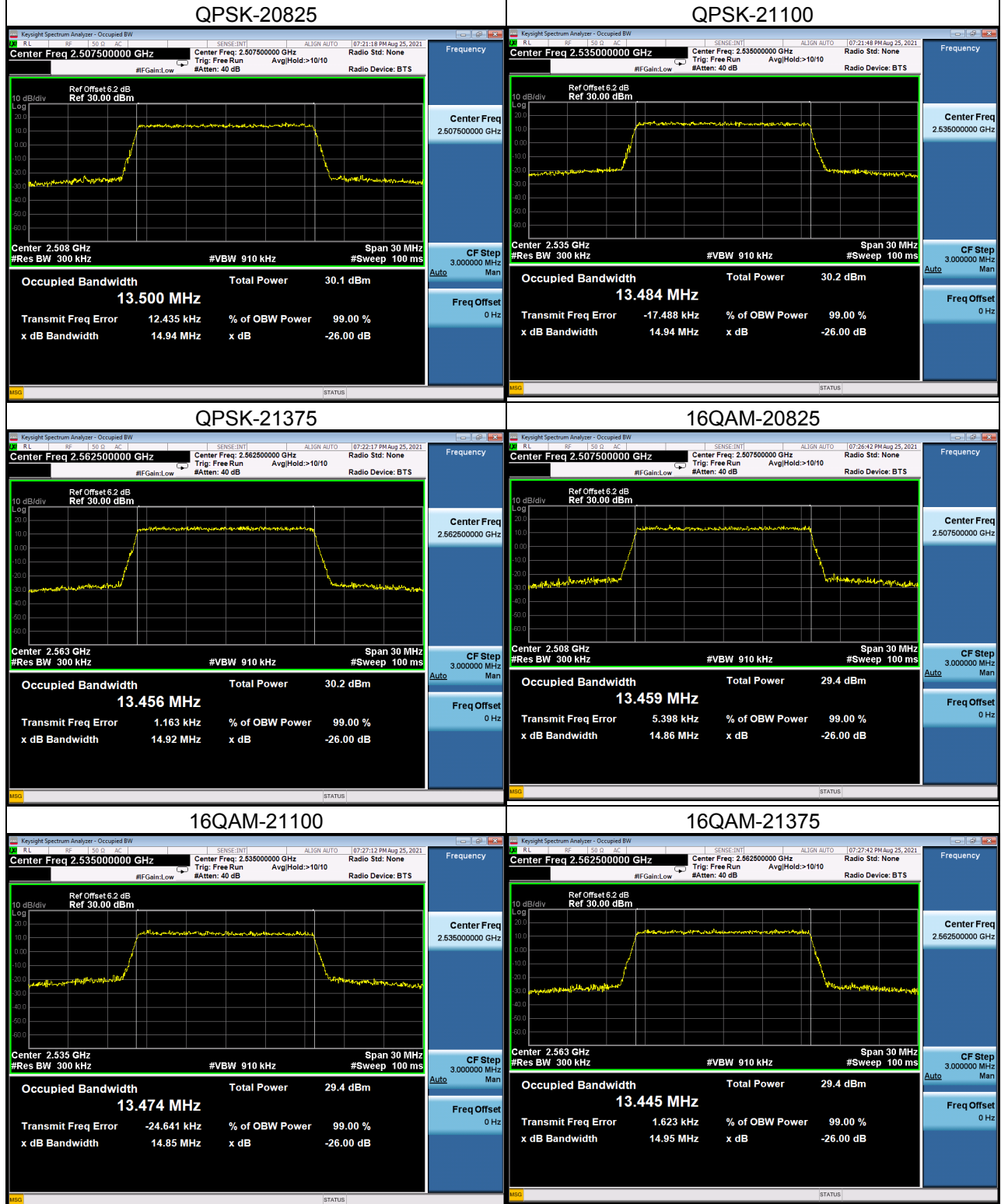


Spectrum Plot

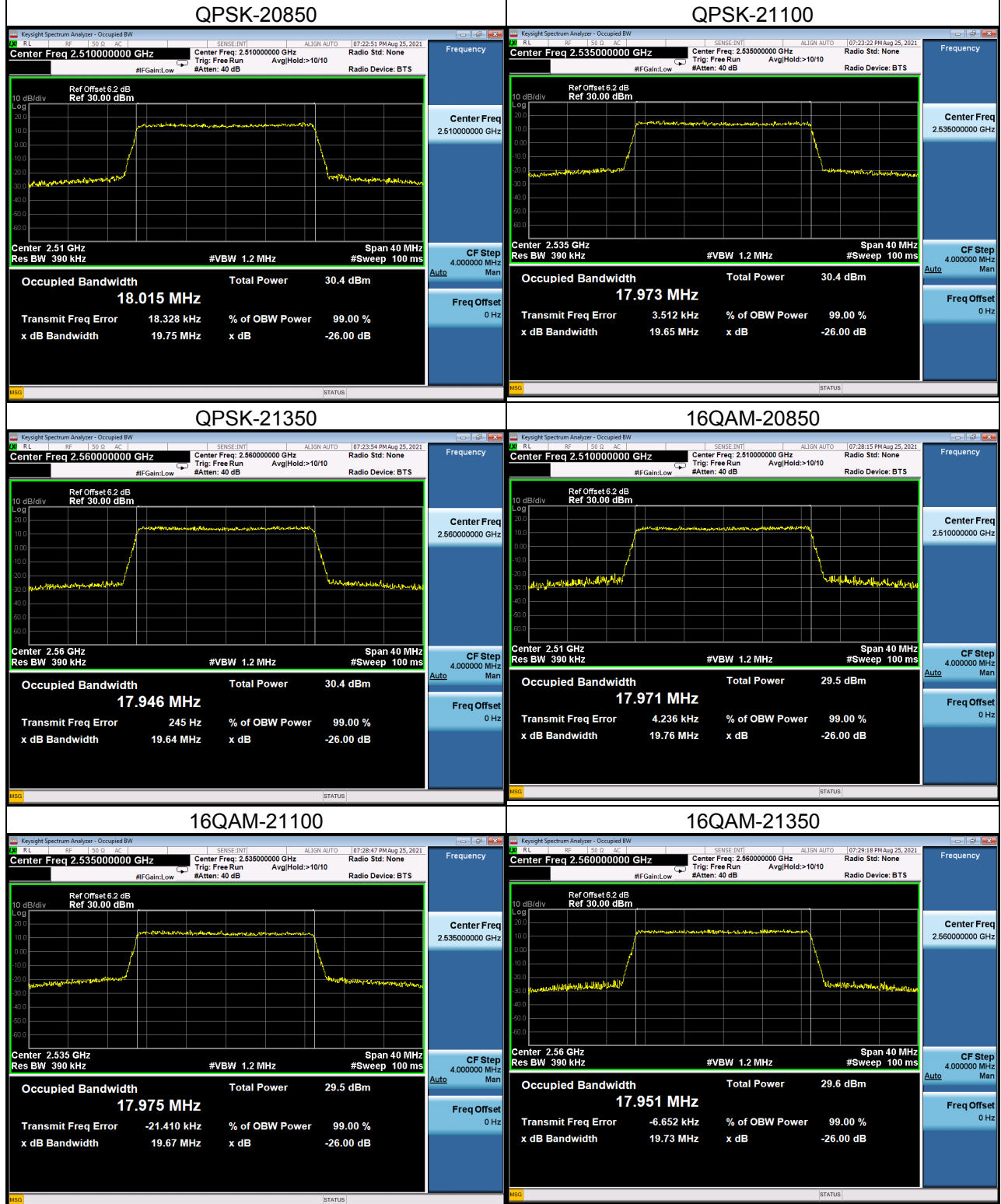


Spectrum Plot



LTE Band 7_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	18.015	20850	2510	19.75
21100	2535	17.973	21100	2535	19.65
21350	2560	17.946	21350	2560	19.64
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	17.971	20850	2510	19.76
21100	2535	17.975	21100	2535	19.67
21350	2560	17.951	21350	2560	19.73
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	17.979	20850	2510	19.75
21100	2535	17.974	21100	2535	19.81
21350	2560	17.966	21350	2560	19.74

Spectrum Plot

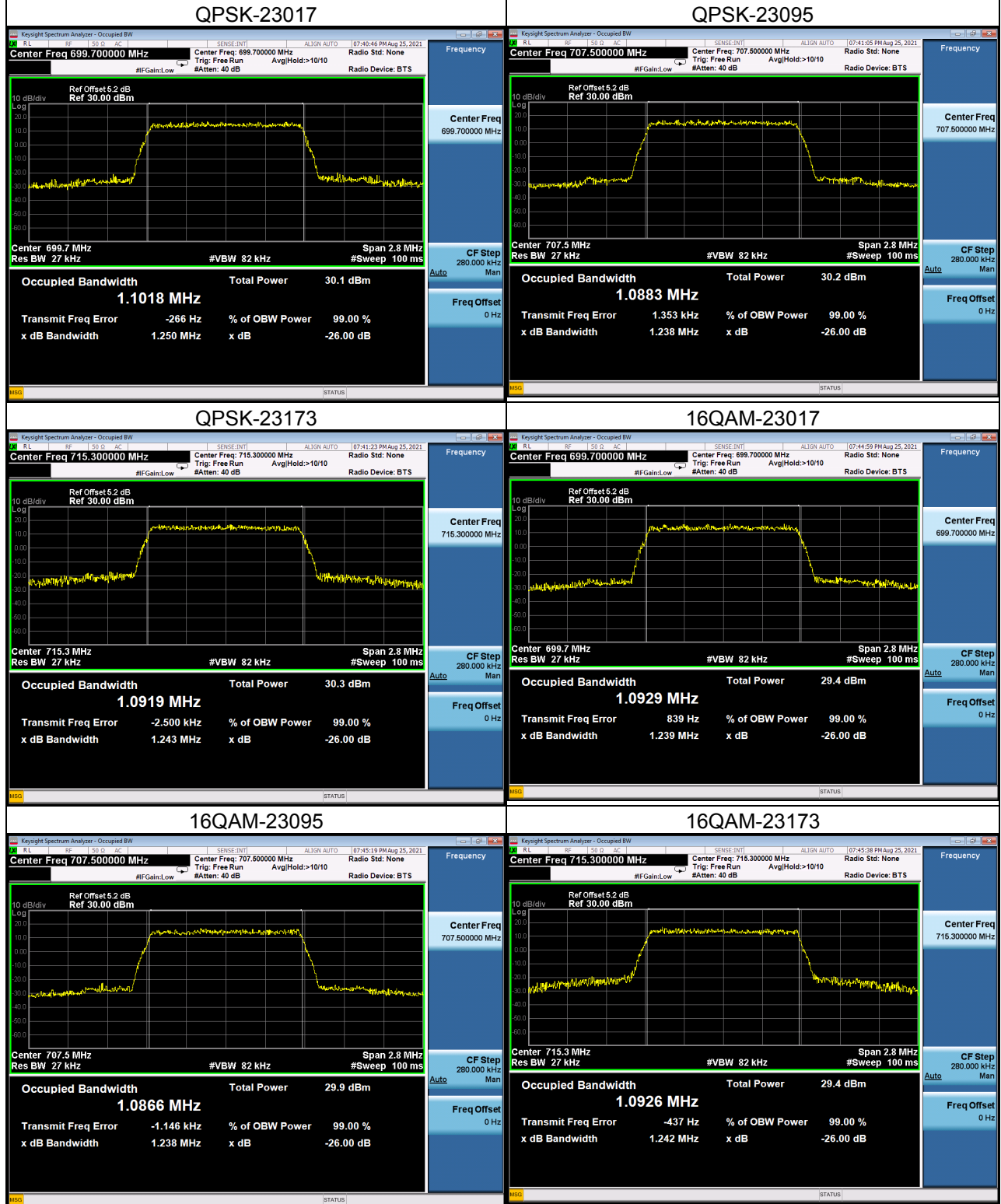


Spectrum Plot

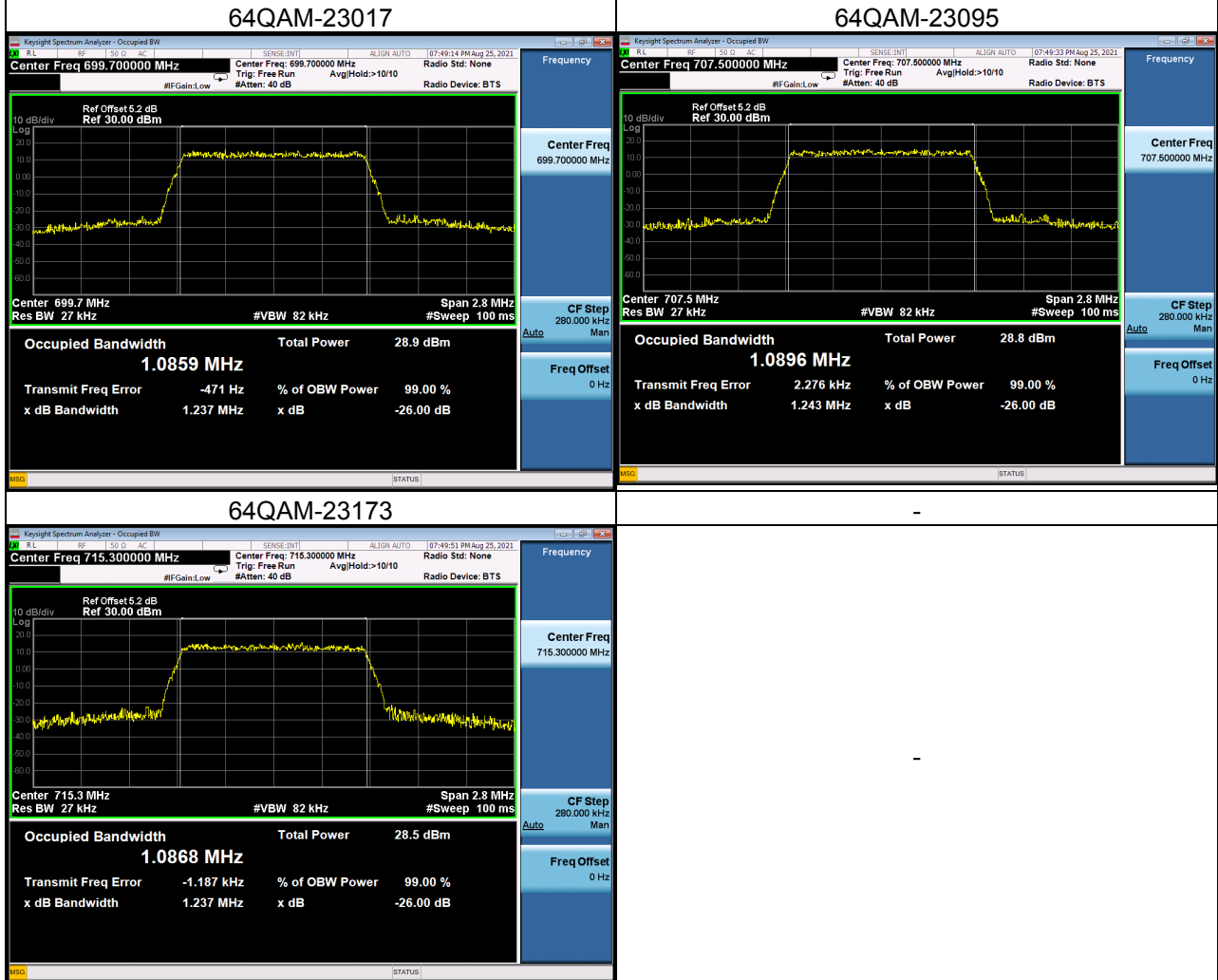


LTE Band 12_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.1018	23017	699.7	1.250
23095	707.5	1.0883	23095	707.5	1.238
23173	715.3	1.0919	23173	715.3	1.243
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.0929	23017	699.7	1.239
23095	707.5	1.0866	23095	707.5	1.238
23173	715.3	1.0926	23173	715.3	1.242
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.0859	23017	699.7	1.237
23095	707.5	1.0896	23095	707.5	1.243
23173	715.3	1.0868	23173	715.3	1.237

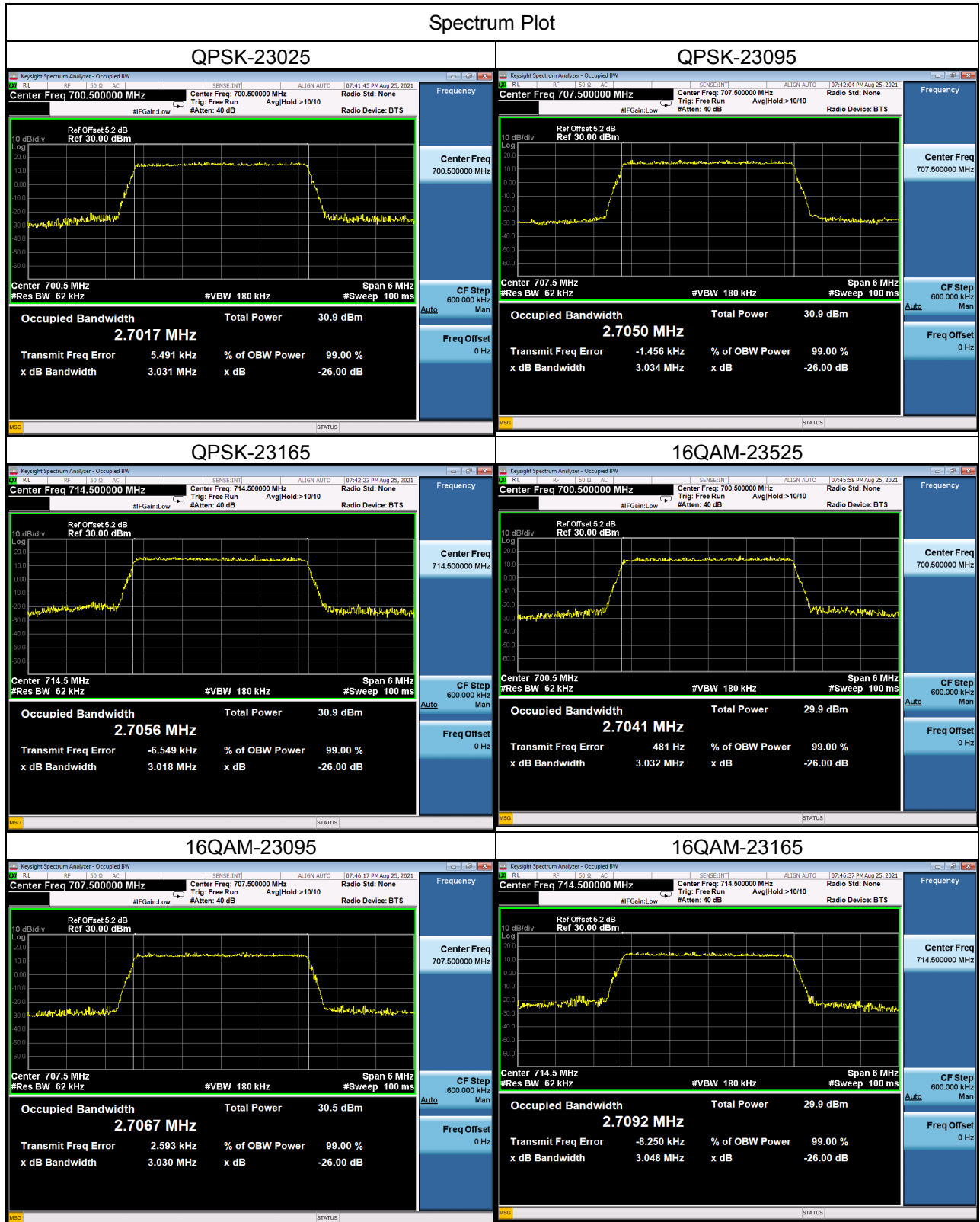
Spectrum Plot



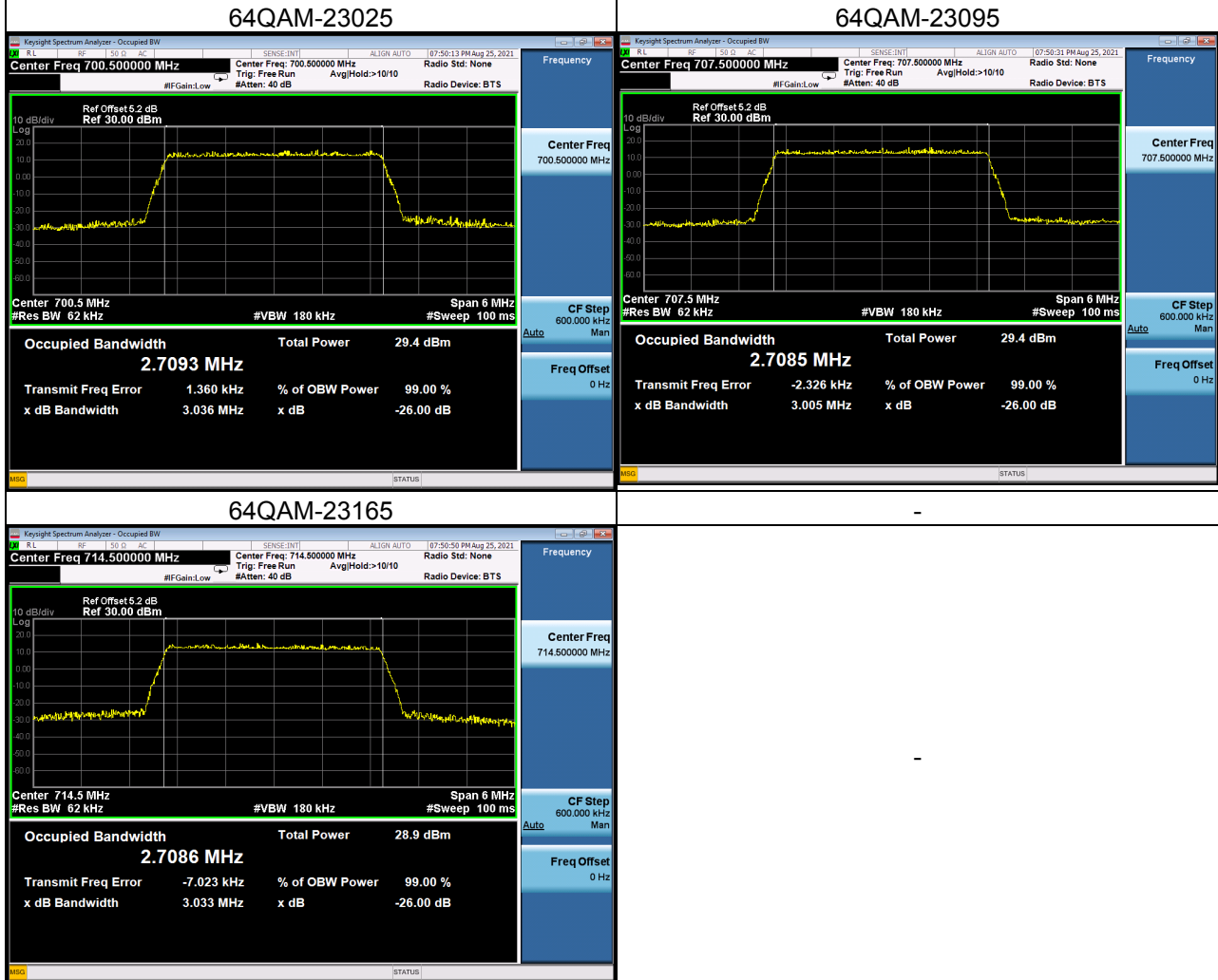
Spectrum Plot



LTE Band 12_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.7017	23025	700.5	3.031
23095	707.5	2.7050	23095	707.5	3.034
23165	714.5	2.7056	23165	714.5	3.018
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.7041	23025	700.5	3.032
23095	707.5	2.7067	23095	707.5	3.030
23165	714.5	2.7092	23165	714.5	3.048
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.7093	23025	700.5	3.036
23095	707.5	2.7085	23095	707.5	3.005
23165	714.5	2.7086	23165	714.5	3.033

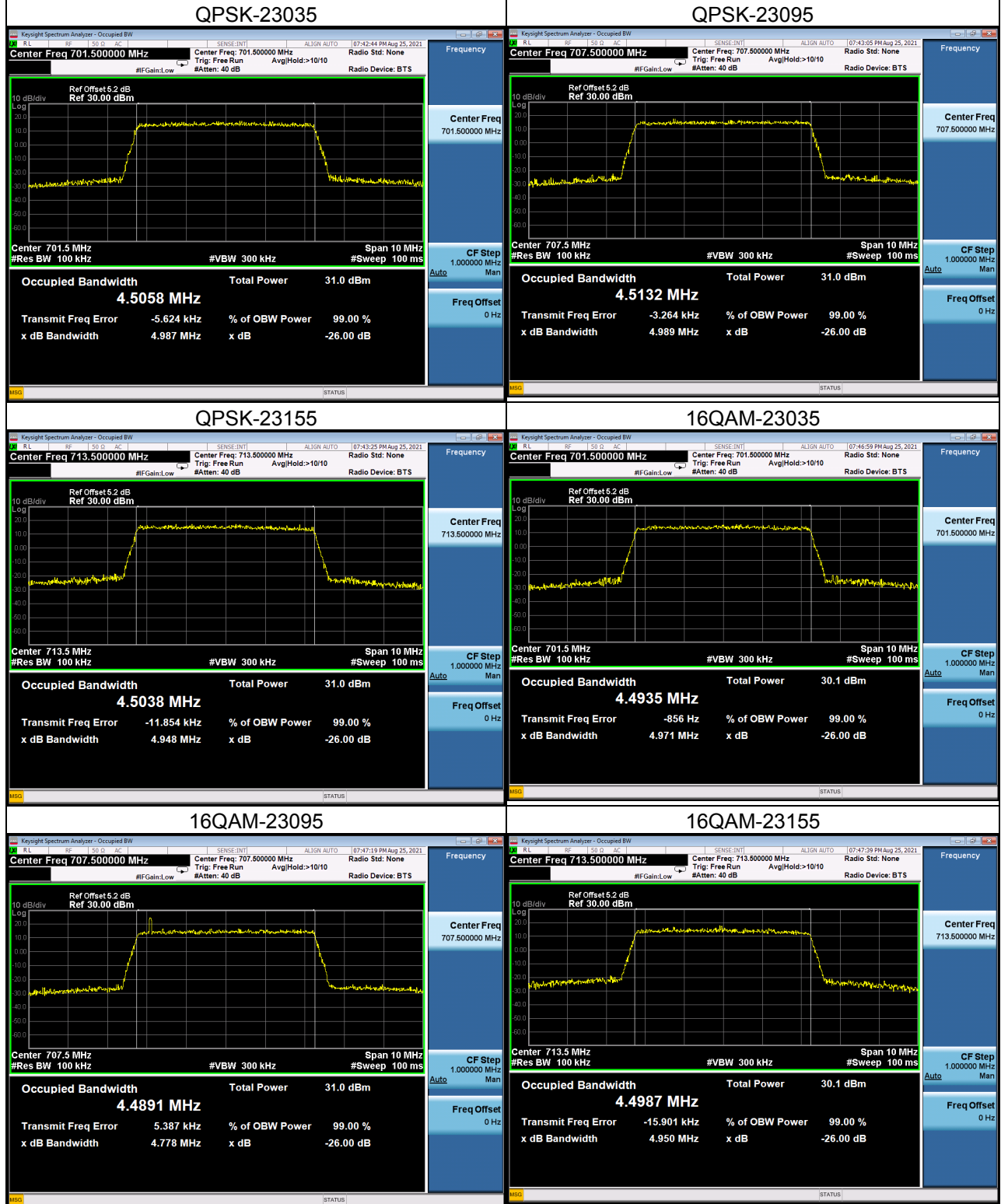


Spectrum Plot



LTE Band 12_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5058	23035	701.5	4.987
23095	707.5	4.5132	23095	707.5	4.989
23155	713.5	4.5038	23155	713.5	4.948
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.4935	23035	701.5	4.971
23095	707.5	4.4891	23095	707.5	4.778
23155	713.5	4.4987	23155	713.5	4.950
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.4972	23035	701.5	4.966
23095	707.5	4.5130	23095	707.5	4.957
23155	713.5	4.4988	23155	713.5	4.975

Spectrum Plot

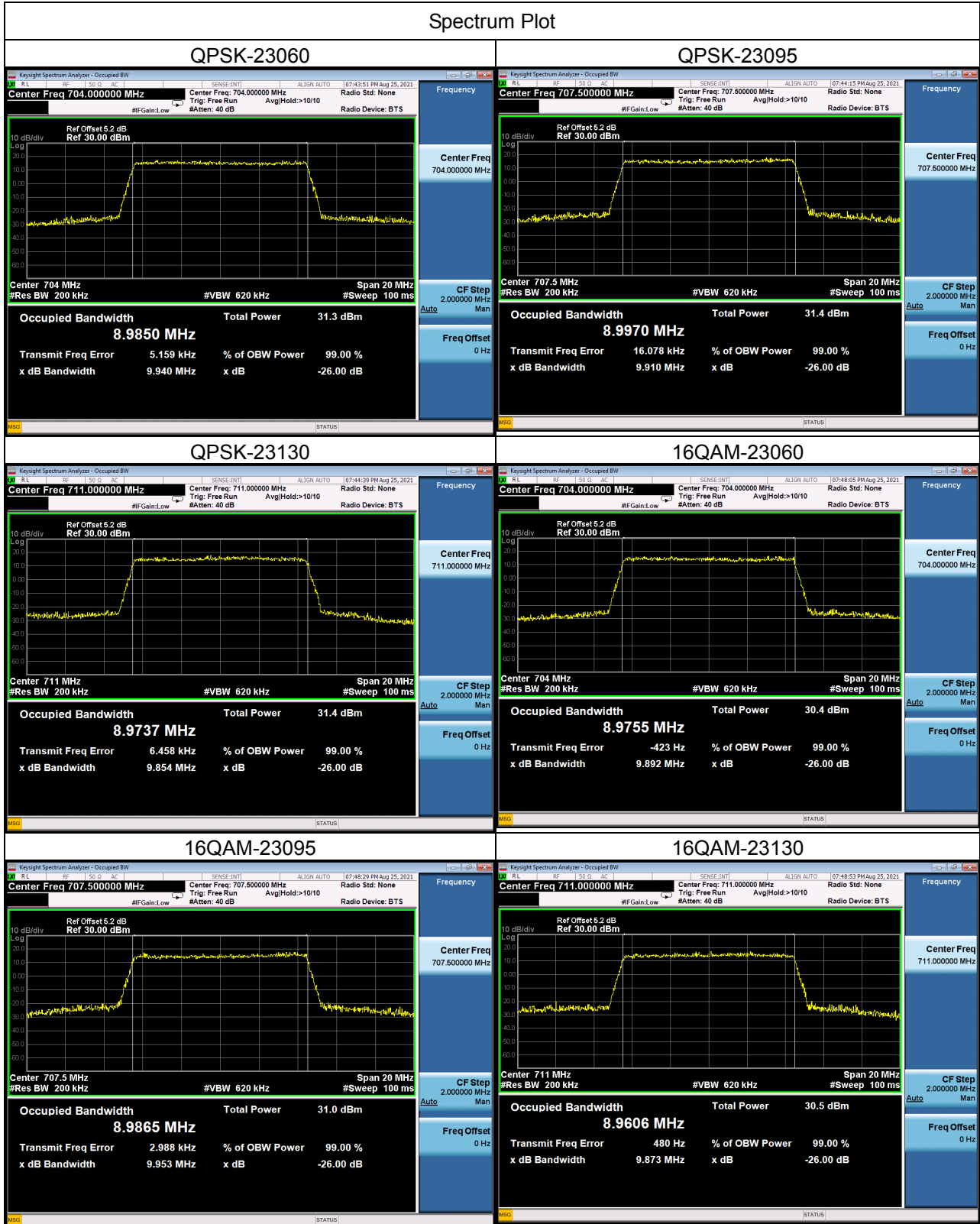


Spectrum Plot

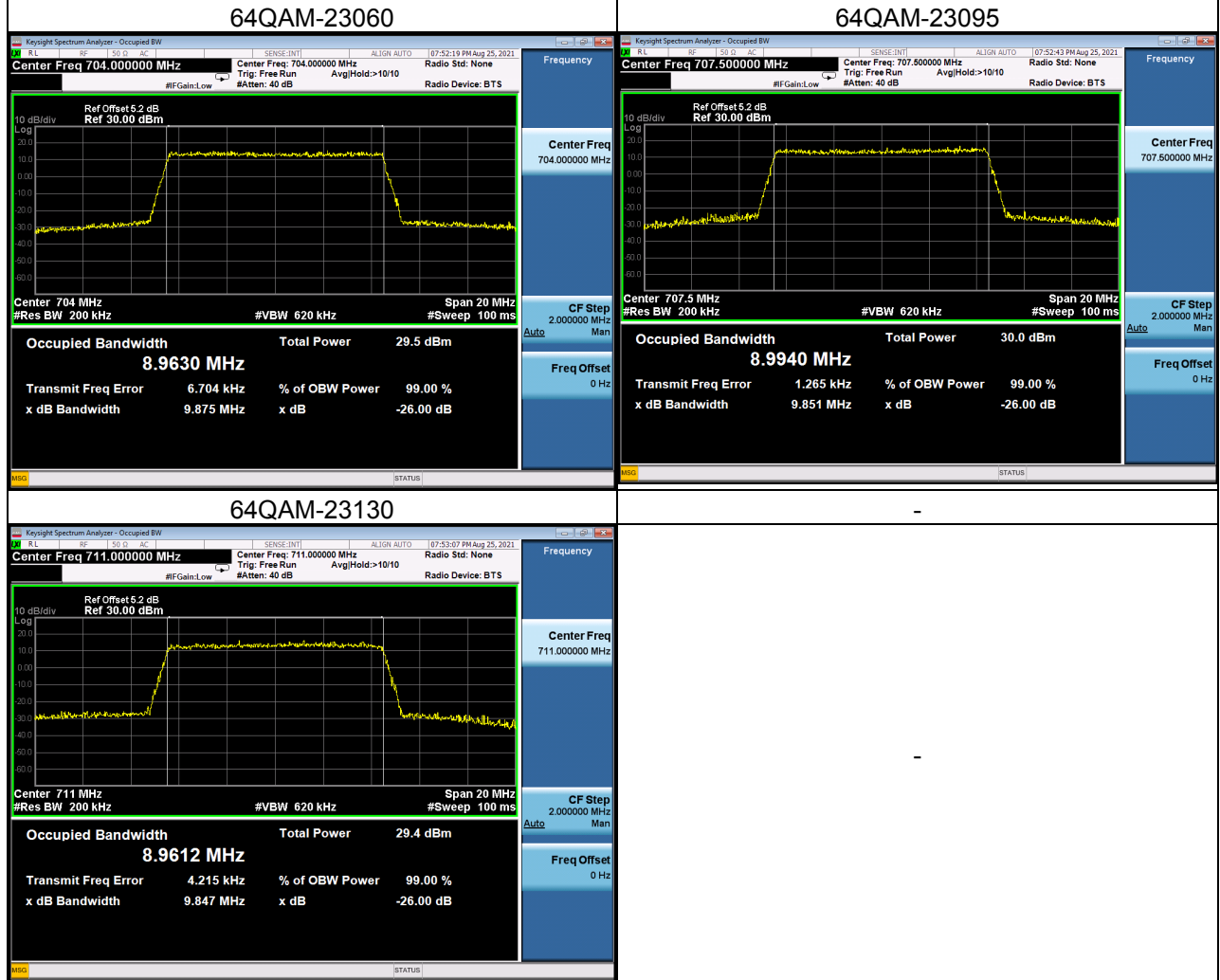


LTE Band 12_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9850	23060	704.0	9.940
23095	707.5	8.9970	23095	707.5	9.910
23130	711.0	8.9737	23130	711.0	9.854
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9755	23060	704.0	9.892
23095	707.5	8.9865	23095	707.5	9.953
23130	711.0	8.9606	23130	711.0	9.873
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9630	23060	704.0	9.875
23095	707.5	8.9940	23095	707.5	9.851
23130	711.0	8.9612	23130	711.0	9.847

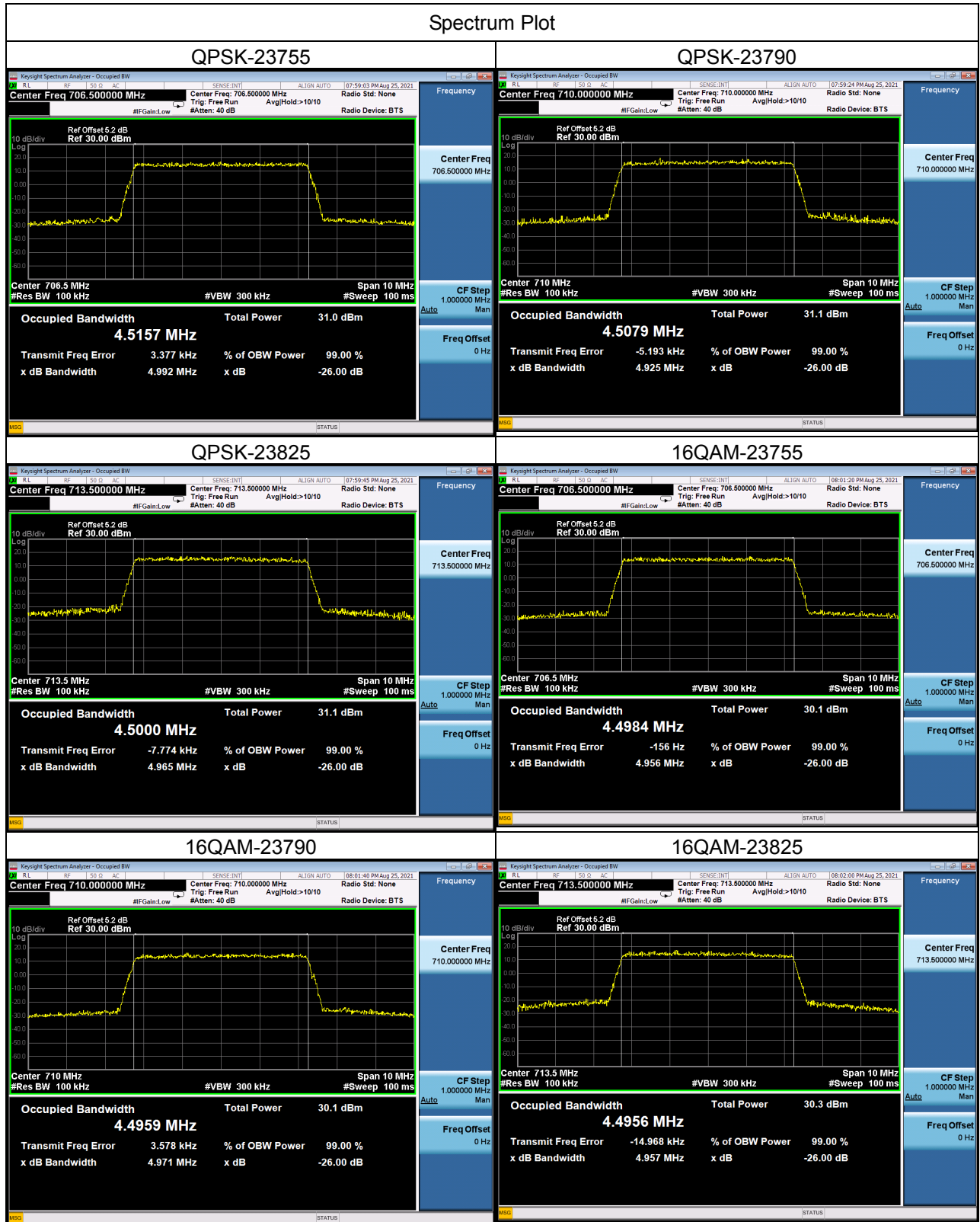
Spectrum Plot



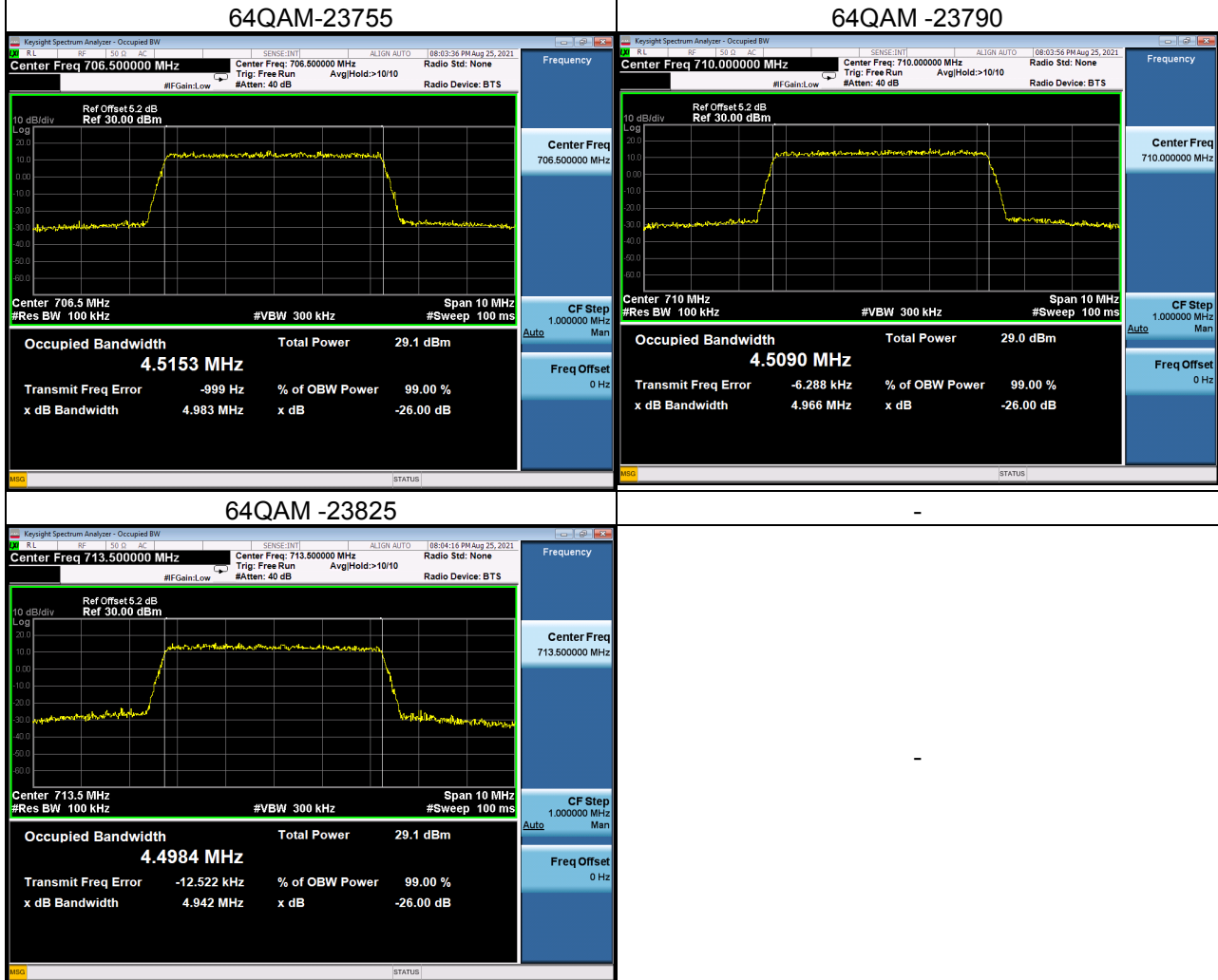
Spectrum Plot



LTE Band 17_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5157	23755	706.5	4.992
23790	710	4.5079	23790	710	4.925
23825	713.5	4.5000	23825	713.5	4.965
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.4984	23755	706.5	4.956
23790	710	4.4959	23790	710	4.971
23825	713.5	4.4956	23825	713.5	4.957
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5153	23755	706.5	4.983
23790	710	4.5090	23790	710	4.966
23825	713.5	4.4984	23825	713.5	4.942

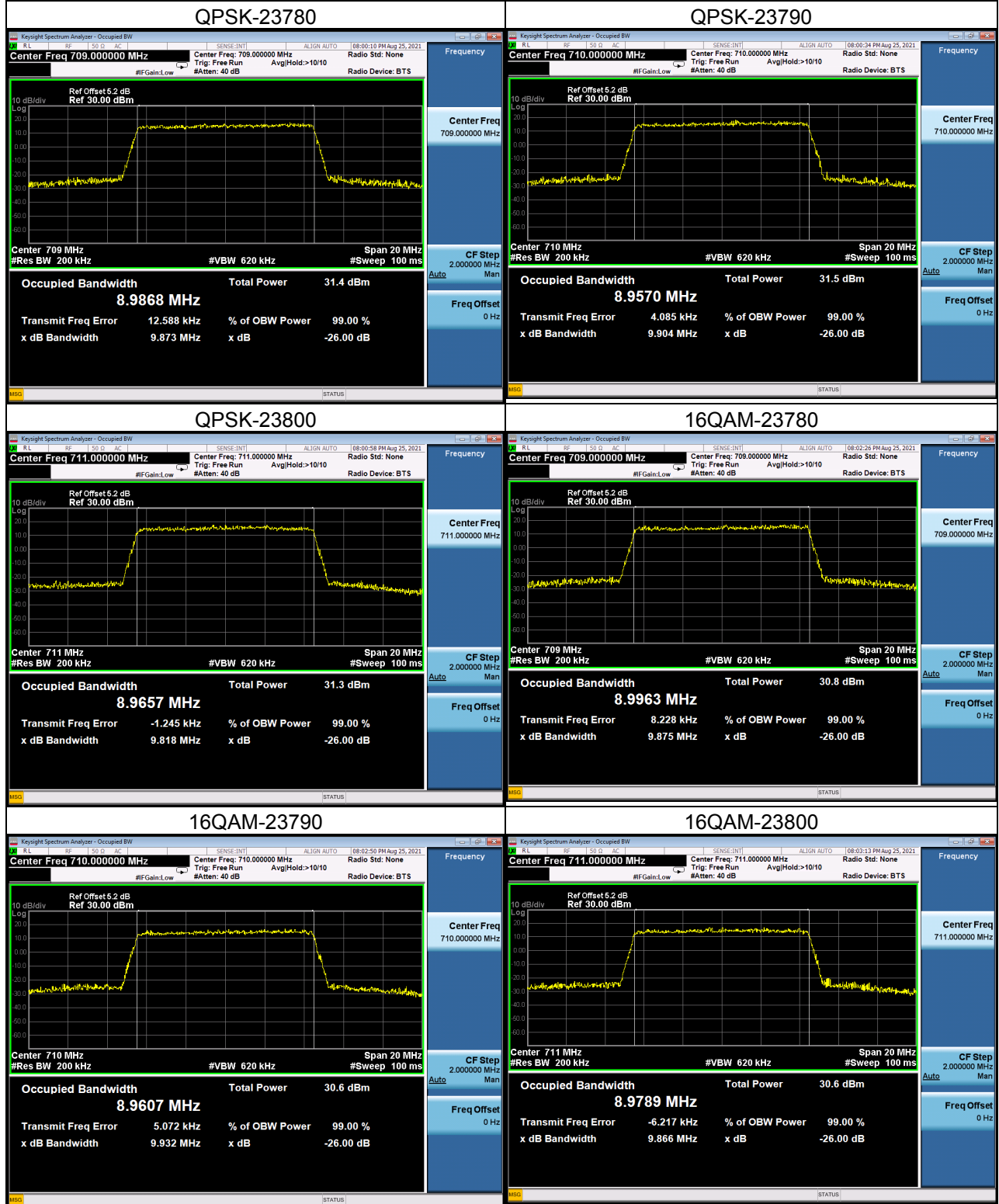


Spectrum Plot

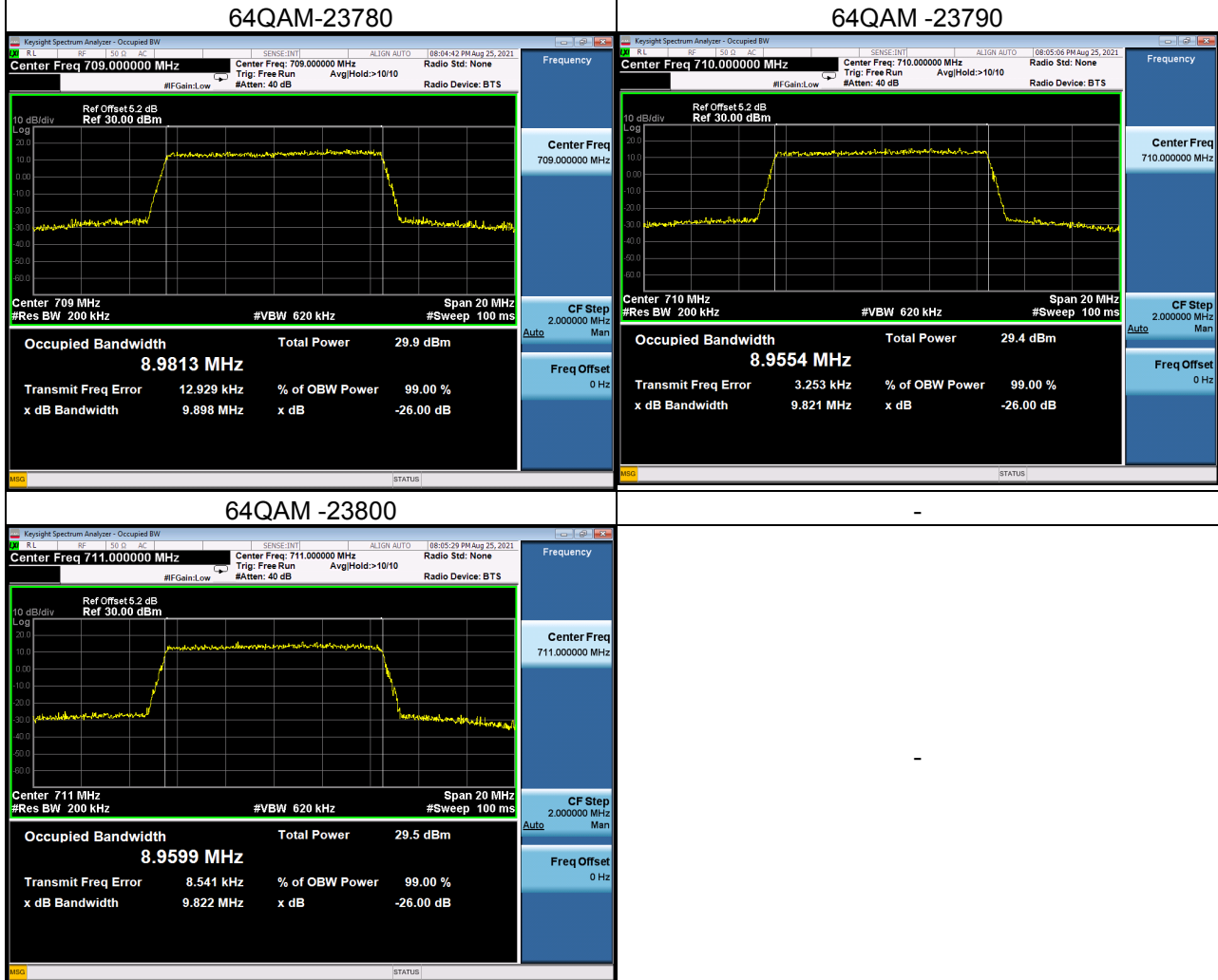


LTE Band 17_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9868	23780	709	9.873
23790	710	8.9570	23790	710	9.904
23800	711	8.9657	23800	711	9.818
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9963	23780	709	9.875
23790	710	8.9607	23790	710	9.932
23800	711	8.9789	23800	711	9.866
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9813	23780	709	9.898
23790	710	8.9554	23790	710	9.821
23800	711	8.9599	23800	711	9.822

Spectrum Plot

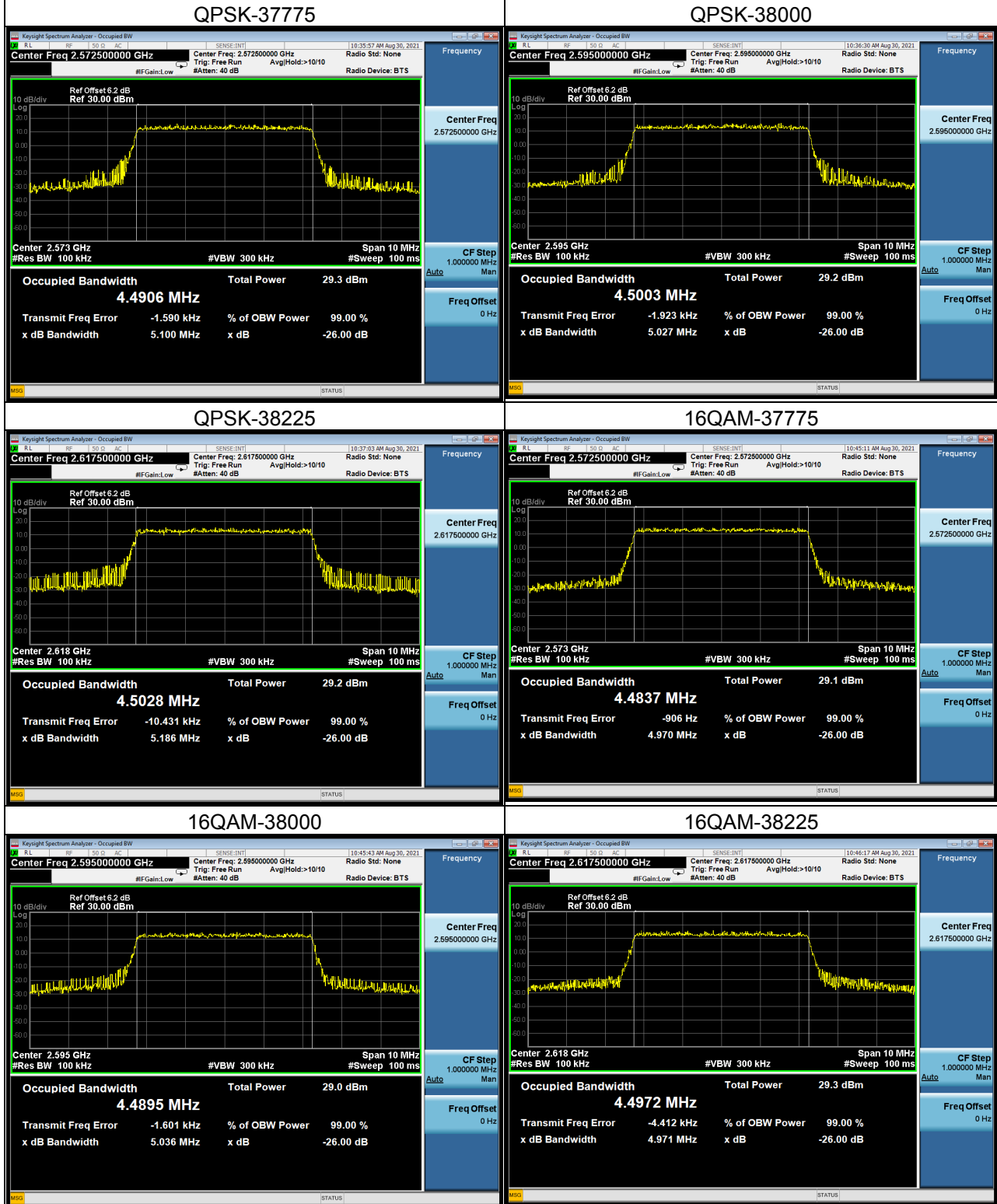


Spectrum Plot



LTE Band 38_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4906	37775	2572.5	5.100
38000	2595	4.5003	38000	2595	5.027
38225	2617.5	4.5028	38225	2617.5	5.186
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4837	37775	2572.5	4.970
38000	2595	4.4895	38000	2595	5.036
38225	2617.5	4.4972	38225	2617.5	4.971
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4906	37775	2572.5	5.072
38000	2595	4.4933	38000	2595	5.201
38225	2617.5	4.4892	38225	2617.5	5.058

Spectrum Plot

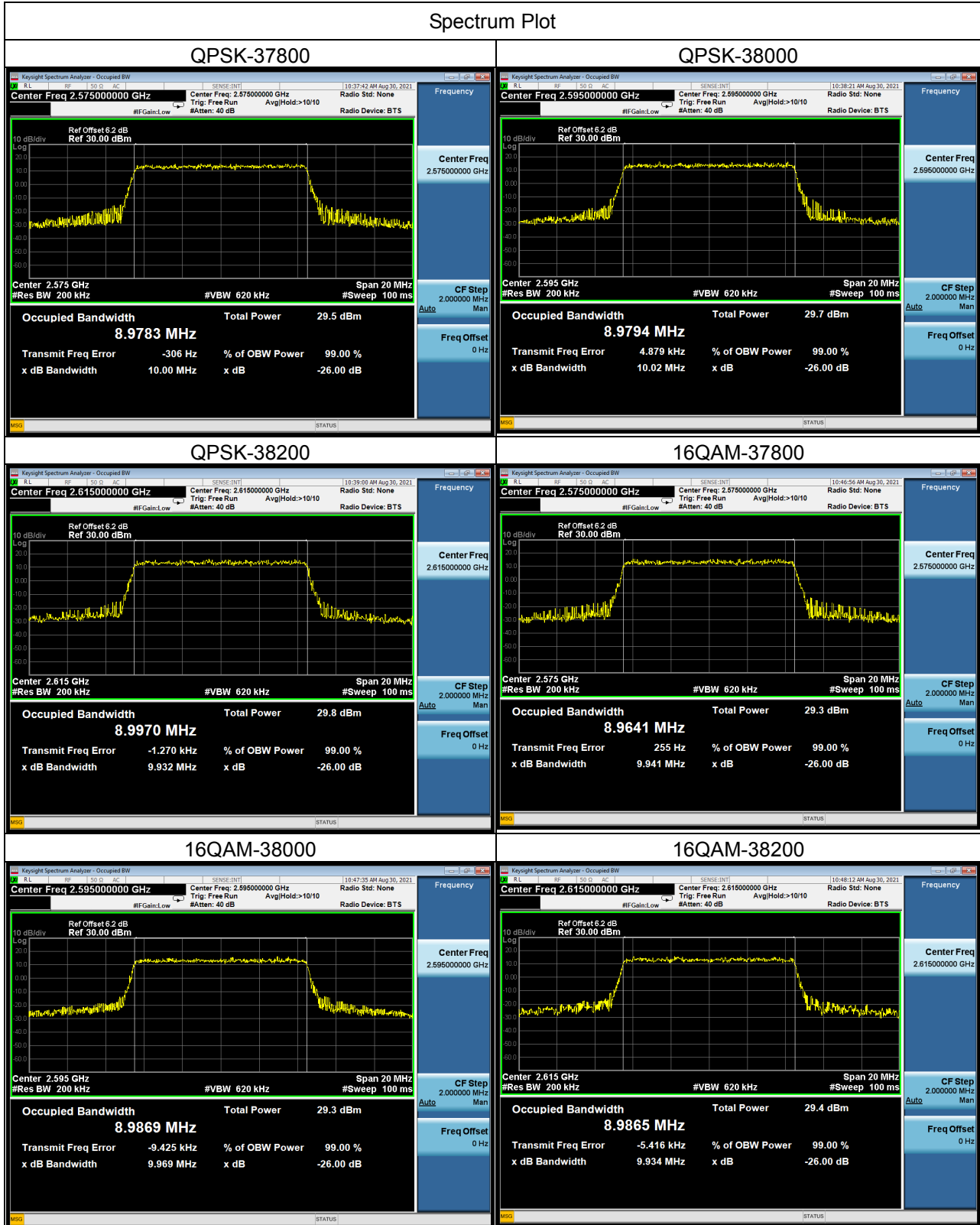


Spectrum Plot

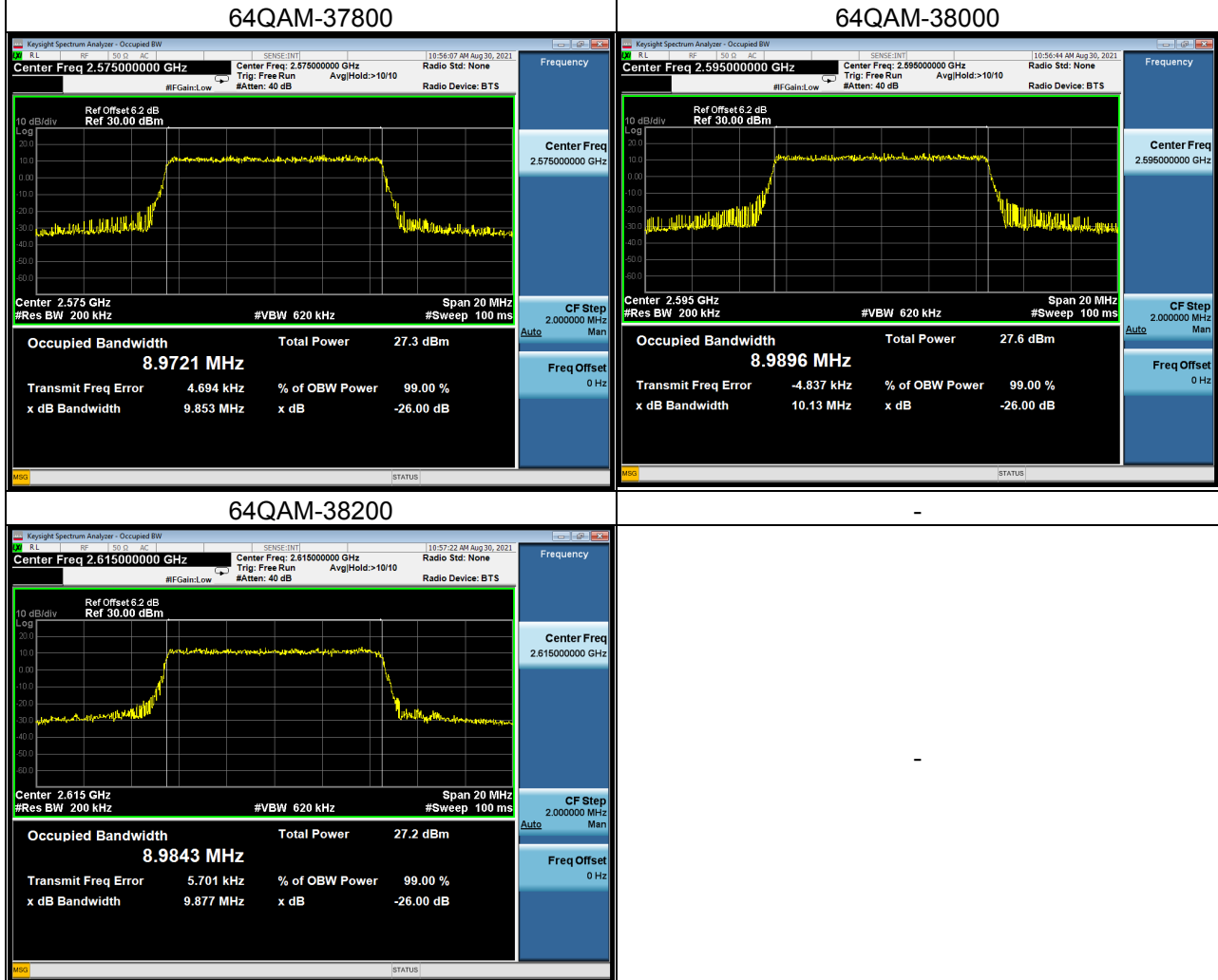


LTE Band 38_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9783	37800	2575	10.00
38000	2595	8.9794	38000	2595	10.02
38200	2615	8.9970	38200	2615	9.932
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9641	37800	2575	9.941
38000	2595	8.9869	38000	2595	9.969
38200	2615	8.9865	38200	2615	9.934
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9721	37800	2575	9.853
38000	2595	8.9896	38000	2595	10.13
38200	2615	8.9843	38200	2615	9.877

Spectrum Plot

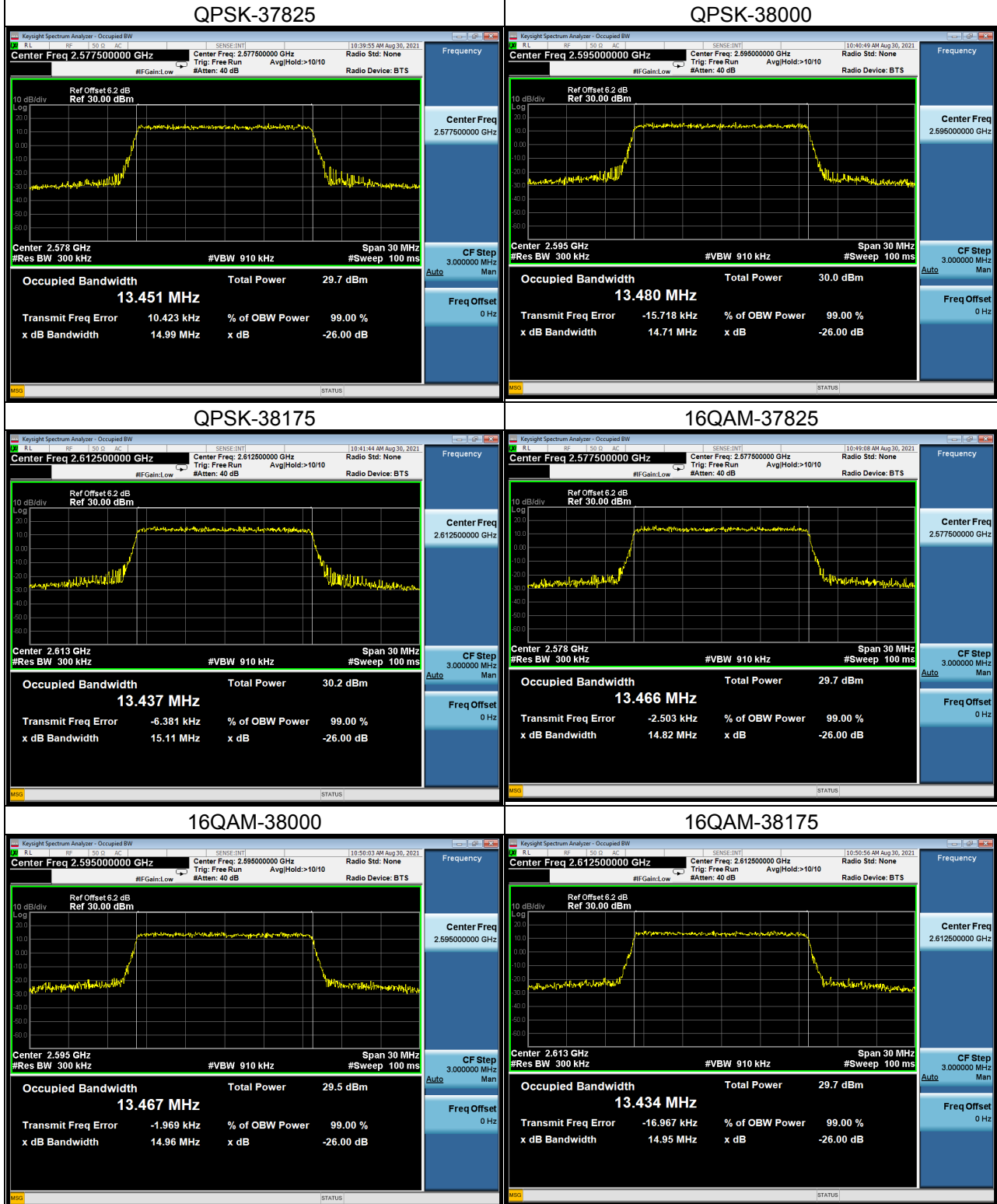


Spectrum Plot

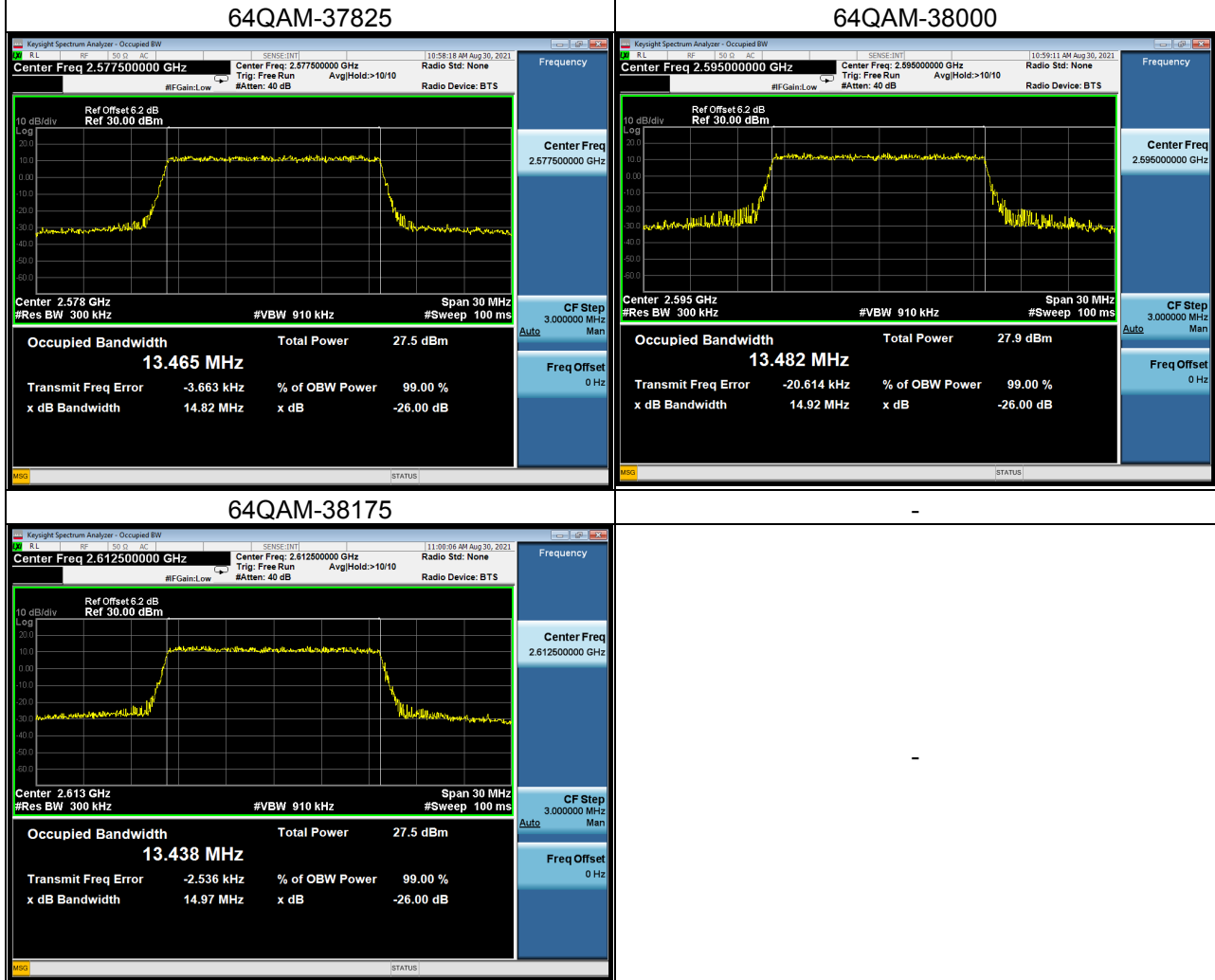


LTE Band 38_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.451	37825	2577.5	14.99
38000	2595	13.480	38000	2595	14.71
38175	2612.5	13.437	38175	2612.5	15.11
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.466	37825	2577.5	14.82
38000	2595	13.467	38000	2595	14.96
38175	2612.5	13.434	38175	2612.5	14.95
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.465	37825	2577.5	14.82
38000	2595	13.482	38000	2595	14.92
38175	2612.5	13.438	38175	2612.5	14.97

Spectrum Plot



Spectrum Plot



LTE Band 38_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.945	37850	2580	19.68
38000	2595	17.943	38000	2595	19.53
38150	2610	17.933	38150	2610	19.61
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.958	37850	2580	19.66
38000	2595	17.936	38000	2595	19.57
38150	2610	17.978	38150	2610	19.67
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.988	37850	2580	19.78
38000	2595	17.986	38000	2595	19.65
38150	2610	17.945	38150	2610	19.49