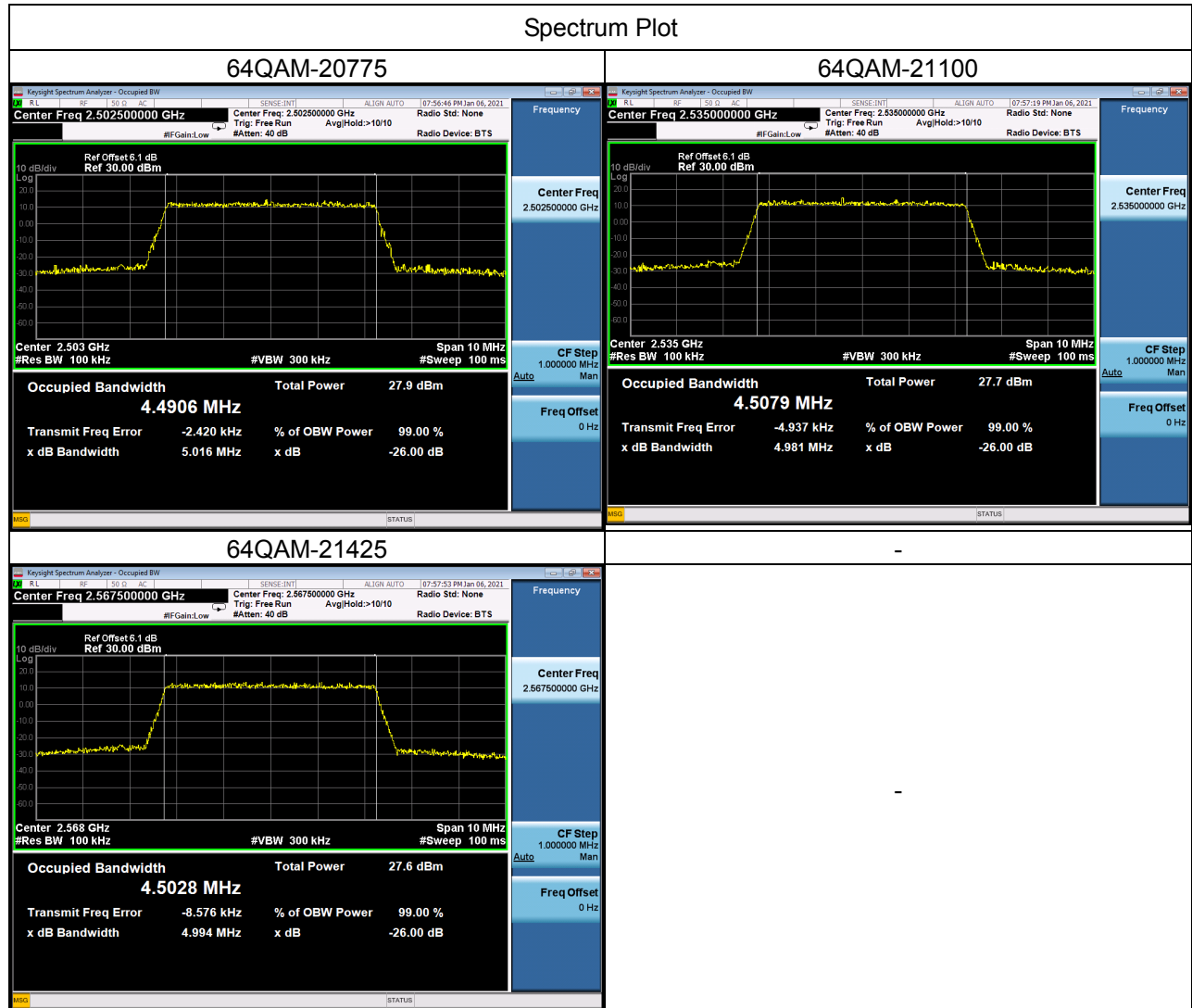
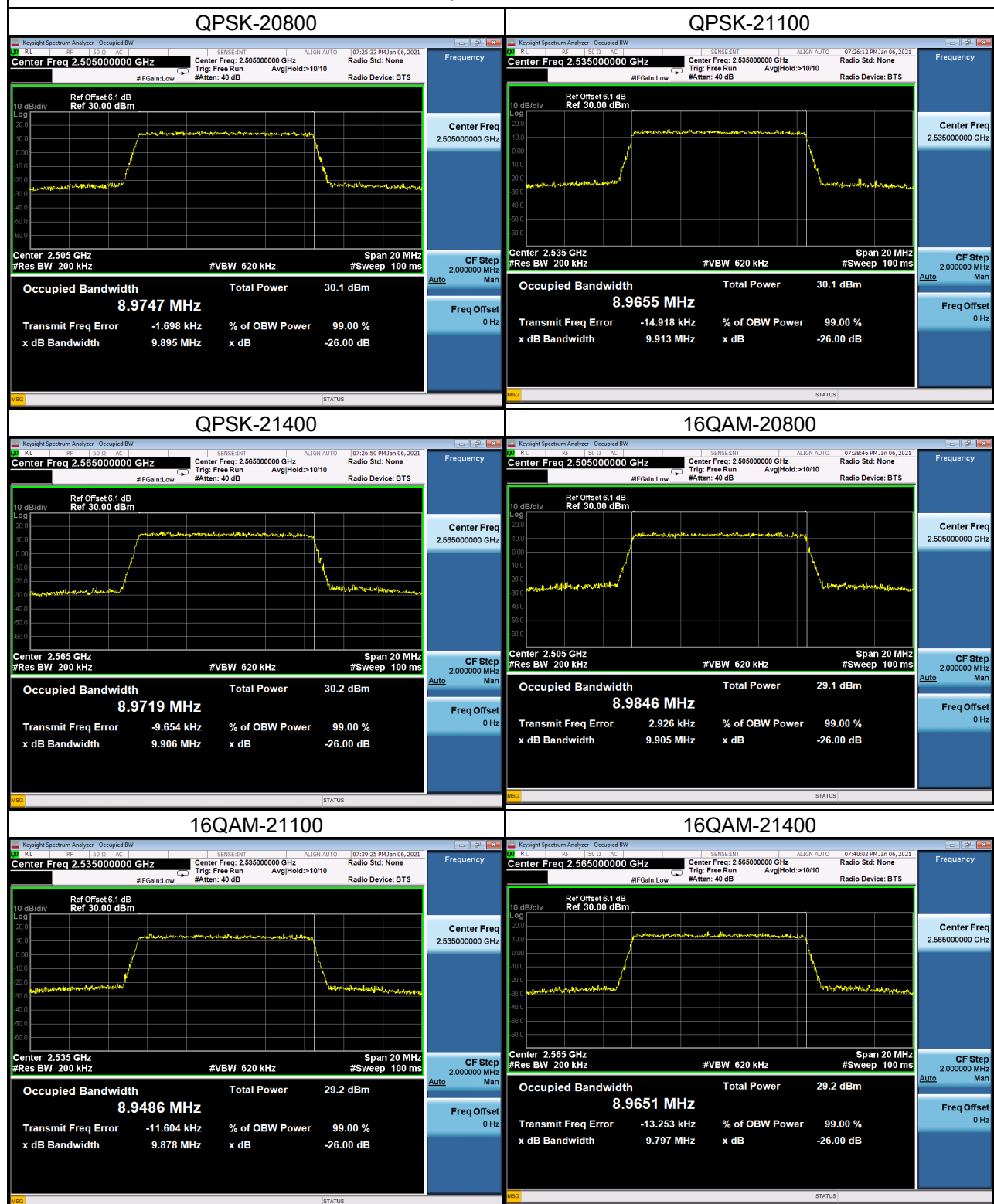


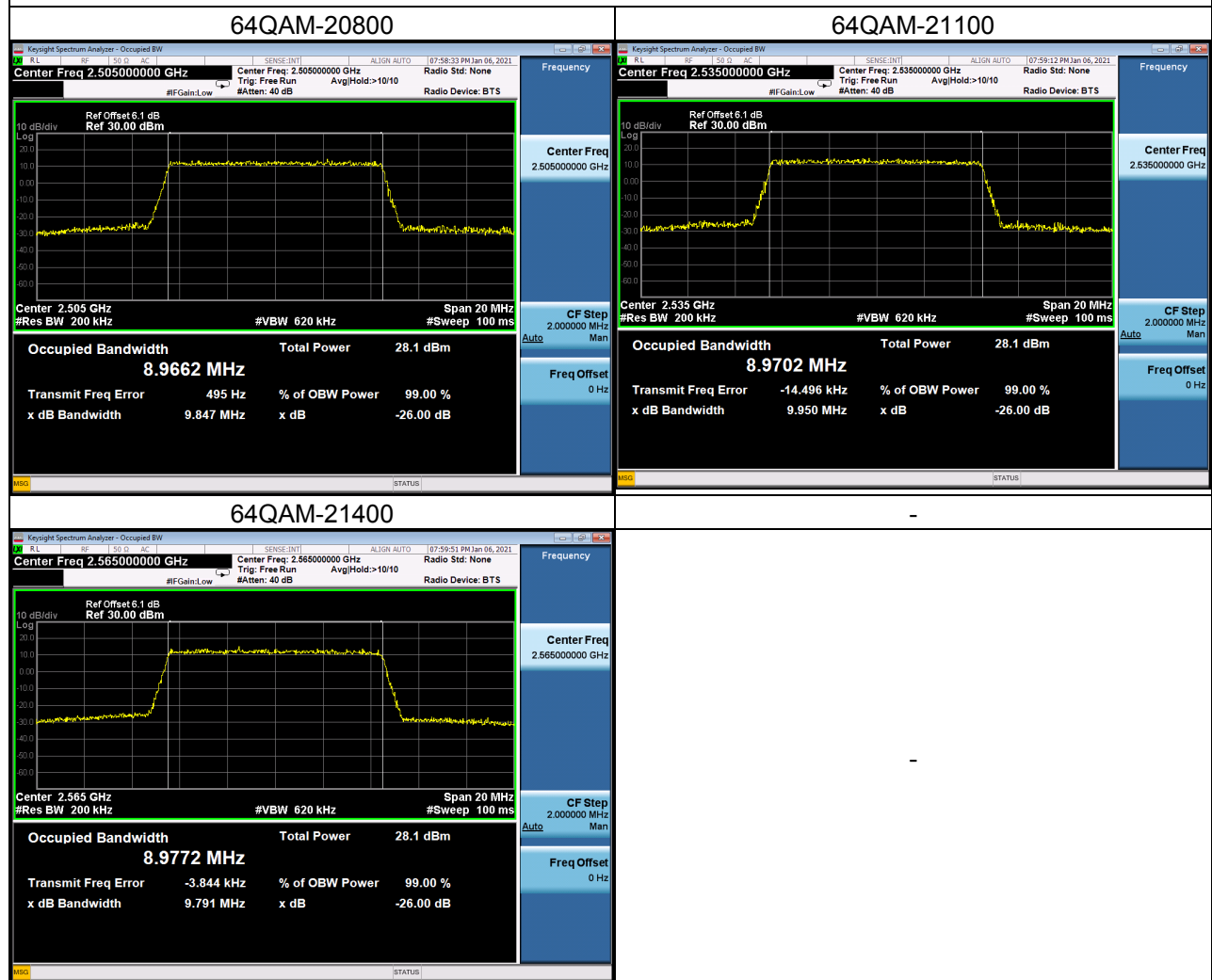


LTE Band 7_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20800	2505	8.9747	20800	2505	9.895
21100	2535	8.9655	21100	2535	9.913
21400	2565	8.9719	21400	2565	9.906
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20800	2505	8.9846	20800	2505	9.905
21100	2535	8.9486	21100	2535	9.878
21400	2565	8.9651	21400	2565	9.797
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20800	2505	8.9662	20800	2505	9.847
21100	2535	8.9702	21100	2535	9.950
21400	2565	8.9772	21400	2565	9.791

Spectrum Plot

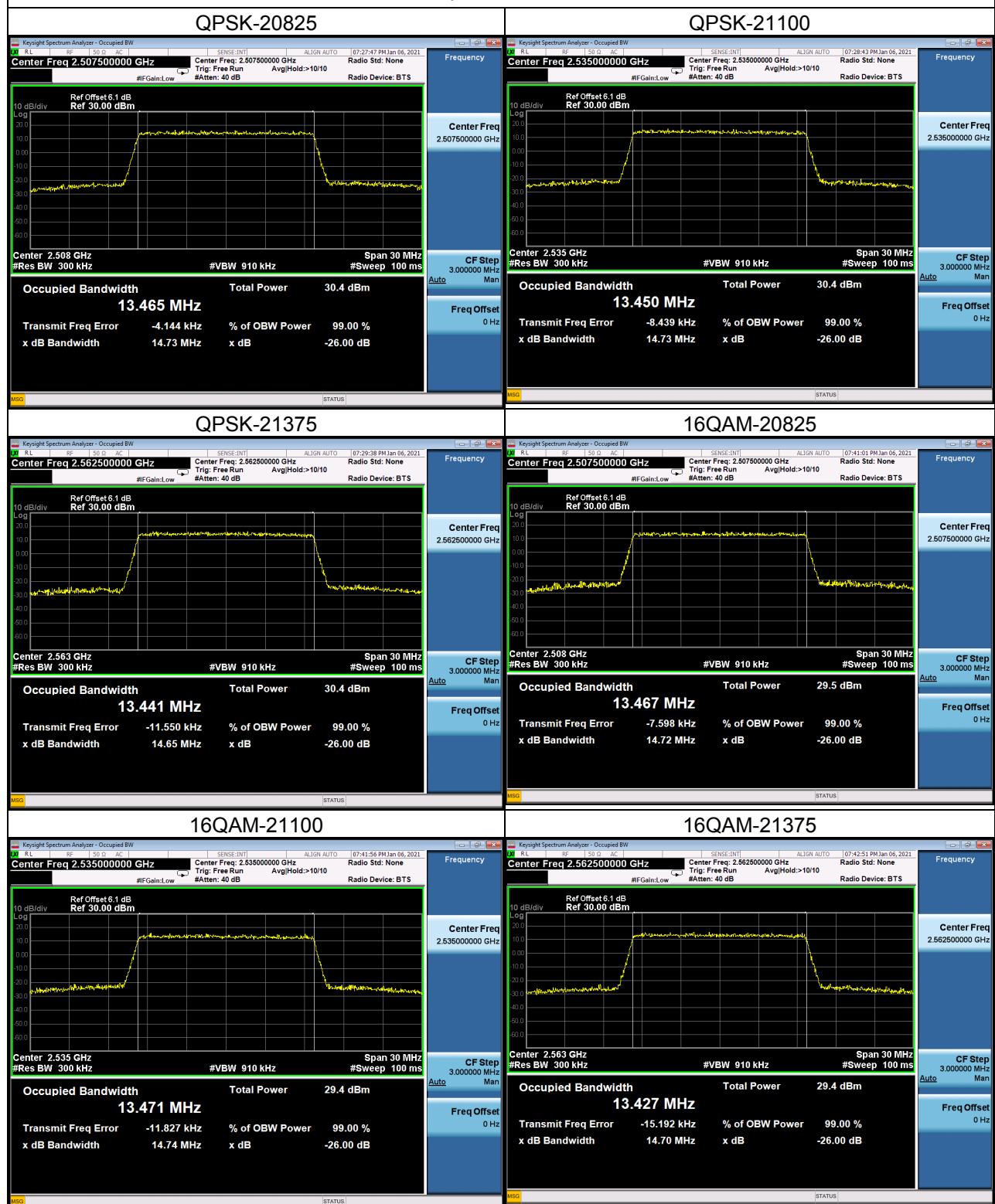


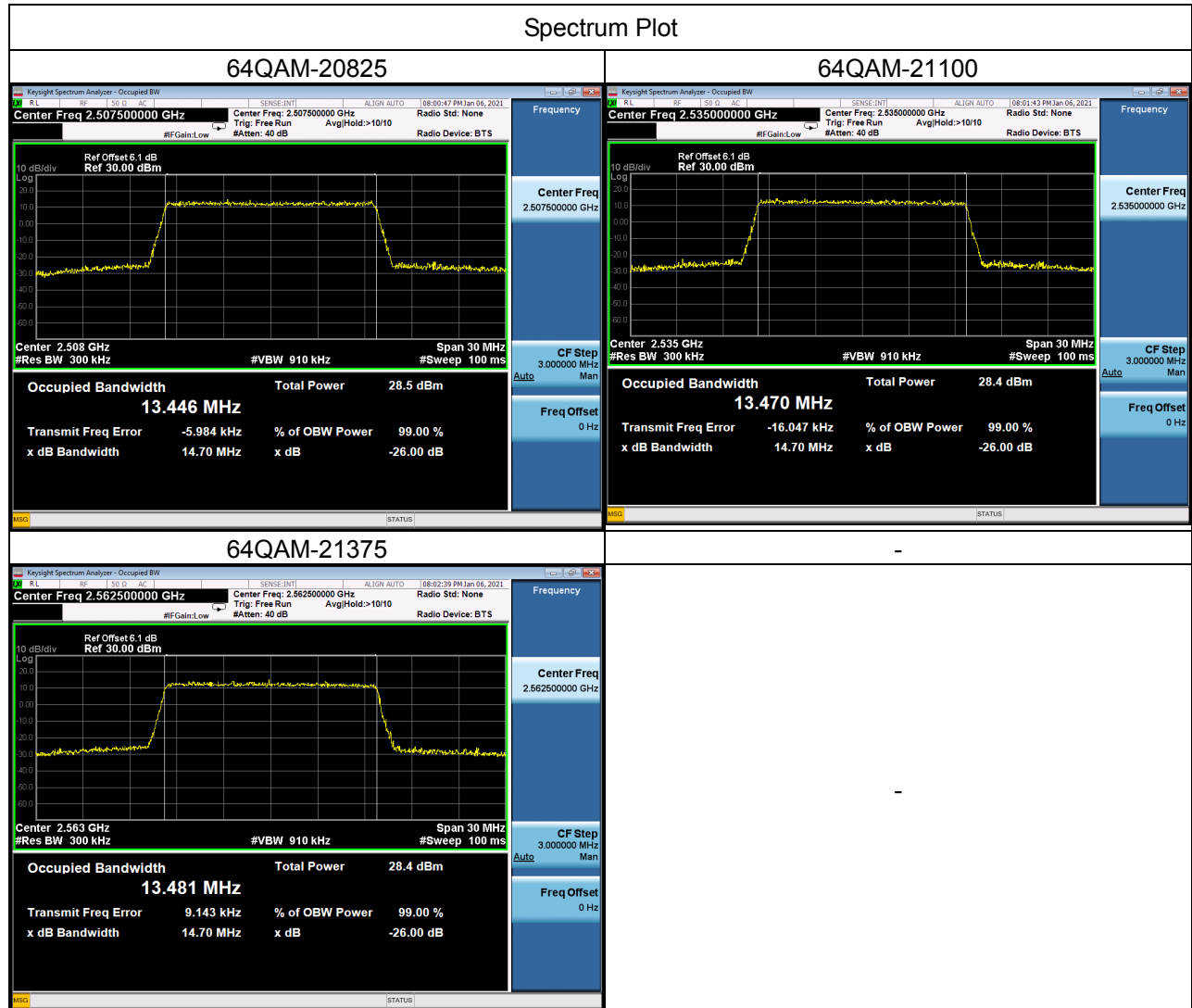
Spectrum Plot



LTE Band 7_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20825	2507.5	13.465	20825	2507.5	14.73
21100	2535	13.450	21100	2535	14.73
21375	2562.5	13.441	21375	2562.5	14.65
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20825	2507.5	13.467	20825	2507.5	14.72
21100	2535	13.471	21100	2535	14.74
21375	2562.5	13.427	21375	2562.5	14.70
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20825	2507.5	13.446	20825	2507.5	14.70
21100	2535	13.470	21100	2535	14.70
21375	2562.5	13.481	21375	2562.5	14.70

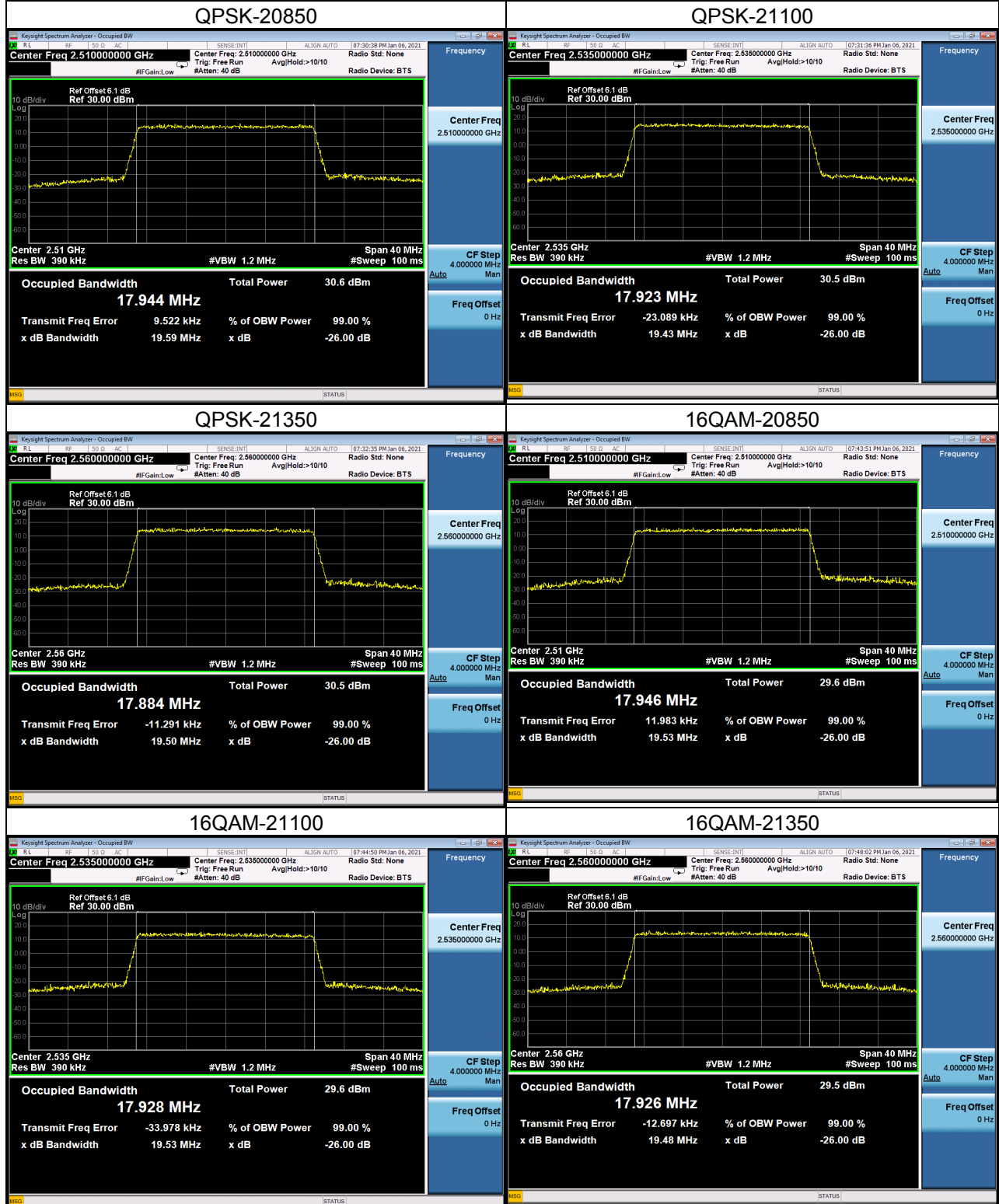
Spectrum Plot

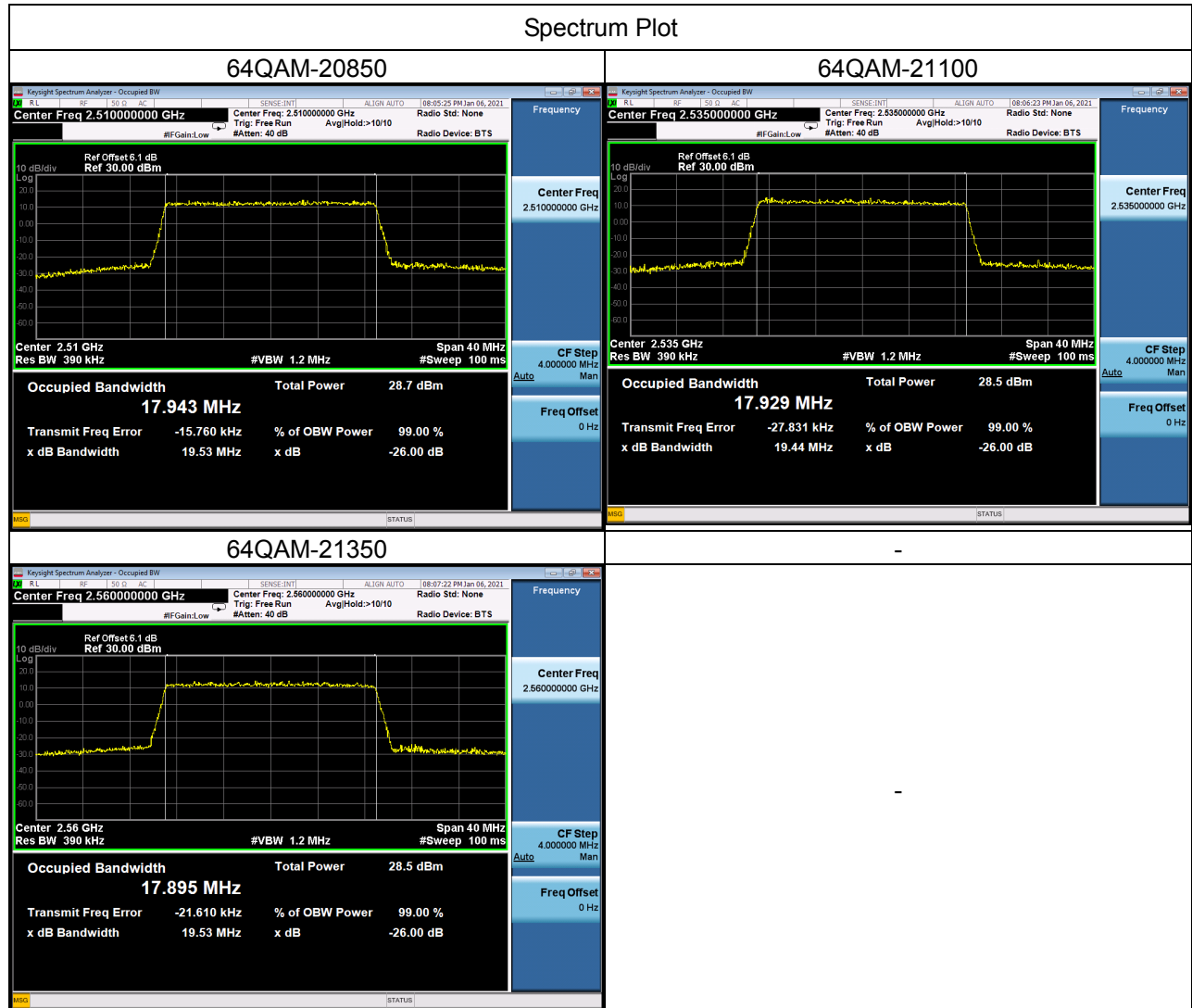




LTE Band 7_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	17.944	20850	2510	19.59
21100	2535	17.923	21100	2535	19.43
21350	2560	17.884	21350	2560	19.50
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	17.946	20850	2510	19.53
21100	2535	17.928	21100	2535	19.53
21350	2560	17.926	21350	2560	19.48
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	17.943	20850	2510	19.53
21100	2535	17.929	21100	2535	19.44
21350	2560	17.895	21350	2560	19.53

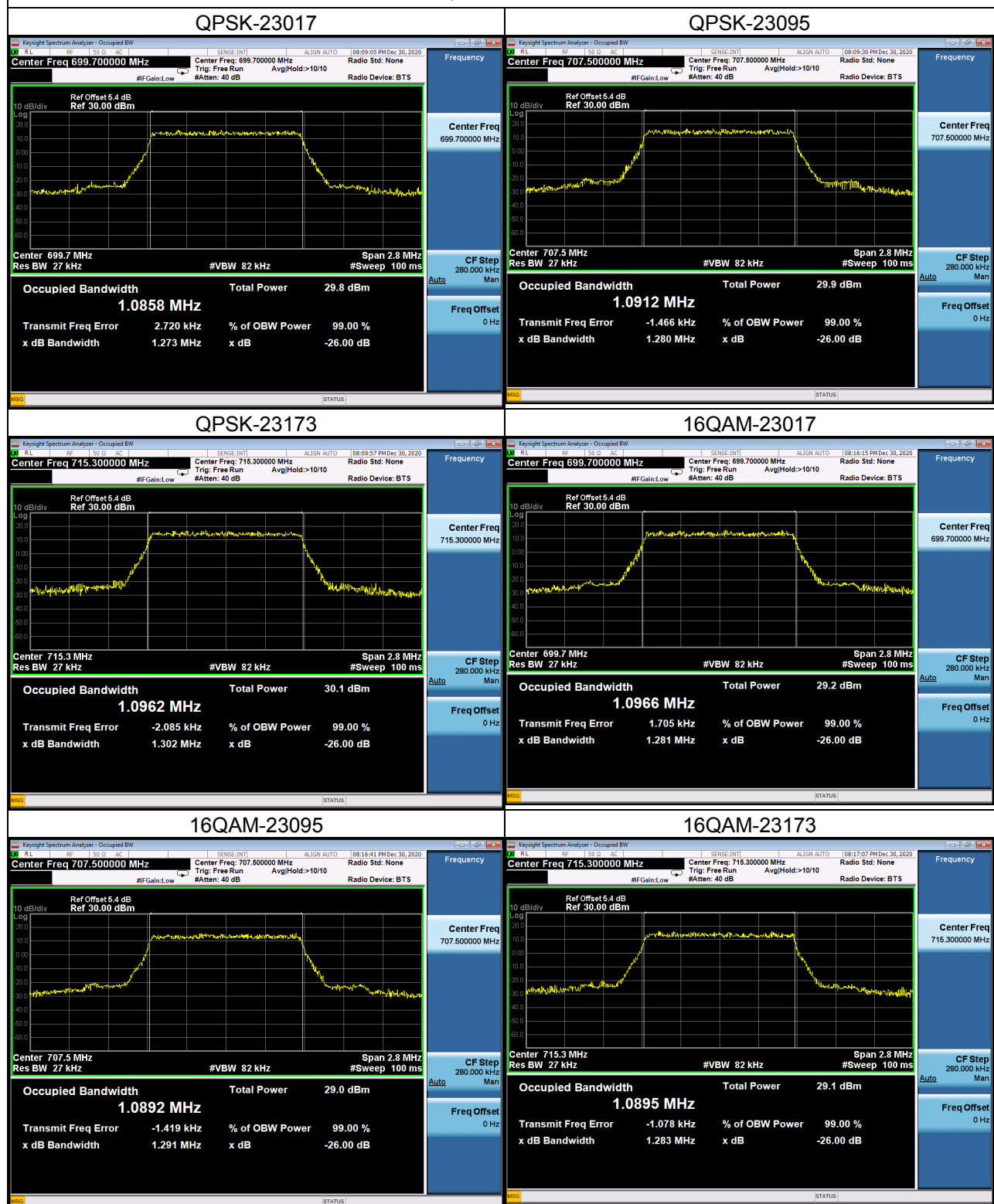
Spectrum Plot



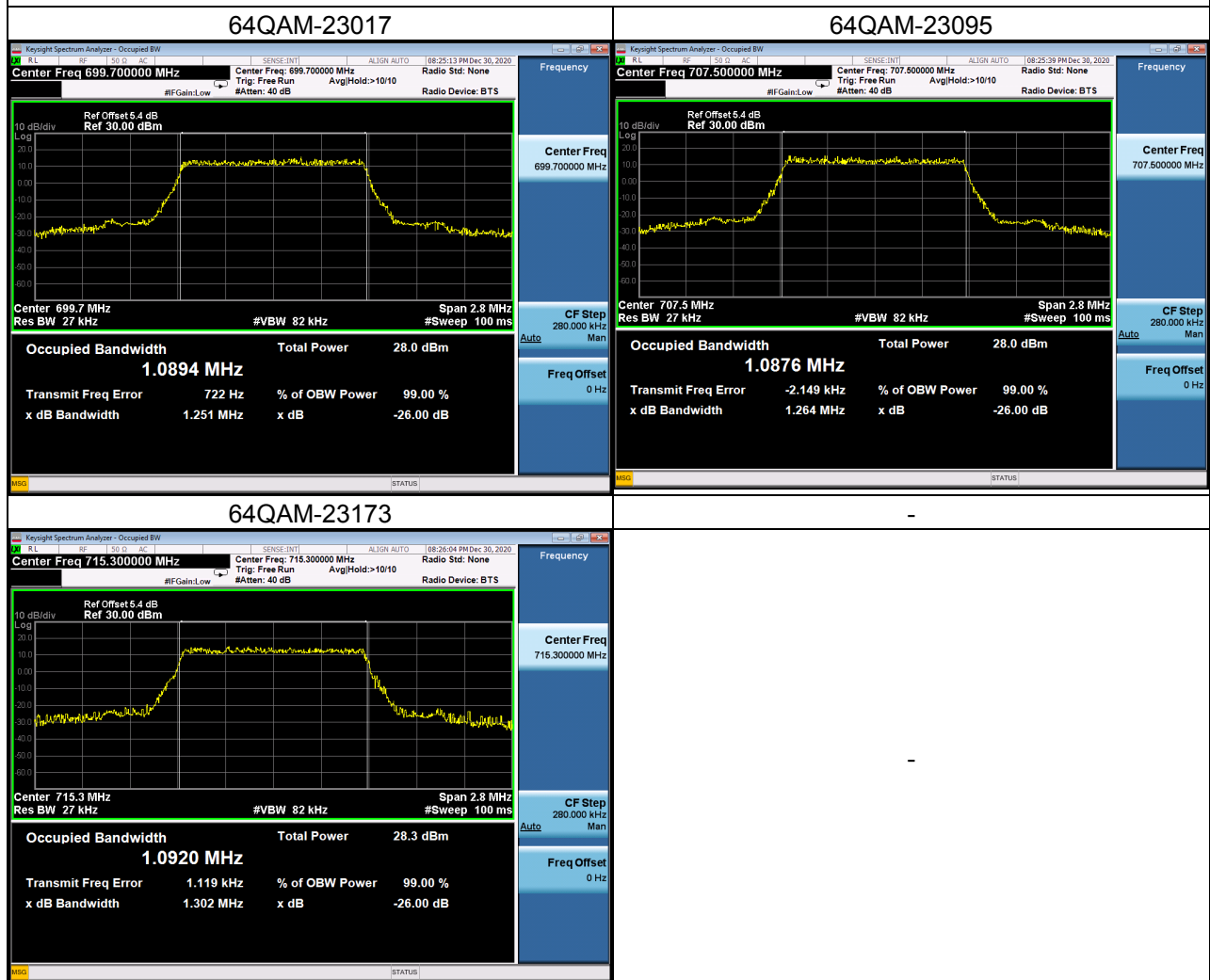


LTE Band 12_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.0858	23017	699.7	1.273
23095	707.5	1.0912	23095	707.5	1.280
23173	715.3	1.0962	23173	715.3	1.302
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.0966	23017	699.7	1.281
23095	707.5	1.0892	23095	707.5	1.291
23173	715.3	1.0895	23173	715.3	1.283
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.0894	23017	699.7	1.251
23095	707.5	1.0876	23095	707.5	1.264
23173	715.3	1.0920	23173	715.3	1.302

Spectrum Plot

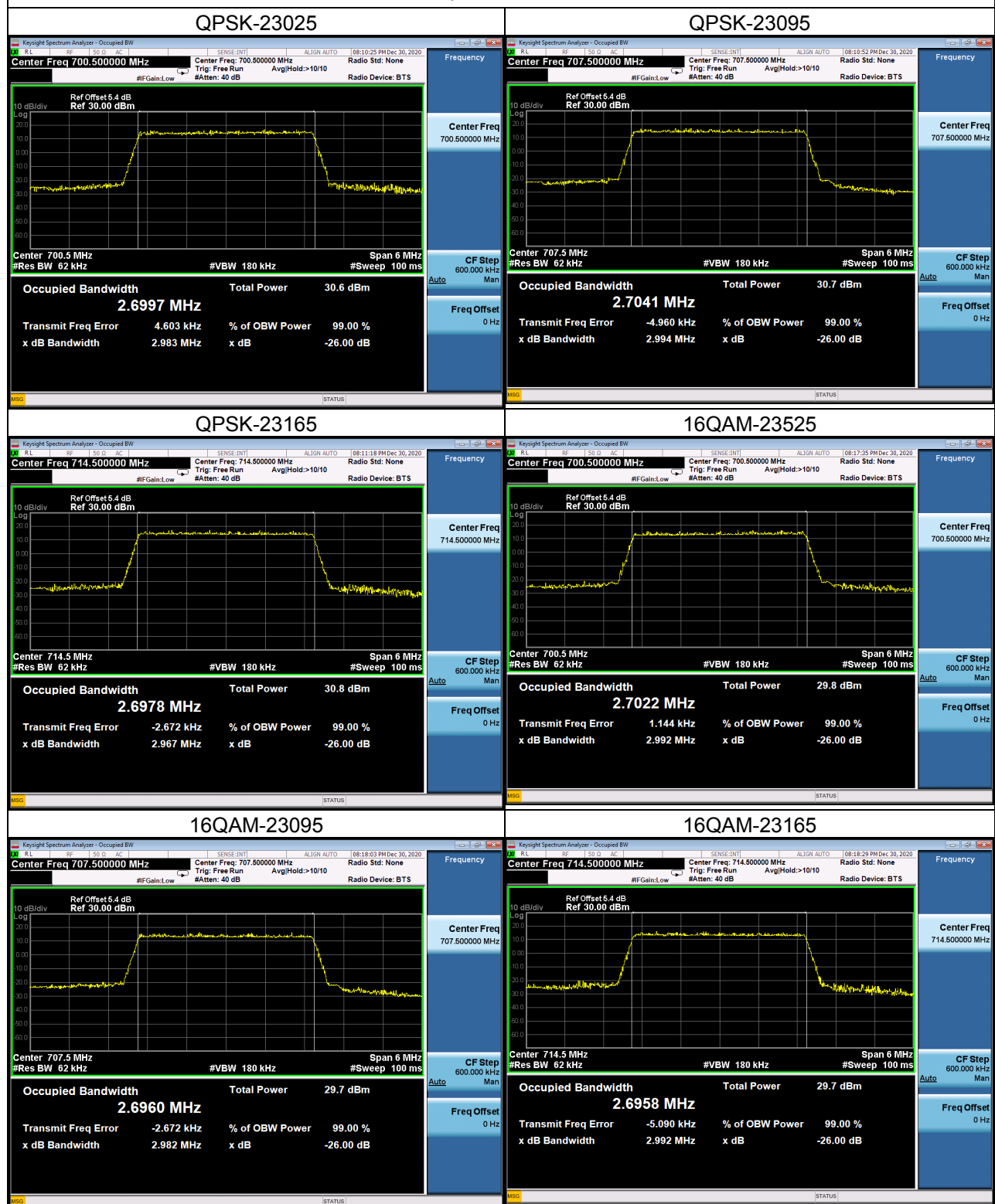


Spectrum Plot



LTE Band 12_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.6997	23025	700.5	2.983
23095	707.5	2.7041	23095	707.5	2.994
23165	714.5	2.6978	23165	714.5	2.967
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.7022	23025	700.5	2.992
23095	707.5	2.6960	23095	707.5	2.982
23165	714.5	2.6958	23165	714.5	2.992
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.7034	23025	700.5	2.965
23095	707.5	2.6962	23095	707.5	2.969
23165	714.5	2.6972	23165	714.5	2.966

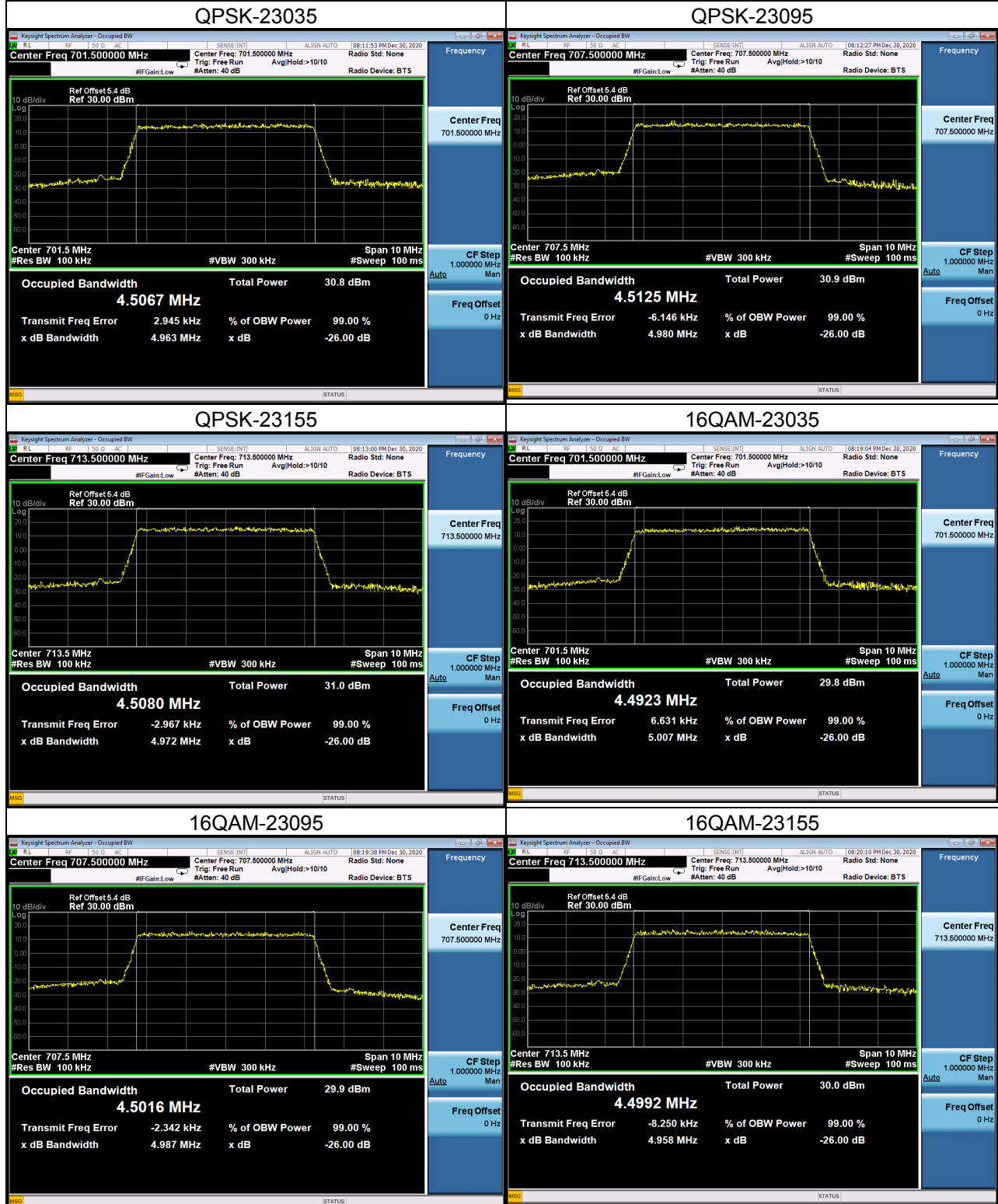
Spectrum Plot

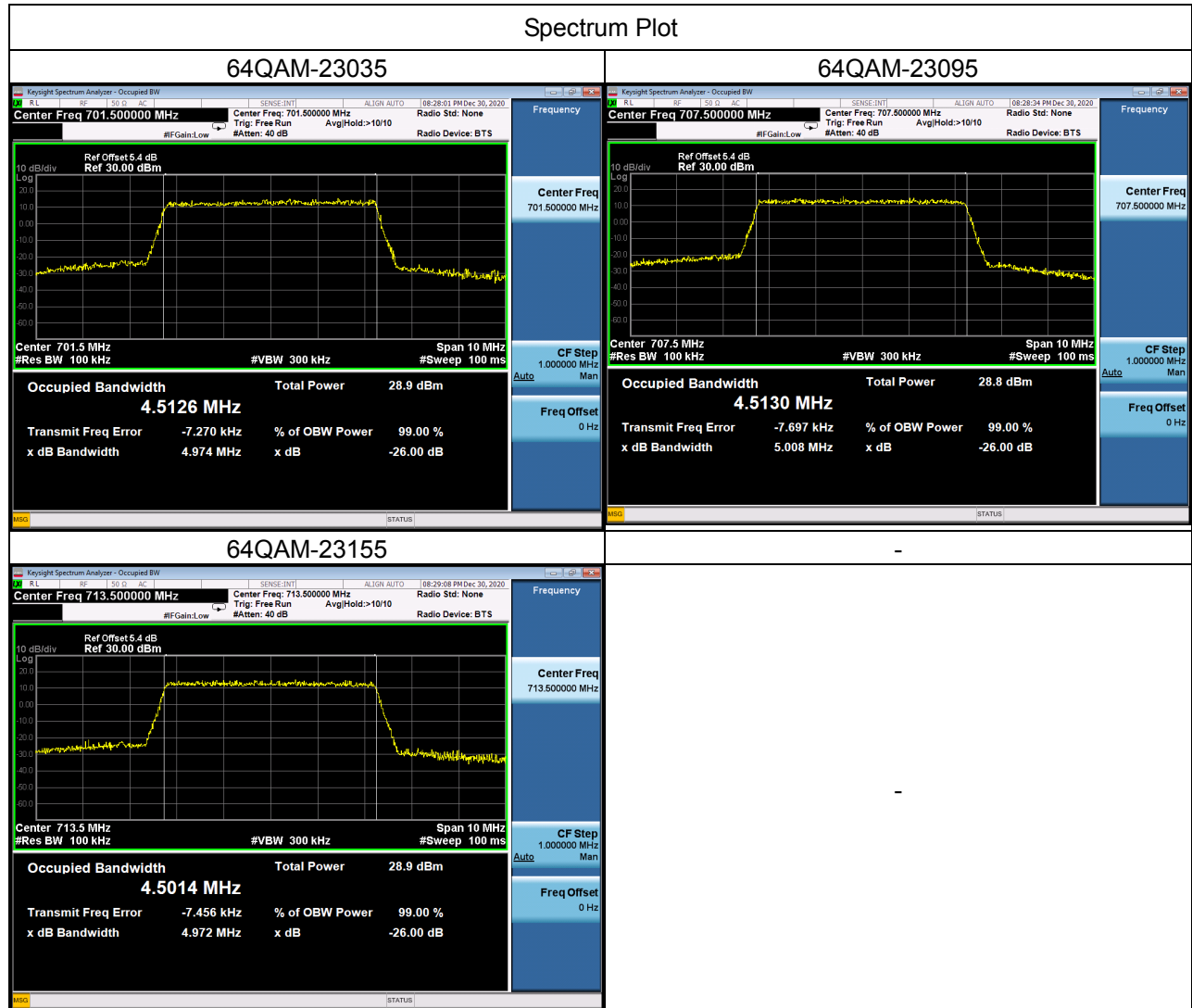




LTE Band 12_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5067	23035	701.5	4.963
23095	707.5	4.5125	23095	707.5	4.980
23155	713.5	4.5080	23155	713.5	4.972
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.4923	23035	701.5	5.007
23095	707.5	4.5016	23095	707.5	4.987
23155	713.5	4.4992	23155	713.5	4.958
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5126	23035	701.5	4.974
23095	707.5	4.5130	23095	707.5	5.008
23155	713.5	4.5014	23155	713.5	4.972

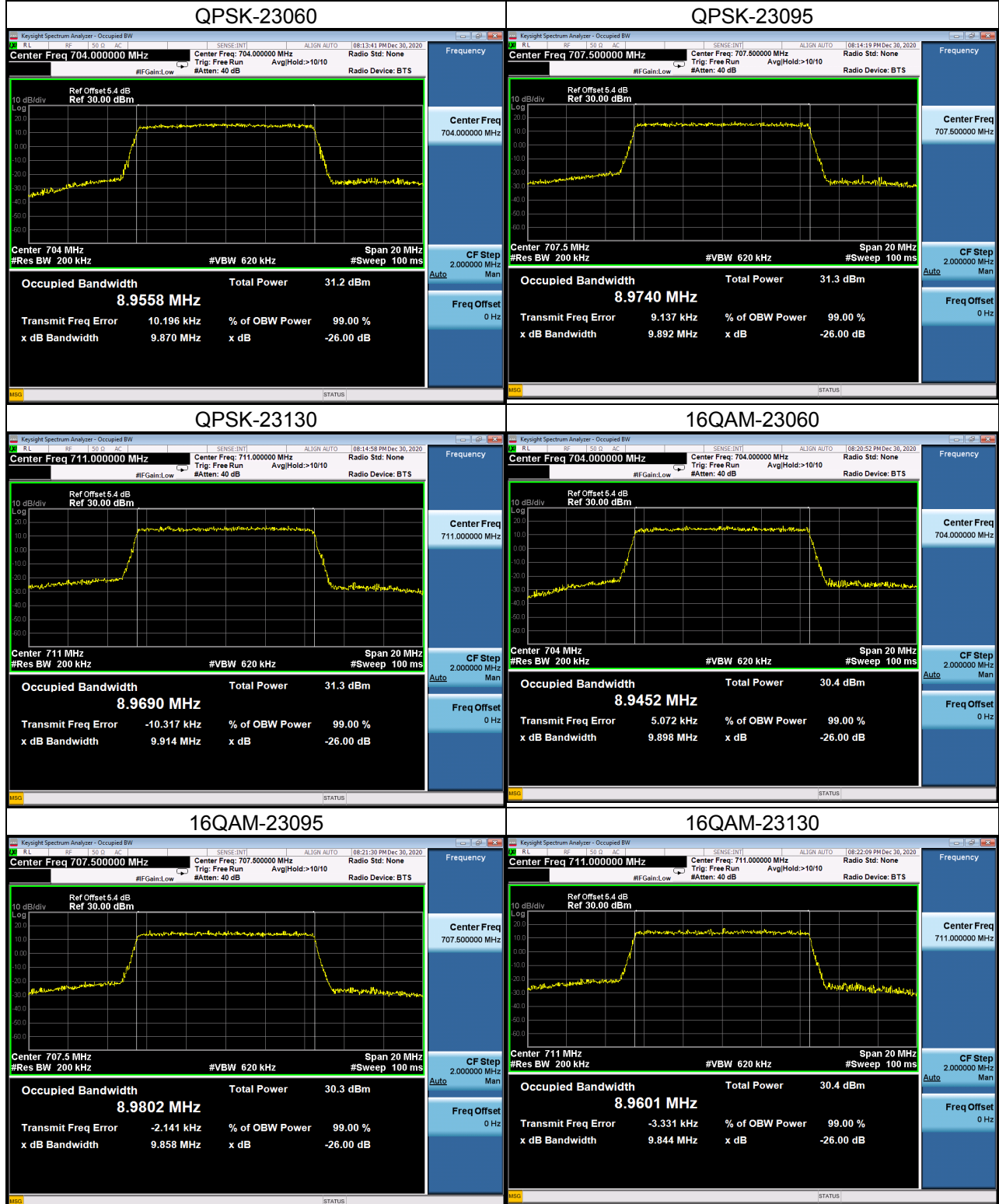
Spectrum Plot





LTE Band 12_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9558	23060	704.0	9.870
23095	707.5	8.9740	23095	707.5	9.892
23130	711.0	8.9690	23130	711.0	9.914
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9452	23060	704.0	9.898
23095	707.5	8.9802	23095	707.5	9.858
23130	711.0	8.9601	23130	711.0	9.844
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9447	23060	704.0	9.811
23095	707.5	8.9827	23095	707.5	9.890
23130	711.0	8.9746	23130	711.0	9.880

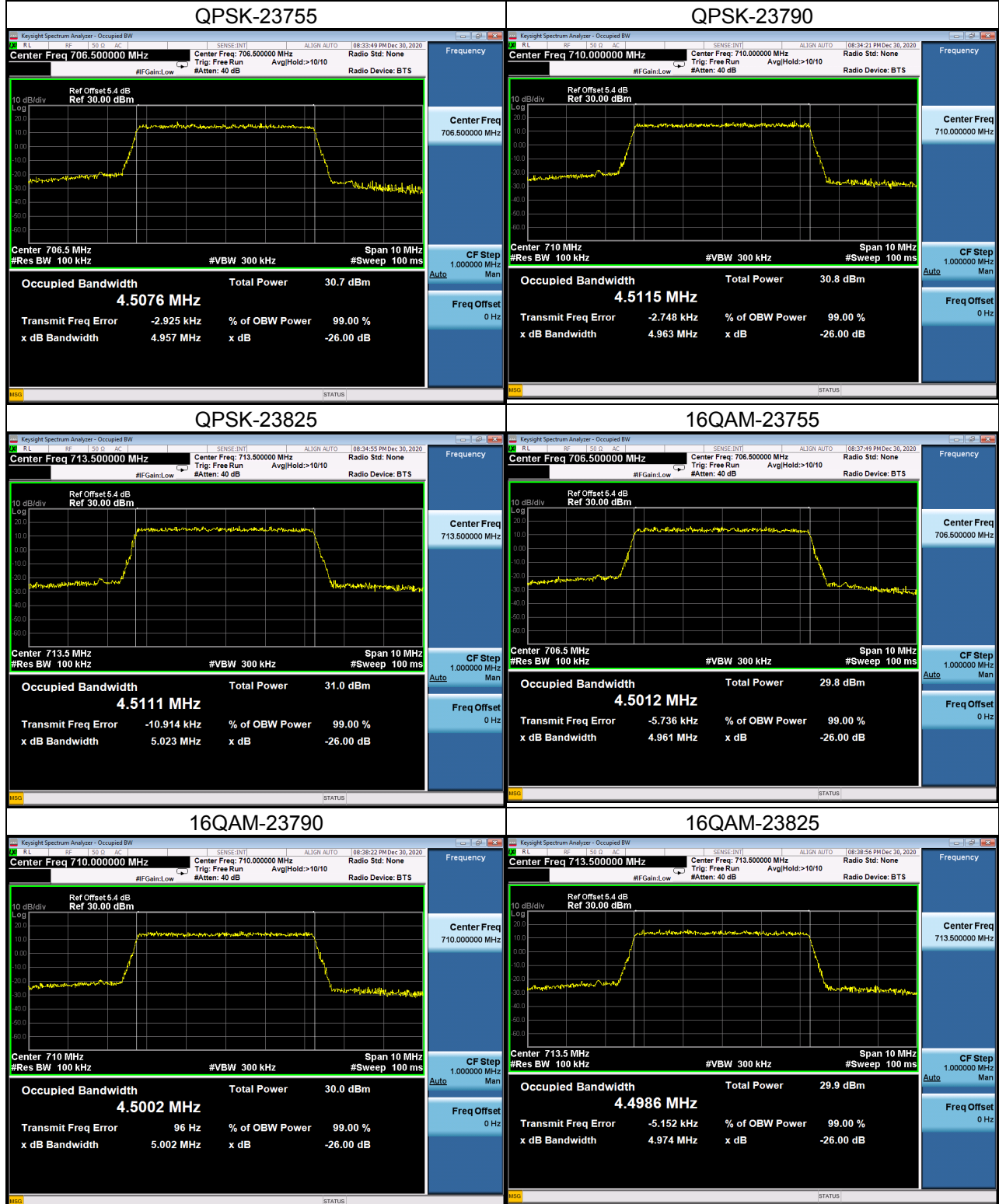
Spectrum Plot



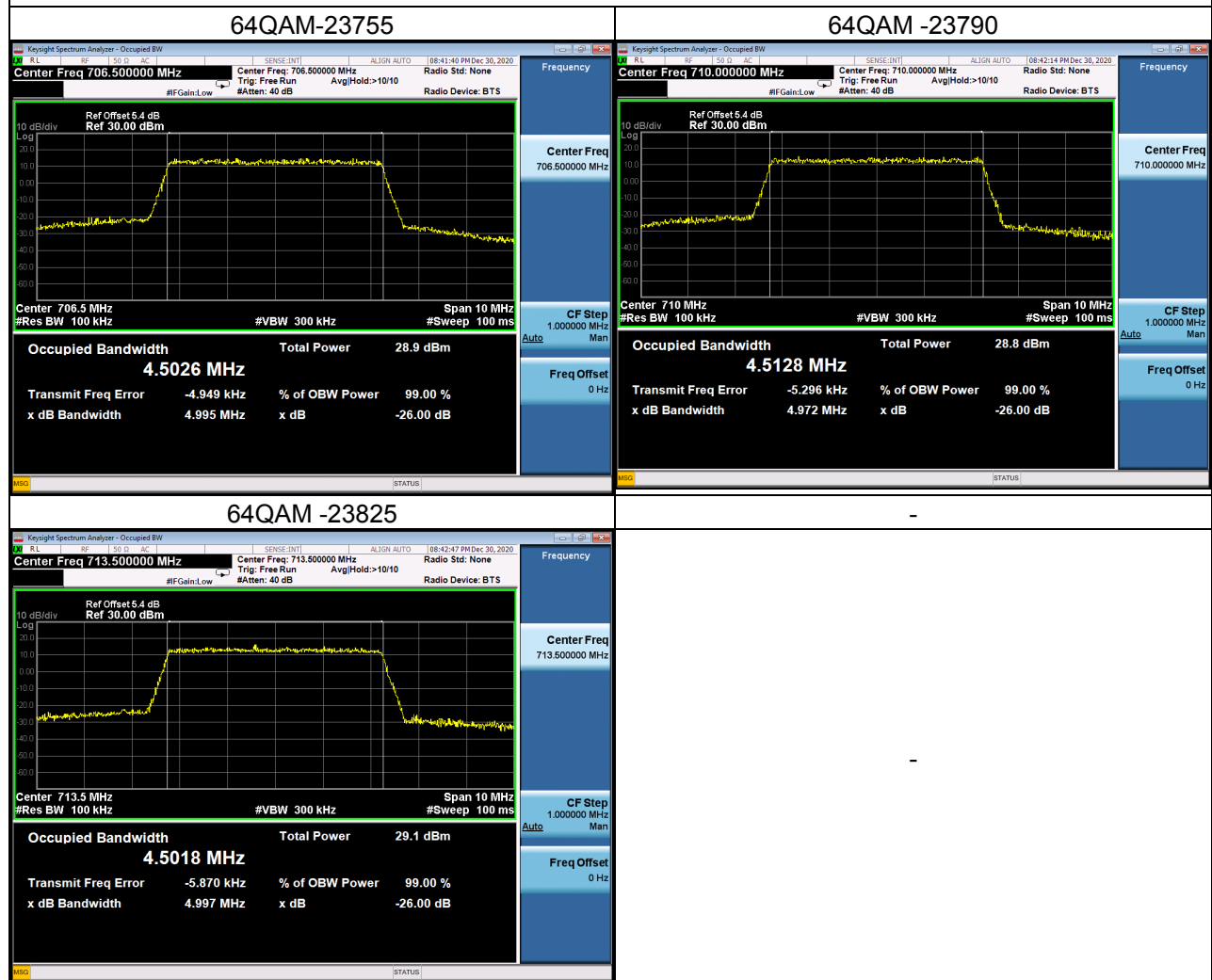


LTE Band 17_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5076	23755	706.5	4.957
23790	710	4.5115	23790	710	4.963
23825	713.5	4.5111	23825	713.5	5.023
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5012	23755	706.5	4.961
23790	710	4.5002	23790	710	5.002
23825	713.5	4.4986	23825	713.5	4.974
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5026	23755	706.5	4.995
23790	710	4.5128	23790	710	4.972
23825	713.5	4.5018	23825	713.5	4.997

Spectrum Plot

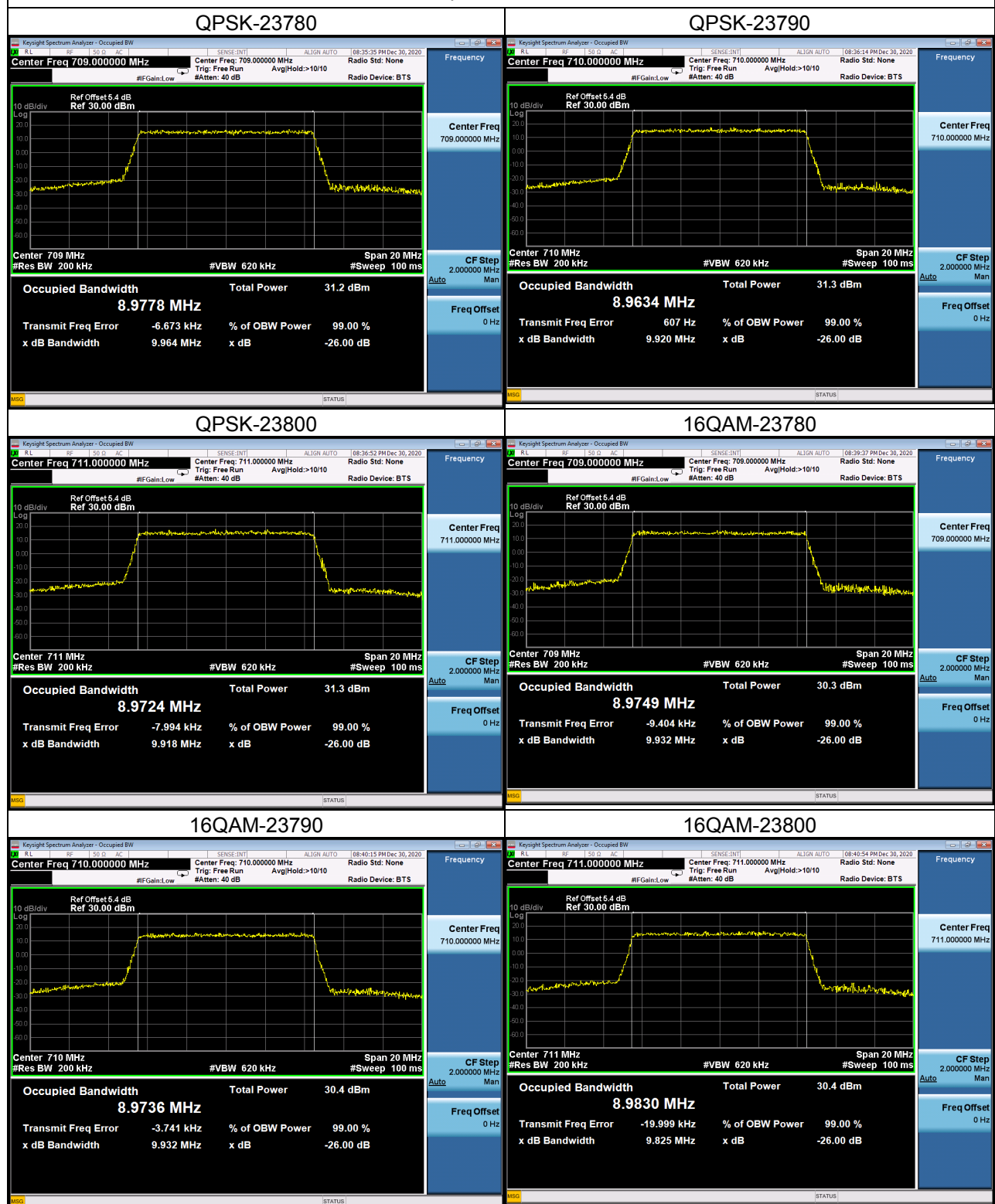


Spectrum Plot

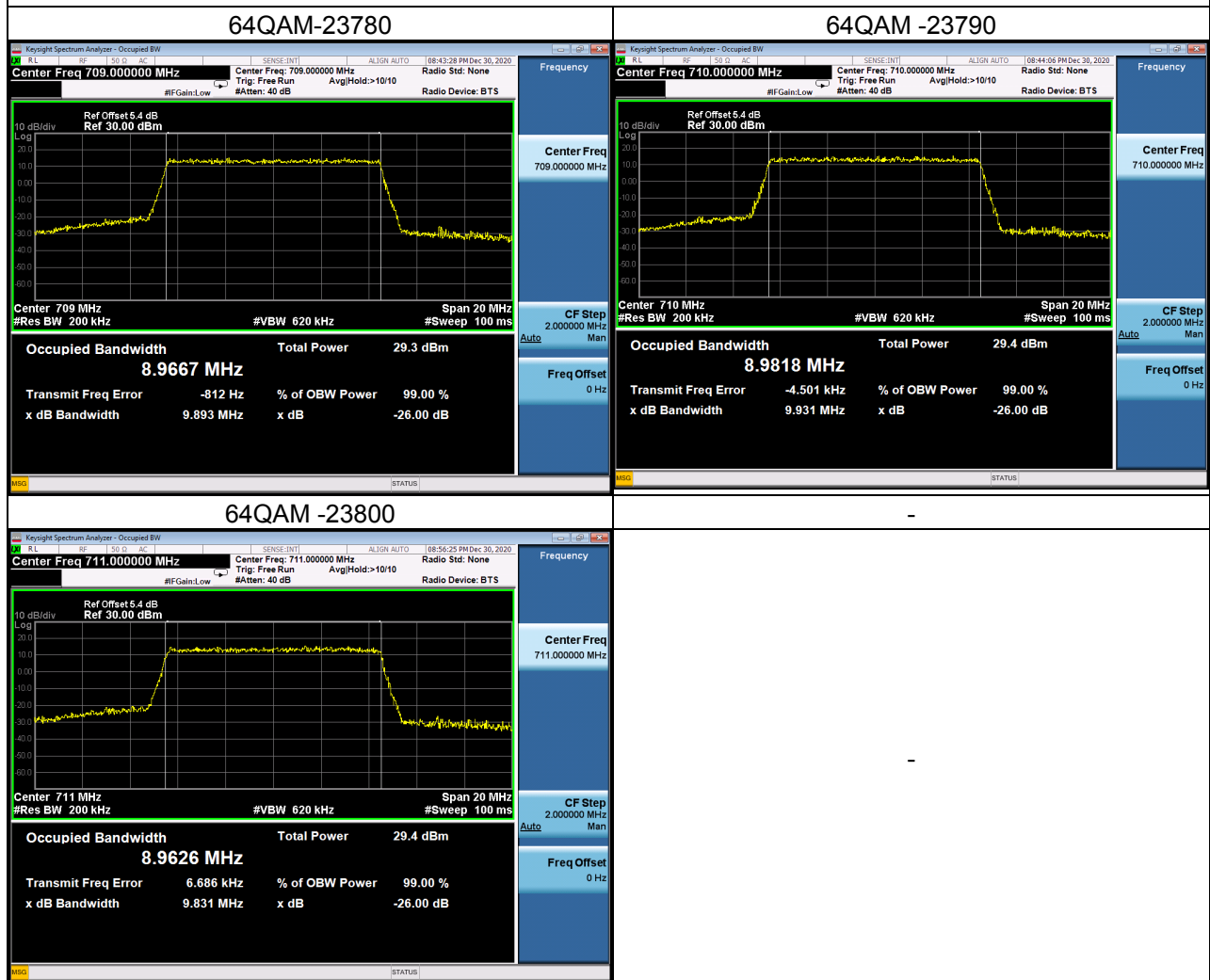


LTE Band 17_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9778	23780	709	9.964
23790	710	8.9634	23790	710	9.920
23800	711	8.9724	23800	711	9.918
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9749	23780	709	9.932
23790	710	8.9736	23790	710	9.932
23800	711	8.9830	23800	711	9.825
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9667	23780	709	9.893
23790	710	8.9818	23790	710	9.931
23800	711	8.9626	23800	711	9.831

Spectrum Plot



Spectrum Plot



LTE Band 38_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.5058	37775	2572.5	5.096
38000	2595	4.5225	38000	2595	5.319
38225	2617.5	4.4919	38225	2617.5	5.041
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4927	37775	2572.5	4.977
38000	2595	4.4968	38000	2595	4.911
38225	2617.5	4.4937	38225	2617.5	4.955
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.5008	37775	2572.5	4.998
38000	2595	4.4962	38000	2595	4.955
38225	2617.5	4.5028	38225	2617.5	4.948