

Appendix-A LTE Cat M1 Band 5

Effective (Isotropic) Radiated Power Output Data for M1

Test Result

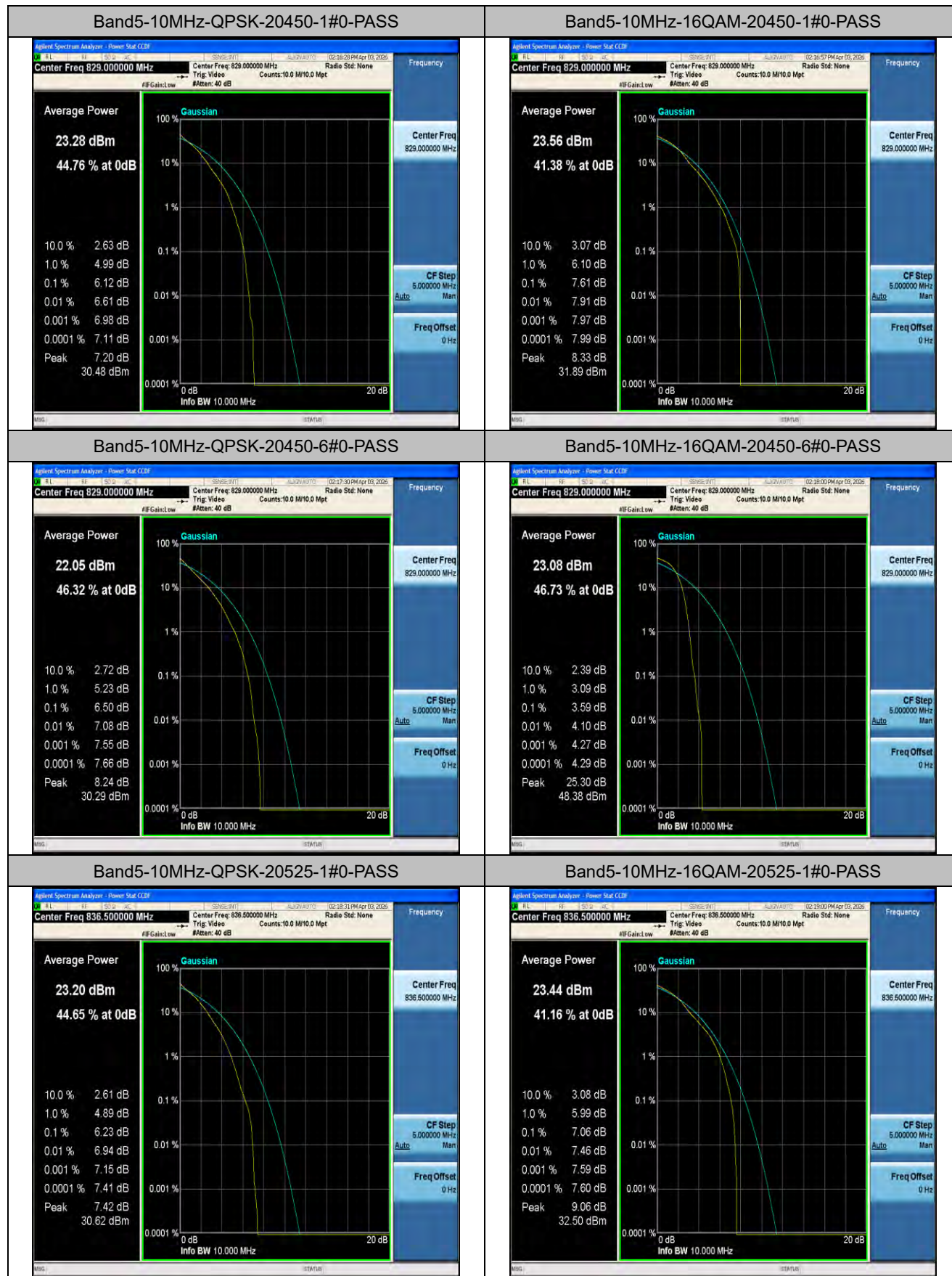
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Power (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1	0	Low	22.12	26.87	38.45	PASS
Band5	1.4MHz	16QAM	20407	1	0	Low	22.22	26.97	38.45	PASS
Band5	1.4MHz	QPSK	20407	1	5	Low	17.3	22.05	38.45	PASS
Band5	1.4MHz	16QAM	20407	1	5	Low	21.87	26.62	38.45	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	21.82	26.57	38.45	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	16.04	20.79	38.45	PASS
Band5	1.4MHz	QPSK	20525	1	5	Low	21.48	26.23	38.45	PASS
Band5	1.4MHz	16QAM	20525	1	5	Low	21.46	26.21	38.45	PASS
Band5	1.4MHz	QPSK	20643	1	0	High	15.67	20.42	38.45	PASS
Band5	1.4MHz	16QAM	20643	1	0	High	22.05	26.8	38.45	PASS
Band5	1.4MHz	QPSK	20407	6	0	Low	22.17	26.92	38.45	PASS
Band5	1.4MHz	16QAM	20407	6	0	Low	17.99	22.74	38.45	PASS
Band5	1.4MHz	QPSK	20525	6	0	Low	21.73	26.48	38.45	PASS
Band5	1.4MHz	16QAM	20525	6	0	Low	21.95	26.7	38.45	PASS
Band5	1.4MHz	QPSK	20643	1	5	High	17.79	22.54	38.45	PASS
Band5	1.4MHz	16QAM	20643	1	5	High	21.57	26.32	38.45	PASS
Band5	3MHz	QPSK	20415	1	0	Low	21.6	26.35	38.45	PASS
Band5	3MHz	16QAM	20415	1	0	Low	17.52	22.27	38.45	PASS
Band5	3MHz	QPSK	20415	1	5	Low	23.46	28.21	38.45	PASS
Band5	3MHz	16QAM	20415	1	5	Low	23.44	28.19	38.45	PASS
Band5	1.4MHz	QPSK	20643	6	0	High	22.84	27.59	38.45	PASS
Band5	1.4MHz	16QAM	20643	6	0	High	23.16	27.91	38.45	PASS
Band5	3MHz	QPSK	20415	6	0	Low	23.14	27.89	38.45	PASS
Band5	3MHz	16QAM	20415	6	0	Low	22.63	27.38	38.45	PASS
Band5	3MHz	QPSK	20525	1	0	Low	22.79	27.54	38.45	PASS
Band5	3MHz	16QAM	20525	1	0	Low	22.79	27.54	38.45	PASS
Band5	3MHz	QPSK	20525	1	5	Low	22.36	27.11	38.45	PASS
Band5	3MHz	16QAM	20525	1	5	Low	23.39	28.14	38.45	PASS
Band5	3MHz	QPSK	20635	1	0	High	23.4	28.15	38.45	PASS
Band5	3MHz	16QAM	20635	1	0	High	22.86	27.61	38.45	PASS
Band5	3MHz	QPSK	20635	1	5	High	23.23	27.98	38.45	PASS
Band5	3MHz	16QAM	20635	1	5	High	23.17	27.92	38.45	PASS
Band5	3MHz	QPSK	20525	6	0	Low	22.58	27.33	38.45	PASS
Band5	3MHz	16QAM	20525	6	0	Low	22.84	27.59	38.45	PASS
Band5	5MHz	QPSK	20425	1	0	Low	22.96	27.71	38.45	PASS
Band5	5MHz	16QAM	20425	1	0	Low	22.46	27.21	38.45	PASS

Band5	5MHz	QPSK	20425	1	5	Low	22.12	26.87	38.45	PASS
Band5	5MHz	16QAM	20425	1	5	Low	22.22	26.97	38.45	PASS
Band5	5MHz	QPSK	20425	6	0	Low	17.3	22.05	38.45	PASS
Band5	5MHz	16QAM	20425	6	0	Low	21.87	26.62	38.45	PASS
Band5	5MHz	QPSK	20525	1	0	Low	21.82	26.57	38.45	PASS
Band5	5MHz	16QAM	20525	1	0	Low	16.04	20.79	38.45	PASS
Band5	3MHz	QPSK	20635	6	0	High	21.48	26.23	38.45	PASS
Band5	3MHz	16QAM	20635	6	0	High	21.46	26.21	38.45	PASS
Band5	5MHz	QPSK	20525	1	5	Low	15.67	20.42	38.45	PASS
Band5	5MHz	16QAM	20525	1	5	Low	22.05	26.8	38.45	PASS
Band5	5MHz	QPSK	20525	6	0	Low	22.17	26.92	38.45	PASS
Band5	5MHz	16QAM	20525	6	0	Low	17.99	22.74	38.45	PASS
Band5	5MHz	QPSK	20625	1	0	High	21.73	26.48	38.45	PASS
Band5	5MHz	16QAM	20625	1	0	High	21.95	26.7	38.45	PASS
Band5	5MHz	QPSK	20625	1	5	High	17.79	22.54	38.45	PASS
Band5	5MHz	16QAM	20625	1	5	High	21.57	26.32	38.45	PASS
Band5	5MHz	QPSK	20625	6	0	High	21.6	26.35	38.45	PASS
Band5	5MHz	16QAM	20625	6	0	High	17.52	22.27	38.45	PASS
Band5	10MHz	QPSK	20450	1	0	Low	23.46	28.21	38.45	PASS
Band5	10MHz	16QAM	20450	1	0	Low	23.44	28.19	38.45	PASS
Band5	10MHz	QPSK	20450	1	5	Low	22.84	27.59	38.45	PASS
Band5	10MHz	16QAM	20450	1	5	Low	23.16	27.91	38.45	PASS
Band5	10MHz	QPSK	20450	6	0	Low	23.14	27.89	38.45	PASS
Band5	10MHz	16QAM	20450	6	0	Low	22.63	27.38	38.45	PASS
Band5	10MHz	QPSK	20525	1	0	Low	22.79	27.54	38.45	PASS
Band5	10MHz	16QAM	20525	1	0	Low	22.79	27.54	38.45	PASS
Band5	10MHz	QPSK	20525	1	5	Low	22.36	27.11	38.45	PASS
Band5	10MHz	16QAM	20525	1	5	Low	23.39	28.14	38.45	PASS
Band5	10MHz	QPSK	20525	6	0	Low	23.4	28.15	38.45	PASS
Band5	10MHz	16QAM	20525	6	0	Low	22.86	27.61	38.45	PASS
Band5	10MHz	QPSK	20600	1	0	High	23.23	27.98	38.45	PASS
Band5	10MHz	16QAM	20600	1	0	High	23.17	27.92	38.45	PASS
Band5	10MHz	QPSK	20600	1	5	High	22.58	27.33	38.45	PASS
Band5	10MHz	16QAM	20600	1	5	High	22.84	27.59	38.45	PASS
Band5	10MHz	QPSK	20600	6	0	High	22.96	27.71	38.45	PASS
Band5	10MHz	16QAM	20600	6	0	High	22.46	27.21	38.45	PASS

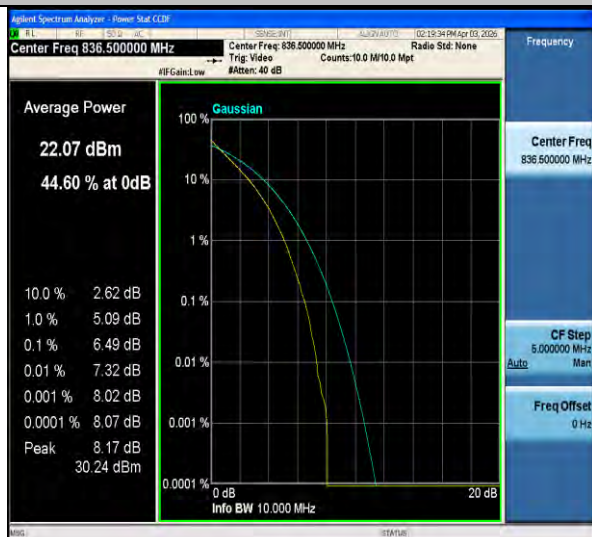
Peak-to-Average Ratio(CCDF) for M1**Test Result**

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band5	10MHz	QPSK	20450	1	0	Low	6.12	<=13	PASS
Band5	10MHz	16QAM	20450	1	0	Low	7.61	<=13	PASS
Band5	10MHz	QPSK	20450	6	0	Low	6.50	<=13	PASS
Band5	10MHz	16QAM	20450	6	0	Low	3.59	<=13	PASS
Band5	10MHz	QPSK	20525	1	0	Low	6.23	<=13	PASS
Band5	10MHz	16QAM	20525	1	0	Low	7.06	<=13	PASS
Band5	10MHz	QPSK	20525	6	0	Low	6.49	<=13	PASS
Band5	10MHz	16QAM	20525	6	0	Low	3.75	<=13	PASS
Band5	10MHz	QPSK	20600	1	0	High	6.22	<=13	PASS
Band5	10MHz	16QAM	20600	1	0	High	7.53	<=13	PASS
Band5	10MHz	QPSK	20600	6	0	High	6.58	<=13	PASS
Band5	10MHz	16QAM	20600	6	0	High	3.65	<=13	PASS

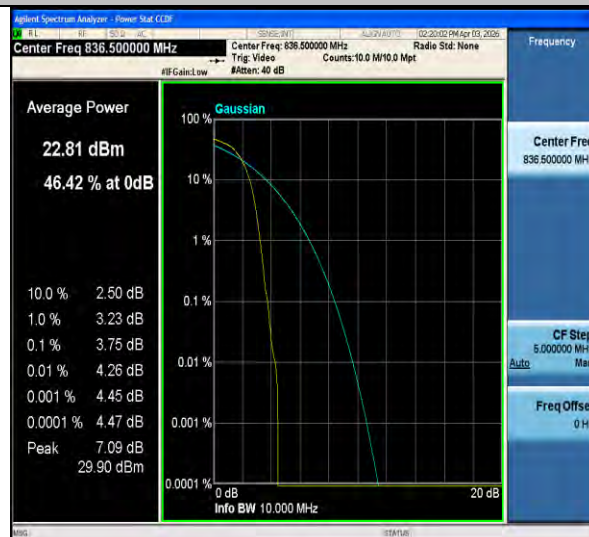
Test Graphs



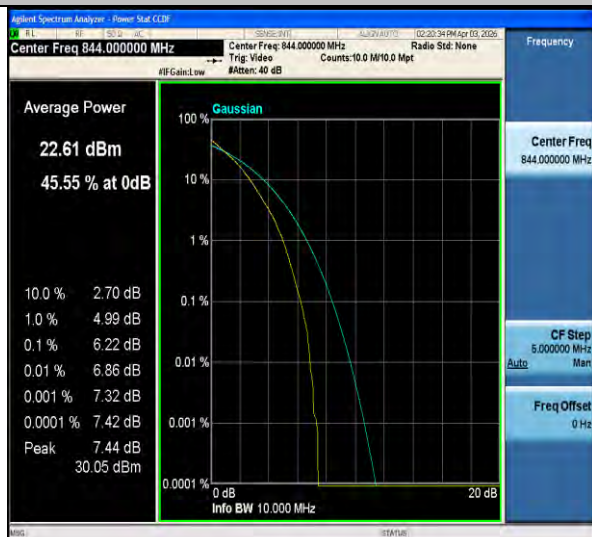
Band5-10MHz-QPSK-20525-6#0-PASS



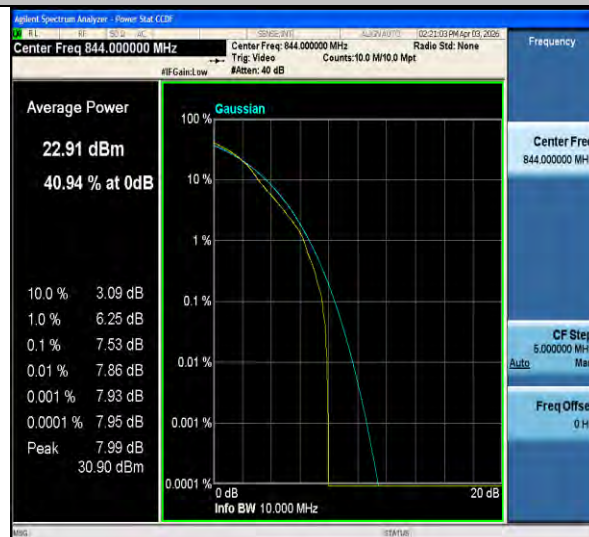
Band5-10MHz-16QAM-20525-6#0-PASS



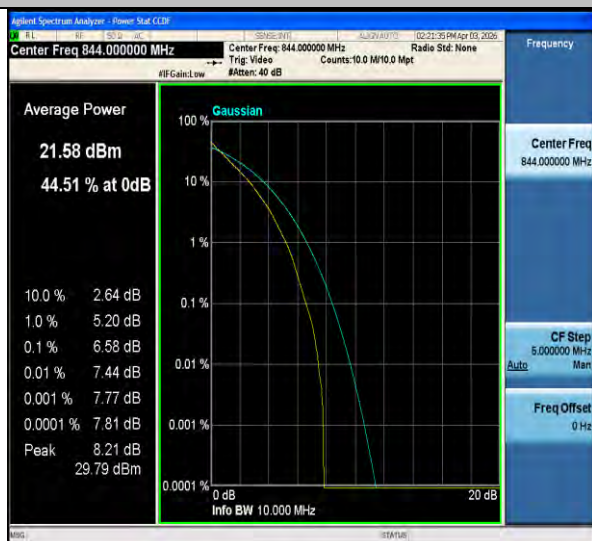
Band5-10MHz-QPSK-20600-1#0-PASS



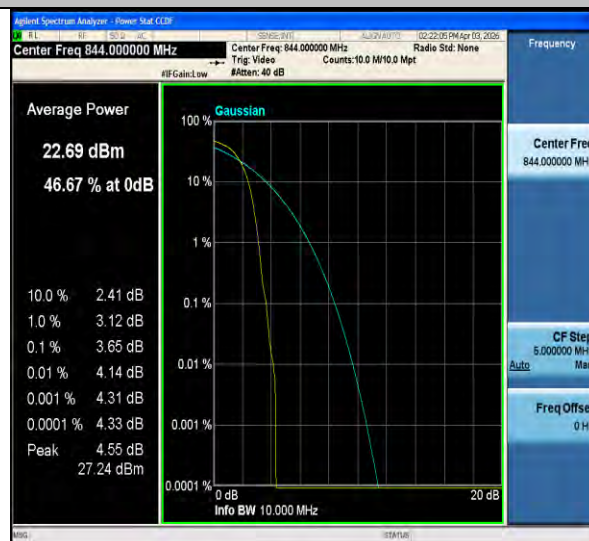
Band5-10MHz-16QAM-20600-1#0-PASS



Band5-10MHz-QPSK-20600-6#0-PASS



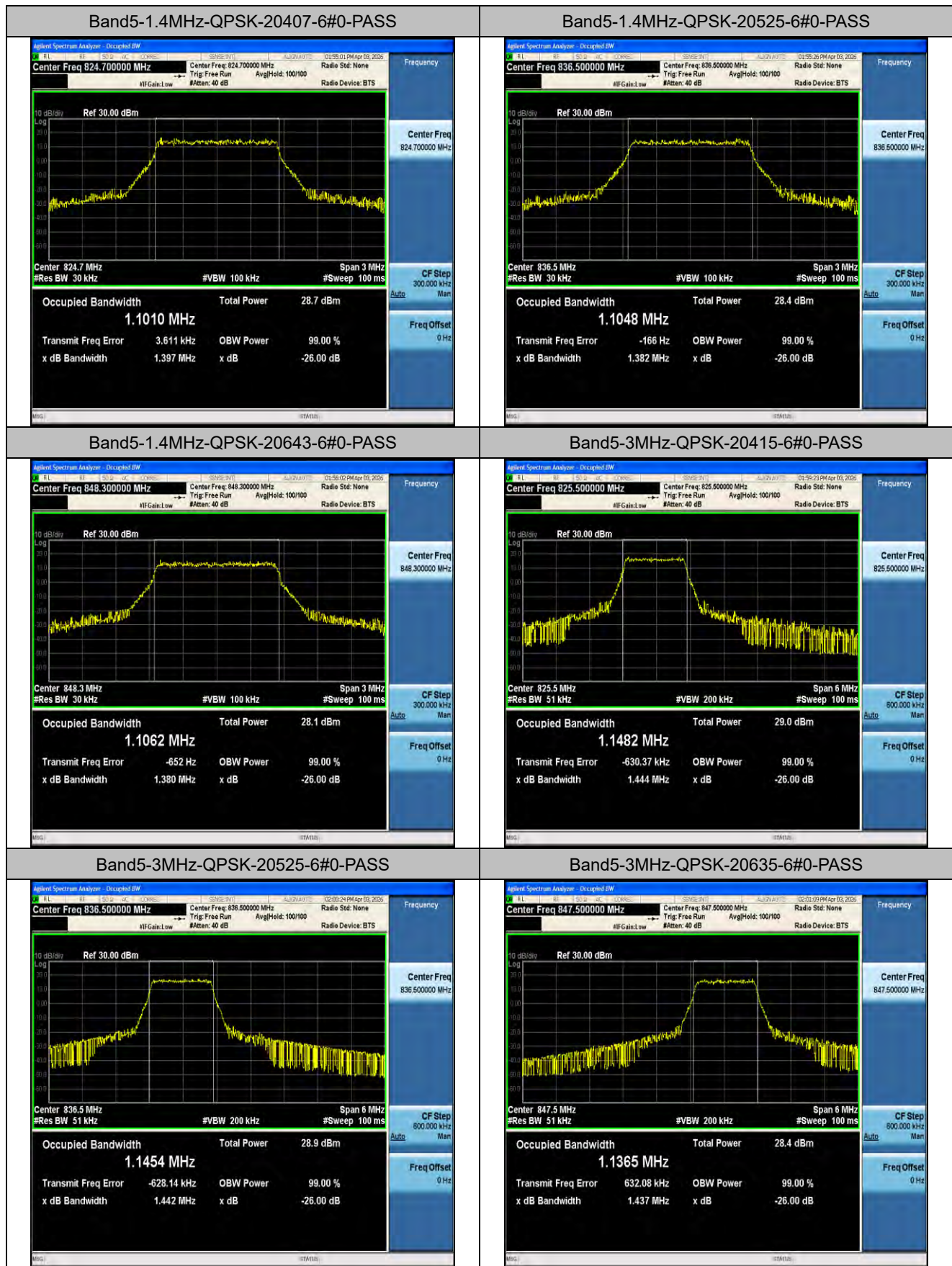
Band5-10MHz-16QAM-20600-6#0-PASS



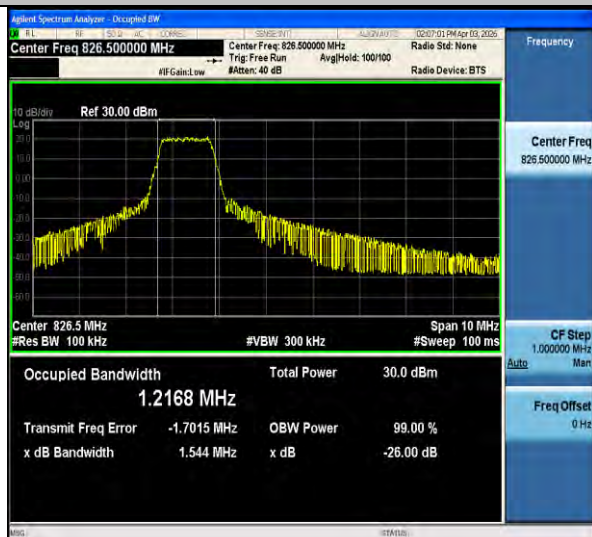
26dB Bandwidth and Occupied Bandwidth for M1**Test Result**

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6	0	Low	1.1010	1.397	PASS
Band5	1.4MHz	QPSK	20525	6	0	Low	1.1048	1.382	PASS
Band5	1.4MHz	QPSK	20643	6	0	High	1.1062	1.380	PASS
Band5	3MHz	QPSK	20415	6	0	Low	1.1482	1.444	PASS
Band5	3MHz	QPSK	20525	6	0	Low	1.1454	1.442	PASS
Band5	3MHz	QPSK	20635	6	0	High	1.1365	1.437	PASS
Band5	5MHz	QPSK	20425	6	0	Low	1.2168	1.544	PASS
Band5	5MHz	QPSK	20525	6	0	Low	1.2288	1.547	PASS
Band5	5MHz	QPSK	20625	6	0	High	4.5206	4.994	PASS
Band5	10MHz	QPSK	20450	6	0	Low	1.3581	1.719	PASS
Band5	10MHz	QPSK	20525	6	0	Low	1.3618	1.701	PASS
Band5	10MHz	QPSK	20600	6	0	High	1.3720	1.761	PASS
Band5	1.4MHz	16QAM	20407	5	0	Low	0.97596	1.373	PASS
Band5	1.4MHz	16QAM	20525	5	0	Low	0.96130	1.393	PASS
Band5	1.4MHz	16QAM	20643	5	0	High	0.96856	1.357	PASS
Band5	3MHz	16QAM	20415	5	0	Low	1.0396	1.433	PASS
Band5	3MHz	16QAM	20525	5	0	Low	1.0161	1.419	PASS
Band5	3MHz	16QAM	20635	5	0	High	1.0062	1.373	PASS
Band5	5MHz	16QAM	20425	5	0	Low	1.1531	1.511	PASS
Band5	5MHz	16QAM	20525	5	0	Low	1.1333	1.684	PASS
Band5	10MHz	16QAM	20450	5	0	Low	1.3140	1.656	PASS
Band5	10MHz	16QAM	20525	5	0	Low	1.2950	1.891	PASS
Band5	10MHz	16QAM	20600	5	0	High	1.3113	2.094	PASS
Band5	5MHz	16QAM	20625	5	0	High	1.1310	1.504	PASS

Test Graphs



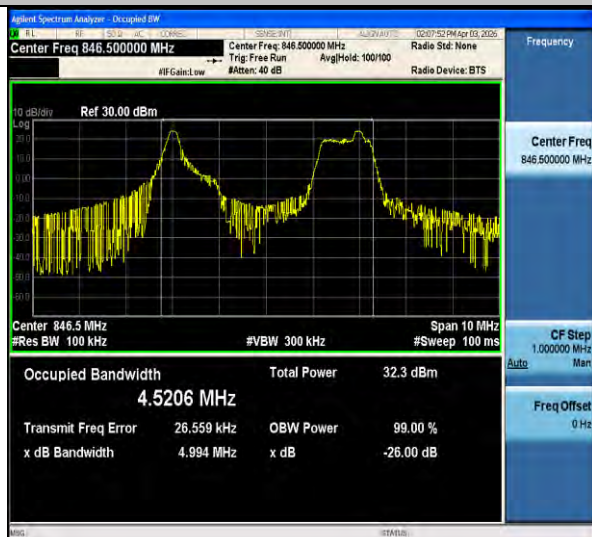
Band5-5MHz-QPSK-20425-6#0-PASS



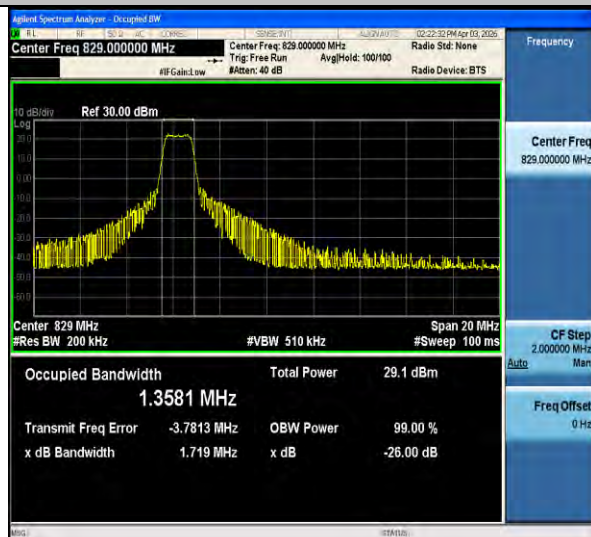
Band5-5MHz-QPSK-20525-6#0-PASS



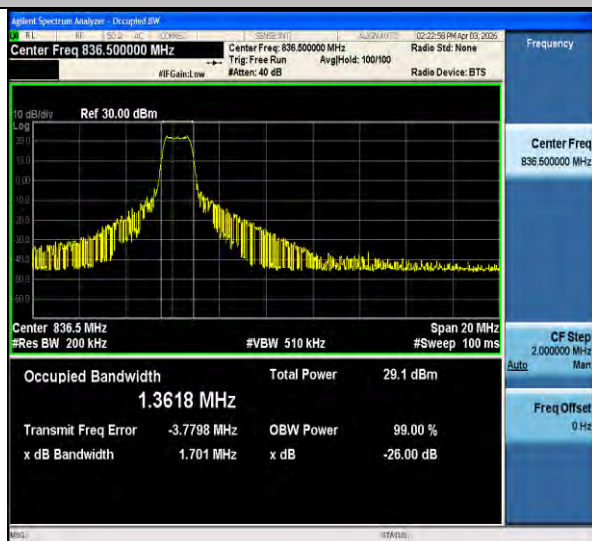
Band5-5MHz-QPSK-20625-6#0-PASS



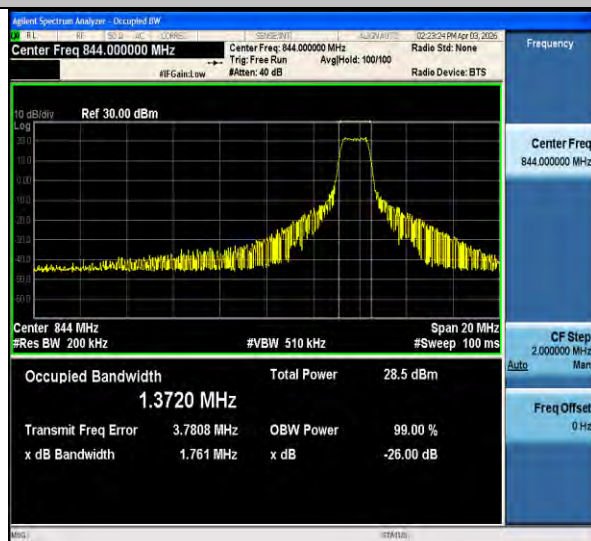
Band5-10MHz-QPSK-20450-6#0-PASS



Band5-10MHz-QPSK-20525-6#0-PASS



Band5-10MHz-QPSK-20600-6#0-PASS



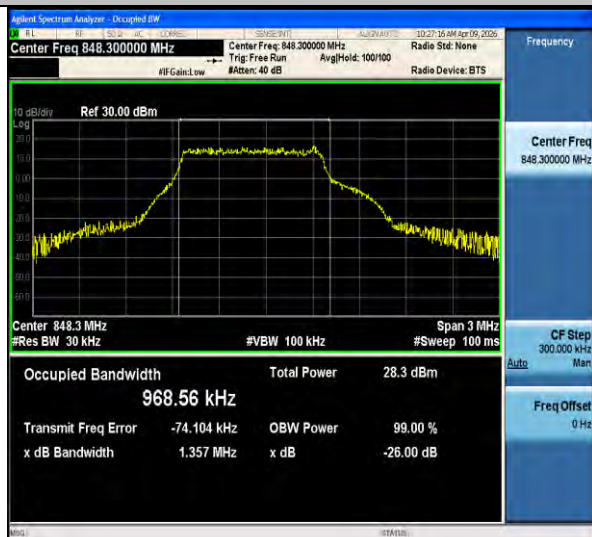
Band5-1.4MHz-16QAM-20407-5#0-PASS



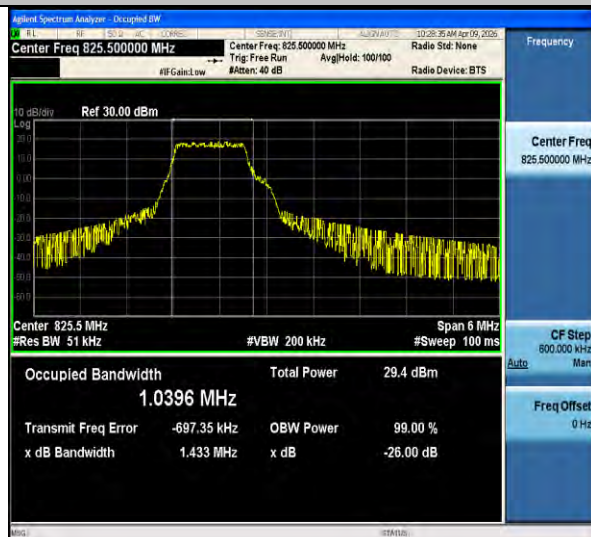
Band5-1.4MHz-16QAM-20525-5#0-PASS



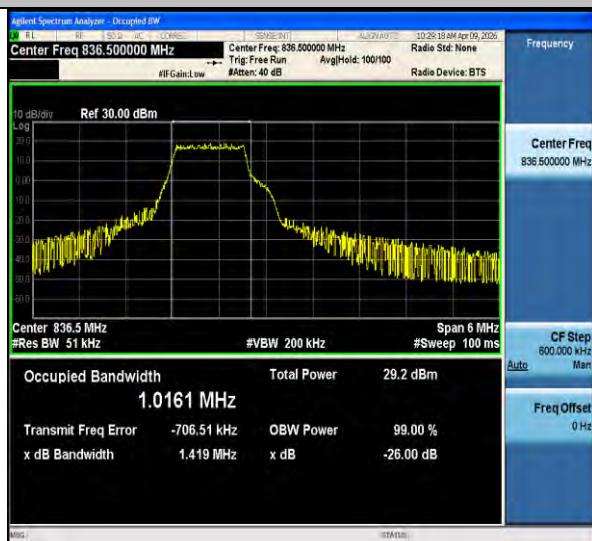
Band5-1.4MHz-16QAM-20643-5#0-PASS



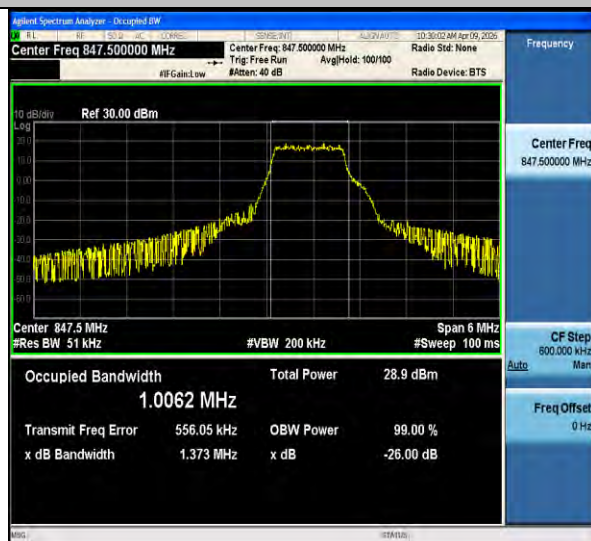
Band5-3MHz-16QAM-20415-5#0-PASS



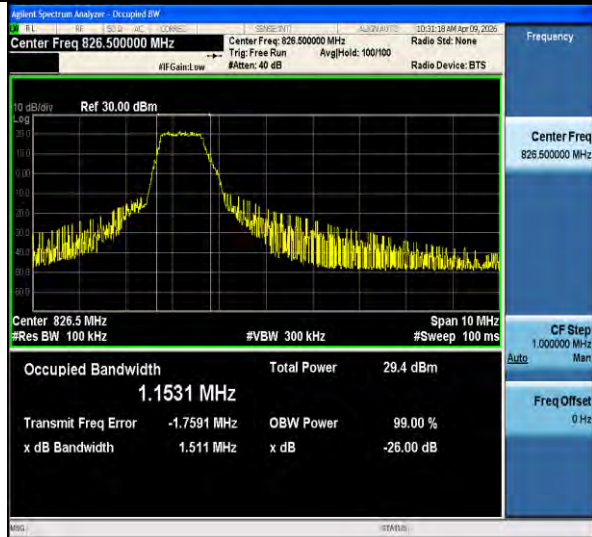
Band5-3MHz-16QAM-20525-5#0-PASS



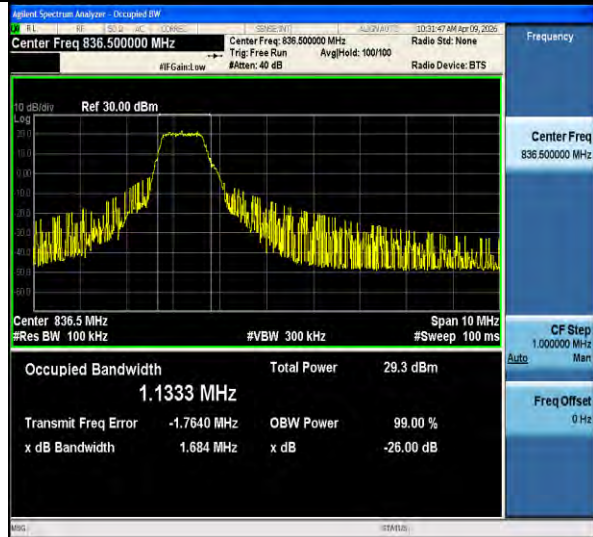
Band5-3MHz-16QAM-20635-5#0-PASS



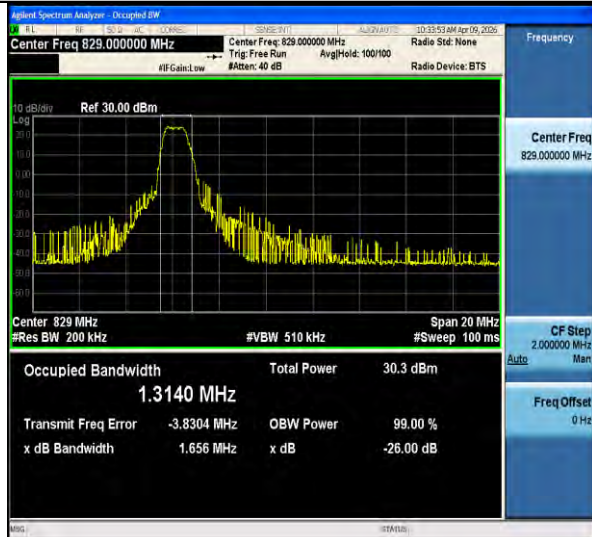
Band5-5MHz-16QAM-20425-5#0-PASS



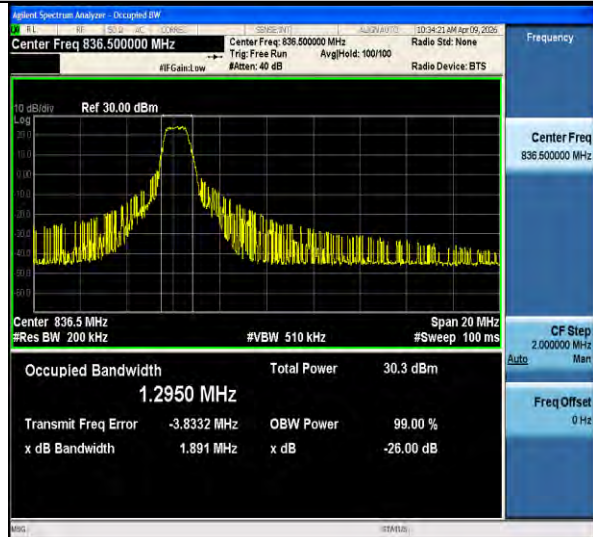
Band5-5MHz-16QAM-20525-5#0-PASS



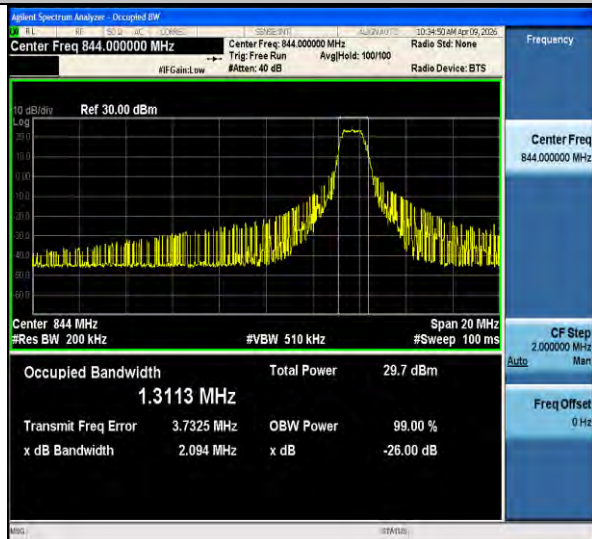
Band5-10MHz-16QAM-20450-5#0-PASS



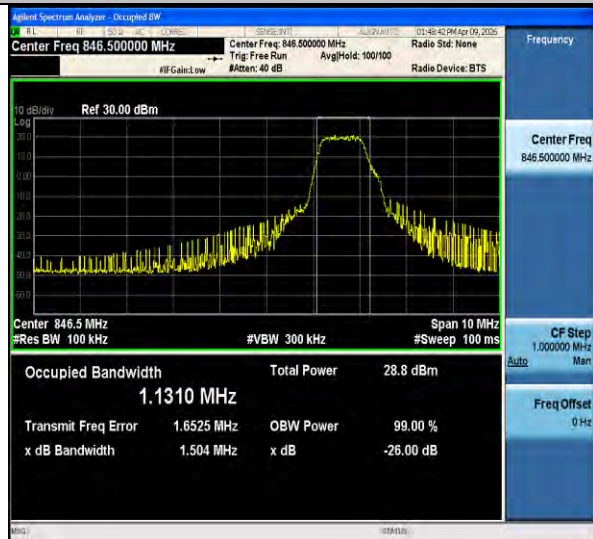
Band5-10MHz-16QAM-20525-5#0-PASS



Band5-10MHz-16QAM-20600-5#0-PASS

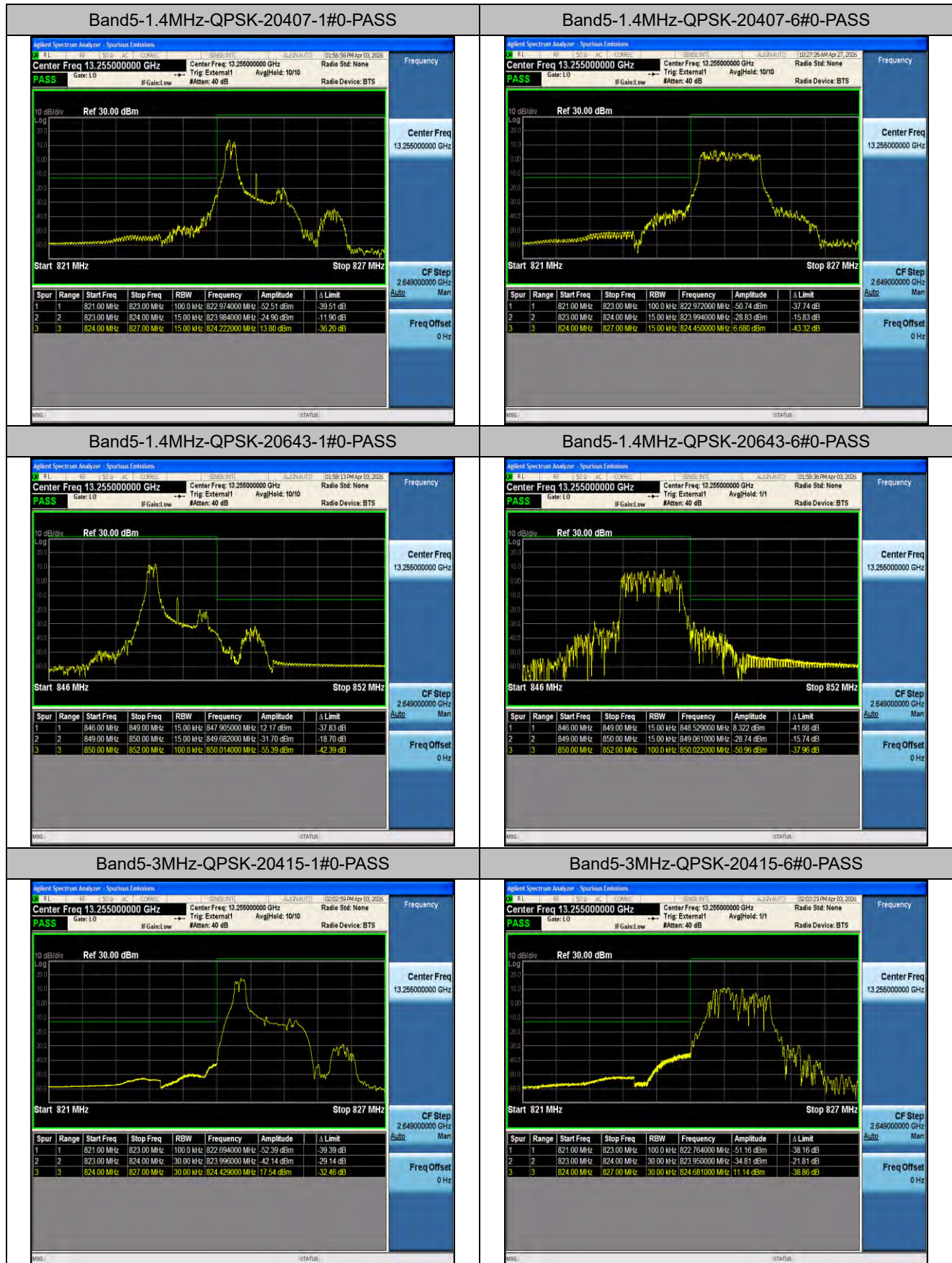


Band5-5MHz-16QAM-20625-5#0-PASS



Band Edge for M1

Test Graphs



Band5-3MHz-QPSK-20635-1#0-PASS



Band5-3MHz-QPSK-20635-6#0-PASS



Band5-5MHz-QPSK-20425-1#0-PASS



Band5-5MHz-QPSK-20425-6#0-PASS

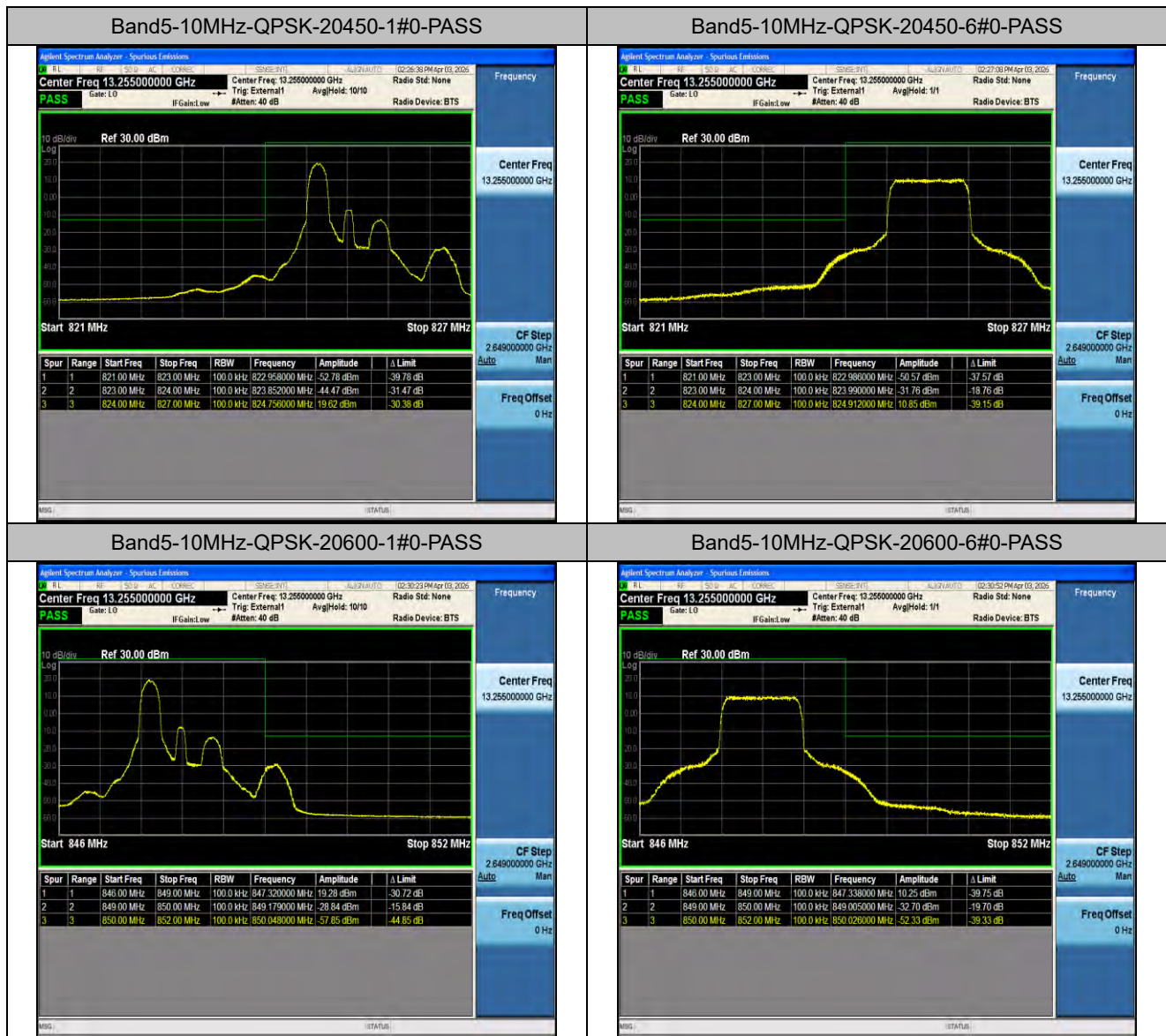


Band5-5MHz-QPSK-20625-1#0-PASS



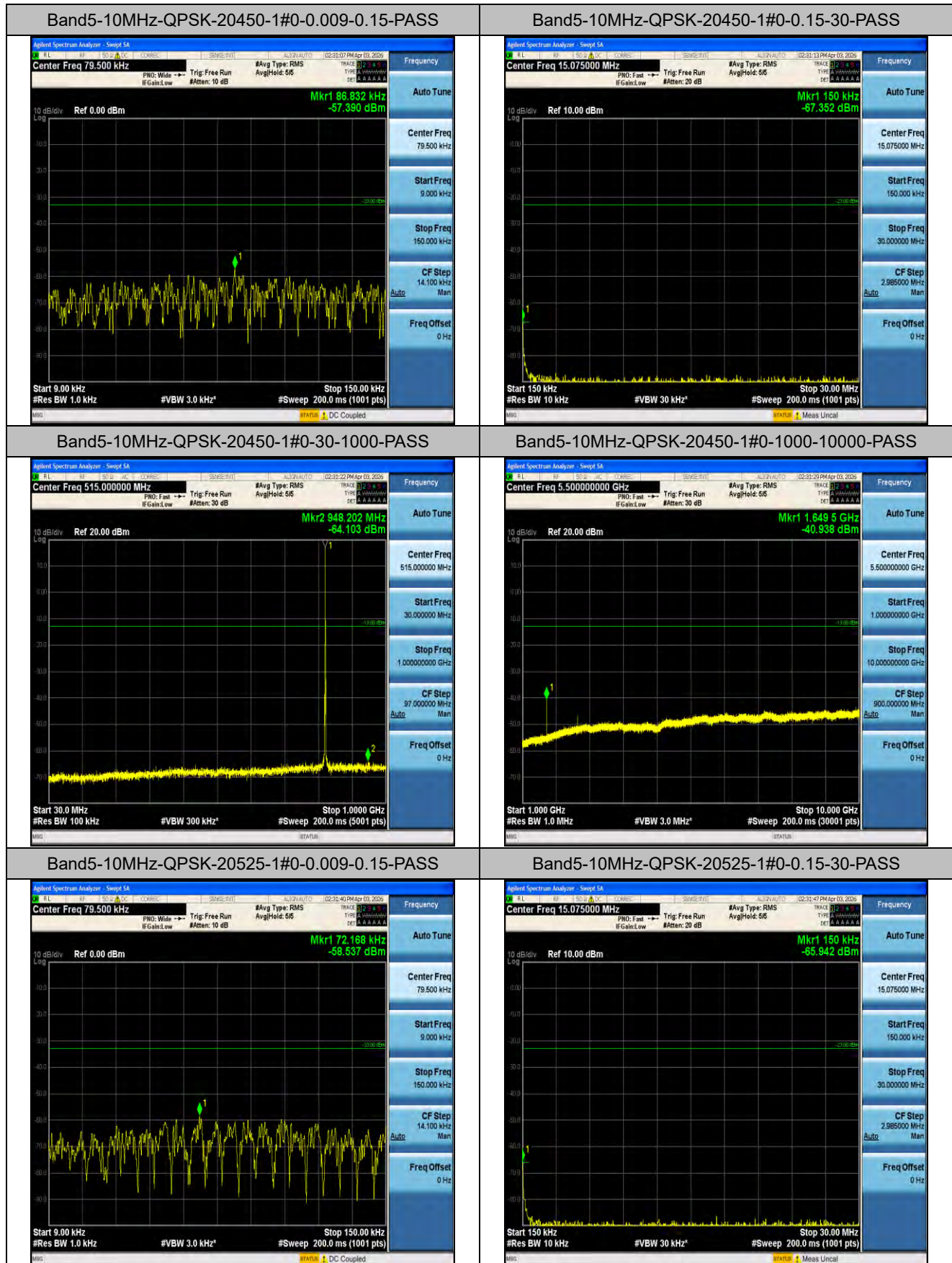
Band5-5MHz-QPSK-20625-6#0-PASS



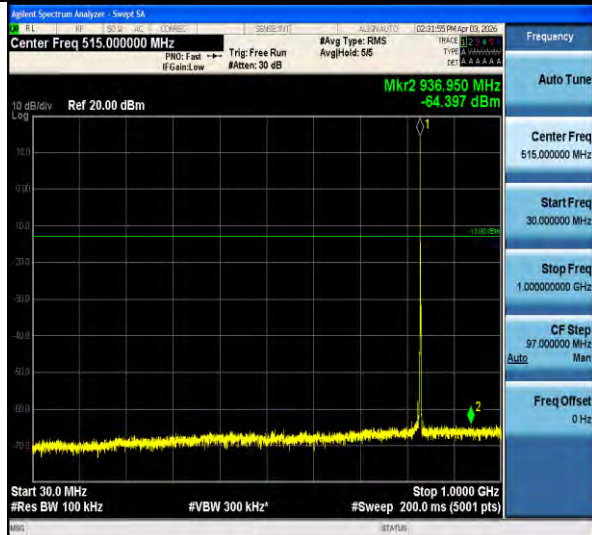


Conducted Spurious Emission for M1

Test Graphs



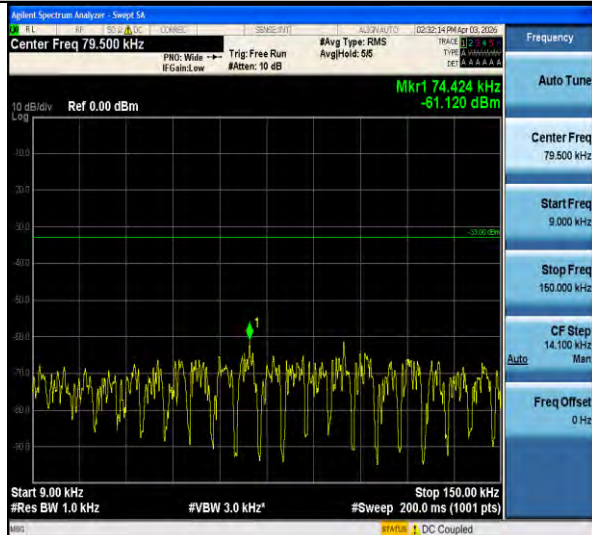
Band5-10MHz-QPSK-20525-1#0-30-1000-PASS



Band5-10MHz-QPSK-20525-1#0-1000-10000-PASS



Band5-10MHz-QPSK-20600-1#0-0.009-0.15-PASS



Band5-10MHz-QPSK-20600-1#0-0.15-30-PASS



Band5-10MHz-QPSK-20600-1#0-30-1000-PASS



Band5-10MHz-QPSK-20600-1#0-1000-10000-PASS



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)	Limit (ppm)	Verdict
Band5	10MHz	QPSK	20525	6	0	Low	VN	NT	-6.20	-0.007412	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	VL	NT	-4.90	-0.005858	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	VH	NT	-4.50	-0.005380	±2.5	PASS

Temperature												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	10MHz	QPSK	20525	6	0	Low	NV	-30	-4.70	-0.005619	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	-20	-3.90	-0.004662	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	-10	-3.70	-0.004423	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	0	-4.10	-0.004901	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	10	-4.80	-0.005738	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	20	-4.10	-0.004901	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	30	-4.20	-0.005021	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	40	-4.50	-0.005380	±2.5	PASS
Band5	10MHz	QPSK	20525	6	0	Low	NV	50	-5.40	-0.006455	±2.5	PASS

~The End~