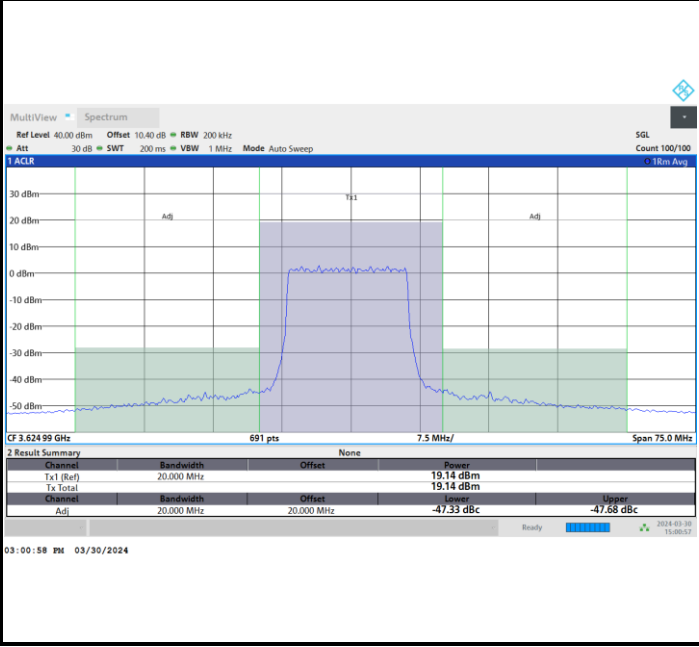




FR1 n48 / 15MHz / DFT-S OFDM / 64QAM

Middle Channel

Full RB

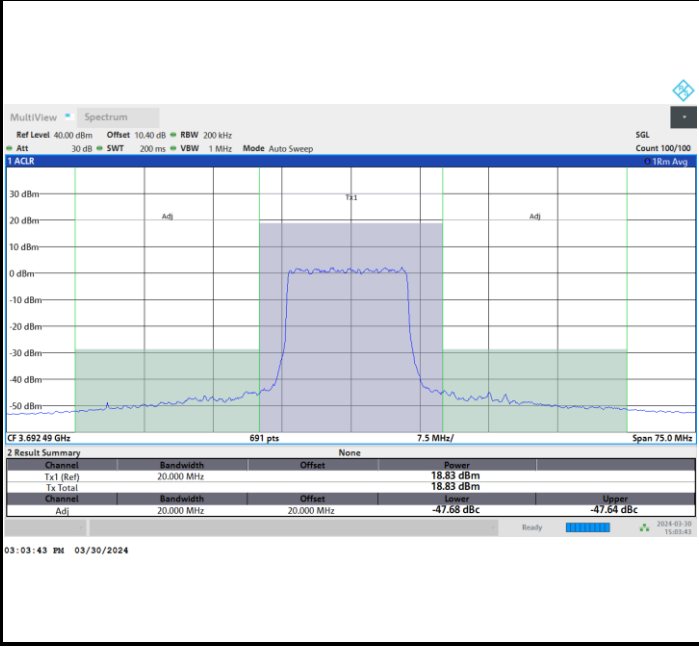




FR1 n48 / 15MHz / DFT-S OFDM / 64QAM

Highest Channel

Full RB

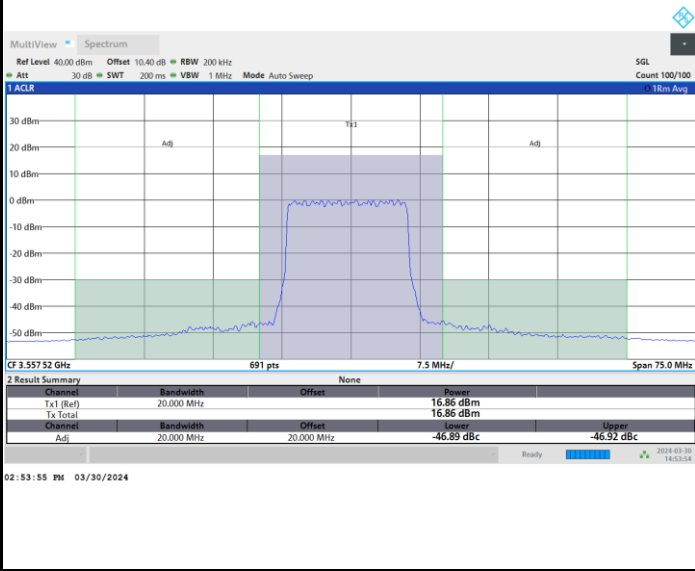




FR1 n48 / 15MHz / DFT-S OFDM / 256QAM

Lowest Channel

Full RB

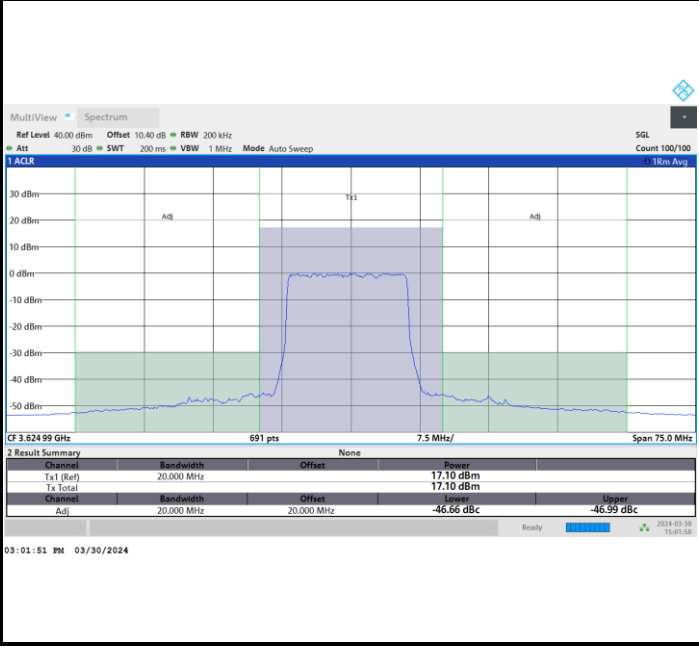




FR1 n48 / 15MHz / DFT-S OFDM / 256QAM

Middle Channel

Full RB

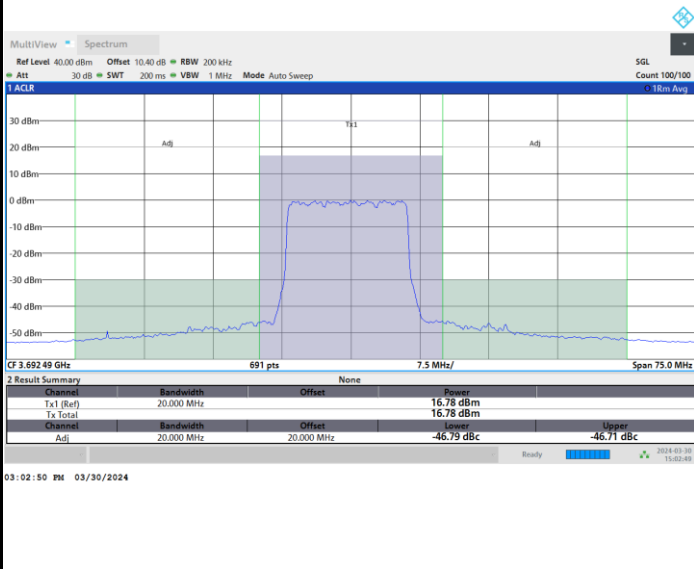




FR1 n48 / 15MHz / DFT-S OFDM / 256QAM

Highest Channel

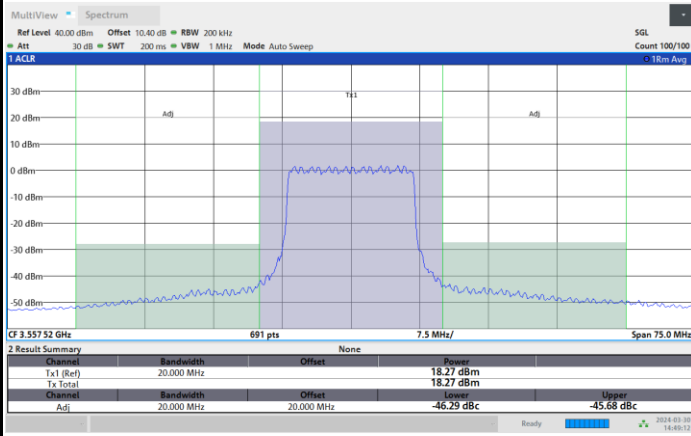
Full RB





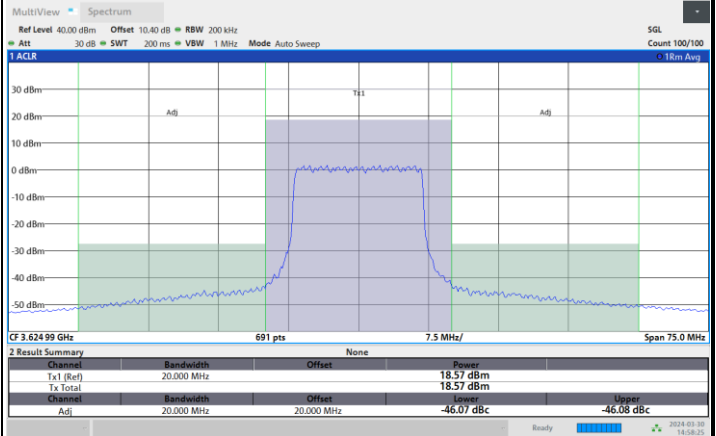
FR1 n48 / 15MHz / CP OFDM / QPSK / Full RB

Lowest Channel



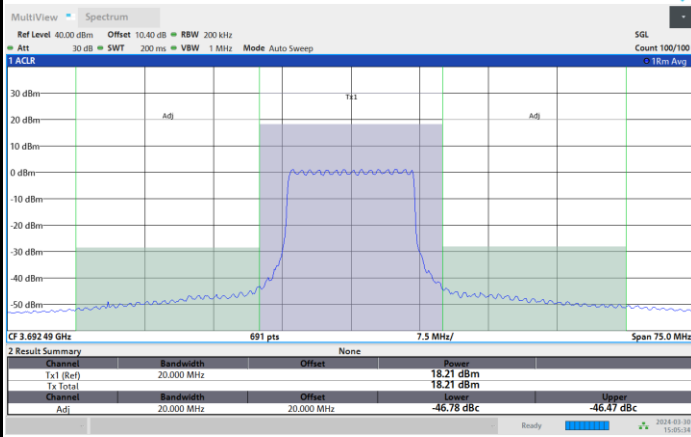
02:49:13 PM 03/30/2024

Middle Channel



02:58:26 PM 03/30/2024

Highest Channel



03:05:35 PM 03/30/2024

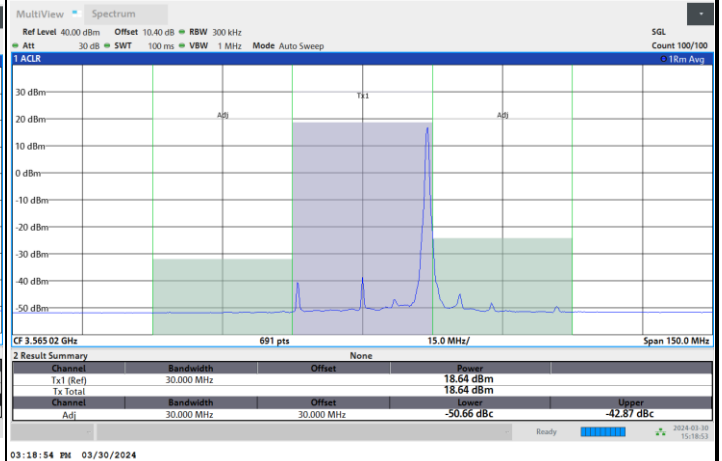
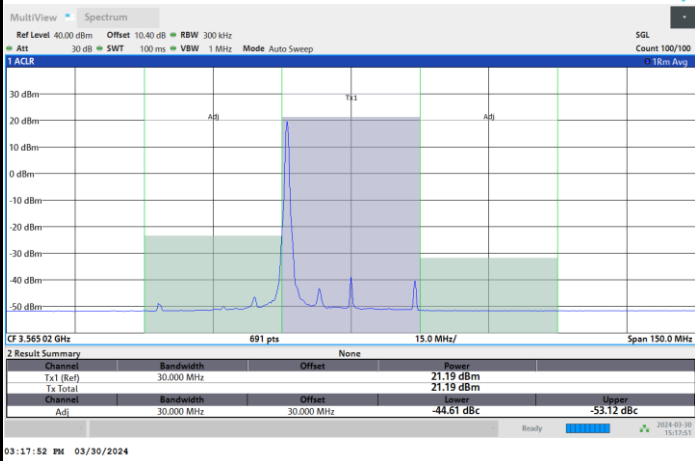


FR1 n48 / 30MHz / DFT-S OFDM / PI/2 BPSK

Lowest Channel

1RB0

1RBmax



Full RB



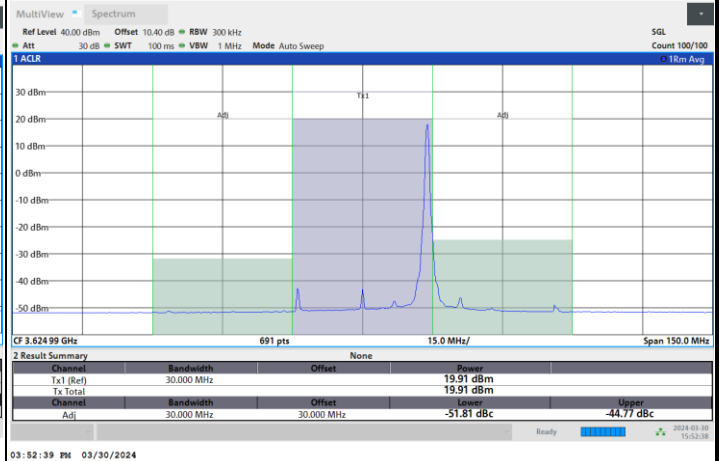
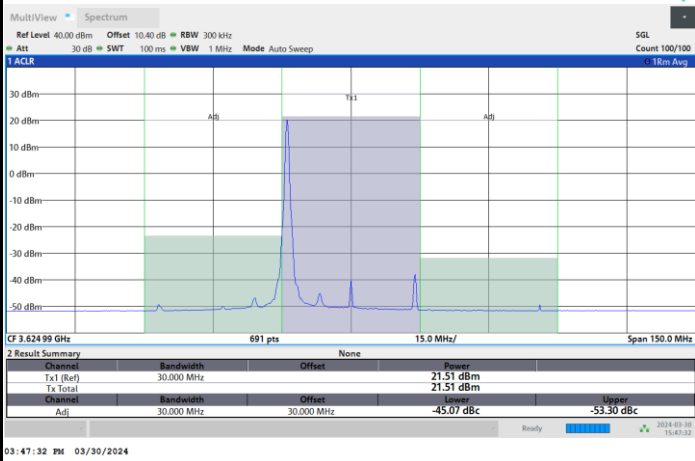


FR1 n48 / 30MHz / DFT-S OFDM / PI/2 BPSK

Middle Channel

1RB0

1RBmax



Full RB





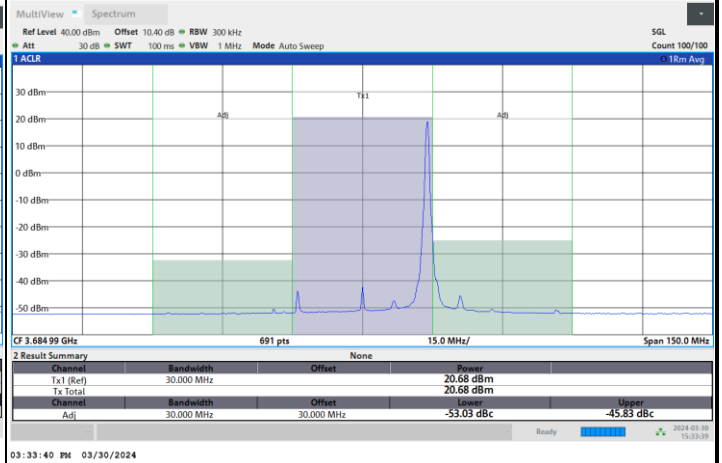
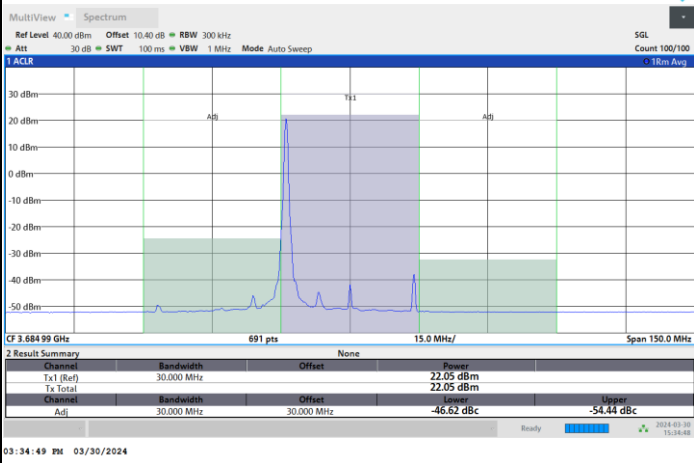


FR1 n48 / 30MHz / DFT-S OFDM / PI/2 BPSK

Highest Channel

1RB0

1RBmax



Full RB



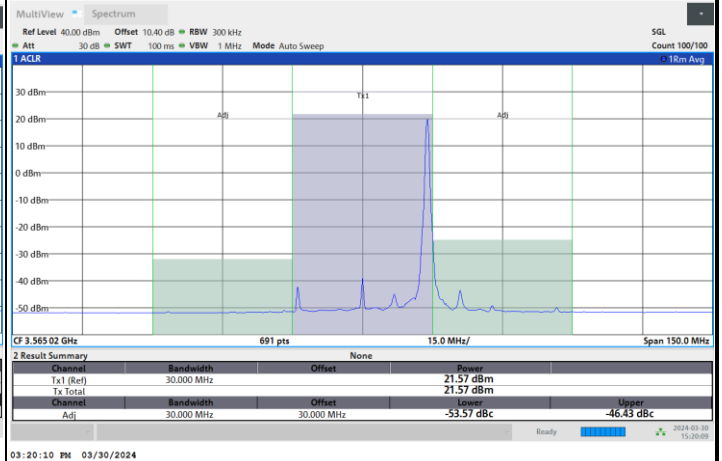
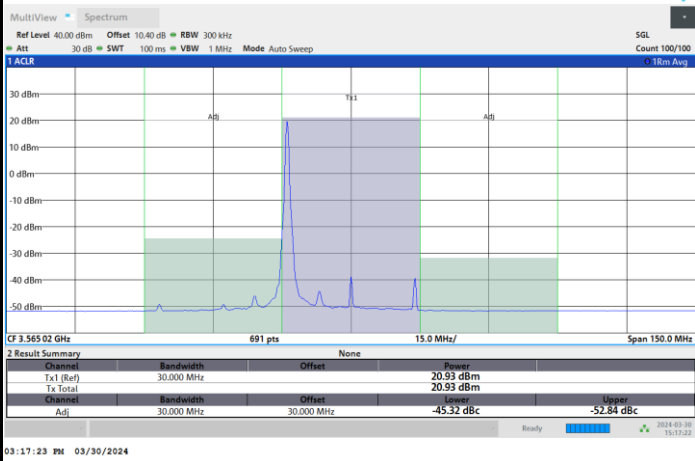


FR1 n48 / 30MHz / DFT-S OFDM / QPSK

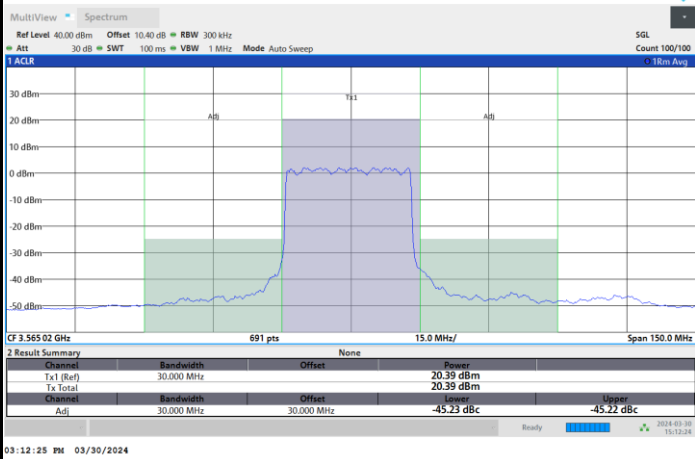
Lowest Channel

1RB0

1RBmax



Full RB



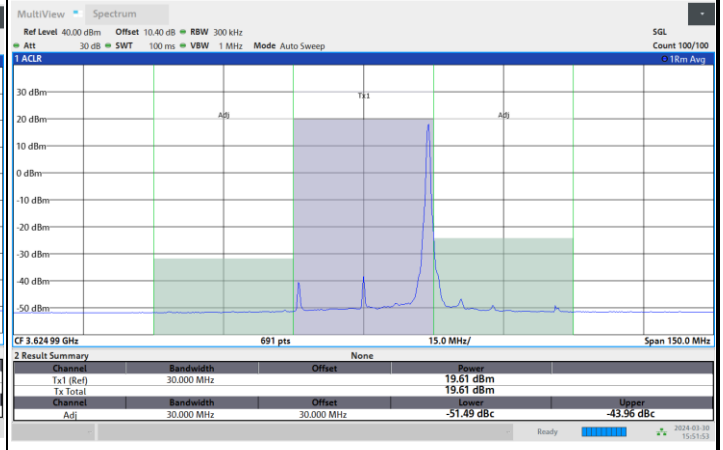
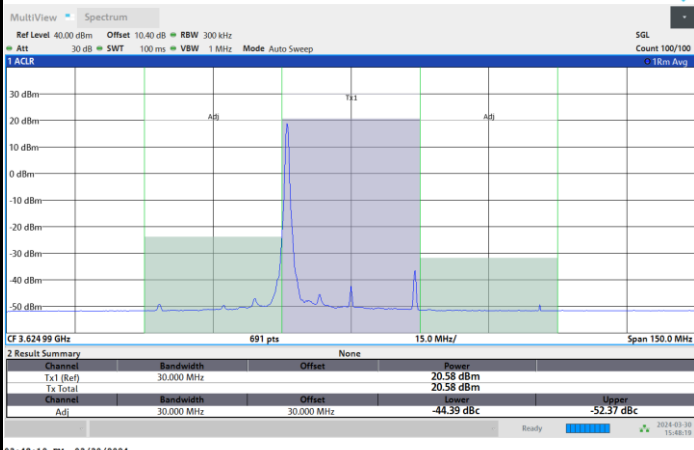


FR1 n48 / 30MHz / DFT-S OFDM / QPSK

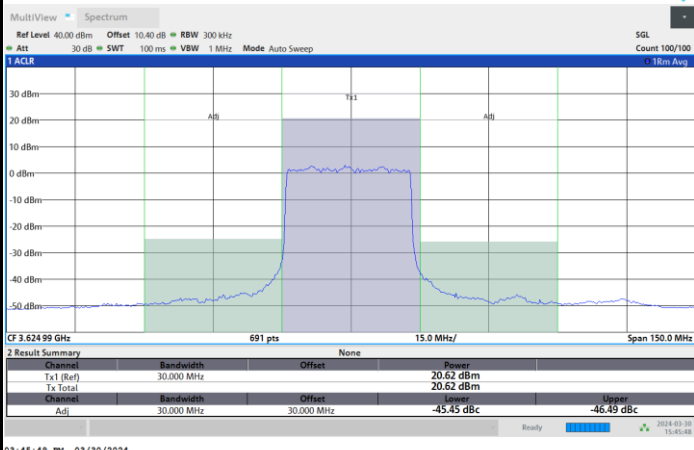
Middle Channel

1RB0

1RBmax



Full RB



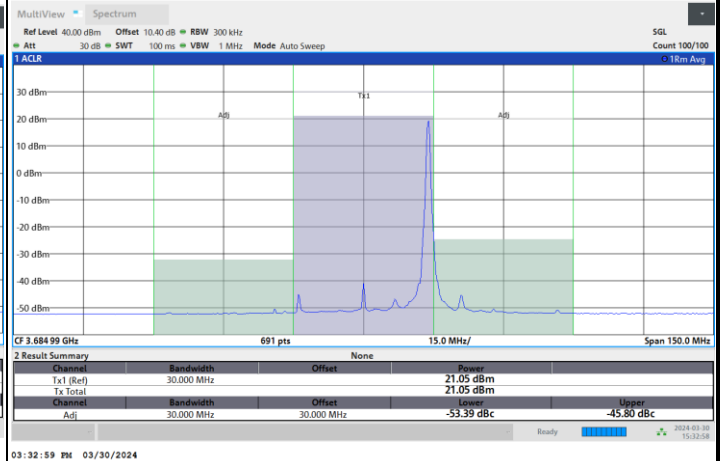
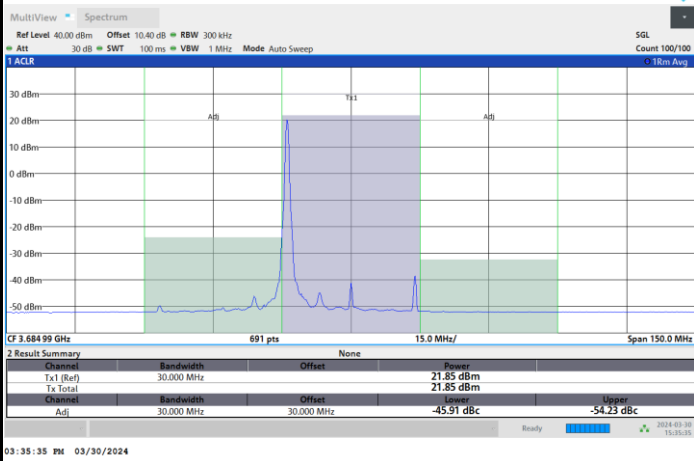


FR1 n48 / 30MHz / DFT-S OFDM / QPSK

Highest Channel

1RB0

1RBmax



Full RB



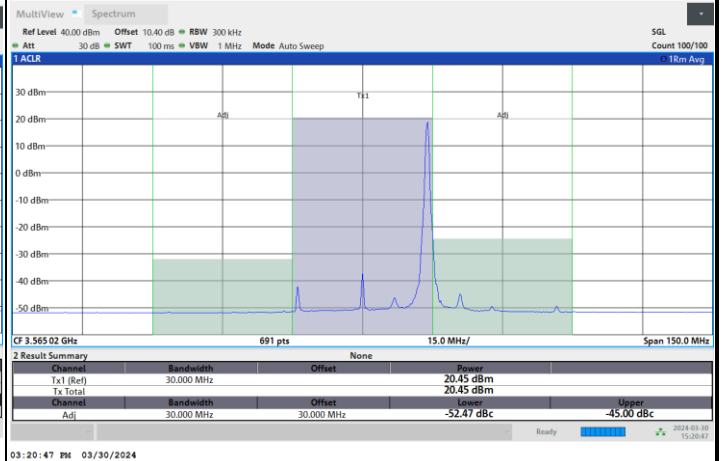
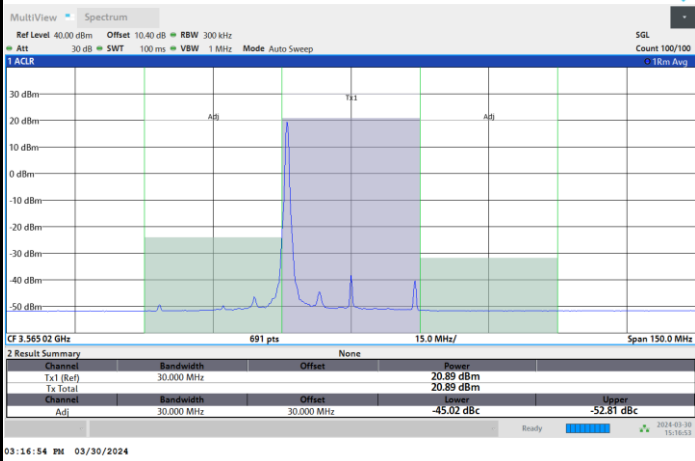


FR1 n48 / 30MHz / DFT-S OFDM / 16QAM

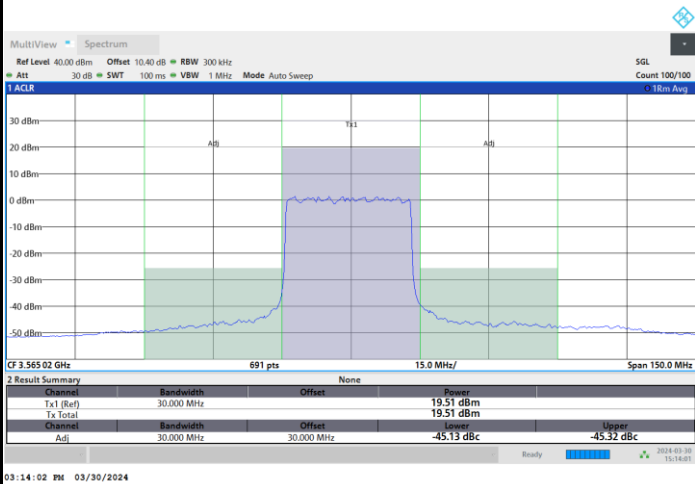
Lowest Channel

1RB0

1RBmax



Full RB



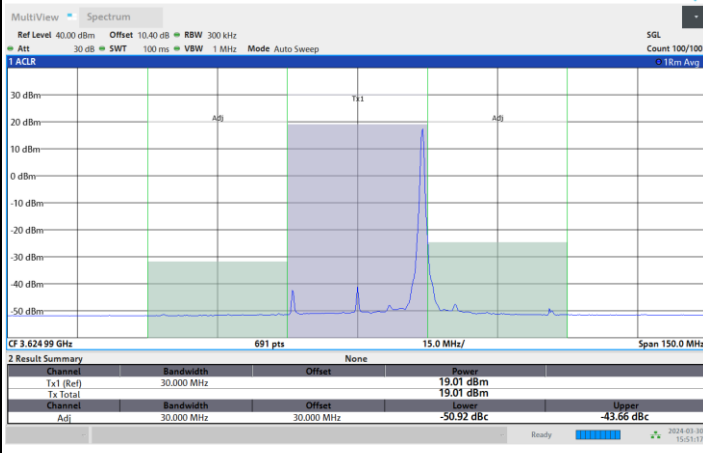
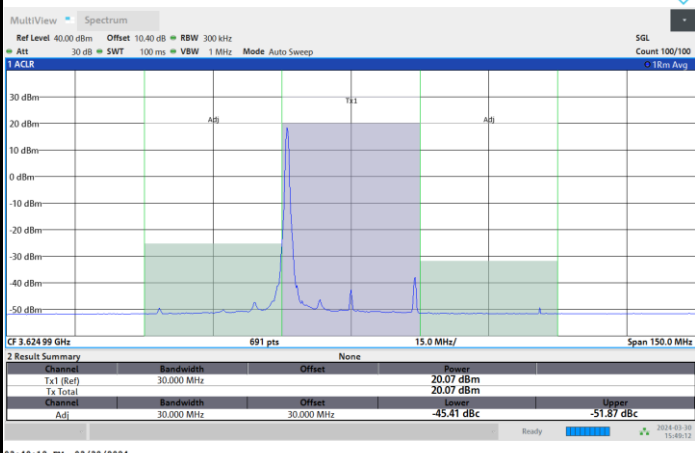


FR1 n48 / 30MHz / DFT-S OFDM / 16QAM

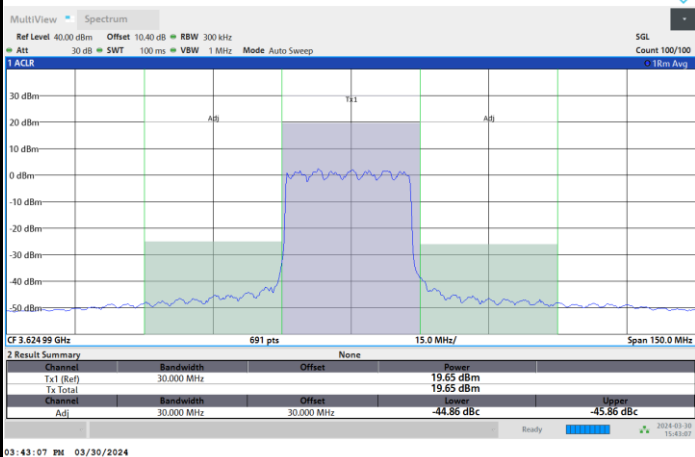
Middle Channel

1RB0

1RBmax



Full RB



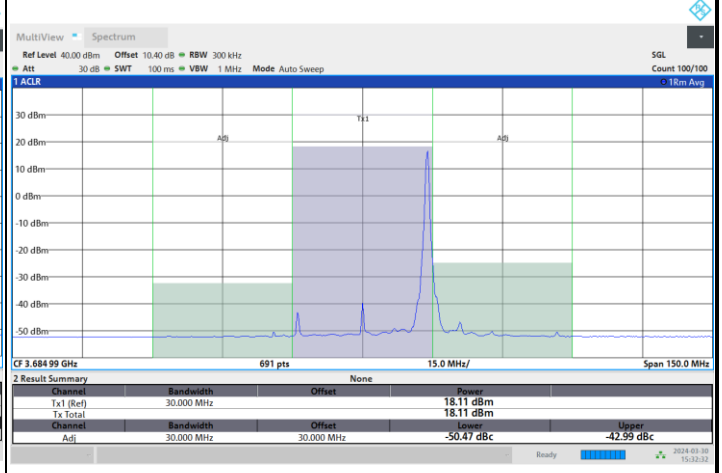
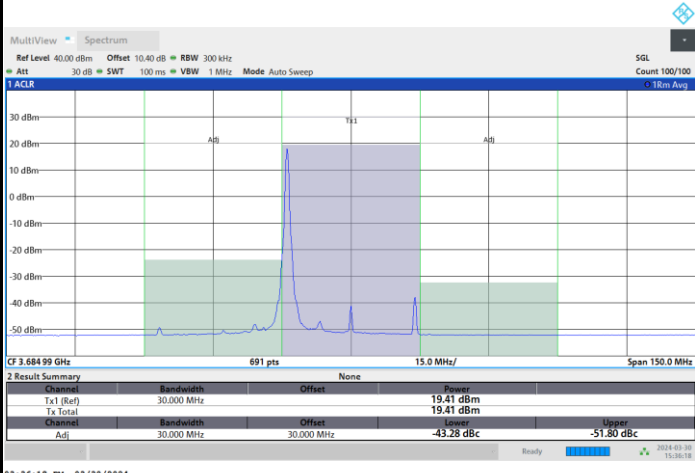


FR1 n48 / 30MHz / DFT-S OFDM / 16QAM

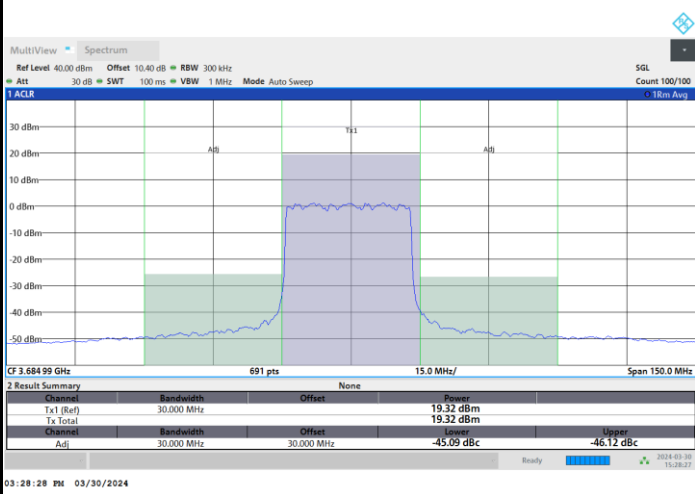
Highest Channel

1RB0

1RBmax



Full RB



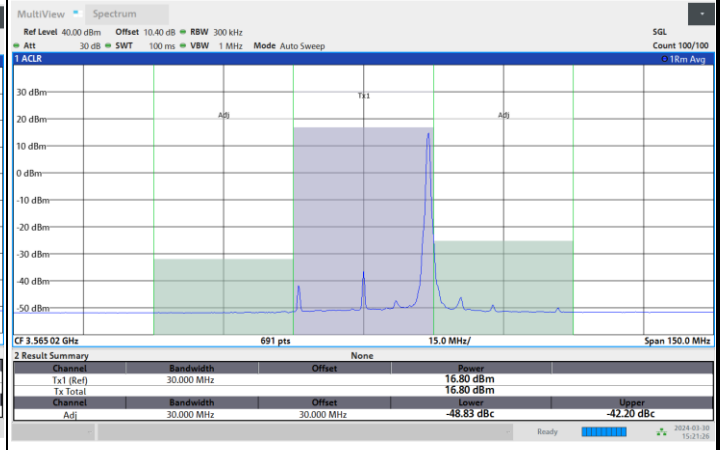
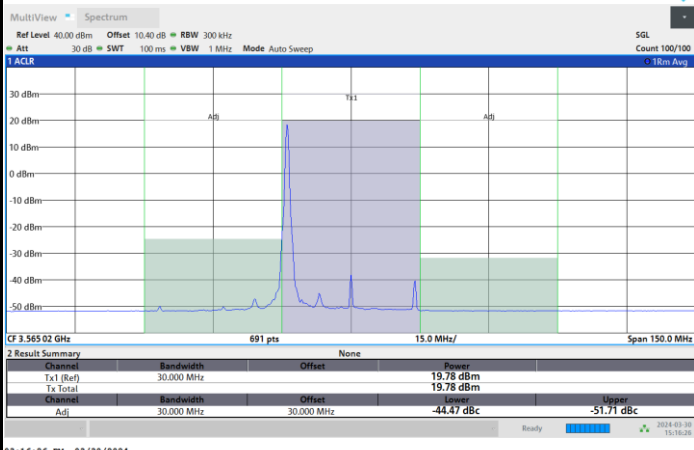


FR1 n48 / 30MHz / DFT-S OFDM / 64QAM

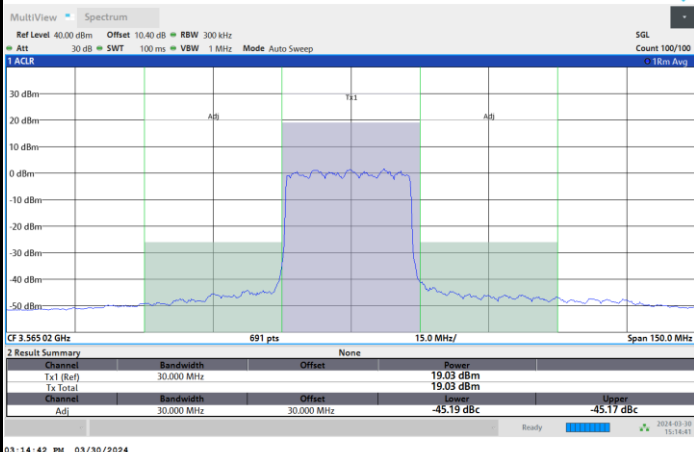
Lowest Channel

1RB0

1RBmax



Full RB





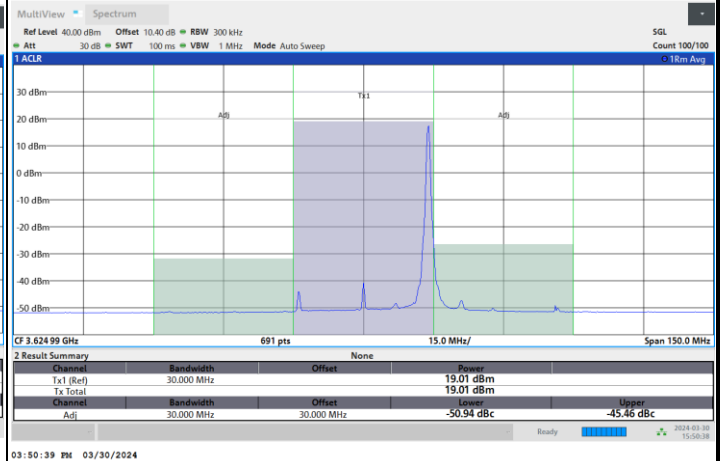
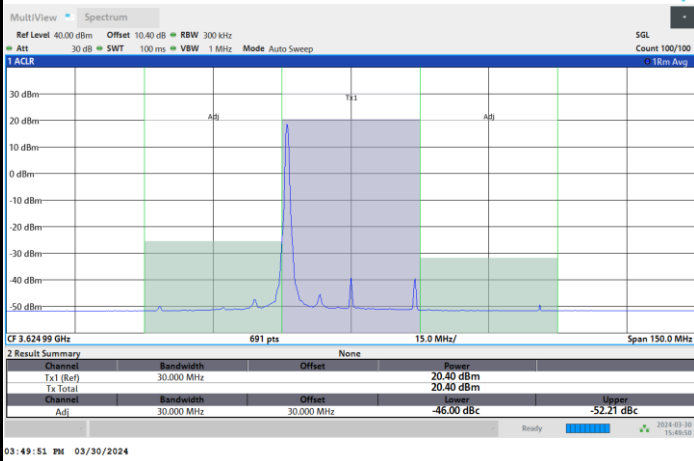


FR1 n48 / 30MHz / DFT-S OFDM / 64QAM

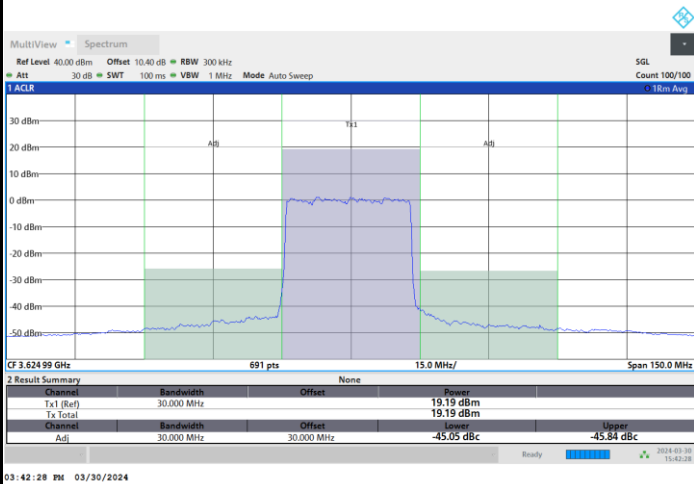
Middle Channel

1RB0

1RBmax



Full RB



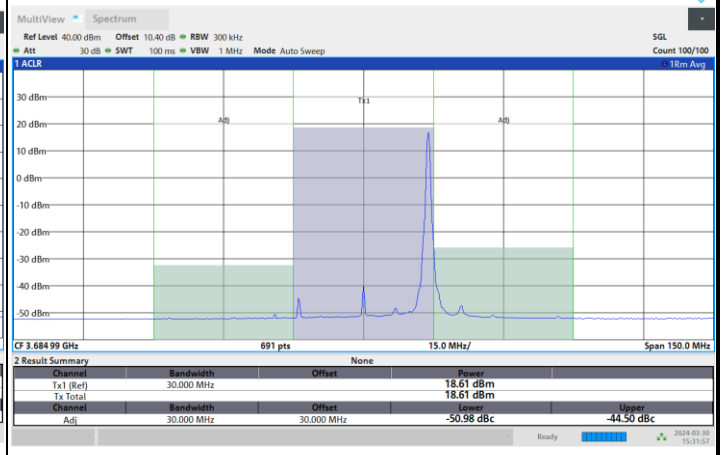
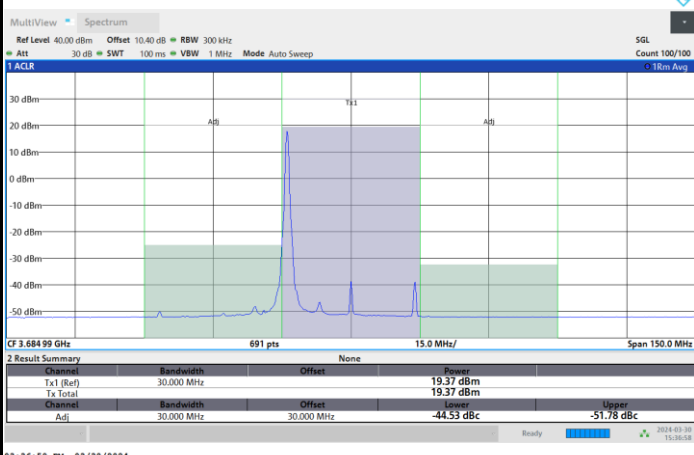


FR1 n48 / 30MHz / DFT-S OFDM / 64QAM

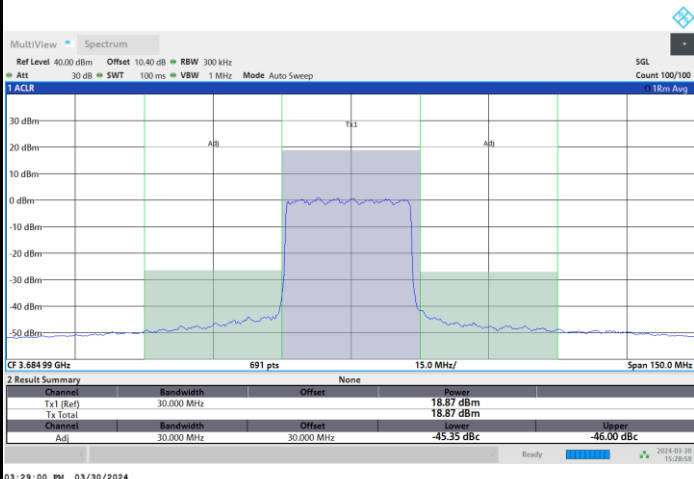
Highest Channel

1RB0

1RBmax



Full RB



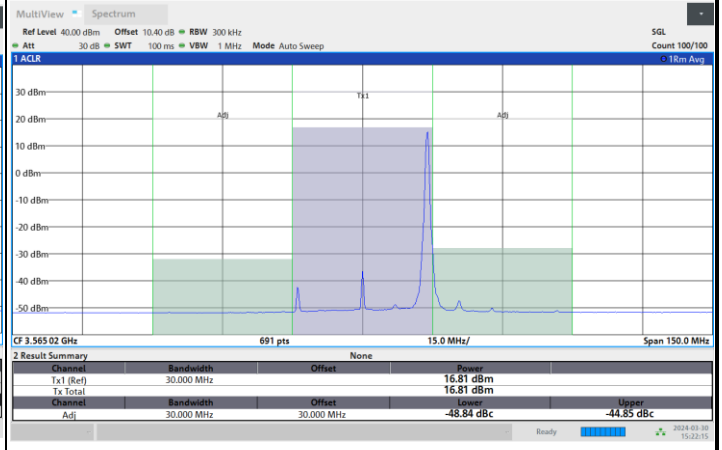
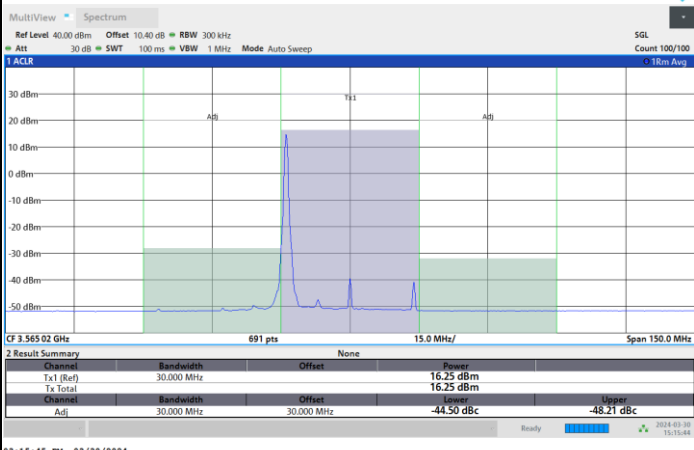


FR1 n48 / 30MHz / DFT-S OFDM / 256QAM

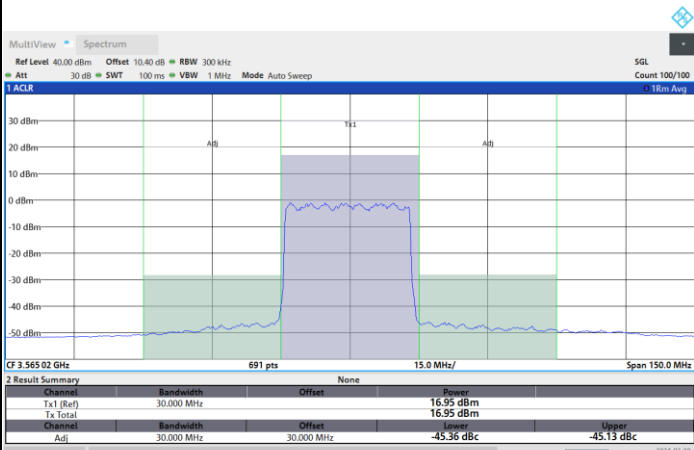
Lowest Channel

1RB0

1RBmax



Full RB



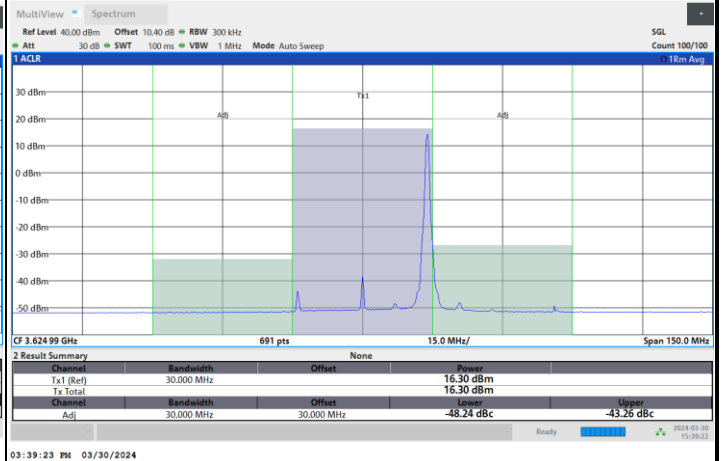
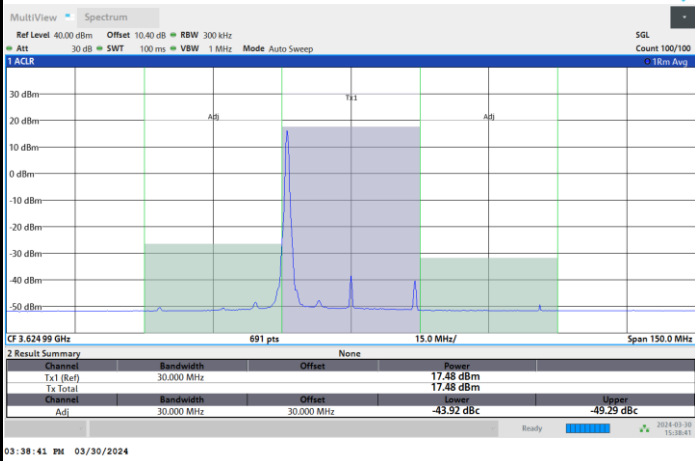


FR1 n48 / 30MHz / DFT-S OFDM / 256QAM

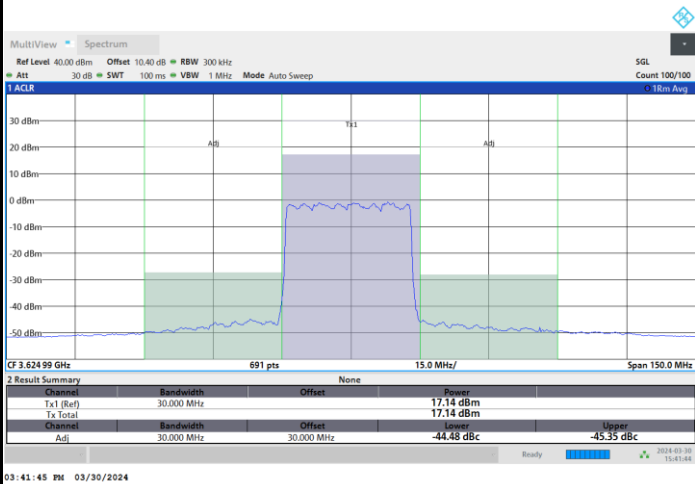
Middle Channel

1RB0

1RBmax



Full RB



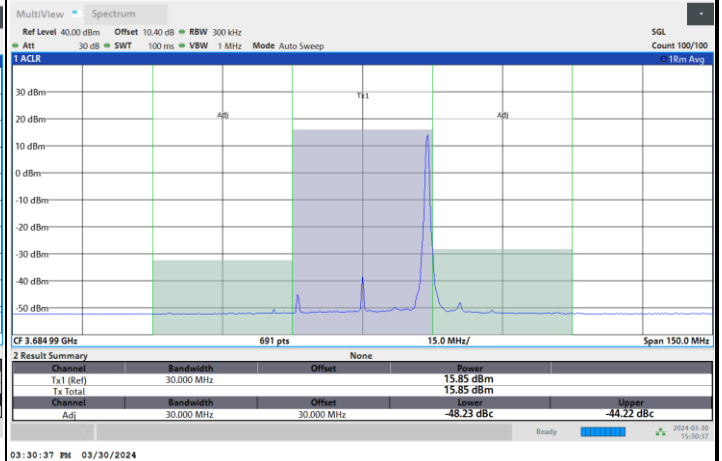
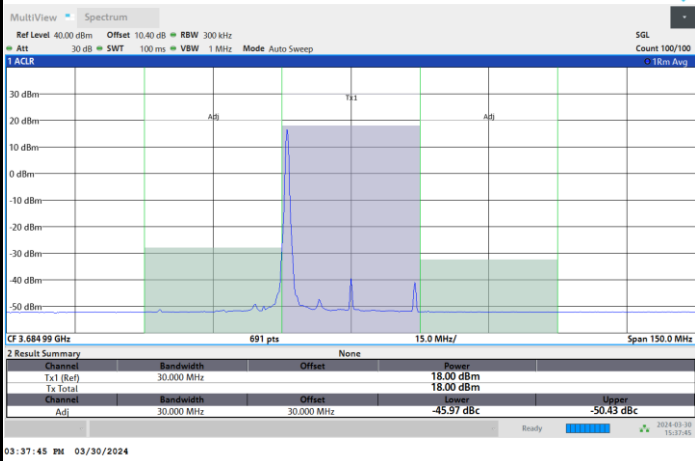


FR1 n48 / 30MHz / DFT-S OFDM / 256QAM

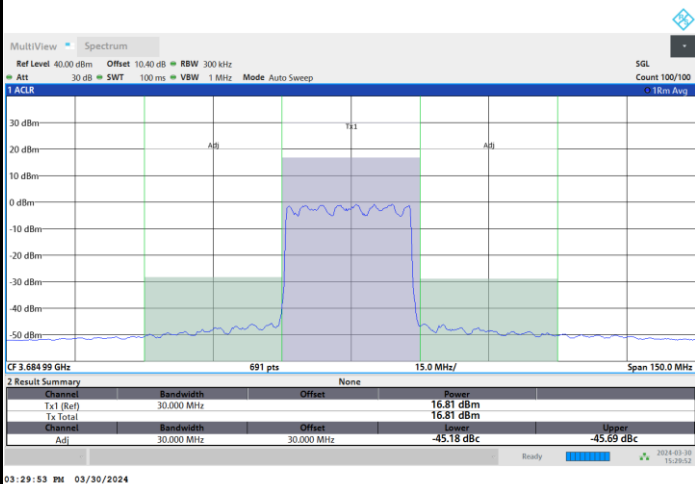
Highest Channel

1RB0

1RBmax



Full RB

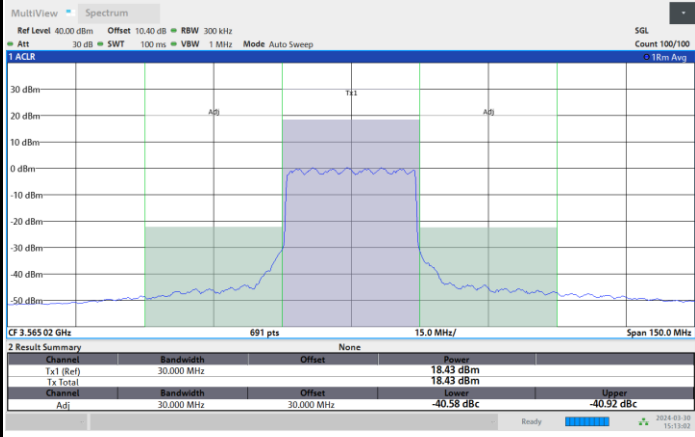




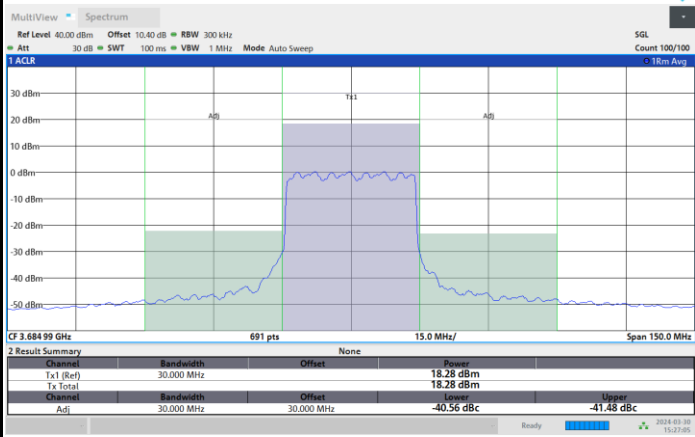
FR1 n48 / 30MHz / CP OFDM / QPSK / Full RB

Lowest Channel

Middle Channel



Highest Channel



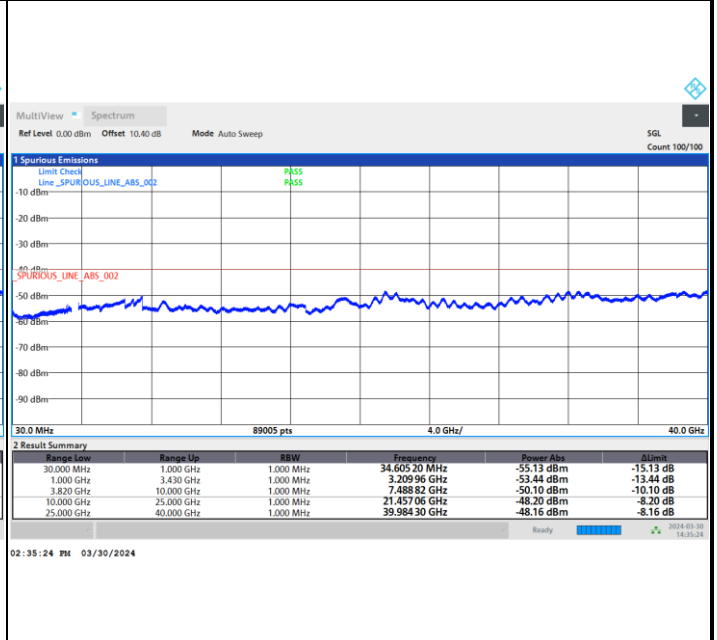
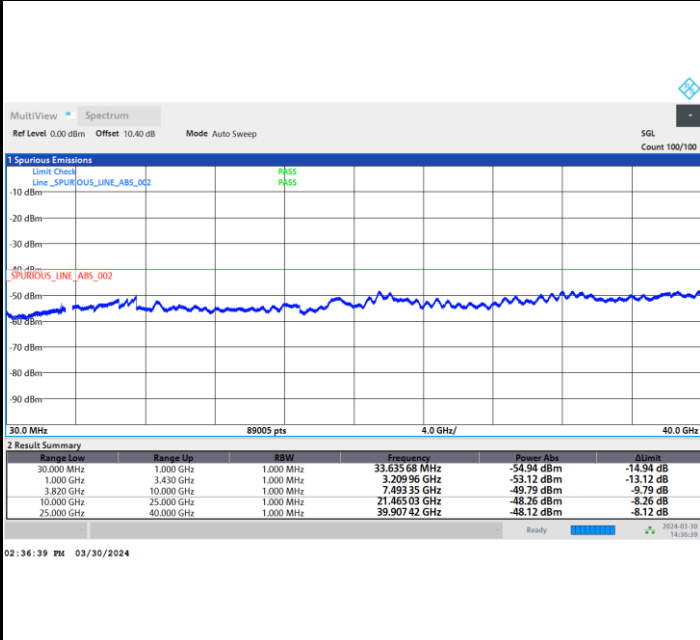


# Conducted Spurious Emission

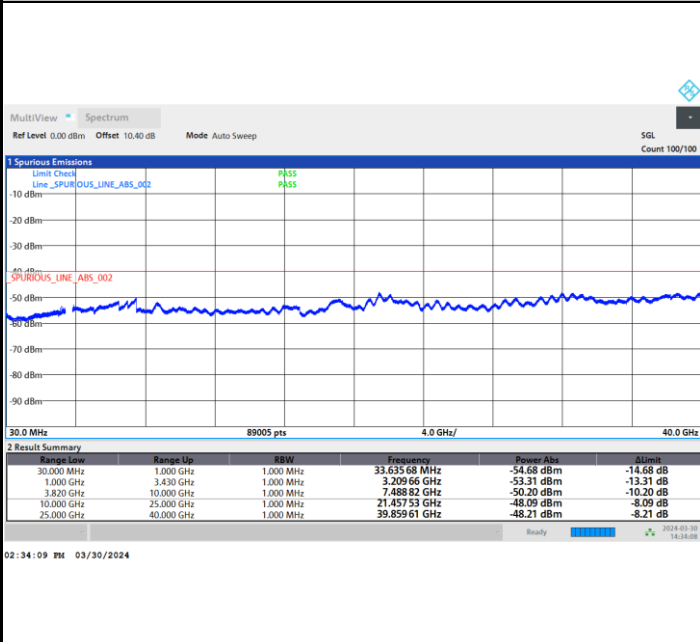
FR1 n48 / 10MHz / DFT-S OFDM / QPSK / 1RB1

## Lowest Channel

## Middle Channel



## Highest Channel

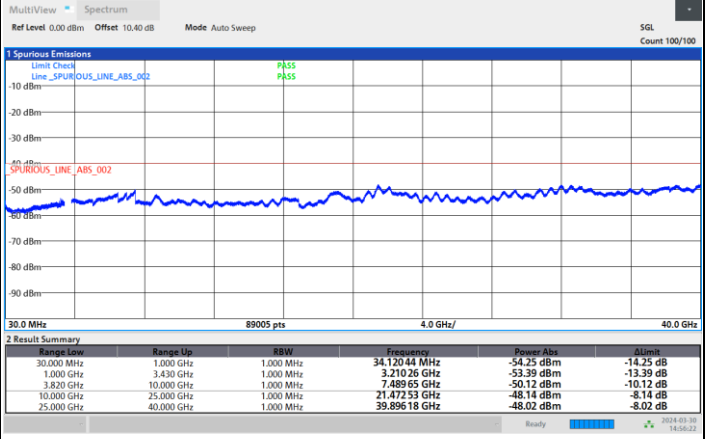
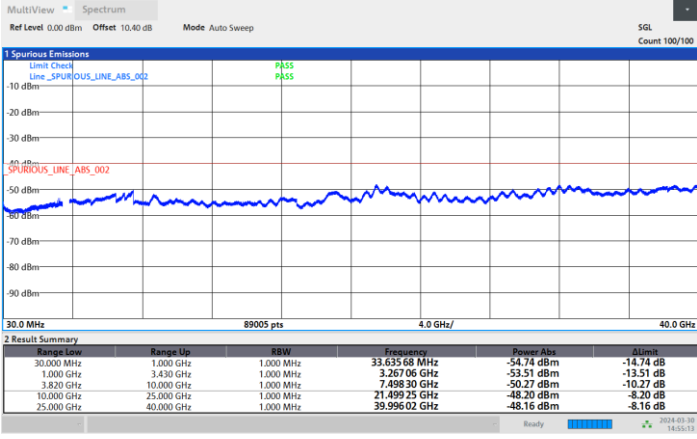




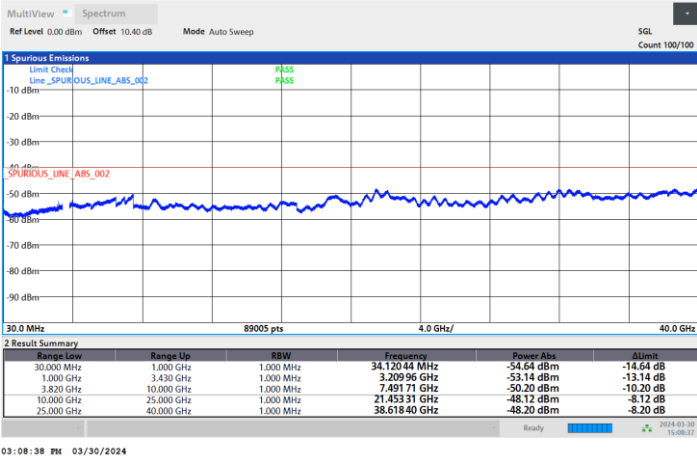
FR1 n48 / 15MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel

Middle Channel



Highest Channel



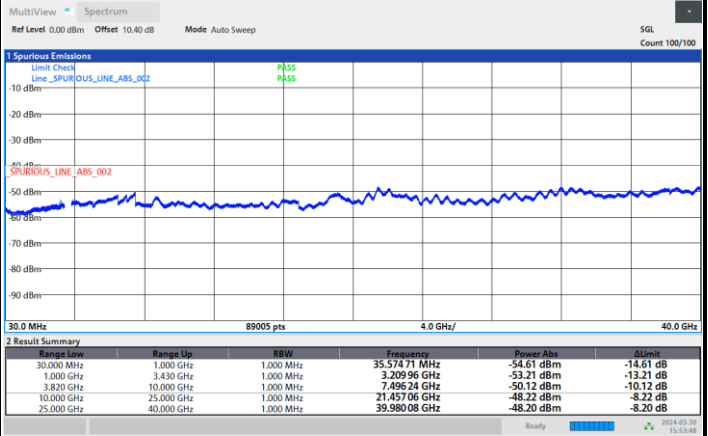
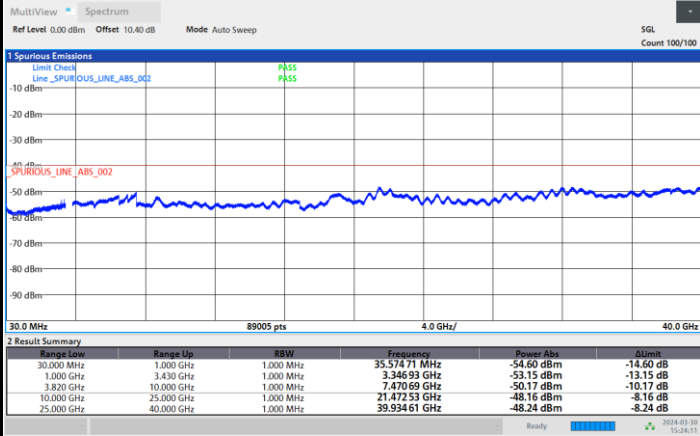




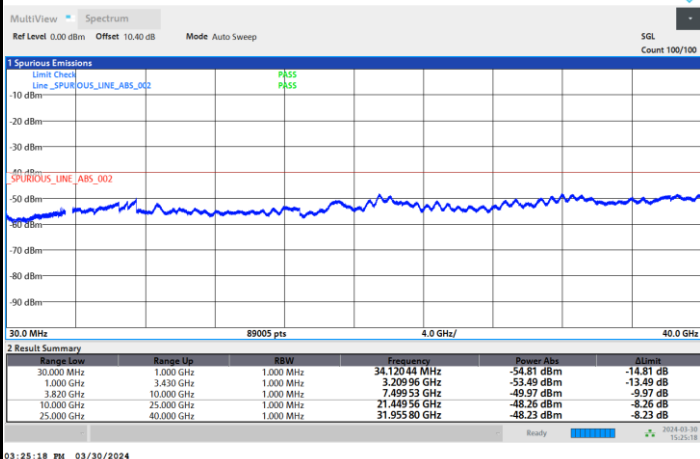
FR1 n48 / 30MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel

Middle Channel



Highest Channel





### Frequency Stability

| Test Conditions  |                   | FR1 n48 (BPSK) / Middle Channel | Limit   |
|------------------|-------------------|---------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                        | Note 2. |
|                  |                   | Deviation (ppm)                 | Result  |
| 50               | Normal Voltage    | 0.0165                          | PASS    |
| 40               | Normal Voltage    | 0.0129                          |         |
| 30               | Normal Voltage    | 0.0066                          |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                          |         |
| 10               | Normal Voltage    | 0.0031                          |         |
| 0                | Normal Voltage    | 0.0078                          |         |
| -10              | Normal Voltage    | 0.0120                          |         |
| -20              | Normal Voltage    | 0.0185                          |         |
| -30              | Normal Voltage    | 0.0027                          |         |
| 20               | Maximum Voltage   | 0.0155                          |         |
| 20               | Normal Voltage    | 0.0141                          |         |
| 20               | Battery End Point | 0.0055                          |         |

**Note:**

- 1. Normal Voltage = 3.3 V. ; Battery End Point (BEP) = 3.135 V. ; Maximum Voltage = 4.4 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.

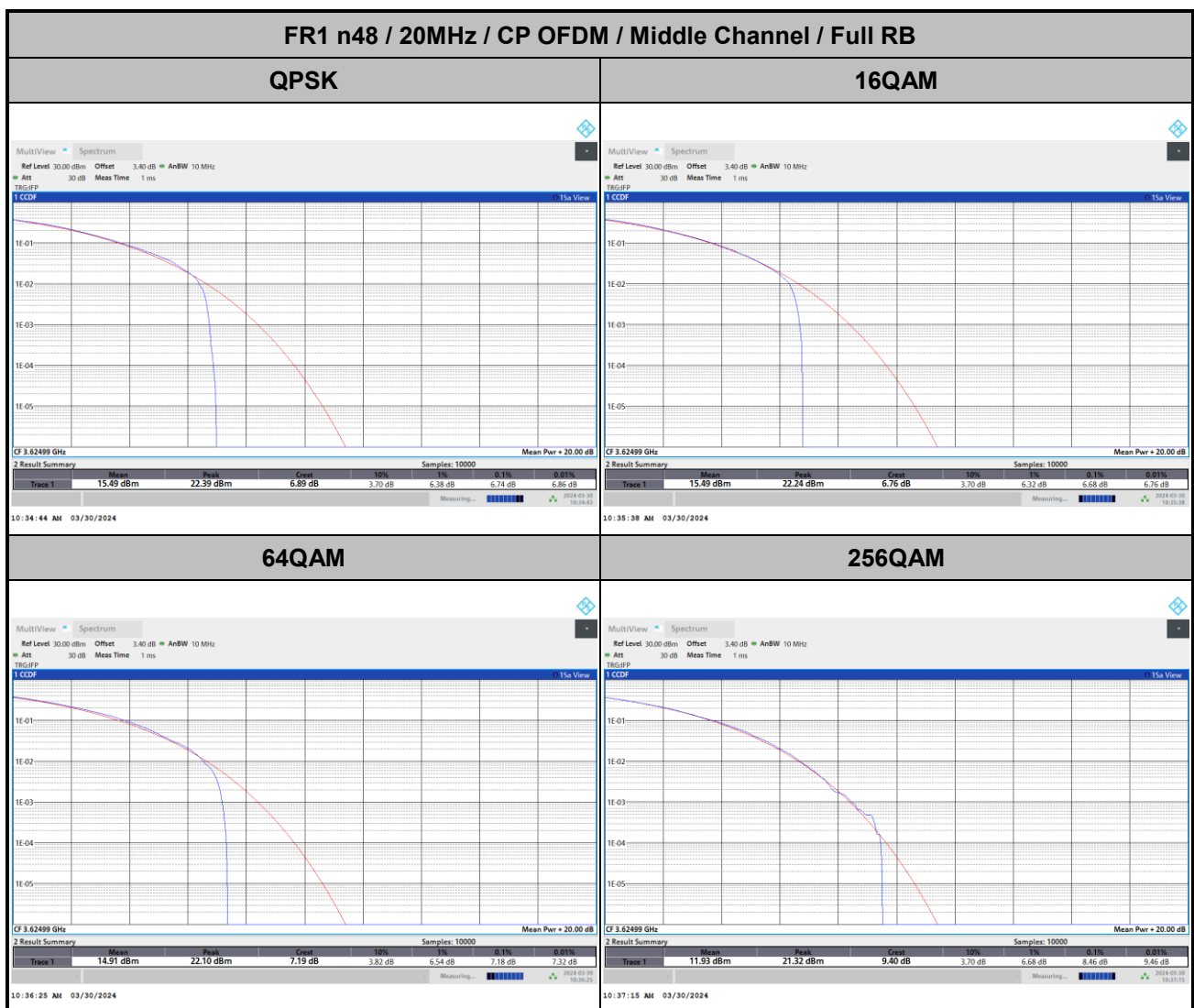


<MIMO Mode>

FR1 n48\_ANT 3

Peak-to-Average Ratio

| Mode      | FR1 n48 / 10MHz / CP OFDM |         |         |         |             |
|-----------|---------------------------|---------|---------|---------|-------------|
| Mod.      | QPSK                      | 16QAM   | 64QAM   | 256QAM  | Limit: 13dB |
| RB Size   | Full RB                   | Full RB | Full RB | Full RB | Result      |
| Middle CH | 6.74                      | 6.68    | 7.18    | 8.46    | PASS        |





**26dB Bandwidth**

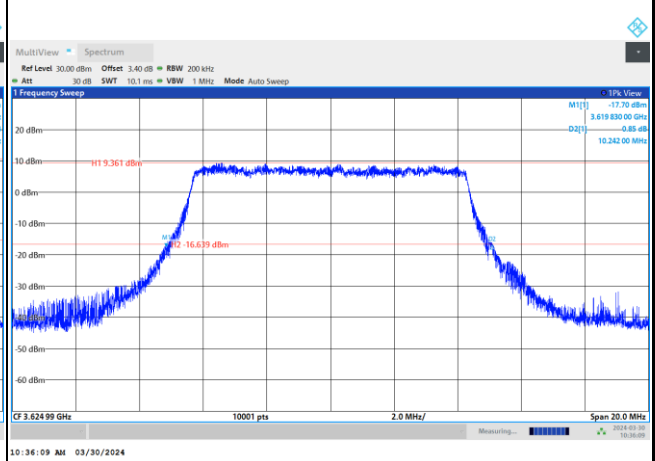
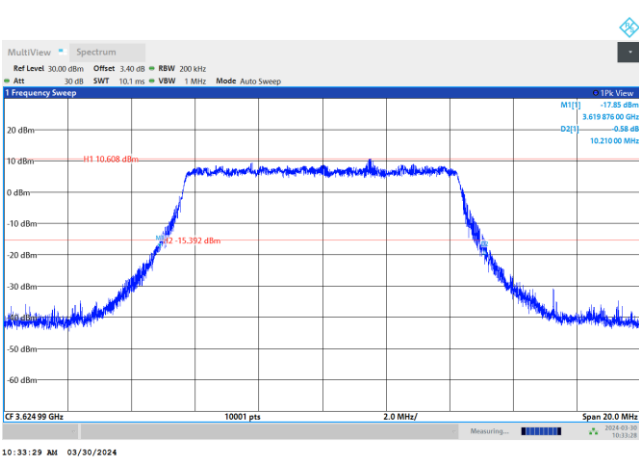
| Mode      | FR1 n48 : 26dB BW(MHz) / CP OFDM |        |       |        |       |        |        |        |
|-----------|----------------------------------|--------|-------|--------|-------|--------|--------|--------|
| BW        | 10MHz                            |        | 15MHz |        | 20MHz |        | 25MHz  |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 10.21                            | 10.24  | 15.51 | 15.51  | -     | -      | -      | -      |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 10.03                            | 10.04  | 15.47 | 15.45  | -     | -      | -      | -      |
| BW        | 30MHz                            |        | 40MHz |        | 50MHz |        | 60MHz  |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 30.85                            | 31.57  | -     | -      | -     | -      | -      | -      |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 32.54                            | 30.67  | -     | -      | -     | -      | -      | -      |
| BW        | 70MHz                            |        | 80MHz |        | 90MHz |        | 100MHz |        |
| Mod.      | QPSK                             | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | -                                | -      | -     | -      | -     | -      | -      | -      |
| Mod.      | 64QAM                            | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | -                                | -      | -     | -      | -     | -      | -      | -      |



FR1 n48 / 10MHz / CP OFDM / Middle Channel / Full RB

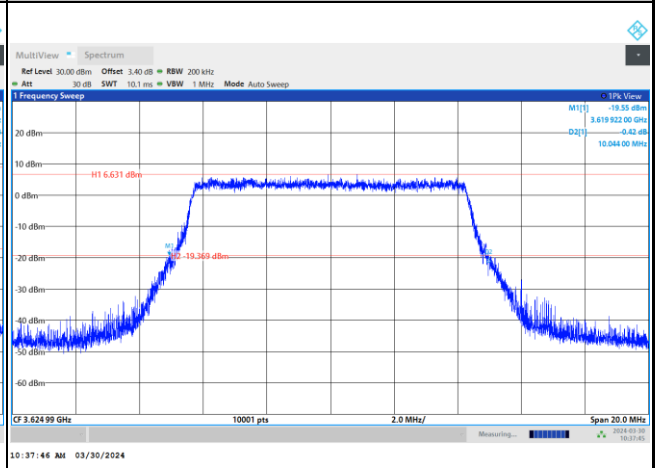
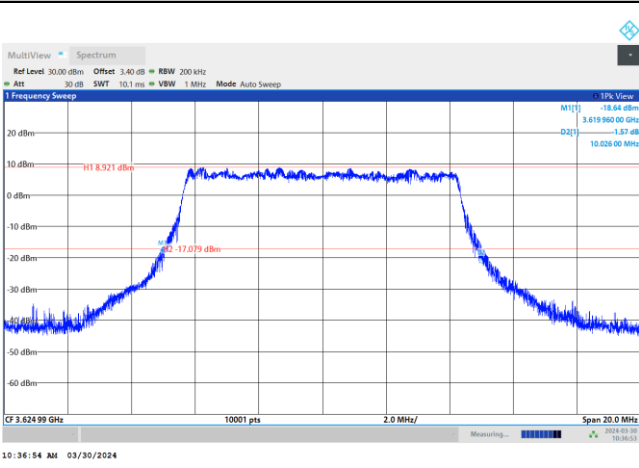
QPSK

16QAM



64QAM

256QAM

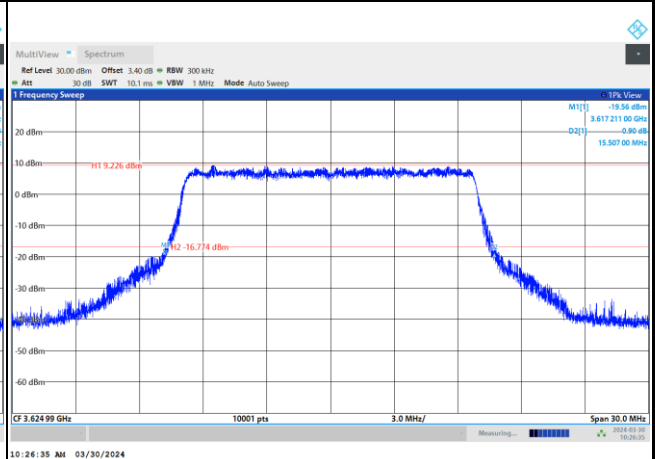
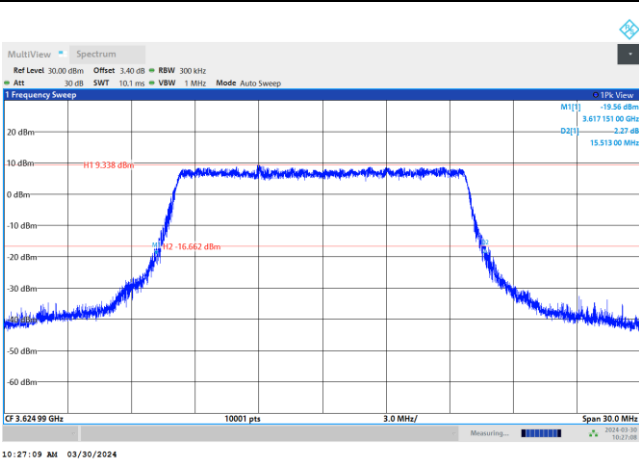




FR1 n48 / 15MHz / CP OFDM / Middle Channel / Full RB

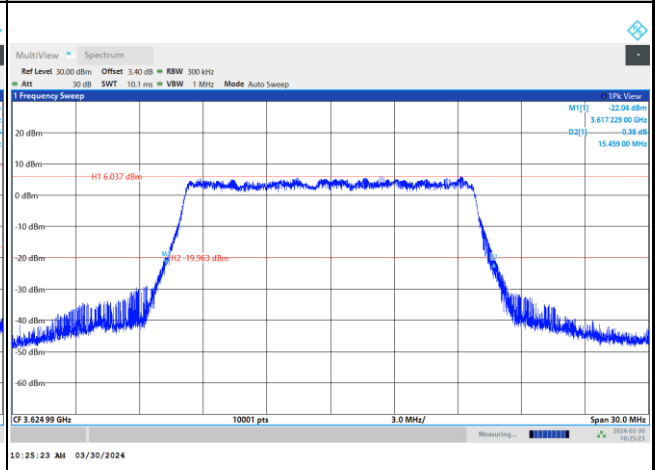
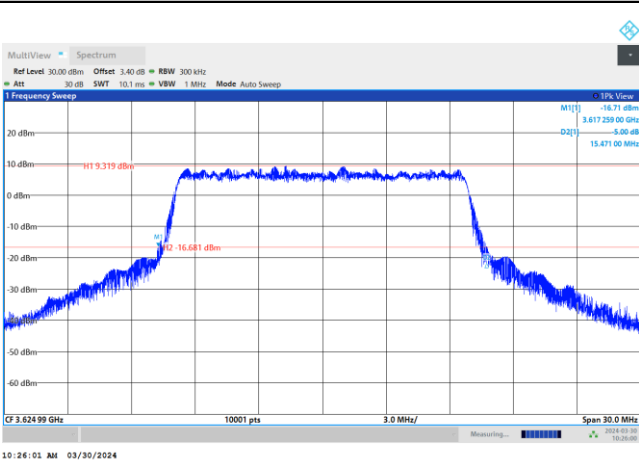
QPSK

16QAM



64QAM

256QAM

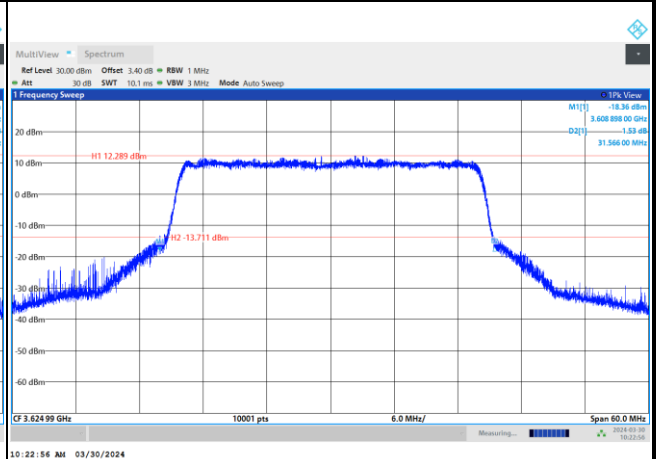
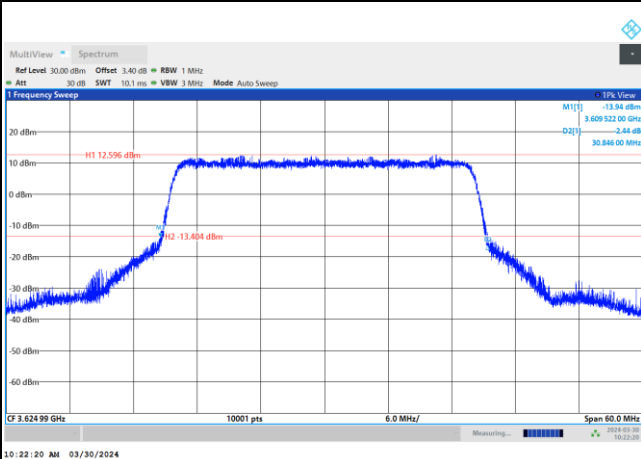




FR1 n48 / 30MHz / CP OFDM / Middle Channel / Full RB

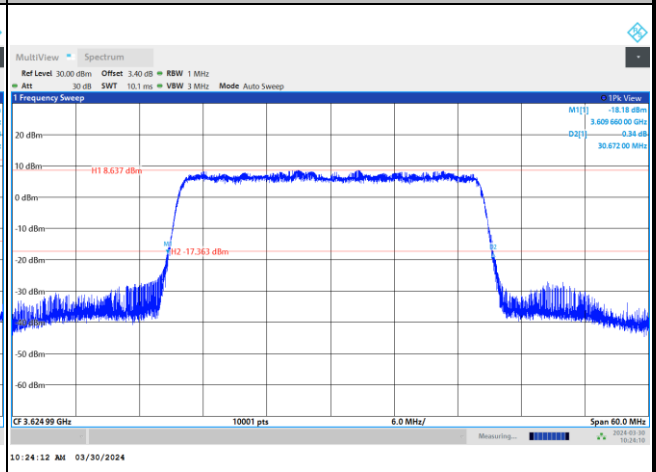
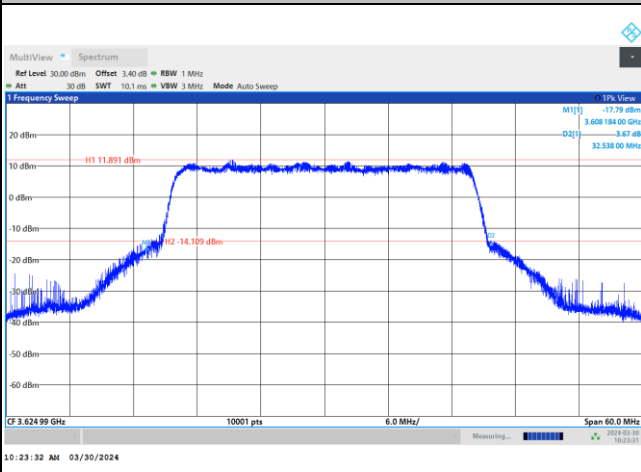
QPSK

16QAM



64QAM

256QAM





### Occupied Bandwidth

| Mode      | FR1 n48 : OB BW(MHz) / CP OFDM |        |       |        |       |        |        |        |
|-----------|--------------------------------|--------|-------|--------|-------|--------|--------|--------|
| BW        | 10MHz                          |        | 15MHz |        | 20MHz |        | 25MHz  |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 8.64                           | 8.67   | 13.66 | 13.65  | -     | -      | -      | -      |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 8.61                           | 8.64   | 13.67 | 13.64  | -     | -      | -      | -      |
| BW        | 30MHz                          |        | 40MHz |        | 50MHz |        | 60MHz  |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | 28.16                          | 28.36  | -     | -      | -     | -      | -      | -      |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | 28.23                          | 28.19  | -     | -      | -     | -      | -      | -      |
| BW        | 70MHz                          |        | 80MHz |        | 90MHz |        | 100MHz |        |
| Mod.      | QPSK                           | 16QAM  | QPSK  | 16QAM  | QPSK  | 16QAM  | QPSK   | 16QAM  |
| Middle CH | -                              | -      | -     | -      | -     | -      | -      | -      |
| Mod.      | 64QAM                          | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM  | 256QAM |
| Middle CH | -                              | -      | -     | -      | -     | -      | -      | -      |

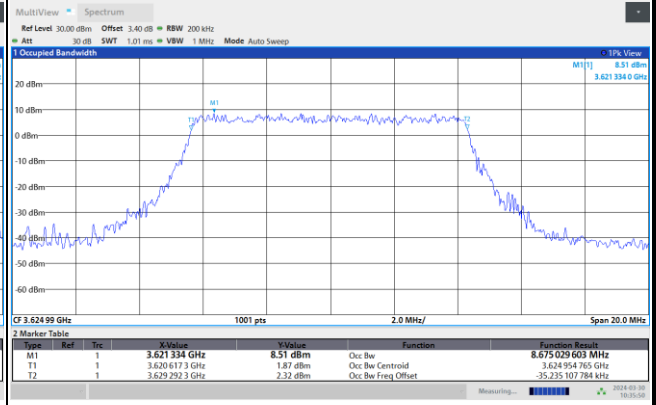
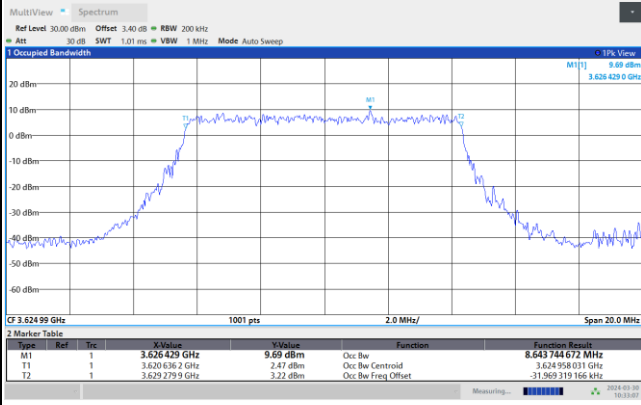




FR1 n48 / 10MHz / CP OFDM / Middle Channel / Full RB

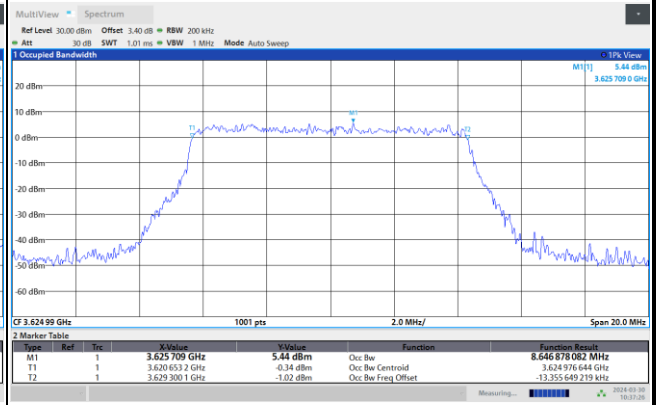
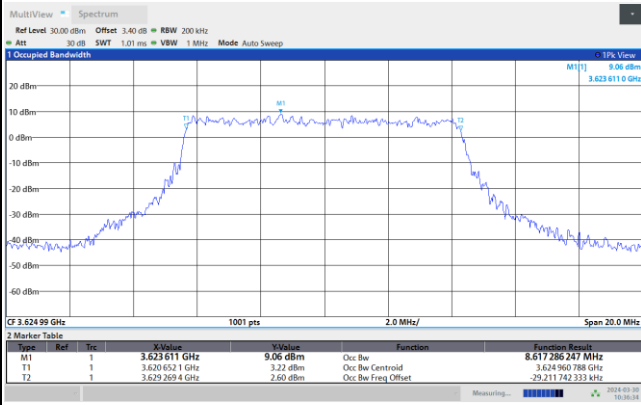
QPSK

16QAM



64QAM

256QAM

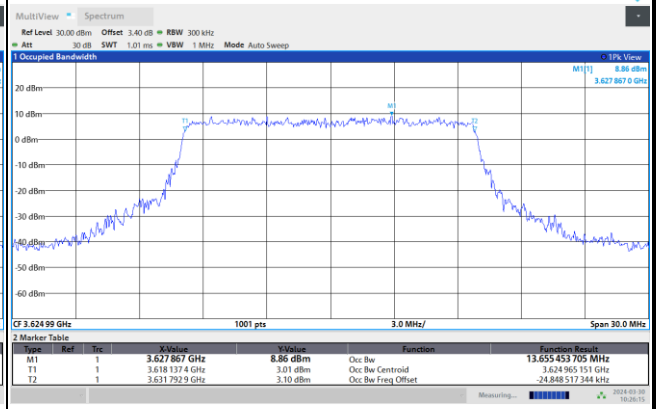
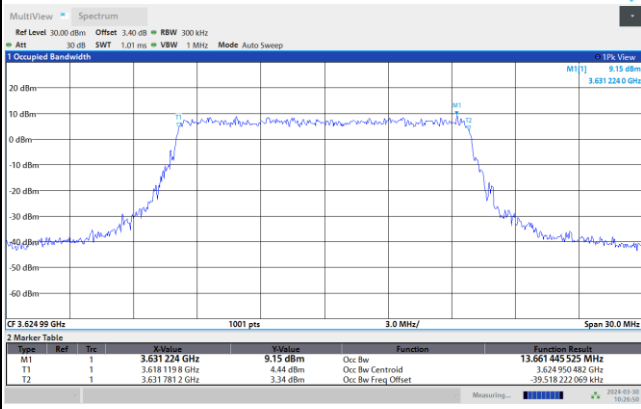




FR1 n48 / 15MHz / CP OFDM / Middle Channel / Full RB

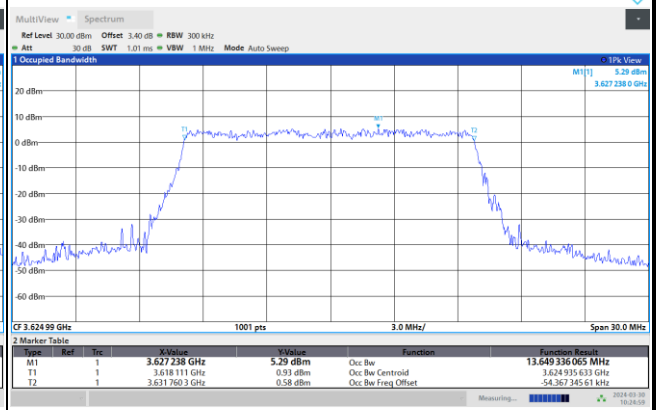
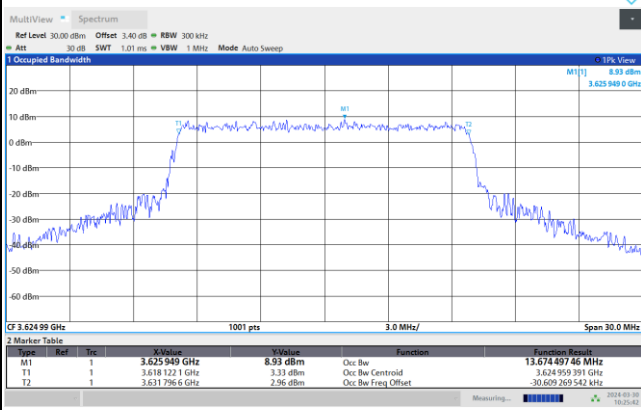
QPSK

16QAM



64QAM

256QAM

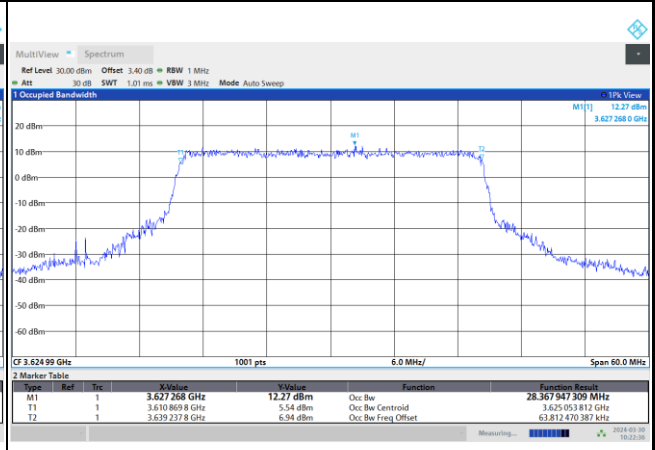
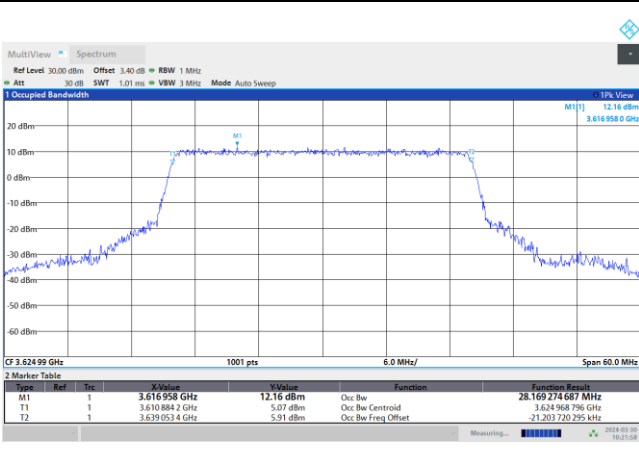




FR1 n48 / 30MHz / CP OFDM / Middle Channel / Full RB

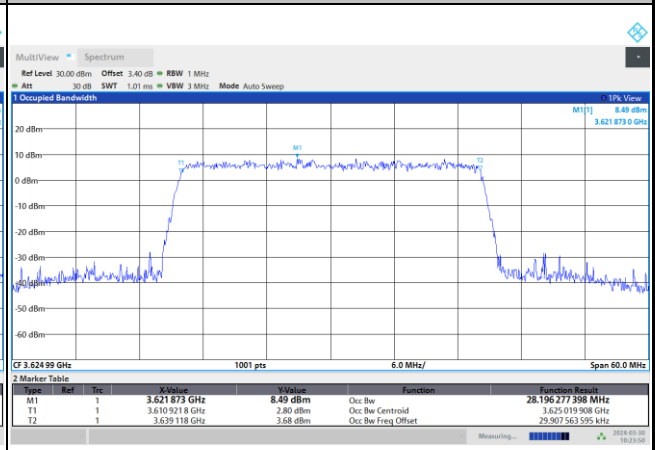
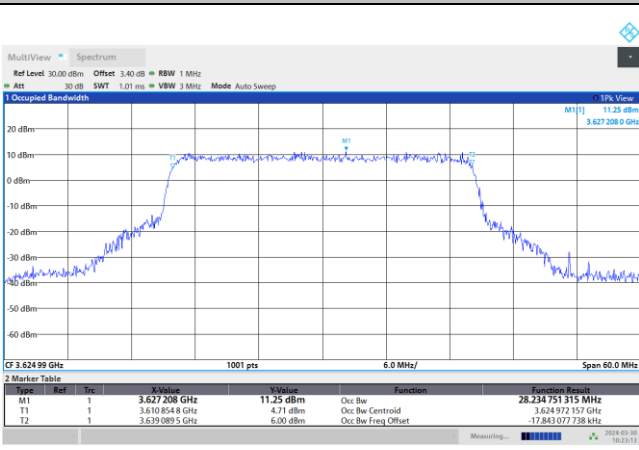
QPSK

16QAM



64QAM

256QAM





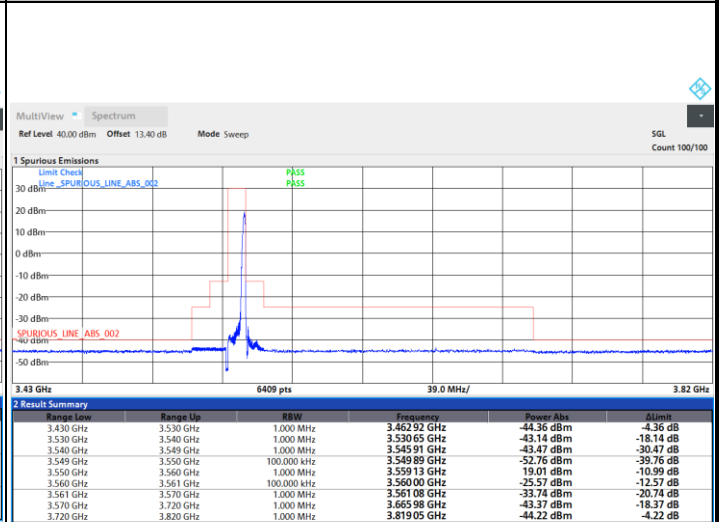
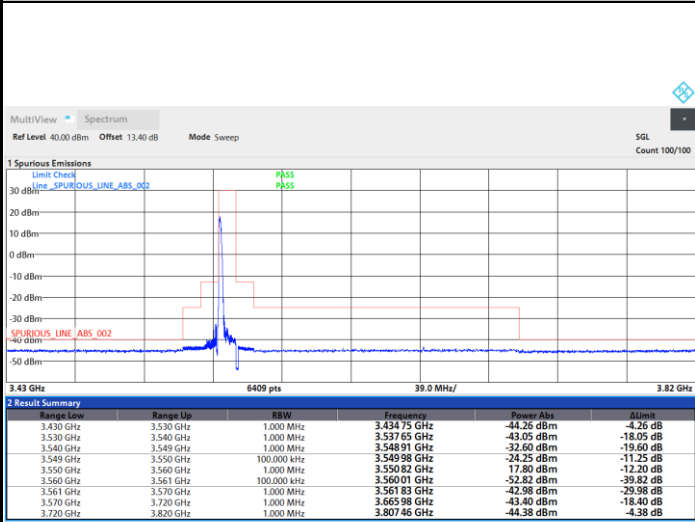
# Unwanted Emission (MASK)

FR1 n48 / 10MHz / CP OFDM / QPSK

## Lowest Channel

1RB0

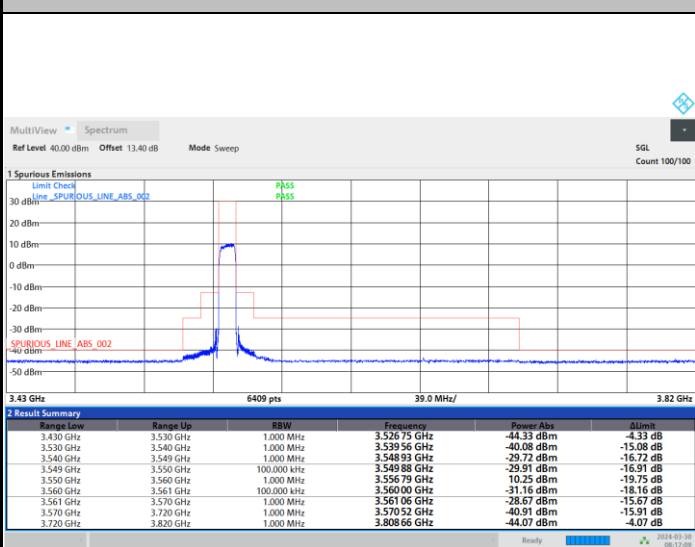
1RBmax



08:15:35 AM 03/30/2024

08:16:23 AM 03/30/2024

## Full RB



08:17:10 AM 03/30/2024