

Appendix-A LTE Band 5

Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	24.11	22.26	38.45	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	24.51	22.66	38.45	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	24.23	22.38	38.45	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	23.28	21.43	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	22.98	21.13	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	23.19	21.34	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	22.88	21.03	38.45	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	22.32	20.47	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	23.84	21.99	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	23.92	22.07	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	24.00	22.15	38.45	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	23.01	21.16	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	22.64	20.79	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	22.89	21.04	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	23.04	21.19	38.45	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	22.01	20.16	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	23.93	22.08	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	23.93	22.08	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	23.96	22.11	38.45	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	22.82	20.97	38.45	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	22.44	20.59	38.45	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	23.00	21.15	38.45	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	23.02	21.17	38.45	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	21.84	19.99	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#0	24.10	22.25	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#8	24.23	22.38	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#14	24.23	22.38	38.45	PASS
Band5	3MHz	QPSK	20415	15RB#0	23.31	21.46	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#0	23.08	21.23	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#8	23.50	21.65	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#14	23.49	21.64	38.45	PASS
Band5	3MHz	16QAM	20415	15RB#0	22.22	20.37	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#0	24.07	22.22	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#8	24.21	22.36	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#14	23.95	22.1	38.45	PASS
Band5	3MHz	QPSK	20525	15RB#0	23.02	21.17	38.45	PASS
Band5	3MHz	16QAM	20525	1RB#0	23.34	21.49	38.45	PASS

Band5	3MHz	16QAM	20525	1RB#8	22.76	20.91	38.45	PASS
Band5	3MHz	16QAM	20525	1RB#14	23.07	21.22	38.45	PASS
Band5	3MHz	16QAM	20525	15RB#0	21.87	20.02	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#0	23.88	22.03	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#8	24.20	22.35	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#14	23.93	22.08	38.45	PASS
Band5	3MHz	QPSK	20635	15RB#0	23.00	21.15	38.45	PASS
Band5	3MHz	16QAM	20635	1RB#0	22.67	20.82	38.45	PASS
Band5	3MHz	16QAM	20635	1RB#8	22.70	20.85	38.45	PASS
Band5	3MHz	16QAM	20635	1RB#14	23.19	21.34	38.45	PASS
Band5	3MHz	16QAM	20635	15RB#0	21.87	20.02	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#0	24.09	22.24	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#12	24.30	22.45	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#24	23.94	22.09	38.45	PASS
Band5	5MHz	QPSK	20425	25RB#0	23.25	21.4	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#0	23.09	21.24	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#12	23.75	21.9	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#24	23.15	21.3	38.45	PASS
Band5	5MHz	16QAM	20425	25RB#0	22.07	20.22	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#0	23.92	22.07	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#12	24.10	22.25	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#24	23.84	21.99	38.45	PASS
Band5	5MHz	QPSK	20525	25RB#0	23.03	21.18	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#0	22.82	20.97	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#12	22.85	21	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#24	22.93	21.08	38.45	PASS
Band5	5MHz	16QAM	20525	25RB#0	21.84	19.99	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#0	23.70	21.85	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#12	24.05	22.2	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#24	23.87	22.02	38.45	PASS
Band5	5MHz	QPSK	20625	25RB#0	22.84	20.99	38.45	PASS
Band5	5MHz	16QAM	20625	1RB#0	22.51	20.66	38.45	PASS
Band5	5MHz	16QAM	20625	1RB#12	22.84	20.99	38.45	PASS
Band5	5MHz	16QAM	20625	1RB#24	23.01	21.16	38.45	PASS
Band5	5MHz	16QAM	20625	25RB#0	21.71	19.86	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#0	24.10	22.25	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#24	24.27	22.42	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#49	24.15	22.3	38.45	PASS
Band5	10MHz	QPSK	20450	50RB#0	23.08	21.23	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#0	23.10	21.25	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#24	23.19	21.34	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#49	23.03	21.18	38.45	PASS
Band5	10MHz	16QAM	20450	50RB#0	22.09	20.24	38.45	PASS
Band5	10MHz	QPSK	20525	1RB#0	23.65	21.8	38.45	PASS
Band5	10MHz	QPSK	20525	1RB#24	24.20	22.35	38.45	PASS

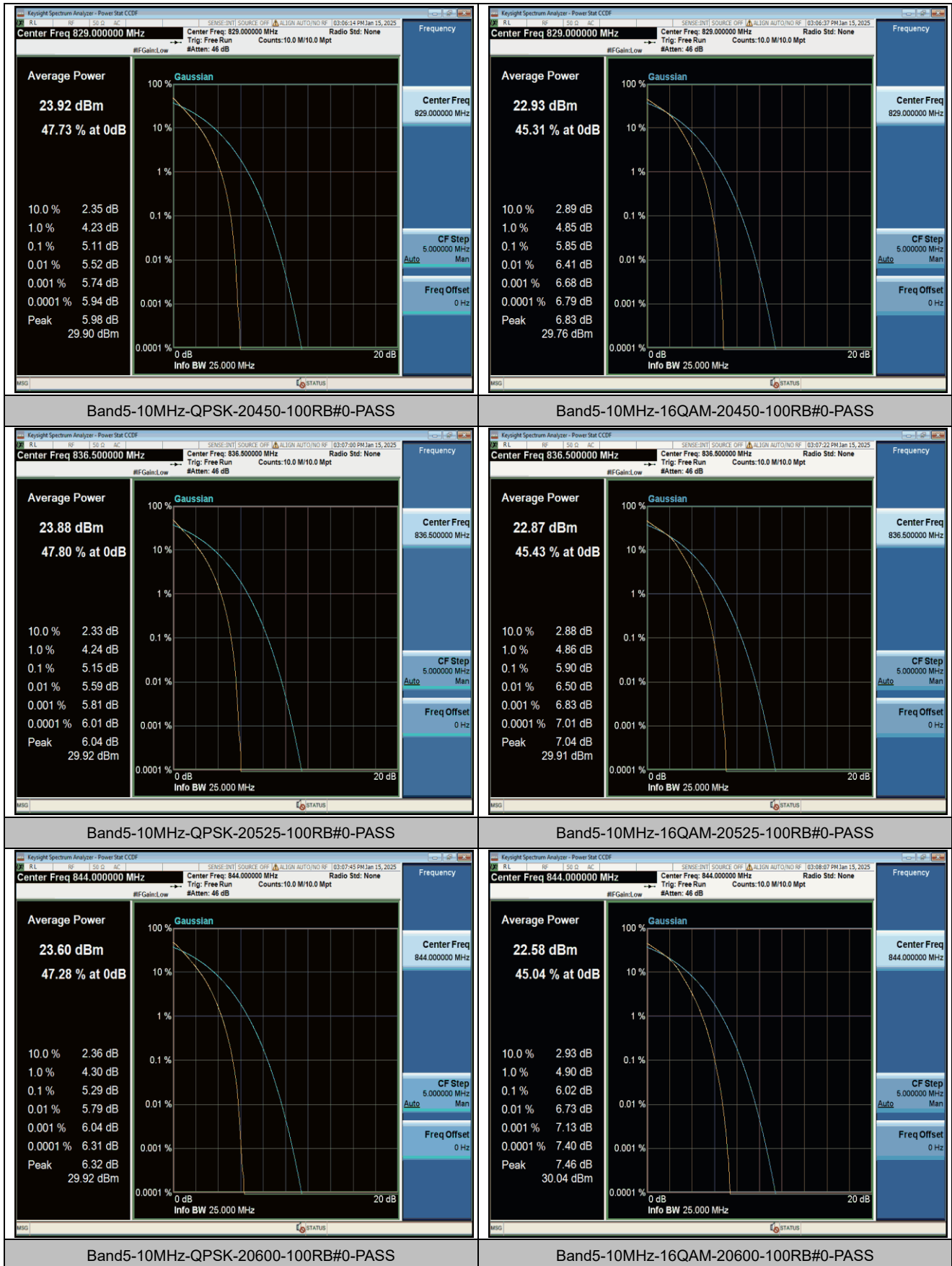
Band5	10MHz	QPSK	20525	1RB#49	23.87	22.02	38.45	PASS
Band5	10MHz	QPSK	20525	50RB#0	23.10	21.25	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#0	22.86	21.01	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#24	22.98	21.13	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#49	22.86	21.01	38.45	PASS
Band5	10MHz	16QAM	20525	50RB#0	22.00	20.15	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#0	23.66	21.81	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#24	24.39	22.54	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#49	23.91	22.06	38.45	PASS
Band5	10MHz	QPSK	20600	50RB#0	22.88	21.03	38.45	PASS
Band5	10MHz	16QAM	20600	1RB#0	22.92	21.07	38.45	PASS
Band5	10MHz	16QAM	20600	1RB#24	22.81	20.96	38.45	PASS
Band5	10MHz	16QAM	20600	1RB#49	22.96	21.11	38.45	PASS
Band5	10MHz	16QAM	20600	50RB#0	21.91	20.06	38.45	PASS

Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
Band5	10MHz	QPSK	20450	100RB#0	5.11	13	PASS
Band5	10MHz	16QAM	20450	100RB#0	5.85	13	PASS
Band5	10MHz	QPSK	20525	100RB#0	5.15	13	PASS
Band5	10MHz	16QAM	20525	100RB#0	5.90	13	PASS
Band5	10MHz	QPSK	20600	100RB#0	5.29	13	PASS
Band5	10MHz	16QAM	20600	100RB#0	6.02	13	PASS

Test Graphs

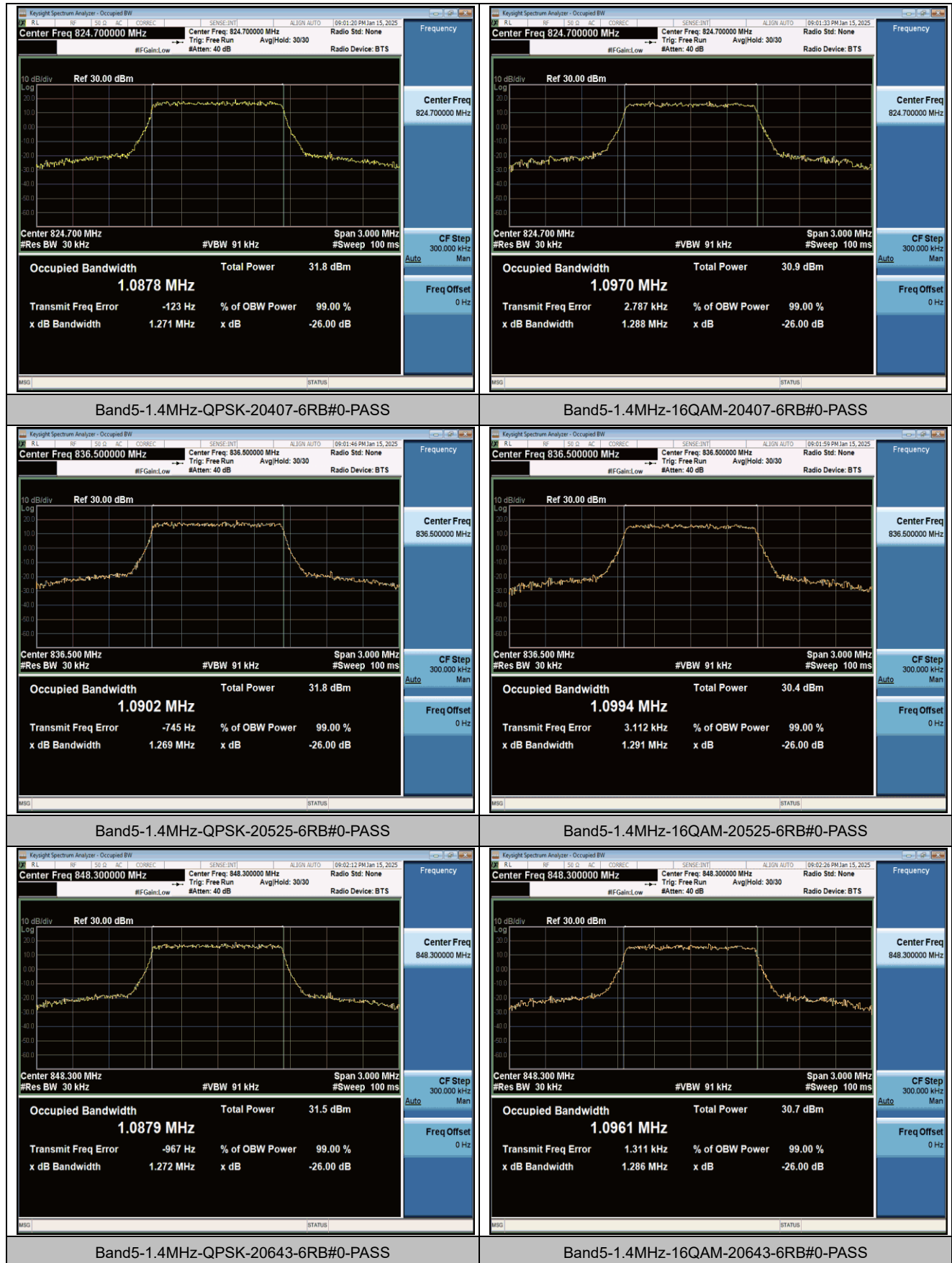


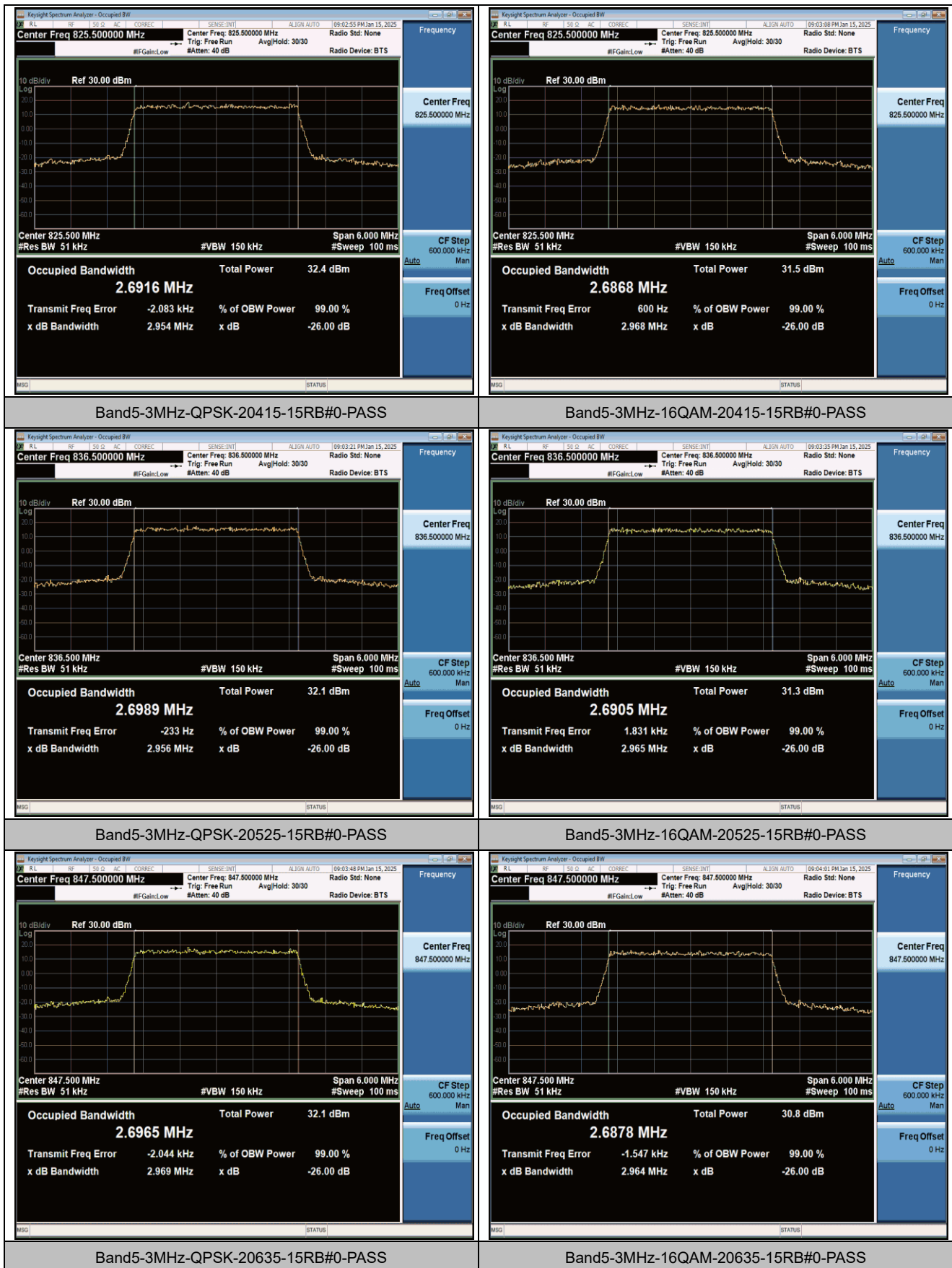
26dB Bandwidth and Occupied Bandwidth

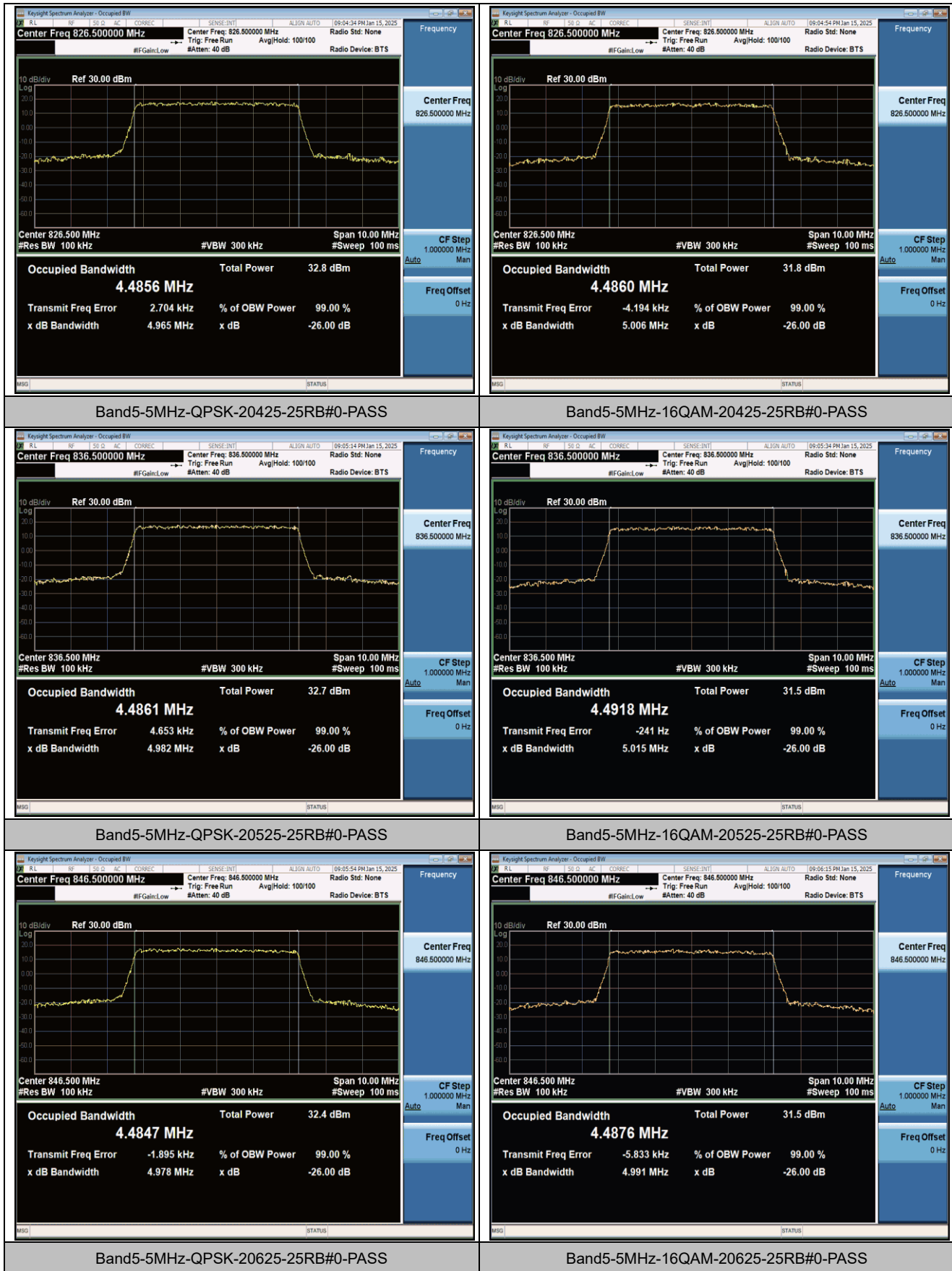
Test Result

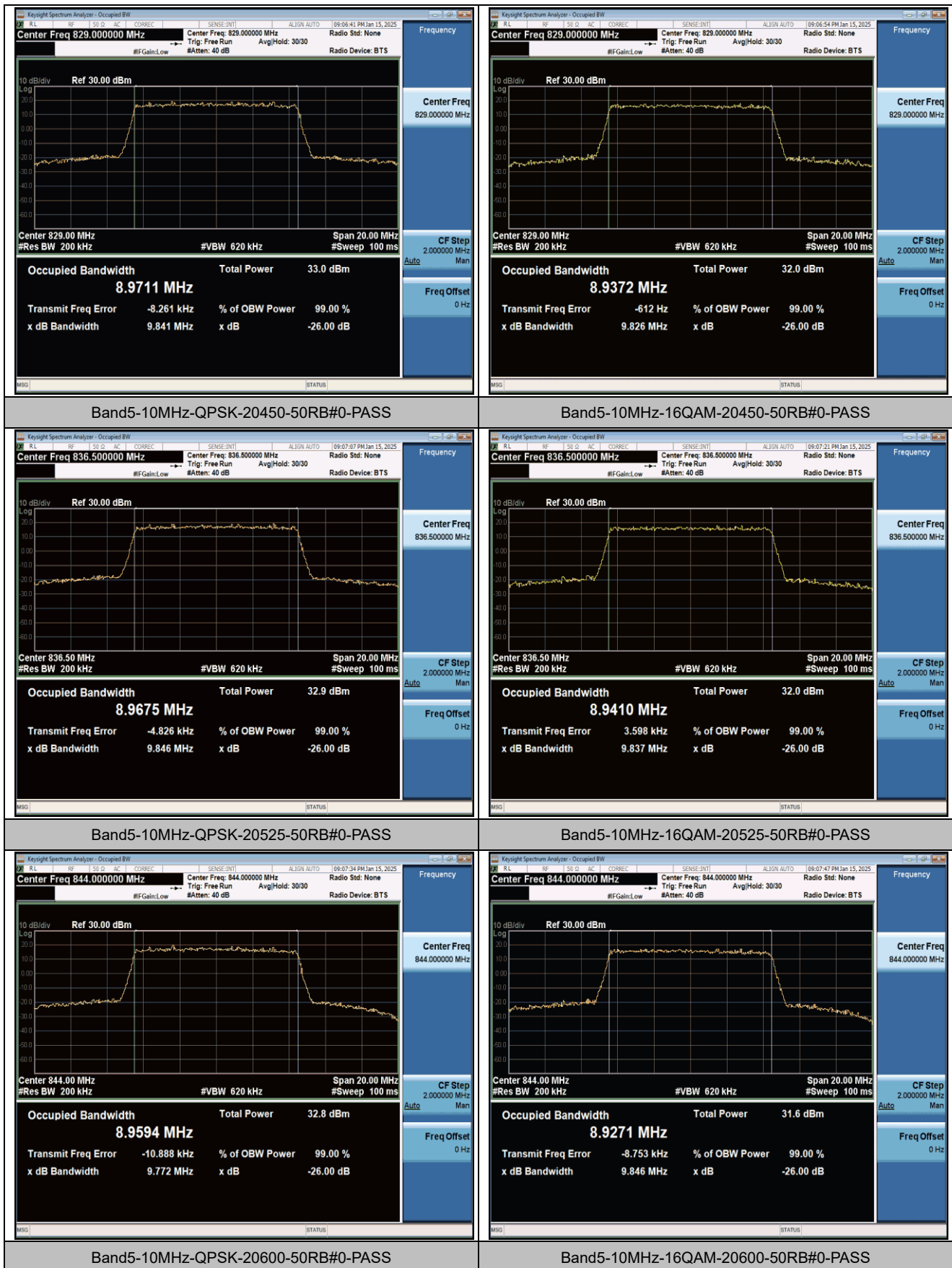
Band	Bandwidth	Modulation	Channel	RB Configuration	OBW (MHz)	26dB EBW (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.0878	1.271	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.0970	1.288	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0902	1.269	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.0994	1.291	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.0879	1.272	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.0961	1.286	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.6916	2.954	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.6868	2.968	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.6989	2.956	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.6905	2.965	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.6965	2.969	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.6878	2.964	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.4856	4.965	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.4860	5.006	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.4861	4.982	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.4918	5.015	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.4847	4.978	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.4876	4.991	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.9711	9.841	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.9372	9.826	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.9675	9.846	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.9410	9.837	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.9594	9.772	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.9271	9.846	PASS

Test Graphs



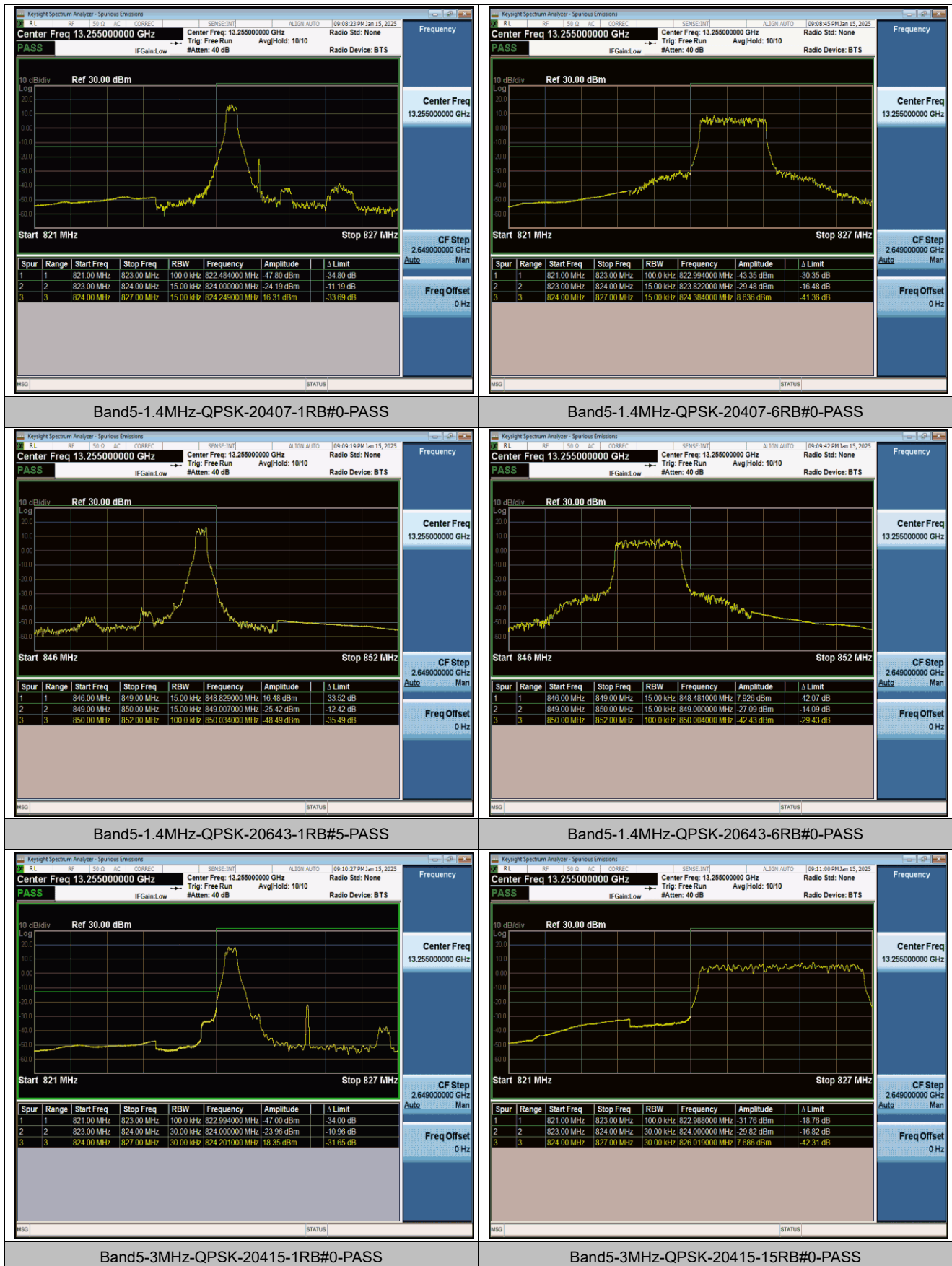


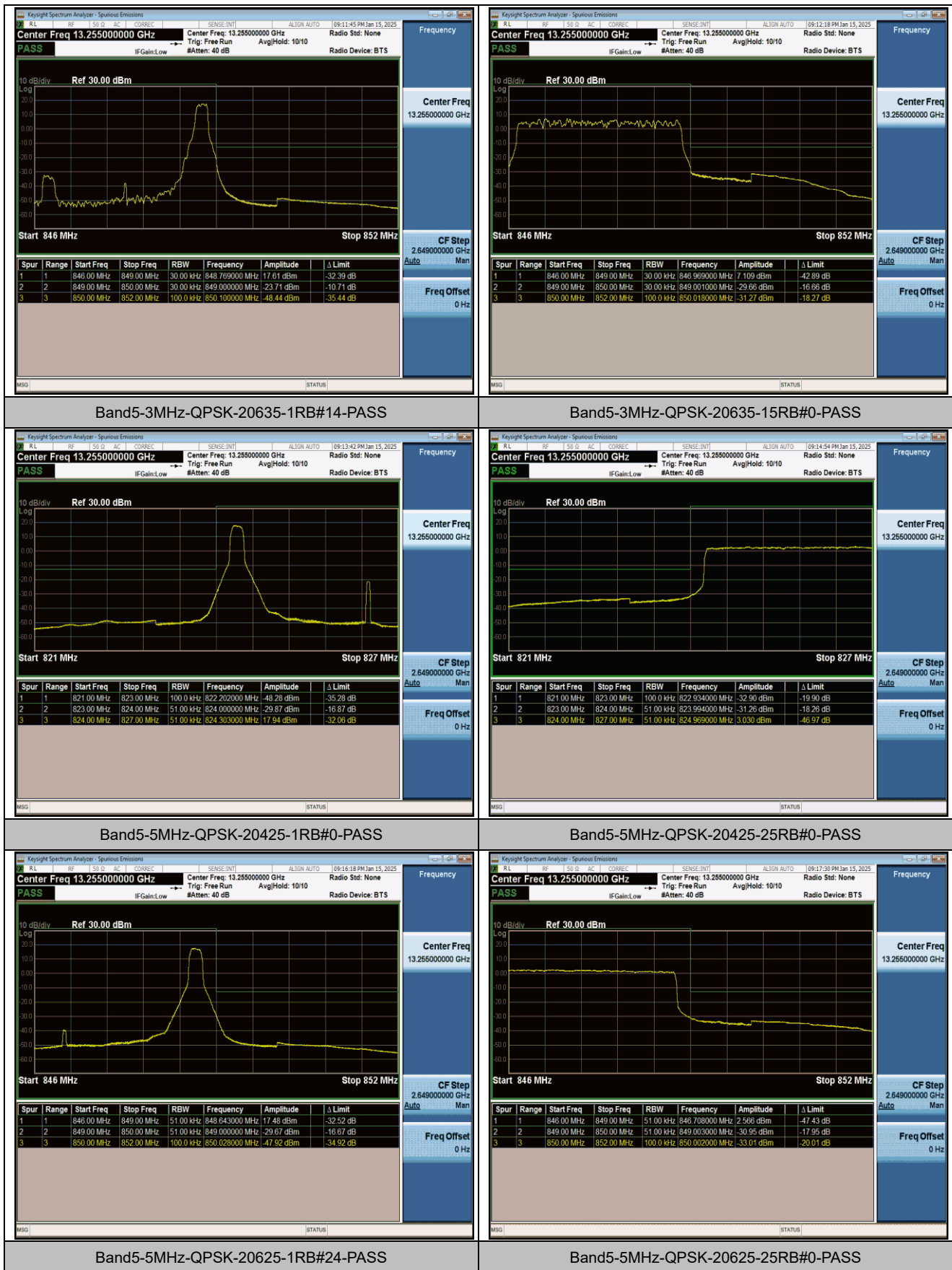


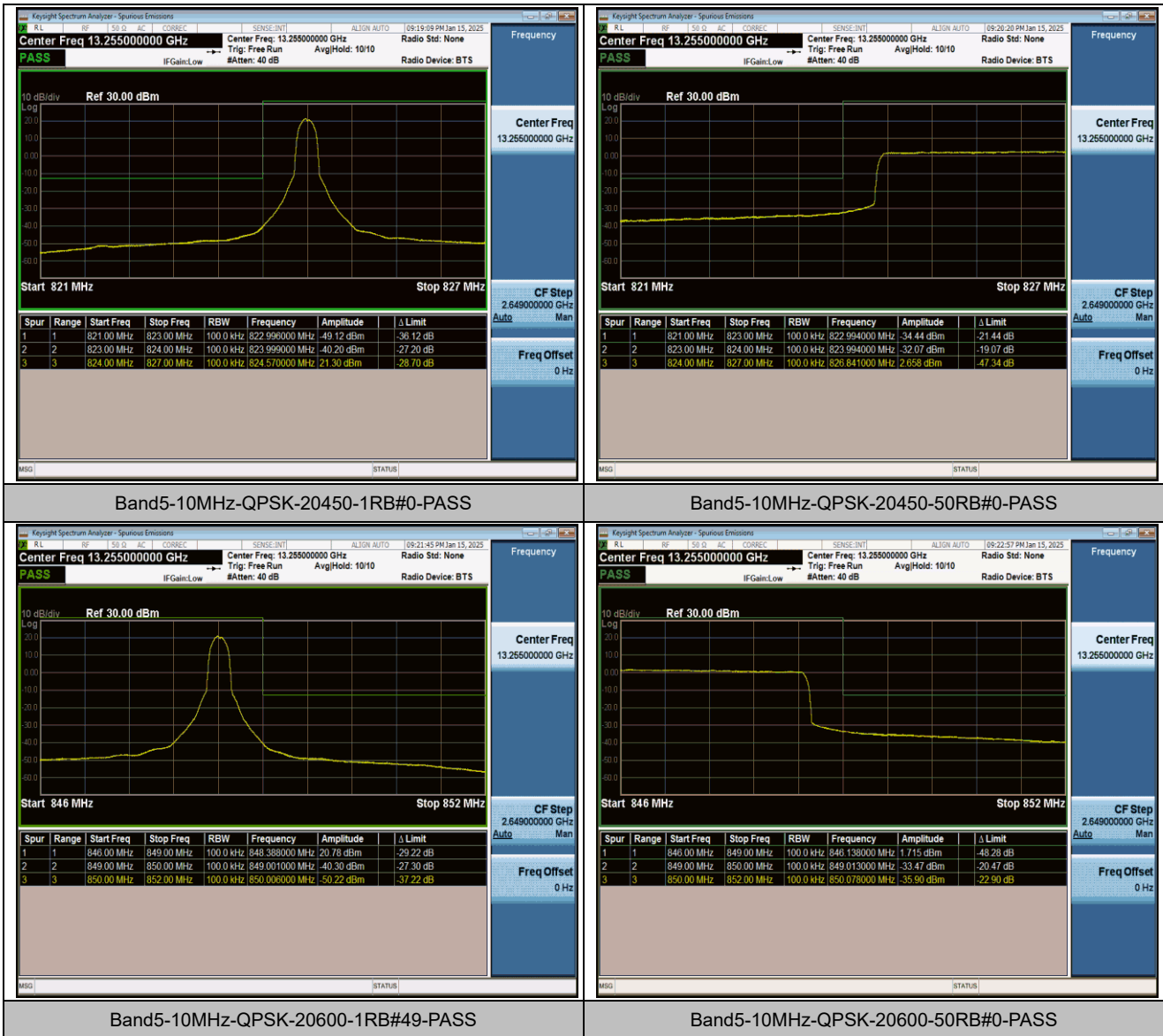


Band Edge

Test Graphs

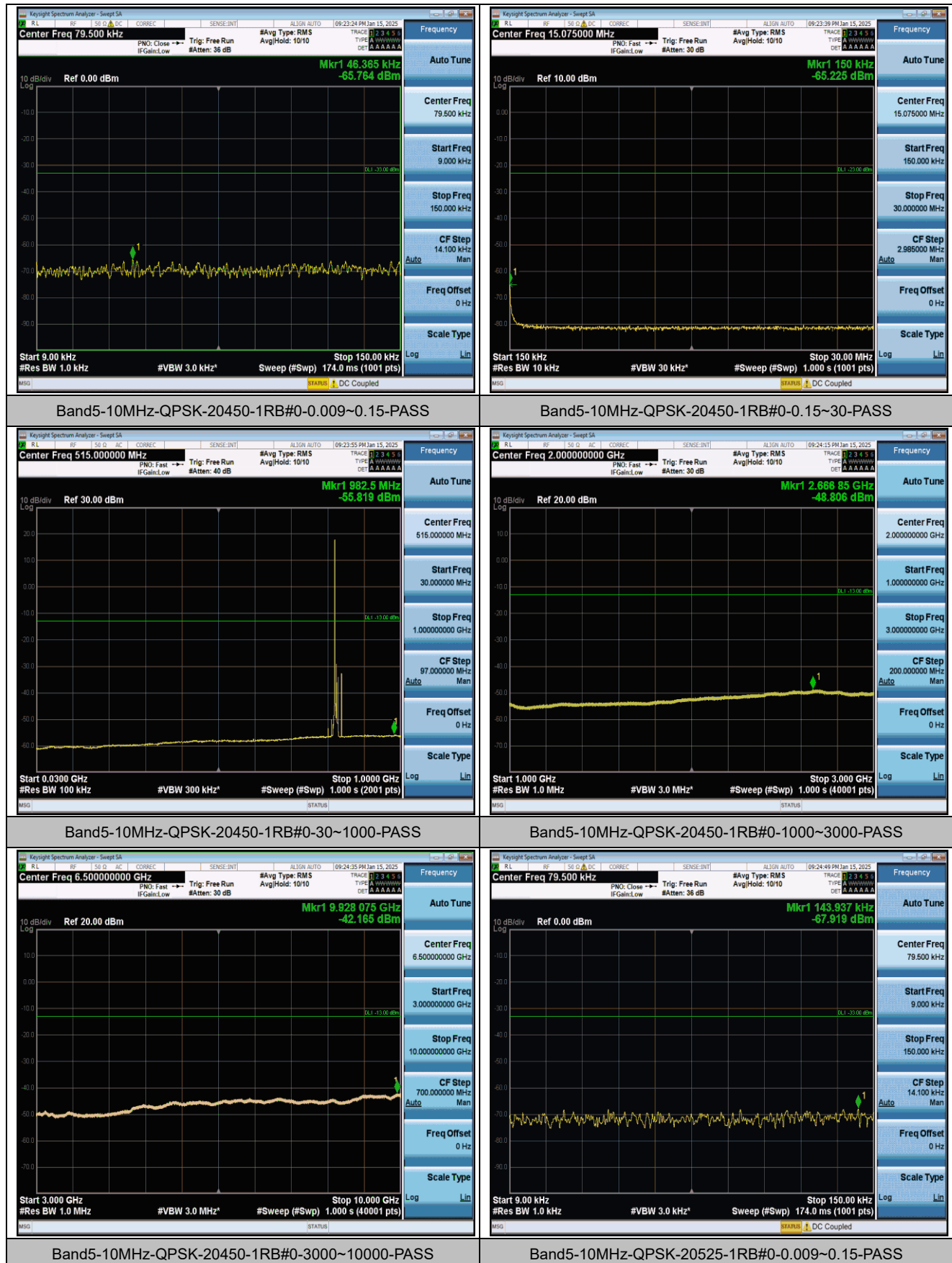


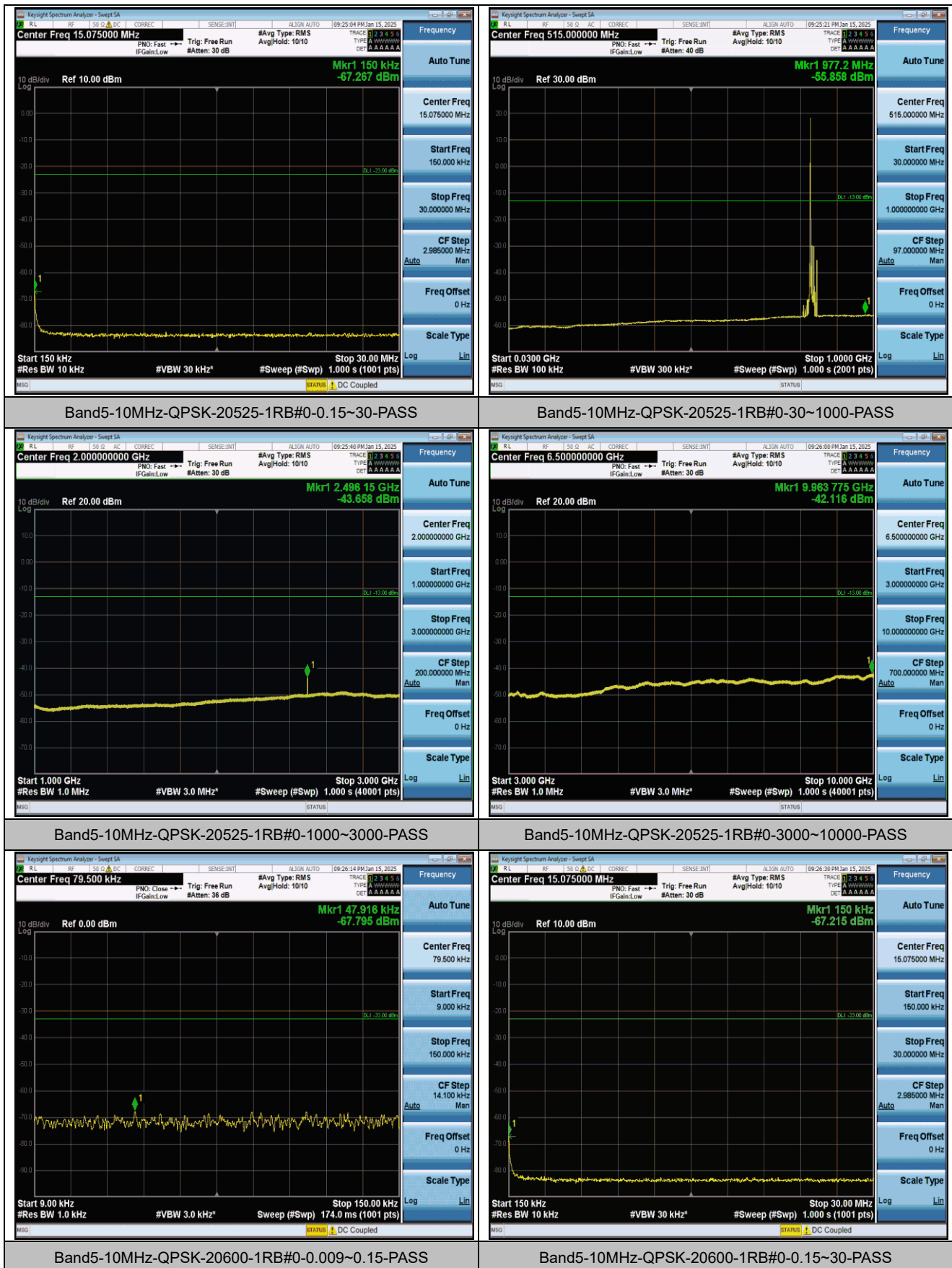




Conducted Spurious Emission

Test Graphs







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



Band5-10MHz-QPSK-20600-1RB#0-1000~3000-PASS



Band5-10MHz-QPSK-20600-1RB#0-3000~10000-PASS

Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	10MHz	QPSK	20525	50RB#0	VL	NT	-0.40	-0.000478	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VH	NT	-0.10	-0.000120	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VN	NT	0.50	0.000598	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	10MHz	QPSK	20525	50RB#0	NV	-30	-0.70	-0.000837	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-20	-0.60	-0.000717	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-10	0.80	0.000956	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	0	0.10	0.000120	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	10	-0.50	-0.000598	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	20	0.20	0.000239	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	30	0.90	0.001076	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	40	0.20	0.000239	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	50	-1.60	-0.001913	±2.5	PASS

~The End~