

Appendix for LTE Band 30

Product Name: TITAN 5400

Model No: G5G-X62O

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band30	5MHz	QPSK	27685	1RB#0	20.28	PASS
Band30	5MHz	QPSK	27685	1RB#12	20.39	PASS
Band30	5MHz	QPSK	27685	1RB#24	20.39	PASS
Band30	5MHz	QPSK	27685	12RB#0	18.95	PASS
Band30	5MHz	QPSK	27685	12RB#6	18.97	PASS
Band30	5MHz	QPSK	27685	12RB#13	18.94	PASS
Band30	5MHz	QPSK	27685	25RB#0	18.35	PASS
Band30	5MHz	16QAM	27685	1RB#0	19.36	PASS
Band30	5MHz	16QAM	27685	1RB#12	19.66	PASS
Band30	5MHz	16QAM	27685	1RB#24	19.59	PASS
Band30	5MHz	16QAM	27685	12RB#0	19.10	PASS
Band30	5MHz	16QAM	27685	12RB#6	19.02	PASS
Band30	5MHz	16QAM	27685	12RB#13	19.13	PASS
Band30	5MHz	16QAM	27685	25RB#0	17.43	PASS
Band30	5MHz	QPSK	27710	1RB#0	20.51	PASS
Band30	5MHz	QPSK	27710	1RB#12	20.50	PASS
Band30	5MHz	QPSK	27710	1RB#24	20.47	PASS
Band30	5MHz	QPSK	27710	12RB#0	19.94	PASS
Band30	5MHz	QPSK	27710	12RB#6	19.93	PASS
Band30	5MHz	QPSK	27710	12RB#13	19.98	PASS
Band30	5MHz	QPSK	27710	25RB#0	19.35	PASS
Band30	5MHz	16QAM	27710	1RB#0	19.71	PASS
Band30	5MHz	16QAM	27710	1RB#12	19.60	PASS
Band30	5MHz	16QAM	27710	1RB#24	19.52	PASS
Band30	5MHz	16QAM	27710	12RB#0	19.08	PASS
Band30	5MHz	16QAM	27710	12RB#6	19.06	PASS
Band30	5MHz	16QAM	27710	12RB#13	19.12	PASS
Band30	5MHz	16QAM	27710	25RB#0	19.44	PASS
Band30	5MHz	QPSK	27735	1RB#0	20.45	PASS
Band30	5MHz	QPSK	27735	1RB#12	20.44	PASS
Band30	5MHz	QPSK	27735	1RB#24	20.65	PASS
Band30	5MHz	QPSK	27735	12RB#0	19.99	PASS
Band30	5MHz	QPSK	27735	12RB#6	19.98	PASS
Band30	5MHz	QPSK	27735	12RB#13	19.89	PASS
Band30	5MHz	QPSK	27735	25RB#0	19.41	PASS

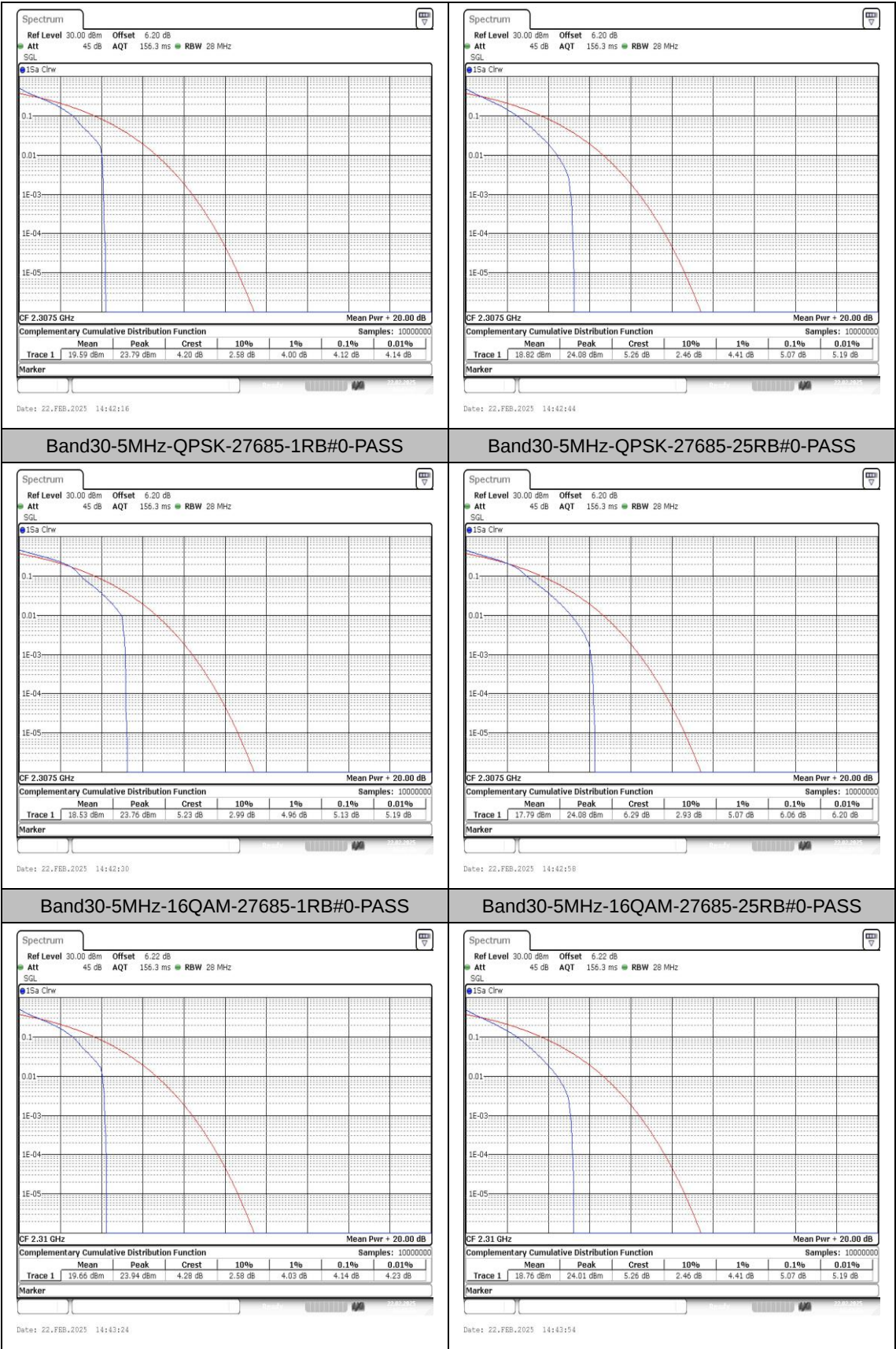
Band30	5MHz	16QAM	27735	1RB#0	19.87	PASS
Band30	5MHz	16QAM	27735	1RB#12	19.71	PASS
Band30	5MHz	16QAM	27735	1RB#24	19.50	PASS
Band30	5MHz	16QAM	27735	12RB#0	18.10	PASS
Band30	5MHz	16QAM	27735	12RB#6	19.17	PASS
Band30	5MHz	16QAM	27735	12RB#13	19.06	PASS
Band30	5MHz	16QAM	27735	25RB#0	19.48	PASS
Band30	10MHz	QPSK	27710	1RB#0	20.37	PASS
Band30	10MHz	QPSK	27710	1RB#24	20.60	PASS
Band30	10MHz	QPSK	27710	1RB#49	20.63	PASS
Band30	10MHz	QPSK	27710	25RB#0	19.37	PASS
Band30	10MHz	QPSK	27710	25RB#12	19.34	PASS
Band30	10MHz	QPSK	27710	25RB#25	19.35	PASS
Band30	10MHz	QPSK	27710	50RB#0	19.63	PASS
Band30	10MHz	16QAM	27710	1RB#0	19.64	PASS
Band30	10MHz	16QAM	27710	1RB#24	19.80	PASS
Band30	10MHz	16QAM	27710	1RB#49	19.83	PASS
Band30	10MHz	16QAM	27710	25RB#0	19.46	PASS
Band30	10MHz	16QAM	27710	25RB#12	19.48	PASS
Band30	10MHz	16QAM	27710	25RB#25	19.41	PASS
Band30	10MHz	16QAM	27710	50RB#0	19.76	PASS

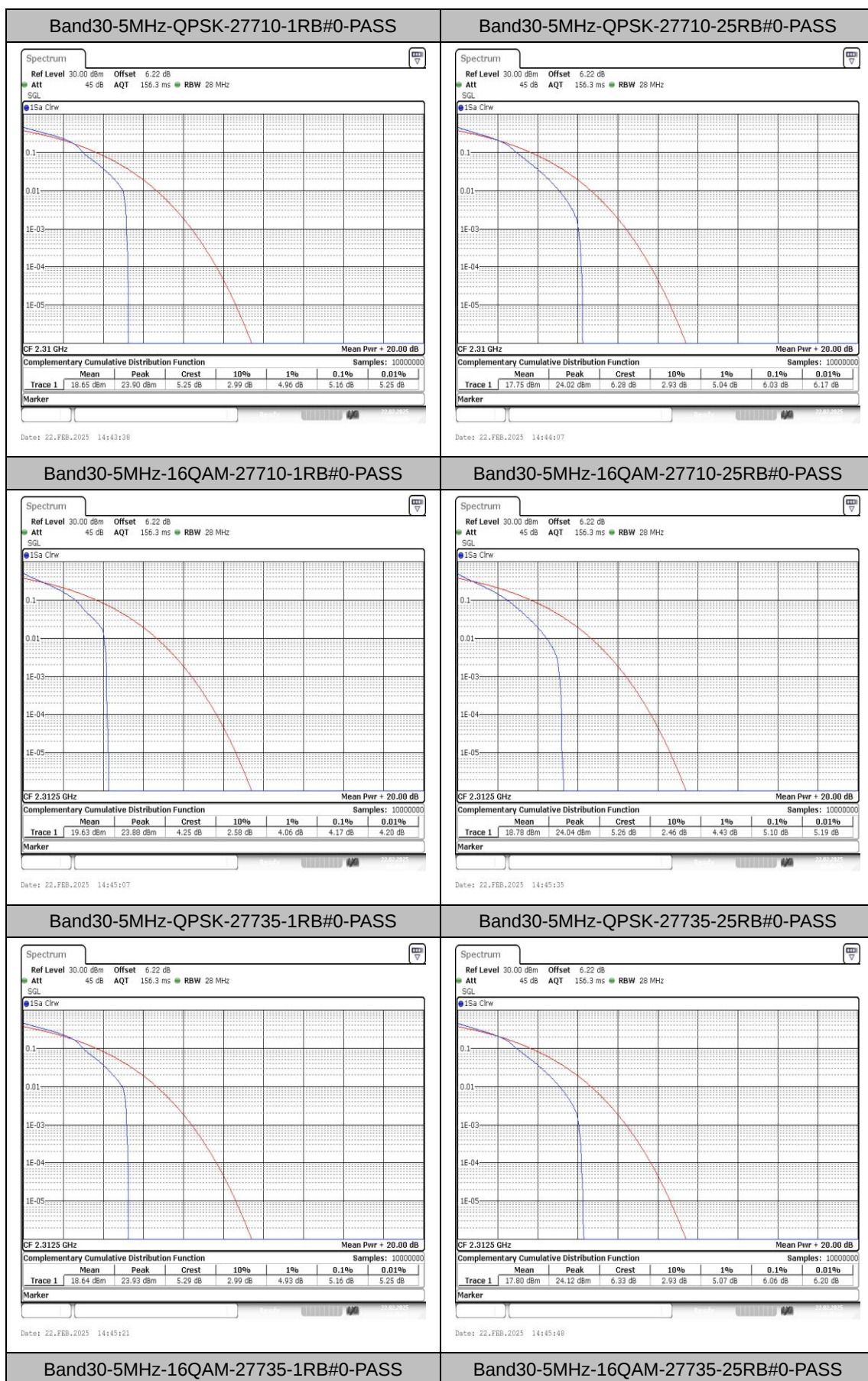
Appendix B: Peak-to-Average Ratio(CCDF)

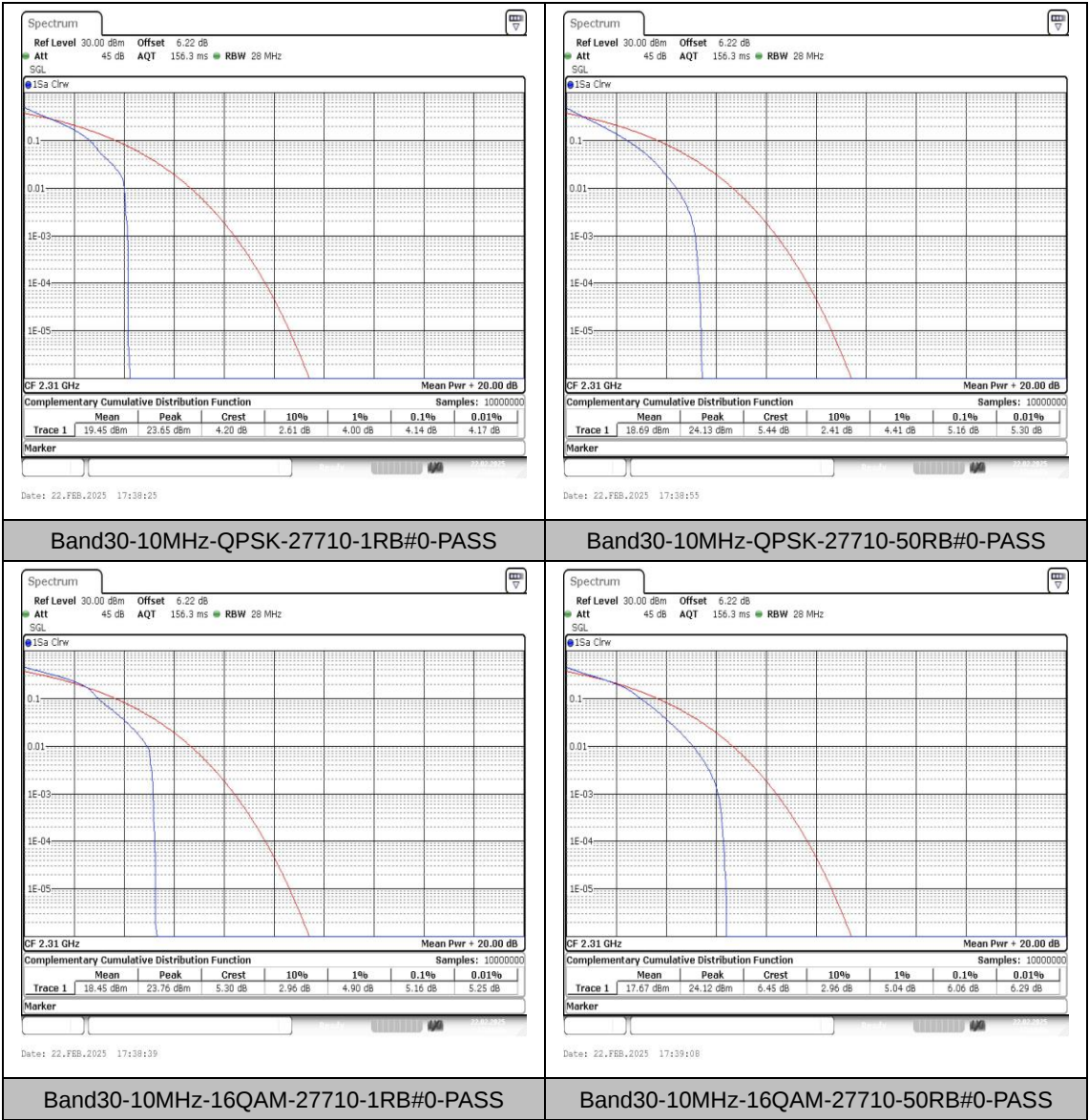
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band30	5MHz	QPSK	27685	1RB#0	4.12	13	PASS
Band30	5MHz	QPSK	27685	25RB#0	5.07	13	PASS
Band30	5MHz	16QAM	27685	1RB#0	5.13	13	PASS
Band30	5MHz	16QAM	27685	25RB#0	6.06	13	PASS
Band30	5MHz	QPSK	27710	1RB#0	4.14	13	PASS
Band30	5MHz	QPSK	27710	25RB#0	5.07	13	PASS
Band30	5MHz	16QAM	27710	1RB#0	5.16	13	PASS
Band30	5MHz	16QAM	27710	25RB#0	6.03	13	PASS
Band30	5MHz	QPSK	27735	1RB#0	4.17	13	PASS
Band30	5MHz	QPSK	27735	25RB#0	5.10	13	PASS
Band30	5MHz	16QAM	27735	1RB#0	5.16	13	PASS
Band30	5MHz	16QAM	27735	25RB#0	6.06	13	PASS
Band30	10MHz	QPSK	27710	1RB#0	4.14	13	PASS
Band30	10MHz	QPSK	27710	50RB#0	5.16	13	PASS
Band30	10MHz	16QAM	27710	1RB#0	5.16	13	PASS
Band30	10MHz	16QAM	27710	50RB#0	6.06	13	PASS

Test Graphs





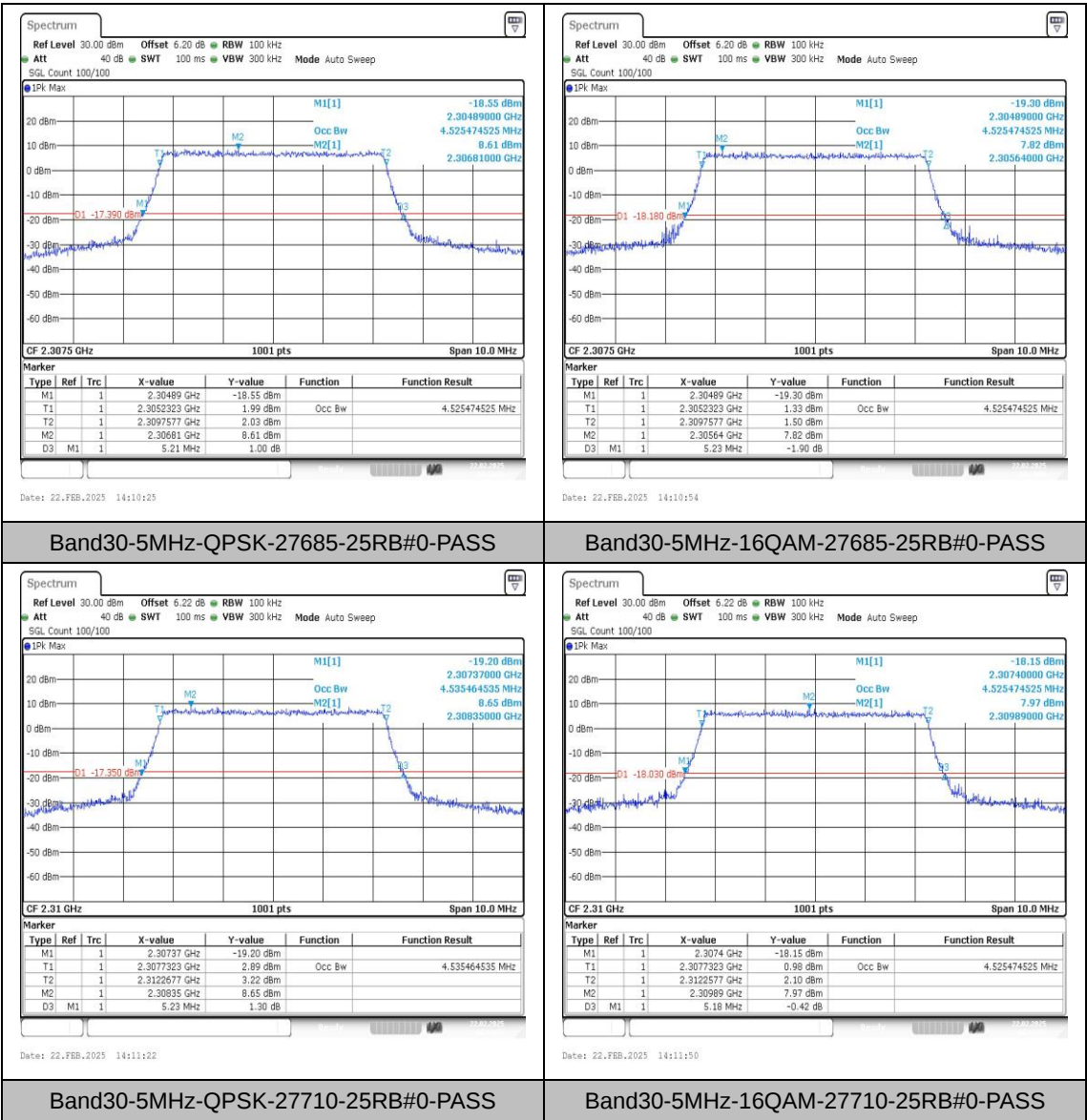


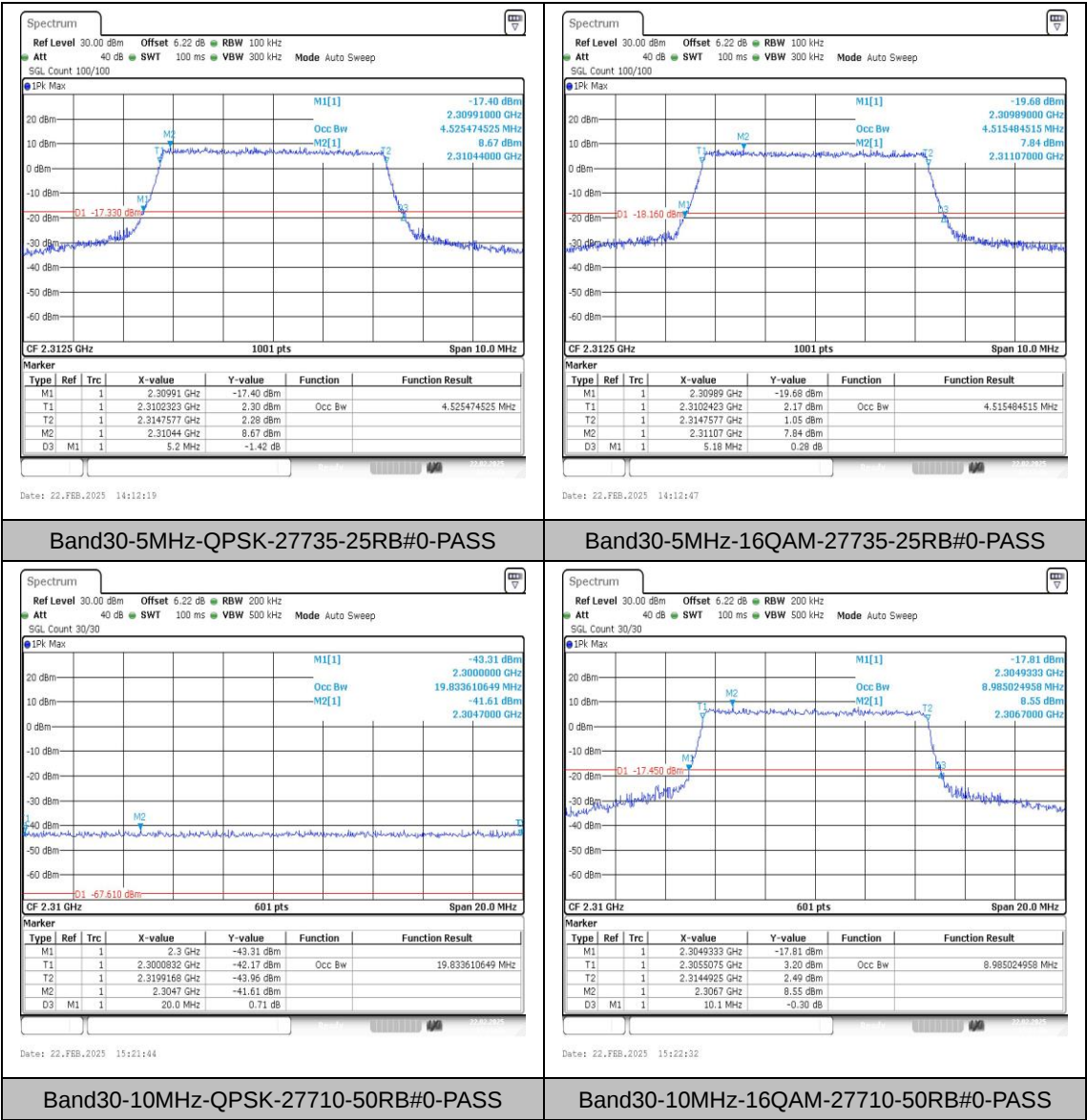
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band30	5MHz	QPSK	27685	25RB#0	4.525	5.21	PASS
Band30	5MHz	16QAM	27685	25RB#0	4.525	5.23	PASS
Band30	5MHz	QPSK	27710	25RB#0	4.535	5.23	PASS
Band30	5MHz	16QAM	27710	25RB#0	4.525	5.18	PASS
Band30	5MHz	QPSK	27735	25RB#0	4.525	5.20	PASS
Band30	5MHz	16QAM	27735	25RB#0	4.515	5.18	PASS
Band30	10MHz	QPSK	27710	50RB#0	19.834	20.00	PASS
Band30	10MHz	16QAM	27710	50RB#0	8.985	10.10	PASS

Test Graphs



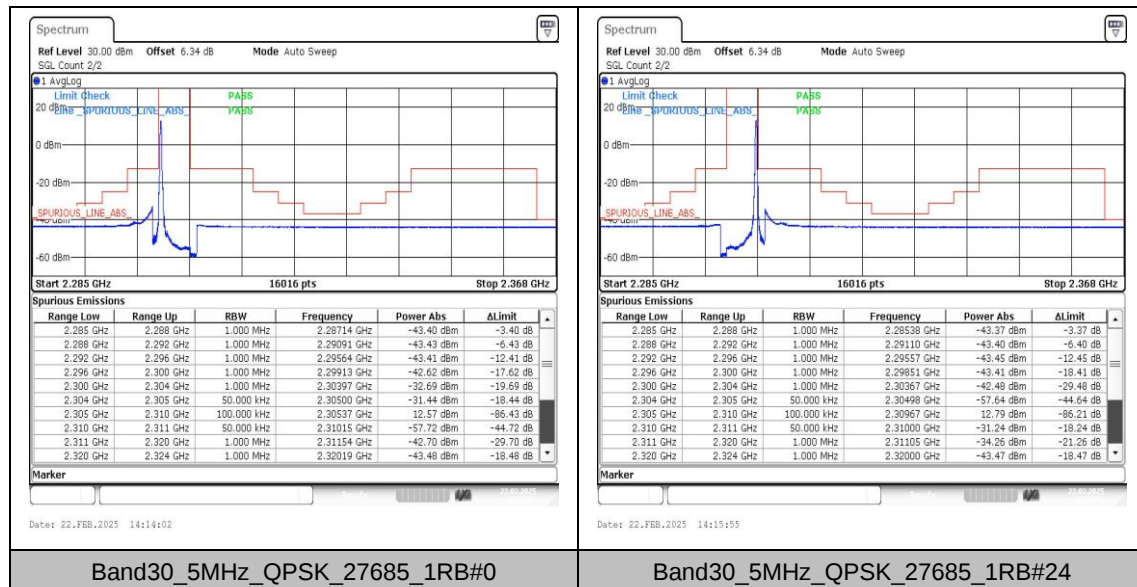


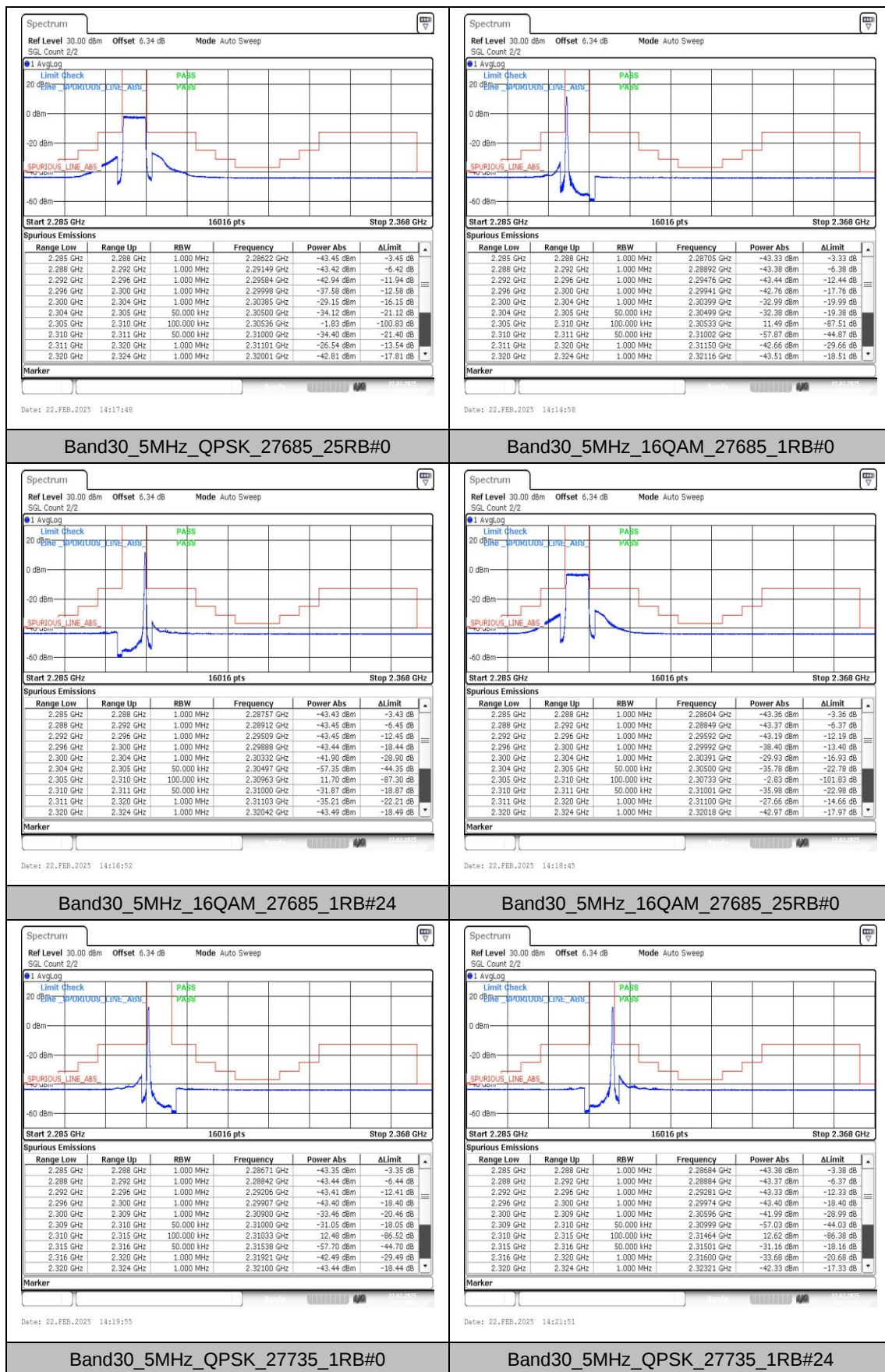
Appendix D: Band Edge

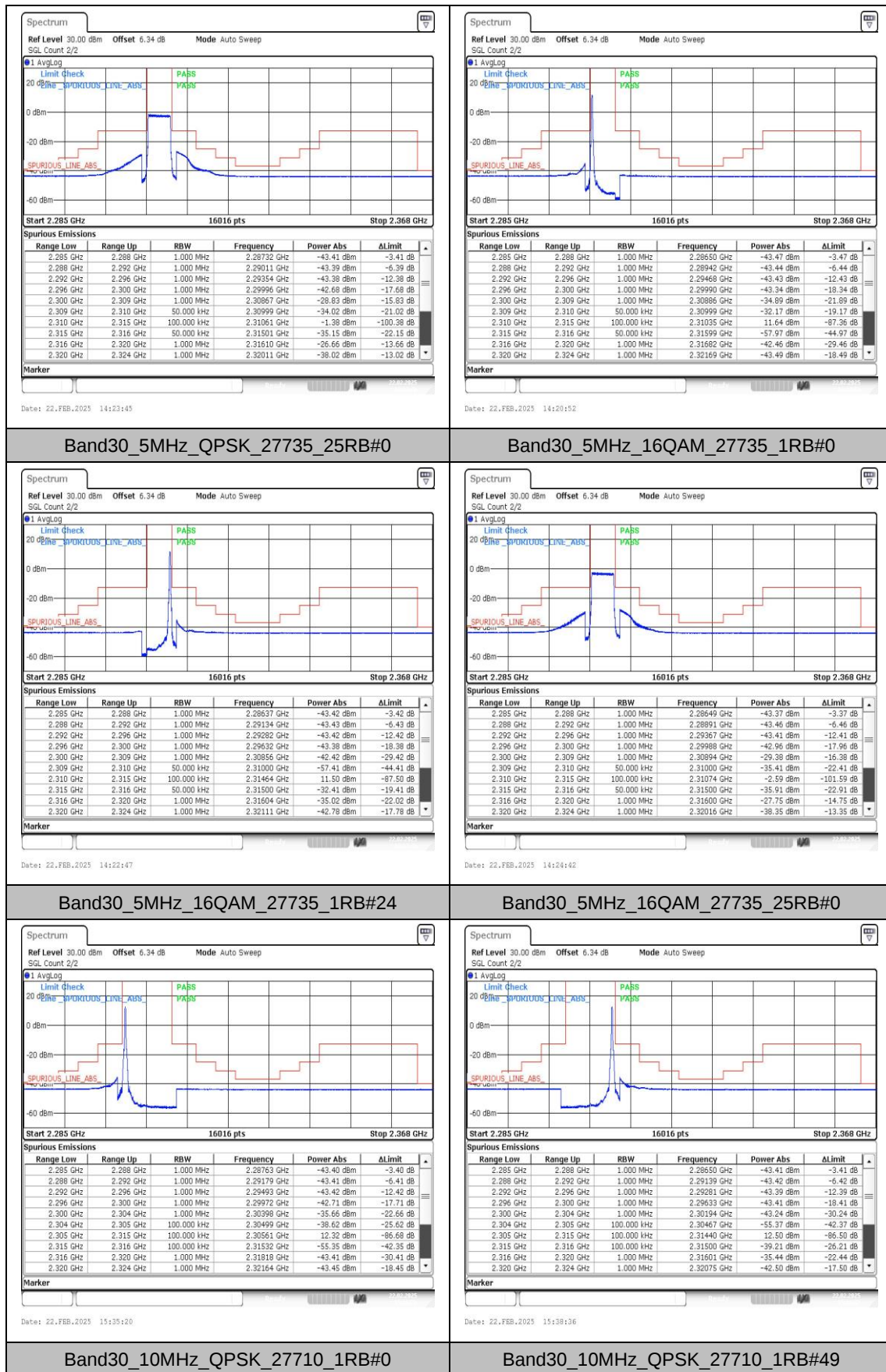
Test Result

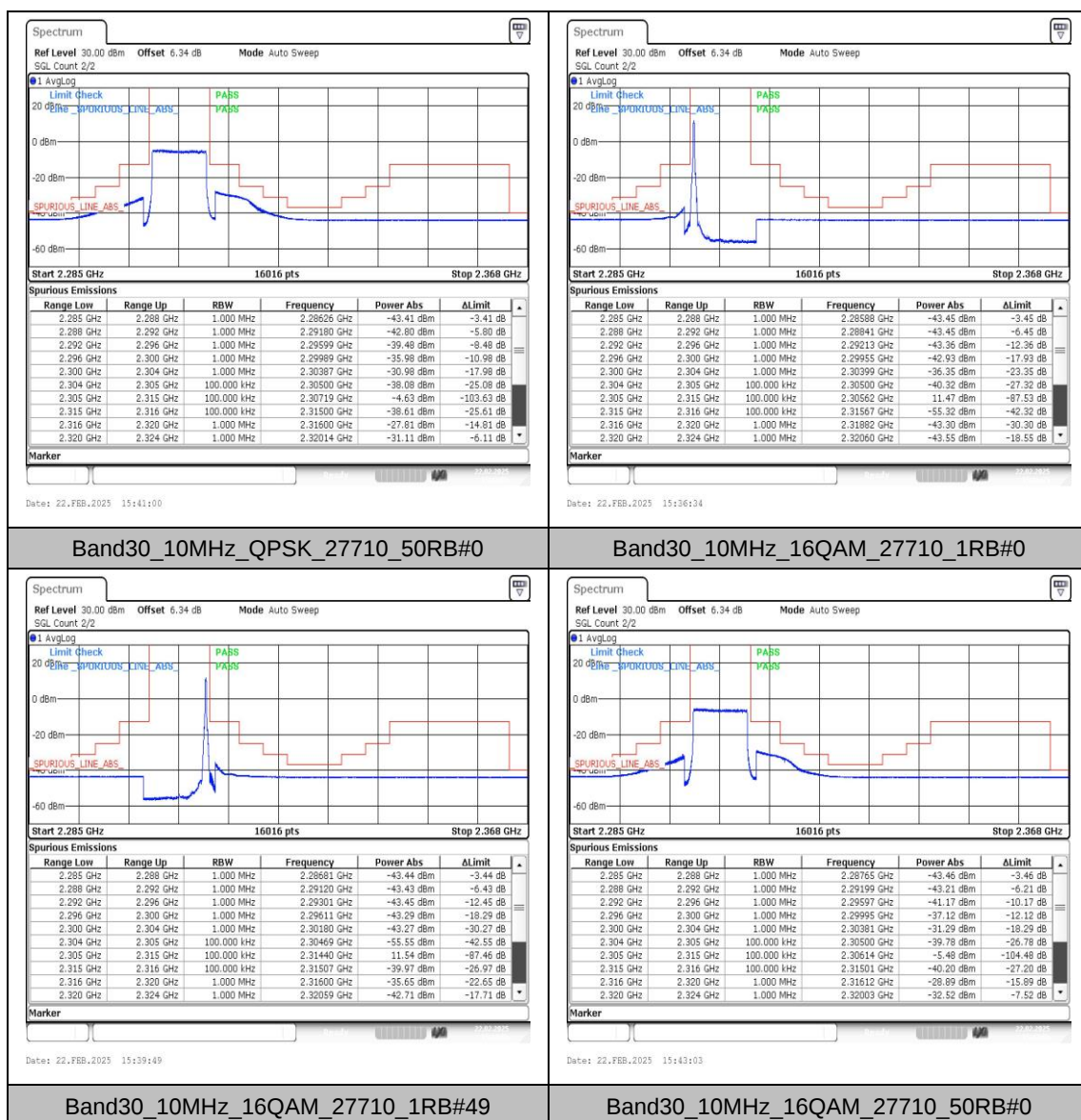
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band30	5MHz	QPSK	27685	1RB#0	-43.40	PASS
Band30	5MHz	QPSK	27685	1RB#24	-43.37	PASS
Band30	5MHz	QPSK	27685	25RB#0	-43.45	PASS
Band30	5MHz	16QAM	27685	1RB#0	-43.33	PASS
Band30	5MHz	16QAM	27685	1RB#24	-43.43	PASS
Band30	5MHz	16QAM	27685	25RB#0	-43.36	PASS
Band30	5MHz	QPSK	27735	1RB#0	-43.35	PASS
Band30	5MHz	QPSK	27735	1RB#24	-43.38	PASS
Band30	5MHz	QPSK	27735	25RB#0	-43.41	PASS
Band30	5MHz	16QAM	27735	1RB#0	-43.47	PASS
Band30	5MHz	16QAM	27735	1RB#24	-43.42	PASS
Band30	5MHz	16QAM	27735	25RB#0	-43.37	PASS
Band30	10MHz	QPSK	27710	1RB#0	-43.40	PASS
Band30	10MHz	QPSK	27710	1RB#49	-43.41	PASS
Band30	10MHz	QPSK	27710	50RB#0	-43.41	PASS
Band30	10MHz	16QAM	27710	1RB#0	-43.45	PASS
Band30	10MHz	16QAM	27710	1RB#49	-43.44	PASS
Band30	10MHz	16QAM	27710	50RB#0	-43.46	PASS

Test Graphs









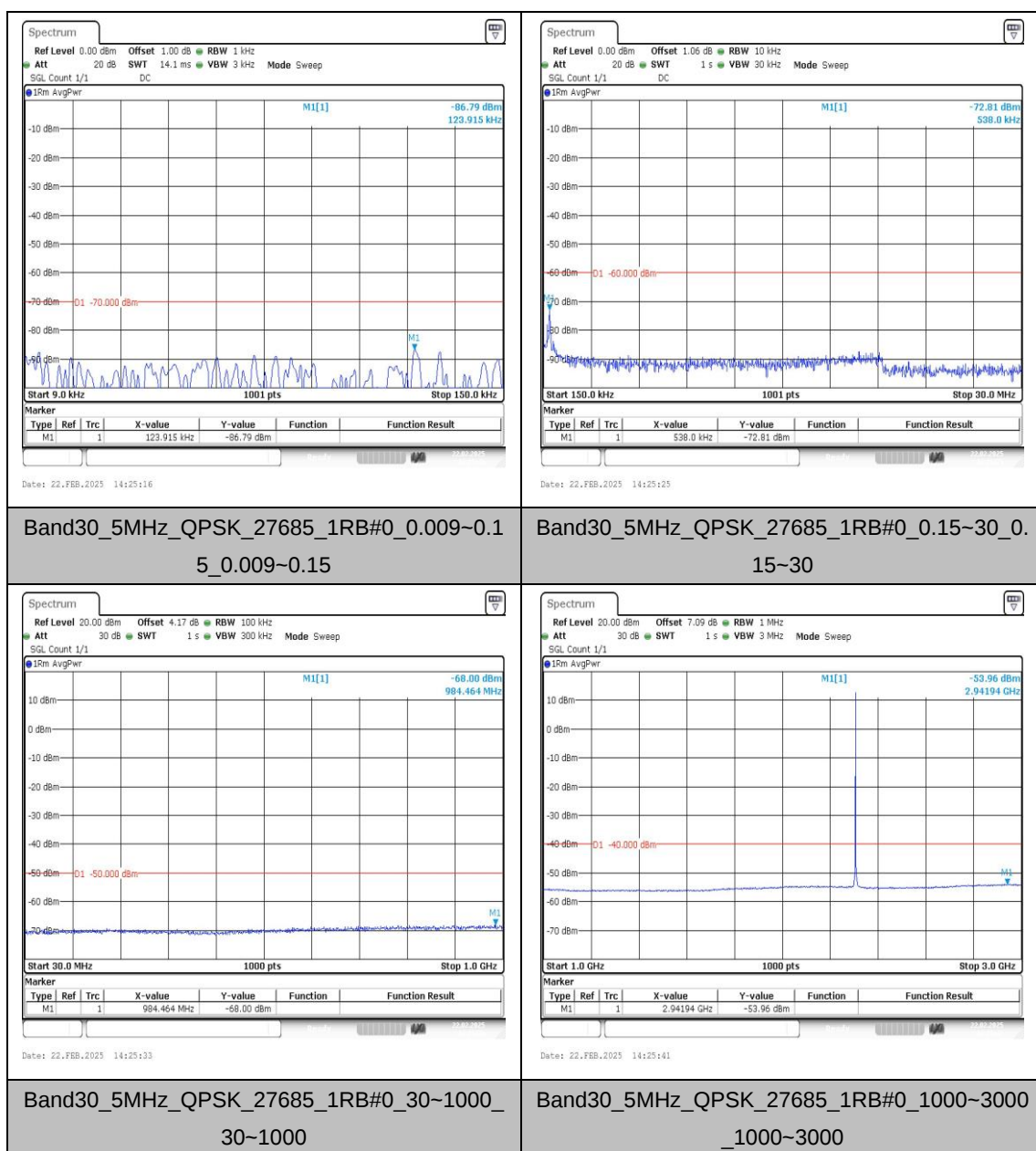
Appendix E: Conducted Spurious Emission

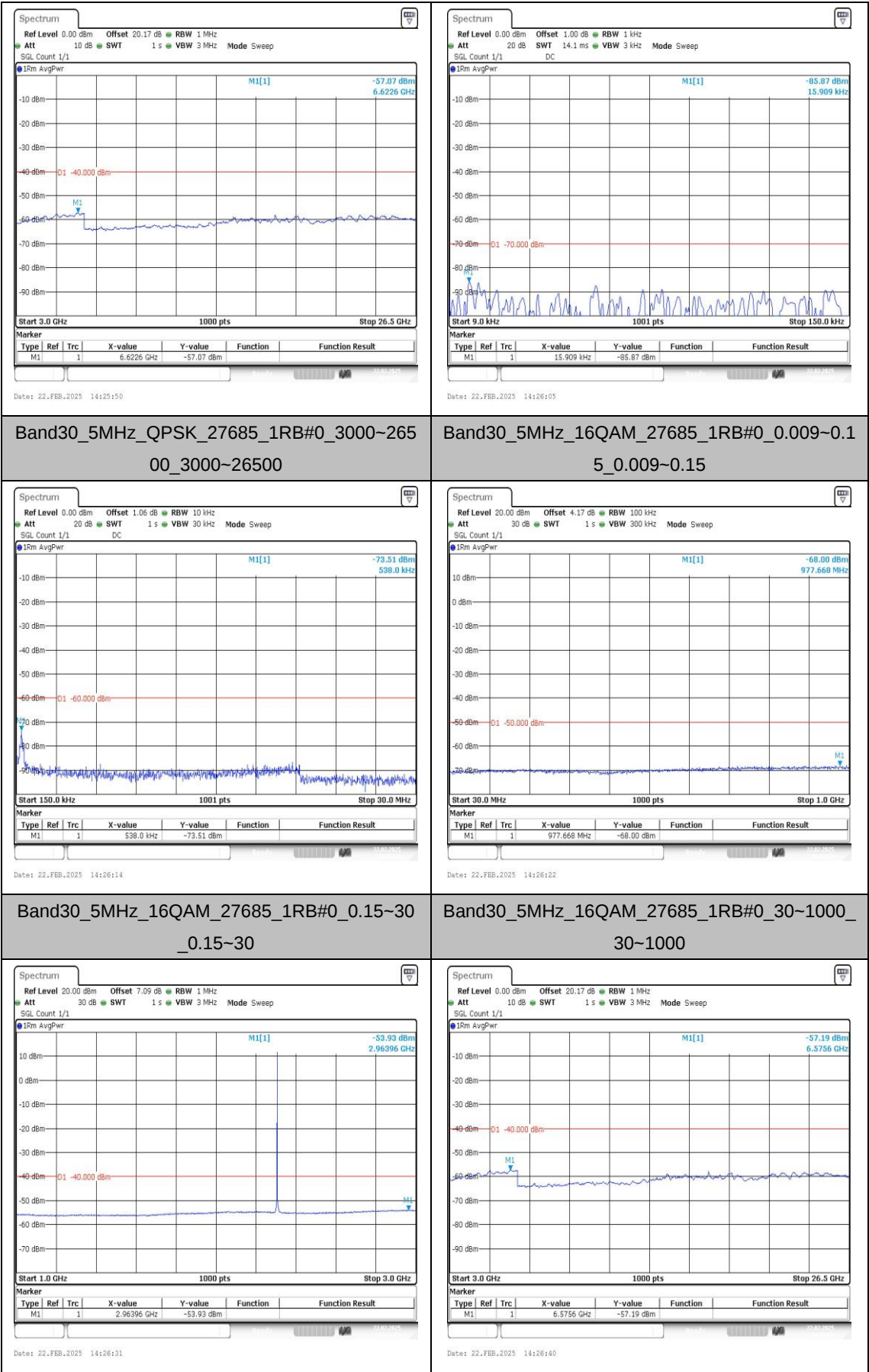
Test Result

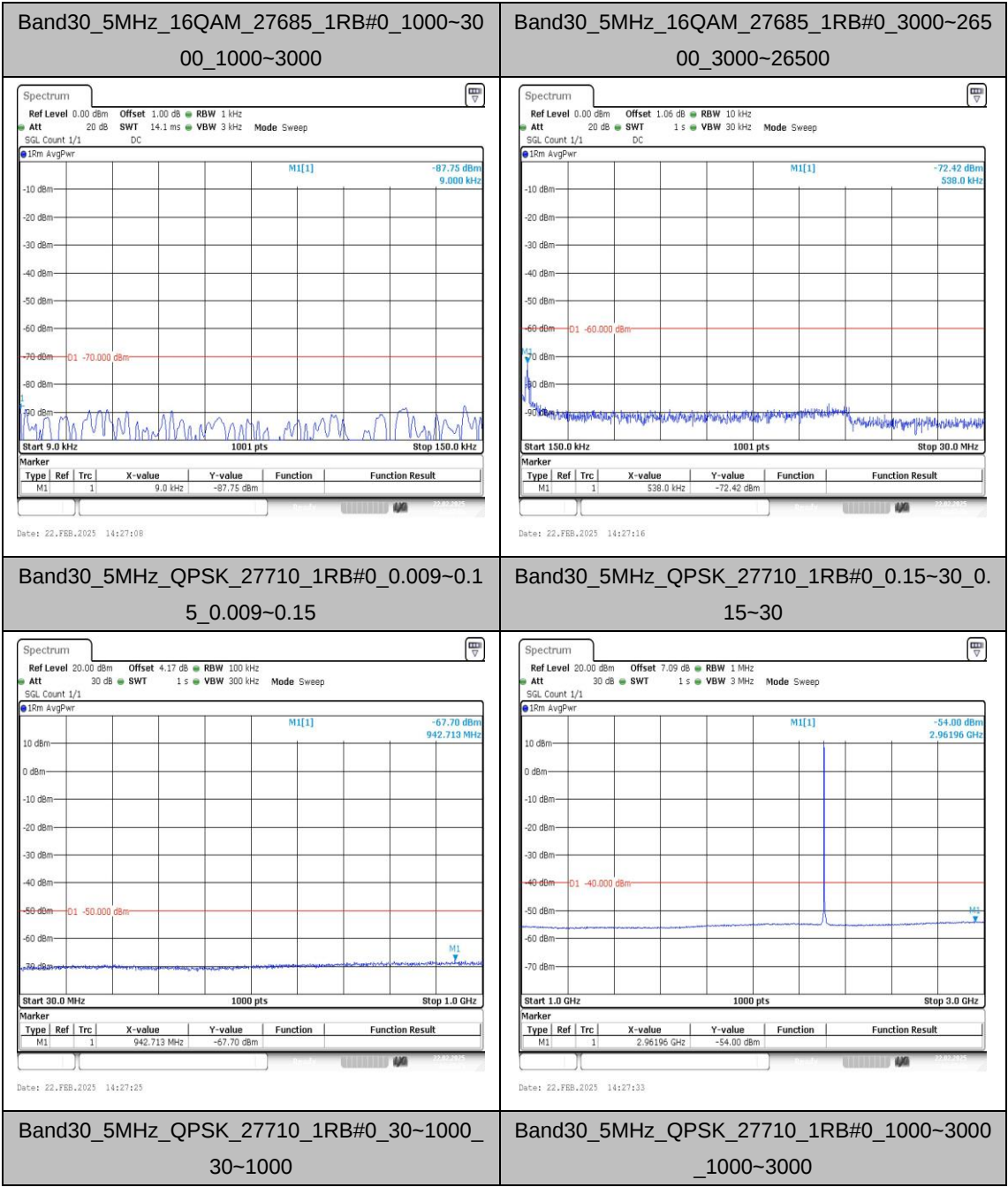
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band30	5MHz	QPSK	27685	1RB#0	0.009~0.15	-86.79	PASS
Band30	5MHz	QPSK	27685	1RB#0	0.15~30	-72.81	PASS
Band30	5MHz	QPSK	27685	1RB#0	30~1000	-68.00	PASS
Band30	5MHz	QPSK	27685	1RB#0	1000~3000	-53.96	PASS
Band30	5MHz	QPSK	27685	1RB#0	3000~26500	-57.07	PASS
Band30	5MHz	16QAM	27685	1RB#0	0.009~0.15	-85.87	PASS
Band30	5MHz	16QAM	27685	1RB#0	0.15~30	-73.51	PASS
Band30	5MHz	16QAM	27685	1RB#0	30~1000	-68.00	PASS
Band30	5MHz	16QAM	27685	1RB#0	1000~3000	-53.93	PASS
Band30	5MHz	16QAM	27685	1RB#0	3000~26500	-57.19	PASS
Band30	5MHz	QPSK	27710	1RB#0	0.009~0.15	-87.75	PASS
Band30	5MHz	QPSK	27710	1RB#0	0.15~30	-72.42	PASS
Band30	5MHz	QPSK	27710	1RB#0	30~1000	-67.70	PASS
Band30	5MHz	QPSK	27710	1RB#0	1000~3000	-54.00	PASS
Band30	5MHz	QPSK	27710	1RB#0	3000~26500	-57.17	PASS
Band30	5MHz	16QAM	27710	1RB#0	0.009~0.15	-86.00	PASS
Band30	5MHz	16QAM	27710	1RB#0	0.15~30	-74.60	PASS
Band30	5MHz	16QAM	27710	1RB#0	30~1000	-68.13	PASS
Band30	5MHz	16QAM	27710	1RB#0	1000~3000	-53.96	PASS
Band30	5MHz	16QAM	27710	1RB#0	3000~26500	-57.25	PASS
Band30	5MHz	QPSK	27735	1RB#0	0.009~0.15	-86.20	PASS
Band30	5MHz	QPSK	27735	1RB#0	0.15~30	-71.24	PASS
Band30	5MHz	QPSK	27735	1RB#0	30~1000	-68.27	PASS
Band30	5MHz	QPSK	27735	1RB#0	1000~3000	-53.90	PASS
Band30	5MHz	QPSK	27735	1RB#0	3000~26500	-57.28	PASS
Band30	5MHz	16QAM	27735	1RB#0	0.009~0.15	-85.23	PASS
Band30	5MHz	16QAM	27735	1RB#0	0.15~30	-73.09	PASS
Band30	5MHz	16QAM	27735	1RB#0	30~1000	-68.19	PASS
Band30	5MHz	16QAM	27735	1RB#0	1000~3000	-54.00	PASS
Band30	5MHz	16QAM	27735	1RB#0	3000~26500	-57.21	PASS
Band30	10MHz	QPSK	27710	1RB#0	0.009~0.15	-85.22	PASS
Band30	10MHz	QPSK	27710	1RB#0	0.15~30	-70.41	PASS
Band30	10MHz	QPSK	27710	1RB#0	30~1000	-68.18	PASS
Band30	10MHz	QPSK	27710	1RB#0	1000~3000	-53.93	PASS
Band30	10MHz	QPSK	27710	1RB#0	3000~26500	-57.26	PASS

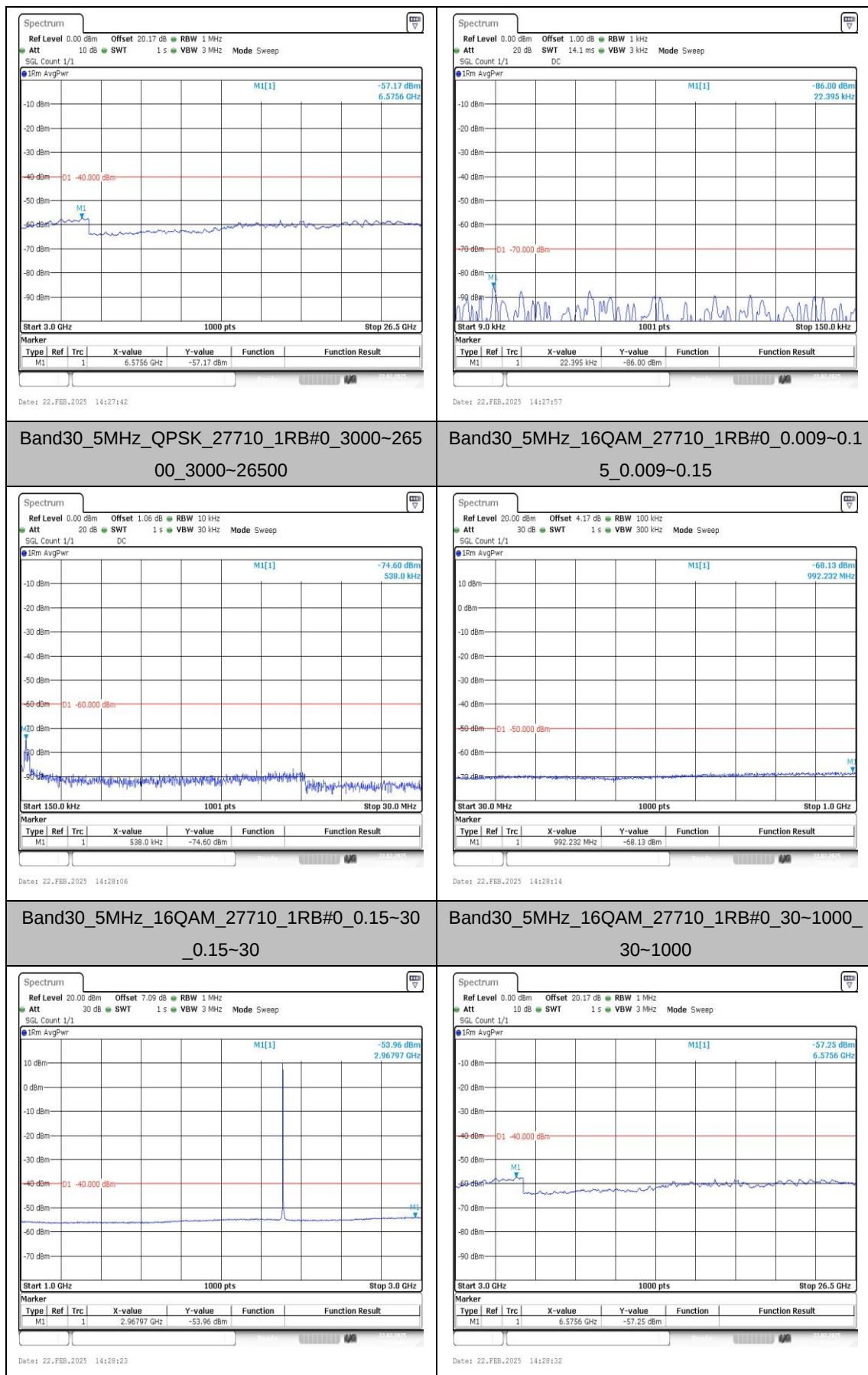
Band30	10MHz	16QAM	27710	1RB#0	0.009~0.15	-84.72	PASS
Band30	10MHz	16QAM	27710	1RB#0	0.15~30	-72.43	PASS
Band30	10MHz	16QAM	27710	1RB#0	30~1000	-68.02	PASS
Band30	10MHz	16QAM	27710	1RB#0	1000~3000	-53.99	PASS
Band30	10MHz	16QAM	27710	1RB#0	3000~26500	-57.25	PASS

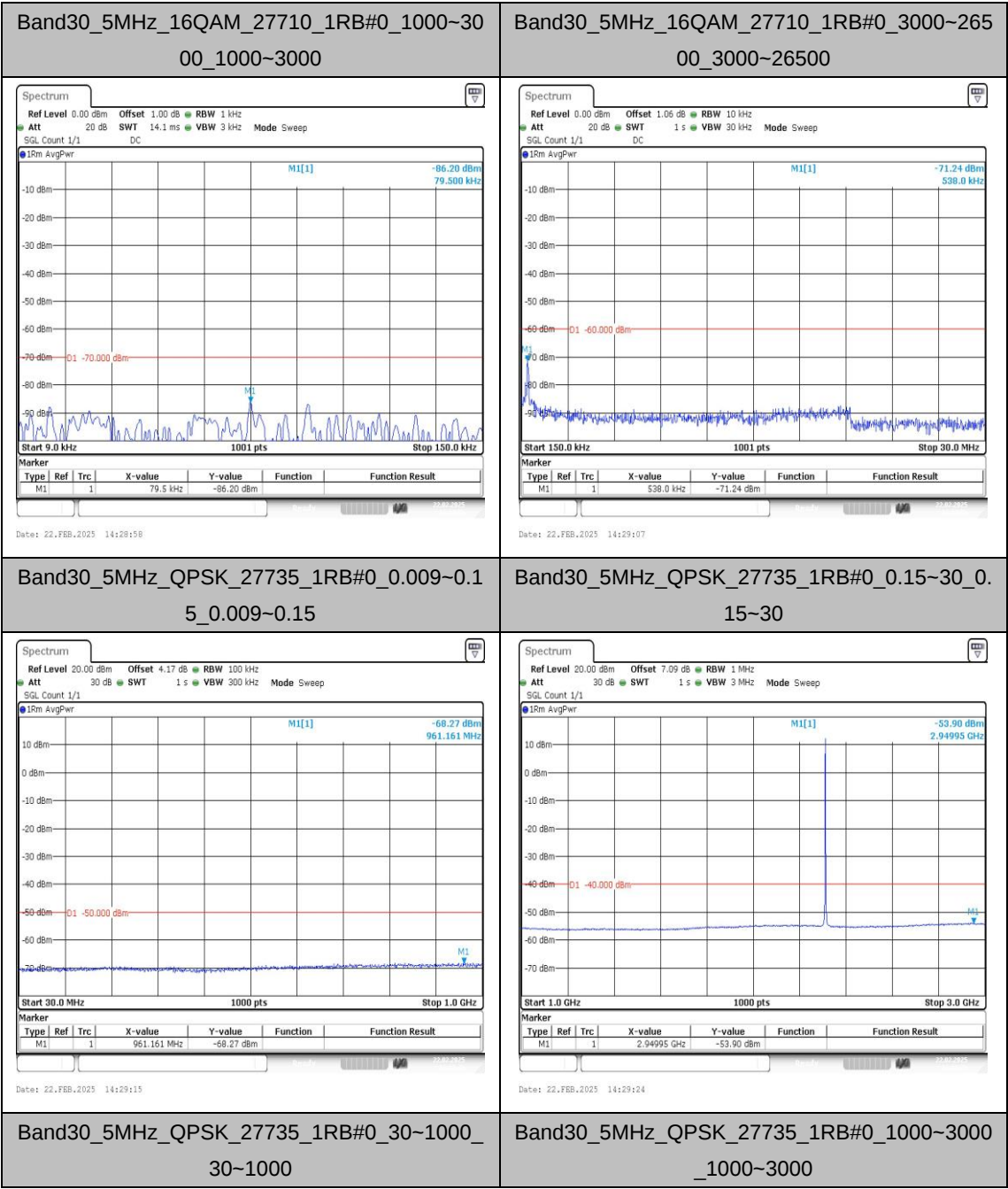
Test Graphs

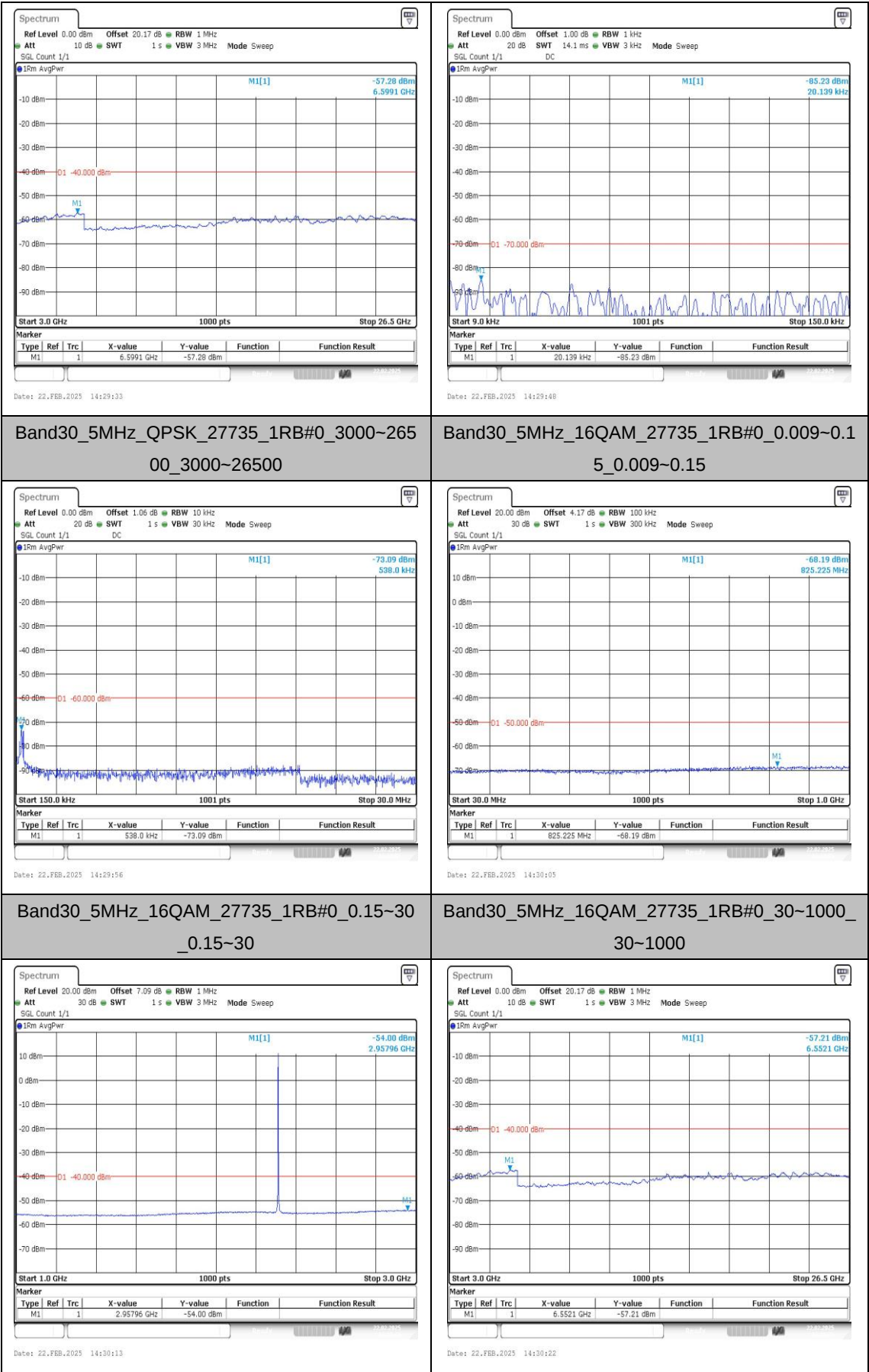


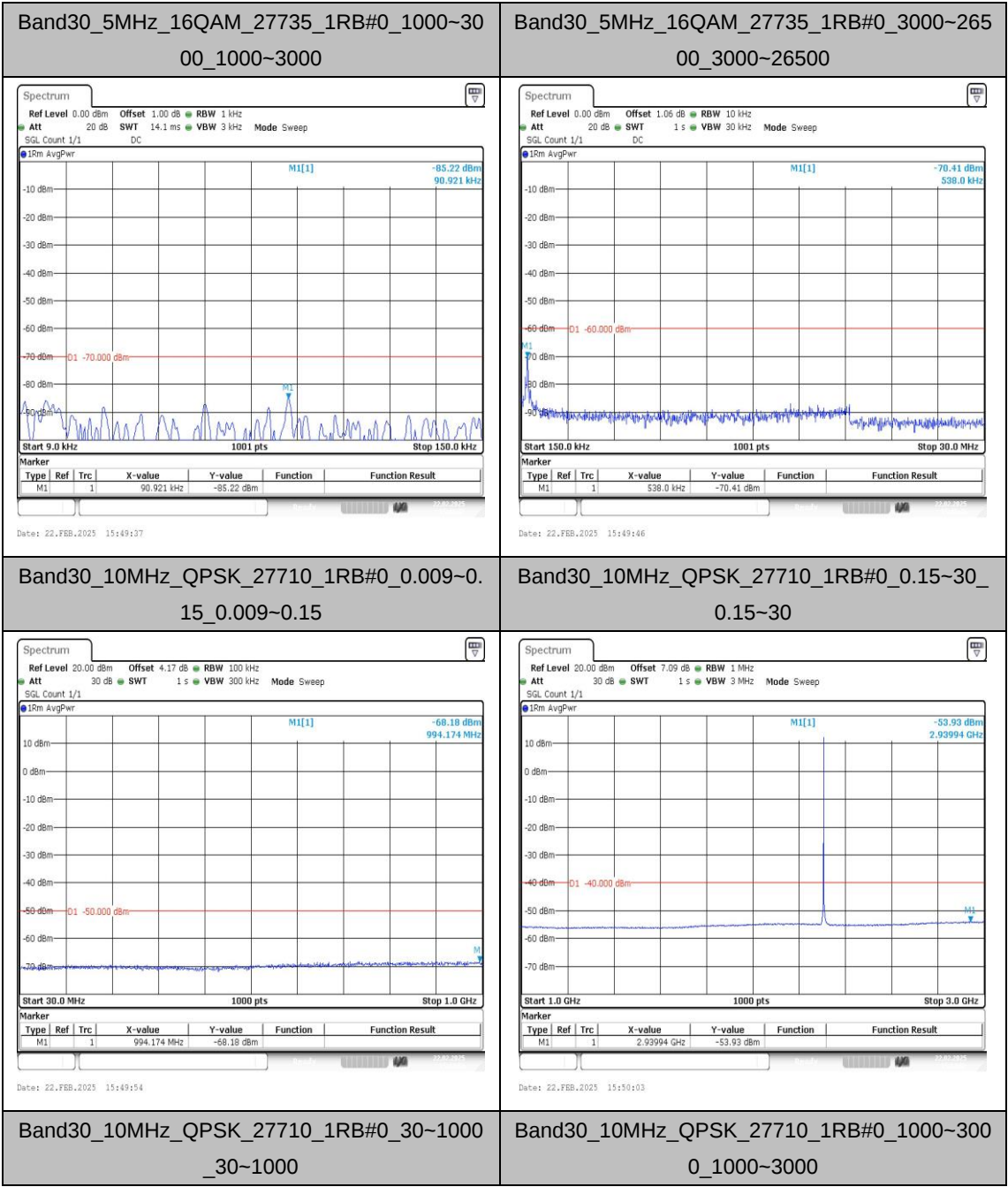


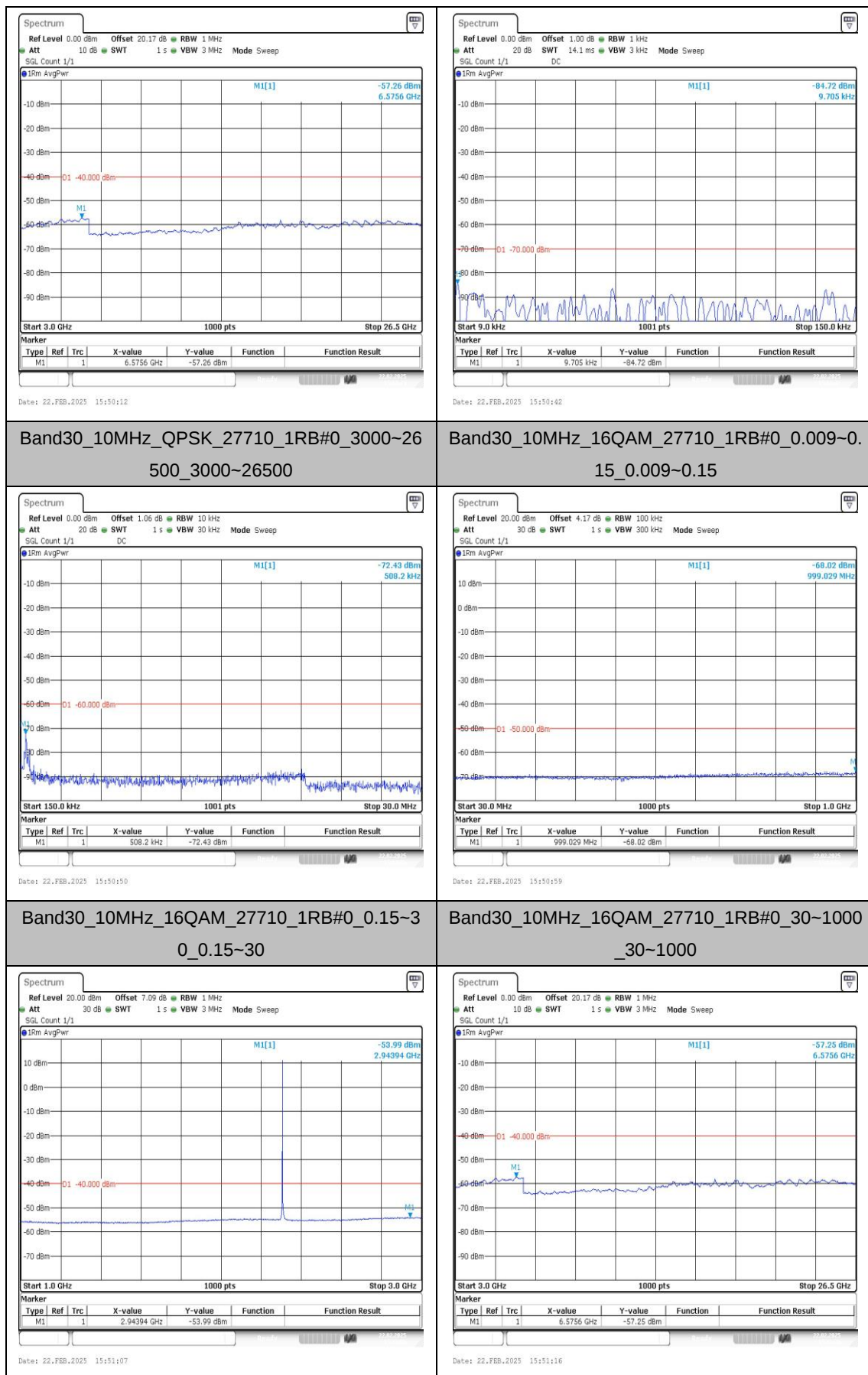












Band30_10MHz_16QAM_27710_1RB#0_1000~3000_1000~3000	Band30_10MHz_16QAM_27710_1RB#0_3000~26500_500_3000~26500
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Appendix F: Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band30	5MHz	QPSK	27685	25RB#0	VN	NT	4.49	0.001946	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	VL	NT	4.00	0.001733	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	VH	NT	-2.52	-0.001092	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	VN	NT	-3.48	-0.001508	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	VL	NT	-5.25	-0.002275	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	VH	NT	-3.10	-0.001343	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	VN	NT	2.02	0.000874	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	VL	NT	2.58	0.001117	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	VH	NT	-2.83	-0.001225	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	VN	NT	-3.05	-0.001320	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	VL	NT	-4.45	-0.001926	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	VH	NT	-5.33	-0.002307	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	VN	NT	-3.25	-0.001405	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	VL	NT	-2.86	-0.001237	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	VH	NT	3.07	0.001328	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	VN	NT	1.93	0.000835	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	VL	NT	-4.04	-0.001747	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	VH	NT	2.59	0.001120	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	VN	NT	-6.12	-0.002649	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	VL	NT	-2.98	-0.001290	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	VH	NT	-5.52	-0.002390	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VN	NT	-3.28	-0.001420	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VL	NT	-4.06	-0.001758	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VH	NT	-3.53	-0.001528	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band30	5MHz	QPSK	27685	25RB#0	NV	-30	3.21	0.001391	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	-20	4.80	0.002080	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	-10	3.68	0.001595	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	0	5.41	0.002345	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	10	6.83	0.002960	±2.5	PASS

Band30	5MHz	QPSK	27685	25RB#0	NV	20	7.10	0.003077	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	30	4.54	0.001967	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	40	5.44	0.002358	±2.5	PASS
Band30	5MHz	QPSK	27685	25RB#0	NV	50	-4.74	-0.002054	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	-30	4.20	0.001820	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	-20	-3.34	-0.001447	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	-10	-3.89	-0.001686	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	0	-4.63	-0.002007	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	10	-4.80	-0.002080	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	20	-3.55	-0.001538	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	30	-6.47	-0.002804	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	40	-5.61	-0.002431	±2.5	PASS
Band30	5MHz	16QAM	27685	25RB#0	NV	50	-6.12	-0.002652	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	-30	-1.55	-0.000671	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	-20	-4.09	-0.001771	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	-10	-4.44	-0.001922	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	0	-2.98	-0.001290	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	10	-4.45	-0.001926	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	20	-4.51	-0.001952	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	30	2.71	0.001173	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	40	-2.80	-0.001212	±2.5	PASS
Band30	5MHz	QPSK	27710	25RB#0	NV	50	-3.48	-0.001506	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	-30	-5.97	-0.002584	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	-20	3.56	0.001541	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	-10	-3.54	-0.001532	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	0	-4.12	-0.001784	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	10	-5.12	-0.002216	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	20	-4.56	-0.001974	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	30	-4.86	-0.002104	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	40	-8.29	-0.003589	±2.5	PASS
Band30	5MHz	16QAM	27710	25RB#0	NV	50	-4.19	-0.001814	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	-30	-3.48	-0.001505	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	-20	3.00	0.001297	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	-10	3.41	0.001475	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	0	-5.84	-0.002525	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	10	-3.40	-0.001470	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	20	-4.85	-0.002097	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	30	-3.72	-0.001609	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	40	-4.24	-0.001834	±2.5	PASS
Band30	5MHz	QPSK	27735	25RB#0	NV	50	4.06	0.001756	±2.5	PASS

Band30	5MHz	16QAM	27735	25RB#0	NV	-30	-4.27	-0.001846	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	-20	-3.29	-0.001423	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	-10	-3.87	-0.001674	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	0	-3.65	-0.001578	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	10	-2.32	-0.001003	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	20	-3.34	-0.001444	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	30	-2.77	-0.001198	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	40	4.08	0.001764	±2.5	PASS
Band30	5MHz	16QAM	27735	25RB#0	NV	50	-2.47	-0.001068	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	-30	-7.80	-0.003377	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	-20	-6.80	-0.002944	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	-10	-8.64	-0.003740	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	10	-6.67	-0.002887	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	20	-6.38	-0.002762	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	30	-5.69	-0.002463	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	40	-8.04	-0.003481	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	50	-7.35	-0.003182	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	0	-7.74	-0.003351	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-30	3.07	0.001329	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-20	-5.07	-0.002195	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-10	4.72	0.002043	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	0	1.74	0.000753	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	10	-2.70	-0.001169	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	20	-2.40	-0.001039	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	30	-5.18	-0.002242	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	40	3.12	0.001351	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	50	2.30	0.000996	±2.5	PASS