

Appendix-B LTE Cat M1 Band 2

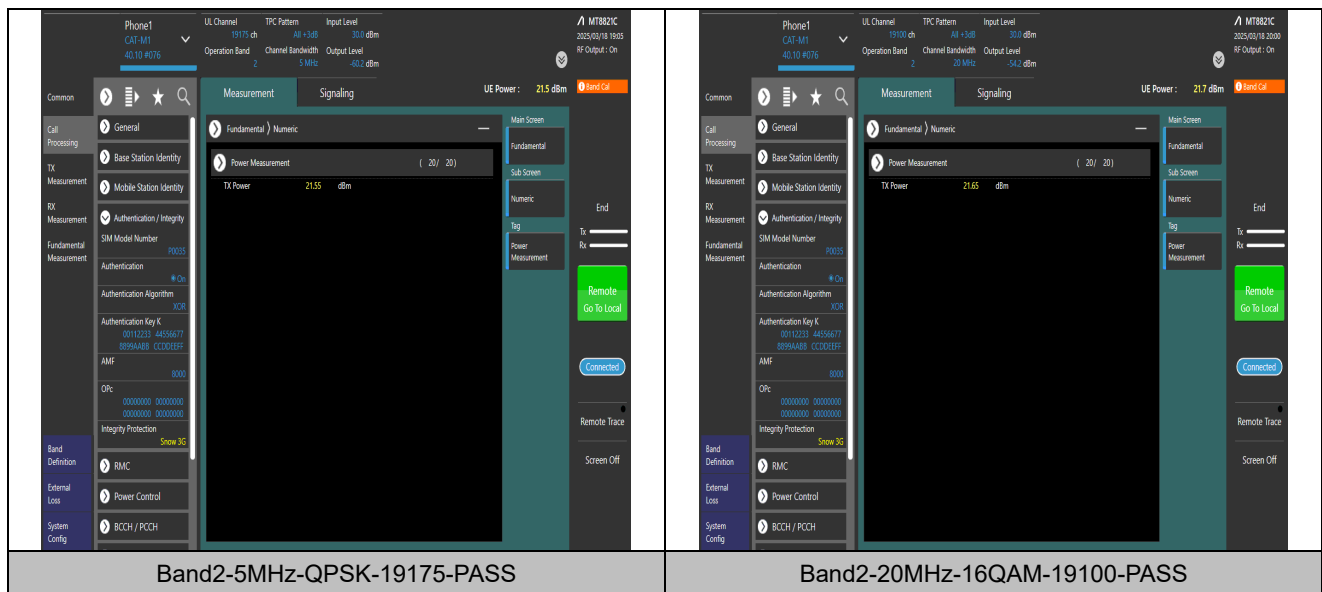
Effective (Isotropic) Radiated Power Output Data for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Power (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band2	1.4MHz	QPSK	18607	1	0	Low	21.27	22.86	33	PASS
Band2	1.4MHz	QPSK	18607	1	5	Low	21.14	22.73	33	PASS
Band2	1.4MHz	QPSK	18607	6	0	Low	20.23	21.82	33	PASS
Band2	1.4MHz	QPSK	18900	1	0	Low	21.44	23.03	33	PASS
Band2	1.4MHz	QPSK	18900	1	5	Low	21.21	22.8	33	PASS
Band2	1.4MHz	QPSK	18900	6	0	Low	20.28	21.87	33	PASS
Band2	1.4MHz	QPSK	19193	1	0	High	21.44	23.03	33	PASS
Band2	1.4MHz	QPSK	19193	1	5	High	21.38	22.97	33	PASS
Band2	1.4MHz	QPSK	19193	6	0	High	20.42	22.01	33	PASS
Band2	3MHz	QPSK	18615	1	0	Low	21.26	22.85	33	PASS
Band2	3MHz	QPSK	18615	1	5	Low	21.12	22.71	33	PASS
Band2	3MHz	QPSK	18615	6	0	Low	20.2	21.79	33	PASS
Band2	3MHz	QPSK	18900	1	0	Low	21.36	22.95	33	PASS
Band2	3MHz	QPSK	18900	1	5	Low	21.12	22.71	33	PASS
Band2	3MHz	QPSK	18900	6	0	Low	20.28	21.87	33	PASS
Band2	3MHz	QPSK	19185	1	0	High	21.55	23.14	33	PASS
Band2	3MHz	QPSK	19185	1	5	High	21.32	22.91	33	PASS
Band2	3MHz	QPSK	19185	6	0	High	20.32	21.91	33	PASS
Band2	5MHz	QPSK	18625	1	0	Low	21.35	22.94	33	PASS
Band2	5MHz	QPSK	18625	1	5	Low	21.19	22.78	33	PASS
Band2	5MHz	QPSK	18625	6	0	Low	20.25	21.84	33	PASS
Band2	5MHz	QPSK	18900	1	0	Low	21.36	22.95	33	PASS
Band2	5MHz	QPSK	18900	1	5	Low	21.29	22.88	33	PASS
Band2	5MHz	QPSK	18900	6	0	Low	20.26	21.85	33	PASS
Band2	5MHz	QPSK	19175	1	0	High	21.55	23.14	33	PASS
Band2	5MHz	QPSK	19175	1	5	High	21.39	22.98	33	PASS
Band2	5MHz	QPSK	19175	6	0	High	20.38	21.97	33	PASS
Band2	10MHz	QPSK	18650	1	0	Low	21.39	22.98	33	PASS
Band2	10MHz	QPSK	18650	1	5	Low	21.17	22.76	33	PASS
Band2	10MHz	QPSK	18650	6	0	Low	20.31	21.9	33	PASS
Band2	10MHz	QPSK	18900	1	0	Low	21.41	23	33	PASS
Band2	10MHz	QPSK	18900	1	5	Low	21.2	22.79	33	PASS
Band2	10MHz	QPSK	18900	6	0	Low	20.2	21.79	33	PASS
Band2	10MHz	QPSK	19150	1	0	High	21.62	23.21	33	PASS
Band2	10MHz	QPSK	19150	1	5	High	21.38	22.97	33	PASS
Band2	10MHz	QPSK	19150	6	0	High	20.33	21.92	33	PASS

Band2	15MHz	QPSK	18675	1	0	Low	21.27	22.86	33	PASS
Band2	15MHz	QPSK	18675	1	5	Low	21.2	22.79	33	PASS
Band2	15MHz	QPSK	18675	6	0	Low	21.31	22.9	33	PASS
Band2	15MHz	QPSK	18900	1	0	Low	21.33	22.92	33	PASS
Band2	15MHz	QPSK	18900	1	5	Low	21.15	22.74	33	PASS
Band2	15MHz	QPSK	18900	6	0	Low	21.26	22.85	33	PASS
Band2	15MHz	QPSK	19125	1	0	High	21.54	23.13	33	PASS
Band2	15MHz	QPSK	19125	1	5	High	21.31	22.9	33	PASS
Band2	15MHz	QPSK	19125	6	0	High	21.47	23.06	33	PASS
Band2	20MHz	QPSK	18700	1	0	Low	21.35	22.94	33	PASS
Band2	20MHz	QPSK	18700	1	5	Low	21.13	22.72	33	PASS
Band2	20MHz	QPSK	18700	6	0	Low	21.26	22.85	33	PASS
Band2	20MHz	QPSK	18900	1	0	Low	21.37	22.96	33	PASS
Band2	20MHz	QPSK	18900	1	5	Low	21.12	22.71	33	PASS
Band2	20MHz	QPSK	18900	6	0	Low	21.27	22.86	33	PASS
Band2	20MHz	QPSK	19100	1	0	High	21.53	23.12	33	PASS
Band2	20MHz	QPSK	19100	1	5	High	21.3	22.89	33	PASS
Band2	20MHz	QPSK	19100	6	0	High	21.46	23.05	33	PASS
Band2	1.4MHz	16QAM	18607	1	0	Low	20.58	22.17	33	PASS
Band2	1.4MHz	16QAM	18607	1	5	Low	20.44	22.03	33	PASS
Band2	1.4MHz	16QAM	18607	5	0	Low	20.19	21.78	33	PASS
Band2	1.4MHz	16QAM	18900	1	0	Low	20.22	21.81	33	PASS
Band2	1.4MHz	16QAM	18900	1	5	Low	20.47	22.06	33	PASS
Band2	1.4MHz	16QAM	18900	5	0	Low	20.37	21.96	33	PASS
Band2	1.4MHz	16QAM	19193	1	0	High	20.24	21.83	33	PASS
Band2	1.4MHz	16QAM	19193	1	5	High	20.48	22.07	33	PASS
Band2	1.4MHz	16QAM	19193	5	0	High	20.45	22.04	33	PASS
Band2	3MHz	16QAM	18615	1	0	Low	20.39	21.98	33	PASS
Band2	3MHz	16QAM	18615	1	5	Low	20.23	21.82	33	PASS
Band2	3MHz	16QAM	18615	5	0	Low	20.31	21.9	33	PASS
Band2	3MHz	16QAM	18900	1	0	Low	20.52	22.11	33	PASS
Band2	3MHz	16QAM	18900	1	5	Low	20.47	22.06	33	PASS
Band2	3MHz	16QAM	18900	5	0	Low	20.36	21.95	33	PASS
Band2	3MHz	16QAM	19185	1	0	High	20.22	21.81	33	PASS
Band2	3MHz	16QAM	19185	1	5	High	20.47	22.06	33	PASS
Band2	3MHz	16QAM	19185	5	0	High	20.47	22.06	33	PASS
Band2	5MHz	16QAM	18625	1	0	Low	21.28	22.87	33	PASS
Band2	5MHz	16QAM	18625	1	5	Low	21.14	22.73	33	PASS
Band2	5MHz	16QAM	18625	5	0	Low	20.03	21.62	33	PASS
Band2	5MHz	16QAM	18900	1	0	Low	21.35	22.94	33	PASS
Band2	5MHz	16QAM	18900	1	5	Low	21.13	22.72	33	PASS
Band2	5MHz	16QAM	18900	5	0	Low	20.19	21.78	33	PASS
Band2	5MHz	16QAM	19175	1	0	High	21.65	23.24	33	PASS
Band2	5MHz	16QAM	19175	1	5	High	21.14	22.73	33	PASS

Band2	5MHz	16QAM	19175	5	0	High	20.27	21.86	33	PASS
Band2	10MHz	16QAM	18650	1	0	Low	21.21	22.8	33	PASS
Band2	10MHz	16QAM	18650	1	5	Low	21.02	22.61	33	PASS
Band2	10MHz	16QAM	18650	5	0	Low	21.15	22.74	33	PASS
Band2	10MHz	16QAM	18900	1	0	Low	21.16	22.75	33	PASS
Band2	10MHz	16QAM	18900	1	5	Low	21.11	22.7	33	PASS
Band2	10MHz	16QAM	18900	5	0	Low	21.31	22.9	33	PASS
Band2	10MHz	16QAM	19150	1	0	High	21.61	23.2	33	PASS
Band2	10MHz	16QAM	19150	1	5	High	21.4	22.99	33	PASS
Band2	10MHz	16QAM	19150	5	0	High	21.46	23.05	33	PASS
Band2	15MHz	16QAM	18675	1	0	Low	21.17	22.76	33	PASS
Band2	15MHz	16QAM	18675	1	5	Low	21	22.59	33	PASS
Band2	15MHz	16QAM	18675	5	0	Low	21.15	22.74	33	PASS
Band2	15MHz	16QAM	18900	1	0	Low	21.39	22.98	33	PASS
Band2	15MHz	16QAM	18900	1	5	Low	21.2	22.79	33	PASS
Band2	15MHz	16QAM	18900	5	0	Low	21.29	22.88	33	PASS
Band2	15MHz	16QAM	19125	1	0	High	21.31	22.9	33	PASS
Band2	15MHz	16QAM	19125	1	5	High	21.4	22.99	33	PASS
Band2	15MHz	16QAM	19125	5	0	High	21.47	23.06	33	PASS
Band2	20MHz	16QAM	18700	1	0	Low	21.19	22.78	33	PASS
Band2	20MHz	16QAM	18700	1	5	Low	20.29	21.88	33	PASS
Band2	20MHz	16QAM	18700	5	0	Low	21.08	22.67	33	PASS
Band2	20MHz	16QAM	18900	1	0	Low	21.36	22.95	33	PASS
Band2	20MHz	16QAM	18900	1	5	Low	21.15	22.74	33	PASS
Band2	20MHz	16QAM	18900	5	0	Low	21.2	22.79	33	PASS
Band2	20MHz	16QAM	19100	1	0	High	21.65	23.24	33	PASS
Band2	20MHz	16QAM	19100	1	5	High	21.45	23.04	33	PASS
Band2	20MHz	16QAM	19100	5	0	High	21.51	23.1	33	PASS

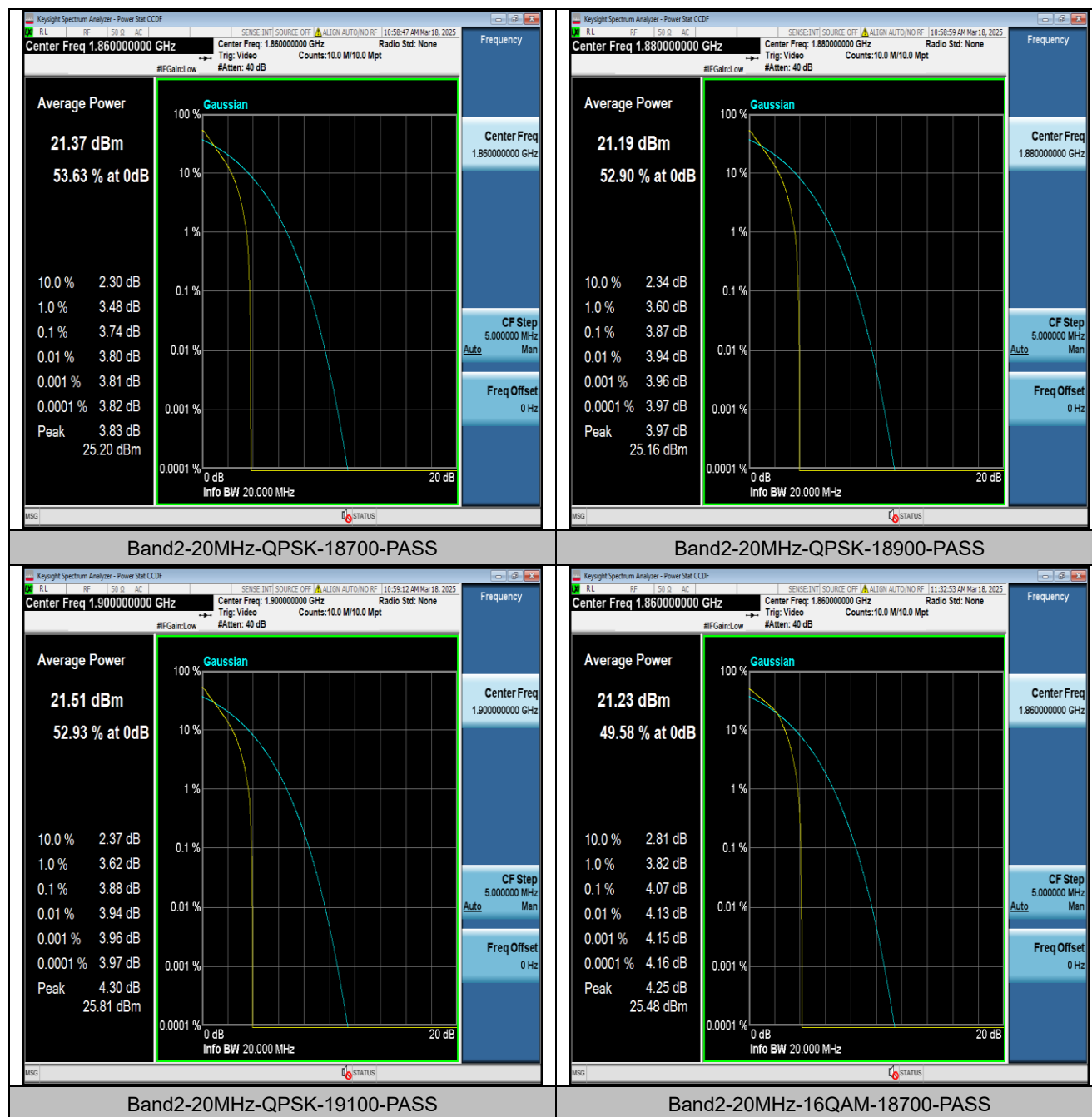


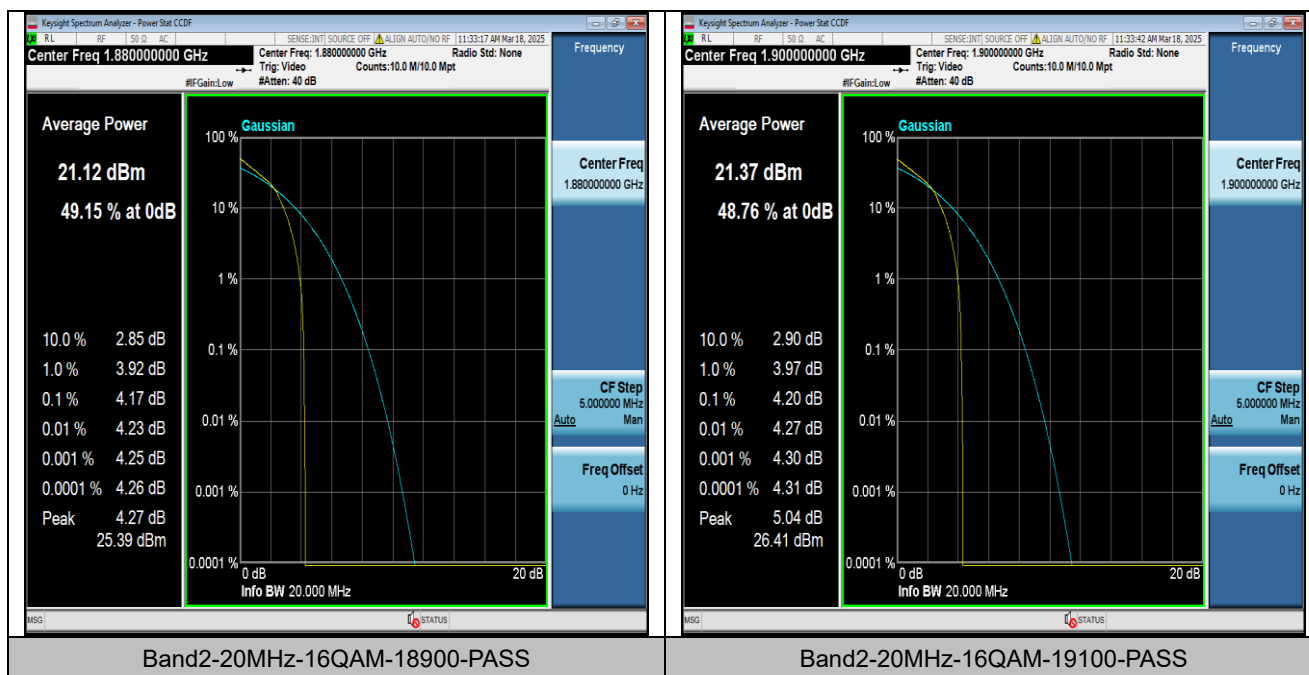
Peak-to-Average Ratio(CCDF) for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band2	20MHz	QPSK	18700	6	0	Low	3.74	<=13	PASS
Band2	20MHz	QPSK	18900	6	0	Low	3.87	<=13	PASS
Band2	20MHz	QPSK	19100	6	0	High	3.88	<=13	PASS
Band2	20MHz	16QAM	18700	5	0	Low	4.07	<=13	PASS
Band2	20MHz	16QAM	18900	5	0	Low	4.17	<=13	PASS
Band2	20MHz	16QAM	19100	5	0	High	4.20	<=13	PASS

Test Graphs

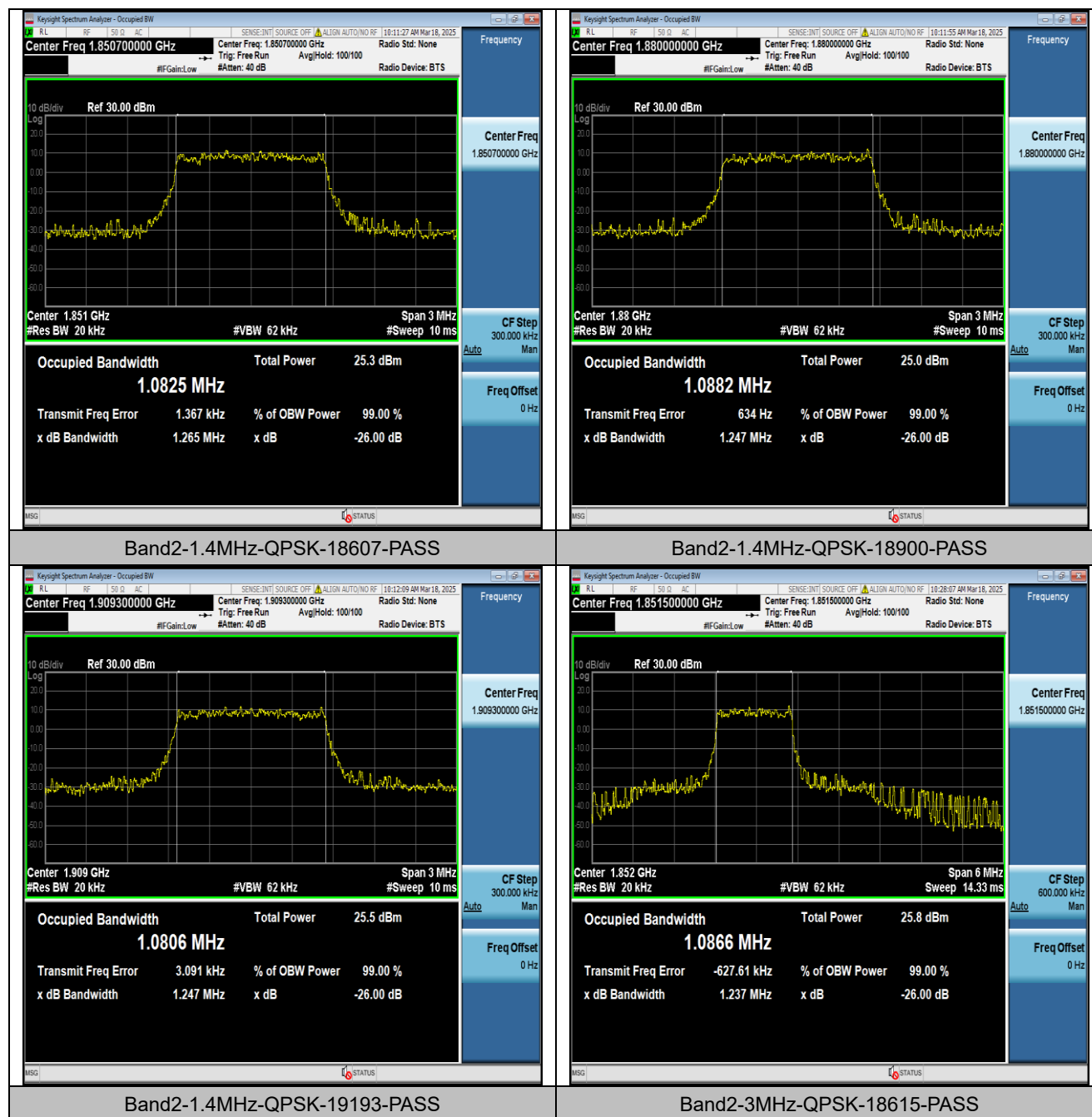


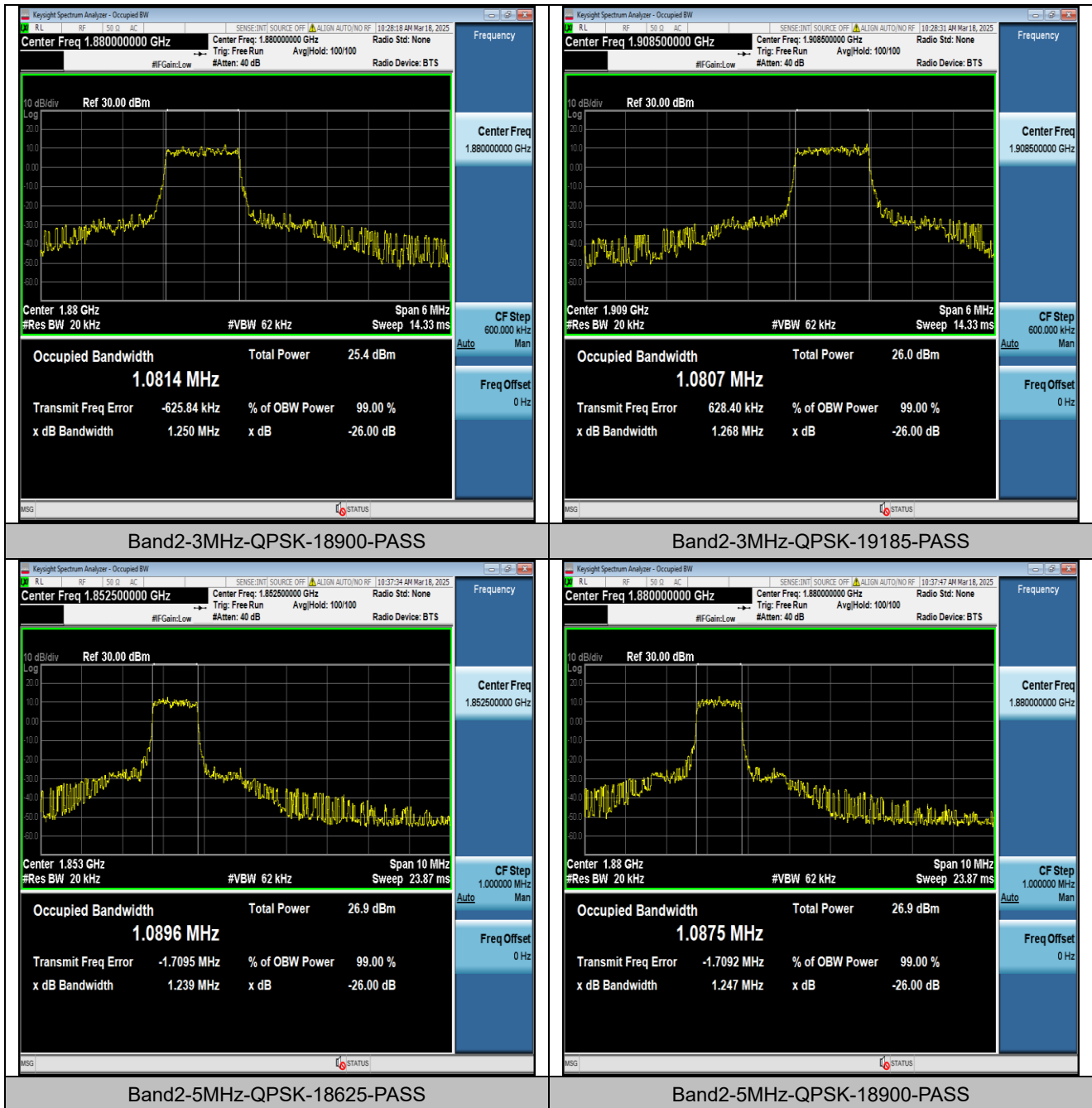


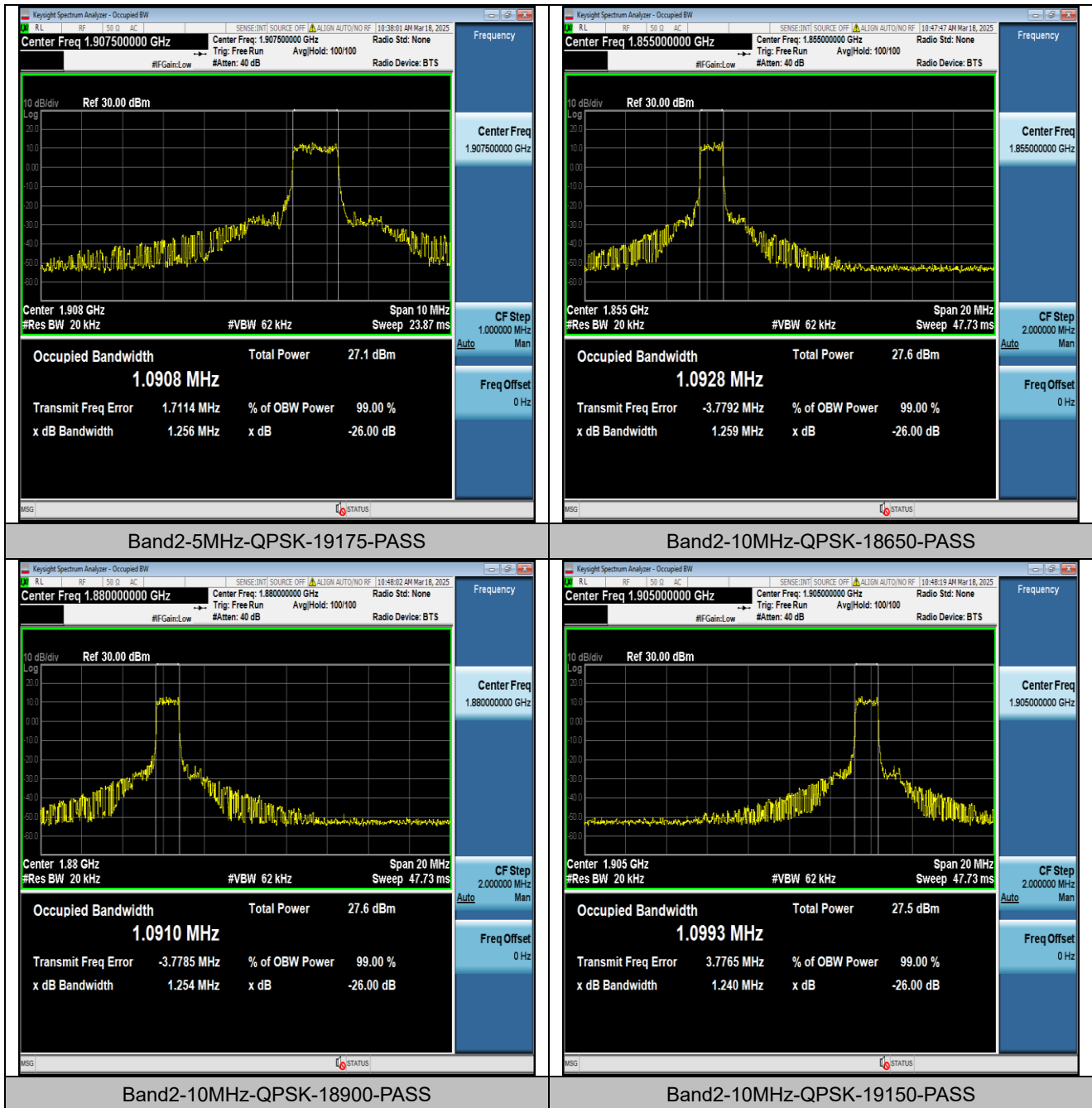
26dB Bandwidth and Occupied Bandwidth for M1**Test Result**

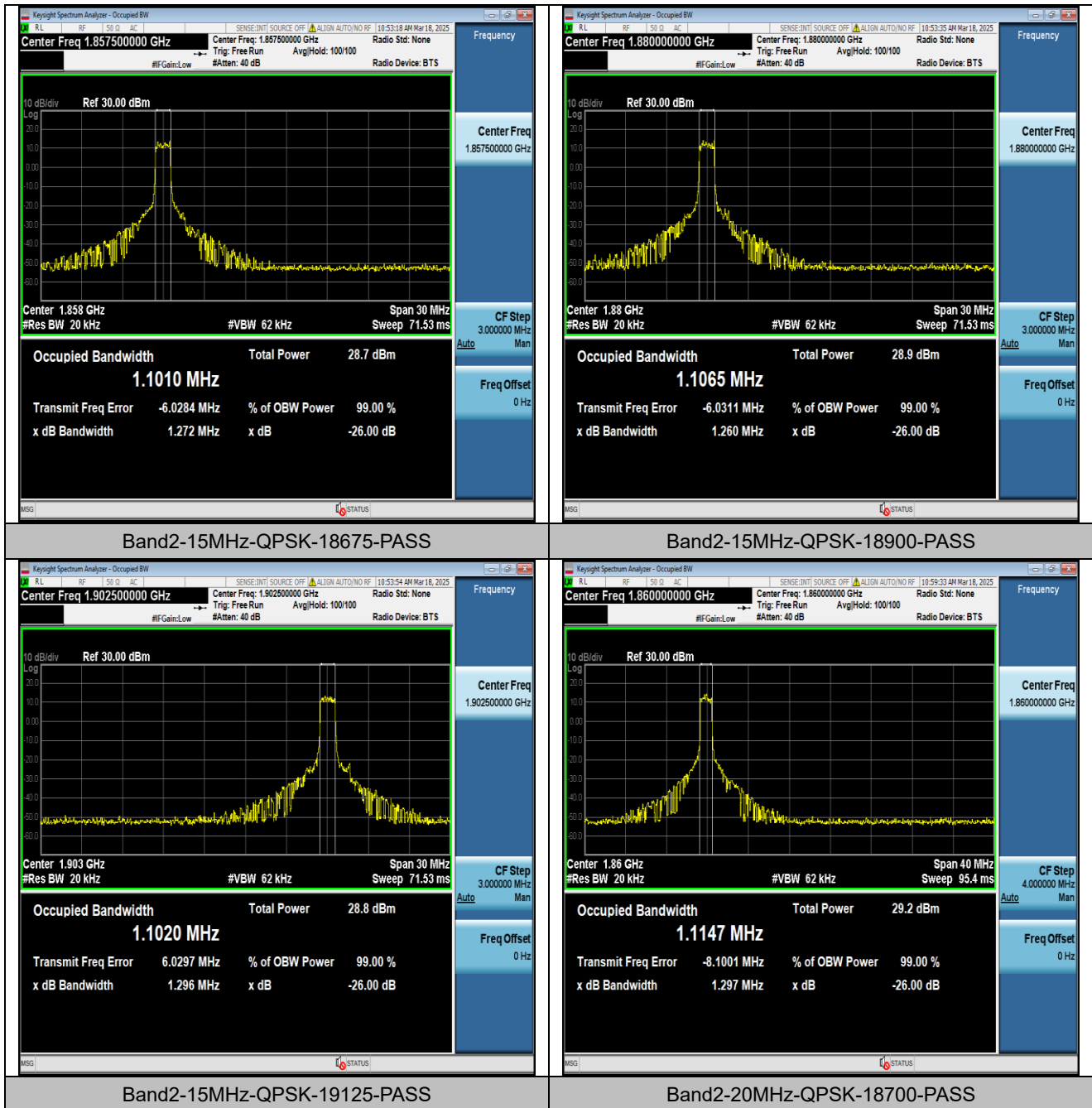
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6	0	Low	1.0825	1.265	PASS
Band2	1.4MHz	QPSK	18900	6	0	Low	1.0882	1.247	PASS
Band2	1.4MHz	QPSK	19193	6	0	High	1.0806	1.247	PASS
Band2	3MHz	QPSK	18615	6	0	Low	1.0866	1.237	PASS
Band2	3MHz	QPSK	18900	6	0	Low	1.0814	1.250	PASS
Band2	3MHz	QPSK	19185	6	0	High	1.0807	1.268	PASS
Band2	5MHz	QPSK	18625	6	0	Low	1.0896	1.239	PASS
Band2	5MHz	QPSK	18900	6	0	Low	1.0875	1.247	PASS
Band2	5MHz	QPSK	19175	6	0	High	1.0908	1.256	PASS
Band2	10MHz	QPSK	18650	6	0	Low	1.0928	1.259	PASS
Band2	10MHz	QPSK	18900	6	0	Low	1.0910	1.254	PASS
Band2	10MHz	QPSK	19150	6	0	High	1.0993	1.240	PASS
Band2	15MHz	QPSK	18675	6	0	Low	1.1010	1.272	PASS
Band2	15MHz	QPSK	18900	6	0	Low	1.1065	1.260	PASS
Band2	15MHz	QPSK	19125	6	0	High	1.1020	1.296	PASS
Band2	20MHz	QPSK	18700	6	0	Low	1.1147	1.297	PASS
Band2	20MHz	QPSK	18900	6	0	Low	1.1079	1.291	PASS
Band2	20MHz	QPSK	19100	6	0	High	1.1147	1.302	PASS
Band2	1.4MHz	16QAM	18607	5	0	Low	0.91626	1.081	PASS
Band2	1.4MHz	16QAM	18900	5	0	Low	0.90932	1.078	PASS
Band2	1.4MHz	16QAM	19193	5	0	High	0.91054	1.070	PASS
Band2	3MHz	16QAM	18615	5	0	Low	0.90998	1.071	PASS
Band2	3MHz	16QAM	18900	5	0	Low	0.90996	1.071	PASS
Band2	3MHz	16QAM	19185	5	0	High	0.90831	1.089	PASS
Band2	5MHz	16QAM	18625	5	0	Low	0.92165	1.124	PASS
Band2	5MHz	16QAM	18900	5	0	Low	0.92582	1.131	PASS
Band2	5MHz	16QAM	19175	5	0	High	0.91899	1.125	PASS
Band2	10MHz	16QAM	18650	5	0	Low	0.92554	1.273	PASS
Band2	10MHz	16QAM	18900	5	0	Low	0.93319	1.176	PASS
Band2	10MHz	16QAM	19150	5	0	High	0.92080	1.177	PASS
Band2	15MHz	16QAM	18675	5	0	Low	0.93243	1.174	PASS
Band2	15MHz	16QAM	18900	5	0	Low	0.92736	1.150	PASS
Band2	15MHz	16QAM	19125	5	0	High	0.92870	1.130	PASS
Band2	20MHz	16QAM	18700	5	0	Low	0.94930	1.160	PASS
Band2	20MHz	16QAM	18900	5	0	Low	0.96054	1.330	PASS
Band2	20MHz	16QAM	19100	5	0	High	0.94654	1.226	PASS

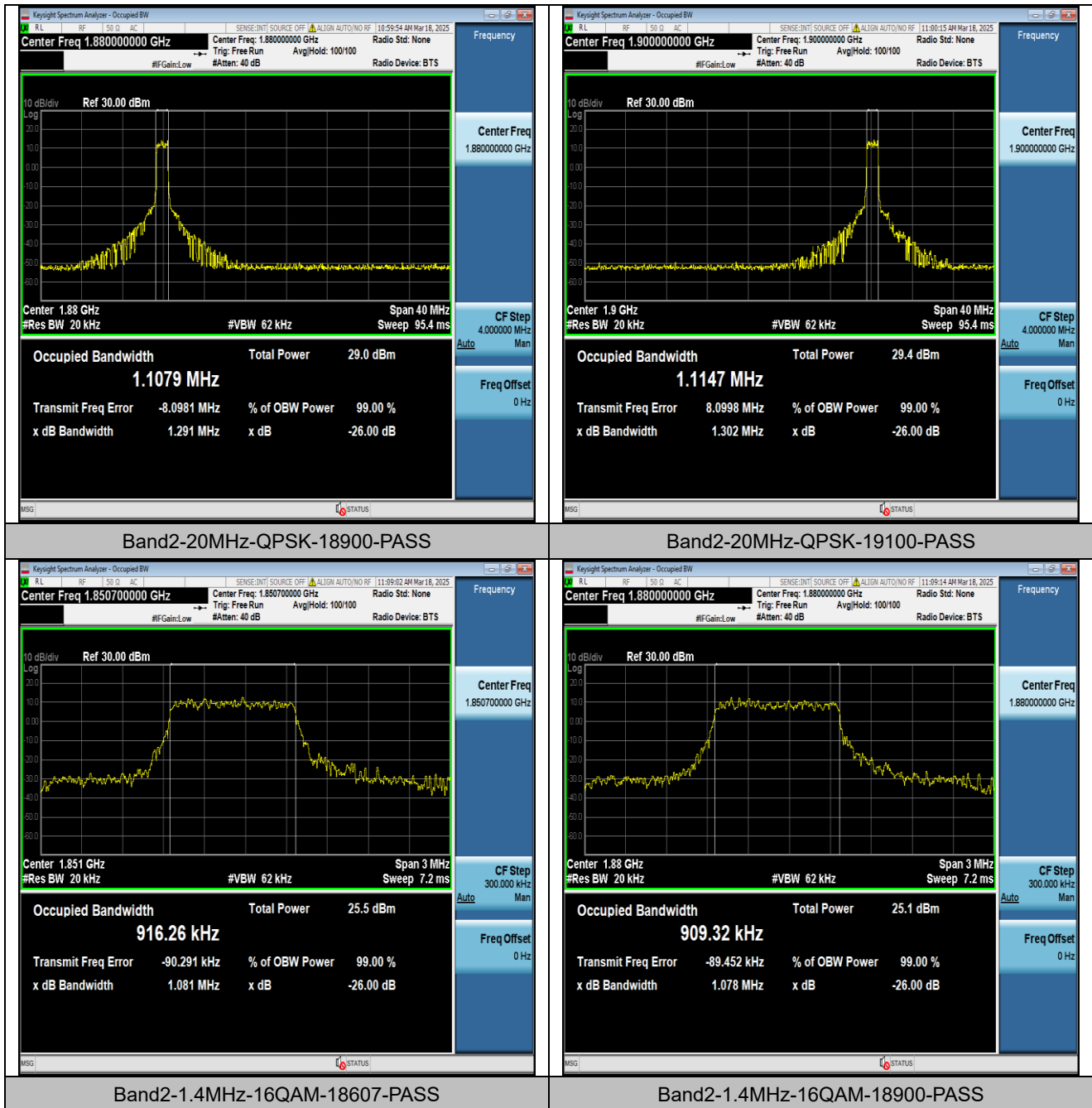
Test Graphs

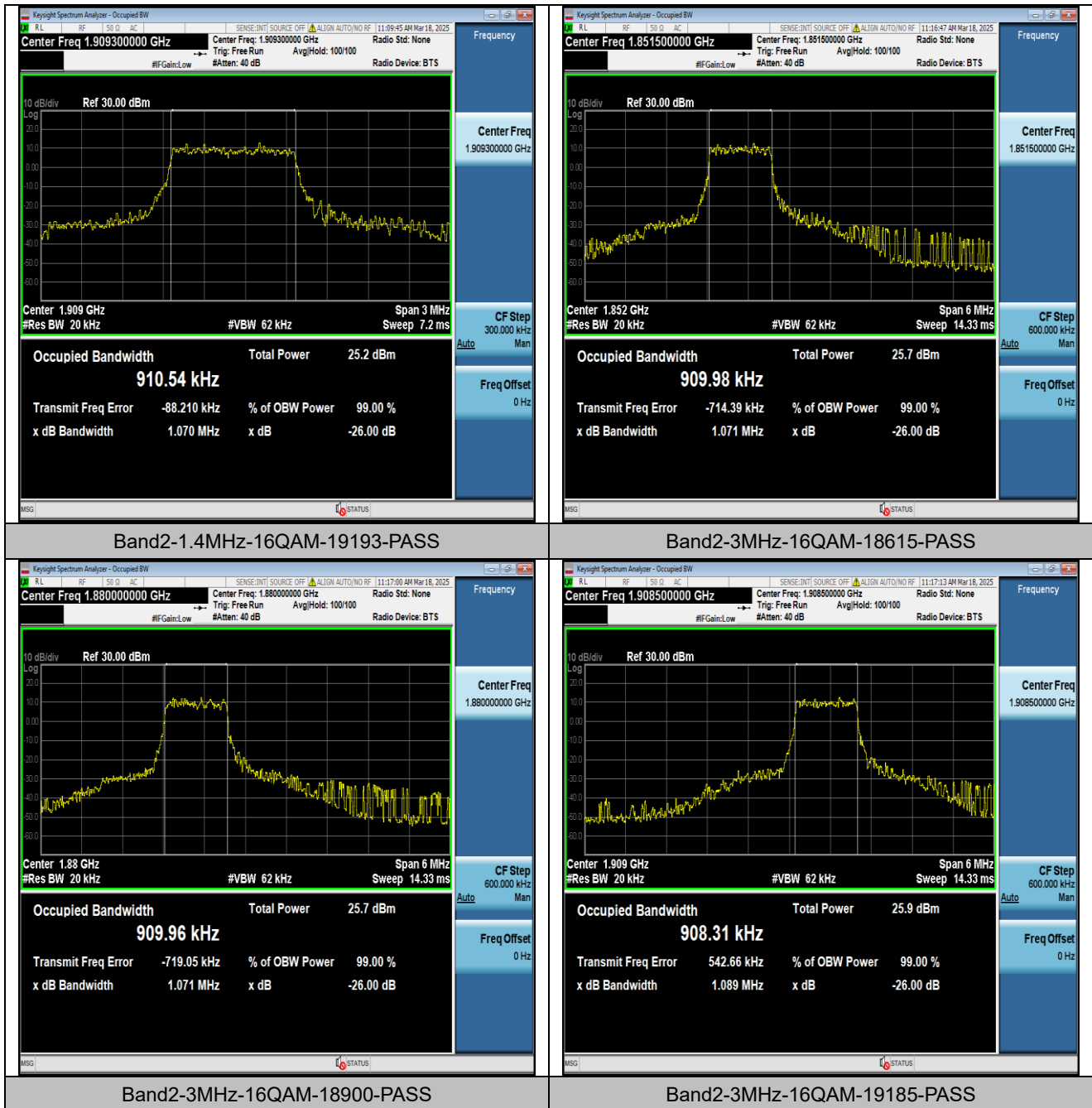


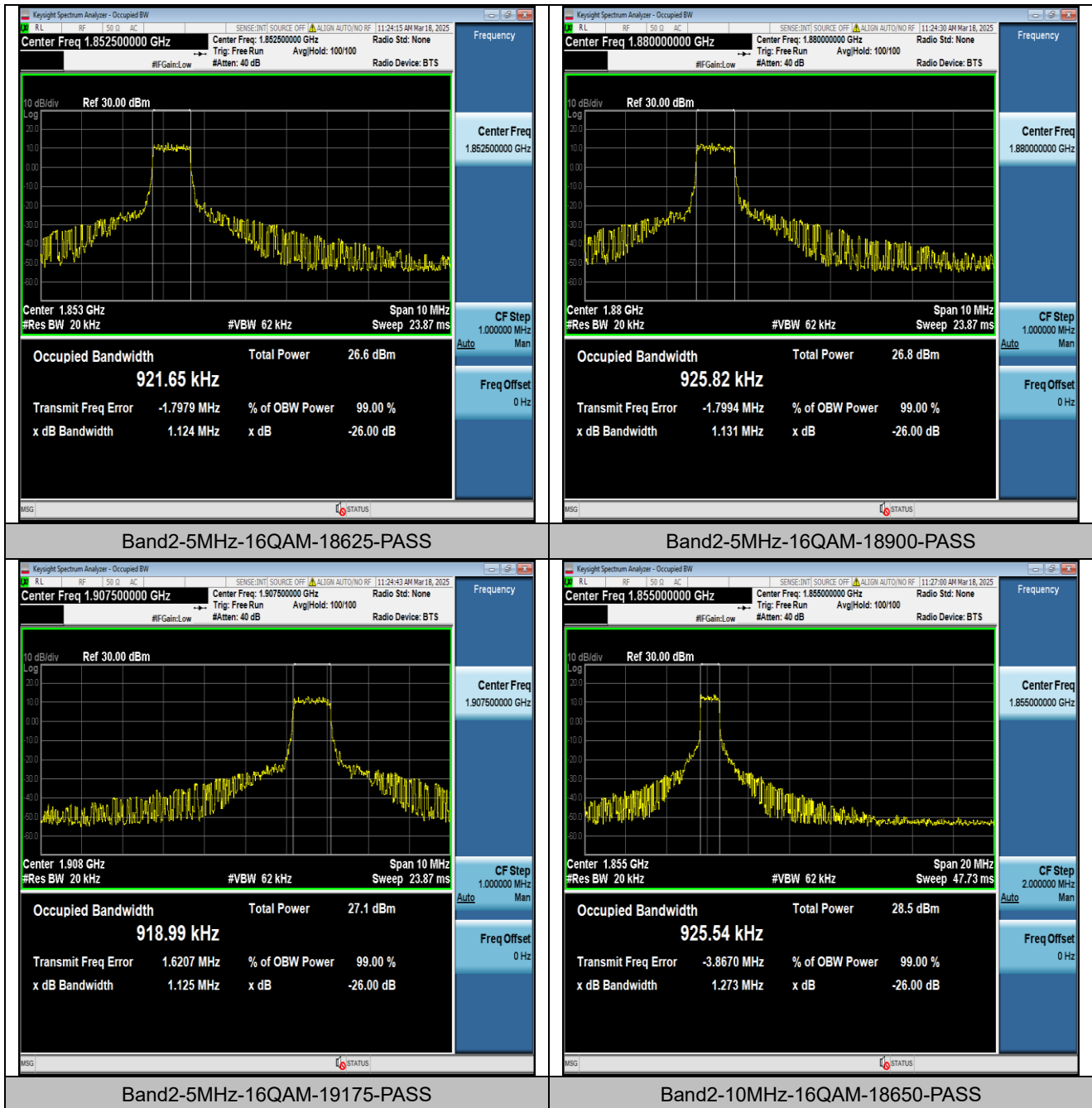


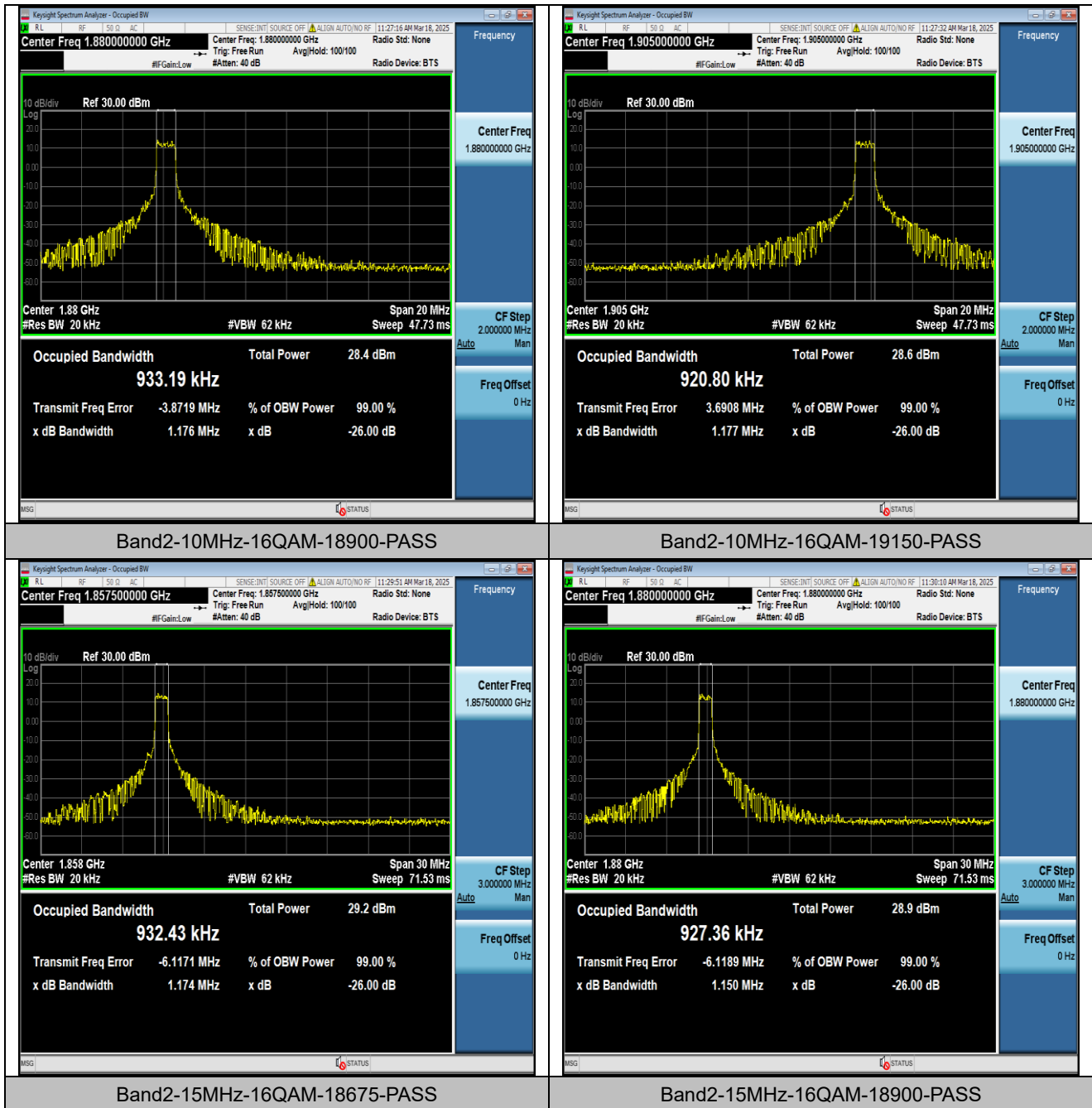


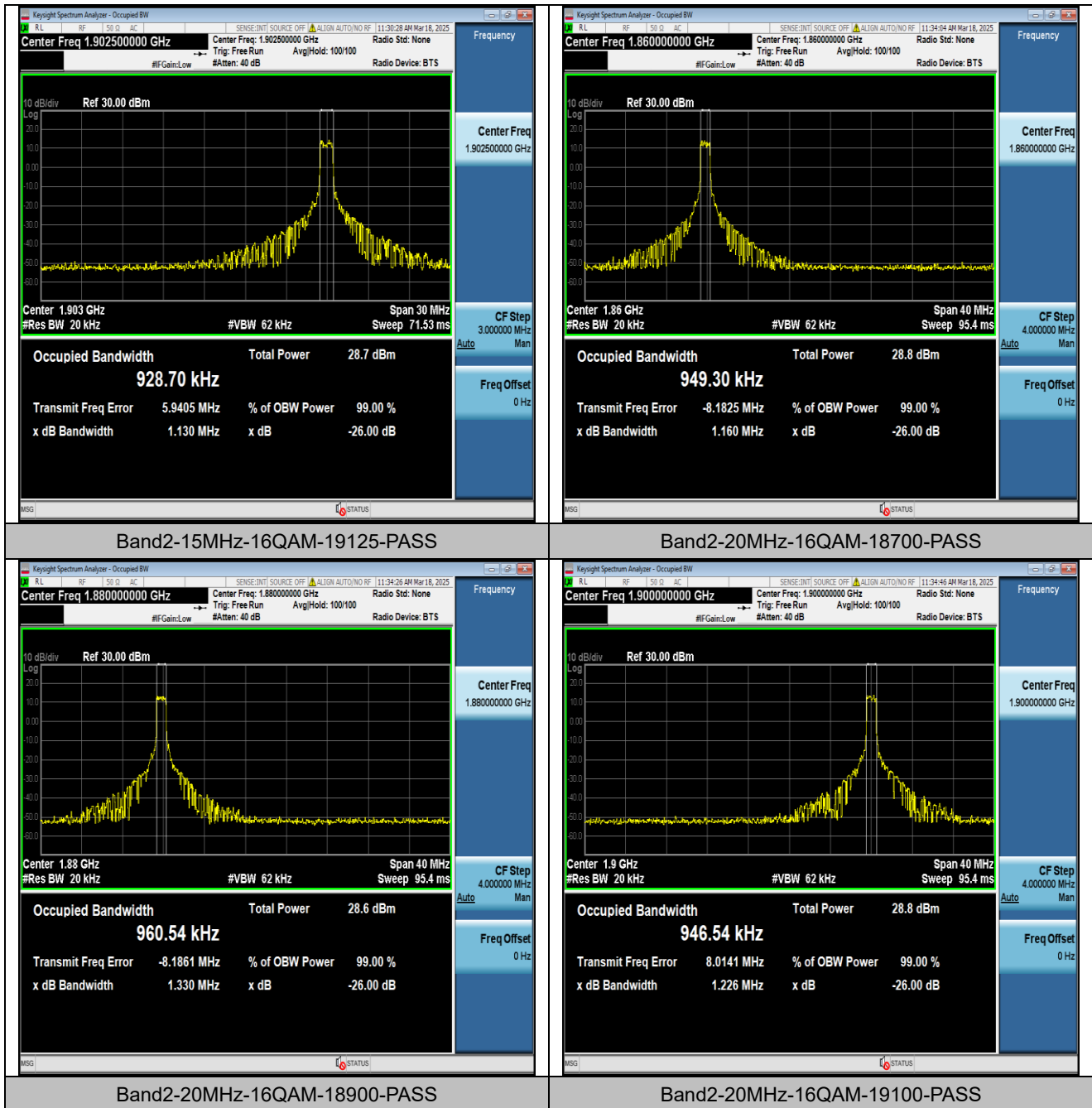






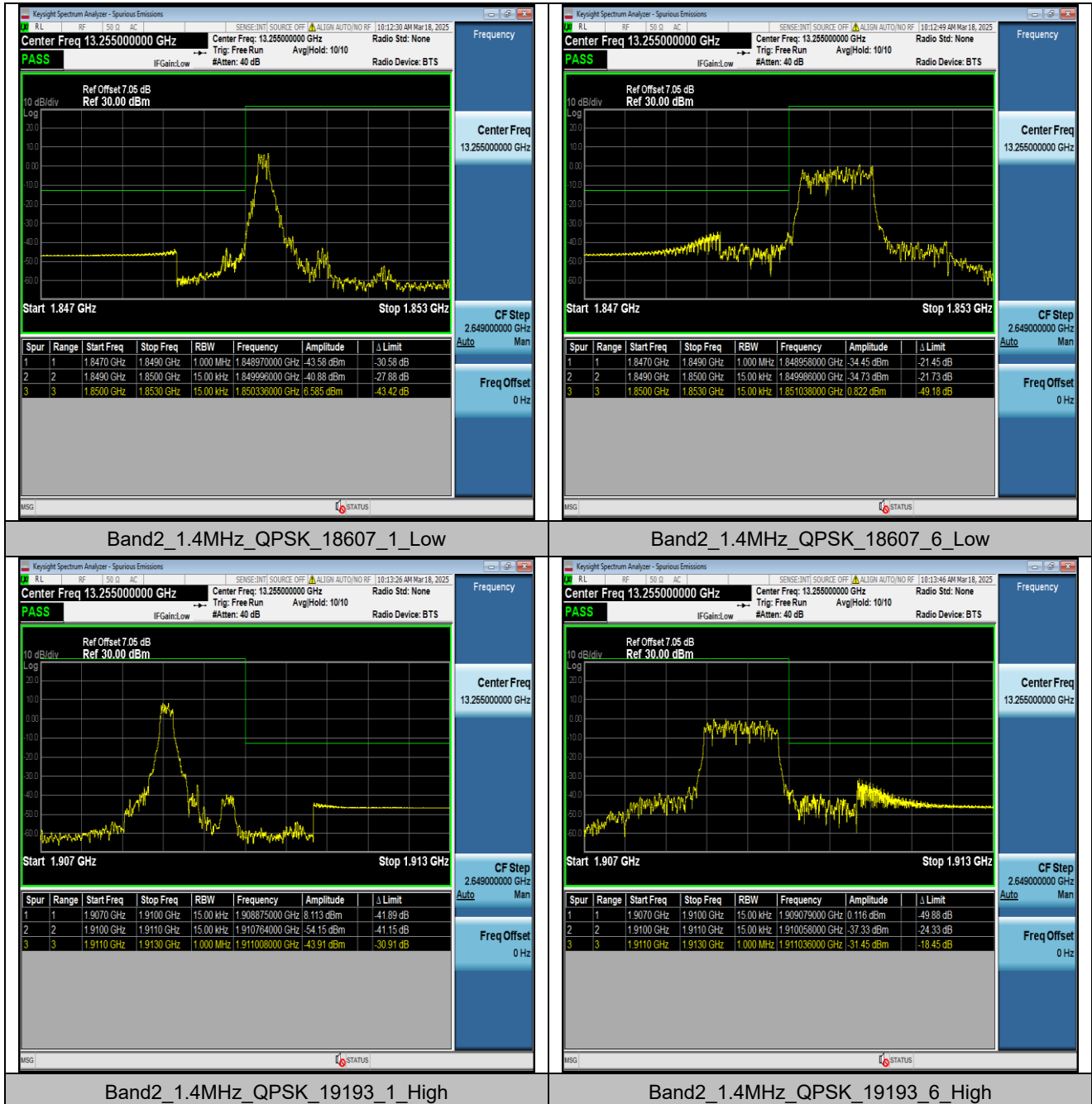


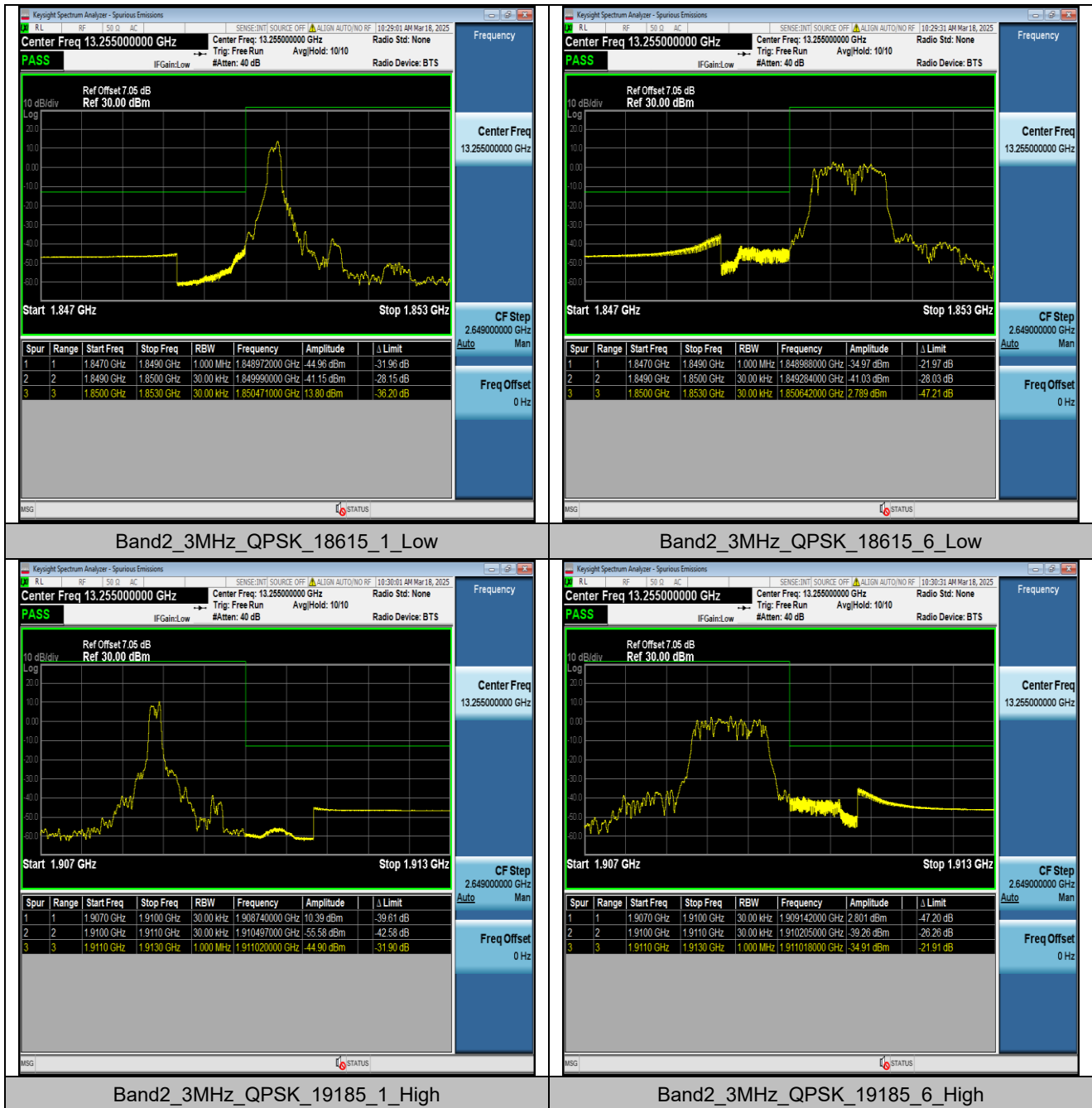


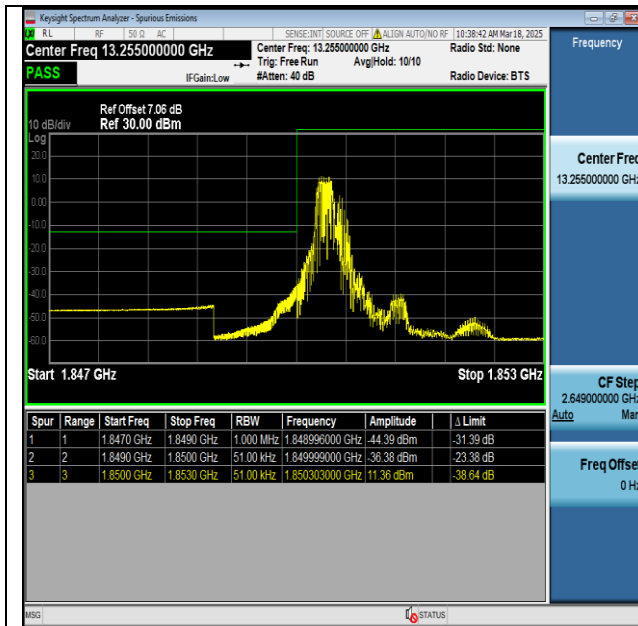


Band Edge for M1

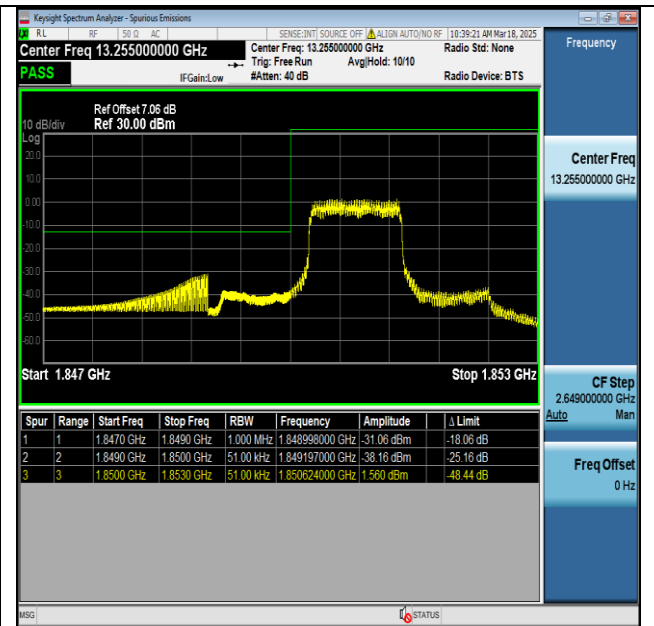
Test Graphs



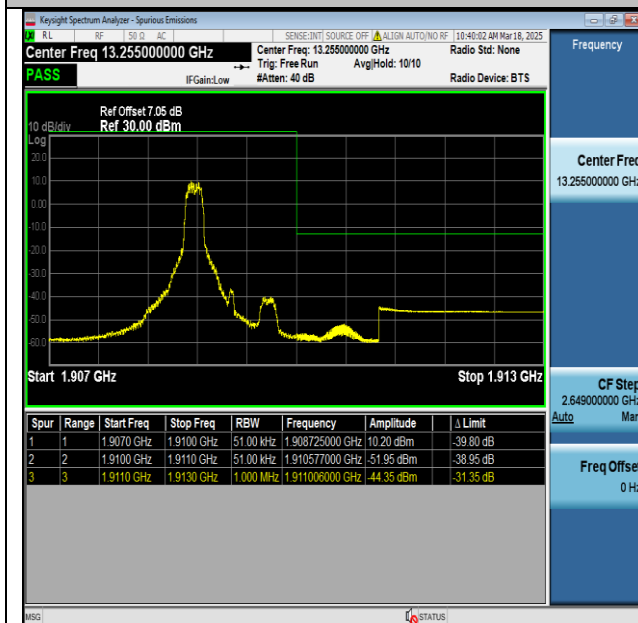




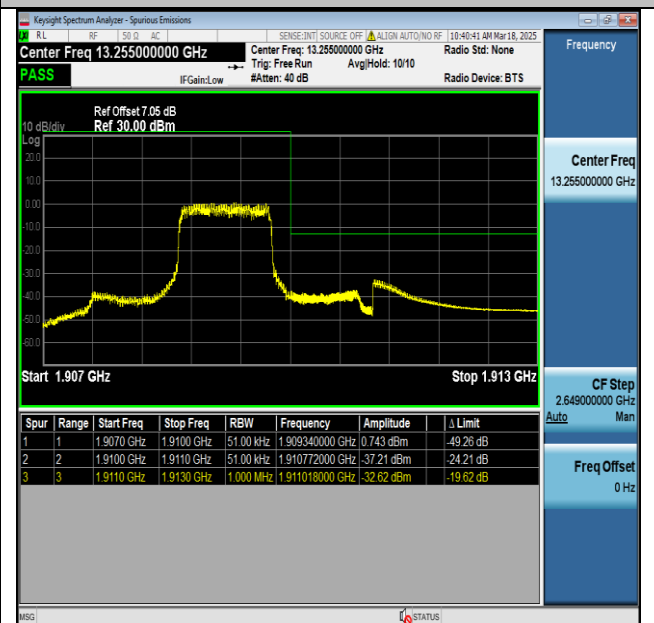
Band2_5MHz_QPSK_18625_1_Low



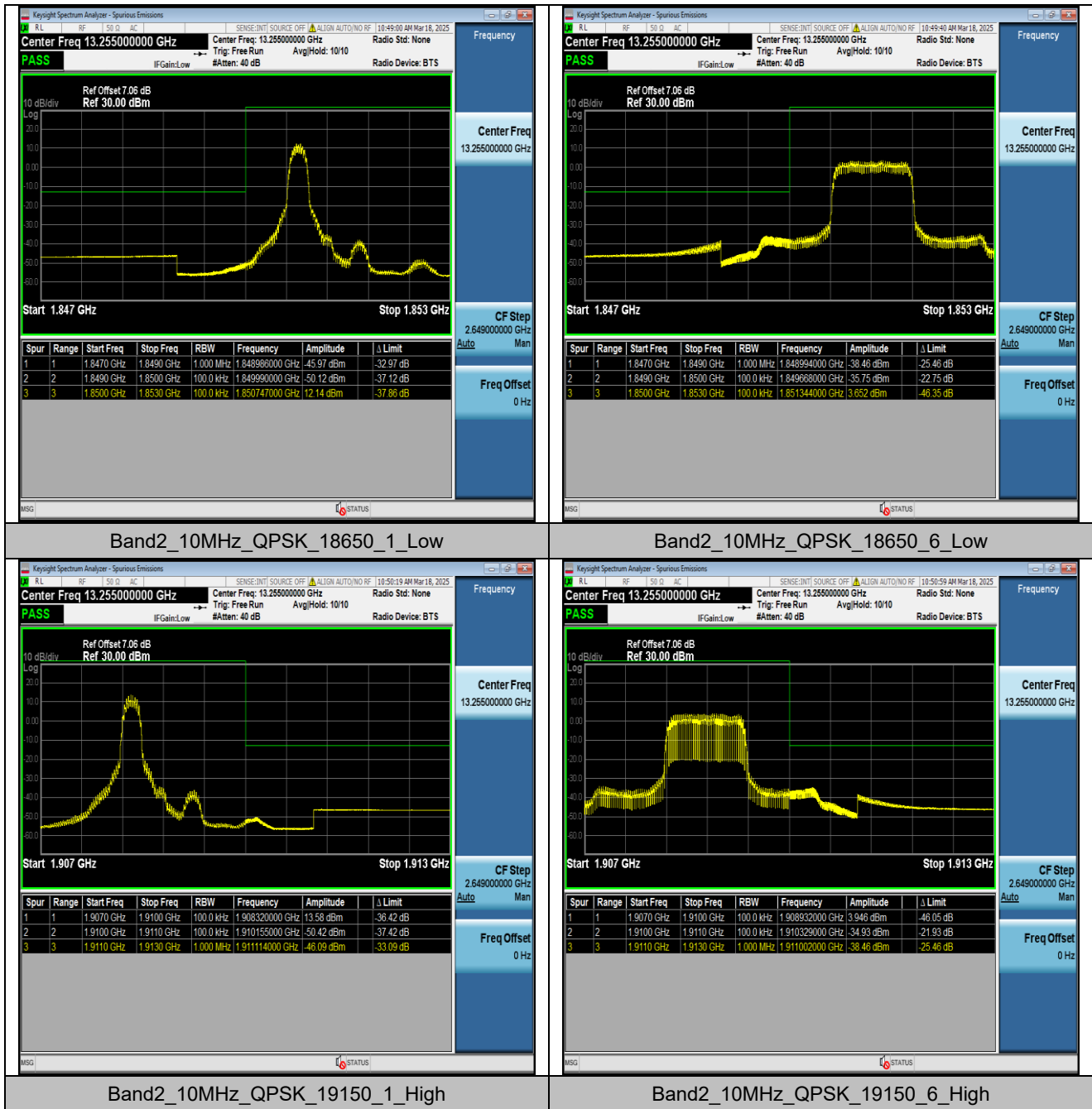
Band2_5MHz_QPSK_18625_6_Low

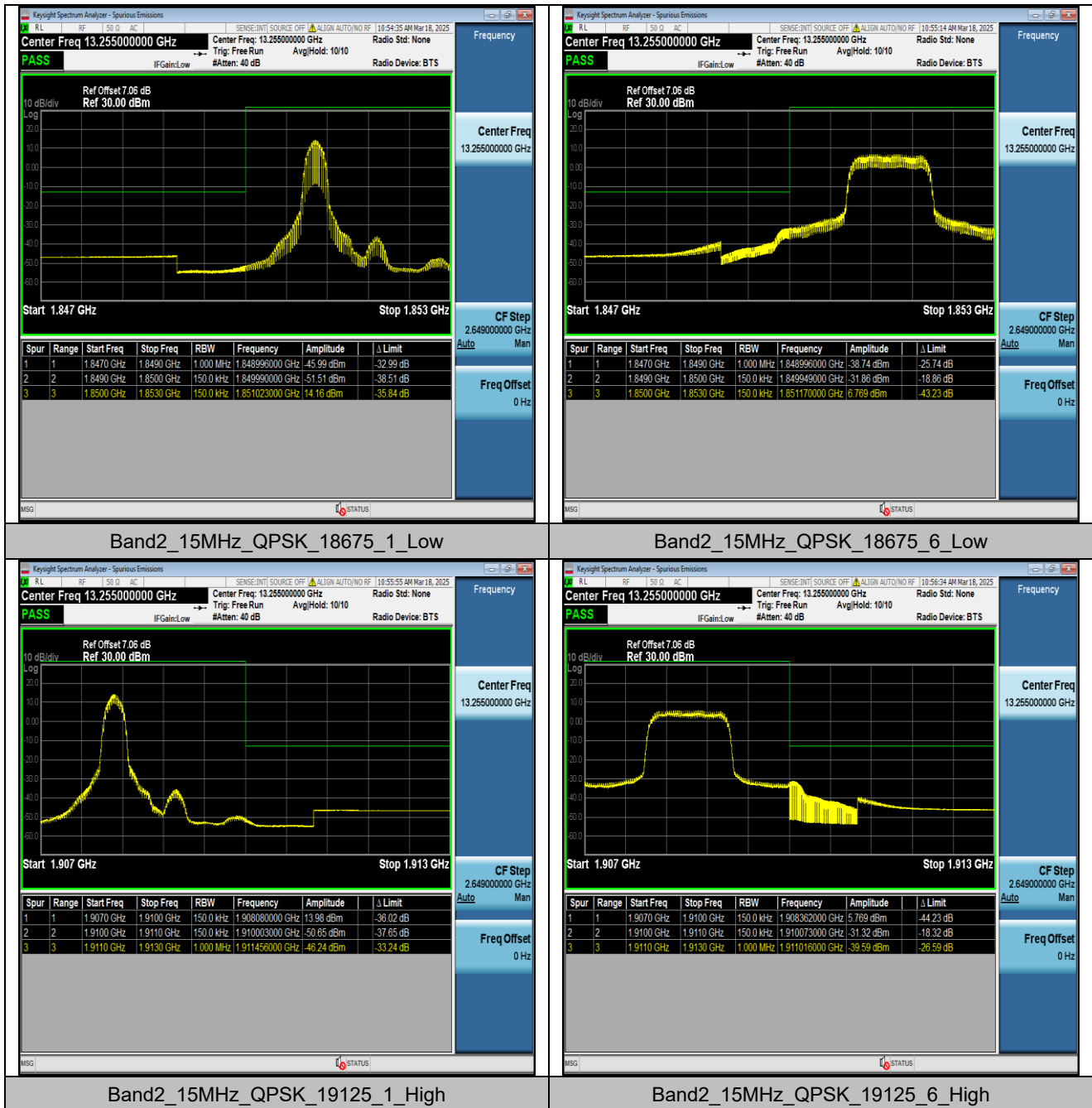


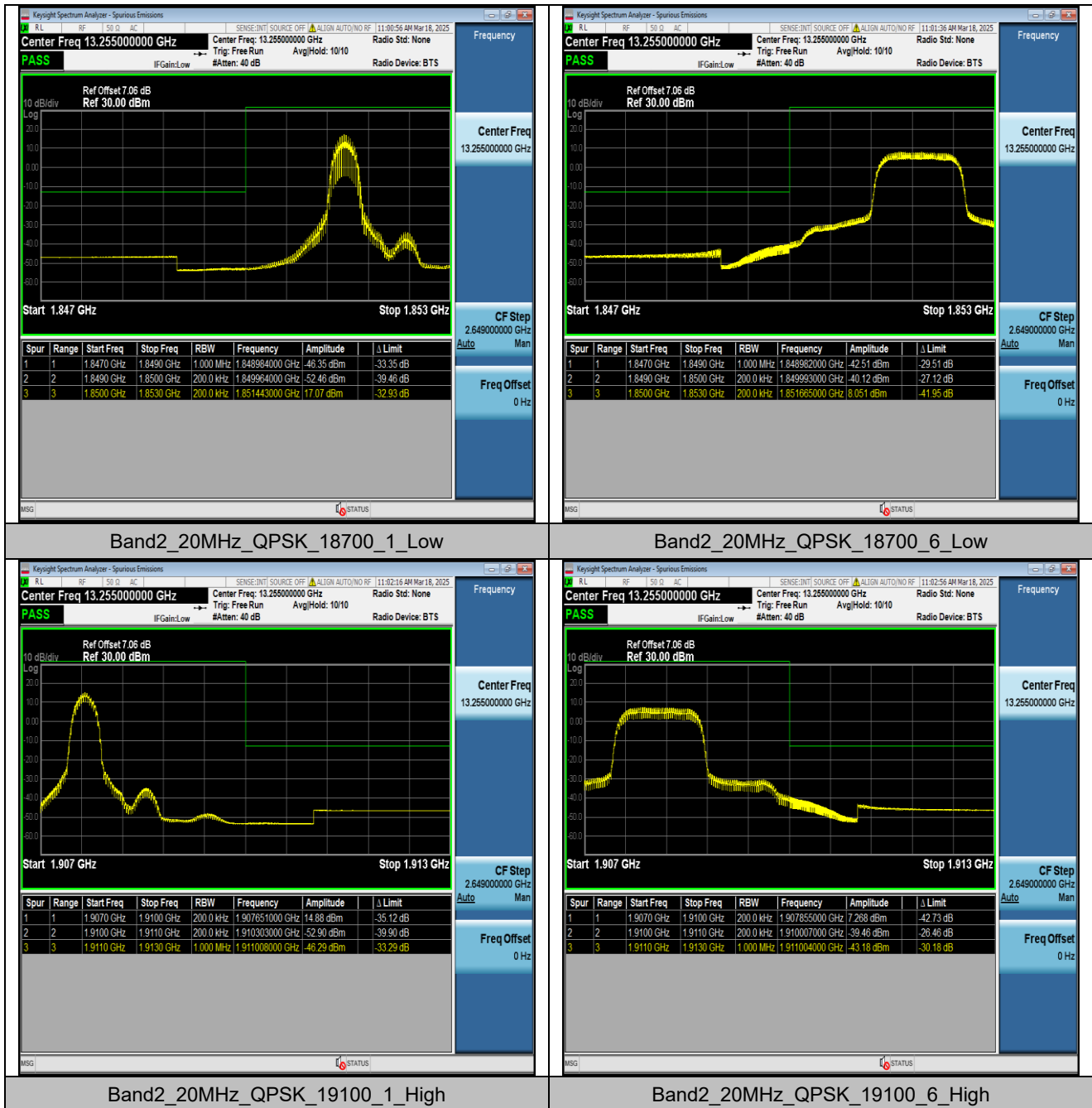
Band2_5MHz_QPSK_19175_1_High



Band2_5MHz_QPSK_19175_6_High

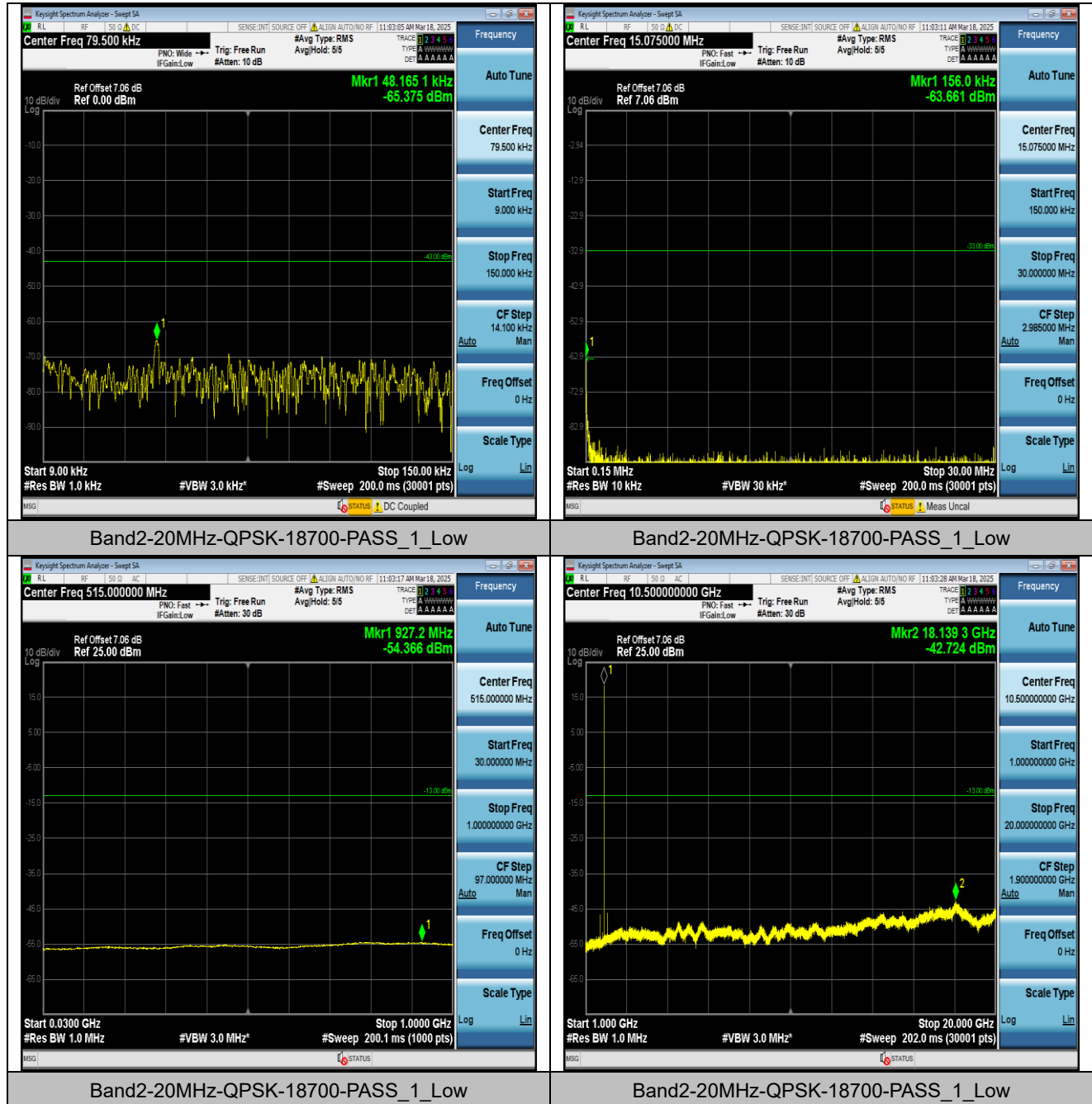


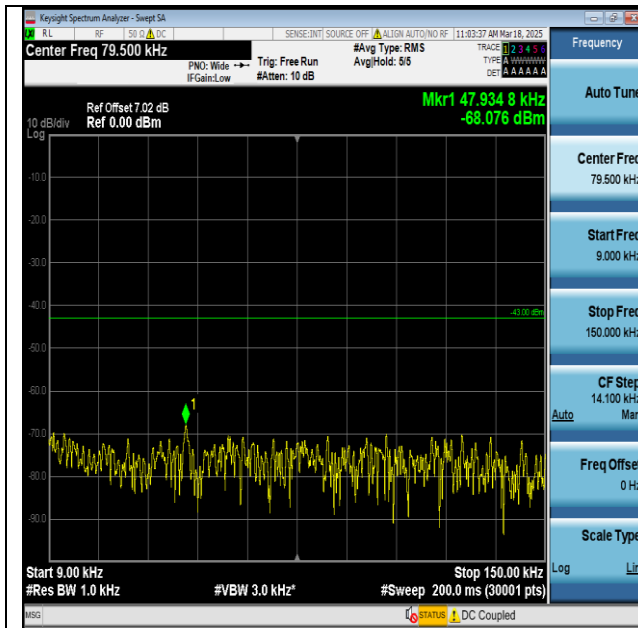




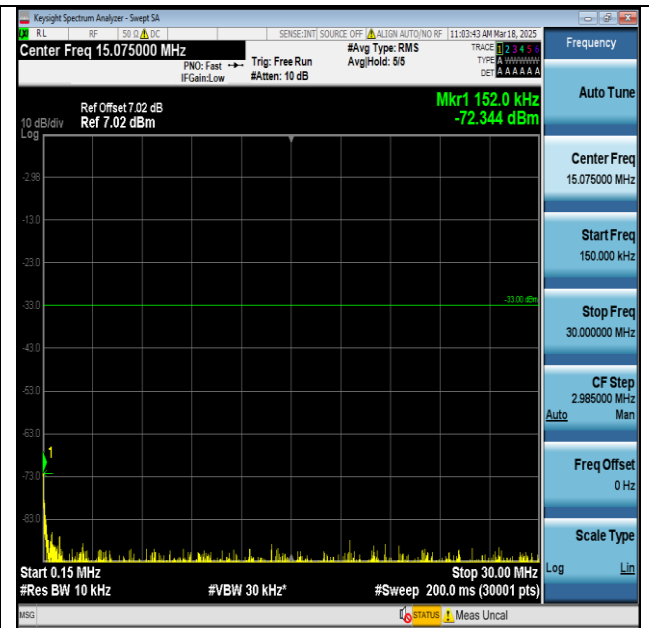
Conducted Spurious Emission for M1

Test Graphs

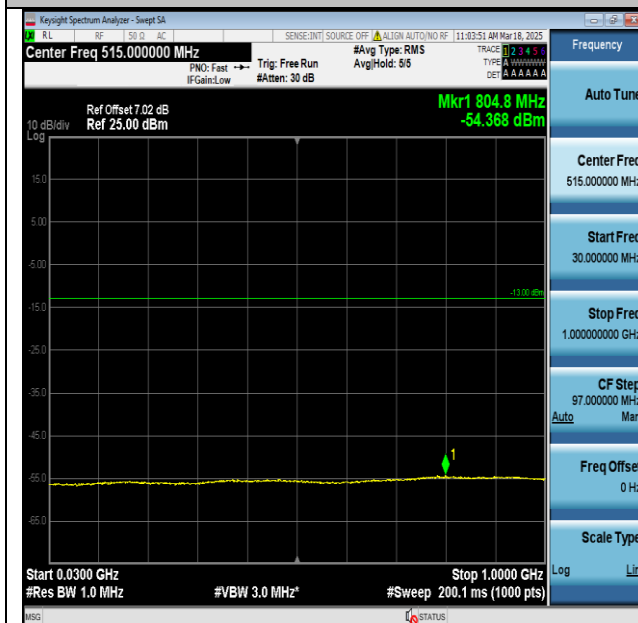




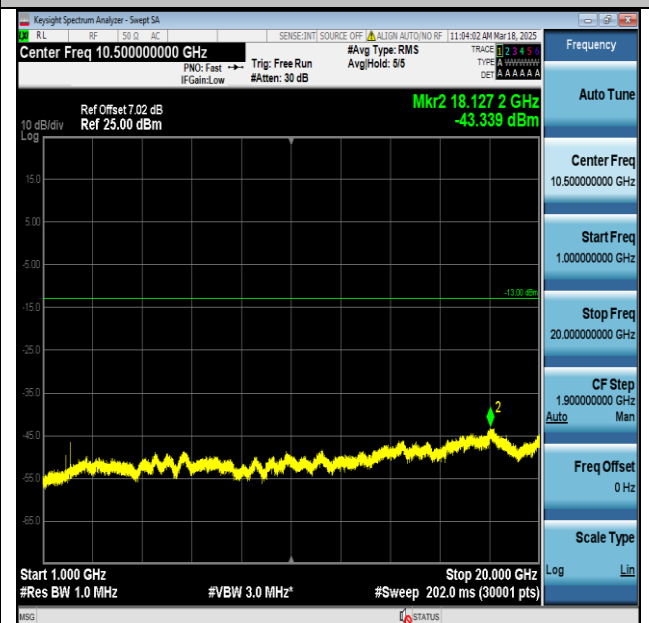
Band2-20MHz-QPSK-18900-PASS_1_Low



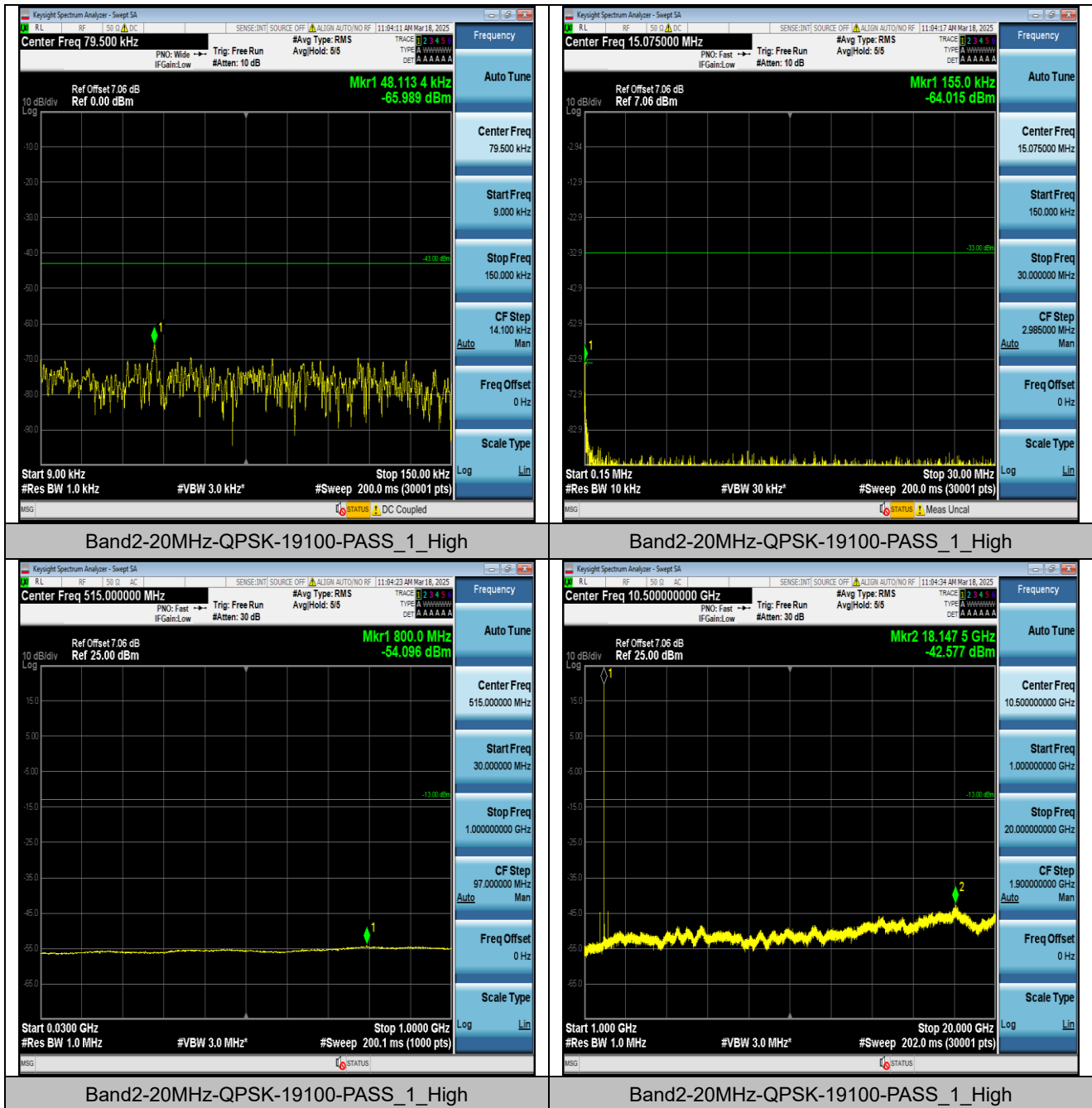
Band2-20MHz-QPSK-18900-PASS_1_Low



Band2-20MHz-QPSK-18900-PASS_1_Low



Band2-20MHz-QPSK-18900-PASS_1_Low



Frequency Stability for M1

Test Result

Voltage											
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band2	20MHz	QPSK	18900	6	0	Low	VN	NT	3.90	0.002074	PASS
Band2	20MHz	QPSK	18900	6	0	Low	VL	NT	2.30	0.001223	PASS
Band2	20MHz	QPSK	18900	6	0	Low	VH	NT	3.20	0.001702	PASS

Temperature											
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band2	20MHz	QPSK	18900	6	0	Low	NV	-30	3.20	0.001702	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	-20	1.00	0.000532	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	-10	1.40	0.000745	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	0	3.80	0.002021	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	10	3.90	0.002074	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	20	6.20	0.003298	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	30	5.20	0.002766	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	40	5.60	0.002979	PASS
Band2	20MHz	QPSK	18900	6	0	Low	NV	50	6.50	0.003457	PASS

~The End~