

Appendix for LTE Band 14

Product Name: 5G Window CPE

Model No: TITAN 5100

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	22.45	PASS
Band14	5MHz	16QAM	23305	1RB#0	21.51	PASS
Band14	5MHz	QPSK	23305	1RB#12	22.54	PASS
Band14	5MHz	16QAM	23305	1RB#12	21.44	PASS
Band14	5MHz	QPSK	23305	1RB#24	22.40	PASS
Band14	5MHz	16QAM	23305	1RB#24	21.36	PASS
Band14	5MHz	QPSK	23305	12RB#0	21.51	PASS
Band14	5MHz	16QAM	23305	12RB#0	20.42	PASS
Band14	5MHz	QPSK	23305	12RB#6	21.50	PASS
Band14	5MHz	16QAM	23305	12RB#6	20.49	PASS
Band14	5MHz	QPSK	23305	12RB#13	21.51	PASS
Band14	5MHz	16QAM	23305	12RB#13	20.57	PASS
Band14	5MHz	QPSK	23305	25RB#0	21.57	PASS
Band14	5MHz	16QAM	23305	25RB#0	20.53	PASS
Band14	5MHz	QPSK	23330	1RB#0	22.50	PASS
Band14	5MHz	16QAM	23330	1RB#0	21.51	PASS
Band14	5MHz	QPSK	23330	1RB#12	22.61	PASS
Band14	5MHz	16QAM	23330	1RB#12	21.75	PASS
Band14	5MHz	QPSK	23330	1RB#24	22.64	PASS
Band14	5MHz	16QAM	23330	1RB#24	21.57	PASS
Band14	5MHz	QPSK	23330	12RB#0	21.51	PASS
Band14	5MHz	16QAM	23330	12RB#0	20.50	PASS
Band14	5MHz	QPSK	23330	12RB#6	21.49	PASS
Band14	5MHz	16QAM	23330	12RB#6	20.52	PASS
Band14	5MHz	QPSK	23330	12RB#13	21.63	PASS
Band14	5MHz	16QAM	23330	12RB#13	20.54	PASS
Band14	5MHz	QPSK	23330	25RB#0	21.51	PASS
Band14	5MHz	16QAM	23330	25RB#0	20.51	PASS
Band14	5MHz	QPSK	23355	1RB#0	22.68	PASS
Band14	5MHz	16QAM	23355	1RB#0	21.61	PASS
Band14	5MHz	QPSK	23355	1RB#12	22.65	PASS
Band14	5MHz	16QAM	23355	1RB#12	21.69	PASS
Band14	5MHz	QPSK	23355	1RB#24	22.66	PASS
Band14	5MHz	16QAM	23355	1RB#24	21.60	PASS
Band14	5MHz	QPSK	23355	12RB#0	21.58	PASS

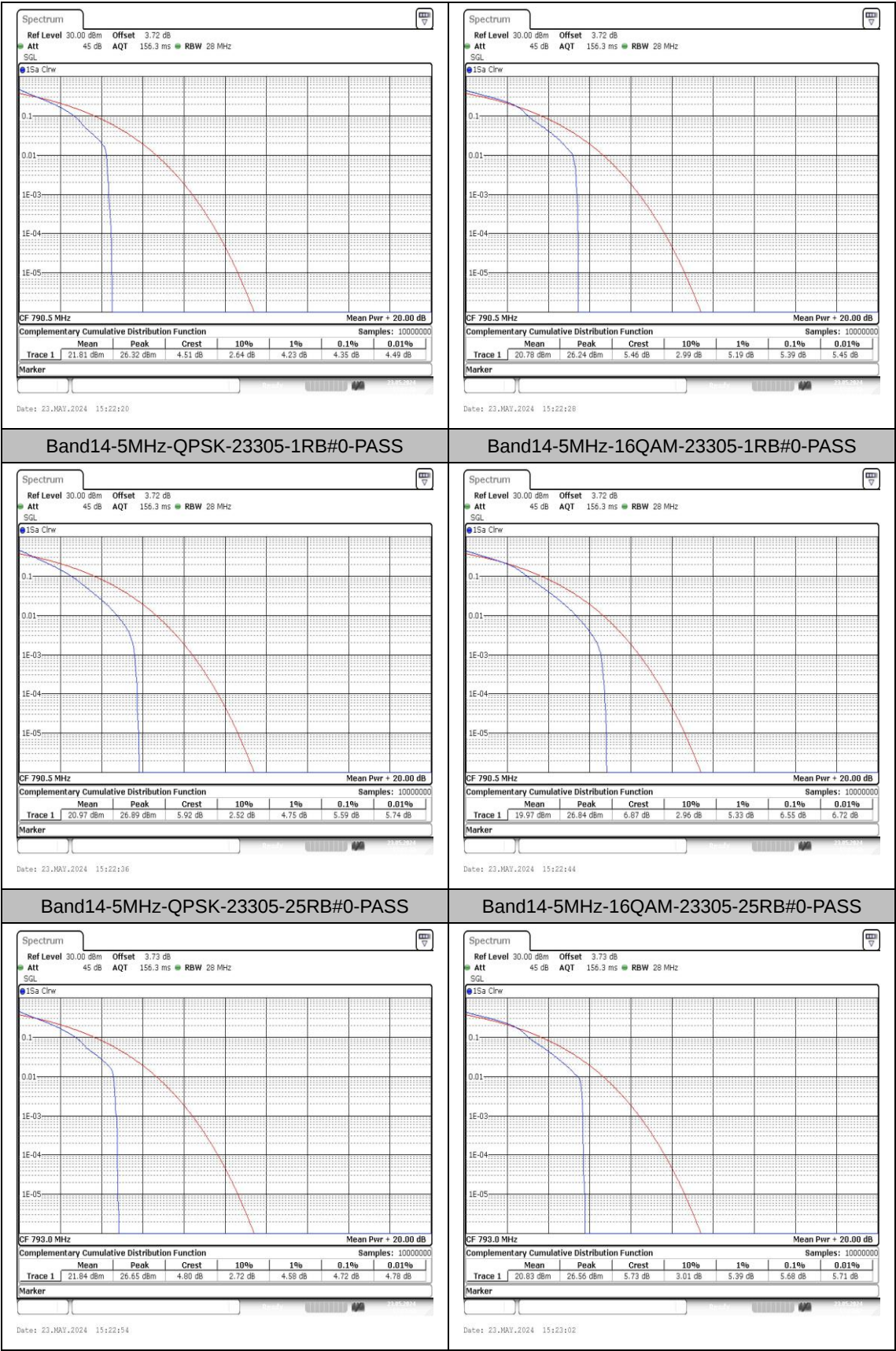
Band14	5MHz	16QAM	23355	12RB#0	20.65	PASS
Band14	5MHz	QPSK	23355	12RB#6	21.55	PASS
Band14	5MHz	16QAM	23355	12RB#6	20.48	PASS
Band14	5MHz	QPSK	23355	12RB#13	21.64	PASS
Band14	5MHz	16QAM	23355	12RB#13	20.70	PASS
Band14	5MHz	QPSK	23355	25RB#0	21.59	PASS
Band14	5MHz	16QAM	23355	25RB#0	20.52	PASS
Band14	10MHz	QPSK	23330	1RB#0	22.45	PASS
Band14	10MHz	16QAM	23330	1RB#0	21.66	PASS
Band14	10MHz	QPSK	23330	1RB#24	22.54	PASS
Band14	10MHz	16QAM	23330	1RB#24	21.60	PASS
Band14	10MHz	QPSK	23330	1RB#49	22.50	PASS
Band14	10MHz	16QAM	23330	1RB#49	21.65	PASS
Band14	10MHz	QPSK	23330	25RB#0	21.56	PASS
Band14	10MHz	16QAM	23330	25RB#0	20.52	PASS
Band14	10MHz	QPSK	23330	25RB#12	21.51	PASS
Band14	10MHz	16QAM	23330	25RB#12	20.47	PASS
Band14	10MHz	QPSK	23330	25RB#25	21.64	PASS
Band14	10MHz	16QAM	23330	25RB#25	20.62	PASS
Band14	10MHz	QPSK	23330	50RB#0	21.55	PASS
Band14	10MHz	16QAM	23330	50RB#0	20.54	PASS

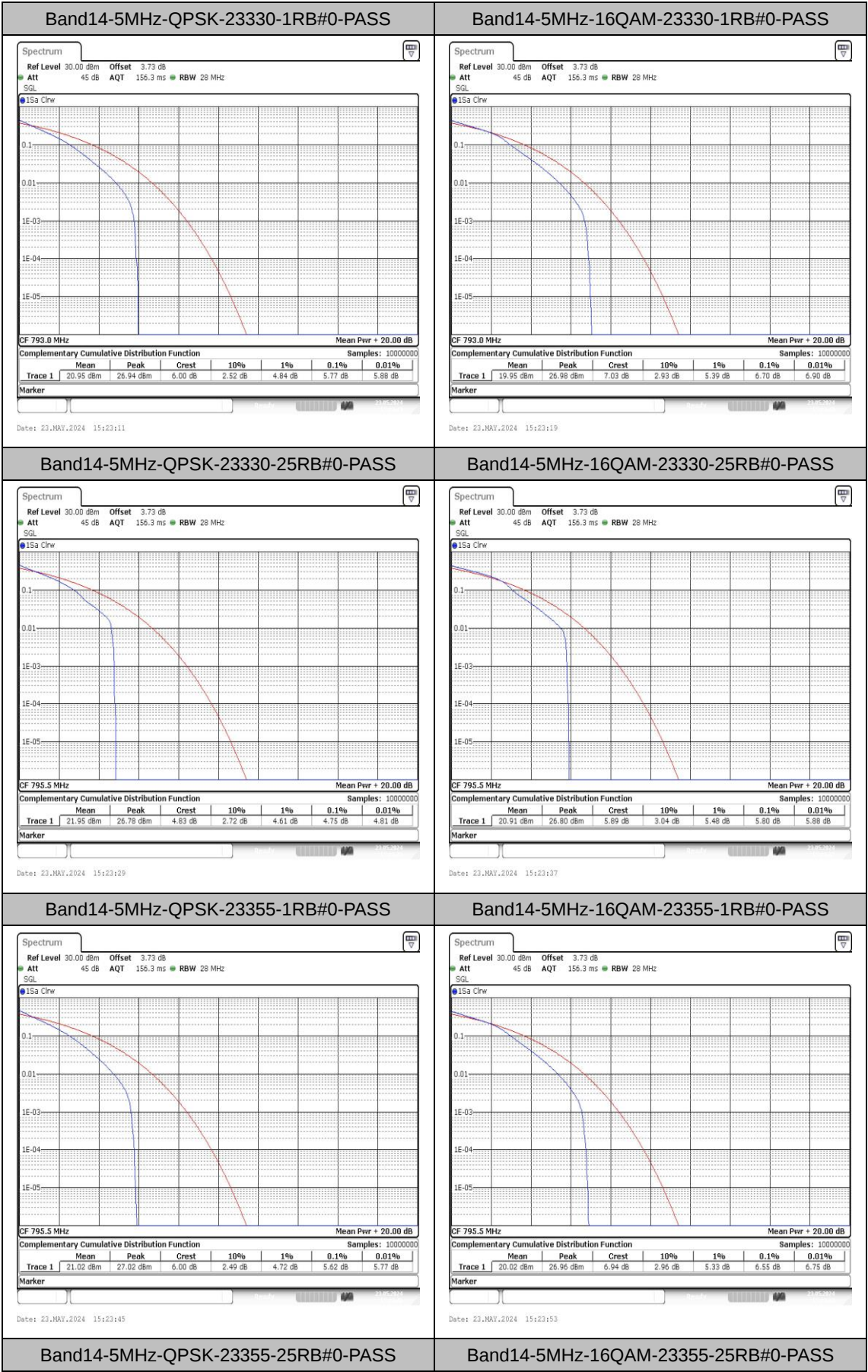
Appendix B: Peak-to-Average Ratio(CCDF)

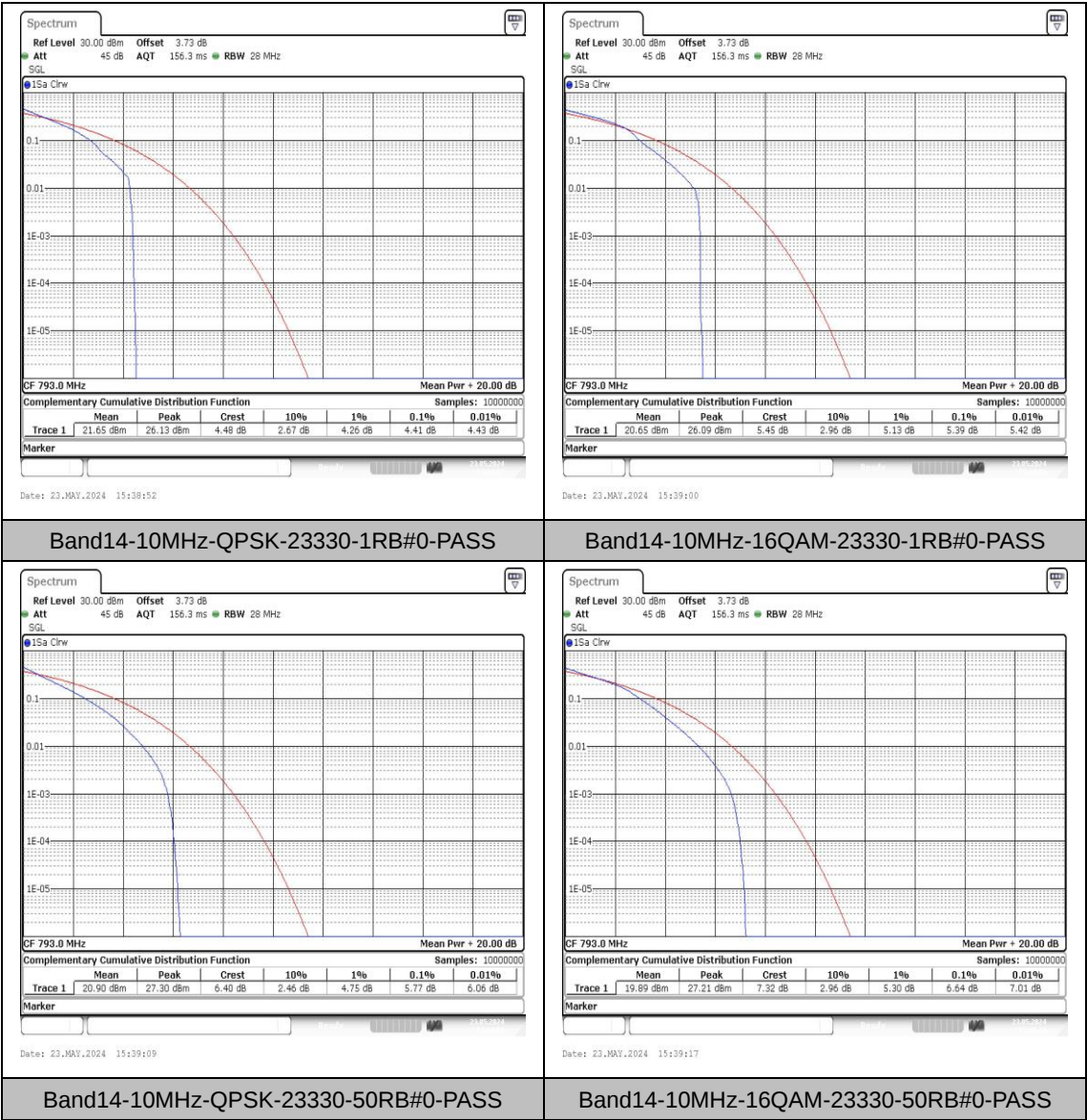
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	4.35	13	PASS
Band14	5MHz	16QAM	23305	1RB#0	5.39	13	PASS
Band14	5MHz	QPSK	23305	25RB#0	5.59	13	PASS
Band14	5MHz	16QAM	23305	25RB#0	6.55	13	PASS
Band14	5MHz	QPSK	23330	1RB#0	4.72	13	PASS
Band14	5MHz	16QAM	23330	1RB#0	5.68	13	PASS
Band14	5MHz	QPSK	23330	25RB#0	5.77	13	PASS
Band14	5MHz	16QAM	23330	25RB#0	6.70	13	PASS
Band14	5MHz	QPSK	23355	1RB#0	4.75	13	PASS
Band14	5MHz	16QAM	23355	1RB#0	5.80	13	PASS
Band14	5MHz	QPSK	23355	25RB#0	5.62	13	PASS
Band14	5MHz	16QAM	23355	25RB#0	6.55	13	PASS
Band14	10MHz	QPSK	23330	1RB#0	4.41	13	PASS
Band14	10MHz	16QAM	23330	1RB#0	5.39	13	PASS
Band14	10MHz	QPSK	23330	50RB#0	5.77	13	PASS
Band14	10MHz	16QAM	23330	50RB#0	6.64	13	PASS

Test Graphs





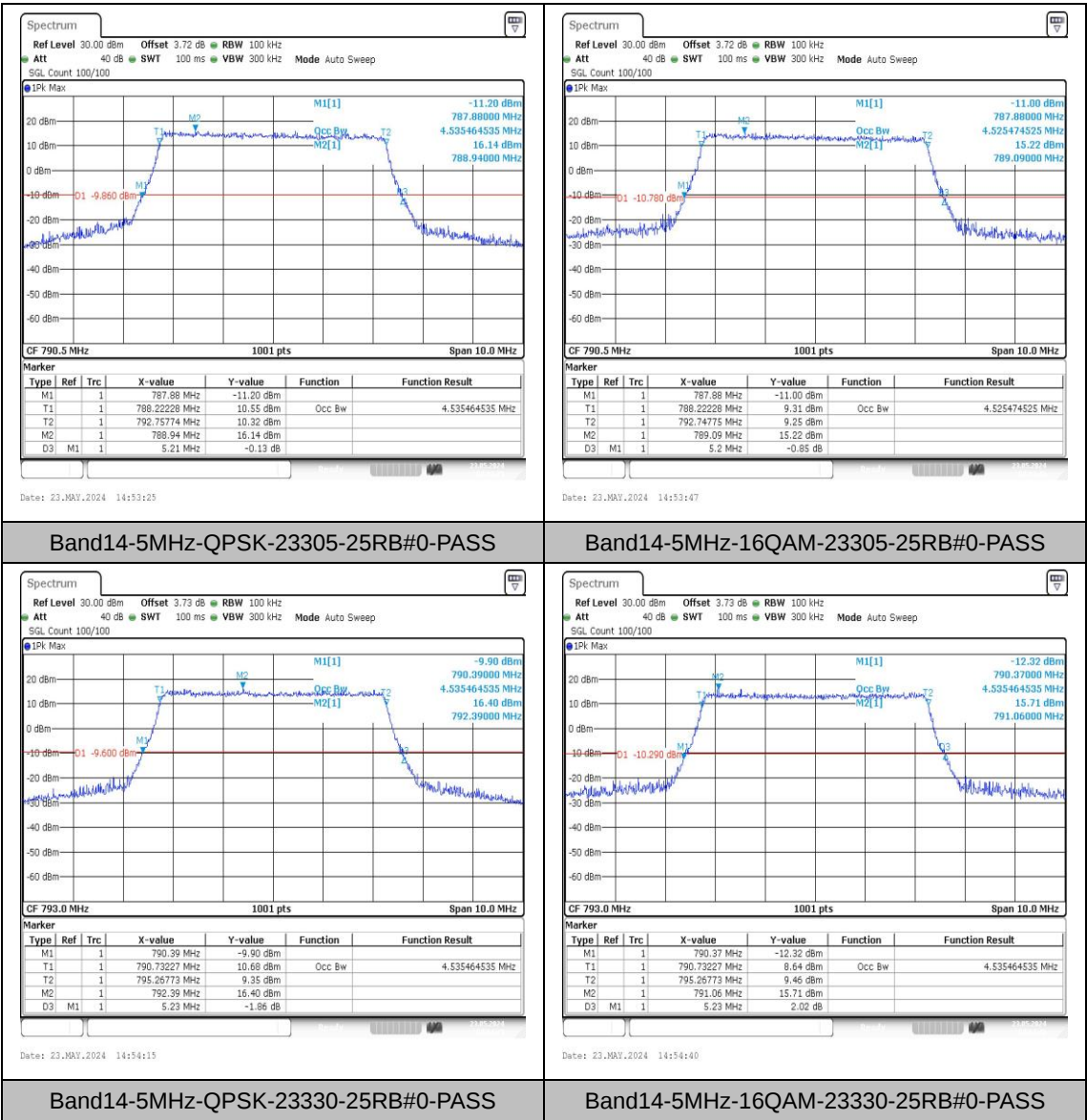


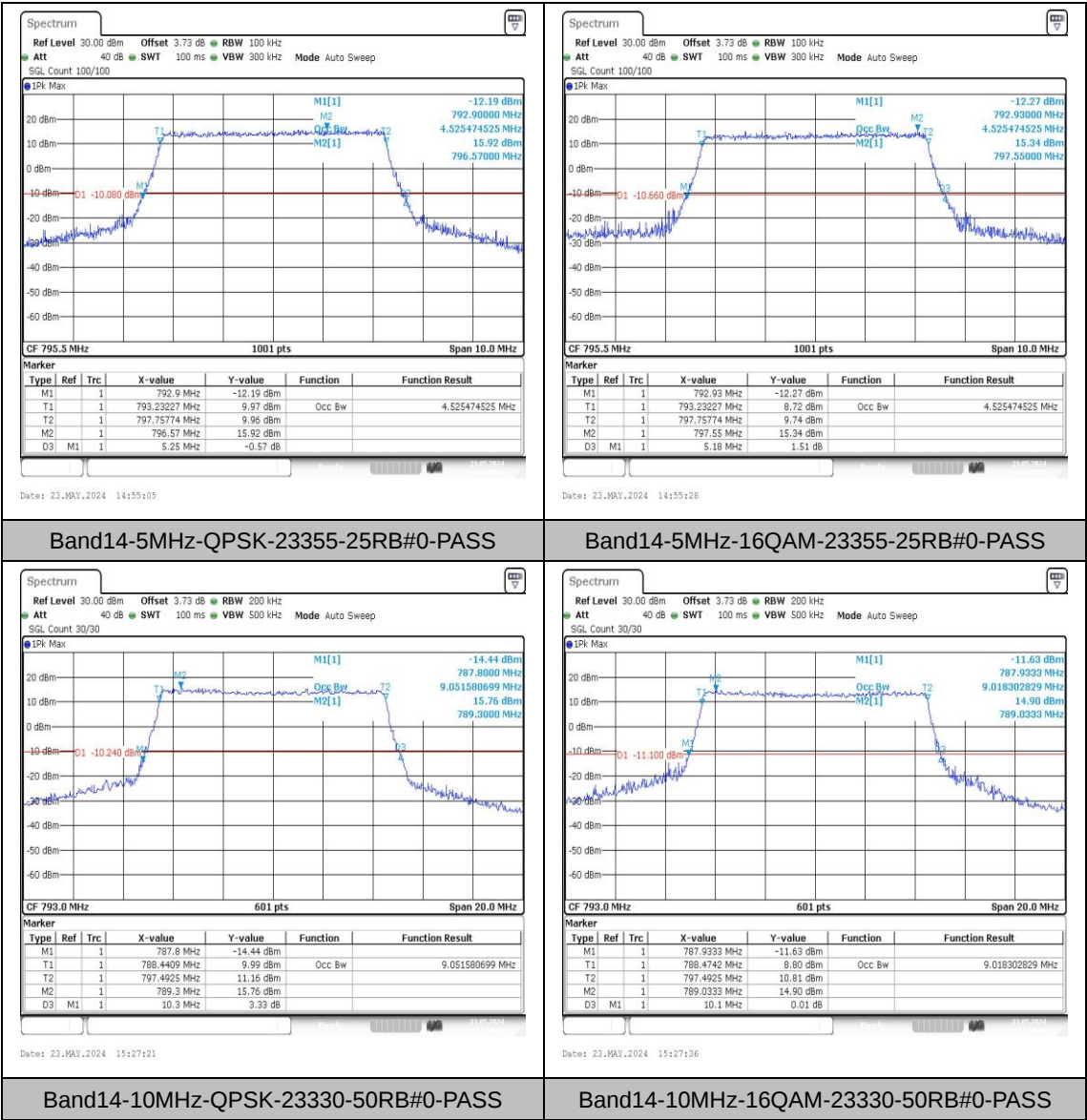
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band14	5MHz	QPSK	23305	25RB#0	4.535	5.21	PASS
Band14	5MHz	16QAM	23305	25RB#0	4.525	5.20	PASS
Band14	5MHz	QPSK	23330	25RB#0	4.535	5.23	PASS
Band14	5MHz	16QAM	23330	25RB#0	4.535	5.23	PASS
Band14	5MHz	QPSK	23355	25RB#0	4.525	5.25	PASS
Band14	5MHz	16QAM	23355	25RB#0	4.525	5.18	PASS
Band14	10MHz	QPSK	23330	50RB#0	9.052	10.30	PASS
Band14	10MHz	16QAM	23330	50RB#0	9.018	10.10	PASS

Test Graphs



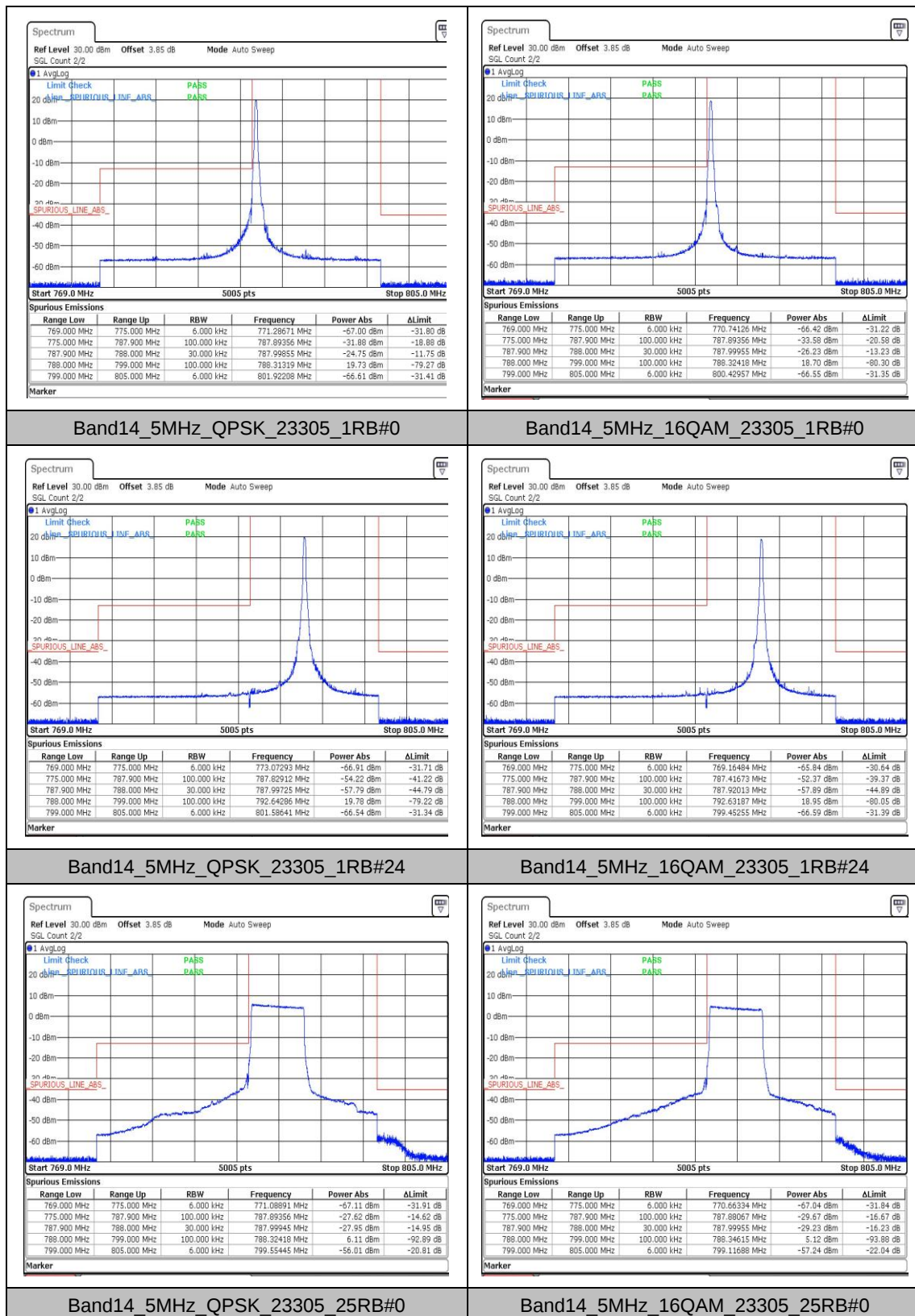


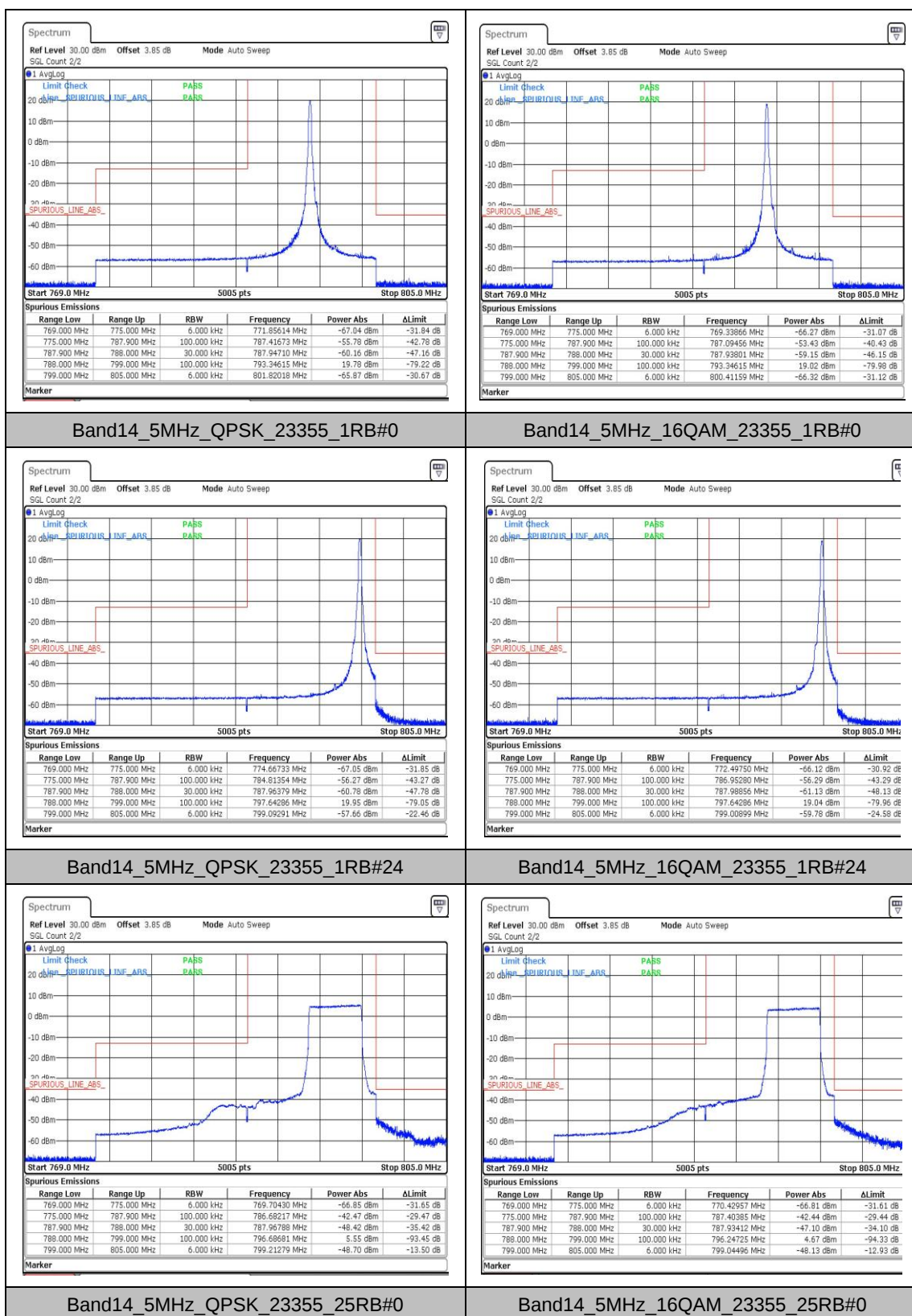
Appendix D: Band Edge

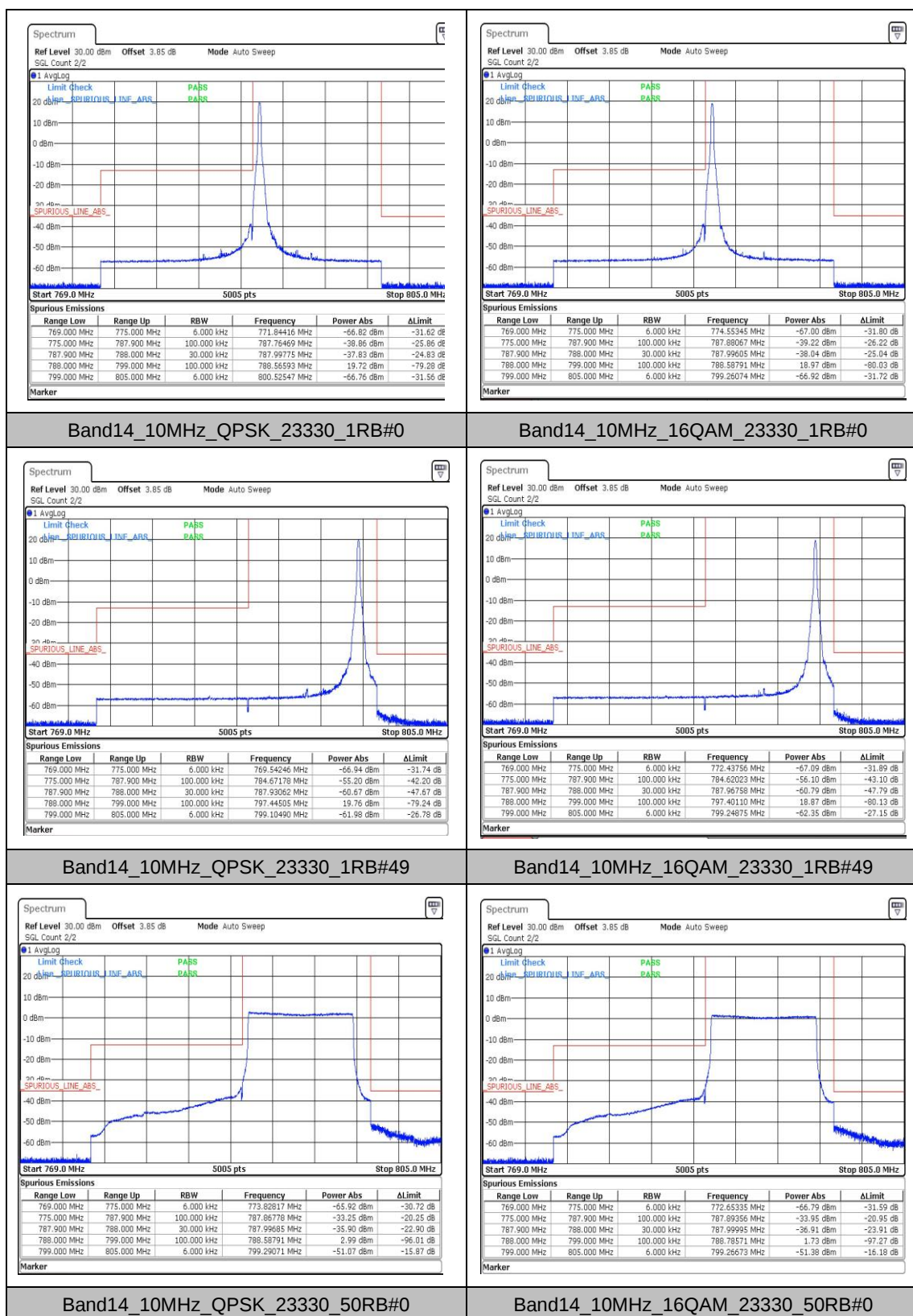
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	-24.75	PASS
Band14	5MHz	16QAM	23305	1RB#0	-26.23	PASS
Band14	5MHz	QPSK	23305	1RB#24	-66.54	PASS
Band14	5MHz	16QAM	23305	1RB#24	-65.84	PASS
Band14	5MHz	QPSK	23305	25RB#0	-27.62	PASS
Band14	5MHz	16QAM	23305	25RB#0	-29.23	PASS
Band14	5MHz	QPSK	23355	1RB#0	-65.87	PASS
Band14	5MHz	16QAM	23355	1RB#0	-66.27	PASS
Band14	5MHz	QPSK	23355	1RB#24	-57.66	PASS
Band14	5MHz	16QAM	23355	1RB#24	-59.78	PASS
Band14	5MHz	QPSK	23355	25RB#0	-48.70	PASS
Band14	5MHz	16QAM	23355	25RB#0	-48.13	PASS
Band14	10MHz	QPSK	23330	1RB#0	-37.83	PASS
Band14	10MHz	16QAM	23330	1RB#0	-38.04	PASS
Band14	10MHz	QPSK	23330	1RB#49	-61.98	PASS
Band14	10MHz	16QAM	23330	1RB#49	-62.35	PASS
Band14	10MHz	QPSK	23330	50RB#0	-51.07	PASS
Band14	10MHz	16QAM	23330	50RB#0	-51.38	PASS

Test Graphs







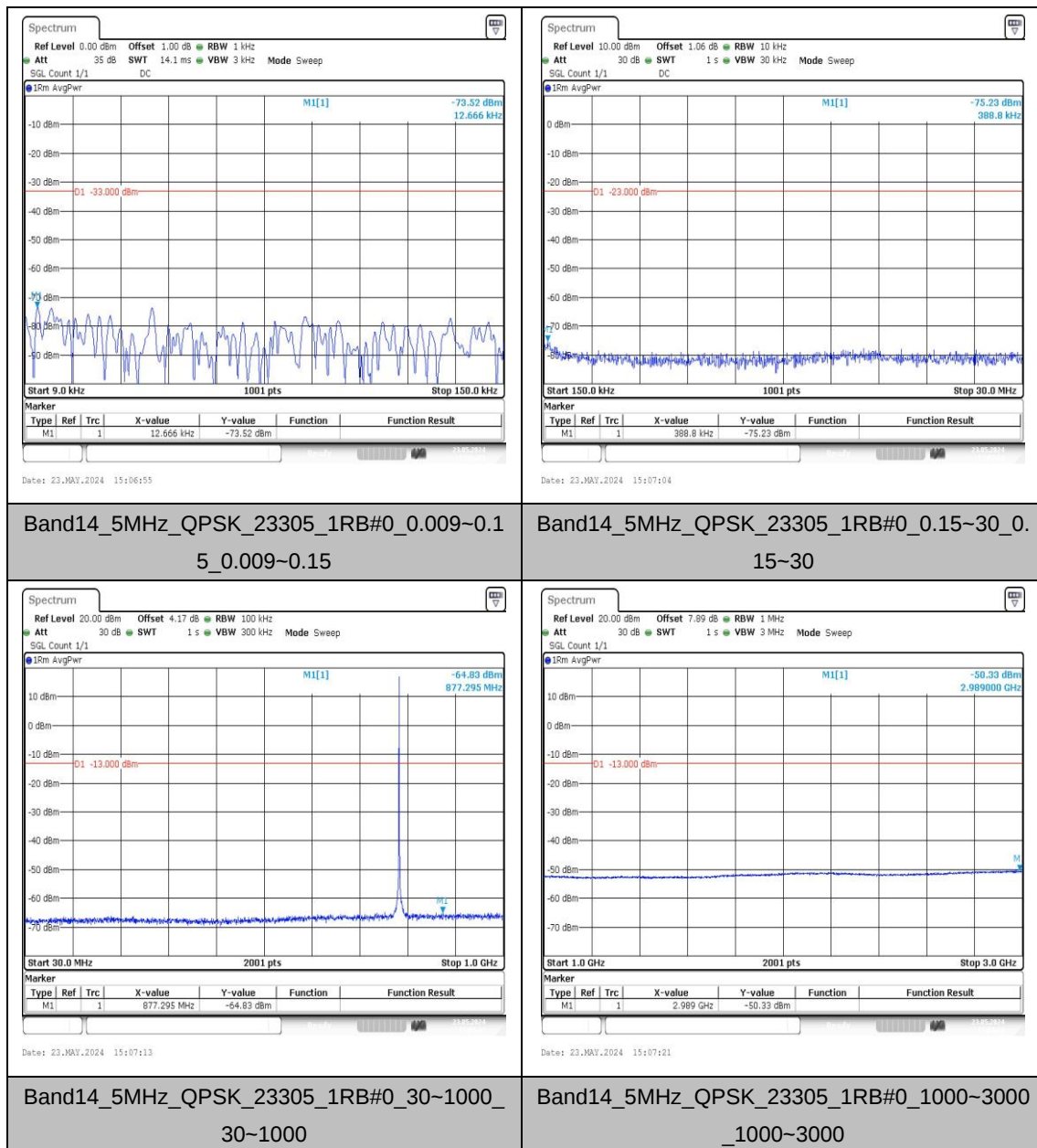
Appendix E: Conducted Spurious Emission

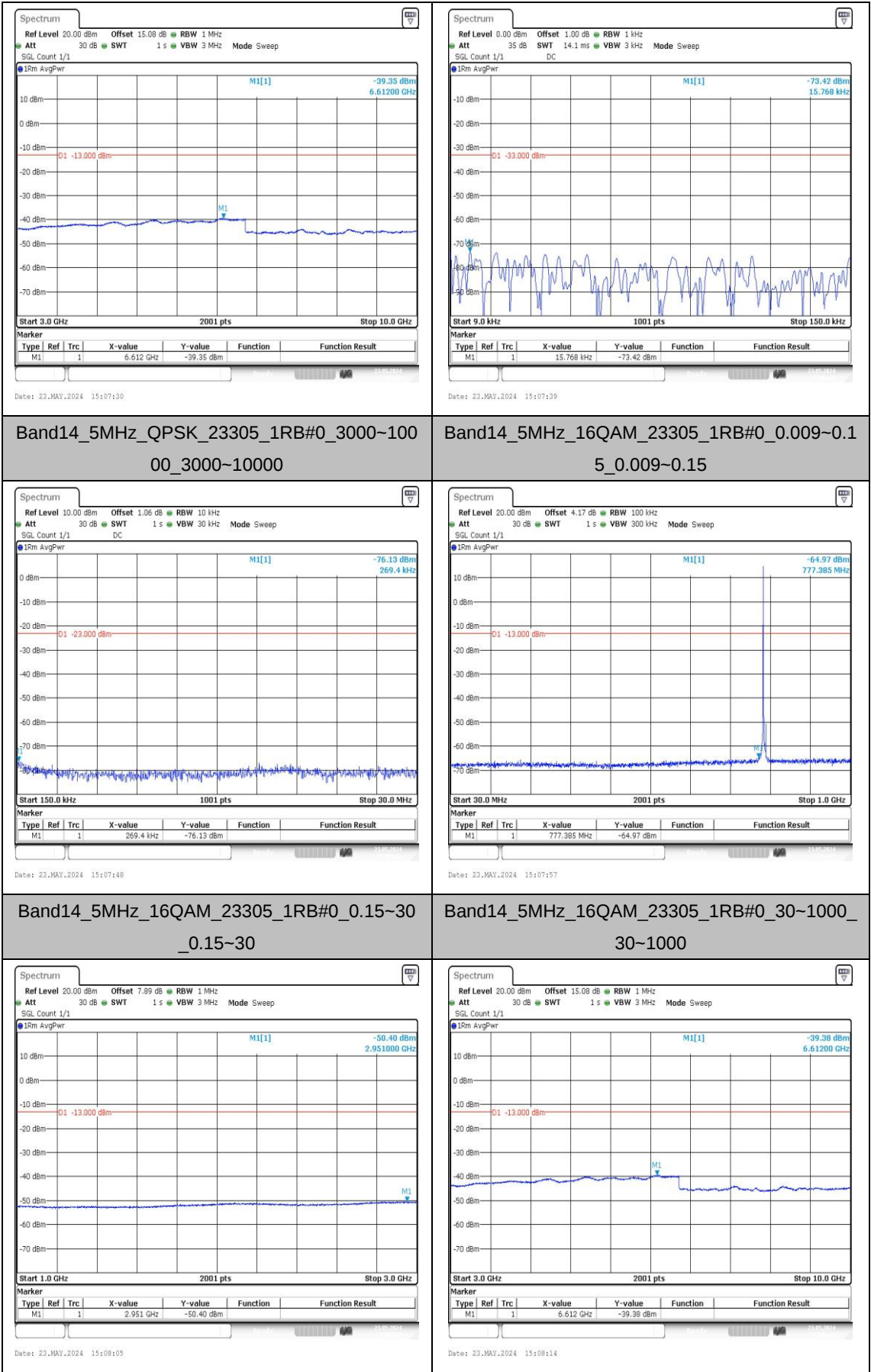
Test Result

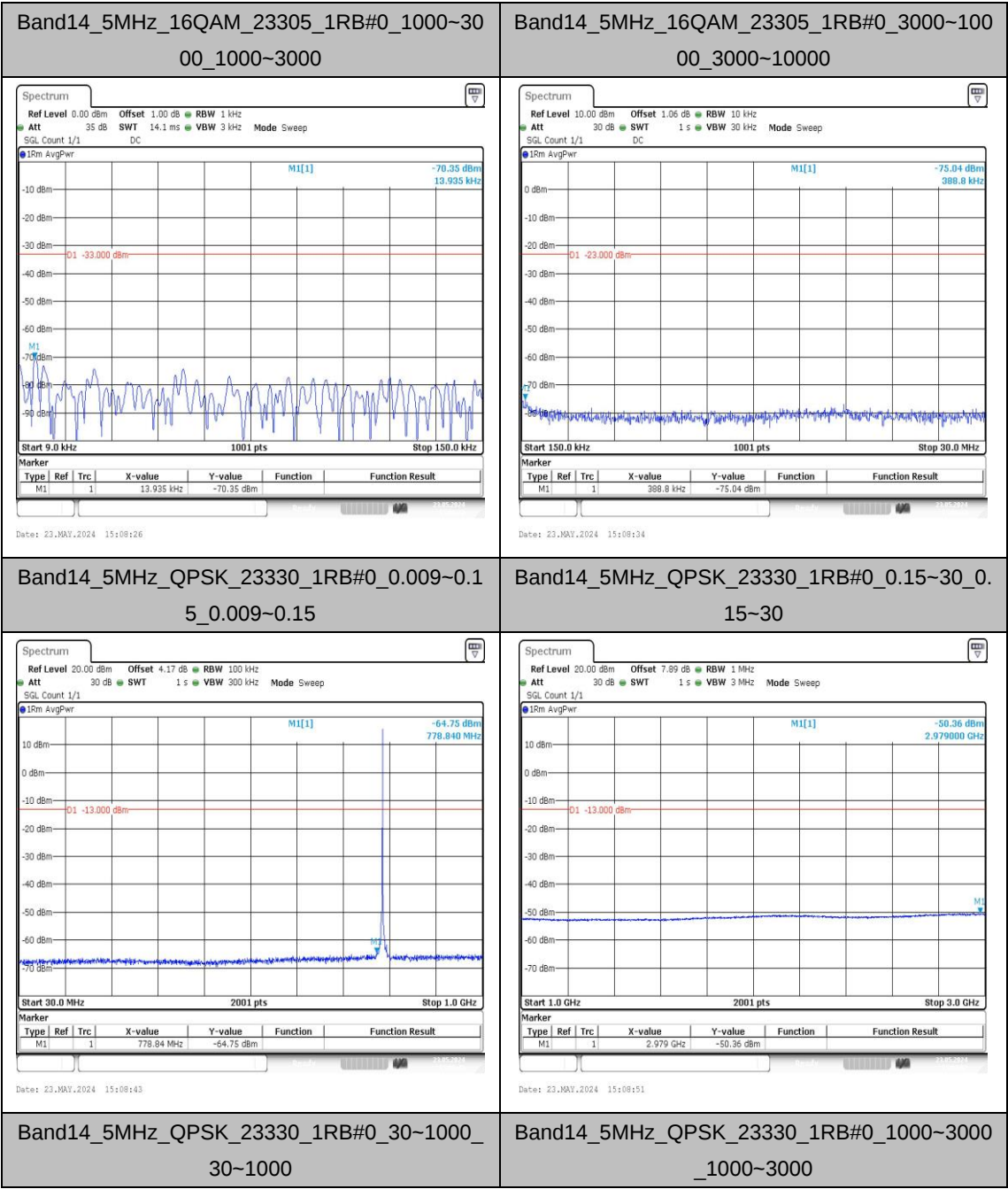
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	0.009~0.15	-73.52	PASS
Band14	5MHz	QPSK	23305	1RB#0	0.15~30	-75.23	PASS
Band14	5MHz	QPSK	23305	1RB#0	30~1000	-64.83	PASS
Band14	5MHz	QPSK	23305	1RB#0	1000~3000	-50.33	PASS
Band14	5MHz	QPSK	23305	1RB#0	3000~10000	-39.35	PASS
Band14	5MHz	16QAM	23305	1RB#0	0.009~0.15	-73.42	PASS
Band14	5MHz	16QAM	23305	1RB#0	0.15~30	-76.13	PASS
Band14	5MHz	16QAM	23305	1RB#0	30~1000	-64.97	PASS
Band14	5MHz	16QAM	23305	1RB#0	1000~3000	-50.40	PASS
Band14	5MHz	16QAM	23305	1RB#0	3000~10000	-39.38	PASS
Band14	5MHz	QPSK	23330	1RB#0	0.009~0.15	-70.35	PASS
Band14	5MHz	QPSK	23330	1RB#0	0.15~30	-75.04	PASS
Band14	5MHz	QPSK	23330	1RB#0	30~1000	-64.75	PASS
Band14	5MHz	QPSK	23330	1RB#0	1000~3000	-50.36	PASS
Band14	5MHz	QPSK	23330	1RB#0	3000~10000	-39.26	PASS
Band14	5MHz	16QAM	23330	1RB#0	0.009~0.15	-71.74	PASS
Band14	5MHz	16QAM	23330	1RB#0	0.15~30	-74.38	PASS
Band14	5MHz	16QAM	23330	1RB#0	30~1000	-64.80	PASS
Band14	5MHz	16QAM	23330	1RB#0	1000~3000	-50.32	PASS
Band14	5MHz	16QAM	23330	1RB#0	3000~10000	-39.41	PASS
Band14	5MHz	QPSK	23355	1RB#0	0.009~0.15	-70.29	PASS
Band14	5MHz	QPSK	23355	1RB#0	0.15~30	-74.66	PASS
Band14	5MHz	QPSK	23355	1RB#0	30~1000	-64.77	PASS
Band14	5MHz	QPSK	23355	1RB#0	1000~3000	-50.29	PASS
Band14	5MHz	QPSK	23355	1RB#0	3000~10000	-39.44	PASS
Band14	5MHz	16QAM	23355	1RB#0	0.009~0.15	-72.64	PASS
Band14	5MHz	16QAM	23355	1RB#0	0.15~30	-74.20	PASS
Band14	5MHz	16QAM	23355	1RB#0	30~1000	-64.81	PASS
Band14	5MHz	16QAM	23355	1RB#0	1000~3000	-50.43	PASS
Band14	5MHz	16QAM	23355	1RB#0	3000~10000	-39.26	PASS
Band14	10MHz	QPSK	23330	1RB#0	0.009~0.15	-70.82	PASS
Band14	10MHz	QPSK	23330	1RB#0	0.15~30	-74.72	PASS
Band14	10MHz	QPSK	23330	1RB#0	30~1000	-64.90	PASS
Band14	10MHz	QPSK	23330	1RB#0	1000~3000	-50.34	PASS
Band14	10MHz	QPSK	23330	1RB#0	3000~10000	-39.27	PASS

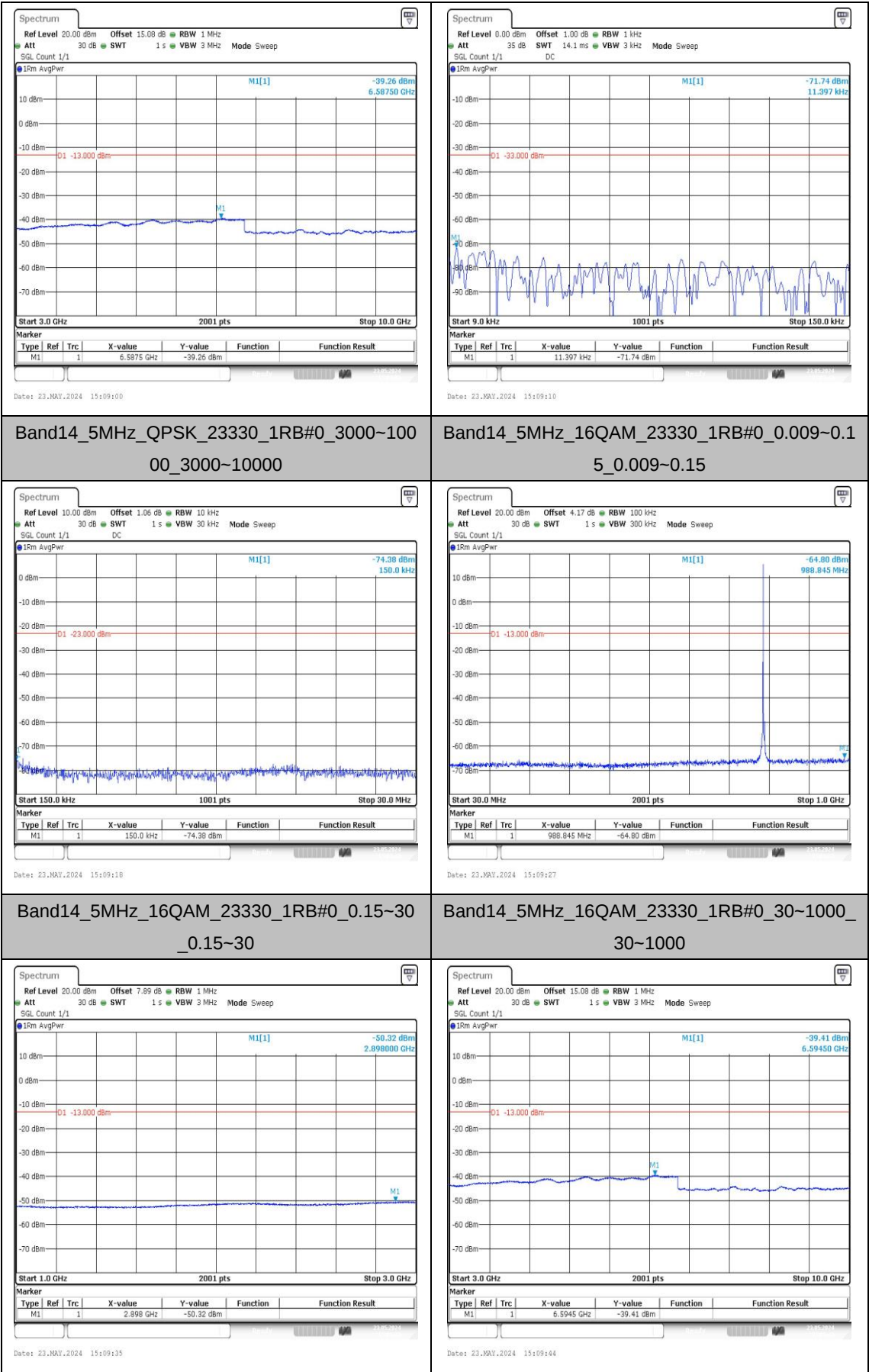
Band14	10MHz	16QAM	23330	1RB#0	0.009~0.15	-70.99	PASS
Band14	10MHz	16QAM	23330	1RB#0	0.15~30	-75.55	PASS
Band14	10MHz	16QAM	23330	1RB#0	30~1000	-64.60	PASS
Band14	10MHz	16QAM	23330	1RB#0	1000~3000	-50.34	PASS
Band14	10MHz	16QAM	23330	1RB#0	3000~10000	-39.25	PASS

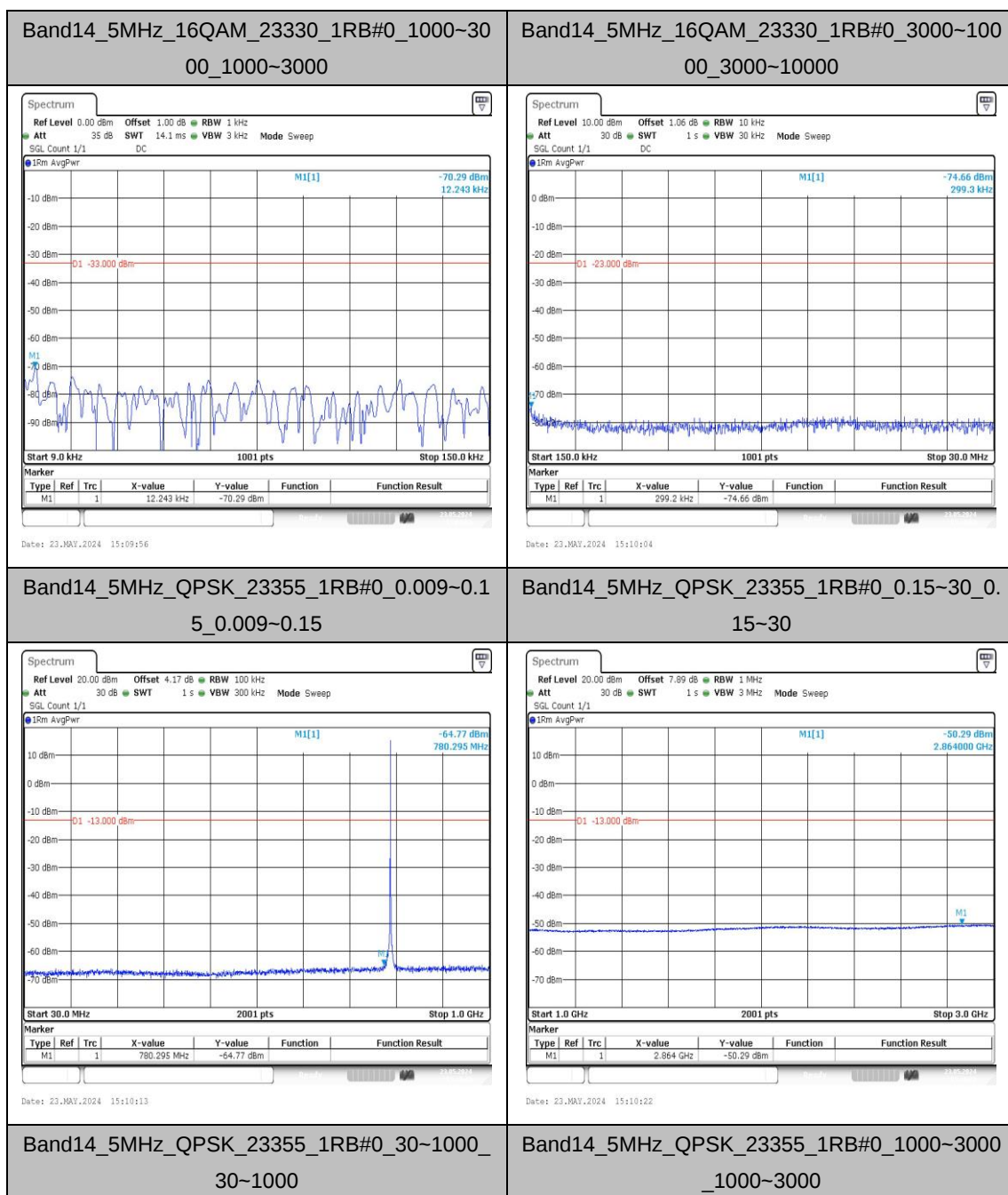
Test Graphs

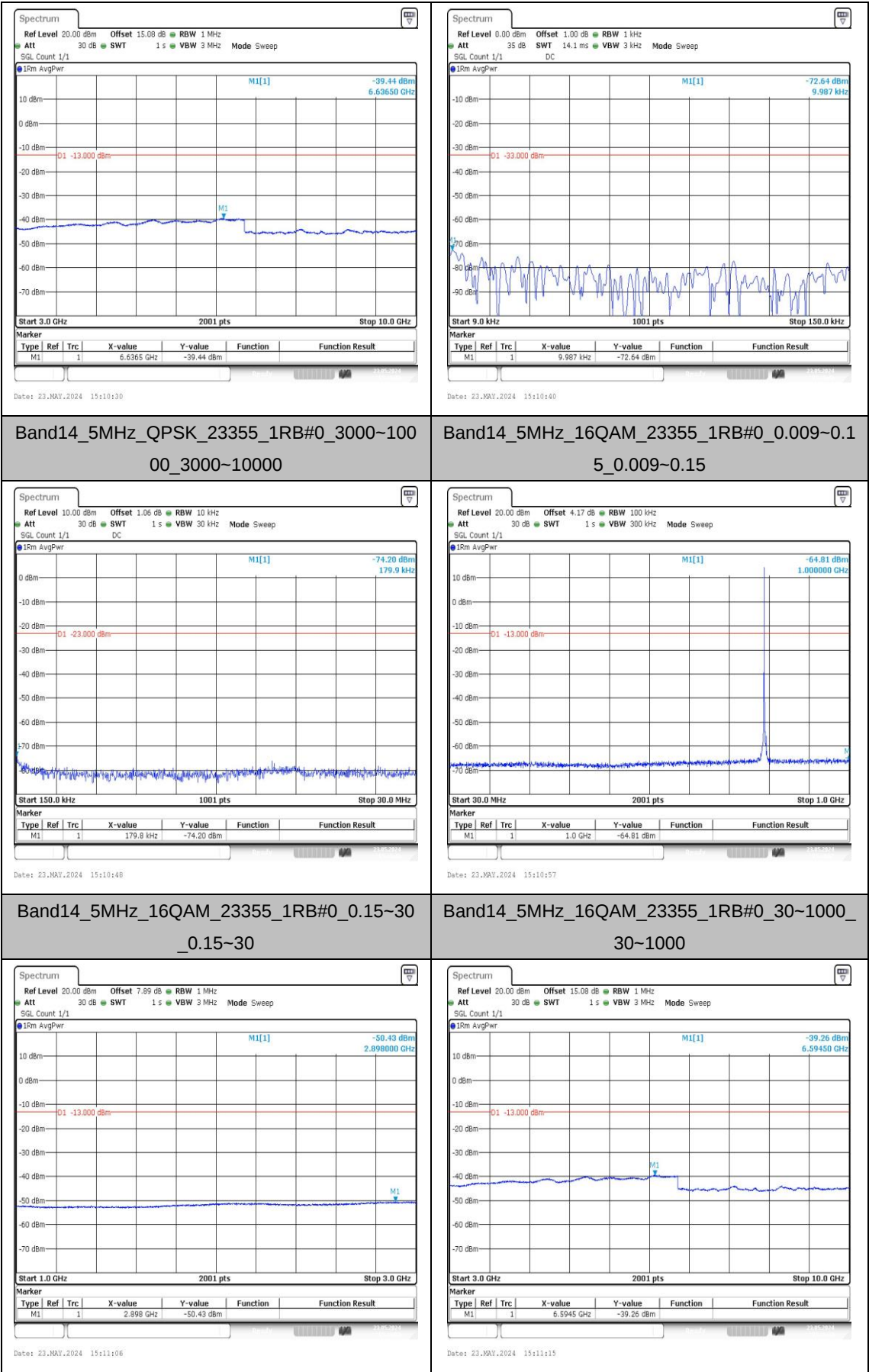


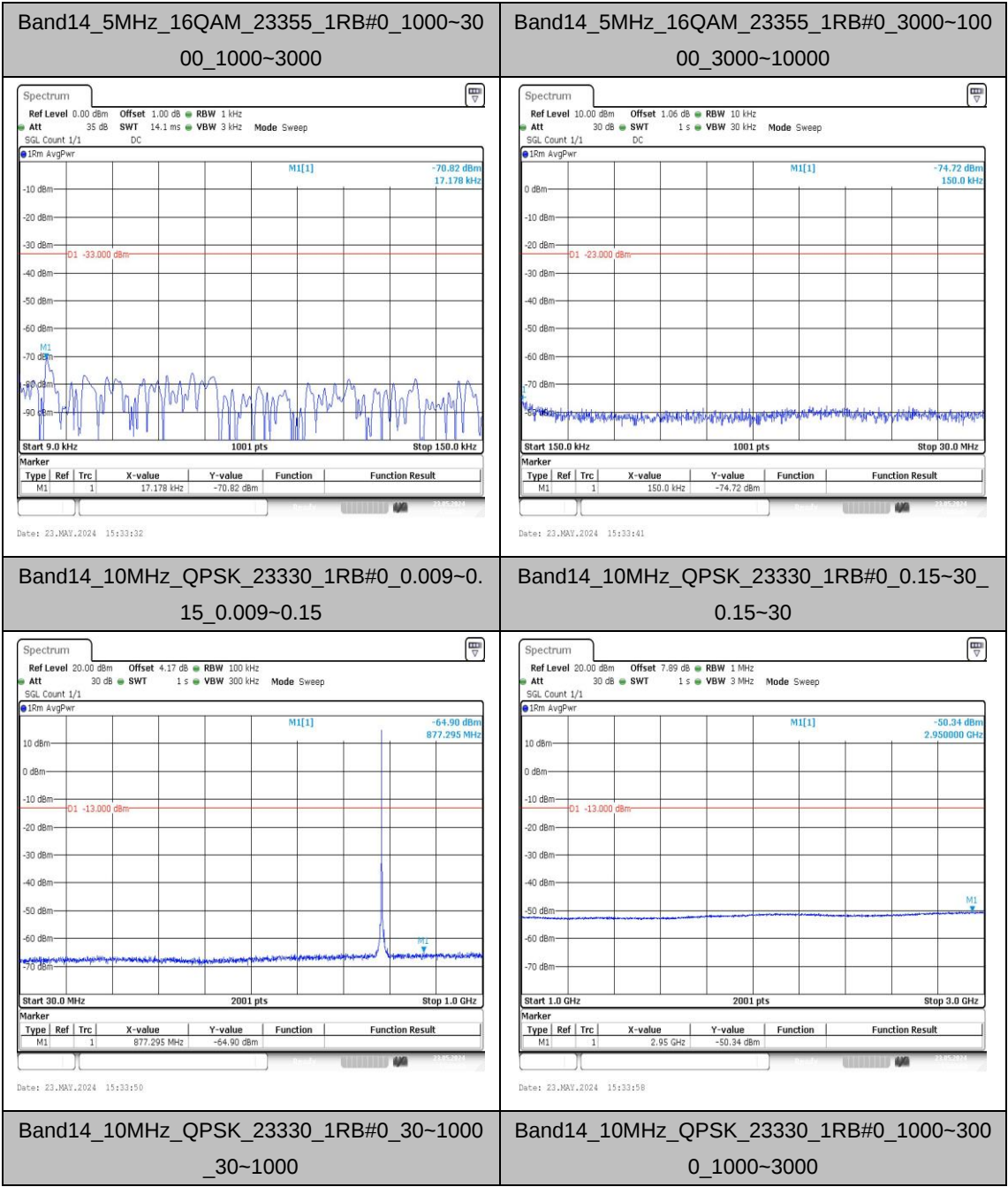


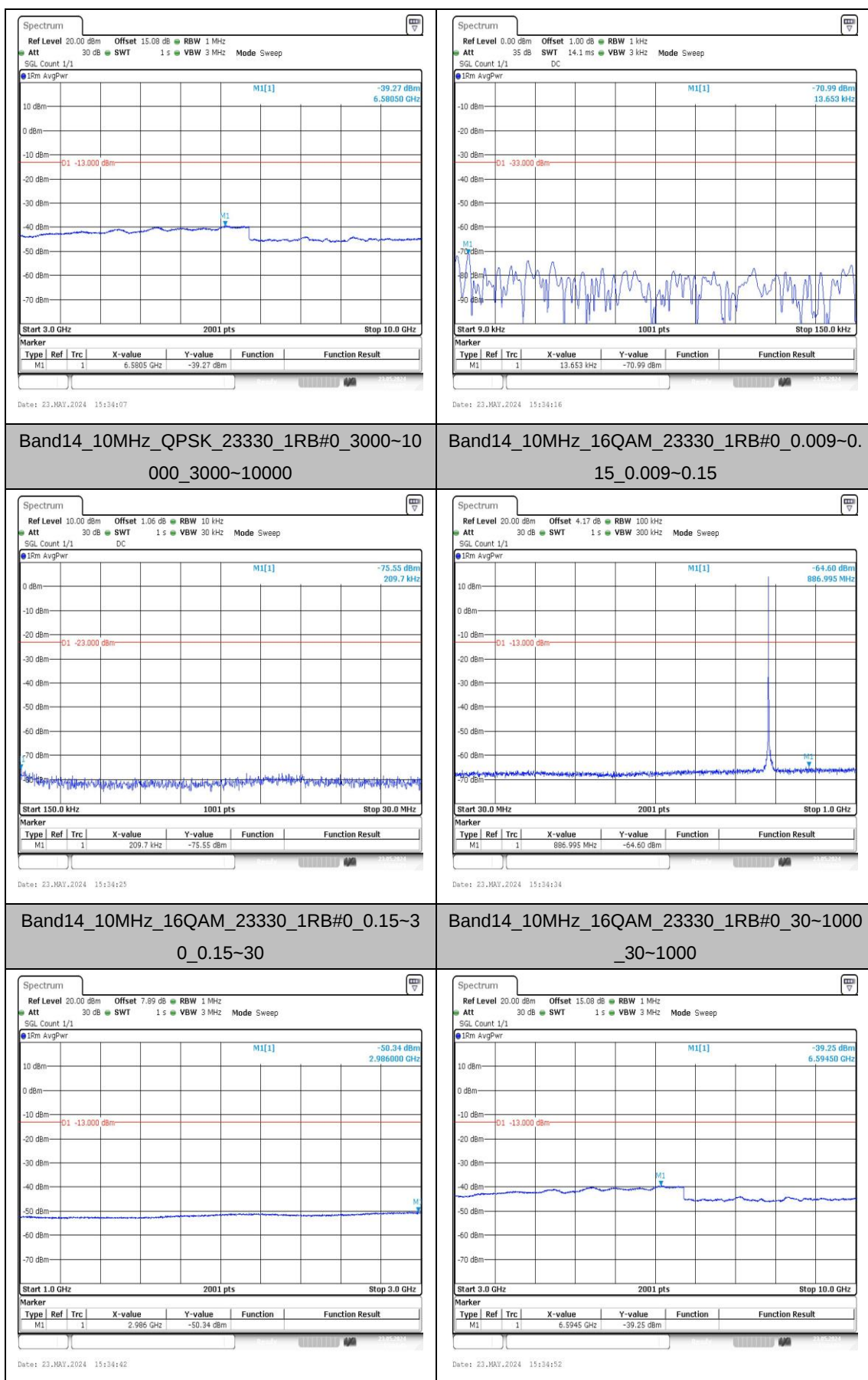












Band14_10MHz_16QAM_23330_1RB#0_1000~3000_1000~3000	Band14_10MHz_16QAM_23330_1RB#0_3000~10000_3000~10000
--	--

Appendix F: Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	5MHz	QPSK	23305	25RB#0	VN	NT	-2.92	-0.003694	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	VL	NT	-3.22	-0.004073	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	VH	NT	-4.86	-0.006148	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	VN	NT	-3.66	-0.004630	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	VL	NT	11.03	0.013953	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	VH	NT	-2.76	-0.003491	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	VN	NT	13.15	0.016583	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	VL	NT	-2.93	-0.003695	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	VH	NT	-2.22	-0.002799	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	VN	NT	-2.62	-0.003304	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	VL	NT	10.74	0.013544	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	VH	NT	4.09	0.005158	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	VN	NT	3.10	0.003897	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	VL	NT	12.73	0.016003	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	VH	NT	-7.62	-0.009579	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	VN	NT	1.87	0.002351	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	VL	NT	2.22	0.002791	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	VH	NT	2.22	0.002791	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VN	NT	-2.15	-0.002711	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VL	NT	-3.66	-0.004615	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VH	NT	-8.10	-0.010214	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VN	NT	2.15	0.002711	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VL	NT	-8.91	-0.011236	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VH	NT	-3.66	-0.004615	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	5MHz	QPSK	23305	25RB#0	NV	-30	-3.78	-0.004782	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	-20	-4.38	-0.005541	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	-10	1.63	0.002062	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	0	-2.42	-0.003061	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	10	11.19	0.014156	±2.5	PASS

Band14	5MHz	QPSK	23305	25RB#0	NV	20	-2.15	-0.002720	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	30	-2.90	-0.003669	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	40	-3.09	-0.003909	±2.5	PASS
Band14	5MHz	QPSK	23305	25RB#0	NV	50	10.01	0.012663	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	-30	-3.10	-0.003922	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	-20	10.33	0.013068	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	-10	-3.72	-0.004706	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	0	-5.15	-0.006515	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	10	-3.03	-0.003833	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	20	-4.12	-0.005212	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	30	-5.19	-0.006565	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	40	-4.13	-0.005225	±2.5	PASS
Band14	5MHz	16QAM	23305	25RB#0	NV	50	-2.72	-0.003441	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	-30	2.37	0.002989	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	-20	10.29	0.012976	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	-10	11.96	0.015082	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	0	-2.65	-0.003342	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	10	-3.05	-0.003846	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	20	14.33	0.018071	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	30	-3.20	-0.004035	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	40	1.09	0.001375	±2.5	PASS
Band14	5MHz	QPSK	23330	25RB#0	NV	50	12.73	0.016053	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	-30	-2.88	-0.003632	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	-20	-1.92	-0.002421	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	-10	-0.97	-0.001223	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	0	-2.73	-0.003443	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	10	2.72	0.003430	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	20	3.75	0.004729	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	30	3.15	0.003972	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	40	3.85	0.004855	±2.5	PASS
Band14	5MHz	16QAM	23330	25RB#0	NV	50	3.42	0.004313	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	-30	3.03	0.003809	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	-20	-8.21	-0.010321	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	-10	-2.78	-0.003495	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	0	-2.19	-0.002753	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	10	2.05	0.002577	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	20	4.22	0.005305	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	30	-10.01	-0.012583	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	40	-2.83	-0.003558	±2.5	PASS
Band14	5MHz	QPSK	23355	25RB#0	NV	50	2.76	0.003470	±2.5	PASS

Band14	5MHz	16QAM	23355	25RB#0	NV	-30	-7.78	-0.009780	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	-20	-7.22	-0.009076	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	-10	2.22	0.002791	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	0	3.96	0.004978	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	10	3.28	0.004123	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	20	2.75	0.003457	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	30	-8.10	-0.010182	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	40	-2.07	-0.002602	±2.5	PASS
Band14	5MHz	16QAM	23355	25RB#0	NV	50	3.55	0.004463	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-30	-8.73	-0.011009	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-20	-3.30	-0.004161	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-10	-1.77	-0.002232	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	0	-2.53	-0.003190	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	10	-2.80	-0.003531	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	20	1.92	0.002421	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	30	-1.04	-0.001311	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	40	1.69	0.002131	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	50	-7.61	-0.009596	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-30	1.70	0.002144	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-20	-9.81	-0.012371	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-10	-1.70	-0.002144	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	0	-7.72	-0.009735	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	10	-7.87	-0.009924	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	20	1.96	0.002472	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	30	-8.65	-0.010908	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	40	-0.99	-0.001248	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	50	-1.79	-0.002257	±2.5	PASS