

FCC Appendix RF Test Data for LTE Band 5

FCC ID : 2BYEV-HELIXX

Company : SHENZHEN DANFOO TECHNOLOGY CO.,LTD.

EUT : Smart Bee Box

Model Number : HELIX X

Report No. : CTA26071300504

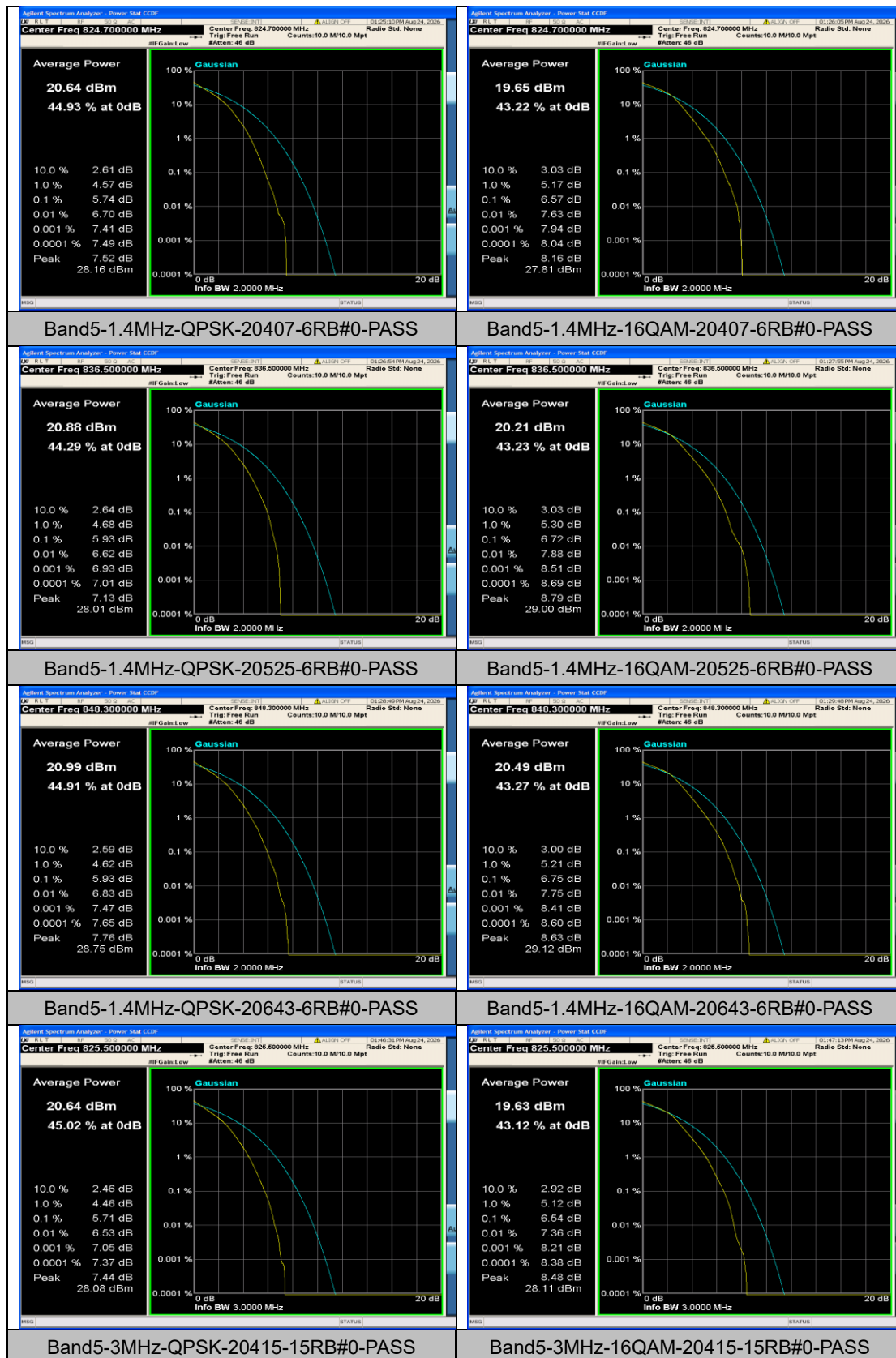
Reviewed By : Eric Wang

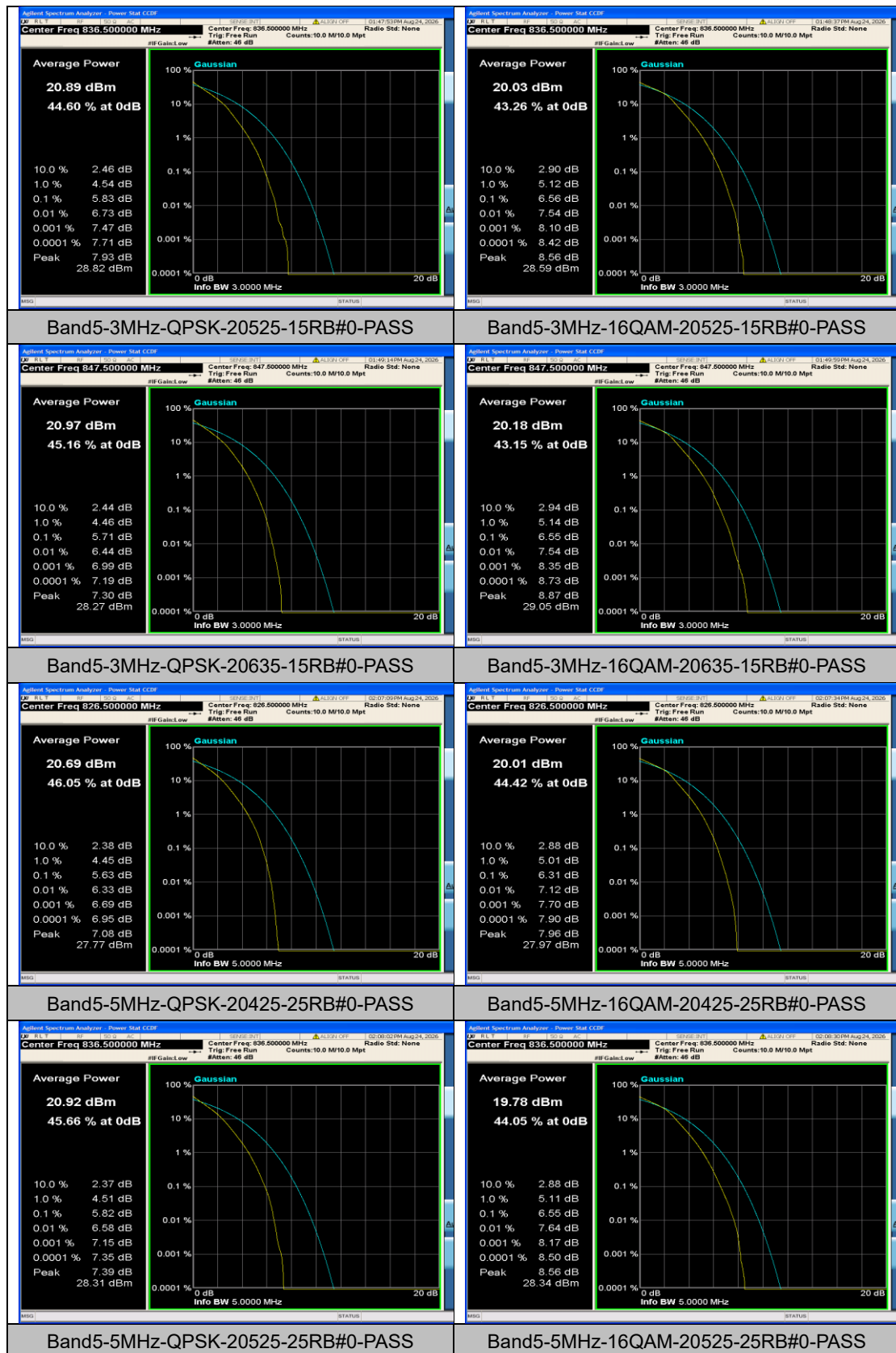
Appendix B: Peak-to-Average Ratio(CCDF)

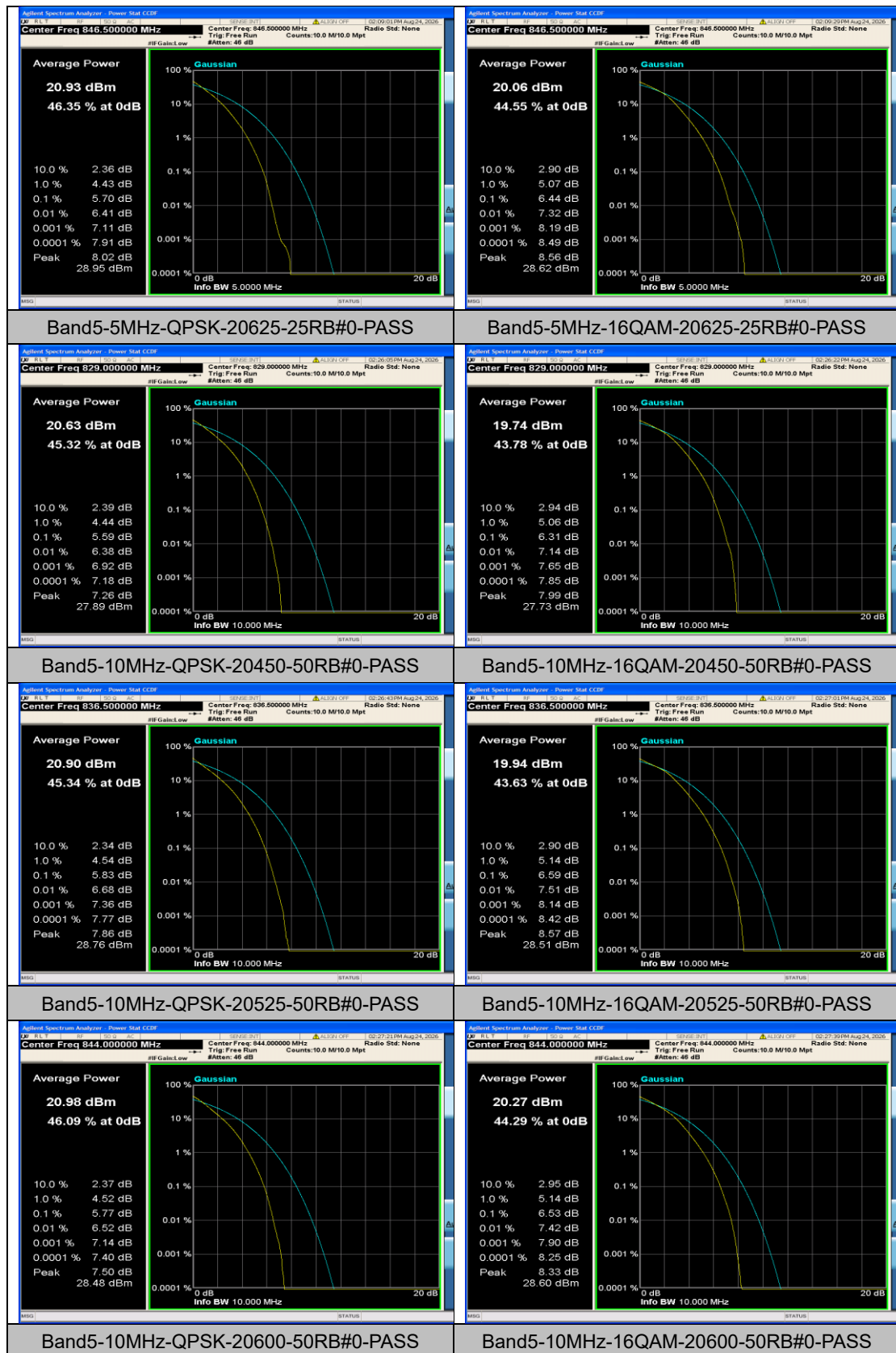
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	5.74	13	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	6.57	13	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	5.93	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	6.72	13	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	5.93	13	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	6.75	13	PASS
Band5	3MHz	QPSK	20415	15RB#0	5.71	13	PASS
Band5	3MHz	16QAM	20415	15RB#0	6.54	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	5.83	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	6.56	13	PASS
Band5	3MHz	QPSK	20635	15RB#0	5.71	13	PASS
Band5	3MHz	16QAM	20635	15RB#0	6.55	13	PASS
Band5	5MHz	QPSK	20425	25RB#0	5.63	13	PASS
Band5	5MHz	16QAM	20425	25RB#0	6.31	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.82	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	6.55	13	PASS
Band5	5MHz	QPSK	20625	25RB#0	5.70	13	PASS
Band5	5MHz	16QAM	20625	25RB#0	6.44	13	PASS
Band5	10MHz	QPSK	20450	50RB#0	5.59	13	PASS
Band5	10MHz	16QAM	20450	50RB#0	6.31	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	5.83	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	6.59	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	5.77	13	PASS
Band5	10MHz	16QAM	20600	50RB#0	6.53	13	PASS

Test Graphs





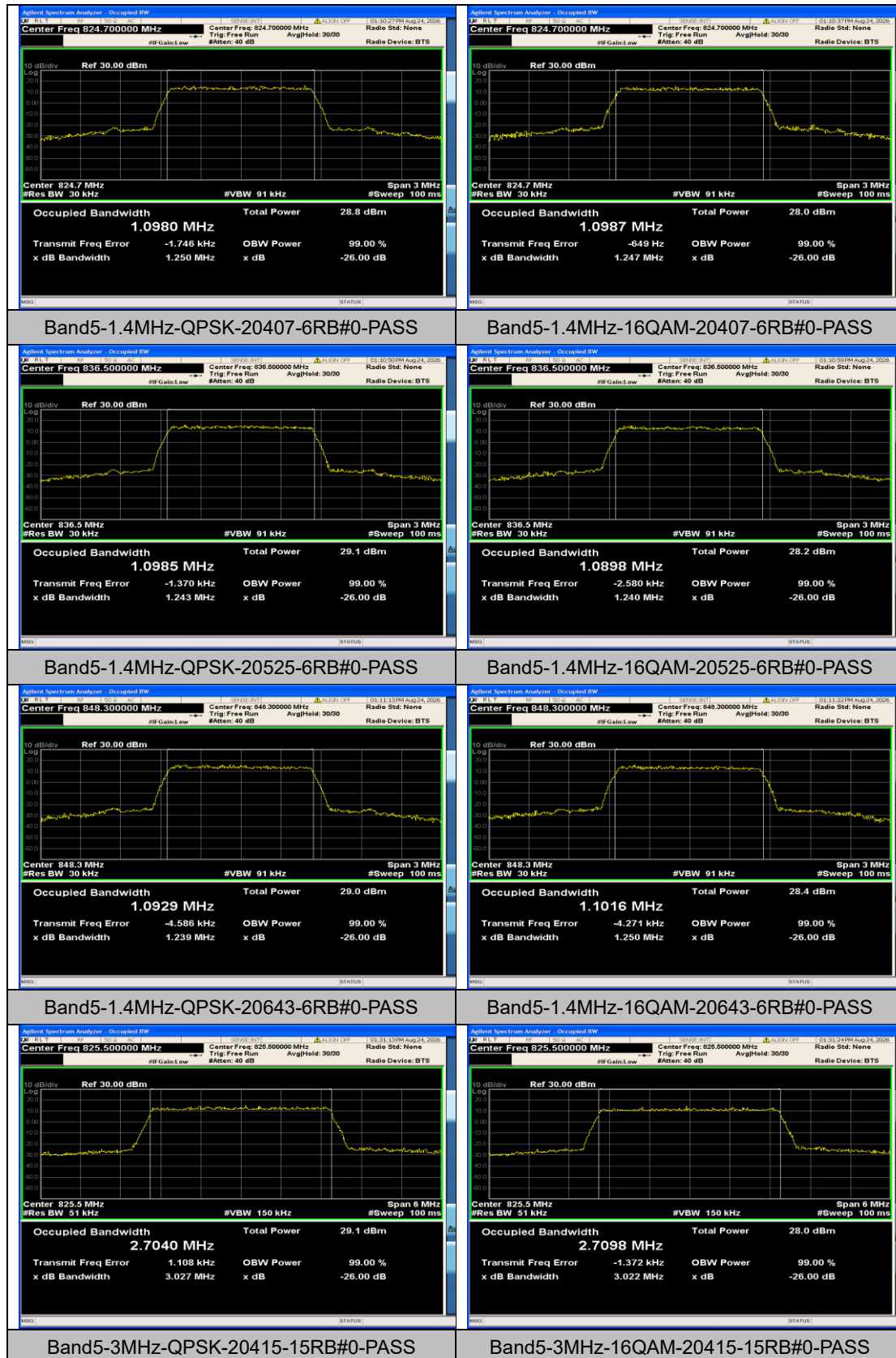


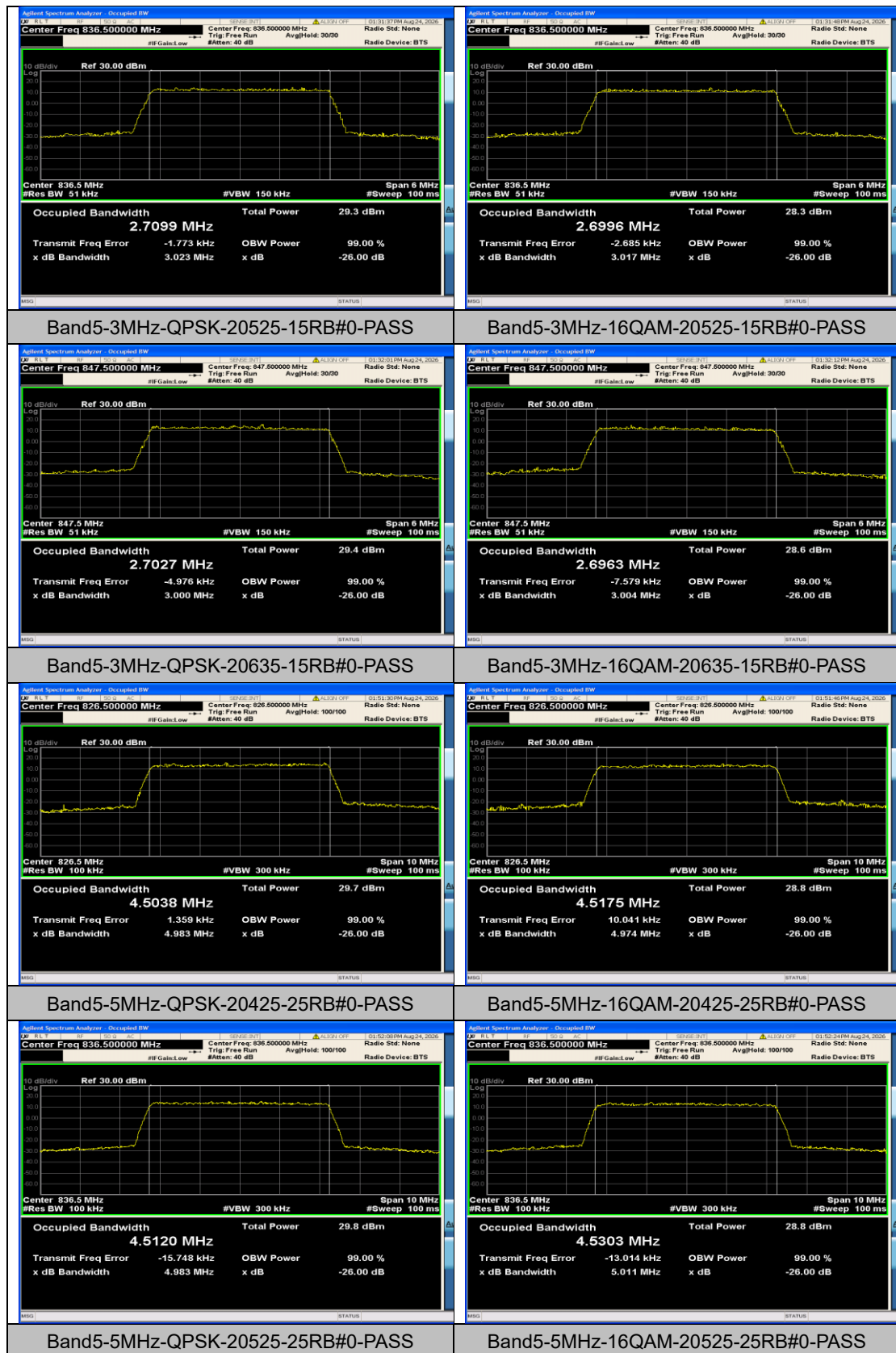
Appendix C: 26dB Bandwidth and Occupied Bandwidth

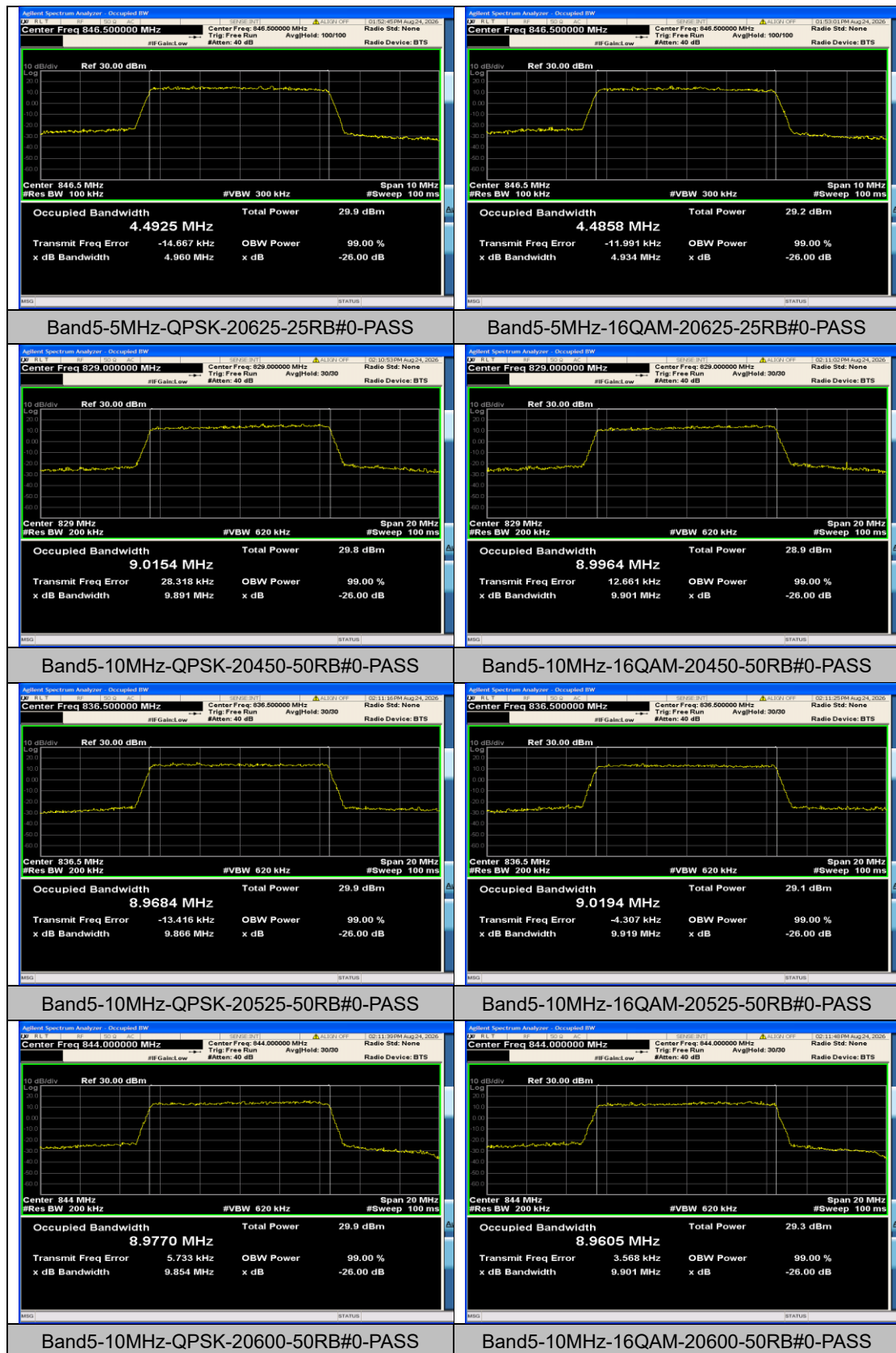
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.0980	1.250	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.0987	1.247	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0985	1.243	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.0898	1.240	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.0929	1.239	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.1016	1.250	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.7040	3.027	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.7098	3.022	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.7099	3.023	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.6996	3.017	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.7027	3.000	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.6963	3.004	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.5038	4.983	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.5175	4.974	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.5120	4.983	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.5303	5.011	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.4925	4.960	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.4858	4.934	PASS
Band5	10MHz	QPSK	20450	50RB#0	9.0154	9.891	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.9964	9.901	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.9684	9.866	PASS
Band5	10MHz	16QAM	20525	50RB#0	9.0194	9.919	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.9770	9.854	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.9605	9.901	PASS

Test Graphs





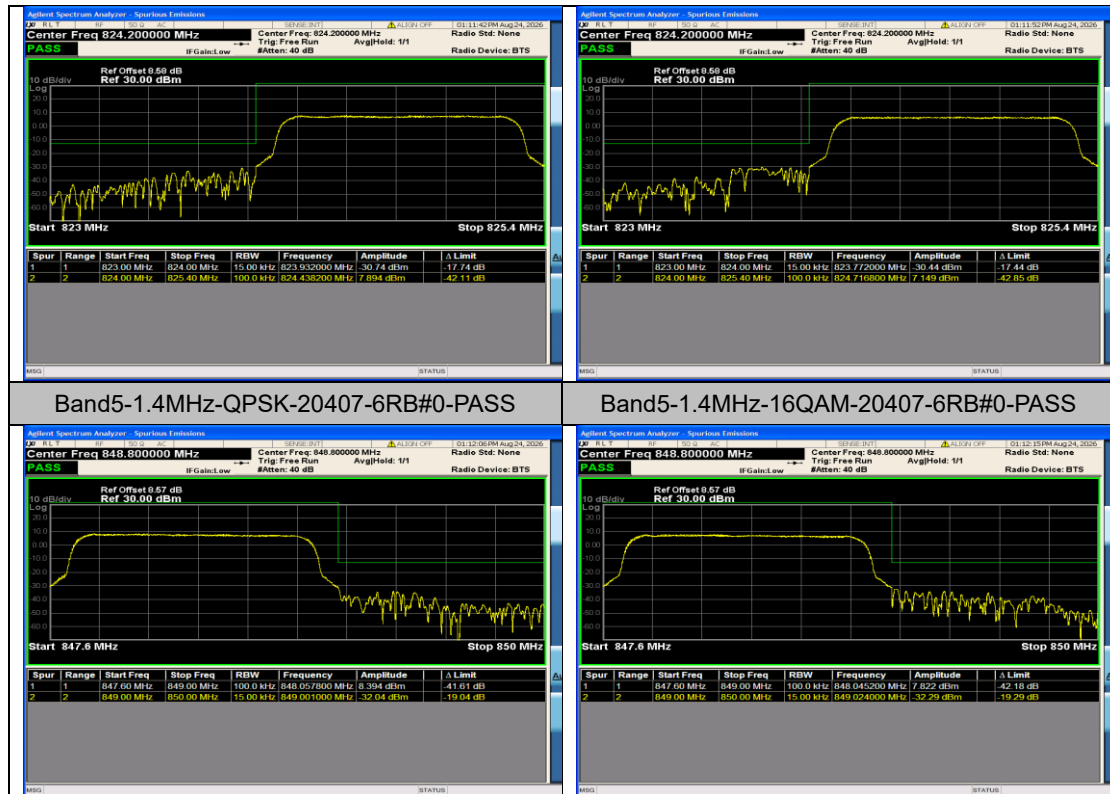


Appendix D: Band Edge

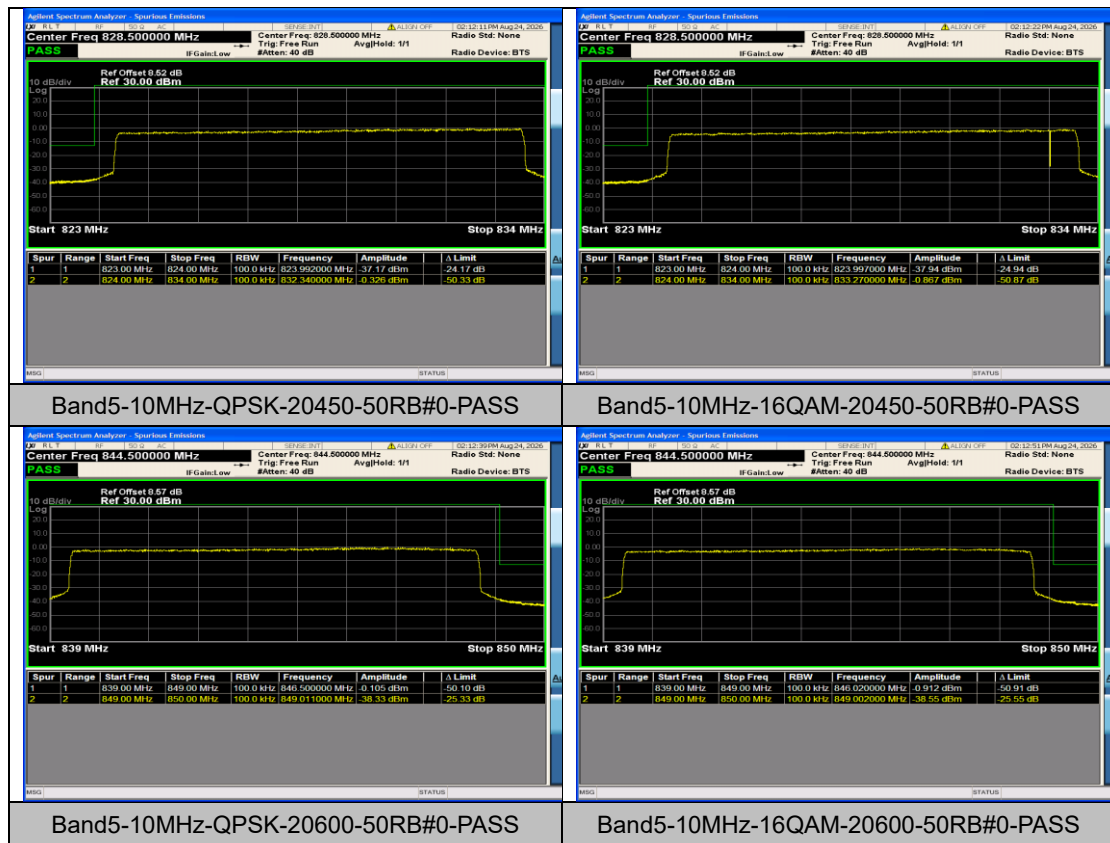
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	-30.74	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	-30.44	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	-32.04	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	-32.29	PASS
Band5	3MHz	QPSK	20415	15RB#0	-30.50	PASS
Band5	3MHz	16QAM	20415	15RB#0	-31.23	PASS
Band5	3MHz	QPSK	20635	15RB#0	-32.23	PASS
Band5	3MHz	16QAM	20635	15RB#0	-32.67	PASS
Band5	5MHz	QPSK	20425	25RB#0	-36.26	PASS
Band5	5MHz	16QAM	20425	25RB#0	-36.36	PASS
Band5	5MHz	QPSK	20625	25RB#0	-37.93	PASS
Band5	5MHz	16QAM	20625	25RB#0	-38.69	PASS
Band5	10MHz	QPSK	20450	50RB#0	-37.17	PASS
Band5	10MHz	16QAM	20450	50RB#0	-37.94	PASS
Band5	10MHz	QPSK	20600	50RB#0	-38.33	PASS
Band5	10MHz	16QAM	20600	50RB#0	-38.55	PASS

Test Graphs







Appendix E: Conducted Spurious Emission

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	0.009~0.15	-57.73	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	0.15~30	-52.00	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	30~1000	-37.41	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	1000~3000	-47.88	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	3000~10000	-43.67	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	0.009~0.15	-58.64	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	0.15~30	-51.57	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	30~1000	-39.05	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1000~3000	-47.69	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	3000~10000	-43.76	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	0.009~0.15	-59.64	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	0.15~30	-51.51	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	30~1000	-57.07	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1000~3000	-45.36	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	3000~10000	-43.49	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	0.009~0.15	-59.43	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	0.15~30	-52.24	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	30~1000	-57.41	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1000~3000	-47.76	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	3000~10000	-43.56	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	0.009~0.15	-58.01	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	0.15~30	-51.39	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	30~1000	-35.57	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1000~3000	-47.66	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	3000~10000	-40.14	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	0.009~0.15	-58.45	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	0.15~30	-53.26	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	30~1000	-40.38	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1000~3000	-47.94	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	3000~10000	-43.47	PASS
Band5	3MHz	QPSK	20415	15RB#0	0.009~0.15	-59.23	PASS
Band5	3MHz	QPSK	20415	15RB#0	0.15~30	-49.21	PASS
Band5	3MHz	QPSK	20415	15RB#0	30~1000	-32.14	PASS
Band5	3MHz	QPSK	20415	15RB#0	1000~3000	-47.60	PASS
Band5	3MHz	QPSK	20415	15RB#0	3000~10000	-41.37	PASS
Band5	3MHz	16QAM	20415	15RB#0	0.009~0.15	-59.78	PASS

Band5	3MHz	16QAM	20415	15RB#0	0.15~30	-50.60	PASS
Band5	3MHz	16QAM	20415	15RB#0	30~1000	-33.44	PASS
Band5	3MHz	16QAM	20415	15RB#0	1000~3000	-45.63	PASS
Band5	3MHz	16QAM	20415	15RB#0	3000~10000	-43.53	PASS
Band5	3MHz	QPSK	20525	15RB#0	0.009~0.15	-58.20	PASS
Band5	3MHz	QPSK	20525	15RB#0	0.15~30	-51.65	PASS
Band5	3MHz	QPSK	20525	15RB#0	30~1000	-57.70	PASS
Band5	3MHz	QPSK	20525	15RB#0	1000~3000	-47.96	PASS
Band5	3MHz	QPSK	20525	15RB#0	3000~10000	-43.22	PASS
Band5	3MHz	16QAM	20525	15RB#0	0.009~0.15	-59.45	PASS
Band5	3MHz	16QAM	20525	15RB#0	0.15~30	-50.22	PASS
Band5	3MHz	16QAM	20525	15RB#0	30~1000	-58.16	PASS
Band5	3MHz	16QAM	20525	15RB#0	1000~3000	-47.94	PASS
Band5	3MHz	16QAM	20525	15RB#0	3000~10000	-43.93	PASS
Band5	3MHz	QPSK	20635	15RB#0	0.009~0.15	-58.27	PASS
Band5	3MHz	QPSK	20635	15RB#0	0.15~30	-52.43	PASS
Band5	3MHz	QPSK	20635	15RB#0	30~1000	-35.44	PASS
Band5	3MHz	QPSK	20635	15RB#0	1000~3000	-47.42	PASS
Band5	3MHz	QPSK	20635	15RB#0	3000~10000	-43.27	PASS
Band5	3MHz	16QAM	20635	15RB#0	0.009~0.15	-58.78	PASS
Band5	3MHz	16QAM	20635	15RB#0	0.15~30	-50.61	PASS
Band5	3MHz	16QAM	20635	15RB#0	30~1000	-35.73	PASS
Band5	3MHz	16QAM	20635	15RB#0	1000~3000	-47.91	PASS
Band5	3MHz	16QAM	20635	15RB#0	3000~10000	-43.61	PASS
Band5	5MHz	QPSK	20425	25RB#0	0.009~0.15	-59.13	PASS
Band5	5MHz	QPSK	20425	25RB#0	0.15~30	-51.21	PASS
Band5	5MHz	QPSK	20425	25RB#0	30~1000	-35.25	PASS
Band5	5MHz	QPSK	20425	25RB#0	1000~3000	-47.81	PASS
Band5	5MHz	QPSK	20425	25RB#0	3000~10000	-43.62	PASS
Band5	5MHz	16QAM	20425	25RB#0	0.009~0.15	-58.61	PASS
Band5	5MHz	16QAM	20425	25RB#0	0.15~30	-50.71	PASS
Band5	5MHz	16QAM	20425	25RB#0	30~1000	-34.06	PASS
Band5	5MHz	16QAM	20425	25RB#0	1000~3000	-47.98	PASS
Band5	5MHz	16QAM	20425	25RB#0	3000~10000	-43.51	PASS
Band5	5MHz	QPSK	20525	25RB#0	0.009~0.15	-59.16	PASS
Band5	5MHz	QPSK	20525	25RB#0	0.15~30	-51.75	PASS
Band5	5MHz	QPSK	20525	25RB#0	30~1000	-52.98	PASS
Band5	5MHz	QPSK	20525	25RB#0	1000~3000	-47.02	PASS
Band5	5MHz	QPSK	20525	25RB#0	3000~10000	-43.69	PASS
Band5	5MHz	16QAM	20525	25RB#0	0.009~0.15	-58.91	PASS
Band5	5MHz	16QAM	20525	25RB#0	0.15~30	-51.76	PASS
Band5	5MHz	16QAM	20525	25RB#0	30~1000	-53.99	PASS
Band5	5MHz	16QAM	20525	25RB#0	1000~3000	-46.67	PASS

Band5	5MHz	16QAM	20525	25RB#0	3000~10000	-43.71	PASS
Band5	5MHz	QPSK	20625	25RB#0	0.009~0.15	-58.40	PASS
Band5	5MHz	QPSK	20625	25RB#0	0.15~30	-50.82	PASS
Band5	5MHz	QPSK	20625	25RB#0	30~1000	-36.42	PASS
Band5	5MHz	QPSK	20625	25RB#0	1000~3000	-47.89	PASS
Band5	5MHz	QPSK	20625	25RB#0	3000~10000	-43.62	PASS
Band5	5MHz	16QAM	20625	25RB#0	0.009~0.15	-58.38	PASS
Band5	5MHz	16QAM	20625	25RB#0	0.15~30	-52.09	PASS
Band5	5MHz	16QAM	20625	25RB#0	30~1000	-37.28	PASS
Band5	5MHz	16QAM	20625	25RB#0	1000~3000	-48.03	PASS
Band5	5MHz	16QAM	20625	25RB#0	3000~10000	-43.36	PASS
Band5	10MHz	QPSK	20450	50RB#0	0.009~0.15	-57.32	PASS
Band5	10MHz	QPSK	20450	50RB#0	0.15~30	-52.10	PASS
Band5	10MHz	QPSK	20450	50RB#0	30~1000	-32.80	PASS
Band5	10MHz	QPSK	20450	50RB#0	1000~3000	-47.85	PASS
Band5	10MHz	QPSK	20450	50RB#0	3000~10000	-43.64	PASS
Band5	10MHz	16QAM	20450	50RB#0	0.009~0.15	-58.80	PASS
Band5	10MHz	16QAM	20450	50RB#0	0.15~30	-51.41	PASS
Band5	10MHz	16QAM	20450	50RB#0	30~1000	-33.25	PASS
Band5	10MHz	16QAM	20450	50RB#0	1000~3000	-48.04	PASS
Band5	10MHz	16QAM	20450	50RB#0	3000~10000	-43.74	PASS
Band5	10MHz	QPSK	20525	50RB#0	0.009~0.15	-57.46	PASS
Band5	10MHz	QPSK	20525	50RB#0	0.15~30	-51.67	PASS
Band5	10MHz	QPSK	20525	50RB#0	30~1000	-45.84	PASS
Band5	10MHz	QPSK	20525	50RB#0	1000~3000	-48.01	PASS
Band5	10MHz	QPSK	20525	50RB#0	3000~10000	-43.31	PASS
Band5	10MHz	16QAM	20525	50RB#0	0.009~0.15	-59.19	PASS
Band5	10MHz	16QAM	20525	50RB#0	0.15~30	-50.12	PASS
Band5	10MHz	16QAM	20525	50RB#0	30~1000	-45.39	PASS
Band5	10MHz	16QAM	20525	50RB#0	1000~3000	-46.76	PASS
Band5	10MHz	16QAM	20525	50RB#0	3000~10000	-43.32	PASS
Band5	10MHz	QPSK	20600	50RB#0	0.009~0.15	-58.48	PASS
Band5	10MHz	QPSK	20600	50RB#0	0.15~30	-51.73	PASS
Band5	10MHz	QPSK	20600	50RB#0	30~1000	-37.56	PASS
Band5	10MHz	QPSK	20600	50RB#0	1000~3000	-47.21	PASS
Band5	10MHz	QPSK	20600	50RB#0	3000~10000	-43.52	PASS
Band5	10MHz	16QAM	20600	50RB#0	0.009~0.15	-60.19	PASS
Band5	10MHz	16QAM	20600	50RB#0	0.15~30	-50.87	PASS
Band5	10MHz	16QAM	20600	50RB#0	30~1000	-37.90	PASS
Band5	10MHz	16QAM	20600	50RB#0	1000~3000	-47.85	PASS
Band5	10MHz	16QAM	20600	50RB#0	3000~10000	-43.46	PASS

Test Graphs

