

Appendix-B LTE NB-IoT Band 2

Effective (Isotropic) Radiated Power Output Data for NB1

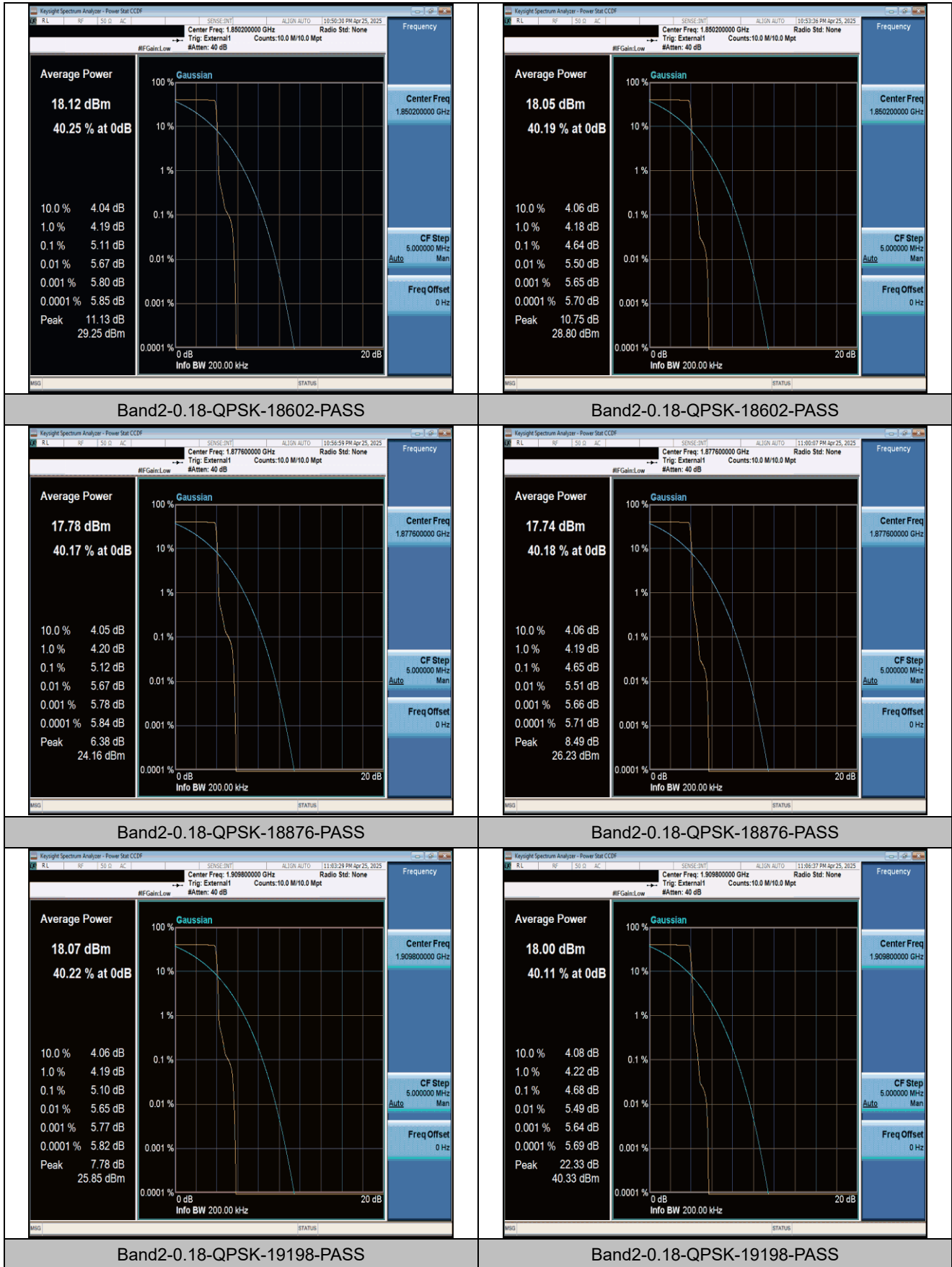
Test Result

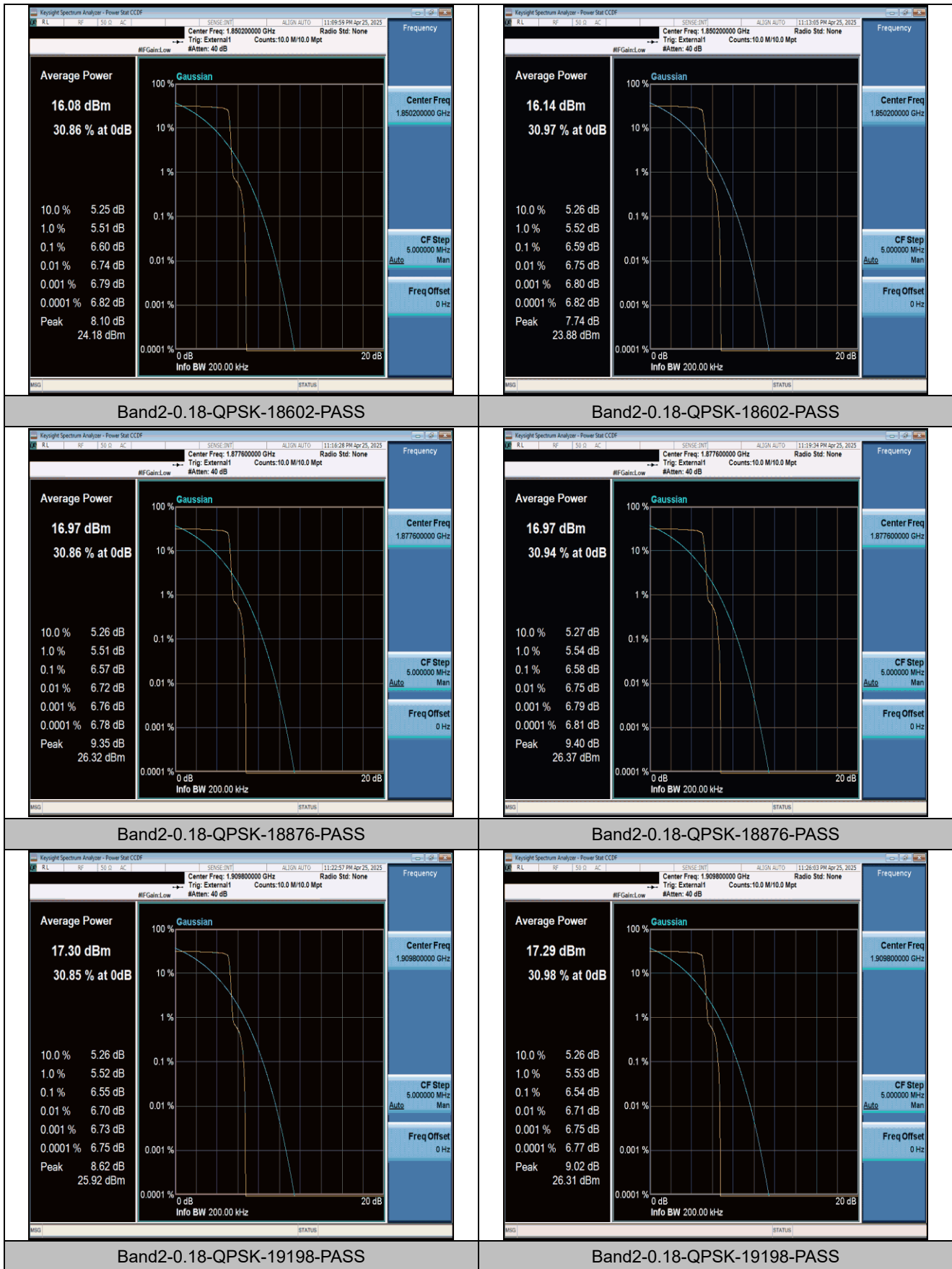
Band	OpMode	SCS	BW	Modulation	Channel	Tones	Power (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18601	1@0	21.94	23.53	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18601	1@0	21.90	23.49	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18601	1@47	21.83	23.42	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18601	1@47	21.84	23.43	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18876	1@0	21.55	23.14	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	21.51	23.1	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18876	1@47	21.53	23.12	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@47	21.49	23.08	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	19199	1@0	21.84	23.43	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	19199	1@0	21.95	23.54	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	19199	1@47	21.89	23.48	33	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	19199	1@47	21.82	23.41	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18601	1@0	20.81	22.4	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18601	1@0	20.85	22.44	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18601	1@11	20.79	22.38	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18601	1@11	20.79	22.38	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18876	1@0	21.63	23.22	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	1@0	21.68	23.27	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18876	1@11	21.59	23.18	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	1@11	21.59	23.18	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	19199	1@0	22.12	23.71	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19199	1@0	22.17	23.76	33	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	19199	1@11	22.07	23.66	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19199	1@11	22.08	23.67	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18601	3@3	21.99	23.58	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	3@3	21.66	23.25	33	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19199	3@3	21.99	23.58	33	PASS

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

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18602	1@0	5.11	<=13	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18602	1@47	4.64	<=13	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	5.12	<=13	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@47	4.65	<=13	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	19198	1@0	5.1	<=13	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	19198	1@47	4.68	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18602	1@0	6.6	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18602	1@11	6.59	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	1@0	6.57	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	1@11	6.58	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19198	1@0	6.55	<=13	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19198	1@11	6.54	<=13	PASS

Test Graphs



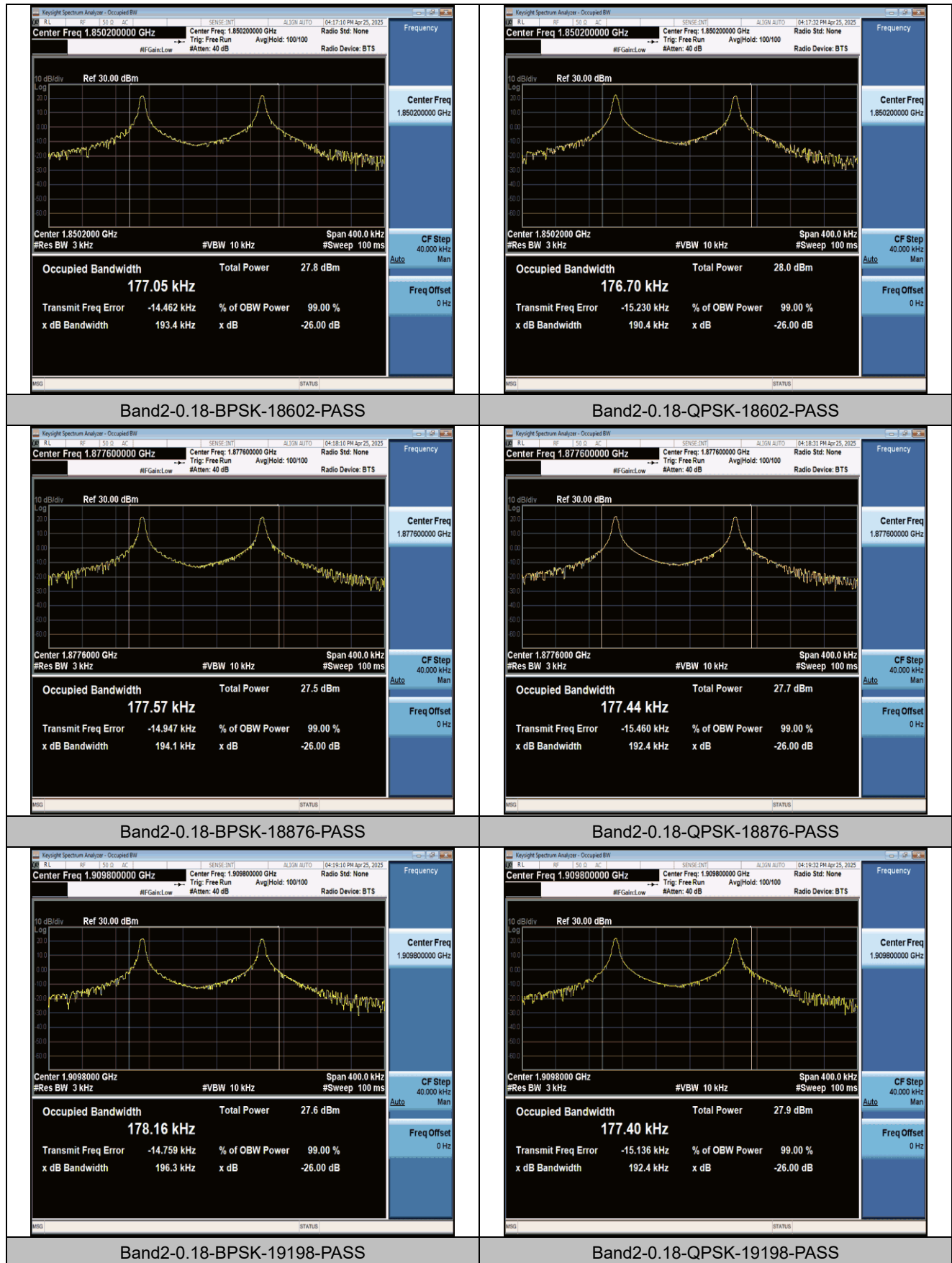


Emission Bandwidth for NB1

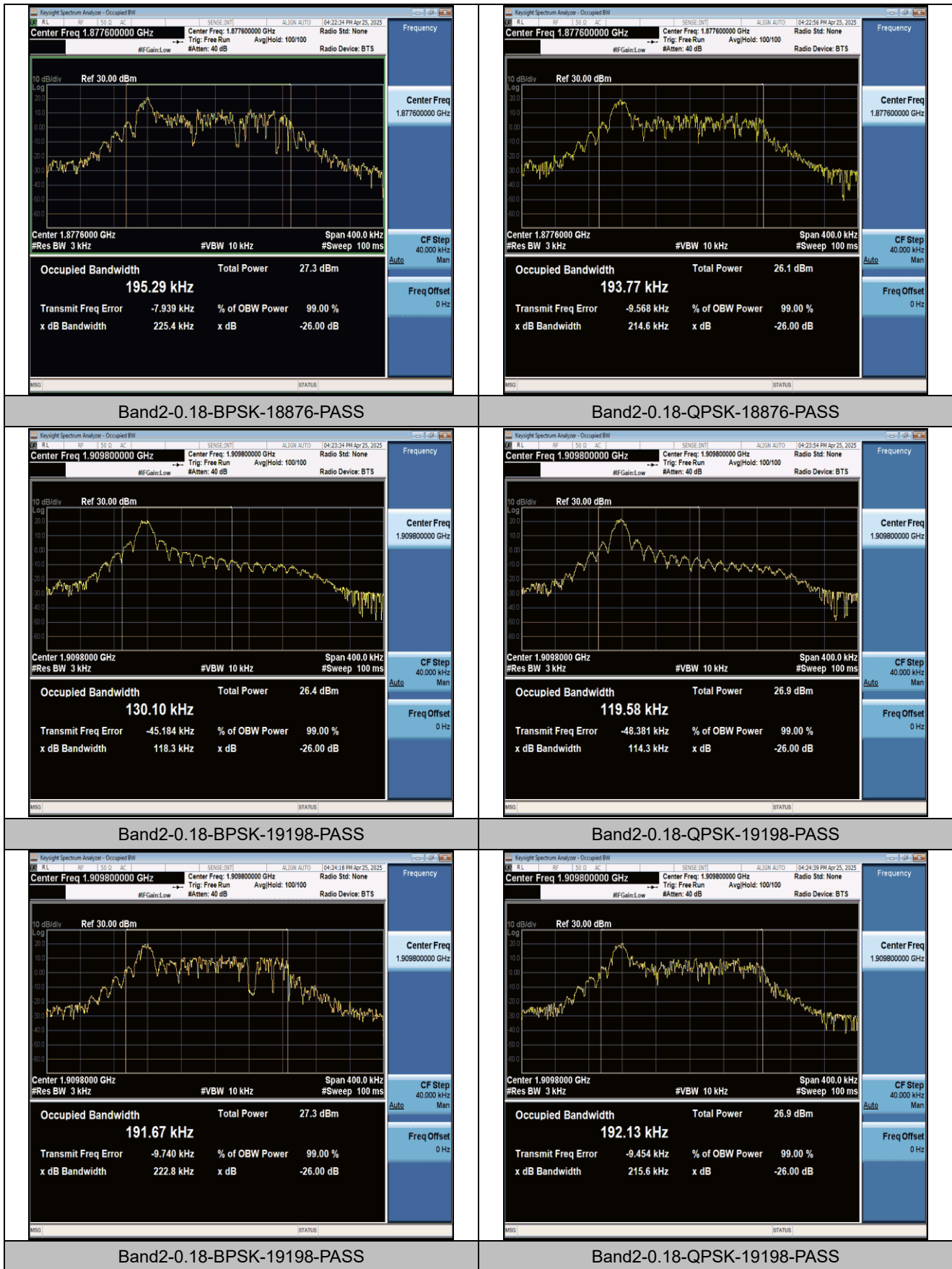
Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18602	1@0	0.17705	0.1934	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18602	1@0	0.17670	0.1904	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	18876	1@0	0.17757	0.1941	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	0.17744	0.1924	PASS
Band2	Stand-Alone	3.75kHz	0.18	BPSK	19198	1@0	0.17816	0.1963	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	19198	1@0	0.17740	0.1924	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18602	1@0	0.12713	0.1036	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18602	1@0	0.11815	0.1163	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18602	12@0	0.19432	0.2265	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18602	12@0	0.19198	0.2125	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18876	1@0	0.12285	0.1125	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	1@0	0.11896	0.1151	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	18876	12@0	0.19529	0.2254	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	0.19377	0.2146	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	19198	1@0	0.13010	0.1183	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19198	1@0	0.11958	0.1143	PASS
Band2	Stand-Alone	15kHz	0.18	BPSK	19198	12@0	0.19167	0.2228	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	19198	12@0	0.19213	0.2156	PASS

Test Graphs

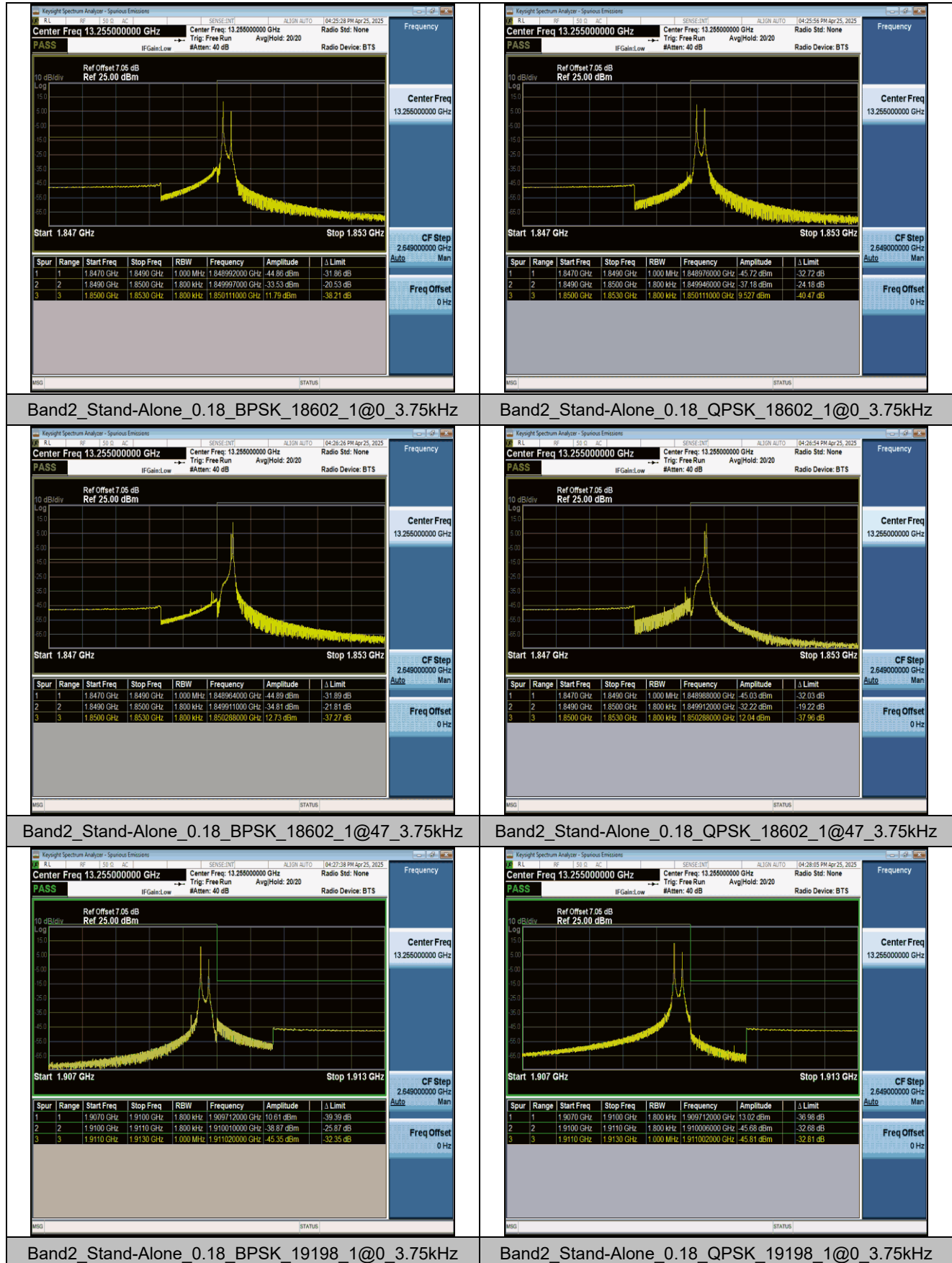


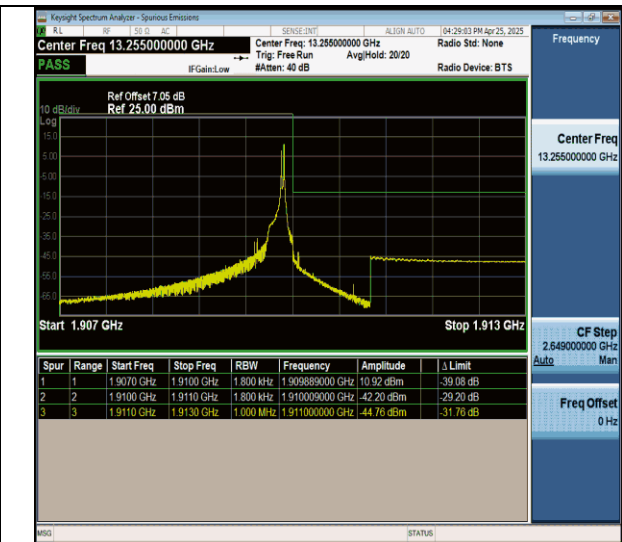




Band Edge for NB1

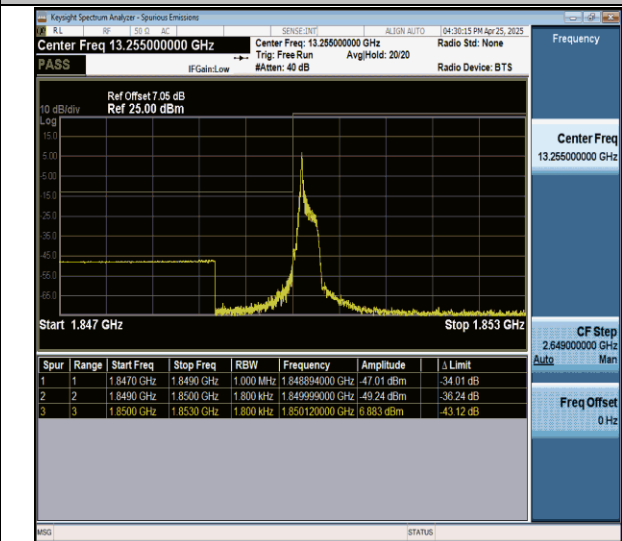
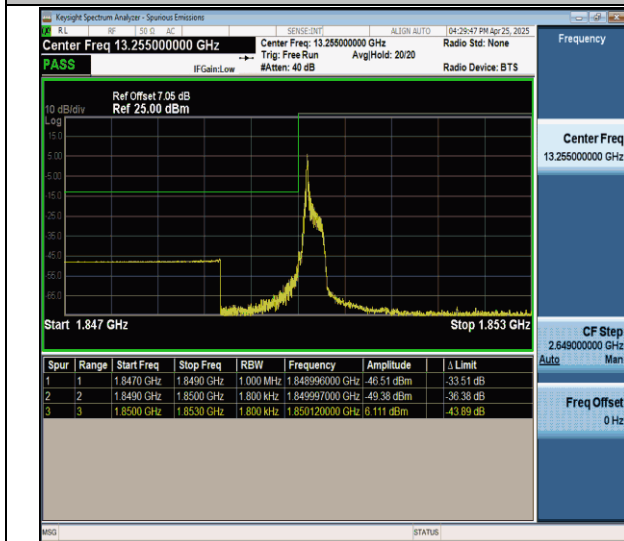
Test Graphs





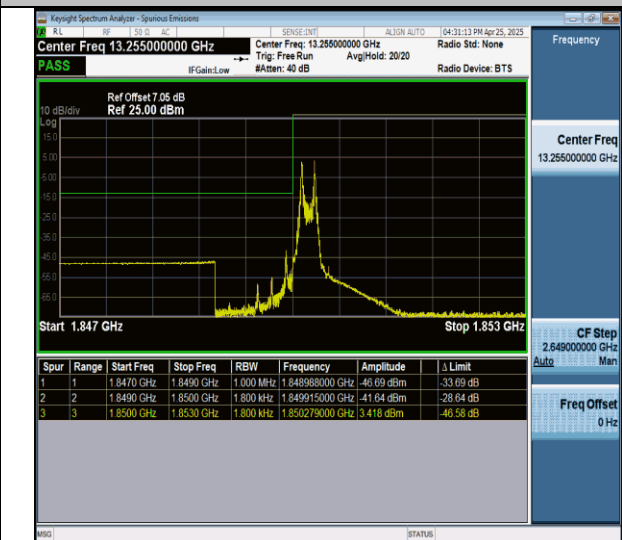
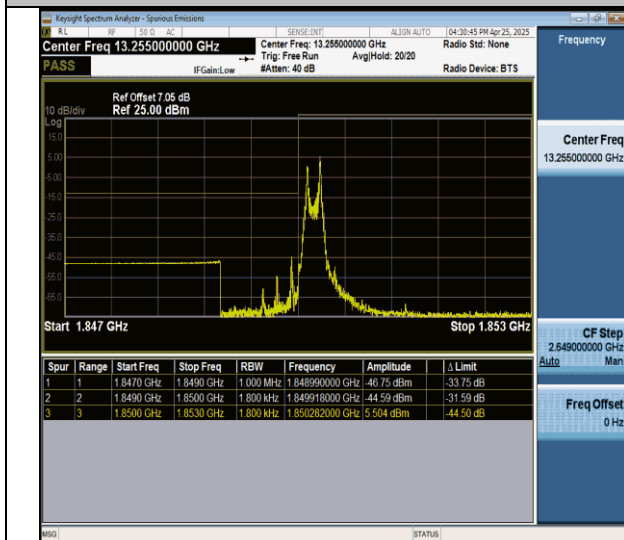
Band2_Stand-Alone_0.18_BPSK_19198_1@47_3.75kHz

Band2_Stand-Alone_0.18_QPSK_19198_1@47_3.75kHz



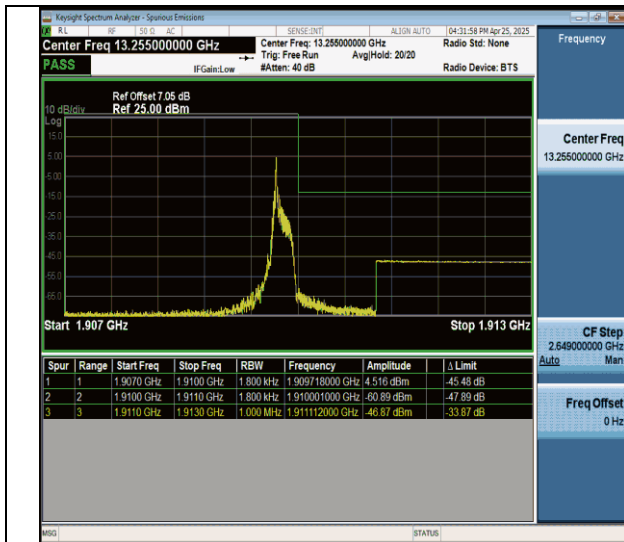
Band2_Stand-Alone_0.18_BPSK_18602_1@0_15kHz

Band2_Stand-Alone_0.18_QPSK_18602_1@0_15kHz

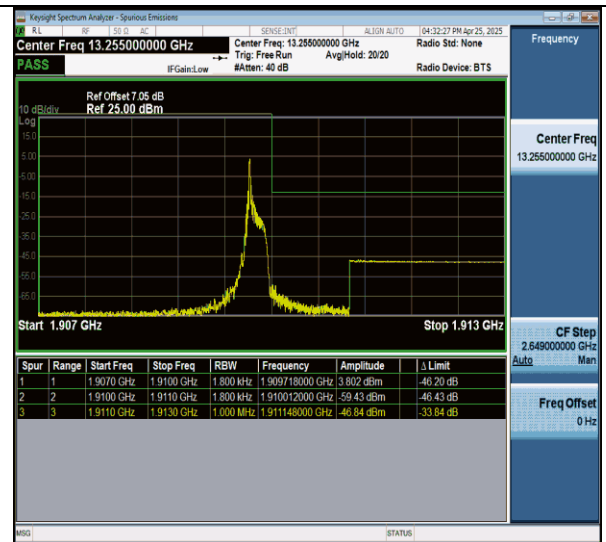


Band2_Stand-Alone_0.18_BPSK_18602_1@11_15kHz

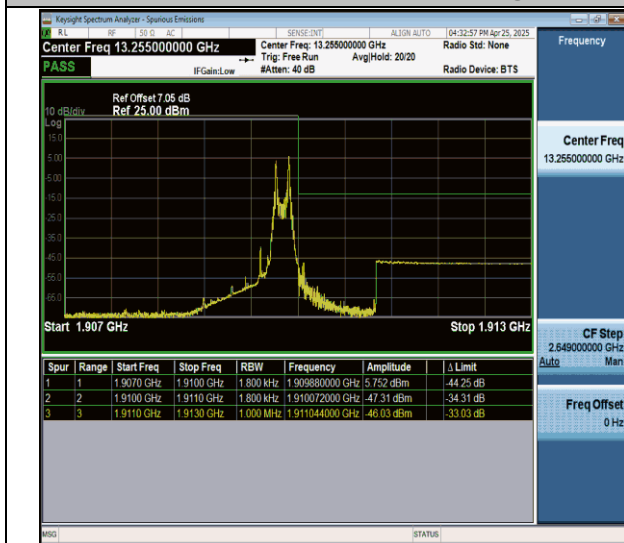
Band2_Stand-Alone_0.18_QPSK_18602_1@11_15kHz



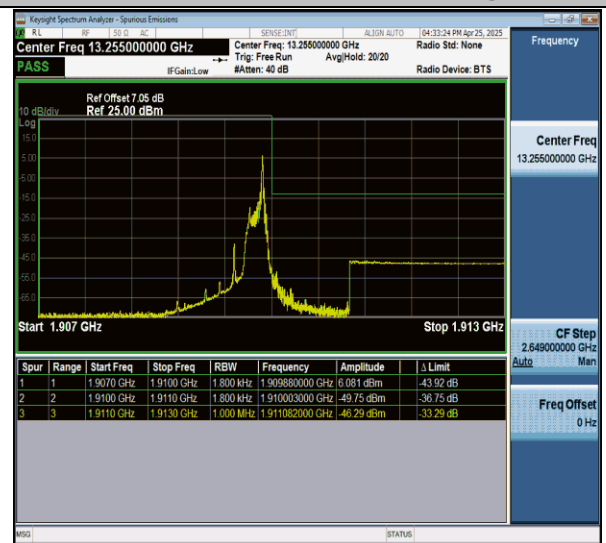
Band2_Stand-Alone_0.18_BPSK_19198_1@0_15kHz



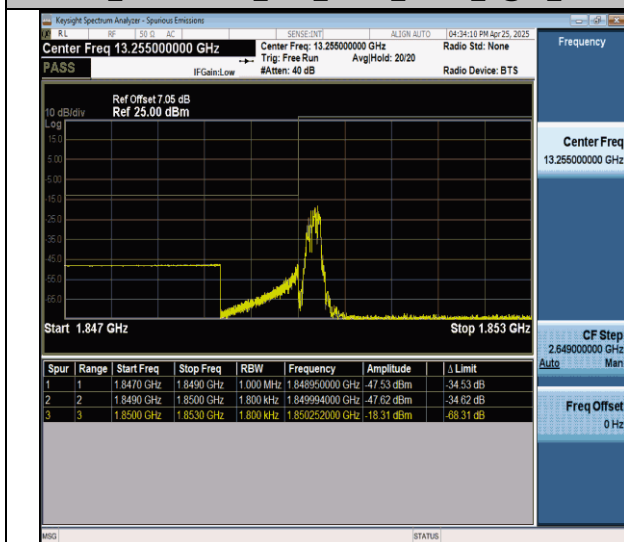
Band2_Stand-Alone_0.18_QPSK_19198_1@0_15kHz



Band2_Stand-Alone_0.18_BPSK_19198_1@11_15kHz



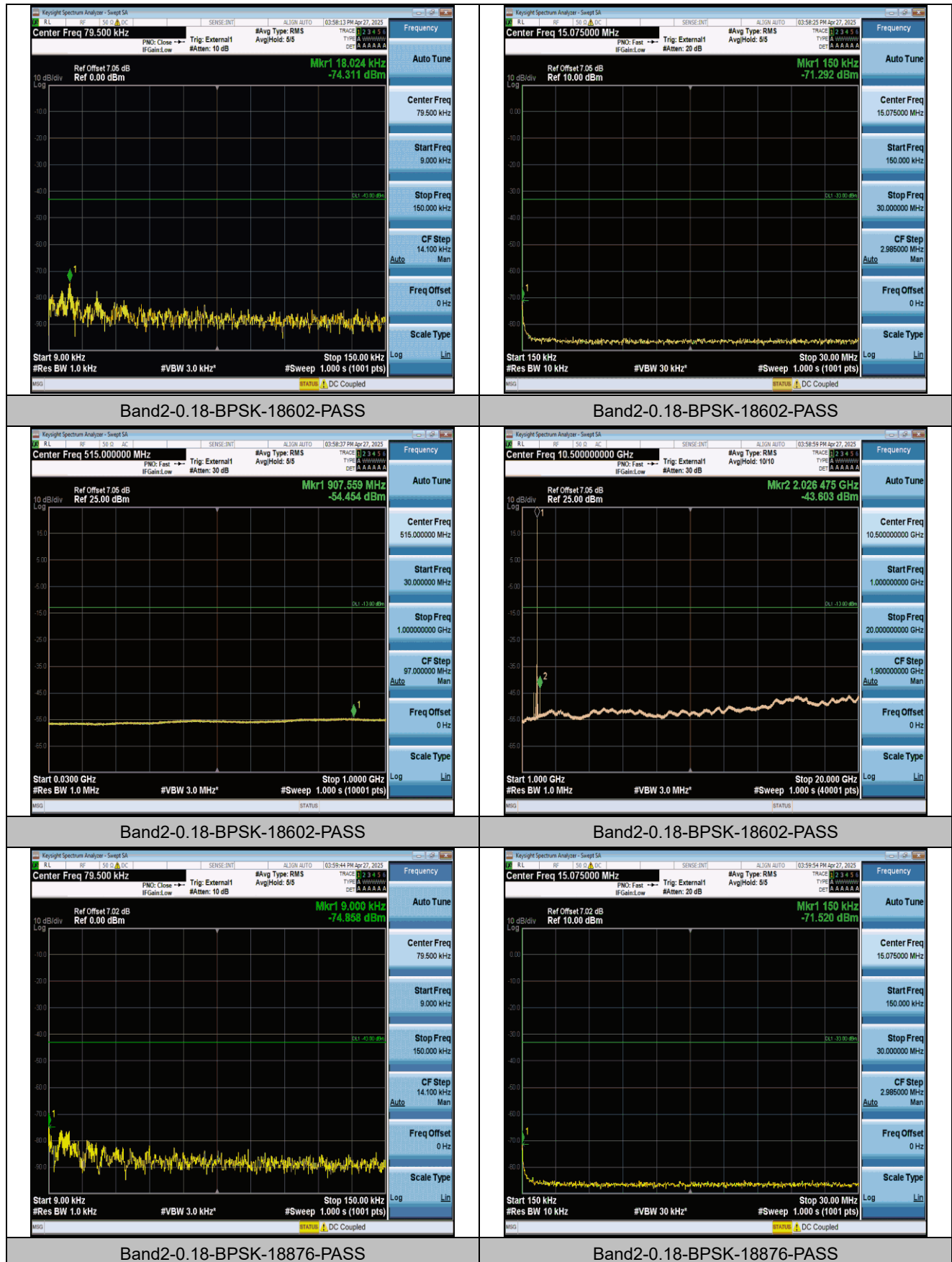
Band2_Stand-Alone_0.18_QPSK_19198_1@11_15kHz

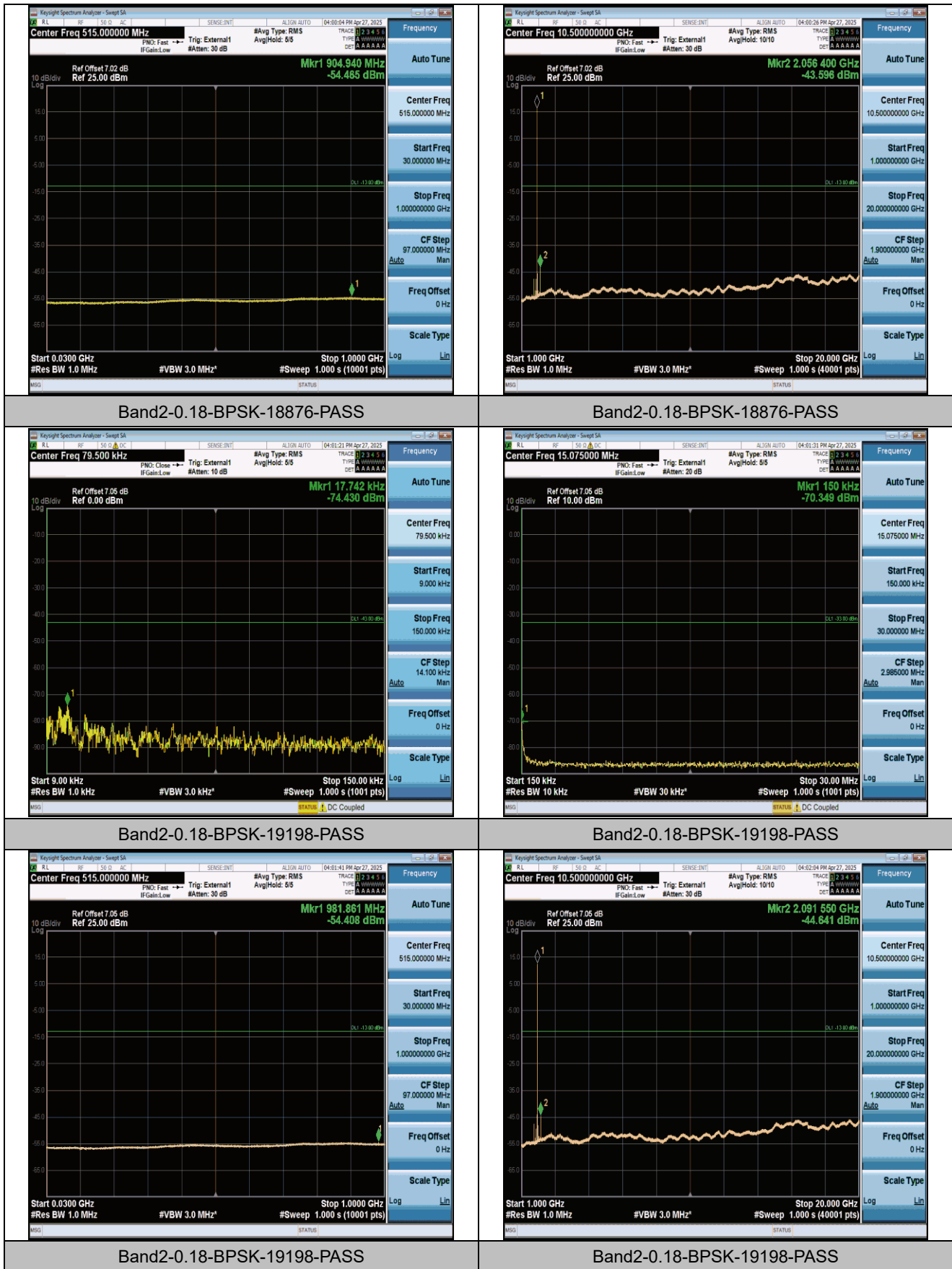


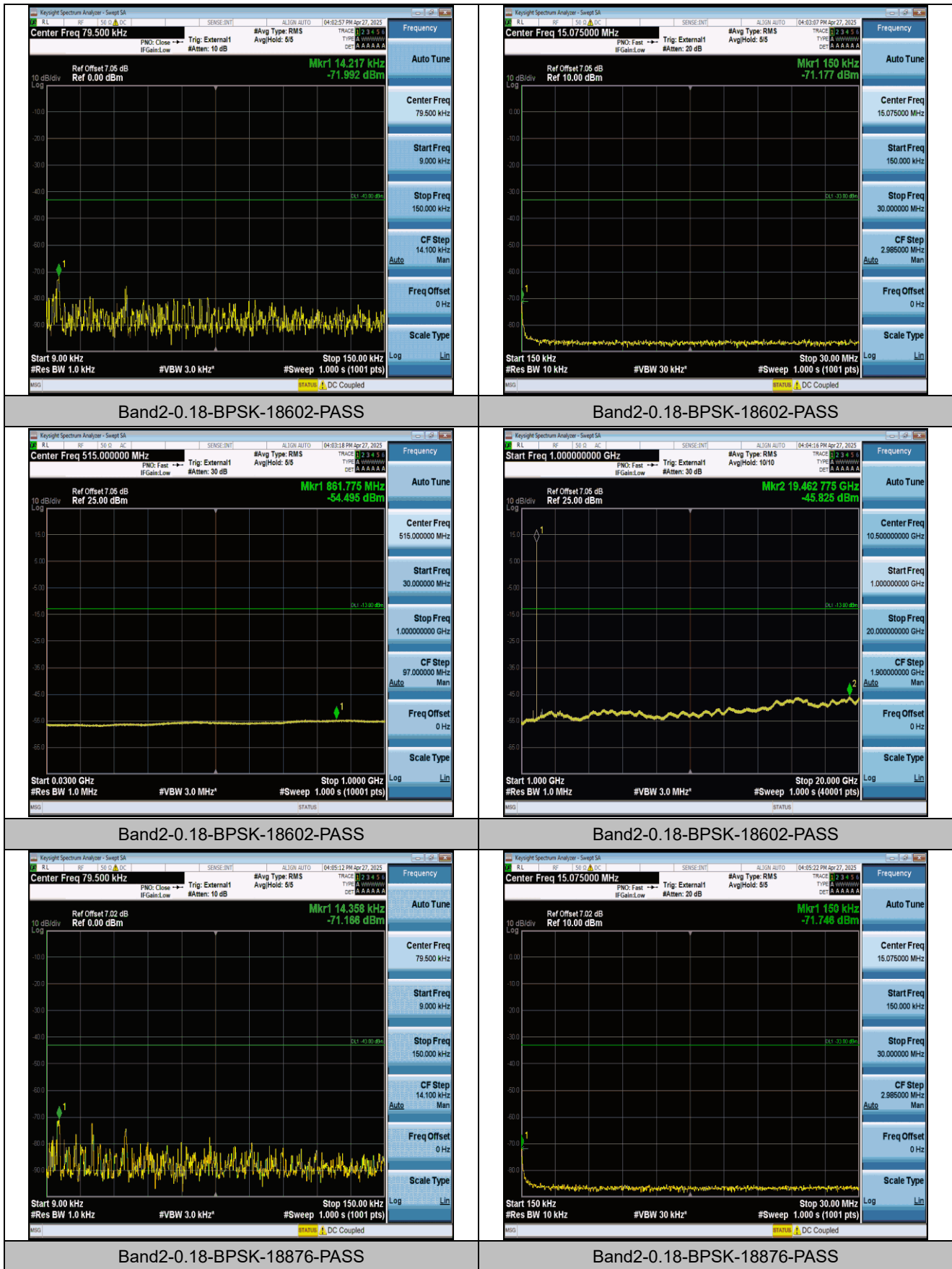
Band2_Stand-Alone_0.18_QPSK_18602_12@0_15kHz

Conducted Spurious Emission for NB1

Test Graphs





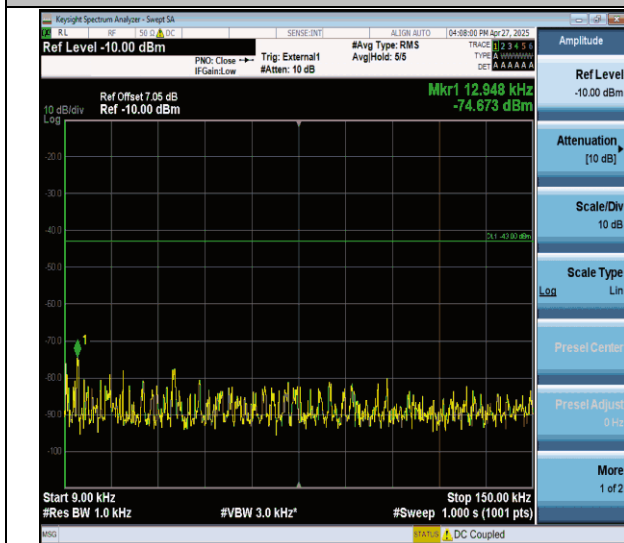




Band2-0.18-BPSK-18876-PASS



Band2-0.18-BPSK-18876-PASS



Band2-0.18-BPSK-19198-PASS



Band2-0.18-BPSK-19198-PASS



Band2-0.18-BPSK-19198-PASS



Band2-0.18-BPSK-19198-PASS

Frequency Stability for NB1

Test Result

Voltage											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	VN	NT	-5.10	-0.002716	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	VL	NT	-1.40	-0.000746	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	VH	NT	-3.40	-0.001811	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	VN	NT	-2.80	-0.001491	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	VL	NT	-3.00	-0.001598	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	VH	NT	-2.80	-0.001491	PASS

Temperature											
Band	OpMode	Bandwidth	Modulation	Channel	Tones	SCS	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	-30	-1.50	-0.000799	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	-20	-6.60	-0.003515	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	-10	-2.30	-0.001225	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	0	-2.30	-0.001225	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	10	-2.50	-0.001331	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	20	-1.90	-0.001012	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	30	-2.60	-0.001385	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	40	-6.40	-0.003409	PASS
Band2	Stand-Alone	3.75kHz	0.18	QPSK	18876	1@0	NV	50	-0.10	-0.000053	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	-30	-3.40	-0.001811	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	-20	-3.60	-0.001917	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	-10	-2.50	-0.001331	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	0	-3.00	-0.001598	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	10	-3.20	-0.001704	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	20	-2.00	-0.001065	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	30	-2.70	-0.001438	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	40	-3.30	-0.001758	PASS
Band2	Stand-Alone	15kHz	0.18	QPSK	18876	12@0	NV	50	-3.70	-0.001971	PASS

~The End~