

FCC Appendix RF Test Data for LTE Band 38

Company: : Shenzhen Tuqiang IoT Technology Co., Ltd.

EUT : Rechargeable Tracker

Model Number : M501N

FCC ID : 2BTQO-M501N

Report No. : CTA25111402507

Reviewed By : Eric Wang

Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	23.48	PASS
Band38	5MHz	QPSK	37775	1RB#12	23.64	PASS
Band38	5MHz	QPSK	37775	1RB#24	23.66	PASS
Band38	5MHz	QPSK	37775	12RB#0	22.84	PASS
Band38	5MHz	QPSK	37775	12RB#6	22.78	PASS
Band38	5MHz	QPSK	37775	12RB#13	22.76	PASS
Band38	5MHz	QPSK	37775	25RB#0	22.79	PASS
Band38	5MHz	QPSK	38000	1RB#0	23.77	PASS
Band38	5MHz	QPSK	38000	1RB#12	23.71	PASS
Band38	5MHz	QPSK	38000	1RB#24	23.80	PASS
Band38	5MHz	QPSK	38000	12RB#0	22.99	PASS
Band38	5MHz	QPSK	38000	12RB#6	23.00	PASS
Band38	5MHz	QPSK	38000	12RB#13	22.98	PASS
Band38	5MHz	QPSK	38000	25RB#0	23.01	PASS
Band38	5MHz	QPSK	38225	1RB#0	23.93	PASS
Band38	5MHz	QPSK	38225	1RB#12	24.05	PASS
Band38	5MHz	QPSK	38225	1RB#24	23.88	PASS
Band38	5MHz	QPSK	38225	12RB#0	22.95	PASS
Band38	5MHz	QPSK	38225	12RB#6	22.97	PASS
Band38	5MHz	QPSK	38225	12RB#13	23.00	PASS
Band38	5MHz	QPSK	38225	25RB#0	22.99	PASS
Band38	5MHz	16QAM	37775	1RB#0	23.06	PASS
Band38	5MHz	16QAM	37775	1RB#12	22.98	PASS
Band38	5MHz	16QAM	37775	1RB#24	23.13	PASS
Band38	5MHz	16QAM	37775	12RB#0	21.78	PASS
Band38	5MHz	16QAM	37775	12RB#6	21.80	PASS
Band38	5MHz	16QAM	37775	12RB#13	21.74	PASS
Band38	5MHz	16QAM	37775	25RB#0	21.90	PASS
Band38	5MHz	16QAM	38000	1RB#0	22.93	PASS
Band38	5MHz	16QAM	38000	1RB#12	23.21	PASS
Band38	5MHz	16QAM	38000	1RB#24	23.30	PASS
Band38	5MHz	16QAM	38000	12RB#0	22.03	PASS
Band38	5MHz	16QAM	38000	12RB#6	22.04	PASS
Band38	5MHz	16QAM	38000	12RB#13	21.99	PASS
Band38	5MHz	16QAM	38000	25RB#0	22.16	PASS
Band38	5MHz	16QAM	38225	1RB#0	22.98	PASS
Band38	5MHz	16QAM	38225	1RB#12	23.58	PASS
Band38	5MHz	16QAM	38225	1RB#24	22.99	PASS

Band38	5MHz	16QAM	38225	12RB#0	21.98	PASS
Band38	5MHz	16QAM	38225	12RB#6	21.99	PASS
Band38	5MHz	16QAM	38225	12RB#13	21.96	PASS
Band38	5MHz	16QAM	38225	25RB#0	21.90	PASS
Band38	10MHz	QPSK	37800	1RB#0	23.70	PASS
Band38	10MHz	QPSK	37800	1RB#24	23.80	PASS
Band38	10MHz	QPSK	37800	1RB#49	23.91	PASS
Band38	10MHz	QPSK	37800	25RB#0	22.91	PASS
Band38	10MHz	QPSK	37800	25RB#12	22.89	PASS
Band38	10MHz	QPSK	37800	25RB#25	22.95	PASS
Band38	10MHz	QPSK	37800	50RB#0	22.92	PASS
Band38	10MHz	QPSK	38000	1RB#0	23.98	PASS
Band38	10MHz	QPSK	38000	1RB#24	23.94	PASS
Band38	10MHz	QPSK	38000	1RB#49	23.88	PASS
Band38	10MHz	QPSK	38000	25RB#0	23.14	PASS
Band38	10MHz	QPSK	38000	25RB#12	23.10	PASS
Band38	10MHz	QPSK	38000	25RB#25	23.10	PASS
Band38	10MHz	QPSK	38000	50RB#0	23.09	PASS
Band38	10MHz	QPSK	38200	1RB#0	23.92	PASS
Band38	10MHz	QPSK	38200	1RB#24	23.95	PASS
Band38	10MHz	QPSK	38200	1RB#49	23.95	PASS
Band38	10MHz	QPSK	38200	25RB#0	23.09	PASS
Band38	10MHz	QPSK	38200	25RB#12	23.10	PASS
Band38	10MHz	QPSK	38200	25RB#25	23.05	PASS
Band38	10MHz	QPSK	38200	50RB#0	23.07	PASS
Band38	10MHz	16QAM	37800	1RB#0	23.06	PASS
Band38	10MHz	16QAM	37800	1RB#24	23.11	PASS
Band38	10MHz	16QAM	37800	1RB#49	22.97	PASS
Band38	10MHz	16QAM	37800	25RB#0	21.78	PASS
Band38	10MHz	16QAM	37800	25RB#12	21.87	PASS
Band38	10MHz	16QAM	37800	25RB#25	21.84	PASS
Band38	10MHz	16QAM	38000	1RB#0	23.29	PASS
Band38	10MHz	16QAM	38000	1RB#24	23.29	PASS
Band38	10MHz	16QAM	38000	1RB#49	23.13	PASS
Band38	10MHz	16QAM	38000	25RB#0	22.11	PASS
Band38	10MHz	16QAM	38000	25RB#12	22.11	PASS
Band38	10MHz	16QAM	38000	25RB#25	22.07	PASS
Band38	10MHz	16QAM	38200	1RB#0	22.90	PASS
Band38	10MHz	16QAM	38200	1RB#24	23.46	PASS
Band38	10MHz	16QAM	38200	1RB#49	22.85	PASS
Band38	10MHz	16QAM	38200	25RB#0	22.11	PASS
Band38	10MHz	16QAM	38200	25RB#12	22.11	PASS
Band38	10MHz	16QAM	38200	25RB#25	22.07	PASS

Band38	15MHz	QPSK	37825	1RB#0	23.46	PASS
Band38	15MHz	QPSK	37825	1RB#38	23.50	PASS
Band38	15MHz	QPSK	37825	1RB#74	23.63	PASS
Band38	15MHz	QPSK	37825	38RB#0	22.68	PASS
Band38	15MHz	QPSK	37825	38RB#18	22.69	PASS
Band38	15MHz	QPSK	37825	38RB#37	22.69	PASS
Band38	15MHz	QPSK	37825	75RB#0	22.58	PASS
Band38	15MHz	QPSK	38000	1RB#0	23.72	PASS
Band38	15MHz	QPSK	38000	1RB#38	23.70	PASS
Band38	15MHz	QPSK	38000	1RB#74	23.58	PASS
Band38	15MHz	QPSK	38000	38RB#0	22.82	PASS
Band38	15MHz	QPSK	38000	38RB#18	22.82	PASS
Band38	15MHz	QPSK	38000	38RB#37	22.92	PASS
Band38	15MHz	QPSK	38000	75RB#0	22.72	PASS
Band38	15MHz	QPSK	38175	1RB#0	23.76	PASS
Band38	15MHz	QPSK	38175	1RB#38	23.63	PASS
Band38	15MHz	QPSK	38175	1RB#74	23.66	PASS
Band38	15MHz	QPSK	38175	38RB#0	22.82	PASS
Band38	15MHz	QPSK	38175	38RB#18	22.82	PASS
Band38	15MHz	QPSK	38175	38RB#37	22.81	PASS
Band38	15MHz	QPSK	38175	75RB#0	22.81	PASS
Band38	15MHz	16QAM	37825	1RB#0	22.46	PASS
Band38	15MHz	16QAM	37825	1RB#38	22.52	PASS
Band38	15MHz	16QAM	37825	1RB#74	22.65	PASS
Band38	15MHz	16QAM	37825	38RB#0	22.68	PASS
Band38	15MHz	16QAM	37825	38RB#18	22.69	PASS
Band38	15MHz	16QAM	37825	38RB#37	22.68	PASS
Band38	15MHz	16QAM	38000	1RB#0	23.07	PASS
Band38	15MHz	16QAM	38000	1RB#38	22.74	PASS
Band38	15MHz	16QAM	38000	1RB#74	22.43	PASS
Band38	15MHz	16QAM	38000	38RB#0	22.82	PASS
Band38	15MHz	16QAM	38000	38RB#18	22.82	PASS
Band38	15MHz	16QAM	38000	38RB#37	22.91	PASS
Band38	15MHz	16QAM	38175	1RB#0	22.62	PASS
Band38	15MHz	16QAM	38175	1RB#38	22.65	PASS
Band38	15MHz	16QAM	38175	1RB#74	22.66	PASS
Band38	15MHz	16QAM	38175	38RB#0	22.82	PASS
Band38	15MHz	16QAM	38175	38RB#18	22.81	PASS
Band38	15MHz	16QAM	38175	38RB#37	22.81	PASS
Band38	20MHz	QPSK	37850	1RB#0	23.49	PASS
Band38	20MHz	QPSK	37850	1RB#49	23.82	PASS
Band38	20MHz	QPSK	37850	1RB#99	23.49	PASS
Band38	20MHz	QPSK	37850	50RB#0	22.52	PASS

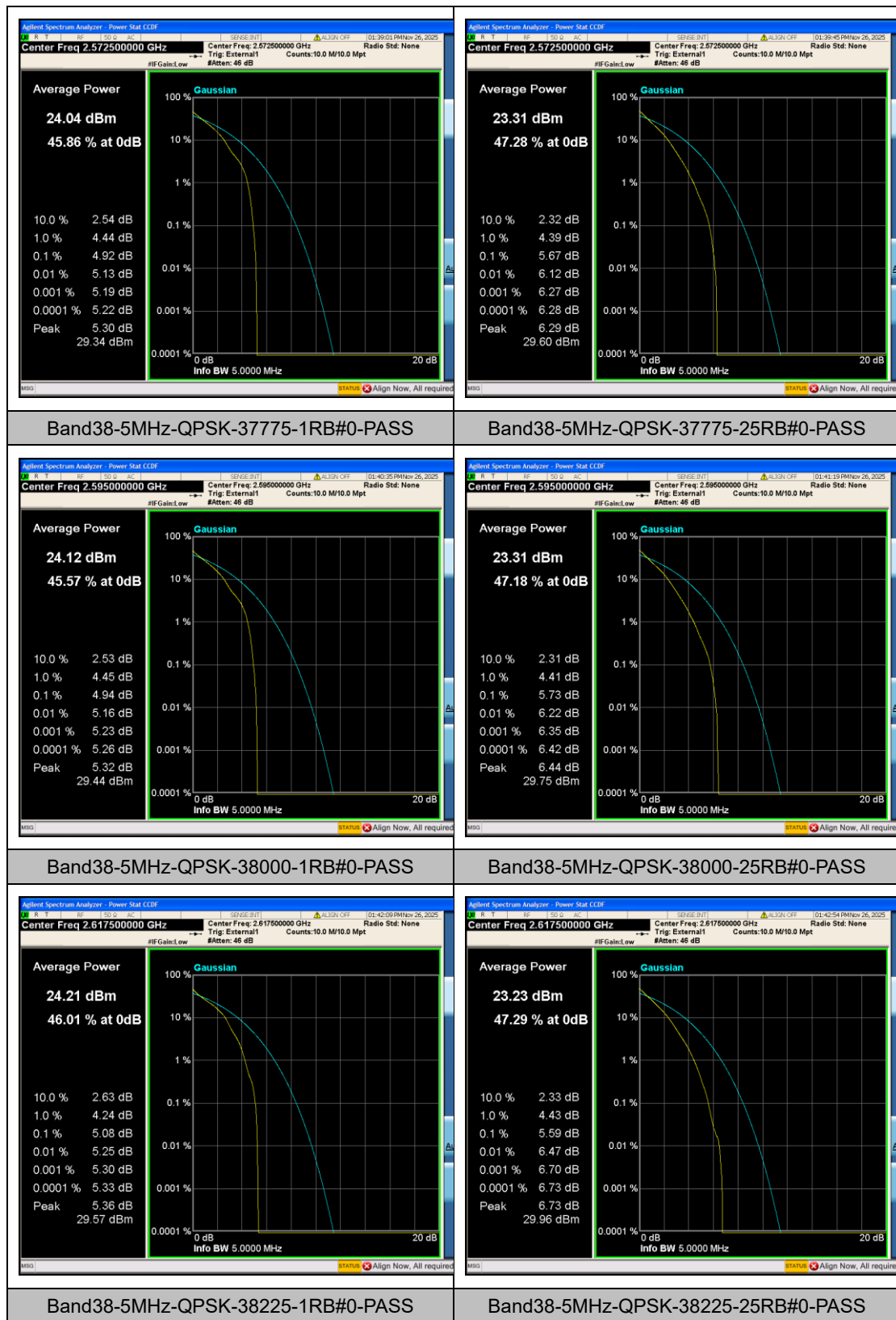
Band38	20MHz	QPSK	37850	50RB#25	22.51	PASS
Band38	20MHz	QPSK	37850	50RB#50	22.62	PASS
Band38	20MHz	QPSK	37850	100RB#0	22.56	PASS
Band38	20MHz	QPSK	38000	1RB#0	23.76	PASS
Band38	20MHz	QPSK	38000	1RB#49	23.96	PASS
Band38	20MHz	QPSK	38000	1RB#99	23.58	PASS
Band38	20MHz	QPSK	38000	50RB#0	22.79	PASS
Band38	20MHz	QPSK	38000	50RB#25	22.81	PASS
Band38	20MHz	QPSK	38000	50RB#50	22.71	PASS
Band38	20MHz	QPSK	38000	100RB#0	22.77	PASS
Band38	20MHz	QPSK	38150	1RB#0	23.90	PASS
Band38	20MHz	QPSK	38150	1RB#49	23.95	PASS
Band38	20MHz	QPSK	38150	1RB#99	23.61	PASS
Band38	20MHz	QPSK	38150	50RB#0	22.74	PASS
Band38	20MHz	QPSK	38150	50RB#25	22.78	PASS
Band38	20MHz	QPSK	38150	50RB#50	22.70	PASS
Band38	20MHz	QPSK	38150	100RB#0	22.73	PASS
Band38	20MHz	16QAM	37850	1RB#0	23.10	PASS
Band38	20MHz	16QAM	37850	1RB#49	23.39	PASS
Band38	20MHz	16QAM	37850	1RB#99	23.12	PASS
Band38	20MHz	16QAM	38000	1RB#0	23.37	PASS
Band38	20MHz	16QAM	38000	1RB#49	23.67	PASS
Band38	20MHz	16QAM	38000	1RB#99	23.12	PASS
Band38	20MHz	16QAM	38150	1RB#0	23.01	PASS
Band38	20MHz	16QAM	38150	1RB#49	23.00	PASS
Band38	20MHz	16QAM	38150	1RB#99	22.84	PASS

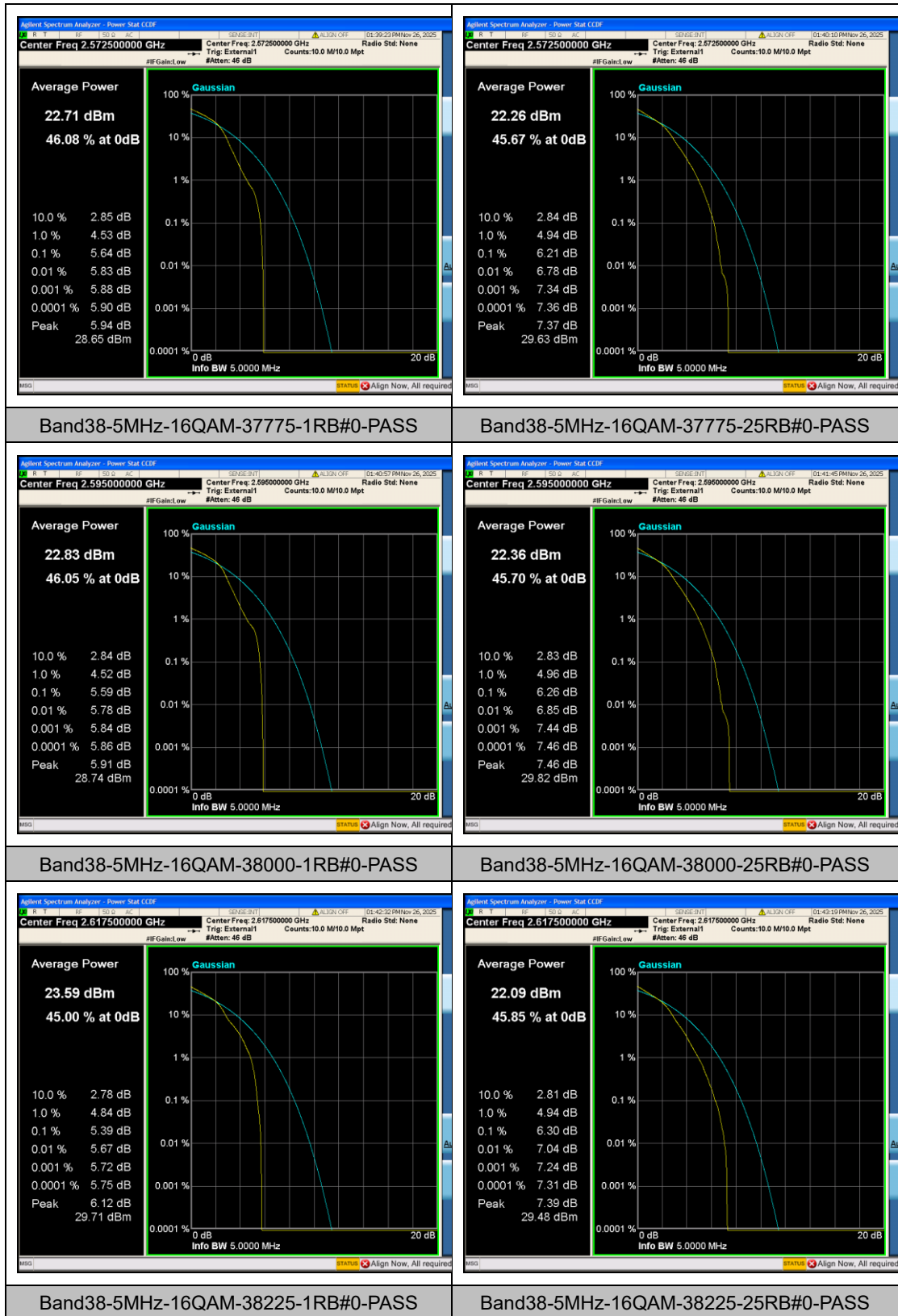
Appendix B: Peak-to-Average Ratio(CCDF)

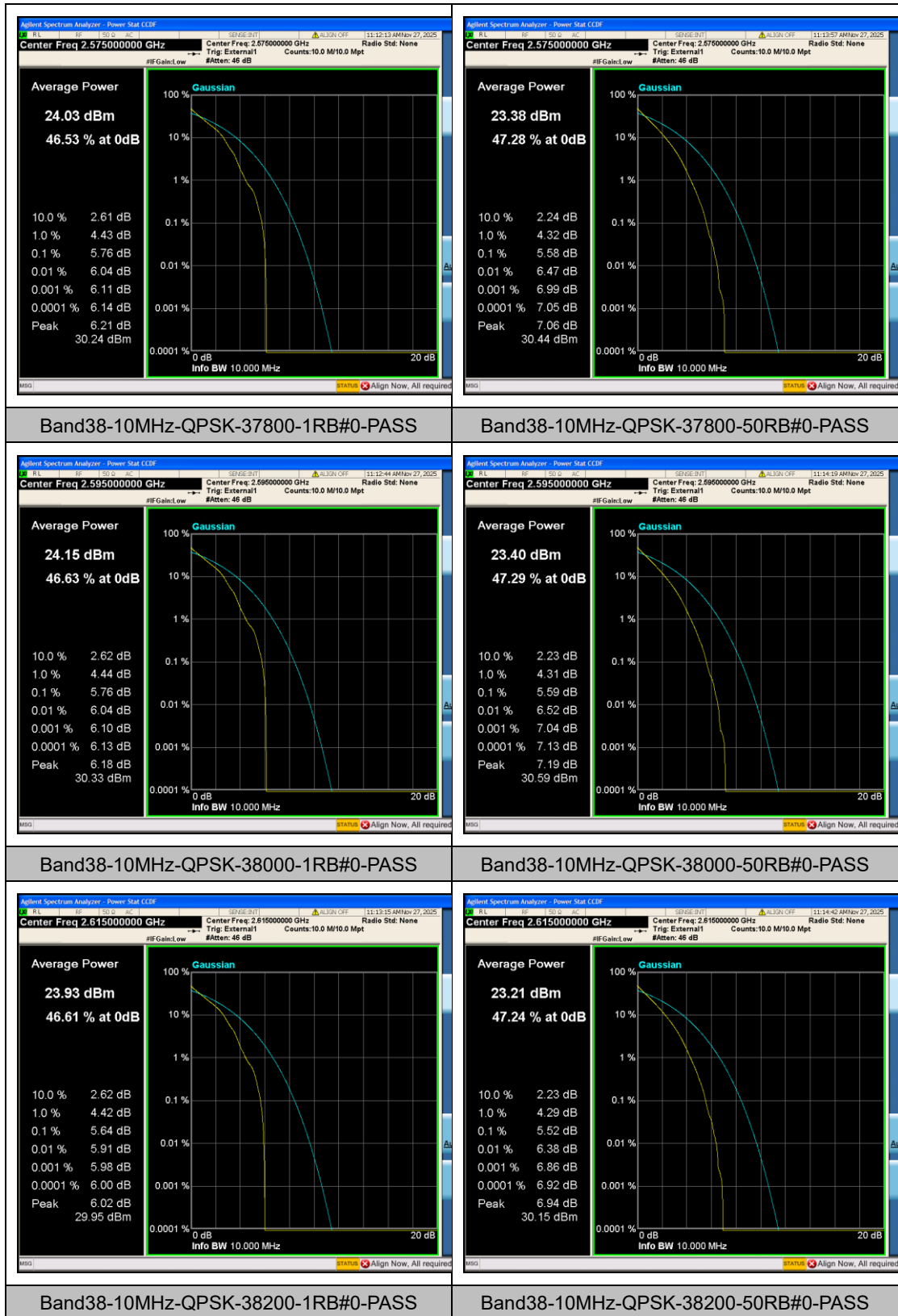
Test Result

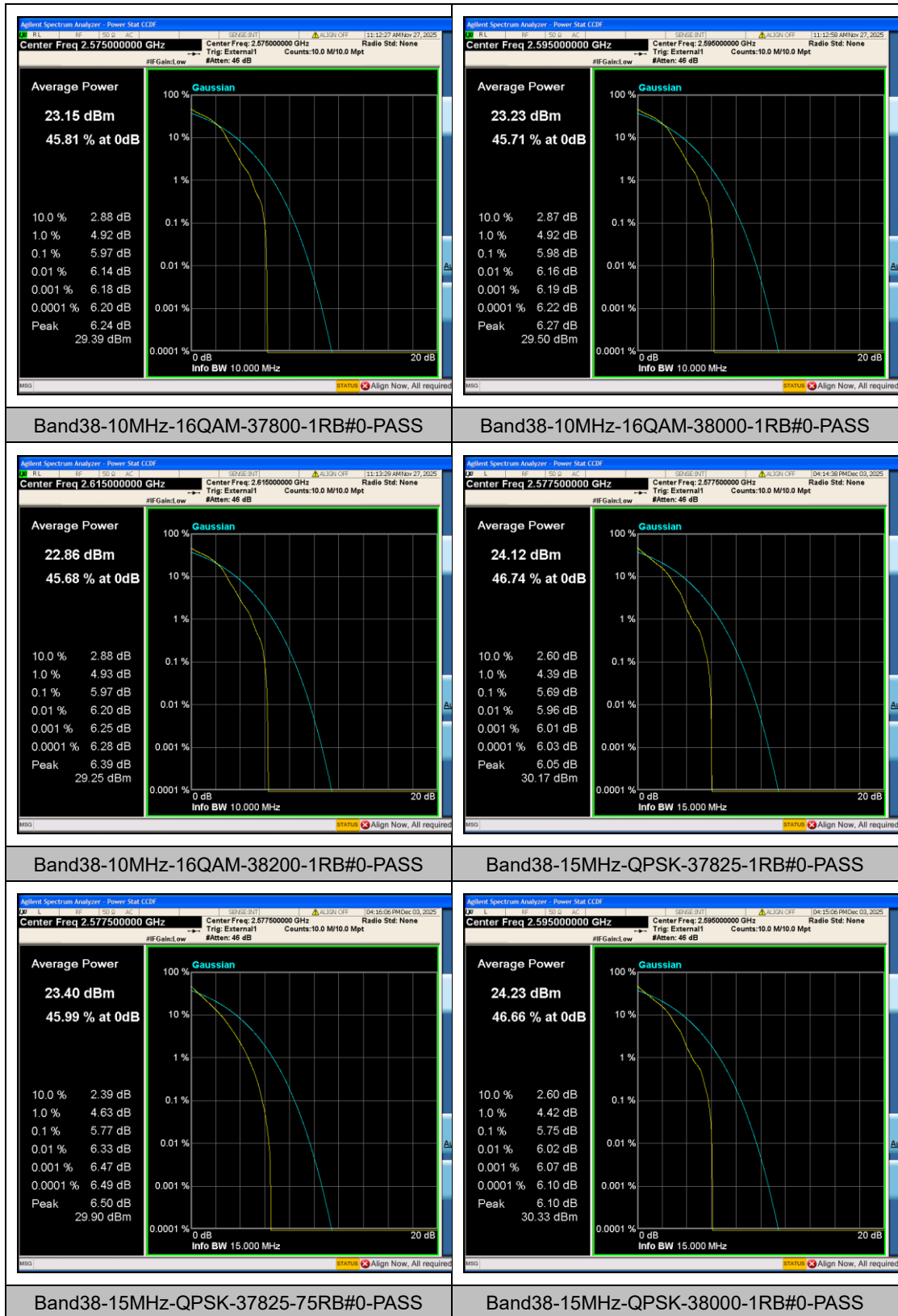
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	4.92	13	PASS
Band38	5MHz	QPSK	37775	25RB#0	5.67	13	PASS
Band38	5MHz	QPSK	38000	1RB#0	4.94	13	PASS
Band38	5MHz	QPSK	38000	25RB#0	5.73	13	PASS
Band38	5MHz	QPSK	38225	1RB#0	5.08	13	PASS
Band38	5MHz	QPSK	38225	25RB#0	5.59	13	PASS
Band38	5MHz	16QAM	37775	1RB#0	5.64	13	PASS
Band38	5MHz	16QAM	37775	25RB#0	6.21	13	PASS
Band38	5MHz	16QAM	38000	1RB#0	5.59	13	PASS
Band38	5MHz	16QAM	38000	25RB#0	6.26	13	PASS
Band38	5MHz	16QAM	38225	1RB#0	5.39	13	PASS
Band38	5MHz	16QAM	38225	25RB#0	6.30	13	PASS
Band38	10MHz	QPSK	37800	1RB#0	5.76	13	PASS
Band38	10MHz	QPSK	37800	50RB#0	5.58	13	PASS
Band38	10MHz	QPSK	38000	1RB#0	5.76	13	PASS
Band38	10MHz	QPSK	38000	50RB#0	5.59	13	PASS
Band38	10MHz	QPSK	38200	1RB#0	5.64	13	PASS
Band38	10MHz	QPSK	38200	50RB#0	5.52	13	PASS
Band38	10MHz	16QAM	37800	1RB#0	5.97	13	PASS
Band38	10MHz	16QAM	38000	1RB#0	5.98	13	PASS
Band38	10MHz	16QAM	38200	1RB#0	5.97	13	PASS
Band38	15MHz	QPSK	37825	1RB#0	5.69	13	PASS
Band38	15MHz	QPSK	37825	75RB#0	5.77	13	PASS
Band38	15MHz	QPSK	38000	1RB#0	5.75	13	PASS
Band38	15MHz	QPSK	38000	75RB#0	5.82	13	PASS
Band38	15MHz	QPSK	38175	1RB#0	5.59	13	PASS
Band38	15MHz	QPSK	38175	75RB#0	5.79	13	PASS
Band38	15MHz	16QAM	37825	1RB#0	5.93	13	PASS
Band38	15MHz	16QAM	38000	1RB#0	6.04	13	PASS
Band38	15MHz	16QAM	38175	1RB#0	6.04	13	PASS
Band38	20MHz	QPSK	37850	1RB#0	4.88	13	PASS
Band38	20MHz	QPSK	37850	100RB#0	5.33	13	PASS
Band38	20MHz	QPSK	38000	1RB#0	4.93	13	PASS
Band38	20MHz	QPSK	38000	100RB#0	5.35	13	PASS
Band38	20MHz	QPSK	38150	1RB#0	4.92	13	PASS
Band38	20MHz	QPSK	38150	100RB#0	5.35	13	PASS

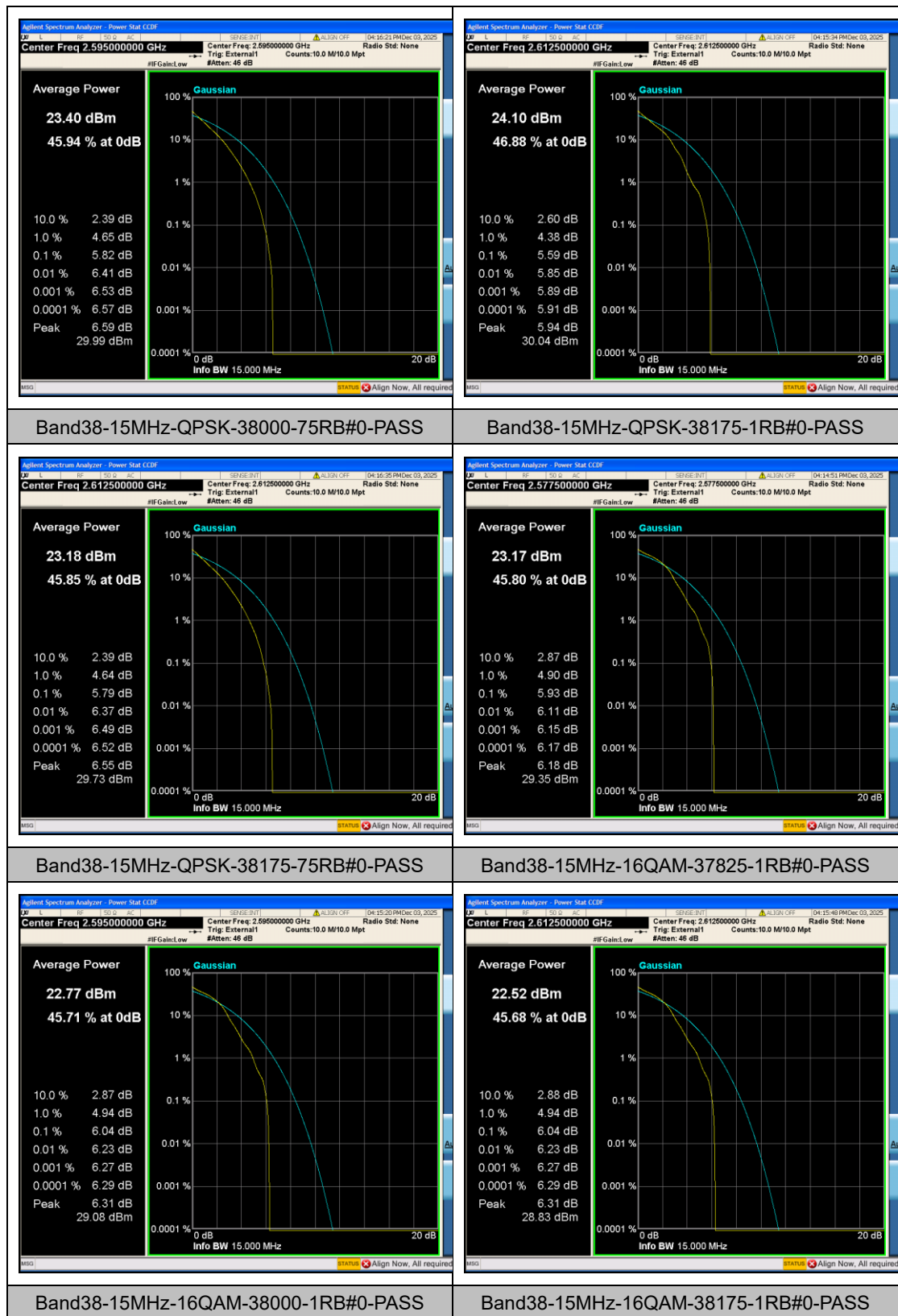
Test Graphs

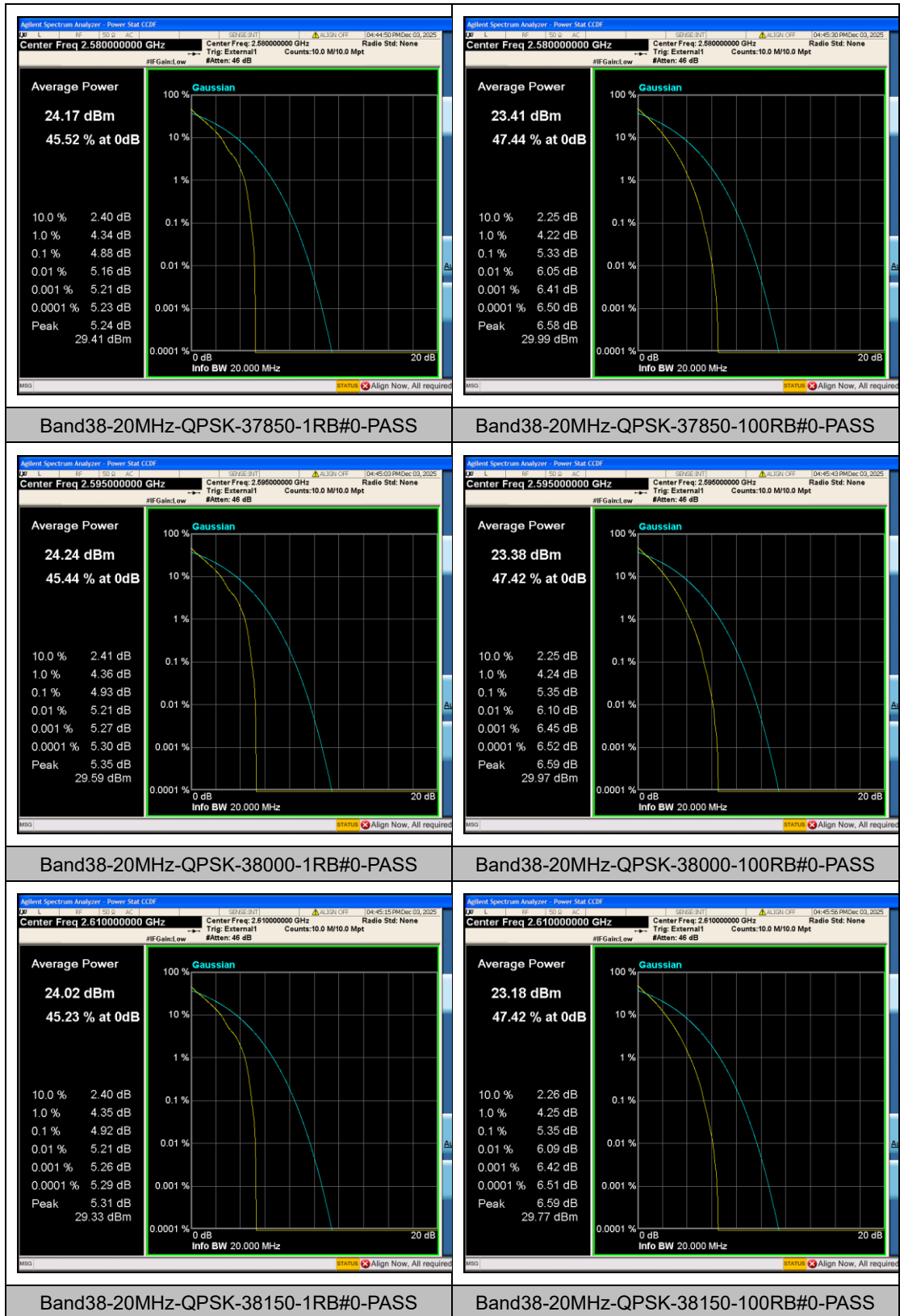










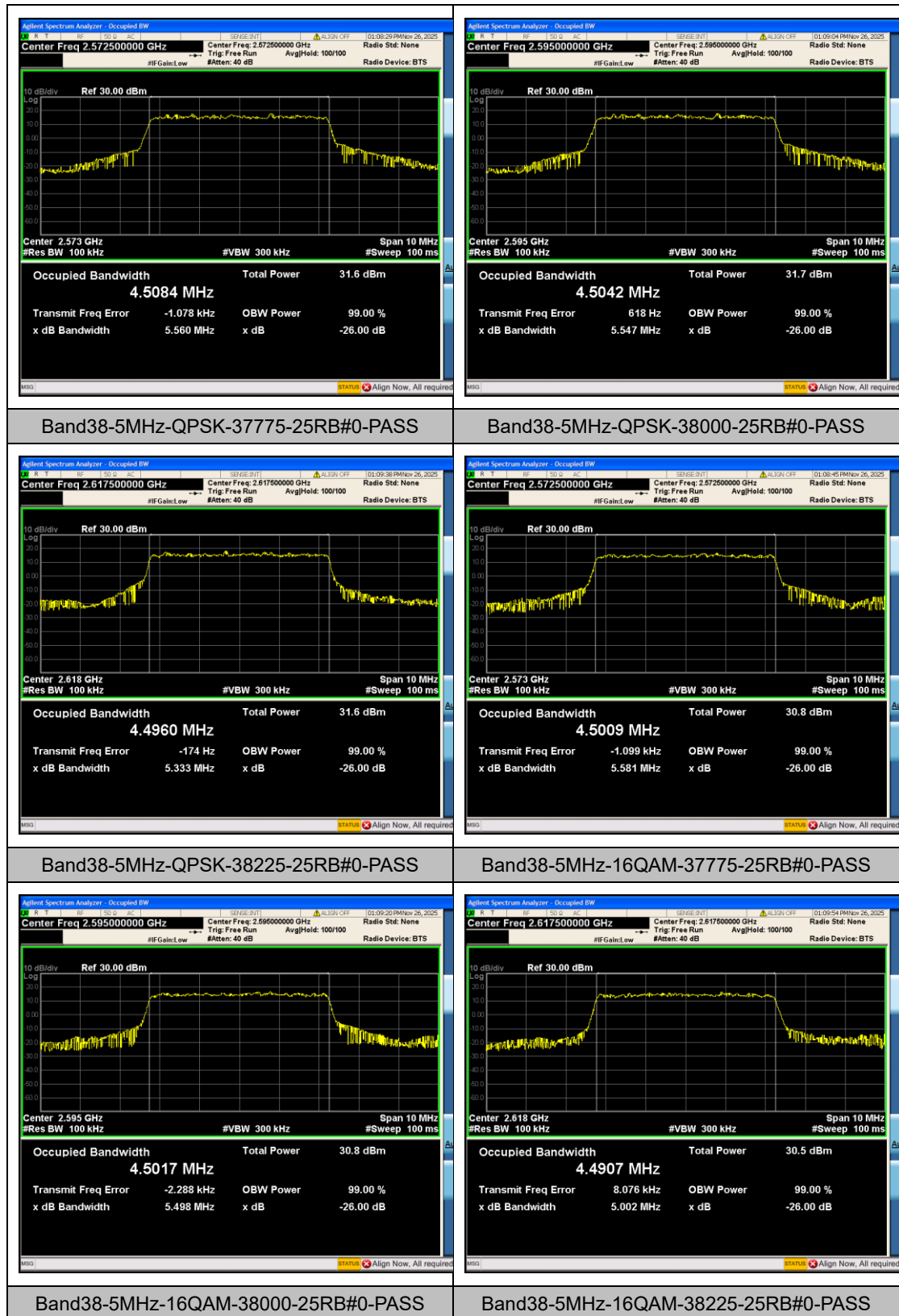


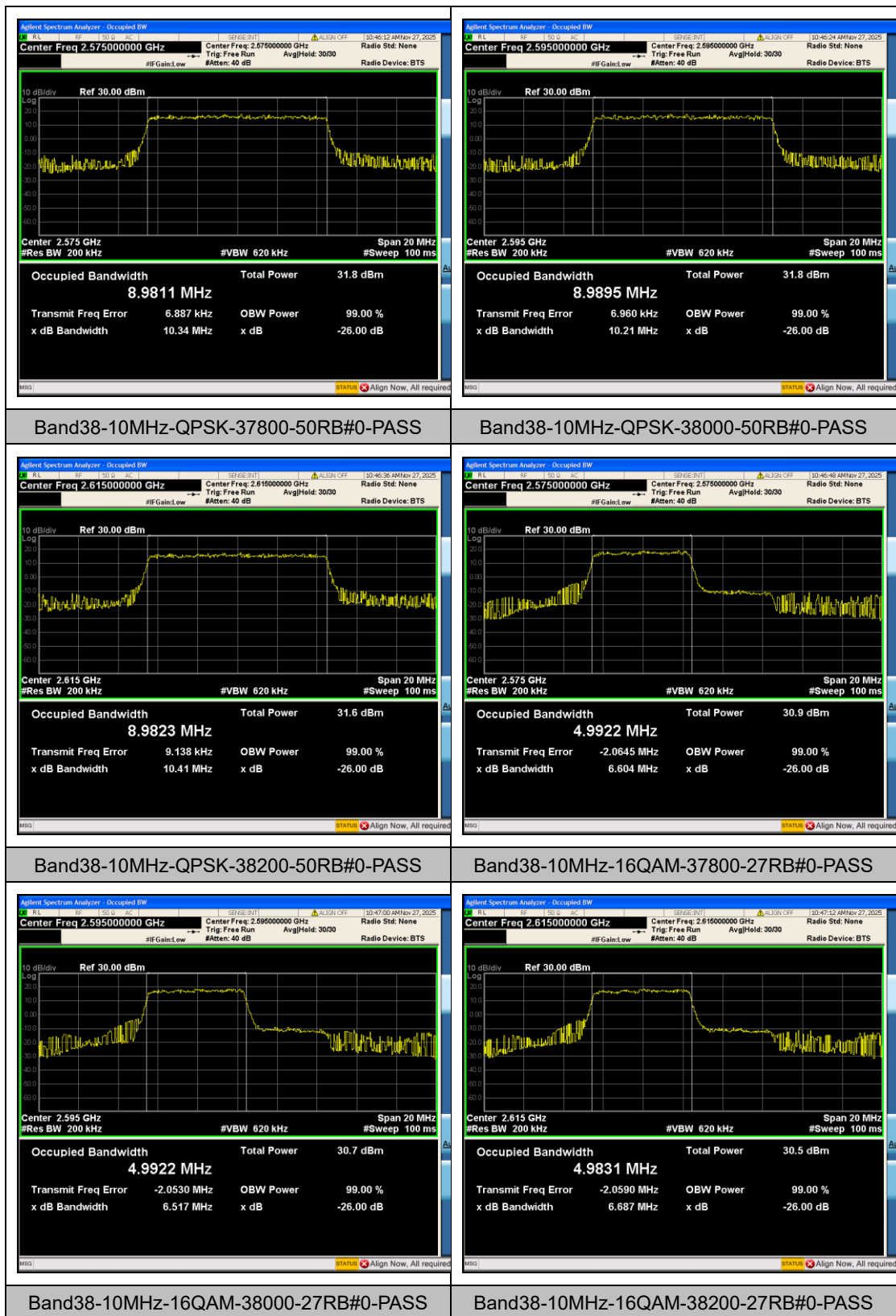
Appendix C: 26dB Bandwidth and Occupied Bandwidth

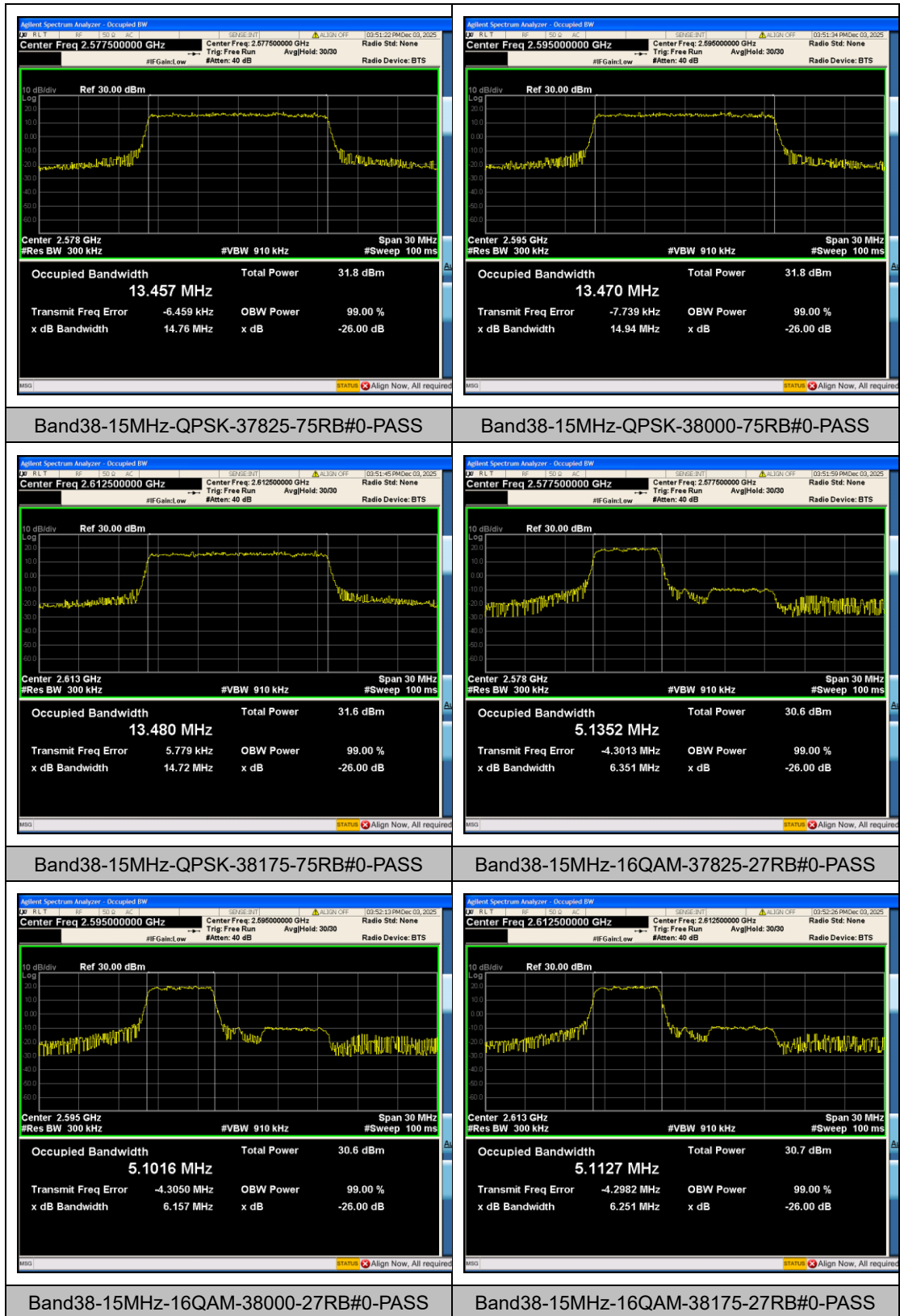
Test Result

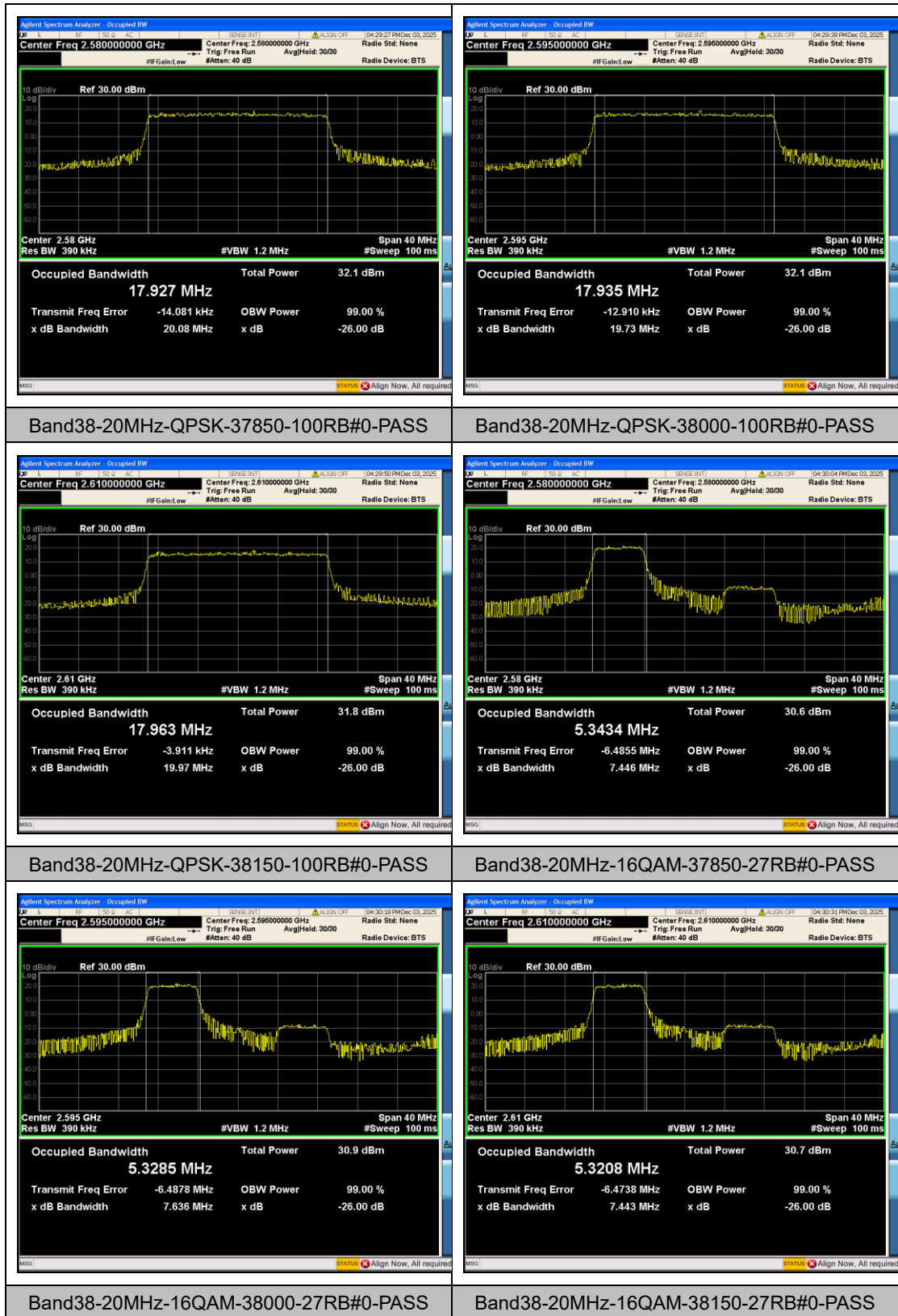
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band38	5MHz	QPSK	37775	25RB#0	4.5084	5.560	PASS
Band38	5MHz	QPSK	38000	25RB#0	4.5042	5.547	PASS
Band38	5MHz	QPSK	38225	25RB#0	4.4960	5.333	PASS
Band38	5MHz	16QAM	37775	25RB#0	4.5009	5.581	PASS
Band38	5MHz	16QAM	38000	25RB#0	4.5017	5.498	PASS
Band38	5MHz	16QAM	38225	25RB#0	4.4907	5.002	PASS
Band38	10MHz	QPSK	37800	50RB#0	8.9811	10.34	PASS
Band38	10MHz	QPSK	38000	50RB#0	8.9895	10.21	PASS
Band38	10MHz	QPSK	38200	50RB#0	8.9823	10.41	PASS
Band38	10MHz	16QAM	37800	27RB#0	4.9922	6.604	PASS
Band38	10MHz	16QAM	38000	27RB#0	4.9922	6.517	PASS
Band38	10MHz	16QAM	38200	27RB#0	4.9831	6.687	PASS
Band38	15MHz	QPSK	37825	75RB#0	13.457	14.76	PASS
Band38	15MHz	QPSK	38000	75RB#0	13.470	14.94	PASS
Band38	15MHz	QPSK	38175	75RB#0	13.480	14.72	PASS
Band38	15MHz	16QAM	37825	27RB#0	5.1352	6.351	PASS
Band38	15MHz	16QAM	38000	27RB#0	5.1016	6.157	PASS
Band38	15MHz	16QAM	38175	27RB#0	5.1127	6.251	PASS
Band38	20MHz	QPSK	37850	100RB#0	17.927	20.08	PASS
Band38	20MHz	QPSK	38000	100RB#0	17.935	19.73	PASS
Band38	20MHz	QPSK	38150	100RB#0	17.963	19.97	PASS
Band38	20MHz	16QAM	37850	27RB#0	5.3434	7.446	PASS
Band38	20MHz	16QAM	38000	27RB#0	5.3285	7.636	PASS
Band38	20MHz	16QAM	38150	27RB#0	5.3208	7.443	PASS

Test Graphs









Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	-22.06	PASS
Band38	5MHz	QPSK	37775	1RB#24	-42.21	PASS
Band38	5MHz	QPSK	37775	25RB#0	-36.38	PASS
Band38	5MHz	QPSK	38225	1RB#0	-25.28	PASS
Band38	5MHz	QPSK	38225	1RB#24	-21.81	PASS
Band38	5MHz	QPSK	38225	25RB#0	-34.46	PASS
Band38	5MHz	16QAM	37775	1RB#0	-23.56	PASS
Band38	5MHz	16QAM	37775	1RB#24	-42.40	PASS
Band38	5MHz	16QAM	37775	25RB#0	-37.23	PASS
Band38	5MHz	16QAM	38225	1RB#0	-42.03	PASS
Band38	5MHz	16QAM	38225	1RB#24	-23.21	PASS
Band38	5MHz	16QAM	38225	25RB#0	-35.55	PASS
Band38	10MHz	QPSK	37800	1RB#0	-42.29	PASS
Band38	10MHz	QPSK	37800	1RB#49	-27.22	PASS
Band38	10MHz	QPSK	37800	50RB#0	-37.48	PASS
Band38	10MHz	QPSK	38200	1RB#0	-29.35	PASS
Band38	10MHz	QPSK	38200	1RB#49	-41.87	PASS
Band38	10MHz	QPSK	38200	50RB#0	-36.09	PASS
Band38	10MHz	16QAM	37800	1RB#0	-42.40	PASS
Band38	10MHz	16QAM	37800	1RB#49	-29.88	PASS
Band38	10MHz	16QAM	38200	1RB#0	-41.98	PASS
Band38	10MHz	16QAM	38200	1RB#49	-41.99	PASS
Band38	15MHz	QPSK	37825	1RB#0	-42.21	PASS
Band38	15MHz	QPSK	37825	1RB#74	-27.28	PASS
Band38	15MHz	QPSK	37825	75RB#0	-37.59	PASS
Band38	15MHz	QPSK	38175	1RB#0	-41.51	PASS
Band38	15MHz	QPSK	38175	1RB#74	-41.67	PASS
Band38	15MHz	QPSK	38175	75RB#0	-35.07	PASS
Band38	15MHz	16QAM	37825	1RB#0	-42.31	PASS
Band38	15MHz	16QAM	37825	1RB#74	-42.29	PASS
Band38	15MHz	16QAM	38175	1RB#0	-41.61	PASS
Band38	15MHz	16QAM	38175	1RB#74	-41.79	PASS
Band38	20MHz	QPSK	37850	1RB#0	-42.46	PASS
Band38	20MHz	QPSK	37850	1RB#99	-42.56	PASS
Band38	20MHz	QPSK	37850	100RB#0	-39.01	PASS
Band38	20MHz	QPSK	38150	1RB#0	-41.92	PASS
Band38	20MHz	QPSK	38150	1RB#99	-41.90	PASS

Band38	20MHz	QPSK	38150	100RB#0	-36.54	PASS
Band38	20MHz	16QAM	37850	1RB#0	-42.48	PASS
Band38	20MHz	16QAM	37850	1RB#99	-42.52	PASS
Band38	20MHz	16QAM	38150	1RB#0	-41.88	PASS
Band38	20MHz	16QAM	38150	1RB#99	-41.90	PASS

Test Graphs

