

Appendix for LTE Band 38

Product Name: 5G Indoor CPE

Model No: TITAN 5000

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	22.56	PASS
Band38	5MHz	16QAM	37775	1RB#0	21.61	PASS
Band38	5MHz	QPSK	37775	1RB#12	22.63	PASS
Band38	5MHz	16QAM	37775	1RB#12	21.55	PASS
Band38	5MHz	QPSK	37775	1RB#24	22.62	PASS
Band38	5MHz	16QAM	37775	1RB#24	21.50	PASS
Band38	5MHz	QPSK	37775	12RB#0	21.63	PASS
Band38	5MHz	16QAM	37775	12RB#0	20.61	PASS
Band38	5MHz	QPSK	37775	12RB#6	21.63	PASS
Band38	5MHz	16QAM	37775	12RB#6	20.59	PASS
Band38	5MHz	QPSK	37775	12RB#13	21.61	PASS
Band38	5MHz	16QAM	37775	12RB#13	20.60	PASS
Band38	5MHz	QPSK	37775	25RB#0	21.67	PASS
Band38	5MHz	16QAM	37775	25RB#0	20.62	PASS
Band38	5MHz	QPSK	38000	1RB#0	22.64	PASS
Band38	5MHz	16QAM	38000	1RB#0	21.61	PASS
Band38	5MHz	QPSK	38000	1RB#12	22.60	PASS
Band38	5MHz	16QAM	38000	1RB#12	21.60	PASS
Band38	5MHz	QPSK	38000	1RB#24	22.61	PASS
Band38	5MHz	16QAM	38000	1RB#24	21.58	PASS
Band38	5MHz	QPSK	38000	12RB#0	21.66	PASS
Band38	5MHz	16QAM	38000	12RB#0	20.62	PASS
Band38	5MHz	QPSK	38000	12RB#6	21.66	PASS
Band38	5MHz	16QAM	38000	12RB#6	20.64	PASS
Band38	5MHz	QPSK	38000	12RB#13	21.58	PASS
Band38	5MHz	16QAM	38000	12RB#13	20.71	PASS
Band38	5MHz	QPSK	38000	25RB#0	21.57	PASS
Band38	5MHz	16QAM	38000	25RB#0	20.54	PASS
Band38	5MHz	QPSK	38225	1RB#0	22.49	PASS
Band38	5MHz	16QAM	38225	1RB#0	21.60	PASS
Band38	5MHz	QPSK	38225	1RB#12	22.47	PASS
Band38	5MHz	16QAM	38225	1RB#12	21.34	PASS
Band38	5MHz	QPSK	38225	1RB#24	22.39	PASS
Band38	5MHz	16QAM	38225	1RB#24	21.40	PASS
Band38	5MHz	QPSK	38225	12RB#0	21.51	PASS
Band38	5MHz	16QAM	38225	12RB#0	20.64	PASS

Band38	5MHz	QPSK	38225	12RB#6	21.53	PASS
Band38	5MHz	16QAM	38225	12RB#6	20.50	PASS
Band38	5MHz	QPSK	38225	12RB#13	21.49	PASS
Band38	5MHz	16QAM	38225	12RB#13	20.60	PASS
Band38	5MHz	QPSK	38225	25RB#0	21.52	PASS
Band38	5MHz	16QAM	38225	25RB#0	20.54	PASS
Band38	10MHz	QPSK	37800	1RB#0	22.52	PASS
Band38	10MHz	16QAM	37800	1RB#0	21.49	PASS
Band38	10MHz	QPSK	37800	1RB#24	22.56	PASS
Band38	10MHz	16QAM	37800	1RB#24	21.65	PASS
Band38	10MHz	QPSK	37800	1RB#49	22.60	PASS
Band38	10MHz	16QAM	37800	1RB#49	21.57	PASS
Band38	10MHz	QPSK	37800	25RB#0	21.65	PASS
Band38	10MHz	16QAM	37800	25RB#0	20.65	PASS
Band38	10MHz	QPSK	37800	25RB#12	21.65	PASS
Band38	10MHz	16QAM	37800	25RB#12	20.60	PASS
Band38	10MHz	QPSK	37800	25RB#25	21.64	PASS
Band38	10MHz	16QAM	37800	25RB#25	20.62	PASS
Band38	10MHz	QPSK	37800	50RB#0	21.64	PASS
Band38	10MHz	16QAM	37800	50RB#0	20.69	PASS
Band38	10MHz	QPSK	38000	1RB#0	22.62	PASS
Band38	10MHz	16QAM	38000	1RB#0	21.60	PASS
Band38	10MHz	QPSK	38000	1RB#24	22.63	PASS
Band38	10MHz	16QAM	38000	1RB#24	21.57	PASS
Band38	10MHz	QPSK	38000	1RB#49	22.60	PASS
Band38	10MHz	16QAM	38000	1RB#49	21.52	PASS
Band38	10MHz	QPSK	38000	25RB#0	21.66	PASS
Band38	10MHz	16QAM	38000	25RB#0	20.64	PASS
Band38	10MHz	QPSK	38000	25RB#12	21.67	PASS
Band38	10MHz	16QAM	38000	25RB#12	20.65	PASS
Band38	10MHz	QPSK	38000	25RB#25	21.61	PASS
Band38	10MHz	16QAM	38000	25RB#25	20.60	PASS
Band38	10MHz	QPSK	38000	50RB#0	21.60	PASS
Band38	10MHz	16QAM	38000	50RB#0	20.60	PASS
Band38	10MHz	QPSK	38200	1RB#0	22.51	PASS
Band38	10MHz	16QAM	38200	1RB#0	21.66	PASS
Band38	10MHz	QPSK	38200	1RB#24	22.50	PASS
Band38	10MHz	16QAM	38200	1RB#24	21.40	PASS
Band38	10MHz	QPSK	38200	1RB#49	22.48	PASS
Band38	10MHz	16QAM	38200	1RB#49	21.42	PASS
Band38	10MHz	QPSK	38200	25RB#0	21.54	PASS
Band38	10MHz	16QAM	38200	25RB#0	20.53	PASS

Band38	10MHz	QPSK	38200	25RB#12	21.55	PASS
Band38	10MHz	16QAM	38200	25RB#12	20.53	PASS
Band38	10MHz	QPSK	38200	25RB#25	21.45	PASS
Band38	10MHz	16QAM	38200	25RB#25	20.45	PASS
Band38	10MHz	QPSK	38200	50RB#0	21.54	PASS
Band38	10MHz	16QAM	38200	50RB#0	20.55	PASS
Band38	15MHz	QPSK	37825	1RB#0	22.38	PASS
Band38	15MHz	16QAM	37825	1RB#0	21.51	PASS
Band38	15MHz	QPSK	37825	1RB#38	22.35	PASS
Band38	15MHz	16QAM	37825	1RB#38	21.44	PASS
Band38	15MHz	QPSK	37825	1RB#74	22.41	PASS
Band38	15MHz	16QAM	37825	1RB#74	21.48	PASS
Band38	15MHz	QPSK	37825	38RB#0	21.53	PASS
Band38	15MHz	16QAM	37825	38RB#0	21.53	PASS
Band38	15MHz	QPSK	37825	38RB#18	21.52	PASS
Band38	15MHz	16QAM	37825	38RB#18	21.54	PASS
Band38	15MHz	QPSK	37825	38RB#37	21.52	PASS
Band38	15MHz	16QAM	37825	38RB#37	21.53	PASS
Band38	15MHz	QPSK	37825	75RB#0	21.52	PASS
Band38	15MHz	16QAM	37825	75RB#0	20.53	PASS
Band38	15MHz	QPSK	38000	1RB#0	22.49	PASS
Band38	15MHz	16QAM	38000	1RB#0	21.56	PASS
Band38	15MHz	QPSK	38000	1RB#38	22.51	PASS
Band38	15MHz	16QAM	38000	1RB#38	21.47	PASS
Band38	15MHz	QPSK	38000	1RB#74	22.32	PASS
Band38	15MHz	16QAM	38000	1RB#74	21.37	PASS
Band38	15MHz	QPSK	38000	38RB#0	21.51	PASS
Band38	15MHz	16QAM	38000	38RB#0	21.46	PASS
Band38	15MHz	QPSK	38000	38RB#18	21.42	PASS
Band38	15MHz	16QAM	38000	38RB#18	21.42	PASS
Band38	15MHz	QPSK	38000	38RB#37	21.48	PASS
Band38	15MHz	16QAM	38000	38RB#37	21.50	PASS
Band38	15MHz	QPSK	38000	75RB#0	21.48	PASS
Band38	15MHz	16QAM	38000	75RB#0	20.50	PASS
Band38	15MHz	QPSK	38175	1RB#0	22.49	PASS
Band38	15MHz	16QAM	38175	1RB#0	21.32	PASS
Band38	15MHz	QPSK	38175	1RB#38	22.23	PASS
Band38	15MHz	16QAM	38175	1RB#38	21.43	PASS
Band38	15MHz	QPSK	38175	1RB#74	22.14	PASS
Band38	15MHz	16QAM	38175	1RB#74	21.18	PASS
Band38	15MHz	QPSK	38175	38RB#0	21.44	PASS
Band38	15MHz	16QAM	38175	38RB#0	21.48	PASS

Band38	15MHz	QPSK	38175	38RB#18	21.42	PASS
Band38	15MHz	16QAM	38175	38RB#18	21.48	PASS
Band38	15MHz	QPSK	38175	38RB#37	21.41	PASS
Band38	15MHz	16QAM	38175	38RB#37	21.40	PASS
Band38	15MHz	QPSK	38175	75RB#0	21.46	PASS
Band38	15MHz	16QAM	38175	75RB#0	20.46	PASS
Band38	20MHz	QPSK	37850	1RB#0	22.53	PASS
Band38	20MHz	16QAM	37850	1RB#0	21.53	PASS
Band38	20MHz	QPSK	37850	1RB#49	22.40	PASS
Band38	20MHz	16QAM	37850	1RB#49	21.31	PASS
Band38	20MHz	QPSK	37850	1RB#99	22.37	PASS
Band38	20MHz	16QAM	37850	1RB#99	21.48	PASS
Band38	20MHz	QPSK	37850	50RB#0	21.59	PASS
Band38	20MHz	16QAM	37850	50RB#0	20.60	PASS
Band38	20MHz	QPSK	37850	50RB#25	21.55	PASS
Band38	20MHz	16QAM	37850	50RB#25	20.61	PASS
Band38	20MHz	QPSK	37850	50RB#50	21.59	PASS
Band38	20MHz	16QAM	37850	50RB#50	20.56	PASS
Band38	20MHz	QPSK	37850	100RB#0	21.56	PASS
Band38	20MHz	16QAM	37850	100RB#0	20.57	PASS
Band38	20MHz	QPSK	38000	1RB#0	22.51	PASS
Band38	20MHz	16QAM	38000	1RB#0	21.63	PASS
Band38	20MHz	QPSK	38000	1RB#49	22.43	PASS
Band38	20MHz	16QAM	38000	1RB#49	21.67	PASS
Band38	20MHz	QPSK	38000	1RB#99	22.33	PASS
Band38	20MHz	16QAM	38000	1RB#99	21.45	PASS
Band38	20MHz	QPSK	38000	50RB#0	21.61	PASS
Band38	20MHz	16QAM	38000	50RB#0	20.63	PASS
Band38	20MHz	QPSK	38000	50RB#25	21.58	PASS
Band38	20MHz	16QAM	38000	50RB#25	20.60	PASS
Band38	20MHz	QPSK	38000	50RB#50	21.49	PASS
Band38	20MHz	16QAM	38000	50RB#50	20.52	PASS
Band38	20MHz	QPSK	38000	100RB#0	21.49	PASS
Band38	20MHz	16QAM	38000	100RB#0	20.52	PASS
Band38	20MHz	QPSK	38150	1RB#0	22.43	PASS
Band38	20MHz	16QAM	38150	1RB#0	21.50	PASS
Band38	20MHz	QPSK	38150	1RB#49	22.36	PASS
Band38	20MHz	16QAM	38150	1RB#49	21.31	PASS
Band38	20MHz	QPSK	38150	1RB#99	22.22	PASS
Band38	20MHz	16QAM	38150	1RB#99	21.14	PASS
Band38	20MHz	QPSK	38150	50RB#0	21.54	PASS
Band38	20MHz	16QAM	38150	50RB#0	20.55	PASS

Band38	20MHz	QPSK	38150	50RB#25	21.52	PASS
Band38	20MHz	16QAM	38150	50RB#25	20.53	PASS
Band38	20MHz	QPSK	38150	50RB#50	21.39	PASS
Band38	20MHz	16QAM	38150	50RB#50	20.37	PASS
Band38	20MHz	QPSK	38150	100RB#0	21.46	PASS
Band38	20MHz	16QAM	38150	100RB#0	20.48	PASS

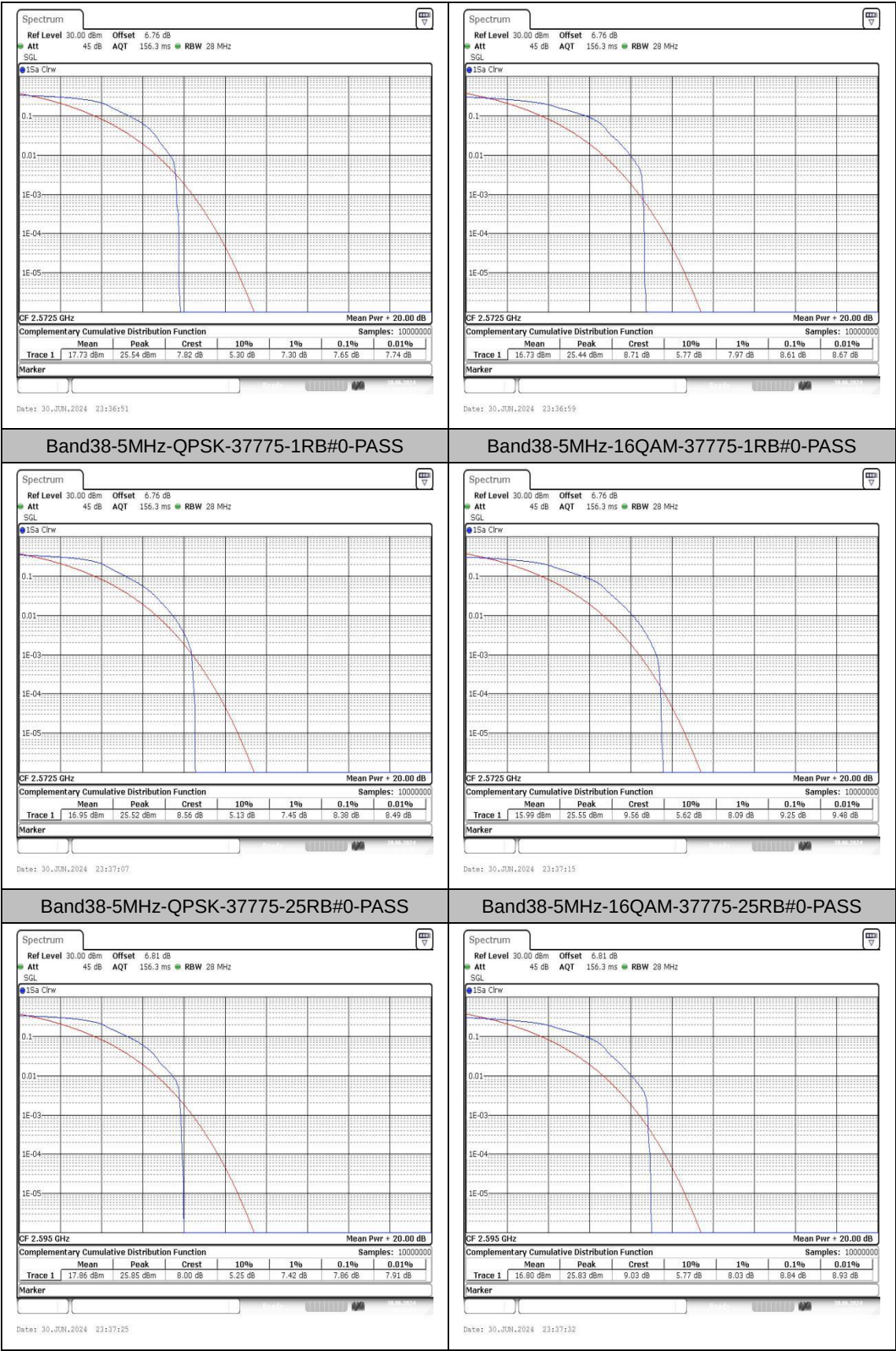
Appendix B: Peak-to-Average Ratio(CCDF)

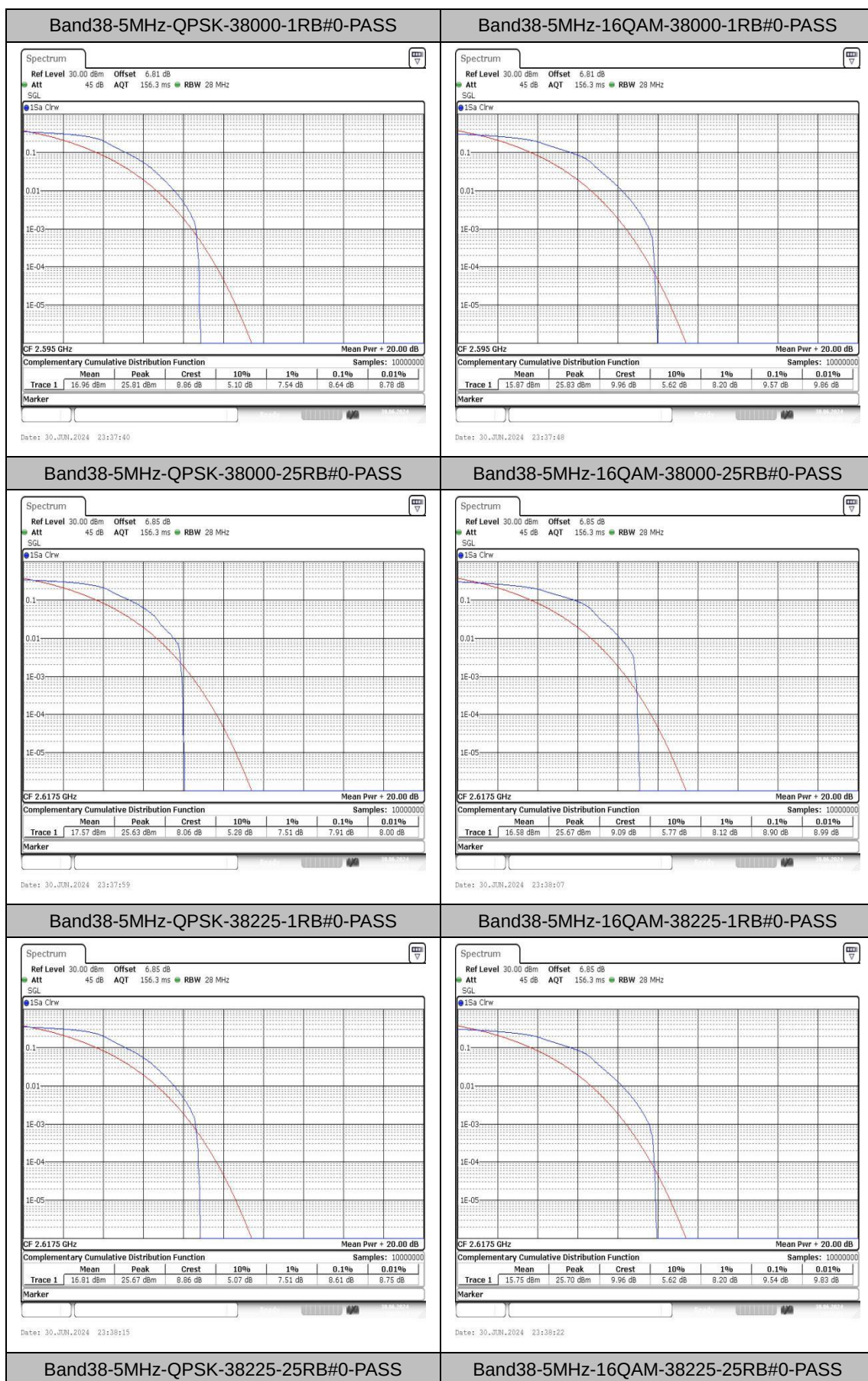
Test Result

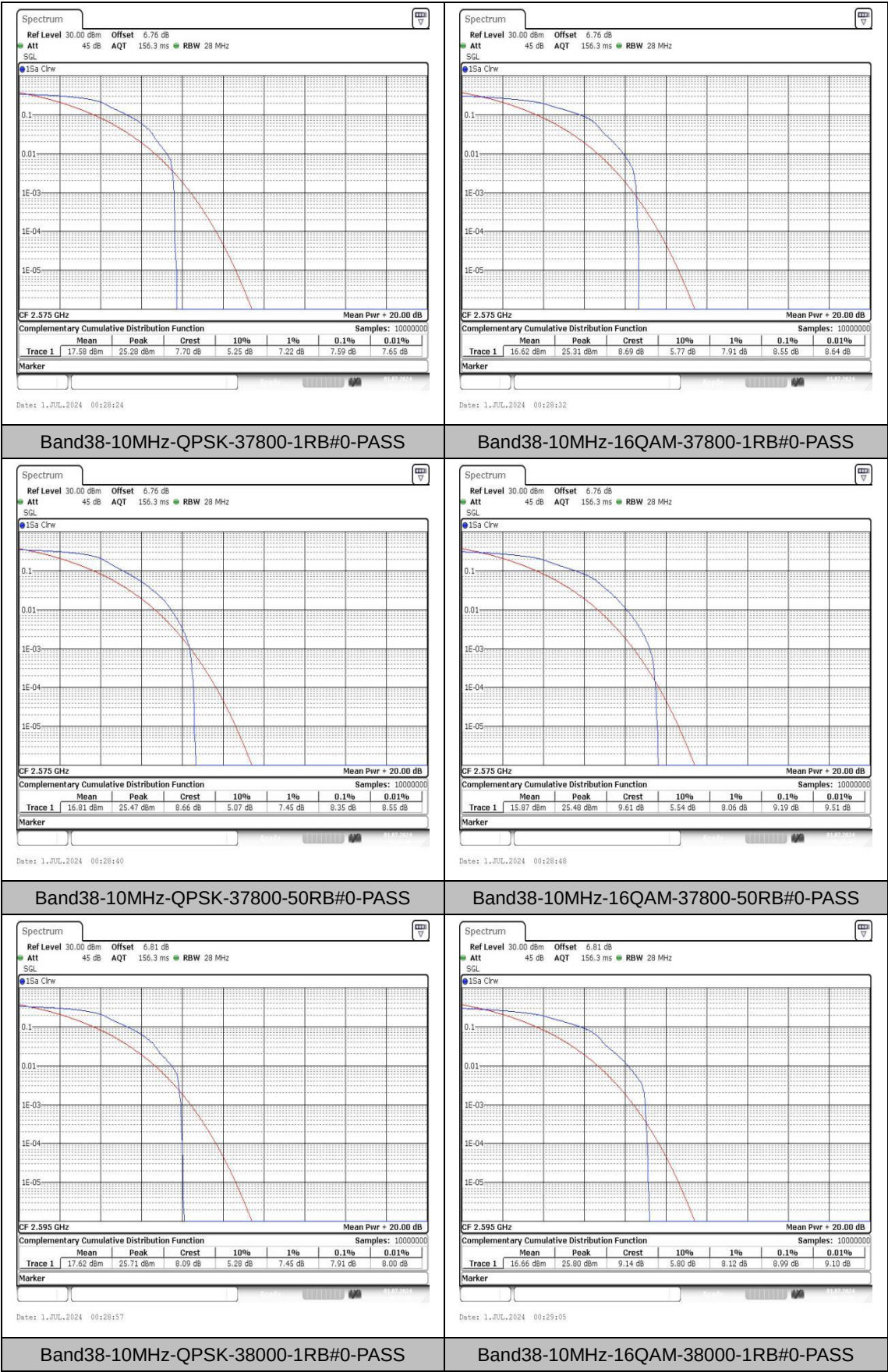
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	7.65	13	PASS
Band38	5MHz	16QAM	37775	1RB#0	8.61	13	PASS
Band38	5MHz	QPSK	37775	25RB#0	8.38	13	PASS
Band38	5MHz	16QAM	37775	25RB#0	9.25	13	PASS
Band38	5MHz	QPSK	38000	1RB#0	7.86	13	PASS
Band38	5MHz	16QAM	38000	1RB#0	8.84	13	PASS
Band38	5MHz	QPSK	38000	25RB#0	8.64	13	PASS
Band38	5MHz	16QAM	38000	25RB#0	9.57	13	PASS
Band38	5MHz	QPSK	38225	1RB#0	7.91	13	PASS
Band38	5MHz	16QAM	38225	1RB#0	8.90	13	PASS
Band38	5MHz	QPSK	38225	25RB#0	8.61	13	PASS
Band38	5MHz	16QAM	38225	25RB#0	9.54	13	PASS
Band38	10MHz	QPSK	37800	1RB#0	7.59	13	PASS
Band38	10MHz	16QAM	37800	1RB#0	8.55	13	PASS
Band38	10MHz	QPSK	37800	50RB#0	8.35	13	PASS
Band38	10MHz	16QAM	37800	50RB#0	9.19	13	PASS
Band38	10MHz	QPSK	38000	1RB#0	7.91	13	PASS
Band38	10MHz	16QAM	38000	1RB#0	8.99	13	PASS
Band38	10MHz	QPSK	38000	50RB#0	8.72	13	PASS
Band38	10MHz	16QAM	38000	50RB#0	9.59	13	PASS
Band38	10MHz	QPSK	38200	1RB#0	7.83	13	PASS
Band38	10MHz	16QAM	38200	1RB#0	8.90	13	PASS
Band38	10MHz	QPSK	38200	50RB#0	8.70	13	PASS
Band38	10MHz	16QAM	38200	50RB#0	9.54	13	PASS
Band38	15MHz	QPSK	37825	1RB#0	7.94	13	PASS
Band38	15MHz	16QAM	37825	1RB#0	8.93	13	PASS
Band38	15MHz	QPSK	37825	75RB#0	8.87	13	PASS
Band38	15MHz	16QAM	37825	75RB#0	9.65	13	PASS
Band38	15MHz	QPSK	38000	1RB#0	8.06	13	PASS
Band38	15MHz	16QAM	38000	1RB#0	9.01	13	PASS
Band38	15MHz	QPSK	38000	75RB#0	8.93	13	PASS
Band38	15MHz	16QAM	38000	75RB#0	9.71	13	PASS
Band38	15MHz	QPSK	38175	1RB#0	7.97	13	PASS
Band38	15MHz	16QAM	38175	1RB#0	8.96	13	PASS
Band38	15MHz	QPSK	38175	75RB#0	8.81	13	PASS
Band38	15MHz	16QAM	38175	75RB#0	9.59	13	PASS

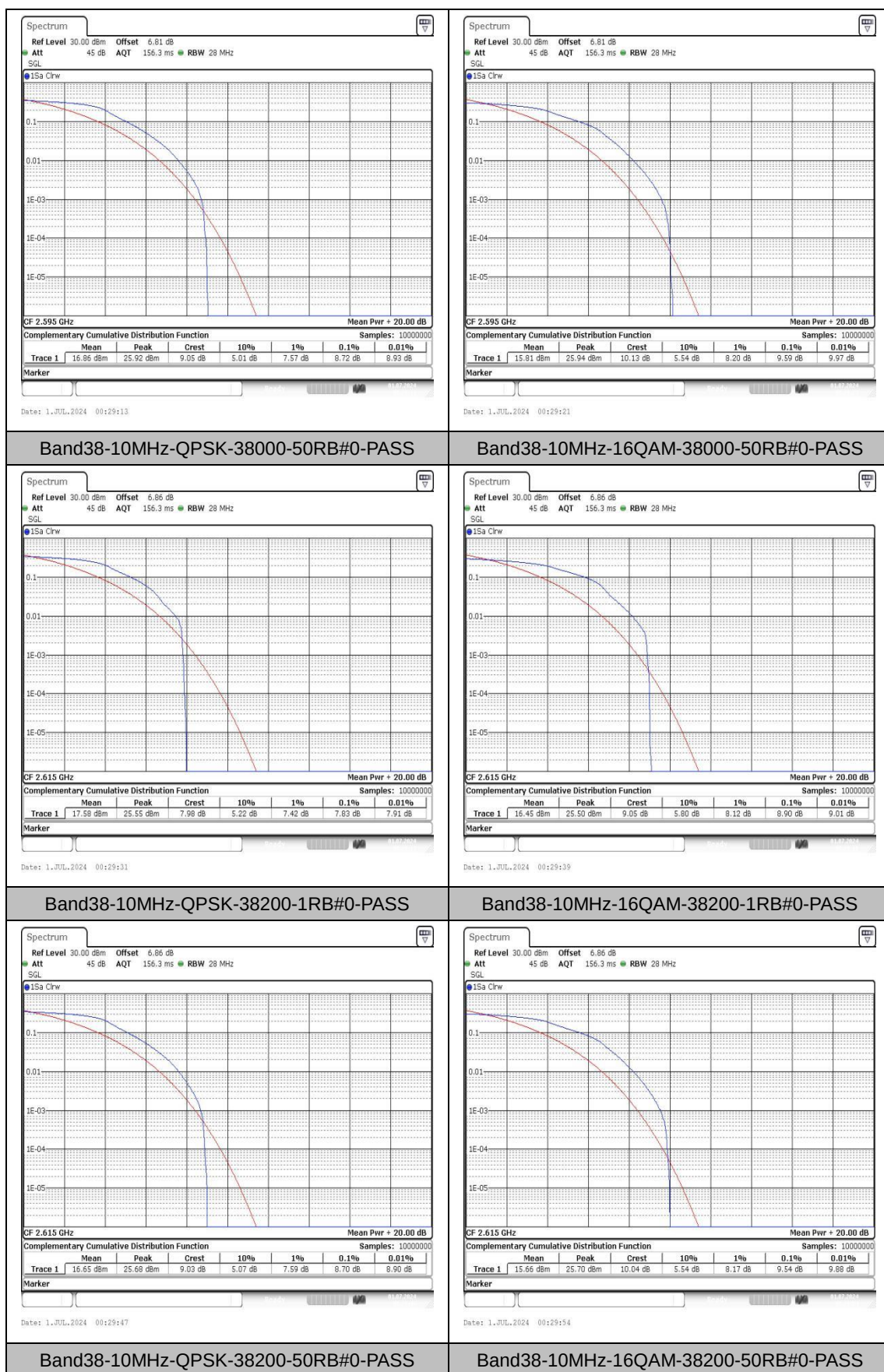
Band38	20MHz	QPSK	37850	1RB#0	8.00	13	PASS
Band38	20MHz	16QAM	37850	1RB#0	8.87	13	PASS
Band38	20MHz	QPSK	37850	100RB#0	8.81	13	PASS
Band38	20MHz	16QAM	37850	100RB#0	9.57	13	PASS
Band38	20MHz	QPSK	38000	1RB#0	8.03	13	PASS
Band38	20MHz	16QAM	38000	1RB#0	8.90	13	PASS
Band38	20MHz	QPSK	38000	100RB#0	8.72	13	PASS
Band38	20MHz	16QAM	38000	100RB#0	9.62	13	PASS
Band38	20MHz	QPSK	38150	1RB#0	7.91	13	PASS
Band38	20MHz	16QAM	38150	1RB#0	8.87	13	PASS
Band38	20MHz	QPSK	38150	100RB#0	8.67	13	PASS
Band38	20MHz	16QAM	38150	100RB#0	9.51	13	PASS

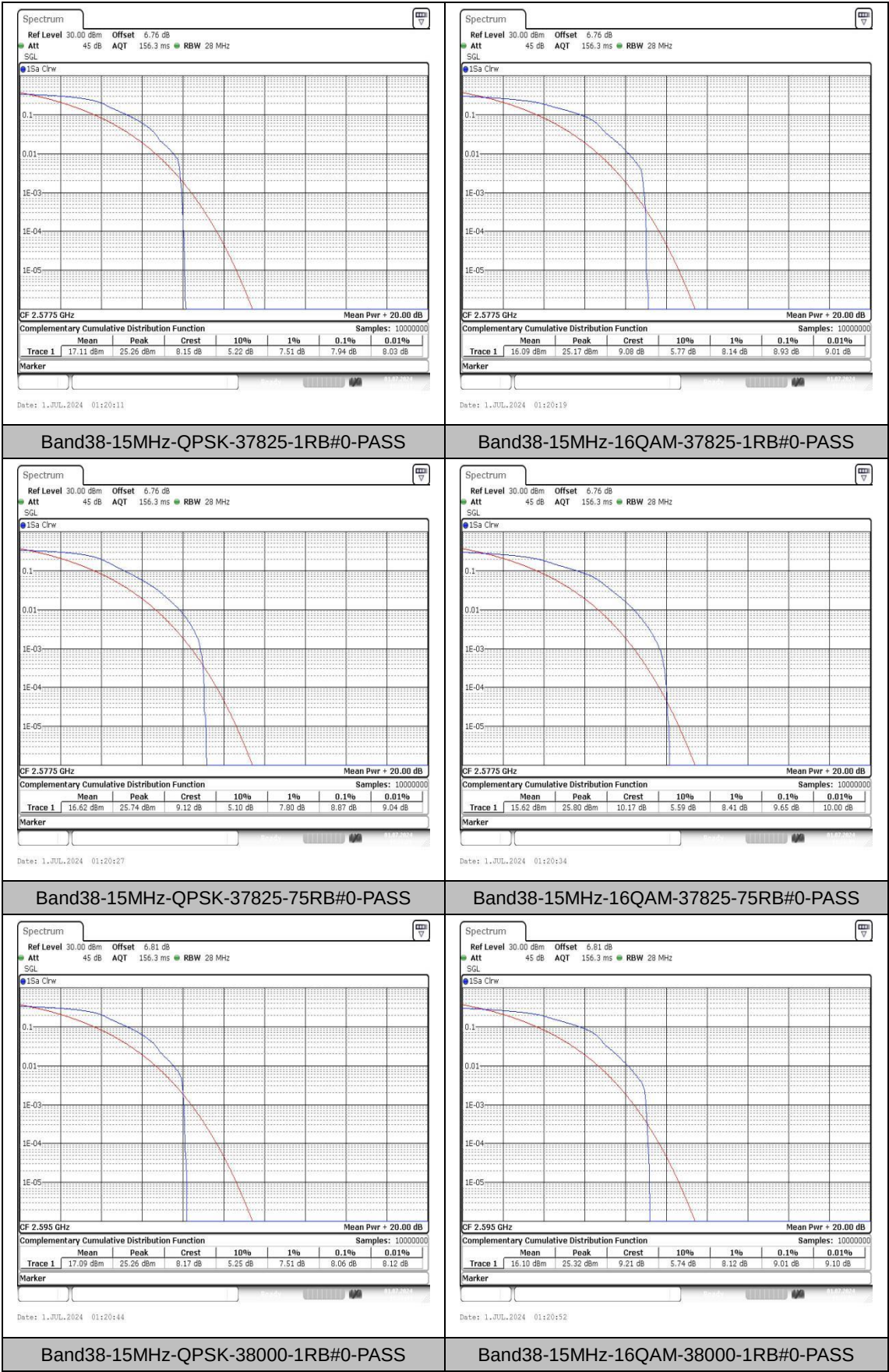
Test Graphs

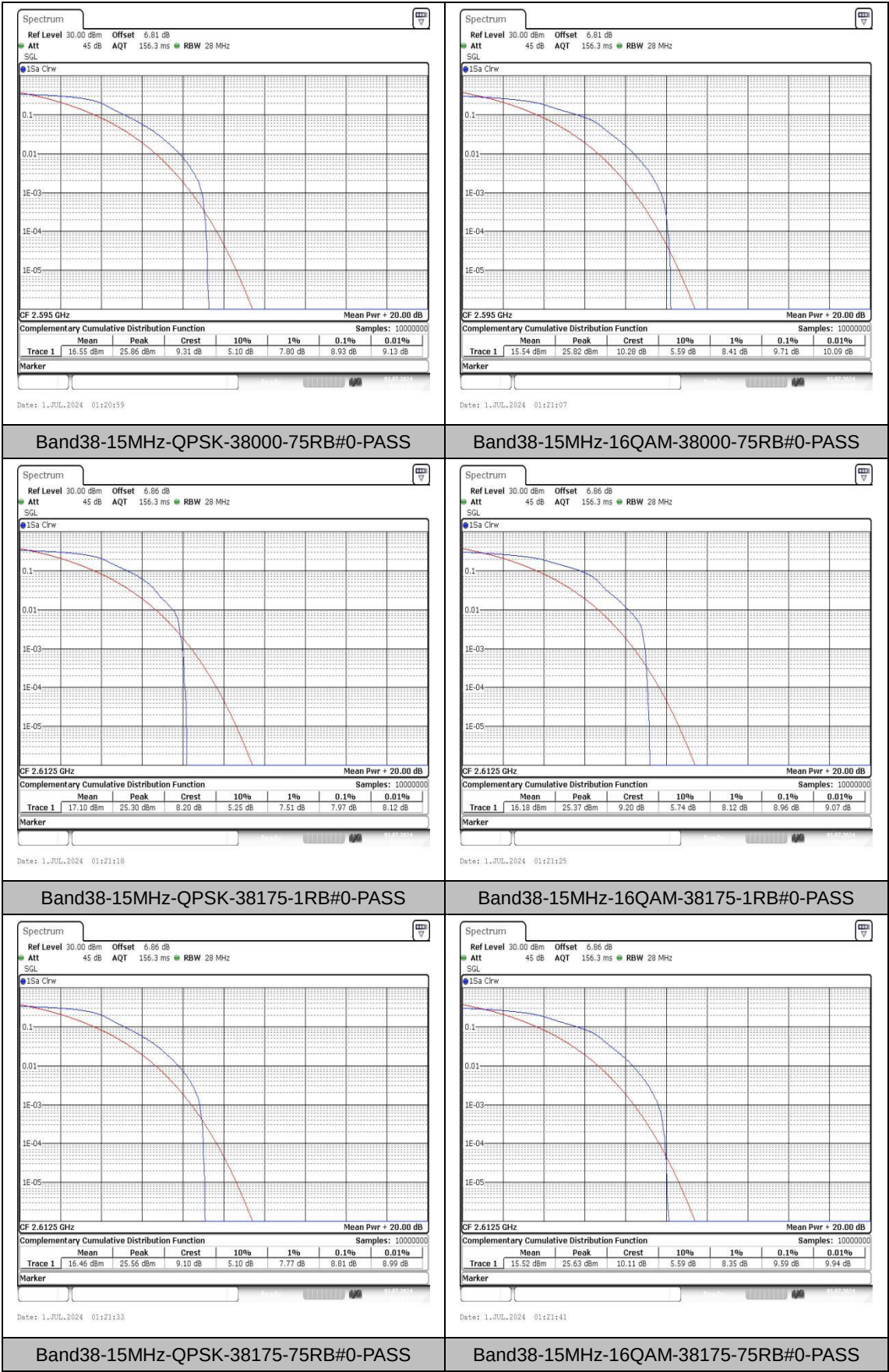


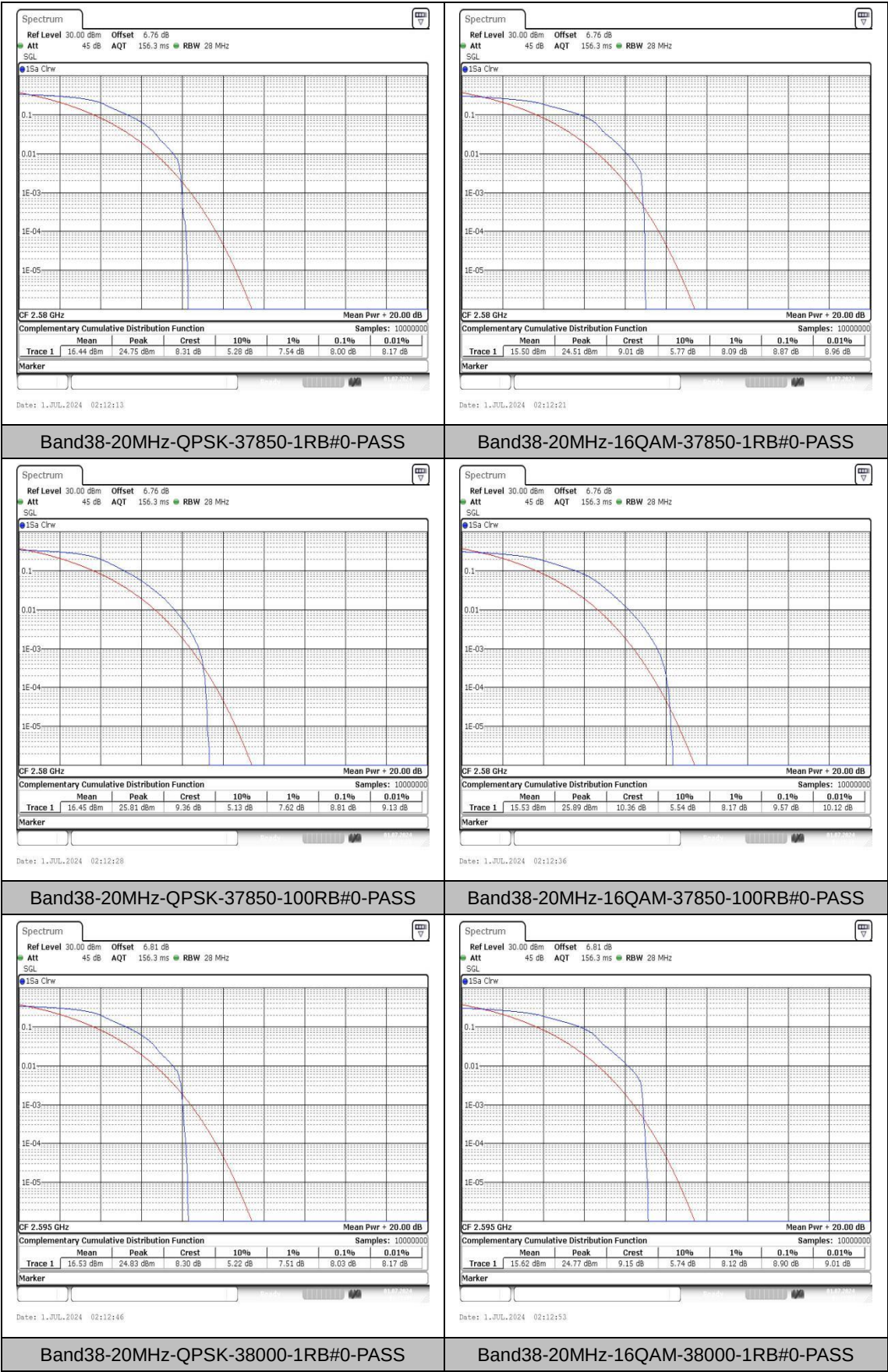


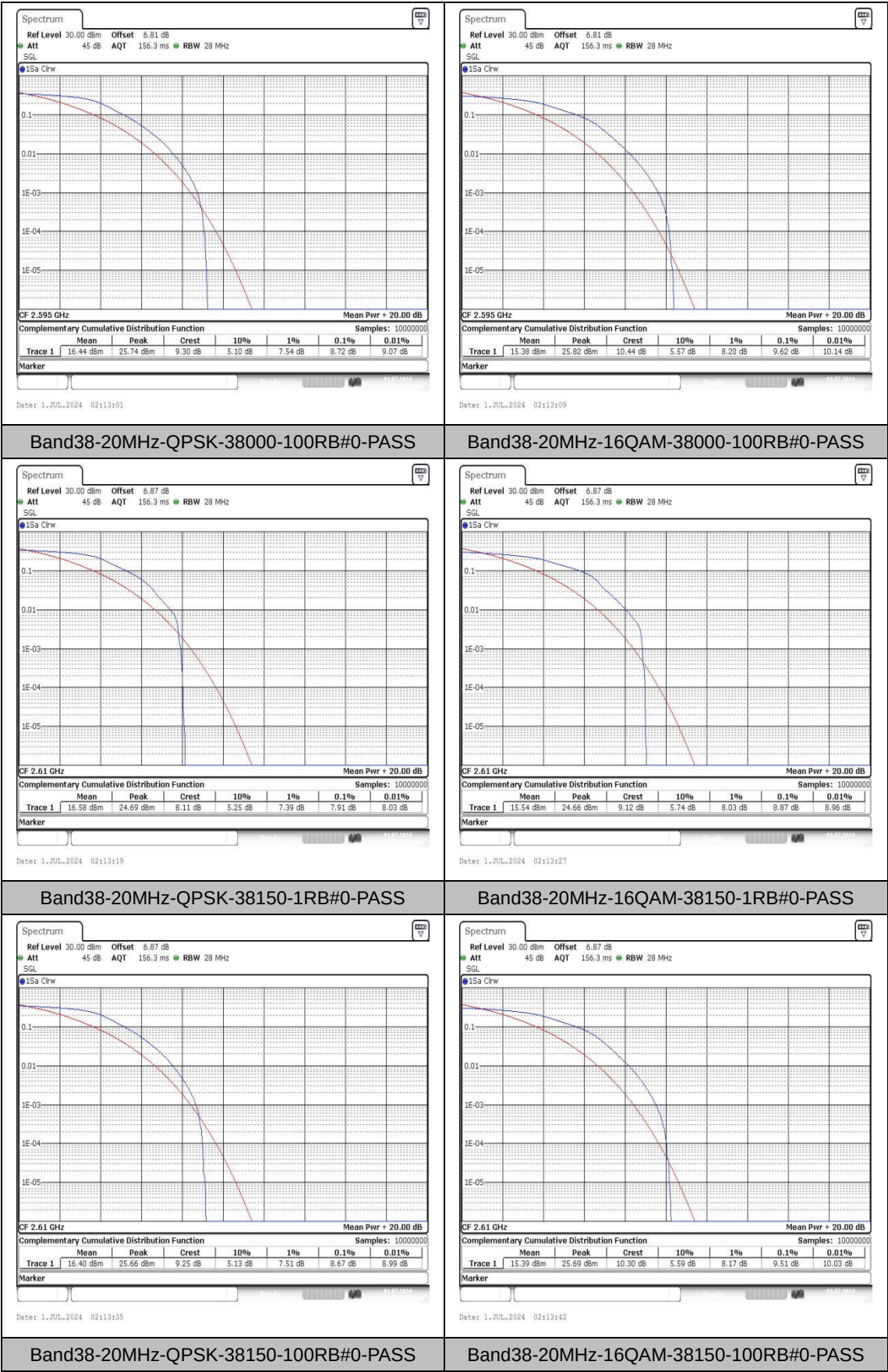












Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band38	5MHz	QPSK	37775	25RB#0	4.525	5.18	PASS
Band38	5MHz	16QAM	37775	25RB#0	4.515	5.18	PASS
Band38	5MHz	QPSK	38000	25RB#0	4.515	5.21	PASS
Band38	5MHz	16QAM	38000	25RB#0	4.525	5.14	PASS
Band38	5MHz	QPSK	38225	25RB#0	4.505	5.19	PASS
Band38	5MHz	16QAM	38225	25RB#0	4.515	5.25	PASS
Band38	10MHz	QPSK	37800	50RB#0	9.018	10.07	PASS
Band38	10MHz	16QAM	37800	50RB#0	9.018	10.07	PASS
Band38	10MHz	QPSK	38000	50RB#0	8.985	10.10	PASS
Band38	10MHz	16QAM	38000	50RB#0	9.018	10.07	PASS
Band38	10MHz	QPSK	38200	50RB#0	8.985	10.00	PASS
Band38	10MHz	16QAM	38200	50RB#0	8.985	10.07	PASS
Band38	15MHz	QPSK	37825	75RB#0	13.478	15.05	PASS
Band38	15MHz	16QAM	37825	75RB#0	13.478	15.00	PASS
Band38	15MHz	QPSK	38000	75RB#0	13.478	15.00	PASS
Band38	15MHz	16QAM	38000	75RB#0	13.478	14.95	PASS
Band38	15MHz	QPSK	38175	75RB#0	13.478	15.10	PASS
Band38	15MHz	16QAM	38175	75RB#0	13.478	15.00	PASS
Band38	20MHz	QPSK	37850	100RB#0	18.037	20.00	PASS
Band38	20MHz	16QAM	37850	100RB#0	18.103	19.93	PASS
Band38	20MHz	QPSK	38000	100RB#0	18.037	19.93	PASS
Band38	20MHz	16QAM	38000	100RB#0	18.037	20.07	PASS
Band38	20MHz	QPSK	38150	100RB#0	18.103	20.00	PASS
Band38	20MHz	16QAM	38150	100RB#0	18.103	20.00	PASS

Test Graphs

