

Appendix RF Test Data for LTE Band 5

Company : Shenzhen Tuqiang IoT Technology Co., Ltd.

EUT : Mobile IoT terminal

Model Number : B502

FCC ID : 2BTQO-B502

Report No. : CTA25122200404

Reviewed By : Eric Wang

Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	24.10	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	24.48	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	24.34	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	24.18	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	24.37	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	24.30	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	23.39	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	24.51	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	24.59	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	24.54	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	24.49	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	24.34	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	24.34	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	23.46	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	24.22	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	24.32	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	24.19	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	24.14	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	24.22	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	24.34	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	23.29	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	23.31	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	23.53	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	23.27	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	22.91	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	22.89	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	23.14	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	22.25	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	23.47	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	23.65	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	23.58	PASS
Band5	1.4MHz	16QAM	20525	3RB#0	23.50	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	23.50	PASS
Band5	1.4MHz	16QAM	20525	3RB#3	23.66	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	22.25	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	23.72	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	23.63	PASS

Band5	1.4MHz	16QAM	20643	1RB#5	23.67	PASS
Band5	1.4MHz	16QAM	20643	3RB#0	22.85	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	23.02	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	22.86	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	22.25	PASS
Band5	3MHz	QPSK	20415	1RB#0	24.08	PASS
Band5	3MHz	QPSK	20415	1RB#8	24.09	PASS
Band5	3MHz	QPSK	20415	1RB#14	24.27	PASS
Band5	3MHz	QPSK	20415	8RB#0	23.39	PASS
Band5	3MHz	QPSK	20415	8RB#4	23.41	PASS
Band5	3MHz	QPSK	20415	8RB#7	23.37	PASS
Band5	3MHz	QPSK	20415	15RB#0	23.46	PASS
Band5	3MHz	QPSK	20525	1RB#0	24.47	PASS
Band5	3MHz	QPSK	20525	1RB#8	24.58	PASS
Band5	3MHz	QPSK	20525	1RB#14	24.33	PASS
Band5	3MHz	QPSK	20525	8RB#0	23.48	PASS
Band5	3MHz	QPSK	20525	8RB#4	23.49	PASS
Band5	3MHz	QPSK	20525	8RB#7	23.54	PASS
Band5	3MHz	QPSK	20525	15RB#0	23.50	PASS
Band5	3MHz	QPSK	20635	1RB#0	24.36	PASS
Band5	3MHz	QPSK	20635	1RB#8	24.23	PASS
Band5	3MHz	QPSK	20635	1RB#14	24.26	PASS
Band5	3MHz	QPSK	20635	8RB#0	23.51	PASS
Band5	3MHz	QPSK	20635	8RB#4	23.44	PASS
Band5	3MHz	QPSK	20635	8RB#7	23.46	PASS
Band5	3MHz	QPSK	20635	15RB#0	23.39	PASS
Band5	3MHz	16QAM	20415	1RB#0	23.46	PASS
Band5	3MHz	16QAM	20415	1RB#8	23.41	PASS
Band5	3MHz	16QAM	20415	1RB#14	23.36	PASS
Band5	3MHz	16QAM	20415	8RB#0	22.52	PASS
Band5	3MHz	16QAM	20415	8RB#4	22.53	PASS
Band5	3MHz	16QAM	20415	8RB#7	22.11	PASS
Band5	3MHz	16QAM	20415	15RB#0	22.27	PASS
Band5	3MHz	16QAM	20525	1RB#0	23.21	PASS
Band5	3MHz	16QAM	20525	1RB#8	23.55	PASS
Band5	3MHz	16QAM	20525	1RB#14	23.16	PASS
Band5	3MHz	16QAM	20525	8RB#0	22.40	PASS
Band5	3MHz	16QAM	20525	8RB#4	22.35	PASS
Band5	3MHz	16QAM	20525	8RB#7	22.33	PASS
Band5	3MHz	16QAM	20525	15RB#0	22.40	PASS
Band5	3MHz	16QAM	20635	1RB#0	23.65	PASS
Band5	3MHz	16QAM	20635	1RB#8	23.54	PASS
Band5	3MHz	16QAM	20635	1RB#14	23.96	PASS

Band5	3MHz	16QAM	20635	8RB#0	22.38	PASS
Band5	3MHz	16QAM	20635	8RB#4	22.29	PASS
Band5	3MHz	16QAM	20635	8RB#7	22.31	PASS
Band5	3MHz	16QAM	20635	15RB#0	22.35	PASS
Band5	5MHz	QPSK	20425	1RB#0	24.40	PASS
Band5	5MHz	QPSK	20425	1RB#12	24.19	PASS
Band5	5MHz	QPSK	20425	1RB#24	24.25	PASS
Band5	5MHz	QPSK	20425	12RB#0	23.35	PASS
Band5	5MHz	QPSK	20425	12RB#6	23.36	PASS
Band5	5MHz	QPSK	20425	12RB#13	23.36	PASS
Band5	5MHz	QPSK	20425	25RB#0	23.43	PASS
Band5	5MHz	QPSK	20525	1RB#0	24.44	PASS
Band5	5MHz	QPSK	20525	1RB#12	24.40	PASS
Band5	5MHz	QPSK	20525	1RB#24	24.56	PASS
Band5	5MHz	QPSK	20525	12RB#0	23.45	PASS
Band5	5MHz	QPSK	20525	12RB#6	23.46	PASS
Band5	5MHz	QPSK	20525	12RB#13	23.43	PASS
Band5	5MHz	QPSK	20525	25RB#0	23.46	PASS
Band5	5MHz	QPSK	20625	1RB#0	24.37	PASS
Band5	5MHz	QPSK	20625	1RB#12	24.41	PASS
Band5	5MHz	QPSK	20625	1RB#24	24.02	PASS
Band5	5MHz	QPSK	20625	12RB#0	23.46	PASS
Band5	5MHz	QPSK	20625	12RB#6	23.47	PASS
Band5	5MHz	QPSK	20625	12RB#13	23.43	PASS
Band5	5MHz	QPSK	20625	25RB#0	23.47	PASS
Band5	5MHz	16QAM	20425	1RB#0	23.03	PASS
Band5	5MHz	16QAM	20425	1RB#12	23.85	PASS
Band5	5MHz	16QAM	20425	1RB#24	23.04	PASS
Band5	5MHz	16QAM	20425	12RB#0	22.46	PASS
Band5	5MHz	16QAM	20425	12RB#6	22.45	PASS
Band5	5MHz	16QAM	20425	12RB#13	22.36	PASS
Band5	5MHz	16QAM	20425	25RB#0	22.51	PASS
Band5	5MHz	16QAM	20525	1RB#0	23.55	PASS
Band5	5MHz	16QAM	20525	1RB#12	23.61	PASS
Band5	5MHz	16QAM	20525	1RB#24	23.58	PASS
Band5	5MHz	16QAM	20525	12RB#0	22.62	PASS
Band5	5MHz	16QAM	20525	12RB#6	22.53	PASS
Band5	5MHz	16QAM	20525	12RB#13	22.71	PASS
Band5	5MHz	16QAM	20525	25RB#0	22.47	PASS
Band5	5MHz	16QAM	20625	1RB#0	23.08	PASS
Band5	5MHz	16QAM	20625	1RB#12	23.69	PASS
Band5	5MHz	16QAM	20625	1RB#24	22.90	PASS
Band5	5MHz	16QAM	20625	12RB#0	22.14	PASS

Band5	5MHz	16QAM	20625	12RB#6	22.33	PASS
Band5	5MHz	16QAM	20625	12RB#13	22.12	PASS
Band5	5MHz	16QAM	20625	25RB#0	22.34	PASS
Band5	10MHz	QPSK	20450	1RB#0	24.13	PASS
Band5	10MHz	QPSK	20450	1RB#24	24.25	PASS
Band5	10MHz	QPSK	20450	1RB#49	24.26	PASS
Band5	10MHz	QPSK	20450	25RB#0	23.48	PASS
Band5	10MHz	QPSK	20450	25RB#12	23.47	PASS
Band5	10MHz	QPSK	20450	25RB#25	23.46	PASS
Band5	10MHz	QPSK	20450	50RB#0	23.44	PASS
Band5	10MHz	QPSK	20525	1RB#0	24.30	PASS
Band5	10MHz	QPSK	20525	1RB#24	24.51	PASS
Band5	10MHz	QPSK	20525	1RB#49	24.39	PASS
Band5	10MHz	QPSK	20525	25RB#0	23.59	PASS
Band5	10MHz	QPSK	20525	25RB#12	23.53	PASS
Band5	10MHz	QPSK	20525	25RB#25	23.55	PASS
Band5	10MHz	QPSK	20525	50RB#0	23.49	PASS
Band5	10MHz	QPSK	20600	1RB#0	24.48	PASS
Band5	10MHz	QPSK	20600	1RB#24	24.38	PASS
Band5	10MHz	QPSK	20600	1RB#49	24.14	PASS
Band5	10MHz	QPSK	20600	25RB#0	23.63	PASS
Band5	10MHz	QPSK	20600	25RB#12	23.56	PASS
Band5	10MHz	QPSK	20600	25RB#25	23.54	PASS
Band5	10MHz	QPSK	20600	50RB#0	23.42	PASS
Band5	10MHz	16QAM	20450	1RB#0	23.41	PASS
Band5	10MHz	16QAM	20450	1RB#24	23.40	PASS
Band5	10MHz	16QAM	20450	1RB#49	23.37	PASS
Band5	10MHz	16QAM	20450	25RB#0	22.46	PASS
Band5	10MHz	16QAM	20450	25RB#12	22.45	PASS
Band5	10MHz	16QAM	20450	25RB#25	22.47	PASS
Band5	10MHz	16QAM	20525	1RB#0	23.24	PASS
Band5	10MHz	16QAM	20525	1RB#24	23.47	PASS
Band5	10MHz	16QAM	20525	1RB#49	23.31	PASS
Band5	10MHz	16QAM	20525	25RB#0	22.64	PASS
Band5	10MHz	16QAM	20525	25RB#12	22.64	PASS
Band5	10MHz	16QAM	20525	25RB#25	22.60	PASS
Band5	10MHz	16QAM	20600	1RB#0	23.99	PASS
Band5	10MHz	16QAM	20600	1RB#24	24.07	PASS
Band5	10MHz	16QAM	20600	1RB#49	23.70	PASS
Band5	10MHz	16QAM	20600	25RB#0	22.40	PASS
Band5	10MHz	16QAM	20600	25RB#12	22.60	PASS
Band5	10MHz	16QAM	20600	25RB#25	22.66	PASS

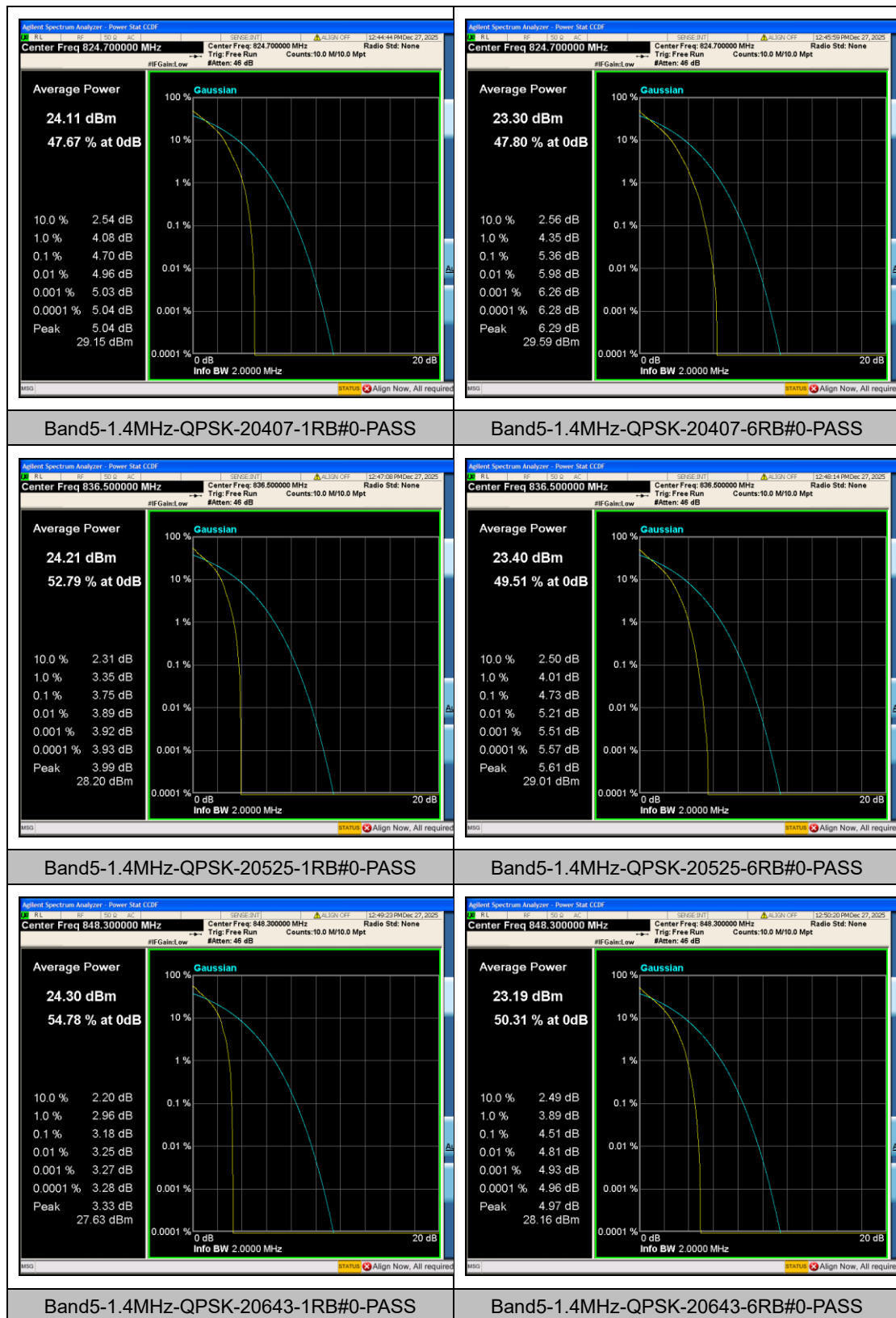
Appendix B: Peak-to-Average Ratio(CCDF)

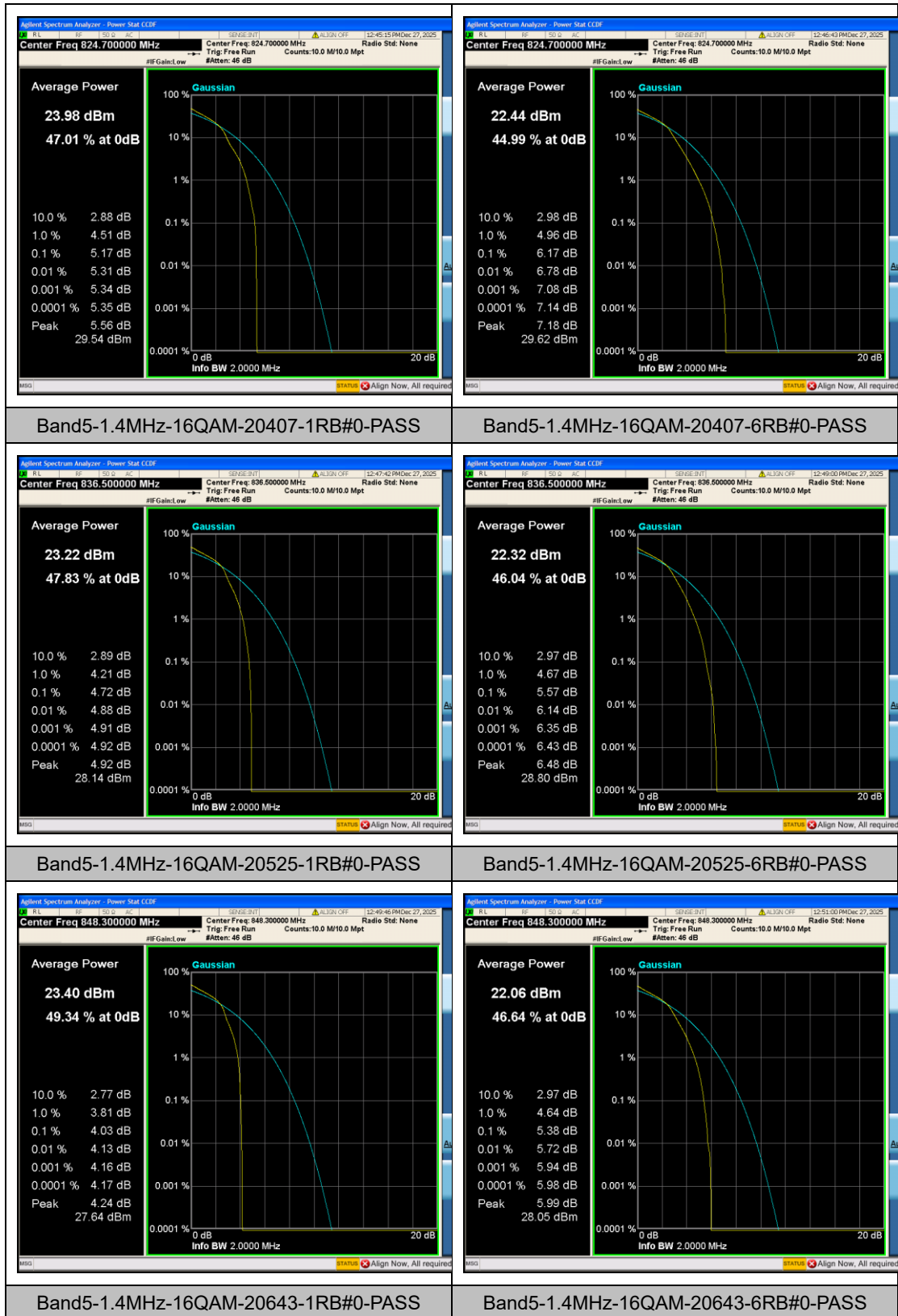
Test Result

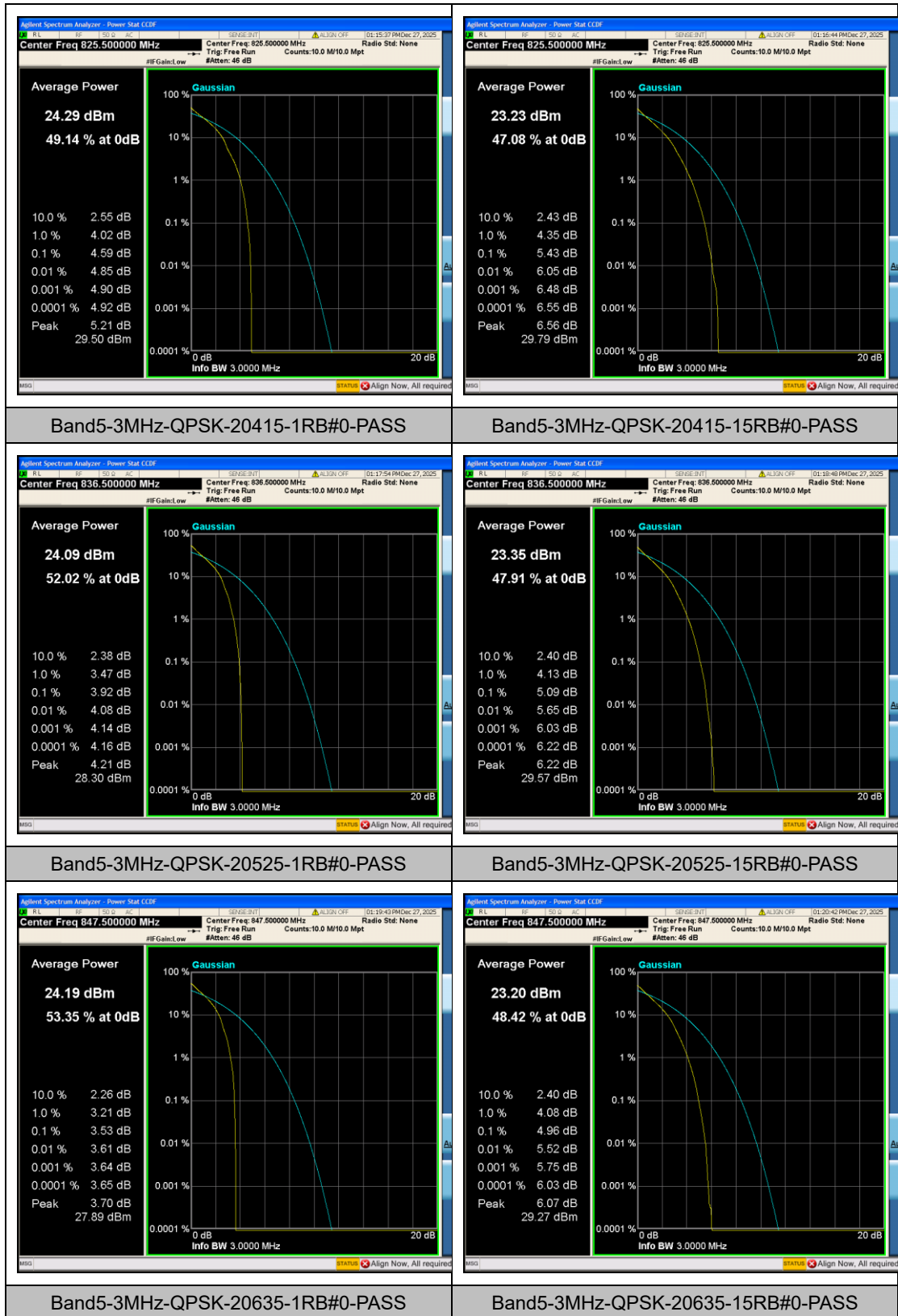
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	4.70	13	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	5.36	13	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	3.75	13	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	4.73	13	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	3.18	13	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	4.51	13	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	5.17	13	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	6.17	13	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	4.72	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	5.57	13	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	4.03	13	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	5.38	13	PASS
Band5	3MHz	QPSK	20415	1RB#0	4.59	13	PASS
Band5	3MHz	QPSK	20415	15RB#0	5.43	13	PASS
Band5	3MHz	QPSK	20525	1RB#0	3.92	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	5.09	13	PASS
Band5	3MHz	QPSK	20635	1RB#0	3.53	13	PASS
Band5	3MHz	QPSK	20635	15RB#0	4.96	13	PASS
Band5	3MHz	16QAM	20415	1RB#0	5.70	13	PASS
Band5	3MHz	16QAM	20415	15RB#0	6.23	13	PASS
Band5	3MHz	16QAM	20525	1RB#0	4.69	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	5.81	13	PASS
Band5	3MHz	16QAM	20635	1RB#0	4.55	13	PASS
Band5	3MHz	16QAM	20635	15RB#0	5.72	13	PASS
Band5	5MHz	QPSK	20425	1RB#0	4.61	13	PASS
Band5	5MHz	QPSK	20425	25RB#0	5.41	13	PASS
Band5	5MHz	QPSK	20525	1RB#0	3.76	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.05	13	PASS
Band5	5MHz	QPSK	20625	1RB#0	4.02	13	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.96	13	PASS
Band5	5MHz	16QAM	20425	1RB#0	5.31	13	PASS
Band5	5MHz	16QAM	20425	25RB#0	6.14	13	PASS
Band5	5MHz	16QAM	20525	1RB#0	4.51	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	5.79	13	PASS
Band5	5MHz	16QAM	20625	1RB#0	4.91	13	PASS
Band5	5MHz	16QAM	20625	25RB#0	5.71	13	PASS

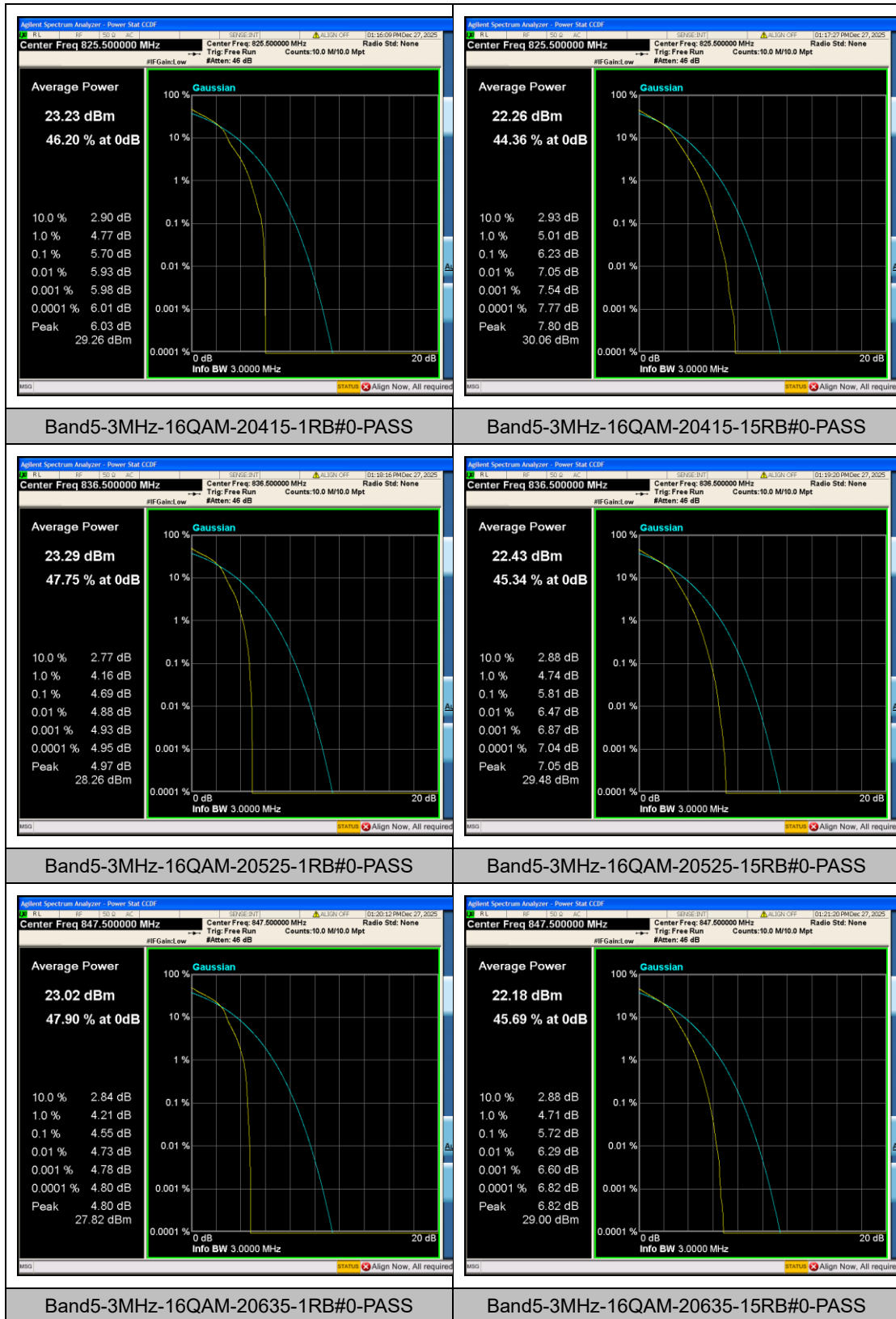
Band5	10MHz	QPSK	20450	1RB#0	4.69	13	PASS
Band5	10MHz	QPSK	20450	50RB#0	5.24	13	PASS
Band5	10MHz	QPSK	20525	1RB#0	3.97	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	4.99	13	PASS
Band5	10MHz	QPSK	20600	1RB#0	4.05	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	5.04	13	PASS
Band5	10MHz	16QAM	20450	1RB#0	5.44	13	PASS
Band5	10MHz	16QAM	20525	1RB#0	4.53	13	PASS
Band5	10MHz	16QAM	20600	1RB#0	4.82	13	PASS

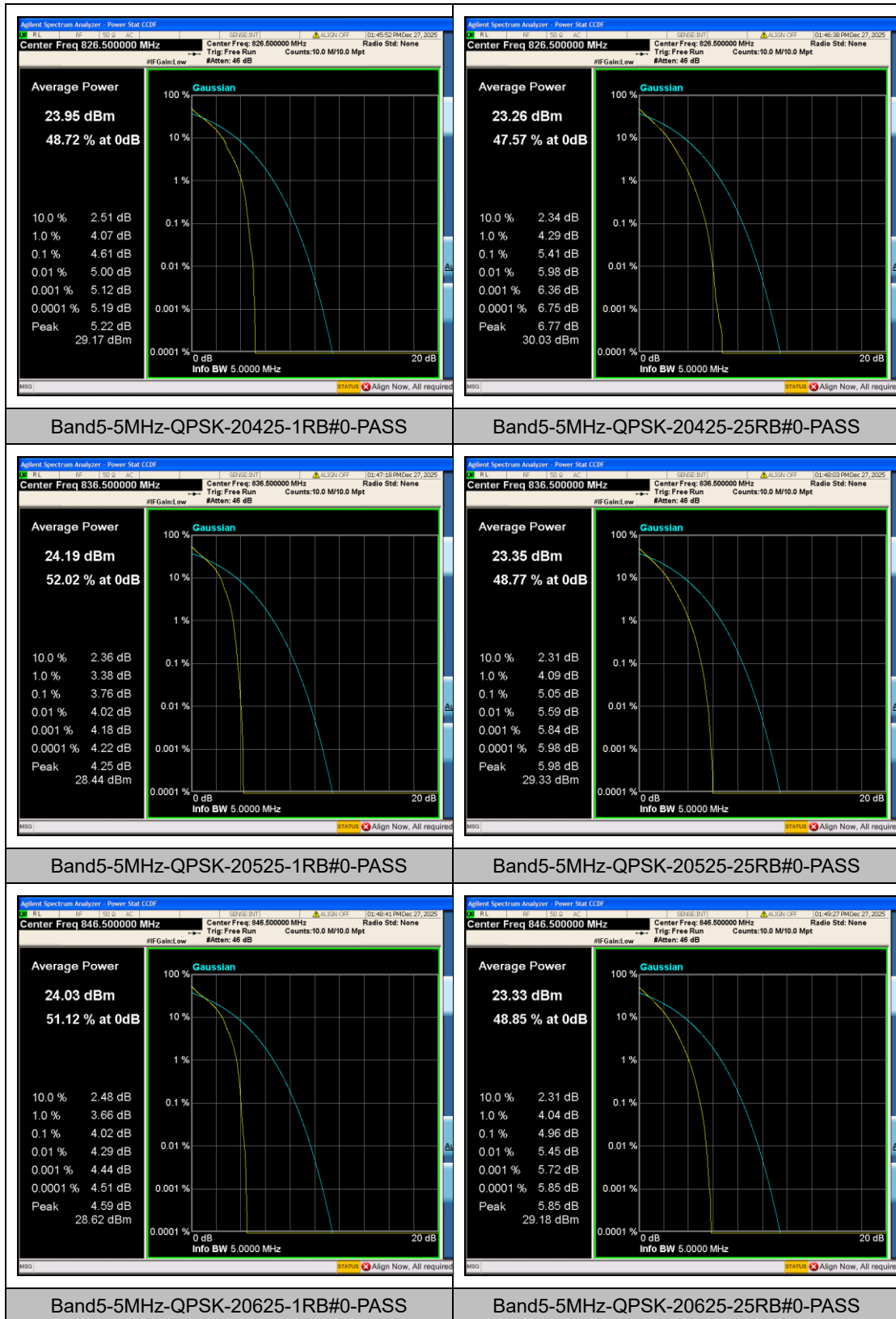
Test Graphs

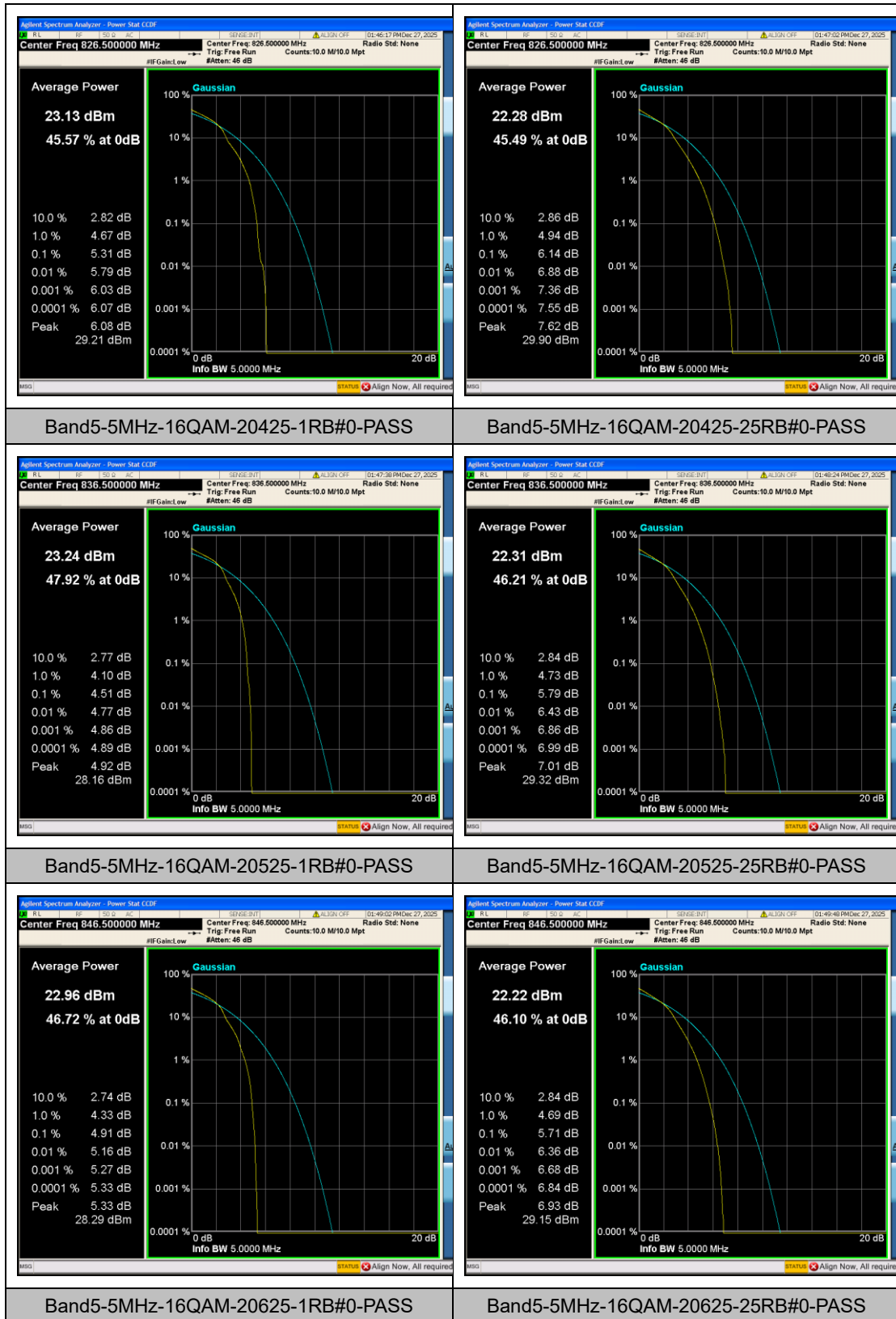


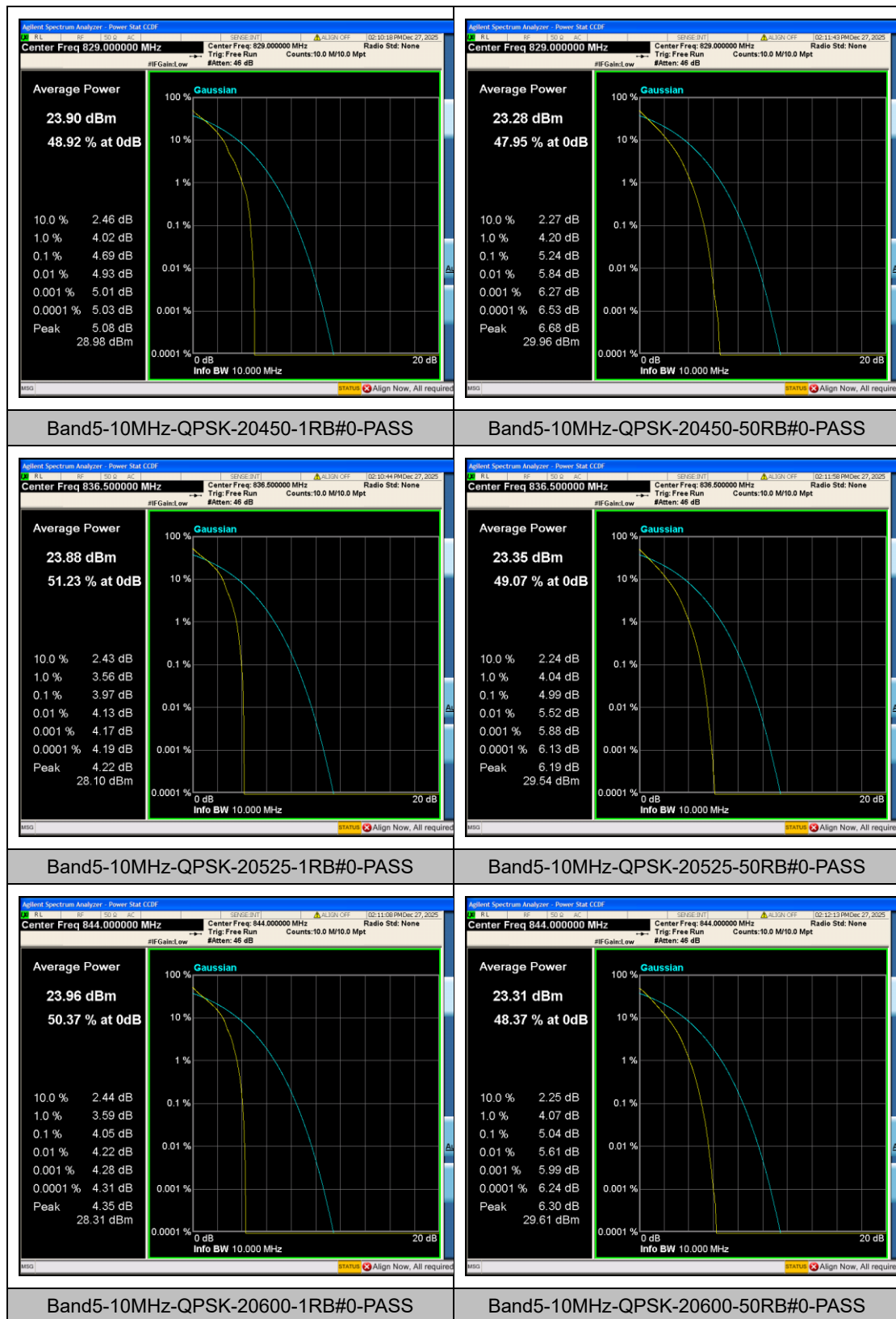


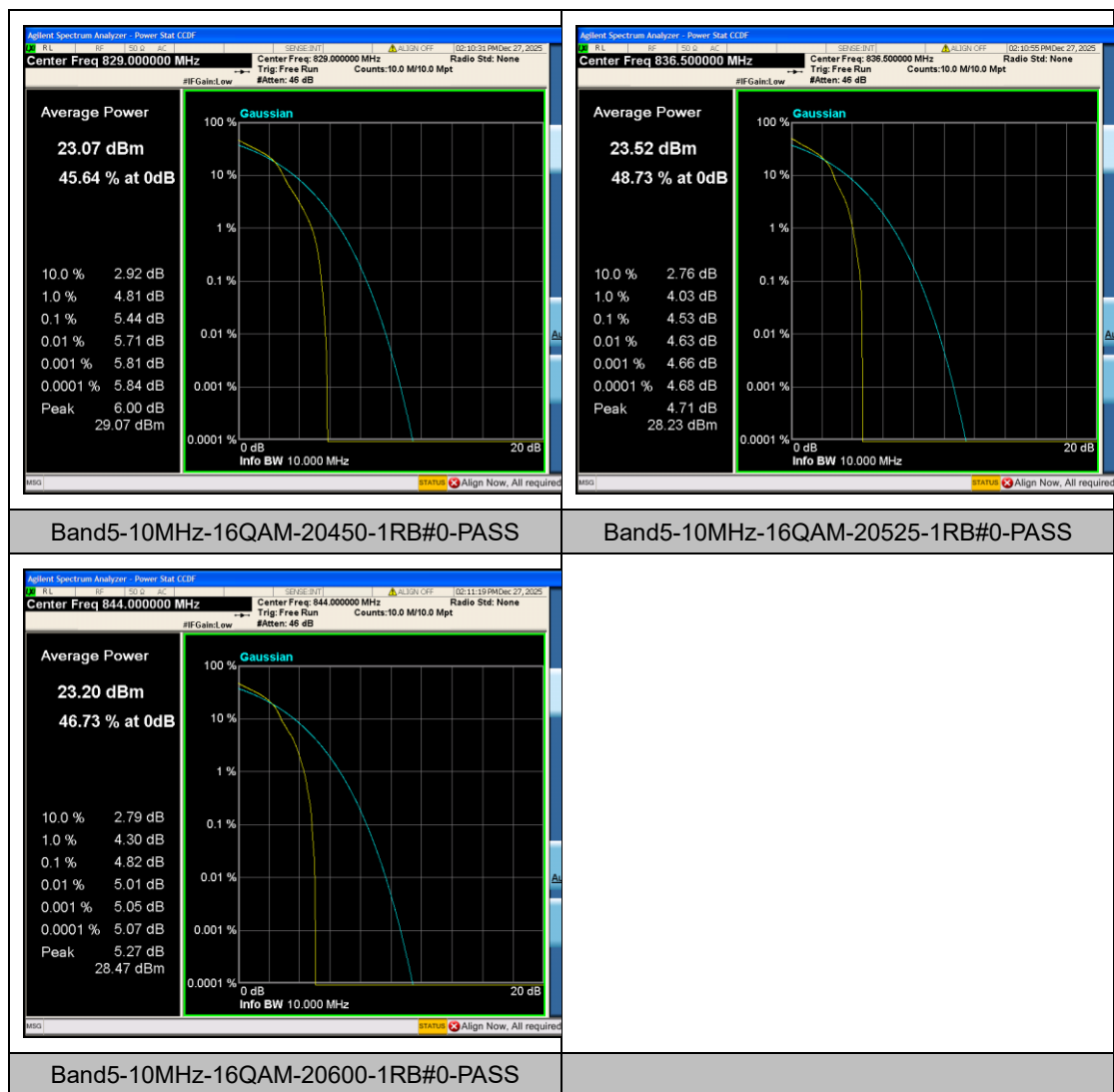










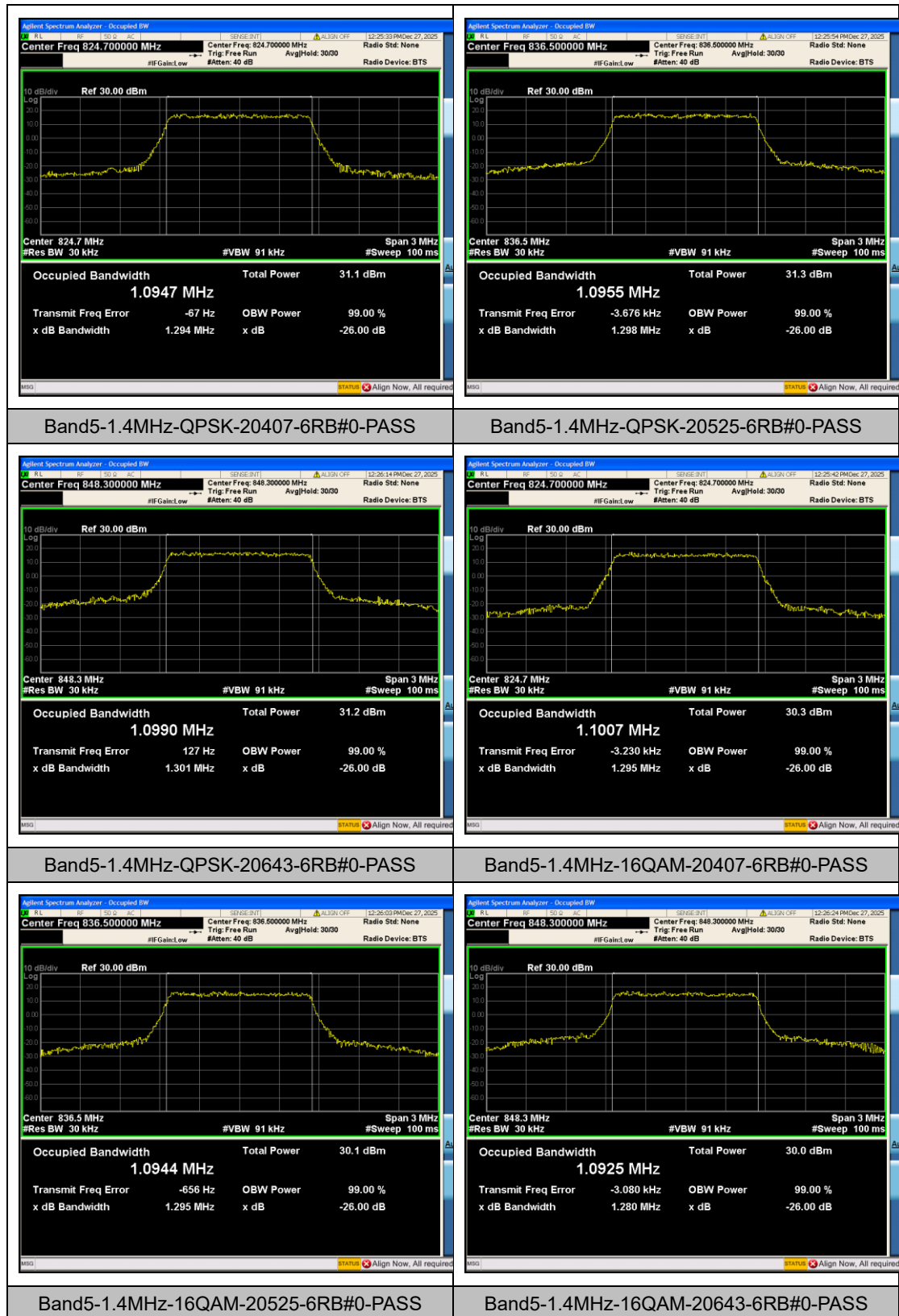


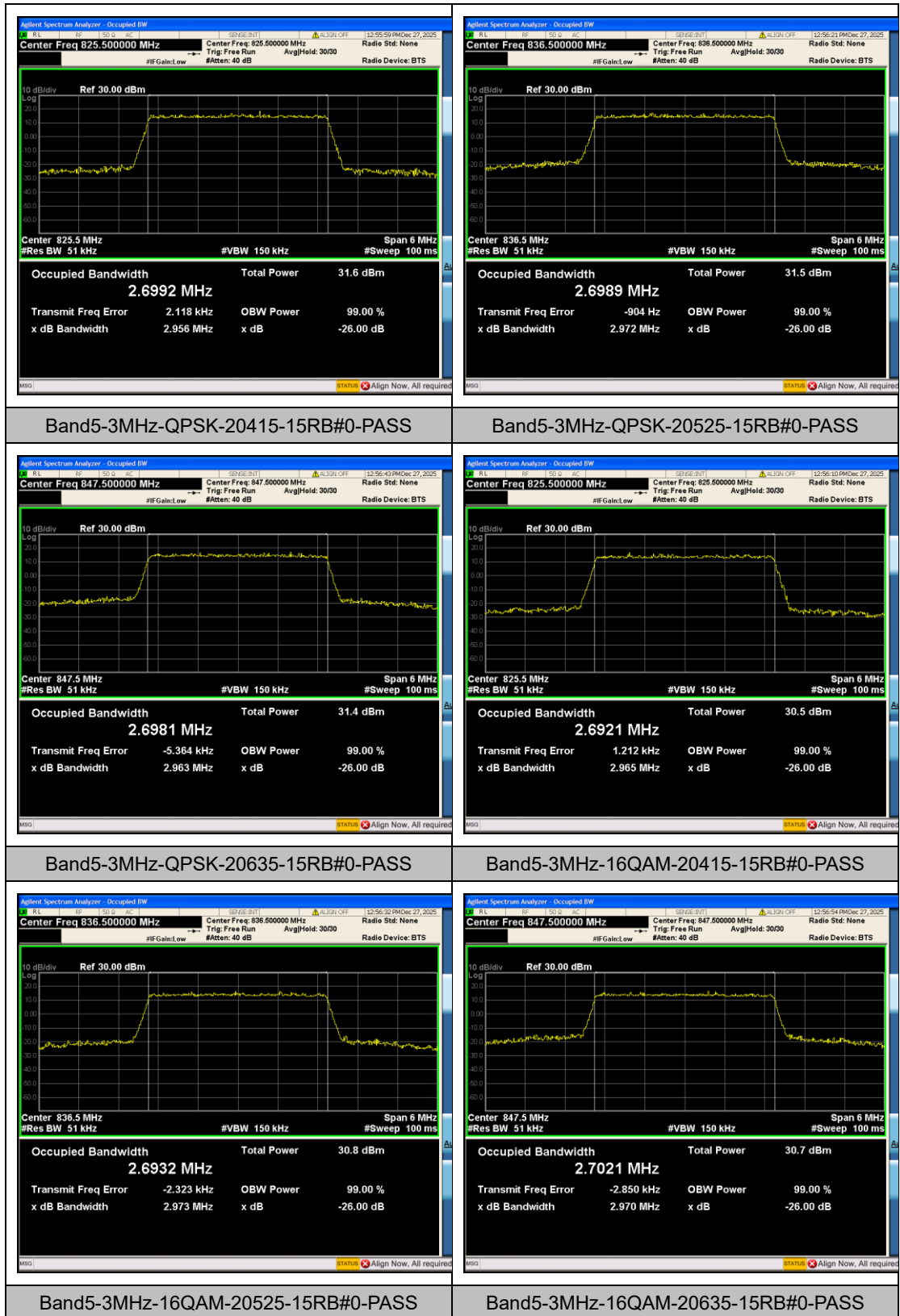
Appendix C: 26dB Bandwidth and Occupied Bandwidth

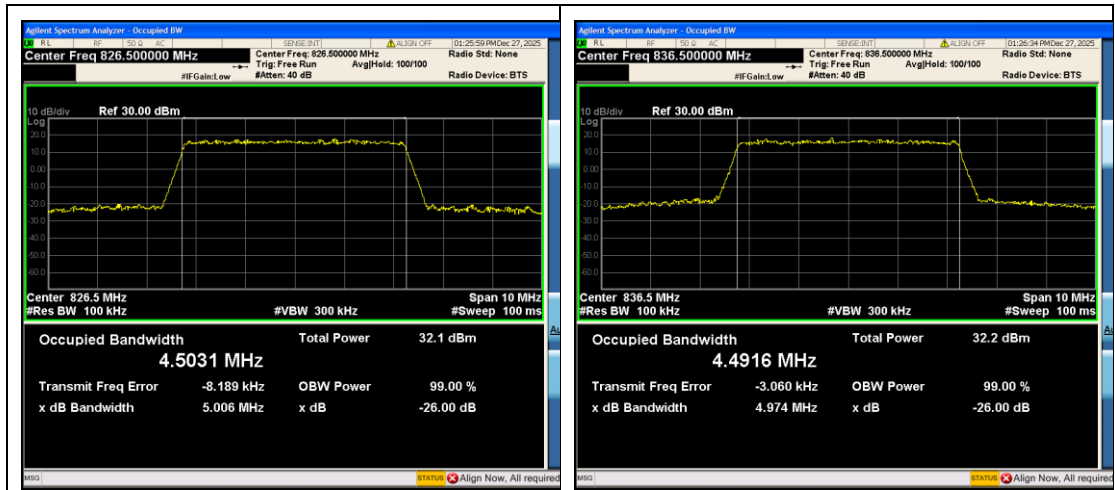
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.0947	1.294	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0955	1.298	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.0990	1.301	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.1007	1.295	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.0944	1.295	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.0925	1.280	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.6992	2.956	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.6989	2.972	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.6981	2.963	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.6921	2.965	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.6932	2.973	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.7021	2.970	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.5031	5.006	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.4916	4.974	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.5019	4.995	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.4964	4.973	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.5021	5.007	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.5129	5.029	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.9924	9.936	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.9608	9.867	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.9510	9.903	PASS
Band5	10MHz	16QAM	20450	27RB#0	4.9801	5.860	PASS
Band5	10MHz	16QAM	20525	27RB#0	4.9804	5.825	PASS
Band5	10MHz	16QAM	20600	27RB#0	4.9674	5.846	PASS

Test Graphs

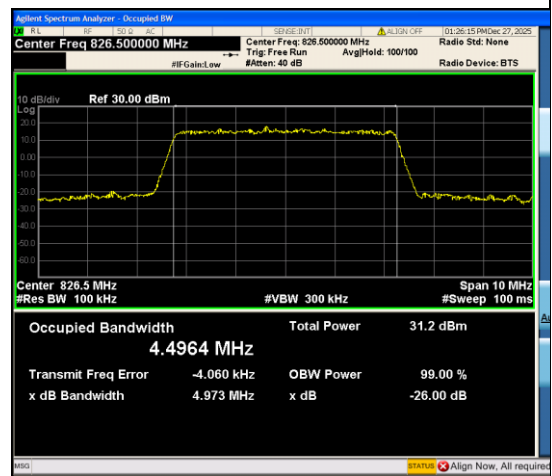
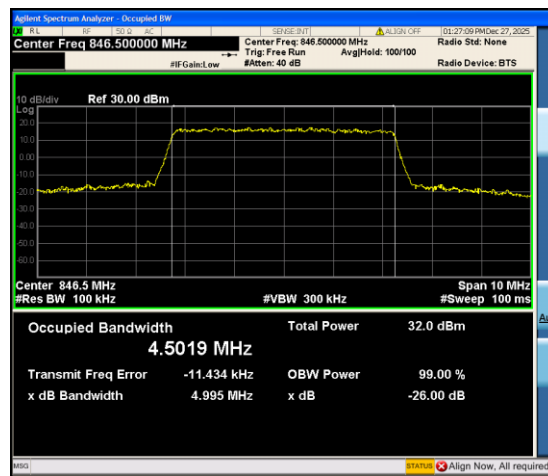






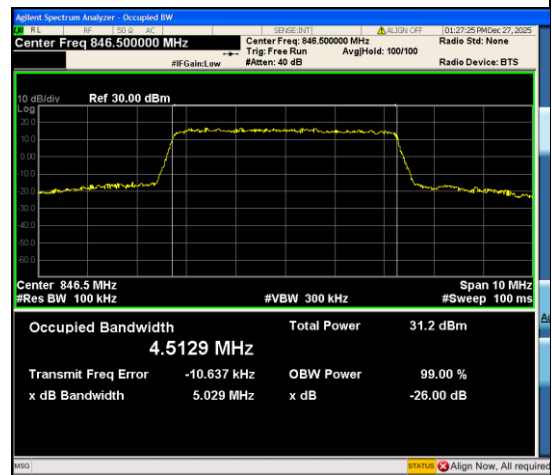
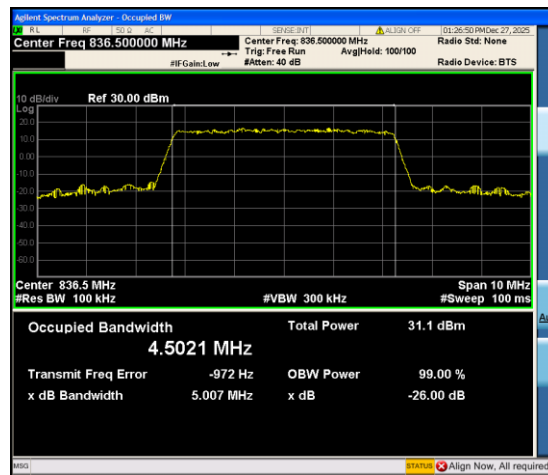
Band5-5MHz-QPSK-20425-25RB#0-PASS

Band5-5MHz-QPSK-20525-25RB#0-PASS



Band5-5MHz-QPSK-20625-25RB#0-PASS

Band5-5MHz-16QAM-20425-25RB#0-PASS



Band5-5MHz-16QAM-20525-25RB#0-PASS

Band5-5MHz-16QAM-20625-25RB#0-PASS



Band5-10MHz-QPSK-20450-50RB#0-PASS

Band5-10MHz-QPSK-20525-50RB#0-PASS



Band5-10MHz-QPSK-20600-50RB#0-PASS

Band5-10MHz-16QAM-20450-27RB#0-PASS



Band5-10MHz-16QAM-20525-27RB#0-PASS

Band5-10MHz-16QAM-20600-27RB#0-PASS

Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	-20.47	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	-46.42	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	-29.62	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	-42.79	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	-27.15	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	-20.36	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	-26.35	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	-47.90	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	-30.78	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	-43.00	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	-18.60	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	-22.94	PASS
Band5	3MHz	QPSK	20415	1RB#0	-24.23	PASS
Band5	3MHz	QPSK	20415	1RB#14	-42.63	PASS
Band5	3MHz	QPSK	20415	15RB#0	-30.03	PASS
Band5	3MHz	QPSK	20635	1RB#0	-43.73	PASS
Band5	3MHz	QPSK	20635	1RB#14	-23.03	PASS
Band5	3MHz	QPSK	20635	15RB#0	-28.35	PASS
Band5	3MHz	16QAM	20415	1RB#0	-25.34	PASS
Band5	3MHz	16QAM	20415	1RB#14	-43.22	PASS
Band5	3MHz	16QAM	20415	15RB#0	-31.66	PASS
Band5	3MHz	16QAM	20635	1RB#0	-44.66	PASS
Band5	3MHz	16QAM	20635	1RB#14	-24.53	PASS
Band5	3MHz	16QAM	20635	15RB#0	-31.83	PASS
Band5	5MHz	QPSK	20425	1RB#0	-28.04	PASS
Band5	5MHz	QPSK	20425	1RB#24	-51.67	PASS
Band5	5MHz	QPSK	20425	25RB#0	-32.12	PASS
Band5	5MHz	QPSK	20625	1RB#0	-52.06	PASS
Band5	5MHz	QPSK	20625	1RB#24	-27.32	PASS
Band5	5MHz	QPSK	20625	25RB#0	-30.85	PASS
Band5	5MHz	16QAM	20425	1RB#0	-29.82	PASS
Band5	5MHz	16QAM	20425	1RB#24	-52.01	PASS
Band5	5MHz	16QAM	20425	25RB#0	-33.67	PASS
Band5	5MHz	16QAM	20625	1RB#0	-52.32	PASS
Band5	5MHz	16QAM	20625	1RB#24	-29.46	PASS
Band5	5MHz	16QAM	20625	25RB#0	-32.72	PASS
Band5	10MHz	QPSK	20450	1RB#0	-39.46	PASS