



TD-LTE/LTE FDD terminal

M/N:HP-N323

FCC ID:2BN5N-HPN323

Applicant:HPYJ USA LLC

Appendix for LTE Band 41



Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band41	5MHz	QPSK	39675	1RB#0	23.09	PASS
Band41	5MHz	QPSK	39675	1RB#12	23.04	PASS
Band41	5MHz	QPSK	39675	1RB#24	23.19	PASS
Band41	5MHz	QPSK	39675	12RB#0	22.08	PASS
Band41	5MHz	QPSK	39675	12RB#6	22.10	PASS
Band41	5MHz	QPSK	39675	12RB#13	22.17	PASS
Band41	5MHz	QPSK	39675	25RB#0	22.14	PASS
Band41	5MHz	16QAM	39675	1RB#0	22.23	PASS
Band41	5MHz	16QAM	39675	1RB#12	22.21	PASS
Band41	5MHz	16QAM	39675	1RB#24	22.30	PASS
Band41	5MHz	16QAM	39675	12RB#0	21.18	PASS
Band41	5MHz	16QAM	39675	12RB#6	21.18	PASS
Band41	5MHz	16QAM	39675	12RB#13	21.25	PASS
Band41	5MHz	16QAM	39675	25RB#0	21.17	PASS
Band41	5MHz	QPSK	40620	1RB#0	25.29	PASS
Band41	5MHz	QPSK	40620	1RB#12	25.35	PASS
Band41	5MHz	QPSK	40620	1RB#24	25.49	PASS
Band41	5MHz	QPSK	40620	12RB#0	24.26	PASS
Band41	5MHz	QPSK	40620	12RB#6	24.24	PASS
Band41	5MHz	QPSK	40620	12RB#13	24.39	PASS
Band41	5MHz	QPSK	40620	25RB#0	24.32	PASS
Band41	5MHz	16QAM	40620	1RB#0	24.26	PASS
Band41	5MHz	16QAM	40620	1RB#12	24.38	PASS
Band41	5MHz	16QAM	40620	1RB#24	24.49	PASS
Band41	5MHz	16QAM	40620	12RB#0	23.35	PASS
Band41	5MHz	16QAM	40620	12RB#6	23.27	PASS
Band41	5MHz	16QAM	40620	12RB#13	23.42	PASS
Band41	5MHz	16QAM	40620	25RB#0	23.35	PASS
Band41	5MHz	QPSK	41565	1RB#0	25.36	PASS
Band41	5MHz	QPSK	41565	1RB#12	25.32	PASS
Band41	5MHz	QPSK	41565	1RB#24	25.24	PASS
Band41	5MHz	QPSK	41565	12RB#0	24.10	PASS
Band41	5MHz	QPSK	41565	12RB#6	24.13	PASS
Band41	5MHz	QPSK	41565	12RB#13	24.10	PASS
Band41	5MHz	QPSK	41565	25RB#0	24.08	PASS
Band41	5MHz	16QAM	41565	1RB#0	24.57	PASS
Band41	5MHz	16QAM	41565	1RB#12	24.50	PASS

**Shenzhen GUOREN Certification Technology Service Co.,Ltd Ltd.**

No.:GRCTR250202015-10

Band41	5MHz	16QAM	41565	1RB#24	24.47	PASS
Band41	5MHz	16QAM	41565	12RB#0	23.21	PASS
Band41	5MHz	16QAM	41565	12RB#6	23.22	PASS
Band41	5MHz	16QAM	41565	12RB#13	23.18	PASS
Band41	5MHz	16QAM	41565	25RB#0	23.24	PASS
Band41	10MHz	QPSK	39700	1RB#0	23.22	PASS
Band41	10MHz	QPSK	39700	1RB#24	23.26	PASS
Band41	10MHz	QPSK	39700	1RB#49	23.59	PASS
Band41	10MHz	QPSK	39700	25RB#0	22.12	PASS
Band41	10MHz	QPSK	39700	25RB#12	22.15	PASS
Band41	10MHz	QPSK	39700	25RB#25	22.37	PASS
Band41	10MHz	QPSK	39700	50RB#0	22.31	PASS
Band41	10MHz	16QAM	39700	1RB#0	22.44	PASS
Band41	10MHz	16QAM	39700	1RB#24	22.50	PASS
Band41	10MHz	16QAM	39700	1RB#49	22.75	PASS
Band41	10MHz	16QAM	39700	25RB#0	21.23	PASS
Band41	10MHz	16QAM	39700	25RB#12	21.23	PASS
Band41	10MHz	16QAM	39700	25RB#25	21.42	PASS
Band41	10MHz	QPSK	40620	1RB#0	25.19	PASS
Band41	10MHz	QPSK	40620	1RB#24	25.38	PASS
Band41	10MHz	QPSK	40620	1RB#49	25.60	PASS
Band41	10MHz	QPSK	40620	25RB#0	24.22	PASS
Band41	10MHz	QPSK	40620	25RB#12	24.24	PASS
Band41	10MHz	QPSK	40620	25RB#25	24.42	PASS
Band41	10MHz	QPSK	40620	50RB#0	24.33	PASS
Band41	10MHz	16QAM	40620	1RB#0	23.94	PASS
Band41	10MHz	16QAM	40620	1RB#24	24.07	PASS
Band41	10MHz	16QAM	40620	1RB#49	24.35	PASS
Band41	10MHz	16QAM	40620	25RB#0	23.26	PASS
Band41	10MHz	16QAM	40620	25RB#12	23.26	PASS
Band41	10MHz	16QAM	40620	25RB#25	23.49	PASS
Band41	10MHz	QPSK	41540	1RB#0	25.73	PASS
Band41	10MHz	QPSK	41540	1RB#24	25.64	PASS
Band41	10MHz	QPSK	41540	1RB#49	25.51	PASS
Band41	10MHz	QPSK	41540	25RB#0	24.35	PASS
Band41	10MHz	QPSK	41540	25RB#12	24.29	PASS
Band41	10MHz	QPSK	41540	25RB#25	24.15	PASS
Band41	10MHz	QPSK	41540	50RB#0	24.22	PASS
Band41	10MHz	16QAM	41540	1RB#0	24.60	PASS
Band41	10MHz	16QAM	41540	1RB#24	24.34	PASS
Band41	10MHz	16QAM	41540	1RB#49	24.36	PASS
Band41	10MHz	16QAM	41540	25RB#0	23.40	PASS



Band41	10MHz	16QAM	41540	25RB#12	23.37	PASS
Band41	10MHz	16QAM	41540	25RB#25	23.27	PASS
Band41	15MHz	QPSK	39725	1RB#0	23.29	PASS
Band41	15MHz	QPSK	39725	1RB#38	23.50	PASS
Band41	15MHz	QPSK	39725	1RB#74	23.95	PASS
Band41	15MHz	QPSK	39725	38RB#0	22.53	PASS
Band41	15MHz	QPSK	39725	38RB#18	22.53	PASS
Band41	15MHz	QPSK	39725	38RB#37	22.56	PASS
Band41	15MHz	QPSK	39725	75RB#0	22.62	PASS
Band41	15MHz	16QAM	39725	1RB#0	22.49	PASS
Band41	15MHz	16QAM	39725	1RB#38	22.70	PASS
Band41	15MHz	16QAM	39725	1RB#74	23.23	PASS
Band41	15MHz	16QAM	39725	38RB#0	22.53	PASS
Band41	15MHz	16QAM	39725	38RB#18	22.56	PASS
Band41	15MHz	16QAM	39725	38RB#37	22.56	PASS
Band41	15MHz	QPSK	40620	1RB#0	25.20	PASS
Band41	15MHz	QPSK	40620	1RB#38	25.59	PASS
Band41	15MHz	QPSK	40620	1RB#74	25.82	PASS
Band41	15MHz	QPSK	40620	38RB#0	24.45	PASS
Band41	15MHz	QPSK	40620	38RB#18	24.45	PASS
Band41	15MHz	QPSK	40620	38RB#37	24.46	PASS
Band41	15MHz	QPSK	40620	75RB#0	24.48	PASS
Band41	15MHz	16QAM	40620	1RB#0	24.06	PASS
Band41	15MHz	16QAM	40620	1RB#38	24.41	PASS
Band41	15MHz	16QAM	40620	1RB#74	24.59	PASS
Band41	15MHz	16QAM	40620	38RB#0	24.45	PASS
Band41	15MHz	16QAM	40620	38RB#18	24.45	PASS
Band41	15MHz	16QAM	40620	38RB#37	24.46	PASS
Band41	15MHz	QPSK	41515	1RB#0	26.05	PASS
Band41	15MHz	QPSK	41515	1RB#38	25.83	PASS
Band41	15MHz	QPSK	41515	1RB#74	25.64	PASS
Band41	15MHz	QPSK	41515	38RB#0	24.59	PASS
Band41	15MHz	QPSK	41515	38RB#18	24.55	PASS
Band41	15MHz	QPSK	41515	38RB#37	24.56	PASS
Band41	15MHz	QPSK	41515	75RB#0	24.58	PASS
Band41	15MHz	16QAM	41515	1RB#0	24.87	PASS
Band41	15MHz	16QAM	41515	1RB#38	24.65	PASS
Band41	15MHz	16QAM	41515	1RB#74	24.43	PASS
Band41	15MHz	16QAM	41515	38RB#0	24.60	PASS
Band41	15MHz	16QAM	41515	38RB#18	24.56	PASS
Band41	15MHz	16QAM	41515	38RB#37	24.56	PASS
Band41	20MHz	QPSK	39750	1RB#0	23.18	PASS



Band41	20MHz	QPSK	39750	1RB#49	23.63	PASS
Band41	20MHz	QPSK	39750	1RB#99	24.37	PASS
Band41	20MHz	QPSK	39750	50RB#0	22.40	PASS
Band41	20MHz	QPSK	39750	50RB#25	22.35	PASS
Band41	20MHz	QPSK	39750	50RB#50	23.00	PASS
Band41	20MHz	QPSK	39750	100RB#0	22.70	PASS
Band41	20MHz	16QAM	39750	1RB#0	22.27	PASS
Band41	20MHz	16QAM	39750	1RB#49	22.76	PASS
Band41	20MHz	16QAM	39750	1RB#99	23.45	PASS
Band41	20MHz	QPSK	40620	1RB#0	24.93	PASS
Band41	20MHz	QPSK	40620	1RB#49	25.53	PASS
Band41	20MHz	QPSK	40620	1RB#99	25.64	PASS
Band41	20MHz	QPSK	40620	50RB#0	24.18	PASS
Band41	20MHz	QPSK	40620	50RB#25	24.18	PASS
Band41	20MHz	QPSK	40620	50RB#50	24.58	PASS
Band41	20MHz	QPSK	40620	100RB#0	24.37	PASS
Band41	20MHz	16QAM	40620	1RB#0	23.97	PASS
Band41	20MHz	16QAM	40620	1RB#49	24.54	PASS
Band41	20MHz	16QAM	40620	1RB#99	24.75	PASS
Band41	20MHz	QPSK	41490	1RB#0	25.94	PASS
Band41	20MHz	QPSK	41490	1RB#49	25.91	PASS
Band41	20MHz	QPSK	41490	1RB#99	25.54	PASS
Band41	20MHz	QPSK	41490	50RB#0	24.66	PASS
Band41	20MHz	QPSK	41490	50RB#25	24.67	PASS
Band41	20MHz	QPSK	41490	50RB#50	24.49	PASS
Band41	20MHz	QPSK	41490	100RB#0	24.59	PASS
Band41	20MHz	16QAM	41490	1RB#0	24.87	PASS
Band41	20MHz	16QAM	41490	1RB#49	24.82	PASS
Band41	20MHz	16QAM	41490	1RB#99	24.43	PASS



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

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band41	5MHz	QPSK	39675	1RB#0	8.41	13	PASS
Band41	5MHz	QPSK	39675	25RB#0	8.41	13	PASS
Band41	5MHz	16QAM	39675	1RB#0	8.41	13	PASS
Band41	5MHz	16QAM	39675	25RB#0	8.41	13	PASS
Band41	5MHz	QPSK	40620	1RB#0	8.41	13	PASS
Band41	5MHz	QPSK	40620	25RB#0	8.41	13	PASS
Band41	5MHz	16QAM	40620	1RB#0	8.41	13	PASS
Band41	5MHz	16QAM	40620	25RB#0	8.42	13	PASS
Band41	5MHz	QPSK	41565	1RB#0	8.40	13	PASS
Band41	5MHz	QPSK	41565	25RB#0	8.40	13	PASS
Band41	5MHz	16QAM	41565	1RB#0	8.42	13	PASS
Band41	5MHz	16QAM	41565	25RB#0	8.42	13	PASS
Band41	10MHz	QPSK	39700	1RB#0	8.42	13	PASS
Band41	10MHz	QPSK	39700	50RB#0	8.42	13	PASS
Band41	10MHz	16QAM	39700	1RB#0	8.44	13	PASS
Band41	10MHz	QPSK	40620	1RB#0	8.42	13	PASS
Band41	10MHz	QPSK	40620	50RB#0	8.42	13	PASS
Band41	10MHz	16QAM	40620	1RB#0	8.43	13	PASS
Band41	10MHz	QPSK	41540	1RB#0	8.43	13	PASS
Band41	10MHz	QPSK	41540	50RB#0	8.43	13	PASS
Band41	10MHz	16QAM	41540	1RB#0	8.43	13	PASS
Band41	15MHz	QPSK	39725	1RB#0	8.43	13	PASS
Band41	15MHz	QPSK	39725	75RB#0	8.43	13	PASS
Band41	15MHz	16QAM	39725	1RB#0	8.43	13	PASS
Band41	15MHz	QPSK	40620	1RB#0	8.42	13	PASS
Band41	15MHz	QPSK	40620	75RB#0	8.43	13	PASS
Band41	15MHz	16QAM	40620	1RB#0	8.42	13	PASS
Band41	15MHz	QPSK	41515	1RB#0	8.42	13	PASS
Band41	15MHz	QPSK	41515	75RB#0	8.43	13	PASS
Band41	15MHz	16QAM	41515	1RB#0	8.42	13	PASS
Band41	20MHz	QPSK	39750	1RB#0	8.42	13	PASS
Band41	20MHz	QPSK	39750	100RB#0	8.43	13	PASS
Band41	20MHz	QPSK	40620	1RB#0	8.43	13	PASS
Band41	20MHz	QPSK	40620	100RB#0	8.43	13	PASS
Band41	20MHz	QPSK	41490	1RB#0	8.41	13	PASS
Band41	20MHz	QPSK	41490	100RB#0	8.42	13	PASS

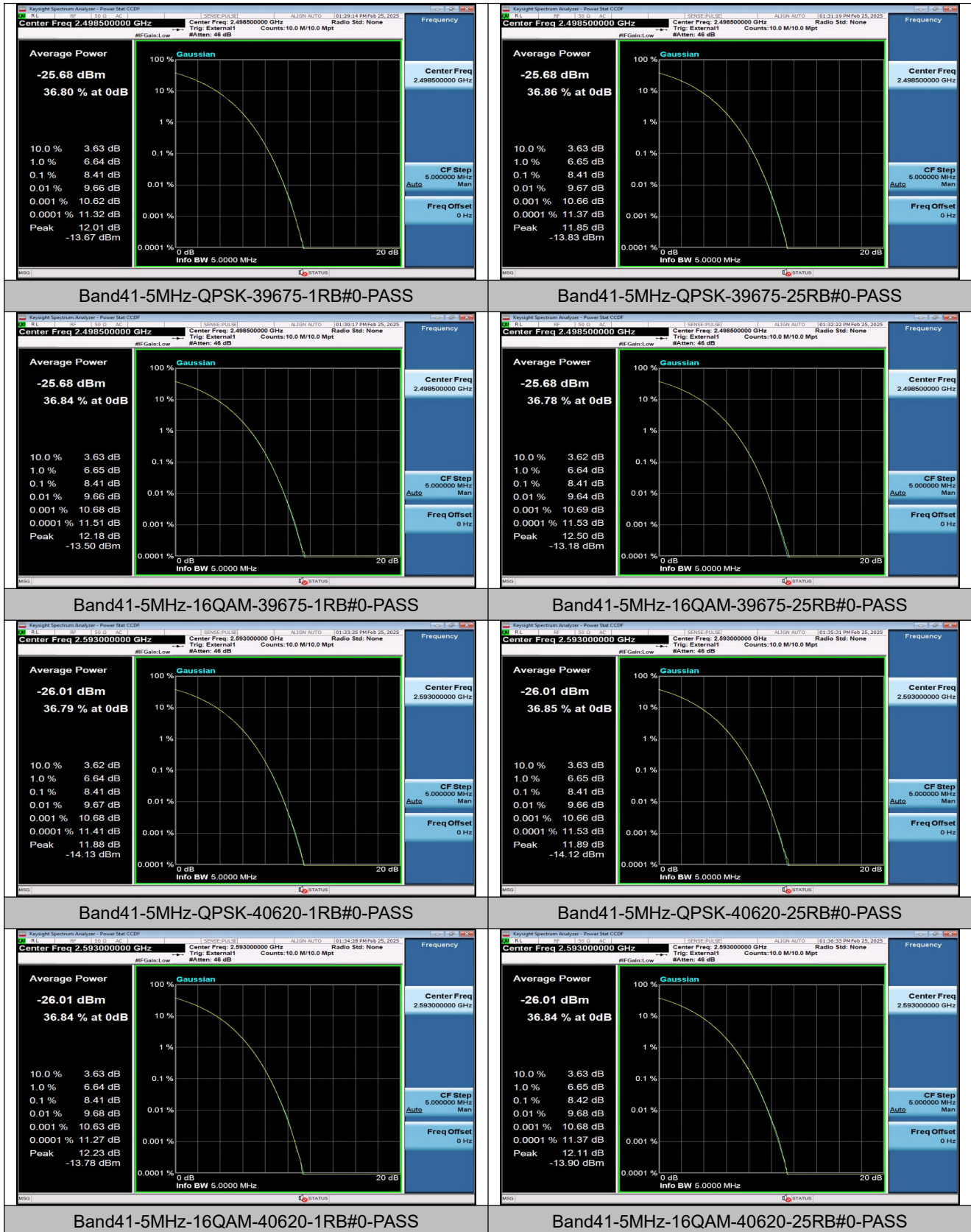


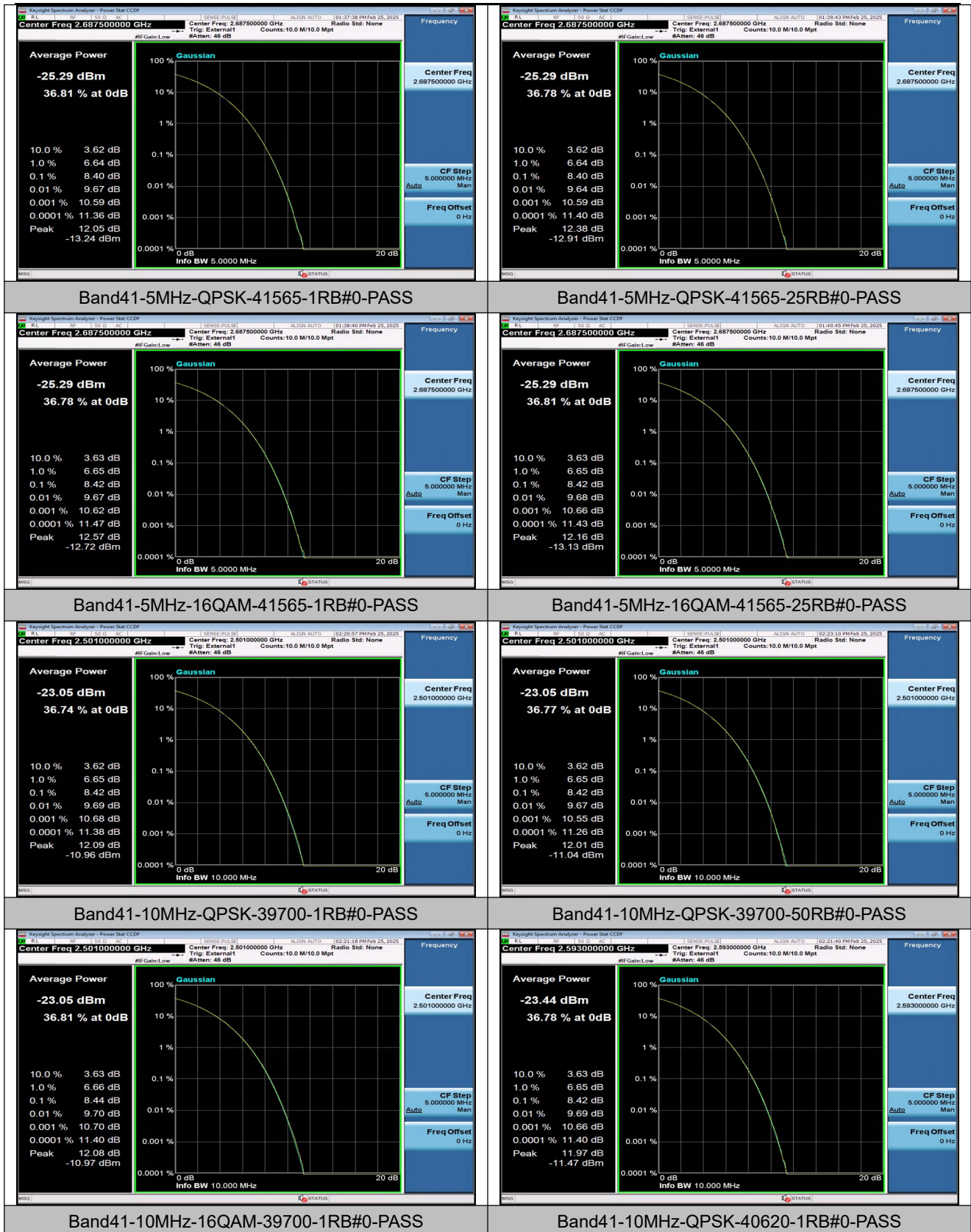
Shenzhen GUOREN Certification Technology Service Co.,Ltd Ltd.

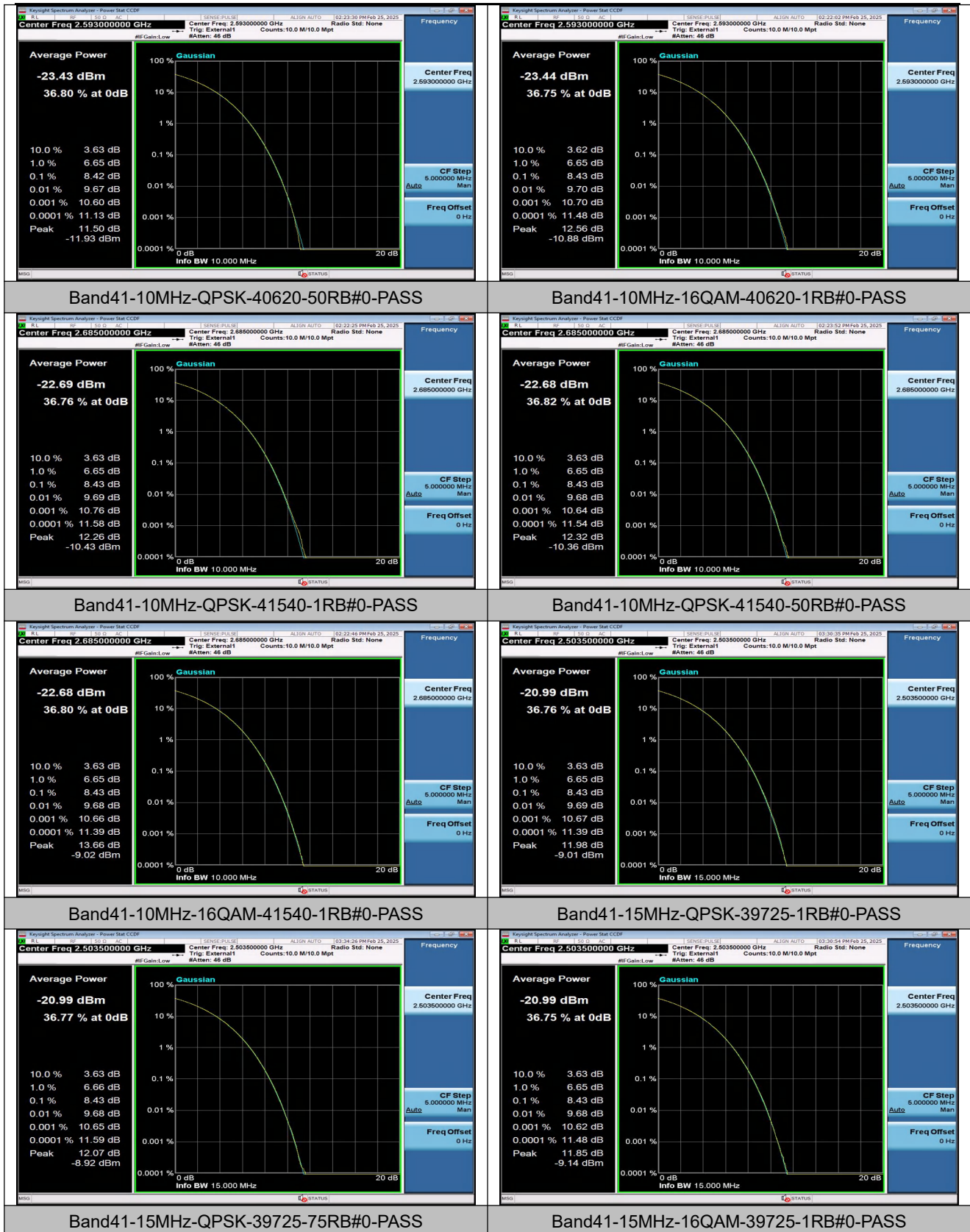
No.:GRCTR250202015-10

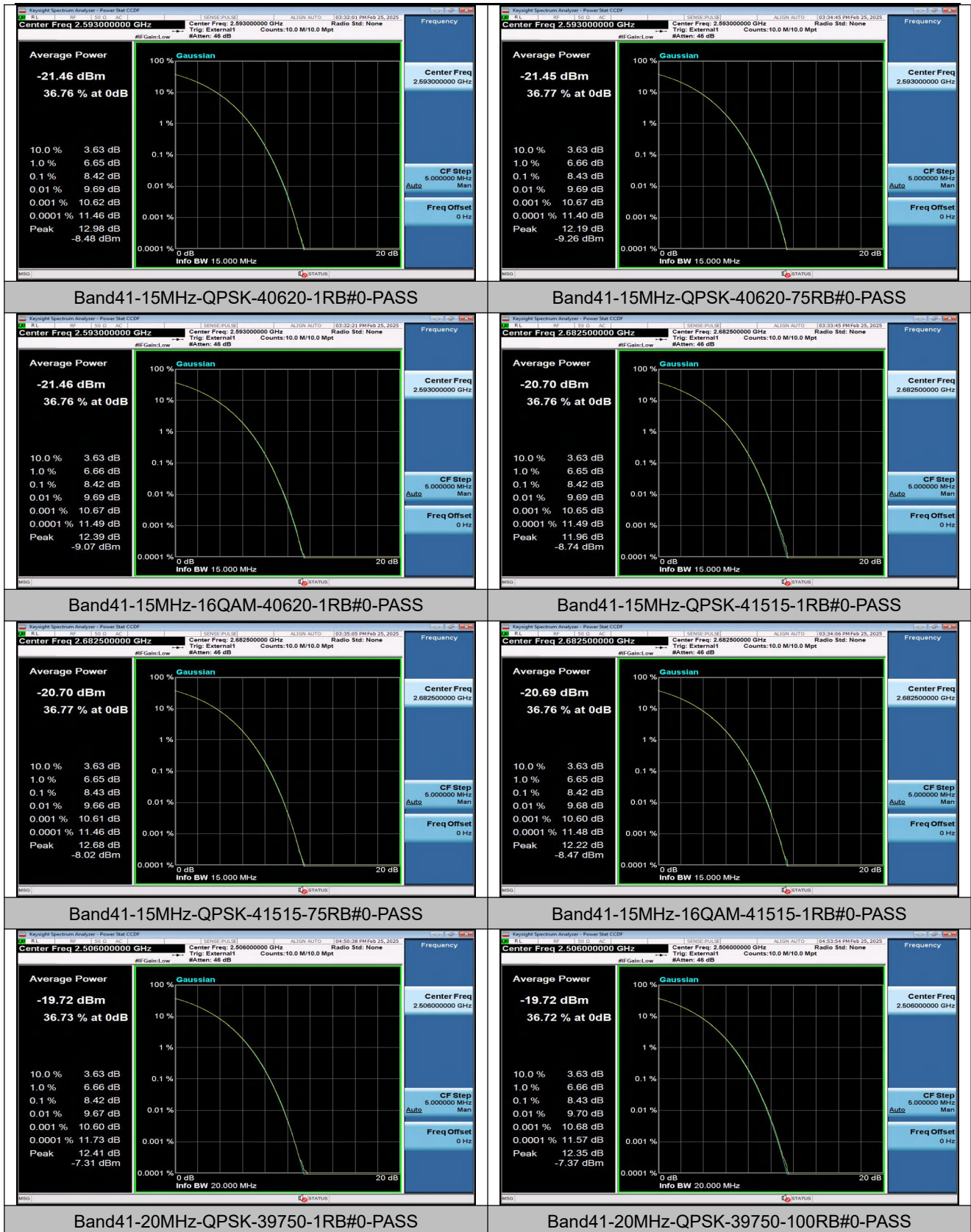


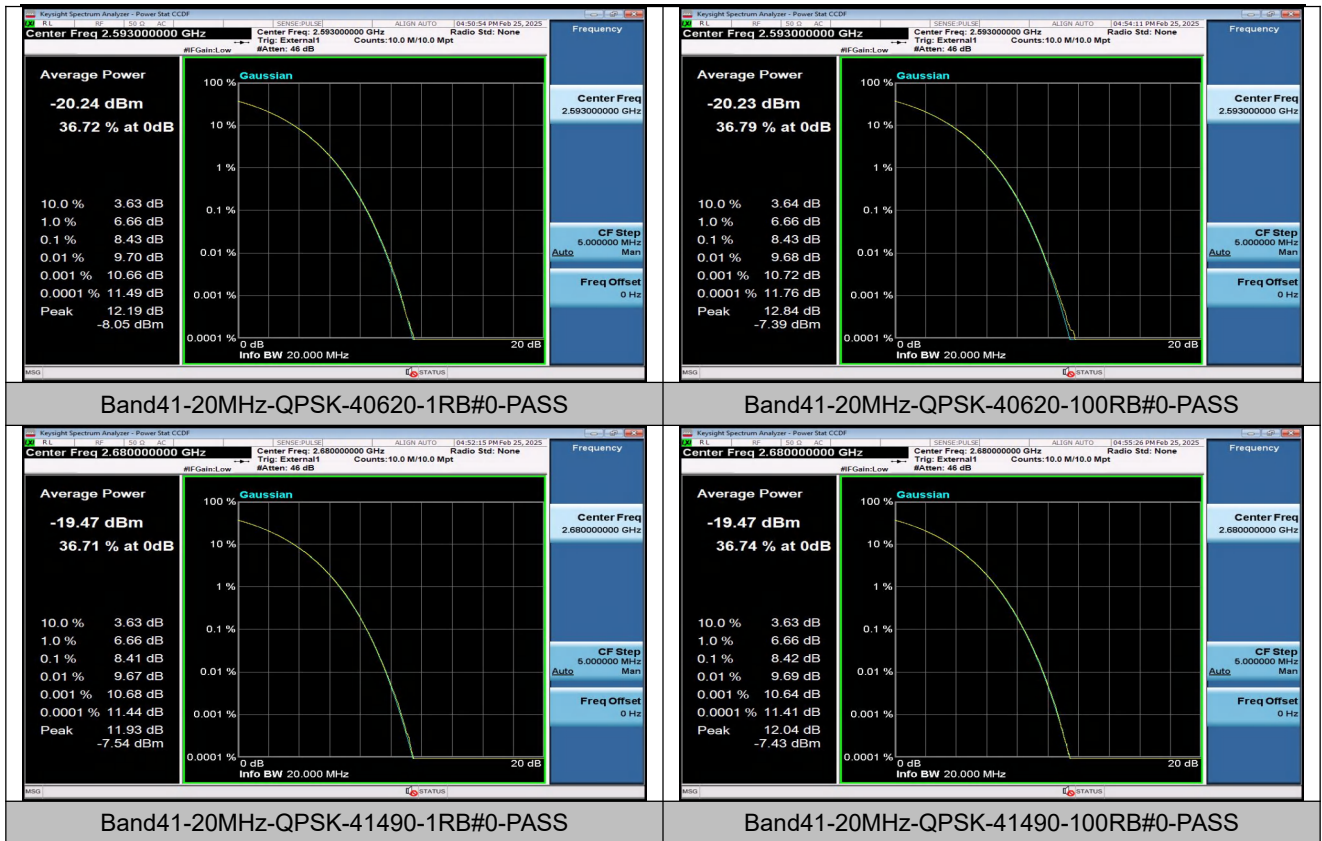
Test Graphs













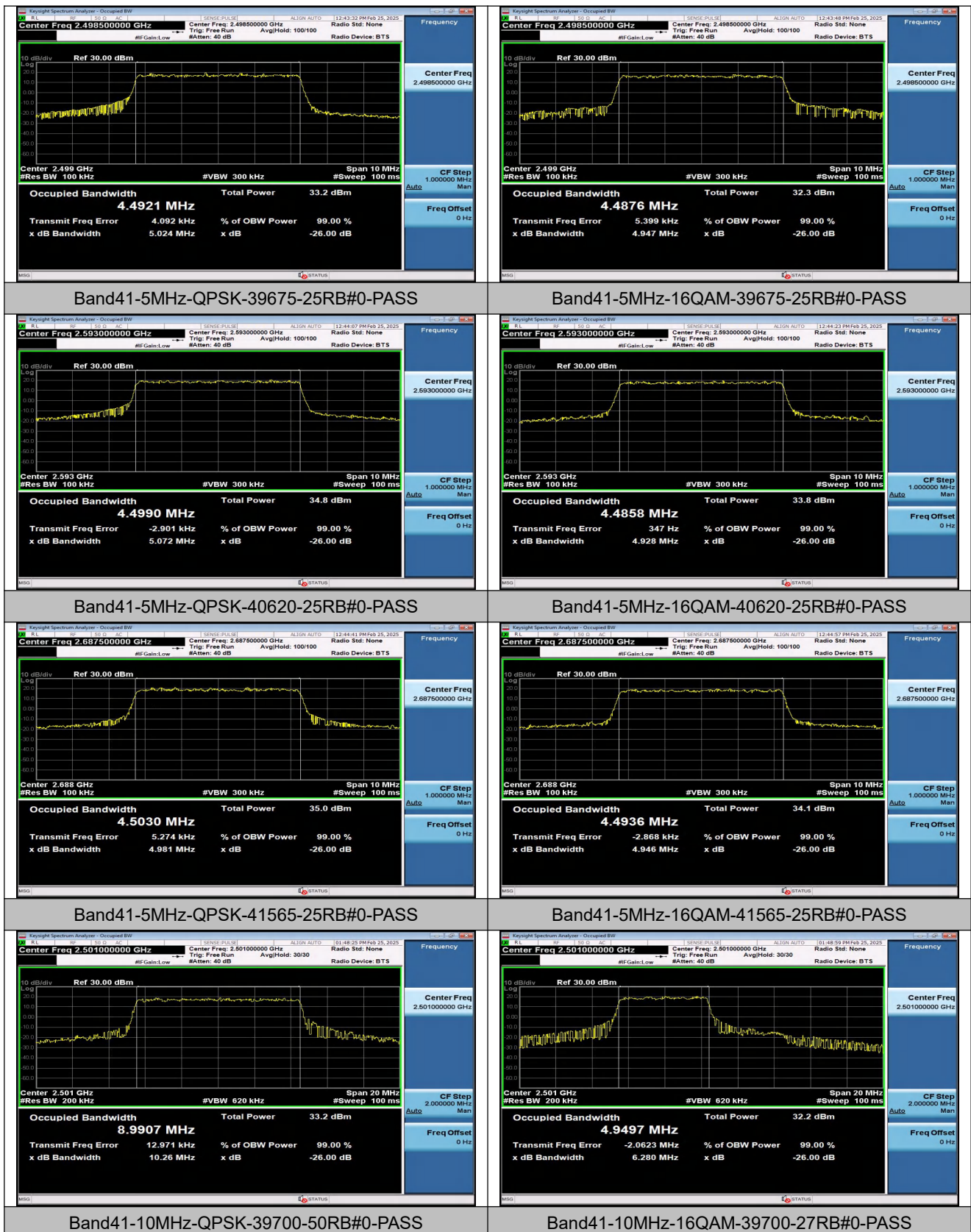
Appendix C: 26dB Bandwidth and Occupied Bandwidth

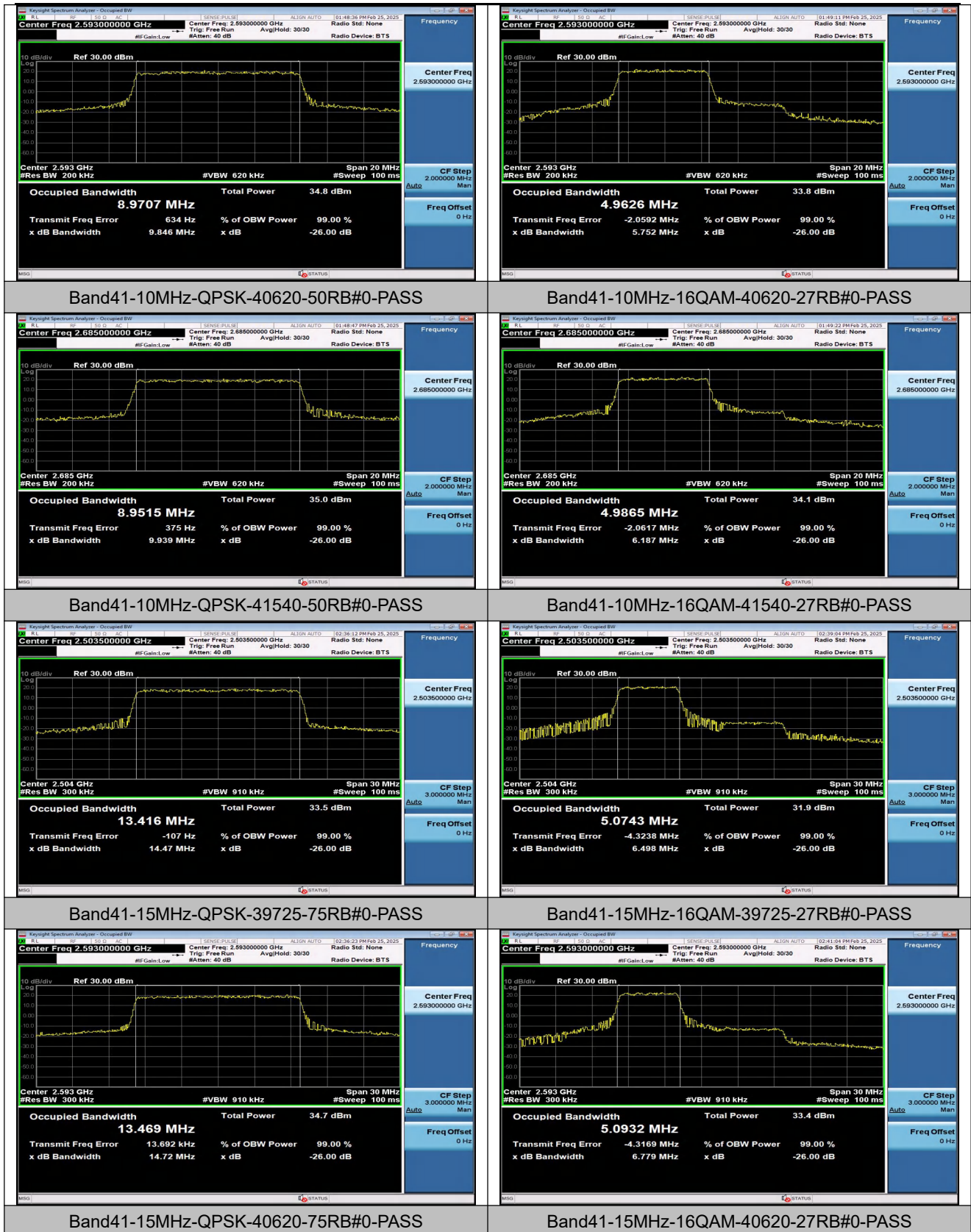
Test Result

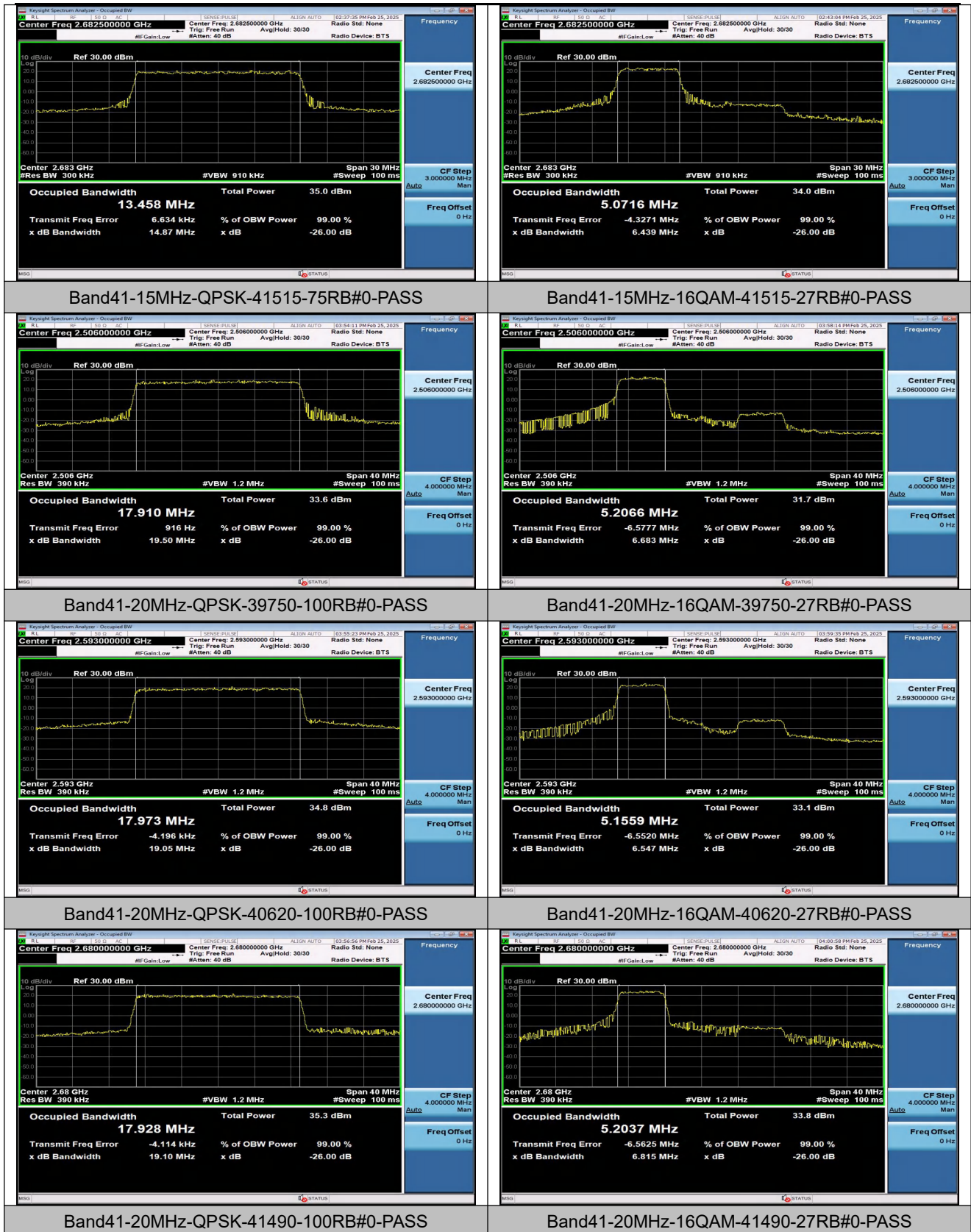
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band41	5MHz	QPSK	39675	25RB#0	4.4921	5.024	PASS
Band41	5MHz	16QAM	39675	25RB#0	4.4876	4.947	PASS
Band41	5MHz	QPSK	40620	25RB#0	4.4990	5.072	PASS
Band41	5MHz	16QAM	40620	25RB#0	4.4858	4.928	PASS
Band41	5MHz	QPSK	41565	25RB#0	4.5030	4.981	PASS
Band41	5MHz	16QAM	41565	25RB#0	4.4936	4.946	PASS
Band41	10MHz	QPSK	39700	50RB#0	8.9907	10.26	PASS
Band41	10MHz	16QAM	39700	27RB#0	4.9497	6.280	PASS
Band41	10MHz	QPSK	40620	50RB#0	8.9707	9.846	PASS
Band41	10MHz	16QAM	40620	27RB#0	4.9626	5.752	PASS
Band41	10MHz	QPSK	41540	50RB#0	8.9515	9.939	PASS
Band41	10MHz	16QAM	41540	27RB#0	4.9865	6.187	PASS
Band41	15MHz	QPSK	39725	75RB#0	13.416	14.47	PASS
Band41	15MHz	16QAM	39725	27RB#0	5.0743	6.498	PASS
Band41	15MHz	QPSK	40620	75RB#0	13.469	14.72	PASS
Band41	15MHz	16QAM	40620	27RB#0	5.0932	6.779	PASS
Band41	15MHz	QPSK	41515	75RB#0	13.458	14.87	PASS
Band41	15MHz	16QAM	41515	27RB#0	5.0716	6.439	PASS
Band41	20MHz	QPSK	39750	100RB#0	17.910	19.50	PASS
Band41	20MHz	16QAM	39750	27RB#0	5.2066	6.683	PASS
Band41	20MHz	QPSK	40620	100RB#0	17.973	19.05	PASS
Band41	20MHz	16QAM	40620	27RB#0	5.1559	6.547	PASS
Band41	20MHz	QPSK	41490	100RB#0	17.928	19.10	PASS
Band41	20MHz	16QAM	41490	27RB#0	5.2037	6.815	PASS



Test Graphs









Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band41	5MHz	QPSK	39675	1RB#0	-19.78	PASS
Band41	5MHz	QPSK	39675	1RB#24	-39.14	PASS
Band41	5MHz	QPSK	39675	25RB#0	-35.51	PASS
Band41	5MHz	16QAM	39675	1RB#0	-14.83	PASS
Band41	5MHz	16QAM	39675	1RB#24	-39.50	PASS
Band41	5MHz	16QAM	39675	25RB#0	-35.42	PASS
Band41	5MHz	QPSK	41565	1RB#0	-37.59	PASS
Band41	5MHz	QPSK	41565	1RB#24	-17.35	PASS
Band41	5MHz	QPSK	41565	25RB#0	-27.41	PASS
Band41	5MHz	16QAM	41565	1RB#0	-38.18	PASS
Band41	5MHz	16QAM	41565	1RB#24	-18.91	PASS
Band41	5MHz	16QAM	41565	25RB#0	-27.50	PASS
Band41	10MHz	QPSK	39700	1RB#0	-19.99	PASS
Band41	10MHz	QPSK	39700	1RB#49	-32.33	PASS
Band41	10MHz	QPSK	39700	50RB#0	-31.75	PASS
Band41	10MHz	16QAM	39700	1RB#0	-22.53	PASS
Band41	10MHz	16QAM	39700	1RB#49	-32.79	PASS
Band41	10MHz	QPSK	41540	1RB#0	-40.51	PASS
Band41	10MHz	QPSK	41540	1RB#49	-38.08	PASS
Band41	10MHz	QPSK	41540	50RB#0	-30.86	PASS
Band41	10MHz	16QAM	41540	1RB#0	-40.47	PASS
Band41	10MHz	16QAM	41540	1RB#49	-38.47	PASS
Band41	15MHz	QPSK	39725	1RB#0	-35.53	PASS
Band41	15MHz	QPSK	39725	1RB#74	-37.63	PASS
Band41	15MHz	QPSK	39725	75RB#0	-29.71	PASS
Band41	15MHz	16QAM	39725	1RB#0	-35.88	PASS
Band41	15MHz	16QAM	39725	1RB#74	-38.06	PASS
Band41	15MHz	QPSK	41515	1RB#0	-40.96	PASS
Band41	15MHz	QPSK	41515	1RB#74	-40.66	PASS
Band41	15MHz	QPSK	41515	75RB#0	-30.86	PASS
Band41	15MHz	16QAM	41515	1RB#0	-41.09	PASS
Band41	15MHz	16QAM	41515	1RB#74	-40.81	PASS
Band41	20MHz	QPSK	39750	1RB#0	-36.32	PASS
Band41	20MHz	QPSK	39750	1RB#99	-38.60	PASS
Band41	20MHz	QPSK	39750	100RB#0	-31.66	PASS
Band41	20MHz	16QAM	39750	1RB#0	-37.03	PASS