

Appendix for LTE BAND 12

Product Name: Smart Phone

Model No: Nova

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	23.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.94	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	23.97	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	23.17	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	23.79	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	23.04	PASS
Band12	1.4MHz	QPSK	23017	3RB#0	23.85	PASS
Band12	1.4MHz	16QAM	23017	3RB#0	22.81	PASS
Band12	1.4MHz	QPSK	23017	3RB#1	23.86	PASS
Band12	1.4MHz	16QAM	23017	3RB#1	22.81	PASS
Band12	1.4MHz	QPSK	23017	3RB#3	23.90	PASS
Band12	1.4MHz	16QAM	23017	3RB#3	22.79	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	22.94	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.95	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	23.99	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	23.11	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	24.17	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	23.27	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	24.01	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	23.13	PASS
Band12	1.4MHz	QPSK	23095	3RB#0	24.05	PASS
Band12	1.4MHz	16QAM	23095	3RB#0	23.00	PASS
Band12	1.4MHz	QPSK	23095	3RB#1	24.07	PASS
Band12	1.4MHz	16QAM	23095	3RB#1	22.99	PASS
Band12	1.4MHz	QPSK	23095	3RB#3	24.09	PASS
Band12	1.4MHz	16QAM	23095	3RB#3	23.02	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	23.18	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	22.19	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	23.87	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	23.00	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	23.97	PASS
Band12	1.4MHz	16QAM	23173	1RB#2	23.29	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	23.87	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	23.04	PASS
Band12	1.4MHz	QPSK	23173	3RB#0	23.98	PASS
Band12	1.4MHz	16QAM	23173	3RB#0	22.90	PASS

Band12	1.4MHz	QPSK	23173	3RB#1	23.95	PASS
Band12	1.4MHz	16QAM	23173	3RB#1	22.90	PASS
Band12	1.4MHz	QPSK	23173	3RB#3	24.00	PASS
Band12	1.4MHz	16QAM	23173	3RB#3	22.90	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	23.00	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	21.86	PASS
Band12	5MHz	QPSK	23035	1RB#0	23.78	PASS
Band12	5MHz	16QAM	23035	1RB#0	22.82	PASS
Band12	5MHz	QPSK	23035	1RB#12	23.98	PASS
Band12	5MHz	16QAM	23035	1RB#12	23.07	PASS
Band12	5MHz	QPSK	23035	1RB#24	23.92	PASS
Band12	5MHz	16QAM	23035	1RB#24	23.01	PASS
Band12	5MHz	QPSK	23035	12RB#0	23.04	PASS
Band12	5MHz	16QAM	23035	12RB#0	22.00	PASS
Band12	5MHz	QPSK	23035	12RB#6	23.01	PASS
Band12	5MHz	16QAM	23035	12RB#6	22.04	PASS
Band12	5MHz	QPSK	23035	12RB#13	22.99	PASS
Band12	5MHz	16QAM	23035	12RB#13	22.04	PASS
Band12	5MHz	QPSK	23035	25RB#0	22.98	PASS
Band12	5MHz	16QAM	23035	25RB#0	22.04	PASS
Band12	5MHz	QPSK	23095	1RB#0	24.00	PASS
Band12	5MHz	16QAM	23095	1RB#0	23.16	PASS
Band12	5MHz	QPSK	23095	1RB#12	24.05	PASS
Band12	5MHz	16QAM	23095	1RB#12	23.24	PASS
Band12	5MHz	QPSK	23095	1RB#24	24.01	PASS
Band12	5MHz	16QAM	23095	1RB#24	23.22	PASS
Band12	5MHz	QPSK	23095	12RB#0	22.99	PASS
Band12	5MHz	16QAM	23095	12RB#0	22.00	PASS
Band12	5MHz	QPSK	23095	12RB#6	22.99	PASS
Band12	5MHz	16QAM	23095	12RB#6	22.05	PASS
Band12	5MHz	QPSK	23095	12RB#13	23.19	PASS
Band12	5MHz	16QAM	23095	12RB#13	22.13	PASS
Band12	5MHz	QPSK	23095	25RB#0	23.07	PASS
Band12	5MHz	16QAM	23095	25RB#0	22.06	PASS
Band12	5MHz	QPSK	23155	1RB#0	23.95	PASS
Band12	5MHz	16QAM	23155	1RB#0	23.01	PASS
Band12	5MHz	QPSK	23155	1RB#12	24.00	PASS
Band12	5MHz	16QAM	23155	1RB#12	23.03	PASS
Band12	5MHz	QPSK	23155	1RB#24	23.90	PASS
Band12	5MHz	16QAM	23155	1RB#24	22.90	PASS
Band12	5MHz	QPSK	23155	12RB#0	22.99	PASS
Band12	5MHz	16QAM	23155	12RB#0	22.03	PASS

Band12	5MHz	QPSK	23155	12RB#6	22.98	PASS
Band12	5MHz	16QAM	23155	12RB#6	22.00	PASS
Band12	5MHz	QPSK	23155	12RB#13	22.90	PASS
Band12	5MHz	16QAM	23155	12RB#13	21.93	PASS
Band12	5MHz	QPSK	23155	25RB#0	22.95	PASS
Band12	5MHz	16QAM	23155	25RB#0	21.98	PASS
Band12	10MHz	QPSK	23060	1RB#0	23.83	PASS
Band12	10MHz	16QAM	23060	1RB#0	22.89	PASS
Band12	10MHz	QPSK	23060	1RB#24	24.01	PASS
Band12	10MHz	16QAM	23060	1RB#24	23.14	PASS
Band12	10MHz	QPSK	23060	1RB#49	24.00	PASS
Band12	10MHz	16QAM	23060	1RB#49	23.06	PASS
Band12	10MHz	QPSK	23060	25RB#0	23.15	PASS
Band12	10MHz	16QAM	23060	25RB#0	22.11	PASS
Band12	10MHz	QPSK	23060	25RB#12	23.09	PASS
Band12	10MHz	16QAM	23060	25RB#12	22.07	PASS
Band12	10MHz	QPSK	23060	25RB#25	23.16	PASS
Band12	10MHz	16QAM	23060	25RB#25	22.13	PASS
Band12	10MHz	QPSK	23060	50RB#0	23.15	PASS
Band12	10MHz	16QAM	23060	50RB#0	22.13	PASS
Band12	10MHz	QPSK	23095	1RB#0	24.02	PASS
Band12	10MHz	16QAM	23095	1RB#0	22.89	PASS
Band12	10MHz	QPSK	23095	1RB#24	24.22	PASS
Band12	10MHz	16QAM	23095	1RB#24	23.06	PASS
Band12	10MHz	QPSK	23095	1RB#49	24.00	PASS
Band12	10MHz	16QAM	23095	1RB#49	22.84	PASS
Band12	10MHz	QPSK	23095	25RB#0	23.05	PASS
Band12	10MHz	16QAM	23095	25RB#0	22.04	PASS
Band12	10MHz	QPSK	23095	25RB#12	23.06	PASS
Band12	10MHz	16QAM	23095	25RB#12	22.07	PASS
Band12	10MHz	QPSK	23095	25RB#25	23.15	PASS
Band12	10MHz	16QAM	23095	25RB#25	22.15	PASS
Band12	10MHz	QPSK	23095	50RB#0	23.07	PASS
Band12	10MHz	16QAM	23095	50RB#0	22.10	PASS
Band12	10MHz	QPSK	23130	1RB#0	24.01	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.85	PASS
Band12	10MHz	QPSK	23130	1RB#24	24.09	PASS
Band12	10MHz	16QAM	23130	1RB#24	22.88	PASS
Band12	10MHz	QPSK	23130	1RB#49	23.88	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.67	PASS
Band12	10MHz	QPSK	23130	25RB#0	23.05	PASS
Band12	10MHz	16QAM	23130	25RB#0	22.10	PASS

Band12	10MHz	QPSK	23130	25RB#12	23.06	PASS
Band12	10MHz	16QAM	23130	25RB#12	22.07	PASS
Band12	10MHz	QPSK	23130	25RB#25	22.95	PASS
Band12	10MHz	16QAM	23130	25RB#25	21.98	PASS
Band12	10MHz	QPSK	23130	50RB#0	23.01	PASS
Band12	10MHz	16QAM	23130	50RB#0	21.98	PASS
Band12	3MHz	QPSK	23025	1RB#0	23.75	PASS
Band12	3MHz	16QAM	23025	1RB#0	23.06	PASS
Band12	3MHz	QPSK	23025	1RB#8	23.94	PASS
Band12	3MHz	16QAM	23025	1RB#8	23.11	PASS
Band12	3MHz	QPSK	23025	1RB#14	23.96	PASS
Band12	3MHz	16QAM	23025	1RB#14	23.19	PASS
Band12	3MHz	QPSK	23025	8RB#0	22.92	PASS
Band12	3MHz	16QAM	23025	8RB#0	21.99	PASS
Band12	3MHz	QPSK	23025	8RB#4	22.92	PASS
Band12	3MHz	16QAM	23025	8RB#4	21.96	PASS
Band12	3MHz	QPSK	23025	8RB#7	23.00	PASS
Band12	3MHz	16QAM	23025	8RB#7	22.01	PASS
Band12	3MHz	QPSK	23025	15RB#0	22.92	PASS
Band12	3MHz	16QAM	23025	15RB#0	21.94	PASS
Band12	3MHz	QPSK	23095	1RB#0	24.01	PASS
Band12	3MHz	16QAM	23095	1RB#0	23.19	PASS
Band12	3MHz	QPSK	23095	1RB#8	24.02	PASS
Band12	3MHz	16QAM	23095	1RB#8	23.16	PASS
Band12	3MHz	QPSK	23095	1RB#14	24.04	PASS
Band12	3MHz	16QAM	23095	1RB#14	23.17	PASS
Band12	3MHz	QPSK	23095	8RB#0	23.11	PASS
Band12	3MHz	16QAM	23095	8RB#0	22.03	PASS
Band12	3MHz	QPSK	23095	8RB#4	23.10	PASS
Band12	3MHz	16QAM	23095	8RB#4	22.07	PASS
Band12	3MHz	QPSK	23095	8RB#7	23.10	PASS
Band12	3MHz	16QAM	23095	8RB#7	22.14	PASS
Band12	3MHz	QPSK	23095	15RB#0	23.05	PASS
Band12	3MHz	16QAM	23095	15RB#0	21.99	PASS
Band12	3MHz	QPSK	23165	1RB#0	23.93	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.85	PASS
Band12	3MHz	QPSK	23165	1RB#8	23.90	PASS
Band12	3MHz	16QAM	23165	1RB#8	22.86	PASS
Band12	3MHz	QPSK	23165	1RB#14	23.87	PASS
Band12	3MHz	16QAM	23165	1RB#14	22.89	PASS
Band12	3MHz	QPSK	23165	8RB#0	22.99	PASS
Band12	3MHz	16QAM	23165	8RB#0	22.04	PASS

Band12	3MHz	QPSK	23165	8RB#4	23.02	PASS
Band12	3MHz	16QAM	23165	8RB#4	22.01	PASS
Band12	3MHz	QPSK	23165	8RB#7	22.96	PASS
Band12	3MHz	16QAM	23165	8RB#7	21.94	PASS
Band12	3MHz	QPSK	23165	15RB#0	22.93	PASS
Band12	3MHz	16QAM	23165	15RB#0	21.87	PASS

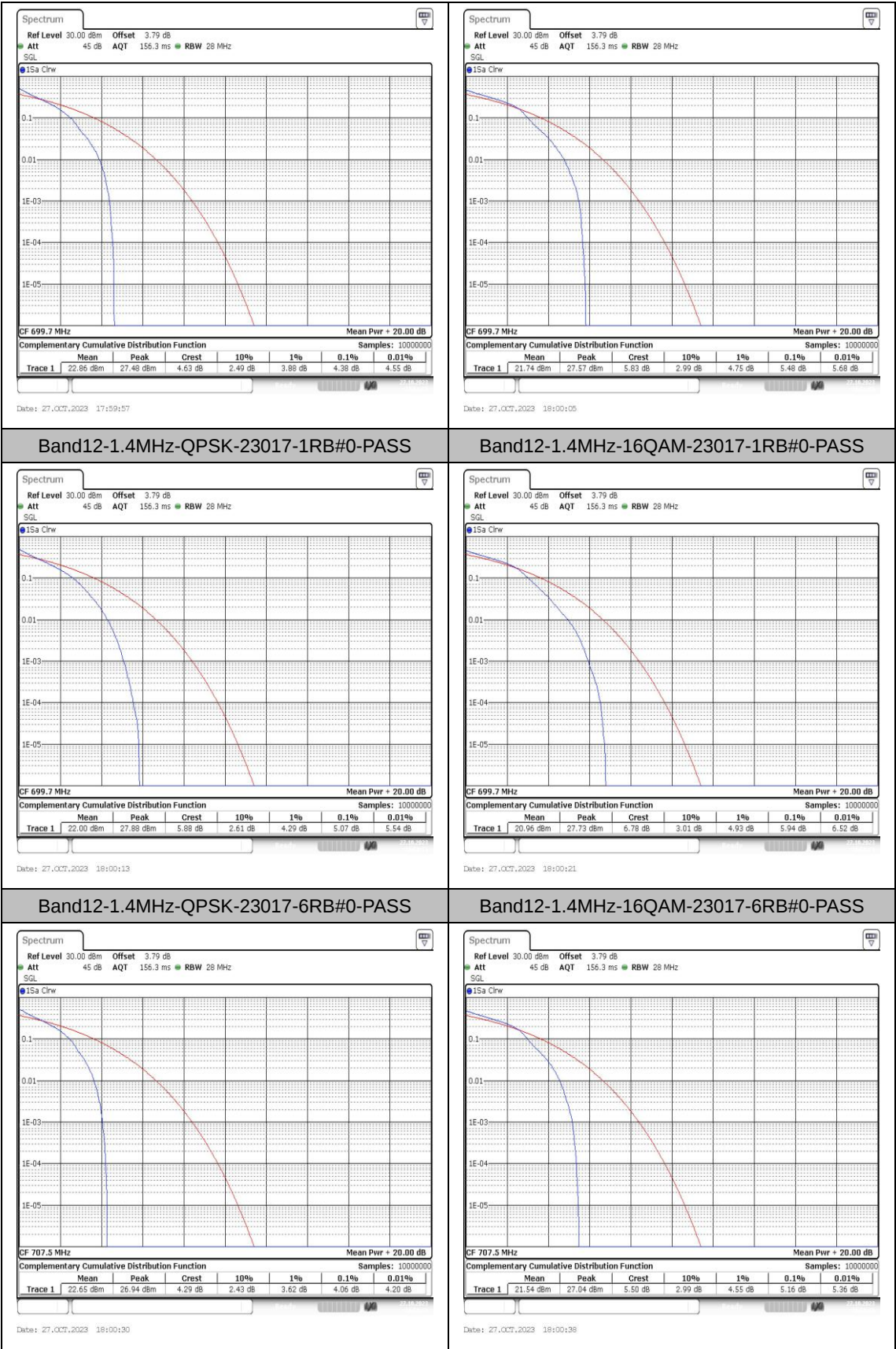
Appendix B: Peak-to-Average Ratio(CCDF)

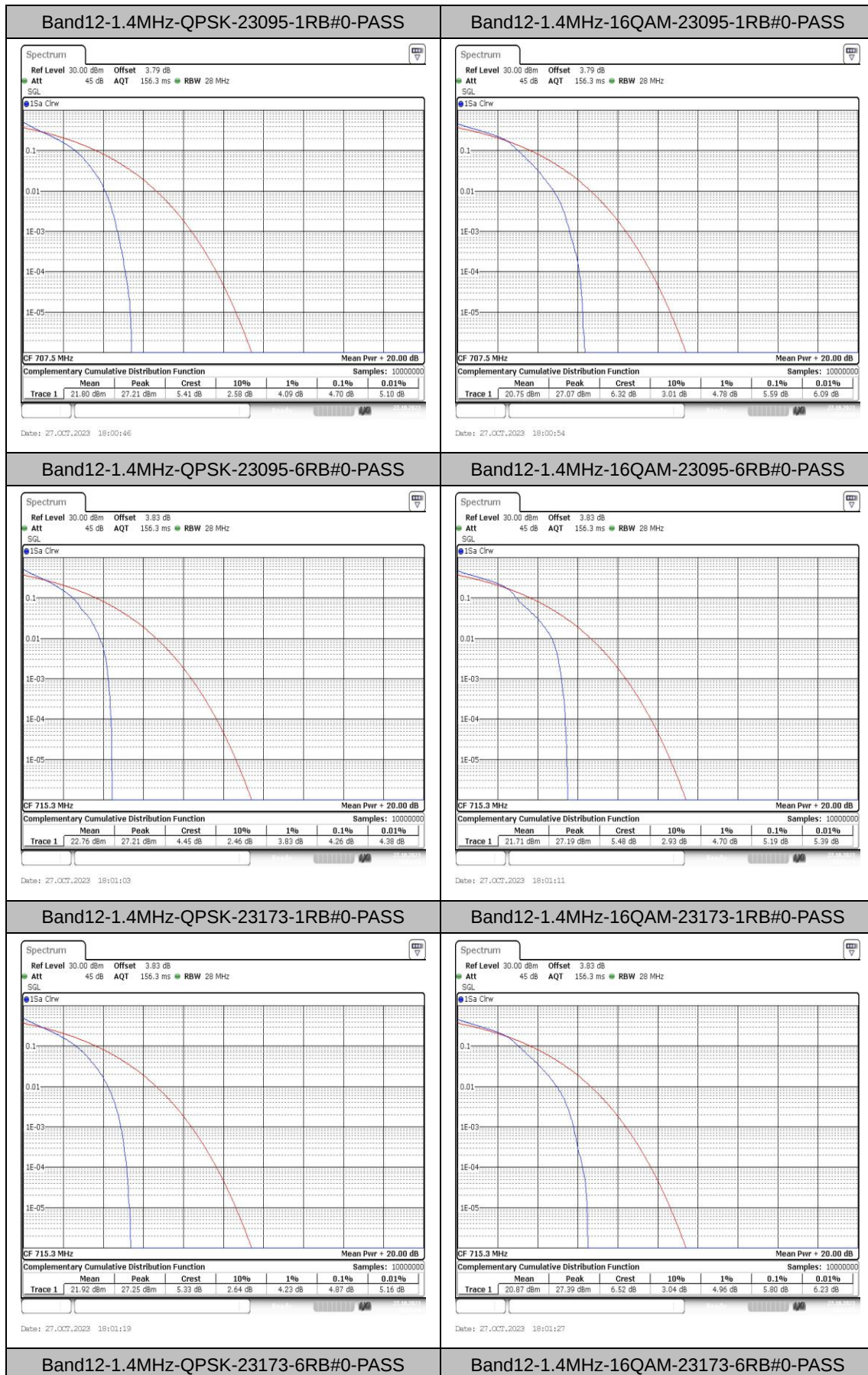
Test Result

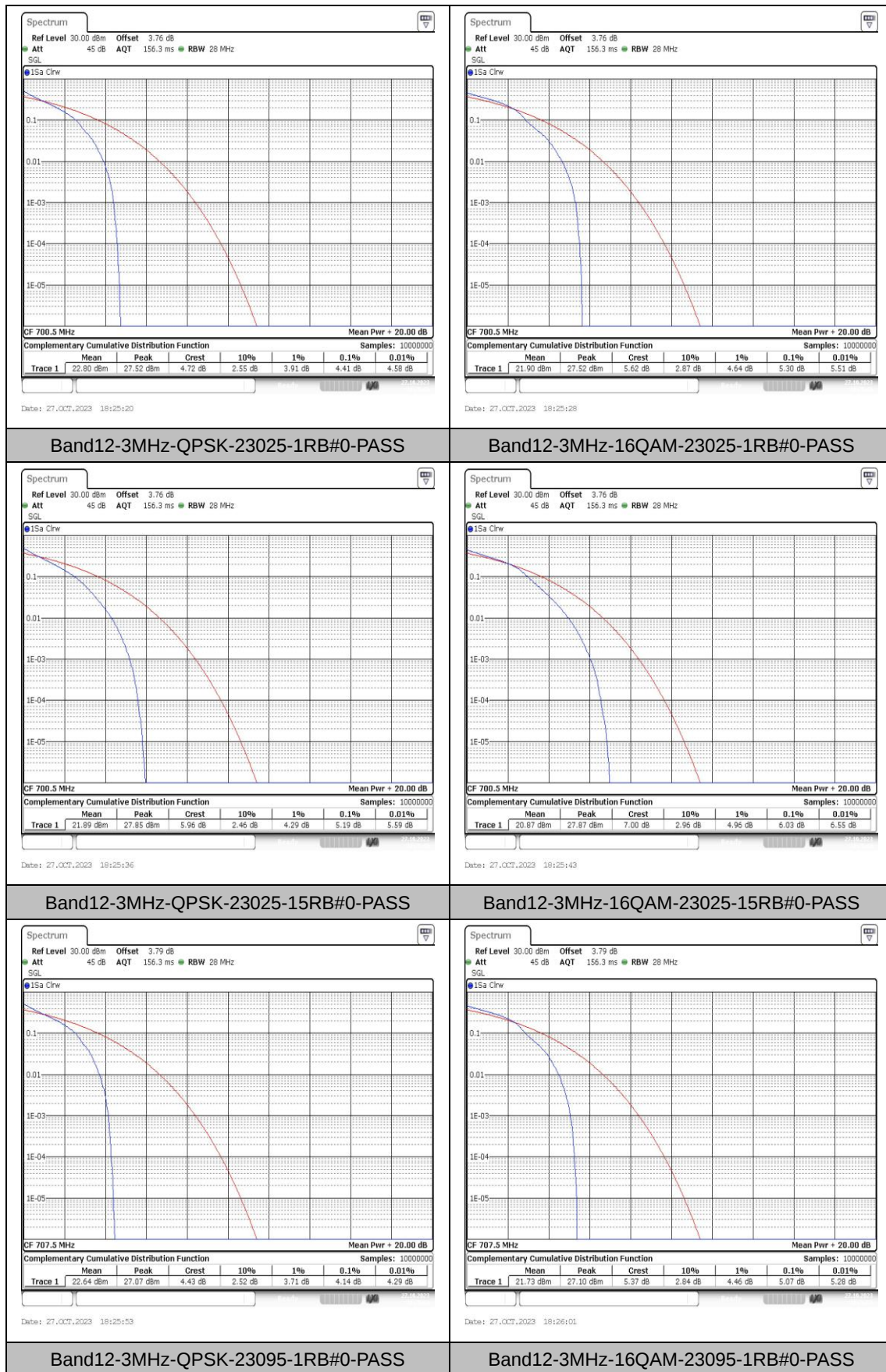
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	4.38	13	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	5.48	13	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	5.07	13	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	5.94	13	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	4.06	13	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	5.16	13	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	4.70	13	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	5.59	13	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	4.26	13	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	5.19	13	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	4.87	13	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	5.80	13	PASS
Band12	3MHz	QPSK	23025	1RB#0	4.41	13	PASS
Band12	3MHz	16QAM	23025	1RB#0	5.30	13	PASS
Band12	3MHz	QPSK	23025	15RB#0	5.19	13	PASS
Band12	3MHz	16QAM	23025	15RB#0	6.03	13	PASS
Band12	3MHz	QPSK	23095	1RB#0	4.14	13	PASS
Band12	3MHz	16QAM	23095	1RB#0	5.07	13	PASS
Band12	3MHz	QPSK	23095	15RB#0	4.81	13	PASS
Band12	3MHz	16QAM	23095	15RB#0	5.71	13	PASS
Band12	3MHz	QPSK	23165	1RB#0	4.29	13	PASS
Band12	3MHz	16QAM	23165	1RB#0	5.16	13	PASS
Band12	3MHz	QPSK	23165	15RB#0	5.04	13	PASS
Band12	3MHz	16QAM	23165	15RB#0	5.88	13	PASS
Band12	5MHz	QPSK	23035	1RB#0	4.49	13	PASS
Band12	5MHz	16QAM	23035	1RB#0	5.28	13	PASS
Band12	5MHz	QPSK	23035	25RB#0	5.19	13	PASS
Band12	5MHz	16QAM	23035	25RB#0	5.97	13	PASS
Band12	5MHz	QPSK	23095	1RB#0	4.29	13	PASS
Band12	5MHz	16QAM	23095	1RB#0	5.07	13	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.90	13	PASS
Band12	5MHz	16QAM	23095	25RB#0	5.71	13	PASS
Band12	5MHz	QPSK	23155	1RB#0	4.23	13	PASS
Band12	5MHz	16QAM	23155	1RB#0	4.99	13	PASS
Band12	5MHz	QPSK	23155	25RB#0	5.07	13	PASS
Band12	5MHz	16QAM	23155	25RB#0	5.86	13	PASS

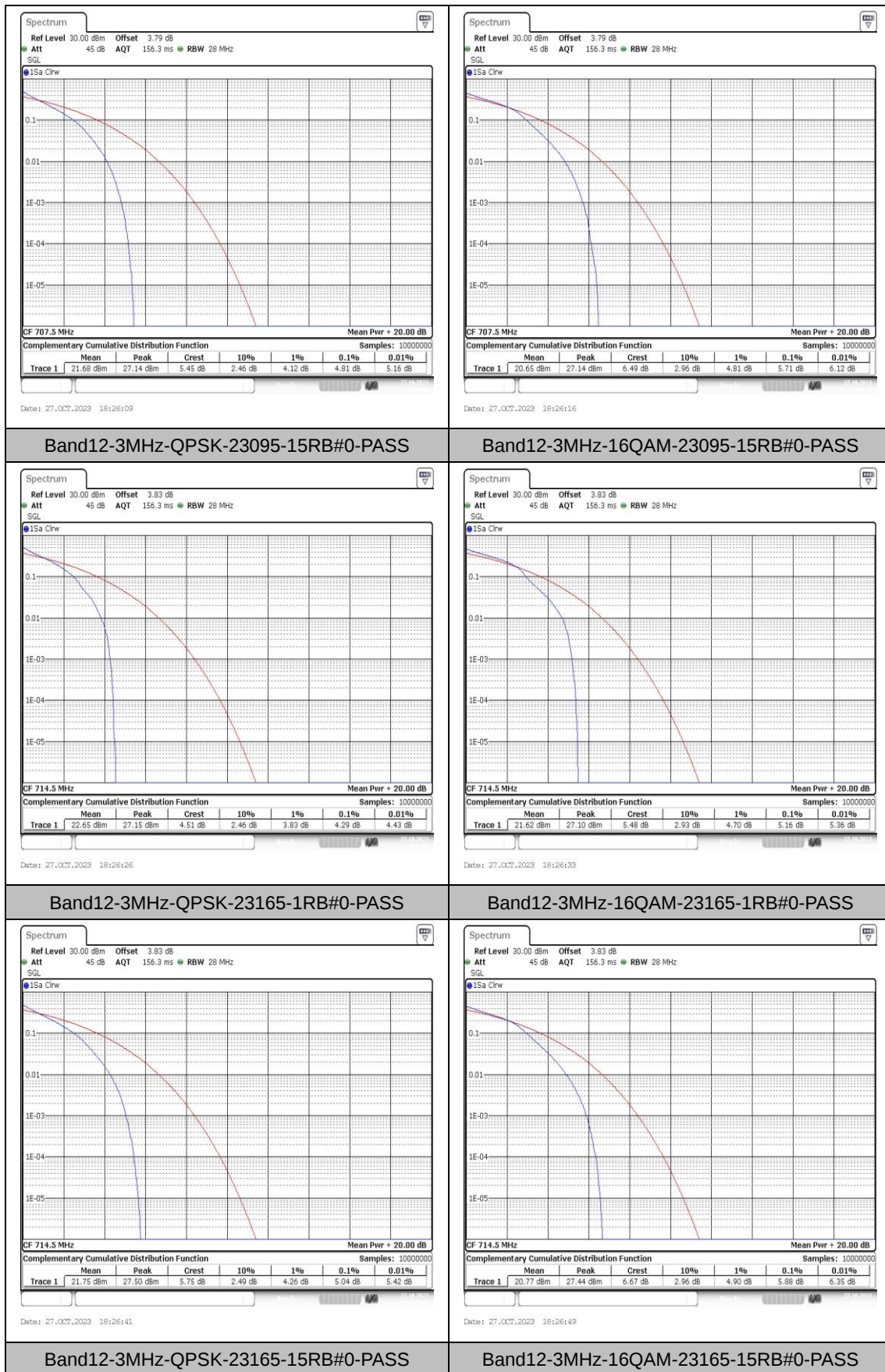
Band12	10MHz	QPSK	23060	1RB#0	4.52	13	PASS
Band12	10MHz	16QAM	23060	1RB#0	5.36	13	PASS
Band12	10MHz	QPSK	23060	50RB#0	5.10	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	5.91	13	PASS
Band12	10MHz	QPSK	23095	1RB#0	4.32	13	PASS
Band12	10MHz	16QAM	23095	1RB#0	5.19	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	4.99	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	5.83	13	PASS
Band12	10MHz	QPSK	23130	1RB#0	4.14	13	PASS
Band12	10MHz	16QAM	23130	1RB#0	5.25	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.04	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	5.88	13	PASS

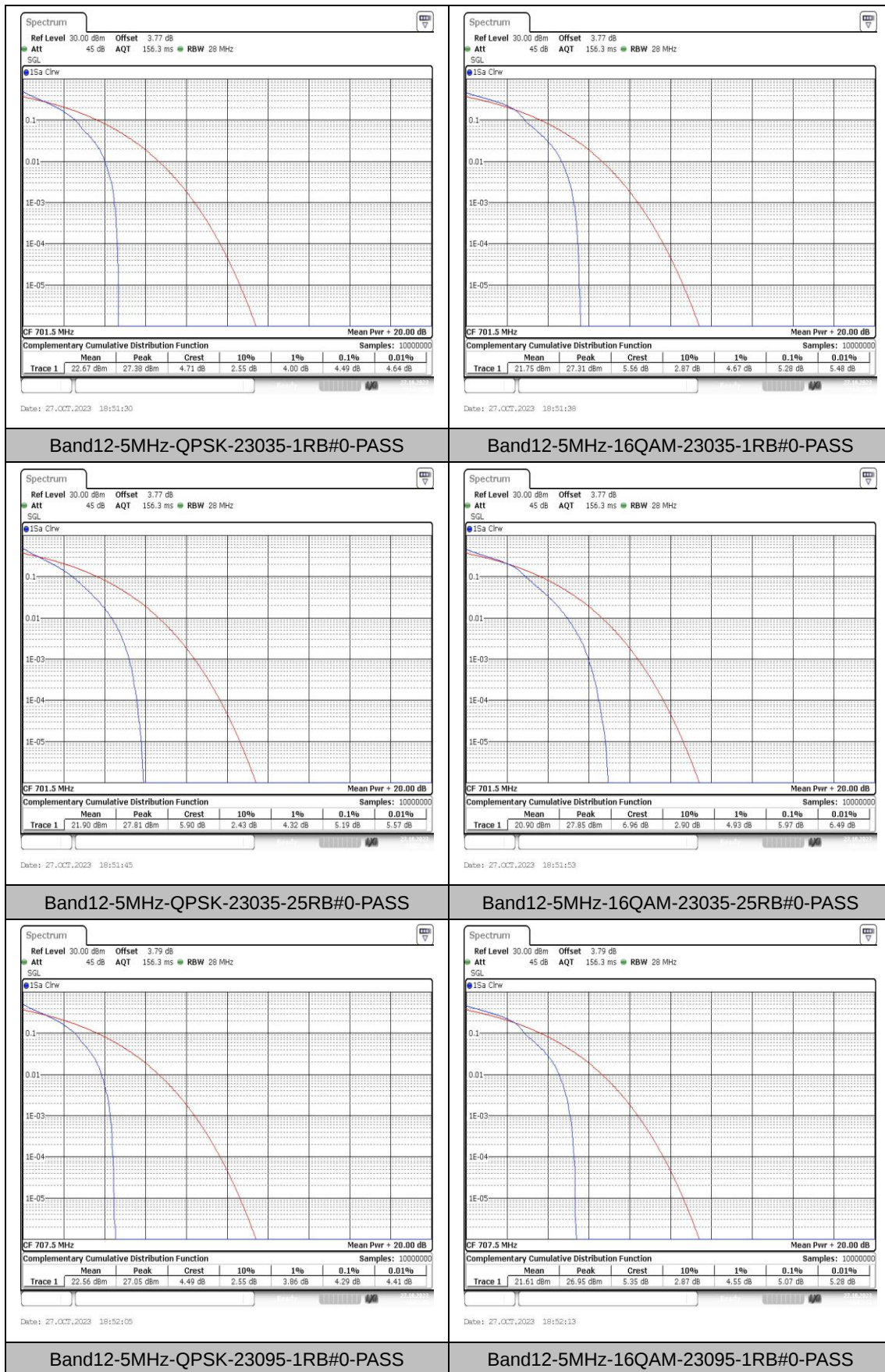
Test Graphs

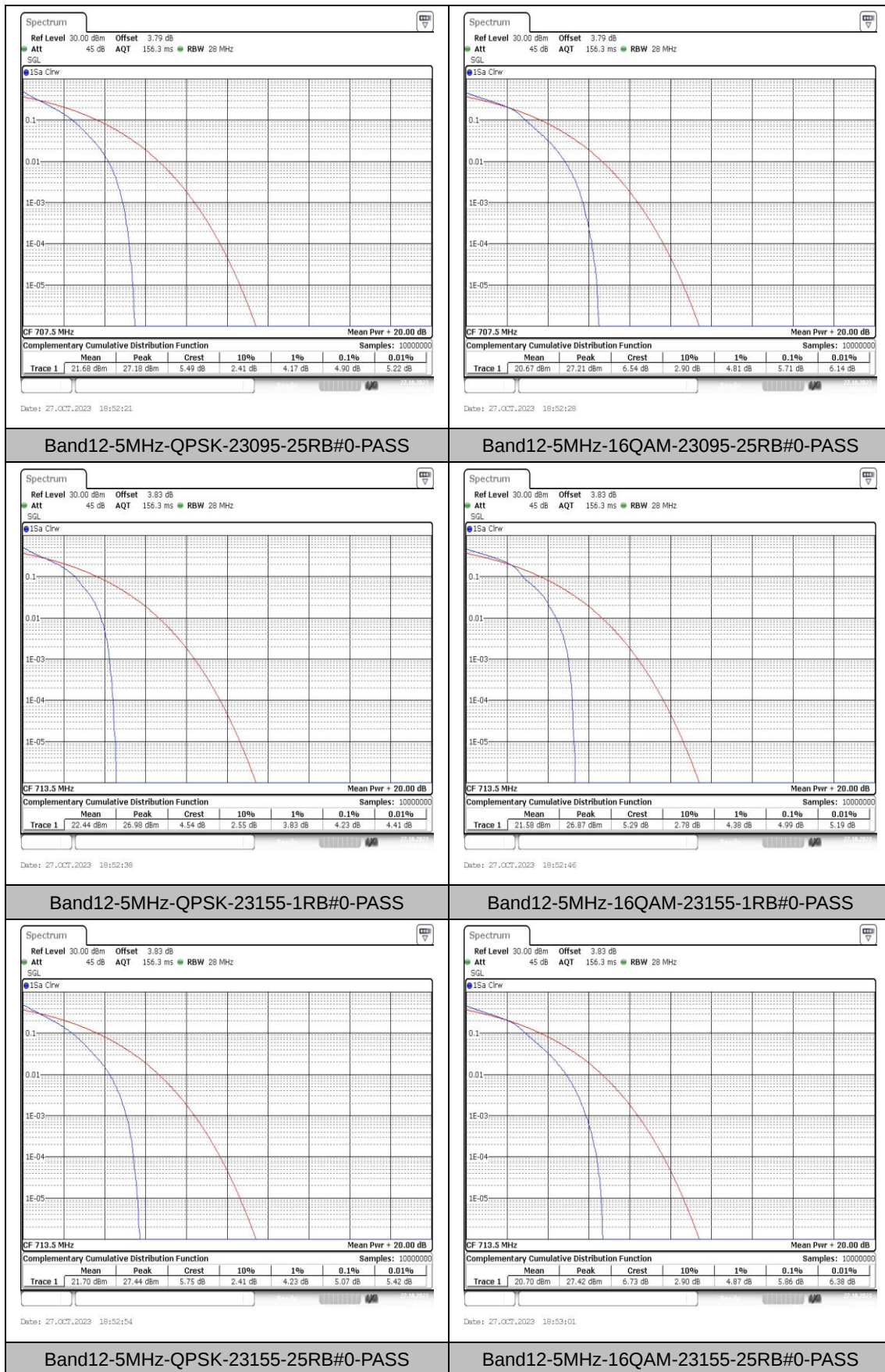


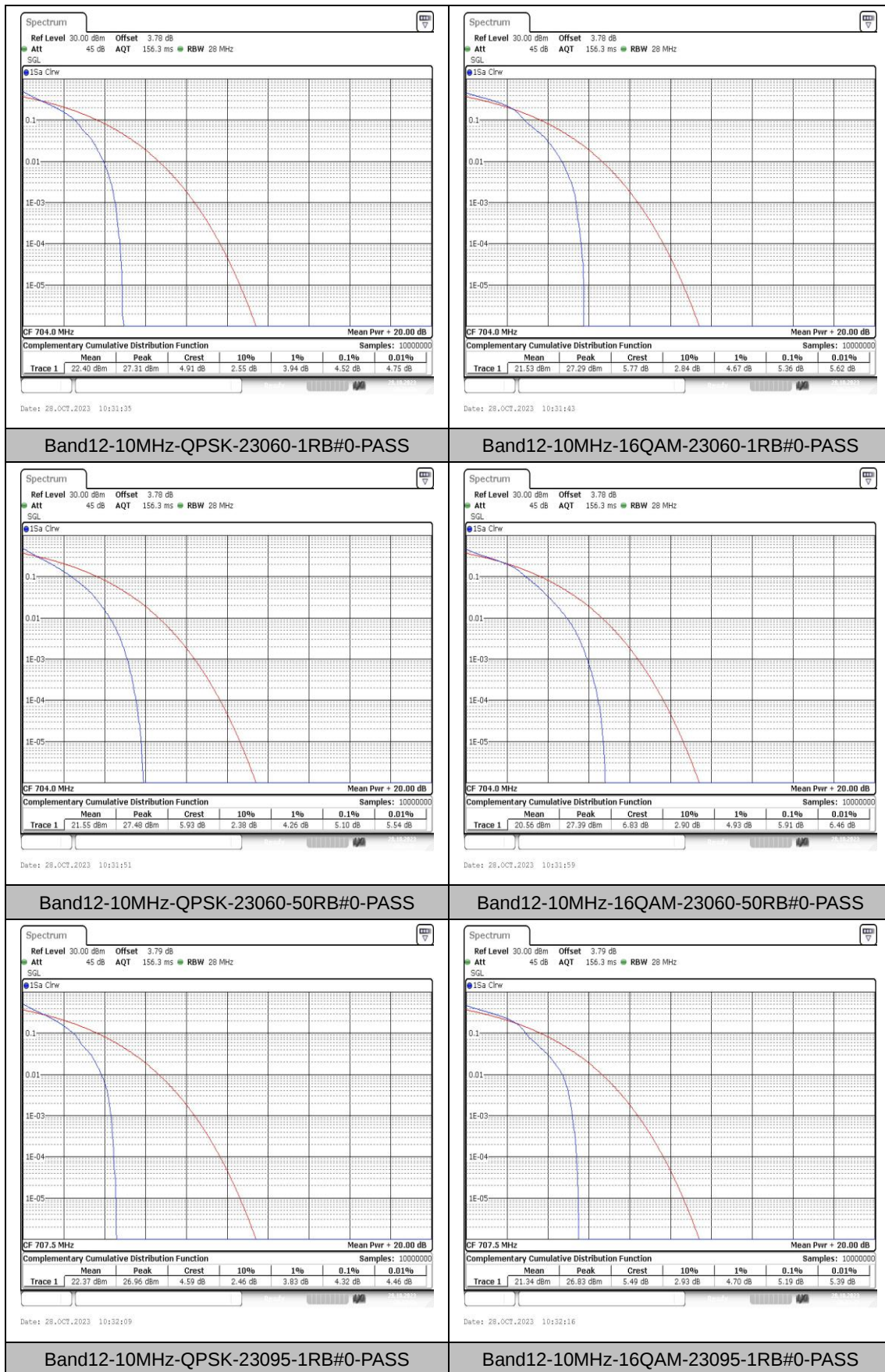


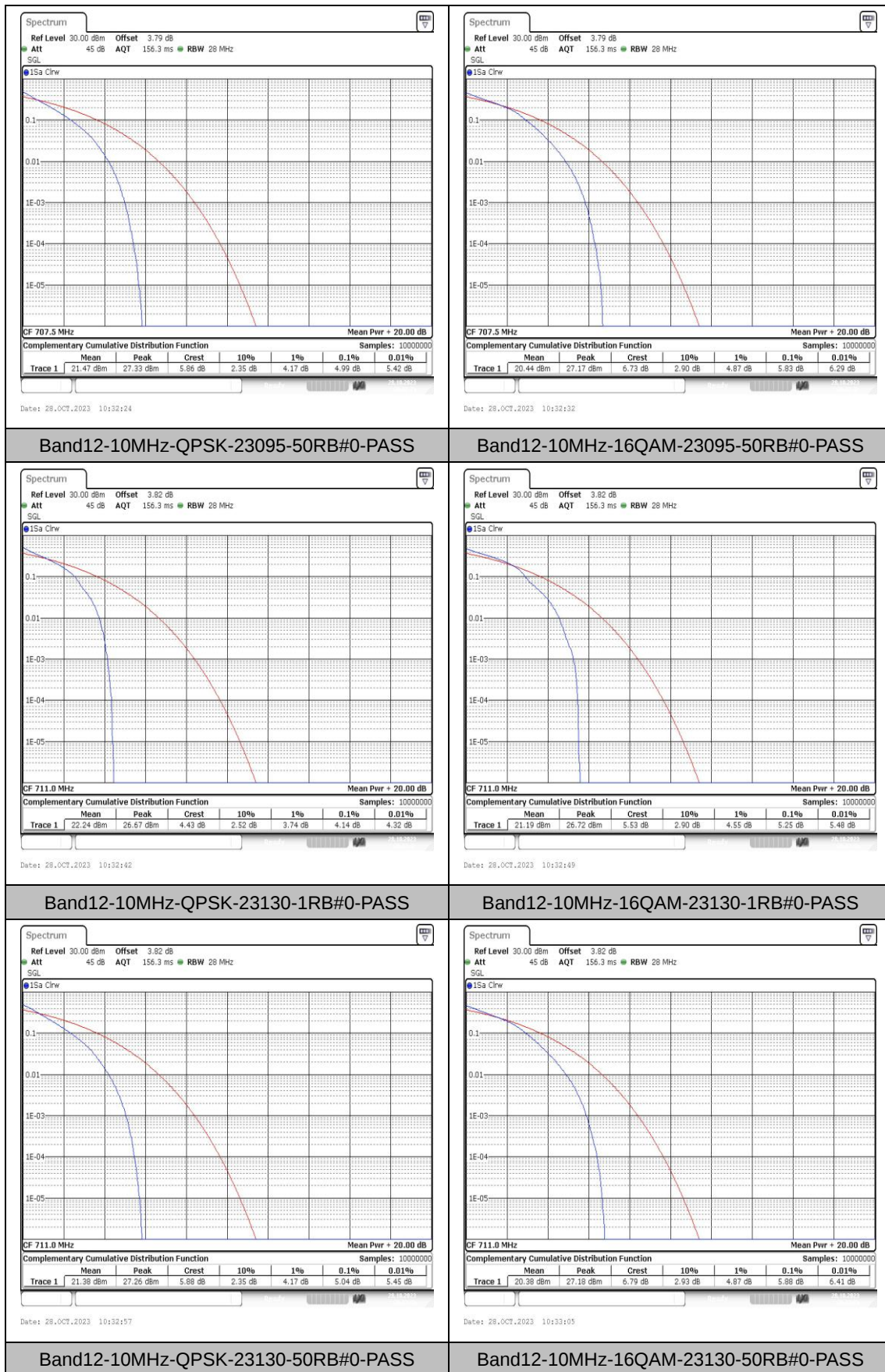










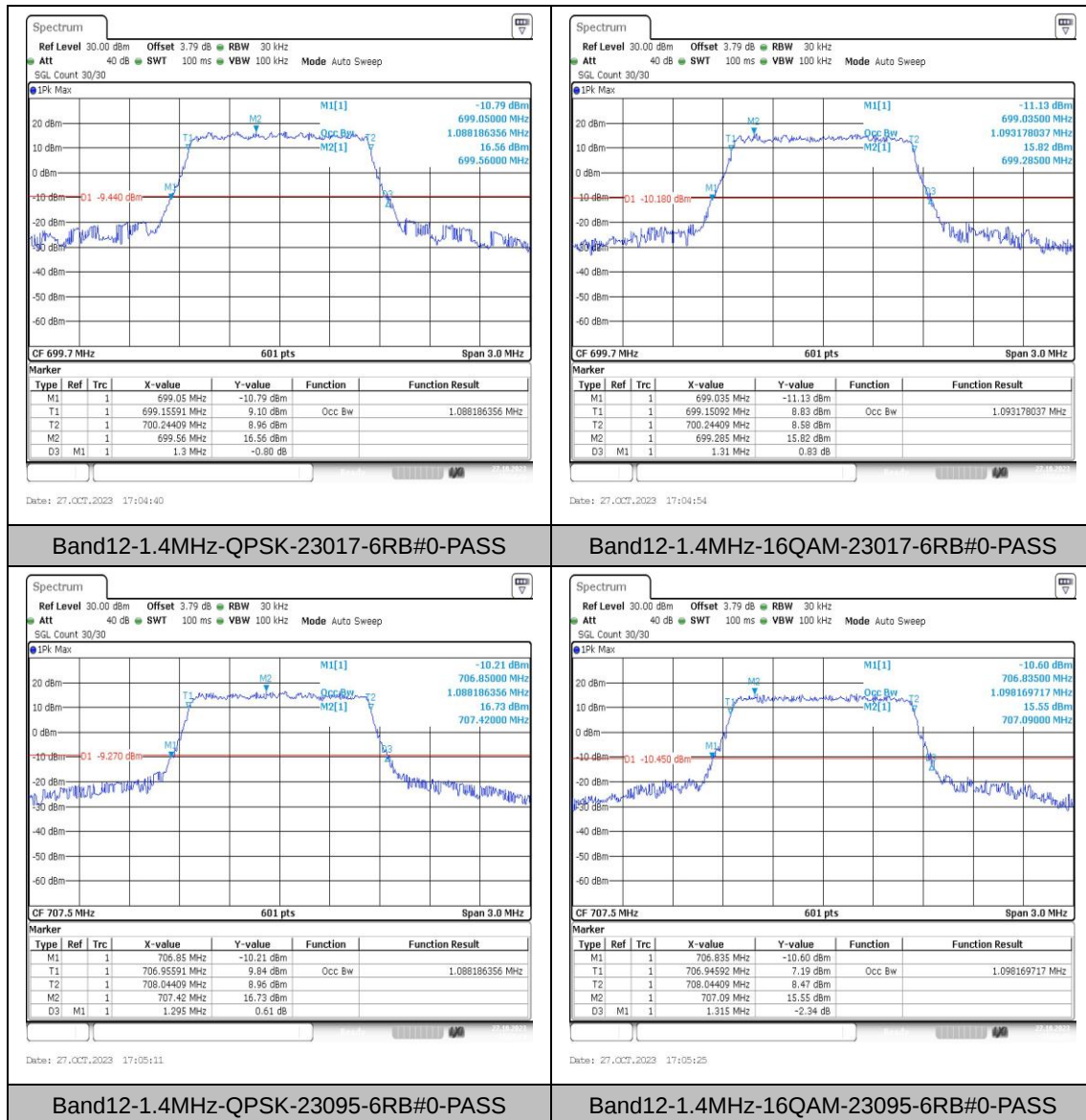


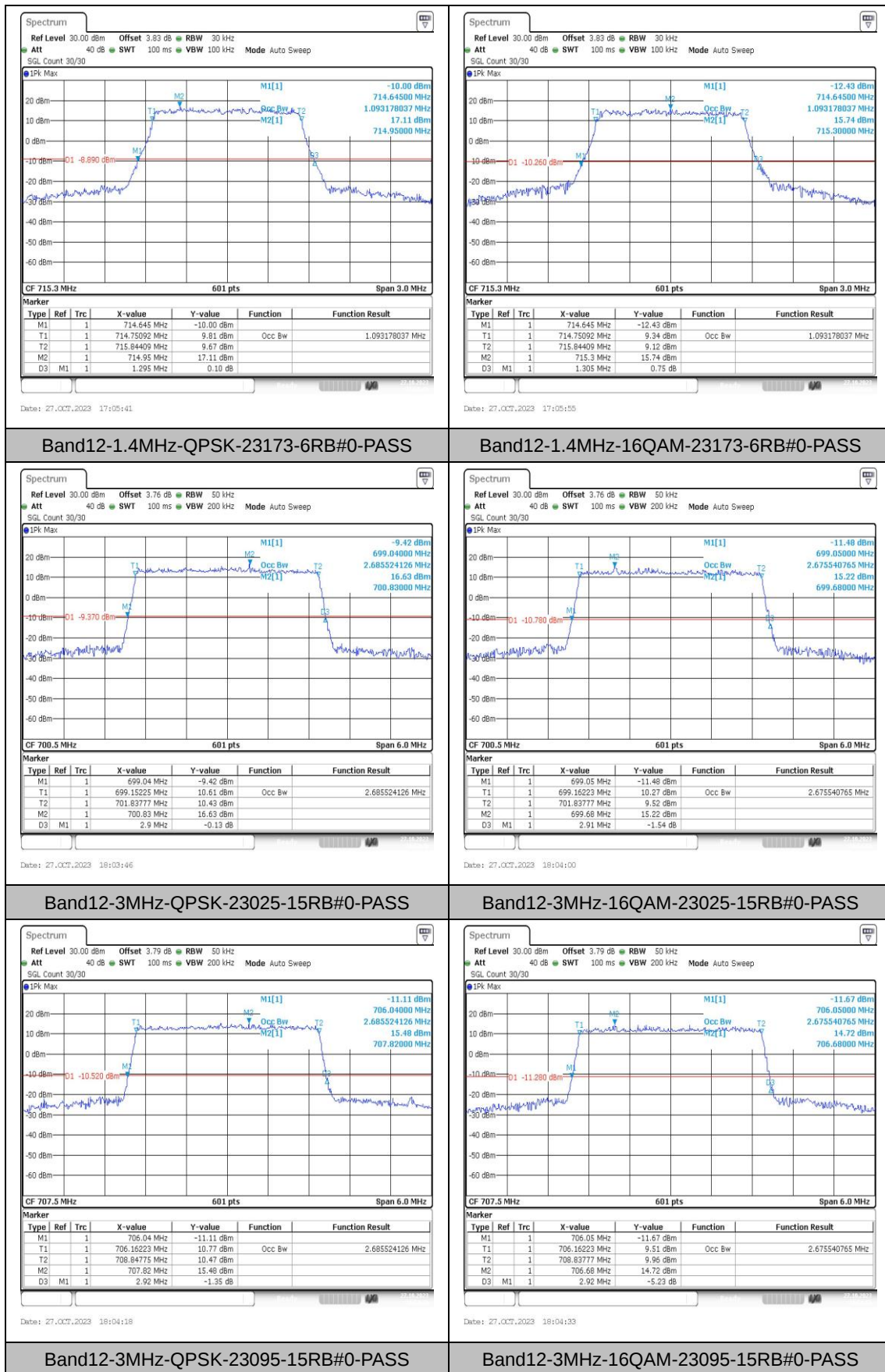
Appendix C: 26dB Bandwidth and Occupied Bandwidth

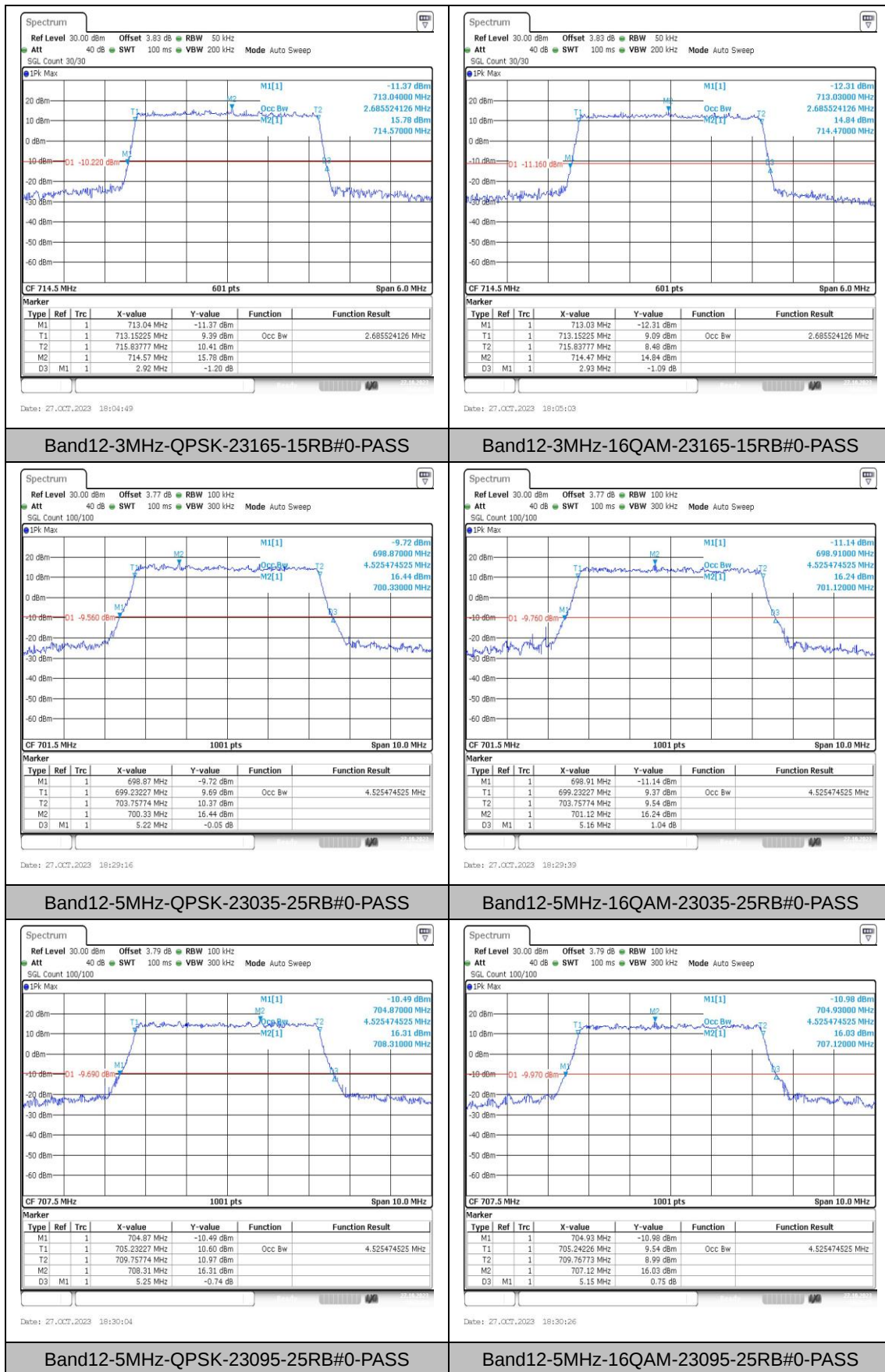
Test Result

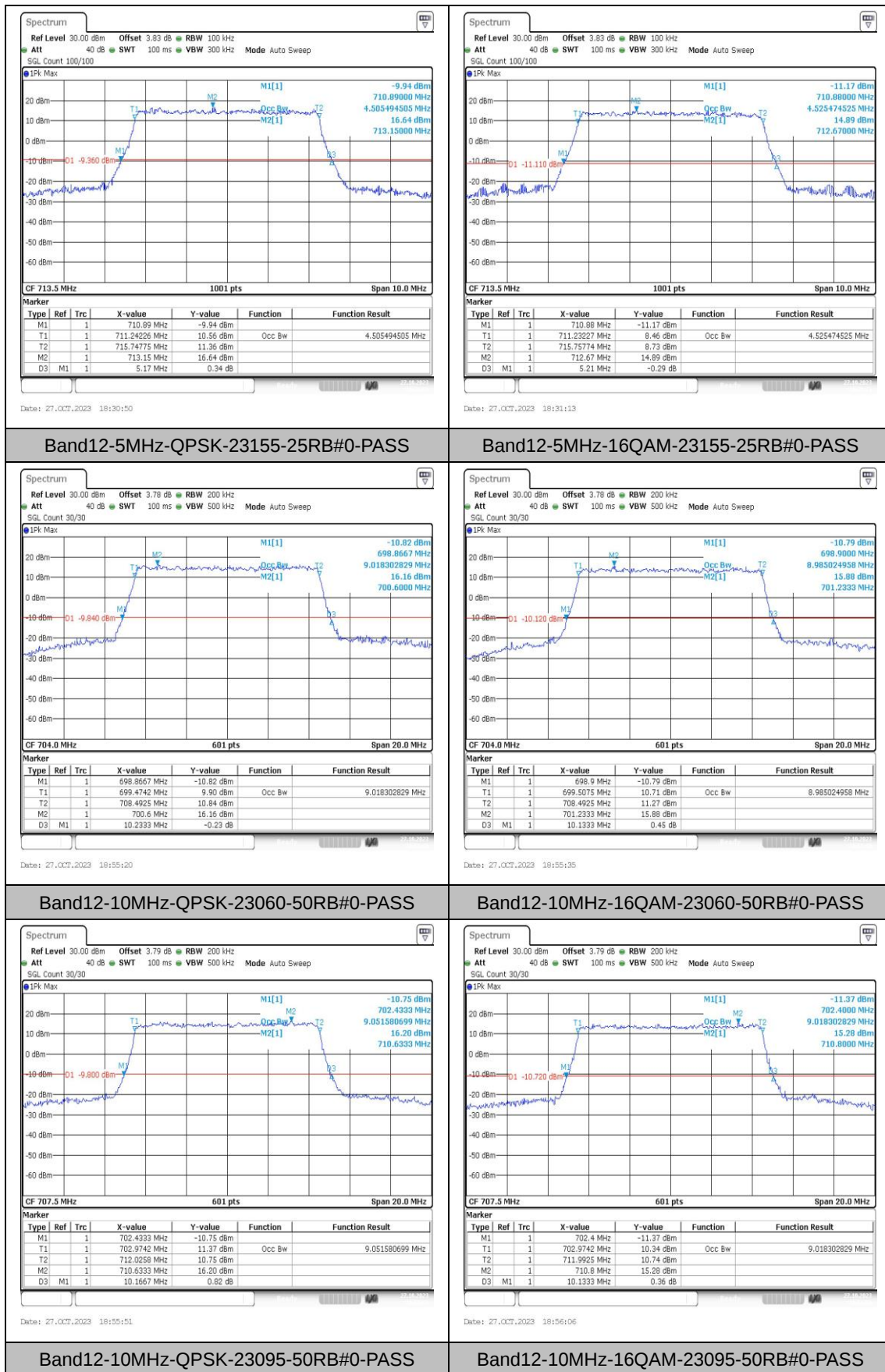
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.088	1.30	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.093	1.31	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.088	1.29	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.098	1.31	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.093	1.29	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.093	1.30	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.686	2.90	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.676	2.91	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.686	2.92	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.676	2.92	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.686	2.92	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.686	2.93	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.525	5.22	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.525	5.16	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.525	5.25	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.525	5.15	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.505	5.17	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.525	5.21	PASS
Band12	10MHz	QPSK	23060	50RB#0	9.018	10.23	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.985	10.13	PASS
Band12	10MHz	QPSK	23095	50RB#0	9.052	10.17	PASS
Band12	10MHz	16QAM	23095	50RB#0	9.018	10.13	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.952	10.03	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.985	10.17	PASS

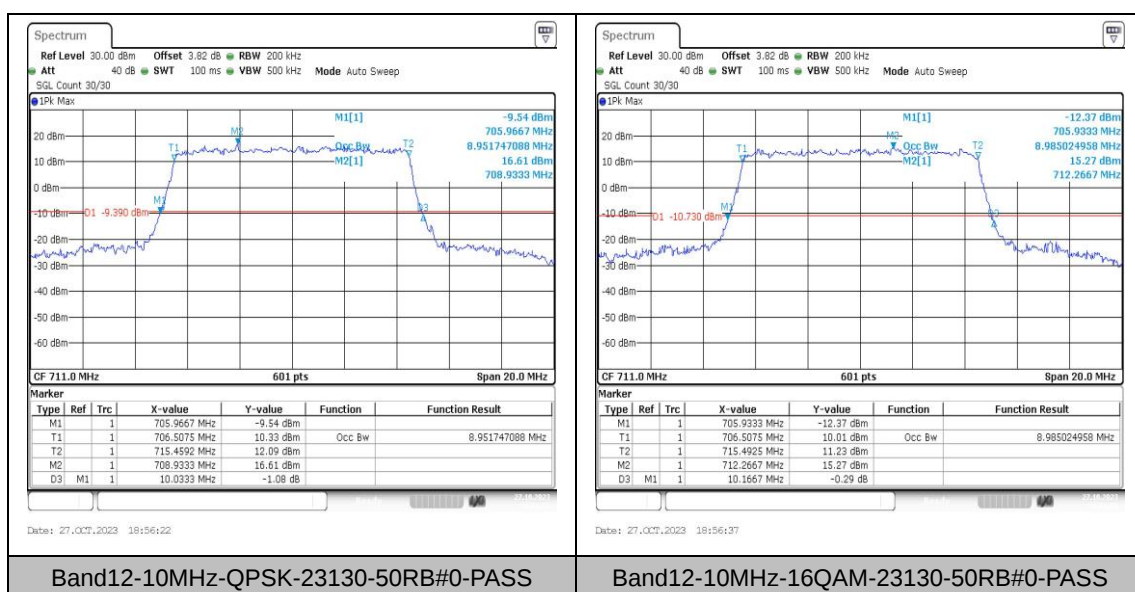
Test Graphs











Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	-21.05	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	-22.83	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	-35.30	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	-36.69	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	-28.90	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	-29.89	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	-34.66	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	-36.53	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	-21.32	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	-21.40	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	-28.38	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	-29.62	PASS
Band12	3MHz	QPSK	23025	1RB#0	-21.54	PASS
Band12	3MHz	16QAM	23025	1RB#0	-22.29	PASS
Band12	3MHz	QPSK	23025	1RB#14	-42.87	PASS
Band12	3MHz	16QAM	23025	1RB#14	-43.33	PASS
Band12	3MHz	QPSK	23025	15RB#0	-33.20	PASS
Band12	3MHz	16QAM	23025	15RB#0	-34.29	PASS
Band12	3MHz	QPSK	23165	1RB#0	-44.31	PASS
Band12	3MHz	16QAM	23165	1RB#0	-45.22	PASS

Band12	3MHz	QPSK	23165	1RB#14	-21.11	PASS
Band12	3MHz	16QAM	23165	1RB#14	-21.56	PASS
Band12	3MHz	QPSK	23165	15RB#0	-33.10	PASS
Band12	3MHz	16QAM	23165	15RB#0	-33.83	PASS
Band12	5MHz	QPSK	23035	1RB#0	-15.60	PASS
Band12	5MHz	16QAM	23035	1RB#0	-15.87	PASS
Band12	5MHz	QPSK	23035	1RB#24	-45.59	PASS
Band12	5MHz	16QAM	23035	1RB#24	-45.82	PASS
Band12	5MHz	QPSK	23035	25RB#0	-26.11	PASS
Band12	5MHz	16QAM	23035	25RB#0	-27.93	PASS
Band12	5MHz	QPSK	23155	1RB#0	-46.86	PASS
Band12	5MHz	16QAM	23155	1RB#0	-47.08	PASS
Band12	5MHz	QPSK	23155	1RB#24	-15.25	PASS
Band12	5MHz	16QAM	23155	1RB#24	-16.09	PASS
Band12	5MHz	QPSK	23155	25RB#0	-28.32	PASS
Band12	5MHz	16QAM	23155	25RB#0	-29.50	PASS
Band12	10MHz	QPSK	23060	1RB#0	-19.25	PASS
Band12	10MHz	16QAM	23060	1RB#0	-20.08	PASS
Band12	10MHz	QPSK	23060	1RB#49	-48.18	PASS
Band12	10MHz	16QAM	23060	1RB#49	-48.21	PASS
Band12	10MHz	QPSK	23060	50RB#0	-31.38	PASS
Band12	10MHz	16QAM	23060	50RB#0	-33.15	PASS
Band12	10MHz	QPSK	23130	1RB#0	-48.79	PASS
Band12	10MHz	16QAM	23130	1RB#0	-48.53	PASS
Band12	10MHz	QPSK	23130	1RB#49	-19.49	PASS
Band12	10MHz	16QAM	23130	1RB#49	-20.54	PASS
Band12	10MHz	QPSK	23130	50RB#0	-33.11	PASS
Band12	10MHz	16QAM	23130	50RB#0	-33.98	PASS

Test Graphs

