

## Appendix C: 26dB Bandwidth and Occupied Bandwidth LTE Band 4 Test Result

### Channel Bandwidth: 1.4 MHz

| Channel Bandwidth: 1.4 MHz |         |                  |        |                          |                      |         |
|----------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation                 | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                            |         | Size             | Offset |                          |                      |         |
| QPSK                       | LCH     | 6                | 0      | 1.0767                   | 1.239                | PASS    |
|                            | MCH     | 6                | 0      | 1.0765                   | 1.221                | PASS    |
|                            | HCH     | 6                | 0      | 1.0787                   | 1.208                | PASS    |
| 16QAM                      | LCH     | 6                | 0      | 1.0824                   | 1.231                | PASS    |
|                            | MCH     | 6                | 0      | 1.0798                   | 1.241                | PASS    |
|                            | HCH     | 6                | 0      | 1.0785                   | 1.226                | PASS    |

### Channel Bandwidth: 3 MHz

| Channel Bandwidth: 3 MHz |         |                  |        |                          |                      |         |
|--------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation               | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                          |         | Size             | Offset |                          |                      |         |
| QPSK                     | LCH     | 15               | 0      | 2.6827                   | 2.886                | PASS    |
|                          | MCH     | 15               | 0      | 2.6818                   | 2.862                | PASS    |
|                          | HCH     | 15               | 0      | 2.6847                   | 2.873                | PASS    |
| 16QAM                    | LCH     | 15               | 0      | 2.6847                   | 2.896                | PASS    |
|                          | MCH     | 15               | 0      | 2.6876                   | 2.879                | PASS    |
|                          | HCH     | 15               | 0      | 2.6894                   | 2.874                | PASS    |

### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz |         |                  |        |                          |                      |         |
|--------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation               | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                          |         | Size             | Offset |                          |                      |         |
| QPSK                     | LCH     | 25               | 0      | 4.4849                   | 4.844                | PASS    |
|                          | MCH     | 25               | 0      | 4.4872                   | 4.801                | PASS    |
|                          | HCH     | 25               | 0      | 4.4810                   | 4.862                | PASS    |
| 16QAM                    | LCH     | 25               | 0      | 4.4867                   | 4.843                | PASS    |
|                          | MCH     | 25               | 0      | 4.4875                   | 4.864                | PASS    |
|                          | HCH     | 25               | 0      | 4.4886                   | 4.896                | PASS    |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz |         |                  |        |                          |                      |         |
|---------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation                | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                           |         | Size             | Offset |                          |                      |         |
| QPSK                      | LCH     | 50               | 0      | 8.9416                   | 9.481                | PASS    |
|                           | MCH     | 50               | 0      | 8.9337                   | 9.463                | PASS    |
|                           | HCH     | 50               | 0      | 8.9304                   | 9.397                | PASS    |
| 16QAM                     | LCH     | 50               | 0      | 8.9367                   | 9.526                | PASS    |
|                           | MCH     | 50               | 0      | 8.9431                   | 9.544                | PASS    |
|                           | HCH     | 50               | 0      | 8.9512                   | 9.551                | PASS    |

### Channel Bandwidth: 15 MHz

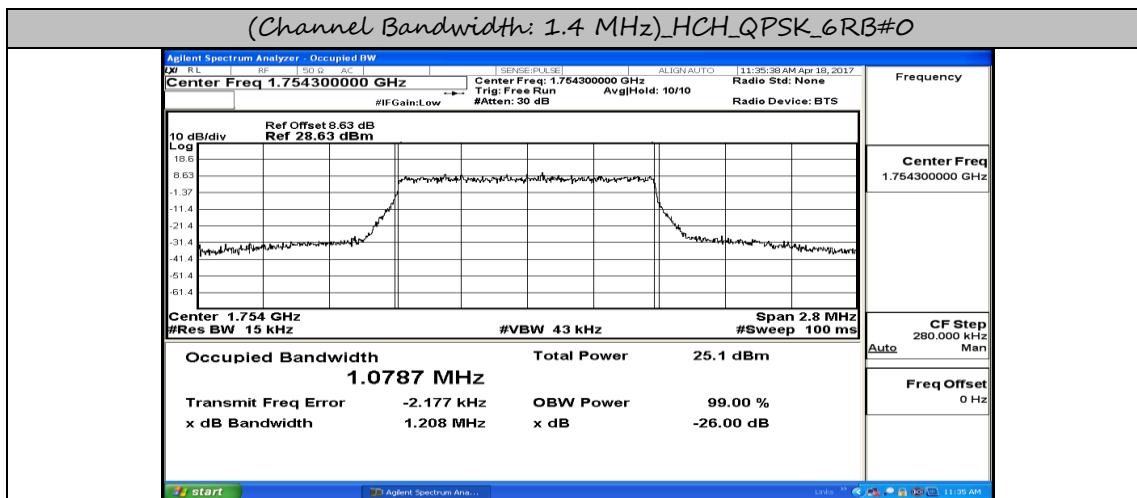
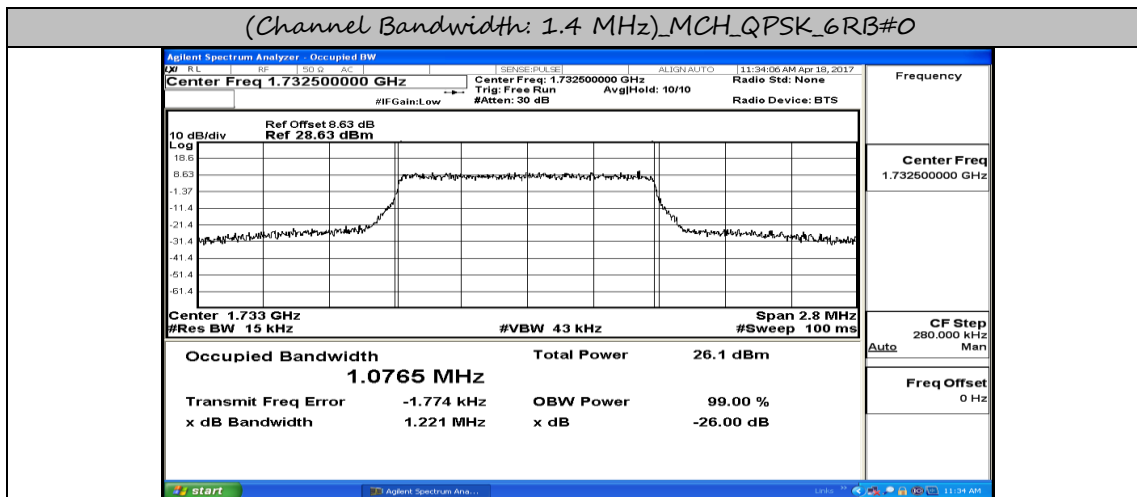
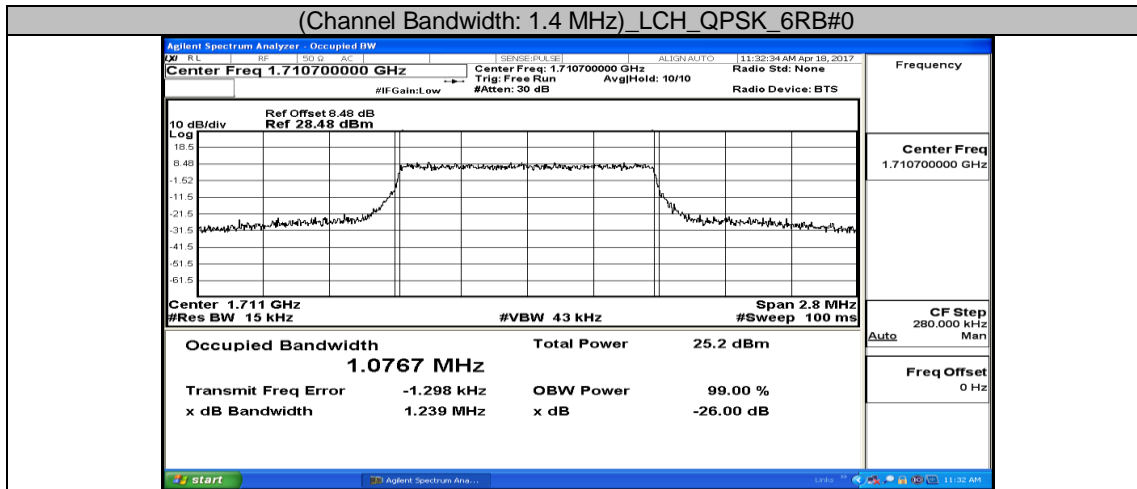
| Channel Bandwidth: 15 MHz |         |                  |        |                          |                      |         |
|---------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation                | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                           |         | Size             | Offset |                          |                      |         |
| QPSK                      | LCH     | 75               | 0      | 13.417                   | 14.10                | PASS    |
|                           | MCH     | 75               | 0      | 13.394                   | 14.07                | PASS    |
|                           | HCH     | 75               | 0      | 13.412                   | 14.09                | PASS    |
| 16QAM                     | LCH     | 75               | 0      | 13.428                   | 14.11                | PASS    |
|                           | MCH     | 75               | 0      | 13.402                   | 14.08                | PASS    |
|                           | MCH     | 75               | 0      | 13.413                   | 14.05                | PASS    |

### Channel Bandwidth: 20 MHz

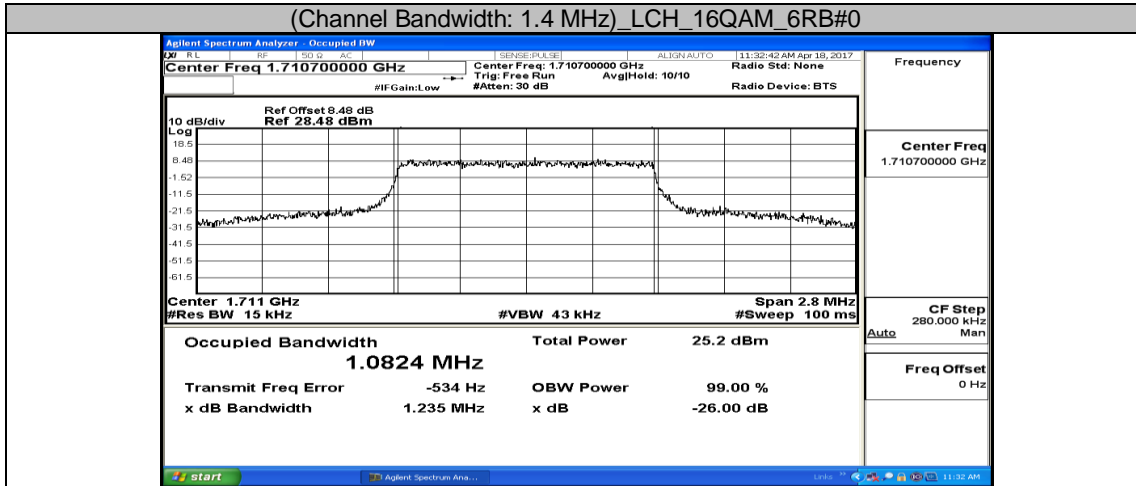
| Channel Bandwidth: 1.4 MHz |         |                  |        |                          |                      |         |
|----------------------------|---------|------------------|--------|--------------------------|----------------------|---------|
| Modulation                 | Channel | RB Configuration |        | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|                            |         | Size             | Offset |                          |                      |         |
| QPSK                       | LCH     | 100              | 0      | 17.902                   | 18.67                | PASS    |
|                            | MCH     | 100              | 0      | 17.857                   | 18.65                | PASS    |
|                            | HCH     | 100              | 0      | 17.851                   | 18.64                | PASS    |
| 16QAM                      | LCH     | 100              | 0      | 17.912                   | 18.69                | PASS    |
|                            | MCH     | 100              | 0      | 17.853                   | 18.59                | PASS    |
|                            | HCH     | 100              | 0      | 17.854                   | 18.64                | PASS    |

# Test Graphs

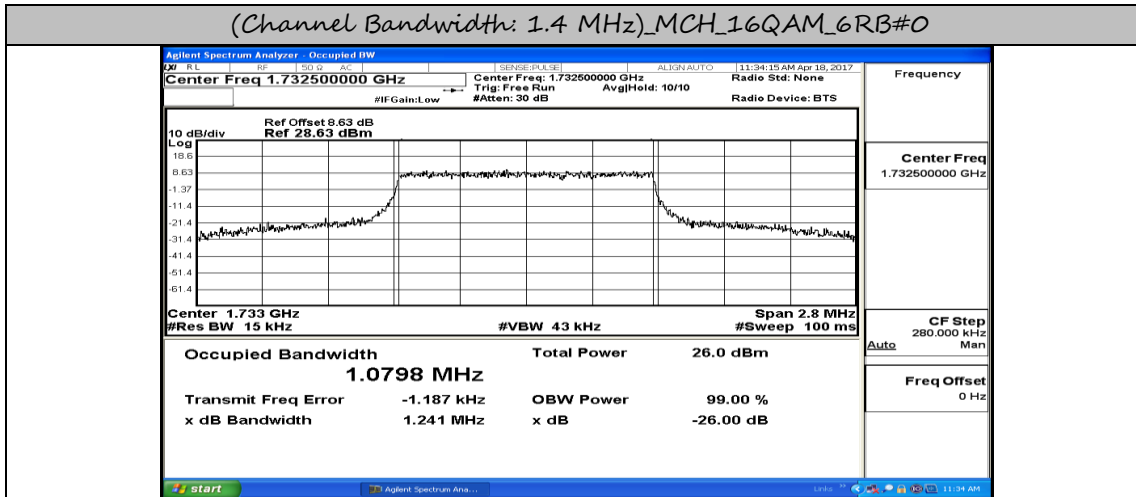
## Channel Bandwidth: 1.4 MHz



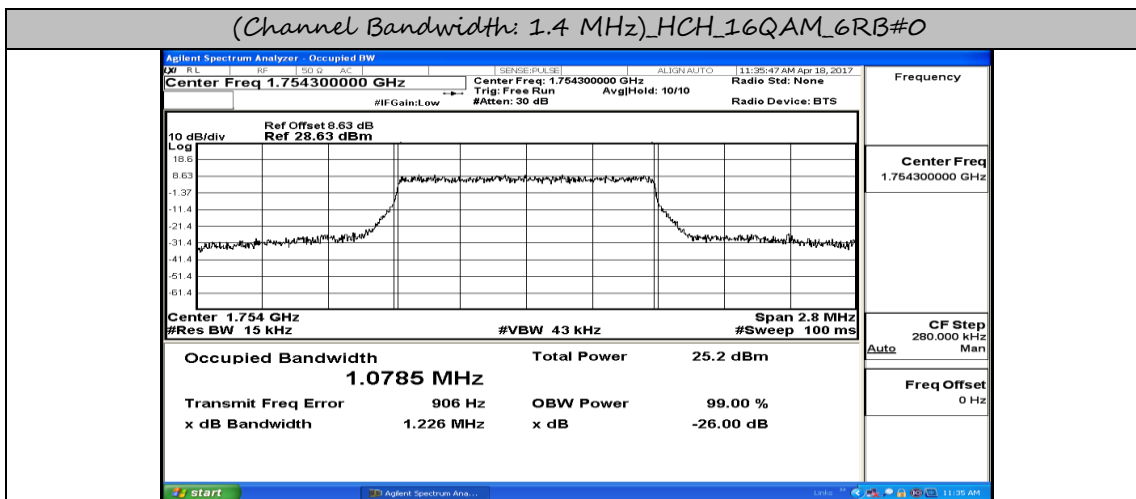
(Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM\_6RB#0



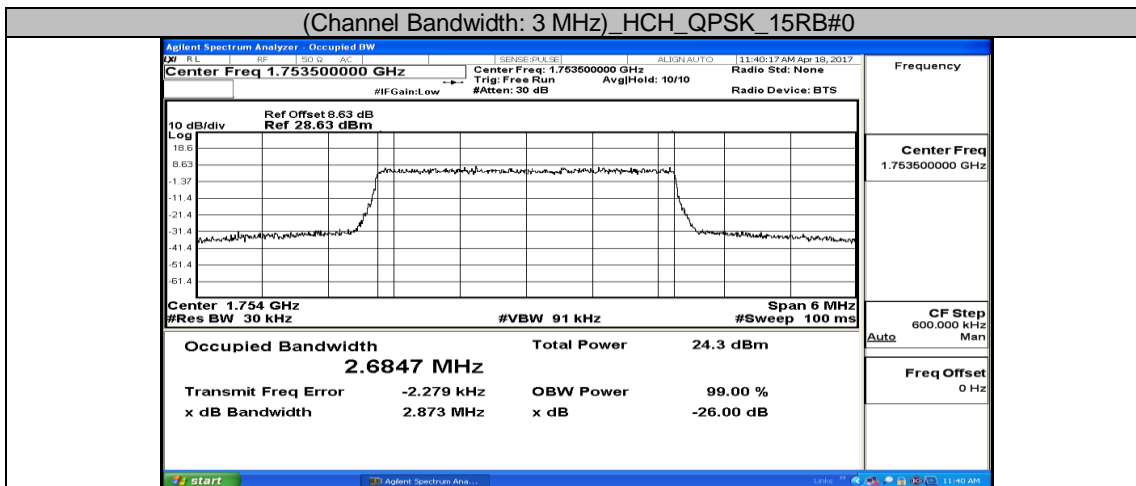
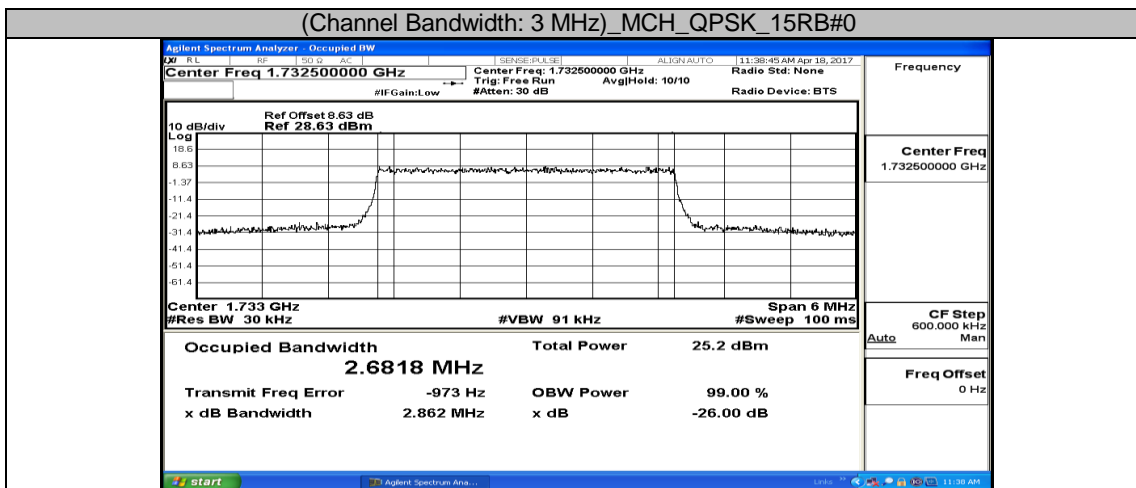
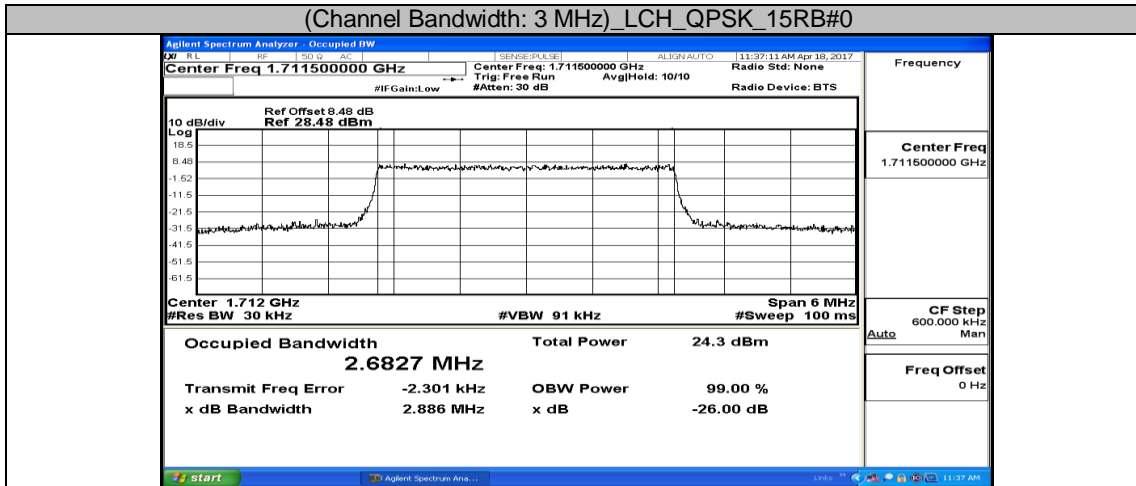
(Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM\_6RB#0



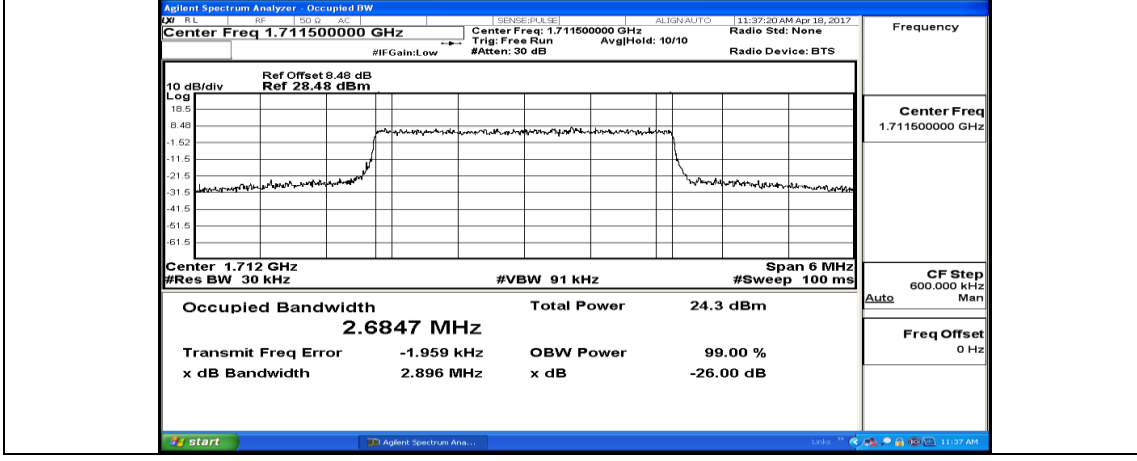
(Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM\_6RB#0



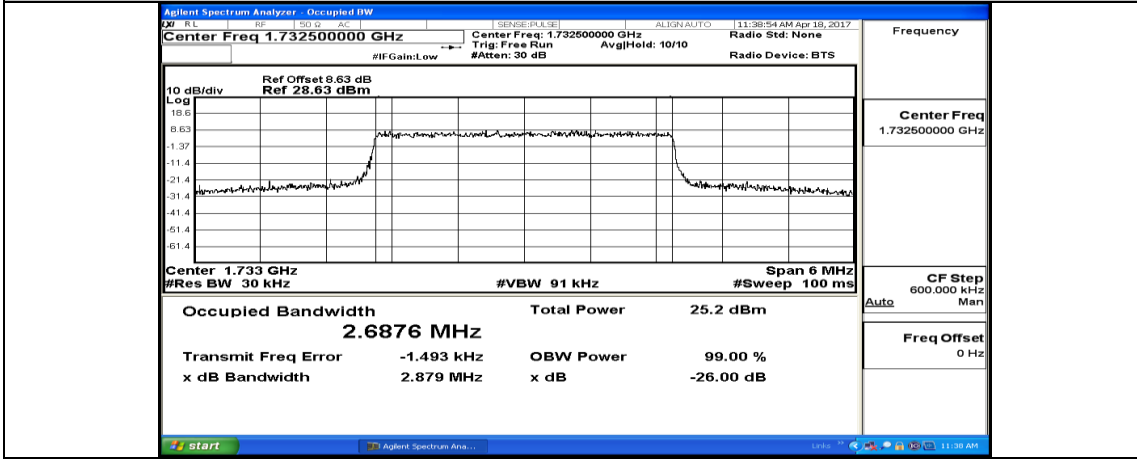
# Channel Bandwidth: 3 MHz



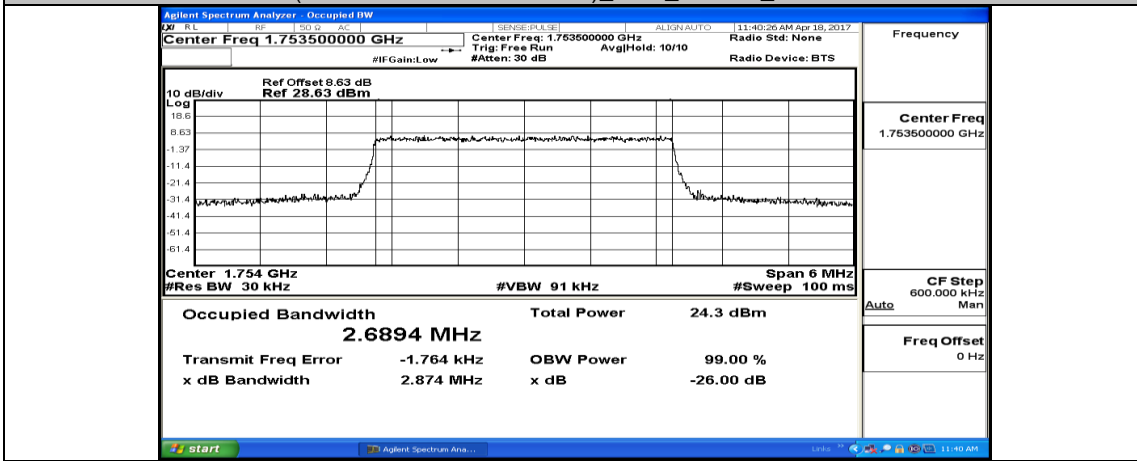
(Channel Bandwidth: 3 MHz) \_LCH\_16QAM\_15RB#0



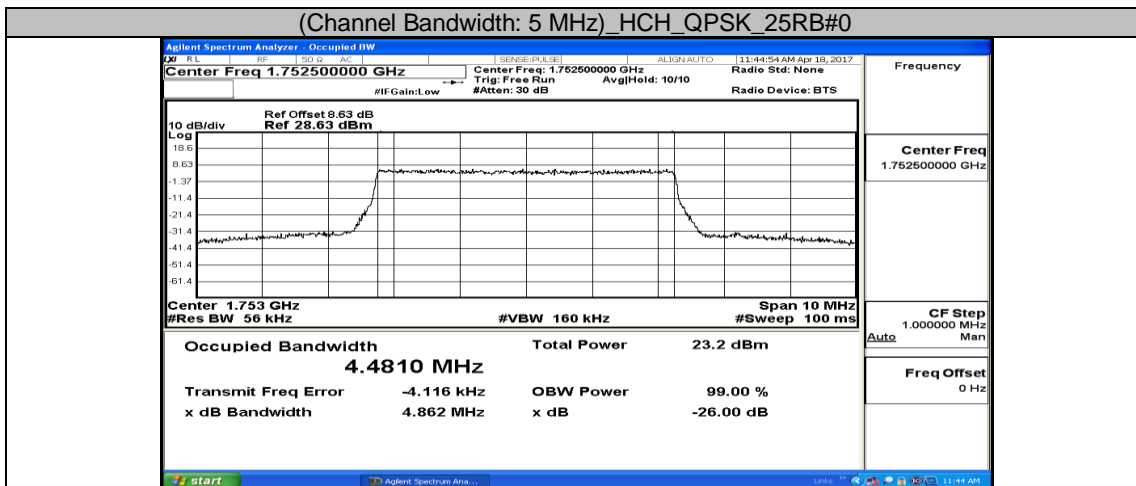
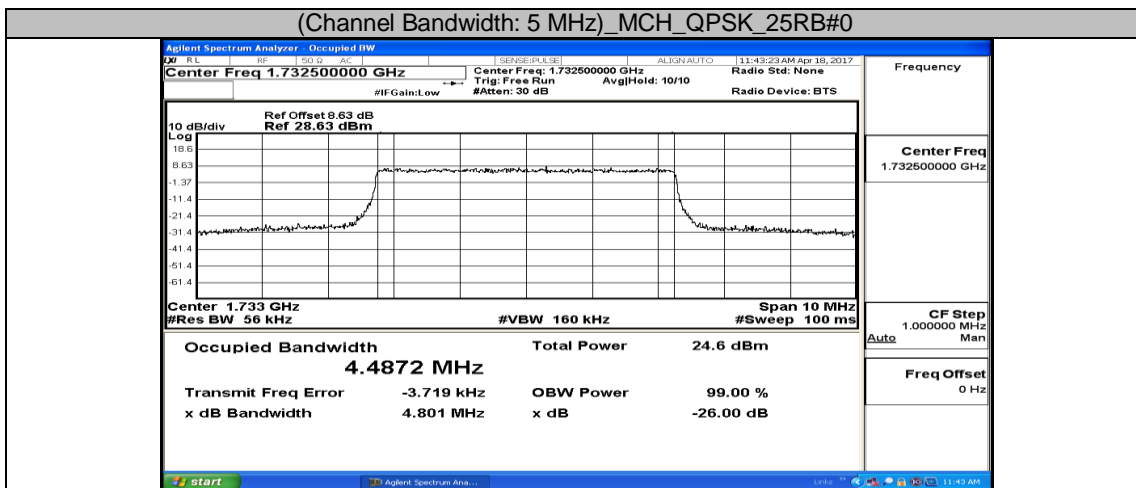
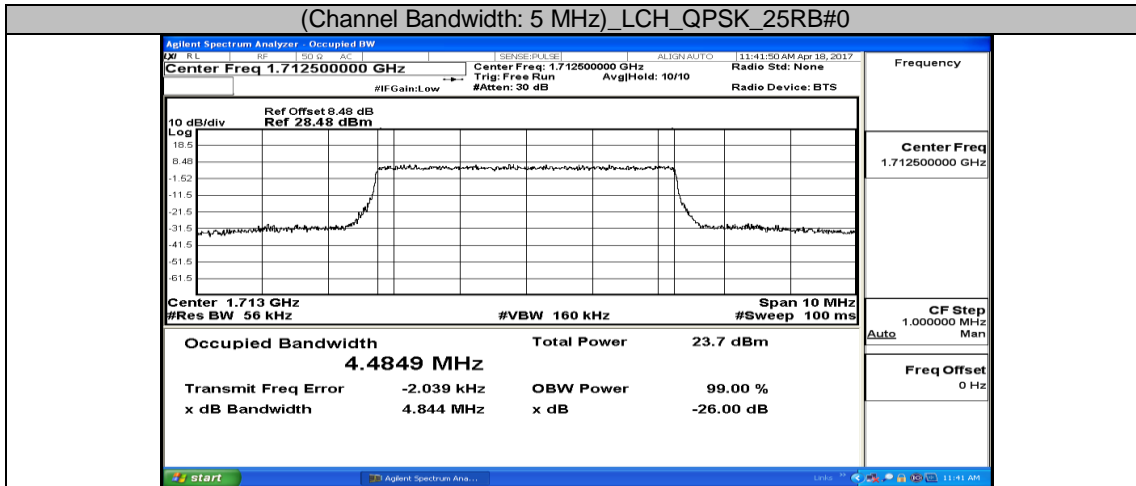
(Channel Bandwidth: 3 MHz) \_MCH\_16QAM\_15RB#0



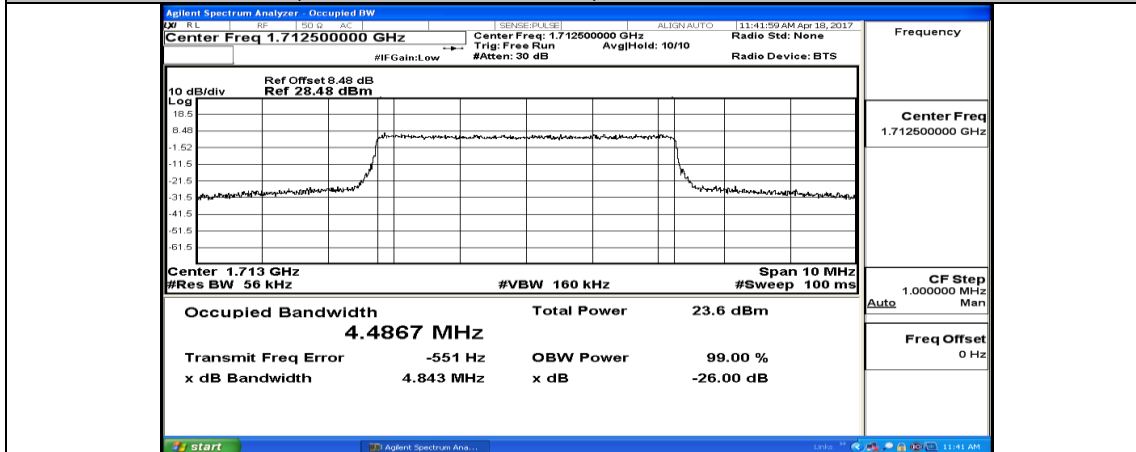
(Channel Bandwidth: 3 MHz) \_HCH\_16QAM\_15RB#0



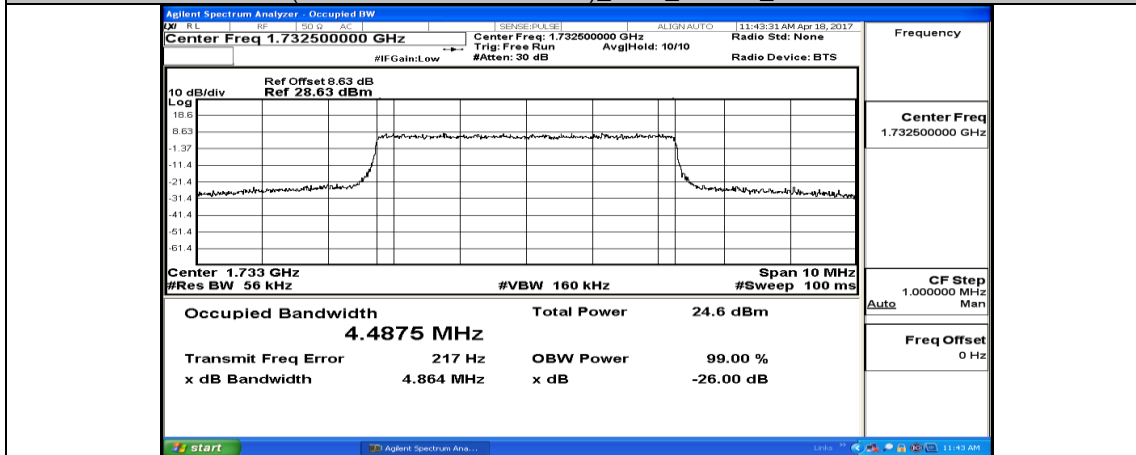
# Channel Bandwidth: 5 MHz



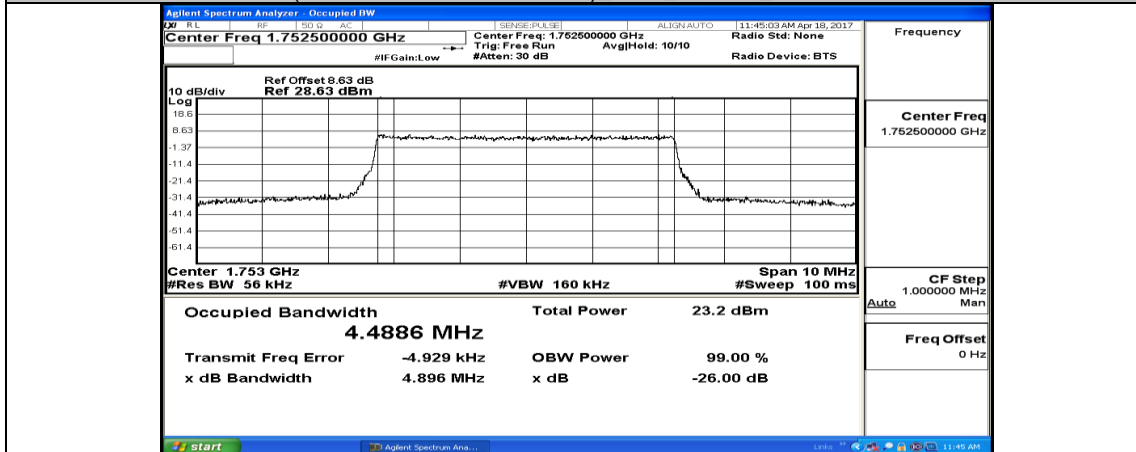
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_25RB#0

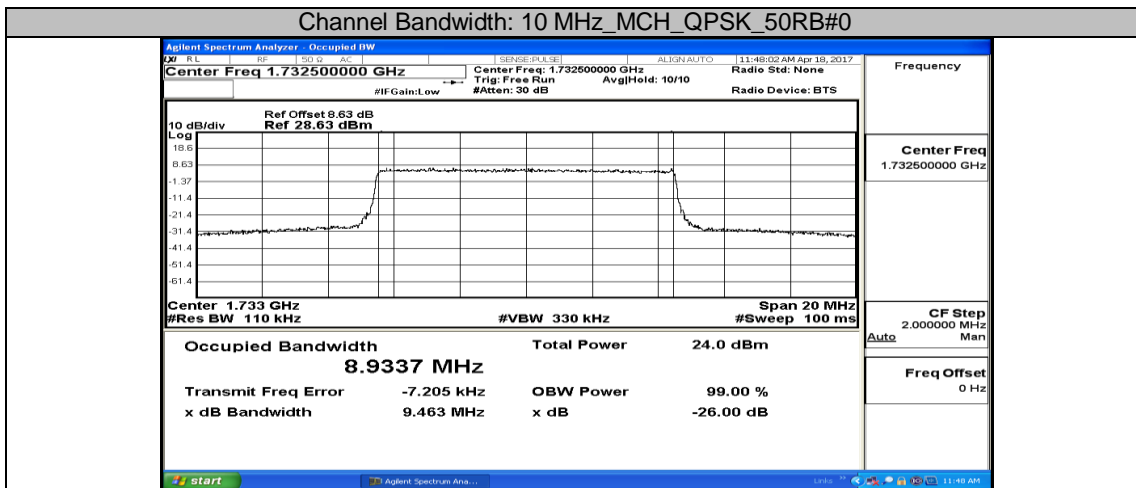
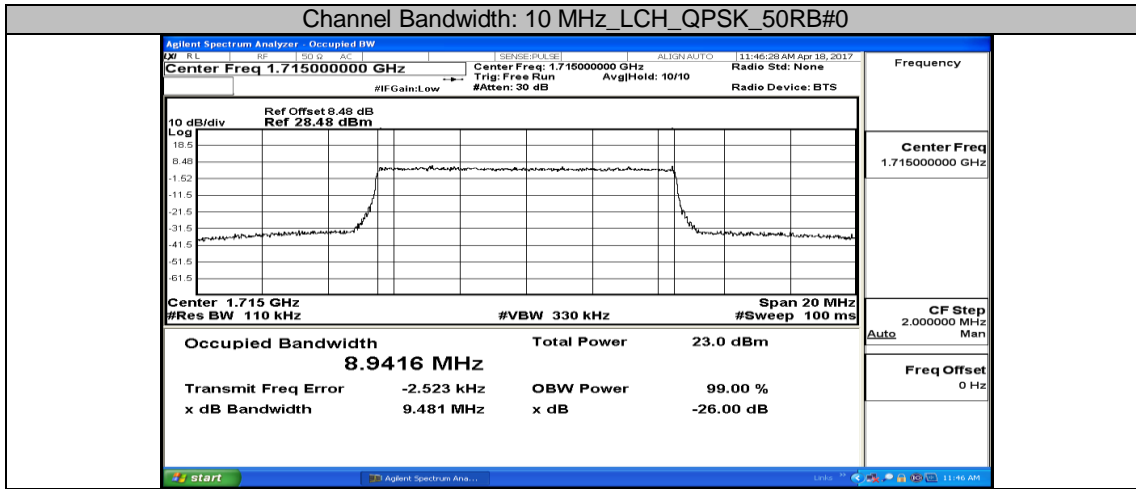


(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0

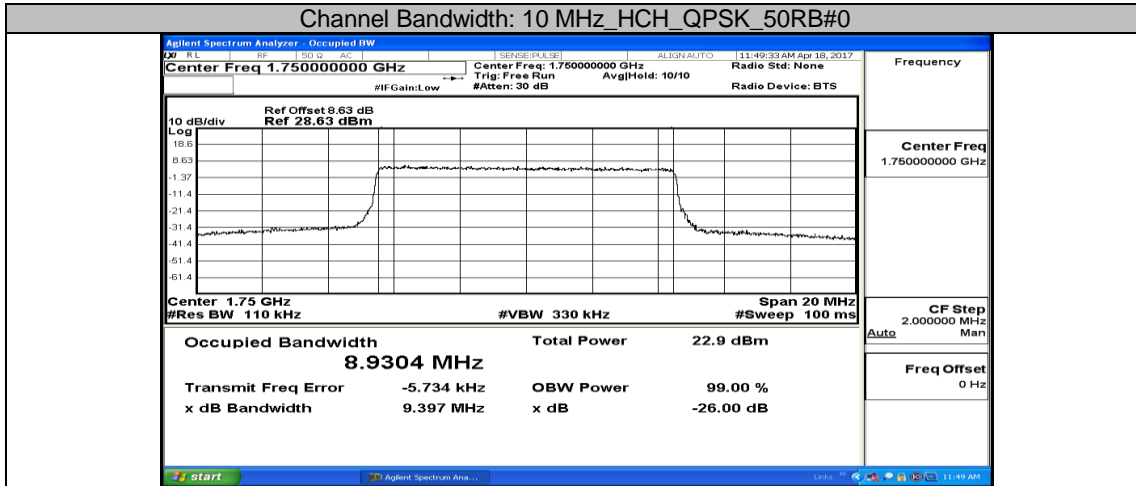




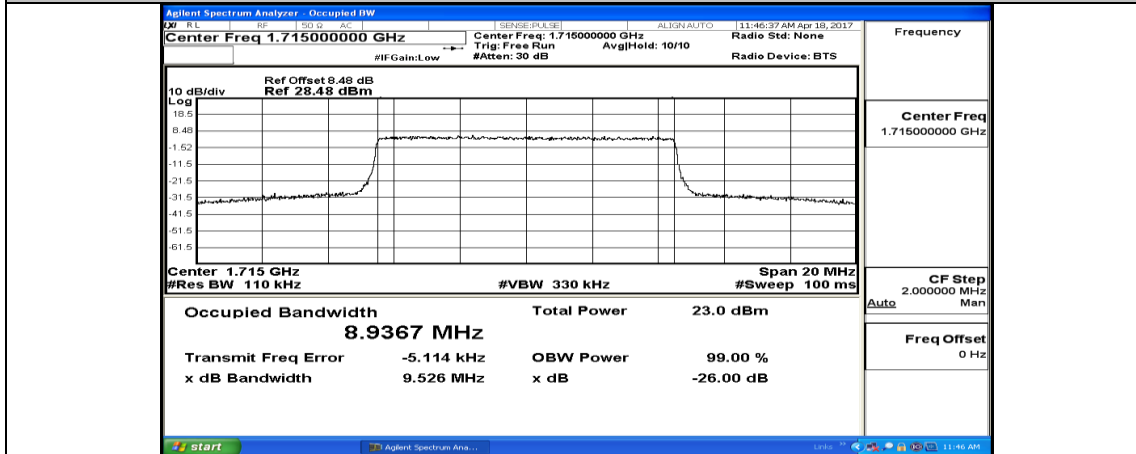
# Channel Bandwidth: 10 MHz



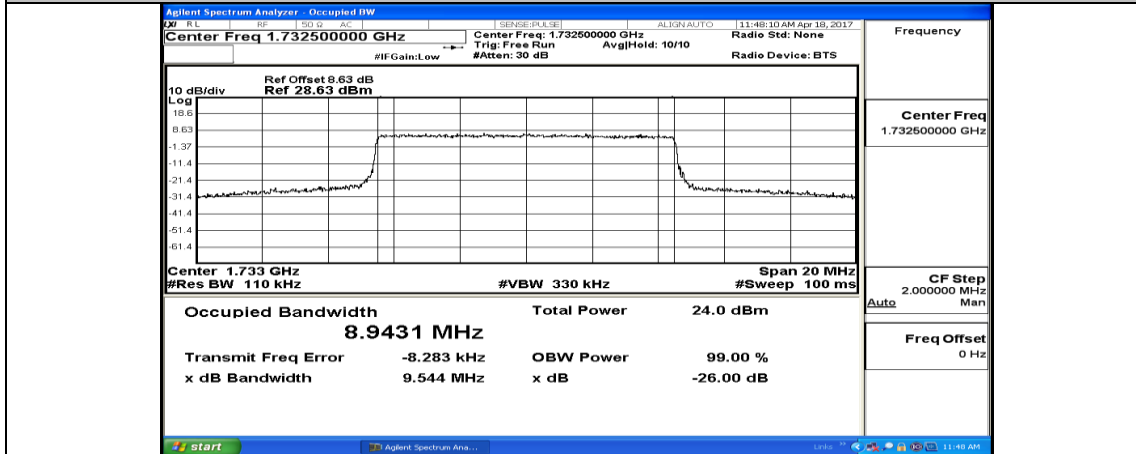
Channel Bandwidth: 10 MHz\_HCH\_QPSK\_50RB#0



Channel Bandwidth: 10 MHz\_LCH\_16QAM\_50RB#0



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_50RB#0



Channel Bandwidth: 10 MHz\_HCH\_16QAM\_50RB#0

Agilent Spectrum Analyzer - Occupied BW

Center Freq 1.75000000 GHz

Center Freq: 1.750000000 GHz  
 Trig: Free Run  
 Avg/Hold: 10/10  
 Radio Std: None  
 #IF Gain: Low  
 #Atten: 30 dB  
 Radio Device: BTS

11:49:42 AM Apr 18, 2017

Frequency

Center Freq  
1.75000000 GHz

10 dB/div  
 Ref Offset 8.63 dB  
 Ref 28.63 dBm

Center 1.75 GHz  
 #Res BW 110 kHz  
 #VBW 330 kHz  
 Span 20 MHz  
 #Sweep 100 ms

Occupied Bandwidth  
**8.9512 MHz**

Total Power  
 22.9 dBm

Transmit Freq Error  
 -10.944 kHz

OBW Power  
 99.00 %

x dB Bandwidth  
 9.551 MHz

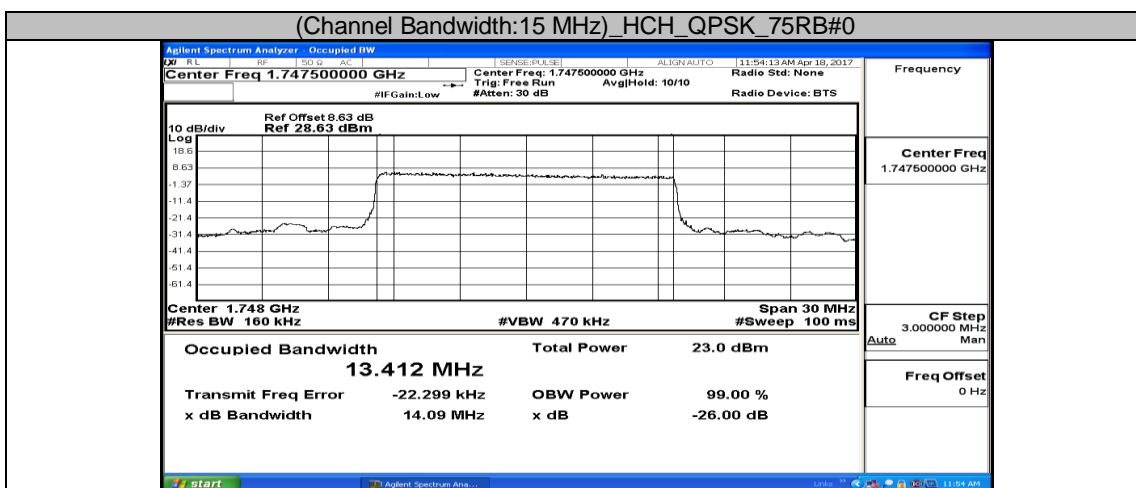
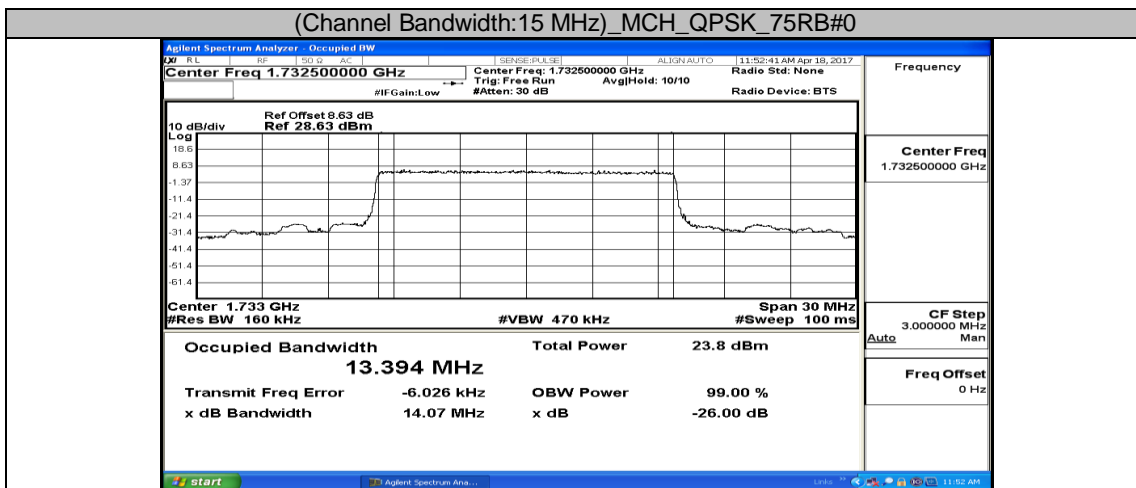
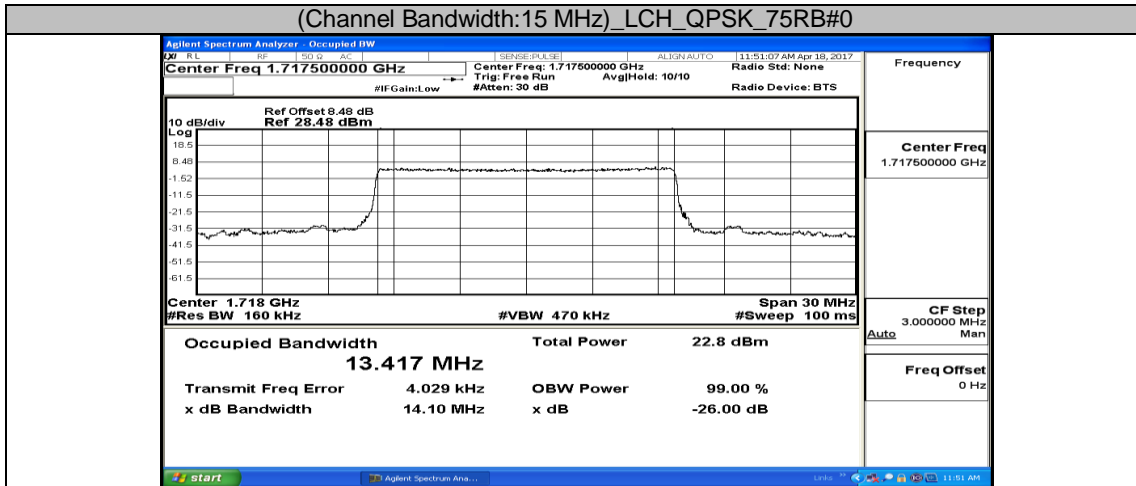
x dB  
 -26.00 dB

CF Step  
 2.000000 MHz  
 Auto Man

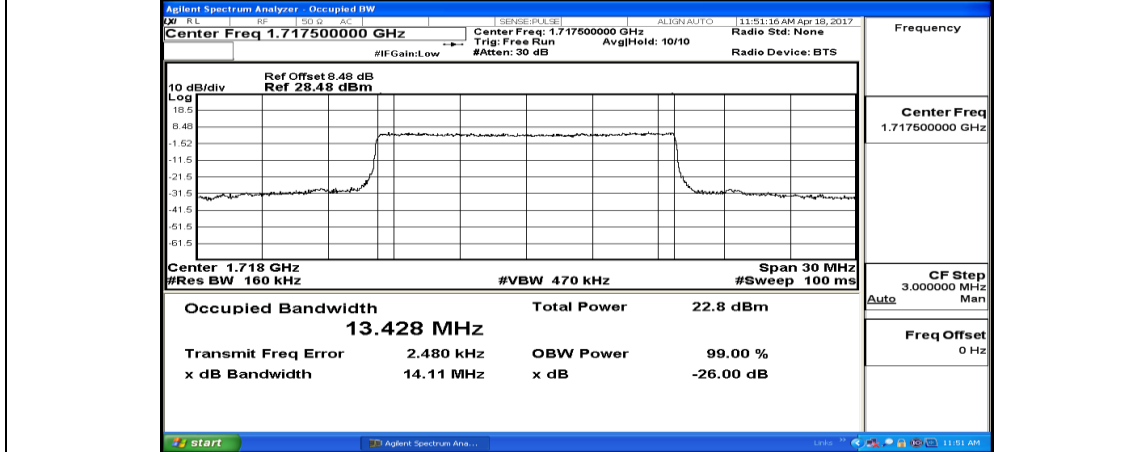
Freq Offset  
 0 Hz

start Agilent Spectrum Ana... 11:49 AM

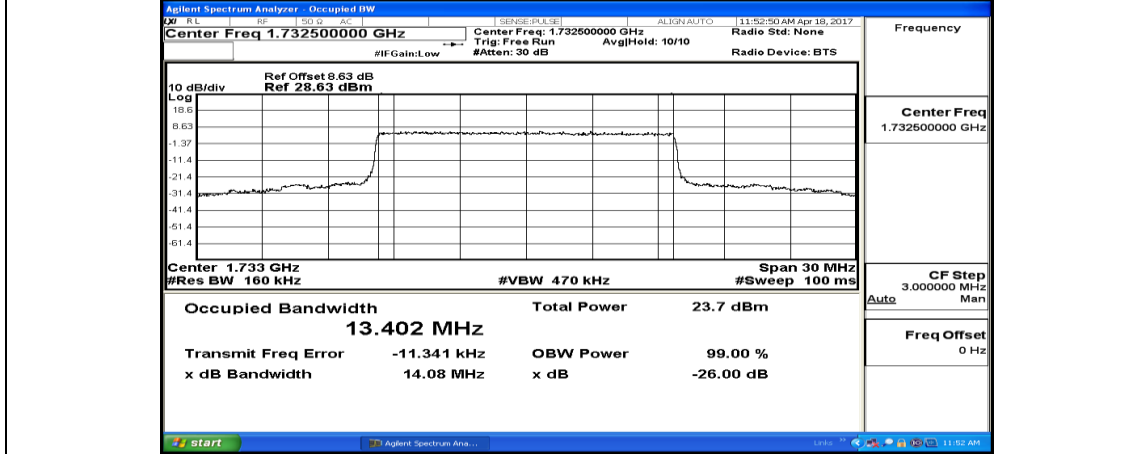
# Channel Bandwidth: 15 MHz



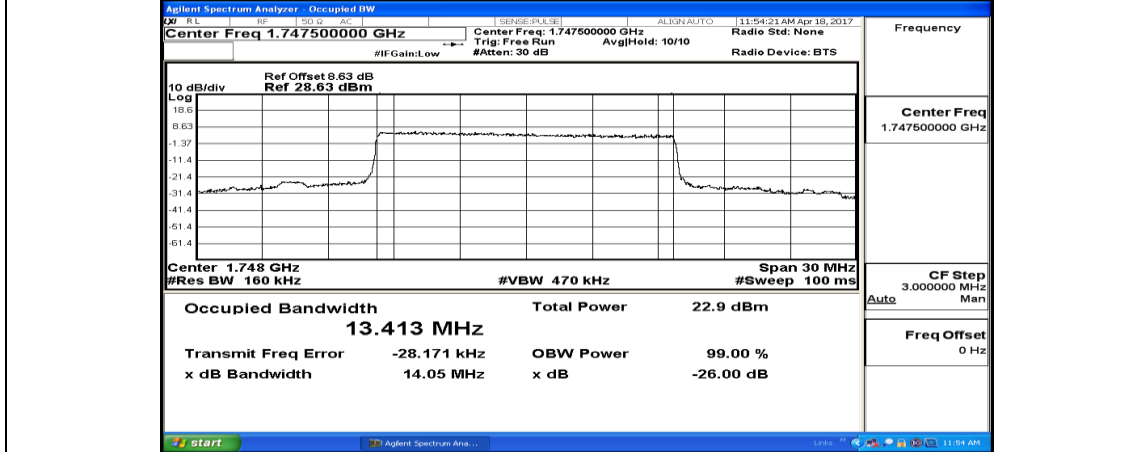
(Channel Bandwidth:15 MHz)\_LCH\_16QAM\_75RB#0



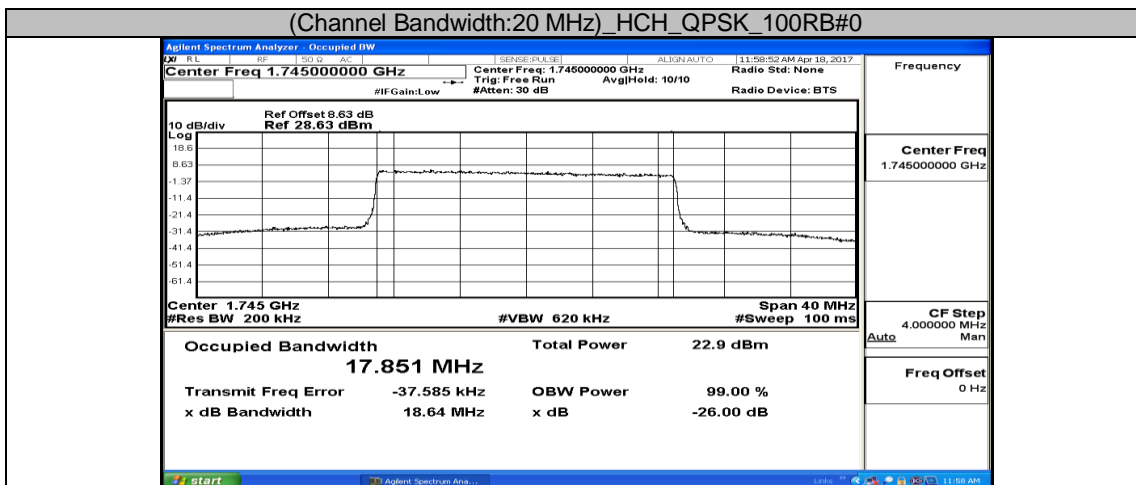
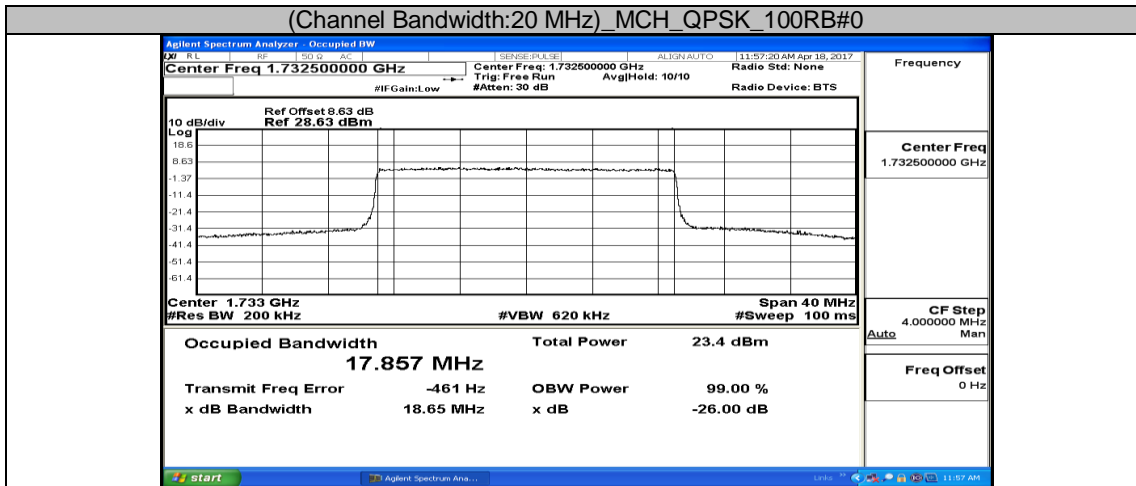
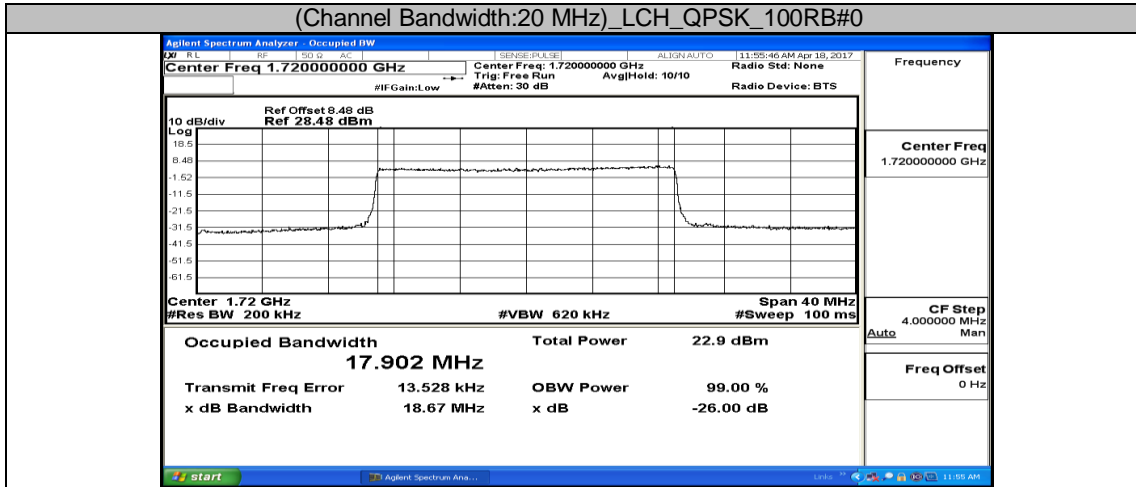
(Channel Bandwidth:15 MHz)\_MCH\_16QAM\_75RB#0



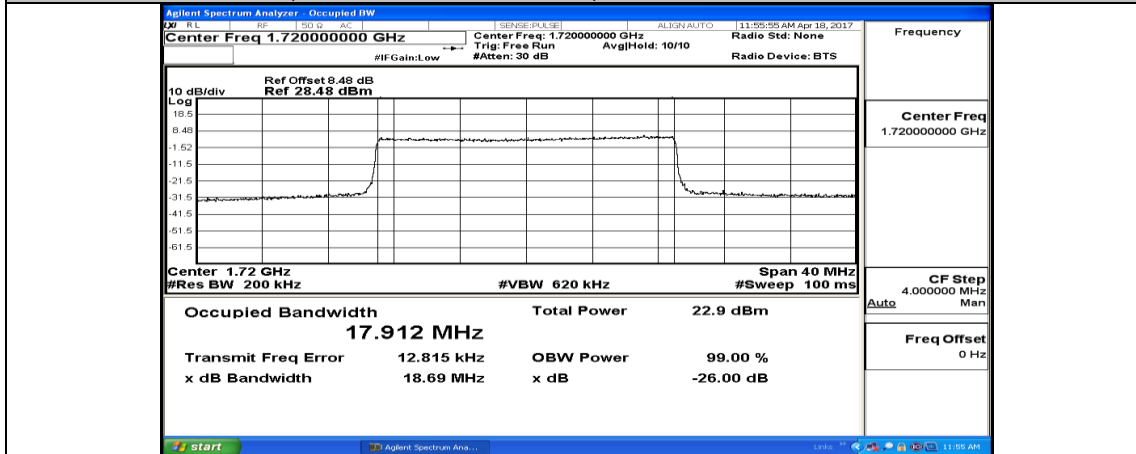
(Channel Bandwidth:15 MHz)\_HCH\_16QAM\_75RB#0



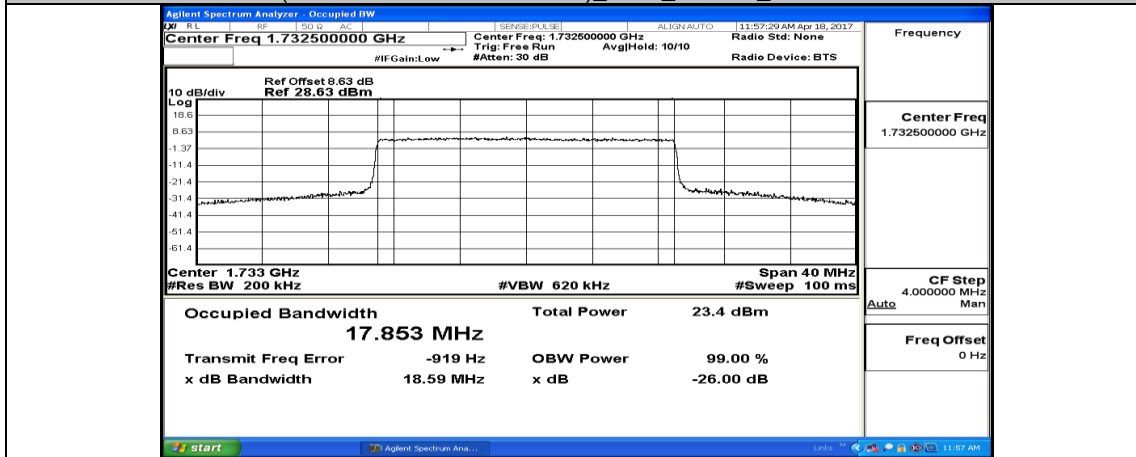
# Channel Bandwidth: 20 MHz



(Channel Bandwidth:20 MHz)\_LCH\_16QAM\_100RB#0



(Channel Bandwidth:20 MHz)\_MCH\_16QAM\_100RB#0



(Channel Bandwidth:20 MHz)\_HCH\_16QAM\_100RB#0

