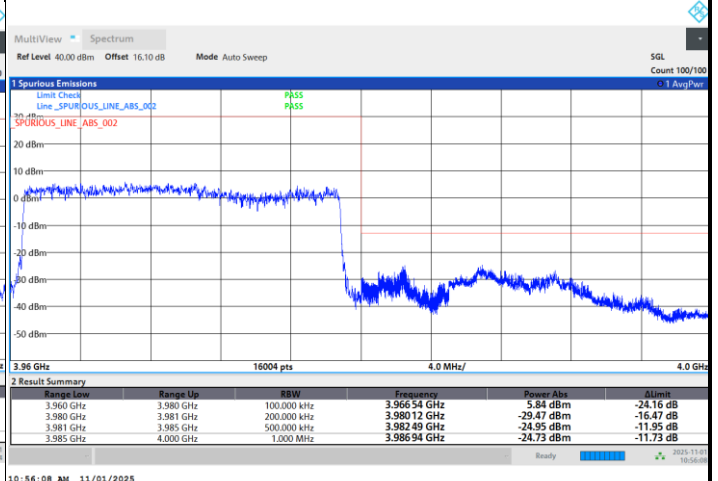
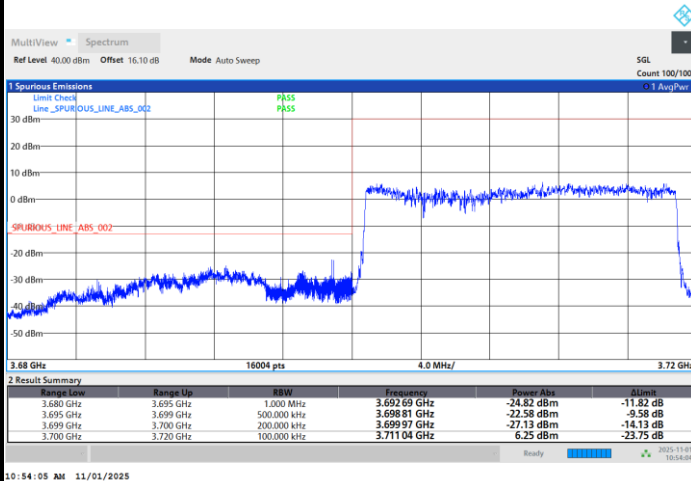




## FR1 n77 / 20MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

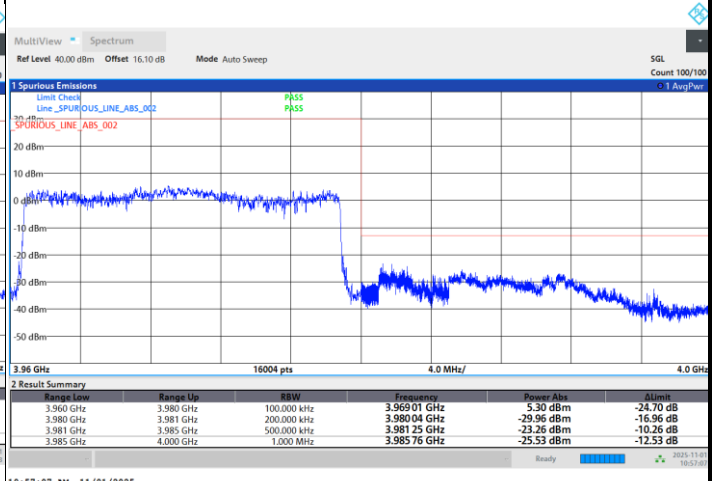
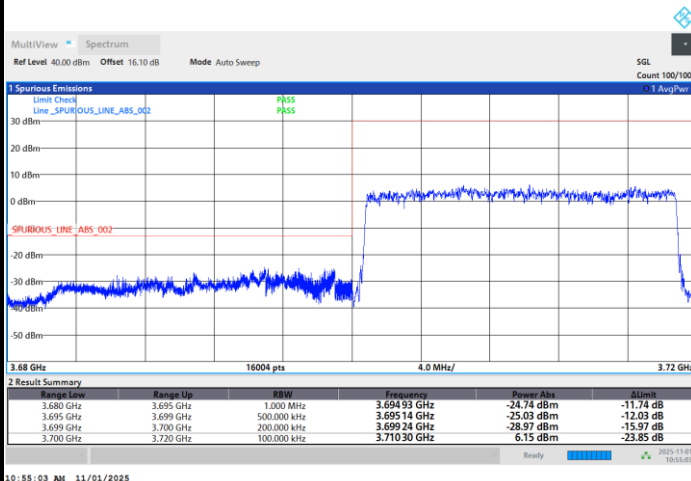
## Highest Band Edge / Full RB



## FR1 n77 / 20MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

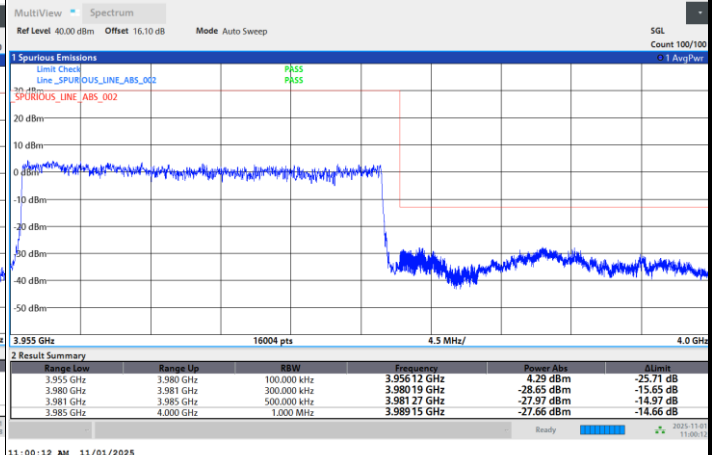
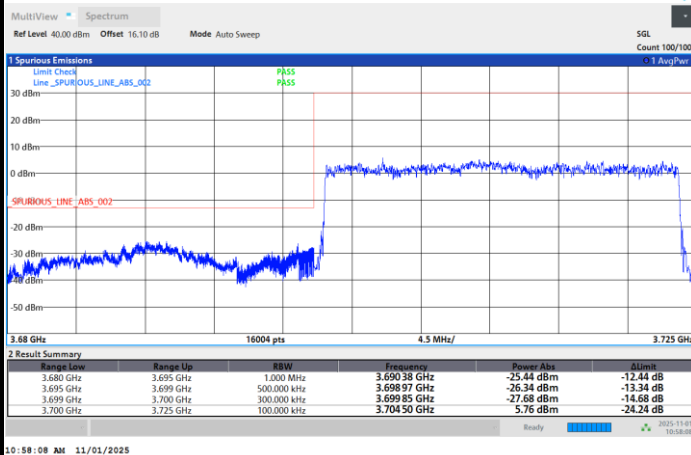




## FR1 n77 / 25MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

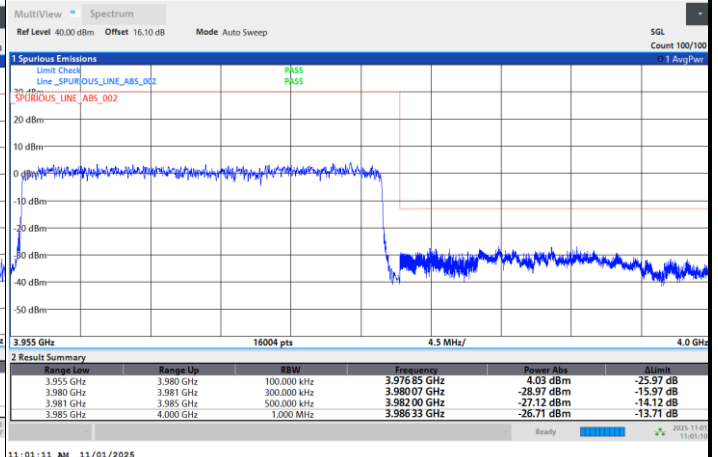
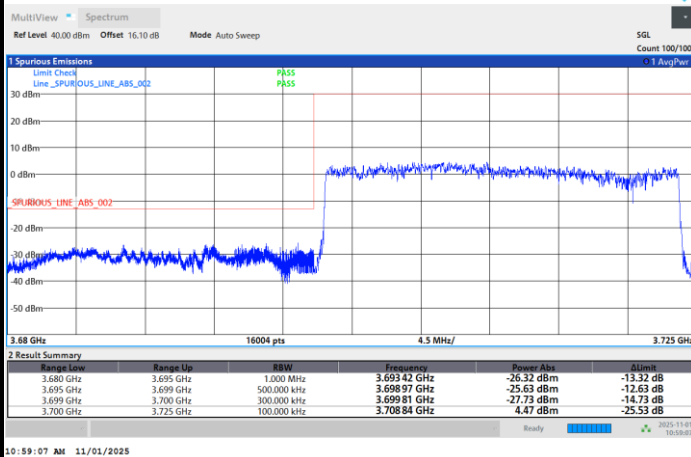
## Highest Band Edge / Full RB



## FR1 n77 / 25MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

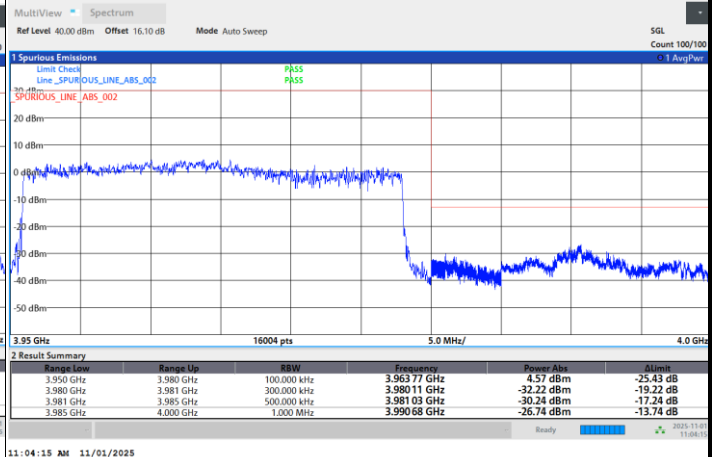
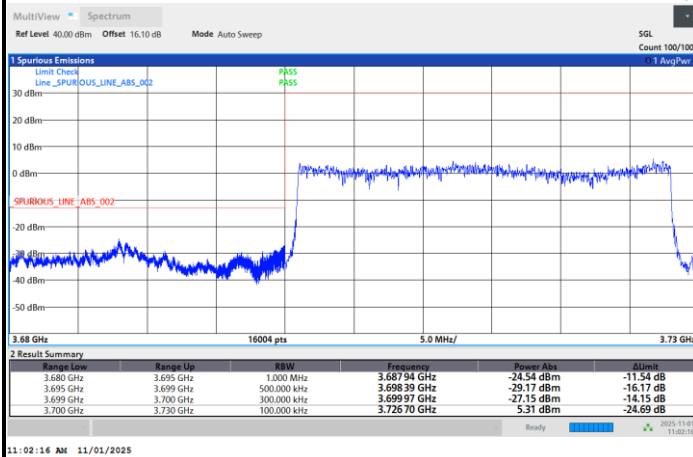




## FR1 n77 / 30MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

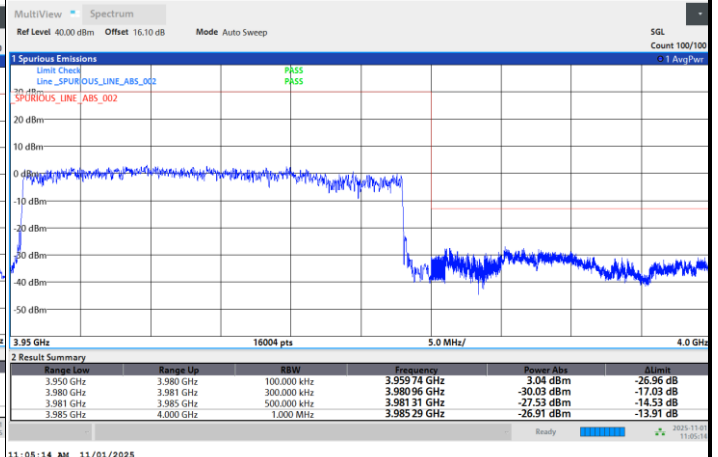
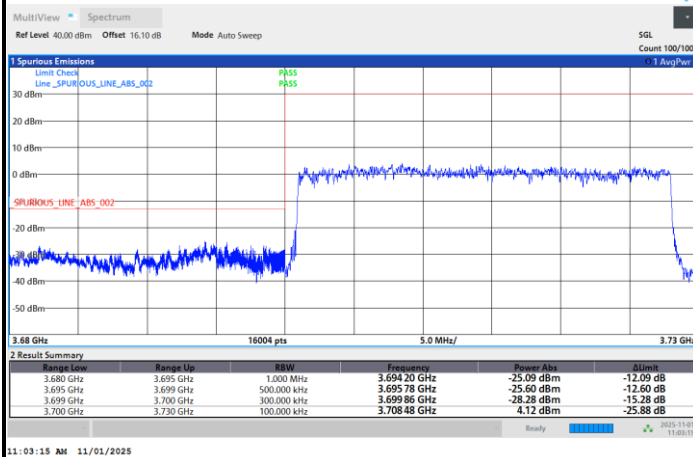
## Highest Band Edge / Full RB



## FR1 n77 / 30MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

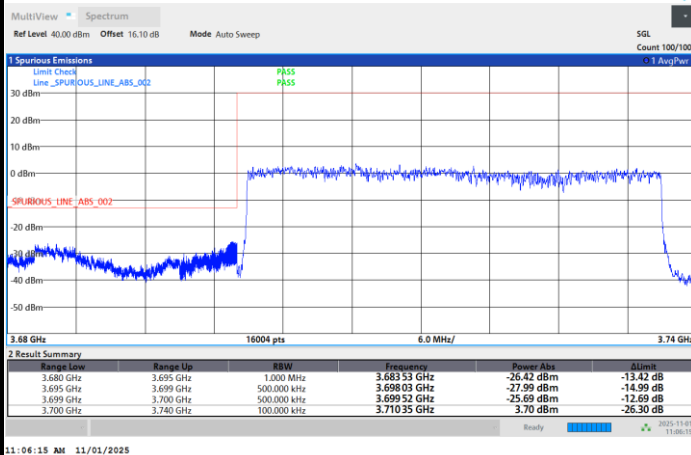




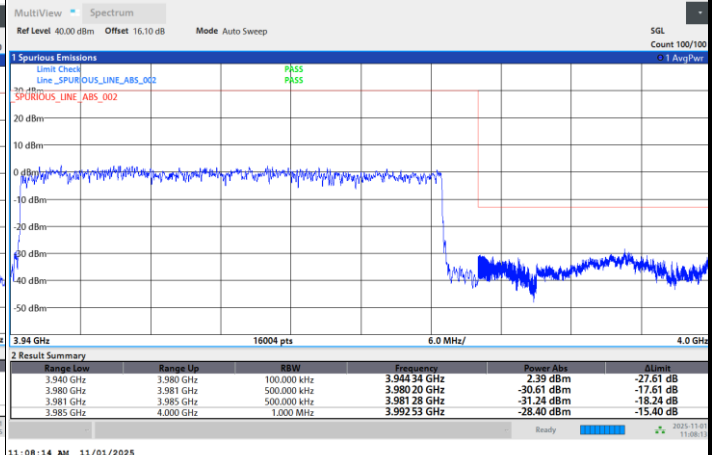
## FR1 n77 / 40MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



11:06:15 AM 11/01/2025

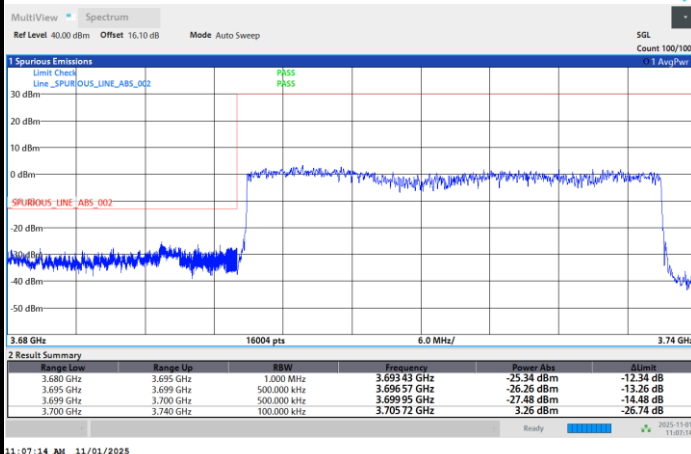


11:06:14 AM 11/01/2025

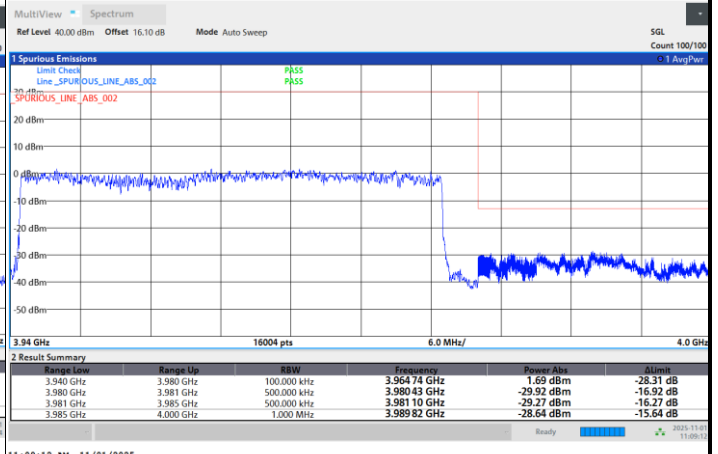
## FR1 n77 / 40MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



11:07:14 AM 11/01/2025



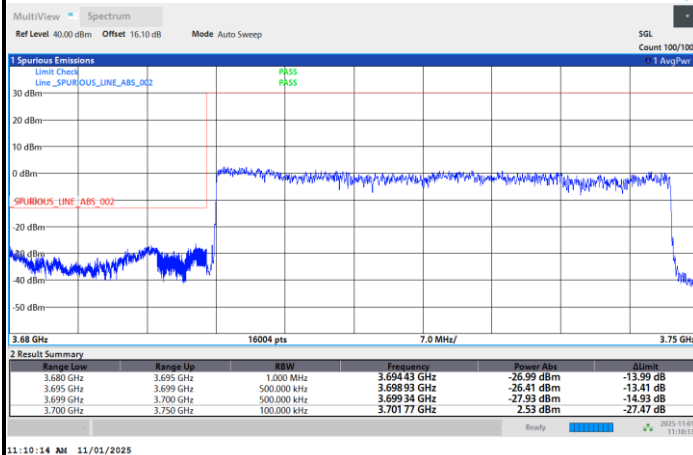
11:09:12 AM 11/01/2025



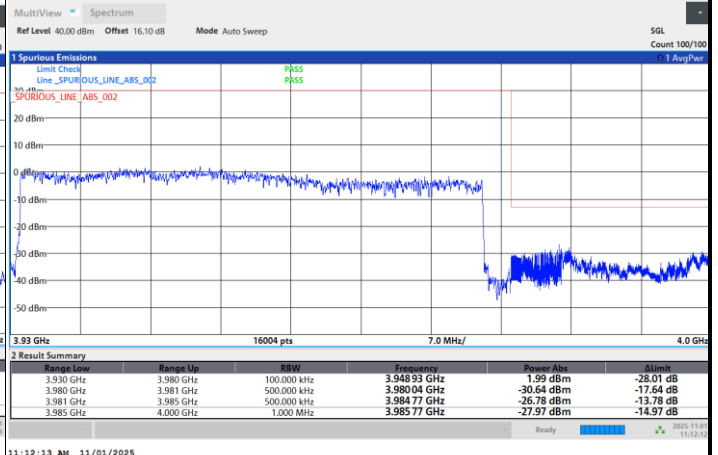
## FR1 n77 / 50MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



11:10:14 AM 11/01/2025

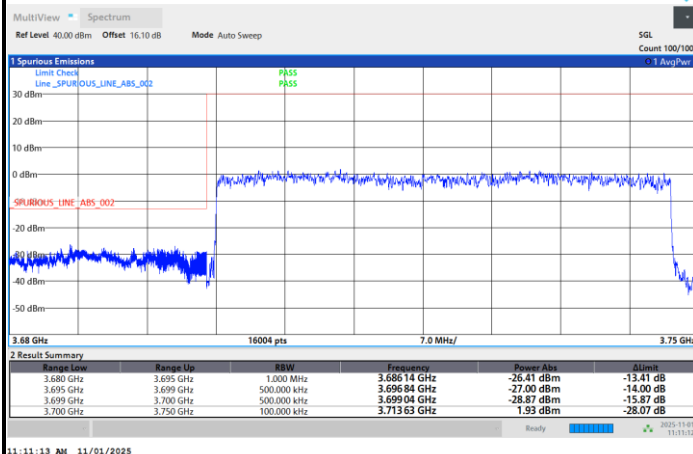


11:12:13 AM 11/01/2025

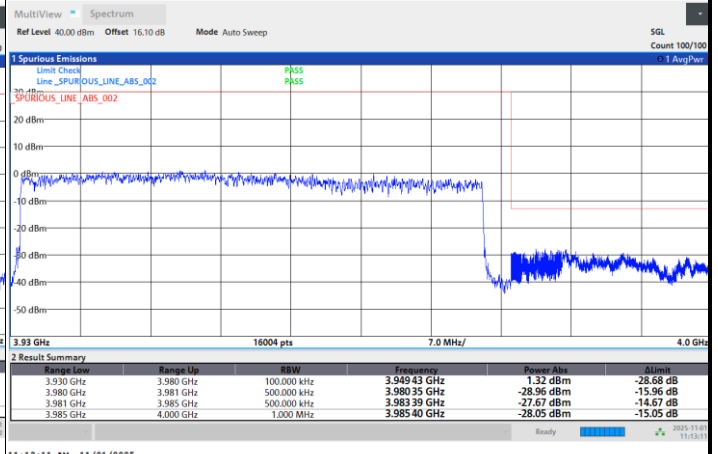
## FR1 n77 / 50MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



11:11:13 AM 11/01/2025



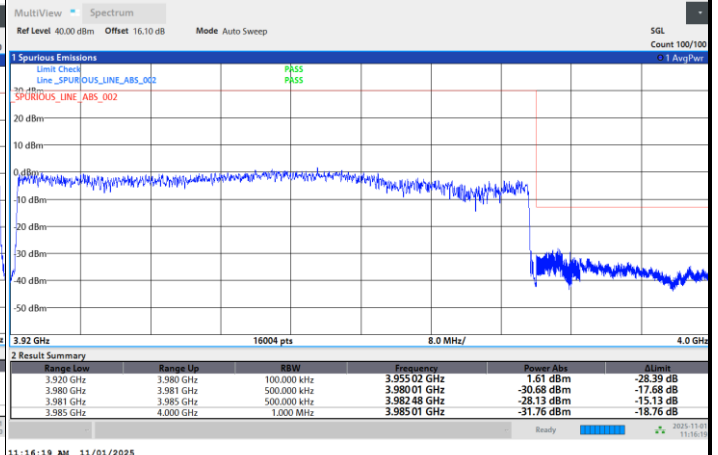
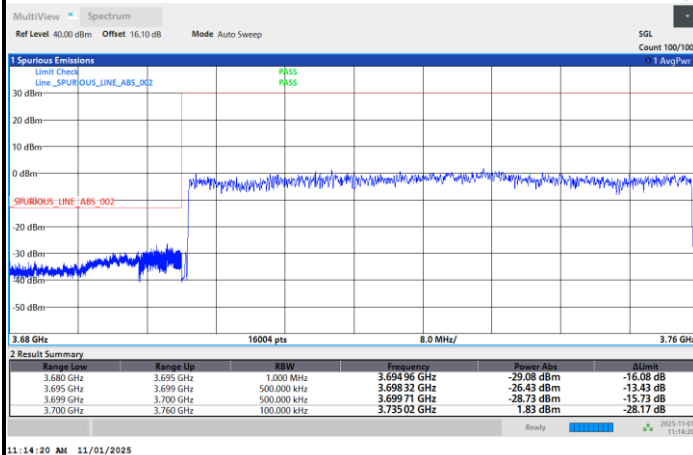
11:13:11 AM 11/01/2025



## FR1 n77 / 60MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

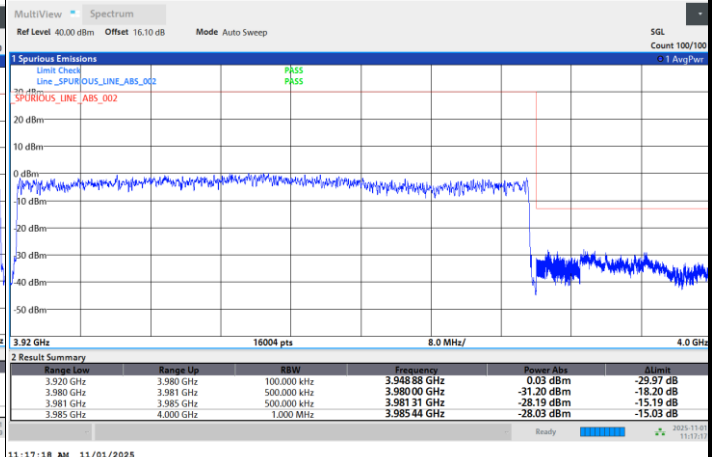
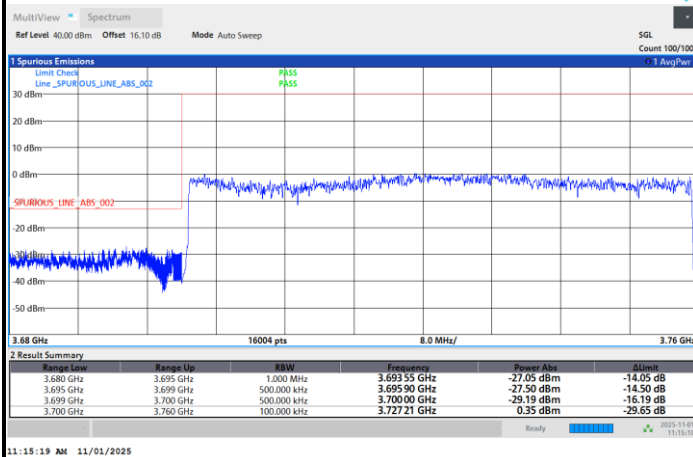
## Highest Band Edge / Full RB



## FR1 n77 / 60MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

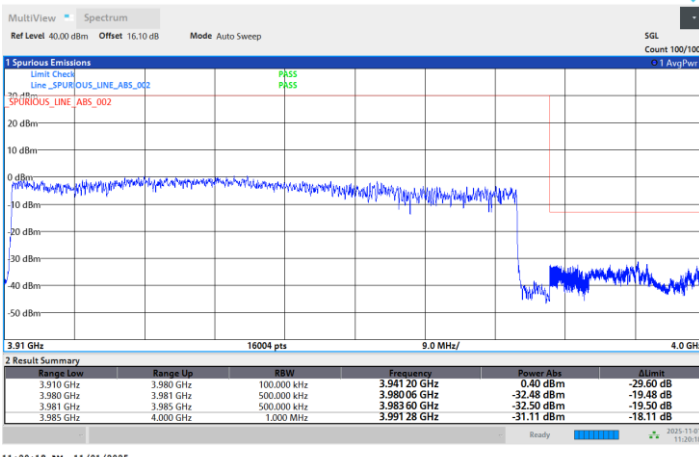
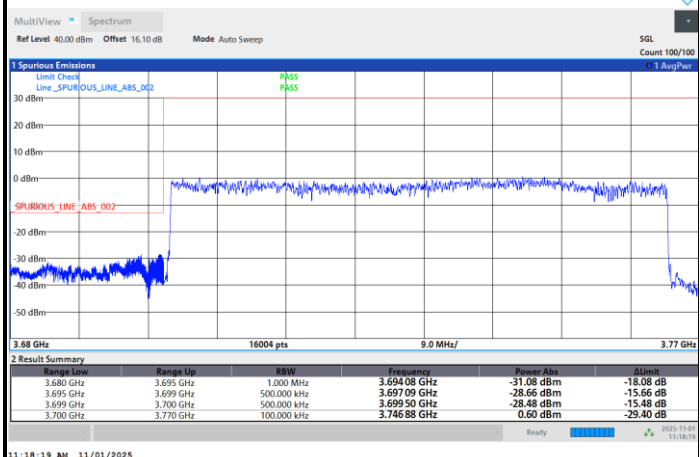




## FR1 n77 / 70MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

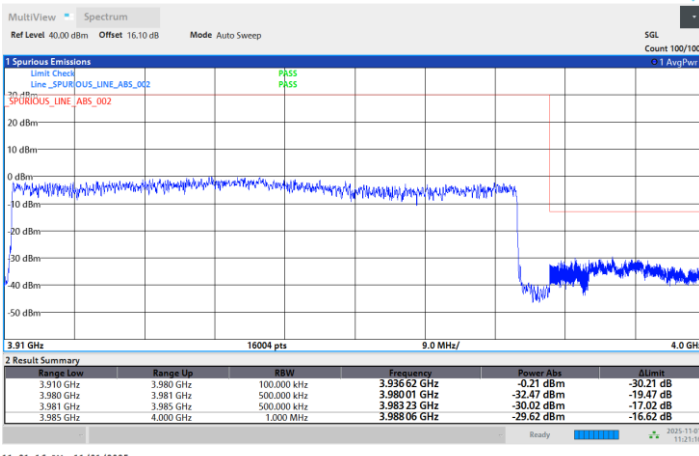
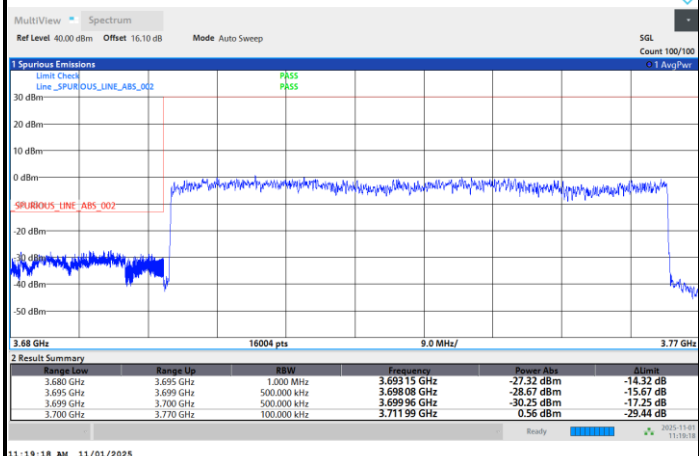
## Highest Band Edge / Full RB



## FR1 n77 / 70MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

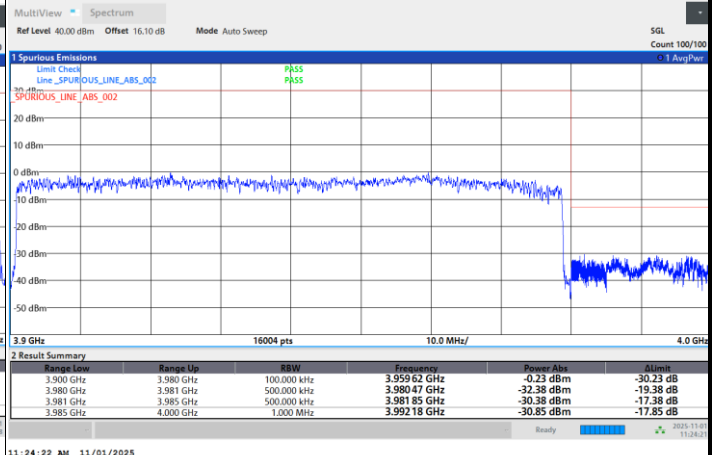
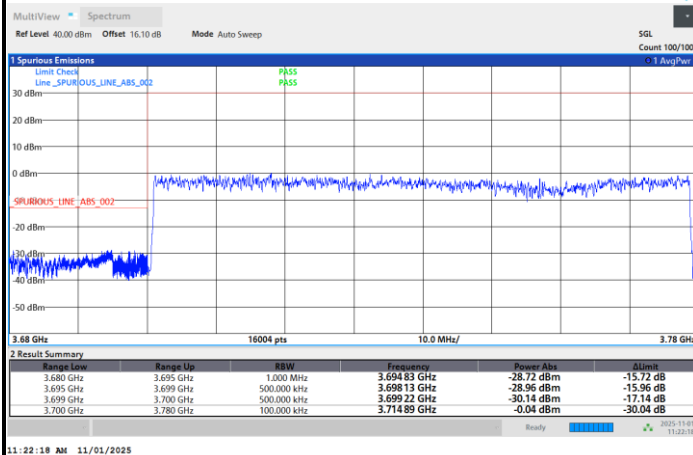




## FR1 n77 / 80MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

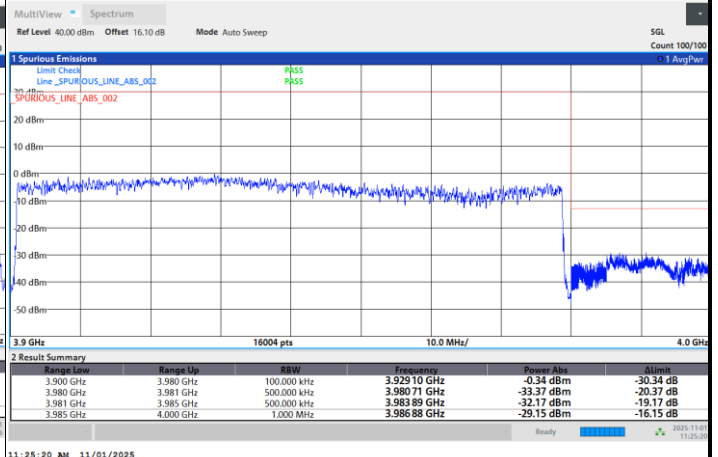
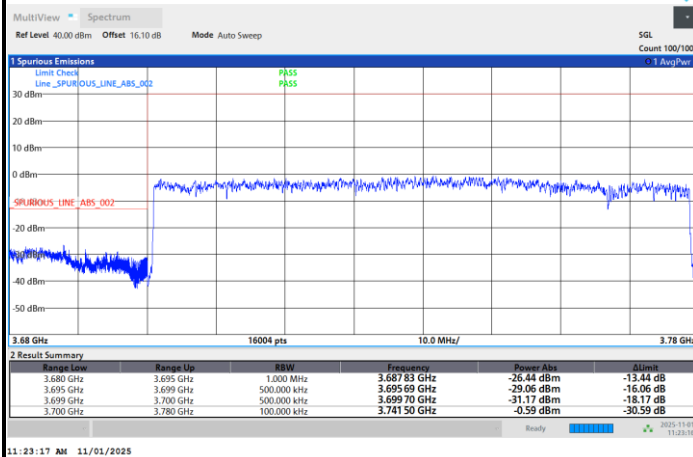
## Highest Band Edge / Full RB



## FR1 n77 / 80MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

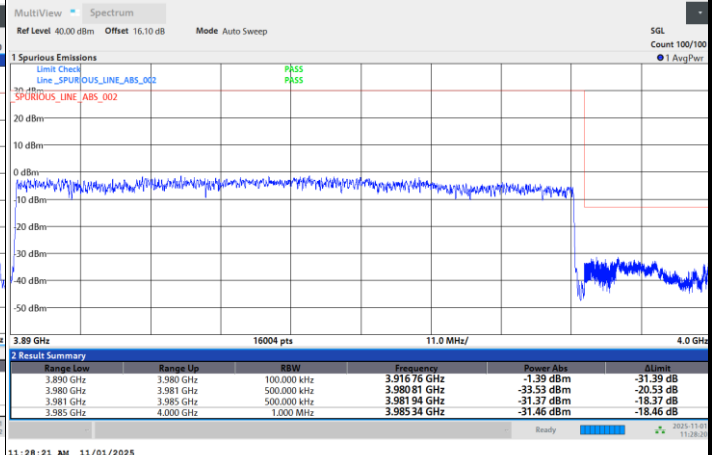
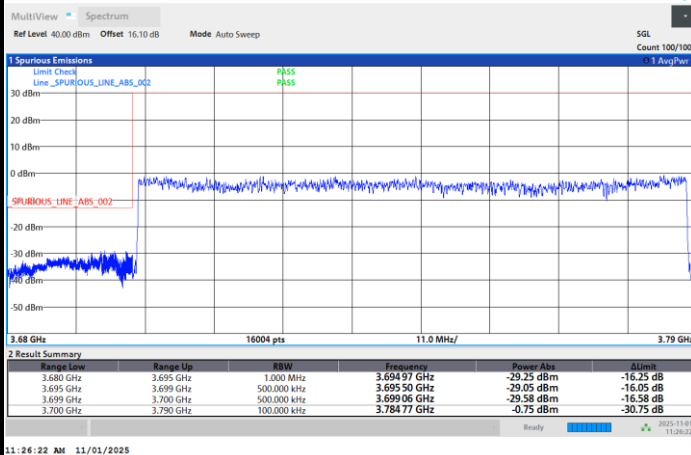




## FR1 n77 / 90MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

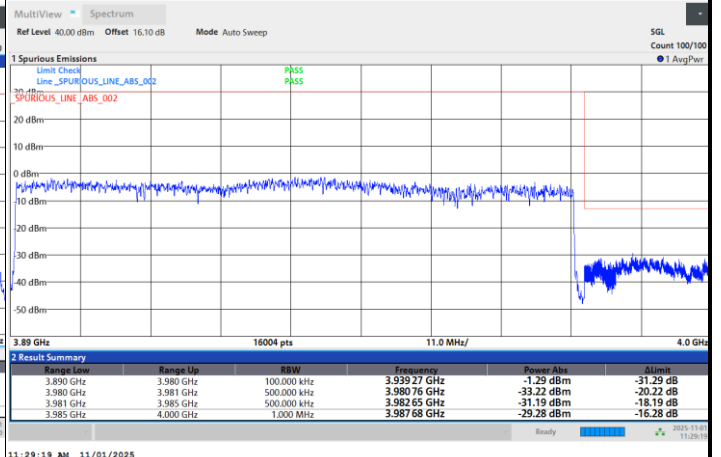
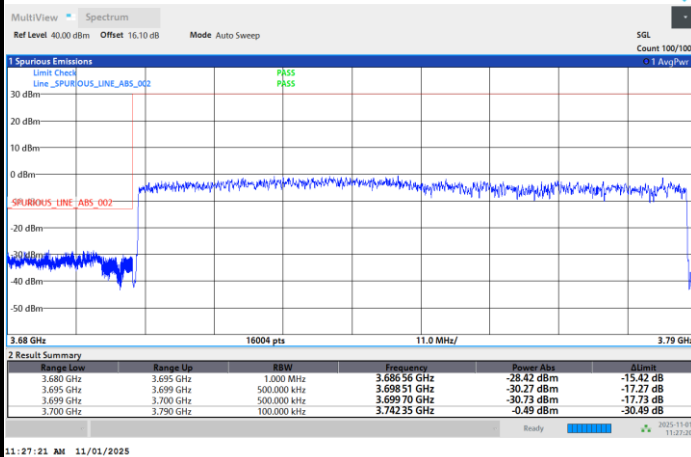
## Highest Band Edge / Full RB



## FR1 n77 / 90MHz / DFT-S OFDM / QPSK

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB

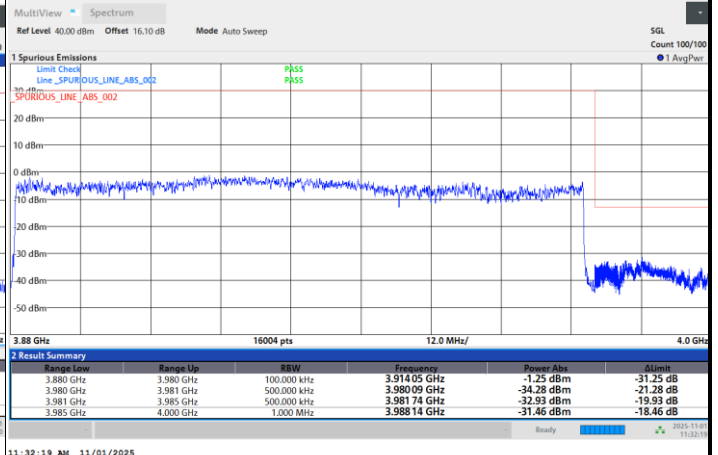
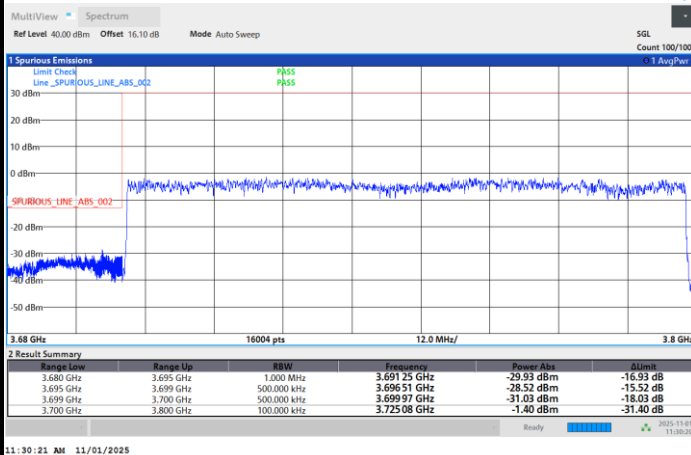




## FR1 n77 / 100MHz / DFT-S OFDM / PI/2 BPSK

## Lowest Band Edge / Full RB

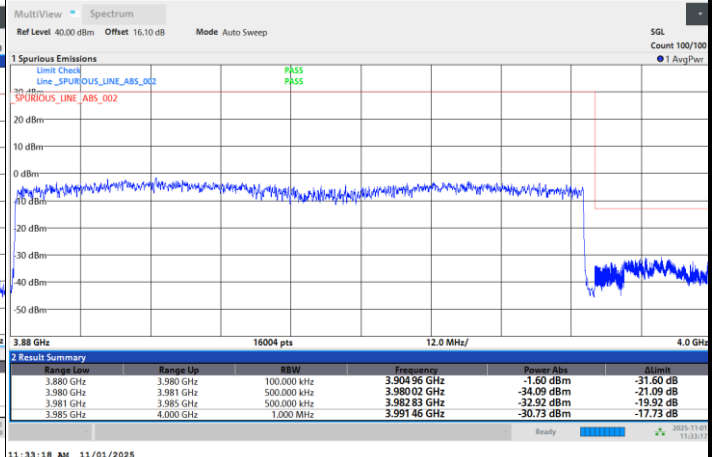
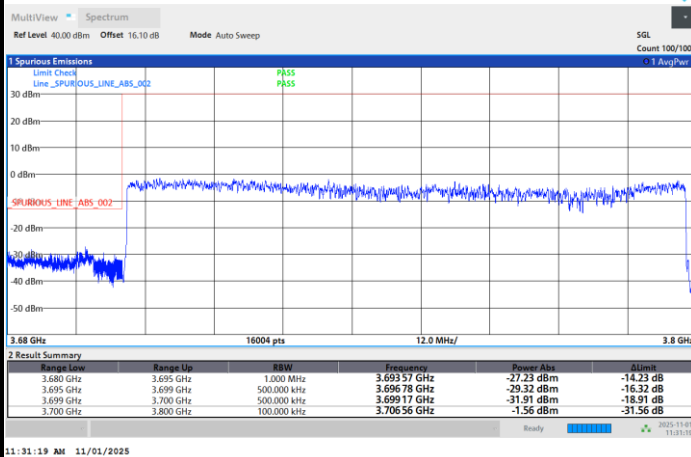
## Highest Band Edge / Full RB



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

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



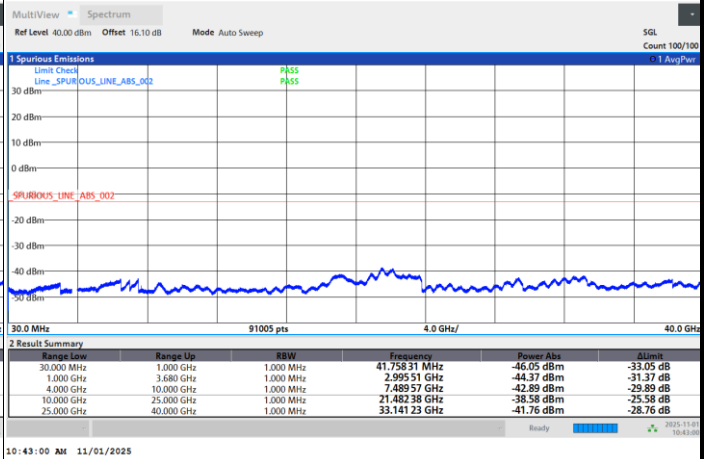
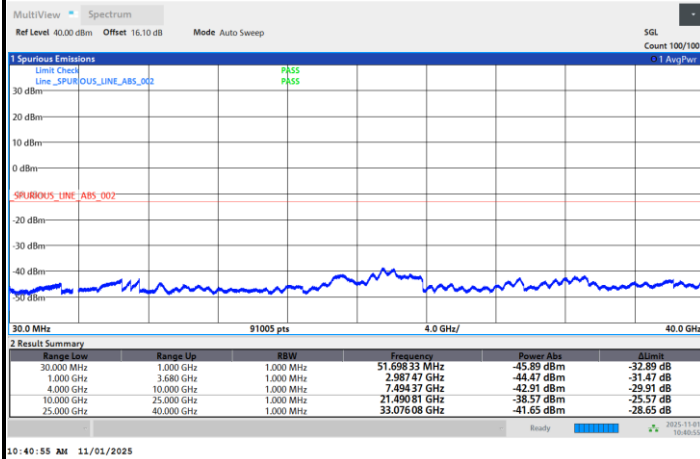


# Conducted Spurious Emission

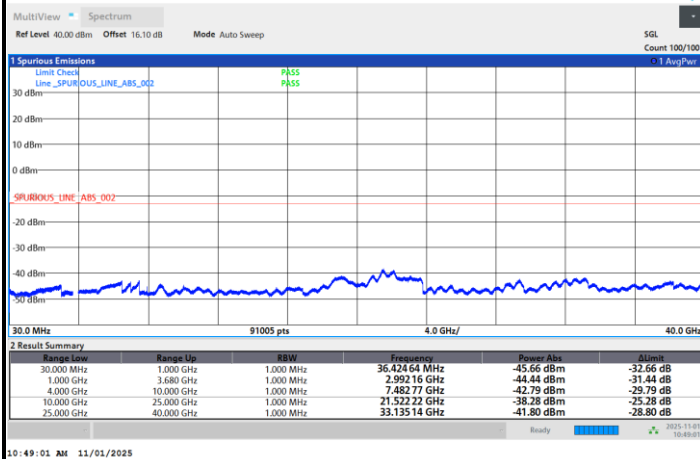
FR1 n77 / 10MHz / DFT-S OFDM / QPSK / 1RB1

## Lowest Channel

## Middle Channel



## Highest Channel



## Frequency Stability

| Test Conditions     |                   | FR1 n77 (BPSK) / Middle Channel 10M |                                         |                                             |        |
|---------------------|-------------------|-------------------------------------|-----------------------------------------|---------------------------------------------|--------|
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation (ppm)                     | Frequency Offset ( $\Delta f$ )<br>(Hz) | Within Authorized<br>Frequency<br>Block(Hz) | Result |
| 50                  | Normal Voltage    | 0.0018                              | 6.8                                     | Yes                                         | PASS   |
| 40                  | Normal Voltage    | 0.0021                              | 8                                       | Yes                                         |        |
| 30                  | Normal Voltage    | 0.0018                              | 6.9                                     | Yes                                         |        |
| 20(Ref.)            | Normal Voltage    | 0.0000                              | 0                                       | Yes                                         |        |
| 10                  | Normal Voltage    | 0.0015                              | 5.9                                     | Yes                                         |        |
| 0                   | Normal Voltage    | 0.0024                              | -9.3                                    | Yes                                         |        |
| -10                 | Normal Voltage    | 0.0020                              | 7.6                                     | Yes                                         |        |
| -20                 | Normal Voltage    | 0.0005                              | 2                                       | Yes                                         |        |
| -30                 | Normal Voltage    | 0.0022                              | 8.6                                     | Yes                                         |        |
| 20                  | Maximum Voltage   | 0.0017                              | -6.6                                    | Yes                                         |        |
| 20                  | Normal Voltage    | 0.0000                              | 0                                       | Yes                                         |        |
| 20                  | Minimum Voltage   | 0.0004                              | 1.7                                     | Yes                                         |        |

**Note:**

1. Normal Voltage = 3.3 V. ; Minimum Voltage = 3.05 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.
3. The frequency variation is sufficient to ensure that the occupied bandwidth of all operation channels stay within the operating frequency block or frequency block group.

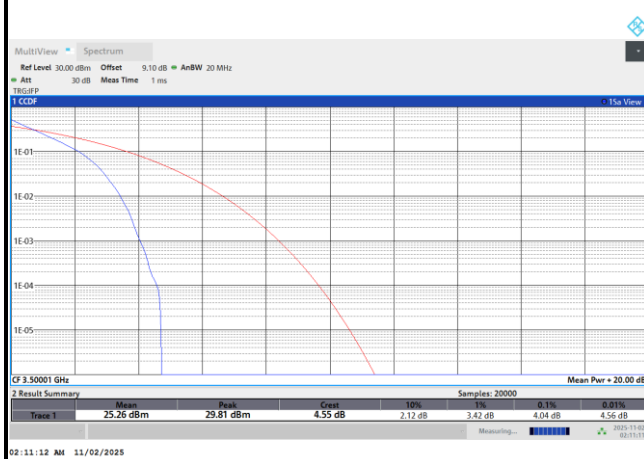
**FR1 n77\_Part27Q****<SISO Mode>****Peak-to-Average Ratio**

| 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 | 4.04                         | 5.16    | 5.92    | 6.30    | <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> |

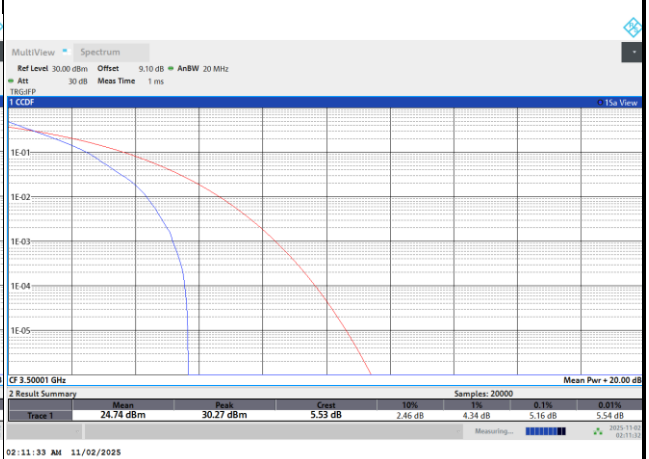


## FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

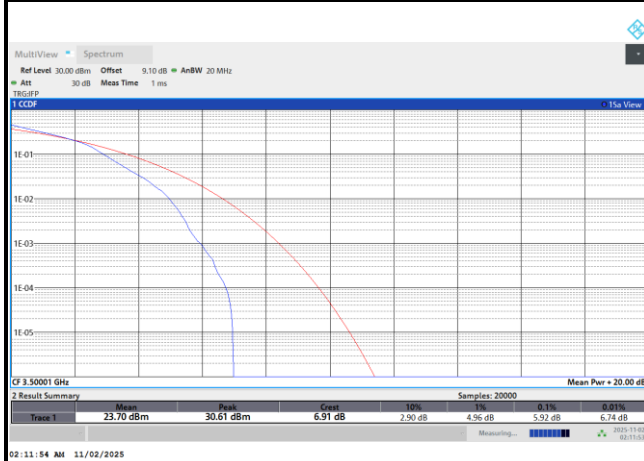
## PI/2 BPSK



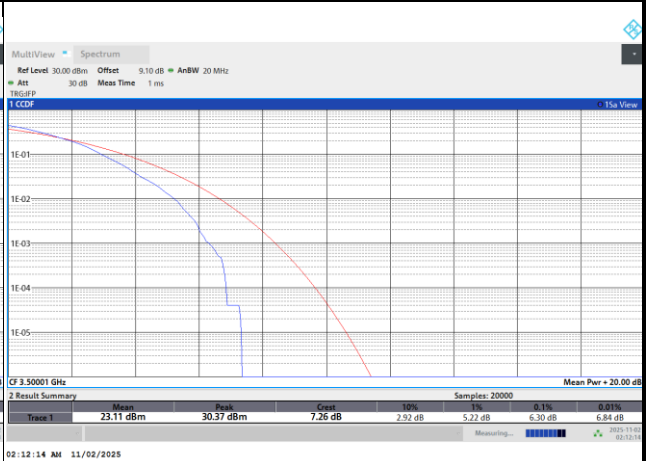
## QPSK



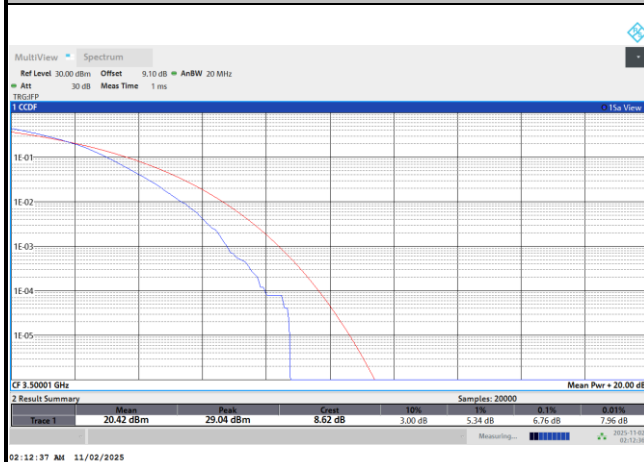
## 16QAM



## 64QAM



## 256QAM



**26dB Bandwidth**

| Mode      | FR1 n77 : 26dB BW(MHz) / DFT-S OFDM |       |           |        |           |       |           |       |
|-----------|-------------------------------------|-------|-----------|--------|-----------|-------|-----------|-------|
| BW        | 10MHz                               |       | 15MHz     |        | 20MHz     |       | 25MHz     |       |
| Mod.      | PI/2 BPSK                           | QPSK  | PI/2 BPSK | QPSK   | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 10.03                               | 9.39  | 13.92     | 13.98  | 19.27     | 20.00 | 24.48     | 24.41 |
| Mod.      | 16QAM                               |       | 16QAM     |        | 16QAM     |       | 16QAM     |       |
| Middle CH | 9.73                                |       | 13.86     |        | 19.34     |       | 24.36     |       |
| BW        | 30MHz                               |       | 35MHz     |        | 40MHz     |       | 45MHz     |       |
| Mod.      | PI/2 BPSK                           | QPSK  | PI/2 BPSK | QPSK   | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 29.36                               | 29.50 | +         | +      | 38.30     | 38.31 | -         | -     |
| Mod.      | 16QAM                               |       | 16QAM     |        | 16QAM     |       | 16QAM     |       |
| Middle CH | 29.37                               |       | -         |        | 38.41     |       | -         |       |
| BW        | 50MHz                               |       | 60MHz     |        | 70MHz     |       | 80MHz     |       |
| Mod.      | PI/2 BPSK                           | QPSK  | PI/2 BPSK | QPSK   | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 48.23                               | 48.33 | 62.71     | 62.82  | 69.27     | 69.36 | 82.15     | 82.17 |
| Mod.      | 16QAM                               |       | 16QAM     |        | 16QAM     |       | 16QAM     |       |
| Middle CH | 48.38                               |       | 62.79     |        | 69.41     |       | 82.17     |       |
| BW        | 90MHz                               |       | 100MHz    |        |           |       |           |       |
| Mod.      | PI/2 BPSK                           | QPSK  | PI/2 BPSK | QPSK   |           |       |           |       |
| Middle CH | 91.91                               | 92.04 | 101.72    | 101.68 |           |       |           |       |
| Mod.      | 16QAM                               |       | 16QAM     |        |           |       |           |       |
| Middle CH | 91.89                               |       | 101.49    |        |           |       |           |       |

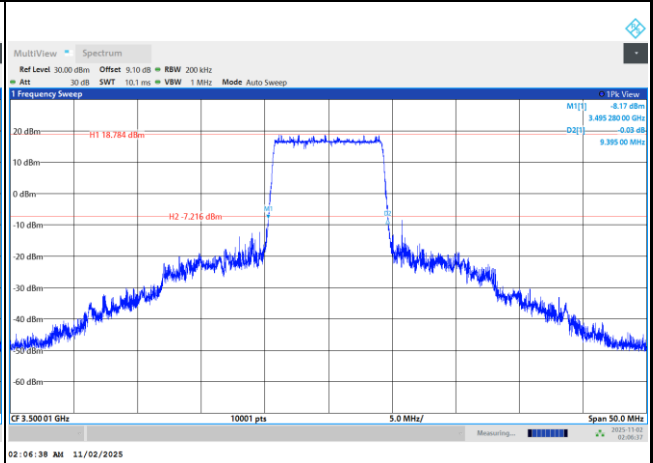


FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

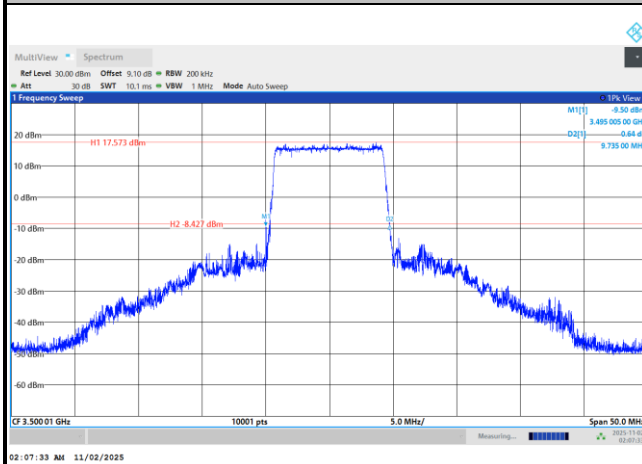
PI/2 BPSK



QPSK



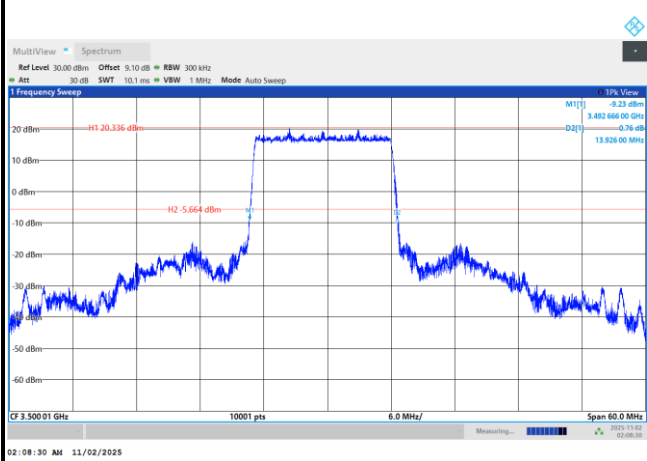
16QAM



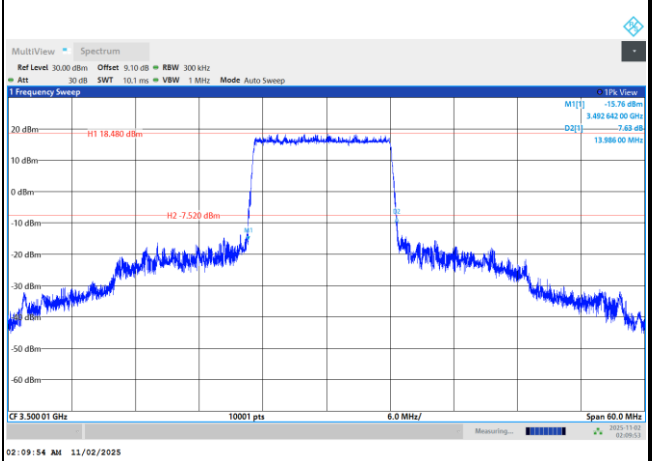


FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

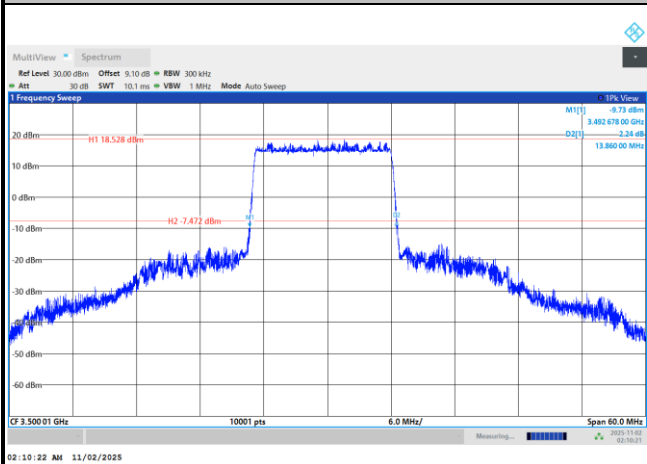
QPSK



QPSK



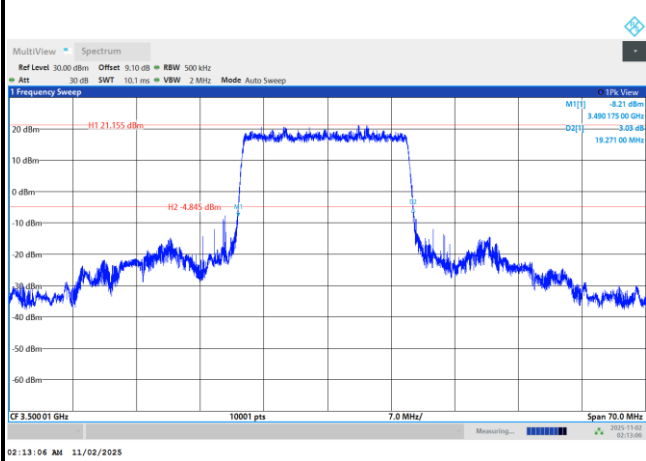
16QAM



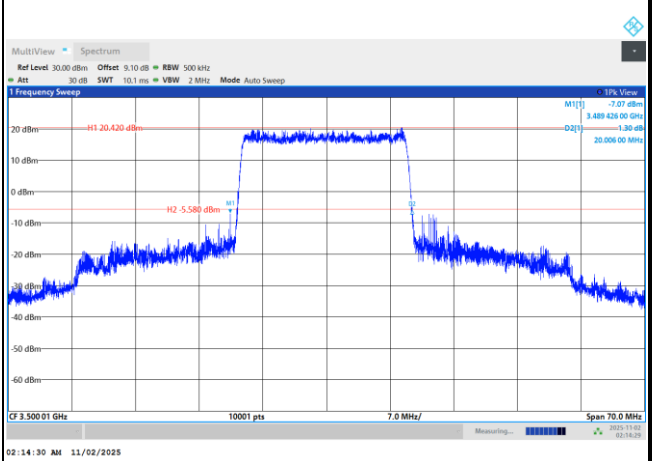


FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

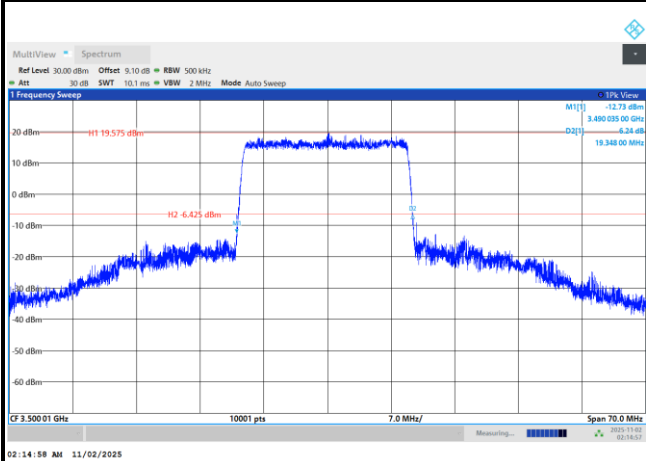
PI/2 BPSK



QPSK



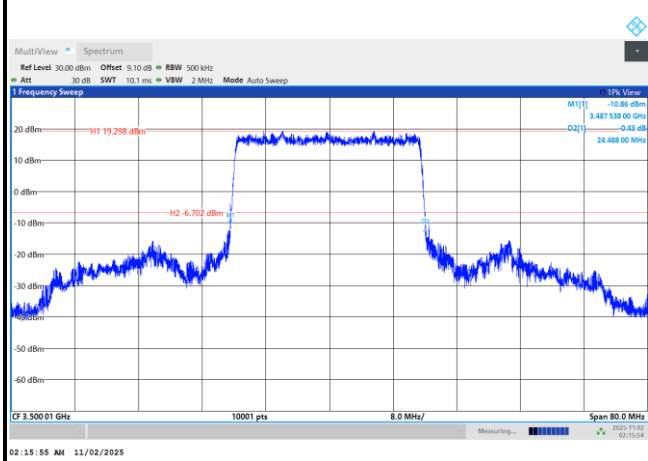
16QAM



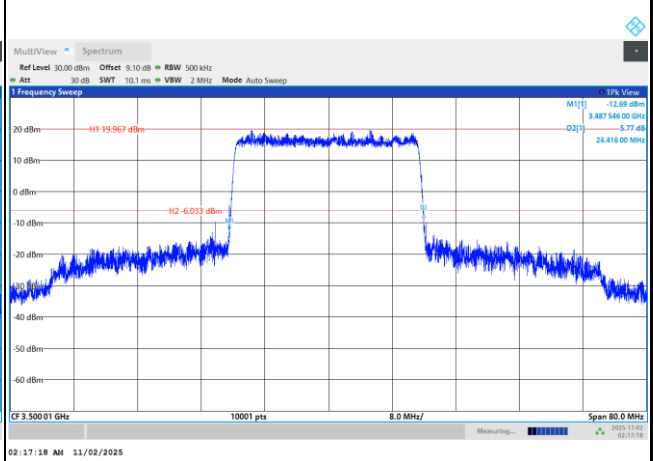


FR1 n77 / 25MHz / DFT-S OFDM / Middle Channel / Full RB

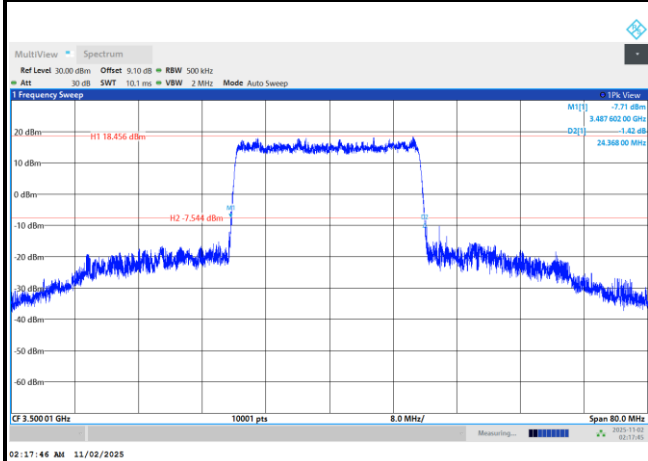
PI/2 BPSK



QPSK



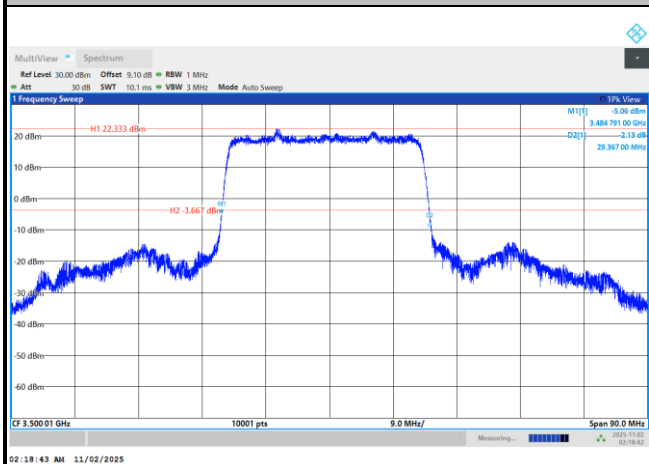
16QAM



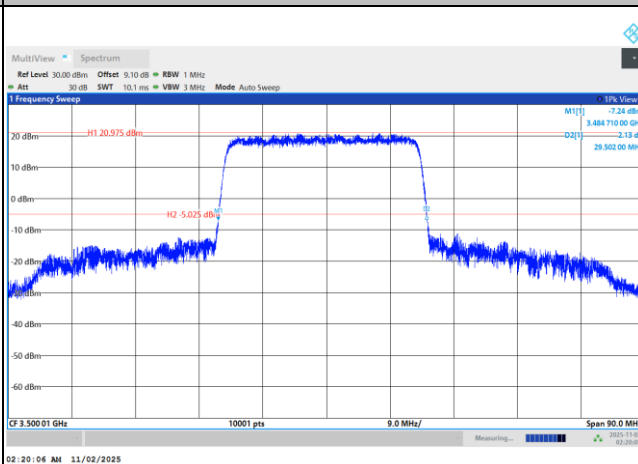


## FR1 n77 / 30MHz / DFT-S OFDM / Middle Channel / Full RB

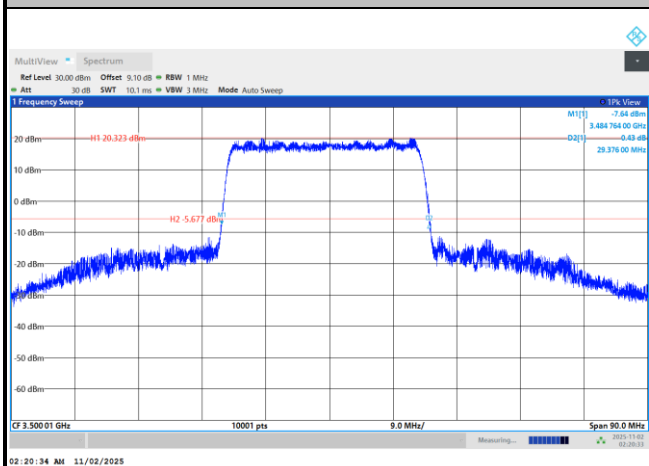
## PI/2 BPSK



## QPSK



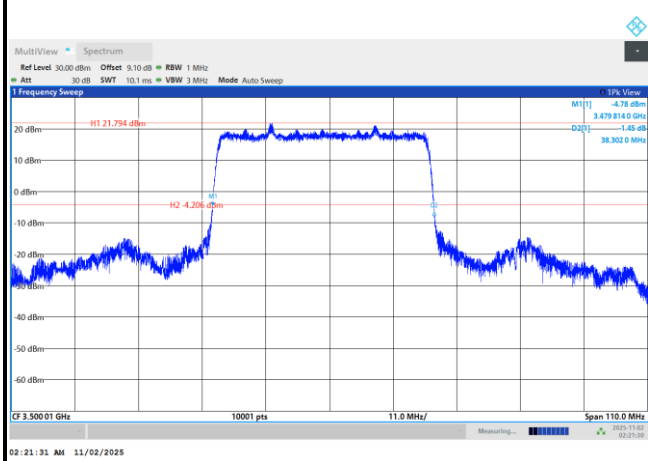
## 16QAM



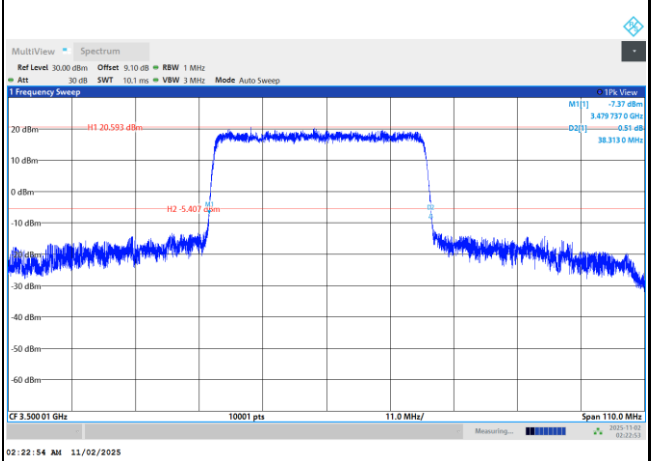


FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

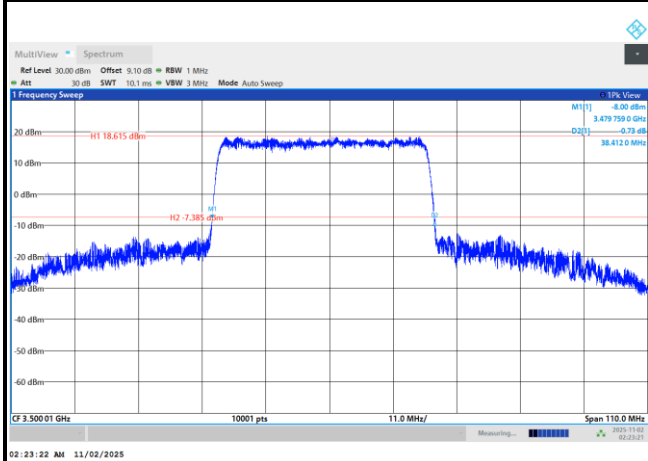
PI/2 BPSK



QPSK



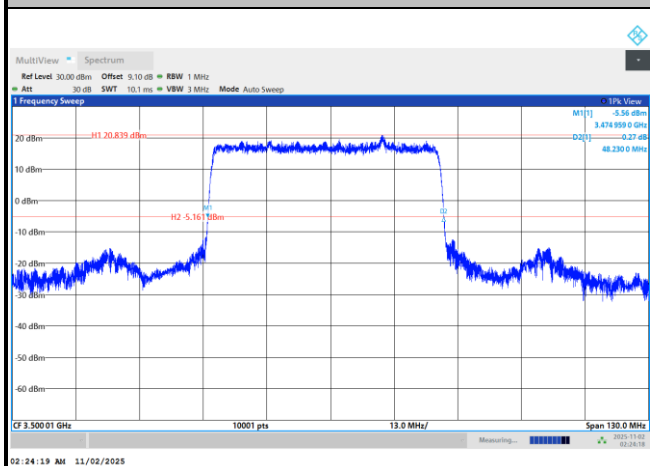
16QAM



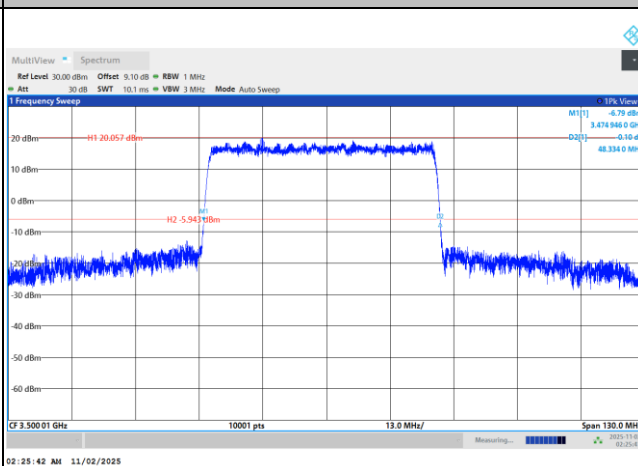


## FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB

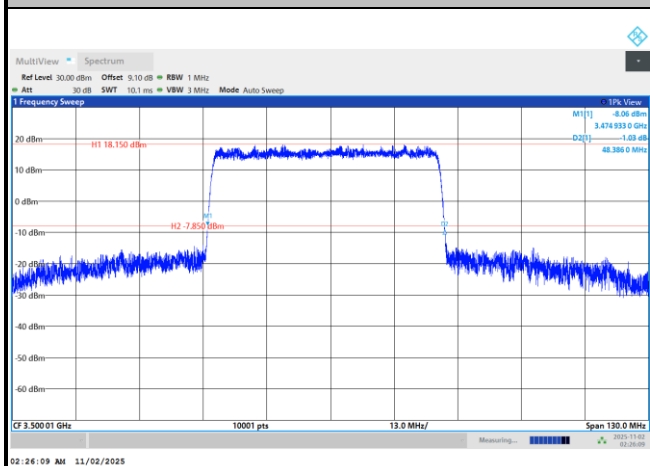
## PI/2 BPSK



## QPSK



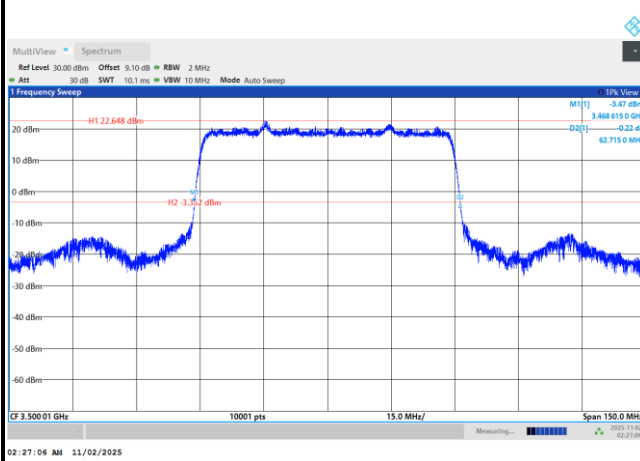
## 16QAM



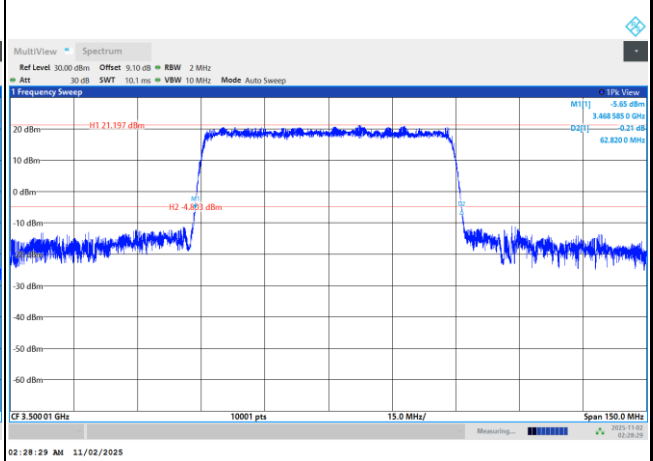


FR1 n77 / 60MHz / DFT-S OFDM / Middle Channel / Full RB

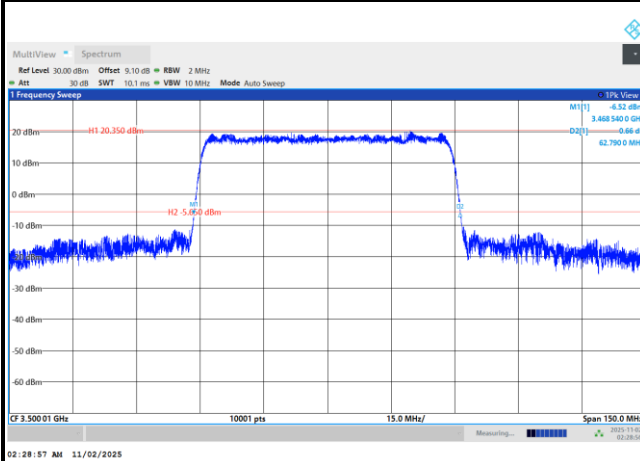
PI/2 BPSK



QPSK



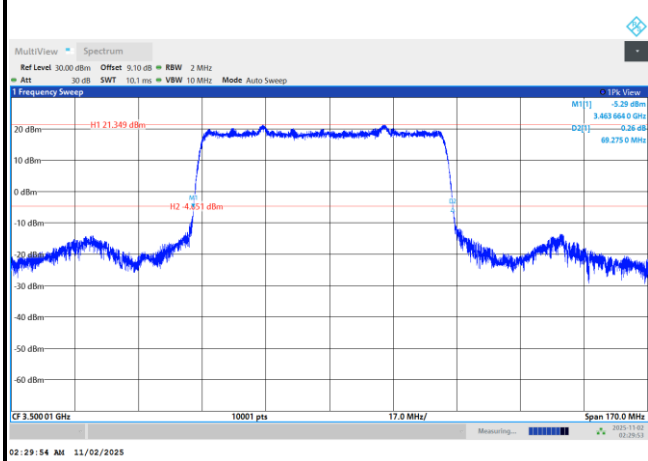
16QAM



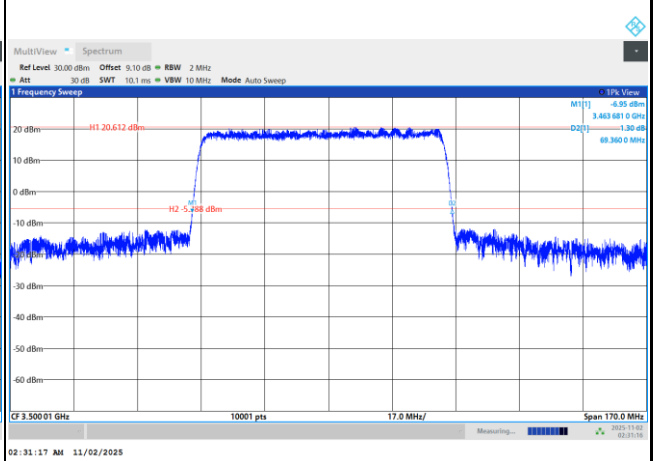


FR1 n77 / 70MHz / DFT-S OFDM / Middle Channel / Full RB

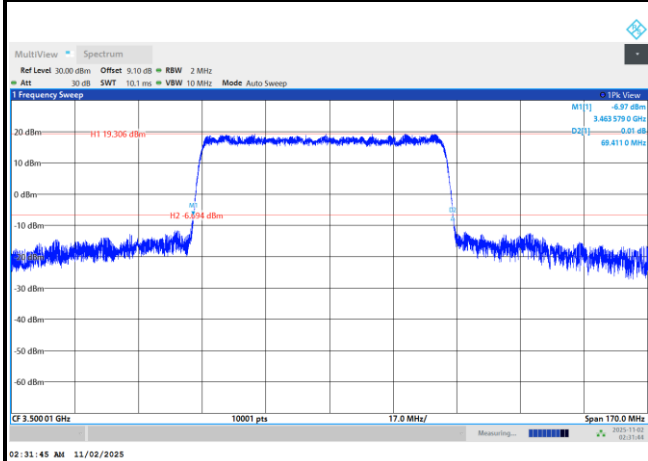
PI/2 BPSK



QPSK



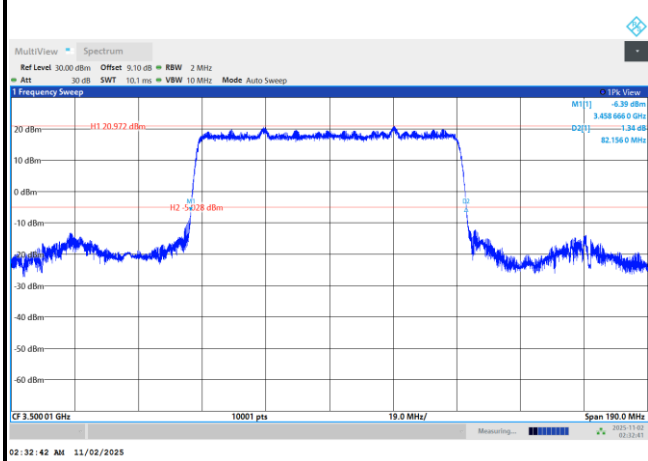
16QAM



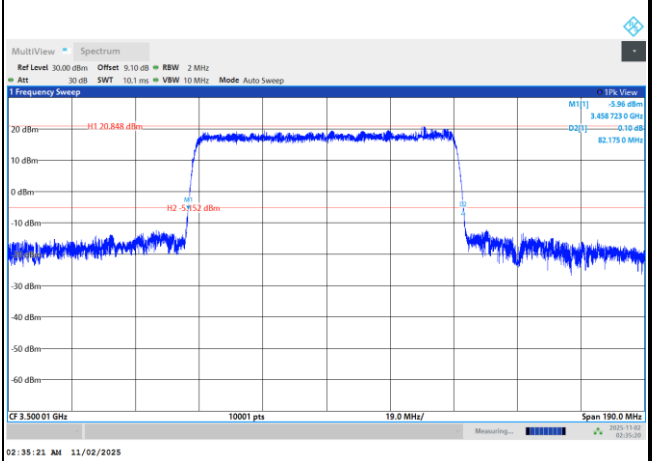


FR1 n77 / 80MHz / DFT-S OFDM / Middle Channel / Full RB

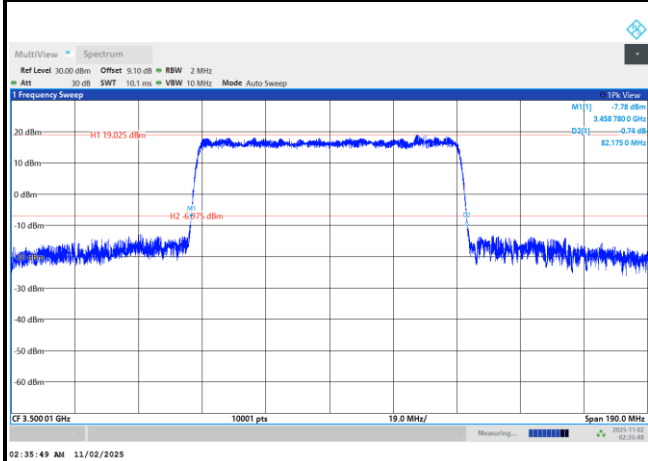
PI/2 BPSK



QPSK



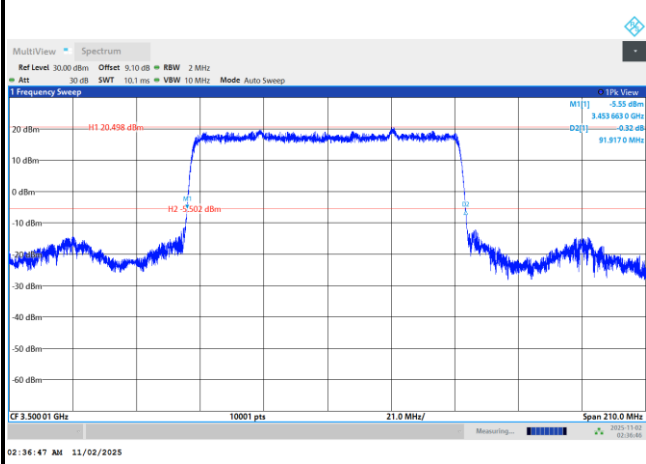
16QAM



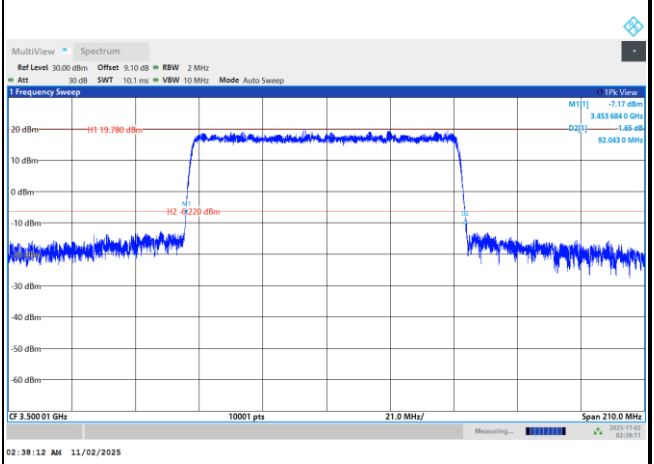


FR1 n77 / 90MHz / DFT-S OFDM / Middle Channel / Full RB

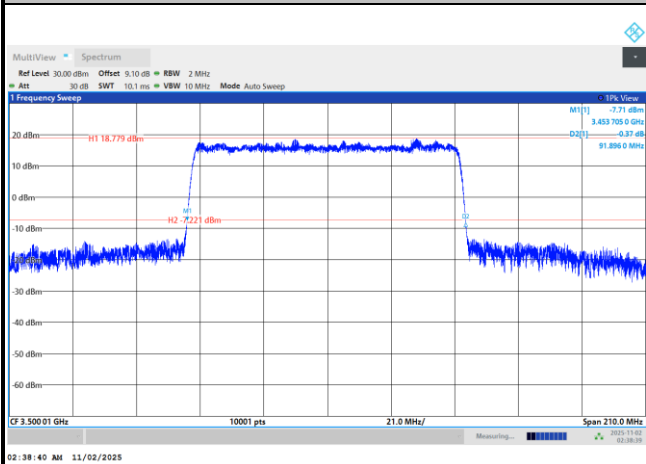
PI/2 BPSK



QPSK



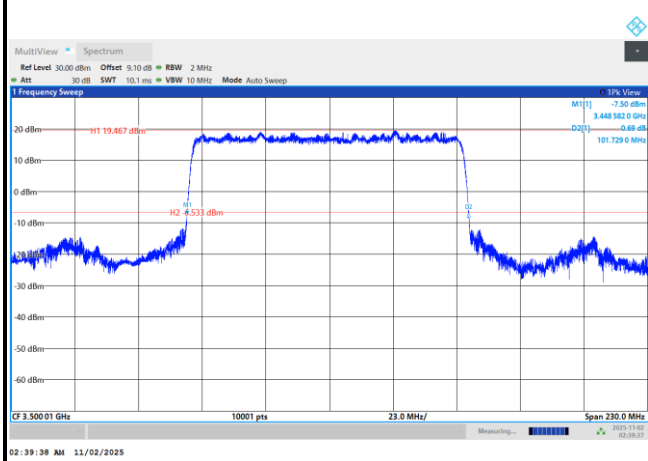
16QAM



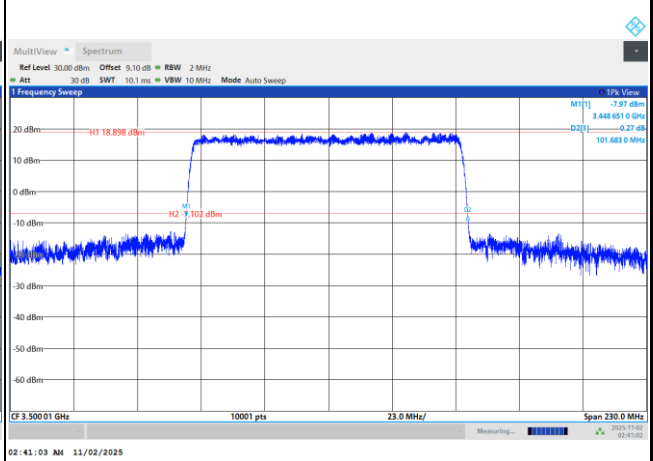


## FR1 n77 / 100MHz / DFT-S OFDM / Middle Channel / Full RB

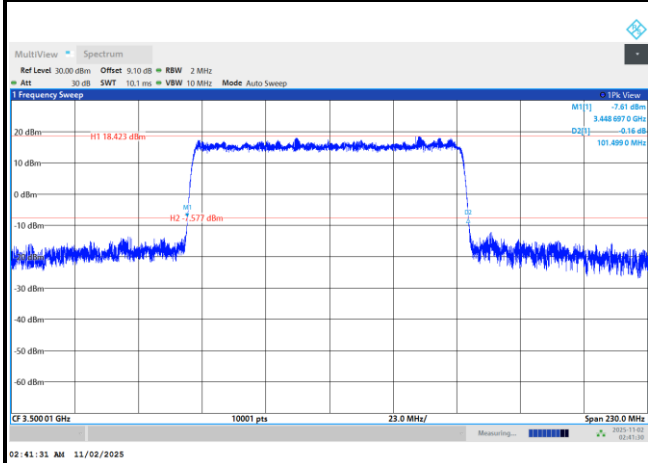
## PI/2 BPSK



## QPSK



## 16QAM



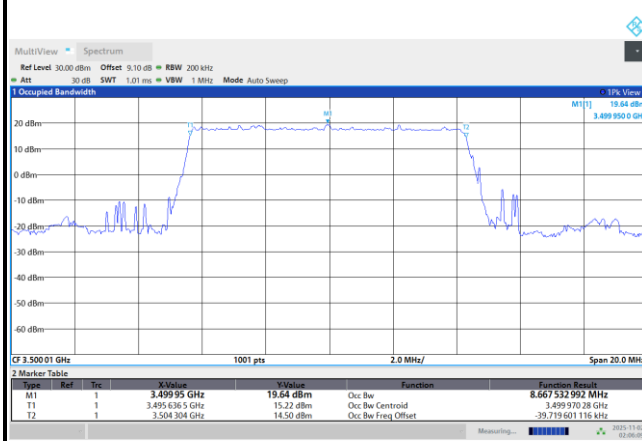
**Occupied Bandwidth**

| Mode      | FR1 n77 : 99%OBW(MHz) / DFT-S OFDM |       |           |       |           |       |           |       |
|-----------|------------------------------------|-------|-----------|-------|-----------|-------|-----------|-------|
| BW        | 10MHz                              |       | 15MHz     |       | 20MHz     |       | 25MHz     |       |
| Mod.      | PI/2 BPSK                          | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 8.66                               | 8.60  | 12.92     | 12.96 | 18.06     | 18.03 | 23.12     | 22.97 |
| Mod.      | 16QAM                              |       | 16QAM     |       | 16QAM     |       | 16QAM     |       |
| Middle CH | 8.60                               |       | 12.93     |       | 18.03     |       | 22.94     |       |
| BW        | 30MHz                              |       | 40MHz     |       | 50MHz     |       | 60MHz     |       |
| Mod.      | PI/2 BPSK                          | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 27.22                              | 27.18 | 36.08     | 36.08 | 45.90     | 45.83 | 58.78     | 58.56 |
| Mod.      | 16QAM                              |       | 16QAM     |       | 16QAM     |       | 16QAM     |       |
| Middle CH | 27.11                              |       | 35.97     |       | 45.80     |       | 58.47     |       |
| BW        | 70MHz                              |       | 80MHz     |       | 90MHz     |       | 100MHz    |       |
| Mod.      | PI/2 BPSK                          | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  | PI/2 BPSK | QPSK  |
| Middle CH | 64.98                              | 64.71 | 77.63     | 77.46 | 87.21     | 87.15 | 96.77     | 96.70 |
| Mod.      | 16QAM                              |       | 16QAM     |       | 16QAM     |       | 16QAM     |       |
| Middle CH | 64.82                              |       | 77.67     |       | 87.08     |       | 96.64     |       |

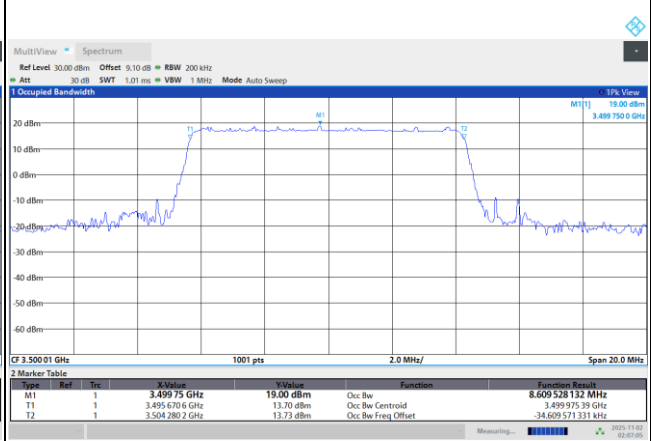


## FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

## PI/2 BPSK



## QPSK



## 16QAM

