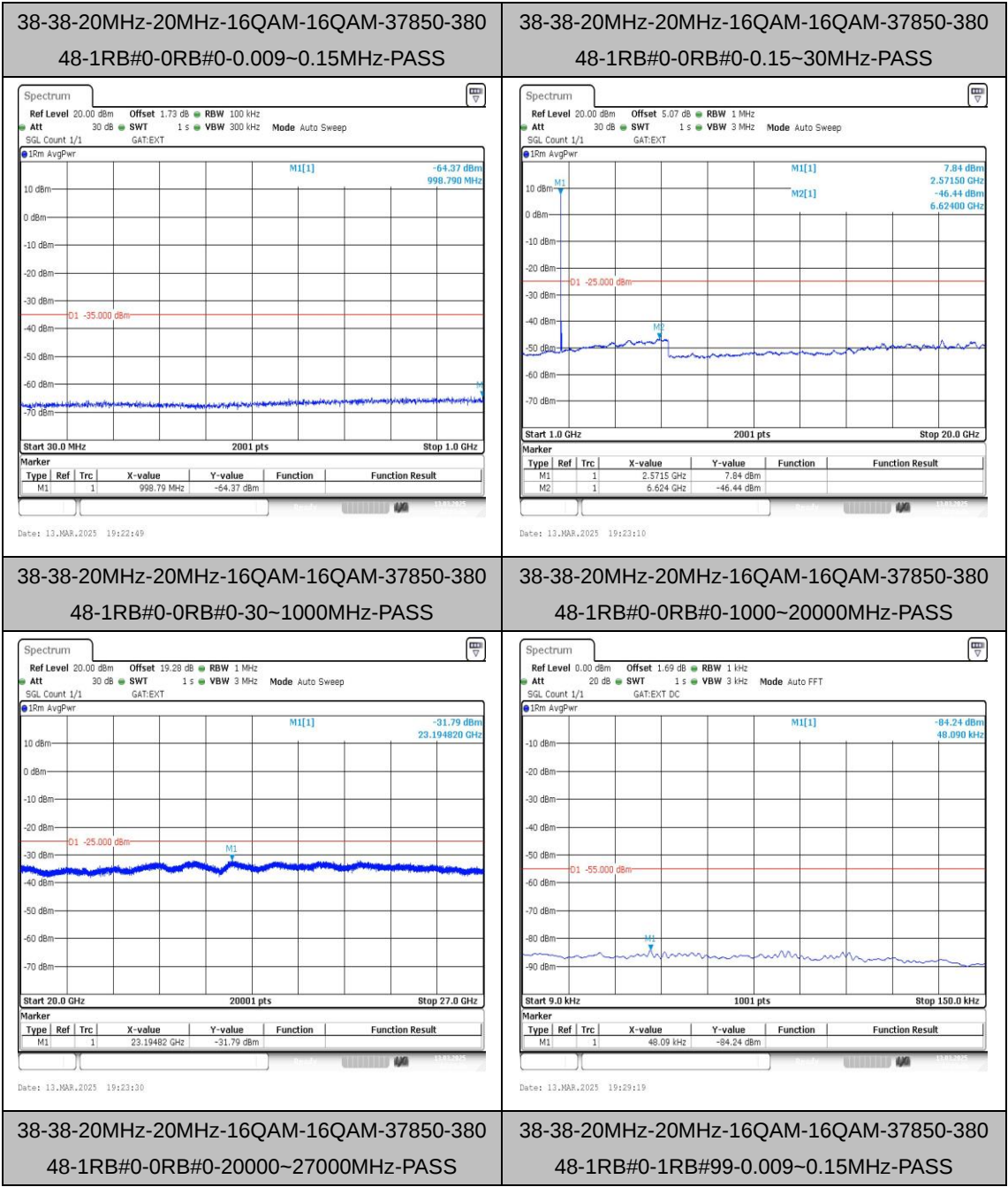
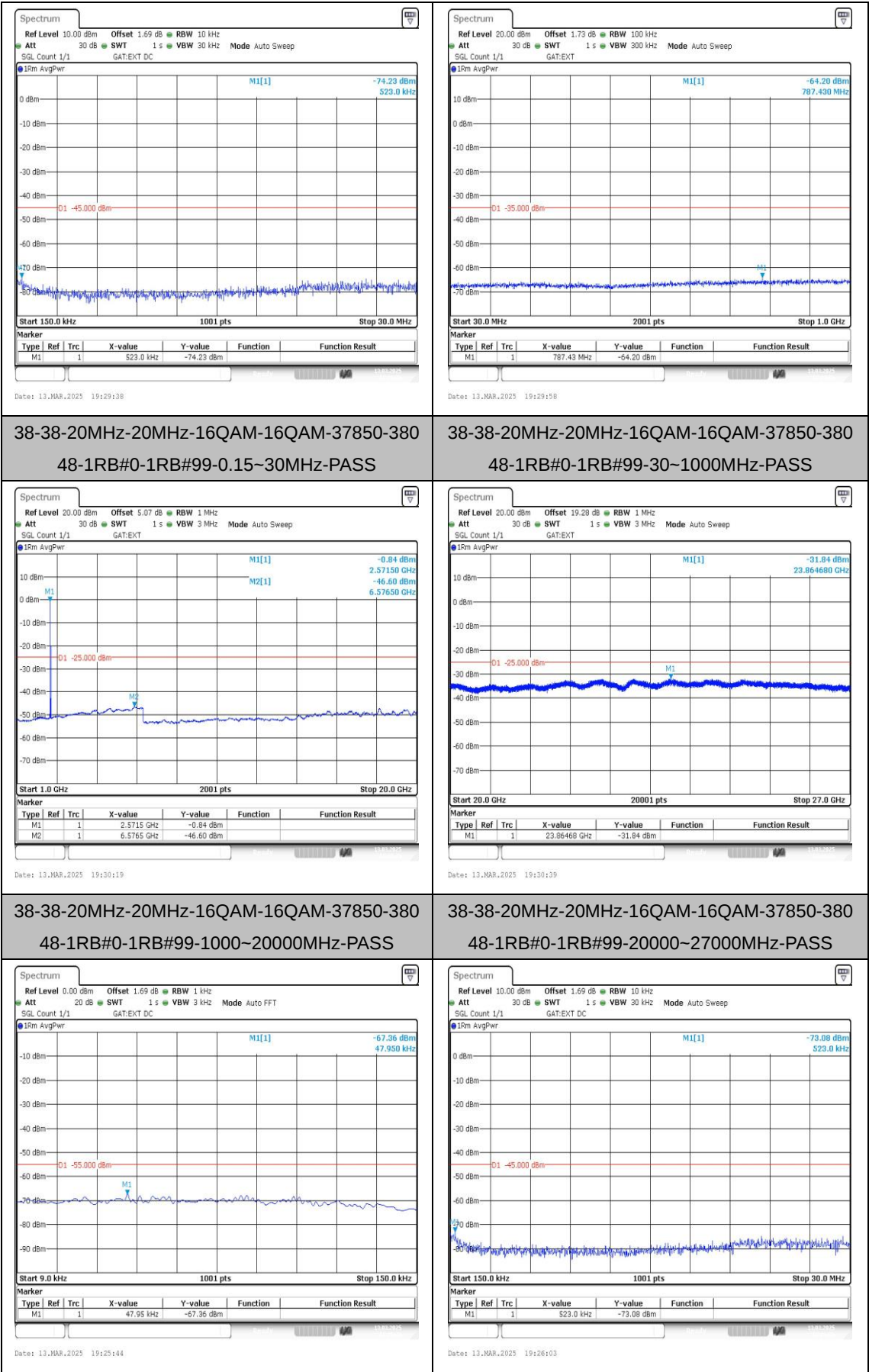
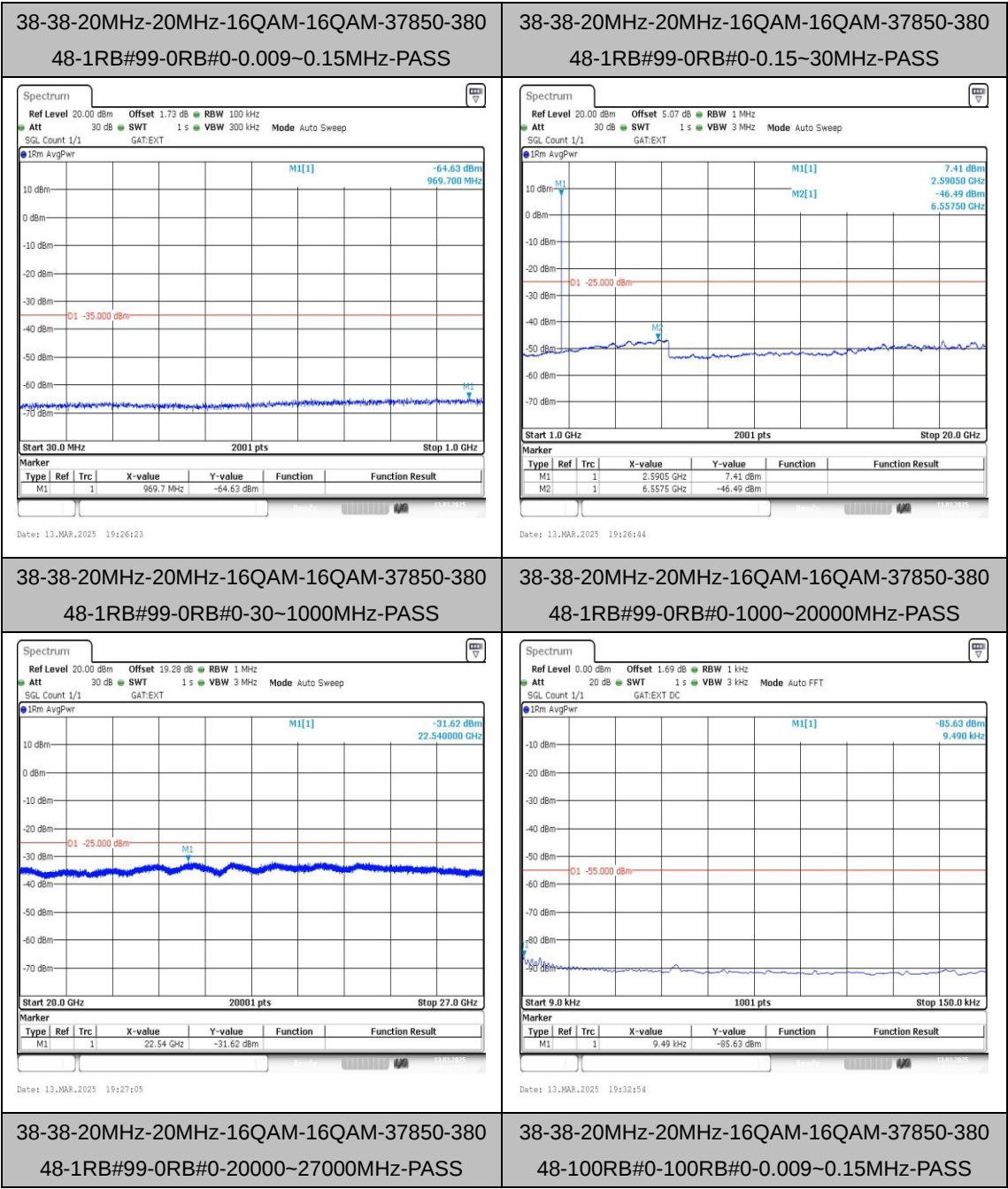
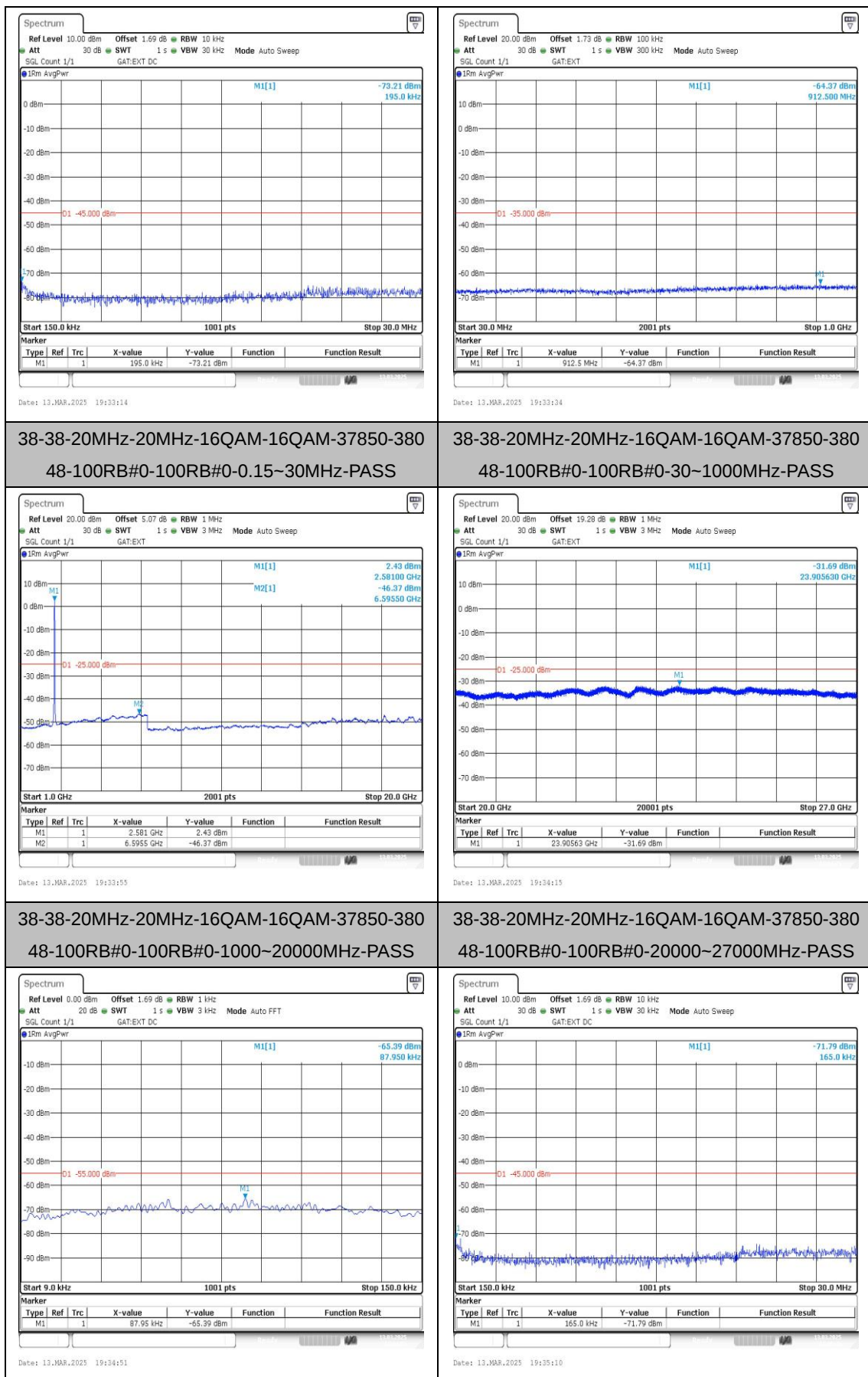
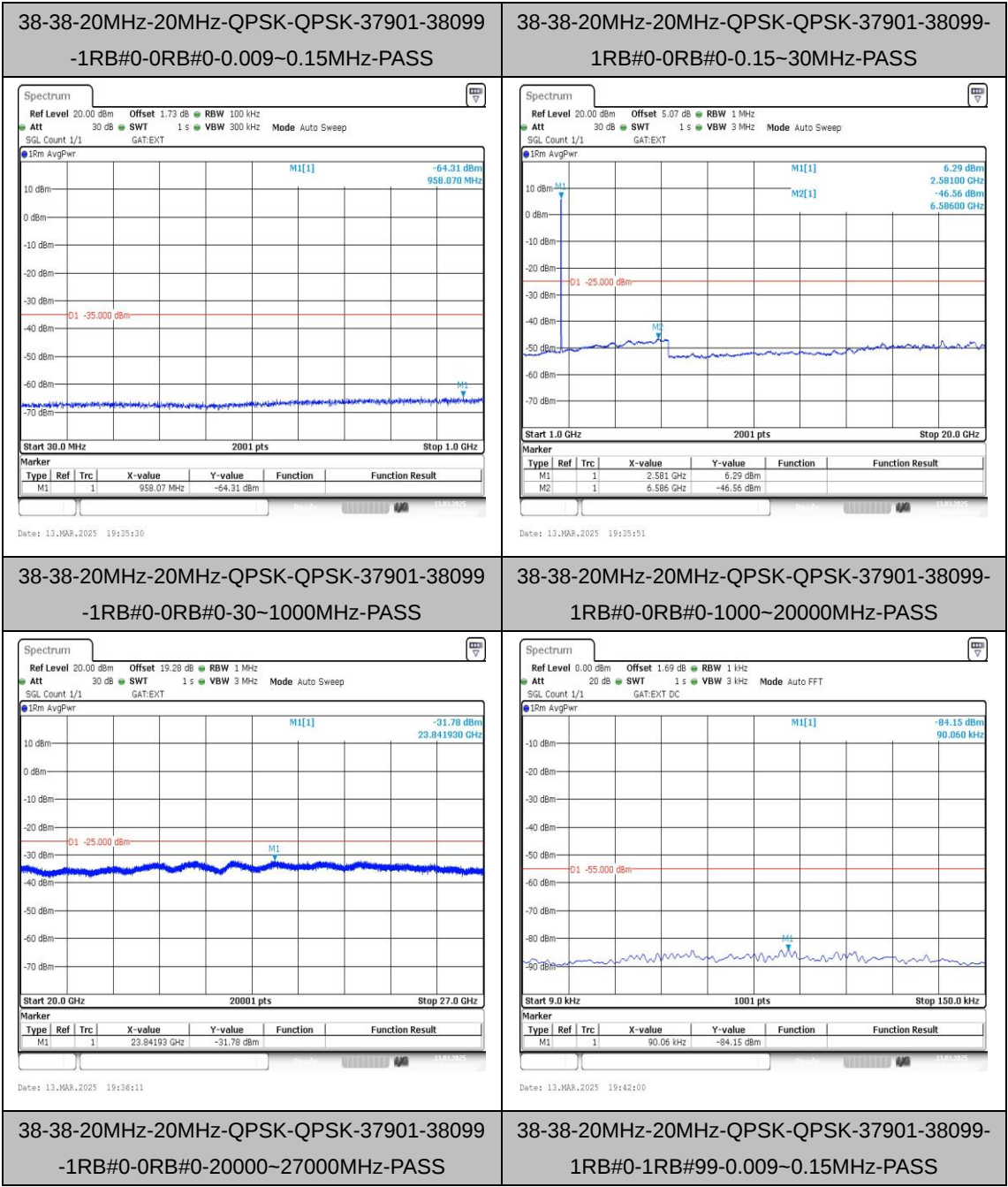


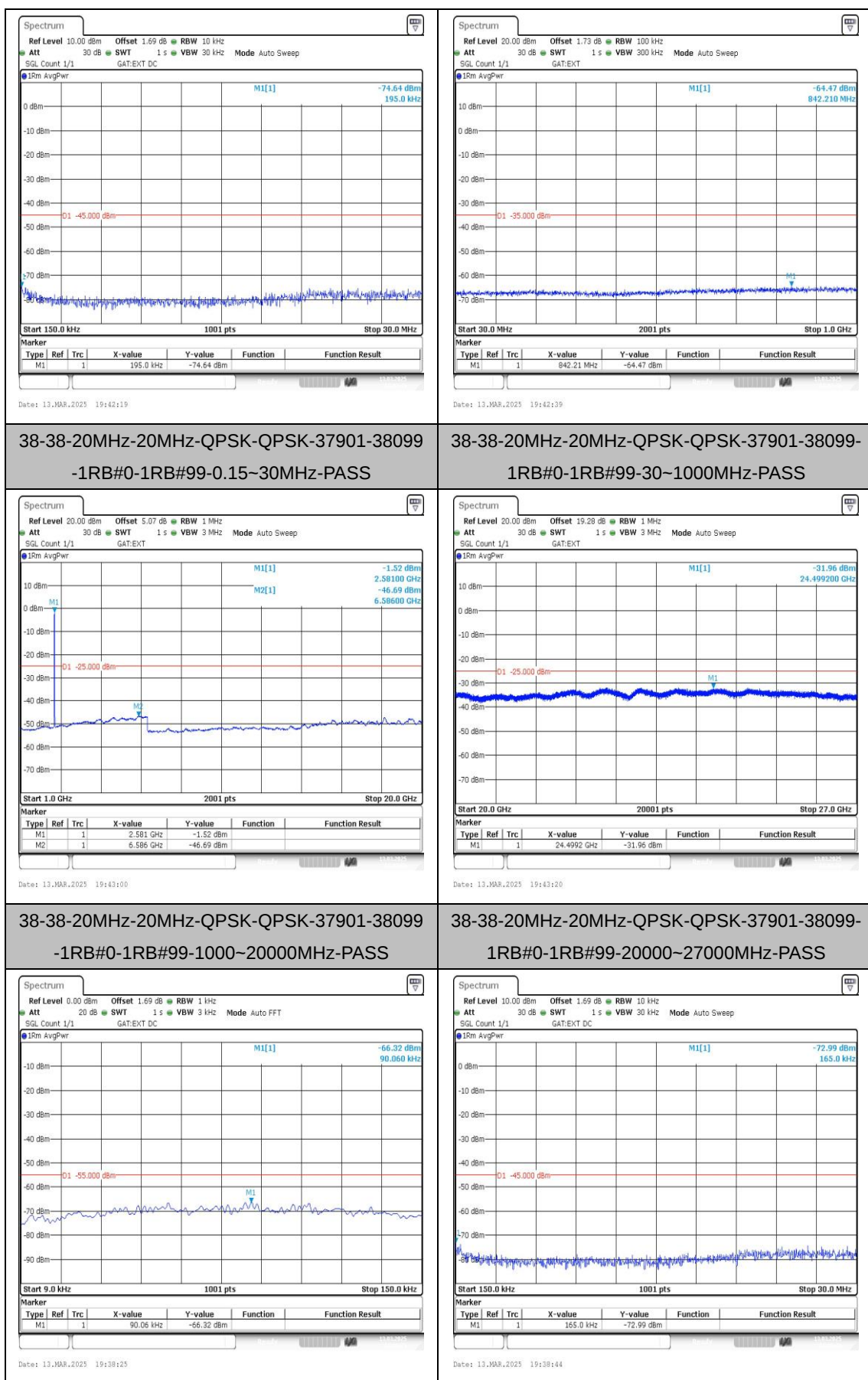


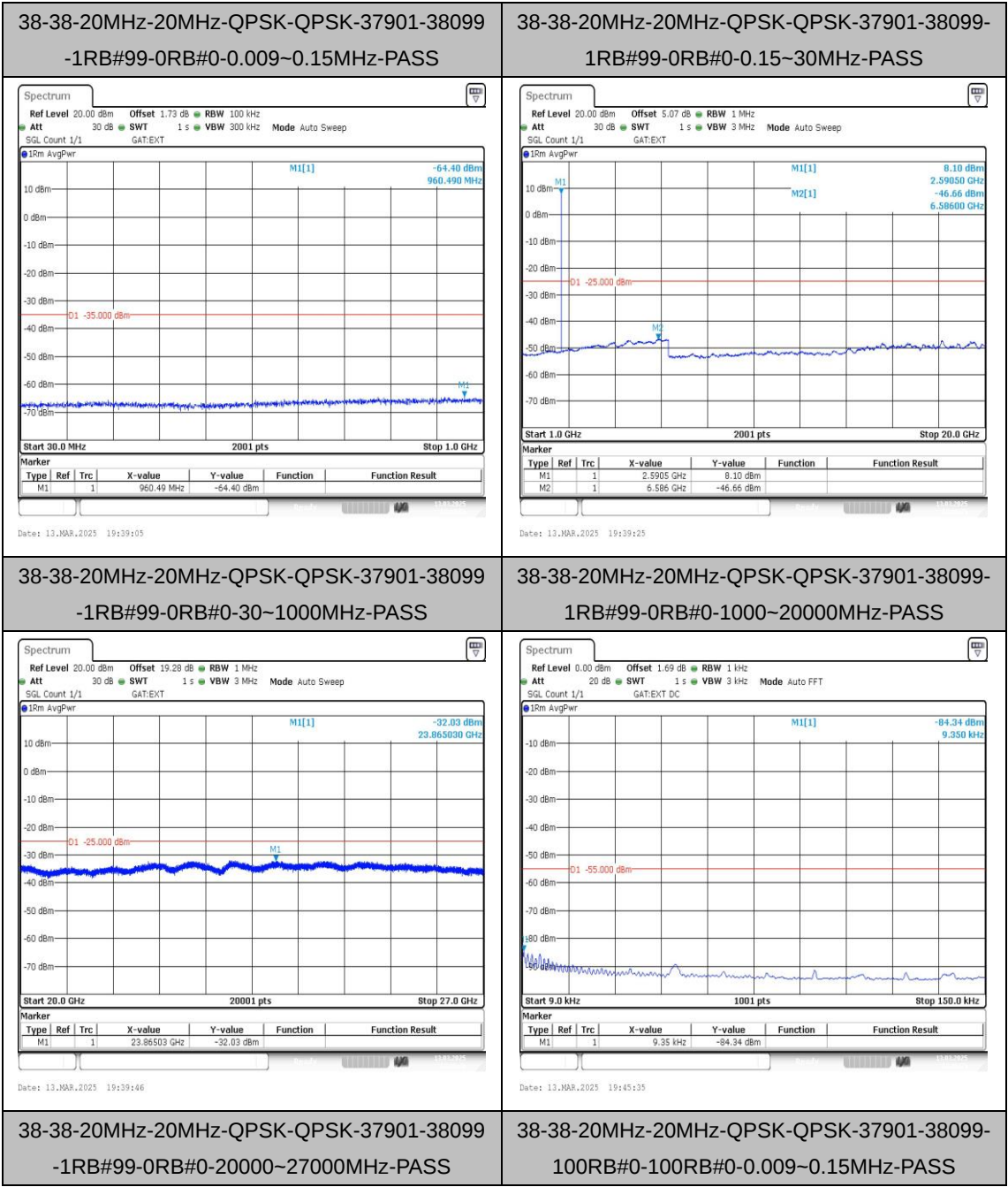


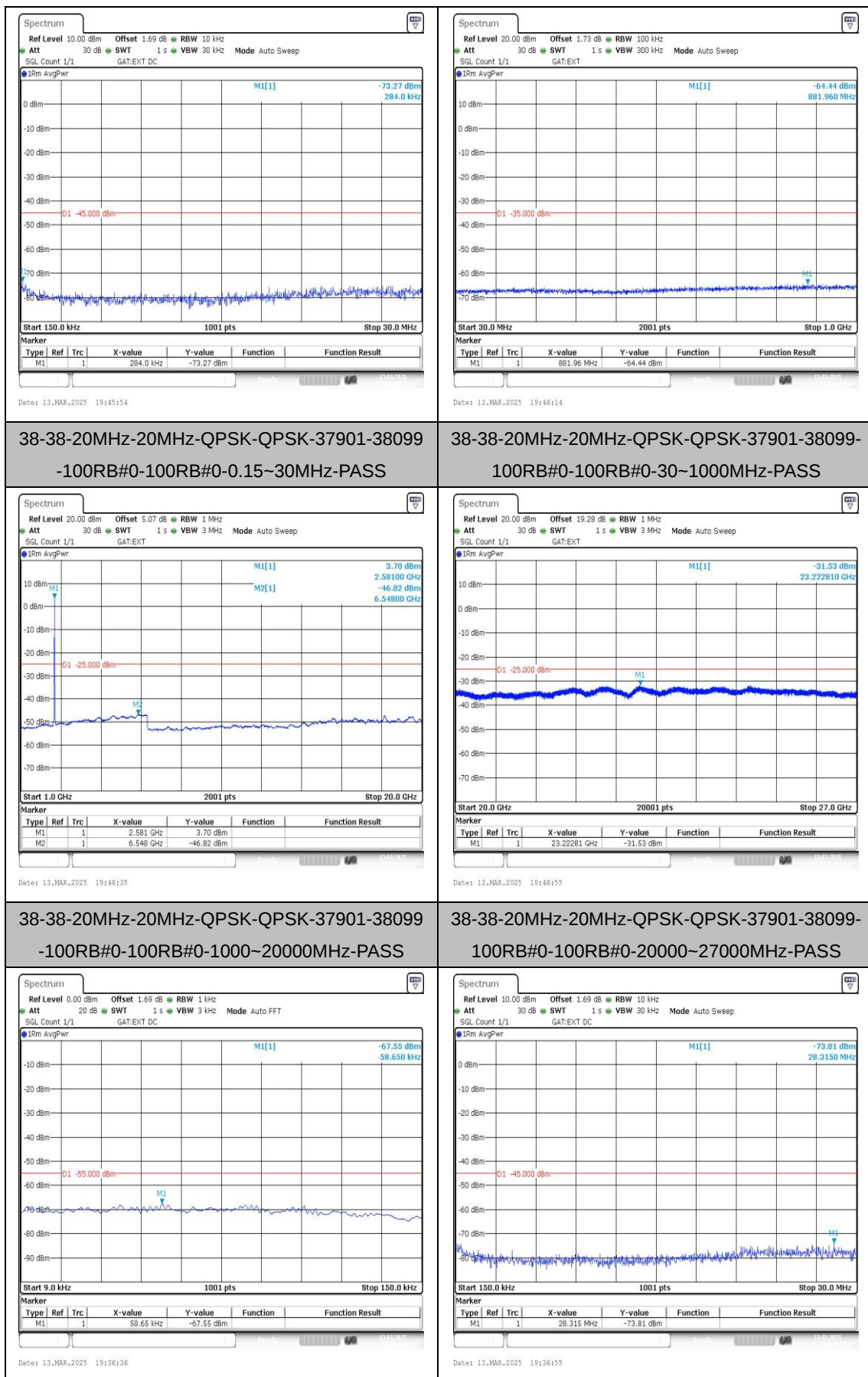


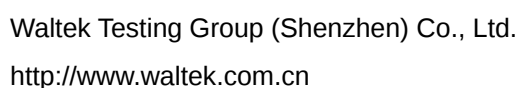


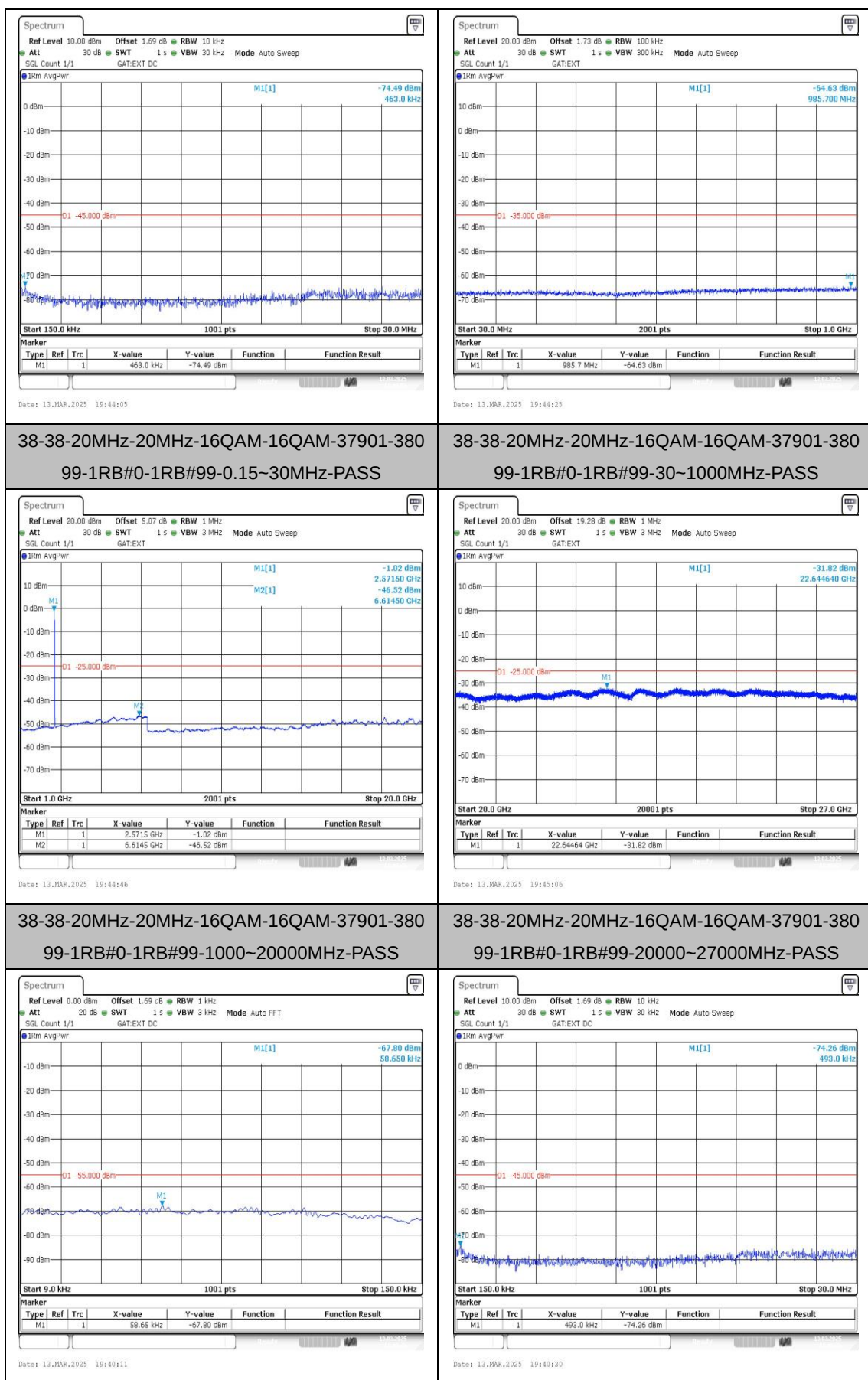


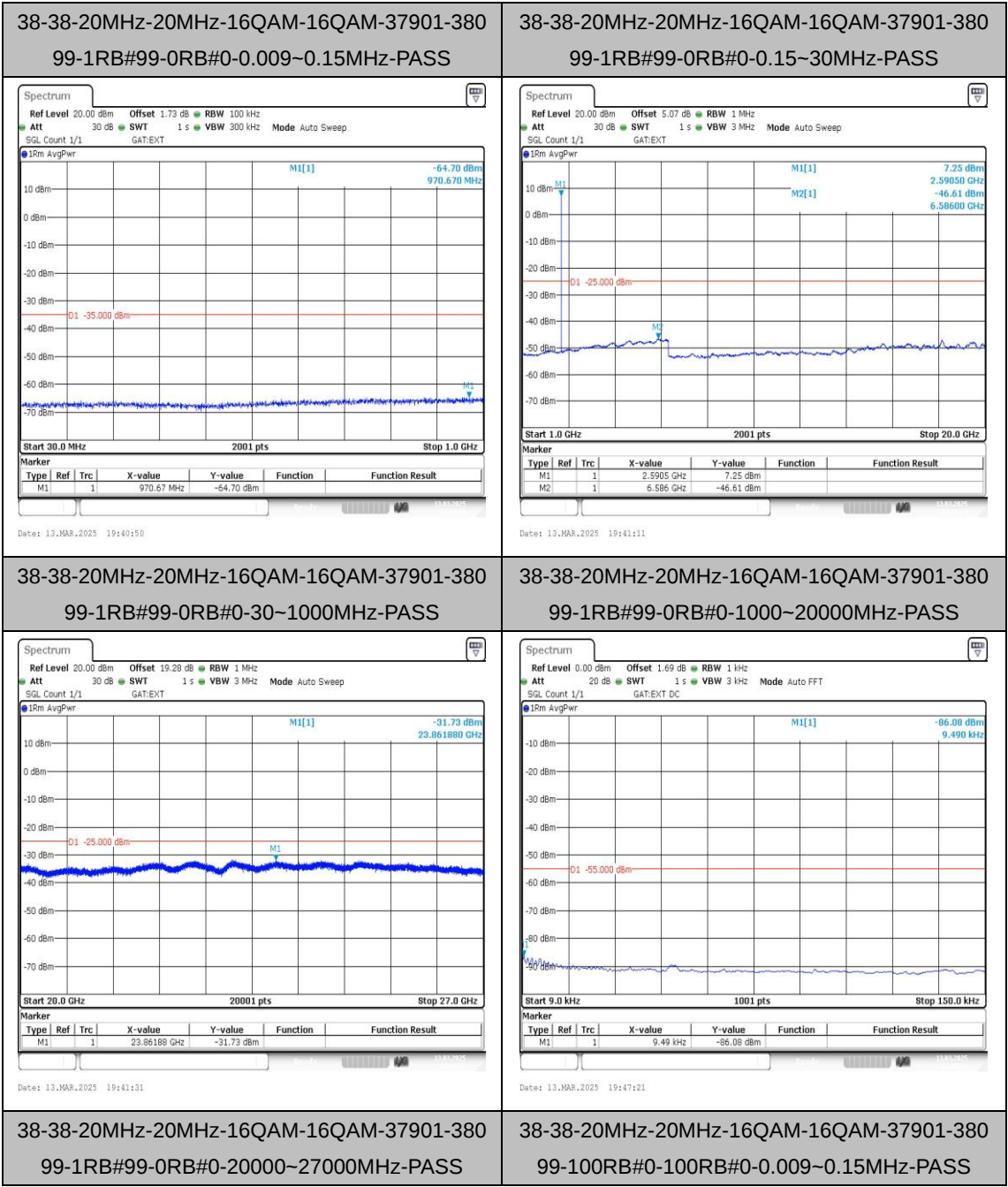


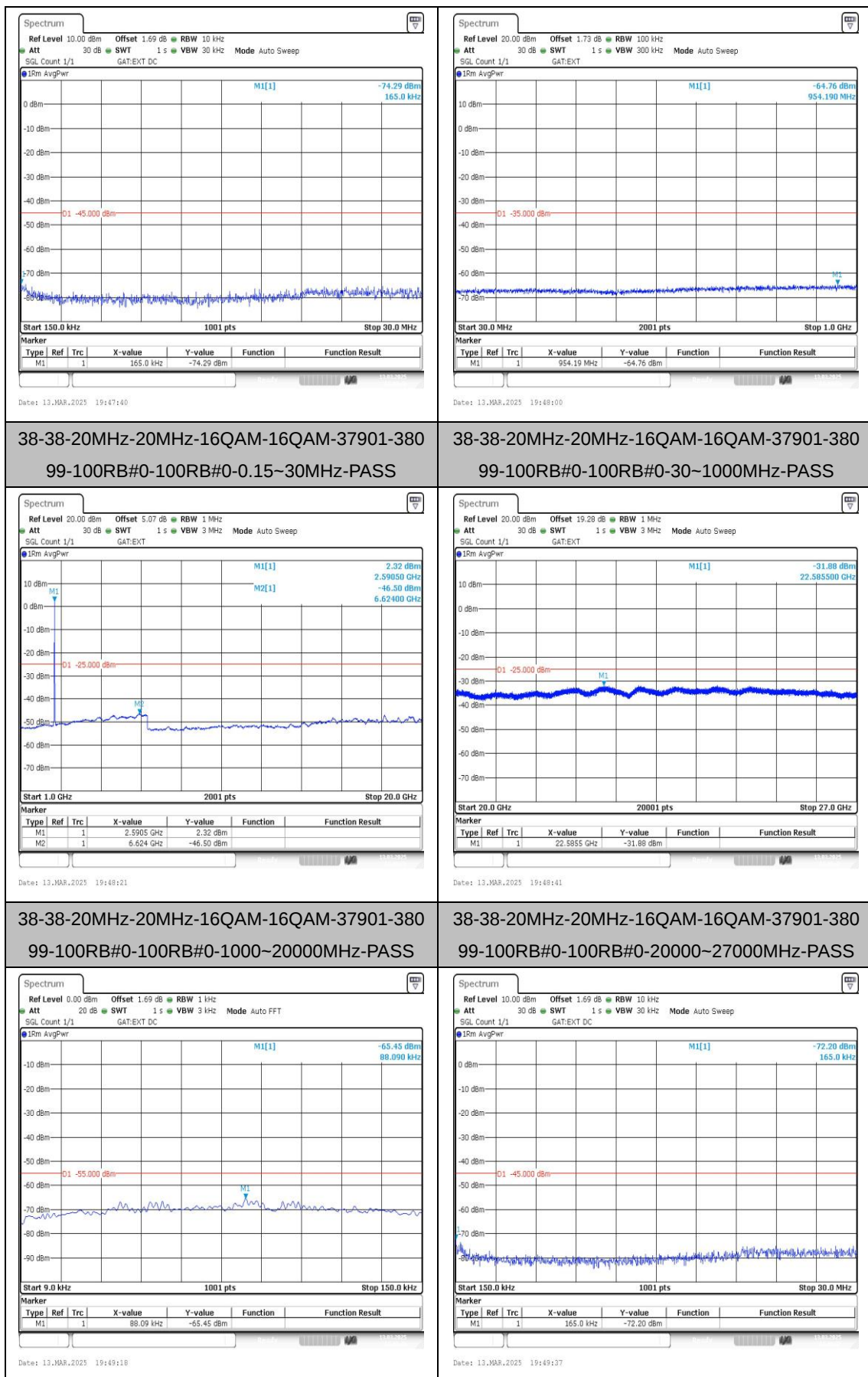


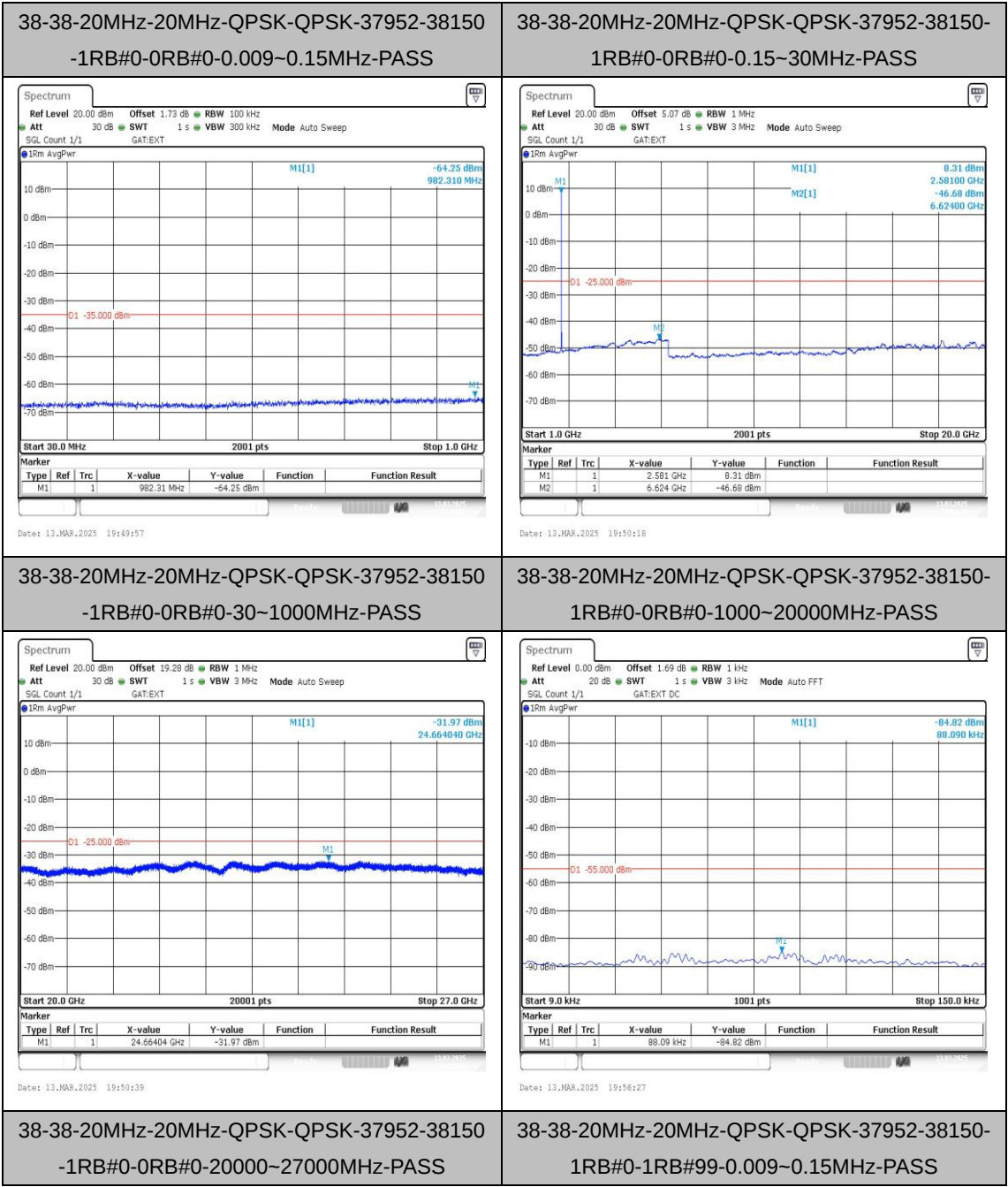


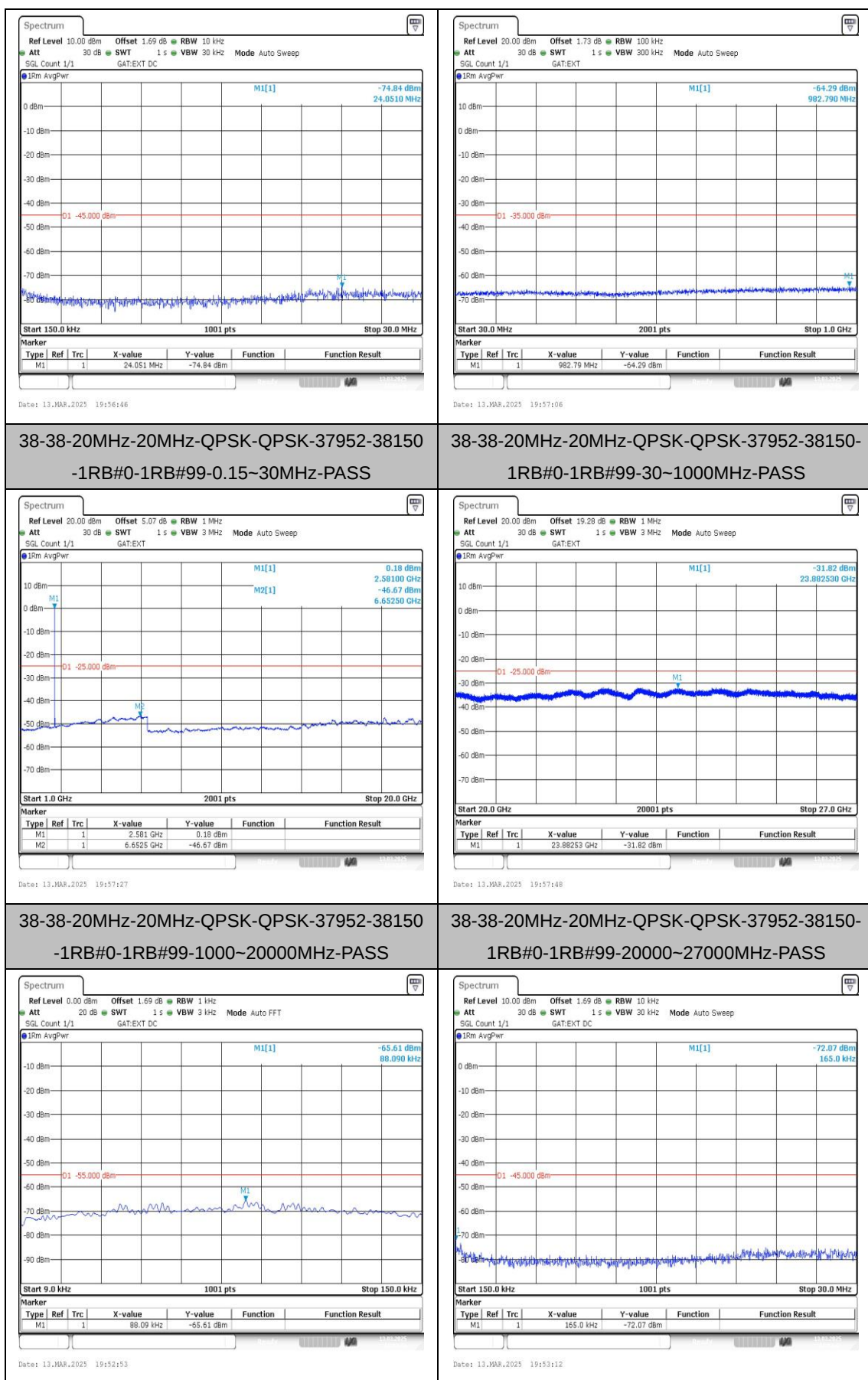


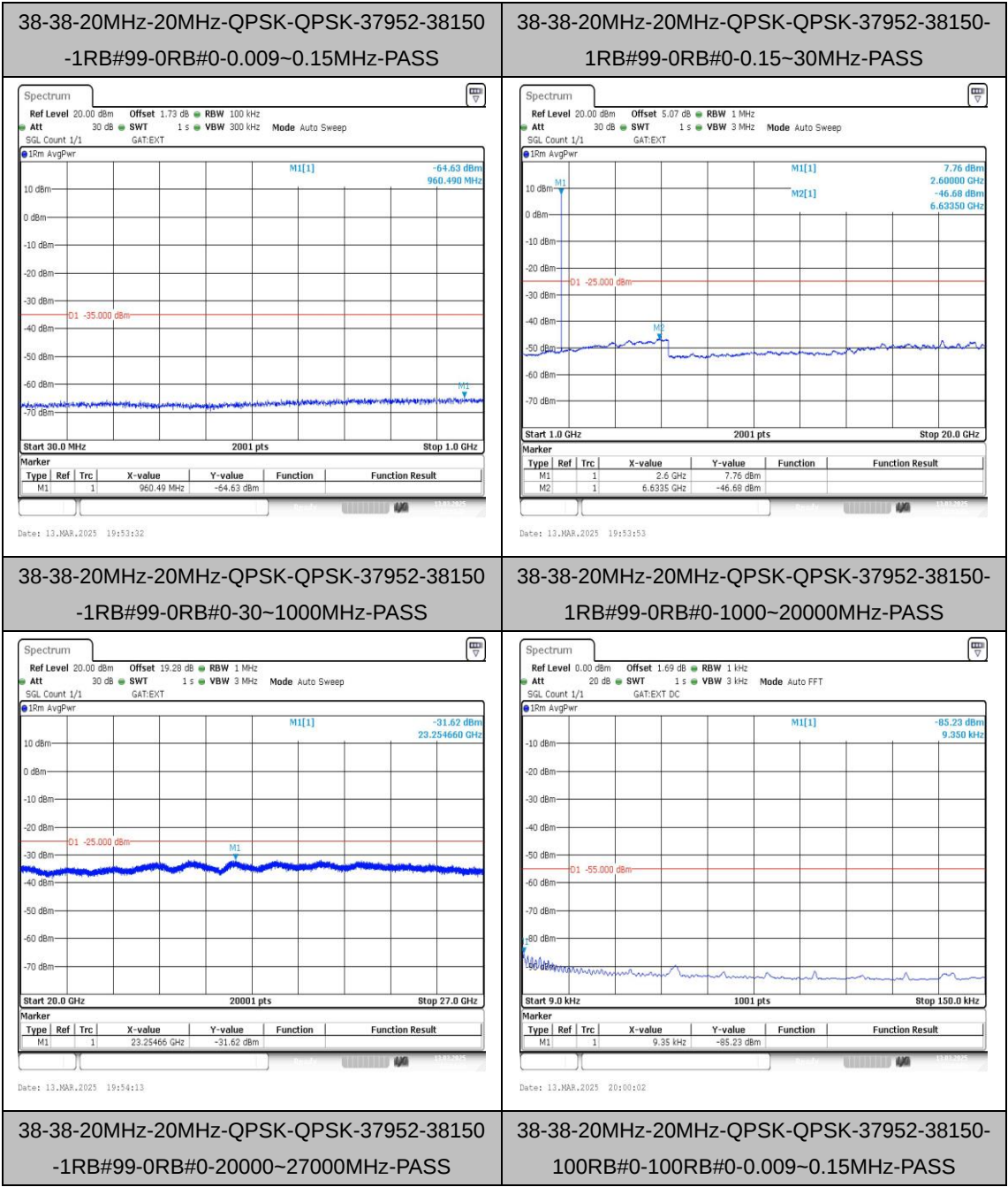


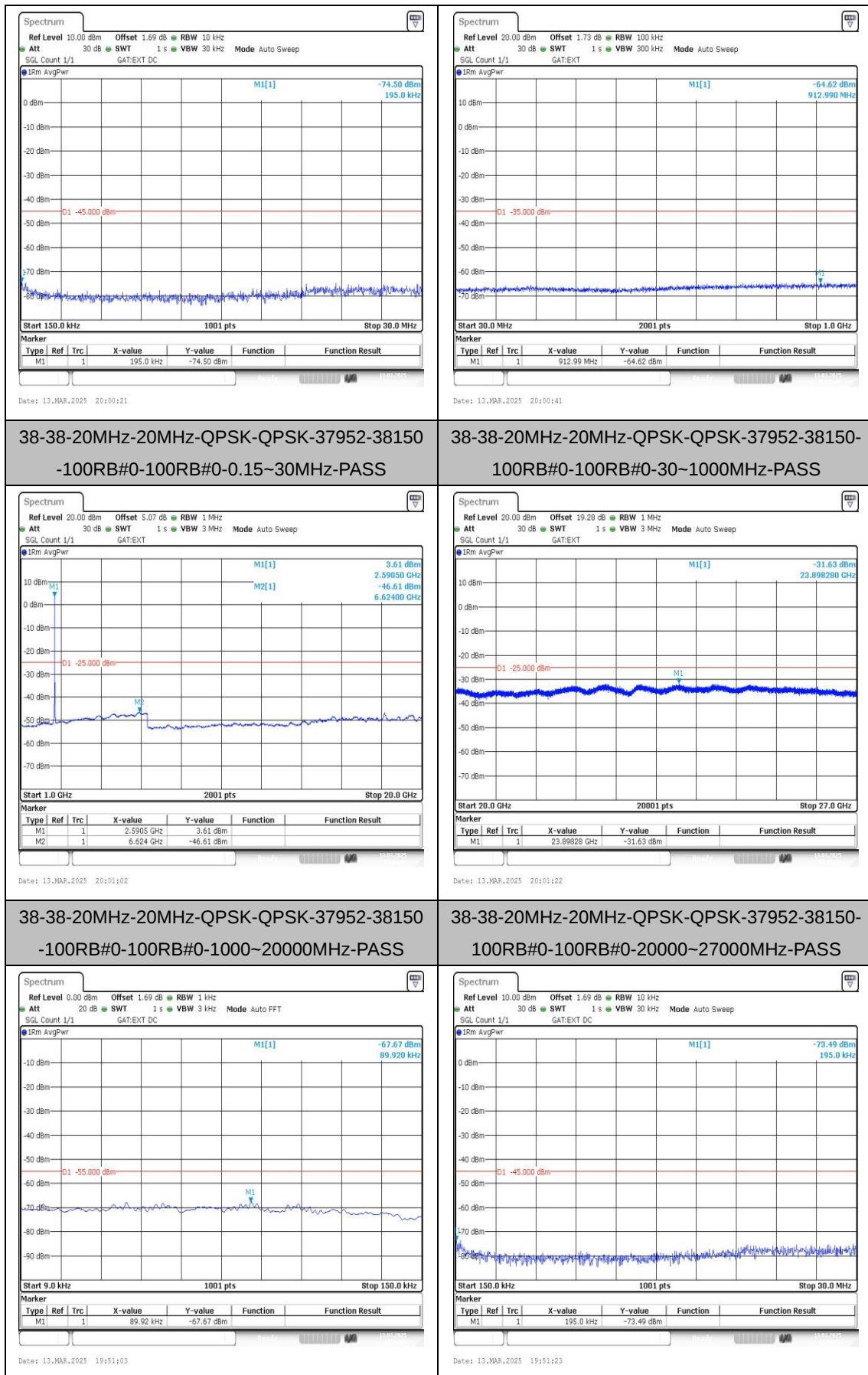


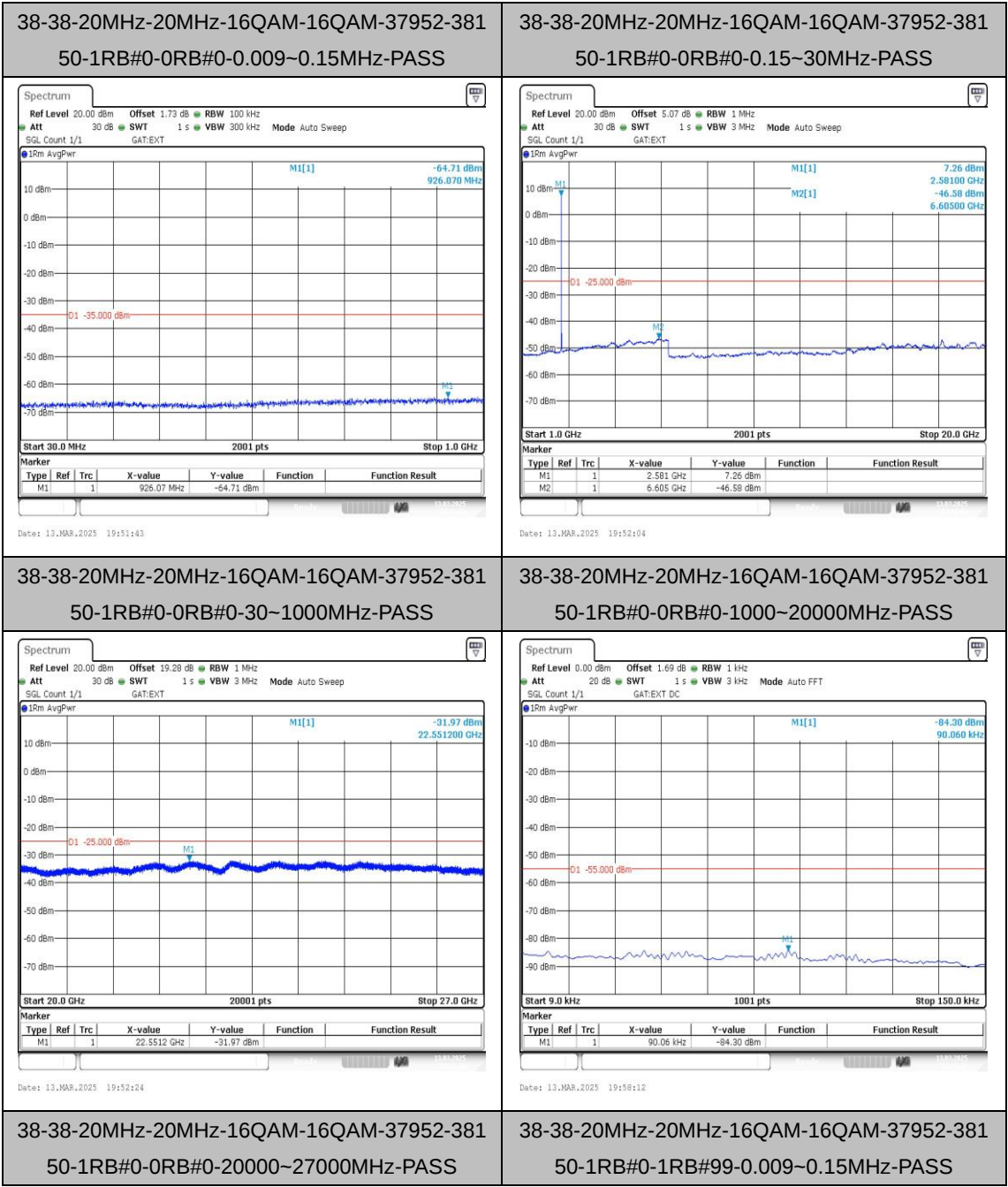


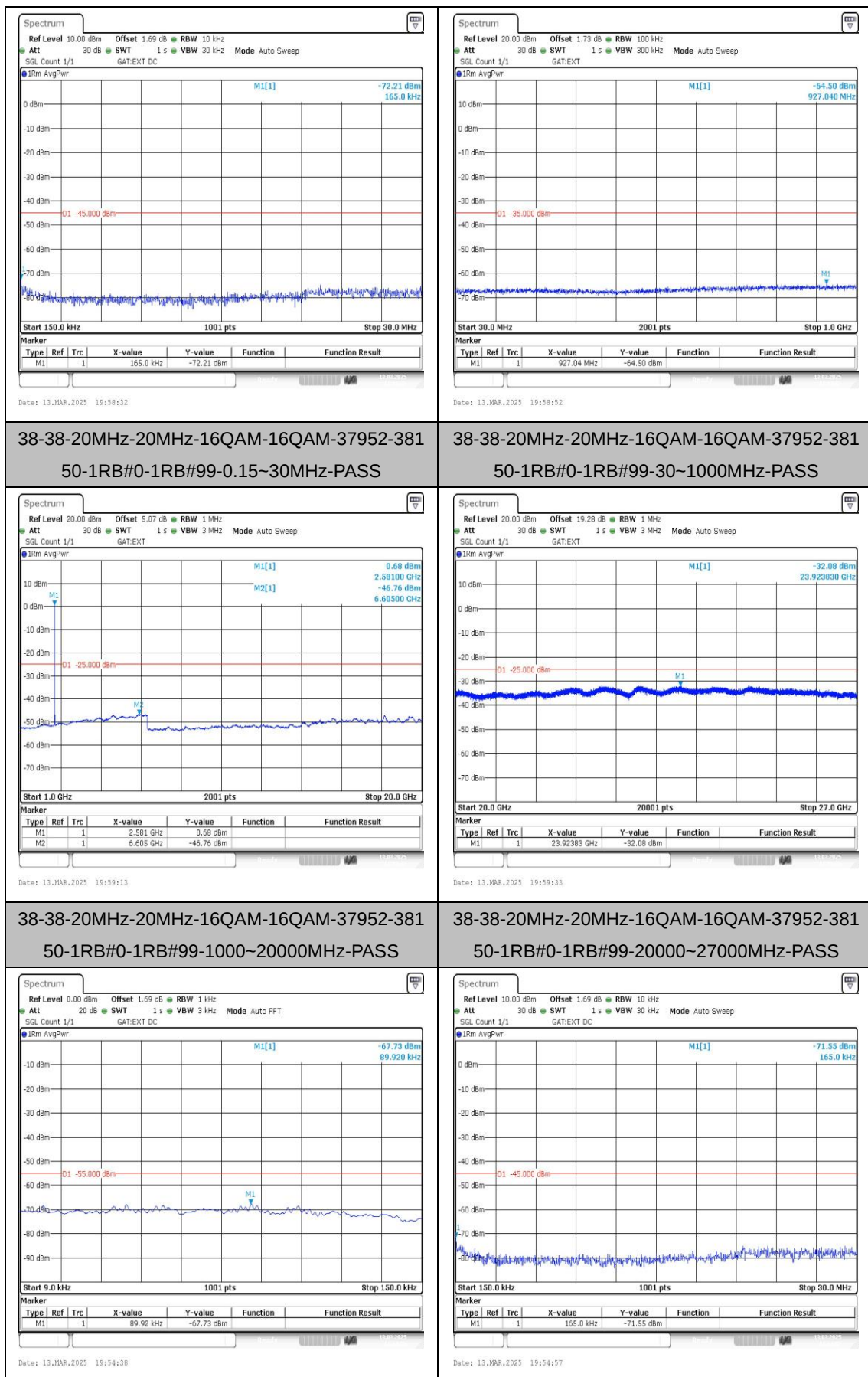


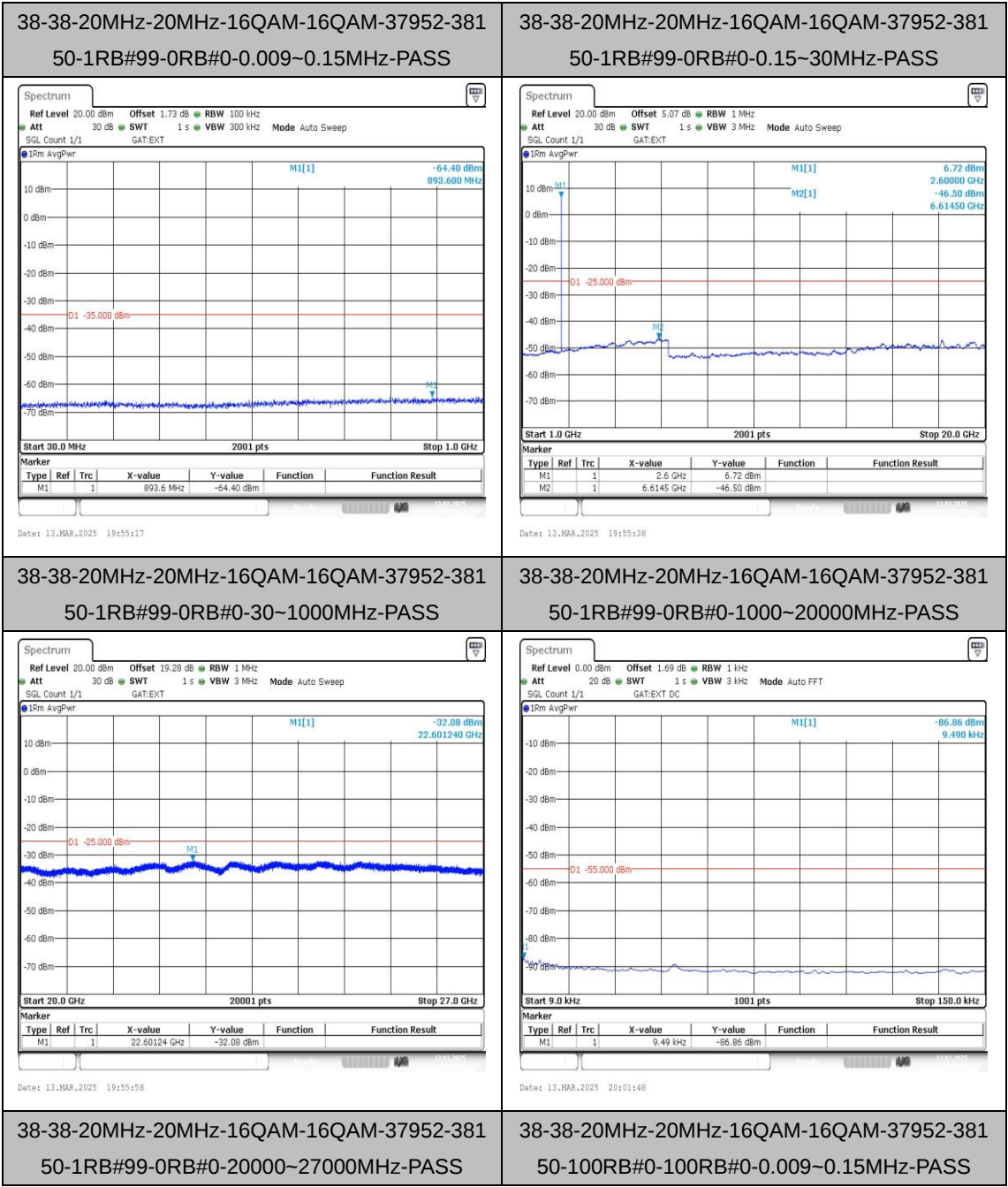


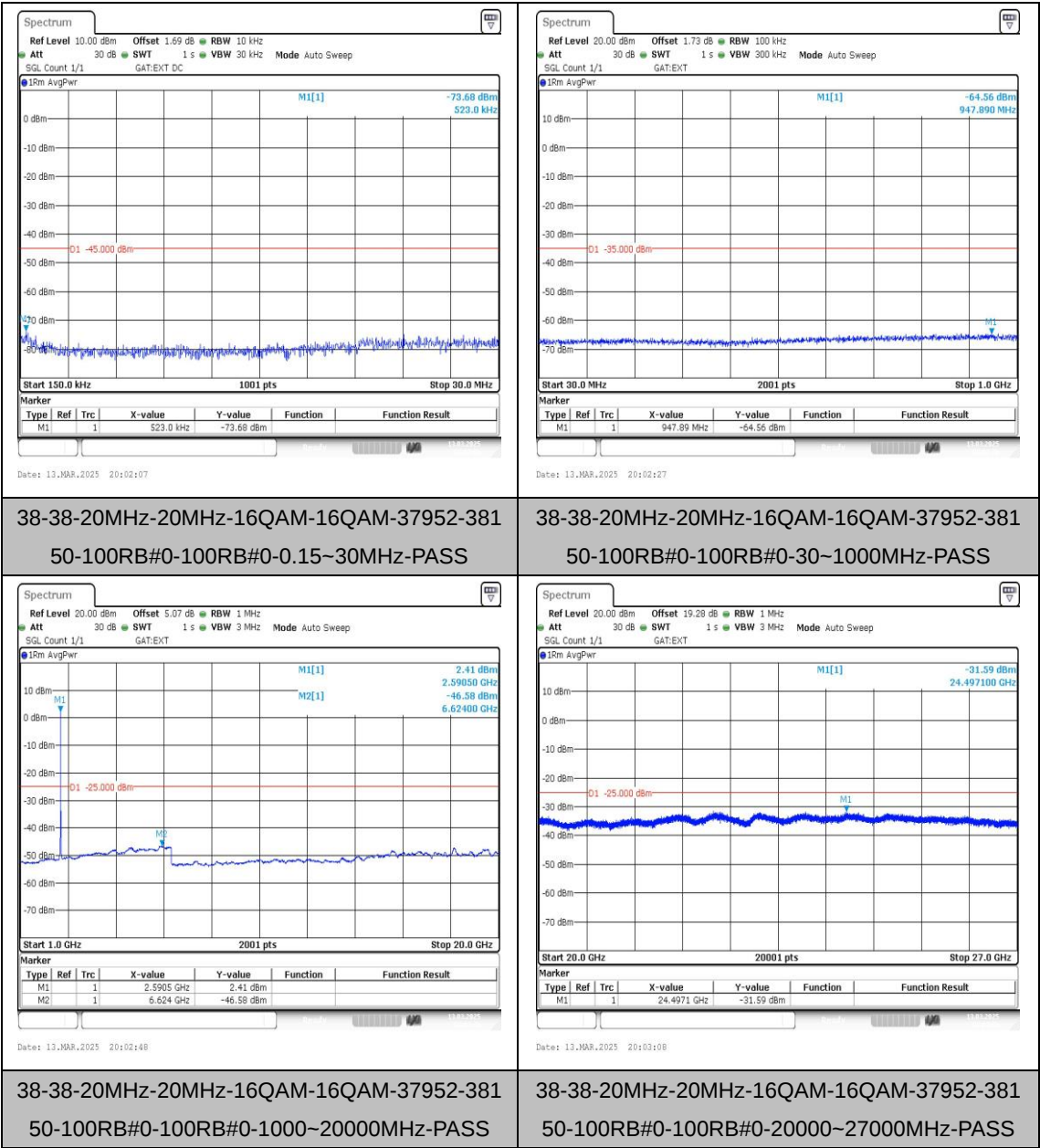












Appendix F: Frequency Stability

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	34.78	0.013494	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	VL	NT	32.99	0.012799	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	VH	NT	32.43	0.012582	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VN	NT	33.19	0.012877	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VL	NT	33.49	0.012993	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	VH	NT	37.52	0.014557	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VN	NT	33.76	0.013047	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VL	NT	38.09	0.014721	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	VH	NT	35.19	0.013600	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VN	NT	33.06	0.012777	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VL	NT	35.46	0.013704	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37925-38075	75RB#0-75RB#0	VH	NT	35.51	0.013724	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VN	NT	35.72	0.013752	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VL	NT	34.53	0.013294	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	38025-38175	75RB#0-75RB#0	VH	NT	32.74	0.012604	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	38025-38175	75RB#0-75RB#0	VN	NT	31.99	0.012316	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	38025-38175	75RB#0-75RB#0	VL	NT	32.79	0.012624	±2.5	PASS

38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	VH	NT	34.69	0.013355	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VN	NT	45.46	0.017620	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VL	NT	43.37	0.016810	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	VH	NT	43.80	0.016977	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VN	NT	44.23	0.017143	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VL	NT	43.99	0.017050	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	VH	NT	45.85	0.017771	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VN	NT	43.06	0.016657	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VL	NT	42.27	0.016351	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	VH	NT	43.49	0.016823	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VN	NT	44.66	0.017276	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VL	NT	42.41	0.016406	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	VH	NT	46.39	0.017945	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VN	NT	45.19	0.017447	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VL	NT	41.91	0.016180	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	VH	NT	46.96	0.018130	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VN	NT	43.06	0.016624	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VL	NT	48.92	0.018887	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	VH	NT	44.96	0.017358	±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	31.34	0.012159	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-30	37.79	0.014661	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-20	32.86	0.012749	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	-10	32.40	0.012570	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	0	36.72	0.014246	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	10	33.62	0.013044	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	20	35.02	0.013587	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37825-37975	75RB#0-75RB#0	NV	30	32.87	0.012753	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-50	33.14	0.012857	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-30	34.50	0.013385	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-20	33.53	0.013009	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	-10	34.09	0.013226	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	0	35.33	0.013707	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	10	31.44	0.012198	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	20	32.16	0.012477	±2.5	PASS
38-38	15MHz-15MHz	16QAM-16QAM	37825-37975	75RB#0-75RB#0	NV	30	33.69	0.013071	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-50	36.26	0.014014	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-30	36.51	0.014110	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-20	35.41	0.013685	±2.5	PASS
38-38	15MHz-15MHz	QPSK-QPSK	37925-38075	75RB#0-75RB#0	NV	-10	33.23	0.012843	±2.5	PASS

38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	0	34.12	0.013186	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	10	37.24	0.014392	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	20	35.66	0.013782	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	37925- 38075	75RB#0-7 5RB#0	NV	30	34.28	0.013248	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-50	34.88	0.013480	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-30	33.97	0.013129	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-20	35.26	0.013627	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	-10	35.71	0.013801	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	0	34.65	0.013391	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	10	35.02	0.013534	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	20	35.66	0.013782	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	37925- 38075	75RB#0-7 5RB#0	NV	30	35.06	0.013550	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-50	34.02	0.013097	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-30	33.40	0.012859	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-20	36.79	0.014164	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	-10	37.35	0.014379	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	0	33.09	0.012739	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	10	35.63	0.013717	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	20	35.09	0.013509	±2.5	PASS
38-38	15MHz- 15MHz	QPSK-Q PSK	38025- 38175	75RB#0-7 5RB#0	NV	30	33.72	0.012982	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-50	34.60	0.013321	±2.5	PASS

38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-30	34.69	0.013355	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-20	34.00	0.013090	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	-10	35.12	0.013521	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	0	34.50	0.013282	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	10	34.49	0.013278	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	20	33.25	0.012801	±2.5	PASS
38-38	15MHz- 15MHz	16QAM- 16QAM	38025- 38175	75RB#0-7 5RB#0	NV	30	30.71	0.011823	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-50	42.17	0.016345	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-30	43.24	0.016760	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-20	41.91	0.016244	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	-10	44.23	0.017143	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	0	43.64	0.016915	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	10	42.86	0.016612	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	20	43.39	0.016818	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37850- 38048	100RB#0- 100RB#0	NV	30	48.19	0.018678	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-50	43.32	0.016791	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-30	45.28	0.017550	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-20	42.33	0.016407	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	-10	44.47	0.017236	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	0	43.10	0.016705	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	10	43.40	0.016822	±2.5	PASS

38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	20	42.03	0.016291	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37850- 38048	100RB#0- 100RB#0	NV	30	43.66	0.016922	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-50	45.79	0.017713	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-30	44.55	0.017233	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-20	43.17	0.016700	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	-10	46.88	0.018135	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	0	44.46	0.017199	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	10	43.26	0.016734	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	20	47.81	0.018494	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37901- 38099	100RB#0- 100RB#0	NV	30	44.40	0.017175	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-50	43.56	0.016850	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-30	42.19	0.016320	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-20	47.11	0.018224	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	-10	46.92	0.018150	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	0	45.38	0.017554	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	10	44.10	0.017059	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	20	45.75	0.017698	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37901- 38099	100RB#0- 100RB#0	NV	30	42.63	0.016491	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-50	46.36	0.017898	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-30	43.72	0.016879	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-20	45.73	0.017655	±2.5	PASS

38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	-10	44.15	0.017045	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	0	48.87	0.018867	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	10	43.93	0.016960	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	20	43.67	0.016860	±2.5	PASS
38-38	20MHz- 20MHz	QPSK-Q PSK	37952- 38150	100RB#0- 100RB#0	NV	30	43.95	0.016968	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-50	44.99	0.017369	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-30	45.92	0.017728	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-20	44.17	0.017053	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	-10	44.32	0.017111	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	0	46.32	0.017883	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	10	47.65	0.018396	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	20	44.12	0.017033	±2.5	PASS
38-38	20MHz- 20MHz	16QAM- 16QAM	37952- 38150	100RB#0- 100RB#0	NV	30	42.31	0.016335	±2.5	PASS