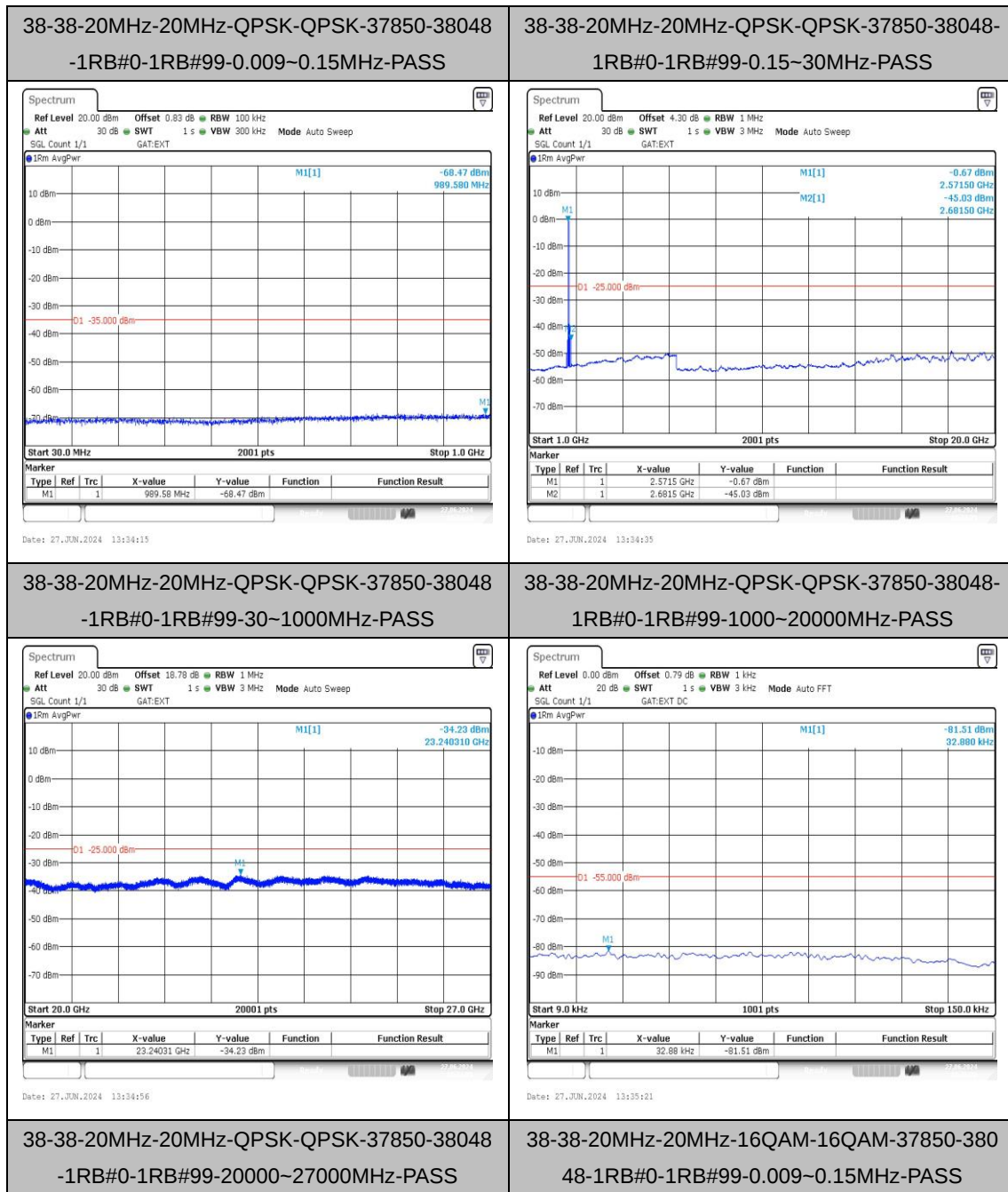
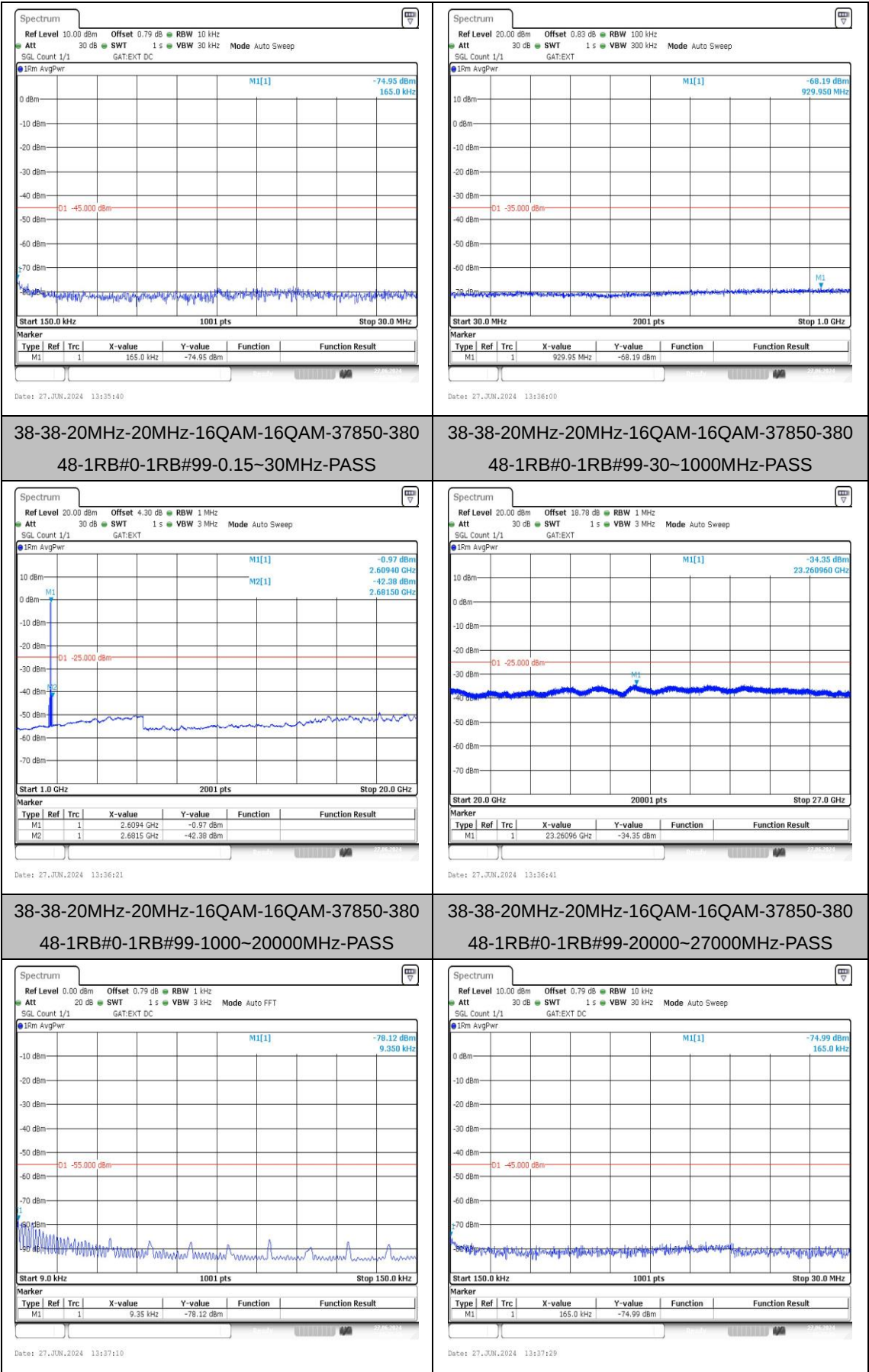
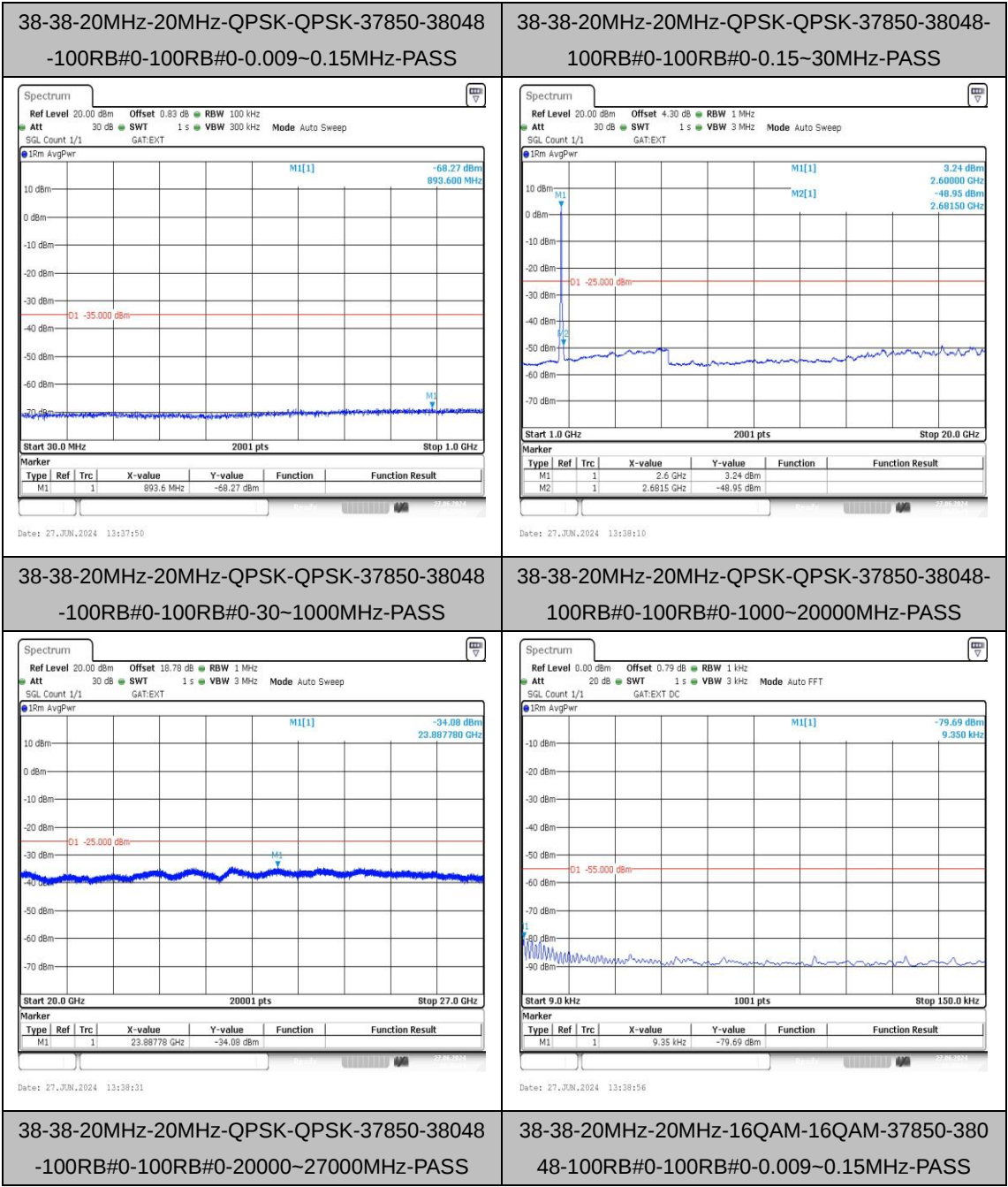
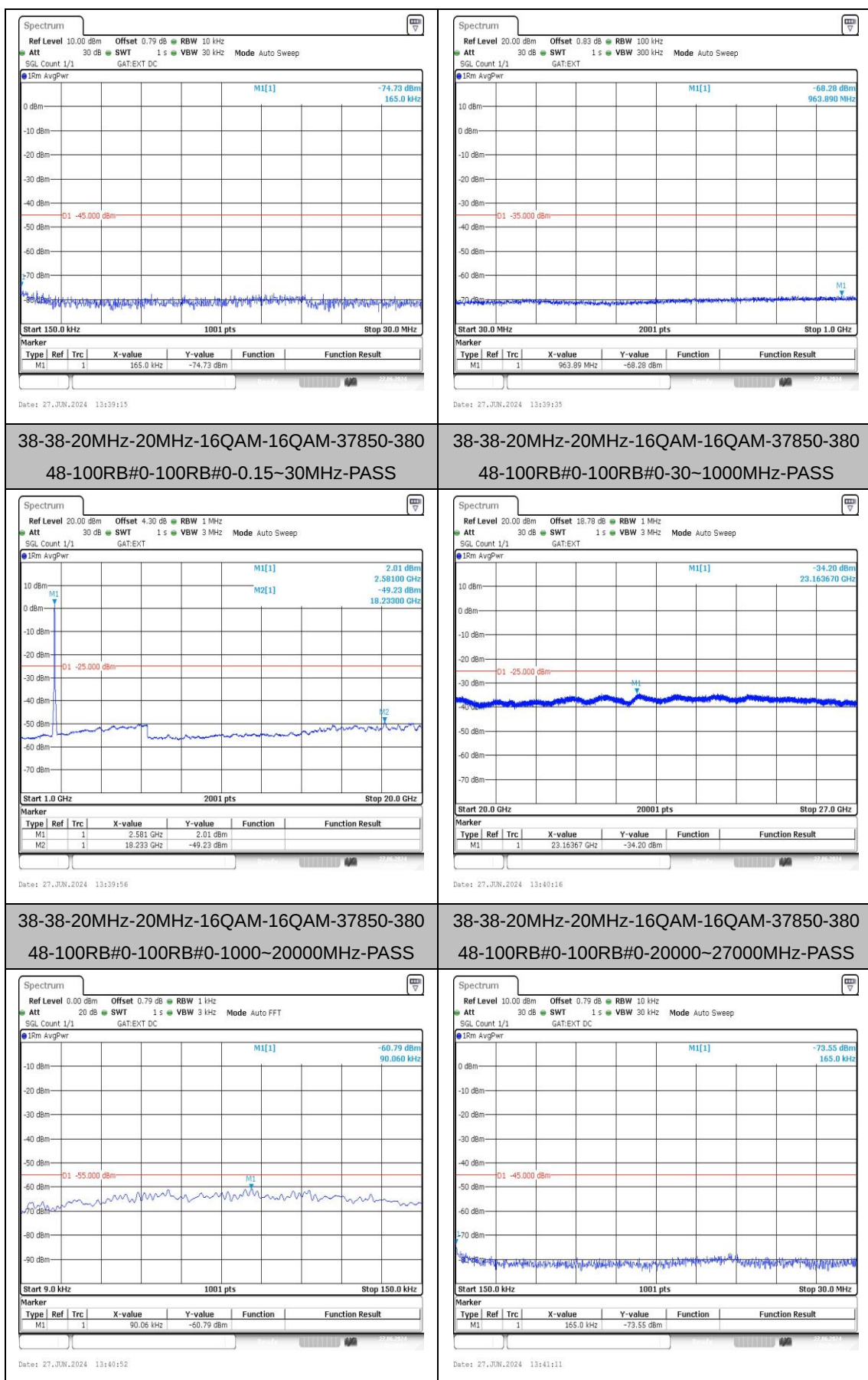
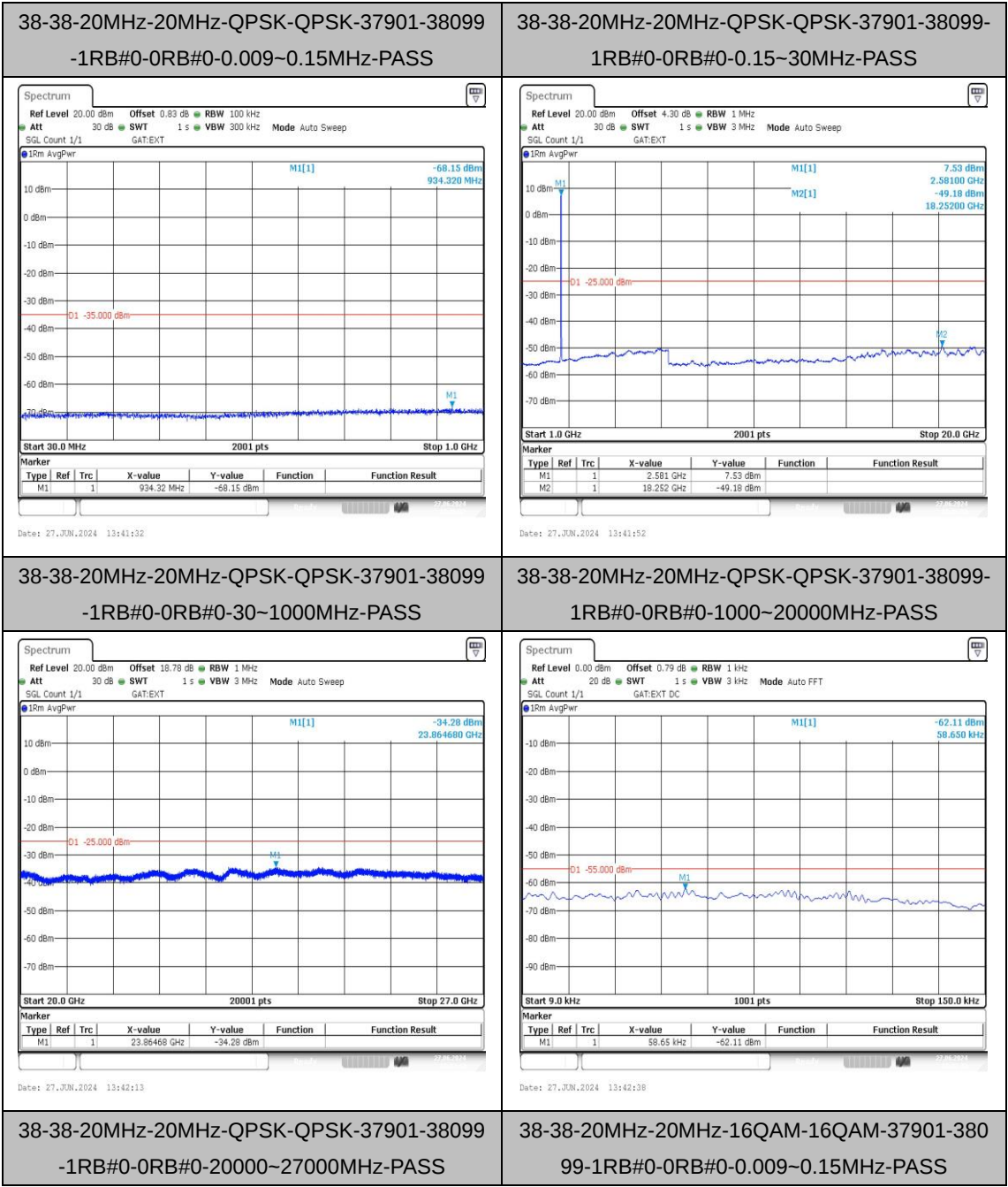


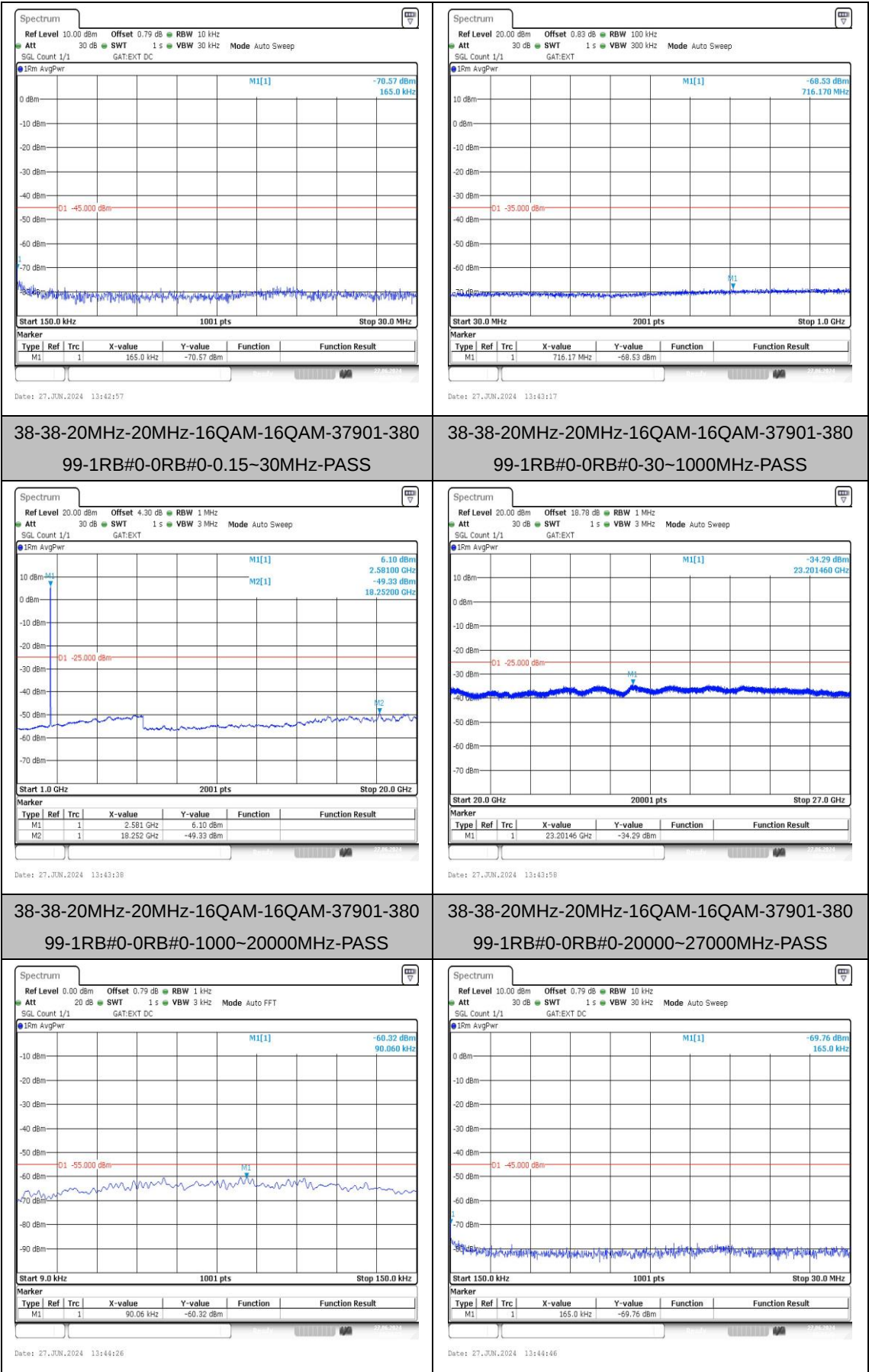


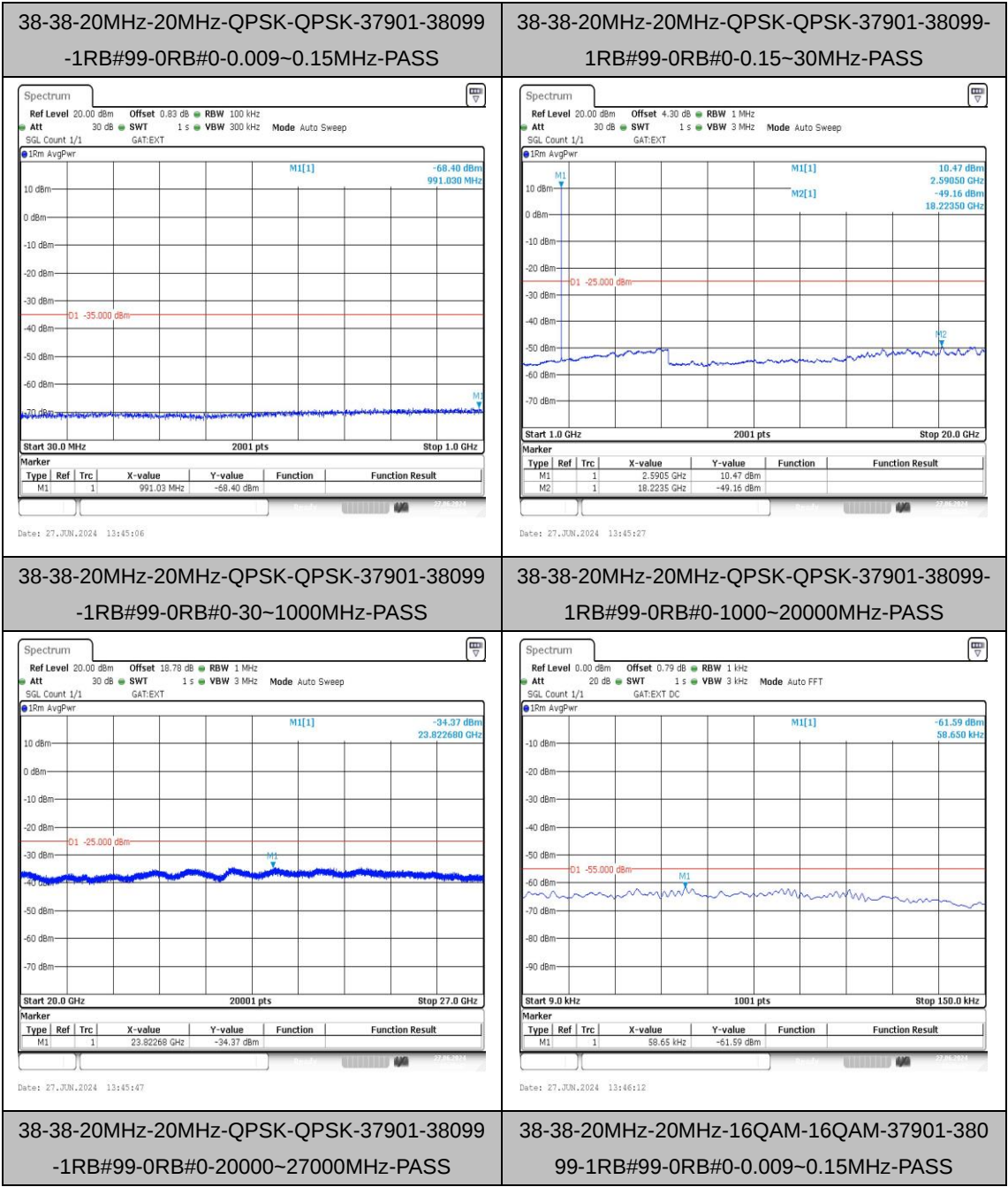


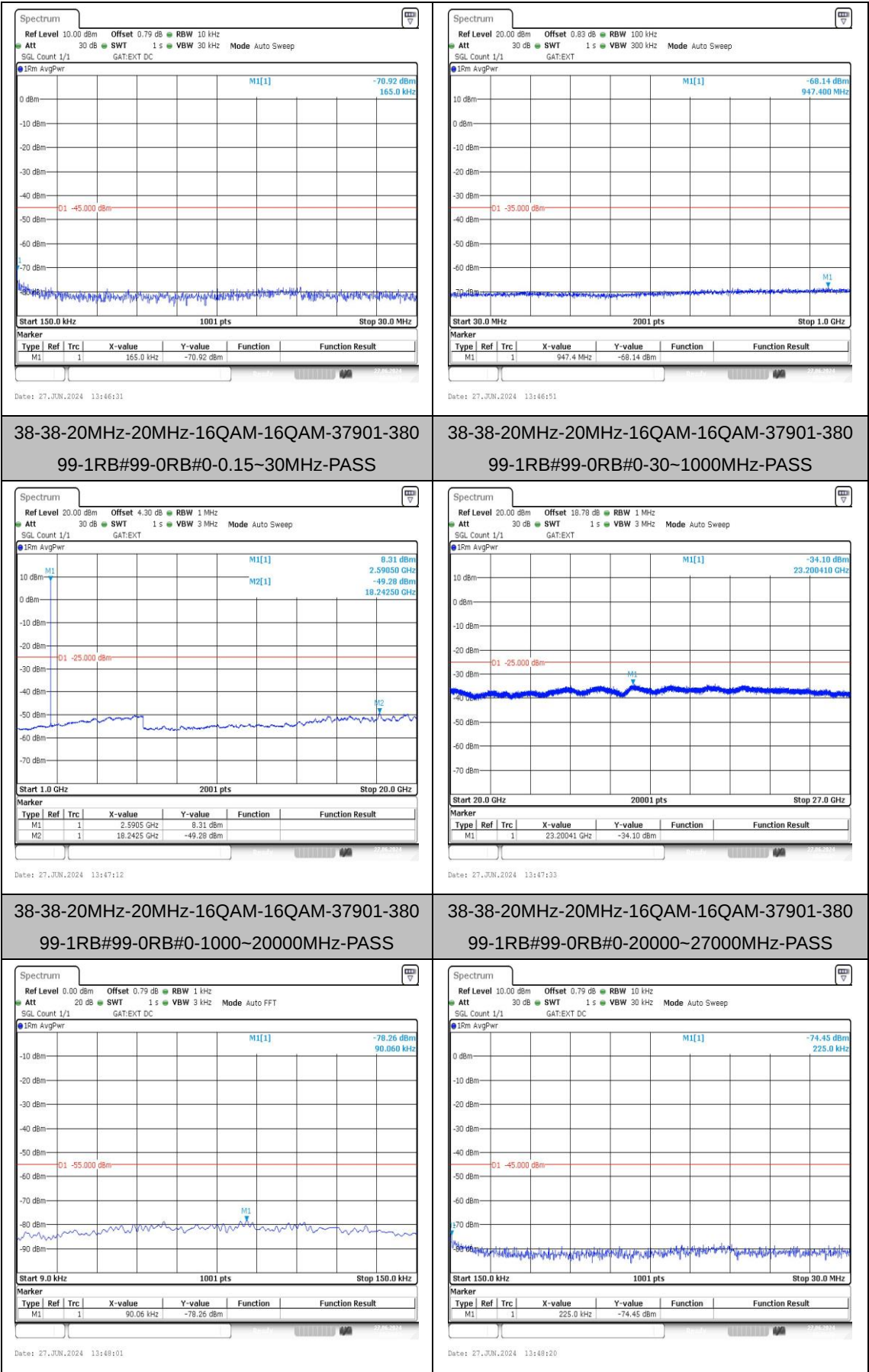


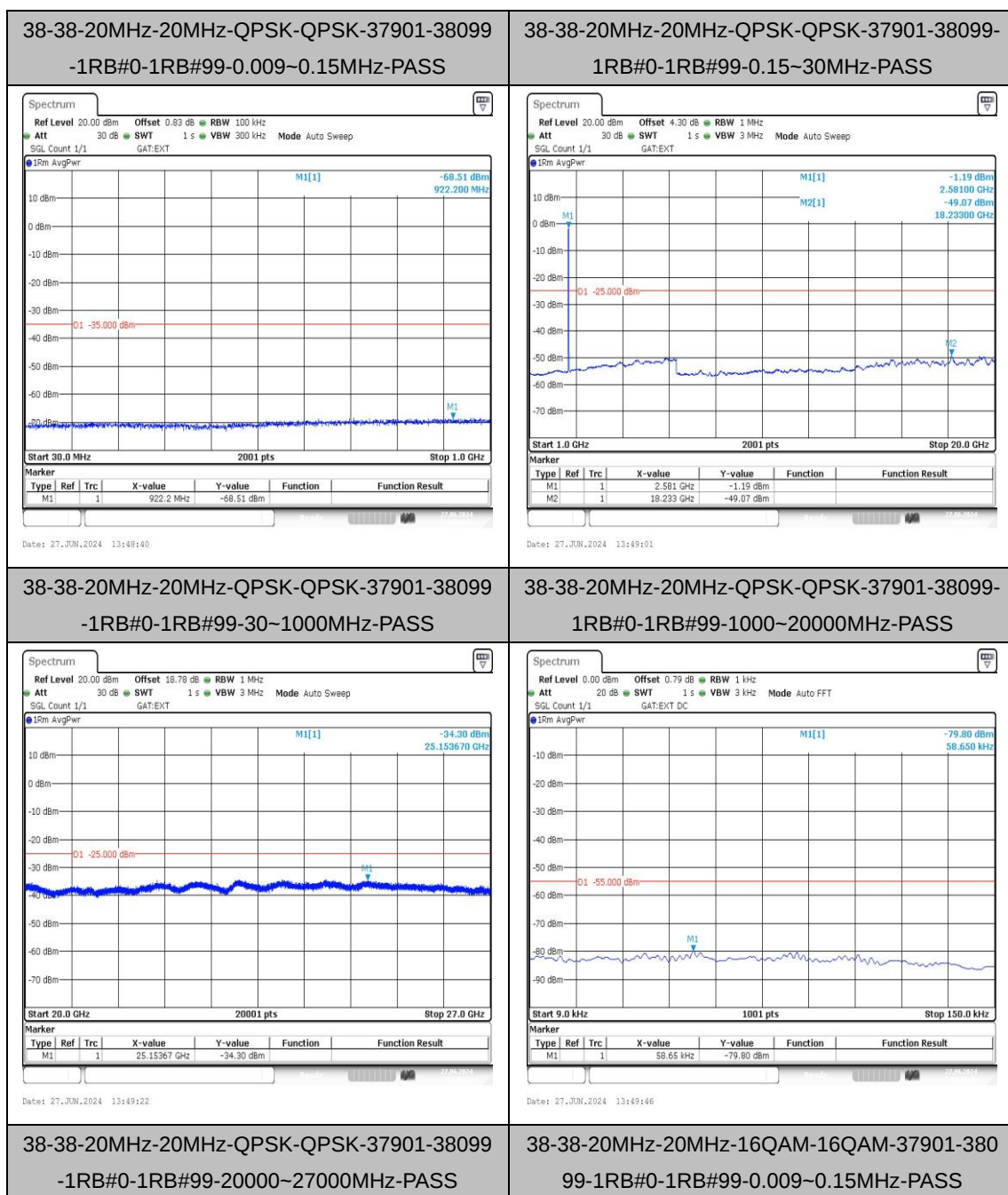


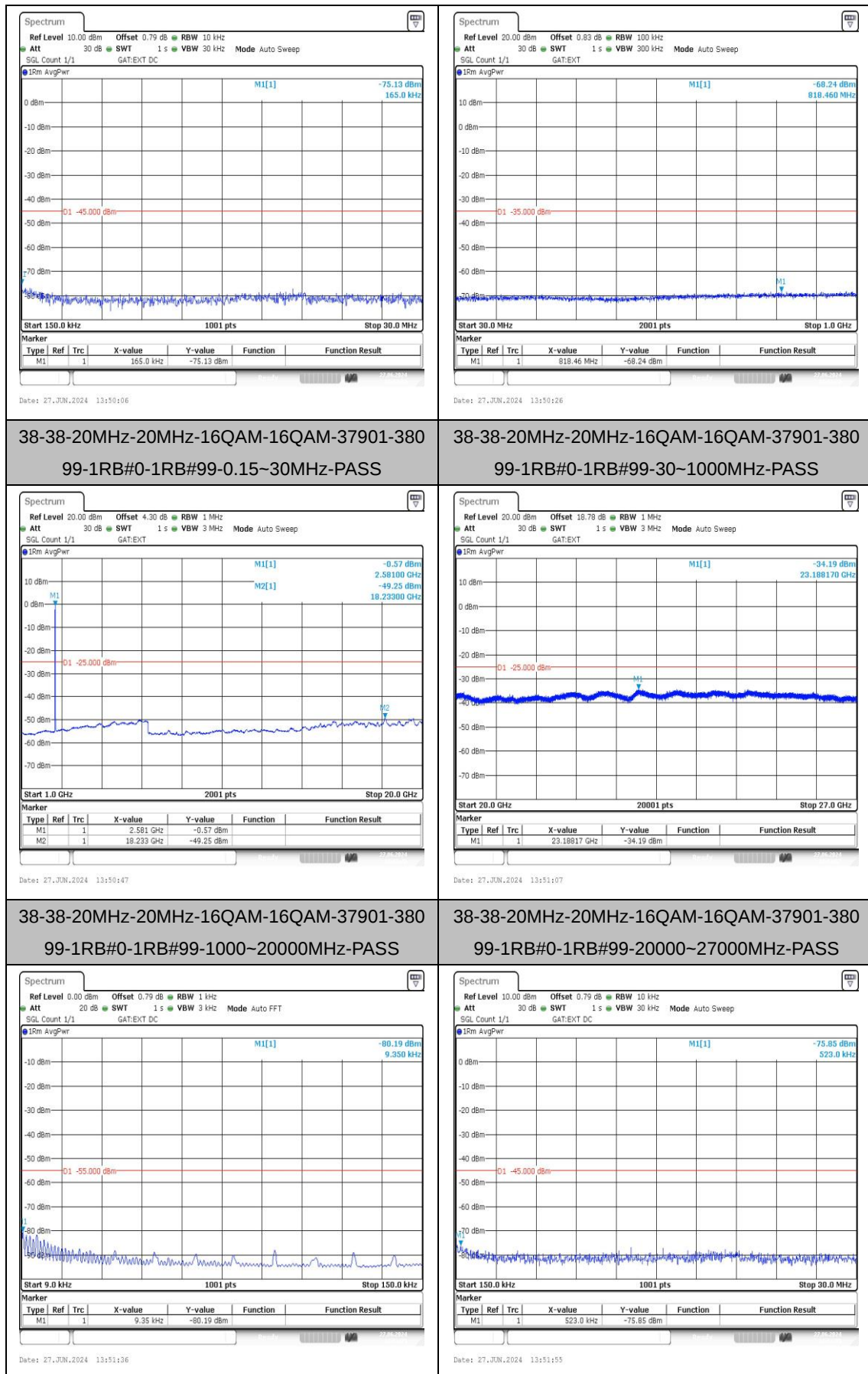


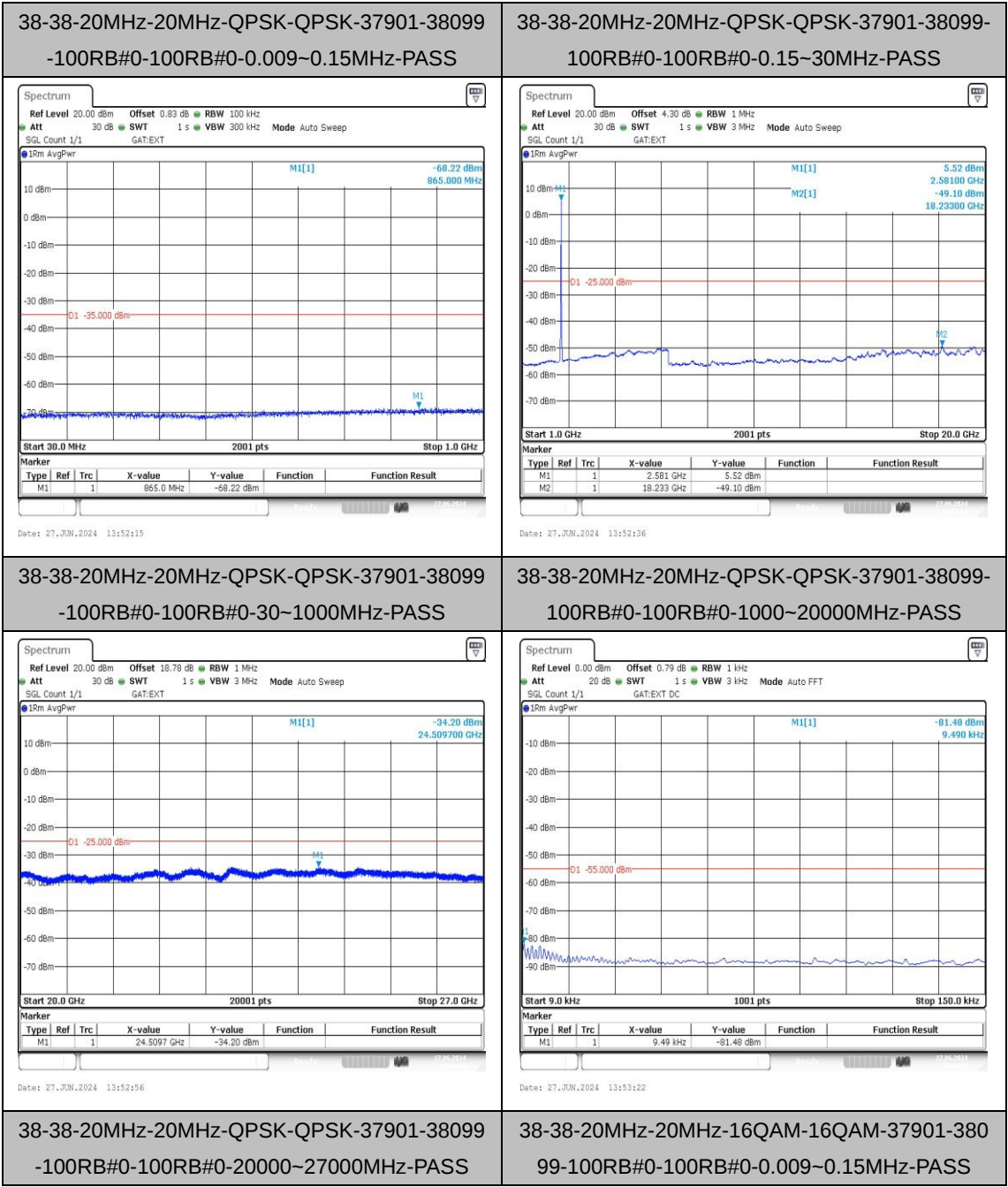


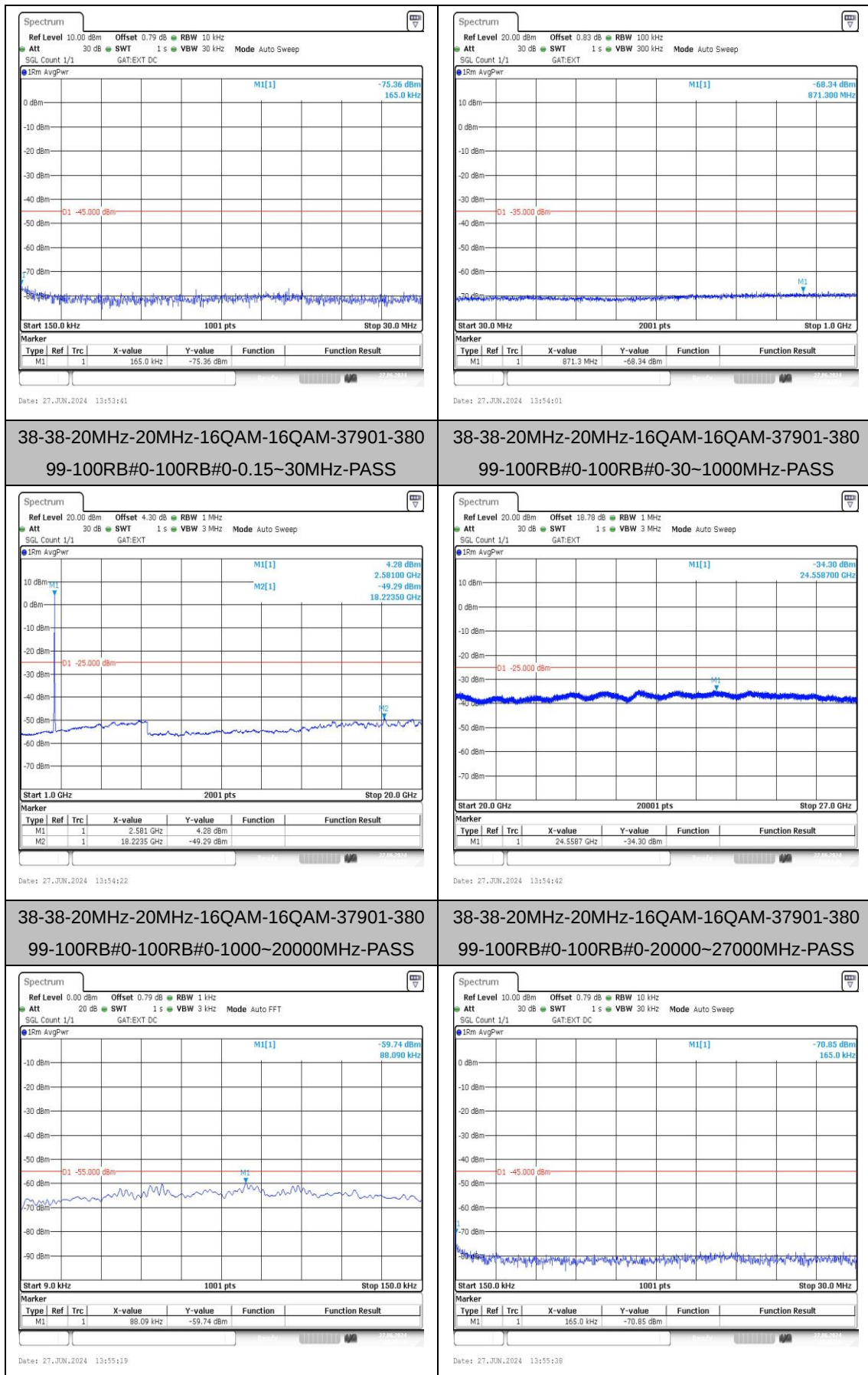


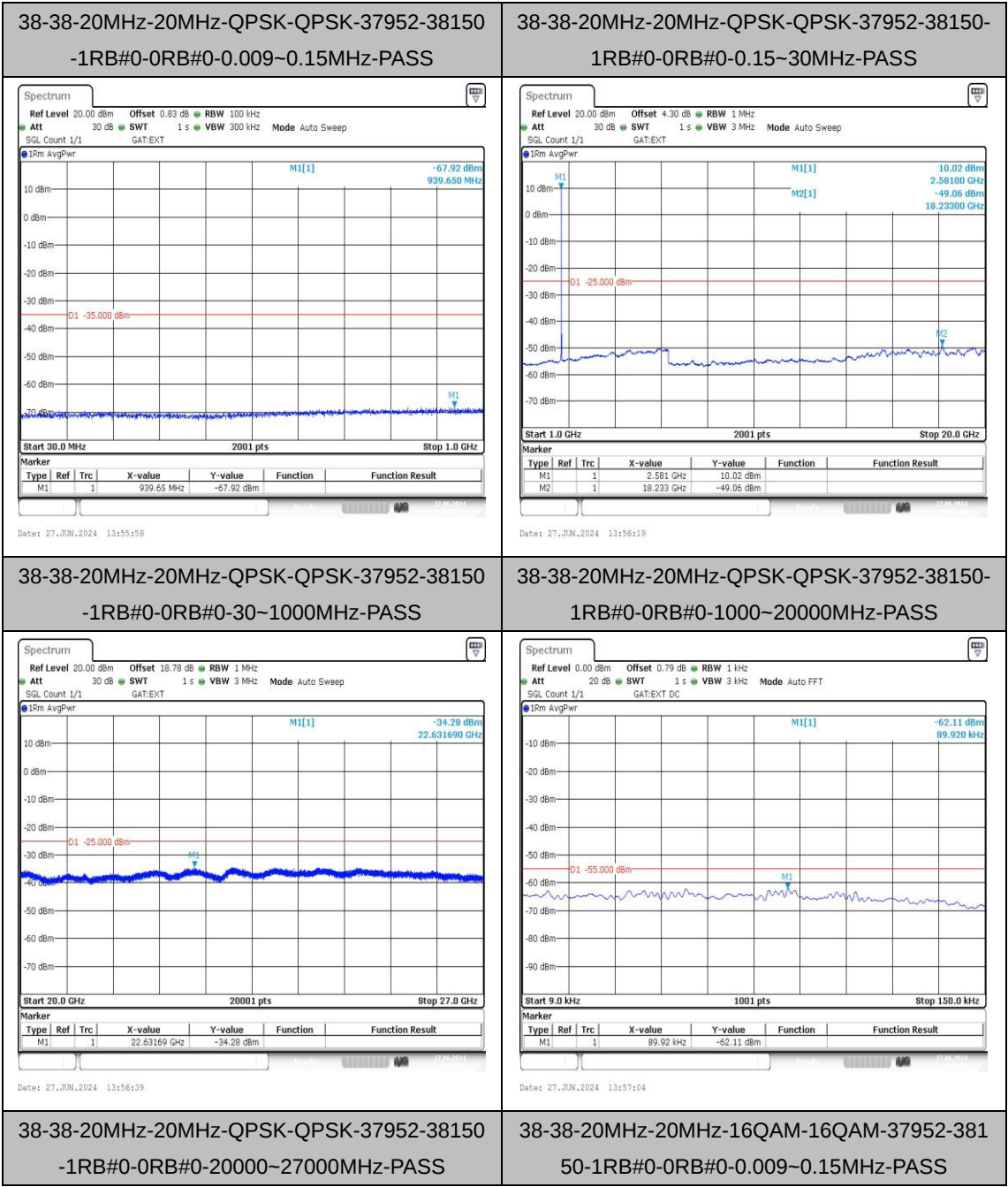


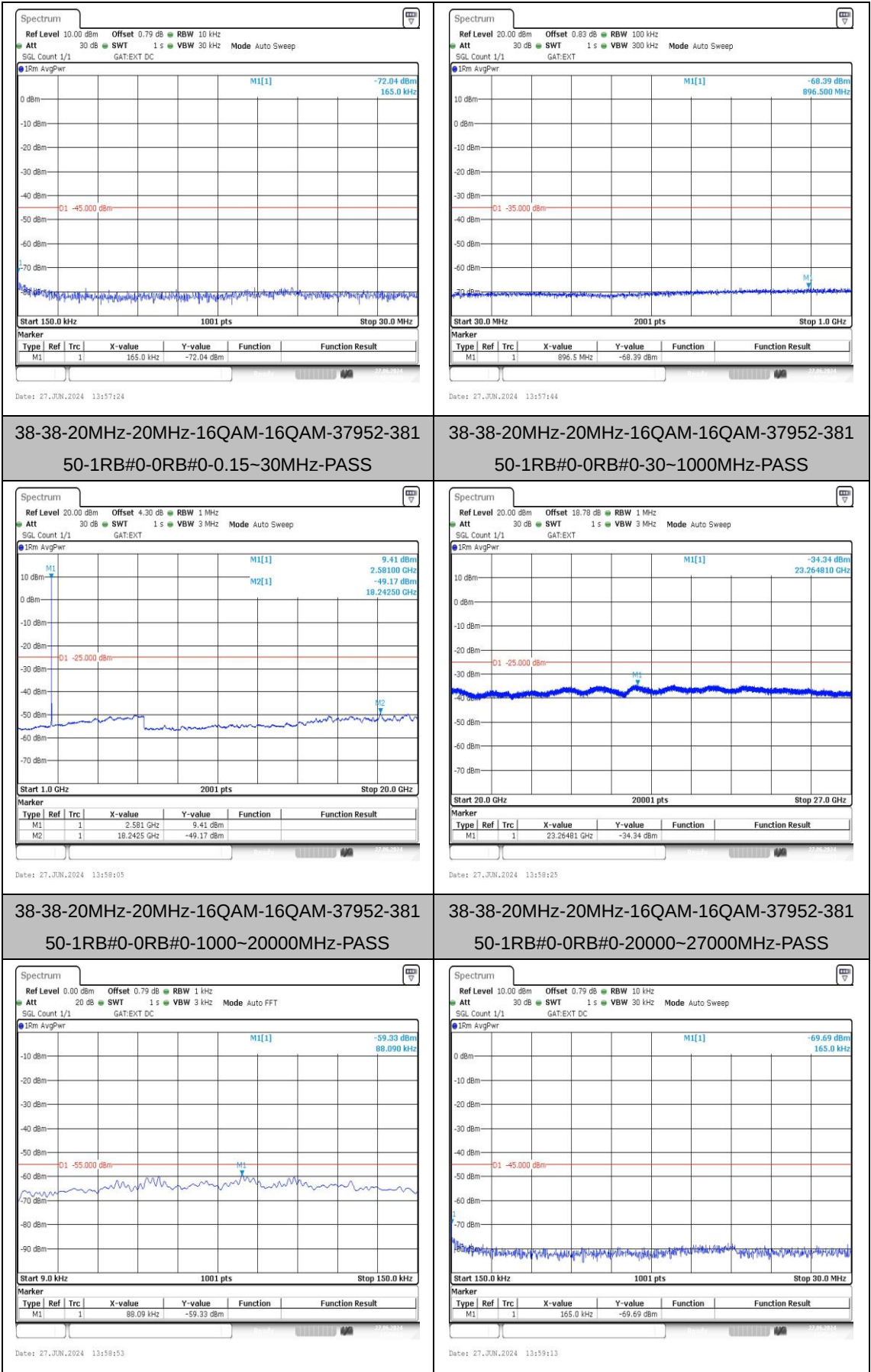


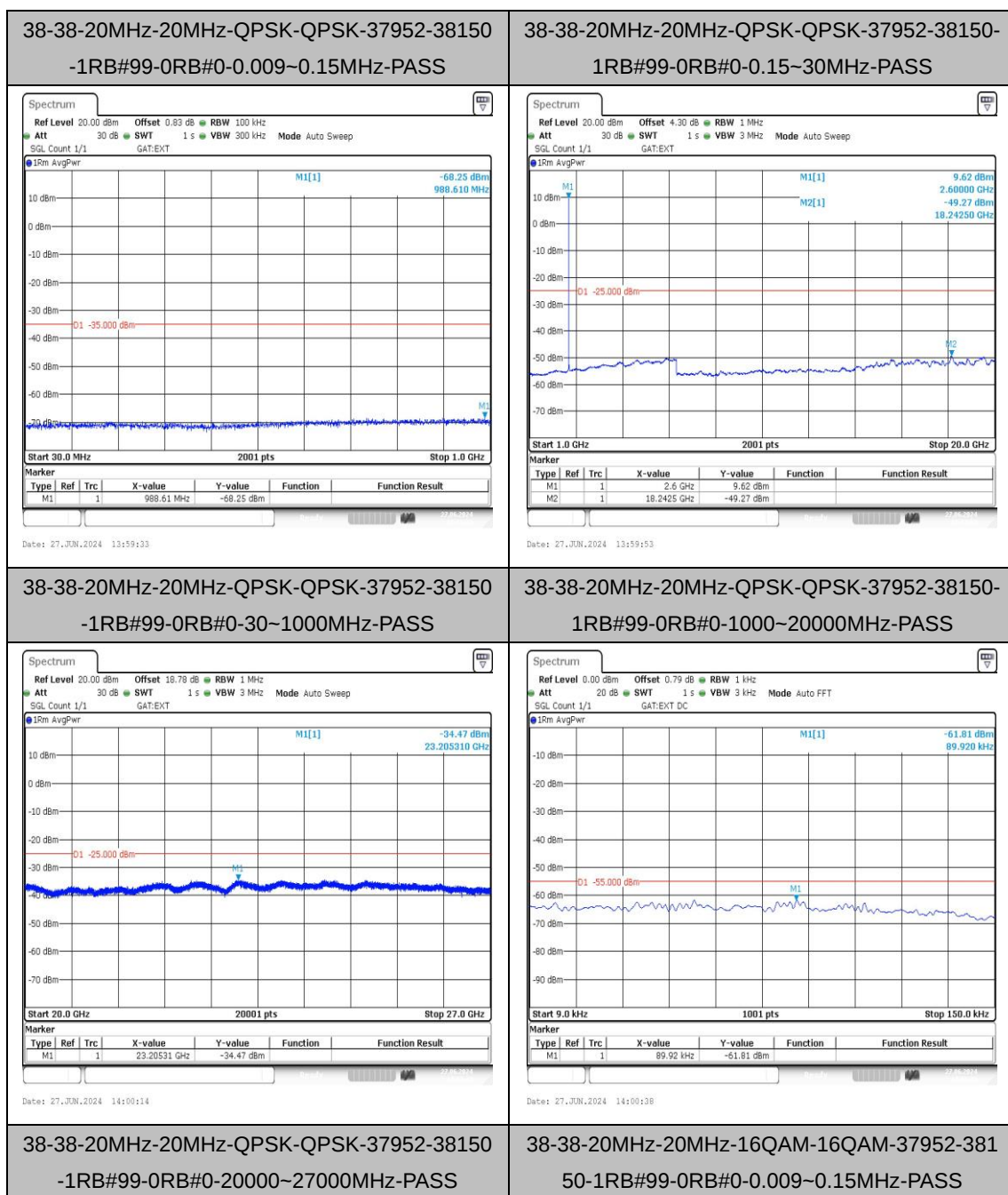


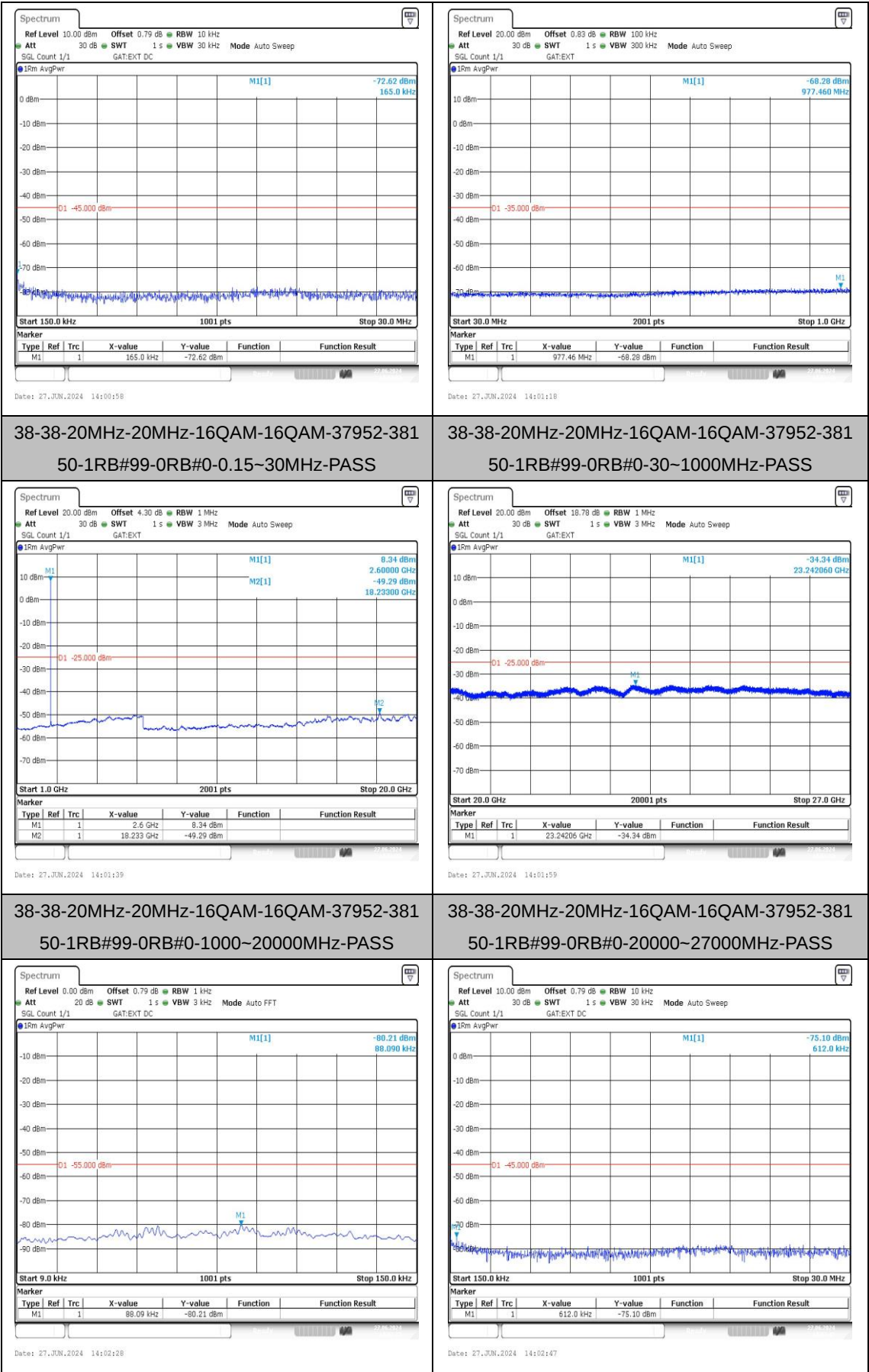


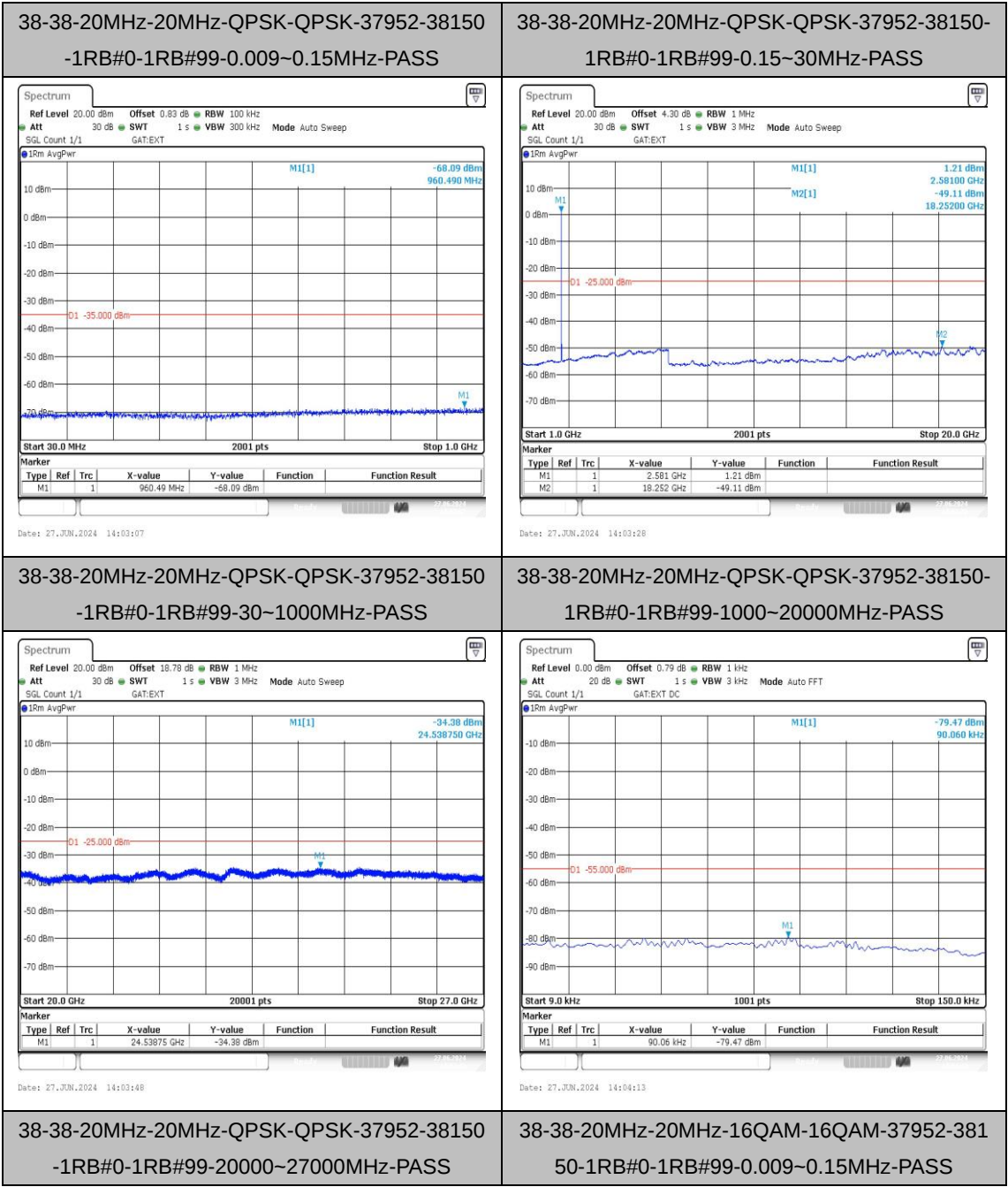


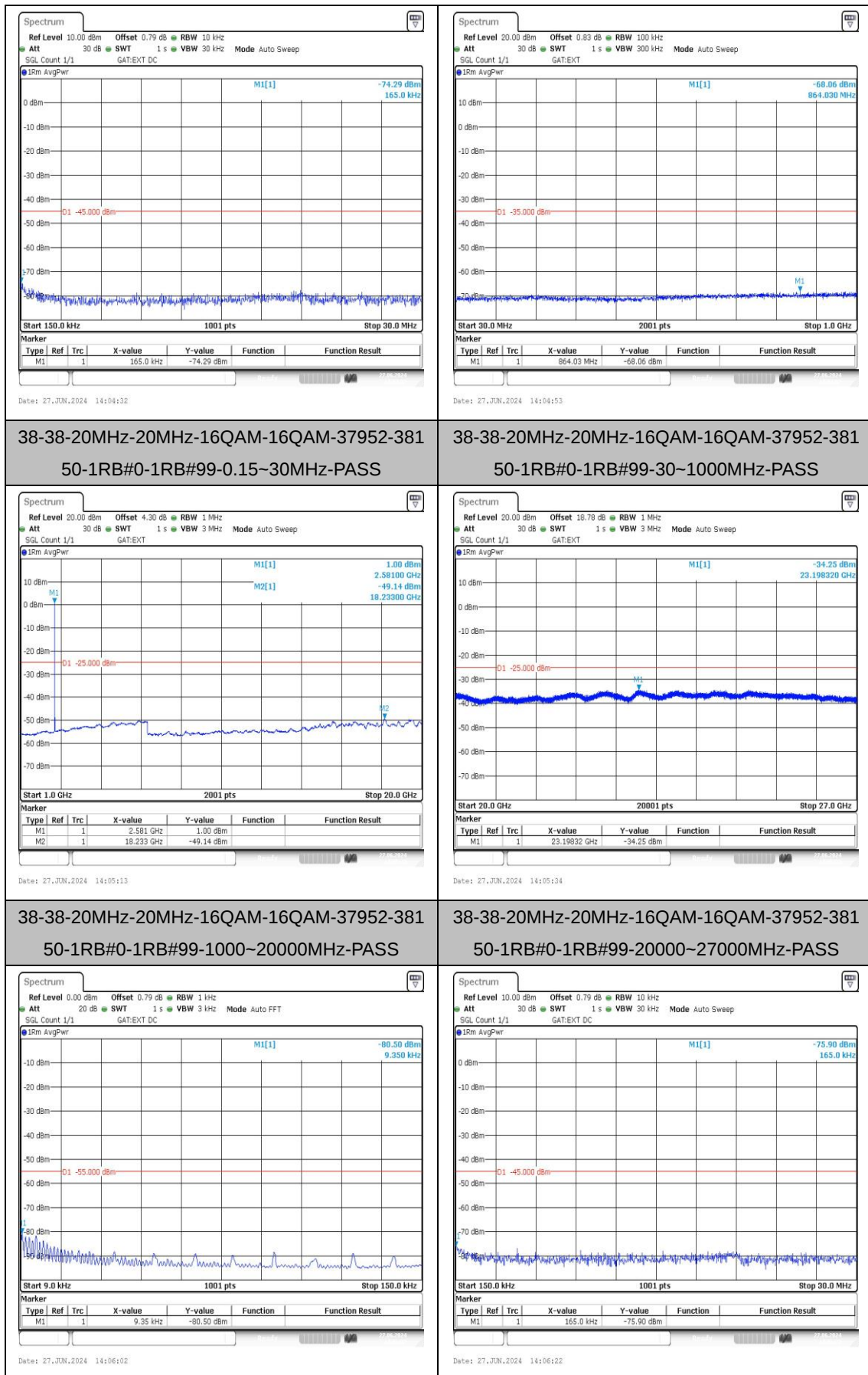


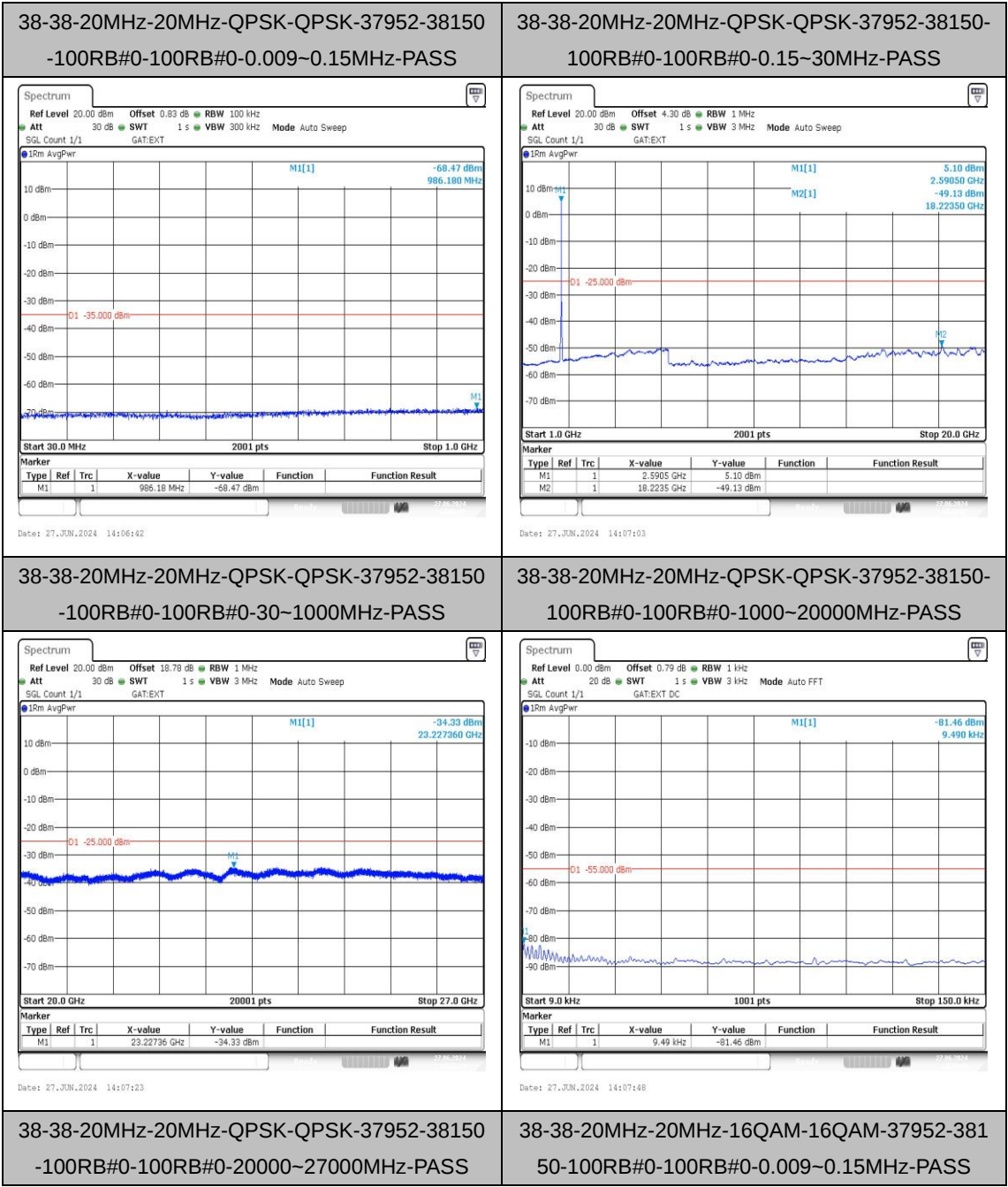


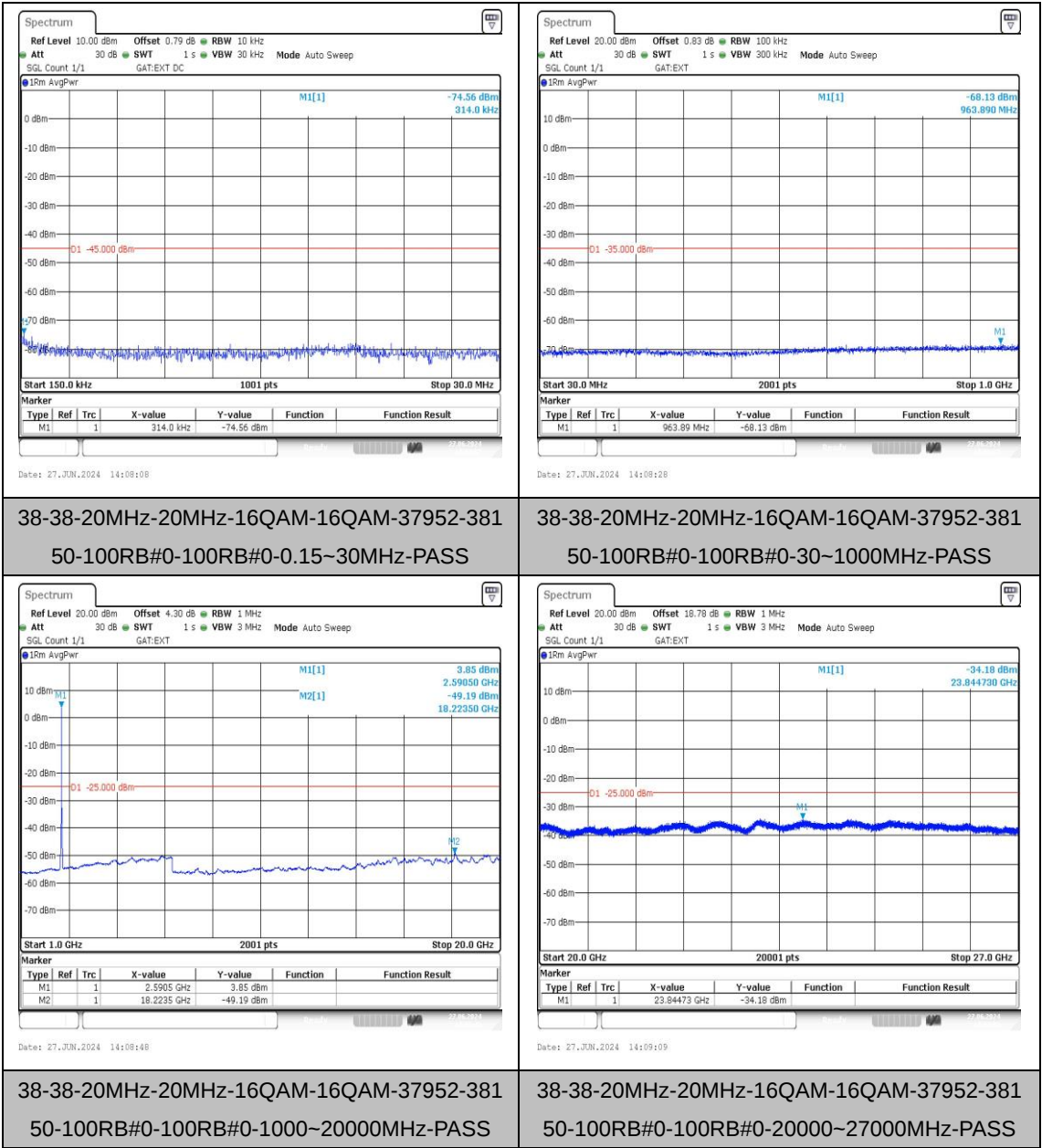












Appendix F: Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configuration	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	VN	NT	31.37	0.012171	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	VL	NT	31.61	0.012264	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	VH	NT	26.58	0.010312	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VN	NT	29.90	0.011600	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VL	NT	29.33	0.011379	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VH	NT	28.21	0.010945	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VN	NT	4.26	0.001646	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VL	NT	2.80	0.001082	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VH	NT	-3.72	-0.001438	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VN	NT	-5.55	-0.002145	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VL	NT	-5.97	-0.002307	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VH	NT	-7.18	-0.002775	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VN	NT	31.23	0.012023	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VL	NT	31.83	0.012254	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VH	NT	36.33	0.013987	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	38025-38175	75RB#0-75RB#0	VN	NT	28.91	0.011130	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	38025-38175	75RB#0-75RB#0	VL	NT	30.01	0.011553	±2.5	PASS

38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	VH	NT	29.98	0.011542	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VN	NT	39.12	0.015163	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VL	NT	39.98	0.015496	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VH	NT	41.64	0.016140	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VN	NT	43.89	0.017012	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VL	NT	41.17	0.015957	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VH	NT	44.29	0.017167	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VN	NT	43.72	0.016912	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VL	NT	42.21	0.016328	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VH	NT	41.93	0.016220	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VN	NT	44.29	0.017133	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VL	NT	46.16	0.017856	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VH	NT	42.13	0.016297	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VN	NT	-6.38	-0.002463	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VL	NT	-4.92	-0.001899	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VH	NT	-5.75	-0.002220	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VN	NT	-4.05	-0.001564	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VL	NT	-6.75	-0.002606	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VH	NT	-5.15	-0.001988	±2.5	PASS

Temperature

Band	Bandwidth	Modulation	Channel	RB Configuration	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-50	31.64	0.012275	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-30	33.66	0.013059	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-20	27.98	0.010855	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-10	29.51	0.011449	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	0	32.36	0.012555	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	10	32.06	0.012438	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	20	32.24	0.012508	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	30	29.47	0.011434	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-50	32.93	0.012776	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-30	30.53	0.011845	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-20	31.10	0.012066	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-10	32.13	0.012466	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	0	29.01	0.011255	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	10	31.24	0.012120	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	20	29.71	0.011527	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	30	31.13	0.012078	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-50	-4.49	-0.001735	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-30	-6.81	-0.002632	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-20	-3.45	-0.001333	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-10	-5.02	-0.001940	±2.5	PASS

38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	0	-5.02	-0.001940	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	10	-5.79	-0.002238	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	20	-5.14	-0.001986	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	30	-4.21	-0.001627	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-50	-5.62	-0.002172	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-30	-7.72	-0.002984	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-20	-5.72	-0.002211	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-10	-6.97	-0.002694	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	0	-3.76	-0.001453	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	10	-3.62	-0.001399	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	20	-5.68	-0.002195	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	30	-5.12	-0.001979	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-50	31.73	0.012216	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-30	33.85	0.013032	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-20	30.01	0.011553	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-10	33.02	0.012712	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	0	32.09	0.012354	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	10	29.60	0.011396	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	20	34.75	0.013378	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	30	31.51	0.012131	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-50	31.93	0.012293	±2.5	PASS

38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-30	29.15	0.011222	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-20	30.46	0.011727	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-10	29.74	0.011449	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	0	28.94	0.011141	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	10	31.53	0.012139	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	20	33.57	0.012924	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	30	31.83	0.012254	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-50	43.99	0.017050	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-30	40.51	0.015702	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-20	41.74	0.016178	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-10	42.43	0.016446	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	0	38.29	0.014841	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	10	43.12	0.016713	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	20	40.00	0.015504	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	30	43.26	0.016767	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-50	43.24	0.016760	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-30	43.26	0.016767	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-20	40.96	0.015876	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-10	41.77	0.016190	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	0	42.84	0.016605	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	10	39.70	0.015388	±2.5	PASS

38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	20	42.51	0.016477	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	30	42.57	0.016500	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-50	41.44	0.016030	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-30	42.21	0.016328	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-20	41.76	0.016154	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-10	40.98	0.015852	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	0	43.23	0.016723	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	10	45.42	0.017570	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	20	43.10	0.016672	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	30	44.20	0.017098	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-50	42.00	0.016247	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-30	41.81	0.016173	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-20	43.16	0.016696	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-10	46.28	0.017903	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	0	42.86	0.016580	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	10	41.48	0.016046	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	20	41.56	0.016077	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	30	41.44	0.016030	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-50	-3.19	-0.001232	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-30	-6.37	-0.002459	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-20	-5.25	-0.002027	±2.5	PASS

38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-10	-7.44	-0.002872	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	0	-9.24	-0.003567	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	10	-5.25	-0.002027	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	20	-6.27	-0.002421	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	30	-4.48	-0.001730	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-50	-3.96	-0.001529	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-30	-4.71	-0.001818	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-20	-7.58	-0.002926	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-10	-4.25	-0.001641	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	0	-5.12	-0.001977	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	10	-8.54	-0.003297	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	20	1.95	0.000753	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	30	-5.99	-0.002313	±2.5	PASS