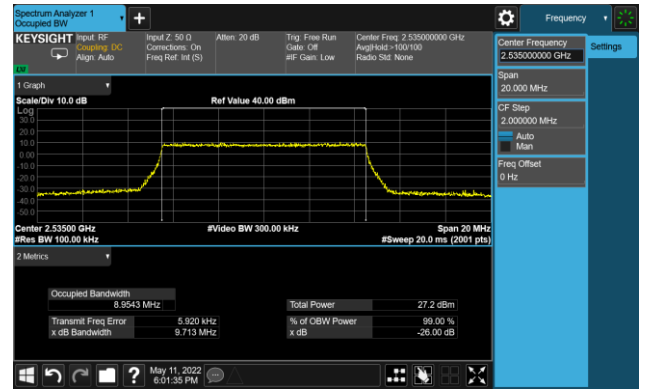


99% Bandwidth - 256QAM

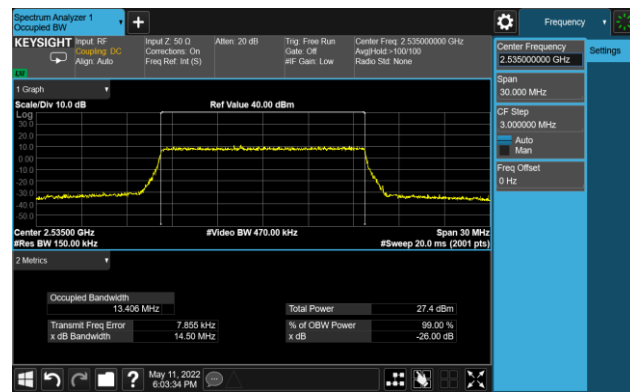
5MHz Channel Bandwidth



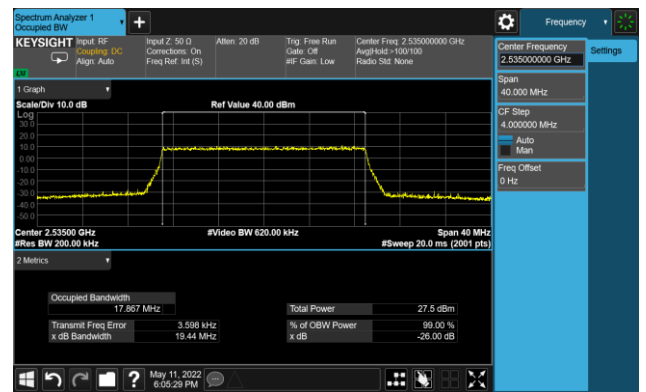
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

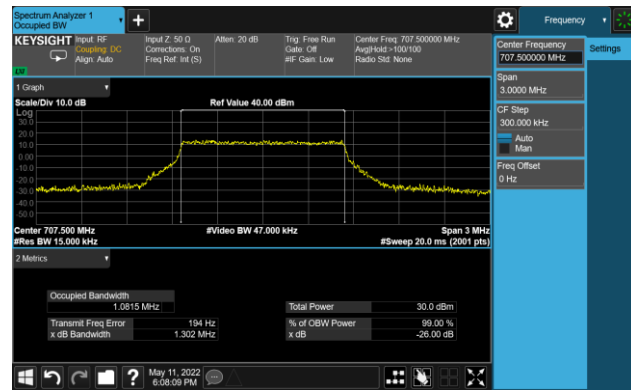


|           |                         |               |             |
|-----------|-------------------------|---------------|-------------|
| Test Site | SIP-SR1                 | Test Engineer | Allen Zou   |
| Test Date | 2022/05/11 ~ 2022/05/12 | Test Band     | LTE Band 12 |

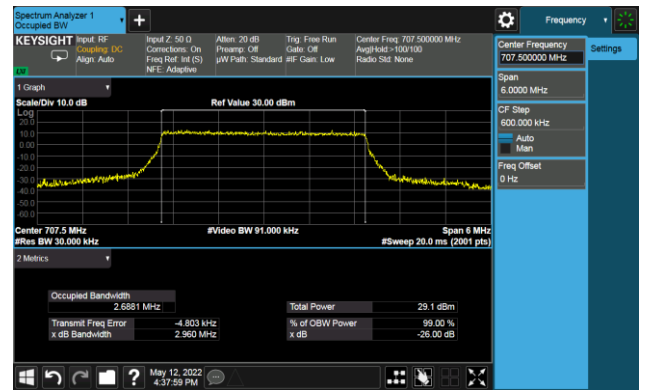
| Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|-----------------|-----------------|---------------------|
| <b>QPSK</b>     |                 |                     |
| 707.5           | 1.4             | 1.08                |
|                 | 3               | 2.69                |
|                 | 5               | 4.47                |
|                 | 10              | 8.93                |
| <b>16QAM</b>    |                 |                     |
| 707.5           | 1.4             | 1.08                |
|                 | 3               | 2.68                |
|                 | 5               | 4.48                |
|                 | 10              | 8.93                |
| <b>64QAM</b>    |                 |                     |
| 707.5           | 1.4             | 1.08                |
|                 | 3               | 2.68                |
|                 | 5               | 4.48                |
|                 | 10              | 8.93                |
| <b>256QAM</b>   |                 |                     |
| 707.5           | 1.4             | 1.09                |
|                 | 3               | 2.68                |
|                 | 5               | 4.48                |
|                 | 10              | 8.93                |

## 99% Bandwidth - QPSK

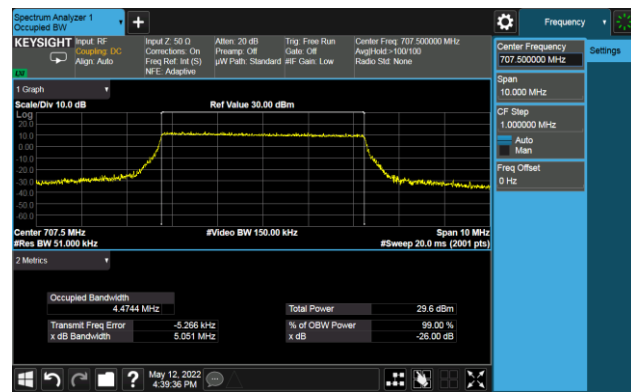
## 1.4MHz Channel Bandwidth



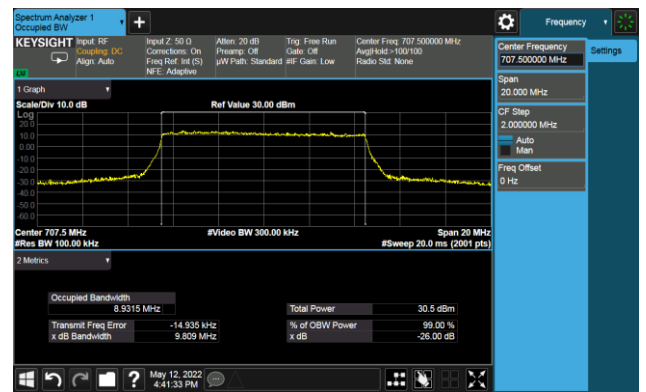
## 3MHz Channel Bandwidth



## 5MHz Channel Bandwidth

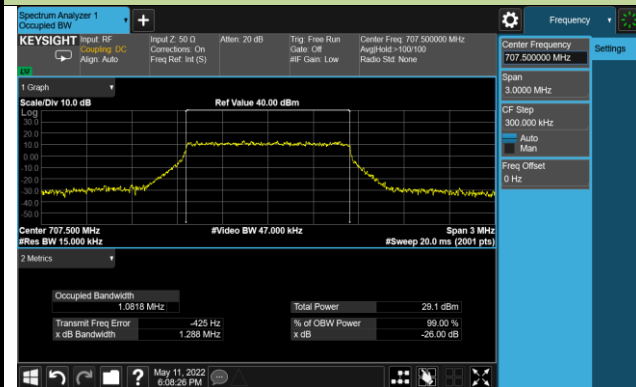


## 10MHz Channel Bandwidth

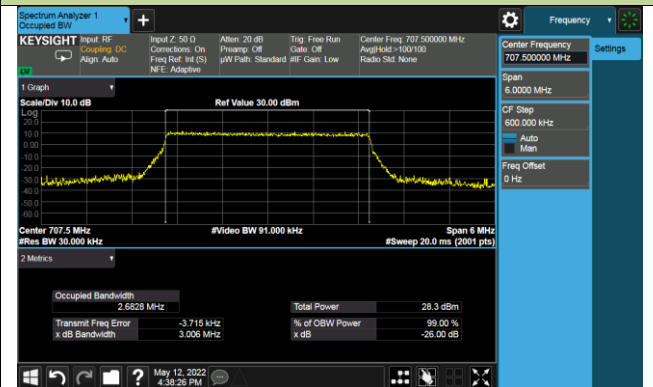


## 99% Bandwidth - 16QAM

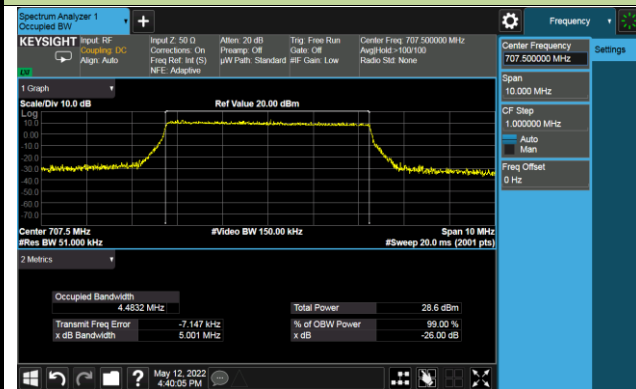
## 1.4MHz Channel Bandwidth



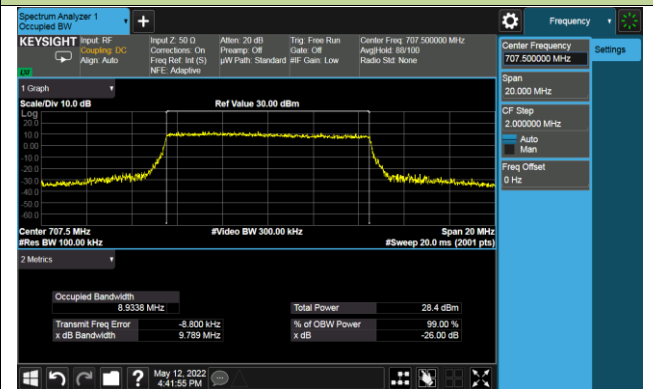
## 3MHz Channel Bandwidth



## 5MHz Channel Bandwidth

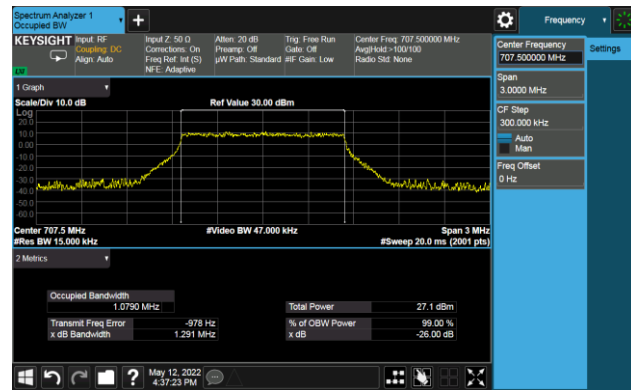


## 10MHz Channel Bandwidth

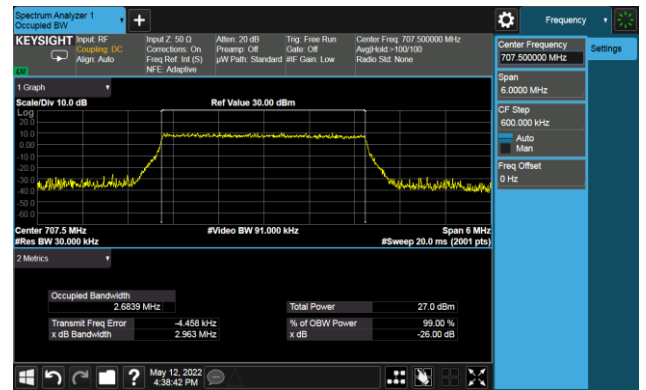


## 99% Bandwidth - 64QAM

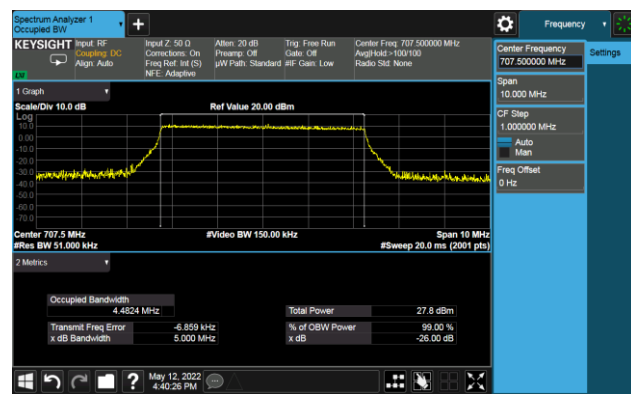
## 1.4MHz Channel Bandwidth



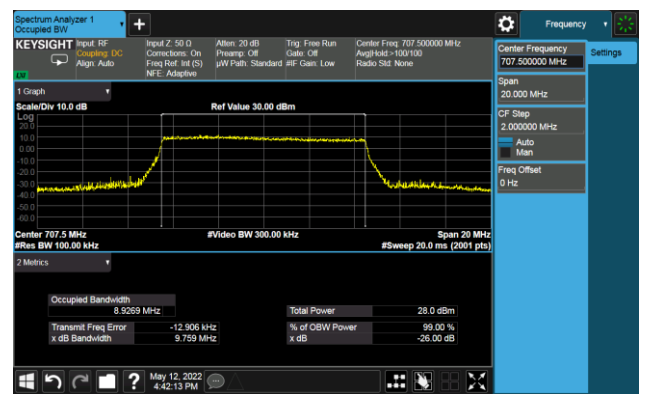
## 3MHz Channel Bandwidth



## 5MHz Channel Bandwidth

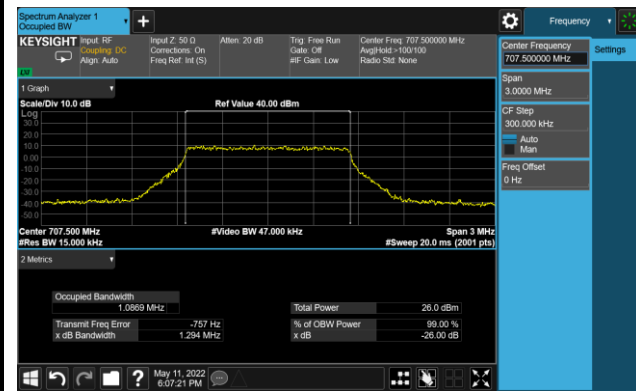


## 10MHz Channel Bandwidth

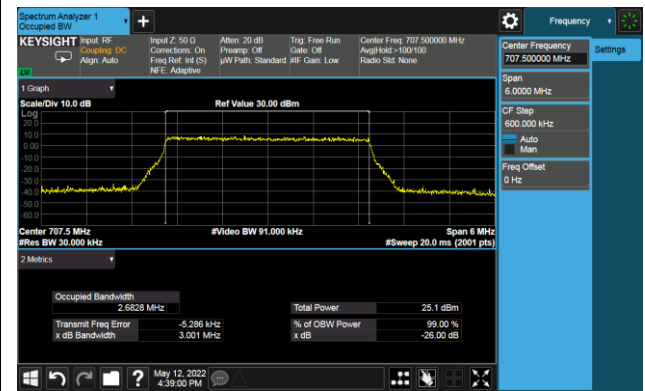


99% Bandwidth - 256QAM

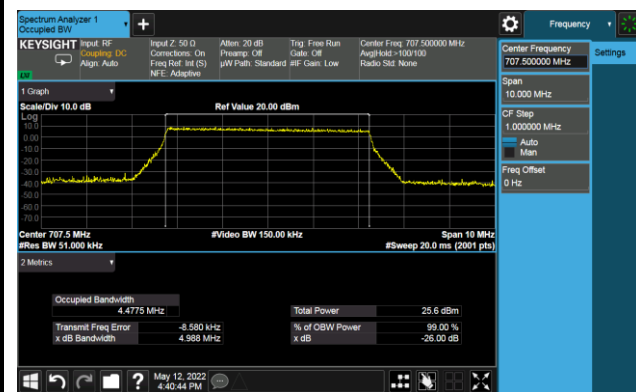
1.4MHz Channel Bandwidth



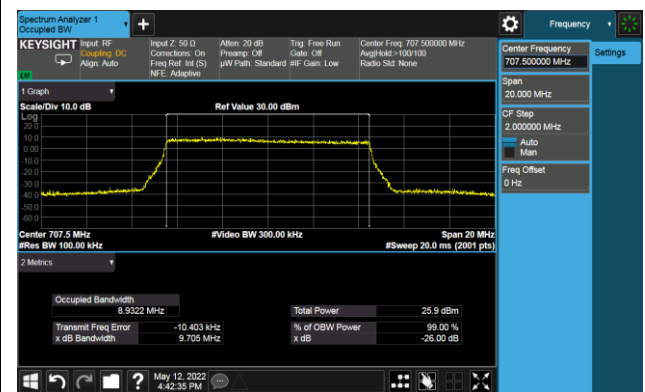
3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth



|           |            |               |             |
|-----------|------------|---------------|-------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou   |
| Test Date | 2022/05/12 | Test Band     | LTE Band 13 |

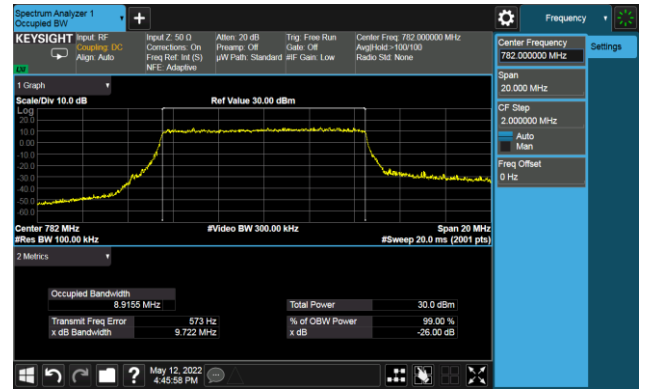
| Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|-----------------|-----------------|---------------------|
| <b>QPSK</b>     |                 |                     |
| 782.0           | 5               | 4.48                |
|                 | 10              | 8.92                |
| <b>16QAM</b>    |                 |                     |
| 782.0           | 5               | 4.47                |
|                 | 10              | 8.91                |
| <b>64QAM</b>    |                 |                     |
| 782.0           | 5               | 4.47                |
|                 | 10              | 8.92                |
| <b>256QAM</b>   |                 |                     |
| 782.0           | 5               | 4.49                |
|                 | 10              | 8.93                |

99% Bandwidth - QPSK

5MHz Channel Bandwidth

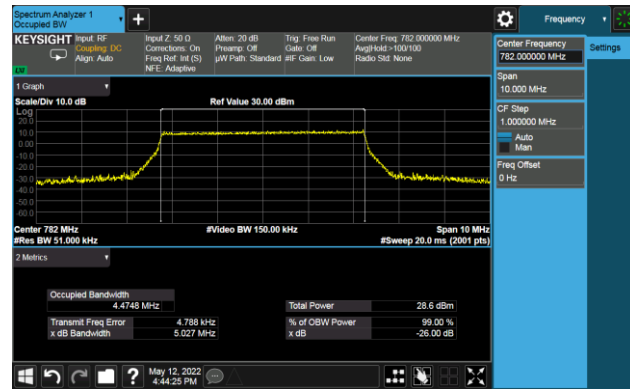


10MHz Channel Bandwidth



99% Bandwidth - 16QAM

5MHz Channel Bandwidth

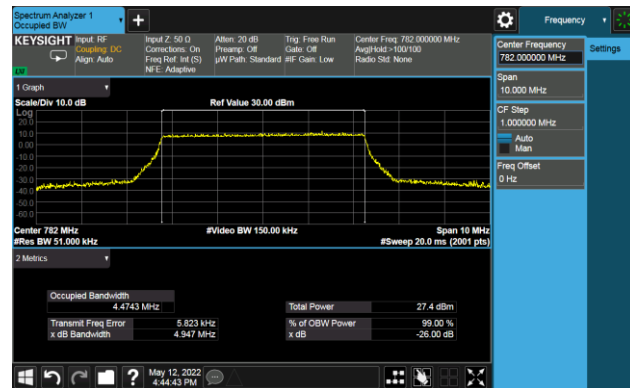


10MHz Channel Bandwidth

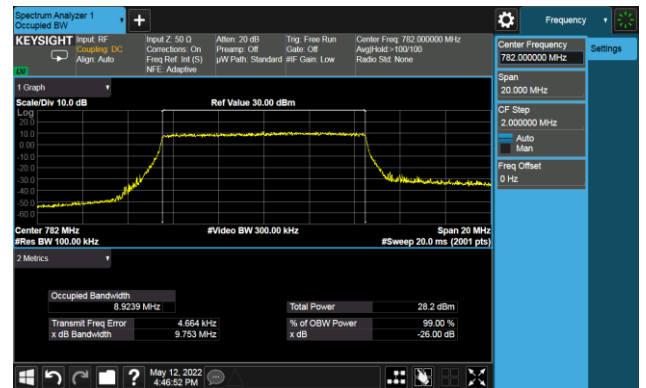


99% Bandwidth - 64QAM

5MHz Channel Bandwidth



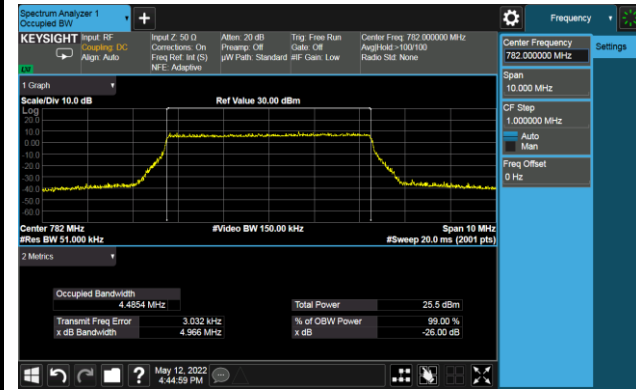
10MHz Channel Bandwidth





99% Bandwidth - 256QAM

5MHz Channel Bandwidth



10MHz Channel Bandwidth

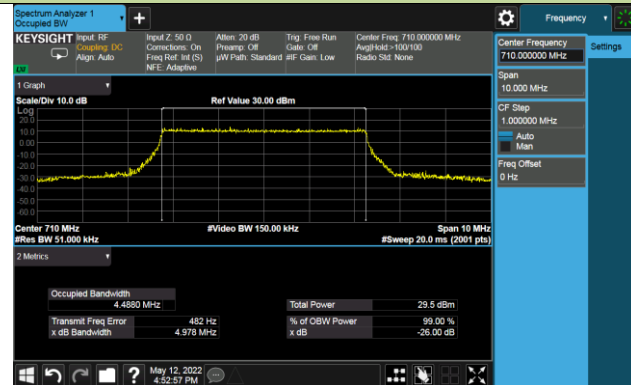


|           |            |               |             |
|-----------|------------|---------------|-------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou   |
| Test Date | 2022/05/12 | Test Band     | LTE Band 17 |

| Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|-----------------|-----------------|---------------------|
| <b>QPSK</b>     |                 |                     |
| 710.0           | 5               | 4.49                |
|                 | 10              | 8.95                |
| <b>16QAM</b>    |                 |                     |
| 710.0           | 5               | 4.48                |
|                 | 10              | 8.97                |
| <b>64QAM</b>    |                 |                     |
| 710.0           | 5               | 4.48                |
|                 | 10              | 8.96                |
| <b>256QAM</b>   |                 |                     |
| 710.0           | 5               | 4.48                |
|                 | 10              | 8.96                |

## 99% Bandwidth - QPSK

## 5MHz Channel Bandwidth

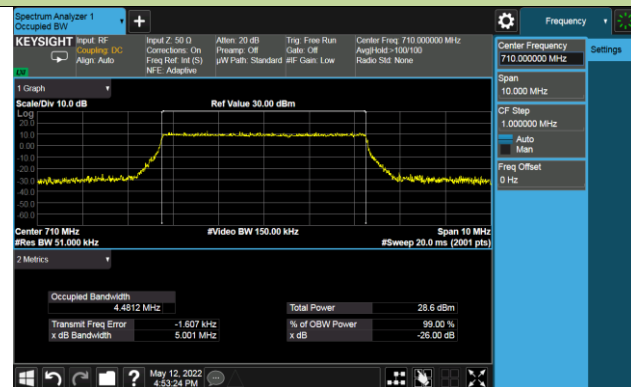


## 10MHz Channel Bandwidth



## 99% Bandwidth - 16QAM

## 5MHz Channel Bandwidth

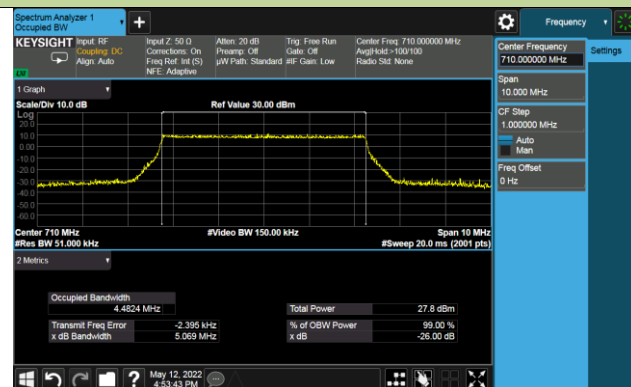


## 10MHz Channel Bandwidth

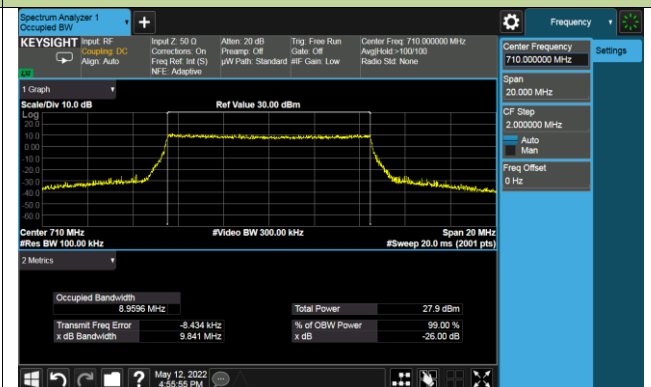


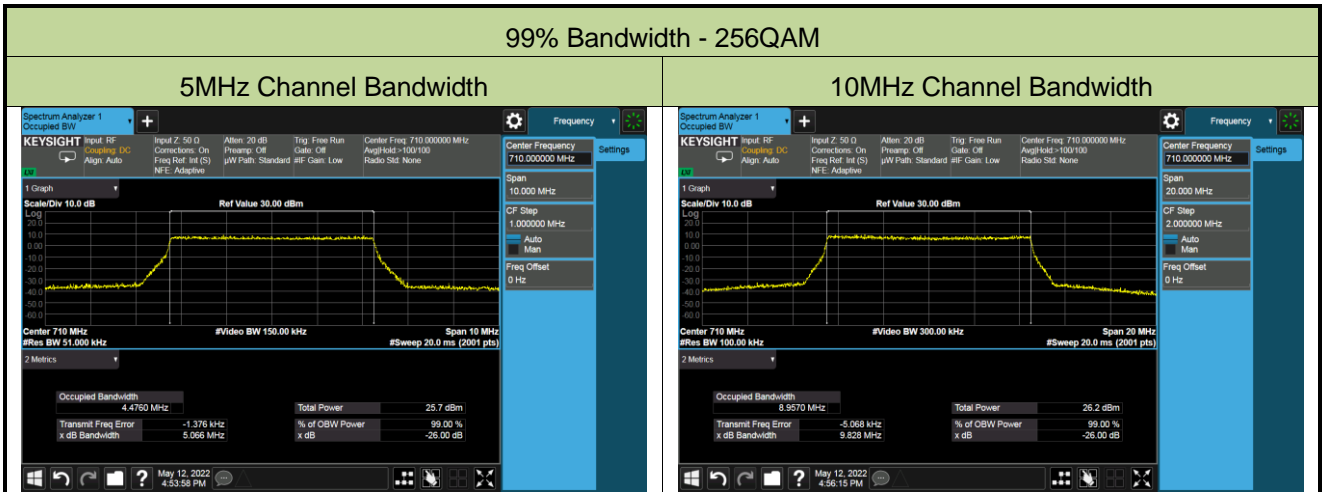
## 99% Bandwidth - 64QAM

## 5MHz Channel Bandwidth



## 10MHz Channel Bandwidth





|           |            |               |                     |
|-----------|------------|---------------|---------------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou           |
| Test Date | 2022/05/13 | Test Band     | LTE Band 38/41_HPUE |

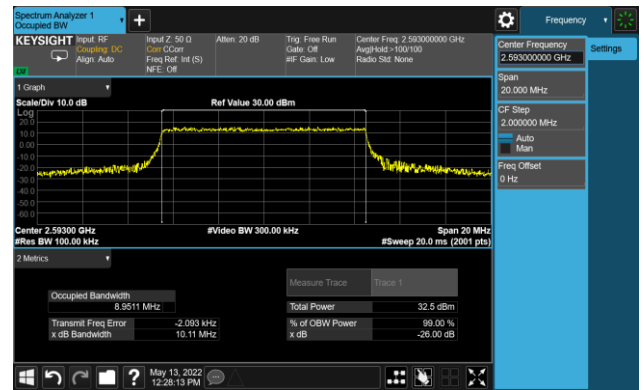
| Frequency<br>(MHz) | Bandwidth<br>(MHz) | 99% Bandwidth<br>(MHz) |
|--------------------|--------------------|------------------------|
| <b>QPSK</b>        |                    |                        |
| 2593.0             | 5                  | 4.48                   |
|                    | 10                 | 8.95                   |
|                    | 15                 | 13.39                  |
|                    | 20                 | 17.88                  |
| <b>16QAM</b>       |                    |                        |
| 2593.0             | 5                  | 4.47                   |
|                    | 10                 | 8.94                   |
|                    | 15                 | 13.44                  |
|                    | 20                 | 17.87                  |
| <b>64QAM</b>       |                    |                        |
| 2593.0             | 5                  | 4.48                   |
|                    | 10                 | 8.95                   |
|                    | 15                 | 13.42                  |
|                    | 20                 | 17.87                  |
| <b>256QAM</b>      |                    |                        |
| 2593.0             | 5                  | 4.48                   |
|                    | 10                 | 8.94                   |
|                    | 15                 | 13.42                  |
|                    | 20                 | 17.89                  |

## 99% Bandwidth - QPSK

## 5MHz Channel Bandwidth



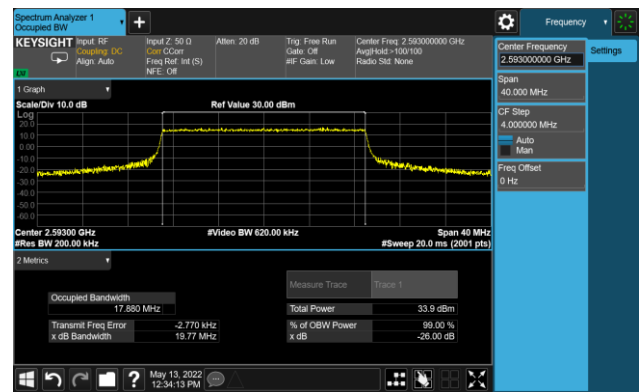
## 10MHz Channel Bandwidth



## 15MHz Channel Bandwidth

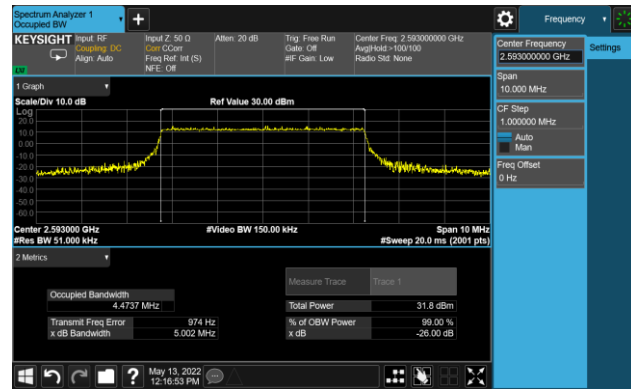


## 20MHz Channel Bandwidth

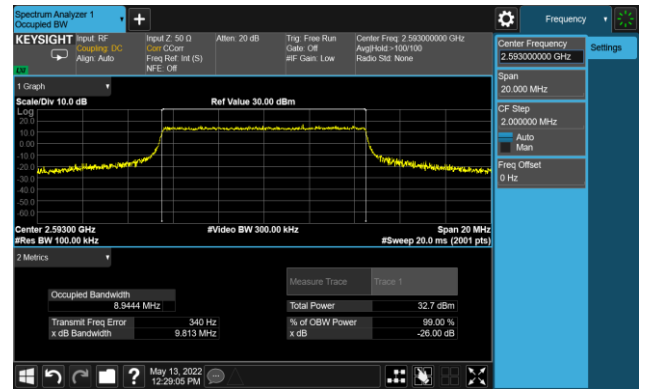


## 99% Bandwidth - 16QAM

## 5MHz Channel Bandwidth



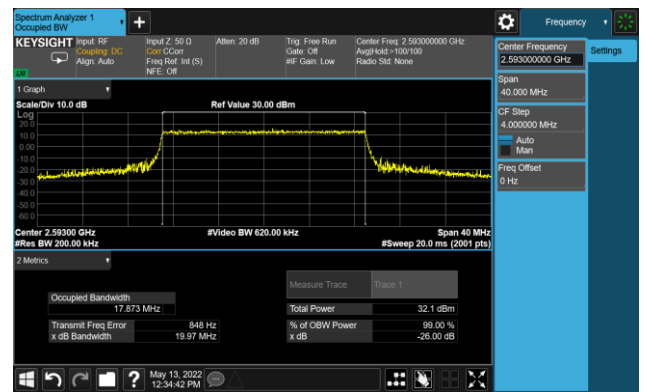
## 10MHz Channel Bandwidth



## 15MHz Channel Bandwidth

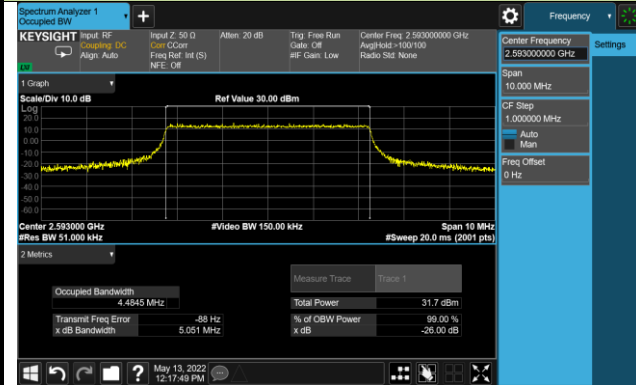


## 20MHz Channel Bandwidth

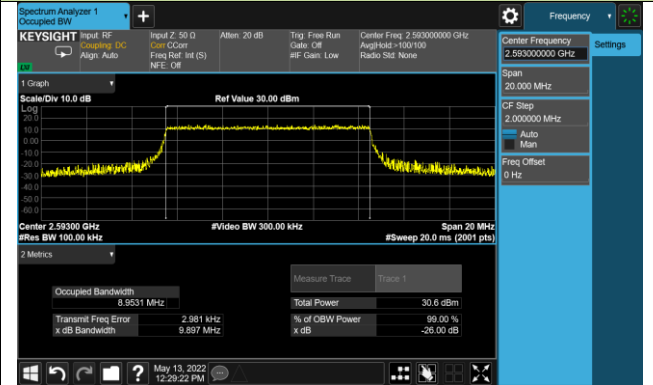


99% Bandwidth - 64QAM

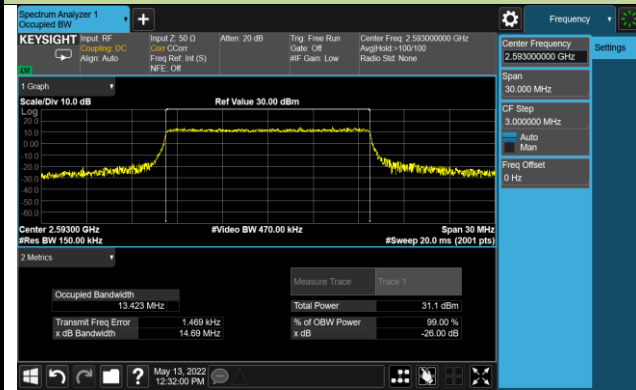
5MHz Channel Bandwidth



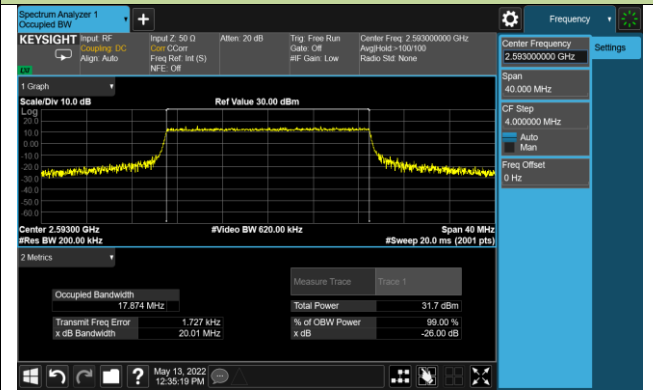
10MHz Channel Bandwidth



15MHz Channel Bandwidth



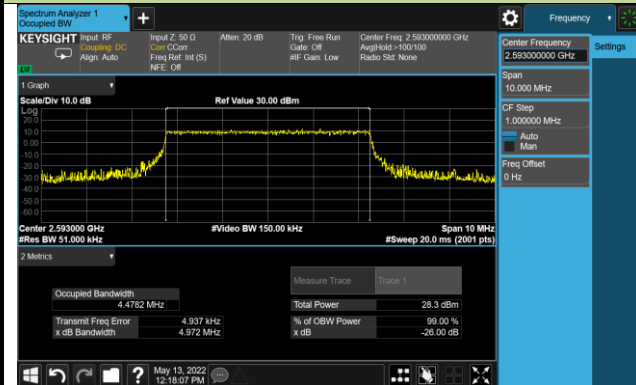
20MHz Channel Bandwidth



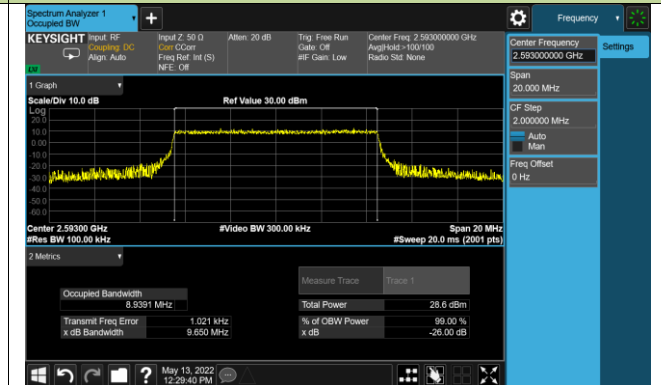


99% Bandwidth - 256QAM

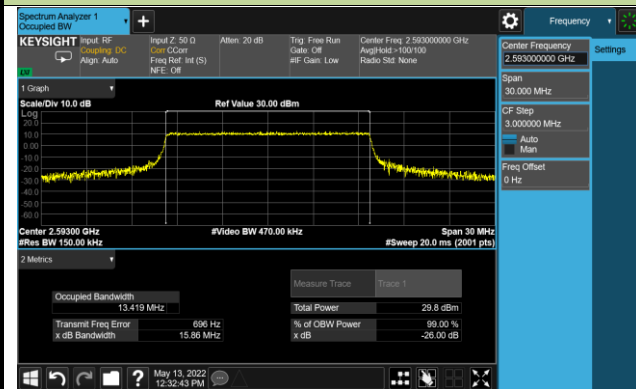
5MHz Channel Bandwidth



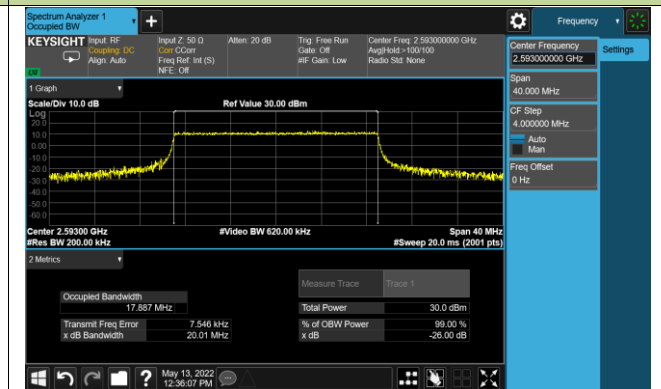
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

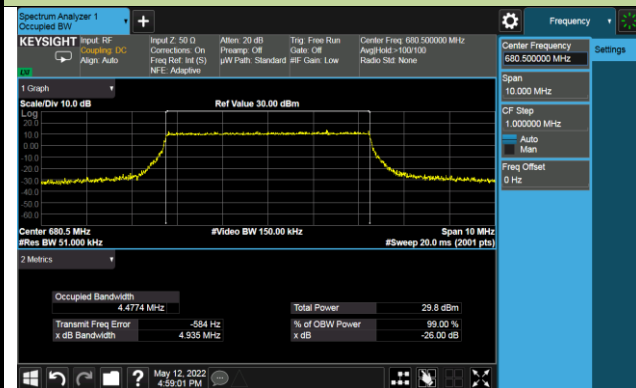


|           |            |               |             |
|-----------|------------|---------------|-------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou   |
| Test Date | 2022/05/12 | Test Band     | LTE Band 71 |

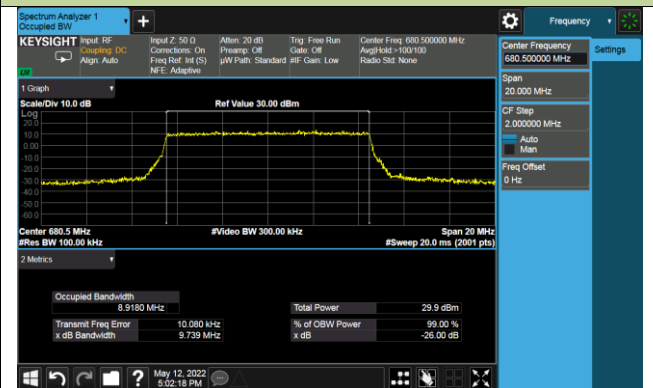
| Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|-----------------|-----------------|---------------------|
| <b>QPSK</b>     |                 |                     |
| 680.5           | 5               | 4.48                |
|                 | 10              | 8.92                |
|                 | 15              | 13.36               |
|                 | 20              | 17.80               |
| <b>16QAM</b>    |                 |                     |
| 680.5           | 5               | 4.48                |
|                 | 10              | 8.92                |
|                 | 15              | 13.39               |
|                 | 20              | 17.82               |
| <b>64QAM</b>    |                 |                     |
| 680.5           | 5               | 4.48                |
|                 | 10              | 8.92                |
|                 | 15              | 13.39               |
|                 | 20              | 17.82               |
| <b>256QAM</b>   |                 |                     |
| 680.5           | 5               | 4.47                |
|                 | 10              | 8.93                |
|                 | 15              | 13.37               |
|                 | 20              | 17.82               |

### 99% Bandwidth - QPSK

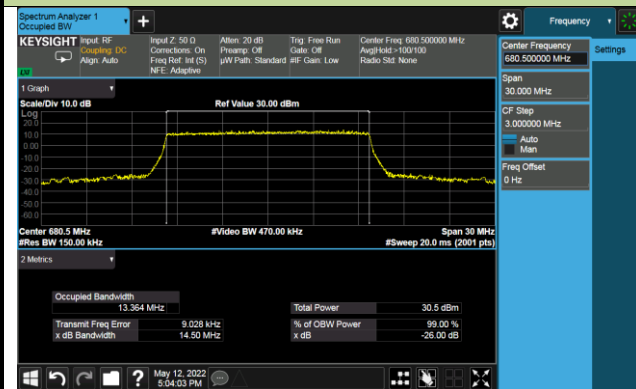
#### 5MHz Channel Bandwidth



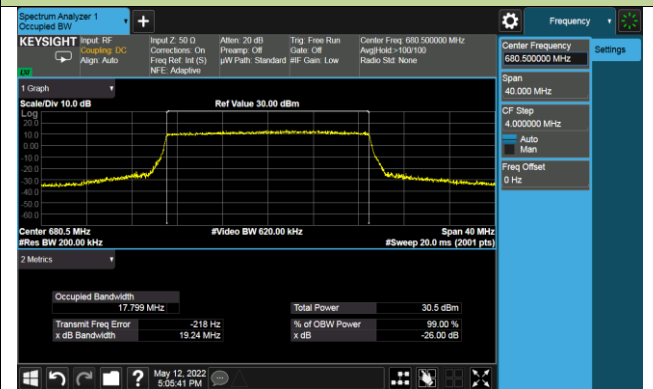
#### 10MHz Channel Bandwidth



#### 15MHz Channel Bandwidth

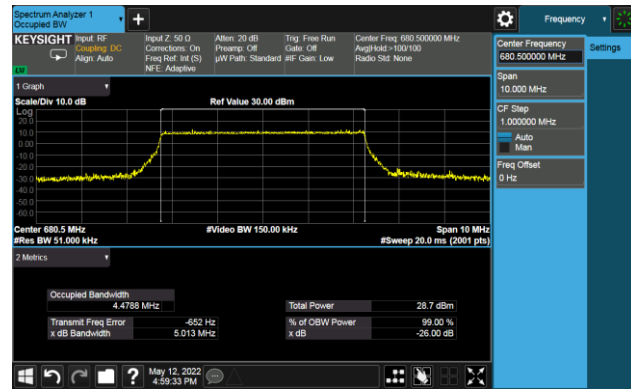


#### 20MHz Channel Bandwidth

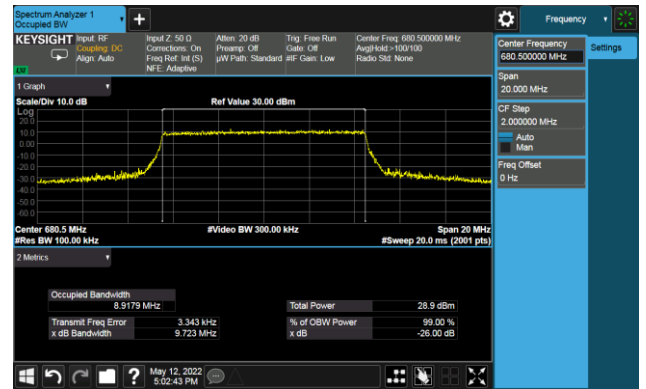


## 99% Bandwidth - 16QAM

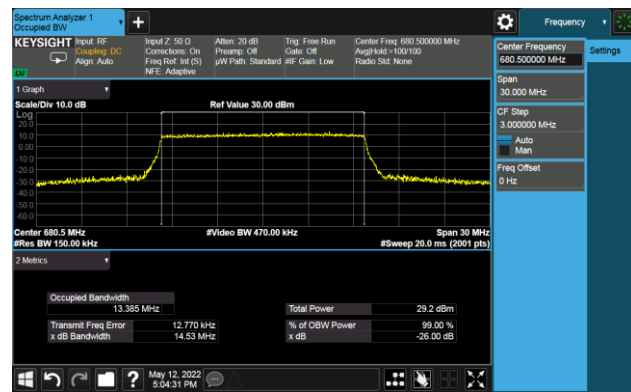
## 5MHz Channel Bandwidth



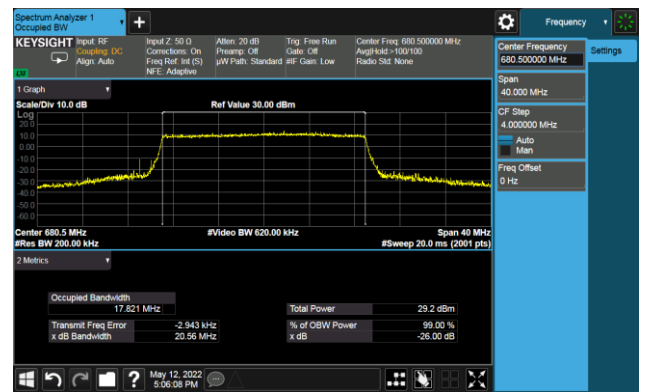
## 10MHz Channel Bandwidth



## 15MHz Channel Bandwidth

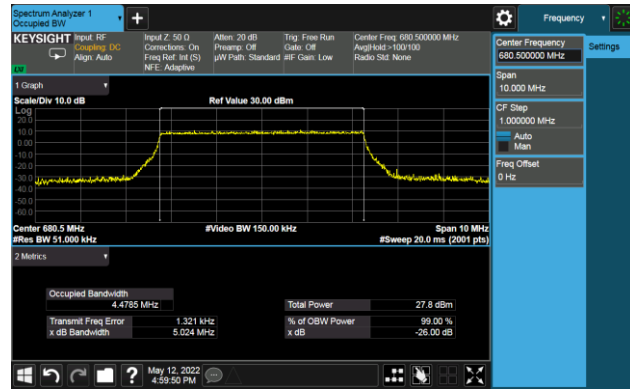


## 20MHz Channel Bandwidth

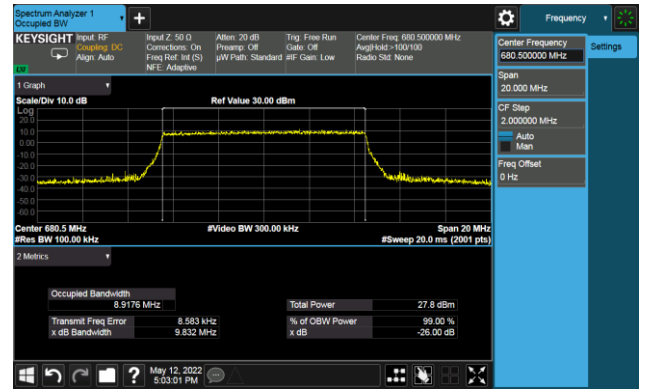


99% Bandwidth - 64QAM

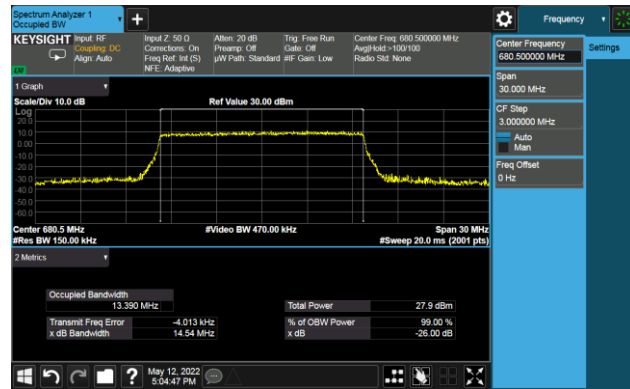
5MHz Channel Bandwidth



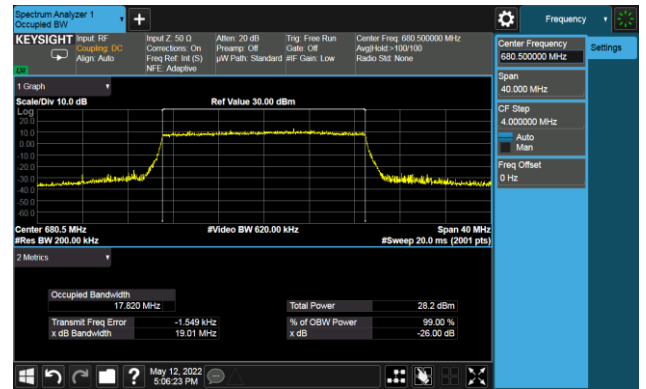
10MHz Channel Bandwidth



15MHz Channel Bandwidth

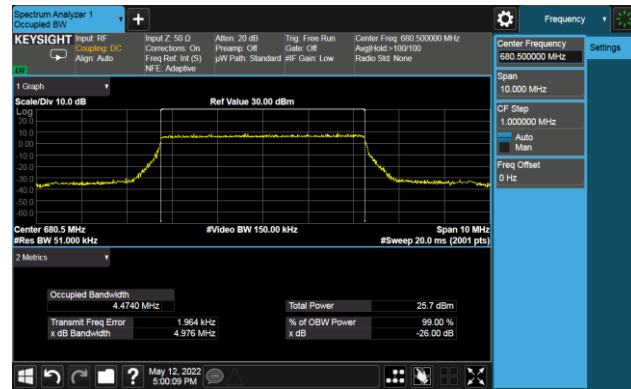


20MHz Channel Bandwidth

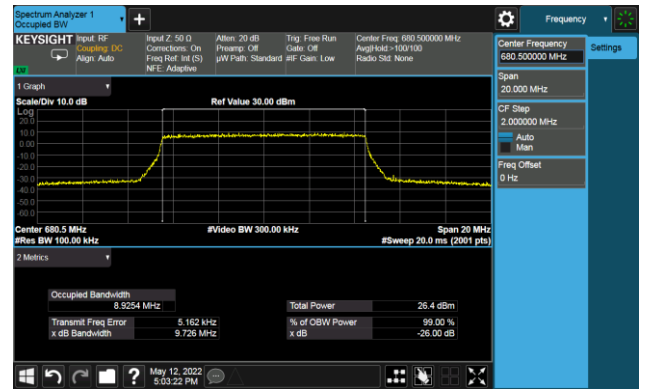


## 99% Bandwidth - 256QAM

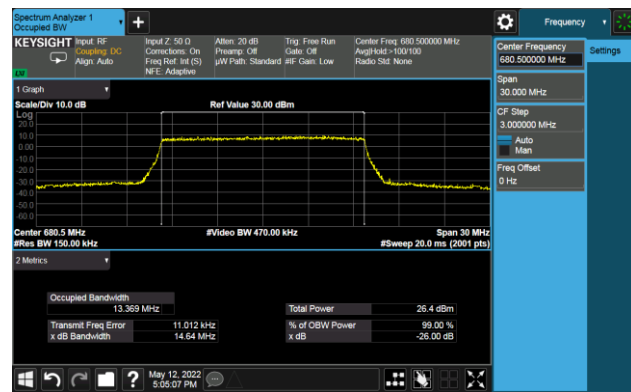
## 5MHz Channel Bandwidth



## 10MHz Channel Bandwidth



## 15MHz Channel Bandwidth



## 20MHz Channel Bandwidth



|           |            |               |                  |
|-----------|------------|---------------|------------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou        |
| Test Date | 2022/05/11 | Test Band     | Intra-Band CA_2C |

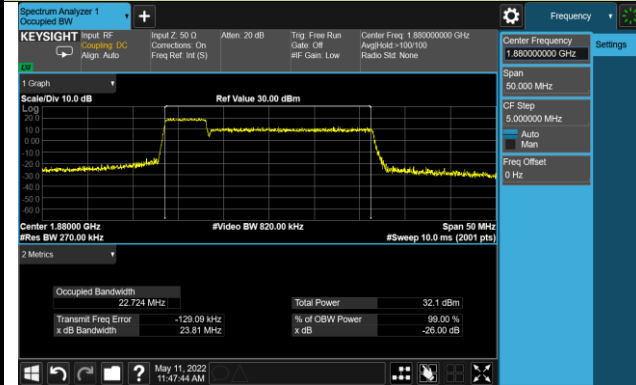
| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 1870.8 + 1882.5 | 5+20            | 22.72               |
|            | 1872.9 + 1884.9 | 10+15           | 23.02               |
|            | 1870.6 + 1885.0 | 10+20           | 27.56               |
|            | 1875.1 + 1887.1 | 15+10           | 23.06               |
|            | 1872.5 + 1887.5 | 15+15           | 28.24               |
|            | 1870.3 + 1887.4 | 15+20           | 32.46               |
|            | 1877.5 + 1889.2 | 20+5            | 22.81               |
|            | 1875.1 + 1889.5 | 20+10           | 27.70               |
|            | 1872.6 + 1889.7 | 20+15           | 32.60               |
|            | 1870.1 + 1889.9 | 20+20           | 37.46               |
| 16QAM      | 1870.8 + 1882.5 | 5+20            | 22.72               |
|            | 1872.9 + 1884.9 | 10+15           | 23.02               |
|            | 1870.6 + 1885.0 | 10+20           | 27.60               |
|            | 1875.1 + 1887.1 | 15+10           | 23.04               |
|            | 1872.5 + 1887.5 | 15+15           | 28.27               |
|            | 1870.3 + 1887.4 | 15+20           | 32.49               |
|            | 1877.5 + 1889.2 | 20+5            | 22.79               |
|            | 1875.1 + 1889.5 | 20+10           | 27.65               |
|            | 1872.6 + 1889.7 | 20+15           | 32.50               |
|            | 1870.1+ 1889.9  | 20+20           | 37.38               |
| 64QAM      | 1870.8 + 1882.5 | 5+20            | 22.71               |
|            | 1872.9 + 1884.9 | 10+15           | 23.03               |
|            | 1870.6 + 1885.0 | 10+20           | 27.63               |
|            | 1875.1 + 1887.1 | 15+10           | 23.04               |
|            | 1872.5 + 1887.5 | 15+15           | 28.28               |
|            | 1870.3 + 1887.4 | 15+20           | 32.56               |
|            | 1877.5 + 1889.2 | 20+5            | 22.82               |
|            | 1875.1 + 1889.5 | 20+10           | 27.67               |
|            | 1872.6 + 1889.7 | 20+15           | 32.54               |
|            | 1870.1 + 1889.9 | 20+20           | 37.42               |

| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| 256QAM     | 1870.8 + 1882.5 | 5+20            | 22.72               |
|            | 1872.9 + 1884.9 | 10+15           | 23.02               |
|            | 1870.6 + 1885.0 | 10+20           | 27.63               |
|            | 1875.1 + 1887.1 | 15+10           | 23.06               |
|            | 1872.5 + 1887.5 | 15+15           | 28.22               |
|            | 1870.3 + 1887.4 | 15+20           | 32.47               |
|            | 1877.5 + 1889.2 | 20+5            | 22.82               |
|            | 1875.1 + 1889.5 | 20+10           | 27.66               |
|            | 1872.6 + 1889.7 | 20+15           | 32.61               |
|            | 1870.1 + 1889.9 | 20+20           | 37.43               |

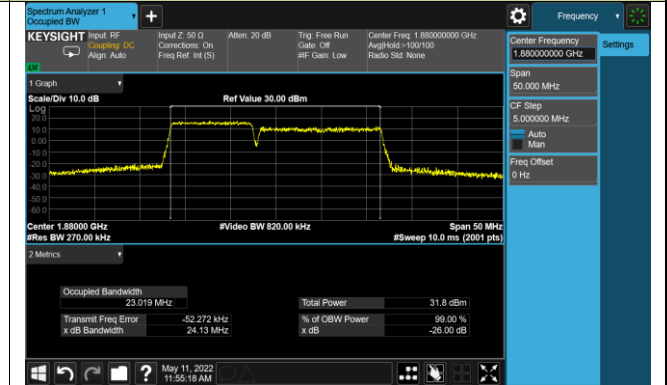


## 99% Bandwidth - QPSK

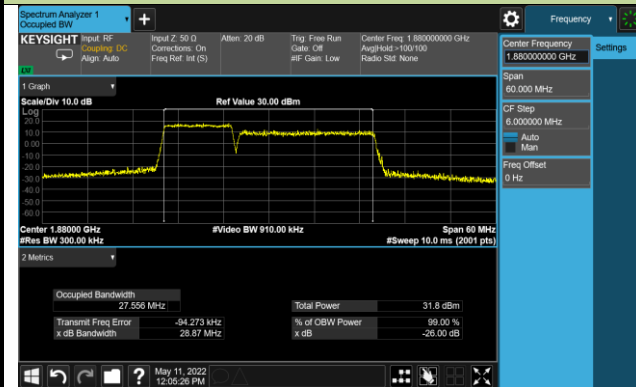
## 5+20MHz Channel Bandwidth



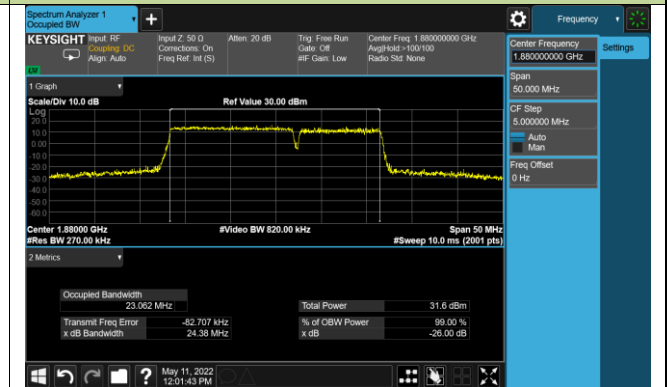
## 10+15MHz Channel Bandwidth



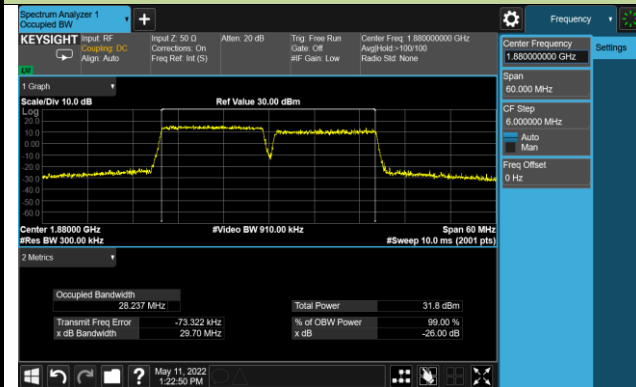
## 10+20MHz Channel Bandwidth



## 15+10MHz Channel Bandwidth



## 15+15MHz Channel Bandwidth



## 15+20MHz Channel Bandwidth

