

Appendix I

Test Results of LTE Band 13

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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	☒ 5 ☒ 10	Sean
EIRP/ERP	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☒ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Peak-to-Average Ratio	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 10	Sean
Occupied Bandwidth	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☐ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Conducted Band Edge	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Spurious Emission at Antenna Terminal	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☐ Full	☒ QPSK ☒ 16QAM	☒ 10	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	☒ 10	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.						

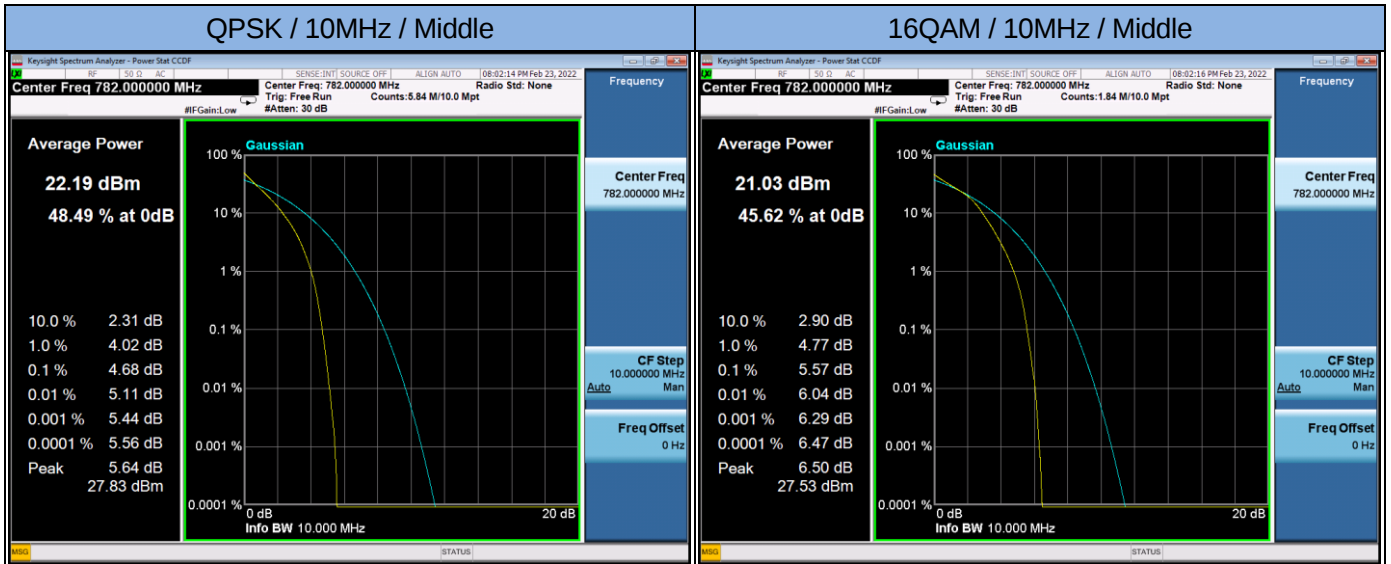
2. Conducted Output Power and EIRP

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	ERP (dBm)	Limit (dBm)	Result
			Size	Offset					
5.0	QPSK	Low	1	0	22.97	-1.18	19.64	34.77	Pass
				12	23.05	-1.18	19.72		Pass
				24	22.69	-1.18	19.36		Pass
			12	0	22.75	-1.18	19.42		Pass
				7	22.49	-1.18	19.16		Pass
				13	22.18	-1.18	18.85		Pass
			25	0	22.96	-1.18	19.63		Pass
		Mid	1	0	22.34	-1.18	19.01		Pass
				12	22.67	-1.18	19.34		Pass
				24	23.94	-1.18	20.61		Pass
			12	0	22.12	-1.18	18.79		Pass
				7	22.88	-1.18	19.55		Pass
				13	22.34	-1.18	19.01		Pass
			25	0	22.69	-1.18	19.36		Pass
		High	1	0	23.43	-1.18	20.10		Pass
				12	22.97	-1.18	19.64		Pass
				24	23.15	-1.18	19.82		Pass
			12	0	22.89	-1.18	19.56		Pass
				7	22.96	-1.18	19.63		Pass
				13	22.30	-1.18	18.97		Pass
			25	0	22.14	-1.18	18.81		Pass
	16QAM	Low	1	0	23.09	-1.18	19.76	34.77	Pass
				12	22.48	-1.18	19.15		Pass
				24	22.76	-1.18	19.43		Pass
			12	0	22.59	-1.18	19.26		Pass
				7	23.07	-1.18	19.74		Pass
				13	22.96	-1.18	19.63		Pass
			25	0	22.80	-1.18	19.47		Pass
		Mid	1	0	22.66	-1.18	19.33		Pass
				12	22.17	-1.18	18.84		Pass
				24	22.53	-1.18	19.20		Pass
			12	0	22.72	-1.18	19.39		Pass
				7	22.91	-1.18	19.58		Pass
				13	22.84	-1.18	19.51		Pass
			25	0	22.36	-1.18	19.03		Pass
		High	1	0	22.78	-1.18	19.45		Pass
				12	22.45	-1.18	19.12		Pass
				24	22.61	-1.18	19.28		Pass
			12	0	22.58	-1.18	19.25		Pass
				7	22.93	-1.18	19.60		Pass
				13	22.31	-1.18	18.98		Pass
			25	0	22.33	-1.18	19.00		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	ERP (dBm)	Limit (dBm)	Result
			Size	Offset					
10	QPSK	Mid	1	0	22.17	-1.18	18.84	34.77	Pass
				25	22.60	-1.18	19.27		Pass
				49	22.84	-1.18	19.51		Pass
			25	0	22.75	-1.18	19.42		Pass
				12	22.62	-1.18	19.29		Pass
				25	22.73	-1.18	19.40		Pass
			50	0	22.90	-1.18	19.57		Pass
	16QAM	Mid	1	0	22.46	-1.18	19.13		Pass
				25	22.41	-1.18	19.08		Pass
				49	22.63	-1.18	19.30		Pass
			25	0	21.47	-1.18	18.14		Pass
				12	21.64	-1.18	18.31		Pass
				25	21.90	-1.18	18.57		Pass
			50	0	21.98	-1.18	18.65		Pass

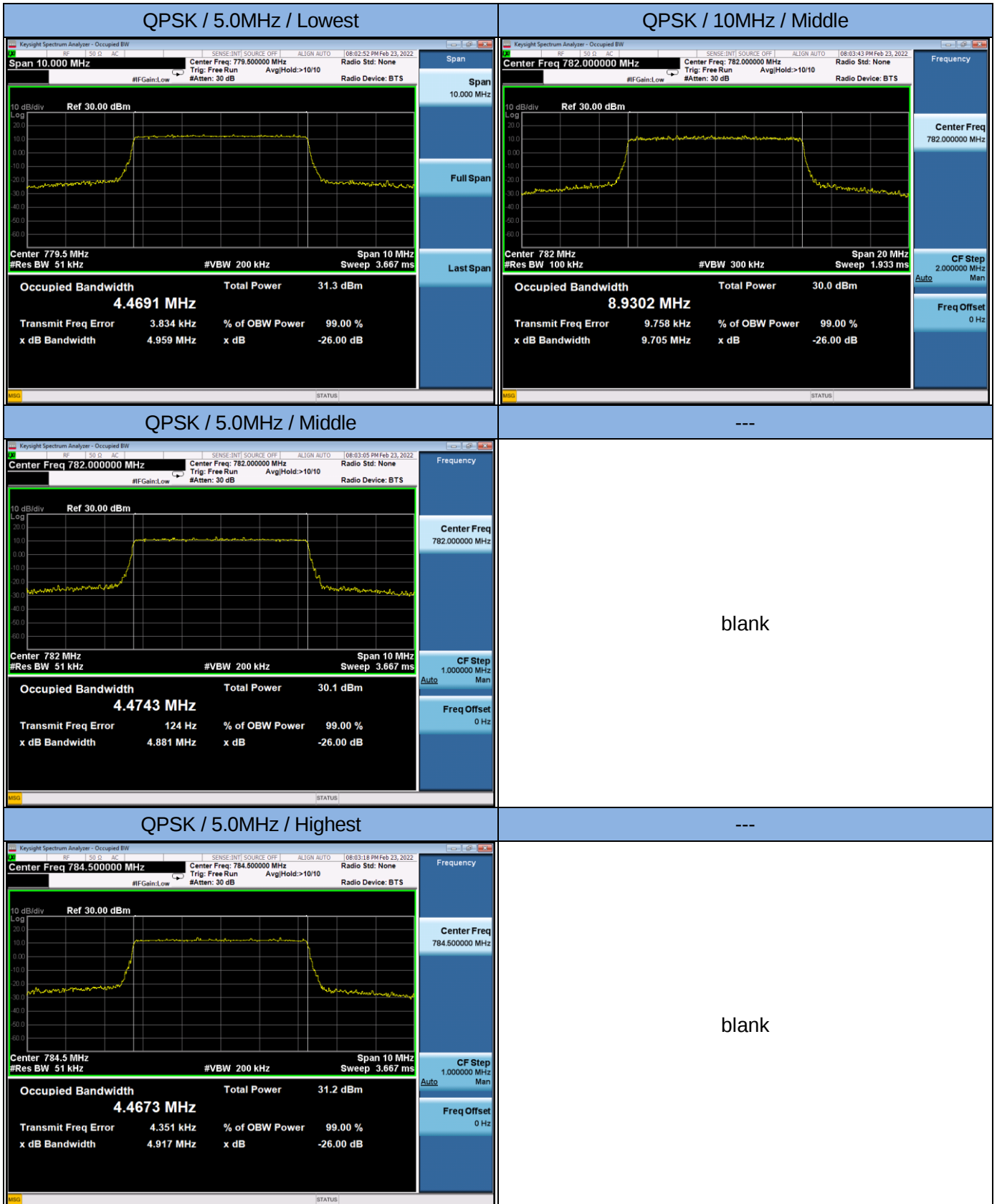
3. Peak-to-Average Ratio

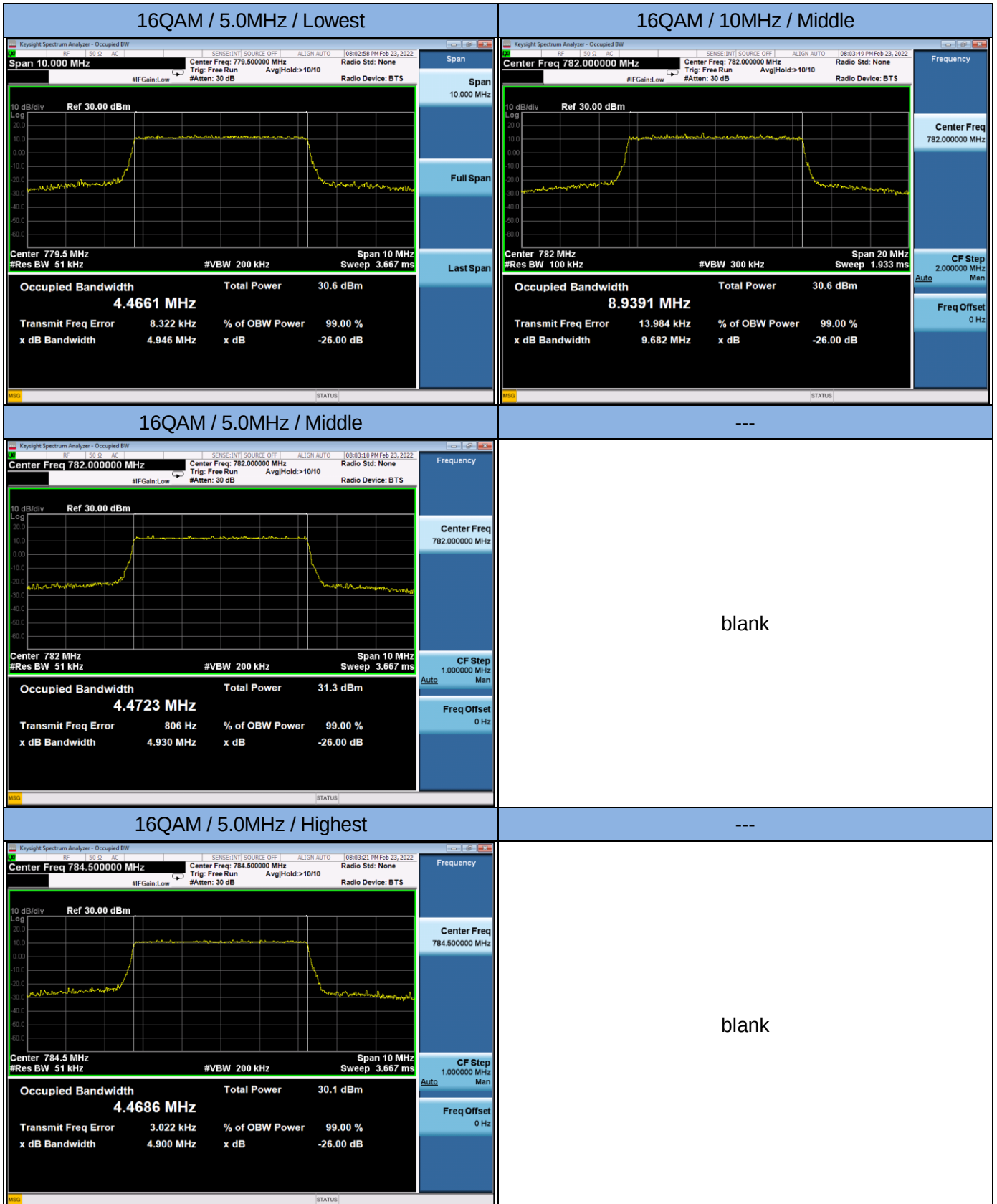
BW (MHz)	Modulation	Channel	RB Allocation		Peak-to-Average Ratio (dB)	Limit (dBm)	Result
			Size	Offset			
10	QPSK	Mid	Full	0	4.68	13.0	Pass
	16QAM	Mid	Full	0	5.57	13.0	Pass



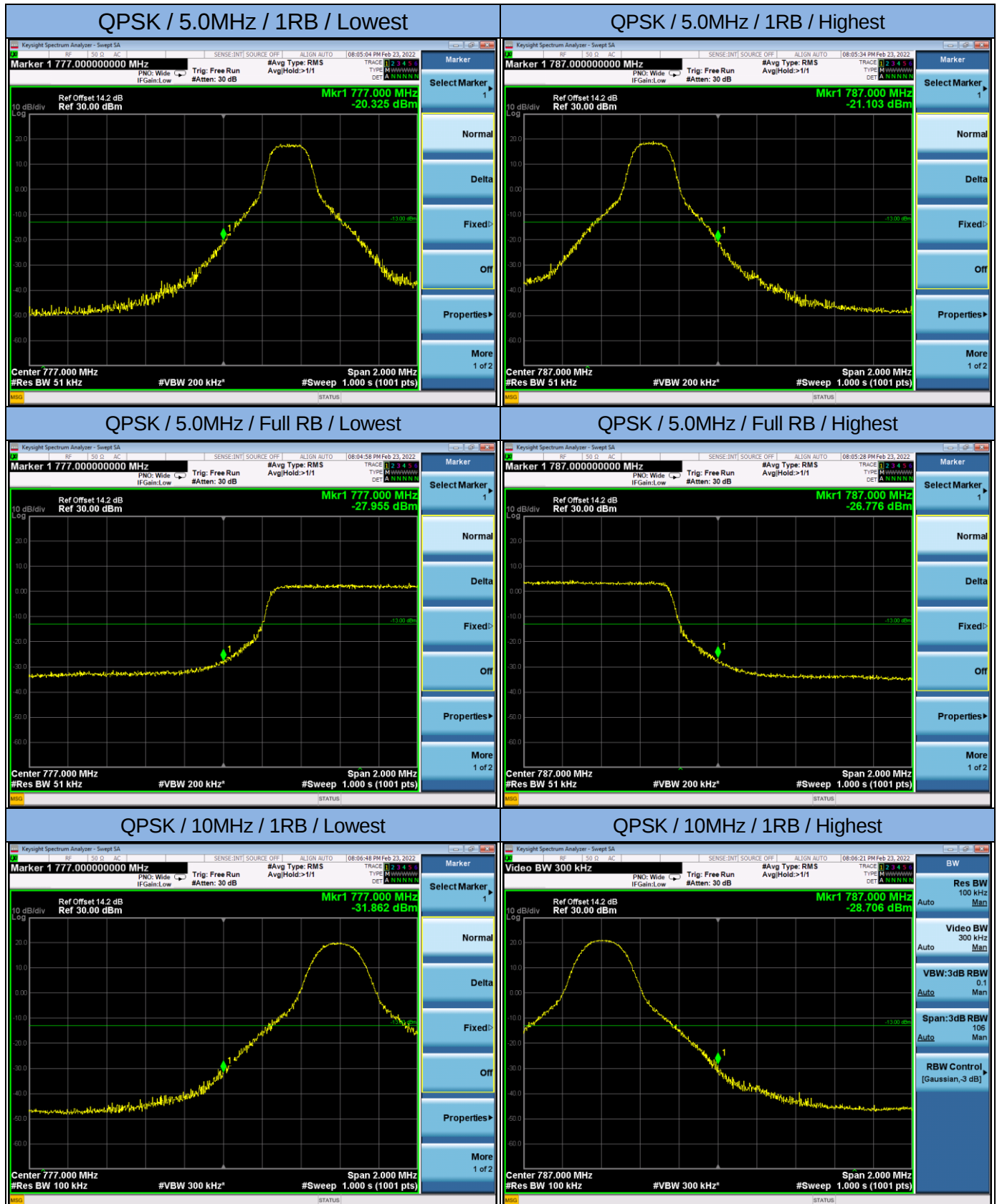
4. Occupied Bandwidth

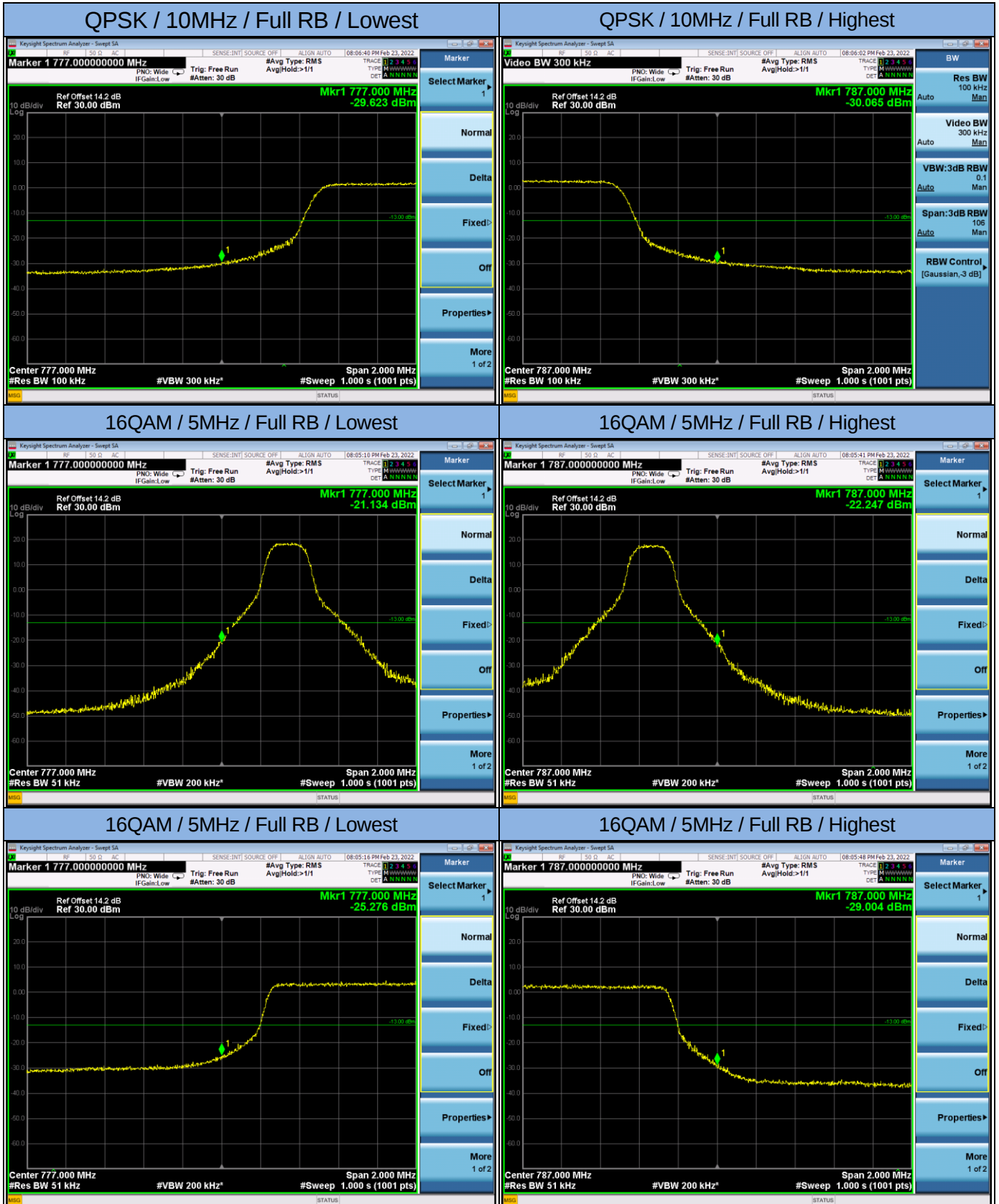
BW (MHz)	Modulation	Channel	RB Allocation		26dB BW (MHz)	99% OBW (MHz)	Limit (dBm)	Result
			Size	Offset				
5.0	QPSK	Low	Full	0	4.959	4.4691	---	Pass
		Mid	Full	0	4.881	4.4743		Pass
		High	Full	0	4.917	4.4673		Pass
	16QAM	Low	Full	0	4.946	4.4661	---	Pass
		Mid	Full	0	4.930	4.4723		Pass
		High	Full	0	4.900	4.4686		Pass
10	QPSK	Mid	Full	0	9.705	8.9302	---	Pass
	16QAM	Mid	Full	0	9.682	8.9391	---	Pass

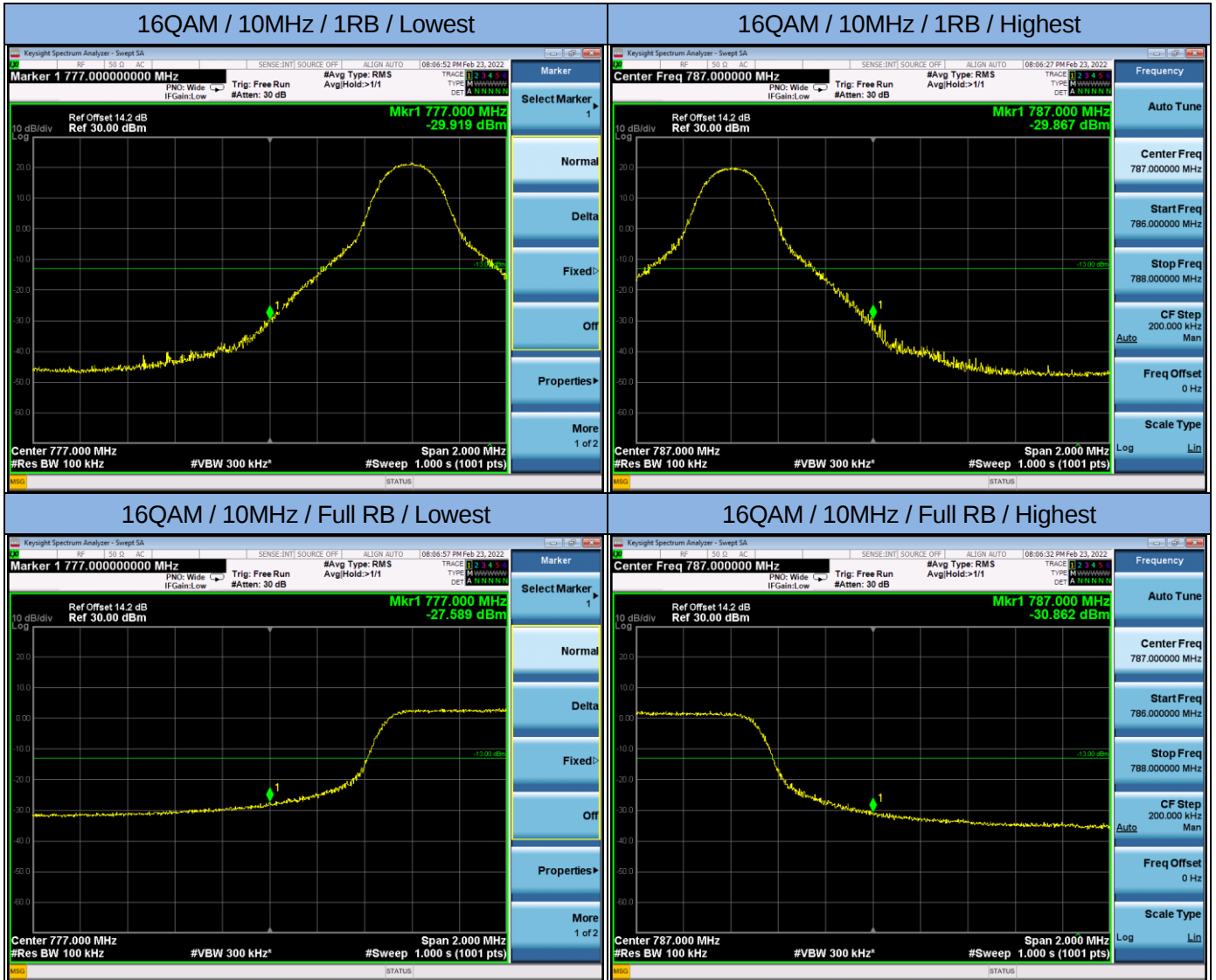




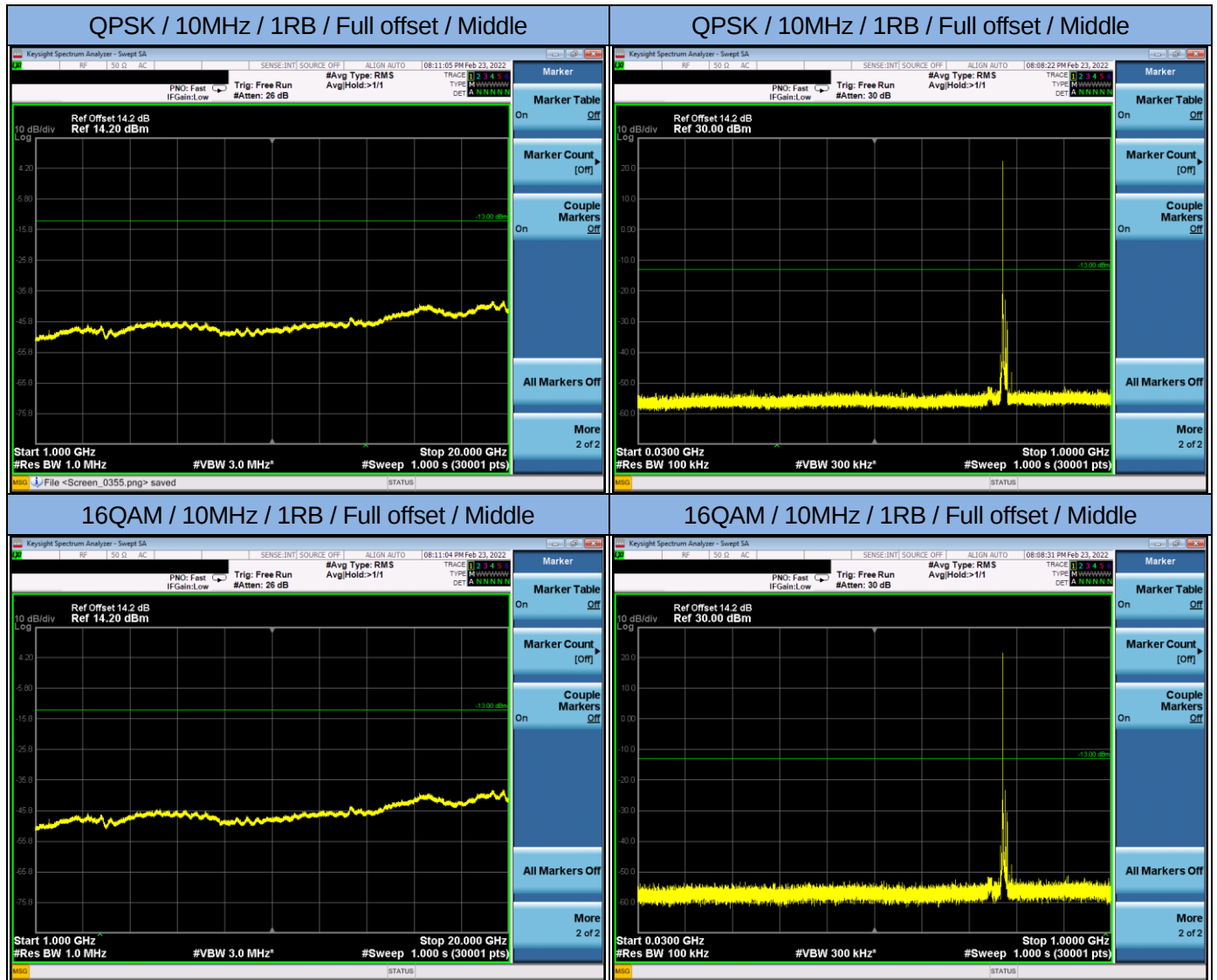
5. Band Edge







6. Transmitter Spurious Emissions



7. Field Strength of Spurious Radiation

LTE Band 13 / 10M / QPSK					
Channel	Frequency (MHz)	Polarization (H/V)	Meas. Level (dBm)	Limit (dBm)	Margin (dBm)
Middle	652.34	H	-53.47	-13	-40.47
	1564	H	-46.23	-13	-33.23
	2346	H	-35.64	-13	-22.64
	3128	H	-51.90	-13	-38.90
	654.56	V	-65.35	-13	-52.35
	1564	V	-47.61	-13	-34.61
	2346	V	-36.66	-13	-23.66
	3128	V	-52.97	-13	-39.97

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

8. Frequency Stability

LTE Band 13 / 10M / QPSK / Full RB					
Middle channel, $f_0 = 782.0$ MHz					
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (dBm)	Result
-30	12	1.5	0.001918	±2.5	PASS
-20		-0.9	-0.001151	±2.5	PASS
-10		1.7	0.002174	±2.5	PASS
0		1.1	0.001407	±2.5	PASS
20		-1.6	-0.002046	±2.5	PASS
30		0.7	0.000895	±2.5	PASS
40		0.6	0.000767	±2.5	PASS
50		-1.4	-0.001790	±2.5	PASS
20	10.8	-1.0	-0.001279	±2.5	PASS
	52.8	-0.8	-0.001023	±2.5	PASS

---End---