

**NR band 7778\_High Band**

<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.74001 GHz          2 Result Summary          Trace 1          Mean <b>17.44 dBm</b> Peak <b>25.41 dBm</b> Crest <b>7.97 dB</b>          10% 3.20 dB 1% 5.24 dB 0.1% 6.68 dB 0.01% 7.54 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:38:17</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.74001 GHz          2 Result Summary          Trace 1          Mean <b>15.55 dBm</b> Peak <b>25.29 dBm</b> Crest <b>9.75 dB</b>          10% 3.70 dB 1% 6.70 dB 0.1% 8.42 dB 0.01% 9.46 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:39:41</p>
<p align="center"><b>80 MHz Low Channel - Full RB - DFT-S-OFDM</b></p>	<p align="center"><b>80 MHz Low Channel - Full RB - CP-OFDM</b></p>
<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.84 GHz          2 Result Summary          Trace 1          Mean <b>17.50 dBm</b> Peak <b>25.38 dBm</b> Crest <b>7.88 dB</b>          10% 3.20 dB 1% 5.16 dB 0.1% 6.54 dB 0.01% 7.36 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:43:11</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.84 GHz          2 Result Summary          Trace 1          Mean <b>15.55 dBm</b> Peak <b>25.45 dBm</b> Crest <b>9.90 dB</b>          10% 3.69 dB 1% 6.74 dB 0.1% 8.54 dB 0.01% 9.60 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:43:32</p>
<p align="center"><b>80 MHz Middle Channel - Full RB - DFT-S-OFDM</b></p>	<p align="center"><b>80 MHz Middle Channel - Full RB - CP-OFDM</b></p>
<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.93999 GHz          2 Result Summary          Trace 1          Mean <b>17.77 dBm</b> Peak <b>25.31 dBm</b> Crest <b>7.54 dB</b>          10% 3.20 dB 1% 5.24 dB 0.1% 6.60 dB 0.01% 7.42 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:46:20</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 80 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR (80MHz) TDF: NR_COUPLER          1 CCDF          15a Cliv          CF 3.93999 GHz          2 Result Summary          Trace 1          Mean <b>15.91 dBm</b> Peak <b>25.71 dBm</b> Crest <b>9.80 dB</b>          10% 3.66 dB 1% 6.70 dB 0.1% 8.46 dB 0.01% 9.52 dB          Samples: 80000          Mean Pwr + 20.00 dB          Ready 2024-03-28 02:46:20</p>
<p align="center"><b>80 MHz High Channel - Full RB - DFT-S-OFDM</b></p>	<p align="center"><b>80 MHz High Channel - Full RB - CP-OFDM</b></p>

**NR band 7778\_High Band**

<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.74502 GHz          2 Result Summary          Trace 1          Mean 17.63 dBm Peak 25.61 dBm Crest 7.98 dB          10% 3.02 dB 1% 5.24 dB 0.1% 6.74 dB 0.01% 7.68 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:34:55</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.74502 GHz          2 Result Summary          Trace 1          Mean 15.62 dBm Peak 25.42 dBm Crest 9.80 dB          10% 3.66 dB 1% 6.74 dB 0.1% 8.52 dB 0.01% 9.42 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:34:58</p>
<p align="center">90 MHz Low Channel - Full RB - DFT-S-OFDM</p>	<p align="center">90 MHz Low Channel - Full RB - CP-OFDM</p>
<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.84 GHz          2 Result Summary          Trace 1          Mean 17.83 dBm Peak 25.71 dBm Crest 7.87 dB          10% 3.04 dB 1% 5.18 dB 0.1% 6.56 dB 0.01% 7.52 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:35:51</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.84 GHz          2 Result Summary          Trace 1          Mean 15.76 dBm Peak 26.08 dBm Crest 10.32 dB          10% 3.69 dB 1% 6.76 dB 0.1% 8.58 dB 0.01% 9.66 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:36:07</p>
<p align="center">90 MHz Middle Channel - Full RB - DFT-S-OFDM</p>	<p align="center">90 MHz Middle Channel - Full RB - CP-OFDM</p>
<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.93498 GHz          2 Result Summary          Trace 1          Mean 17.97 dBm Peak 25.61 dBm Crest 7.64 dB          10% 3.04 dB 1% 5.16 dB 0.1% 6.55 dB 0.01% 7.46 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:37:02</p>	<p>MultiView Spectrum          Ref Level 25.00 dBm AnBW 120 MHz          Att 25 dB Meas Time 1 ms          TRG: JPR(500kHz) TDF "NR_COUPLES"          1 CCDF          15a Cliv          CF 3.93498 GHz          2 Result Summary          Trace 1          Mean 15.97 dBm Peak 25.70 dBm Crest 9.74 dB          10% 3.66 dB 1% 6.76 dB 0.1% 8.52 dB 0.01% 9.48 dB          Samples: 120000          Mean Pwr +20.00 dB          Ready 2024-03-28 02:36:49</p>
<p align="center">90 MHz High Channel - Full RB - DFT-S-OFDM</p>	<p align="center">90 MHz High Channel - Full RB - CP-OFDM</p>

**NR band 77/78\_High Band**



## 6. Spurious Emissions at Antenna Terminal

### 6.1. Limit

- §27.53(l)(2), for mobile operations in the 3 700-3 980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed  $-13 \text{ dBm/MHz}$ . Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

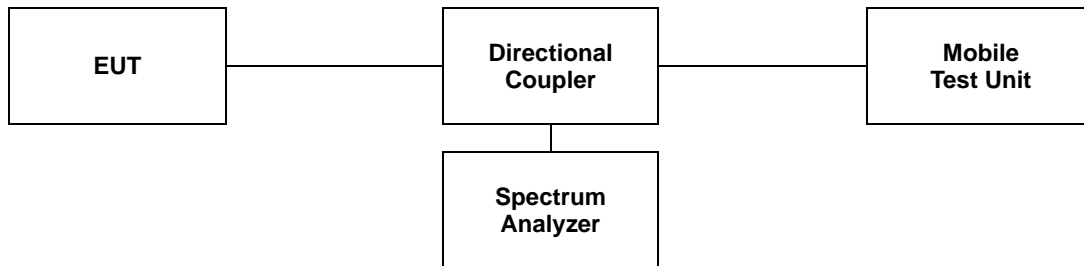
- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log_{10} (P) \text{ dB}$  on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log_{10} (P) \text{ dB}$  on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log_{10} (P) \text{ dB}$  on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log_{10} (P) \text{ dB}$  on all frequencies between 2 490.5 MHz and 2 496 MHz and  $55 + 10 \log_{10} (P) \text{ dB}$  at or below 2 490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2 495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

- §27.53(n)(2), for mobile operations in the 3 450-3 550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed  $-13 \text{ dBm/MHz}$ . Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

## 6.2. Test Procedure

The test follows section 5.7 of ANSI C63.26-2015.

1. Start frequency was set to 9 kHz and stop frequency was set to at least 10\* the fundamental frequency.
2. Detector = RMS.
3. Trace mode = Max hold.
4. Sweep time = Auto couple.
5. The trace was allowed to stabilize.
6. Please see notes below for RBW and VBW settings.
7. For plots showing conducted spurious emissions from 9 kHz to 40 GHz, all path loss of wide frequency range was investigated and compensated to spectrum analyzer as TDF function.



### Note;

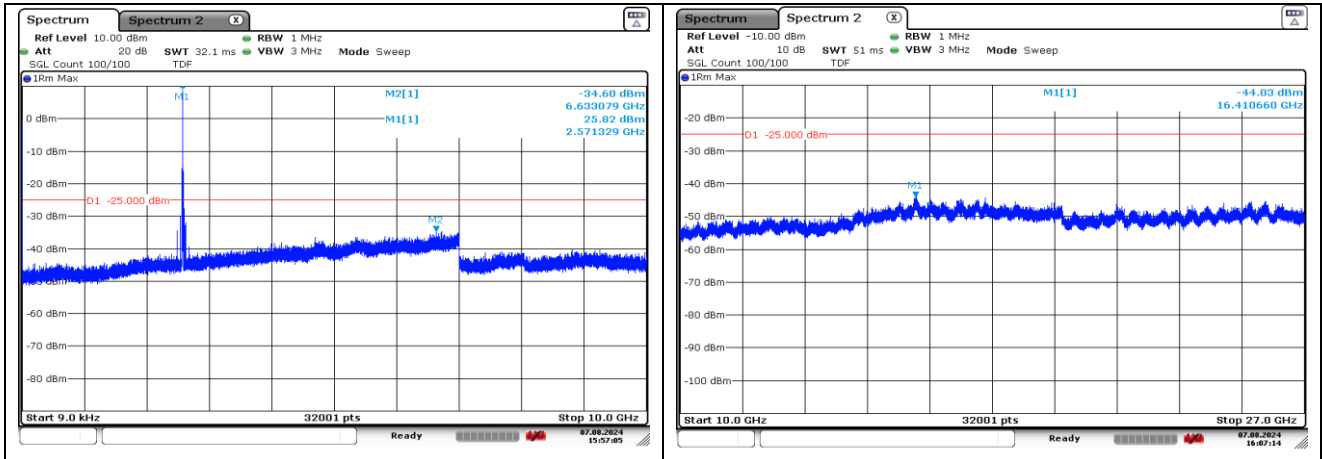
Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two point, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

### 6.3. Test Results

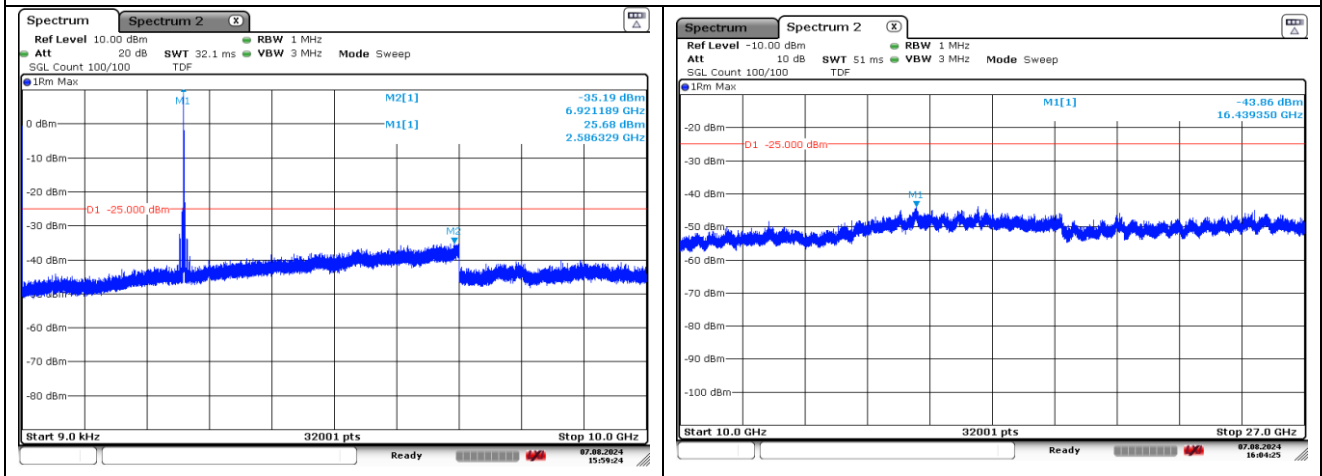
Ambient temperature : (23 ± 1) °C  
 Relative humidity : 47 % R.H.

#### - Test plots

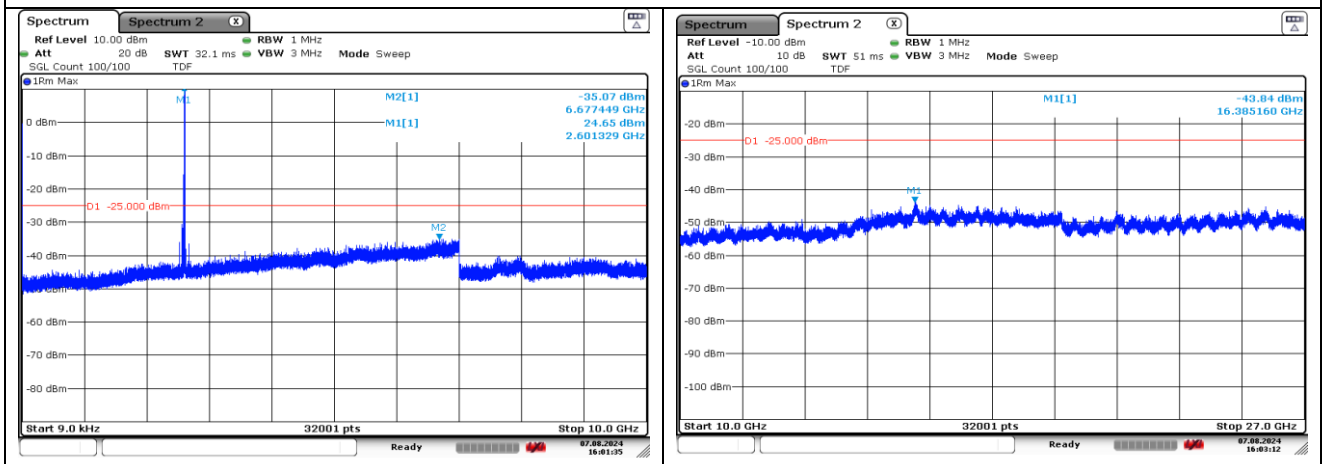
#### NR band 38



#### DFT-S-OFDM BPSK - 20 MHz Low Channel - 1 RB

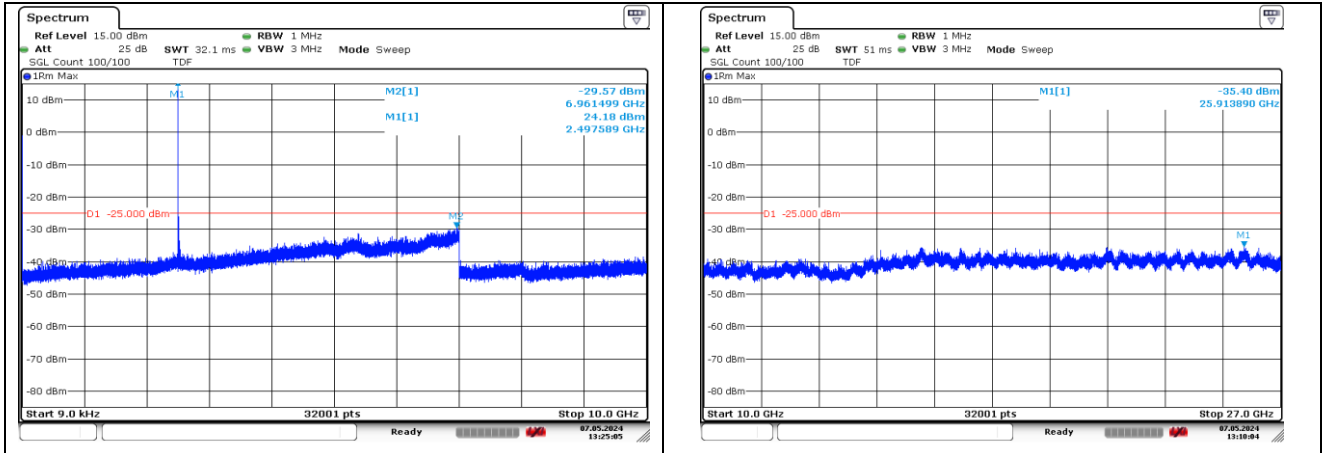


#### DFT-S-OFDM BPSK - 20 MHz Middle Channel - 1 RB

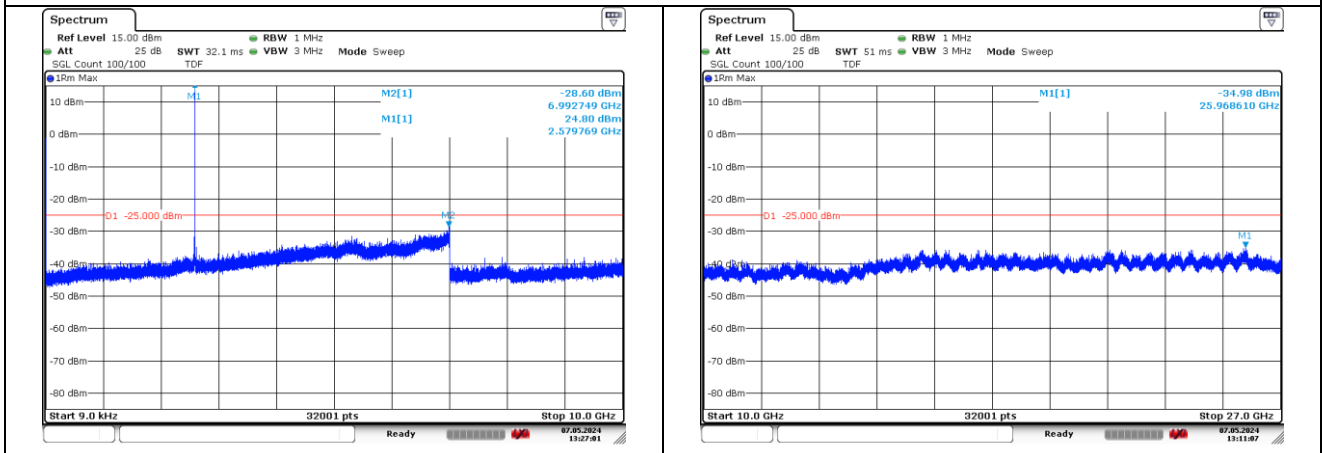


#### DFT-S-OFDM BPSK - 20 MHz High Channel - 1 RB

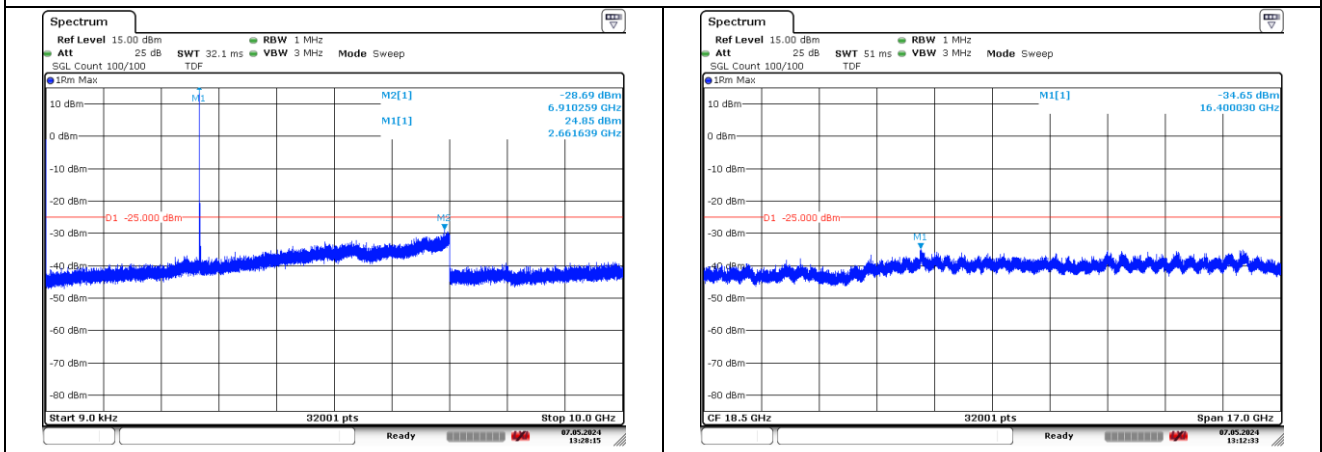
**NR band 41**



**DFT-S-OFDM BPSK - 30 MHz Low Channel - 1 RB**



**DFT-S-OFDM BPSK - 30 MHz Middle Channel - 1 RB**



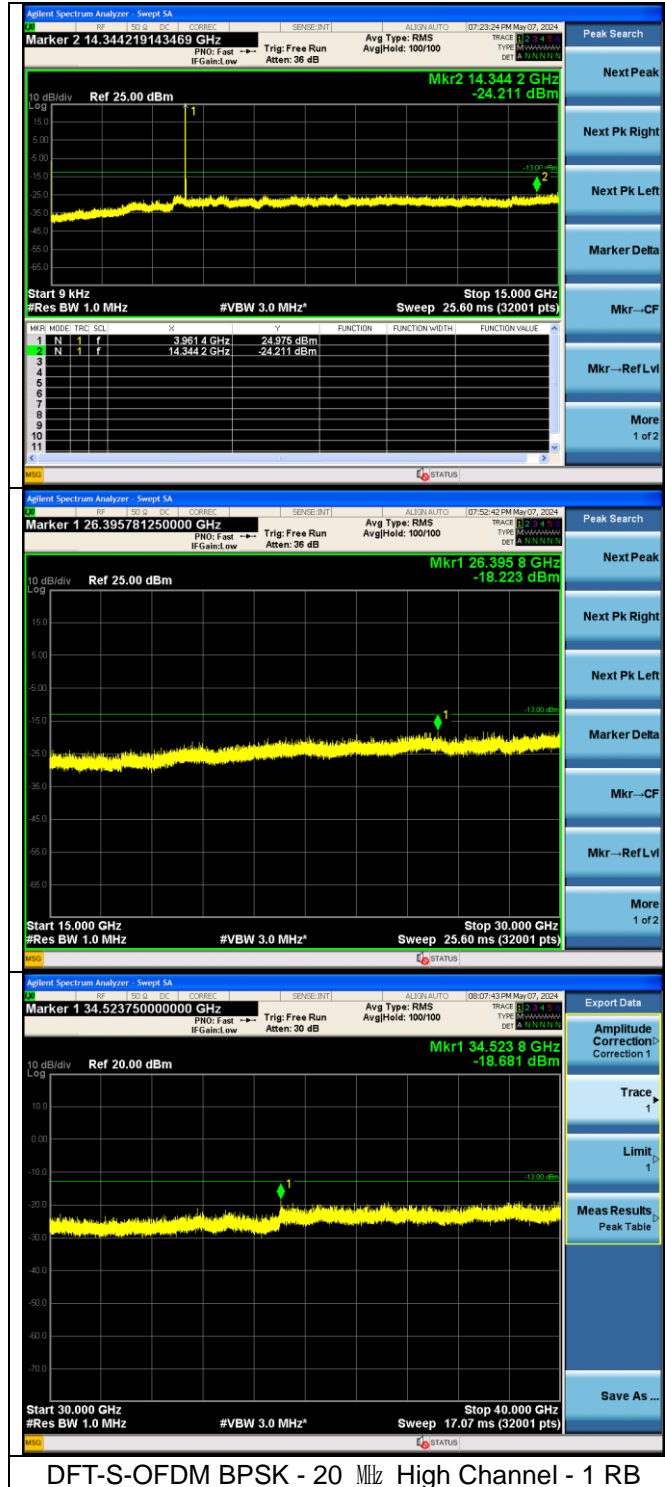
**DFT-S-OFDM BPSK - 30 MHz High Channel - 1 RB**

**NR band 77/78\_Low Band**





**NR band 77/78\_Low Band**



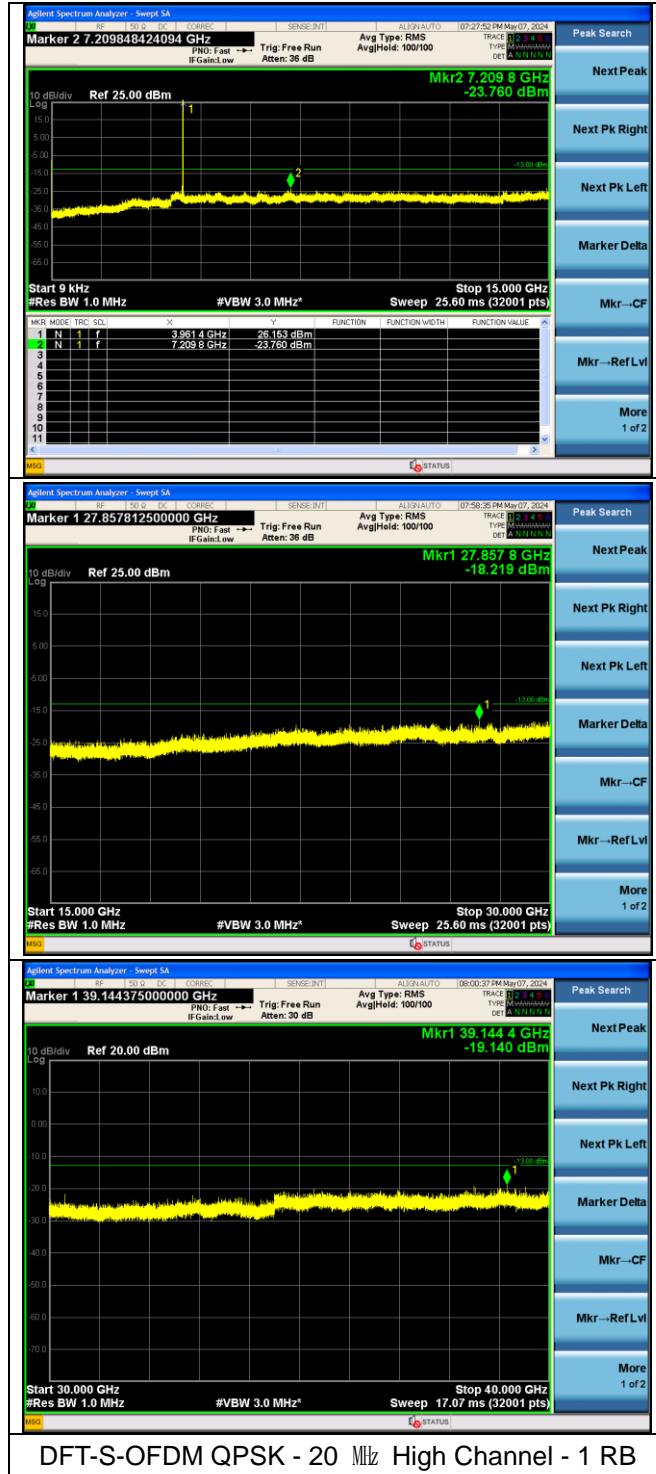
**NR band 77/78\_High Band**



DFT-S-OFDM BPSK - 20 MHz Low Channel - 1 RB

DFT-S-OFDM BPSK - 20 MHz Middle Channel - 1 RB

**NR band 77/78\_High Band**



## 7. Band Edge and Emission Mask

### 7.1. Limit

- §27.53(l)(2), for mobile operations in the 3 700-3 980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

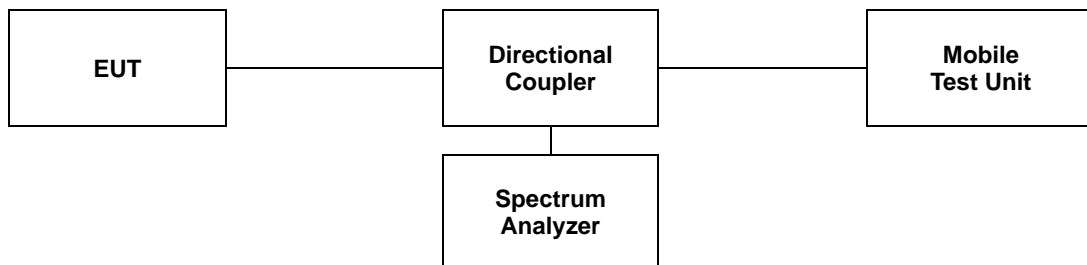
- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log_{10}(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log_{10}(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log_{10}(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log_{10}(P)$  dB on all frequencies between 2 490.5 MHz and 2 496 MHz and  $55 + 10 \log_{10}(P)$  dB at or below 2 490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2 495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

- §27.53(n)(2), for mobile operations in the 3 450-3 550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

## 7.2. Test Procedure

The test follows section 5.7 of ANSI C63.26-2015.

- a. Span was set large enough so as to capture all out of band emissions near the band edge.
- b.  $RBW \geq 1\%$  of OBW
- c.  $VBW \geq 3 \times RBW$ .
- d. Detector = RMS.
- e. Trace mode = Average.
- f. Sweep time = Auto.
- g. The trace was allowed to stabilize.
- h. All path loss of frequency range was investigated and compensated to spectrum analyzer as TDF function.

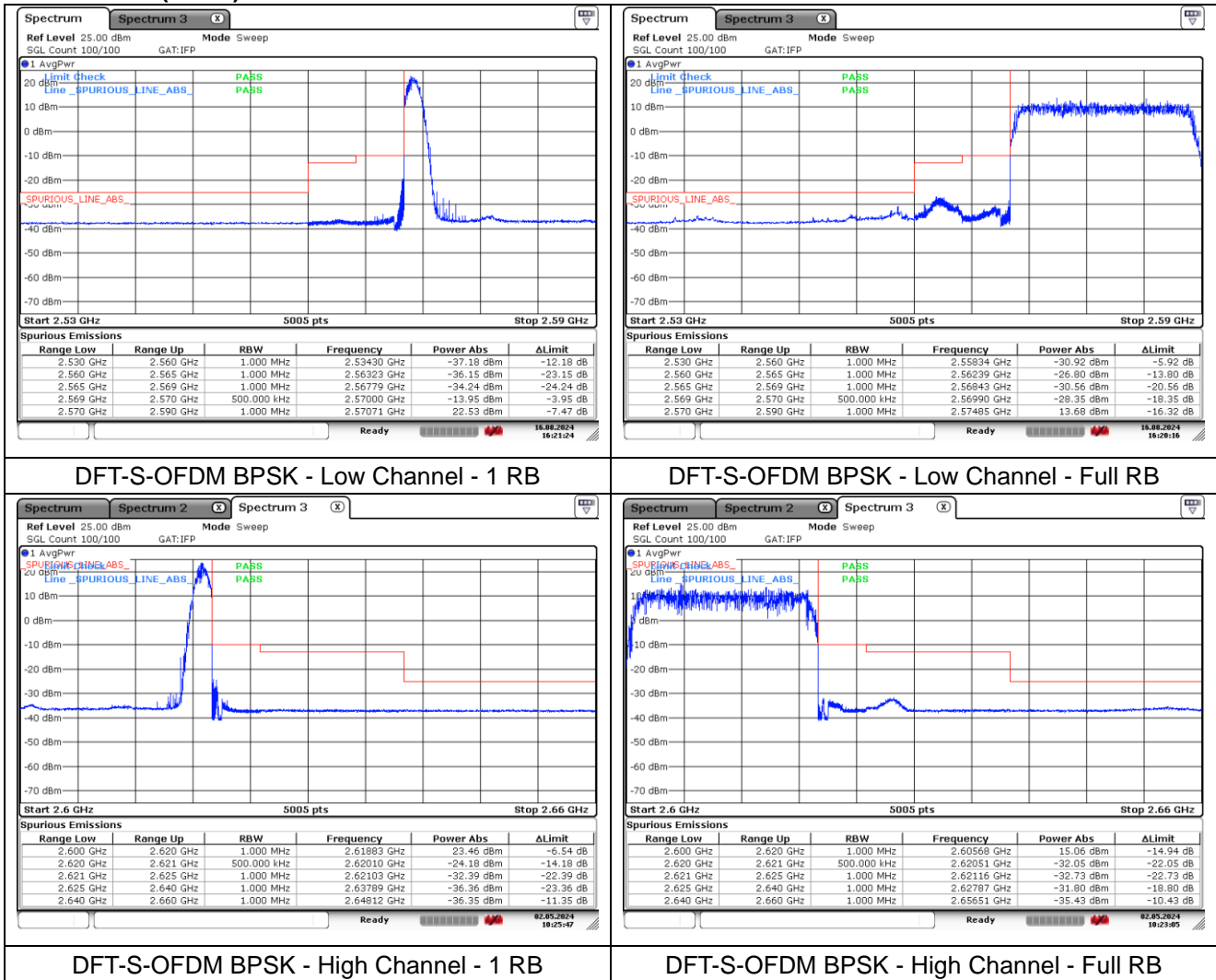


### 7.3. Test Results

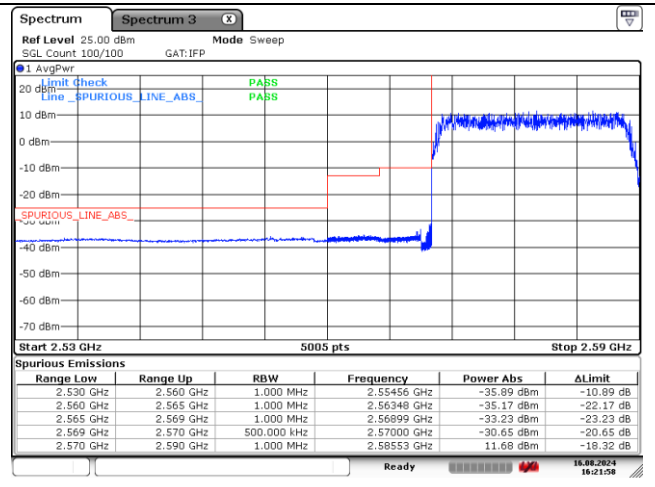
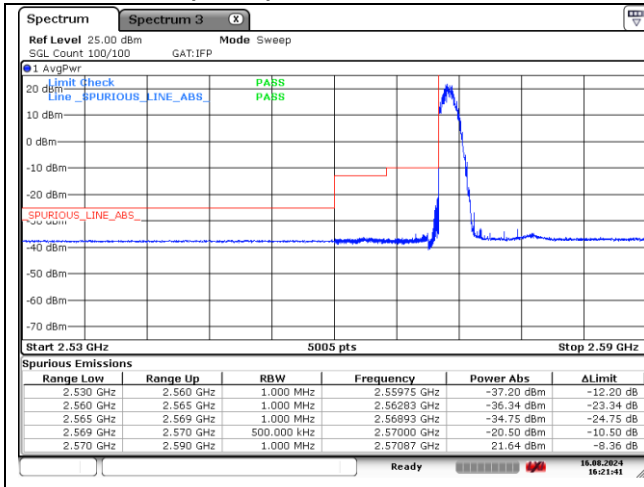
Ambient temperature : (23 ± 1) °C  
 Relative humidity : 47 % R.H.

#### - Test plots

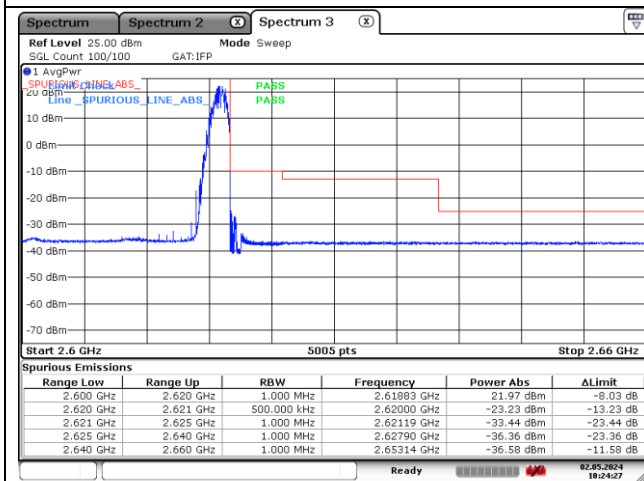
#### NR band 38 (20 MHz)



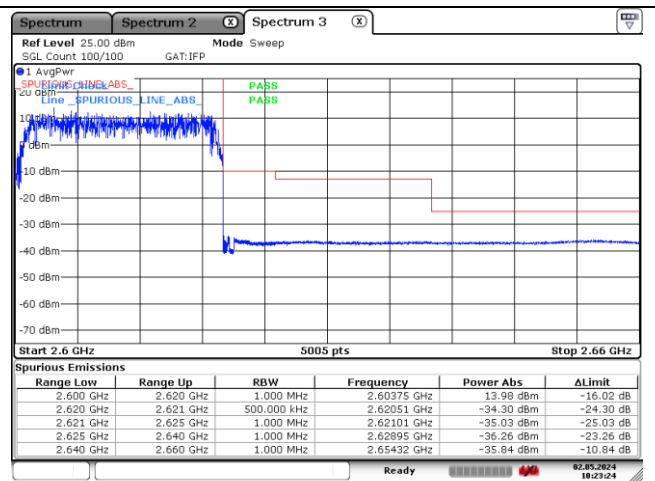
**NR band 38 (20 MHz)**



**DFT-S-OFDM 16QAM - Low Channel - 1 RB**



**DFT-S-OFDM 16QAM - Low Channel - Full RB**



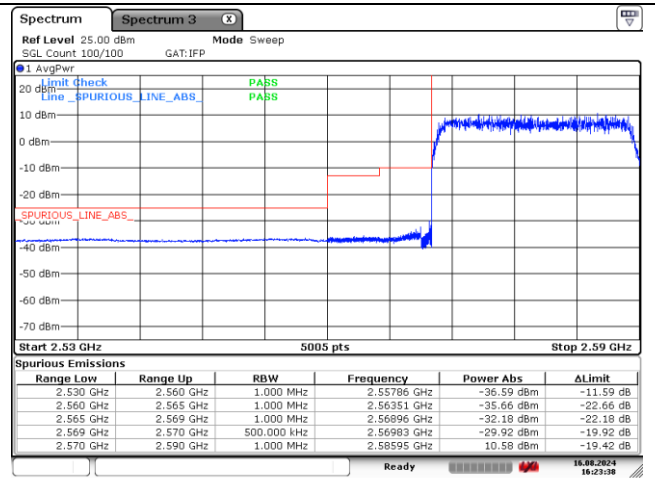
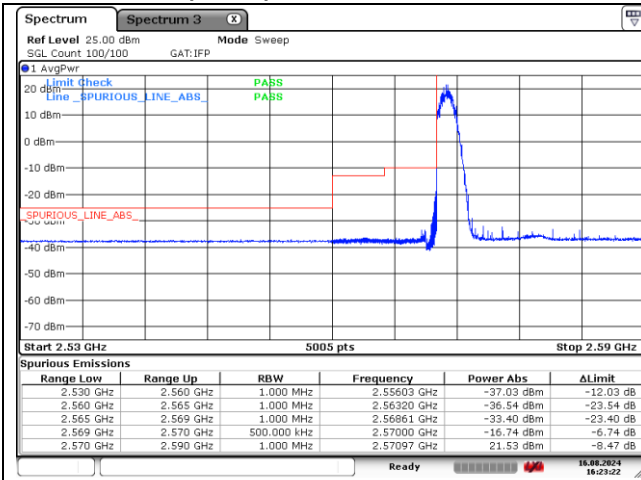
**DFT-S-OFDM 16QAM - High Channel - 1 RB**



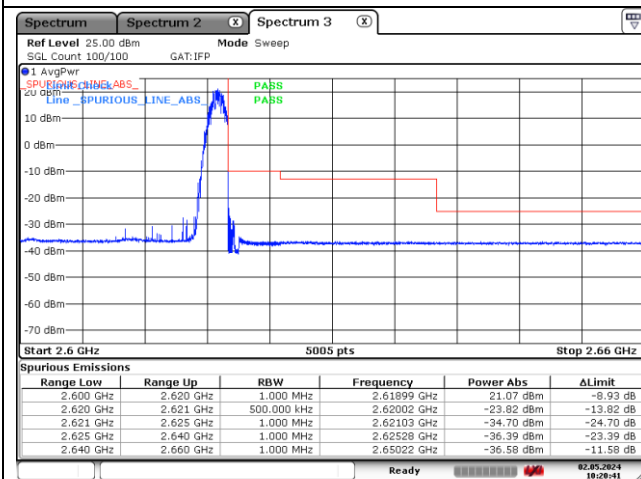
**DFT-S-OFDM 16QAM - High Channel - Full RB**



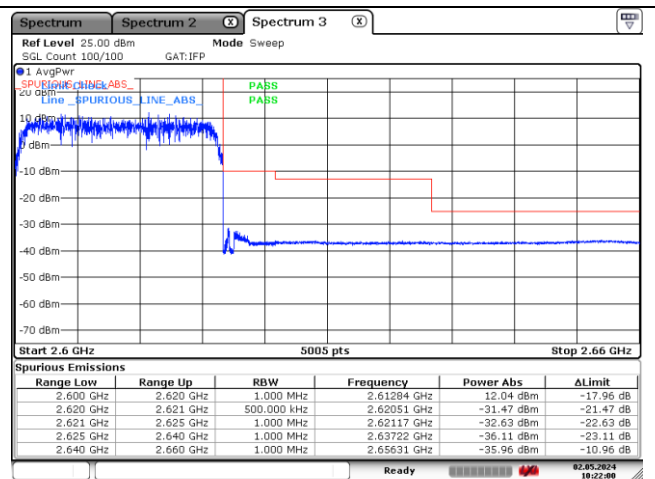
**NR band 38 (20 MHz)**



**CP-OFDM QPSK - Low Channel - 1 RB**



**CP-OFDM QPSK - Low Channel - Full RB**



**CP-OFDM QPSK - High Channel - 1 RB**

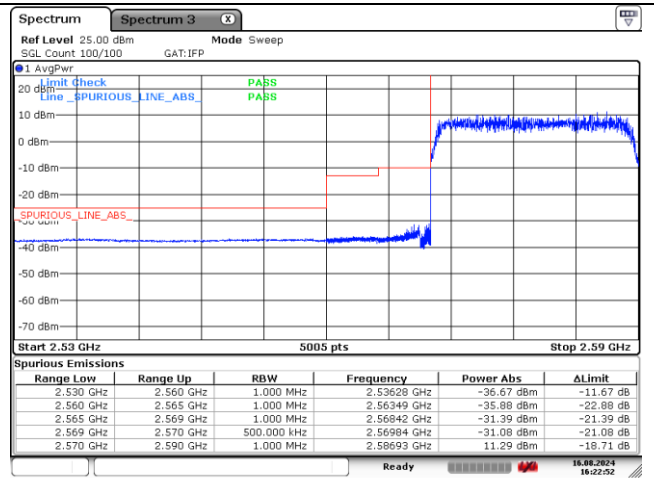
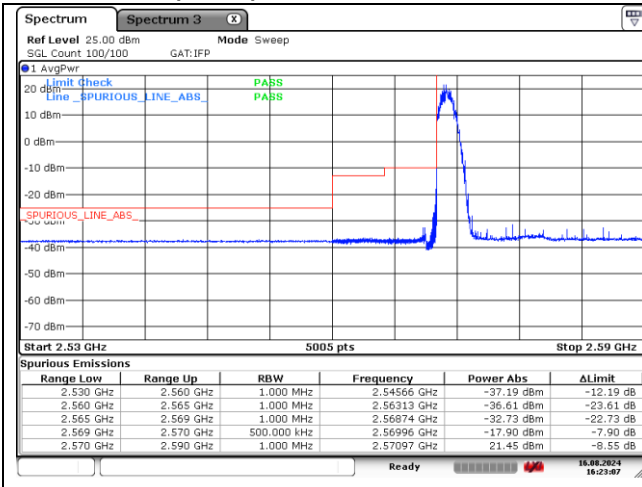


**CP-OFDM QPSK - High Channel - Full RB**

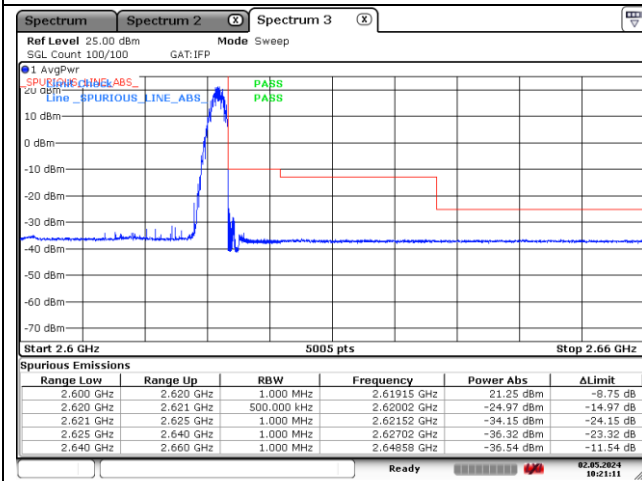




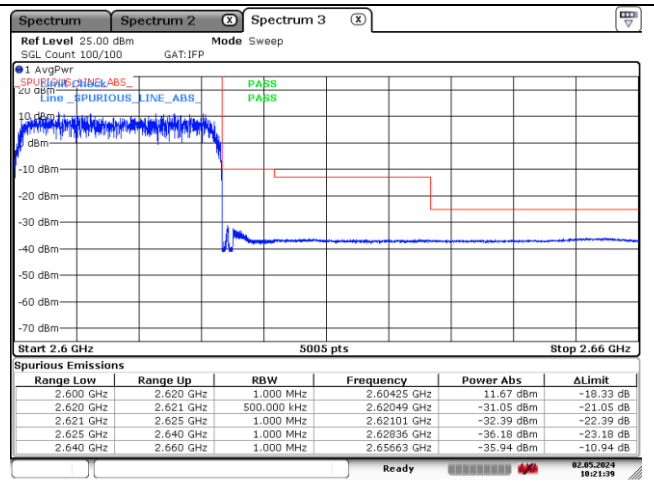
**NR band 38 (20 MHz)**



**CP-OFDM 16QAM - Low Channel - 1 RB**



**CP-OFDM 16QAM - Low Channel - Full RB**



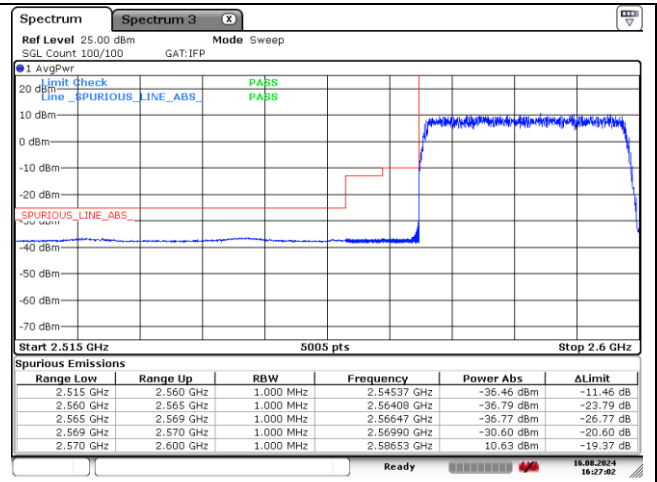
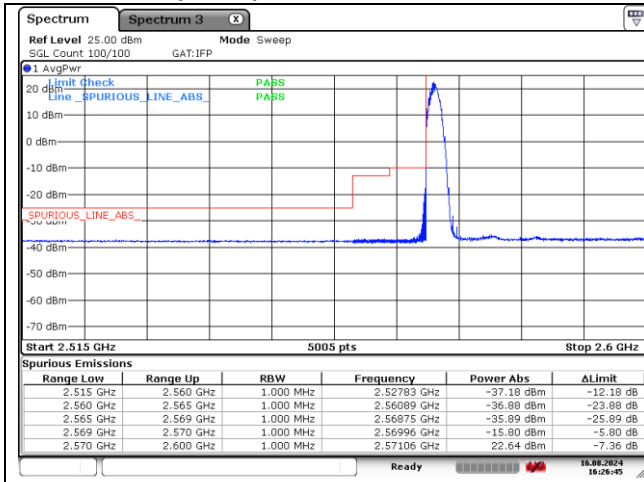
**CP-OFDM 16QAM - High Channel - 1 RB**



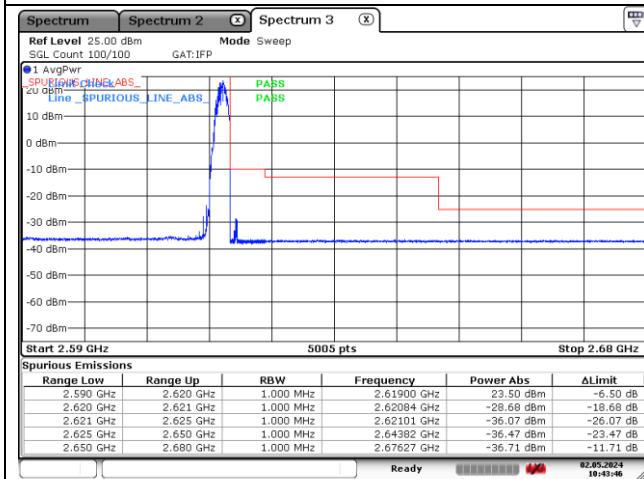
**CP-OFDM 16QAM - High Channel - Full RB**



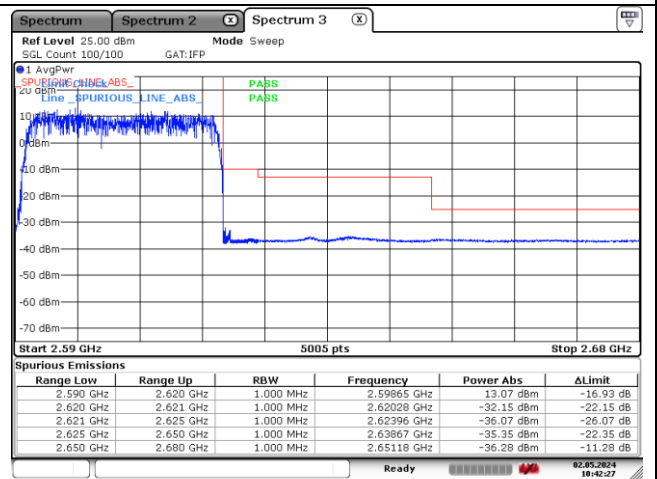
**NR band 38 (30 MHz)**



**DFT-S-OFDM BPSK - Low Channel - 1 RB**



**DFT-S-OFDM BPSK - Low Channel - Full RB**



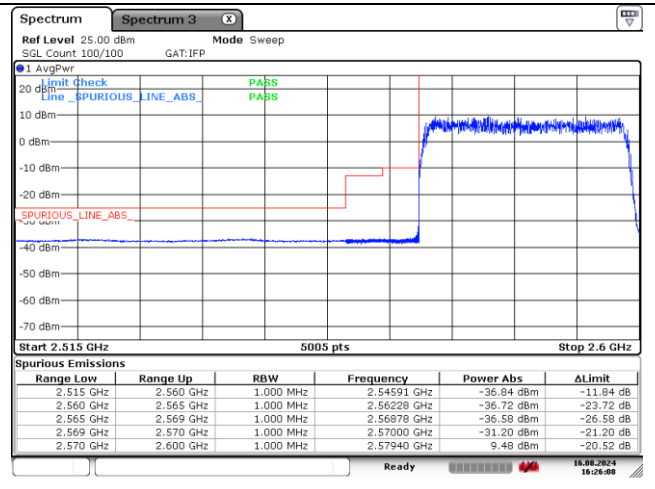
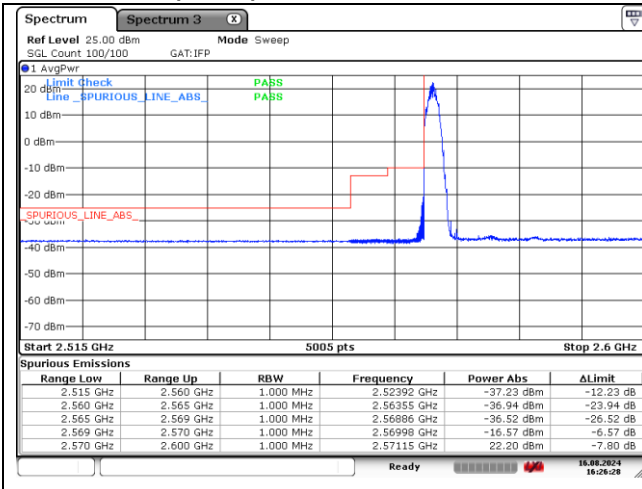
**DFT-S-OFDM BPSK - High Channel - 1 RB**



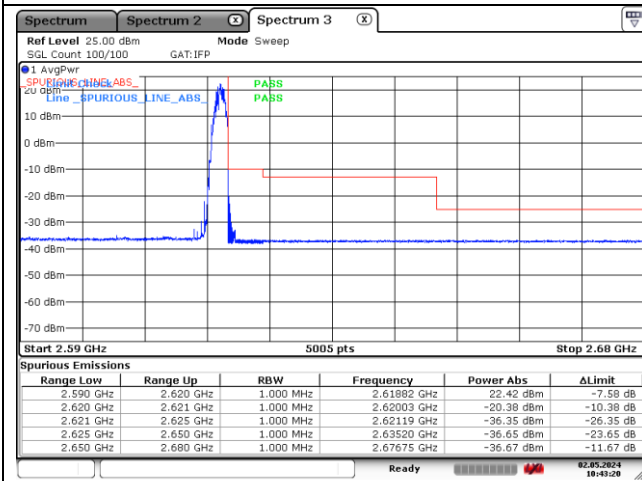
**DFT-S-OFDM BPSK - High Channel - Full RB**



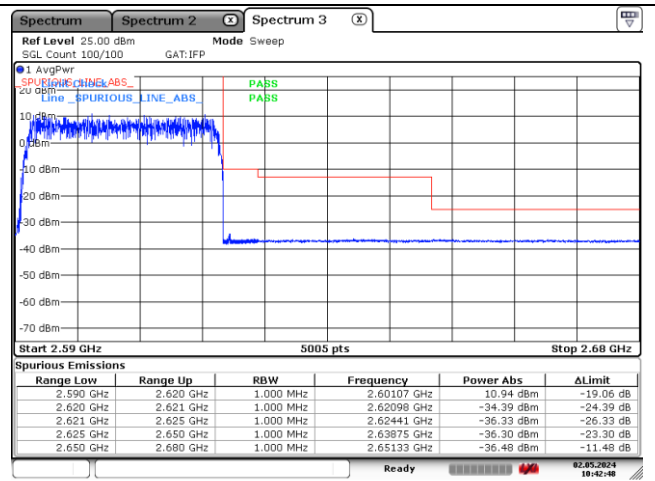
**NR band 38 (30 MHz)**



**DFT-S-OFDM 16QAM - Low Channel - 1 RB**



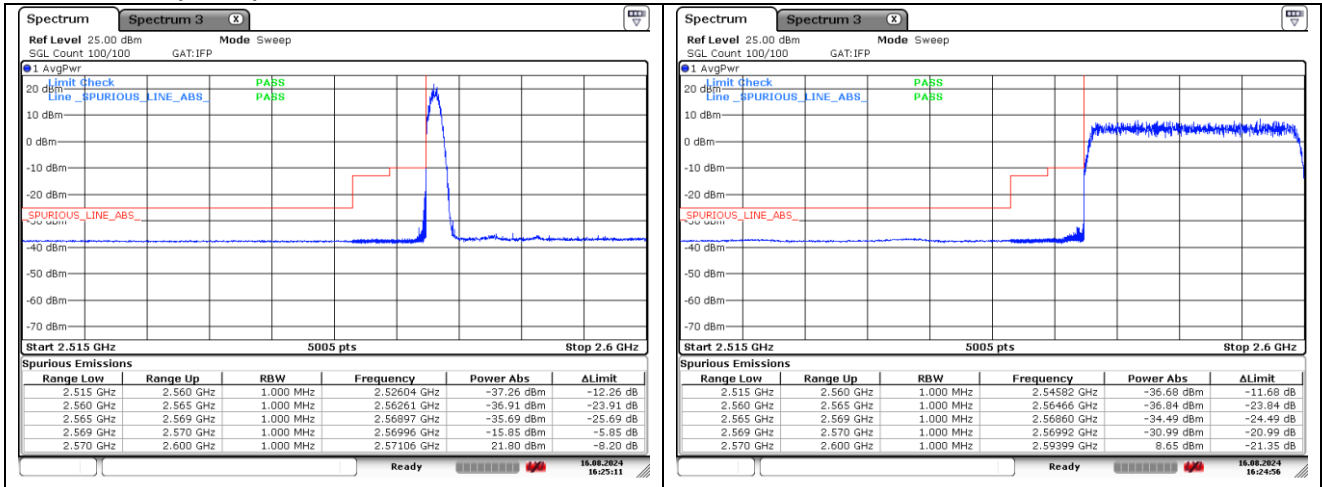
**DFT-S-OFDM 16QAM - Low Channel - Full RB**



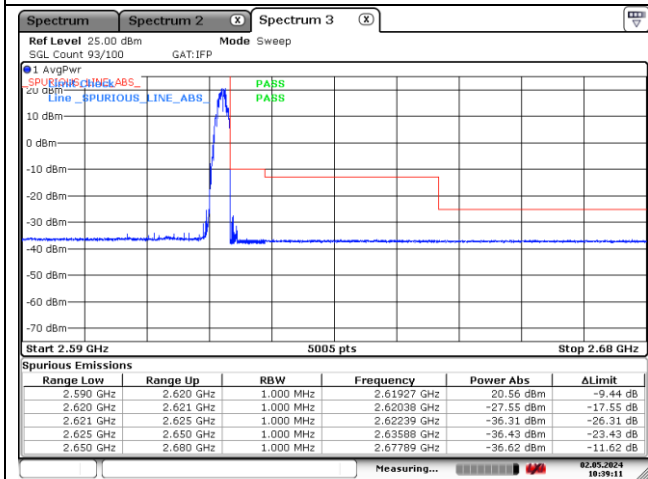
**DFT-S-OFDM 16QAM - High Channel - 1 RB**

**DFT-S-OFDM 16QAM - High Channel - Full RB**

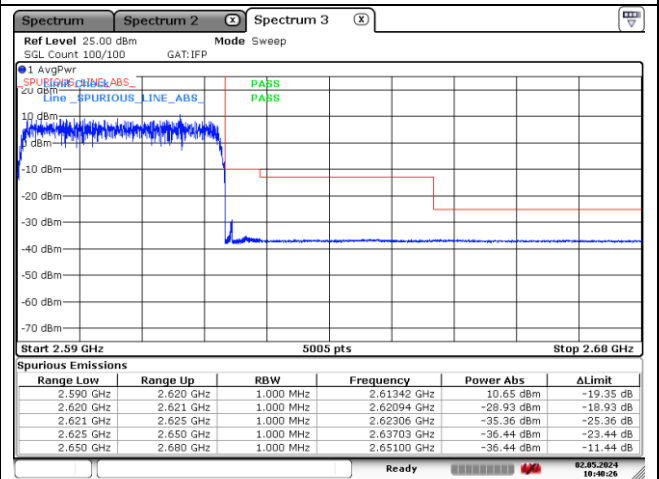
**NR band 38 (30 MHz)**



**CP-OFDM QPSK - Low Channel - 1 RB**



**CP-OFDM QPSK - Low Channel - Full RB**



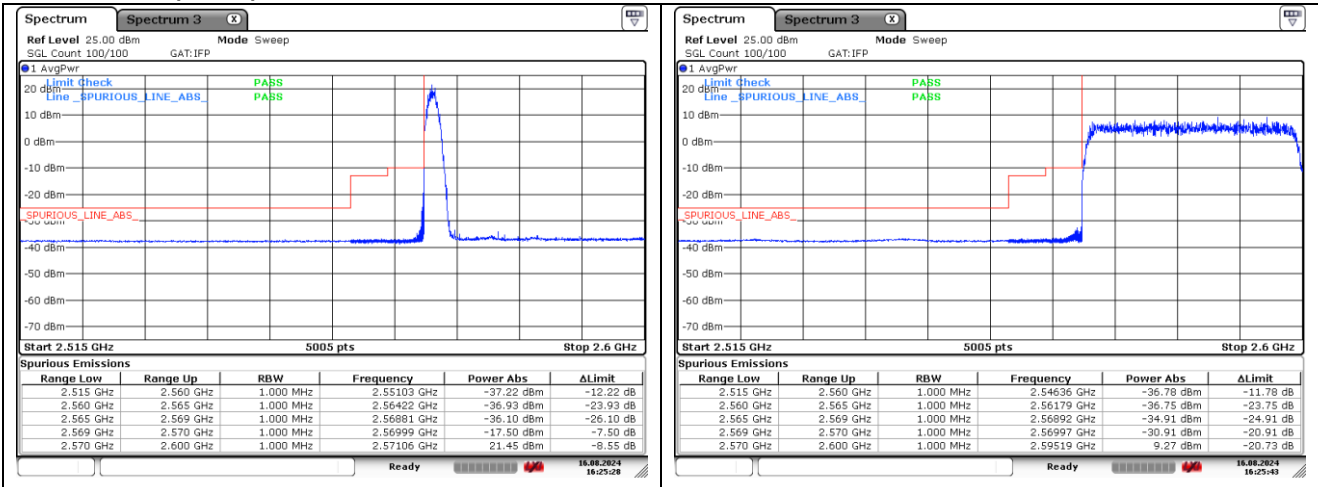
**CP-OFDM QPSK - High Channel - 1 RB**



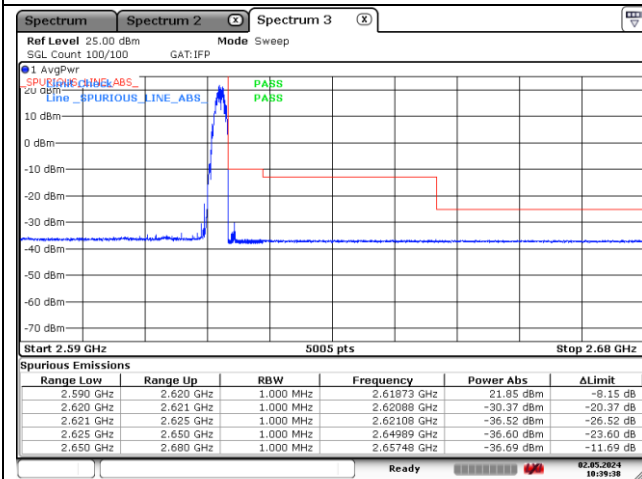
**CP-OFDM QPSK - High Channel - Full RB**



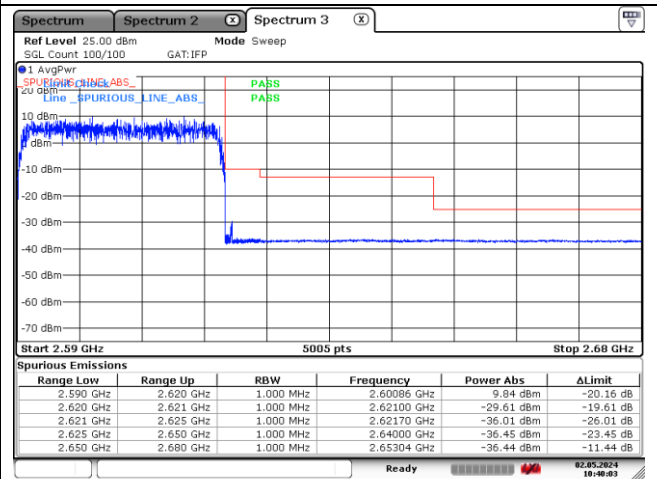
**NR band 38 (30 MHz)**



**CP-OFDM 16QAM - Low Channel - 1 RB**



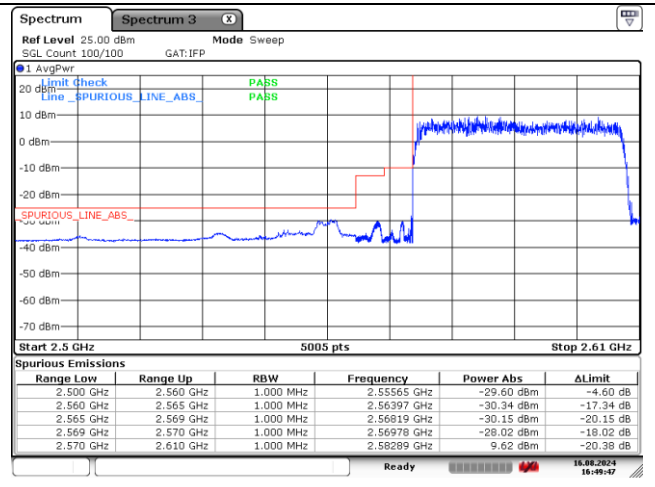
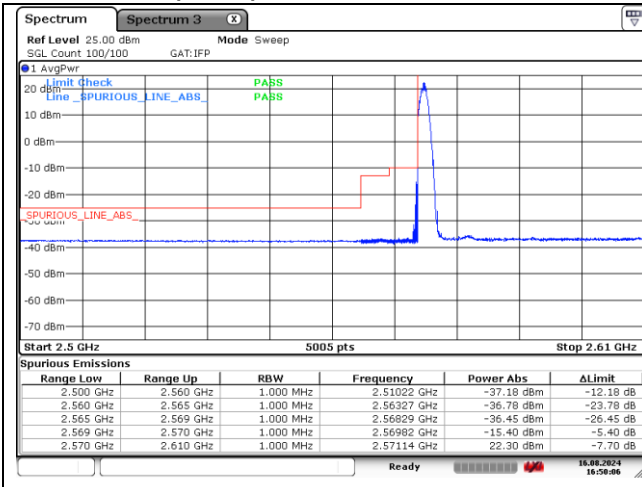
**CP-OFDM 16QAM - Low Channel - Full RB**



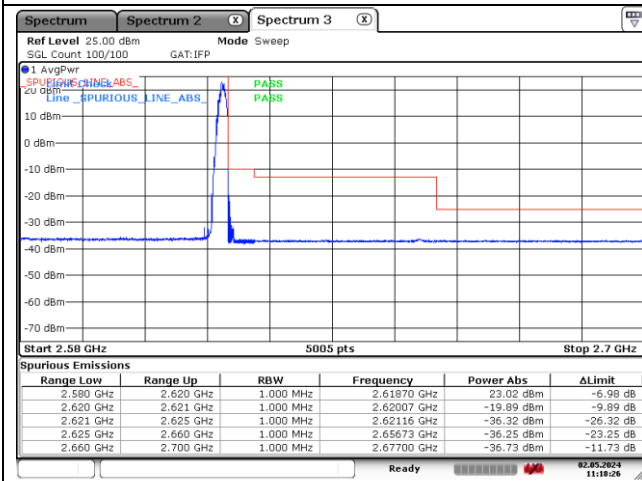
**CP-OFDM 16QAM - High Channel - 1 RB**

**CP-OFDM 16QAM - High Channel - Full RB**

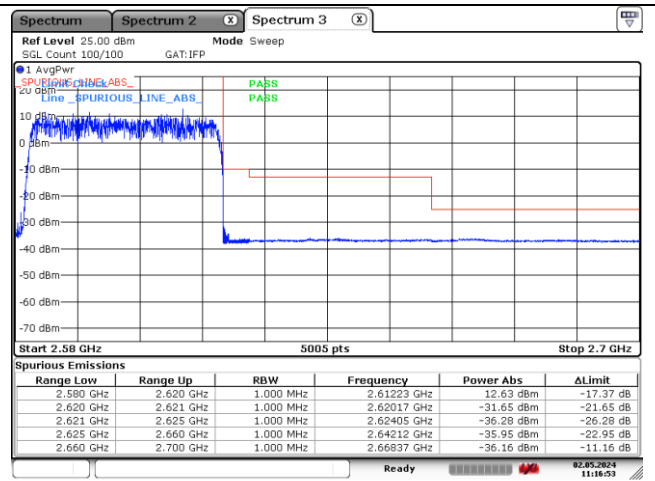
**NR band 38 (40 MHz)**



**DFT-S-OFDM BPSK - Low Channel - 1 RB**



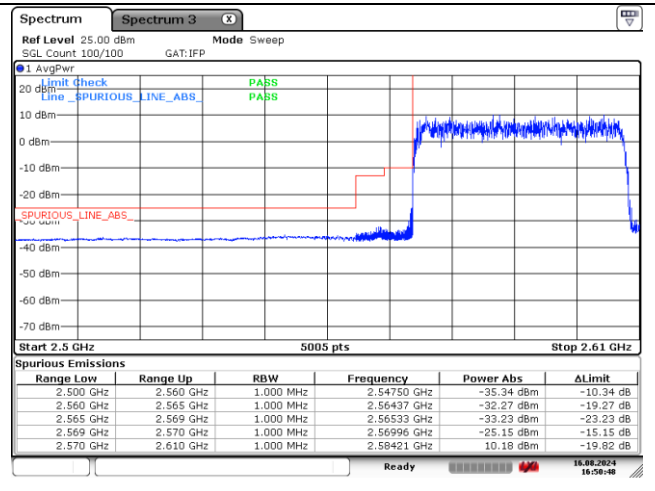
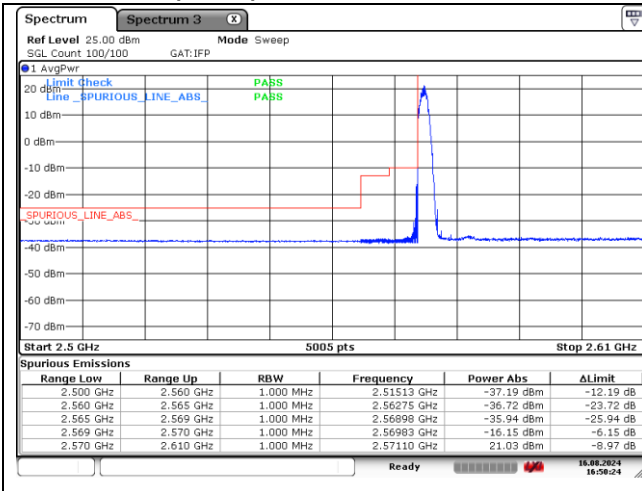
**DFT-S-OFDM BPSK - Low Channel - Full RB**



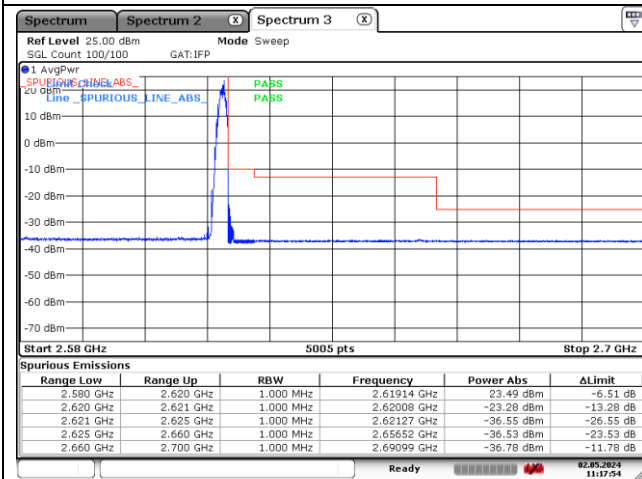
**DFT-S-OFDM BPSK - High Channel - 1 RB**

**DFT-S-OFDM BPSK - High Channel - Full RB**

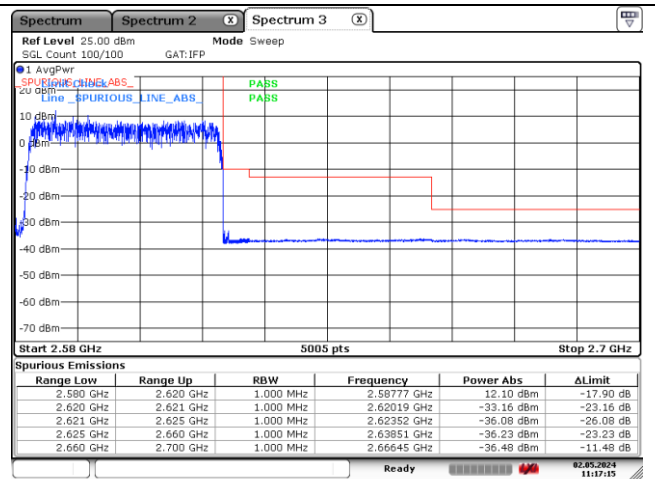
**NR band 38 (40 MHz)**



**DFT-S-OFDM 16QAM - Low Channel - 1 RB**



**DFT-S-OFDM 16QAM - Low Channel - Full RB**



**DFT-S-OFDM 16QAM - High Channel - 1 RB**

**DFT-S-OFDM 16QAM - High Channel - Full RB**