

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	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 10	Sean
EIRP/ERP	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 10	Sean
Peak-to-Average Ratio	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 10	Sean
Occupied Bandwidth	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input type="checkbox"/> 1 <input type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 10	Sean
Conducted Band Edge	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 10	Sean
Spurious Emission at Antenna Terminal	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> Half <input type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 10	Sean
Field Strength of Spurious Radiation	<input checked="" type="checkbox"/> N.T / N.V.	<input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> worst case			Sean
Frequency Stability	<input checked="" type="checkbox"/> N.T / N.V. <input checked="" type="checkbox"/> L.T / L.V. <input checked="" type="checkbox"/> L.T / H.V. <input checked="" type="checkbox"/> H.T / L.V. <input checked="" type="checkbox"/> H.T / H.V.	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Mid <input type="checkbox"/> High	<input type="checkbox"/> 1 <input type="checkbox"/> Half <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> QPSK <input type="checkbox"/> 16QAM	<input checked="" type="checkbox"/> 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.

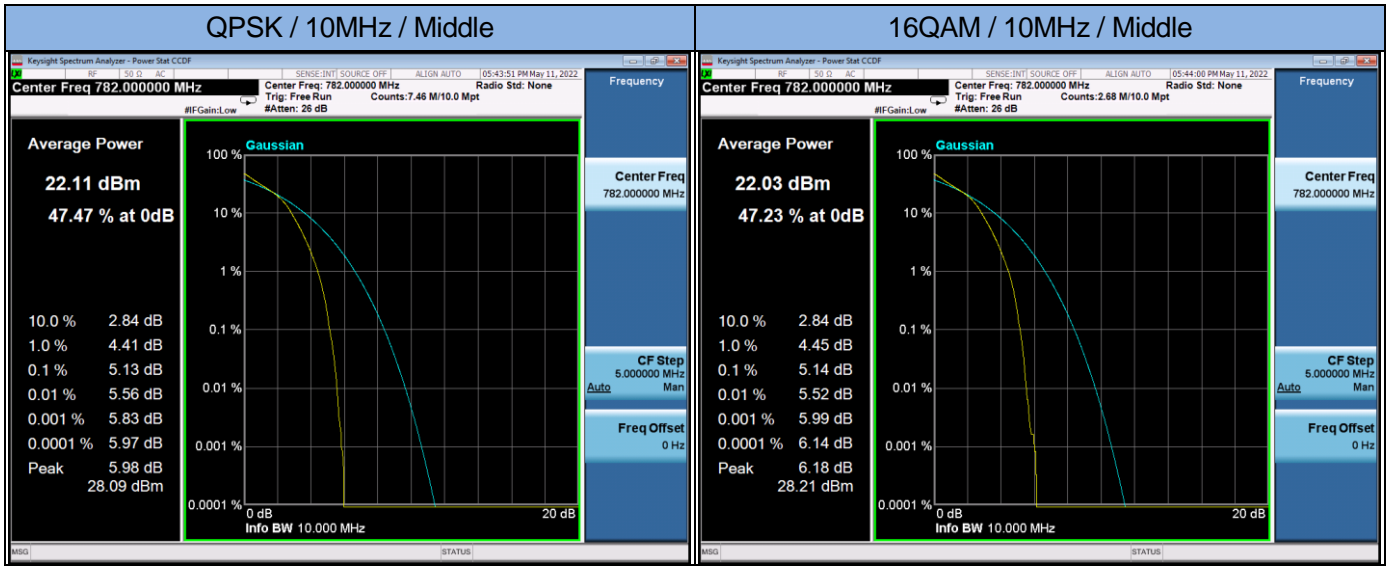
2. Conducted Output Power and EIRP

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	24.16	-1.18	20.83	34.77	Pass	
				12	24.30	-1.18	20.97		Pass	
				24	24.04	-1.18	20.71		Pass	
			12	0	23.27	-1.18	19.94		Pass	
				7	23.28	-1.18	19.95		Pass	
				13	23.31	-1.18	19.98		Pass	
			25	0	23.27	-1.18	19.94		Pass	
			Mid	1	0	24.29	-1.18		20.96	Pass
					12	24.46	-1.18		21.13	Pass
		24			24.52	-1.18	21.19		Pass	
		12		0	23.50	-1.18	20.17		Pass	
				7	23.46	-1.18	20.13		Pass	
				13	23.39	-1.18	20.06		Pass	
		25		0	23.35	-1.18	20.02		Pass	
		High		1	0	24.34	-1.18		21.01	Pass
					12	24.48	-1.18		21.15	Pass
			24		24.43	-1.18	21.10		Pass	
			12	0	23.53	-1.18	20.20		Pass	
	7			23.55	-1.18	20.22	Pass			
	13			23.58	-1.18	20.25	Pass			
	25		0	23.64	-1.18	20.31	Pass			
	16QAM		Low	1	0	22.99	-1.18	19.66	34.77	Pass
					12	23.05	-1.18	19.72		Pass
		24			22.95	-1.18	19.62	Pass		
		12		0	22.35	-1.18	19.02	Pass		
				7	23.39	-1.18	20.06	Pass		
				13	22.41	-1.18	19.08	Pass		
		25		0	22.40	-1.18	19.07	Pass		
		Mid		1	0	23.53	-1.18	20.20		Pass
					12	23.90	-1.18	20.57		Pass
			24		24.01	-1.18	20.68	Pass		
			12	0	22.32	-1.18	18.99	Pass		
				7	22.33	-1.18	19.00	Pass		
				13	22.37	-1.18	19.04	Pass		
			25	0	22.54	-1.18	19.21	Pass		
			High	1	0	23.20	-1.18	19.87		Pass
12					23.29	-1.18	19.96	Pass		
24		23.16			-1.18	19.83	Pass			
12		0		22.45	-1.18	19.12	Pass			
	7	22.48		-1.18	19.15	Pass				
	13	22.51		-1.18	19.18	Pass				
25	0	22.48		-1.18	19.15	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	23.93	-1.18	20.60	34.77	Pass		
				25	24.34	-1.18	21.01		Pass		
				49	24.62	-1.18	21.29		Pass		
			25	0	23.53	-1.18	20.20		Pass		
				12	23.56	-1.18	20.23		Pass		
				25	23.56	-1.18	20.23		Pass		
			50	0	23.53	-1.18	20.20		Pass		
			16QAM	Mid	1	0	22.95		-1.18	19.62	Pass
						25	23.15		-1.18	19.82	Pass
	49	23.21				-1.18	19.88		Pass		
	25	0			22.59	-1.18	19.26		Pass		
		12			22.68	-1.18	19.35		Pass		
		25			22.73	-1.18	19.40		Pass		
	50	0	22.63	-1.18	19.30	Pass					

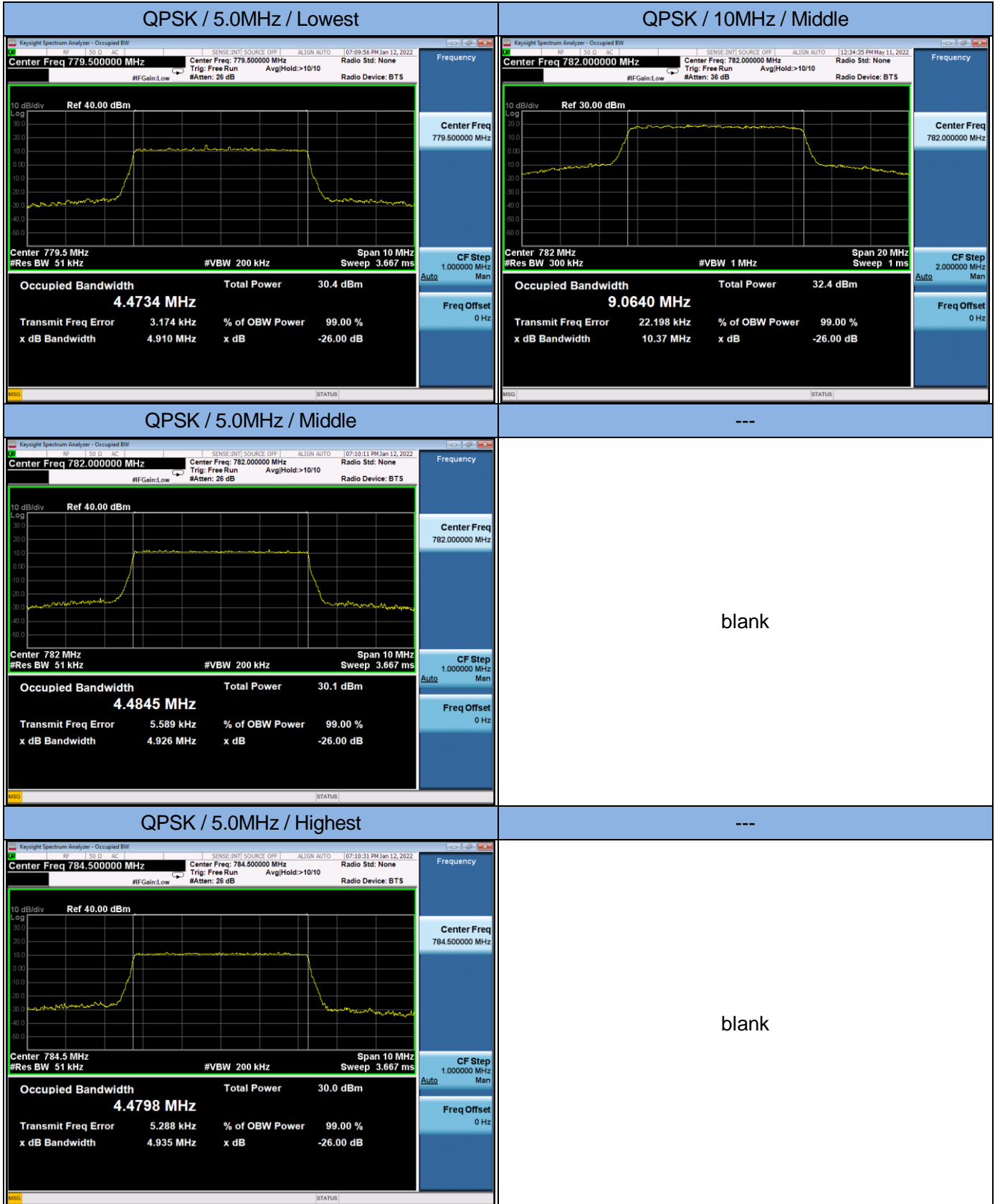
3. Peak-to-Average Ratio

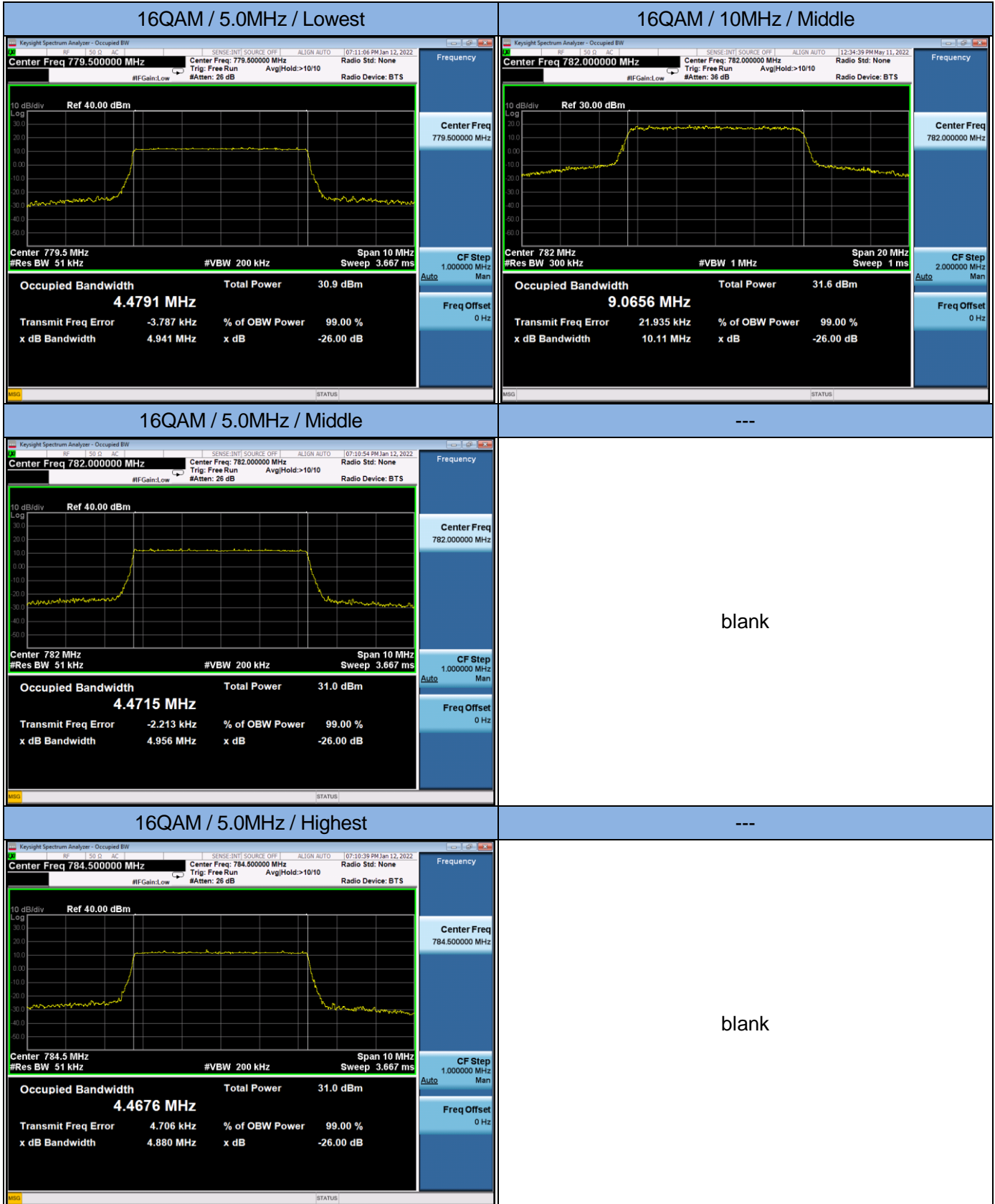
BW (MHz)	Modulation	Channel	RB Allocation		Peak-to-Average Ratio (dB)	Limit (dBm)	Result
			Size	Offset			
10	QPSK	Mid	Full	0	5.13	13.0	Pass
	16QAM	Mid	Full	0	5.14	13.0	Pass



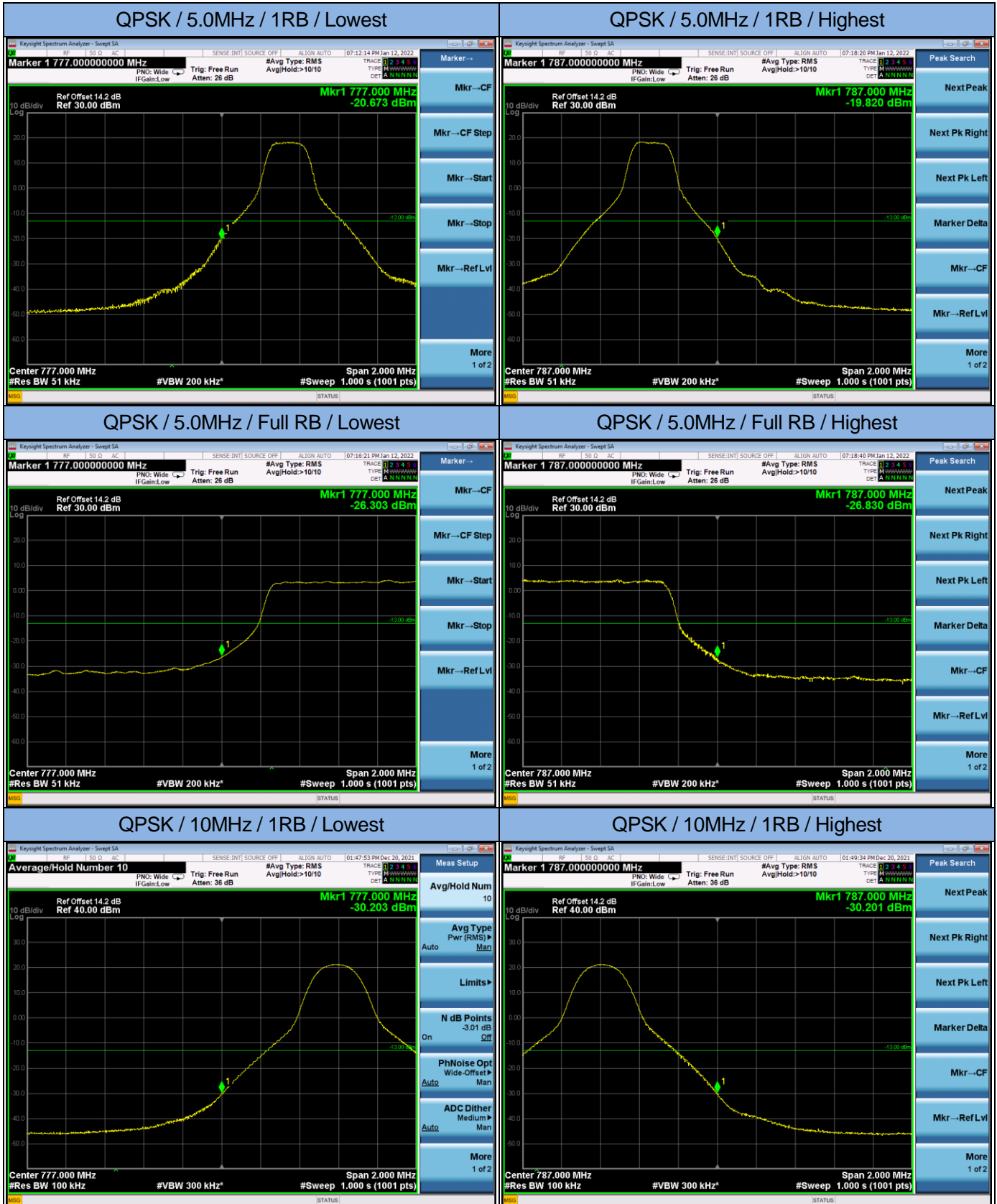
4. Occupied Bandwidth

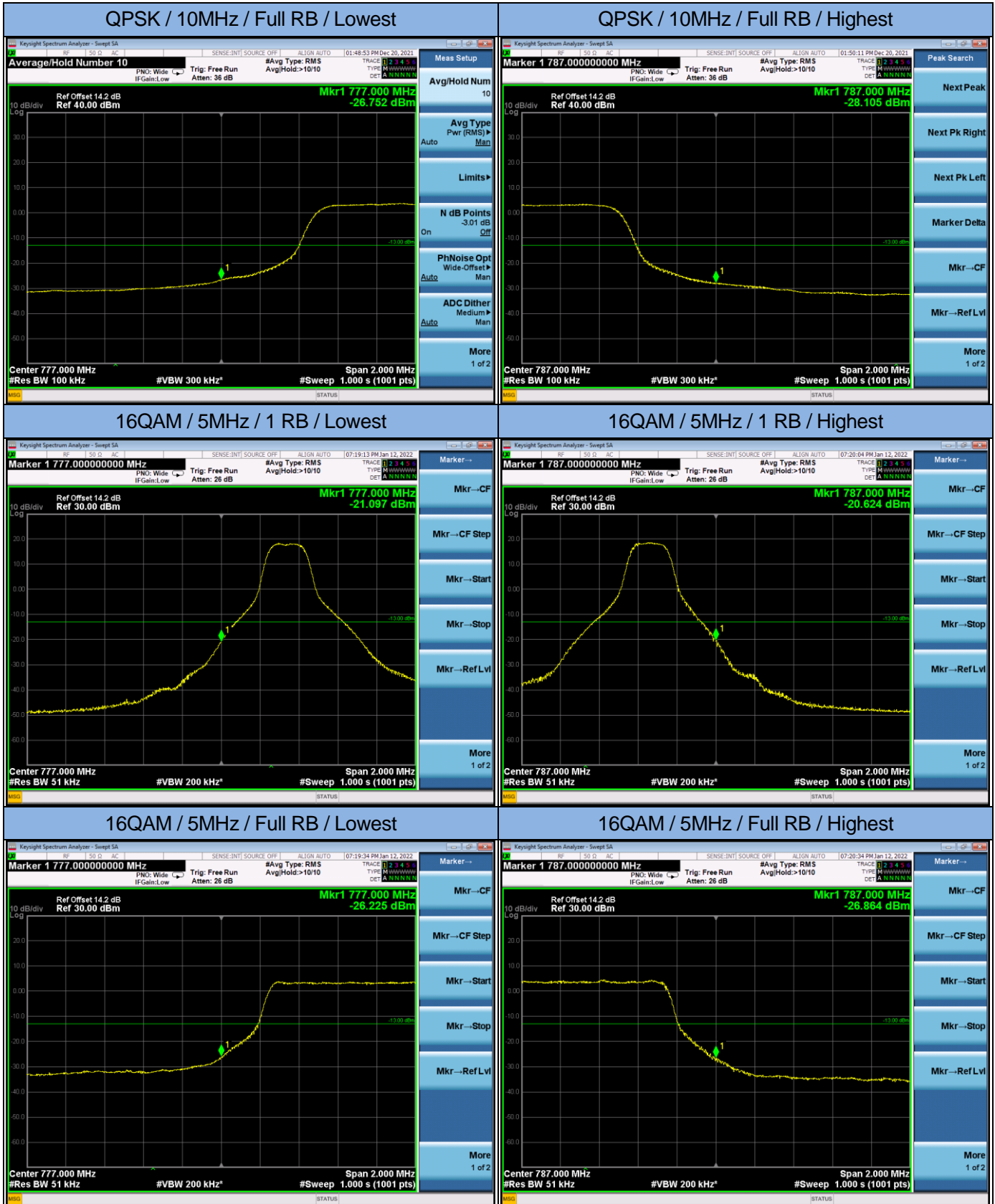
BW (MHz)	Modulation	Channel	RB Allocation		26dB BW (MHz)	99% OBW (MHz)	Limit (dBm)	Result
			Size	Offset				
5.0	QPSK	Low	Full	0	4.910	4.4734	---	Pass
		Mid	Full	0	4.926	4.4845		Pass
		High	Full	0	4.935	4.4798		Pass
	16QAM	Low	Full	0	4.941	4.4791	---	Pass
		Mid	Full	0	4.956	4.4715		Pass
		High	Full	0	4.880	4.4676		Pass
10	QPSK	Mid	Full	0	10.370	9.0640	---	Pass
	16QAM	Mid	Full	0	10.110	9.0656	---	Pass

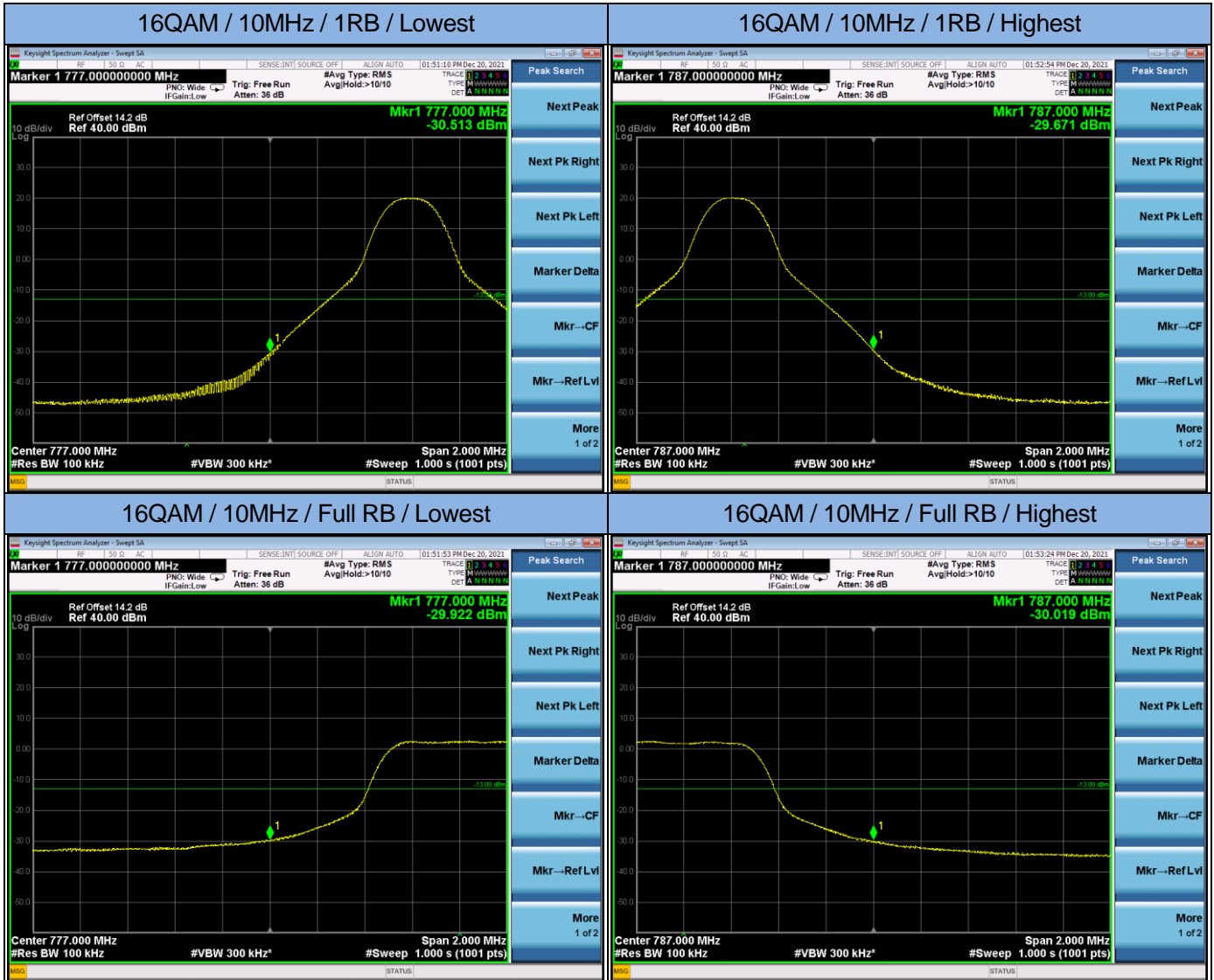




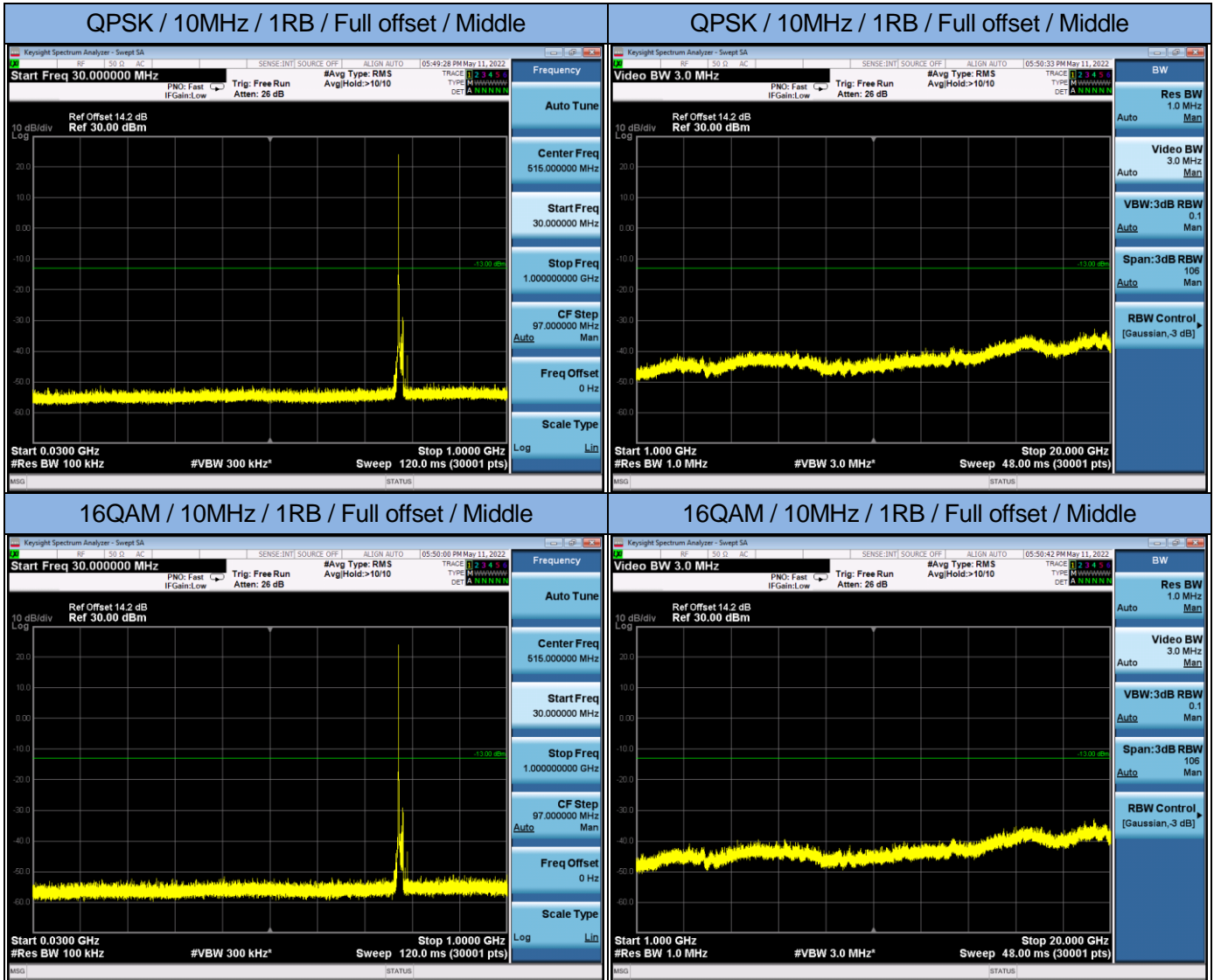
5. Band Edge







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	149.3100	H	-64.58	-13	-51.58
	1564	H	-48.35	-13	-35.35
	2346	H	-46.32	-13	-33.32
	3128	H	-39.32	-13	-26.32
	894.2700	V	-67.16	-13	-54.16
	1564	V	-46.25	-13	-33.25
	2346	V	-43.22	-13	-30.22
	3128	V	-41.02	-13	-28.02

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

8. Frequency Stability

LTE Band 13 / 10M / QPSK / Full RB					
Middle channel, $f_o = 782.0$ MHz					
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (dBm)	Result
-30	12	-2.2	-0.002813	±2.5	PASS
-20		1.3	0.001662	±2.5	PASS
-10		-0.9	-0.001151	±2.5	PASS
0		-0.5	-0.000639	±2.5	PASS
20		-1.2	-0.001535	±2.5	PASS
30		1.1	0.001407	±2.5	PASS
40		1.8	0.002302	±2.5	PASS
50		2.3	0.002941	±2.5	PASS
20		10.8	0.9	0.001151	±2.5
	52.8	1.4	0.001790	±2.5	PASS

---End---