

Appendix for LTE BAND 13

Product Name: Mobile Phone

Model No: IDOL

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	22.18	PASS
Band13	5MHz	16QAM	23205	1RB#0	20.90	PASS
Band13	5MHz	QPSK	23205	1RB#12	22.14	PASS
Band13	5MHz	16QAM	23205	1RB#12	20.85	PASS
Band13	5MHz	QPSK	23205	1RB#24	22.05	PASS
Band13	5MHz	16QAM	23205	1RB#24	20.72	PASS
Band13	5MHz	QPSK	23205	12RB#0	21.32	PASS
Band13	5MHz	16QAM	23205	12RB#0	20.13	PASS
Band13	5MHz	QPSK	23205	12RB#6	21.31	PASS
Band13	5MHz	16QAM	23205	12RB#6	20.14	PASS
Band13	5MHz	QPSK	23205	12RB#13	21.13	PASS
Band13	5MHz	16QAM	23205	12RB#13	20.25	PASS
Band13	5MHz	QPSK	23205	25RB#0	21.19	PASS
Band13	5MHz	16QAM	23205	25RB#0	20.32	PASS
Band13	5MHz	QPSK	23230	1RB#0	22.21	PASS
Band13	5MHz	16QAM	23230	1RB#0	20.62	PASS
Band13	5MHz	QPSK	23230	1RB#12	22.17	PASS
Band13	5MHz	16QAM	23230	1RB#12	20.58	PASS
Band13	5MHz	QPSK	23230	1RB#24	22.22	PASS
Band13	5MHz	16QAM	23230	1RB#24	20.64	PASS
Band13	5MHz	QPSK	23230	12RB#0	21.09	PASS
Band13	5MHz	16QAM	23230	12RB#0	20.27	PASS
Band13	5MHz	QPSK	23230	12RB#6	21.11	PASS
Band13	5MHz	16QAM	23230	12RB#6	20.29	PASS
Band13	5MHz	QPSK	23230	12RB#13	21.28	PASS
Band13	5MHz	16QAM	23230	12RB#13	20.29	PASS
Band13	5MHz	QPSK	23230	25RB#0	21.10	PASS
Band13	5MHz	16QAM	23230	25RB#0	20.51	PASS
Band13	5MHz	QPSK	23255	1RB#0	22.11	PASS
Band13	5MHz	16QAM	23255	1RB#0	21.18	PASS
Band13	5MHz	QPSK	23255	1RB#12	22.23	PASS
Band13	5MHz	16QAM	23255	1RB#12	21.27	PASS
Band13	5MHz	QPSK	23255	1RB#24	22.21	PASS
Band13	5MHz	16QAM	23255	1RB#24	21.25	PASS
Band13	5MHz	QPSK	23255	12RB#0	21.30	PASS
Band13	5MHz	16QAM	23255	12RB#0	20.38	PASS

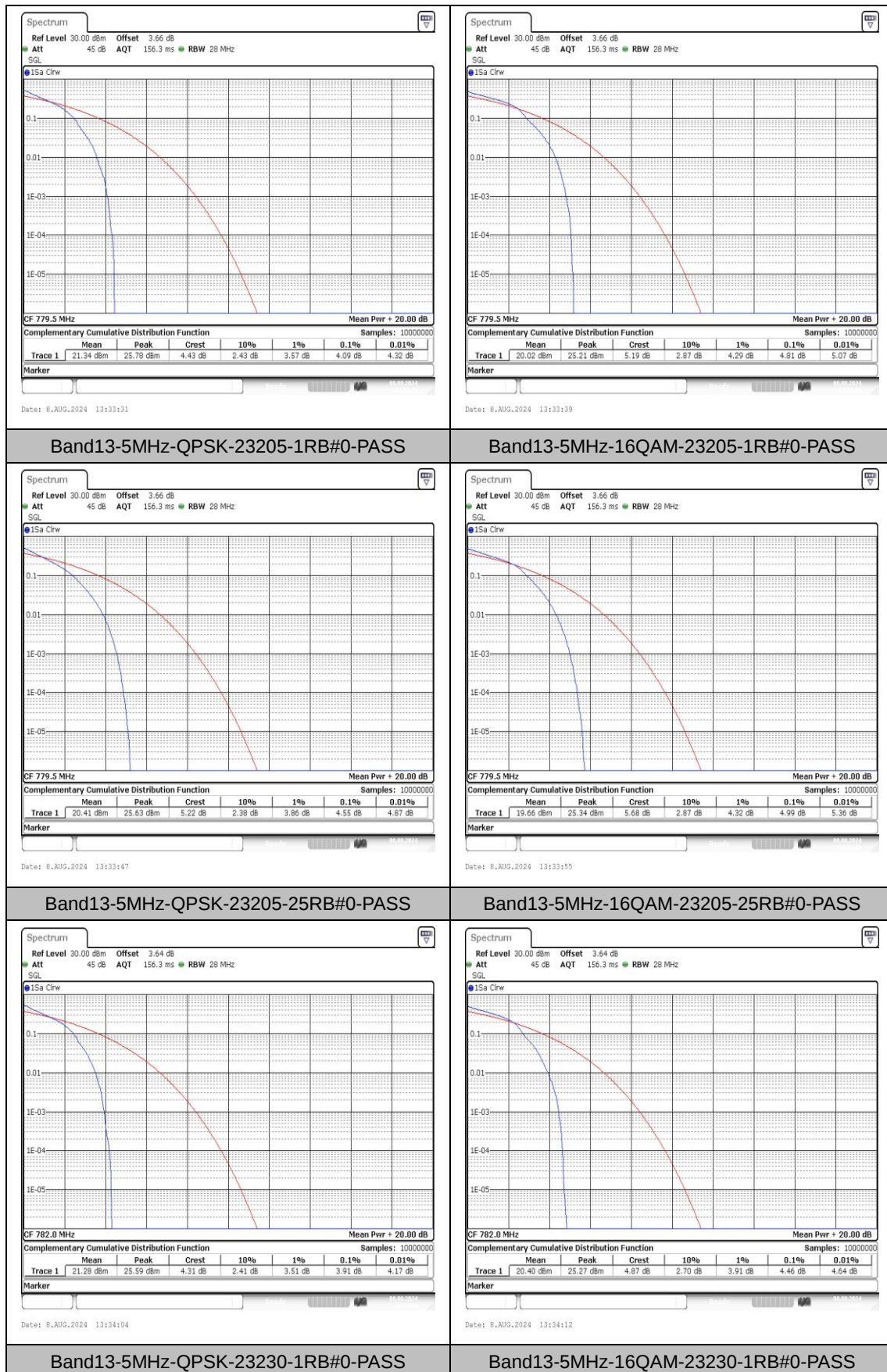
Band13	5MHz	QPSK	23255	12RB#6	21.31	PASS
Band13	5MHz	16QAM	23255	12RB#6	20.33	PASS
Band13	5MHz	QPSK	23255	12RB#13	21.23	PASS
Band13	5MHz	16QAM	23255	12RB#13	20.54	PASS
Band13	5MHz	QPSK	23255	25RB#0	21.18	PASS
Band13	5MHz	16QAM	23255	25RB#0	20.29	PASS
Band13	10MHz	QPSK	23230	1RB#0	22.25	PASS
Band13	10MHz	16QAM	23230	1RB#0	21.26	PASS
Band13	10MHz	QPSK	23230	1RB#24	22.05	PASS
Band13	10MHz	16QAM	23230	1RB#24	21.09	PASS
Band13	10MHz	QPSK	23230	1RB#49	22.15	PASS
Band13	10MHz	16QAM	23230	1RB#49	21.19	PASS
Band13	10MHz	QPSK	23230	25RB#0	21.14	PASS
Band13	10MHz	16QAM	23230	25RB#0	20.34	PASS
Band13	10MHz	QPSK	23230	25RB#12	21.15	PASS
Band13	10MHz	16QAM	23230	25RB#12	20.35	PASS
Band13	10MHz	QPSK	23230	25RB#25	21.27	PASS
Band13	10MHz	16QAM	23230	25RB#25	20.15	PASS
Band13	10MHz	QPSK	23230	50RB#0	21.23	PASS
Band13	10MHz	16QAM	23230	50RB#0	20.45	PASS

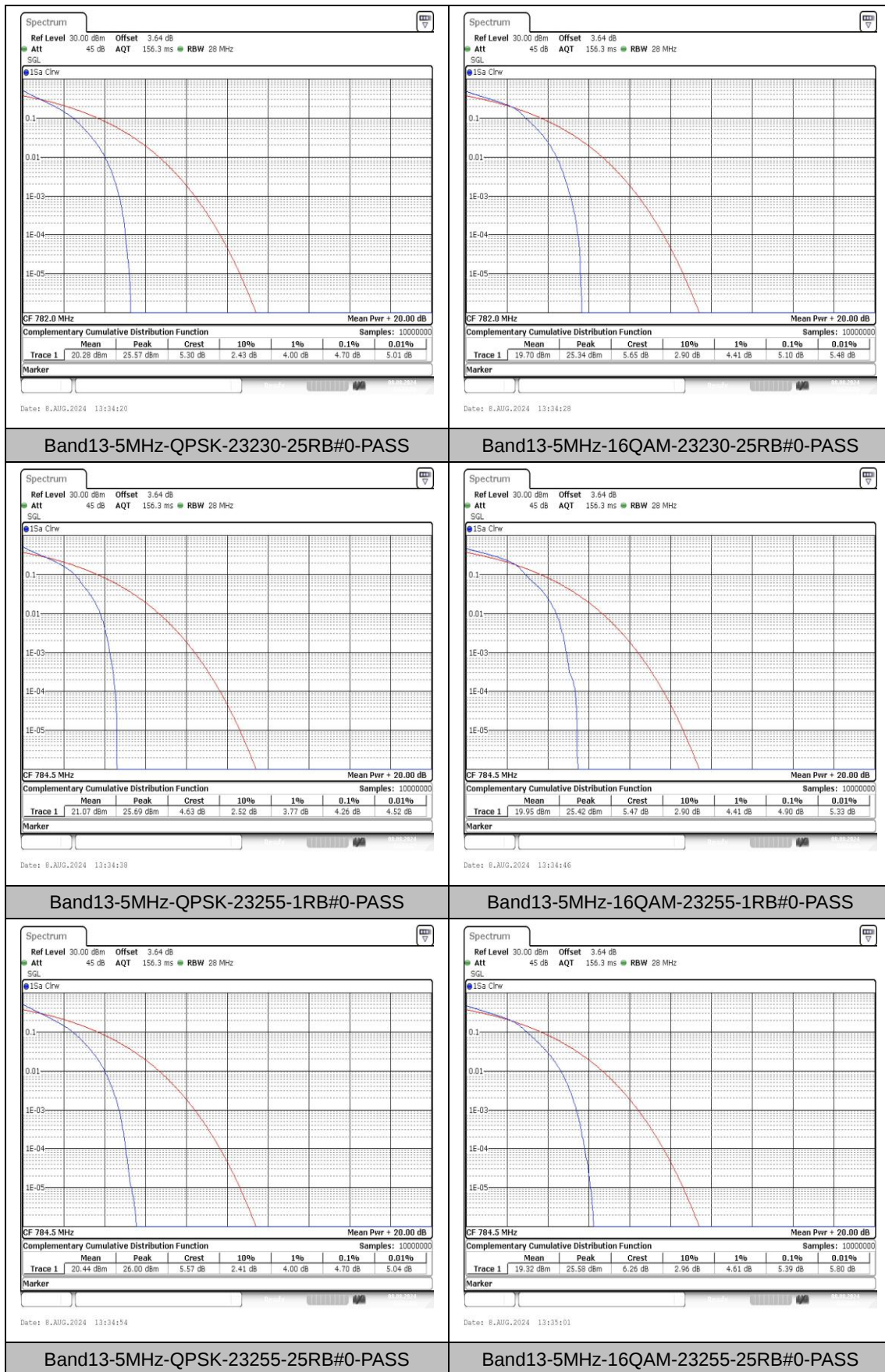
Appendix B: Peak-to-Average Ratio(CCDF)

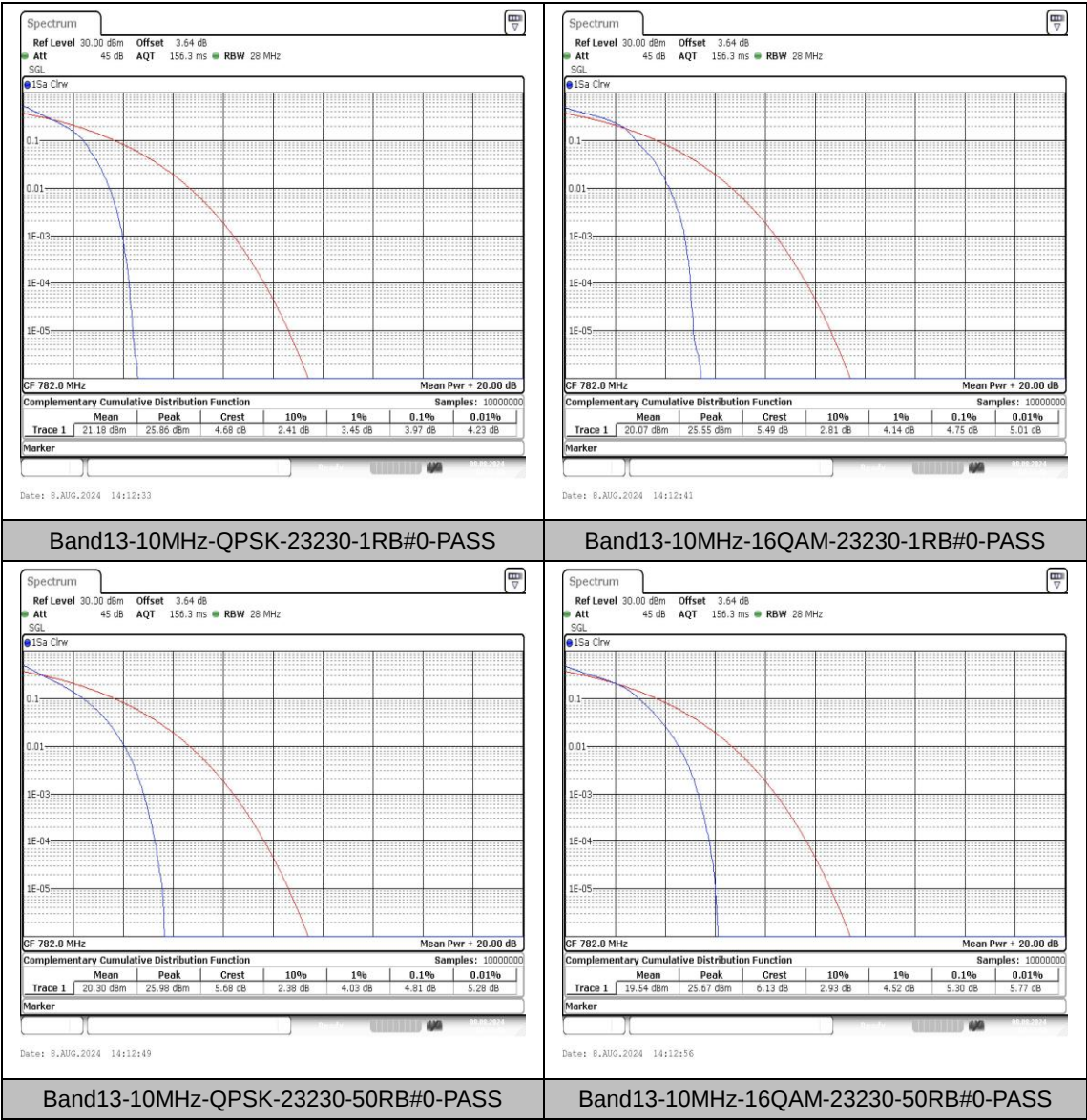
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	4.09	13	PASS
Band13	5MHz	16QAM	23205	1RB#0	4.81	13	PASS
Band13	5MHz	QPSK	23205	25RB#0	4.55	13	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.99	13	PASS
Band13	5MHz	QPSK	23230	1RB#0	3.91	13	PASS
Band13	5MHz	16QAM	23230	1RB#0	4.46	13	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.70	13	PASS
Band13	5MHz	16QAM	23230	25RB#0	5.10	13	PASS
Band13	5MHz	QPSK	23255	1RB#0	4.26	13	PASS
Band13	5MHz	16QAM	23255	1RB#0	4.90	13	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.70	13	PASS
Band13	5MHz	16QAM	23255	25RB#0	5.39	13	PASS
Band13	10MHz	QPSK	23230	1RB#0	3.97	13	PASS
Band13	10MHz	16QAM	23230	1RB#0	4.75	13	PASS
Band13	10MHz	QPSK	23230	50RB#0	4.81	13	PASS
Band13	10MHz	16QAM	23230	50RB#0	5.30	13	PASS

Test Graphs





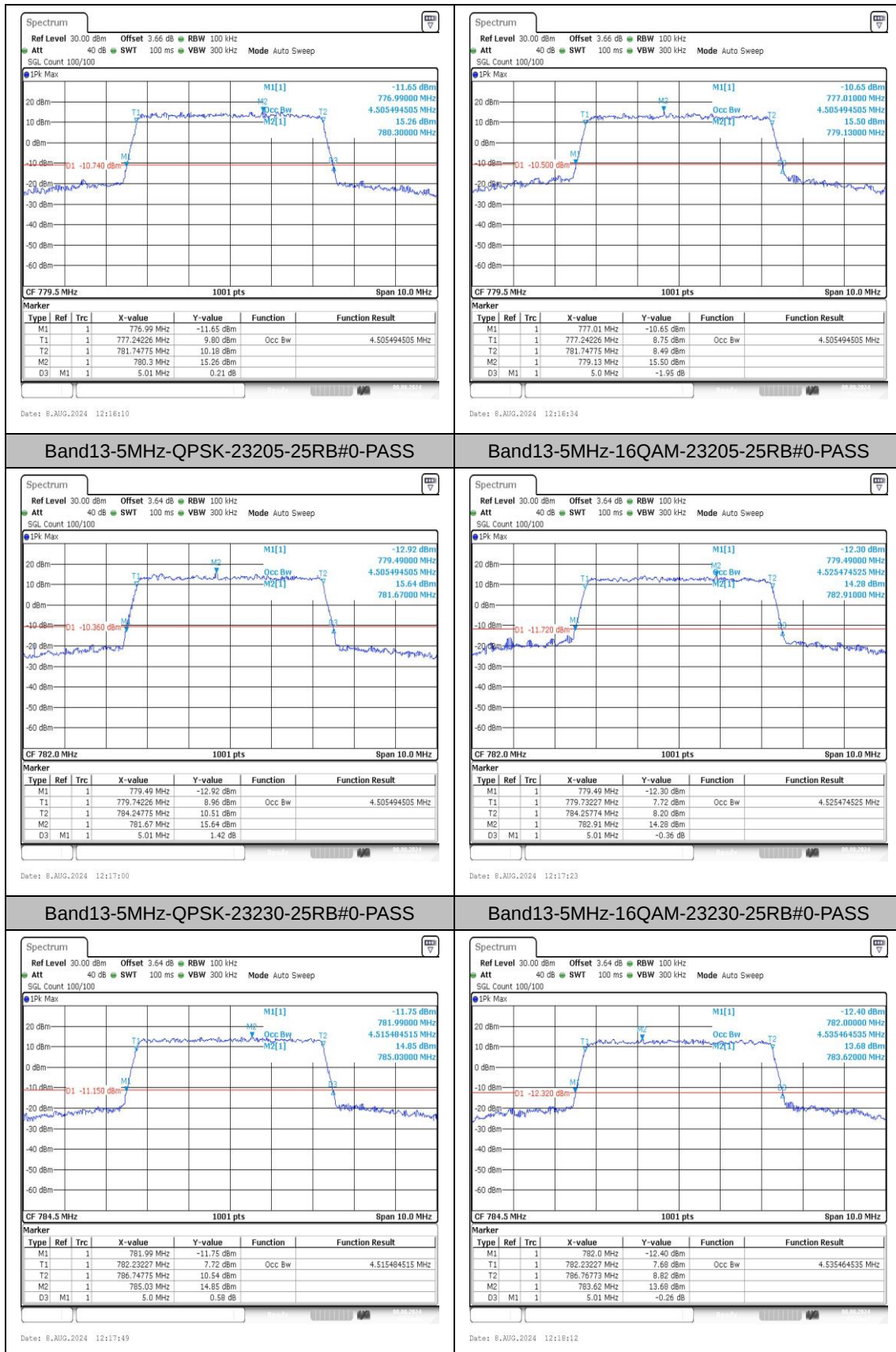


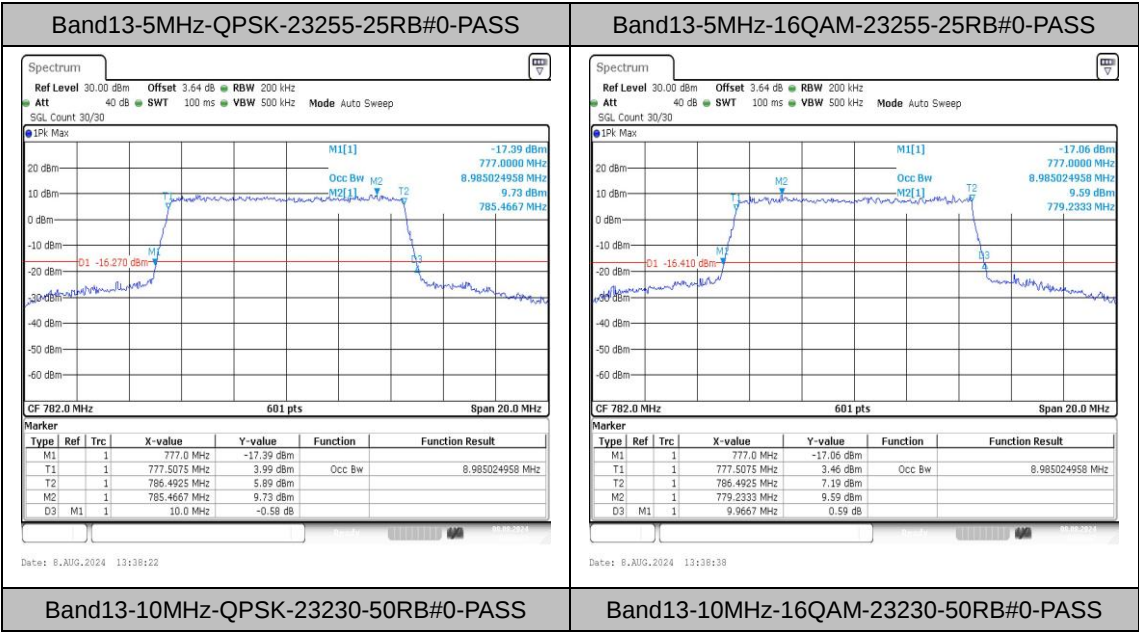
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	4.505	5.01	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.505	5.00	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.505	5.01	PASS
Band13	5MHz	16QAM	23230	25RB#0	4.525	5.01	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.515	5.00	PASS
Band13	5MHz	16QAM	23255	25RB#0	4.535	5.01	PASS
Band13	10MHz	QPSK	23230	50RB#0	8.985	10.00	PASS
Band13	10MHz	16QAM	23230	50RB#0	8.985	9.97	PASS

Test Graphs



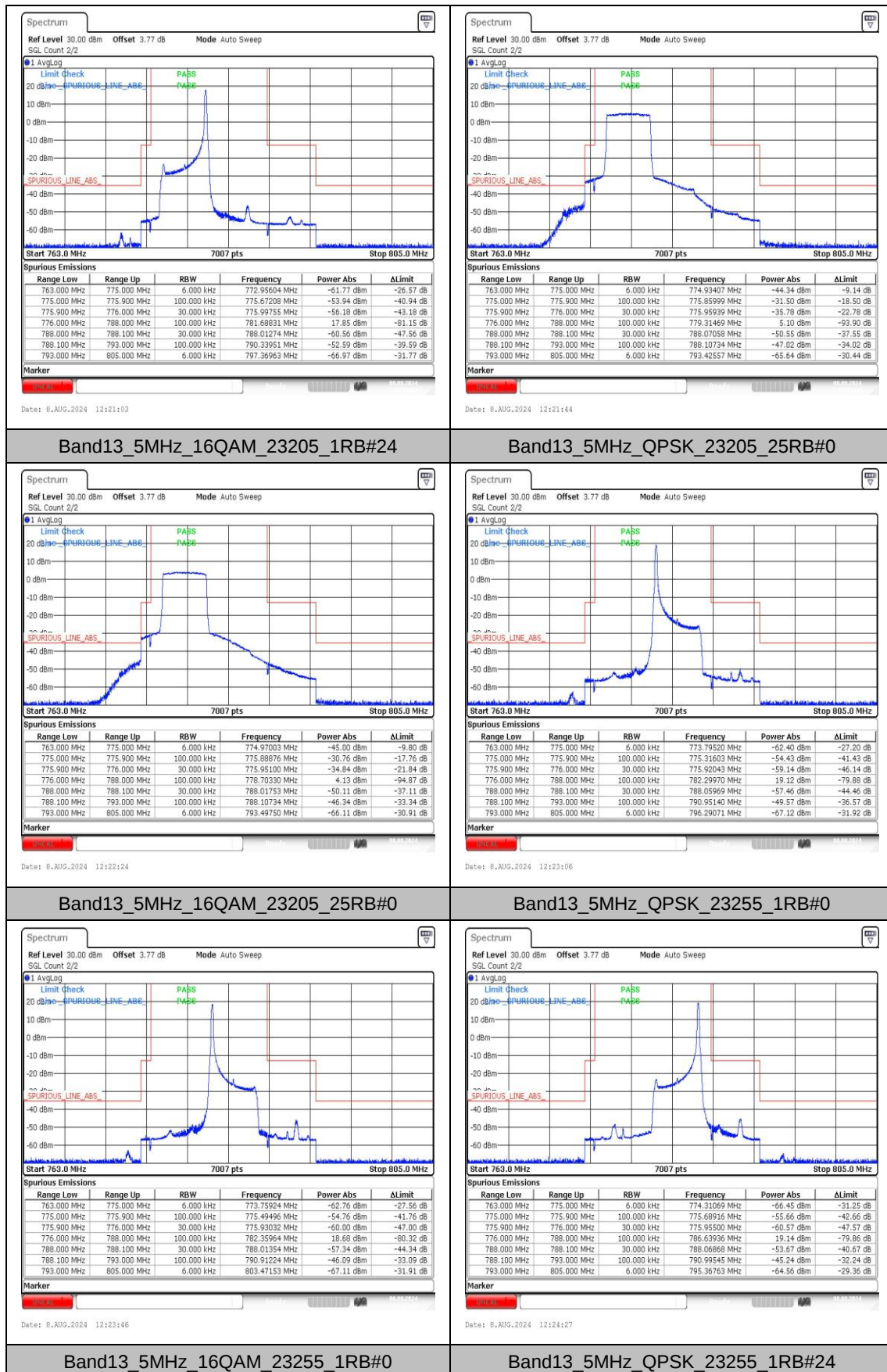


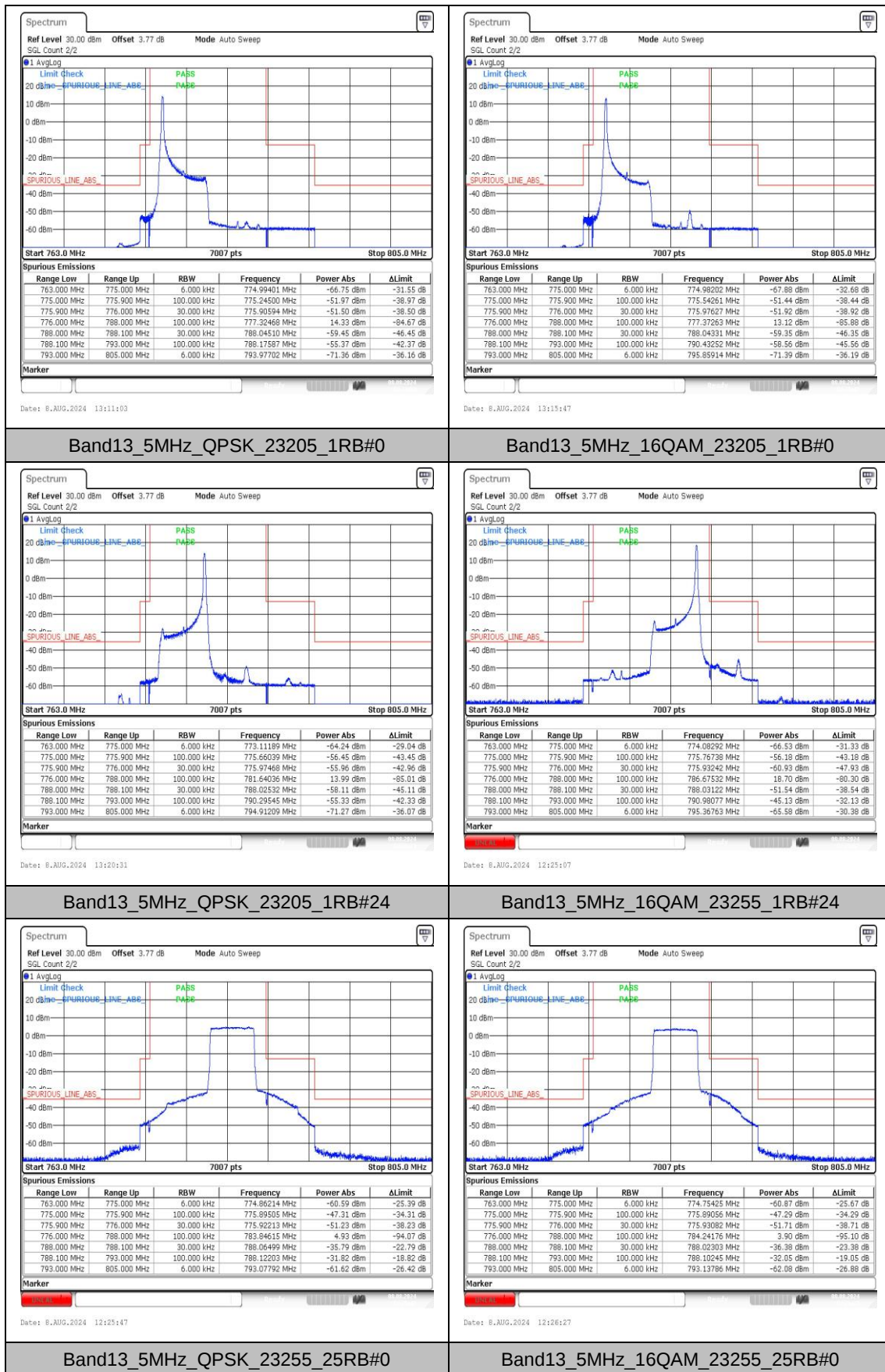
Appendix D: Band Edge

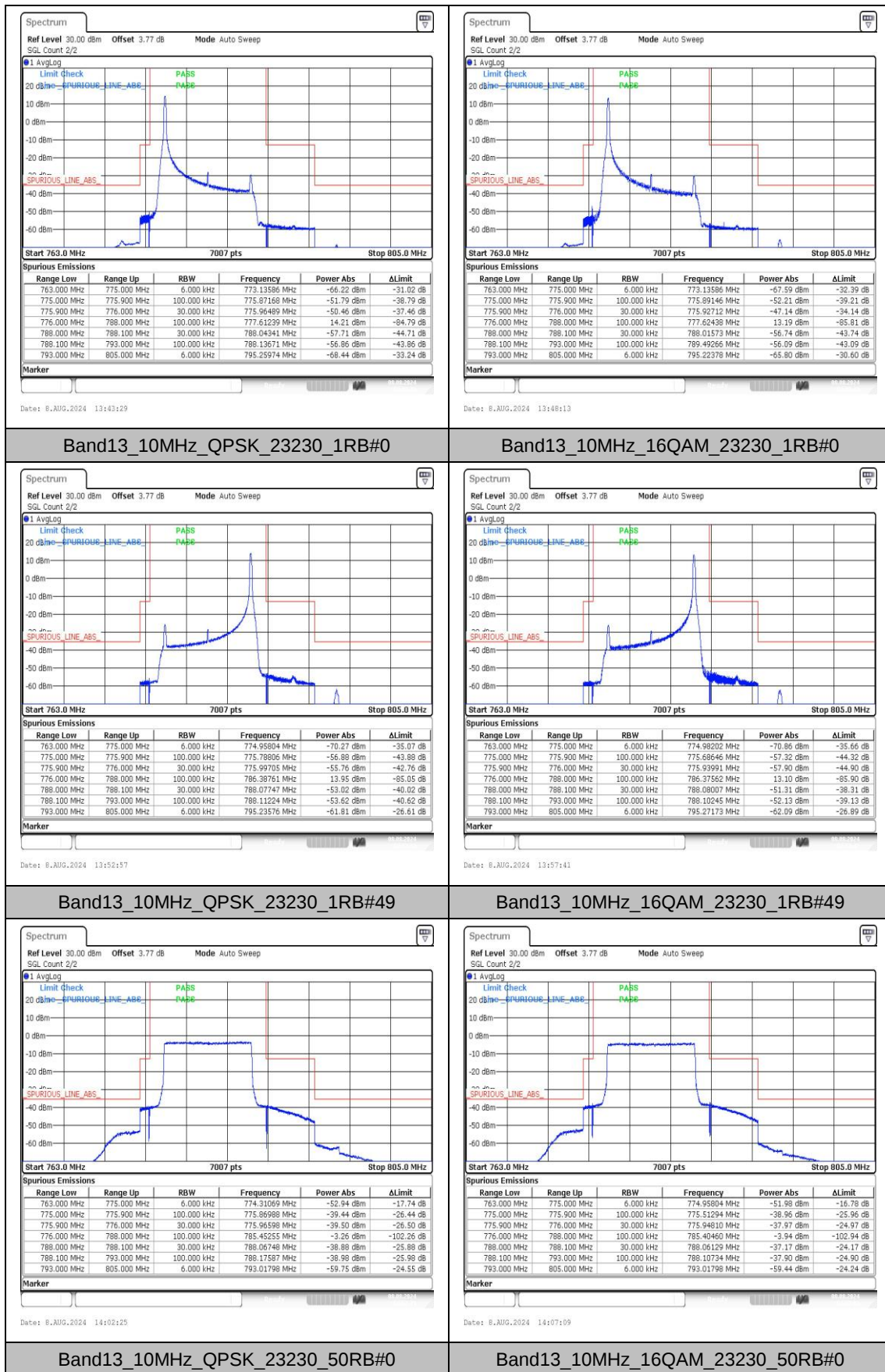
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	16QAM	23205	1RB#24	-61.77	PASS
Band13	5MHz	QPSK	23205	25RB#0	-44.34	PASS
Band13	5MHz	16QAM	23205	25RB#0	-45.00	PASS
Band13	5MHz	QPSK	23255	1RB#0	-62.40	PASS
Band13	5MHz	16QAM	23255	1RB#0	-62.76	PASS
Band13	5MHz	QPSK	23255	1RB#24	-64.56	PASS
Band13	5MHz	QPSK	23205	1RB#0	-66.75	PASS
Band13	5MHz	16QAM	23205	1RB#0	-67.88	PASS
Band13	5MHz	QPSK	23205	1RB#24	-64.24	PASS
Band13	5MHz	16QAM	23255	1RB#24	-65.58	PASS
Band13	5MHz	QPSK	23255	25RB#0	-31.82	PASS
Band13	5MHz	16QAM	23255	25RB#0	-32.05	PASS
Band13	10MHz	QPSK	23230	1RB#0	-66.22	PASS
Band13	10MHz	16QAM	23230	1RB#0	-65.80	PASS
Band13	10MHz	QPSK	23230	1RB#49	-61.81	PASS
Band13	10MHz	16QAM	23230	1RB#49	-62.09	PASS
Band13	10MHz	QPSK	23230	50RB#0	-52.94	PASS
Band13	10MHz	16QAM	23230	50RB#0	-51.98	PASS

Test Graphs







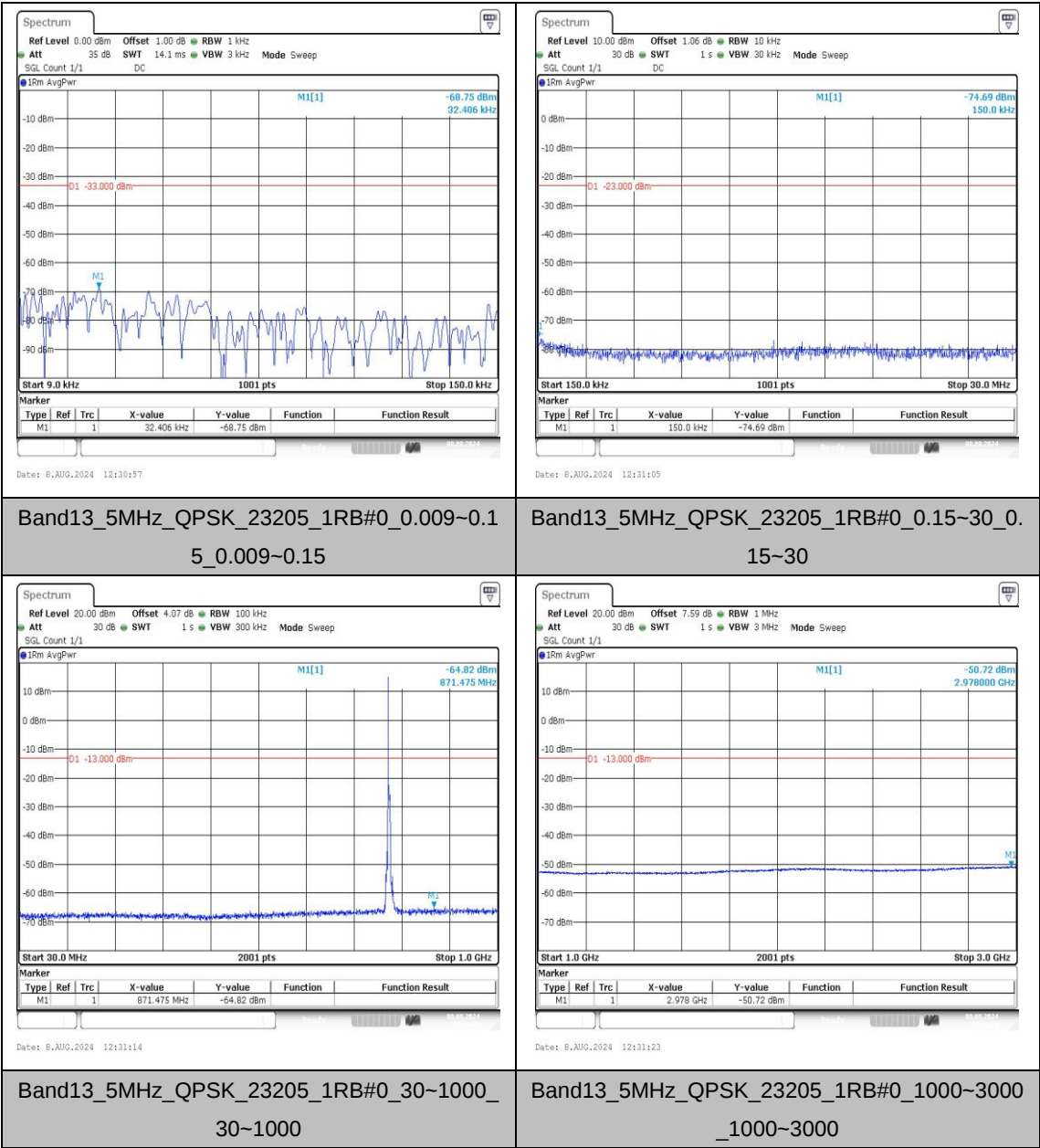
Appendix E: Conducted Spurious Emission

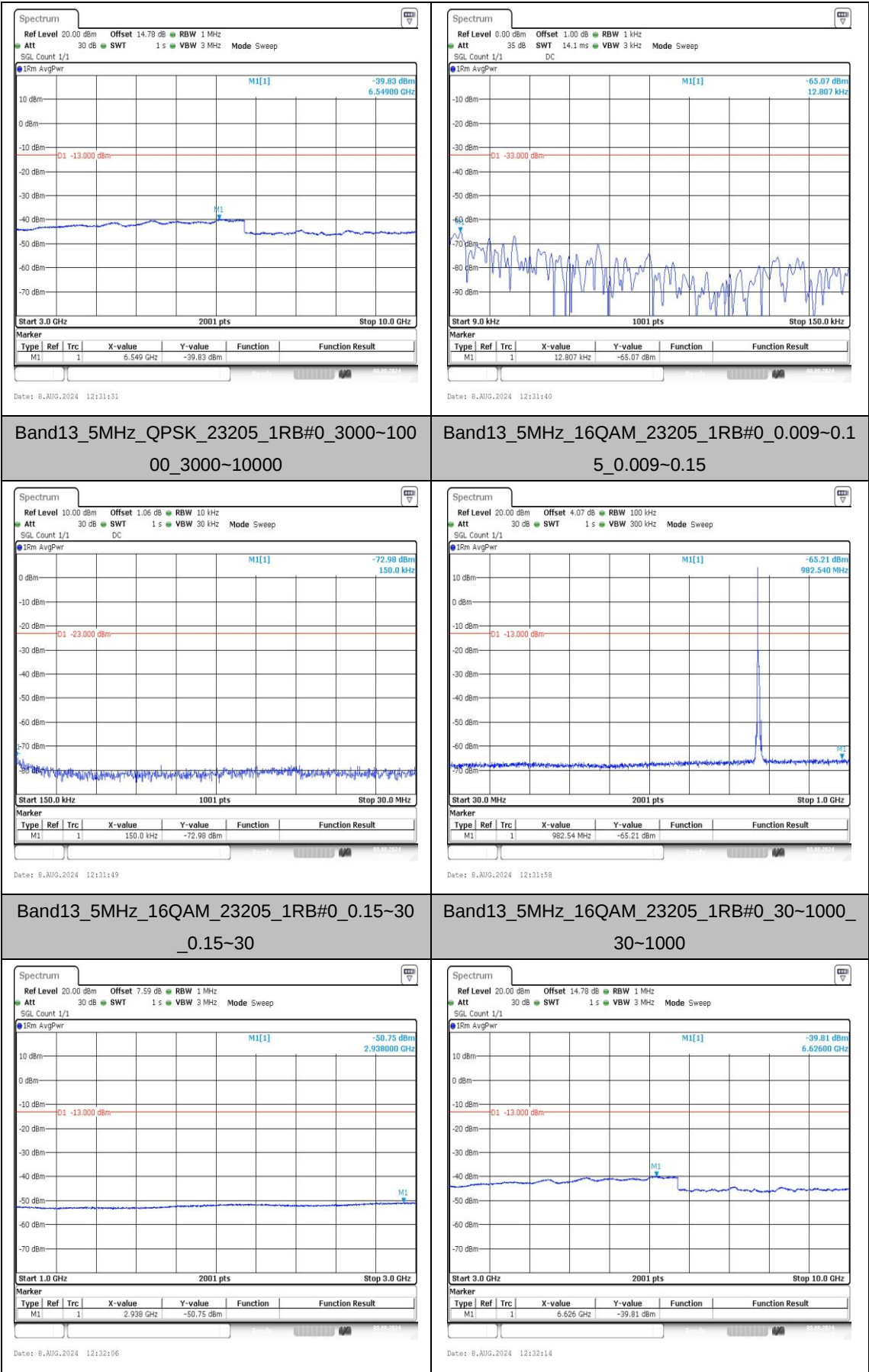
Test Result

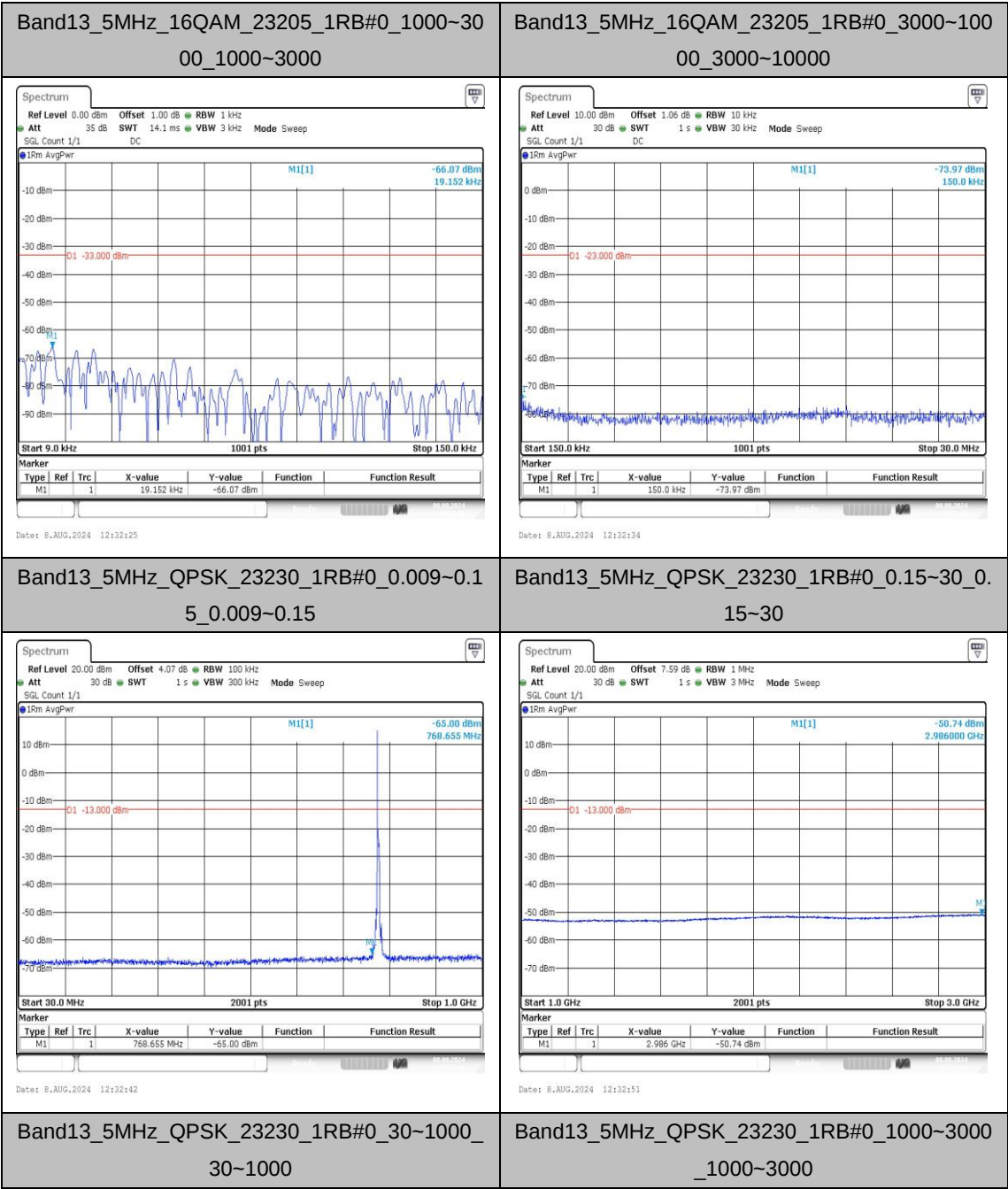
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Verdict
Band13	5MHz	QPSK	23205	1RB#0	0.009~0.15	PASS
Band13	5MHz	QPSK	23205	1RB#0	0.15~30	PASS
Band13	5MHz	QPSK	23205	1RB#0	30~1000	PASS
Band13	5MHz	QPSK	23205	1RB#0	1000~3000	PASS
Band13	5MHz	QPSK	23205	1RB#0	3000~10000	PASS
Band13	5MHz	16QAM	23205	1RB#0	0.009~0.15	PASS
Band13	5MHz	16QAM	23205	1RB#0	0.15~30	PASS
Band13	5MHz	16QAM	23205	1RB#0	30~1000	PASS
Band13	5MHz	16QAM	23205	1RB#0	1000~3000	PASS
Band13	5MHz	16QAM	23205	1RB#0	3000~10000	PASS
Band13	5MHz	QPSK	23230	1RB#0	0.009~0.15	PASS
Band13	5MHz	QPSK	23230	1RB#0	0.15~30	PASS
Band13	5MHz	QPSK	23230	1RB#0	30~1000	PASS
Band13	5MHz	QPSK	23230	1RB#0	1000~3000	PASS
Band13	5MHz	QPSK	23230	1RB#0	3000~10000	PASS
Band13	5MHz	16QAM	23230	1RB#0	0.009~0.15	PASS
Band13	5MHz	16QAM	23230	1RB#0	0.15~30	PASS
Band13	5MHz	16QAM	23230	1RB#0	30~1000	PASS
Band13	5MHz	16QAM	23230	1RB#0	1000~3000	PASS
Band13	5MHz	16QAM	23230	1RB#0	3000~10000	PASS
Band13	5MHz	QPSK	23255	1RB#0	0.009~0.15	PASS
Band13	5MHz	QPSK	23255	1RB#0	0.15~30	PASS
Band13	5MHz	QPSK	23255	1RB#0	30~1000	PASS
Band13	5MHz	QPSK	23255	1RB#0	1000~3000	PASS
Band13	5MHz	QPSK	23255	1RB#0	3000~10000	PASS
Band13	5MHz	16QAM	23255	1RB#0	0.009~0.15	PASS
Band13	5MHz	16QAM	23255	1RB#0	0.15~30	PASS
Band13	5MHz	16QAM	23255	1RB#0	30~1000	PASS
Band13	5MHz	16QAM	23255	1RB#0	1000~3000	PASS
Band13	5MHz	16QAM	23255	1RB#0	3000~10000	PASS
Band13	10MHz	QPSK	23230	1RB#0	0.009~0.15	PASS
Band13	10MHz	QPSK	23230	1RB#0	0.15~30	PASS
Band13	10MHz	QPSK	23230	1RB#0	30~1000	PASS
Band13	10MHz	QPSK	23230	1RB#0	1000~3000	PASS
Band13	10MHz	QPSK	23230	1RB#0	3000~10000	PASS

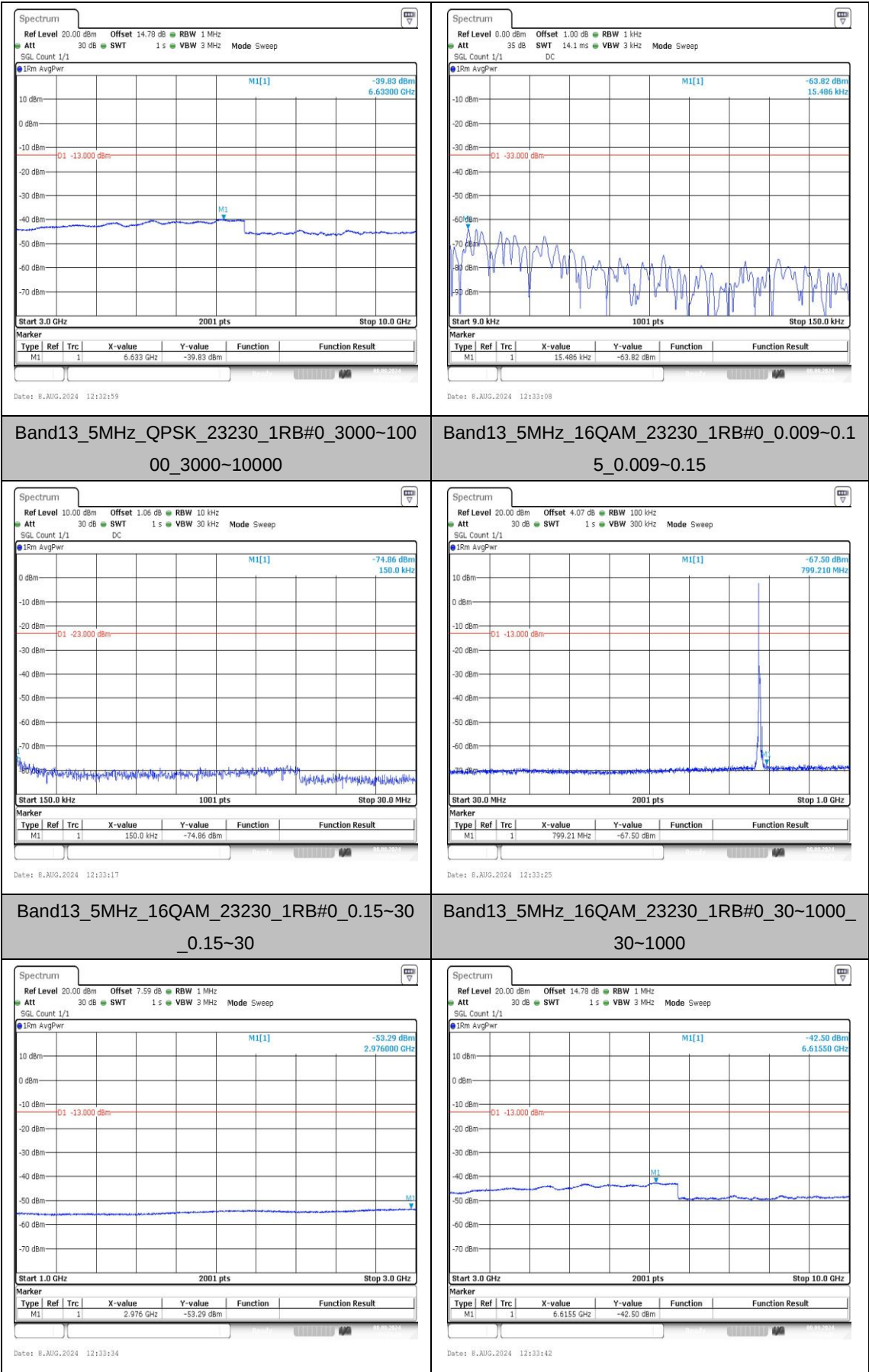
Band13	10MHz	16QAM	23230	1RB#0	0.009~0.15	PASS
Band13	10MHz	16QAM	23230	1RB#0	0.15~30	PASS
Band13	10MHz	16QAM	23230	1RB#0	30~1000	PASS
Band13	10MHz	16QAM	23230	1RB#0	1000~3000	PASS
Band13	10MHz	16QAM	23230	1RB#0	3000~10000	PASS

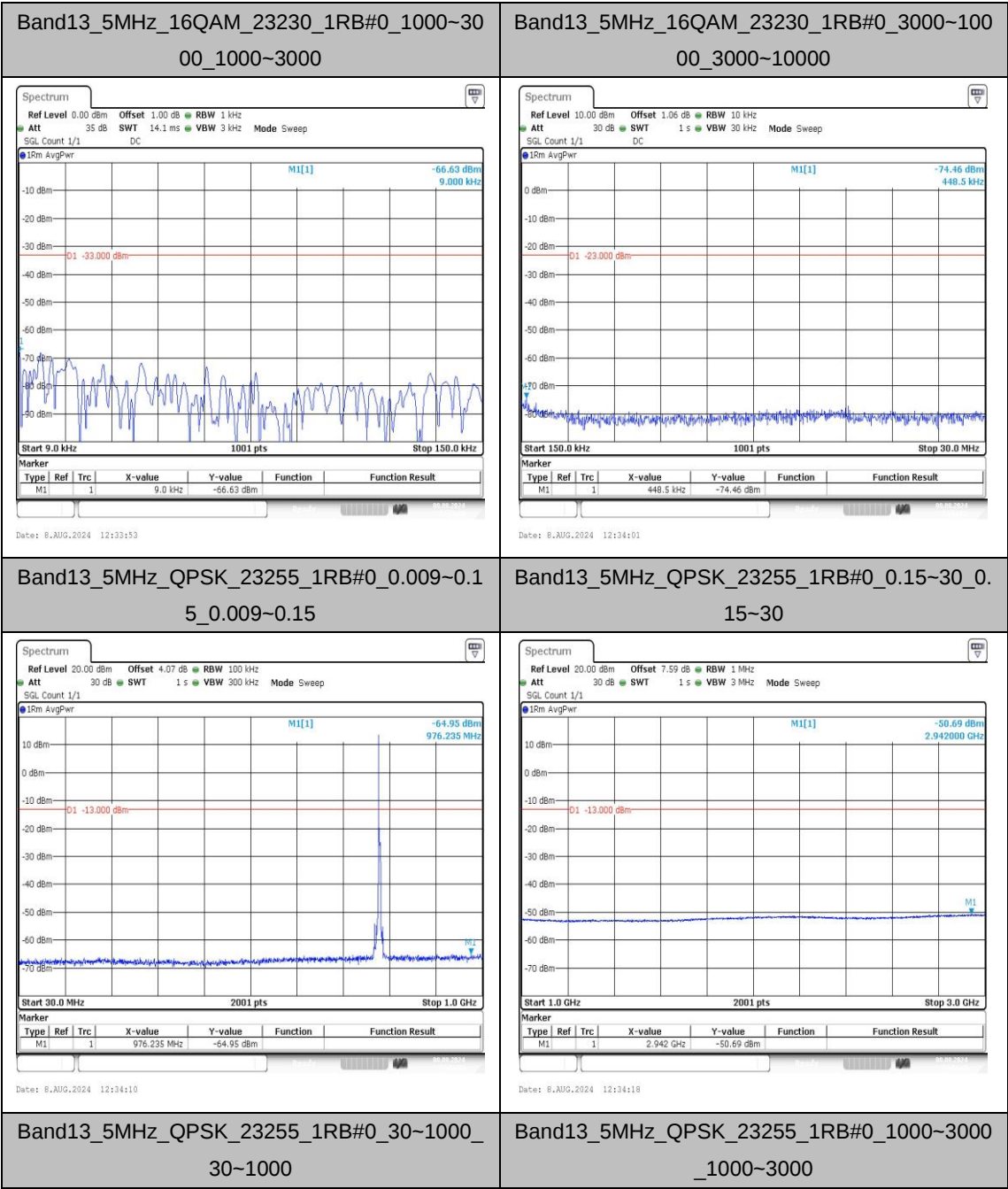
Test Graphs

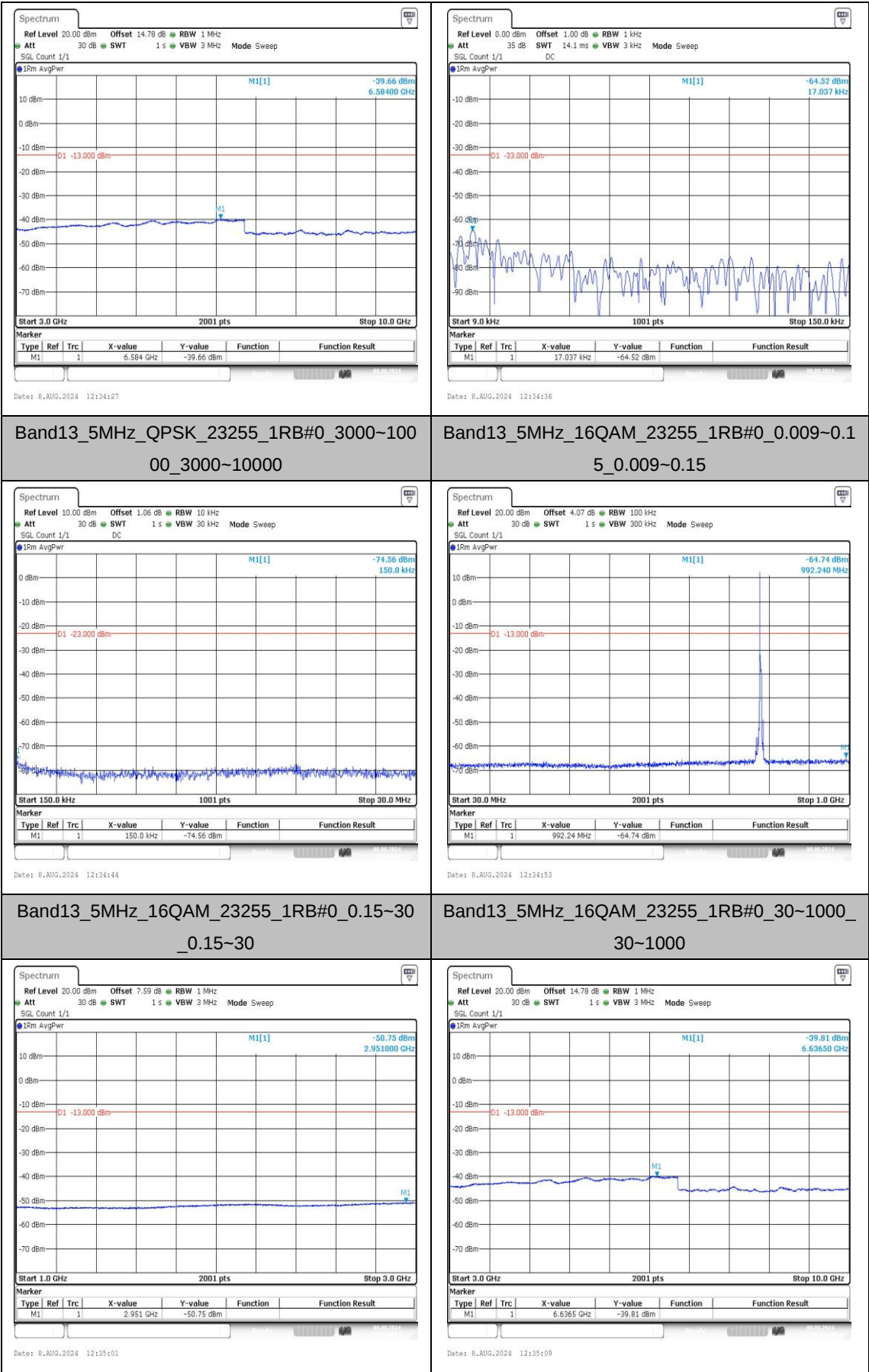


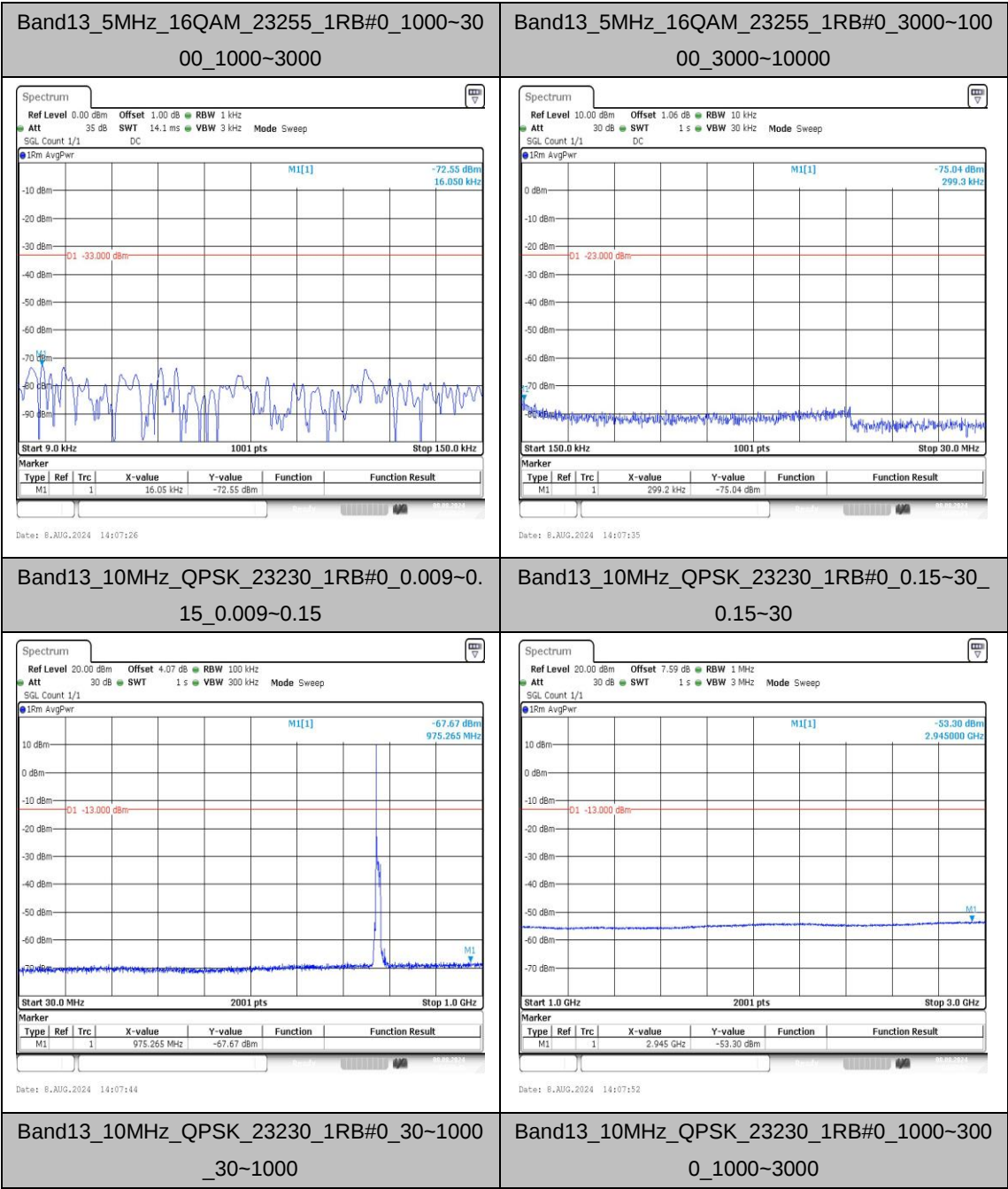


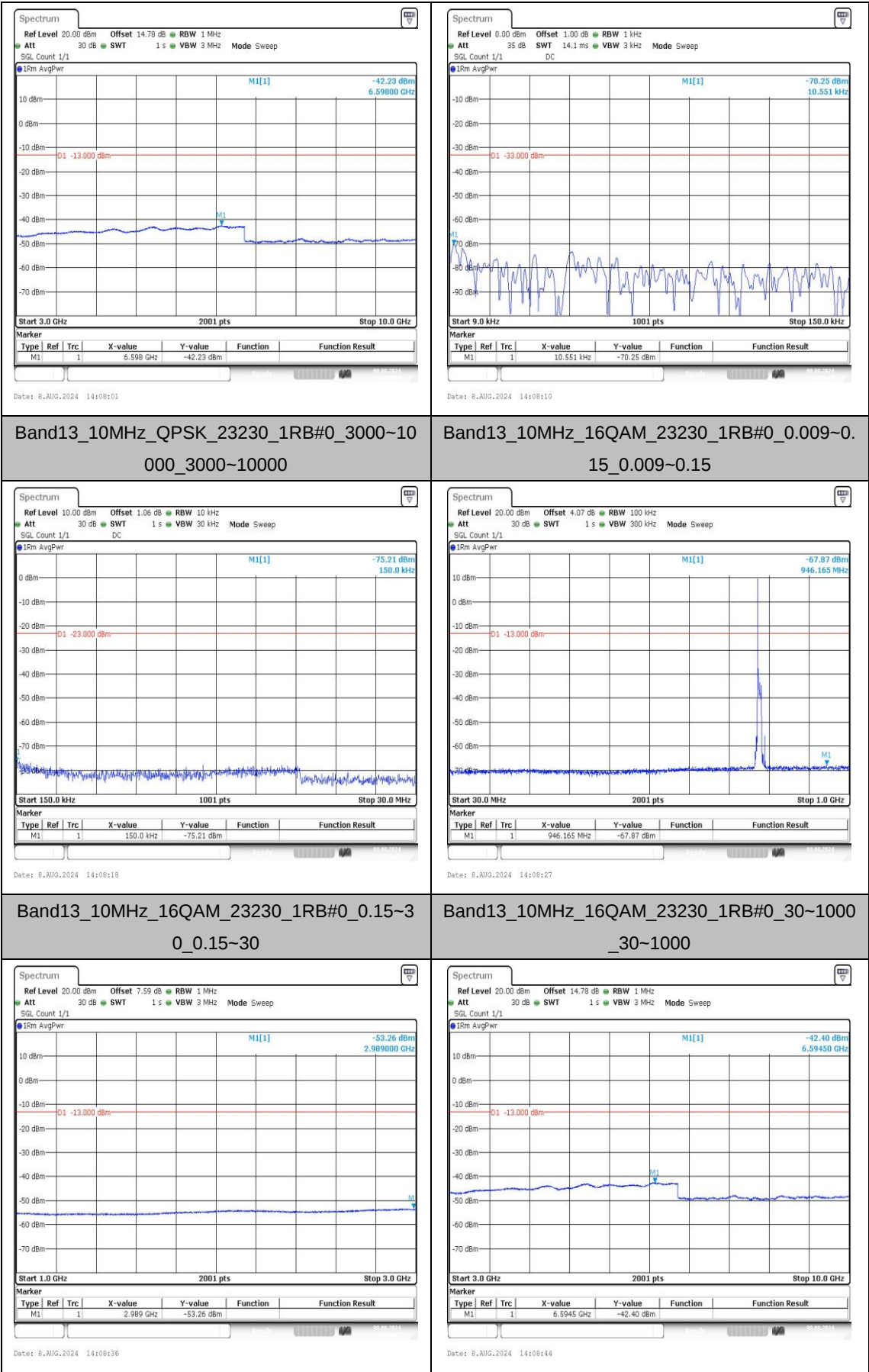












Band13_10MHz_16QAM_23230_1RB#0_1000~3000_1000~3000	Band13_10MHz_16QAM_23230_1RB#0_3000~10000_3000~10000
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Appendix F: Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	VN	NT	30.91	0.039654	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	VL	NT	14.25	0.018281	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	VH	NT	12.57	0.016126	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	VN	NT	44.50	0.057088	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	VL	NT	8.87	0.011379	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	VH	NT	29.88	0.038332	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VN	NT	11.26	0.014399	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VL	NT	6.34	0.008107	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	VH	NT	-16.82	-0.021509	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	VN	NT	14.45	0.018478	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	VL	NT	31.80	0.040665	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	VH	NT	47.06	0.060179	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	VN	NT	6.62	0.008438	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	VL	NT	-5.21	-0.006641	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	VH	NT	-36.69	-0.046769	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	VN	NT	20.17	0.025711	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	VL	NT	43.97	0.056048	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	VH	NT	8.55	0.010899	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VN	NT	-5.35	-0.006841	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VL	NT	6.11	0.007813	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	VH	NT	11.24	0.014373	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	VN	NT	22.33	0.028555	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	VL	NT	46.91	0.059987	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	VH	NT	43.42	0.055524	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	NV	-30	14.12	0.018114	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	-20	2.65	0.003400	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	-10	6.07	0.007787	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	0	-5.26	-0.006748	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	10	-9.21	-0.011815	±2.5	PASS

Band13	5MHz	QPSK	23205	25RB#0	NV	20	-31.56	-0.040487	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	30	-37.68	-0.048339	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	40	-4.69	-0.006017	±2.5	PASS
Band13	5MHz	QPSK	23205	25RB#0	NV	50	34.90	0.044772	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	-30	54.02	0.069301	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	-20	-6.88	-0.008826	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	-10	22.30	0.028608	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	0	30.93	0.039679	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	10	48.22	0.061860	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	20	52.10	0.066838	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	30	6.34	0.008133	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	40	18.60	0.023861	±2.5	PASS
Band13	5MHz	16QAM	23205	25RB#0	NV	50	28.90	0.037075	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	-30	3.20	0.004092	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	-20	-27.47	-0.035128	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	-10	9.48	0.012123	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	0	12.29	0.015716	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	10	8.67	0.011087	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	20	13.59	0.017379	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	30	16.31	0.020857	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	40	24.99	0.031957	±2.5	PASS
Band13	5MHz	QPSK	23230	25RB#0	NV	50	9.34	0.011944	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	-30	41.71	0.053338	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	-20	8.03	0.010269	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	-10	22.29	0.028504	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	0	28.14	0.035985	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	10	37.68	0.048184	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	20	49.41	0.063184	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	30	-4.22	-0.005396	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	40	12.22	0.015627	±2.5	PASS
Band13	5MHz	16QAM	23230	25RB#0	NV	50	17.15	0.021931	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	-30	-44.76	-0.057055	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	-20	-45.29	-0.057731	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	-10	-14.46	-0.018432	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	0	-43.03	-0.054850	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	10	-38.38	-0.048923	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	20	-36.88	-0.047011	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	30	-45.36	-0.057820	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	40	-52.71	-0.067189	±2.5	PASS
Band13	5MHz	QPSK	23255	25RB#0	NV	50	13.53	0.017247	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	-30	21.10	0.026896	±2.5	PASS

Band13	5MHz	16QAM	23255	25RB#0	NV	-20	34.03	0.043378	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	-10	-8.24	-0.010504	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	0	-18.42	-0.023480	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	10	13.23	0.016864	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	20	27.25	0.034736	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	30	10.06	0.012823	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	40	14.62	0.018636	±2.5	PASS
Band13	5MHz	16QAM	23255	25RB#0	NV	50	24.63	0.031396	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	-30	14.92	0.019079	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	-20	7.17	0.009169	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	-10	9.38	0.011995	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	0	15.66	0.020026	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	10	18.55	0.023721	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	20	6.64	0.008491	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	30	24.92	0.031867	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	40	30.17	0.038581	±2.5	PASS
Band13	10MHz	QPSK	23230	50RB#0	NV	50	31.17	0.039859	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	-30	-10.66	-0.013632	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	-20	-34.73	-0.044412	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	-10	8.63	0.011036	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	0	43.06	0.055064	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	10	55.70	0.071228	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	20	13.65	0.017455	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	30	15.89	0.020320	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	40	20.83	0.026637	±2.5	PASS
Band13	10MHz	16QAM	23230	50RB#0	NV	50	16.61	0.021240	±2.5	PASS