

Appendix for LTE Band 7

Product Name: Smart Phone

Model No: Black G4

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)	Tune up limited(dBm)	MPR (dB)
5MHz	20775	2502.5	QPSK	1	0	22.41	22.0±1	/
				1	49	22.58	22.0±1	/
				1	99	22.29	22.0±1	/
				12	0	21.42	22.0±1	1.0
				12	24	21.48	22.0±1	1.0
				12	49	21.41	22.0±1	1.0
				25	0	21.41	22.0±1	1.0
			16QAM	1	0	21.45	21.0±1	1.0
				1	49	21.64	21.0±1	1.0
				1	99	21.38	21.0±1	1.0
				12	0	20.43	21.0±1	1.0
				12	24	20.46	21.0±1	1.0
				12	49	20.38	21.0±1	1.0
				25	0	20.34	21.0±1	1.0
	21100	2535	QPSK	1	0	22.42	22.0±1	/
				1	49	22.7	22.0±1	/
				1	99	22.49	22.0±1	/
				12	0	21.41	22.0±1	1.0
				12	24	21.45	22.0±1	1.0
				12	49	21.38	22.0±1	1.0
				25	0	21.41	22.0±1	1.0
			16QAM	1	0	21.48	21.0±1	1.0
				1	49	21.75	21.0±1	1.0
				1	99	21.5	21.0±1	1.0
				12	0	20.44	21.0±1	1.0
				12	24	20.47	21.0±1	1.0
				12	49	20.44	21.0±1	1.0
				25	0	20.39	21.0±1	1.0
	21425	2567.5	QPSK	1	0	23.16	23.0±1	/
				1	49	23.40	23.0±1	/
				1	99	23.15	23.0±1	/
				12	0	22.19	23.0±1	1.0
				12	24	22.28	23.0±1	1.0
				12	49	22.22	23.0±1	1.0
				25	0	22.21	23.0±1	1.0

			16QAM	1	0	22.6	22.0±1	1.0
				1	49	22.83	22.0±1	1.0
				1	99	22.56	22.0±1	1.0
				12	0	21.28	22.0±1	1.0
				12	24	21.34	22.0±1	1.0
				12	49	21.32	22.0±1	1.0
				25	0	21.24	22.0±1	1.0

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)	Tune up limited(dBm)	MPR (dB)
10MHz	20800	2505	QPSK	1	0	22.56	22.0±1	/
				1	49	22.54	22.0±1	/
				1	99	22.46	22.0±1	/
				25	0	21.36	22.0±1	1.0
				25	24	21.45	22.0±1	1.0
				25	49	21.43	22.0±1	1.0
				50	0	21.41	22.0±1	1.0
			16QAM	1	0	21.33	21.0±1	1.0
				1	49	21.38	21.0±1	1.0
				1	99	21.26	21.0±1	1.0
				25	0	20.38	21.0±1	1.0
				25	24	20.43	21.0±1	1.0
				25	49	20.41	21.0±1	1.0
				50	0	20.39	21.0±1	1.0
	21100	2535	QPSK	1	0	22.43	22.0±1	/
				1	49	22.54	22.0±1	/
				1	99	22.56	22.0±1	/
				25	0	21.38	22.0±1	1.0
				25	24	21.45	22.0±1	1.0
				25	49	21.48	22.0±1	1.0
				50	0	21.46	22.0±1	1.0
			16QAM	1	0	21.69	21.0±1	1.0
				1	49	21.92	21.0±1	1.0
				1	99	21.81	21.0±1	1.0
				25	0	20.41	21.0±1	1.0
				25	24	20.44	21.0±1	1.0
				25	49	20.51	21.0±1	1.0
				50	0	20.44	21.0±1	1.0
	21400	2565	QPSK	1	0	23.15	23.0±1	/
				1	49	23.31	23.0±1	/
				1	99	23.16	23.0±1	/

				25	0	22.22	23.0±1	1.0
				25	24	22.23	23.0±1	1.0
				25	49	22.28	23.0±1	1.0
				50	0	22.21	23.0±1	1.0
			16QAM	1	0	22.08	22.0±1	1.0
				1	49	22.31	22.0±1	1.0
				1	99	22.14	22.0±1	1.0
				25	0	21.26	22.0±1	1.0
				25	24	21.26	22.0±1	1.0
				25	49	21.29	22.0±1	1.0
				50	0	21.23	22.0±1	1.0

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)	Tune up limited(dBm)	MPR (dB)
15MHz	20825	2507.5	QPSK	1	0	22.42	22.0±1	/
				1	49	22.55	22.0±1	/
				1	99	22.3	22.0±1	/
				36	0	21.43	22.0±1	1.0
				36	24	21.49	22.0±1	1.0
				36	49	21.51	22.0±1	1.0
				75	0	21.46	22.0±1	1.0
			16QAM	1	0	21.26	21.0±1	1.0
				1	49	21.39	21.0±1	1.0
				1	99	21.12	21.0±1	1.0
				36	0	20.32	21.0±1	1.0
				36	24	20.44	21.0±1	1.0
				36	49	20.39	21.0±1	1.0
				75	0	20.39	21.0±1	1.0
	21100	2535	QPSK	1	0	22.37	22.0±1	/
				1	49	22.64	22.0±1	/
				1	99	22.54	22.0±1	/
				36	0	21.49	22.0±1	1.0
				36	24	21.56	22.0±1	1.0
				36	49	21.57	22.0±1	1.0
				75	0	21.54	22.0±1	1.0
			16QAM	1	0	21.63	21.0±1	1.0
				1	49	21.9	21.0±1	1.0
				1	99	21.8	21.0±1	1.0
				36	0	20.47	21.0±1	1.0
				36	24	20.54	21.0±1	1.0
				36	49	20.54	21.0±1	1.0

	21375	2562.5	QPSK	75	0	20.48	21.0±1	1.0
				1	0	22.98	23.0±1	/
				1	49	23.38	23.0±1	/
				1	99	23.13	23.0±1	/
				36	0	22.2	23.0±1	1.0
				36	24	22.29	23.0±1	1.0
				36	49	22.3	23.0±1	1.0
			16QAM	75	0	22.25	23.0±1	1.0
				1	0	22.27	22.0±1	1.0
				1	49	22.68	22.0±1	1.0
				1	99	22.36	22.0±1	1.0
				36	0	21.09	22.0±1	1.0
				36	24	21.17	22.0±1	1.0
				36	49	21.23	22.0±1	1.0
				75	0	21.17	22.0±1	1.0

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)	Tune up limited(dBm)	MPR (dB)
20MHz	20850	2510	QPSK	1	0	22.16	22.0±1	/
				1	49	22.48	22.0±1	/
				1	99	22.13	22.0±1	/
				50	0	21.28	22.0±1	1.0
				50	24	21.39	22.0±1	1.0
				50	49	21.42	22.0±1	1.0
				100	0	21.39	22.0±1	1.0
			16QAM	1	0	21.62	21.0±1	1.0
				1	49	21.92	21.0±1	1.0
				1	99	21.63	21.0±1	1.0
				50	0	20.27	21.0±1	1.0
				50	24	20.38	21.0±1	1.0
				50	49	20.45	21.0±1	1.0
				100	0	20.41	21.0±1	1.0
	21100	2535	QPSK	1	0	22.15	22.0±1	/
				1	49	22.53	22.0±1	/
				1	99	22.43	22.0±1	/
				50	0	21.42	22.0±1	1.0
				50	24	21.52	22.0±1	1.0
				50	49	21.5	22.0±1	1.0
				100	0	21.5	22.0±1	1.0
			16QAM	1	0	21.57	21.0±1	1.0
				1	49	21.95	21.0±1	1.0

				1	99	21.81	21.0±1	1.0
				50	0	20.42	21.0±1	1.0
				50	24	20.44	21.0±1	1.0
				50	49	20.51	21.0±1	1.0
				100	0	20.48	21.0±1	1.0
	21350	2560	QPSK	1	0	22.64	22.5±1	/
				1	49	23.43	22.5±1	/
				1	99	22.94	22.5±1	/
				50	0	21.99	22.5±1	1.0
				50	24	22.09	22.5±1	1.0
				50	49	22.11	22.5±1	1.0
				100	0	22.07	22.5±1	1.0
			16QAM	1	0	21.98	22.0±1	1.0
				1	49	22.63	22.0±1	1.0
				1	99	22.22	22.0±1	1.0
				50	0	20.96	22.0±1	1.0
				50	24	21.02	22.0±1	1.0
				50	49	21.06	22.0±1	1.0
				100	0	21.04	22.0±1	1.0

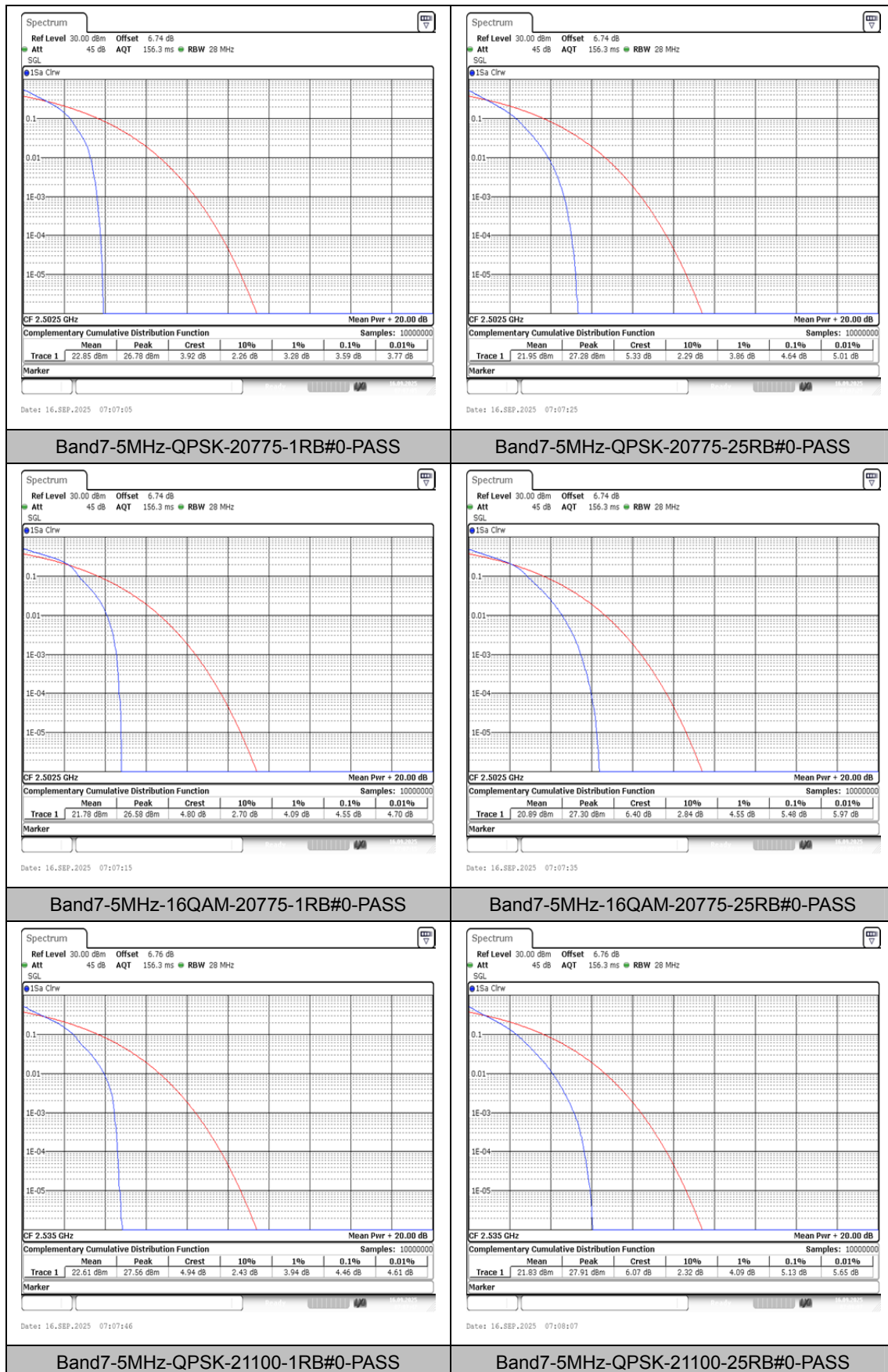
Appendix B: Peak-to-Average Ratio(CCDF)

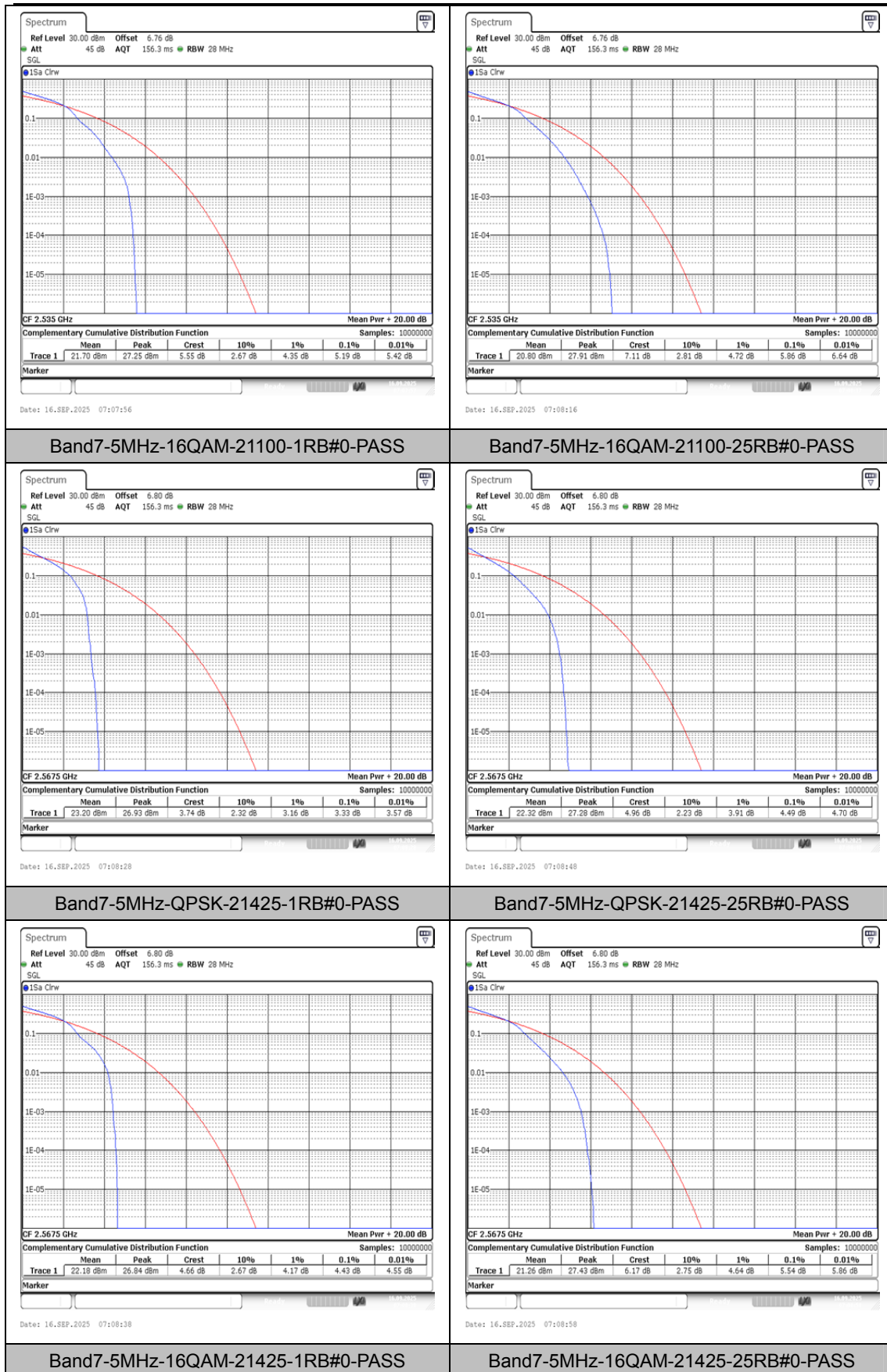
Test Result

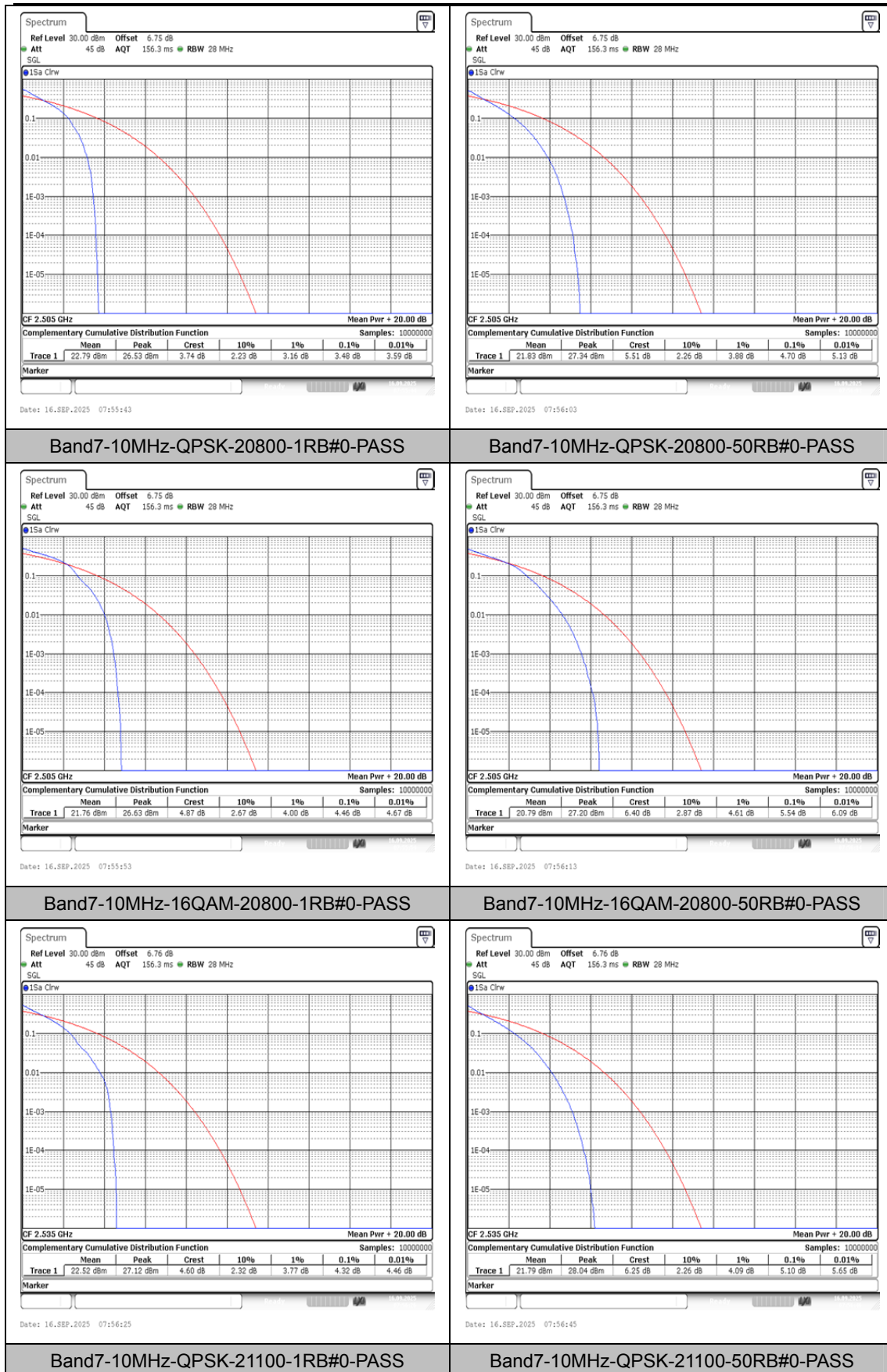
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	3.59	13	PASS
Band7	5MHz	QPSK	20775	25RB#0	4.64	13	PASS
Band7	5MHz	16QAM	20775	1RB#0	4.55	13	PASS
Band7	5MHz	16QAM	20775	25RB#0	5.48	13	PASS
Band7	5MHz	QPSK	21100	1RB#0	4.46	13	PASS
Band7	5MHz	QPSK	21100	25RB#0	5.13	13	PASS
Band7	5MHz	16QAM	21100	1RB#0	5.19	13	PASS
Band7	5MHz	16QAM	21100	25RB#0	5.86	13	PASS
Band7	5MHz	QPSK	21425	1RB#0	3.33	13	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.49	13	PASS
Band7	5MHz	16QAM	21425	1RB#0	4.43	13	PASS
Band7	5MHz	16QAM	21425	25RB#0	5.54	13	PASS
Band7	10MHz	QPSK	20800	1RB#0	3.48	13	PASS
Band7	10MHz	QPSK	20800	50RB#0	4.70	13	PASS
Band7	10MHz	16QAM	20800	1RB#0	4.46	13	PASS
Band7	10MHz	16QAM	20800	50RB#0	5.54	13	PASS
Band7	10MHz	QPSK	21100	1RB#0	4.32	13	PASS
Band7	10MHz	QPSK	21100	50RB#0	5.10	13	PASS
Band7	10MHz	16QAM	21100	1RB#0	5.30	13	PASS
Band7	10MHz	16QAM	21100	50RB#0	5.88	13	PASS
Band7	10MHz	QPSK	21400	1RB#0	3.59	13	PASS
Band7	10MHz	QPSK	21400	50RB#0	4.78	13	PASS
Band7	10MHz	16QAM	21400	1RB#0	4.70	13	PASS
Band7	10MHz	16QAM	21400	50RB#0	5.71	13	PASS
Band7	15MHz	QPSK	20825	1RB#0	3.48	13	PASS
Band7	15MHz	QPSK	20825	75RB#0	4.96	13	PASS
Band7	15MHz	16QAM	20825	1RB#0	4.52	13	PASS
Band7	15MHz	16QAM	20825	75RB#0	5.62	13	PASS
Band7	15MHz	QPSK	21100	1RB#0	4.38	13	PASS
Band7	15MHz	QPSK	21100	75RB#0	5.36	13	PASS
Band7	15MHz	16QAM	21100	1RB#0	5.33	13	PASS
Band7	15MHz	16QAM	21100	75RB#0	5.94	13	PASS
Band7	15MHz	QPSK	21375	1RB#0	3.57	13	PASS
Band7	15MHz	QPSK	21375	75RB#0	5.01	13	PASS
Band7	15MHz	16QAM	21375	1RB#0	4.67	13	PASS
Band7	15MHz	16QAM	21375	75RB#0	5.83	13	PASS

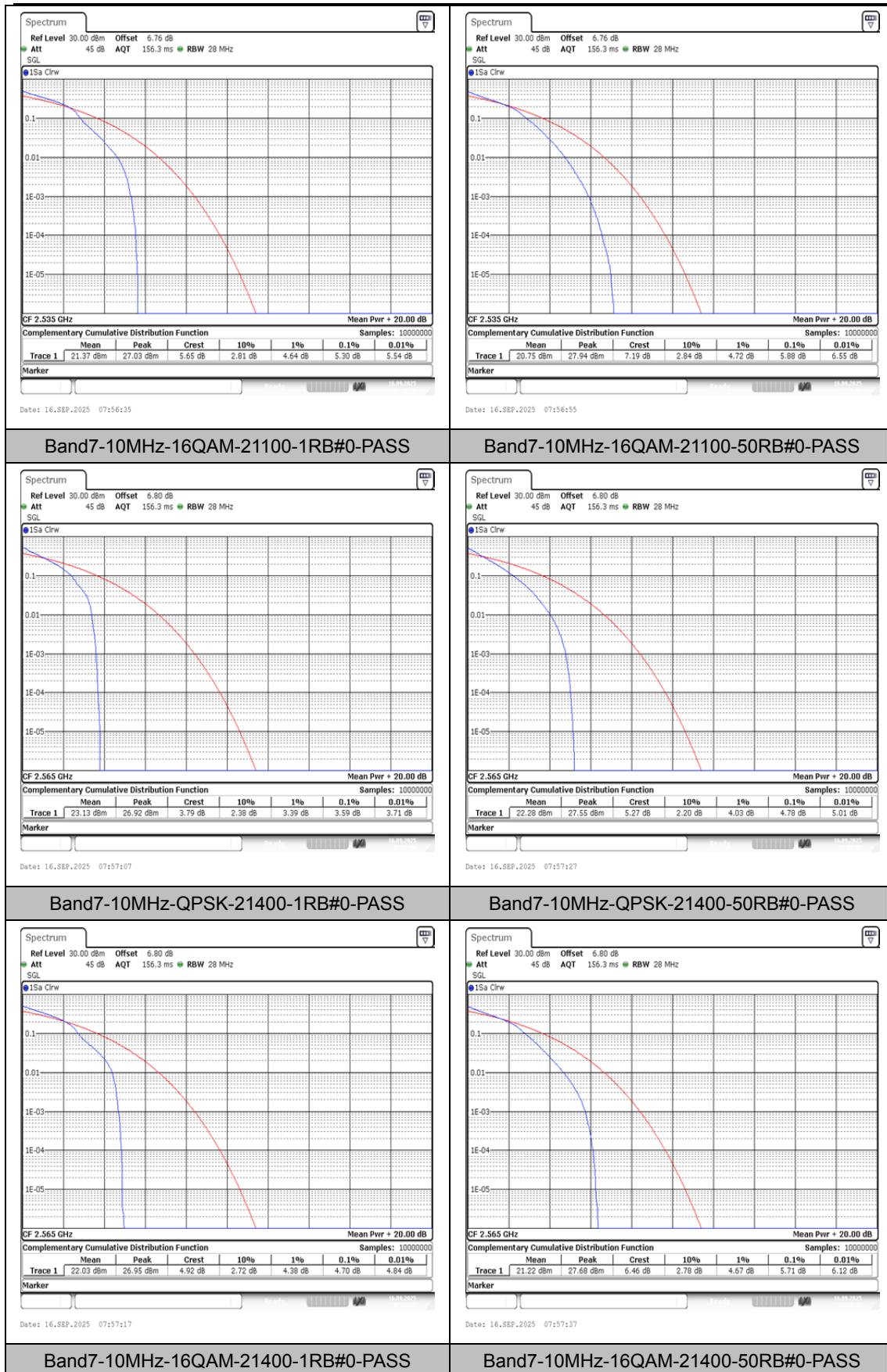
Band7	20MHz	QPSK	20850	1RB#0	3.57	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	4.84	13	PASS
Band7	20MHz	16QAM	20850	1RB#0	4.49	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	5.68	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	4.49	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.13	13	PASS
Band7	20MHz	16QAM	21100	1RB#0	5.51	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	5.88	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	3.71	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	4.93	13	PASS
Band7	20MHz	16QAM	21350	1RB#0	4.84	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	5.80	13	PASS

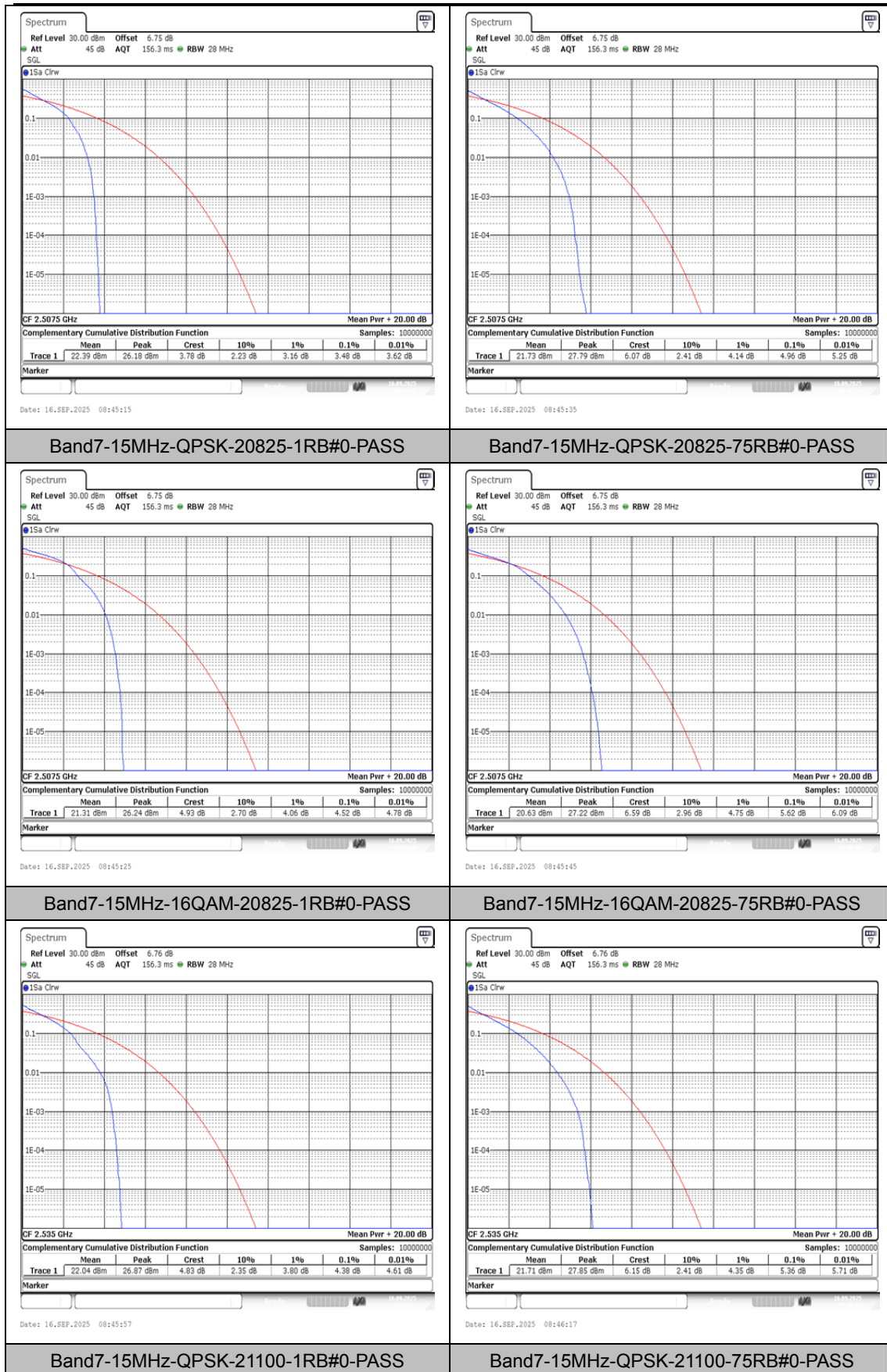
Test Graphs

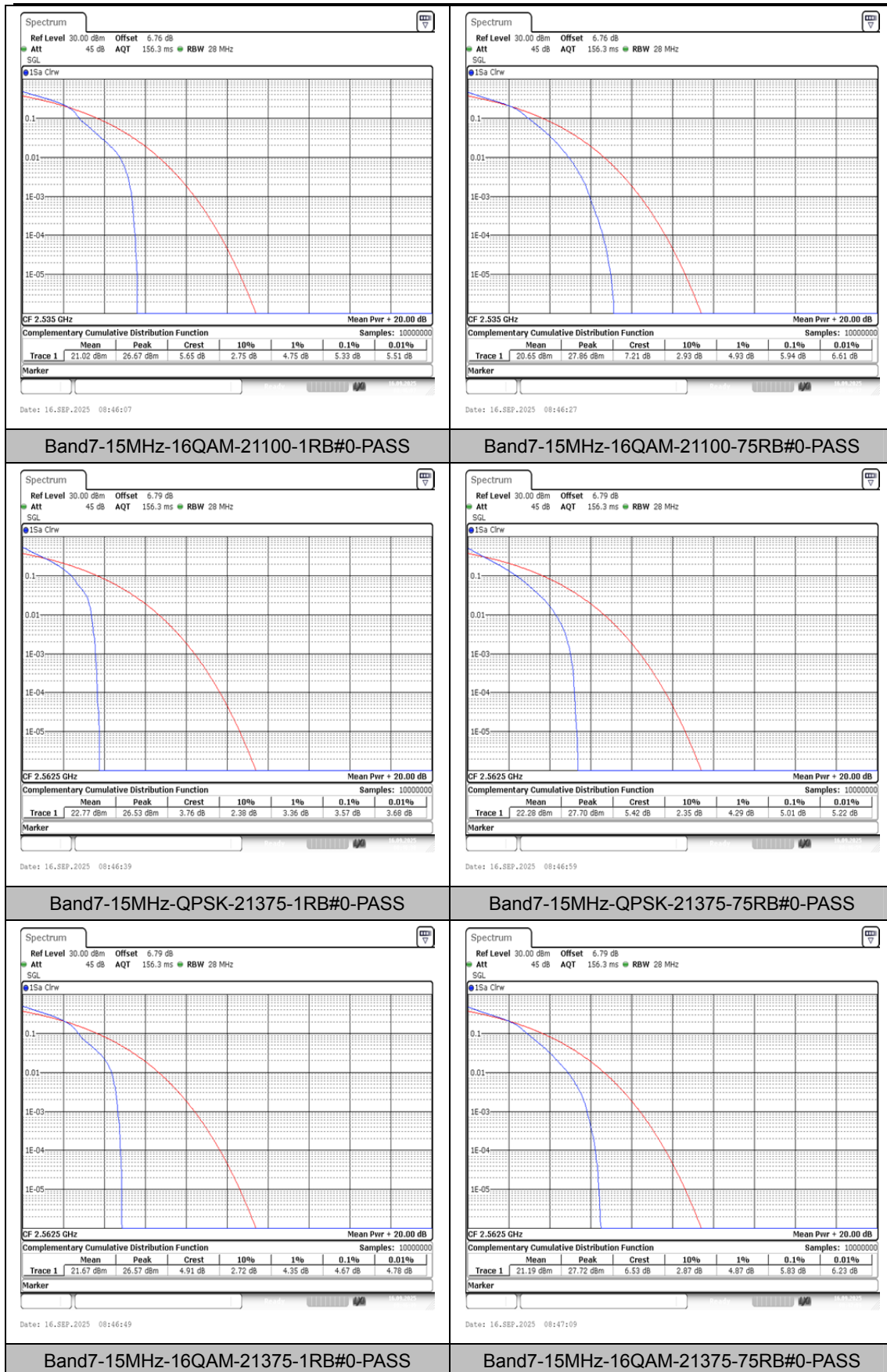


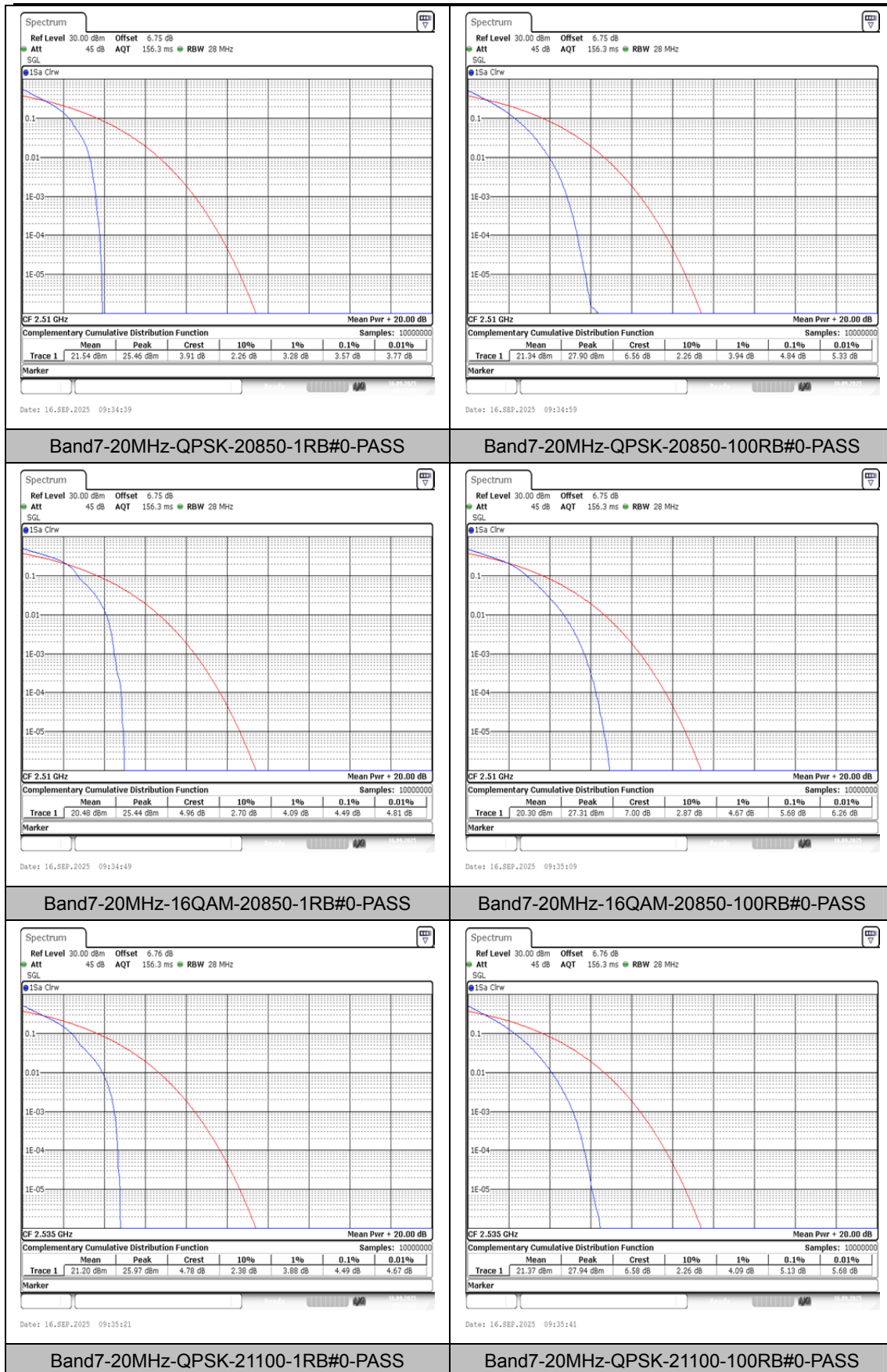


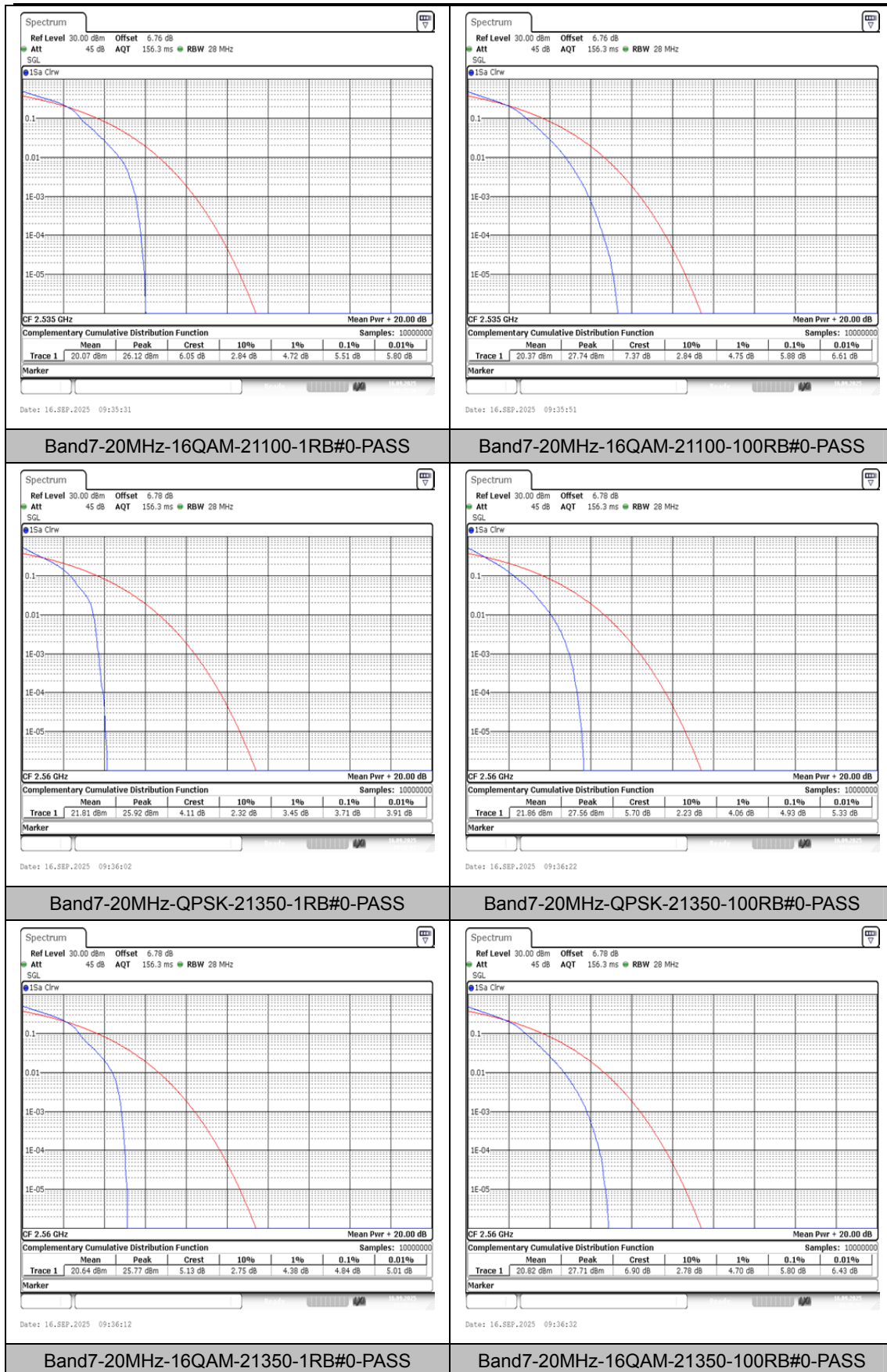












Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.505	4.99	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.496	5.13	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.496	4.94	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.496	5.21	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.505	4.96	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.505	5.18	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.985	9.90	PASS
Band7	10MHz	16QAM	20800	50RB#0	9.018	10.27	PASS
Band7	10MHz	QPSK	21100	50RB#0	9.018	9.83	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.985	9.83	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.985	10.93	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.985	9.83	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.527	15.05	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.478	14.70	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.478	14.80	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.478	14.65	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.478	15.15	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.478	14.80	PASS
Band7	20MHz	QPSK	20850	100RB#0	18.037	22.40	PASS
Band7	20MHz	16QAM	20850	100RB#0	18.037	19.67	PASS
Band7	20MHz	QPSK	21100	100RB#0	18.103	19.87	PASS
Band7	20MHz	16QAM	21100	100RB#0	18.037	20.80	PASS
Band7	20MHz	QPSK	21350	100RB#0	18.037	19.73	PASS
Band7	20MHz	16QAM	21350	100RB#0	18.037	19.80	PASS

Test Graphs

