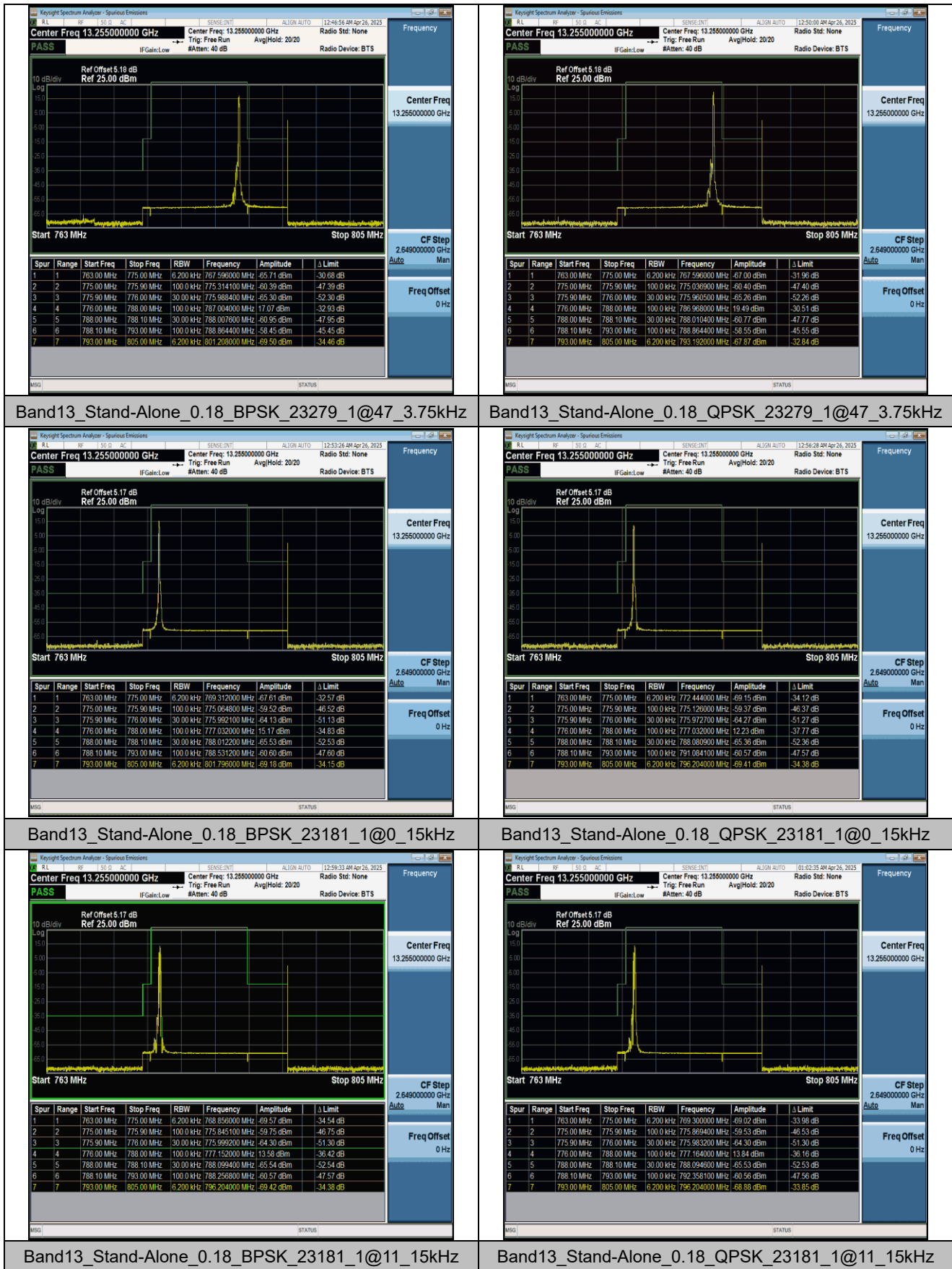


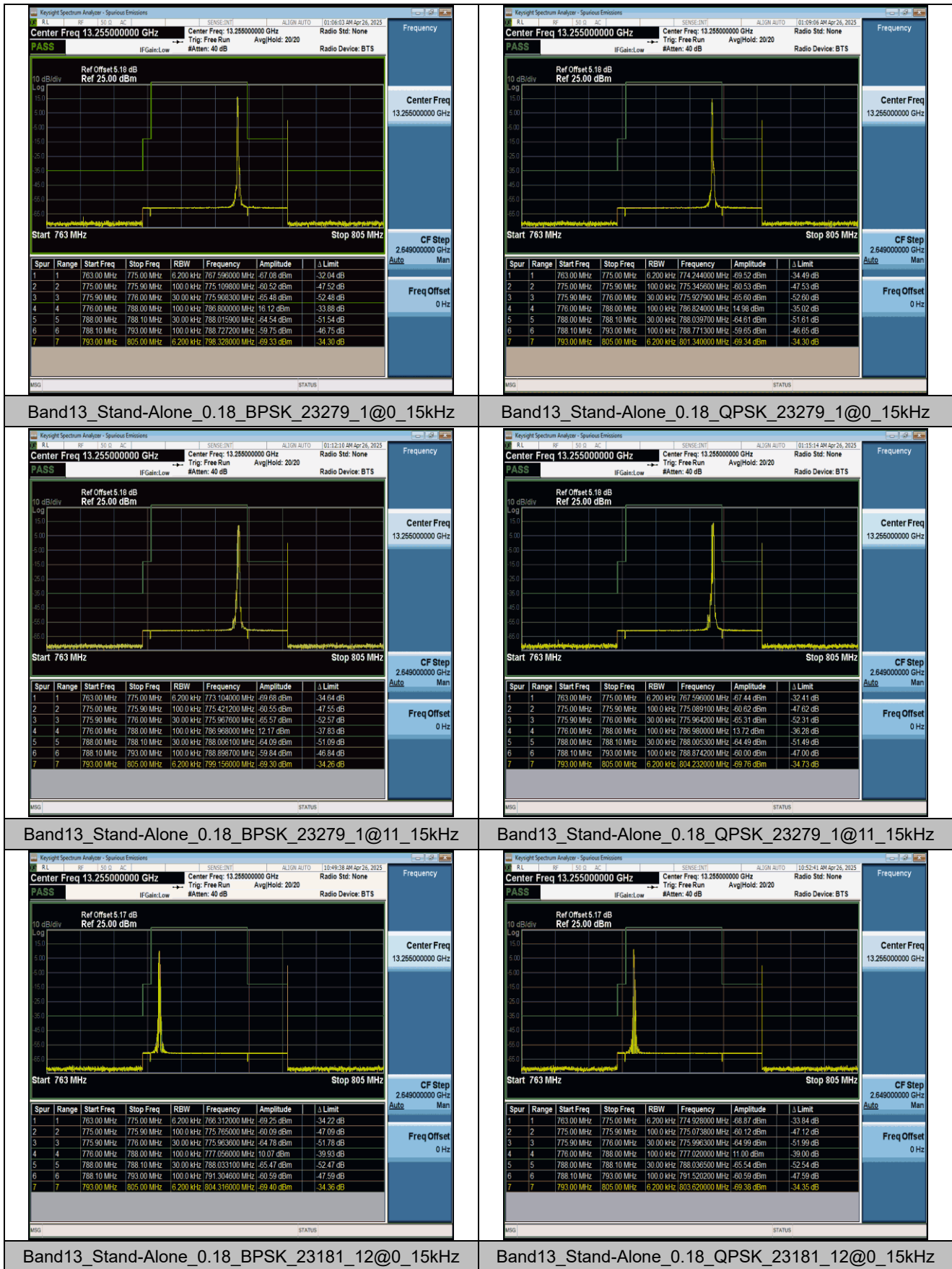


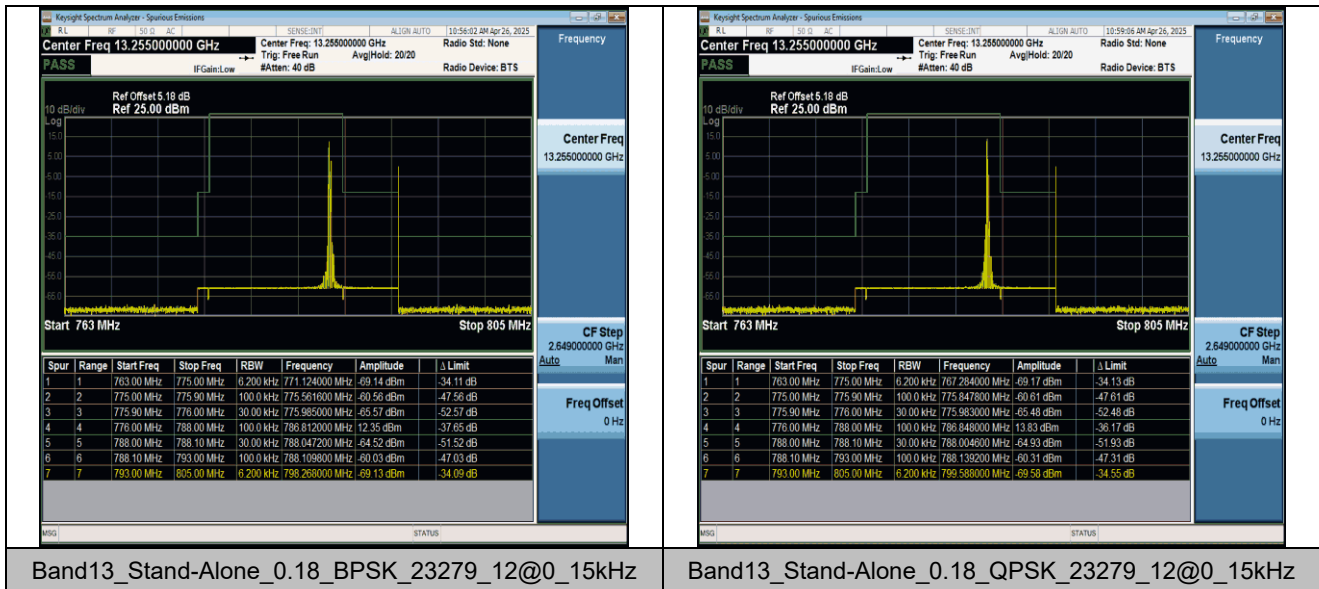
Band Edge for NB1

Test Graphs



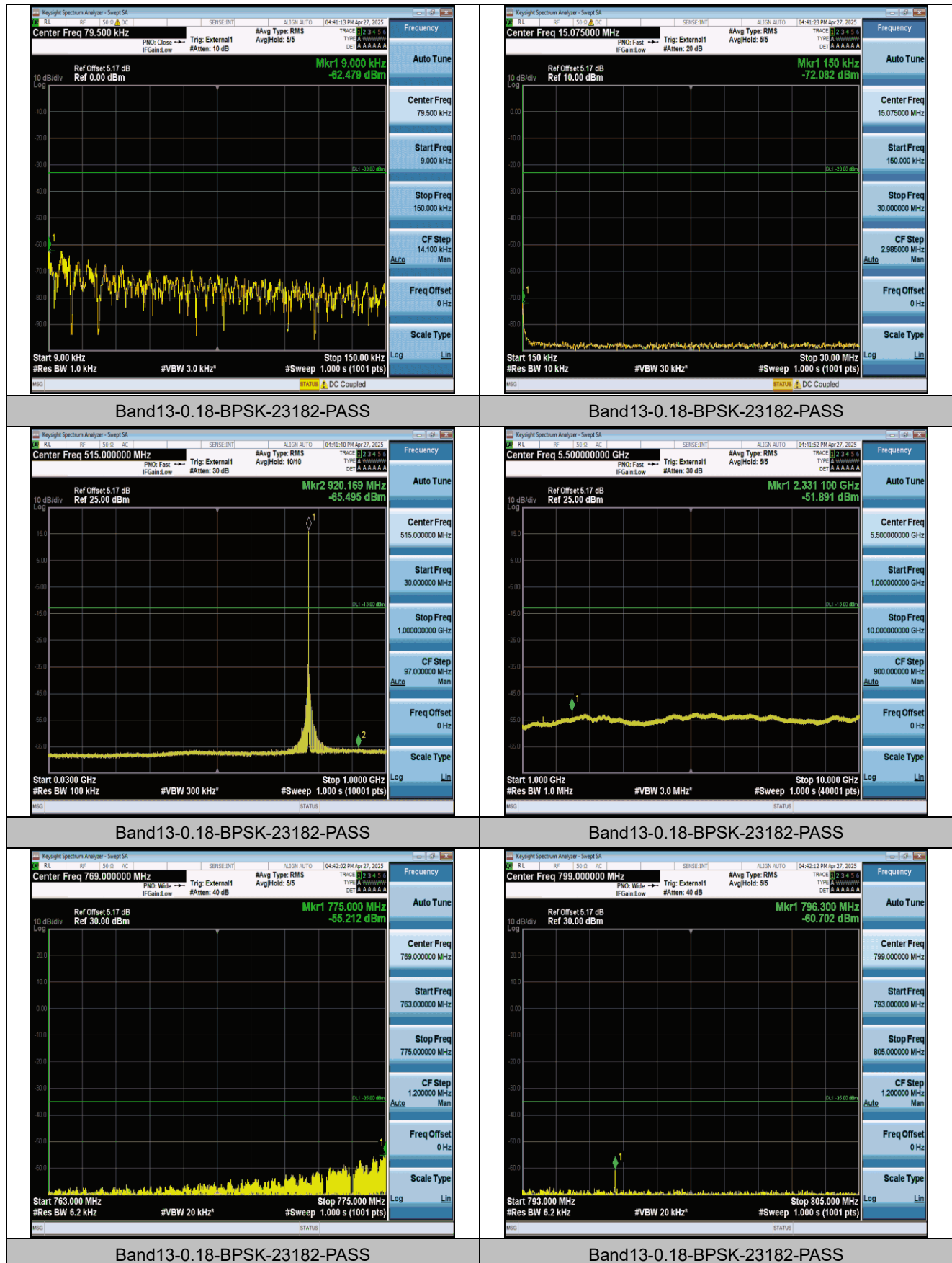


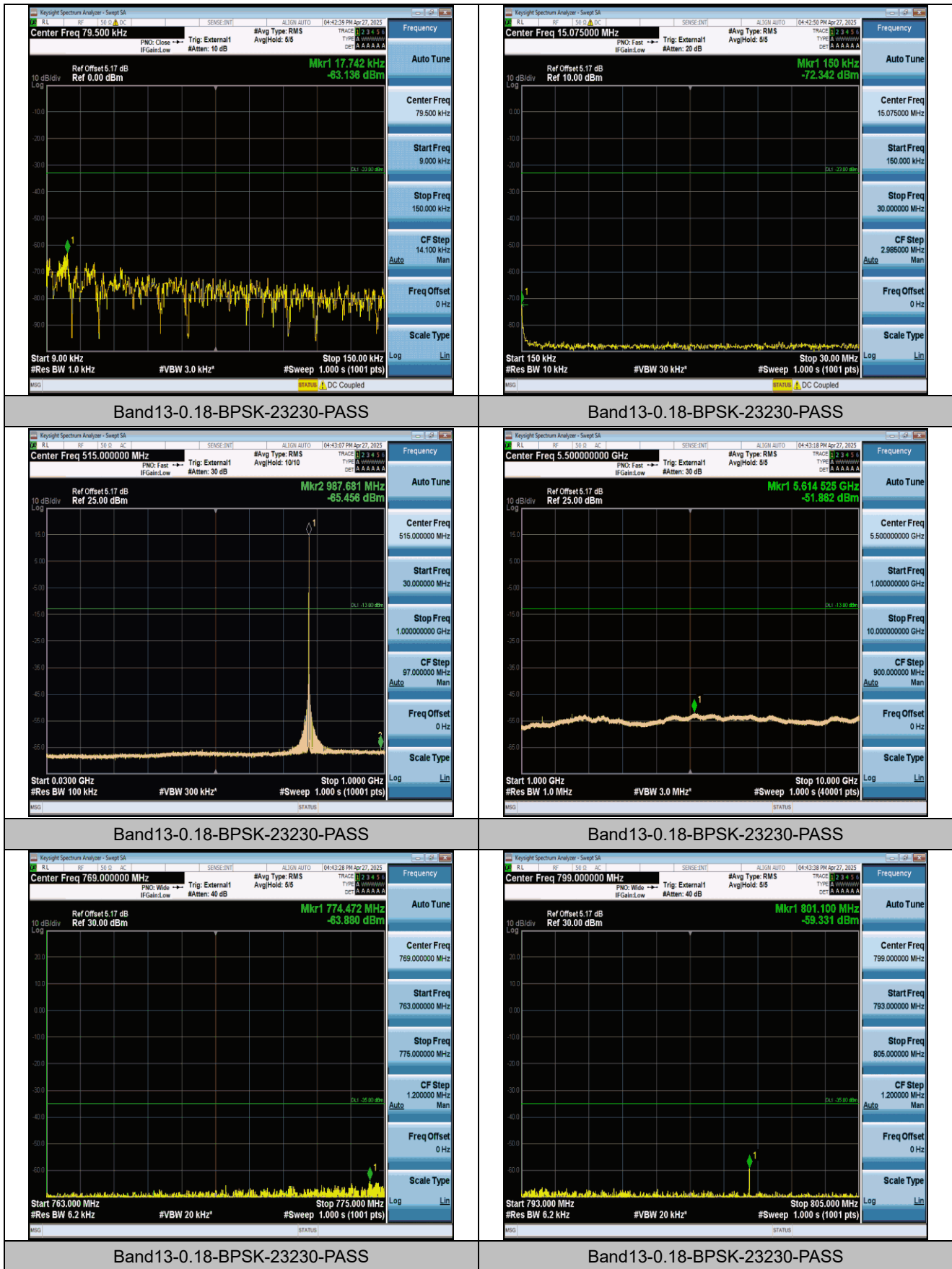


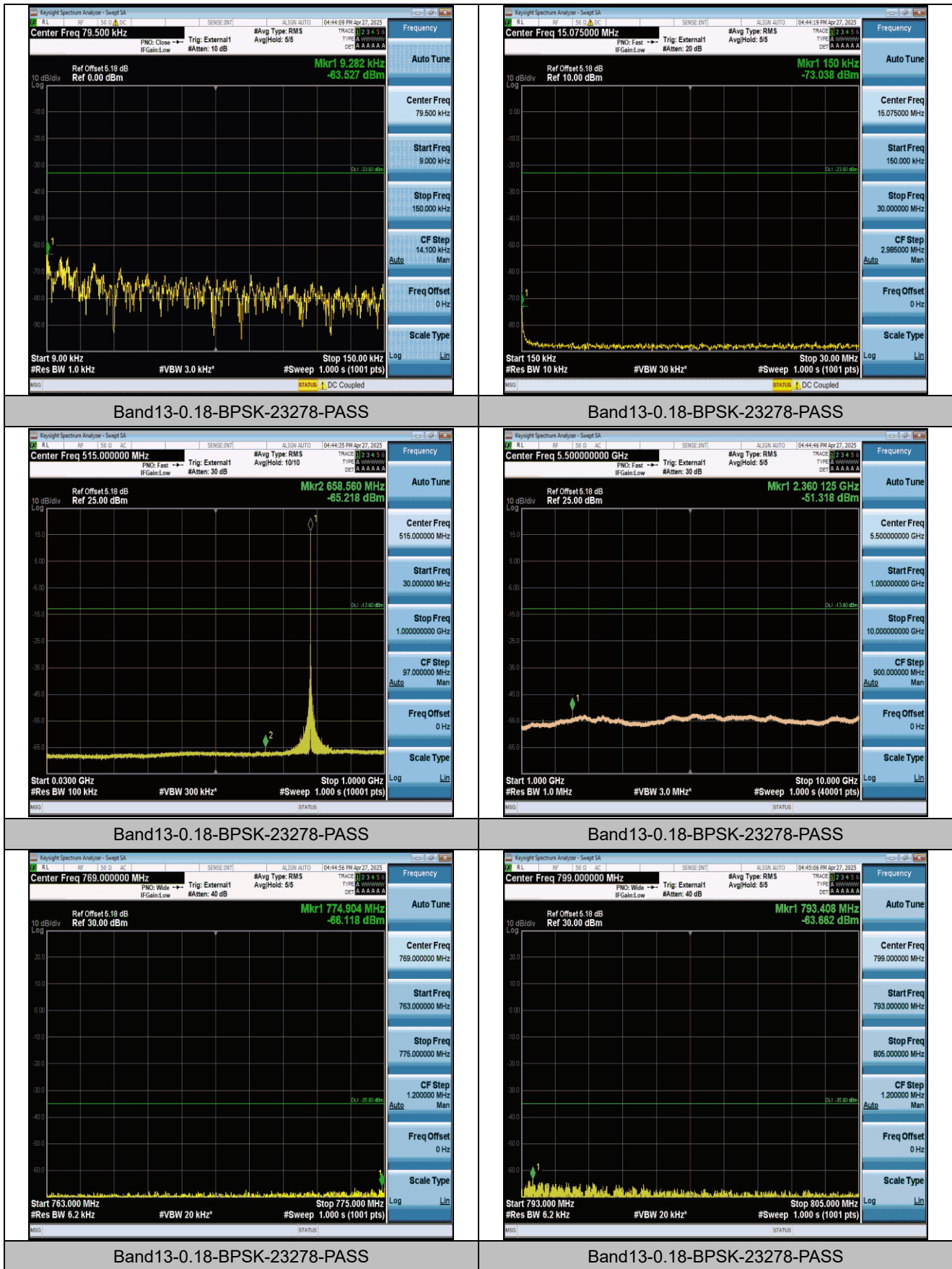


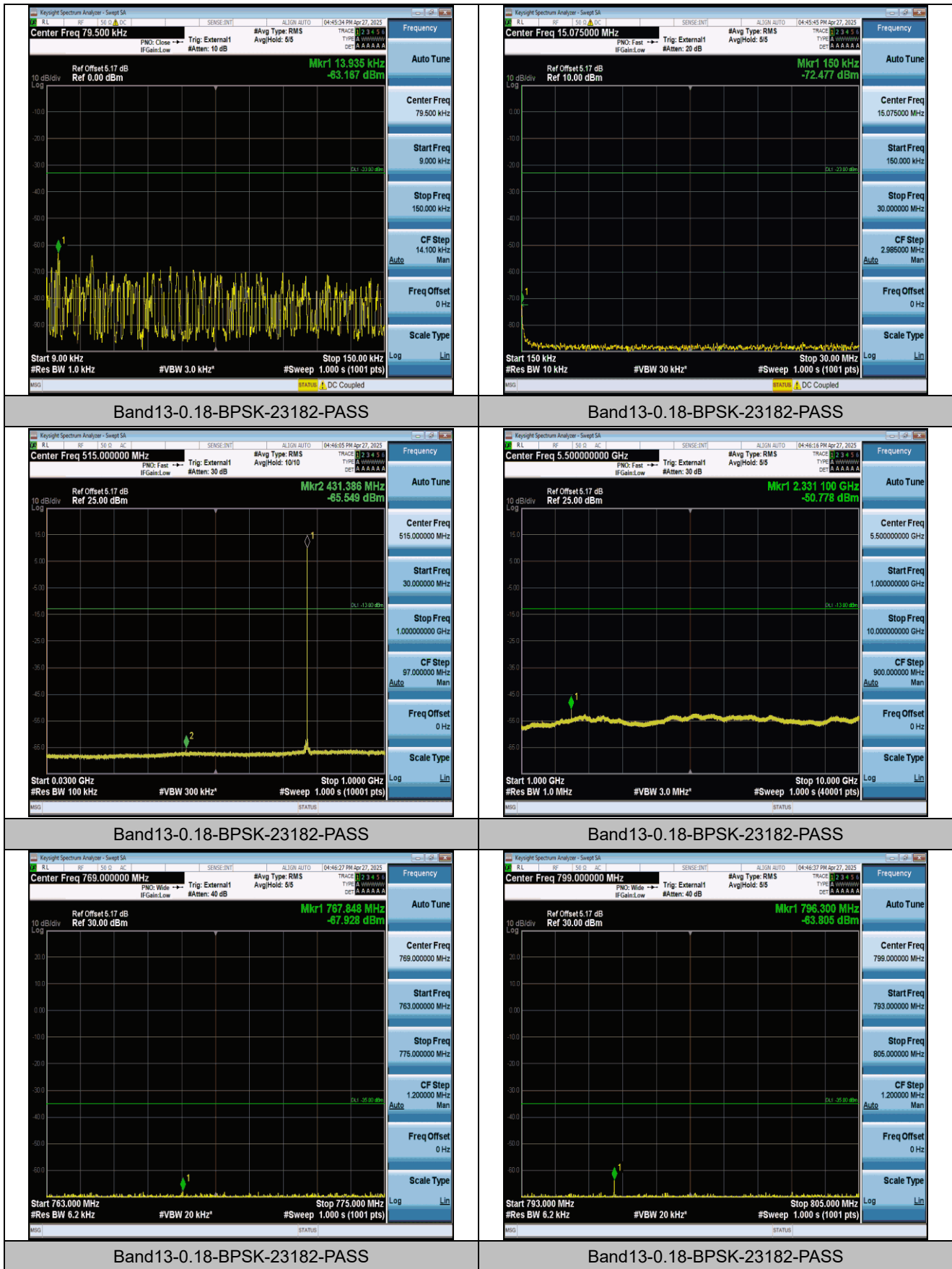
Conducted Spurious Emission for NB1

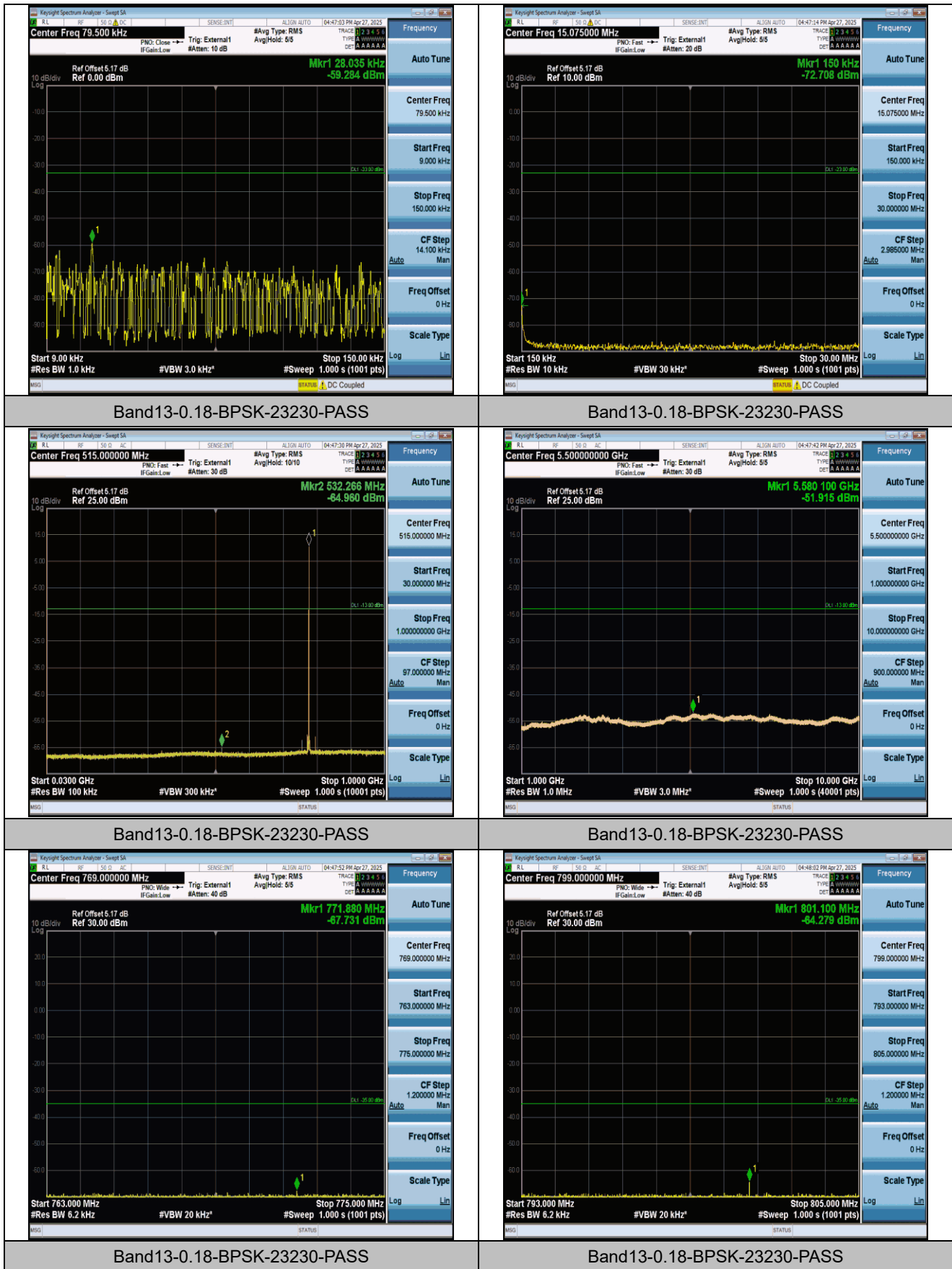
Test Graphs

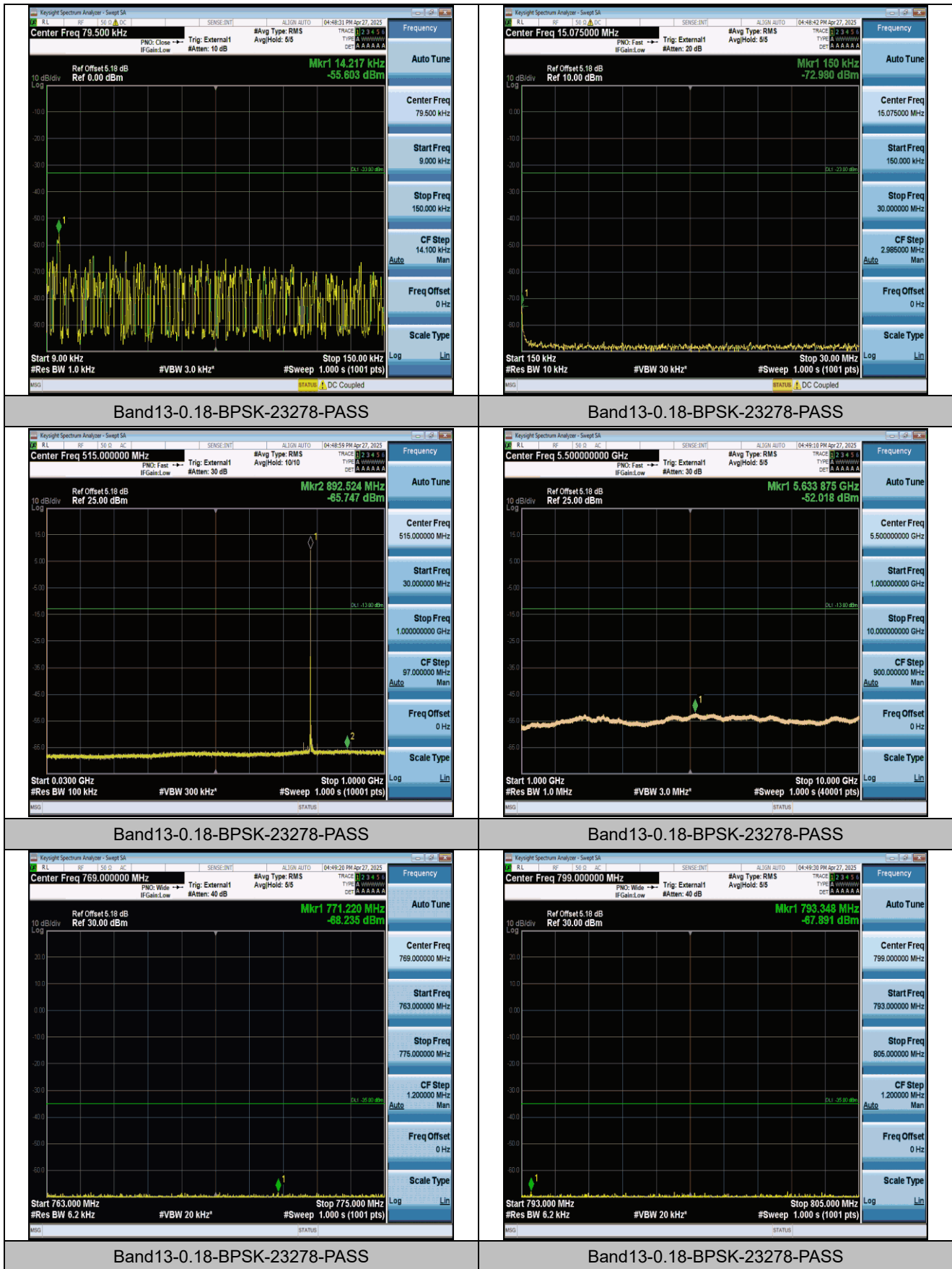












Frequency Stability for NB1

Test Result

Voltage											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	VN	NT	-5.40	-0.006905	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	VL	NT	-3.50	-0.004476	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	VH	NT	-2.90	-0.003708	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	VN	NT	-3.70	-0.004731	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	VL	NT	-1.50	-0.001918	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	VH	NT	-3.10	-0.003964	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	VN	NT	-3.50	-0.004476	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	VL	NT	-2.30	-0.002941	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	VH	NT	-2.80	-0.003581	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	VN	NT	-1.20	-0.001535	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	VL	NT	-1.40	-0.001790	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	VH	NT	-3.60	-0.004604	PASS

Temperature											
Band	OpMode	Bandwidth	Modulation	Channel	Tones	SCS	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	-30	-4.90	-0.006266	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	-20	-4.10	-0.005243	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	-10	-4.60	-0.005882	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	0	-2.90	-0.003708	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	10	-1.50	-0.001918	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	20	-3.70	-0.004731	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	30	-4.10	-0.005243	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	40	-2.60	-0.003325	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@0	NV	50	-2.40	-0.003069	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	-30	-2.80	-0.003581	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	-20	-2.80	-0.003581	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	-10	-4.60	-0.005882	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	0	-4.90	-0.006266	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	10	-4.70	-0.006010	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	20	-3.60	-0.004604	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	30	-2.00	-0.002558	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	40	-2.00	-0.002558	PASS
Band13	Stand-Alone	3.75kHz	0.18	QPSK	23230	1@47	NV	50	-3.20	-0.004092	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	-30	-2.00	-0.002558	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	-20	-1.80	-0.002302	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	-10	-3.20	-0.004092	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	0	-2.00	-0.002558	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	10	-2.70	-0.003453	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	20	-3.00	-0.003836	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	30	-3.40	-0.004348	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	40	-2.00	-0.002558	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@0	NV	50	-3.80	-0.004859	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	-30	-5.00	-0.006394	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	-20	-2.00	-0.002558	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	-10	-1.90	-0.002430	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	0	-4.50	-0.005754	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	10	-1.90	-0.002430	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	20	-2.00	-0.002558	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	30	-2.40	-0.003069	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	40	-3.30	-0.004220	PASS
Band13	Stand-Alone	15kHz	0.18	QPSK	23230	1@11	NV	50	-3.90	-0.004987	PASS

~The End~