

Appendix for LTE Band 71

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
Band71	5MHz	QPSK	133147	1RB#0	22.78	PASS
Band71	5MHz	16QAM	133147	1RB#0	22.37	PASS
Band71	5MHz	QPSK	133147	1RB#12	22.85	PASS
Band71	5MHz	16QAM	133147	1RB#12	22.46	PASS
Band71	5MHz	QPSK	133147	1RB#24	22.69	PASS
Band71	5MHz	16QAM	133147	1RB#24	22.35	PASS
Band71	5MHz	QPSK	133147	12RB#0	22.34	PASS
Band71	5MHz	16QAM	133147	12RB#0	21.27	PASS
Band71	5MHz	QPSK	133147	12RB#6	22.32	PASS
Band71	5MHz	16QAM	133147	12RB#6	21.30	PASS
Band71	5MHz	QPSK	133147	12RB#13	22.31	PASS
Band71	5MHz	16QAM	133147	12RB#13	21.28	PASS
Band71	5MHz	QPSK	133147	25RB#0	22.35	PASS
Band71	5MHz	16QAM	133147	25RB#0	21.40	PASS
Band71	5MHz	QPSK	133297	1RB#0	22.72	PASS
Band71	5MHz	16QAM	133297	1RB#0	22.07	PASS
Band71	5MHz	QPSK	133297	1RB#12	22.79	PASS
Band71	5MHz	16QAM	133297	1RB#12	22.32	PASS
Band71	5MHz	QPSK	133297	1RB#24	22.68	PASS
Band71	5MHz	16QAM	133297	1RB#24	22.15	PASS
Band71	5MHz	QPSK	133297	12RB#0	22.25	PASS
Band71	5MHz	16QAM	133297	12RB#0	21.17	PASS
Band71	5MHz	QPSK	133297	12RB#6	22.21	PASS
Band71	5MHz	16QAM	133297	12RB#6	21.25	PASS
Band71	5MHz	QPSK	133297	12RB#13	22.26	PASS
Band71	5MHz	16QAM	133297	12RB#13	21.29	PASS
Band71	5MHz	QPSK	133297	25RB#0	22.20	PASS
Band71	5MHz	16QAM	133297	25RB#0	21.17	PASS
Band71	5MHz	QPSK	133447	1RB#0	22.50	PASS
Band71	5MHz	16QAM	133447	1RB#0	21.97	PASS
Band71	5MHz	QPSK	133447	1RB#12	22.60	PASS
Band71	5MHz	16QAM	133447	1RB#12	22.05	PASS
Band71	5MHz	QPSK	133447	1RB#24	22.46	PASS
Band71	5MHz	16QAM	133447	1RB#24	21.99	PASS
Band71	5MHz	QPSK	133447	12RB#0	21.95	PASS
Band71	5MHz	16QAM	133447	12RB#0	20.99	PASS

Band71	5MHz	QPSK	133447	12RB#6	21.94	PASS
Band71	5MHz	16QAM	133447	12RB#6	21.04	PASS
Band71	5MHz	QPSK	133447	12RB#13	22.04	PASS
Band71	5MHz	16QAM	133447	12RB#13	21.04	PASS
Band71	5MHz	QPSK	133447	25RB#0	22.06	PASS
Band71	5MHz	16QAM	133447	25RB#0	21.02	PASS
Band71	10MHz	QPSK	133172	1RB#0	22.85	PASS
Band71	10MHz	16QAM	133172	1RB#0	22.29	PASS
Band71	10MHz	QPSK	133172	1RB#24	22.75	PASS
Band71	10MHz	16QAM	133172	1RB#24	22.17	PASS
Band71	10MHz	QPSK	133172	1RB#49	22.61	PASS
Band71	10MHz	16QAM	133172	1RB#49	22.04	PASS
Band71	10MHz	QPSK	133172	25RB#0	22.27	PASS
Band71	10MHz	16QAM	133172	25RB#0	21.29	PASS
Band71	10MHz	QPSK	133172	25RB#12	22.26	PASS
Band71	10MHz	16QAM	133172	25RB#12	21.37	PASS
Band71	10MHz	QPSK	133172	25RB#25	22.23	PASS
Band71	10MHz	16QAM	133172	25RB#25	21.19	PASS
Band71	10MHz	QPSK	133172	50RB#0	22.28	PASS
Band71	10MHz	16QAM	133172	50RB#0	21.30	PASS
Band71	10MHz	QPSK	133297	1RB#0	22.70	PASS
Band71	10MHz	16QAM	133297	1RB#0	22.24	PASS
Band71	10MHz	QPSK	133297	1RB#24	22.77	PASS
Band71	10MHz	16QAM	133297	1RB#24	22.31	PASS
Band71	10MHz	QPSK	133297	1RB#49	22.51	PASS
Band71	10MHz	16QAM	133297	1RB#49	22.07	PASS
Band71	10MHz	QPSK	133297	25RB#0	22.19	PASS
Band71	10MHz	16QAM	133297	25RB#0	21.22	PASS
Band71	10MHz	QPSK	133297	25RB#12	22.23	PASS
Band71	10MHz	16QAM	133297	25RB#12	21.27	PASS
Band71	10MHz	QPSK	133297	25RB#25	22.25	PASS
Band71	10MHz	16QAM	133297	25RB#25	21.25	PASS
Band71	10MHz	QPSK	133297	50RB#0	22.22	PASS
Band71	10MHz	16QAM	133297	50RB#0	21.17	PASS
Band71	10MHz	QPSK	133422	1RB#0	22.50	PASS
Band71	10MHz	16QAM	133422	1RB#0	21.89	PASS
Band71	10MHz	QPSK	133422	1RB#24	22.50	PASS
Band71	10MHz	16QAM	133422	1RB#24	22.09	PASS
Band71	10MHz	QPSK	133422	1RB#49	22.45	PASS
Band71	10MHz	16QAM	133422	1RB#49	21.93	PASS
Band71	10MHz	QPSK	133422	25RB#0	21.96	PASS
Band71	10MHz	16QAM	133422	25RB#0	20.99	PASS

Band71	10MHz	QPSK	133422	25RB#12	21.96	PASS
Band71	10MHz	16QAM	133422	25RB#12	20.97	PASS
Band71	10MHz	QPSK	133422	25RB#25	22.02	PASS
Band71	10MHz	16QAM	133422	25RB#25	21.07	PASS
Band71	10MHz	QPSK	133422	50RB#0	21.97	PASS
Band71	10MHz	16QAM	133422	50RB#0	21.00	PASS
Band71	15MHz	QPSK	133197	1RB#0	22.62	PASS
Band71	15MHz	16QAM	133197	1RB#0	22.06	PASS
Band71	15MHz	QPSK	133197	1RB#38	22.46	PASS
Band71	15MHz	16QAM	133197	1RB#38	21.80	PASS
Band71	15MHz	QPSK	133197	1RB#74	22.47	PASS
Band71	15MHz	16QAM	133197	1RB#74	21.94	PASS
Band71	15MHz	QPSK	133197	38RB#0	22.02	PASS
Band71	15MHz	16QAM	133197	38RB#0	22.07	PASS
Band71	15MHz	QPSK	133197	38RB#18	21.77	PASS
Band71	15MHz	16QAM	133197	38RB#18	21.85	PASS
Band71	15MHz	QPSK	133197	38RB#37	21.85	PASS
Band71	15MHz	16QAM	133197	38RB#37	22.01	PASS
Band71	15MHz	QPSK	133197	75RB#0	22.15	PASS
Band71	15MHz	16QAM	133197	75RB#0	21.15	PASS
Band71	15MHz	QPSK	133297	1RB#0	22.52	PASS
Band71	15MHz	16QAM	133297	1RB#0	21.93	PASS
Band71	15MHz	QPSK	133297	1RB#38	22.60	PASS
Band71	15MHz	16QAM	133297	1RB#38	21.97	PASS
Band71	15MHz	QPSK	133297	1RB#74	22.25	PASS
Band71	15MHz	16QAM	133297	1RB#74	21.77	PASS
Band71	15MHz	QPSK	133297	38RB#0	21.92	PASS
Band71	15MHz	16QAM	133297	38RB#0	22.06	PASS
Band71	15MHz	QPSK	133297	38RB#18	22.15	PASS
Band71	15MHz	16QAM	133297	38RB#18	22.05	PASS
Band71	15MHz	QPSK	133297	38RB#37	21.79	PASS
Band71	15MHz	16QAM	133297	38RB#37	21.64	PASS
Band71	15MHz	QPSK	133297	75RB#0	22.01	PASS
Band71	15MHz	16QAM	133297	75RB#0	21.04	PASS
Band71	15MHz	QPSK	133397	1RB#0	22.44	PASS
Band71	15MHz	16QAM	133397	1RB#0	21.96	PASS
Band71	15MHz	QPSK	133397	1RB#38	22.25	PASS
Band71	15MHz	16QAM	133397	1RB#38	21.77	PASS
Band71	15MHz	QPSK	133397	1RB#74	22.23	PASS
Band71	15MHz	16QAM	133397	1RB#74	21.81	PASS
Band71	15MHz	QPSK	133397	38RB#0	21.90	PASS
Band71	15MHz	16QAM	133397	38RB#0	21.90	PASS

Band71	15MHz	QPSK	133397	38RB#18	21.65	PASS
Band71	15MHz	16QAM	133397	38RB#18	21.71	PASS
Band71	15MHz	QPSK	133397	38RB#37	21.61	PASS
Band71	15MHz	16QAM	133397	38RB#37	21.68	PASS
Band71	15MHz	QPSK	133397	75RB#0	21.94	PASS
Band71	15MHz	16QAM	133397	75RB#0	20.93	PASS
Band71	20MHz	QPSK	133222	1RB#0	22.65	PASS
Band71	20MHz	16QAM	133222	1RB#0	22.36	PASS
Band71	20MHz	QPSK	133222	1RB#49	22.47	PASS
Band71	20MHz	16QAM	133222	1RB#49	22.28	PASS
Band71	20MHz	QPSK	133222	1RB#99	22.47	PASS
Band71	20MHz	16QAM	133222	1RB#99	22.14	PASS
Band71	20MHz	QPSK	133222	50RB#0	22.08	PASS
Band71	20MHz	16QAM	133222	50RB#0	21.05	PASS
Band71	20MHz	QPSK	133222	50RB#25	22.09	PASS
Band71	20MHz	16QAM	133222	50RB#25	21.10	PASS
Band71	20MHz	QPSK	133222	50RB#50	22.12	PASS
Band71	20MHz	16QAM	133222	50RB#50	21.19	PASS
Band71	20MHz	QPSK	133222	100RB#0	22.16	PASS
Band71	20MHz	16QAM	133222	100RB#0	21.21	PASS
Band71	20MHz	QPSK	133322	1RB#0	22.53	PASS
Band71	20MHz	16QAM	133322	1RB#0	21.95	PASS
Band71	20MHz	QPSK	133322	1RB#49	22.62	PASS
Band71	20MHz	16QAM	133322	1RB#49	22.30	PASS
Band71	20MHz	QPSK	133322	1RB#99	22.25	PASS
Band71	20MHz	16QAM	133322	1RB#99	21.87	PASS
Band71	20MHz	QPSK	133322	50RB#0	22.10	PASS
Band71	20MHz	16QAM	133322	50RB#0	21.09	PASS
Band71	20MHz	QPSK	133322	50RB#25	22.10	PASS
Band71	20MHz	16QAM	133322	50RB#25	21.10	PASS
Band71	20MHz	QPSK	133322	50RB#50	21.94	PASS
Band71	20MHz	16QAM	133322	50RB#50	20.95	PASS
Band71	20MHz	QPSK	133322	100RB#0	22.03	PASS
Band71	20MHz	16QAM	133322	100RB#0	20.99	PASS
Band71	20MHz	QPSK	133372	1RB#0	22.62	PASS
Band71	20MHz	16QAM	133372	1RB#0	22.21	PASS
Band71	20MHz	QPSK	133372	1RB#49	22.33	PASS
Band71	20MHz	16QAM	133372	1RB#49	21.96	PASS
Band71	20MHz	QPSK	133372	1RB#99	22.26	PASS
Band71	20MHz	16QAM	133372	1RB#99	21.85	PASS
Band71	20MHz	QPSK	133372	50RB#0	21.99	PASS
Band71	20MHz	16QAM	133372	50RB#0	20.98	PASS

Band71	20MHz	QPSK	133372	50RB#25	22.02	PASS
Band71	20MHz	16QAM	133372	50RB#25	21.00	PASS
Band71	20MHz	QPSK	133372	50RB#50	21.88	PASS
Band71	20MHz	16QAM	133372	50RB#50	20.83	PASS
Band71	20MHz	QPSK	133372	100RB#0	21.90	PASS
Band71	20MHz	16QAM	133372	100RB#0	20.94	PASS

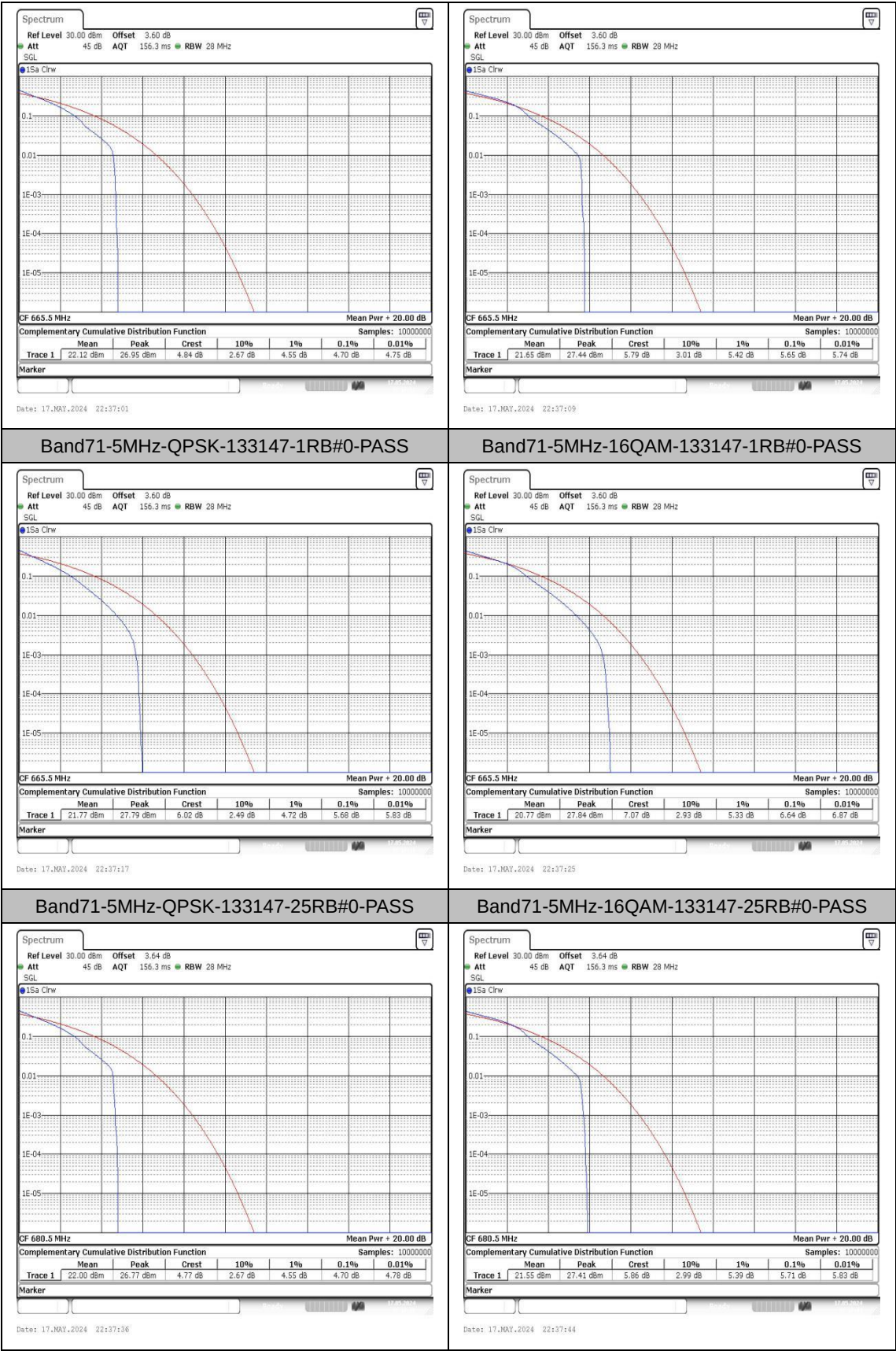
Appendix B: Peak-to-Average Ratio(CCDF)

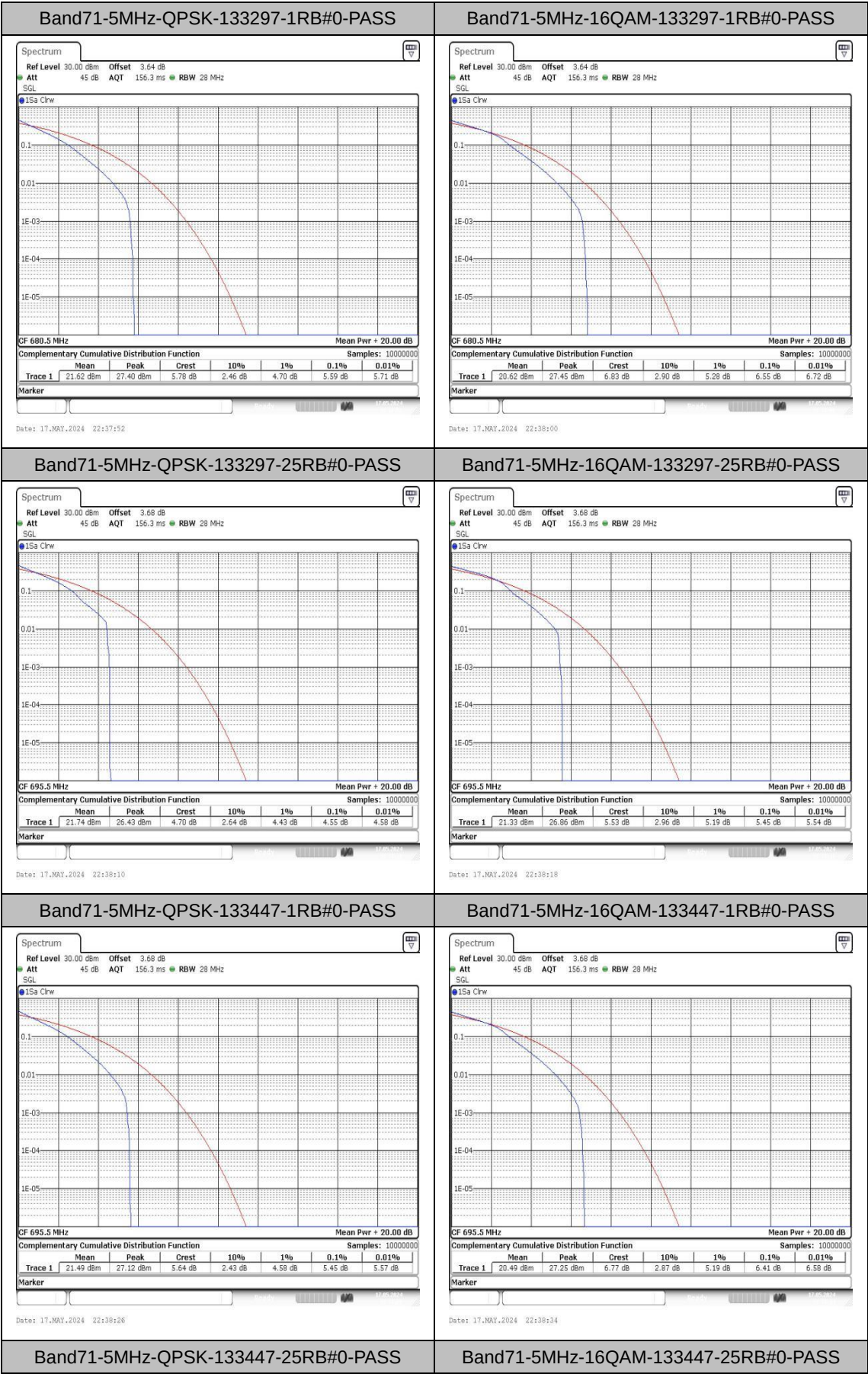
Test Result

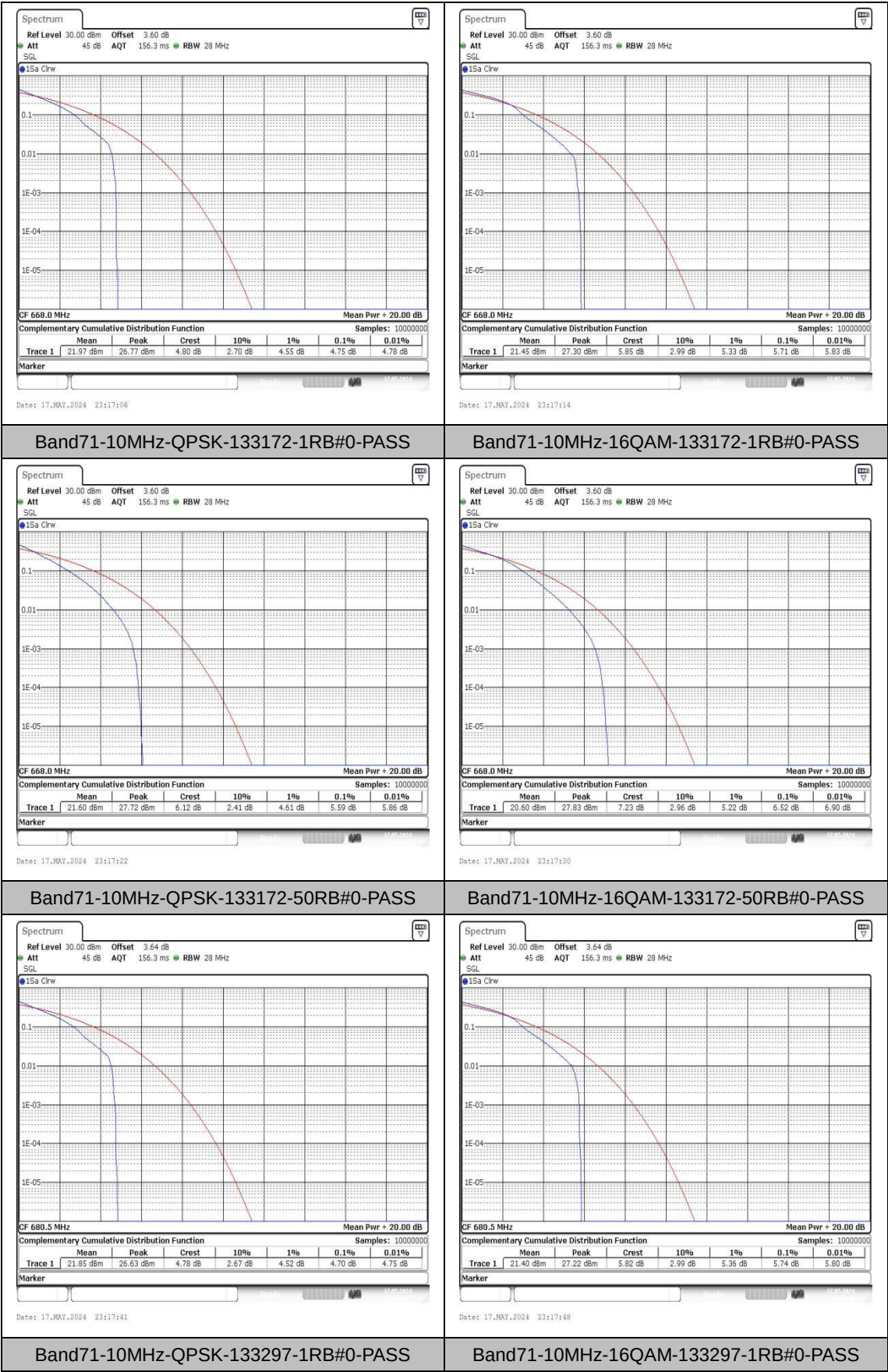
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band71	5MHz	QPSK	133147	1RB#0	4.70	13	PASS
Band71	5MHz	16QAM	133147	1RB#0	5.65	13	PASS
Band71	5MHz	QPSK	133147	25RB#0	5.68	13	PASS
Band71	5MHz	16QAM	133147	25RB#0	6.64	13	PASS
Band71	5MHz	QPSK	133297	1RB#0	4.70	13	PASS
Band71	5MHz	16QAM	133297	1RB#0	5.71	13	PASS
Band71	5MHz	QPSK	133297	25RB#0	5.59	13	PASS
Band71	5MHz	16QAM	133297	25RB#0	6.55	13	PASS
Band71	5MHz	QPSK	133447	1RB#0	4.55	13	PASS
Band71	5MHz	16QAM	133447	1RB#0	5.45	13	PASS
Band71	5MHz	QPSK	133447	25RB#0	5.45	13	PASS
Band71	5MHz	16QAM	133447	25RB#0	6.41	13	PASS
Band71	10MHz	QPSK	133172	1RB#0	4.75	13	PASS
Band71	10MHz	16QAM	133172	1RB#0	5.71	13	PASS
Band71	10MHz	QPSK	133172	50RB#0	5.59	13	PASS
Band71	10MHz	16QAM	133172	50RB#0	6.52	13	PASS
Band71	10MHz	QPSK	133297	1RB#0	4.70	13	PASS
Band71	10MHz	16QAM	133297	1RB#0	5.74	13	PASS
Band71	10MHz	QPSK	133297	50RB#0	5.62	13	PASS
Band71	10MHz	16QAM	133297	50RB#0	6.55	13	PASS
Band71	10MHz	QPSK	133422	1RB#0	4.49	13	PASS
Band71	10MHz	16QAM	133422	1RB#0	5.62	13	PASS
Band71	10MHz	QPSK	133422	50RB#0	5.45	13	PASS
Band71	10MHz	16QAM	133422	50RB#0	6.35	13	PASS
Band71	15MHz	QPSK	133197	1RB#0	4.72	13	PASS
Band71	15MHz	16QAM	133197	1RB#0	5.74	13	PASS
Band71	15MHz	QPSK	133197	75RB#0	5.59	13	PASS
Band71	15MHz	16QAM	133197	75RB#0	6.46	13	PASS
Band71	15MHz	QPSK	133297	1RB#0	4.67	13	PASS
Band71	15MHz	16QAM	133297	1RB#0	5.65	13	PASS
Band71	15MHz	QPSK	133297	75RB#0	5.68	13	PASS
Band71	15MHz	16QAM	133297	75RB#0	6.52	13	PASS
Band71	15MHz	QPSK	133397	1RB#0	4.64	13	PASS
Band71	15MHz	16QAM	133397	1RB#0	5.62	13	PASS
Band71	15MHz	QPSK	133397	75RB#0	5.45	13	PASS
Band71	15MHz	16QAM	133397	75RB#0	6.32	13	PASS

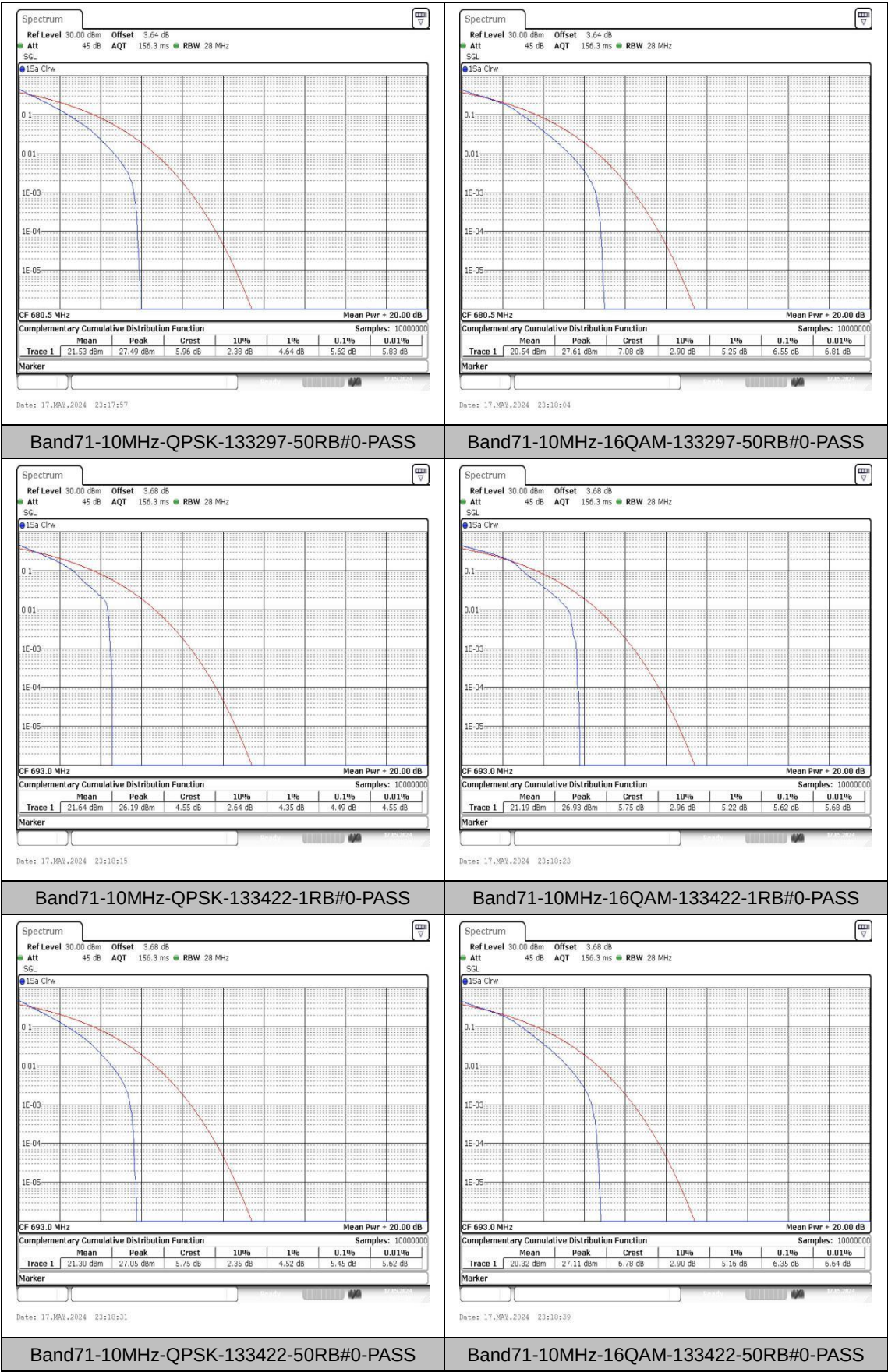
Band71	20MHz	QPSK	133222	1RB#0	4.70	13	PASS
Band71	20MHz	16QAM	133222	1RB#0	5.86	13	PASS
Band71	20MHz	QPSK	133222	100RB#0	5.30	13	PASS
Band71	20MHz	16QAM	133222	100RB#0	6.35	13	PASS
Band71	20MHz	QPSK	133322	1RB#0	4.64	13	PASS
Band71	20MHz	16QAM	133322	1RB#0	5.77	13	PASS
Band71	20MHz	QPSK	133322	100RB#0	5.42	13	PASS
Band71	20MHz	16QAM	133322	100RB#0	6.38	13	PASS
Band71	20MHz	QPSK	133372	1RB#0	4.70	13	PASS
Band71	20MHz	16QAM	133372	1RB#0	5.62	13	PASS
Band71	20MHz	QPSK	133372	100RB#0	5.25	13	PASS
Band71	20MHz	16QAM	133372	100RB#0	6.29	13	PASS

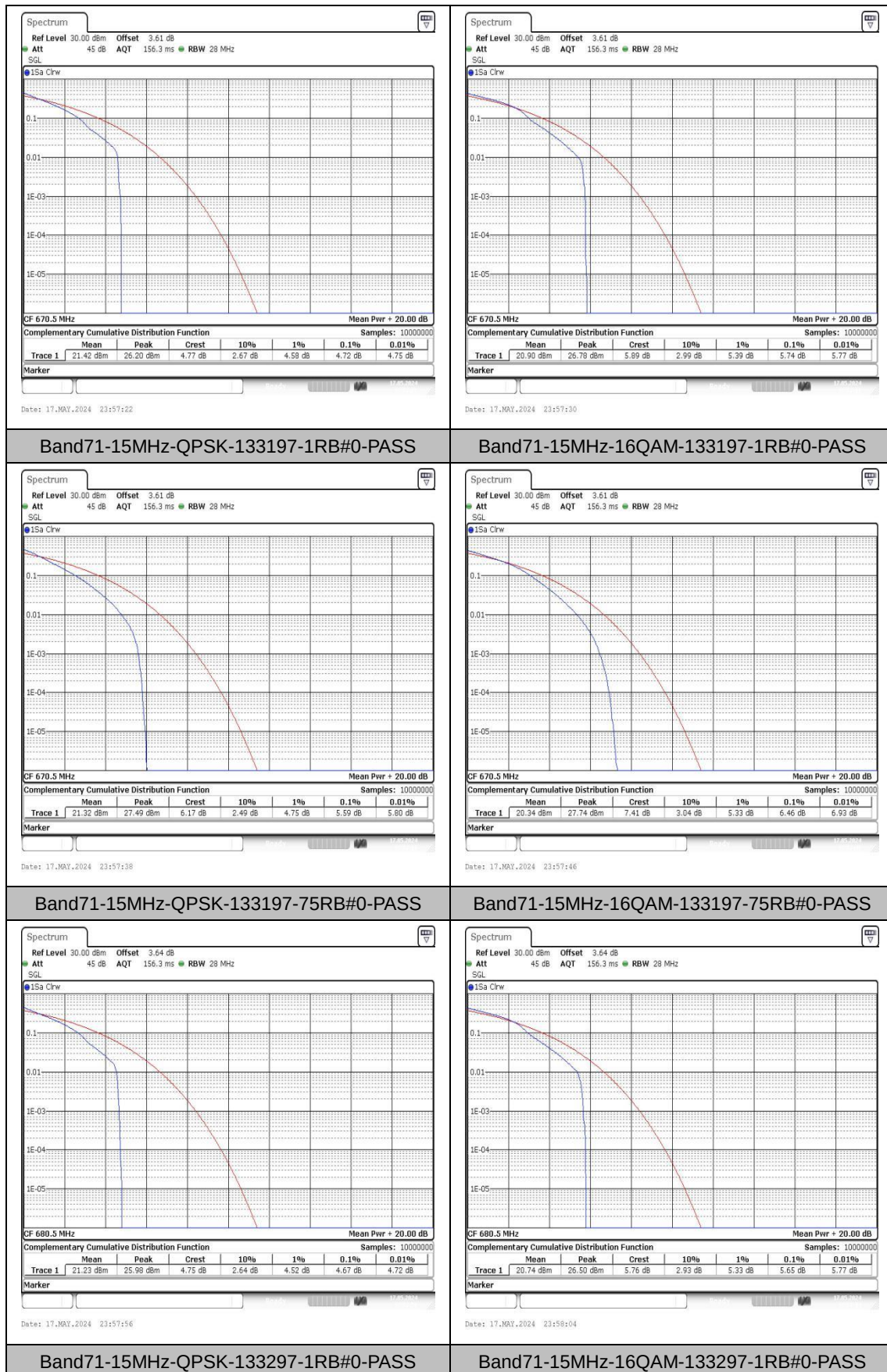
Test Graphs

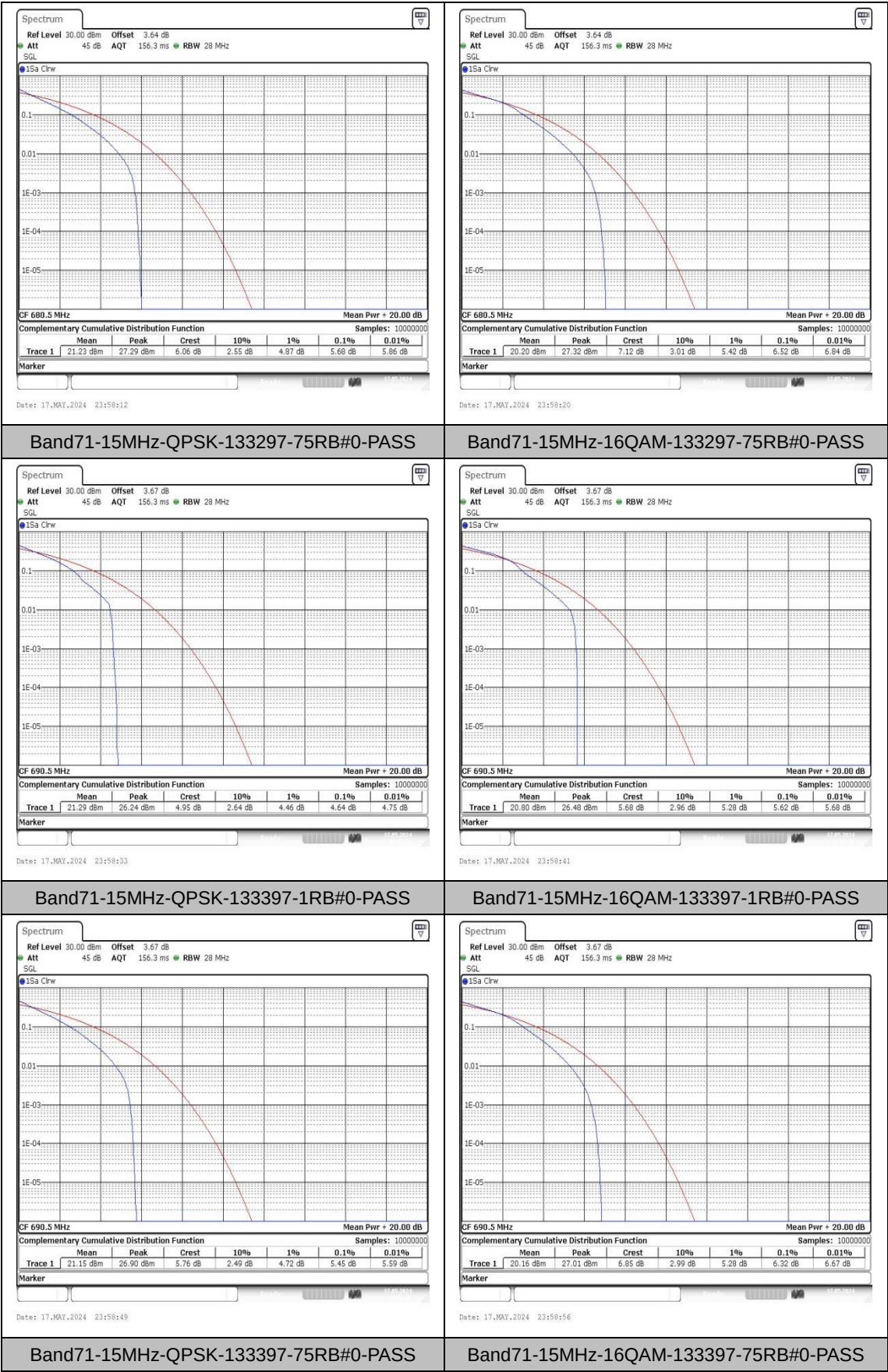


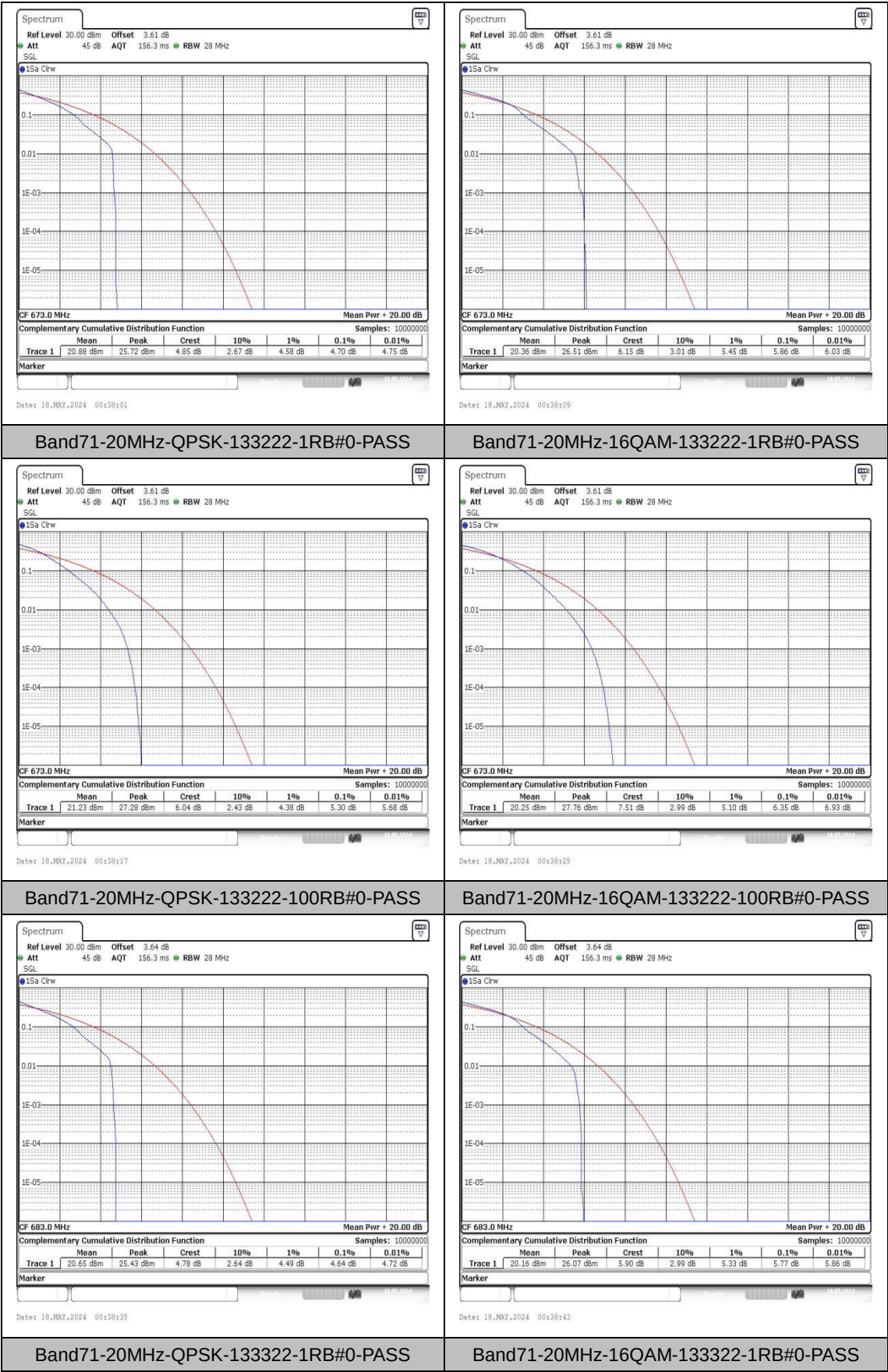


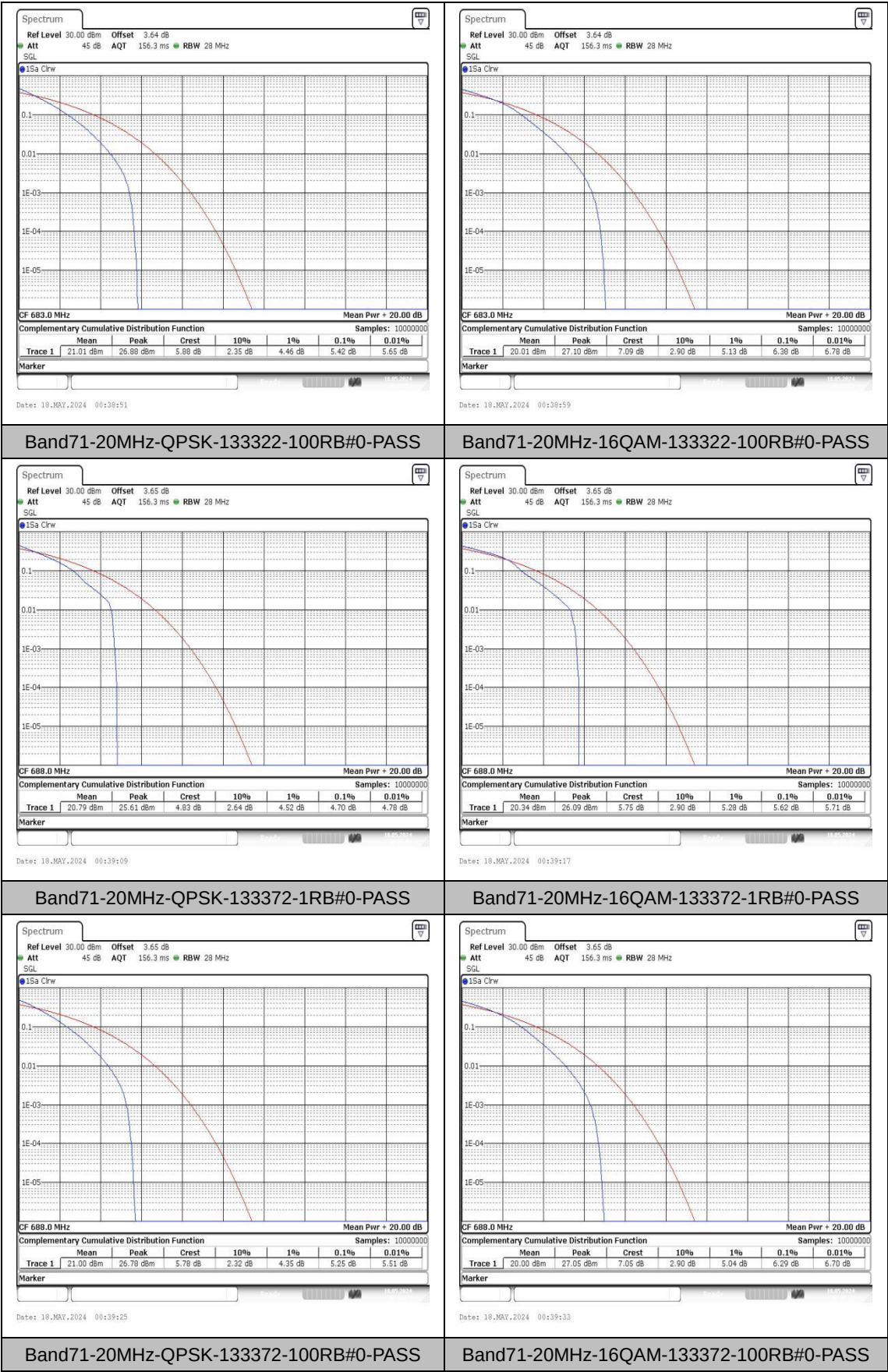












Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band71	5MHz	QPSK	133147	25RB#0	4.525	5.22	PASS
Band71	5MHz	16QAM	133147	25RB#0	4.535	5.28	PASS
Band71	5MHz	QPSK	133297	25RB#0	4.515	5.19	PASS
Band71	5MHz	16QAM	133297	25RB#0	4.525	5.21	PASS
Band71	5MHz	QPSK	133447	25RB#0	4.535	5.19	PASS
Band71	5MHz	16QAM	133447	25RB#0	4.515	5.19	PASS
Band71	10MHz	QPSK	133172	50RB#0	8.985	10.03	PASS
Band71	10MHz	16QAM	133172	50RB#0	8.985	10.07	PASS
Band71	10MHz	QPSK	133297	50RB#0	8.985	10.10	PASS
Band71	10MHz	16QAM	133297	50RB#0	8.985	10.07	PASS
Band71	10MHz	QPSK	133422	50RB#0	8.985	10.07	PASS
Band71	10MHz	16QAM	133422	50RB#0	8.985	10.13	PASS
Band71	15MHz	QPSK	133197	75RB#0	13.478	15.05	PASS
Band71	15MHz	16QAM	133197	75RB#0	13.428	15.10	PASS
Band71	15MHz	QPSK	133297	75RB#0	13.478	15.20	PASS
Band71	15MHz	16QAM	133297	75RB#0	13.478	15.20	PASS
Band71	15MHz	QPSK	133397	75RB#0	13.478	14.90	PASS
Band71	15MHz	16QAM	133397	75RB#0	13.478	15.00	PASS
Band71	20MHz	QPSK	133222	100RB#0	17.97	20.00	PASS
Band71	20MHz	16QAM	133222	100RB#0	17.97	20.00	PASS
Band71	20MHz	QPSK	133322	100RB#0	17.97	20.00	PASS
Band71	20MHz	16QAM	133322	100RB#0	17.97	20.00	PASS
Band71	20MHz	QPSK	133372	100RB#0	17.97	19.87	PASS
Band71	20MHz	16QAM	133372	100RB#0	17.97	19.93	PASS

Test Graphs

