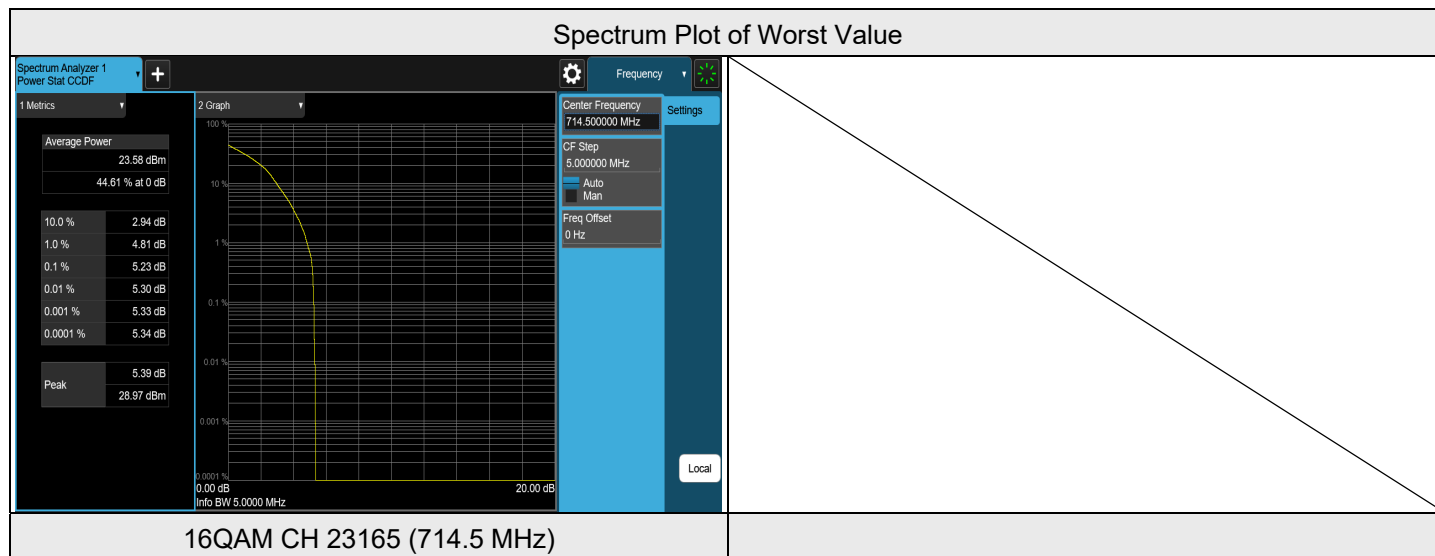


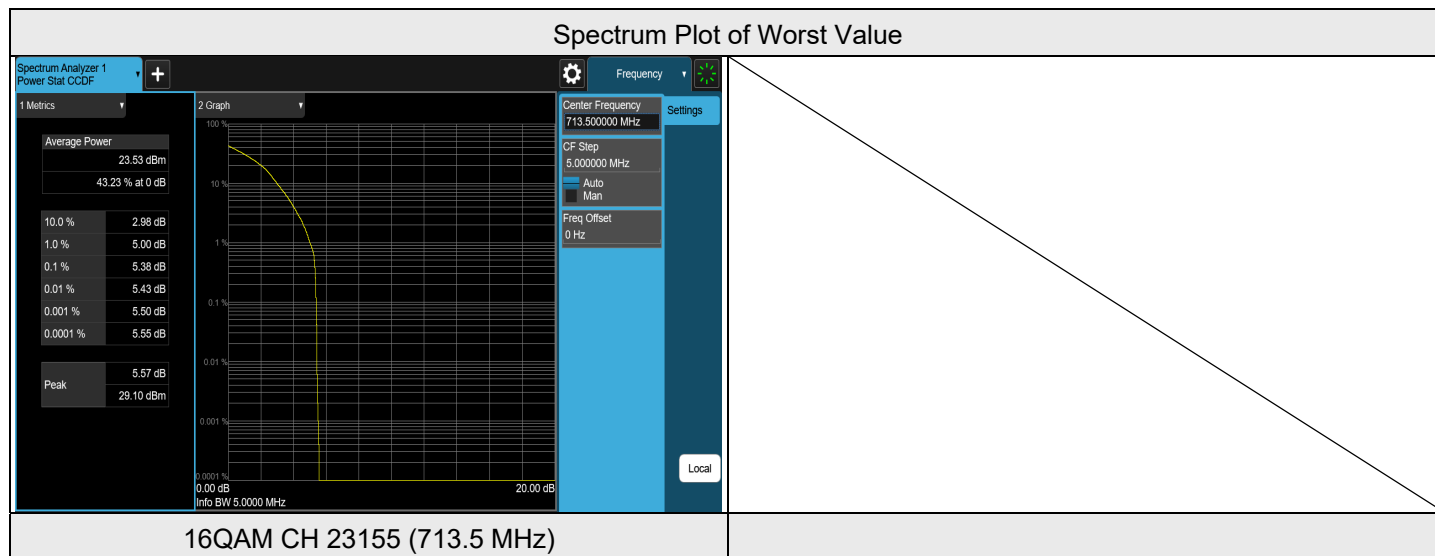
LTE Band 12, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23025	700.5	4.17	13	PASS
QPSK	23095	707.5	4.14	13	PASS
QPSK	23165	714.5	4.22	13	PASS
16QAM	23025	700.5	5.17	13	PASS
16QAM	23095	707.5	5.15	13	PASS
16QAM	23165	714.5	5.23	13	PASS



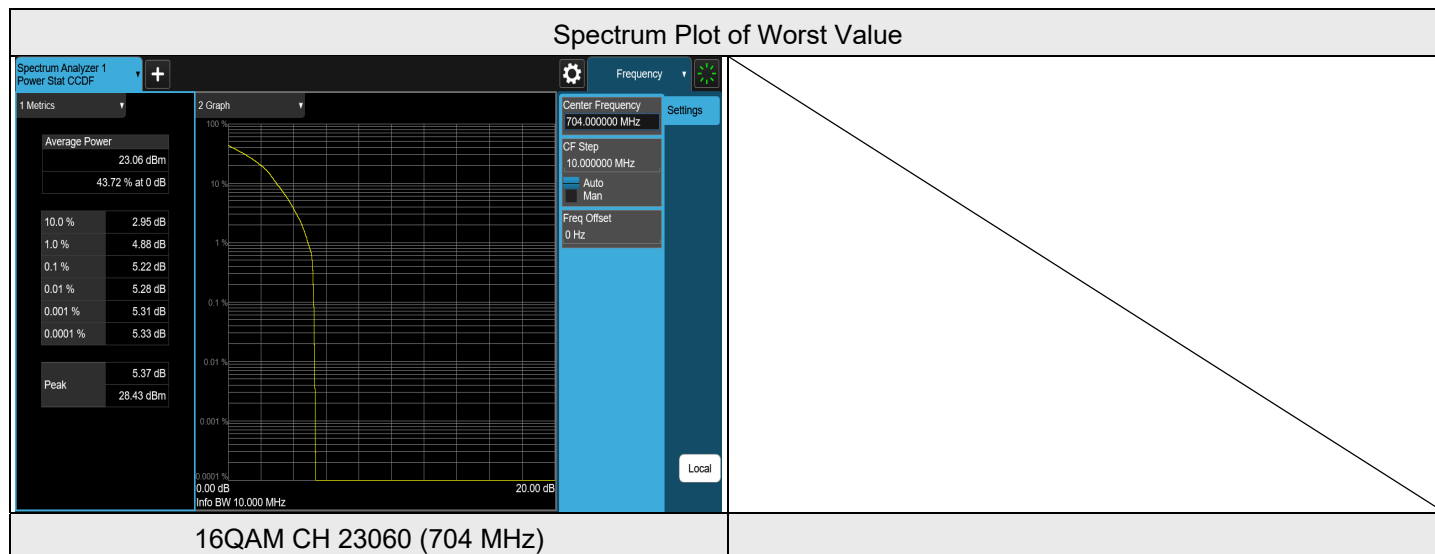
LTE Band 12, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23035	701.5	4.23	13	PASS
QPSK	23095	707.5	4.11	13	PASS
QPSK	23155	713.5	4.40	13	PASS
16QAM	23035	701.5	5.19	13	PASS
16QAM	23095	707.5	5.11	13	PASS
16QAM	23155	713.5	5.38	13	PASS



LTE Band 12, Channel Bandwidth: 10 MHz

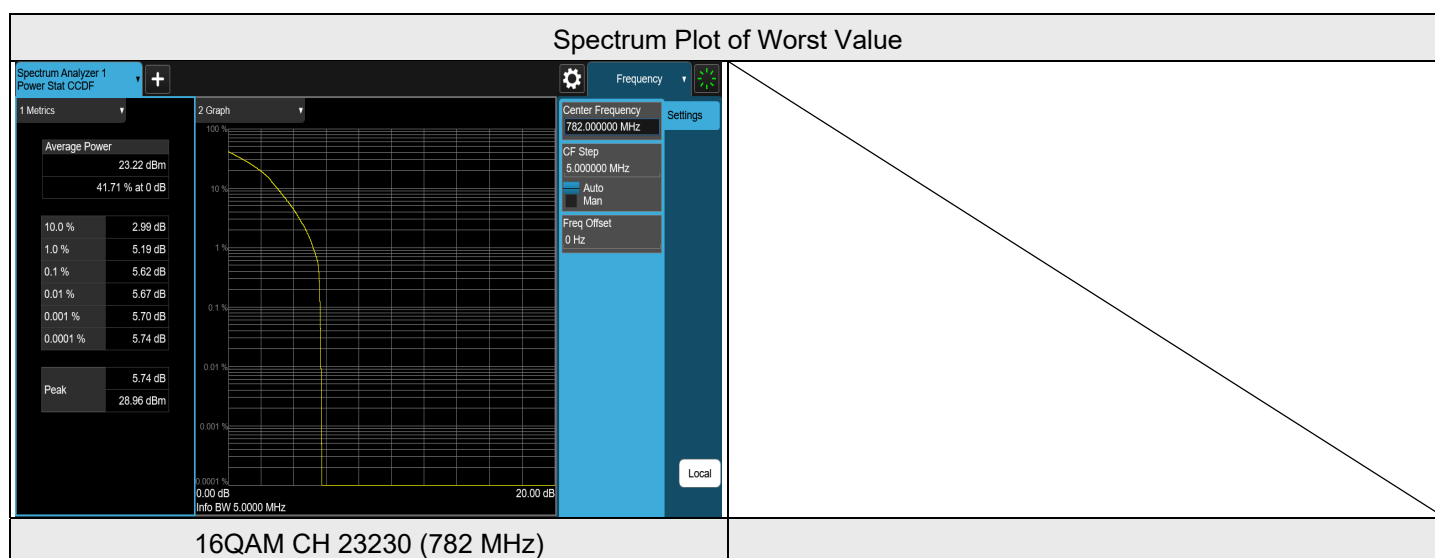
Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23060	704	4.33	13	PASS
QPSK	23095	707.5	4.15	13	PASS
QPSK	23130	711	4.14	13	PASS
16QAM	23060	704	5.22	13	PASS
16QAM	23095	707.5	5.17	13	PASS
16QAM	23130	711	5.15	13	PASS



7.3.11 LTE Band 13

LTE Band 13, Channel Bandwidth: 5 MHz

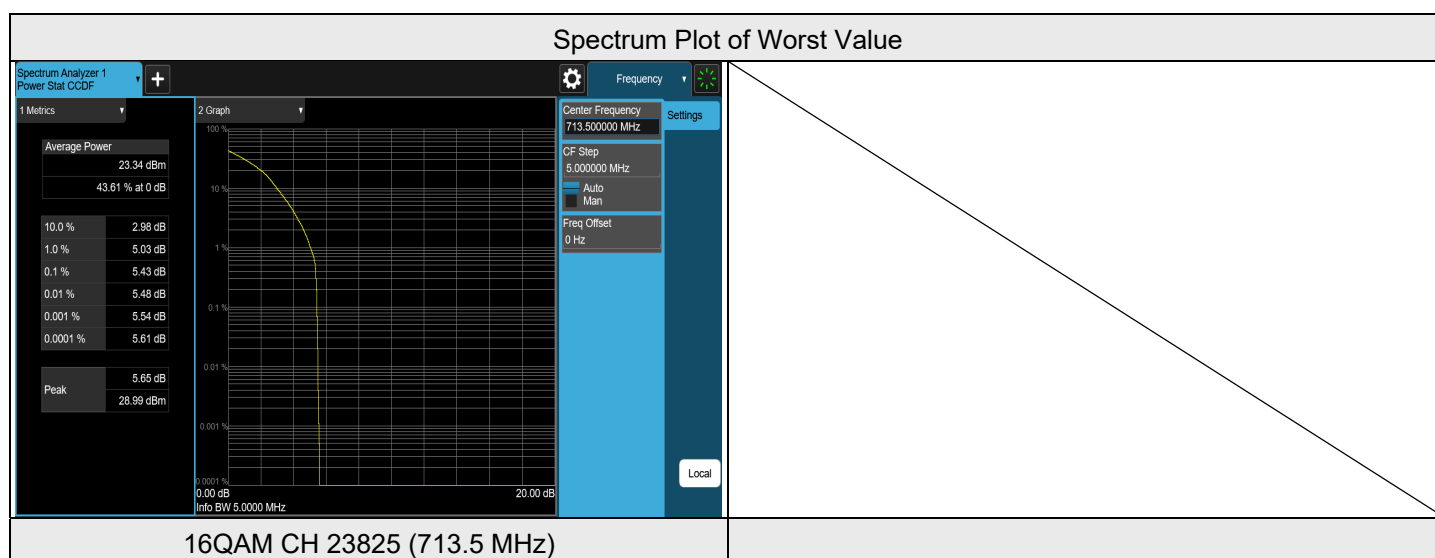
Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23205	779.5	4.42	13	PASS
QPSK	23230	782	4.62	13	PASS
QPSK	23255	784.5	4.50	13	PASS
16QAM	23205	779.5	5.40	13	PASS
16QAM	23230	782	5.62	13	PASS
16QAM	23255	784.5	5.49	13	PASS



7.3.12 LTE Band 17

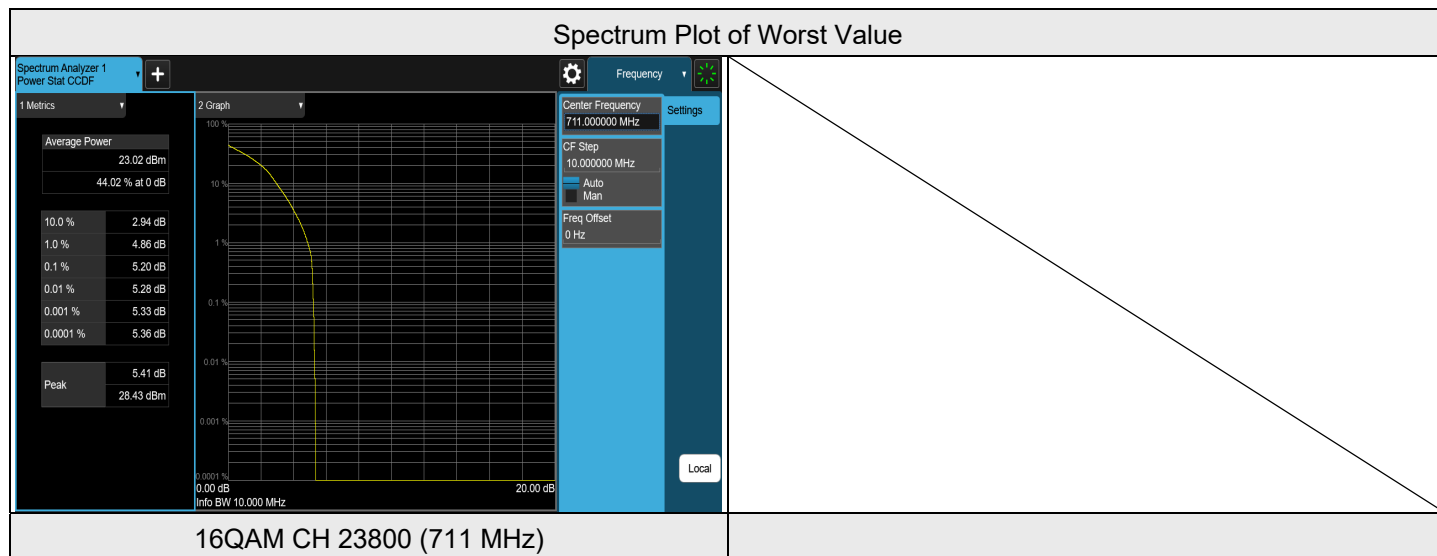
LTE Band 17, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23755	706.5	4.12	13	PASS
QPSK	23790	710	4.33	13	PASS
QPSK	23825	713.5	4.38	13	PASS
16QAM	23755	706.5	5.10	13	PASS
16QAM	23790	710	5.32	13	PASS
16QAM	23825	713.5	5.43	13	PASS



LTE Band 17, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23780	709	4.03	13	PASS
QPSK	23790	710	4.08	13	PASS
QPSK	23800	711	4.16	13	PASS
16QAM	23780	709	5.03	13	PASS
16QAM	23790	710	5.12	13	PASS
16QAM	23800	711	5.20	13	PASS



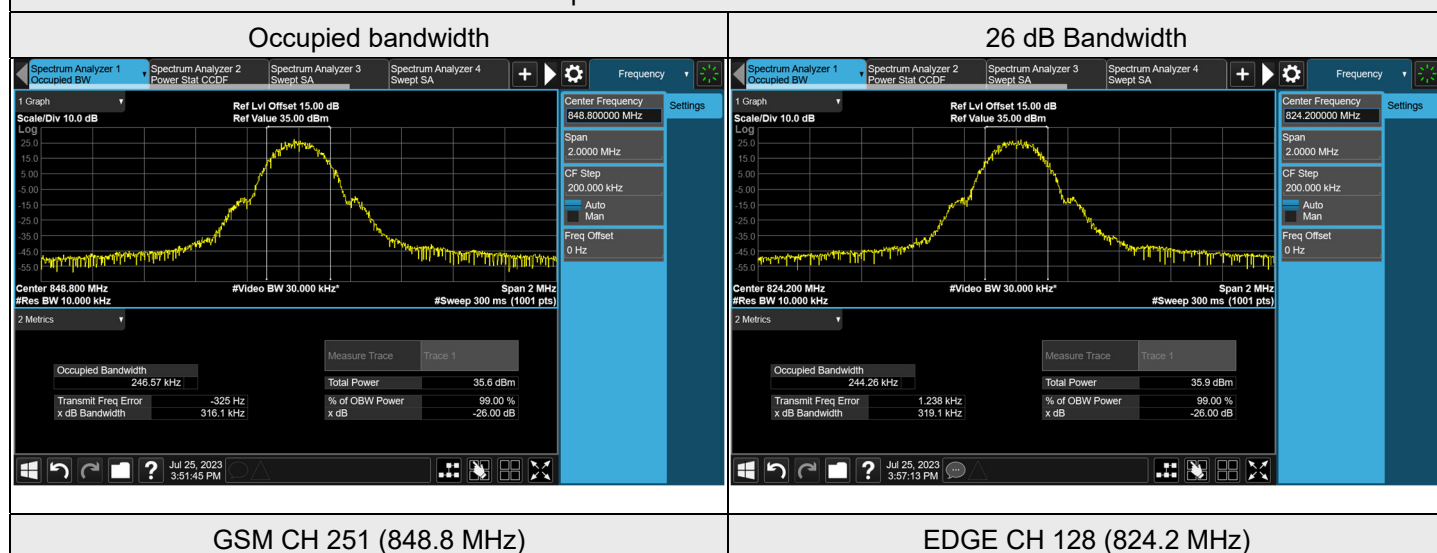
7.4 Bandwidth

Input Power:	3.8 Vdc	Environmental Conditions:	22°C, 68% RH	Tested By:	Noah Chang
--------------	---------	---------------------------	--------------	------------	------------

7.4.1 GSM850

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (kHz)	26 dB Bandwidth (kHz)
GSM	128	824.2	246.49	313.70
GSM	189	836.4	245.79	318.20
GSM	251	848.8	246.57	316.10
EDGE	128	824.2	244.26	319.10
EDGE	189	836.4	245.26	318.60
EDGE	251	848.8	242.80	313.80

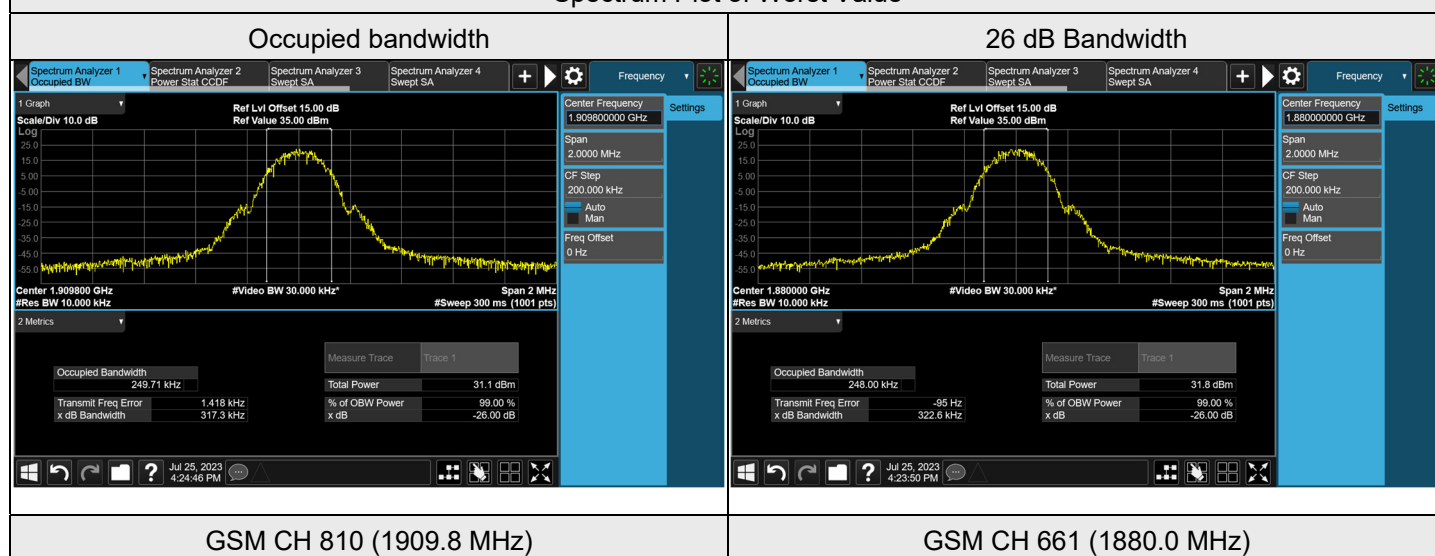
Spectrum Plot of Worst Value



7.4.2 GSM1900

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (kHz)	26 dB Bandwidth (kHz)
GSM	512	1850.2	245.72	319.00
GSM	661	1880.0	248.00	322.60
GSM	810	1909.8	249.71	317.30
EDGE	512	1850.2	248.00	315.00
EDGE	661	1880.0	247.37	315.10
EDGE	810	1909.8	246.14	316.10

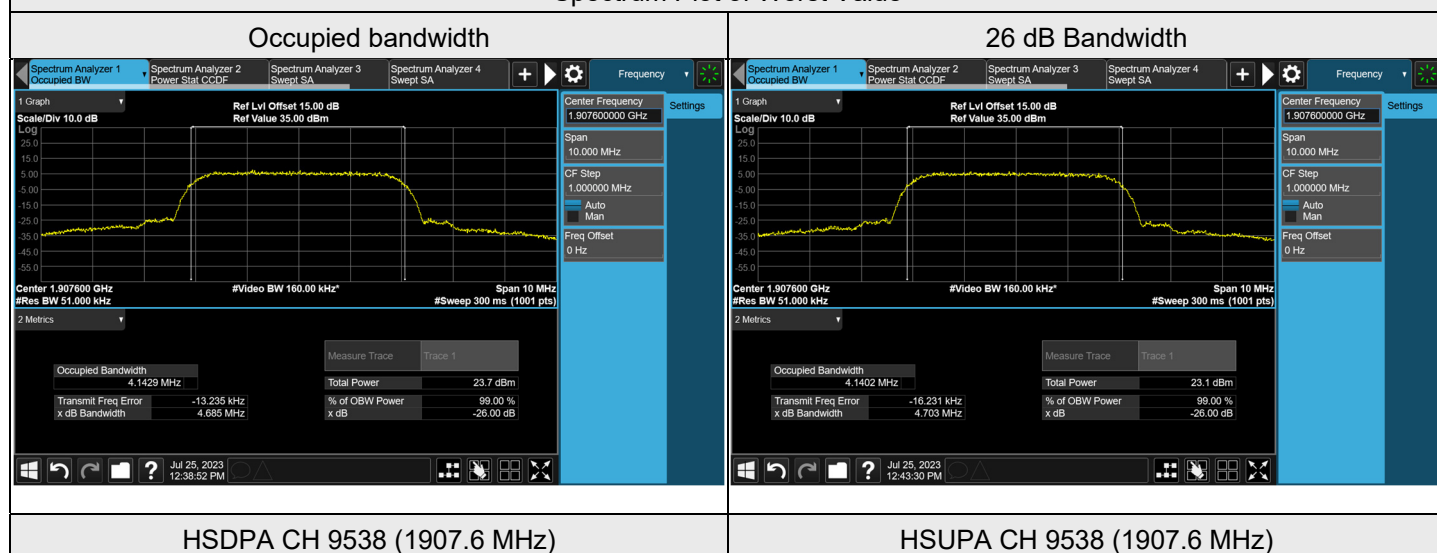
Spectrum Plot of Worst Value



7.4.3 WCDMA Band 2

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
WCDMA	9262	1852.4	4.1264	4.676
WCDMA	9400	1880	4.1266	4.677
WCDMA	9538	1907.6	4.1297	4.675
HSDPA	9262	1852.4	4.1318	4.696
HSDPA	9400	1880	4.1317	4.699
HSDPA	9538	1907.6	4.1429	4.665
HSUPA	9262	1852.4	4.1285	4.702
HSUPA	9400	1880	4.1341	4.700
HSUPA	9538	1907.6	4.1402	4.703

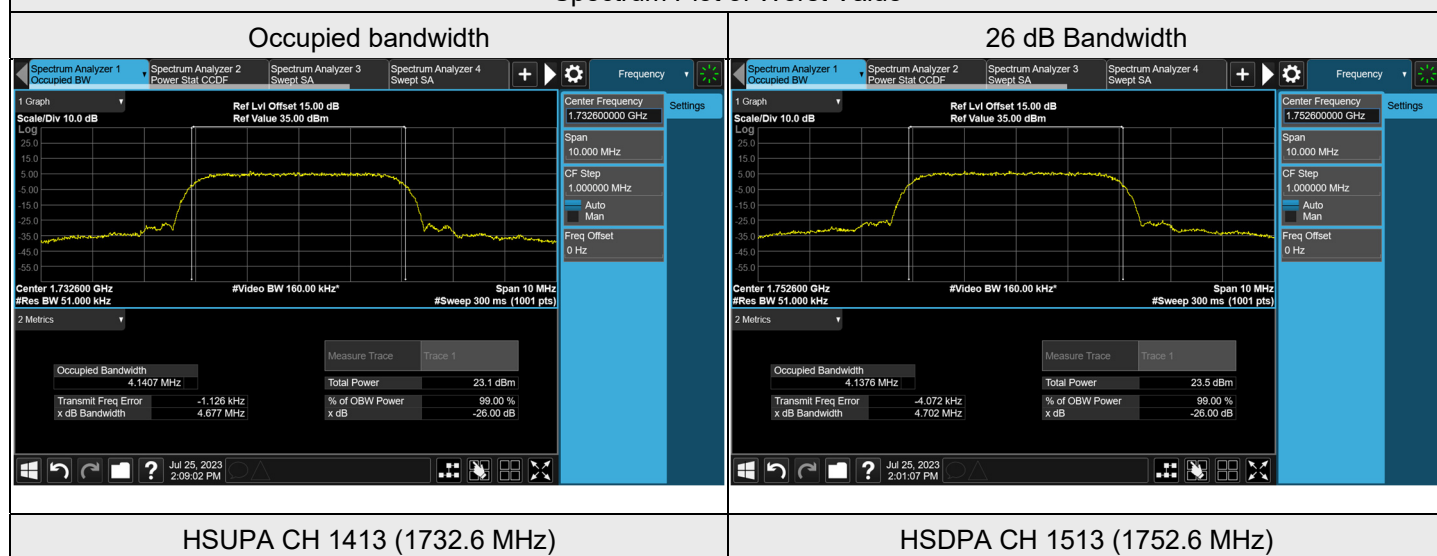
Spectrum Plot of Worst Value



7.4.4 WCDMA Band 4

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
WCDMA	1312	1712.4	4.1246	4.670
WCDMA	1413	1732.6	4.1298	4.663
WCDMA	1513	1752.6	4.1236	4.671
HSDPA	1312	1712.4	4.1333	4.691
HSDPA	1413	1732.6	4.1357	4.699
HSDPA	1513	1752.6	4.1376	4.702
HSUPA	1312	1712.4	4.1344	4.689
HSUPA	1413	1732.6	4.1407	4.677
HSUPA	1513	1752.6	4.1314	4.690

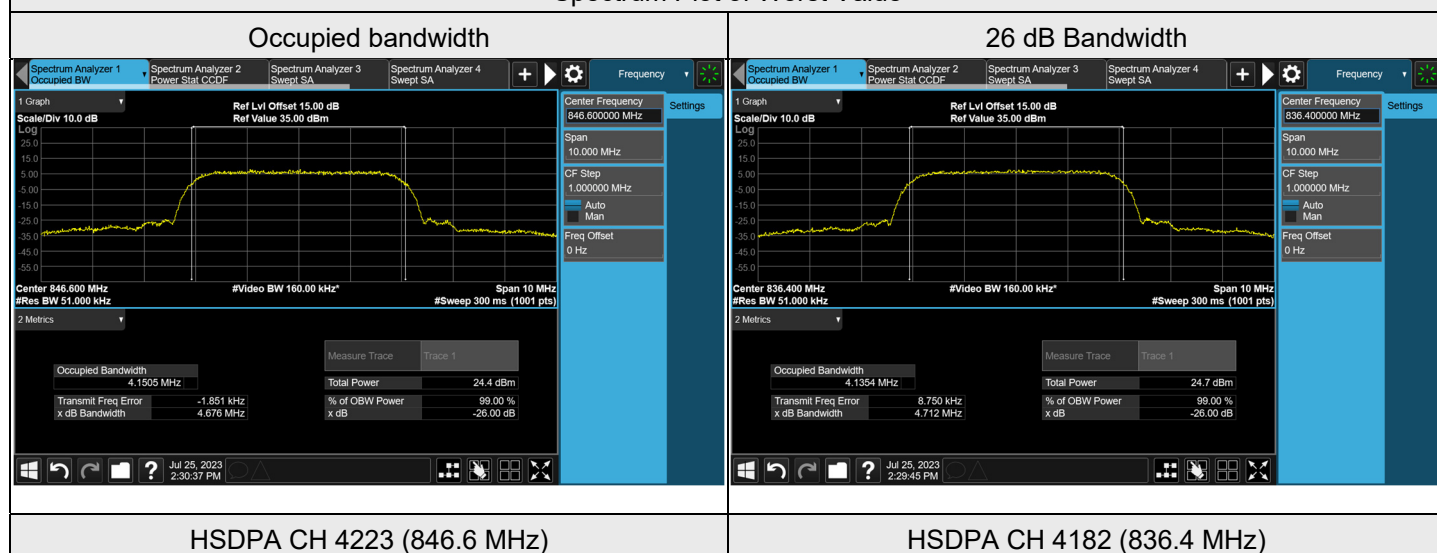
Spectrum Plot of Worst Value



7.4.5 WCDMA Band 5

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
WCDMA	4132	826.4	4.1338	4.690
WCDMA	4182	836.4	4.1263	4.662
WCDMA	4223	846.6	4.1351	4.674
HSDPA	4132	826.4	4.1350	4.680
HSDPA	4182	836.4	4.1354	4.712
HSDPA	4223	846.6	4.1505	4.676
HSUPA	4132	826.4	4.1429	4.700
HSUPA	4182	836.4	4.1381	4.688
HSUPA	4223	846.6	4.1473	4.704

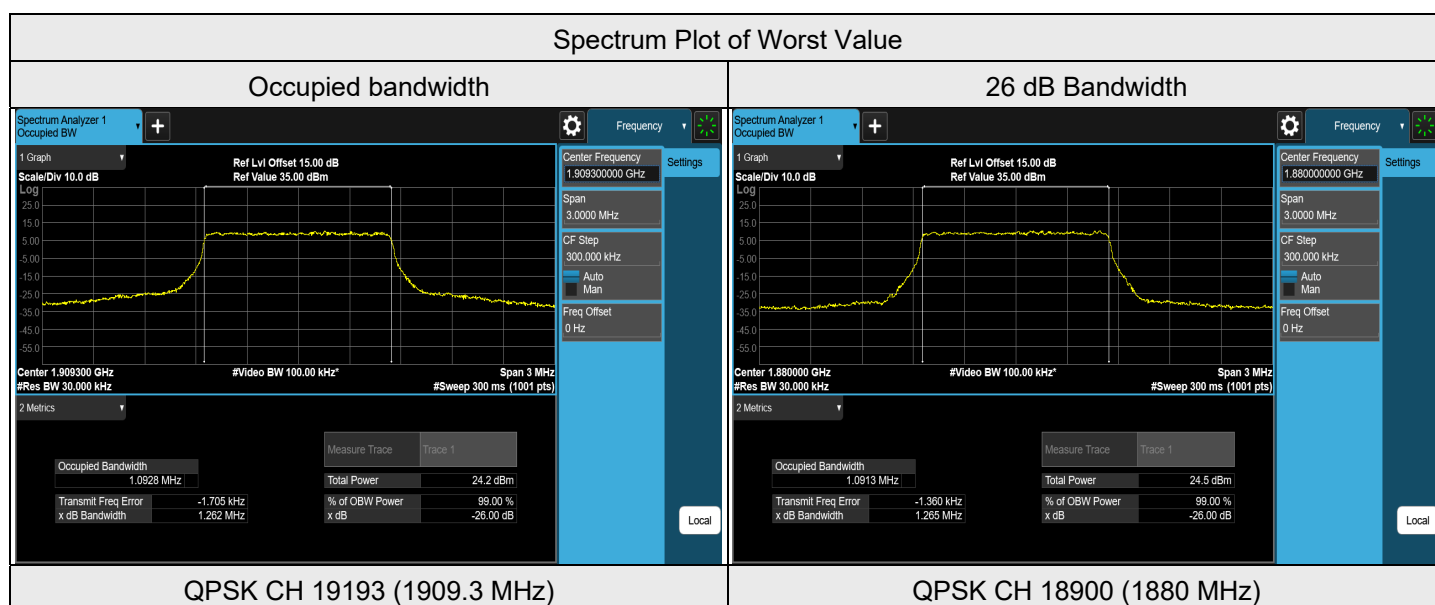
Spectrum Plot of Worst Value



7.4.6 LTE Band 2

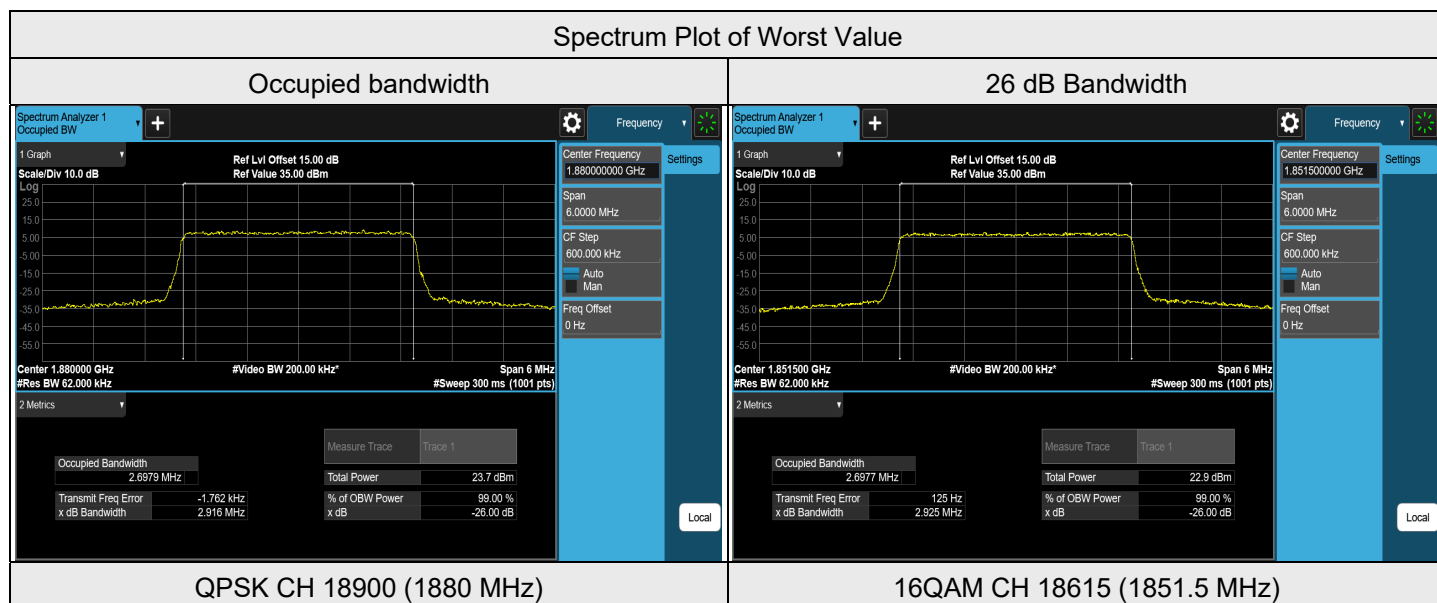
LTE Band 2, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18607	1850.7	1.0910	1.261
QPSK	18900	1880	1.0913	1.265
QPSK	19193	1909.3	1.0928	1.262
16QAM	18607	1850.7	1.0876	1.250
16QAM	18900	1880	1.0880	1.251
16QAM	19193	1909.3	1.0888	1.245



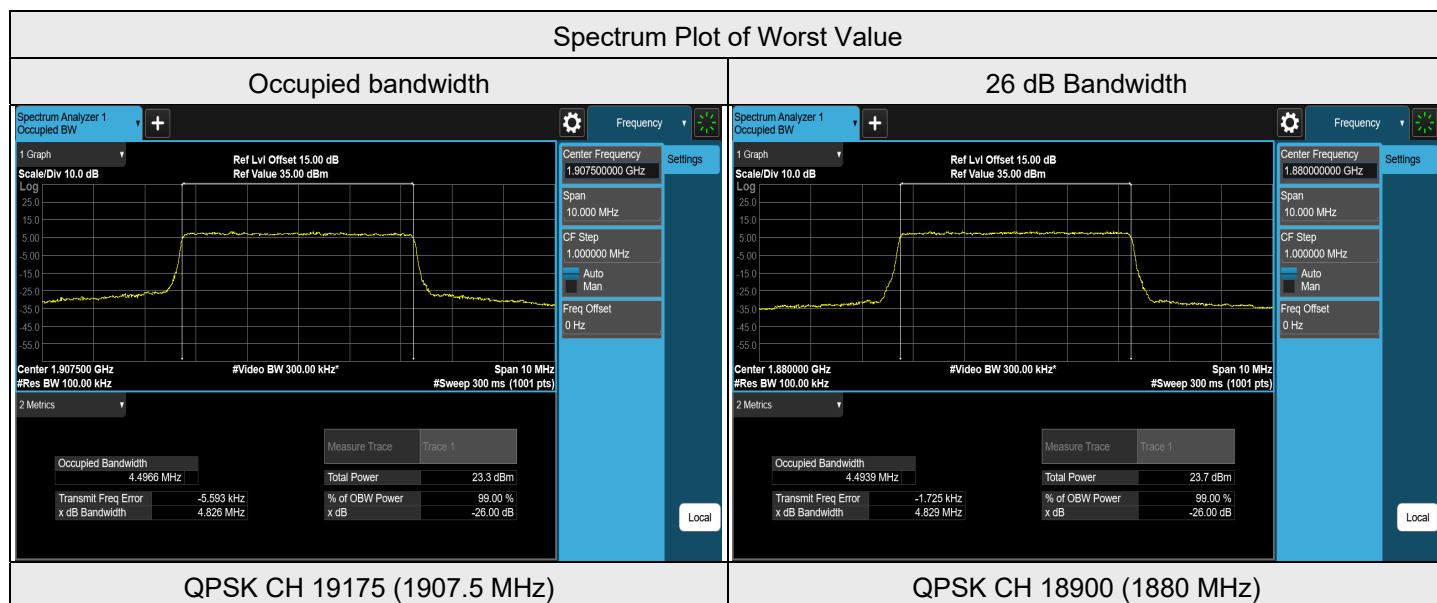
LTE Band 2, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18615	1851.5	2.6947	2.905
QPSK	18900	1880	2.6979	2.916
QPSK	19185	1908.5	2.6962	2.912
16QAM	18615	1851.5	2.6977	2.925
16QAM	18900	1880	2.6940	2.916
16QAM	19185	1908.5	2.6971	2.907



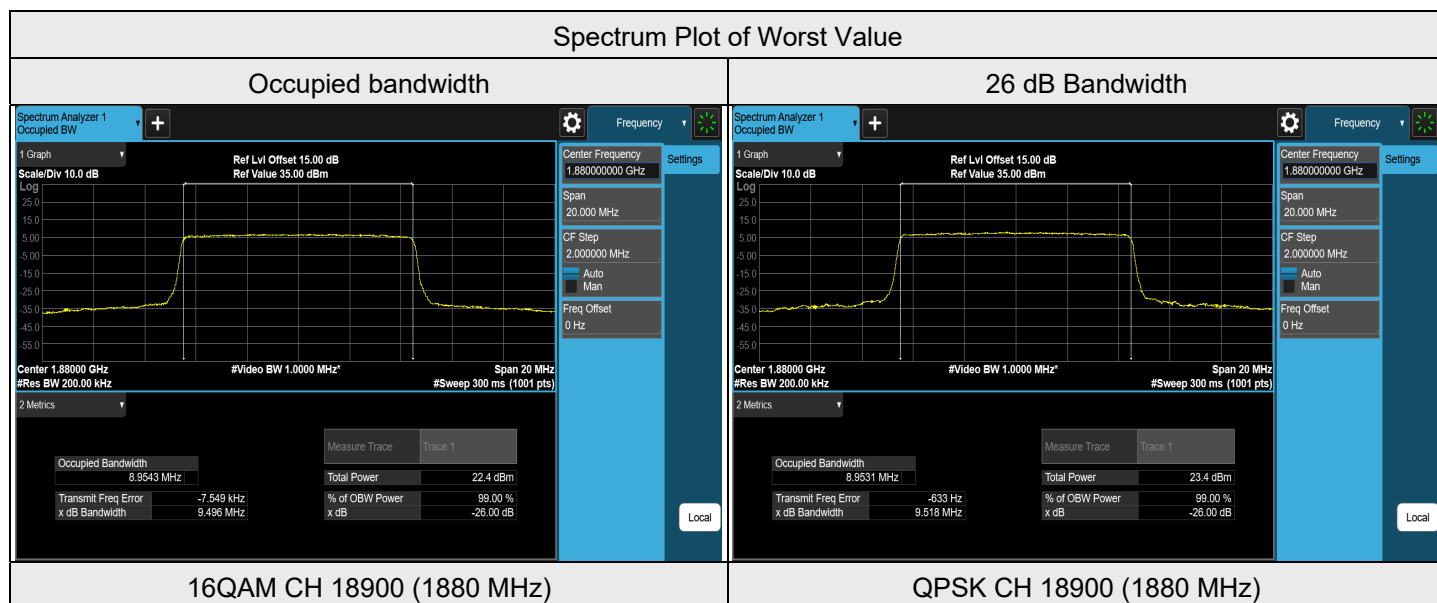
LTE Band 2, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18625	1852.5	4.4929	4.822
QPSK	18900	1880	4.4939	4.829
QPSK	19175	1907.5	4.4966	4.826
16QAM	18625	1852.5	4.4910	4.821
16QAM	18900	1880	4.4896	4.823
16QAM	19175	1907.5	4.4911	4.826



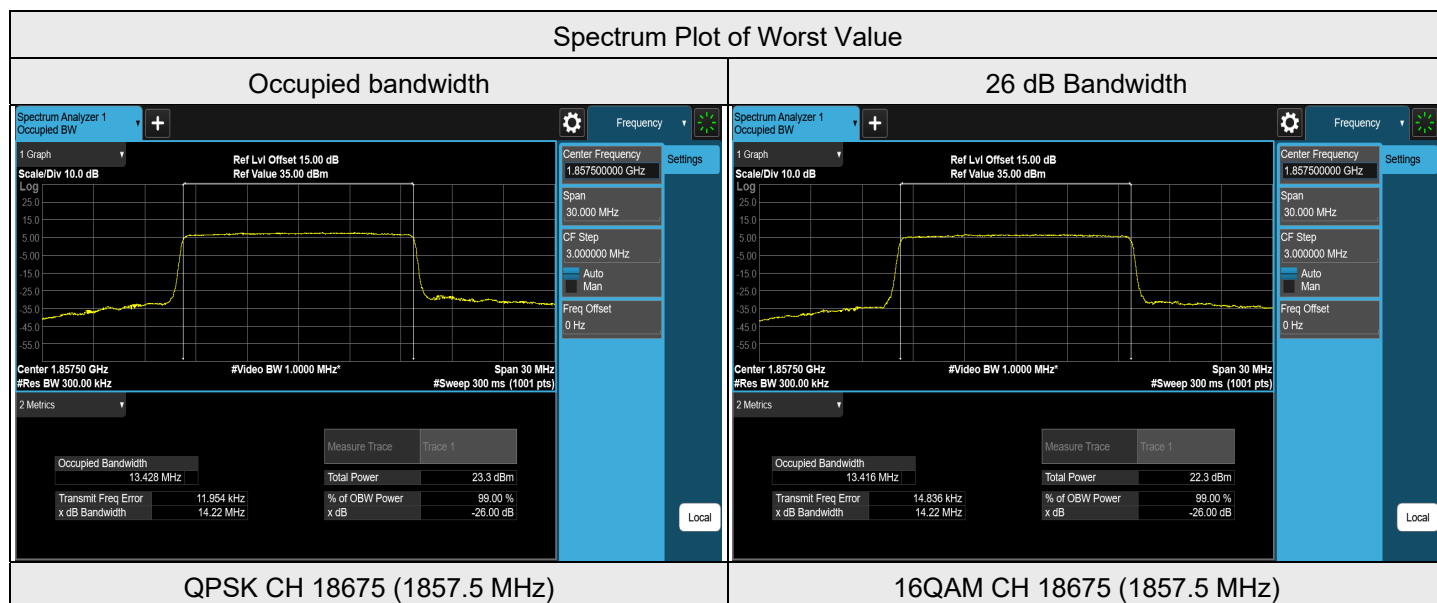
LTE Band 2, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18650	1855	8.9510	9.511
QPSK	18900	1880	8.9531	9.518
QPSK	19150	1905	8.9504	9.487
16QAM	18650	1855	8.9510	9.500
16QAM	18900	1880	8.9543	9.496
16QAM	19150	1905	8.9438	9.497



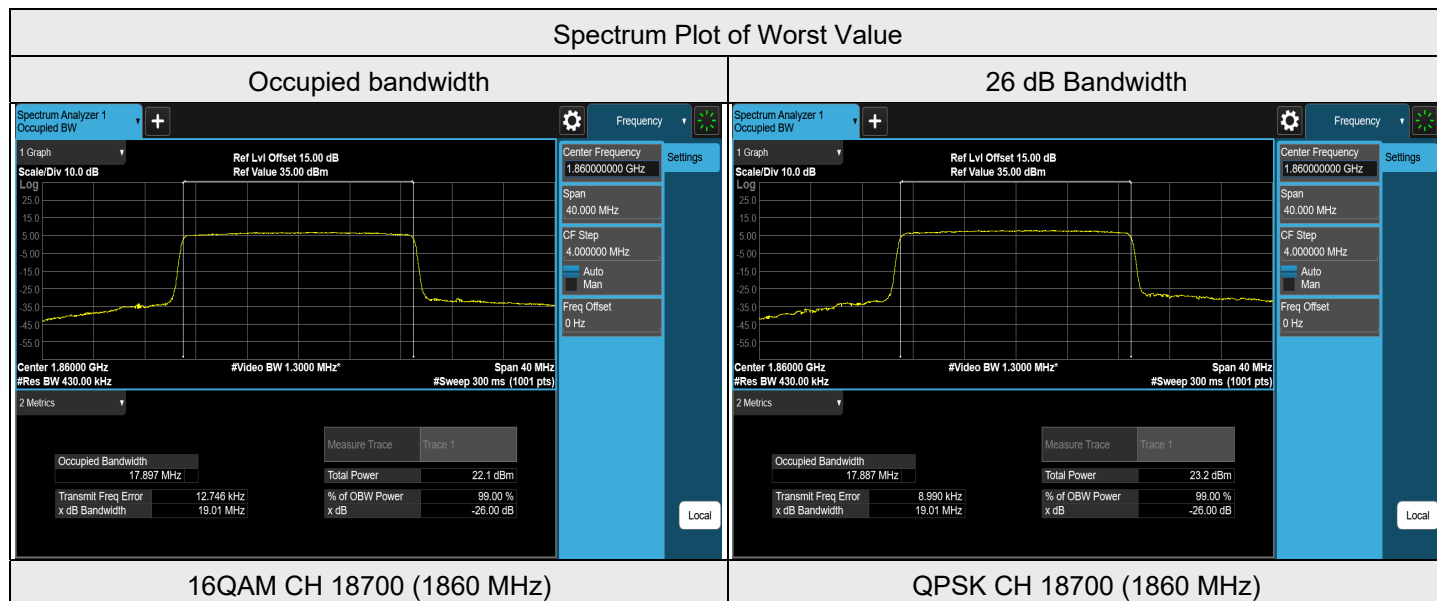
LTE Band 2, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18675	1857.5	13.4275	14.218
QPSK	18900	1880	13.4141	14.216
QPSK	19125	1902.5	13.4122	14.207
16QAM	18675	1857.5	13.4157	14.219
16QAM	18900	1880	13.4038	14.209
16QAM	19125	1902.5	13.3945	14.197



LTE Band 2, Channel Bandwidth: 20 MHz

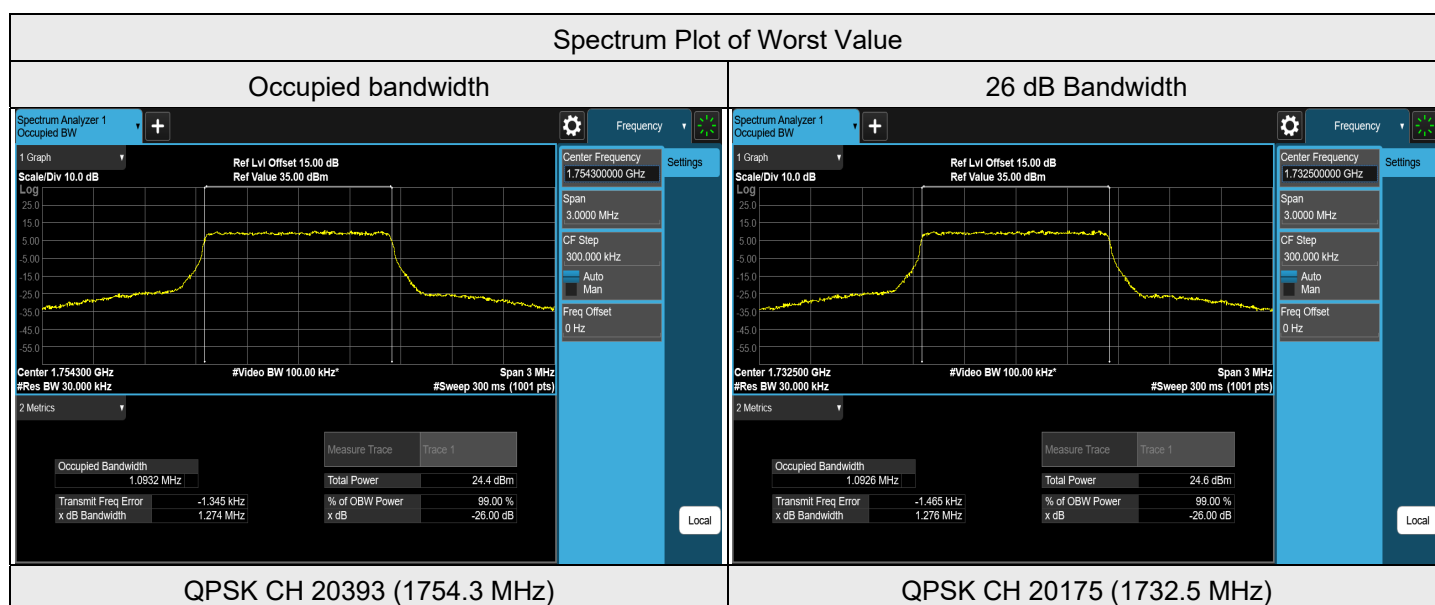
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18700	1860	17.8870	19.012
QPSK	18900	1880	17.8760	19.002
QPSK	19100	1900	17.8613	18.998
16QAM	18700	1860	17.8972	19.007
16QAM	18900	1880	17.8801	19.007
16QAM	19100	1900	17.8825	18.996



7.4.7 LTE Band 4

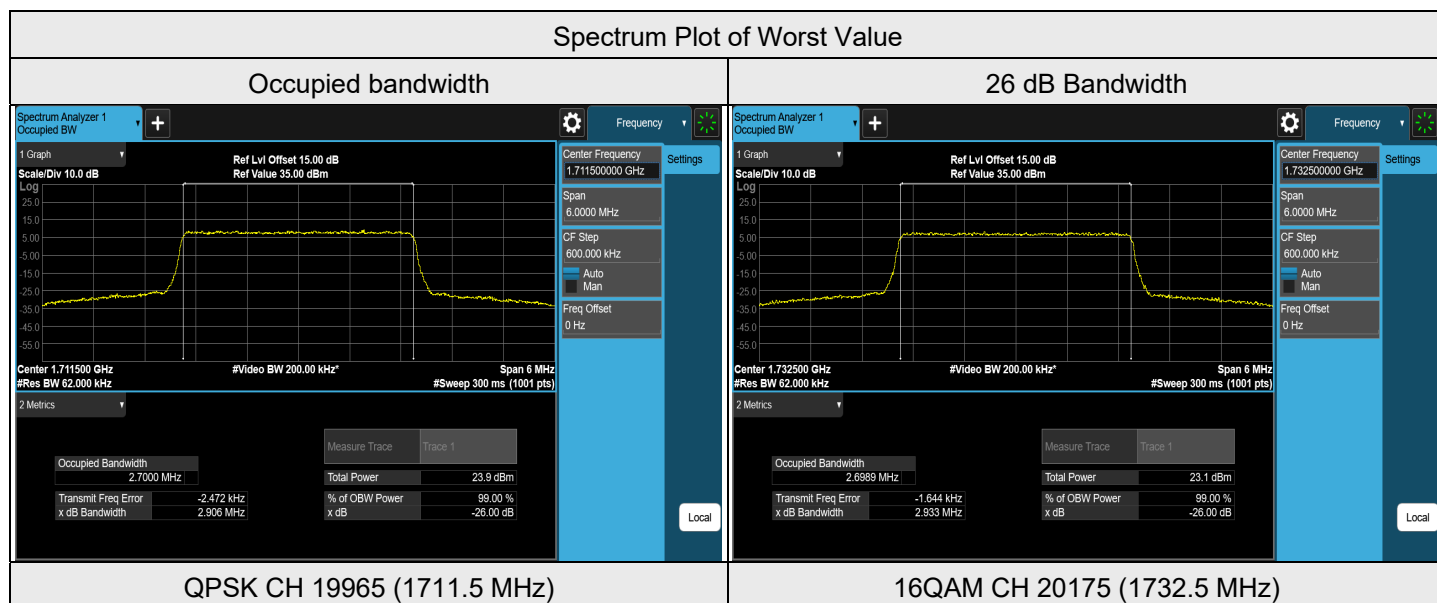
LTE Band 4, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19957	1710.7	1.0871	1.246
QPSK	20175	1732.5	1.0926	1.276
QPSK	20393	1754.3	1.0932	1.274
16QAM	19957	1710.7	1.0887	1.250
16QAM	20175	1732.5	1.0882	1.256
16QAM	20393	1754.3	1.0893	1.251



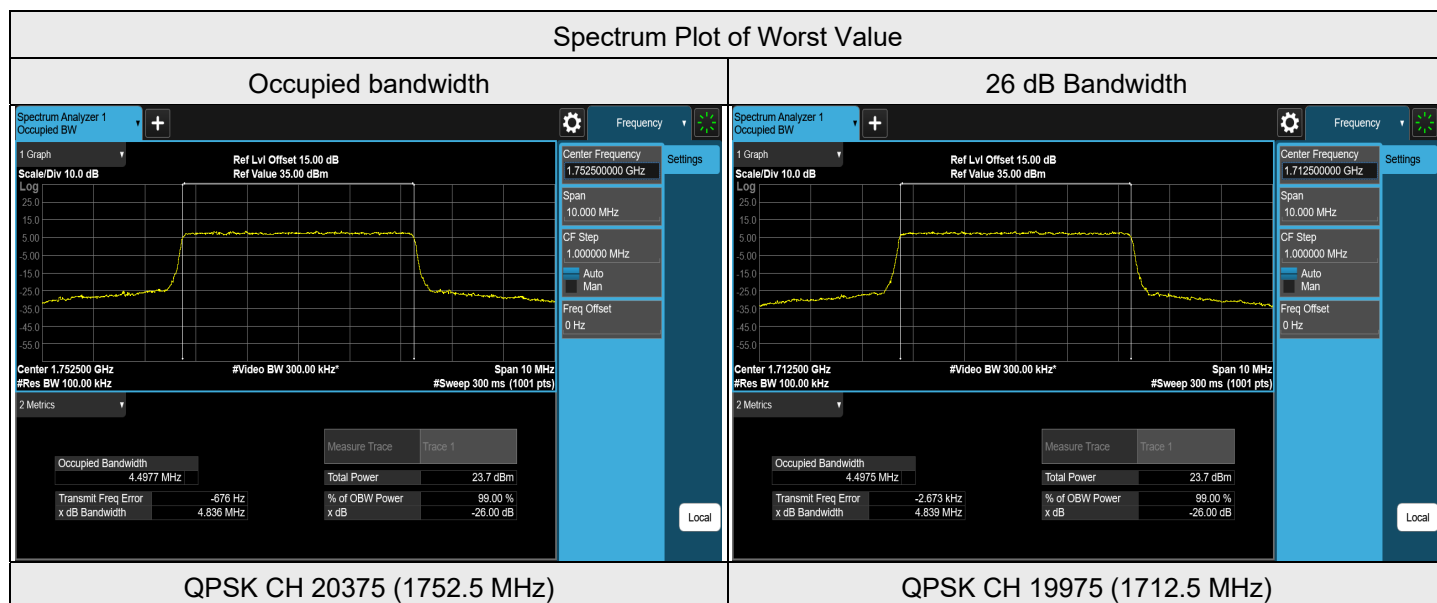
LTE Band 4, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19965	1711.5	2.7000	2.906
QPSK	20175	1732.5	2.6970	2.924
QPSK	20385	1753.5	2.6991	2.920
16QAM	19965	1711.5	2.6989	2.921
16QAM	20175	1732.5	2.6989	2.933
16QAM	20385	1753.5	2.6989	2.925



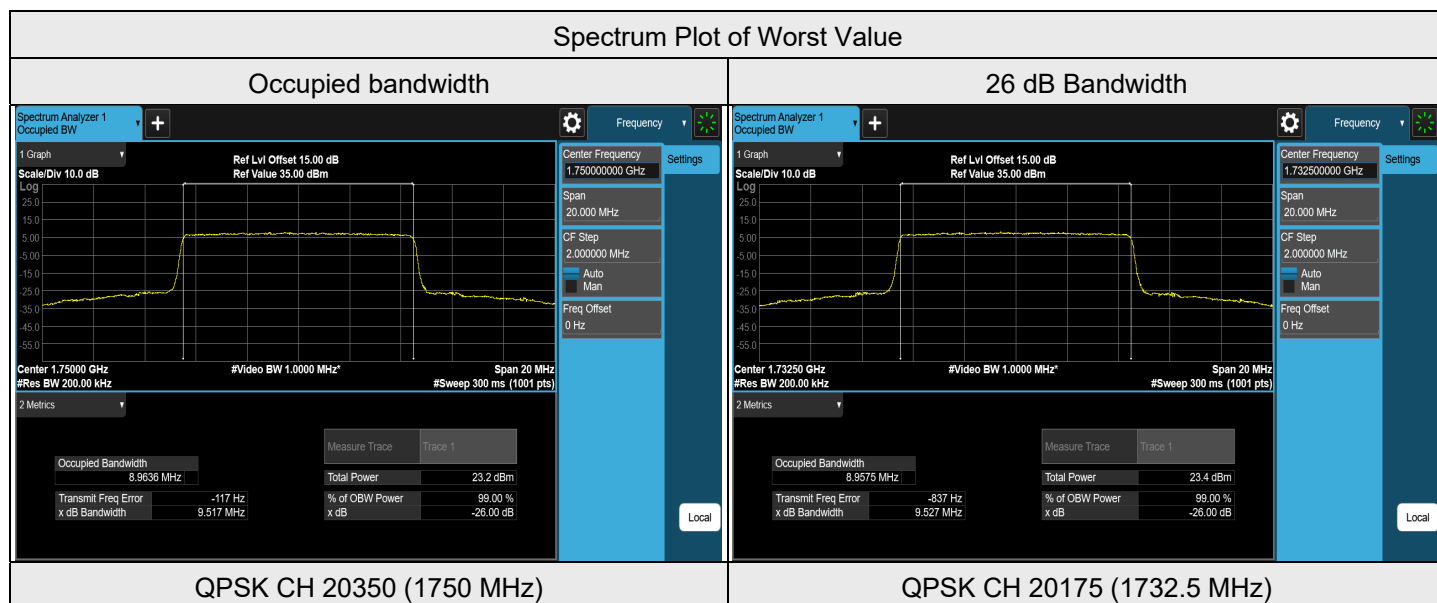
LTE Band 4, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19975	1712.5	4.4975	4.839
QPSK	20175	1732.5	4.4968	4.833
QPSK	20375	1752.5	4.4977	4.836
16QAM	19975	1712.5	4.4933	4.818
16QAM	20175	1732.5	4.4943	4.817
16QAM	20375	1752.5	4.4929	4.826



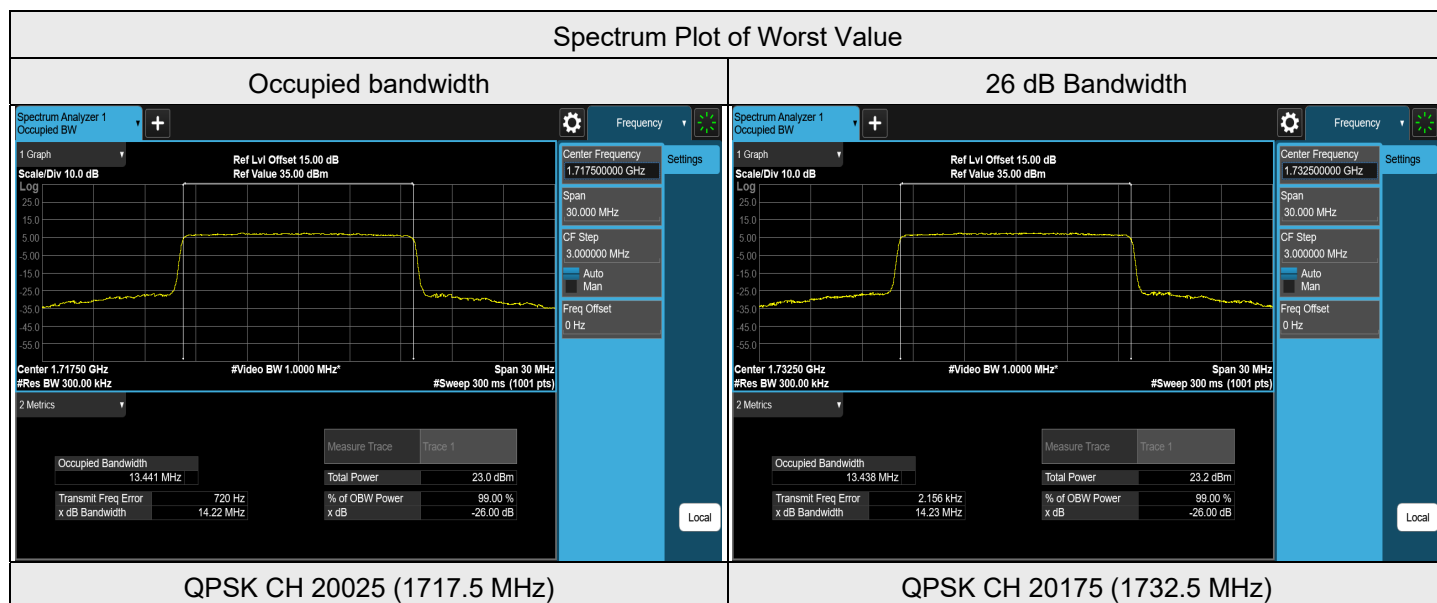
LTE Band 4, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20000	1715	8.9584	9.507
QPSK	20175	1732.5	8.9575	9.527
QPSK	20350	1750	8.9636	9.517
16QAM	20000	1715	8.9582	9.502
16QAM	20175	1732.5	8.9509	9.505
16QAM	20350	1750	8.9576	9.527



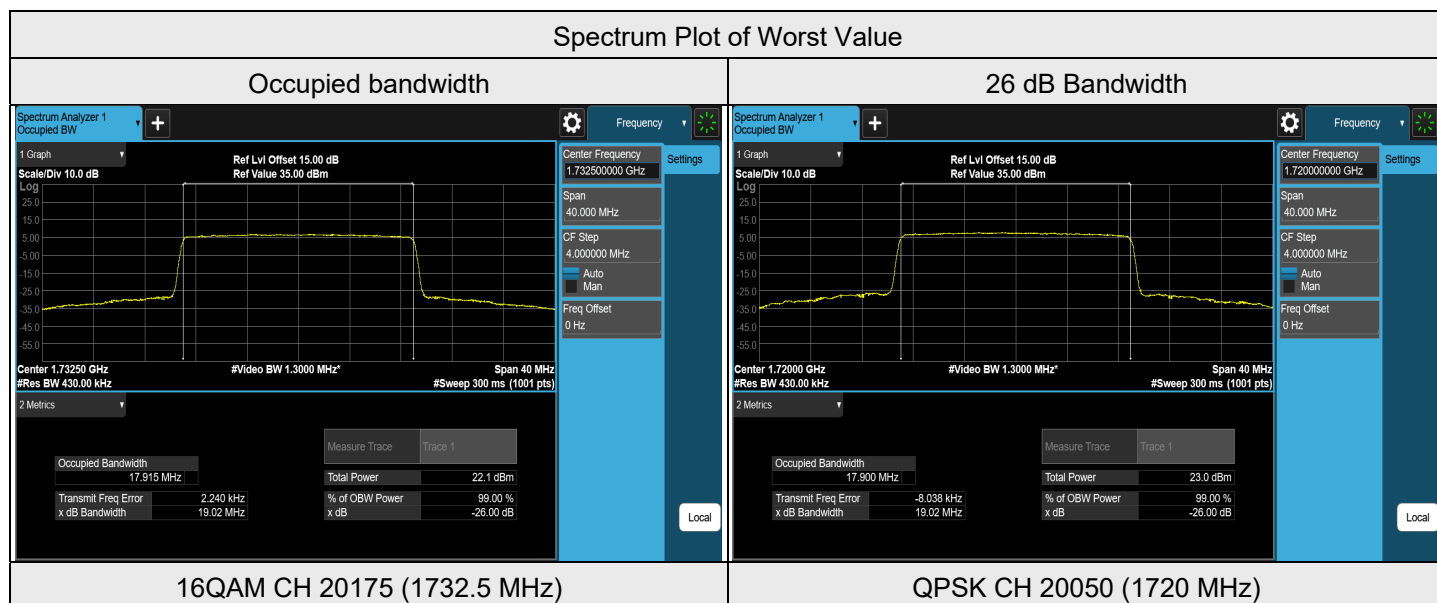
LTE Band 4, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20025	1717.5	13.4407	14.217
QPSK	20175	1732.5	13.4378	14.229
QPSK	20325	1747.5	13.4388	14.222
16QAM	20025	1717.5	13.4170	14.226
16QAM	20175	1732.5	13.4199	14.227
16QAM	20325	1747.5	13.4170	14.210



LTE Band 4, Channel Bandwidth: 20 MHz

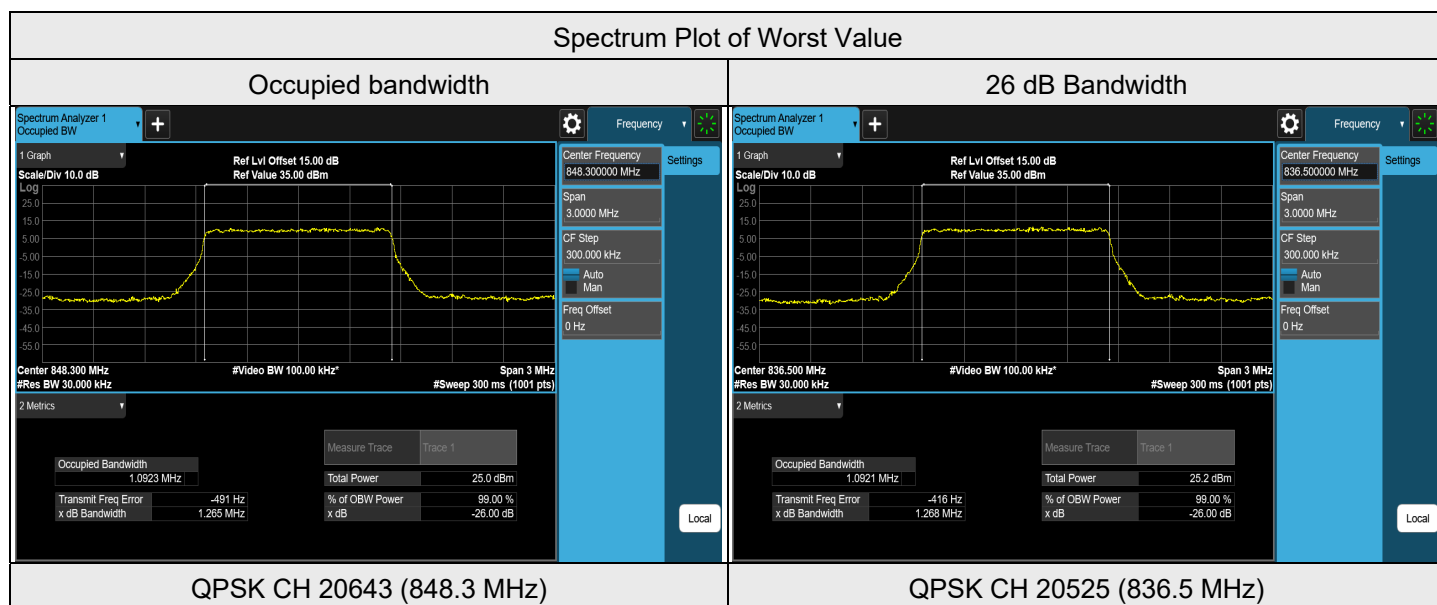
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20050	1720	17.8999	19.021
QPSK	20175	1732.5	17.8995	19.015
QPSK	20300	1745	17.8991	19.020
16QAM	20050	1720	17.9011	19.013
16QAM	20175	1732.5	17.9146	19.017
16QAM	20300	1745	17.8986	19.011



7.4.8 LTE Band 5

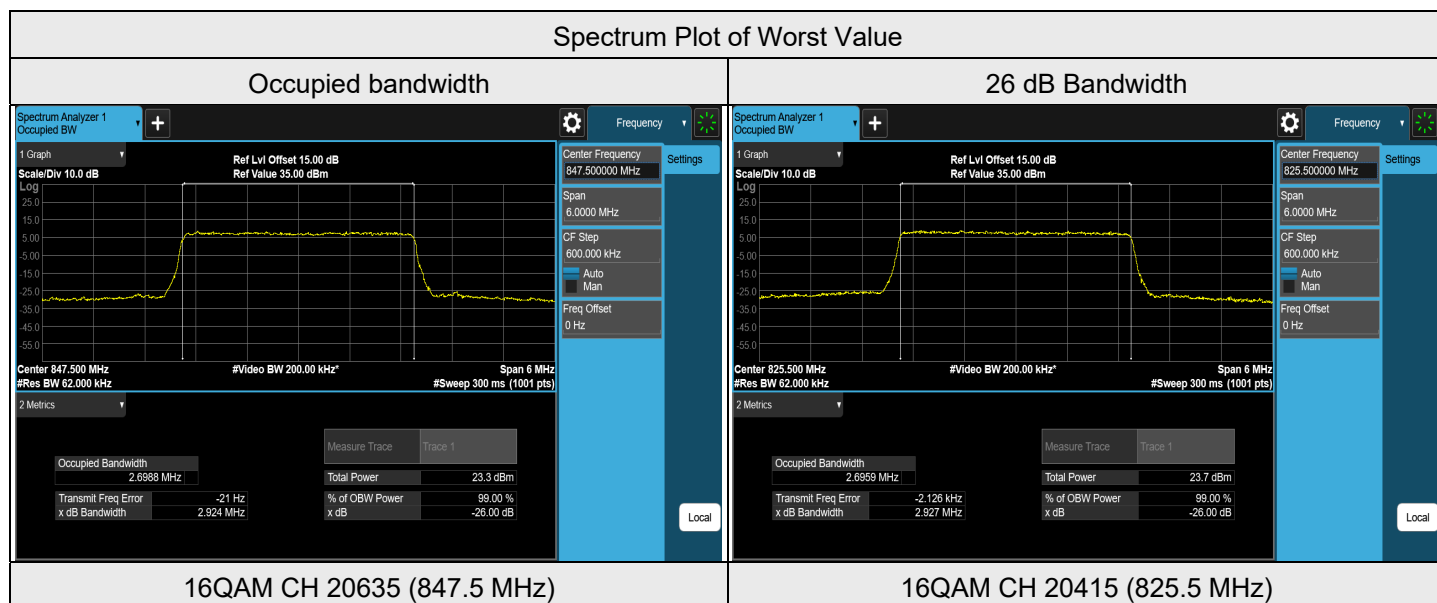
LTE Band 5, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20407	824.7	1.0895	1.260
QPSK	20525	836.5	1.0921	1.268
QPSK	20643	848.3	1.0923	1.265
16QAM	20407	824.7	1.0890	1.250
16QAM	20525	836.5	1.0881	1.238
16QAM	20643	848.3	1.0889	1.253



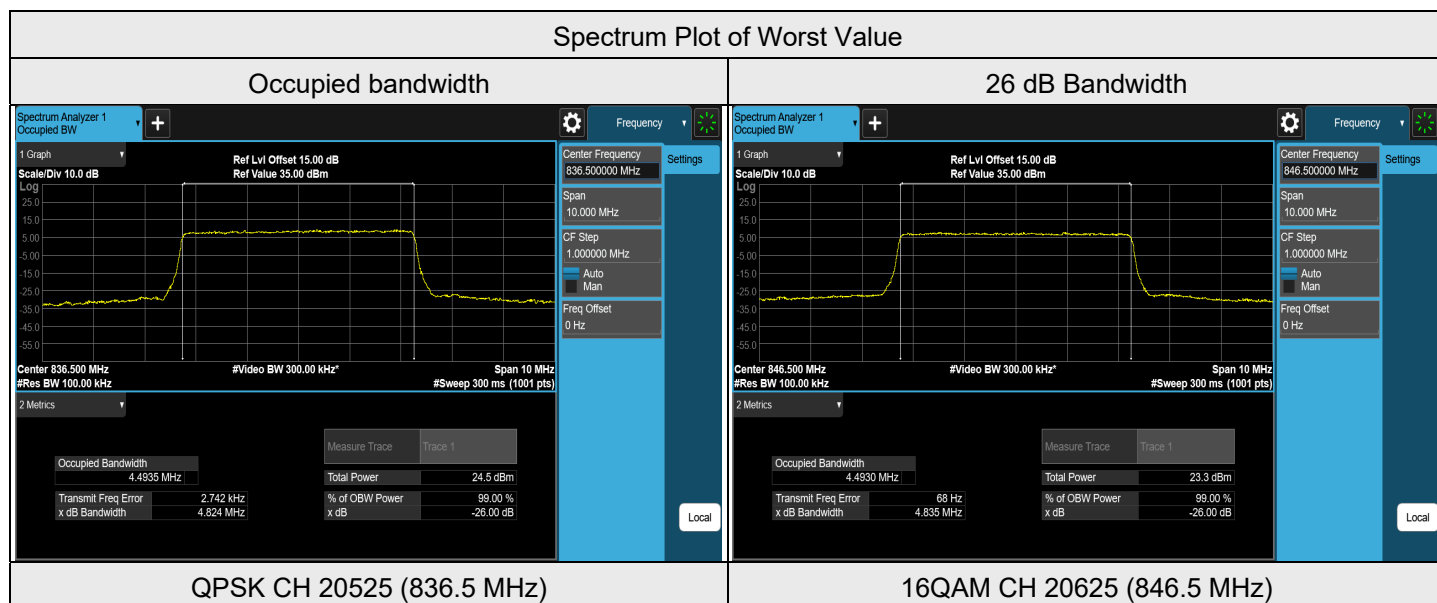
LTE Band 5, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20415	825.5	2.6958	2.901
QPSK	20525	836.5	2.6975	2.901
QPSK	20635	847.5	2.6984	2.904
16QAM	20415	825.5	2.6959	2.927
16QAM	20525	836.5	2.6981	2.925
16QAM	20635	847.5	2.6988	2.924



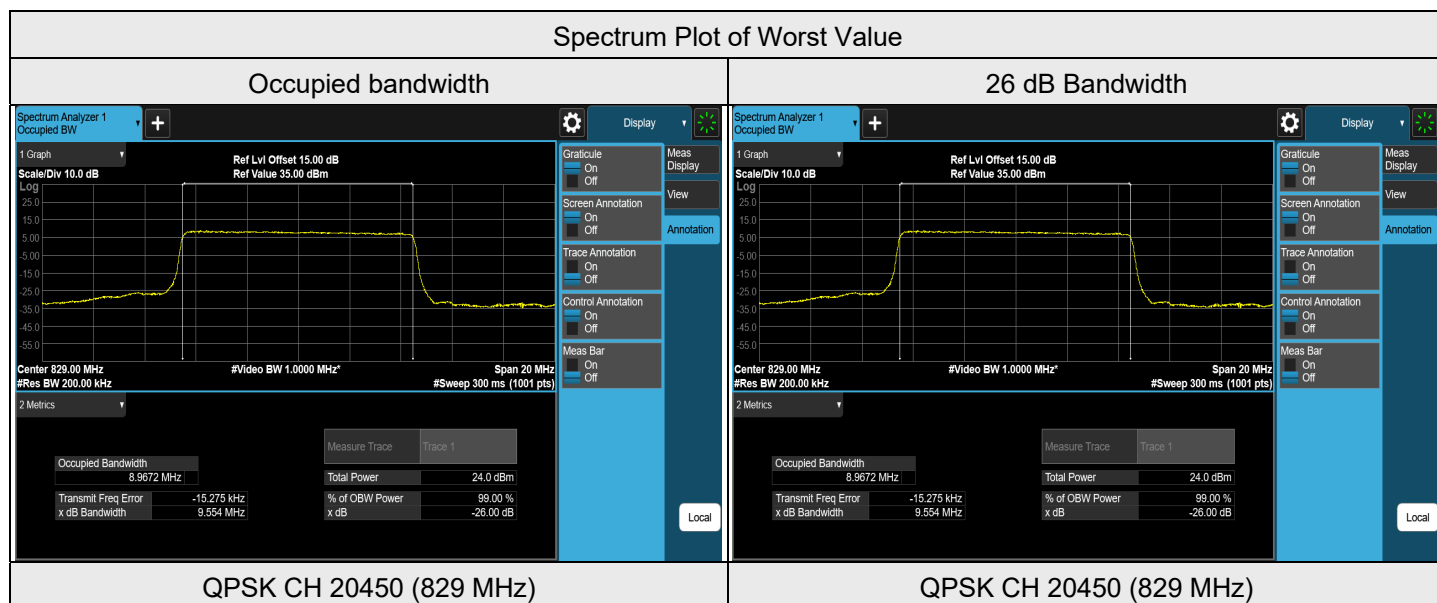
LTE Band 5, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20425	826.5	4.4919	4.818
QPSK	20525	836.5	4.4935	4.824
QPSK	20625	846.5	4.4933	4.811
16QAM	20425	826.5	4.4905	4.813
16QAM	20525	836.5	4.4900	4.819
16QAM	20625	846.5	4.4930	4.835



LTE Band 5, Channel Bandwidth: 10 MHz

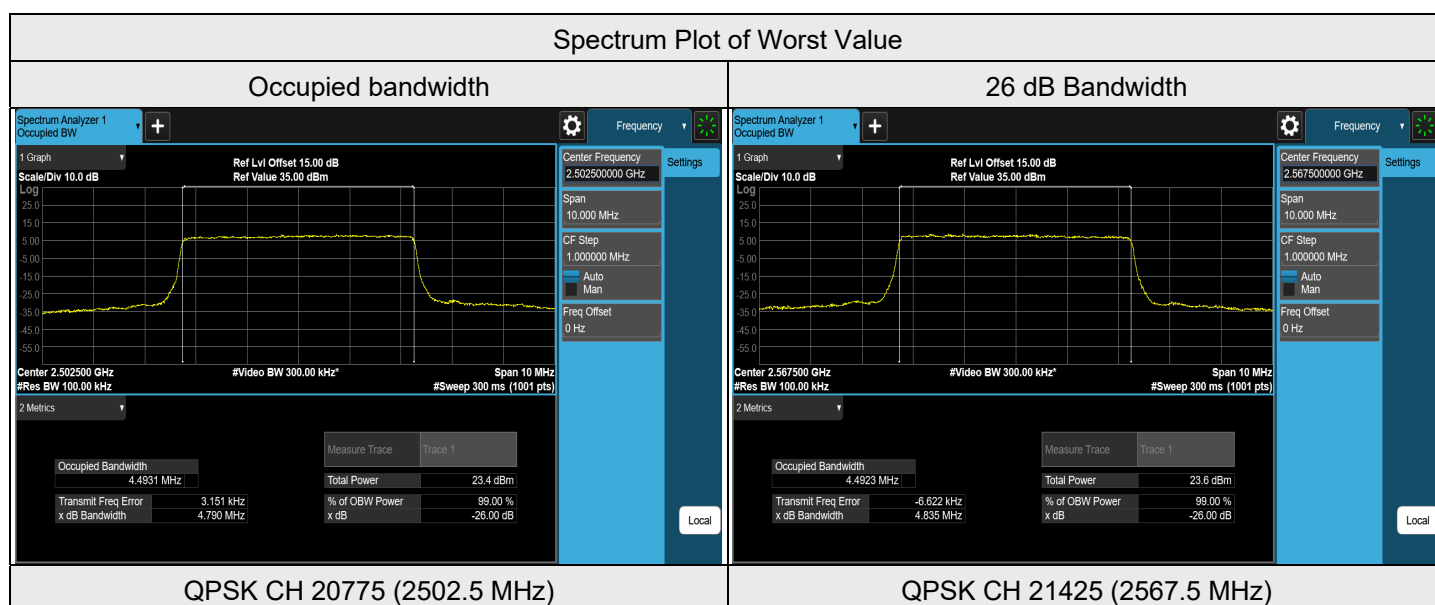
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20450	829	8.9672	9.554
QPSK	20525	836.5	8.9591	9.524
QPSK	20600	844	8.9615	9.501
16QAM	20450	829	8.9669	9.516
16QAM	20525	836.5	8.9521	9.503
16QAM	20600	844	8.9540	9.510



7.4.9 LTE Band 7

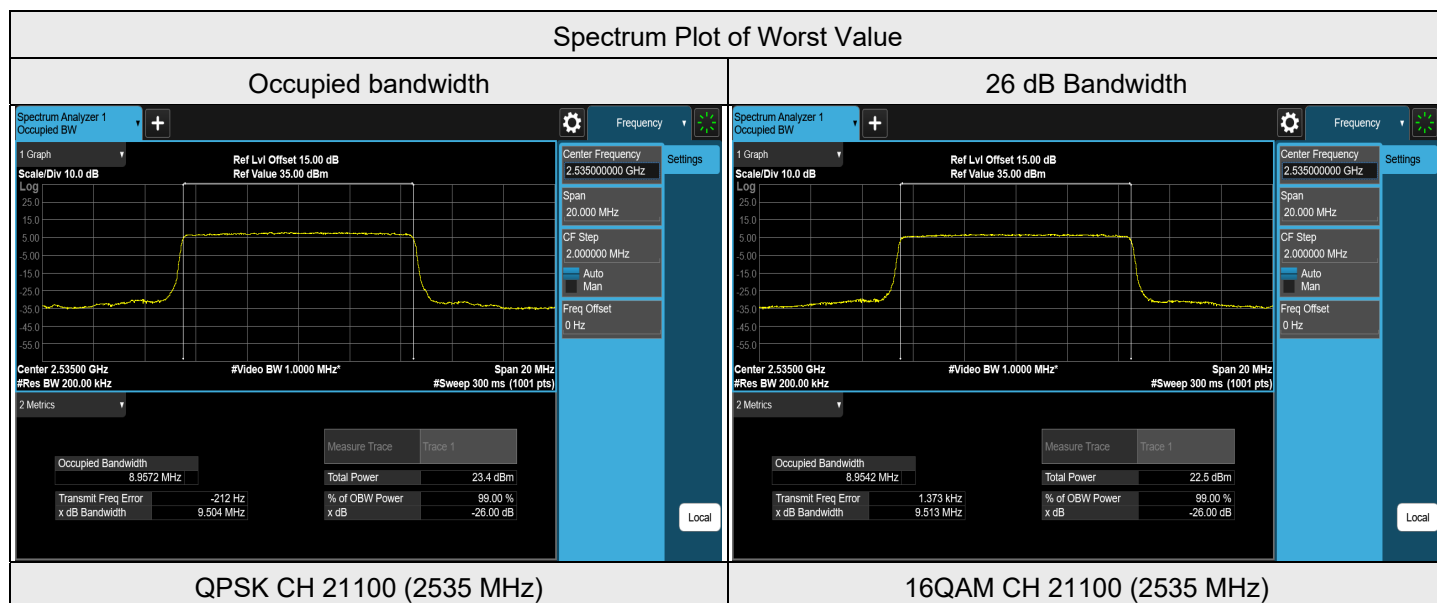
LTE Band 7, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20775	2502.5	4.4931	4.790
QPSK	21100	2535	4.4921	4.825
QPSK	21425	2567.5	4.4923	4.835
16QAM	20775	2502.5	4.4874	4.797
16QAM	21100	2535	4.4906	4.816
16QAM	21425	2567.5	4.4929	4.802



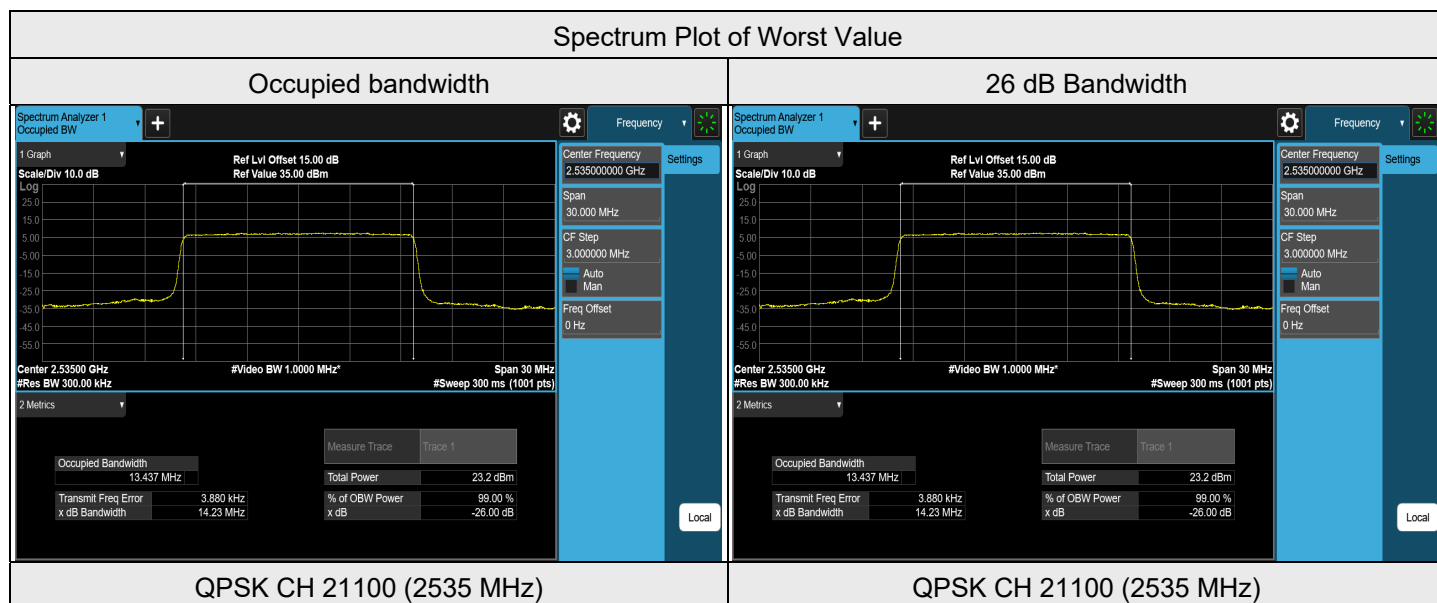
LTE Band 7, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20800	2505	8.9475	9.503
QPSK	21100	2535	8.9572	9.504
QPSK	21400	2565	8.9447	9.511
16QAM	20800	2505	8.9452	9.505
16QAM	21100	2535	8.9542	9.513
16QAM	21400	2565	8.9525	9.512



LTE Band 7, Channel Bandwidth: 15 MHz

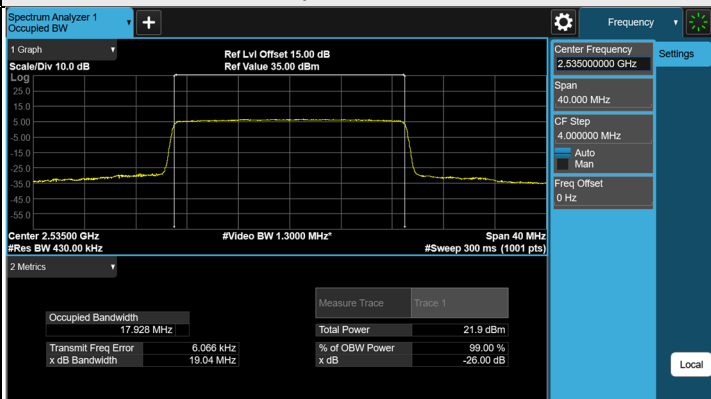
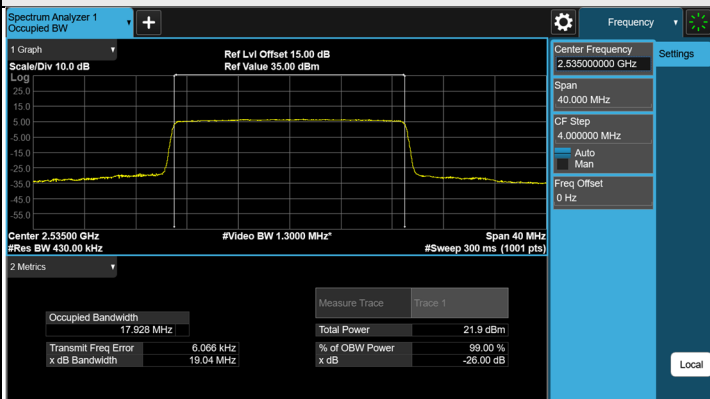
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20825	2507.5	13.4102	14.209
QPSK	21100	2535	13.4369	14.234
QPSK	21375	2562.5	13.4293	14.220
16QAM	20825	2507.5	13.4055	14.218
16QAM	21100	2535	13.4318	14.226
16QAM	21375	2562.5	13.4137	14.222



LTE Band 7, Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20850	2510	17.8517	19.004
QPSK	21100	2535	17.9074	19.019
QPSK	21350	2560	17.8540	18.994
16QAM	20850	2510	17.8649	18.995
16QAM	21100	2535	17.9282	19.035
16QAM	21350	2560	17.8720	18.997

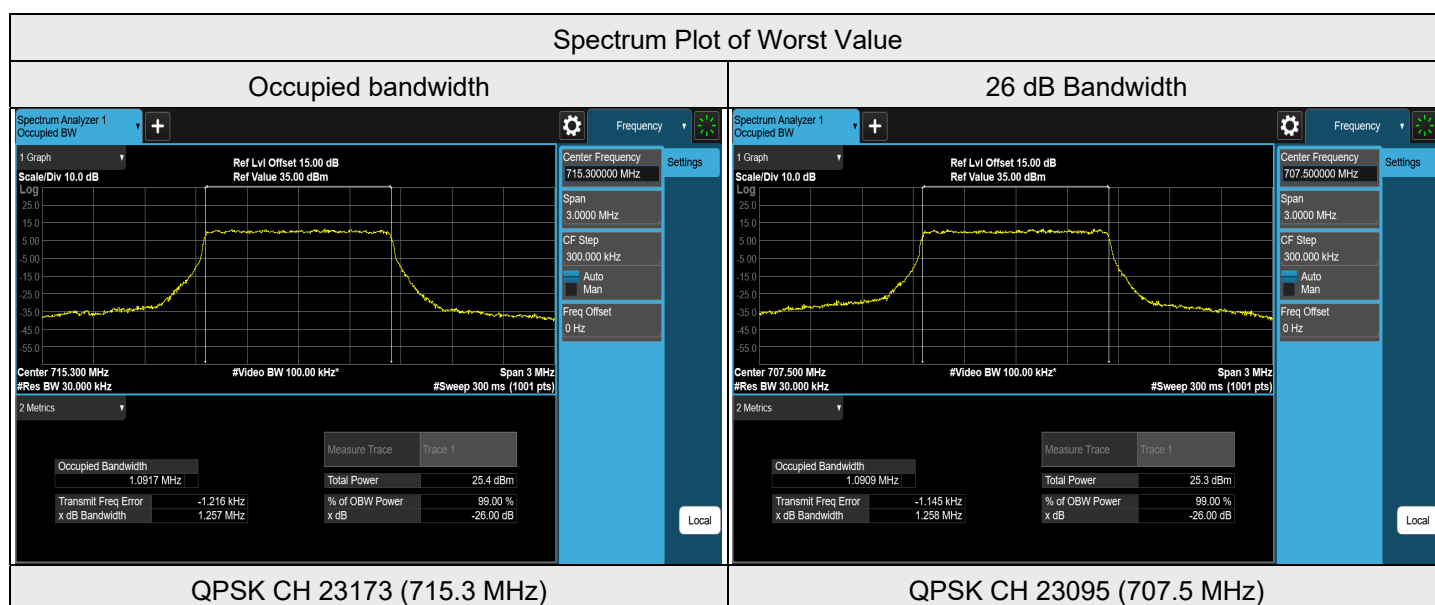
Spectrum Plot of Worst Value

Occupied bandwidth	26 dB Bandwidth
 Center Frequency: 2.535000000 GHz Span: 40.000 MHz CF Step: 4.000000 MHz Auto Man Freq Offset: 0 Hz Center 2.53500 GHz #Res BW 430.00 kHz #Video BW 1.3000 MHz Span 40 MHz #Sweep 300 ms (1001 pts) 2 Metrics Measure Trace Trace 1 Occupied Bandwidth: 17.928 MHz Total Power: 21.9 dBm Transmit Freq Error: 6.066 kHz % of OBW Power: 99.00 % x dB Bandwidth: 19.04 MHz x dB -26.00 dB Local	 Center Frequency: 2.535000000 GHz Span: 40.000 MHz CF Step: 4.000000 MHz Auto Man Freq Offset: 0 Hz Center 2.53500 GHz #Res BW 430.00 kHz #Video BW 1.3000 MHz Span 40 MHz #Sweep 300 ms (1001 pts) 2 Metrics Measure Trace Trace 1 Occupied Bandwidth: 17.928 MHz Total Power: 21.9 dBm Transmit Freq Error: 6.066 kHz % of OBW Power: 99.00 % x dB Bandwidth: 19.04 MHz x dB -26.00 dB Local
16QAM CH 21100 (2535 MHz)	16QAM CH 21100 (2535 MHz)

7.4.10 LTE Band 12

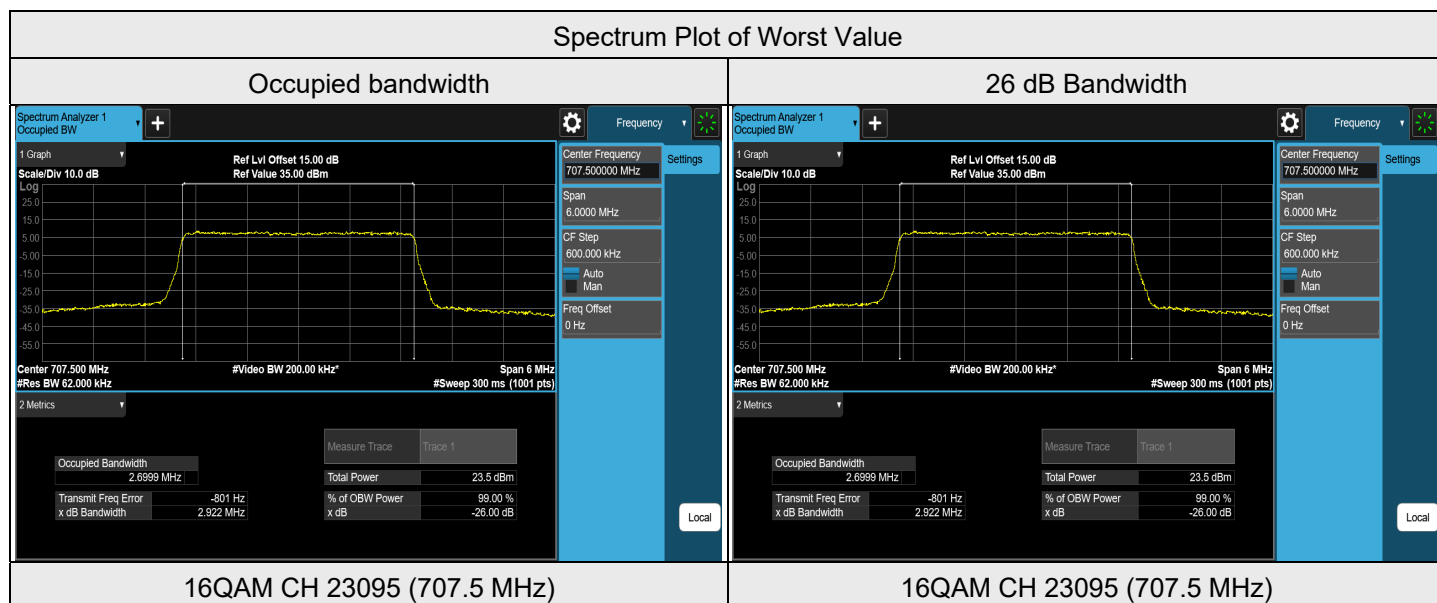
LTE Band 12, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23017	699.7	1.0869	1.251
QPSK	23095	707.5	1.0909	1.258
QPSK	23173	715.3	1.0917	1.257
16QAM	23017	699.7	1.0881	1.244
16QAM	23095	707.5	1.0885	1.252
16QAM	23173	715.3	1.0879	1.248



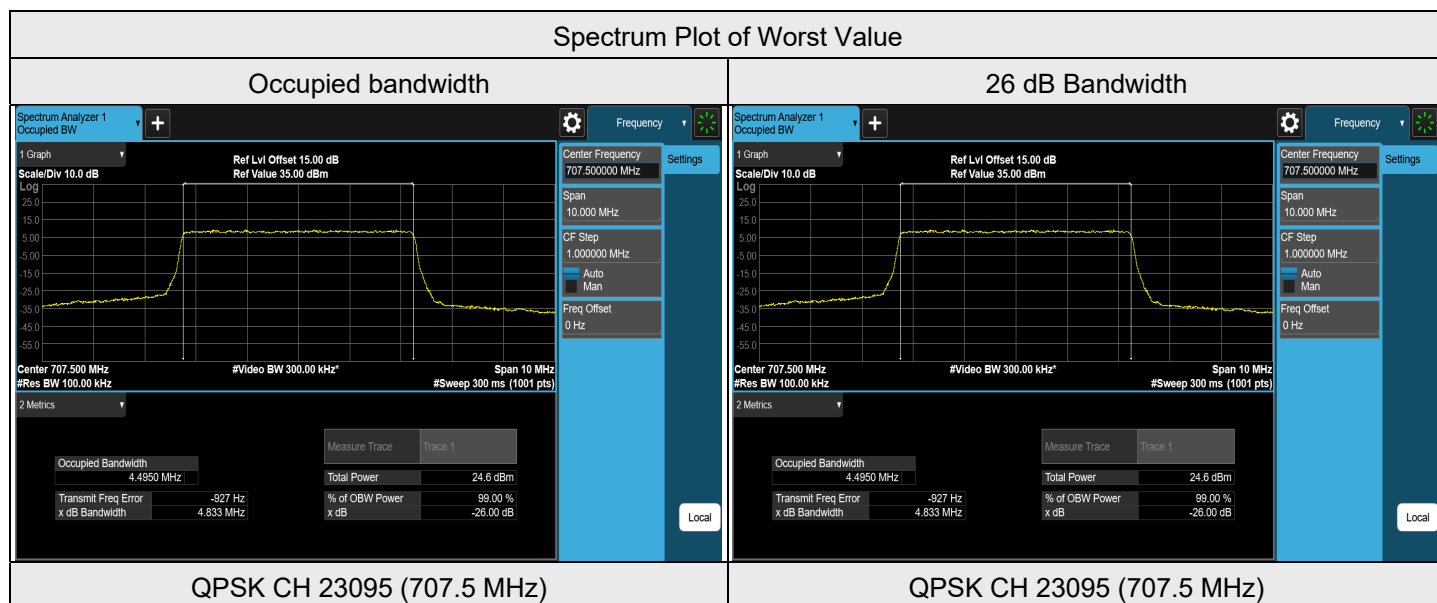
LTE Band 12, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23025	700.5	2.6925	2.901
QPSK	23095	707.5	2.6963	2.915
QPSK	23165	714.5	2.6932	2.906
16QAM	23025	700.5	2.6980	2.916
16QAM	23095	707.5	2.6999	2.922
16QAM	23165	714.5	2.6967	2.914



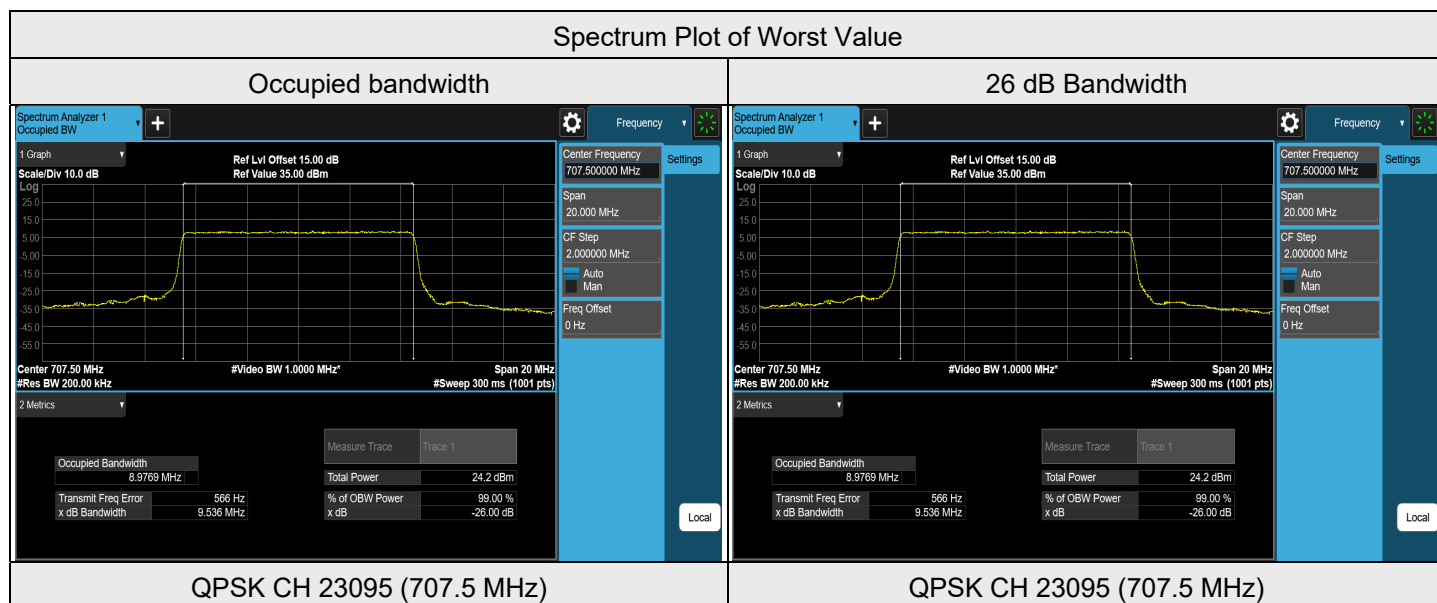
LTE Band 12, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23035	701.5	4.4884	4.799
QPSK	23095	707.5	4.4950	4.833
QPSK	23155	713.5	4.4887	4.810
16QAM	23035	701.5	4.4846	4.796
16QAM	23095	707.5	4.4932	4.823
16QAM	23155	713.5	4.4787	4.800



LTE Band 12, Channel Bandwidth: 10 MHz

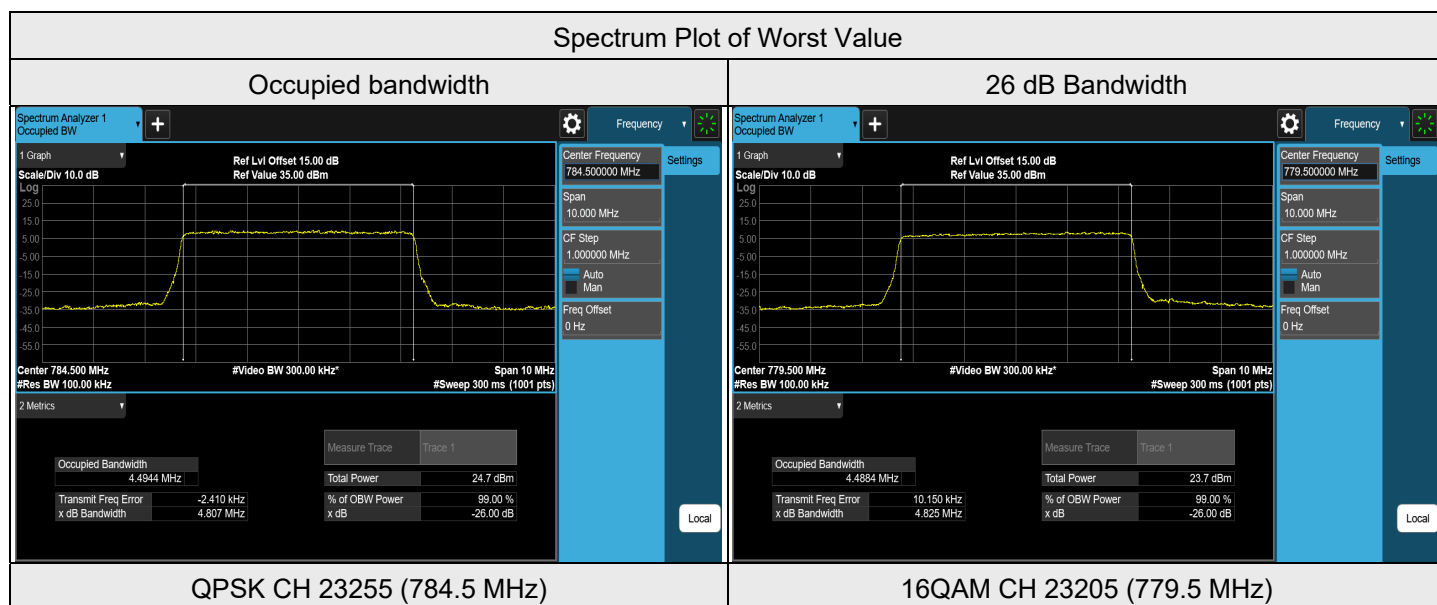
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23060	704	8.9438	9.511
QPSK	23095	707.5	8.9769	9.536
QPSK	23130	711	8.9522	9.505
16QAM	23060	704	8.9433	9.493
16QAM	23095	707.5	8.9764	9.515
16QAM	23130	711	8.9505	9.500



7.4.11 LTE Band 13

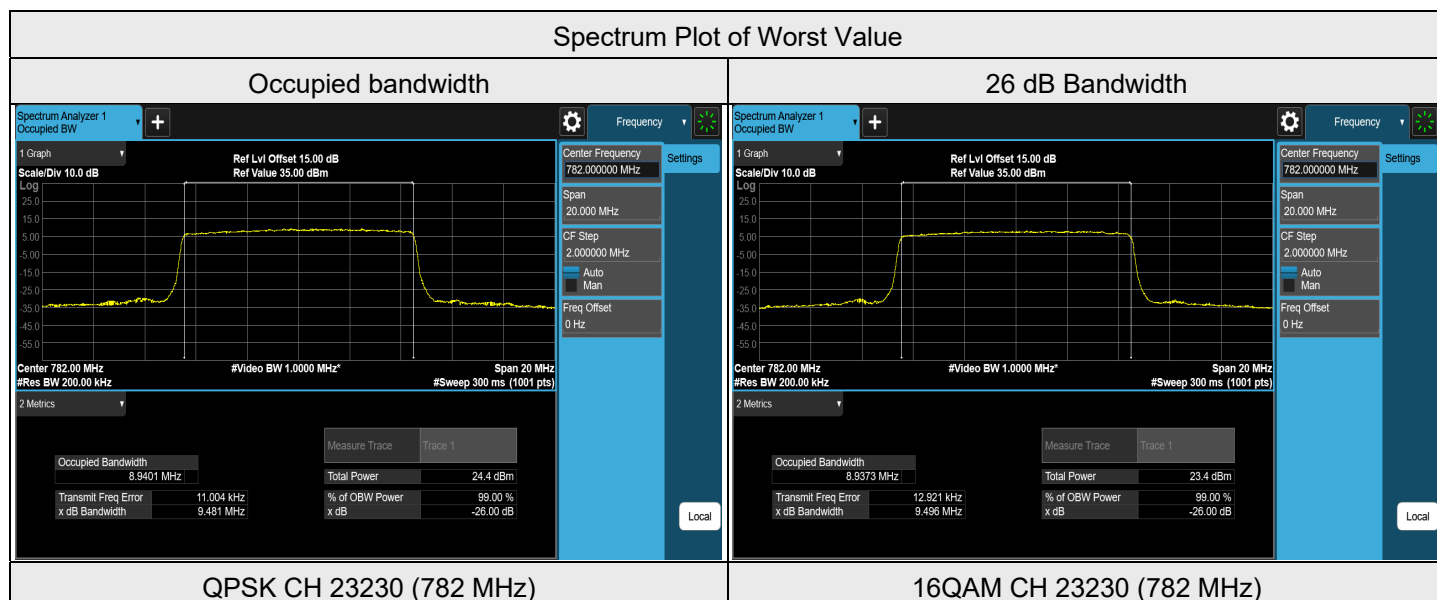
LTE Band 13, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23205	779.5	4.4843	4.804
QPSK	23230	782	4.4915	4.822
QPSK	23255	784.5	4.4944	4.807
16QAM	23205	779.5	4.4884	4.825
16QAM	23230	782	4.4846	4.802
16QAM	23255	784.5	4.4869	4.812



LTE Band 13, Channel Bandwidth: 10 MHz

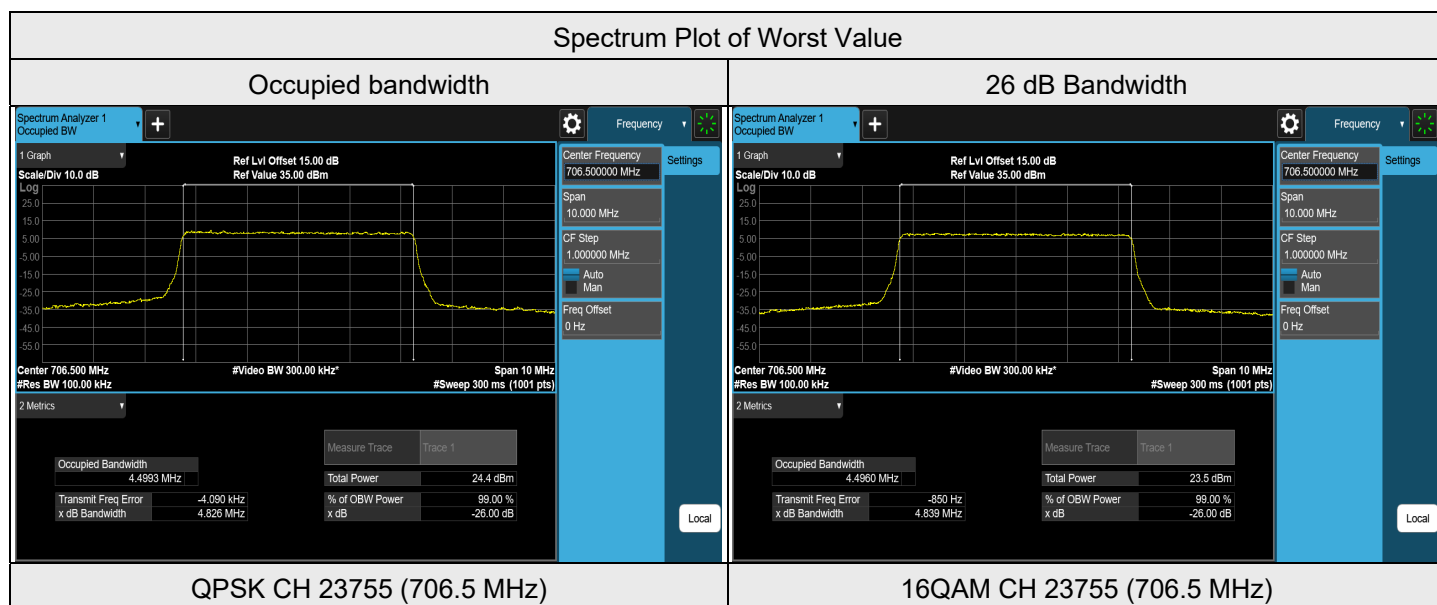
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23230	782	8.9401	9.481
16QAM	23230	782	8.9373	9.496



7.4.12 LTE Band 17

LTE Band 17, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23755	706.5	4.4993	4.826
QPSK	23790	710	4.4958	4.819
QPSK	23825	713.5	4.4848	4.803
16QAM	23755	706.5	4.4960	4.839
16QAM	23790	710	4.4871	4.794
16QAM	23825	713.5	4.4812	4.798



LTE Band 17, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23780	709	8.9722	9.524
QPSK	23790	710	8.9632	9.500
QPSK	23800	711	8.9503	9.499
16QAM	23780	709	8.9728	9.512
16QAM	23790	710	8.9628	9.504
16QAM	23800	711	8.9479	9.500

