

Spectrum Plot

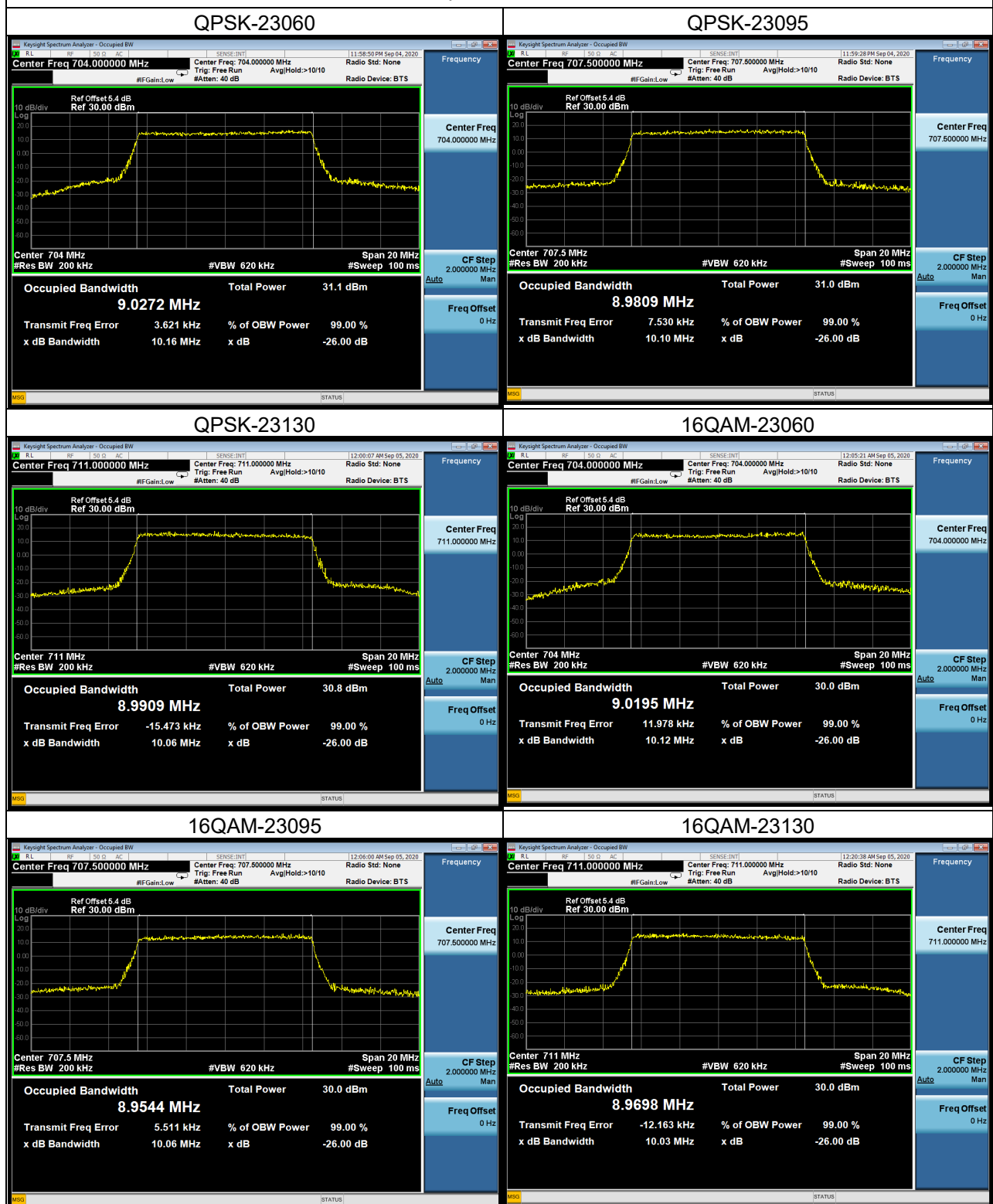


Spectrum Plot

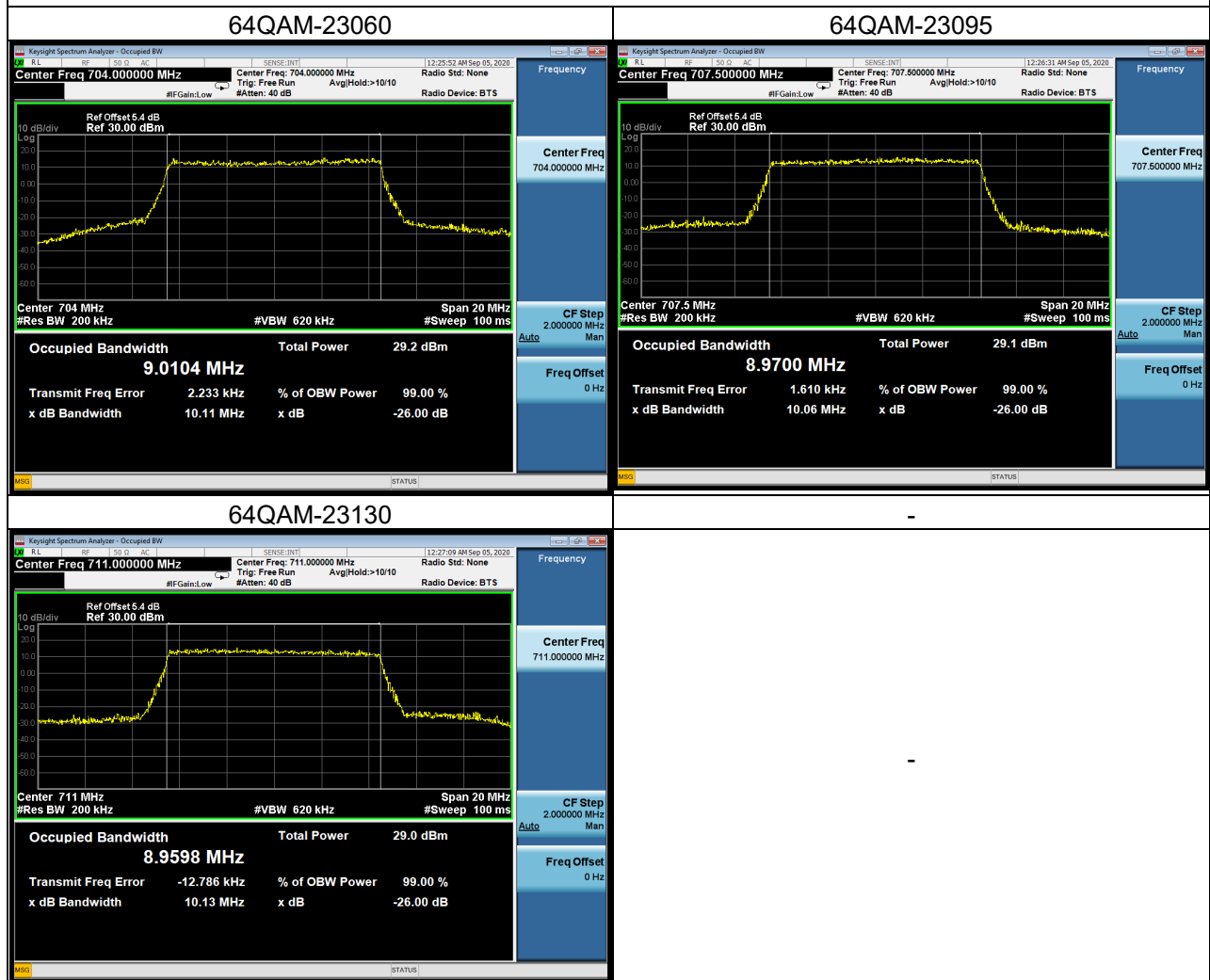


LTE Band 12_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.0272	23060	704.0	10.16
23095	707.5	8.9809	23095	707.5	10.10
23130	711.0	8.9909	23130	711.0	10.06
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.0195	23060	704.0	10.12
23095	707.5	8.9544	23095	707.5	10.06
23130	711.0	8.9698	23130	711.0	10.03
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.0104	23060	704.0	10.11
23095	707.5	8.9700	23095	707.5	10.06
23130	711.0	8.9598	23130	711.0	10.13

Spectrum Plot

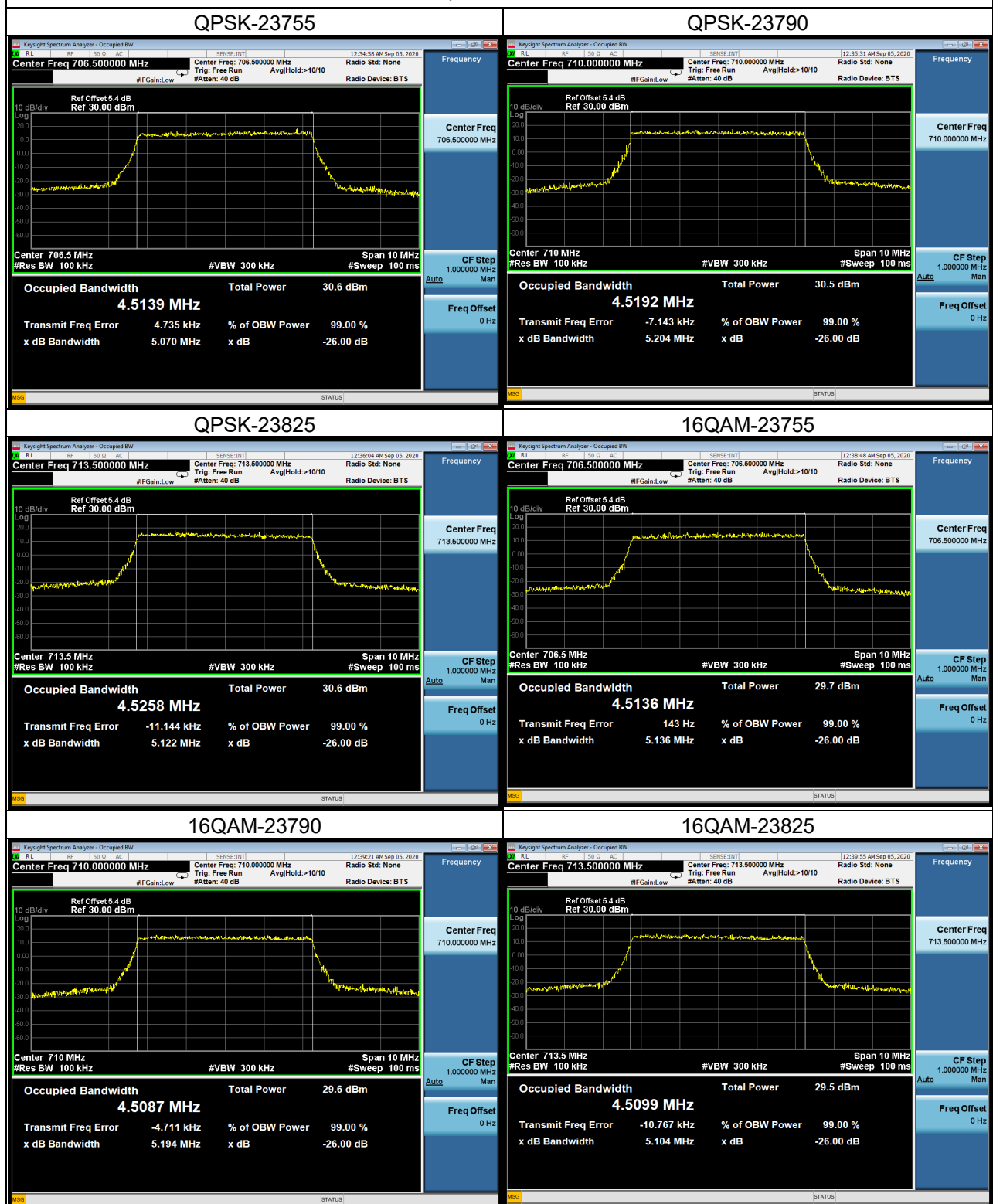


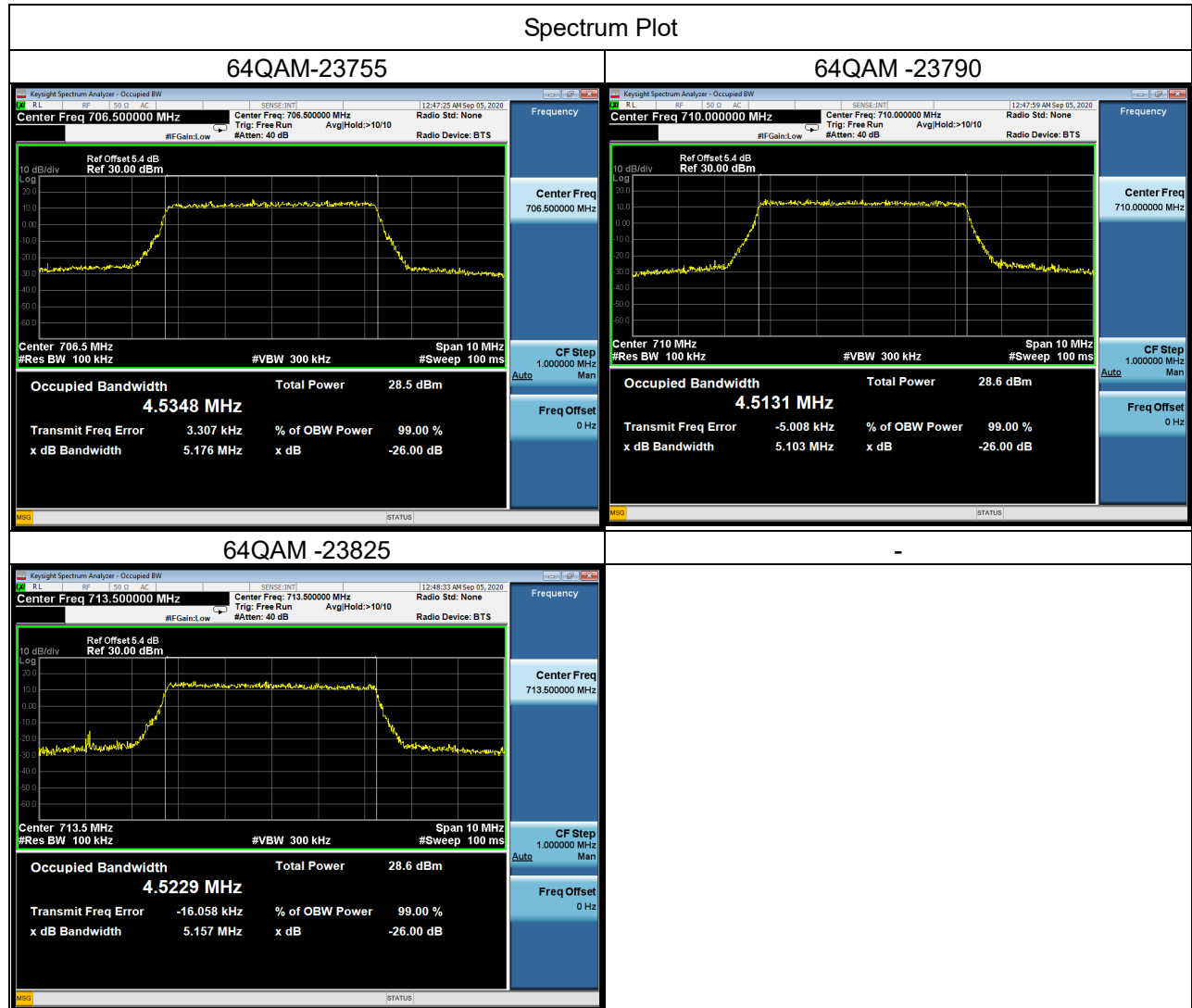
Spectrum Plot



LTE Band 17_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5139	23755	706.5	5.070
23790	710	4.5192	23790	710	5.204
23825	713.5	4.5258	23825	713.5	5.122
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5136	23755	706.5	5.136
23790	710	4.5087	23790	710	5.194
23825	713.5	4.5099	23825	713.5	5.104
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	4.5348	23755	706.5	5.176
23790	710	4.5131	23790	710	5.103
23825	713.5	4.5229	23825	713.5	5.157

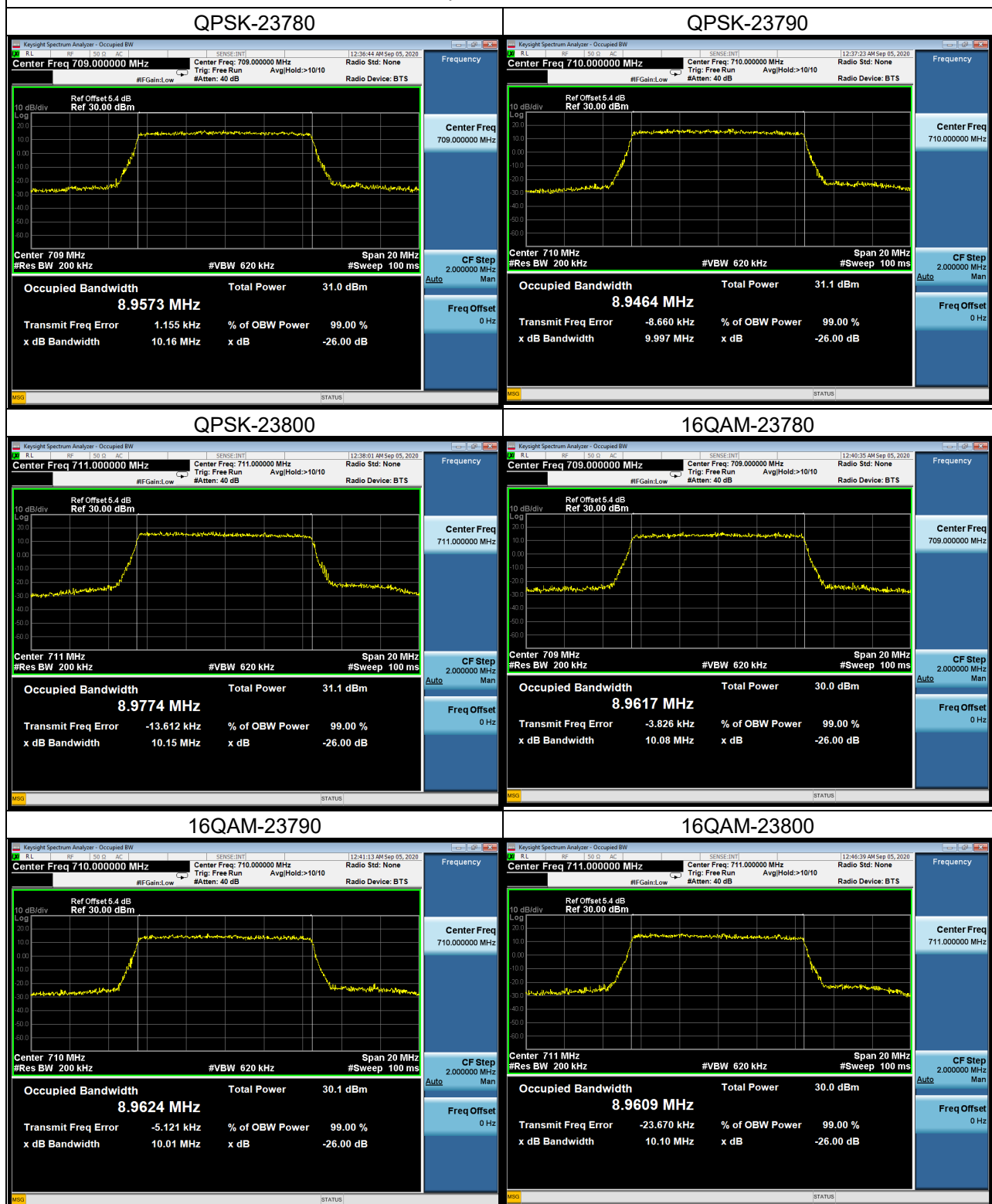
Spectrum Plot





LTE Band 17_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9573	23780	709	10.16
23790	710	8.9464	23790	710	9.997
23800	711	8.9774	23800	711	10.15
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9617	23780	709	10.08
23790	710	8.9624	23790	710	10.01
23800	711	8.9609	23800	711	10.10
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709	8.9542	23780	709	10.09
23790	710	8.9586	23790	710	10.08
23800	711	8.9639	23800	711	9.969

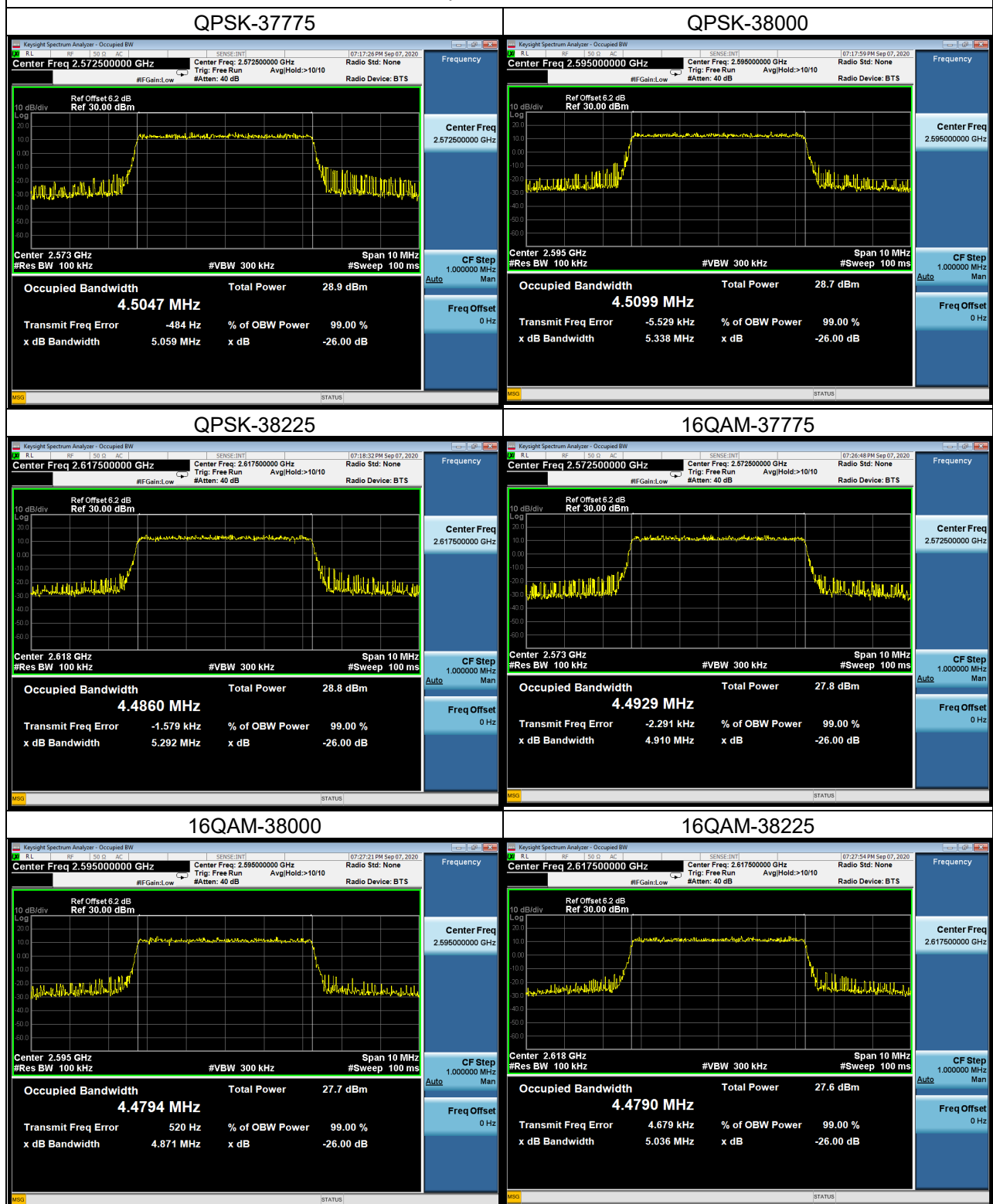
Spectrum Plot



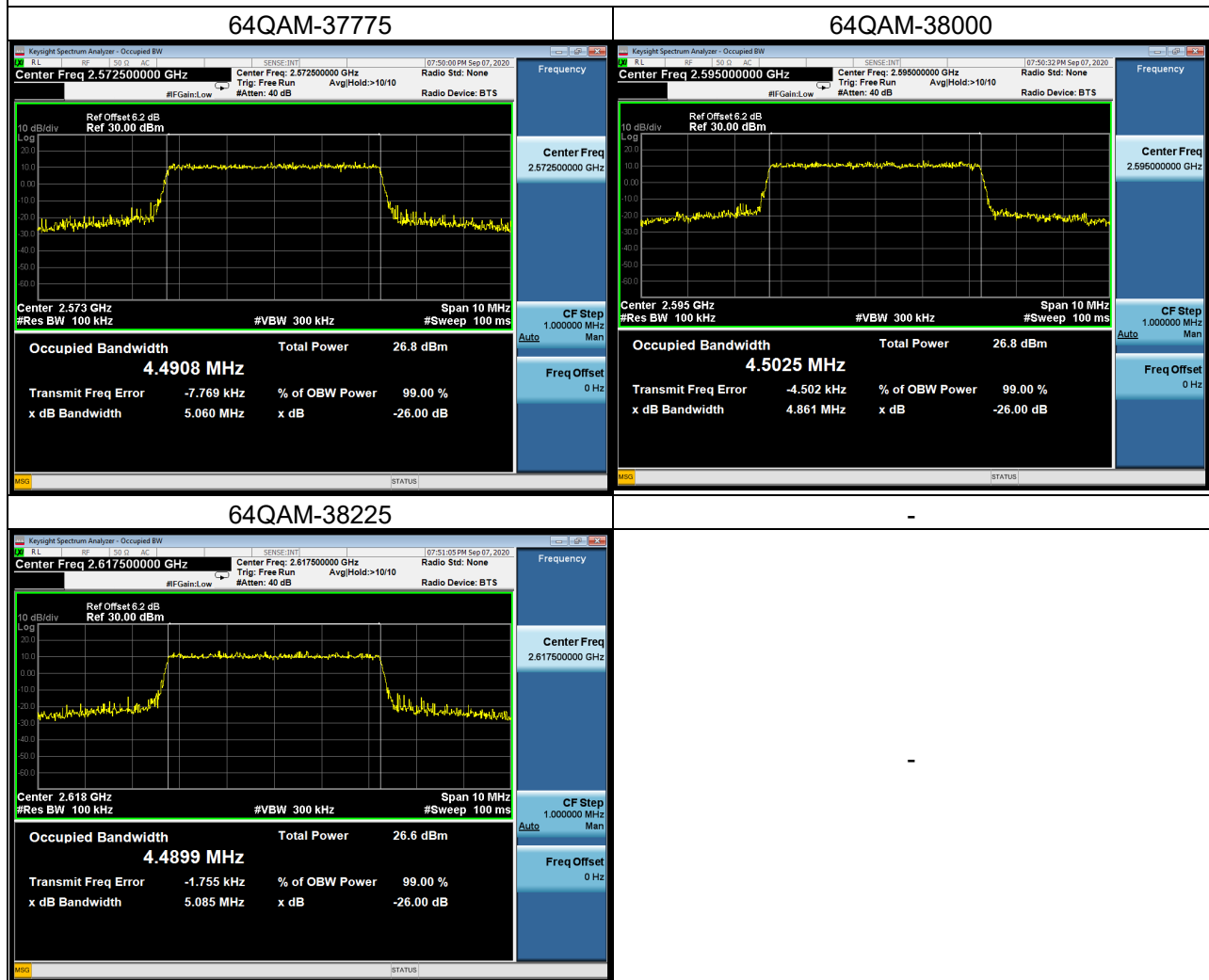


LTE Band 38_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.5047	37775	2572.5	5.059
38000	2595	4.5099	38000	2595	5.338
38225	2617.5	4.4860	38225	2617.5	5.292
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4929	37775	2572.5	4.910
38000	2595	4.4794	38000	2595	4.871
38225	2617.5	4.4790	38225	2617.5	5.036
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4908	37775	2572.5	5.060
38000	2595	4.5025	38000	2595	4.861
38225	2617.5	4.4899	38225	2617.5	5.085

Spectrum Plot

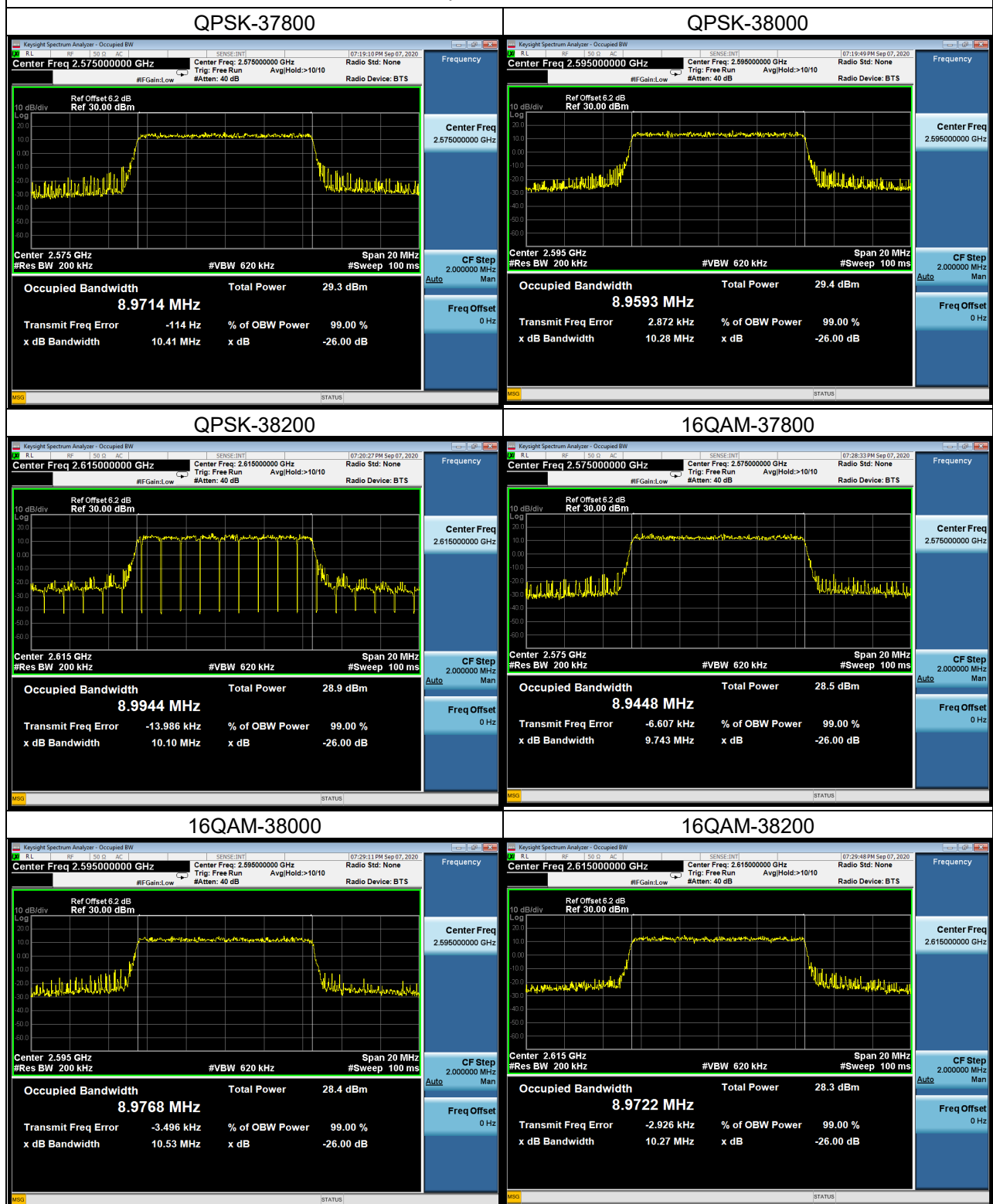


Spectrum Plot

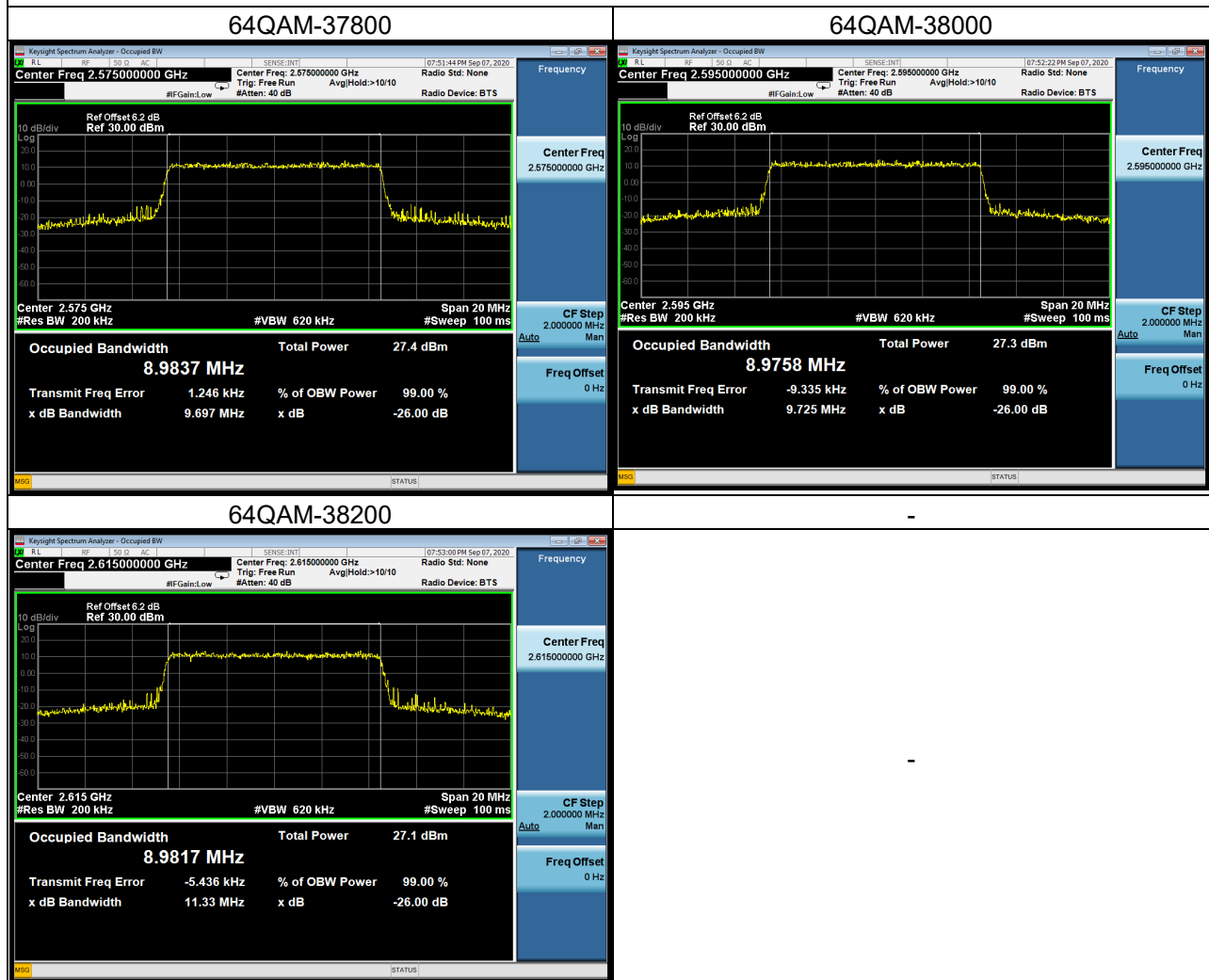


LTE Band 38_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9714	37800	2575	10.41
38000	2595	8.9593	38000	2595	10.28
38200	2615	8.9944	38200	2615	10.10
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9448	37800	2575	9.743
38000	2595	8.9768	38000	2595	10.53
38200	2615	8.9722	38200	2615	10.27
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9737	37800	2575	9.697
38000	2595	8.9758	38000	2595	9.725
38200	2615	8.9717	38200	2615	11.33

Spectrum Plot

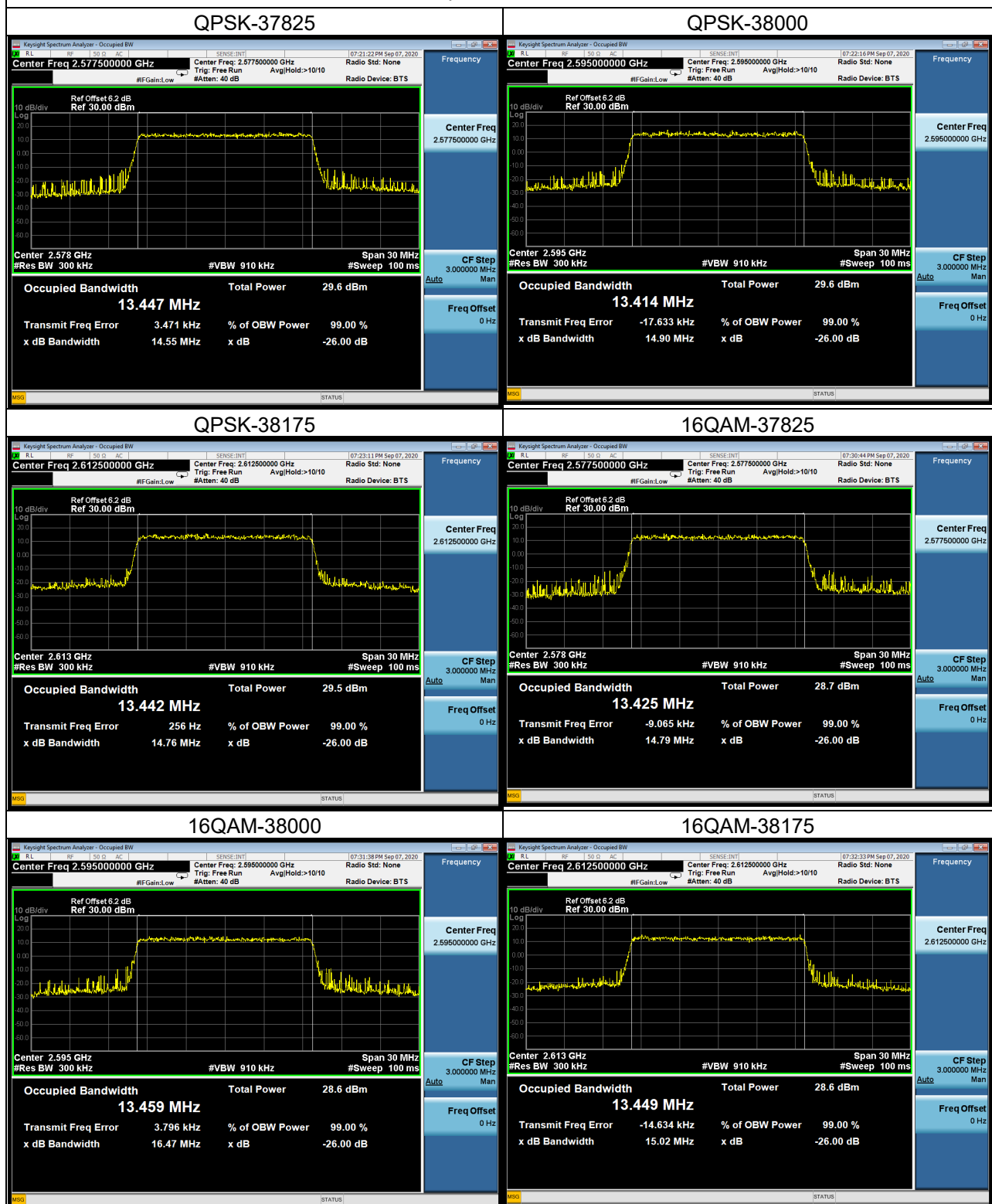


Spectrum Plot

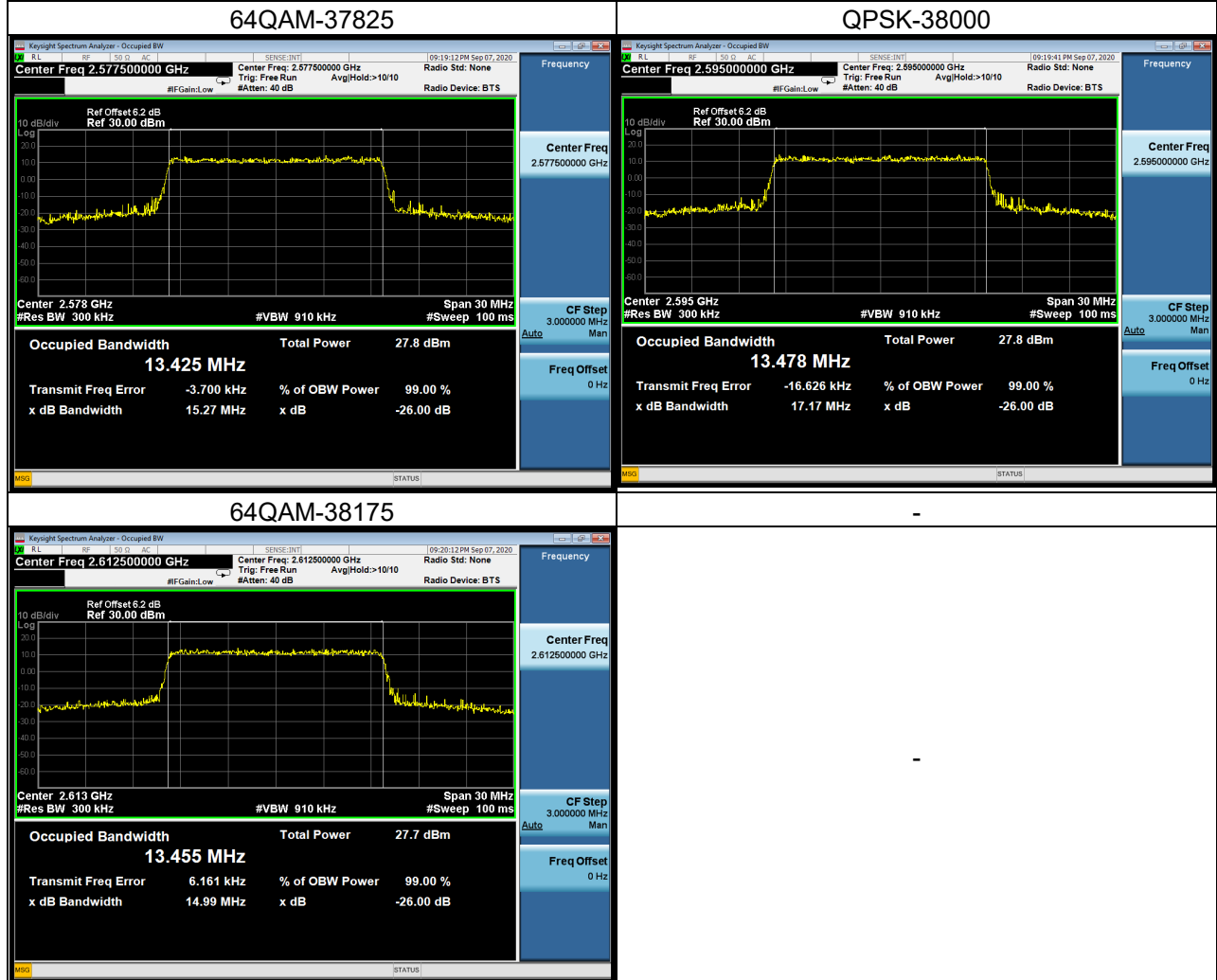


LTE Band 38_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.447	37825	2577.5	14.55
38000	2595	13.414	38000	2595	14.90
38175	2612.5	13.442	38175	2612.5	14.76
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.425	37825	2577.5	14.79
38000	2595	13.459	38000	2595	16.47
38175	2612.5	13.449	38175	2612.5	15.02
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.425	37825	2577.5	15.27
38000	2595	13.478	38000	2595	17.17
38175	2612.5	13.455	38175	2612.5	14.99

Spectrum Plot

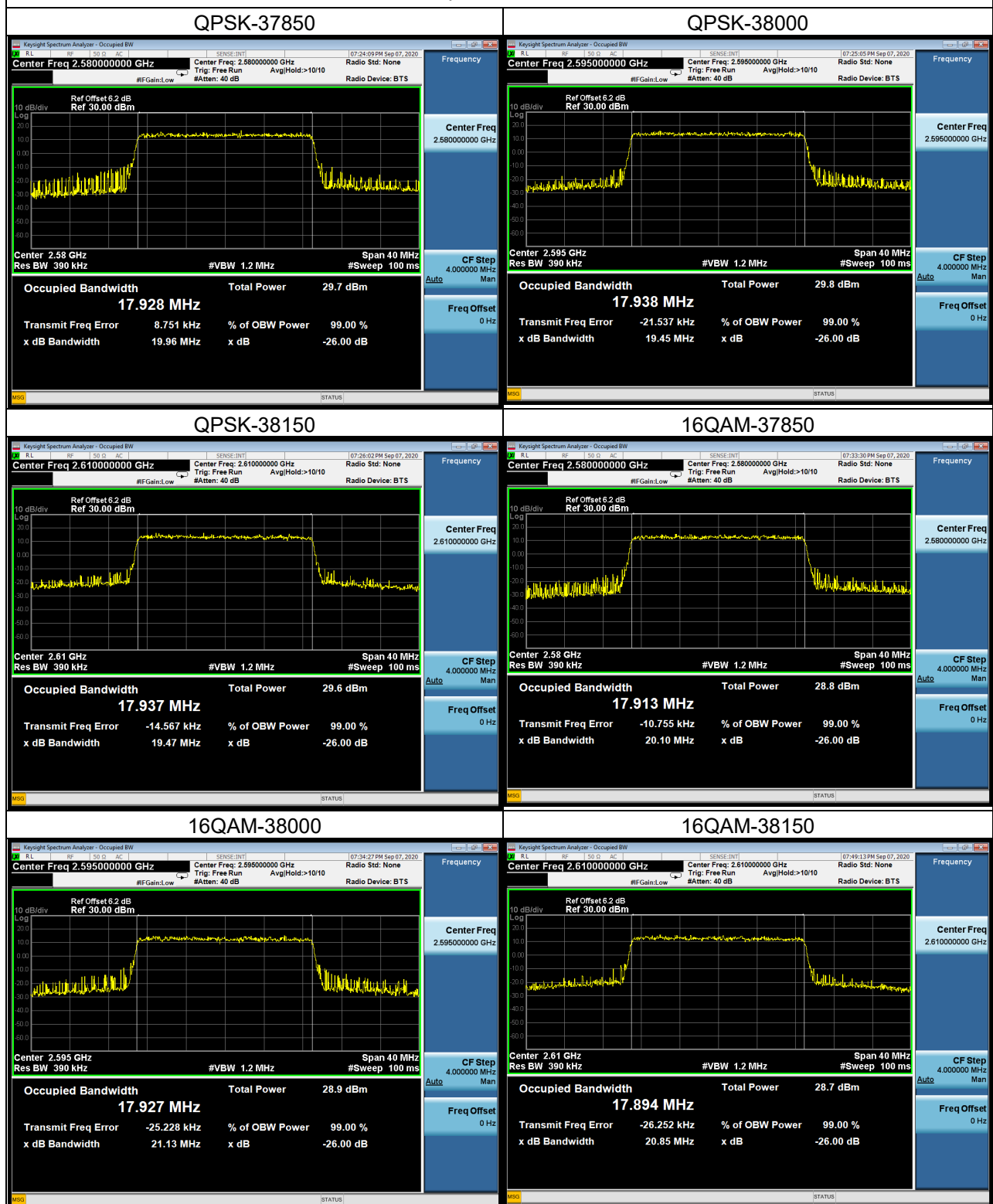


Spectrum Plot

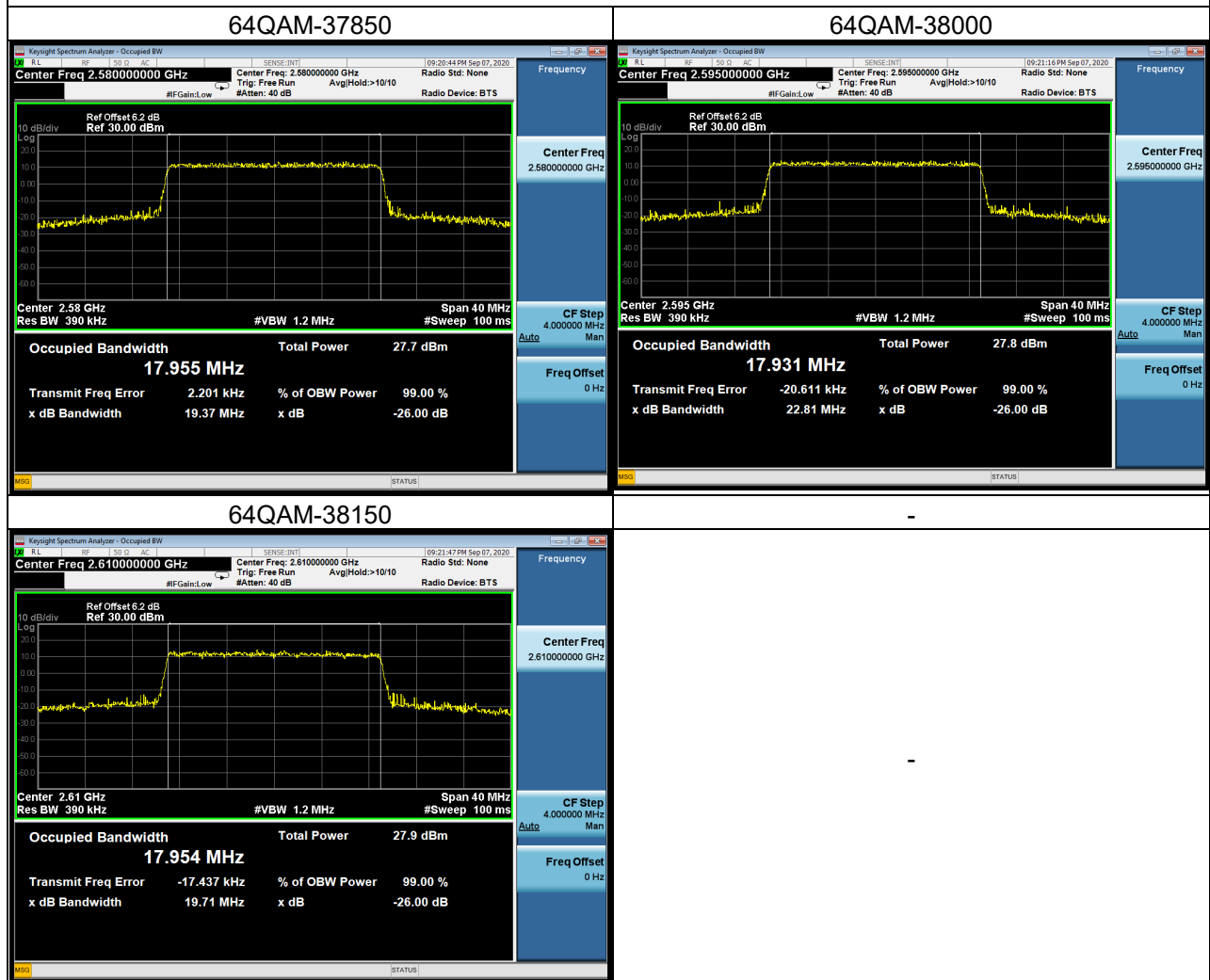


LTE Band 38_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.928	37850	2580	19.96
38000	2595	17.938	38000	2595	19.45
38150	2610	17.937	38150	2610	19.47
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.913	37850	2580	20.10
38000	2595	17.927	38000	2595	21.13
38150	2610	17.894	38150	2610	20.85
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.955	37850	2580	19.37
38000	2595	17.931	38000	2595	22.81
38150	2610	17.954	38150	2610	19.71

Spectrum Plot

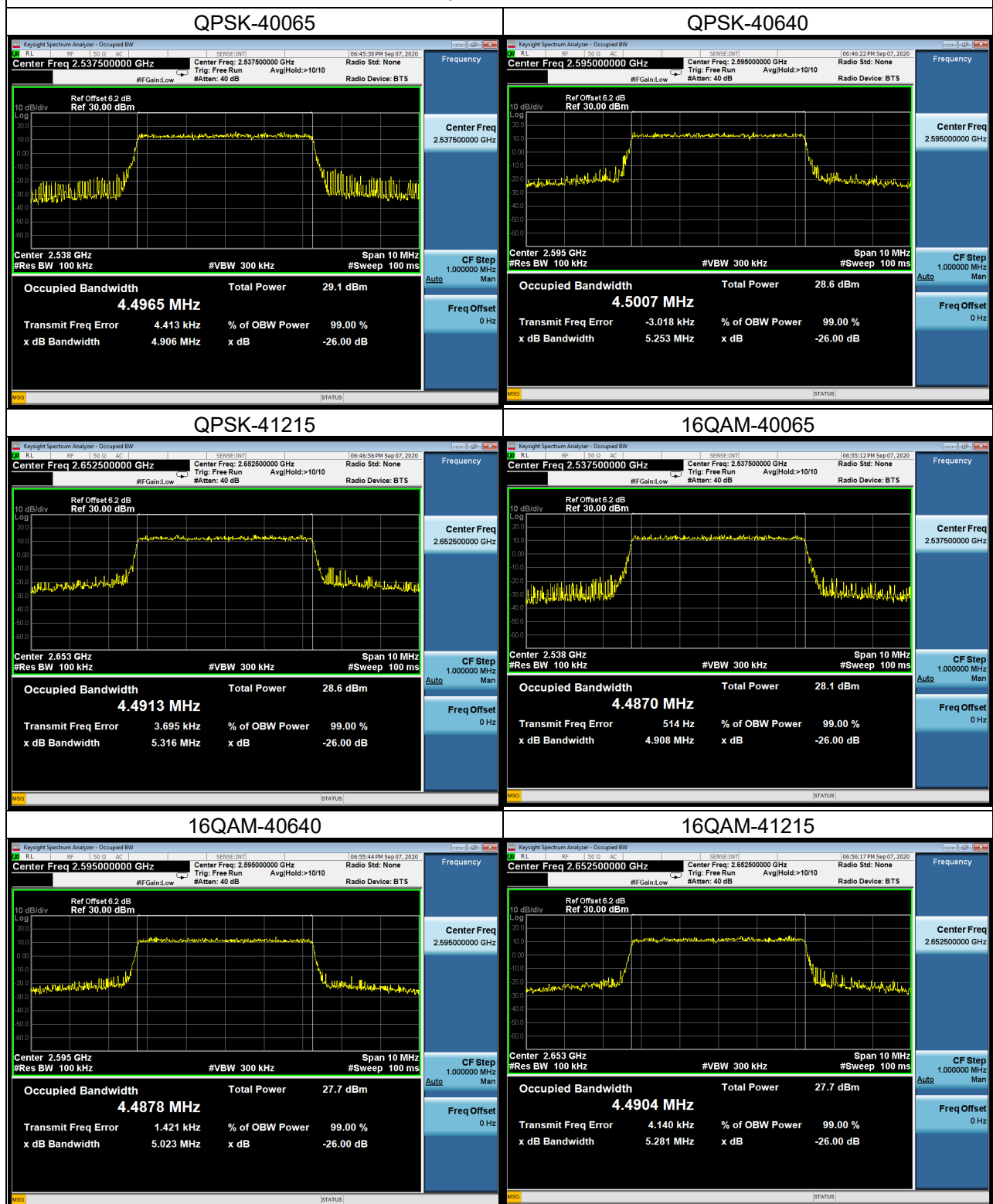


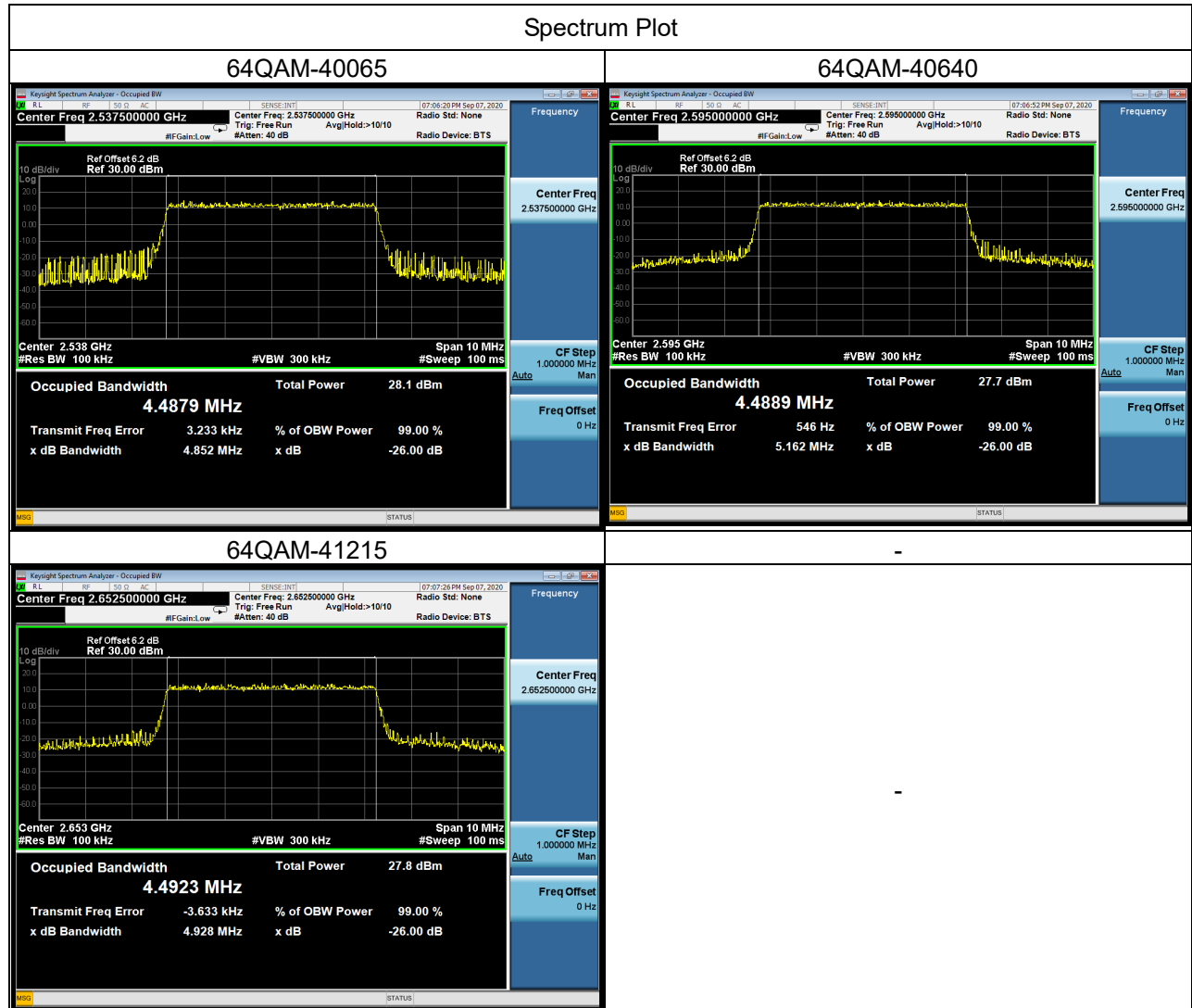
Spectrum Plot



LTE Band 41_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.4965	40065	2537.5	4.906
40640	2595	4.5007	40640	2595	5.253
41215	2652.5	4.4913	41215	2652.5	5.316
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.4870	40065	2537.5	4.908
40640	2595	4.4878	40640	2595	5.023
41215	2652.5	4.4904	41215	2652.5	5.281
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.4879	40065	2537.5	4.852
40640	2595	4.4889	40640	2595	5.162
41215	2652.5	4.4923	41215	2652.5	4.928

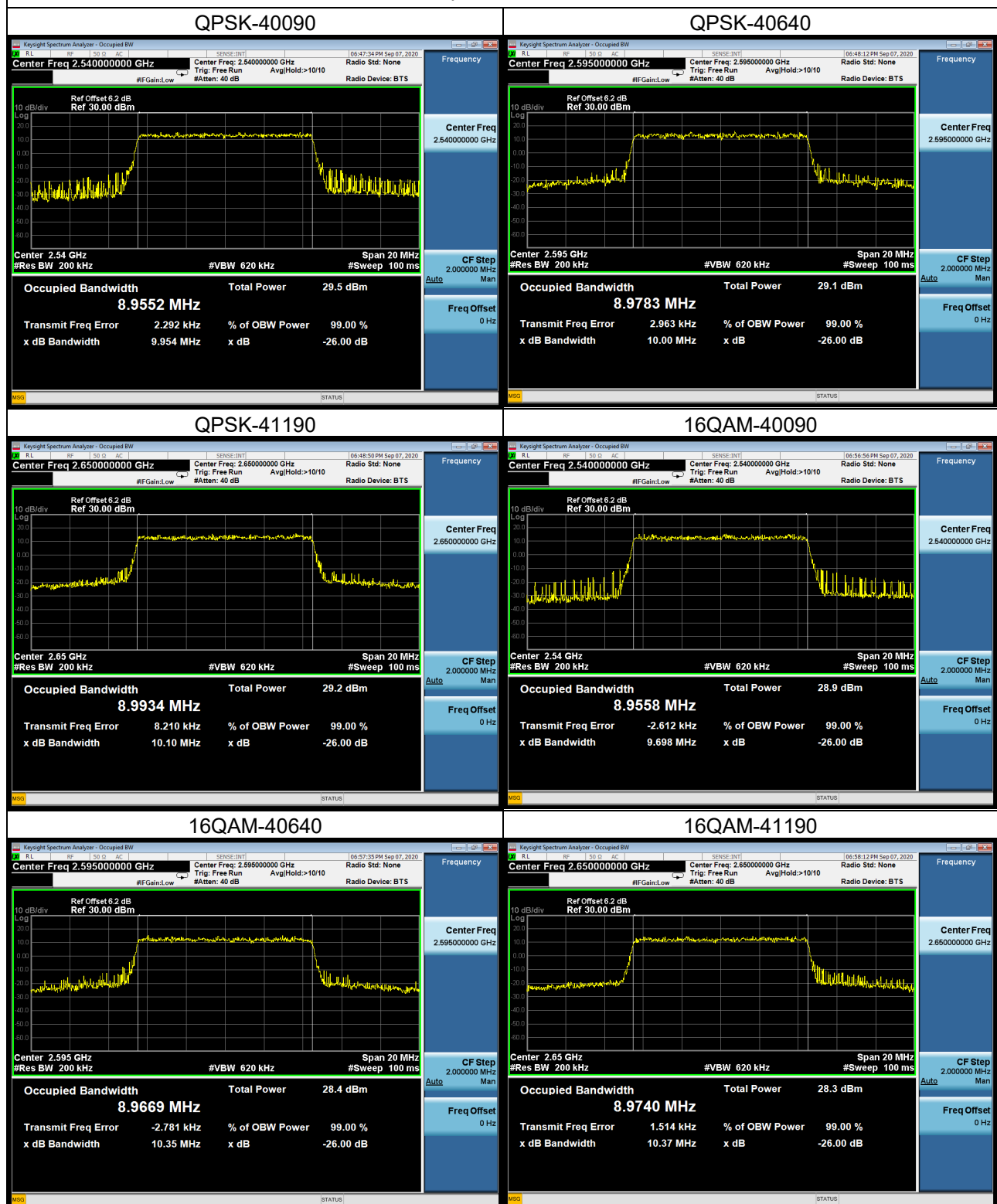
Spectrum Plot

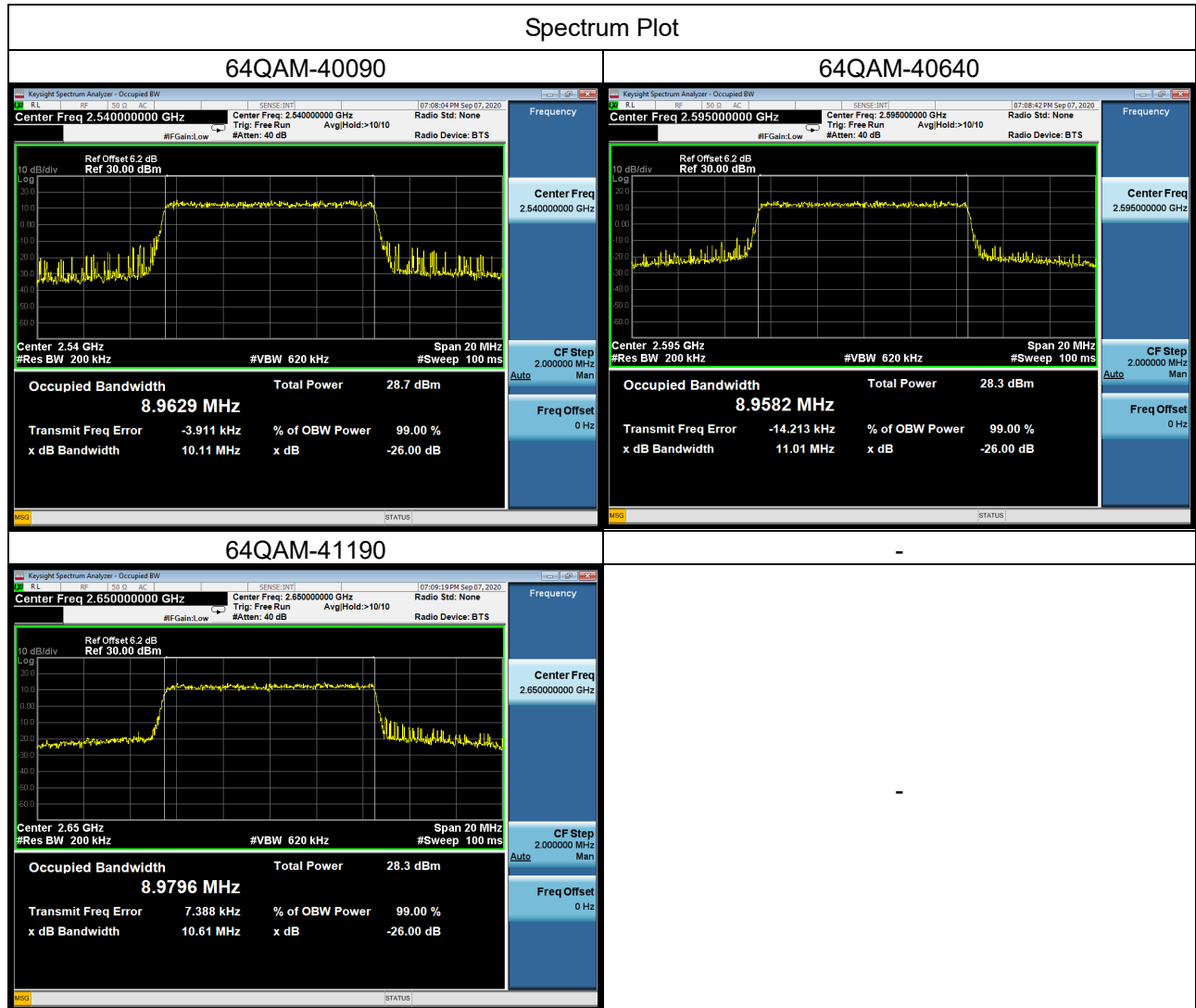




LTE Band 41_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	8.9552	40090	2540	9.954
40640	2595	8.9783	40640	2595	10.00
41190	2650	8.9934	41190	2650	10.10
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	8.9558	40090	2540	9.698
40640	2595	8.9669	40640	2595	10.35
41190	2650	8.9740	41190	2650	10.37
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	8.9629	40090	2540	10.11
40640	2595	8.9582	40640	2595	11.01
41190	2650	8.9796	41190	2650	10.61

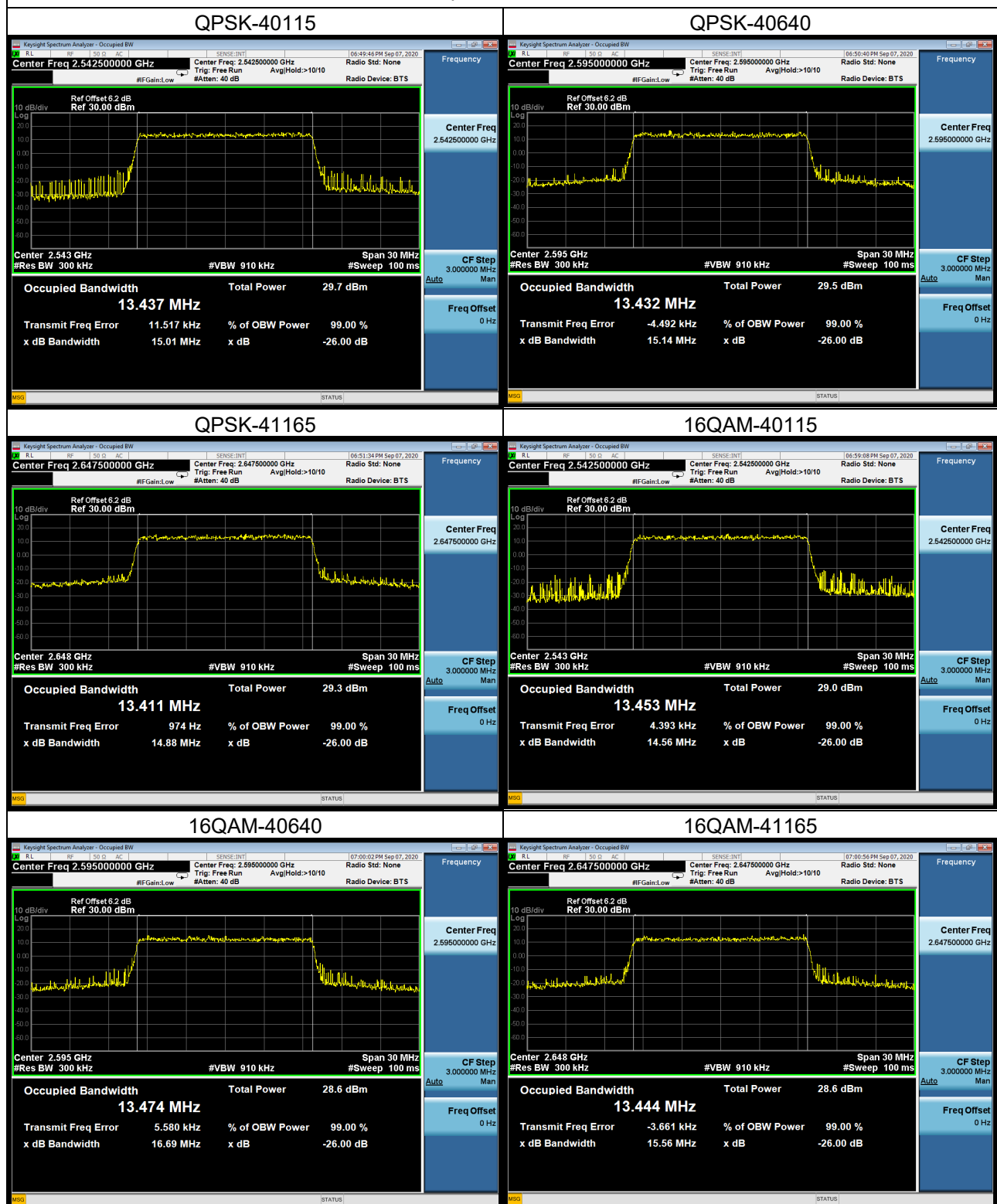
Spectrum Plot

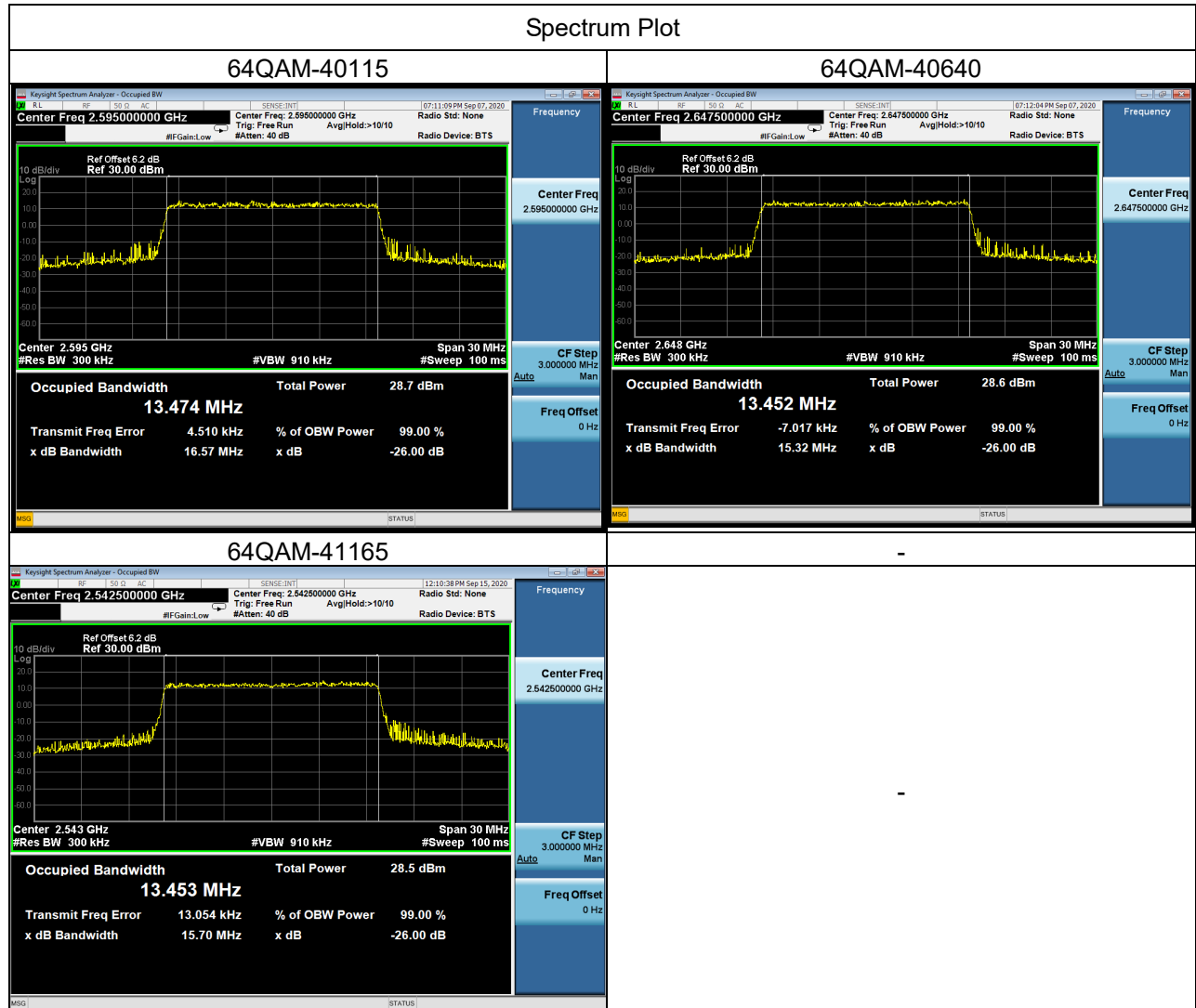




LTE Band 41_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.437	40115	2542.5	15.01
40640	2595	13.432	40640	2595	15.14
41165	2647.5	13.411	41165	2647.5	14.88
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.453	40115	2542.5	14.56
40640	2595	13.474	40640	2595	16.69
41165	2647.5	13.444	41165	2647.5	15.56
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.474	40115	2542.5	16.57
40640	2595	13.452	40640	2595	15.32
41165	2647.5	13.453	41165	2647.5	15.70

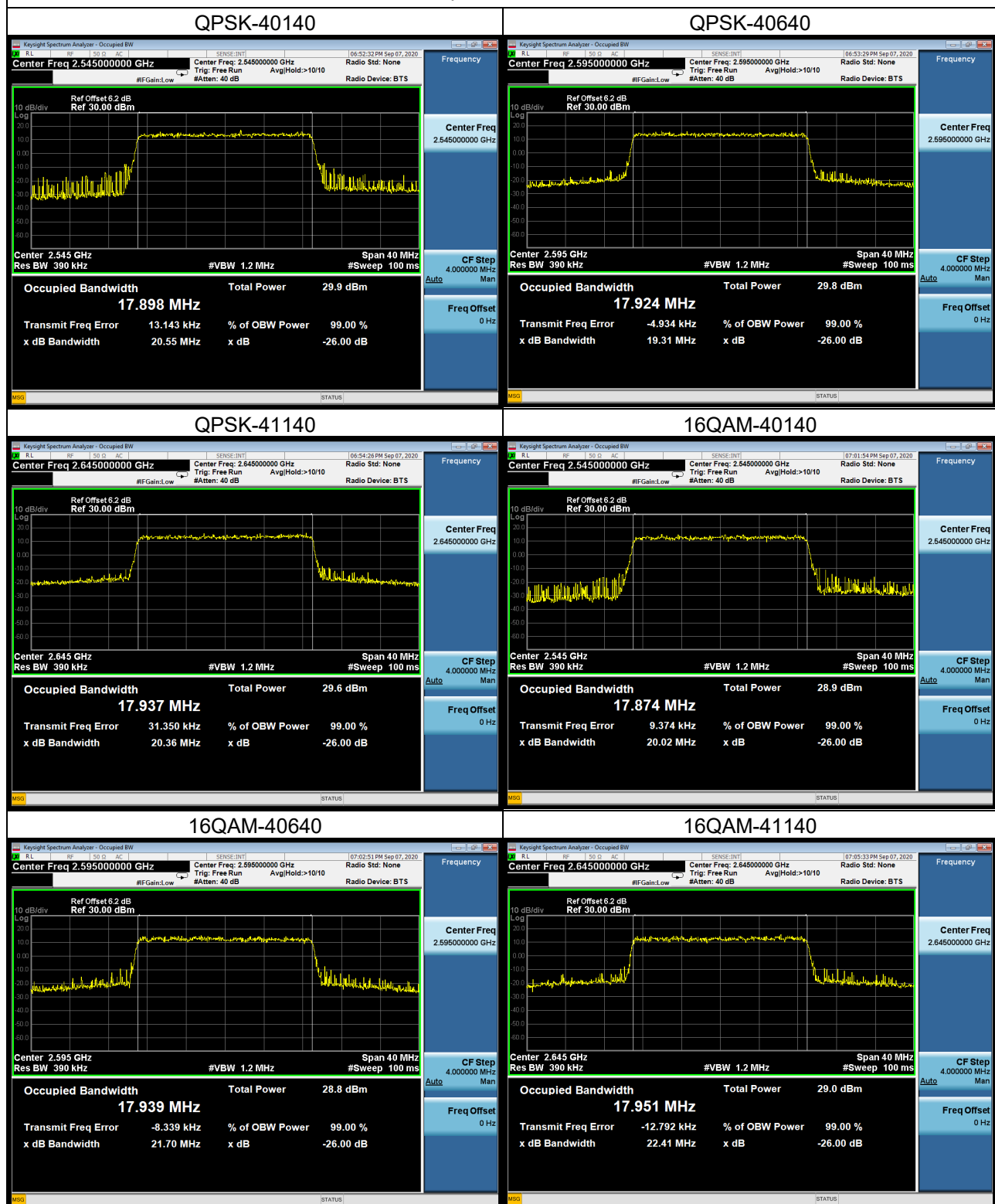
Spectrum Plot

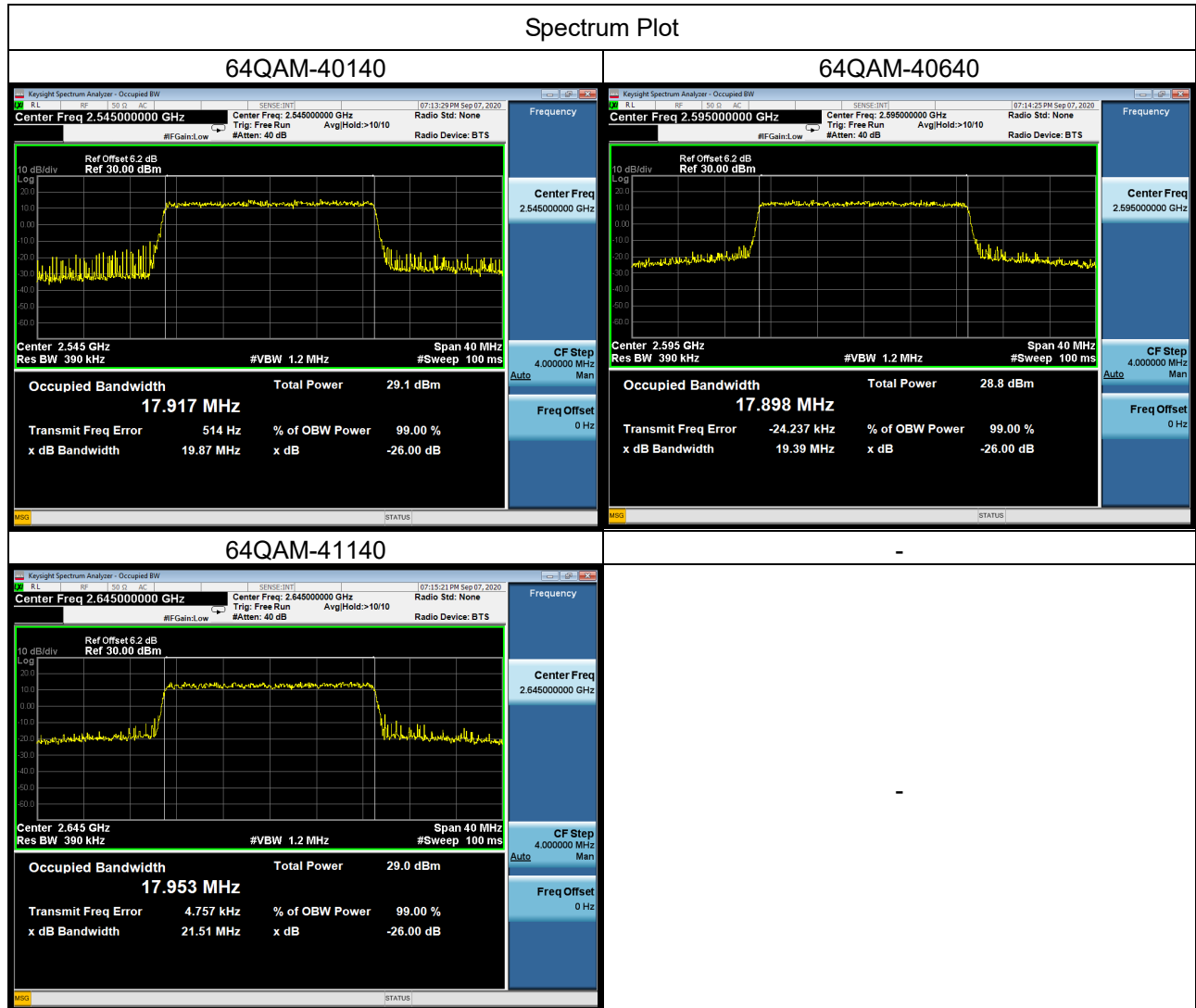




LTE Band 41_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	17.898	40140	2545	20.55
40640	2595	17.924	40640	2595	19.31
41140	2645	17.937	41140	2645	20.36
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	17.874	40140	2545	20.02
40640	2595	17.939	40640	2595	21.70
41140	2645	17.951	41140	2645	22.41
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	17.917	40140	2545	19.87
40640	2595	17.898	40640	2595	19.37
41140	2645	17.953	41140	2645	21.51

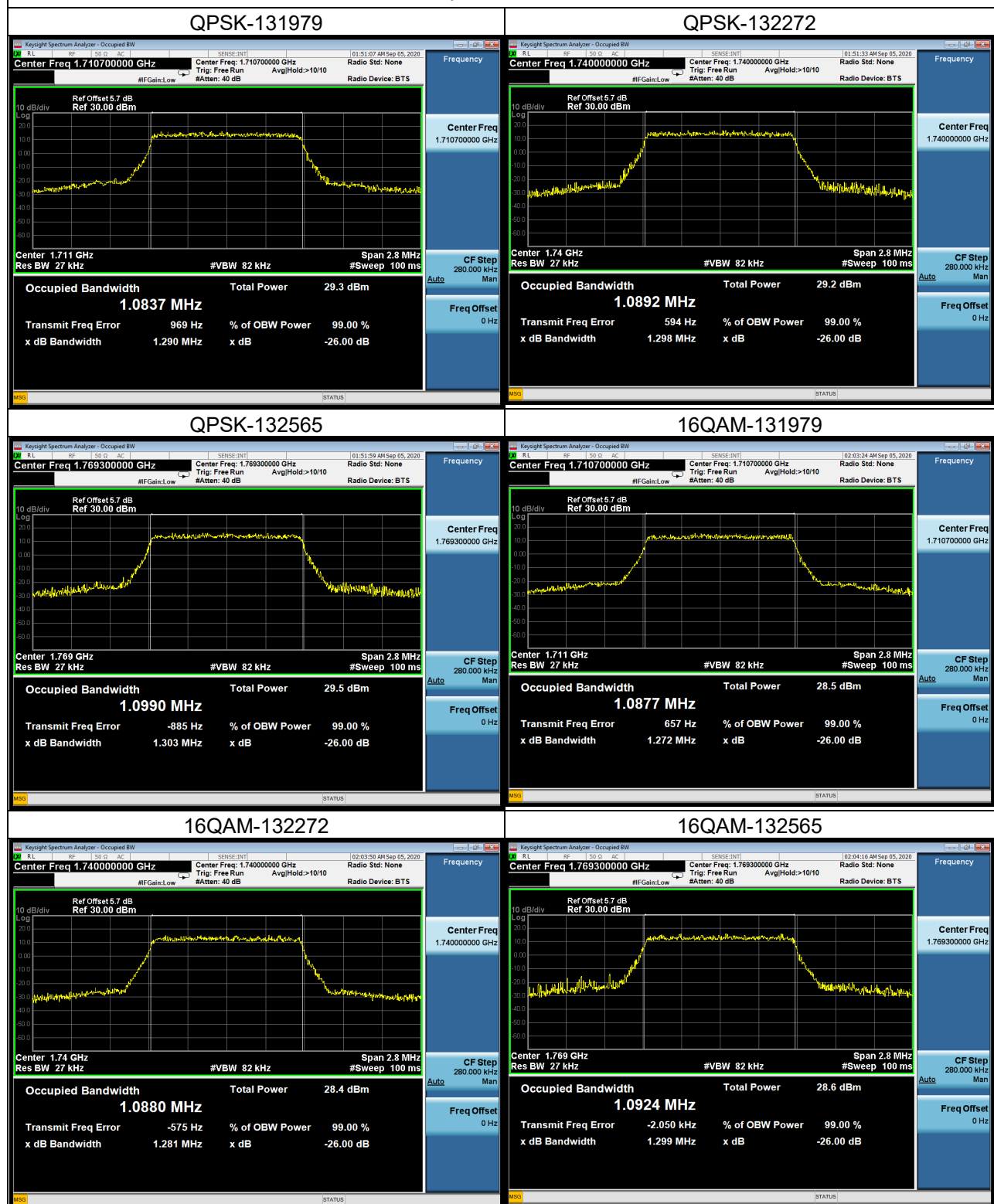
Spectrum Plot

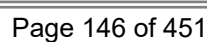




LTE Band 66_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0837	131979	1710.7	1.290
132272	1740	1.0892	132272	1740	1.298
132565	1769.3	1.0990	132565	1769.3	1.303
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0877	131979	1710.7	1.272
132272	1740	1.0880	132272	1740	1.281
132565	1769.3	1.0924	132565	1769.3	1.299
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0860	131979	1710.7	1.268
132272	1740	1.0863	132272	1740	1.286
132565	1769.3	1.0855	132565	1769.3	1.271

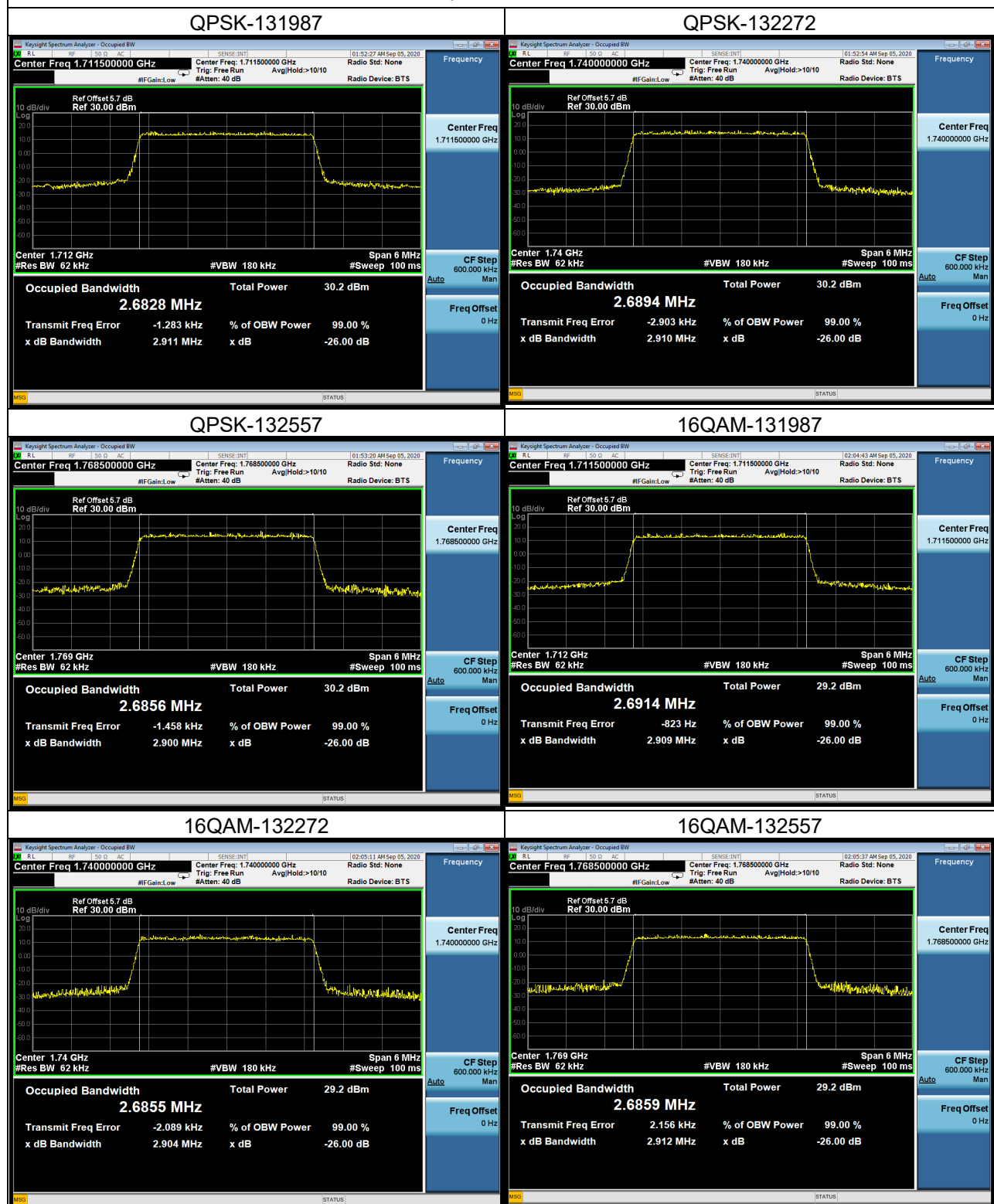
Spectrum Plot





LTE Band 66_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6828	131987	1711.5	2.911
132272	1740	2.6894	132272	1740	2.910
132557	1768.5	2.6856	132557	1768.5	2.900
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6914	131987	1711.5	2.909
132272	1740	2.6855	132272	1740	2.904
132557	1768.5	2.6859	132557	1768.5	2.912
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6860	131987	1711.5	2.908
132272	1740	2.6897	132272	1740	2.905
132557	1768.5	2.6871	132557	1768.5	2.905

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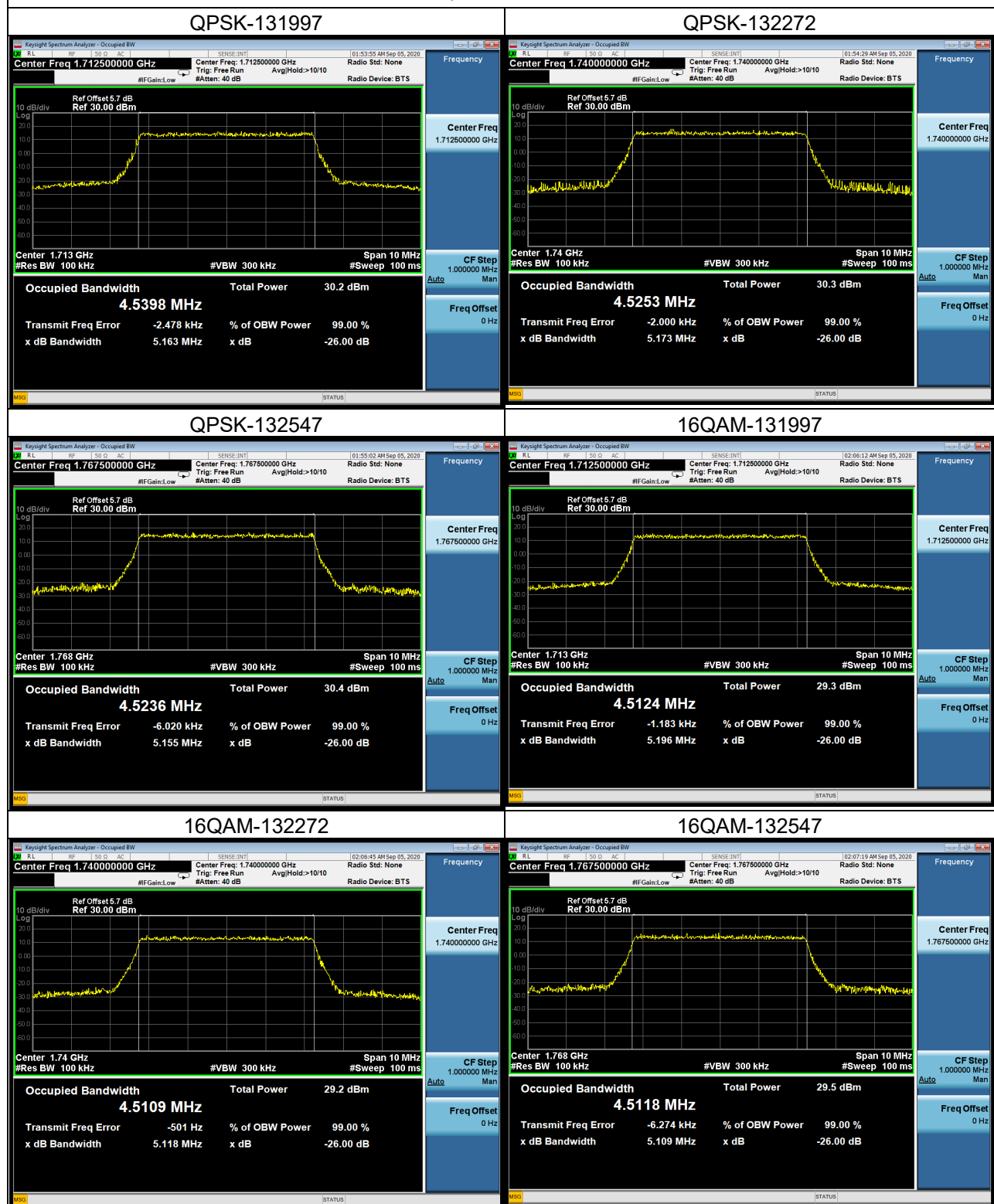


Spectrum Plot

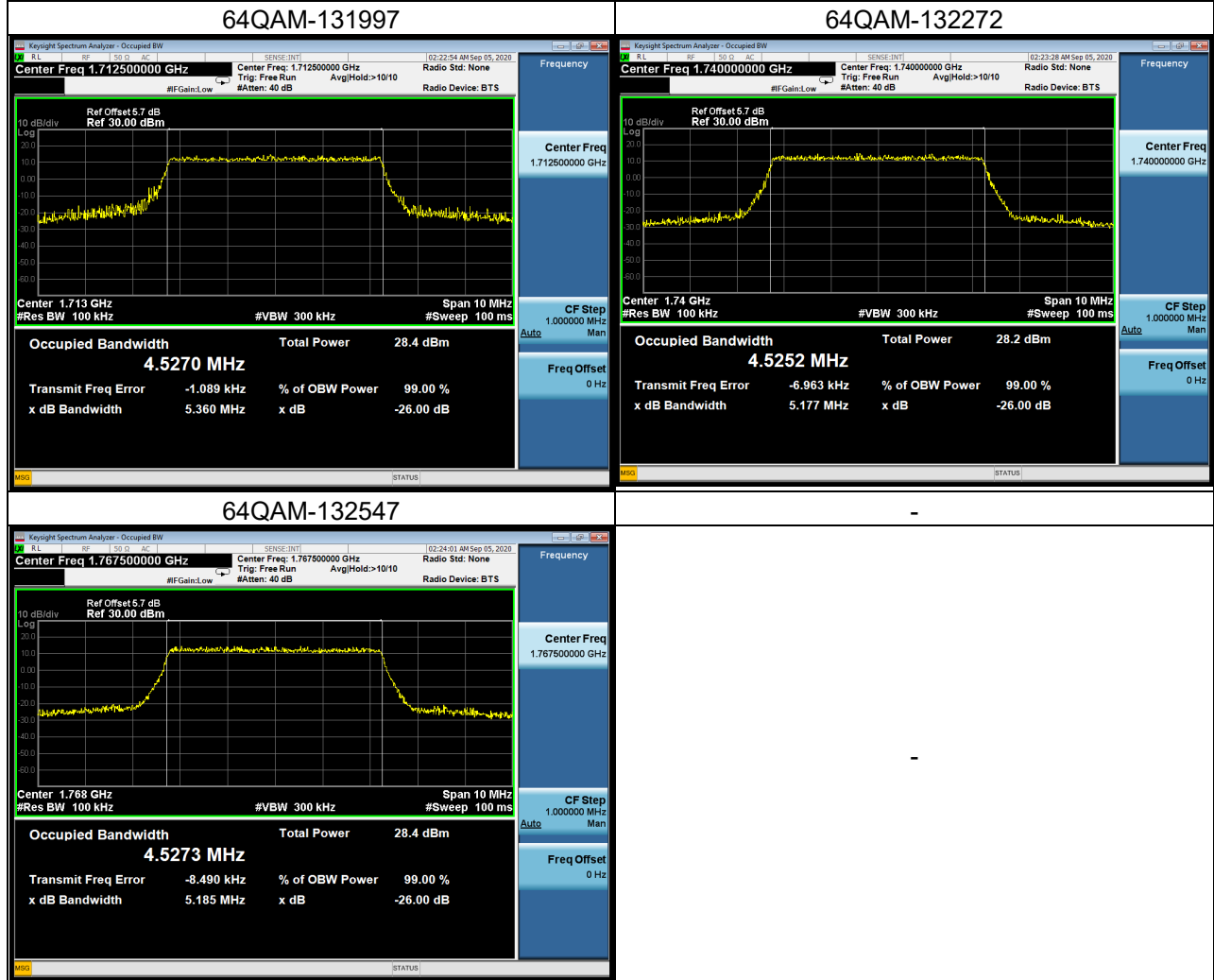


LTE Band 66_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5398	131997	1712.5	5.163
132272	1740	4.5253	132272	1740	5.173
132547	1767.5	4.5236	132547	1767.5	5.155
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5124	131997	1712.5	5.196
132272	1740	4.5109	132272	1740	5.118
132547	1767.5	4.5118	132547	1767.5	5.109
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5270	131997	1712.5	5.360
132272	1740	4.5252	132272	1740	5.177
132547	1767.5	4.5273	132547	1767.5	5.185

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LTE Band 66_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	9.0022	132022	1715	10.18
132272	1740	9.0006	132272	1740	10.17
132522	1765	9.0242	132522	1765	10.18
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	9.0114	132022	1715	10.14
132272	1740	8.9819	132272	1740	10.07
132522	1765	9.0079	132522	1765	10.15
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	9.0019	132022	1715	10.29
132272	1740	9.0034	132272	1740	10.10
132522	1765	9.0064	132522	1765	10.12