

Appendix for LTE Band 7

Product Name: Smart Phone

Model No: Black S

Appendix A: Average 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	22.55	22.5±1	/
				1	49	22.55	22.5±1	/
				1	99	22.62	22.5±1	/
				12	0	21.54	22.5±1	1.0
				12	24	21.57	22.5±1	1.0
				12	49	21.5	22.5±1	1.0
				25	0	21.58	22.5±1	1.0
			16QAM	1	0	21.04	21.0±1	1.0
				1	49	21.08	21.0±1	1.0
				1	99	21.13	21.0±1	1.0
				12	0	20.6	21.0±1	1.0
				12	24	20.65	21.0±1	1.0
				12	49	20.68	21.0±1	1.0
				25	0	20.81	21.0±1	1.0
	21100	2535	QPSK	1	0	22.49	22.5±1	/
				1	49	22.48	22.5±1	/
				1	99	22.51	22.5±1	/
				12	0	21.58	22.5±1	1.0
				12	24	21.52	22.5±1	1.0
				12	49	21.65	22.5±1	1.0
				25	0	21.67	22.5±1	1.0
			16QAM	1	0	21.05	21.0±1	1.0
				1	49	20.99	21.0±1	1.0
				1	99	21.21	21.0±1	1.0
				12	0	20.65	21.0±1	1.0
				12	24	20.61	21.0±1	1.0
				12	49	20.62	21.0±1	1.0
				25	0	20.79	21.0±1	1.0
	21425	2567.5	QPSK	1	0	22.72	22.5±1	/
				1	49	22.8	22.5±1	/
				1	99	22.7	22.5±1	/
				12	0	21.81	22.5±1	1.0
				12	24	21.7	22.5±1	1.0
				12	49	21.68	22.5±1	1.0
				25	0	21.67	22.5±1	1.0

			16QAM	1	0	20.91	21.0±1	1.0
				1	49	20.91	21.0±1	1.0
				1	99	20.88	21.0±1	1.0
				12	0	20.67	21.0±1	1.0
				12	24	20.62	21.0±1	1.0
				12	49	20.61	21.0±1	1.0
				25	0	20.92	21.0±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	22.55	22.5±1	/
				1	49	22.61	22.5±1	/
				1	99	22.57	22.5±1	/
				25	0	21.51	22.5±1	1.0
				25	24	21.59	22.5±1	1.0
				25	49	21.58	22.5±1	1.0
				50	0	21.5	22.5±1	1.0
			16QAM	1	0	21.78	21.5±1	1.0
				1	49	21.82	21.5±1	1.0
				1	99	21.89	21.5±1	1.0
				25	0	20.6	21.5±1	1.0
				25	24	20.65	21.5±1	1.0
				25	49	20.67	21.5±1	1.0
				50	0	20.73	21.5±1	1.0
	21100	2535	QPSK	1	0	22.65	22.5±1	/
				1	49	22.74	22.5±1	/
				1	99	22.67	22.5±1	/
				25	0	21.52	22.5±1	1.0
				25	24	21.59	22.5±1	1.0
				25	49	21.54	22.5±1	1.0
				50	0	21.46	22.5±1	1.0
			16QAM	1	0	21.36	21.5±1	1.0
				1	49	21.23	21.5±1	1.0
				1	99	21.29	21.5±1	1.0
				25	0	20.71	21.5±1	1.0
				25	24	20.72	21.5±1	1.0
				25	49	20.75	21.5±1	1.0
				50	0	20.69	21.5±1	1.0
	21400	2565	QPSK	1	0	22.96	23.0±1	/
				1	49	22.93	23.0±1	/
				1	99	22.86	23.0±1	/

				25	0	21.62	22.0±1	1.0
				25	24	21.68	22.0±1	1.0
				25	49	21.67	22.0±1	1.0
				50	0	21.55	22.0±1	1.0
			16QAM	1	0	21.48	21.5±1	1.0
				1	49	21.45	21.5±1	1.0
				1	99	21.37	21.5±1	1.0
				25	0	20.87	21.5±1	1.0
				25	24	20.8	21.5±1	1.0
				25	49	20.81	21.5±1	1.0
				50	0	20.73	21.5±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	22.32	22.5±1	/
				1	49	22.3	22.5±1	/
				1	99	22.54	22.5±1	/
				36	0	21.4	21.0±1	1.0
				36	24	21.47	21.0±1	1.0
				36	49	21.46	21.0±1	1.0
				75	0	21.37	21.0±1	1.0
			16QAM	1	0	21.54	21.0±1	1.0
				1	49	21.72	21.0±1	1.0
				1	99	21.67	21.0±1	1.0
				36	0	20.62	21.0±1	1.0
				36	24	20.6	21.0±1	1.0
				36	49	20.72	21.0±1	1.0
				75	0	20.5	21.0±1	1.0
	21100	2535	QPSK	1	0	22.54	23.0±1	/
				1	49	22.98	23.0±1	/
				1	99	22.57	23.0±1	/
				36	0	21.52	21.5±1	1.0
				36	24	21.43	21.5±1	1.0
				36	49	21.49	21.5±1	1.0
				75	0	21.55	21.5±1	1.0
			16QAM	1	0	22.01	22.0±1	1.0
				1	49	21.94	22.0±1	1.0
				1	99	21.89	22.0±1	1.0
				36	0	20.77	21.0±1	1.0
				36	24	20.72	21.0±1	1.0
				36	49	20.77	21.0±1	1.0

	21375	2562.5	QPSK	75	0	20.63	21.0±1	1.0
				1	0	22.65	22.5±1	/
				1	49	22.33	22.5±1	/
				1	99	22.34	22.5±1	/
				36	0	21.63	22.0±1	1.0
				36	24	21.62	22.0±1	1.0
				36	49	21.53	22.0±1	1.0
				75	0	21.49	22.0±1	1.0
			16QAM	1	0	22.45	22.5±1	1.0
				1	49	22.55	22.5±1	1.0
				1	99	22.37	22.5±1	1.0
				36	0	20.78	21.0±1	1.0
				36	24	20.71	21.0±1	1.0
				36	49	20.69	21.0±1	1.0
				75	0	20.73	21.0±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	22.38	22.5±1	/
				1	49	22.46	22.5±1	/
				1	99	22.57	22.5±1	/
				50	0	21.5	21.5±1	1.0
				50	24	21.45	21.5±1	1.0
				50	49	21.62	21.5±1	1.0
				100	0	21.48	21.5±1	1.0
			16QAM	1	0	20.8	21.0±1	1.0
				1	49	20.94	21.0±1	1.0
				1	99	21.01	21.0±1	1.0
				50	0	20.65	21.0±1	1.0
				50	24	20.67	21.0±1	1.0
				50	49	20.67	21.0±1	1.0
				100	0	20.59	21.0±1	1.0
	21100	2535	QPSK	1	0	22.39	22.5±1	/
				1	49	22.41	22.5±1	/
				1	99	22.38	22.5±1	/
				50	0	21.44	21.5±1	1.0
				50	24	21.46	21.5±1	1.0
				50	49	21.58	21.5±1	1.0
				100	0	21.48	21.5±1	1.0
			16QAM	1	0	21.24	21.0±1	1.0
				1	49	21.34	21.0±1	1.0
				1	99	21.32	21.0±1	1.0
				50	0	20.58	21.0±1	1.0
				50	24	20.59	21.0±1	1.0
				50	49	20.66	21.0±1	1.0
				100	0	20.6	21.0±1	1.0
	21350	2560	QPSK	1	0	22.73	22.5±1	/
				1	49	22.7	22.5±1	/
				1	99	22.55	22.5±1	/
				50	0	21.72	21.5±1	1.0
				50	24	21.63	21.5±1	1.0
				50	49	21.5	21.5±1	1.0
				100	0	21.6	21.5±1	1.0
			16QAM	1	0	21.23	21.0±1	1.0
				1	49	21.18	21.0±1	1.0
				1	99	21.21	21.0±1	1.0
				50	0	20.74	21.0±1	1.0

				50	24	20.69	21.0±1	1.0
				50	49	20.59	21.0±1	1.0
				100	0	20.75	21.0±1	1.0

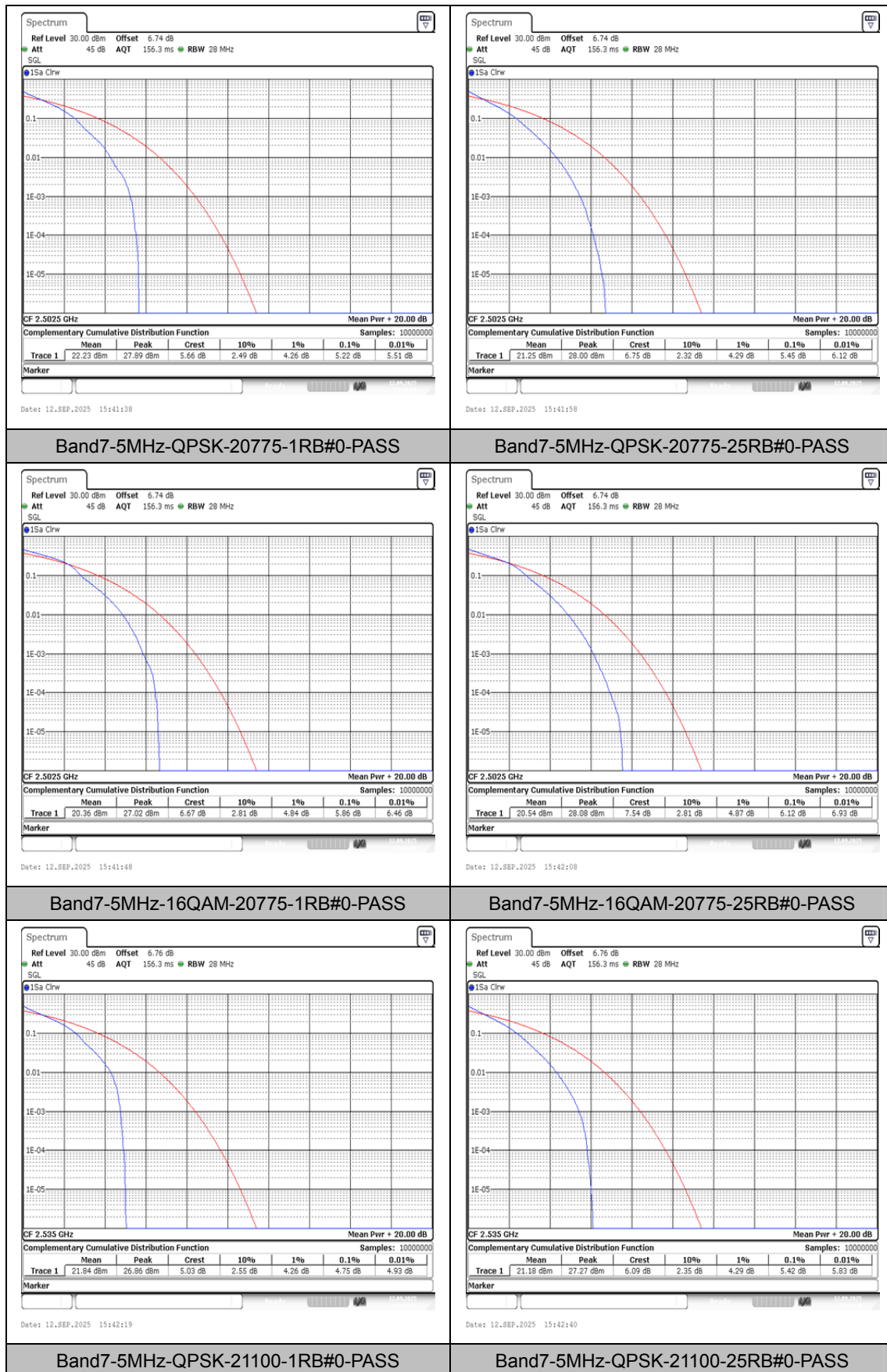
Appendix B: Peak-to-Average Ratio(CCDF)

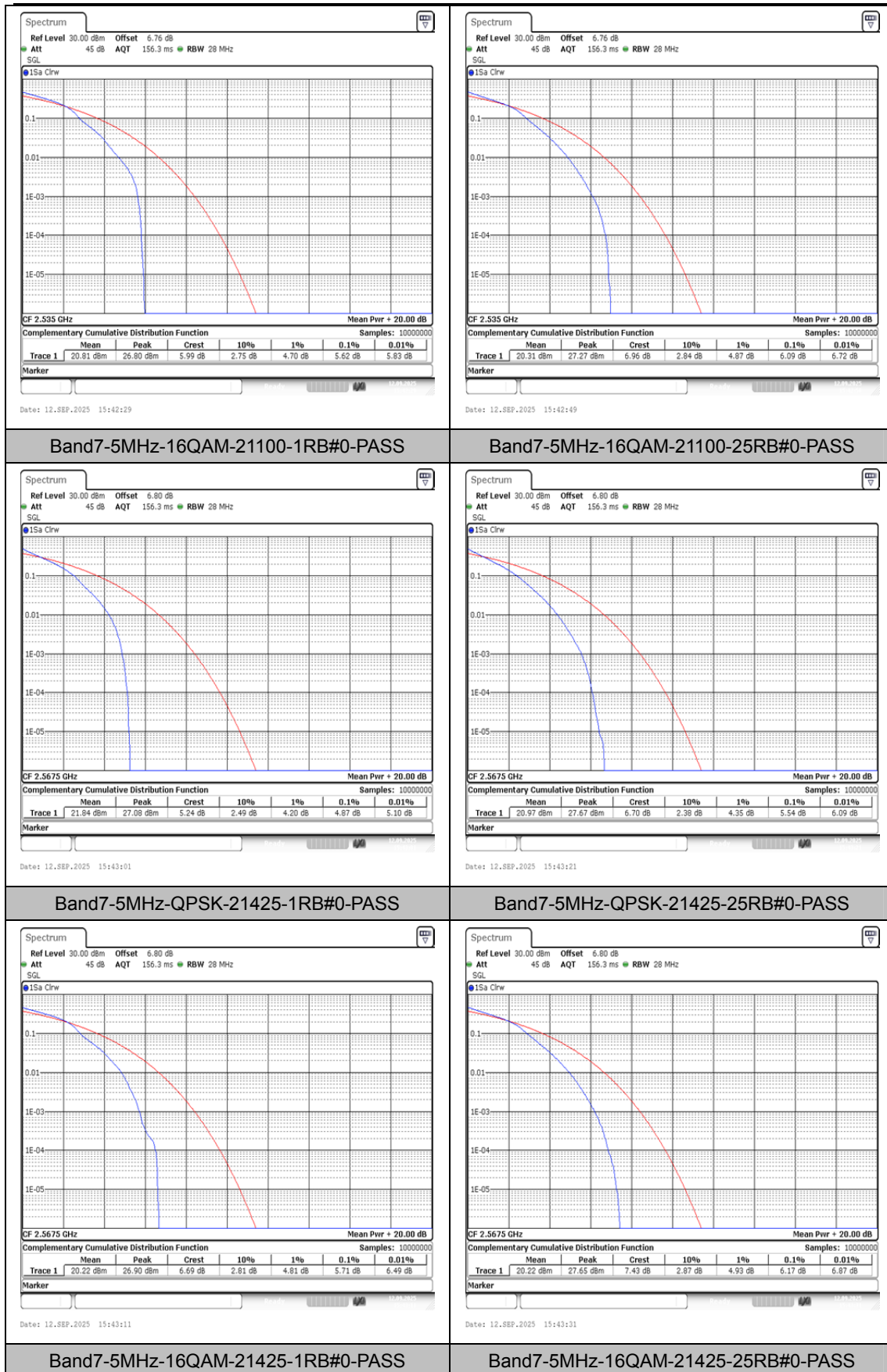
Test Result

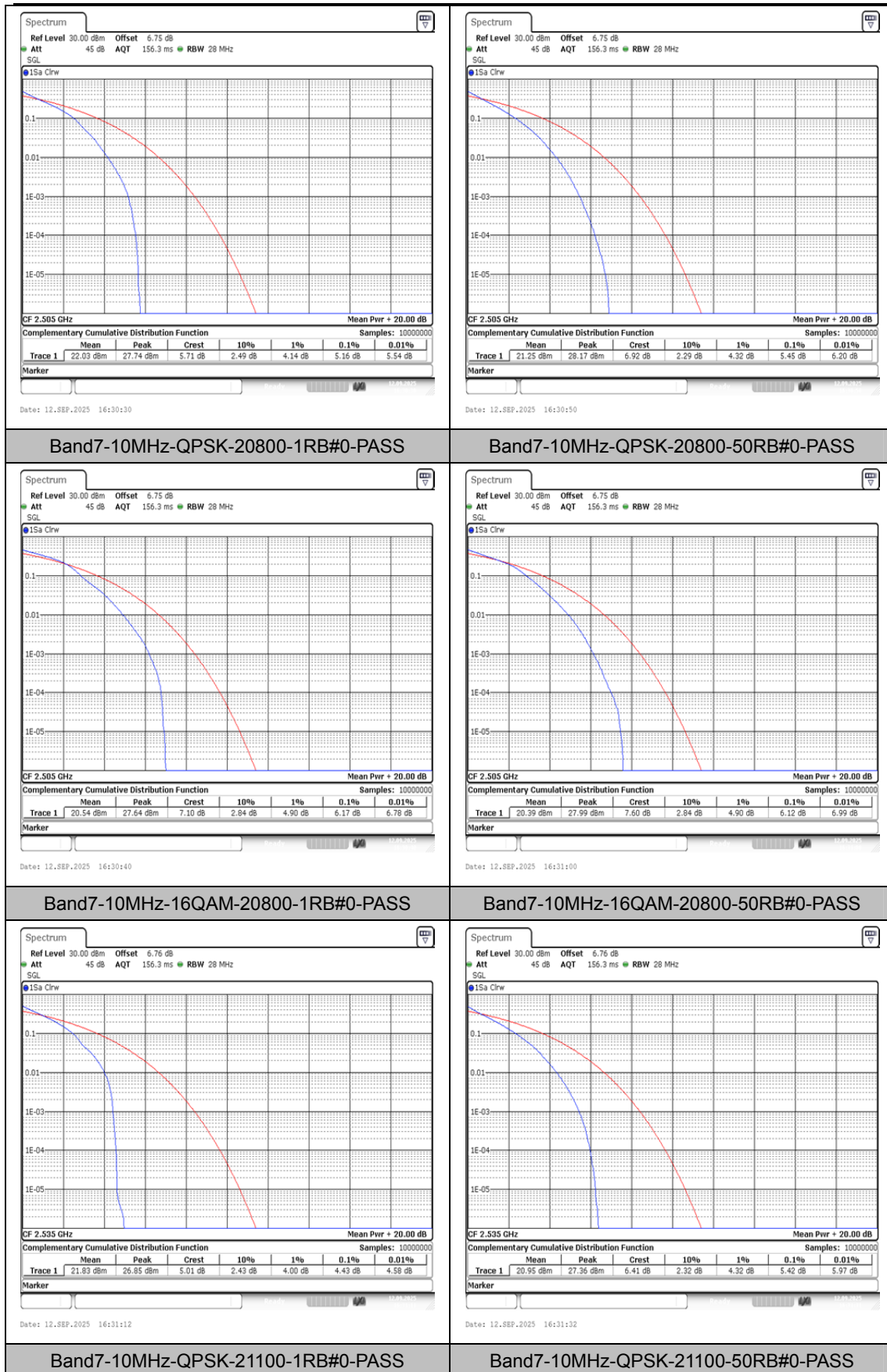
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	5.22	13	PASS
Band7	5MHz	QPSK	20775	25RB#0	5.45	13	PASS
Band7	5MHz	16QAM	20775	1RB#0	5.86	13	PASS
Band7	5MHz	16QAM	20775	25RB#0	6.12	13	PASS
Band7	5MHz	QPSK	21100	1RB#0	4.75	13	PASS
Band7	5MHz	QPSK	21100	25RB#0	5.42	13	PASS
Band7	5MHz	16QAM	21100	1RB#0	5.62	13	PASS
Band7	5MHz	16QAM	21100	25RB#0	6.09	13	PASS
Band7	5MHz	QPSK	21425	1RB#0	4.87	13	PASS
Band7	5MHz	QPSK	21425	25RB#0	5.54	13	PASS
Band7	5MHz	16QAM	21425	1RB#0	5.71	13	PASS
Band7	5MHz	16QAM	21425	25RB#0	6.17	13	PASS
Band7	10MHz	QPSK	20800	1RB#0	5.16	13	PASS
Band7	10MHz	QPSK	20800	50RB#0	5.45	13	PASS
Band7	10MHz	16QAM	20800	1RB#0	6.17	13	PASS
Band7	10MHz	16QAM	20800	50RB#0	6.12	13	PASS
Band7	10MHz	QPSK	21100	1RB#0	4.43	13	PASS
Band7	10MHz	QPSK	21100	50RB#0	5.42	13	PASS
Band7	10MHz	16QAM	21100	1RB#0	5.62	13	PASS
Band7	10MHz	16QAM	21100	50RB#0	6.14	13	PASS
Band7	10MHz	QPSK	21400	1RB#0	4.99	13	PASS
Band7	10MHz	QPSK	21400	50RB#0	5.48	13	PASS
Band7	10MHz	16QAM	21400	1RB#0	5.86	13	PASS
Band7	10MHz	16QAM	21400	50RB#0	6.20	13	PASS
Band7	15MHz	QPSK	20825	1RB#0	5.16	13	PASS
Band7	15MHz	QPSK	20825	75RB#0	5.71	13	PASS
Band7	15MHz	16QAM	20825	1RB#0	6.17	13	PASS
Band7	15MHz	16QAM	20825	75RB#0	6.17	13	PASS
Band7	15MHz	QPSK	21100	1RB#0	4.61	13	PASS
Band7	15MHz	QPSK	21100	75RB#0	5.62	13	PASS
Band7	15MHz	16QAM	21100	1RB#0	5.74	13	PASS
Band7	15MHz	16QAM	21100	75RB#0	6.14	13	PASS
Band7	15MHz	QPSK	21375	1RB#0	5.10	13	PASS
Band7	15MHz	QPSK	21375	75RB#0	5.71	13	PASS
Band7	15MHz	16QAM	21375	1RB#0	6.00	13	PASS
Band7	15MHz	16QAM	21375	75RB#0	6.20	13	PASS

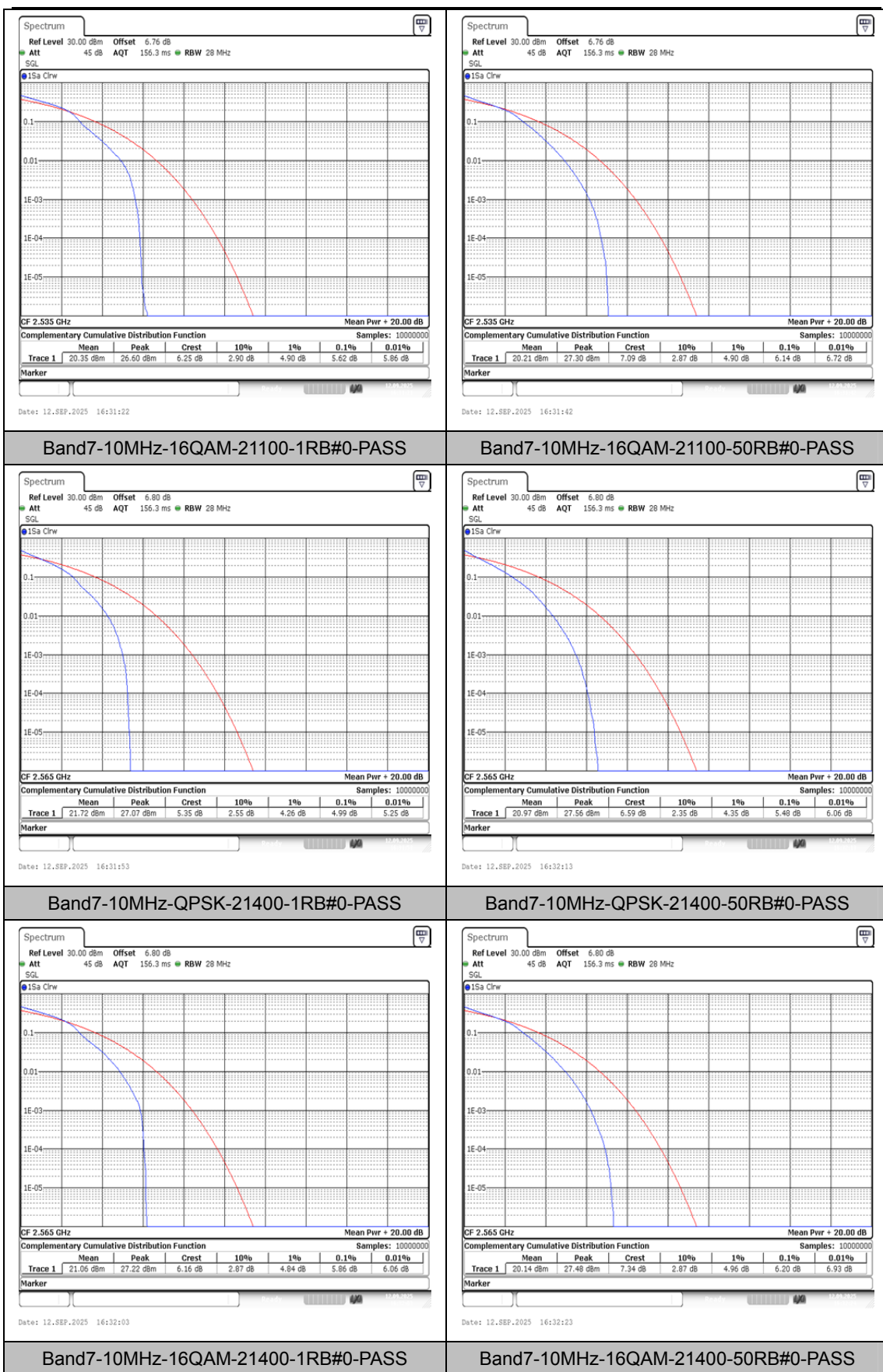
Band7	20MHz	QPSK	20850	1RB#0	4.93	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	5.36	13	PASS
Band7	20MHz	16QAM	20850	1RB#0	5.71	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	6.09	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	4.41	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.42	13	PASS
Band7	20MHz	16QAM	21100	1RB#0	5.33	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	6.09	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	5.16	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	5.42	13	PASS
Band7	20MHz	16QAM	21350	1RB#0	6.26	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	6.17	13	PASS

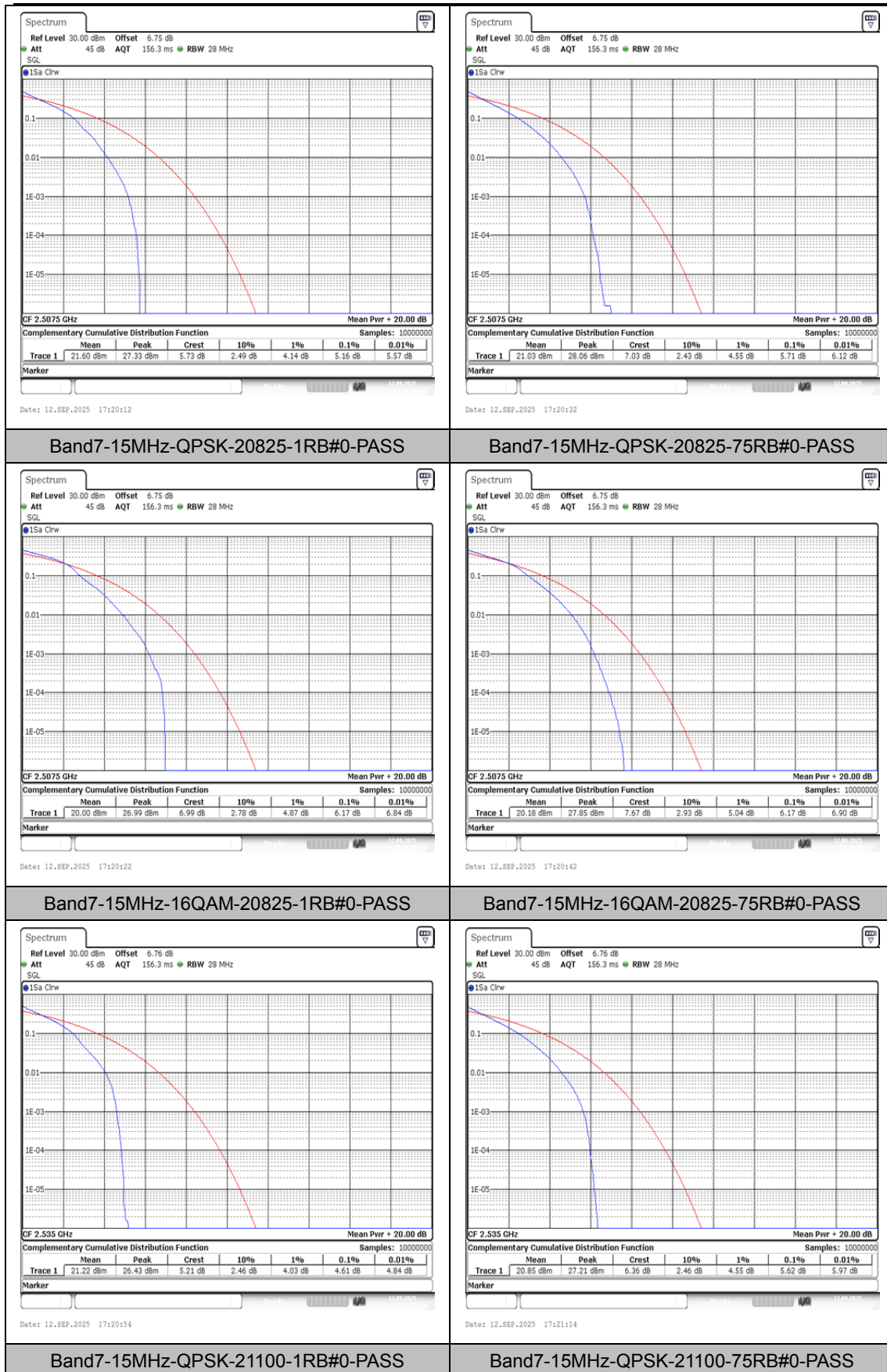
Test Graphs

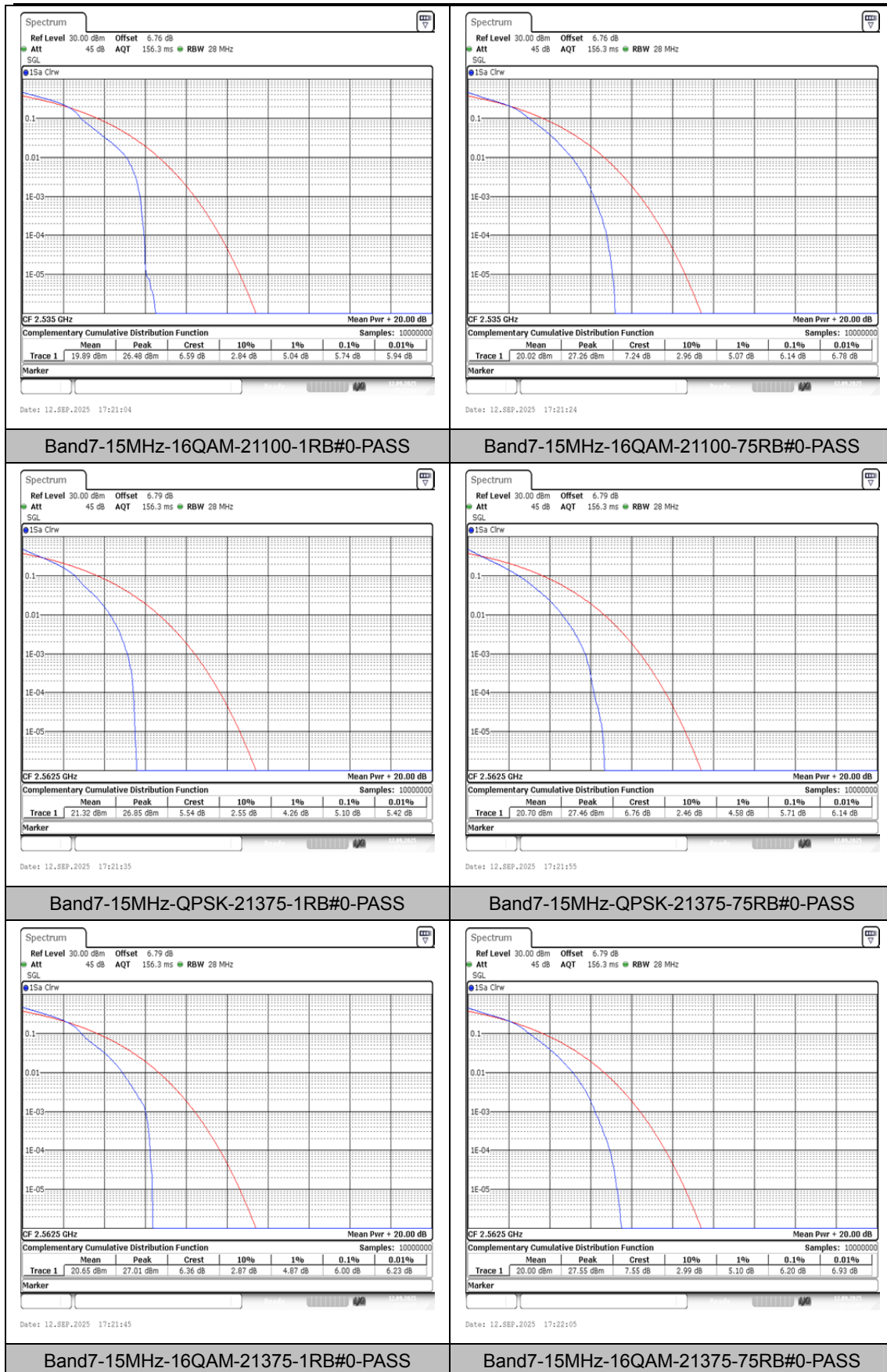


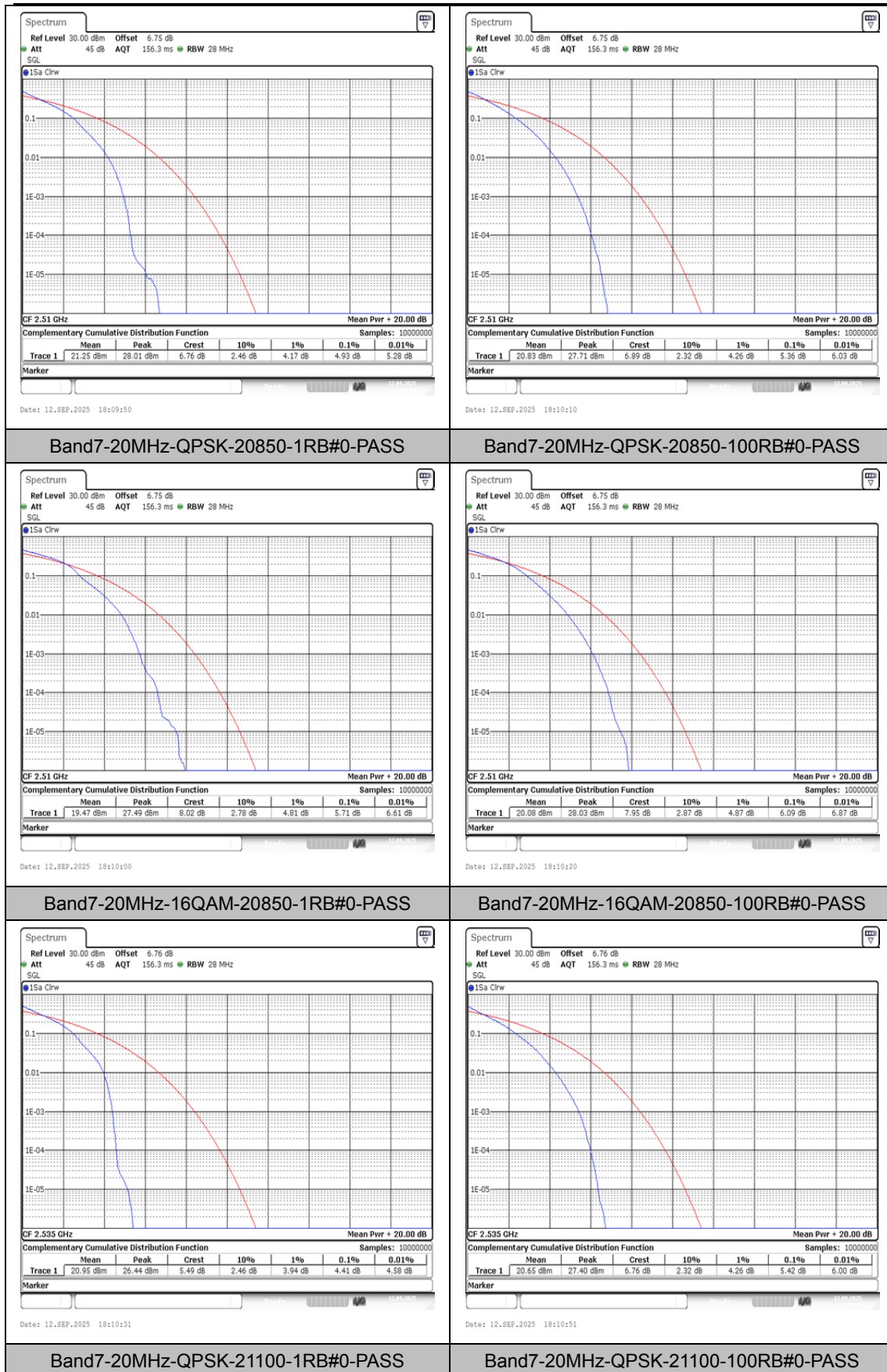


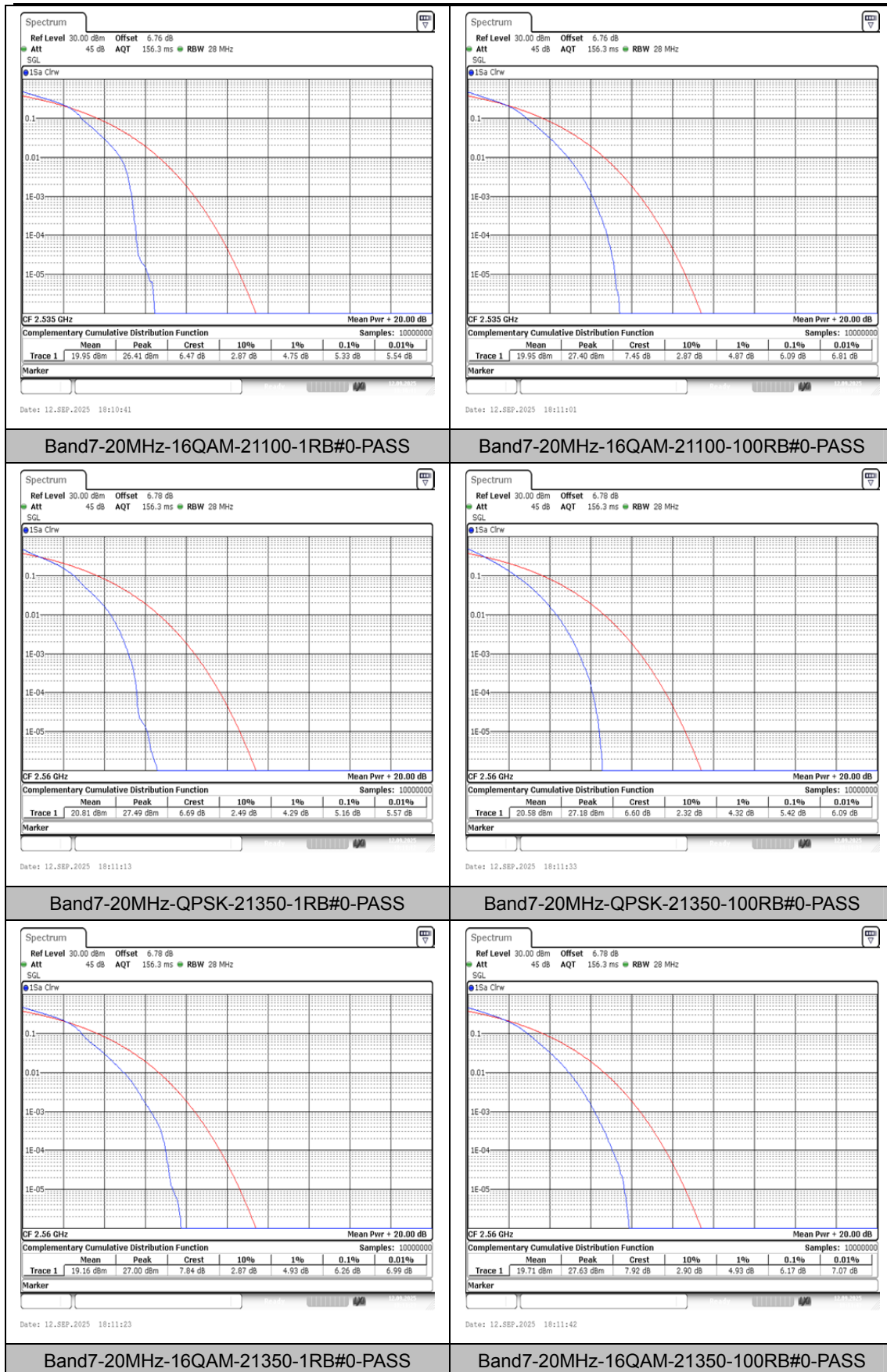












Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.505	5.00	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.505	4.99	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.505	5.00	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.505	5.02	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.515	5.04	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.525	5.01	PASS
Band7	10MHz	QPSK	20800	50RB#0	9.018	9.97	PASS
Band7	10MHz	16QAM	20800	50RB#0	9.018	10.00	PASS
Band7	10MHz	QPSK	21100	50RB#0	9.018	10.00	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.985	10.03	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.985	9.93	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.985	10.00	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.527	14.95	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.527	15.05	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.527	15.10	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.527	15.05	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.478	15.00	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.478	15.10	PASS
Band7	20MHz	QPSK	20850	100RB#0	18.037	20.07	PASS
Band7	20MHz	16QAM	20850	100RB#0	18.103	19.93	PASS
Band7	20MHz	QPSK	21100	100RB#0	18.17	20.07	PASS
Band7	20MHz	16QAM	21100	100RB#0	18.103	20.07	PASS
Band7	20MHz	QPSK	21350	100RB#0	18.103	19.93	PASS
Band7	20MHz	16QAM	21350	100RB#0	18.037	20.07	PASS

Test Graphs

