

Appendix-C LTE Band 4

Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band4	1.4MHz	QPSK	19957	1RB#0	23.34	23.9	30	PASS
Band4	1.4MHz	QPSK	19957	1RB#2	23.35	23.91	30	PASS
Band4	1.4MHz	QPSK	19957	1RB#5	23.37	23.93	30	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	22.38	22.94	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	22.43	22.99	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#2	22.58	23.14	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#5	22.36	22.92	30	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	21.38	21.94	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#0	23.4	23.96	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#2	23.46	24.02	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#5	23.52	24.08	30	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	22.45	23.01	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#0	22.54	23.1	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#2	22.93	23.49	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#5	22.99	23.55	30	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	21.24	21.8	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#0	23.38	23.94	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#2	23.32	23.88	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#5	23.36	23.92	30	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	22.37	22.93	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#0	22.4	22.96	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#2	22.63	23.19	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#5	22.45	23.01	30	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	21.45	22.01	30	PASS
Band4	3MHz	QPSK	19965	1RB#0	23.36	23.92	30	PASS
Band4	3MHz	QPSK	19965	1RB#8	23.34	23.9	30	PASS
Band4	3MHz	QPSK	19965	1RB#14	23.36	23.92	30	PASS
Band4	3MHz	QPSK	19965	15RB#0	22.29	22.85	30	PASS
Band4	3MHz	16QAM	19965	1RB#0	22.45	23.01	30	PASS
Band4	3MHz	16QAM	19965	1RB#8	22.33	22.89	30	PASS
Band4	3MHz	16QAM	19965	1RB#14	22.45	23.01	30	PASS
Band4	3MHz	16QAM	19965	15RB#0	21.59	22.15	30	PASS
Band4	3MHz	QPSK	20175	1RB#0	23.47	24.03	30	PASS
Band4	3MHz	QPSK	20175	1RB#8	23.61	24.17	30	PASS
Band4	3MHz	QPSK	20175	1RB#14	23.52	24.08	30	PASS
Band4	3MHz	QPSK	20175	15RB#0	22.47	23.03	30	PASS

Band4	3MHz	16QAM	20175	1RB#0	22.48	23.04	30	PASS
Band4	3MHz	16QAM	20175	1RB#8	22.47	23.03	30	PASS
Band4	3MHz	16QAM	20175	1RB#14	22.5	23.06	30	PASS
Band4	3MHz	16QAM	20175	15RB#0	21.62	22.18	30	PASS
Band4	3MHz	QPSK	20385	1RB#0	23.45	24.01	30	PASS
Band4	3MHz	QPSK	20385	1RB#8	23.42	23.98	30	PASS
Band4	3MHz	QPSK	20385	1RB#14	23.38	23.94	30	PASS
Band4	3MHz	QPSK	20385	15RB#0	22.48	23.04	30	PASS
Band4	3MHz	16QAM	20385	1RB#0	23.08	23.64	30	PASS
Band4	3MHz	16QAM	20385	1RB#8	22.6	23.16	30	PASS
Band4	3MHz	16QAM	20385	1RB#14	22.63	23.19	30	PASS
Band4	3MHz	16QAM	20385	15RB#0	21.67	22.23	30	PASS
Band4	5MHz	QPSK	19975	1RB#0	23.57	24.13	30	PASS
Band4	5MHz	QPSK	19975	1RB#12	23.44	24	30	PASS
Band4	5MHz	QPSK	19975	1RB#24	23.41	23.97	30	PASS
Band4	5MHz	QPSK	19975	25RB#0	22.46	23.02	30	PASS
Band4	5MHz	16QAM	19975	1RB#0	22.62	23.18	30	PASS
Band4	5MHz	16QAM	19975	1RB#12	22.46	23.02	30	PASS
Band4	5MHz	16QAM	19975	1RB#24	22.51	23.07	30	PASS
Band4	5MHz	16QAM	19975	25RB#0	21.77	22.33	30	PASS
Band4	5MHz	QPSK	20175	1RB#0	23.45	24.01	30	PASS
Band4	5MHz	QPSK	20175	1RB#12	23.56	24.12	30	PASS
Band4	5MHz	QPSK	20175	1RB#24	23.46	24.02	30	PASS
Band4	5MHz	QPSK	20175	25RB#0	22.48	23.04	30	PASS
Band4	5MHz	16QAM	20175	1RB#0	22.42	22.98	30	PASS
Band4	5MHz	16QAM	20175	1RB#12	22.37	22.93	30	PASS
Band4	5MHz	16QAM	20175	1RB#24	22.44	23	30	PASS
Band4	5MHz	16QAM	20175	25RB#0	21.77	22.33	30	PASS
Band4	5MHz	QPSK	20375	1RB#0	23.52	24.08	30	PASS
Band4	5MHz	QPSK	20375	1RB#12	23.42	23.98	30	PASS
Band4	5MHz	QPSK	20375	1RB#24	23.48	24.04	30	PASS
Band4	5MHz	QPSK	20375	25RB#0	22.4	22.96	30	PASS
Band4	5MHz	16QAM	20375	1RB#0	22.57	23.13	30	PASS
Band4	5MHz	16QAM	20375	1RB#12	22.48	23.04	30	PASS
Band4	5MHz	16QAM	20375	1RB#24	22.5	23.06	30	PASS
Band4	5MHz	16QAM	20375	25RB#0	21.89	22.45	30	PASS
Band4	10MHz	QPSK	20000	1RB#0	23.44	24	30	PASS
Band4	10MHz	QPSK	20000	1RB#24	23.5	24.06	30	PASS
Band4	10MHz	QPSK	20000	1RB#49	23.46	24.02	30	PASS
Band4	10MHz	QPSK	20000	50RB#0	22.5	23.06	30	PASS
Band4	10MHz	16QAM	20000	1RB#0	23.01	23.57	30	PASS
Band4	10MHz	16QAM	20000	1RB#24	22.98	23.54	30	PASS
Band4	10MHz	16QAM	20000	1RB#49	23.02	23.58	30	PASS
Band4	10MHz	16QAM	20000	50RB#0	21.53	22.09	30	PASS

Band4	10MHz	QPSK	20175	1RB#0	23.34	23.9	30	PASS
Band4	10MHz	QPSK	20175	1RB#24	23.47	24.03	30	PASS
Band4	10MHz	QPSK	20175	1RB#49	23.54	24.1	30	PASS
Band4	10MHz	QPSK	20175	50RB#0	22.4	22.96	30	PASS
Band4	10MHz	16QAM	20175	1RB#0	22.85	23.41	30	PASS
Band4	10MHz	16QAM	20175	1RB#24	23.02	23.58	30	PASS
Band4	10MHz	16QAM	20175	1RB#49	23.1	23.66	30	PASS
Band4	10MHz	16QAM	20175	50RB#0	21.49	22.05	30	PASS
Band4	10MHz	QPSK	20350	1RB#0	23.29	23.85	30	PASS
Band4	10MHz	QPSK	20350	1RB#24	23.26	23.82	30	PASS
Band4	10MHz	QPSK	20350	1RB#49	23.35	23.91	30	PASS
Band4	10MHz	QPSK	20350	50RB#0	22.37	22.93	30	PASS
Band4	10MHz	16QAM	20350	1RB#0	23.07	23.63	30	PASS
Band4	10MHz	16QAM	20350	1RB#24	23.12	23.68	30	PASS
Band4	10MHz	16QAM	20350	1RB#49	23.04	23.6	30	PASS
Band4	10MHz	16QAM	20350	50RB#0	21.71	22.27	30	PASS
Band4	15MHz	QPSK	20025	1RB#0	23.4	23.96	30	PASS
Band4	15MHz	QPSK	20025	1RB#38	23.4	23.96	30	PASS
Band4	15MHz	QPSK	20025	1RB#74	23.46	24.02	30	PASS
Band4	15MHz	QPSK	20025	75RB#0	22.48	23.04	30	PASS
Band4	15MHz	16QAM	20025	1RB#0	23.05	23.61	30	PASS
Band4	15MHz	16QAM	20025	1RB#38	22.43	22.99	30	PASS
Band4	15MHz	16QAM	20025	1RB#74	22.53	23.09	30	PASS
Band4	15MHz	16QAM	20025	75RB#0	21.54	22.1	30	PASS
Band4	15MHz	QPSK	20175	1RB#0	23.41	23.97	30	PASS
Band4	15MHz	QPSK	20175	1RB#38	23.42	23.98	30	PASS
Band4	15MHz	QPSK	20175	1RB#74	23.53	24.09	30	PASS
Band4	15MHz	QPSK	20175	75RB#0	22.5	23.06	30	PASS
Band4	15MHz	16QAM	20175	1RB#0	22.99	23.55	30	PASS
Band4	15MHz	16QAM	20175	1RB#38	23	23.56	30	PASS
Band4	15MHz	16QAM	20175	1RB#74	22.98	23.54	30	PASS
Band4	15MHz	16QAM	20175	75RB#0	21.6	22.16	30	PASS
Band4	15MHz	QPSK	20325	1RB#0	23.28	23.84	30	PASS
Band4	15MHz	QPSK	20325	1RB#38	23.32	23.88	30	PASS
Band4	15MHz	QPSK	20325	1RB#74	23.28	23.84	30	PASS
Band4	15MHz	QPSK	20325	75RB#0	22.48	23.04	30	PASS
Band4	15MHz	16QAM	20325	1RB#0	22.99	23.55	30	PASS
Band4	15MHz	16QAM	20325	1RB#38	23.03	23.59	30	PASS
Band4	15MHz	16QAM	20325	1RB#74	23.01	23.57	30	PASS
Band4	15MHz	16QAM	20325	75RB#0	21.63	22.19	30	PASS
Band4	20MHz	QPSK	20050	1RB#0	23.44	24	30	PASS
Band4	20MHz	QPSK	20050	1RB#49	23.4	23.96	30	PASS
Band4	20MHz	QPSK	20050	1RB#99	23.43	23.99	30	PASS
Band4	20MHz	QPSK	20050	100RB#0	22.48	23.04	30	PASS

Band4	20MHz	16QAM	20050	1RB#0	22.42	22.98	30	PASS
Band4	20MHz	16QAM	20050	1RB#49	22.35	22.91	30	PASS
Band4	20MHz	16QAM	20050	1RB#99	22.51	23.07	30	PASS
Band4	20MHz	16QAM	20050	100RB#0	21.54	22.1	30	PASS
Band4	20MHz	QPSK	20175	1RB#0	23.34	23.9	30	PASS
Band4	20MHz	QPSK	20175	1RB#49	23.52	24.08	30	PASS
Band4	20MHz	QPSK	20175	1RB#99	23.46	24.02	30	PASS
Band4	20MHz	QPSK	20175	100RB#0	22.45	23.01	30	PASS
Band4	20MHz	16QAM	20175	1RB#0	22.31	22.87	30	PASS
Band4	20MHz	16QAM	20175	1RB#49	22.43	22.99	30	PASS
Band4	20MHz	16QAM	20175	1RB#99	22.35	22.91	30	PASS
Band4	20MHz	16QAM	20175	100RB#0	21.64	22.2	30	PASS
Band4	20MHz	QPSK	20300	1RB#0	23.27	23.83	30	PASS
Band4	20MHz	QPSK	20300	1RB#49	23.32	23.88	30	PASS
Band4	20MHz	QPSK	20300	1RB#99	23.34	23.9	30	PASS
Band4	20MHz	QPSK	20300	100RB#0	22.39	22.95	30	PASS
Band4	20MHz	16QAM	20300	1RB#0	22.44	23	30	PASS
Band4	20MHz	16QAM	20300	1RB#49	22.52	23.08	30	PASS
Band4	20MHz	16QAM	20300	1RB#99	22.66	23.22	30	PASS
Band4	20MHz	16QAM	20300	100RB#0	21.62	22.18	30	PASS

Peak-to-Average Ratio(CCDF)**Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
Band4	20MHz	QPSK	20050	100RB#0	5.72	13	PASS
Band4	20MHz	16QAM	20050	100RB#0	6.44	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.63	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	6.34	13	PASS
Band4	20MHz	QPSK	20300	100RB#0	5.69	13	PASS
Band4	20MHz	16QAM	20300	100RB#0	6.41	13	PASS

Test Graphs

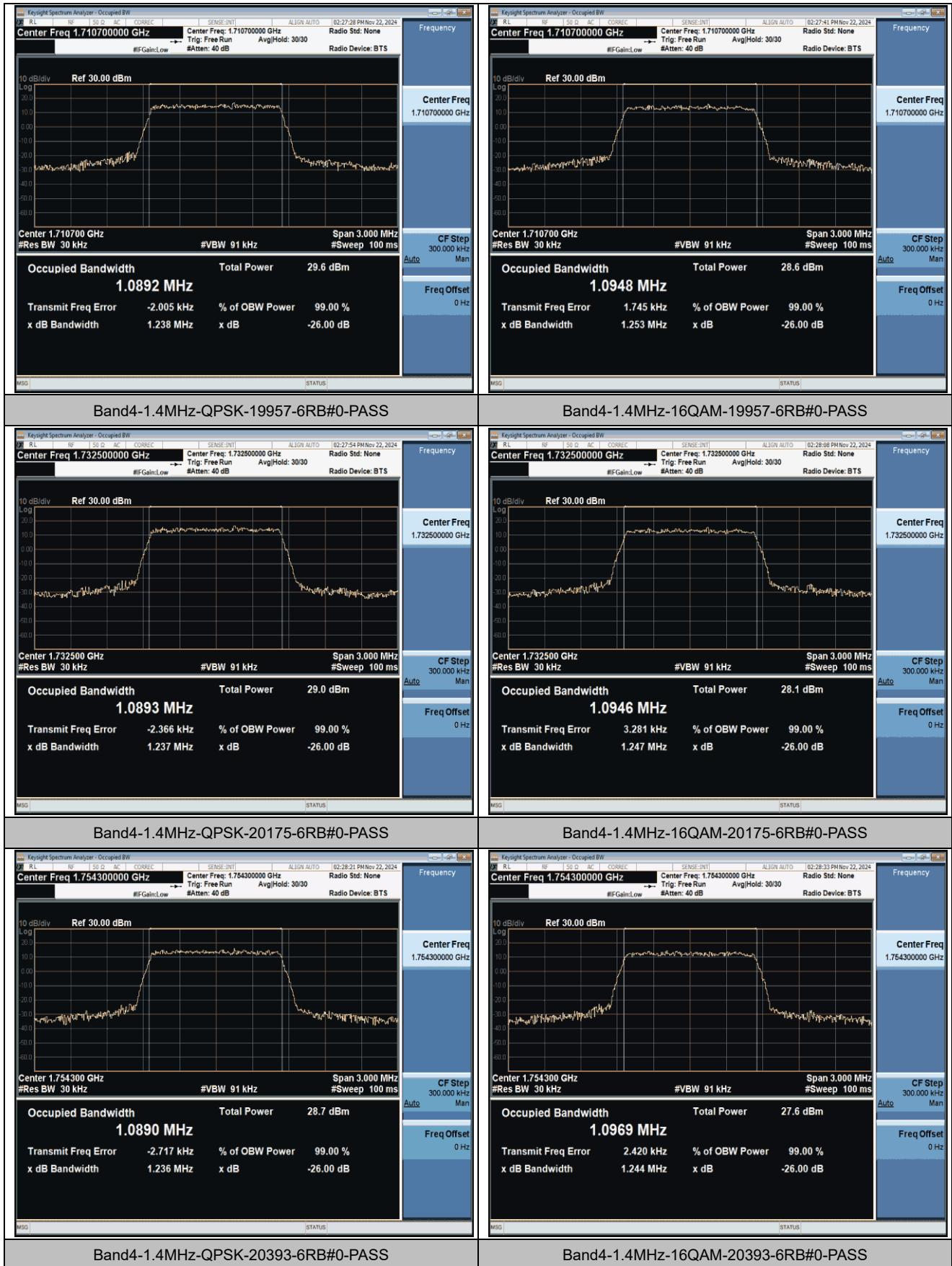


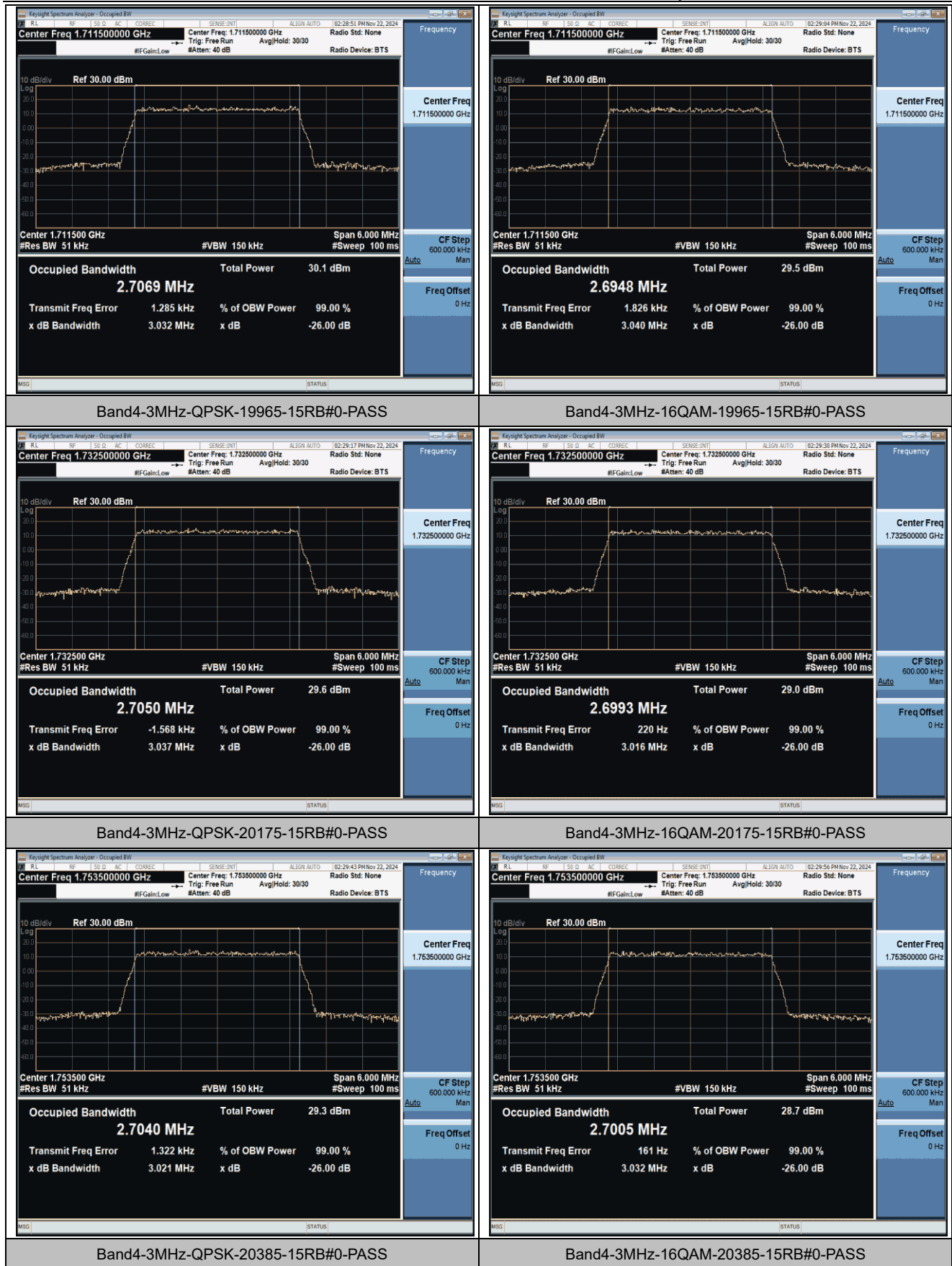
26dB Bandwidth and Occupied Bandwidth

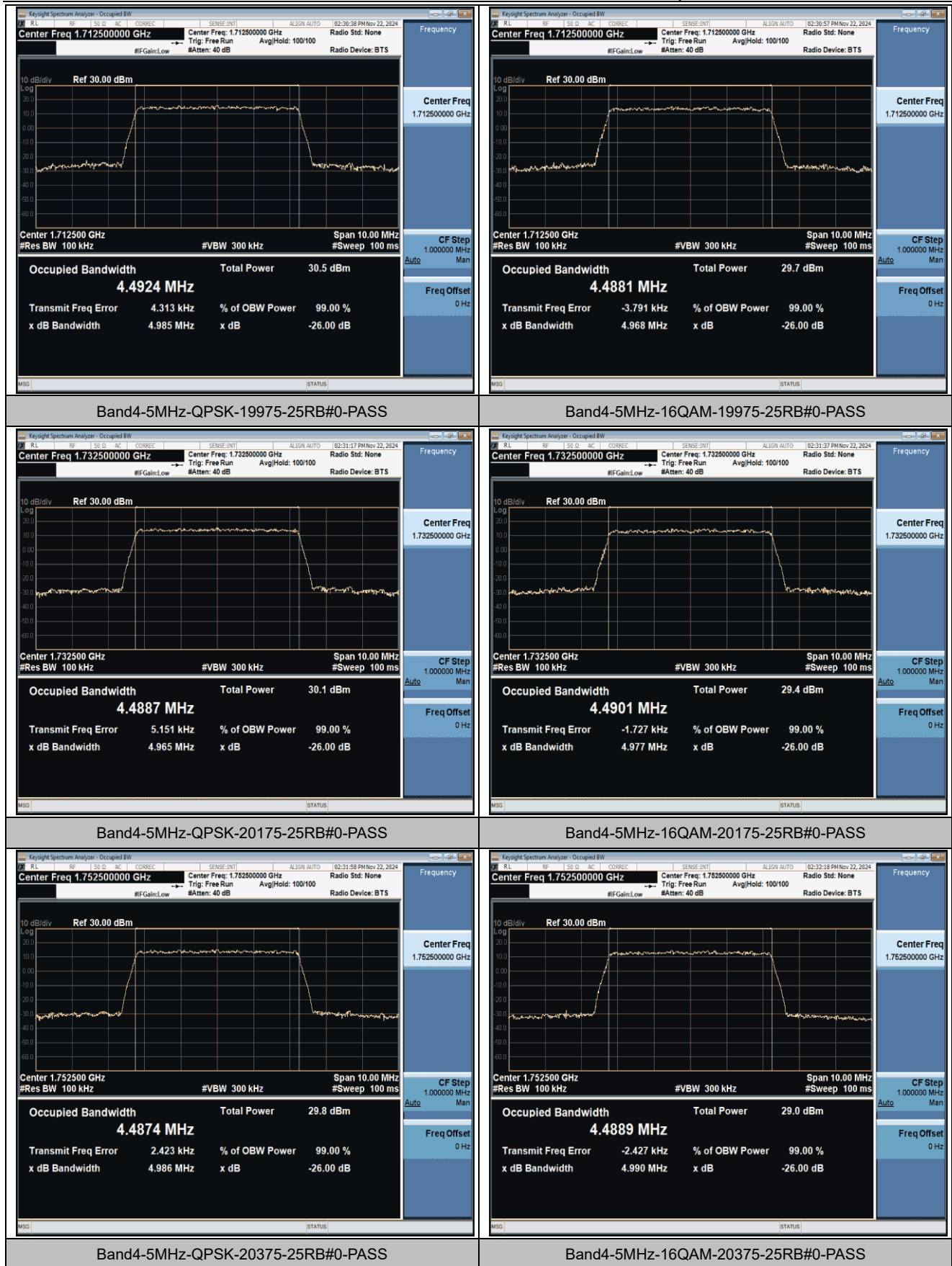
Test Result

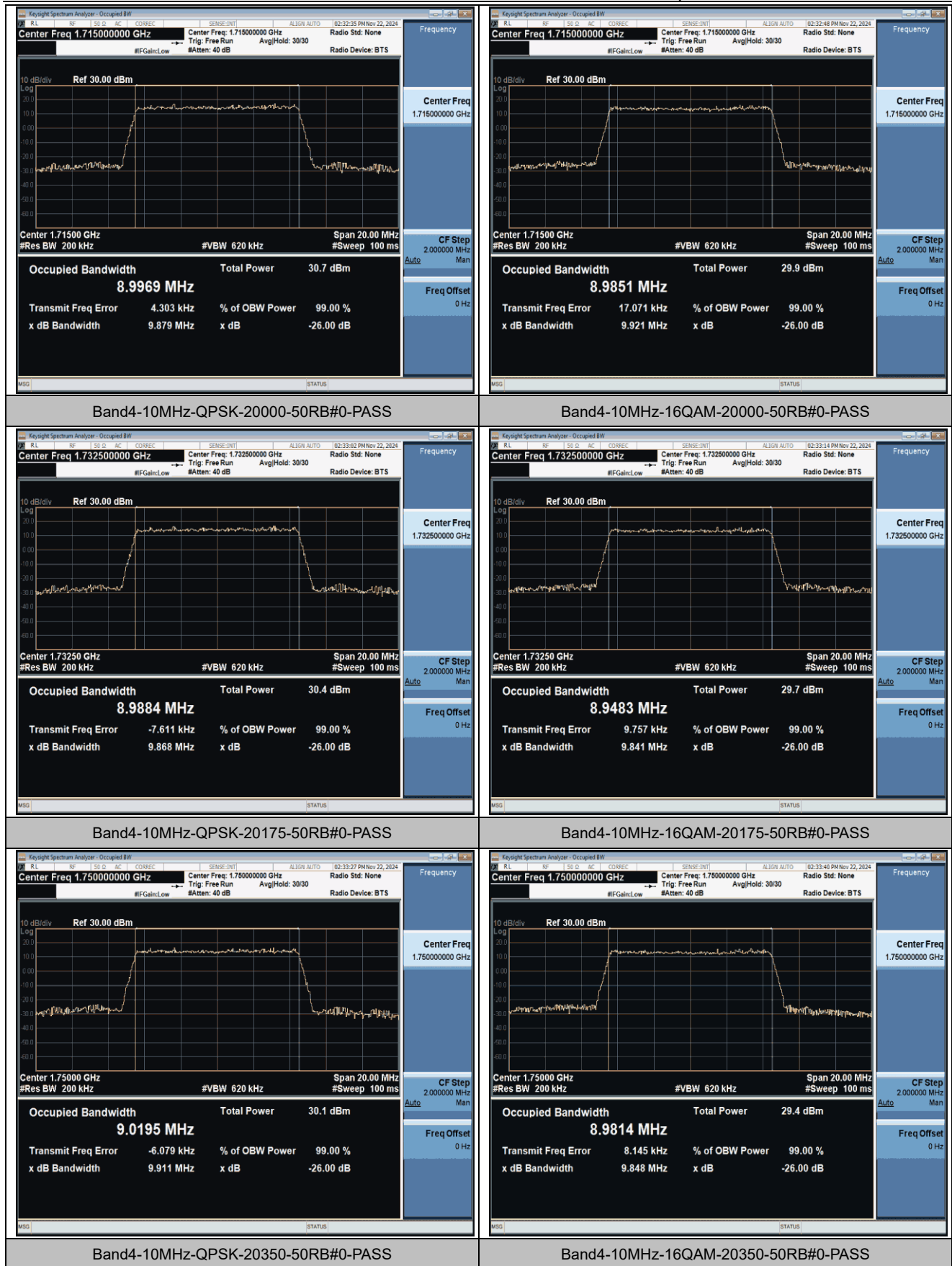
Band	Bandwidth	Modulation	Channel	RB Configuration	OBW (MHz)	26dB EBW (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	1.0892	1.238	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.0948	1.253	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.0893	1.237	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.0946	1.247	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.0890	1.236	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.0969	1.244	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.7069	3.032	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.6948	3.040	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.7050	3.037	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.6993	3.016	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.7040	3.021	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.7005	3.032	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.4924	4.985	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.4881	4.968	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.4887	4.965	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.4901	4.977	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.4874	4.986	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.4889	4.990	PASS
Band4	10MHz	QPSK	20000	50RB#0	8.9969	9.879	PASS
Band4	10MHz	16QAM	20000	50RB#0	8.9851	9.921	PASS
Band4	10MHz	QPSK	20175	50RB#0	8.9884	9.868	PASS
Band4	10MHz	16QAM	20175	50RB#0	8.9483	9.841	PASS
Band4	10MHz	QPSK	20350	50RB#0	9.0195	9.911	PASS
Band4	10MHz	16QAM	20350	50RB#0	8.9814	9.848	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.495	14.93	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.505	15.05	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.480	14.85	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.478	14.98	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.504	14.93	PASS
Band4	15MHz	16QAM	20325	75RB#0	13.493	15.01	PASS
Band4	20MHz	QPSK	20050	100RB#0	18.038	19.84	PASS
Band4	20MHz	16QAM	20050	100RB#0	18.034	19.78	PASS
Band4	20MHz	QPSK	20175	100RB#0	18.090	19.85	PASS
Band4	20MHz	16QAM	20175	100RB#0	18.029	19.83	PASS
Band4	20MHz	QPSK	20300	100RB#0	18.059	19.85	PASS
Band4	20MHz	16QAM	20300	100RB#0	18.045	19.90	PASS

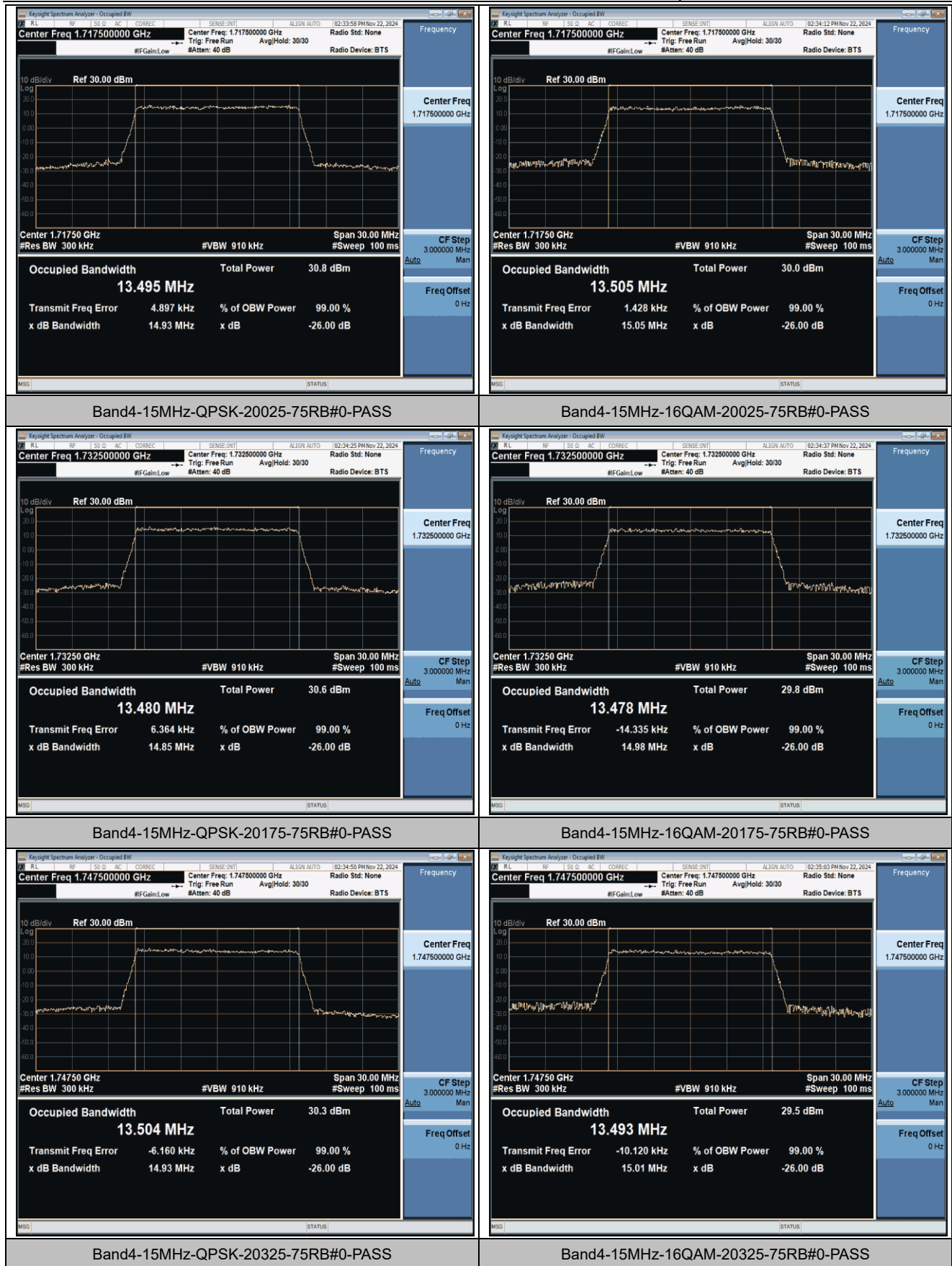
Test Graphs

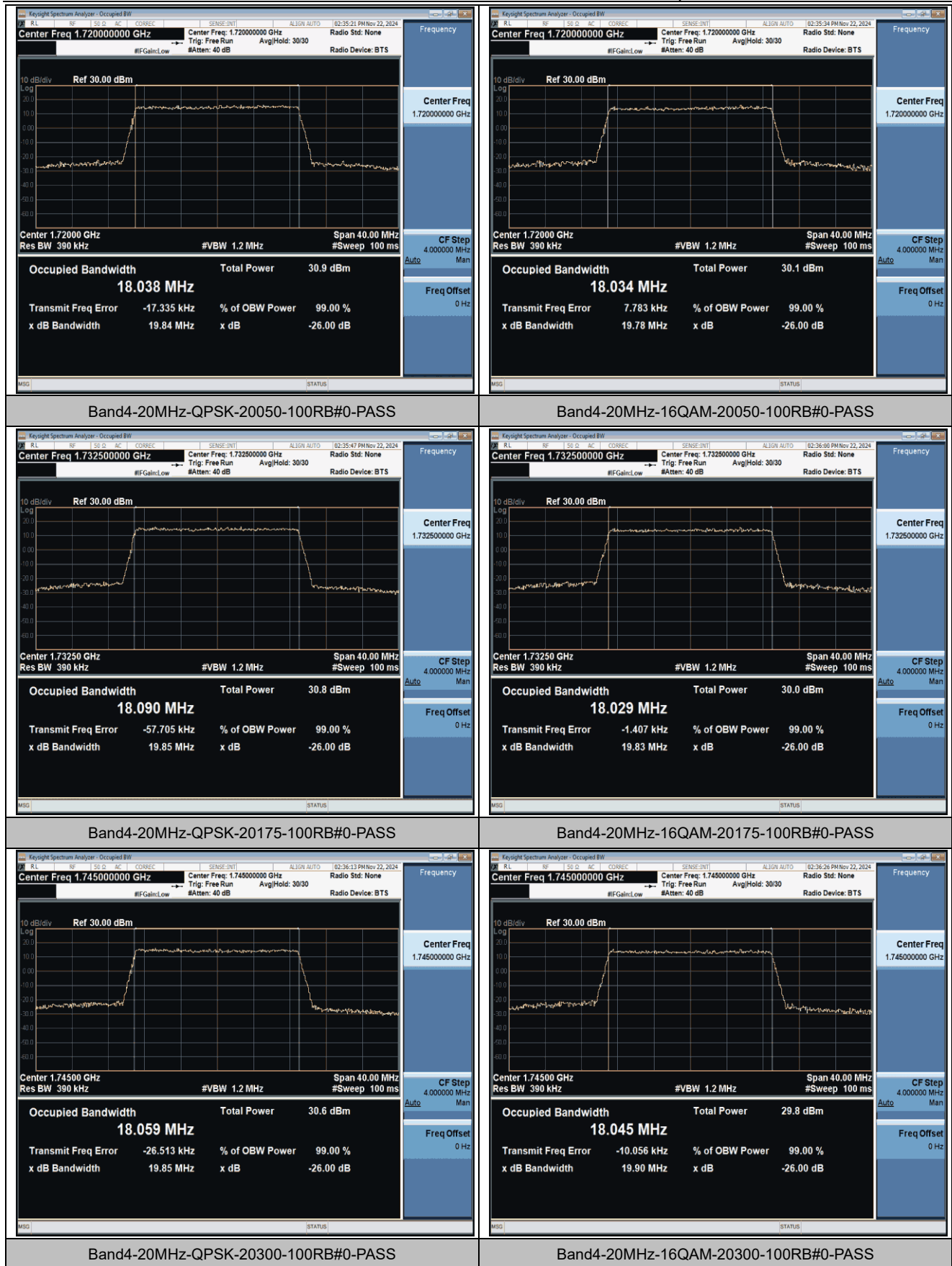






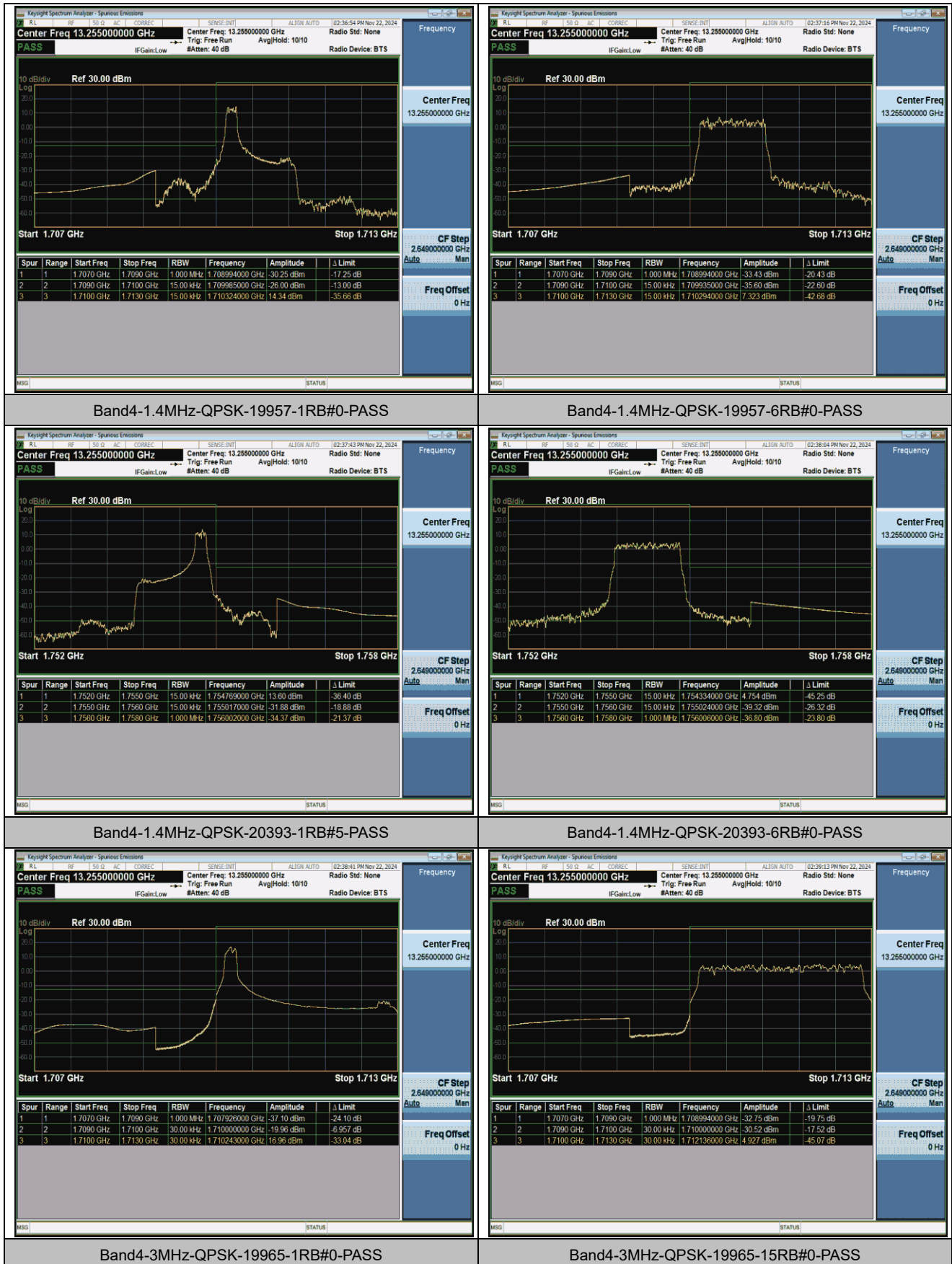


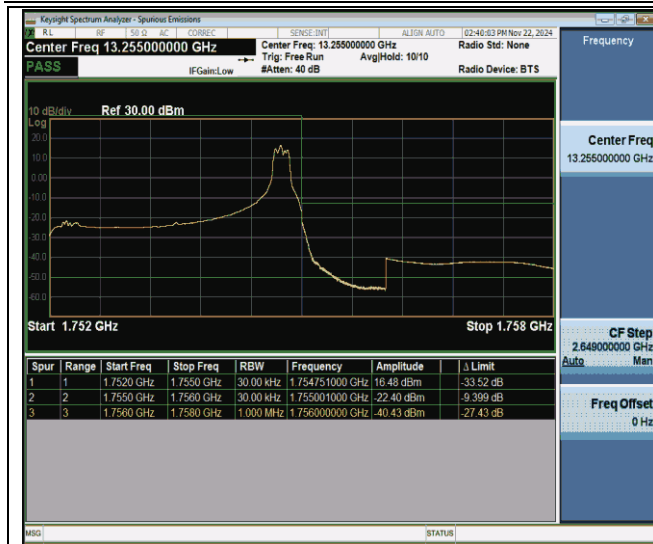




Band Edge

Test Graphs

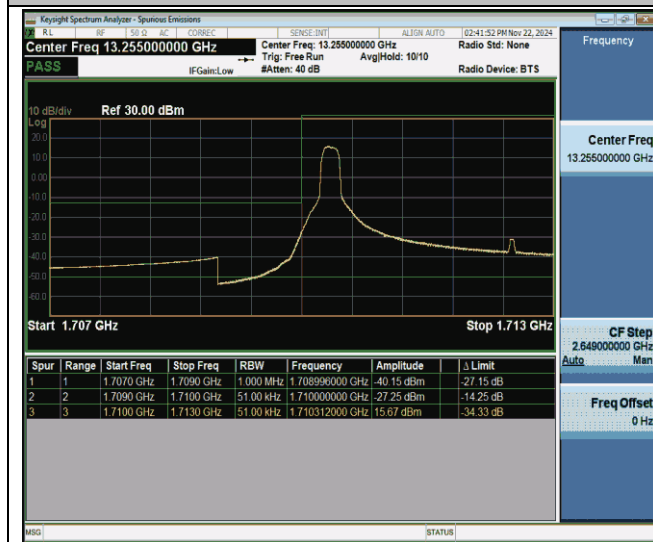




Band4-3MHz-QPSK-20385-1RB#14-PASS



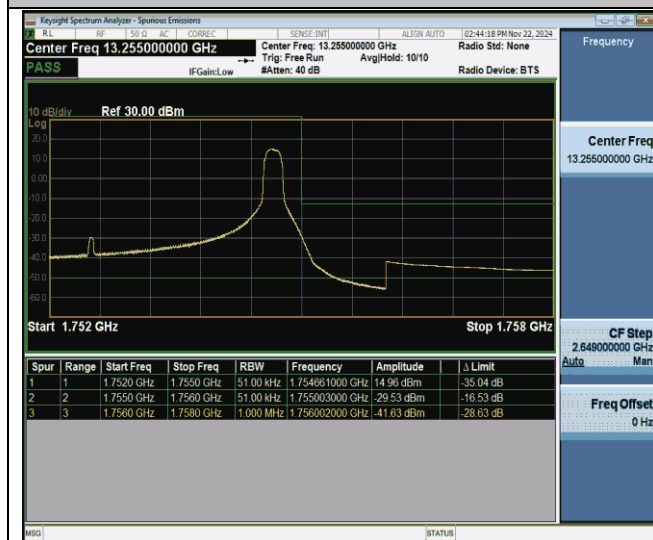
Band4-3MHz-QPSK-20385-15RB#0-PASS



Band4-5MHz-QPSK-19975-1RB#0-PASS



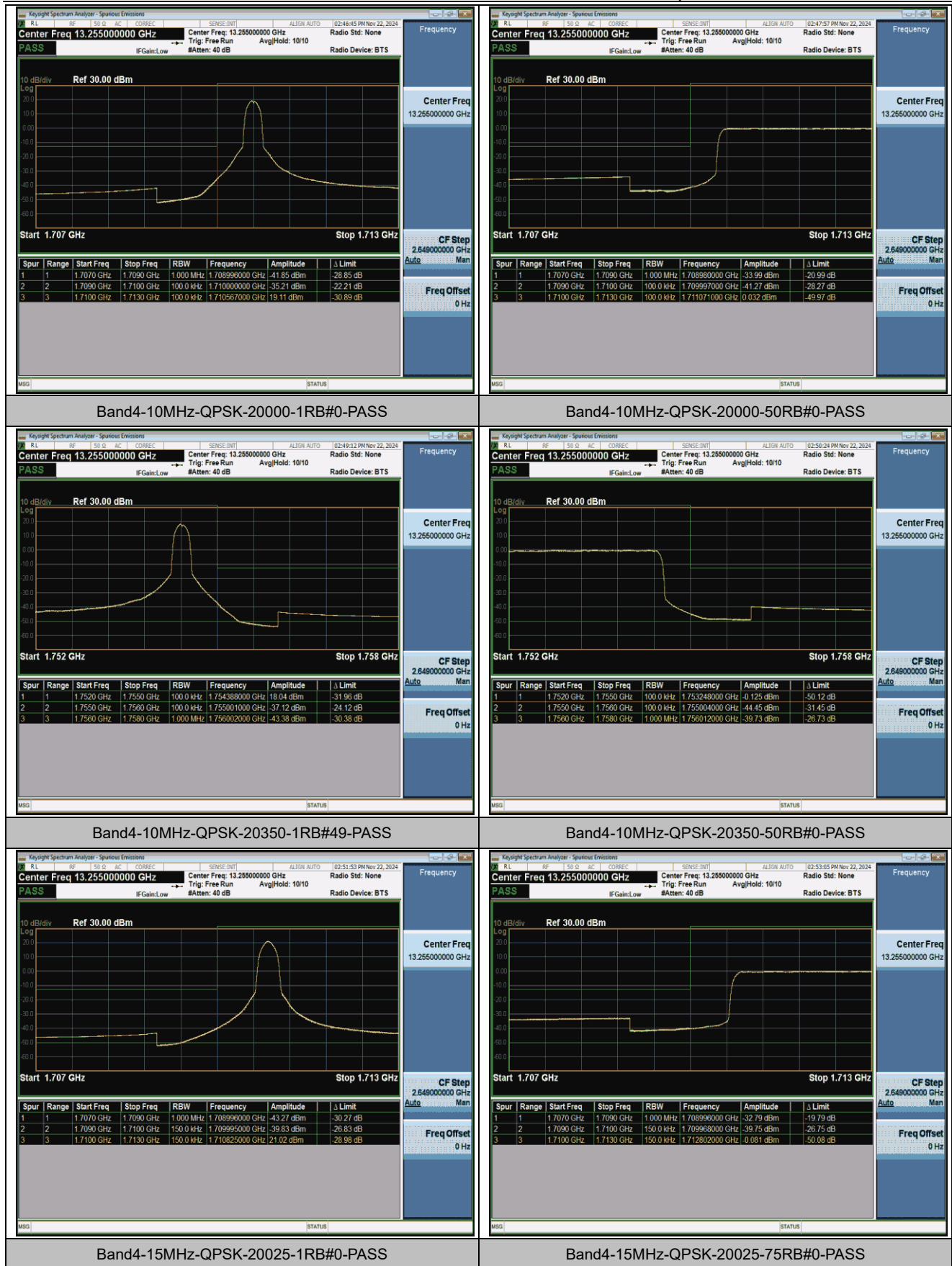
Band4-5MHz-QPSK-19975-25RB#0-PASS

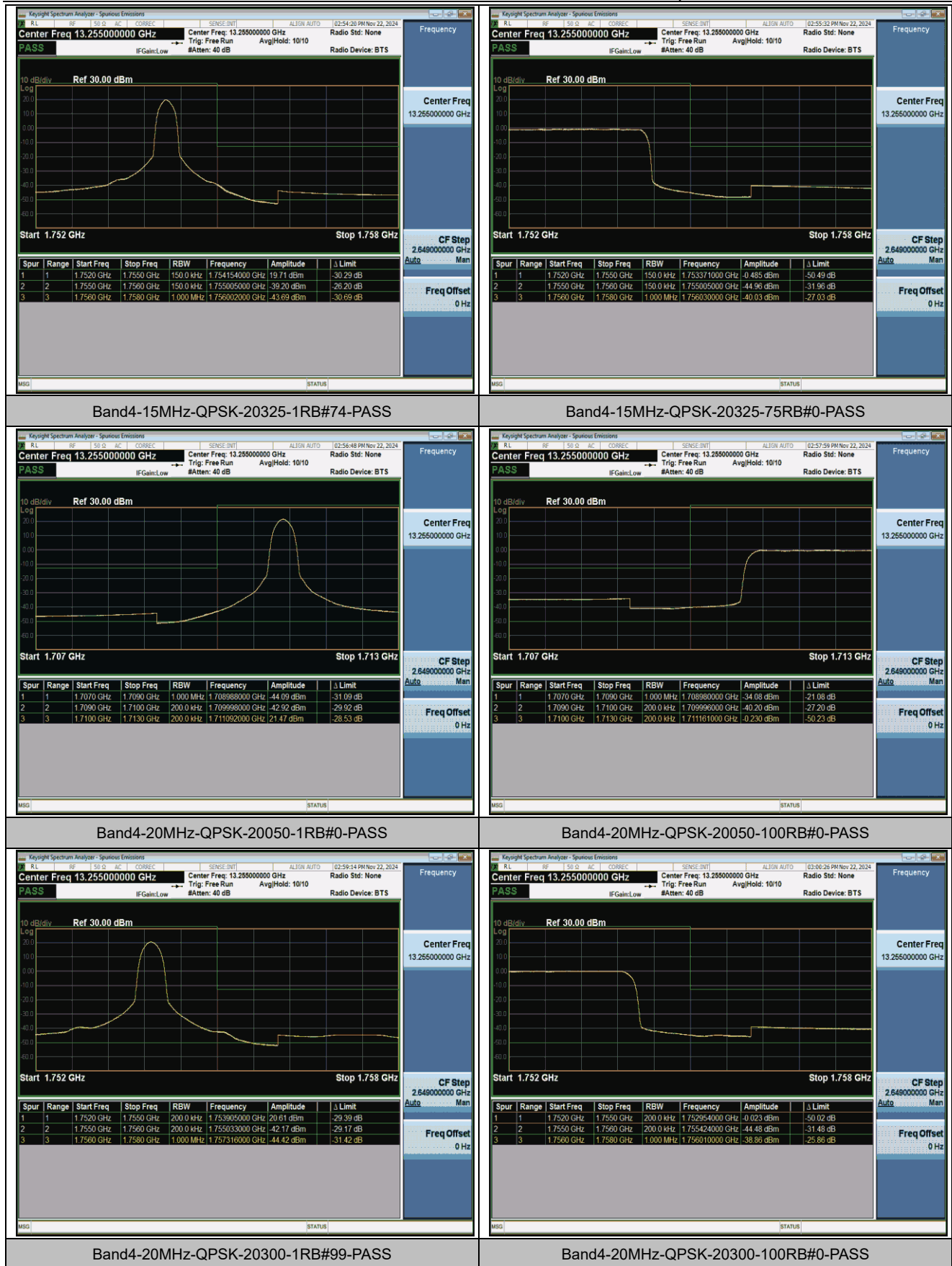


Band4-5MHz-QPSK-20375-1RB#24-PASS



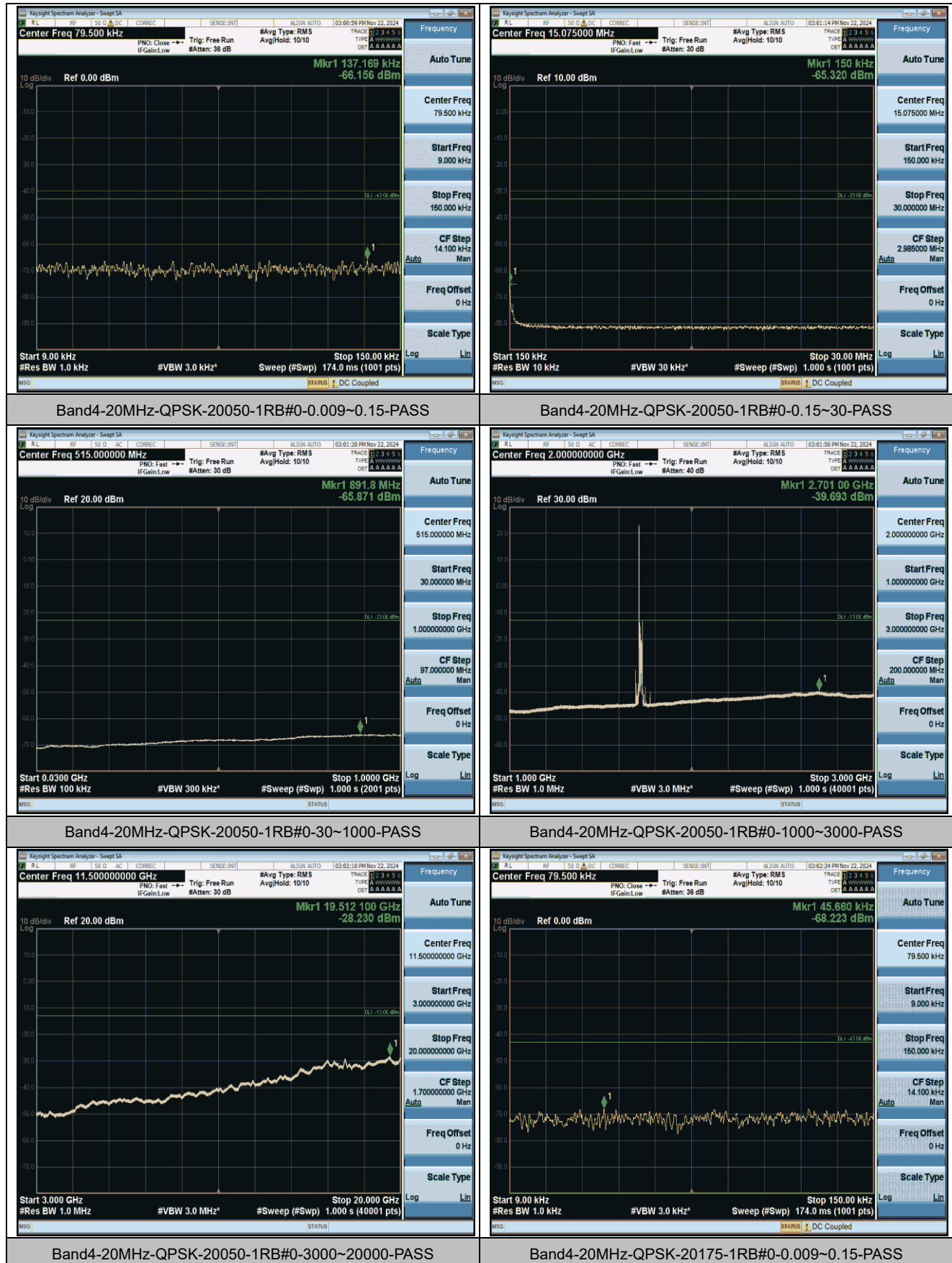
Band4-5MHz-QPSK-20375-25RB#0-PASS

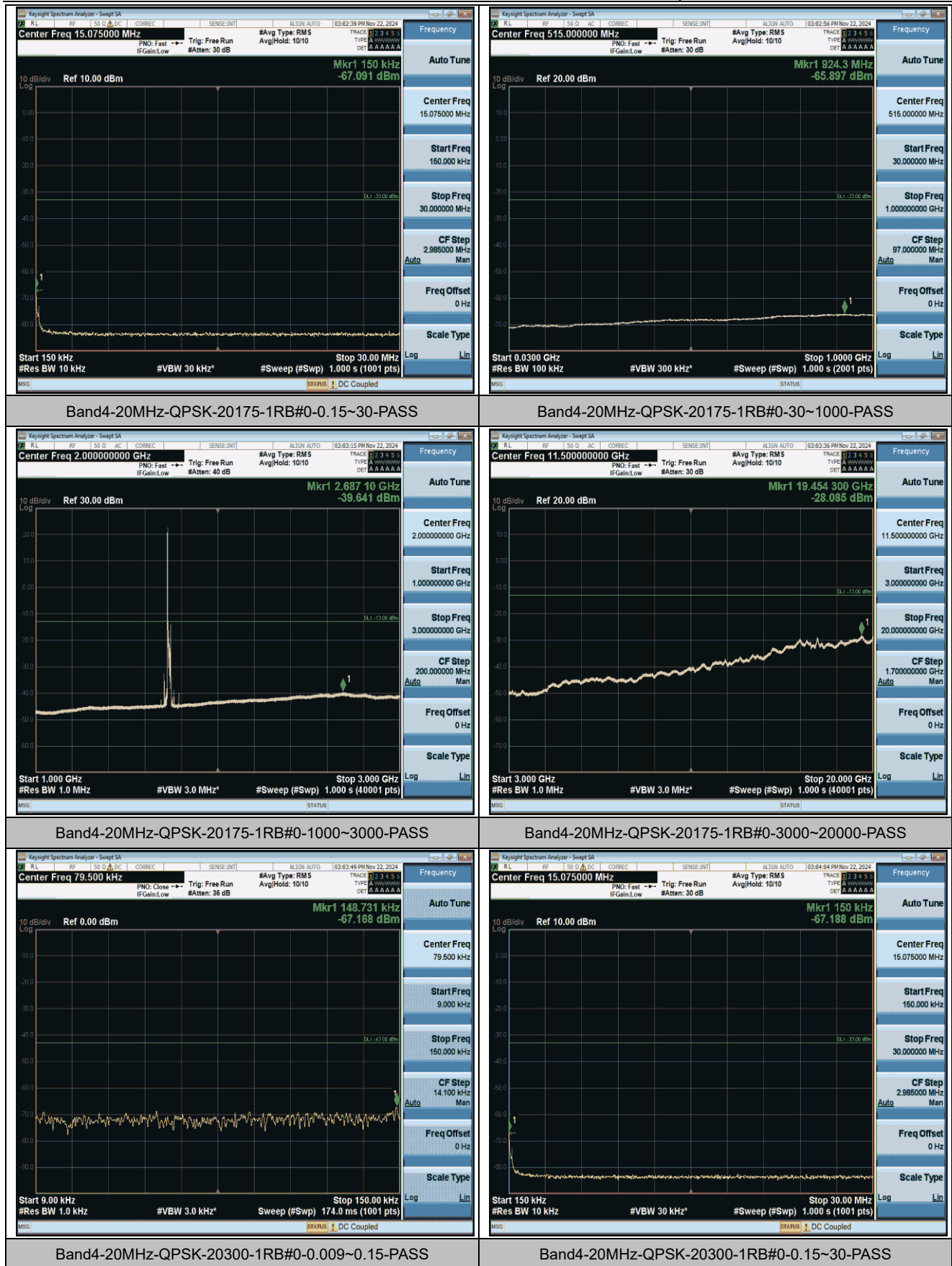


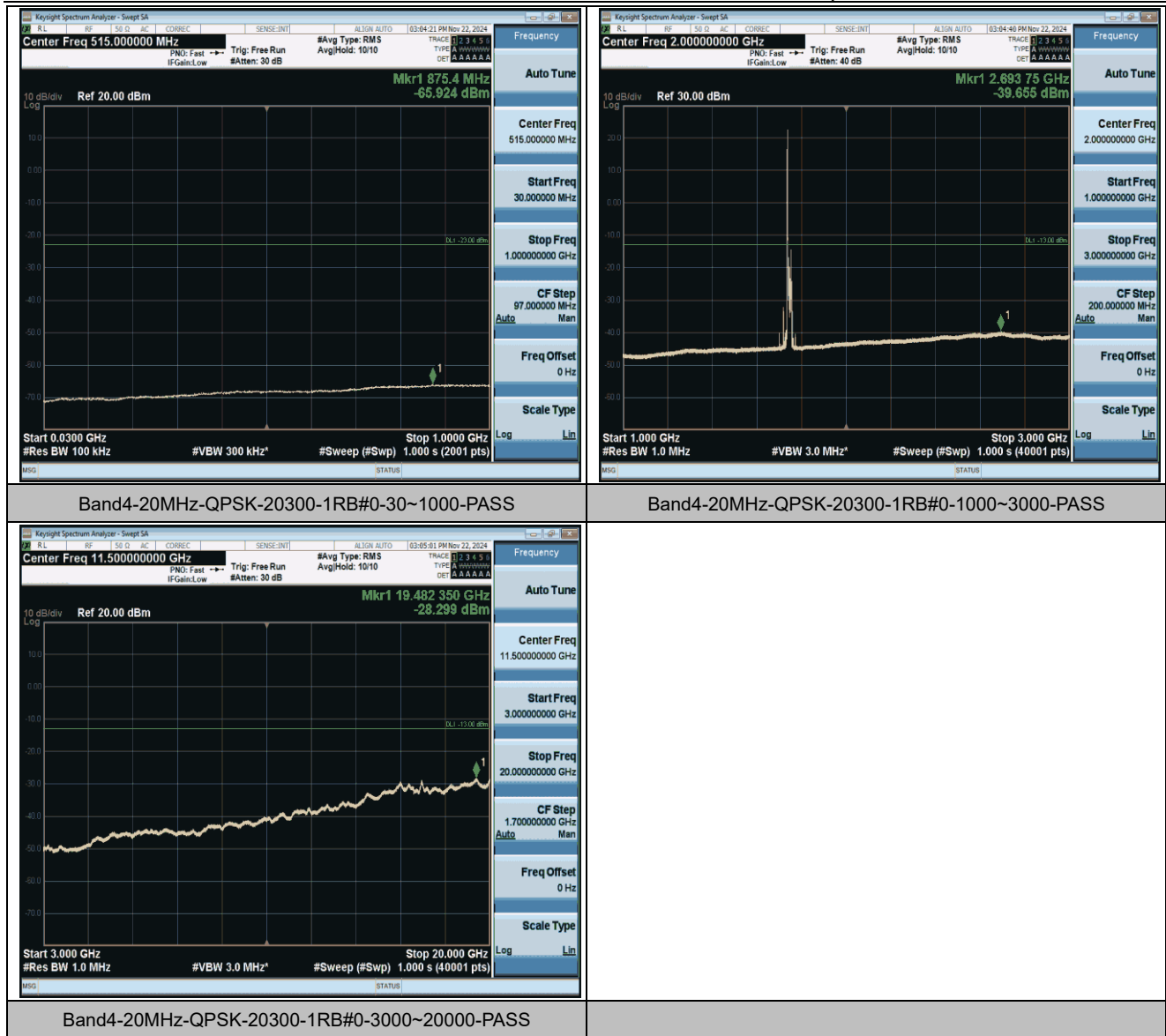


Conducted Spurious Emission

Test Graphs







Frequency Stability

Test Result

Voltage									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	20MHz	QPSK	20175	100RB#0	VN	NT	-2.20	-0.001270	PASS
Band4	20MHz	QPSK	20175	100RB#0	VL	NT	-13.60	-0.007850	PASS
Band4	20MHz	QPSK	20175	100RB#0	VH	NT	-28.10	-0.016219	PASS

Temperature									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	20MHz	QPSK	20175	100RB#0	NV	-30	0.50	0.000289	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-20	-4.70	-0.002713	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-10	-6.00	-0.003463	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	0	-3.50	-0.002020	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	10	2.70	0.001558	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	20	1.50	0.000866	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	30	6.00	0.003463	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	40	7.90	0.004560	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	50	7.30	0.004214	PASS

~The End~