

Appendix-A LTE Cat M1 Band 4

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
Band4	1.4MHz	QPSK	19957	1	0	Low	22.41	27.21	30.00	PASS
Band4	1.4MHz	16QAM	19957	1	0	Low	21.34	26.14	30.00	PASS
Band4	1.4MHz	QPSK	19957	1	5	Low	22.43	27.23	30.00	PASS
Band4	1.4MHz	16QAM	19957	1	5	Low	21.45	26.25	30.00	PASS
Band4	1.4MHz	QPSK	19957	6	0	Low	20.12	24.92	30.00	PASS
Band4	1.4MHz	16QAM	19957	6	0	Low	16.6	21.4	30.00	PASS
Band4	1.4MHz	QPSK	20175	1	0	Low	22.77	27.57	30.00	PASS
Band4	1.4MHz	16QAM	20175	1	0	Low	21.72	26.52	30.00	PASS
Band4	1.4MHz	QPSK	20175	1	5	Low	22.86	27.66	30.00	PASS
Band4	1.4MHz	16QAM	20175	1	5	Low	21.86	26.66	30.00	PASS
Band4	1.4MHz	QPSK	20175	6	0	Low	20.52	25.32	30.00	PASS
Band4	1.4MHz	16QAM	20175	6	0	Low	16.92	21.72	30.00	PASS
Band4	1.4MHz	QPSK	20393	1	0	High	22.79	27.59	30.00	PASS
Band4	1.4MHz	16QAM	20393	1	0	High	21.82	26.62	30.00	PASS
Band4	1.4MHz	QPSK	20393	1	5	High	22.87	27.67	30.00	PASS
Band4	1.4MHz	16QAM	20393	1	5	High	21.92	26.72	30.00	PASS
Band4	1.4MHz	QPSK	20393	6	0	High	20.7	25.5	30.00	PASS
Band4	1.4MHz	16QAM	20393	6	0	High	16.96	21.76	30.00	PASS
Band4	3MHz	QPSK	19965	1	0	Low	22.25	27.05	30.00	PASS
Band4	3MHz	16QAM	19965	1	0	Low	21.27	26.07	30.00	PASS
Band4	3MHz	QPSK	19965	1	5	Low	22.37	27.17	30.00	PASS
Band4	3MHz	16QAM	19965	1	5	Low	21.26	26.06	30.00	PASS
Band4	3MHz	QPSK	19965	6	0	Low	20.03	24.83	30.00	PASS
Band4	3MHz	16QAM	19965	6	0	Low	17.25	22.05	30.00	PASS
Band4	3MHz	QPSK	20175	1	0	Low	22.74	27.54	30.00	PASS
Band4	3MHz	16QAM	20175	1	0	Low	21.7	26.5	30.00	PASS
Band4	3MHz	QPSK	20175	1	5	Low	22.76	27.56	30.00	PASS
Band4	3MHz	16QAM	20175	1	5	Low	21.79	26.59	30.00	PASS
Band4	3MHz	QPSK	20175	6	0	Low	20.47	25.27	30.00	PASS
Band4	3MHz	16QAM	20175	6	0	Low	17.68	22.48	30.00	PASS
Band4	3MHz	QPSK	20385	1	0	High	22.72	27.52	30.00	PASS
Band4	3MHz	16QAM	20385	1	0	High	21.82	26.62	30.00	PASS
Band4	3MHz	QPSK	20385	1	5	High	22.77	27.57	30.00	PASS
Band4	3MHz	16QAM	20385	1	5	High	21.72	26.52	30.00	PASS
Band4	3MHz	QPSK	20385	6	0	High	20.58	25.38	30.00	PASS
Band4	3MHz	16QAM	20385	6	0	High	17.76	22.56	30.00	PASS

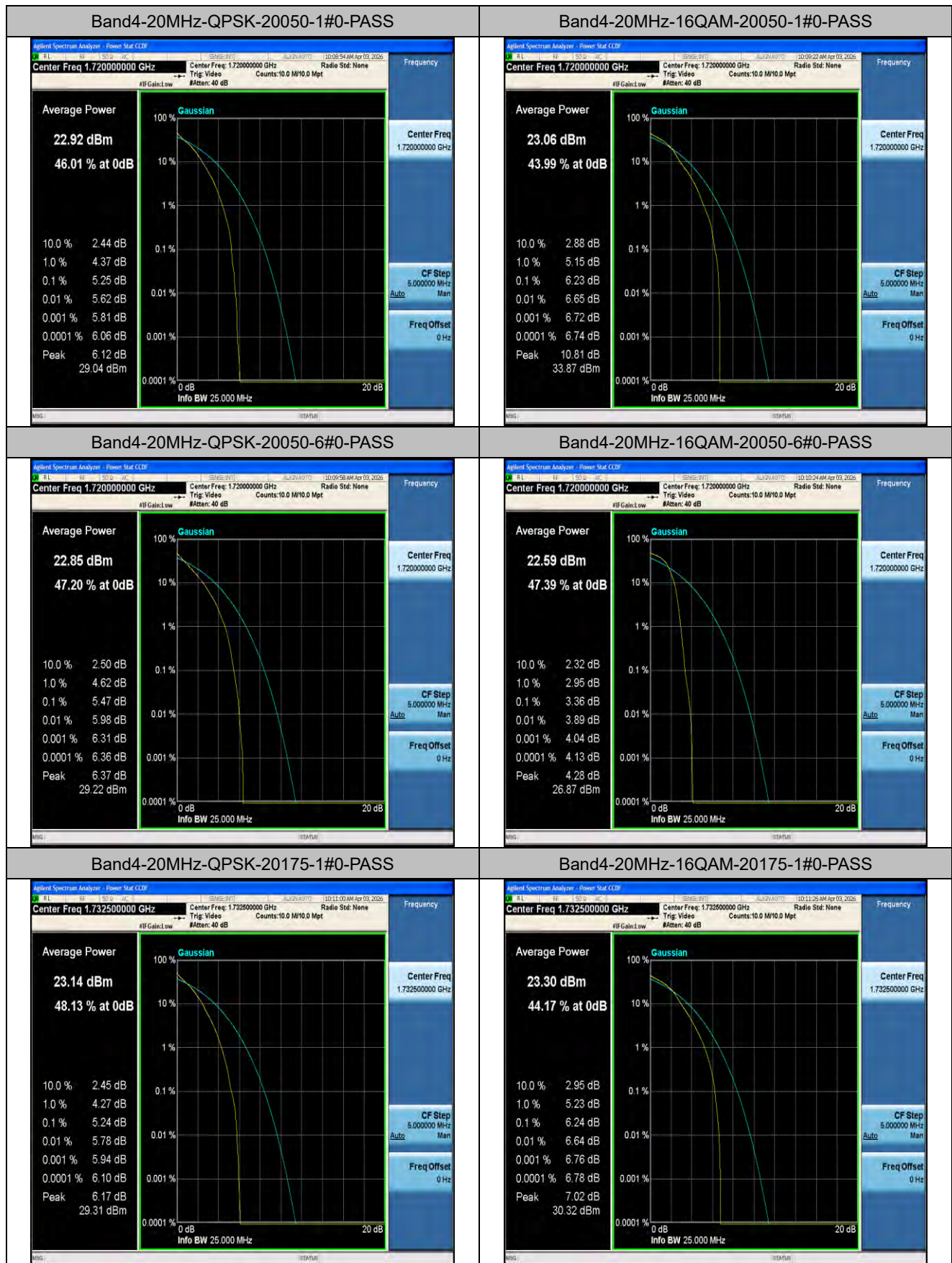
Band4	5MHz	QPSK	19975	1	0	Low	22.36	27.16	30.00	PASS
Band4	5MHz	16QAM	19975	1	0	Low	22.68	27.48	30.00	PASS
Band4	5MHz	QPSK	19975	1	5	Low	22.47	27.27	30.00	PASS
Band4	5MHz	16QAM	19975	1	5	Low	22.65	27.45	30.00	PASS
Band4	5MHz	QPSK	19975	6	0	Low	21.28	26.08	30.00	PASS
Band4	5MHz	16QAM	19975	6	0	Low	22.33	27.13	30.00	PASS
Band4	5MHz	QPSK	20175	1	0	Low	22.7	27.5	30.00	PASS
Band4	5MHz	16QAM	20175	1	0	Low	23.03	27.83	30.00	PASS
Band4	5MHz	QPSK	20175	1	5	Low	22.82	27.62	30.00	PASS
Band4	5MHz	16QAM	20175	1	5	Low	22.99	27.79	30.00	PASS
Band4	5MHz	QPSK	20175	6	0	Low	21.71	26.51	30.00	PASS
Band4	5MHz	16QAM	20175	6	0	Low	22.65	27.45	30.00	PASS
Band4	5MHz	QPSK	20375	1	0	High	22.74	27.54	30.00	PASS
Band4	5MHz	16QAM	20375	1	0	High	22.99	27.79	30.00	PASS
Band4	5MHz	QPSK	20375	1	5	High	22.81	27.61	30.00	PASS
Band4	5MHz	16QAM	20375	1	5	High	22.95	27.75	30.00	PASS
Band4	5MHz	QPSK	20375	6	0	High	21.63	26.43	30.00	PASS
Band4	5MHz	16QAM	20375	6	0	High	22.65	27.45	30.00	PASS
Band4	10MHz	QPSK	20000	1	0	Low	22.37	27.17	30.00	PASS
Band4	10MHz	16QAM	20000	1	0	Low	22.49	27.29	30.00	PASS
Band4	10MHz	QPSK	20000	1	5	Low	22.5	27.3	30.00	PASS
Band4	10MHz	16QAM	20000	1	5	Low	22.59	27.39	30.00	PASS
Band4	10MHz	QPSK	20000	6	0	Low	21.31	26.11	30.00	PASS
Band4	10MHz	16QAM	20000	6	0	Low	22.28	27.08	30.00	PASS
Band4	10MHz	QPSK	20175	1	0	Low	22.75	27.55	30.00	PASS
Band4	10MHz	16QAM	20175	1	0	Low	22.98	27.78	30.00	PASS
Band4	10MHz	QPSK	20175	6	0	Low	22.82	27.62	30.00	PASS
Band4	10MHz	16QAM	20175	6	0	Low	22.99	27.79	30.00	PASS
Band4	10MHz	QPSK	20350	1	0	High	21.68	26.48	30.00	PASS
Band4	10MHz	16QAM	20350	1	0	High	22.62	27.42	30.00	PASS
Band4	10MHz	QPSK	20350	1	5	High	22.71	27.51	30.00	PASS
Band4	10MHz	16QAM	20350	1	5	High	22.84	27.64	30.00	PASS
Band4	10MHz	QPSK	20350	6	0	High	22.75	27.55	30.00	PASS
Band4	10MHz	16QAM	20350	6	0	High	22.93	27.73	30.00	PASS
Band4	10MHz	QPSK	20175	1	5	Low	21.64	26.44	30.00	PASS
Band4	10MHz	16QAM	20175	1	5	Low	22.64	27.44	30.00	PASS
Band4	15MHz	QPSK	20025	1	0	Low	22.38	27.18	30.00	PASS
Band4	15MHz	16QAM	20025	1	0	Low	22.67	27.47	30.00	PASS
Band4	15MHz	QPSK	20025	1	5	Low	22.46	27.26	30.00	PASS
Band4	15MHz	16QAM	20025	1	5	Low	22.67	27.47	30.00	PASS
Band4	15MHz	QPSK	20025	6	0	Low	22.3	27.1	30.00	PASS
Band4	15MHz	16QAM	20025	6	0	Low	22.28	27.08	30.00	PASS
Band4	15MHz	QPSK	20175	1	0	Low	22.78	27.58	30.00	PASS
Band4	15MHz	16QAM	20175	1	0	Low	22.96	27.76	30.00	PASS

Band4	15MHz	QPSK	20175	1	5	Low	22.83	27.63	30.00	PASS
Band4	15MHz	16QAM	20175	1	5	Low	23.01	27.81	30.00	PASS
Band4	15MHz	QPSK	20175	6	0	Low	22.73	27.53	30.00	PASS
Band4	15MHz	16QAM	20175	6	0	Low	22.66	27.46	30.00	PASS
Band4	15MHz	QPSK	20325	1	0	High	22.46	27.26	30.00	PASS
Band4	15MHz	16QAM	20325	1	0	High	22.68	27.48	30.00	PASS
Band4	15MHz	QPSK	20325	1	5	High	22.49	27.29	30.00	PASS
Band4	15MHz	16QAM	20325	1	5	High	22.7	27.5	30.00	PASS
Band4	15MHz	QPSK	20325	6	0	High	22.36	27.16	30.00	PASS
Band4	15MHz	16QAM	20325	6	0	High	22.43	27.23	30.00	PASS
Band4	20MHz	QPSK	20050	1	0	Low	22.39	27.19	30.00	PASS
Band4	20MHz	16QAM	20050	1	0	Low	22.47	27.27	30.00	PASS
Band4	20MHz	QPSK	20050	1	5	Low	22.44	27.24	30.00	PASS
Band4	20MHz	16QAM	20050	1	5	Low	22.65	27.45	30.00	PASS
Band4	20MHz	QPSK	20050	6	0	Low	22.32	27.12	30.00	PASS
Band4	20MHz	16QAM	20050	6	0	Low	22.3	27.1	30.00	PASS
Band4	20MHz	QPSK	20175	1	0	Low	22.78	27.58	30.00	PASS
Band4	20MHz	16QAM	20175	1	0	Low	22.99	27.79	30.00	PASS
Band4	20MHz	QPSK	20175	1	5	Low	22.87	27.67	30.00	PASS
Band4	20MHz	16QAM	20175	1	5	Low	23.04	27.84	30.00	PASS
Band4	20MHz	QPSK	20175	6	0	Low	22.76	27.56	30.00	PASS
Band4	20MHz	16QAM	20175	6	0	Low	22.66	27.46	30.00	PASS
Band4	20MHz	QPSK	20300	1	0	High	22.45	27.25	30.00	PASS
Band4	20MHz	16QAM	20300	1	0	High	22.67	27.47	30.00	PASS
Band4	20MHz	QPSK	20300	1	5	High	22.5	27.3	30.00	PASS
Band4	20MHz	16QAM	20300	1	5	High	22.74	27.54	30.00	PASS
Band4	20MHz	QPSK	20300	6	0	High	22.42	27.22	30.00	PASS
Band4	20MHz	16QAM	20300	6	0	High	22.42	27.22	30.00	PASS

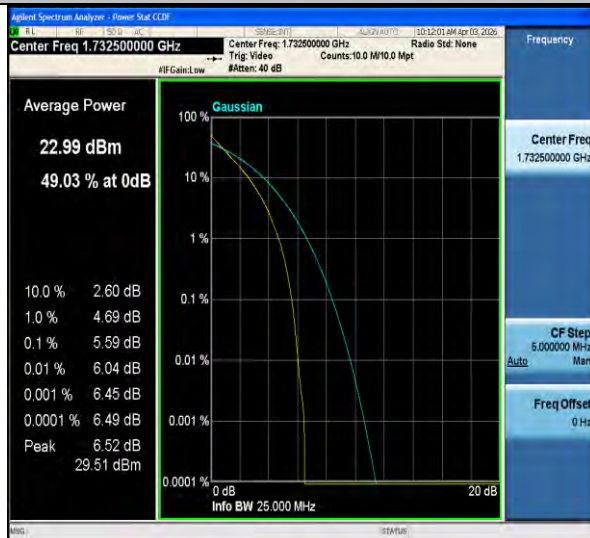
Peak-to-Average Ratio(CCDF) for M1**Test Result**

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band4	20MHz	QPSK	20050	1	0	Low	5.25	<=13	PASS
Band4	20MHz	16QAM	20050	1	0	Low	6.23	<=13	PASS
Band4	20MHz	QPSK	20050	6	0	Low	5.47	<=13	PASS
Band4	20MHz	16QAM	20050	6	0	Low	3.36	<=13	PASS
Band4	20MHz	QPSK	20175	1	0	Low	5.24	<=13	PASS
Band4	20MHz	16QAM	20175	1	0	Low	6.24	<=13	PASS
Band4	20MHz	QPSK	20175	6	0	Low	5.59	<=13	PASS
Band4	20MHz	16QAM	20175	6	0	Low	3.35	<=13	PASS
Band4	20MHz	QPSK	20300	1	0	High	5.55	<=13	PASS
Band4	20MHz	16QAM	20300	1	0	High	6.35	<=13	PASS
Band4	20MHz	QPSK	20300	6	0	High	5.50	<=13	PASS
Band4	20MHz	16QAM	20300	6	0	High	3.18	<=13	PASS

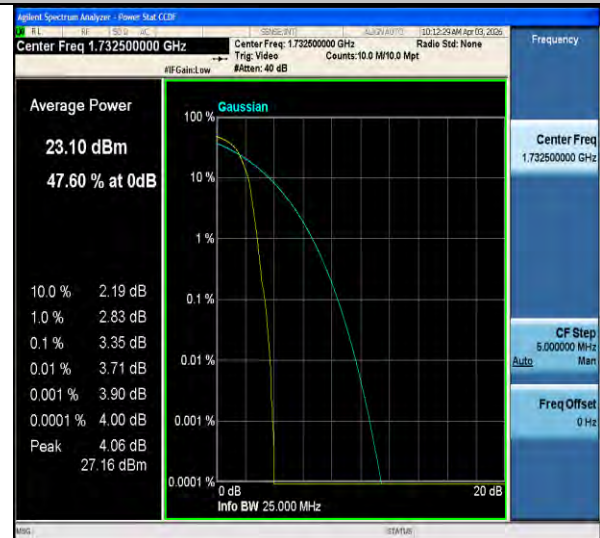
Test Graphs



Band4-20MHz-QPSK-20175-6#0-PASS



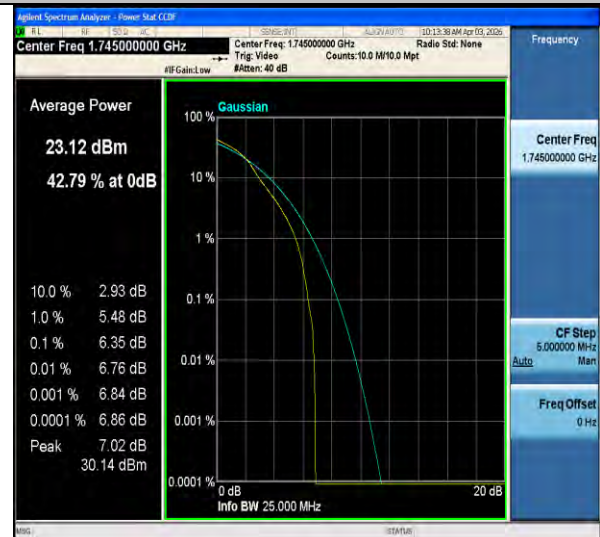
Band4-20MHz-16QAM-20175-6#0-PASS



Band4-20MHz-QPSK-20300-1#0-PASS



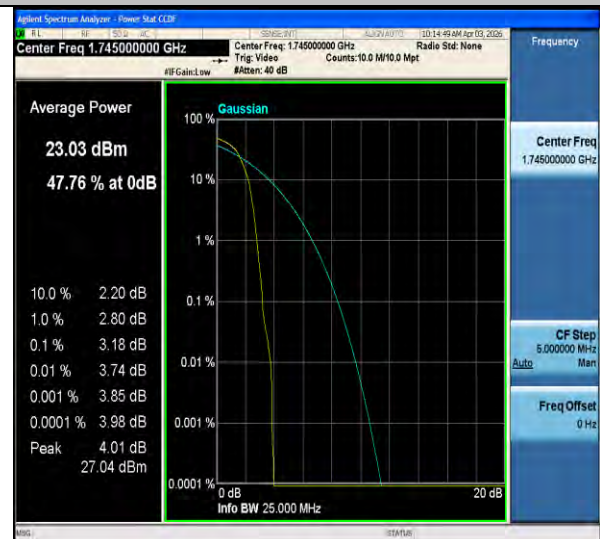
Band4-20MHz-16QAM-20300-1#0-PASS



Band4-20MHz-QPSK-20300-6#0-PASS



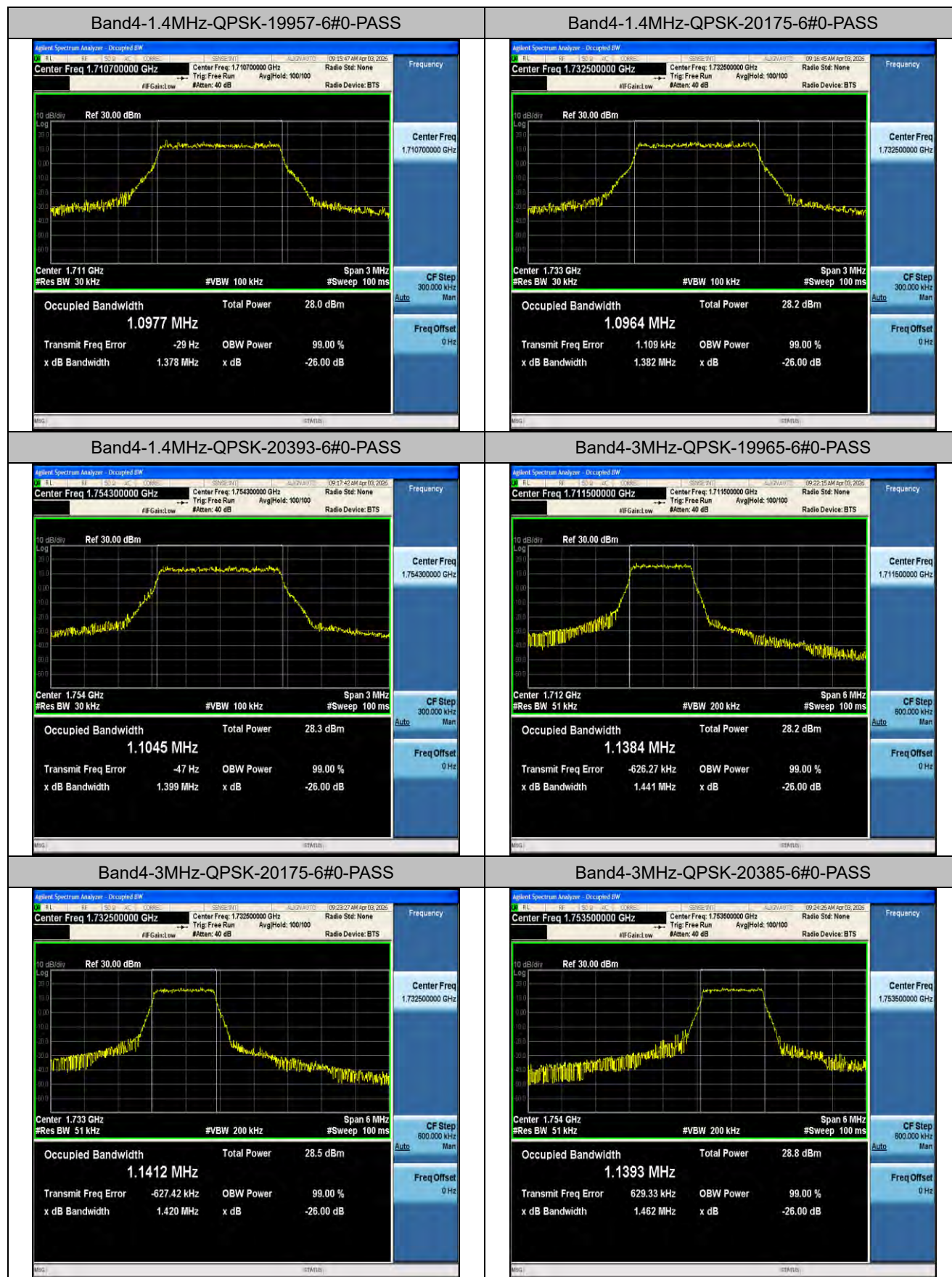
Band4-20MHz-16QAM-20300-6#0-PASS



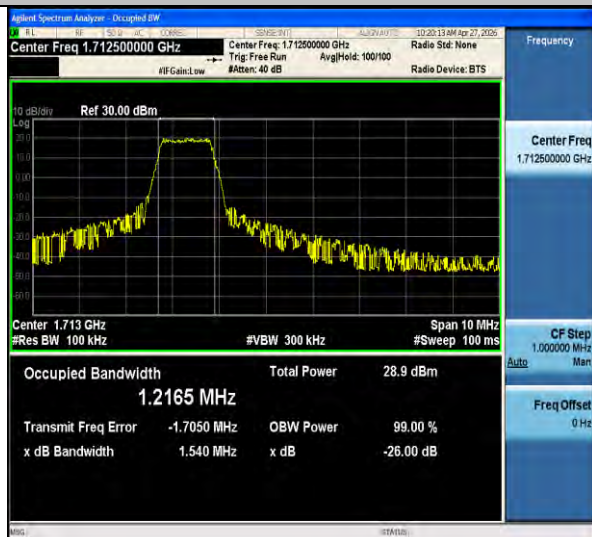
26dB Bandwidth and Occupied Bandwidth for M1**Test Result**

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6	0	Low	1.0977	1.378	PASS
Band4	1.4MHz	QPSK	20175	6	0	Low	1.0964	1.382	PASS
Band4	1.4MHz	QPSK	20393	6	0	High	1.1045	1.399	PASS
Band4	3MHz	QPSK	19965	6	0	Low	1.1384	1.441	PASS
Band4	3MHz	QPSK	20175	6	0	Low	1.1412	1.420	PASS
Band4	3MHz	QPSK	20385	6	0	High	1.1393	1.462	PASS
Band4	5MHz	QPSK	19975	6	0	Low	1.2165	1.54	PASS
Band4	5MHz	QPSK	20175	6	0	Low	1.2161	1.530	PASS
Band4	5MHz	QPSK	20375	6	0	High	1.2251	1.528	PASS
Band4	10MHz	QPSK	20000	6	0	Low	1.3356	1.724	PASS
Band4	10MHz	QPSK	20175	6	0	Low	1.3529	1.709	PASS
Band4	10MHz	QPSK	20350	6	0	High	1.3733	1.739	PASS
Band4	15MHz	QPSK	20025	6	0	Low	1.5206	1.925	PASS
Band4	15MHz	QPSK	20175	6	0	Low	1.5162	1.956	PASS
Band4	15MHz	QPSK	20325	6	0	High	1.5087	1.922	PASS
Band4	20MHz	QPSK	20050	6	0	Low	1.8785	2.378	PASS
Band4	20MHz	QPSK	20175	6	0	Low	1.8764	2.406	PASS
Band4	20MHz	QPSK	20300	6	0	High	1.8812	2.389	PASS
Band4	1.4MHz	16QAM	19957	5	0	Low	0.96104	1.350	PASS
Band4	1.4MHz	16QAM	20175	5	0	Low	0.96147	1.364	PASS
Band4	1.4MHz	16QAM	20393	5	0	High	0.96380	1.379	PASS
Band4	3MHz	16QAM	19965	5	0	Low	1.0148	1.427	PASS
Band4	3MHz	16QAM	20175	5	0	Low	1.0191	1.418	PASS
Band4	3MHz	16QAM	20385	5	0	High	1.0303	1.428	PASS
Band4	10MHz	16QAM	20000	5	0	Low	1.2848	1.648	PASS
Band4	10MHz	16QAM	20350	5	0	High	1.2855	1.663	PASS
Band4	15MHz	16QAM	20025	5	0	Low	1.4293	1.853	PASS
Band4	15MHz	16QAM	20175	5	0	Low	1.4144	1.869	PASS
Band4	15MHz	16QAM	20325	5	0	High	1.4520	1.858	PASS
Band4	10MHz	16QAM	20175	5	0	Low	1.2898	1.670	PASS
Band4	20MHz	16QAM	20050	5	0	Low	1.8209	2.368	PASS
Band4	20MHz	16QAM	20175	5	0	Low	1.7905	2.353	PASS
Band4	20MHz	16QAM	20300	5	0	High	1.7886	2.354	PASS
Band4	5MHz	16QAM	19975	5	0	Low	1.1053	1.478	PASS
Band4	5MHz	16QAM	20175	5	0	Low	1.1145	1.483	PASS
Band4	5MHz	16QAM	20375	5	0	High	1.1290	1.497	PASS

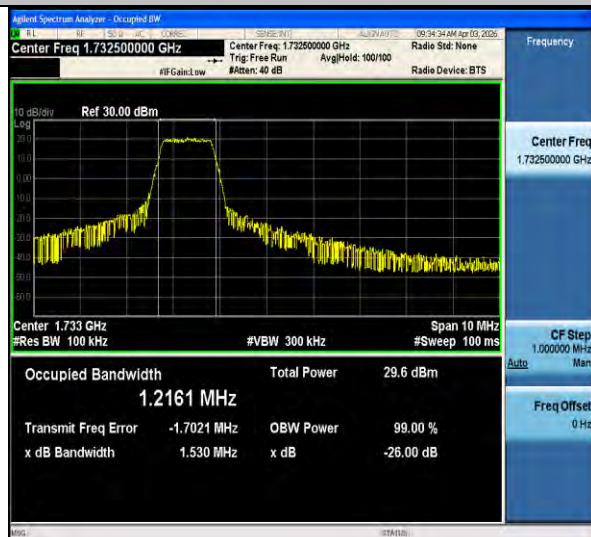
Test Graphs



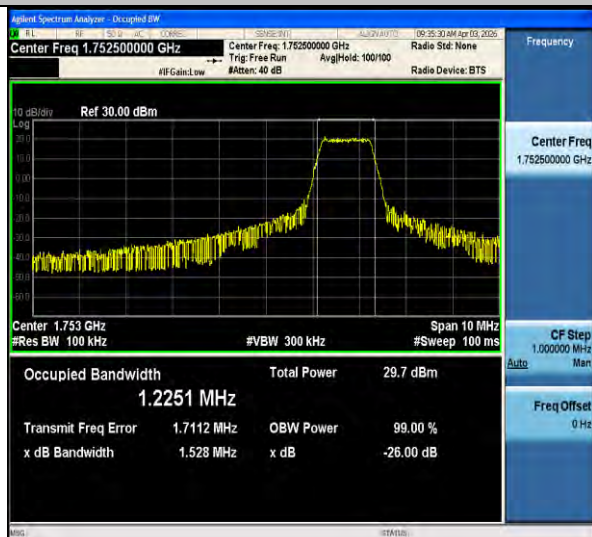
Band4-5MHz-QPSK-19975-6#0-PASS



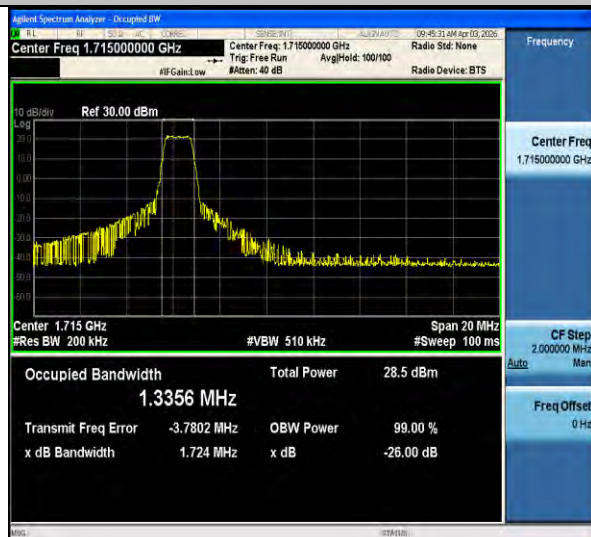
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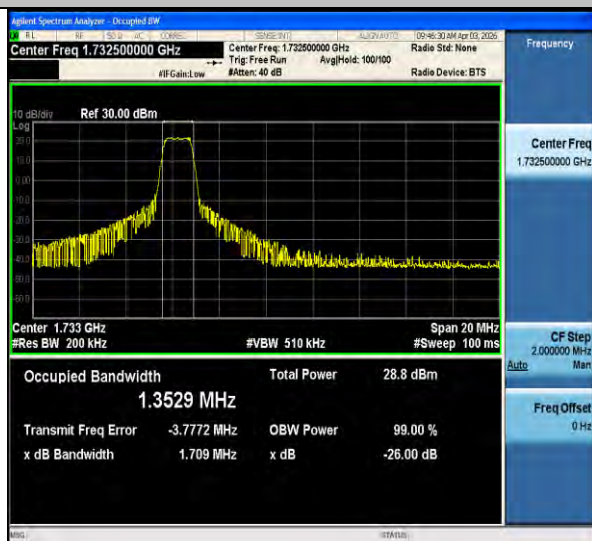
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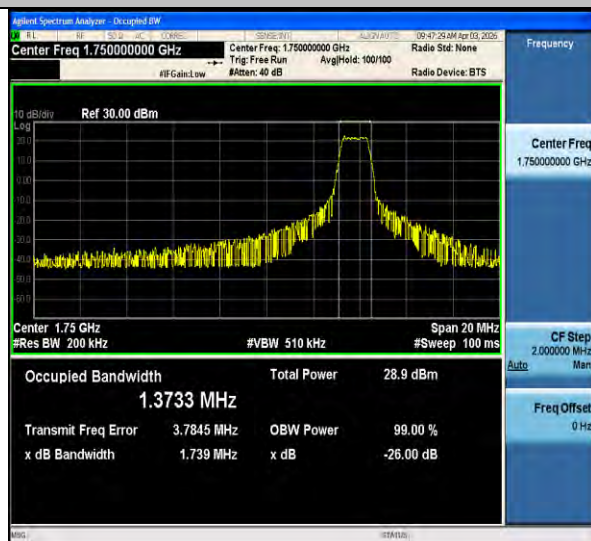
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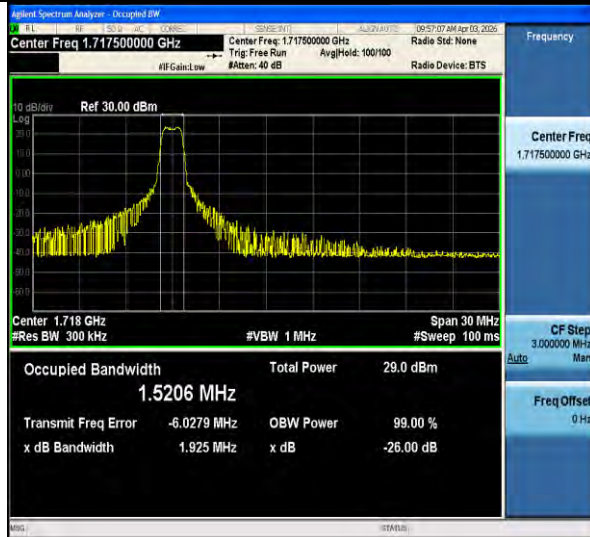
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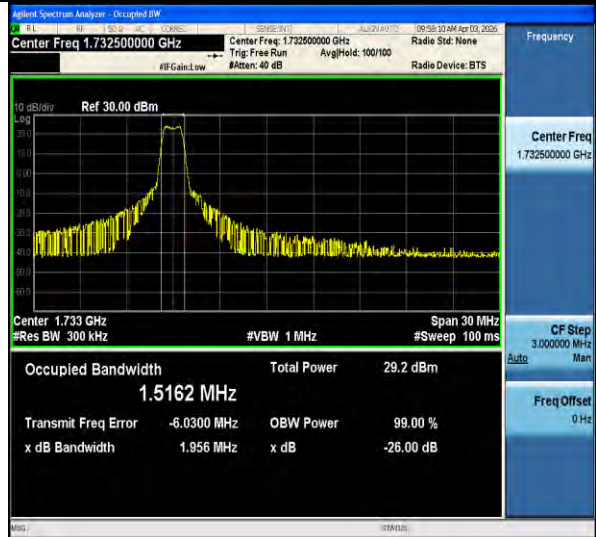
Band4-10MHz-QPSK-20350-6#0-PASS



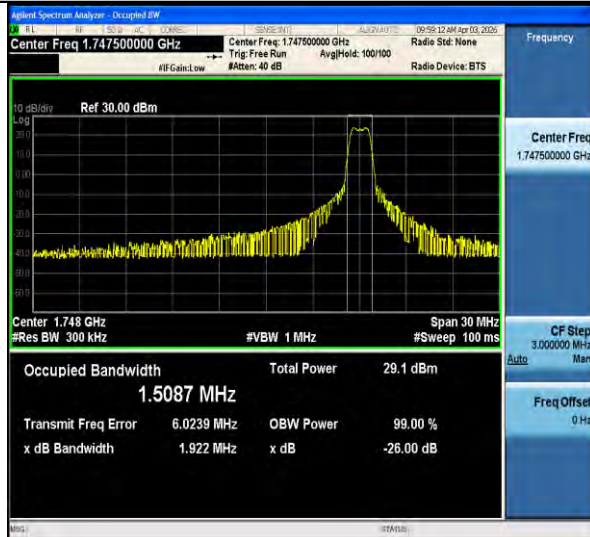
Band4-15MHz-QPSK-20025-6#0-PASS



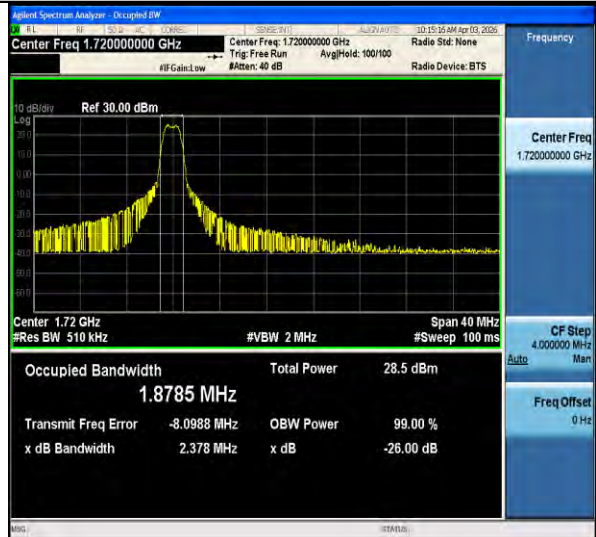
Band4-15MHz-QPSK-20175-6#0-PASS



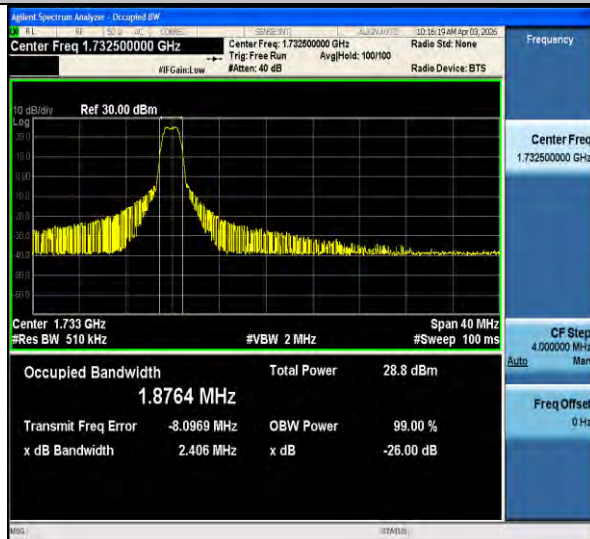
Band4-15MHz-QPSK-20325-6#0-PASS



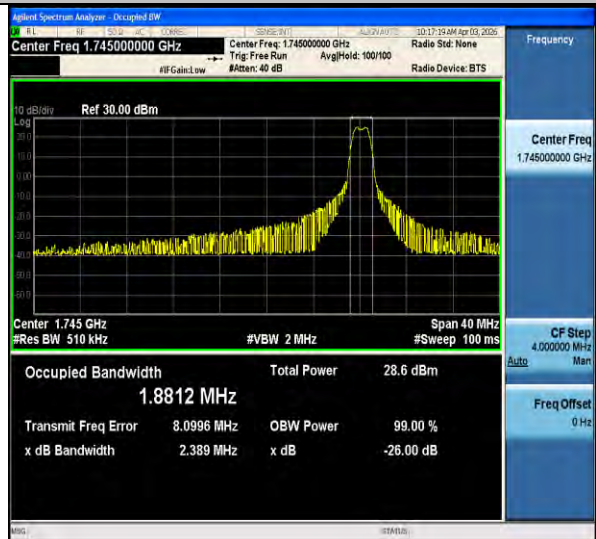
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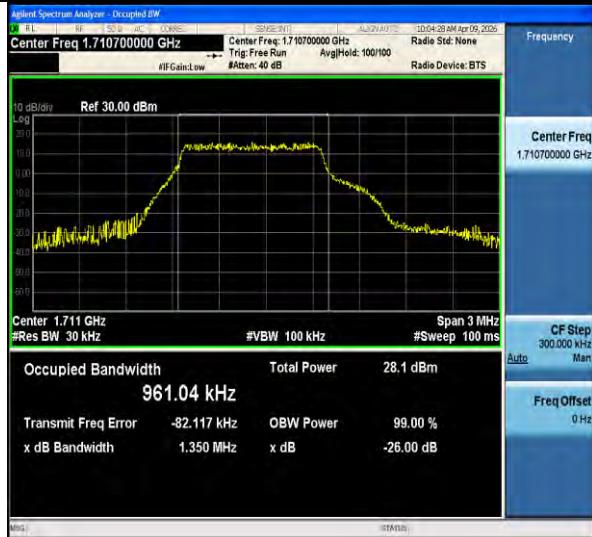
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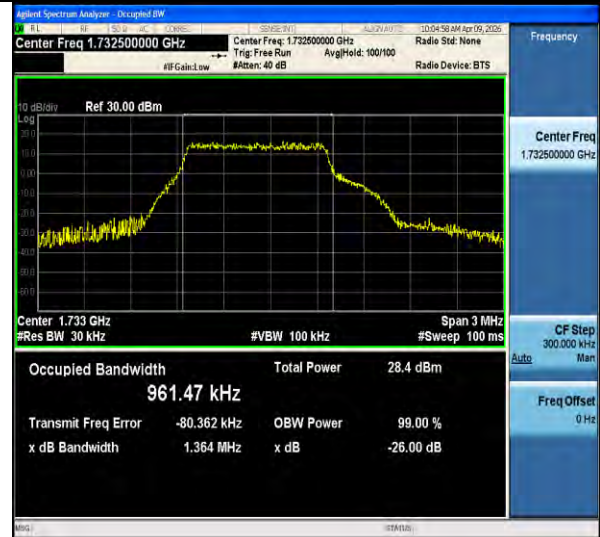
Band4-20MHz-QPSK-20300-6#0-PASS



Band4-1.4MHz-16QAM-19957-5#0-PASS



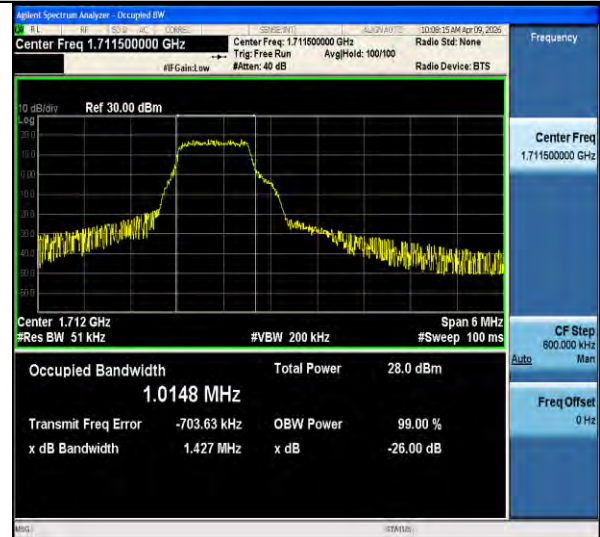
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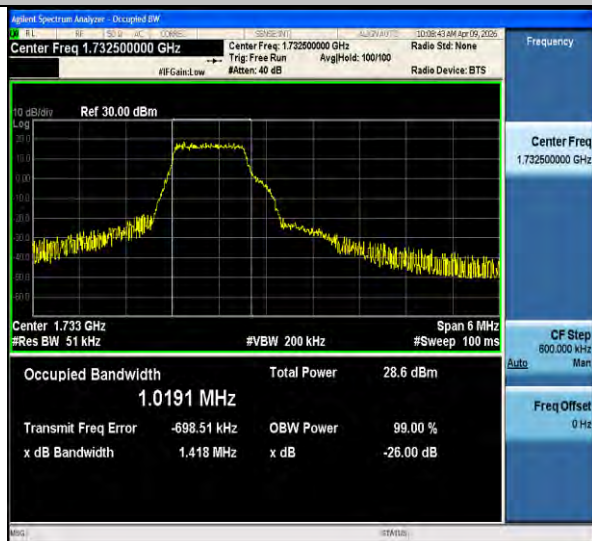
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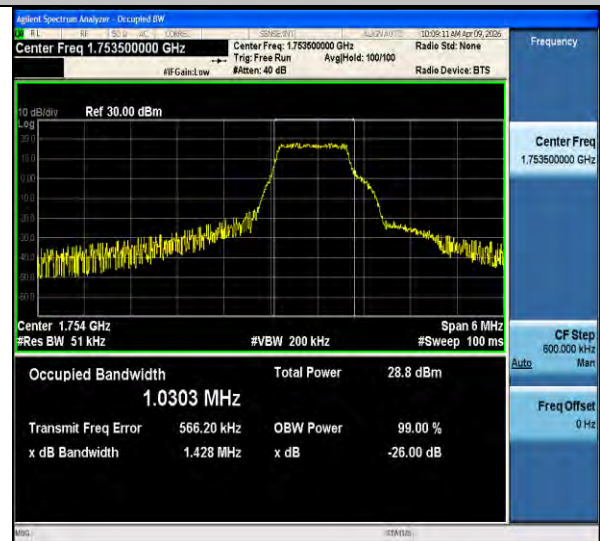
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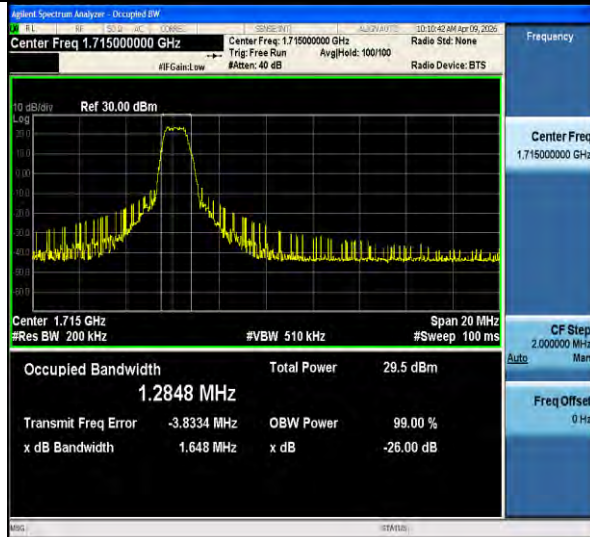
Band4-3MHz-16QAM-20175-5#0-PASS



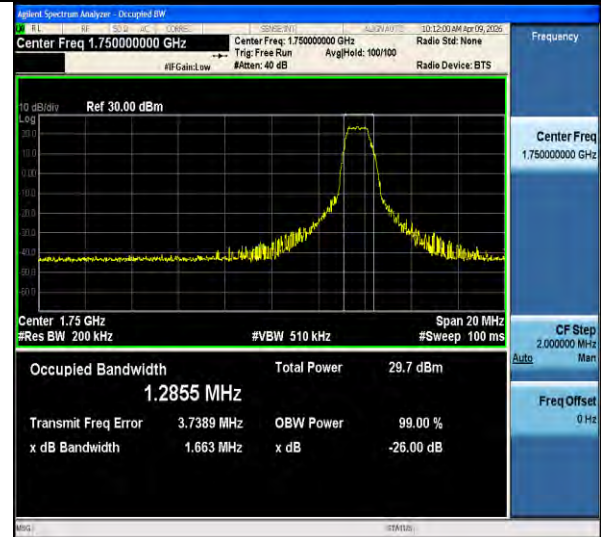
Band4-3MHz-16QAM-20385-5#0-PASS



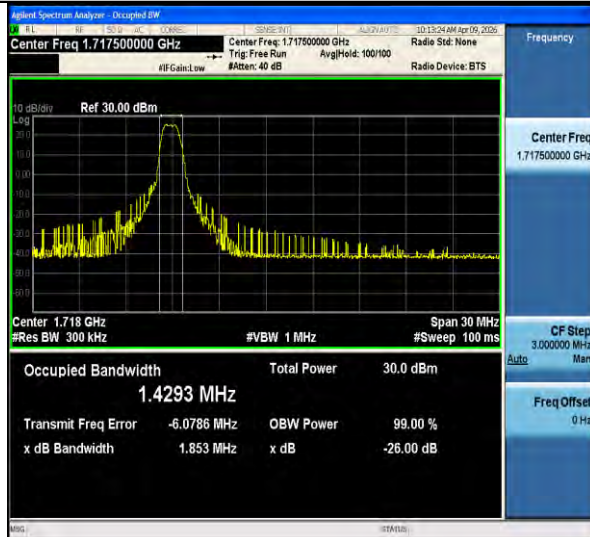
Band4-10MHz-16QAM-20000-5#0-PASS



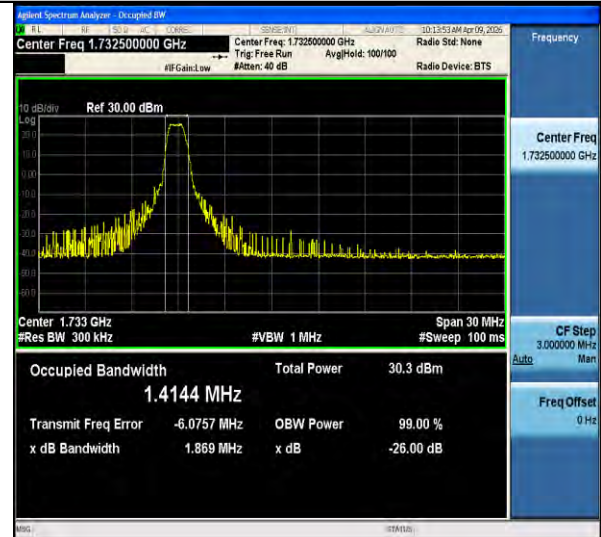
Band4-10MHz-16QAM-20350-5#0-PASS



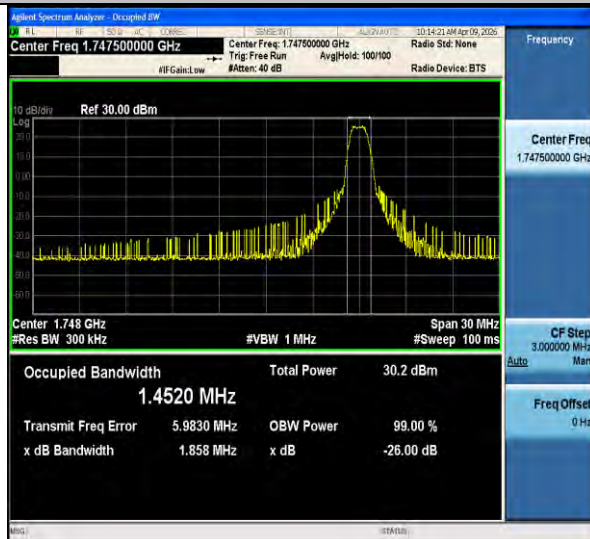
Band4-15MHz-16QAM-20025-5#0-PASS



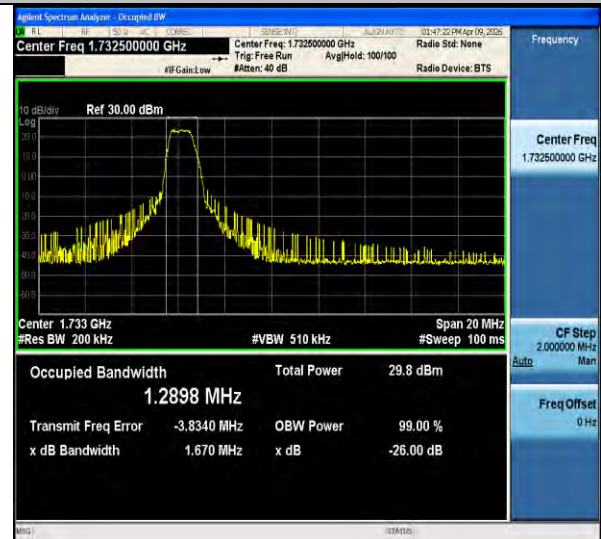
Band4-15MHz-16QAM-20175-5#0-PASS



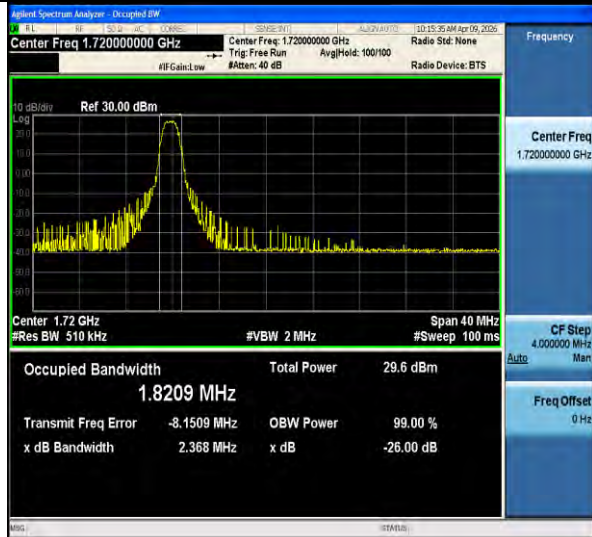
Band4-15MHz-16QAM-20325-5#0-PASS



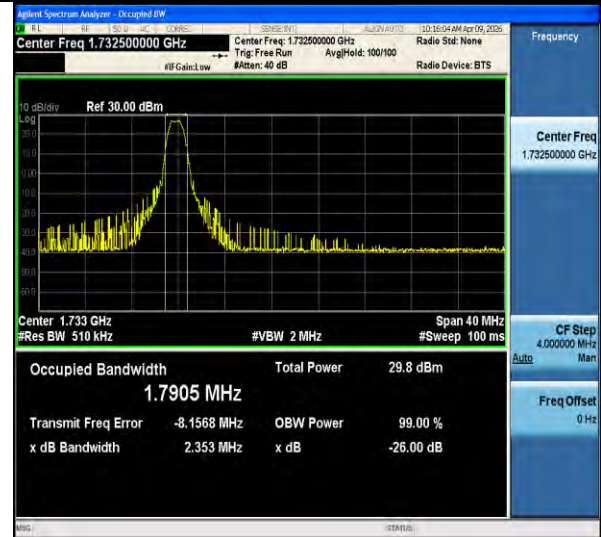
Band4-10MHz-16QAM-20175-5#0-PASS



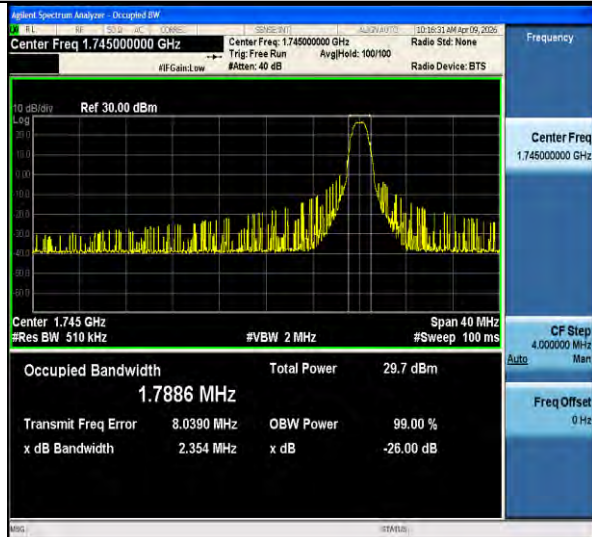
Band4-20MHz-16QAM-20050-5#0-PASS



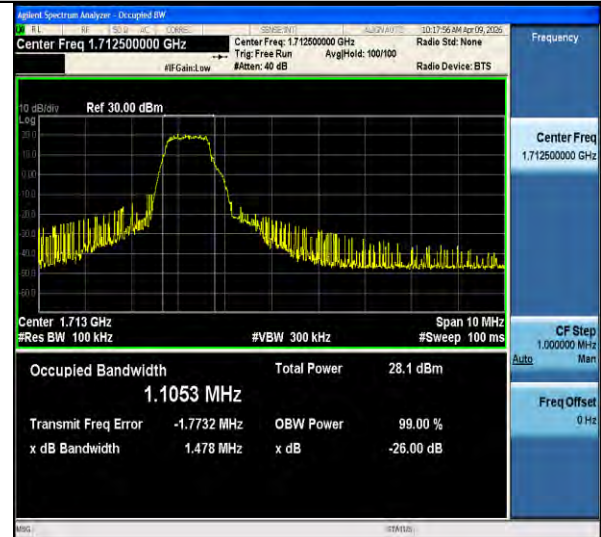
Band4-20MHz-16QAM-20175-5#0-PASS



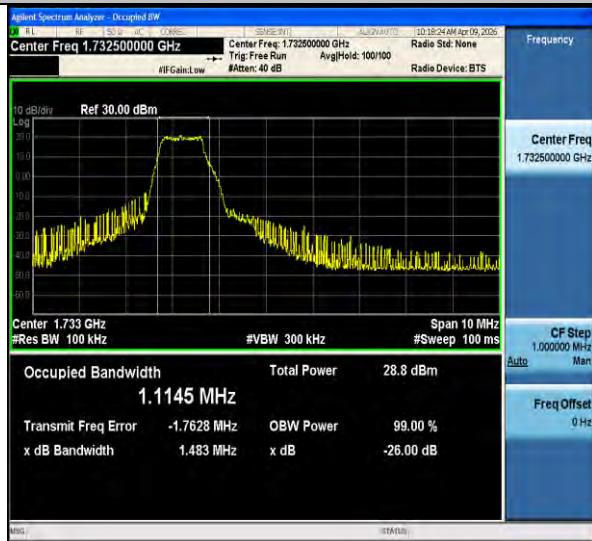
Band4-20MHz-16QAM-20300-5#0-PASS



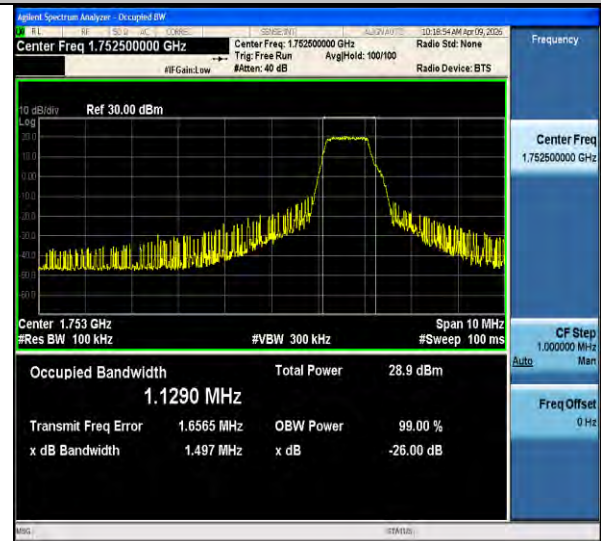
Band4-5MHz-16QAM-19975-5#0-PASS



Band4-5MHz-16QAM-20175-5#0-PASS

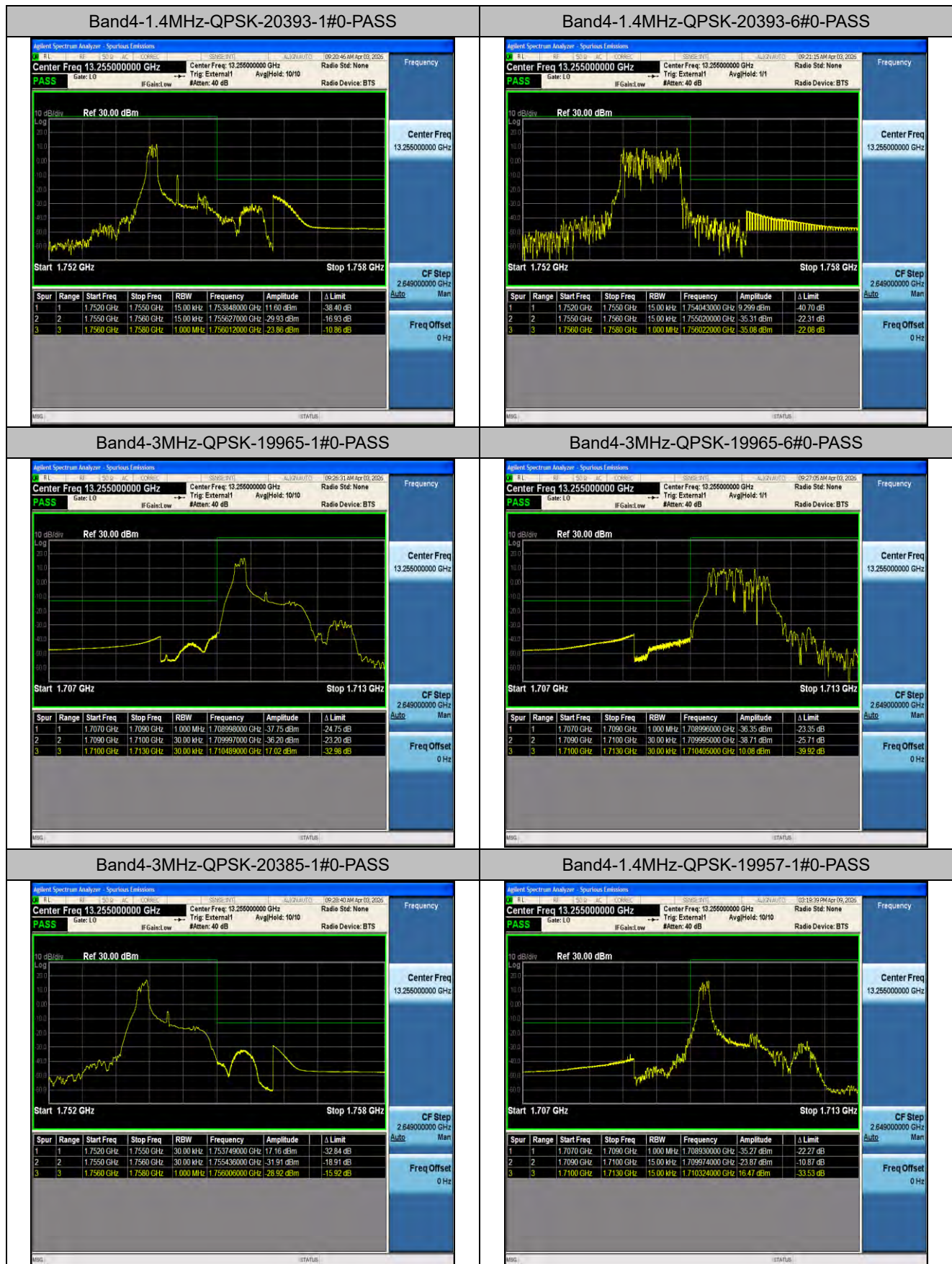


Band4-5MHz-16QAM-20375-5#0-PASS

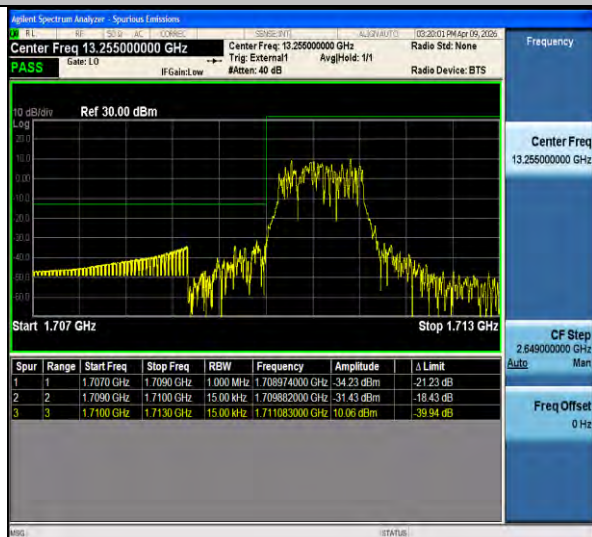


Band Edge for M1

Test Graphs



Band4-1.4MHz-QPSK-19957-6#0-PASS



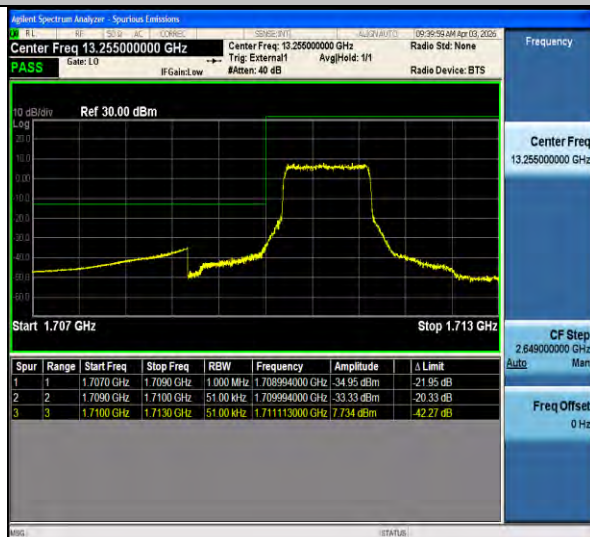
Band4-3MHz-QPSK-20385-6#0-PASS



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



Band4-5MHz-QPSK-19975-6#0-PASS



Band4-5MHz-QPSK-20375-1#0-PASS



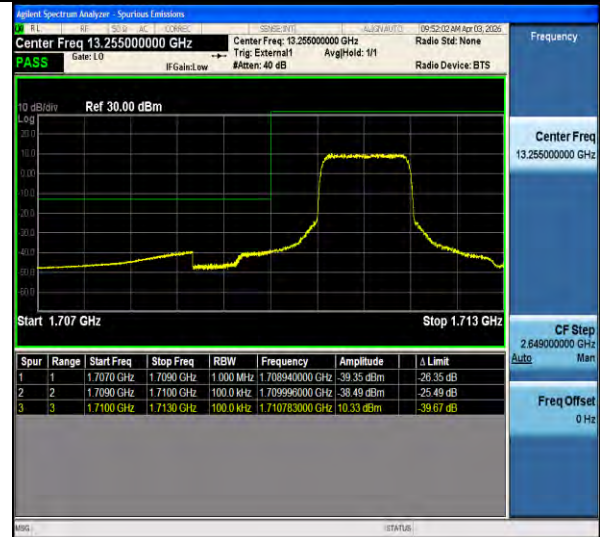
Band4-5MHz-QPSK-20375-6#0-PASS



Band4-10MHz-QPSK-20000-1#0-PASS



Band4-10MHz-QPSK-20000-6#0-PASS



Band4-10MHz-QPSK-20350-1#0-PASS



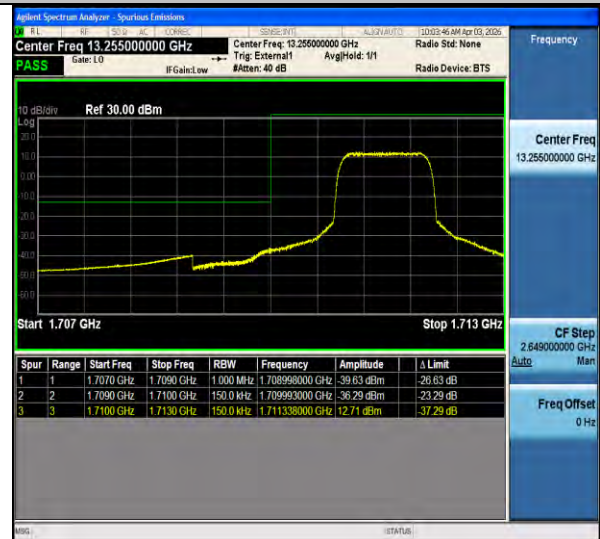
Band4-10MHz-QPSK-20350-6#0-PASS



Band4-15MHz-QPSK-20025-1#0-PASS



Band4-15MHz-QPSK-20025-6#0-PASS



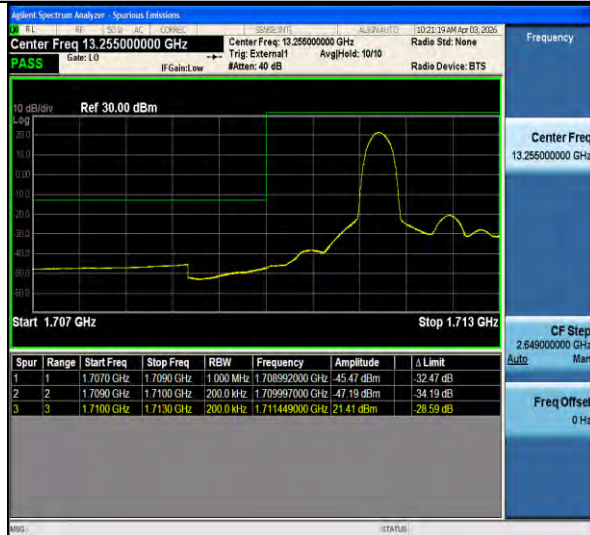
Band4-15MHz-QPSK-20325-1#0-PASS



Band4-15MHz-QPSK-20325-6#0-PASS



Band4-20MHz-QPSK-20050-1#0-PASS



Band4-20MHz-QPSK-20050-6#0-PASS



Band4-20MHz-QPSK-20300-1#0-PASS

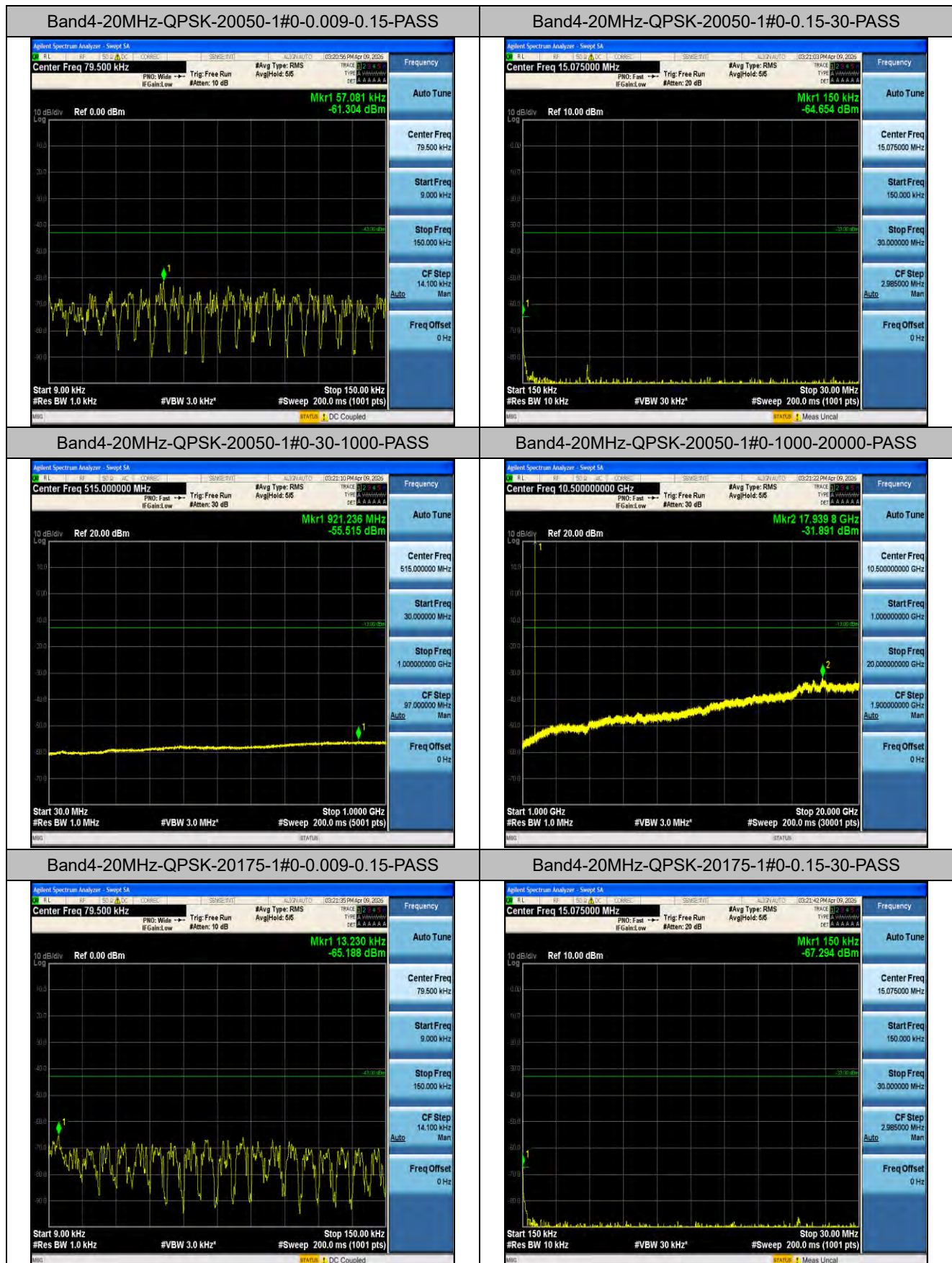


Band4-20MHz-QPSK-20300-6#0-PASS



Conducted Spurious Emission for M1

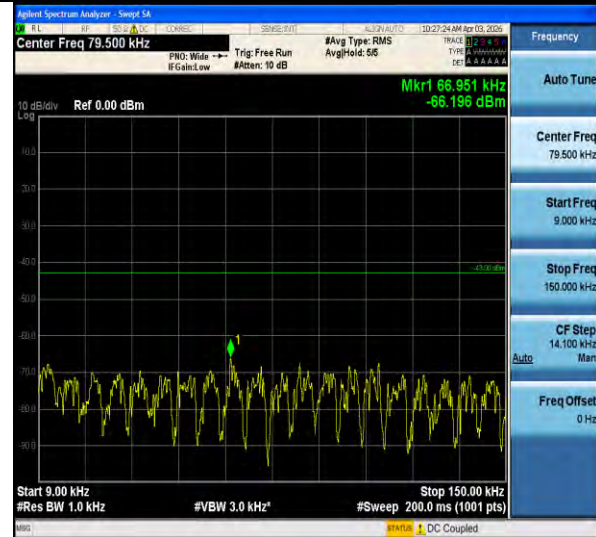
Test Graphs



Band4-20MHz-QPSK-20175-1#0-30-1000-PASS



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



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



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



Band4-20MHz-QPSK-20300-1#0-1000-20000-PASS



Band4-20MHz-QPSK-20175-1#0-1000-20000-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)	Verdict
Band4	20MHz	QPSK	20175	6	0	Low	VN	NT	-1.10	-0.000635	PASS
Band4	20MHz	QPSK	20175	6	0	Low	VL	NT	-0.10	-0.000058	PASS
Band4	20MHz	QPSK	20175	6	0	Low	VH	NT	0.80	0.000462	PASS

Temperature											
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	20MHz	QPSK	20175	6	0	Low	NV	-30	2.00	0.001154	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	-20	1.50	0.000866	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	-10	1.10	0.000635	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	0	-0.50	-0.000289	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	10	0.40	0.000231	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	20	0.00	0.000000	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	30	1.10	0.000635	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	40	0.20	0.000115	PASS
Band4	20MHz	QPSK	20175	6	0	Low	NV	50	1.30	0.000750	PASS

~The End~