

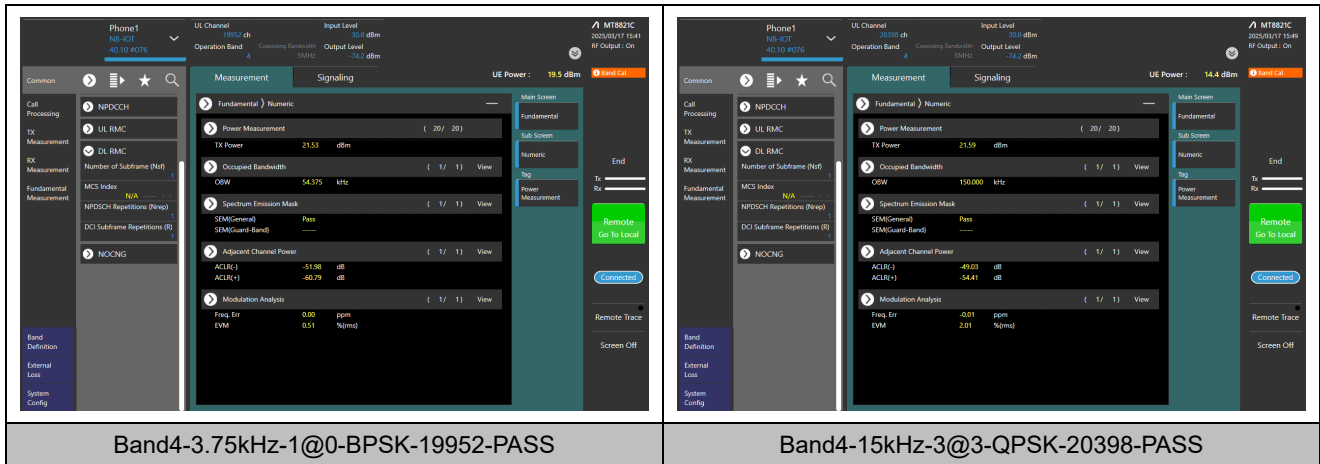
Appendix-C LTE NB-IoT Band 4

Effective (Isotropic) Radiated Power Output Data for NB1

Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	POWER (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@0	21.53	23.53	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	21.53	23.53	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@47	21.53	23.53	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	21.43	23.43	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@0	21.4	23.4	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	21.4	23.4	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@47	21.3	23.3	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	21.27	23.27	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@0	21.51	23.51	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	21.42	23.42	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@47	21.38	23.38	30	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	21.34	23.34	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	21.3	23.3	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@0	21.37	23.37	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	21.31	23.31	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@11	21.33	23.33	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	20.97	22.97	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@0	21.05	23.05	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	20.94	22.94	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@11	20.94	22.94	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	21.37	23.37	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@0	21.42	23.42	30	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	21.35	23.35	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@11	21.36	23.36	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	3@3	21.5	23.5	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	3@3	21.19	23.19	30	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	3@3	21.59	23.59	30	PASS

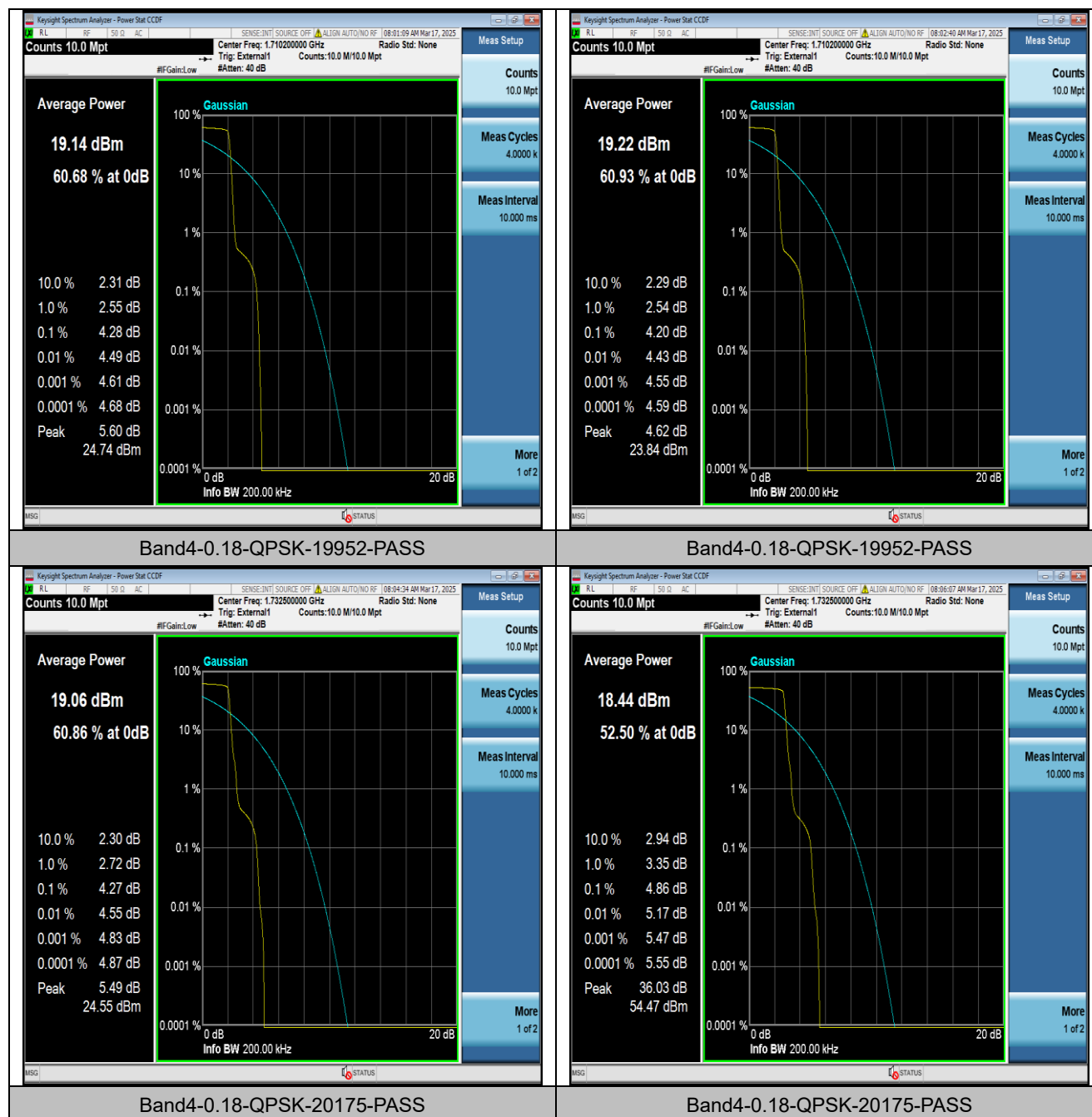
Test Graphs

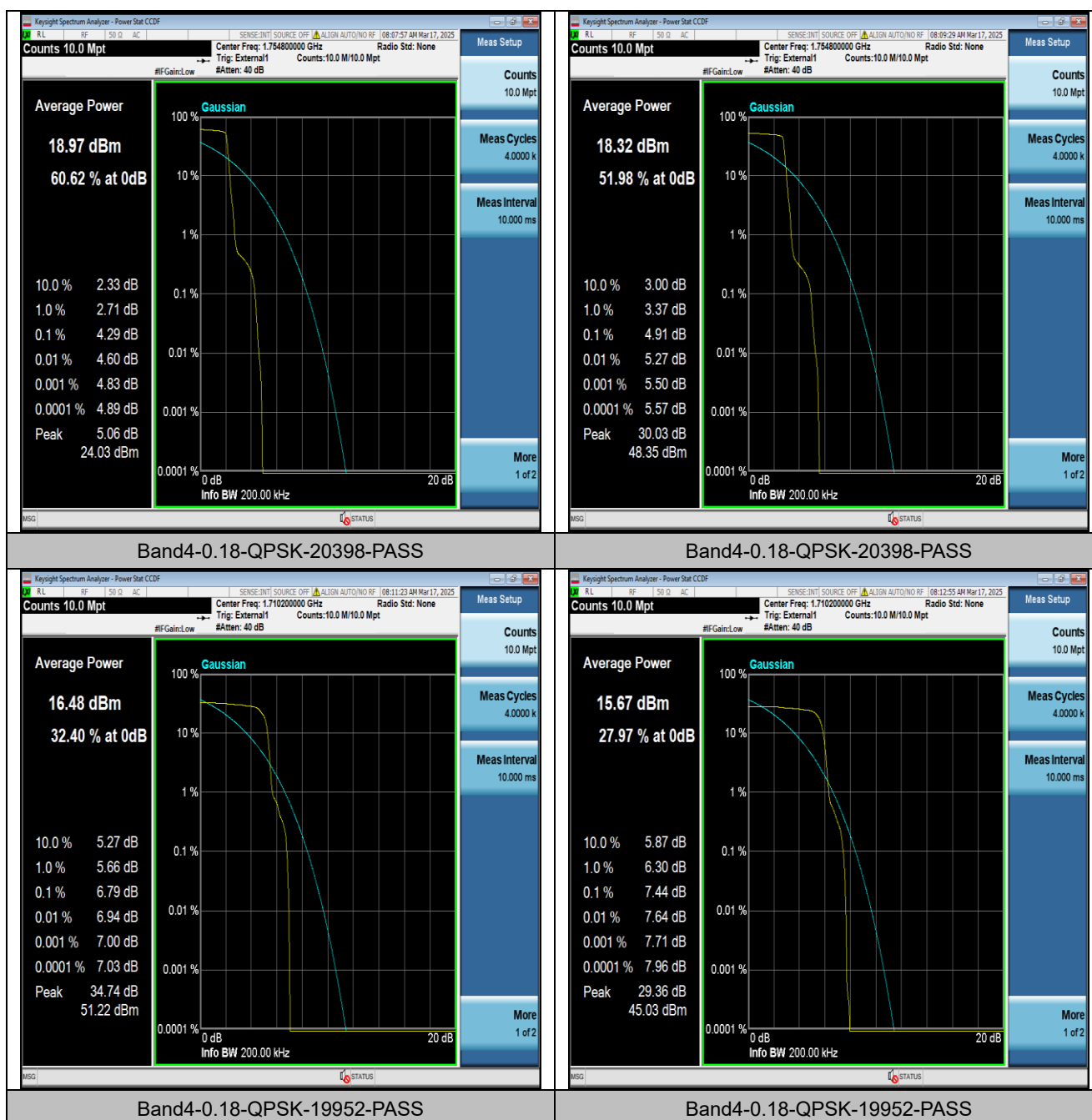


Peak-to-Average Ratio(CCDF) for NB1**Test Result**

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	4.28	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	4.2	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	4.27	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	4.86	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	4.29	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	4.91	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@0	6.79	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@11	7.44	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@0	6.87	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@11	7.48	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@0	6.78	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@11	7.48	<=13	PASS

Test Graphs





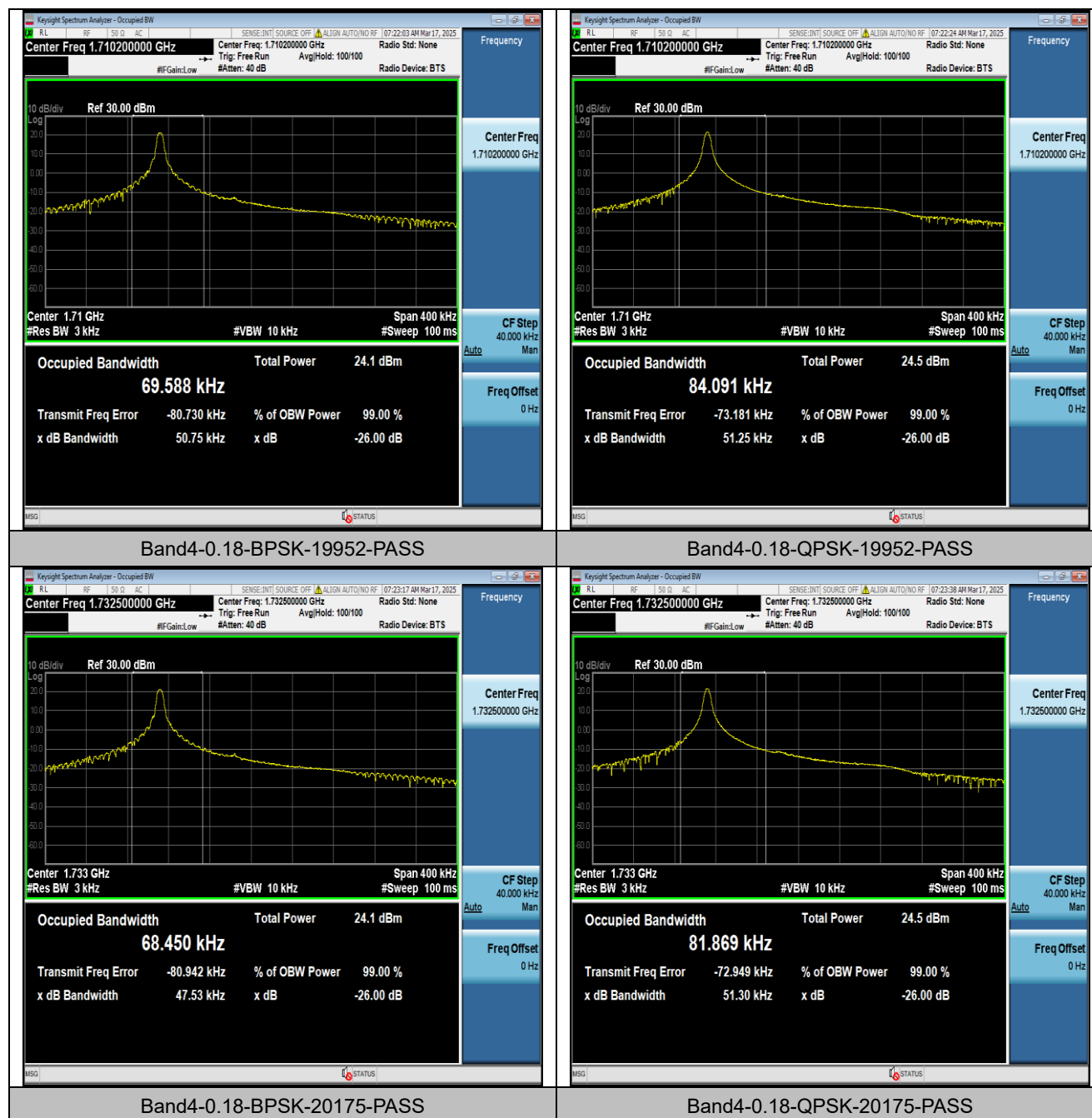


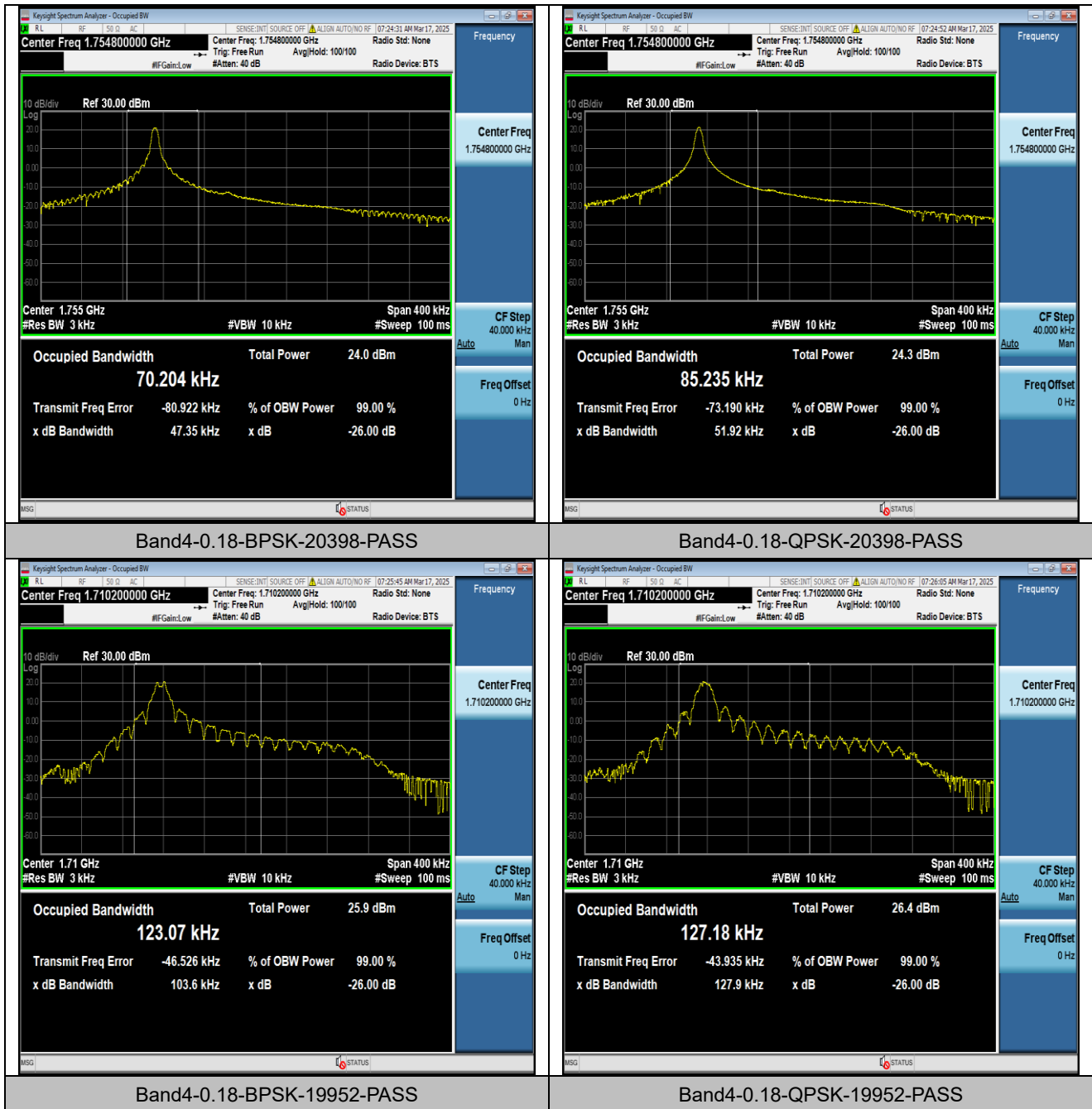
Emission Bandwidth for NB1

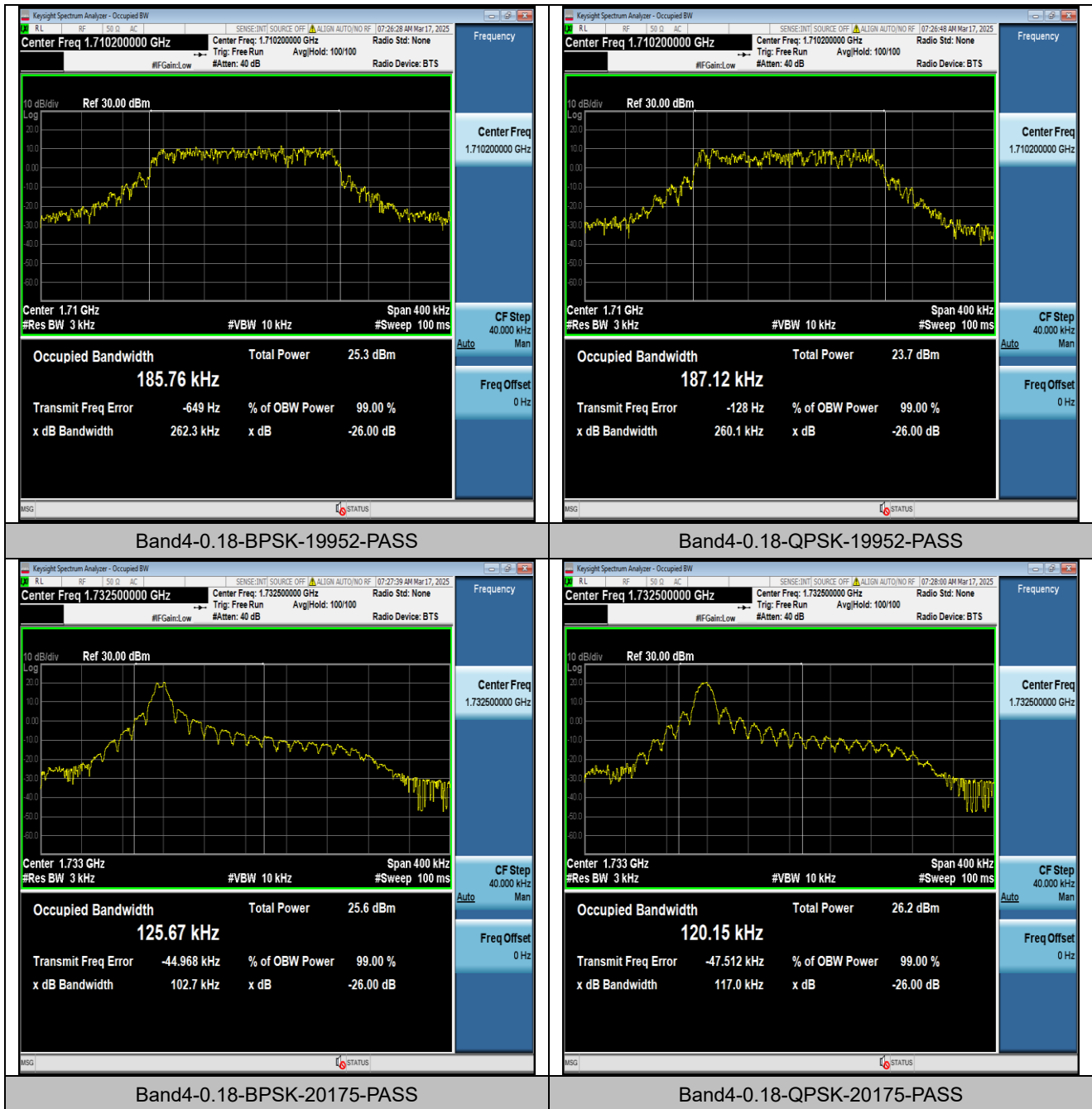
Test Result

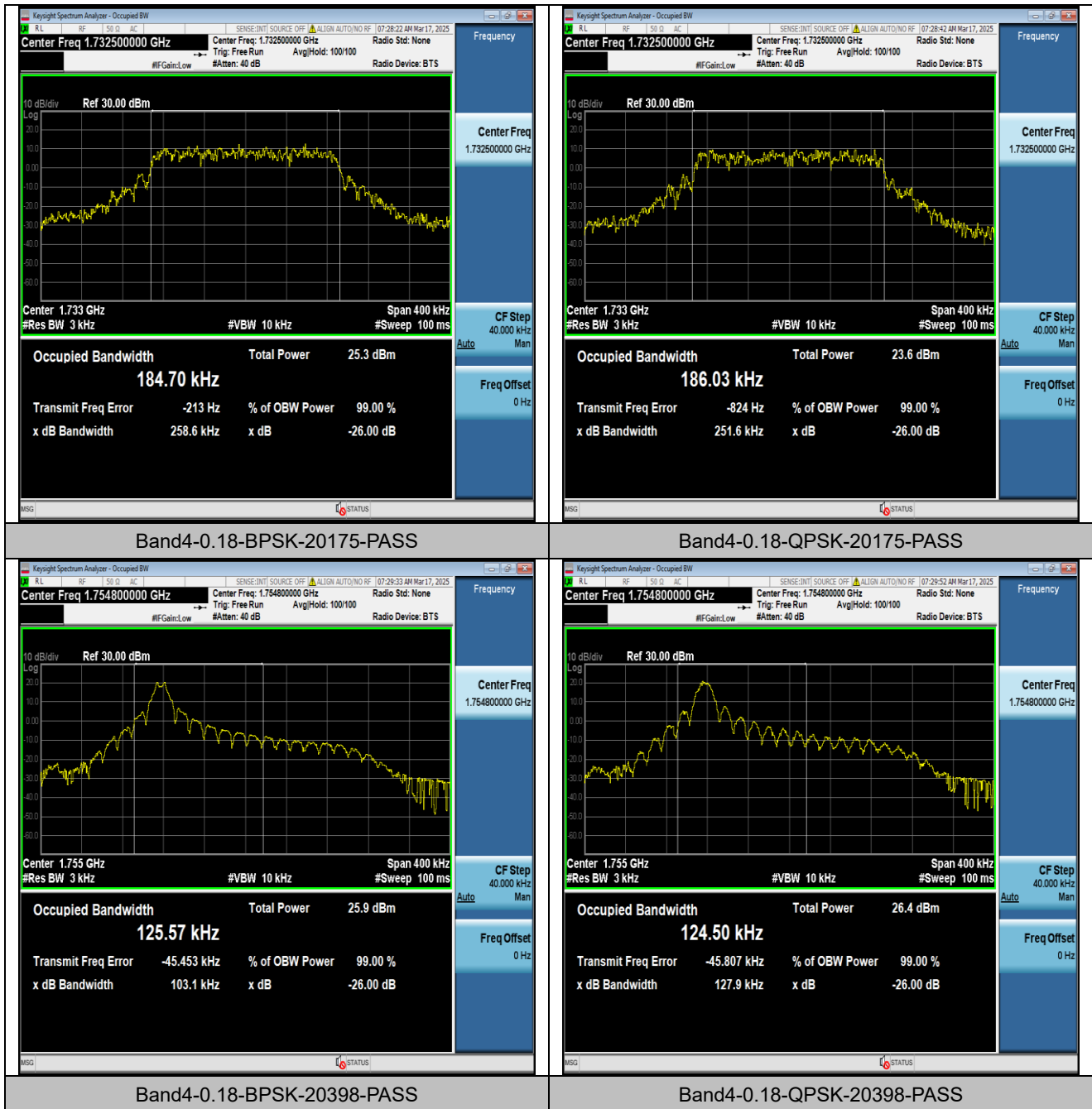
Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@0	0.06959	0.0508	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	0.08409	0.0512	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@0	0.06845	0.0475	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	0.08187	0.0513	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@0	0.07020	0.0474	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	0.08524	0.0519	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	0.12307	0.1036	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@0	0.12718	0.1279	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	12@0	0.18576	0.2623	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	0.18712	0.2601	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	0.12567	0.1027	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@0	0.12015	0.1170	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	12@0	0.18470	0.2586	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	0.18603	0.2516	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	0.12557	0.1031	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@0	0.12450	0.1279	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	12@0	0.18622	0.2377	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	0.19051	0.2543	PASS

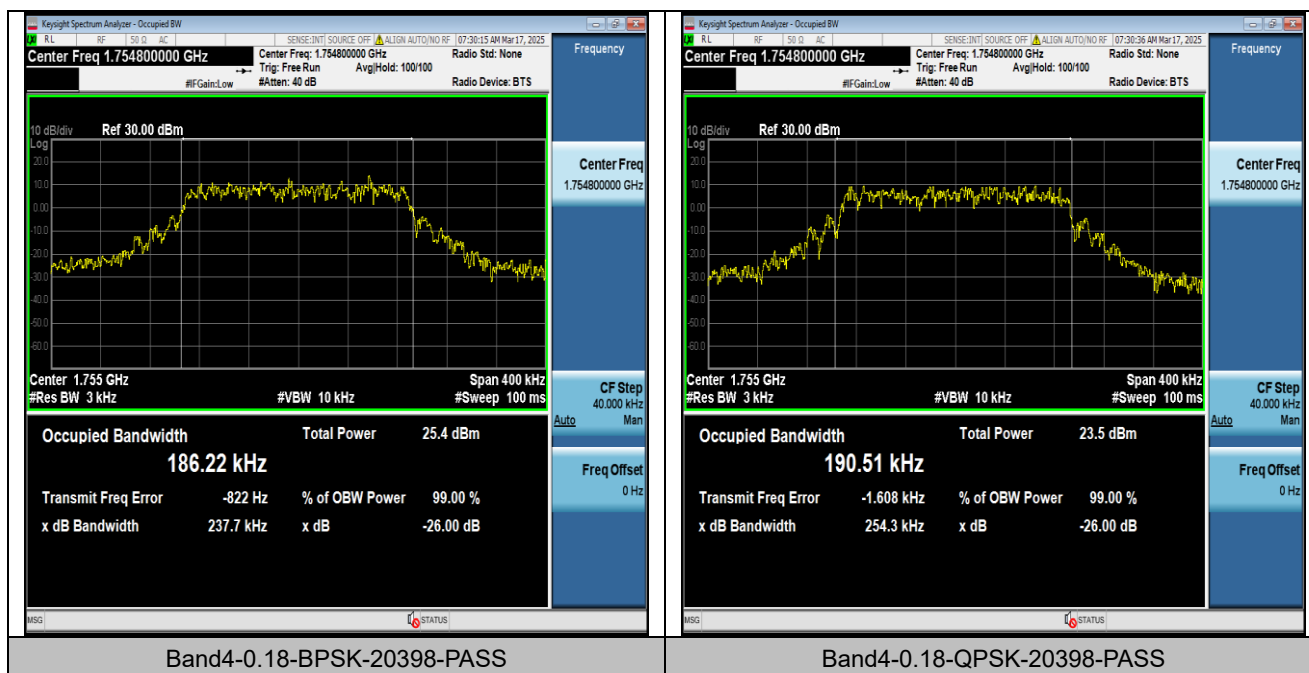
Test Graphs





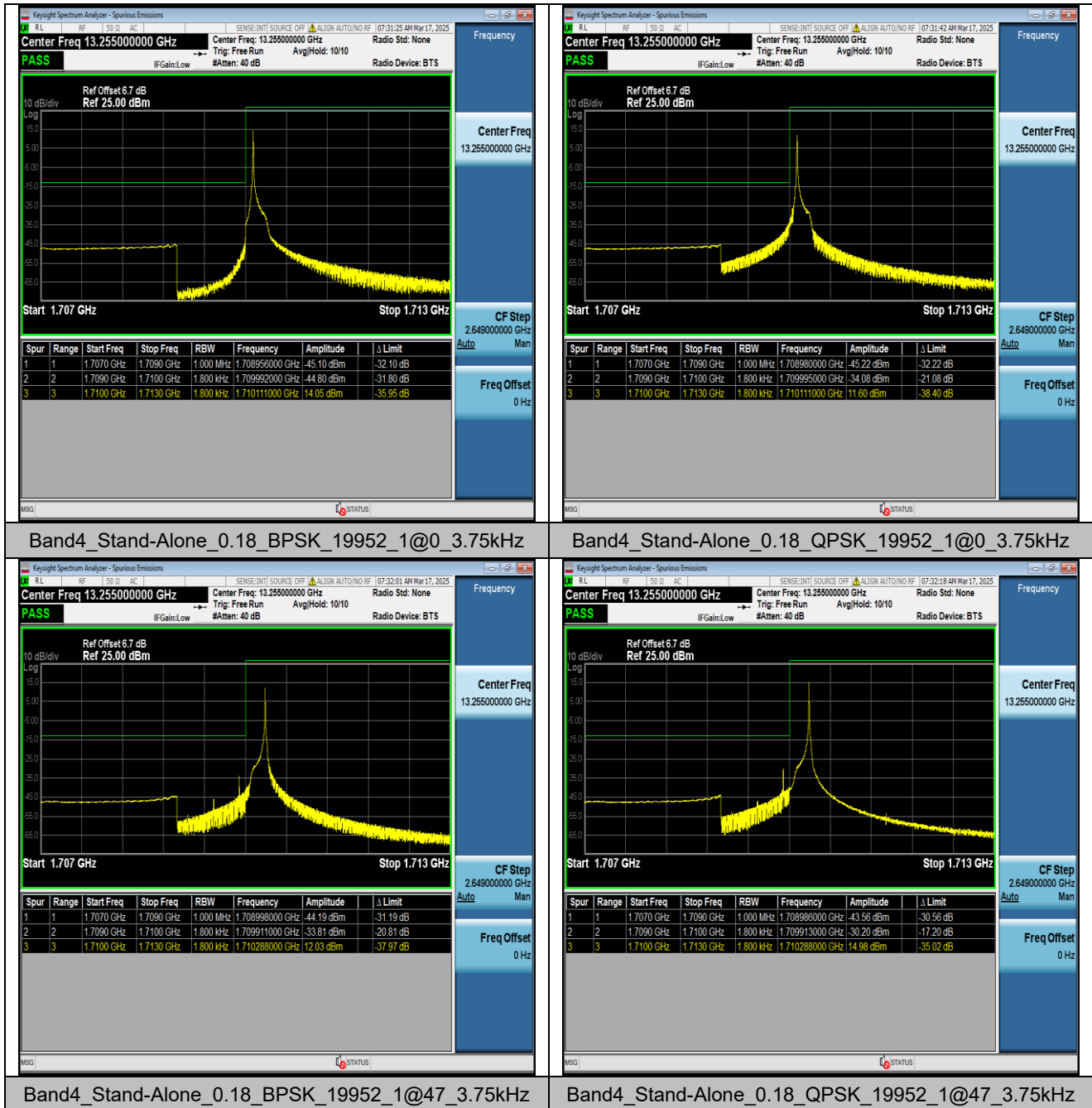


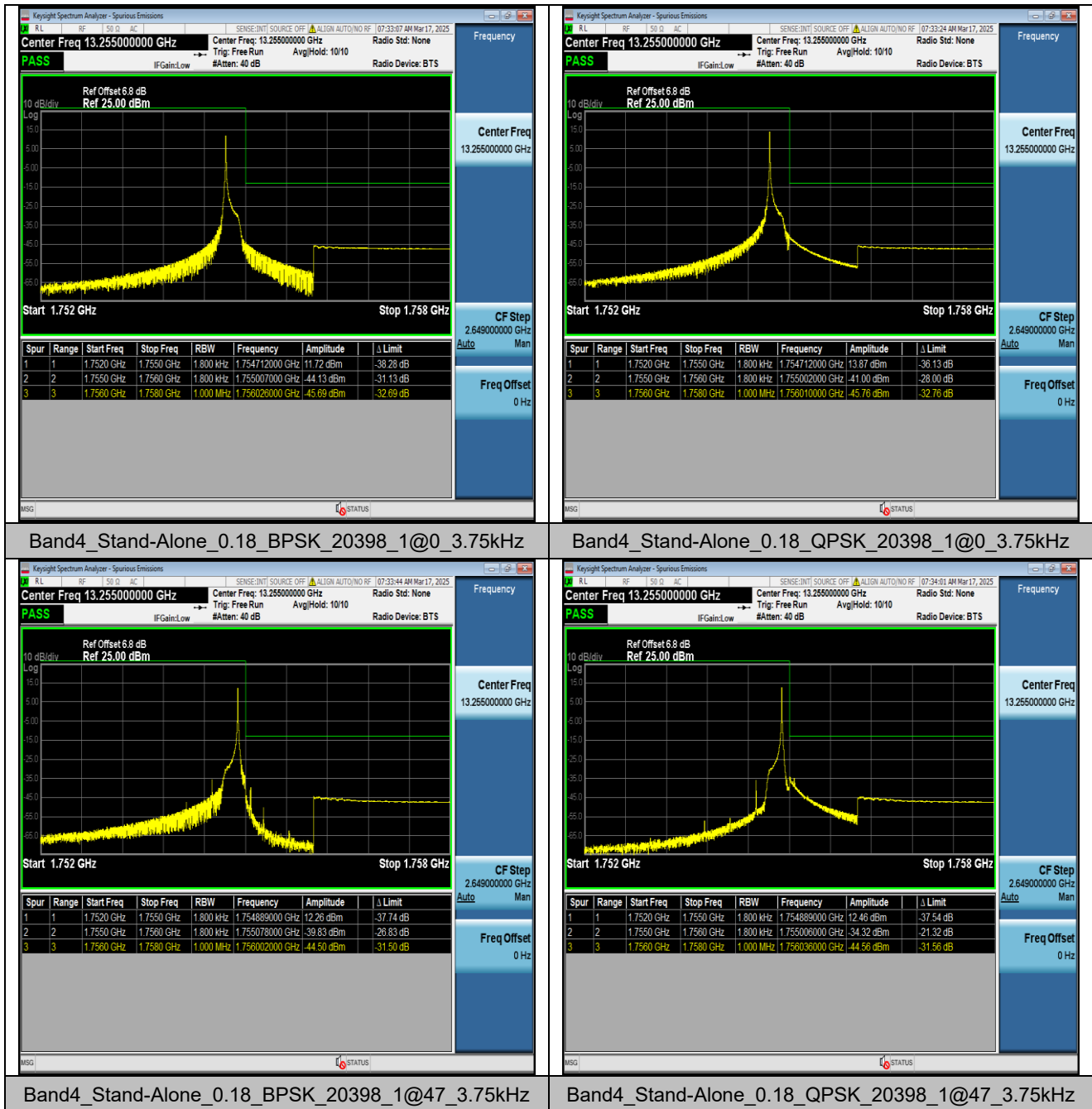


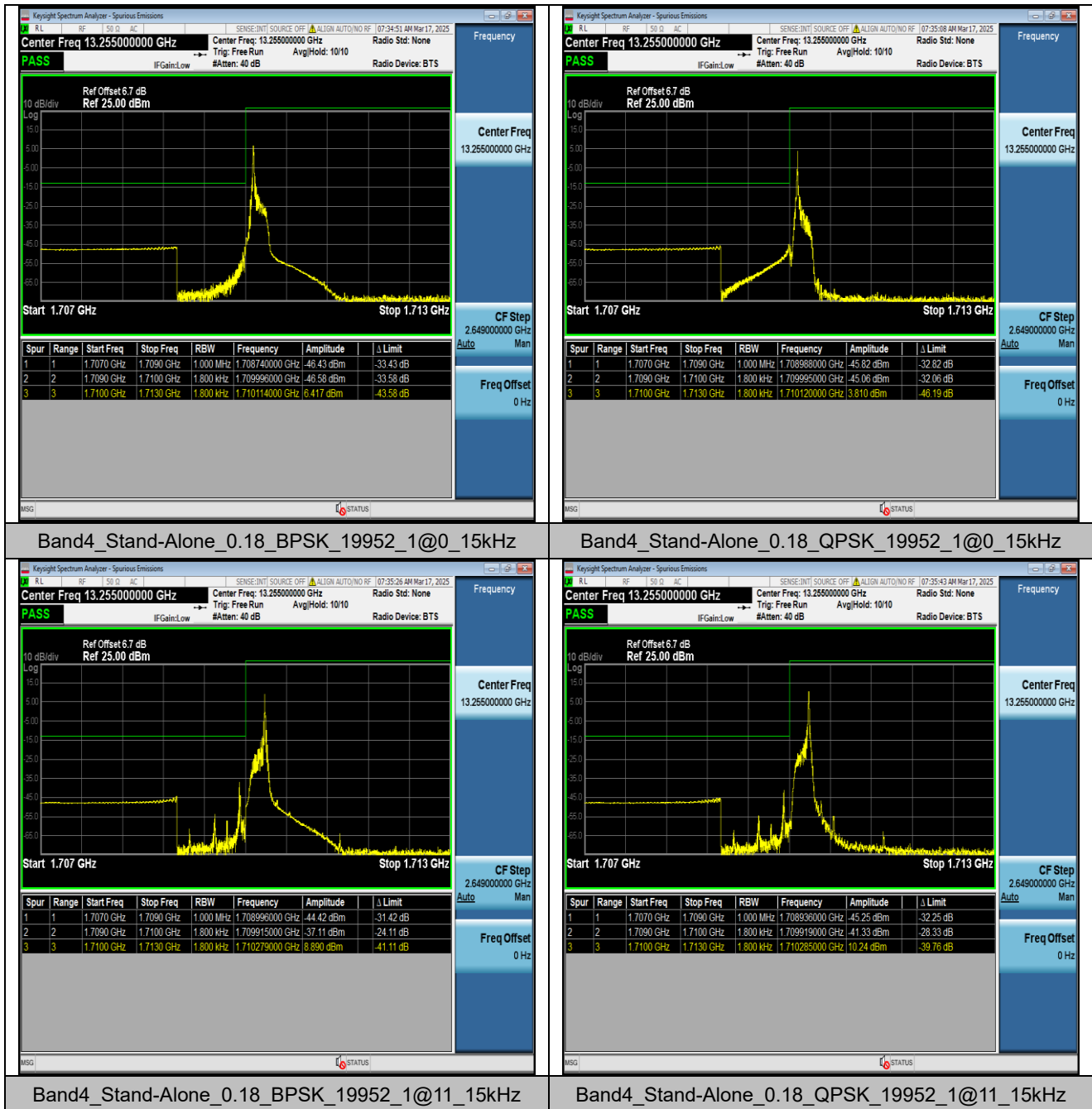


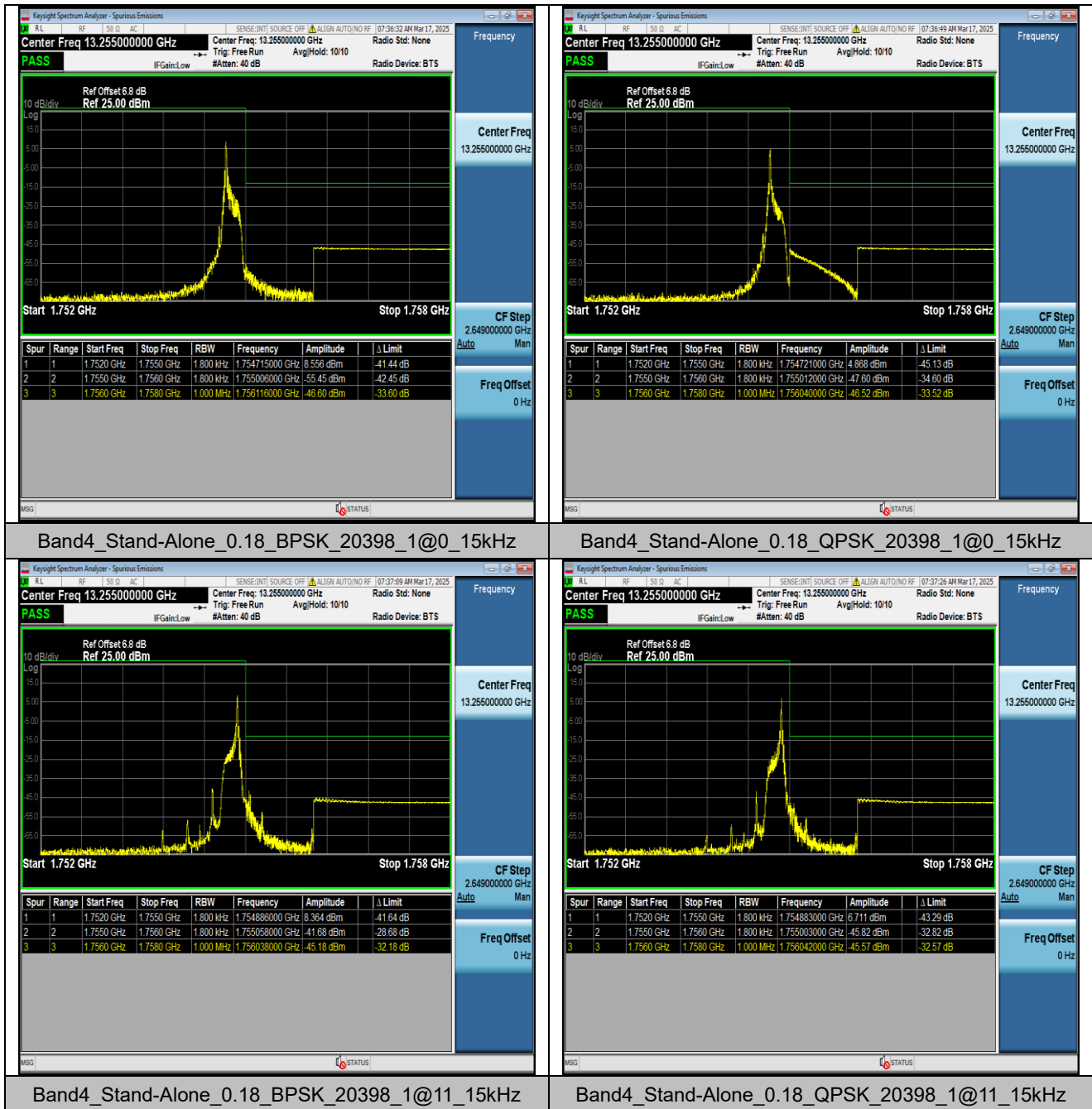
Band Edge for NB1

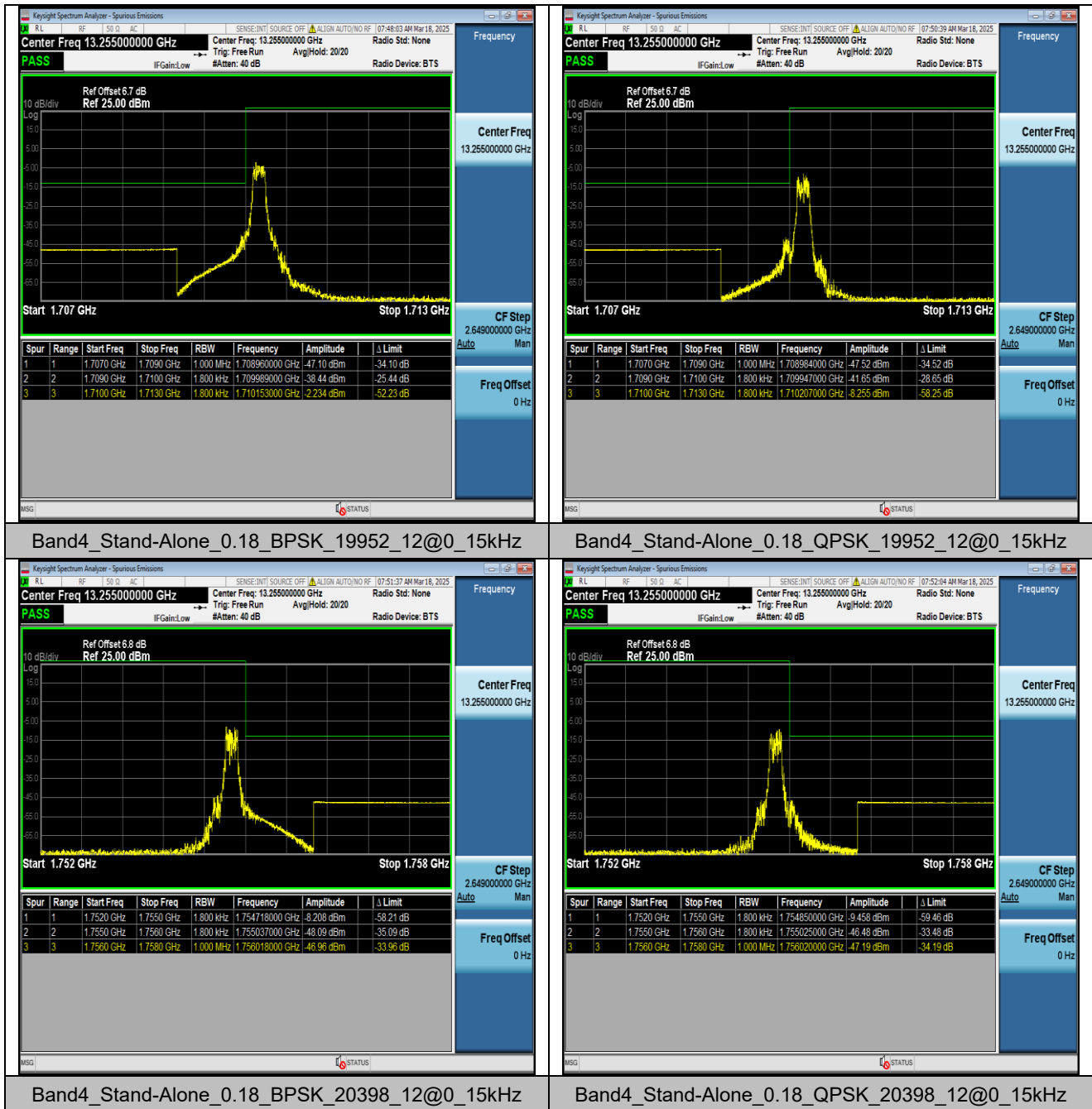
Test Graphs





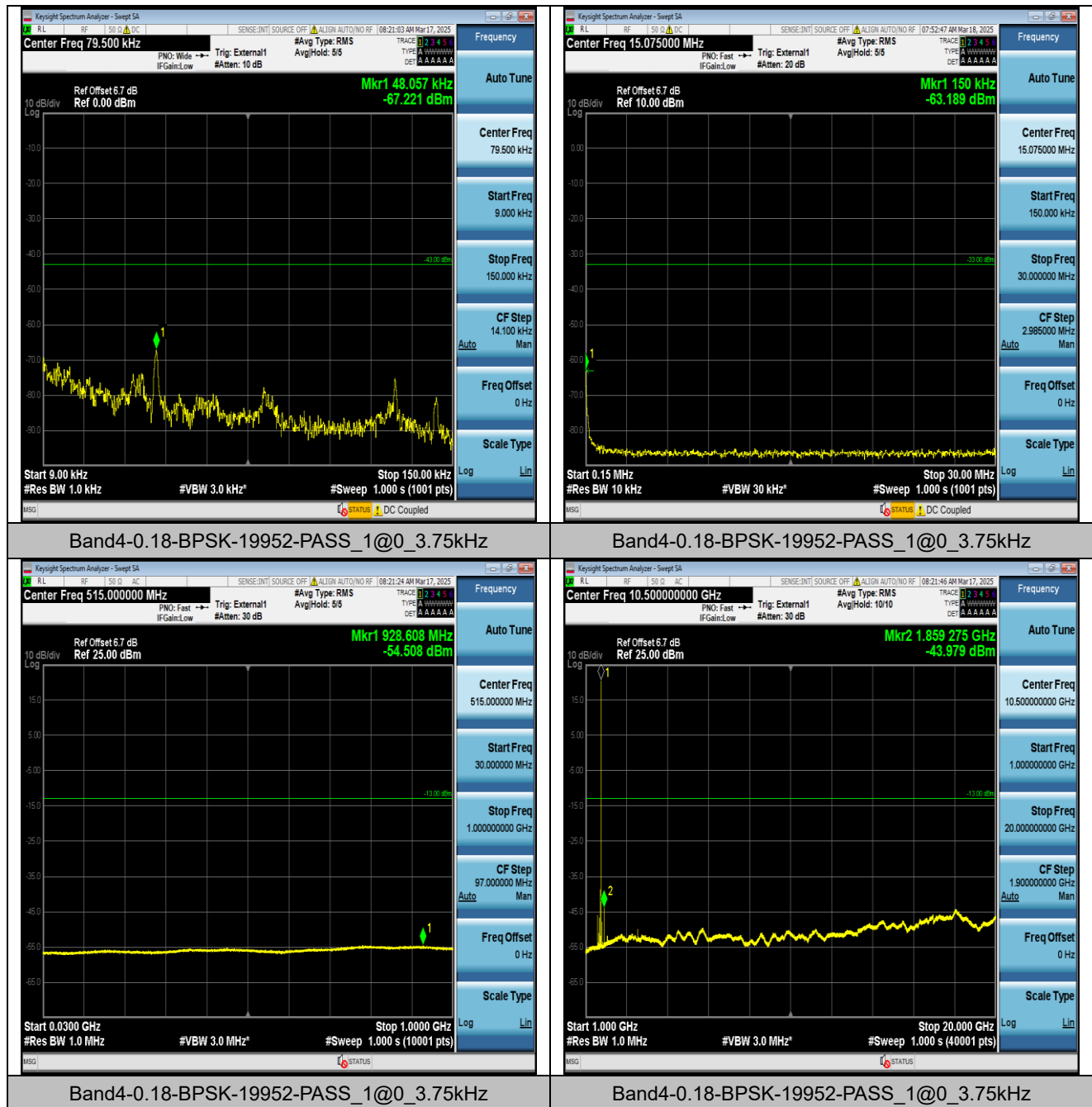


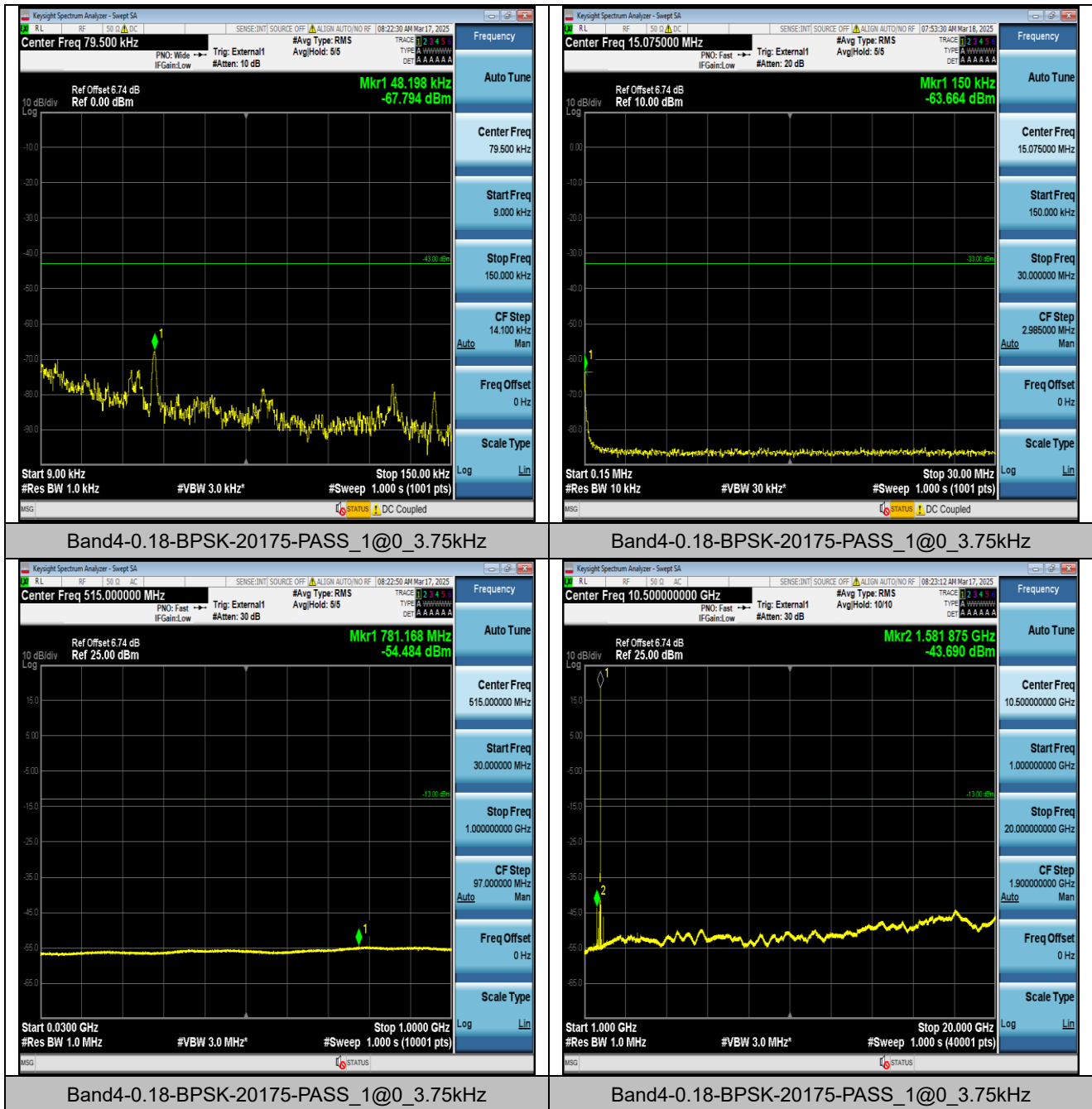


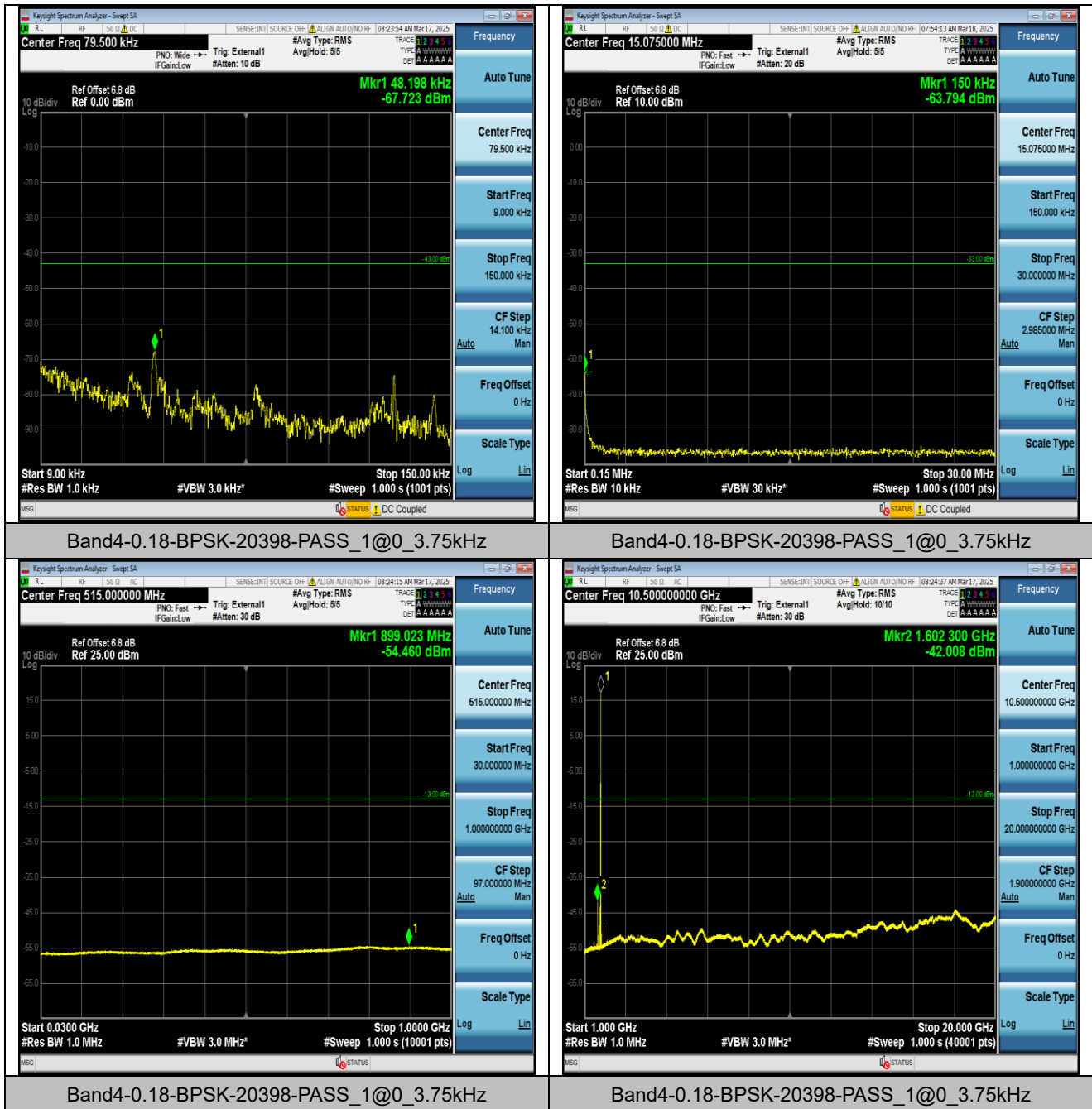


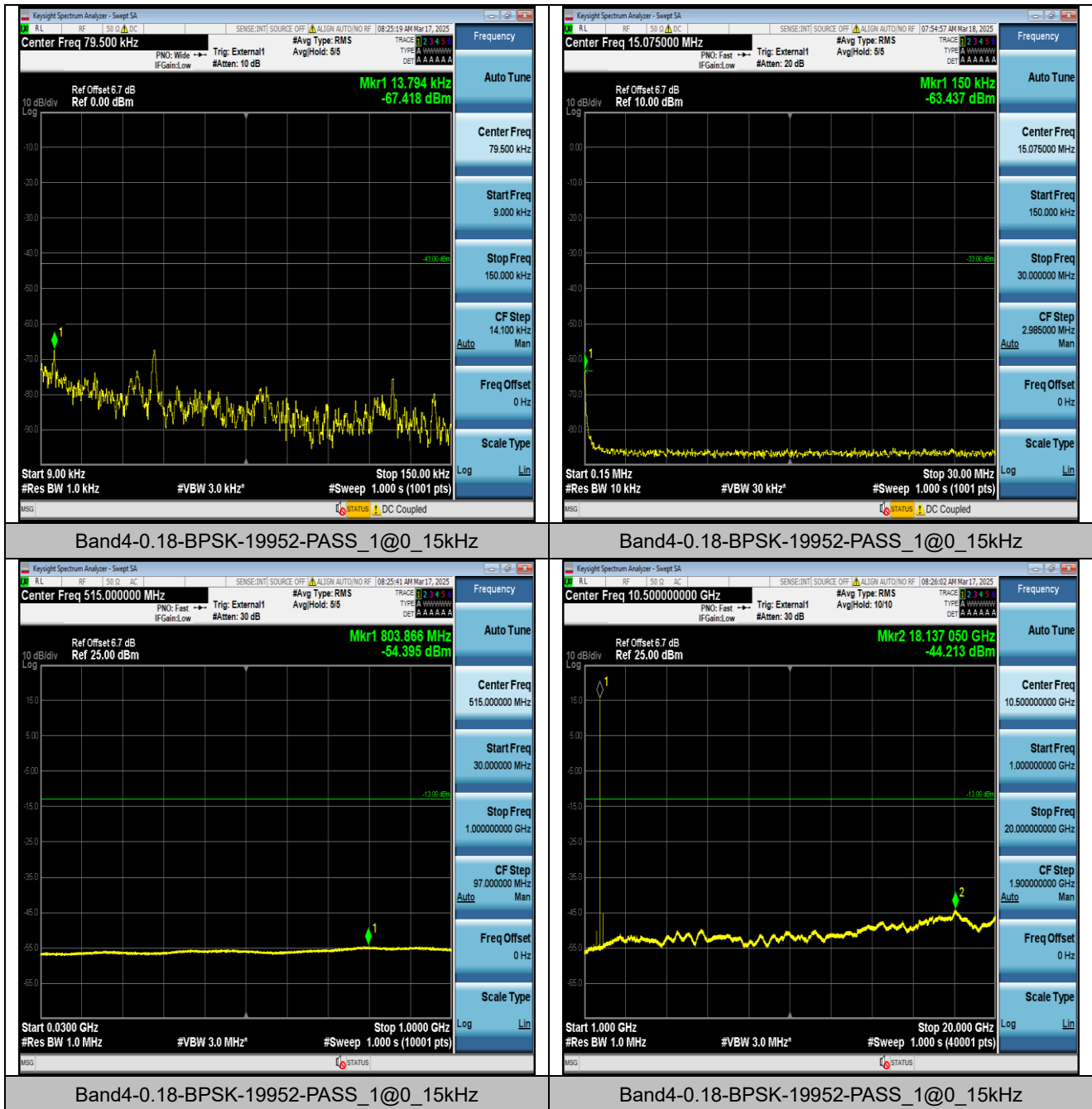
Conducted Spurious Emission for NB1

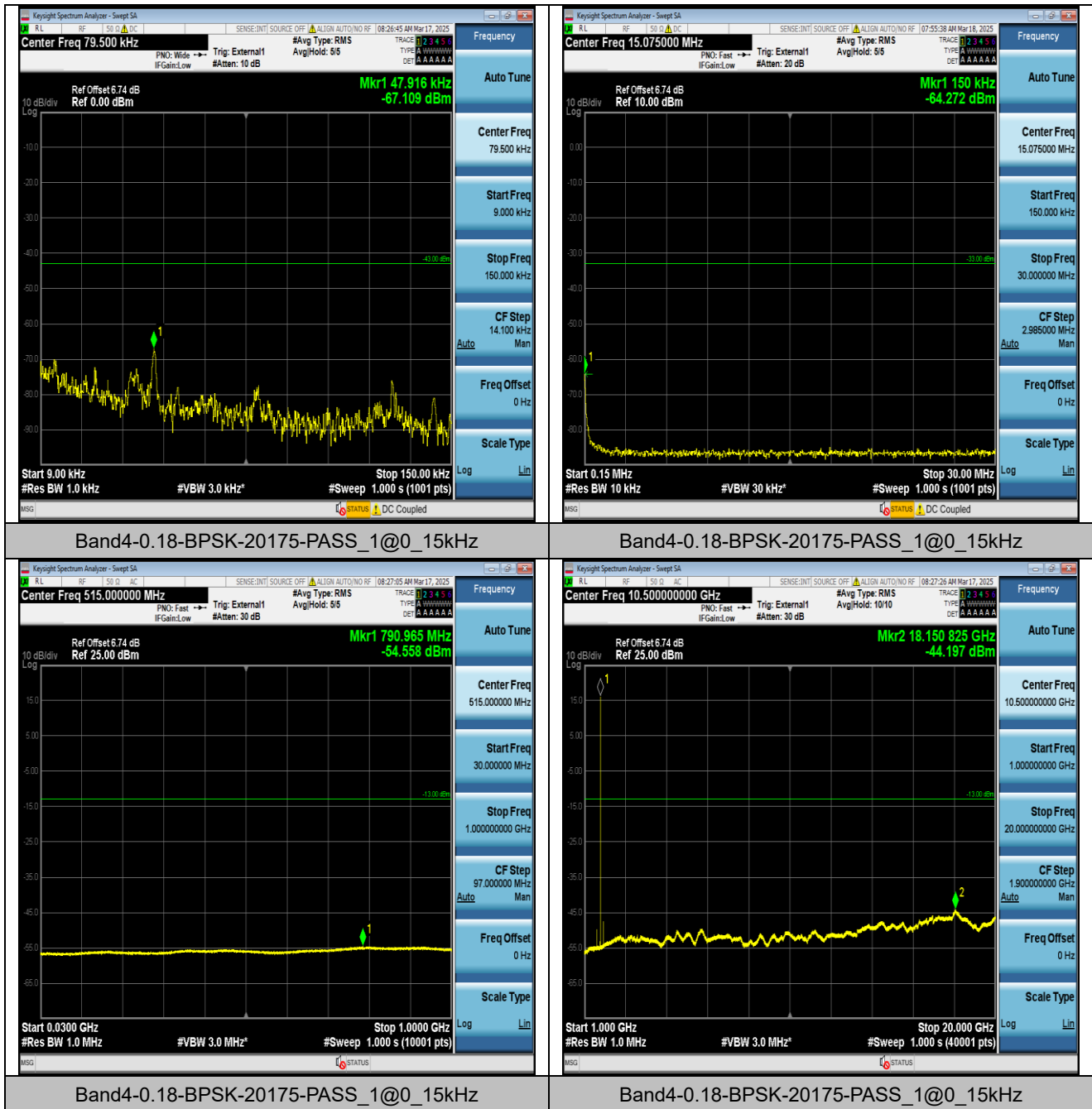
Test Graphs

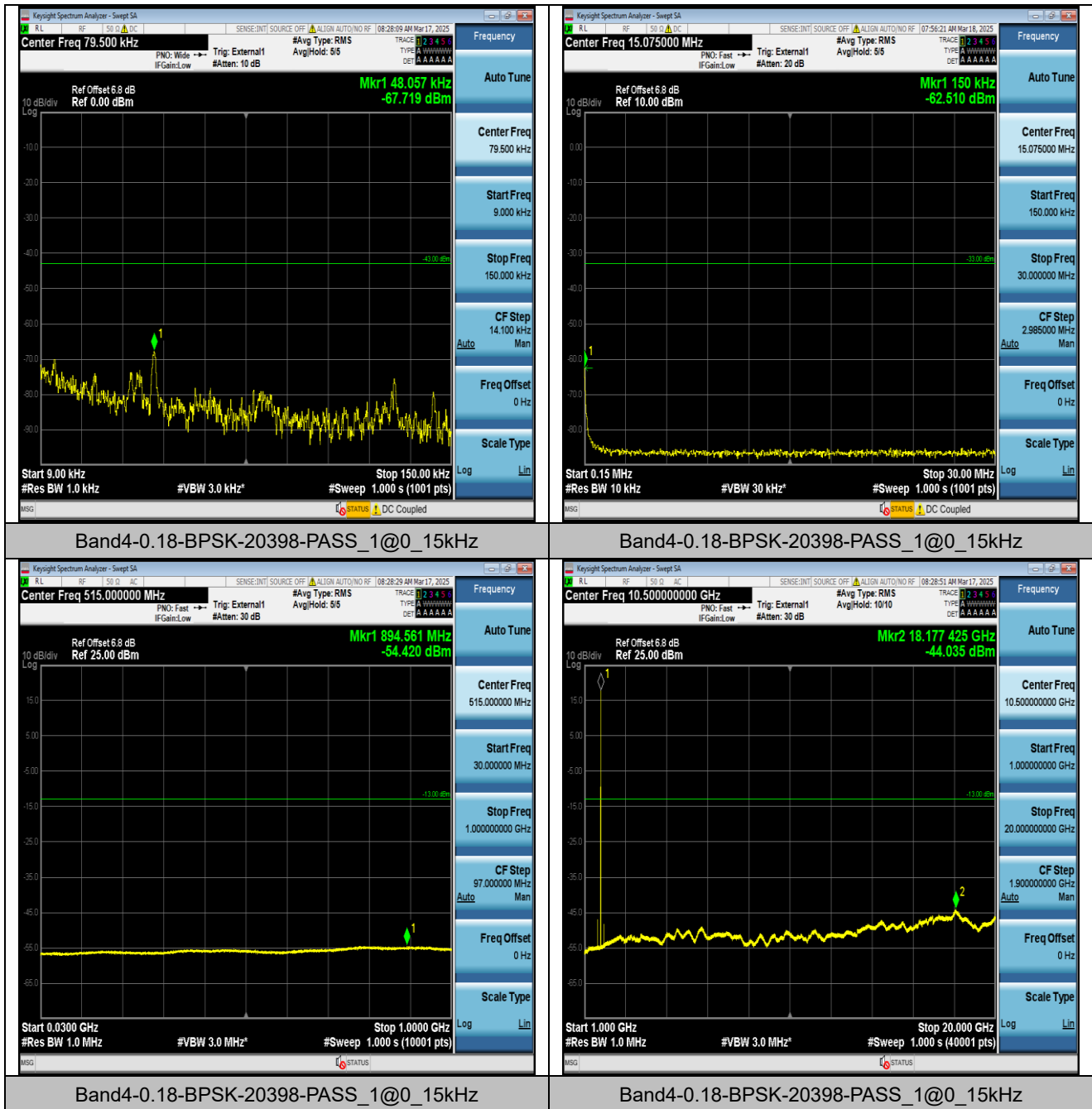












Frequency Stability for NB1

Test Result

Voltage											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	VN	NT	-16.20	-0.009351	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	VL	NT	-17.80	-0.010274	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	VH	NT	-14.00	-0.008081	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	VN	NT	-7.20	-0.004156	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	VL	NT	-10.10	-0.005830	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	VH	NT	-11.90	-0.006869	PASS

Temperature											
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	-30	-13.10	-0.007561	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	-20	-13.00	-0.007504	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	-10	-9.10	-0.005253	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	0	-10.90	-0.006291	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	10	-12.10	-0.006984	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	20	-10.90	-0.006291	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	30	-13.10	-0.007561	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	40	-9.70	-0.005599	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	NV	50	-9.90	-0.005714	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	-30	-10.30	-0.005945	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	-20	-10.80	-0.006234	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	-10	-8.80	-0.005079	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	0	-8.90	-0.005137	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	10	-13.00	-0.007504	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	20	-9.10	-0.005253	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	30	-8.20	-0.004733	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	40	-8.80	-0.005079	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	NV	50	-6.70	-0.003867	PASS

~The End~