

Appendix for LTE Band 5

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
Band5	1.4MHz	QPSK	20407	1RB#0	22.08	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	21.11	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	22.05	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	20.93	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	22.09	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	21.06	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	22.07	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	21.08	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	22.09	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	21.07	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	22.07	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	21.00	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	21.10	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	20.12	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	21.57	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	20.36	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	21.59	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	20.54	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	21.56	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	20.48	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	21.65	PASS
Band5	1.4MHz	16QAM	20525	3RB#0	20.58	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	21.59	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	20.55	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	21.59	PASS
Band5	1.4MHz	16QAM	20525	3RB#3	20.47	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	20.58	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	19.54	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	21.57	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	20.57	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	21.64	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	20.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	21.59	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	20.67	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	21.61	PASS

Band5	1.4MHz	16QAM	20643	3RB#0	20.65	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	21.67	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	20.69	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	21.62	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	20.65	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	20.61	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	19.60	PASS
Band5	3MHz	QPSK	20415	1RB#0	22.06	PASS
Band5	3MHz	16QAM	20415	1RB#0	21.12	PASS
Band5	3MHz	QPSK	20415	1RB#8	22.03	PASS
Band5	3MHz	16QAM	20415	1RB#8	20.98	PASS
Band5	3MHz	QPSK	20415	1RB#14	21.96	PASS
Band5	3MHz	16QAM	20415	1RB#14	20.83	PASS
Band5	3MHz	QPSK	20415	8RB#0	21.12	PASS
Band5	3MHz	16QAM	20415	8RB#0	20.23	PASS
Band5	3MHz	QPSK	20415	8RB#4	21.09	PASS
Band5	3MHz	16QAM	20415	8RB#4	20.19	PASS
Band5	3MHz	QPSK	20415	8RB#7	21.09	PASS
Band5	3MHz	16QAM	20415	8RB#7	20.01	PASS
Band5	3MHz	QPSK	20415	15RB#0	21.11	PASS
Band5	3MHz	16QAM	20415	15RB#0	20.09	PASS
Band5	3MHz	QPSK	20525	1RB#0	21.62	PASS
Band5	3MHz	16QAM	20525	1RB#0	20.43	PASS
Band5	3MHz	QPSK	20525	1RB#8	21.68	PASS
Band5	3MHz	16QAM	20525	1RB#8	20.60	PASS
Band5	3MHz	QPSK	20525	1RB#14	21.55	PASS
Band5	3MHz	16QAM	20525	1RB#14	20.58	PASS
Band5	3MHz	QPSK	20525	8RB#0	20.58	PASS
Band5	3MHz	16QAM	20525	8RB#0	19.48	PASS
Band5	3MHz	QPSK	20525	8RB#4	20.52	PASS
Band5	3MHz	16QAM	20525	8RB#4	19.44	PASS
Band5	3MHz	QPSK	20525	8RB#7	20.60	PASS
Band5	3MHz	16QAM	20525	8RB#7	19.53	PASS
Band5	3MHz	QPSK	20525	15RB#0	20.60	PASS
Band5	3MHz	16QAM	20525	15RB#0	19.52	PASS
Band5	3MHz	QPSK	20635	1RB#0	21.53	PASS
Band5	3MHz	16QAM	20635	1RB#0	20.48	PASS
Band5	3MHz	QPSK	20635	1RB#8	21.69	PASS
Band5	3MHz	16QAM	20635	1RB#8	20.59	PASS
Band5	3MHz	QPSK	20635	1RB#14	21.60	PASS
Band5	3MHz	16QAM	20635	1RB#14	20.41	PASS
Band5	3MHz	QPSK	20635	8RB#0	20.58	PASS

Band5	3MHz	16QAM	20635	8RB#0	19.51	PASS
Band5	3MHz	QPSK	20635	8RB#4	20.60	PASS
Band5	3MHz	16QAM	20635	8RB#4	19.58	PASS
Band5	3MHz	QPSK	20635	8RB#7	20.65	PASS
Band5	3MHz	16QAM	20635	8RB#7	19.67	PASS
Band5	3MHz	QPSK	20635	15RB#0	20.58	PASS
Band5	3MHz	16QAM	20635	15RB#0	19.58	PASS
Band5	5MHz	QPSK	20425	1RB#0	22.09	PASS
Band5	5MHz	16QAM	20425	1RB#0	21.14	PASS
Band5	5MHz	QPSK	20425	1RB#12	22.05	PASS
Band5	5MHz	16QAM	20425	1RB#12	21.02	PASS
Band5	5MHz	QPSK	20425	1RB#24	21.90	PASS
Band5	5MHz	16QAM	20425	1RB#24	20.80	PASS
Band5	5MHz	QPSK	20425	12RB#0	21.09	PASS
Band5	5MHz	16QAM	20425	12RB#0	20.08	PASS
Band5	5MHz	QPSK	20425	12RB#6	21.10	PASS
Band5	5MHz	16QAM	20425	12RB#6	20.07	PASS
Band5	5MHz	QPSK	20425	12RB#13	20.96	PASS
Band5	5MHz	16QAM	20425	12RB#13	20.06	PASS
Band5	5MHz	QPSK	20425	25RB#0	21.06	PASS
Band5	5MHz	16QAM	20425	25RB#0	20.07	PASS
Band5	5MHz	QPSK	20525	1RB#0	21.64	PASS
Band5	5MHz	16QAM	20525	1RB#0	20.72	PASS
Band5	5MHz	QPSK	20525	1RB#12	21.68	PASS
Band5	5MHz	16QAM	20525	1RB#12	20.85	PASS
Band5	5MHz	QPSK	20525	1RB#24	21.64	PASS
Band5	5MHz	16QAM	20525	1RB#24	20.61	PASS
Band5	5MHz	QPSK	20525	12RB#0	20.64	PASS
Band5	5MHz	16QAM	20525	12RB#0	19.48	PASS
Band5	5MHz	QPSK	20525	12RB#6	20.54	PASS
Band5	5MHz	16QAM	20525	12RB#6	19.58	PASS
Band5	5MHz	QPSK	20525	12RB#13	20.58	PASS
Band5	5MHz	16QAM	20525	12RB#13	19.61	PASS
Band5	5MHz	QPSK	20525	25RB#0	20.64	PASS
Band5	5MHz	16QAM	20525	25RB#0	19.59	PASS
Band5	5MHz	QPSK	20625	1RB#0	21.68	PASS
Band5	5MHz	16QAM	20625	1RB#0	20.78	PASS
Band5	5MHz	QPSK	20625	1RB#12	21.69	PASS
Band5	5MHz	16QAM	20625	1RB#12	20.66	PASS
Band5	5MHz	QPSK	20625	1RB#24	21.64	PASS
Band5	5MHz	16QAM	20625	1RB#24	20.72	PASS
Band5	5MHz	QPSK	20625	12RB#0	20.58	PASS

Band5	5MHz	16QAM	20625	12RB#0	19.59	PASS
Band5	5MHz	QPSK	20625	12RB#6	20.57	PASS
Band5	5MHz	16QAM	20625	12RB#6	19.59	PASS
Band5	5MHz	QPSK	20625	12RB#13	20.60	PASS
Band5	5MHz	16QAM	20625	12RB#13	19.60	PASS
Band5	5MHz	QPSK	20625	25RB#0	20.55	PASS
Band5	5MHz	16QAM	20625	25RB#0	19.62	PASS
Band5	10MHz	QPSK	20450	1RB#0	22.03	PASS
Band5	10MHz	16QAM	20450	1RB#0	21.08	PASS
Band5	10MHz	QPSK	20450	1RB#24	21.81	PASS
Band5	10MHz	16QAM	20450	1RB#24	20.94	PASS
Band5	10MHz	QPSK	20450	1RB#49	21.58	PASS
Band5	10MHz	16QAM	20450	1RB#49	20.60	PASS
Band5	10MHz	QPSK	20450	25RB#0	21.00	PASS
Band5	10MHz	16QAM	20450	25RB#0	19.99	PASS
Band5	10MHz	QPSK	20450	25RB#12	20.99	PASS
Band5	10MHz	16QAM	20450	25RB#12	19.97	PASS
Band5	10MHz	QPSK	20450	25RB#25	20.78	PASS
Band5	10MHz	16QAM	20450	25RB#25	19.79	PASS
Band5	10MHz	QPSK	20450	50RB#0	20.93	PASS
Band5	10MHz	16QAM	20450	50RB#0	19.93	PASS
Band5	10MHz	QPSK	20525	1RB#0	21.74	PASS
Band5	10MHz	16QAM	20525	1RB#0	20.78	PASS
Band5	10MHz	QPSK	20525	1RB#24	21.67	PASS
Band5	10MHz	16QAM	20525	1RB#24	20.66	PASS
Band5	10MHz	QPSK	20525	1RB#49	21.66	PASS
Band5	10MHz	16QAM	20525	1RB#49	20.52	PASS
Band5	10MHz	QPSK	20525	25RB#0	20.62	PASS
Band5	10MHz	16QAM	20525	25RB#0	19.62	PASS
Band5	10MHz	QPSK	20525	25RB#12	20.61	PASS
Band5	10MHz	16QAM	20525	25RB#12	19.61	PASS
Band5	10MHz	QPSK	20525	25RB#25	20.59	PASS
Band5	10MHz	16QAM	20525	25RB#25	19.60	PASS
Band5	10MHz	QPSK	20525	50RB#0	20.67	PASS
Band5	10MHz	16QAM	20525	50RB#0	19.61	PASS
Band5	10MHz	QPSK	20600	1RB#0	21.65	PASS
Band5	10MHz	16QAM	20600	1RB#0	20.79	PASS
Band5	10MHz	QPSK	20600	1RB#24	21.70	PASS
Band5	10MHz	16QAM	20600	1RB#24	20.66	PASS
Band5	10MHz	QPSK	20600	1RB#49	21.60	PASS
Band5	10MHz	16QAM	20600	1RB#49	20.48	PASS
Band5	10MHz	QPSK	20600	25RB#0	20.64	PASS

Band5	10MHz	16QAM	20600	25RB#0	19.68	PASS
Band5	10MHz	QPSK	20600	25RB#12	20.65	PASS
Band5	10MHz	16QAM	20600	25RB#12	19.70	PASS
Band5	10MHz	QPSK	20600	25RB#25	20.61	PASS
Band5	10MHz	16QAM	20600	25RB#25	19.62	PASS
Band5	10MHz	QPSK	20600	50RB#0	20.70	PASS
Band5	10MHz	16QAM	20600	50RB#0	19.68	PASS

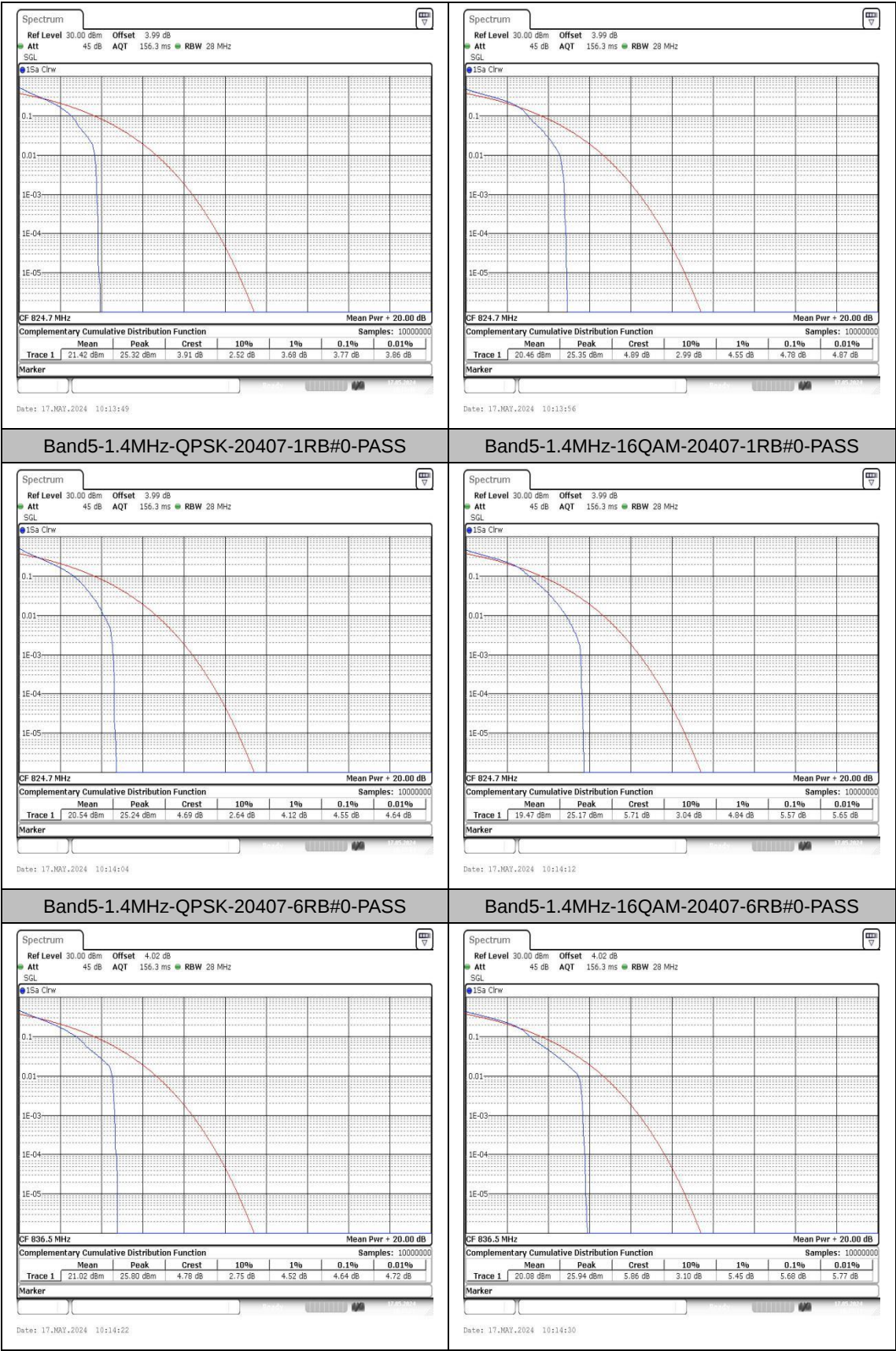
Appendix B: Peak-to-Average Ratio(CCDF)

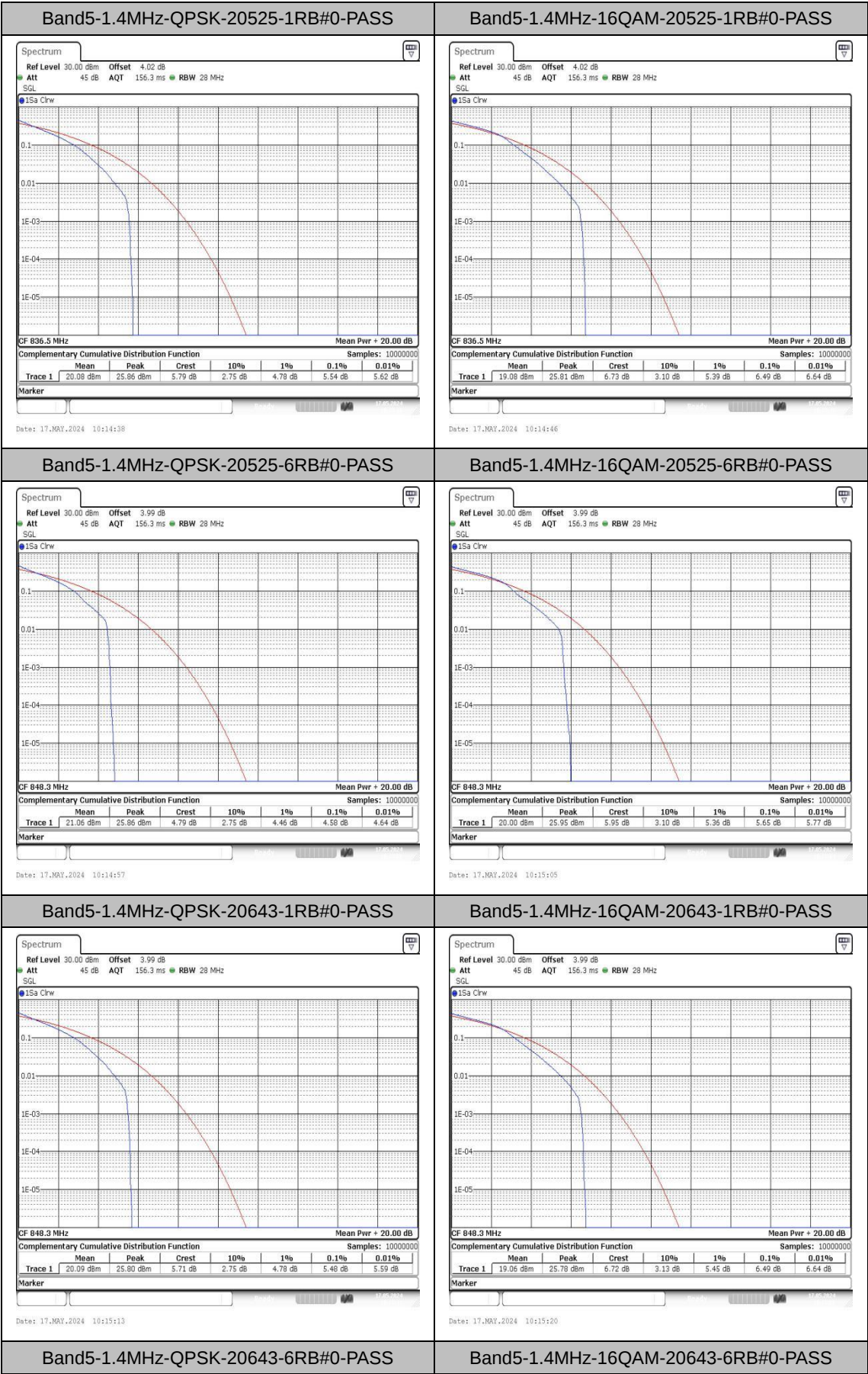
Test Result

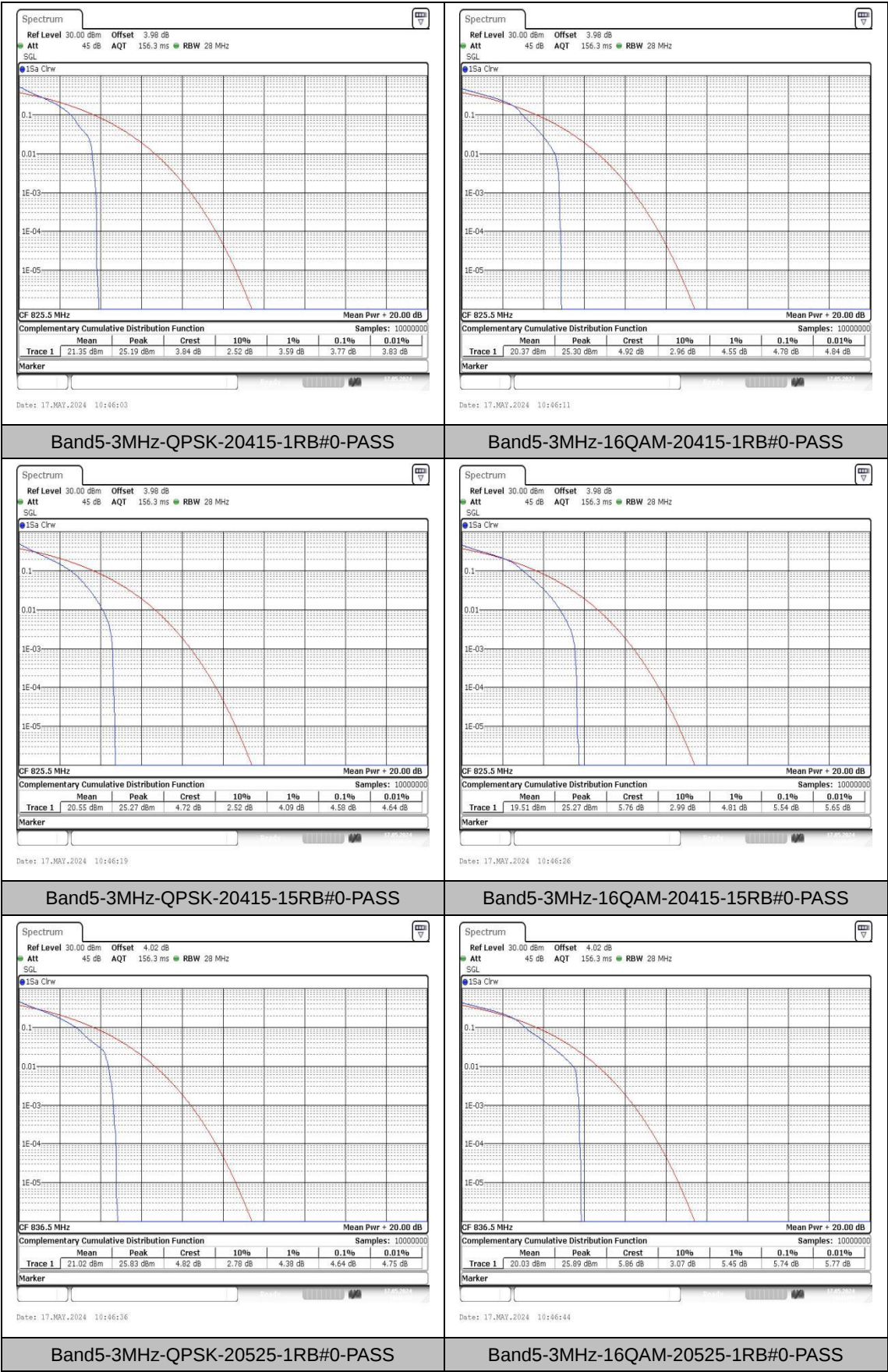
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	3.77	13	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	4.78	13	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	4.55	13	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	5.57	13	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	4.64	13	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	5.68	13	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	5.54	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	6.49	13	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	4.58	13	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	5.65	13	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	5.48	13	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	6.49	13	PASS
Band5	3MHz	QPSK	20415	1RB#0	3.77	13	PASS
Band5	3MHz	16QAM	20415	1RB#0	4.78	13	PASS
Band5	3MHz	QPSK	20415	15RB#0	4.58	13	PASS
Band5	3MHz	16QAM	20415	15RB#0	5.54	13	PASS
Band5	3MHz	QPSK	20525	1RB#0	4.64	13	PASS
Band5	3MHz	16QAM	20525	1RB#0	5.74	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	5.54	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	6.52	13	PASS
Band5	3MHz	QPSK	20635	1RB#0	4.41	13	PASS
Band5	3MHz	16QAM	20635	1RB#0	5.45	13	PASS
Band5	3MHz	QPSK	20635	15RB#0	5.54	13	PASS
Band5	3MHz	16QAM	20635	15RB#0	6.49	13	PASS
Band5	5MHz	QPSK	20425	1RB#0	3.80	13	PASS
Band5	5MHz	16QAM	20425	1RB#0	4.78	13	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.64	13	PASS
Band5	5MHz	16QAM	20425	25RB#0	5.59	13	PASS
Band5	5MHz	QPSK	20525	1RB#0	4.67	13	PASS
Band5	5MHz	16QAM	20525	1RB#0	5.62	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.57	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	6.52	13	PASS
Band5	5MHz	QPSK	20625	1RB#0	3.97	13	PASS
Band5	5MHz	16QAM	20625	1RB#0	4.93	13	PASS
Band5	5MHz	QPSK	20625	25RB#0	5.45	13	PASS

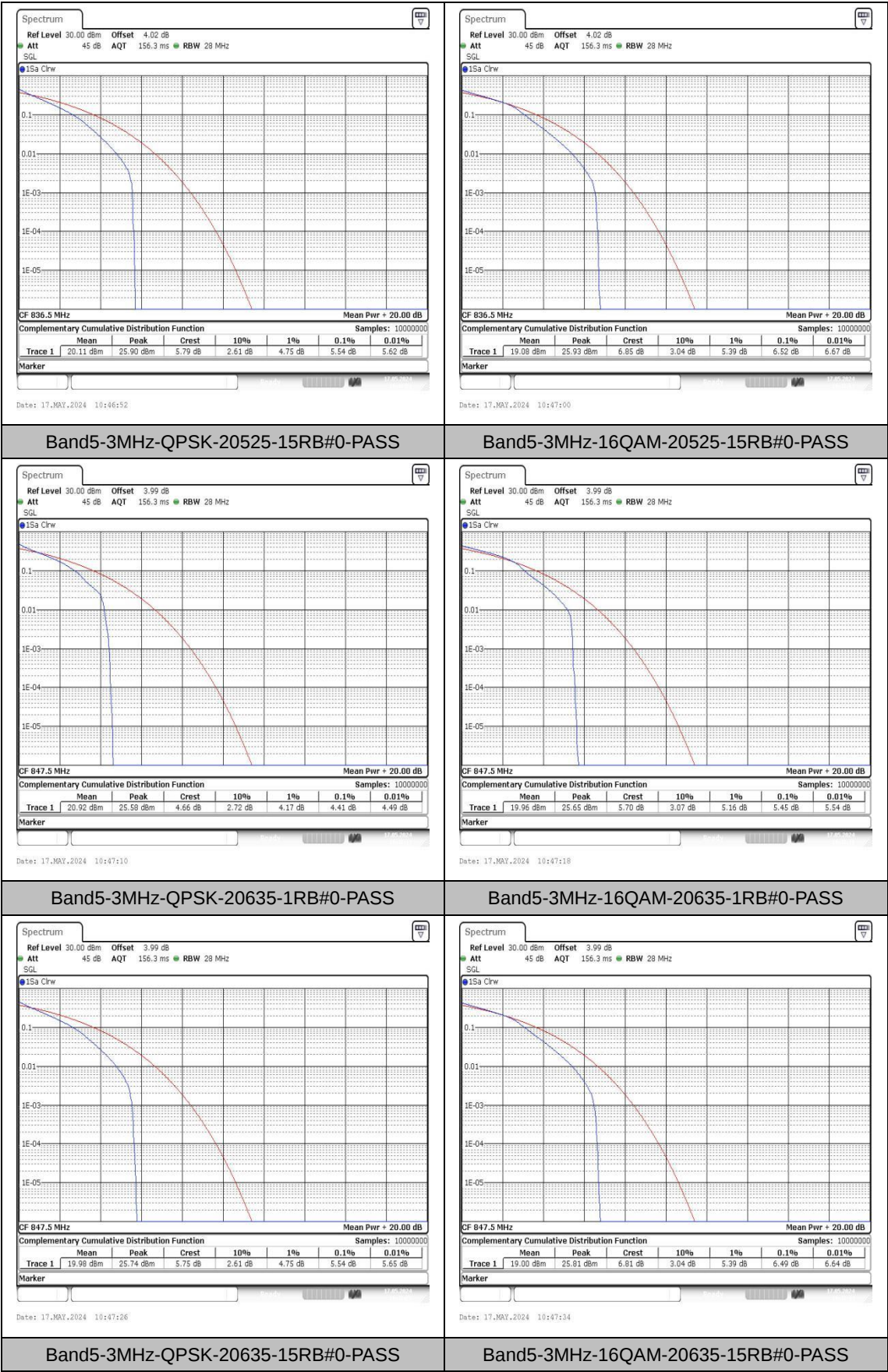
Band5	5MHz	16QAM	20625	25RB#0	6.38	13	PASS
Band5	10MHz	QPSK	20450	1RB#0	3.77	13	PASS
Band5	10MHz	16QAM	20450	1RB#0	4.72	13	PASS
Band5	10MHz	QPSK	20450	50RB#0	4.99	13	PASS
Band5	10MHz	16QAM	20450	50RB#0	5.88	13	PASS
Band5	10MHz	QPSK	20525	1RB#0	4.43	13	PASS
Band5	10MHz	16QAM	20525	1RB#0	5.45	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	5.48	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	6.41	13	PASS
Band5	10MHz	QPSK	20600	1RB#0	4.26	13	PASS
Band5	10MHz	16QAM	20600	1RB#0	5.25	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	5.22	13	PASS
Band5	10MHz	16QAM	20600	50RB#0	6.09	13	PASS

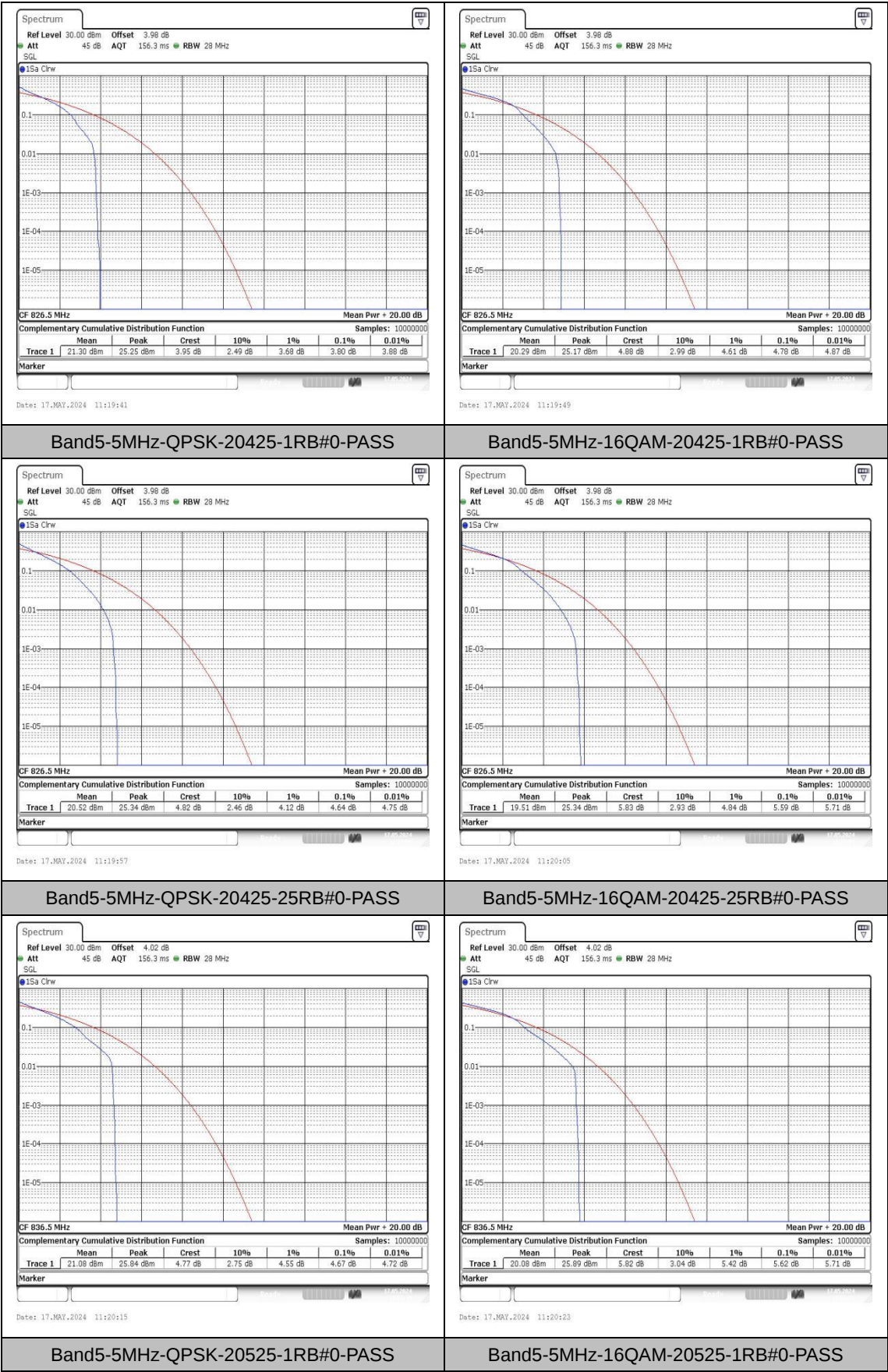
Test Graphs

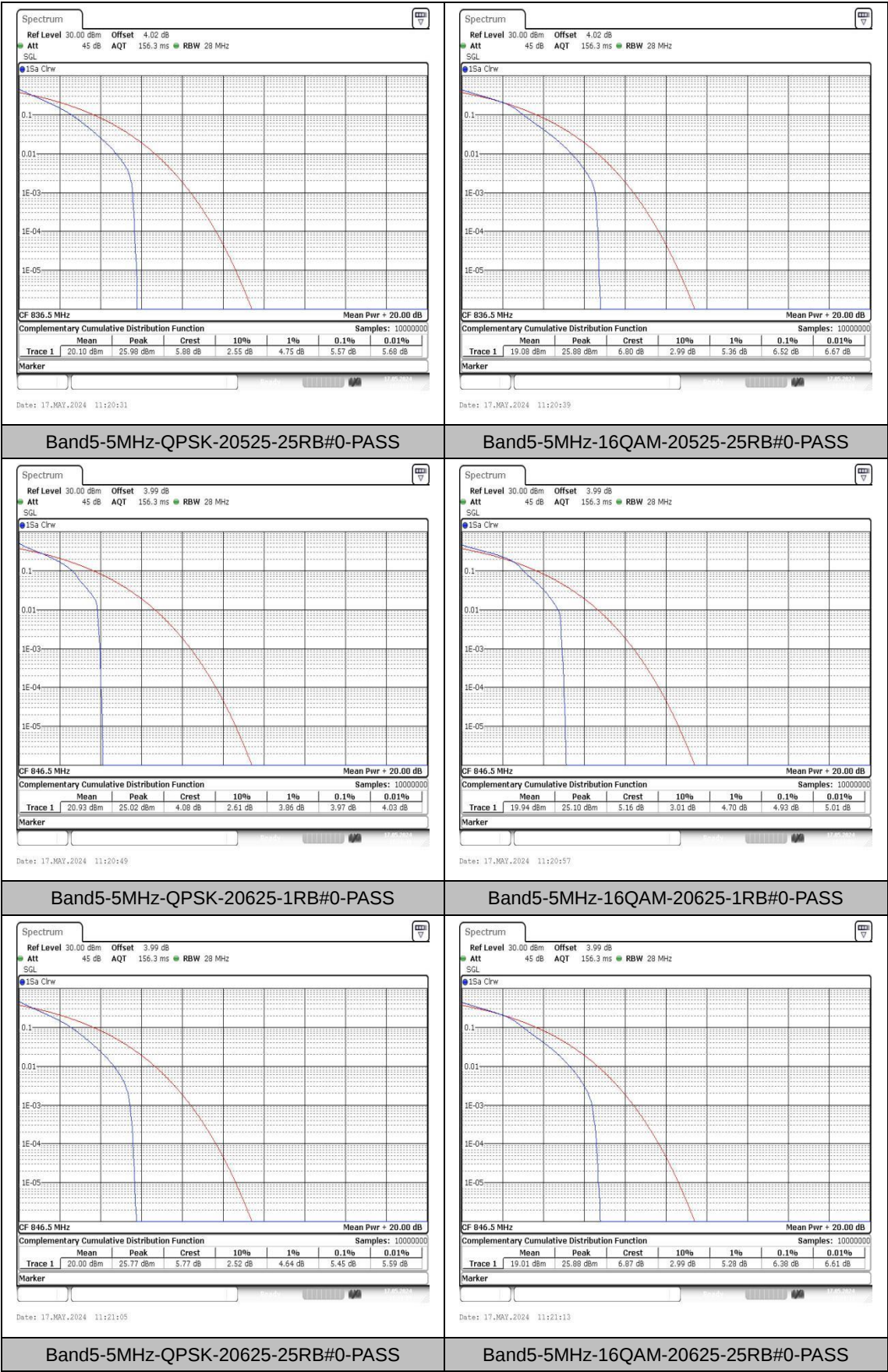


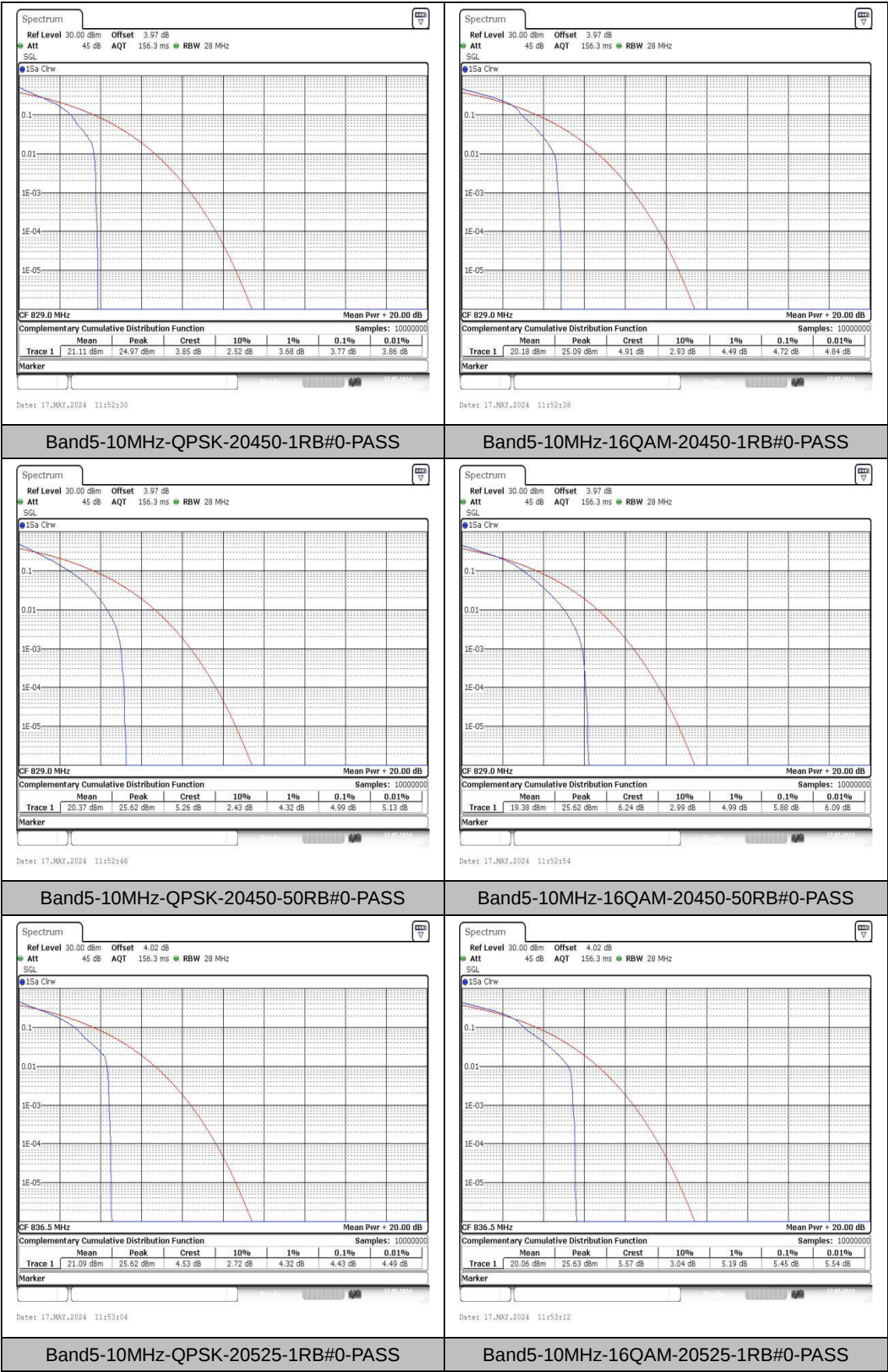


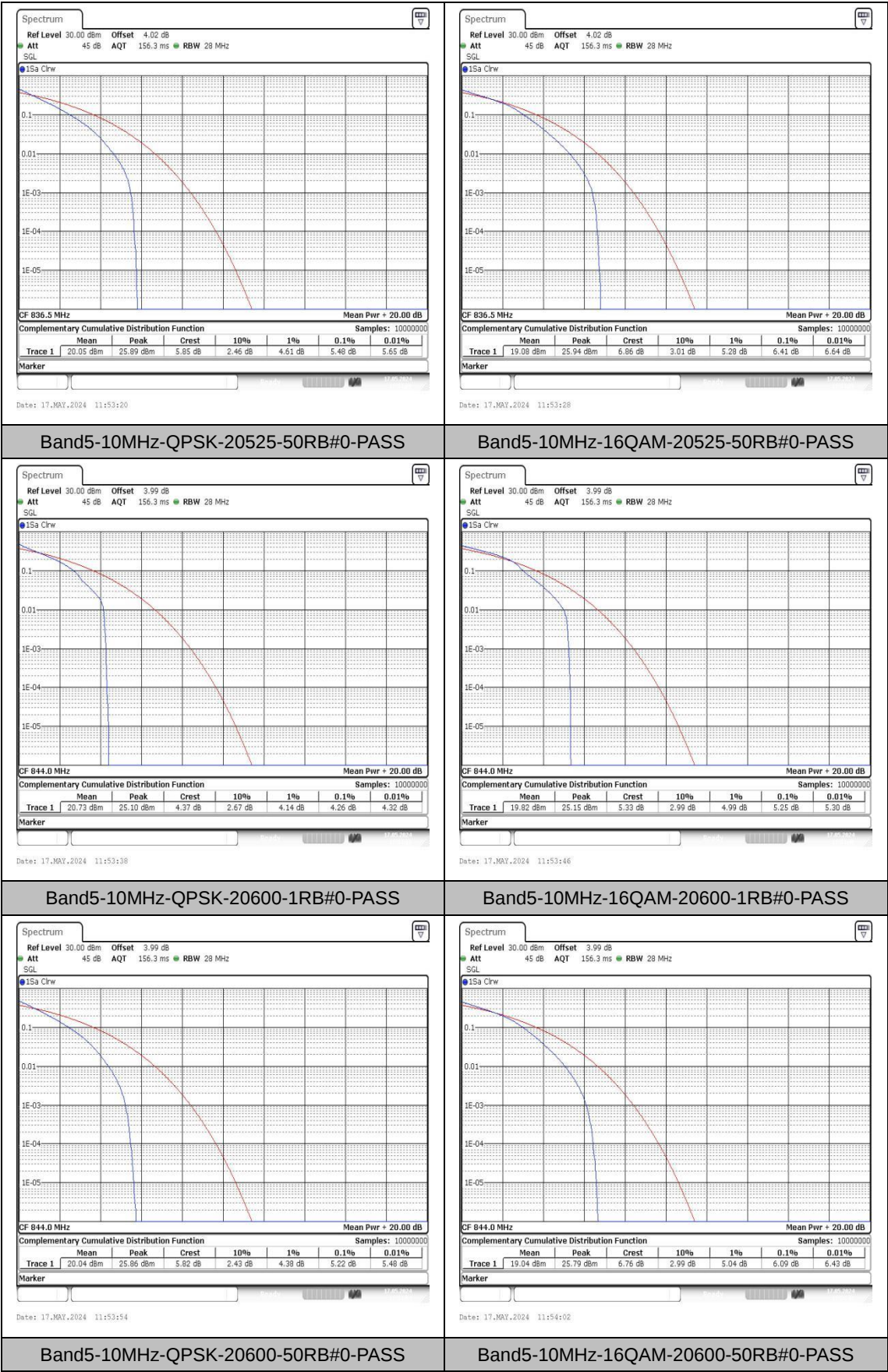












Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.103	1.35	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.108	1.37	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.103	1.38	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.103	1.36	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.103	1.40	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.098	1.35	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.696	3.05	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.696	3.07	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.696	3.06	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.705	3.07	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.715	3.07	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.715	3.06	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.535	5.19	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.515	5.23	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.525	5.20	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.525	5.23	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.545	5.24	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.535	5.18	PASS
Band5	10MHz	QPSK	20450	50RB#0	9.018	10.10	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.985	10.07	PASS
Band5	10MHz	QPSK	20525	50RB#0	9.018	10.10	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.985	10.10	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.985	10.07	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.985	10.07	PASS

Test Graphs

