

7.7.4 LTE Band 2

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	1860	1/0	QPSK	5553.01	H	-49.40	10.67	-38.73	59.63	33.90
				7404.39	V	-42.04	12.23	-29.81	50.71	
		1/0	16QAM	5553.52	H	-50.42	10.67	-39.75	59.71	32.96
				7404.43	V	-42.53	12.23	-30.30	50.26	
	1880	1/0	QPSK	5613.43	H	-52.02	10.71	-41.31	61.04	32.73
				7484.35	V	-42.36	12.23	-30.13	49.86	
		1/0	16QAM	5613.11	H	-52.06	10.71	-41.35	60.15	31.80
				7484.30	V	-42.43	12.23	-30.20	49.00	
	1900	1/0	QPSK	5673.79	H	-51.79	10.81	-40.98	60.19	32.21
				7564.38	V	-43.56	12.35	-31.21	50.42	
		1/0	16QAM	5672.92	H	-52.17	10.81	-41.36	59.69	31.33
				7564.52	V	-43.52	12.35	-31.17	49.50	
15	1857.5	1/0	QPSK	5552.55	H	-50.70	10.67	-40.03	60.59	33.56
				7403.43	V	-41.86	12.23	-29.63	50.19	
		1/0	16QAM	5552.63	H	-50.62	10.67	-39.95	59.55	32.60
				7403.41	V	-42.47	12.23	-30.24	49.84	
	1880	1/0	QPSK	5620.31	H	-50.30	10.72	-39.58	60.07	33.49
				7493.54	V	-42.14	12.23	-29.91	50.40	
		1/0	16QAM	5620.30	H	-50.79	10.72	-40.07	59.63	32.56
				7493.59	V	-42.95	12.23	-30.72	50.28	
	1902.5	1/0	QPSK	5687.27	H	-50.93	10.83	-40.10	58.80	31.70
				7583.42	V	-43.91	12.35	-31.56	50.26	
		1/0	16QAM	5687.77	H	-51.70	10.83	-40.87	58.78	30.91
				7583.44	V	-45.00	12.35	-32.65	50.56	

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	1855	1/25	QPSK	5551.81	H	-50.10	10.67	-39.43	60.65	34.22
				7402.51	V	-40.93	12.23	-28.70	49.92	
		1/25	16QAM	5551.81	H	-50.75	10.67	-40.08	60.01	32.93
				7402.27	V	-41.92	12.23	-29.69	49.62	
	1880	1/0	QPSK	5626.95	H	-51.19	10.73	-40.46	62.72	35.26
				7502.16	V	-41.20	12.35	-28.85	51.11	
		1/0	16QAM	5626.84	H	-51.64	10.73	-40.91	60.40	32.49
				7502.61	V	-41.37	12.35	-29.02	48.51	
	1905	1/49	QPSK	5701.96	H	-51.24	10.85	-40.39	61.52	34.13
				7602.52	V	-44.56	12.46	-32.10	53.23	
		1/49	16QAM	5701.18	H	-51.46	10.85	-40.61	58.91	31.30
				7602.59	V	-45.01	12.46	-32.55	50.85	
5	1852.5	1/24	QPSK	5551.08	H	-50.48	10.67	-39.81	60.82	34.01
				7401.57	V	-40.92	12.23	-28.69	49.70	
		1/24	16QAM	5551.04	H	-50.86	10.67	-40.19	60.00	32.81
				7401.22	V	-41.30	12.23	-29.07	48.88	
	1880	1/0	QPSK	5633.37	H	-51.67	10.74	-40.93	61.15	33.22
				7511.44	V	-42.56	12.35	-30.21	50.43	
		1/0	16QAM	5633.56	H	-51.89	10.74	-41.15	60.34	32.19
				7511.36	V	-42.59	12.35	-30.24	49.43	
	1907.5	1/24	QPSK	5729.14	H	-50.80	10.89	-39.91	59.13	32.22
				7638.46	V	-42.63	12.46	-30.17	49.39	
		1/24	16QAM	5729.43	H	-51.87	10.89	-40.98	59.11	31.13
				7638.80	V	-42.89	12.46	-30.43	48.56	

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
3	1851.5	1/14	QPSK	5554.50	H	-46.62	10.67	-35.95	56.27	33.32
				7406.01	V	-39.34	12.23	-27.11	47.43	
		1/14	16QAM	5554.57	H	-47.00	10.67	-36.33	55.78	32.45
				7405.88	V	-40.65	12.23	-28.42	47.87	
	1880	1/0	QPSK	5640.18	H	-50.61	10.75	-39.86	59.87	33.01
				7519.96	V	-43.24	12.35	-30.89	50.90	
		1/0	16QAM	5639.91	H	-50.76	10.75	-40.01	58.88	31.87
				7520.19	V	-44.53	12.35	-32.18	51.05	
	1908.5	1/14	QPSK	5722.08	H	-50.72	10.88	-39.84	58.62	31.78
				7629.29	V	-44.29	12.46	-31.83	50.61	
		1/14	16QAM	5721.77	H	-50.91	10.88	-40.03	57.96	30.93
				7628.95	V	-44.49	12.46	-32.03	49.96	
1.4	1850.7	1/5	QPSK	5551.84	H	-49.14	10.67	-38.47	58.45	32.98
				7402.40	V	-41.01	12.23	-28.78	48.76	
		1/5	16QAM	5552.02	H	-49.41	10.67	-38.74	57.95	32.21
				7402.33	V	-41.60	12.23	-29.37	48.58	
	1880	1/0	QPSK	5639.88	H	-50.78	10.75	-40.03	59.74	32.71
				7519.62	V	-44.52	12.35	-32.17	51.88	
		1/0	16QAM	5639.62	H	-51.21	10.75	-40.46	59.35	31.89
				7519.95	V	-44.58	12.35	-32.23	51.12	
	1909.3	1/5	QPSK	5727.80	H	-50.23	10.89	-39.34	57.71	31.37
				7636.97	V	-43.70	12.46	-31.24	49.61	
		1/5	16QAM	5727.76	H	-50.34	10.89	-39.45	56.95	30.50
				7636.84	V	-44.01	12.46	-31.55	49.05	

Note 1: Limit Calculation = $43 + 10\log_{10}(P[\text{Watts}])$

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

7.7.5 LTE CA Band2 + Band 13

▪ CA Band 2(primary) + Band 13(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
Band2(5MHz)+ Band13(10MHz)	1880	1/0	QPSK	3758.75	V	-54.47	8.51	-45.96	65.37	32.41
				-	-	-	-	-	-	
	782	1/0	QPSK	1563.19	V	-59.28	3.66	-55.62	75.03	
				-	-	-	-	-	-	
Band2(10MHz)+ Band13(10MHz)	1880	50/0	16QAM	3762.32	V	-54.88	8.51	-46.37	65.52	32.15
				-	-	-	-	-	-	
	782	50/0	16QAM	1564.37	V	-59.10	3.67	-55.43	74.58	
				-	-	-	-	-	-	
Band2(15MHz)+ Band13(10MHz)	1880	1/0	16QAM	3763.49	V	-54.66	8.52	-46.14	65.66	32.52
				-	-	-	-	-	-	
	782	50/0	16QAM	1565.09	V	-59.13	3.67	-55.46	74.98	
				-	-	-	-	-	-	
Band2(20MHz)+ Band13(10MHz)	1880	100/0	QPSK	3758.63	V	-54.85	8.51	-46.34	65.82	32.48
				-	-	-	-	-	-	
	782	1/0	16QAM	1564.40	V	-59.32	3.67	-55.65	75.13	
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

UNDESIRABLE EMISSIONS IN 1559~1610MHz / CA Band 2(primary) + Band 13(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBm/MHz)
								(dBm)	(dBc)	
Band2(5MHz)+ Band13(10MHz)	782	1/0	QPSK	1609.18	V	-56.74	6.15	-50.59	10.59	-40
				-	-	-	-	-	-	
Band2(10MHz)+ Band13(10MHz)	782	50/0	16QAM	1561.03	V	-58.11	6.37	-51.74	11.74	-40
				-	-	-	-	-	-	
Band2(15MHz)+ Band13(10MHz)	782	50/0	16QAM	1577.16	V	-57.85	6.30	-51.55	11.55	-40
				-	-	-	-	-	-	
Band2(20MHz)+ Band13(10MHz)	782	1/0	16QAM	1561.30	V	-58.02	6.37	-51.65	11.65	-40
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

▪ CA Band 13(primary) + Band 2(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
Band13(10MHz)+ Band2(5MHz)	782	1/0	16QAM	1563.69	V	-58.94	3.67	-55.27	74.55	32.28
				-	-	-	-	-	-	
	1880	1/24	QPSK	3759.50	V	-55.14	8.51	-46.63	65.91	
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(10MHz)	782	50/0	QPSK	1563.83	V	-59.10	3.67	-55.43	74.94	32.51
				-	-	-	-	-	-	
	1880	1/49	16QAM	3757.71	V	-54.80	8.51	-46.29	65.80	
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(15MHz)	782	1/0	QPSK	1564.38	V	-58.80	3.67	-55.13	74.50	32.37
				-	-	-	-	-	-	
	1880	75/0	16QAM	3758.36	V	-54.84	8.51	-46.33	65.70	
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(20MHz)	782	1/0	QPSK	1564.92	V	-58.96	3.67	-55.29	74.69	32.40
				-	-	-	-	-	-	
	1880	100/0	16QAM	3761.08	V	-55.06	8.51	-46.55	65.95	
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

UNDESIRABLE EMISSIONS IN 1559~1610MHz / CA Band 13(primary) + Band 2(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBm/MHz)
								(dBm)	(dBc)	
Band13(10MHz)+ Band2(5MHz)	782	1/0	16QAM	1606.37	V	-52.64	-57.52	6.16	-51.36	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(10MHz)	782	50/0	QPSK	1578.28	V	-52.77	-57.62	6.29	-51.33	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(15MHz)	782	1/0	QPSK	1568.57	V	-53.22	-58.05	6.33	-51.72	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band2(20MHz)	782	1/0	QPSK	1570.76	V	-53.08	-57.92	6.32	-51.60	-40
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.7.6 LTE CA Band4 + Band 13

▪ CA Band 4(primary) + Band 13(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
Band4(5MHz)+ Band13(10MHz)	1752.5	25/0	16QAM	3503.84	V	-55.13	8.51	-46.62	67.30	33.68
				-	-	-	-	-	-	
	782	50/0	16QAM	1562.94	V	-59.23	3.66	-55.57	76.25	
				-	-	-	-	-	-	
Band4(10MHz)+ Band13(10MHz)	1750	50/0	16QAM	3500.54	V	-55.72	8.51	-47.21	67.93	33.72
				-	-	-	-	-	-	
	782	50/0	16QAM	1564.75	V	-59.04	3.67	-55.37	76.09	
				-	-	-	-	-	-	
Band4(15MHz)+ Band13(10MHz)	1747.5	75/0	16QAM	3494.18	V	-55.01	8.49	-46.52	67.17	33.65
				-	-	-	-	-	-	
	782	50/0	16QAM	1565.06	V	-59.29	3.67	-55.62	76.27	
				-	-	-	-	-	-	
Band4(20MHz)+ Band13(10MHz)	1745	100/0	QPSK	3489.45	V	-54.23	8.47	-45.76	66.06	33.30
				-	-	-	-	-	-	
	782	50/0	16QAM	1563.34	V	-59.18	3.66	-55.52	75.82	
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

UNDESIRABLE EMISSIONS IN 1559~1610MHz / CA Band 4(primary) + Band 13(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBm/MHz)
								(dBm)	(dBc)	
Band4(5MHz)+ Band13(10MHz)	782	50/0	16QAM	1579.62	V	-52.09	-56.94	6.28	-50.66	-40
				-	-	-	-	-	-	
Band4(10MHz)+ Band13(10MHz)	782	50/0	16QAM	1570.66	V	-52.89	-57.73	6.32	-51.41	-40
				-	-	-	-	-	-	
Band4(15MHz)+ Band13(10MHz)	782	50/0	16QAM	1588.44	V	-52.59	-57.45	6.24	-51.21	-40
				-	-	-	-	-	-	
Band4(20MHz)+ Band13(10MHz)	782	50/0	16QAM	1569.01	V	-53.13	-57.96	6.33	-51.63	-40
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

▪ CA Band 13(primary) + Band 4(secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
Band13(10MHz)+ Band4(5MHz)	782	1/0	16QAM	1564.28	V	-58.83	3.67	-55.16	74.00	31.84
				-	-	-	-	-	-	
	1732.5	25/0	16QAM	3464.76	V	-54.91	8.39	-46.52	65.36	
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(10MHz)	782	50/0	QPSK	1563.86	V	-58.93	3.67	-55.26	74.30	32.04
				-	-	-	-	-	-	
	1732.5	50/0	16QAM	3464.76	V	-55.35	8.39	-46.96	66.00	
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(15MHz)	782	1/0	QPSK	1565.37	V	-59.10	3.67	-55.43	74.43	32.00
				-	-	-	-	-	-	
	1732.5	75/0	16QAM	3465.40	V	-55.15	8.39	-46.76	65.76	
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(20MHz)	782	1/0	16QAM	1564.66	V	-59.23	3.67	-55.56	74.53	31.97
				-	-	-	-	-	-	
	1732.5	1/99	QPSK	3466.29	V	-54.69	8.39	-46.30	65.27	
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

UNDESIRABLE EMISSIONS IN 1559~1610MHz / CA Band 13(primary) + Band 4 (secondary)

Mode(BW)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBm/MHz)
								(dBm)	(dBc)	
Band13(10MHz)+ Band4(5MHz)	782	1/0	16QAM	1607.15	V	-52.61	-57.49	6.16	-51.33	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(10MHz)	782	50/0	QPSK	1599.95	V	-52.26	-57.13	6.19	-50.94	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(15MHz)	782	1/0	QPSK	1562.59	V	-53.18	-58.01	6.36	-51.65	-40
				-	-	-	-	-	-	
Band13(10MHz)+ Band4(20MHz)	782	1/0	16QAM	1587.19	V	-53.13	-57.99	6.25	-51.74	-40
				-	-	-	-	-	-	

Note: This device was tested under worst power combinations with all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.8 FREQUENCY STABILITY

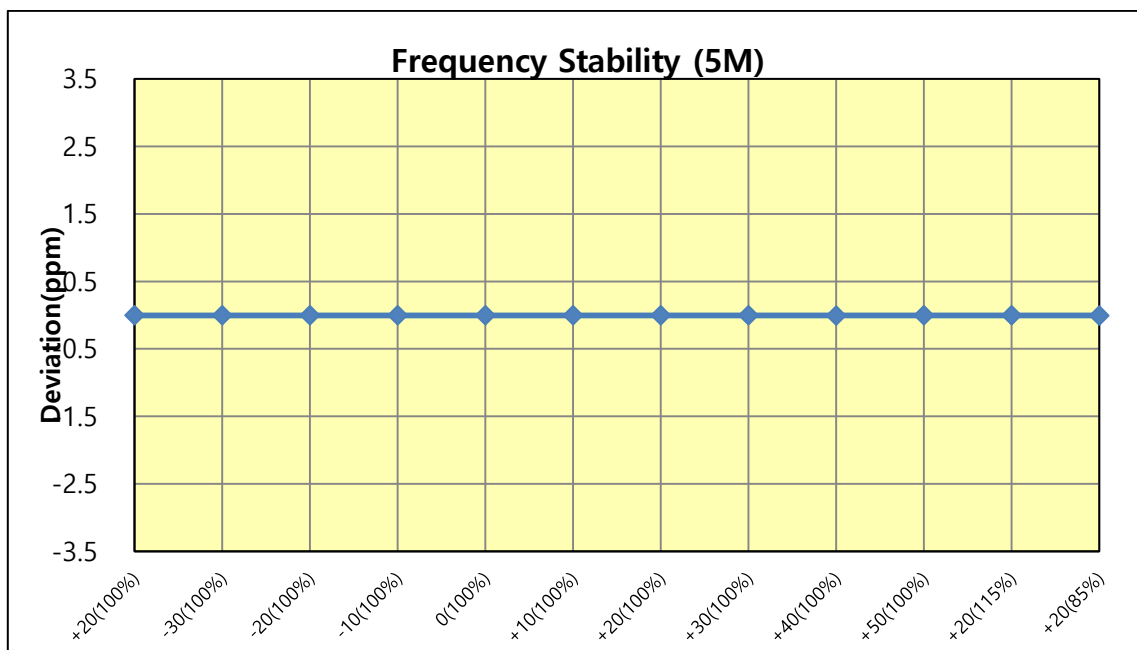
7.8.1 LTE Band 13

OPERATING FREQUENCY : 782 MHz

REFERENCE VOLTAGE : 12 VDC

LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12.0	+20(Ref)	781,999,997	-3	-0.0038	-0.000000384
100%		-30	781,999,997	-3	-0.0038	-0.000000384
100%		-20	781,999,998	-2	-0.0026	-0.000000256
100%		-10	781,999,997	-3	-0.0038	-0.000000384
100%		0	781,999,999	-1	-0.0013	-0.000000128
100%		+10	781,999,998	-2	-0.0026	-0.000000256
100%		+20	781,999,997	-3	-0.0038	-0.000000384
100%		+30	782,000,000	0	0.0000	0.000000000
100%		+40	781,999,997	-3	-0.0038	-0.000000384
100%		+50	781,999,997	-3	-0.0038	-0.000000384
115%	13.8	+20	781,999,999	-1	-0.0013	-0.000000128
85%	10.2	+20	782,000,001	1	0.0013	0.000000128

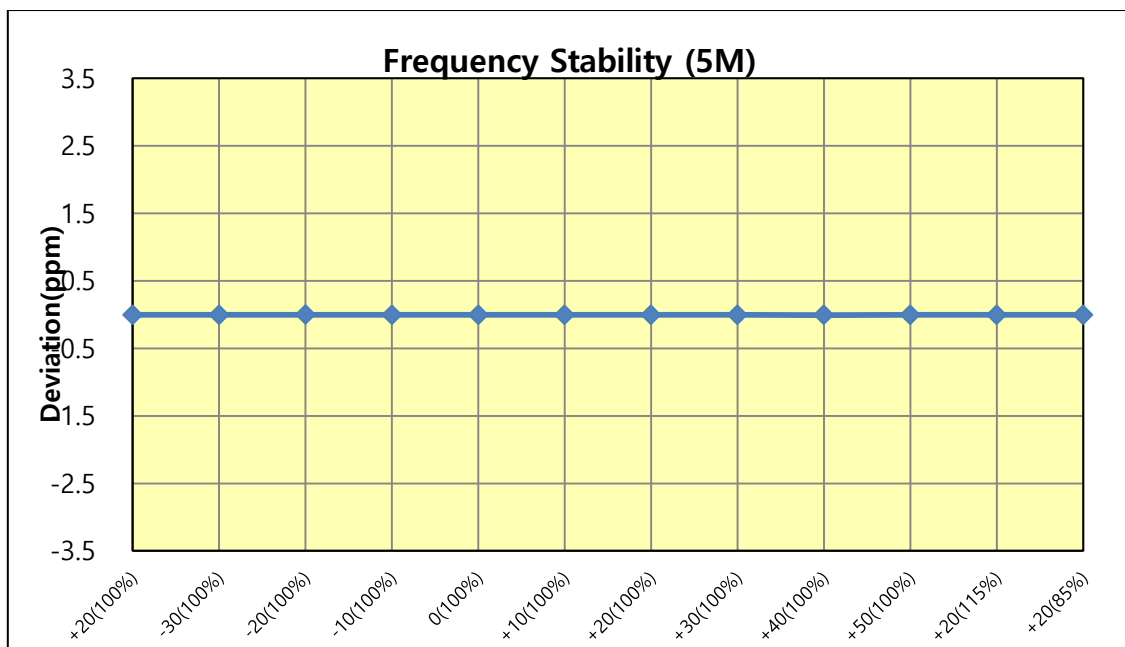


Note. Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. as such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

7.7.2 LTE Band 5

OPERATING FREQUENCY : 836.5 MHz
 REFERENCE VOLTAGE : 12 VDC
 DEVIATION LIMIT : $\pm 0.00025\%$ or 2.5 ppm

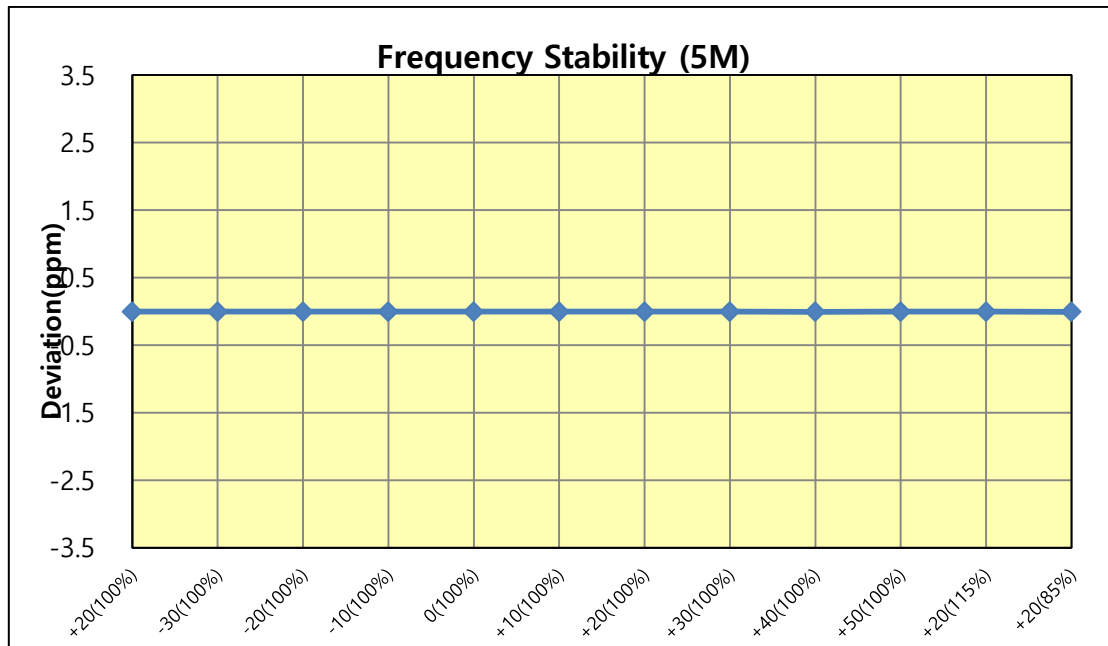
VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12.0	+20(Ref)	836,500,001	1	0.0012	0.000000120
100%		-30	836,500,002	2	0.0024	0.000000239
100%		-20	836,500,001	1	0.0012	0.000000120
100%		-10	836,500,000	0	0.0000	0.000000000
100%		0	836,500,001	1	0.0012	0.000000120
100%		+10	836,500,002	2	0.0024	0.000000239
100%		+20	836,500,001	1	0.0012	0.000000120
100%		+30	836,500,000	0	0.0000	0.000000000
100%		+40	836,500,000	0	0.0000	0.000000000
100%		+50	836,499,999	-1	-0.0012	-0.000000120
115%	13.8	+20	836,500,001	1	0.0012	0.000000120
85%	10.2	+20	836,500,001	1	0.0012	0.000000120



7.7.3 LTE Band 4

OPERATING FREQUENCY : 1732.5 MHz
 CHANNEL : 20175
 REFERENCE VOLTAGE : 12 VDC
 LIMIT(FCC & IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12.0	+20(Ref)	1,732,499,997	-3	-0.0017	-0.000000173
100%		-30	1,732,499,996	-4	-0.0023	-0.000000231
100%		-20	1,732,499,998	-2	-0.0012	-0.000000115
100%		-10	1,732,499,997	-3	-0.0017	-0.000000173
100%		0	1,732,499,998	-2	-0.0012	-0.000000115
100%		+10	1,732,499,999	-1	-0.0006	-0.000000058
100%		+20	1,732,499,997	-3	-0.0017	-0.000000173
100%		+30	1,732,499,999	-1	-0.0006	-0.000000058
100%		+40	1,732,499,998	-2	-0.0012	-0.000000115
100%		+50	1,732,499,998	-2	-0.0012	-0.000000115
115%	13.8	+20	1,732,500,000	0	0.0000	0.000000000
85%	10.2	+20	1,732,500,001	1	0.0006	0.000000058

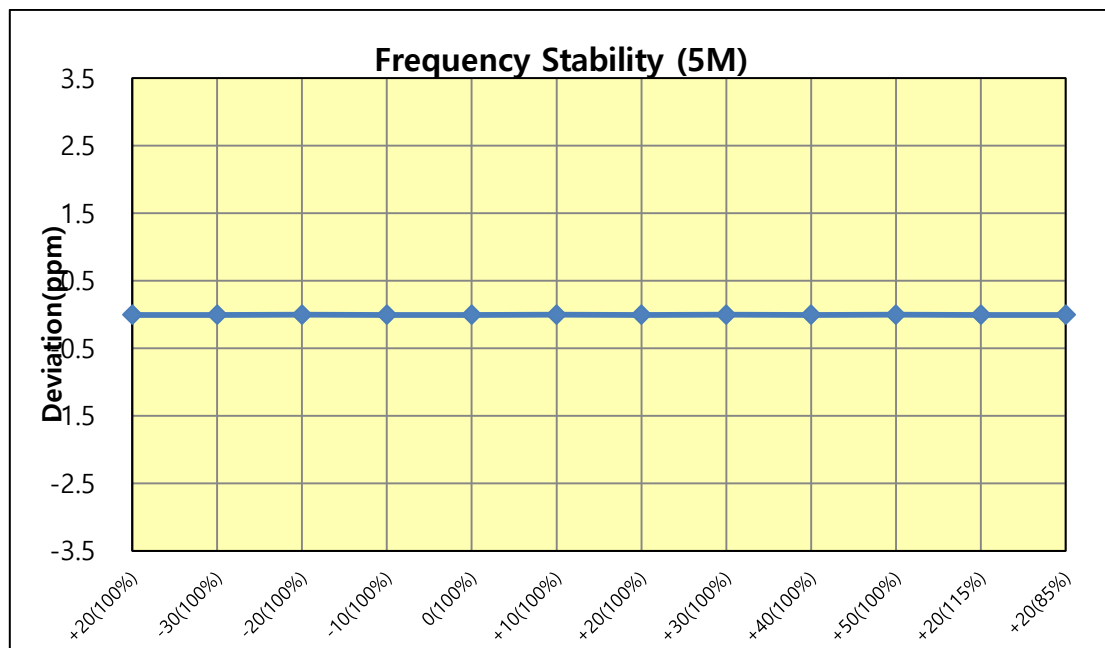


Note. Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. as such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

7.7.4 LTE Band 2

OPERATING FREQUENCY : 1880 MHz
 CHANNEL : 18900
 REFERENCE VOLTAGE : 12 VDC
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.
 DEVIATION LIMIT(IC) : $\pm 0.00025\%$ or 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12.0	+20(Ref)	1,879,999,998	-2	-0.0011	-0.000000106
100%		-30	1,879,999,997	-3	-0.0016	-0.000000160
100%		-20	1,879,999,998	-2	-0.0011	-0.000000106
100%		-10	1,879,999,999	-1	-0.0005	-0.000000053
100%		0	1,879,999,997	-3	-0.0016	-0.000000160
100%		+10	1,880,000,001	1	0.0005	0.000000053
100%		+20	1,879,999,998	-2	-0.0011	-0.000000106
100%		+30	1,880,000,000	0	0.0000	0.000000000
100%		+40	1,880,000,002	2	0.0011	0.000000106
100%		+50	1,880,000,001	1	0.0005	0.000000053
115%	13.8	+20	1,879,999,998	-2	-0.0011	-0.000000106
85%	10.2	+20	1,880,000,002	2	0.0011	0.000000106



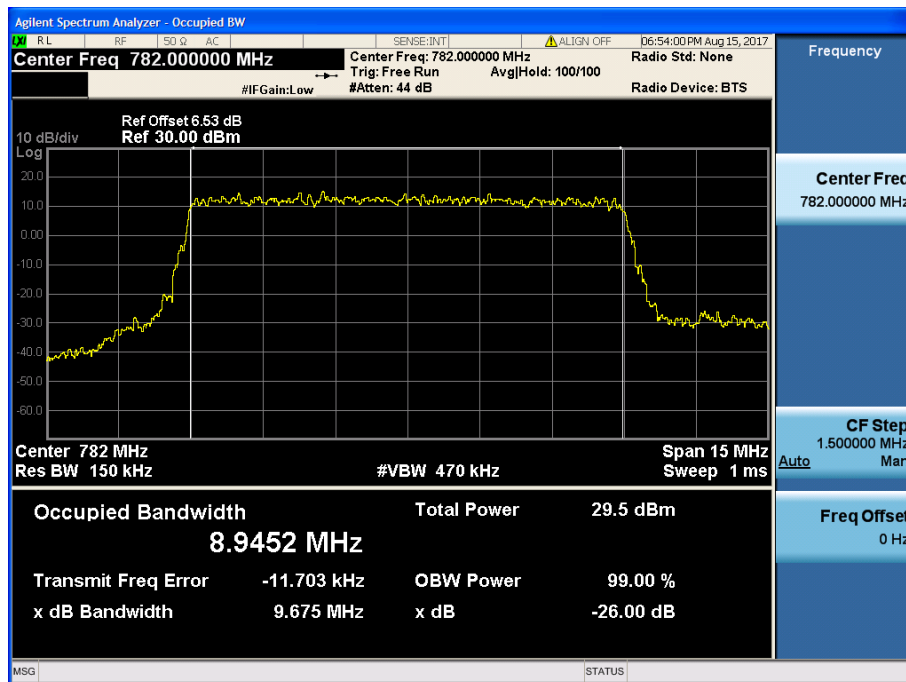
Note. Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. as such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

8. TEST PLOTS

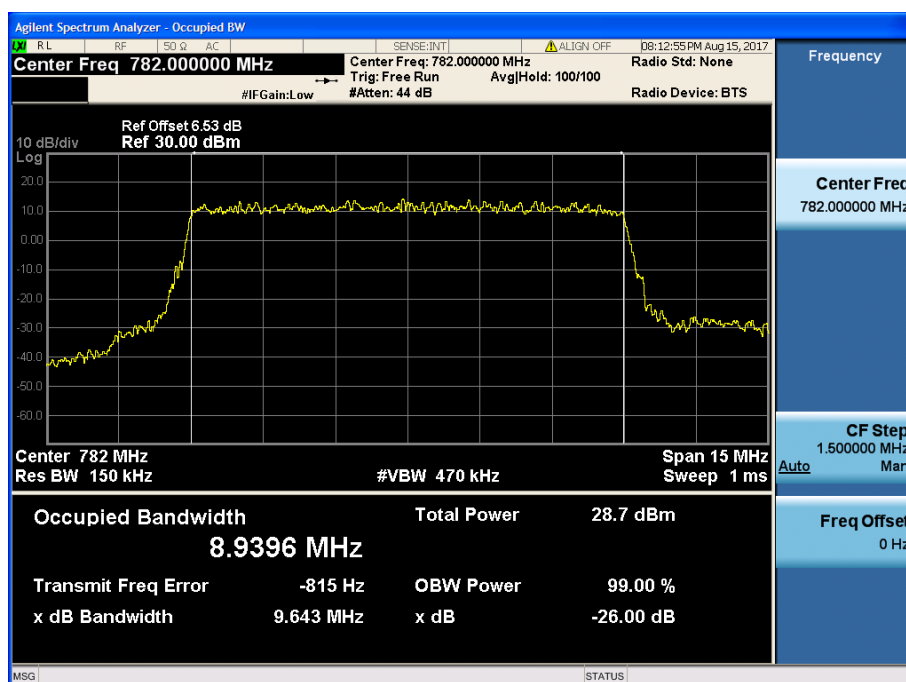
Note: All bandwidths, RB configurations, and modulations were investigated.
The worst case test results are reported.

8.1 OCCUPIED BANDWIDTH

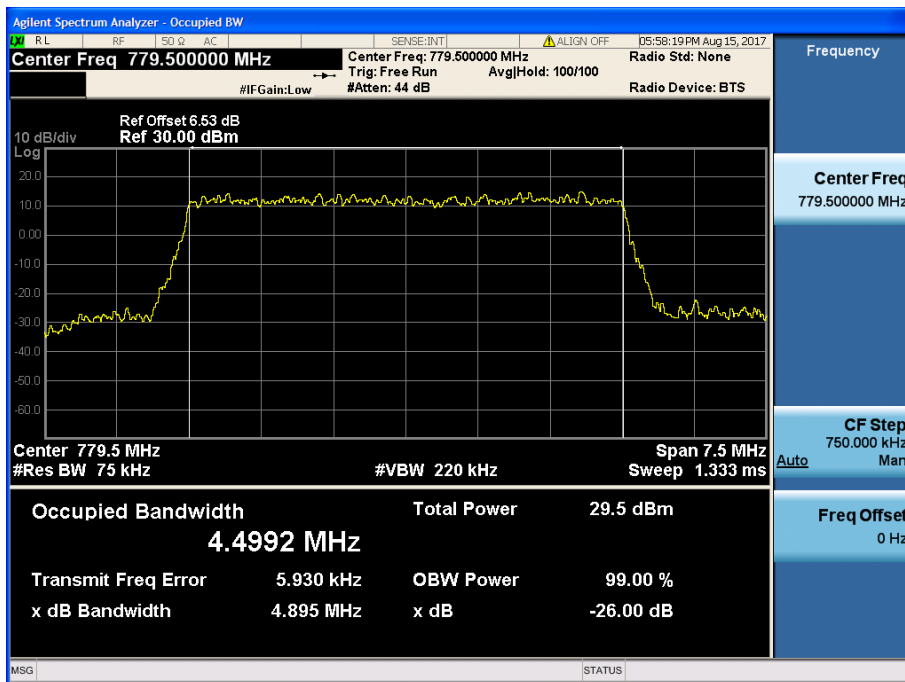
8.1.1 LTE Band 13



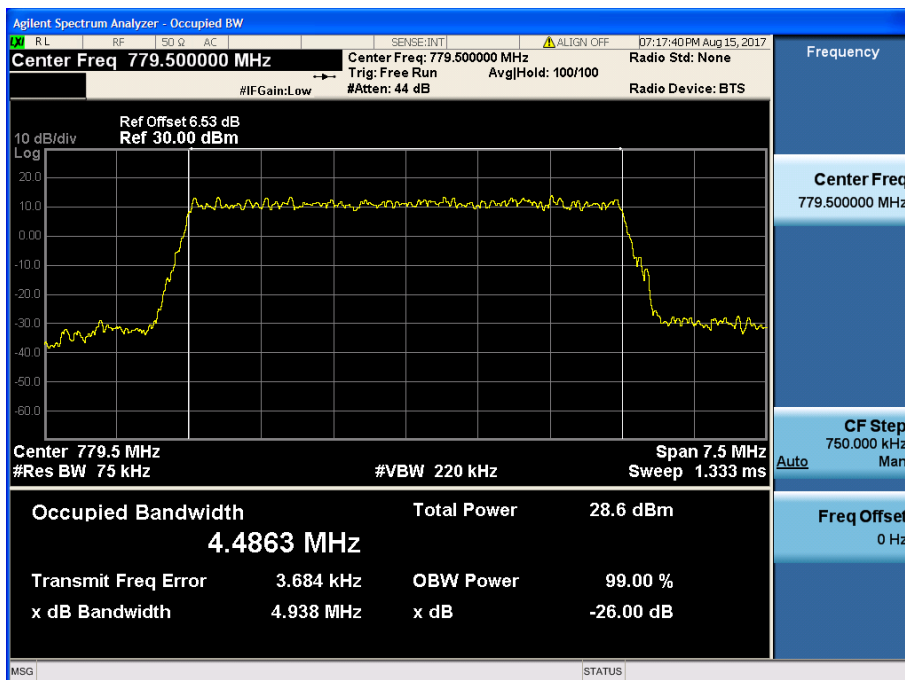
LTE Band 13 / 10 MHz / QPSK - RB Size 50



LTE Band 13 / 10 MHz / 16QAM - RB Size 50

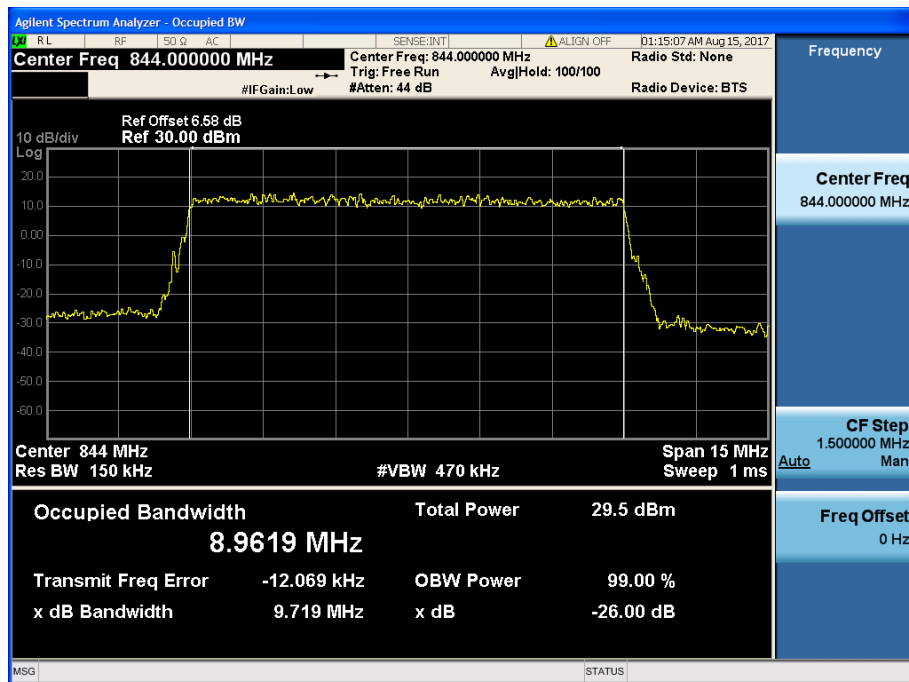


LTE Band 13 / 5 MHz / QPSK - RB Size 25

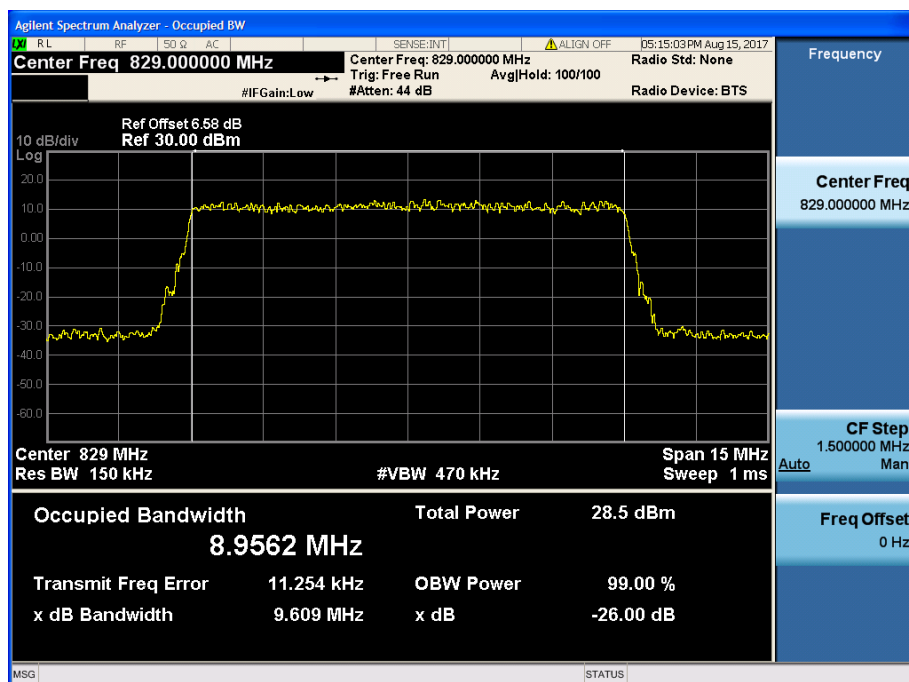


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

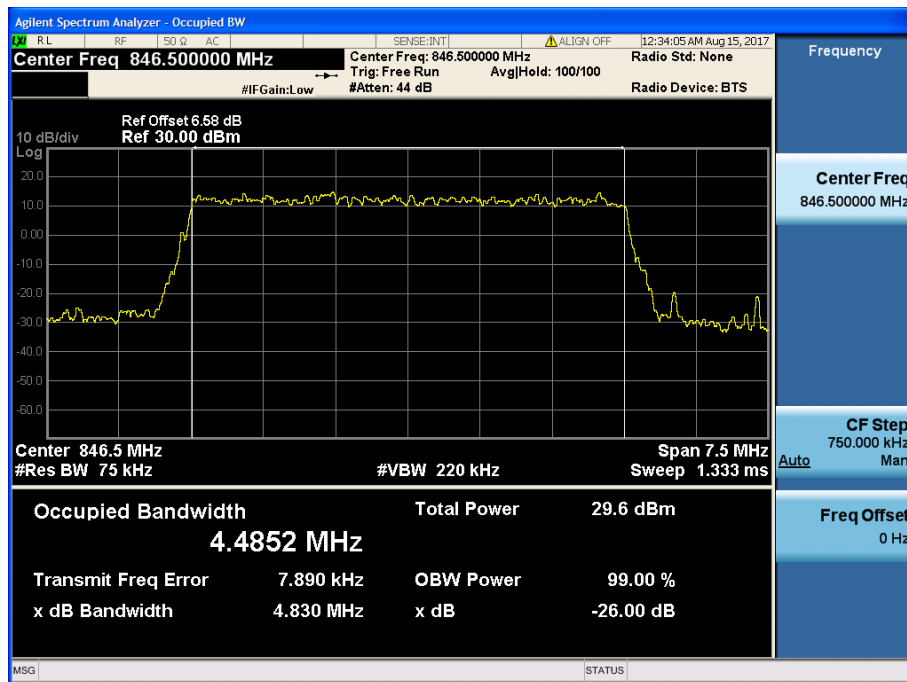
8.1.2 LTE Band 5



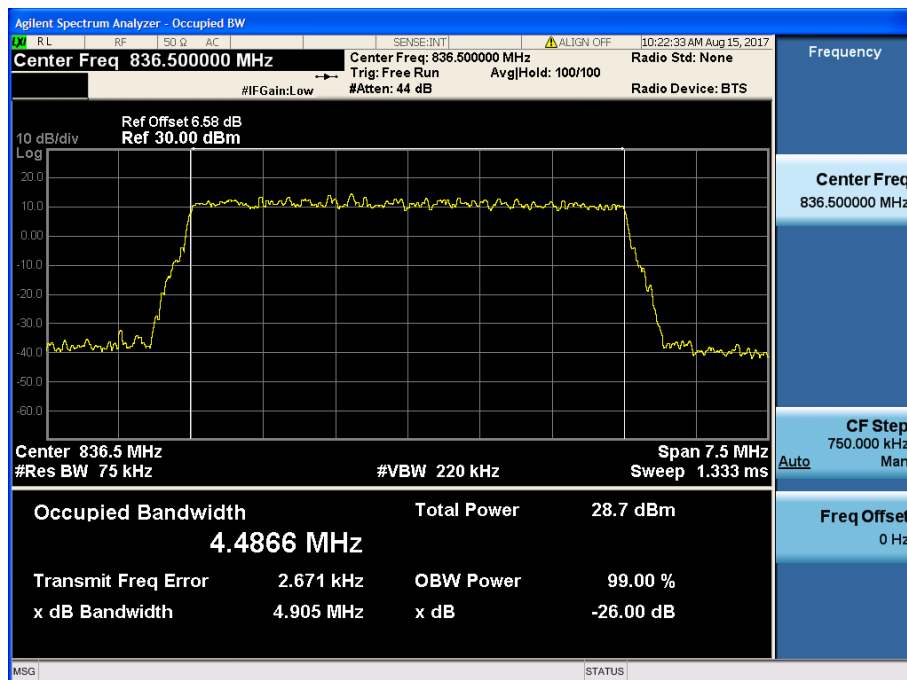
LTE Band 5 / 10 MHz / QPSK - RB Size 50



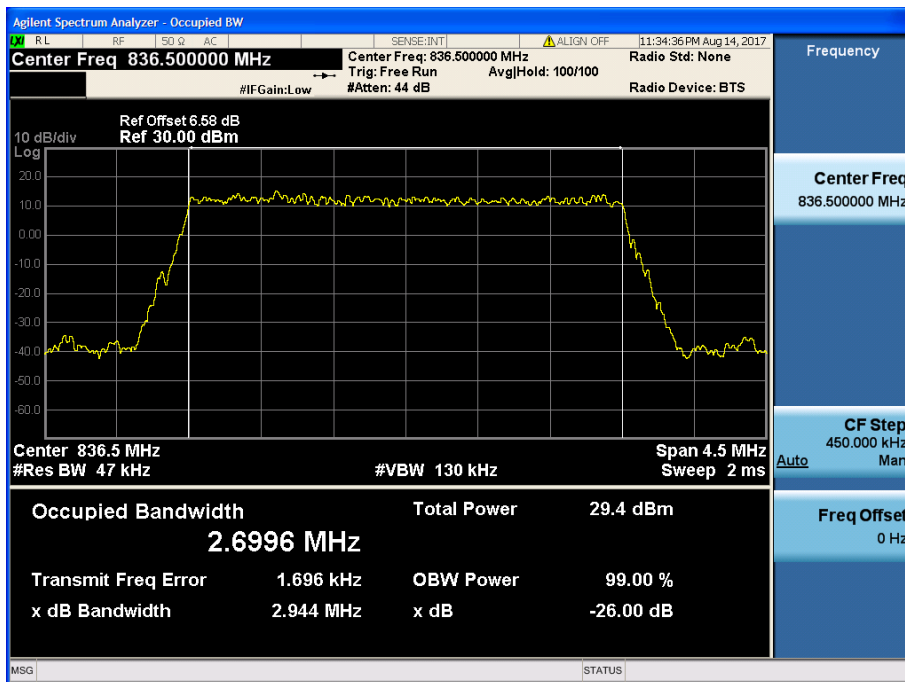
LTE Band 5 / 10 MHz / 16QAM - RB Size 50



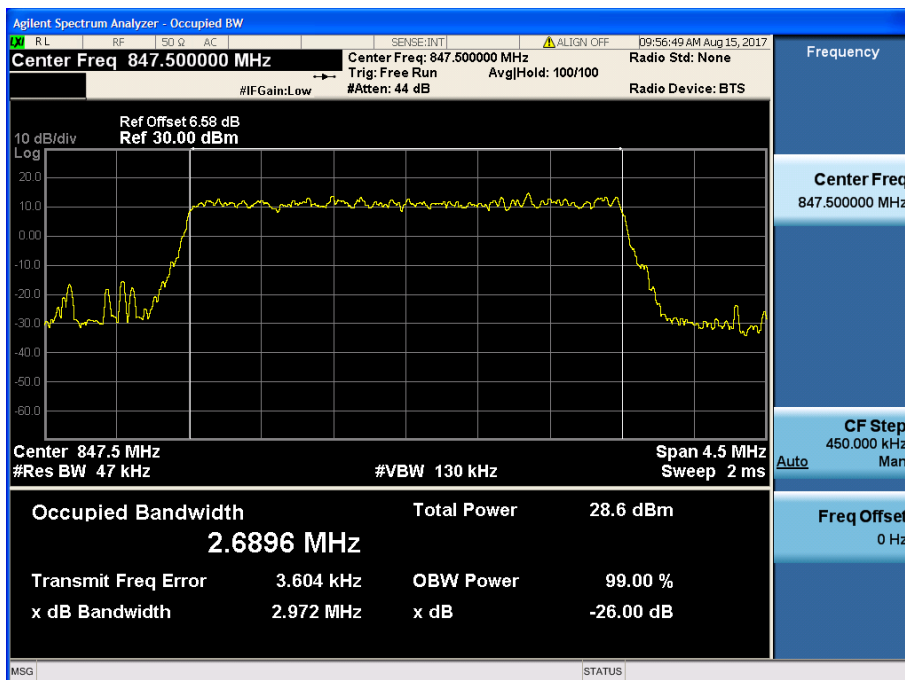
LTE Band 5 / 5 MHz / QPSK - RB Size 25



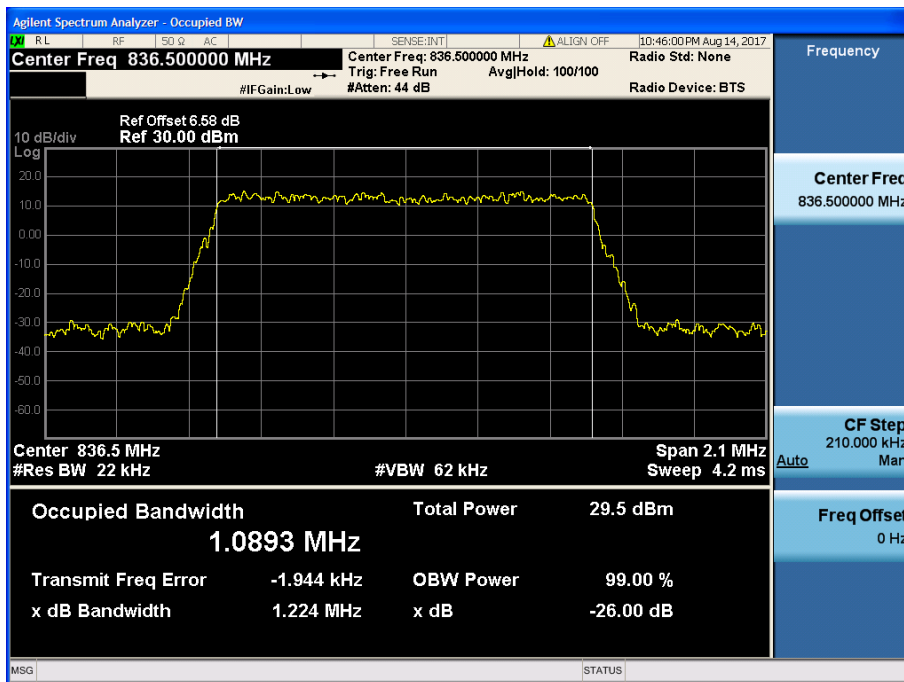
LTE Band 5 / 5 MHz / 16QAM - RB Size 25



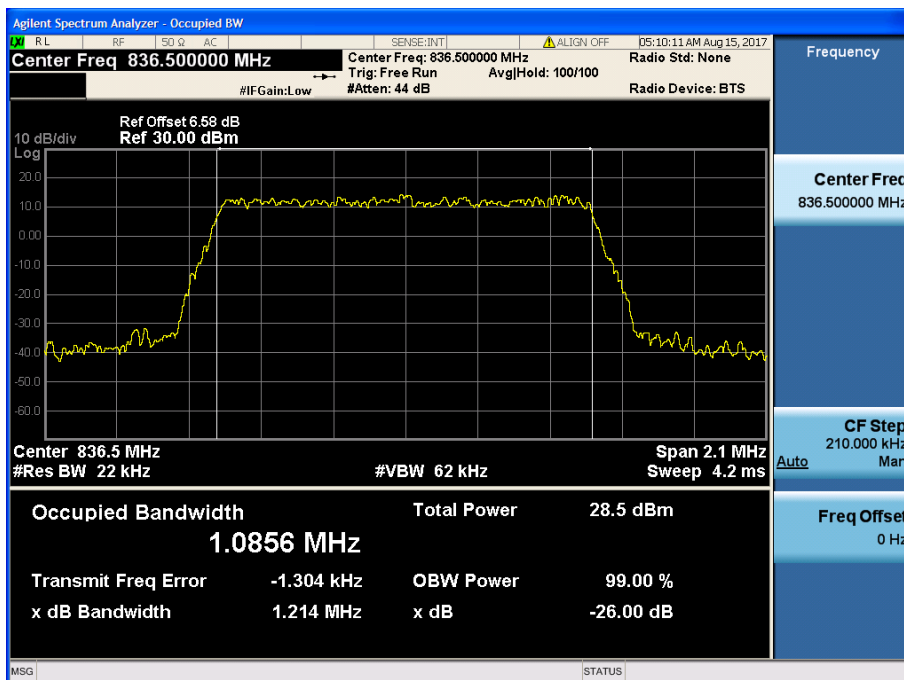
LTE Band 5 / 3 MHz / QPSK - RB Size 15



LTE Band 5 / 3 MHz / 16QAM - RB Size 15

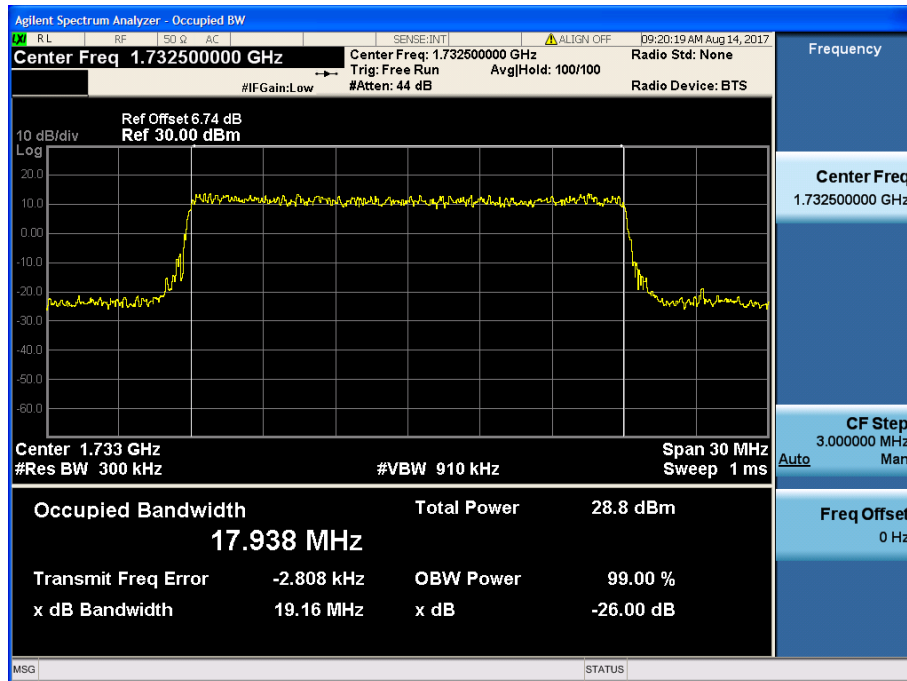


LTE Band 5 / 1.4 MHz / QPSK - RB Size 6

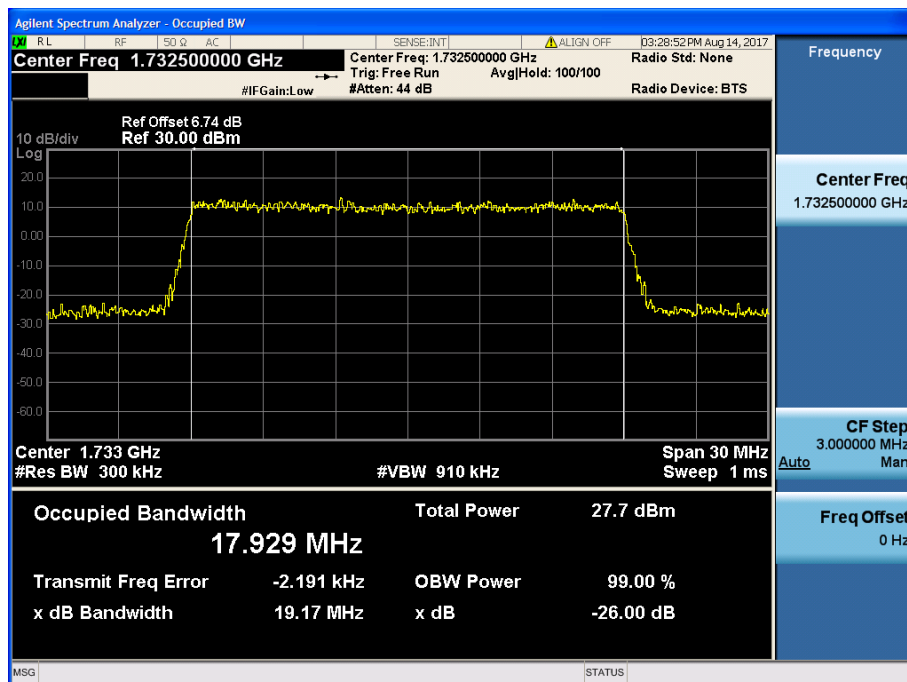


LTE Band 5 / 1.4 MHz / 16QAM - RB Size 6

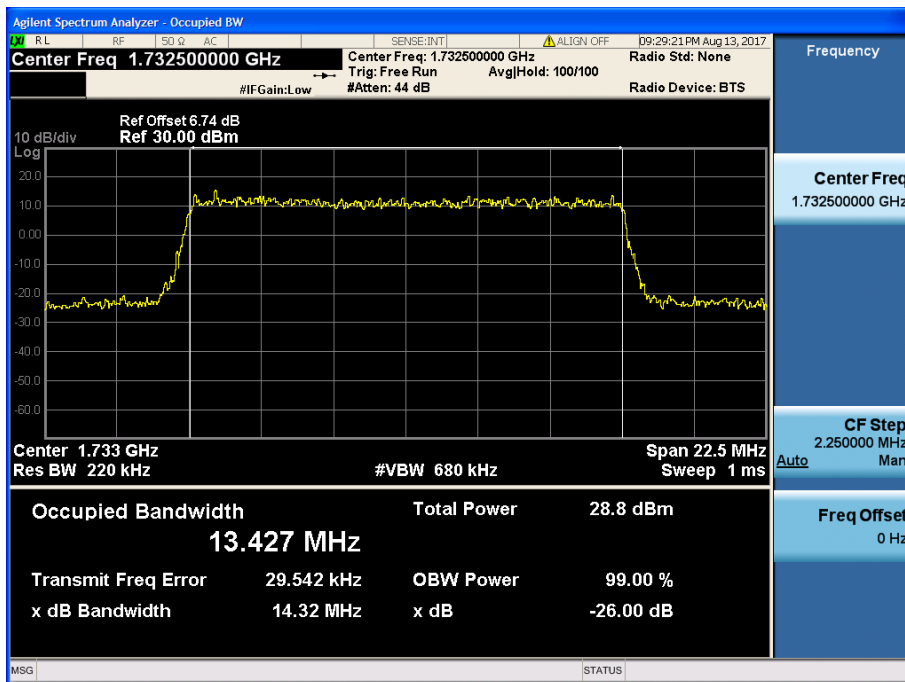
8.1.3 LTE Band 4



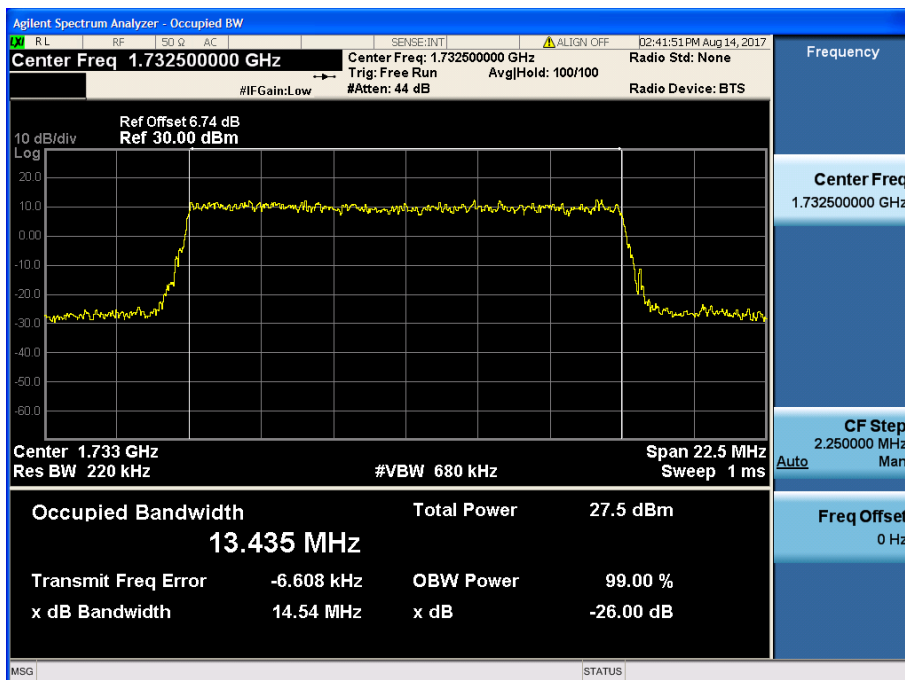
LTE Band 4 / 20 MHz / QPSK - RB Size 100



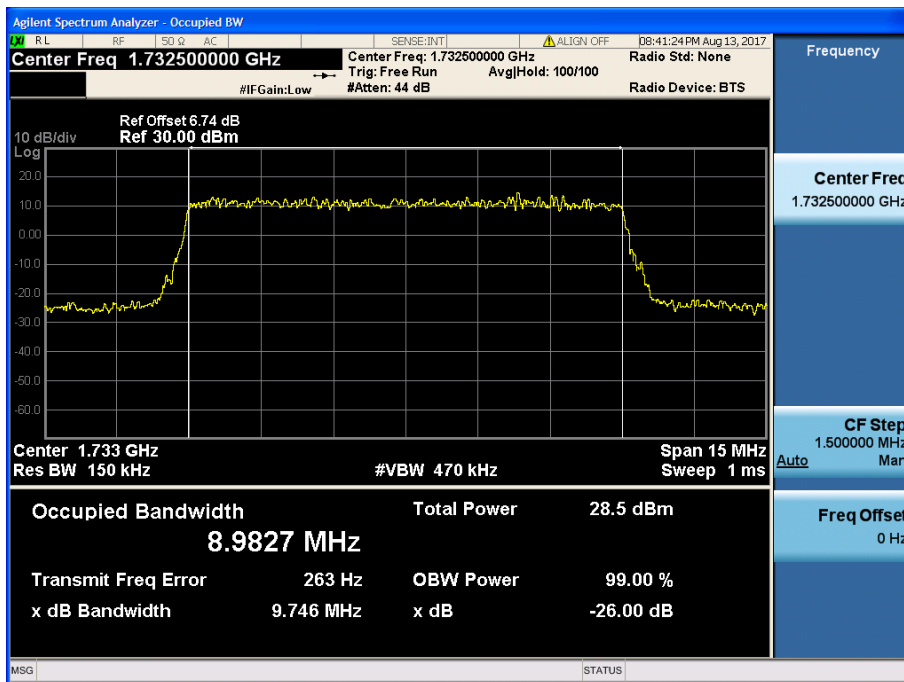
LTE Band 4 / 20 MHz / 16QAM - RB Size 100



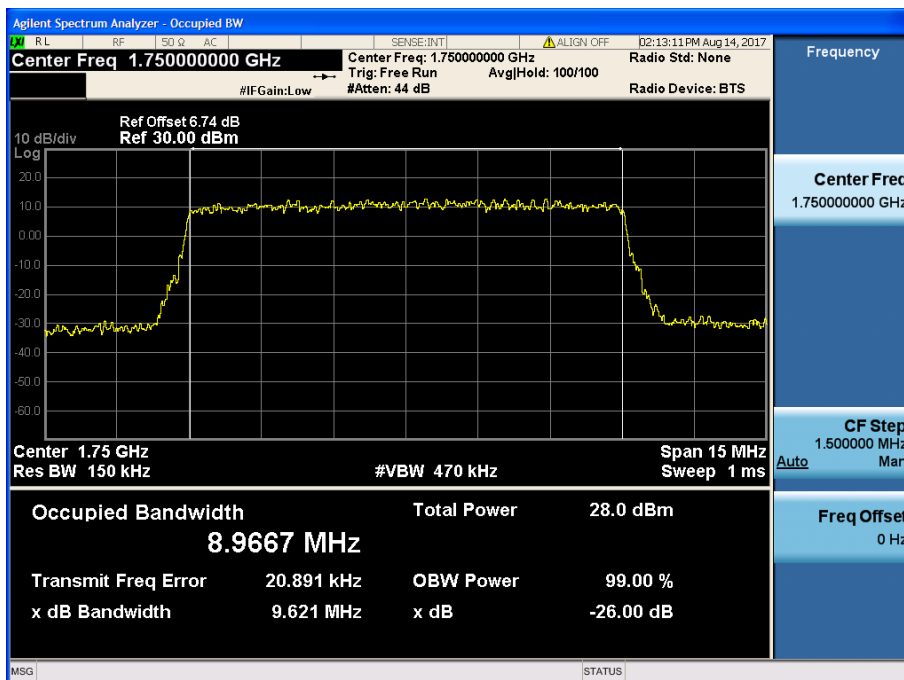
LTE Band 4 / 15 MHz / QPSK - RB Size 75



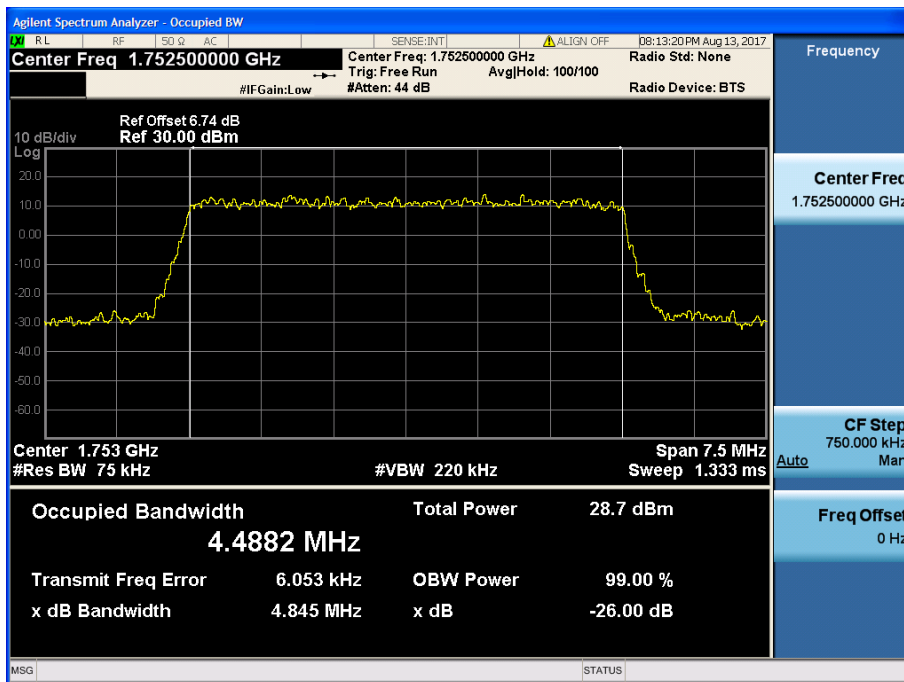
LTE Band 4 / 15 MHz / 16QAM - RB Size 75



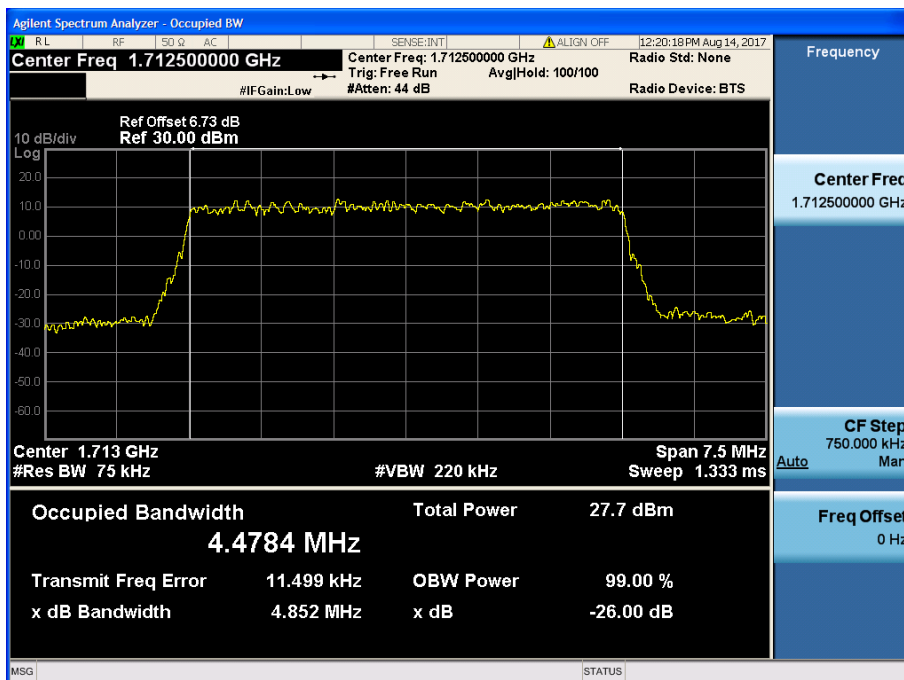
LTE Band 4 / 10 MHz / QPSK - RB Size 50



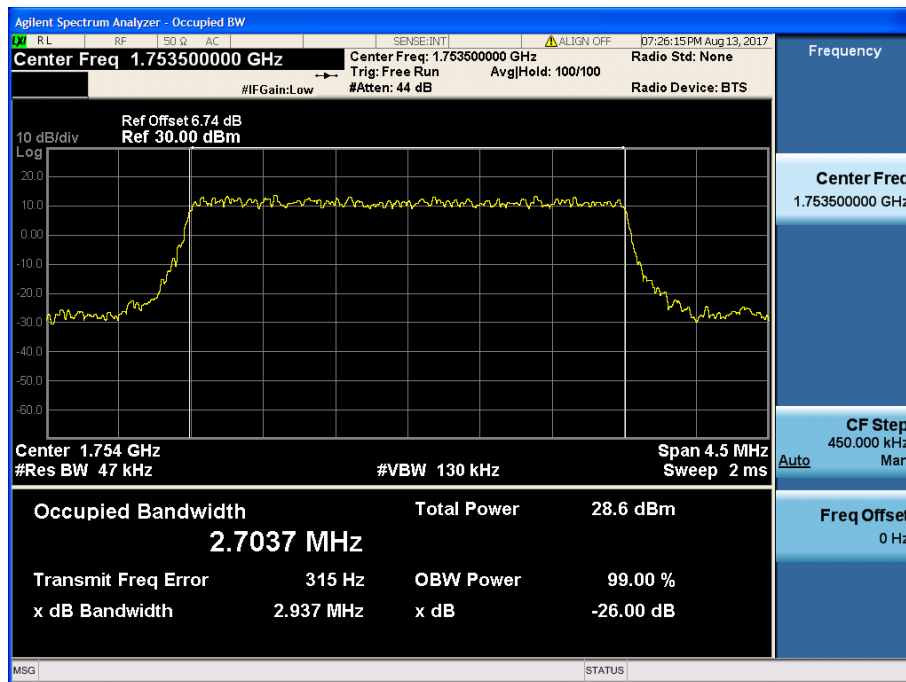
LTE Band 4 / 10 MHz / 16QAM - RB Size 50



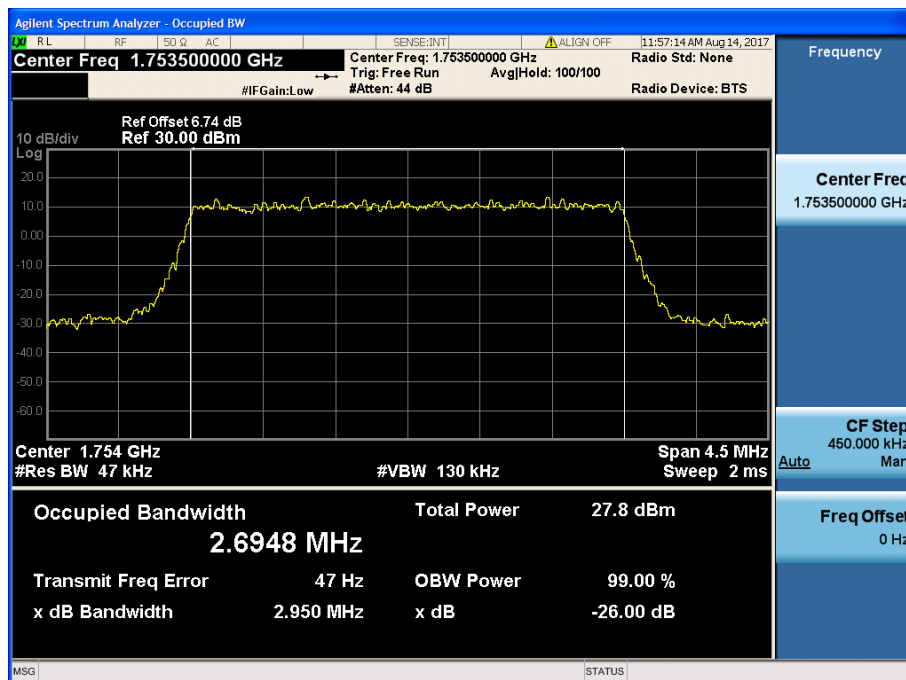
LTE Band 4 / 5 MHz / QPSK - RB Size 25



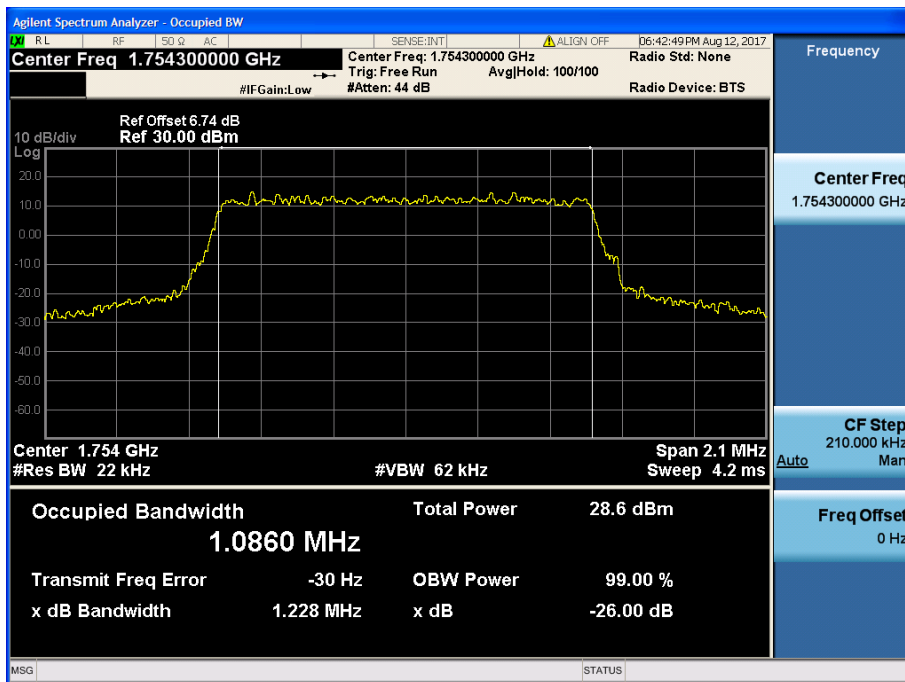
LTE Band 4 / 5 MHz / 16QAM - RB Size 25



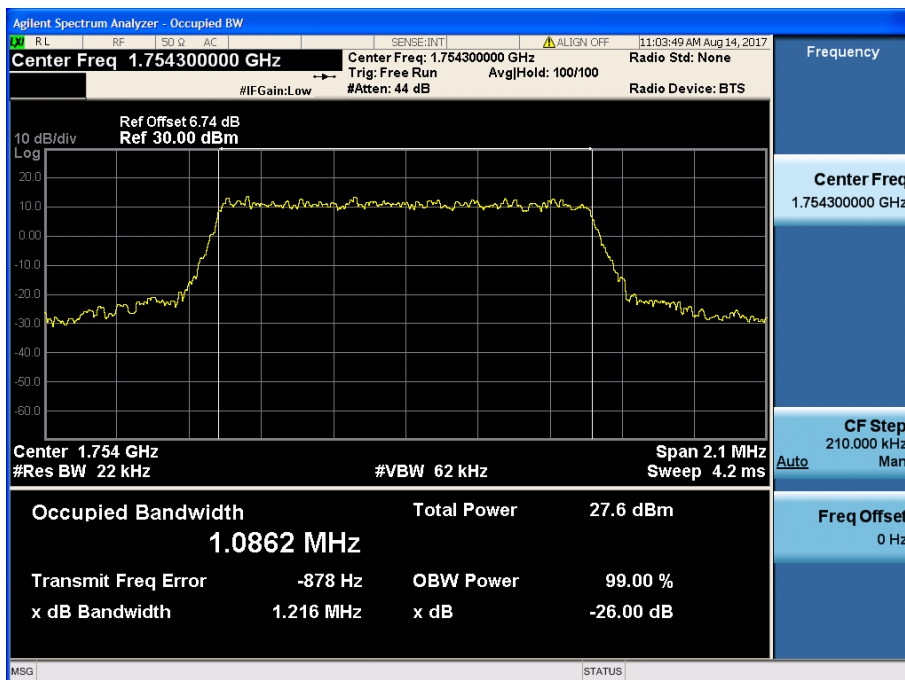
LTE Band 4 / 3 MHz / QPSK - RB Size 15



LTE Band 4 / 3 MHz / 16QAM - RB Size 15

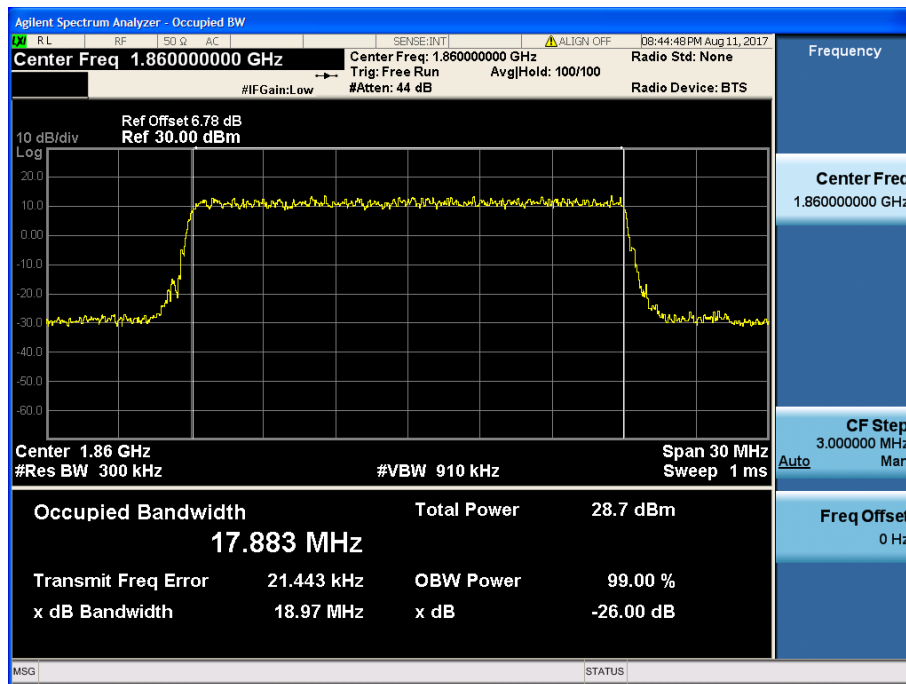


LTE Band 4 / 1.4 MHz / QPSK - RB Size 6

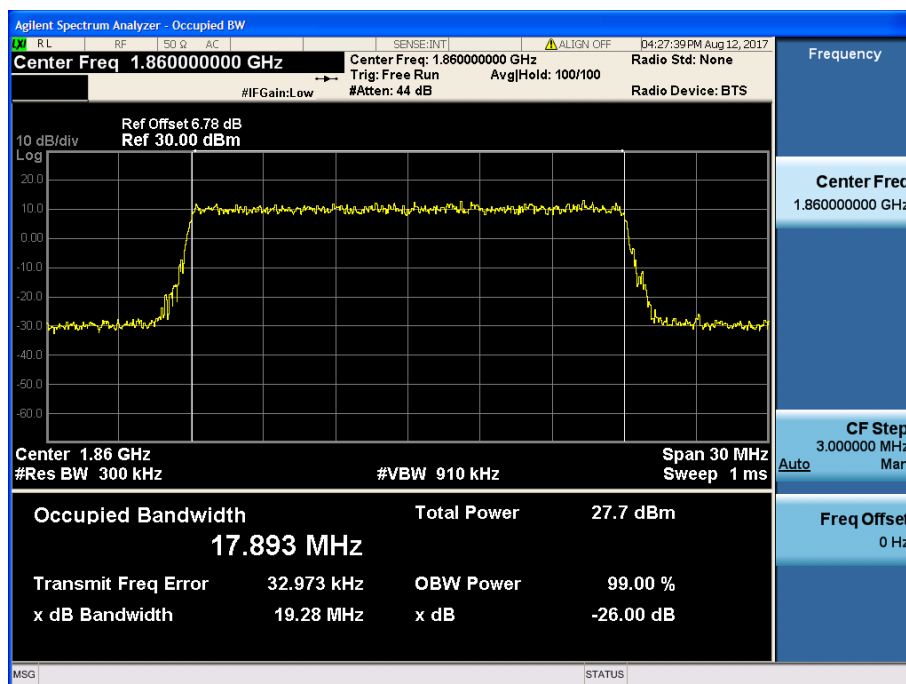


LTE Band 4 / 1.4 MHz / 16QAM - RB Size 6

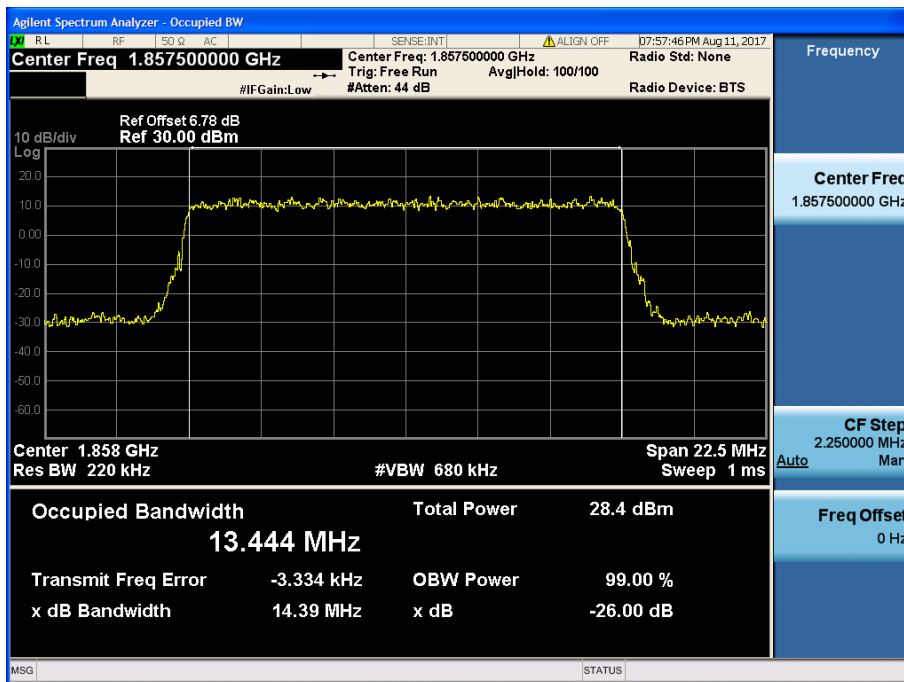
8.1.4 LTE Band 2



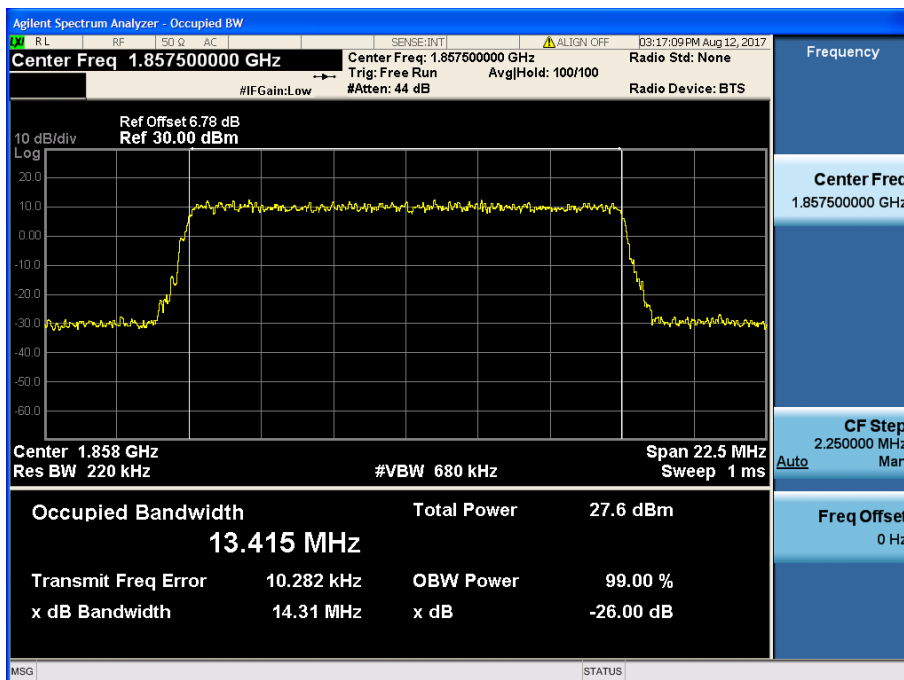
LTE Band 2 / 20 MHz / QPSK - RB Size 100



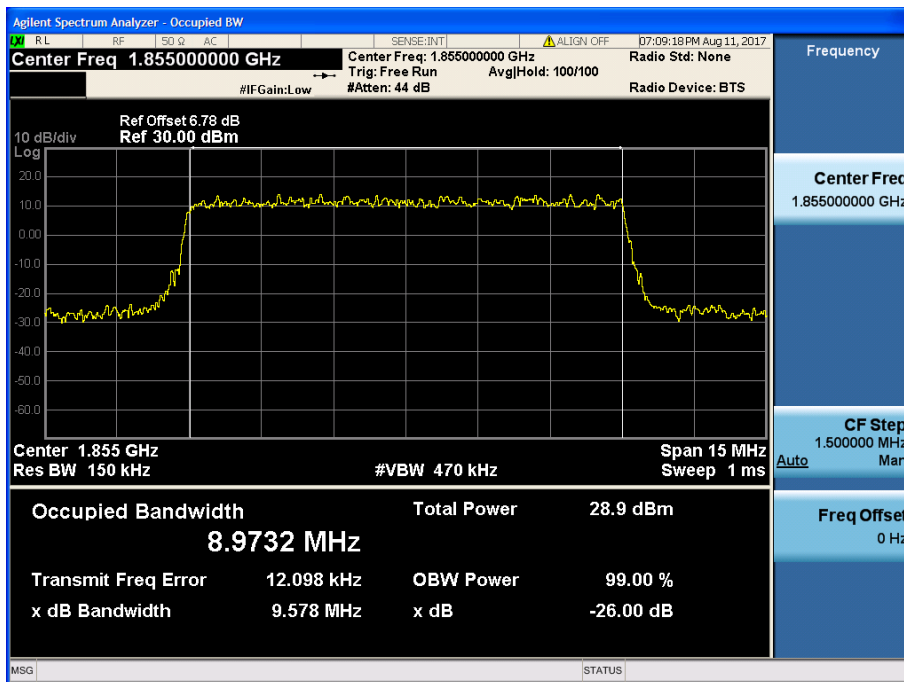
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



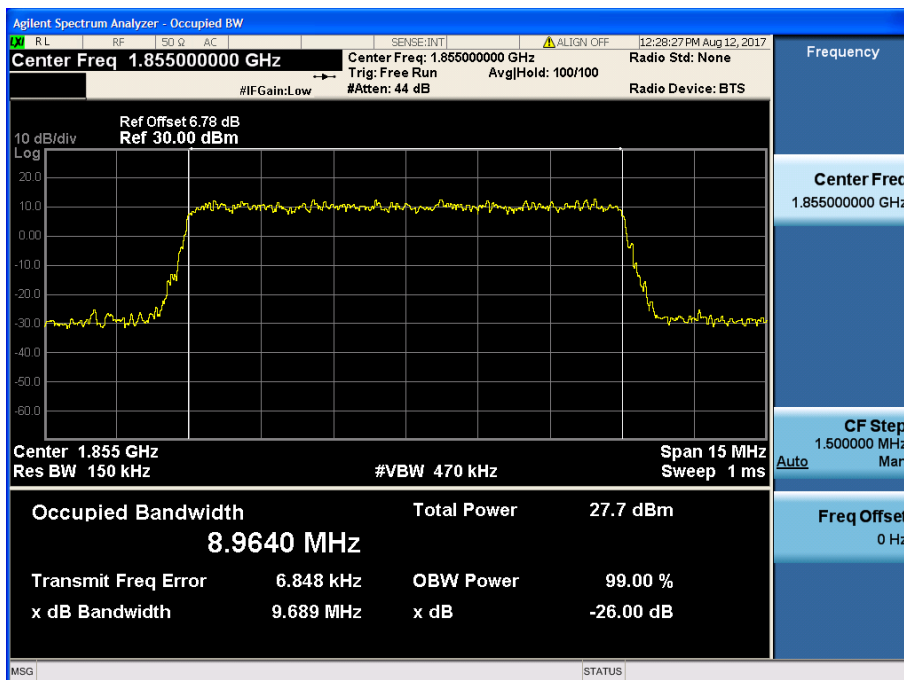
LTE Band 2 / 15 MHz / QPSK - RB Size 75



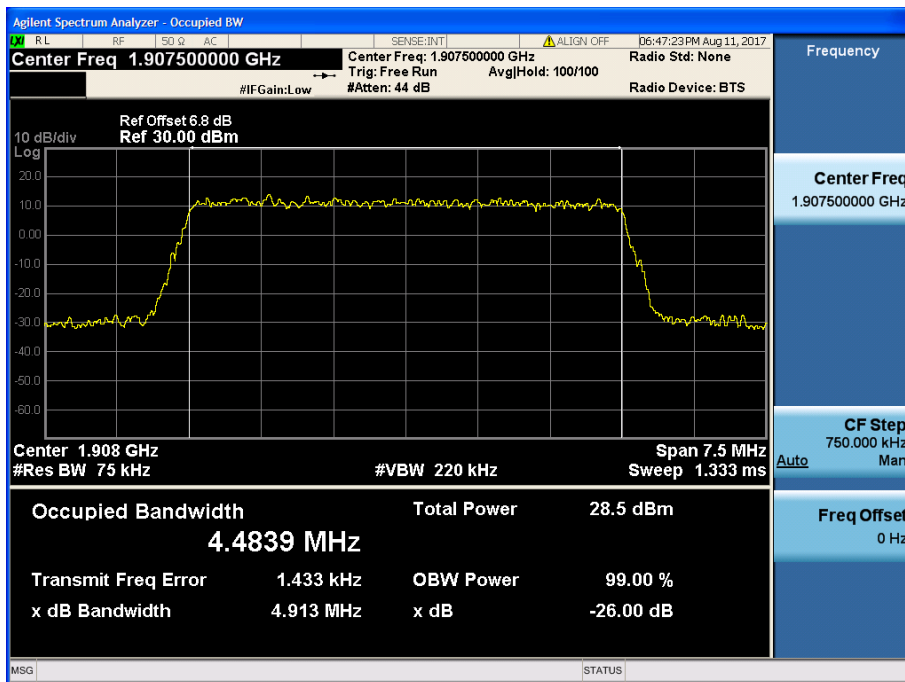
LTE Band 2 / 15 MHz / 16QAM - RB Size 75



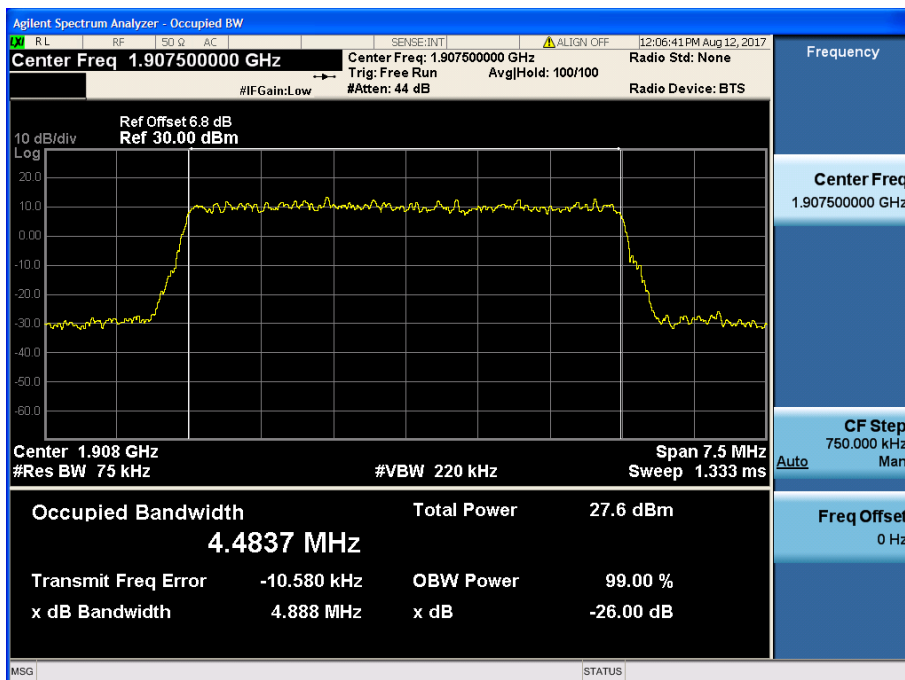
LTE Band 2 / 10 MHz / QPSK - RB Size 50



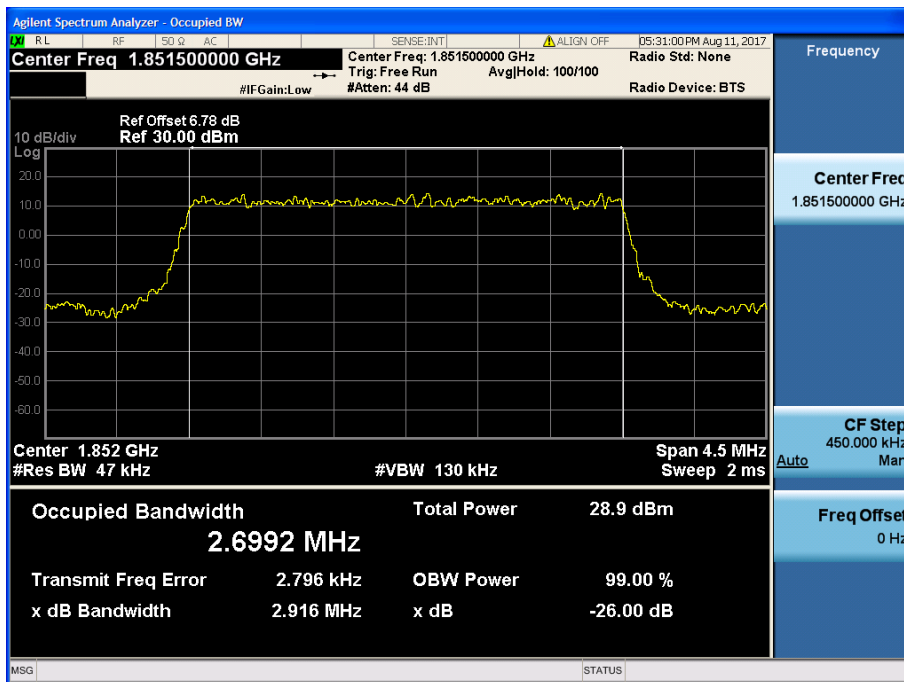
LTE Band 2 / 10 MHz / 16QAM - RB Size 50



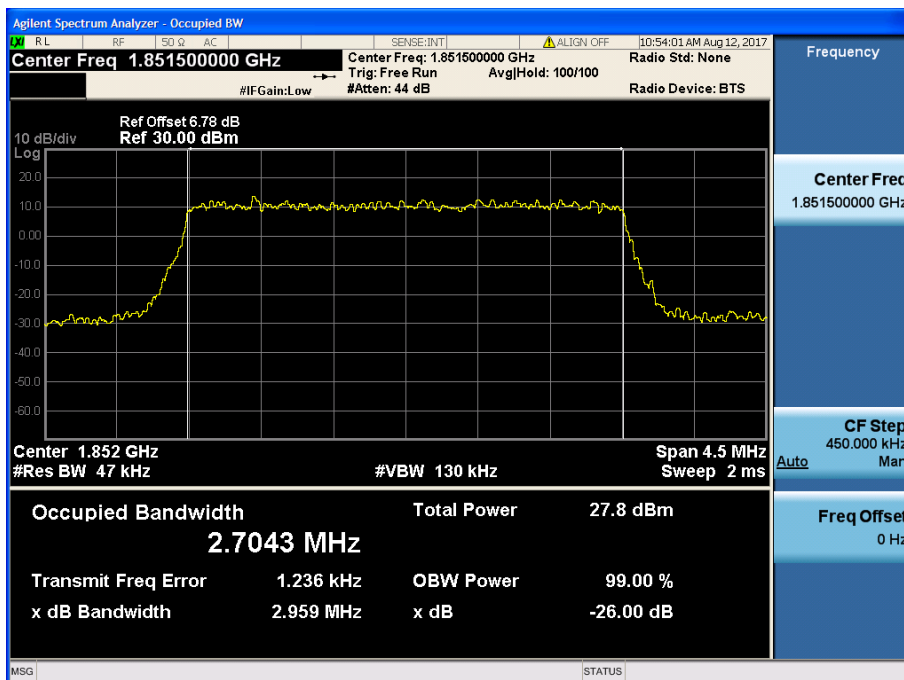
LTE Band 2 / 5 MHz / QPSK - RB Size 25



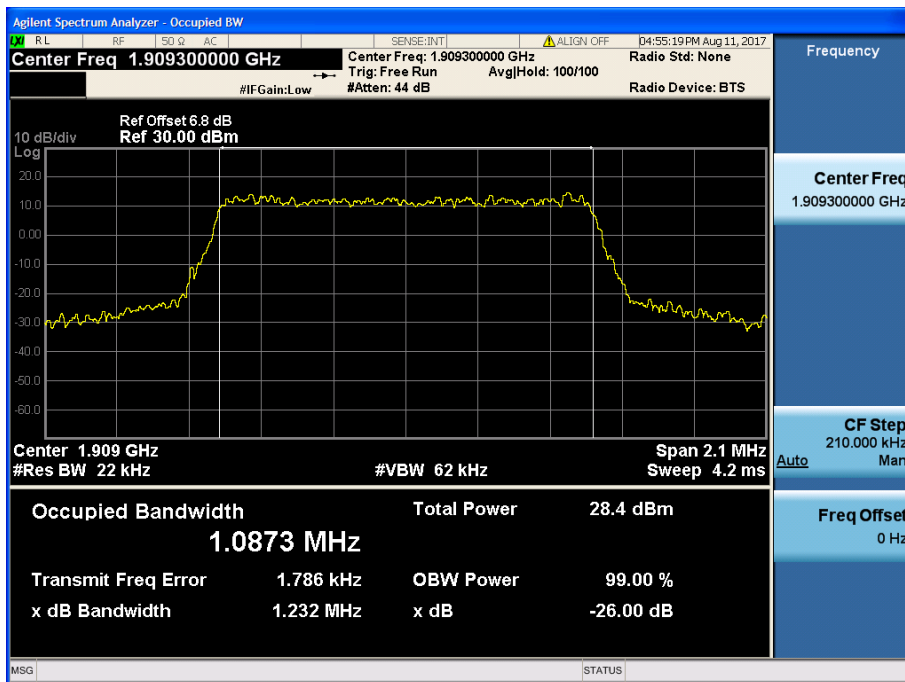
LTE Band 2 / 5 MHz / 16QAM - RB Size 25



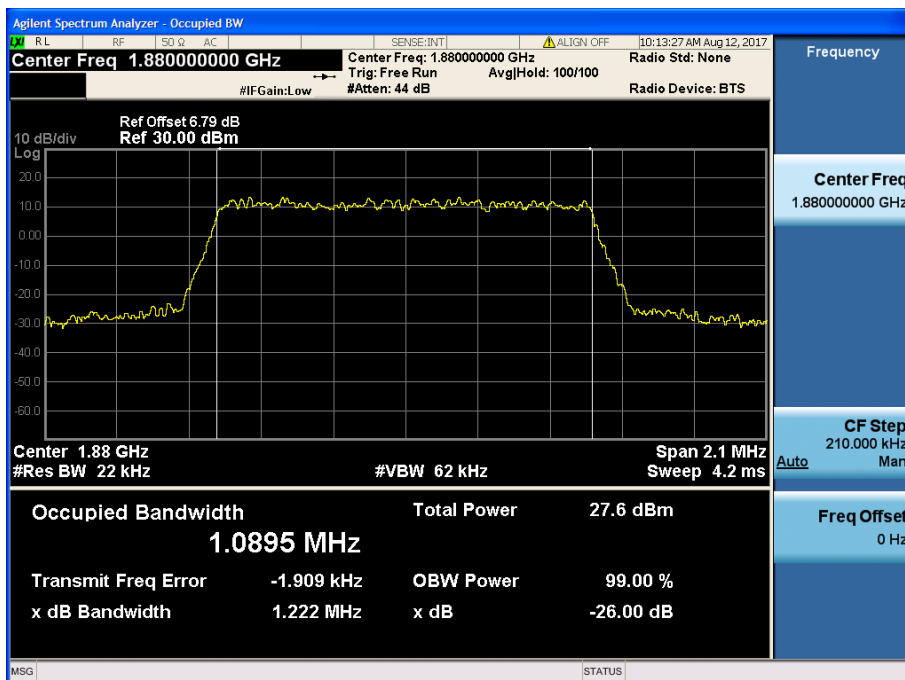
LTE Band 2 / 3 MHz / QPSK - RB Size 15



LTE Band 2 / 3 MHz / 16QAM - RB Size 15



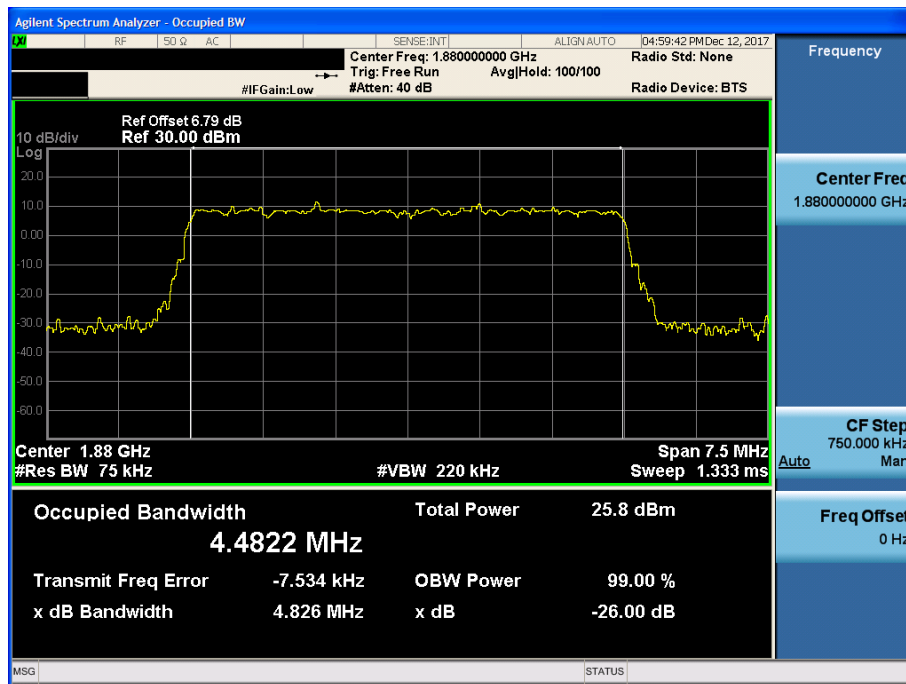
LTE Band 2 / 1.4 MHz / QPSK - RB Size 6



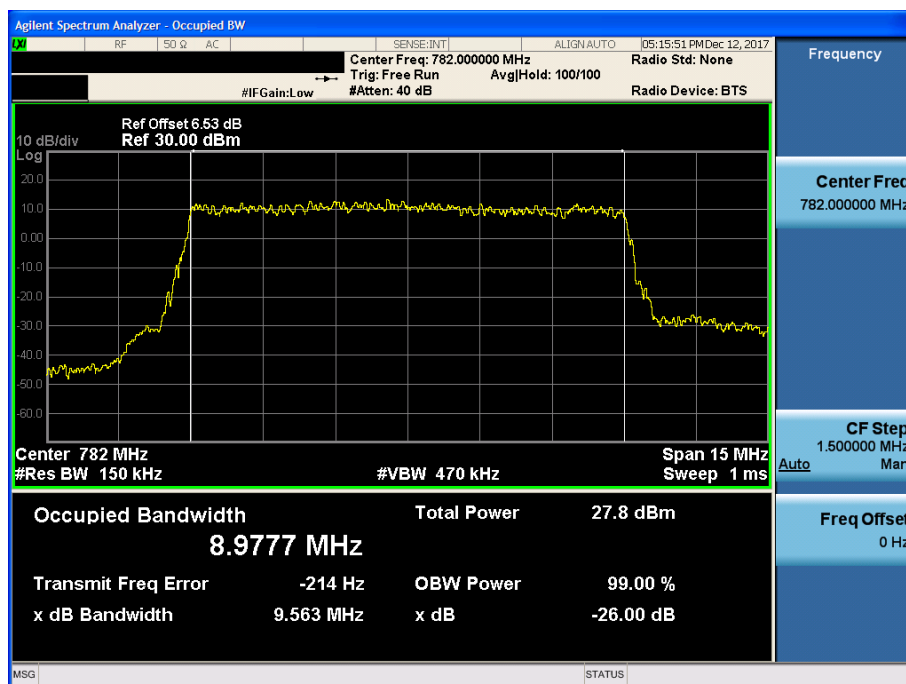
LTE Band 2 / 1.4 MHz / 16QAM - RB Size 6

8.1.5 LTE CA Band 2+ Band13

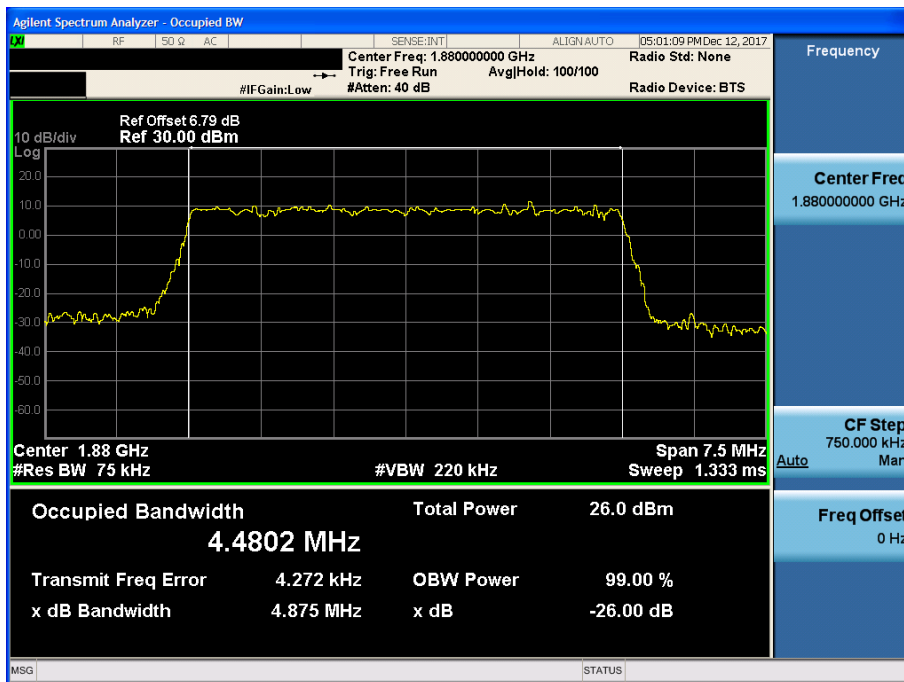
▪ CA Band 2(primary) + Band 13(secondary)



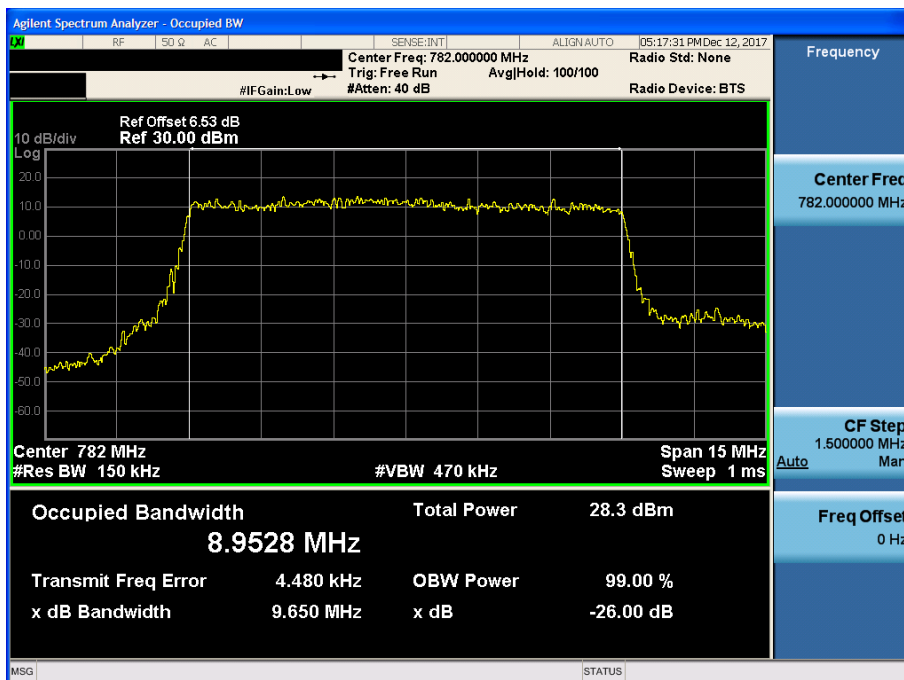
LTE CA B2+B13 / 15(5+10) / 5 MHz / QPSK - RB Size 25



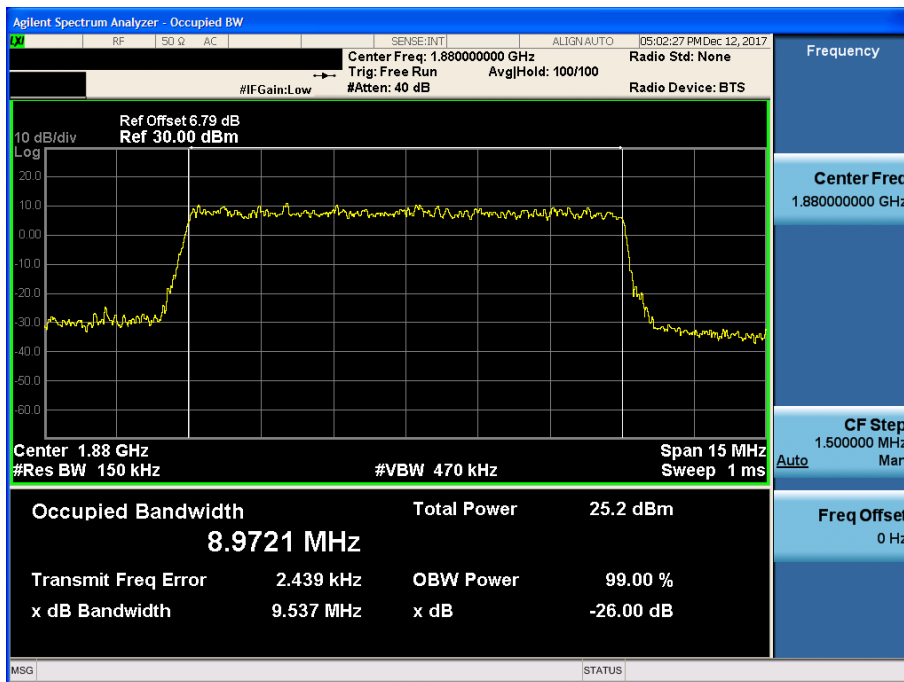
LTE CA B2+B13 / 15(5+10) / 10 MHz / QPSK - RB Size 50



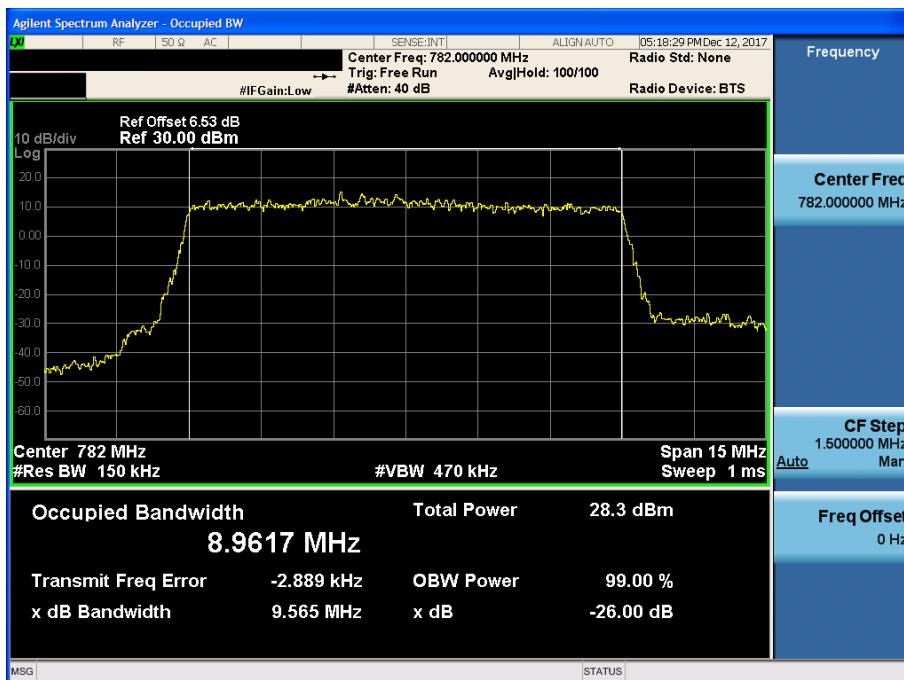
LTE CA B2+B13 / 15(5+10) / 5 MHz / 16QAM - RB Size 25



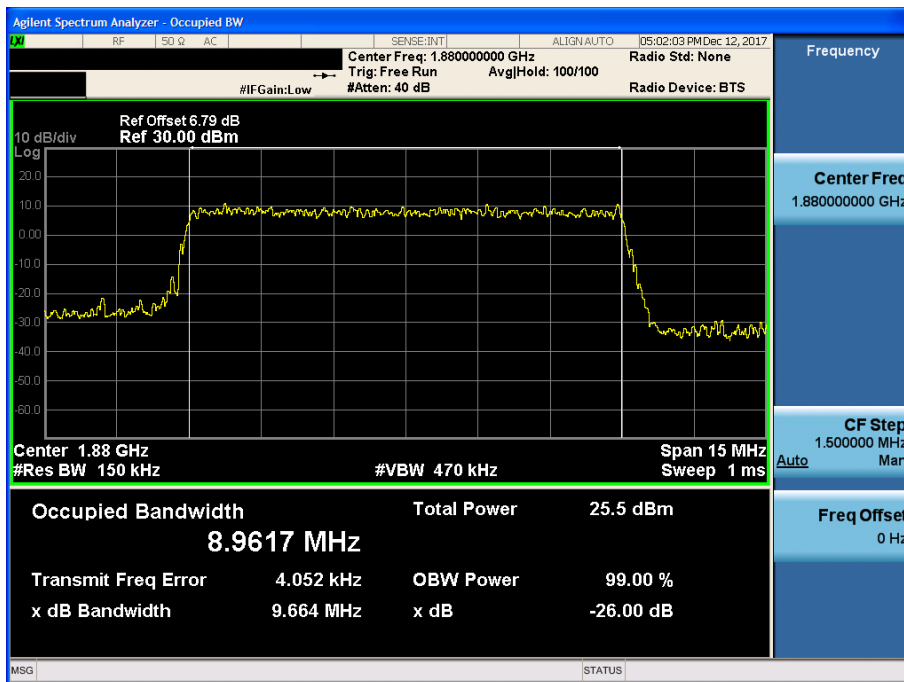
LTE CA B2+B13 / 15(5+10) / 10 MHz / 16QAM - RB Size 50



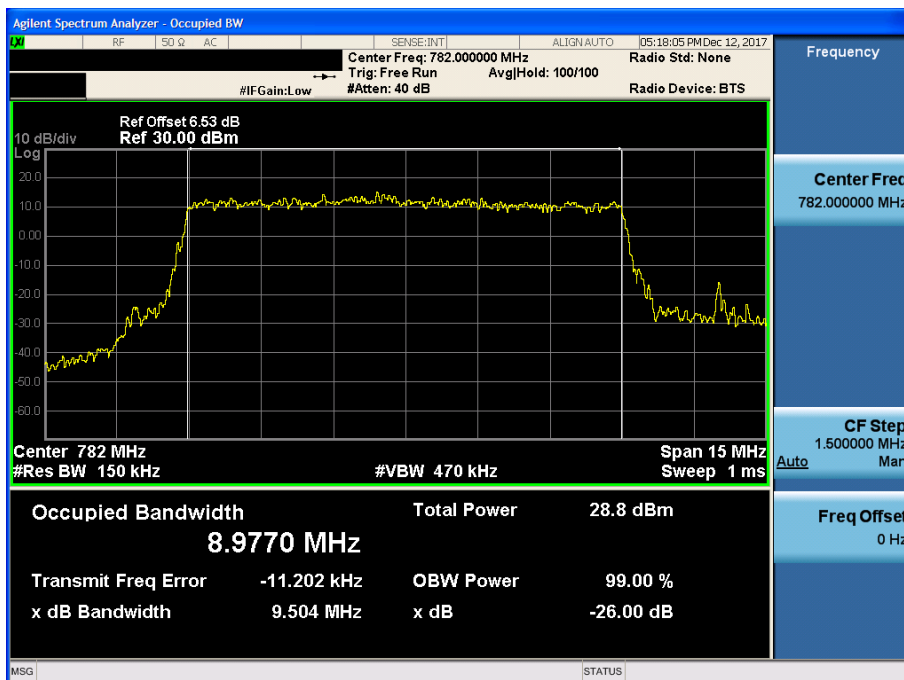
LTE CA B2+B13 / 20(10+10) / 10 MHz / QPSK - RB Size 50



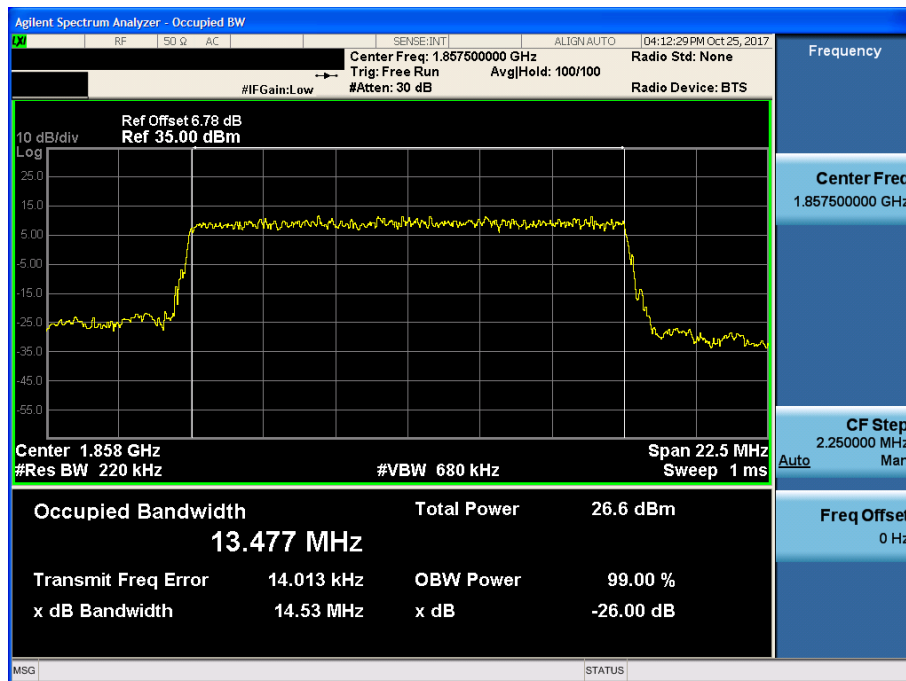
LTE CA B2+B13 / 20(10+10) / 10 MHz / QPSK - RB Size 50



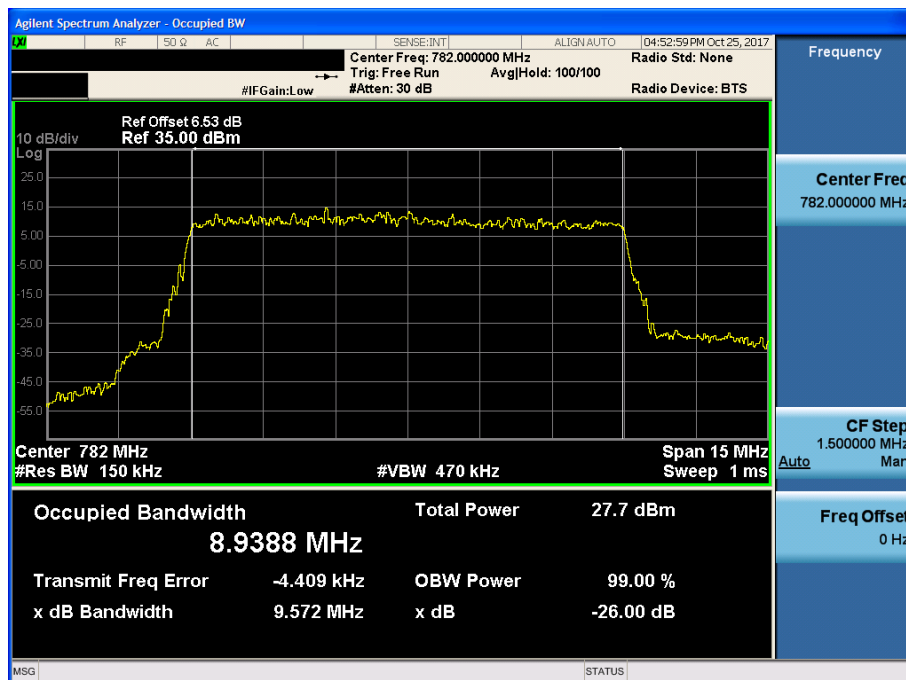
LTE CA B2+B13 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



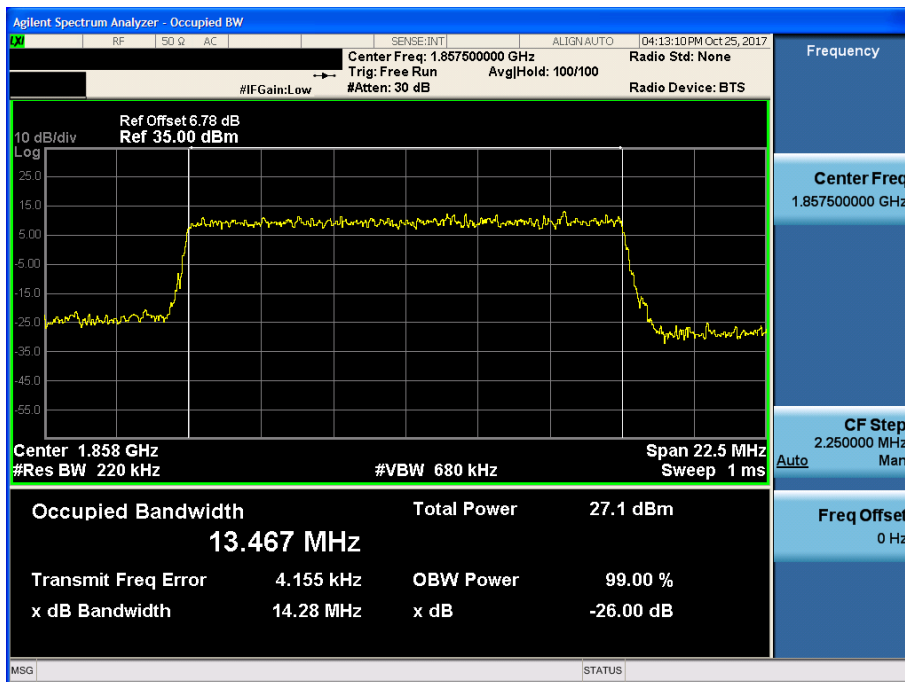
LTE CA B2+B13 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



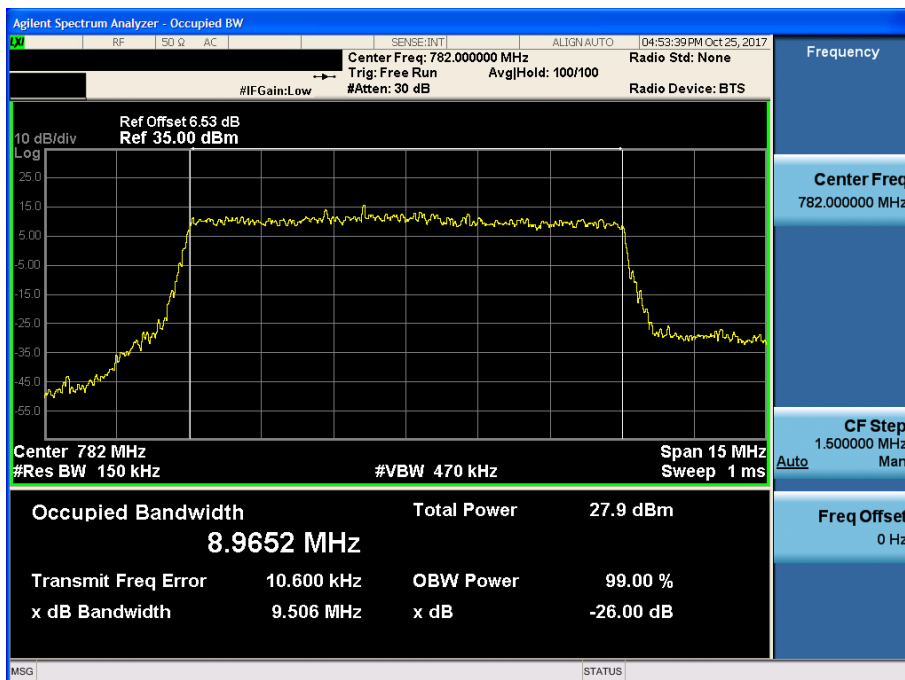
LTE CA B2+B13 / 25(15+10) / 15 MHz / QPSK - RB Size 75



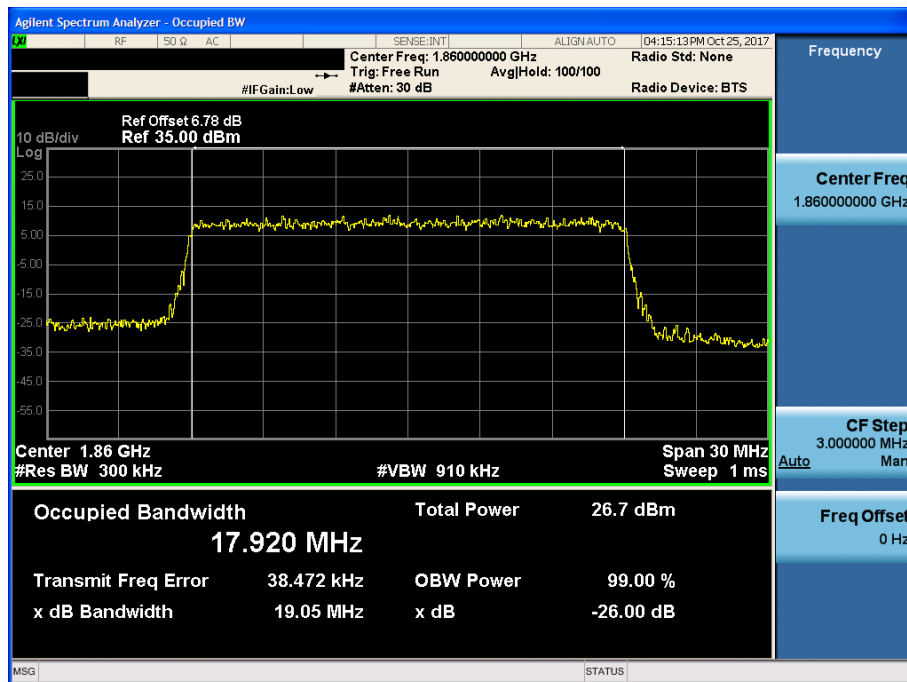
LTE CA B2+B13 / 25(15+10) / 10 MHz / QPSK - RB Size 50



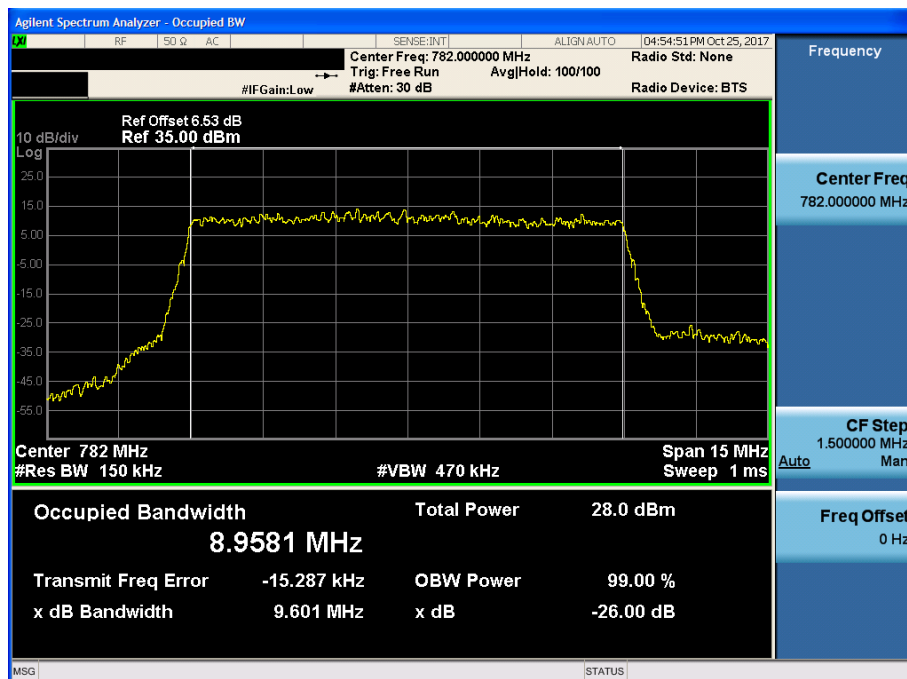
LTE CA B2+B13 / 25(15+10) / 15 MHz / 16QAM - RB Size 75



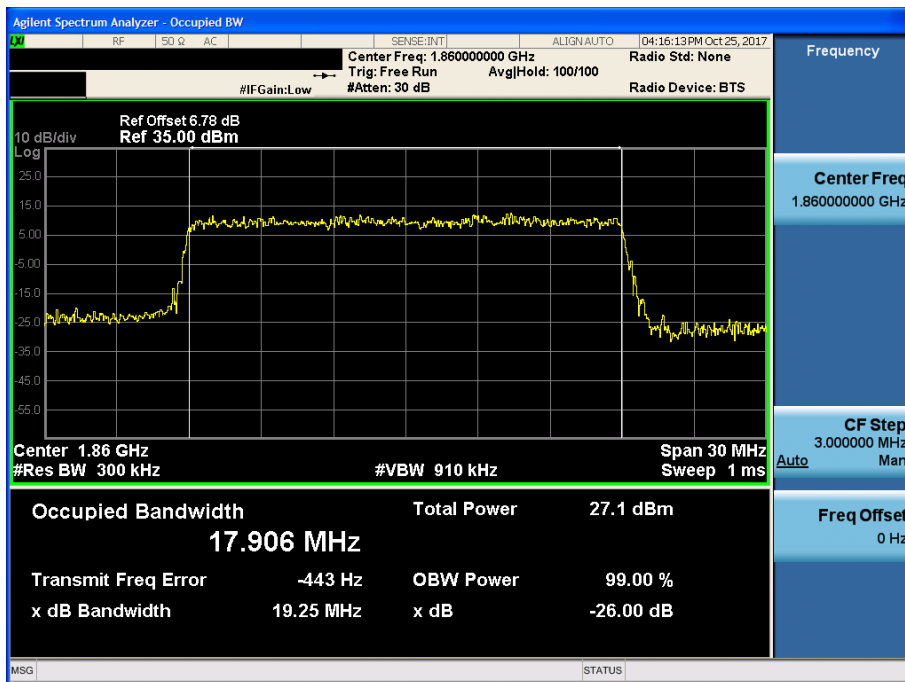
LTE CA B2+B13 / 25(15+10) / 10 MHz / 16QAM - RB Size 50



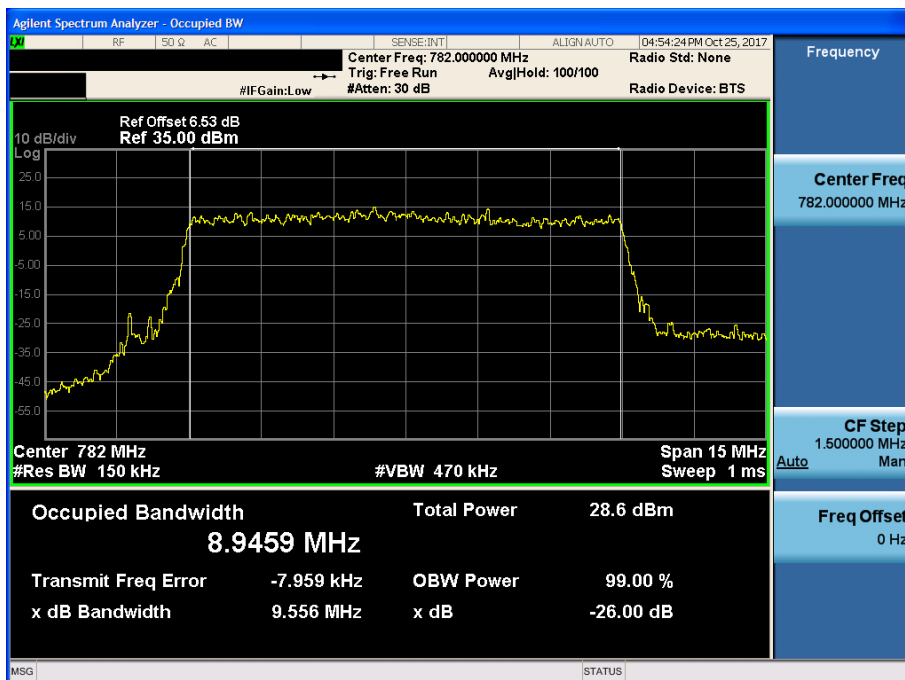
LTE CA B2+B13 / 30(20+10) / 20 MHz / QPSK - RB Size 100



LTE CA B2+B13 / 30(20+10) / 10 MHz / QPSK - RB Size 50

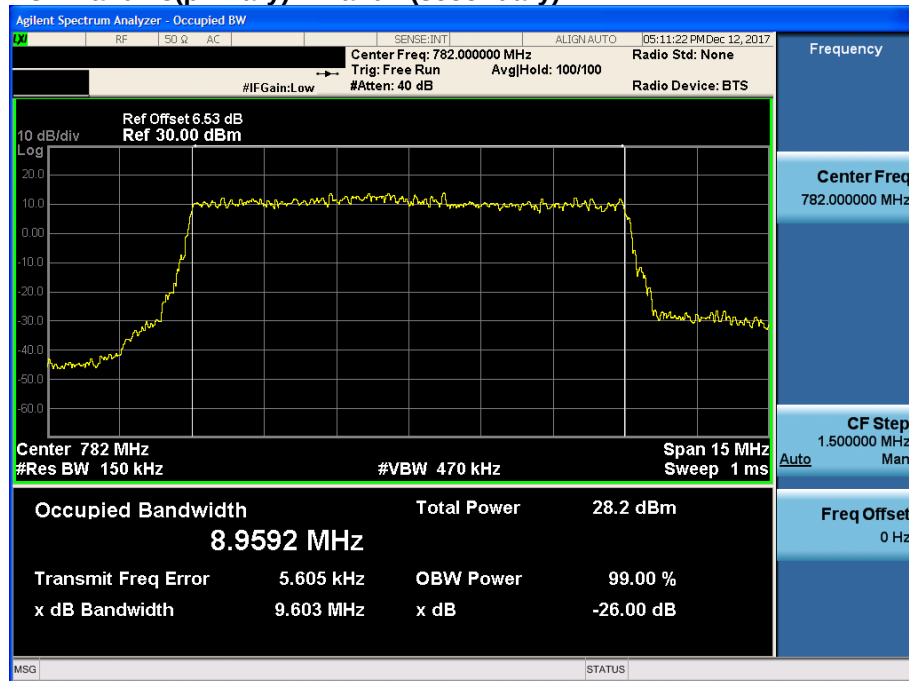


LTE CA B2+B13 / 30(20+10) / 20 MHz / 16QAM - RB Size 100

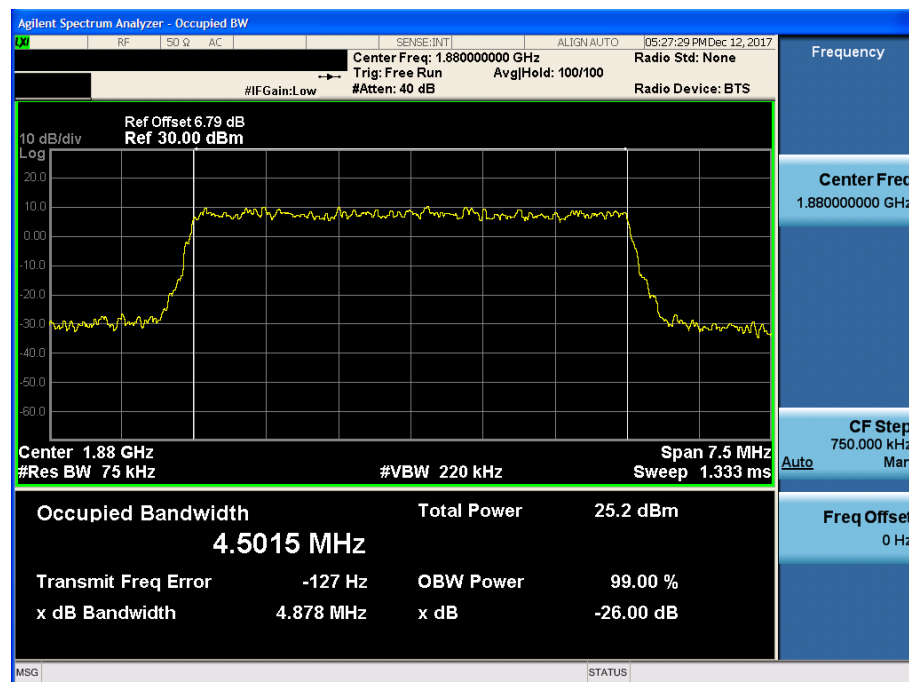


LTE CA B2+B13 / 30(20+10) / 10 MHz / 16QAM - RB Size 50

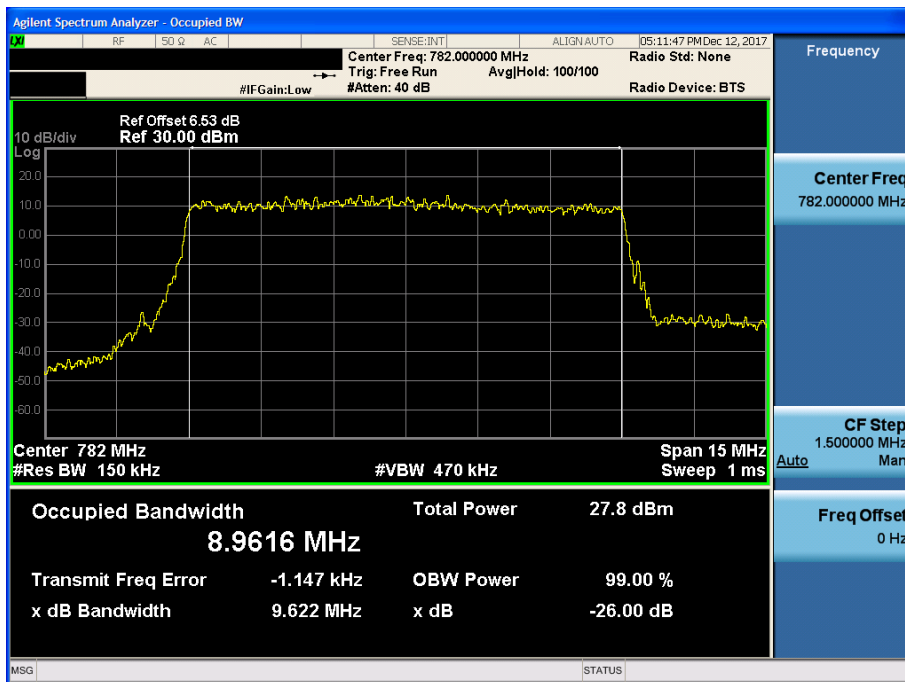
CA Band 13(primary) + Band 2(secondary)



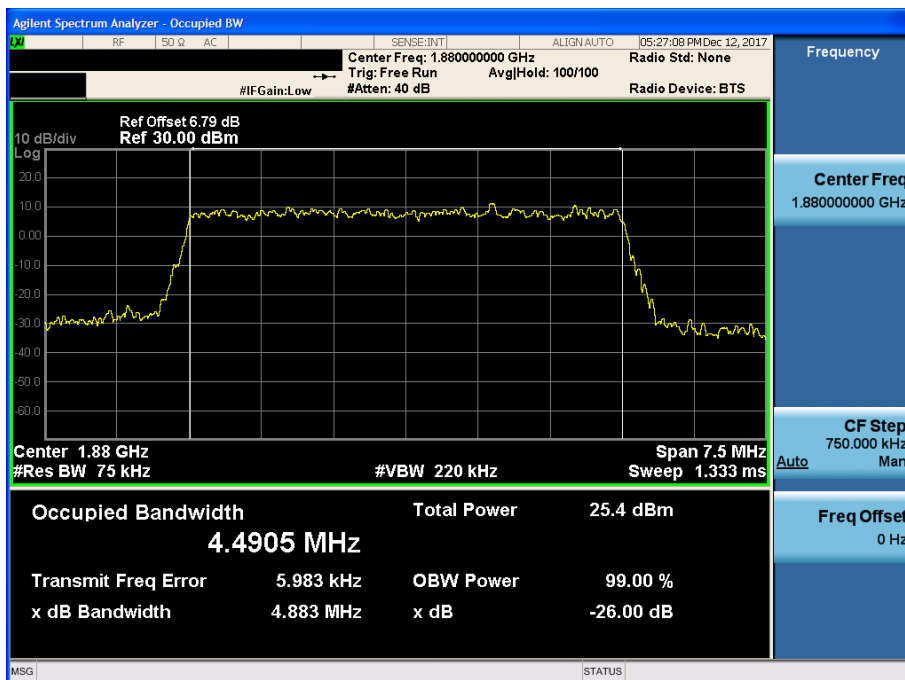
LTE CA B13+B2 / 15(10+5) / 10 MHz / QPSK - RB Size 50



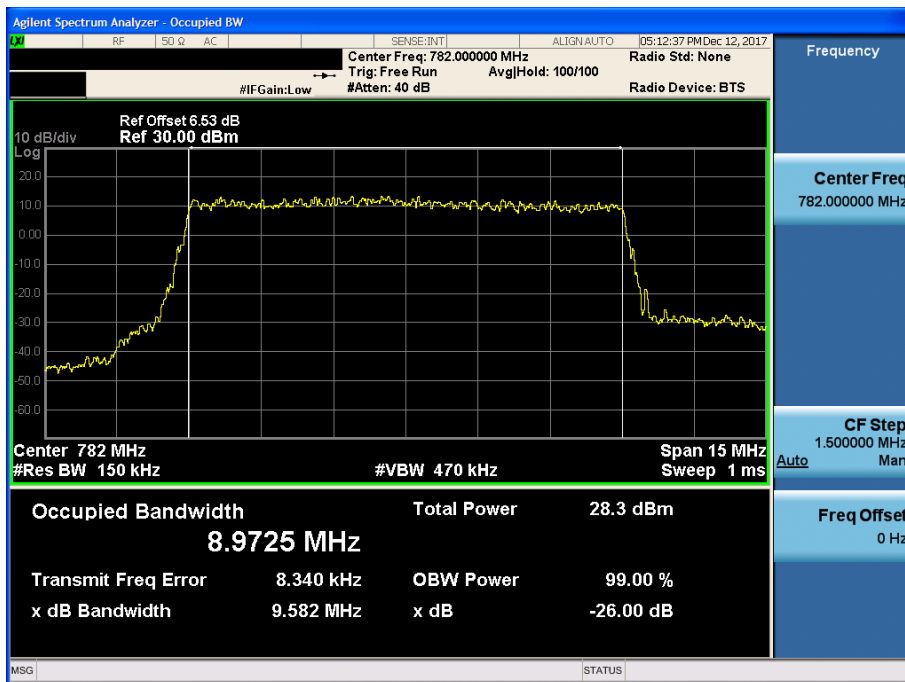
LTE CA B13+B2 / 15(10+5) / 5 MHz / QPSK - RB Size 25



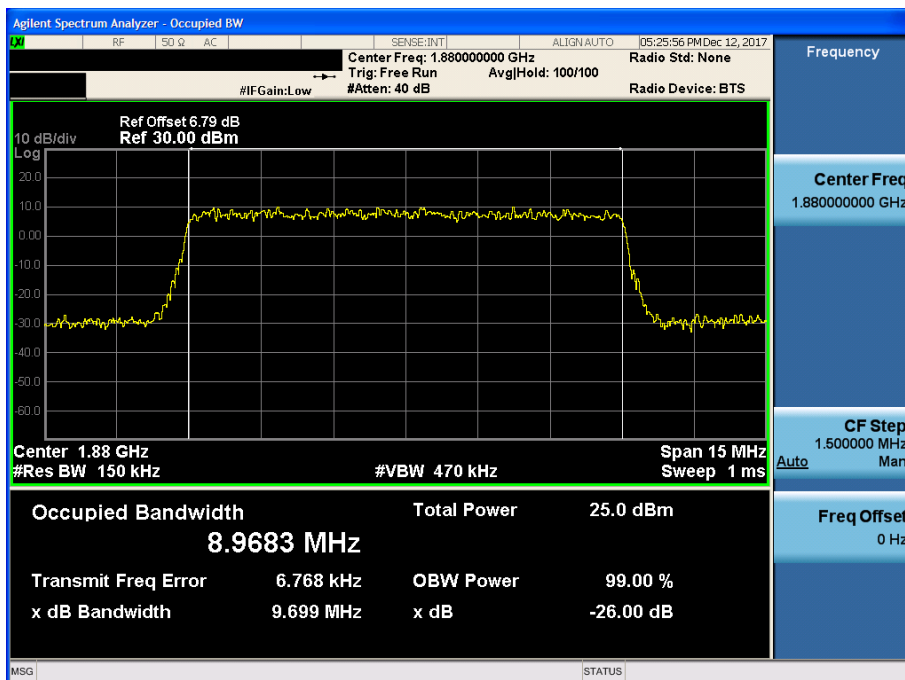
LTE CA B13+B2 / 15(10+5) / 10 MHz / 16QAM - RB Size 50



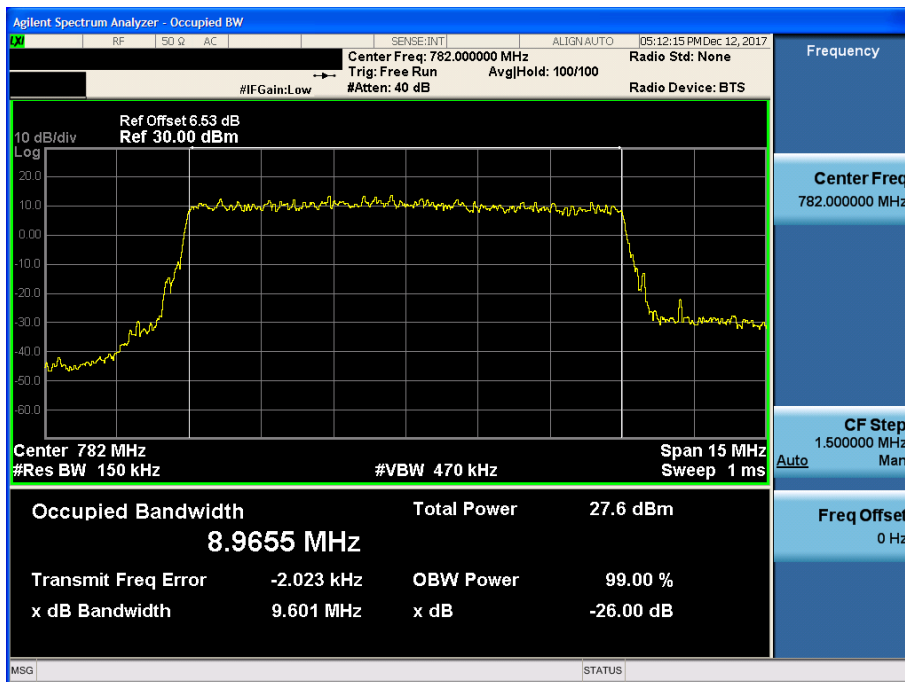
LTE CA B13+B2 / 15(10+5) / 5 MHz / 16QAM - RB Size 25



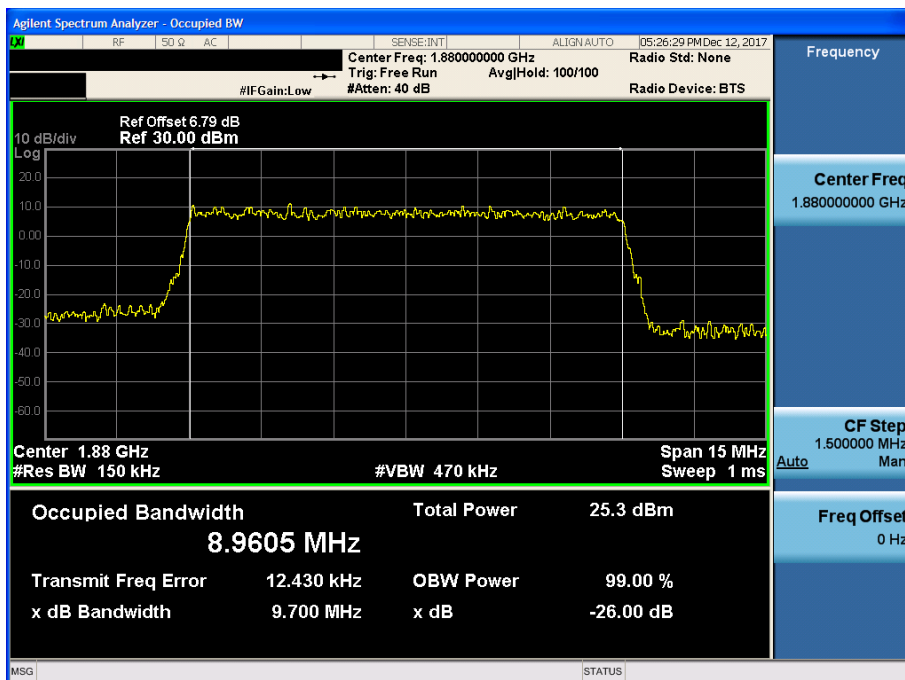
LTE CA B13+B2 / 20(10+10) / 10 MHz / QPSK - RB Size 50



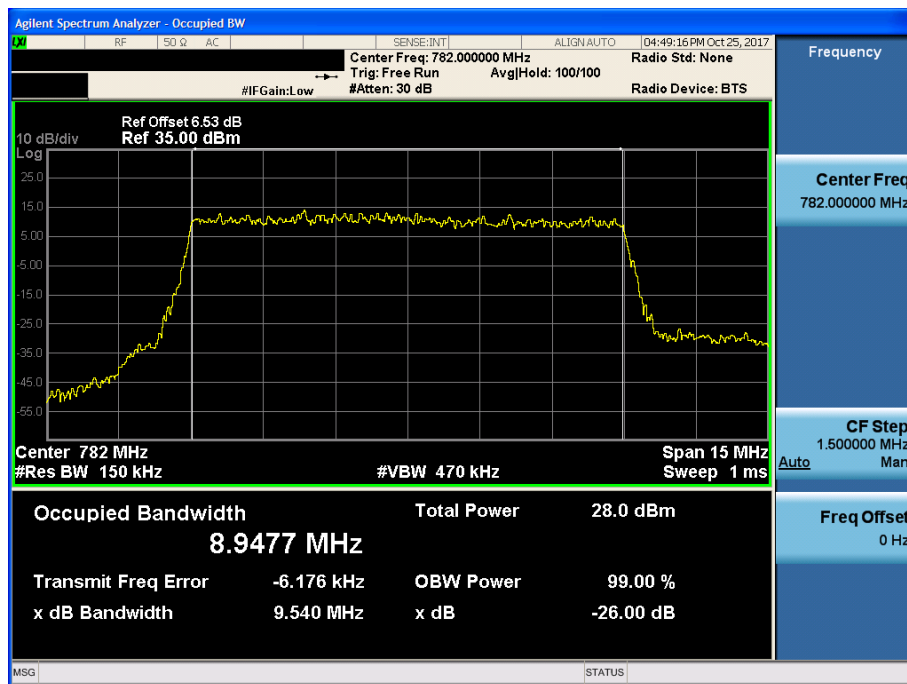
LTE CA B13+B2 / 20(10+10) / 10 MHz / QPSK - RB Size 50



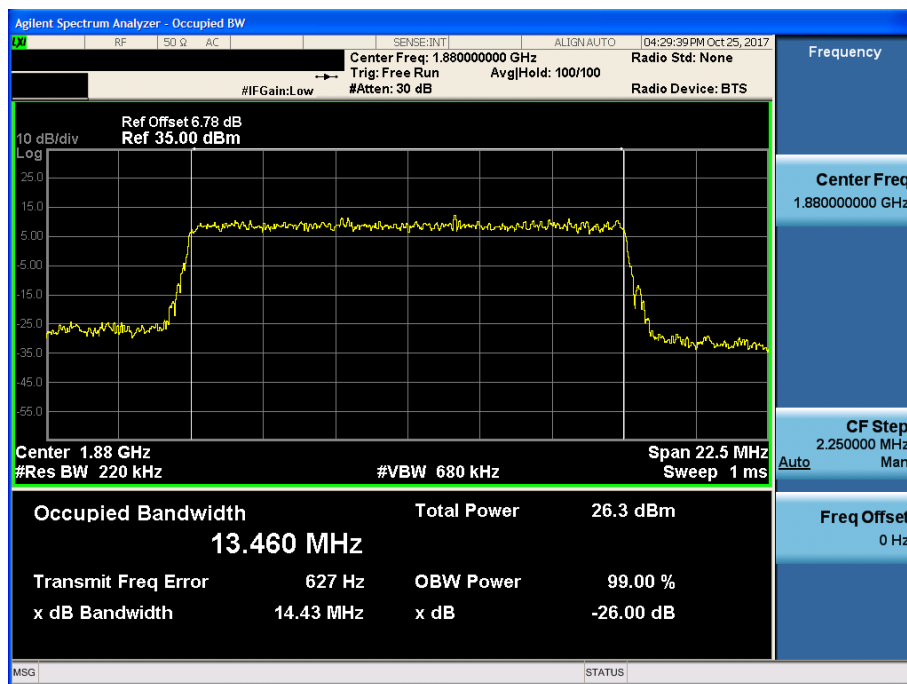
LTE CA B13+B2 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



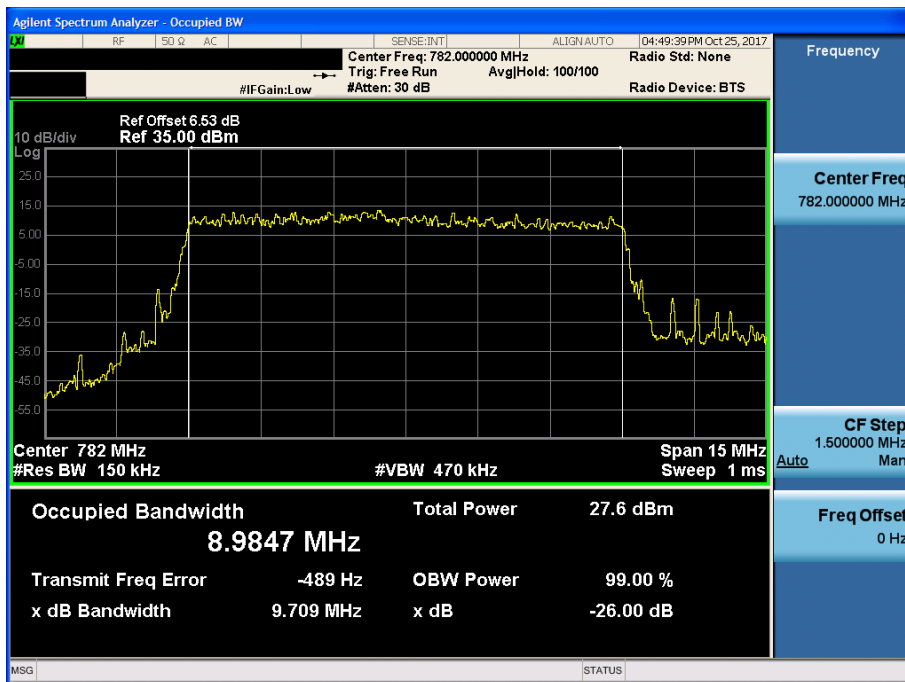
LTE CA B13+B2 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



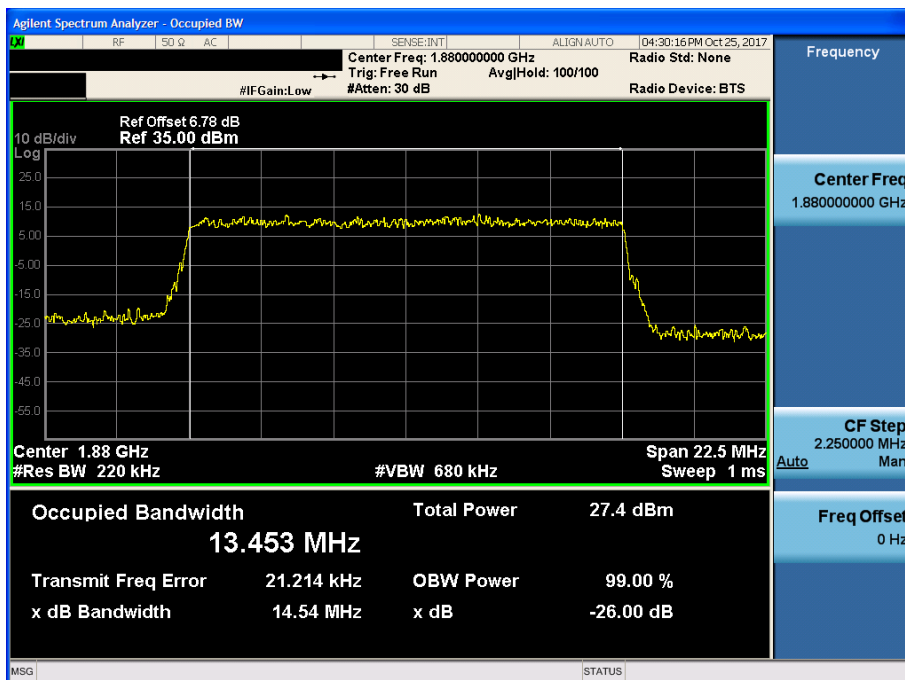
LTE CA B13+B2 / 25(10+15) / 10 MHz / QPSK - RB Size 50



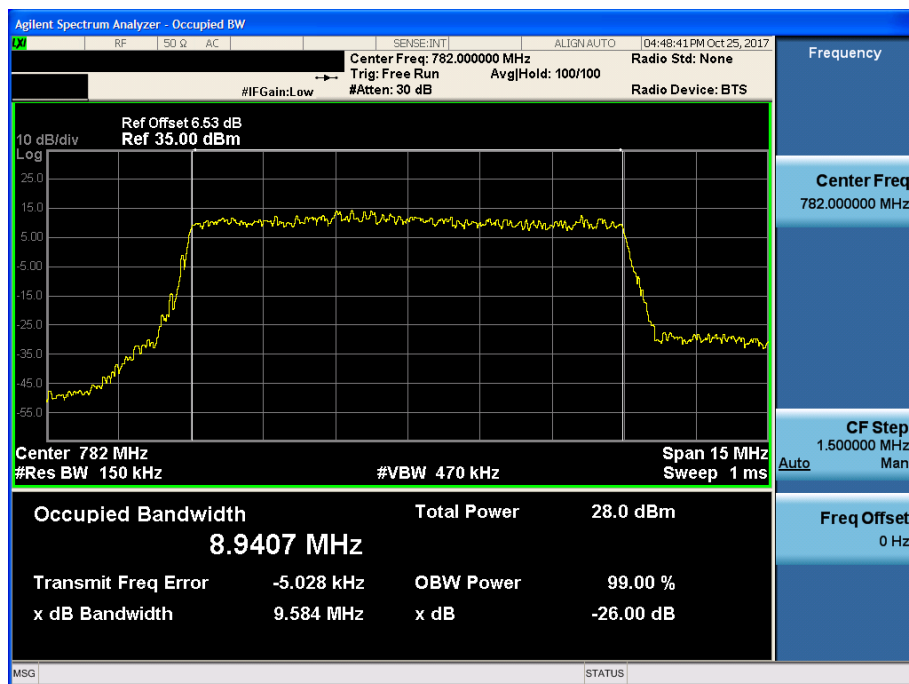
LTE CA B13+B2 / 25(10+15) / 15 MHz / QPSK - RB Size 75



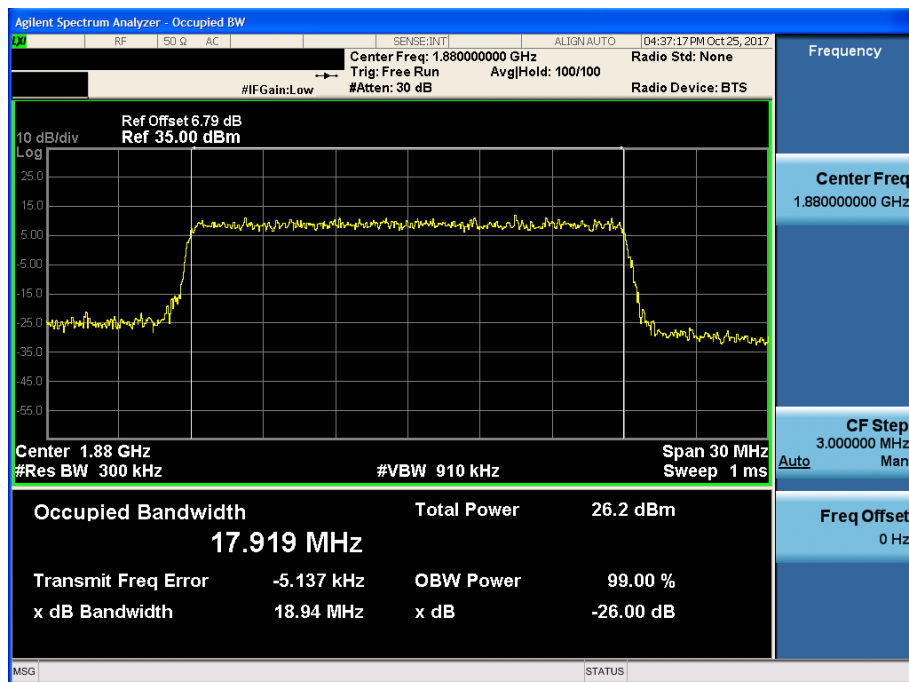
LTE CA B13+B2 / 25(10+15) / 10 MHz / 16QAM - RB Size 50



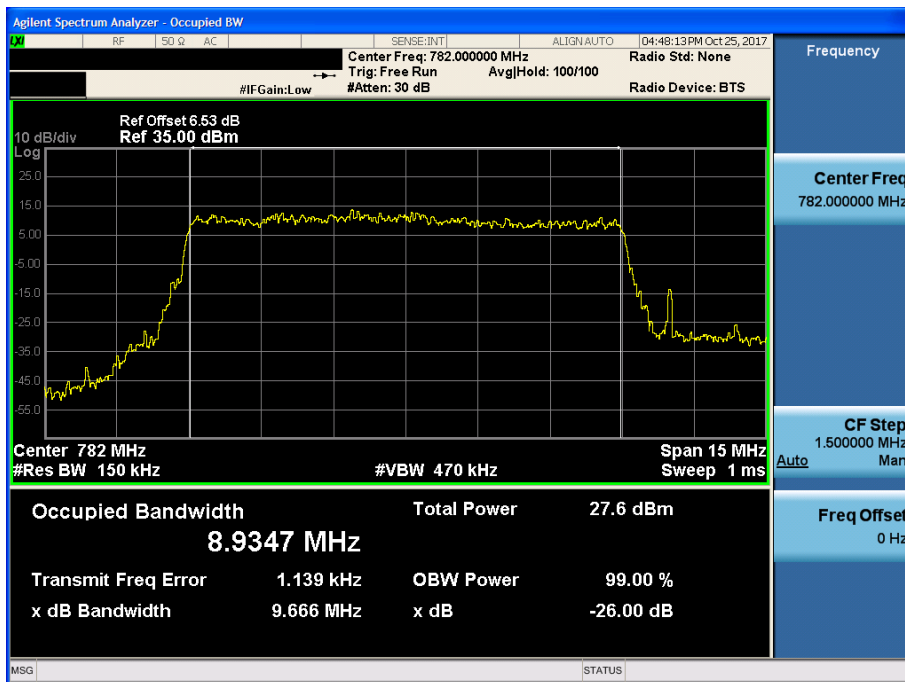
LTE CA B13+B2 / 25(10+15) / 15 MHz / 16QAM - RB Size 75



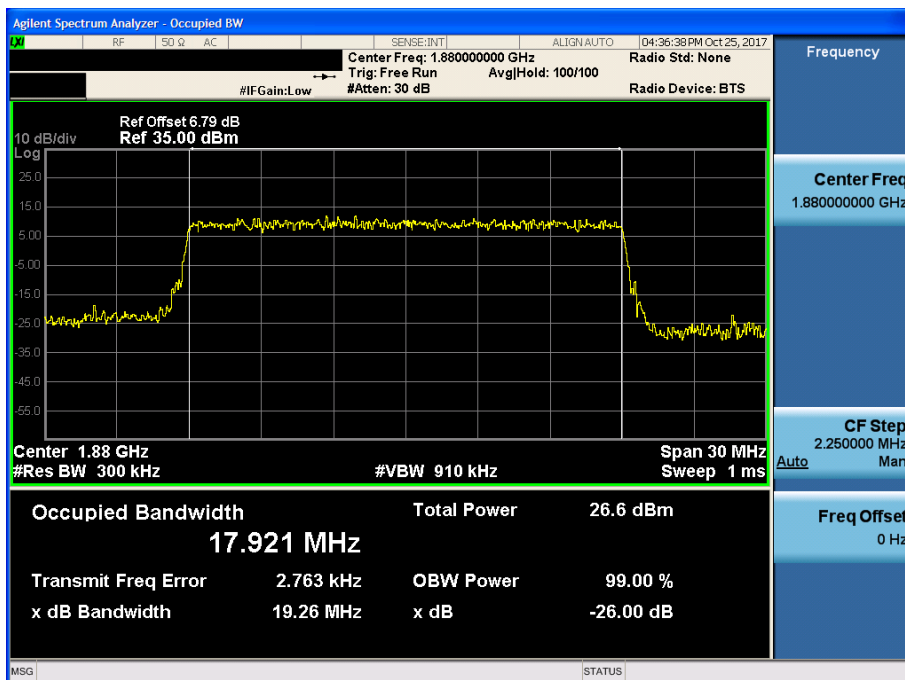
LTE CA B13+B2 / 30(10+20) / 10 MHz / QPSK - RB Size 50



LTE CA B13+B2 / 30(10+20) / 20 MHz / QPSK - RB Size 100



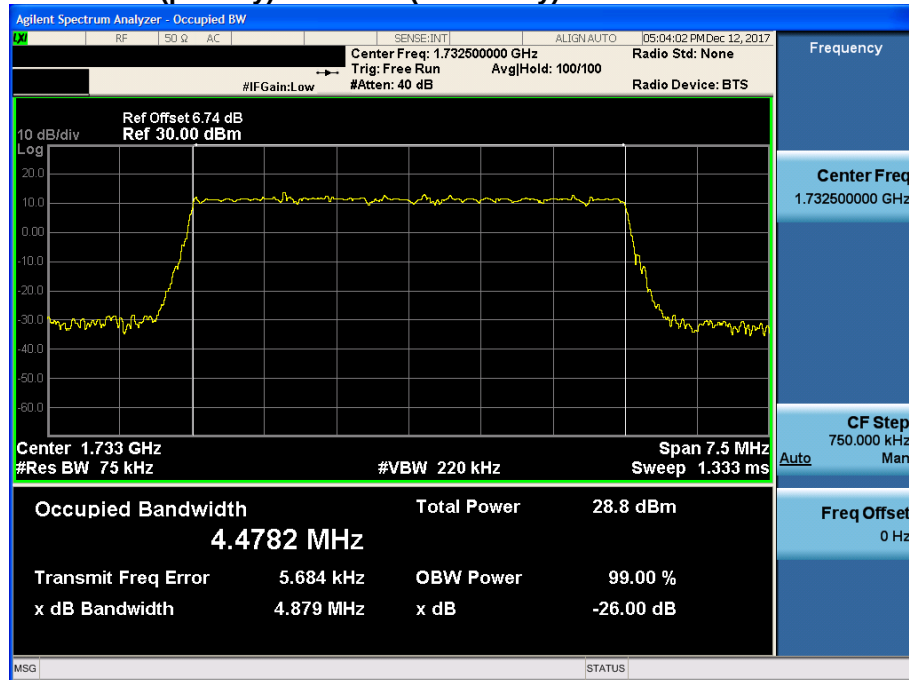
LTE CA B13+B2 / 30(10+20) / 10 MHz / 16QAM - RB Size 50



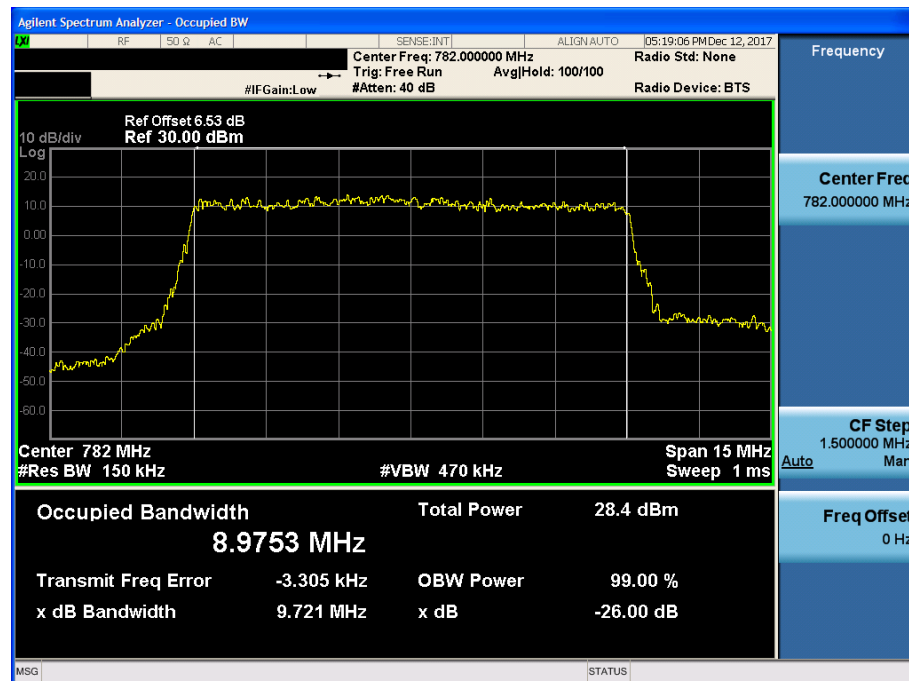
LTE CA B13+B2 / 30(10+20) / 20 MHz / 16QAM - RB Size 100

8.1.6 LTE CA Band 4+ Band 13

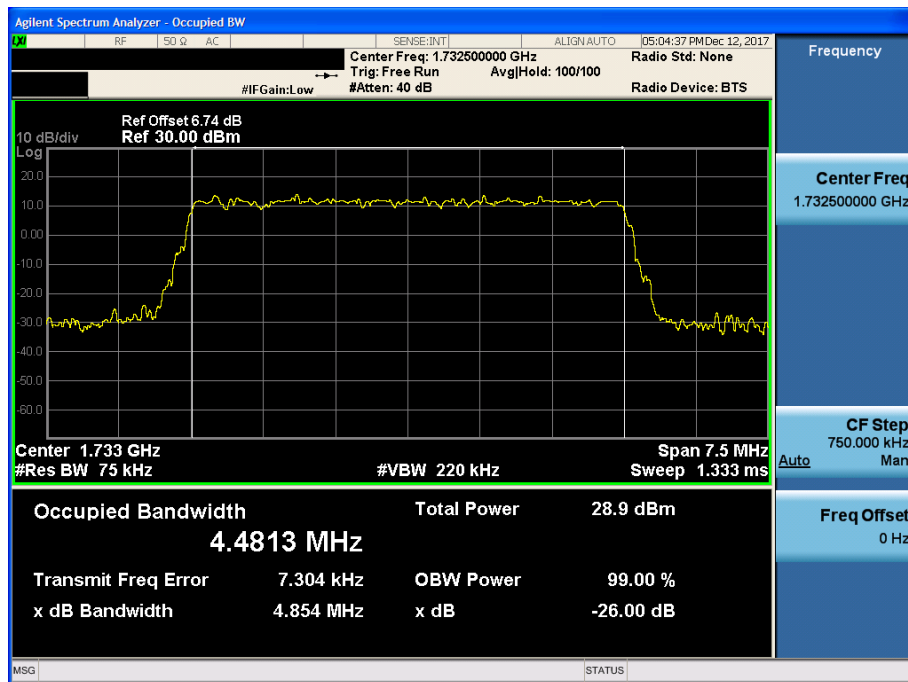
CA Band 4(primary) + Band 13(secondary)



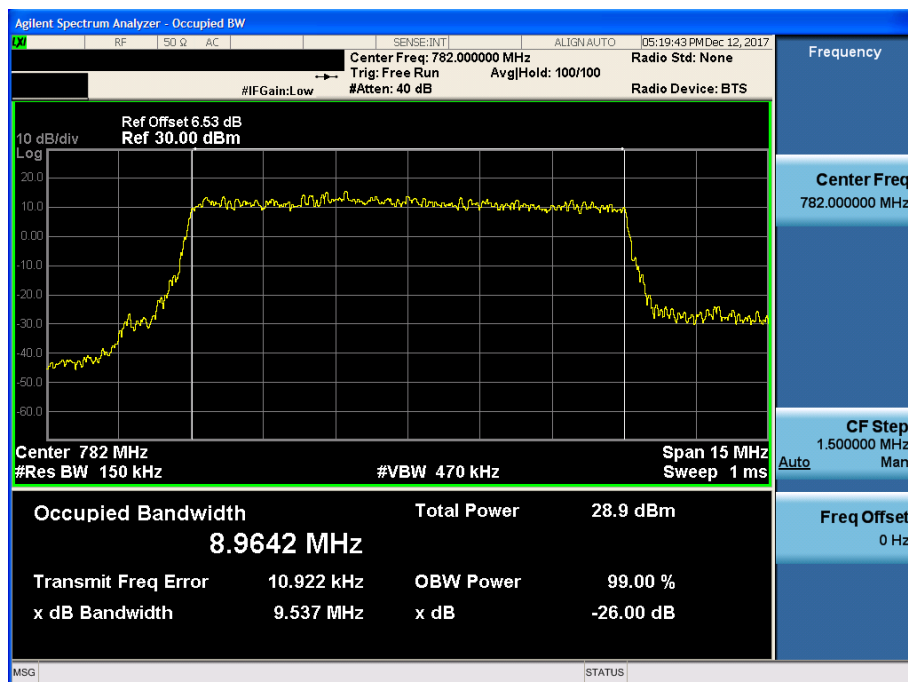
LTE CA B4+B13 / 15(5+10) / 5 MHz / QPSK - RB Size 25



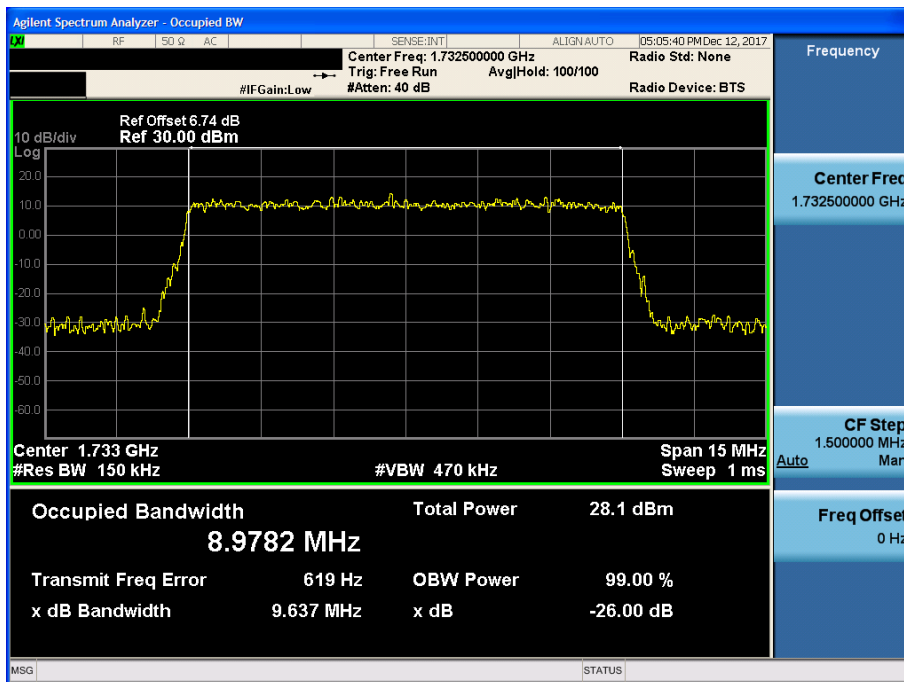
LTE CA B4+B13 / 15(5+10) / 10 MHz / QPSK - RB Size 50



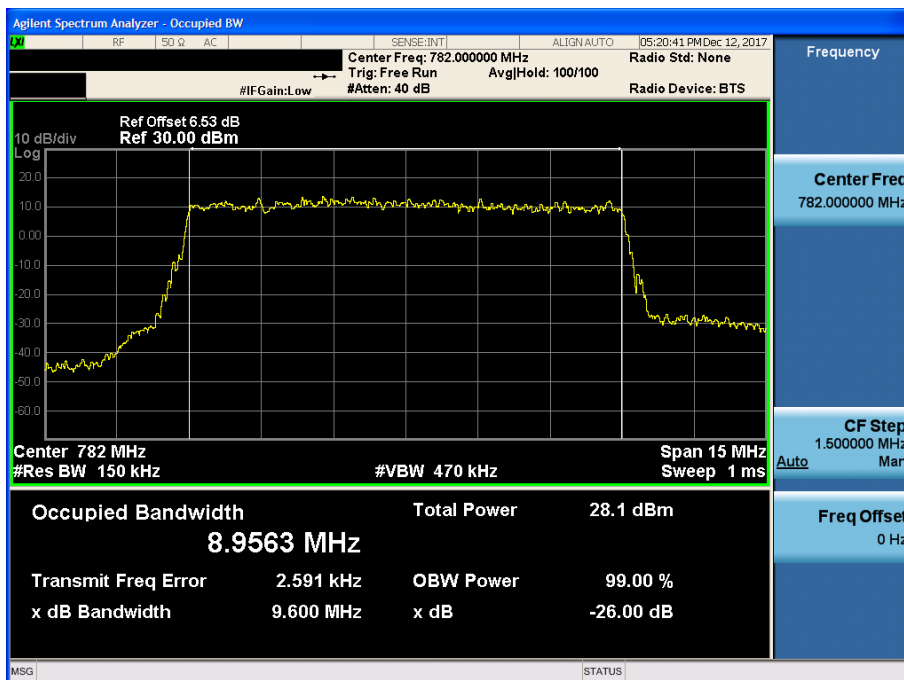
LTE CA B4+B13 / 15(5+10) / 5 MHz / 16QAM - RB Size 25



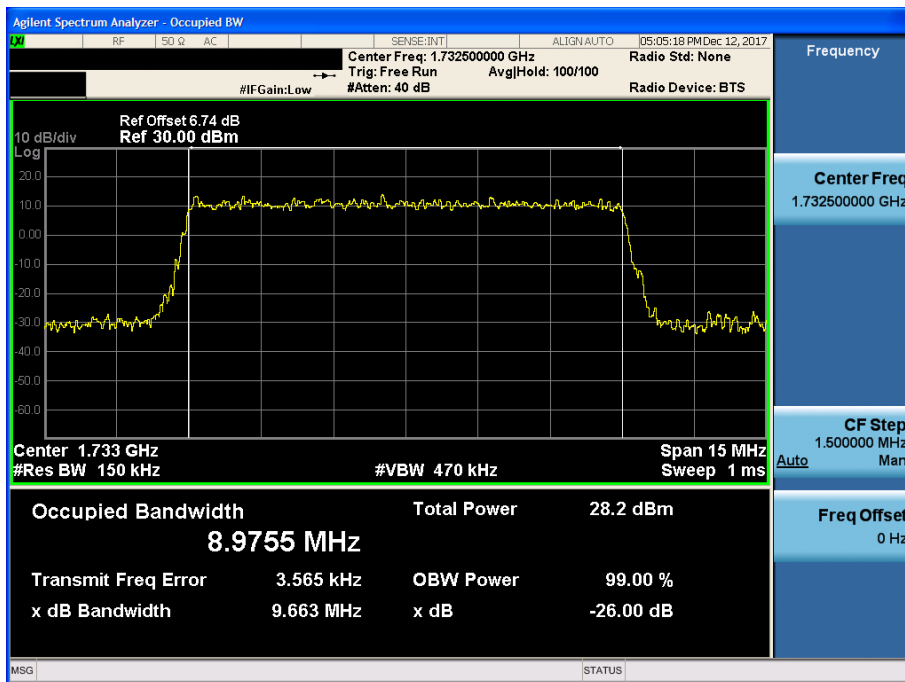
LTE CA B4+B13 / 15(5+10) / 10 MHz / 16QAM - RB Size 50



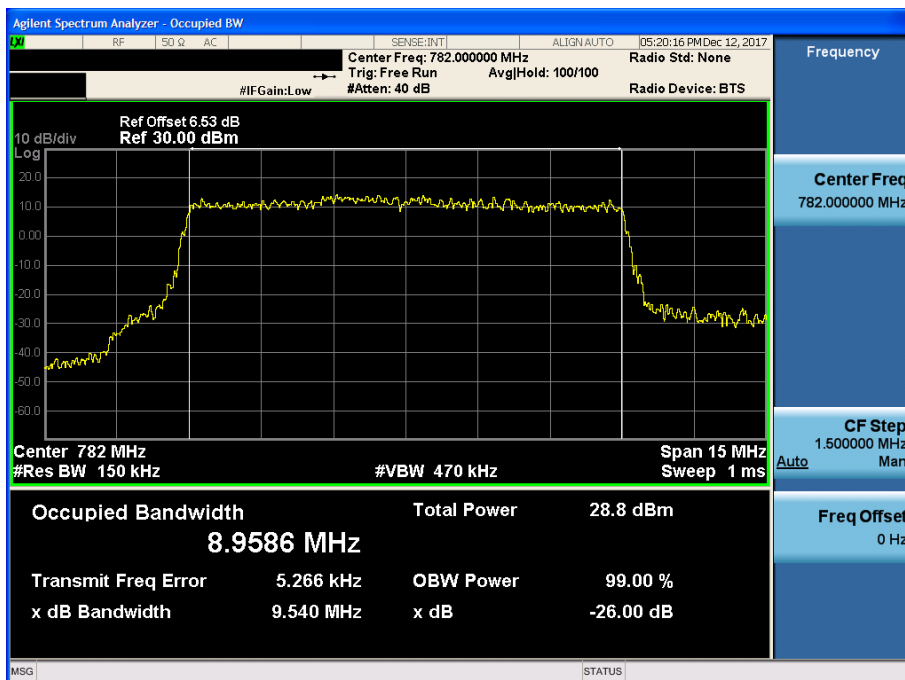
LTE CA B4+B13 / 20(10+10) / 10 MHz / QPSK - RB Size 50



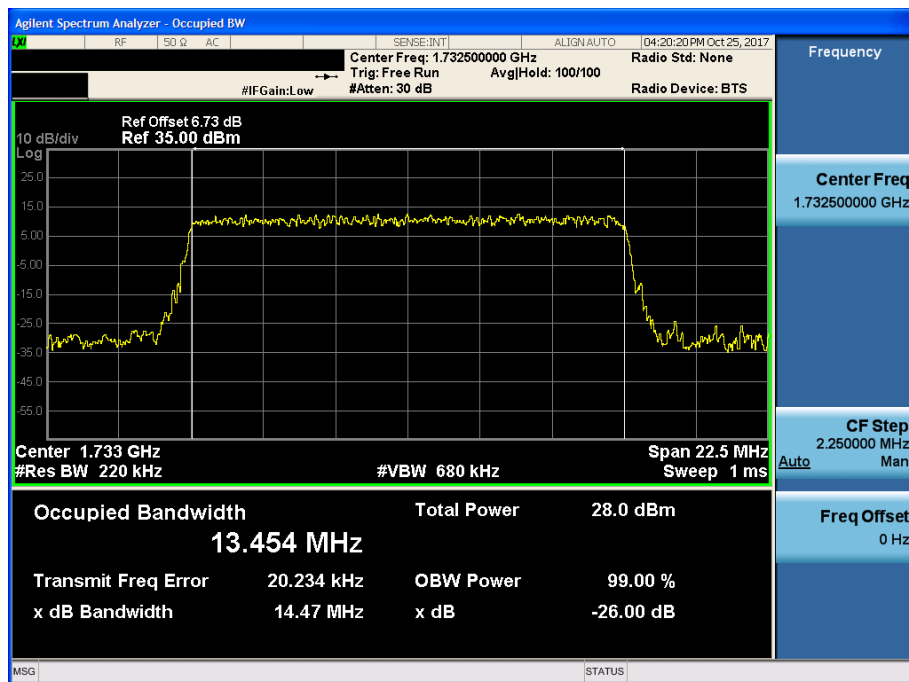
LTE CA B4+B13 / 20(10+10) / 10 MHz / QPSK - RB Size 50



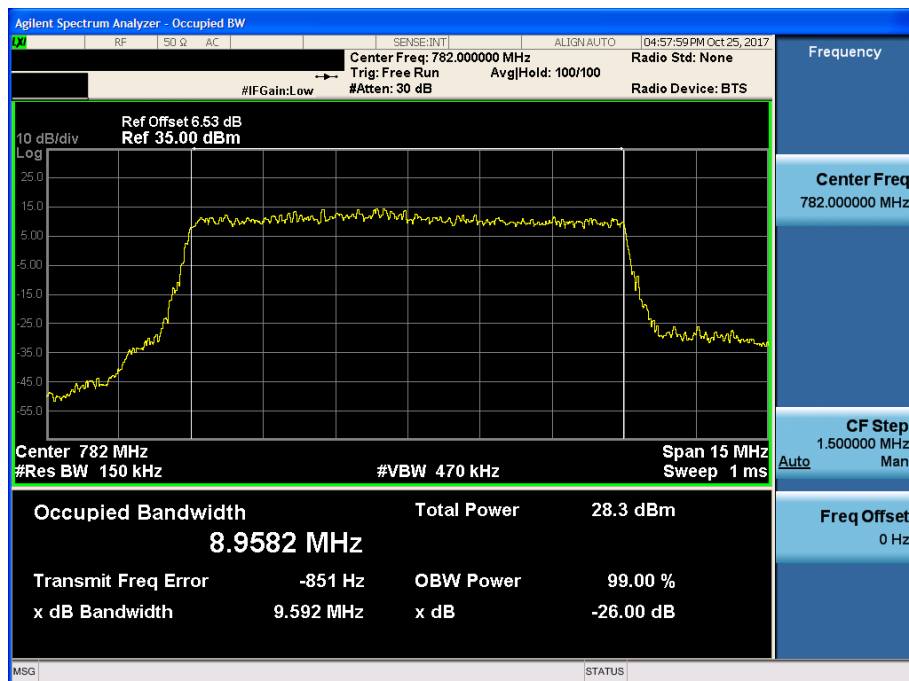
LTE CA B4+B13 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



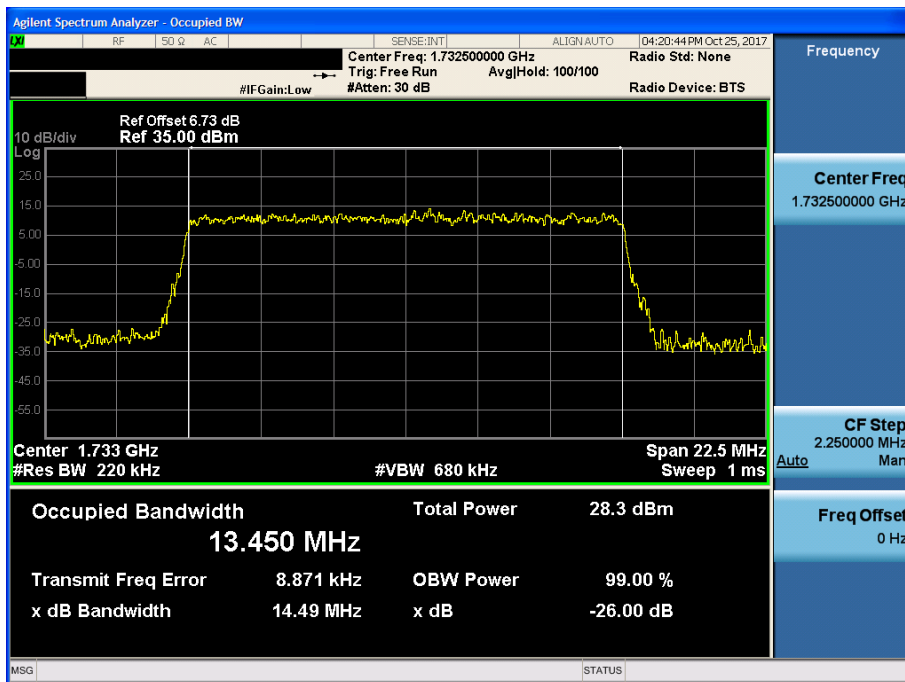
LTE CA B4+B13 / 20(10+10) / 10 MHz / 16QAM - RB Size 50



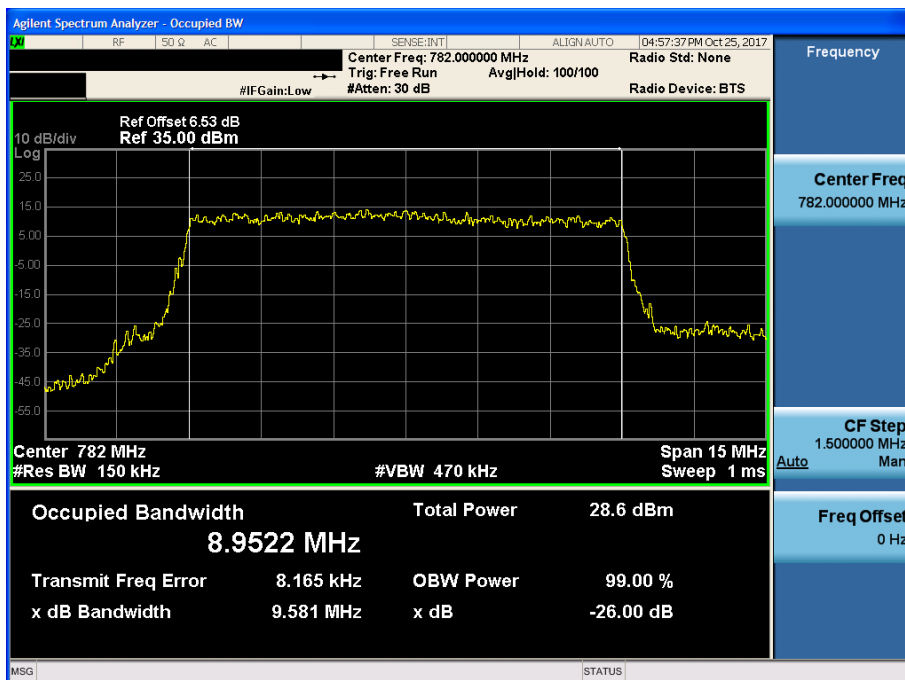
LTE CA B4+B13 / 25(15+10) / 15 MHz / QPSK - RB Size 75



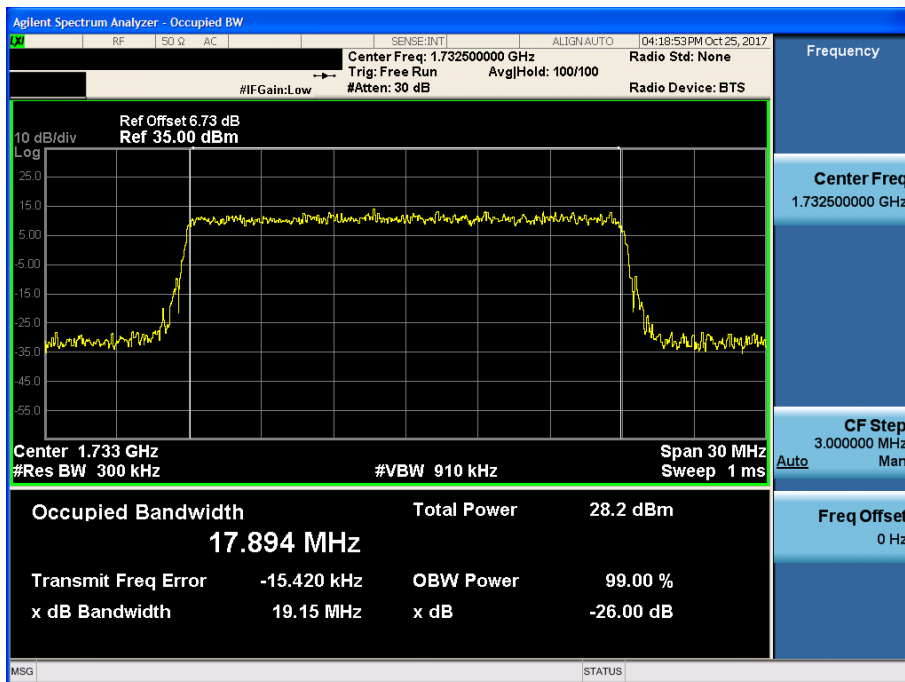
LTE CA B4+B13 / 25(15+10) / 10 MHz / QPSK - RB Size 50



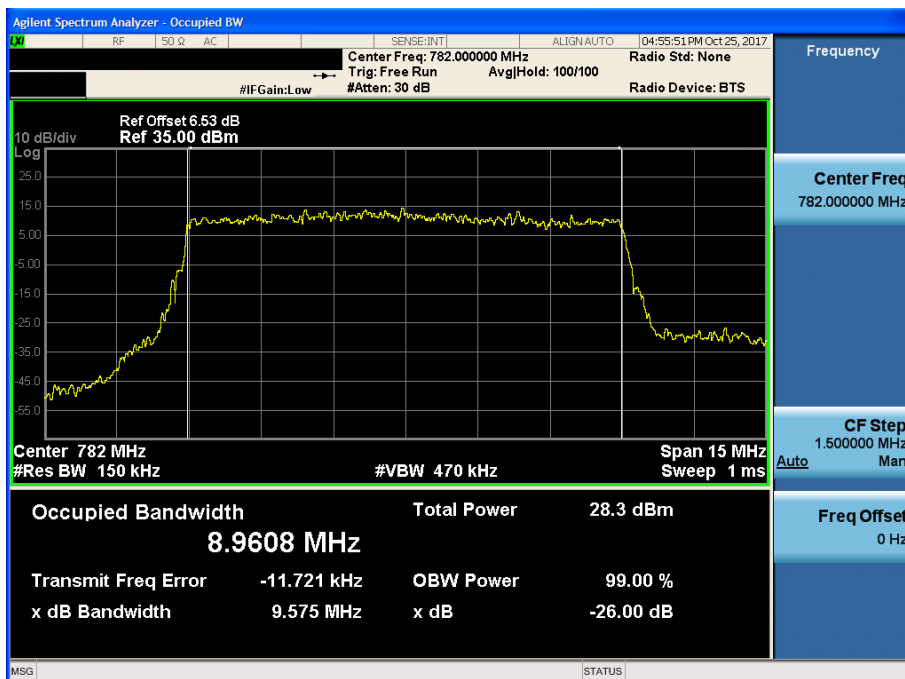
LTE CA B4+B13 / 25(15+10) / 15 MHz / 16QAM - RB Size 75



LTE CA B4+B13 / 25(15+10) / 10 MHz / 16QAM - RB Size 50



LTE CA B4+B13 / 30(20+10) / 20 MHz / QPSK - RB Size 100



LTE CA B4+B13 / 30(20+10) / 10 MHz / QPSK - RB Size 50