



TD-LTE/LTE FDD terminal

M/N:HP-N323

FCC ID:2BN5N-HPN323

Applicant:HPYJ USA LLC

Appendix for LTE Band 17



Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band17	5MHz	QPSK	23755	1RB#0	23.21	PASS
Band17	5MHz	QPSK	23755	1RB#12	24.61	PASS
Band17	5MHz	QPSK	23755	1RB#24	23.79	PASS
Band17	5MHz	QPSK	23755	12RB#0	22.92	PASS
Band17	5MHz	QPSK	23755	12RB#6	22.85	PASS
Band17	5MHz	QPSK	23755	12RB#13	23.30	PASS
Band17	5MHz	QPSK	23755	25RB#0	23.19	PASS
Band17	5MHz	16QAM	23755	1RB#0	21.98	PASS
Band17	5MHz	16QAM	23755	1RB#12	23.53	PASS
Band17	5MHz	16QAM	23755	1RB#24	22.85	PASS
Band17	5MHz	16QAM	23755	12RB#0	21.90	PASS
Band17	5MHz	16QAM	23755	12RB#6	21.93	PASS
Band17	5MHz	16QAM	23755	12RB#13	22.42	PASS
Band17	5MHz	16QAM	23755	25RB#0	22.24	PASS
Band17	5MHz	QPSK	23790	1RB#0	24.42	PASS
Band17	5MHz	QPSK	23790	1RB#12	22.68	PASS
Band17	5MHz	QPSK	23790	1RB#24	21.90	PASS
Band17	5MHz	QPSK	23790	12RB#0	22.64	PASS
Band17	5MHz	QPSK	23790	12RB#6	22.70	PASS
Band17	5MHz	QPSK	23790	12RB#13	21.29	PASS
Band17	5MHz	QPSK	23790	25RB#0	21.89	PASS
Band17	5MHz	16QAM	23790	1RB#0	23.36	PASS
Band17	5MHz	16QAM	23790	1RB#12	21.69	PASS
Band17	5MHz	16QAM	23790	1RB#24	20.92	PASS
Band17	5MHz	16QAM	23790	12RB#0	21.68	PASS
Band17	5MHz	16QAM	23790	12RB#6	21.73	PASS
Band17	5MHz	16QAM	23790	12RB#13	20.28	PASS
Band17	5MHz	16QAM	23790	25RB#0	20.95	PASS
Band17	5MHz	QPSK	23825	1RB#0	22.16	PASS
Band17	5MHz	QPSK	23825	1RB#12	22.68	PASS
Band17	5MHz	QPSK	23825	1RB#24	23.71	PASS
Band17	5MHz	QPSK	23825	12RB#0	20.90	PASS
Band17	5MHz	QPSK	23825	12RB#6	20.96	PASS
Band17	5MHz	QPSK	23825	12RB#13	22.45	PASS
Band17	5MHz	QPSK	23825	25RB#0	21.74	PASS
Band17	5MHz	16QAM	23825	1RB#0	21.16	PASS
Band17	5MHz	16QAM	23825	1RB#12	21.79	PASS



Band17	5MHz	16QAM	23825	1RB#24	22.68	PASS
Band17	5MHz	16QAM	23825	12RB#0	20.10	PASS
Band17	5MHz	16QAM	23825	12RB#6	20.13	PASS
Band17	5MHz	16QAM	23825	12RB#13	21.54	PASS
Band17	5MHz	16QAM	23825	25RB#0	20.80	PASS
Band17	10MHz	QPSK	23780	1RB#0	23.22	PASS
Band17	10MHz	QPSK	23780	1RB#24	24.26	PASS
Band17	10MHz	QPSK	23780	1RB#49	22.76	PASS
Band17	10MHz	QPSK	23780	25RB#0	23.33	PASS
Band17	10MHz	QPSK	23780	25RB#12	23.35	PASS
Band17	10MHz	QPSK	23780	25RB#25	21.96	PASS
Band17	10MHz	QPSK	23780	50RB#0	22.20	PASS
Band17	10MHz	16QAM	23780	1RB#0	22.18	PASS
Band17	10MHz	16QAM	23780	1RB#24	23.39	PASS
Band17	10MHz	16QAM	23780	1RB#49	21.57	PASS
Band17	10MHz	16QAM	23780	25RB#0	22.33	PASS
Band17	10MHz	16QAM	23780	25RB#12	22.33	PASS
Band17	10MHz	16QAM	23780	25RB#25	20.98	PASS
Band17	10MHz	QPSK	23790	1RB#0	24.15	PASS
Band17	10MHz	QPSK	23790	1RB#24	23.15	PASS
Band17	10MHz	QPSK	23790	1RB#49	23.67	PASS
Band17	10MHz	QPSK	23790	25RB#0	23.25	PASS
Band17	10MHz	QPSK	23790	25RB#12	23.30	PASS
Band17	10MHz	QPSK	23790	25RB#25	21.52	PASS
Band17	10MHz	QPSK	23790	50RB#0	22.12	PASS
Band17	10MHz	16QAM	23790	1RB#0	22.98	PASS
Band17	10MHz	16QAM	23790	1RB#24	22.20	PASS
Band17	10MHz	16QAM	23790	1RB#49	22.30	PASS
Band17	10MHz	16QAM	23790	25RB#0	22.29	PASS
Band17	10MHz	16QAM	23790	25RB#12	22.29	PASS
Band17	10MHz	16QAM	23790	25RB#25	20.63	PASS
Band17	10MHz	QPSK	23800	1RB#0	24.75	PASS
Band17	10MHz	QPSK	23800	1RB#24	22.52	PASS
Band17	10MHz	QPSK	23800	1RB#49	24.50	PASS
Band17	10MHz	QPSK	23800	25RB#0	22.65	PASS
Band17	10MHz	QPSK	23800	25RB#12	22.79	PASS
Band17	10MHz	QPSK	23800	25RB#25	21.70	PASS
Band17	10MHz	QPSK	23800	50RB#0	22.19	PASS
Band17	10MHz	16QAM	23800	1RB#0	23.48	PASS
Band17	10MHz	16QAM	23800	1RB#24	21.44	PASS
Band17	10MHz	16QAM	23800	1RB#49	23.09	PASS
Band17	10MHz	16QAM	23800	25RB#0	21.82	PASS



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Band17	10MHz	16QAM	23800	25RB#12	21.85	PASS
Band17	10MHz	16QAM	23800	25RB#25	20.75	PASS



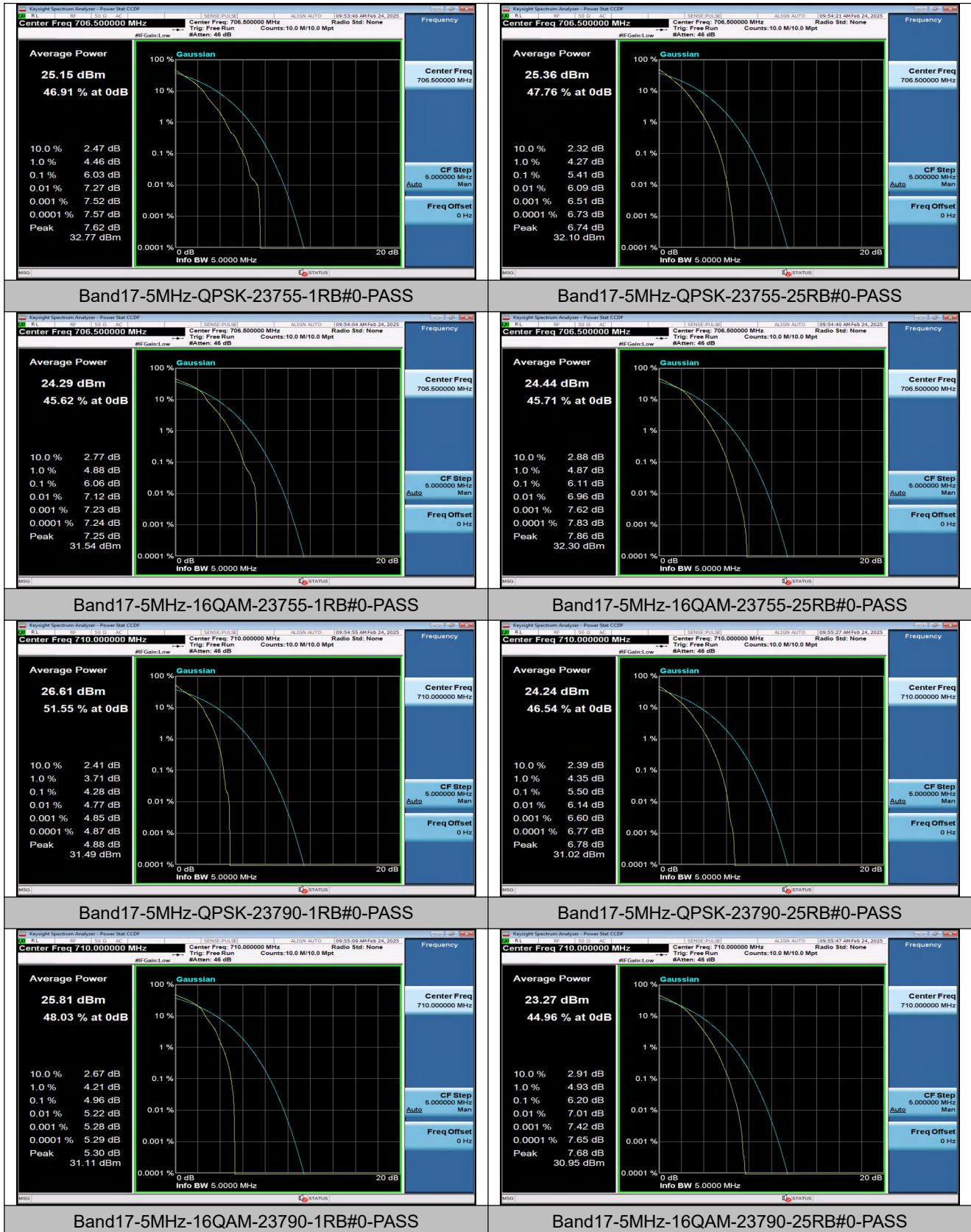
Appendix B: Peak-to-Average Ratio(CCDF)

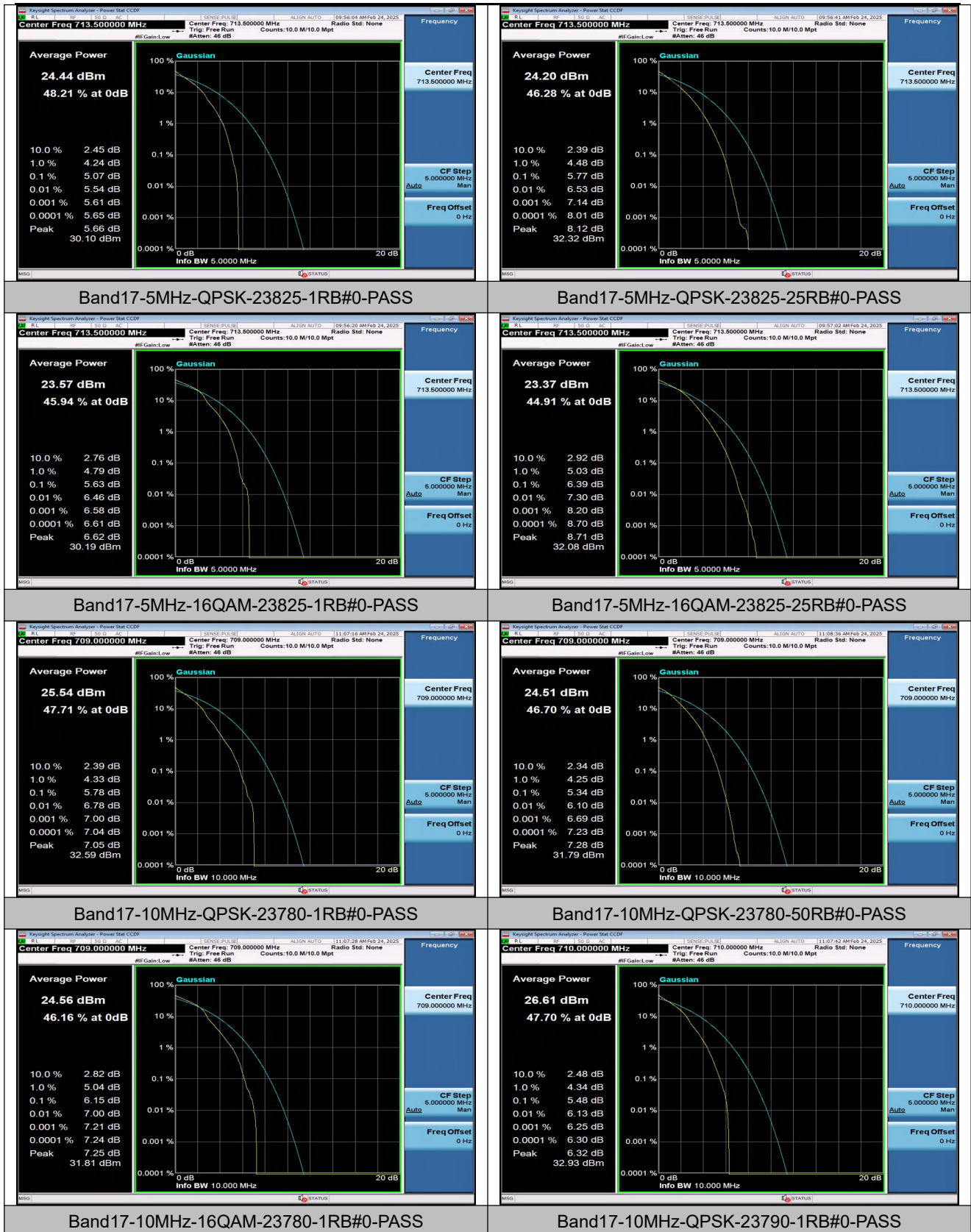
Test Result

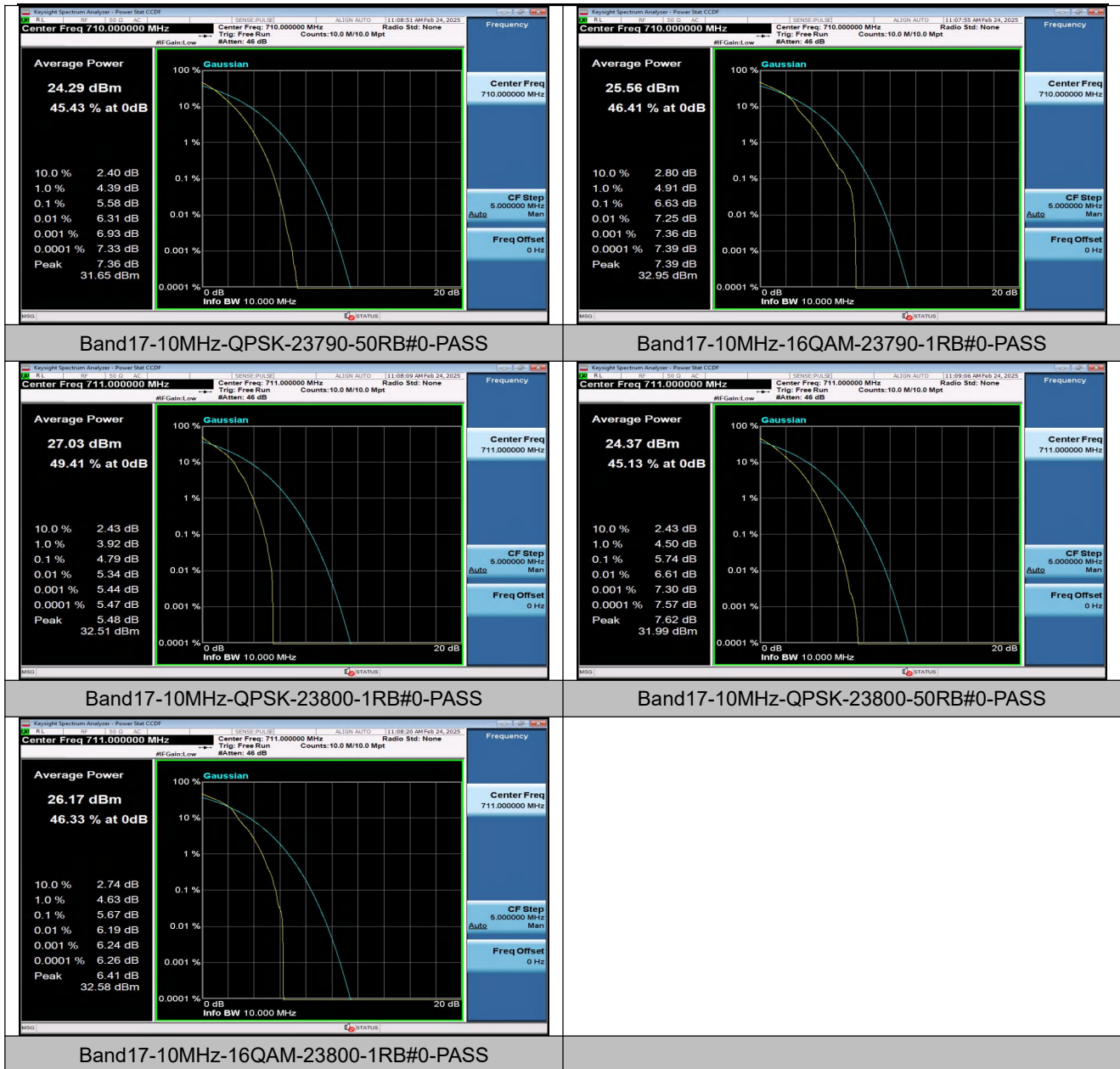
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band17	5MHz	QPSK	23755	1RB#0	6.03	13	PASS
Band17	5MHz	QPSK	23755	25RB#0	5.41	13	PASS
Band17	5MHz	16QAM	23755	1RB#0	6.06	13	PASS
Band17	5MHz	16QAM	23755	25RB#0	6.11	13	PASS
Band17	5MHz	QPSK	23790	1RB#0	4.28	13	PASS
Band17	5MHz	QPSK	23790	25RB#0	5.50	13	PASS
Band17	5MHz	16QAM	23790	1RB#0	4.96	13	PASS
Band17	5MHz	16QAM	23790	25RB#0	6.20	13	PASS
Band17	5MHz	QPSK	23825	1RB#0	5.07	13	PASS
Band17	5MHz	QPSK	23825	25RB#0	5.77	13	PASS
Band17	5MHz	16QAM	23825	1RB#0	5.63	13	PASS
Band17	5MHz	16QAM	23825	25RB#0	6.39	13	PASS
Band17	10MHz	QPSK	23780	1RB#0	5.78	13	PASS
Band17	10MHz	QPSK	23780	50RB#0	5.34	13	PASS
Band17	10MHz	16QAM	23780	1RB#0	6.15	13	PASS
Band17	10MHz	QPSK	23790	1RB#0	5.48	13	PASS
Band17	10MHz	QPSK	23790	50RB#0	5.58	13	PASS
Band17	10MHz	16QAM	23790	1RB#0	6.63	13	PASS
Band17	10MHz	QPSK	23800	1RB#0	4.79	13	PASS
Band17	10MHz	QPSK	23800	50RB#0	5.74	13	PASS
Band17	10MHz	16QAM	23800	1RB#0	5.67	13	PASS



Test Graphs









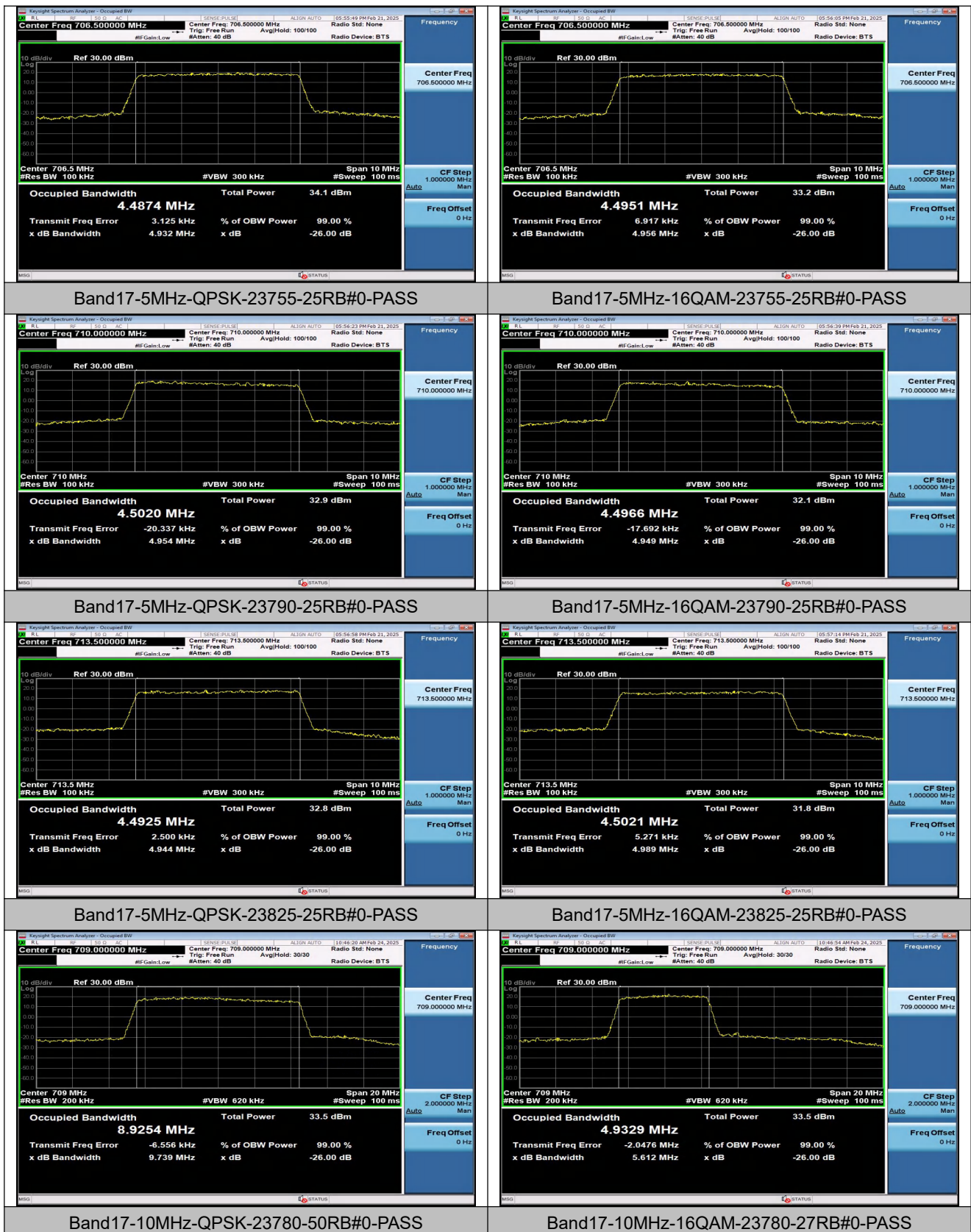
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band17	5MHz	QPSK	23755	25RB#0	4.4874	4.932	PASS
Band17	5MHz	16QAM	23755	25RB#0	4.4951	4.956	PASS
Band17	5MHz	QPSK	23790	25RB#0	4.5020	4.954	PASS
Band17	5MHz	16QAM	23790	25RB#0	4.4966	4.949	PASS
Band17	5MHz	QPSK	23825	25RB#0	4.4925	4.944	PASS
Band17	5MHz	16QAM	23825	25RB#0	4.5021	4.989	PASS
Band17	10MHz	QPSK	23780	50RB#0	8.9254	9.739	PASS
Band17	10MHz	16QAM	23780	27RB#0	4.9329	5.612	PASS
Band17	10MHz	QPSK	23790	50RB#0	8.9593	9.696	PASS
Band17	10MHz	16QAM	23790	27RB#0	4.9364	5.661	PASS
Band17	10MHz	QPSK	23800	50RB#0	8.9835	9.715	PASS
Band17	10MHz	16QAM	23800	27RB#0	4.9407	5.649	PASS



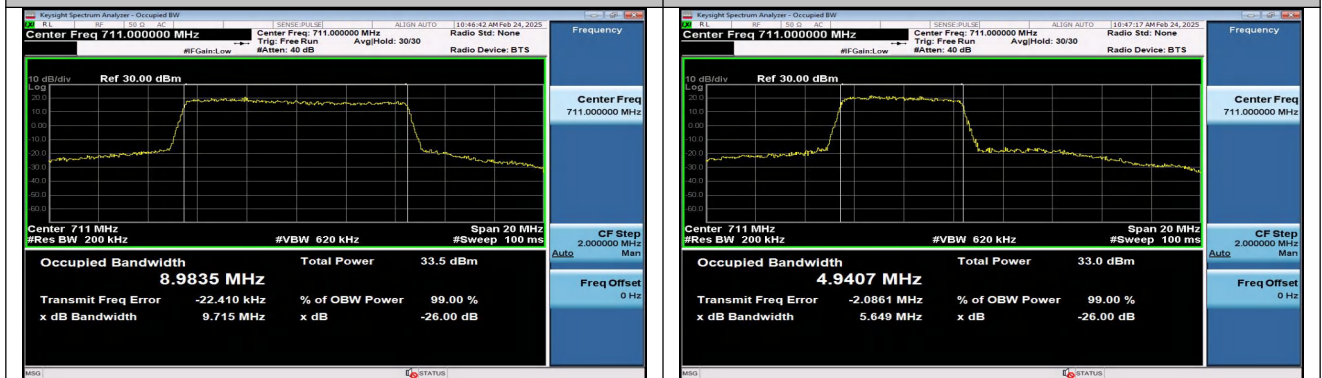
Test Graphs





Band17-10MHz-QPSK-23790-50RB#0-PASS

Band17-10MHz-16QAM-23790-27RB#0-PASS



Band17-10MHz-QPSK-23800-50RB#0-PASS

Band17-10MHz-16QAM-23800-27RB#0-PASS

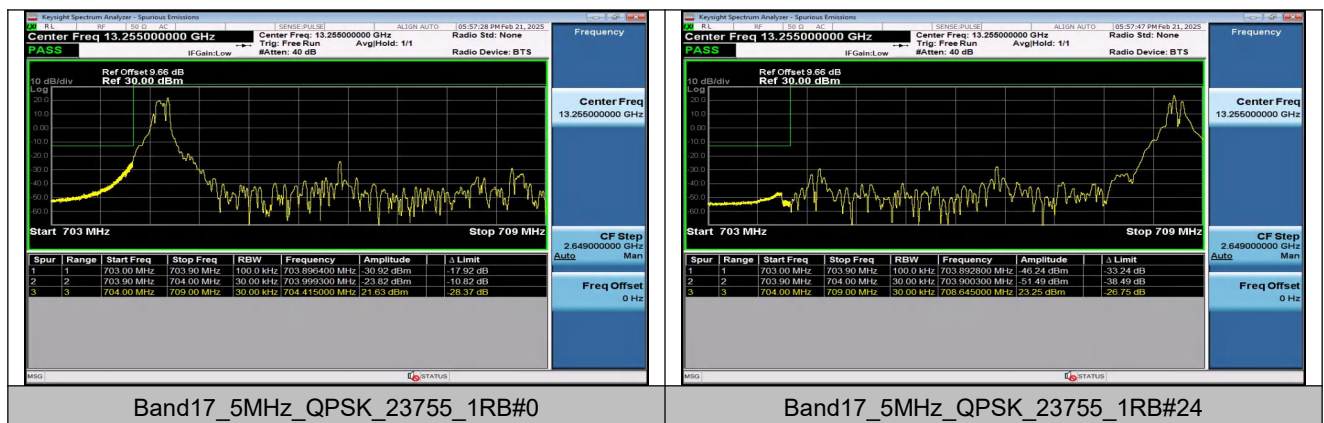


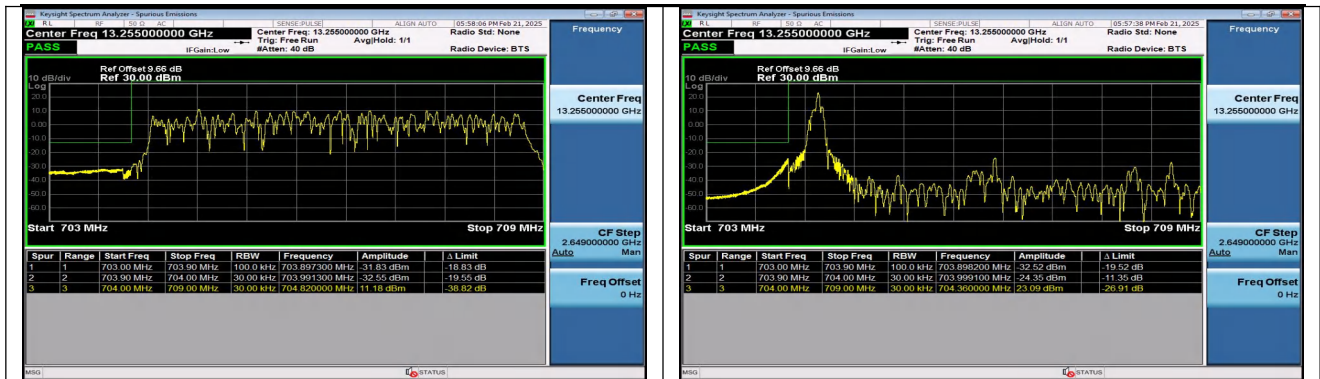
Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band17	5MHz	QPSK	23755	1RB#0	-23.82	PASS
Band17	5MHz	QPSK	23755	1RB#24	-46.24	PASS
Band17	5MHz	QPSK	23755	25RB#0	-31.83	PASS
Band17	5MHz	16QAM	23755	1RB#0	-24.35	PASS
Band17	5MHz	16QAM	23755	1RB#24	-46.92	PASS
Band17	5MHz	16QAM	23755	25RB#0	-32.48	PASS
Band17	5MHz	QPSK	23825	1RB#0	-45.86	PASS
Band17	5MHz	QPSK	23825	1RB#24	-23.08	PASS
Band17	5MHz	QPSK	23825	25RB#0	-31.25	PASS
Band17	5MHz	16QAM	23825	1RB#0	-46.75	PASS
Band17	5MHz	16QAM	23825	1RB#24	-23.86	PASS
Band17	5MHz	16QAM	23825	25RB#0	-31.50	PASS
Band17	10MHz	QPSK	23780	1RB#0	-31.73	PASS
Band17	10MHz	QPSK	23780	1RB#49	-43.66	PASS
Band17	10MHz	QPSK	23780	50RB#0	-35.34	PASS
Band17	10MHz	16QAM	23780	1RB#0	-32.72	PASS
Band17	10MHz	16QAM	23780	1RB#49	-43.87	PASS
Band17	10MHz	QPSK	23800	1RB#0	-46.78	PASS
Band17	10MHz	QPSK	23800	1RB#49	-30.48	PASS
Band17	10MHz	QPSK	23800	50RB#0	-32.88	PASS
Band17	10MHz	16QAM	23800	1RB#0	-46.13	PASS
Band17	10MHz	16QAM	23800	1RB#49	-31.83	PASS

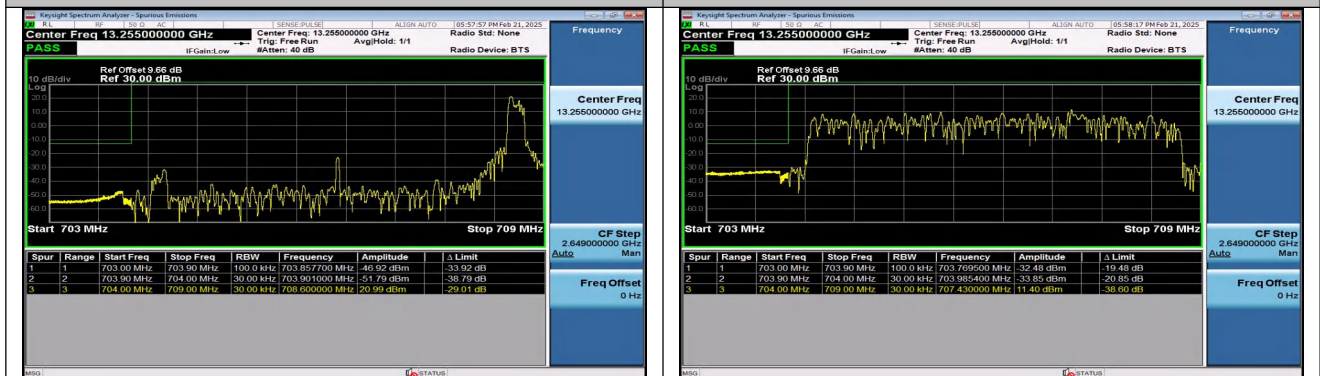
Test Graphs





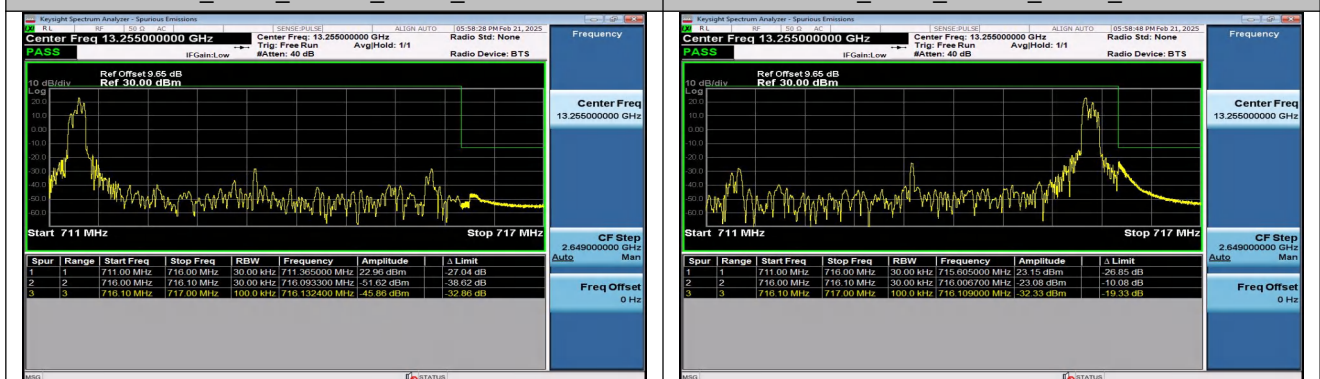
Band17_5MHz_QPSK_23755_25RB#0

Band17_5MHz_16QAM_23755_1RB#0



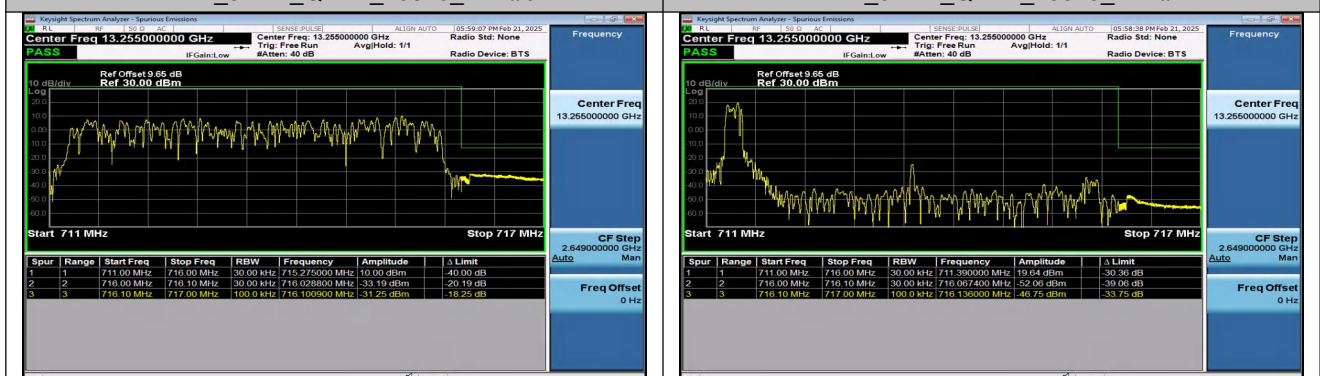
Band17_5MHz_16QAM_23755_1RB#24

Band17_5MHz_16QAM_23755_25RB#0



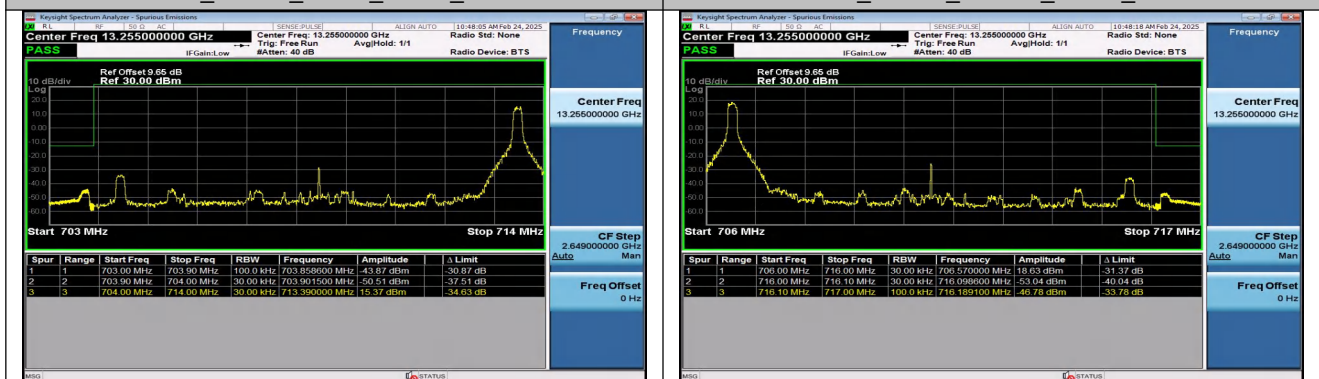
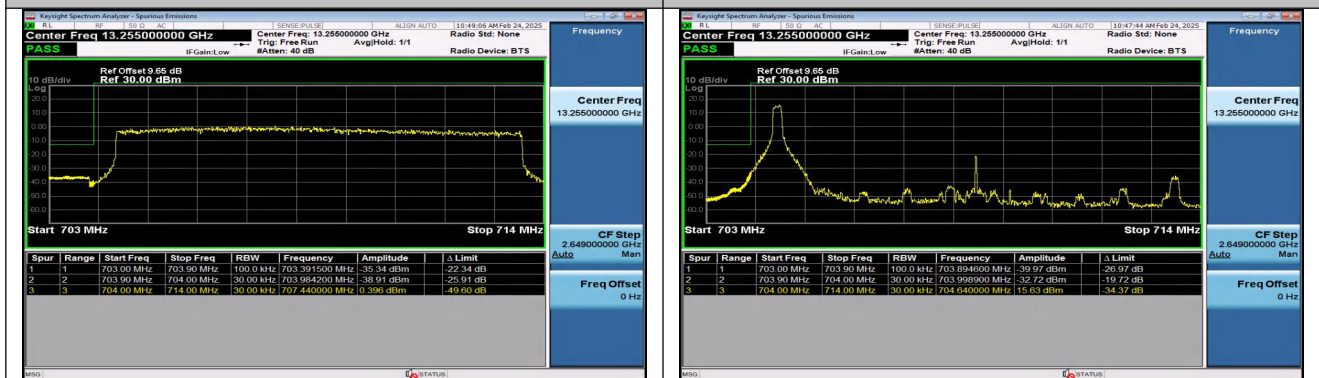
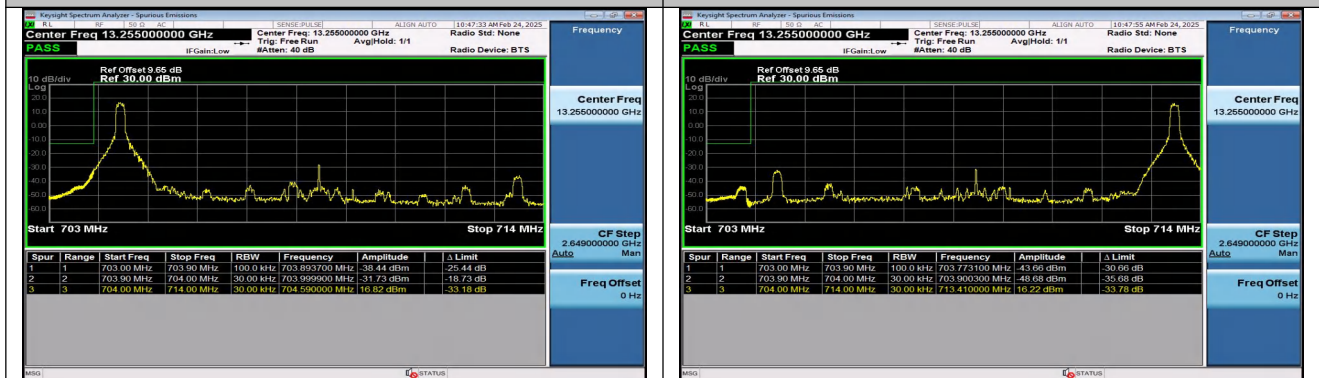
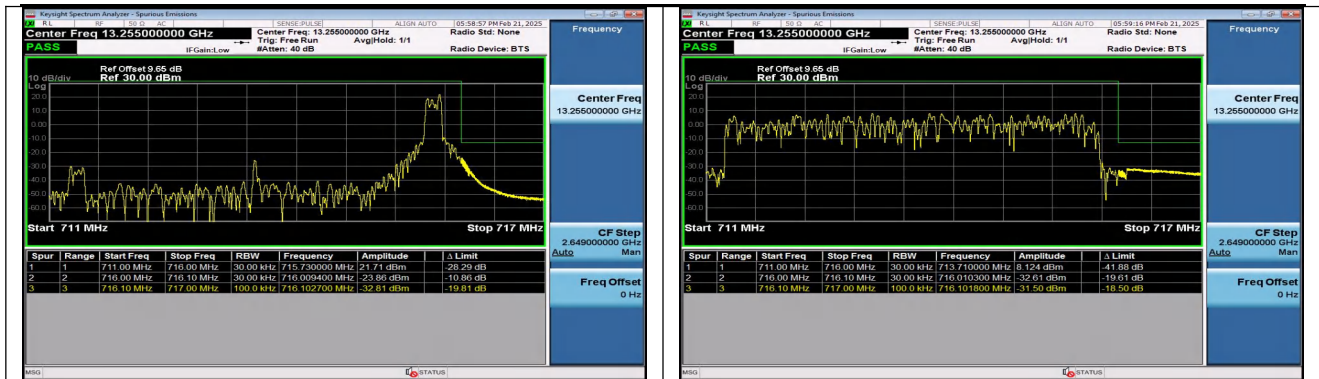
Band17_5MHz_QPSK_23825_1RB#0

Band17_5MHz_QPSK_23825_1RB#24



Band17_5MHz_QPSK_23825_25RB#0

Band17_5MHz_16QAM_23825_1RB#0



Band17_10MHz_16QAM_23780_1RB#49

Band17_10MHz_QPSK_23800_1RB#0





Appendix E: Conducted Spurious Emission

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band17	5MHz	QPSK	23755	1RB#0	0.009~0.15	-43.77	PASS
Band17	5MHz	QPSK	23755	1RB#0	0.15~30	-54.22	PASS
Band17	5MHz	QPSK	23755	1RB#0	30~1000	-60.35	PASS
Band17	5MHz	QPSK	23755	1RB#0	1000~3000	-35.96	PASS
Band17	5MHz	QPSK	23755	1RB#0	3000~10000	-35.07	PASS
Band17	5MHz	QPSK	23755	1RB#24	0.009~0.15	-40.98	PASS
Band17	5MHz	QPSK	23755	1RB#24	0.15~30	-52.98	PASS
Band17	5MHz	QPSK	23755	1RB#24	30~1000	-58.26	PASS
Band17	5MHz	QPSK	23755	1RB#24	1000~3000	-34.19	PASS
Band17	5MHz	QPSK	23755	1RB#24	3000~10000	-35.08	PASS
Band17	5MHz	QPSK	23755	25RB#0	0.009~0.15	-44.09	PASS
Band17	5MHz	QPSK	23755	25RB#0	0.15~30	-54.83	PASS
Band17	5MHz	QPSK	23755	25RB#0	30~1000	-52.01	PASS
Band17	5MHz	QPSK	23755	25RB#0	1000~3000	-41.79	PASS
Band17	5MHz	QPSK	23755	25RB#0	3000~10000	-35.05	PASS
Band17	5MHz	16QAM	23755	1RB#0	0.009~0.15	-42.53	PASS
Band17	5MHz	16QAM	23755	1RB#0	0.15~30	-53.03	PASS
Band17	5MHz	16QAM	23755	1RB#0	30~1000	-60.39	PASS
Band17	5MHz	16QAM	23755	1RB#0	1000~3000	-40.08	PASS
Band17	5MHz	16QAM	23755	1RB#0	3000~10000	-34.88	PASS
Band17	5MHz	16QAM	23755	1RB#24	0.009~0.15	-41.98	PASS
Band17	5MHz	16QAM	23755	1RB#24	0.15~30	-54.85	PASS
Band17	5MHz	16QAM	23755	1RB#24	30~1000	-59.06	PASS
Band17	5MHz	16QAM	23755	1RB#24	1000~3000	-34.10	PASS
Band17	5MHz	16QAM	23755	1RB#24	3000~10000	-34.98	PASS
Band17	5MHz	16QAM	23755	25RB#0	0.009~0.15	-41.31	PASS
Band17	5MHz	16QAM	23755	25RB#0	0.15~30	-53.96	PASS
Band17	5MHz	16QAM	23755	25RB#0	30~1000	-52.93	PASS
Band17	5MHz	16QAM	23755	25RB#0	1000~3000	-42.09	PASS
Band17	5MHz	16QAM	23755	25RB#0	3000~10000	-34.90	PASS
Band17	5MHz	QPSK	23790	1RB#0	0.009~0.15	-44.60	PASS
Band17	5MHz	QPSK	23790	1RB#0	0.15~30	-54.50	PASS
Band17	5MHz	QPSK	23790	1RB#0	30~1000	-58.63	PASS
Band17	5MHz	QPSK	23790	1RB#0	1000~3000	-33.09	PASS
Band17	5MHz	QPSK	23790	1RB#0	3000~10000	-34.63	PASS
Band17	5MHz	QPSK	23790	1RB#24	0.009~0.15	-45.56	PASS



Band17	5MHz	QPSK	23790	1RB#24	0.15~30	-54.06	PASS
Band17	5MHz	QPSK	23790	1RB#24	30~1000	-56.05	PASS
Band17	5MHz	QPSK	23790	1RB#24	1000~3000	-36.46	PASS
Band17	5MHz	QPSK	23790	1RB#24	3000~10000	-35.40	PASS
Band17	5MHz	QPSK	23790	25RB#0	0.009~0.15	-42.70	PASS
Band17	5MHz	QPSK	23790	25RB#0	0.15~30	-56.18	PASS
Band17	5MHz	QPSK	23790	25RB#0	30~1000	-48.90	PASS
Band17	5MHz	QPSK	23790	25RB#0	1000~3000	-41.82	PASS
Band17	5MHz	QPSK	23790	25RB#0	3000~10000	-35.21	PASS
Band17	5MHz	16QAM	23790	1RB#0	0.009~0.15	-39.33	PASS
Band17	5MHz	16QAM	23790	1RB#0	0.15~30	-53.57	PASS
Band17	5MHz	16QAM	23790	1RB#0	30~1000	-57.57	PASS
Band17	5MHz	16QAM	23790	1RB#0	1000~3000	-34.95	PASS
Band17	5MHz	16QAM	23790	1RB#0	3000~10000	-35.64	PASS
Band17	5MHz	16QAM	23790	1RB#24	0.009~0.15	-44.40	PASS
Band17	5MHz	16QAM	23790	1RB#24	0.15~30	-53.06	PASS
Band17	5MHz	16QAM	23790	1RB#24	30~1000	-57.10	PASS
Band17	5MHz	16QAM	23790	1RB#24	1000~3000	-37.64	PASS
Band17	5MHz	16QAM	23790	1RB#24	3000~10000	-35.37	PASS
Band17	5MHz	16QAM	23790	25RB#0	0.009~0.15	-45.21	PASS
Band17	5MHz	16QAM	23790	25RB#0	0.15~30	-53.45	PASS
Band17	5MHz	16QAM	23790	25RB#0	30~1000	-48.87	PASS
Band17	5MHz	16QAM	23790	25RB#0	1000~3000	-42.03	PASS
Band17	5MHz	16QAM	23790	25RB#0	3000~10000	-35.55	PASS
Band17	5MHz	QPSK	23825	1RB#0	0.009~0.15	-41.28	PASS
Band17	5MHz	QPSK	23825	1RB#0	0.15~30	-56.36	PASS
Band17	5MHz	QPSK	23825	1RB#0	30~1000	-54.86	PASS
Band17	5MHz	QPSK	23825	1RB#0	1000~3000	-35.94	PASS
Band17	5MHz	QPSK	23825	1RB#0	3000~10000	-35.62	PASS
Band17	5MHz	QPSK	23825	1RB#24	0.009~0.15	-42.03	PASS
Band17	5MHz	QPSK	23825	1RB#24	0.15~30	-54.64	PASS
Band17	5MHz	QPSK	23825	1RB#24	30~1000	-48.67	PASS
Band17	5MHz	QPSK	23825	1RB#24	1000~3000	-33.34	PASS
Band17	5MHz	QPSK	23825	1RB#24	3000~10000	-35.41	PASS
Band17	5MHz	QPSK	23825	25RB#0	0.009~0.15	-39.66	PASS
Band17	5MHz	QPSK	23825	25RB#0	0.15~30	-54.29	PASS
Band17	5MHz	QPSK	23825	25RB#0	30~1000	-50.26	PASS
Band17	5MHz	QPSK	23825	25RB#0	1000~3000	-42.28	PASS
Band17	5MHz	QPSK	23825	25RB#0	3000~10000	-35.55	PASS
Band17	5MHz	16QAM	23825	1RB#0	0.009~0.15	-47.23	PASS
Band17	5MHz	16QAM	23825	1RB#0	0.15~30	-55.55	PASS
Band17	5MHz	16QAM	23825	1RB#0	30~1000	-54.01	PASS



Band17	5MHz	16QAM	23825	1RB#0	1000~3000	-35.49	PASS
Band17	5MHz	16QAM	23825	1RB#0	3000~10000	-35.47	PASS
Band17	5MHz	16QAM	23825	1RB#24	0.009~0.15	-44.39	PASS
Band17	5MHz	16QAM	23825	1RB#24	0.15~30	-54.56	PASS
Band17	5MHz	16QAM	23825	1RB#24	30~1000	-49.62	PASS
Band17	5MHz	16QAM	23825	1RB#24	1000~3000	-33.57	PASS
Band17	5MHz	16QAM	23825	1RB#24	3000~10000	-35.40	PASS
Band17	5MHz	16QAM	23825	25RB#0	0.009~0.15	-41.76	PASS
Band17	5MHz	16QAM	23825	25RB#0	0.15~30	-53.77	PASS
Band17	5MHz	16QAM	23825	25RB#0	30~1000	-51.36	PASS
Band17	5MHz	16QAM	23825	25RB#0	1000~3000	-41.95	PASS
Band17	5MHz	16QAM	23825	25RB#0	3000~10000	-35.30	PASS
Band17	10MHz	QPSK	23780	1RB#0	0.009~0.15	-43.27	PASS
Band17	10MHz	QPSK	23780	1RB#0	0.15~30	-53.74	PASS
Band17	10MHz	QPSK	23780	1RB#0	30~1000	-59.80	PASS
Band17	10MHz	QPSK	23780	1RB#0	1000~3000	-38.58	PASS
Band17	10MHz	QPSK	23780	1RB#0	3000~10000	-35.29	PASS
Band17	10MHz	QPSK	23780	1RB#49	0.009~0.15	-41.39	PASS
Band17	10MHz	QPSK	23780	1RB#49	0.15~30	-53.14	PASS
Band17	10MHz	QPSK	23780	1RB#49	30~1000	-60.01	PASS
Band17	10MHz	QPSK	23780	1RB#49	1000~3000	-36.24	PASS
Band17	10MHz	QPSK	23780	1RB#49	3000~10000	-35.49	PASS
Band17	10MHz	QPSK	23780	50RB#0	0.009~0.15	-44.23	PASS
Band17	10MHz	QPSK	23780	50RB#0	0.15~30	-55.87	PASS
Band17	10MHz	QPSK	23780	50RB#0	30~1000	-59.91	PASS
Band17	10MHz	QPSK	23780	50RB#0	1000~3000	-41.93	PASS
Band17	10MHz	QPSK	23780	50RB#0	3000~10000	-35.30	PASS
Band17	10MHz	16QAM	23780	1RB#0	0.009~0.15	-40.10	PASS
Band17	10MHz	16QAM	23780	1RB#0	0.15~30	-53.95	PASS
Band17	10MHz	16QAM	23780	1RB#0	30~1000	-60.07	PASS
Band17	10MHz	16QAM	23780	1RB#0	1000~3000	-40.17	PASS
Band17	10MHz	16QAM	23780	1RB#0	3000~10000	-34.90	PASS
Band17	10MHz	16QAM	23780	1RB#49	0.009~0.15	-43.90	PASS
Band17	10MHz	16QAM	23780	1RB#49	0.15~30	-53.09	PASS
Band17	10MHz	16QAM	23780	1RB#49	30~1000	-59.82	PASS
Band17	10MHz	16QAM	23780	1RB#49	1000~3000	-36.40	PASS
Band17	10MHz	16QAM	23780	1RB#49	3000~10000	-35.19	PASS
Band17	10MHz	QPSK	23790	1RB#0	0.009~0.15	-40.80	PASS
Band17	10MHz	QPSK	23790	1RB#0	0.15~30	-54.08	PASS
Band17	10MHz	QPSK	23790	1RB#0	30~1000	-59.57	PASS
Band17	10MHz	QPSK	23790	1RB#0	1000~3000	-36.66	PASS
Band17	10MHz	QPSK	23790	1RB#0	3000~10000	-35.39	PASS