

Appendix A: Effective (Isotropic) Radiated Power Output Data for NB1

Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Conducted POWER(d Bm)	EIRP(dB m)	Verdict
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	19952	1@0	21.34	24.29	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	19952	1@47	21.34	24.29	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	19952	1@0	21.28	24.23	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	19952	1@47	21.38	24.33	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	20175	1@0	22.05	25	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	20175	1@47	22.09	25.04	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	20175	1@0	22.03	24.98	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	20175	1@47	22.11	25.06	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	20398	1@0	21.9	24.85	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	QPSK	20398	1@47	21.9	24.85	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	20398	1@0	21.83	24.78	PASS
Band 4	Stand- Alone	3.75k Hz	0.18	BPSK	20398	1@47	21.87	24.82	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	19952	1@0	21.5	24.45	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	19952	1@11	21.51	24.46	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	19952	3@3	22.27	25.22	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	19952	1@0	21.47	24.42	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	19952	1@11	21.51	24.46	PASS

Band 4	Stand- Alone	15kHz	0.18	QPSK	20175	1@0	22.29	25.24	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	20175	1@11	22.31	25.26	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	20175	3@3	22.93	25.88	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	20175	1@0	22.28	25.23	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	20175	1@11	22.28	25.23	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	20398	1@0	22.1	25.05	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	20398	1@11	22.1	25.05	PASS
Band 4	Stand- Alone	15kHz	0.18	QPSK	20398	3@3	22.75	25.7	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	20398	1@0	22.08	25.03	PASS
Band 4	Stand- Alone	15kHz	0.18	BPSK	20398	1@11	22.1	25.05	PASS

Appendix B: 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	20175	1@0	4.96	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	5.04	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@0	4.98	<=13	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@47	4.93	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@0	5.92	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	1@11	6.26	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	3@3	11.56	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	6.11	<=13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	6.03	<=13	PASS

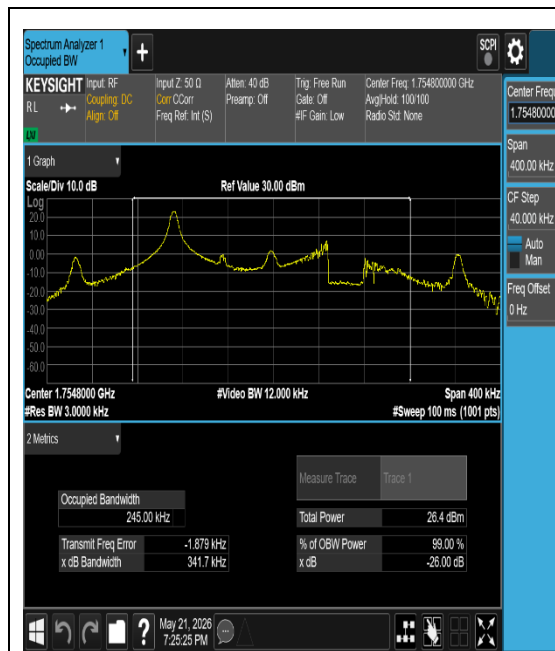
Appendix C: Emission Bandwidth for NB1

Test Result

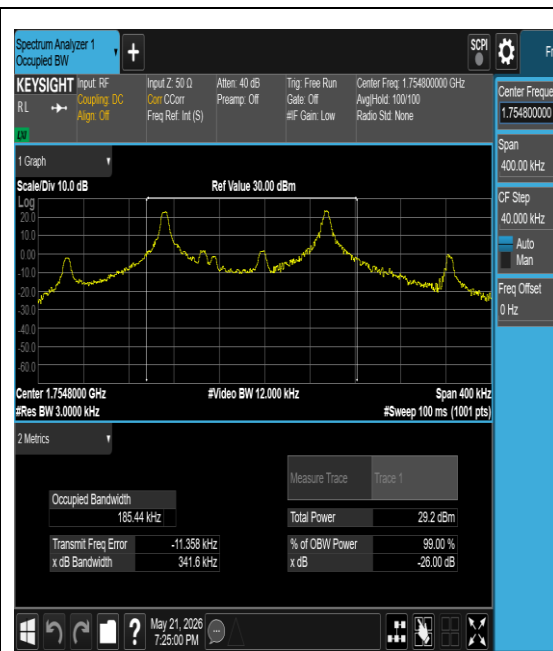
Band	OpMode	SCS	BW	Modulation	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	0.24572	0.3415	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@0	0.18544	0.2746	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	0.18800	0.3408	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20175	1@0	0.18739	0.3407	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	0.24500	0.3417	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@0	0.18544	0.3416	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	0.20018	0.2933	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	12@0	0.21116	0.2774	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	0.20492	0.2683	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	12@0	0.21023	0.2801	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	0.21496	0.2787	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	12@0	0.20754	0.2657	PASS

Test Graphs

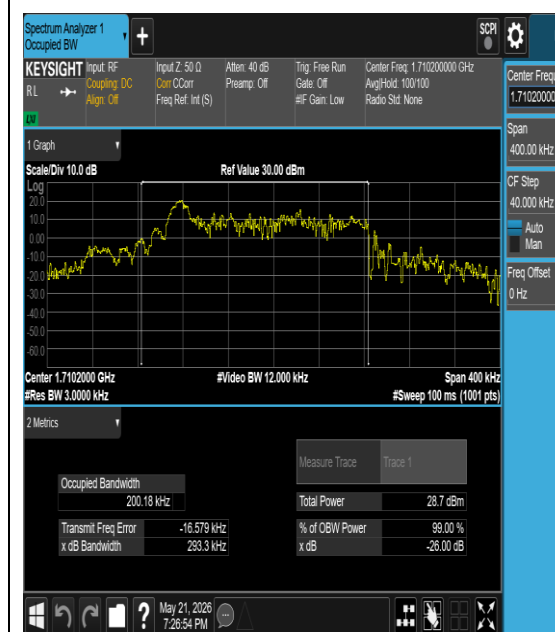




Band4-0.18-QPSK-20398-1@0-3.75kHz-PASS



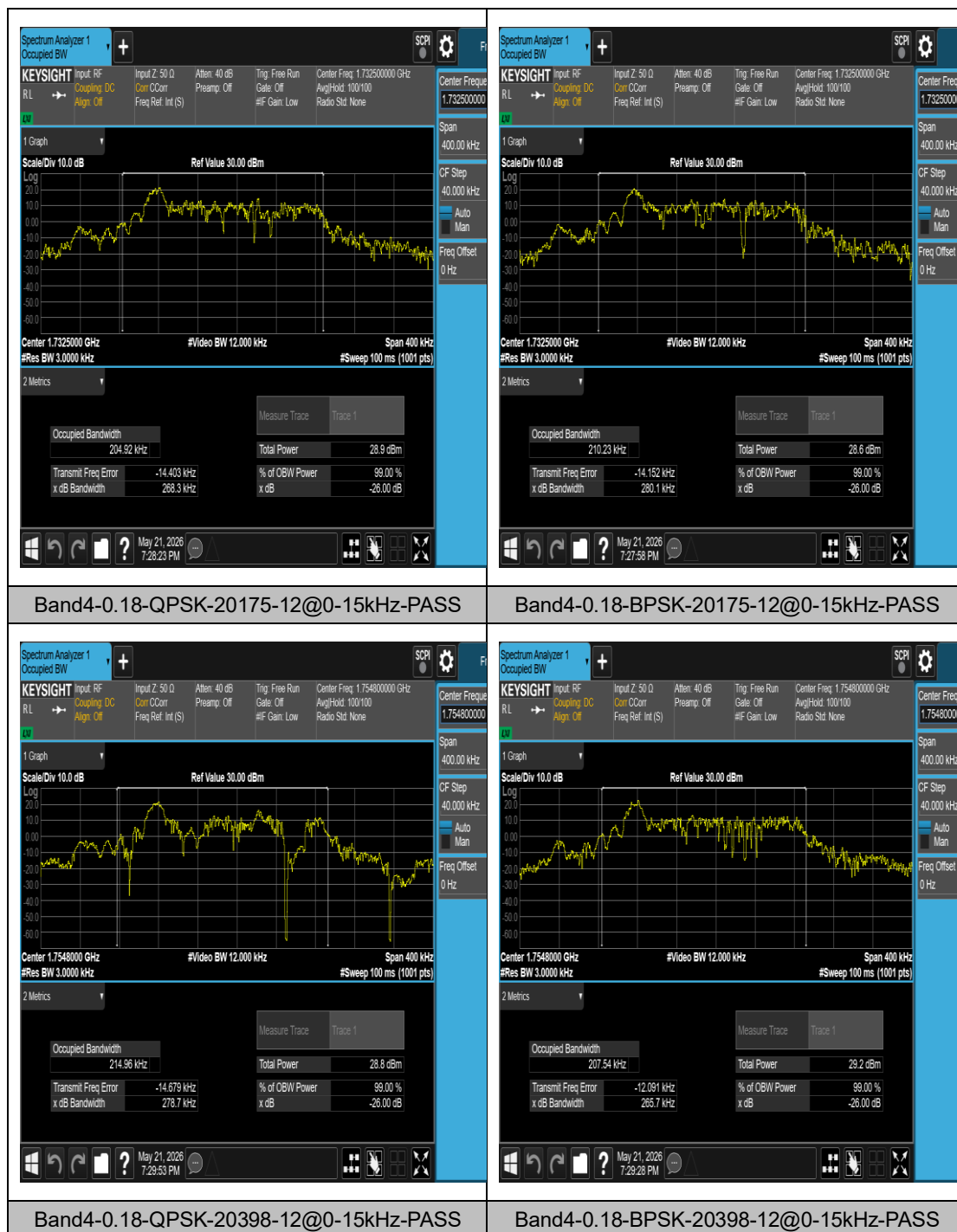
Band4-0.18-BPSK-20398-1@0-3.75kHz-PASS



Band4-0.18-QPSK-19952-12@0-15kHz-PASS



Band4-0.18-BPSK-19952-12@0-15kHz-PASS

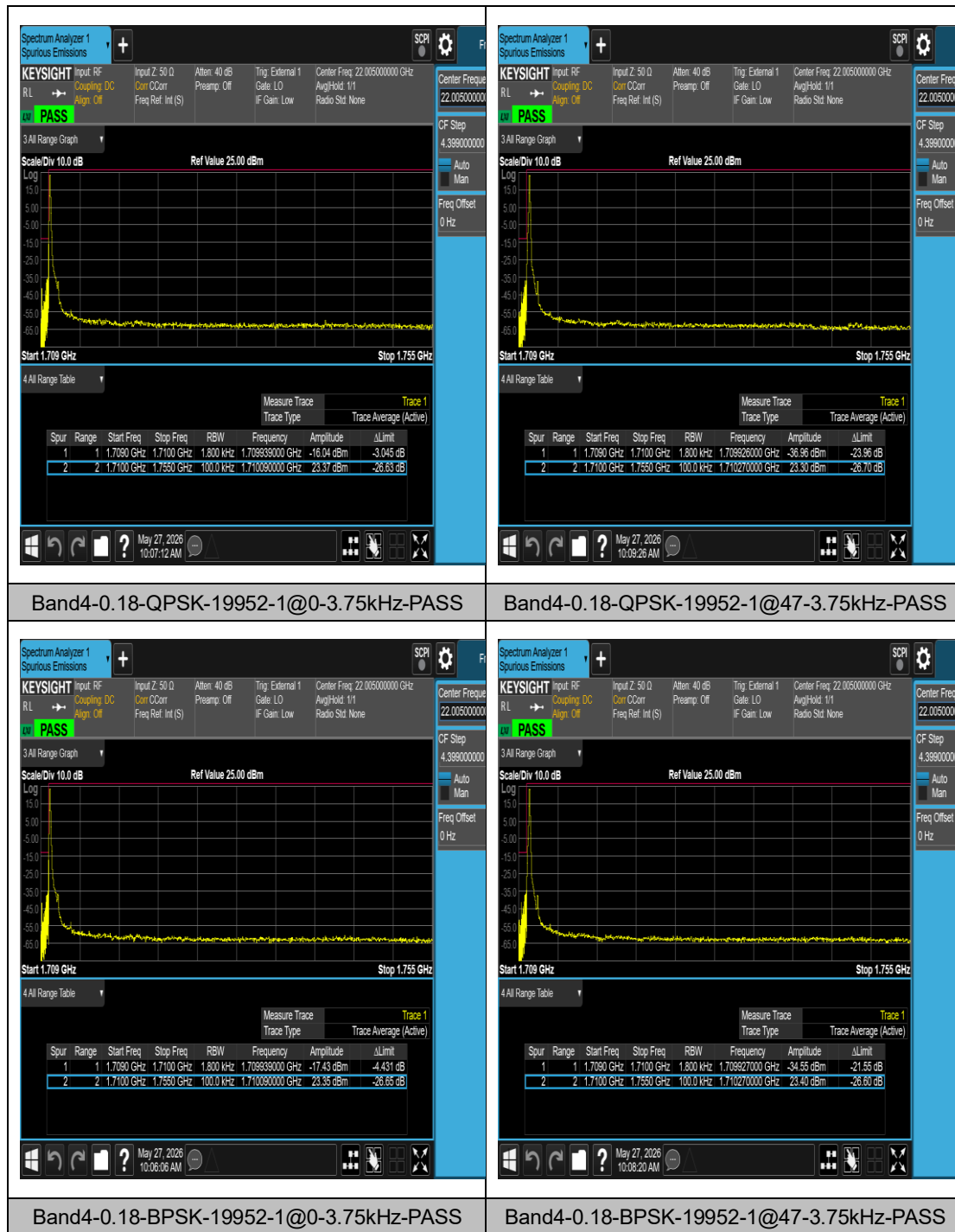


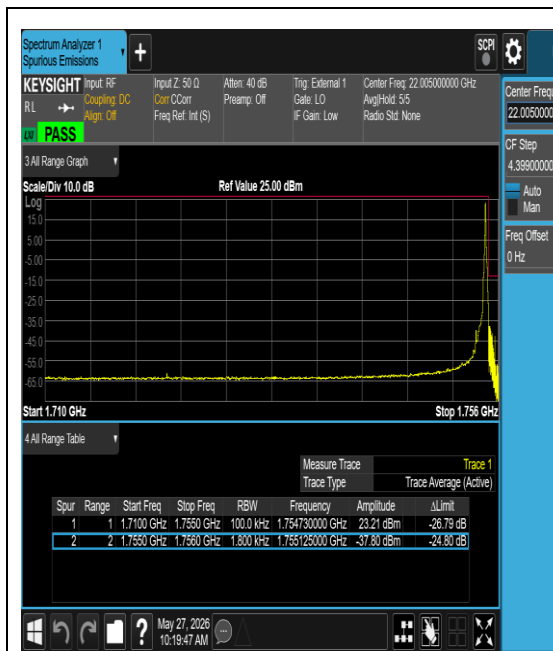
Appendix D: Band Edge for NB1

Test Result

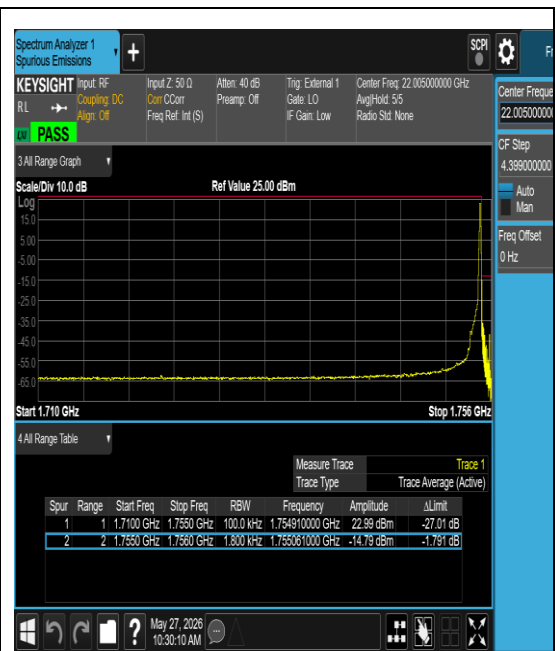
Band	OpMode	SCS	BW	Modulation	Channel	Tones	Result (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	-16.04	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	-36.96	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@0	-17.43	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	19952	1@47	-34.55	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	-37.80	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	-14.79	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@0	-36.72	PASS
Band4	Stand-Alone	3.75kHz	0.18	BPSK	20398	1@47	-14.83	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@0	-20.07	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	1@11	-36.59	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	-27.89	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	0.00	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	-35.70	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@0	-35.70	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	1@11	-20.56	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	-29.76	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	-36.94	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	-16.60	PASS

Test Graphs

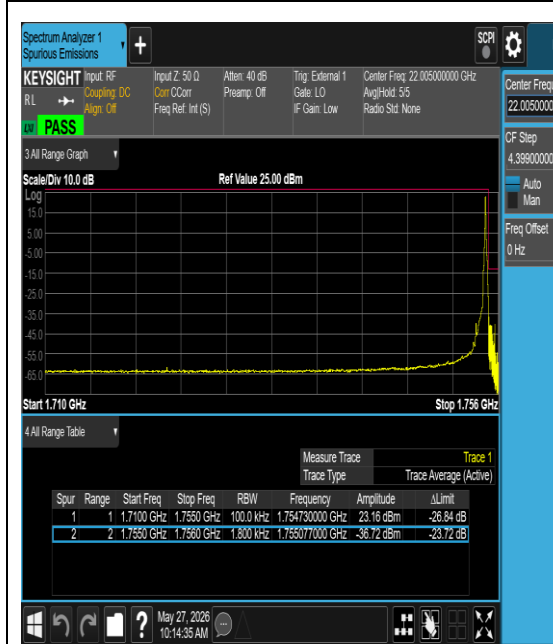




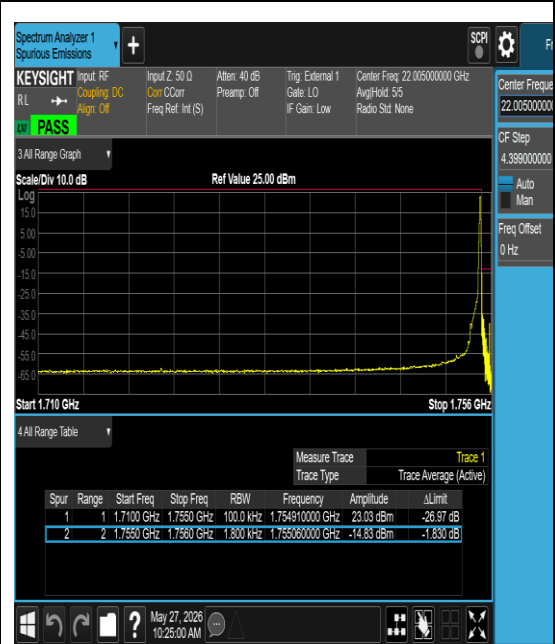
Band4-0.18-QPSK-20398-1@0-3.75kHz-PASS



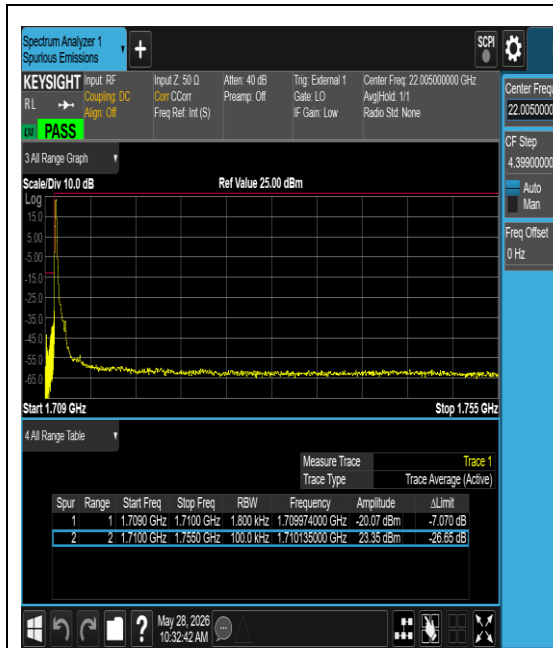
Band4-0.18-QPSK-20398-1@47-3.75kHz-PASS



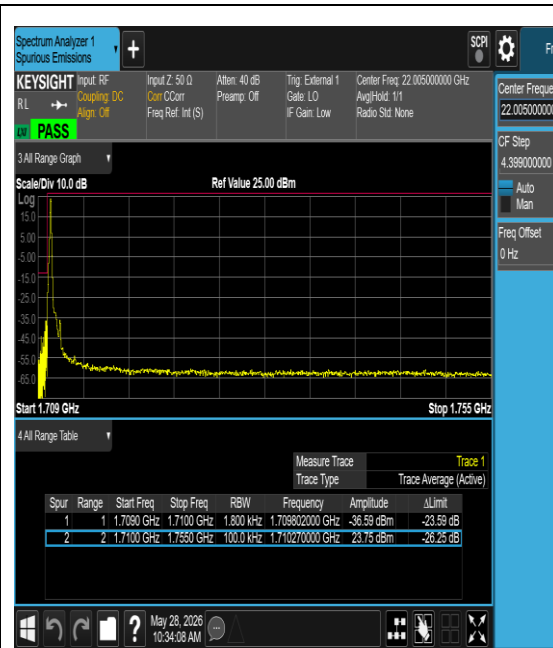
Band4-0.18-BPSK-20398-1@0-3.75kHz-PASS



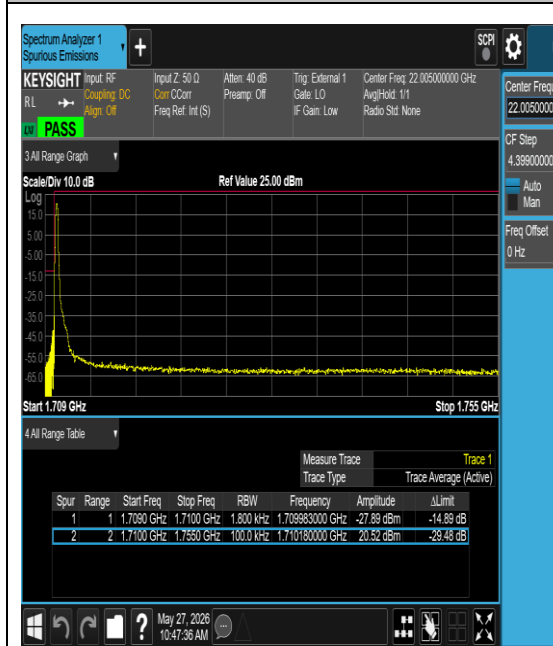
Band4-0.18-BPSK-20398-1@47-3.75kHz-PASS



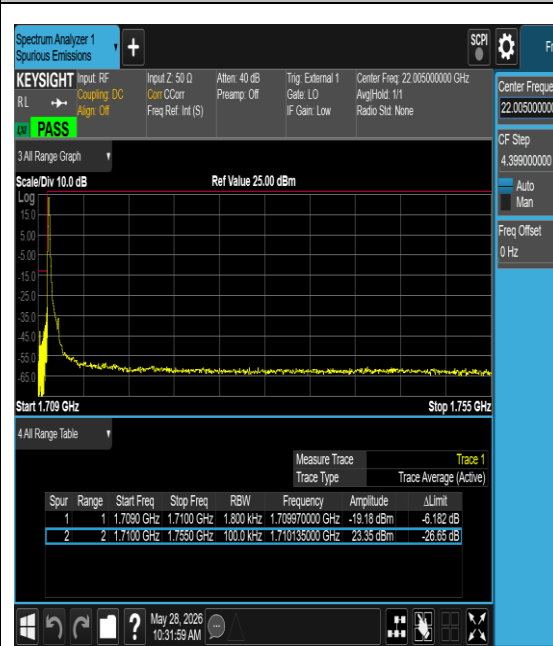
Band4-0.18-QPSK-19952-1@0-15kHz-PASS



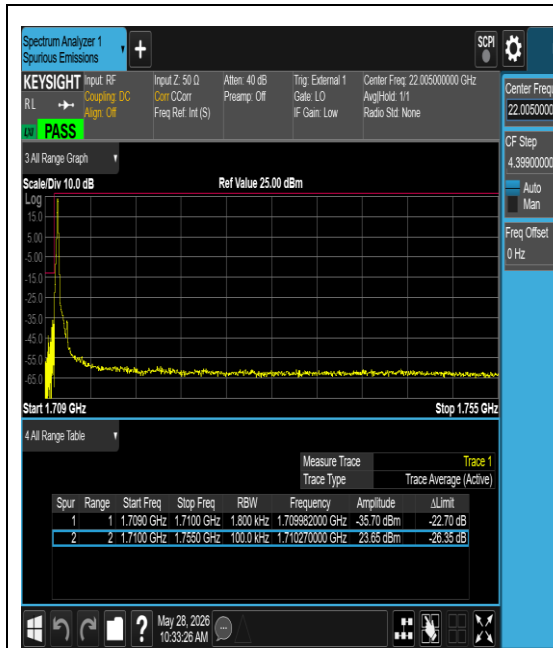
Band4-0.18-QPSK-19952-1@11-15kHz-PASS



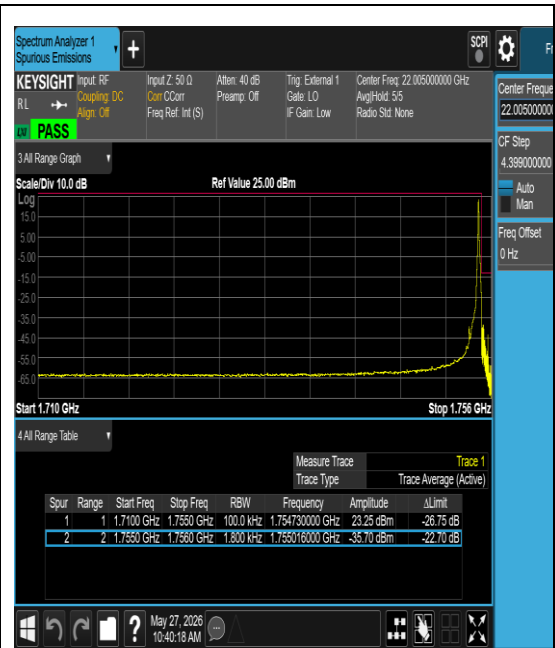
Band4-0.18-QPSK-19952-12@0-15kHz-PASS



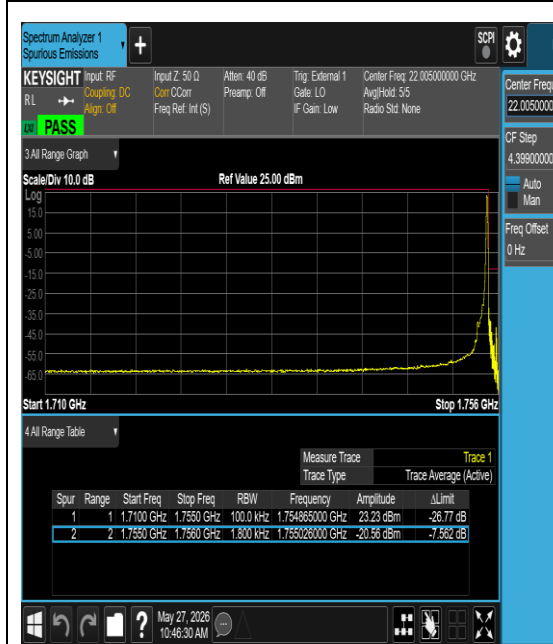
Band4-0.18-BPSK-19952-1@0-15kHz-PASS



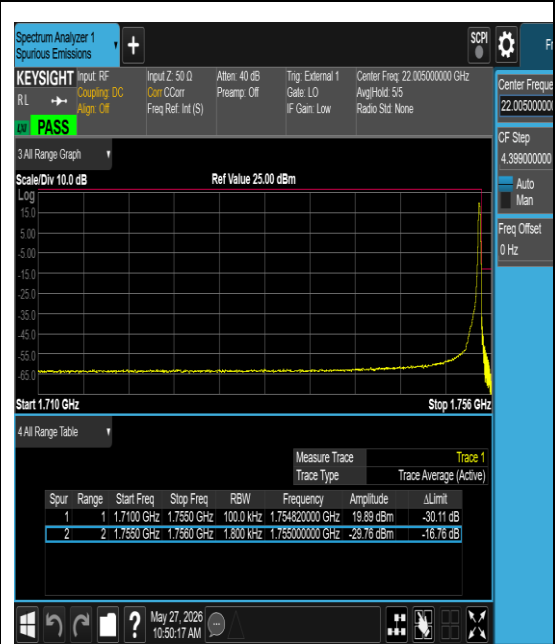
Band4-0.18-BPSK-19952-1@11-15kHz-PASS



Band4-0.18-QPSK-20398-1@0-15kHz-PASS



Band4-0.18-QPSK-20398-1@11-15kHz-PASS



Band4-0.18-QPSK-20398-12@0-15kHz-PASS



Appendix E: Conducted Spurious Emission for NB1

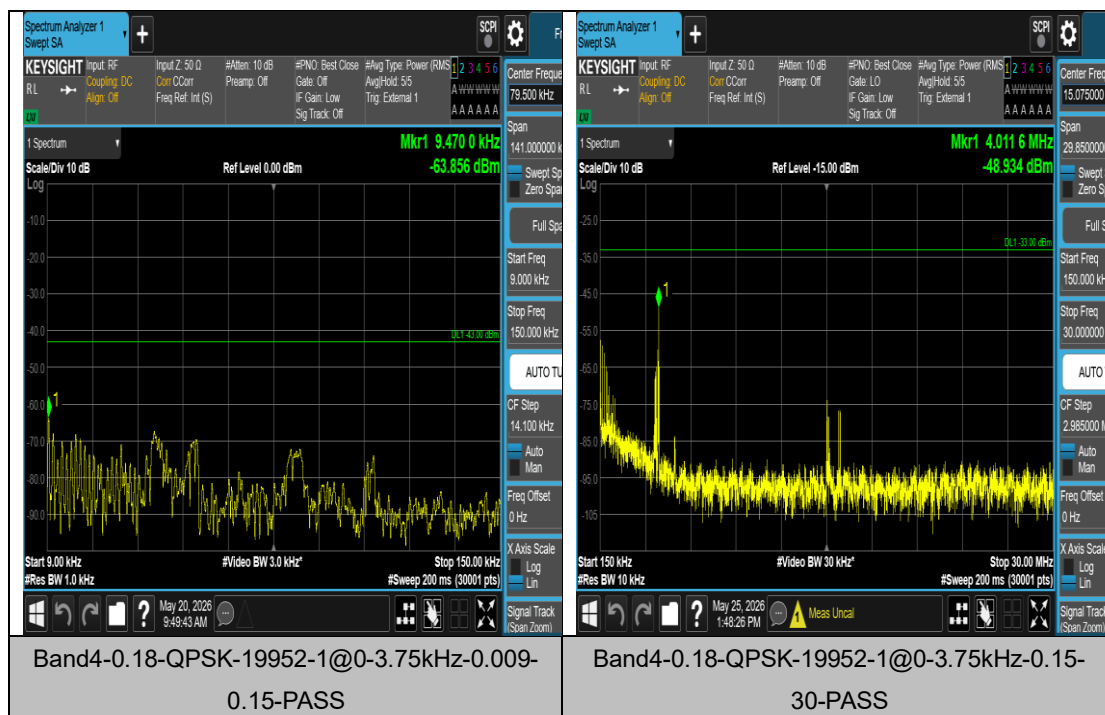
Test Result

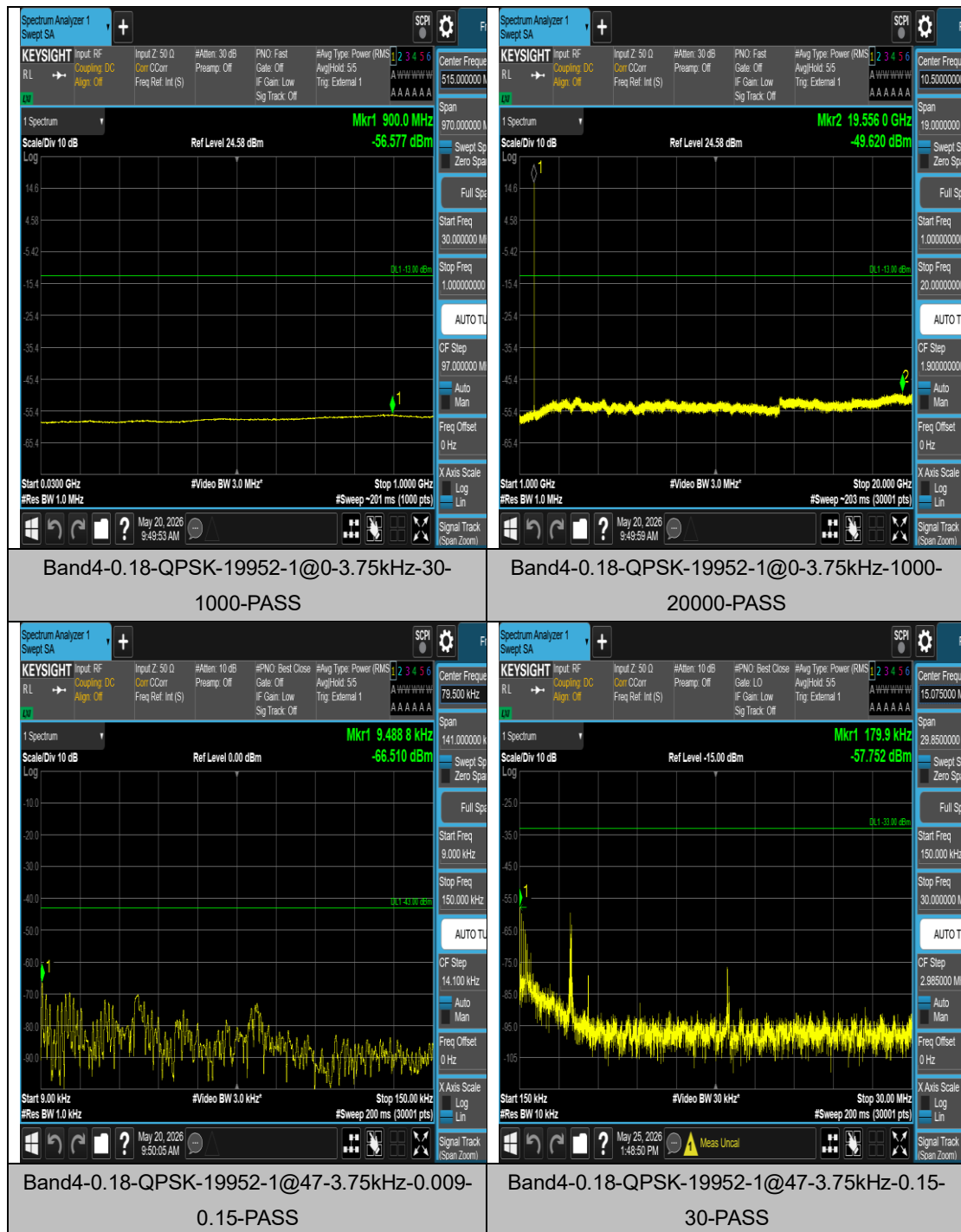
Band	OpMode	SCS	BW	Modulation	Channel	Tones	Freq Start [MHz]	Freq Stop [MHz]	Result (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	0.009	0.15	-63.86	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	0.15	30	-48.93	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	30	1000	-56.58	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@0	1000	20000	-49.62	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	0.009	0.15	-66.51	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	0.15	30	-57.75	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	30	1000	-56.58	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	19952	1@47	1000	20000	-49.58	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	0.009	0.15	-65.3	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	0.15	30	-57.12	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	30	1000	-56.53	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@0	1000	20000	-49.63	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	0.009	0.15	-65.03	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	0.15	30	-57.28	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	30	1000	-56.59	-13	PASS

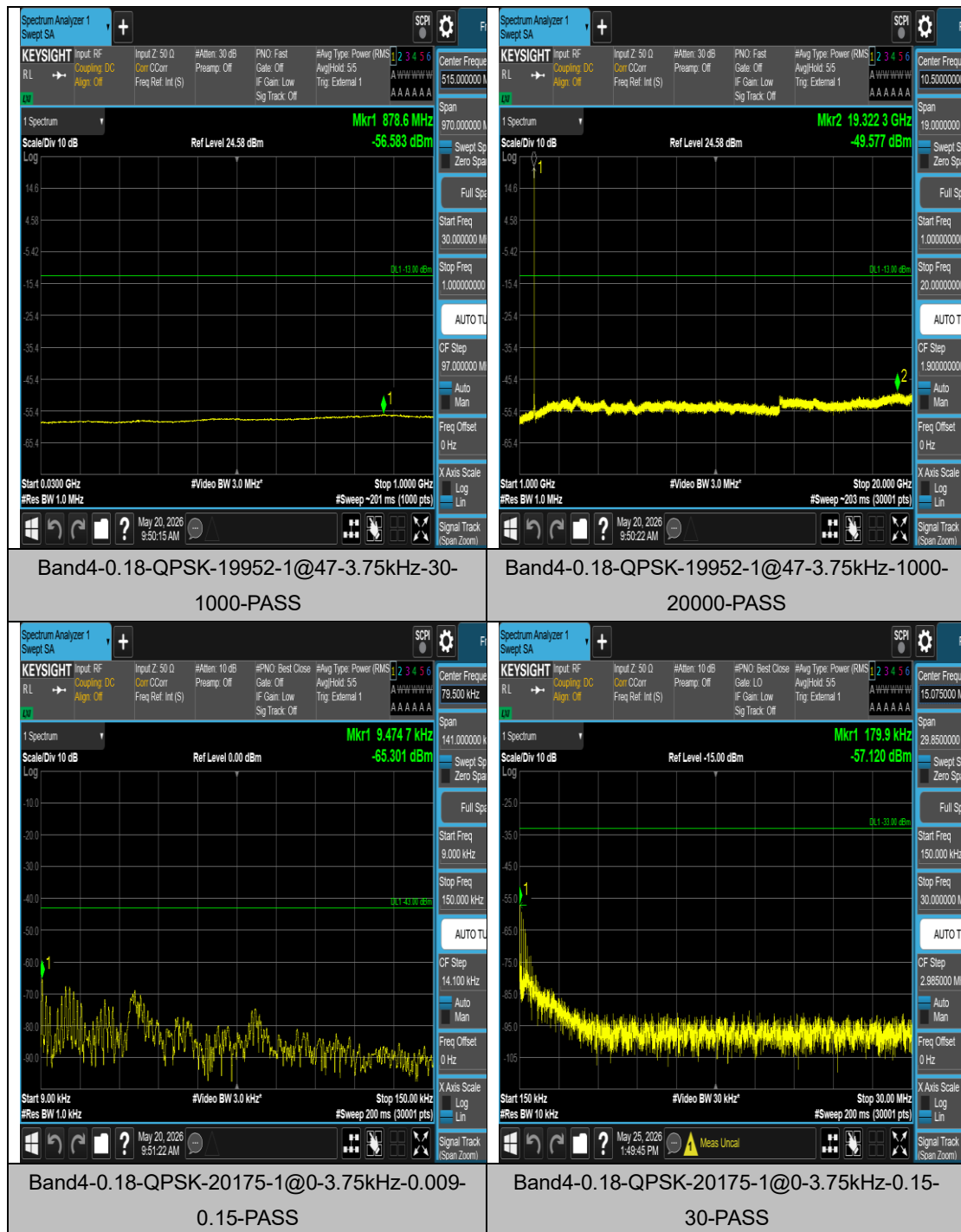
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20175	1@47	1000	2000 0	-49.55	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	0.009	0.15	-68.23	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	0.15	30	-58.28	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	30	1000	-56.39	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@0	1000	2000 0	-49.45	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	0.009	0.15	-65.54	-43	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	0.15	30	-57.62	-33	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	30	1000	-56.63	-13	PASS
Band4	Stand-Alone	3.75kHz	0.18	QPSK	20398	1@47	1000	2000 0	-49.32	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	0.009	0.15	-63.93	-43	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	0.15	30	-58.08	-33	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	30	1000	-56.66	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	19952	12@0	1000	2000 0	-49.57	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	0.009	0.15	-65.94	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	0.15	30	-58.12	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	30	1000	-56.56	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@0	1000	2000 0	-49.62	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	0.009	0.15	-66.05	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	0.15	30	-57.74	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	30	1000	-55.7	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	19952	1@11	1000	2000 0	-49.5	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	0.009	0.15	-62.95	-43	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	0.15	30	-57.35	-33	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	30	1000	-56.39	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20175	12@0	1000	2000 0	-49.61	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	0.009	0.15	-68.11	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	0.15	30	-57.33	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	30	1000	-55.6	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@0	1000	2000 0	-49.77	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	0.009	0.15	-68.37	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	0.15	30	-57.32	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	30	1000	-55.43	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20175	1@11	1000	2000 0	-48.95	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	0.009	0.15	-63.36	-43	PASS

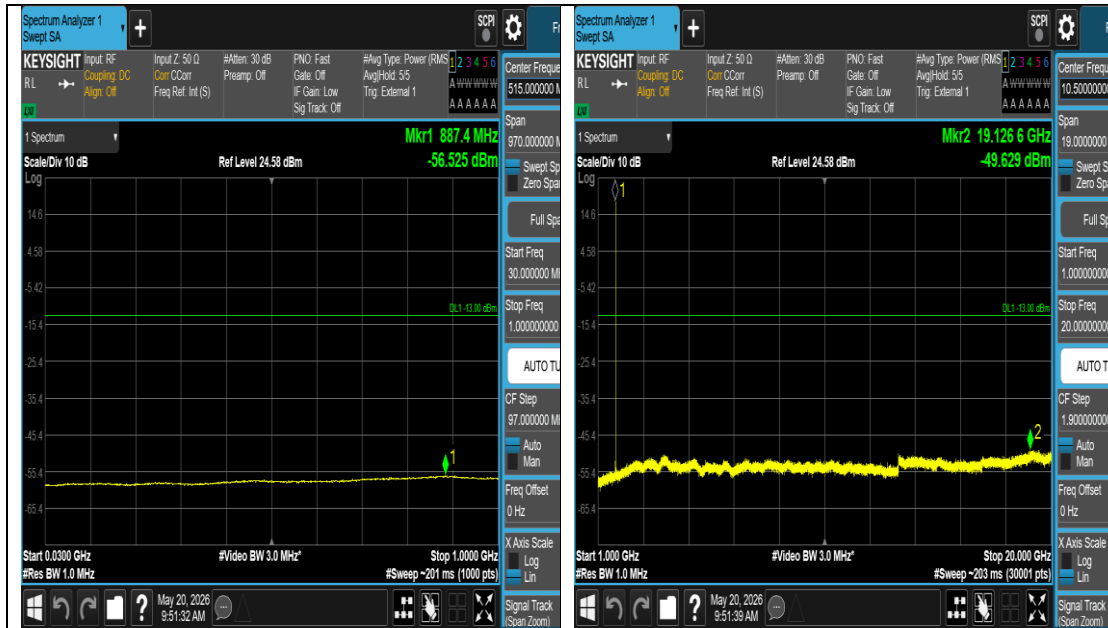
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	0.15	30	-57.87	-33	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	30	1000	-56.68	-13	PASS
Band4	Stand-Alone	15kHz	0.18	QPSK	20398	12@0	1000	2000 0	-49.53	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	0.009	0.15	-68.32	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	0.15	30	-58.72	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	30	1000	-55.83	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@0	1000	2000 0	-49.32	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	0.009	0.15	-67.38	-43	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	0.15	30	-56.8	-33	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	30	1000	-55.32	-13	PASS
Band4	Stand-Alone	15kHz	0.18	BPSK	20398	1@11	1000	2000 0	-49.45	-13	PASS

Test Graphs



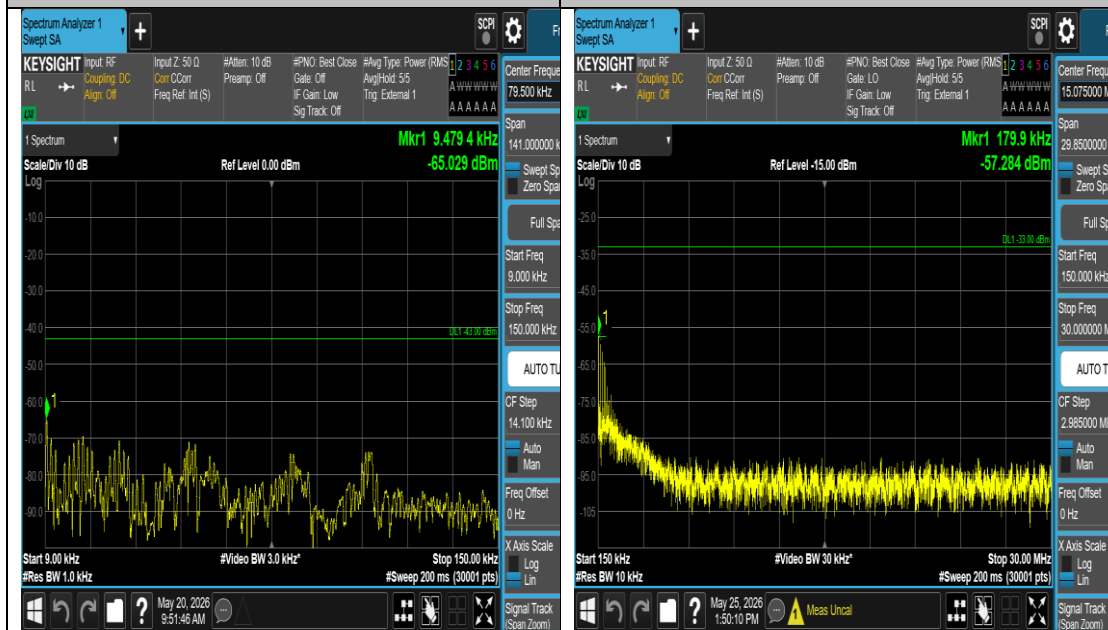






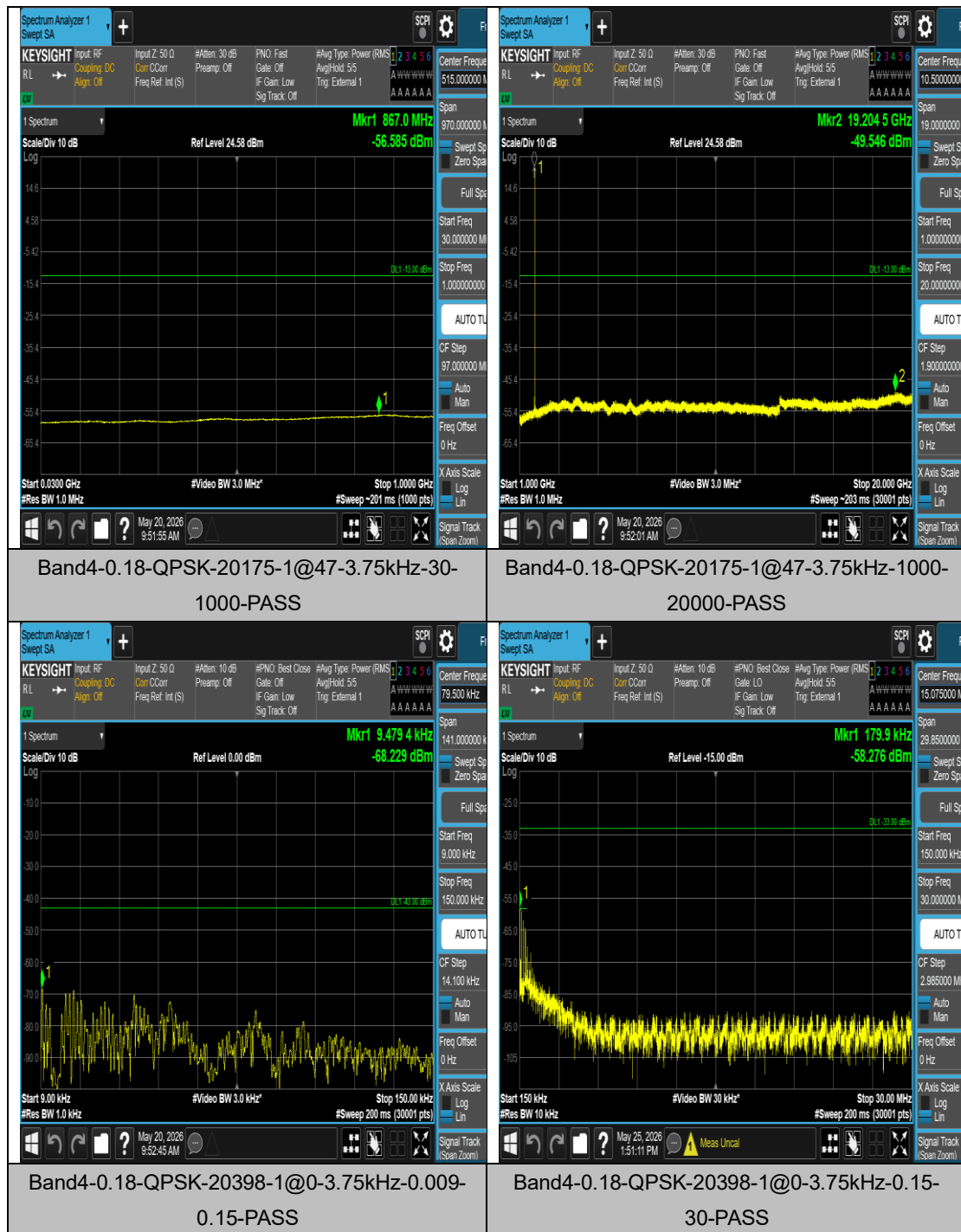
Band4-0.18-QPSK-20175-1@0-3.75kHz-30-1000-PASS

Band4-0.18-QPSK-20175-1@0-3.75kHz-1000-20000-PASS



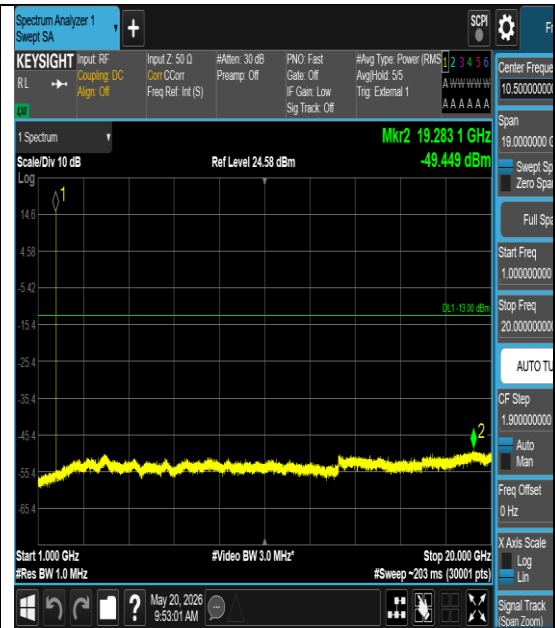
Band4-0.18-QPSK-20175-1@47-3.75kHz-0.009-0.15-PASS

Band4-0.18-QPSK-20175-1@47-3.75kHz-0.15-30-PASS

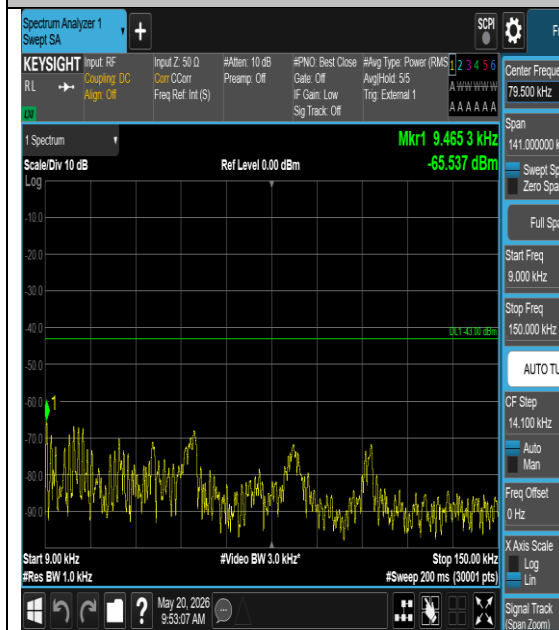




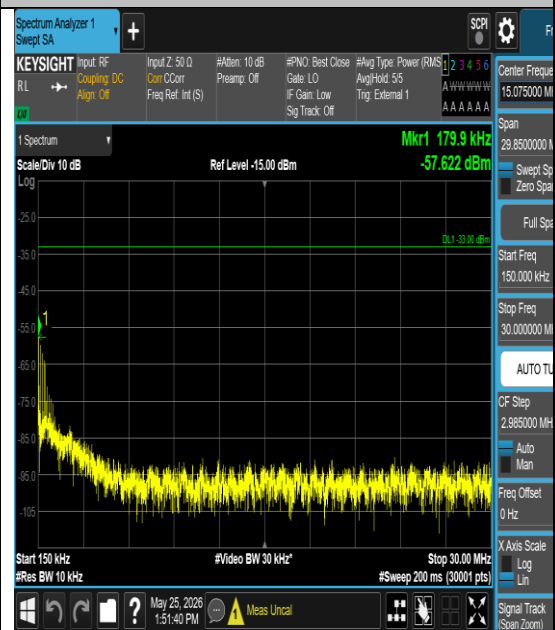
Band4-0.18-QPSK-20398-1@0-3.75kHz-30-1000-PASS



Band4-0.18-QPSK-20398-1@0-3.75kHz-1000-20000-PASS



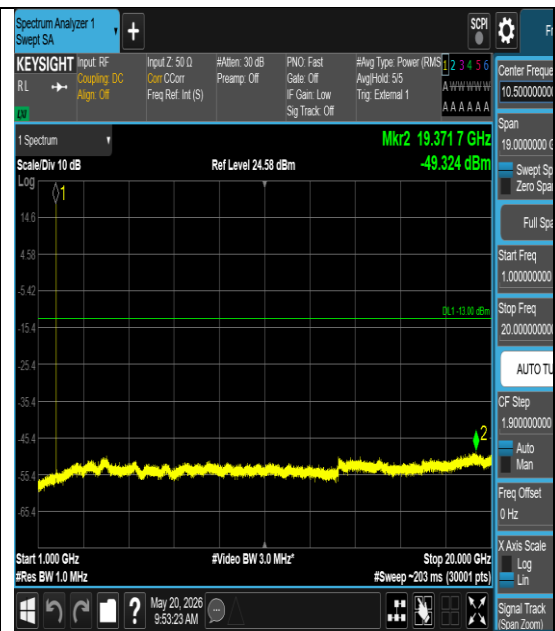
Band4-0.18-QPSK-20398-1@47-3.75kHz-0.009-0.15-PASS



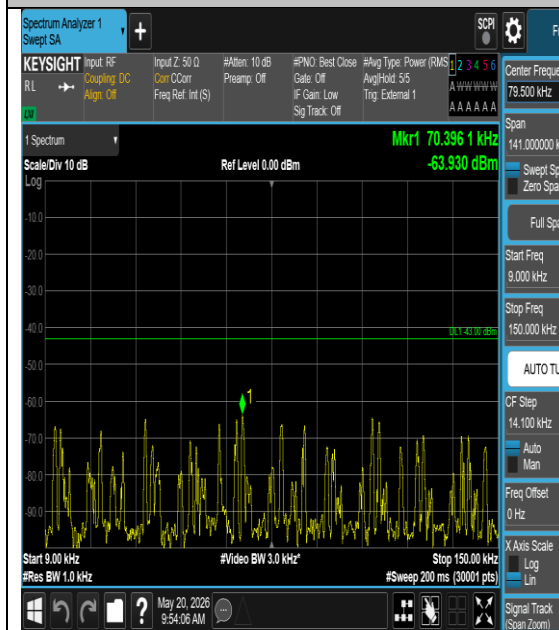
Band4-0.18-QPSK-20398-1@47-3.75kHz-0.15-30-PASS



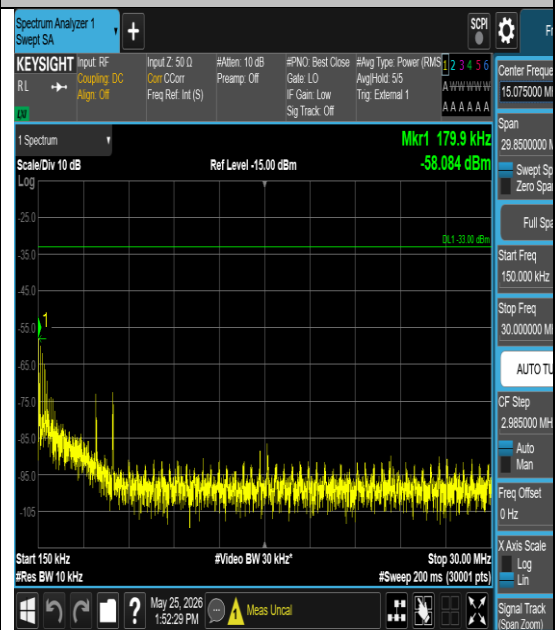
Band4-0.18-QPSK-20398-1@47-3.75kHz-30-1000-PASS



Band4-0.18-QPSK-20398-1@47-3.75kHz-1000-20000-PASS



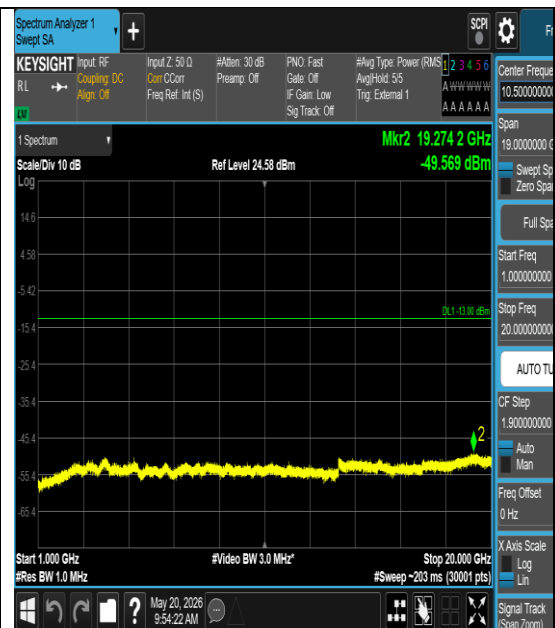
Band4-0.18-QPSK-19952-12@0-15kHz-0.009-0.15-PASS



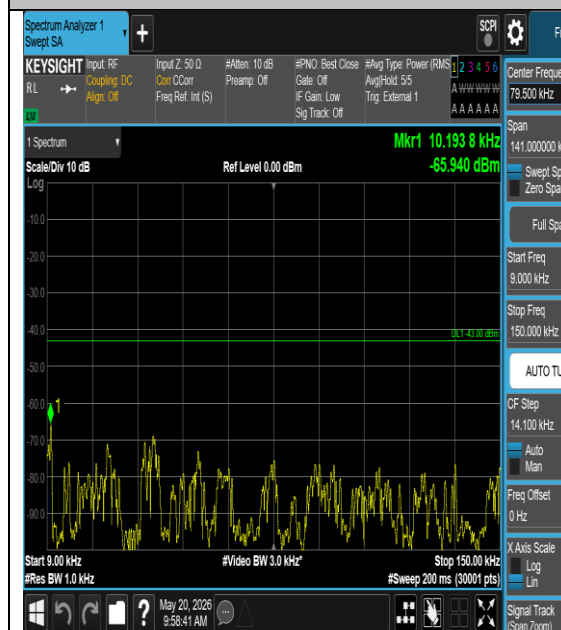
Band4-0.18-QPSK-19952-12@0-15kHz-0.15-30-PASS



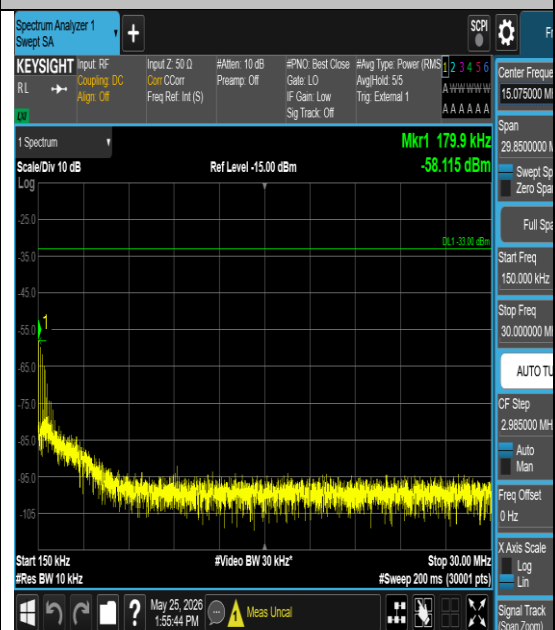
Band4-0.18-QPSK-19952-12@0-15kHz-30-1000-PASS



Band4-0.18-QPSK-19952-12@0-15kHz-1000-20000-PASS



Band4-0.18-BPSK-19952-1@0-15kHz-0.009-0.15-PASS



Band4-0.18-BPSK-19952-1@0-15kHz-0.15-30-PASS