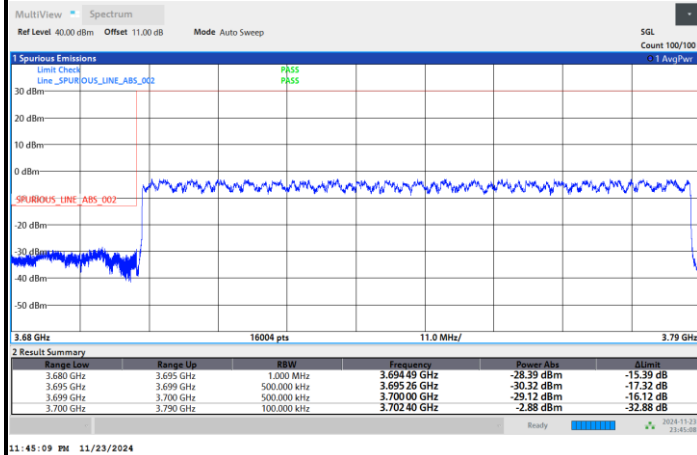


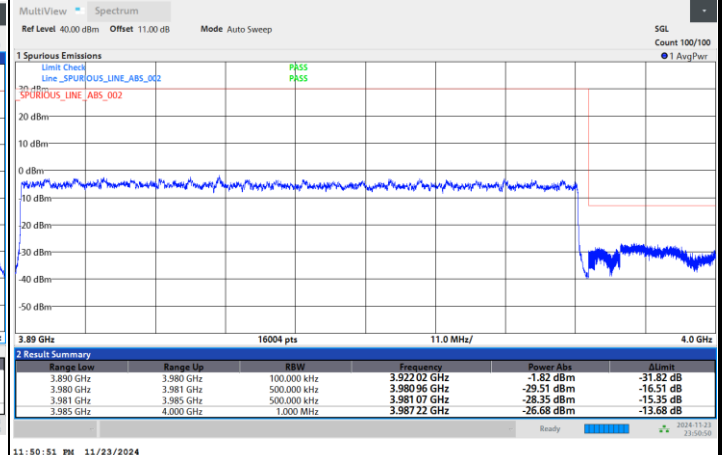


## FR1 n77 / 90MHz / DFT-S OFDM / 16QAM

## Lowest Band Edge / Full RB

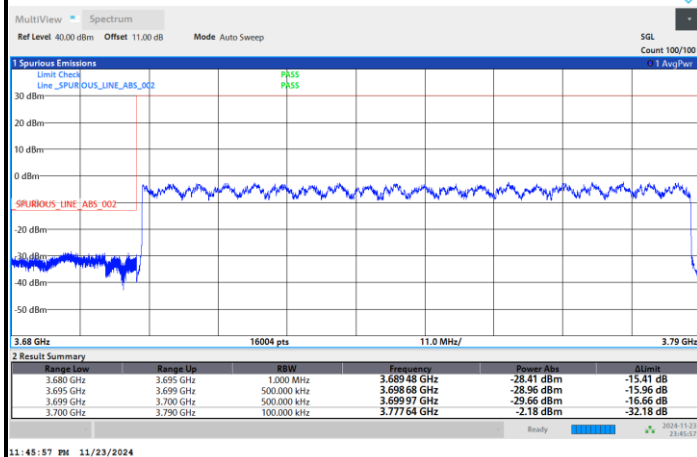


## Highest Band Edge / Full RB

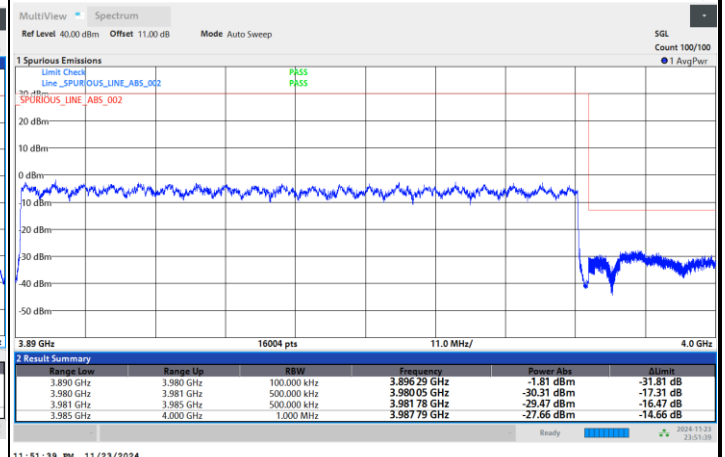


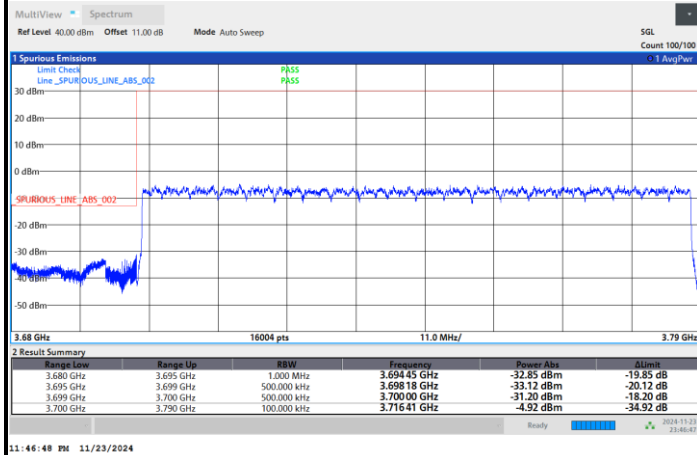
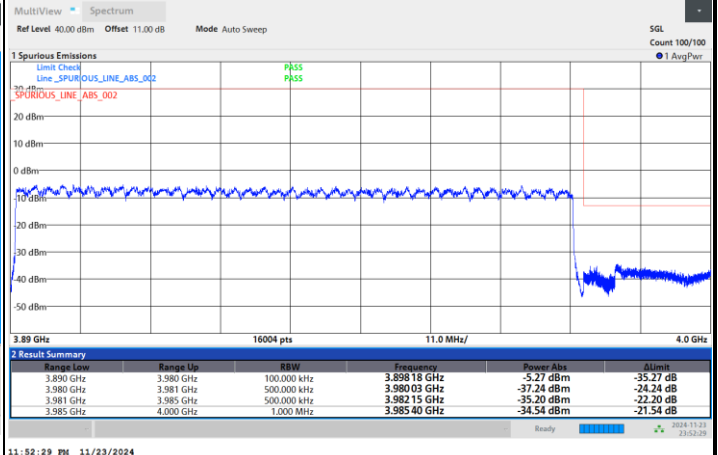
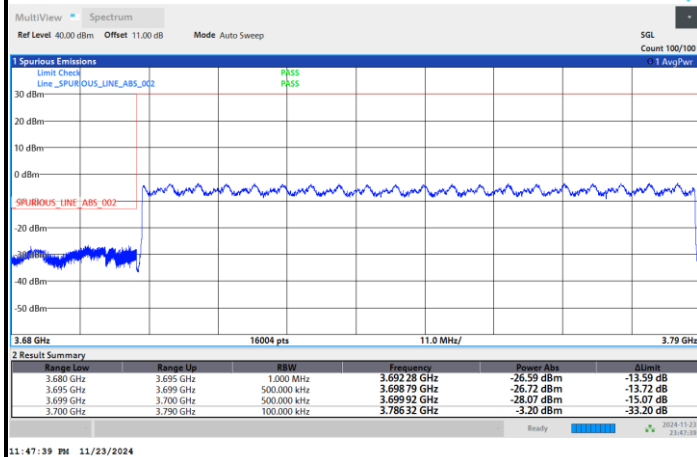
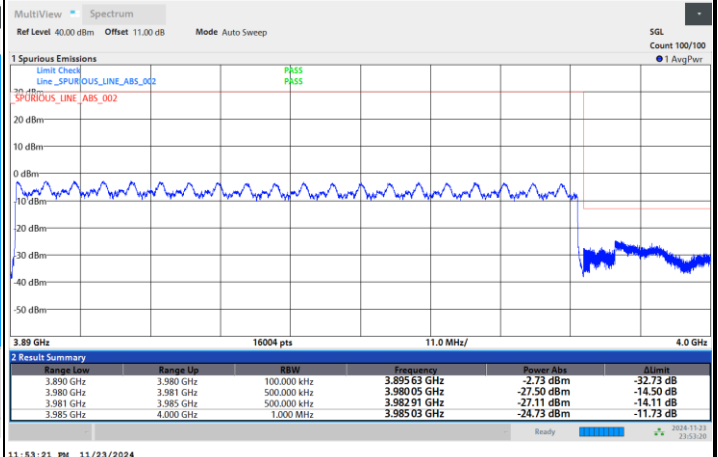
## FR1 n77 / 90MHz / DFT-S OFDM / 64QAM

## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

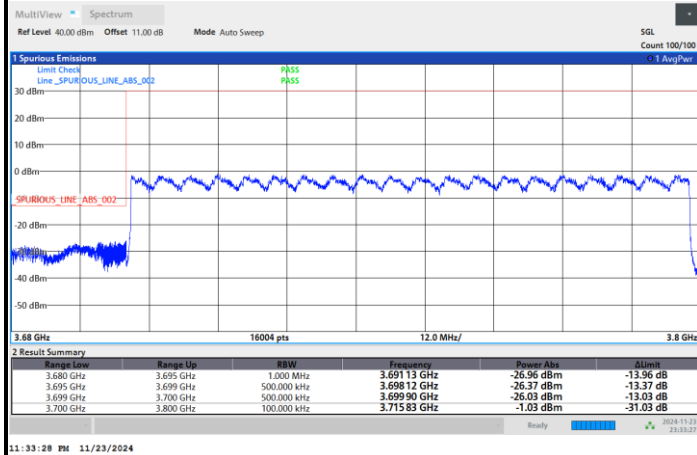


**FR1 n77 / 90MHz / DFT-S OFDM / 256QAM****Lowest Band Edge / Full RB****Highest Band Edge / Full RB****FR1 n77 / 90MHz / CP OFDM / QPSK / Full RB****Lowest Band Edge****Highest Band Edge**

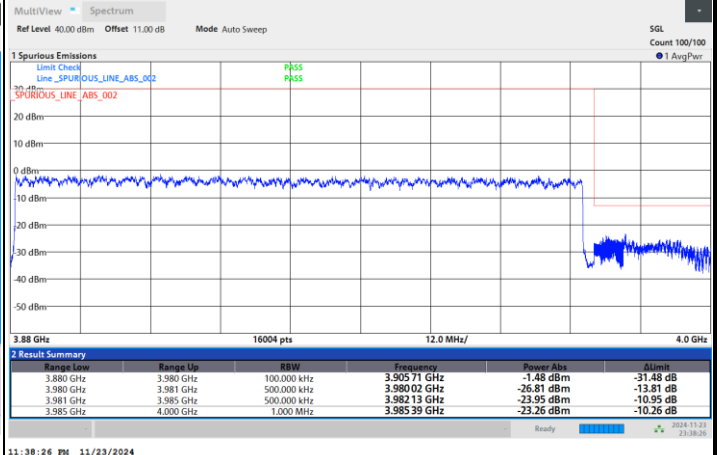


## FR1 n77 / 100MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

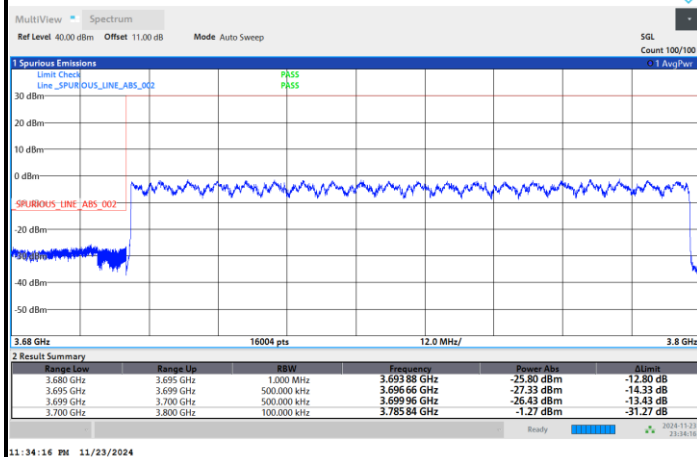


## Highest Band Edge / Full RB

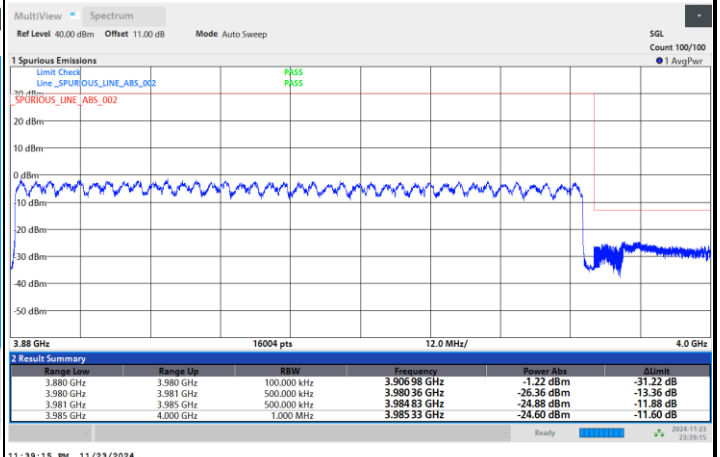


## FR1 n77 / 100MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB



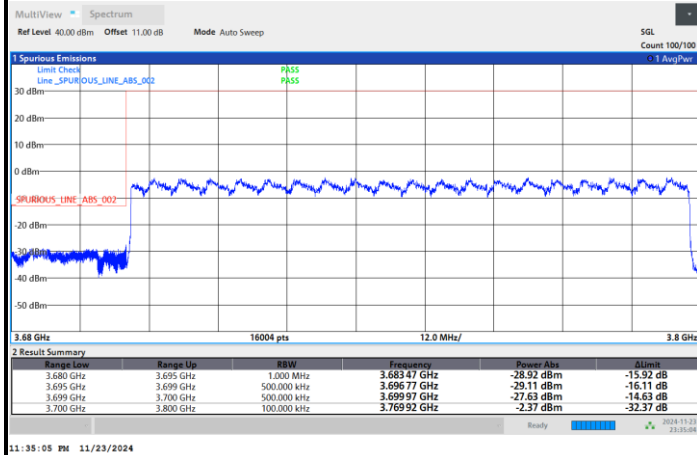
## Highest Band Edge / Full RB



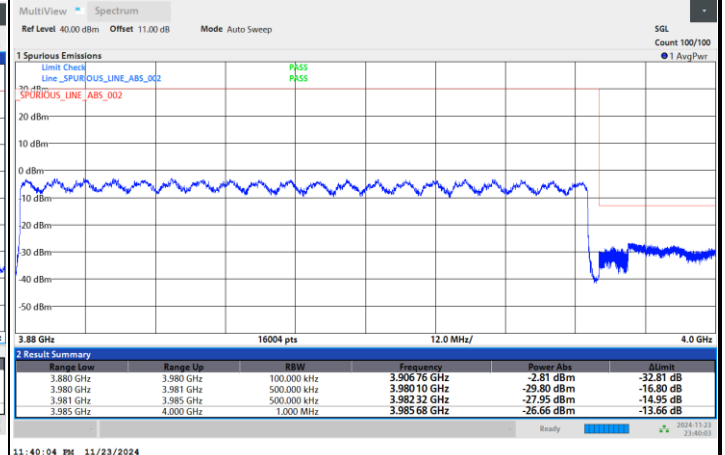


## FR1 n77 / 100MHz / DFT-S OFDM / 16QAM

## Lowest Band Edge / Full RB

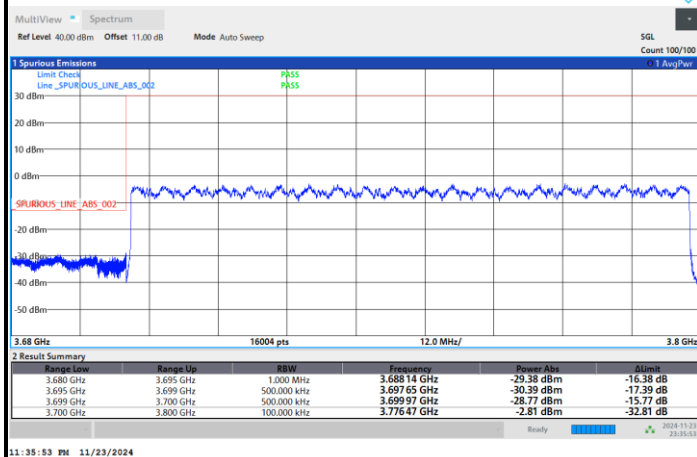


## Highest Band Edge / Full RB

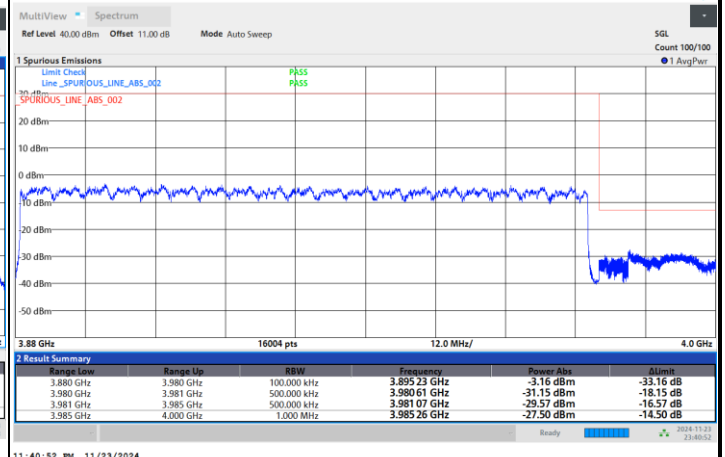


## FR1 n77 / 100MHz / DFT-S OFDM / 64QAM

## Lowest Band Edge / Full RB



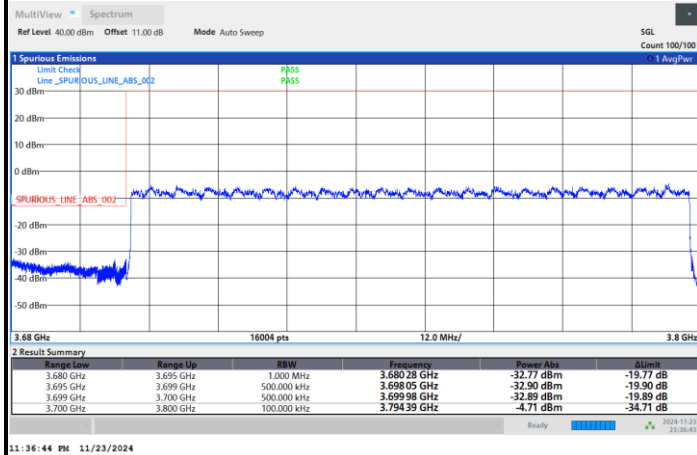
## Highest Band Edge / Full RB



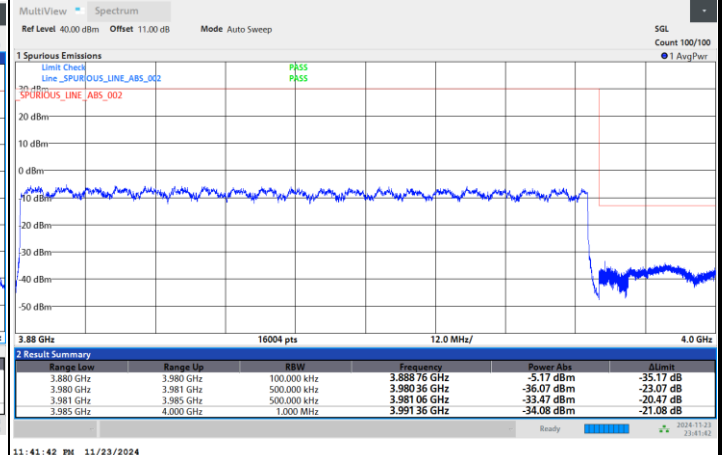


## FR1 n77 / 100MHz / DFT-S OFDM / 256QAM

## Lowest Band Edge / Full RB

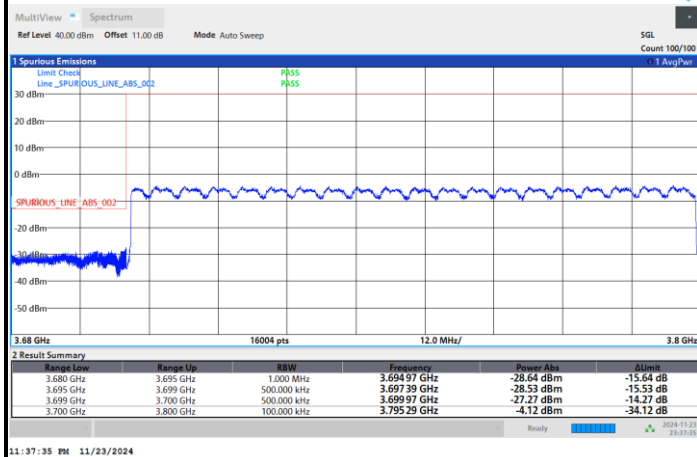


## Highest Band Edge / Full RB

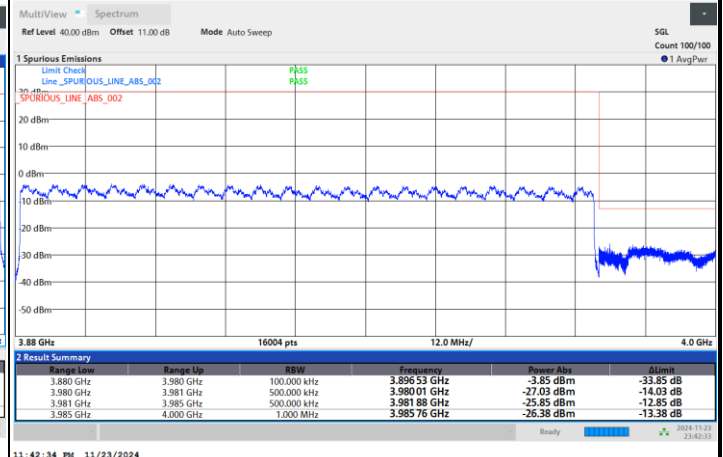


## FR1 n77 / 100MHz / CP OFDM / QPSK / Full RB

## Lowest Band Edge



## Highest Band Edge

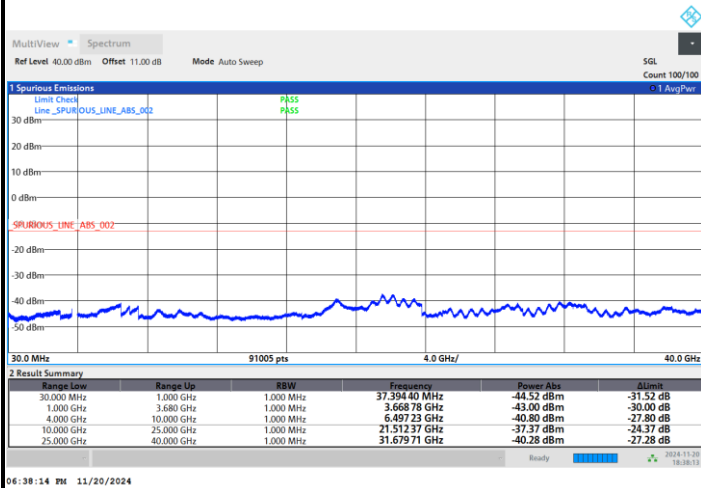




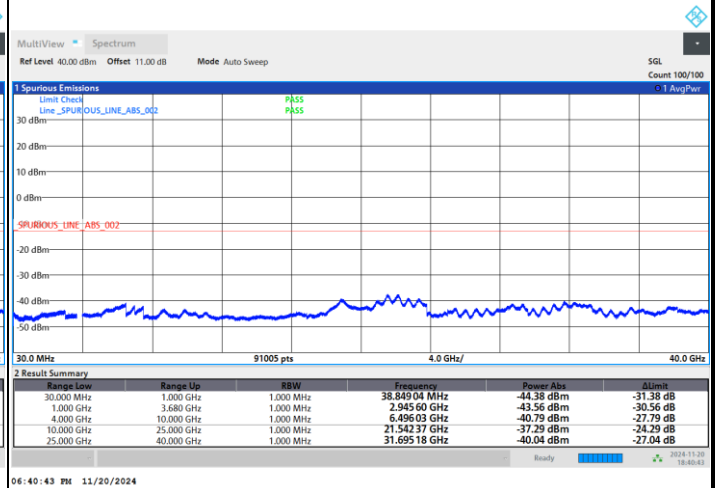
# Conducted Spurious Emission

FR1 n77 / 10MHz / DFT-S OFDM / QPSK / 1RB1

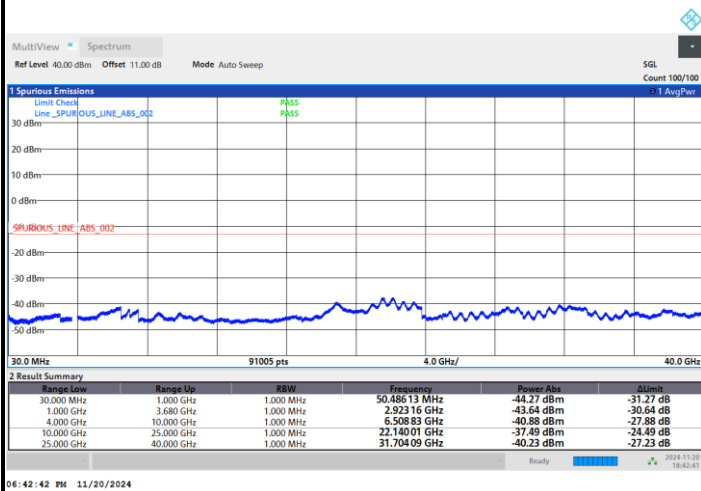
## Lowest Channel



## Middle Channel



## Highest Channel



## Frequency Stability

| Test Conditions     |                   | FR1 n77 (BPSK) / Middle Channel | Limit   |
|---------------------|-------------------|---------------------------------|---------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 20MHz                        | Note 2. |
|                     |                   | Deviation (ppm)                 | Result  |
| 50                  | Normal Voltage    | 0.0017                          | PASS    |
| 40                  | Normal Voltage    | 0.0021                          |         |
| 30                  | Normal Voltage    | 0.0020                          |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                          |         |
| 10                  | Normal Voltage    | 0.0012                          |         |
| 0                   | Normal Voltage    | 0.0019                          |         |
| -10                 | Normal Voltage    | 0.0027                          |         |
| -20                 | Normal Voltage    | 0.0021                          |         |
| 20                  | Maximum Voltage   | 0.0007                          |         |
| 20                  | Normal Voltage    | 0.0000                          |         |
| 20                  | Minimum Voltage   | 0.0003                          |         |

**Note:**

1. Normal Voltage = 3.8 V. ; Minimum Voltage = 3.6 V. ; Maximum Voltage = 4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

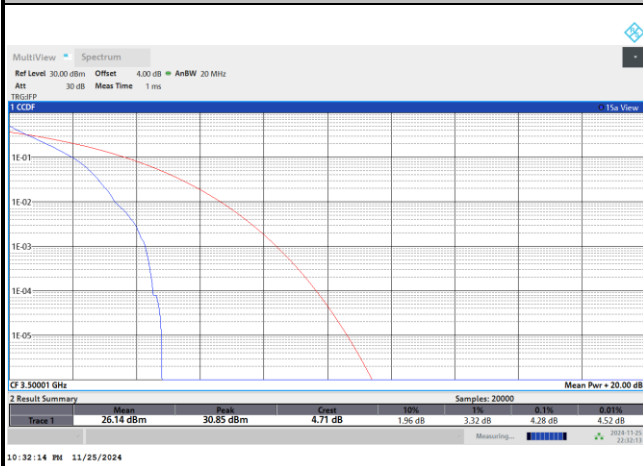
**FR1 n77(Part 27Q) SISO ANT8****Peak-to-Average Ratio**

| Mode      | FR1 n77 / 20MHz / DFT-S OFDM |         |         |         |             |
|-----------|------------------------------|---------|---------|---------|-------------|
| Mod.      | PI/2 BPSK                    | QPSK    | 16QAM   | 64QAM   | Limit: 13dB |
| RB Size   | Full RB                      | Full RB | Full RB | Full RB | Result      |
| Middle CH | 4.28                         | 5.12    | 5.98    | 6.20    | <b>PASS</b> |
| Mode      | FR1 n77 / 20MHz / DFT-S OFDM |         |         |         |             |
| Mod.      | 256QAM                       |         |         |         | Limit: 13dB |
| RB Size   | Full RB                      |         |         |         | Result      |
| Middle CH | 6.76                         |         |         |         | <b>PASS</b> |

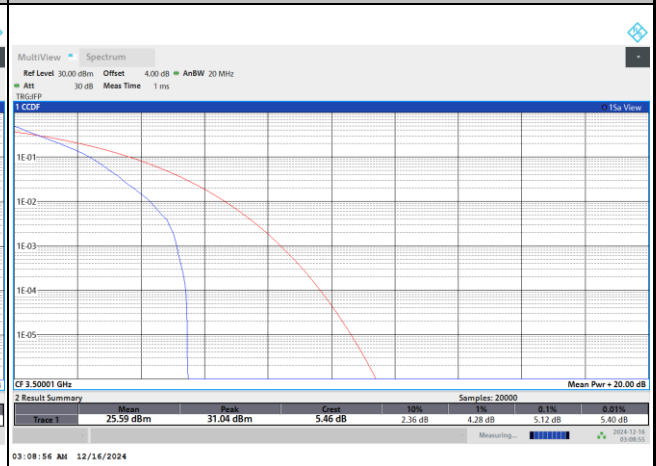


## FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

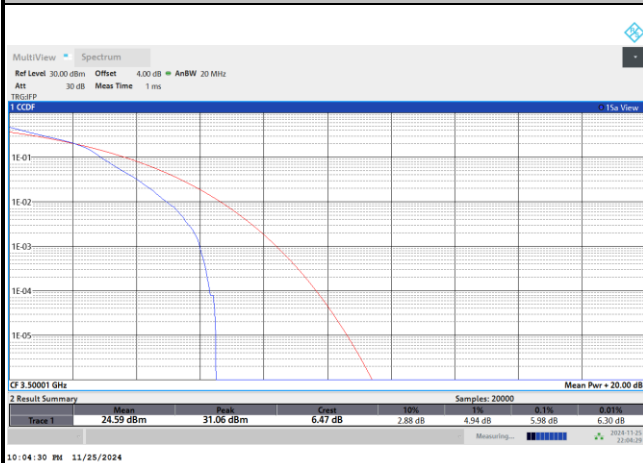
## PI/2 BPSK



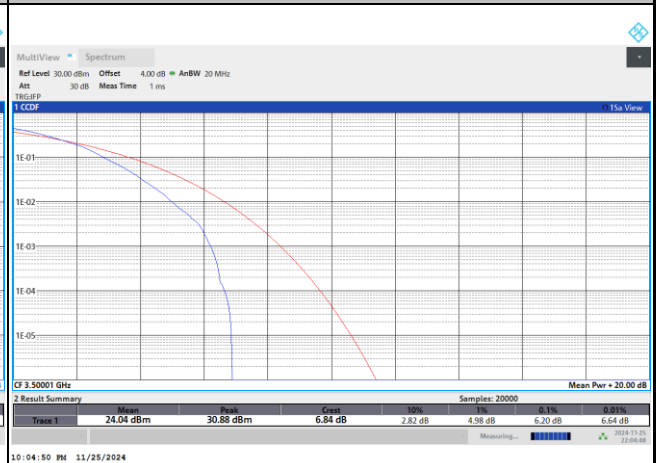
## QPSK



## 16QAM



## 64QAM



## 256QAM



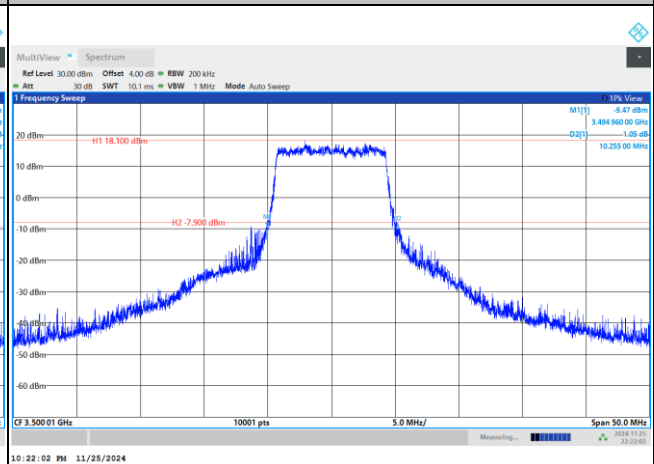
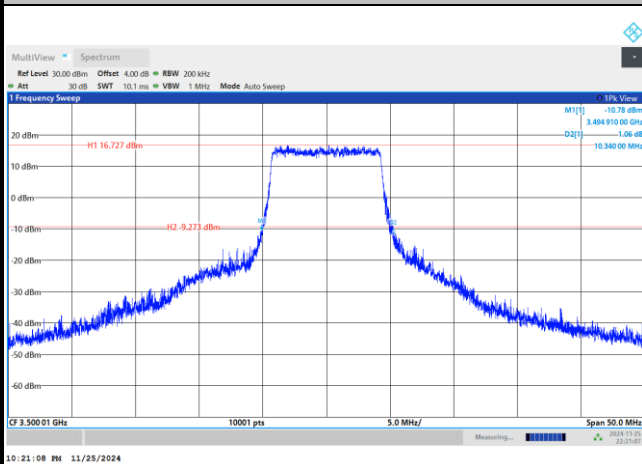
**26dB Bandwidth**

| Mode      | FR1 n77 : 26dB BW(MHz) / DFT-S OFDM |           |           |           |           |           |           |           |
|-----------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| BW        | 10MHz                               | 15MHz     | 20MHz     | 25MHz     | 30MHz     | 40MHz     | 50MHz     | 60MHz     |
| Mod.      | PI/2 BPSK                           | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK |
| Middle CH | 10.28                               | 14.65     | 19.93     | -         | 31.58     | 39.84     | 50.71     | 63.60     |
| BW        | 70MHz                               | 80MHz     | 90MHz     | 100MHz    |           |           |           |           |
| Mod.      | PI/2 BPSK                           | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK |           |           |           |           |
| Middle CH | 71.02                               | 80.14     | 91.74     | 102.44    |           |           |           |           |

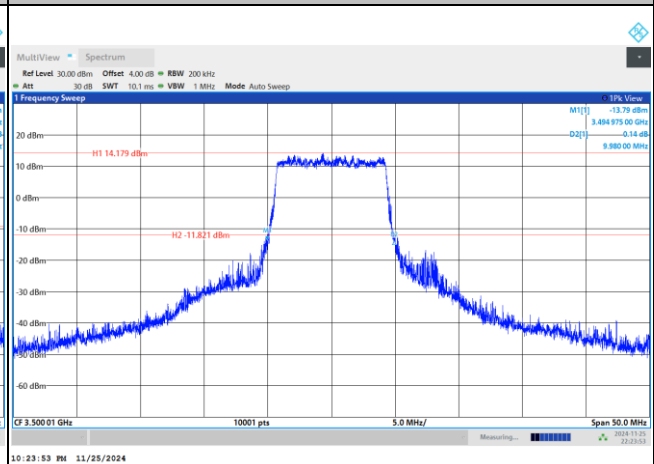
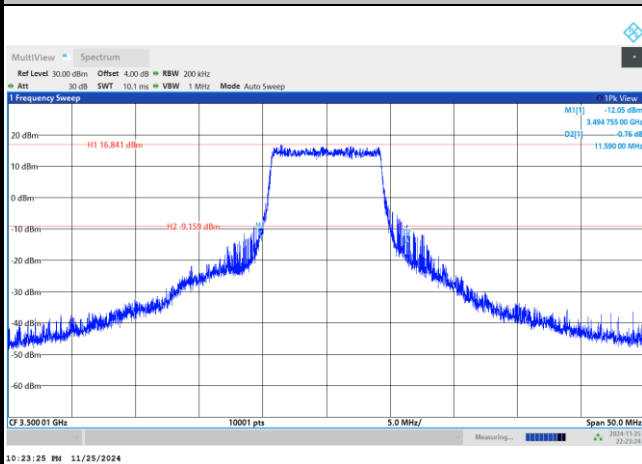
| Mode      | FR1 n77 : 26dB BW(MHz) / CP OFDM |        |       |        |       |        |        |        |
|-----------|----------------------------------|--------|-------|--------|-------|--------|--------|--------|
| BW        | 10MHz                            |        | 15MHz |        | 20MHz |        | 25MHz  |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 10.33                            | 10.25  | 15.44 | 15.85  | 22.05 | 20.54  | -      | -      |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 11.58                            | 9.98   | 15.66 | 15.47  | 20.46 | 20.72  | -      | -      |
| BW        | 30MHz                            |        | 40MHz |        | 50MHz |        | 60MHz  |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 31.21                            | 31.90  | 42.96 | 43.08  | 51.90 | 50.58  | 62.68  | 62.86  |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 30.96                            | 31.16  | 41.10 | 42.46  | 53.78 | 50.80  | 63.29  | 63.46  |
| BW        | 70MHz                            |        | 80MHz |        | 90MHz |        | 100MHz |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 72.67                            | 74.08  | 80.78 | 81.71  | 93.07 | 93.32  | 103.68 | 102.83 |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 72.74                            | 72.53  | 81.24 | 80.69  | 94.03 | 92.56  | 104.30 | 103.79 |

[illegible]

## 16QAM



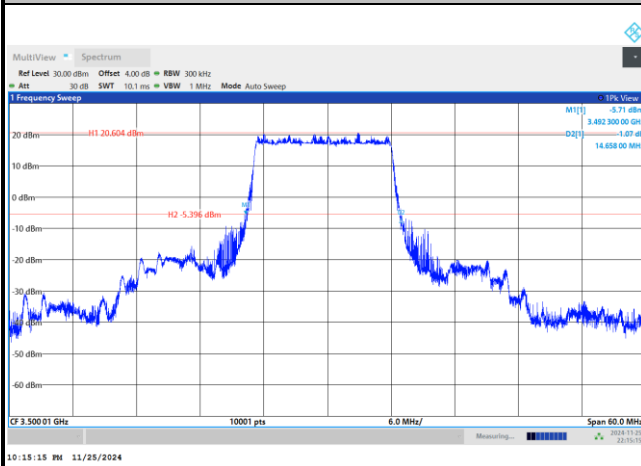
## 256QAM





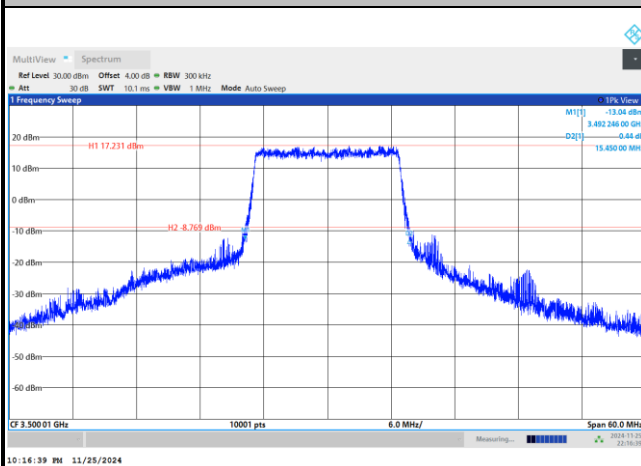
## FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

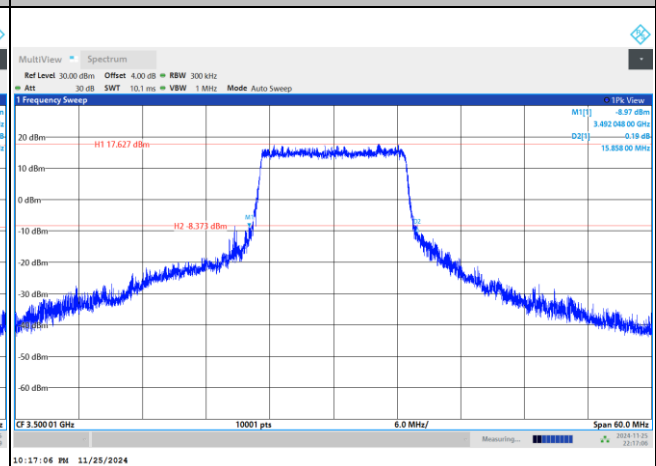


## FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

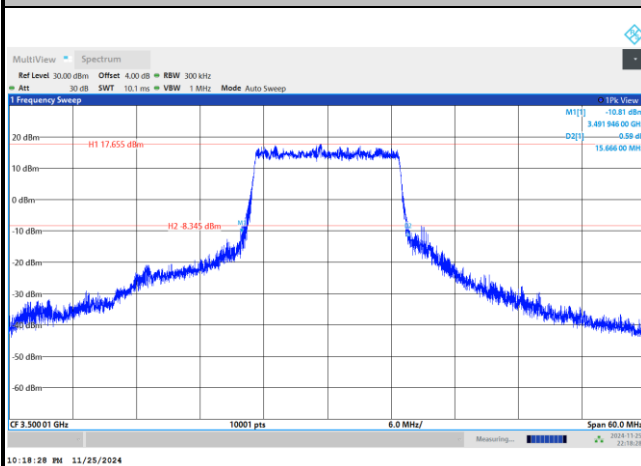
## QPSK



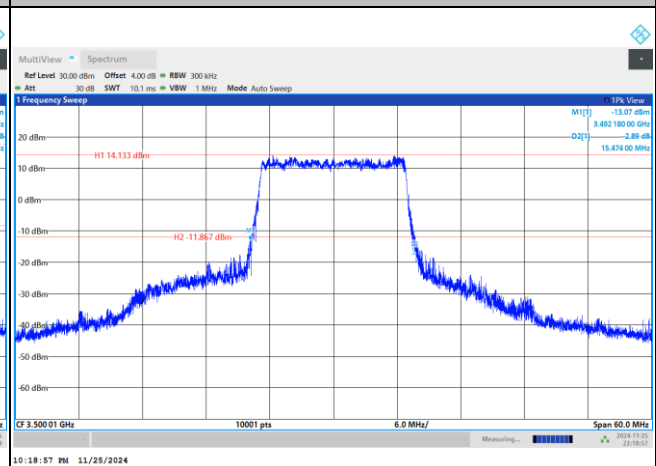
## 16QAM



## 64QAM



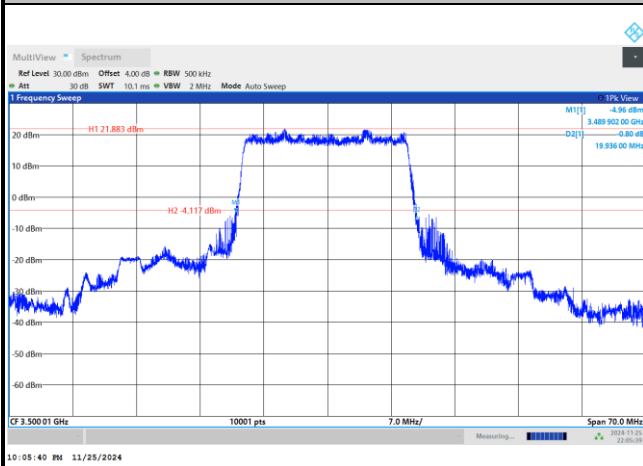
## 256QAM





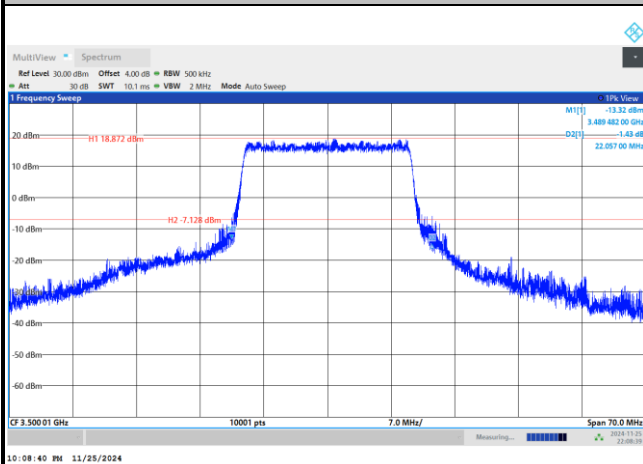
## FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

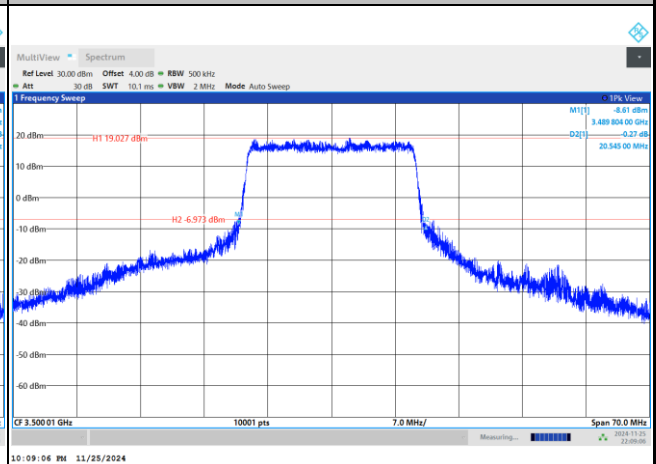


## FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

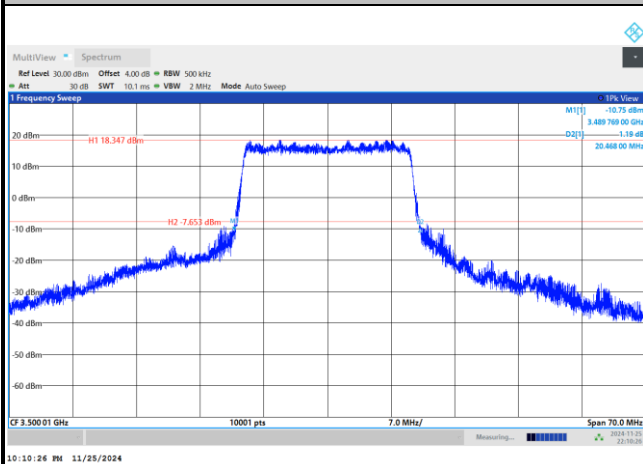
## QPSK



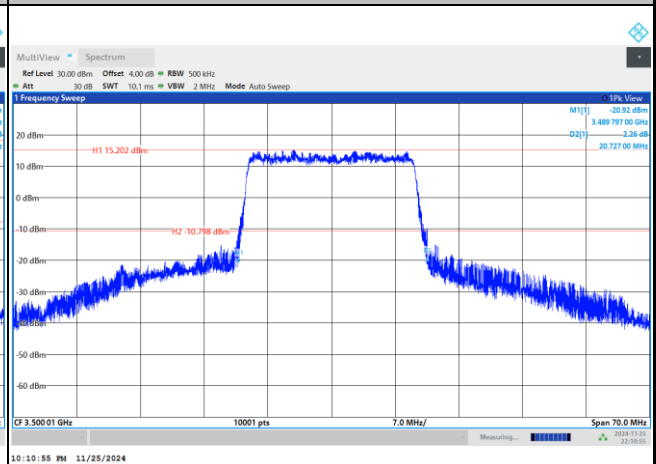
## 16QAM



## 64QAM



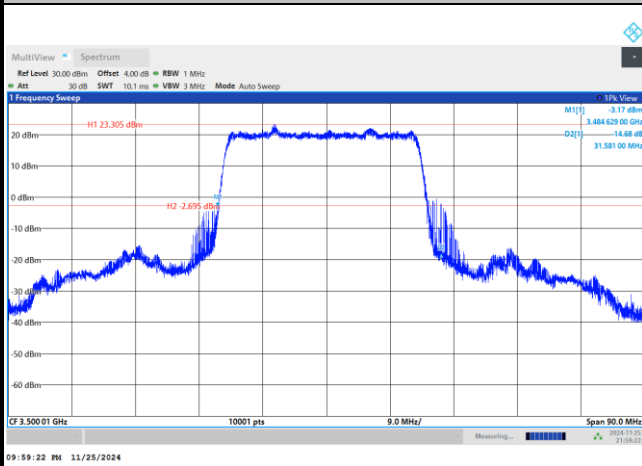
## 256QAM





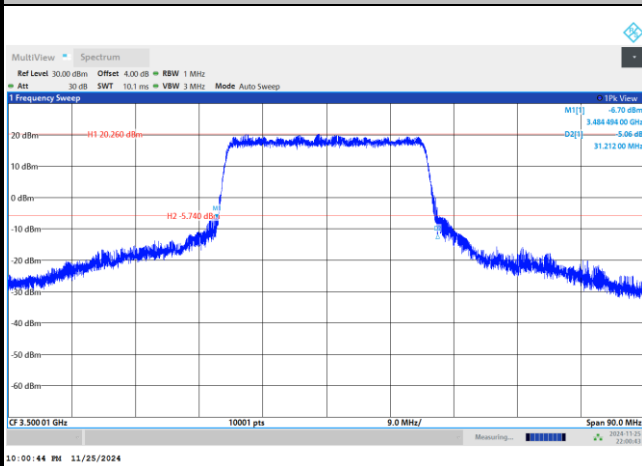
## FR1 n77 / 30MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

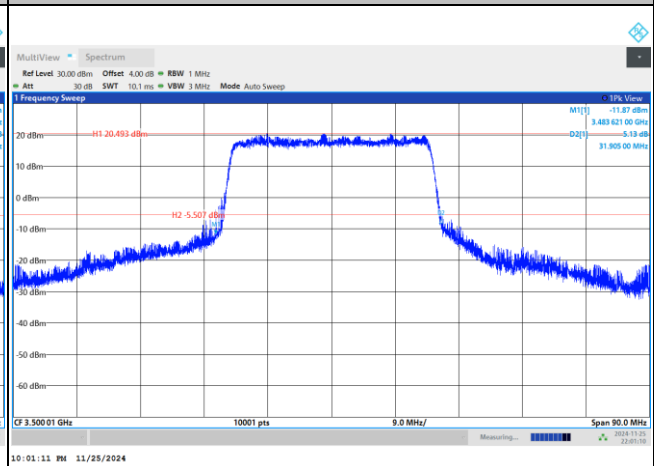


## FR1 n77 / 30MHz / CP OFDM / Middle Channel / Full RB

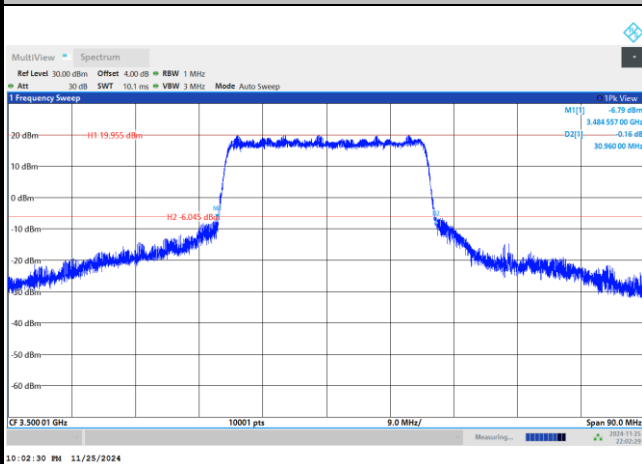
## QPSK



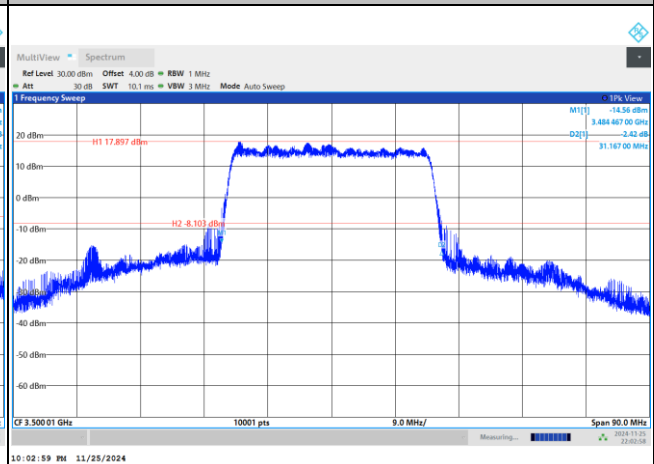
## 16QAM



## 64QAM



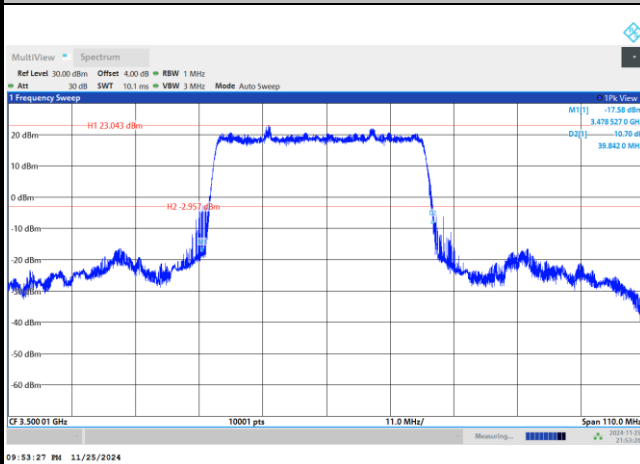
## 256QAM





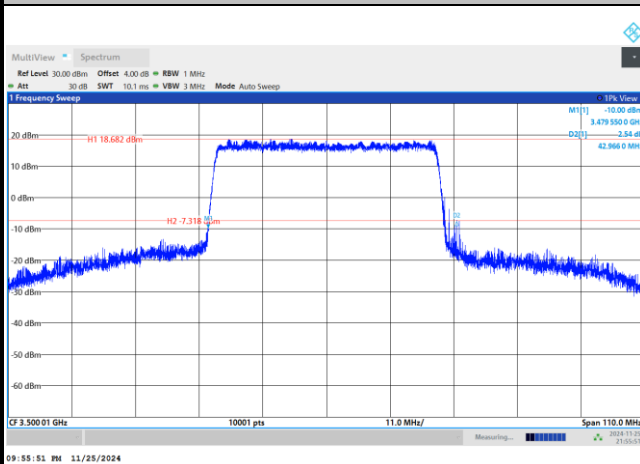
## FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

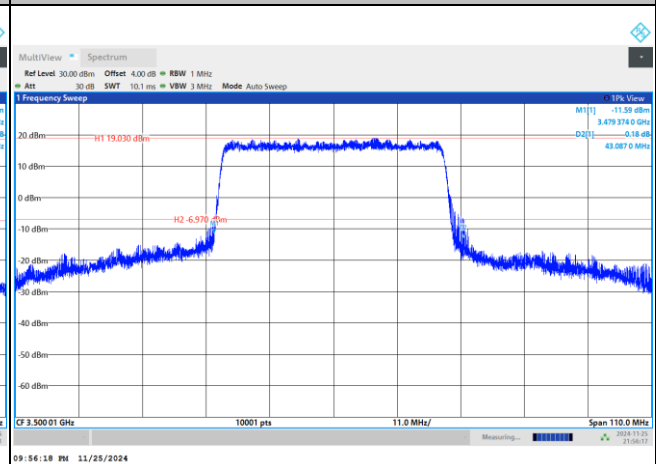


## FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

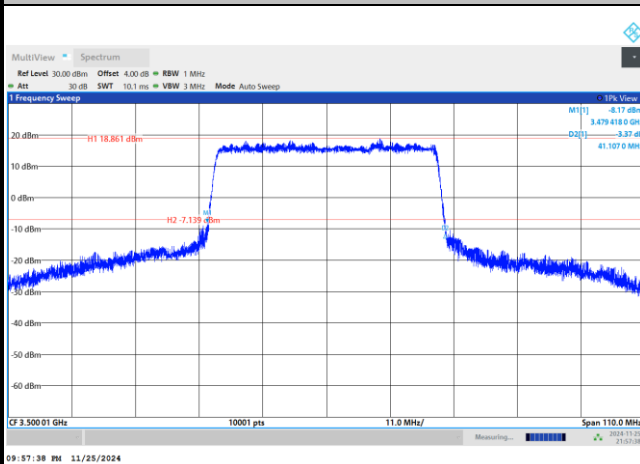
## QPSK



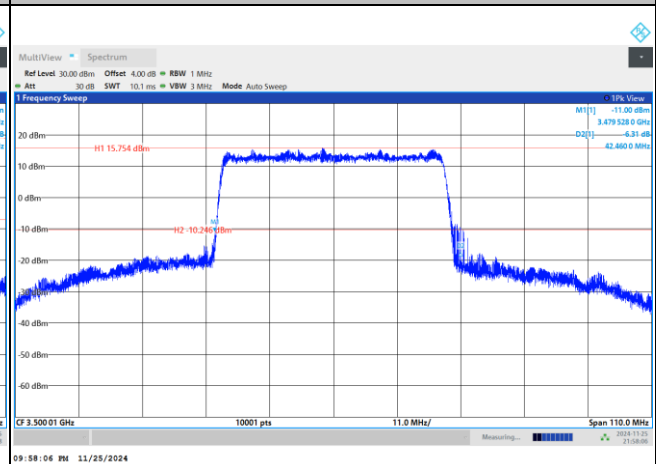
## 16QAM

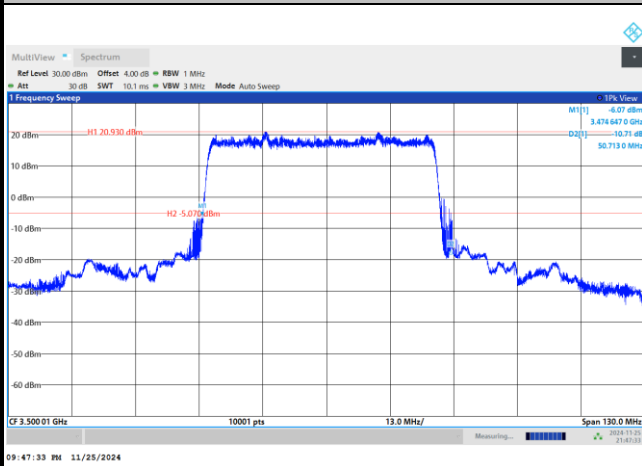


## 64QAM



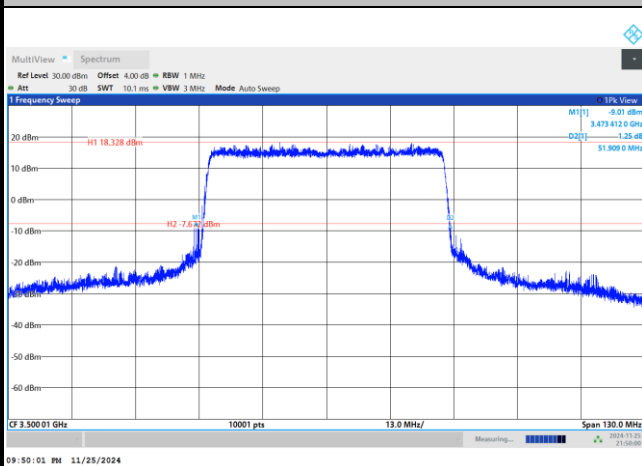
## 256QAM



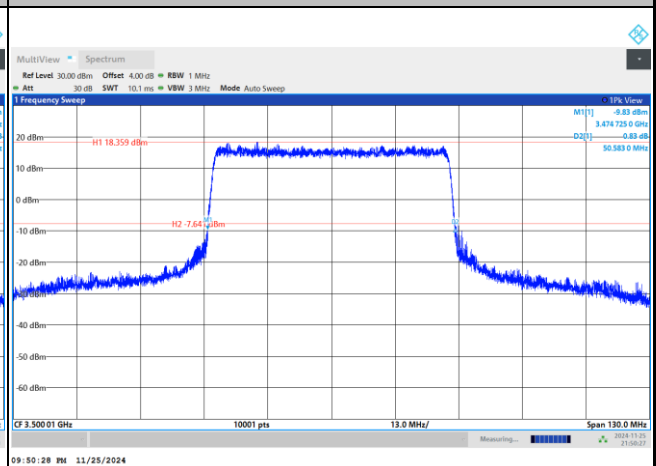
**FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB****PI/2 BPSK**

## FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

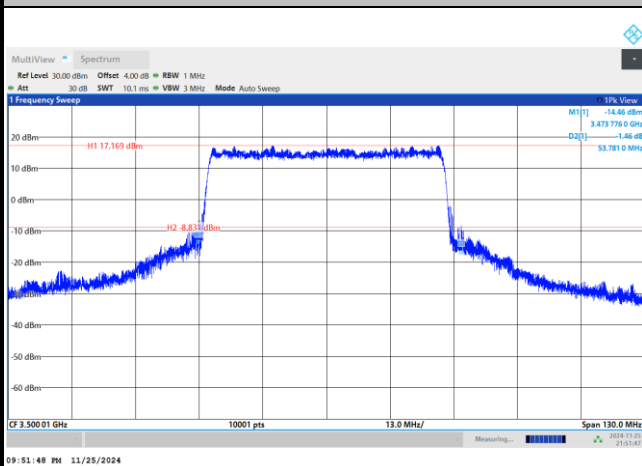
## QPSK



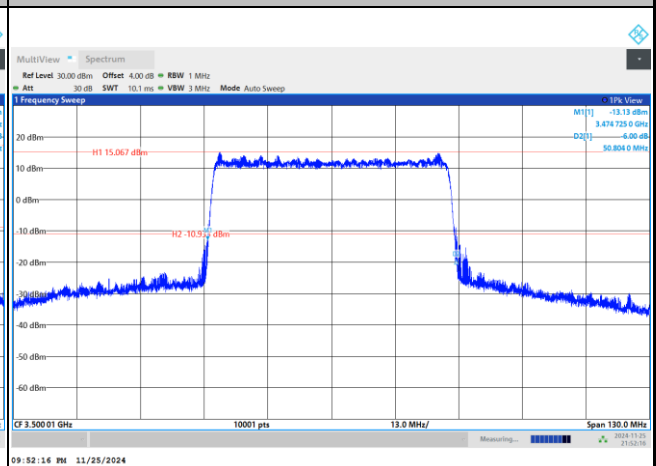
## 16QAM



## 64QAM



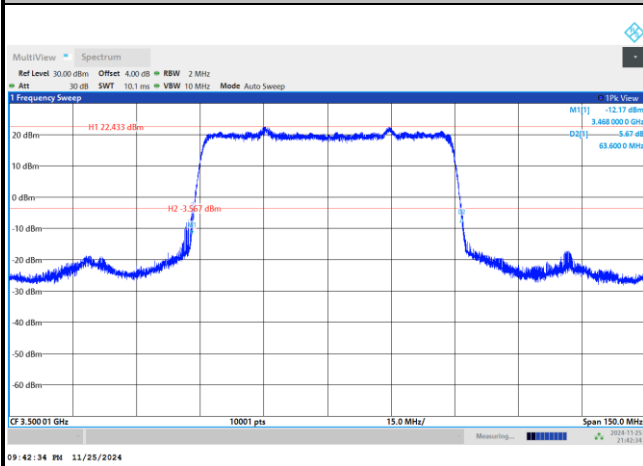
## 256QAM





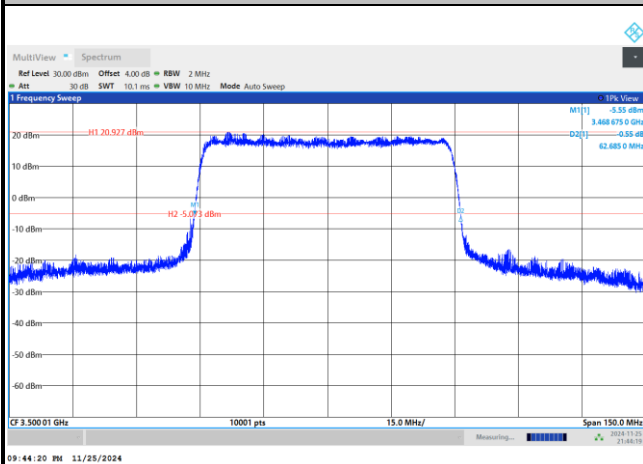
## FR1 n77 / 60MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

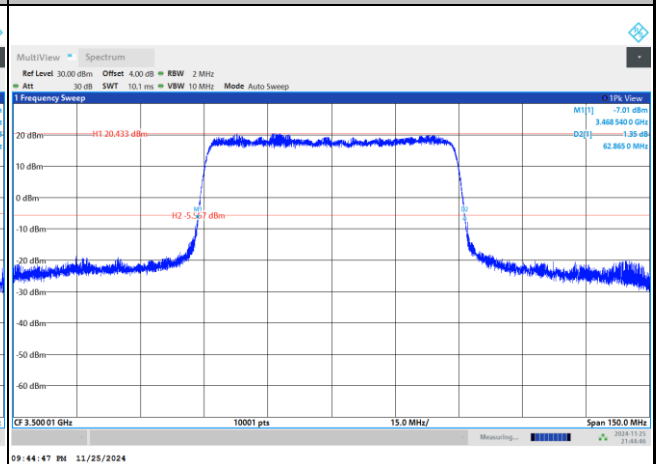


## FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

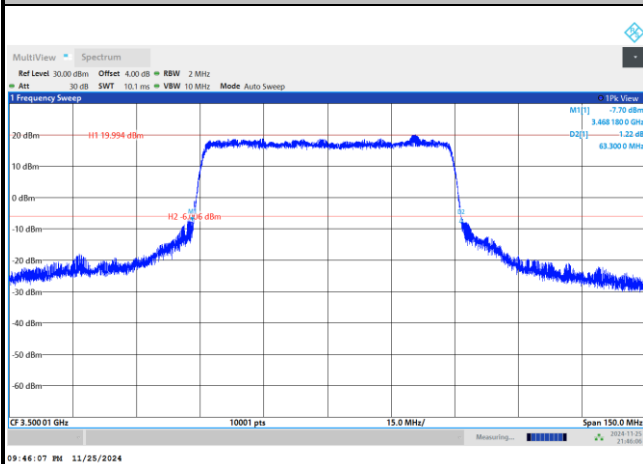
## QPSK



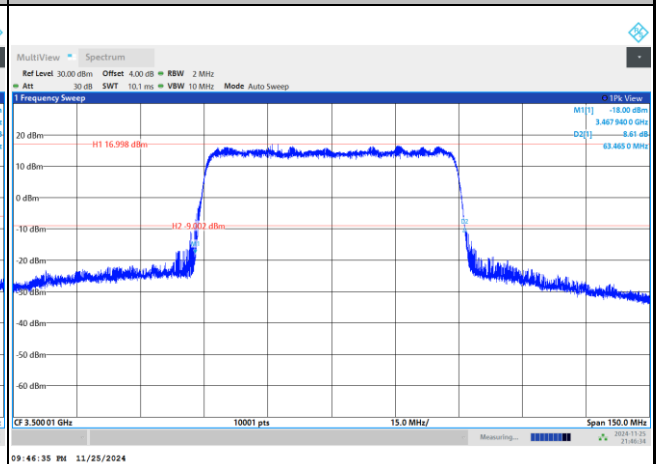
## 16QAM



## 64QAM



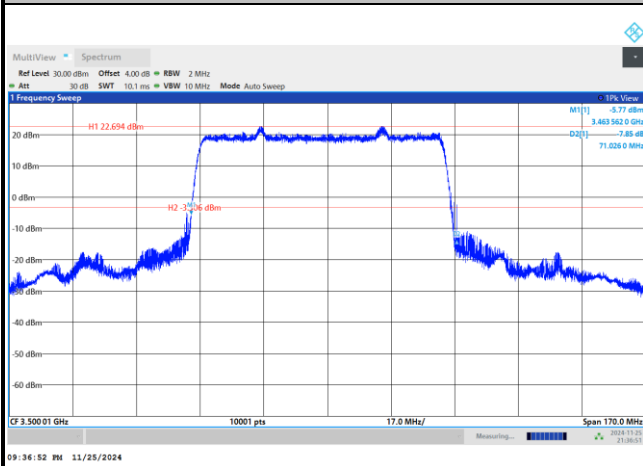
## 256QAM





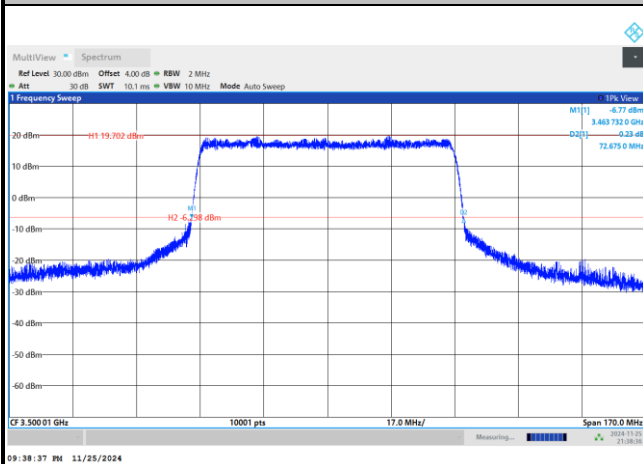
## FR1 n77 / 70MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

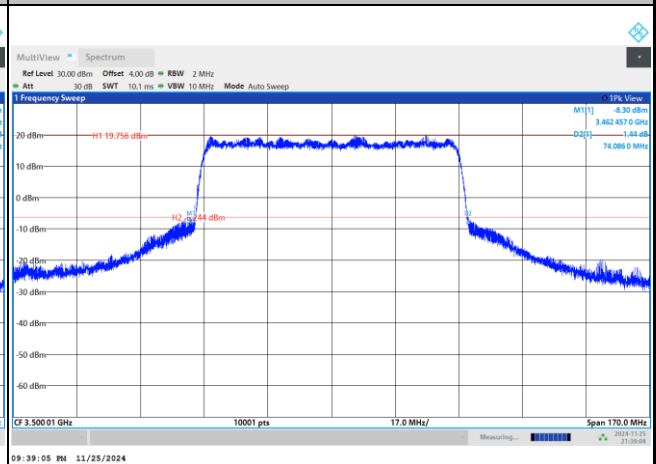


## FR1 n77 / 70MHz / CP OFDM / Middle Channel / Full RB

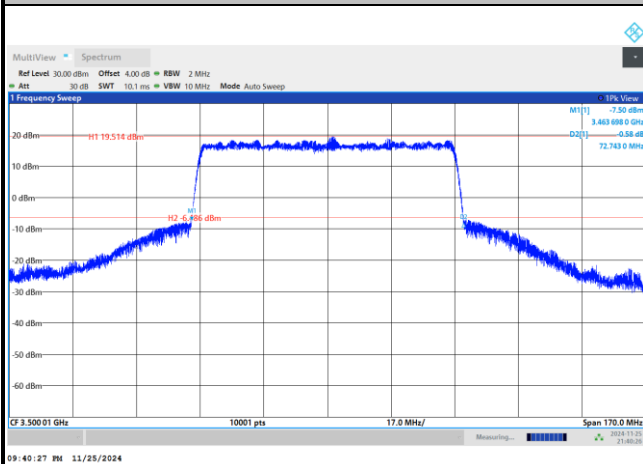
## QPSK



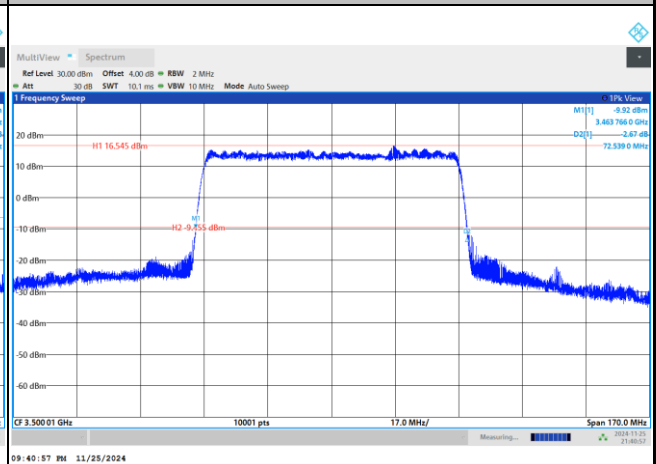
## 16QAM



## 64QAM



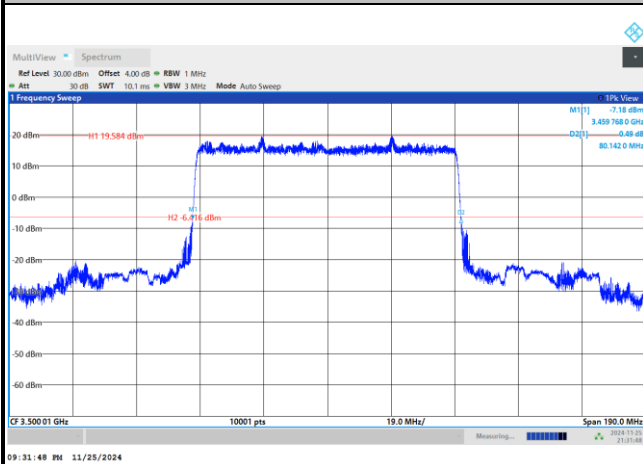
## 256QAM





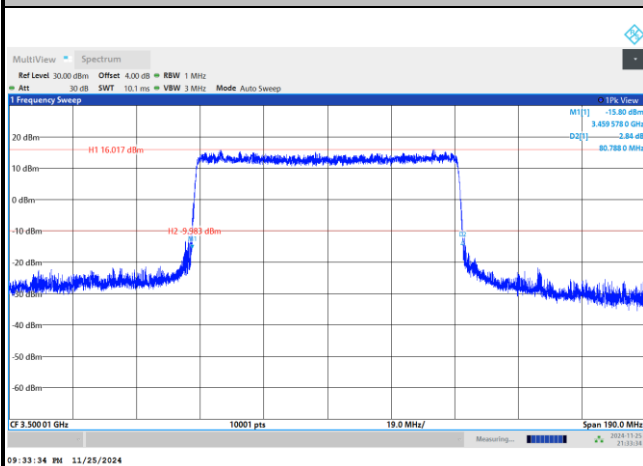
## FR1 n77 / 80MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

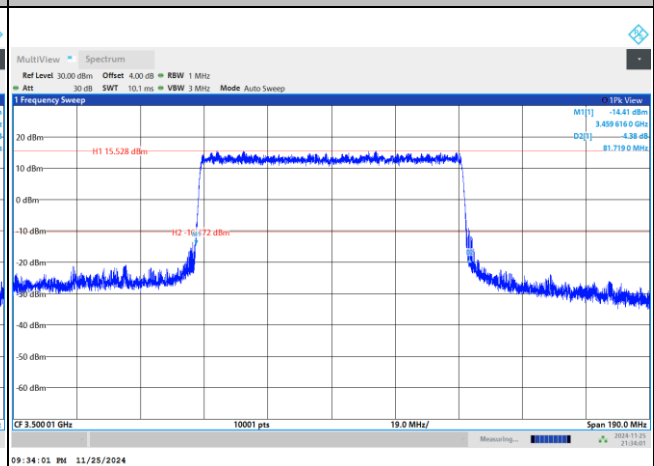


## FR1 n77 / 80MHz / CP OFDM / Middle Channel / Full RB

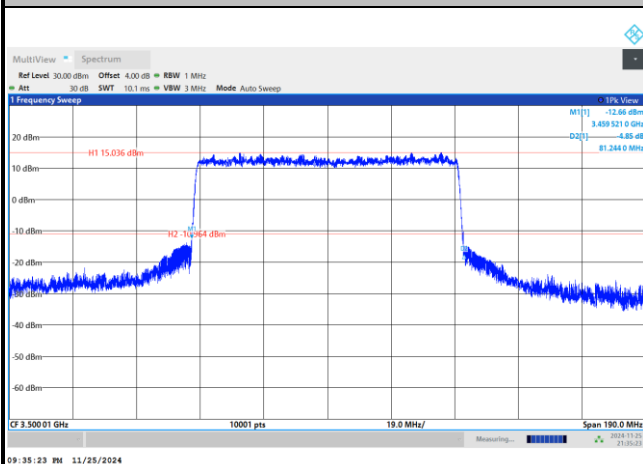
## QPSK



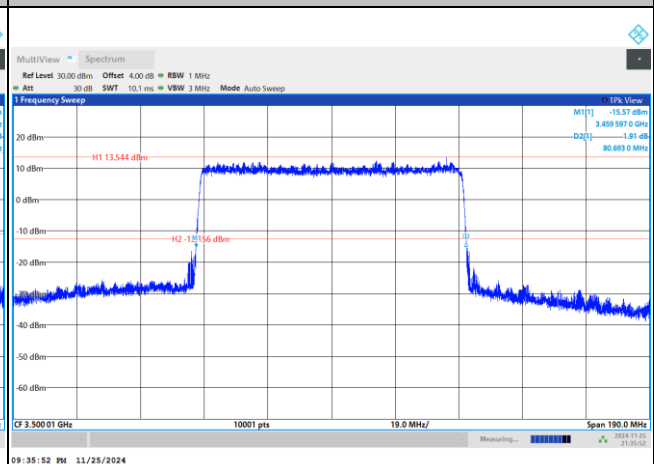
## 16QAM



## 64QAM



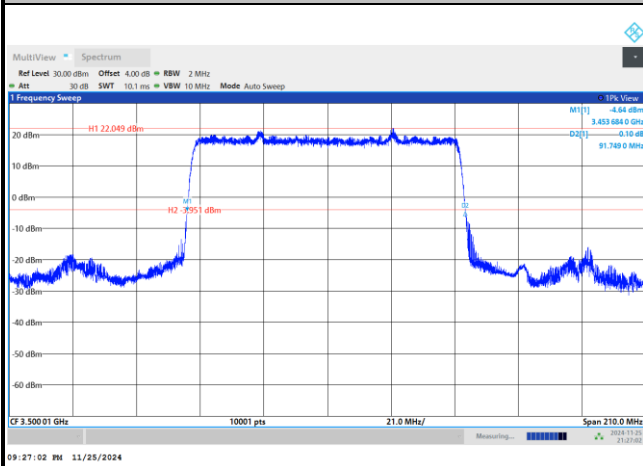
## 256QAM





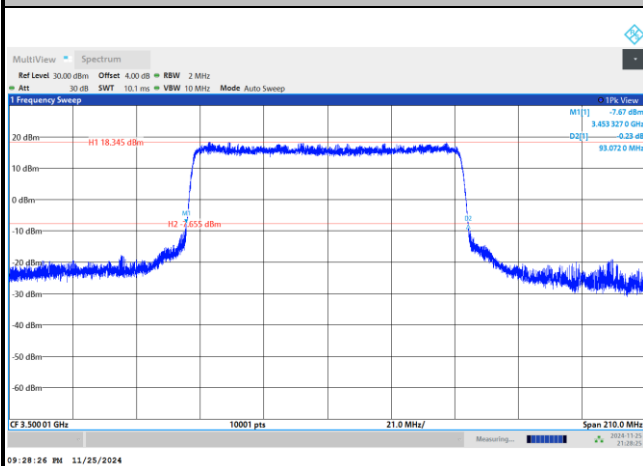
## FR1 n77 / 90MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

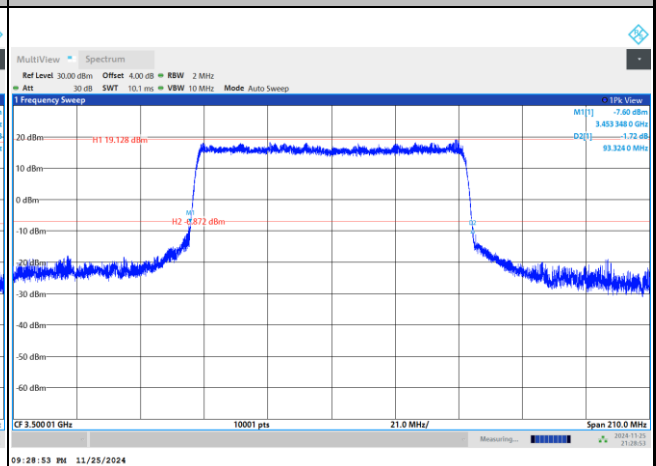


## FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

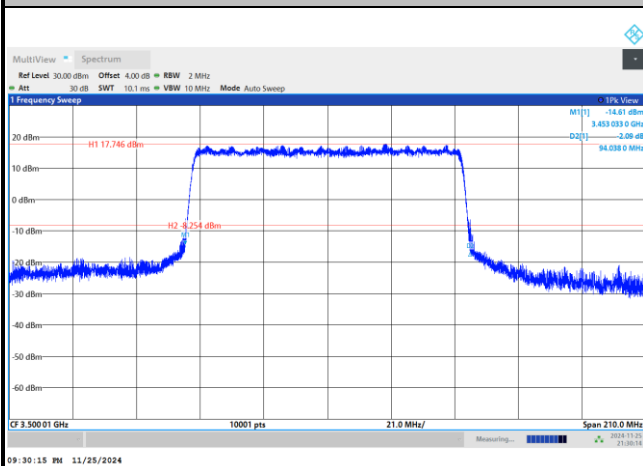
## QPSK



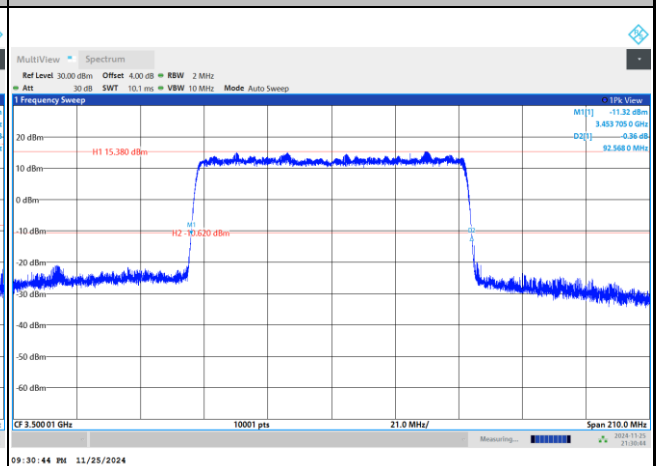
## 16QAM



## 64QAM



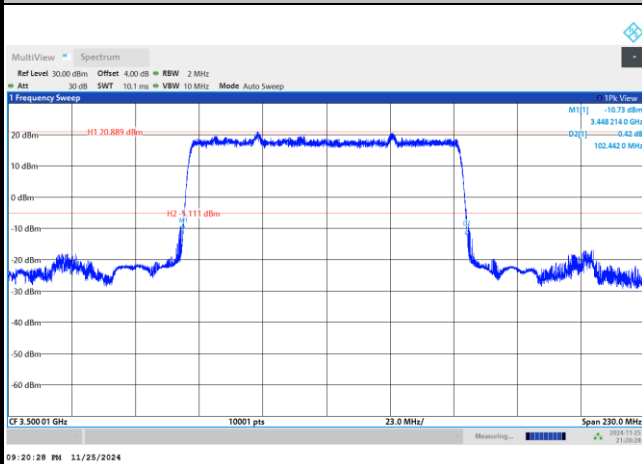
## 256QAM





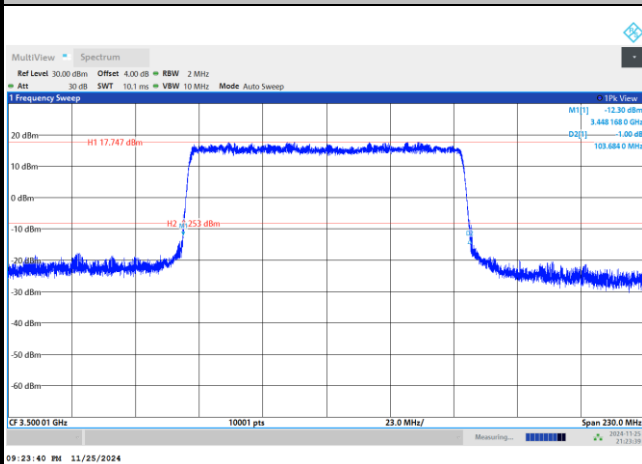
## FR1 n77 / 100MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

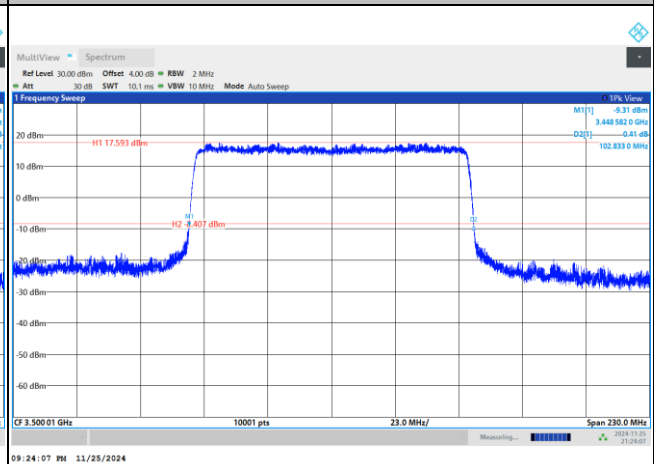


## FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

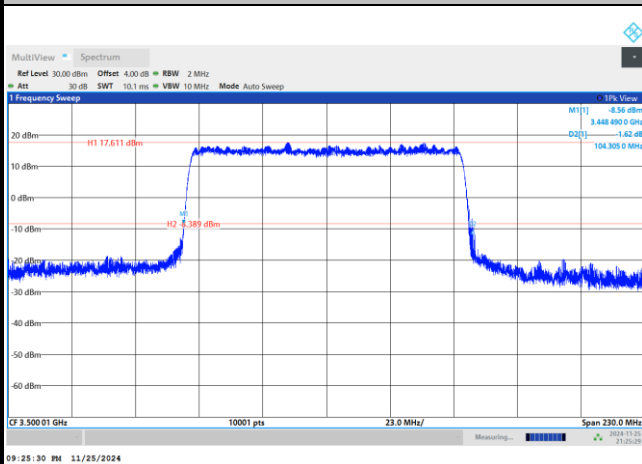
## QPSK



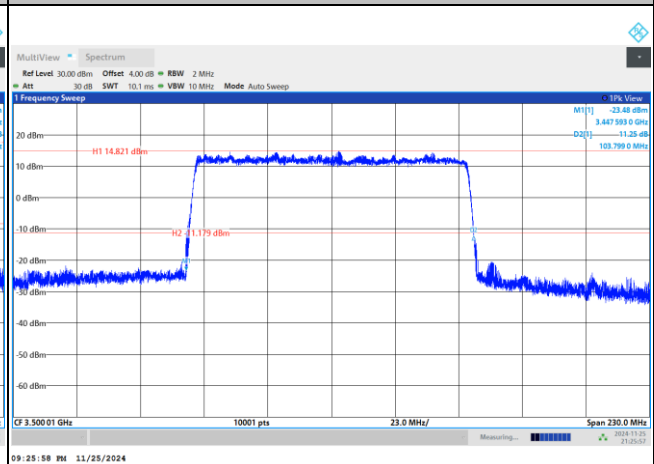
## 16QAM



## 64QAM



## 256QAM



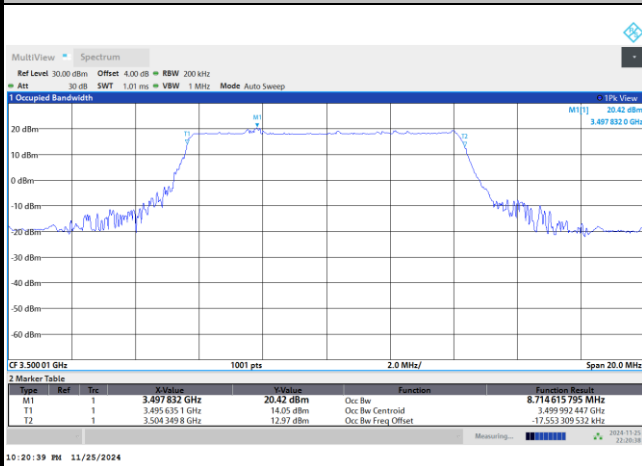
**Occupied Bandwidth**

| Mode      | FR1 n77 : OB BW(MHz) / DFT-S OFDM |           |           |           |           |           |           |           |
|-----------|-----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| BW        | 10MHz                             | 15MHz     | 20MHz     | 25MHz     | 30MHz     | 40MHz     | 50MHz     | 60MHz     |
| Mod.      | PI/2 BPSK                         | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK |
| Middle CH | 8.71                              | 12.98     | 18.03     | -         | 27.20     | 35.92     | 45.91     | 58.64     |
| BW        | 70MHz                             | 80MHz     | 90MHz     | 100MHz    |           |           |           |           |
| Mod.      | PI/2 BPSK                         | PI/2 BPSK | PI/2 BPSK | PI/2 BPSK |           |           |           |           |
| Middle CH | 64.96                             | 77.54     | 87.14     | 96.78     |           |           |           |           |

| Mode      | FR1 n77 : OB BW(MHz) / CP OFDM |        |       |        |       |        |        |        |
|-----------|--------------------------------|--------|-------|--------|-------|--------|--------|--------|
| BW        | 10MHz                          |        | 15MHz |        | 20MHz |        | 25MHz  |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 8.67                           | 8.73   | 13.69 | 13.72  | 18.41 | 18.39  | -      | -      |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 8.74                           | 8.66   | 13.69 | 13.70  | 18.39 | 18.34  | -      | -      |
| BW        | 30MHz                          |        | 40MHz |        | 50MHz |        | 60MHz  |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 28.22                          | 28.24  | 38.14 | 38.07  | 47.61 | 47.73  | 57.96  | 58.29  |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 28.21                          | 28.23  | 38.16 | 38.18  | 47.65 | 47.68  | 58.57  | 58.57  |
| BW        | 70MHz                          |        | 80MHz |        | 90MHz |        | 100MHz |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 67.98                          | 68.06  | 77.78 | 78.10  | 87.83 | 87.79  | 97.66  | 97.75  |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 68.19                          | 67.89  | 77.94 | 77.75  | 87.94 | 87.99  | 97.64  | 97.73  |

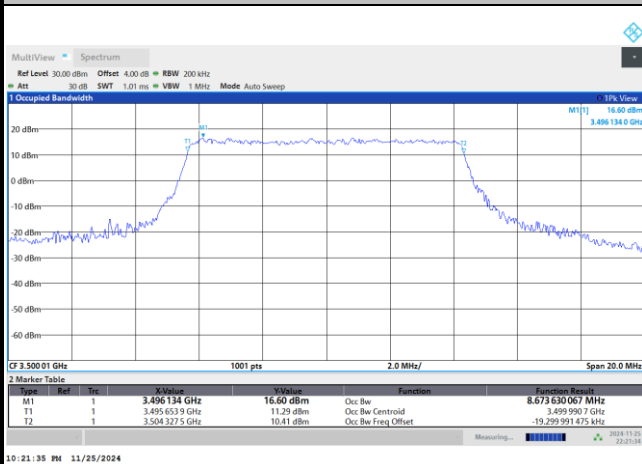
## FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

### PI/2 BPSK

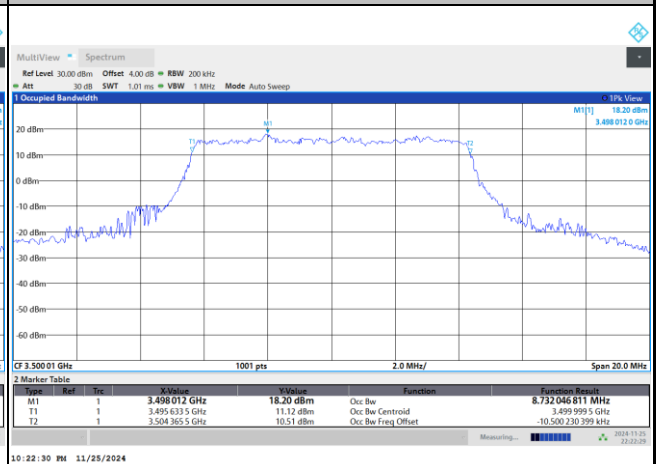


## FR1 n77 / 10MHz / CP OFDM / Middle Channel / Full RB

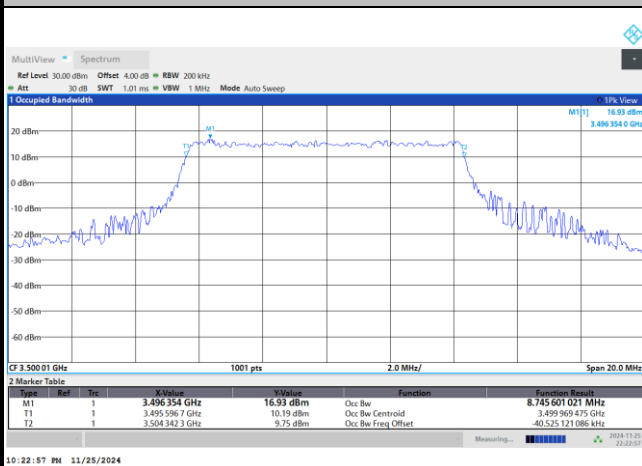
### QPSK



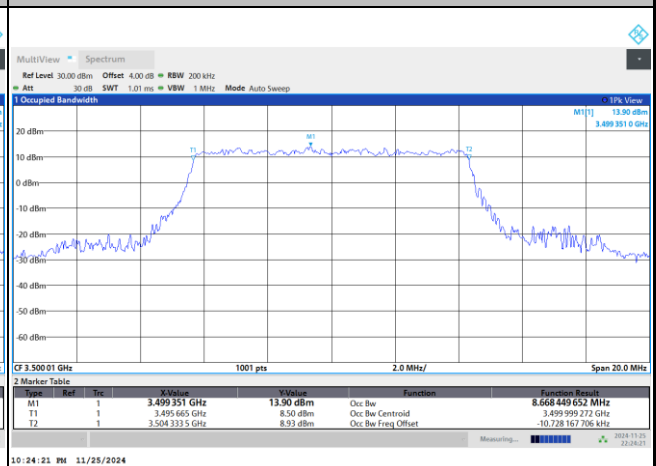
### 16QAM



### 64QAM



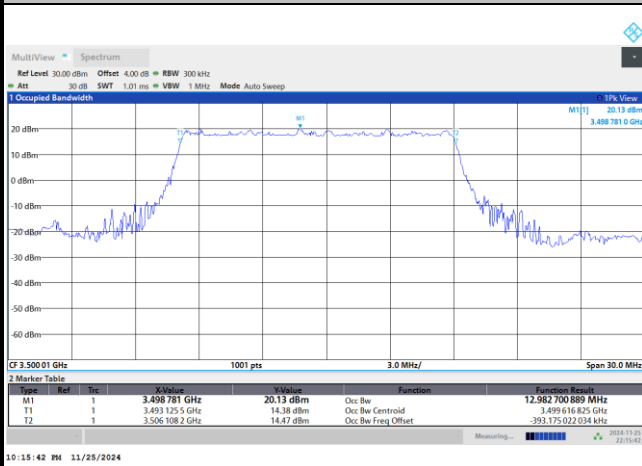
### 256QAM





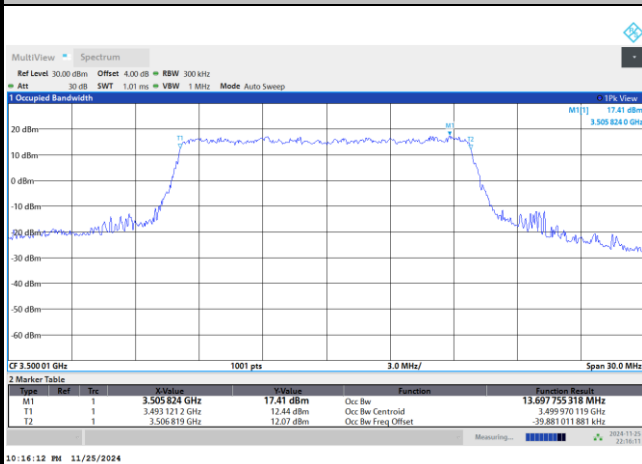
## FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

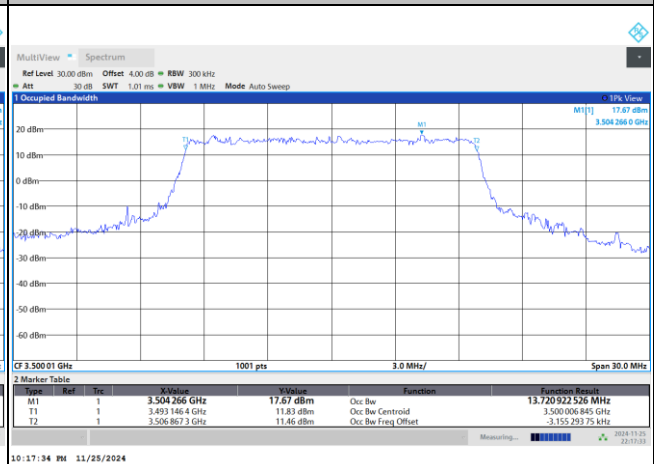


## FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

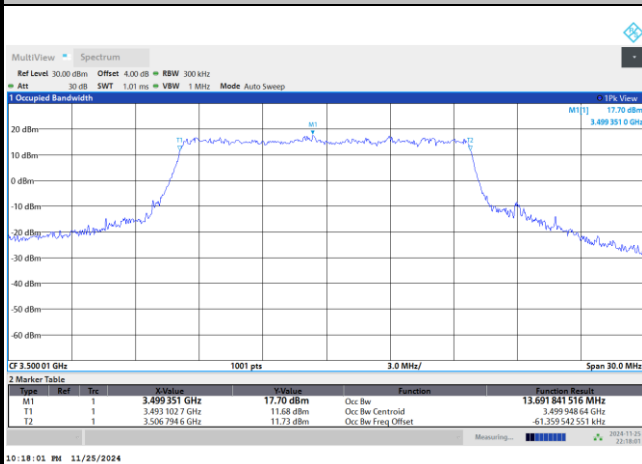
## QPSK



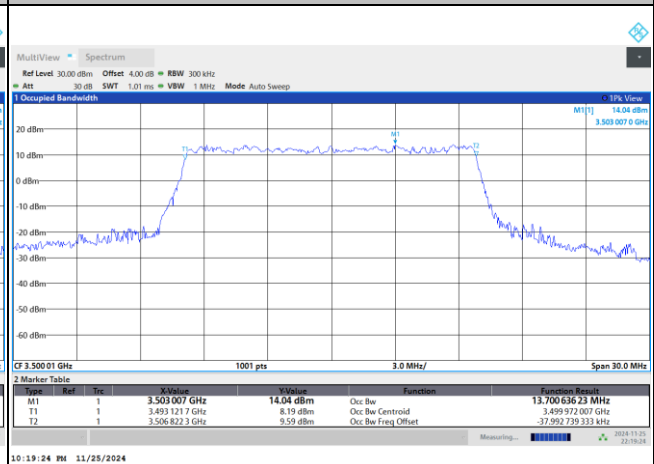
## 16QAM



## 64QAM



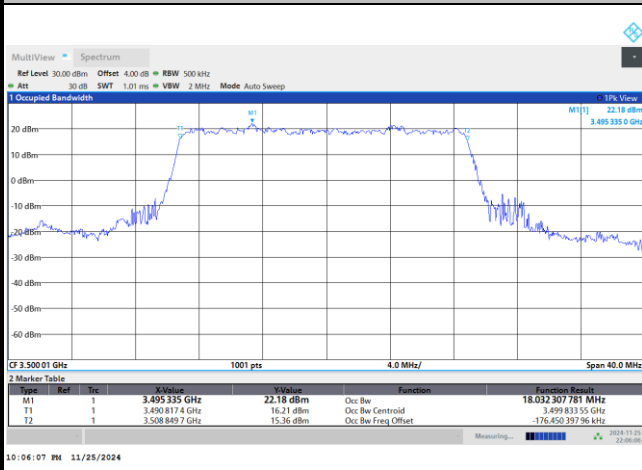
## 256QAM





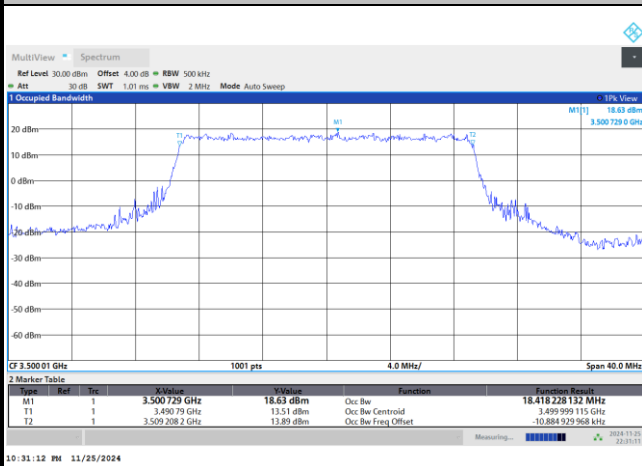
## FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK

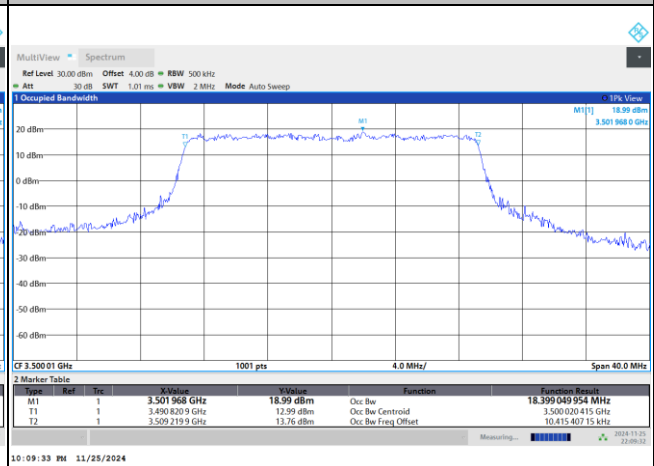


## FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

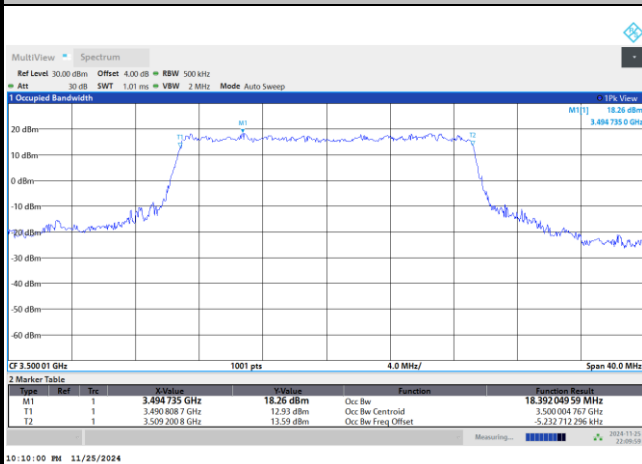
## QPSK



## 16QAM



## 64QAM



## 256QAM

