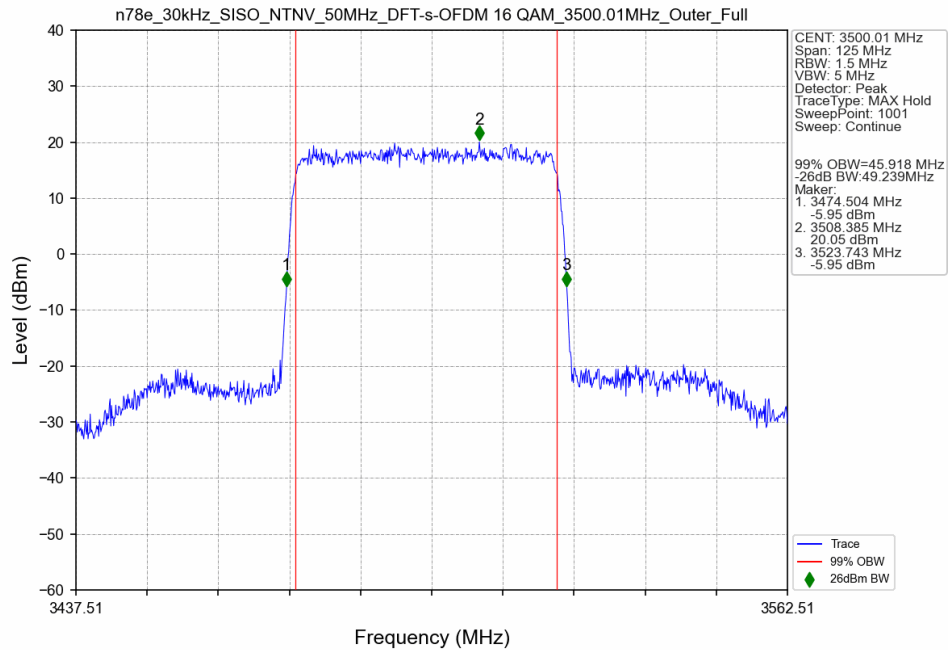
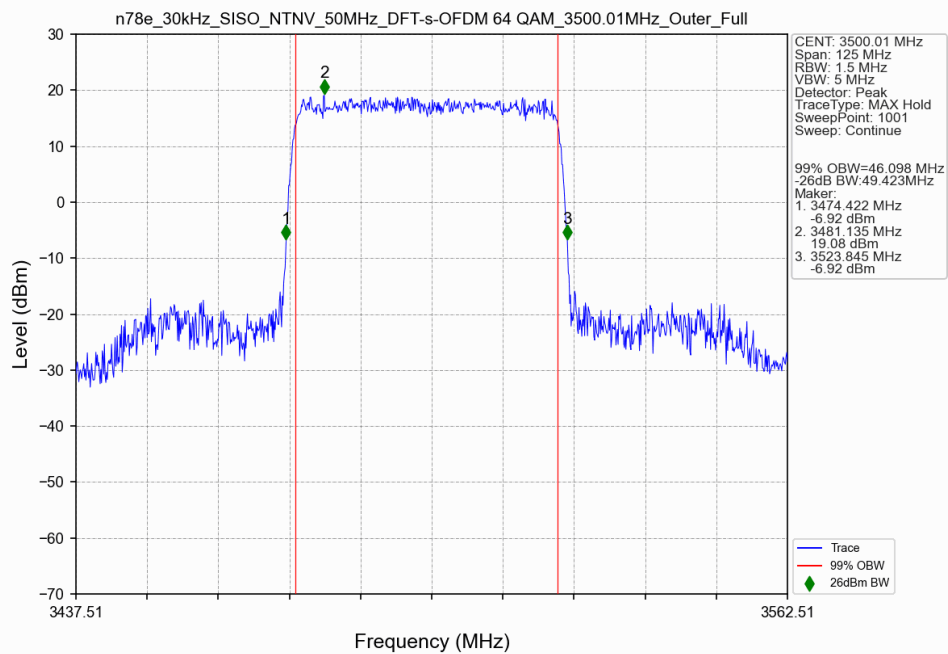


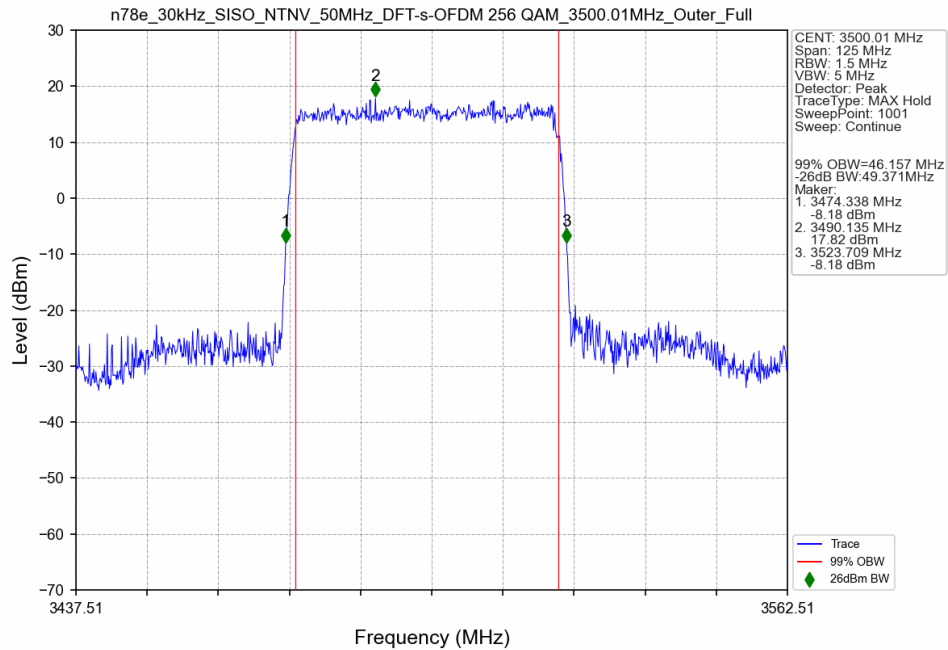
n78e\_30kHz\_SISO\_NTNV\_50MHz\_DFT-s-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



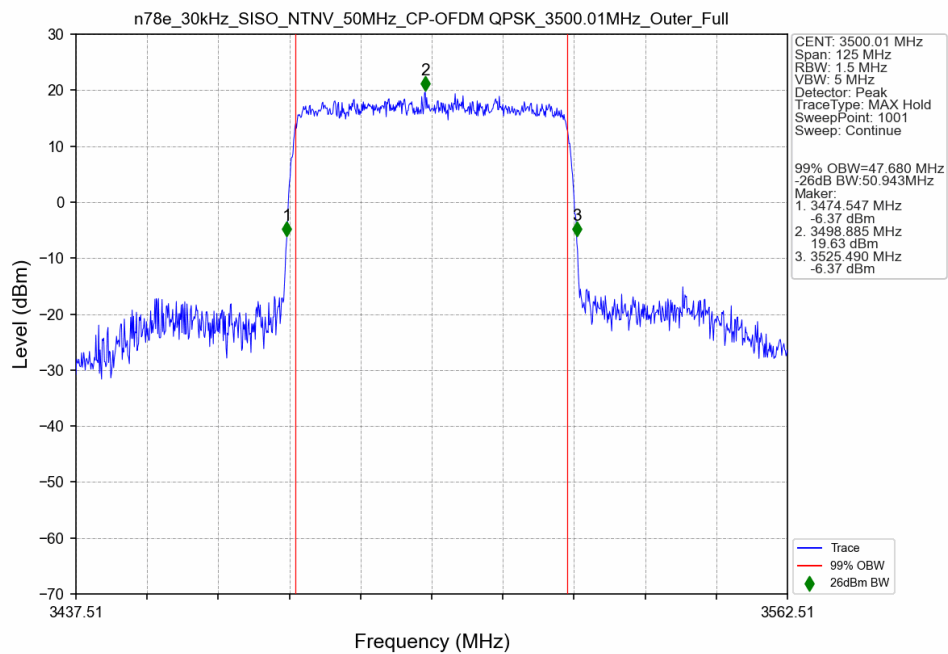
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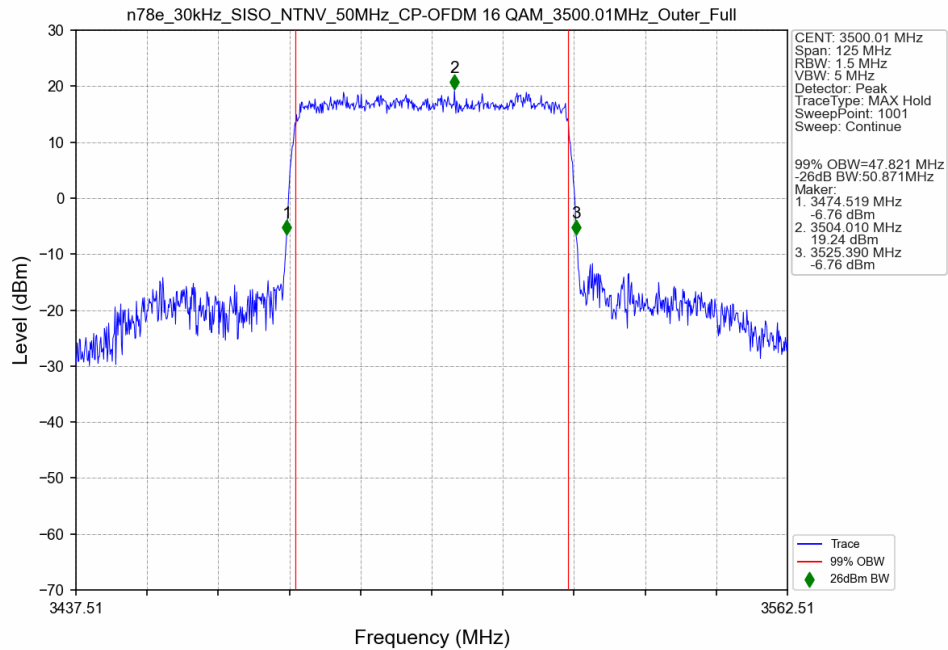
n78e\_30kHz\_SISO\_NTNV\_50MHz\_DFT-s-OFDM 256 QAM\_3500.01MHz\_Outer\_Full\_Ant8



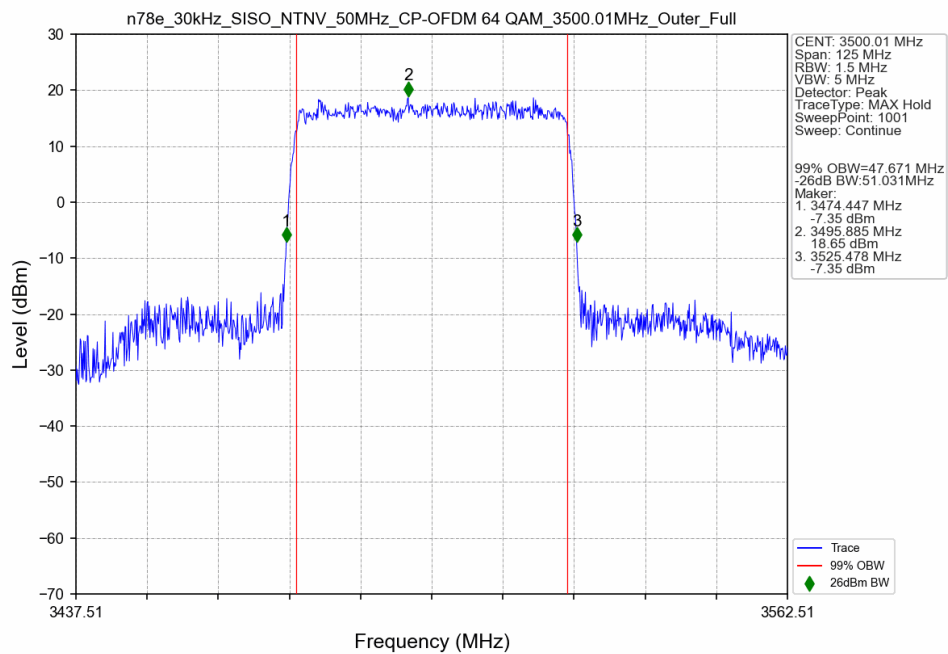
n78e\_30kHz\_SISO\_NTNV\_50MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8

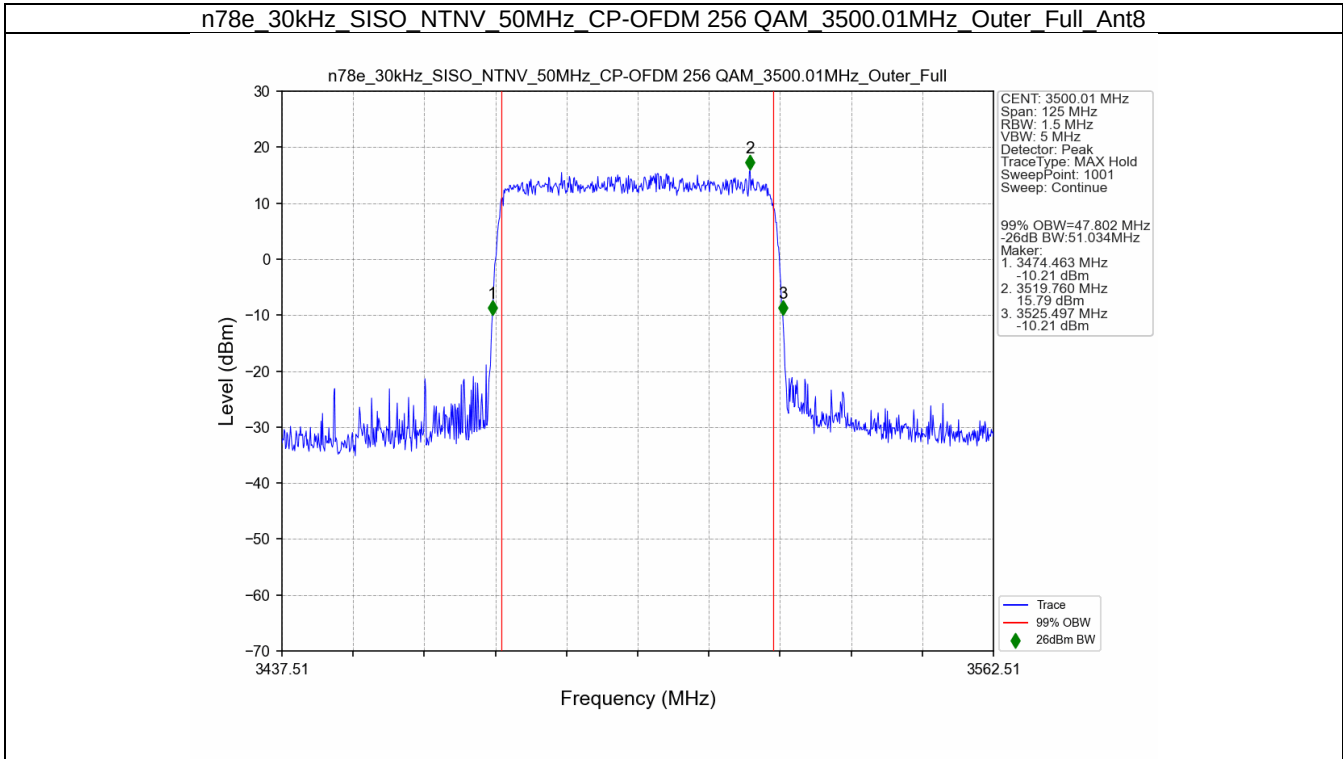


n78e\_30kHz\_SISO\_NTNV\_50MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8

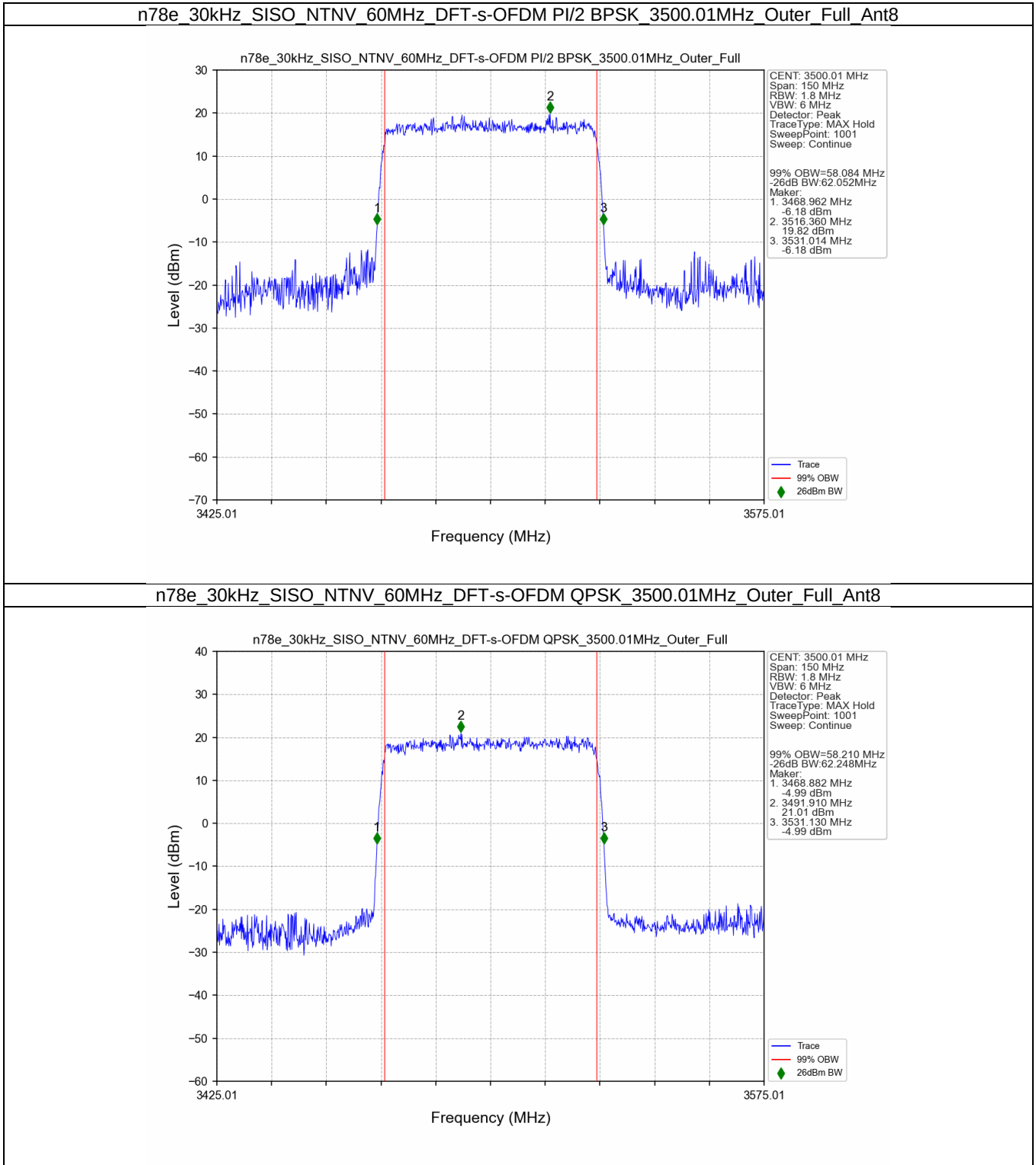


n78e\_30kHz\_SISO\_NTNV\_50MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8

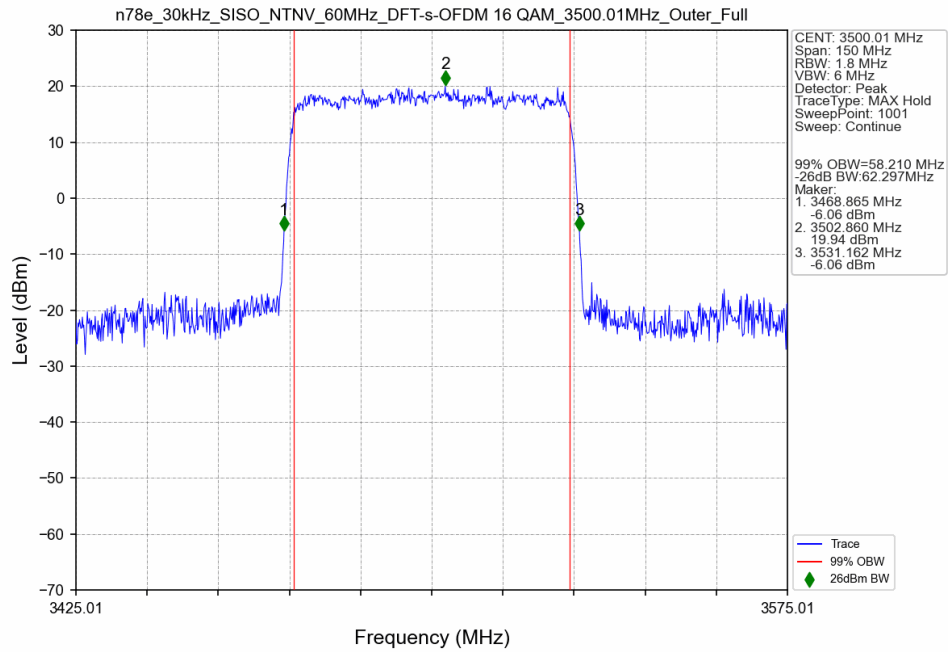




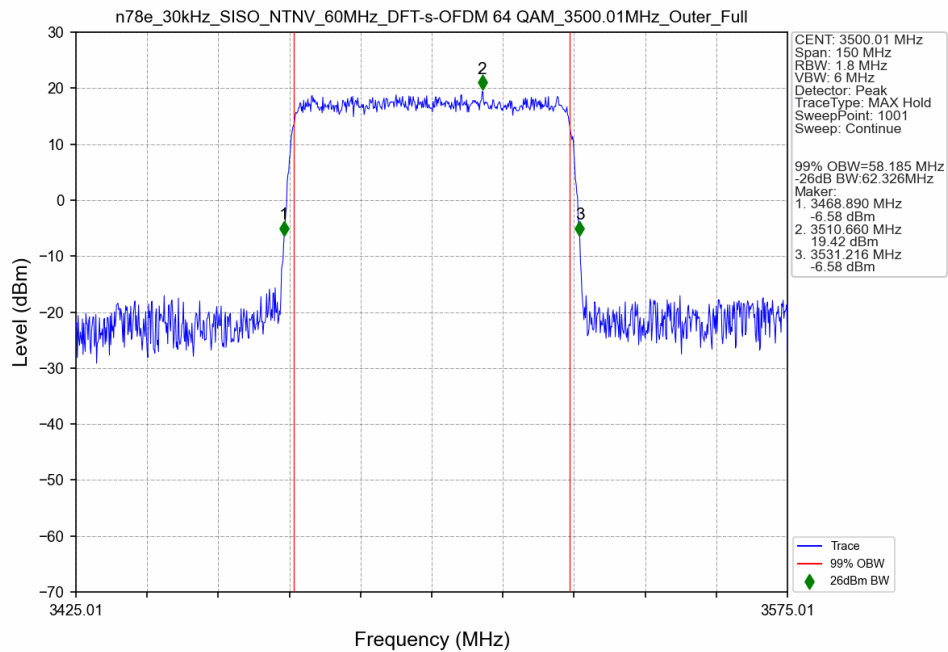
3.2.8 30\_S\_60M\_NTNV



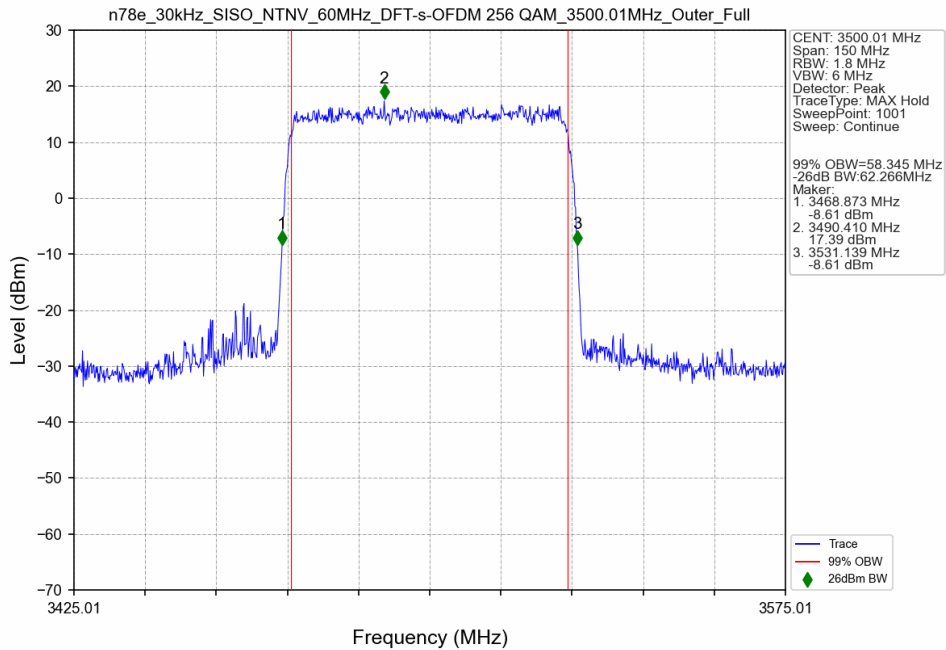
n78e\_30kHz\_SISO\_NTNV\_60MHz\_DFT-s-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



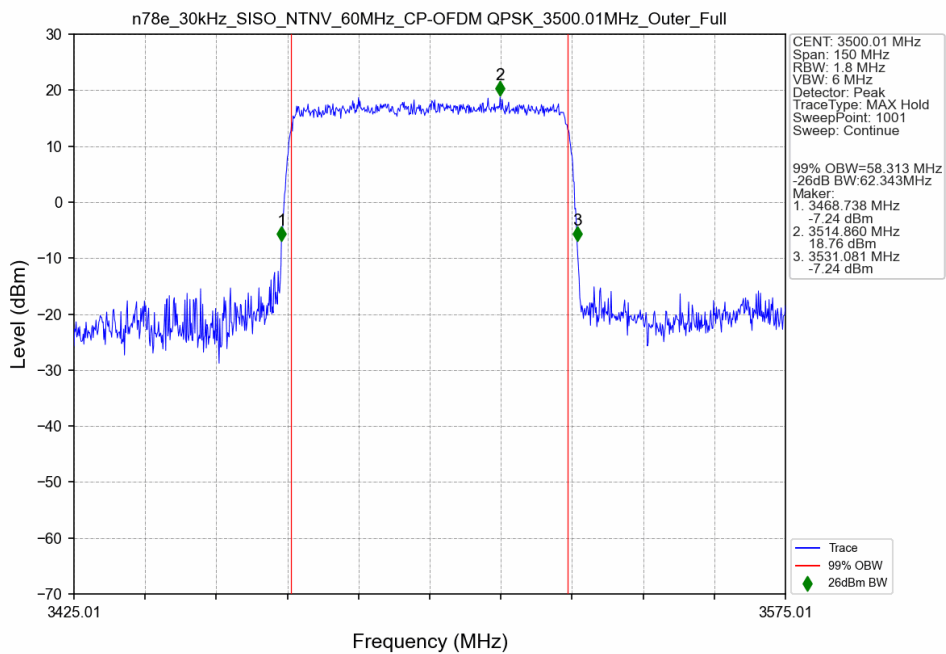
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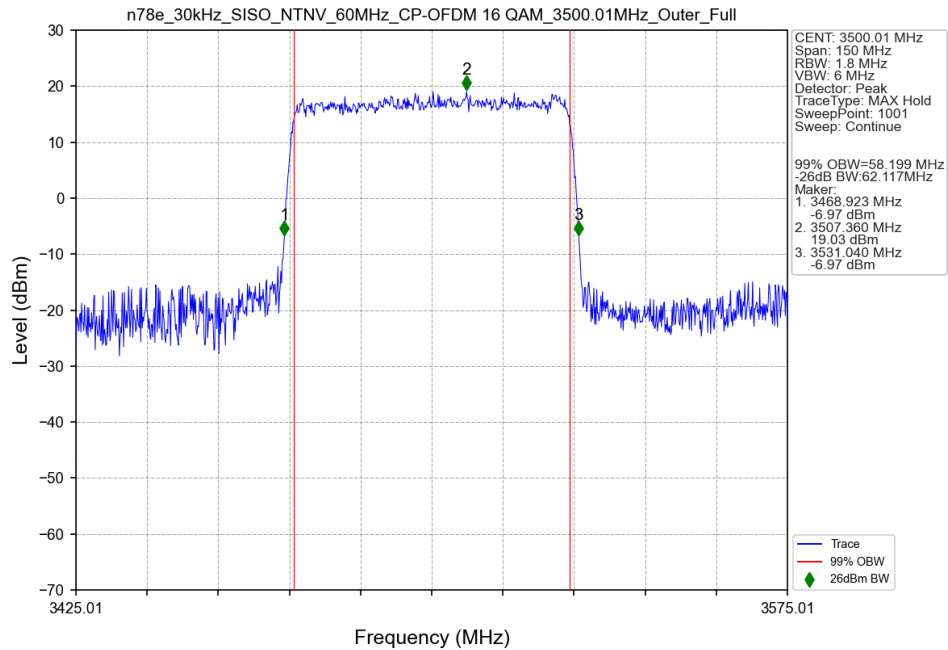
n78e\_30kHz\_SISO\_NTNV\_60MHz\_DFT-s-OFDM 256 QAM\_3500.01MHz\_Outer\_Full\_Ant8



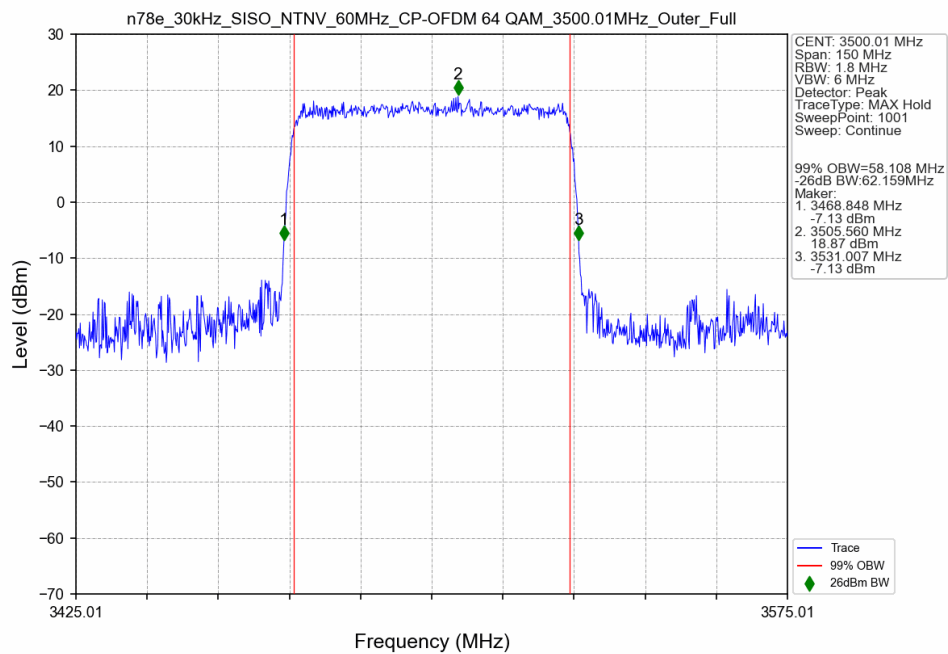
n78e\_30kHz\_SISO\_NTNV\_60MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8

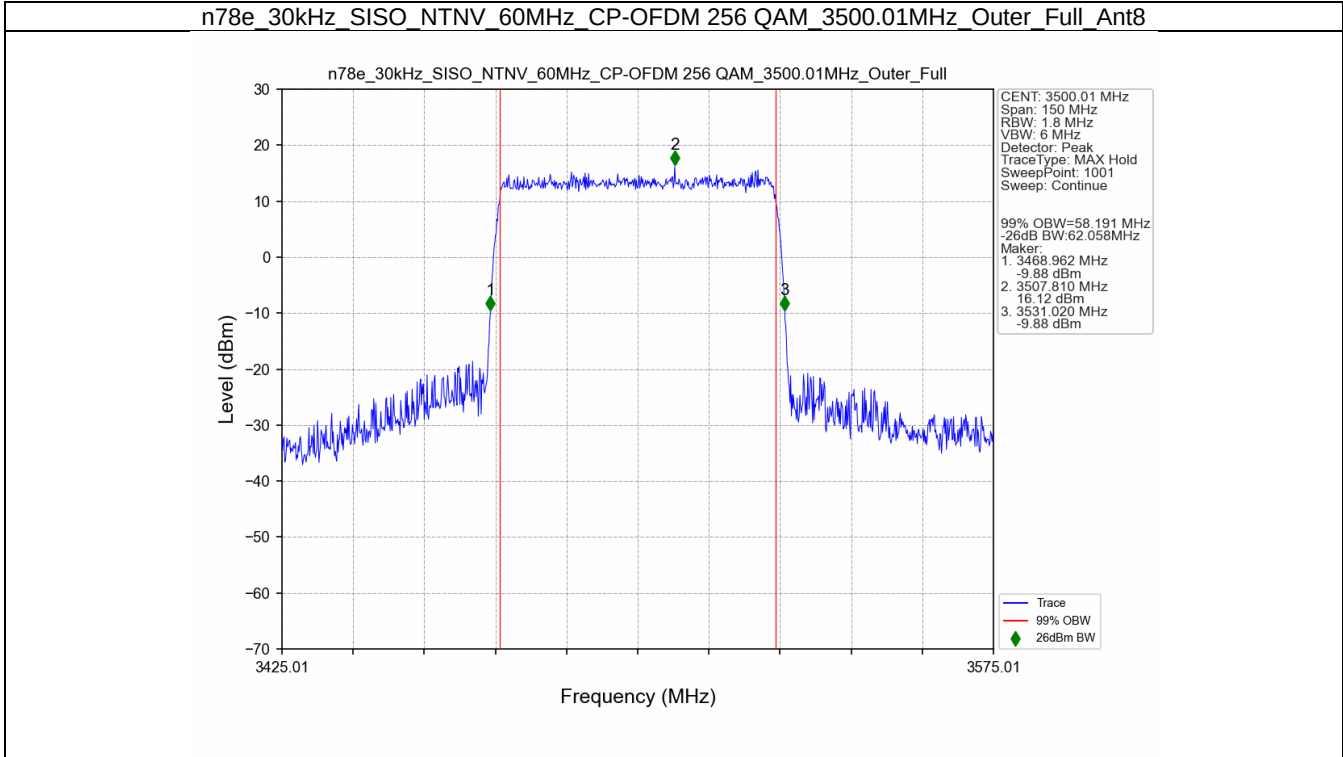


n78e\_30kHz\_SISO\_NTNV\_60MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8

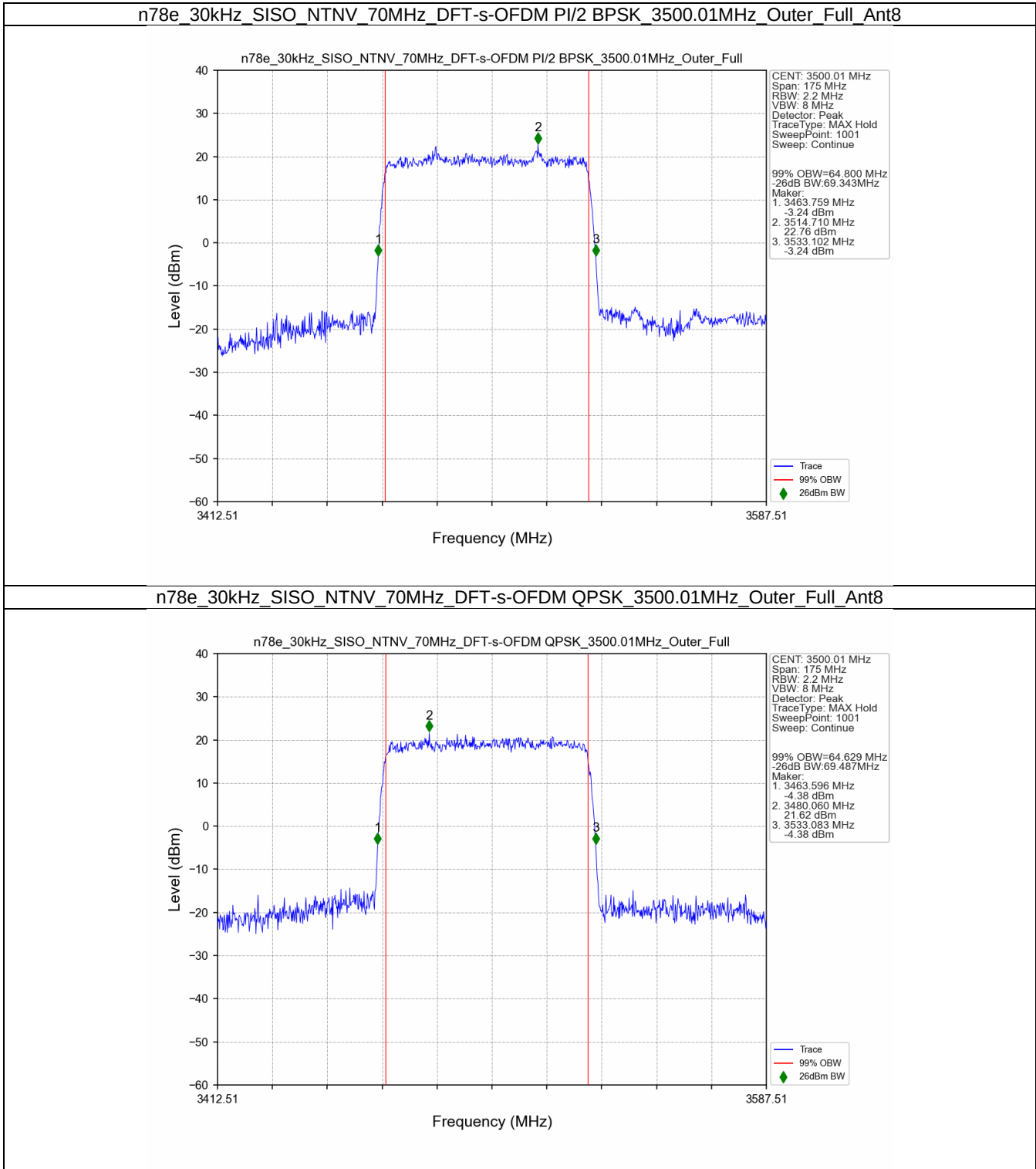


n78e\_30kHz\_SISO\_NTNV\_60MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8

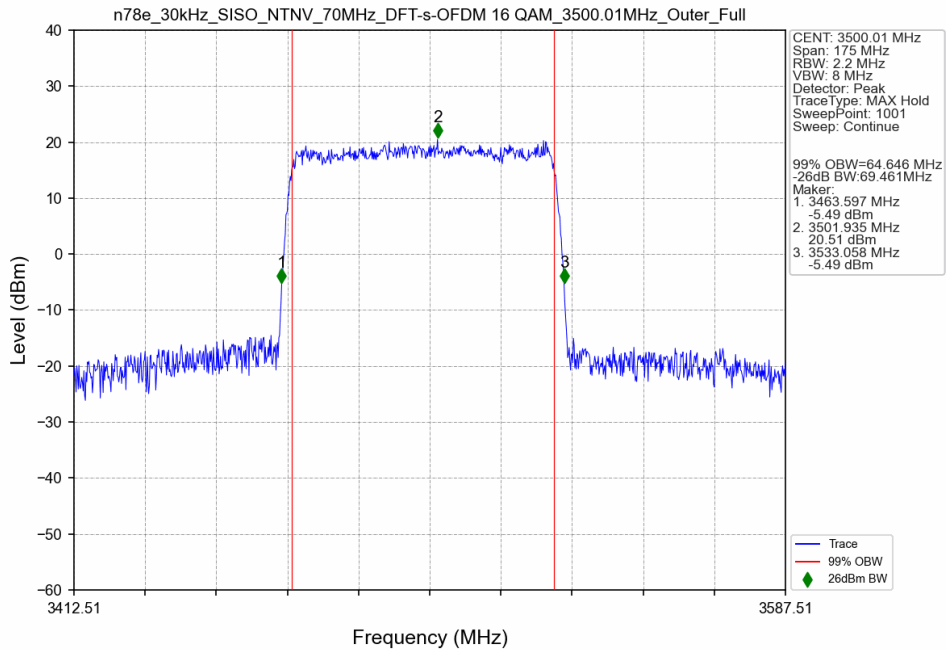




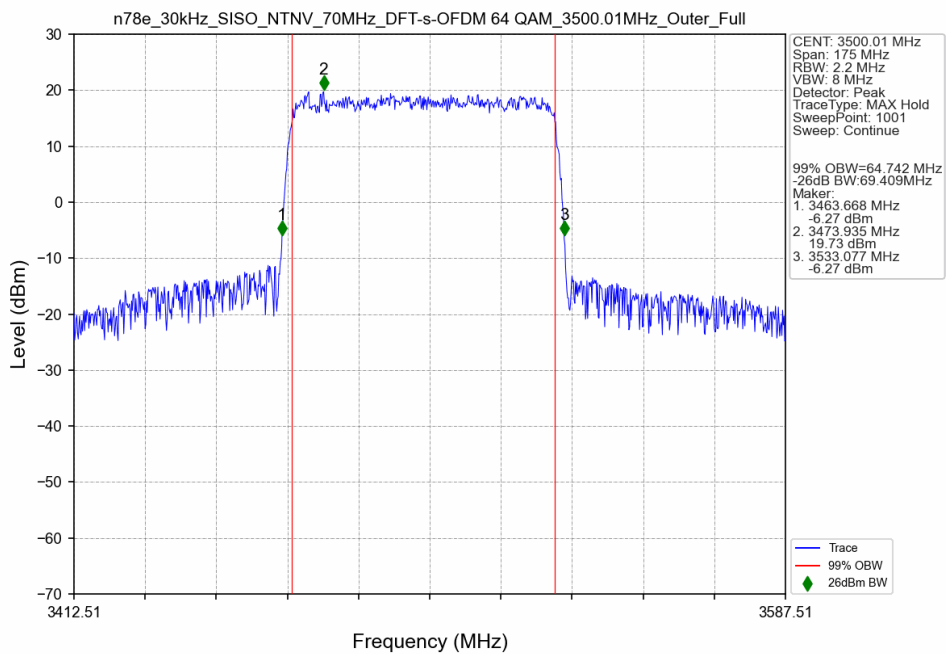
3.2.9 30\_S\_70M\_NTNV



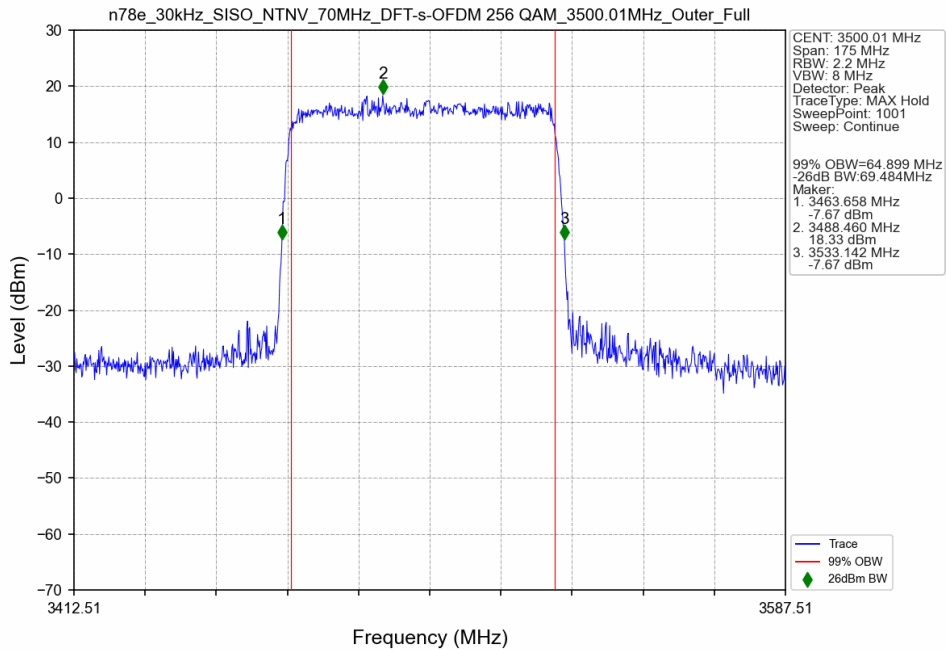
n78e\_30kHz\_SISO\_NTNV\_70MHz\_DFT-s-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



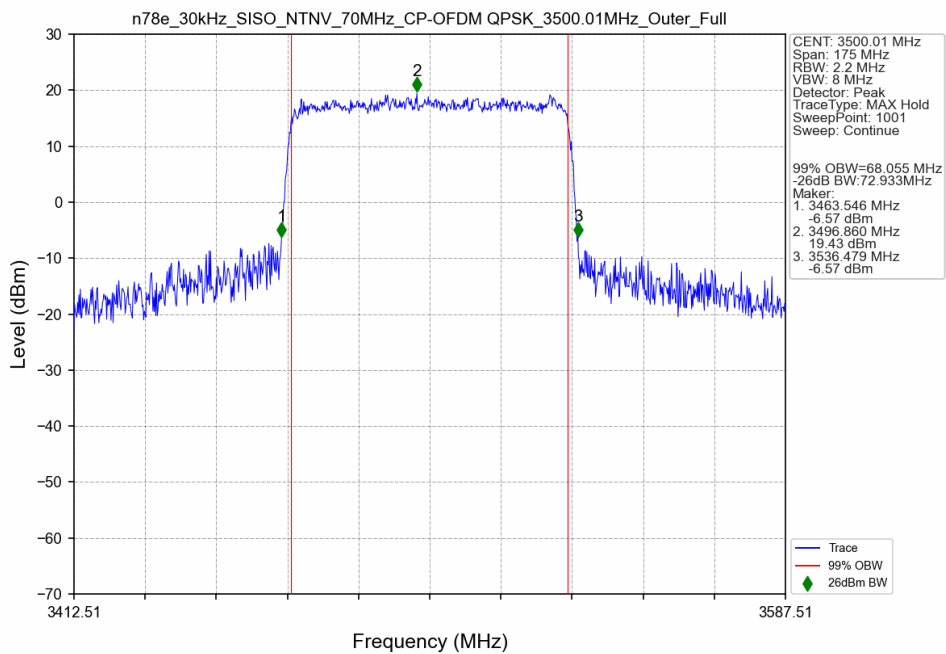
n78e\_30kHz\_SISO\_NTNV\_70MHz\_DFT-s-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8



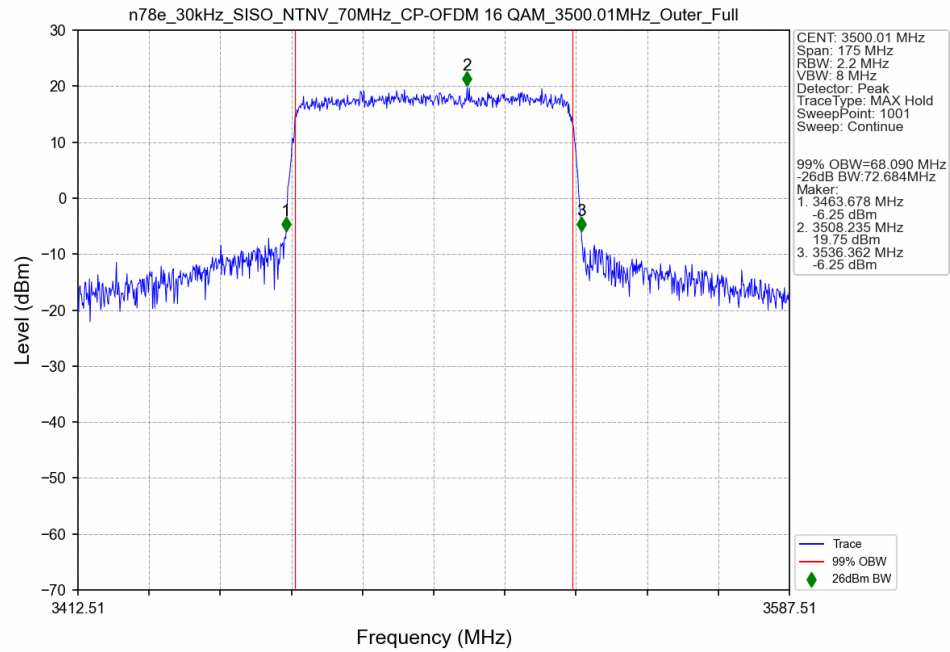
n78e\_30kHz\_SISO\_NTNV\_70MHz\_DFT-s-OFDM 256 QAM\_3500.01MHz\_Outer\_Full\_Ant8



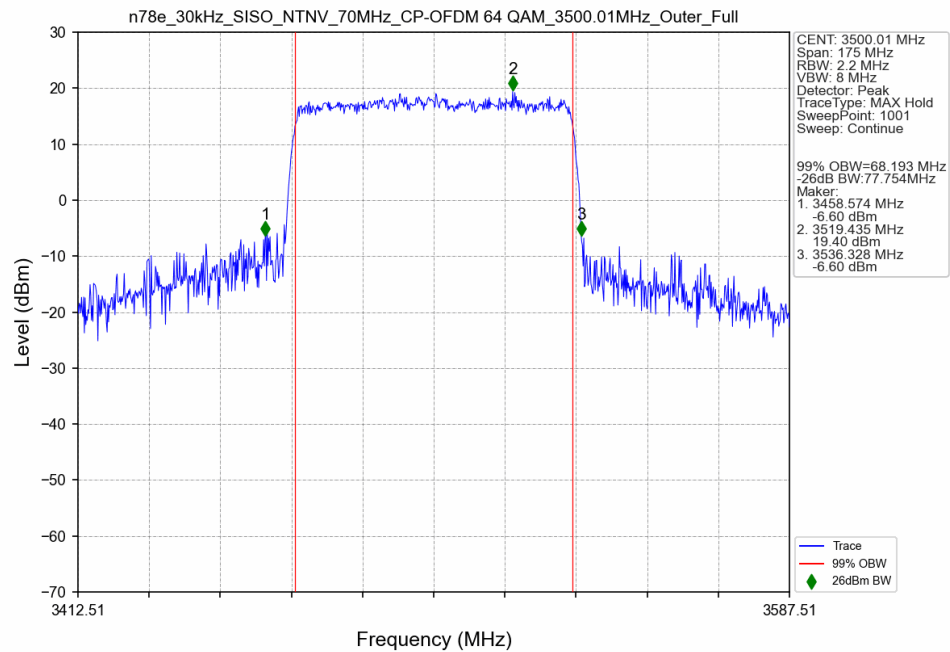
n78e\_30kHz\_SISO\_NTNV\_70MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8

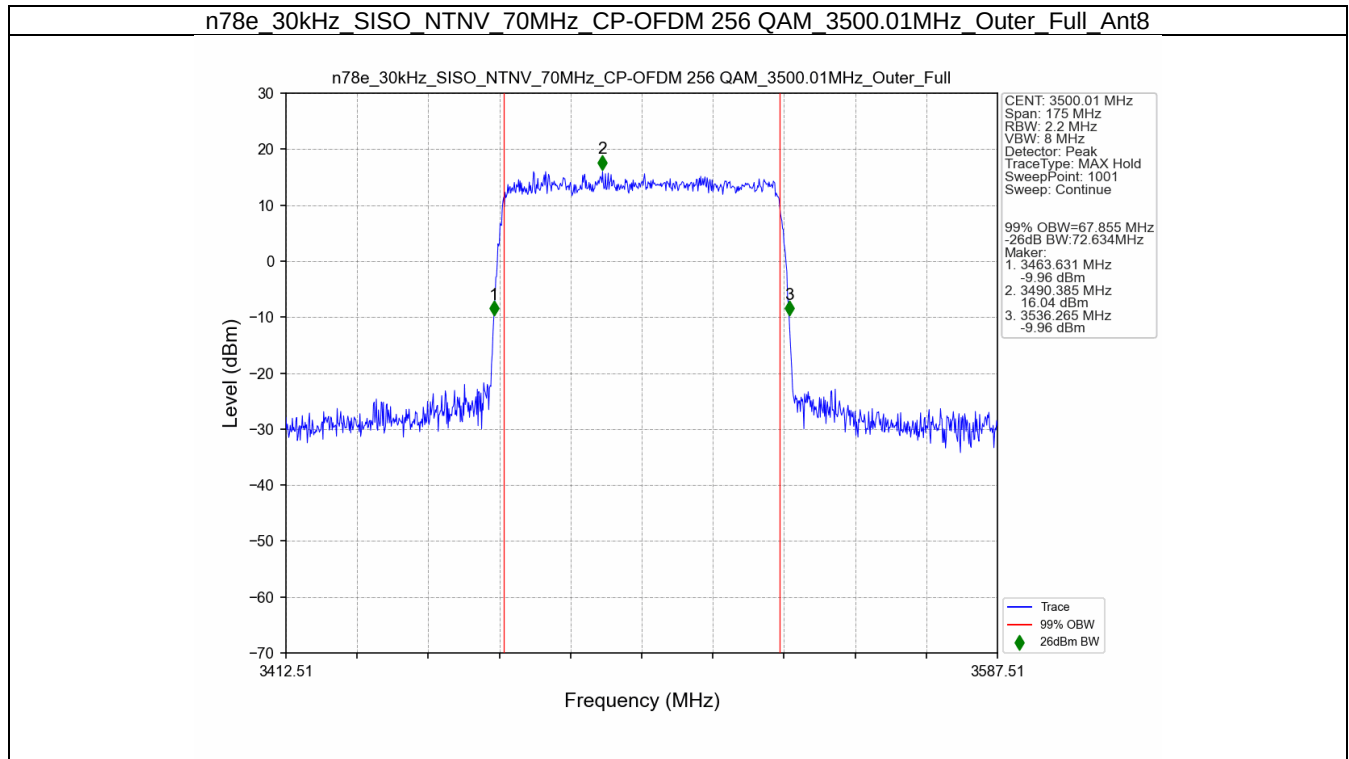


n78e\_30kHz\_SISO\_NTNV\_70MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8

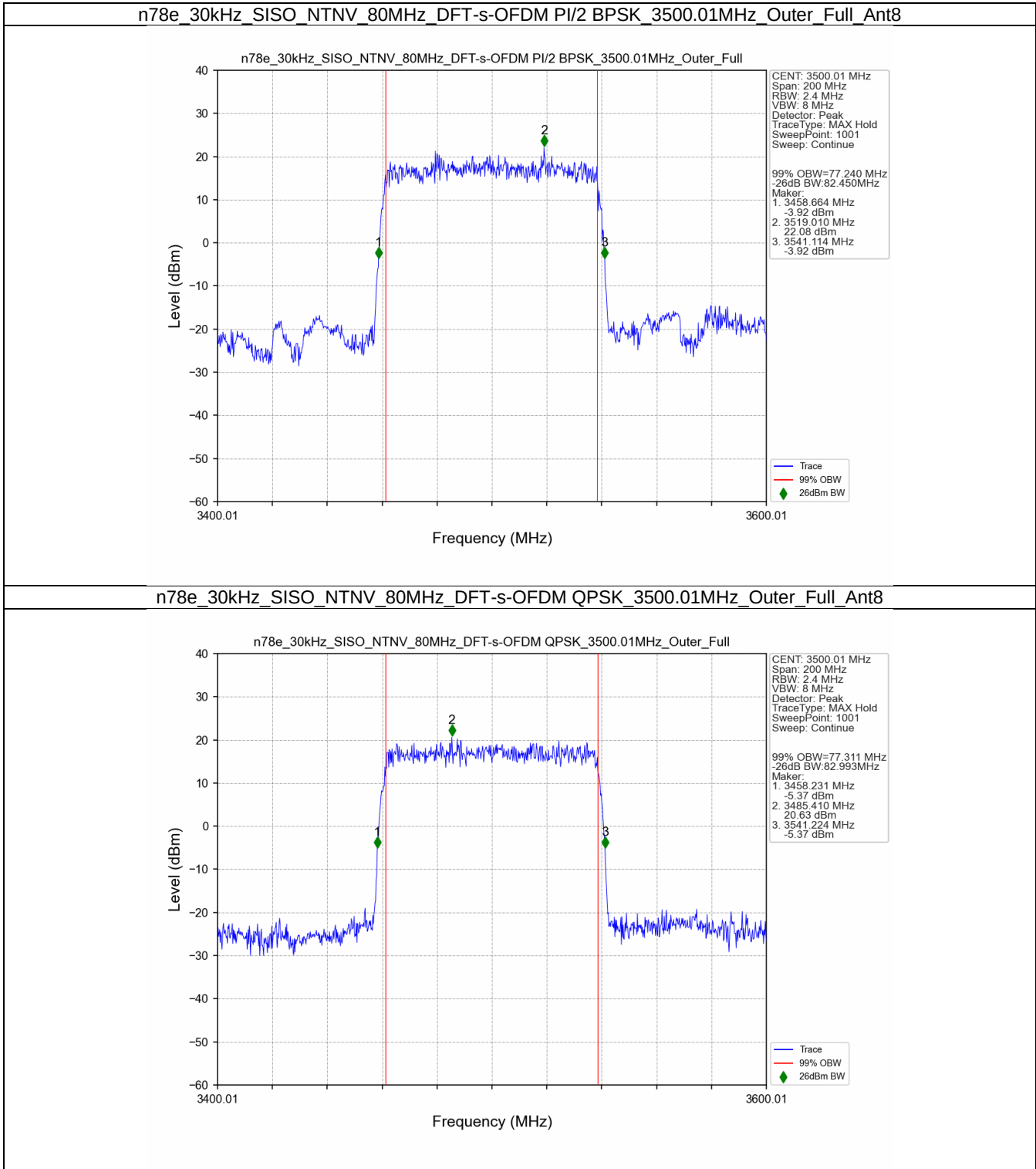


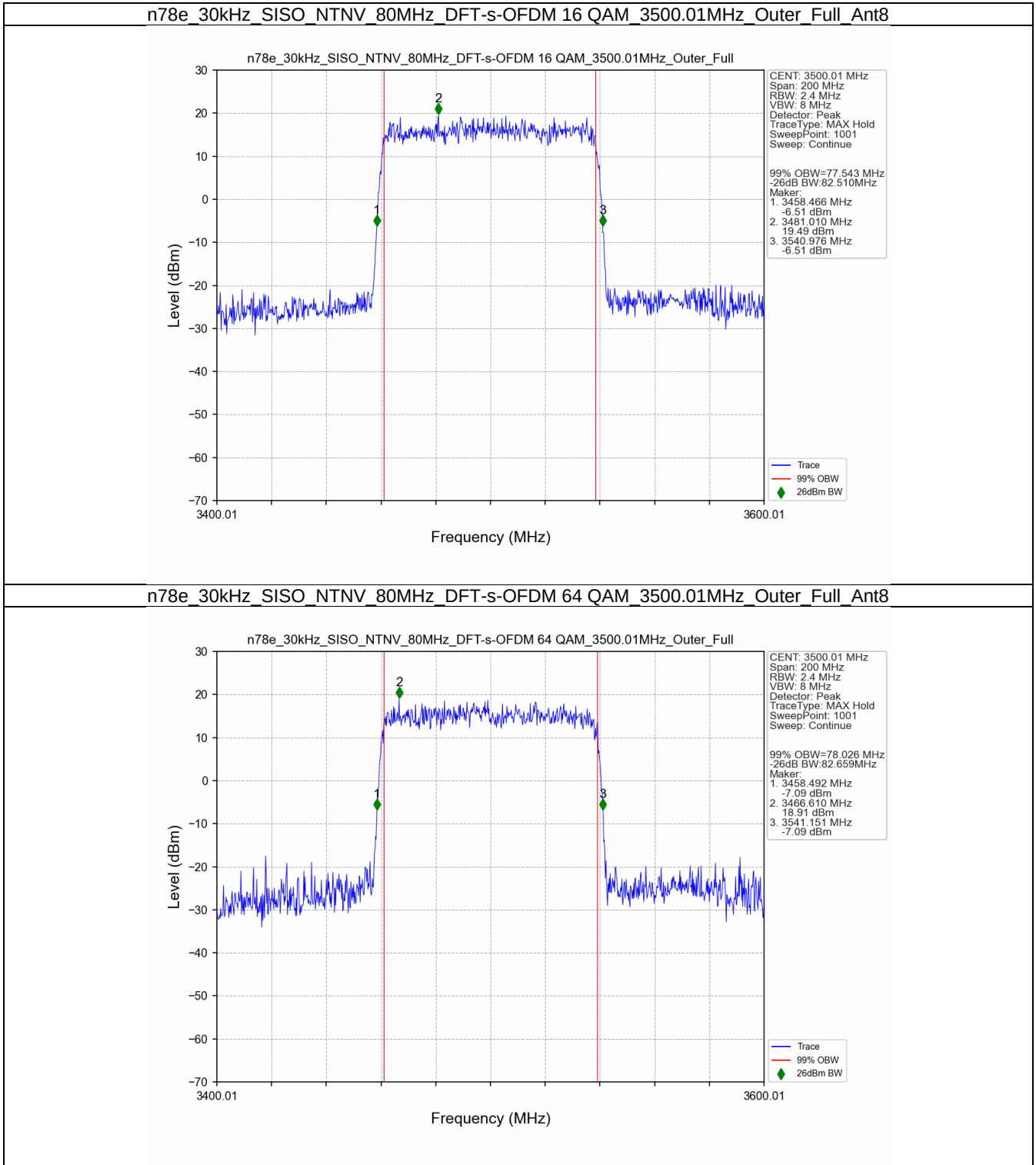
n78e\_30kHz\_SISO\_NTNV\_70MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8



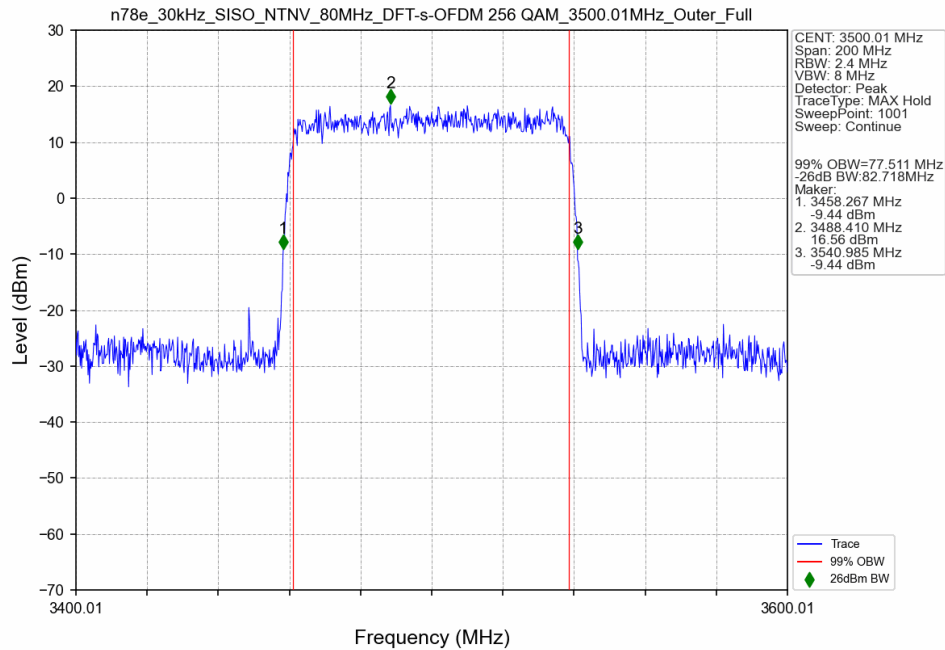


3.2.10 30\_S\_80M\_NTNV

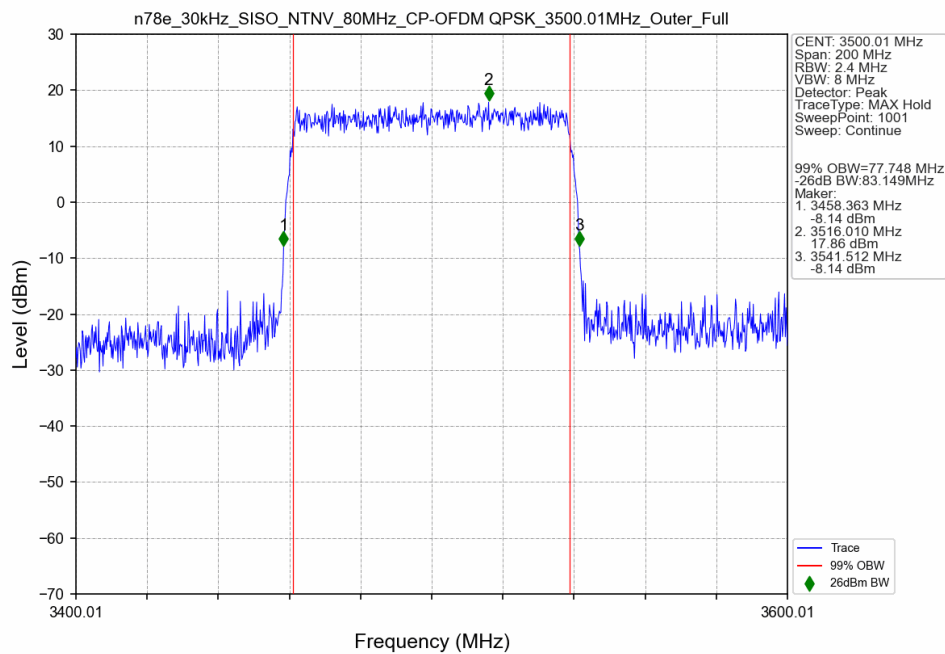




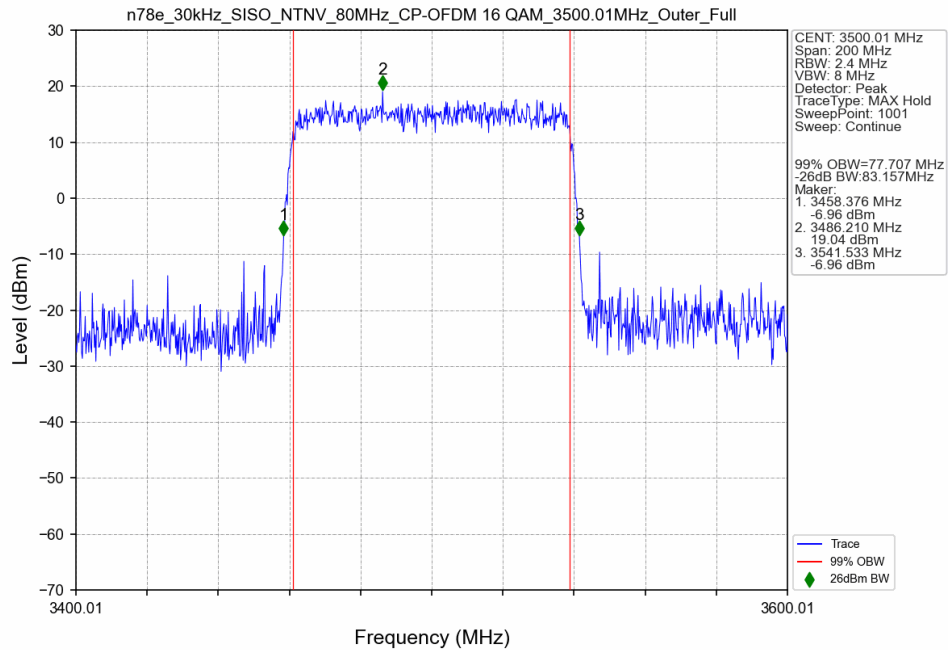
n78e\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 256 QAM\_3500.01MHz\_Outer\_Full\_Ant8



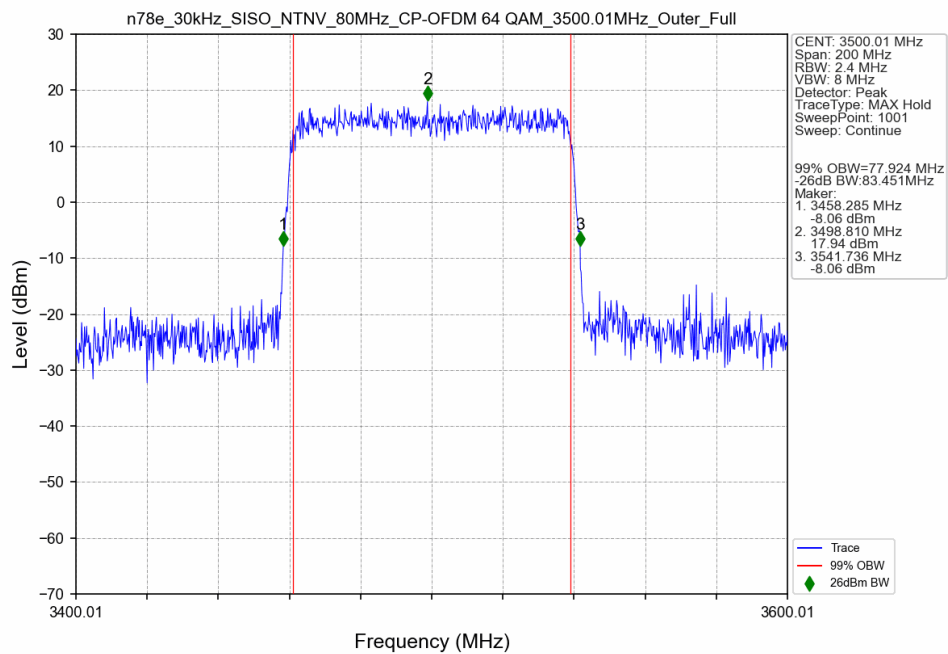
n78e\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8

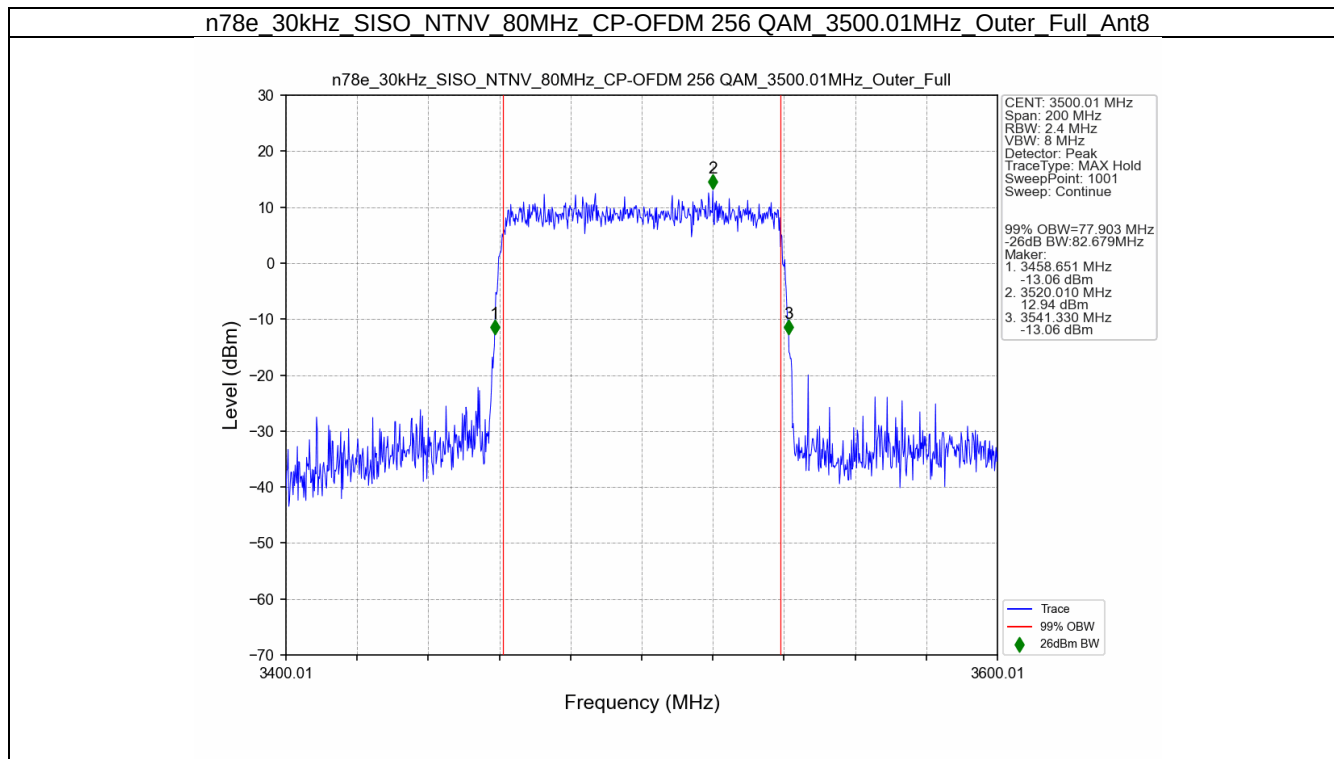


n78e\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8

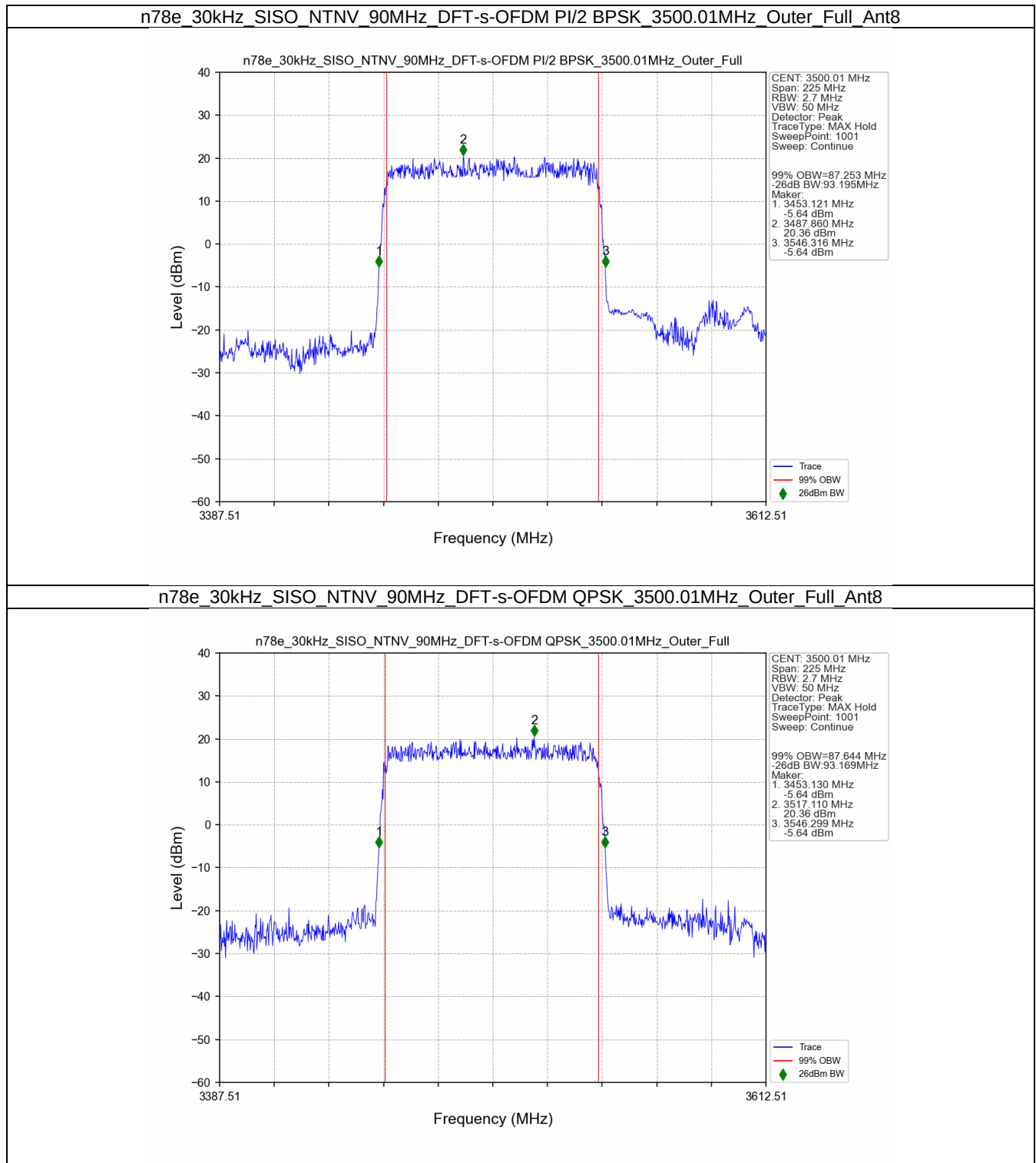


n78e\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8

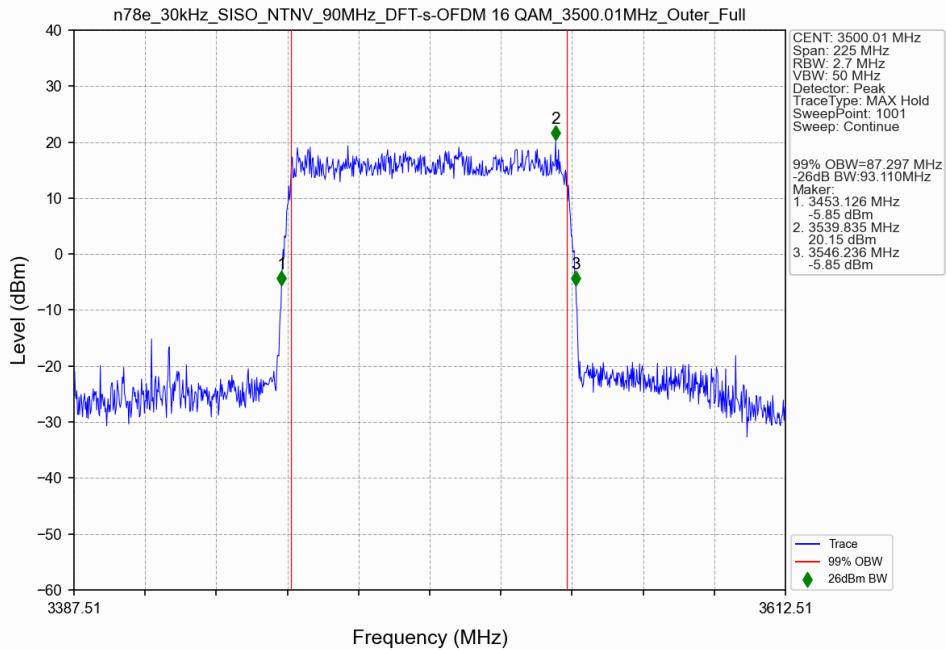




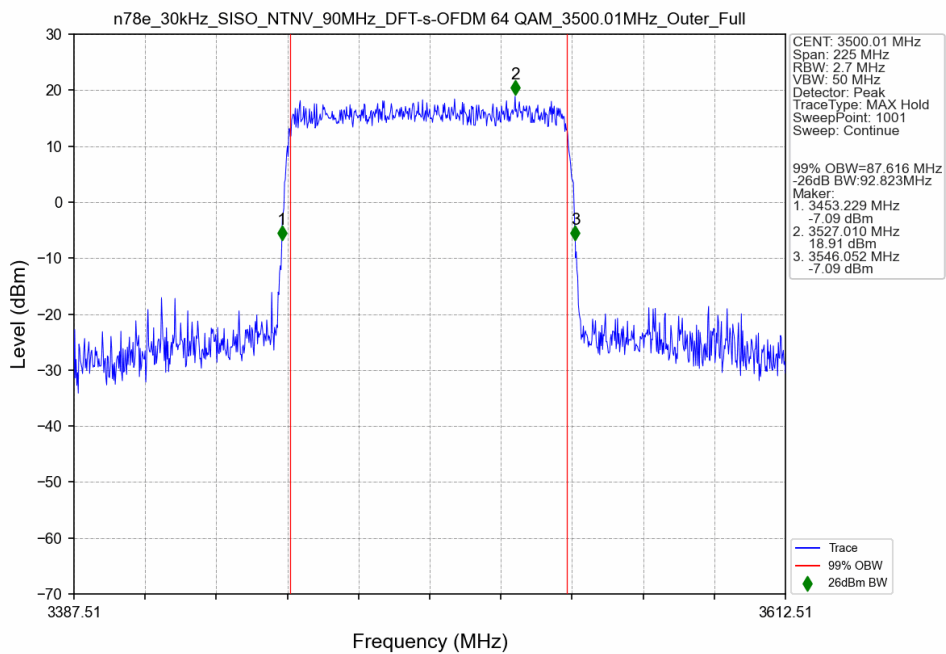
### 3.2.11 30\_S\_90M\_NTNV



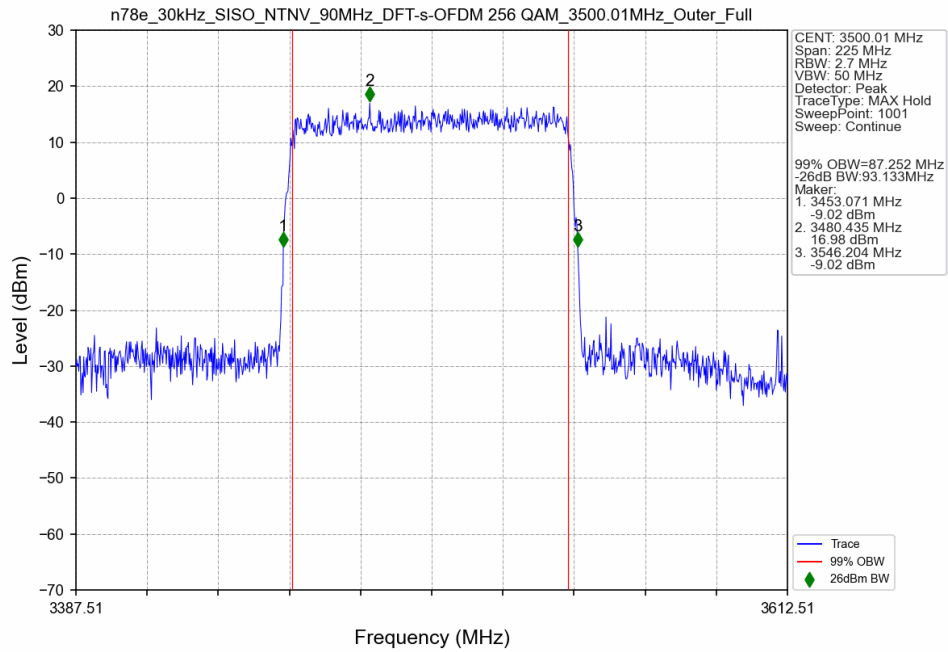
n78e\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



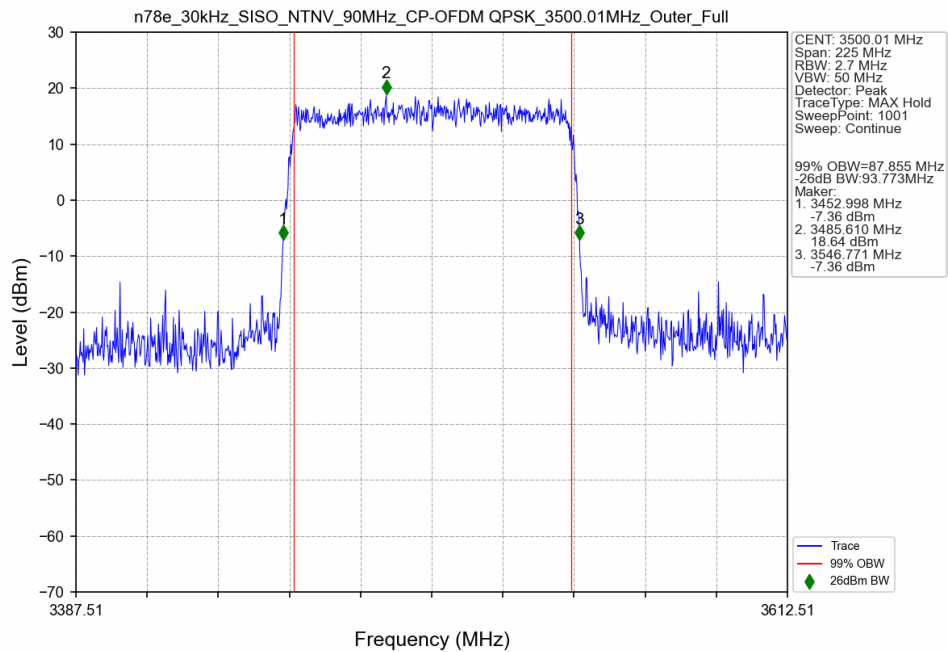
n78e\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8



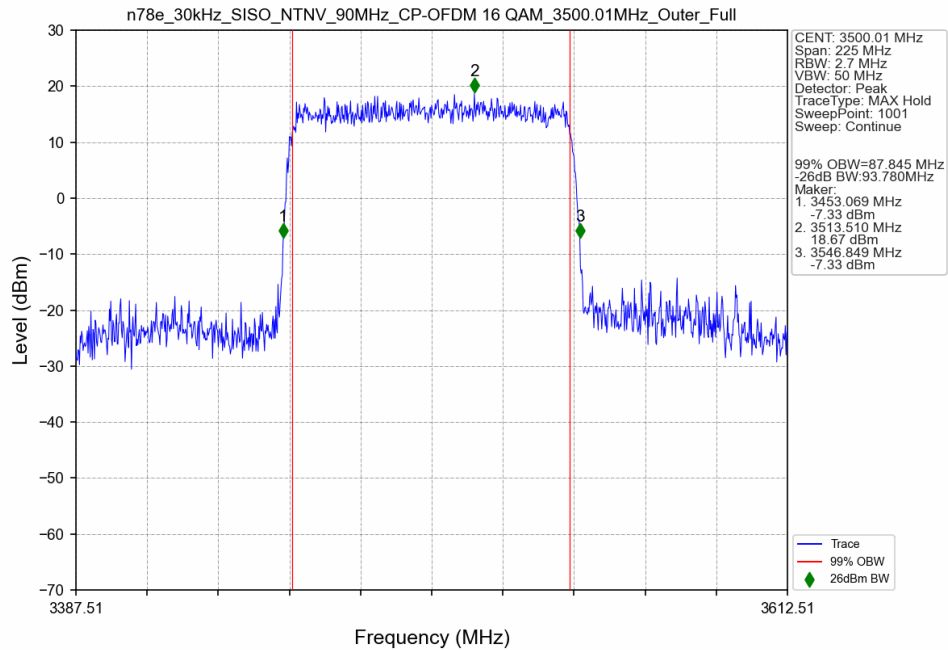
## n78e\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM\_256\_QAM\_3500.01MHz\_Outer\_Full\_Ant8



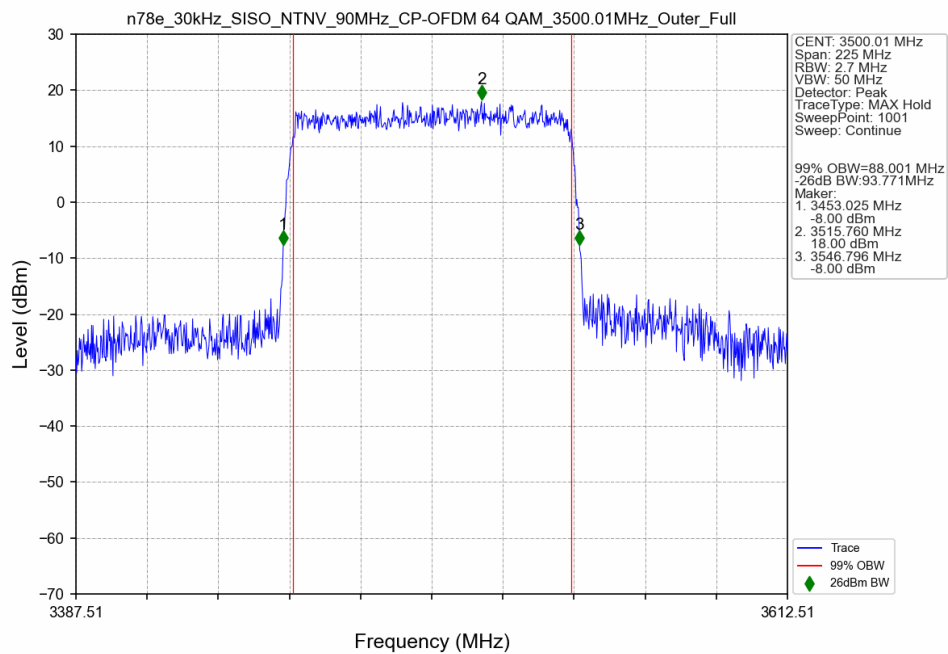
## n78e\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM\_QPSK\_3500.01MHz\_Outer\_Full\_Ant8

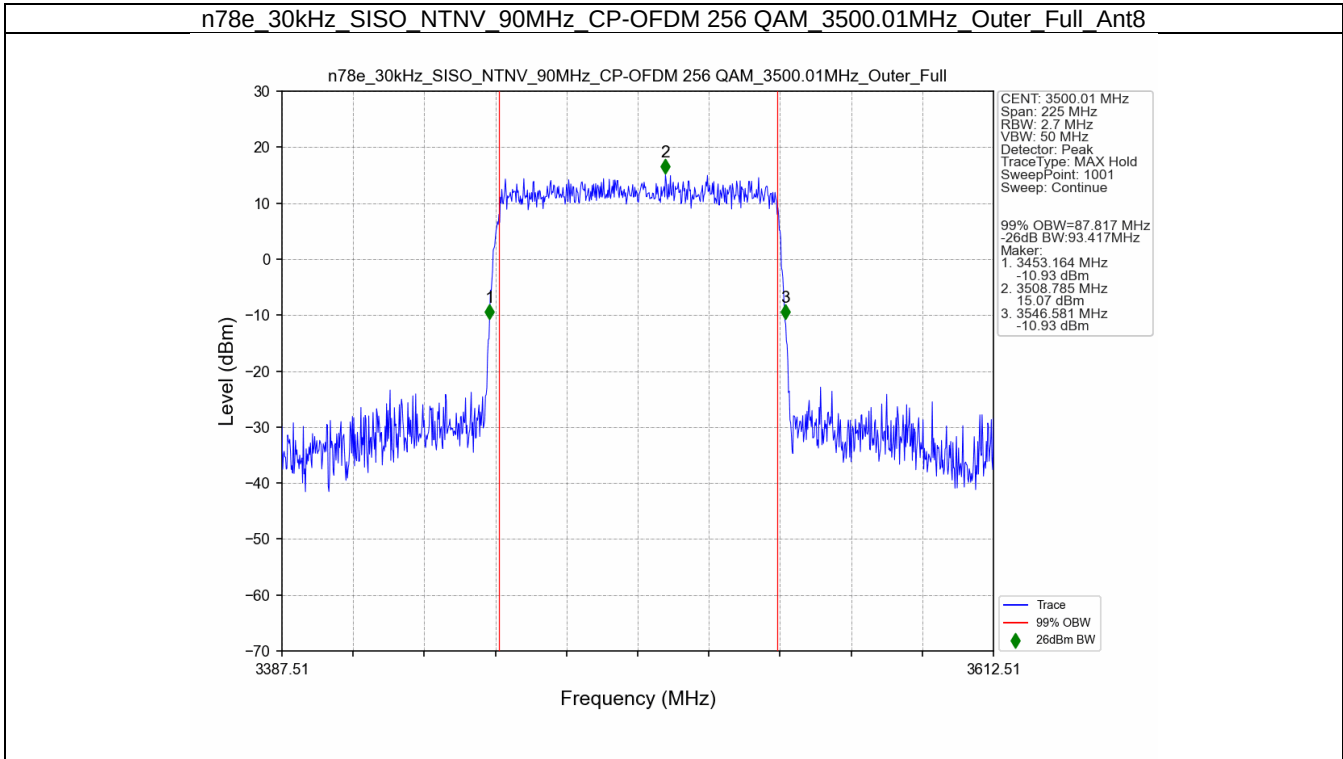


n78e\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8

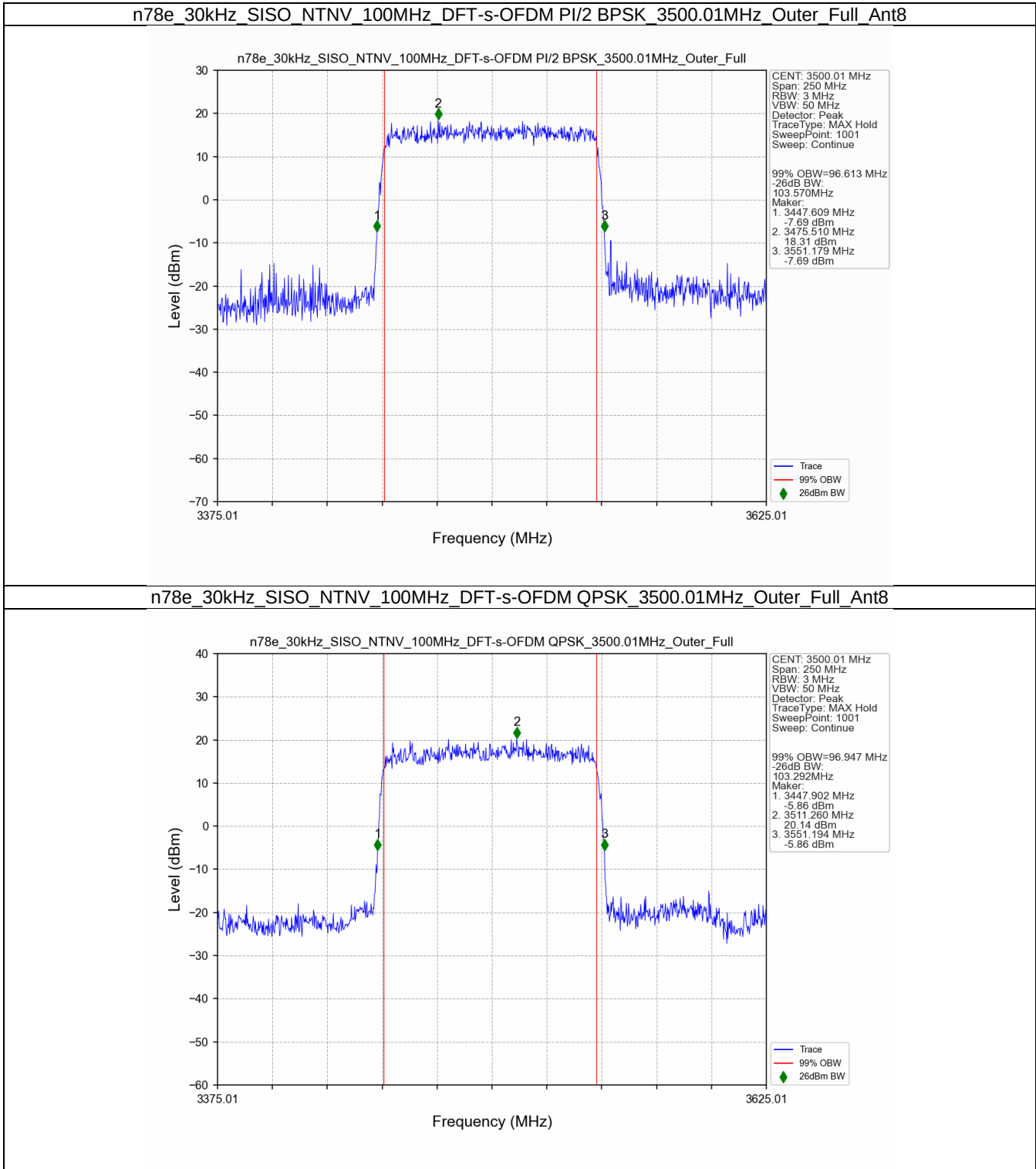


n78e\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8

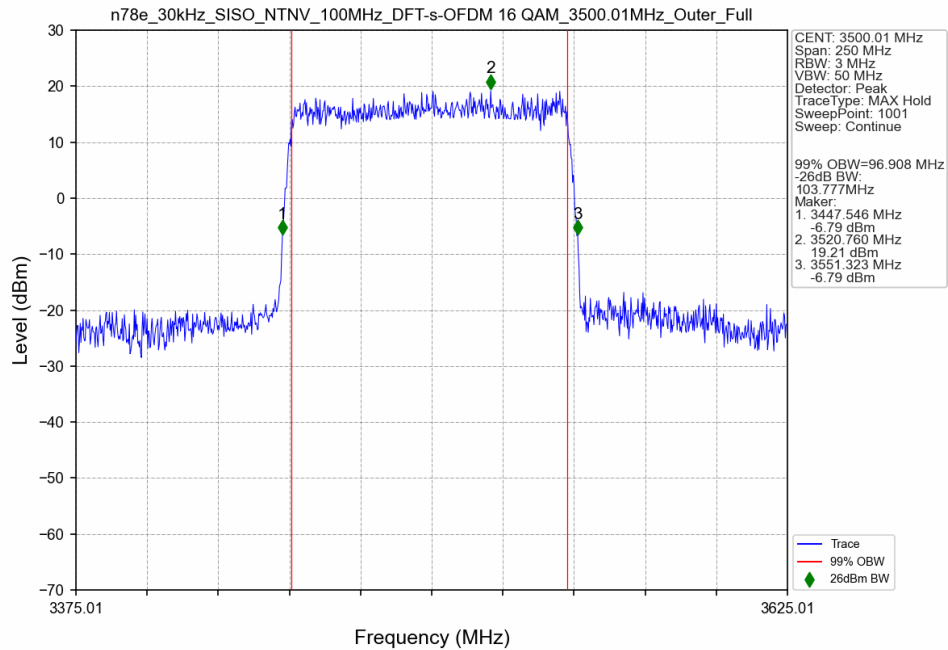




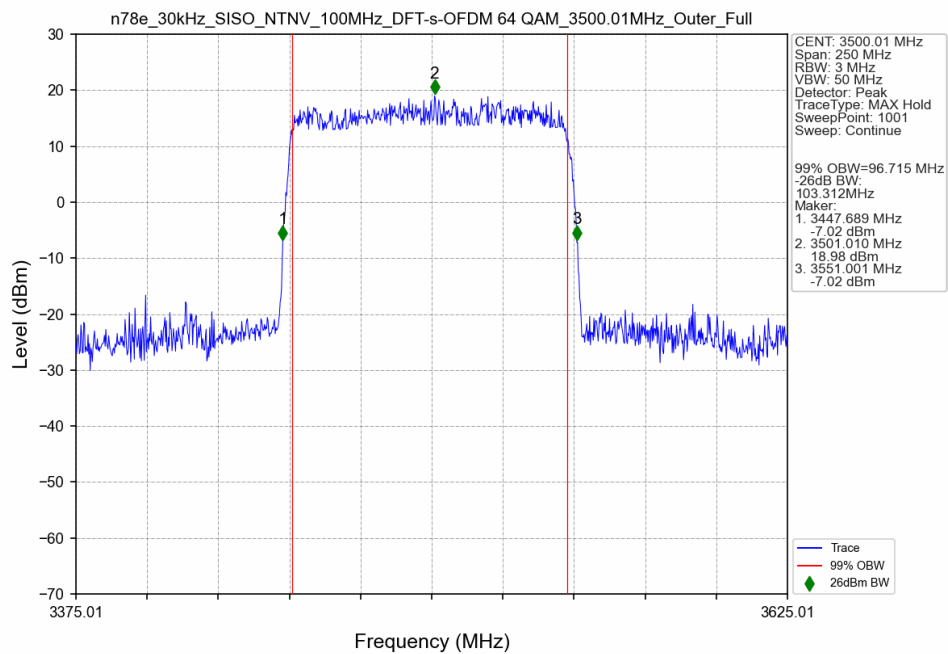
3.2.12 30\_S\_100M\_NTNV



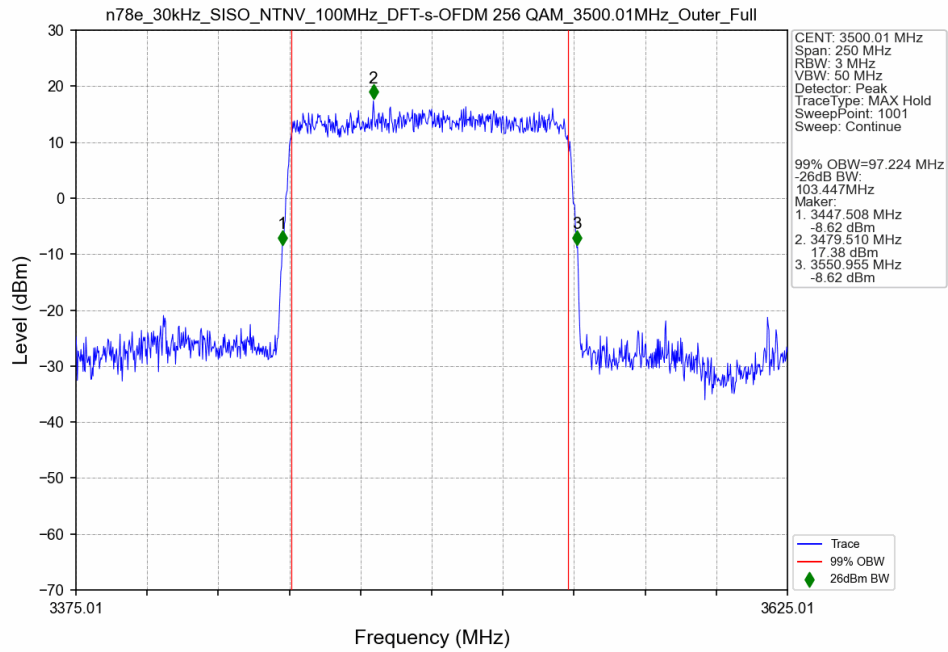
n78e\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



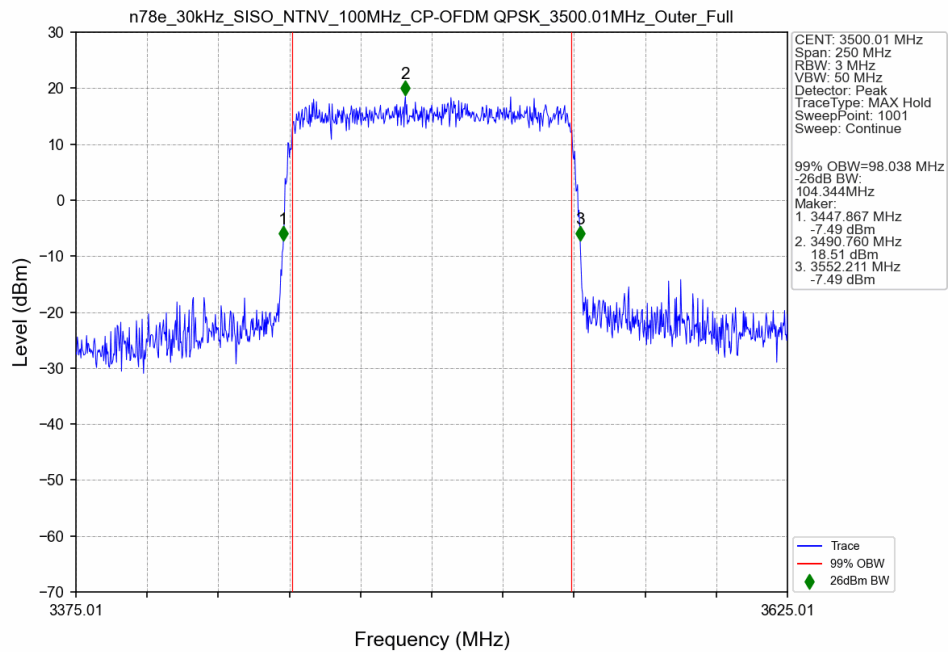
n78e\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8



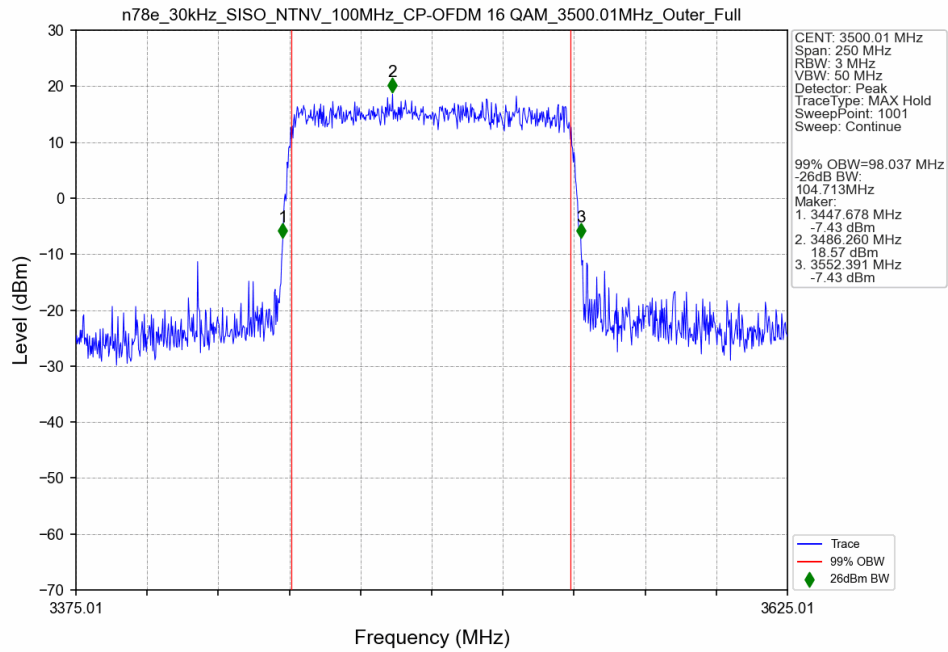
n78e\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 256 QAM\_3500.01MHz\_Outer\_Full\_Ant8



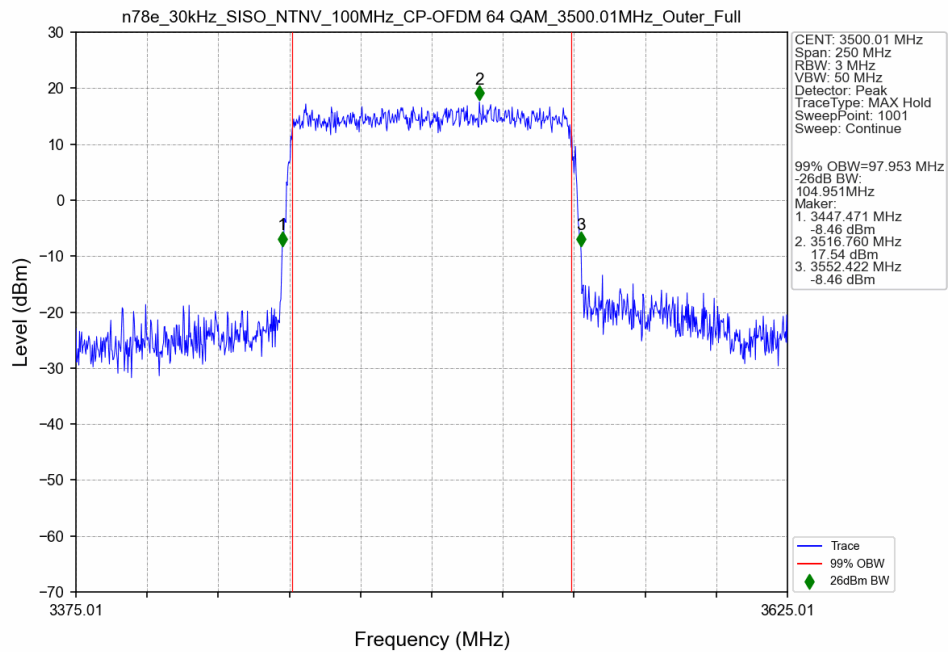
n78e\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8

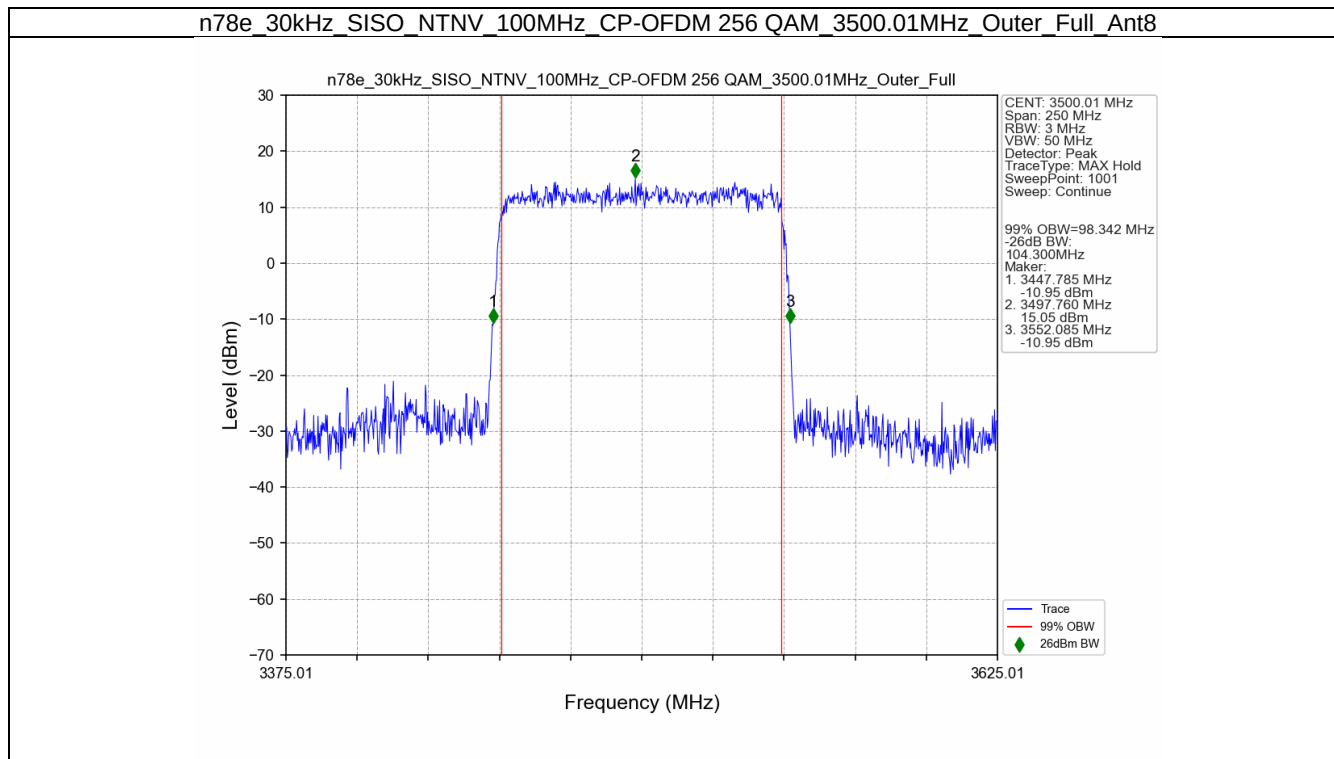


n78e\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 16 QAM\_3500.01MHz\_Outer\_Full\_Ant8



n78e\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 64 QAM\_3500.01MHz\_Outer\_Full\_Ant8





## 4. Peak-Average Ratio

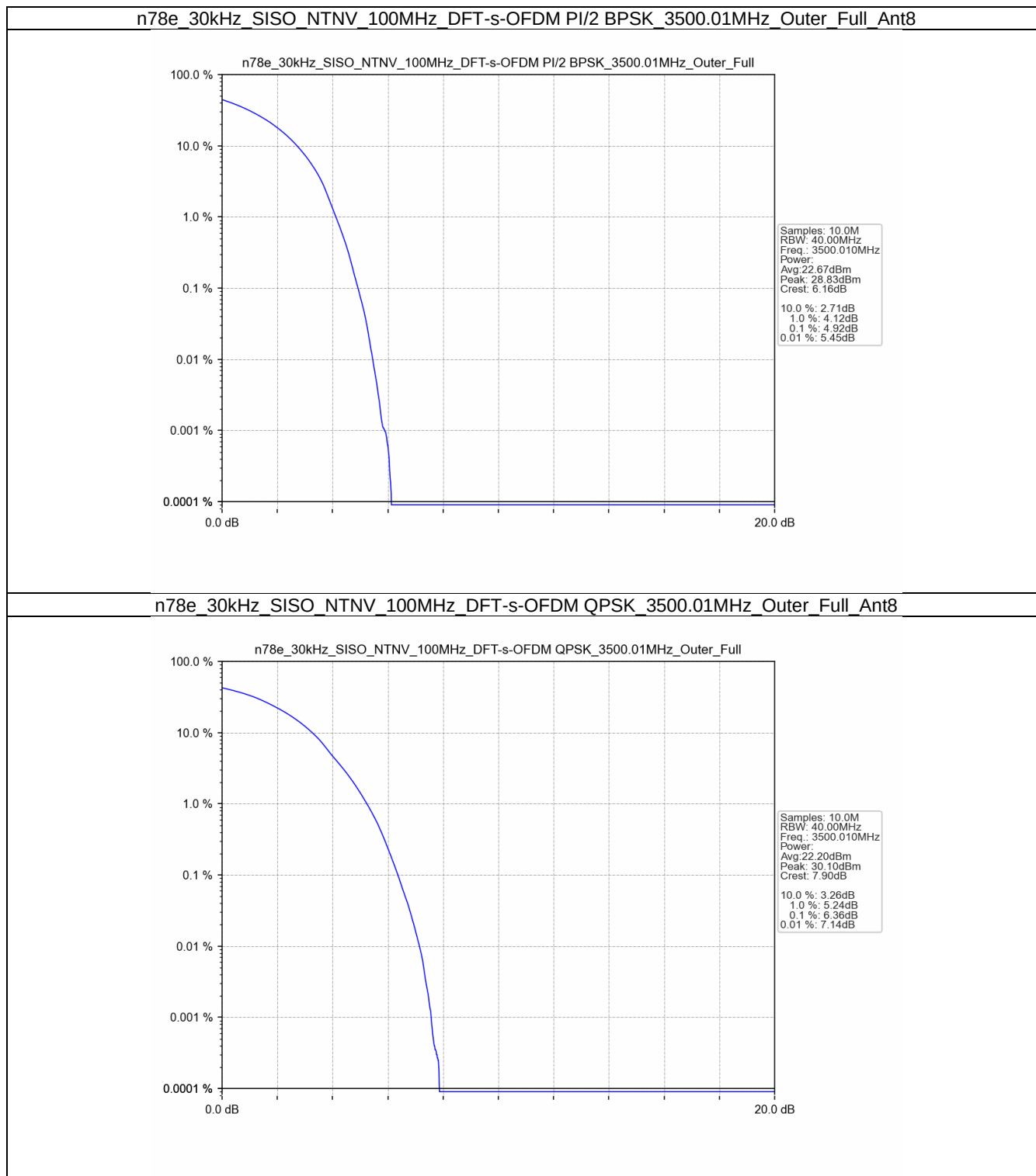
### 4.1 Test Result

#### 4.1.1 30\_S\_100M\_NTNV

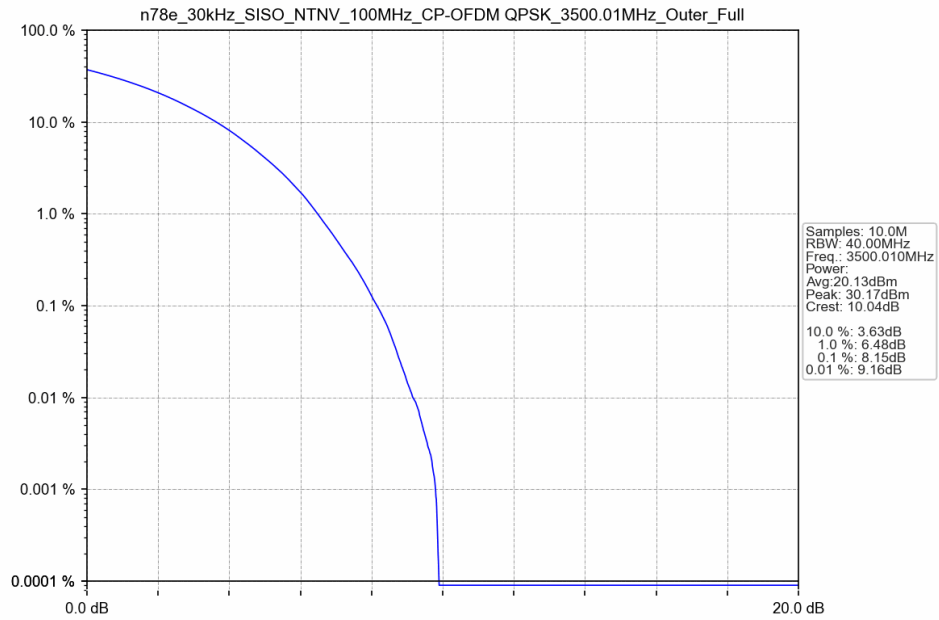
| 5G NR n78e SCS=30kHz SISO 100MHz NTN |                 |               |                         |      |     |       |         |
|--------------------------------------|-----------------|---------------|-------------------------|------|-----|-------|---------|
| Modulation                           | Frequency (MHz) | RB Allocation | Peak-Average Ratio (dB) |      |     |       | Verdict |
|                                      |                 |               | Ant8                    | Ant2 | Sum | Limit |         |
| DFT-s-OFDM PI/2 BPSK                 | 3500.01         | Outer_Full    | 4.92                    | /    | /   | <=13  | Pass    |
| DFT-s-OFDM QPSK                      | 3500.01         | Outer_Full    | 6.36                    | /    | /   | <=13  | Pass    |
| CP-OFDM QPSK                         | 3500.01         | Outer_Full    | 8.15                    | /    | /   | <=13  | Pass    |

## 4.2 Test Graph

## 4.2.1 30\_S\_100M\_NTNV



n78e\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM QPSK\_3500.01MHz\_Outer\_Full\_Ant8



## 5. Spurious Emission

### 5.1 Test Result

#### 5.1.1 30\_S\_10M\_NTNV

| 5G NR n78e SCS=30kHz SISO 10MHz NTN |                 |                |                     |      |     |       |         |
|-------------------------------------|-----------------|----------------|---------------------|------|-----|-------|---------|
| Modulation                          | Frequency (MHz) | RB Allocation  | Spurious Emission   |      |     |       | Verdict |
|                                     |                 |                | Ant8                | Ant2 | Sum | Limit |         |
| DFT-s-OFDM PI/2 BPSK                | 3455.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3500.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Edge_1RB_Right | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3544.98         | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 |                |                     |      |     |       |         |
| DFT-s-OFDM QPSK                     | 3455.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3500.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Edge_1RB_Right | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3544.98         | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 |                |                     |      |     |       |         |
| CP-OFDM QPSK                        | 3455.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3500.01         | Edge_1RB_Left  | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 | Edge_1RB_Right | Refer To Test Graph |      |     |       | Pass    |
|                                     | 3544.98         | Outer_Full     | Refer To Test Graph |      |     |       | Pass    |
|                                     |                 |                |                     |      |     |       |         |

#### 5.1.2 30\_S\_50M\_NTNV

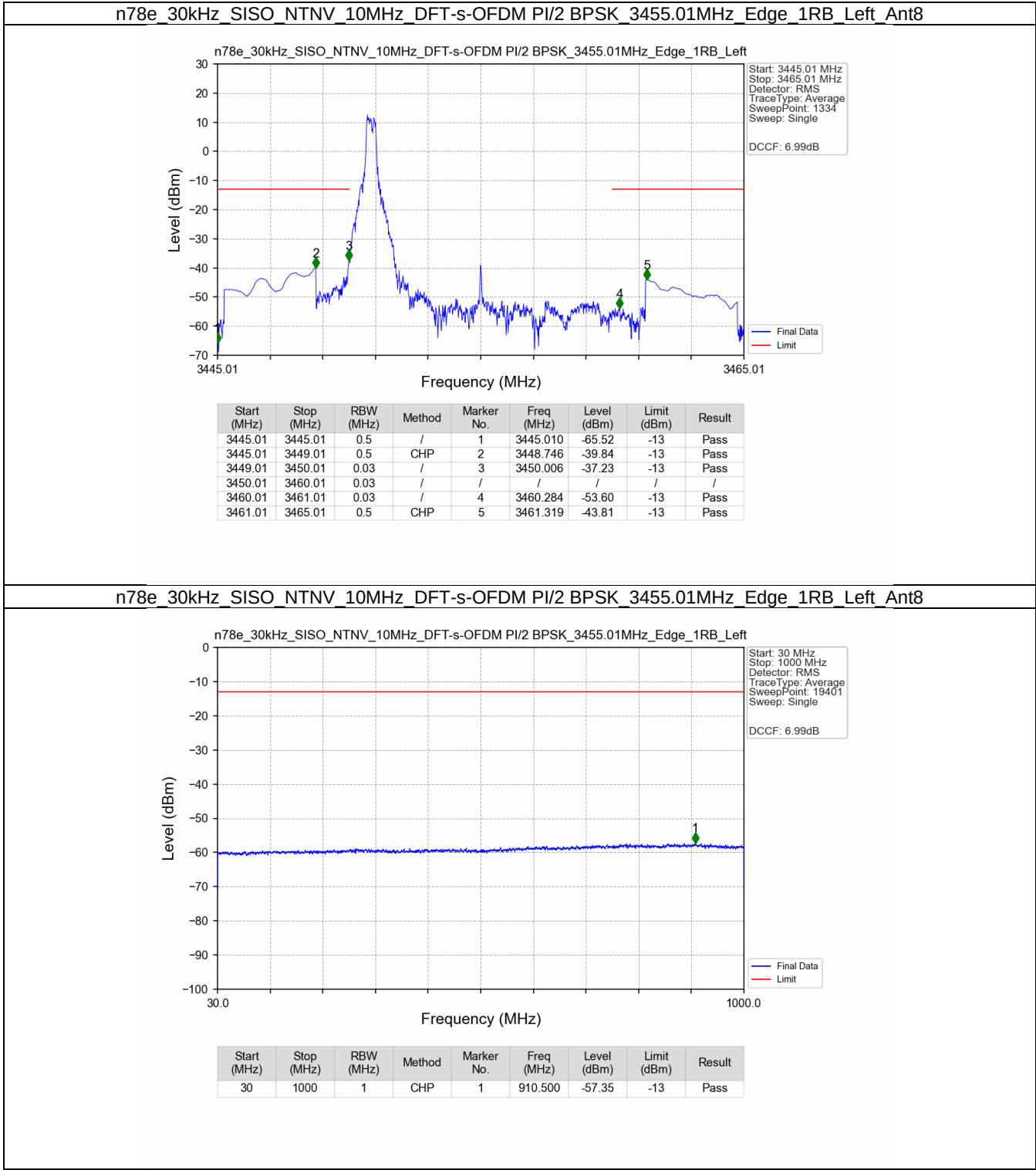
| 5G NR n78e SCS=30kHz SISO 50MHz NTN |                 |               |                     |                     |     |       |         |
|-------------------------------------|-----------------|---------------|---------------------|---------------------|-----|-------|---------|
| Modulation                          | Frequency (MHz) | RB Allocation | Spurious Emission   |                     |     |       | Verdict |
|                                     |                 |               | Ant8                | Ant2                | Sum | Limit |         |
| DFT-s-OFDM PI/2 BPSK                | 3475.02         | Edge_1RB_Left | Refer To Test Graph |                     |     |       | Pass    |
|                                     |                 | Outer_Full    | Refer To Test Graph |                     |     |       | Pass    |
|                                     | 3500.01         | Edge_1RB_Left | Refer To Test Graph |                     |     |       | Pass    |
|                                     |                 | 3525          | Edge_1RB_Right      | Refer To Test Graph |     |       |         |
|                                     |                 |               | Outer_Full          | Refer To Test Graph |     |       |         |
|                                     | DFT-s-OFDM QPSK | 3475.02       | Edge_1RB_Left       | Refer To Test Graph |     |       |         |
| Outer_Full                          |                 |               | Refer To Test Graph |                     |     |       | Pass    |
| 3500.01                             |                 | Edge_1RB_Left | Refer To Test Graph |                     |     |       | Pass    |
|                                     |                 | 3525          | Edge_1RB_Right      | Refer To Test Graph |     |       |         |
|                                     |                 |               | Outer_Full          | Refer To Test Graph |     |       |         |
| CP-OFDM QPSK                        |                 | 3475.02       | Edge_1RB_Left       | Refer To Test Graph |     |       |         |
|                                     | Outer_Full      |               | Refer To Test Graph |                     |     |       | Pass    |
|                                     | 3500.01         | Edge_1RB_Left | Refer To Test Graph |                     |     |       | Pass    |
|                                     |                 | 3525          | Edge_1RB_Right      | Refer To Test Graph |     |       |         |
|                                     |                 |               | Outer_Full          | Refer To Test Graph |     |       |         |

#### 5.1.3 30\_S\_100M\_NTNV

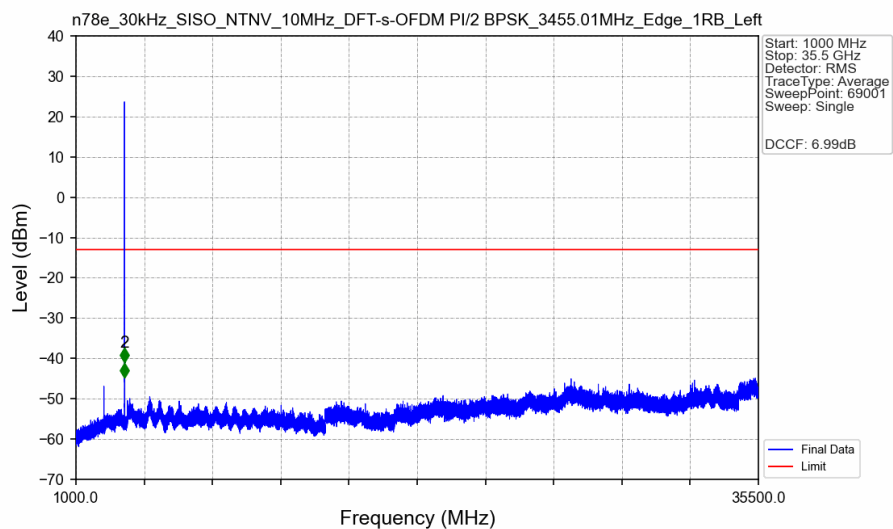
| 5G NR n78e SCS=30kHz SISO 100MHz NTN |                 |               |                     |      |     |       |         |
|--------------------------------------|-----------------|---------------|---------------------|------|-----|-------|---------|
| Modulation                           | Frequency (MHz) | RB Allocation | Spurious Emission   |      |     |       | Verdict |
|                                      |                 |               | Ant8                | Ant2 | Sum | Limit |         |
| DFT-s-OFDM PI/2 BPSK                 | 3500.01         | Edge_1RB_Left | Refer To Test Graph |      |     |       | Pass    |
|                                      |                 | Outer_Full    | Refer To Test Graph |      |     |       | Pass    |
| DFT-s-OFDM QPSK                      | 3500.01         | Edge_1RB_Left | Refer To Test Graph |      |     |       | Pass    |
|                                      |                 | Outer_Full    | Refer To Test Graph |      |     |       | Pass    |
| CP-OFDM QPSK                         | 3500.01         | Edge_1RB_Left | Refer To Test Graph |      |     |       | Pass    |
|                                      |                 | Outer_Full    | Refer To Test Graph |      |     |       | Pass    |

5.2 Test Graph

5.2.1 30\_S\_10M\_NTNV

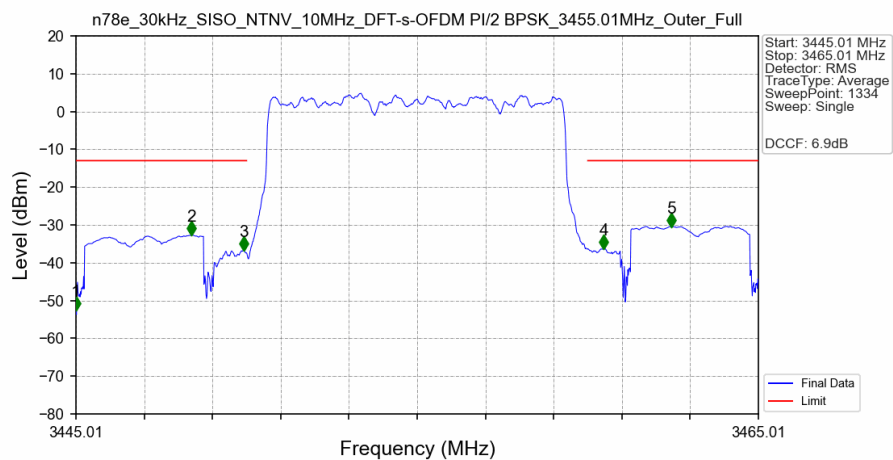


## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3455.01MHz\_Edge\_1RB\_Left\_Ant8



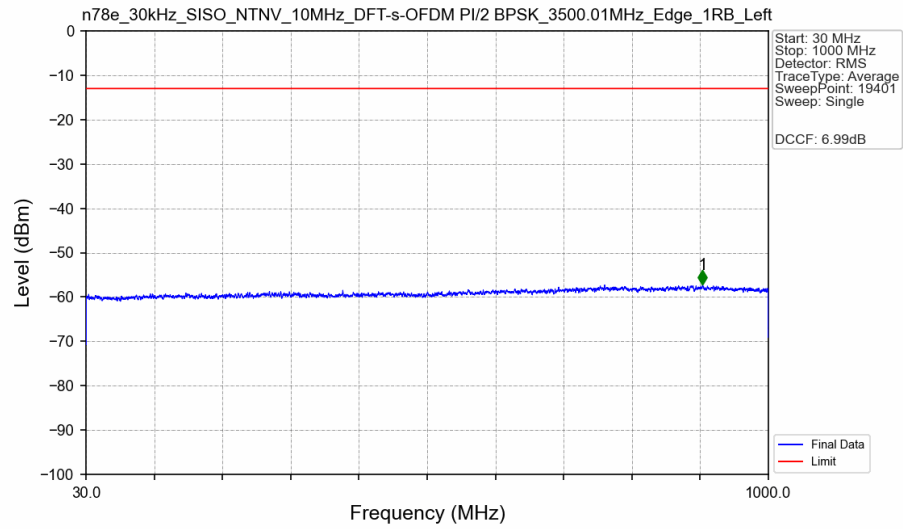
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 1000        | 3445.01    | 1         | /      | 1          | 3445.000   | -44.67      | -13         | Pass   |
| 3445.01     | 3465.01    | 1         | /      | /          | /          | /           | /           | /      |
| 3465.01     | 35500      | 1         | /      | 2          | 3465.500   | -40.96      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3455.01MHz\_Outer\_Full\_Ant8



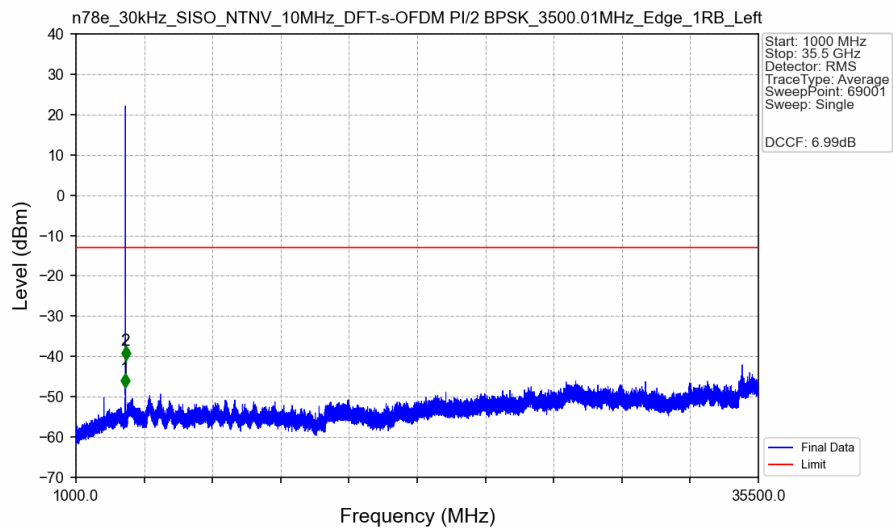
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 3445.01     | 3445.01    | 0.5       | /      | 1          | 3445.010   | -52.41      | -13         | Pass   |
| 3445.01     | 3449.01    | 0.5       | CHP    | 2          | 3448.401   | -32.54      | -13         | Pass   |
| 3449.01     | 3450.01    | 0.09433   | CHP    | 3          | 3449.916   | -36.52      | -13         | Pass   |
| 3450.01     | 3460.01    | 0.09433   | CHP    | /          | /          | /           | /           | /      |
| 3460.01     | 3461.01    | 0.09433   | CHP    | 4          | 3460.479   | -36.15      | -13         | Pass   |
| 3461.01     | 3465.01    | 0.5       | CHP    | 5          | 3462.459   | -30.28      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3500.01MHz\_Edge\_1RB\_Left\_Ant8

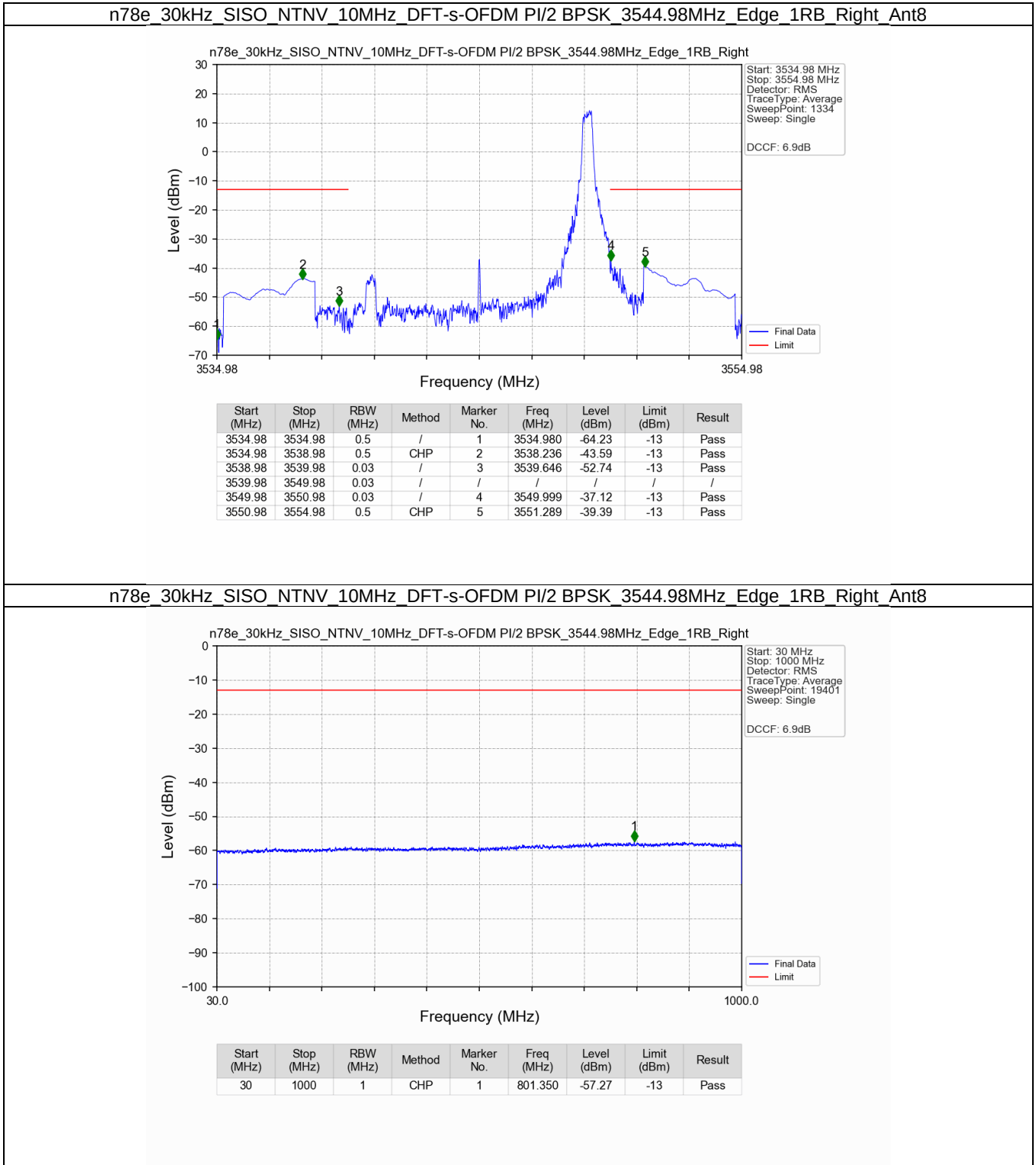


| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 30          | 1000       | 1         | CHP    | 1          | 906.450    | -57.21      | -13         | Pass   |

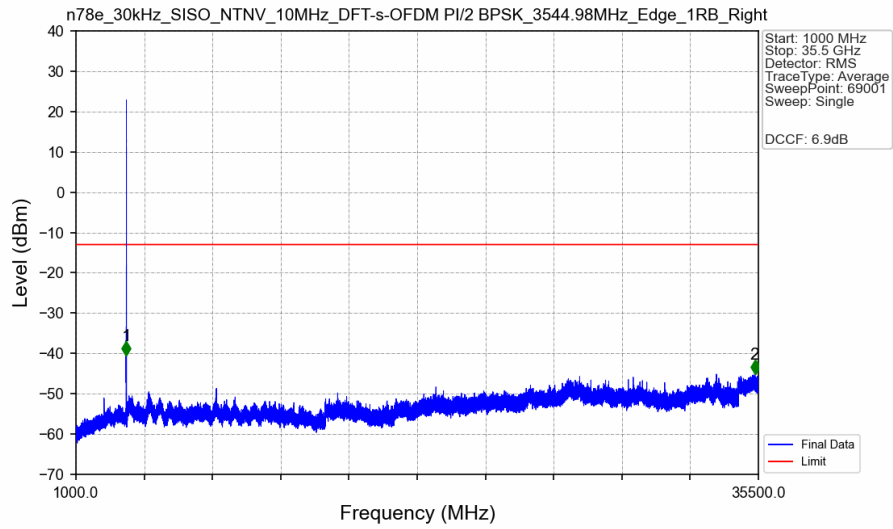
## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3500.01MHz\_Edge\_1RB\_Left\_Ant8



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 1000        | 3490.01    | 1         | /      | 1          | 3489.000   | -47.76      | -13         | Pass   |
| 3490.01     | 3510.01    | 1         | /      | /          | /          | /           | /           | /      |
| 3510.01     | 35500      | 1         | /      | 2          | 3510.500   | -40.88      | -13         | Pass   |

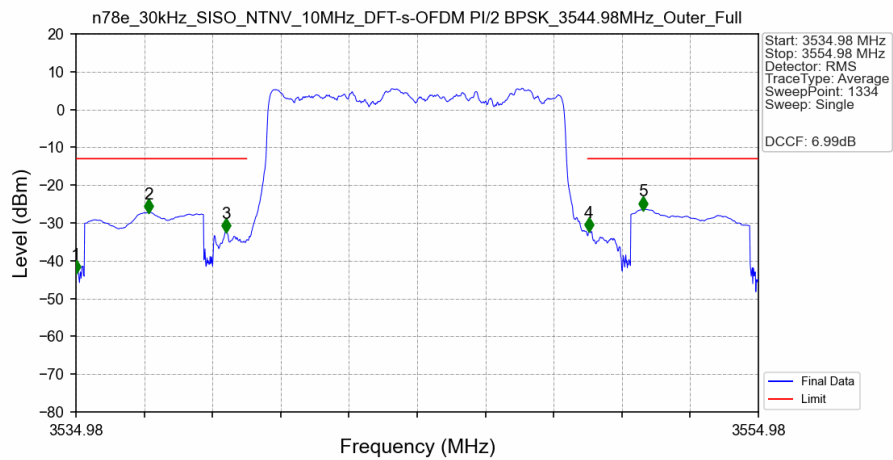


## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3544.98MHz\_Edge\_1RB\_Right\_Ant8



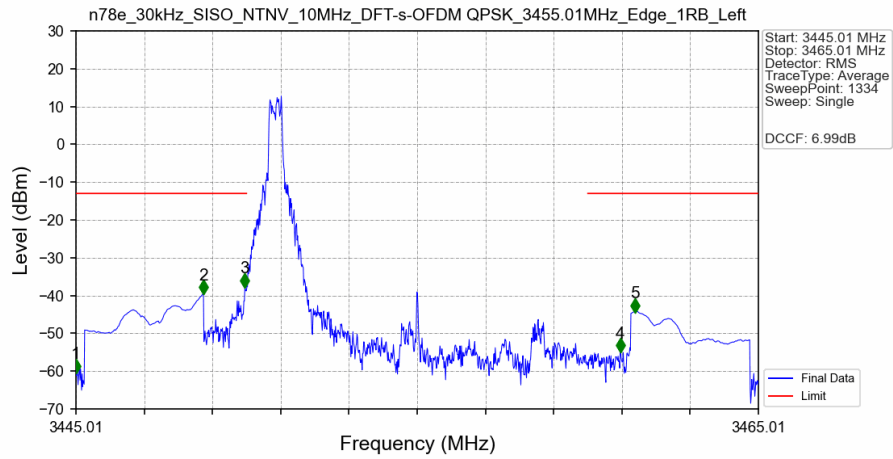
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 1000        | 3534.98    | 1         | /      | 1          | 3534.000   | -40.46      | -13         | Pass   |
| 3534.98     | 3554.98    | 1         | /      | /          | /          | /           | /           | /      |
| 3554.98     | 35500      | 1         | /      | 2          | 35324.000  | -45.11      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM PI/2 BPSK\_3544.98MHz\_Outer\_Full\_Ant8



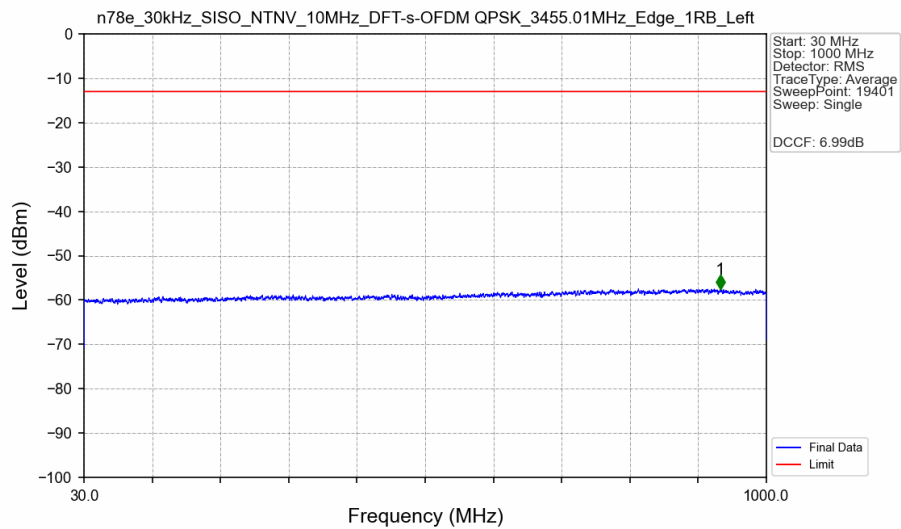
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 3534.98     | 3534.98    | 0.5       | /      | 1          | 3534.980   | -43.11      | -13         | Pass   |
| 3534.98     | 3538.98    | 0.5       | CHP    | 2          | 3537.111   | -27.12      | -13         | Pass   |
| 3538.98     | 3539.98    | 0.09433   | CHP    | 3          | 3539.376   | -32.23      | -13         | Pass   |
| 3539.98     | 3549.98    | 0.09433   | CHP    | /          | /          | /           | /           | /      |
| 3549.98     | 3550.98    | 0.09433   | CHP    | 4          | 3550.014   | -32.09      | -13         | Pass   |
| 3550.98     | 3554.98    | 0.5       | CHP    | 5          | 3551.604   | -26.37      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3455.01MHz\_Edge\_1RB\_Left\_Ant8



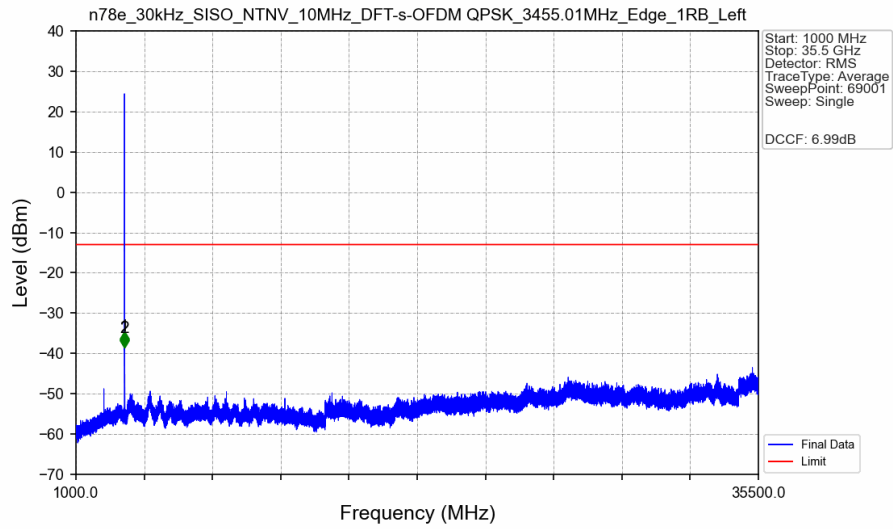
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 3445.01     | 3445.01    | 0.5       | /      | 1          | 3445.010   | -60.18      | -13         | Pass   |
| 3445.01     | 3449.01    | 0.5       | CHP    | 2          | 3448.746   | -39.39      | -13         | Pass   |
| 3449.01     | 3450.01    | 0.03      | /      | 3          | 3449.961   | -37.56      | -13         | Pass   |
| 3450.01     | 3460.01    | 0.03      | /      | /          | /          | /           | /           | /      |
| 3460.01     | 3461.01    | 0.03      | /      | 4          | 3460.959   | -54.75      | -13         | Pass   |
| 3461.01     | 3465.01    | 0.5       | CHP    | 5          | 3461.394   | -44.13      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3455.01MHz\_Edge\_1RB\_Left\_Ant8



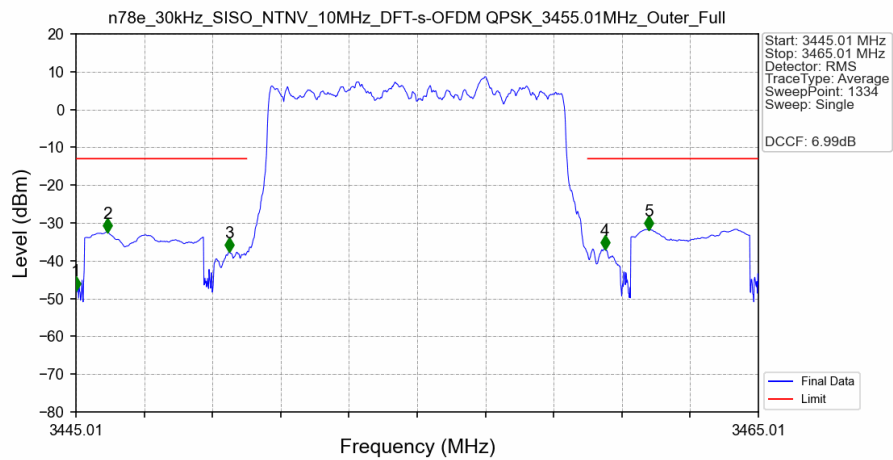
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 30          | 1000       | 1         | CHP    | 1          | 934.400    | -57.49      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3455.01MHz\_Edge\_1RB\_Left\_Ant8



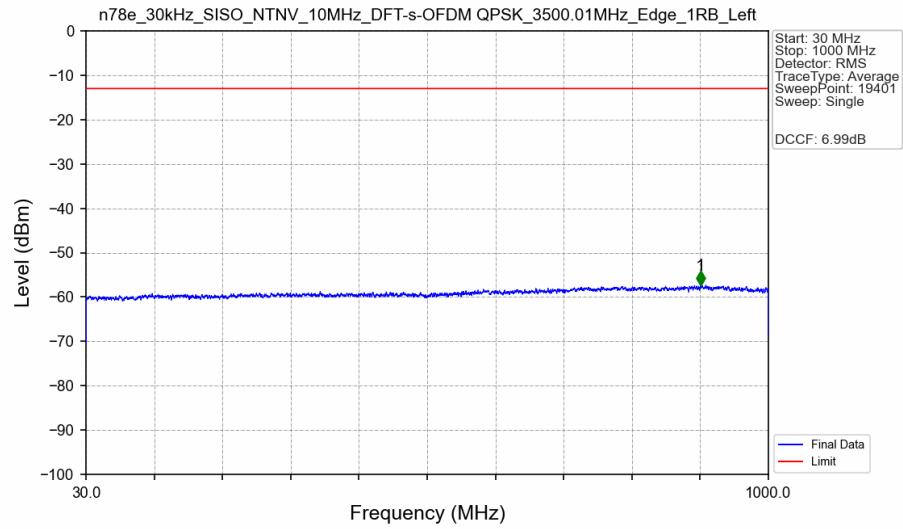
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 1000        | 3445.01    | 1         | /      | 1          | 3442.500   | -38.16      | -13         | Pass   |
| 3445.01     | 3465.01    | 1         | /      | /          | /          | /           | /           | /      |
| 3465.01     | 35500      | 1         | /      | 2          | 3465.500   | -38.51      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3455.01MHz\_Outer\_Full\_Ant8



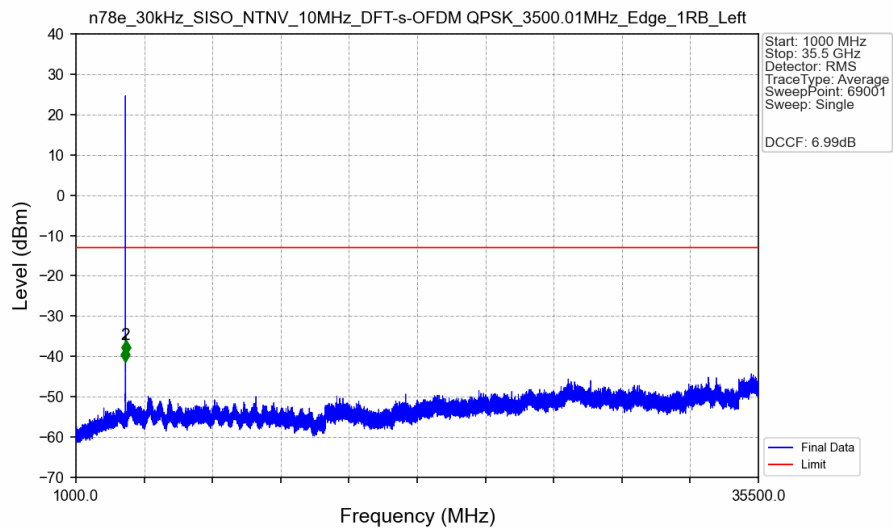
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 3445.01     | 3445.01    | 0.5       | /      | 1          | 3445.010   | -47.56      | -13         | Pass   |
| 3445.01     | 3449.01    | 0.5       | CHP    | 2          | 3445.925   | -32.29      | -13         | Pass   |
| 3449.01     | 3450.01    | 0.09433   | CHP    | 3          | 3449.496   | -37.40      | -13         | Pass   |
| 3450.01     | 3460.01    | 0.09433   | CHP    | /          | /          | /           | /           | /      |
| 3460.01     | 3461.01    | 0.09433   | CHP    | 4          | 3460.509   | -36.79      | -13         | Pass   |
| 3461.01     | 3465.01    | 0.5       | CHP    | 5          | 3461.784   | -31.67      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3500.01MHz\_Edge\_1RB\_Left\_Ant8



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 30          | 1000       | 1         | CHP    | 1          | 903.350    | -57.27      | -13         | Pass   |

## n78e\_30kHz\_SISO\_NTNV\_10MHz\_DFT-s-OFDM\_QPSK\_3500.01MHz\_Edge\_1RB\_Left\_Ant8



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 1000        | 3490.01    | 1         | /      | 1          | 3489.000   | -41.22      | -13         | Pass   |
| 3490.01     | 3510.01    | 1         | /      | /          | /          | /           | /           | /      |
| 3510.01     | 35500      | 1         | /      | 2          | 3510.500   | -39.46      | -13         | Pass   |