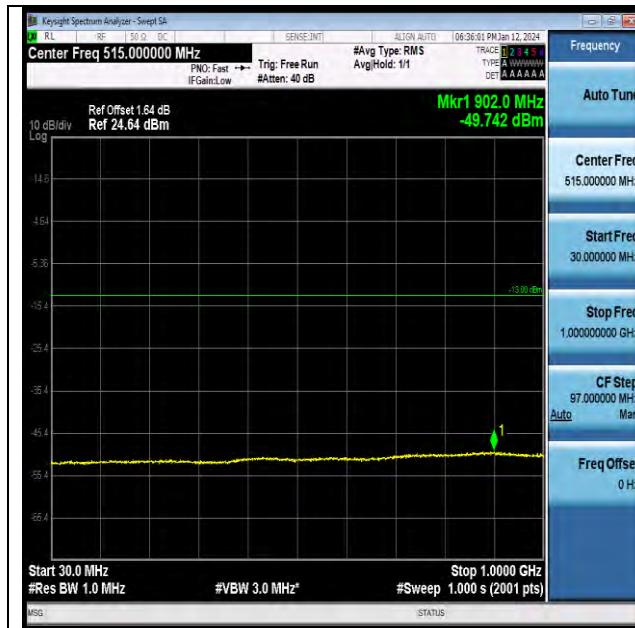


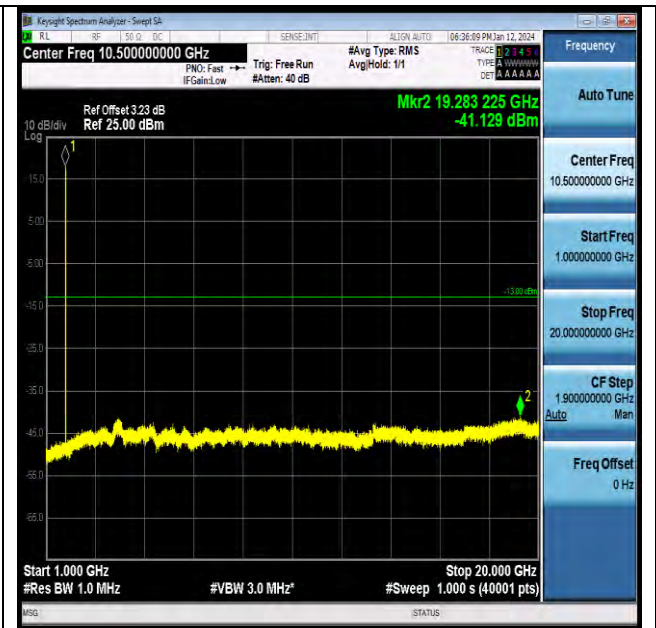


BUREAU
VERITAS

Test Report No.: W7L-P23120020RF03



Band4-1513-30~1000MHz-PASS



Band4-1513-1000~20000MHz-PASS

BV 7Layers Communications Technology
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FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	VN	NT	13.61	0.007948	±2.5	PASS
Band4	1312	VL	NT	13.69	0.007995	±2.5	PASS
Band4	1312	VH	NT	14.00	0.008176	±2.5	PASS
Band4	1413	VN	NT	0.12	0.000069	±2.5	PASS
Band4	1413	VL	NT	0.99	0.000571	±2.5	PASS
Band4	1413	VH	NT	1.16	0.000670	±2.5	PASS
Band4	1513	VN	NT	-16.84	-0.009609	±2.5	PASS
Band4	1513	VL	NT	-16.68	-0.009517	±2.5	PASS
Band4	1513	VH	NT	-17.13	-0.009774	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	NV	-30	14.01	0.008181	±2.5	PASS
Band4	1312	NV	-20	13.30	0.007767	±2.5	PASS
Band4	1312	NV	-10	13.25	0.007738	±2.5	PASS
Band4	1312	NV	0	13.05	0.007621	±2.5	PASS
Band4	1312	NV	10	13.62	0.007954	±2.5	PASS
Band4	1312	NV	20	13.48	0.007872	±2.5	PASS
Band4	1312	NV	30	13.94	0.008141	±2.5	PASS
Band4	1312	NV	40	13.51	0.007890	±2.5	PASS
Band4	1312	NV	50	13.84	0.008082	±2.5	PASS
Band4	1413	NV	-30	0.53	0.000306	±2.5	PASS
Band4	1413	NV	-20	0.65	0.000375	±2.5	PASS
Band4	1413	NV	-10	0.25	0.000144	±2.5	PASS
Band4	1413	NV	0	1.22	0.000704	±2.5	PASS
Band4	1413	NV	10	1.40	0.000808	±2.5	PASS
Band4	1413	NV	20	0.19	0.000110	±2.5	PASS
Band4	1413	NV	30	0.72	0.000416	±2.5	PASS
Band4	1413	NV	40	0.25	0.000144	±2.5	PASS
Band4	1413	NV	50	-0.17	-0.000098	±2.5	PASS
Band4	1513	NV	-30	-16.94	-0.009666	±2.5	PASS
Band4	1513	NV	-20	-16.93	-0.009660	±2.5	PASS
Band4	1513	NV	-10	-16.66	-0.009506	±2.5	PASS
Band4	1513	NV	0	-17.07	-0.009740	±2.5	PASS
Band4	1513	NV	10	-16.29	-0.009295	±2.5	PASS
Band4	1513	NV	20	-17.45	-0.009957	±2.5	PASS
Band4	1513	NV	30	-17.24	-0.009837	±2.5	PASS
Band4	1513	NV	40	-16.33	-0.009318	±2.5	PASS
Band4	1513	NV	50	-16.77	-0.009569	±2.5	PASS



Test Report No.: W7L-P23120020RF03

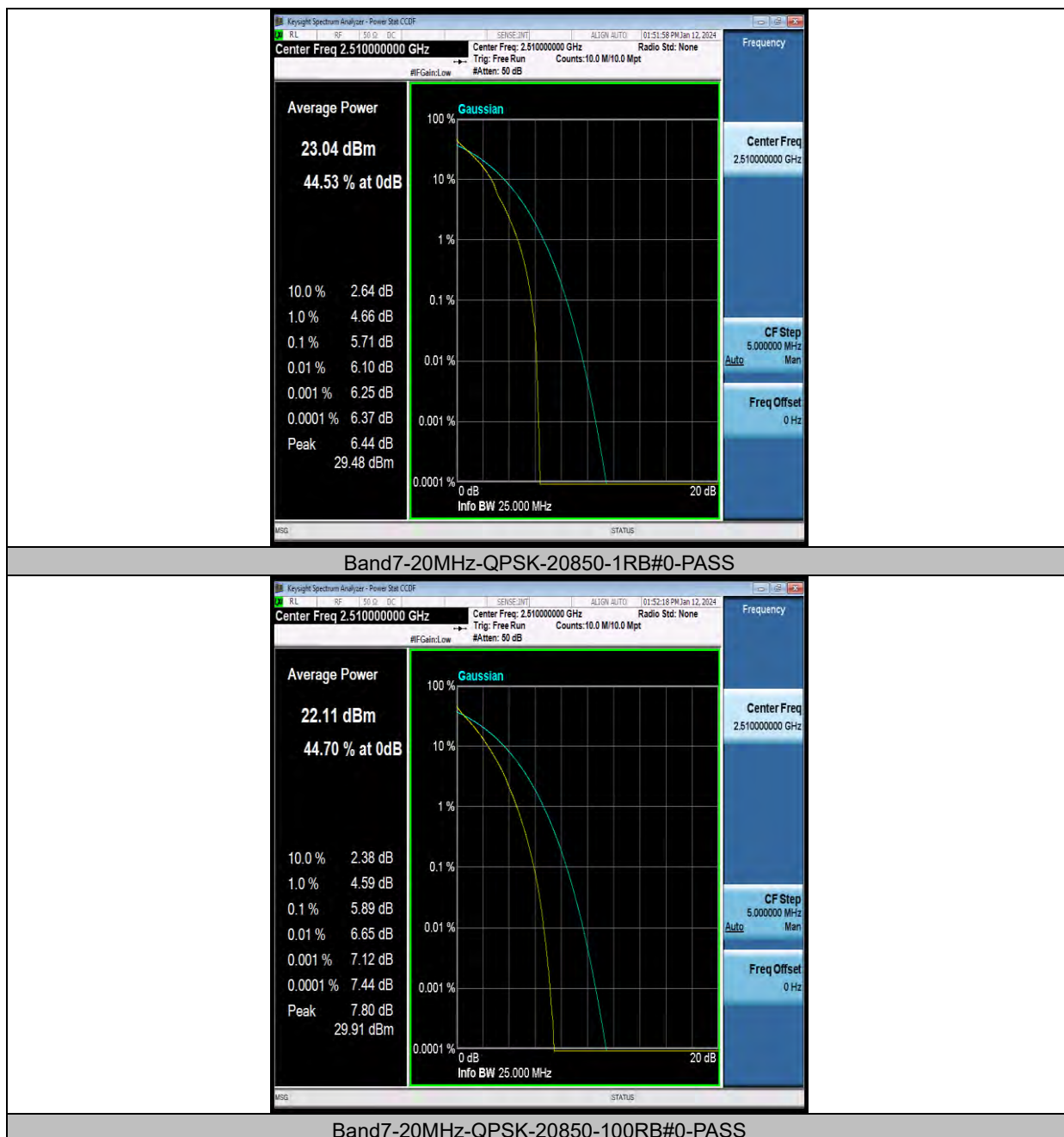
LTE BAND7

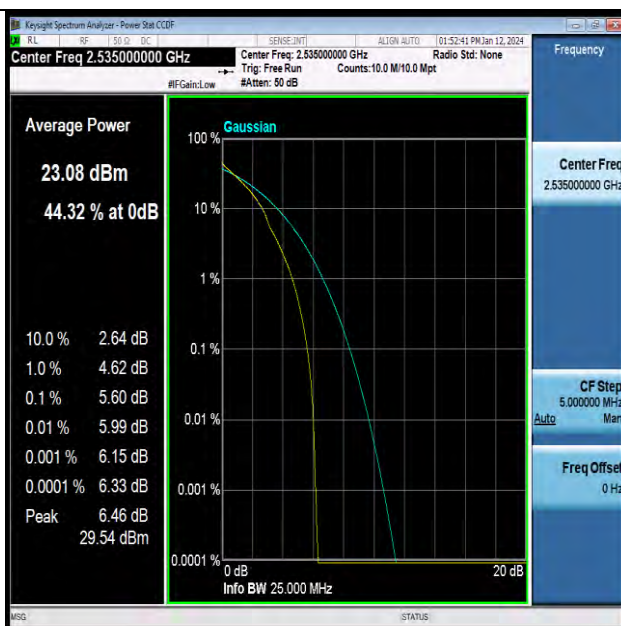
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

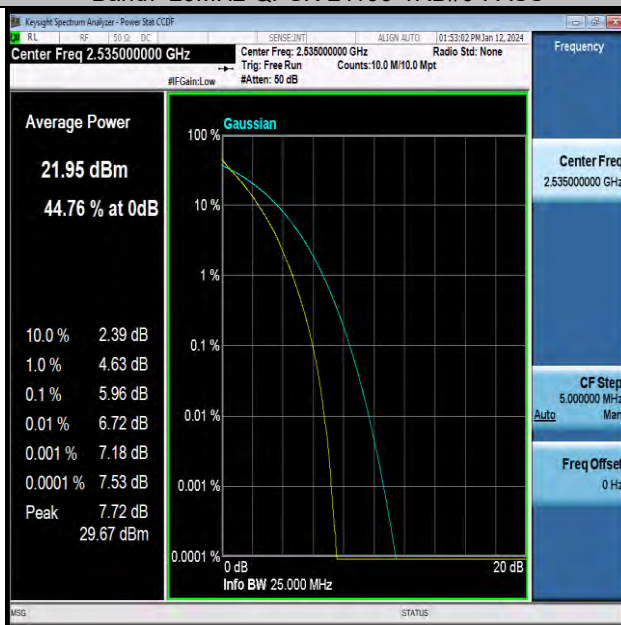
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	20MHz	QPSK	20850	1RB#0	5.71	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	5.89	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	5.60	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.96	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	5.77	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	5.83	13	PASS
Band7	20MHz	16QAM	20850	1RB#0	6.51	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	6.66	13	PASS
Band7	20MHz	16QAM	21100	1RB#0	6.57	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	6.68	13	PASS
Band7	20MHz	16QAM	21350	1RB#0	6.55	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	6.62	13	PASS

Test Graphs

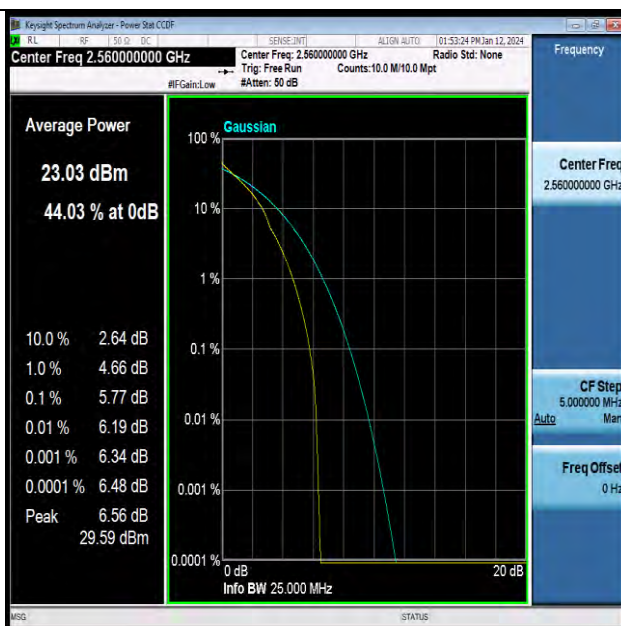




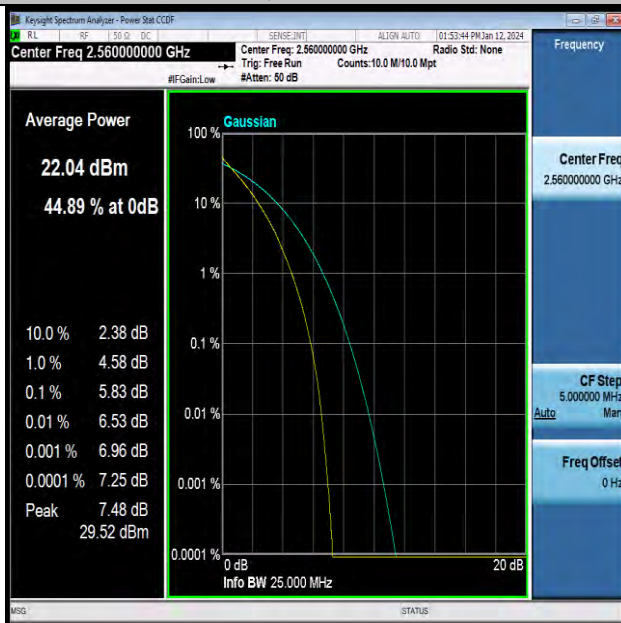
Band7-20MHz-QPSK-21100-1RB#0-PASS



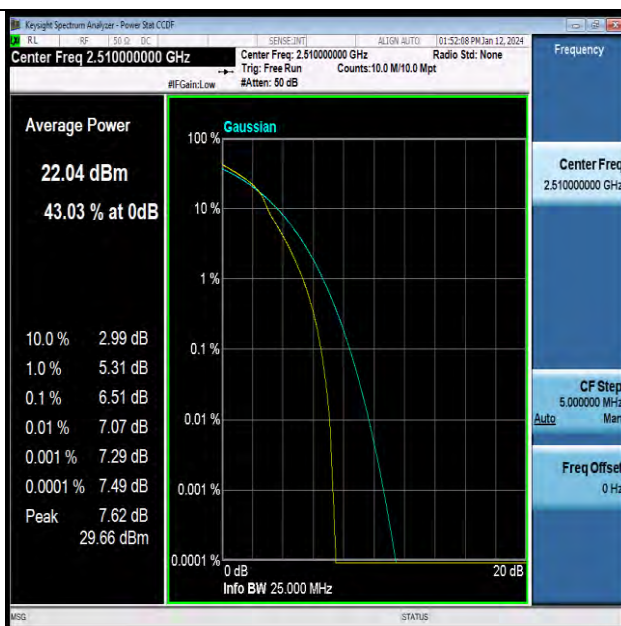
Band7-20MHz-QPSK-21100-100RB#0-PASS



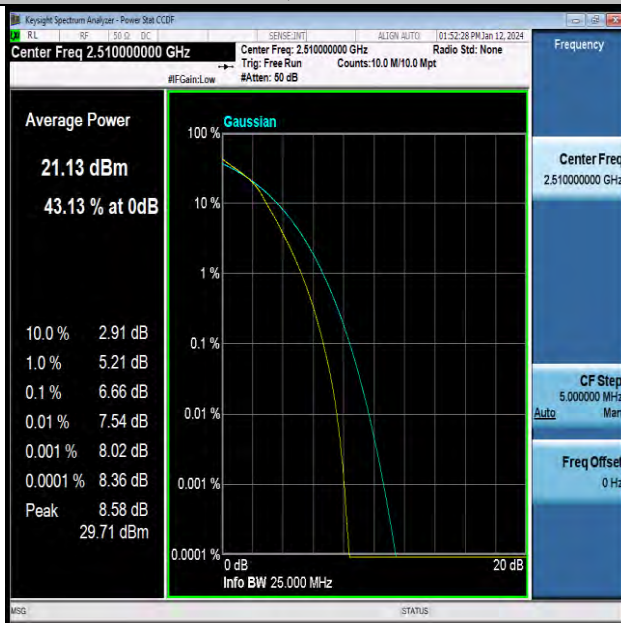
Band7-20MHz-QPSK-21350-1RB#0-PASS



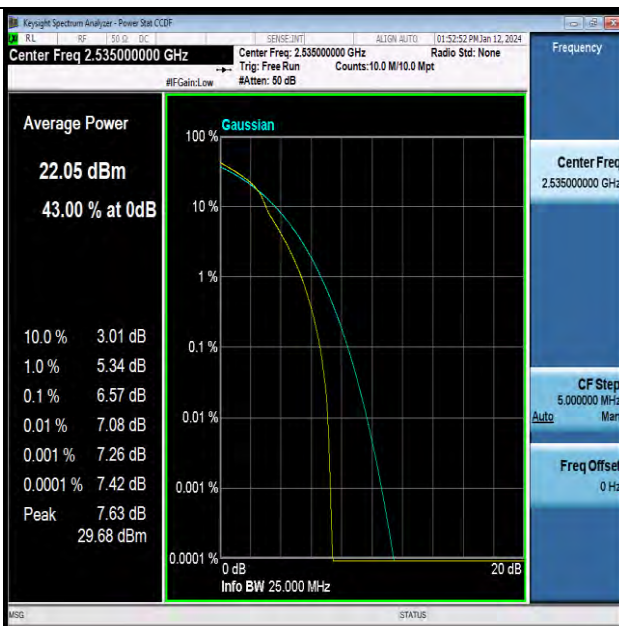
Band7-20MHz-QPSK-21350-100RB#0-PASS



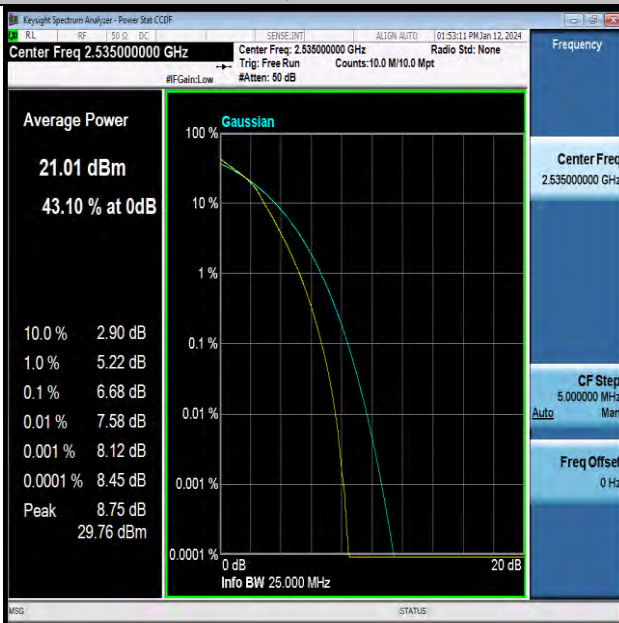
Band7-20MHz-16QAM-20850-1RB#0-PASS



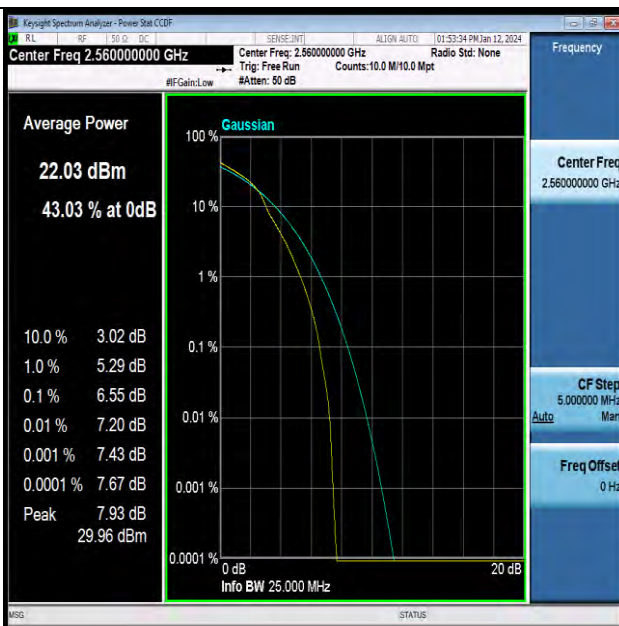
Band7-20MHz-16QAM-20850-100RB#0-PASS



Band7-20MHz-16QAM-21100-1RB#0-PASS



Band7-20MHz-16QAM-21100-100RB#0-PASS

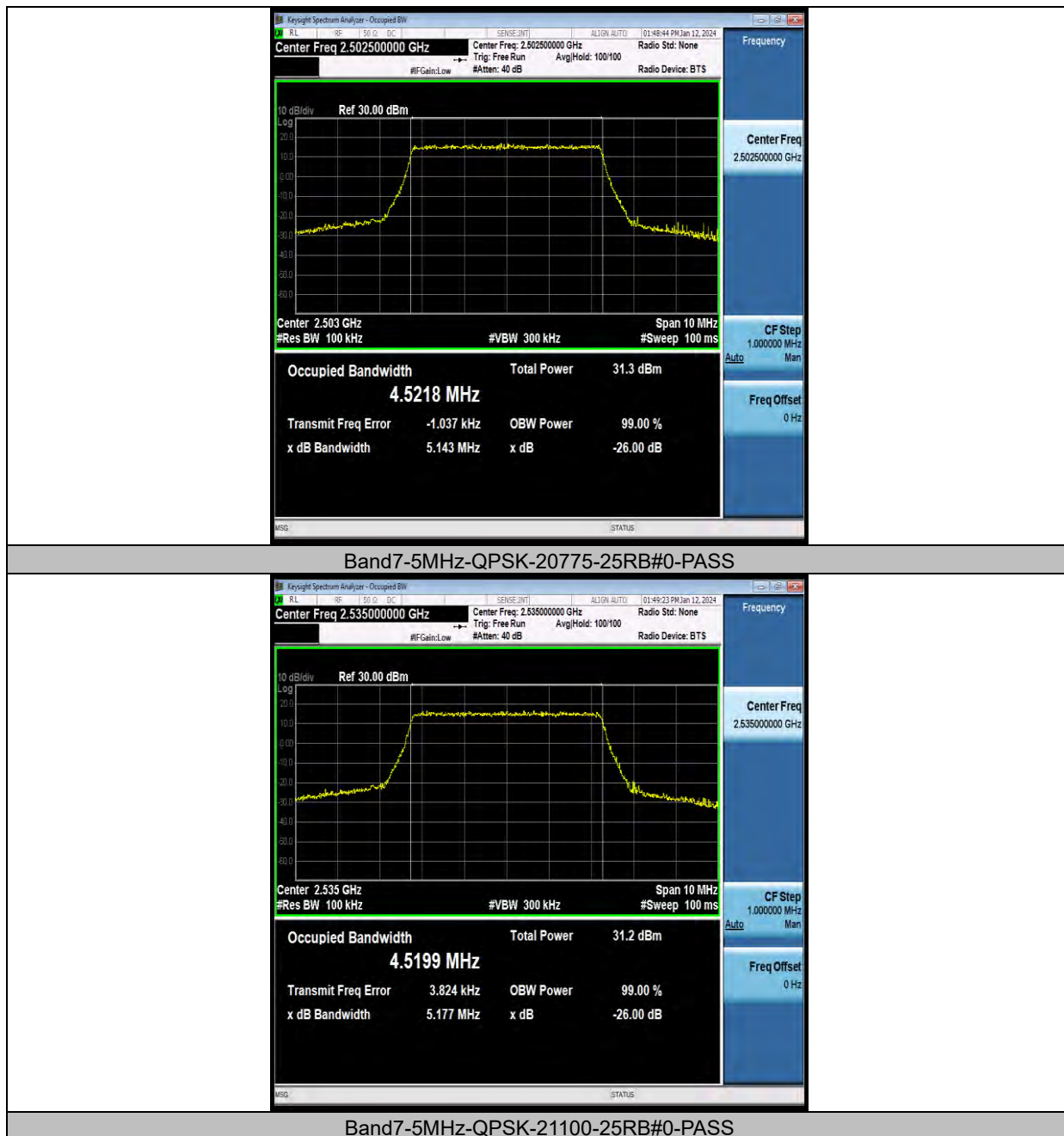


26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.5218	5.143	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.5199	5.177	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.5210	5.188	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.5264	5.183	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.5233	5.154	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.5181	5.150	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.9886	10.10	PASS
Band7	10MHz	QPSK	21100	50RB#0	9.0255	10.11	PASS
Band7	10MHz	QPSK	21400	50RB#0	9.0195	10.01	PASS
Band7	10MHz	16QAM	20800	50RB#0	9.0253	10.08	PASS
Band7	10MHz	16QAM	21100	50RB#0	9.0194	9.972	PASS
Band7	10MHz	16QAM	21400	50RB#0	9.0150	10.07	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.530	15.12	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.491	14.97	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.492	15.04	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.505	14.96	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.492	14.96	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.492	14.98	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.986	19.99	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.986	19.84	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.991	19.95	PASS
Band7	20MHz	16QAM	20850	100RB#0	18.003	19.76	PASS
Band7	20MHz	16QAM	21100	100RB#0	18.022	19.83	PASS
Band7	20MHz	16QAM	21350	100RB#0	17.962	19.79	PASS

Test Graphs





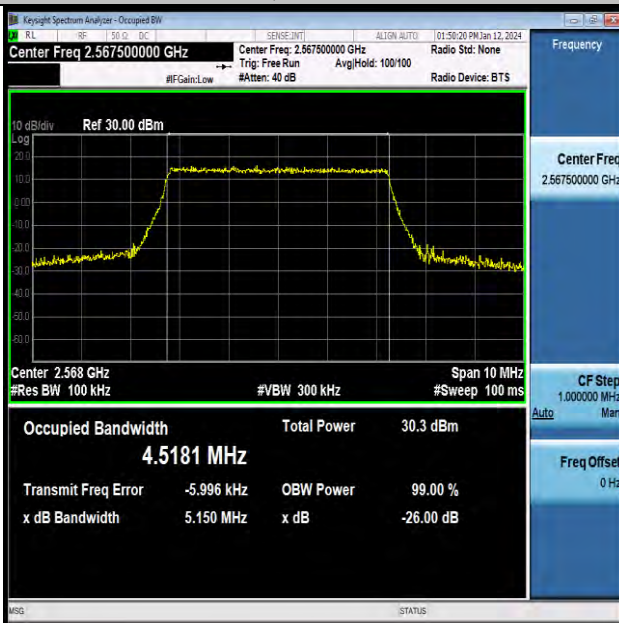
Band7-5MHz-QPSK-21425-25RB#0-PASS



Band7-5MHz-16QAM-20775-25RB#0-PASS



Band7-5MHz-16QAM-21100-25RB#0-PASS



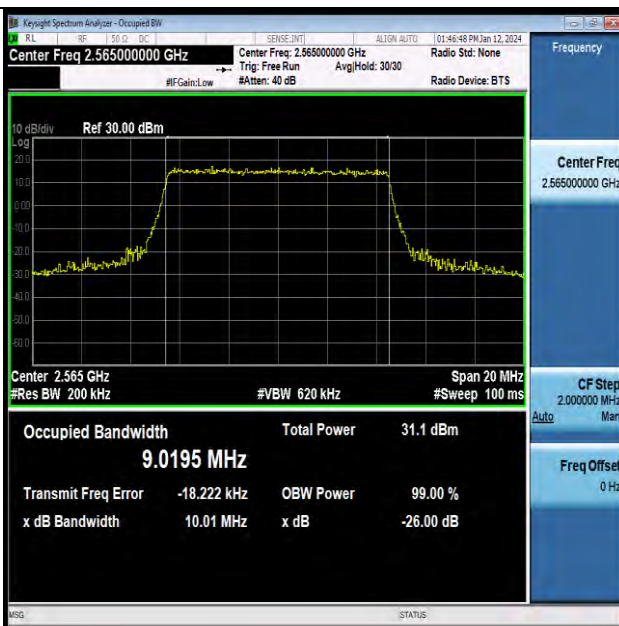
Band7-5MHz-16QAM-21425-25RB#0-PASS



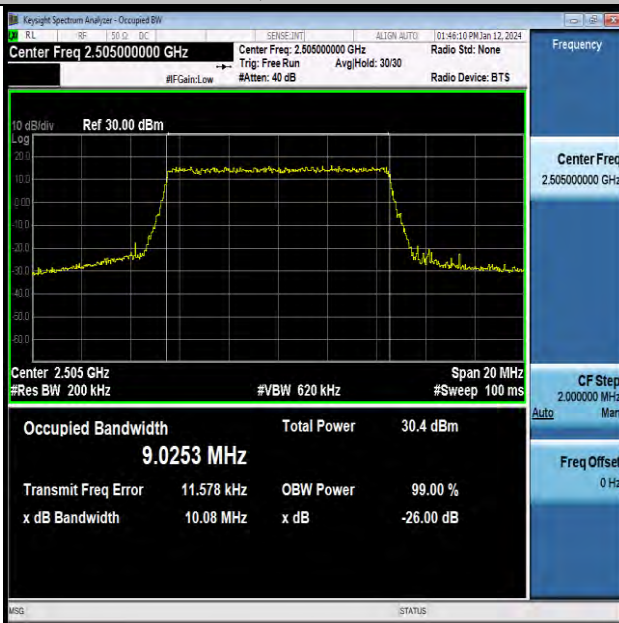
Band7-10MHz-QPSK-20800-50RB#0-PASS



Band7-10MHz-QPSK-21100-50RB#0-PASS



Band7-10MHz-QPSK-21400-50RB#0-PASS



Band7-10MHz-16QAM-20800-50RB#0-PASS



Band7-10MHz-16QAM-21100-50RB#0-PASS



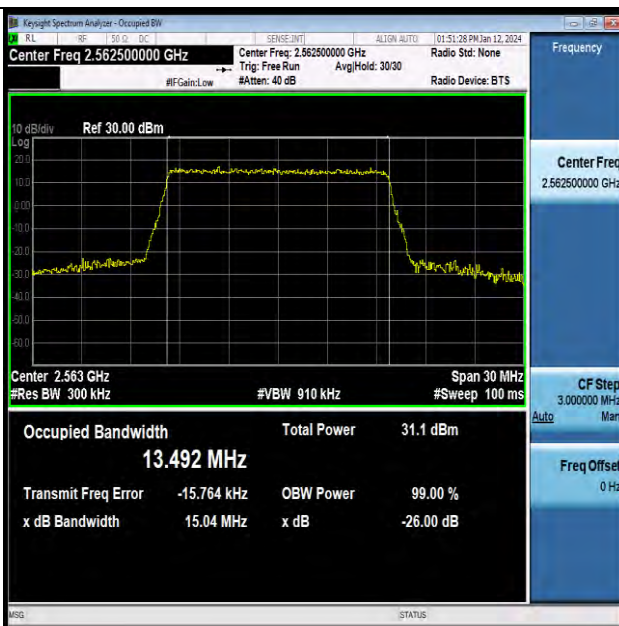
Band7-10MHz-16QAM-21400-50RB#0-PASS



Band7-15MHz-QPSK-20825-75RB#0-PASS



Band7-15MHz-QPSK-21100-75RB#0-PASS



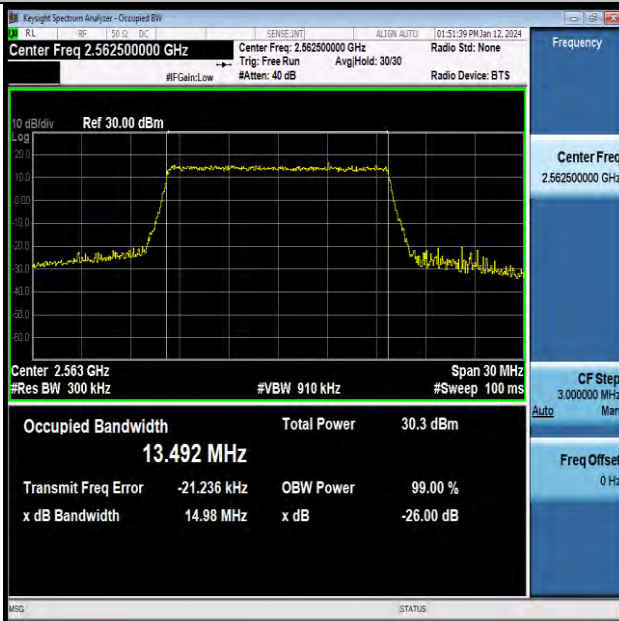
Band7-15MHz-QPSK-21375-75RB#0-PASS



Band7-15MHz-16QAM-20825-75RB#0-PASS



Band7-15MHz-16QAM-21100-75RB#0-PASS



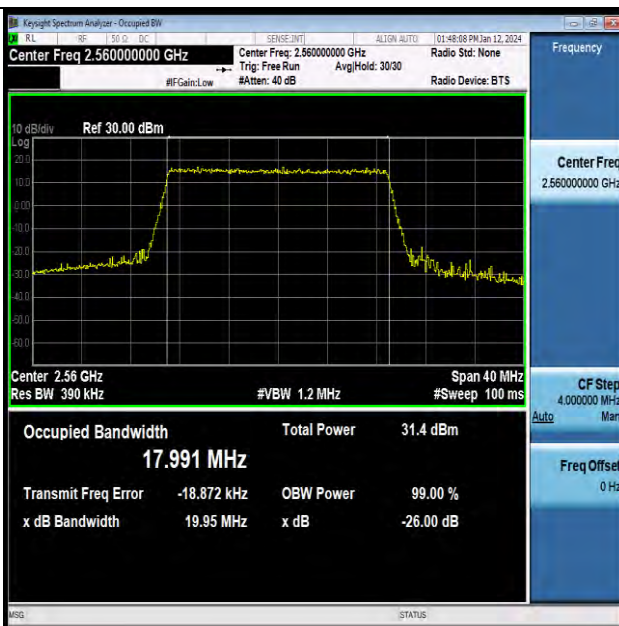
Band7-15MHz-16QAM-21375-75RB#0-PASS



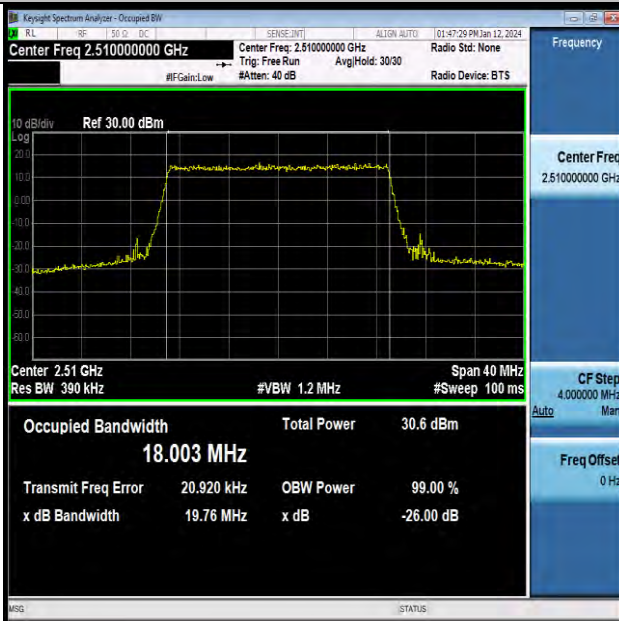
Band7-20MHz-QPSK-20850-100RB#0-PASS



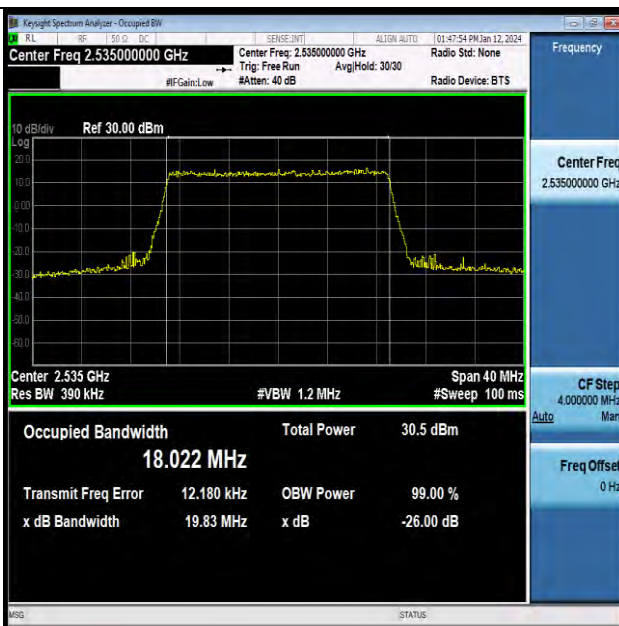
Band7-20MHz-QPSK-21100-100RB#0-PASS



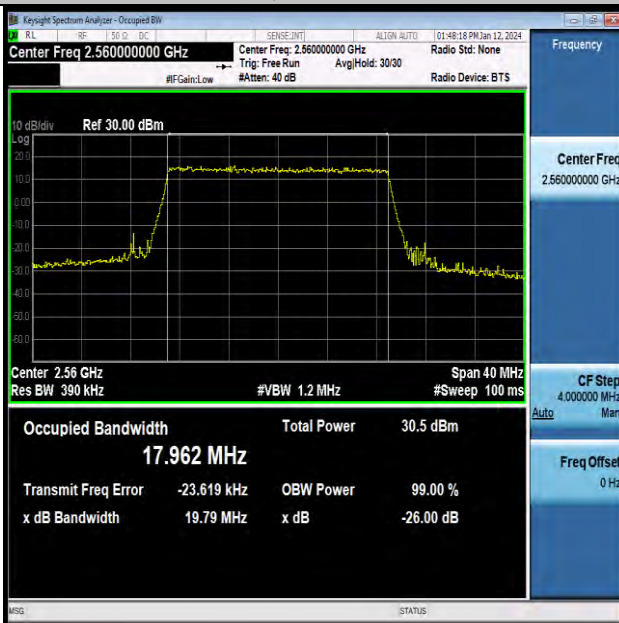
Band7-20MHz-QPSK-21350-100RB#0-PASS



Band7-20MHz-16QAM-20850-100RB#0-PASS



Band7-20MHz-16QAM-21100-100RB#0-PASS



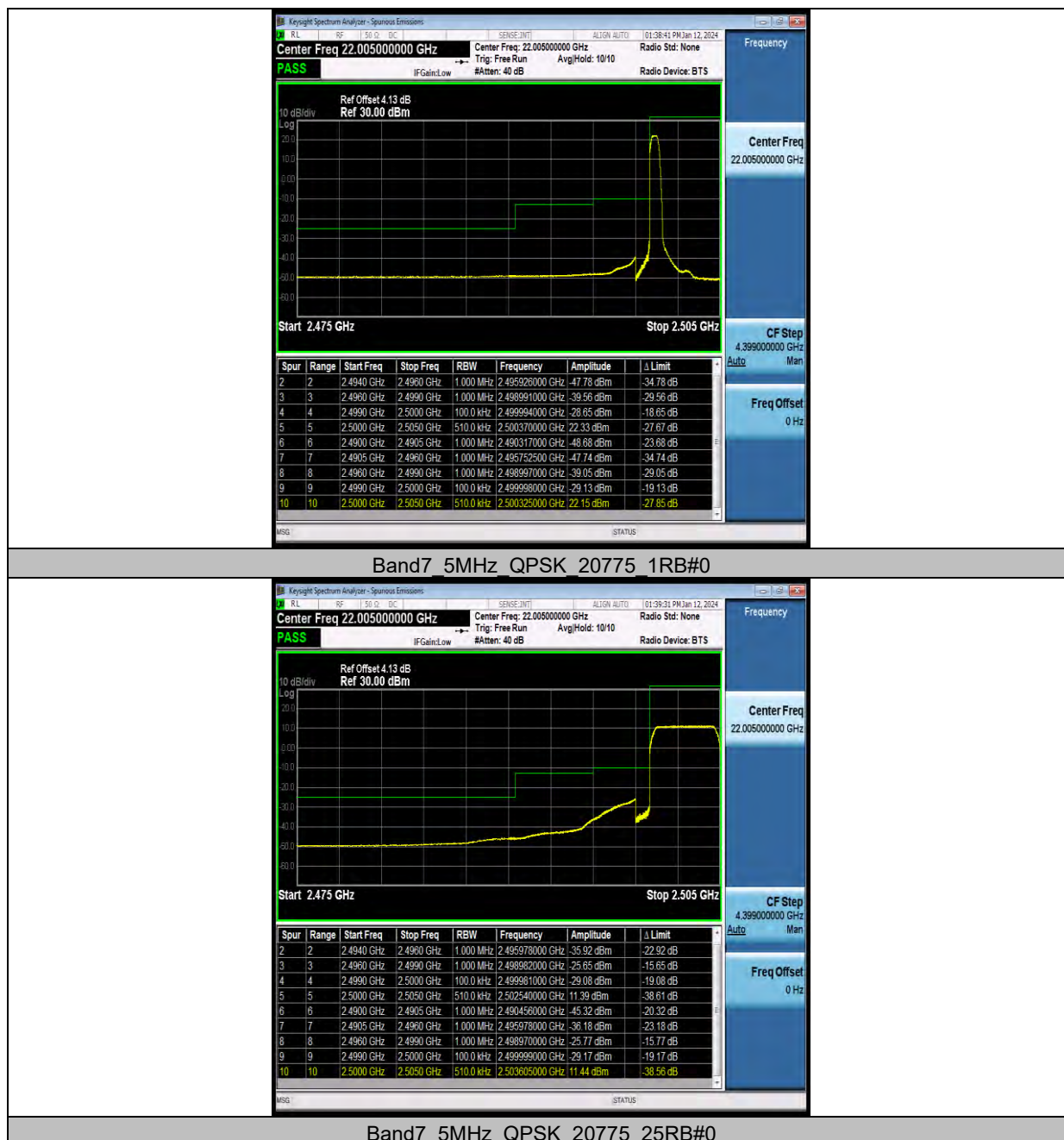
Band7-20MHz-16QAM-21350-100RB#0-PASS

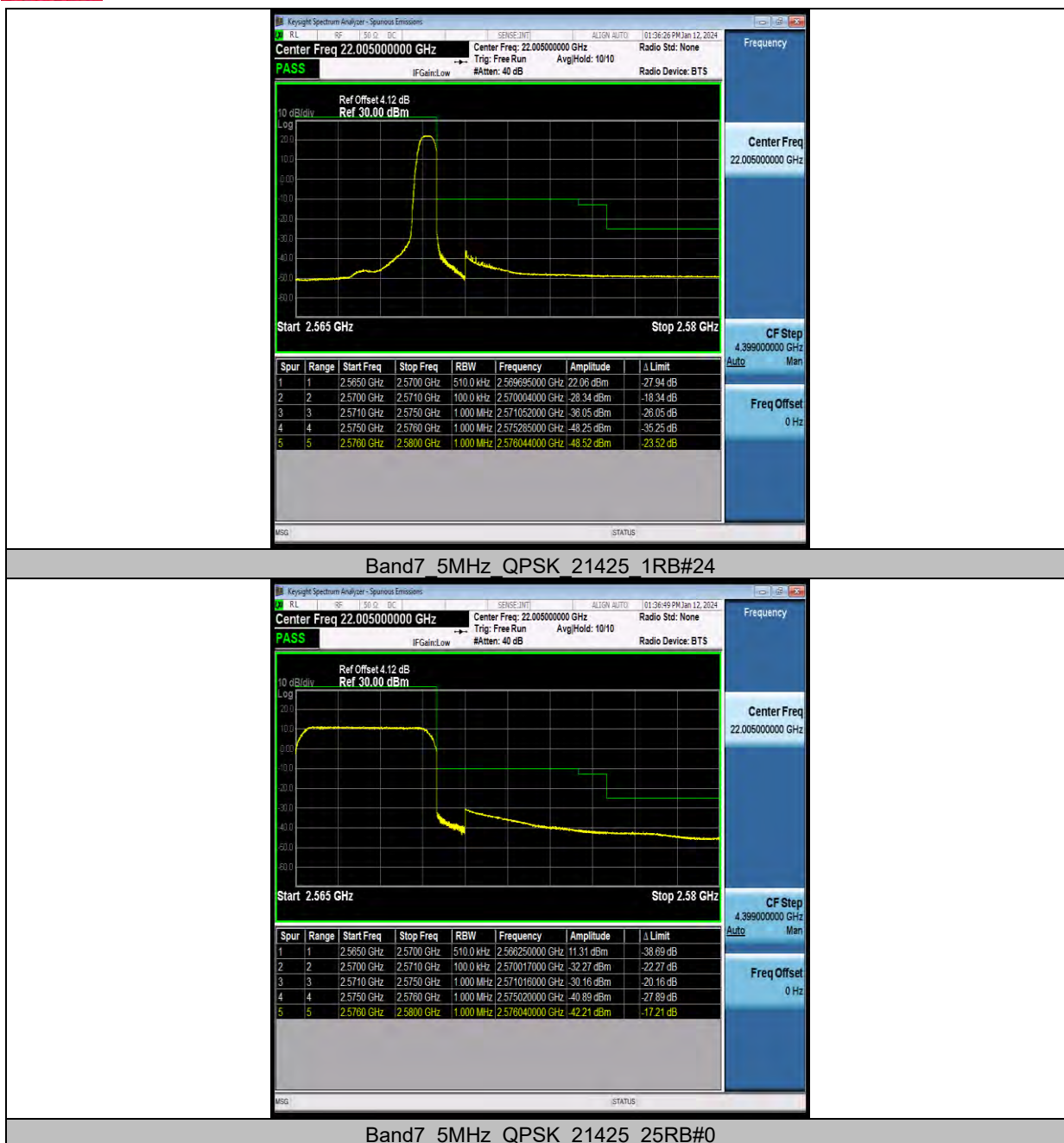
BAND EDGE

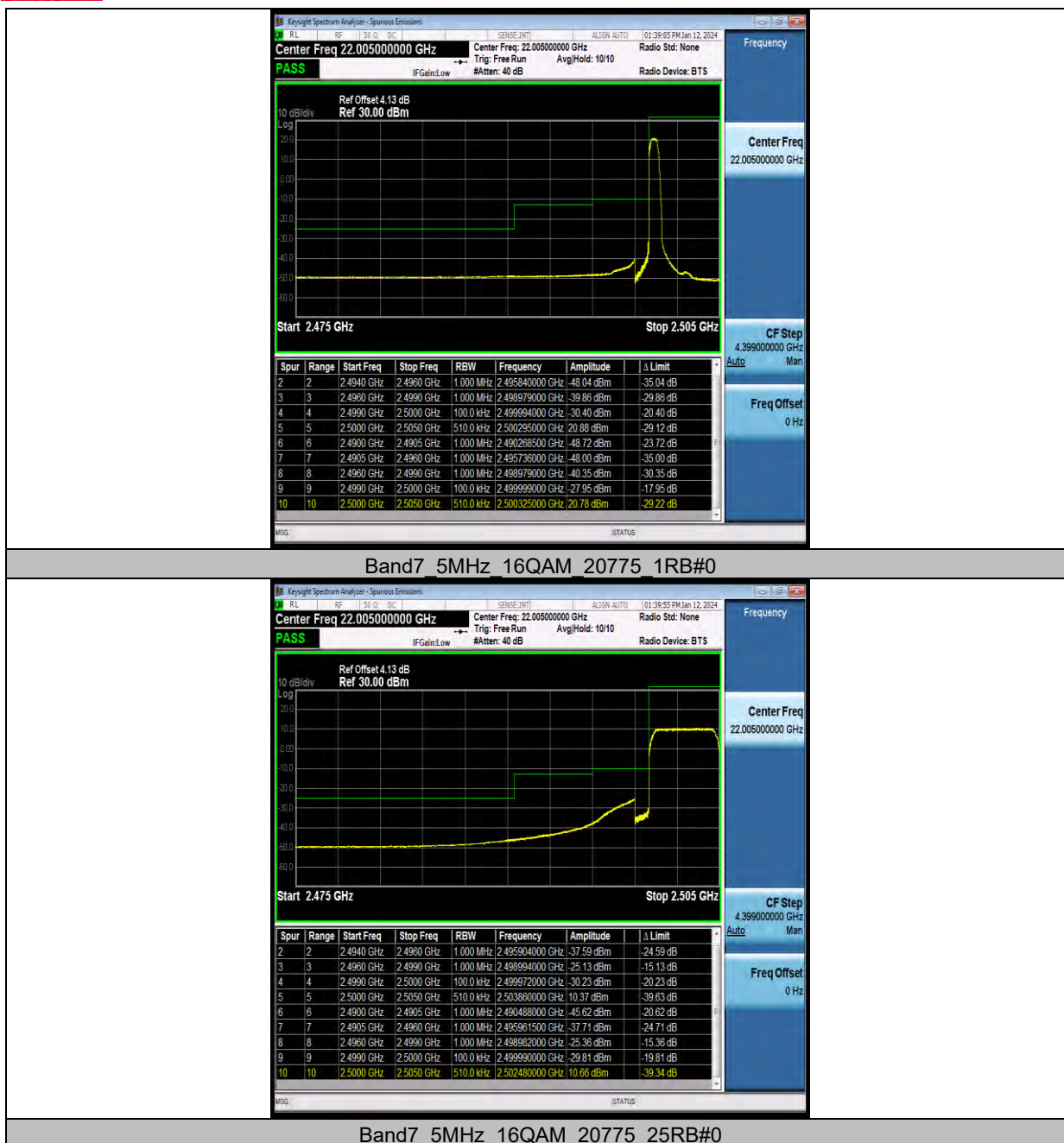
Test Result

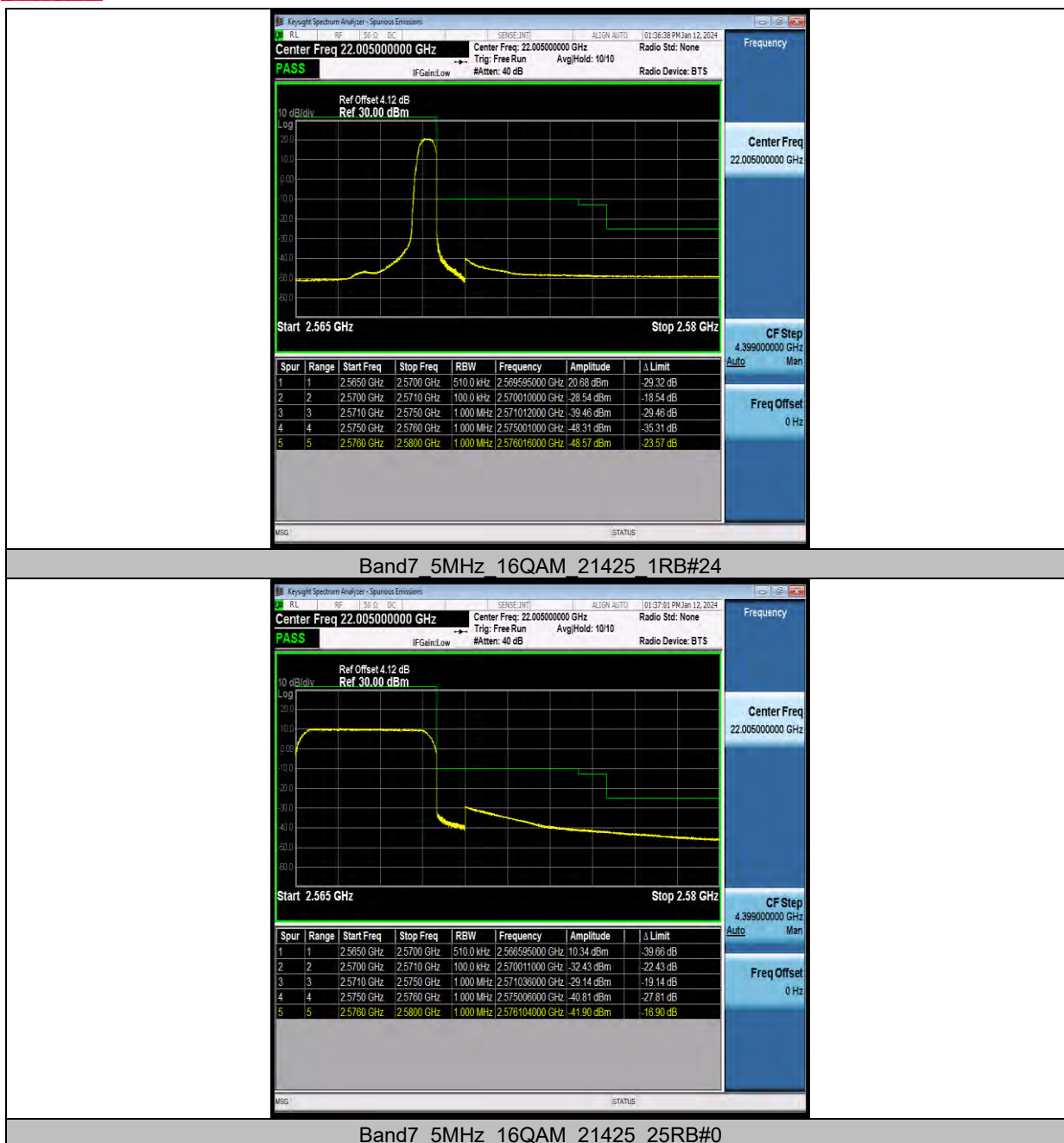
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	-28.65	PASS
Band7	5MHz	QPSK	20775	25RB#0	-25.65	PASS
Band7	5MHz	QPSK	21425	1RB#24	-28.34	PASS
Band7	5MHz	QPSK	21425	25RB#0	-42.21	PASS
Band7	5MHz	16QAM	20775	1RB#0	-27.95	PASS
Band7	5MHz	16QAM	20775	25RB#0	-25.13	PASS
Band7	5MHz	16QAM	21425	1RB#24	-28.54	PASS
Band7	5MHz	16QAM	21425	25RB#0	-41.90	PASS
Band7	10MHz	QPSK	20800	1RB#0	-49.06	PASS
Band7	10MHz	QPSK	20800	50RB#0	-27.83	PASS
Band7	10MHz	QPSK	21400	1RB#49	-48.69	PASS
Band7	10MHz	QPSK	21400	50RB#0	-44.06	PASS
Band7	10MHz	16QAM	20800	1RB#0	-49.02	PASS
Band7	10MHz	16QAM	20800	50RB#0	-27.76	PASS
Band7	10MHz	16QAM	21400	1RB#49	-48.77	PASS
Band7	10MHz	16QAM	21400	50RB#0	-43.83	PASS
Band7	15MHz	QPSK	20825	1RB#0	-48.71	PASS
Band7	15MHz	QPSK	20825	75RB#0	-41.25	PASS
Band7	15MHz	QPSK	21375	1RB#74	-49.01	PASS
Band7	15MHz	QPSK	21375	75RB#0	-45.23	PASS
Band7	15MHz	16QAM	20825	1RB#0	-48.77	PASS
Band7	15MHz	16QAM	20825	75RB#0	-41.18	PASS
Band7	15MHz	16QAM	21375	1RB#74	-49.04	PASS
Band7	15MHz	16QAM	21375	75RB#0	-45.50	PASS
Band7	20MHz	QPSK	20850	1RB#0	-48.76	PASS
Band7	20MHz	QPSK	20850	100RB#0	-39.94	PASS
Band7	20MHz	QPSK	21350	1RB#99	-48.96	PASS
Band7	20MHz	QPSK	21350	100RB#0	-47.00	PASS
Band7	20MHz	16QAM	20850	1RB#0	-48.79	PASS
Band7	20MHz	16QAM	20850	100RB#0	-39.51	PASS
Band7	20MHz	16QAM	21350	1RB#99	-49.00	PASS
Band7	20MHz	16QAM	21350	100RB#0	-46.91	PASS

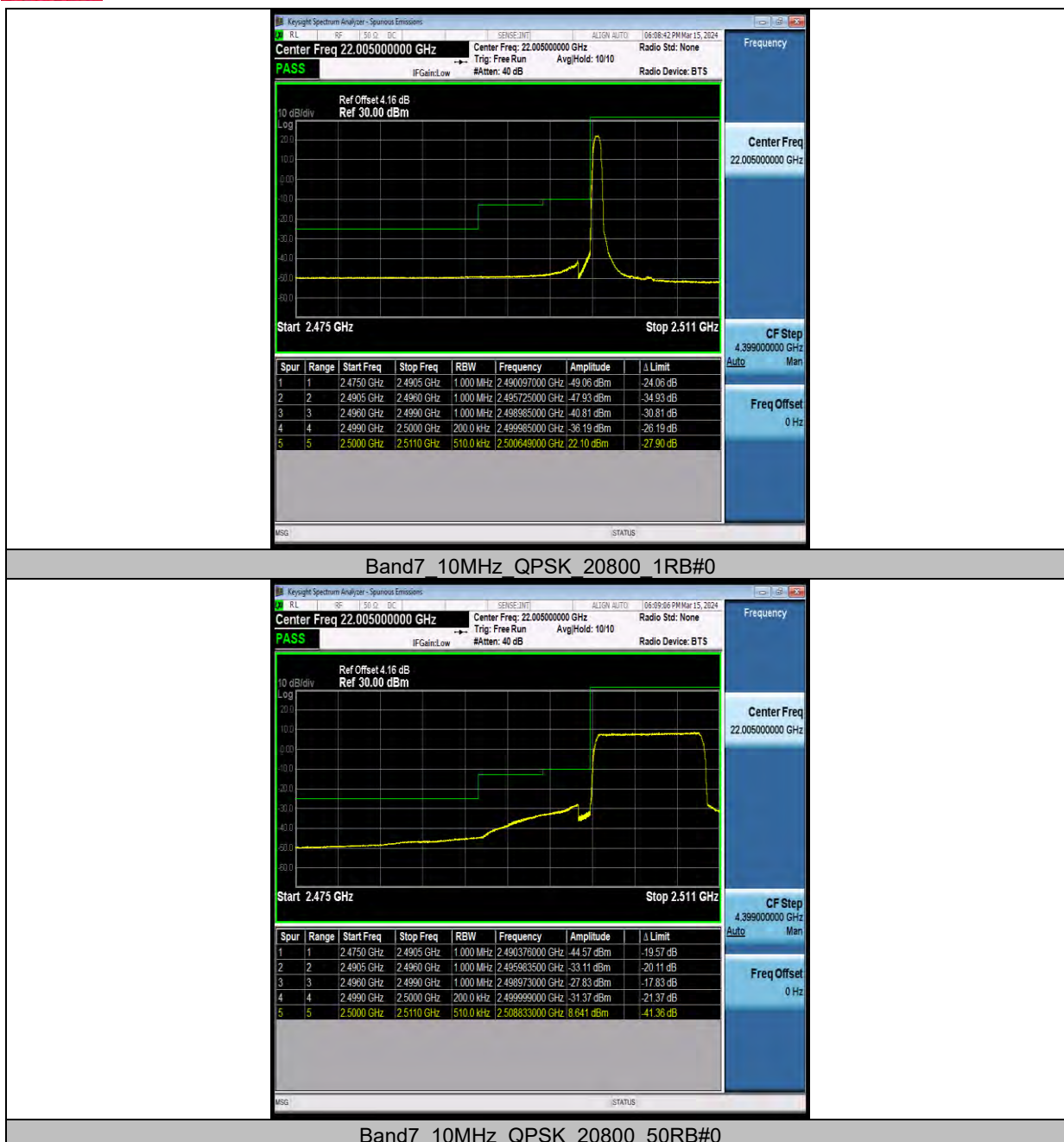
Test Graphs

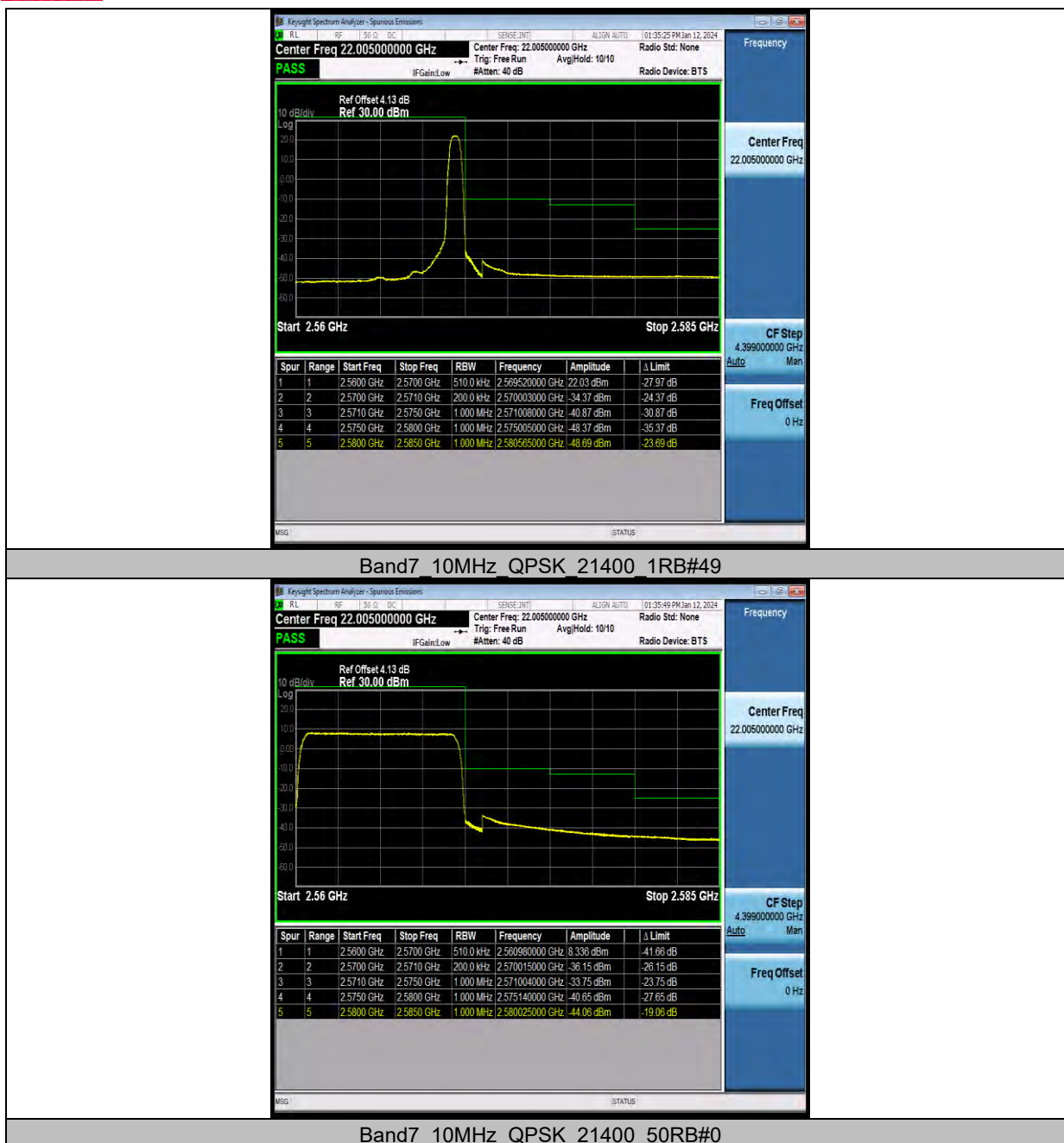


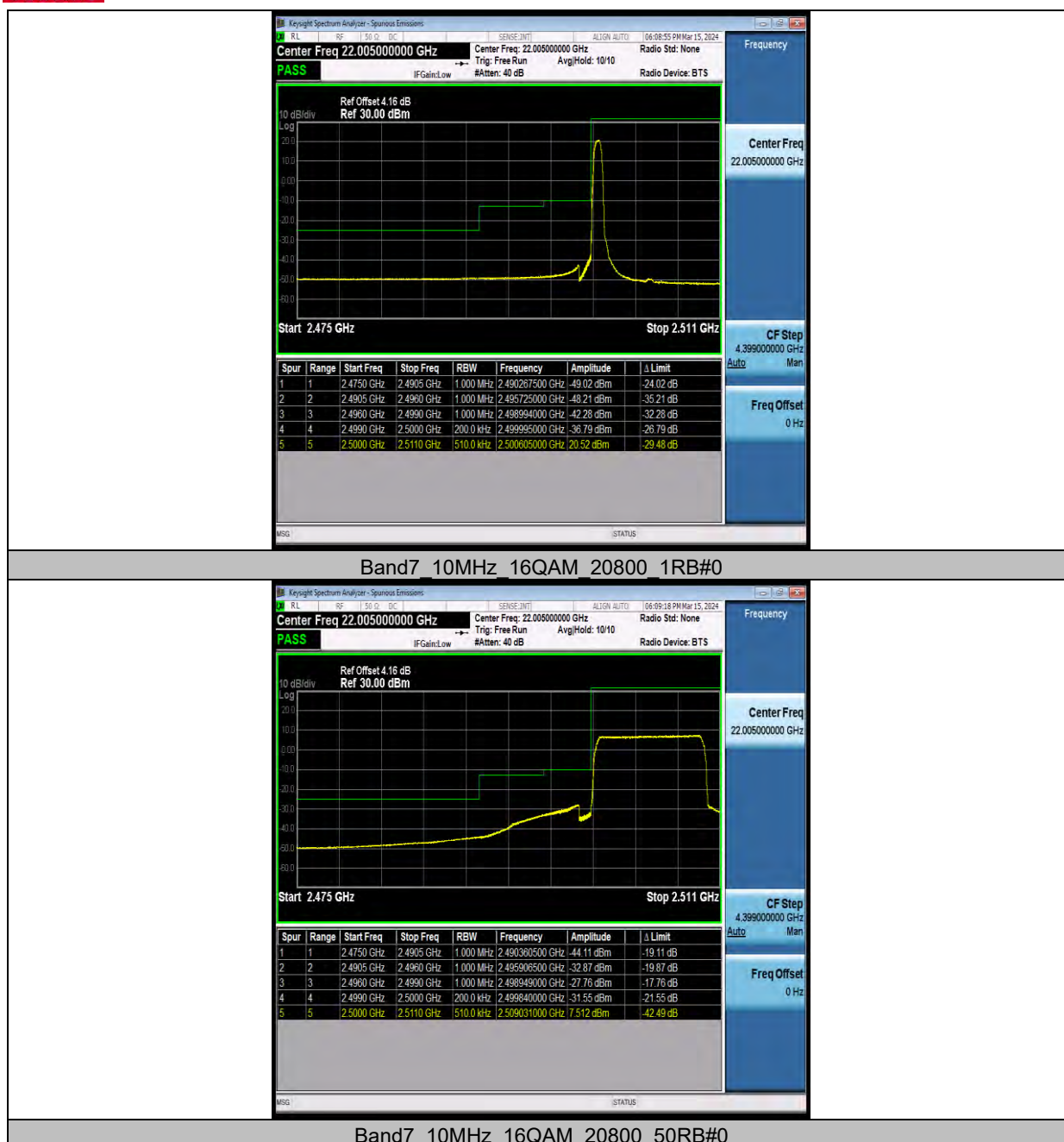


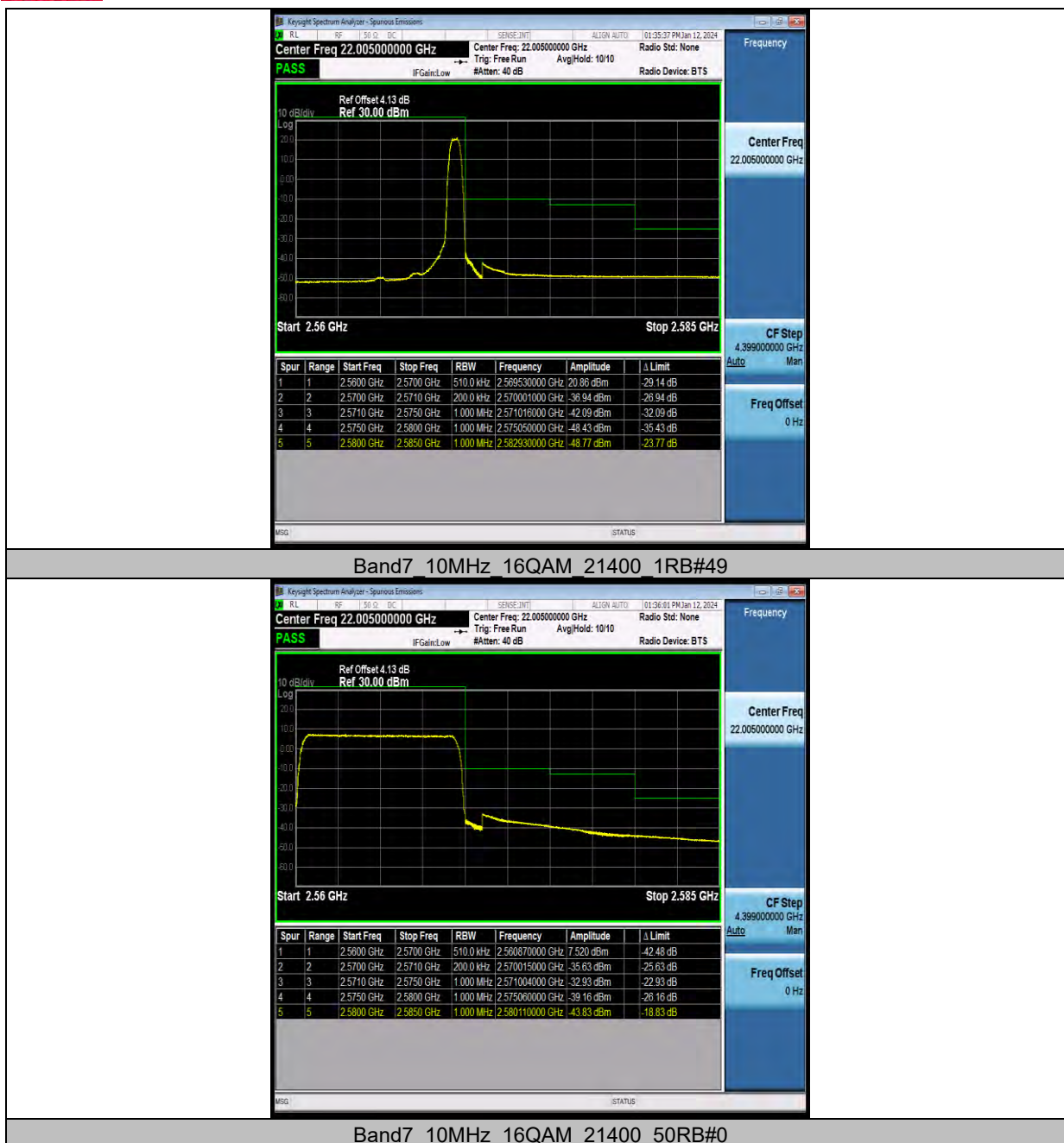










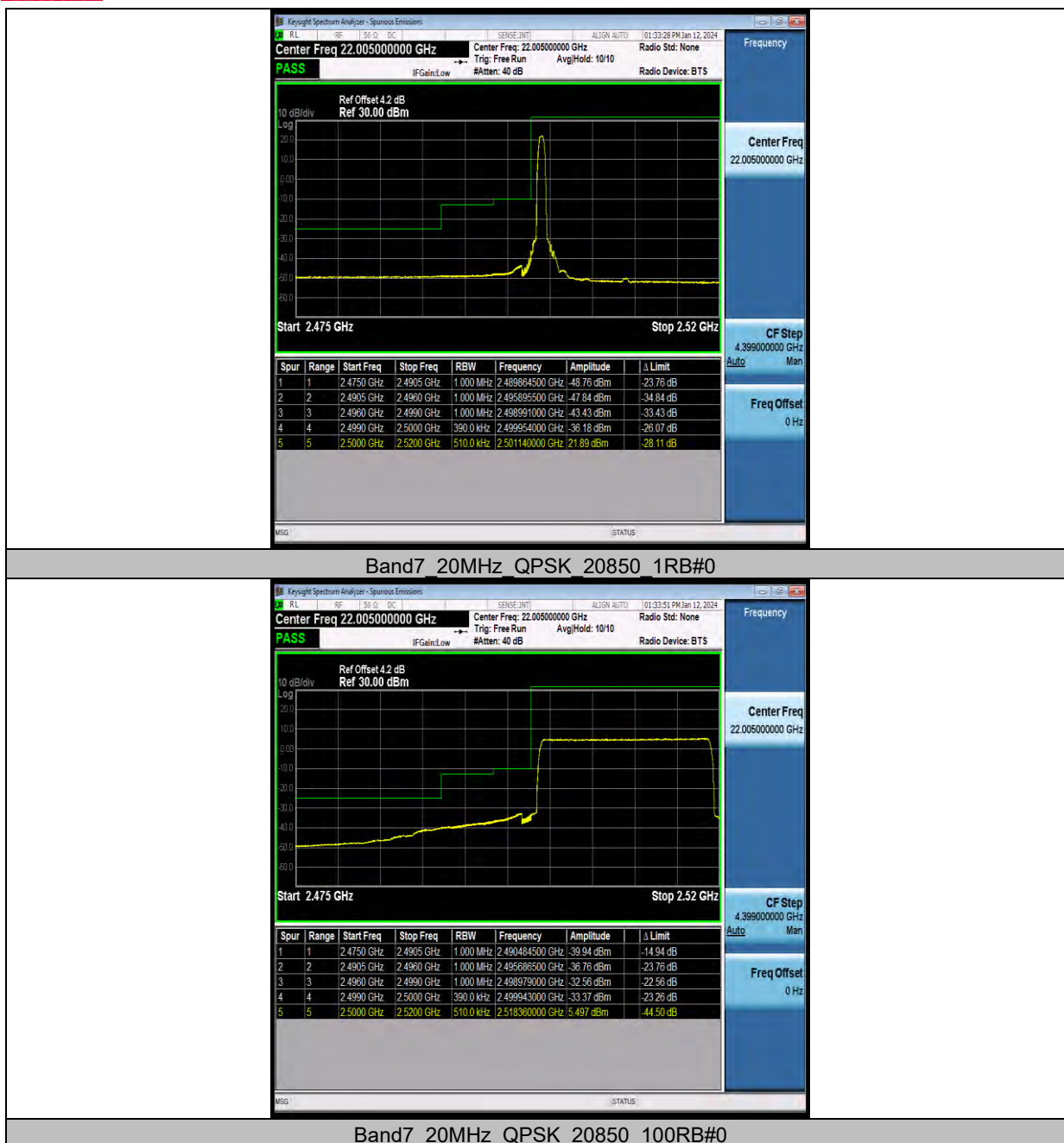




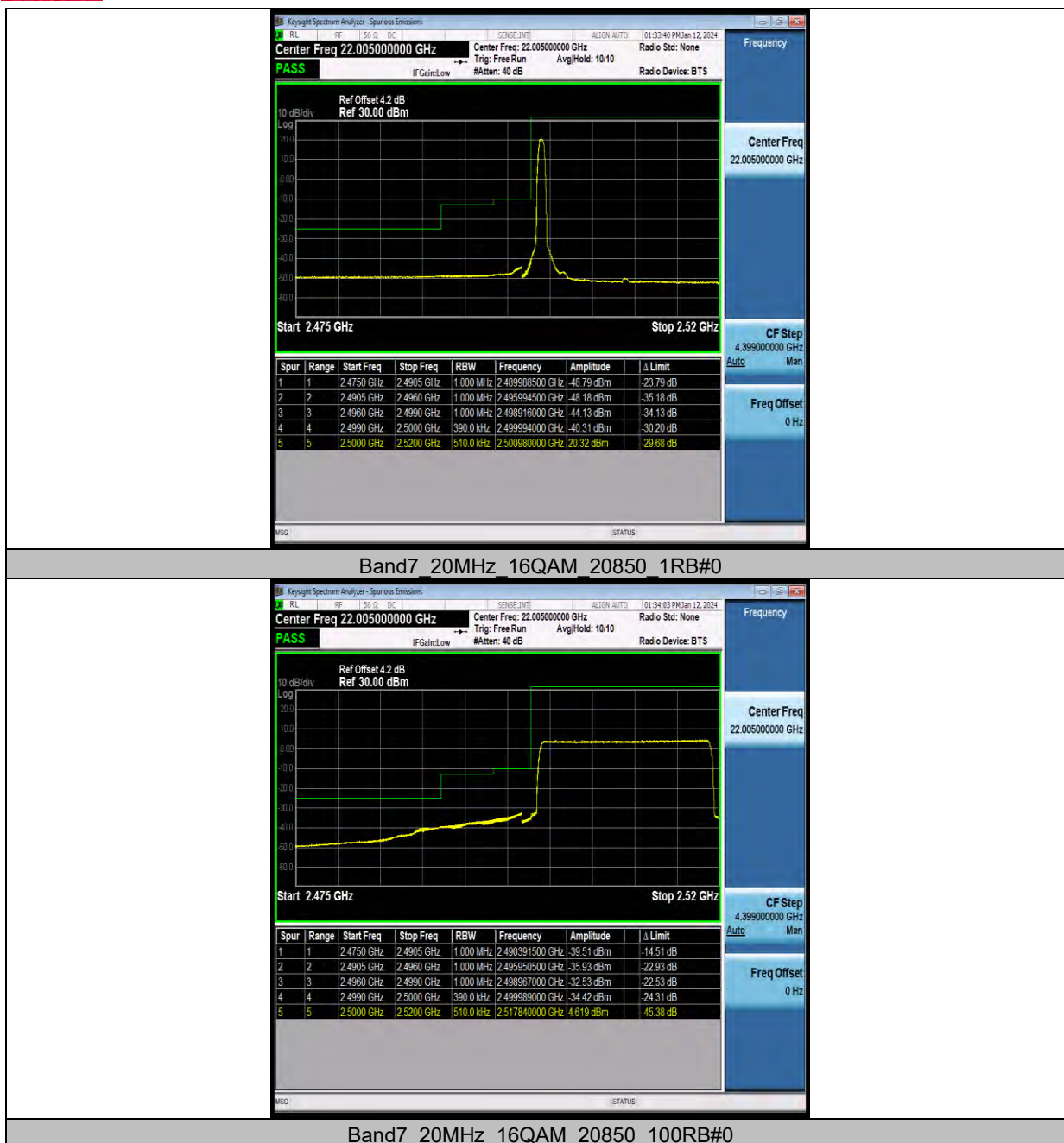












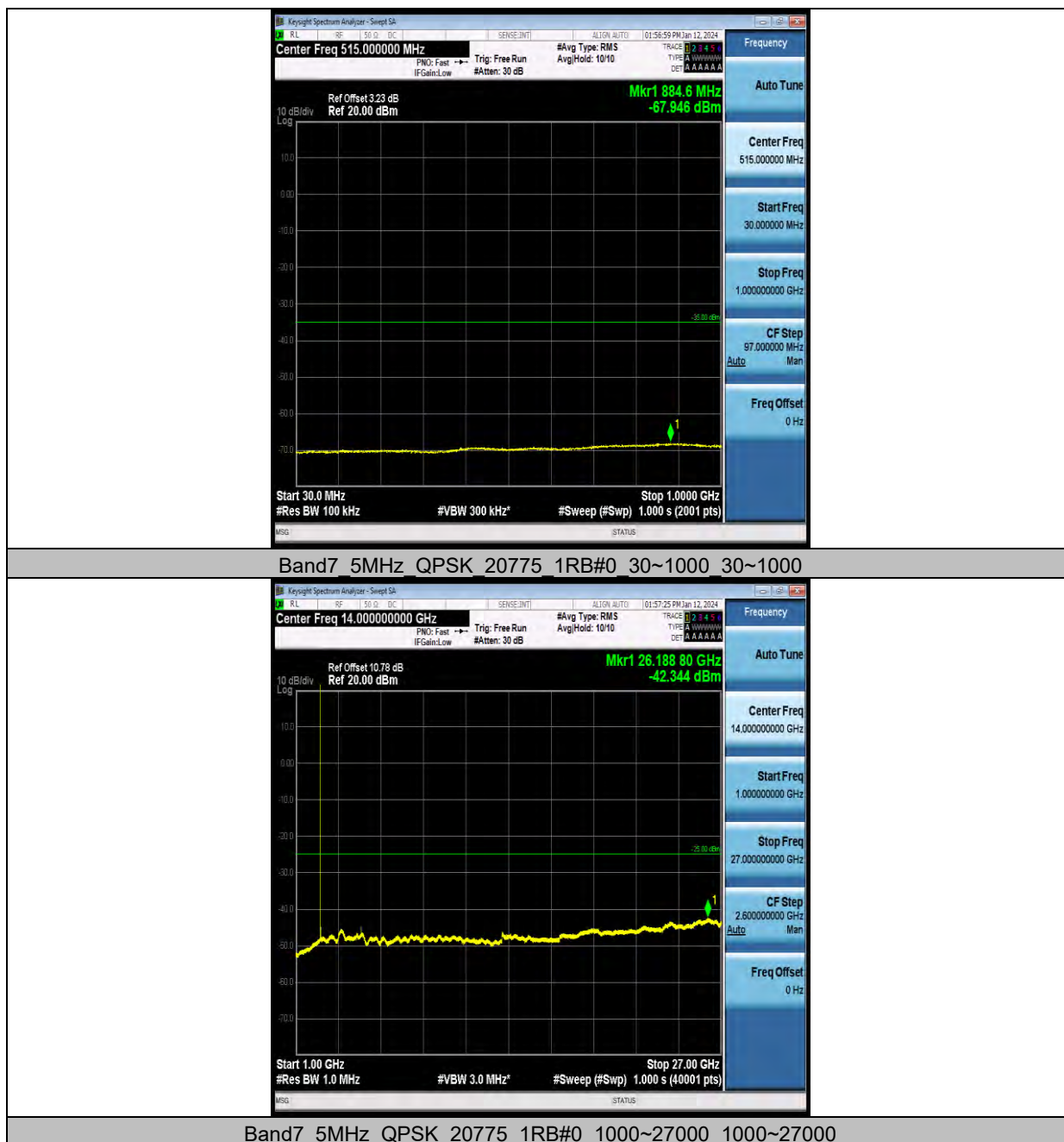


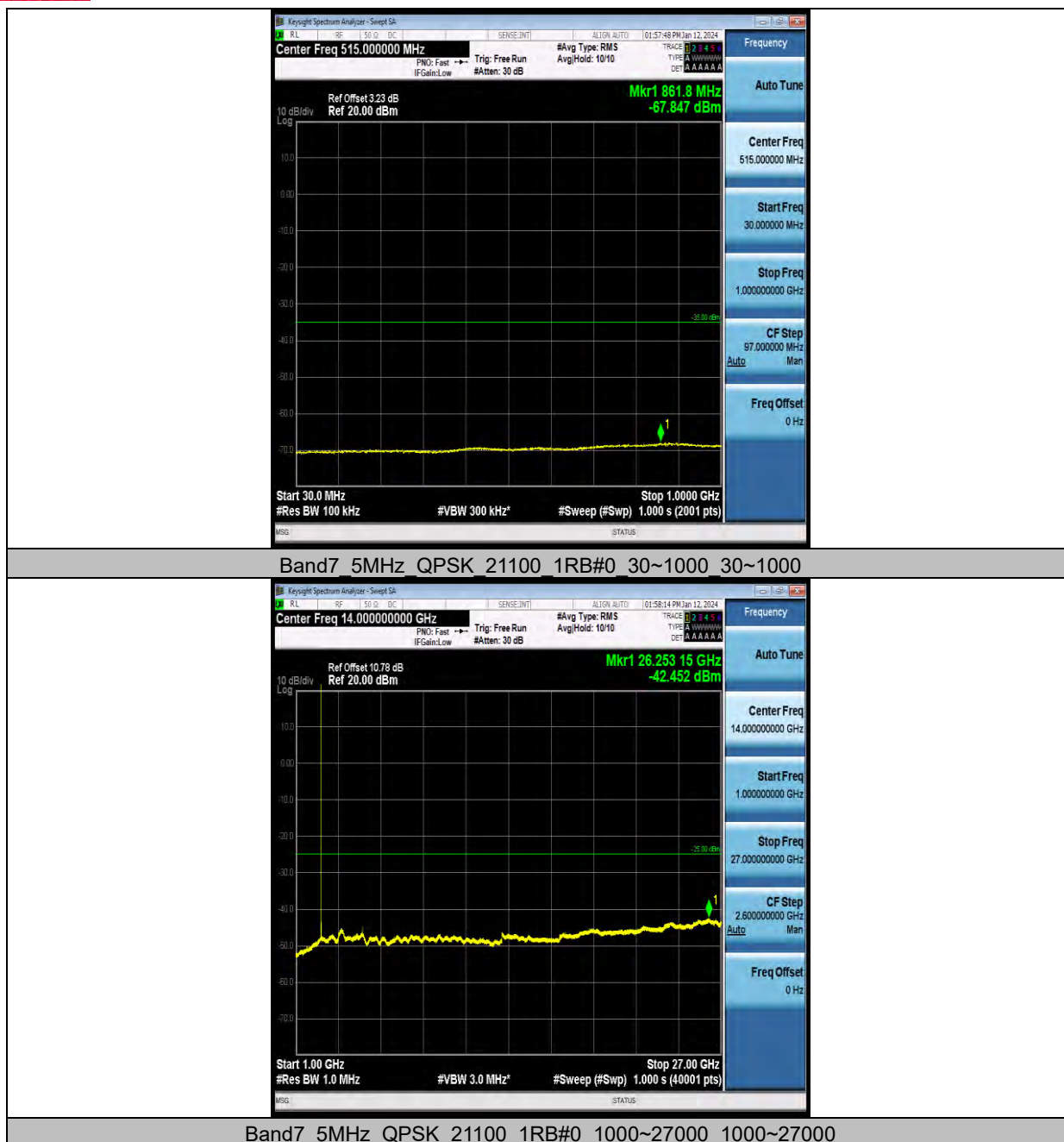
CONDUCTED SPURIOUS EMISSION

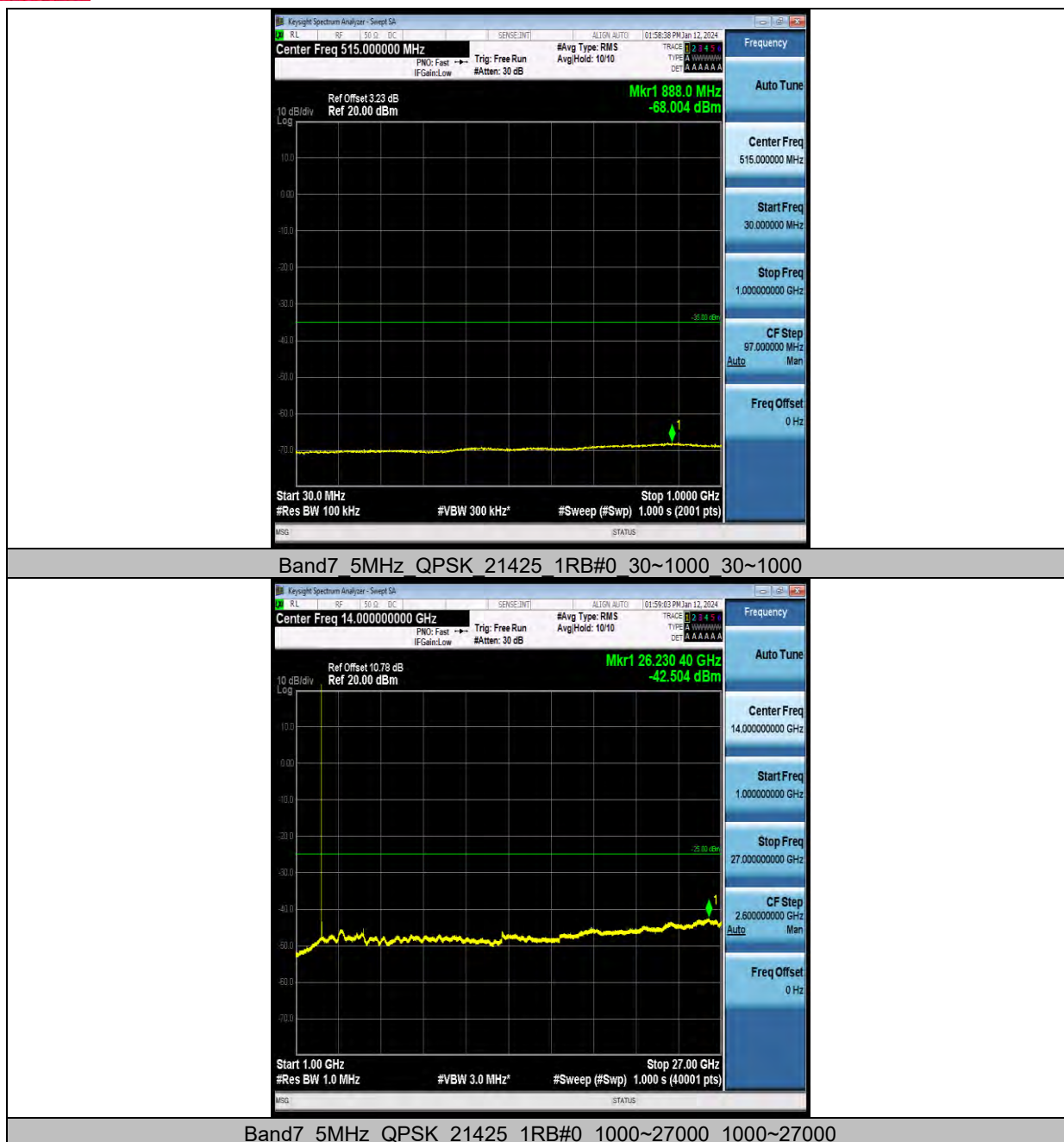
Test Result

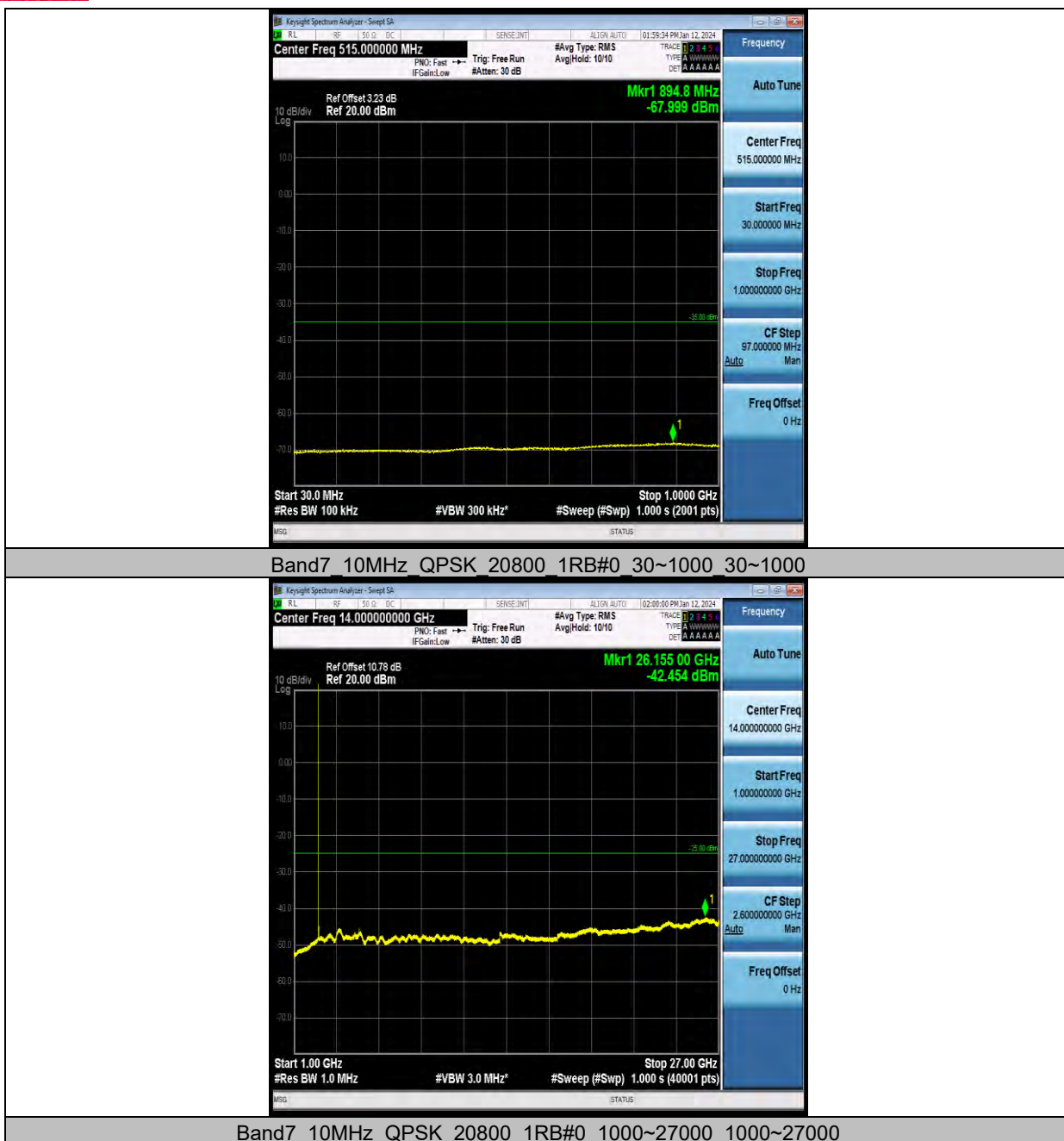
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	30~1000	-67.95	PASS
Band7	5MHz	QPSK	20775	1RB#0	1000~27000	-42.34	PASS
Band7	5MHz	QPSK	21100	1RB#0	30~1000	-67.85	PASS
Band7	5MHz	QPSK	21100	1RB#0	1000~27000	-42.45	PASS
Band7	5MHz	QPSK	21425	1RB#0	30~1000	-68.00	PASS
Band7	5MHz	QPSK	21425	1RB#0	1000~27000	-42.50	PASS
Band7	10MHz	QPSK	20800	1RB#0	30~1000	-68.00	PASS
Band7	10MHz	QPSK	20800	1RB#0	1000~27000	-42.45	PASS
Band7	10MHz	QPSK	21100	1RB#0	30~1000	-67.91	PASS
Band7	10MHz	QPSK	21100	1RB#0	1000~27000	-42.10	PASS
Band7	10MHz	QPSK	21400	1RB#0	30~1000	-68.02	PASS
Band7	10MHz	QPSK	21400	1RB#0	1000~27000	-42.36	PASS
Band7	15MHz	QPSK	20825	1RB#0	30~1000	-67.98	PASS
Band7	15MHz	QPSK	20825	1RB#0	1000~27000	-42.40	PASS
Band7	15MHz	QPSK	21100	1RB#0	30~1000	-67.99	PASS
Band7	15MHz	QPSK	21100	1RB#0	1000~27000	-42.51	PASS
Band7	15MHz	QPSK	21375	1RB#0	30~1000	-68.05	PASS
Band7	15MHz	QPSK	21375	1RB#0	1000~27000	-42.43	PASS
Band7	20MHz	QPSK	20850	1RB#0	30~1000	-67.94	PASS
Band7	20MHz	QPSK	20850	1RB#0	1000~27000	-42.46	PASS
Band7	20MHz	QPSK	21100	1RB#0	30~1000	-68.03	PASS
Band7	20MHz	QPSK	21100	1RB#0	1000~27000	-42.11	PASS
Band7	20MHz	QPSK	21350	1RB#0	30~1000	-68.08	PASS
Band7	20MHz	QPSK	21350	1RB#0	1000~27000	-42.42	PASS

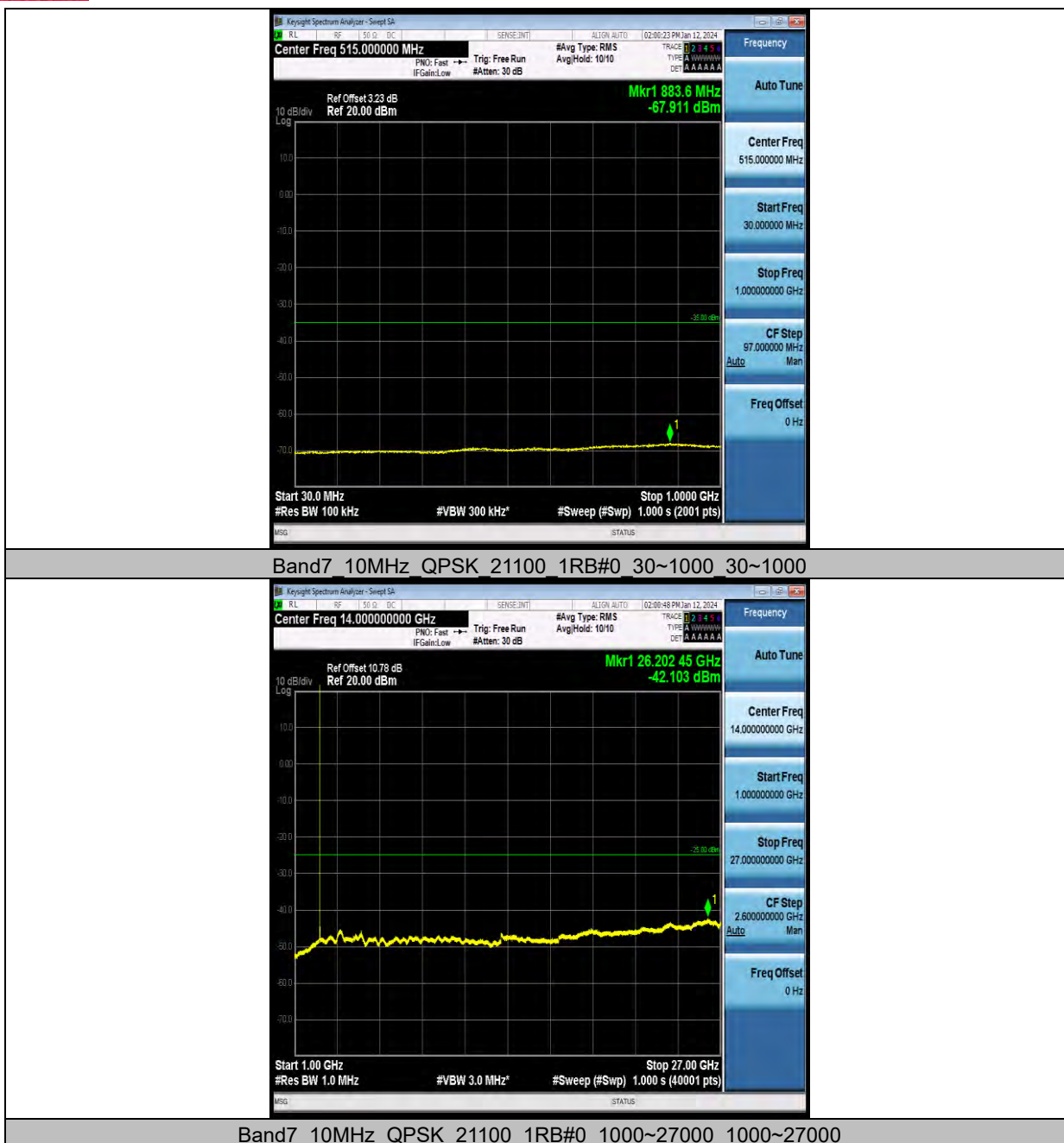
Test Graphs

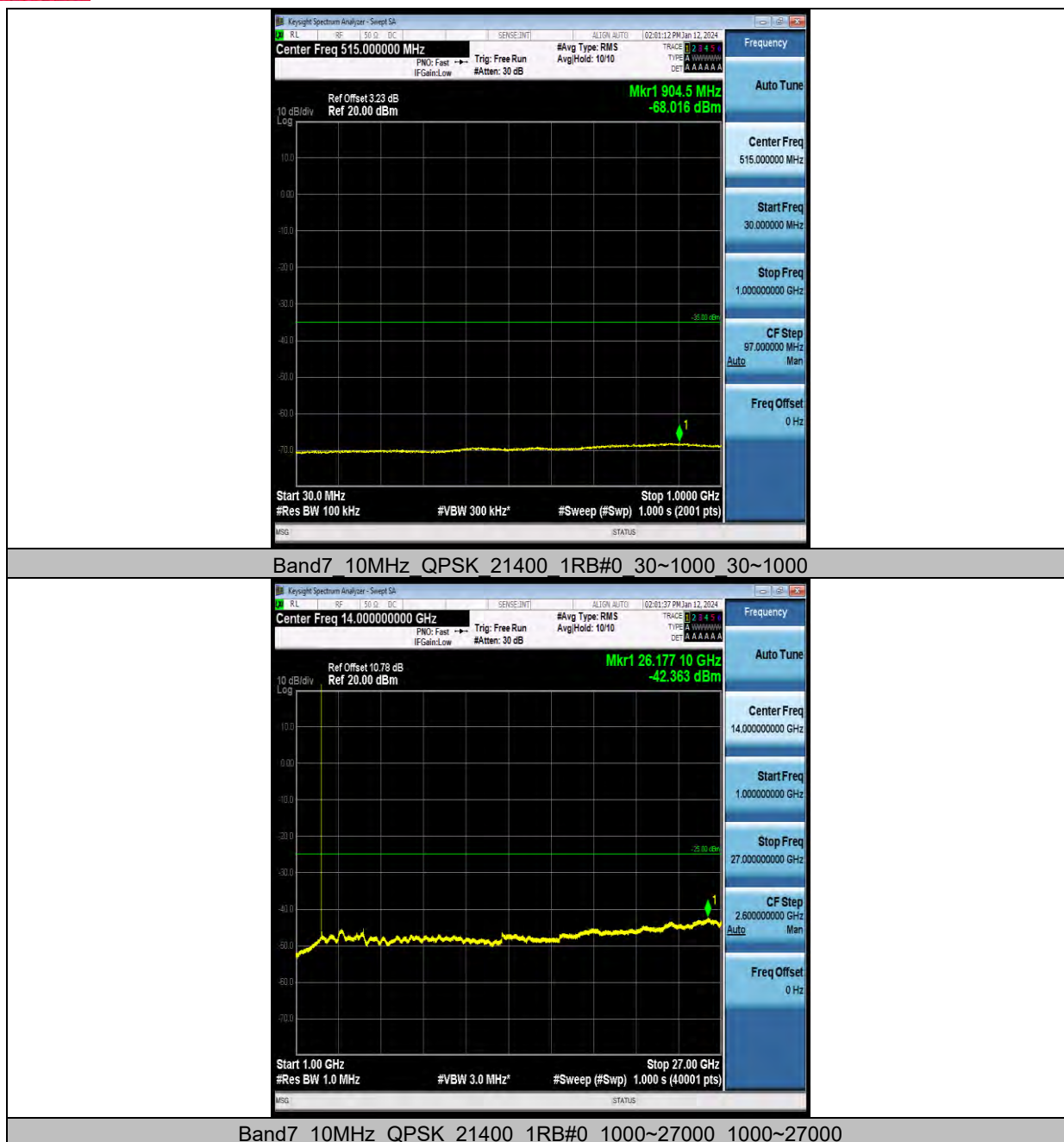


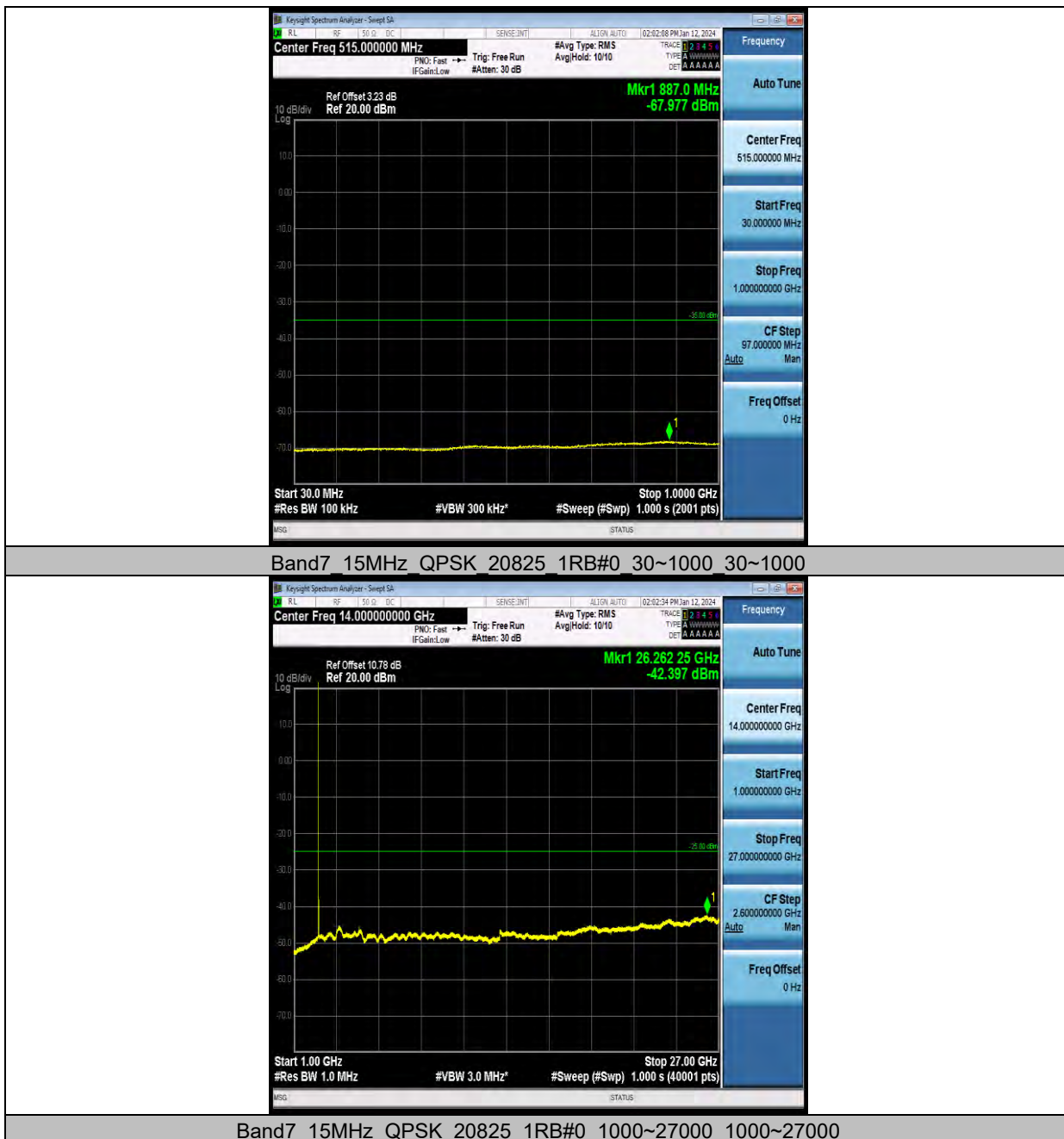


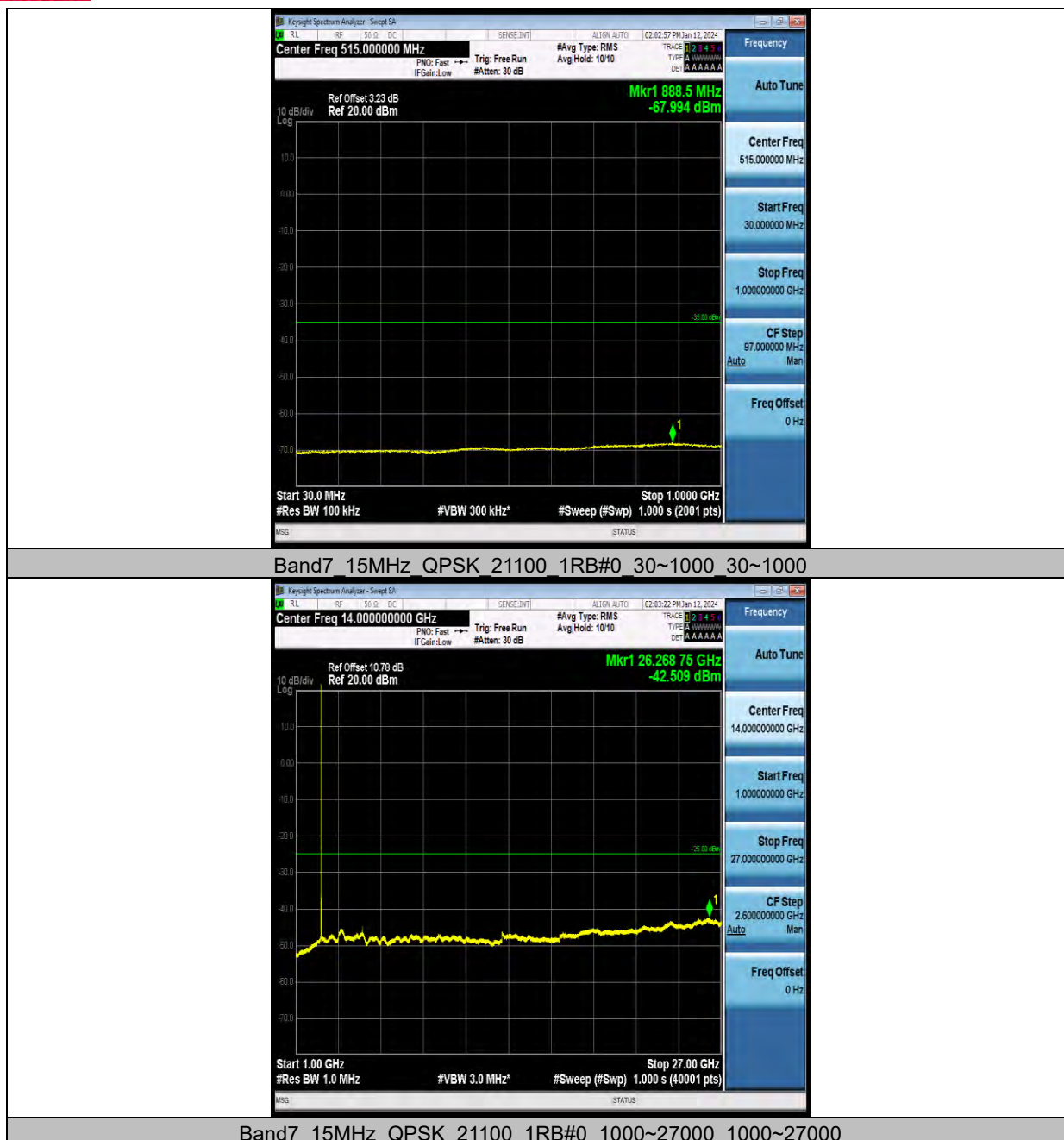


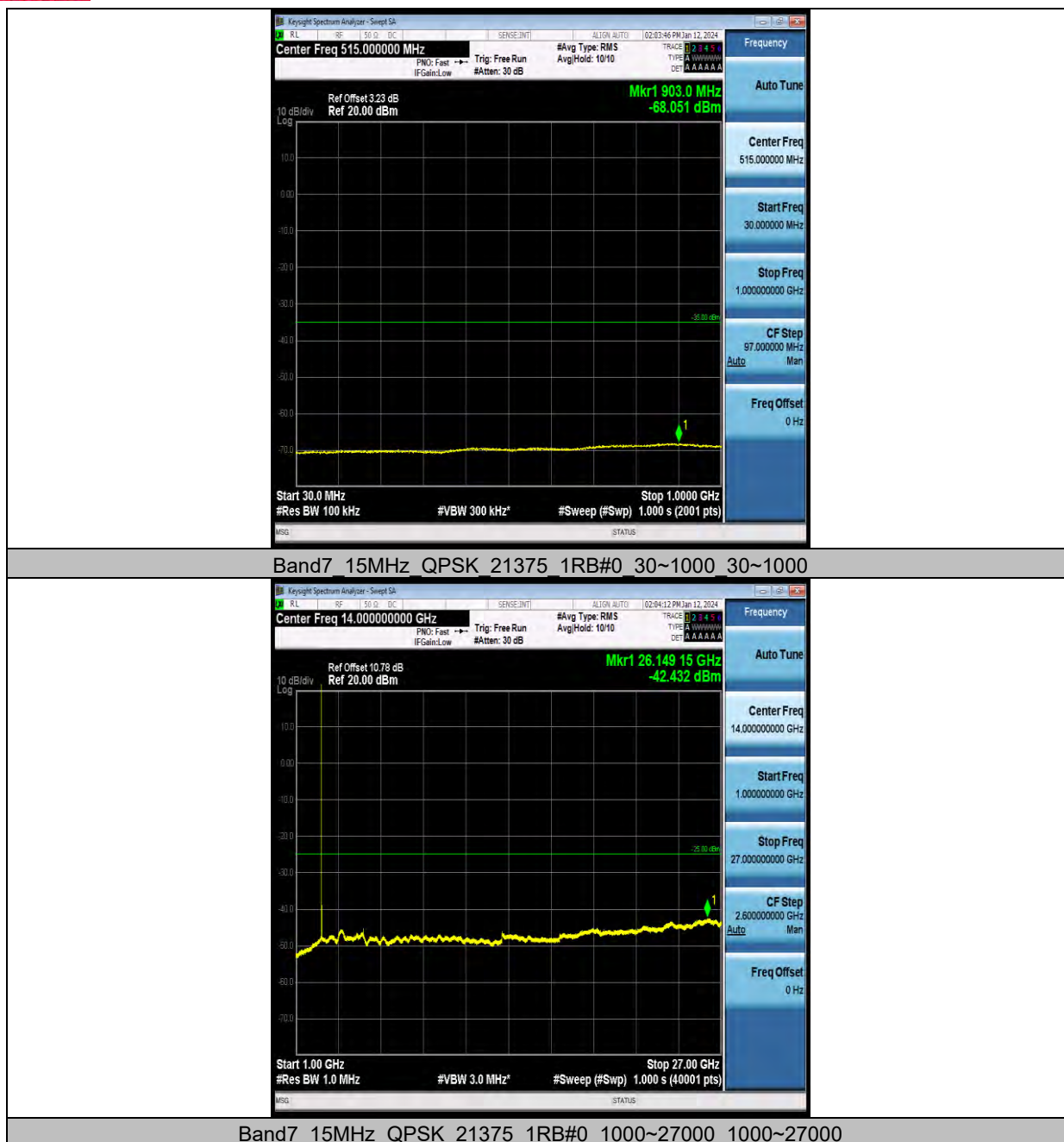


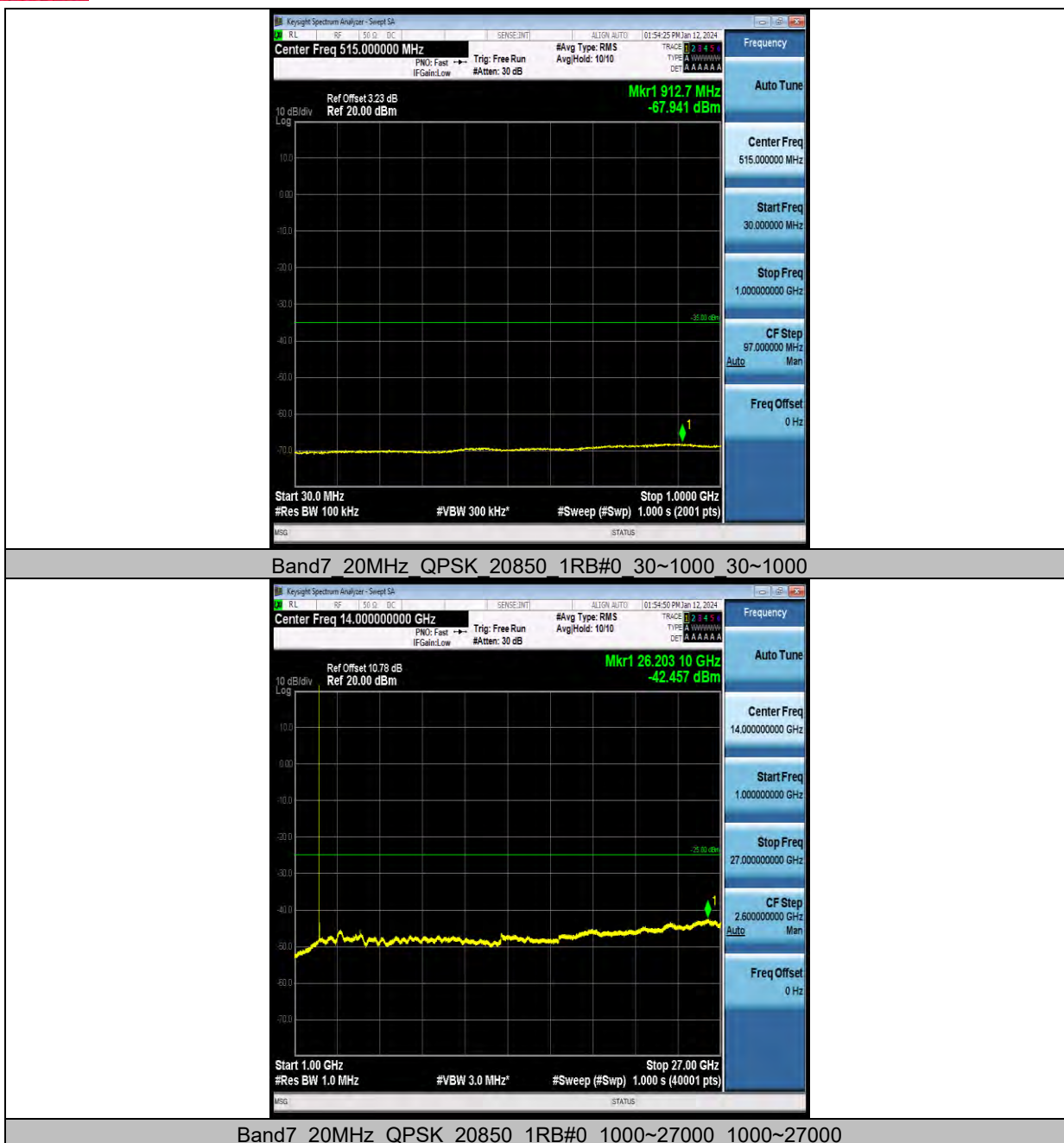


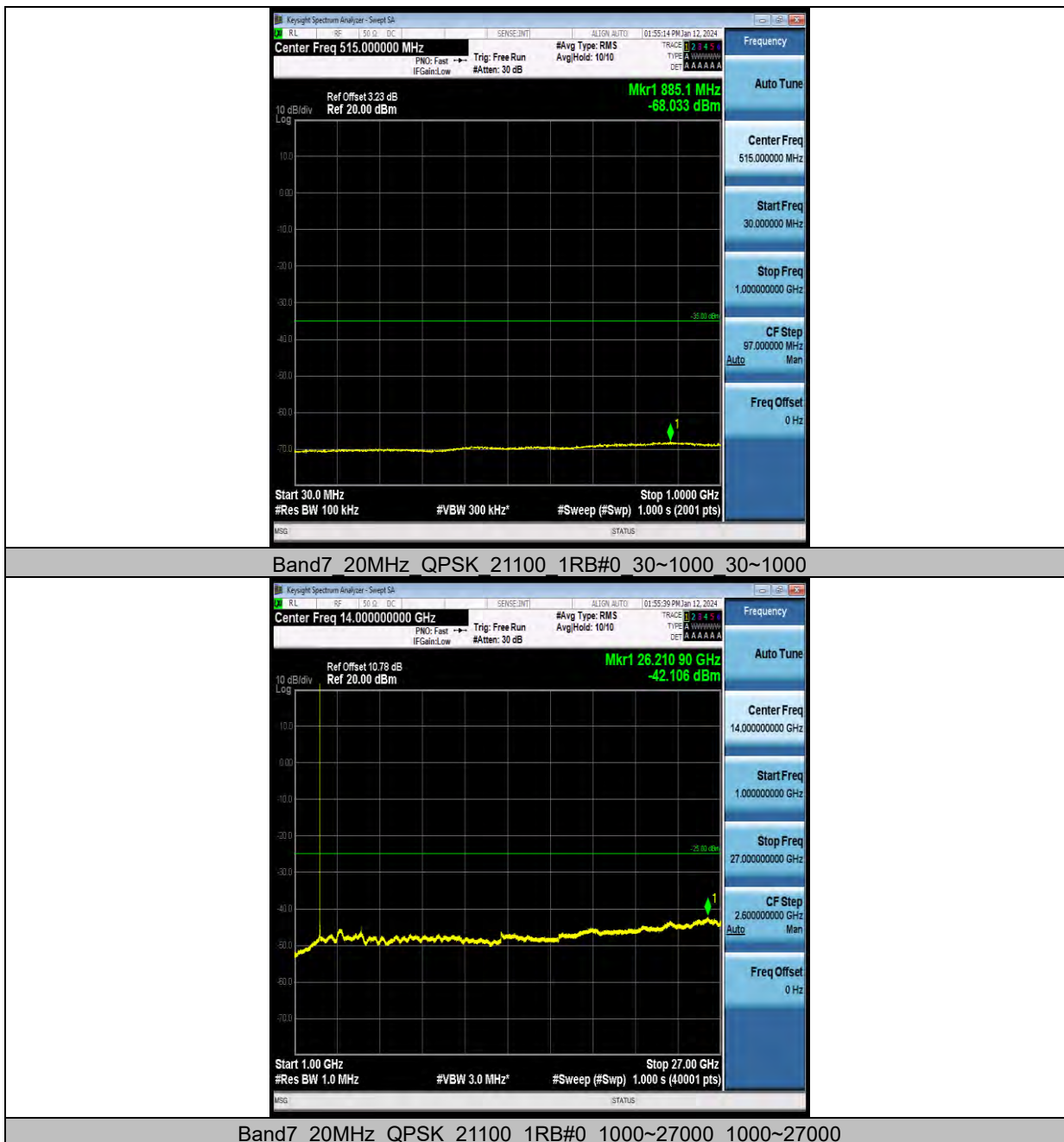


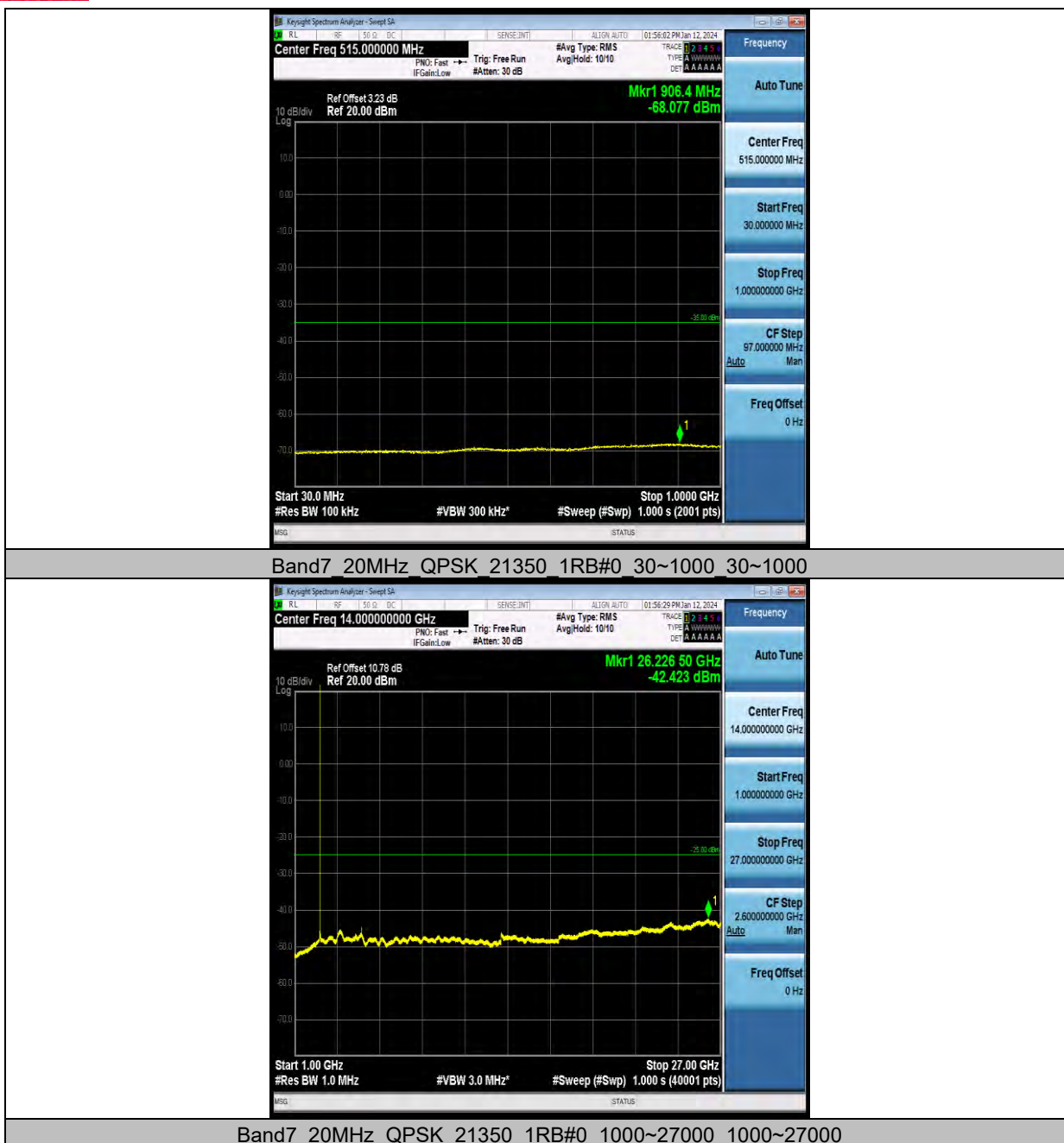












FREQUENCY STABILITY

Test Result

Voltage										
Band	Bandwidth h	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	10MHz	QPSK	20800	50RB#0	VN	NT	-2.76	-0.001102	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	VL	NT	-4.19	-0.001673	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	VH	NT	2.80	0.001118	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	VN	NT	-3.33	-0.001314	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	VL	NT	-3.46	-0.001365	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	VH	NT	-3.23	-0.001274	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	VN	NT	-4.06	-0.001583	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	VL	NT	-5.95	-0.002320	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	VH	NT	-3.08	-0.001201	±2.5	PASS

Temperature										
Band	Bandwidth h	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	10MHz	QPSK	20800	50RB#0	NV	-30	-2.02	-0.000806	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	-20	-3.03	-0.001210	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	-10	-3.16	-0.001261	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	0	-2.92	-0.001166	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	10	-4.05	-0.001617	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	20	-2.10	-0.000838	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	30	-4.39	-0.001752	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	40	-6.79	-0.002711	±2.5	PASS
Band7	10MHz	QPSK	20800	50RB#0	NV	50	3.09	0.001234	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	-30	-2.27	-0.000895	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	-20	4.08	0.001609	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	-10	-3.98	-0.001570	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	0	-3.08	-0.001215	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	10	3.91	0.001542	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	20	1.79	0.000706	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	30	-3.30	-0.001302	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	40	3.43	0.001353	±2.5	PASS
Band7	10MHz	QPSK	21100	50RB#0	NV	50	1.95	0.000769	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	-30	-2.39	-0.000932	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	-20	-3.99	-0.001556	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	-10	3.72	0.001450	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	0	-4.01	-0.001563	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	10	-3.82	-0.001489	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	20	-6.90	-0.002690	±2.5	PASS



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VERITAS

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Band7	10MHz	QPSK	21400	50RB#0	NV	30	-4.22	-0.001645	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	40	-2.15	-0.000838	±2.5	PASS
Band7	10MHz	QPSK	21400	50RB#0	NV	50	-3.62	-0.001411	±2.5	PASS

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Test Report No.: W7L-P23120020RF03

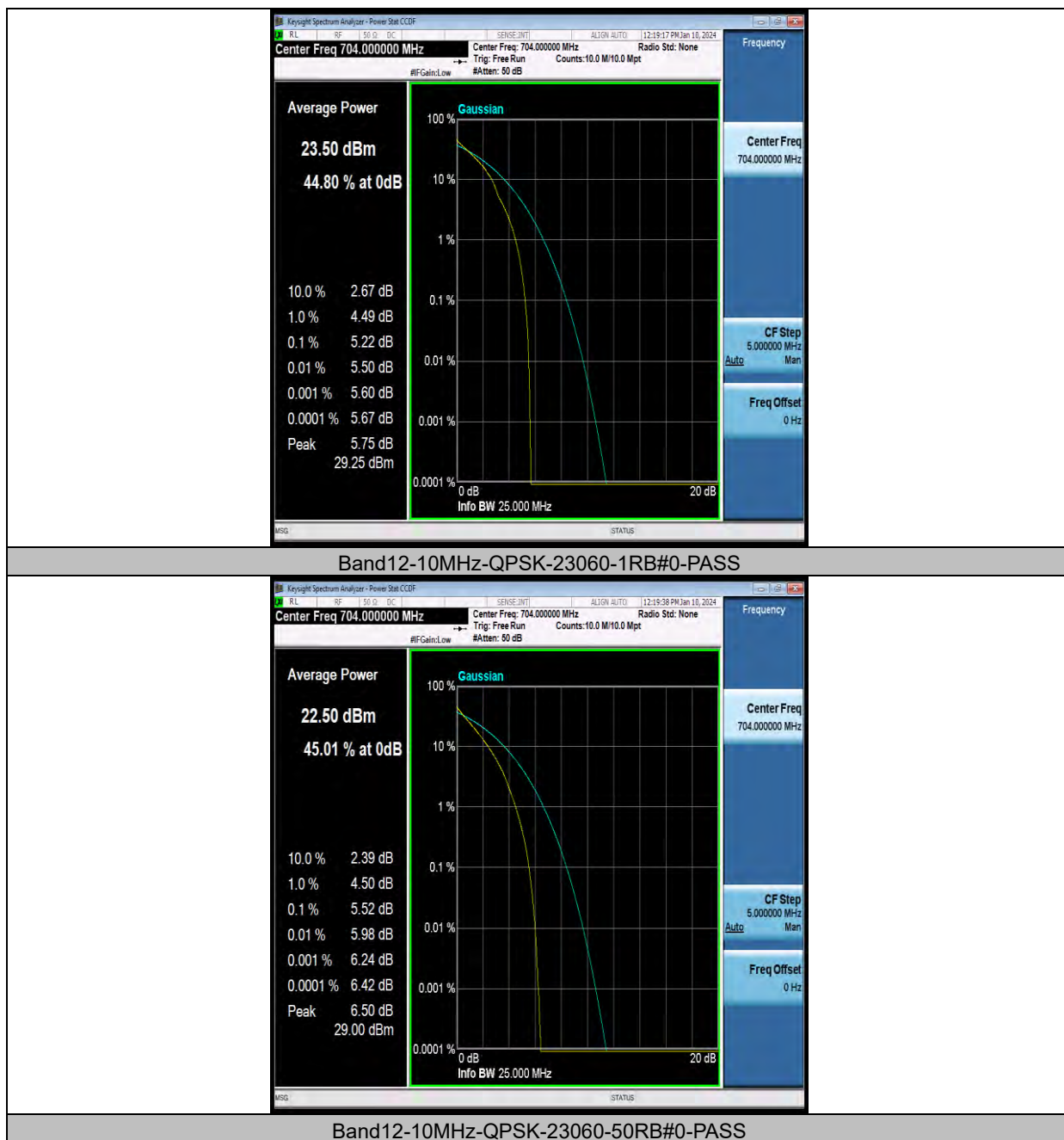
LTE BAND12 (INCLUDING B17)

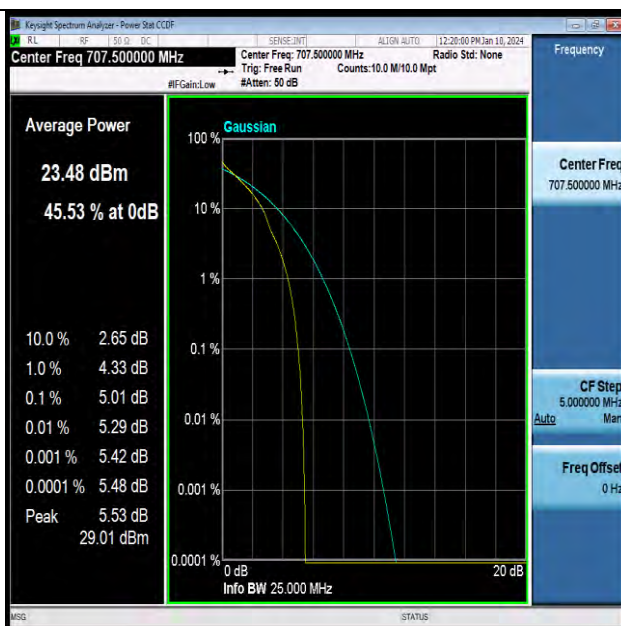
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

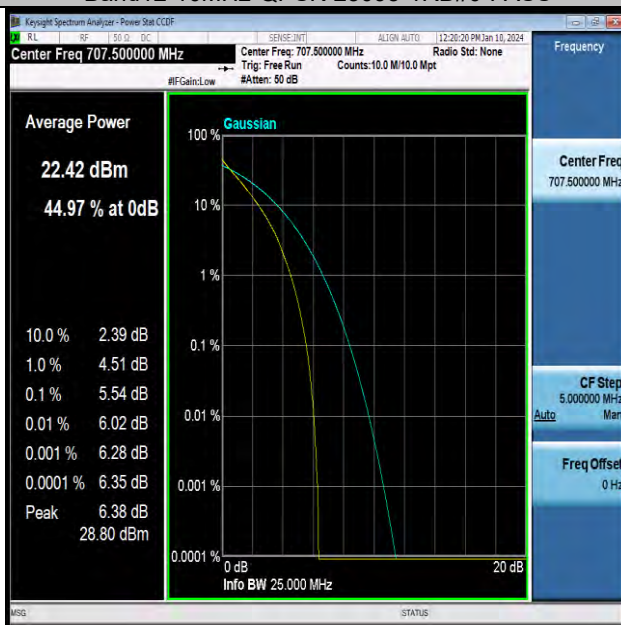
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	1RB#0	5.22	13	PASS
Band12	10MHz	QPSK	23060	50RB#0	5.52	13	PASS
Band12	10MHz	QPSK	23095	1RB#0	5.01	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.54	13	PASS
Band12	10MHz	QPSK	23130	1RB#0	4.85	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.55	13	PASS
Band12	10MHz	16QAM	23060	1RB#0	6.10	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	6.36	13	PASS
Band12	10MHz	16QAM	23095	1RB#0	5.98	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.32	13	PASS
Band12	10MHz	16QAM	23130	1RB#0	5.74	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	6.34	13	PASS

Test Graphs

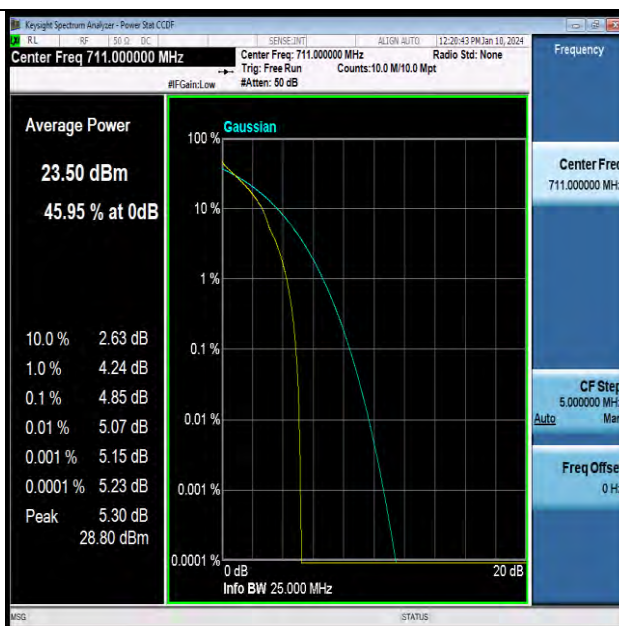




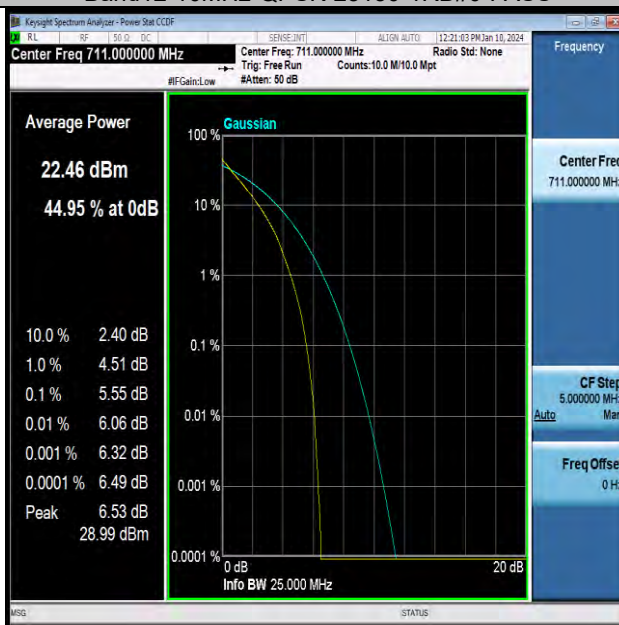
Band12-10MHz-QPSK-23095-1RB#0-PASS



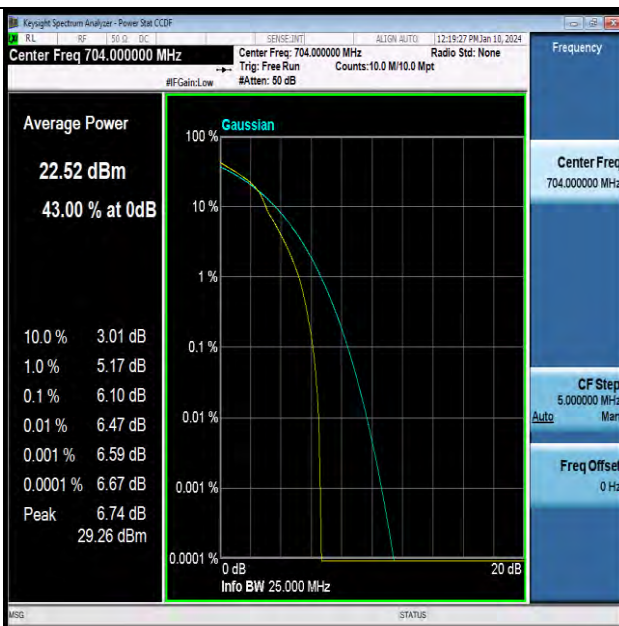
Band12-10MHz-QPSK-23095-50RB#0-PASS



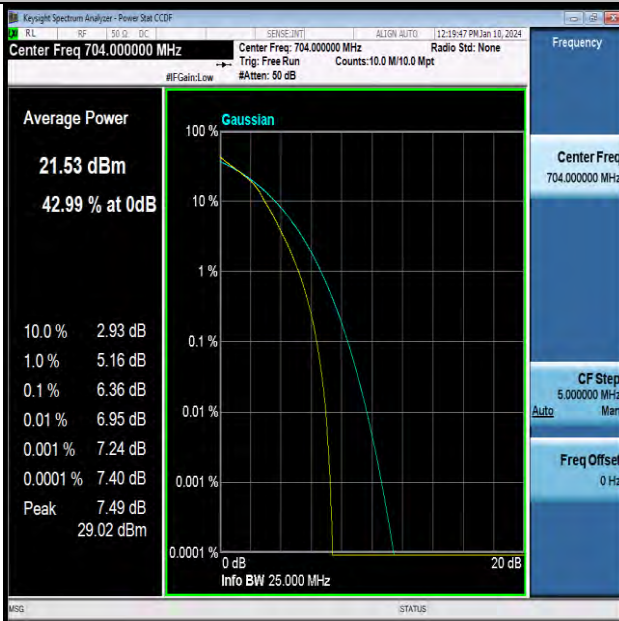
Band12-10MHz-QPSK-23130-1RB#0-PASS



Band12-10MHz-QPSK-23130-50RB#0-PASS



Band12-10MHz-16QAM-23060-1RB#0-PASS



Band12-10MHz-16QAM-23060-50RB#0-PASS