

Appendix-A 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	23.53	24.73	30	PASS
Band4	1.4MHz	QPSK	19957	1RB#2	23.36	24.56	30	PASS
Band4	1.4MHz	QPSK	19957	1RB#5	23.41	24.61	30	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	22.5	23.7	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	22.66	23.86	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#2	22.67	23.87	30	PASS
Band4	1.4MHz	16QAM	19957	1RB#5	22.53	23.73	30	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	21.58	22.78	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#0	23.35	24.55	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#2	23.44	24.64	30	PASS
Band4	1.4MHz	QPSK	20175	1RB#5	23.52	24.72	30	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	22.68	23.88	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#0	22.33	23.53	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#2	22.32	23.52	30	PASS
Band4	1.4MHz	16QAM	20175	1RB#5	22.07	23.27	30	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	21.61	22.81	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#0	23.44	24.64	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#2	23.57	24.77	30	PASS
Band4	1.4MHz	QPSK	20393	1RB#5	23.48	24.68	30	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	22.62	23.82	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#0	22.49	23.69	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#2	22.52	23.72	30	PASS
Band4	1.4MHz	16QAM	20393	1RB#5	22.57	23.77	30	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	21.72	22.92	30	PASS
Band4	3MHz	QPSK	19965	1RB#0	23.59	24.79	30	PASS
Band4	3MHz	QPSK	19965	1RB#8	23.41	24.61	30	PASS
Band4	3MHz	QPSK	19965	1RB#14	23.41	24.61	30	PASS
Band4	3MHz	QPSK	19965	15RB#0	22.49	23.69	30	PASS
Band4	3MHz	16QAM	19965	1RB#0	22.45	23.65	30	PASS
Band4	3MHz	16QAM	19965	1RB#8	22.76	23.96	30	PASS
Band4	3MHz	16QAM	19965	1RB#14	22.44	23.64	30	PASS
Band4	3MHz	16QAM	19965	15RB#0	21.54	22.74	30	PASS
Band4	3MHz	QPSK	20175	1RB#0	23.56	24.76	30	PASS
Band4	3MHz	QPSK	20175	1RB#8	23.37	24.57	30	PASS
Band4	3MHz	QPSK	20175	1RB#14	23.54	24.74	30	PASS
Band4	3MHz	QPSK	20175	15RB#0	22.72	23.92	30	PASS
Band4	3MHz	16QAM	20175	1RB#0	22.53	23.73	30	PASS

Band4	3MHz	16QAM	20175	1RB#8	22.96	24.16	30	PASS
Band4	3MHz	16QAM	20175	1RB#14	22.37	23.57	30	PASS
Band4	3MHz	16QAM	20175	15RB#0	21.65	22.85	30	PASS
Band4	3MHz	QPSK	20385	1RB#0	23.4	24.6	30	PASS
Band4	3MHz	QPSK	20385	1RB#8	23.53	24.73	30	PASS
Band4	3MHz	QPSK	20385	1RB#14	23.65	24.85	30	PASS
Band4	3MHz	QPSK	20385	15RB#0	22.69	23.89	30	PASS
Band4	3MHz	16QAM	20385	1RB#0	22.57	23.77	30	PASS
Band4	3MHz	16QAM	20385	1RB#8	22.24	23.44	30	PASS
Band4	3MHz	16QAM	20385	1RB#14	22.34	23.54	30	PASS
Band4	3MHz	16QAM	20385	15RB#0	21.7	22.9	30	PASS
Band4	5MHz	QPSK	19975	1RB#0	23.51	24.71	30	PASS
Band4	5MHz	QPSK	19975	1RB#12	23.42	24.62	30	PASS
Band4	5MHz	QPSK	19975	1RB#24	23.01	24.21	30	PASS
Band4	5MHz	QPSK	19975	25RB#0	22.19	23.39	30	PASS
Band4	5MHz	16QAM	19975	1RB#0	22.3	23.5	30	PASS
Band4	5MHz	16QAM	19975	1RB#12	22.11	23.31	30	PASS
Band4	5MHz	16QAM	19975	1RB#24	22.21	23.41	30	PASS
Band4	5MHz	16QAM	19975	25RB#0	21.19	22.39	30	PASS
Band4	5MHz	QPSK	20175	1RB#0	23.05	24.25	30	PASS
Band4	5MHz	QPSK	20175	1RB#12	23.42	24.62	30	PASS
Band4	5MHz	QPSK	20175	1RB#24	23.08	24.28	30	PASS
Band4	5MHz	QPSK	20175	25RB#0	22.07	23.27	30	PASS
Band4	5MHz	16QAM	20175	1RB#0	22.39	23.59	30	PASS
Band4	5MHz	16QAM	20175	1RB#12	22.19	23.39	30	PASS
Band4	5MHz	16QAM	20175	1RB#24	22.28	23.48	30	PASS
Band4	5MHz	16QAM	20175	25RB#0	21.32	22.52	30	PASS
Band4	5MHz	QPSK	20375	1RB#0	22.94	24.14	30	PASS
Band4	5MHz	QPSK	20375	1RB#12	22.84	24.04	30	PASS
Band4	5MHz	QPSK	20375	1RB#24	22.89	24.09	30	PASS
Band4	5MHz	QPSK	20375	25RB#0	21.8	23	30	PASS
Band4	5MHz	16QAM	20375	1RB#0	21.53	22.73	30	PASS
Band4	5MHz	16QAM	20375	1RB#12	21.74	22.94	30	PASS
Band4	5MHz	16QAM	20375	1RB#24	21.83	23.03	30	PASS
Band4	5MHz	16QAM	20375	25RB#0	20.72	21.92	30	PASS
Band4	10MHz	QPSK	20000	1RB#0	23.91	25.11	30	PASS
Band4	10MHz	QPSK	20000	1RB#24	23.97	25.17	30	PASS
Band4	10MHz	QPSK	20000	1RB#49	23.61	24.81	30	PASS
Band4	10MHz	QPSK	20000	50RB#0	22.78	23.98	30	PASS
Band4	10MHz	16QAM	20000	1RB#0	22.76	23.96	30	PASS
Band4	10MHz	16QAM	20000	1RB#24	22.6	23.8	30	PASS
Band4	10MHz	16QAM	20000	1RB#49	22.67	23.87	30	PASS
Band4	10MHz	16QAM	20000	50RB#0	21.59	22.79	30	PASS
Band4	10MHz	QPSK	20175	1RB#0	23.6	24.8	30	PASS
Band4	10MHz	QPSK	20175	1RB#24	23.63	24.83	30	PASS

Band4	10MHz	QPSK	20175	1RB#49	23.7	24.9	30	PASS
Band4	10MHz	QPSK	20175	50RB#0	22.74	23.94	30	PASS
Band4	10MHz	16QAM	20175	1RB#0	22.35	23.55	30	PASS
Band4	10MHz	16QAM	20175	1RB#24	22.35	23.55	30	PASS
Band4	10MHz	16QAM	20175	1RB#49	22.66	23.86	30	PASS
Band4	10MHz	16QAM	20175	50RB#0	21.71	22.91	30	PASS
Band4	10MHz	QPSK	20350	1RB#0	23.66	24.86	30	PASS
Band4	10MHz	QPSK	20350	1RB#24	23.98	25.18	30	PASS
Band4	10MHz	QPSK	20350	1RB#49	23.9	25.1	30	PASS
Band4	10MHz	QPSK	20350	50RB#0	22.67	23.87	30	PASS
Band4	10MHz	16QAM	20350	1RB#0	22.59	23.79	30	PASS
Band4	10MHz	16QAM	20350	1RB#24	23.02	24.22	30	PASS
Band4	10MHz	16QAM	20350	1RB#49	22.9	24.1	30	PASS
Band4	10MHz	16QAM	20350	50RB#0	21.71	22.91	30	PASS
Band4	15MHz	QPSK	20025	1RB#0	23.69	24.89	30	PASS
Band4	15MHz	QPSK	20025	1RB#38	23.52	24.72	30	PASS
Band4	15MHz	QPSK	20025	1RB#74	23.6	24.8	30	PASS
Band4	15MHz	QPSK	20025	75RB#0	22.71	23.91	30	PASS
Band4	15MHz	16QAM	20025	1RB#0	22.87	24.07	30	PASS
Band4	15MHz	16QAM	20025	1RB#38	22.63	23.83	30	PASS
Band4	15MHz	16QAM	20025	1RB#74	22.23	23.43	30	PASS
Band4	15MHz	16QAM	20025	75RB#0	21.67	22.87	30	PASS
Band4	15MHz	QPSK	20175	1RB#0	23.5	24.7	30	PASS
Band4	15MHz	QPSK	20175	1RB#38	23.68	24.88	30	PASS
Band4	15MHz	QPSK	20175	1RB#74	23.67	24.87	30	PASS
Band4	15MHz	QPSK	20175	75RB#0	22.73	23.93	30	PASS
Band4	15MHz	16QAM	20175	1RB#0	22.28	23.48	30	PASS
Band4	15MHz	16QAM	20175	1RB#38	22.63	23.83	30	PASS
Band4	15MHz	16QAM	20175	1RB#74	22.72	23.92	30	PASS
Band4	15MHz	16QAM	20175	75RB#0	21.79	22.99	30	PASS
Band4	15MHz	QPSK	20325	1RB#0	23.63	24.83	30	PASS
Band4	15MHz	QPSK	20325	1RB#38	23.8	25	30	PASS
Band4	15MHz	QPSK	20325	1RB#74	23.51	24.71	30	PASS
Band4	15MHz	QPSK	20325	75RB#0	22.54	23.74	30	PASS
Band4	15MHz	16QAM	20325	1RB#0	22.58	23.78	30	PASS
Band4	15MHz	16QAM	20325	1RB#38	23.14	24.34	30	PASS
Band4	15MHz	16QAM	20325	1RB#74	22.33	23.53	30	PASS
Band4	15MHz	16QAM	20325	75RB#0	21.53	22.73	30	PASS
Band4	20MHz	QPSK	20050	1RB#0	23.58	24.78	30	PASS
Band4	20MHz	QPSK	20050	1RB#49	23.7	24.9	30	PASS
Band4	20MHz	QPSK	20050	1RB#99	23.67	24.87	30	PASS
Band4	20MHz	QPSK	20050	100RB#0	22.59	23.79	30	PASS
Band4	20MHz	16QAM	20050	1RB#0	22.17	23.37	30	PASS
Band4	20MHz	16QAM	20050	1RB#49	22.17	23.37	30	PASS
Band4	20MHz	16QAM	20050	1RB#99	22.64	23.84	30	PASS

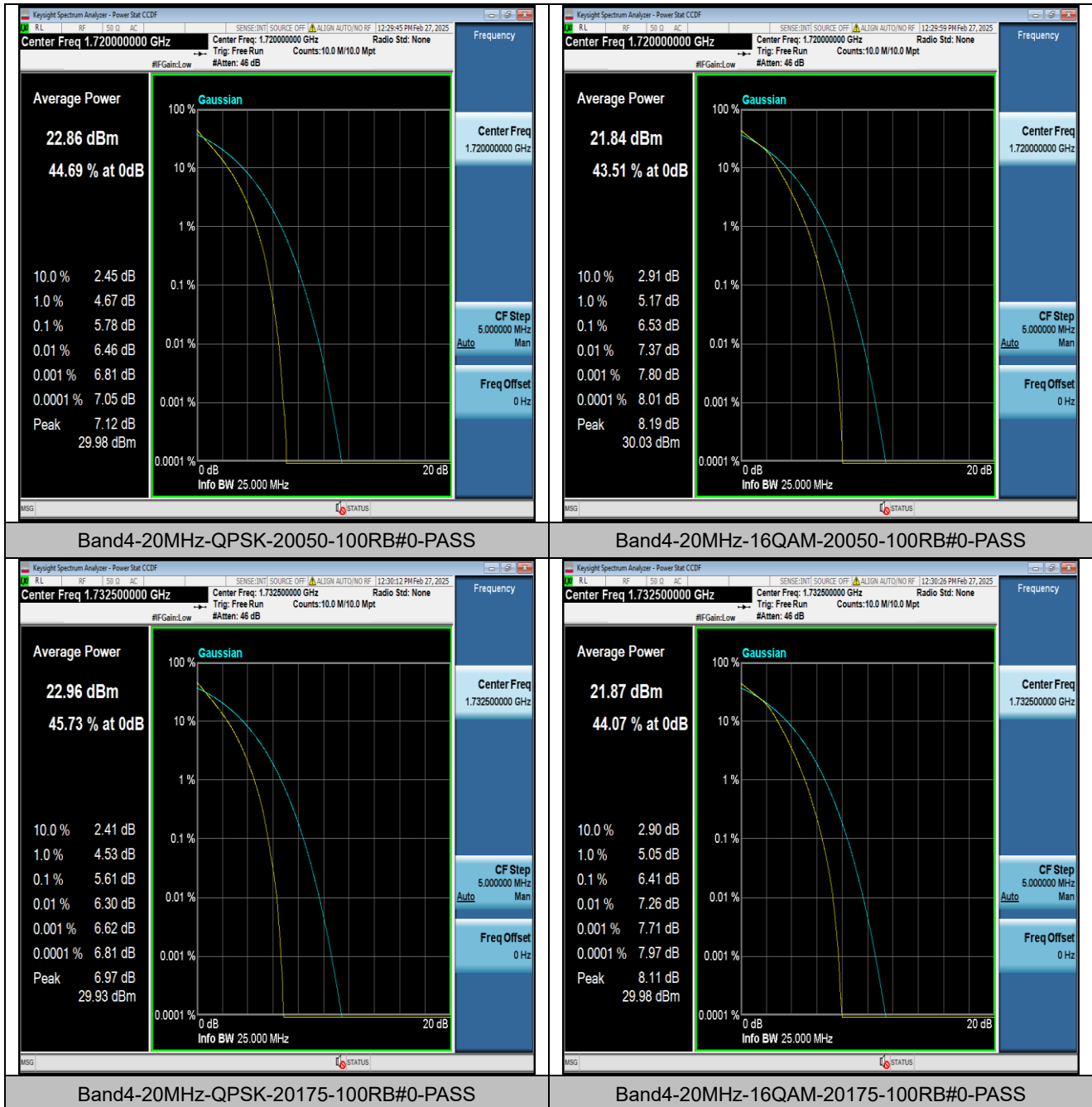
Band4	20MHz	16QAM	20050	100RB#0	21.67	22.87	30	PASS
Band4	20MHz	QPSK	20175	1RB#0	23.56	24.76	30	PASS
Band4	20MHz	QPSK	20175	1RB#49	23.62	24.82	30	PASS
Band4	20MHz	QPSK	20175	1RB#99	23.64	24.84	30	PASS
Band4	20MHz	QPSK	20175	100RB#0	22.76	23.96	30	PASS
Band4	20MHz	16QAM	20175	1RB#0	22.18	23.38	30	PASS
Band4	20MHz	16QAM	20175	1RB#49	22.55	23.75	30	PASS
Band4	20MHz	16QAM	20175	1RB#99	22.78	23.98	30	PASS
Band4	20MHz	16QAM	20175	100RB#0	21.64	22.84	30	PASS
Band4	20MHz	QPSK	20300	1RB#0	23.71	24.91	30	PASS
Band4	20MHz	QPSK	20300	1RB#49	23.78	24.98	30	PASS
Band4	20MHz	QPSK	20300	1RB#99	23.69	24.89	30	PASS
Band4	20MHz	QPSK	20300	100RB#0	22.65	23.85	30	PASS
Band4	20MHz	16QAM	20300	1RB#0	22.81	24.01	30	PASS
Band4	20MHz	16QAM	20300	1RB#49	22.46	23.66	30	PASS
Band4	20MHz	16QAM	20300	1RB#99	22.62	23.82	30	PASS
Band4	20MHz	16QAM	20300	100RB#0	21.64	22.84	30	PASS

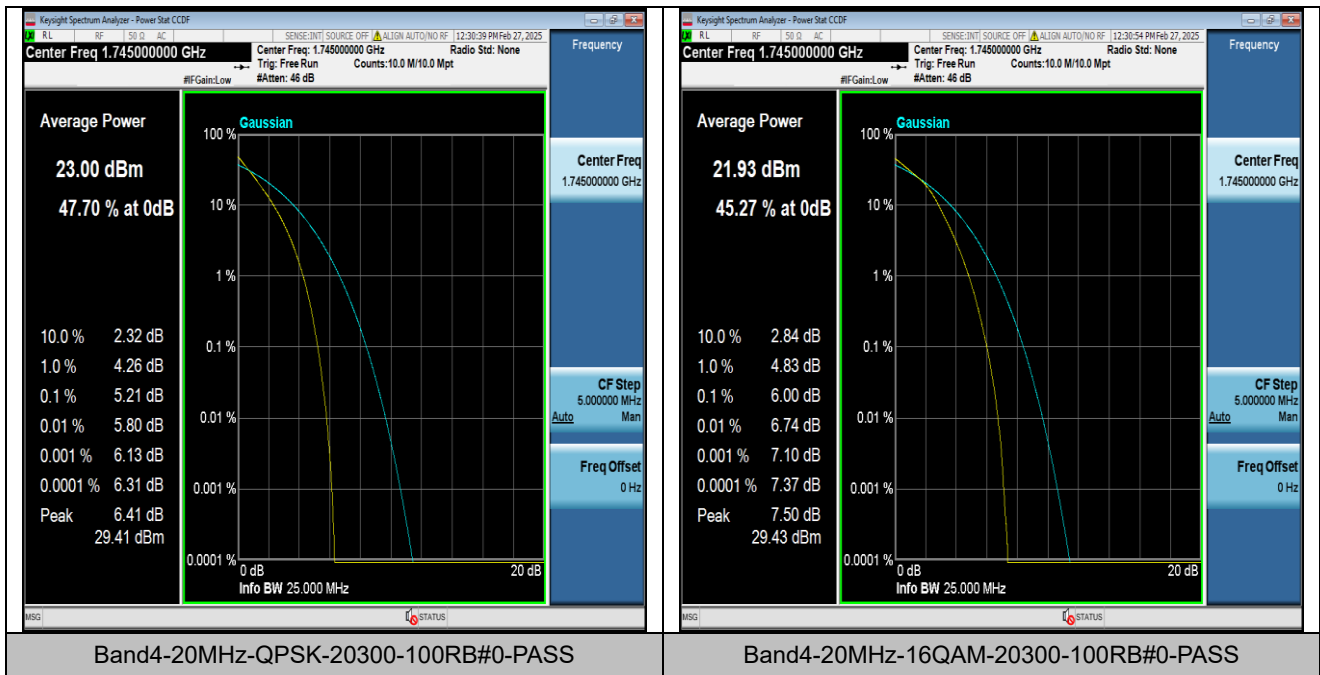
Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
Band4	20MHz	QPSK	20050	100RB#0	5.78	13	PASS
Band4	20MHz	16QAM	20050	100RB#0	6.53	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.61	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	6.41	13	PASS
Band4	20MHz	QPSK	20300	100RB#0	5.21	13	PASS
Band4	20MHz	16QAM	20300	100RB#0	6.00	13	PASS

Test Graphs



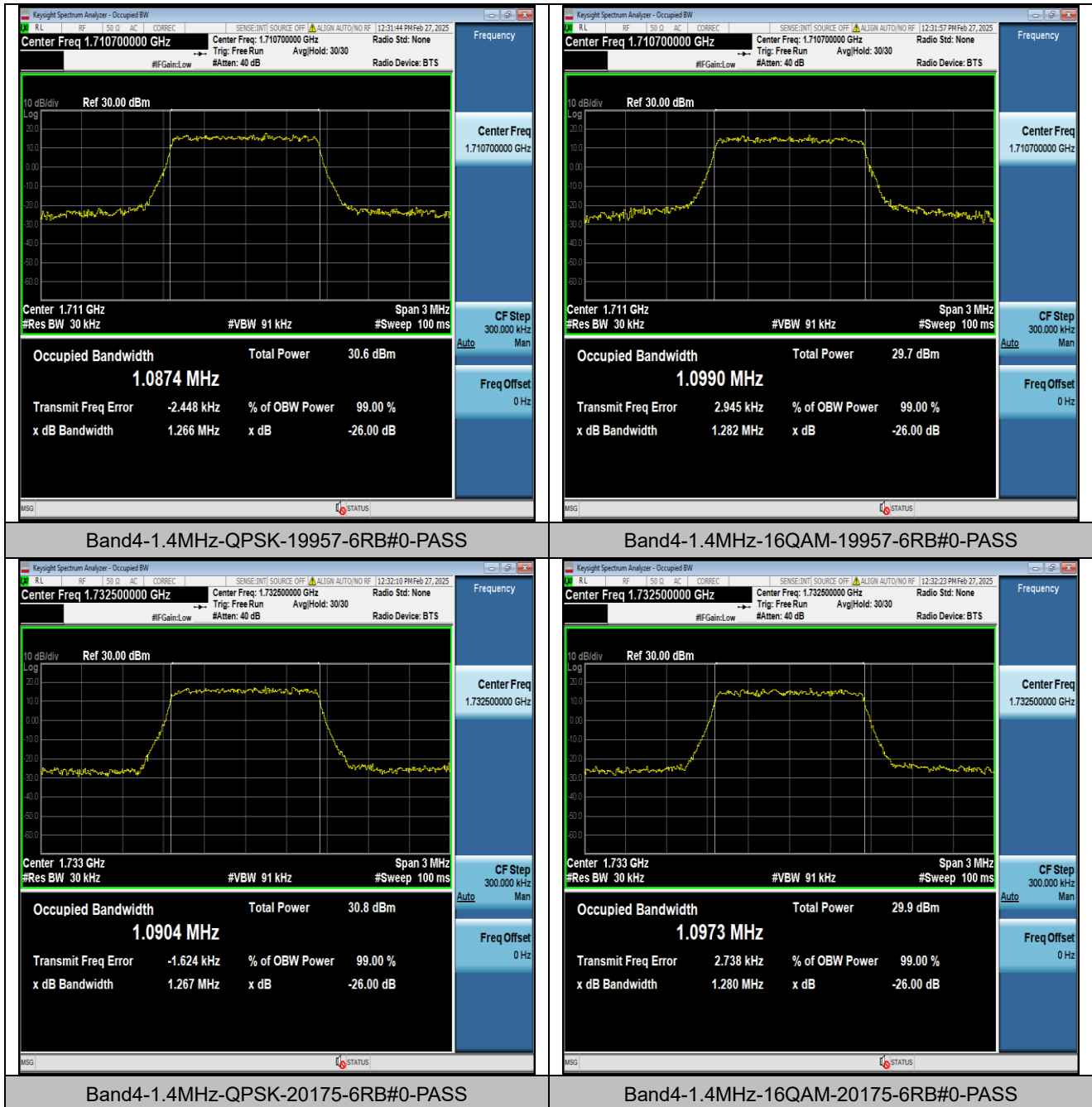


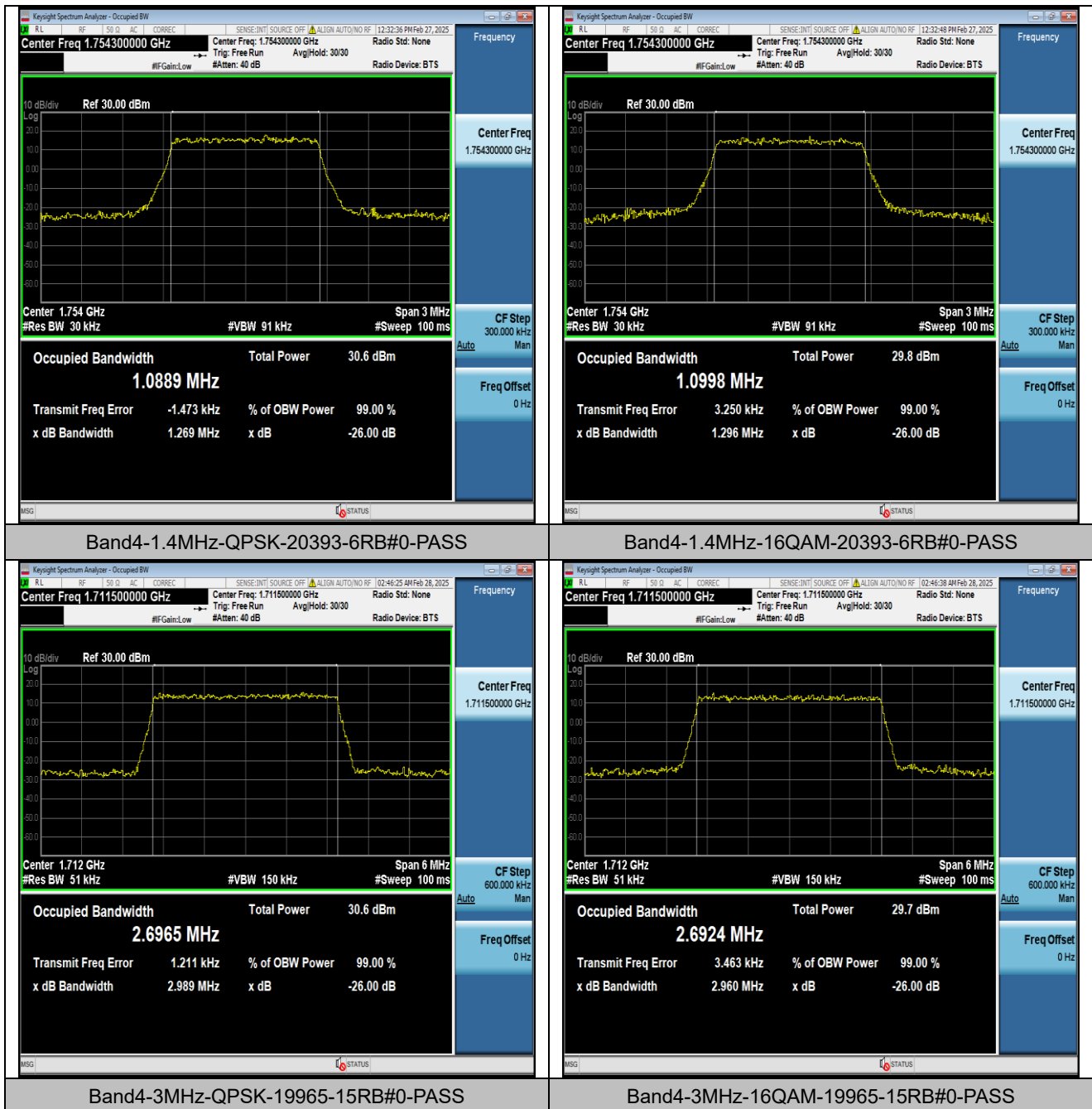
26dB Bandwidth and Occupied Bandwidth

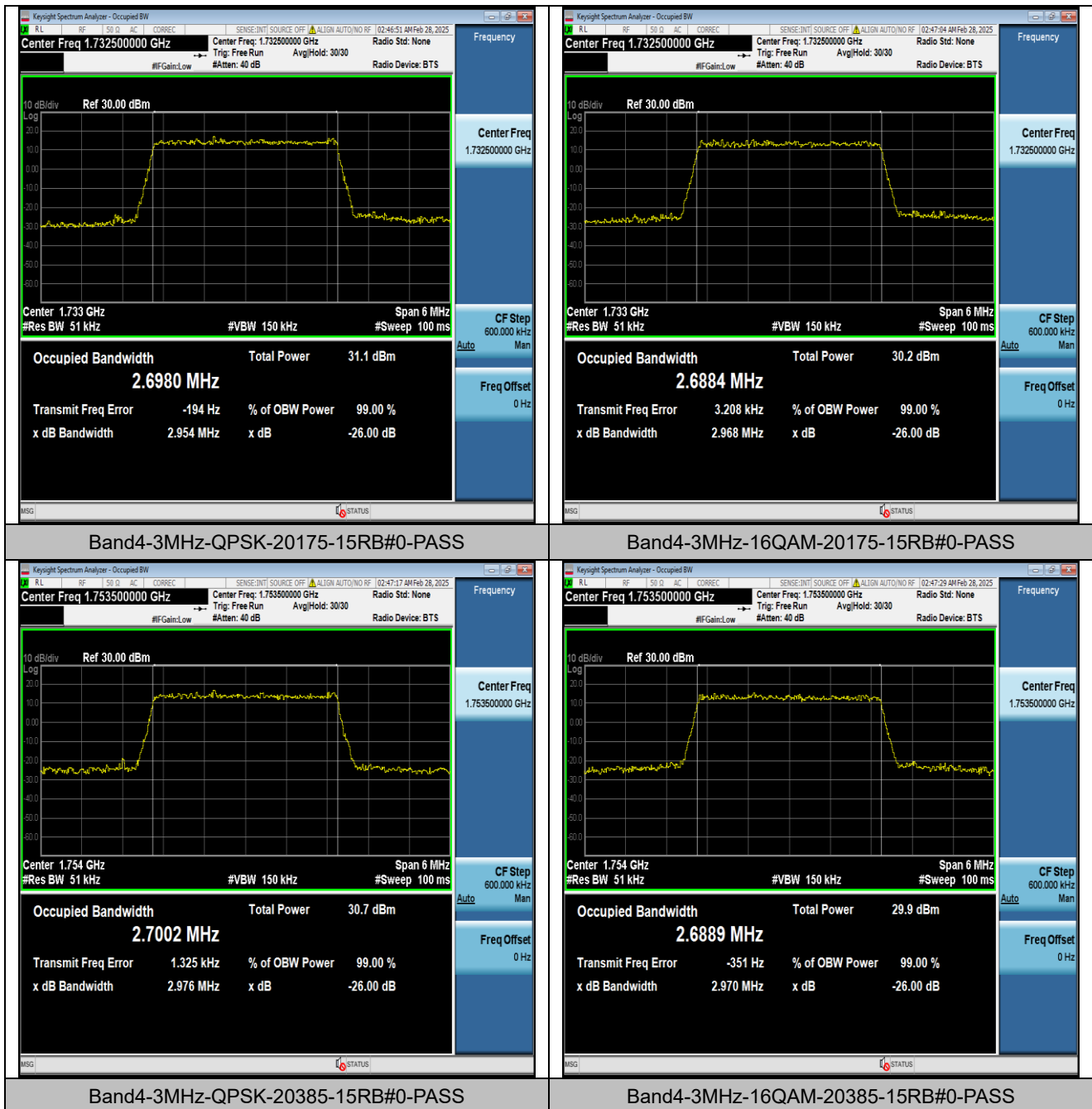
Test Result

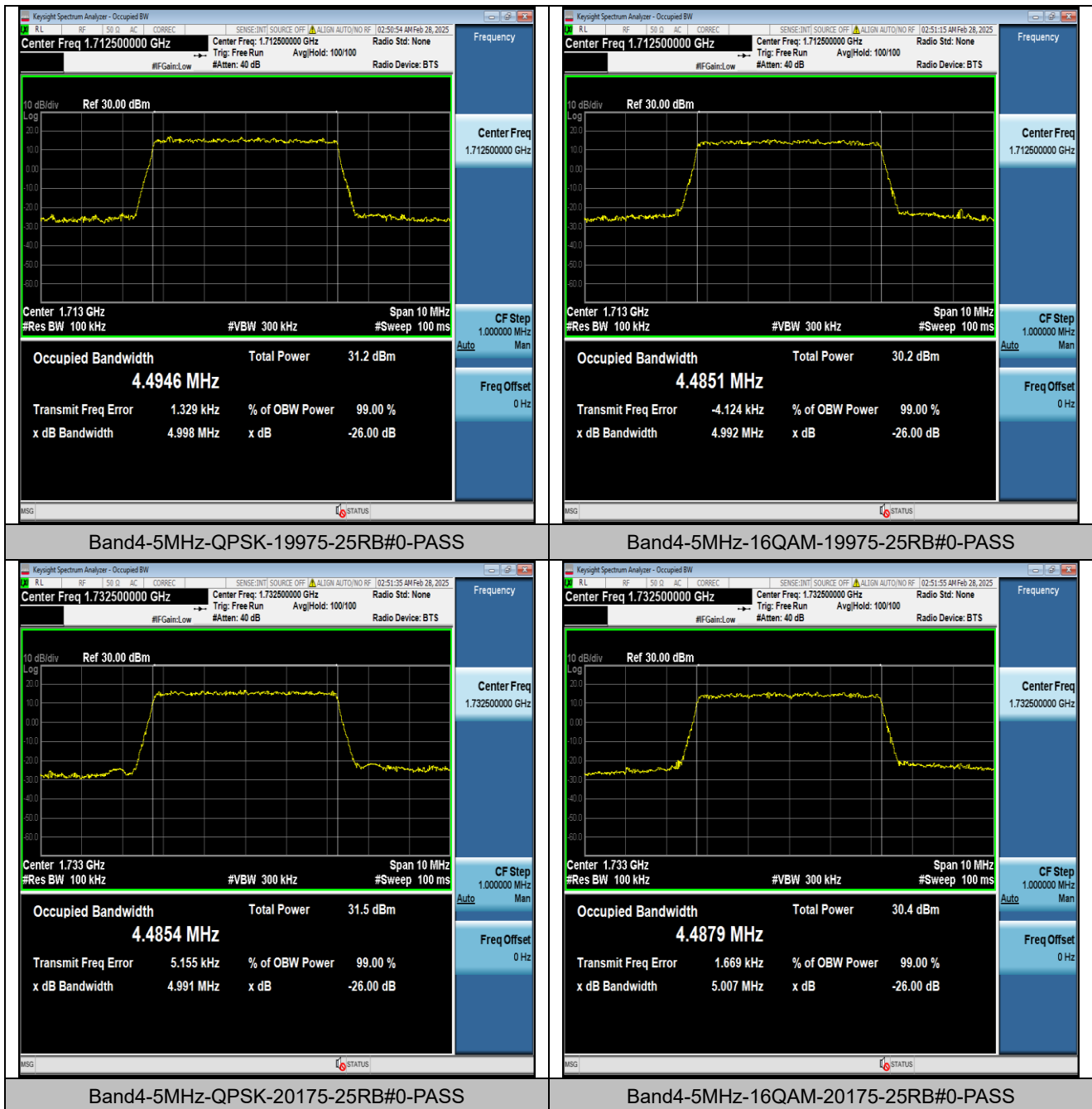
Band	Bandwidth	Modulation	Channel	RB Configuration	OBW (MHz)	26dB EBW (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	1.0874	1.266	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.0990	1.282	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.0904	1.267	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.0973	1.280	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.0889	1.269	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.0998	1.296	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.6965	2.989	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.6924	2.960	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.6980	2.954	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.6884	2.968	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.7002	2.976	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.6889	2.970	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.4946	4.998	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.4851	4.992	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.4854	4.991	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.4879	5.007	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.4854	4.980	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.4874	5.012	PASS
Band4	10MHz	QPSK	20000	50RB#0	8.9753	9.838	PASS
Band4	10MHz	16QAM	20000	50RB#0	8.9379	9.835	PASS
Band4	10MHz	QPSK	20175	50RB#0	9.0057	9.819	PASS
Band4	10MHz	16QAM	20175	50RB#0	8.9405	9.828	PASS
Band4	10MHz	QPSK	20350	50RB#0	8.9900	9.776	PASS
Band4	10MHz	16QAM	20350	50RB#0	8.9452	9.794	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.452	14.65	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.433	14.73	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.437	14.66	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.431	14.78	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.422	14.71	PASS
Band4	15MHz	16QAM	20325	75RB#0	13.407	14.71	PASS
Band4	20MHz	QPSK	20050	100RB#0	17.993	19.49	PASS
Band4	20MHz	16QAM	20050	100RB#0	17.953	19.51	PASS
Band4	20MHz	QPSK	20175	100RB#0	17.949	19.53	PASS
Band4	20MHz	16QAM	20175	100RB#0	17.915	19.48	PASS
Band4	20MHz	QPSK	20300	100RB#0	17.920	19.35	PASS
Band4	20MHz	16QAM	20300	100RB#0	17.853	19.42	PASS

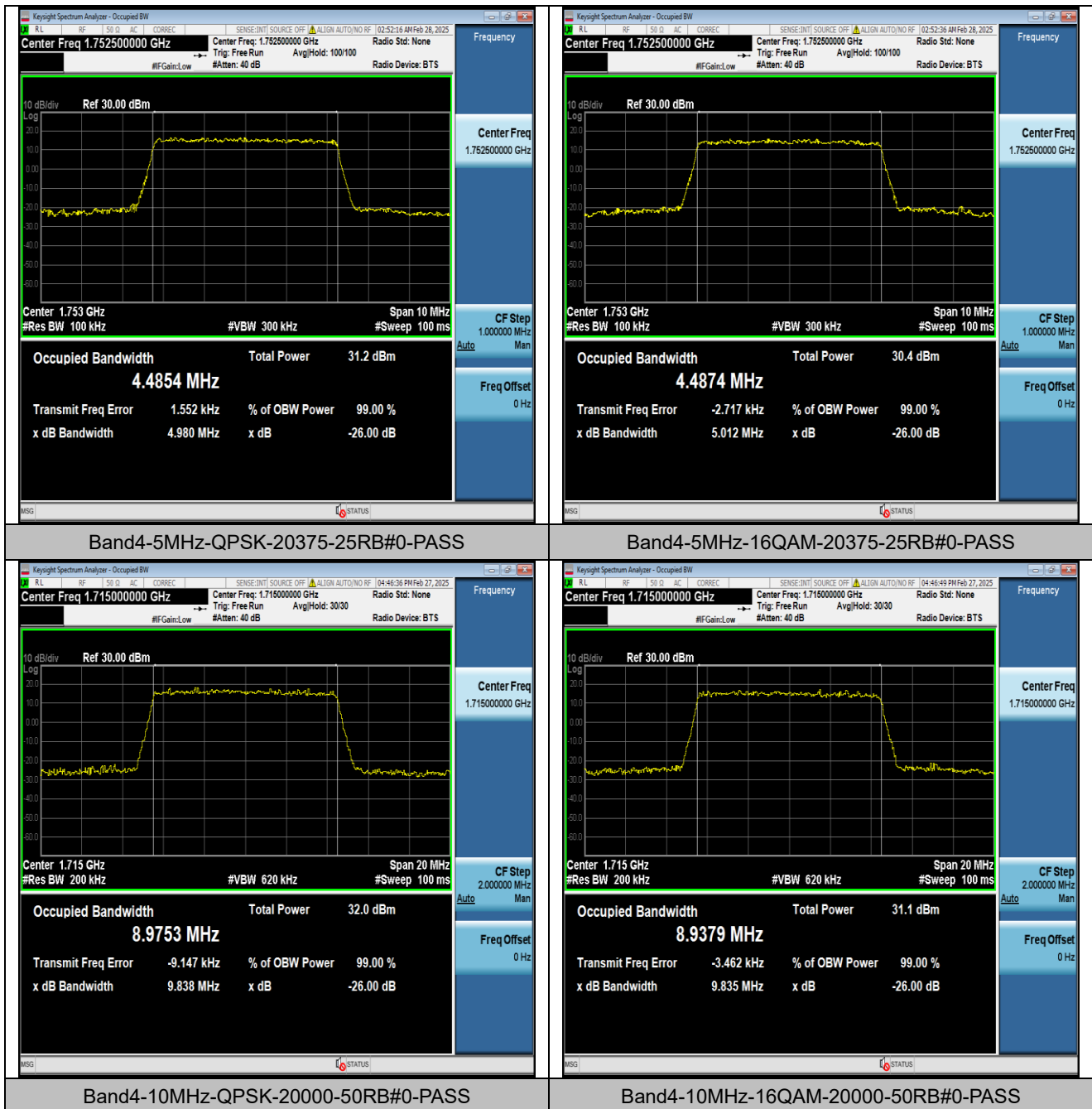
Test Graphs

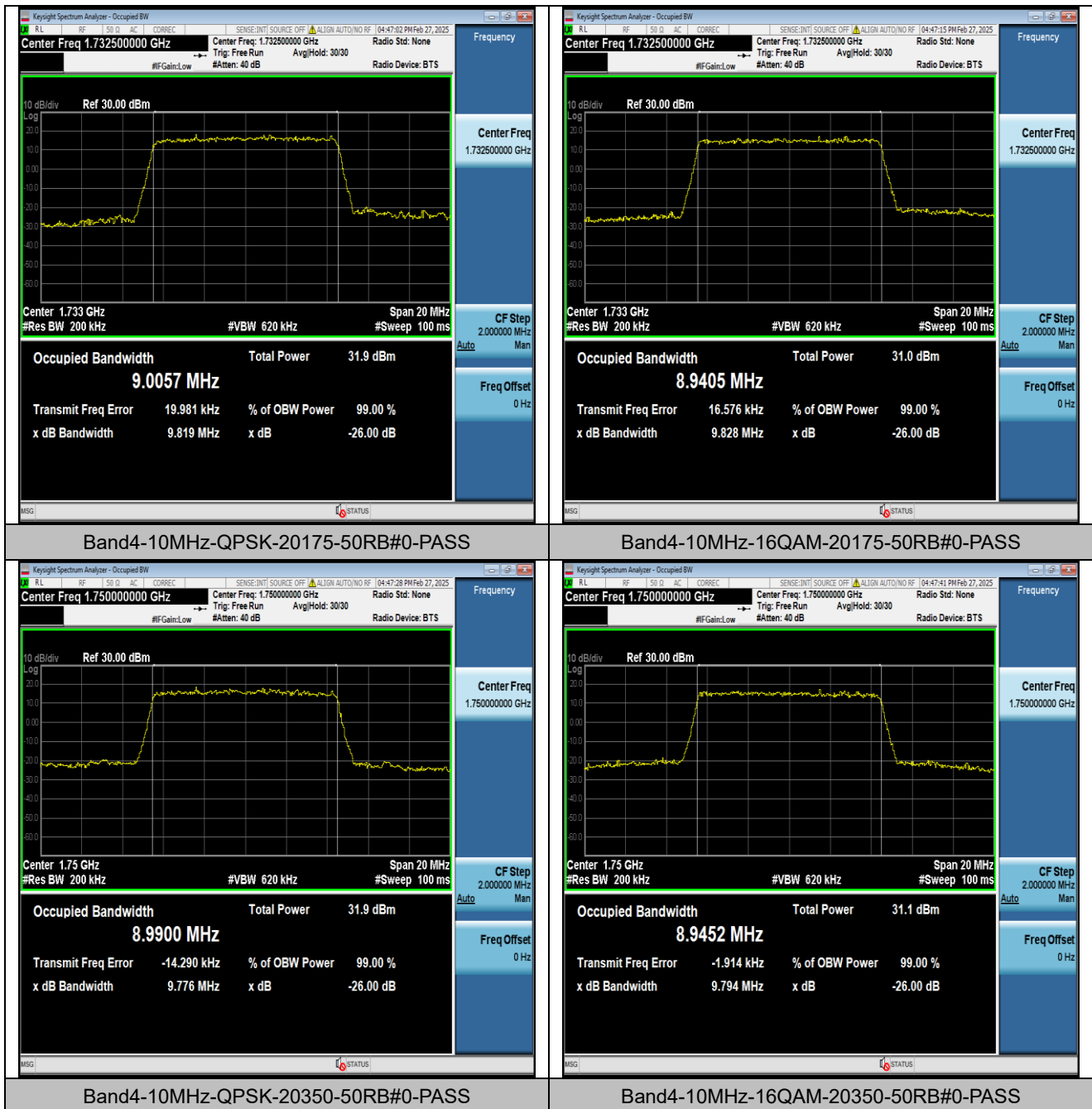


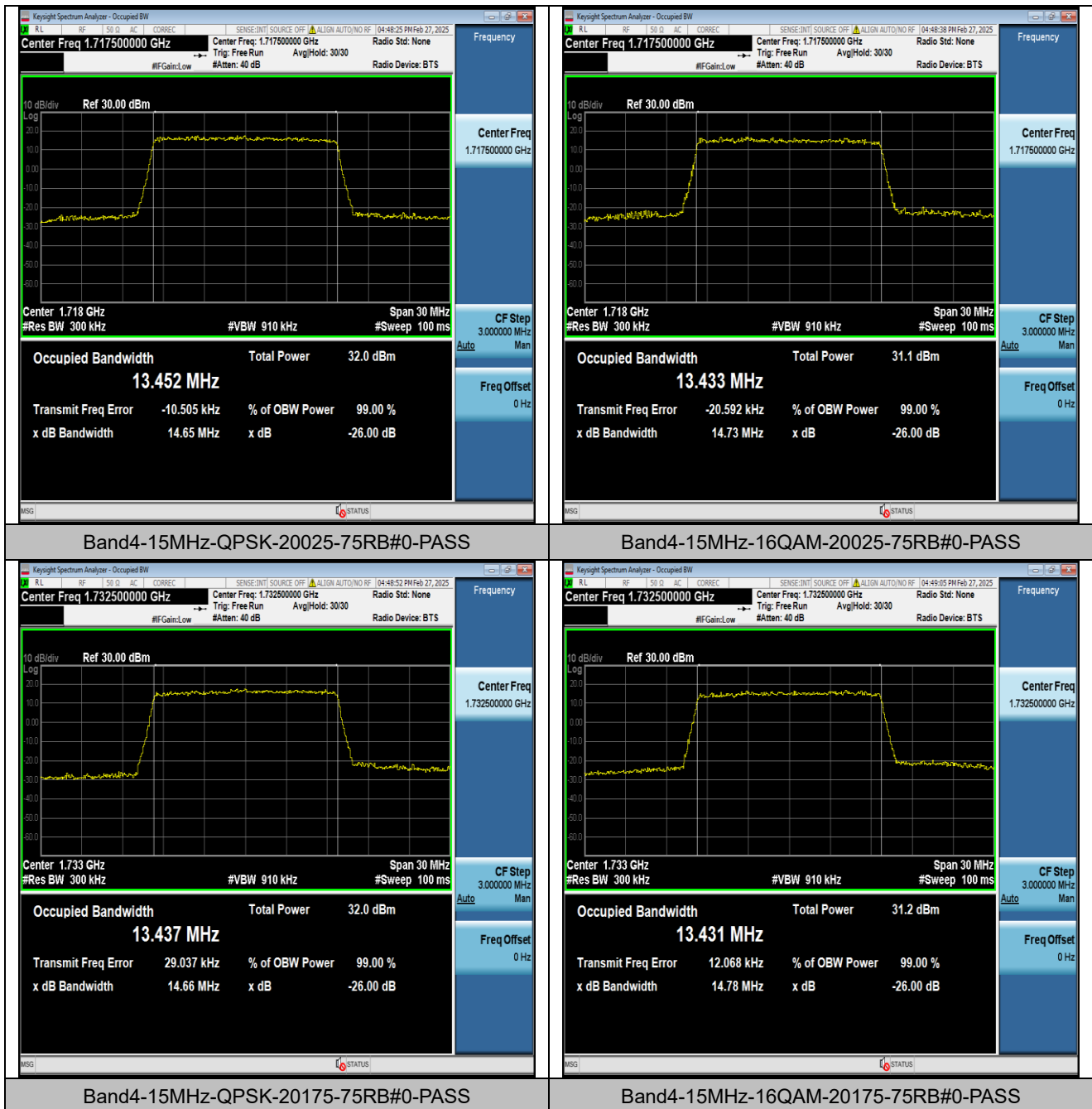


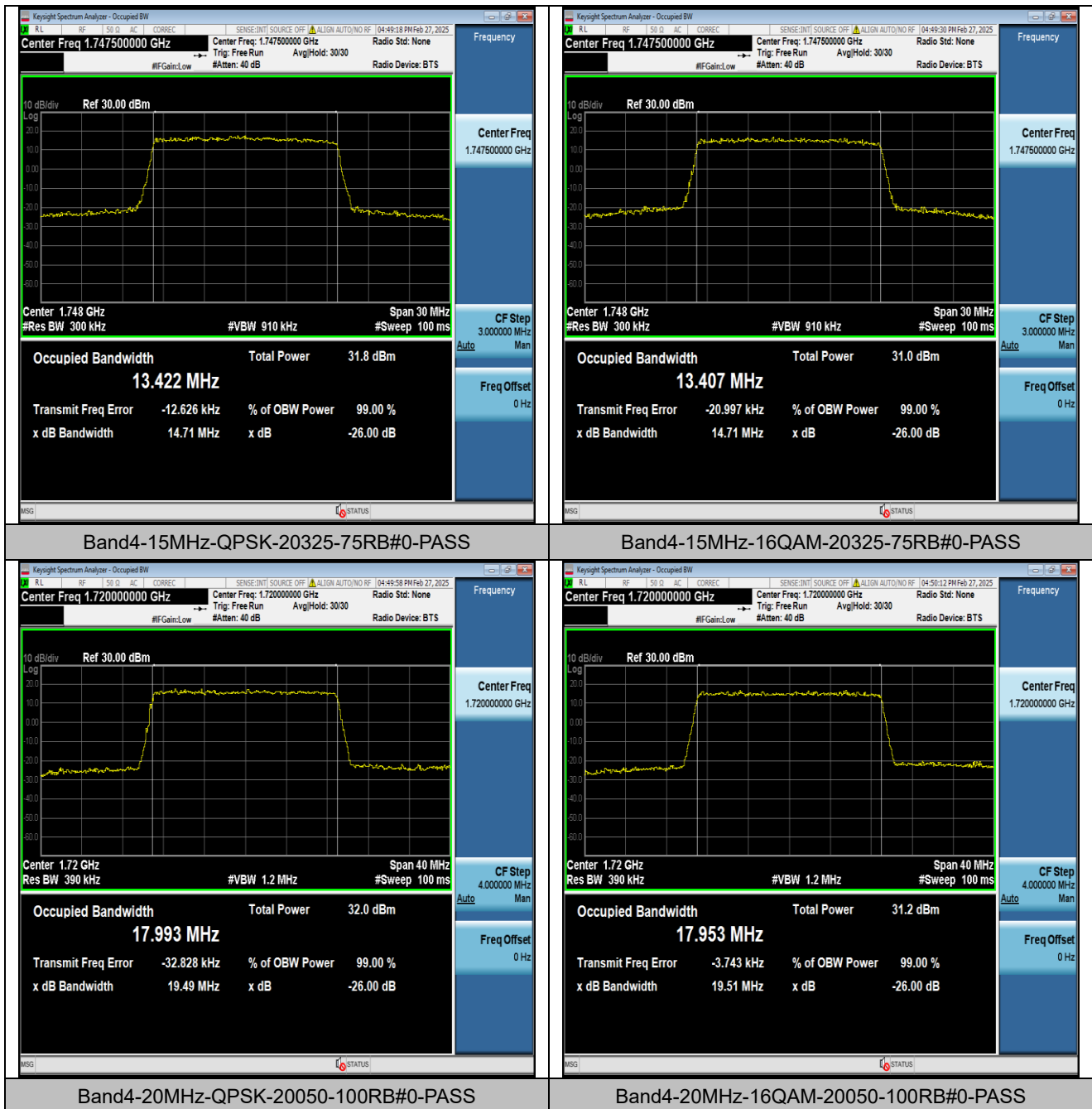


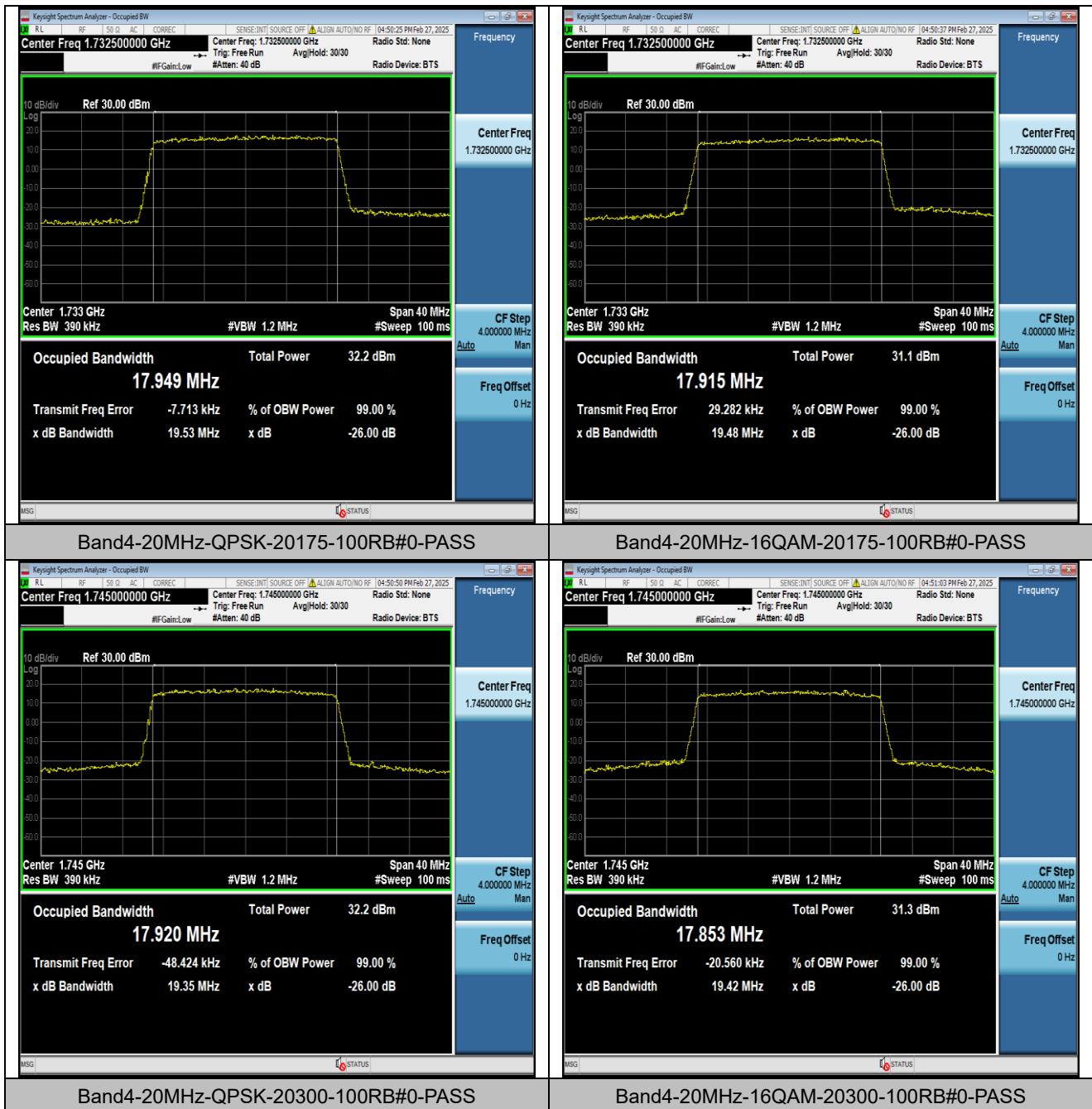






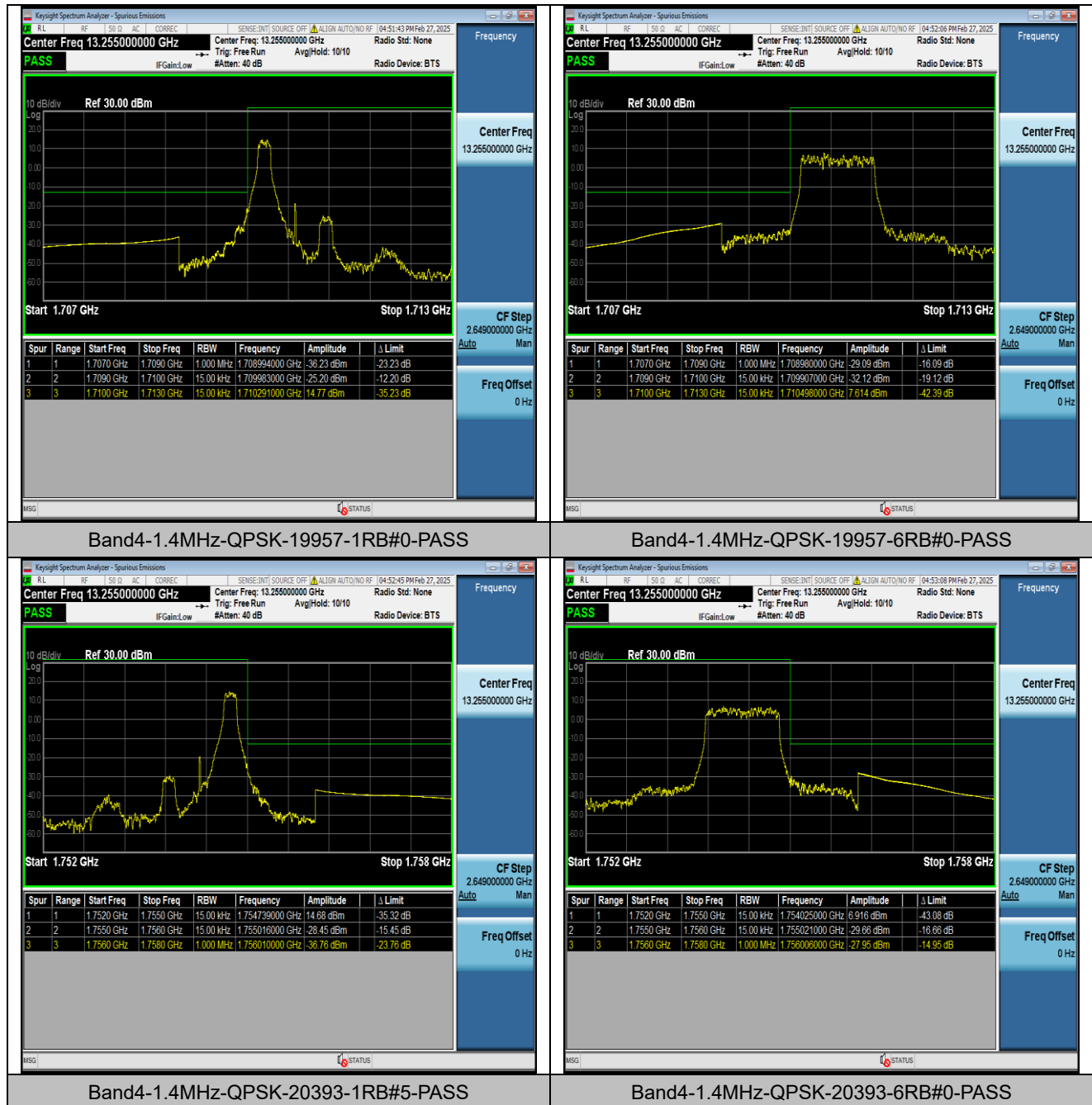


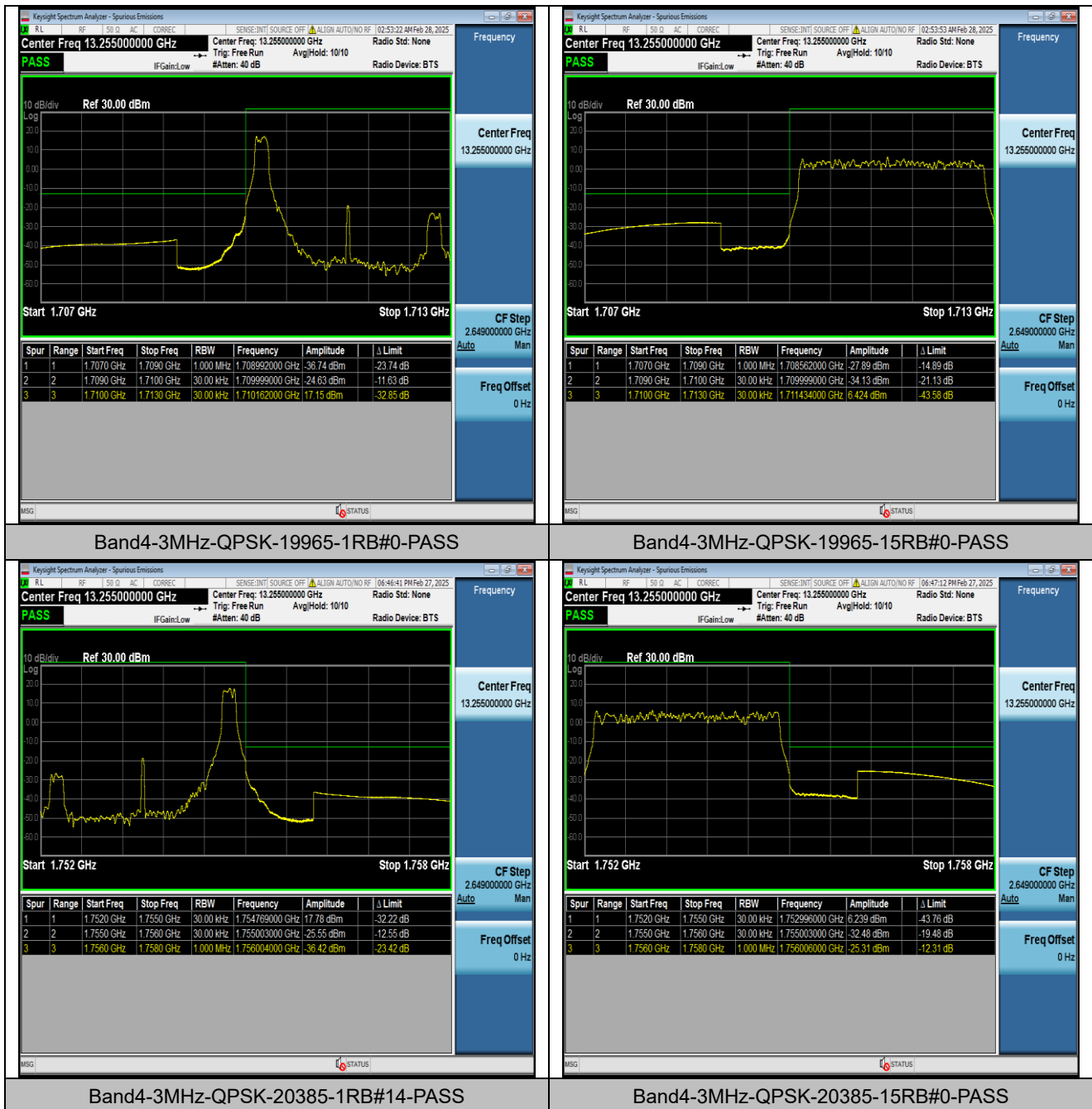


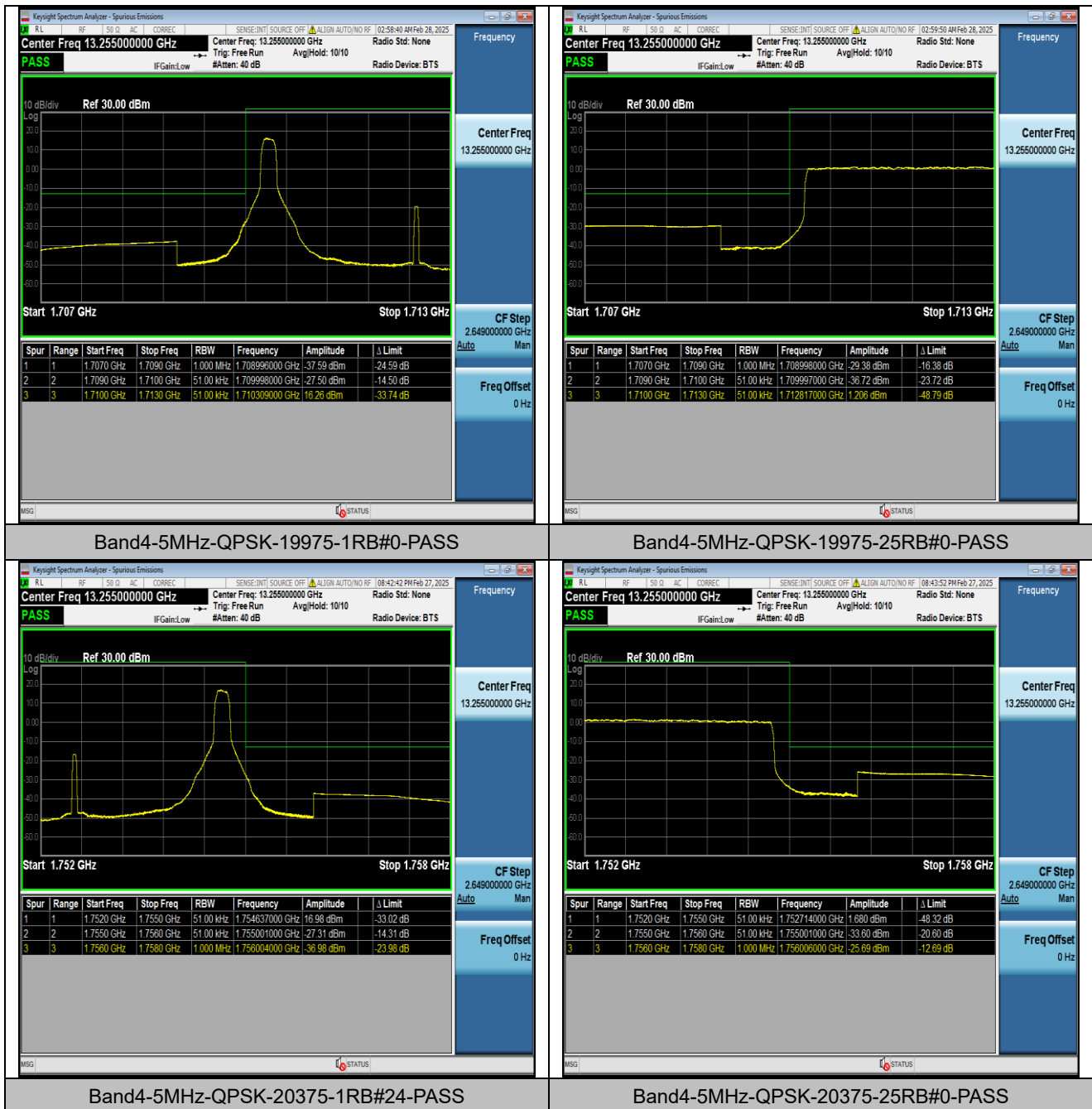


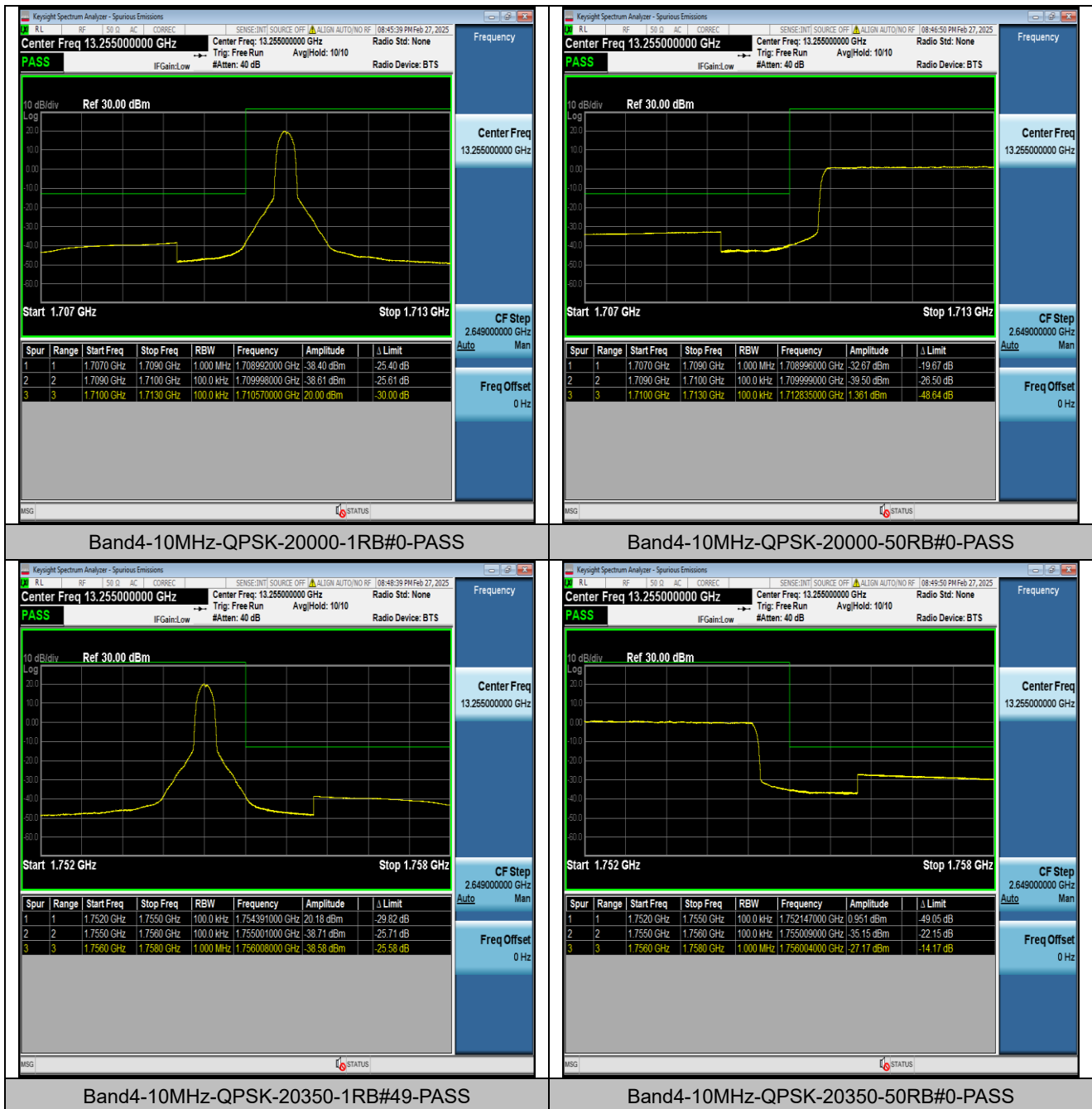
Band Edge

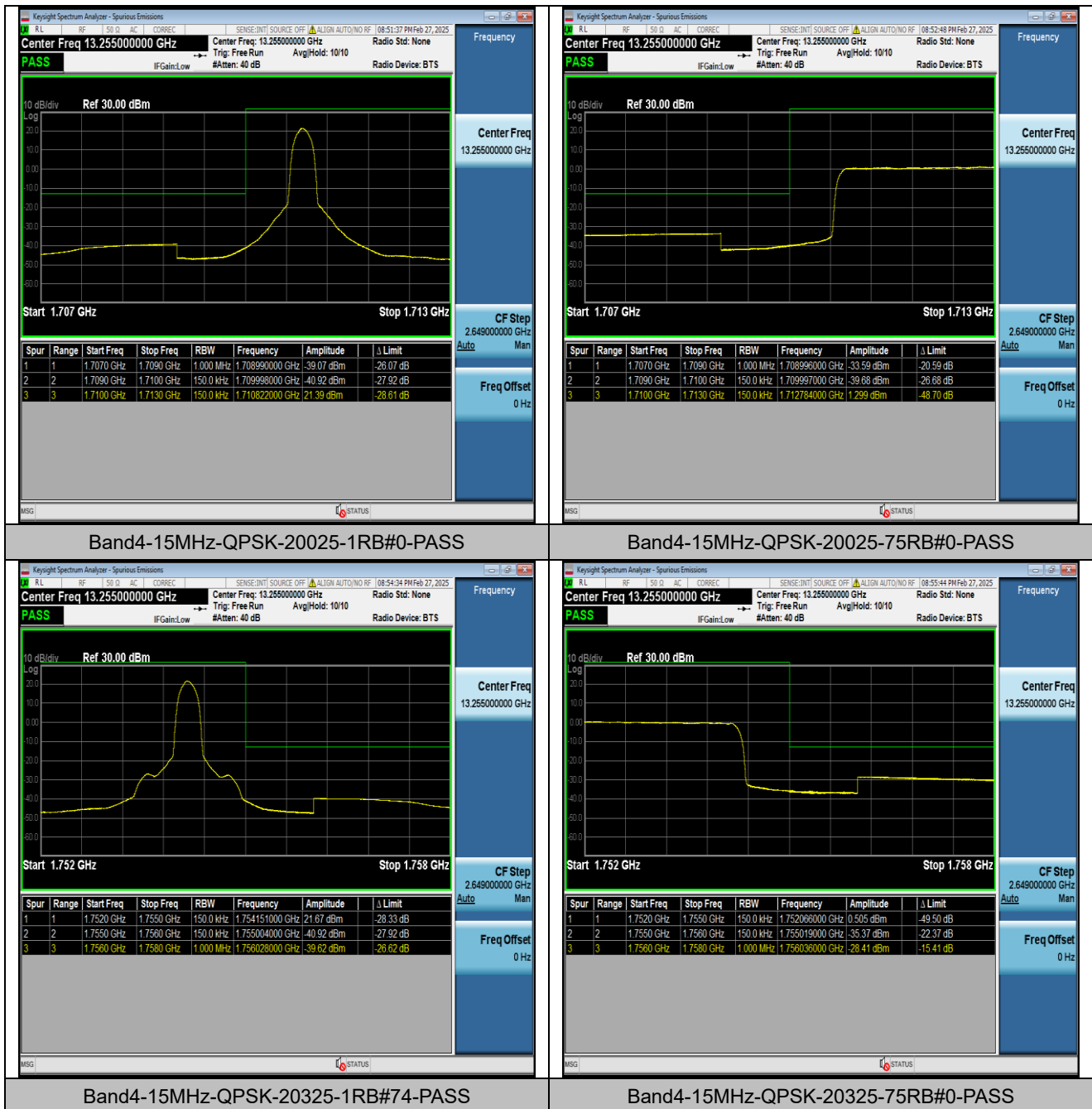
Test Graphs

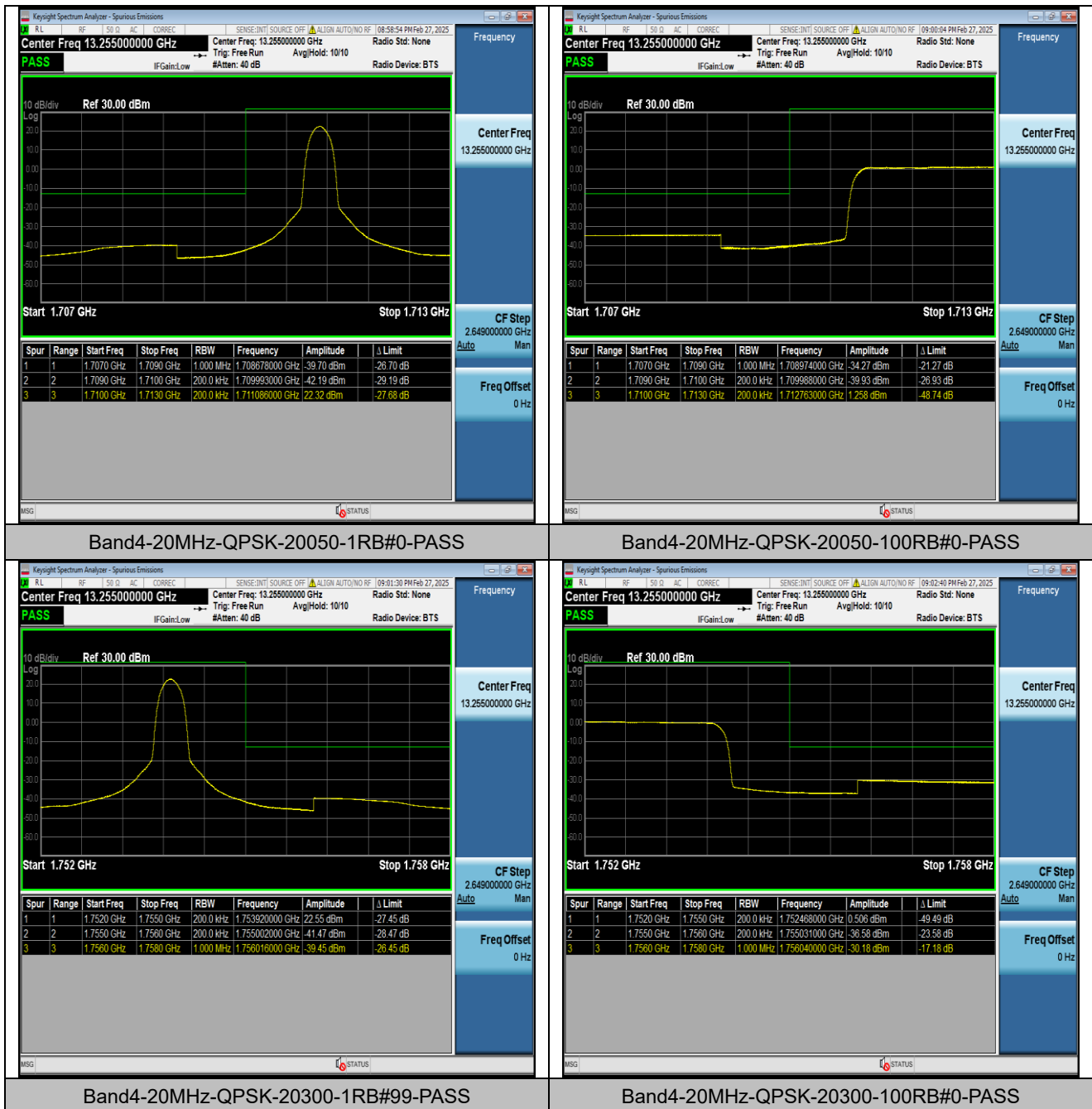






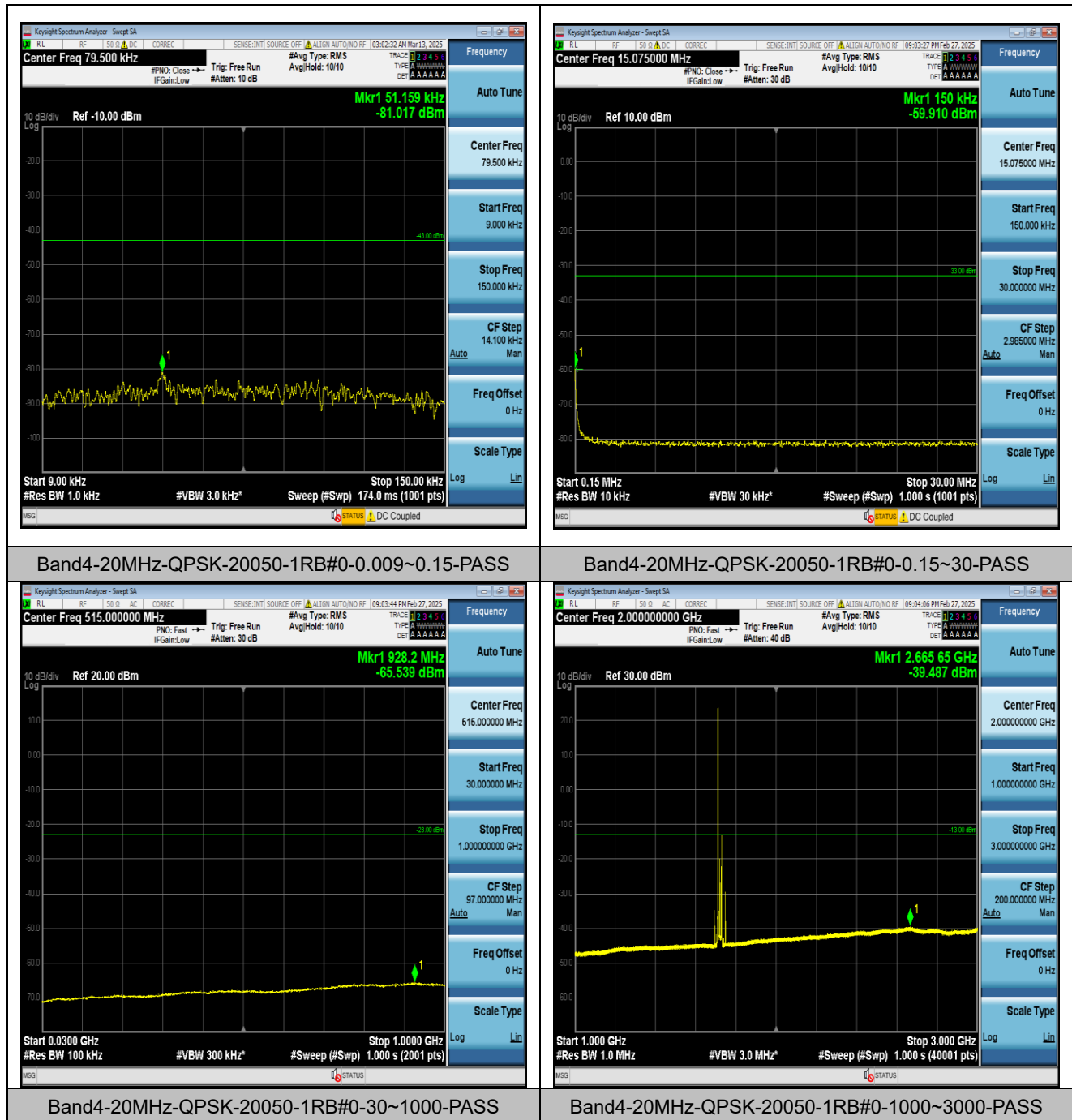


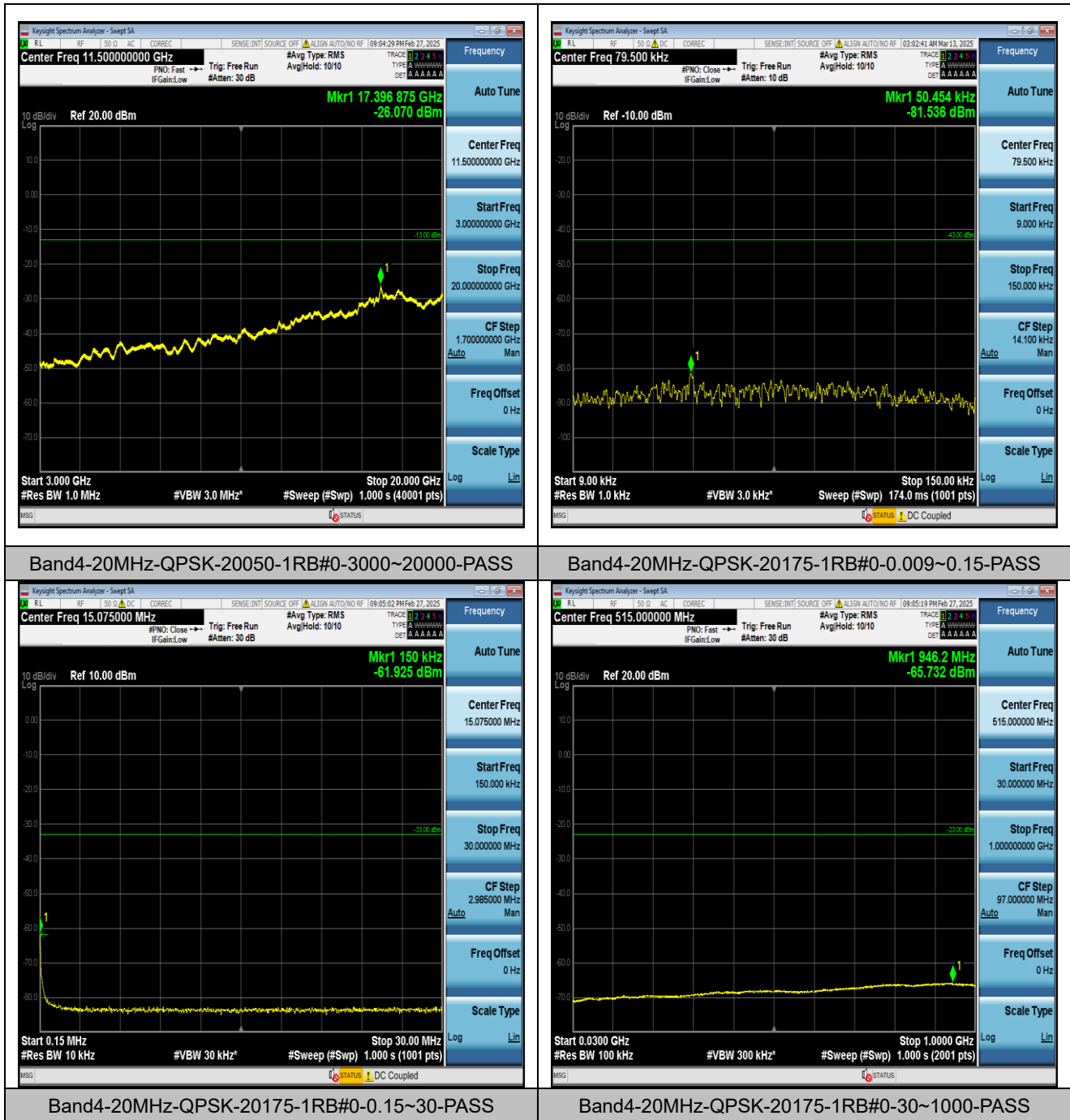


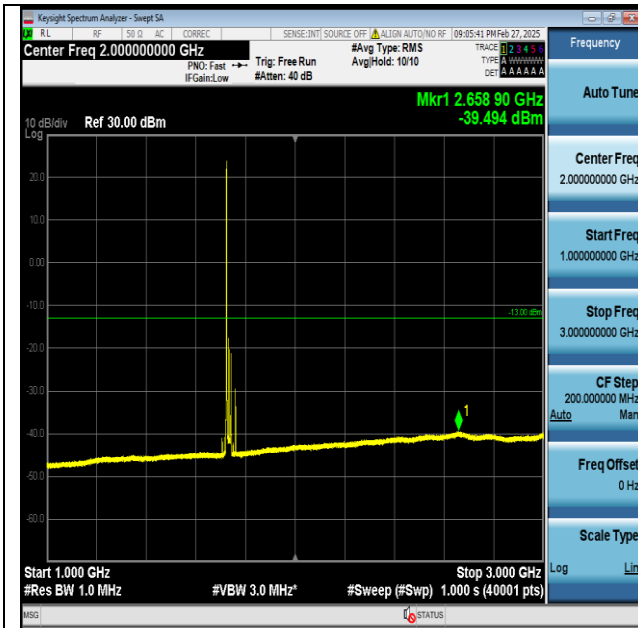


Conducted Spurious Emission

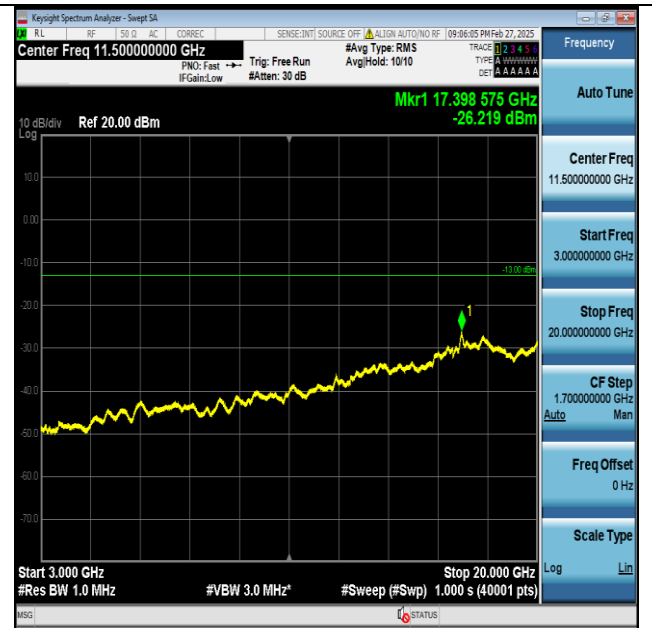
Test Graphs



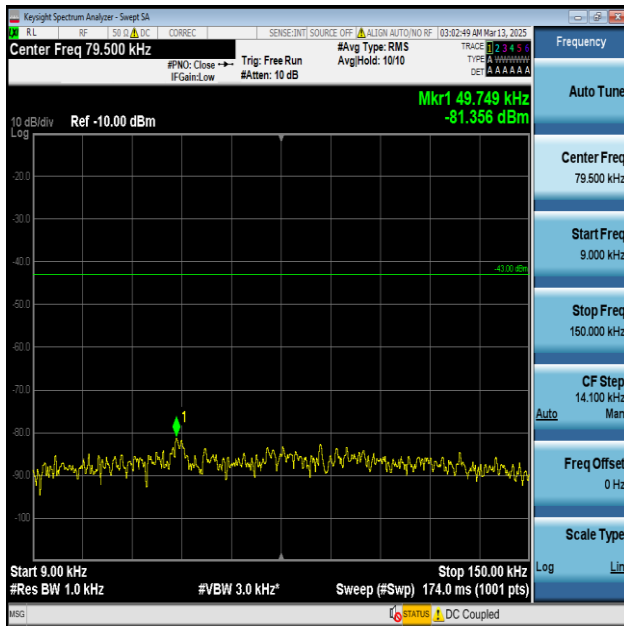




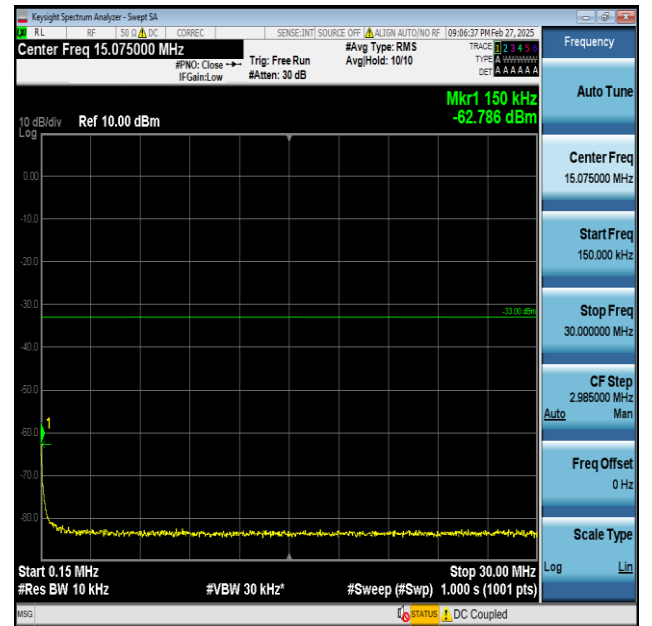
Band4-20MHz-QPSK-20175-1RB#0-1000~3000-PASS



Band4-20MHz-QPSK-20175-1RB#0-3000~20000-PASS



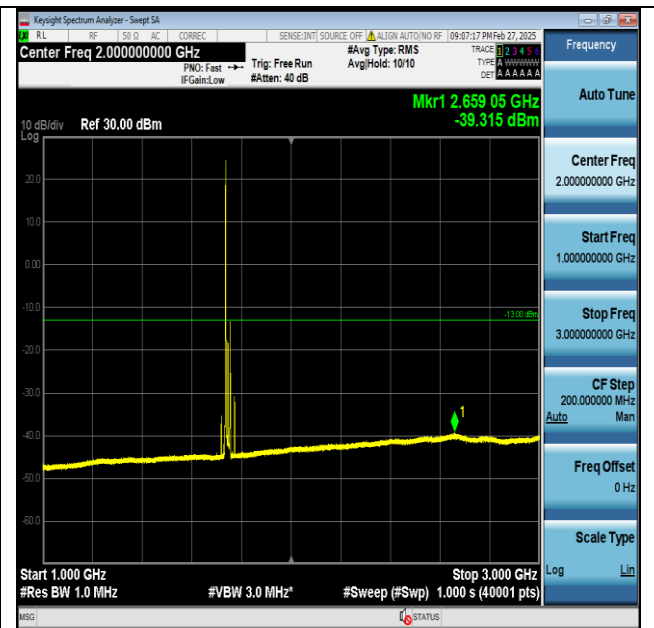
Band4-20MHz-QPSK-20300-1RB#0-0.009~0.15-PASS



Band4-20MHz-QPSK-20300-1RB#0-0.15~30-PASS



Band4-20MHz-QPSK-20300-1RB#0-30~1000-PASS



Band4-20MHz-QPSK-20300-1RB#0-1000~3000-PASS



Band4-20MHz-QPSK-20300-1RB#0-3000~20000-PASS

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	0.00	0.000000	PASS
Band4	20MHz	QPSK	20175	100RB#0	VL	NT	1.70	0.000981	PASS
Band4	20MHz	QPSK	20175	100RB#0	VH	NT	-0.70	-0.000404	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	2.30	0.001328	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-20	1.00	0.000577	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-10	-0.50	-0.000289	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	0	0.40	0.000231	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	10	-0.50	-0.000289	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	20	0.70	0.000404	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	30	0.40	0.000231	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	40	1.50	0.000866	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	50	0.50	0.000289	PASS

~The End~