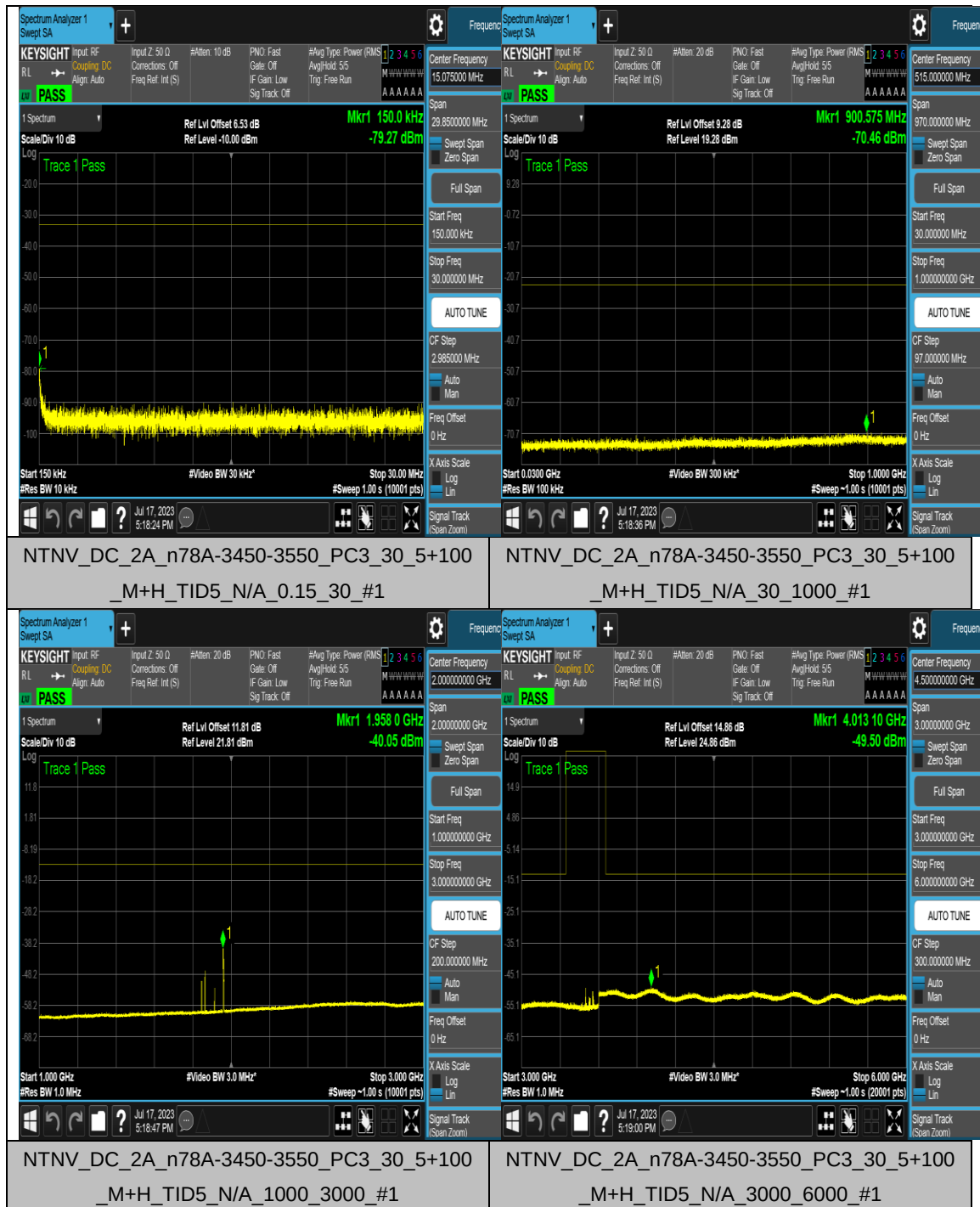
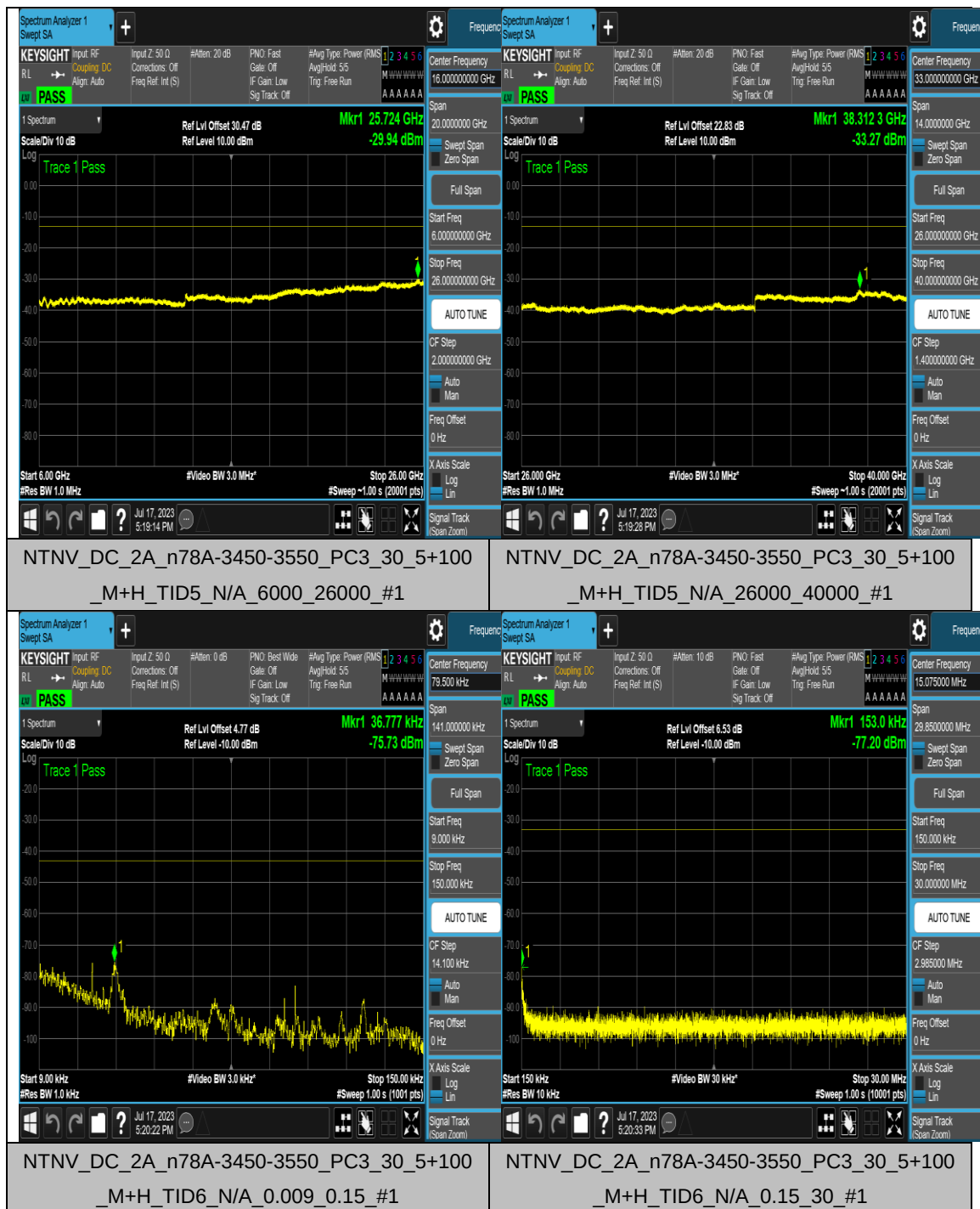
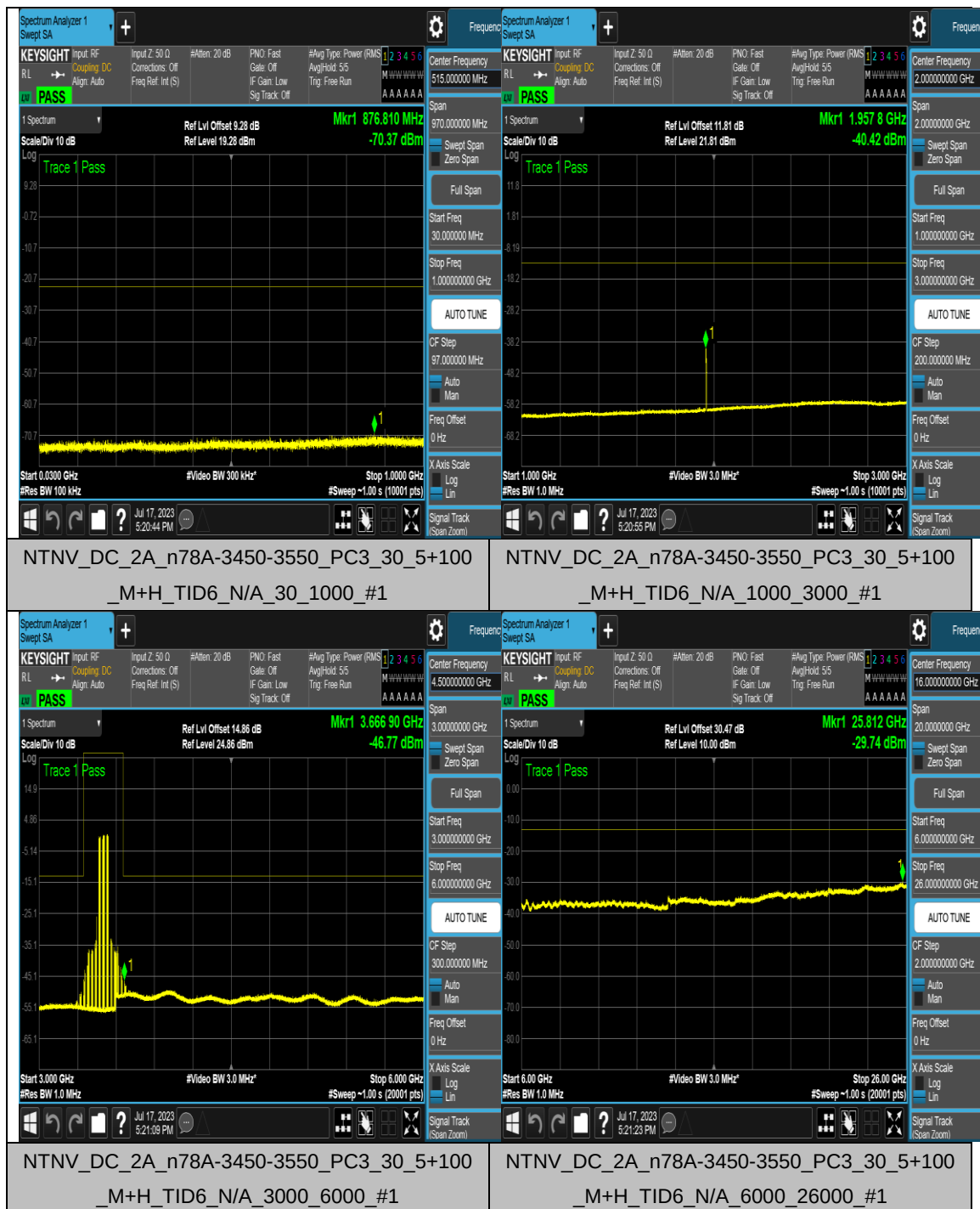
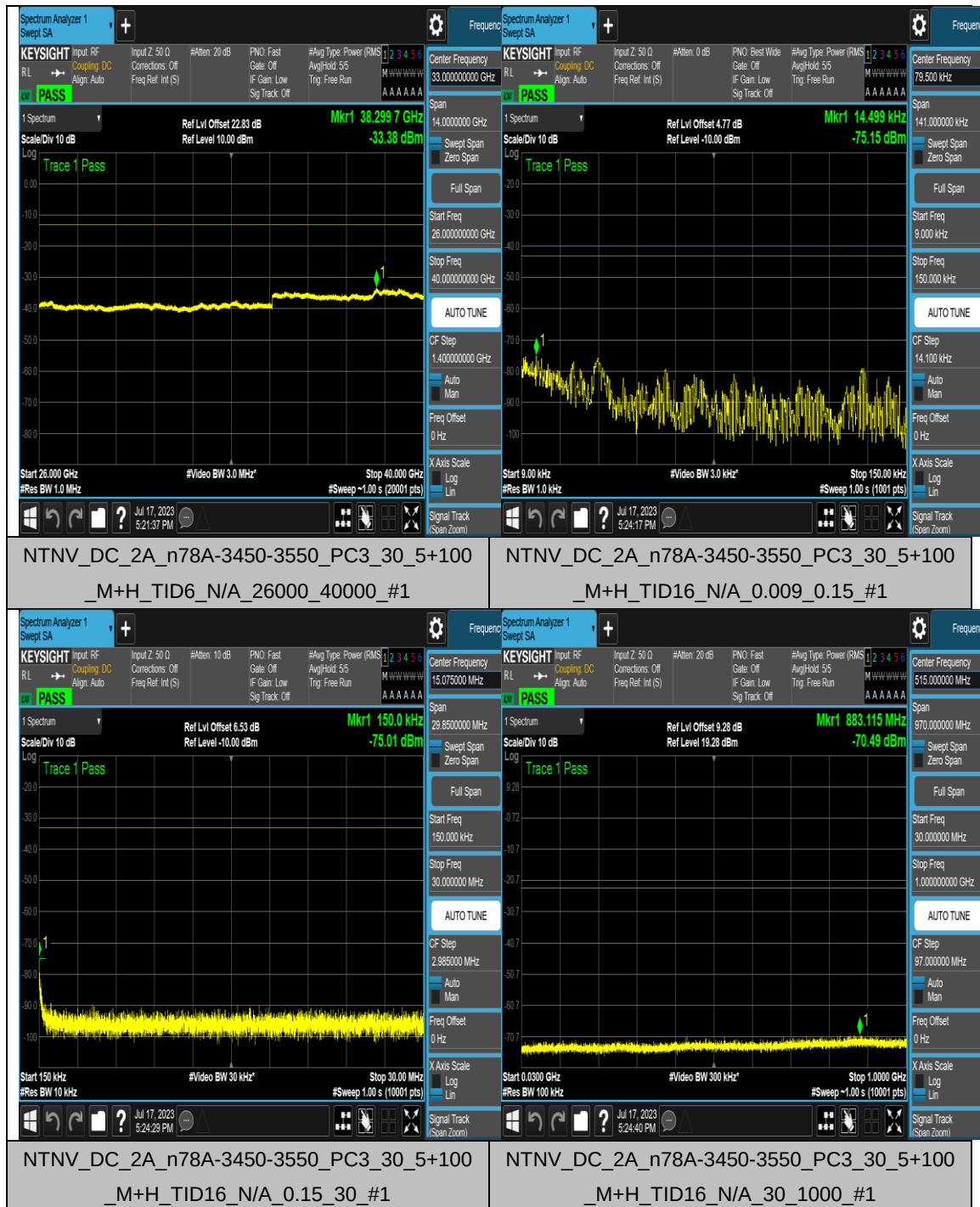
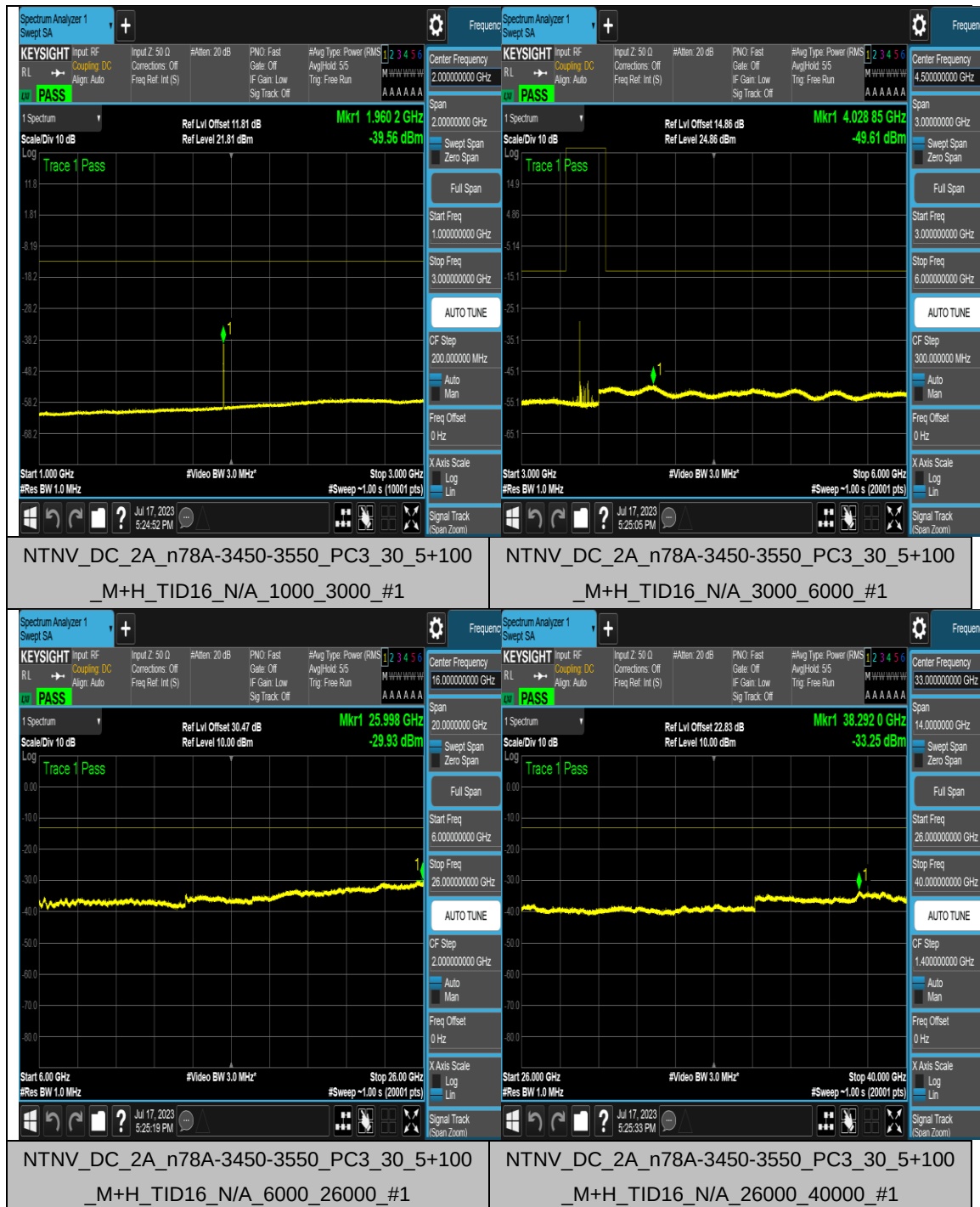


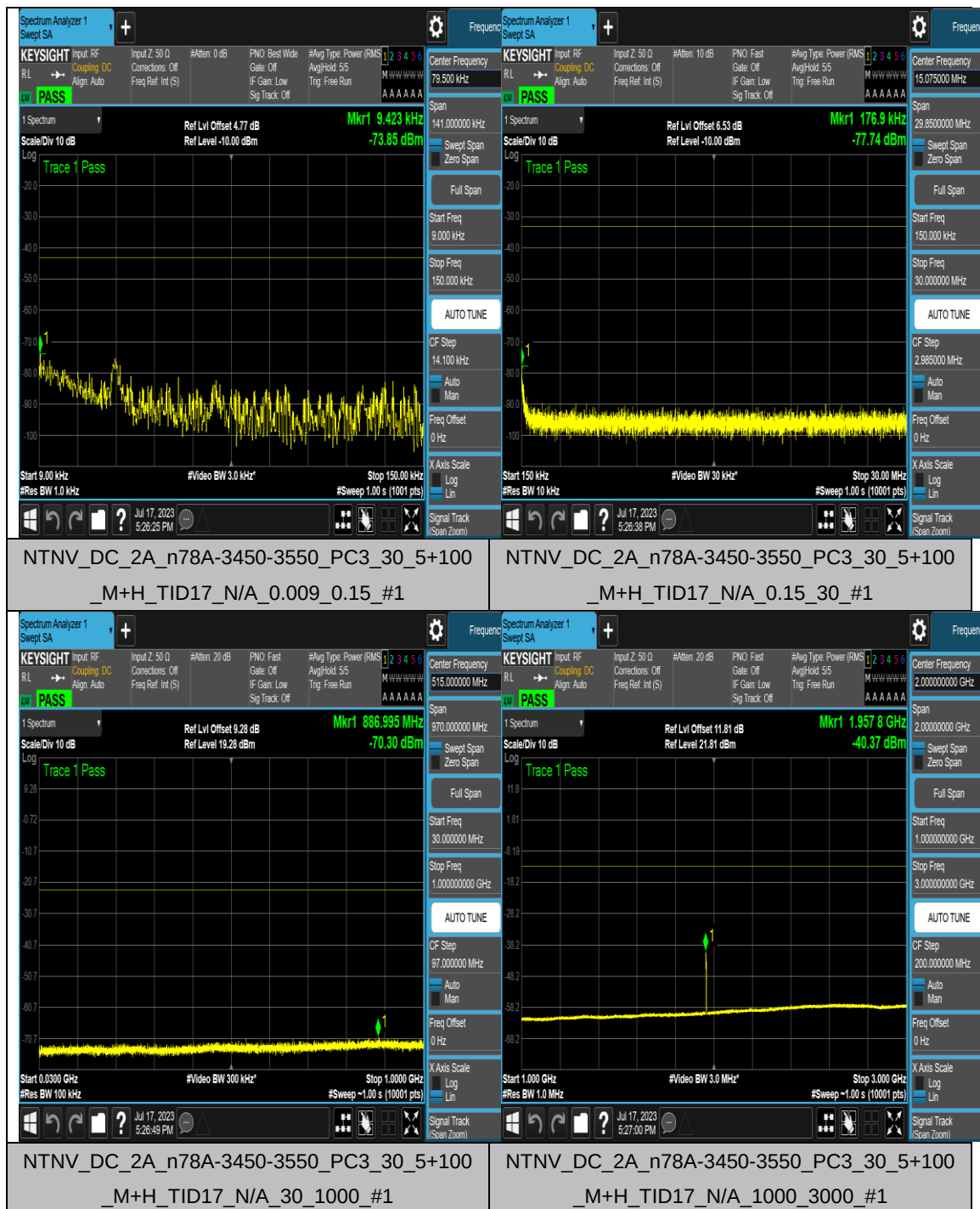


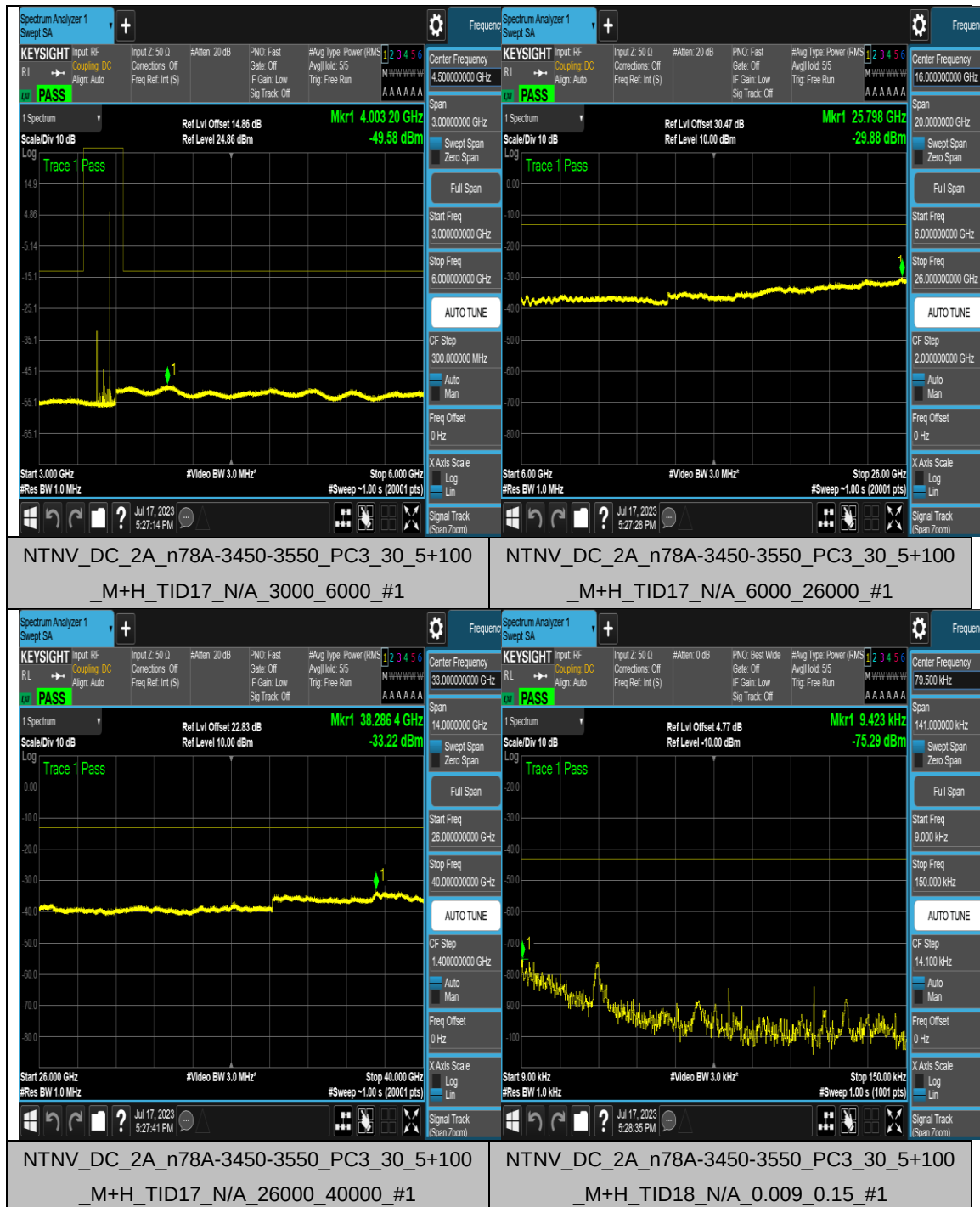


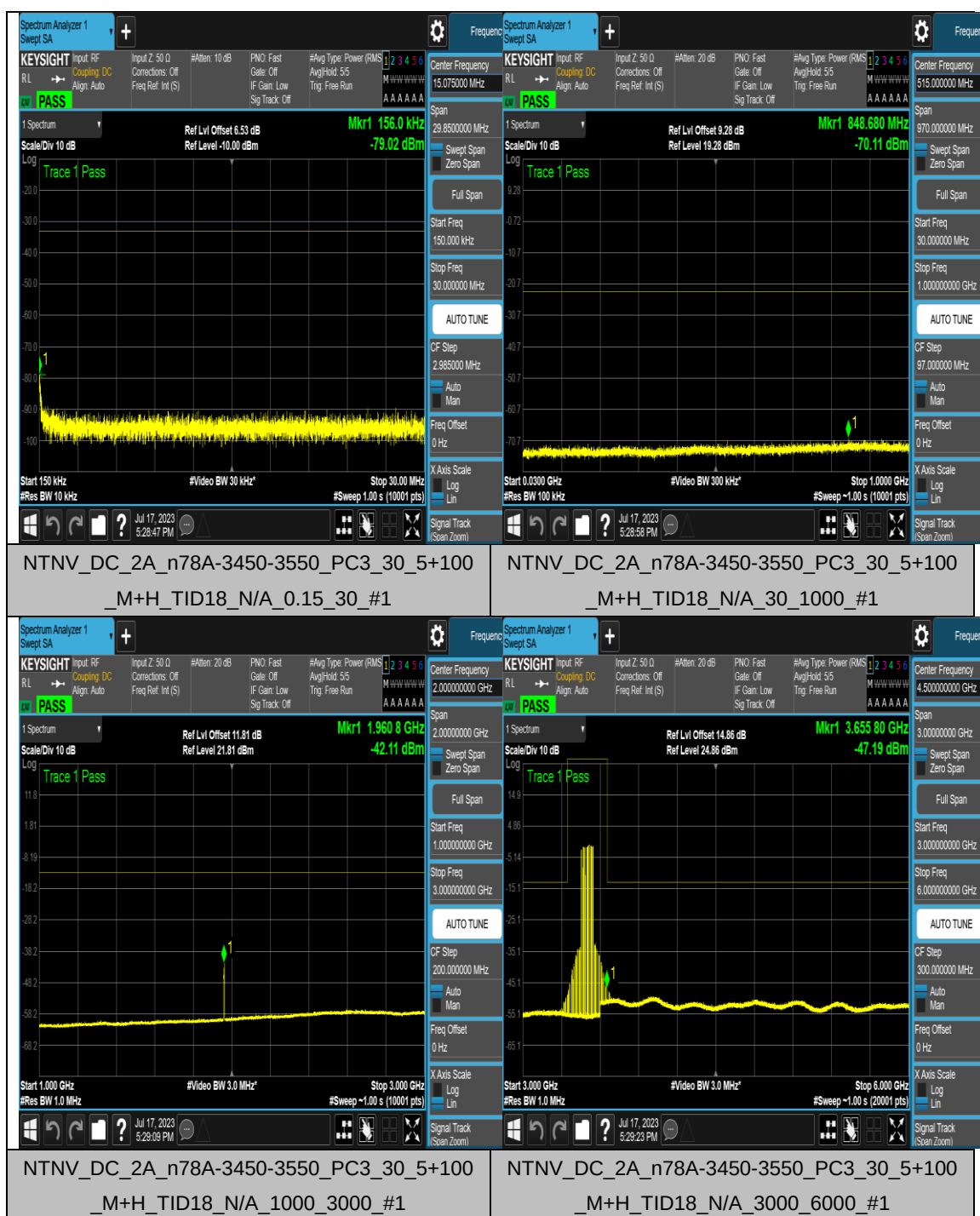


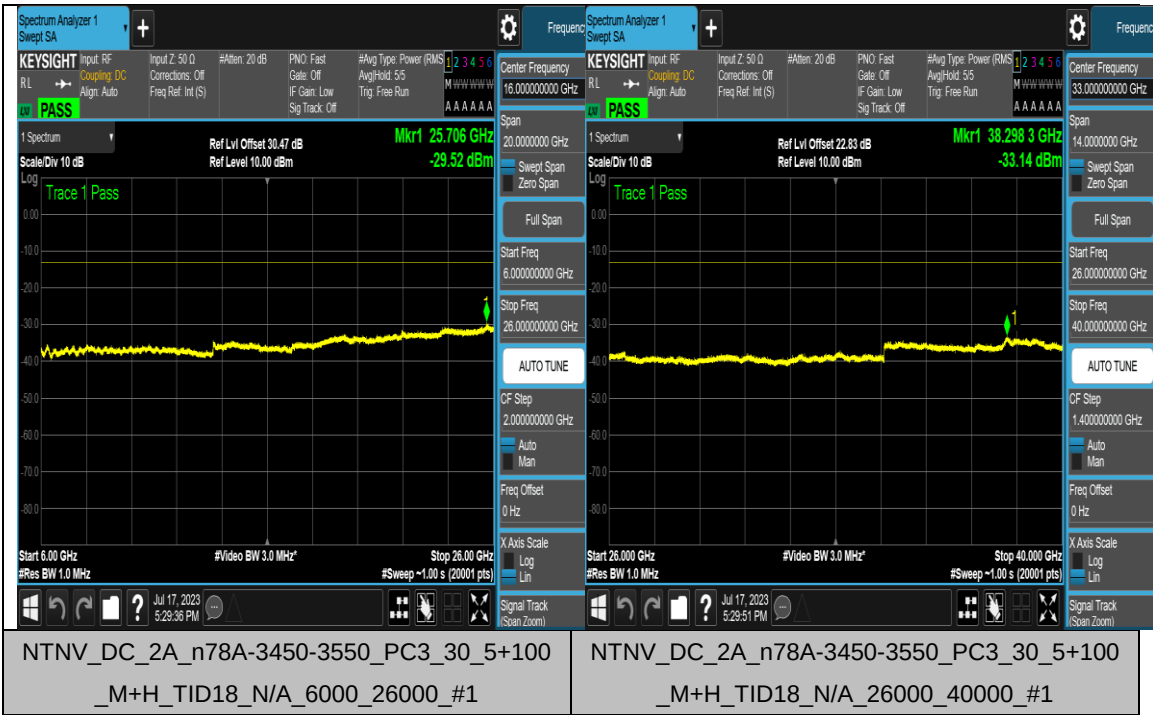












Appendix F: Frequency Stability for NSA

Test Result

Frequency Error VS. Voltage

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
DC_2A_n78A-34 50-3550	30	5+20	DFT-QPSK	M+L	Outer_Full	VN	NT	-14.61	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+20	CP-QPSK	M+L	Outer_Full	VN	NT	-11.10	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+20	DFT-QPSK	M+M	Outer_Full	VN	NT	-12.98	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+20	CP-QPSK	M+M	Outer_Full	VN	NT	-2.63	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+20	DFT-QPSK	M+H	Outer_Full	VN	NT	-0.85	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+20	CP-QPSK	M+H	Outer_Full	VN	NT	-6.97	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	DFT-QPSK	M+L	Outer_Full	VN	NT	-8.70	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	CP-QPSK	M+L	Outer_Full	VN	NT	-12.11	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	DFT-QPSK	M+M	Outer_Full	VN	NT	-13.09	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	CP-QPSK	M+M	Outer_Full	VN	NT	-0.55	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	DFT-QPSK	M+H	Outer_Full	VN	NT	-7.73	0.00	PASS
DC_2A_n78A-34 50-3550	30	5+40	CP-QPSK	M+H	Outer_Full	VN	NT	0.08	0.00	PASS

n78A-34 50-3550										
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+L	Outer_Full	VN	NT	-10.39	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+L	Outer_Full	VN	NT	-6.96	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+M	Outer_Full	VN	NT	-0.08	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+M	Outer_Full	VN	NT	-1.41	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+H	Outer_Full	VN	NT	1.95	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+H	Outer_Full	VN	NT	-21.27	-0.01	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+L	Outer_Full	VN	NT	4.46	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+60	CP-QPSK	M+L	Outer_Full	VN	NT	-3.98	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+M	Outer_Full	VN	NT	-1.36	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+60	CP-QPSK	M+M	Outer_Full	VN	NT	-3.37	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+H	Outer_Full	VN	NT	-8.56	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+60	CP-QPSK	M+H	Outer_Full	VN	NT	2.39	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+L	Outer_Full	VN	NT	2.43	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+L	Outer_Full	VN	NT	-16.37	0.00	PASS

n78A-34 50-3550										
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+M	Outer_Full	VN	NT	-0.92	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+M	Outer_Full	VN	NT	-5.37	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+H	Outer_Full	VN	NT	-26.61	-0.01	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+H	Outer_Full	VN	NT	-3.65	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+L	Outer_Full	VN	NT	-2.46	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+L	Outer_Full	VN	NT	-3.52	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+M	Outer_Full	VN	NT	6.99	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+M	Outer_Full	VN	NT	8.20	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+H	Outer_Full	VN	NT	-12.04	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+H	Outer_Full	VN	NT	-12.06	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+L	Outer_Full	VN	NT	1.71	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+100	CP-QPSK	M+L	Outer_Full	VN	NT	-0.42	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+M	Outer_Full	VN	NT	-6.52	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+100	CP-QPSK	M+M	Outer_Full	VN	NT	-10.71	0.00	PASS

n78A-34 50-3550										
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+H	Outer_Full	VN	NT	-5.91	0.00	PASS
DC_2A_ n78A-34 50-3550	30	5+100	CP-QPSK	M+H	Outer_Full	VN	NT	-19.91	-0.01	PASS

Frequency Error VS. Temperature

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
DC_2A_ n78A-34 50-3550	30	5+20	DFT-QPSK	M+L	Outer_Full	NV	TN	-5.117914	-0.001479	PASS
DC_2A_ n78A-34 50-3550	30	5+20	CP-QPSK	M+L	Outer_Full	NV	TN	-14.573371	-0.004212	PASS
DC_2A_ n78A-34 50-3550	30	5+20	DFT-QPSK	M+M	Outer_Full	NV	TN	-1.766472	-0.000505	PASS
DC_2A_ n78A-34 50-3550	30	5+20	CP-QPSK	M+M	Outer_Full	NV	TN	0.073591	0.000021	PASS
DC_2A_ n78A-34 50-3550	30	5+20	DFT-QPSK	M+H	Outer_Full	NV	TN	-4.625766	-0.001307	PASS
DC_2A_ n78A-34 50-3550	30	5+20	CP-QPSK	M+H	Outer_Full	NV	TN	-10.659855	-0.003011	PASS
DC_2A_ n78A-34 50-3550	30	5+40	DFT-QPSK	M+L	Outer_Full	NV	TN	-2.881705	-0.000830	PASS
DC_2A_ n78A-34 50-3550	30	5+40	CP-QPSK	M+L	Outer_Full	NV	TN	-6.525355	-0.001881	PASS
DC_2A_ n78A-34 50-3550	30	5+40	DFT-QPSK	M+M	Outer_Full	NV	TN	-5.742612	-0.001641	PASS
DC_2A_ n78A-34	30	5+40	CP-QPSK	M+M	Outer_Full	NV	TN	-3.631829	-0.001038	PASS

50-3550										
DC_2A_ n78A-34 50-3550	30	5+40	DFT-QPSK	M+H	Outer_Full	NV	TN	0.876735	0.000248	PASS
DC_2A_ n78A-34 50-3550	30	5+40	CP-QPSK	M+H	Outer_Full	NV	TN	-8.624853	-0.002443	PASS
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+L	Outer_Full	NV	TN	0.134945	0.000039	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+L	Outer_Full	NV	TN	-2.630985	-0.000757	PASS
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+M	Outer_Full	NV	TN	-11.821116	-0.003377	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+M	Outer_Full	NV	TN	-4.251193	-0.001215	PASS
DC_2A_ n78A-34 50-3550	30	5+50	DFT-QPSK	M+H	Outer_Full	NV	TN	-5.908725	-0.001676	PASS
DC_2A_ n78A-34 50-3550	30	5+50	CP-QPSK	M+H	Outer_Full	NV	TN	-1.506943	-0.000428	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+L	Outer_Full	NV	TN	-10.248122	-0.002945	PASS
DC_2A_ n78A-34 50-3550	30	5+60	CP-QPSK	M+L	Outer_Full	NV	TN	1.623543	0.000467	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+M	Outer_Full	NV	TN	-2.086771	-0.000596	PASS
DC_2A_ n78A-34 50-3550	30	5+60	CP-QPSK	M+M	Outer_Full	NV	TN	-4.460956	-0.001275	PASS
DC_2A_ n78A-34 50-3550	30	5+60	DFT-QPSK	M+H	Outer_Full	NV	TN	-11.833035	-0.003362	PASS
DC_2A_ n78A-34	30	5+60	CP-QPSK	M+H	Outer_Full	NV	TN	-22.958078	-0.006522	PASS

50-3550										
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+L	Outer_Full	NV	TN	-10.526010	-0.003016	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+L	Outer_Full	NV	TN	-8.100121	-0.002321	PASS
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+M	Outer_Full	NV	TN	7.381016	0.002109	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+M	Outer_Full	NV	TN	-4.793293	-0.001370	PASS
DC_2A_ n78A-34 50-3550	30	5+80	DFT-QPSK	M+H	Outer_Full	NV	TN	-8.490548	-0.002419	PASS
DC_2A_ n78A-34 50-3550	30	5+80	CP-QPSK	M+H	Outer_Full	NV	TN	4.919022	0.001401	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+L	Outer_Full	NV	TN	0.528542	0.000151	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+L	Outer_Full	NV	TN	-15.615233	-0.004468	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+M	Outer_Full	NV	TN	2.172544	0.000621	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+M	Outer_Full	NV	TN	-2.301691	-0.000658	PASS
DC_2A_ n78A-34 50-3550	30	5+90	DFT-QPSK	M+H	Outer_Full	NV	TN	-9.732638	-0.002777	PASS
DC_2A_ n78A-34 50-3550	30	5+90	CP-QPSK	M+H	Outer_Full	NV	TN	-15.569185	-0.004442	PASS
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+L	Outer_Full	NV	TN	-5.349164	-0.001528	PASS
DC_2A_ n78A-34	30	5+100	CP-QPSK	M+L	Outer_Full	NV	TN	-14.218357	-0.004062	PASS

50-3550										
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+M	Outer_Full	NV	TN	-10.515294	-0.003004	PASS
DC_2A_ n78A-34 50-3550	30	5+100	CP-QPSK	M+M	Outer_Full	NV	TN	-8.787526	-0.002511	PASS
DC_2A_ n78A-34 50-3550	30	5+100	DFT-QPSK	M+H	Outer_Full	NV	TN	-1.435673	-0.000410	PASS
DC_2A_ n78A-34 50-3550	30	5+100	CP-QPSK	M+H	Outer_Full	NV	TN	-1.955709	-0.000559	PASS

Appendix F: Modulation characteristics for NSA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Verdict
DC_2A_n78A-3450-3550	30	5+20	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+20	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+20	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+20	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+20	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+20	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+40	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+50	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3550	30	5+60	DFT-QPSK	M+L	Outer_Full	see graph	PASS

550							
DC_2A_n78A-3450-3 550	30	5+60	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+60	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+60	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+60	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+60	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+80	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	CP-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+90	CP-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+100	DFT-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+100	CP-QPSK	M+L	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+100	DFT-QPSK	M+M	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3	30	5+100	CP-QPSK	M+M	Outer_Full	see graph	PASS

550							
DC_2A_n78A-3450-3 550	30	5+100	DFT-QPSK	M+H	Outer_Full	see graph	PASS
DC_2A_n78A-3450-3 550	30	5+100	CP-QPSK	M+H	Outer_Full	see graph	PASS

Test Graphs

