

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only.

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

MODES TESTED

- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 14
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 66
- LTE Band 71

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

LTE BAND 2

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 2	1.4 MHz, QPSK	6/0	1880.0	1.0898	1.245
	1.4 MHz,16QAM			1.0935	1.246
	1.4 MHz,64QAM			1.0932	1.248
	3 MHz, QPSK	15/0		2.7067	2.991
	3 MHz, 16QAM			2.7142	2.992
	3 MHz, 64QAM			2.7101	2.989
	5 MHz, QPSK	25/0		4.5011	4.929
	5 MHz, 16QAM			4.4998	4.930
	5 MHz, 64QAM			4.4979	4.924
	10 MHz, QPSK	50/0		9.0195	10.44
	10 MHz, 16QAM			9.0022	10.38
	10 MHz, 64QAM			8.9918	10.44
	15 MHz, QPSK	75/0		13.486	15.80
	15 MHz, 16QAM			13.495	15.39
	15 MHz, 64QAM			13.486	15.75
	20 MHz, QPSK	100/0		17.948	19.72
	20 MHz, 16QAM			17.950	19.77
	20 MHz, 64QAM			17.947	19.69

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 5	1.4 MHz, QPSK	6/0	836.5	1.0912	1.246
	1.4 MHz, 16QAM			1.0913	1.244
	1.4 MHz, 64QAM			1.0941	1.247
	3 MHz, QPSK	15/0		2.7046	2.971
	3 MHz, 16QAM			2.7095	2.990
	3 MHz, 64QAM			2.7117	2.989
	5 MHz, QPSK	25/0		4.4939	4.939
	5 MHz, 16QAM			4.5025	4.945
	5 MHz, 64QAM			4.5069	4.924
	10 MHz, QPSK	50/0		9.0010	10.43
	10 MHz, 16QAM			8.9994	10.43
	10 MHz, 64QAM			9.0057	10.40

LTE BAND 7

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 7	5 MHz, QPSK	25/0	2535.0	4.5022	4.924
	5 MHz, 16QAM			4.5052	4.935
	5 MHz, 64QAM			4.5033	4.944
	10 MHz, QPSK	50/0		9.0159	10.37
	10 MHz, 16QAM			9.0316	10.44
	10 MHz, 64QAM			9.0246	10.44
	15 MHz, QPSK	75/0		13.497	15.50
	15 MHz, 16QAM			13.502	15.59
	15 MHz, 64QAM			13.477	15.37
	20 MHz, QPSK	100/0		18.006	19.93
	20 MHz, 16QAM			17.940	20.45
	20 MHz, 64QAM			17.945	19.80

LTE BAND 12

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 12	1.4 MHz, QPSK	6/0	707.5	1.0924	1.253
	1.4 MHz, 16QAM			1.0913	1.247
	1.4 MHz, 64QAM			1.0953	1.242
	3 MHz, QPSK	15/0		2.7081	2.984
	3 MHz, 16QAM			2.7048	2.992
	3 MHz, 64QAM			2.7065	2.995
	5 MHz, QPSK	25/0		4.4931	4.913
	5 MHz, 16QAM			4.5071	4.937
	5 MHz, 64QAM			4.4982	4.941
	10 MHz, QPSK	50/0		9.0185	10.46
	10 MHz, 16QAM			9.0224	10.39
	10 MHz, 64QAM			9.0118	10.44

LTE BAND 13

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 13	5 MHz, QPSK	25/0	782.0	4.4976	4.926
	5 MHz, 16QAM			4.4972	4.947
	5 MHz, 64QAM			4.4956	4.914
	10 MHz, QPSK	50/0		8.9959	10.35
	10 MHz, 16QAM			9.0194	10.31
	10 MHz, 64QAM			8.9868	10.35

LTE BAND 14

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 14	5 MHz, QPSK	25/0	793	4.5174	4.956
	5 MHz, 16QAM			4.5005	4.935
	5 MHz, 64QAM			4.5467	5.001
	10 MHz, QPSK	50/0		9.0128	10.39
	10 MHz, 16QAM			9.0213	10.45
	10 MHz, 64QAM			8.9933	10.366

LTE BAND 17

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 17	5 MHz, QPSK	25/0	710.0	4.5010	4.935
	5 MHz, 16QAM			4.5065	4.898
	5 MHz, 64QAM			4.5026	4.928
	10 MHz, QPSK	50/0		9.0142	10.49
	10 MHz, 16QAM			8.9890	10.41
	10 MHz, 64QAM			9.0172	10.36

LTE BAND 25

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 25	1.4 MHz, QPSK	6/0	1882.5	1.0915	1.244
	1.4 MHz, 16QAM			1.0902	1.248
	1.4 MHz, 64QAM			1.0911	1.252
	3 MHz, QPSK	15/0		2.7081	2.989
	3 MHz, 16QAM			2.7091	2.989
	3 MHz, 64QAM			2.7106	2.996
	5 MHz, QPSK	25/0		4.4965	4.923
	5 MHz, 16QAM			4.5099	4.934
	5 MHz, 64QAM			4.4899	4.920
	10 MHz, QPSK	50/0		9.0009	10.34
	10 MHz, 16QAM			9.0194	10.49
	10 MHz, 64QAM			9.0100	10.50
	15 MHz, QPSK	75/0		13.492	15.49
	15 MHz, 16QAM			13.493	15.60
	15 MHz, 64QAM			13.488	15.43
	20 MHz, QPSK	100/0		17.974	19.86
	20 MHz, 16QAM			17.965	19.83
	20 MHz, 64QAM			17.964	19.80

LTE BAND 26 (PART 90S)

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	1.4 MHz, QPSK	1/0	819.0	0.24583	0.3525
	1.4 MHz,16QAM			0.26561	0.3649
	1.4 MHz,64QAM			0.26904	0.3785
	1.4 MHz, QPSK	6/0		1.0950	1.248
	1.4 MHz,16QAM			1.0952	1.249
	1.4 MHz, 64QAM			1.0887	1.246
	3 MHz, QPSK	1/0		0.24579	0.3786
	3 MHz, 16QAM			0.26825	0.3908
	3 MHz,64QAM			0.27292	0.3817
	3 MHz, QPSK	15/0		2.7075	2.994
	3 MHz, 16QAM			2.7056	2.985
	3 MHz, 64QAM			2.7060	2.985
	5 MHz, QPSK	1/0		0.23250	0.3982
	5 MHz, 16QAM			0.23017	0.3930
	5 MHz,64QAM			0.24434	0.4137
	5 MHz, QPSK	25/0		4.4954	4.933
	5 MHz, 16QAM			4.5000	4.926
	5 MHz, 64QAM			4.5149	4.999
	10 MHz, QPSK	1/0		0.26728	0.3799
	10 MHz, 16QAM			0.28213	0.4622
	10 MHz,64QAM			0.28320	0.4047
	10 MHz, QPSK	50/0		8.9967	10.49
	10 MHz, 16QAM			9.0087	10.45
	10 MHz, 64QAM			8.9800	10.354

LTE BAND 30

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 30	5 MHz, QPSK	25/0	2310.0	4.4978	4.921
	5 MHz, 16QAM			4.4979	4.932
	5 MHz, 64QAM			4.5076	4.936
	10 MHz, QPSK	50/0		9.0062	10.39
	10 MHz, 16QAM			9.0196	10.35
	10 MHz, 64QAM			9.0198	10.43

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 41	5 MHz, QPSK	25/0	2593.0	4.4850	5.067
	5 MHz, 16QAM			4.4855	5.008
	5 MHz, 64QAM			4.4994	5.360
	10 MHz, QPSK	50/0		8.9920	10.53
	10 MHz, 16QAM			9.0067	10.45
	10 MHz, 64QAM			9.0021	10.14
	15 MHz, QPSK	75/0		13.440	15.41
	15 MHz, 16QAM			13.465	15.36
	15 MHz, 64QAM			13.453	15.70
	20 MHz, QPSK	100/0		17.977	19.99
	20 MHz, 16QAM			17.942	20.43
	20 MHz, 64QAM			17.927	19.88

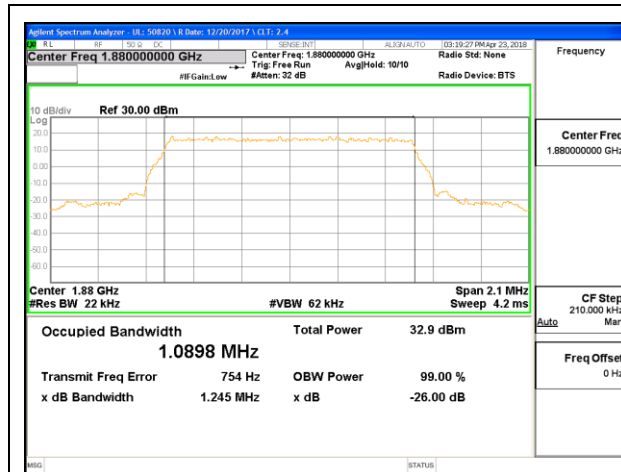
LTE BAND 66

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 66	1.4 MHz, QPSK	6/0	1745	1.0914	1.247
	1.4 MHz,16QAM			1.0928	1.245
	1.4MHz 64QAM			1.0910	1.233
	3 MHz, QPSK	15/0		2.7025	2.982
	3 MHz, 16QAM			2.7045	2.983
	3MHz 64QAM			2.7042	3.011
	5 MHz, QPSK	25/0		4.4906	4.918
	5 MHz, 16QAM			4.4985	4.930
	5MHz 64QAM			4.4986	4.906
	10 MHz, QPSK	50/0		9.0031	10.38
	10 MHz, 16QAM			9.0147	10.55
	10MHz 64QAM			9.0055	10.32
	15 MHz, QPSK	75/0		13.463	15.35
	15 MHz, 16QAM			13.471	15.32
	15MHz 64QAM			13.464	15.37
	20 MHz, QPSK	100/0		17.942	19.93
	20 MHz, 16QAM			17.957	19.78
	20MHz 64QAM			17.954	19.61

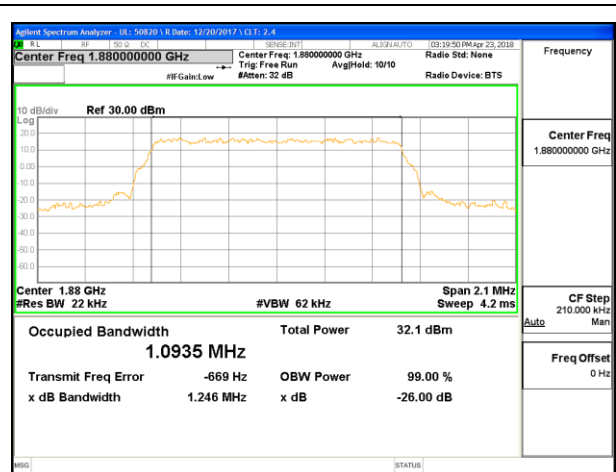
LTE BAND 71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 71	5 MHz, QPSK	25/0	680.5	4.4963	4.943
	5 MHz, 16QAM			4.4926	4.944
	5 MHz, 64QAM			4.5030	4.923
	10 MHz, QPSK	50/0		9.0013	10.43
	10 MHz, 16QAM			9.0092	10.38
	10 MHz, 64QAM			9.0153	10.46
	15 MHz, QPSK	75/0		13.463	15.43
	15 MHz, 16QAM			13.494	15.86
	15 MHz, 64QAM			13.500	15.29
	20 MHz, QPSK	100/0		17.899	19.86
	20 MHz, 16QAM			17.925	20.01
	20 MHz, 16QAM			17.929	20.01

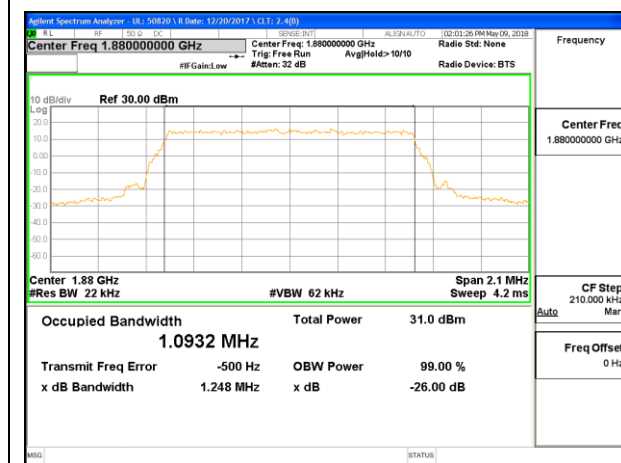
8.1.1. LTE BAND 2



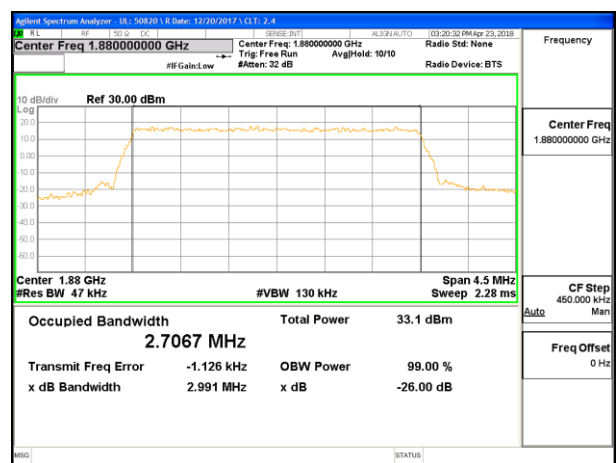
LTE B2 1.4MHz QPSK Middle Channel RB6-0



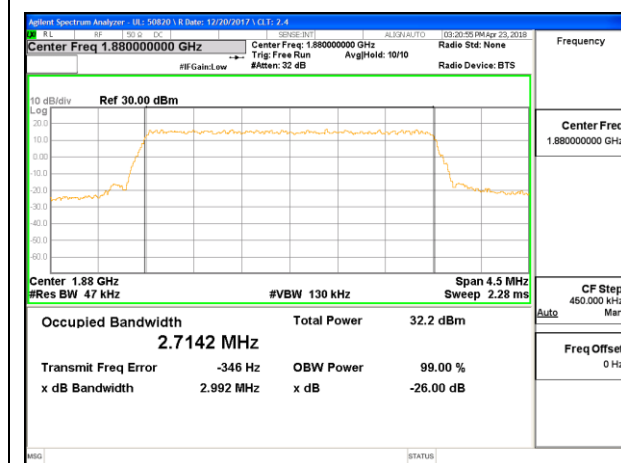
LTE B2 1.4MHz 16QAM Middle Channel RB6-0



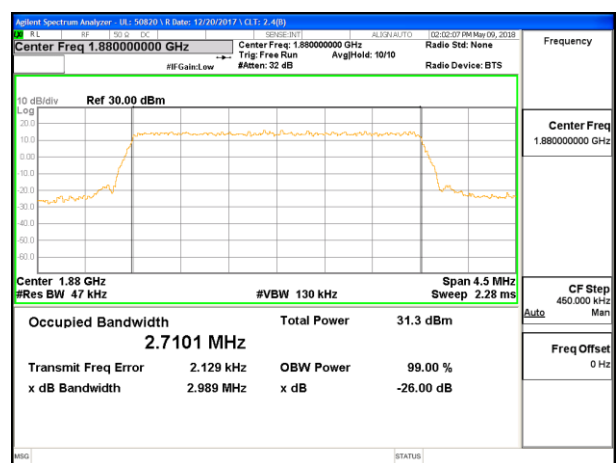
LTE B2 1.4MHz 64QAM Middle Channel RB6-0



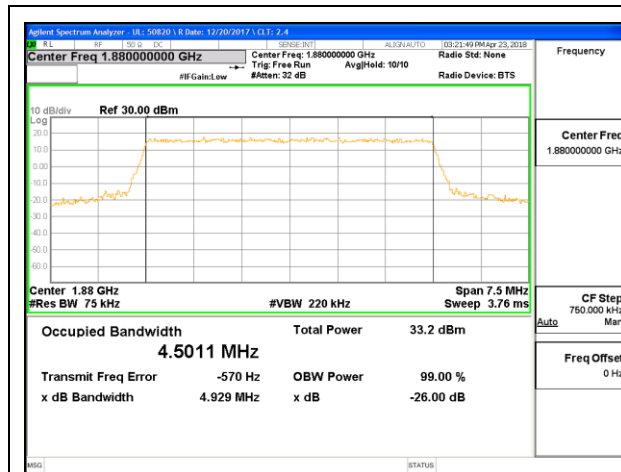
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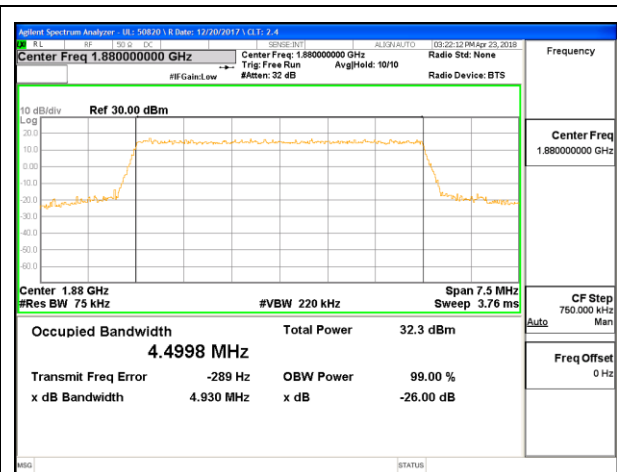
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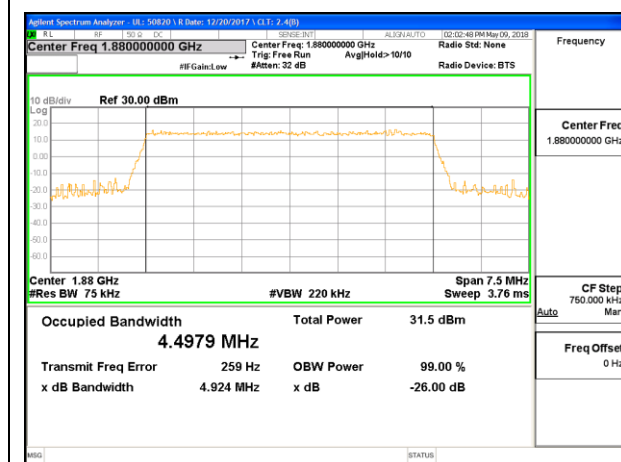
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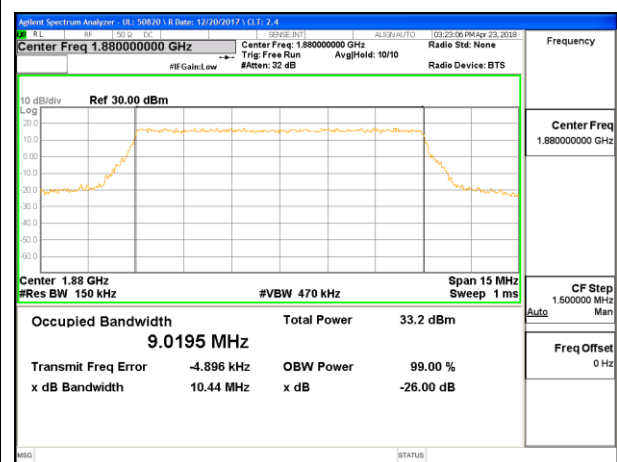
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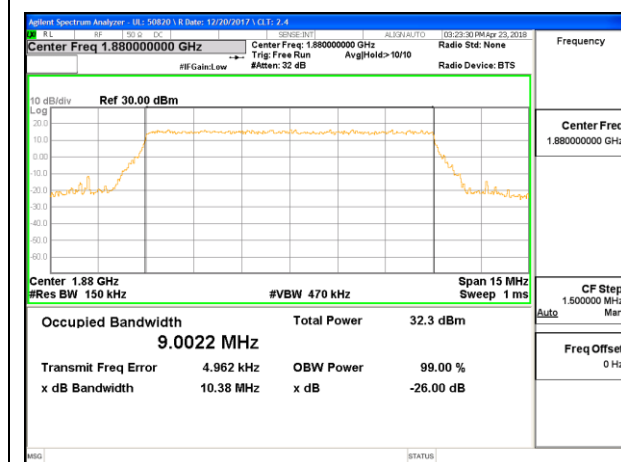
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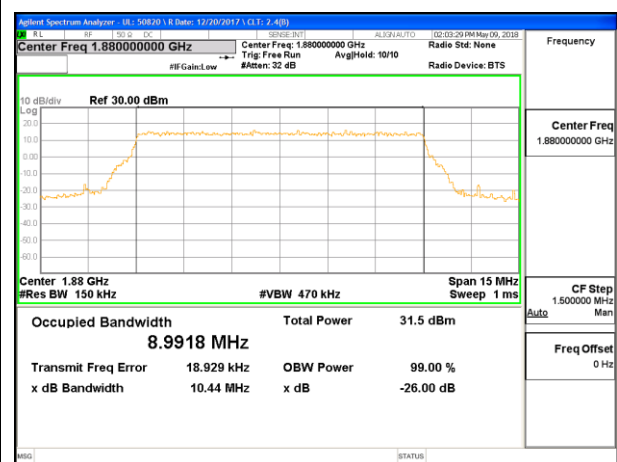
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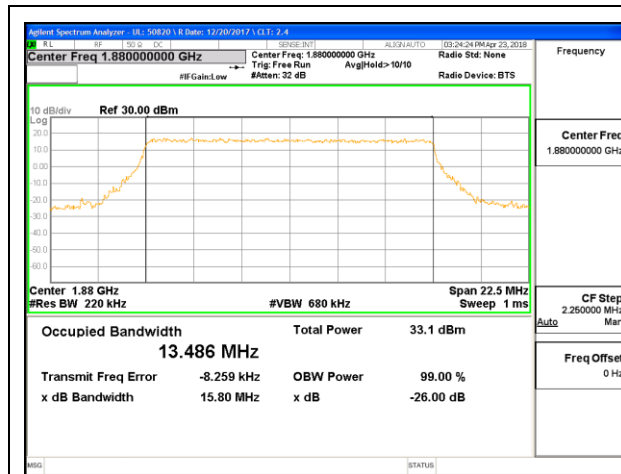
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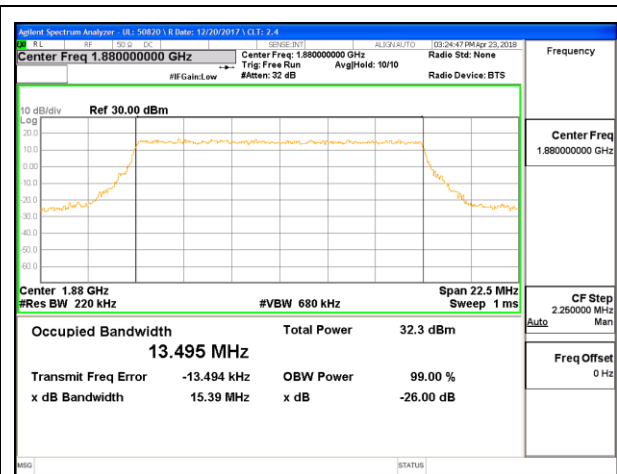
LTE B2 10MHz 16QAM Middle Channel RB75-0



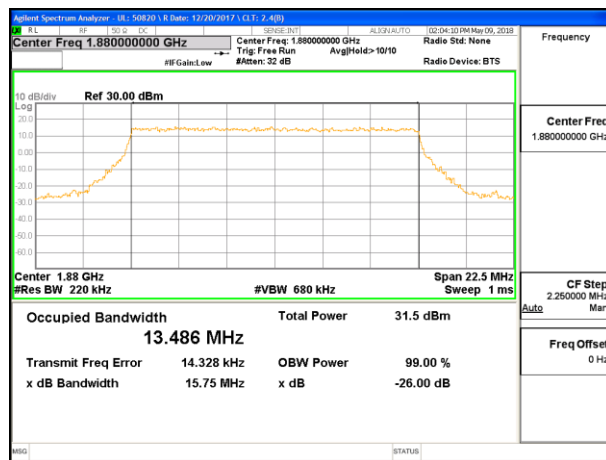
LTE B2 10MHz 64QAM Middle Channel RB75-0



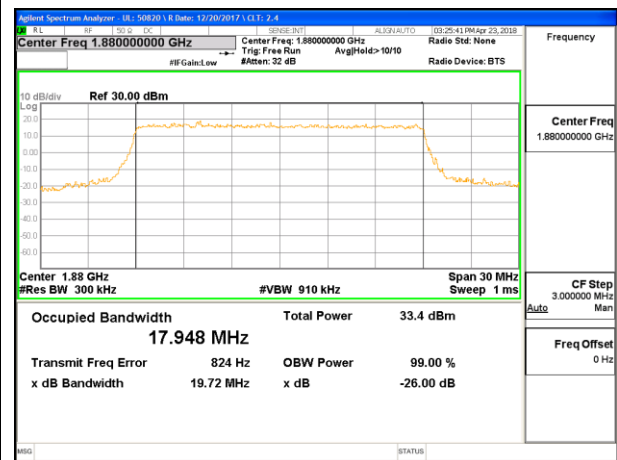
LTE B2 15MHz QPSK Middle Channel RB75-0



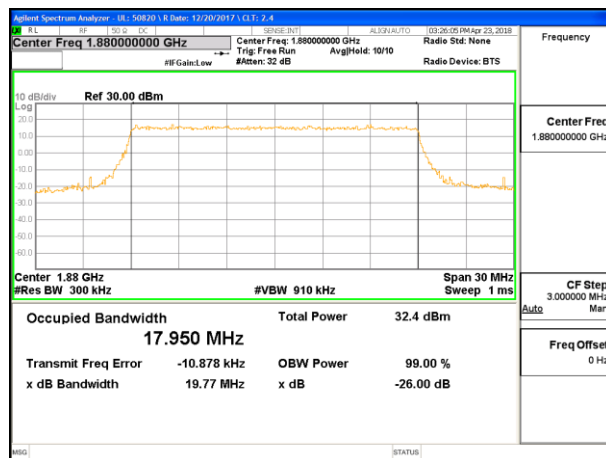
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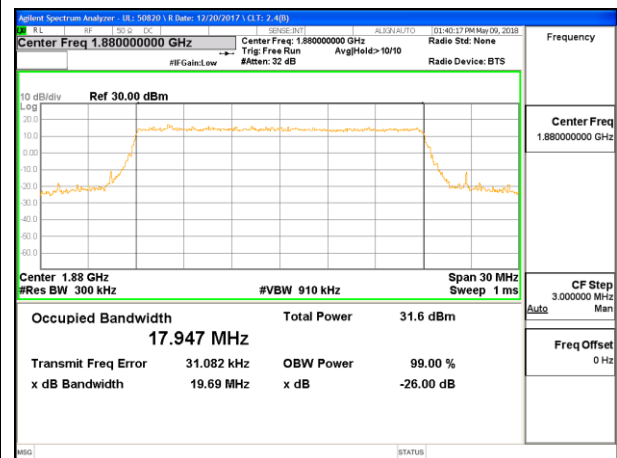
LTE B2 15MHz 64QAM Middle Channel RB75-0



LTE B2 20MHz QPSK Middle Channel RB100-0

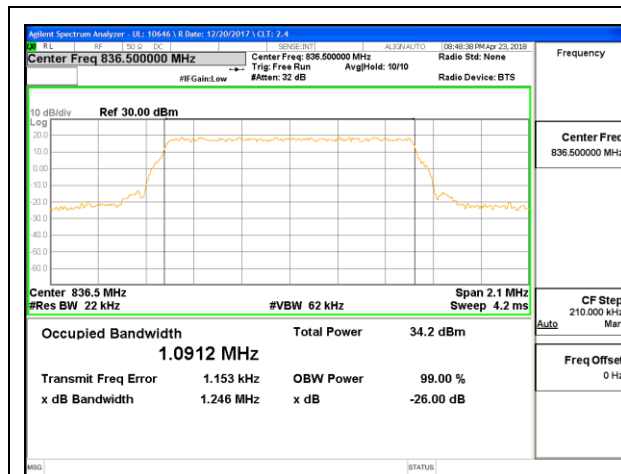


LTE B2 20MHz 16QAM Middle Channel RB100-0

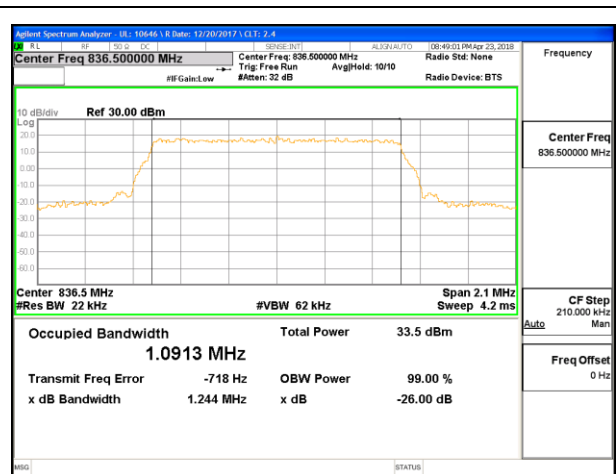


LTE B2 20MHz 64QAM Middle Channel RB100-0

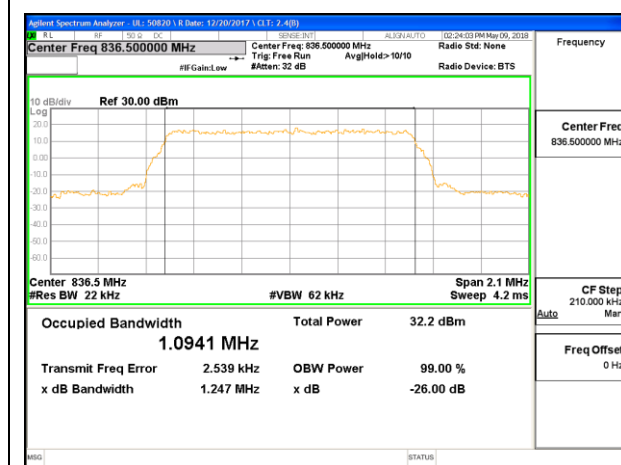
8.1.2. LTE BAND 5



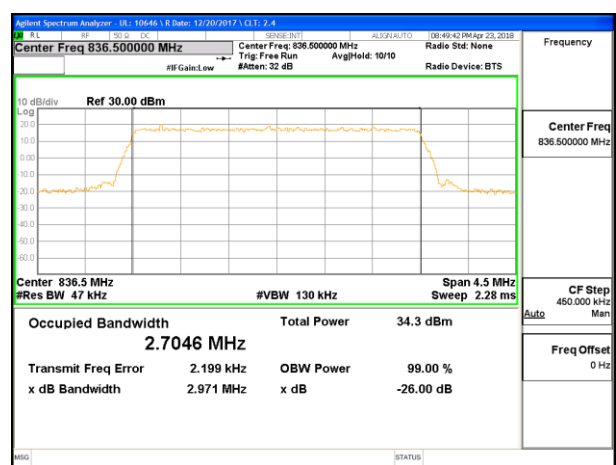
LTE B5 1.4MHz QPSK Middle Channel RB6-0



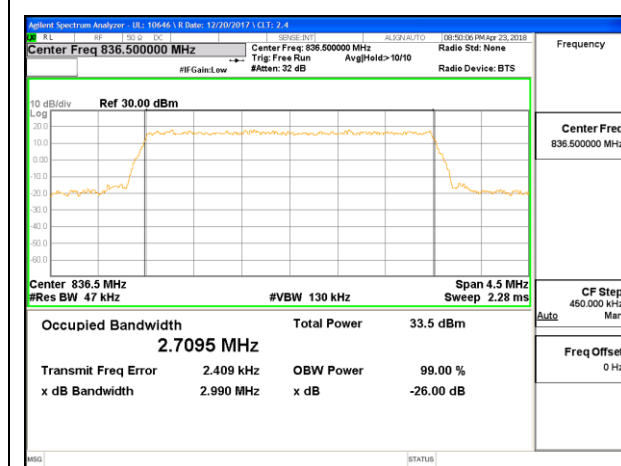
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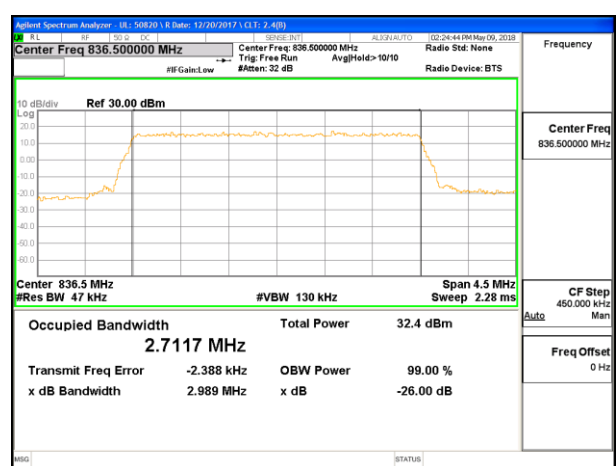
LTE B5 1.4MHz 64QAM Middle Channel RB6-0



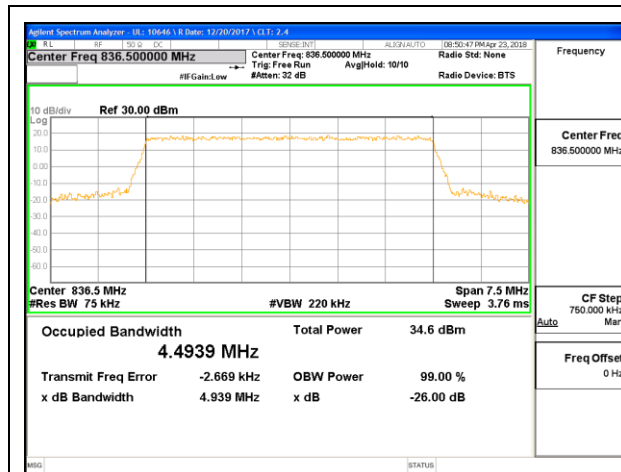
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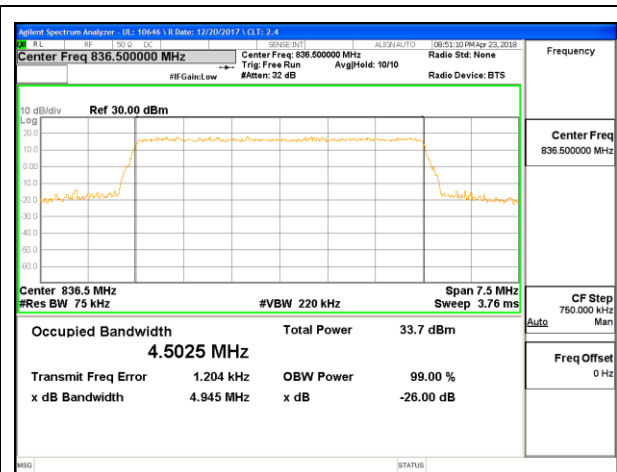
LTE B5 3MHz 16QAM Middle Channel RB15-0



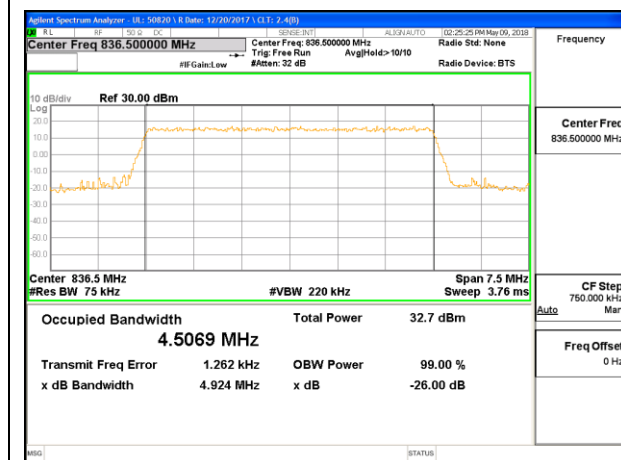
LTE B5 3MHz 64QAM Middle Channel RB15-0



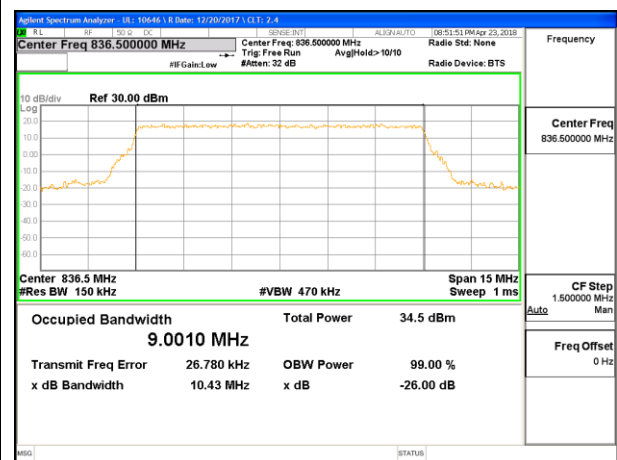
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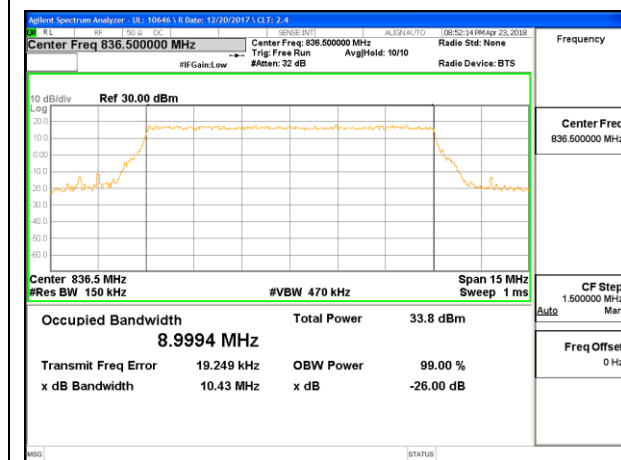
LTE B5 5MHz 16QAM Middle Channel RB25-0



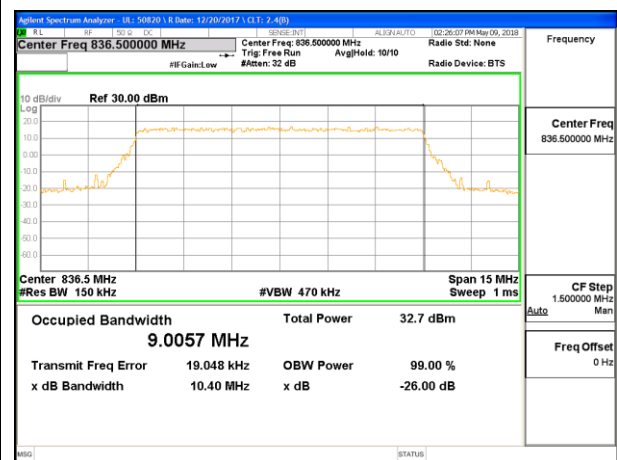
LTE B5 5MHz 64QAM Middle Channel RB25-0



LTE B5 10MHz QPSK Middle Channel RB50-0



LTE B5 10MHz 16QAM Middle Channel RB50-0



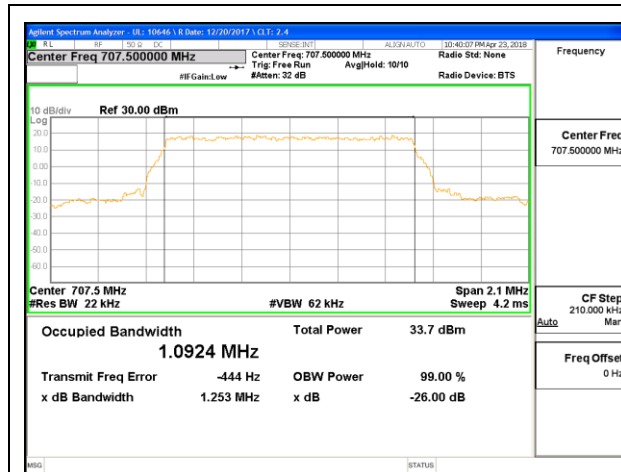
LTE B5 10MHz 64QAM Middle Channel RB50-0

8.1.3. LTE BAND 7

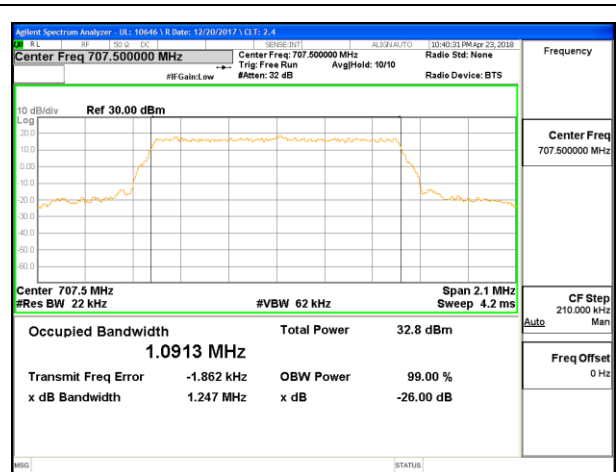




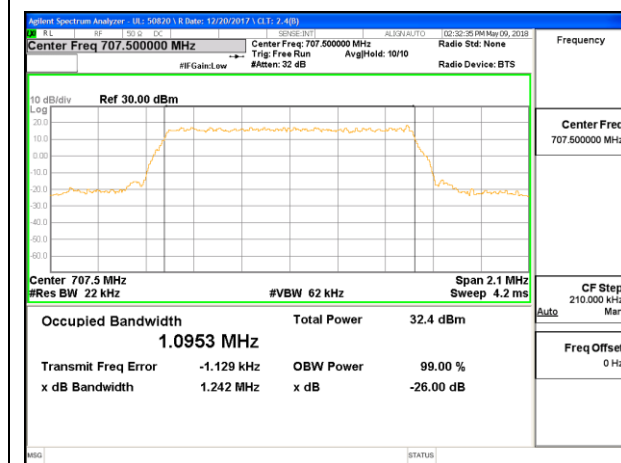
8.1.4. LTE BAND 12



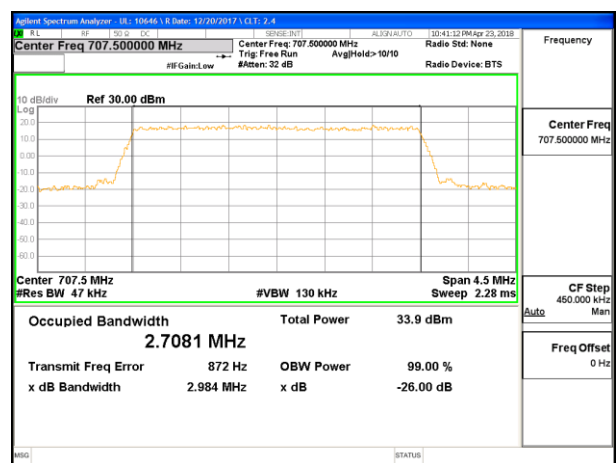
LTE B12 1.4MHz QPSK Middle Channel RB6-0



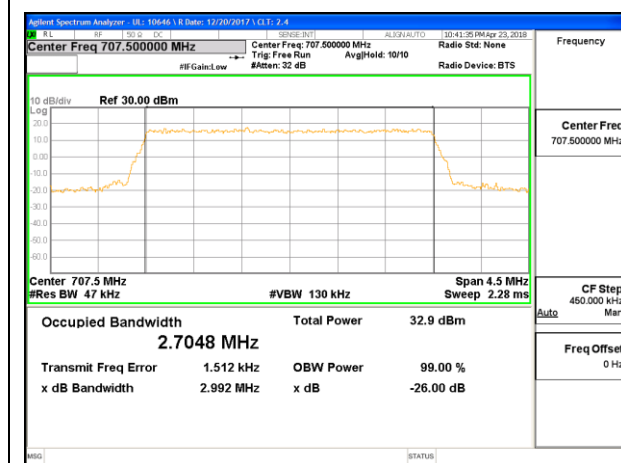
LTE B12 1.4MHz 16QAM Middle Channel RB6-0



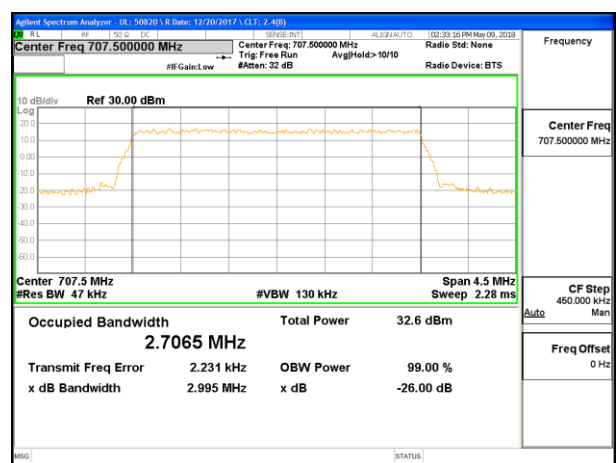
LTE B12 1.4MHz 64QAM Middle Channel RB6-0



LTE B12 3MHz QPSK Middle Channel RB15-0



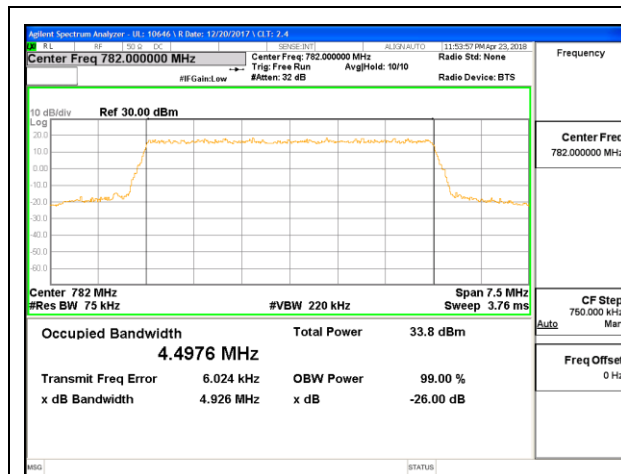
LTE B12 3MHz 16QAM Middle Channel RB15-0



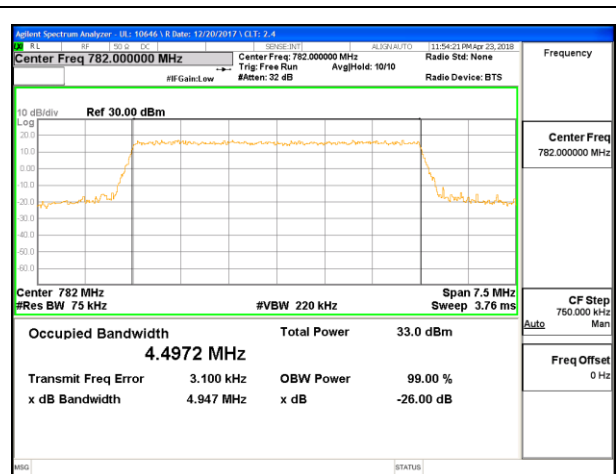
LTE B12 3MHz 64QAM Middle Channel RB15-0



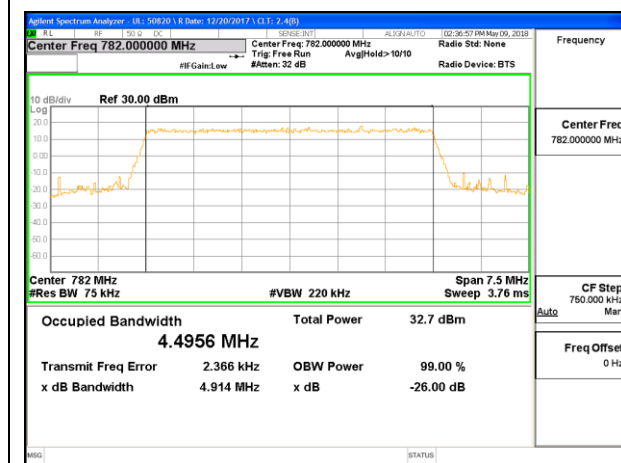
8.1.5. LTE BAND 13



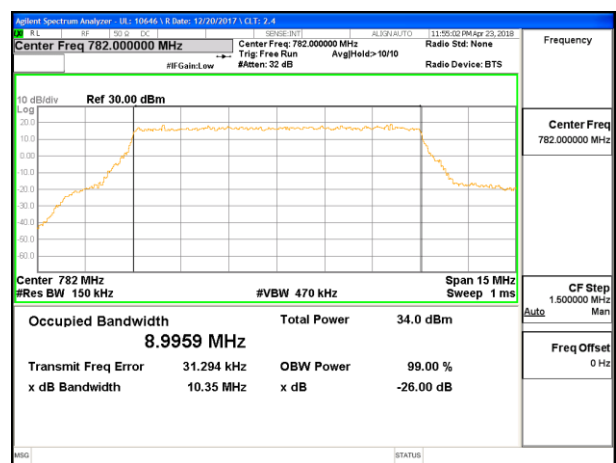
LTE B13 5MHz QPSK Middle Channel RB25-0



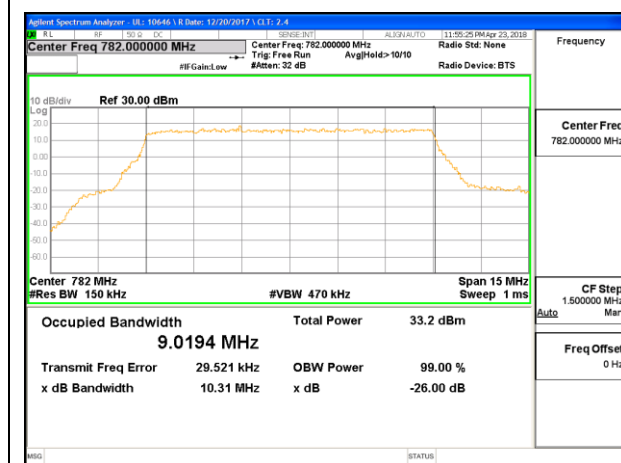
LTE B13 5MHz 16QAM Middle Channel RB25-0



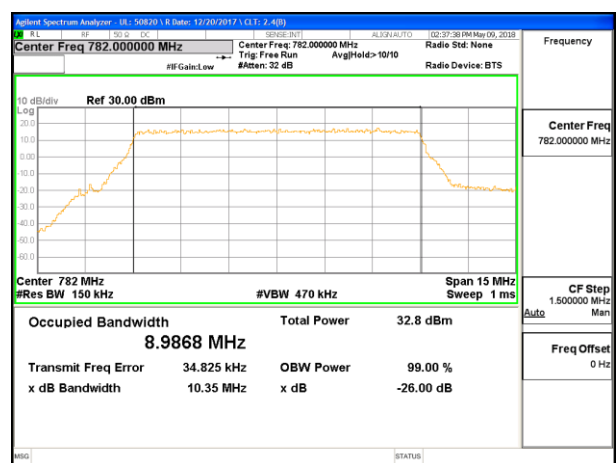
LTE B13 5MHz 64QAM Middle Channel RB25-0



LTE B13 10MHz QPSK Middle Channel RB50-0

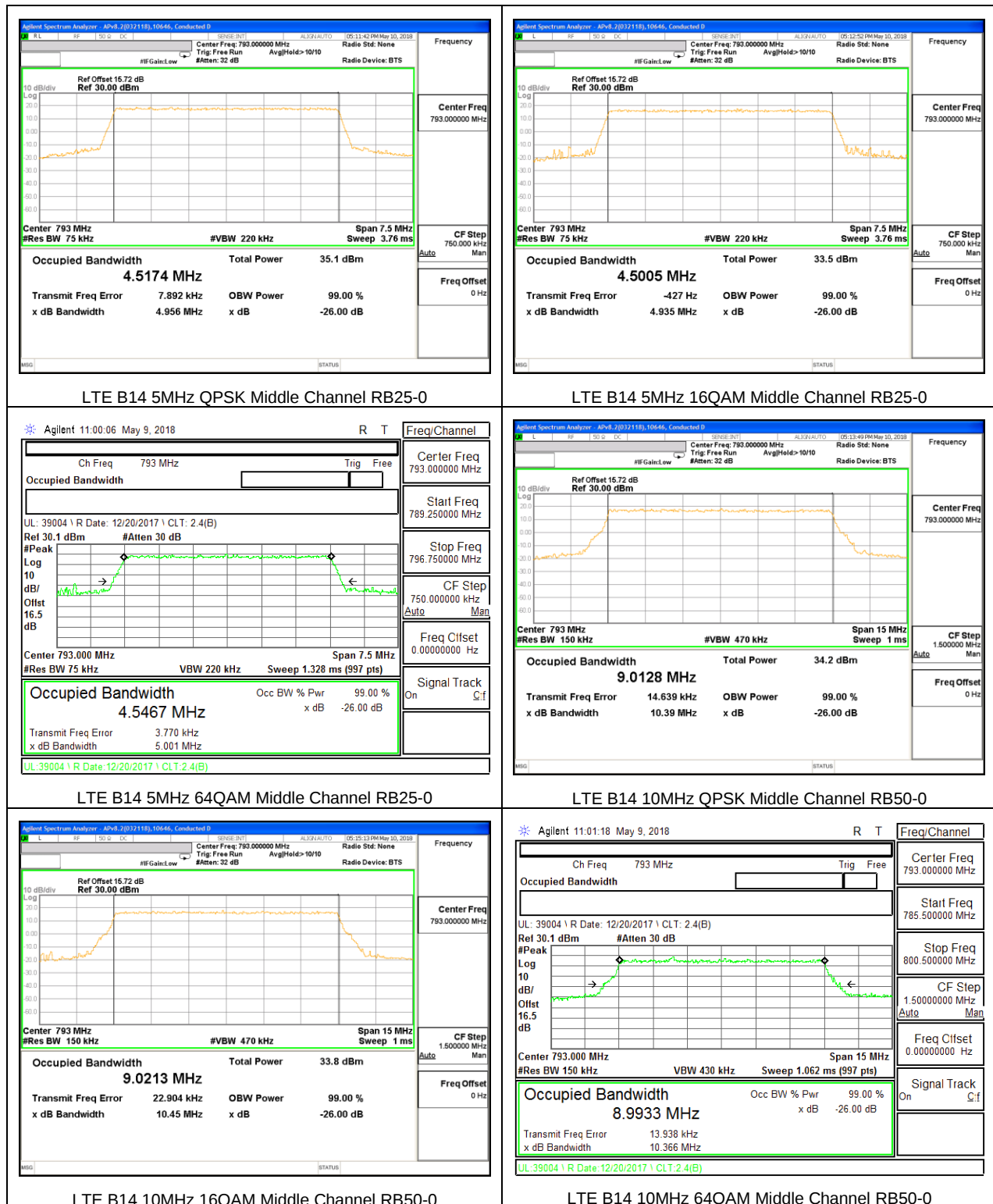


LTE B13 10MHz 16QAM Middle Channel RB50-0



LTE B13 10MHz 64QAM Middle Channel RB50-0

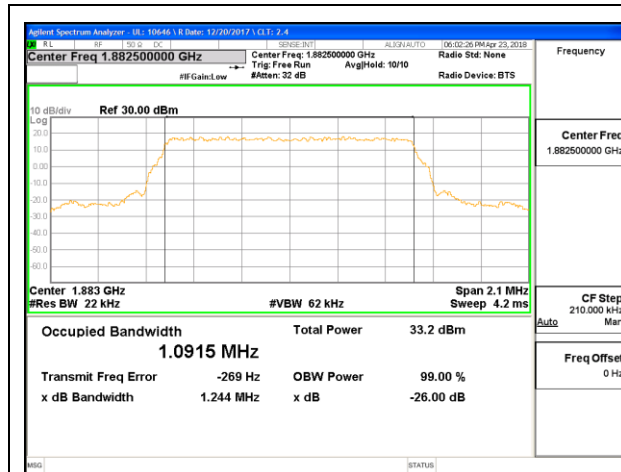
8.1.6. LTE BAND 14



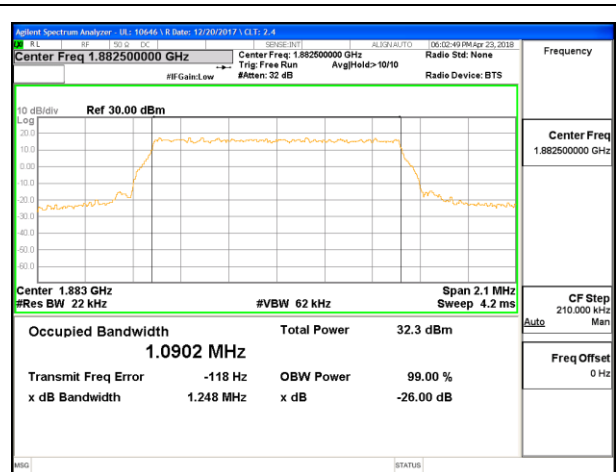
8.1.7. LTE BAND 17



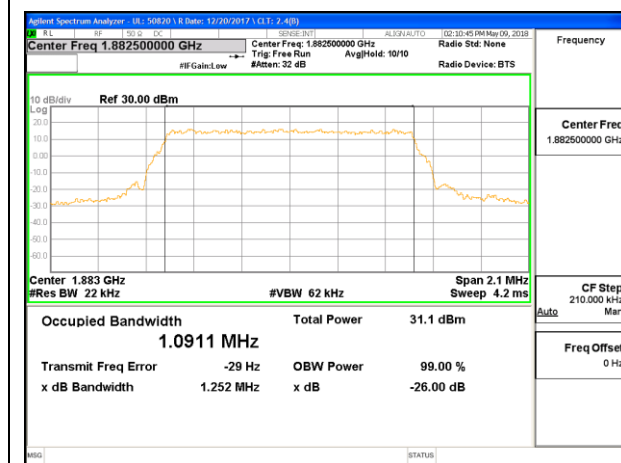
8.1.8. LTE BAND 25



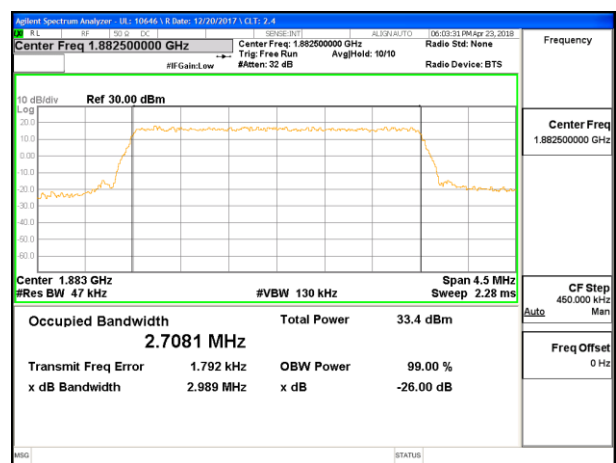
LTE B25 1.4MHz QPSK Middle Channel RB6-0



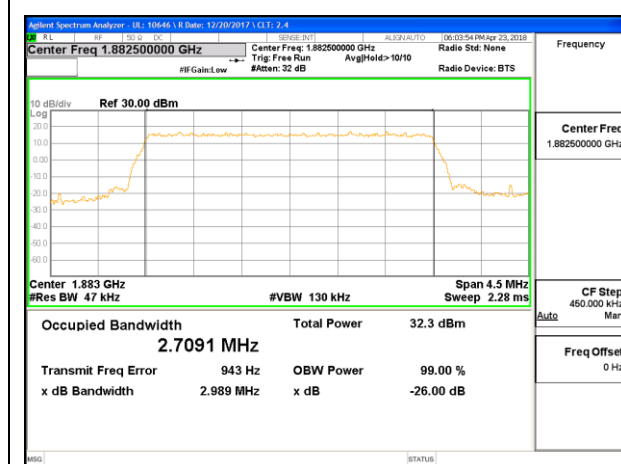
LTE B25 1.4MHz 16QAM Middle Channel RB6-0



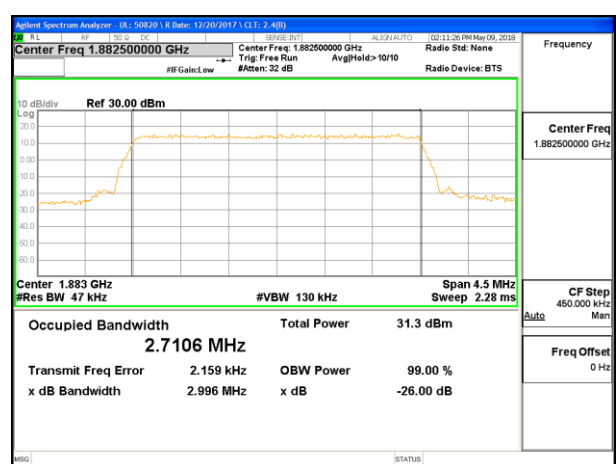
LTE B25 1.4MHz 64QAM Middle Channel RB6-0



LTE B25 3MHz QPSK Middle Channel RB15-0



LTE B25 3MHz 16QAM Middle Channel RB15-0



LTE B25 3MHz 64QAM Middle Channel RB15-0