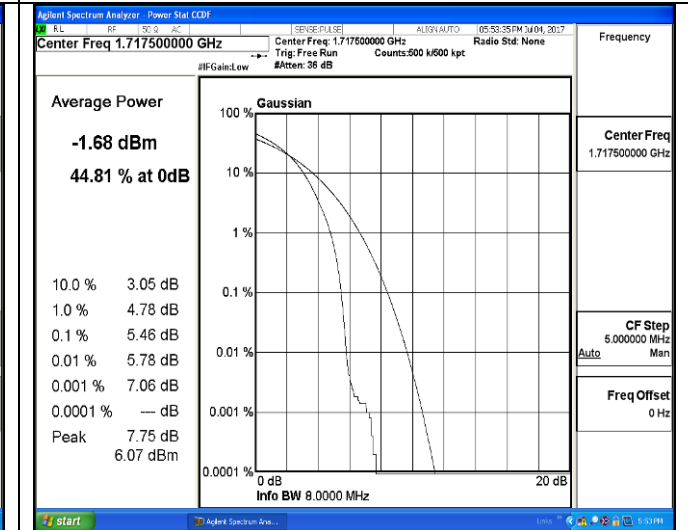
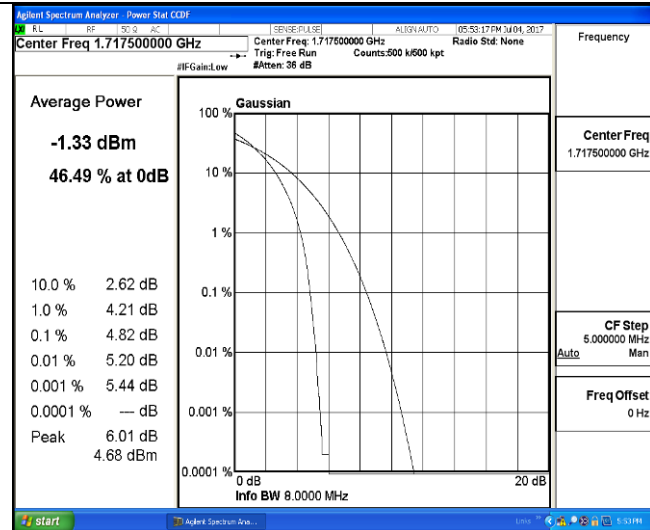


LTE FDD Band 4-15MHz Channel Bandwidth PAPR

QPSK

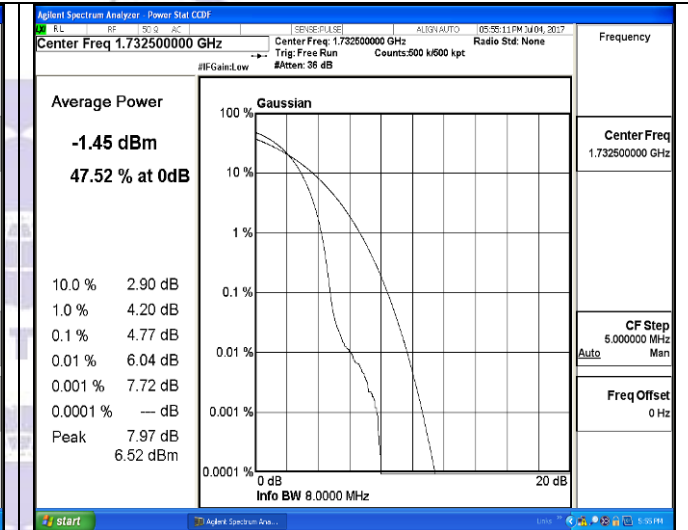
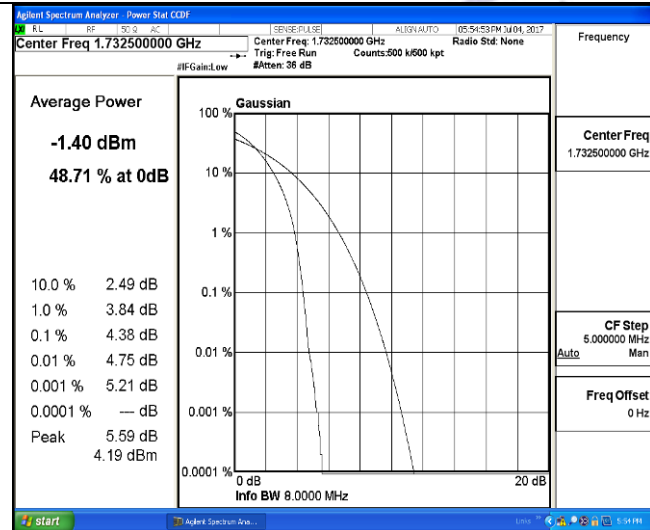
16QAM



1RB#0

1RB#0

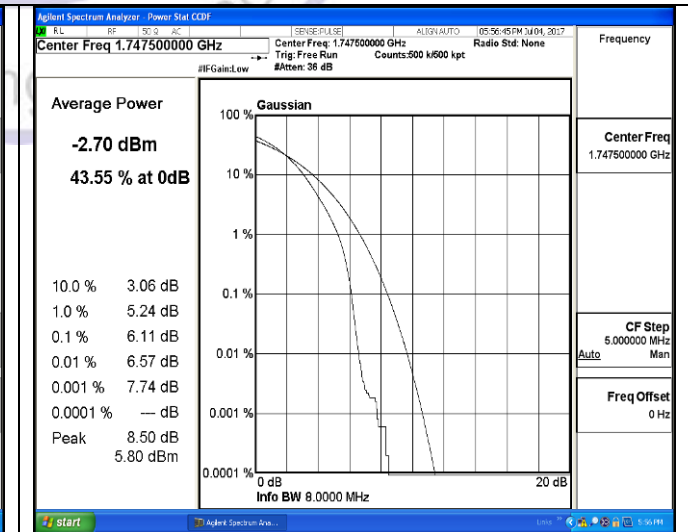
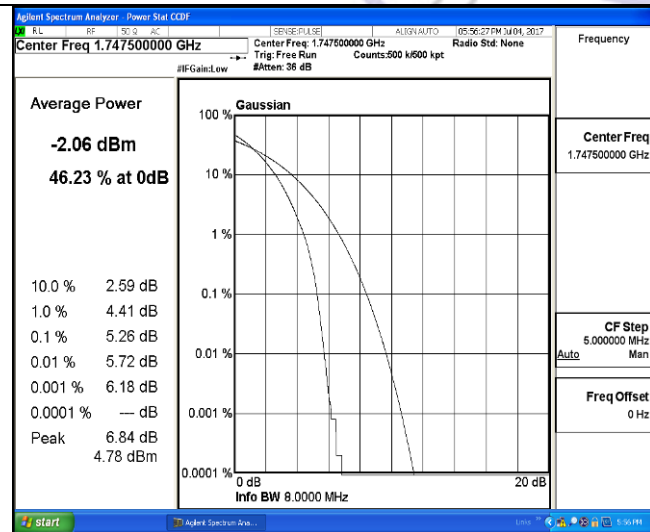
Low Channel



1RB#0

1RB#0

Middle Channel



1RB#0

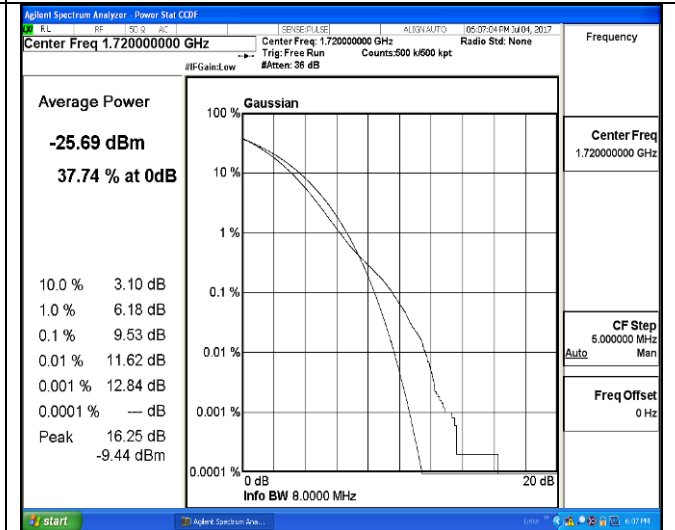
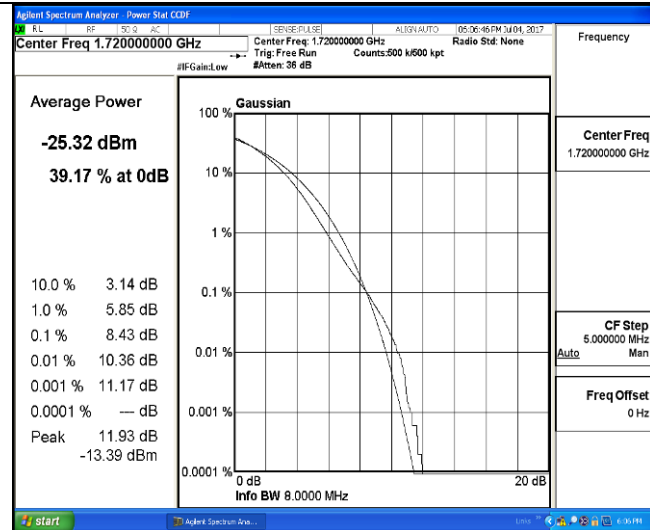
1RB#0

High Channel

LTE FDD Band 4-20MHz Channel Bandwidth PAPR

QPSK

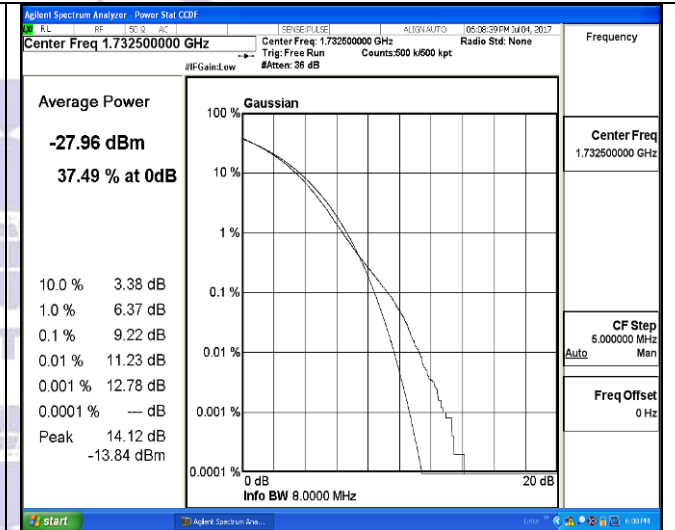
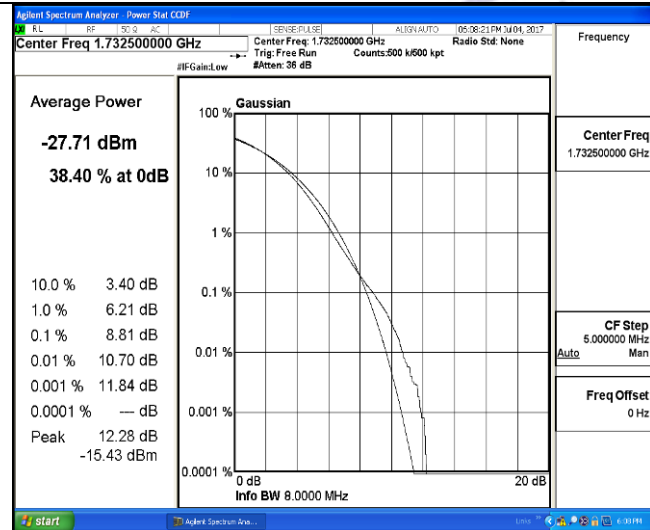
16QAM



1RB#0

1RB#0

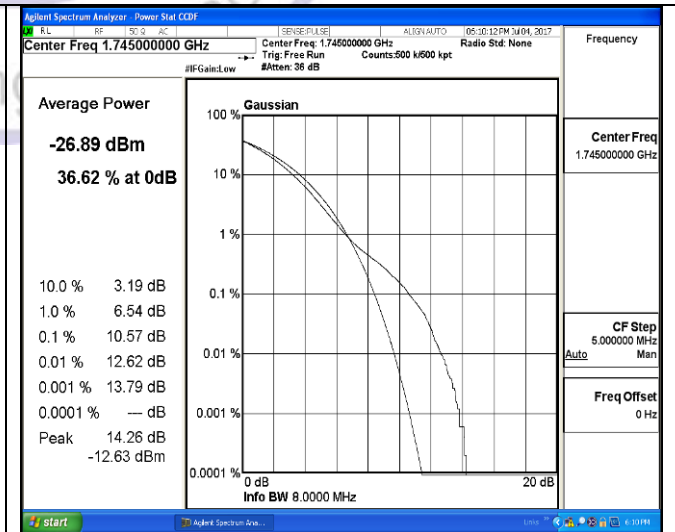
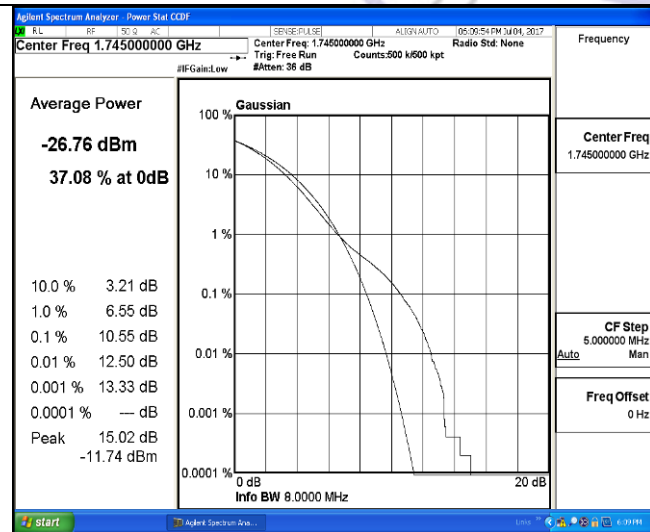
Low Channel



1RB#0

1RB#0

Middle Channel



1RB#0

1RB#0

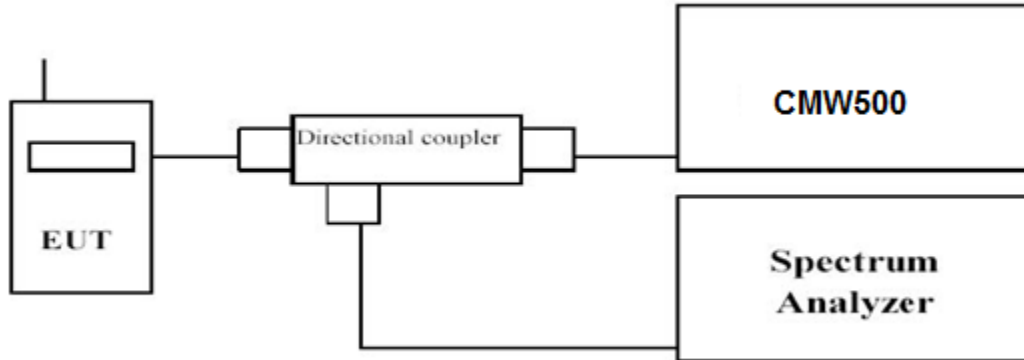
High Channel

3.3. Occupied Bandwidth and Emission Bandwidth

LIMIT

N/A

TEST CONFIGURATION



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 low, middle and high channel in each band. The -26dBc Emission bandwidth was also measured and recorded.

Set RBW was set to about 1% of emission BW, VBW \geq 3 times RBW.

-26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST RESULTS

Remark:

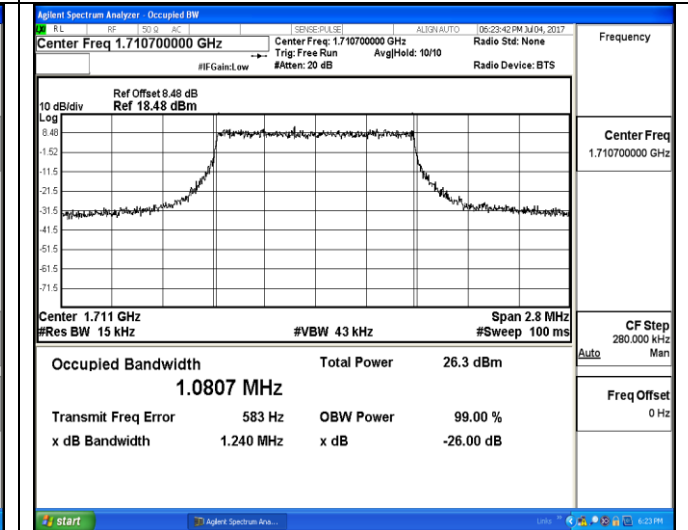
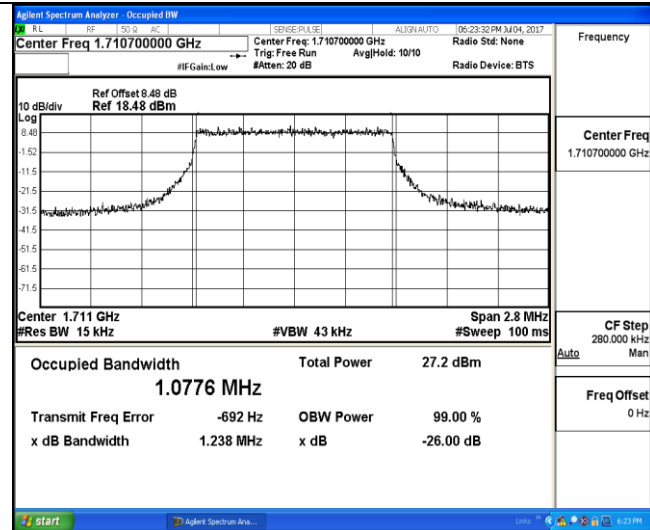
1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 4; recorded worst case for each Channel Bandwidth of LTE FDD Band 4.

LTE FDD Band 4						
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	-26dBc Emission bandwidth (MHz)		99% Occupied bandwidth (MHz)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	6RB#0	1710.7	1.238	1.240	1.0776	1.0807
		1732.5	1.221	1.253	1.0753	1.0791
		1754.3	1.247	1.227	1.0777	1.0772
3 MHz	15RB#0	1711.5	2.905	2.887	2.6854	2.6829
		1732.5	2.884	2.905	2.6863	2.6829
		1753.5	2.905	2.889	2.6849	2.6874
5 MHz	25RB#0	1712.5	4.841	4.821	4.4745	4.4692
		1732.5	4.804	4.832	4.4809	4.4347
		1752.5	4.821	4.822	4.4730	4.4815
10 MHz	50RB#0	1715.0	9.494	9.481	8.9326	8.9308
		1732.5	9.454	9.549	8.9312	8.9361
		1750.0	9.478	9.398	8.9261	8.9358
15 MHz	75RB#0	1717.5	14.08	14.04	13.391	13.390
		1732.5	14.13	14.06	13.428	13.408
		1747.5	14.03	14.03	13.386	13.390
20 MHz	100RB#0	1720.0	18.06	18.55	17.793	17.805
		1732.5	18.60	18.58	17.869	17.871
		1745.0	18.64	18.59	17.858	17.848

LTE FDD Band 4-1.4MHz Channel Bandwidth

QPSK

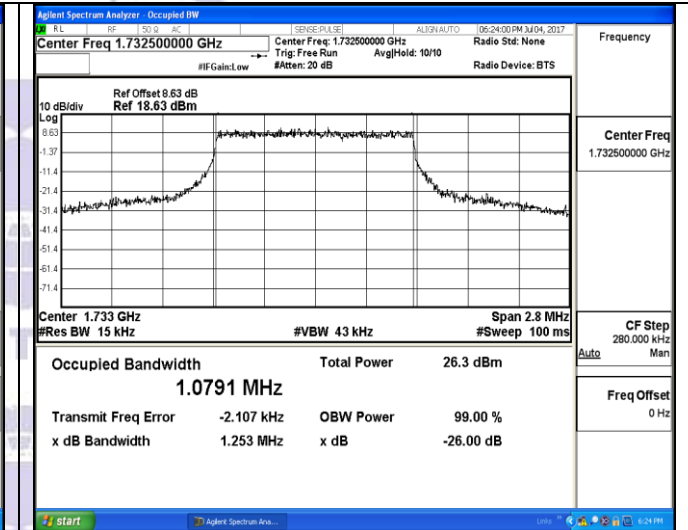
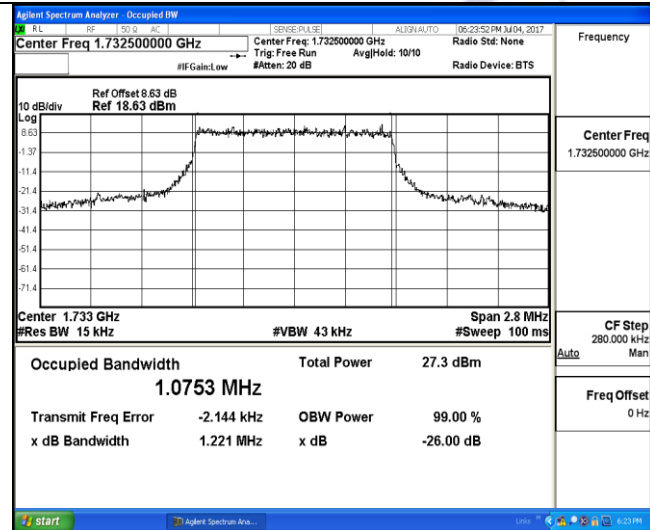
16QAM



6RB#0

6RB#0

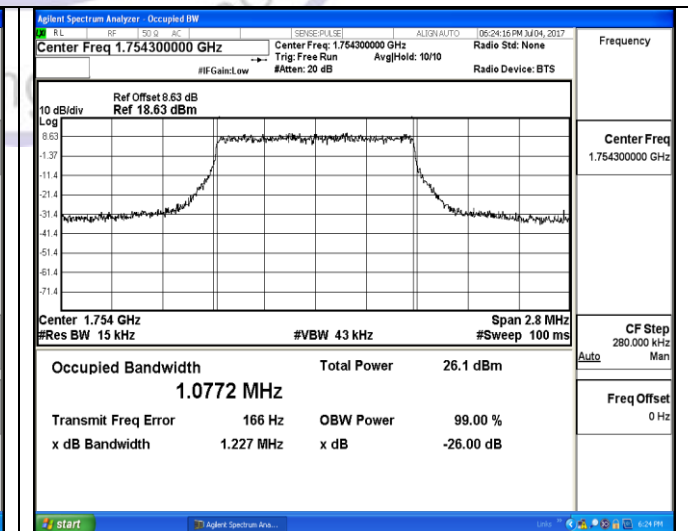
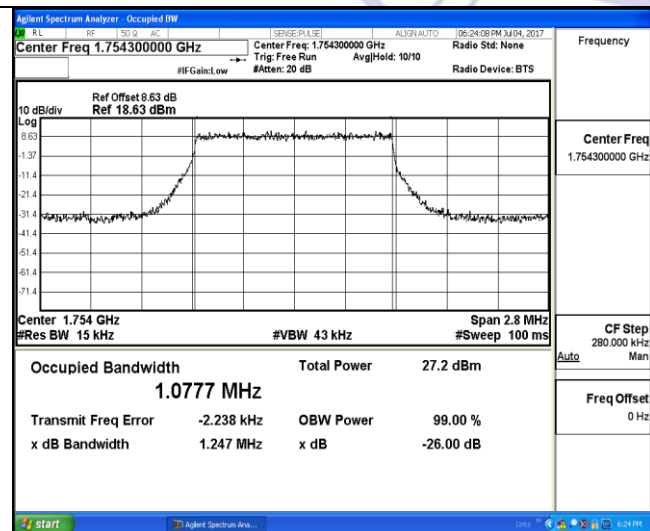
Low Channel



6RB#0

6RB#0

Middle Channel



6RB#0

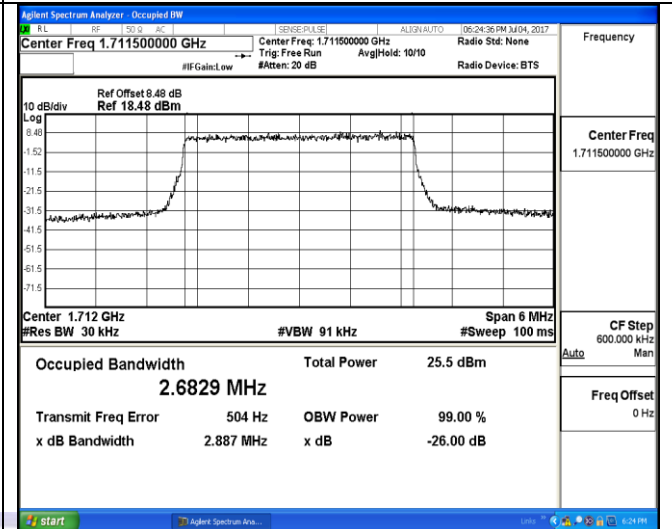
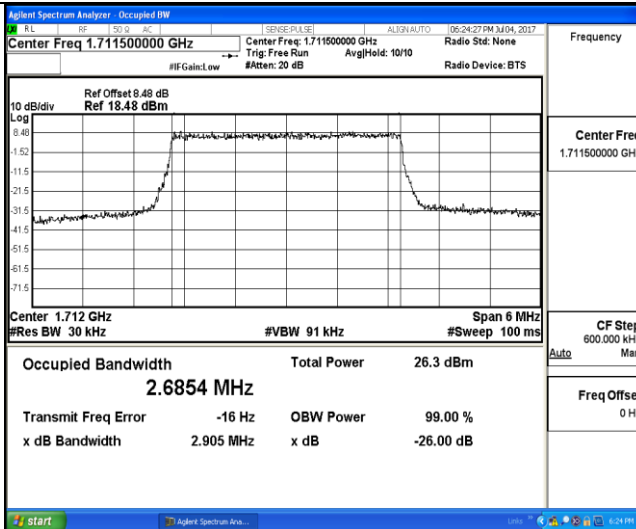
6RB#0

High Channel

LTE FDD Band 4-3MHz Channel Bandwidth

QPSK

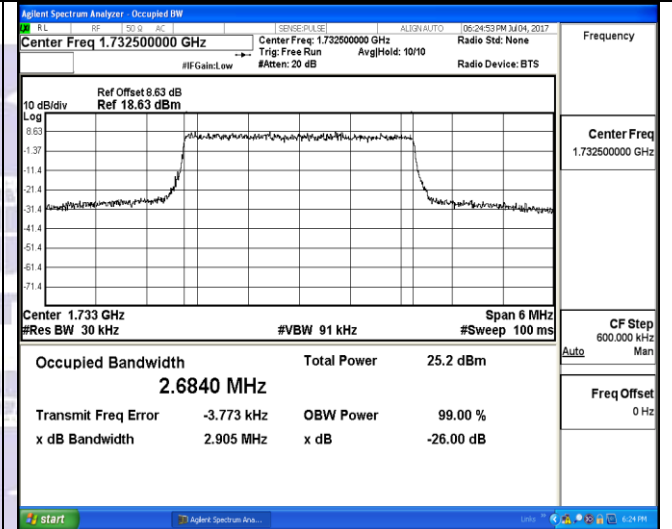
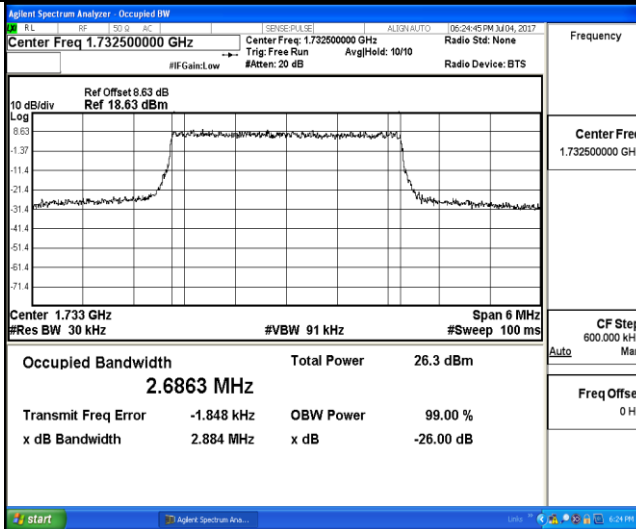
16QAM



15RB#0

15RB#0

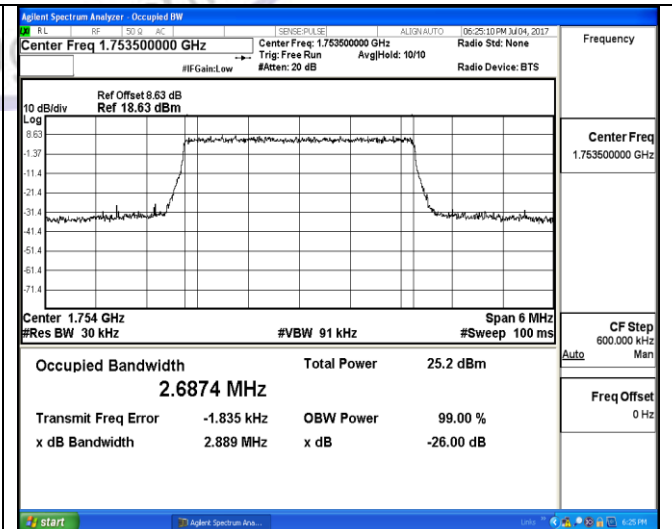
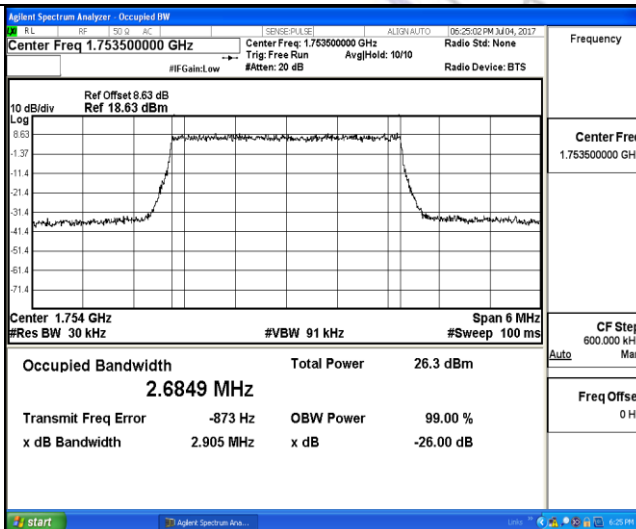
Low Channel



15RB#0

15RB#0

Middle Channel



15RB#0

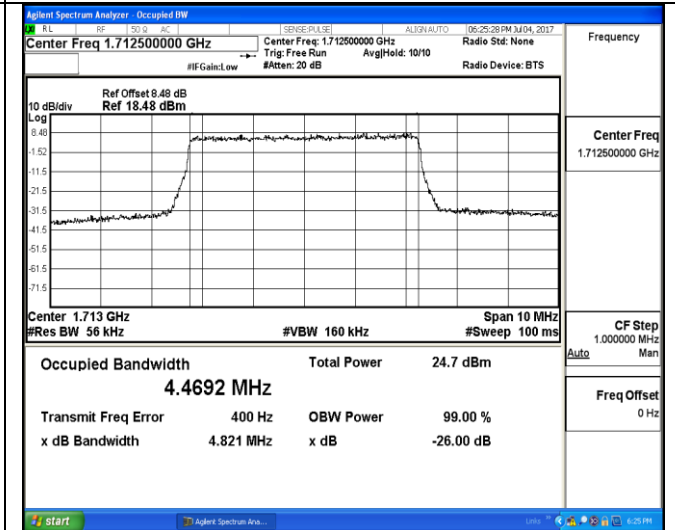
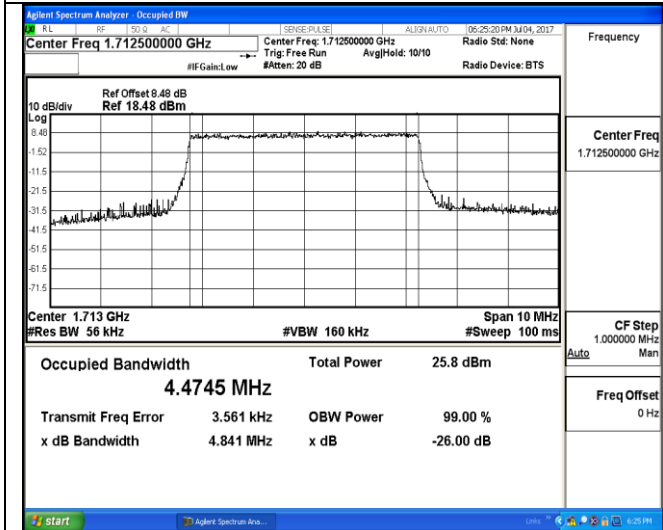
15RB#0

High Channel

LTE FDD Band 4-5MHz Channel Bandwidth

QPSK

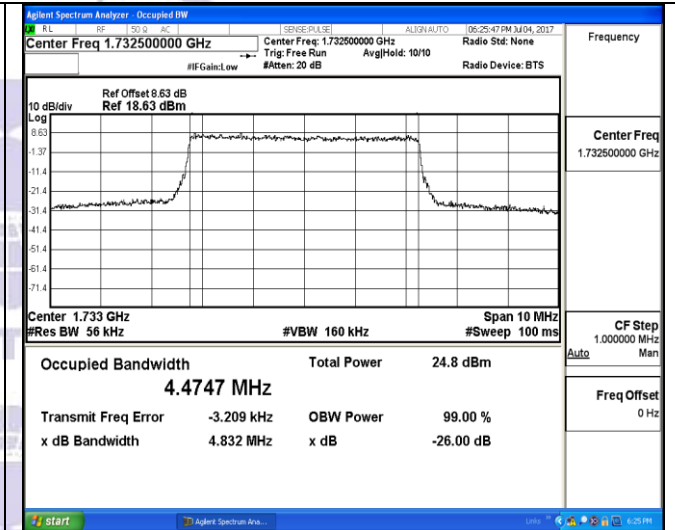
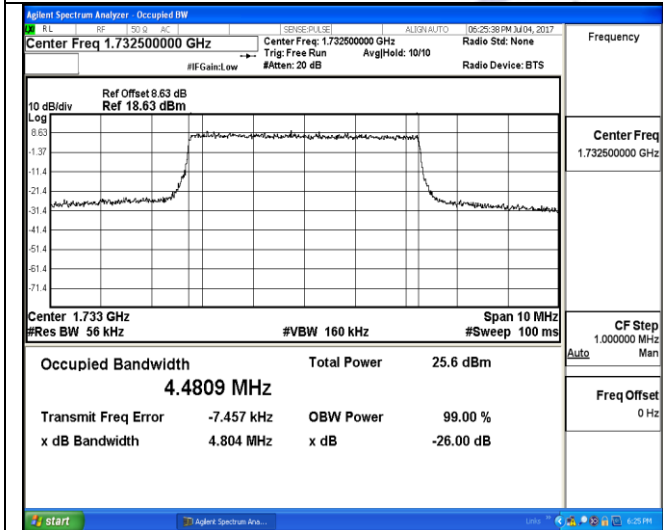
16QAM



25RB#0

25RB#0

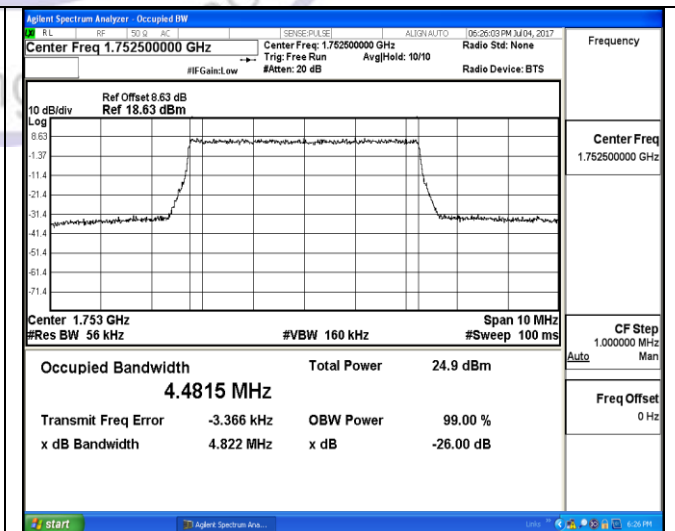
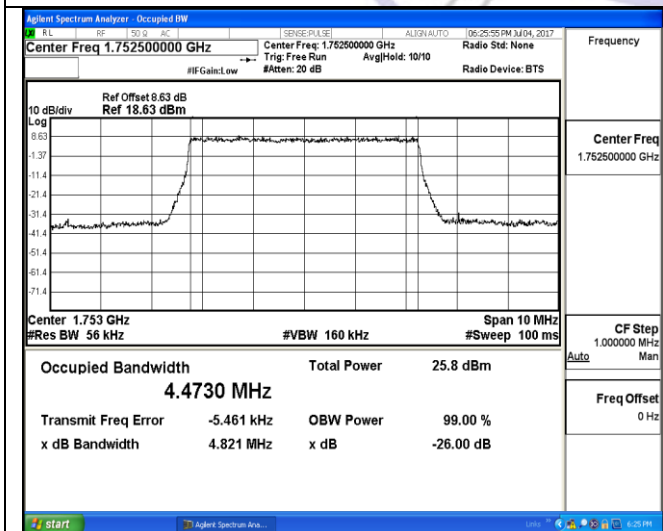
Low Channel



25RB#0

25RB#0

Middle Channel



25RB#0

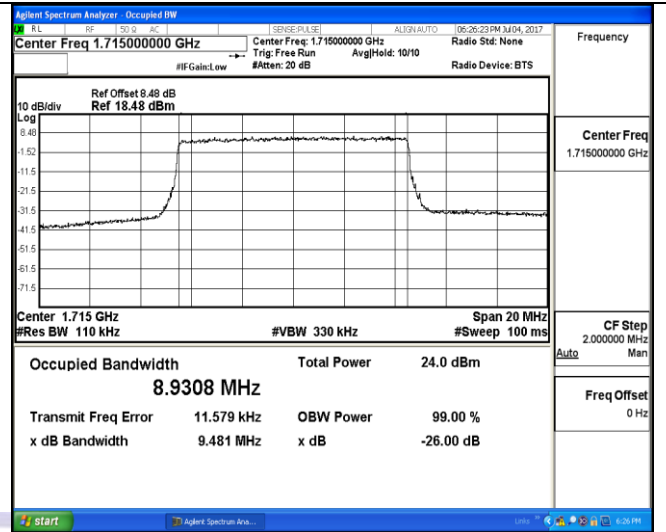
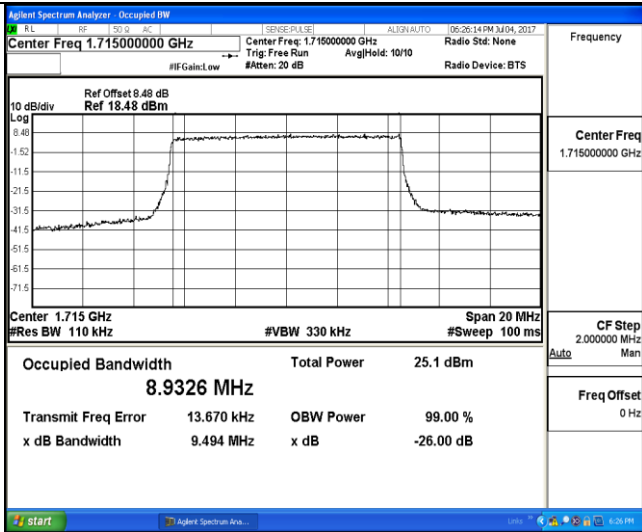
25RB#0

High Channel

LTE FDD Band 4-10MHz Channel Bandwidth

QPSK

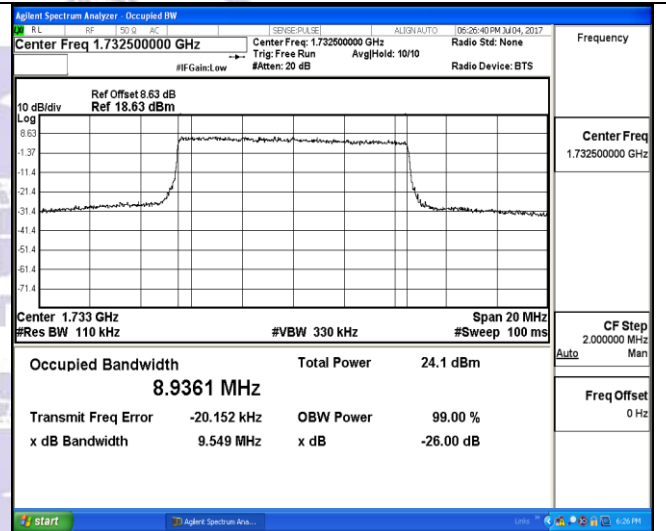
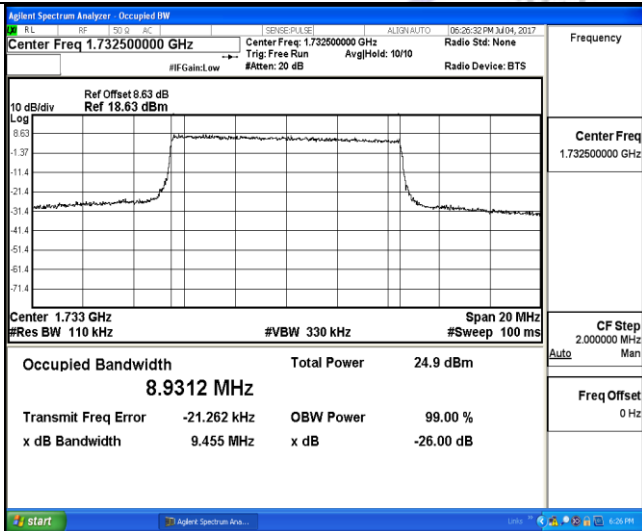
16QAM



50RB#0

50RB#0

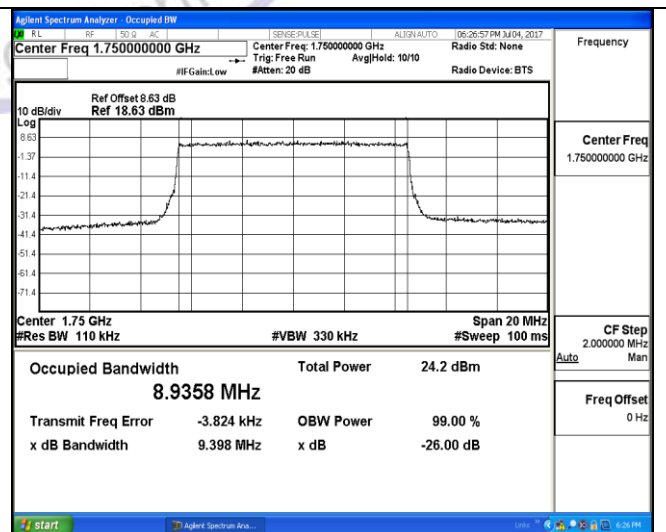
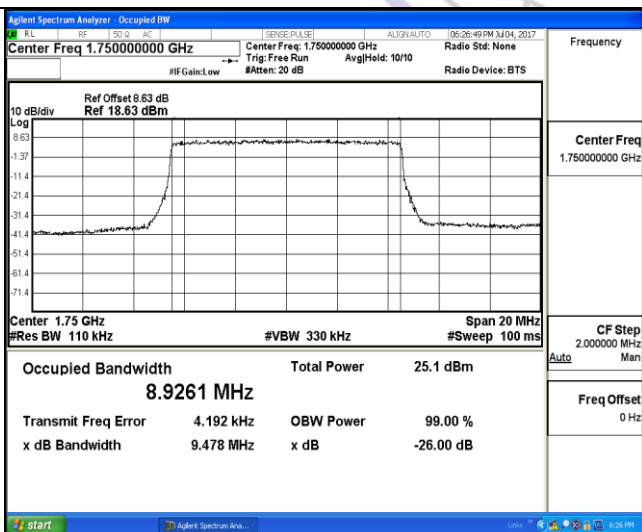
Low Channel



50RB#0

50RB#0

Middle Channel



50RB#0

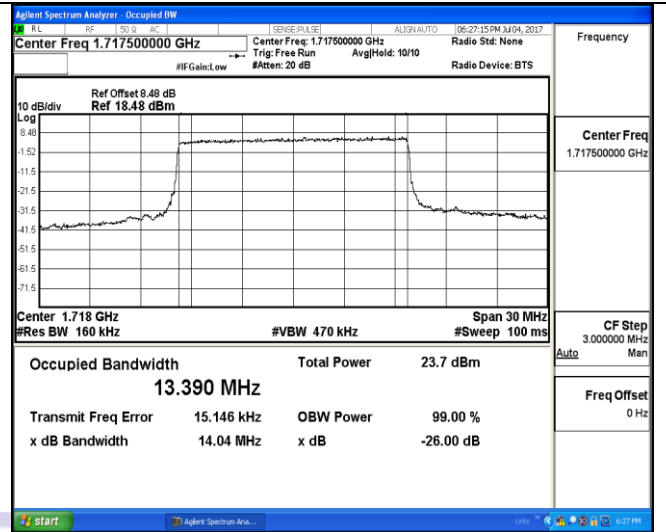
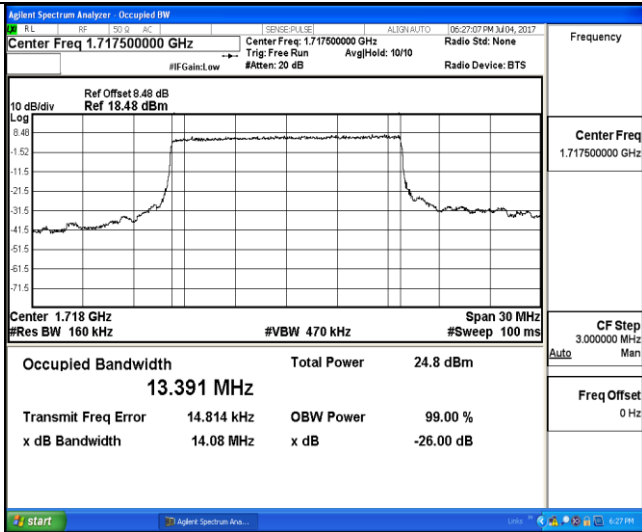
50RB#0

High Channel

LTE FDD Band 4-15MHz Channel Bandwidth

QPSK

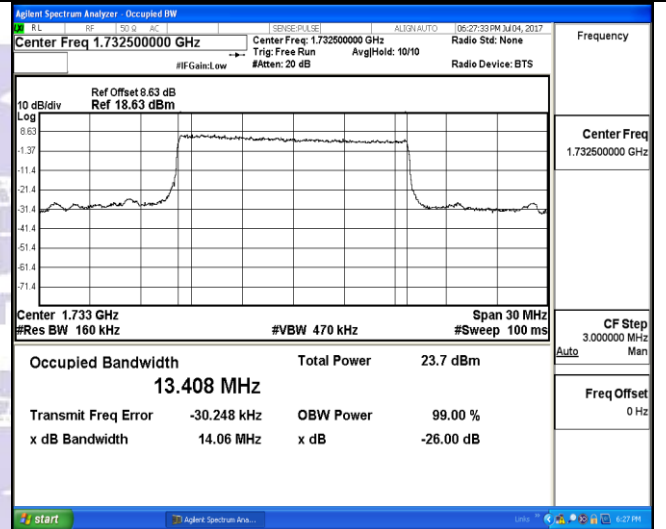
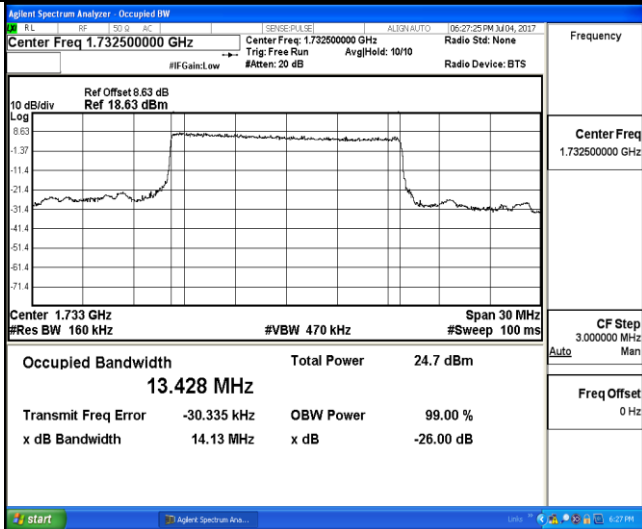
16QAM



75RB#0

75RB#0

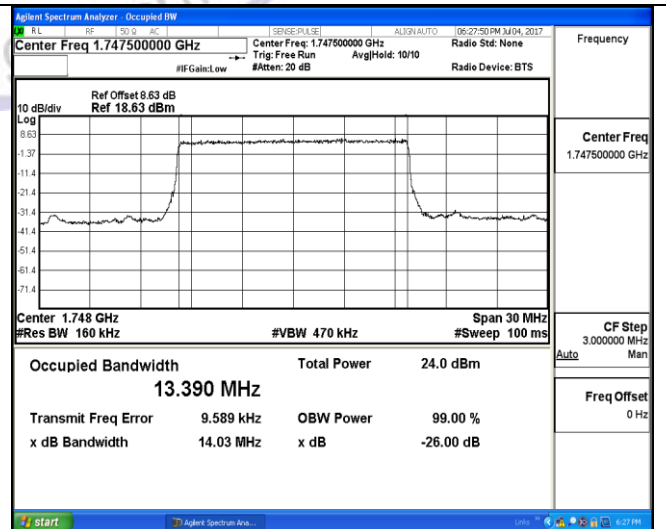
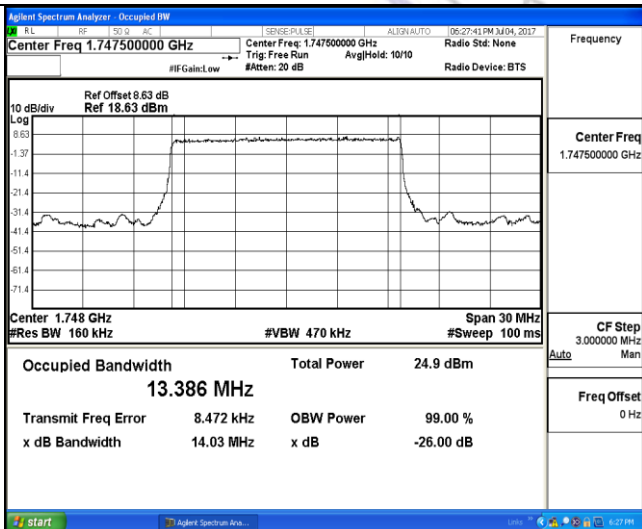
Low Channel



75RB#0

75RB#0

Middle Channel



75RB#0

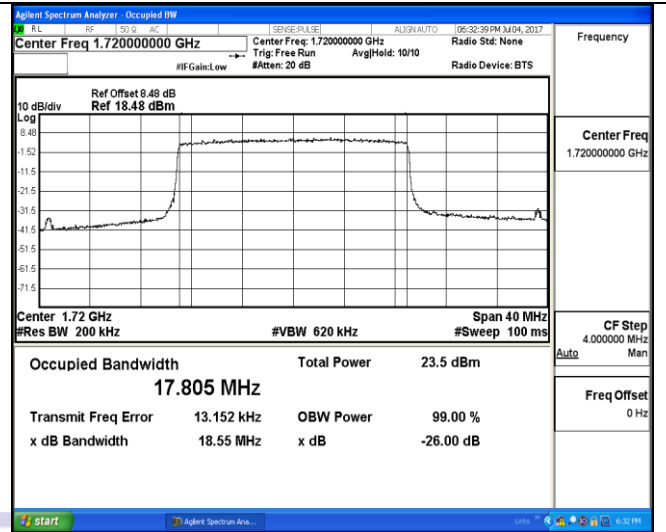
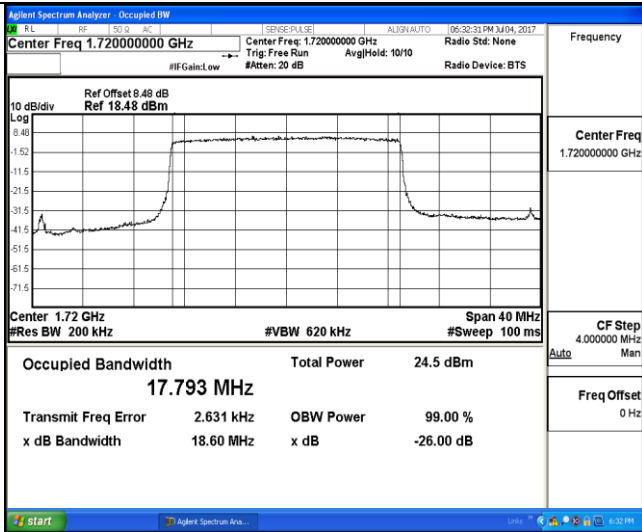
75RB#0

High Channel

LTE FDD Band 4-20MHz Channel Bandwidth

QPSK

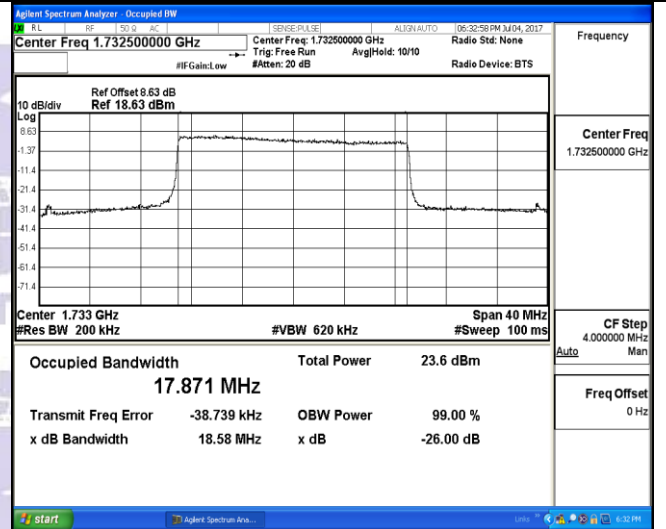
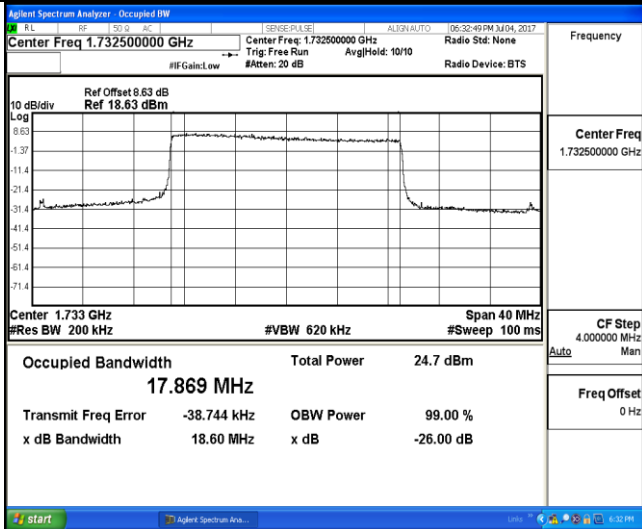
16QAM



100RB#0

100RB#0

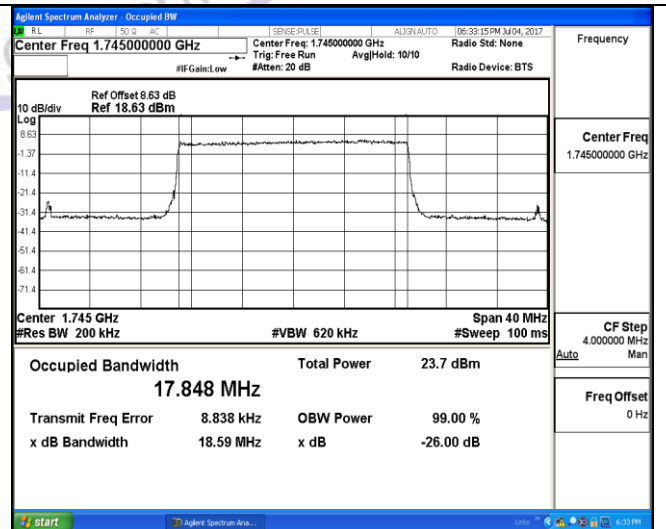
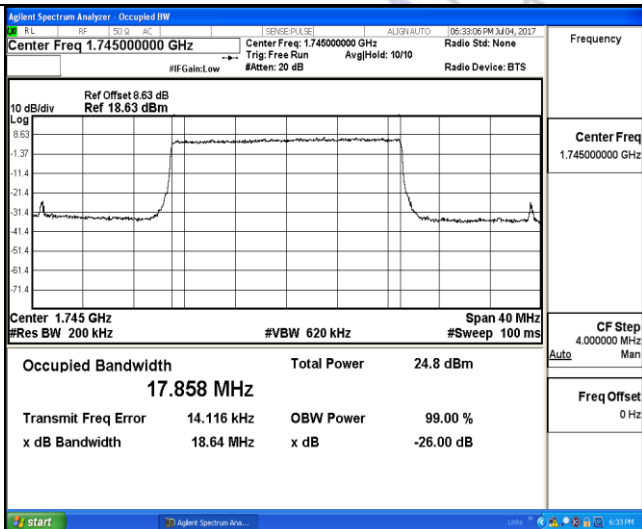
Low Channel



100RB#0

100RB#0

Middle Channel



100RB#0

100RB#0

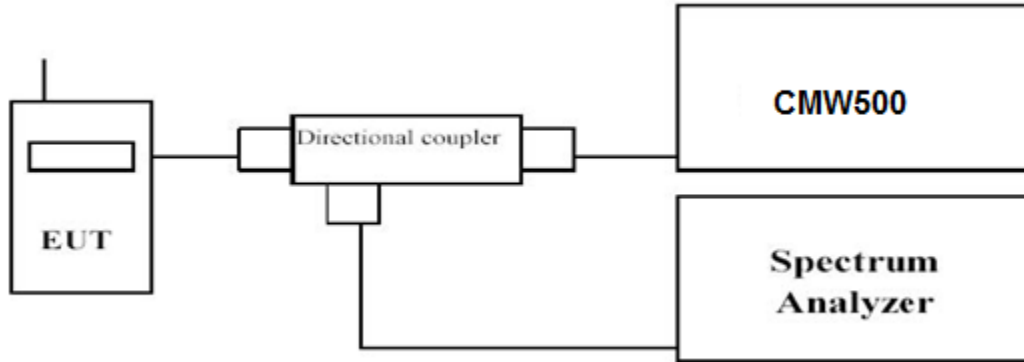
High Channel

3.4. Band Edge compliance

LIMIT

According to §27.53 (h): For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest and highest channels for each band and different modulation.
5. Measure Band edge using RMS (Average) detector by spectrum

TEST RESULTS

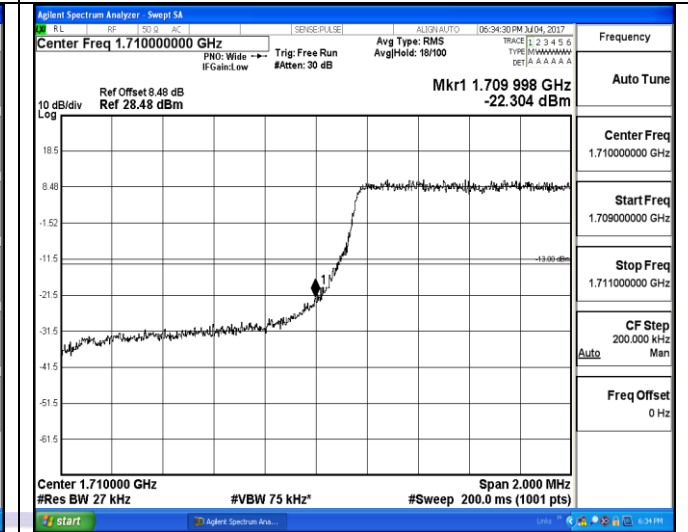
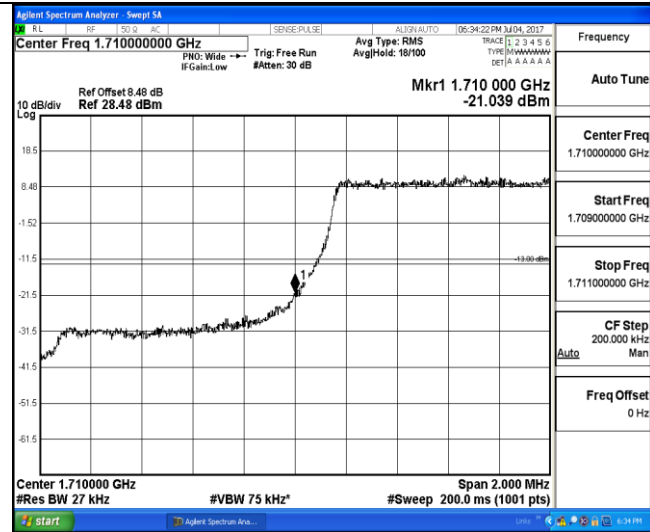
Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 4; recorded worst case for each Channel Bandwidth of LTE FDD Band 4.

LTE FDD Band 4-1.4MHz Channel Bandwidth Band Edge Compliance

QPSK

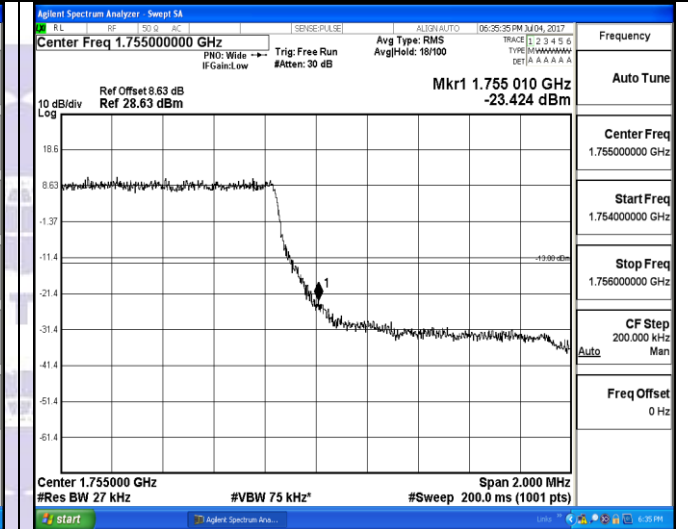
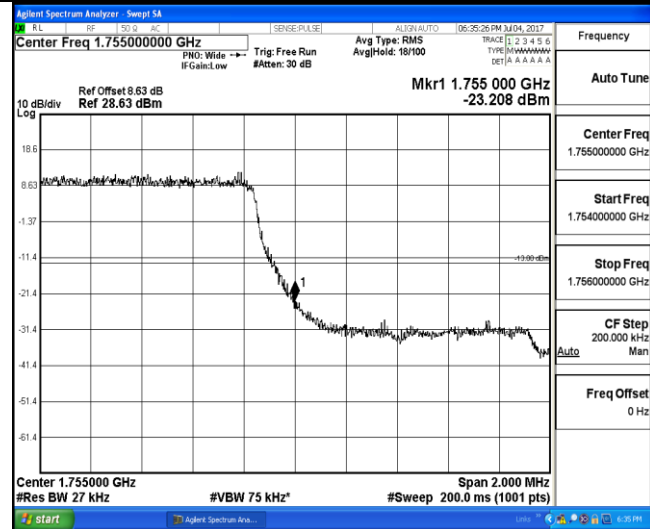
16QAM



1RB#0

1RB#0

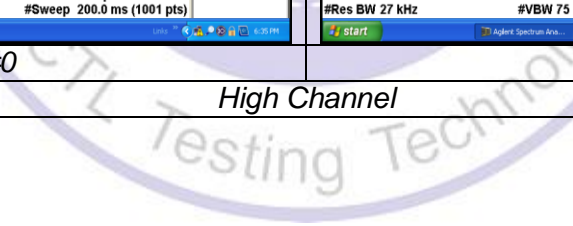
Low Channel



1RB#0

1RB#0

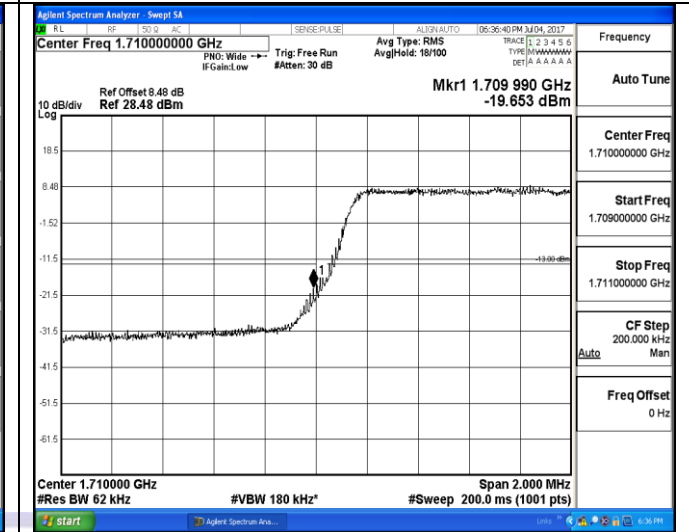
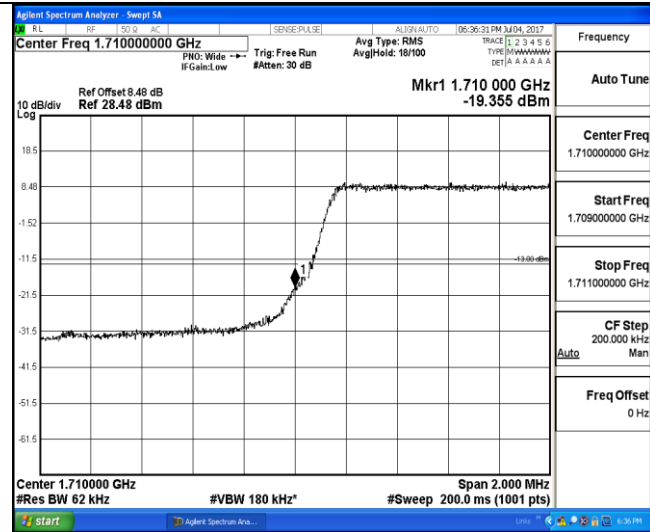
High Channel



LTE FDD Band 4-3MHz Channel Bandwidth Band Edge Compliance

QPSK

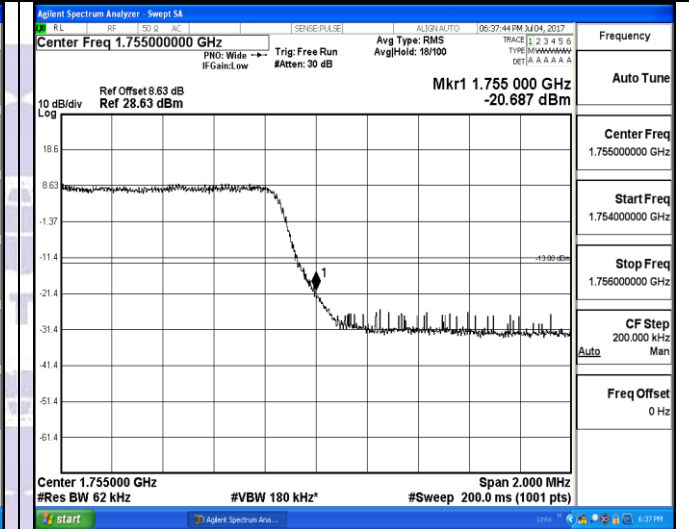
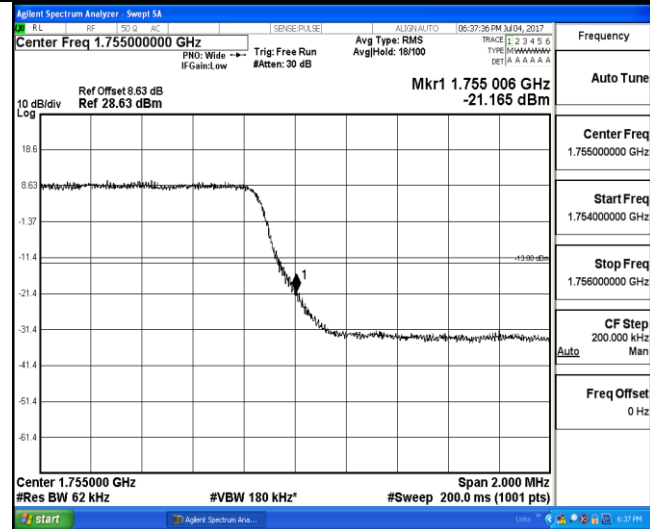
16QAM



1RB#0

1RB#0

Low Channel



1RB#0

1RB#0

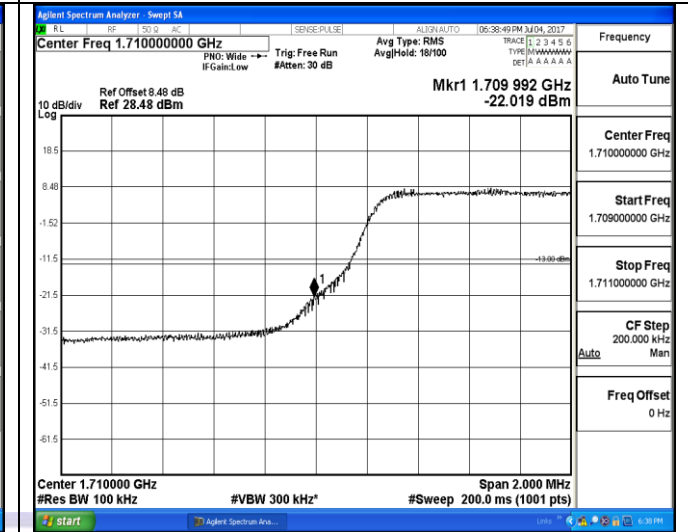
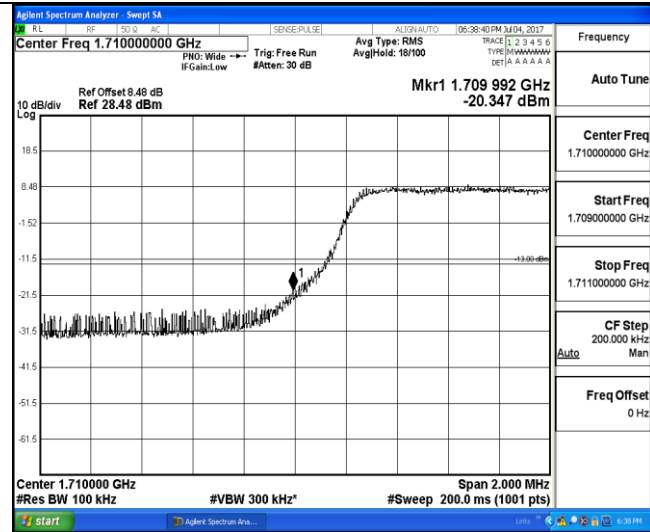
High Channel



LTE FDD Band 4-5MHz Channel Bandwidth Band Edge Compliance

QPSK

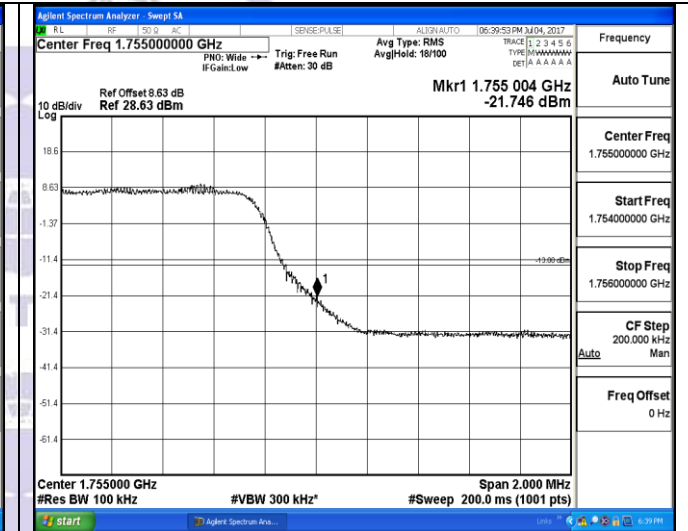
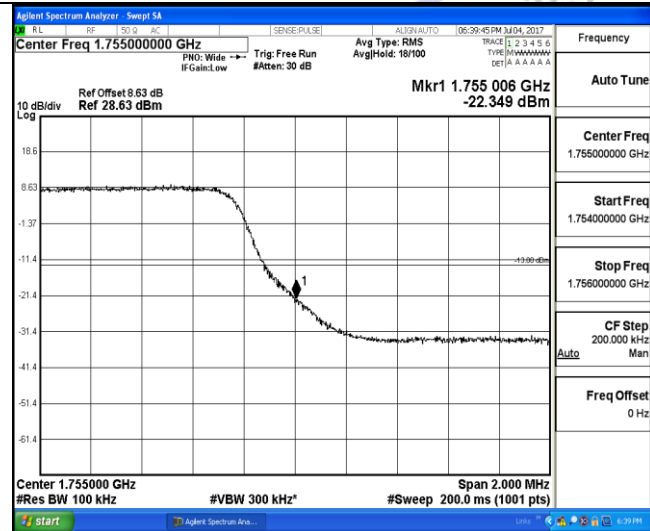
16QAM



1RB#0

1RB#0

Low Channel



1RB#0

1RB#0

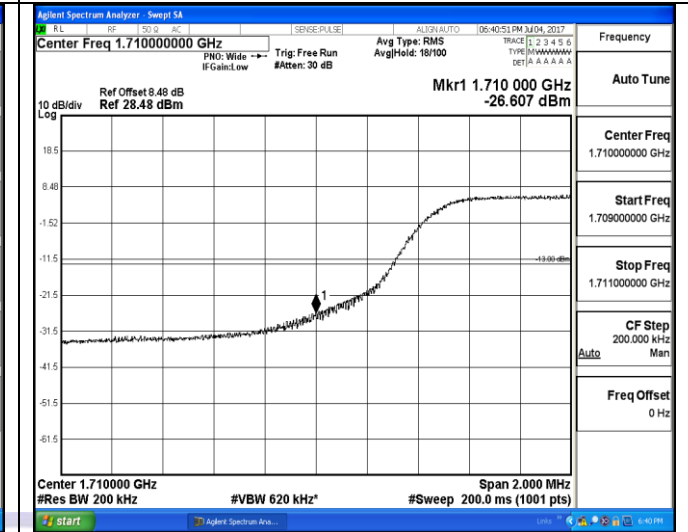
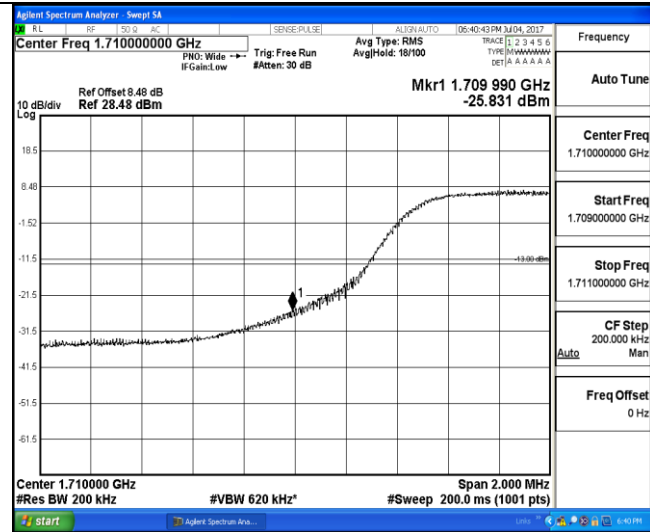
High Channel



LTE FDD Band 4-10MHz Channel Bandwidth Band Edge Compliance

QPSK

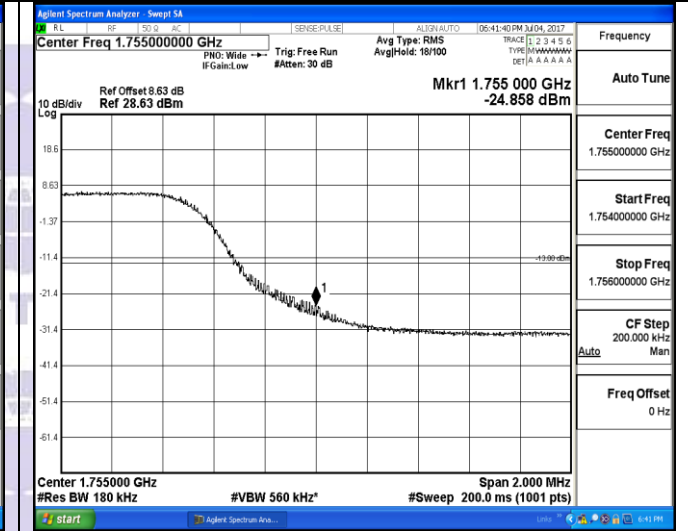
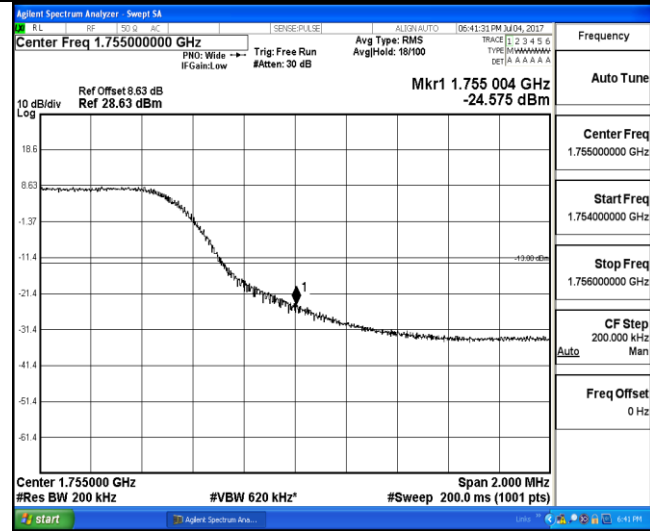
16QAM



1RB#0

1RB#0

Low Channel



1RB#0

1RB#0

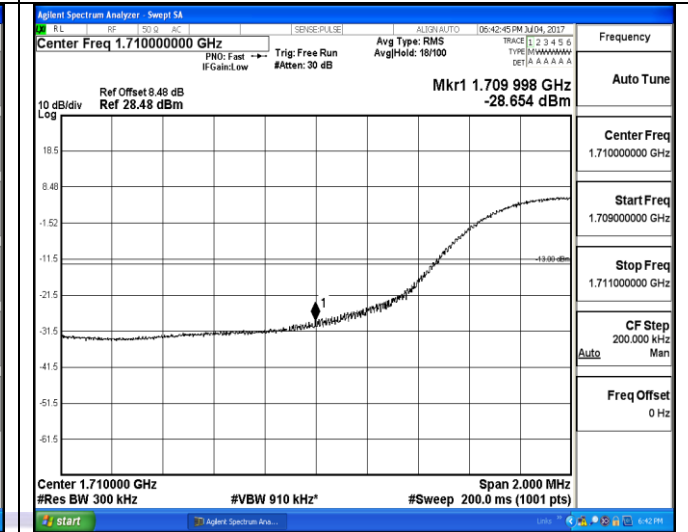
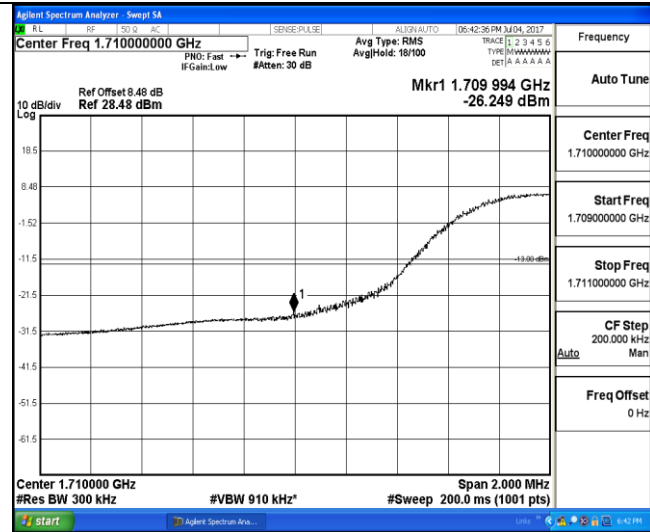
High Channel



LTE FDD Band 4-15MHz Channel Bandwidth Band Edge Compliance

QPSK

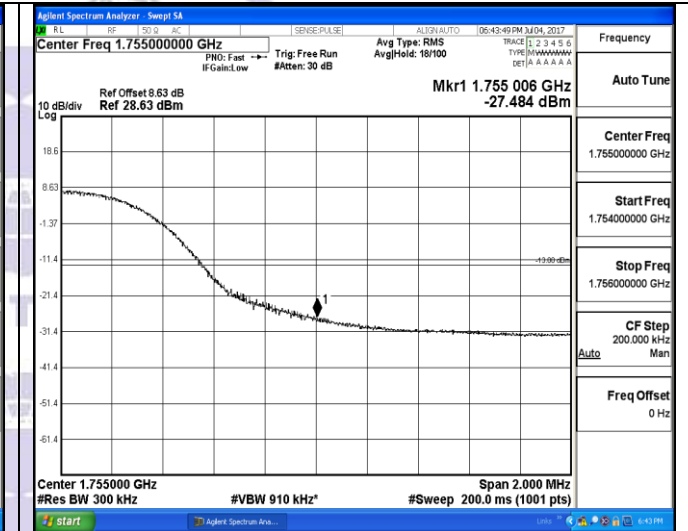
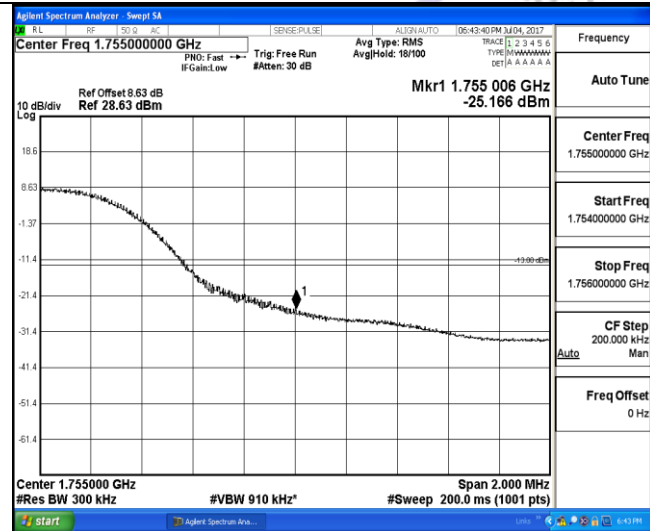
16QAM



1RB#0

1RB#0

Low Channel



1RB#0

1RB#0

High Channel

