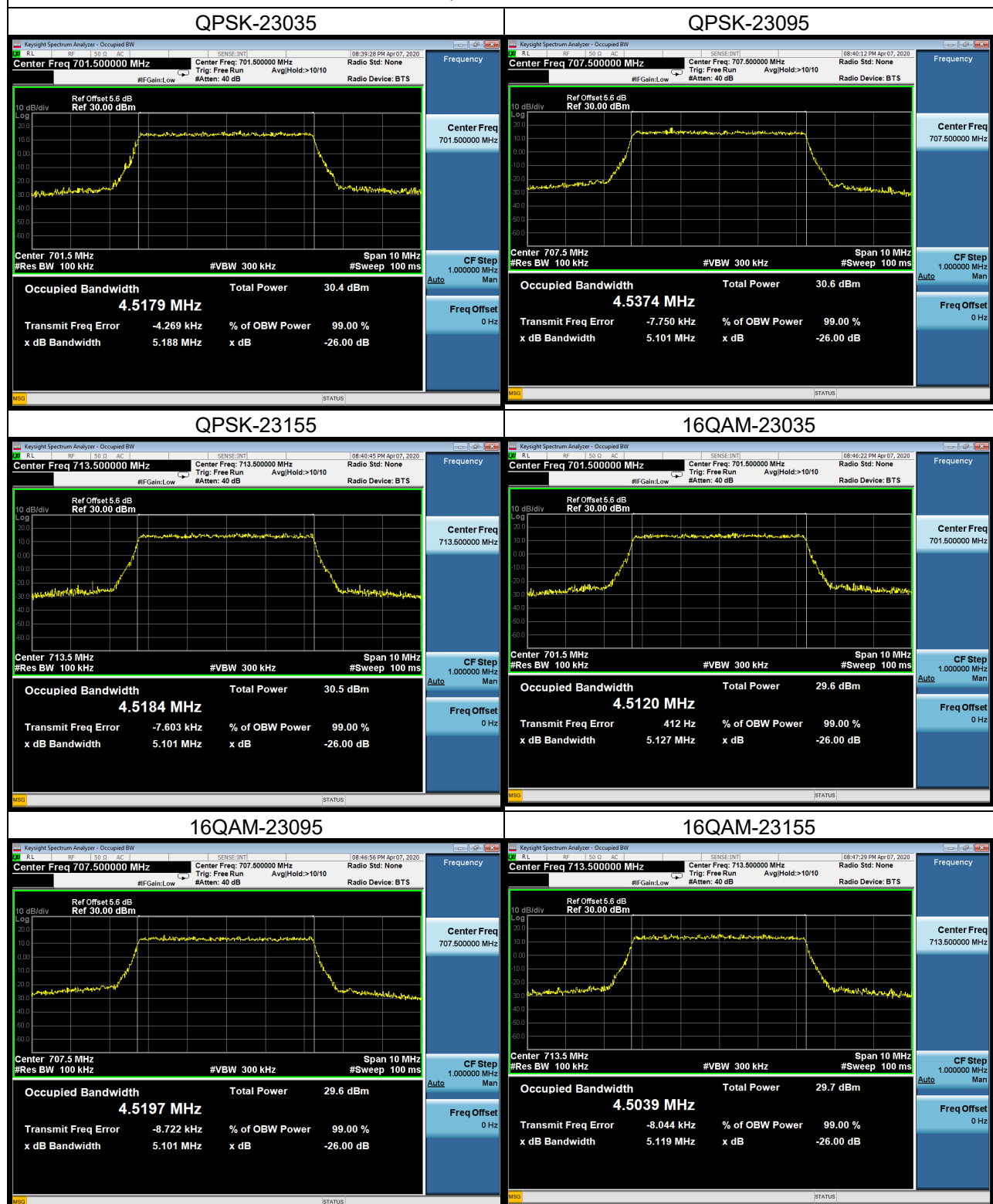


Spectrum Plot

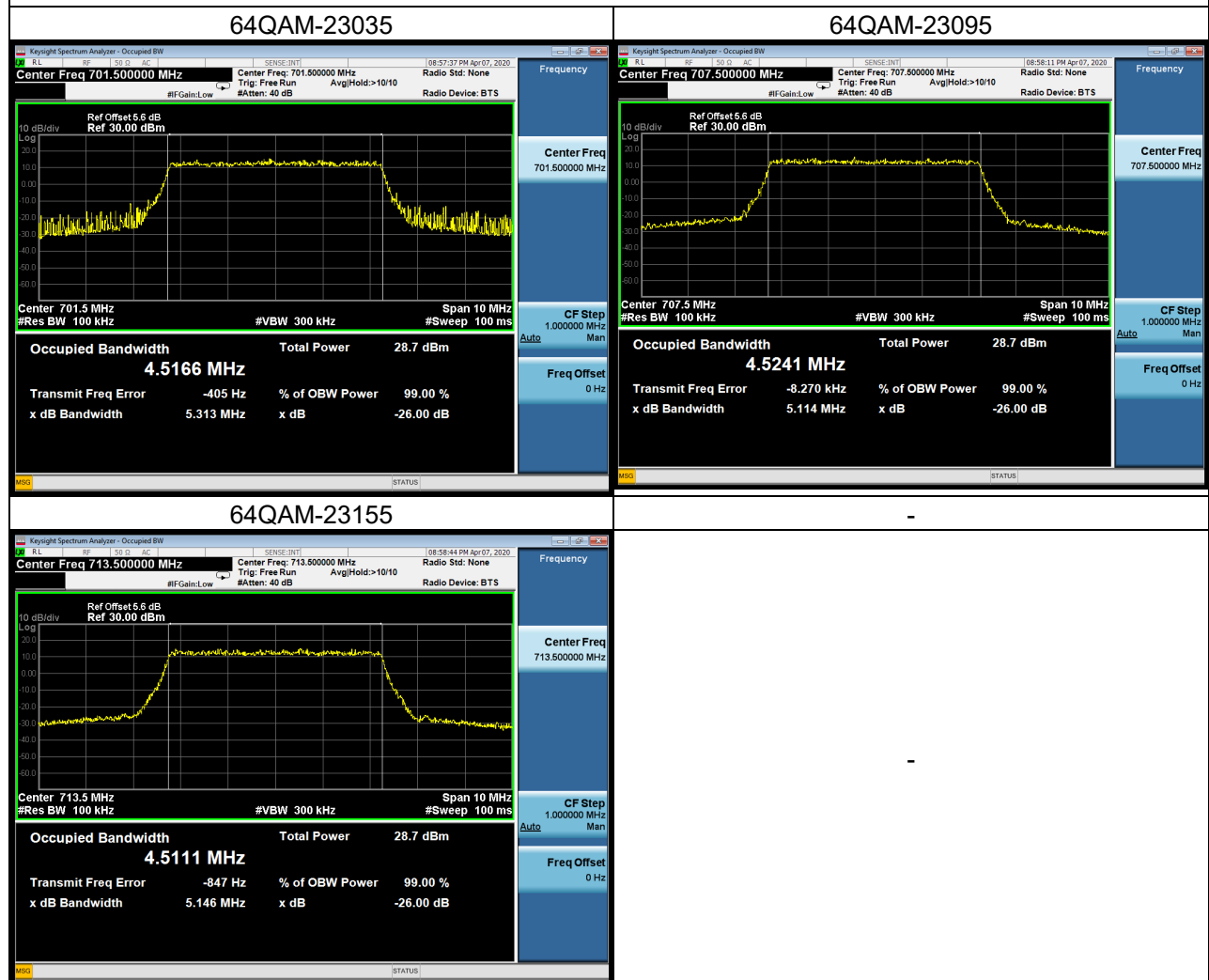


LTE Band 12_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5179	23035	701.5	5.183
23095	707.5	4.5374	23095	707.5	5.101
23155	713.5	4.5184	23155	713.5	5.101
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5120	23035	701.5	5.127
23095	707.5	4.5197	23095	707.5	5.101
23155	713.5	4.5039	23155	713.5	5.119
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.5166	23035	701.5	5.313
23095	707.5	4.5241	23095	707.5	5.114
23155	713.5	4.5111	23155	713.5	5.146

Spectrum Plot

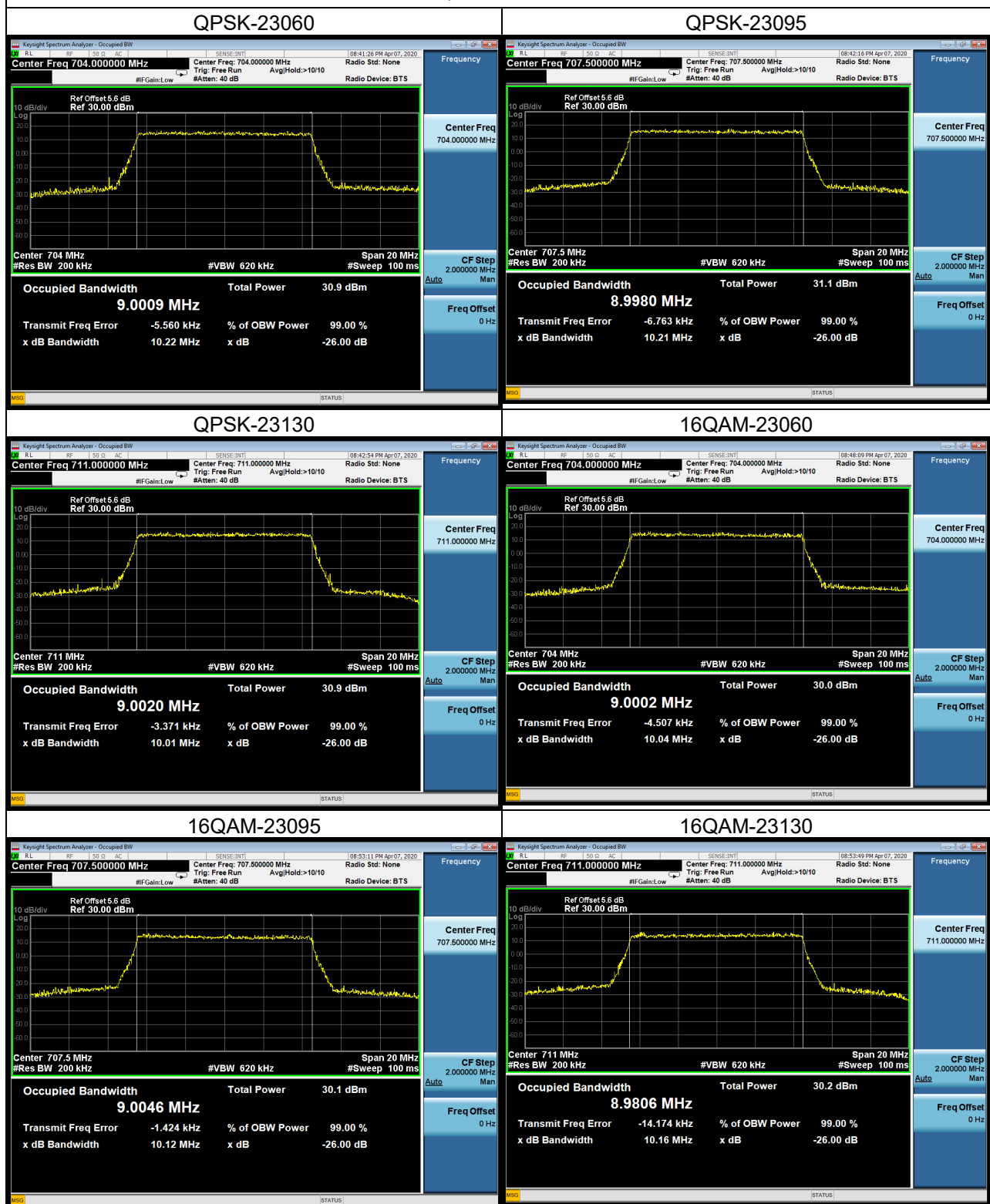


Spectrum Plot



LTE Band 12_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.0009	23060	704.0	10.22
23095	707.5	8.9980	23095	707.5	10.21
23130	711.0	9.0020	23130	711.0	10.01
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.0002	23060	704.0	10.04
23095	707.5	9.0046	23095	707.5	10.12
23130	711.0	8.9806	23130	711.0	10.16
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.9832	23060	704.0	9.920
23095	707.5	8.9965	23095	707.5	9.961
23130	711.0	8.9971	23130	711.0	10.20

Spectrum Plot

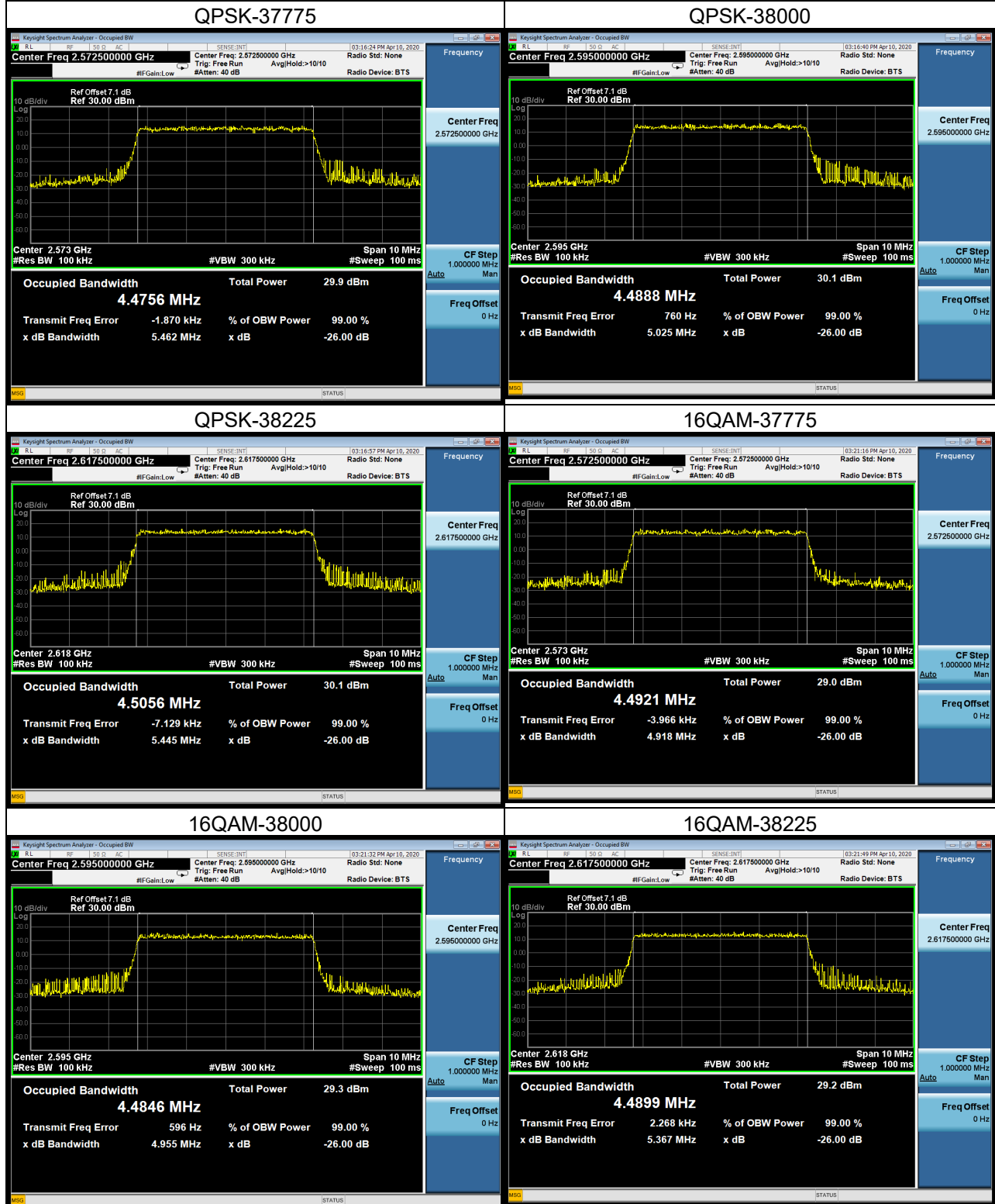


Spectrum Plot

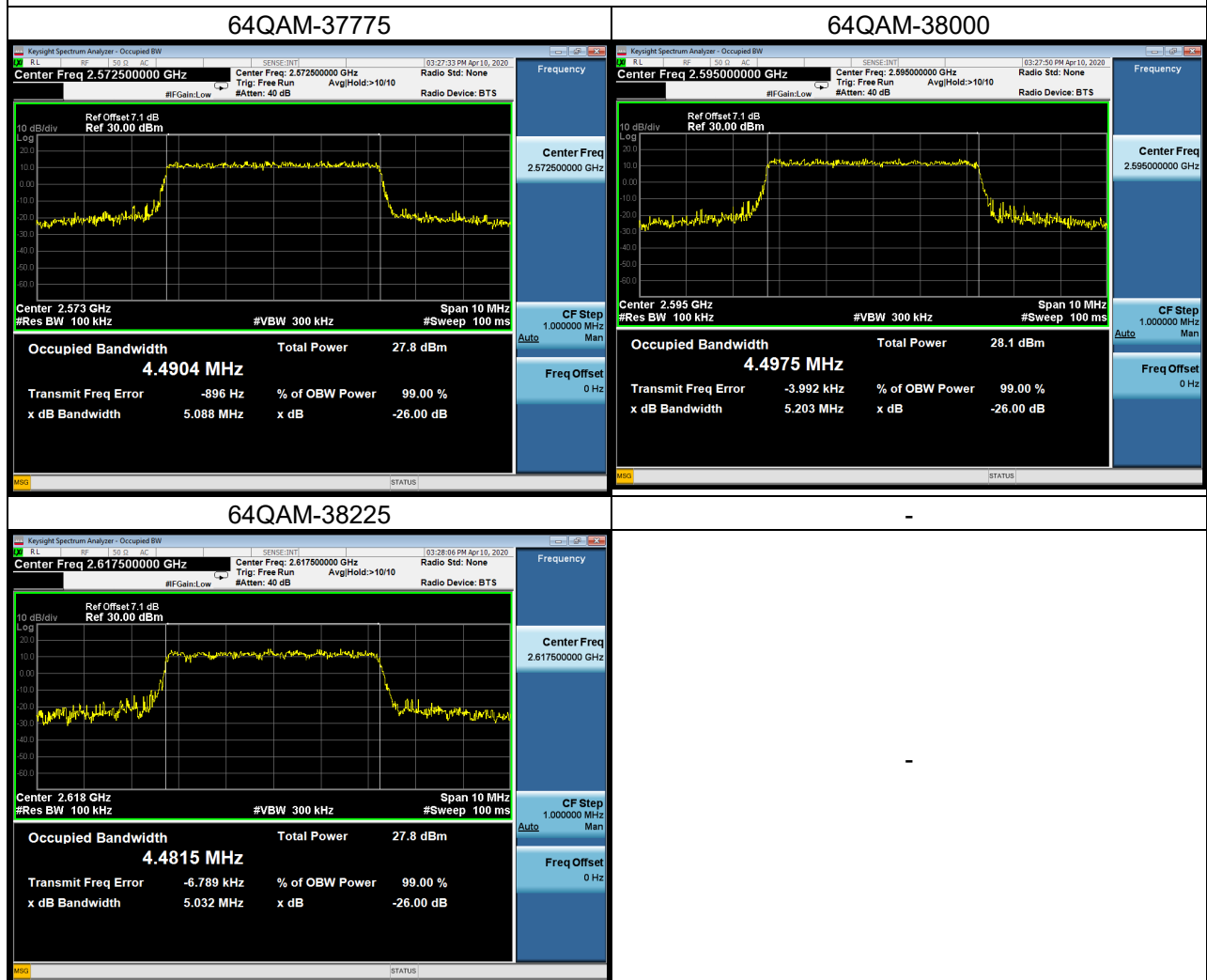


LTE Band 38_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4756	37775	2572.5	5.462
38000	2595	4.4888	38000	2595	5.025
38225	2617.5	4.5056	38225	2617.5	5.445
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4921	37775	2572.5	4.918
38000	2595	4.4846	38000	2595	4.955
38225	2617.5	4.4899	38225	2617.5	5.367
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37775	2572.5	4.4904	37775	2572.5	5.088
38000	2595	4.4975	38000	2595	5.203
38225	2617.5	4.4815	38225	2617.5	5.032

Spectrum Plot

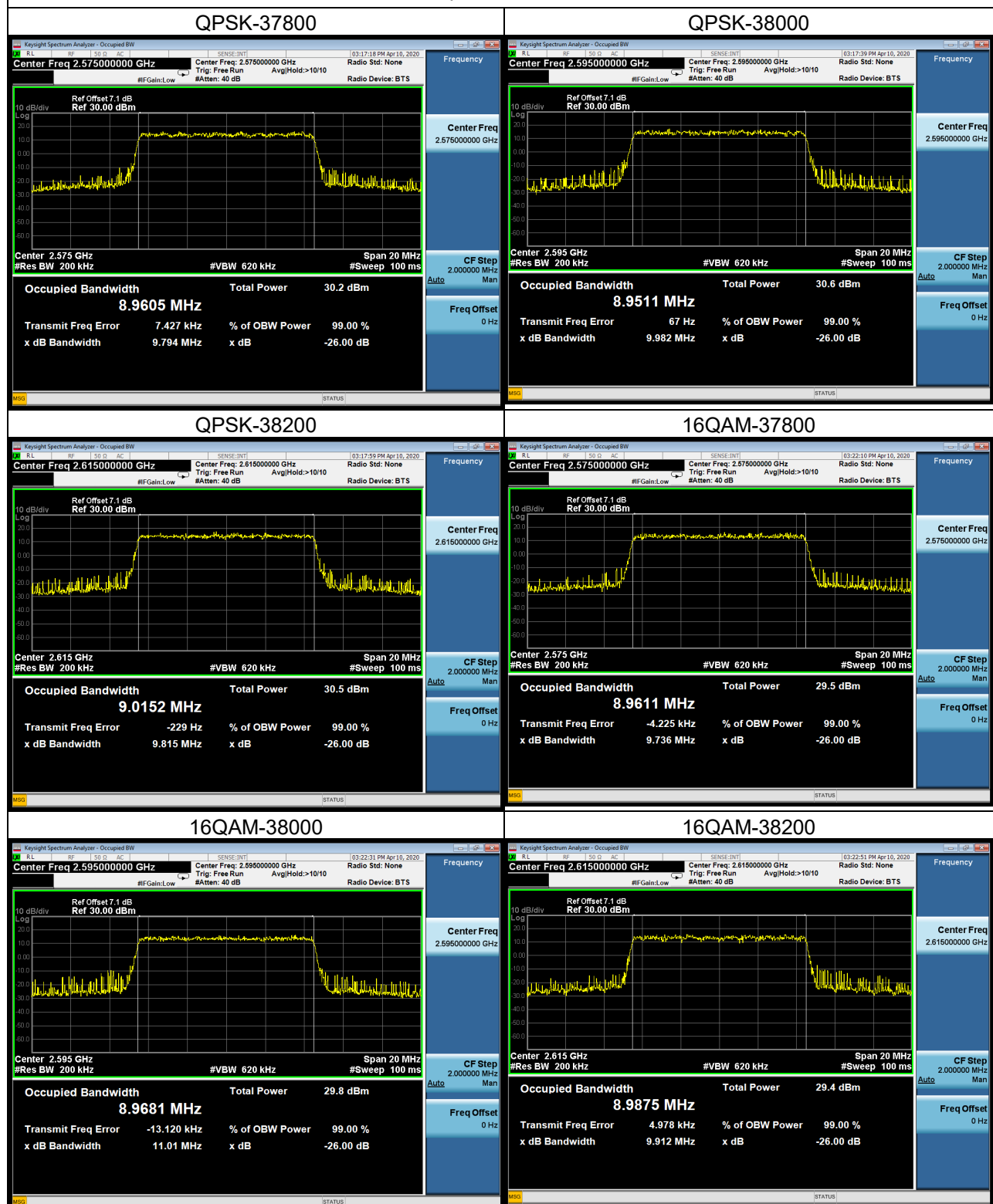


Spectrum Plot

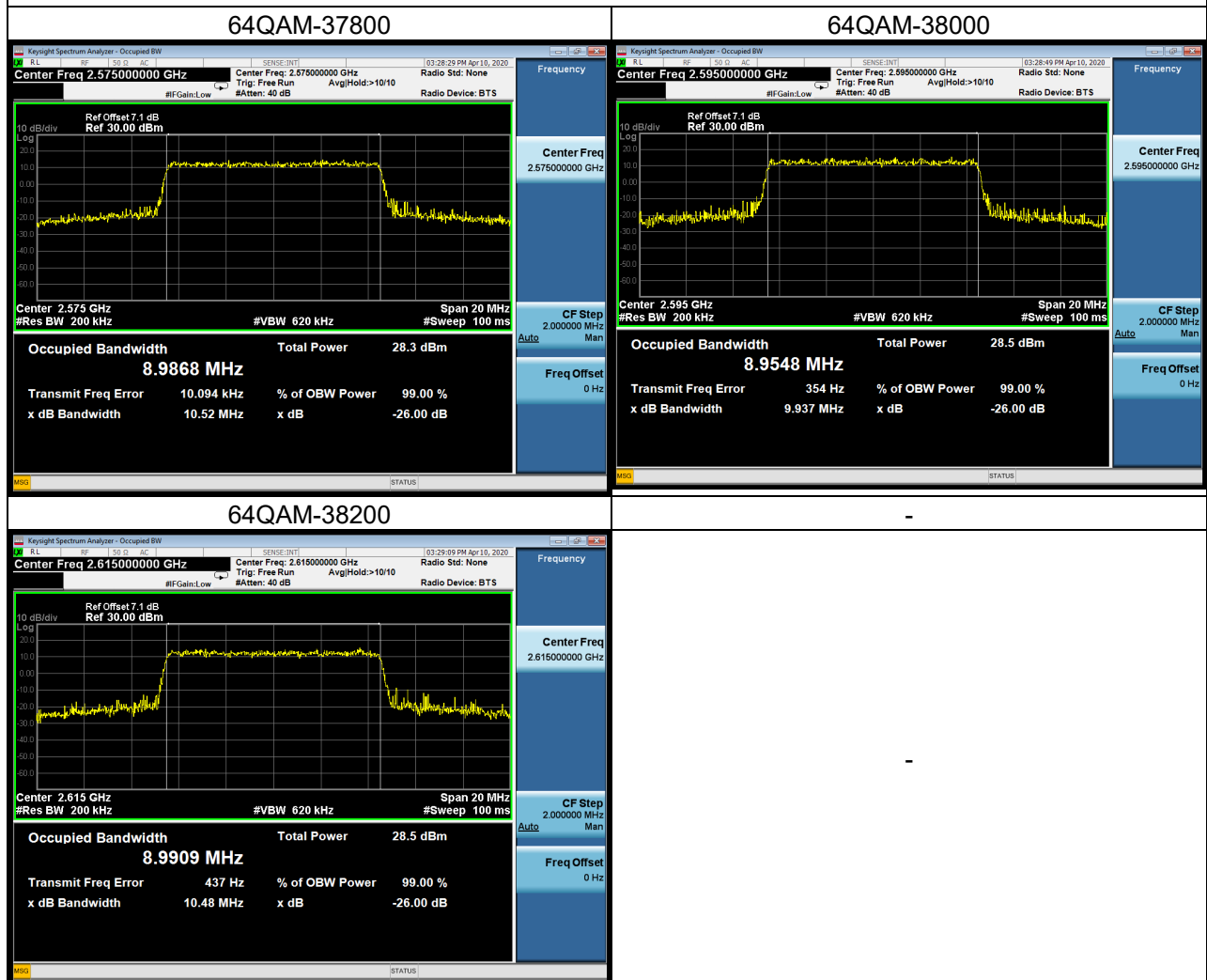


LTE Band 38_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9605	37800	2575	9.794
38000	2595	8.9511	38000	2595	9.982
38200	2615	9.0152	38200	2615	9.815
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9611	37800	2575	9.736
38000	2595	8.9681	38000	2595	11.01
38200	2615	8.9875	38200	2615	9.912
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37800	2575	8.9869	37800	2575	10.52
38000	2595	8.9548	38000	2595	9.937
38200	2615	8.9909	38200	2615	10.48

Spectrum Plot

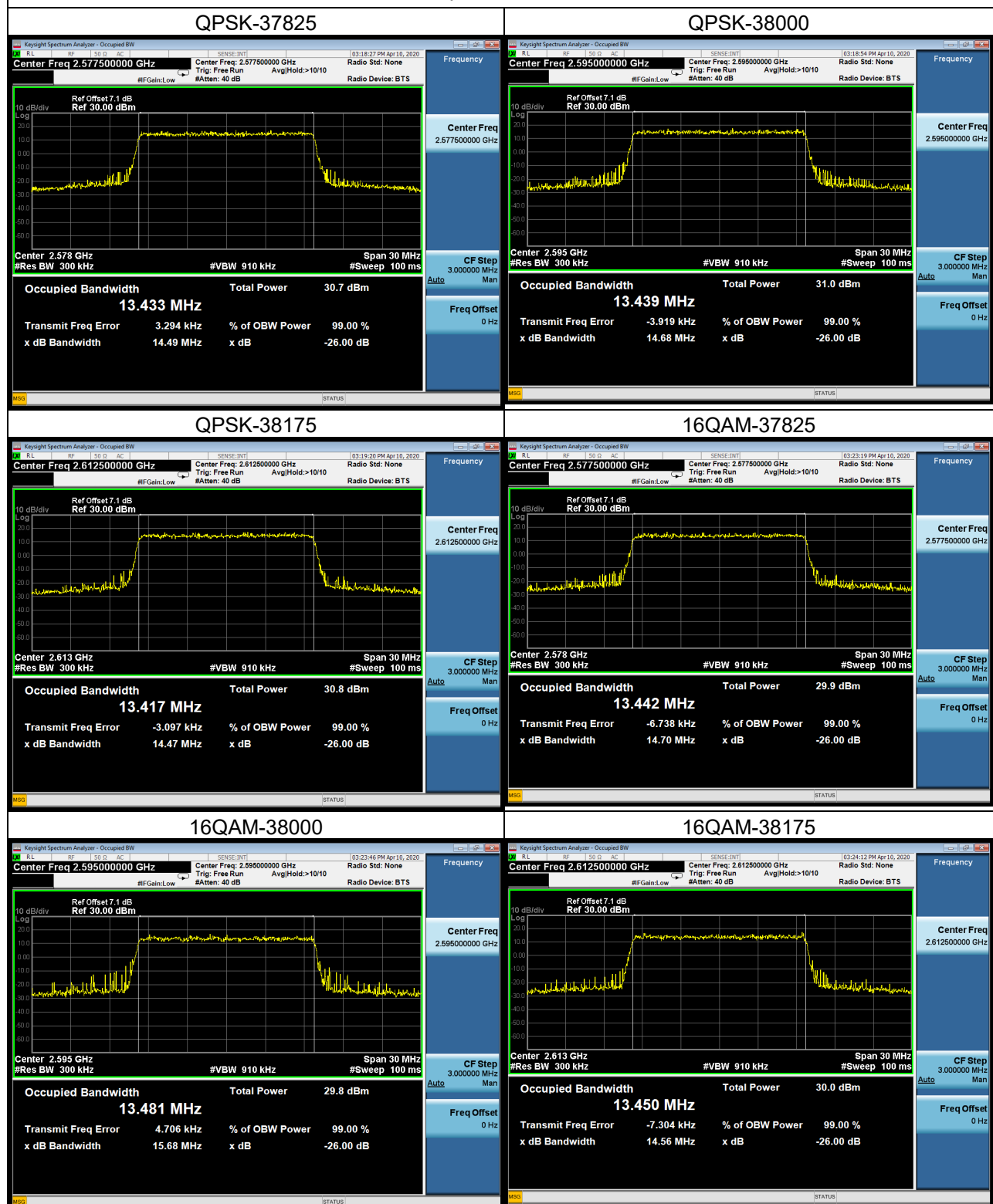


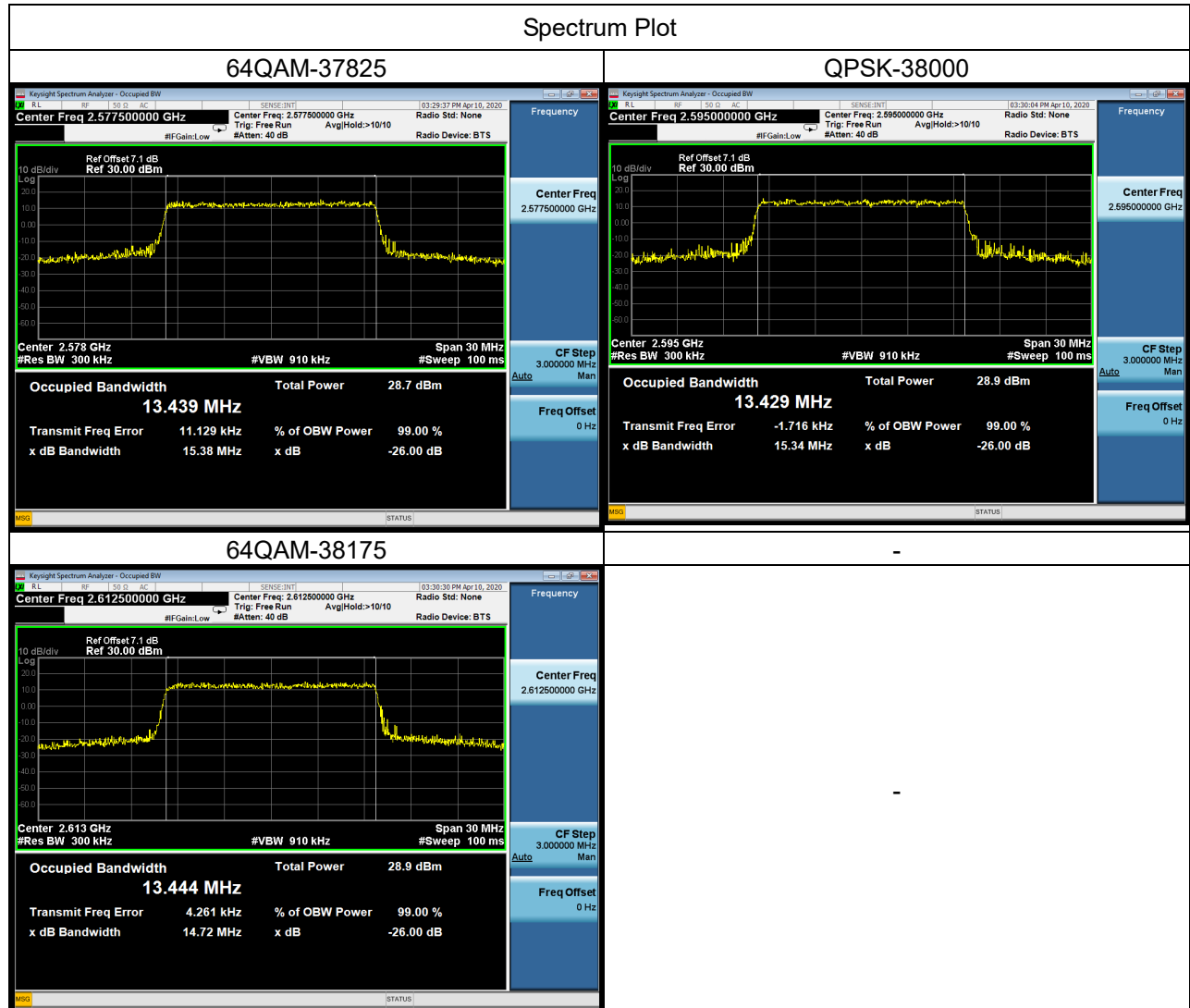
Spectrum Plot



LTE Band 38_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.433	37825	2577.5	14.49
38000	2595	13.439	38000	2595	14.68
38175	2612.5	13.417	38175	2612.5	14.47
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.442	37825	2577.5	14.70
38000	2595	13.481	38000	2595	15.68
38175	2612.5	13.450	38175	2612.5	14.56
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37825	2577.5	13.439	37825	2577.5	15.38
38000	2595	13.429	38000	2595	15.34
38175	2612.5	13.444	38175	2612.5	14.72

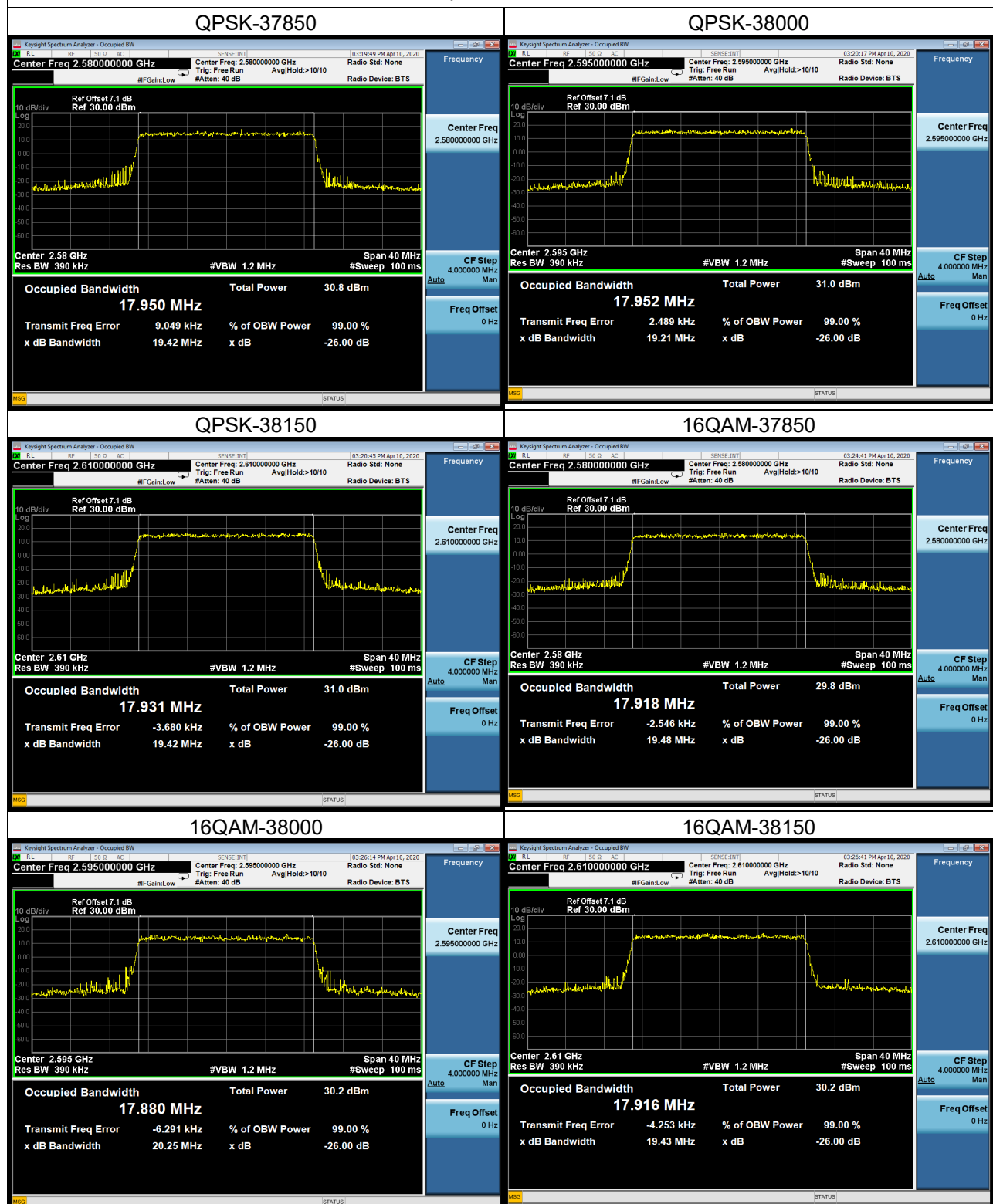
Spectrum Plot



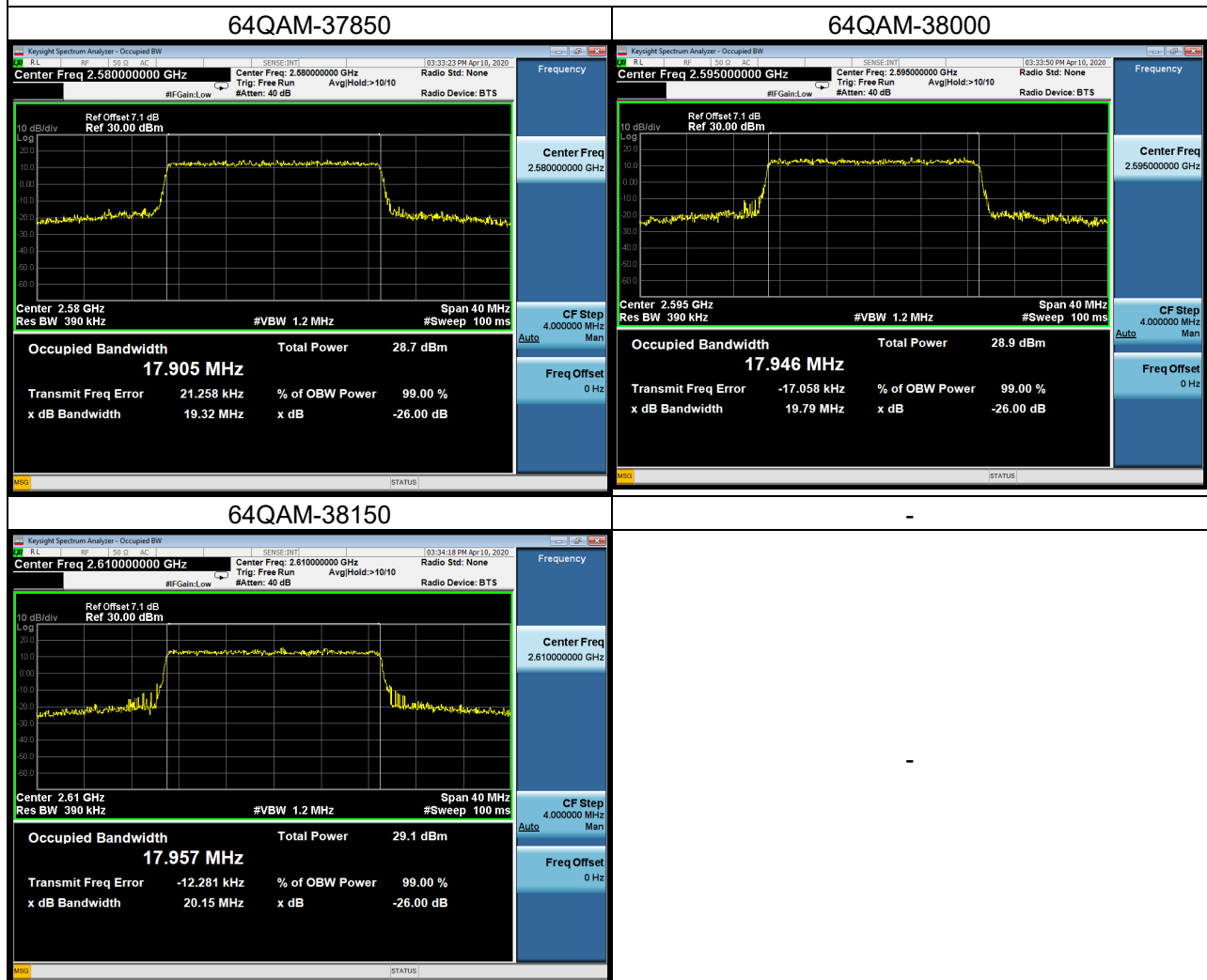


LTE Band 38_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.950	37850	2580	19.42
38000	2595	17.952	38000	2595	19.21
38150	2610	17.931	38150	2610	19.42
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.918	37850	2580	19.48
38000	2595	17.880	38000	2595	20.25
38150	2610	17.916	38150	2610	19.43
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
37850	2580	17.905	37850	2580	19.32
38000	2595	17.946	38000	2595	19.79
38150	2610	17.957	38150	2610	20.15

Spectrum Plot

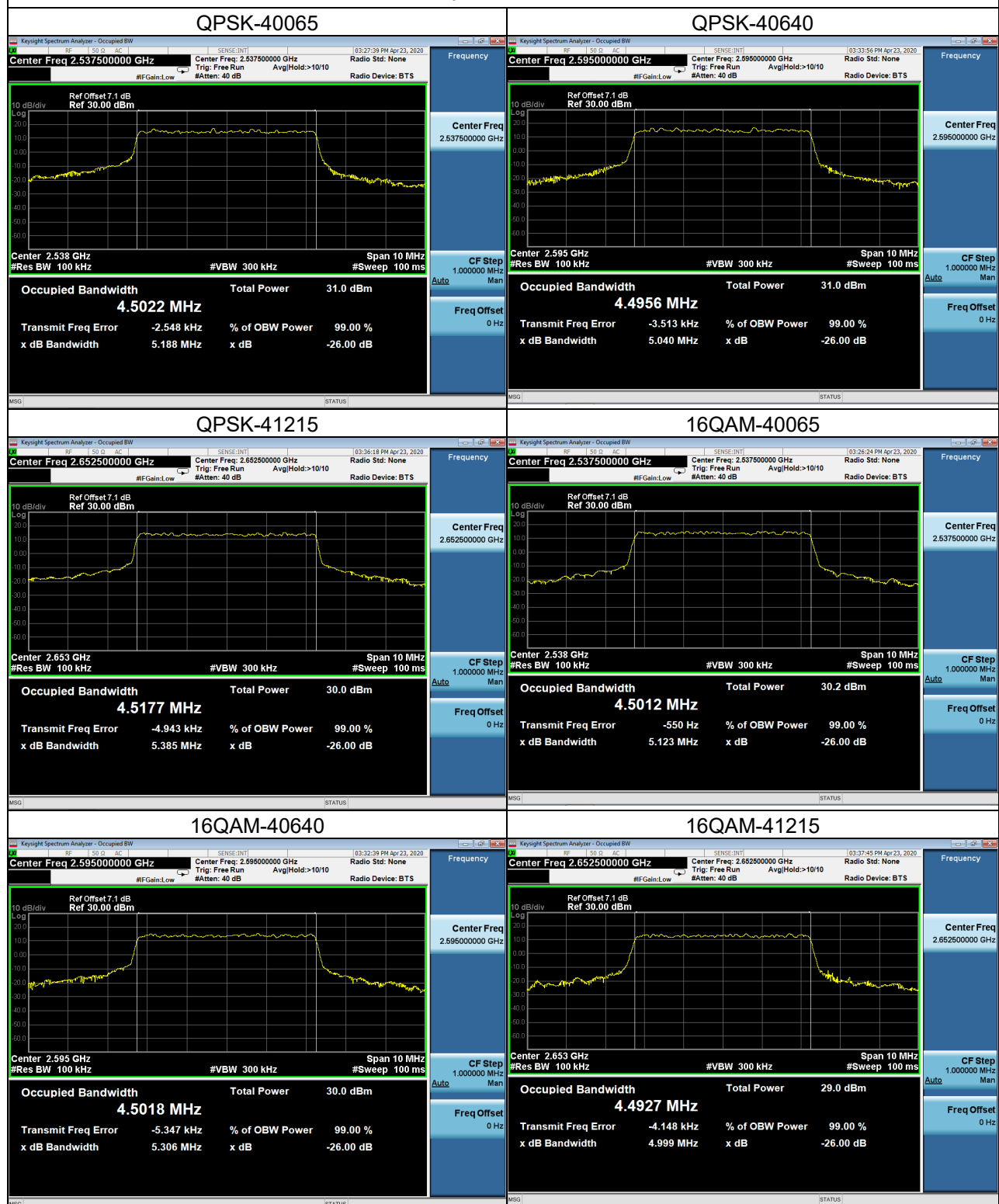


Spectrum Plot



LTE Band 41_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.5022	40065	2537.5	5.188
40640	2595	4.4956	40640	2595	5.040
41215	2652.5	4.5177	41215	2652.5	5.385
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.5012	40065	2537.5	5.123
40640	2595	4.5018	40640	2595	5.306
41215	2652.5	4.4927	41215	2652.5	4.999
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40065	2537.5	4.4936	40065	2537.5	5.180
40640	2595	4.5098	40640	2595	5.133
41215	2652.5	4.5104	41215	2652.5	5.204

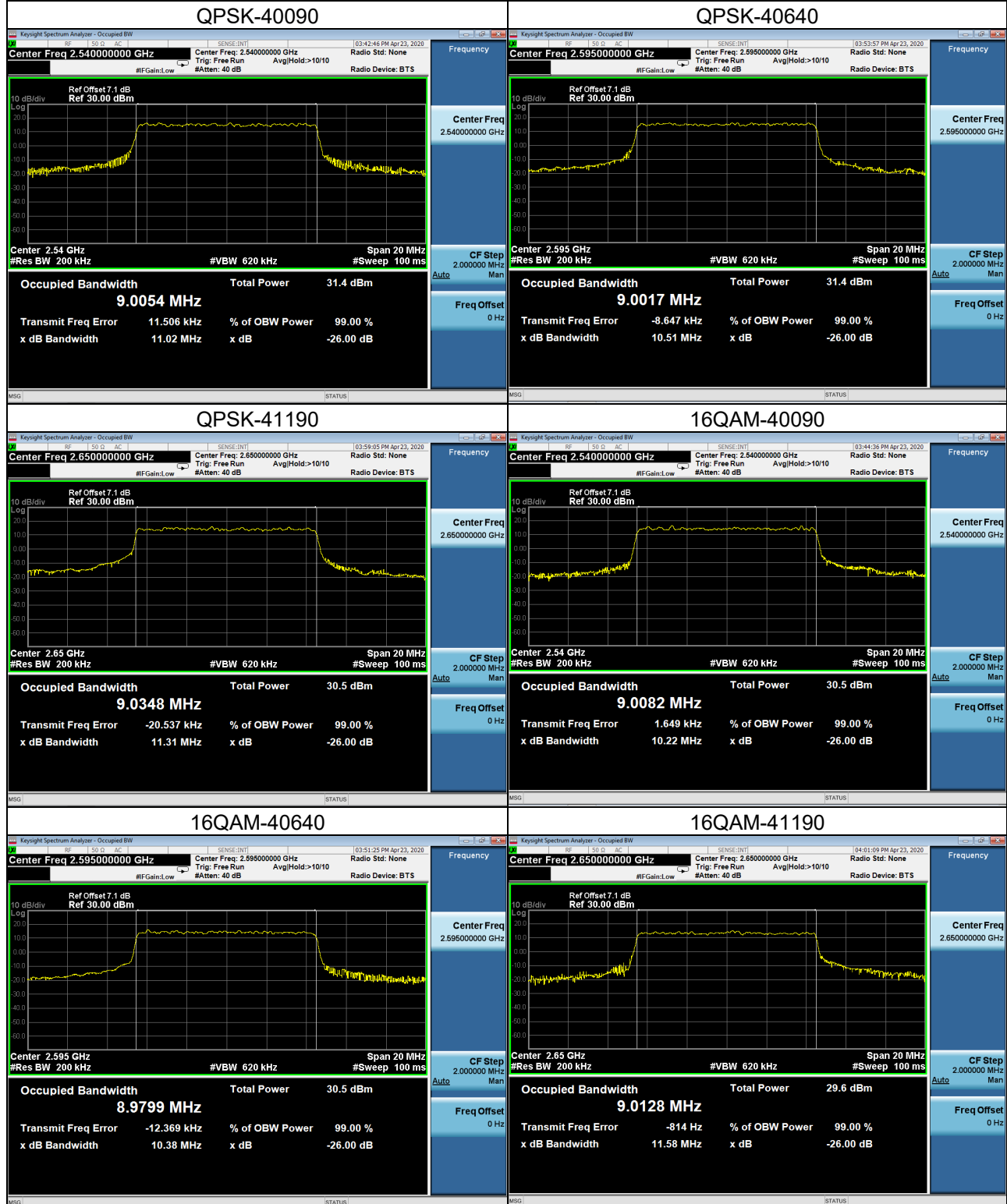
Spectrum Plot





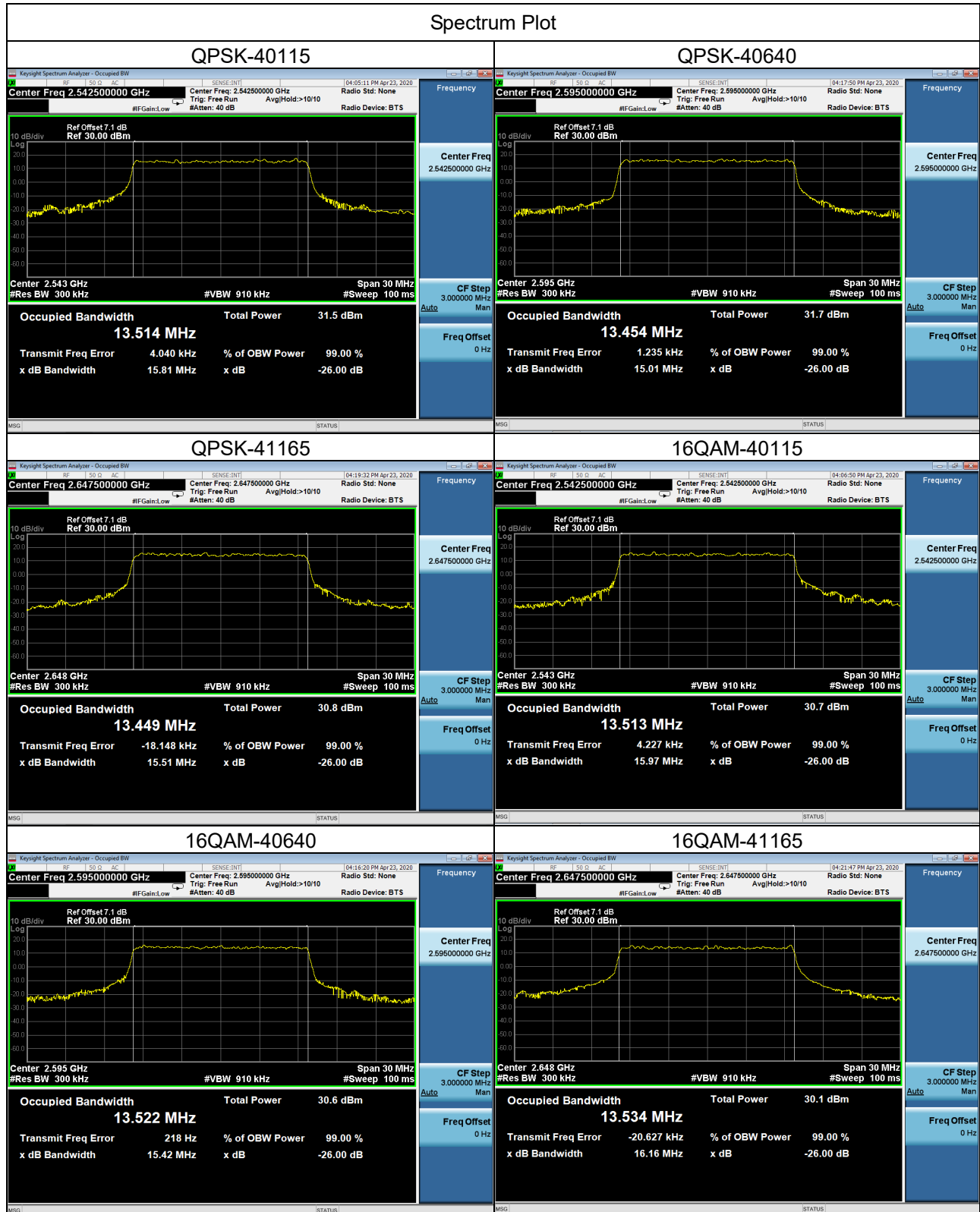
LTE Band 41_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	9.0054	40090	2540	11.23
40640	2595	9.0017	40640	2595	10.51
41190	2650	9.0348	41190	2650	11.31
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	9.0082	40090	2540	10.22
40640	2595	8.9799	40640	2595	10.38
41190	2650	9.0128	41190	2650	11.58
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40090	2540	9.0179	40090	2540	11.21
40640	2595	9.0021	40640	2595	10.93
41190	2650	9.0065	41190	2650	10.59

Spectrum Plot



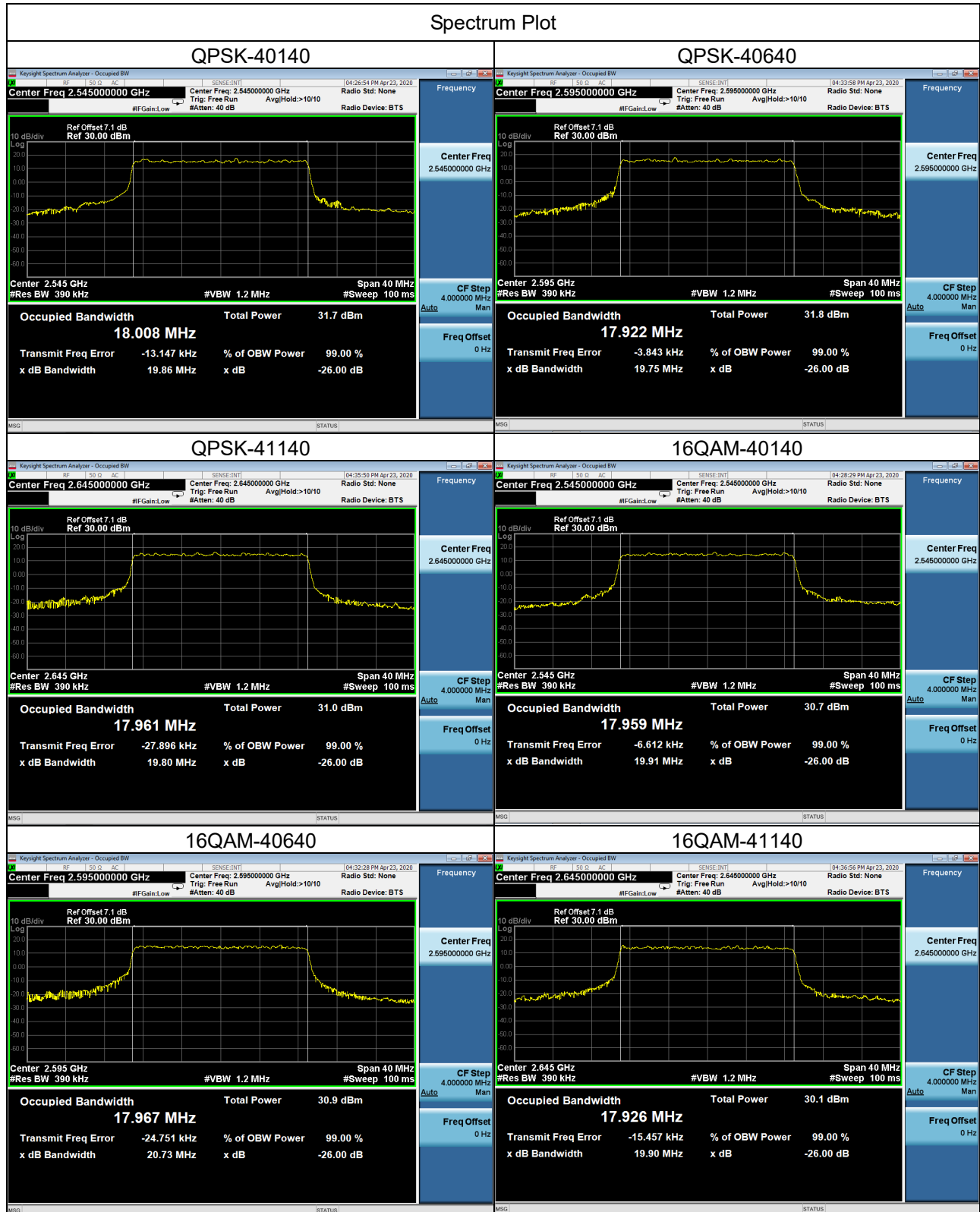


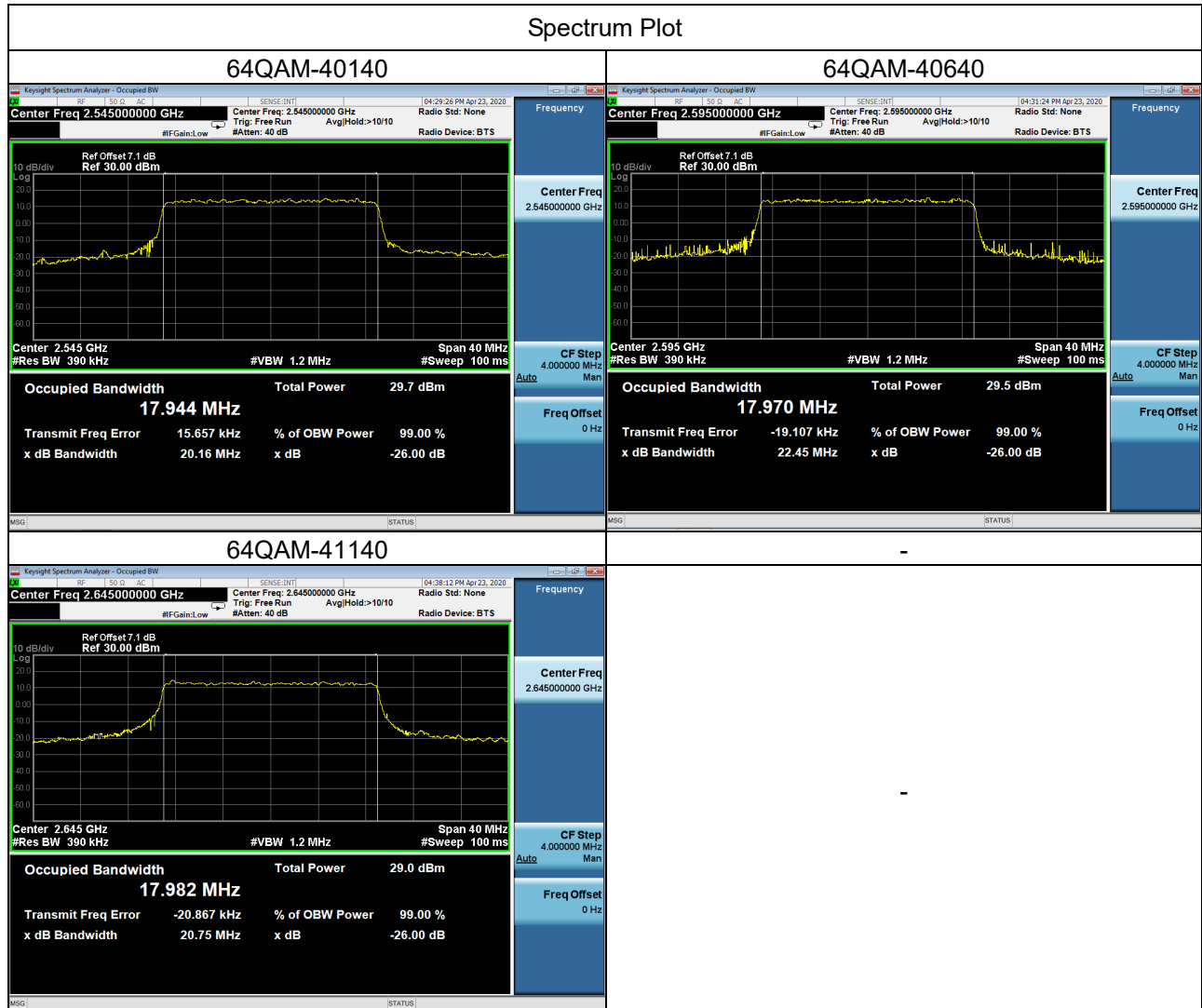
LTE Band 41_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.514	40115	2542.5	15.81
40640	2595	13.454	40640	2595	15.01
41165	2647.5	13.449	41165	2647.5	15.51
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.513	40115	2542.5	15.97
40640	2595	13.522	40640	2595	15.42
41165	2647.5	13.534	41165	2647.5	16.16
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40115	2542.5	13.461	40115	2542.5	15.25
40640	2595	13.520	40640	2595	15.89
41165	2647.5	13.496	41165	2647.5	15.89





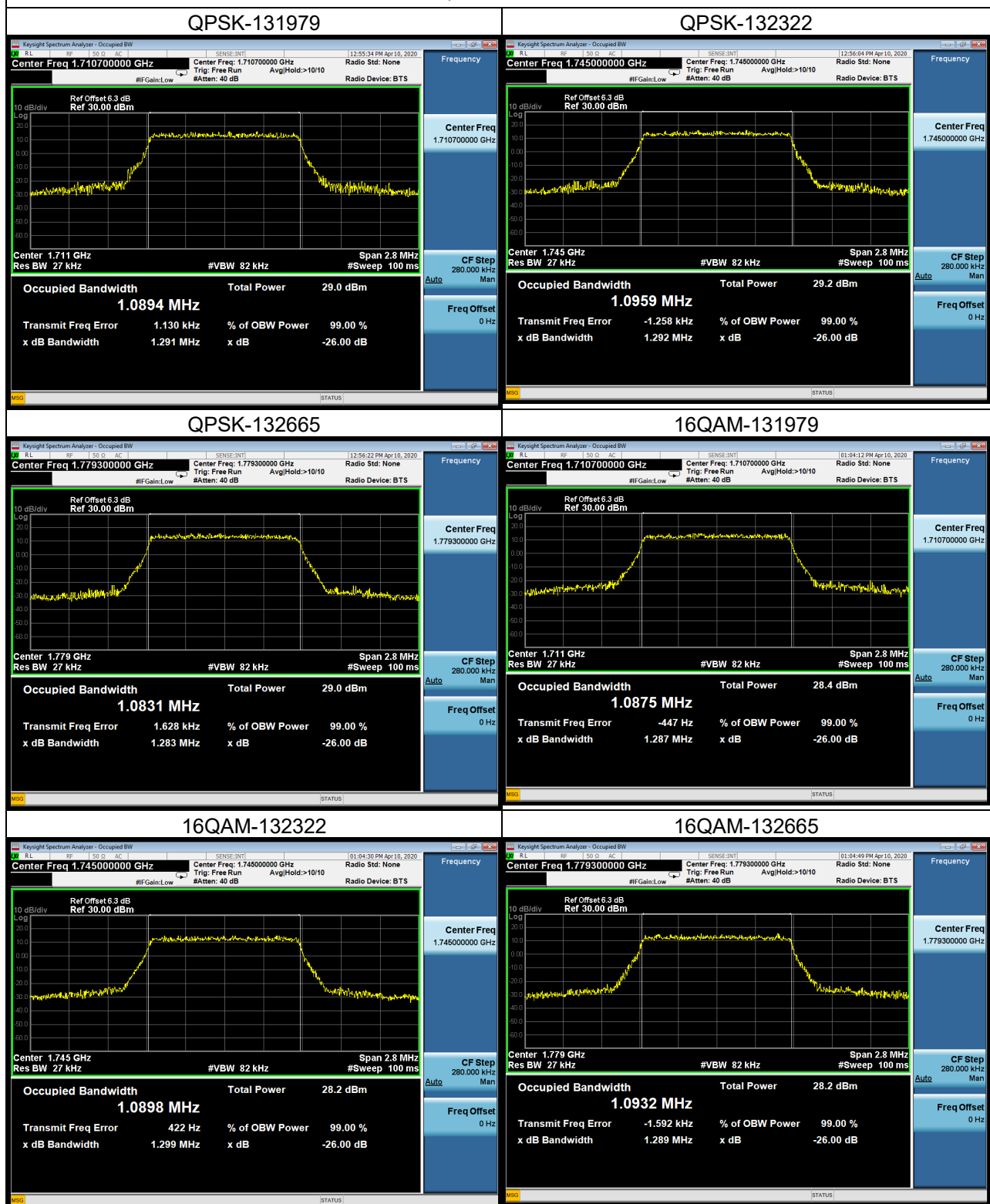
LTE Band 41_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	18.008	40140	2545	19.86
40640	2595	17.922	40640	2595	19.75
41140	2645	17.961	41140	2645	19.80
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	17.959	40140	2545	19.91
40640	2595	17.967	40640	2595	20.73
41140	2645	17.926	41140	2645	19.90
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
40140	2545	17.944	40140	2545	20.16
40640	2595	17.970	40640	2595	20.45
41140	2645	17.982	41140	2645	20.75



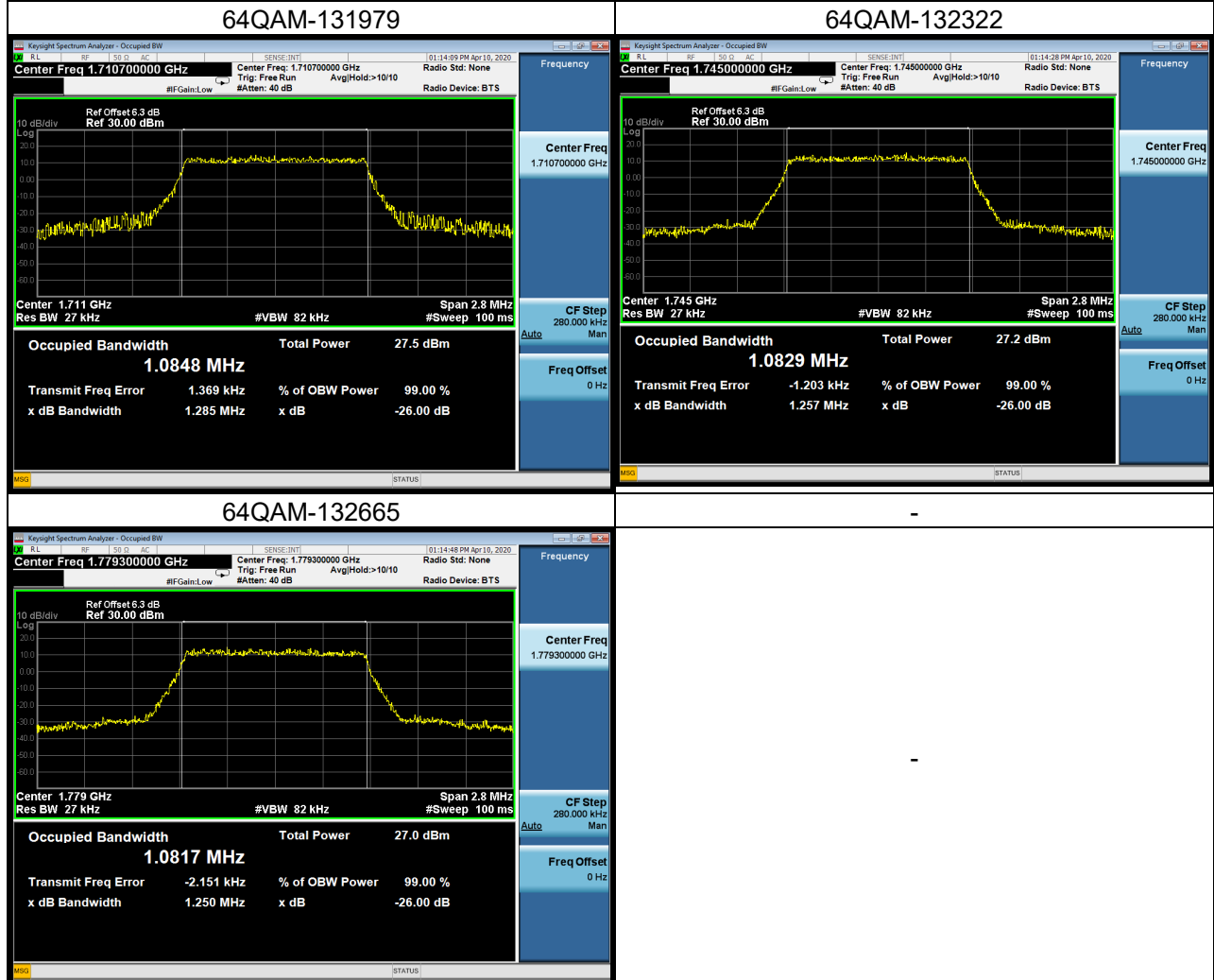


LTE Band 66_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0894	131979	1710.7	1.291
132322	1745	1.0959	132322	1745	1.292
132665	1779.3	1.0831	132665	1779.3	1.283
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0875	131979	1710.7	1.287
132322	1745	1.0898	132322	1745	1.299
132665	1779.3	1.0932	132665	1779.3	1.289
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131979	1710.7	1.0848	131979	1710.7	1.285
132322	1745	1.0829	132322	1745	1.257
132665	1779.3	1.0817	132665	1779.3	1.250

Spectrum Plot

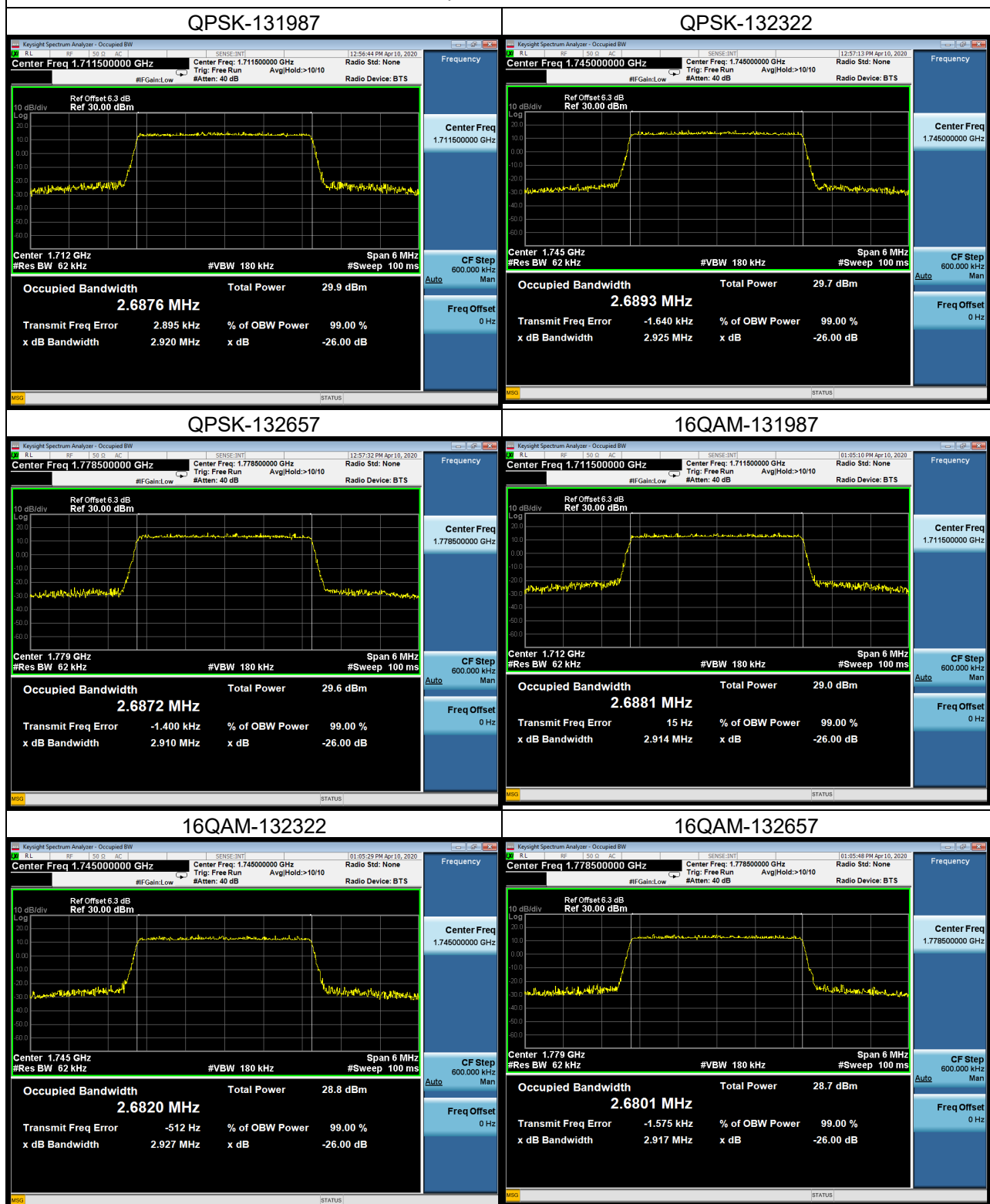


Spectrum Plot

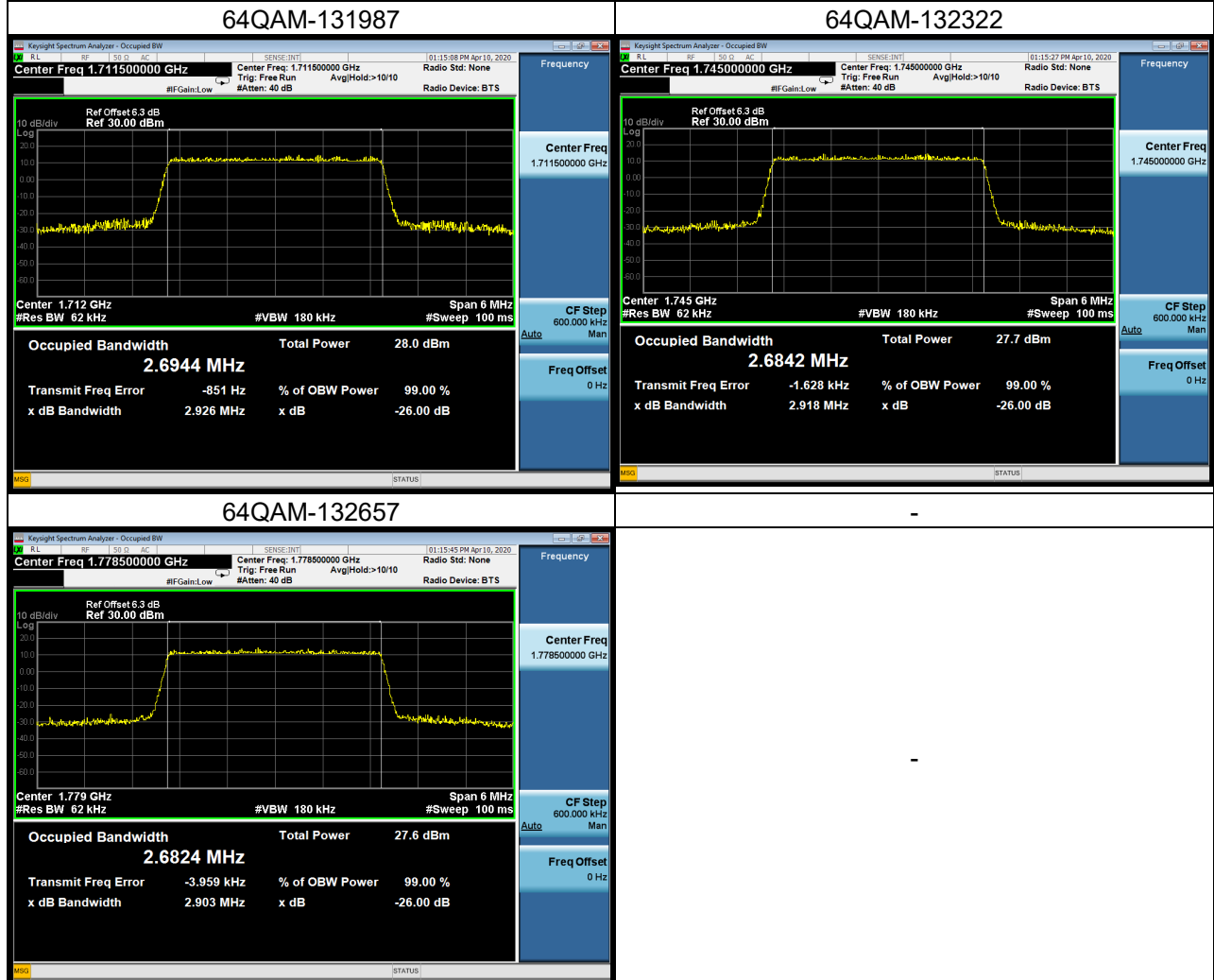


LTE Band 66_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6876	131987	1711.5	2.920
132322	1745	2.6893	132322	1745	2.925
132657	1778.5	2.6872	132657	1778.5	2.910
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6881	131987	1711.5	2.914
132322	1745	2.6820	132322	1745	2.927
132657	1778.5	2.6801	132657	1778.5	2.917
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131987	1711.5	2.6944	131987	1711.5	2.926
132322	1745	2.6842	132322	1745	2.918
132657	1778.5	2.6824	132657	1778.5	2.903

Spectrum Plot

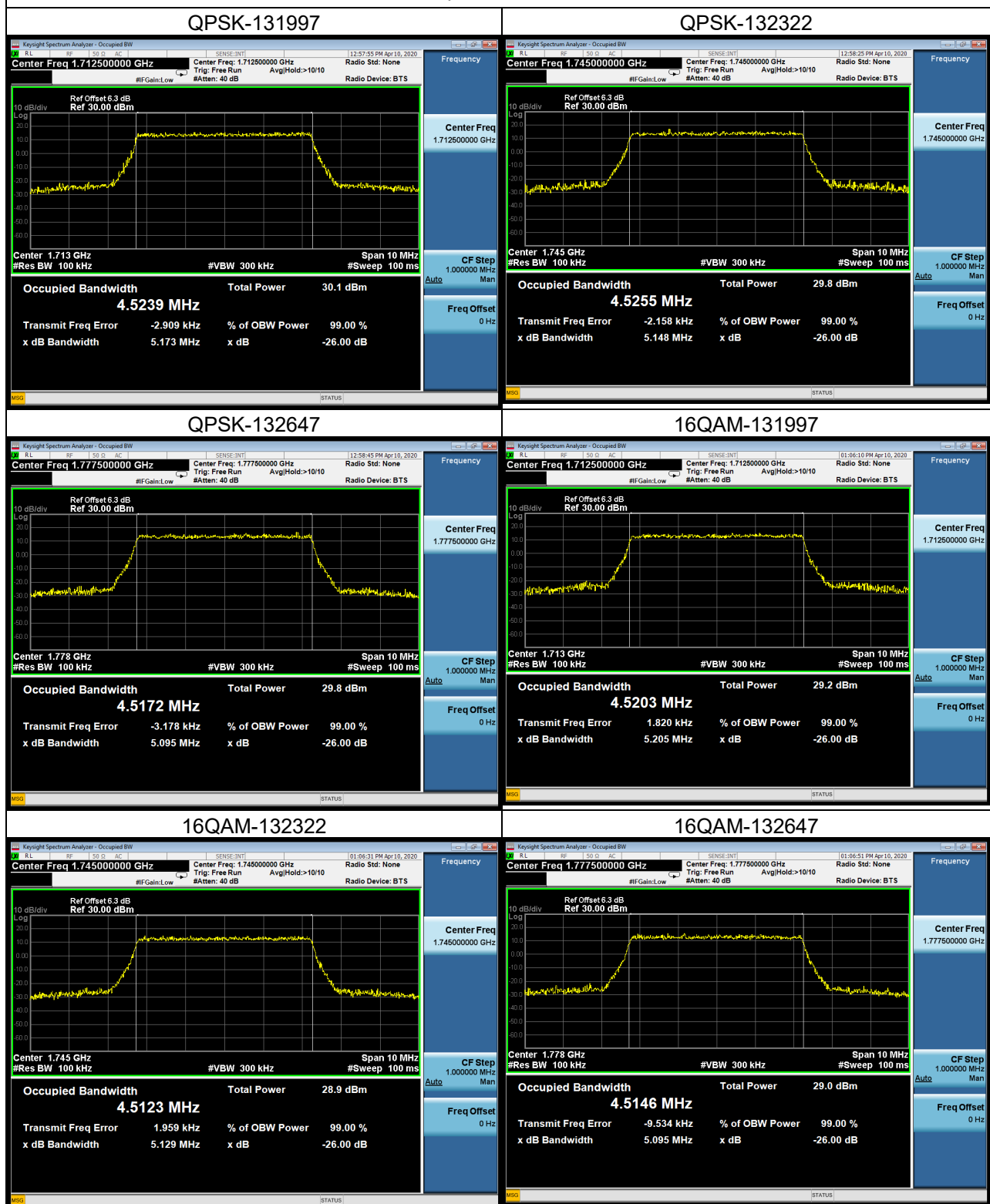


Spectrum Plot

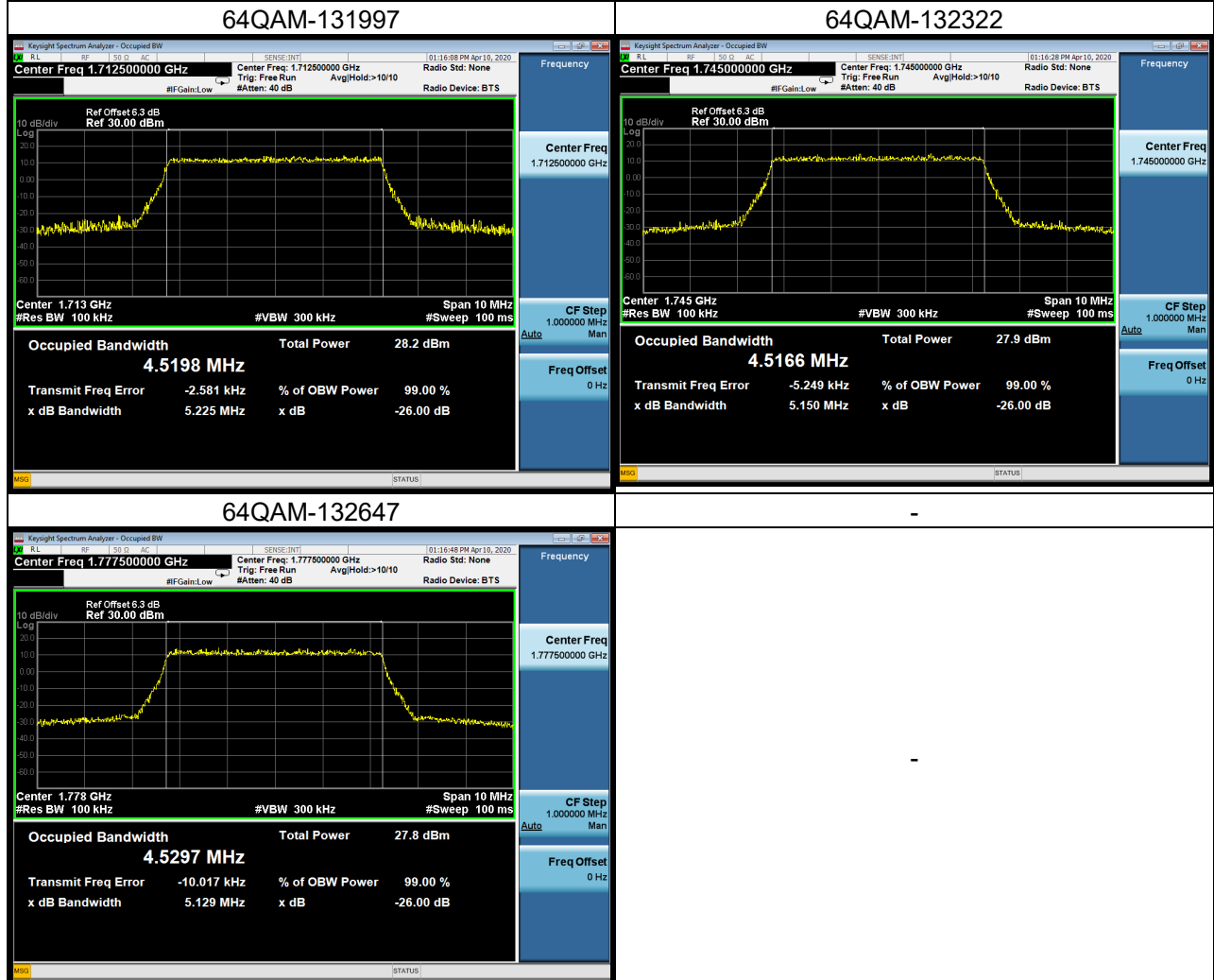


LTE Band 66_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5239	131997	1712.5	5.173
132322	1745	4.5255	132322	1745	5.148
132647	1777.5	4.5172	132647	1777.5	5.095
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5203	131997	1712.5	5.205
132322	1745	4.5123	132322	1745	5.129
132647	1777.5	4.5146	132647	1777.5	5.095
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
131997	1712.5	4.5198	131997	1712.5	5.225
132322	1745	4.5166	132322	1745	5.150
132647	1777.5	4.5297	132647	1777.5	5.129

Spectrum Plot



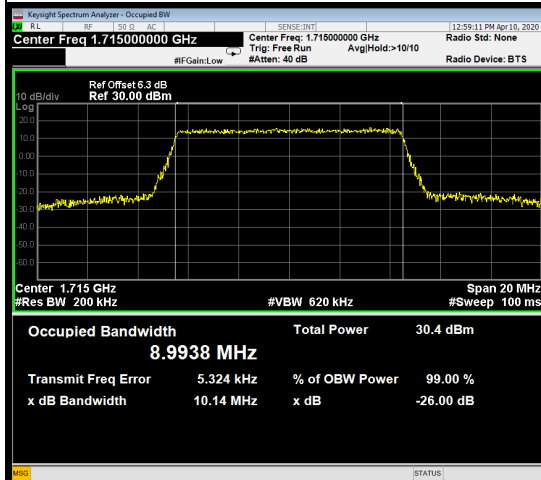
Spectrum Plot



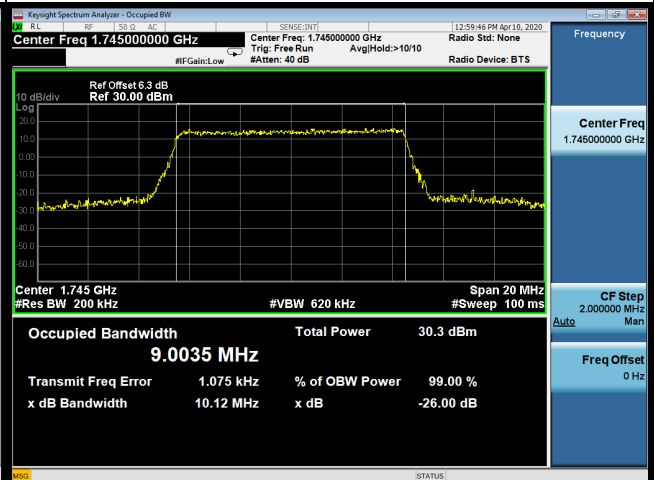
LTE Band 66_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	8.9938	132022	1715	10.14
132322	1745	9.0035	132322	1745	10.12
132622	1775	9.0080	132622	1775	10.12
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	8.9881	132022	1715	10.10
132322	1745	8.9822	132322	1745	10.08
132622	1775	8.9998	132622	1775	9.982
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132022	1715	8.9753	132022	1715	10.04
132322	1745	8.9981	132322	1745	10.07
132622	1775	9.0190	132622	1775	10.11

Spectrum Plot

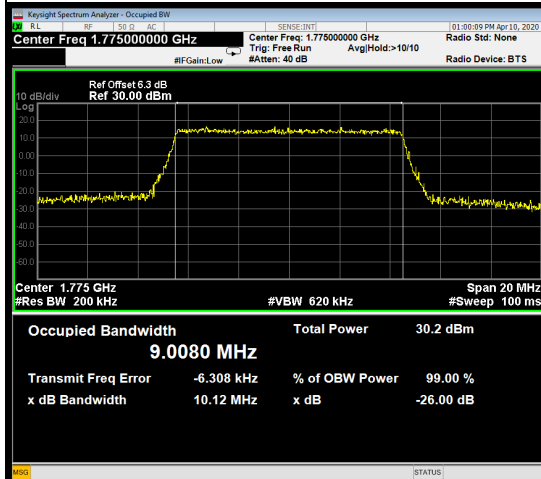
QPSK-132022



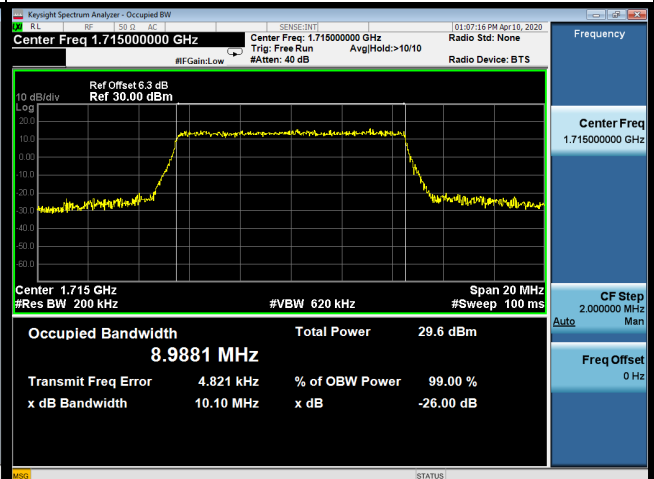
QPSK-132322



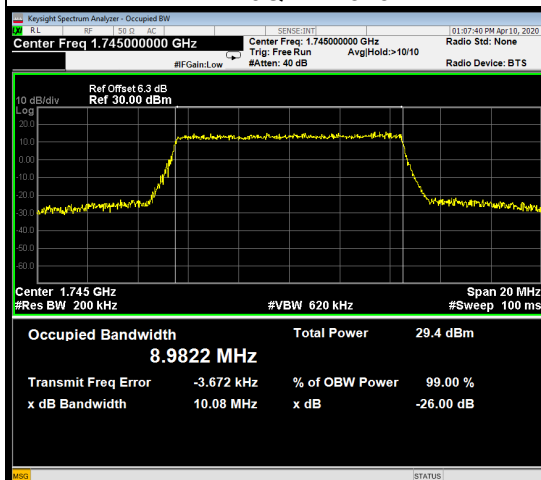
QPSK-132622



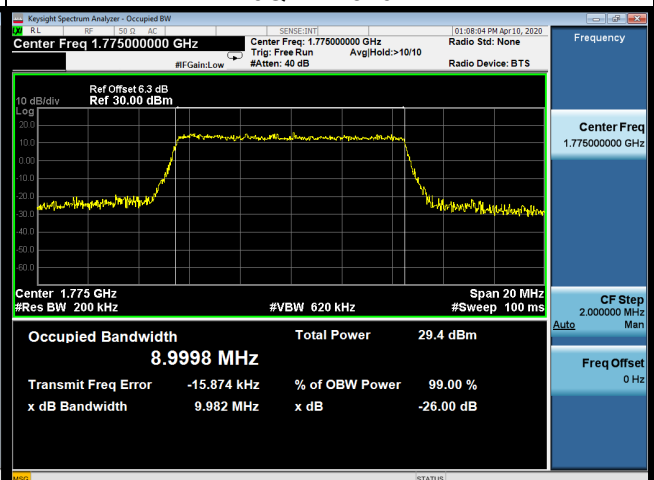
16QAM-132022



16QAM-132322

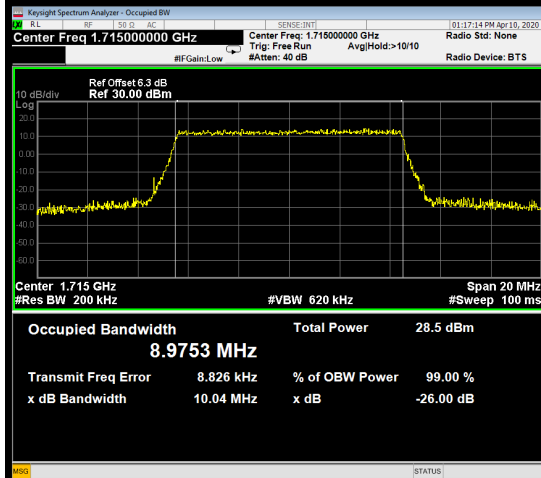


16QAM-132622

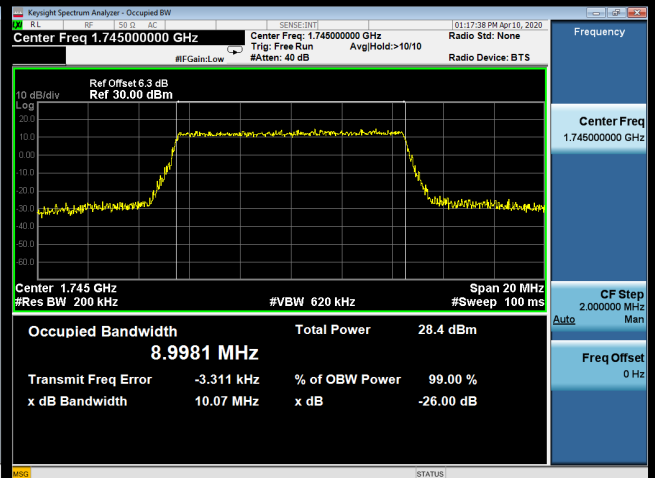


Spectrum Plot

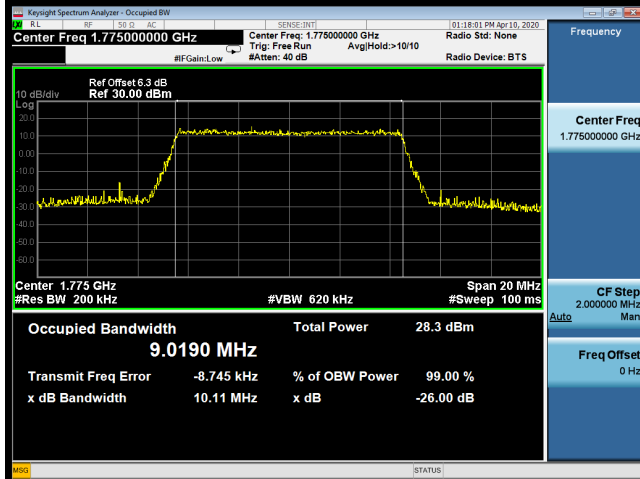
64QAM-132022



64QAM-132322

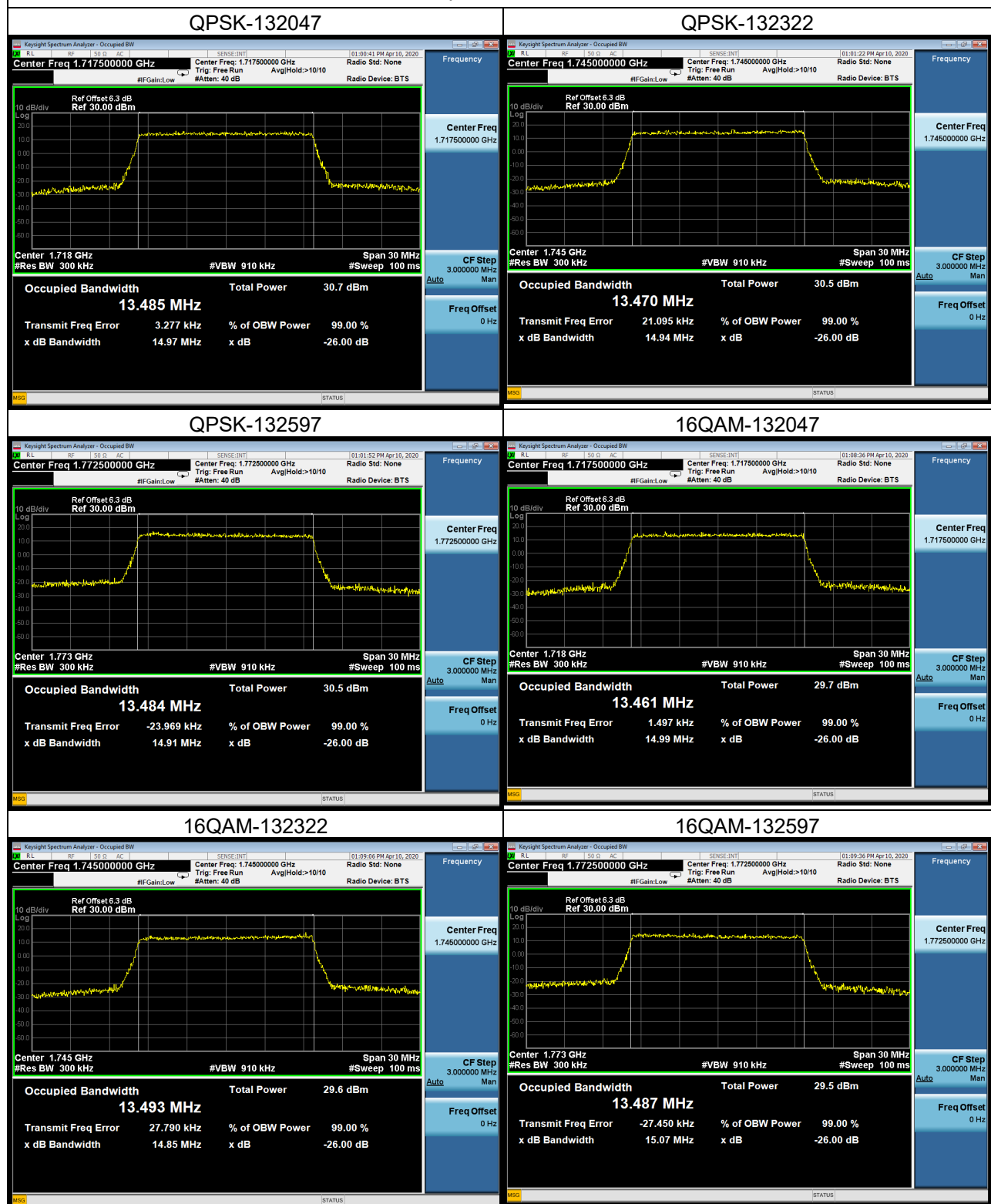


64QAM-132622



LTE Band 66_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132047	1717.5	13.485	132047	1717.5	14.97
132322	1745	13.470	132322	1745	14.94
132597	1772.5	13.484	132597	1772.5	14.91
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132047	1717.5	13.461	132047	1717.5	14.99
132322	1745	13.493	132322	1745	14.83
132597	1772.5	13.487	132597	1772.5	15.07
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
132047	1717.5	13.467	132047	1717.5	14.86
132322	1745	13.492	132322	1745	15.04
132597	1772.5	13.481	132597	1772.5	15.13

Spectrum Plot



Spectrum Plot

