

Appendix I

Test Results of LTE Band 25

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1. Test Conditions

Item	Environment	Test Channel	RB size	Modulation	BW (MHz)	Test by
Conducted Output Power	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☒ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 1.4 ☒ 3 ☒ 5 ☒ 10 ☒ 15 ☒ 20	Sean
EIRP/ERP	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☒ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 1.4 ☒ 3 ☒ 5 ☒ 10 ☒ 15 ☒ 20	Sean
Peak-to-Average Ratio	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 20	Sean
Occupied Bandwidth	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☐ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 1.4 ☒ 3 ☒ 5 ☒ 10 ☒ 15 ☒ 20	Sean
Conducted Band Edge	☒ N.T / N.V.	☒ Low ☐ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 1.4 ☒ 3 ☒ 5 ☒ 10 ☒ 15 ☒ 20	Sean
Spurious Emission at Antenna Terminal	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☐ Full	☒ QPSK ☒ 16QAM	☒ 20	Sean
Field Strength of Spurious Radiation	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ worst case			Sean
Frequency Stability	☒ N.T / N.V. ☒ L.T / L.V. ☒ L.T / H.V. ☒ H.T / L.V. ☒ H.T / H.V.	☐ Low ☒ Mid ☐ High	☐ 1 ☐ Half ☒ Full	☒ QPSK ☐ 16QAM	☒ 20	Sean

NOTE: All settings for RB allocation, modulation mode, channel, channel bandwidth and environment required by the standard are considered and tested; only the worst case and normal test plots are shown on the report.

2. Conducted Output Power and EIRP

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
1.4	QPSK	Low	1	0	23.12	2.81	25.93	33.00	Pass
				3	23.09	2.81	25.90		Pass
				5	23.47	2.81	26.28		Pass
			3	0	22.95	2.81	25.76		Pass
				1	22.86	2.81	25.67		Pass
				3	22.70	2.81	25.51		Pass
			6	0	22.49	2.81	25.30		Pass
		Mid	1	0	23.64	2.81	26.45		Pass
				3	23.18	2.81	25.99		Pass
				5	23.01	2.81	25.82		Pass
			3	0	22.65	2.81	25.46		Pass
				1	22.78	2.81	25.59		Pass
				3	22.94	2.81	25.75		Pass
			6	0	22.60	2.81	25.41		Pass
		High	1	0	23.46	2.81	26.27		Pass
				3	23.58	2.81	26.39		Pass
				5	23.62	2.81	26.43		Pass
			3	0	22.97	2.81	25.78		Pass
				1	22.26	2.81	25.07		Pass
				3	22.73	2.81	25.54		Pass
			6	0	22.61	2.81	25.42		Pass
	16QAM	Low	1	0	23.48	2.81	26.29	33.00	Pass
				3	23.80	2.81	26.61		Pass
				5	23.49	2.81	26.30		Pass
			3	0	22.91	2.81	25.72		Pass
				1	22.40	2.81	25.21		Pass
				3	22.77	2.81	25.58		Pass
			6	0	22.94	2.81	25.75		Pass
		Mid	1	0	23.24	2.81	26.05		Pass
				3	23.11	2.81	25.92		Pass
				5	23.05	2.81	25.86		Pass
			3	0	23.09	2.81	25.90		Pass
				1	22.97	2.81	25.78		Pass
				3	22.43	2.81	25.24		Pass
			6	0	22.88	2.81	25.69		Pass
		High	1	0	23.61	2.81	26.42		Pass
				3	23.76	2.81	26.57		Pass
				5	22.95	2.81	25.76		Pass
			3	0	22.70	2.81	25.51		Pass
				1	22.34	2.81	25.15		Pass
				3	22.16	2.81	24.97		Pass
			6	0	22.33	2.81	25.14		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
3.0	QPSK	Low	1	0	22.63	2.81	25.44	33.00	Pass
				8	22.45	2.81	25.26		Pass
				14	22.19	2.81	25.00		Pass
			8	0	22.80	2.81	25.61		Pass
				4	22.67	2.81	25.48		Pass
				7	22.78	2.81	25.59		Pass
			15	0	22.92	2.81	25.73		Pass
		Mid	1	0	22.76	2.81	25.57		Pass
				8	22.61	2.81	25.42		Pass
				14	22.55	2.81	25.36		Pass
			8	0	22.69	2.81	25.50		Pass
				4	22.13	2.81	24.94		Pass
				7	22.18	2.81	24.99		Pass
			15	0	22.30	2.81	25.11		Pass
		High	1	0	22.87	2.81	25.68		Pass
				8	22.43	2.81	25.24		Pass
				14	22.65	2.81	25.46		Pass
			8	0	22.19	2.81	25.00		Pass
				4	22.22	2.81	25.03		Pass
				7	22.34	2.81	25.15		Pass
			15	0	22.62	2.81	25.43		Pass
	16QAM	Low	1	0	22.53	2.81	25.34	33.00	Pass
				8	22.39	2.81	25.20		Pass
				14	22.97	2.81	25.78		Pass
			8	0	22.46	2.81	25.27		Pass
				4	22.62	2.81	25.43		Pass
				7	22.28	2.81	25.09		Pass
			15	0	22.16	2.81	24.97		Pass
		Mid	1	0	22.88	2.81	25.69		Pass
				8	22.63	2.81	25.44		Pass
				14	22.17	2.81	24.98		Pass
			8	0	22.10	2.81	24.91		Pass
				4	22.31	2.81	25.12		Pass
				7	22.26	2.81	25.07		Pass
			15	0	22.18	2.81	24.99		Pass
		High	1	0	22.94	2.81	25.75		Pass
				8	22.70	2.81	25.51		Pass
				14	22.65	2.81	25.46		Pass
			8	0	22.47	2.81	25.28		Pass
				4	22.32	2.81	25.13		Pass
				7	22.48	2.81	25.29		Pass
			15	0	22.81	2.81	25.62		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
5.0	QPSK	Low	1	0	21.96	2.81	24.77	33.00	Pass
				12	22.04	2.81	24.85		Pass
				24	22.35	2.81	25.16		Pass
			12	0	22.42	2.81	25.23		Pass
				7	22.50	2.81	25.31		Pass
				13	22.39	2.81	25.20		Pass
			25	0	22.47	2.81	25.28		Pass
		Mid	1	0	21.99	2.81	24.80		Pass
				12	22.71	2.81	25.52		Pass
				24	22.40	2.81	25.21		Pass
			12	0	22.15	2.81	24.96		Pass
				7	21.69	2.81	24.50		Pass
				13	22.78	2.81	25.59		Pass
			25	0	22.94	2.81	25.75		Pass
		High	1	0	22.01	2.81	24.82		Pass
				12	21.89	2.81	24.70		Pass
				24	22.32	2.81	25.13		Pass
			12	0	22.13	2.81	24.94		Pass
				7	22.28	2.81	25.09		Pass
				13	22.20	2.81	25.01		Pass
			25	0	22.76	2.81	25.57		Pass
	16QAM	Low	1	0	22.90	2.81	25.71	33.00	Pass
				12	22.57	2.81	25.38		Pass
				24	22.66	2.81	25.47		Pass
			12	0	22.73	2.81	25.54		Pass
				7	22.78	2.81	25.59		Pass
				13	22.12	2.81	24.93		Pass
			25	0	22.24	2.81	25.05		Pass
		Mid	1	0	22.92	2.81	25.73		Pass
				12	22.10	2.81	24.91		Pass
				24	22.18	2.81	24.99		Pass
			12	0	22.83	2.81	25.64		Pass
				7	22.76	2.81	25.57		Pass
				13	22.45	2.81	25.26		Pass
			25	0	22.62	2.81	25.43		Pass
		High	1	0	22.51	2.81	25.32		Pass
				12	22.72	2.81	25.53		Pass
				24	22.96	2.81	25.77		Pass
			12	0	22.41	2.81	25.22		Pass
				7	22.52	2.81	25.33		Pass
				13	22.69	2.81	25.50		Pass
			25	0	22.33	2.81	25.14		Pass

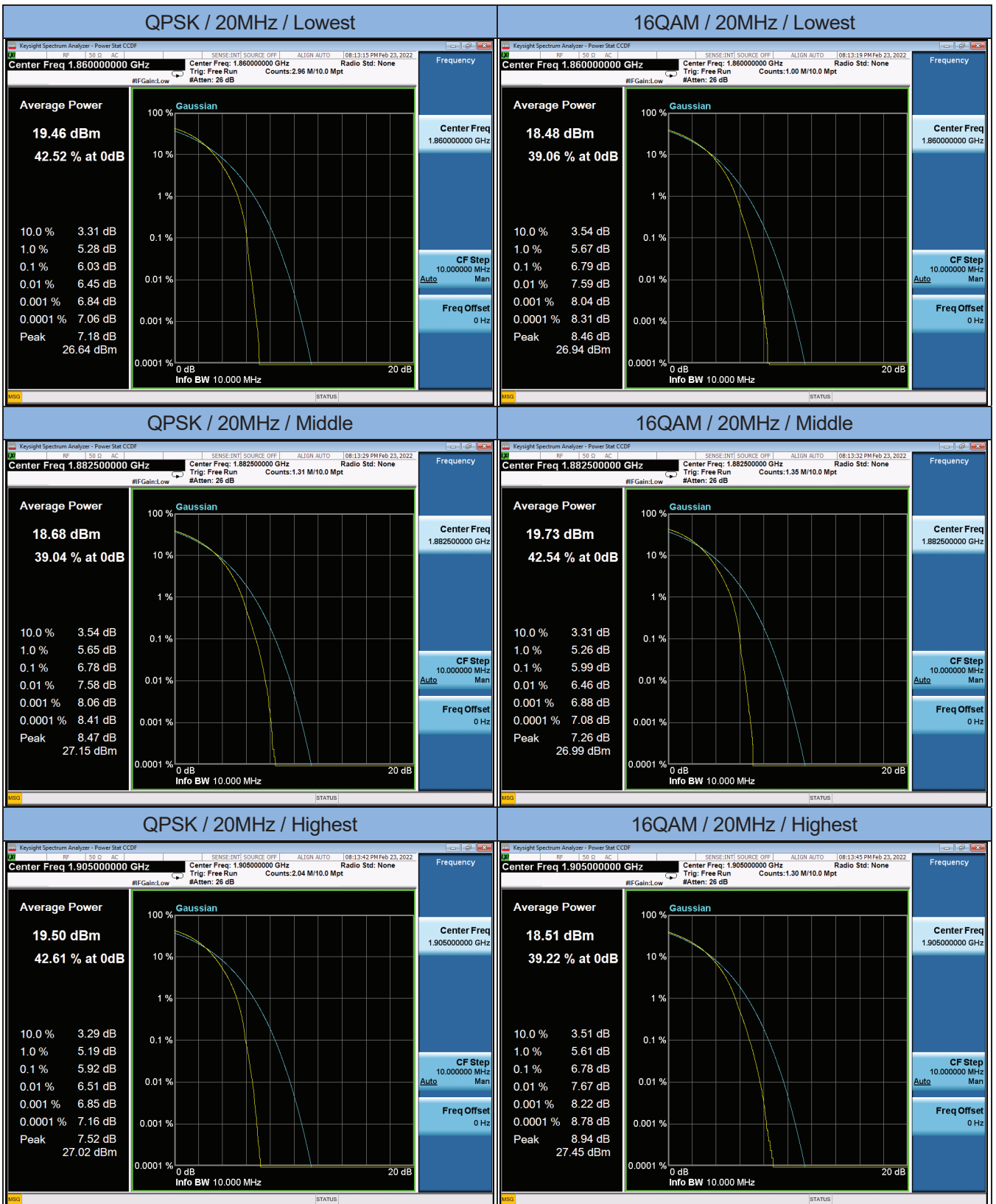
BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
10	QPSK	Low	1	0	22.64	2.81	25.45	33.00	Pass
				25	22.19	2.81	25.00		Pass
				49	22.50	2.81	25.31		Pass
			25	0	22.43	2.81	25.24		Pass
				12	22.70	2.81	25.51		Pass
				25	22.66	2.81	25.47		Pass
			50	0	22.49	2.81	25.30		Pass
		Mid	1	0	21.80	2.81	24.61		Pass
				25	21.97	2.81	24.78		Pass
				49	22.42	2.81	25.23		Pass
			25	0	22.57	2.81	25.38		Pass
				12	22.30	2.81	25.11		Pass
				25	22.19	2.81	25.00		Pass
			50	0	22.51	2.81	25.32		Pass
		High	1	0	22.78	2.81	25.59		Pass
				25	22.61	2.81	25.42		Pass
				49	22.27	2.81	25.08		Pass
			25	0	22.60	2.81	25.41		Pass
				12	22.84	2.81	25.65		Pass
				25	22.73	2.81	25.54		Pass
			50	0	22.19	2.81	25.00		Pass
	16QAM	Low	1	0	22.71	2.81	25.52	33.00	Pass
				25	22.89	2.81	25.70		Pass
				49	22.64	2.81	25.45		Pass
			25	0	21.79	2.81	24.60		Pass
				12	21.28	2.81	24.09		Pass
				25	21.60	2.81	24.41		Pass
			50	0	21.26	2.81	24.07		Pass
		Mid	1	0	21.91	2.81	24.72		Pass
				25	22.04	2.81	24.85		Pass
				49	21.85	2.81	24.66		Pass
			25	0	21.76	2.81	24.57		Pass
				12	22.06	2.81	24.87		Pass
				25	22.93	2.81	25.74		Pass
			50	0	22.12	2.81	24.93		Pass
		High	1	0	21.78	2.81	24.59		Pass
				25	21.69	2.81	24.50		Pass
				49	21.81	2.81	24.62		Pass
			25	0	21.60	2.81	24.41		Pass
				12	22.09	2.81	24.90		Pass
				25	22.13	2.81	24.94		Pass
			50	0	22.22	2.81	25.03		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
15	QPSK	Low	1	0	22.17	2.81	24.98	33.00	Pass
				37	21.96	2.81	24.77		Pass
				74	22.32	2.81	25.13		Pass
			36	0	22.61	2.81	25.42		Pass
				20	22.45	2.81	25.26		Pass
				39	22.60	2.81	25.41		Pass
			75	0	22.73	2.81	25.54		Pass
		Mid	1	0	22.15	2.81	24.96		Pass
				37	22.63	2.81	25.44		Pass
				74	22.28	2.81	25.09		Pass
			36	0	22.34	2.81	25.15		Pass
				20	22.40	2.81	25.21		Pass
				39	22.37	2.81	25.18		Pass
			75	0	22.75	2.81	25.56		Pass
		High	1	0	22.91	2.81	25.72		Pass
				37	22.44	2.81	25.25		Pass
				74	22.63	2.81	25.44		Pass
			36	0	22.19	2.81	25.00		Pass
				20	22.60	2.81	25.41		Pass
				39	22.73	2.81	25.54		Pass
			75	0	22.58	2.81	25.39		Pass
	16QAM	Low	1	0	22.90	2.81	25.71	33.00	Pass
				37	22.46	2.81	25.27		Pass
				74	22.57	2.81	25.38		Pass
			36	0	22.50	2.81	25.31		Pass
				20	22.61	2.81	25.42		Pass
				39	22.53	2.81	25.34		Pass
			75	0	22.39	2.81	25.20		Pass
		Mid	1	0	22.41	2.81	25.22		Pass
				37	22.52	2.81	25.33		Pass
				74	22.67	2.81	25.48		Pass
			36	0	22.82	2.81	25.63		Pass
				20	22.79	2.81	25.60		Pass
				39	21.98	2.81	24.79		Pass
			75	0	22.43	2.81	25.24		Pass
		High	1	0	22.45	2.81	25.26		Pass
				37	22.13	2.81	24.94		Pass
				74	22.21	2.81	25.02		Pass
			36	0	22.19	2.81	25.00		Pass
				20	22.32	2.81	25.13		Pass
				39	22.85	2.81	25.66		Pass
			75	0	22.41	2.81	25.22		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	EIRP (dBm)	Limit (dBm)	Result
			Size	Offset					
20	QPSK	Low	1	0	22.63	2.81	25.44	33.00	Pass
				49	22.19	2.81	25.00		Pass
				99	22.52	2.81	25.33		Pass
			50	0	22.90	2.81	25.71		Pass
				24	22.43	2.81	25.24		Pass
				50	22.61	2.81	25.42		Pass
			100	0	22.54	2.81	25.35		Pass
		Mid	1	0	22.85	2.81	25.66		Pass
				49	22.61	2.81	25.42		Pass
				99	22.76	2.81	25.57		Pass
			50	0	22.62	2.81	25.43		Pass
				24	22.39	2.81	25.20		Pass
				50	22.18	2.81	24.99		Pass
			100	0	22.49	2.81	25.30		Pass
		High	1	0	22.60	2.81	25.41		Pass
				49	22.71	2.81	25.52		Pass
				99	22.55	2.81	25.36		Pass
			50	0	22.62	2.81	25.43		Pass
				24	22.49	2.81	25.30		Pass
				50	22.81	2.81	25.62		Pass
			100	0	22.46	2.81	25.27		Pass
	16QAM	Low	1	0	22.63	2.81	25.44	33.00	Pass
				49	22.31	2.81	25.12		Pass
				99	22.28	2.81	25.09		Pass
			50	0	22.45	2.81	25.26		Pass
				24	22.81	2.81	25.62		Pass
				50	22.73	2.81	25.54		Pass
			100	0	22.26	2.81	25.07		Pass
		Mid	1	0	22.16	2.81	24.97		Pass
				49	22.15	2.81	24.96		Pass
				99	22.12	2.81	24.93		Pass
			50	0	22.28	2.81	25.09		Pass
				24	22.81	2.81	25.62		Pass
				50	22.95	2.81	25.76		Pass
			100	0	22.84	2.81	25.65		Pass
		High	1	0	22.45	2.81	25.26		Pass
				49	22.63	2.81	25.44		Pass
				99	22.80	2.81	25.61		Pass
			50	0	22.76	2.81	25.57		Pass
				24	22.41	2.81	25.22		Pass
				50	22.58	2.81	25.39		Pass
			100	0	22.37	2.81	25.18		Pass

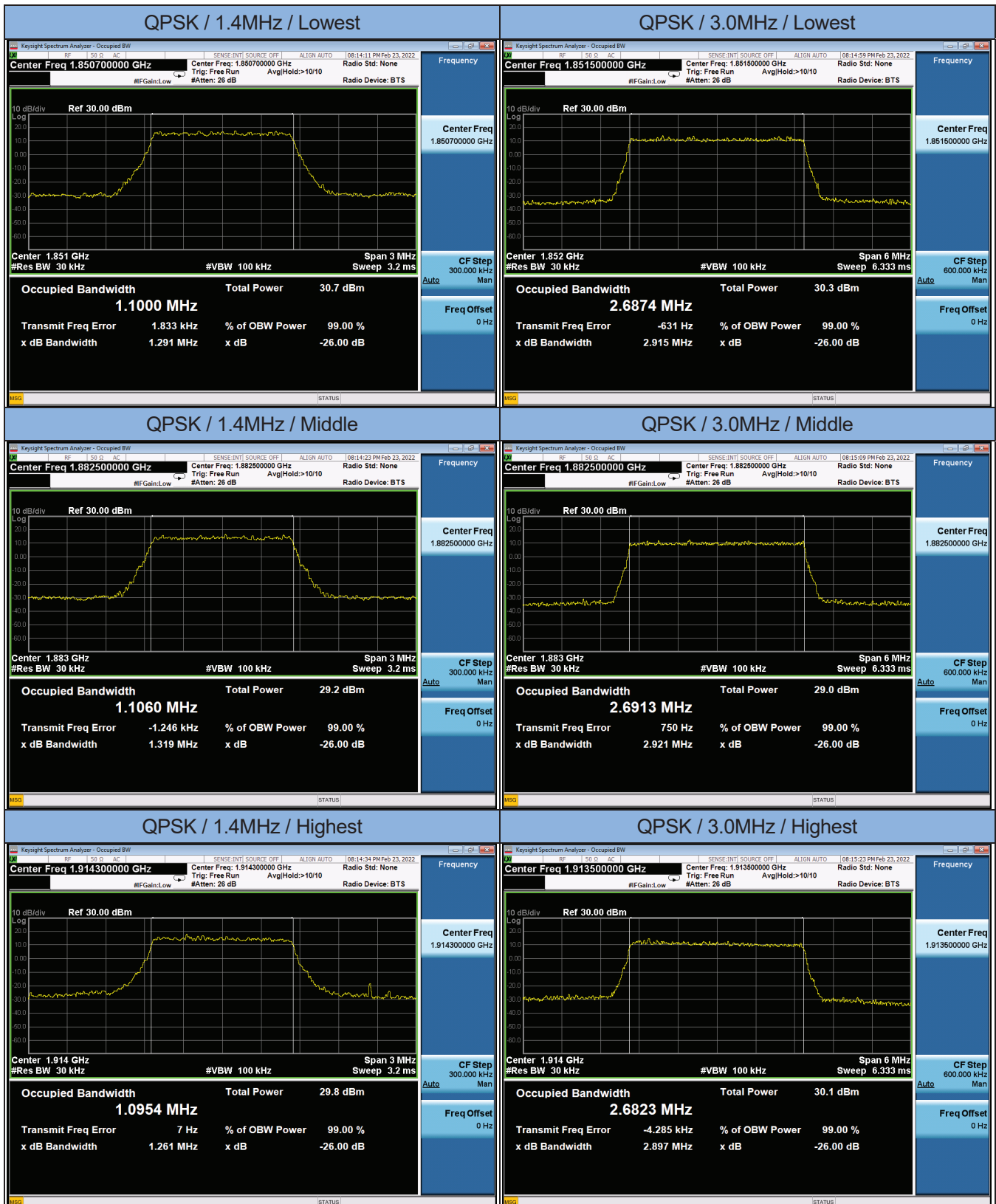
3. Peak-to-Average Ratio

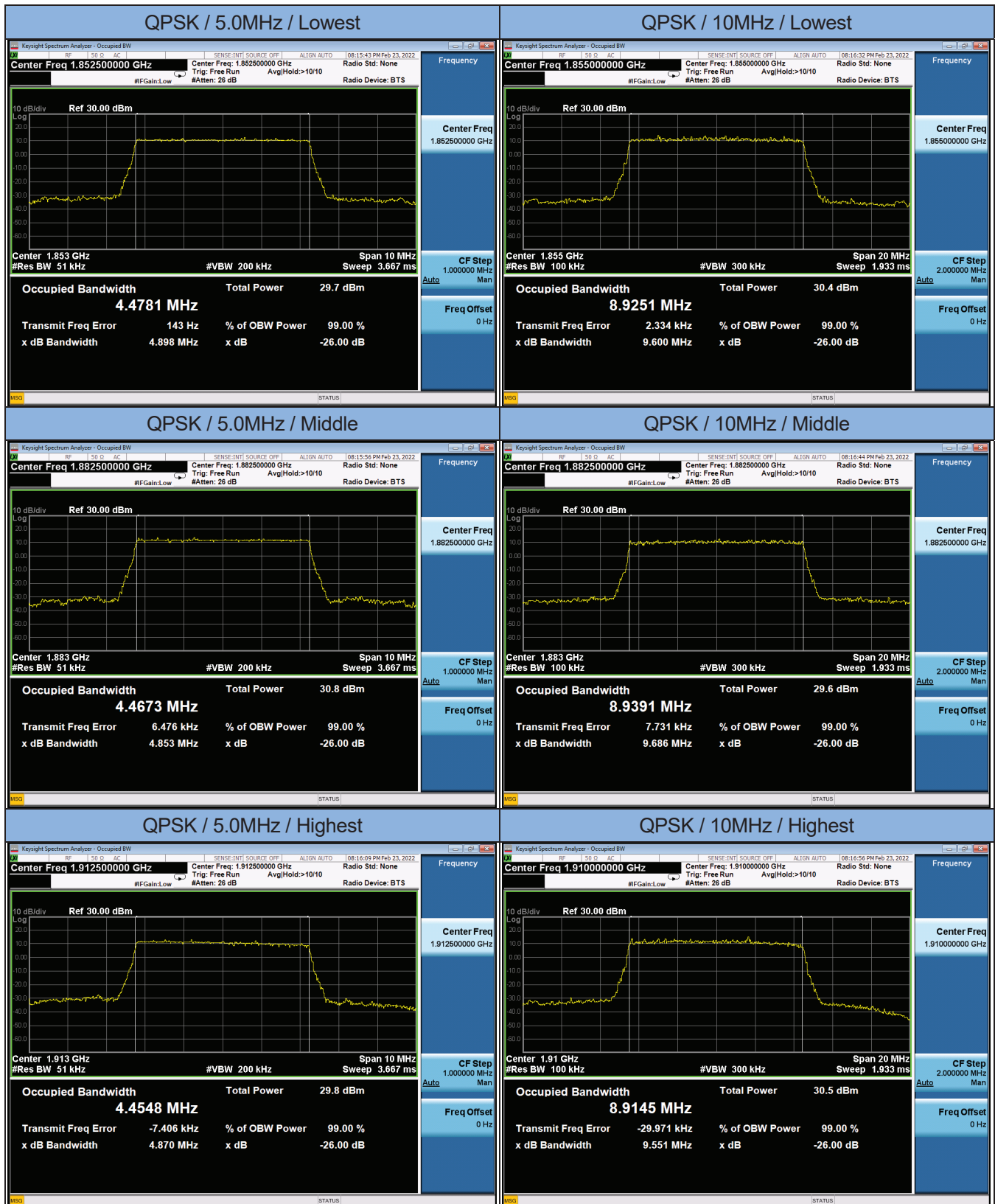
BW (MHz)	Modulation	Channel	RB Allocation		Peak-to-Average Ratio (dB)	Limit (dBm)	Result
			Size	Offset			
20	QPSK	Low	Full	0	6.3	13.0	Pass
		Mid	Full	0	6.78		Pass
		High	Full	0	5.92		Pass
	16QAM	Low	Full	0	6.79	13.0	Pass
		Mid	Full	0	5.99		Pass
		High	Full	0	6.78		Pass

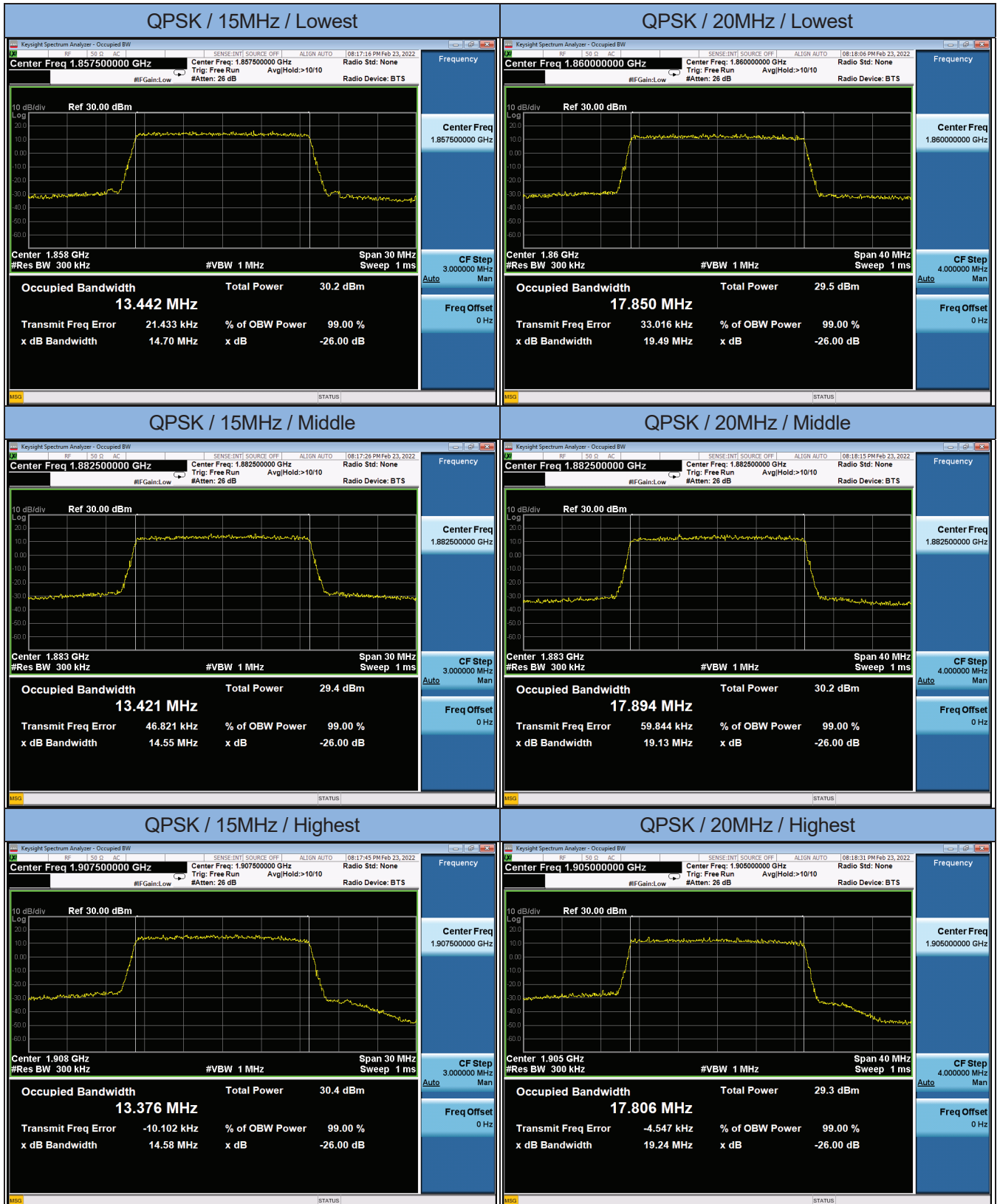


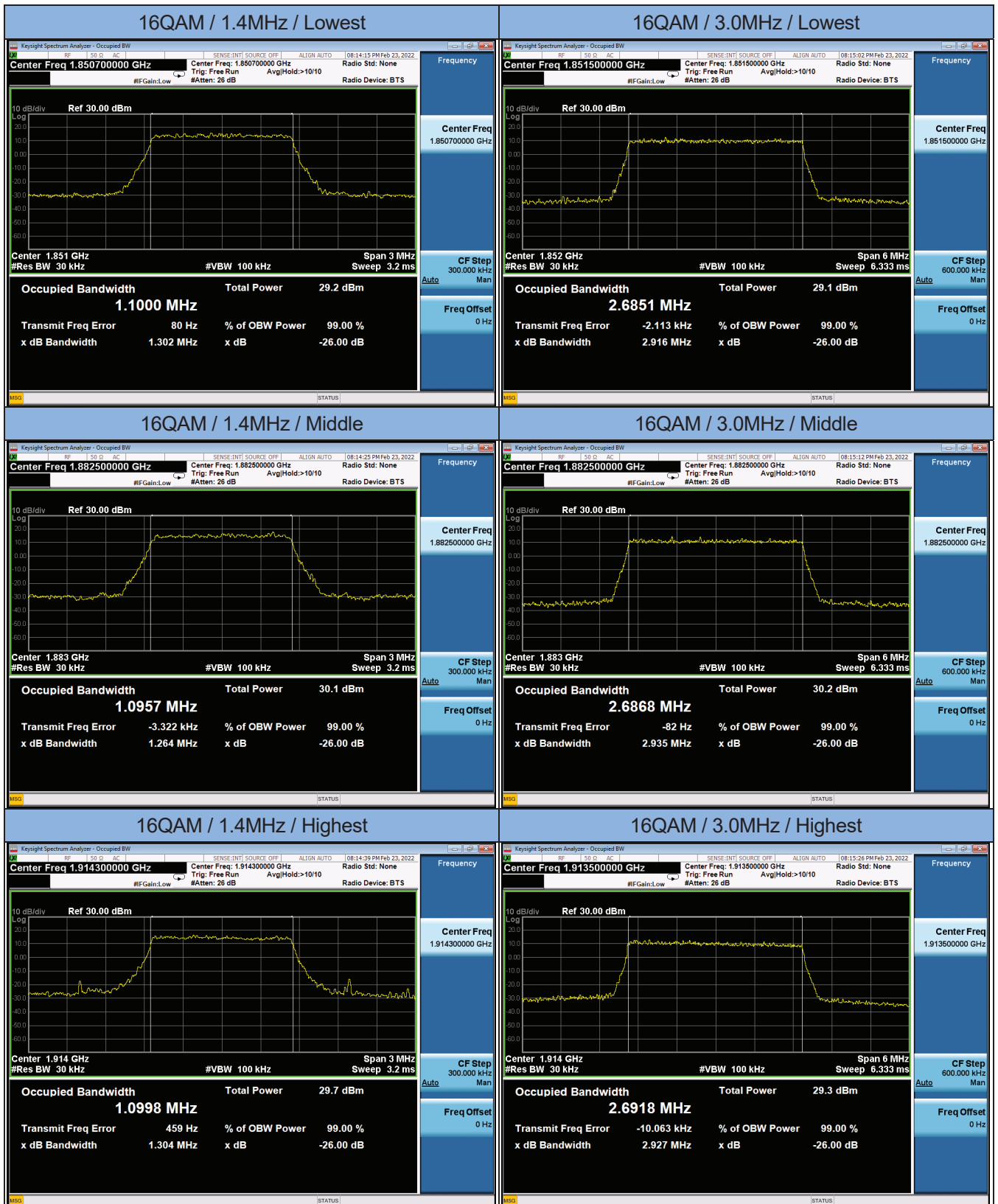
4. Occupied Bandwidth

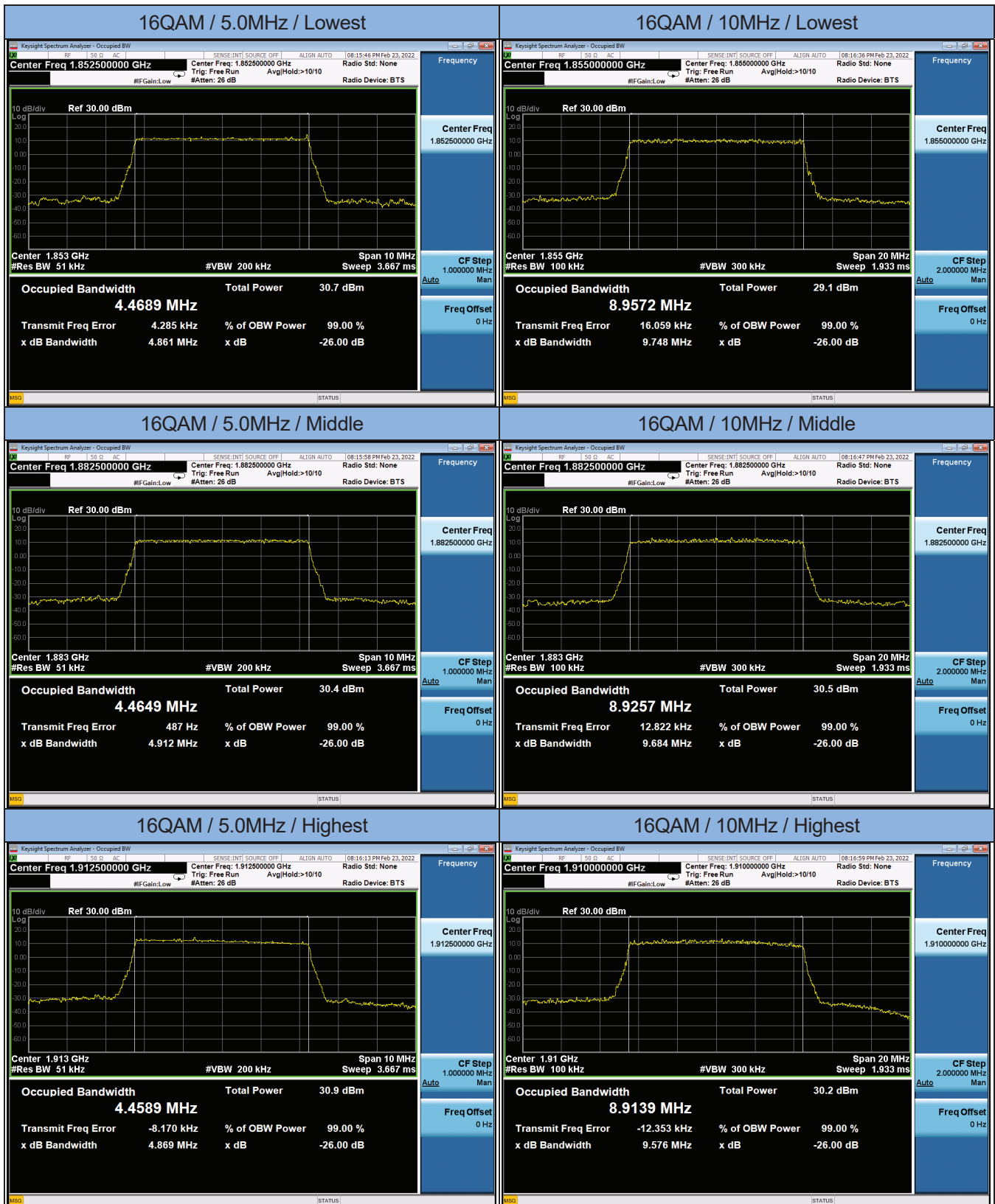
BW (MHz)	Modulation	Channel	RB Allocation		26dB BW (MHz)	99% OBW (MHz)	Limit (dBm)	Result
			Size	Offset				
1.4	QPSK	Low	Full	0	1.291	1.1000	---	Pass
		Mid	Full	0	1.319	1.1060		Pass
		High	Full	0	1.261	1.0954		Pass
	16QAM	Low	Full	0	1.302	1.1000	---	Pass
		Mid	Full	0	1.264	1.0957		Pass
		High	Full	0	1.304	1.0998		Pass
3.0	QPSK	Low	Full	0	2.915	2.6874	---	Pass
		Mid	Full	0	2.921	2.6913		Pass
		High	Full	0	2.897	2.6823		Pass
	16QAM	Low	Full	0	2.916	2.6851	---	Pass
		Mid	Full	0	2.935	2.6868		Pass
		High	Full	0	2.927	2.6918		Pass
5.0	QPSK	Low	Full	0	4.898	4.4781	---	Pass
		Mid	Full	0	4.853	4.4673		Pass
		High	Full	0	4.870	4.4548		Pass
	16QAM	Low	Full	0	4.861	4.4689	---	Pass
		Mid	Full	0	4.912	4.4649		Pass
		High	Full	0	4.869	4.4589		Pass
10	QPSK	Low	Full	0	9.600	8.9251	---	Pass
		Mid	Full	0	9.686	8.9391		Pass
		High	Full	0	9.551	8.9145		Pass
	16QAM	Low	Full	0	9.748	8.9572	---	Pass
		Mid	Full	0	9.684	8.9257		Pass
		High	Full	0	9.576	8.9139		Pass
15	QPSK	Low	Full	0	14.700	13.442	---	Pass
		Mid	Full	0	14.550	13.421		Pass
		High	Full	0	14.580	13.376		Pass
	16QAM	Low	Full	0	14.600	13.459	---	Pass
		Mid	Full	0	14.700	13.426		Pass
		High	Full	0	14.570	13.383		Pass
20	QPSK	Low	Full	0	19.490	17.850	---	Pass
		Mid	Full	0	19.130	17.894		Pass
		High	Full	0	19.240	17.806		Pass
	16QAM	Low	Full	0	19.300	17.883	---	Pass
		Mid	Full	0	19.160	17.796		Pass
		High	Full	0	19.290	17.787		Pass

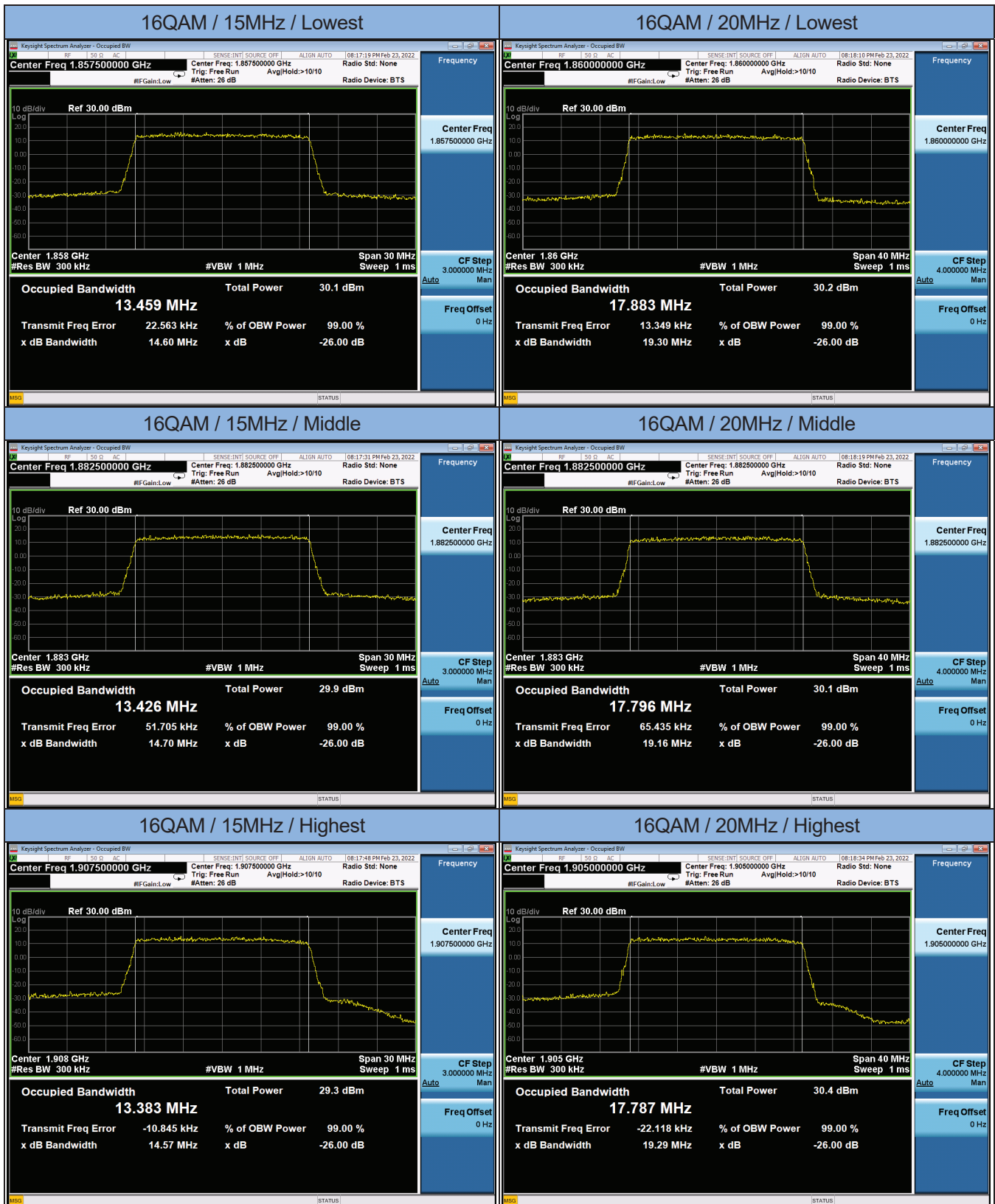




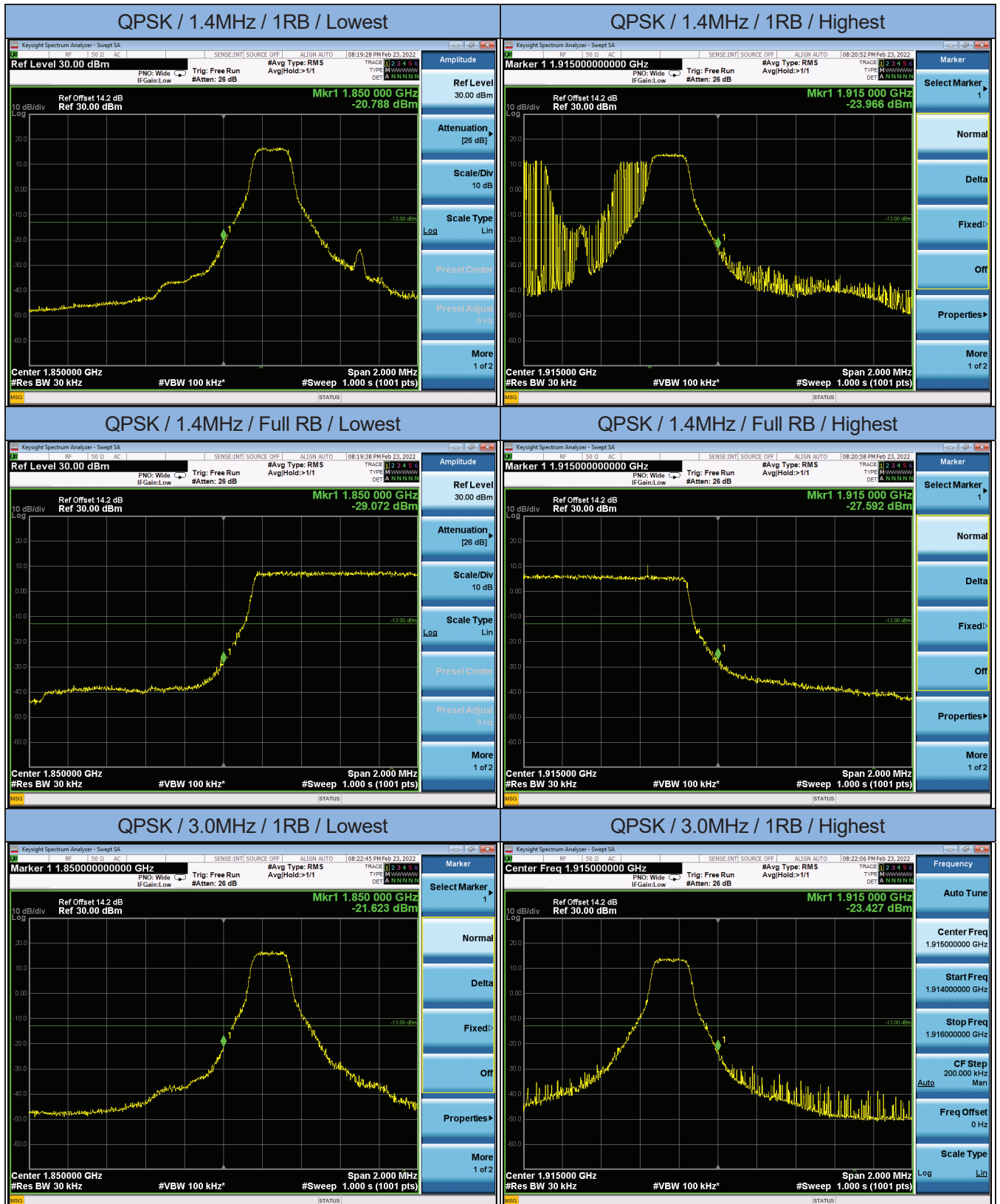


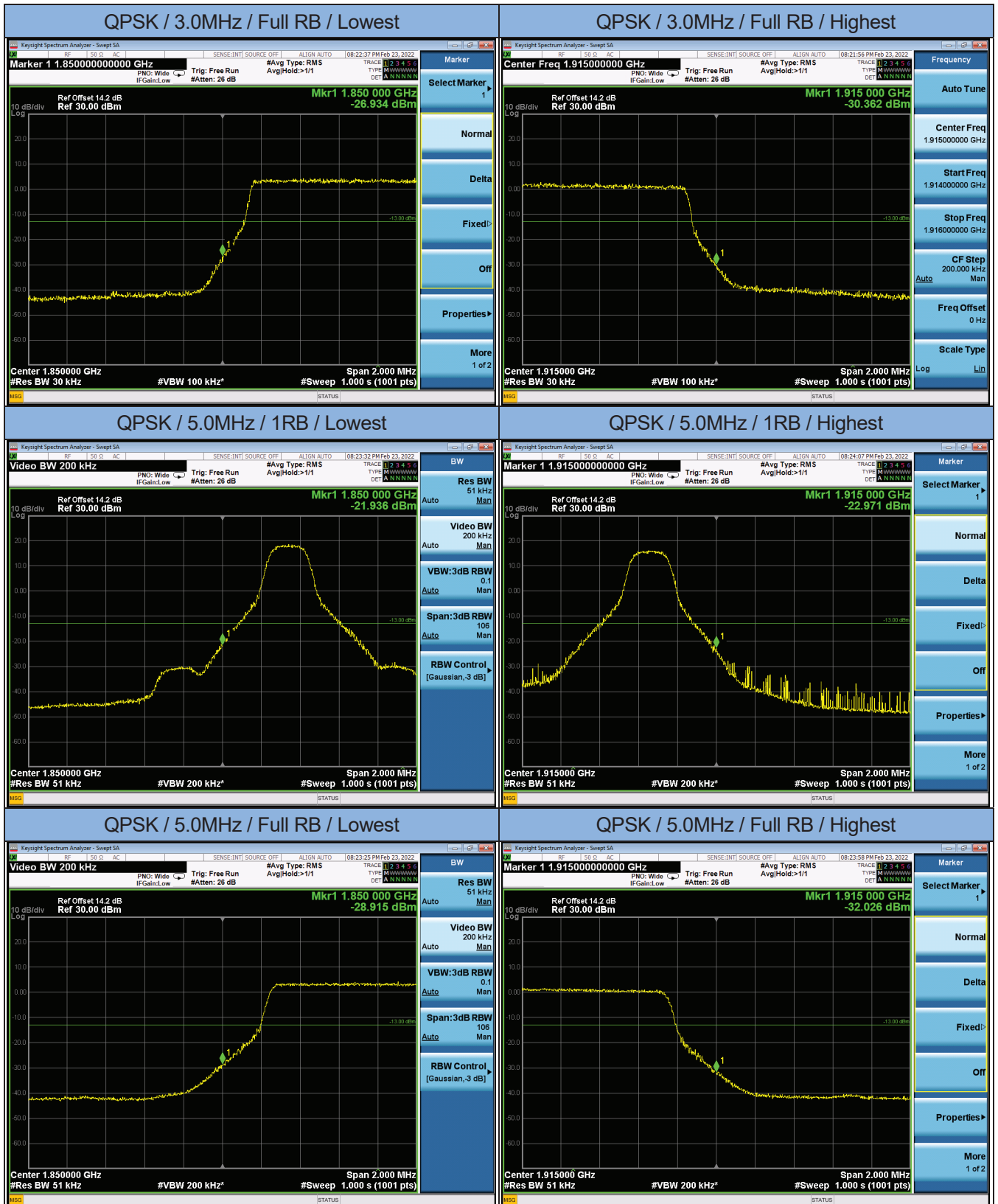


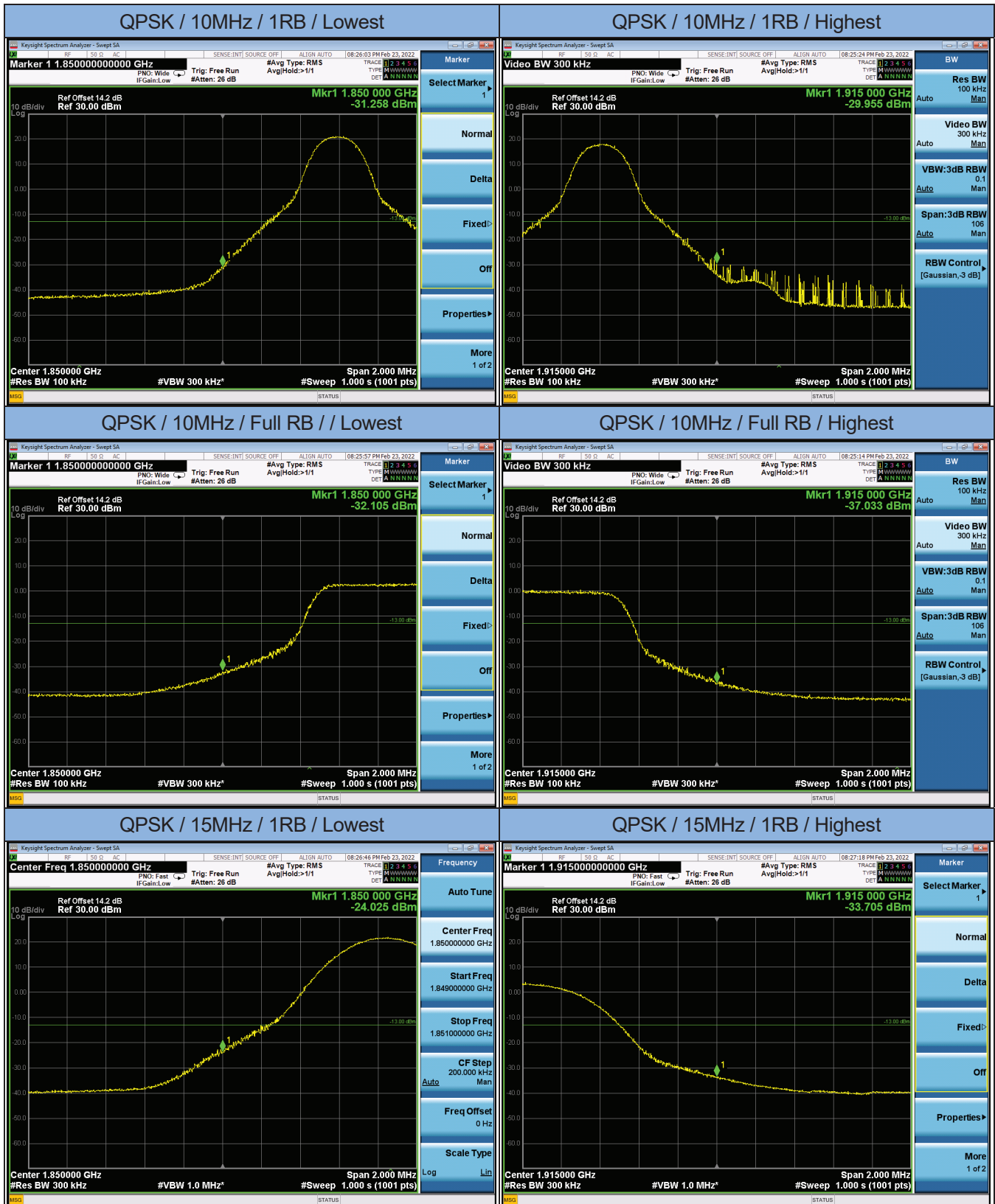


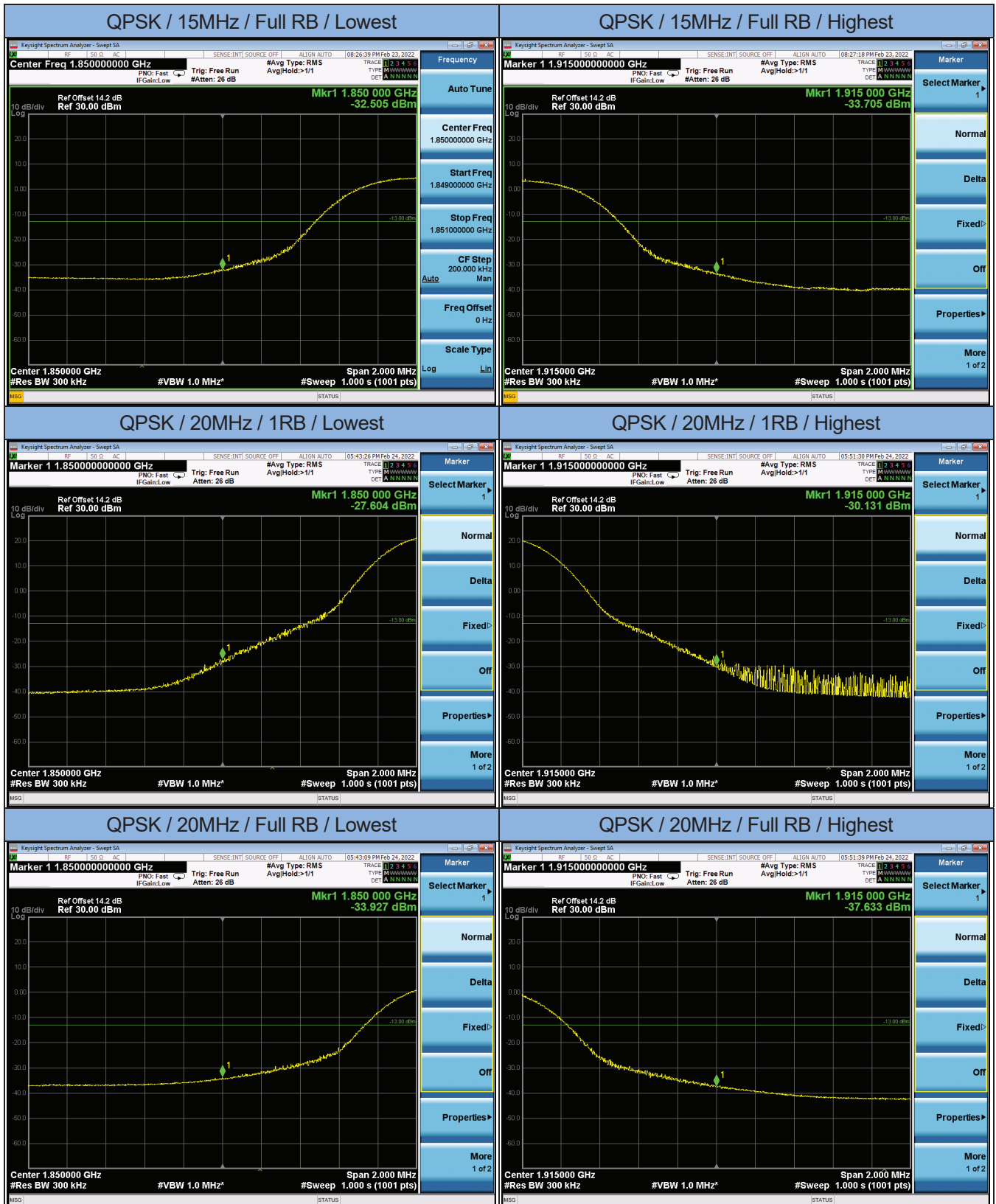


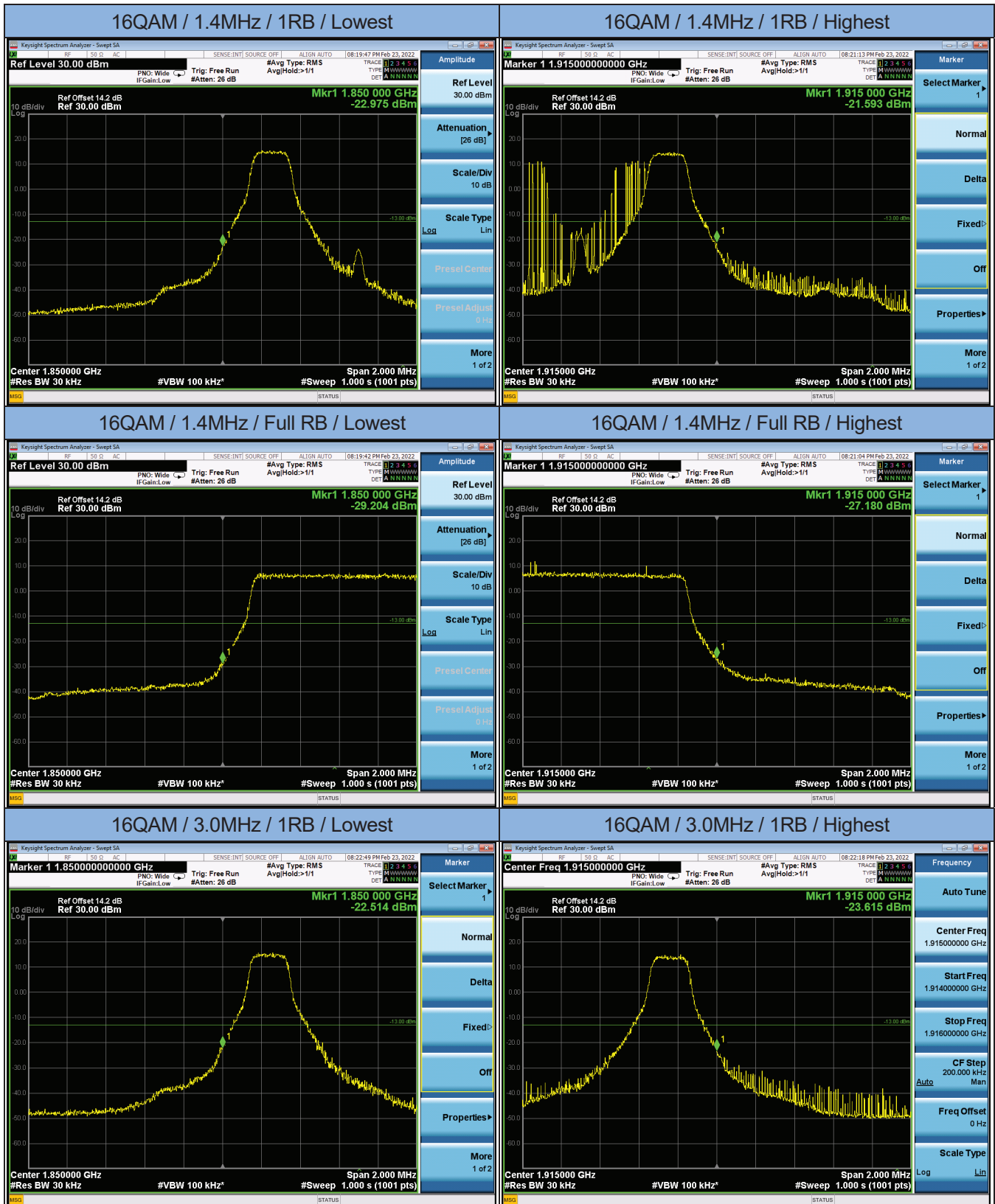
5. Band Edge

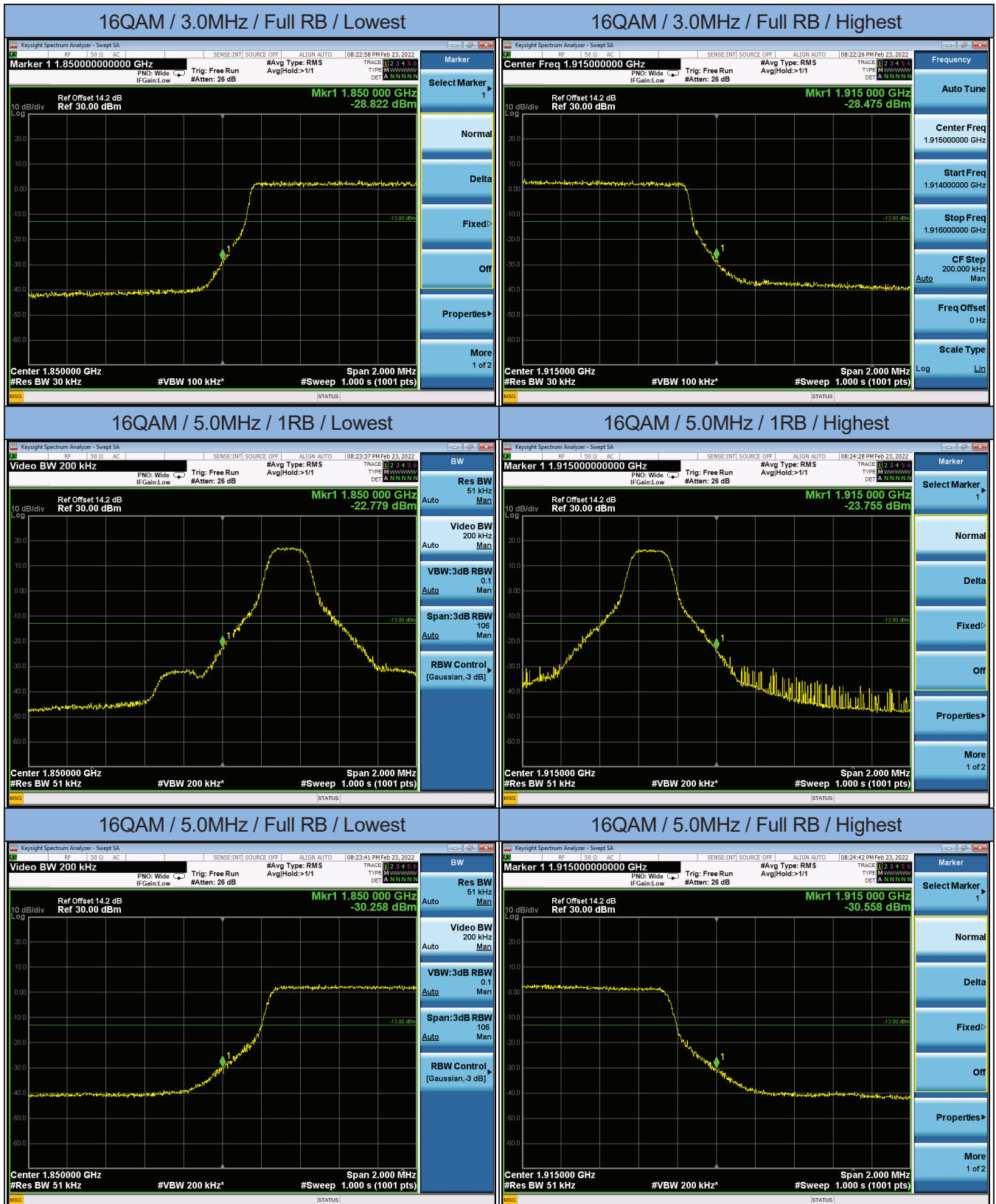


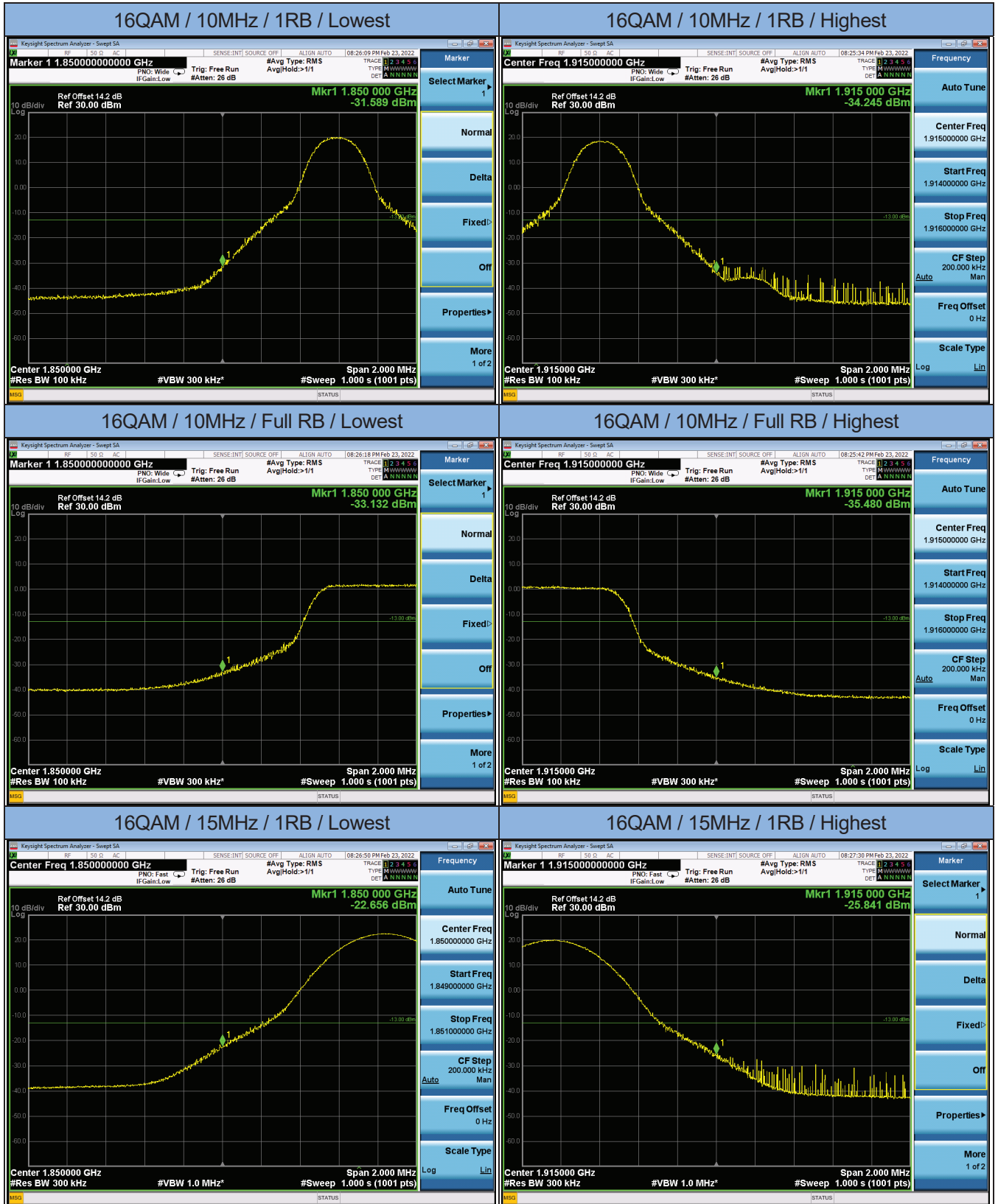


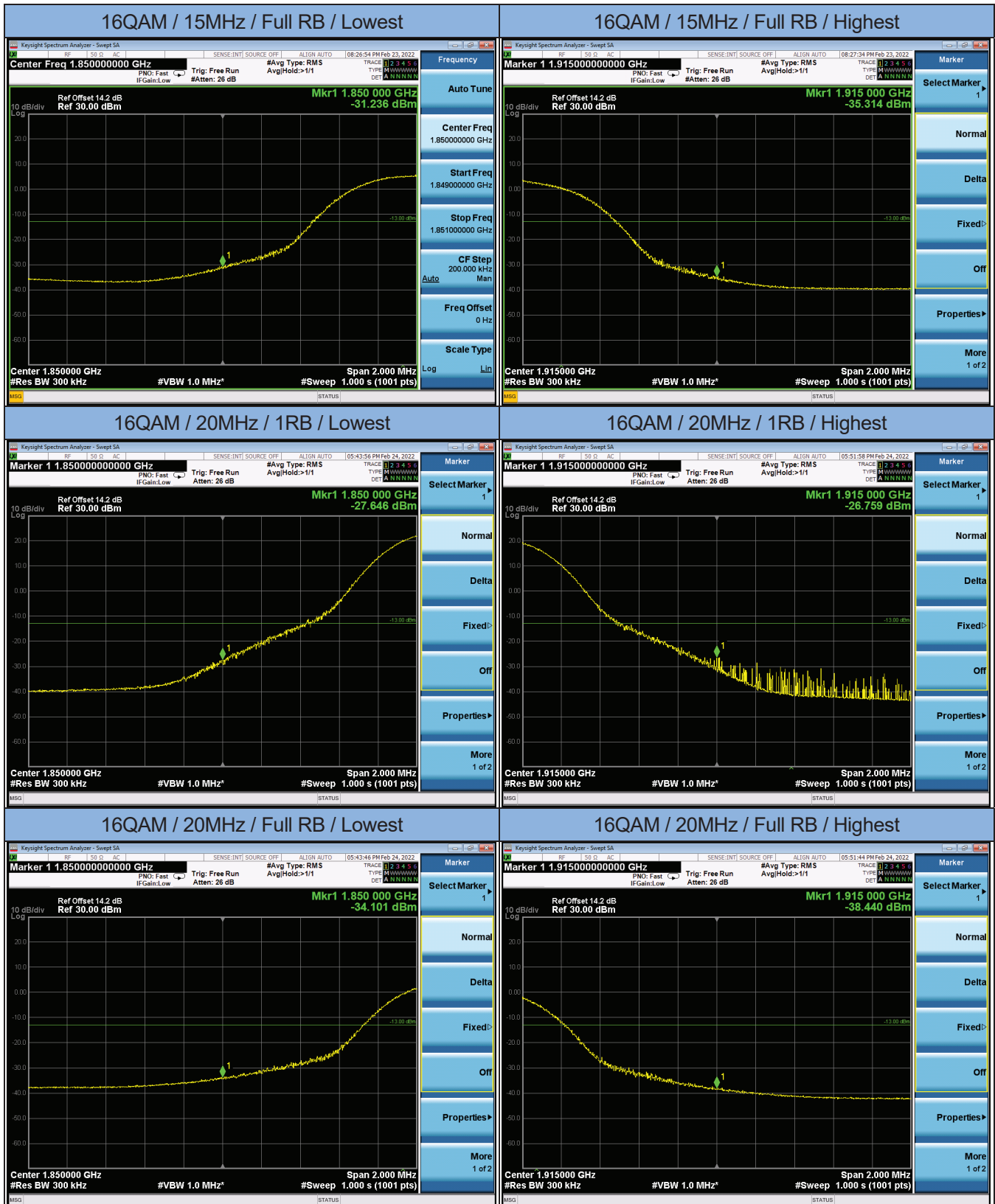




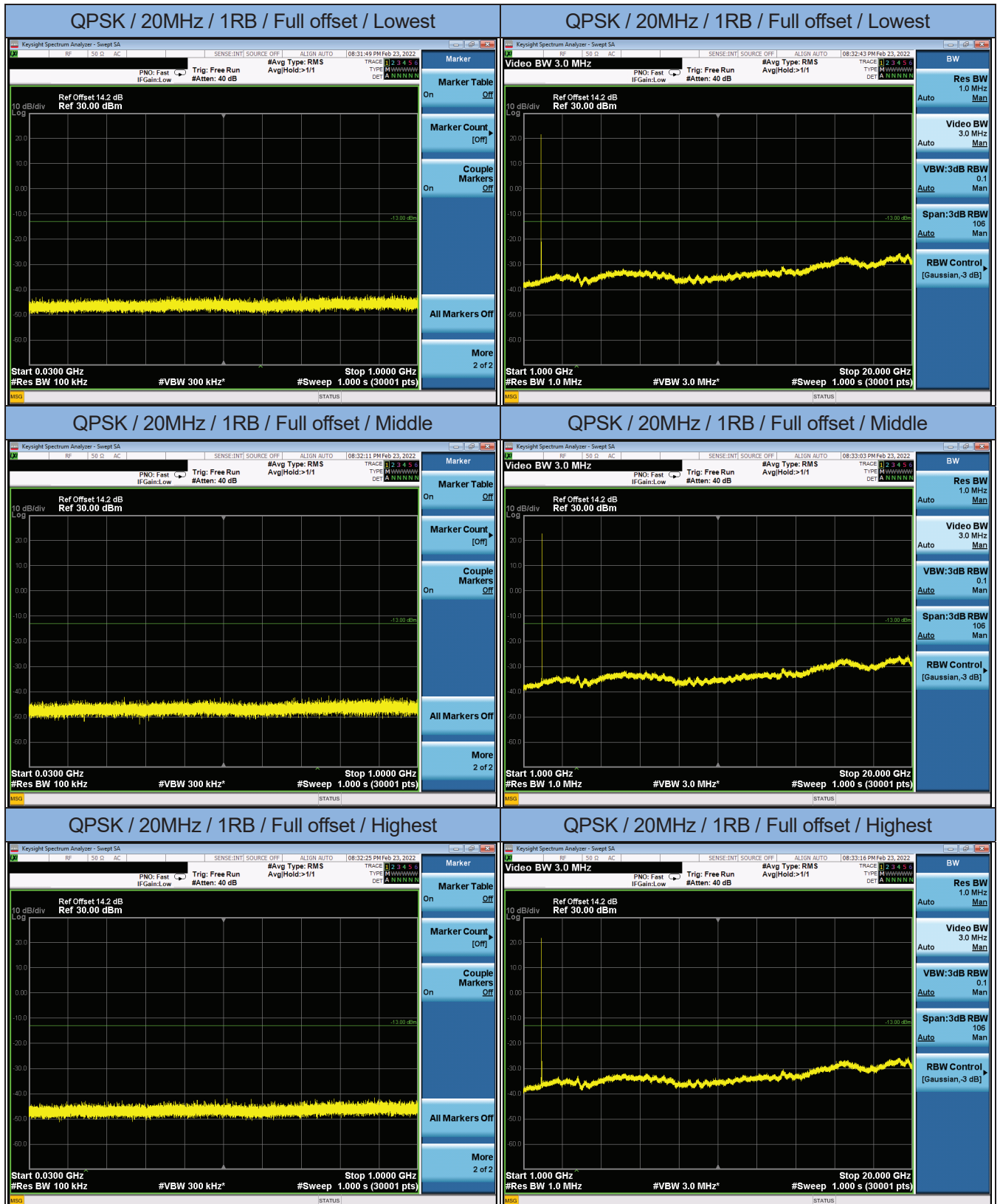


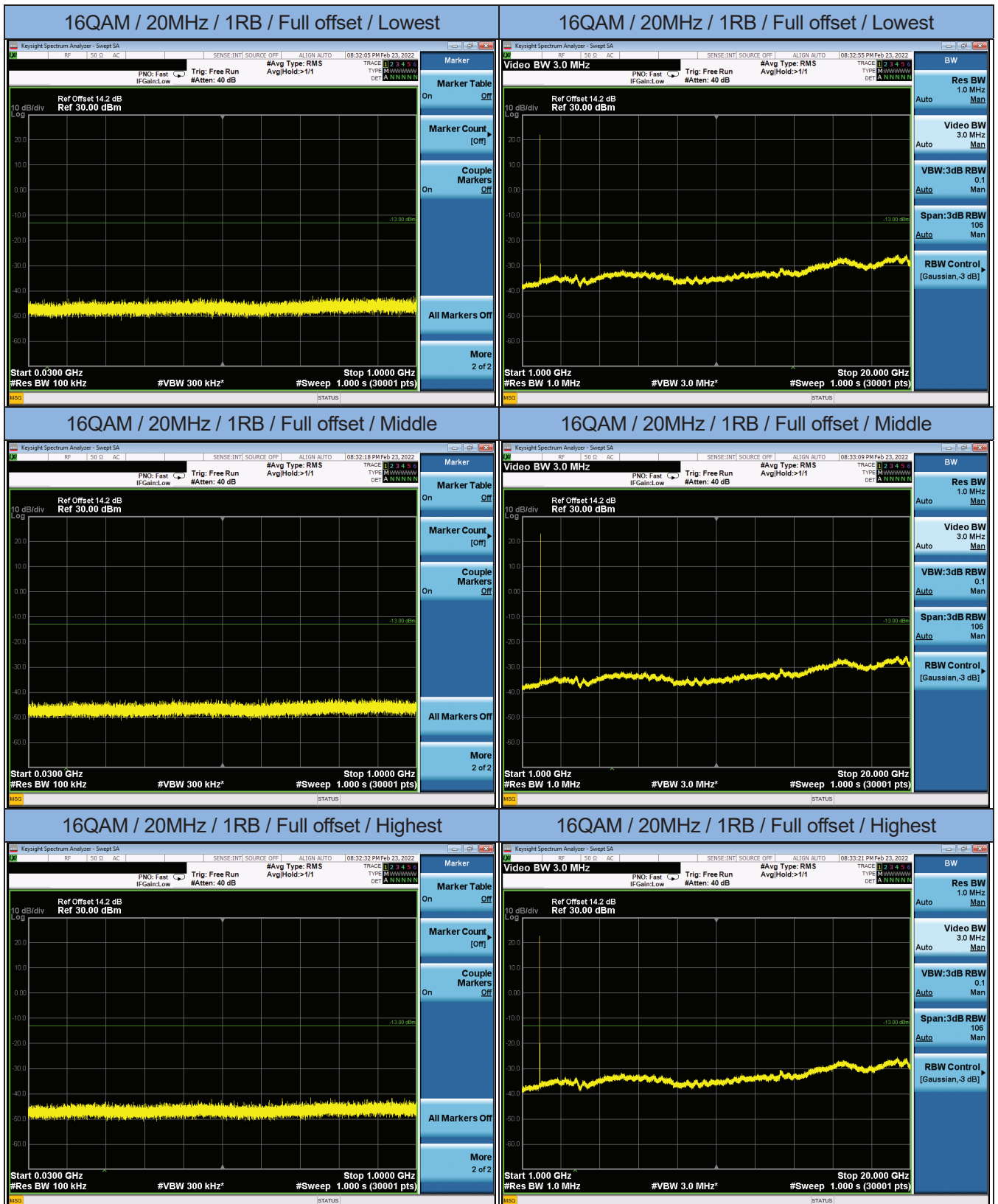






6. Transmitter Spurious Emissions





7. Field Strength of Spurious Radiation

LTE Band 25 / 20M / QPSK					
Channel	Frequency (MHz)	Polarization (H/V)	Meas. Level (dBm)	Limit (dBm)	Margin (dBm)
Lowest	652.57	H	-53.18	-13	-40.18
	3720	H	-46.85	-13	-33.85
	5580	H	-34.23	-13	-21.23
	7440	H	-48.67	-13	-35.67
	654.76	V	-65.62	-13	-52.62
	3720	V	-47.23	-13	-34.23
	5580	V	-36.01	-13	-23.01
	7440	V	-49.20	-13	-36.20
Middle	652.53	H	-53.86	-13	-40.86
	3760	H	-47.21	-13	-34.21
	5640	H	-35.02	-13	-22.02
	7520	H	-48.95	-13	-35.95
	654.30	V	-64.76	-13	-51.76
	3760	V	-47.89	-13	-34.89
	5640	V	-36.18	-13	-23.18
	7520	V	-49.97	-13	-36.97
Highest	652.53	H	-53.12	-13	-40.12
	3810	H	-46.12	-13	-33.12
	5715	H	-34.40	-13	-21.40
	7620	H	-48.23	-13	-35.23
	654.40	V	-65.26	-13	-52.26
	3810	V	-47.79	-13	-34.79
	5715	V	-36.54	-13	-23.54
	7620	V	-49.16	-13	-36.16

Note: Other emissions are more than 20dB below the limits.

8. Frequency Stability

LTE Band 25 / 20M / QPSK / Full RB					
Middle channel, $f_o = 1880.0$ MHz					
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (dBm)	Result
-30	12	-0.7	-0.000372	±2.5	PASS
-20		-0.5	-0.000266	±2.5	PASS
-10		0.9	0.000479	±2.5	PASS
0		0.9	0.000479	±2.5	PASS
20		1.2	0.000638	±2.5	PASS
30		-1.4	-0.000745	±2.5	PASS
40		2.0	0.001064	±2.5	PASS
50		-1.7	-0.000904	±2.5	PASS
20	10.8	1.2	0.000638	±2.5	PASS
	52.8	-1.8	-0.000957	±2.5	PASS

---End---