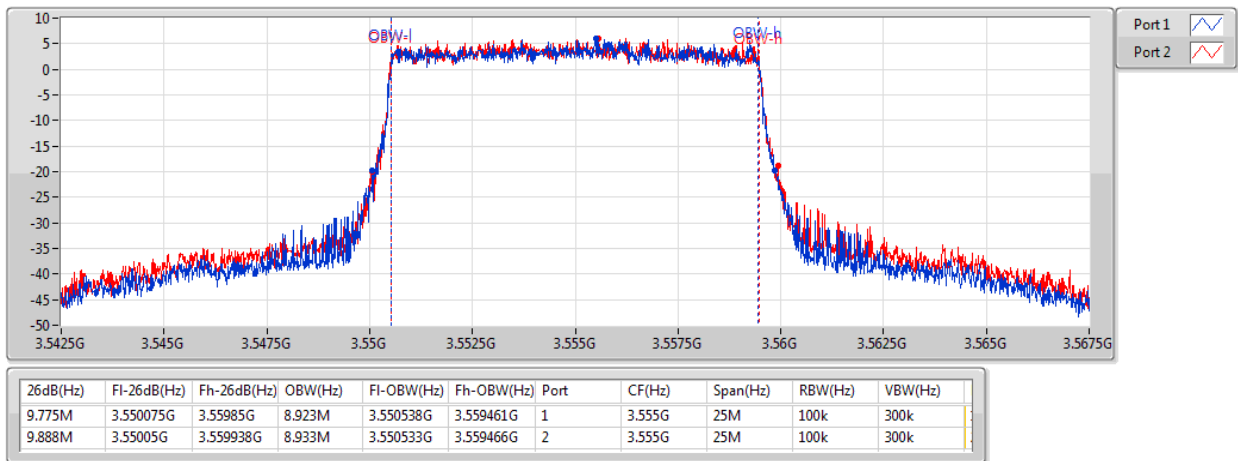


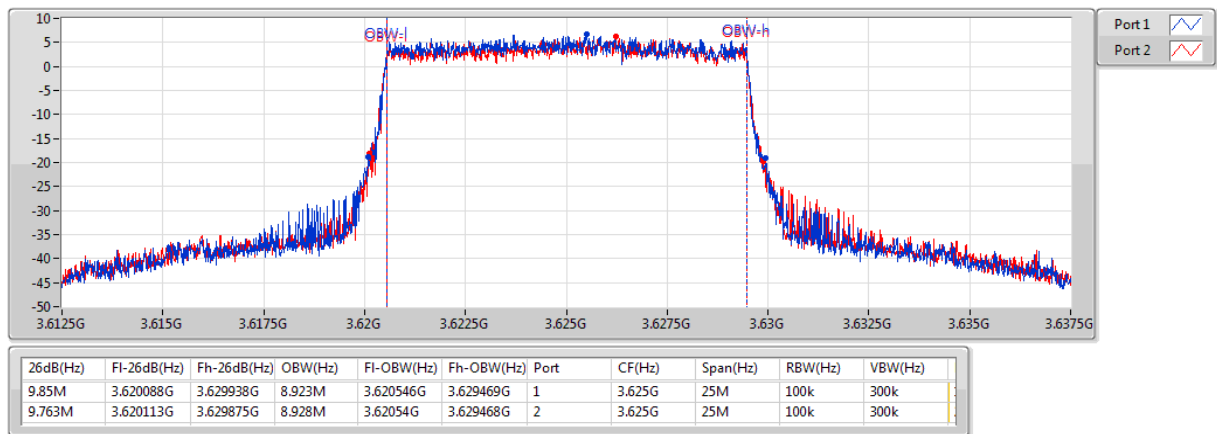
**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**  
**3555MHz\_64QAM\_RB 50,#RB 0**

EBW



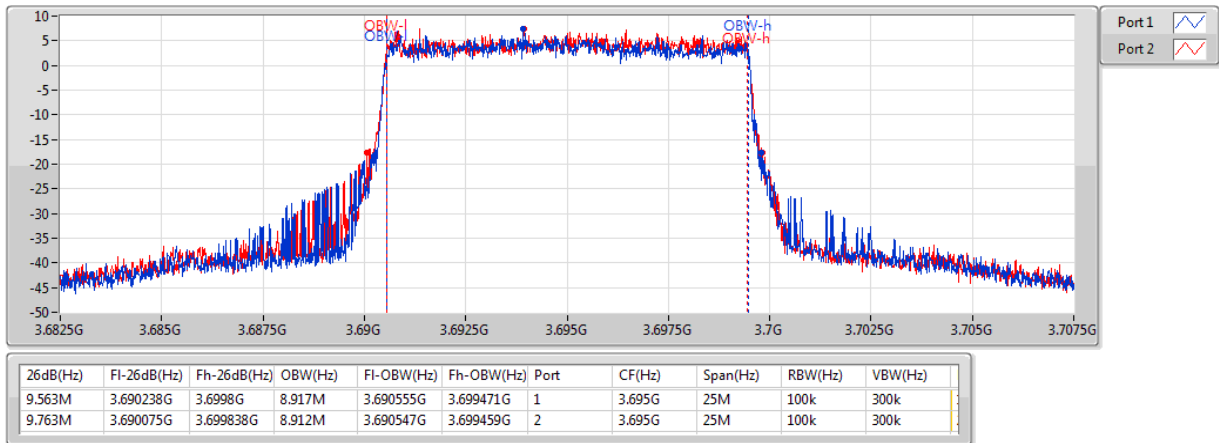
**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**  
**3625MHz\_64QAM\_RB 50,#RB 0**

EBW



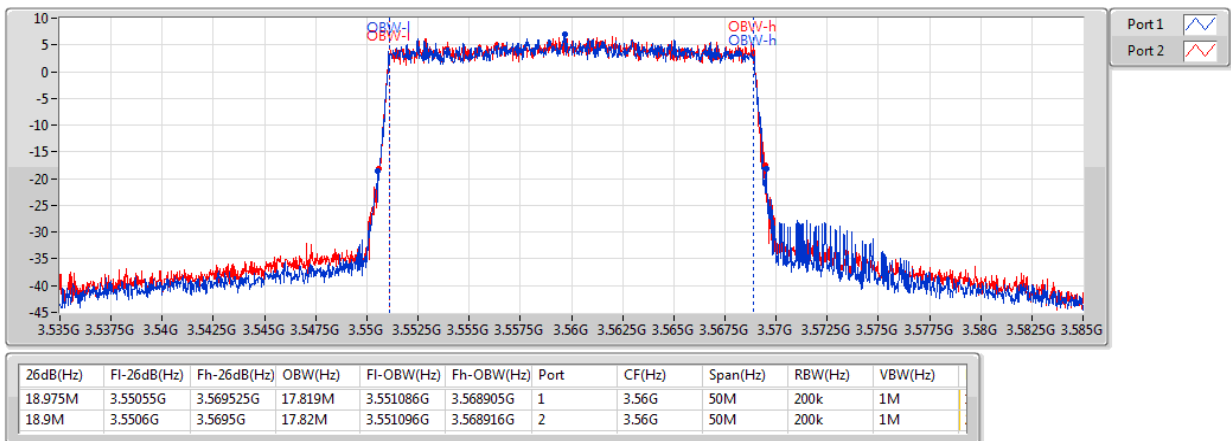
**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**  
**3695MHz\_64QAM\_RB 50,#RB 0**

EBW



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**  
**3560MHz\_QPSK\_RB 100,#RB 0**

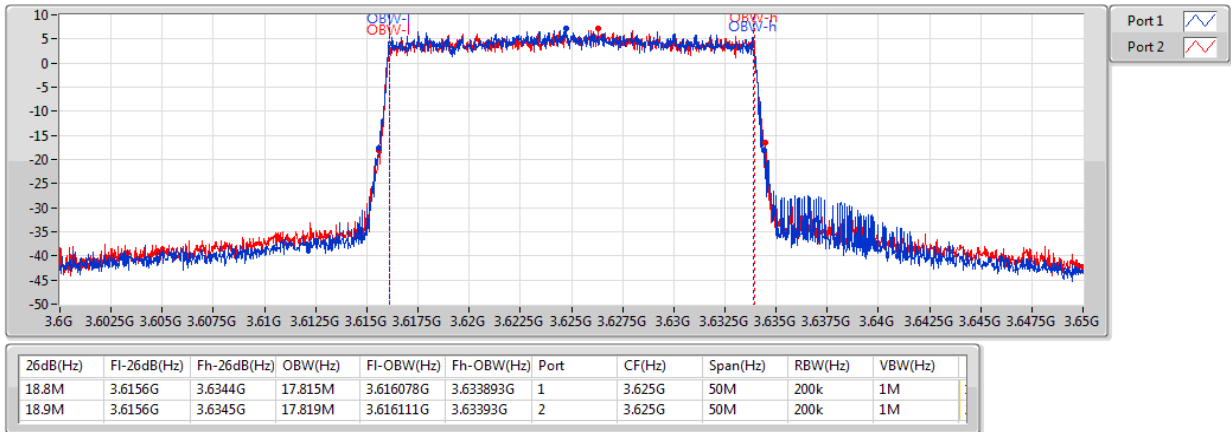
EBW



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**

EBW

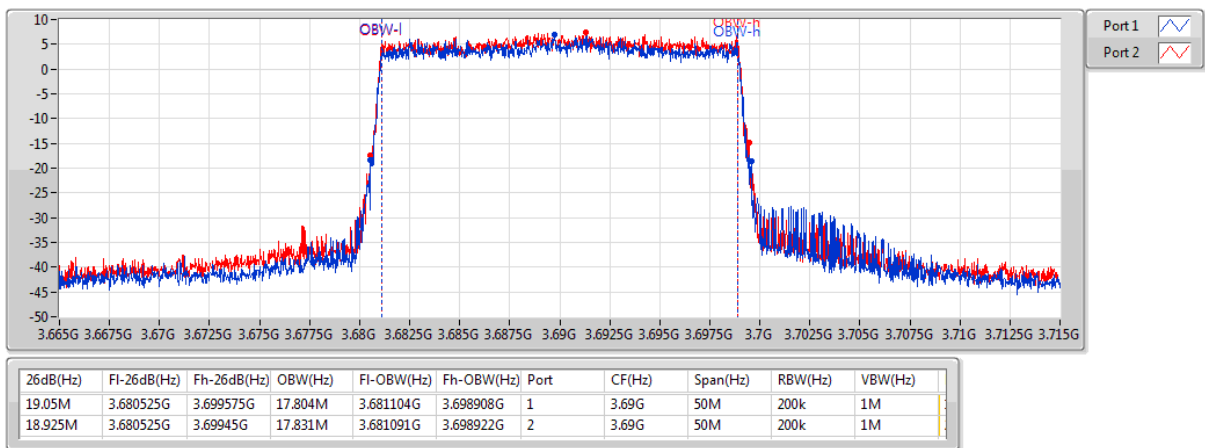
**3625MHz\_QPSK\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**

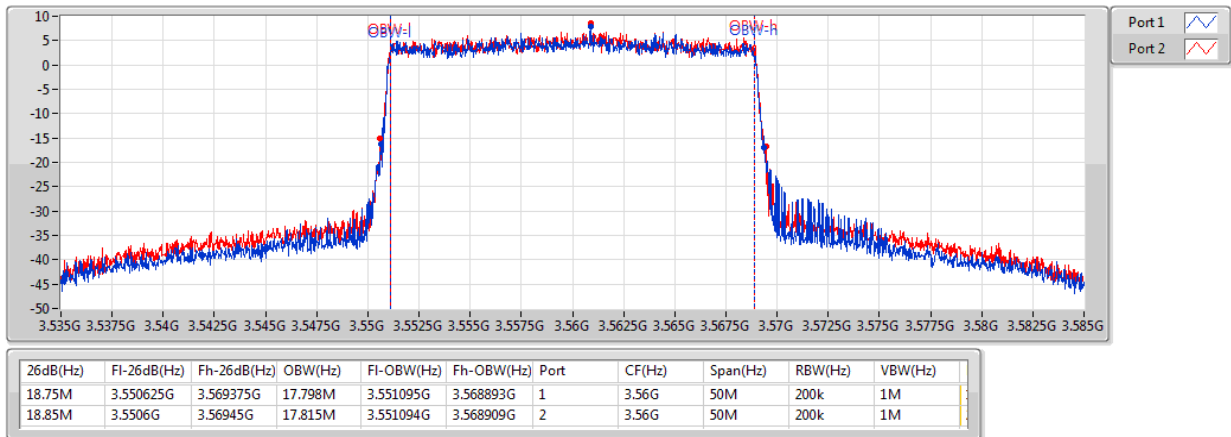
EBW

**3690MHz\_QPSK\_RB 100,#RB 0**



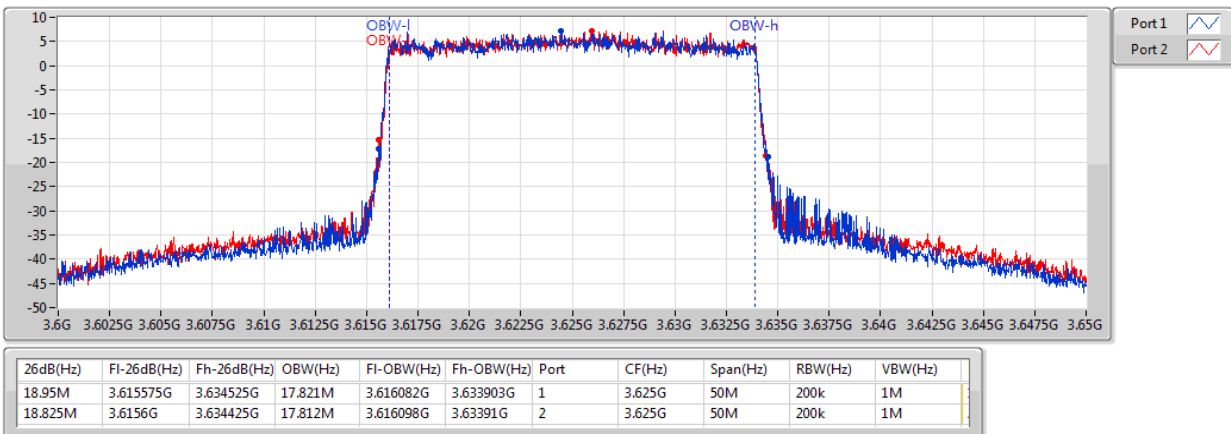
**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**  
**3560MHz\_16QAM\_RB 100,#RB 0**

EBW



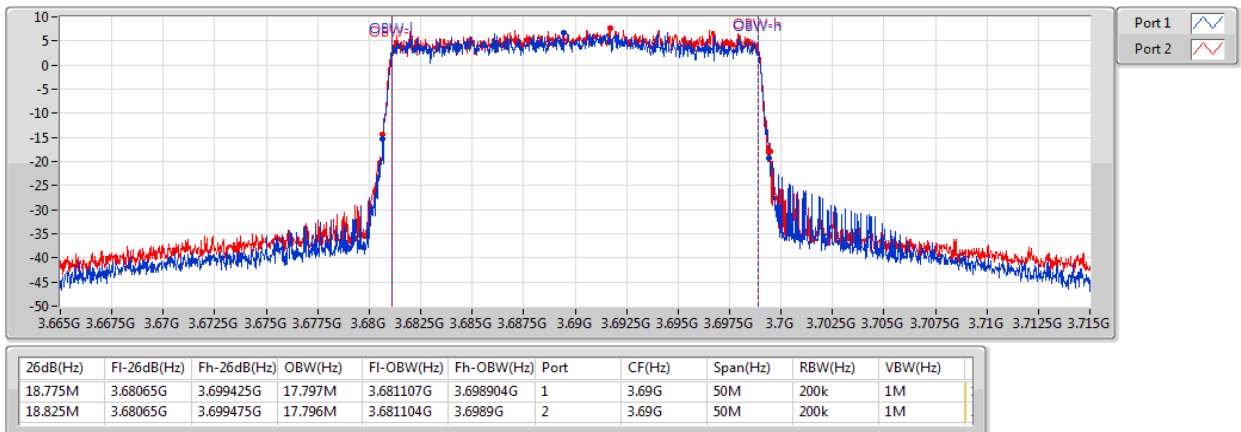
**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**  
**3625MHz\_16QAM\_RB 100,#RB 0**

EBW



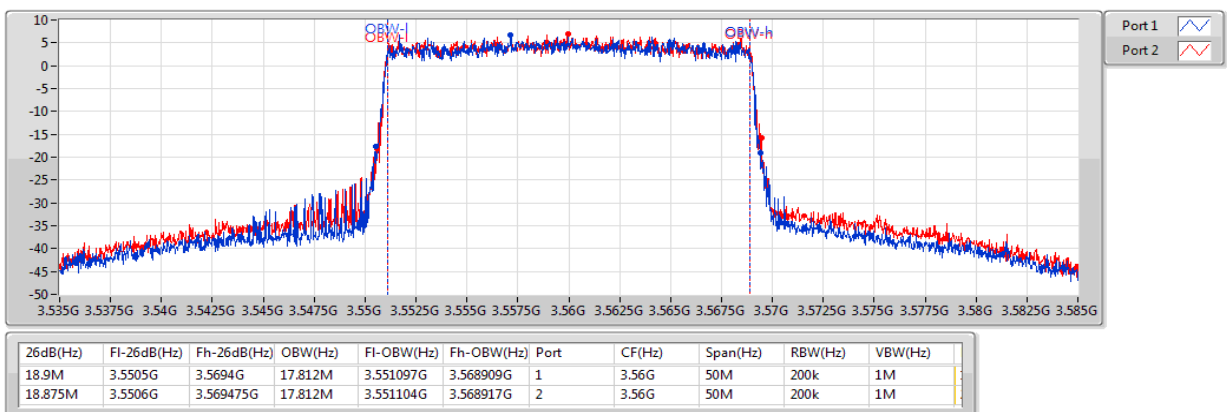
**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**  
**3690MHz\_16QAM\_RB 100,#RB 0**

EBW



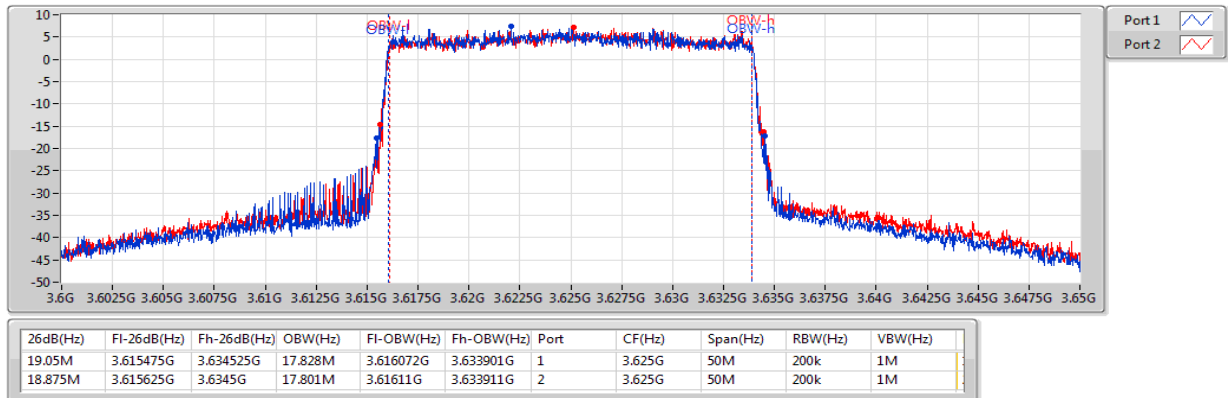
**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**  
**3560MHz\_64QAM\_RB 100,#RB 0**

EBW



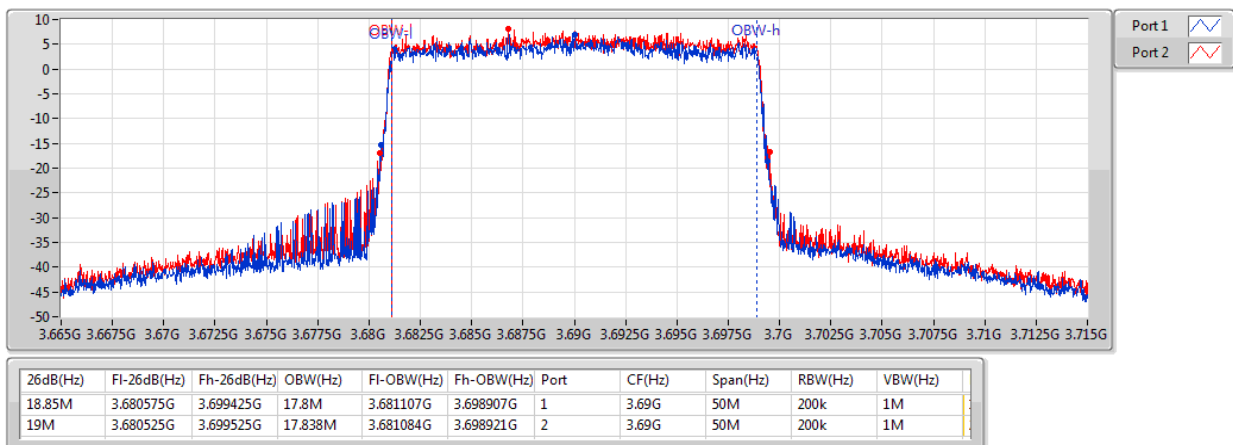
**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**  
**3625MHz\_64QAM\_RB 100,#RB 0**

EBW



**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**  
**3690MHz\_64QAM\_RB 100,#RB 0**

EBW



### 3.4.4 Test Result of Occupied Bandwidth (CA Mode)

#### Multi-carrier Summary

| Mode                           | Max-NdB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code |
|--------------------------------|-----------------|-----------------|----------|
| Band 48                        | -               | -               | -        |
| LTE_10MHz+10MHz_Nss1,QPSK_2TX  | 19.388M         | 17.846M         | 17M8G7D  |
| LTE_10MHz+10MHz_Nss1,16QAM_2TX | 19.601M         | 17.844M         | 17M8W7D  |
| LTE_10MHz+10MHz_Nss1,64QAM_2TX | 19.613M         | 17.848M         | 17M8W7D  |
| LTE_10MHz+20MHz_Nss1,QPSK_2TX  | 28.688M         | 26.737M         | 26M7G7D  |
| LTE_10MHz+20MHz_Nss1,16QAM_2TX | 28.638M         | 26.757M         | 26M8W7D  |
| LTE_10MHz+20MHz_Nss1,64QAM_2TX | 28.763M         | 26.753M         | 26M8W7D  |
| LTE_20MHz+10MHz_Nss1,QPSK_2TX  | 28.65M          | 26.759M         | 26M8G7D  |
| LTE_20MHz+10MHz_Nss1,16QAM_2TX | 28.75M          | 26.749M         | 26M8W7D  |
| LTE_20MHz+10MHz_Nss1,64QAM_2TX | 28.85M          | 26.746M         | 26M8W7D  |
| LTE_20MHz+20MHz_Nss1,QPSK_2TX  | 37.9M           | 35.651M         | 35M7G7D  |
| LTE_20MHz+20MHz_Nss1,16QAM_2TX | 37.6M           | 35.628M         | 35M6W7D  |
| LTE_20MHz+20MHz_Nss1,64QAM_2TX | 38M             | 35.683M         | 35M7W7D  |

**Max-N dB** = Maximum 26dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 26dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

## Result

| Mode                                               | Result | Limit<br>(Hz) | Port<br>1-NdB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port<br>2-NdB<br>(Hz) | Port<br>2-OBW<br>(Hz) |
|----------------------------------------------------|--------|---------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Band 48_LTE_10MHz+10MHz_Nss1_2TX                   | -      | -             | -                     | -                     | -                     | -                     |
| P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0    | Pass   | Inf           | 9.738M                | 8.915M                | 9.65M                 | 8.931M                |
| P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 9.813M                | 8.921M                | 9.788M                | 8.923M                |
| P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 9.788M                | 8.922M                | 9.825M                | 8.926M                |
| Band 48_LTE_10MHz+20MHz_Nss1_2TX                   | -      | -             | -                     | -                     | -                     | -                     |
| P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0   | Pass   | Inf           | 9.738M                | 8.919M                | 18.95M                | 17.818M               |
| P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 9.738M                | 8.925M                | 18.9M                 | 17.832M               |
| P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 9.788M                | 8.931M                | 18.975M               | 17.822M               |
| Band 48_LTE_20MHz+10MHz_Nss1_2TX                   | -      | -             | -                     | -                     | -                     | -                     |
| P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 18.975M               | 17.829M               | 9.675M                | 8.93M                 |
| P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0  | Pass   | Inf           | 18.9M                 | 17.829M               | 9.85M                 | 8.92M                 |
| P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0  | Pass   | Inf           | 19.075M               | 17.817M               | 9.775M                | 8.929M                |
| Band 48_LTE_20MHz+20MHz_Nss1_2TX                   | -      | -             | -                     | -                     | -                     | -                     |
| P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 18.975M               | 17.825M               | 18.925M               | 17.826M               |
| P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | Inf           | 18.75M                | 17.823M               | 18.85M                | 17.805M               |
| P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | Inf           | 19.05M                | 17.83M                | 18.95M                | 17.853M               |

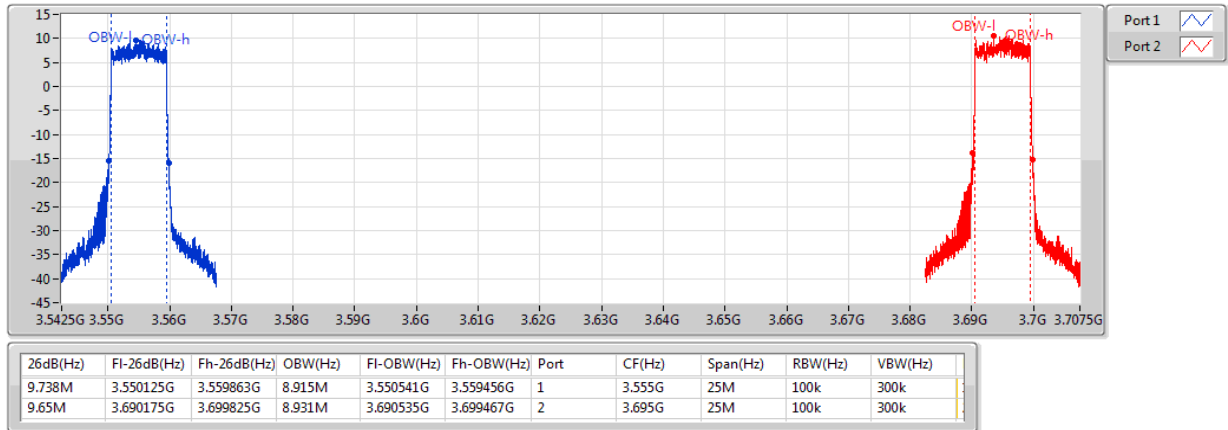
**Port X-N dB** = Port X 26dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

| Mode                                               | Result | Limit<br>(Hz) | Port 1 + Port 2<br>-NdB<br>(Hz) | Port 1 + Port 2<br>-OBW<br>(Hz) |
|----------------------------------------------------|--------|---------------|---------------------------------|---------------------------------|
| Band 48_LTE_10MHz+10MHz_Nss1_2TX                   | -      | -             | -                               | -                               |
| P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0    | Pass   | Inf           | 19.388M                         | 17.846M                         |
| P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 19.601M                         | 17.844M                         |
| P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 19.613M                         | 17.848M                         |
| Band 48_LTE_10MHz+20MHz_Nss1_2TX                   | -      | -             | -                               | -                               |
| P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0   | Pass   | Inf           | 28.688M                         | 26.737M                         |
| P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 28.638M                         | 26.757M                         |
| P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 28.763M                         | 26.753M                         |
| Band 48_LTE_20MHz+10MHz_Nss1_2TX                   | -      | -             | -                               | -                               |
| P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0   | Pass   | Inf           | 28.65M                          | 26.759M                         |
| P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0  | Pass   | Inf           | 28.75M                          | 26.749M                         |
| P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0  | Pass   | Inf           | 28.85M                          | 26.746M                         |
| Band 48_LTE_20MHz+20MHz_Nss1_2TX                   | -      | -             | -                               | -                               |
| P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0  | Pass   | Inf           | 37.9M                           | 35.651M                         |
| P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | Inf           | 37.6M                           | 35.628M                         |
| P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | Inf           | 38M                             | 35.683M                         |

**Band 48\_LTE\_10MHz+10MHz\_Nss1,QPSK\_2TX**

EBW

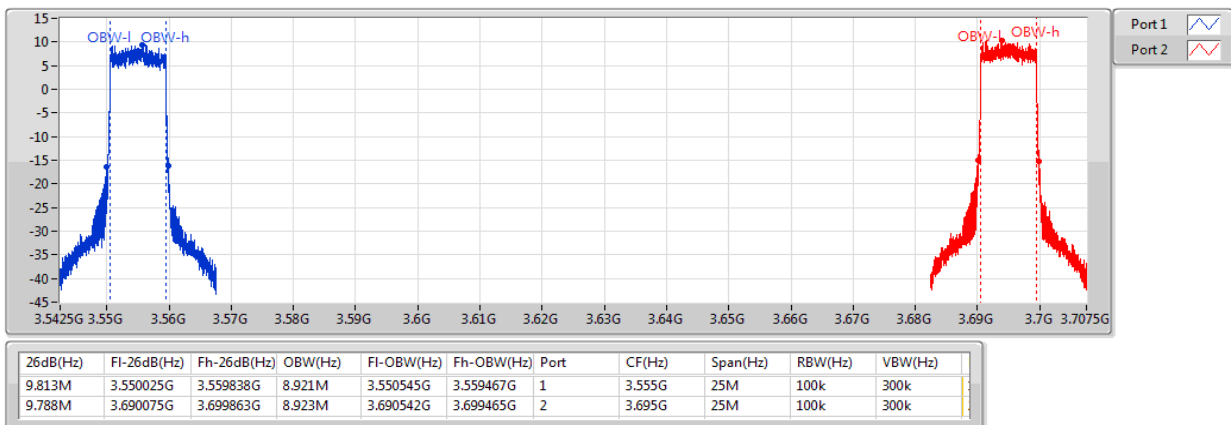
**P#3555MHz,#3695MHz\_QPSK\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+10MHz\_Nss1,16QAM\_2TX**

EBW

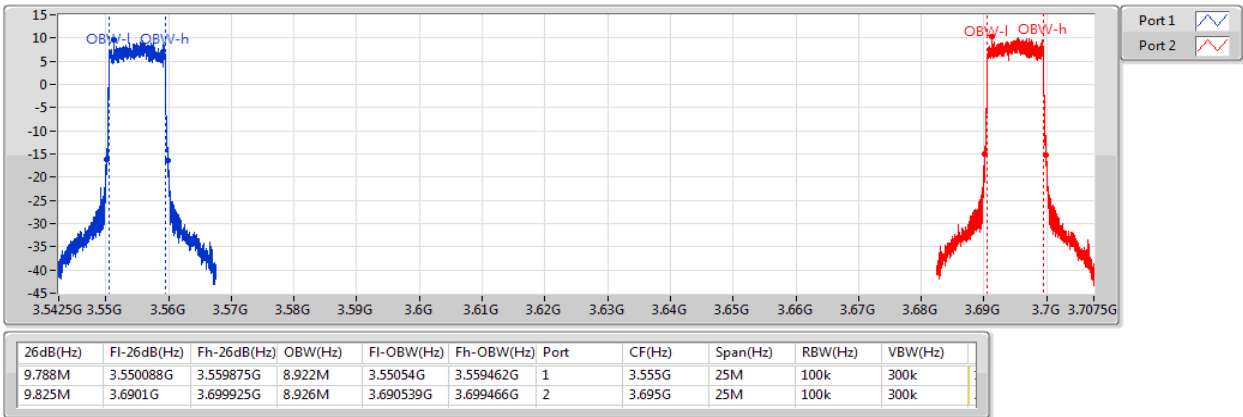
**P#3555MHz,#3695MHz\_16QAM\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+10MHz\_Nss1,64QAM\_2TX**

EBW

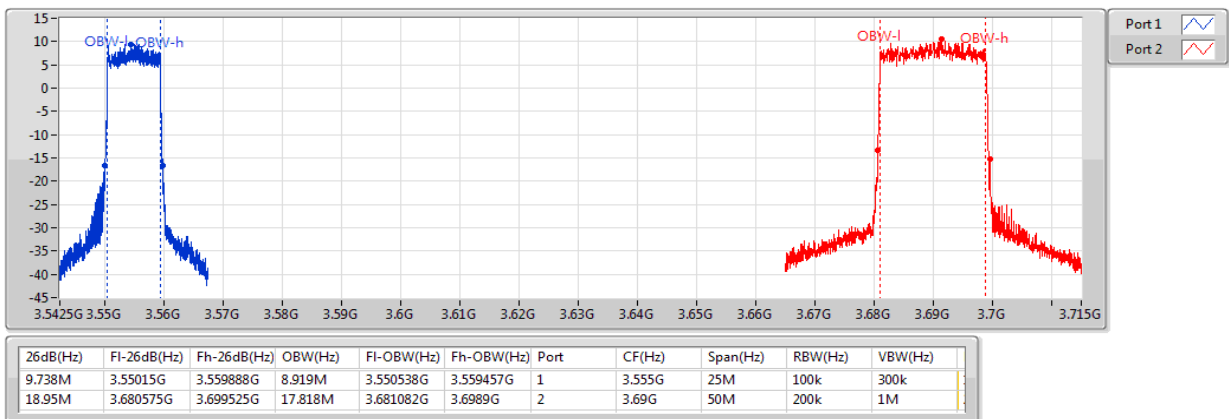
**P#3555MHz,#3695MHz\_64QAM\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,QPSK\_2TX**

EBW

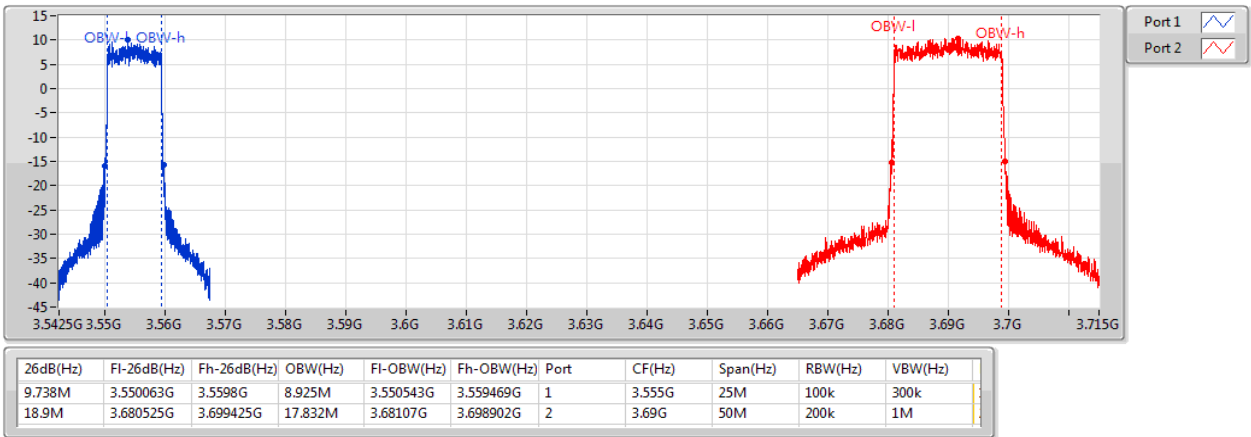
**P#3555MHz,#3690MHz\_QPSK\_RB 50,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,16QAM\_2TX**

EBW

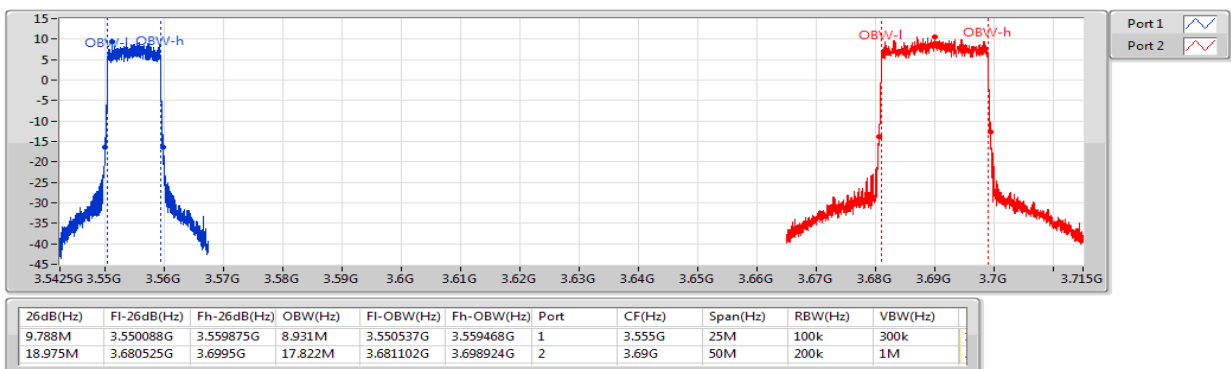
**P#3555MHz,#3690MHz\_16QAM\_RB 50,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,64QAM\_2TX**

EBW

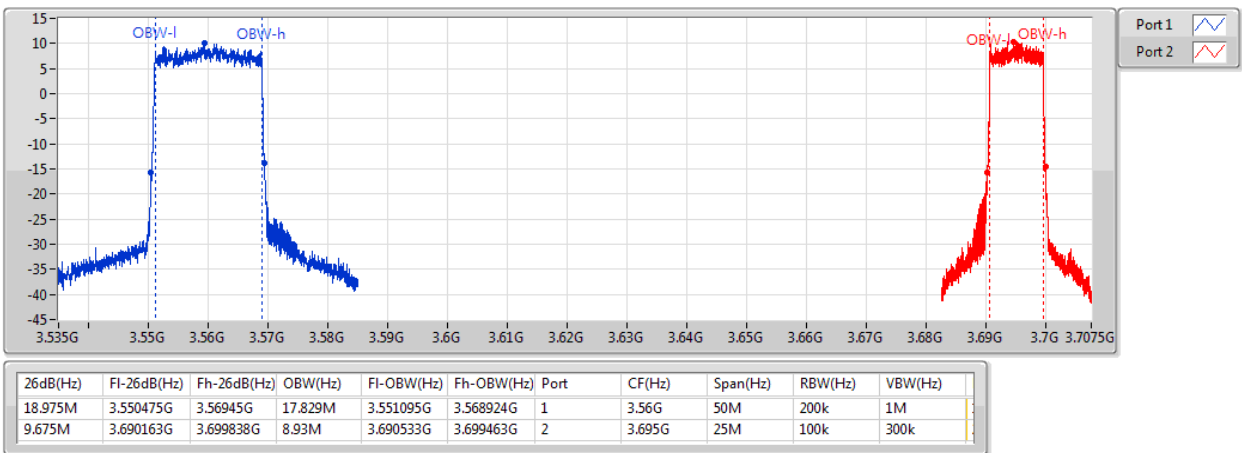
**P#3555MHz,#3690MHz\_64QAM\_RB 50,#RB 0+RB 100,#RB 0**



### Band 48\_LTE\_20MHz+10MHz\_Nss1,QPSK\_2TX

EBW

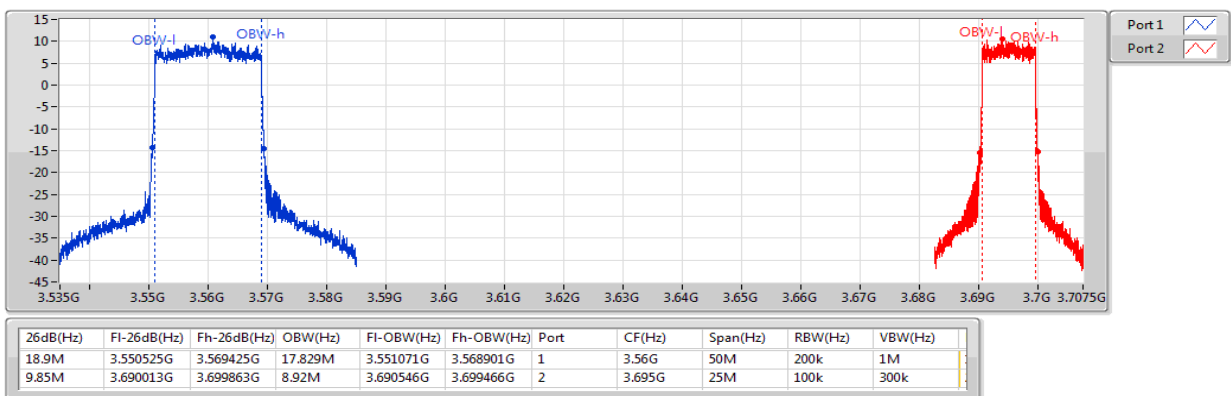
P#3560MHz,#3695MHz\_QPSK\_RB 100,#RB 0+RB 50,#RB 0



### Band 48\_LTE\_20MHz+10MHz\_Nss1,16QAM\_2TX

EBW

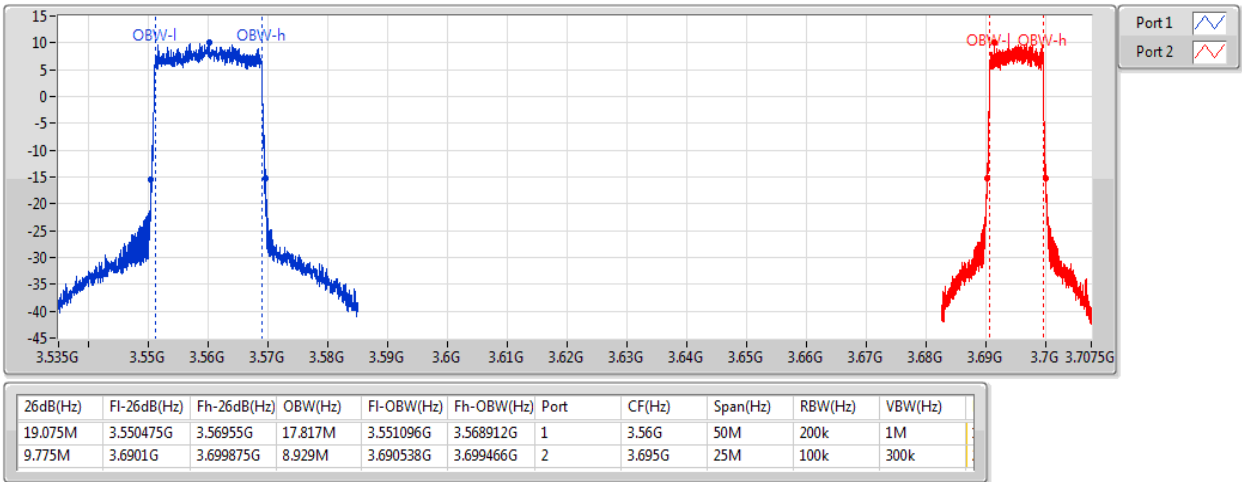
P#3560MHz,#3695MHz\_16QAM\_RB 100,#RB 0+RB 50,#RB 0



### Band 48\_LTE\_20MHz+10MHz\_Nss1,64QAM\_2TX

EBW

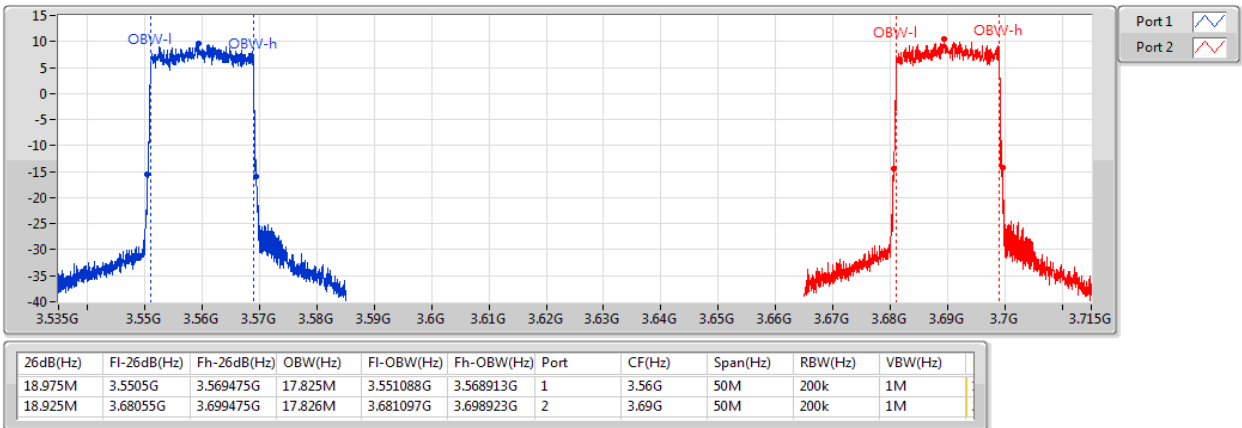
P#3560MHz,#3695MHz\_64QAM\_RB 100,#RB 0+RB 50,#RB 0



### Band 48\_LTE\_20MHz+20MHz\_Nss1,QPSK\_2TX

EBW

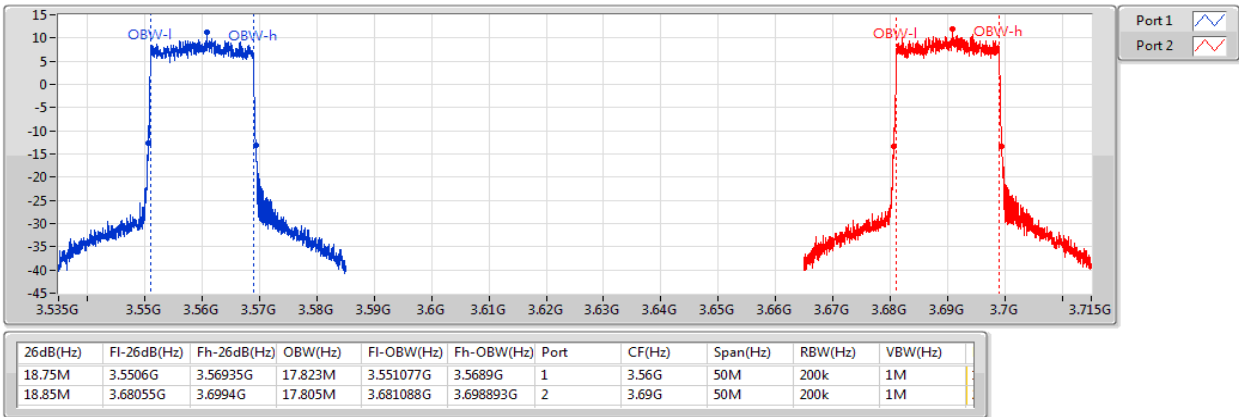
P#3560MHz,#3690MHz\_QPSK\_RB 100,#RB 0+RB 100,#RB 0



**Band 48\_LTE\_20MHz+20MHz\_Nss1,16QAM\_2TX**

**EBW**

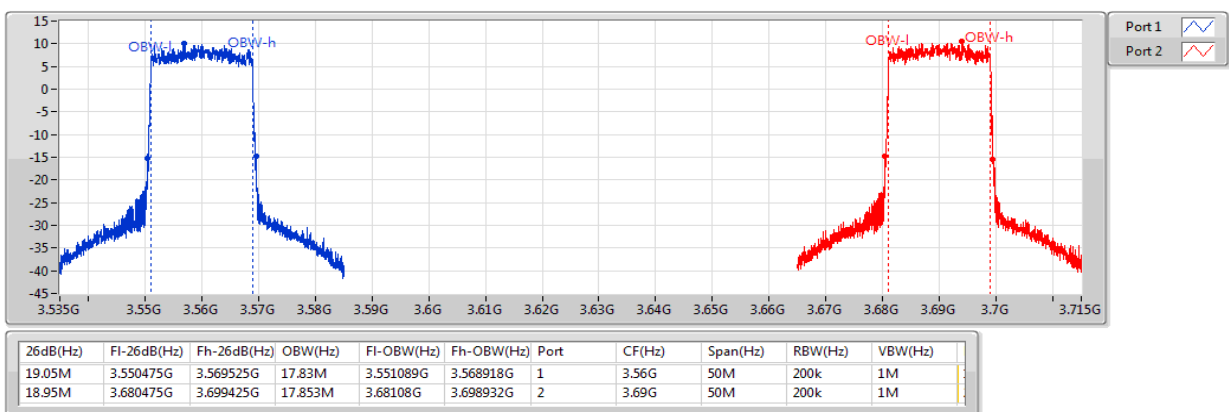
**P#3560MHz,#3690MHz\_16QAM\_RB 100,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_20MHz+20MHz\_Nss1,64QAM\_2TX**

**EBW**

**P#3560MHz,#3690MHz\_64QAM\_RB 100,#RB 0+RB 100,#RB 0**



## 3.5 Peak to Average Ratio

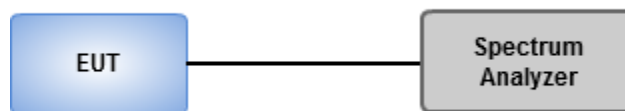
### 3.5.1 Limit of Peak to Average Ratio

Peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

### 3.5.2 Test Procedures

1. Enable CCDF function of spectrum analyzer and set RBW=10MHz.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1%.

### 3.5.3 Test Setup



|                          |                  |                  |            |
|--------------------------|------------------|------------------|------------|
| <b>Ambient Condition</b> | 18-22°C / 64-66% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------------|------------------|------------|

### 3.5.4 Test Result of Peak to Average Ratio (CDD Mode)

#### Single-carrier Summary

| Mode                     | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|--------------------------|--------|---------------|---------------|------|------|
| Band 48                  | -      | -             | -             | -    | -    |
| LTE_10MHz_Nss1,QPSK_2TX  | Pass   | 3695          | 13.00         | 5.75 | 2    |
| LTE_10MHz_Nss1,16QAM_2TX | Pass   | 3695          | 13.00         | 6.38 | 2    |
| LTE_10MHz_Nss1,64QAM_2TX | Pass   | 3555          | 13.00         | 6.48 | 1    |
| LTE_20MHz_Nss1,QPSK_2TX  | Pass   | 3690          | 13.00         | 5.67 | 1    |
| LTE_20MHz_Nss1,16QAM_2TX | Pass   | 3690          | 13.00         | 6.43 | 2    |
| LTE_20MHz_Nss1,64QAM_2TX | Pass   | 3690          | 13.00         | 6.49 | 2    |

## Result

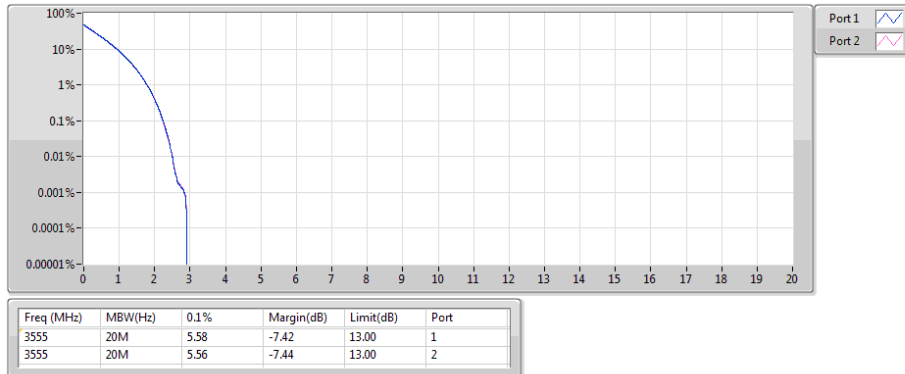
| Mode                       | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|----------------------------|--------|---------------|---------------|------|------|
| Band 48_LTE_10MHz_Nss1_2TX | -      | -             | -             | -    | -    |
| 3555MHz_QPSK_RB 50,#RB 0   | Pass   | 3555          | 13.00         | 5.58 | 1    |
| 3555MHz_QPSK_RB 50,#RB 0   | Pass   | 3555          | 13.00         | 5.56 | 2    |
| 3625MHz_QPSK_RB 50,#RB 0   | Pass   | 3625          | 13.00         | 5.68 | 1    |
| 3625MHz_QPSK_RB 50,#RB 0   | Pass   | 3625          | 13.00         | 5.67 | 2    |
| 3695MHz_QPSK_RB 50,#RB 0   | Pass   | 3695          | 13.00         | 5.71 | 1    |
| 3695MHz_QPSK_RB 50,#RB 0   | Pass   | 3695          | 13.00         | 5.75 | 2    |
| 3555MHz_16QAM_RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.23 | 1    |
| 3555MHz_16QAM_RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.25 | 2    |
| 3625MHz_16QAM_RB 50,#RB 0  | Pass   | 3625          | 13.00         | 6.25 | 1    |
| 3625MHz_16QAM_RB 50,#RB 0  | Pass   | 3625          | 13.00         | 6.28 | 2    |
| 3695MHz_16QAM_RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.34 | 1    |
| 3695MHz_16QAM_RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.38 | 2    |
| 3555MHz_64QAM_RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.48 | 1    |
| 3555MHz_64QAM_RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.44 | 2    |
| 3625MHz_64QAM_RB 50,#RB 0  | Pass   | 3625          | 13.00         | 6.44 | 1    |
| 3625MHz_64QAM_RB 50,#RB 0  | Pass   | 3625          | 13.00         | 6.45 | 2    |
| 3695MHz_64QAM_RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.32 | 1    |
| 3695MHz_64QAM_RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.38 | 2    |
| Band 48_LTE_20MHz_Nss1_2TX | -      | -             | -             | -    | -    |
| 3560MHz_QPSK_RB 100,#RB 0  | Pass   | 3560          | 13.00         | 5.59 | 1    |
| 3560MHz_QPSK_RB 100,#RB 0  | Pass   | 3560          | 13.00         | 5.59 | 2    |
| 3625MHz_QPSK_RB 100,#RB 0  | Pass   | 3625          | 13.00         | 5.61 | 1    |
| 3625MHz_QPSK_RB 100,#RB 0  | Pass   | 3625          | 13.00         | 5.58 | 2    |
| 3690MHz_QPSK_RB 100,#RB 0  | Pass   | 3690          | 13.00         | 5.67 | 1    |
| 3690MHz_QPSK_RB 100,#RB 0  | Pass   | 3690          | 13.00         | 5.67 | 2    |
| 3560MHz_16QAM_RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.36 | 1    |
| 3560MHz_16QAM_RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.30 | 2    |
| 3625MHz_16QAM_RB 100,#RB 0 | Pass   | 3625          | 13.00         | 6.37 | 1    |
| 3625MHz_16QAM_RB 100,#RB 0 | Pass   | 3625          | 13.00         | 6.33 | 2    |
| 3690MHz_16QAM_RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.40 | 1    |
| 3690MHz_16QAM_RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.43 | 2    |
| 3560MHz_64QAM_RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.41 | 1    |
| 3560MHz_64QAM_RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.36 | 2    |
| 3625MHz_64QAM_RB 100,#RB 0 | Pass   | 3625          | 13.00         | 6.43 | 1    |

| Mode                       | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|----------------------------|--------|---------------|---------------|------|------|
| 3625MHz_64QAM_RB 100,#RB 0 | Pass   | 3625          | 13.00         | 6.40 | 2    |
| 3690MHz_64QAM_RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.45 | 1    |
| 3690MHz_64QAM_RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.49 | 2    |

**Band 48\_LTE\_10MHz\_Nss1,QPSK\_2TX**

**PAR**

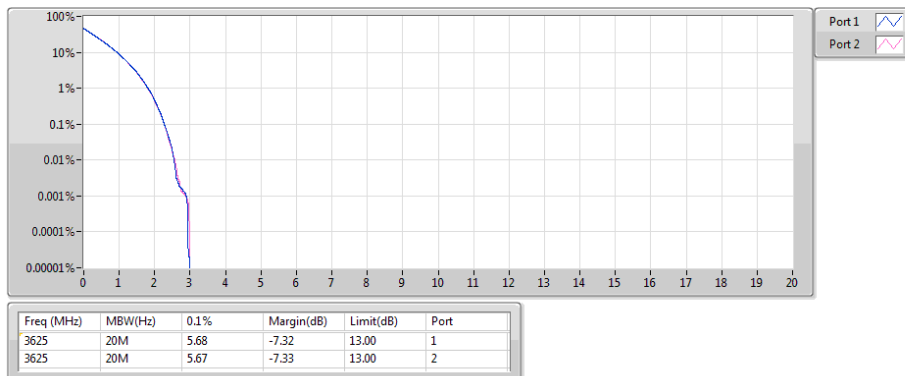
**3555MHz\_QPSK\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,QPSK\_2TX**

**PAR**

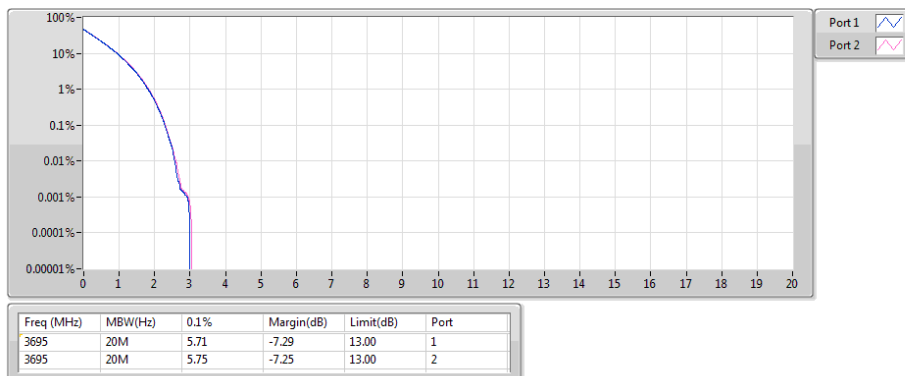
**3625MHz\_QPSK\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,QPSK\_2TX**

**PAR**

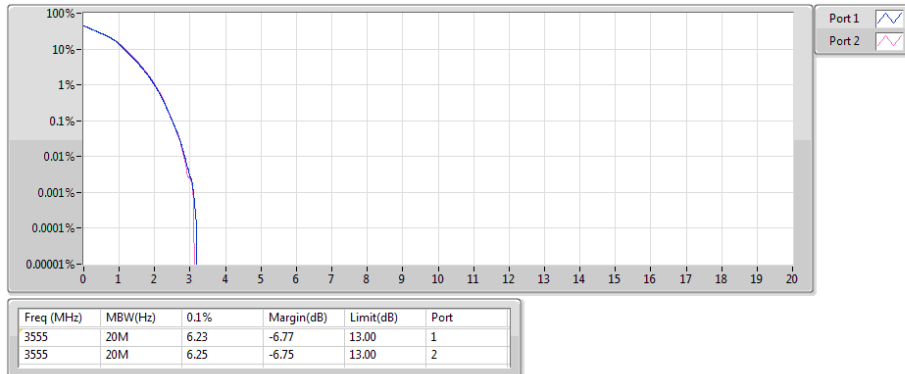
**3695MHz\_QPSK\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,16QAM\_2TX**

**PAR**

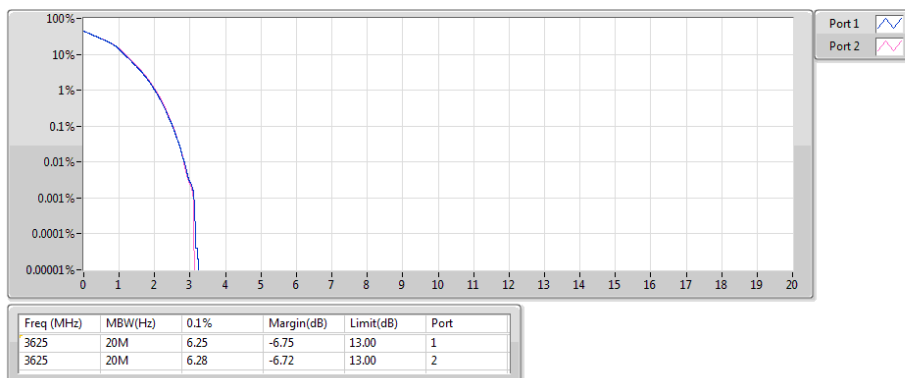
**3555MHz\_16QAM\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,16QAM\_2TX**

**PAR**

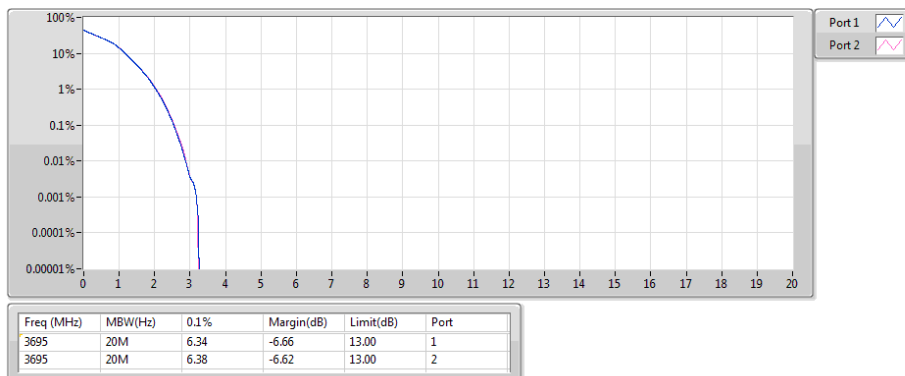
**3625MHz\_16QAM\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,16QAM\_2TX**

**PAR**

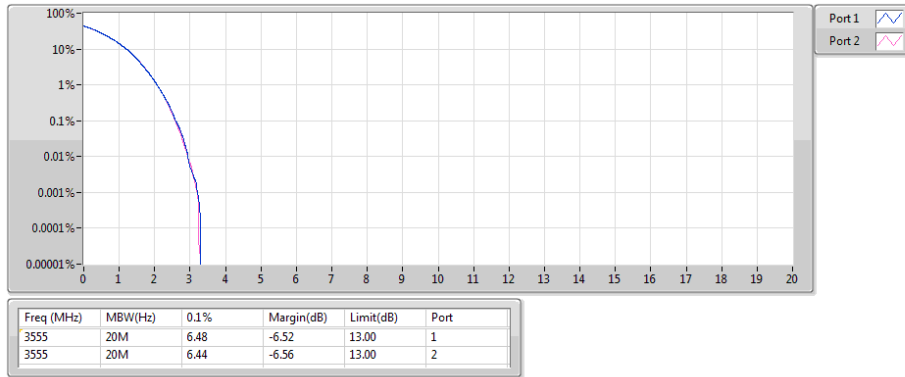
**3695MHz\_16QAM\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**

**PAR**

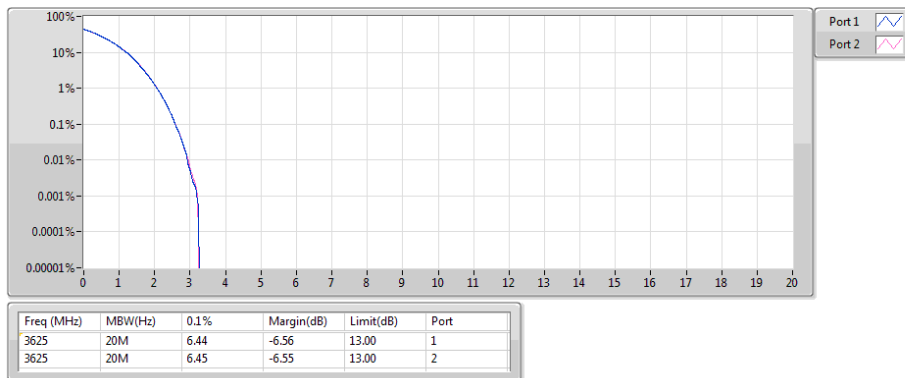
**3555MHz\_64QAM\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**

**PAR**

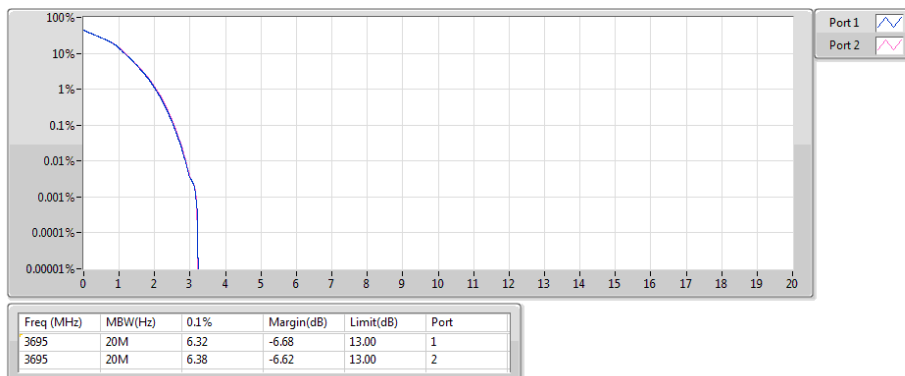
**3625MHz\_64QAM\_RB 50,#RB 0**



**Band 48\_LTE\_10MHz\_Nss1,64QAM\_2TX**

**PAR**

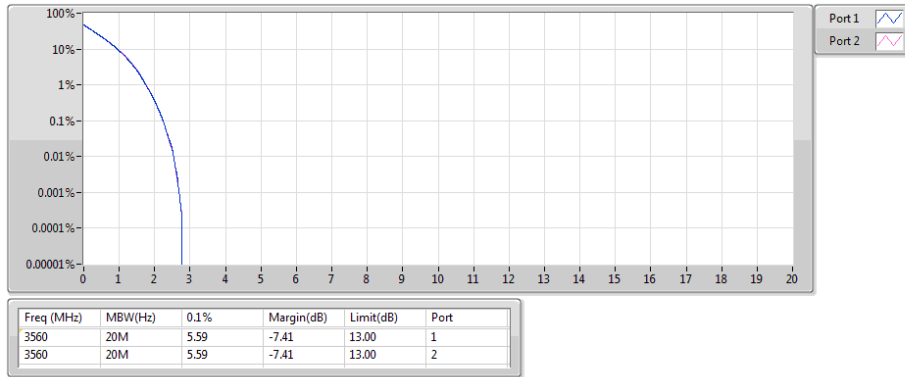
**3695MHz\_64QAM\_RB 50,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**

**PAR**

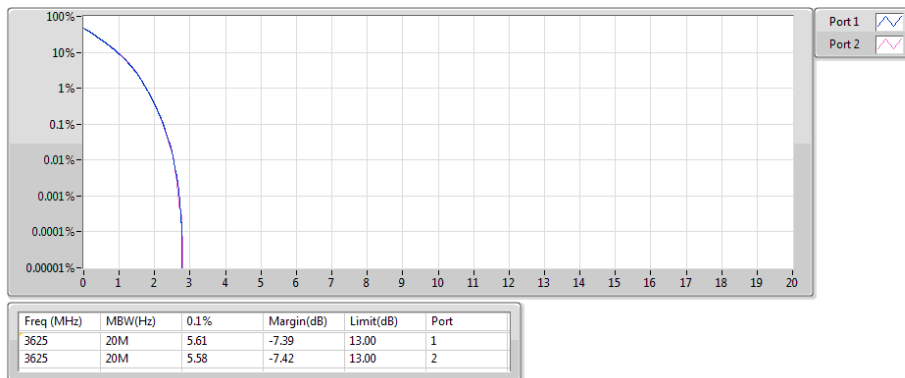
**3560MHz\_QPSK\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**

**PAR**

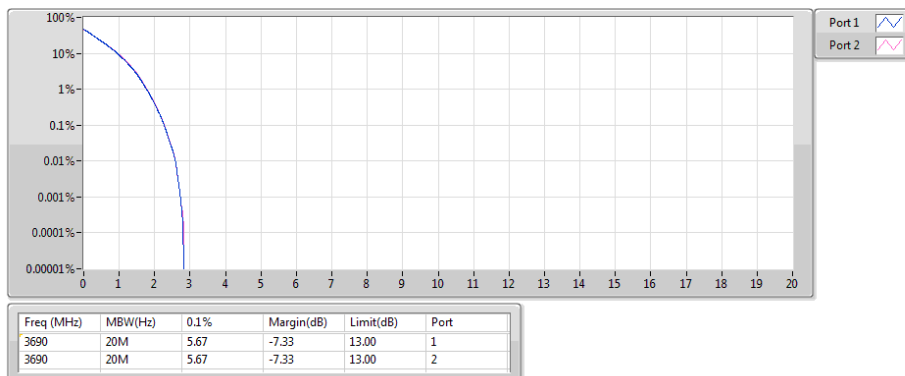
**3625MHz\_QPSK\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,QPSK\_2TX**

**PAR**

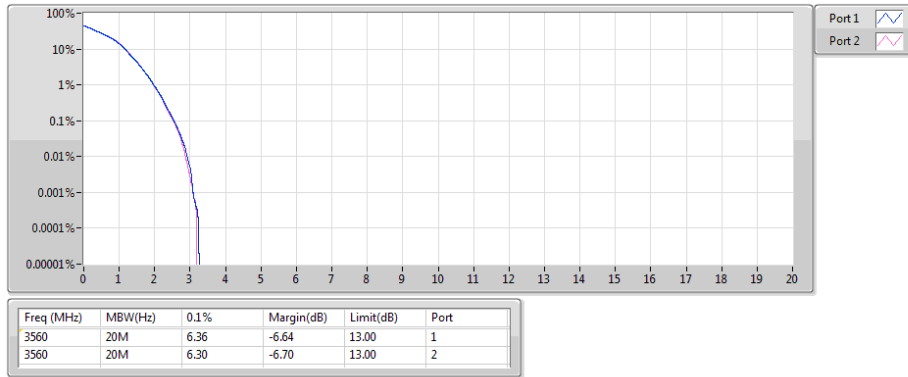
**3690MHz\_QPSK\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**

**PAR**

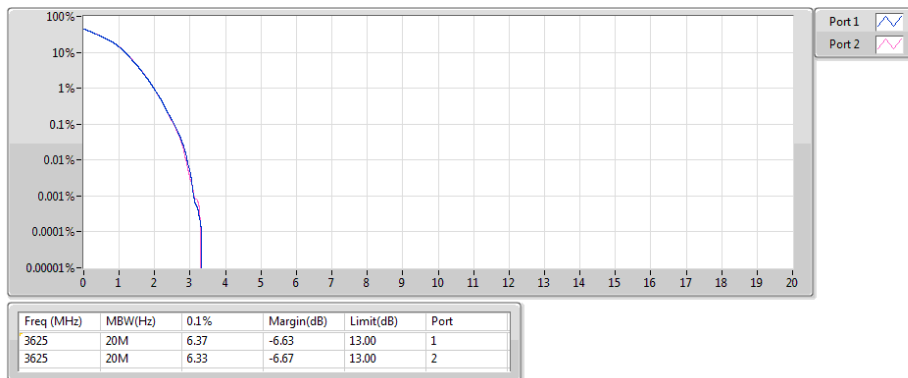
**3560MHz\_16QAM\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**

**PAR**

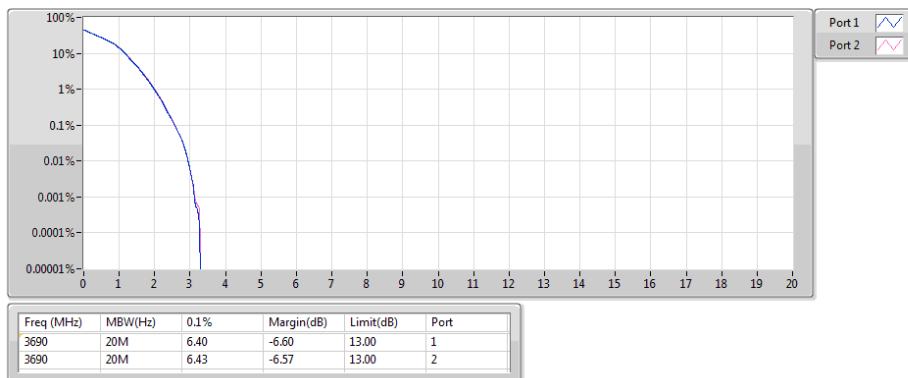
**3625MHz\_16QAM\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,16QAM\_2TX**

**PAR**

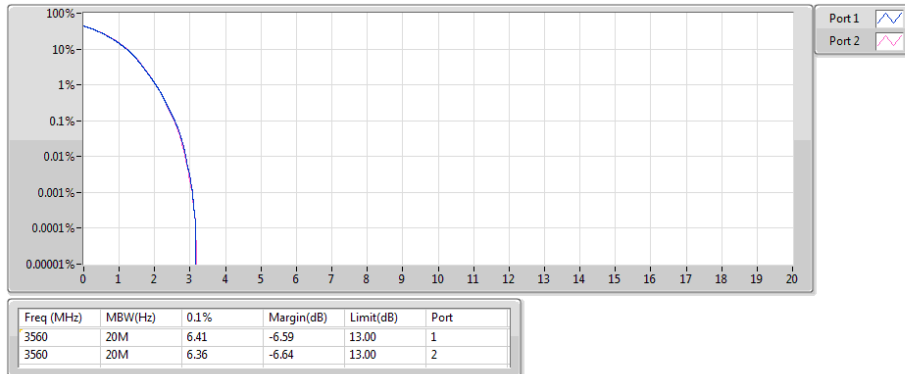
**3690MHz\_16QAM\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**

**PAR**

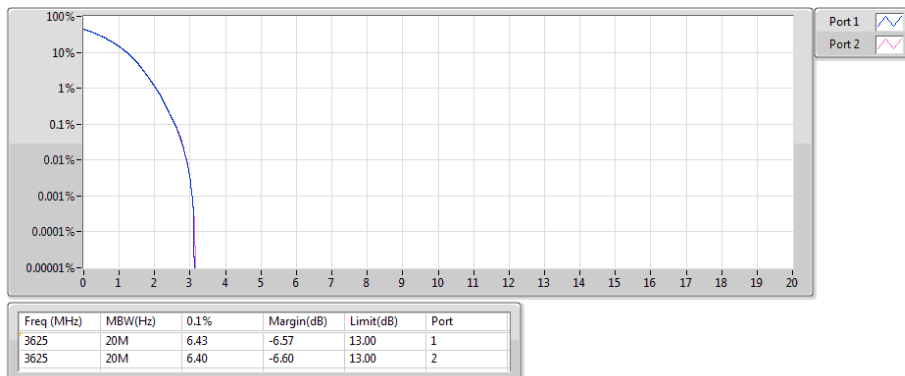
**3560MHz\_64QAM\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**

**PAR**

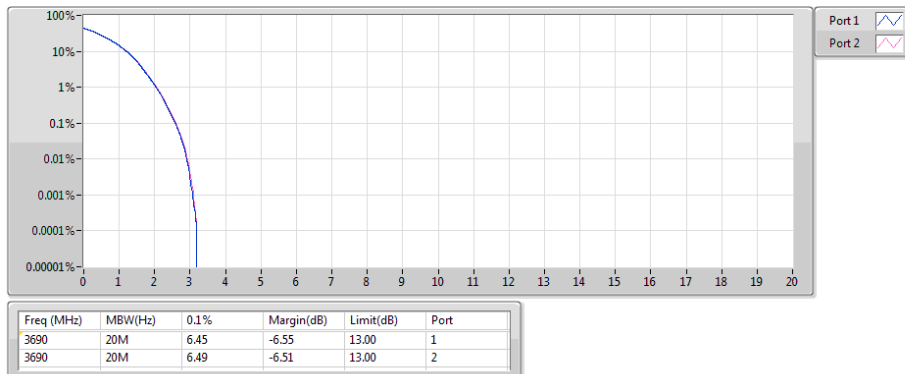
**3625MHz\_64QAM\_RB 100,#RB 0**



**Band 48\_LTE\_20MHz\_Nss1,64QAM\_2TX**

**PAR**

**3690MHz\_64QAM\_RB 100,#RB 0**



### 3.5.5 Test Result of Peak to Average Ratio (CA Mode)

#### Multi-carrier Summary

| Mode                           | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|--------------------------------|--------|---------------|---------------|------|------|
| Band 48                        | -      | -             | -             | -    | -    |
| LTE_10MHz+10MHz_Nss1,QPSK_2TX  | Pass   | 3695          | 13.00         | 5.43 | 2    |
| LTE_10MHz+10MHz_Nss1,16QAM_2TX | Pass   | 3555          | 13.00         | 6.06 | 1    |
| LTE_10MHz+10MHz_Nss1,64QAM_2TX | Pass   | 3555          | 13.00         | 6.23 | 1    |
| LTE_10MHz+20MHz_Nss1,QPSK_2TX  | Pass   | 3690          | 13.00         | 5.52 | 2    |
| LTE_10MHz+20MHz_Nss1,16QAM_2TX | Pass   | 3690          | 13.00         | 6.23 | 2    |
| LTE_10MHz+20MHz_Nss1,64QAM_2TX | Pass   | 3690          | 13.00         | 6.28 | 2    |
| LTE_20MHz+10MHz_Nss1,QPSK_2TX  | Pass   | 3560          | 13.00         | 5.48 | 1    |
| LTE_20MHz+10MHz_Nss1,16QAM_2TX | Pass   | 3560          | 13.00         | 6.18 | 1    |
| LTE_20MHz+10MHz_Nss1,64QAM_2TX | Pass   | 3695          | 13.00         | 6.27 | 2    |
| LTE_20MHz+20MHz_Nss1,QPSK_2TX  | Pass   | 3690          | 13.00         | 5.52 | 2    |
| LTE_20MHz+20MHz_Nss1,16QAM_2TX | Pass   | 3690          | 13.00         | 6.25 | 2    |
| LTE_20MHz+20MHz_Nss1,64QAM_2TX | Pass   | 3690          | 13.00         | 6.29 | 2    |

## Result

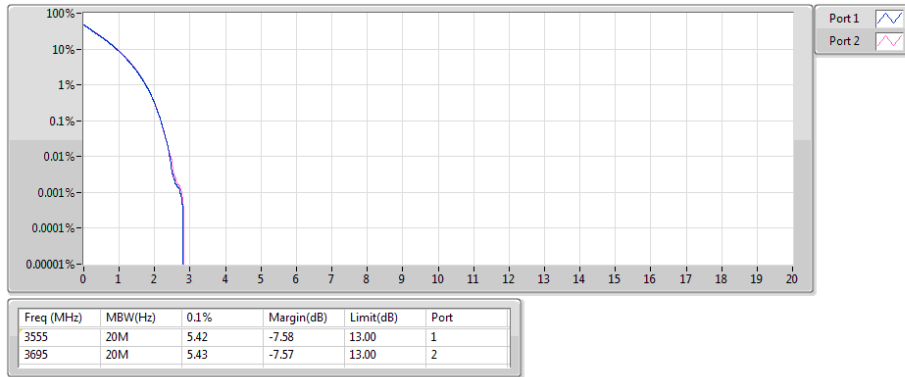
| Mode                                              | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|---------------------------------------------------|--------|---------------|---------------|------|------|
| Band 48_LTE_10MHz+10MHz_Nss1_2TX                  | -      | -             | -             | -    | -    |
| P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0   | Pass   | 3555          | 13.00         | 5.42 | 1    |
| P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0   | Pass   | 3695          | 13.00         | 5.43 | 2    |
| P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.06 | 1    |
| P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.06 | 2    |
| P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0  | Pass   | 3555          | 13.00         | 6.23 | 1    |
| P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0  | Pass   | 3695          | 13.00         | 6.23 | 2    |
| Band 48_LTE_10MHz+20MHz_Nss1_2TX                  | -      | -             | -             | -    | -    |
| P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0  | Pass   | 3555          | 13.00         | 5.43 | 1    |
| P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0  | Pass   | 3690          | 13.00         | 5.52 | 2    |
| P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0 | Pass   | 3555          | 13.00         | 6.03 | 1    |
| P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.23 | 2    |
| P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0 | Pass   | 3555          | 13.00         | 6.22 | 1    |
| P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.28 | 2    |
| Band 48_LTE_20MHz+10MHz_Nss1_2TX                  | -      | -             | -             | -    | -    |
| P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0  | Pass   | 3560          | 13.00         | 5.48 | 1    |
| P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0  | Pass   | 3695          | 13.00         | 5.42 | 2    |
| P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0 | Pass   | 3560          | 13.00         | 6.18 | 1    |
| P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0 | Pass   | 3695          | 13.00         | 6.06 | 2    |
| P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0 | Pass   | 3560          | 13.00         | 6.24 | 1    |
| P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0 | Pass   | 3695          | 13.00         | 6.27 | 2    |
| Band 48_LTE_20MHz+20MHz_Nss1_2TX                  | -      | -             | -             | -    | -    |
| P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0 | Pass   | 3560          | 13.00         | 5.50 | 1    |

| Mode                                               | Result | Freq<br>(MHz) | Limit<br>(dB) | 0.1% | Port |
|----------------------------------------------------|--------|---------------|---------------|------|------|
| P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0  | Pass   | 3690          | 13.00         | 5.52 | 2    |
| P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.18 | 1    |
| P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.25 | 2    |
| P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | 3560          | 13.00         | 6.24 | 1    |
| P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0 | Pass   | 3690          | 13.00         | 6.29 | 2    |

**Band 48\_LTE\_10MHz+10MHz\_Nss1,QPSK\_2TX**

PAR

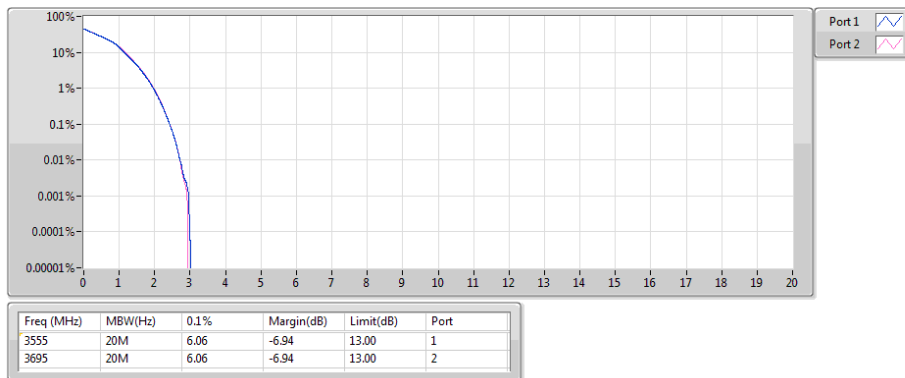
**P#3555MHz,#3695MHz\_QPSK\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+10MHz\_Nss1,16QAM\_2TX**

PAR

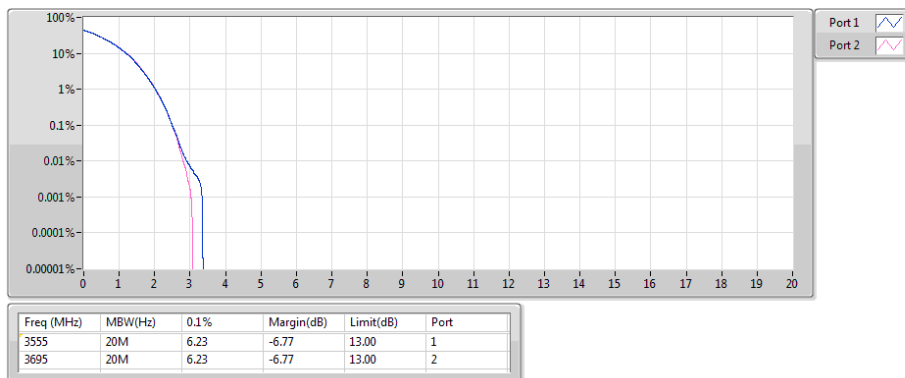
**P#3555MHz,#3695MHz\_16QAM\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+10MHz\_Nss1,64QAM\_2TX**

PAR

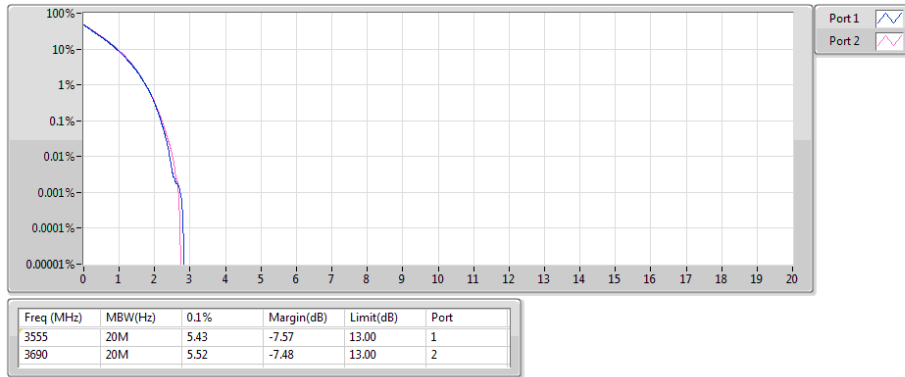
**P#3555MHz,#3695MHz\_64QAM\_RB 50,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,QPSK\_2TX**

PAR

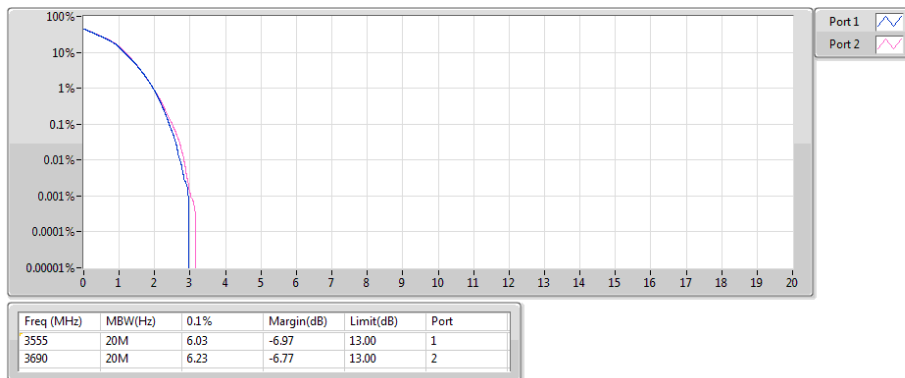
**P#3555MHz,#3690MHz\_QPSK\_RB 50,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,16QAM\_2TX**

PAR

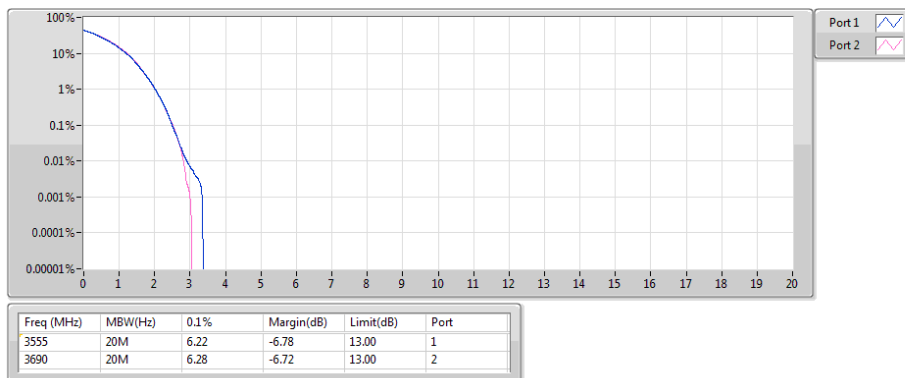
**P#3555MHz,#3690MHz\_16QAM\_RB 50,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_10MHz+20MHz\_Nss1,64QAM\_2TX**

PAR

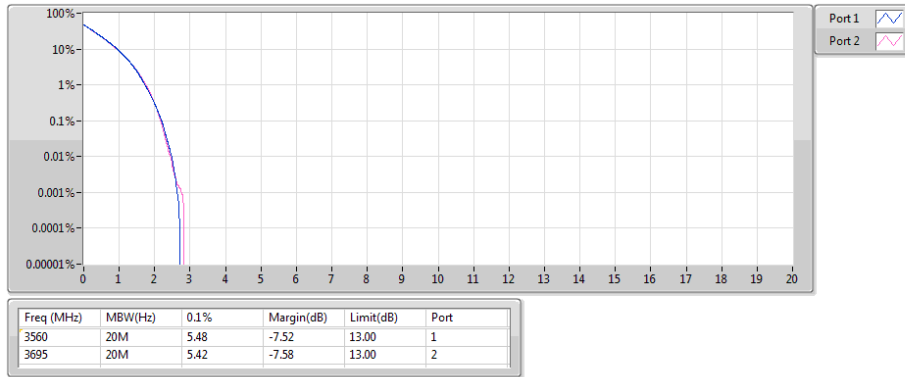
**P#3555MHz,#3690MHz\_64QAM\_RB 50,#RB 0+RB 100,#RB 0**



**Band 48\_LTE\_20MHz+10MHz\_Nss1,QPSK\_2TX**

PAR

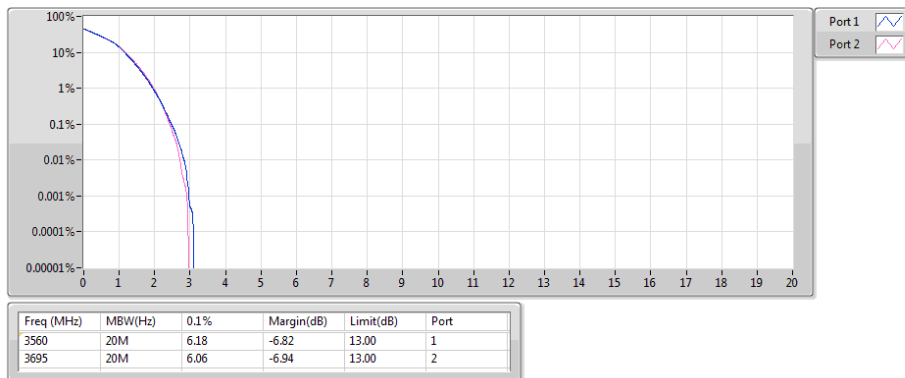
**P#3560MHz,#3695MHz\_QPSK\_RB 100,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_20MHz+10MHz\_Nss1,16QAM\_2TX**

PAR

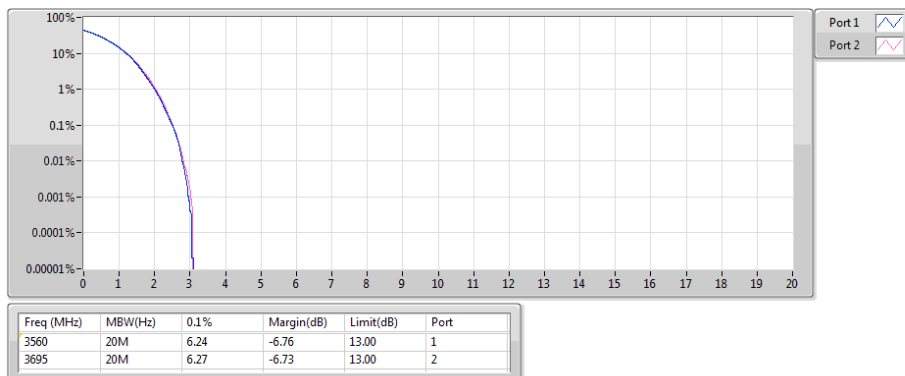
**P#3560MHz,#3695MHz\_16QAM\_RB 100,#RB 0+RB 50,#RB 0**



**Band 48\_LTE\_20MHz+10MHz\_Nss1,64QAM\_2TX**

PAR

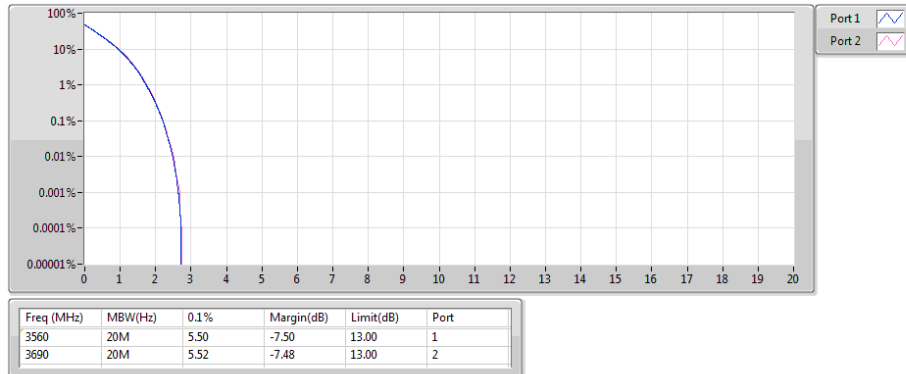
**P#3560MHz,#3695MHz\_64QAM\_RB 100,#RB 0+RB 50,#RB 0**



### Band 48\_LTE\_20MHz+20MHz\_Nss1,QPSK\_2TX

PAR

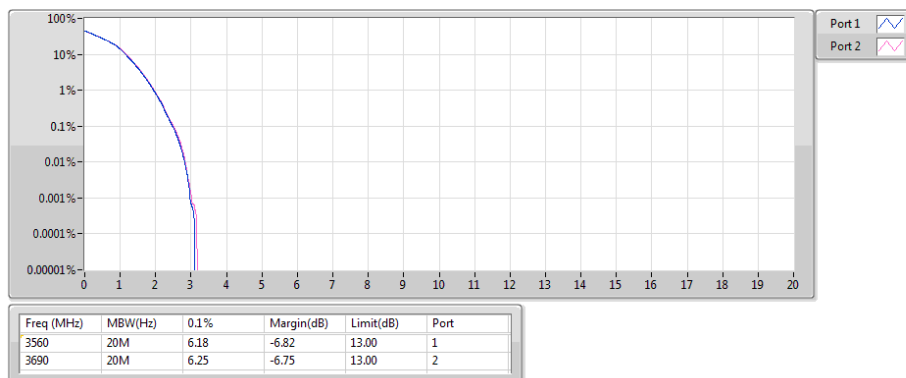
P#3560MHz,#3690MHz\_QPSK\_RB 100,#RB 0+RB 100,#RB 0



### Band 48\_LTE\_20MHz+20MHz\_Nss1,16QAM\_2TX

PAR

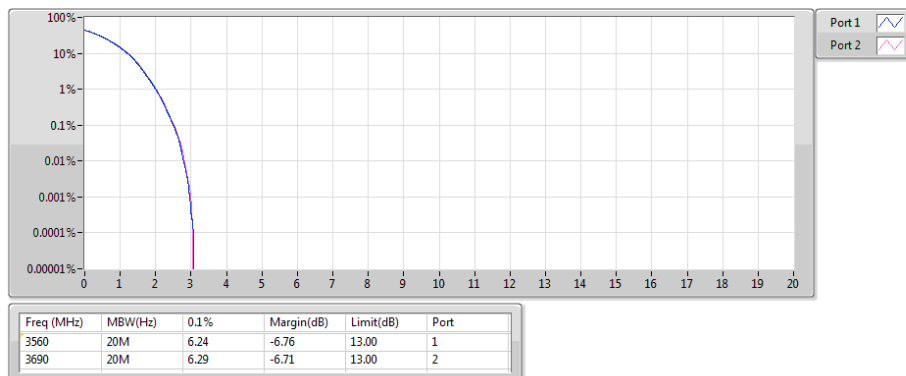
P#3560MHz,#3690MHz\_16QAM\_RB 100,#RB 0+RB 100,#RB 0



### Band 48\_LTE\_20MHz+20MHz\_Nss1,64QAM\_2TX

PAR

P#3560MHz,#3690MHz\_64QAM\_RB 100,#RB 0+RB 100,#RB 0



## 3.6 Frequency Stability

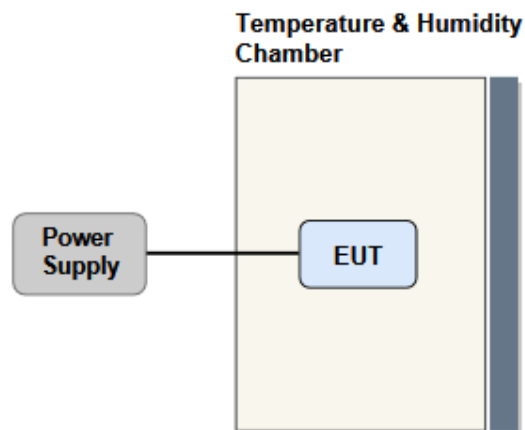
### 3.6.1 Limit of Frequency Stability

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation

### 3.6.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -30 ~ 50 °C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

### 3.6.3 Test Setup



|                          |                  |                  |            |
|--------------------------|------------------|------------------|------------|
| <b>Ambient Condition</b> | 19-23°C / 65-67% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------------|------------------|------------|

### 3.6.4 Test Result of Frequency Stability (CDD Mode)

Channel Bandwidth: 10MHz

| Frequency: 3555 MHz | Frequency Drift (ppm) |                |
|---------------------|-----------------------|----------------|
| Temperature (°C)    |                       |                |
| T20°CVmax           | 0.014                 |                |
| T20°CVmin           | 0.014                 |                |
| T50°CVnom           | 0.013                 |                |
| T40°CVnom           | 0.014                 |                |
| T30°CVnom           | 0.013                 |                |
| T20°CVnom           | 0.015                 |                |
| T10°CVnom           | 0.014                 |                |
| T0°CVnom            | 0.013                 |                |
| T-10°CVnom          | 0.014                 |                |
| T-20°CVnom          | 0.013                 |                |
| T-30°CVnom          | 0.014                 |                |
| Vnom [V]: 120       | Vmax [V]: 138         | Vmin [V]: 102  |
| Tnom [°C]: 20       | Tmax [°C]: 50         | Tmin [°C]: -30 |

| Frequency: 3695 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°CVmax           | 0.013                 |
| T20°CVmin           | 0.014                 |
| T50°CVnom           | 0.013                 |
| T40°CVnom           | 0.014                 |
| T30°CVnom           | 0.013                 |
| T20°CVnom           | 0.014                 |
| T10°CVnom           | 0.012                 |
| T0°CVnom            | 0.012                 |
| T-10°CVnom          | 0.013                 |
| T-20°CVnom          | 0.013                 |
| T-30°CVnom          | 0.013                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
|                     | Vmin [V]: 102         |
| Tnom [°C]: 20       | Tmax [°C]: 50         |
|                     | Tmin [°C]: -30        |

**Channel Bandwidth: 20MHz**

| Frequency: 3560 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.013                 |
| T20°C Vmin          | 0.014                 |
| T50°C Vnom          | 0.014                 |
| T40°C Vnom          | 0.014                 |
| T30°C Vnom          | 0.013                 |
| T20°C Vnom          | 0.014                 |
| T10°C Vnom          | 0.014                 |
| T0°C Vnom           | 0.014                 |
| T-10°C Vnom         | 0.014                 |
| T-20°C Vnom         | 0.014                 |
| T-30°C Vnom         | 0.015                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
|                     | Vmin [V]: 102         |
| Tnom [°C]: 20       | Tmax [°C]: 50         |
|                     | Tmin [°C]: -30        |

| Frequency: 3690 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.012                 |
| T20°C Vmin          | 0.014                 |
| T50°C Vnom          | 0.013                 |
| T40°C Vnom          | 0.014                 |
| T30°C Vnom          | 0.013                 |
| T20°C Vnom          | 0.013                 |
| T10°C Vnom          | 0.014                 |
| T0°C Vnom           | 0.014                 |
| T-10°C Vnom         | 0.012                 |
| T-20°C Vnom         | 0.014                 |
| T-30°C Vnom         | 0.013                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
|                     | Vmin [V]: 102         |
| Tnom [°C]: 20       | Tmax [°C]: 50         |
|                     | Tmin [°C]: -30        |

### 3.6.5 Test Result of Frequency Stability (CA Mode)

Channel Bandwidth: 10+10MHz / 1Carrier-PCC

| Frequency: 3555 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°CVmax           | 0.014                 |
| T20°CVmin           | 0.014                 |
| T50°CVnom           | 0.014                 |
| T40°CVnom           | 0.014                 |
| T30°CVnom           | 0.014                 |
| T20°CVnom           | 0.014                 |
| T10°CVnom           | 0.014                 |
| T0°CVnom            | 0.014                 |
| T-10°CVnom          | 0.014                 |
| T-20°CVnom          | 0.014                 |
| T-30°CVnom          | 0.015                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

Channel Bandwidth: 10+10MHz / 2Carrier-SCC

| Frequency: 3695 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°CVmax           | 0.014                 |
| T20°CVmin           | 0.014                 |
| T50°CVnom           | 0.013                 |
| T40°CVnom           | 0.013                 |
| T30°CVnom           | 0.014                 |
| T20°CVnom           | 0.013                 |
| T10°CVnom           | 0.014                 |
| T0°CVnom            | 0.013                 |
| T-10°CVnom          | 0.014                 |
| T-20°CVnom          | 0.013                 |
| T-30°CVnom          | 0.014                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

**Channel Bandwidth: 10+20MHz / 1Carrier-PCC**

| Frequency: 3555 MHz       | Frequency Drift (ppm)      |
|---------------------------|----------------------------|
| Temperature (°C)          |                            |
| T20°C V <sub>max</sub>    | 0.014                      |
| T20°C V <sub>min</sub>    | 0.014                      |
| T50°C V <sub>nom</sub>    | 0.014                      |
| T40°C V <sub>nom</sub>    | 0.014                      |
| T30°C V <sub>nom</sub>    | 0.013                      |
| T20°C V <sub>nom</sub>    | 0.014                      |
| T10°C V <sub>nom</sub>    | 0.015                      |
| T0°C V <sub>nom</sub>     | 0.014                      |
| T-10°C V <sub>nom</sub>   | 0.014                      |
| T-20°C V <sub>nom</sub>   | 0.013                      |
| T-30°C V <sub>nom</sub>   | 0.014                      |
| V <sub>nom</sub> [V]: 120 | V <sub>max</sub> [V]: 138  |
| T <sub>nom</sub> [°C]: 20 | T <sub>min</sub> [°C]: -30 |

**Channel Bandwidth: 10+20MHz / 2Carrier-SCC**

| Frequency: 3690 MHz       | Frequency Drift (ppm)      |
|---------------------------|----------------------------|
| Temperature (°C)          |                            |
| T20°C V <sub>max</sub>    | 0.014                      |
| T20°C V <sub>min</sub>    | 0.013                      |
| T50°C V <sub>nom</sub>    | 0.013                      |
| T40°C V <sub>nom</sub>    | 0.013                      |
| T30°C V <sub>nom</sub>    | 0.014                      |
| T20°C V <sub>nom</sub>    | 0.013                      |
| T10°C V <sub>nom</sub>    | 0.014                      |
| T0°C V <sub>nom</sub>     | 0.013                      |
| T-10°C V <sub>nom</sub>   | 0.014                      |
| T-20°C V <sub>nom</sub>   | 0.014                      |
| T-30°C V <sub>nom</sub>   | 0.013                      |
| V <sub>nom</sub> [V]: 120 | V <sub>max</sub> [V]: 138  |
| T <sub>nom</sub> [°C]: 20 | T <sub>min</sub> [°C]: -30 |

### Channel Bandwidth: 20+10MHz / 1Carrier-PCC

| Frequency: 3560 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.014                 |
| T20°C Vmin          | 0.014                 |
| T50°C Vnom          | 0.014                 |
| T40°C Vnom          | 0.013                 |
| T30°C Vnom          | 0.014                 |
| T20°C Vnom          | 0.014                 |
| T10°C Vnom          | 0.015                 |
| T0°C Vnom           | 0.014                 |
| T-10°C Vnom         | 0.013                 |
| T-20°C Vnom         | 0.014                 |
| T-30°C Vnom         | 0.014                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

### Channel Bandwidth: 20+10MHz / 2Carrier-SCC

| Frequency: 3695 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.013                 |
| T20°C Vmin          | 0.014                 |
| T50°C Vnom          | 0.014                 |
| T40°C Vnom          | 0.012                 |
| T30°C Vnom          | 0.013                 |
| T20°C Vnom          | 0.013                 |
| T10°C Vnom          | 0.014                 |
| T0°C Vnom           | 0.013                 |
| T-10°C Vnom         | 0.014                 |
| T-20°C Vnom         | 0.013                 |
| T-30°C Vnom         | 0.013                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

### Channel Bandwidth: 20+20MHz / 1Carrier-PCC

| Frequency: 3560 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.014                 |
| T20°C Vmin          | 0.014                 |
| T50°C Vnom          | 0.014                 |
| T40°C Vnom          | 0.014                 |
| T30°C Vnom          | 0.013                 |
| T20°C Vnom          | 0.014                 |
| T10°C Vnom          | 0.013                 |
| T0°C Vnom           | 0.014                 |
| T-10°C Vnom         | 0.013                 |
| T-20°C Vnom         | 0.014                 |
| T-30°C Vnom         | 0.014                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

### Channel Bandwidth: 20+20MHz / 2Carrier-SCC

| Frequency: 3690 MHz | Frequency Drift (ppm) |
|---------------------|-----------------------|
| Temperature (°C)    |                       |
| T20°C Vmax          | 0.014                 |
| T20°C Vmin          | 0.013                 |
| T50°C Vnom          | 0.013                 |
| T40°C Vnom          | 0.013                 |
| T30°C Vnom          | 0.014                 |
| T20°C Vnom          | 0.013                 |
| T10°C Vnom          | 0.013                 |
| T0°C Vnom           | 0.013                 |
| T-10°C Vnom         | 0.013                 |
| T-20°C Vnom         | 0.014                 |
| T-30°C Vnom         | 0.014                 |
| Vnom [V]: 120       | Vmax [V]: 138         |
| Tnom [°C]: 20       | Tmin [°C]: -30        |

### 3.7 End user device additional requirements

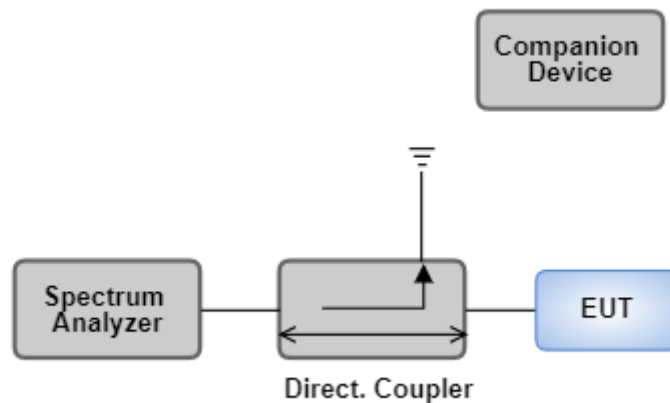
#### 3.7.1 Description of End user device additional requirements

- (a) End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation
- (1) An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

#### 3.7.2 Test Procedures

1. Set companion device(certified CBSD, FCC ID: P27P208) with 3615 ~ 3635 MHz and Power level 17 dBm/MHz
2. Enable AP service and check EUD TX frequency and power
3. Disable AP service and check EUD stop transmission within 10s
4. Set companion device(certified CBSD, FCC ID: P27P208) with 3680 ~ 3700 MHz and Power level 7 dBm/MHz
5. Enable AP service and check EUD TX frequency and power
6. Disable AP service and check EUD stop transmission within 10s

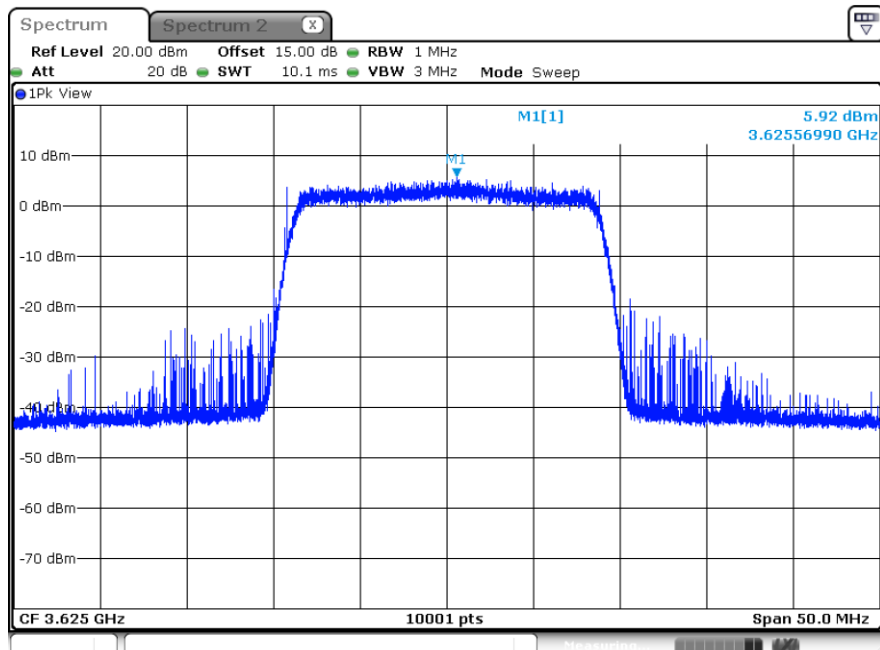
#### 3.7.3 Test Setup



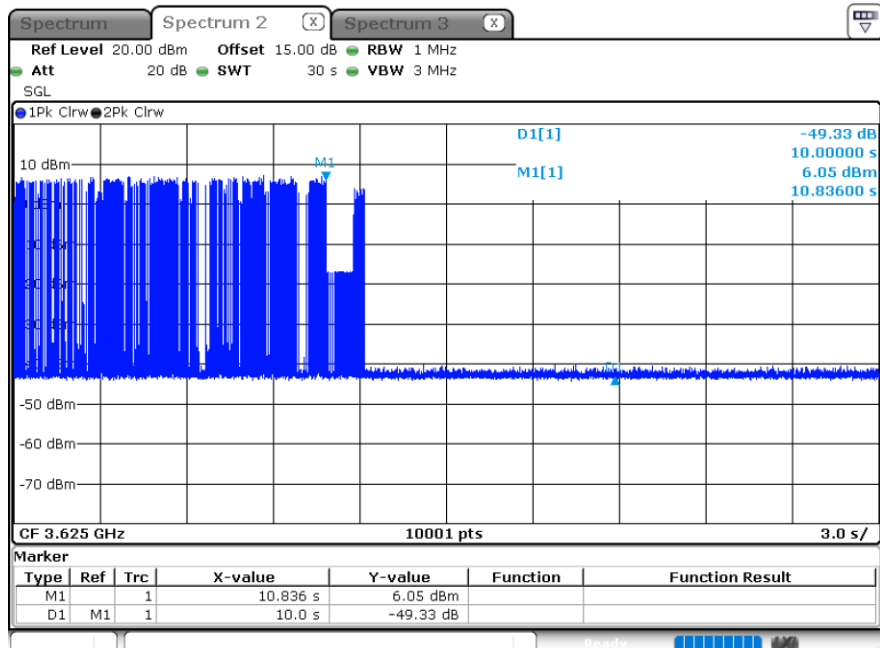
### 3.7.4 Test Result

**Step 1: Setup with 3615 ~ 3635 MHz and Power level 17 dBm/MHz**

**Step 2: Check EUD TX Frequency and Power**

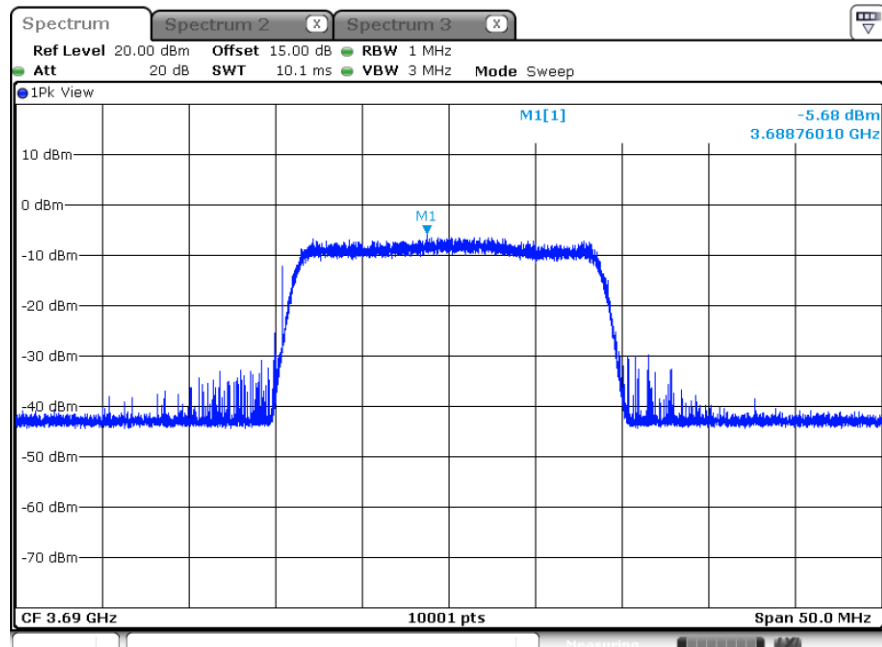


**Step 3: Check EUD stop transmission within 10s of receiving instructions from its associated CBSD**

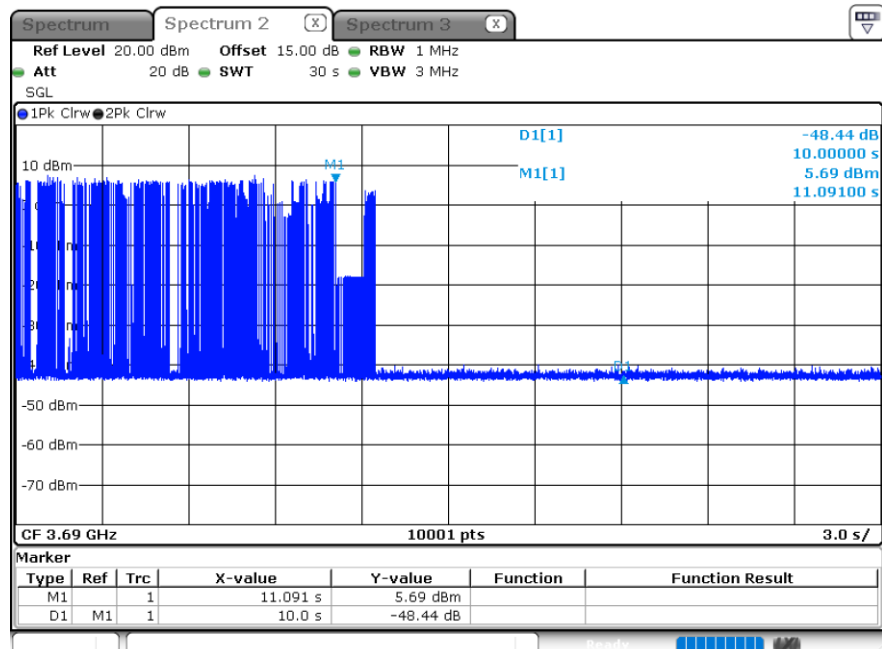


**Step 4: Setup with 3680 ~ 3700 MHz and Power level 7 dBm/MHz**

**Step 5: Check EUD TX Frequency and Power**



**Step 6: Check EUD stop transmission within 10s of receiving instructions from its associated CBSD**



## 4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

### **Linkou**

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Tel: 886-3-271-8666

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### **Kwei Shan Site II**

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City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information

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