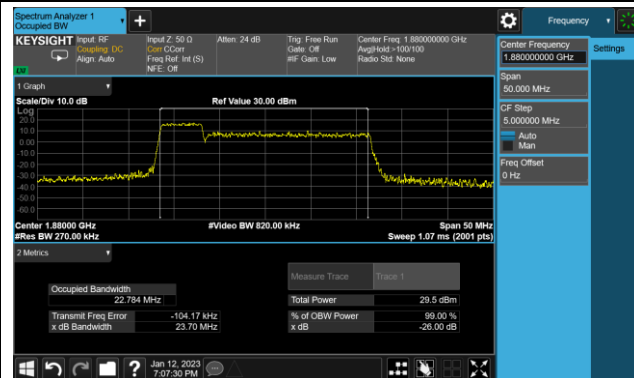
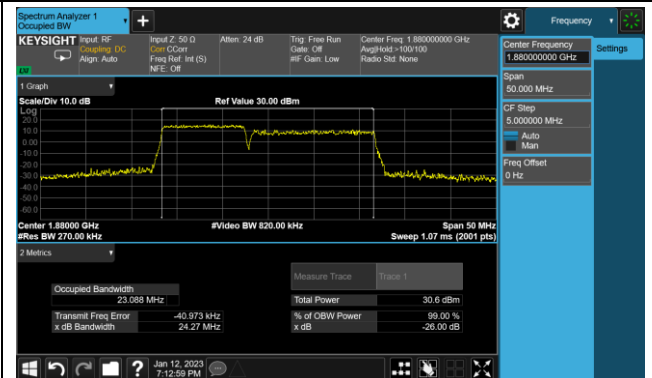


## 99% Bandwidth - QPSK

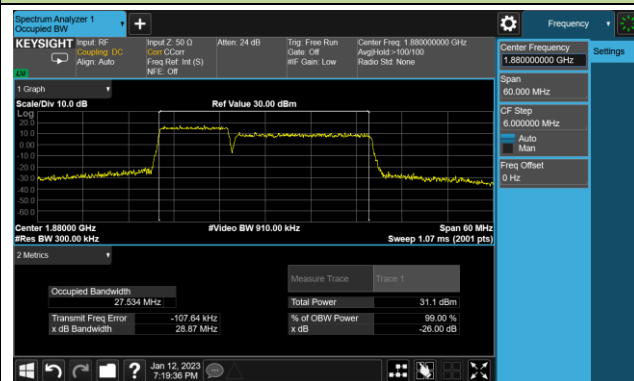
## 5+20MHz Channel Bandwidth



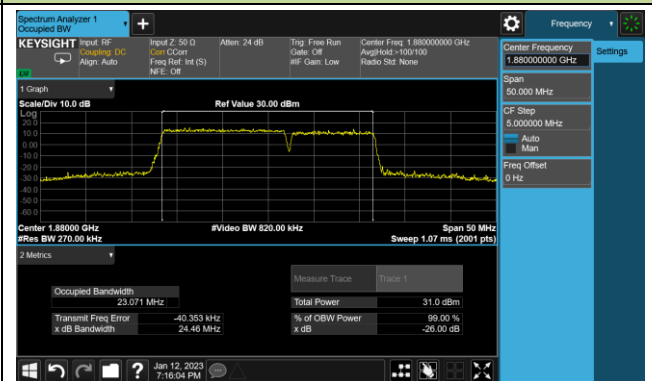
## 10+15MHz Channel Bandwidth



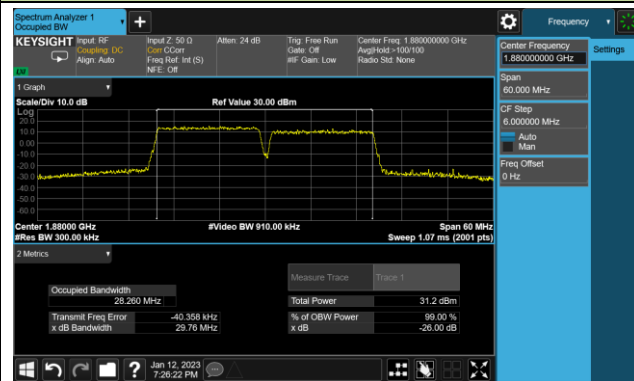
## 10+20MHz Channel Bandwidth



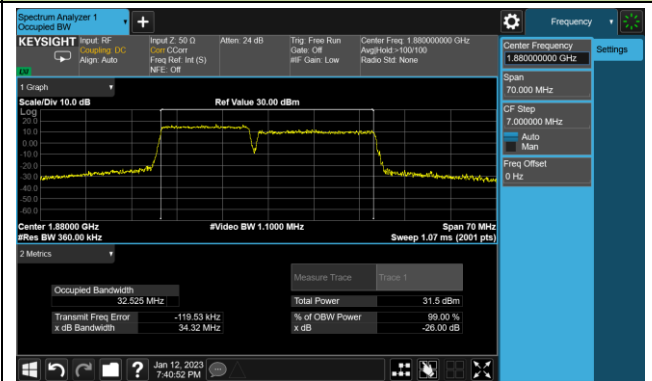
## 15+10MHz Channel Bandwidth



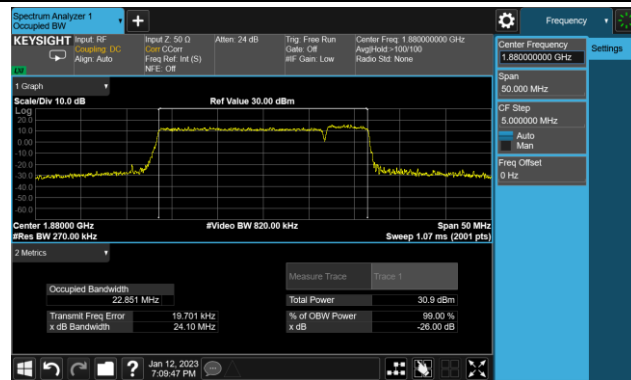
## 15+15MHz Channel Bandwidth



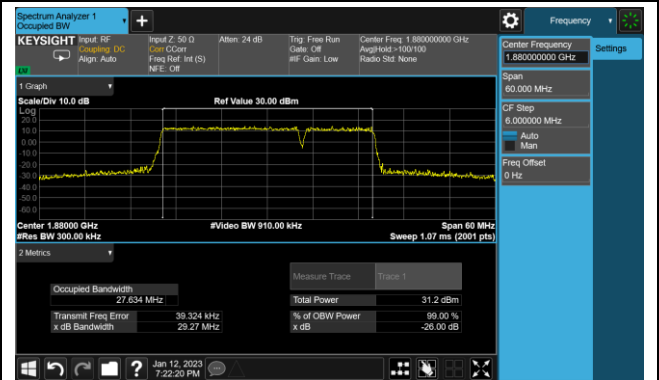
## 15+20MHz Channel Bandwidth



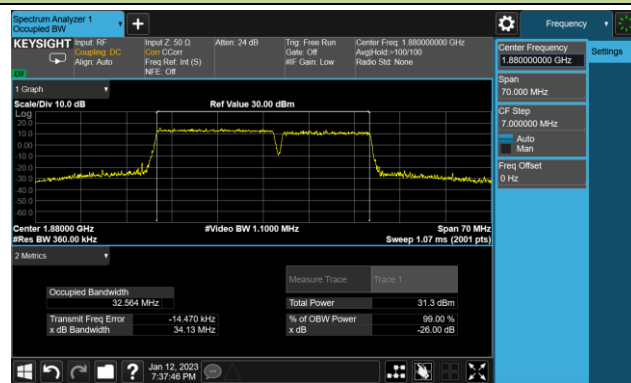
### 20+5MHz Channel Bandwidth



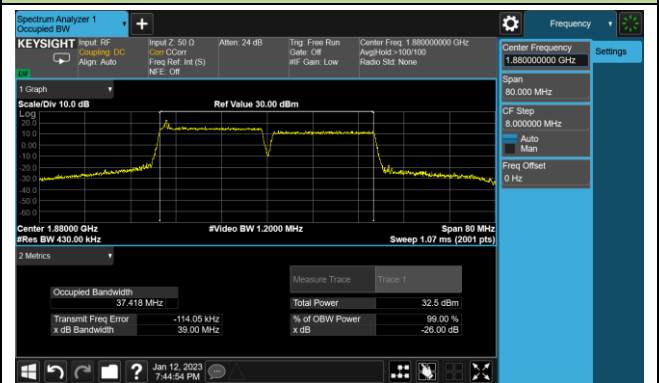
### 20+10MHz Channel Bandwidth



### 20+15MHz Channel Bandwidth

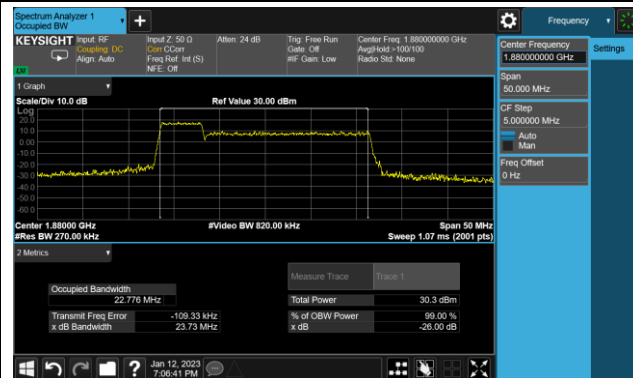


### 20+20MHz Channel Bandwidth

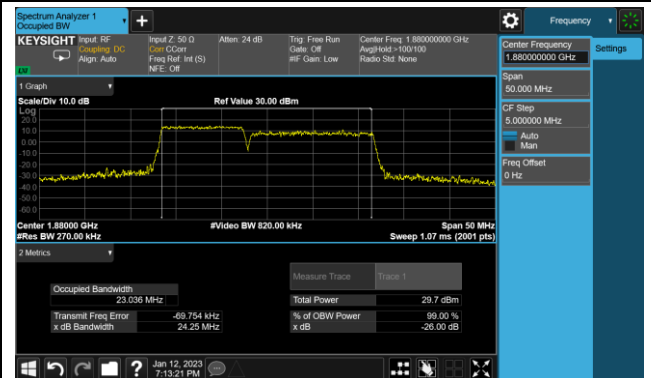


## 99% Bandwidth - 16QAM

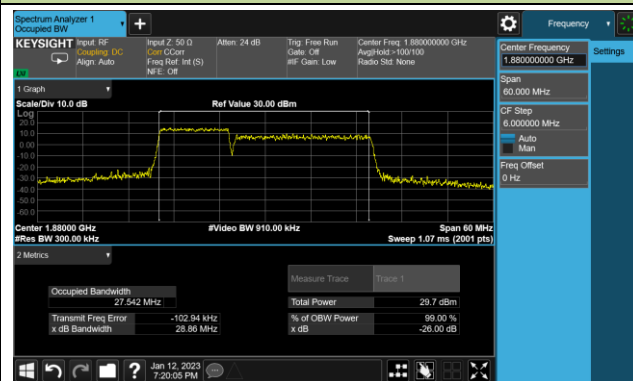
## 5+20MHz Channel Bandwidth



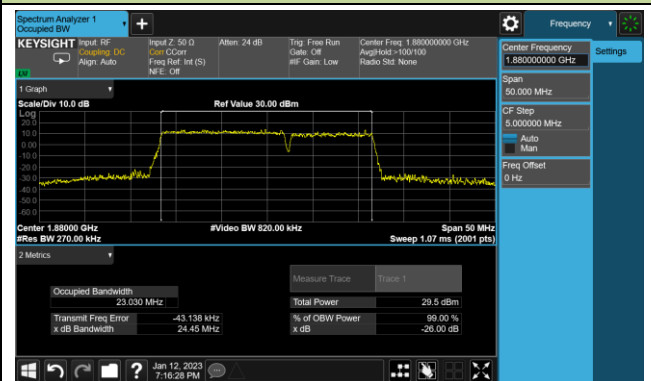
## 10+15MHz Channel Bandwidth



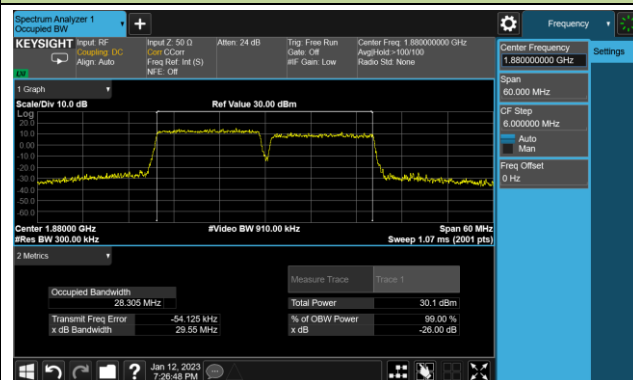
## 10+20MHz Channel Bandwidth



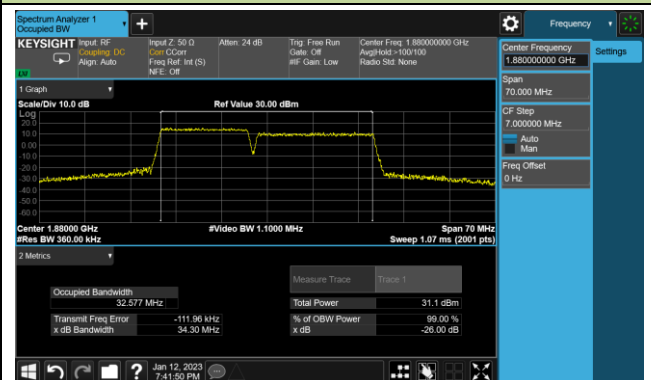
## 15+10MHz Channel Bandwidth

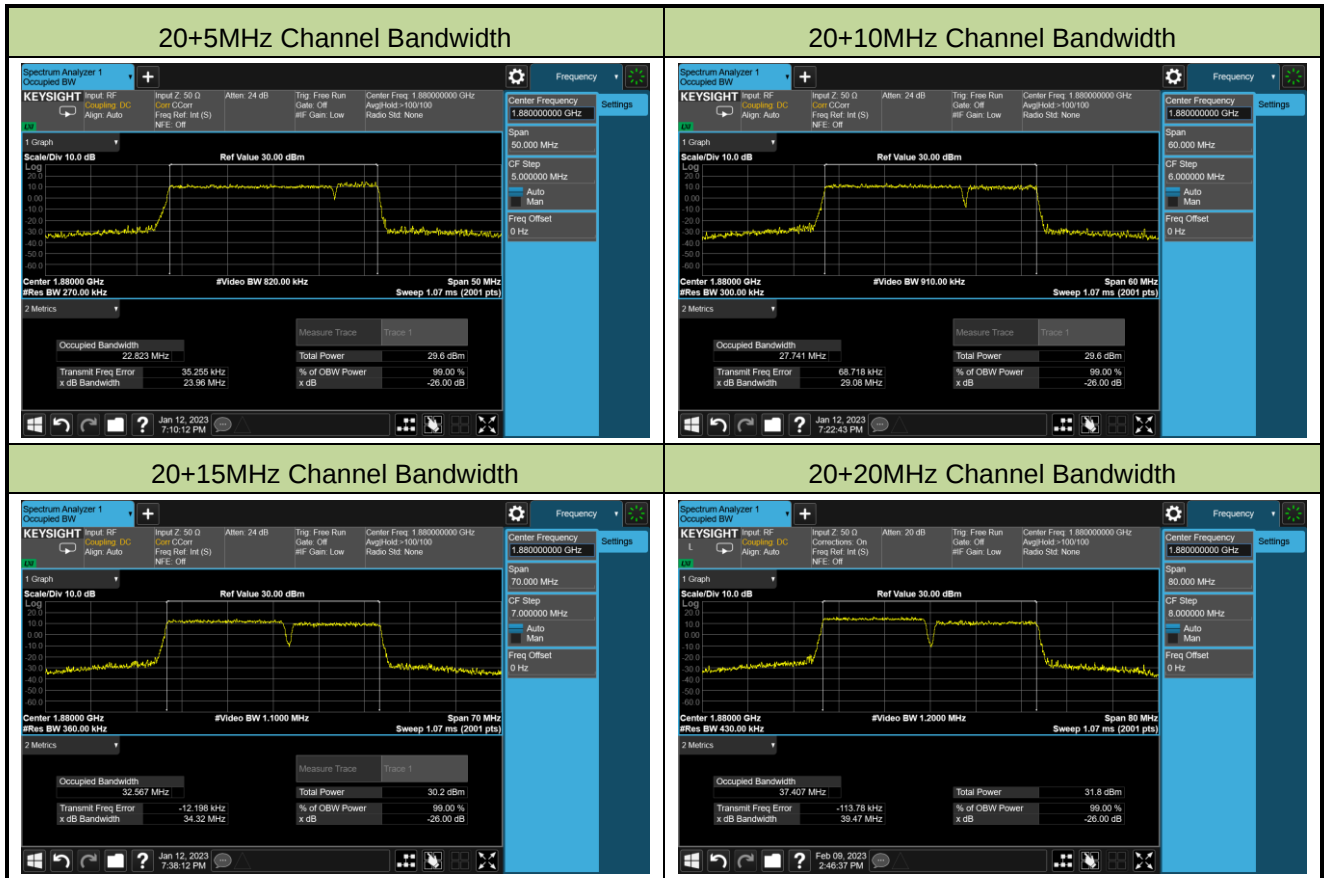


## 15+15MHz Channel Bandwidth



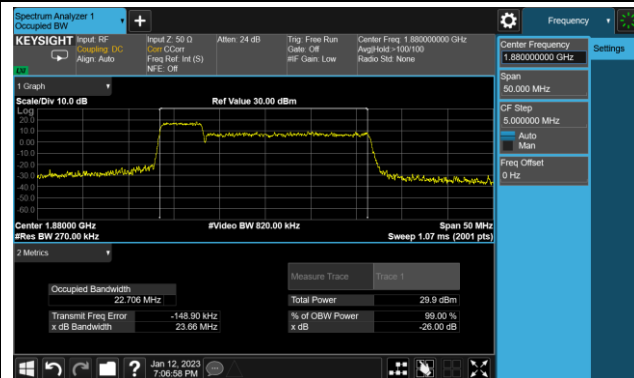
## 15+20MHz Channel Bandwidth



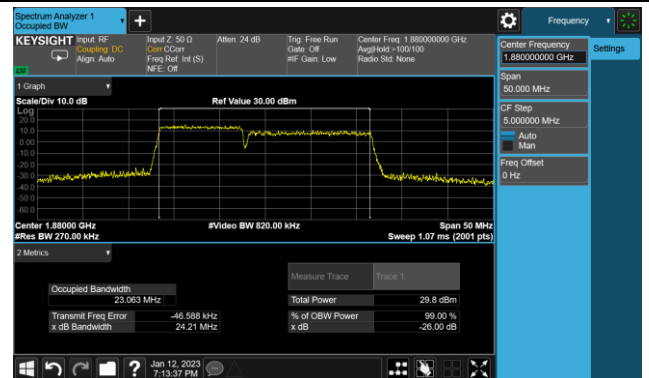


## 99% Bandwidth - 64QAM

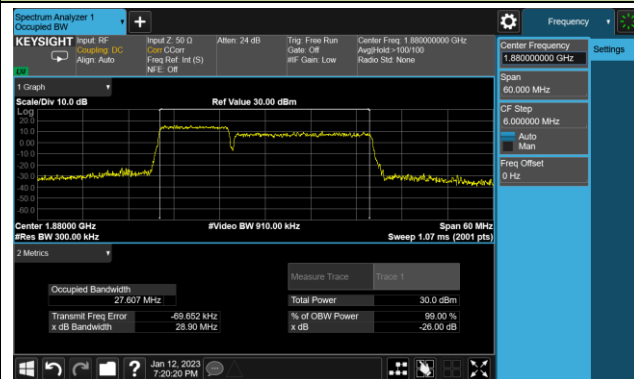
## 5+20MHz Channel Bandwidth



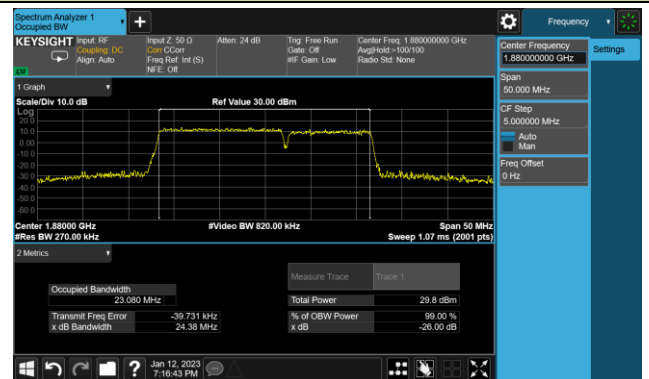
## 10+15MHz Channel Bandwidth



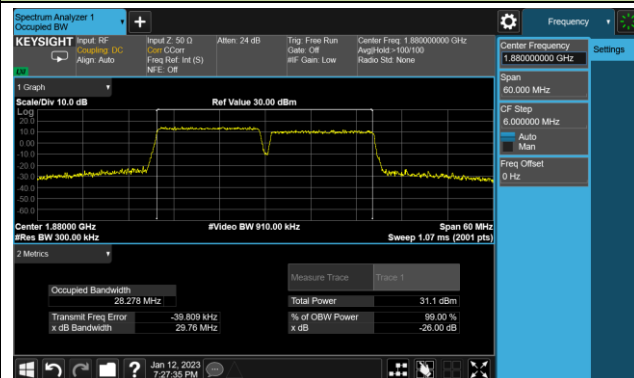
## 10+20MHz Channel Bandwidth



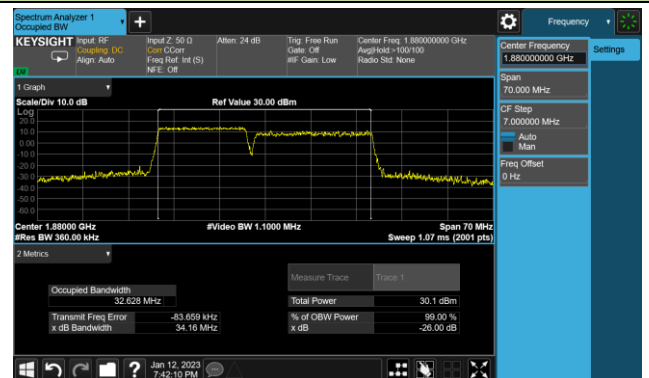
## 15+10MHz Channel Bandwidth

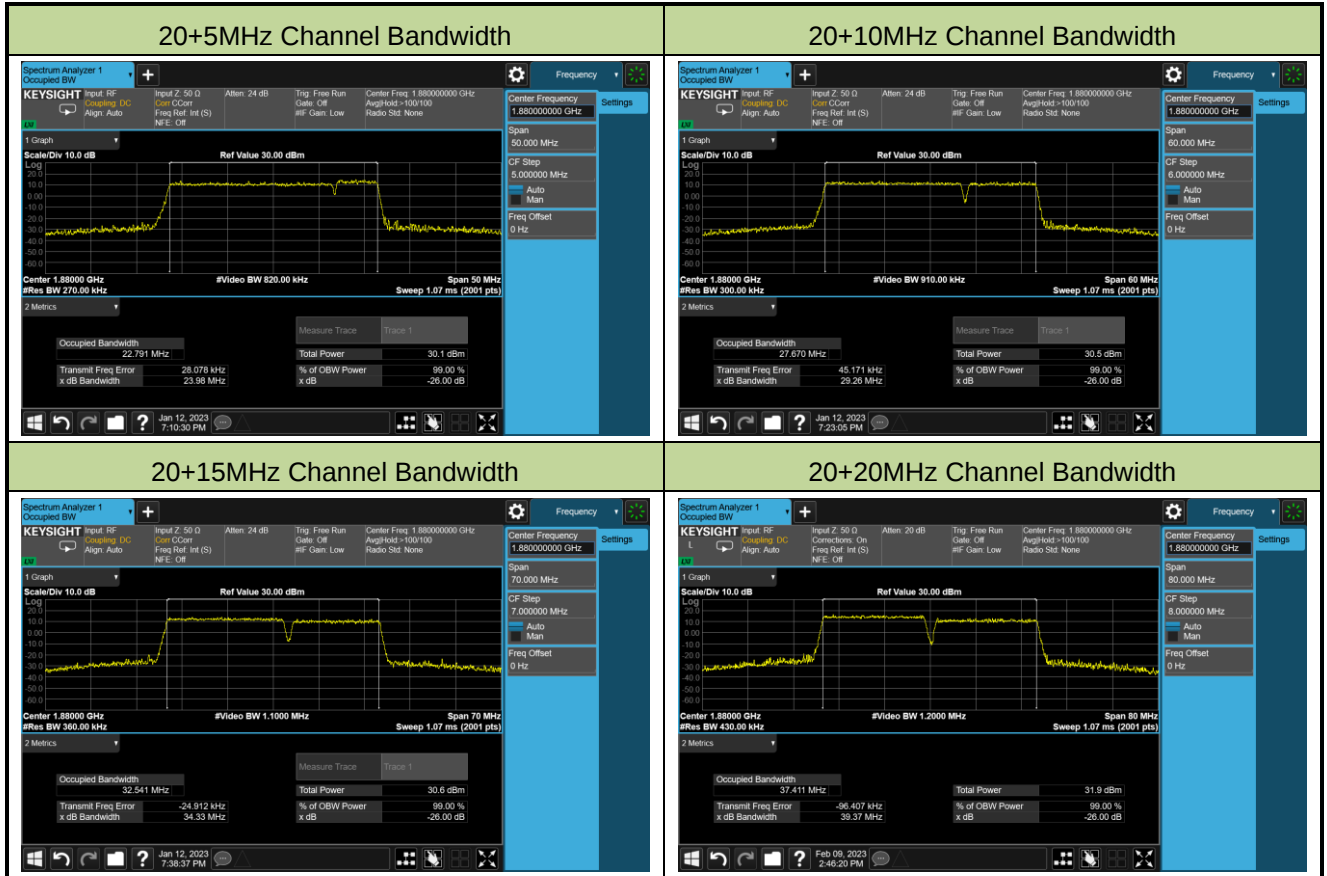


## 15+15MHz Channel Bandwidth



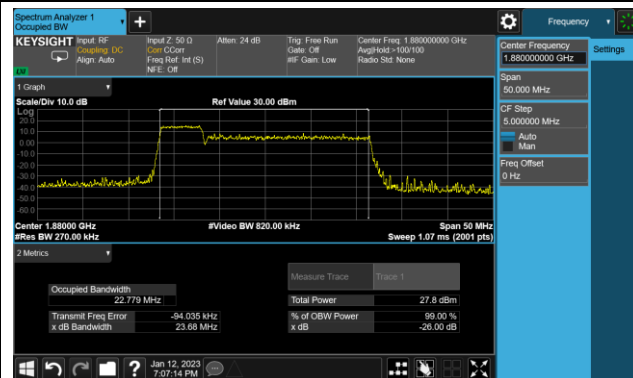
## 15+20MHz Channel Bandwidth



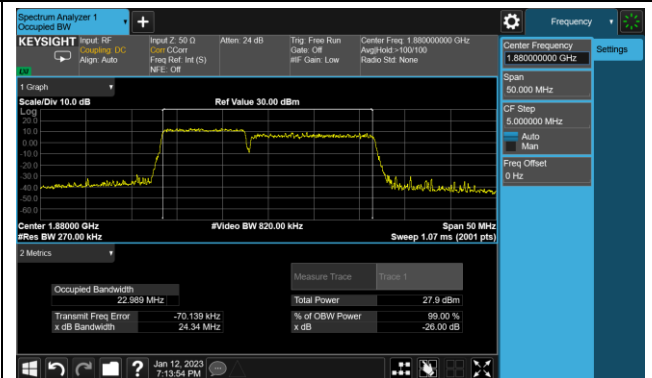


## 99% Bandwidth - 256QAM

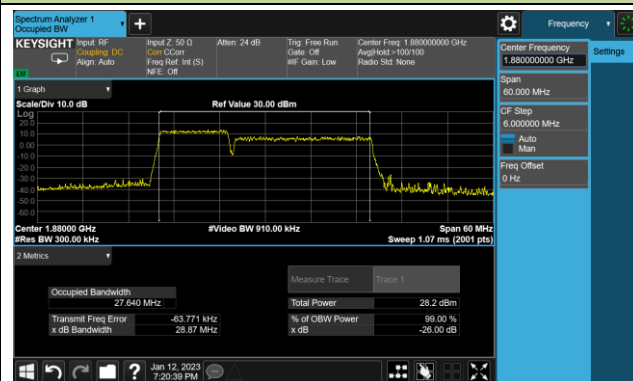
## 5+20MHz Channel Bandwidth



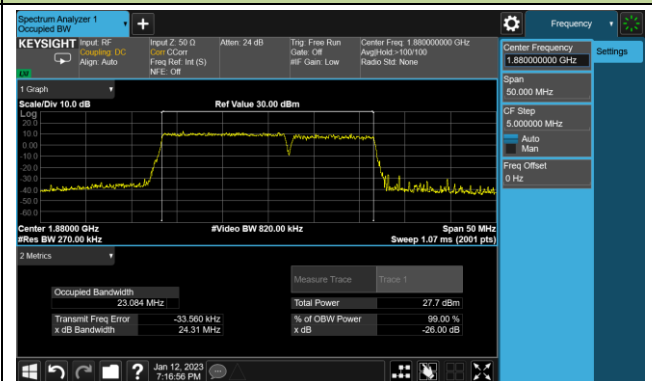
## 10+15MHz Channel Bandwidth



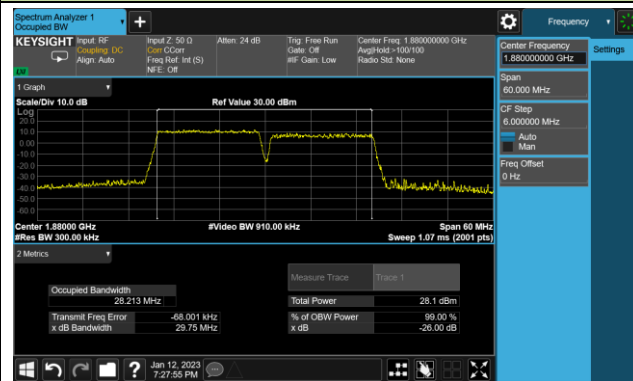
## 10+20MHz Channel Bandwidth



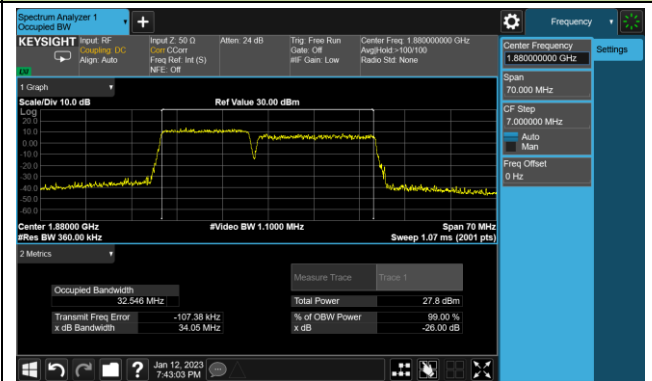
## 15+10MHz Channel Bandwidth

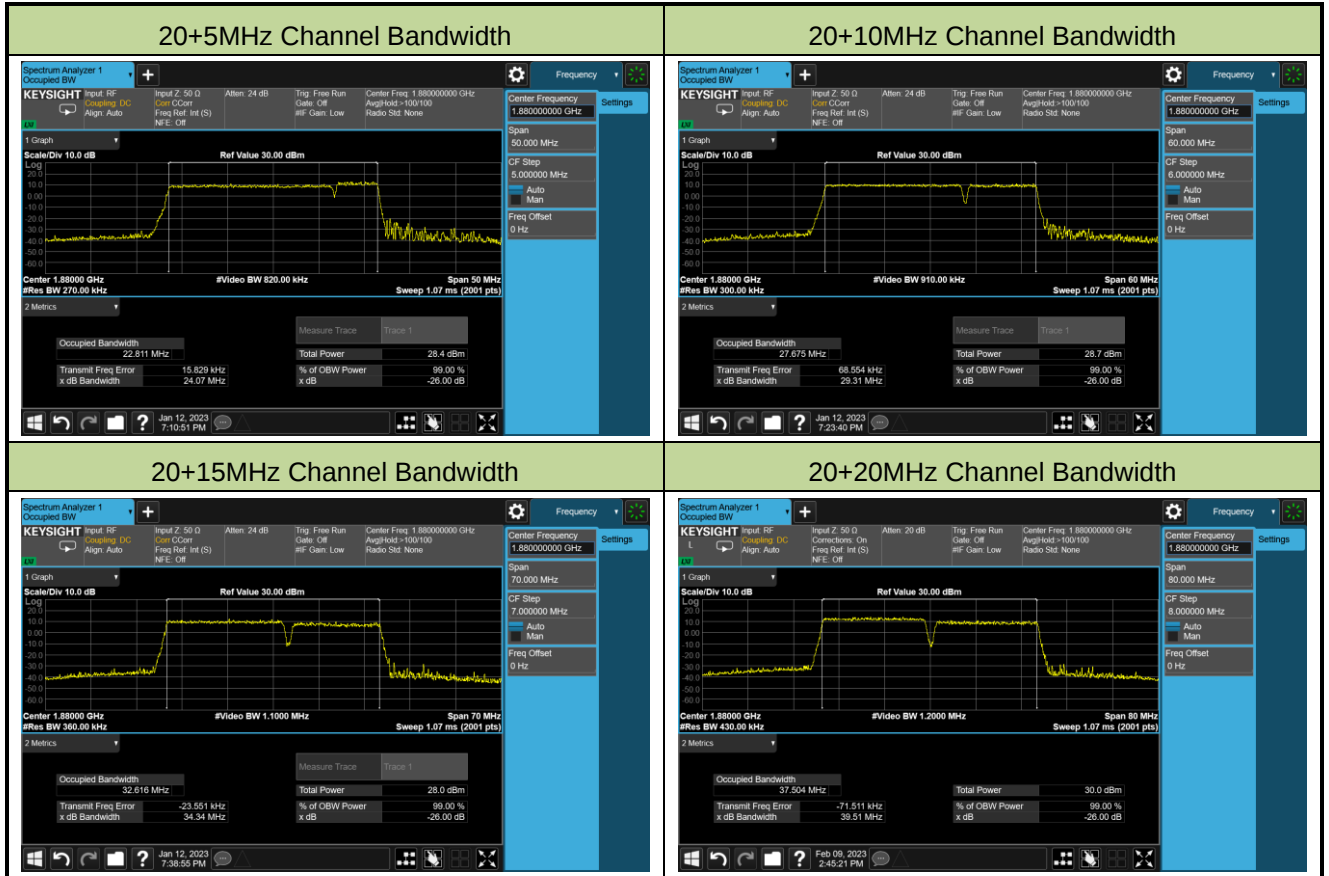


## 15+15MHz Channel Bandwidth



## 15+20MHz Channel Bandwidth



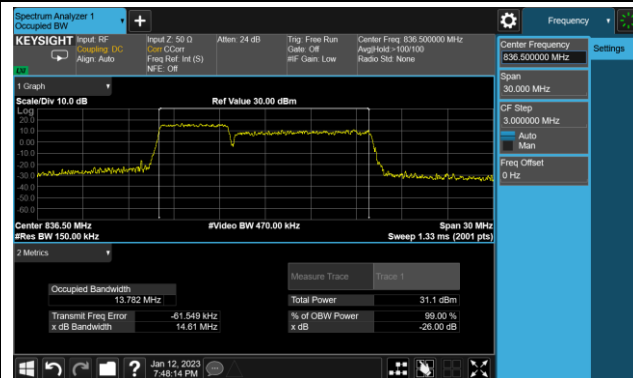


|           |                       |               |                  |
|-----------|-----------------------|---------------|------------------|
| Test Site | SIP-SR1               | Test Engineer | Allen Zou        |
| Test Date | 2023-01-12~2023-02-09 | Test Band     | Intra-Band CA_5B |

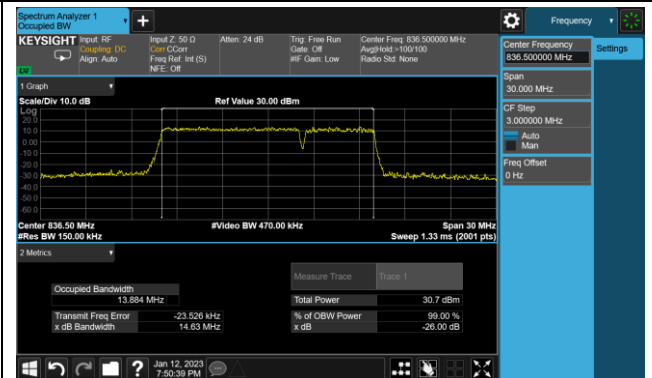
| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 831.8 + 839.0   | 5+10            | 13.782              |
|            | 834.0 + 841.2   | 10+5            | 13.884              |
|            | 831.6 + 841.5   | 10+10           | 18.736              |
| 16QAM      | 831.8 + 839.0   | 5+10            | 13.850              |
|            | 834.0 + 841.2   | 10+5            | 13.863              |
|            | 831.6 + 841.5   | 10+10           | 18.716              |
| 64QAM      | 831.8 + 839.0   | 5+10            | 13.793              |
|            | 834.0 + 841.2   | 10+5            | 13.838              |
|            | 831.6 + 841.5   | 10+10           | 18.706              |
| 256QAM     | 831.8 + 839.0   | 5+10            | 13.820              |
|            | 834.0 + 841.2   | 10+5            | 13.864              |
|            | 831.6 + 841.5   | 10+10           | 18.700              |

## 99% Bandwidth - QPSK

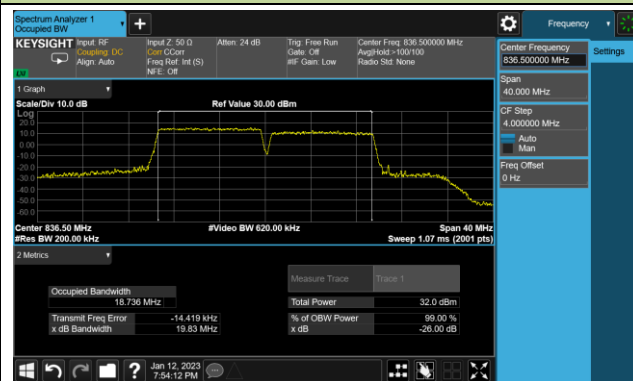
## 5+10MHz Channel Bandwidth



## 10+5MHz Channel Bandwidth

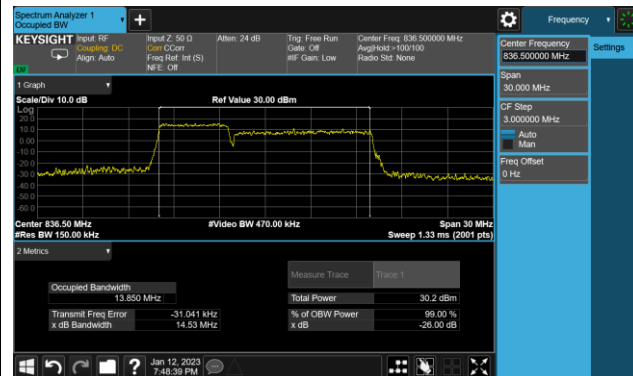


## 10+10MHz Channel Bandwidth

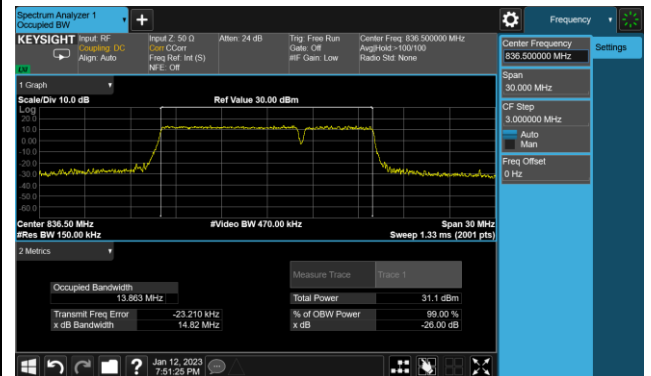


## 99% Bandwidth - 16QAM

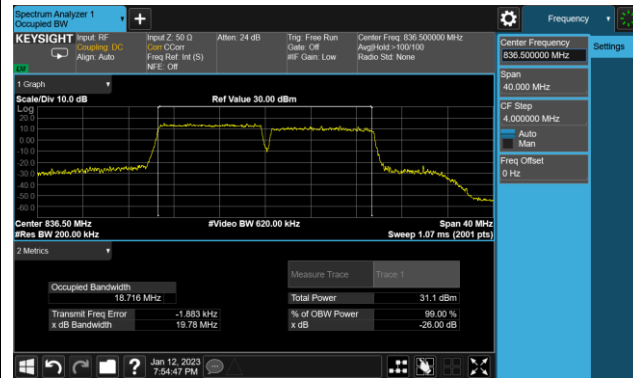
## 5+10MHz Channel Bandwidth



## 10+5MHz Channel Bandwidth

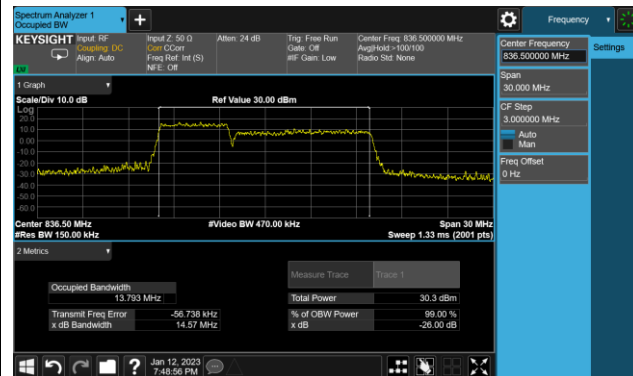


## 10+10MHz Channel Bandwidth

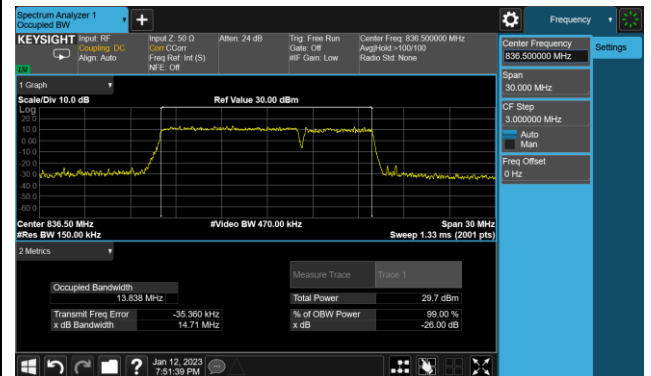


## 99% Bandwidth - 64QAM

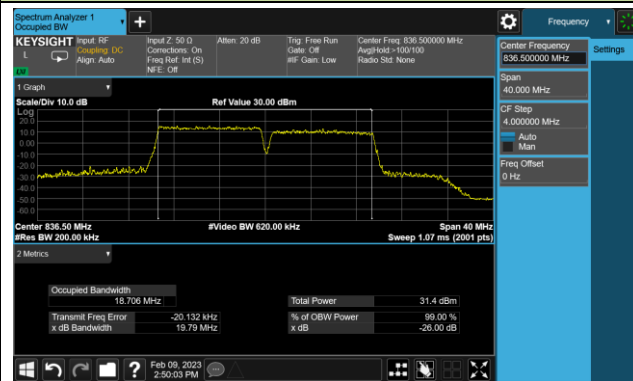
## 5+10MHz Channel Bandwidth



## 10+5MHz Channel Bandwidth

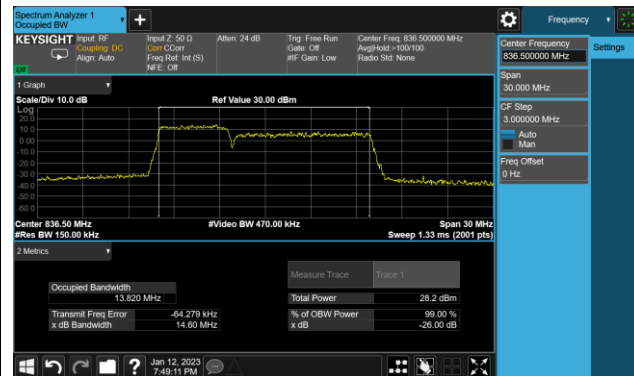


## 10+10MHz Channel Bandwidth

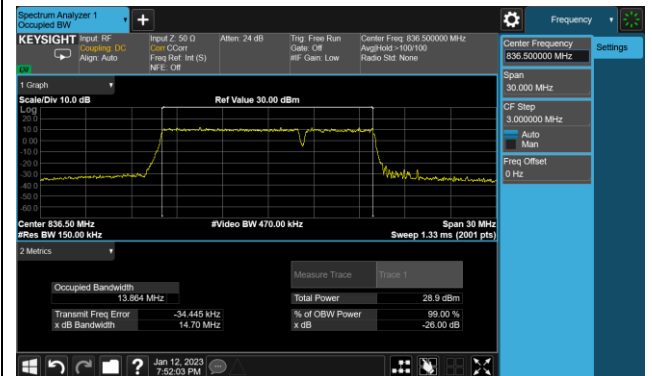


## 99% Bandwidth - 256QAM

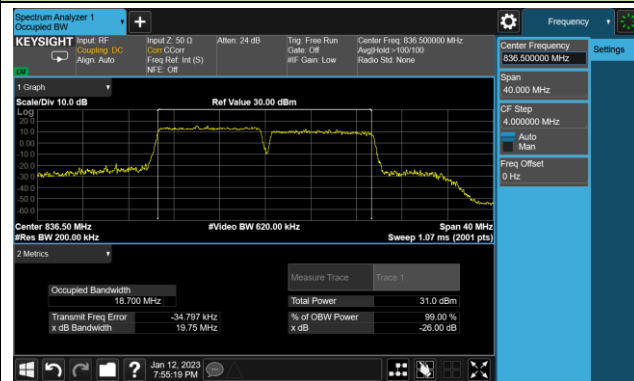
## 5+10MHz Channel Bandwidth



## 10+5MHz Channel Bandwidth



## 10+10MHz Channel Bandwidth

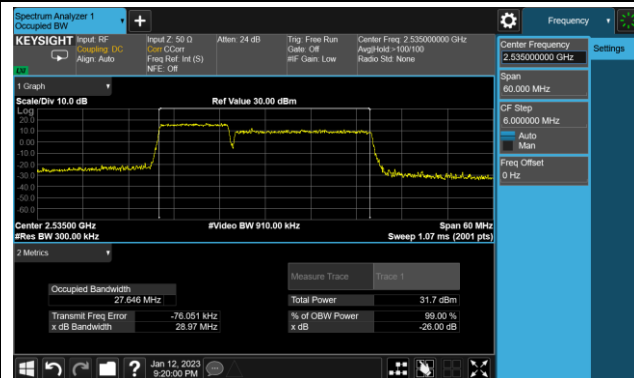


|           |            |               |                  |
|-----------|------------|---------------|------------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou        |
| Test Date | 2023-01-12 | Test Band     | Intra-Band CA_7C |

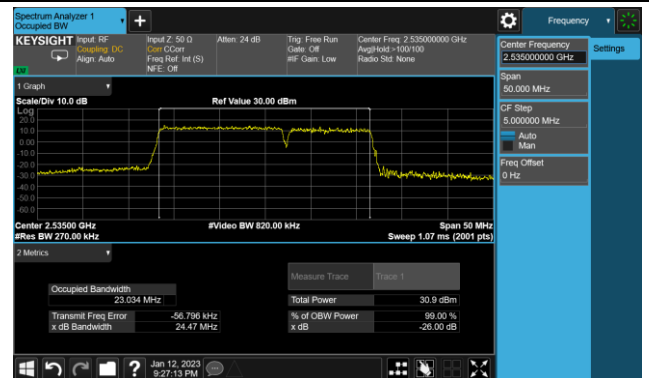
| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 2525.6 + 2540.0 | 10+20           | 27.646              |
|            | 2530.1 + 2542.1 | 15+10           | 23.034              |
|            | 2527.5 + 2542.5 | 15+15           | 28.267              |
|            | 2525.3 + 2542.4 | 15+20           | 32.477              |
|            | 2530.1 + 2544.5 | 20+10           | 27.652              |
|            | 2527.6 + 2544.7 | 20+15           | 32.560              |
|            | 2525.1 + 2544.9 | 20+20           | 37.428              |
| 16QAM      | 2525.6 + 2540.0 | 10+20           | 27.587              |
|            | 2530.1 + 2542.1 | 15+10           | 23.071              |
|            | 2527.5 + 2542.5 | 15+15           | 28.275              |
|            | 2525.3 + 2542.4 | 15+20           | 32.511              |
|            | 2530.1 + 2544.5 | 20+10           | 27.663              |
|            | 2527.6 + 2544.7 | 20+15           | 32.561              |
|            | 2525.1 + 2544.9 | 20+20           | 37.408              |
| 64QAM      | 2525.6 + 2540.0 | 10+20           | 27.626              |
|            | 2530.1 + 2542.1 | 15+10           | 23.002              |
|            | 2527.5 + 2542.5 | 15+15           | 28.276              |
|            | 2525.3 + 2542.4 | 15+20           | 32.438              |
|            | 2530.1 + 2544.5 | 20+10           | 27.634              |
|            | 2527.6 + 2544.7 | 20+15           | 32.587              |
|            | 2525.1 + 2544.9 | 20+20           | 37.417              |
| 256QAM     | 2525.6 + 2540.0 | 10+20           | 27.556              |
|            | 2530.1 + 2542.1 | 15+10           | 23.090              |
|            | 2527.5 + 2542.5 | 15+15           | 28.273              |
|            | 2525.3 + 2542.4 | 15+20           | 32.561              |
|            | 2530.1 + 2544.5 | 20+10           | 27.697              |
|            | 2527.6 + 2544.7 | 20+15           | 32.578              |
|            | 2525.1 + 2544.9 | 20+20           | 37.444              |

## 99% Bandwidth - QPSK

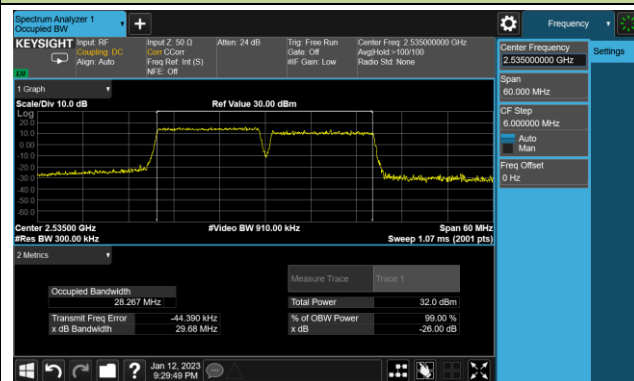
### 10+20MHz Channel Bandwidth



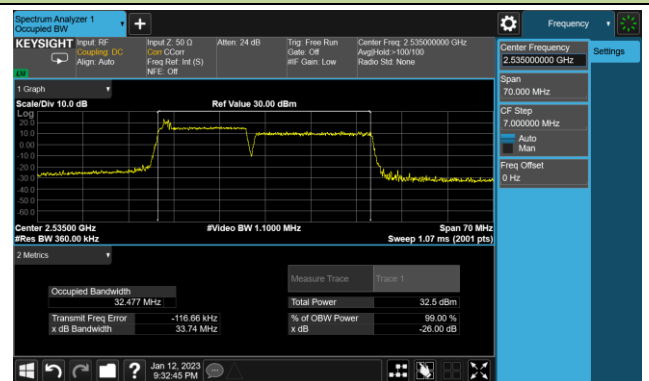
### 15+10MHz Channel Bandwidth



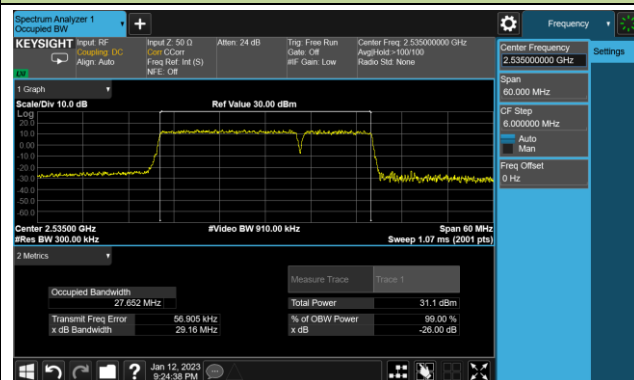
### 15+15MHz Channel Bandwidth



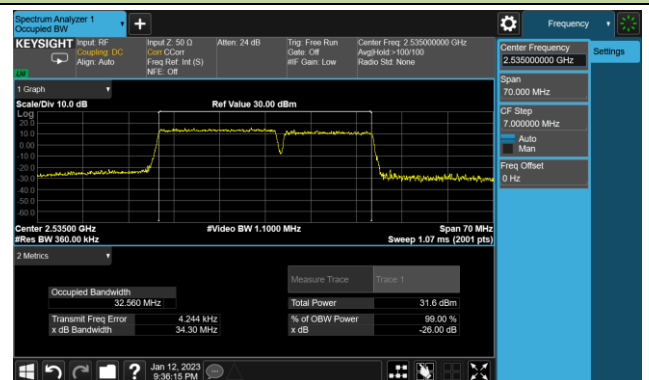
### 15+20MHz Channel Bandwidth



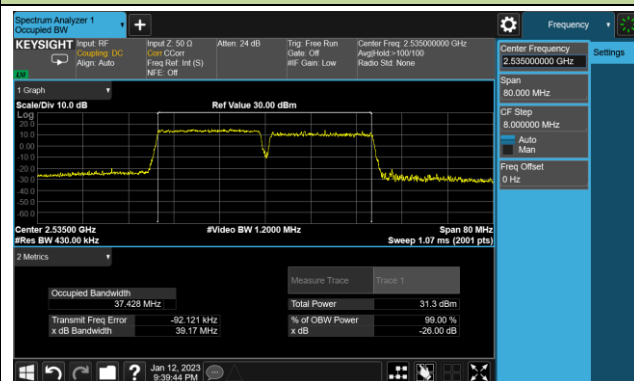
### 20+10MHz Channel Bandwidth



### 20+15MHz Channel Bandwidth

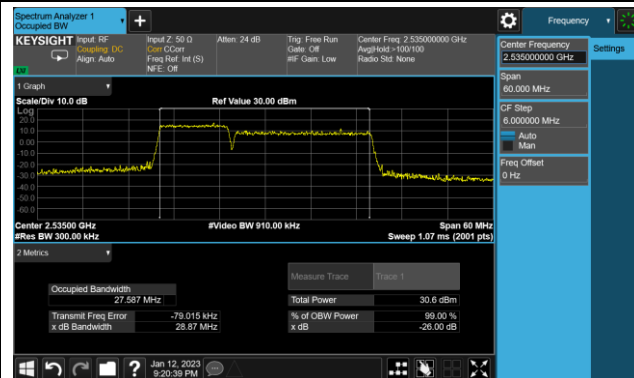


### 20+20MHz Channel Bandwidth

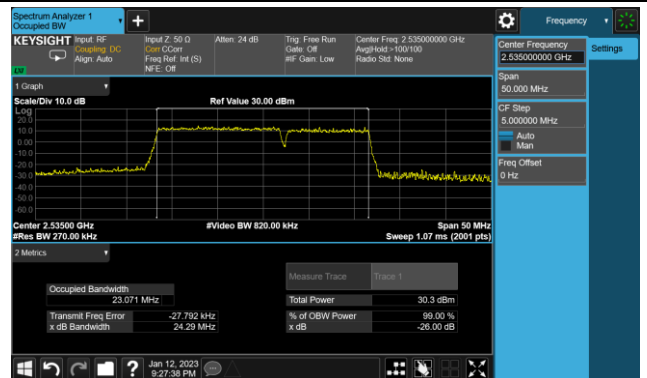


## 99% Bandwidth - 16QAM

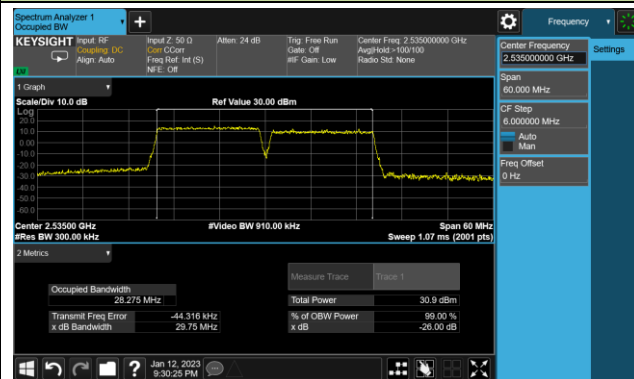
## 10+20MHz Channel Bandwidth



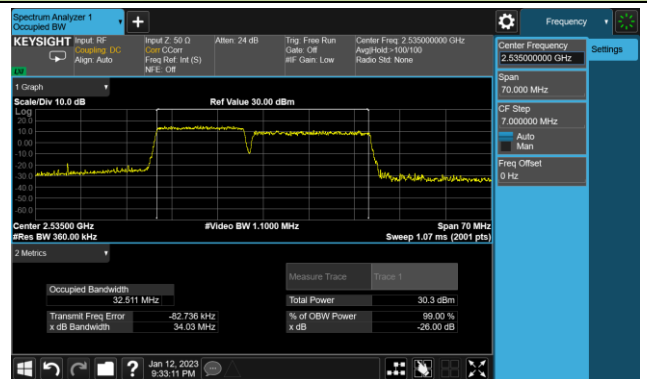
## 15+10MHz Channel Bandwidth



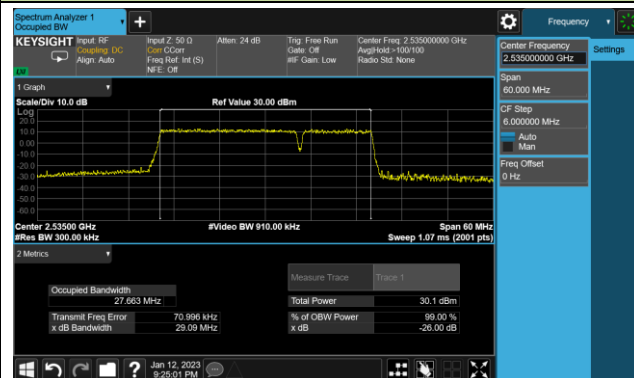
## 15+15MHz Channel Bandwidth



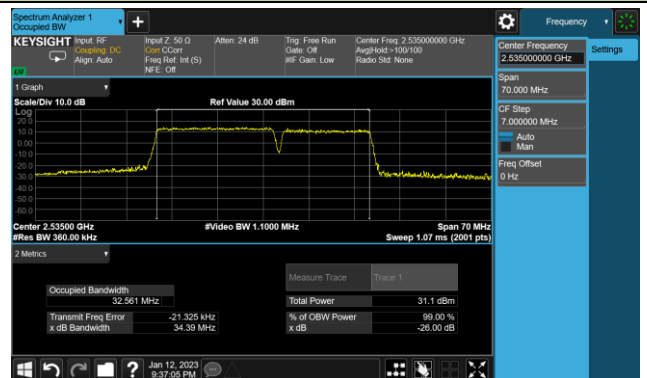
## 15+20MHz Channel Bandwidth



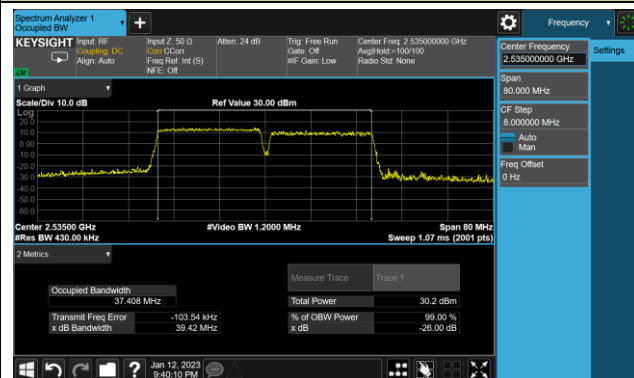
## 20+10MHz Channel Bandwidth



## 20+15MHz Channel Bandwidth

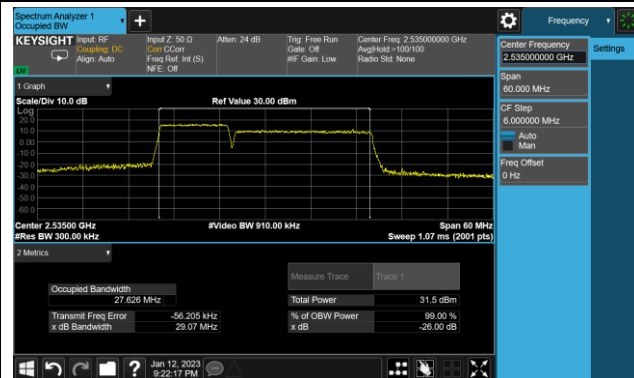


## 20+20MHz Channel Bandwidth

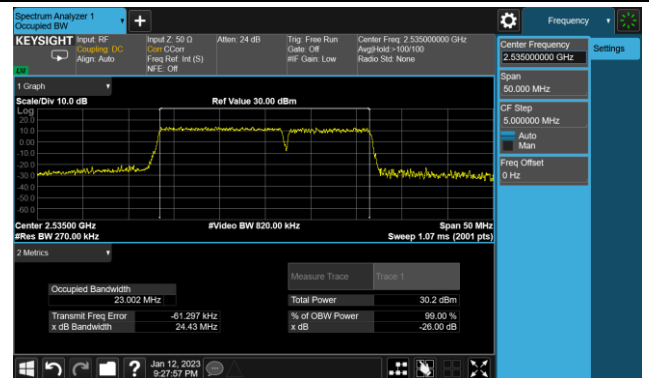


## 99% Bandwidth - 64QAM

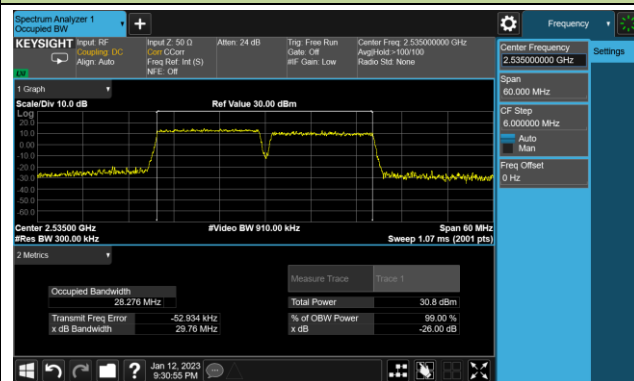
## 10+20MHz Channel Bandwidth



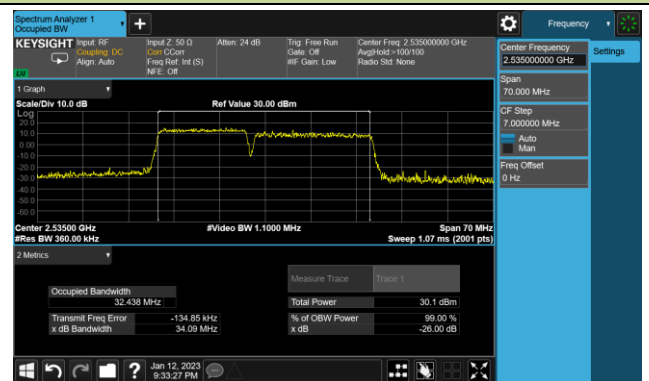
## 15+10MHz Channel Bandwidth



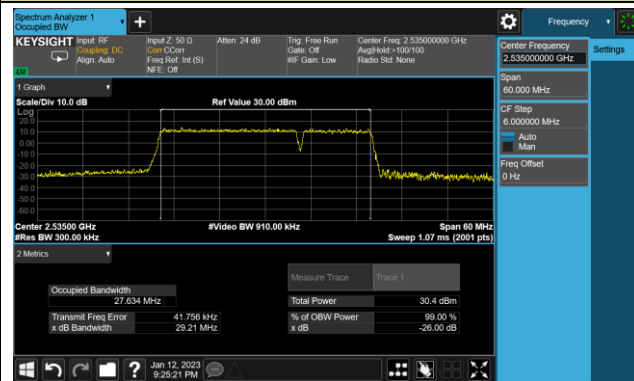
## 15+15MHz Channel Bandwidth



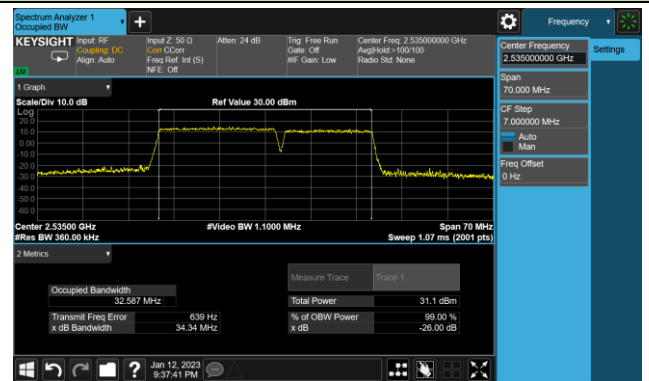
## 15+20MHz Channel Bandwidth



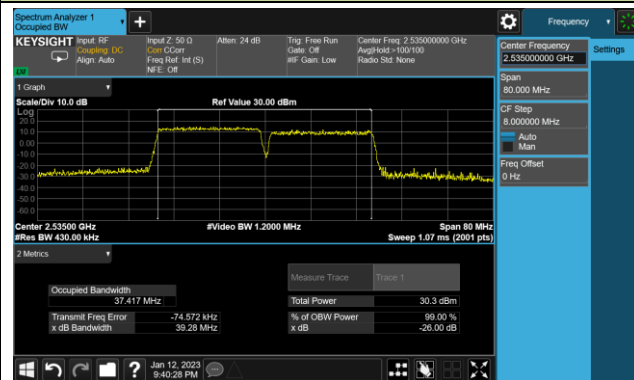
## 20+10MHz Channel Bandwidth



## 20+15MHz Channel Bandwidth

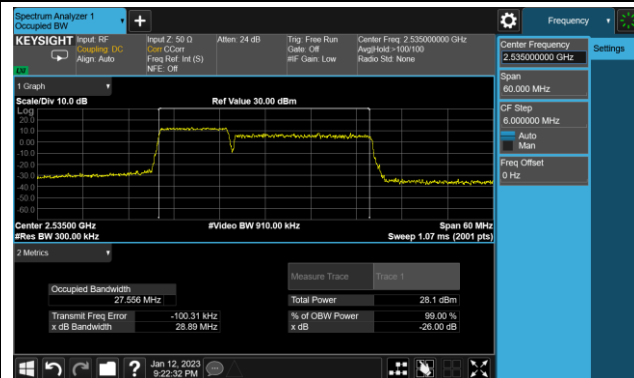


## 20+20MHz Channel Bandwidth

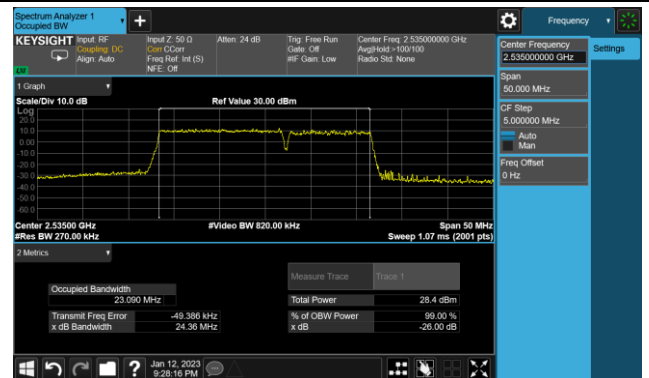


## 99% Bandwidth - 256QAM

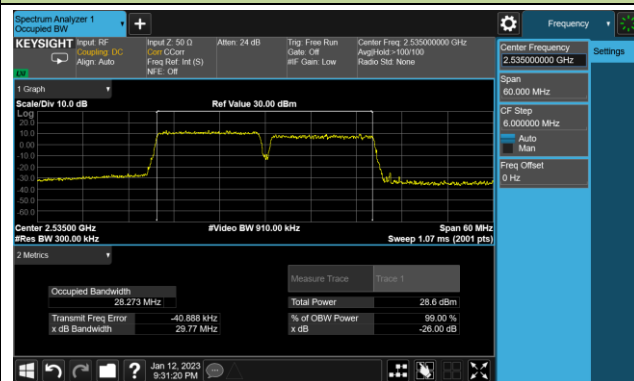
## 10+20MHz Channel Bandwidth



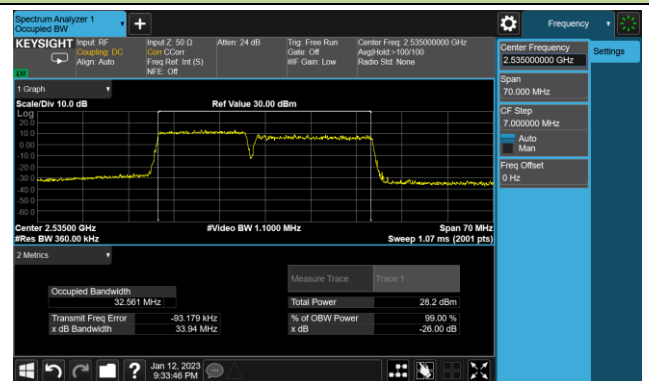
## 15+10MHz Channel Bandwidth



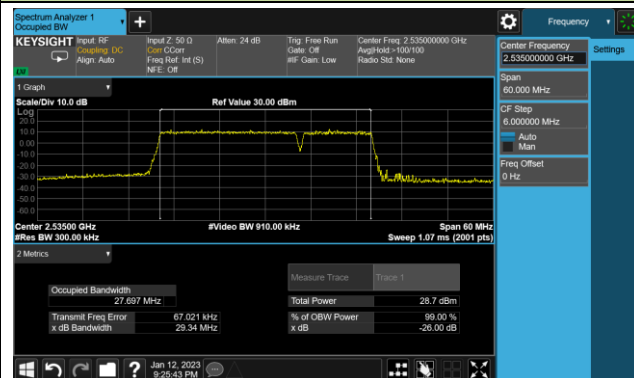
## 15+15MHz Channel Bandwidth



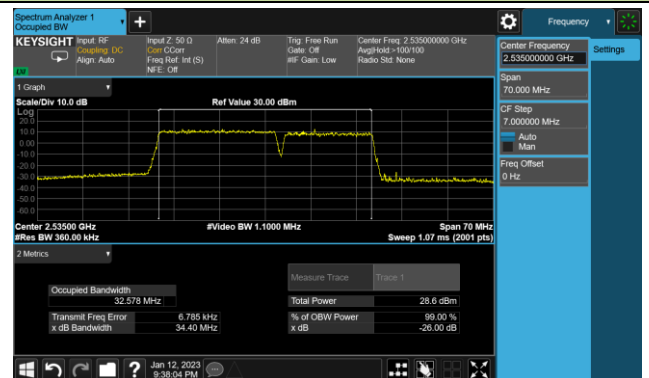
## 15+20MHz Channel Bandwidth



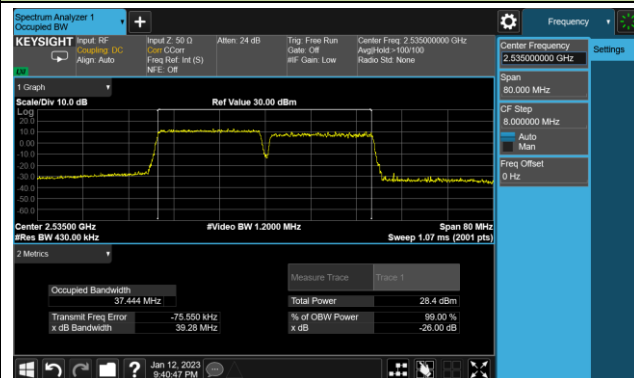
## 20+10MHz Channel Bandwidth



## 20+15MHz Channel Bandwidth



## 20+20MHz Channel Bandwidth

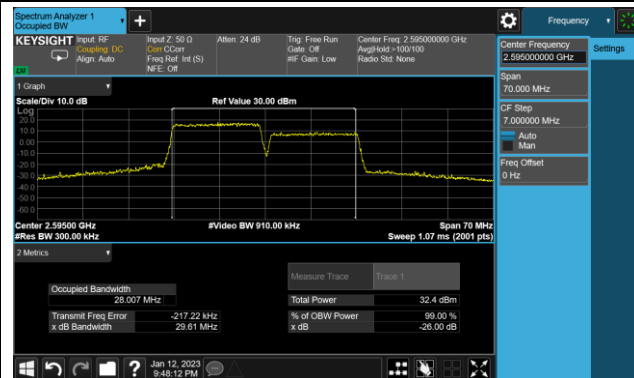


|           |            |               |                   |
|-----------|------------|---------------|-------------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou         |
| Test Date | 2023-01-12 | Test Band     | Intra-Band CA_38C |

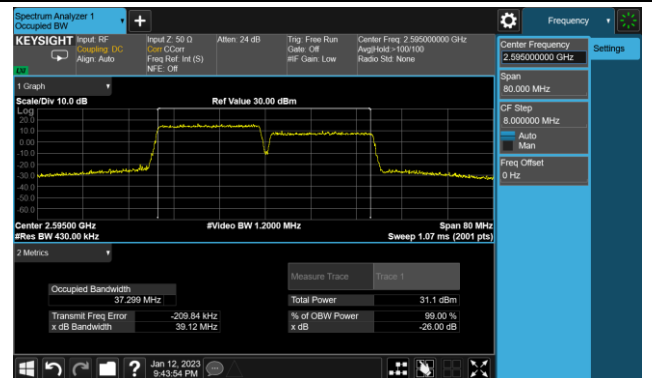
| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 2587.5 + 2602.5 | 15+15           | 28.007              |
|            | 2585.1 + 2604.9 | 20+20           | 37.299              |
| 16QAM      | 2587.5 + 2602.5 | 15+15           | 28.070              |
|            | 2585.1 + 2604.9 | 20+20           | 37.200              |
| 64QAM      | 2587.5 + 2602.5 | 15+15           | 28.106              |
|            | 2585.1 + 2604.9 | 20+20           | 37.258              |
| 256QAM     | 2587.5 + 2602.5 | 15+15           | 28.125              |
|            | 2585.1 + 2604.9 | 20+20           | 37.213              |

## 99% Bandwidth - QPSK

## 15+15MHz Channel Bandwidth

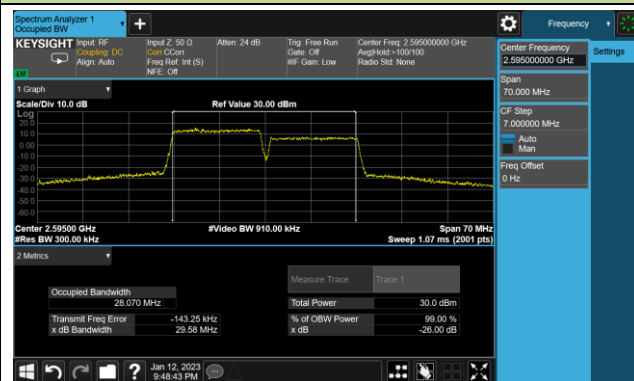


## 20+20MHz Channel Bandwidth

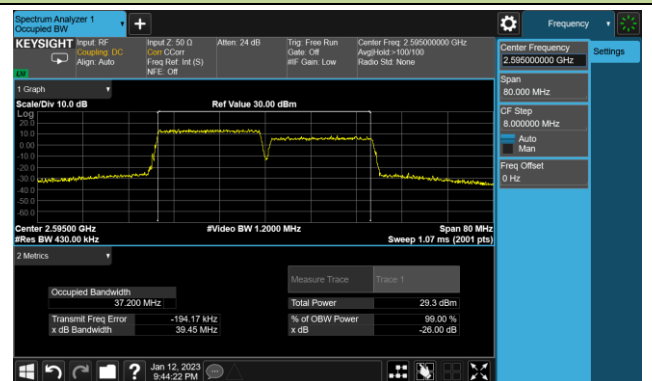


## 99% Bandwidth - 16QAM

## 15+15MHz Channel Bandwidth

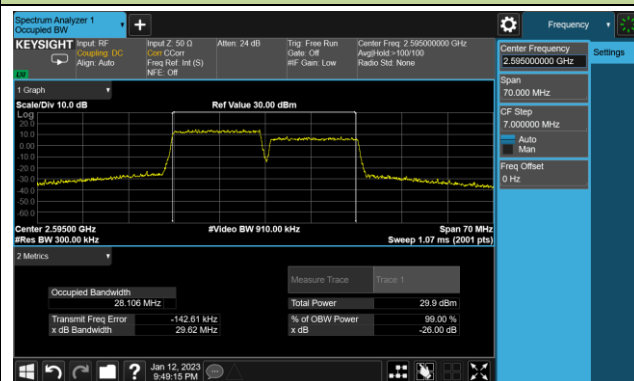


## 20+20MHz Channel Bandwidth

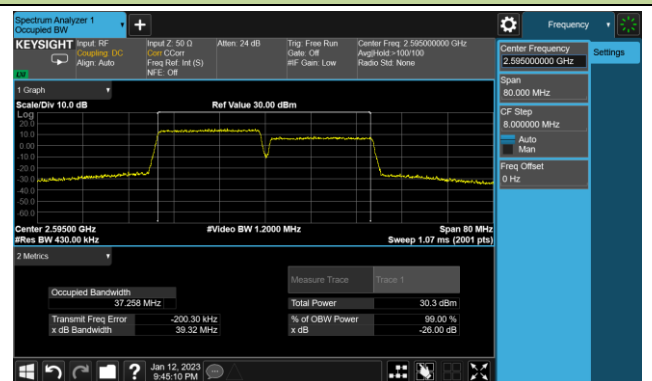


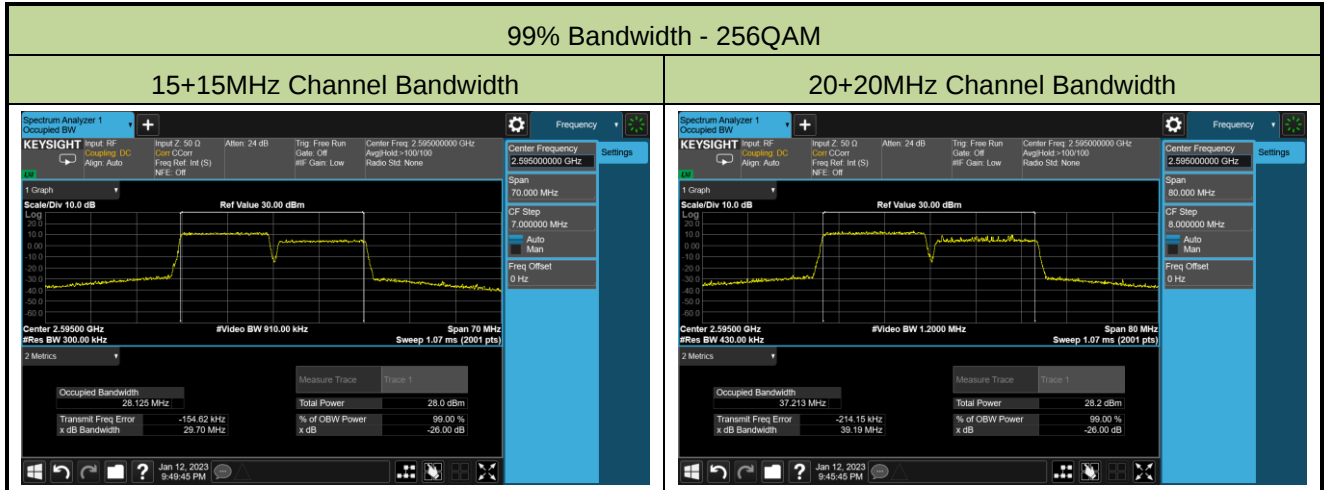
## 99% Bandwidth - 64QAM

## 15+15MHz Channel Bandwidth



## 20+20MHz Channel Bandwidth





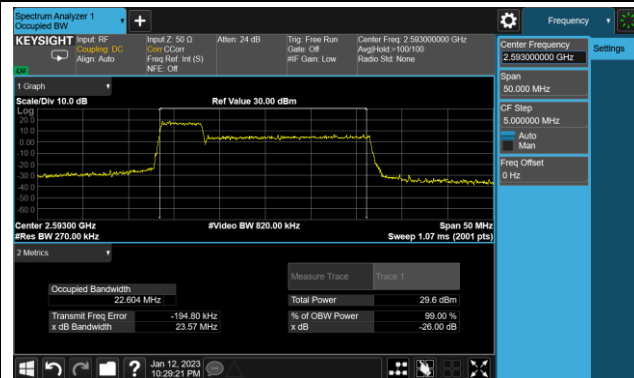
|           |            |               |                   |
|-----------|------------|---------------|-------------------|
| Test Site | SIP-SR1    | Test Engineer | Allen Zou         |
| Test Date | 2023-01-12 | Test Band     | Intra-Band CA_41C |

| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 2583.8 + 2595.5 | 5+20            | 22.604              |
|            | 2585.9 + 2597.9 | 10+15           | 22.902              |
|            | 2583.6 + 2598.0 | 10+20           | 27.438              |
|            | 2588.1 + 2600.1 | 15+10           | 22.965              |
|            | 2585.5 + 2600.5 | 15+15           | 28.068              |
|            | 2583.3 + 2600.4 | 15+20           | 32.387              |
|            | 2590.5 + 2602.2 | 20+5            | 22.771              |
|            | 2588.1 + 2602.5 | 20+10           | 27.538              |
|            | 2585.6 + 2602.7 | 20+15           | 32.529              |
|            | 2583.1 + 2602.9 | 20+20           | 37.320              |
| 16QAM      | 2583.8 + 2595.5 | 5+20            | 22.557              |
|            | 2585.9 + 2597.9 | 10+15           | 22.927              |
|            | 2583.6 + 2598.0 | 10+20           | 27.432              |
|            | 2588.1 + 2600.1 | 15+10           | 22.954              |
|            | 2585.5 + 2600.5 | 15+15           | 28.078              |
|            | 2583.3 + 2600.4 | 15+20           | 32.398              |
|            | 2590.5 + 2602.2 | 20+5            | 22.741              |
|            | 2588.1 + 2602.5 | 20+10           | 27.607              |
|            | 2585.6 + 2602.7 | 20+15           | 32.389              |
|            | 2583.1 + 2602.9 | 20+20           | 37.260              |
| 64QAM      | 2583.8 + 2595.5 | 5+20            | 22.547              |
|            | 2585.9 + 2597.9 | 10+15           | 22.922              |
|            | 2583.6 + 2598.0 | 10+20           | 27.445              |
|            | 2588.1 + 2600.1 | 15+10           | 22.934              |
|            | 2585.5 + 2600.5 | 15+15           | 28.109              |
|            | 2583.3 + 2600.4 | 15+20           | 32.310              |
|            | 2590.5 + 2602.2 | 20+5            | 22.786              |
|            | 2588.1 + 2602.5 | 20+10           | 27.610              |
|            | 2585.6 + 2602.7 | 20+15           | 32.407              |
|            | 2583.1 + 2602.9 | 20+20           | 37.264              |

| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| 256QAM     | 2583.8 + 2595.5 | 5+20            | 22.577              |
|            | 2585.9 + 2597.9 | 10+15           | 22.818              |
|            | 2583.6 + 2598.0 | 10+20           | 27.453              |
|            | 2588.1 + 2600.1 | 15+10           | 22.952              |
|            | 2585.5 + 2600.5 | 15+15           | 28.077              |
|            | 2583.3 + 2600.4 | 15+20           | 32.323              |
|            | 2590.5 + 2602.2 | 20+5            | 22.734              |
|            | 2588.1 + 2602.5 | 20+10           | 27.567              |
|            | 2585.6 + 2602.7 | 20+15           | 32.416              |
|            | 2583.1 + 2602.9 | 20+20           | 37.306              |

## 99% Bandwidth - QPSK

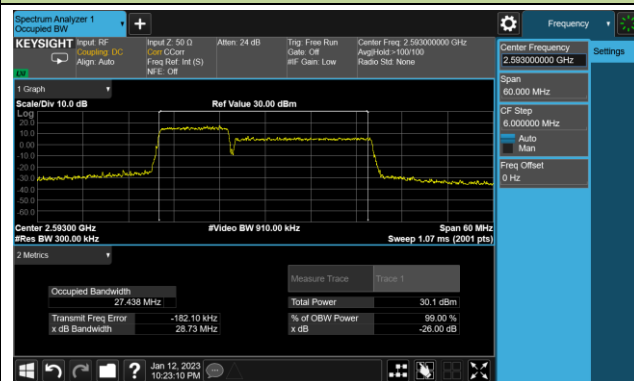
## 5+20MHz Channel Bandwidth



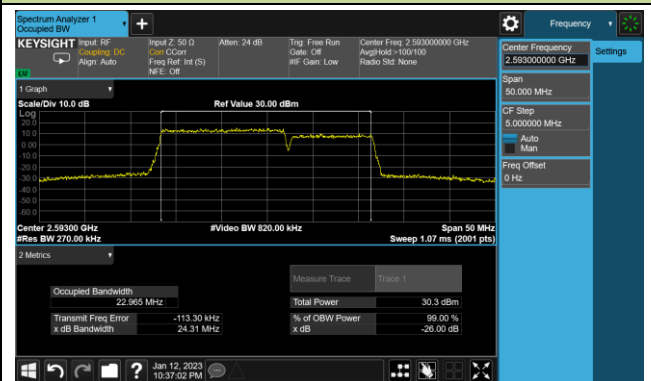
## 10+15MHz Channel Bandwidth



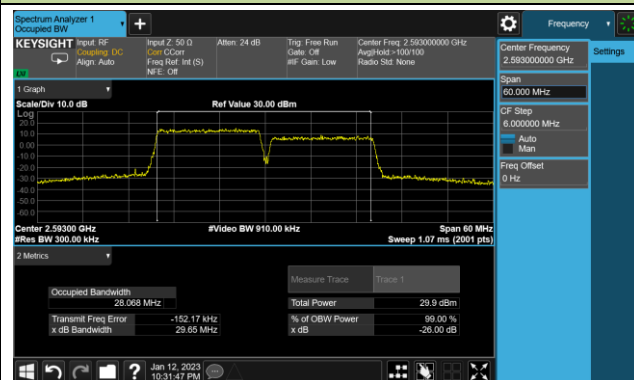
## 10+20MHz Channel Bandwidth



## 15+10MHz Channel Bandwidth



## 15+15MHz Channel Bandwidth



## 15+20MHz Channel Bandwidth

