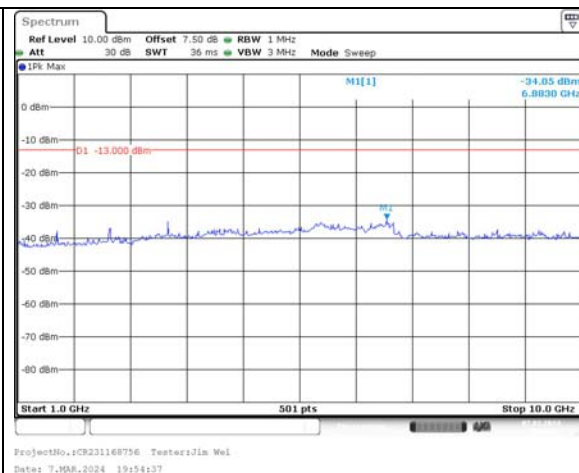
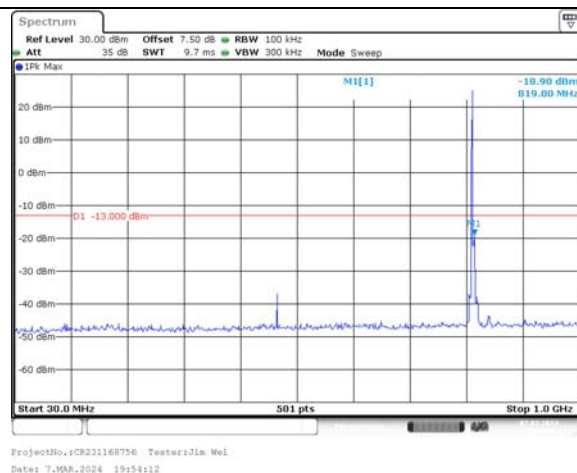


## Spurious Emissions at Antenna Terminal

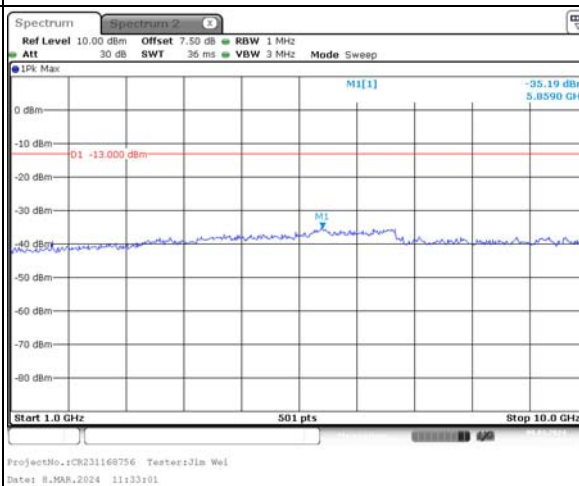
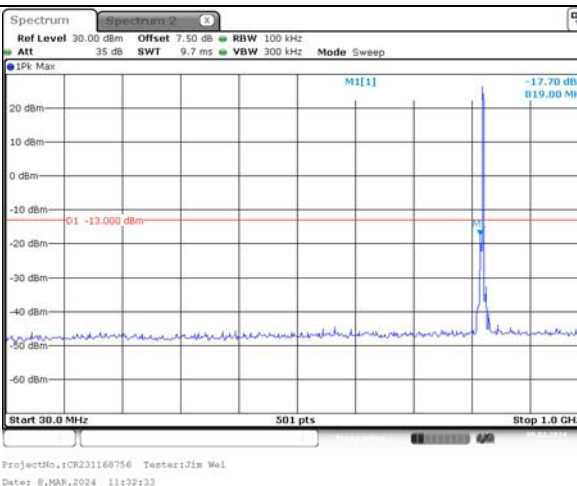
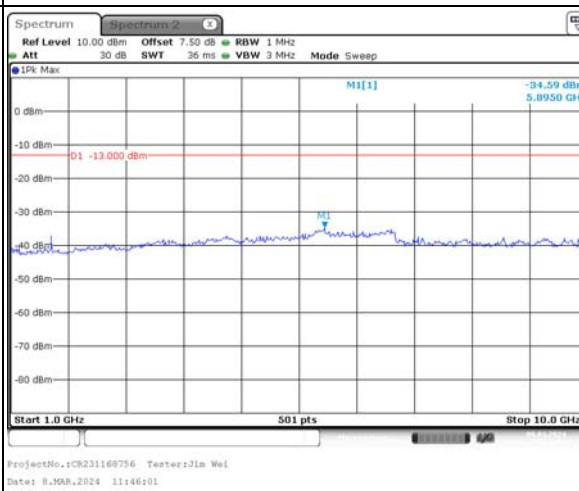
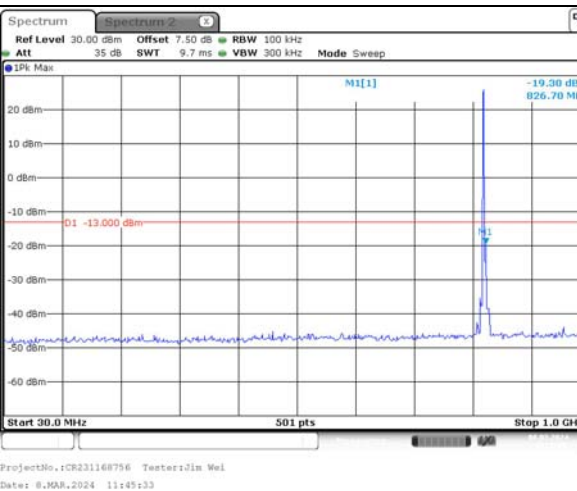
Channel

5MHz Bandwidth QPSK

Lowest



Highest

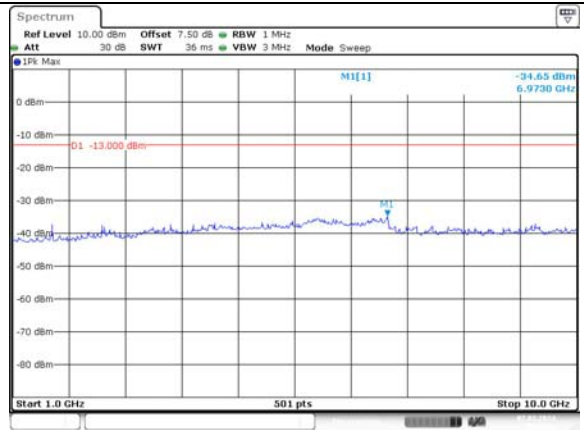
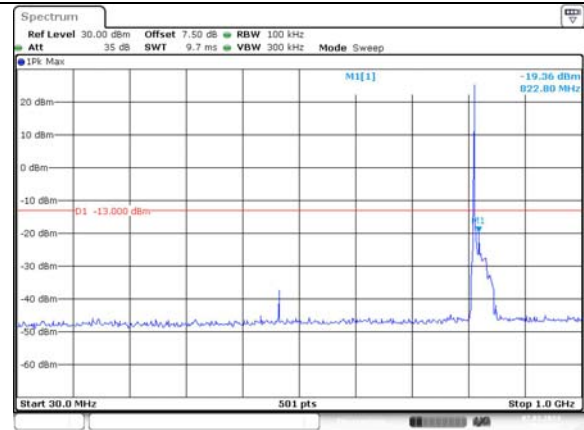
Cross  
90S and  
22H

Spurious Emissions at Antenna Terminal

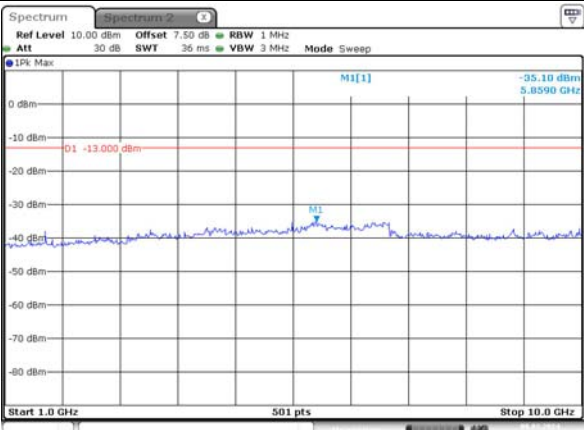
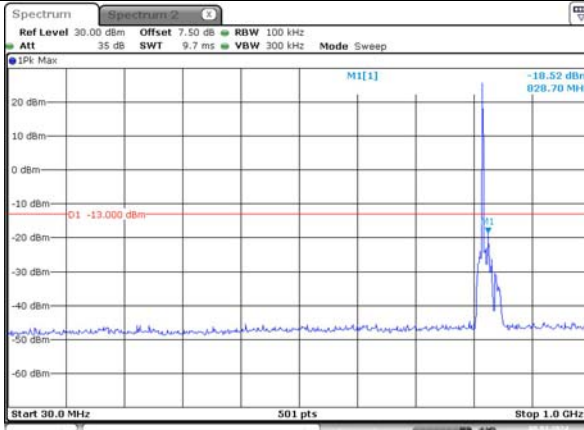
Channel

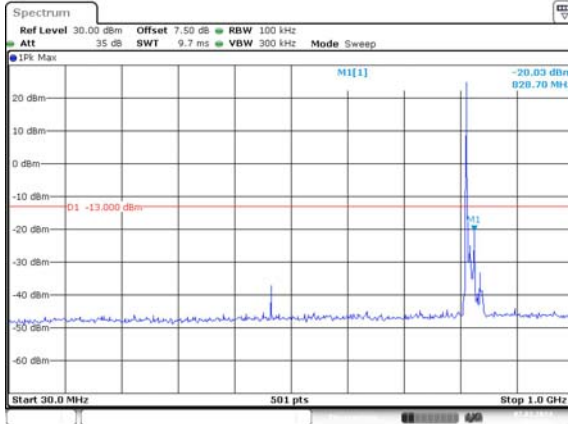
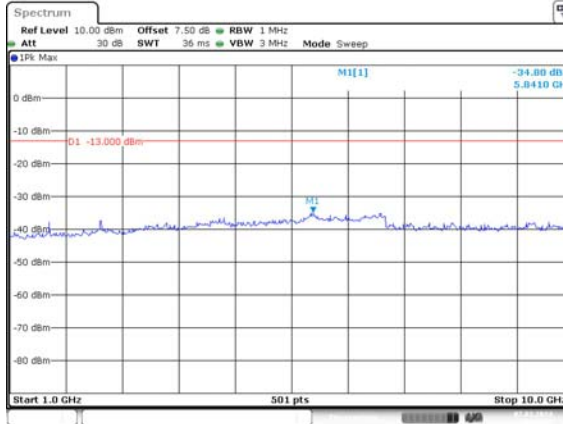
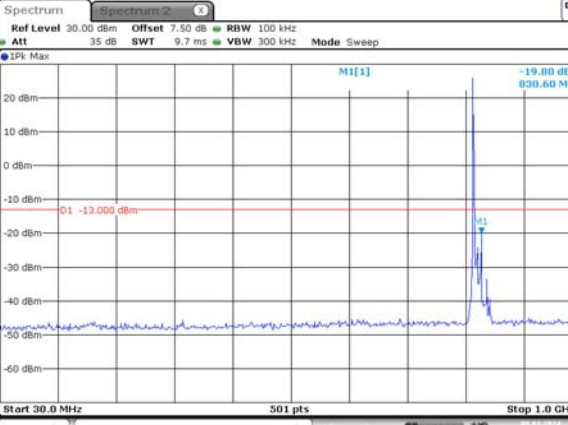
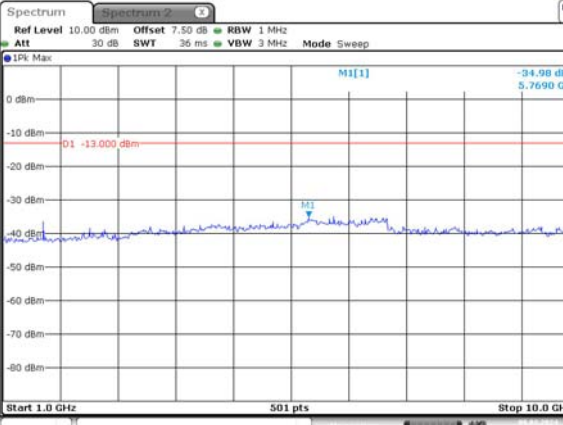
10MHz Bandwidth QPSK

Lowest



Cross  
90S and  
22H



| Channel                 | 15MHz Bandwidth QPSK                                                                                                                                           |                                                                                                                                                                 |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lowest                  |  <p>ProjectNo.:CR231168756 Testers:Jlm Wei<br/>Date: 7.MAR.2024 20:04:02</p>  |  <p>ProjectNo.:CR231168756 Testers:Jlm Wei<br/>Date: 7.MAR.2024 20:04:27</p>  |
| Cross<br>90S and<br>22H |  <p>ProjectNo.:CR231168756 Testers:Jlm Wei<br/>Date: 8.MAR.2024 11:54:18</p> |  <p>ProjectNo.:CR231168756 Testers:Jlm Wei<br/>Date: 8.MAR.2024 11:54:38</p> |

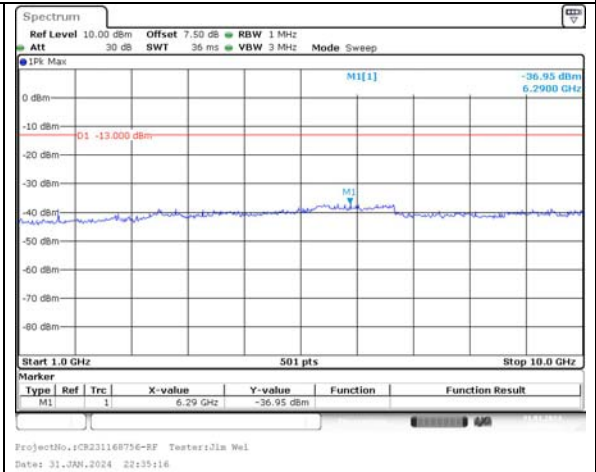
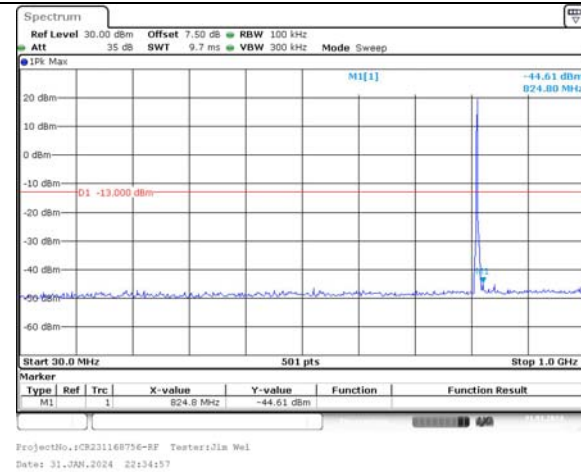
Full RB:

## Spurious Emissions at Antenna Terminal

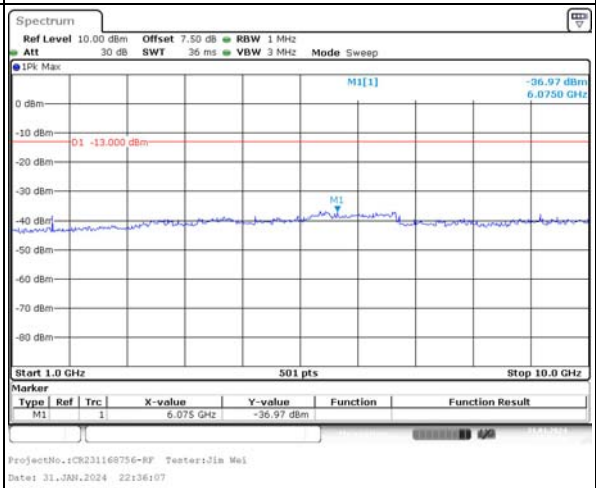
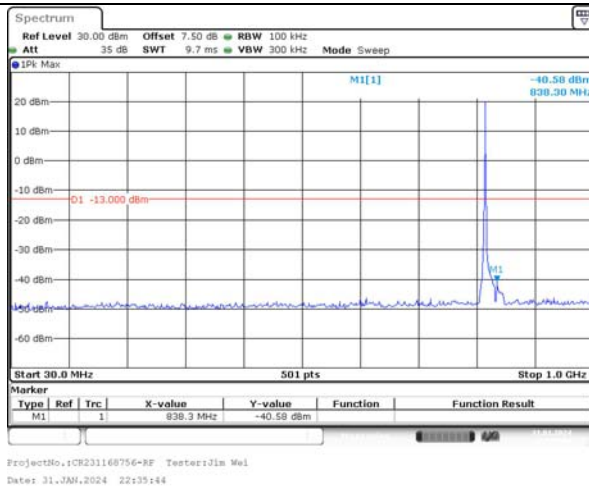
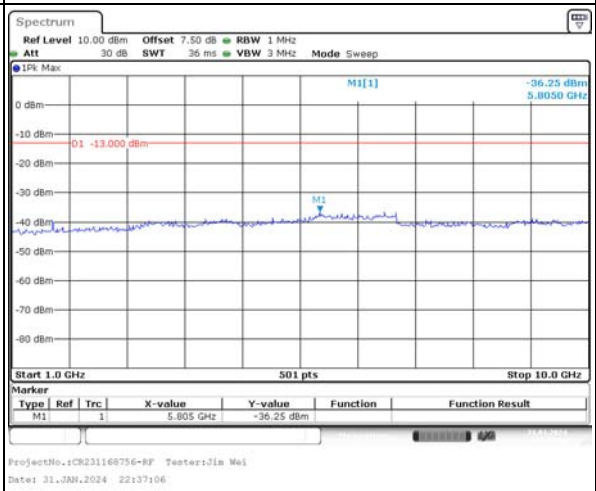
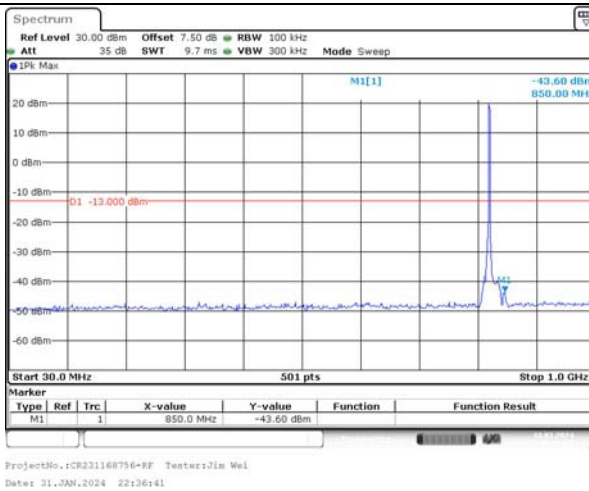
Channel

1.4MHz Bandwidth QPSK

Lowest



Highest

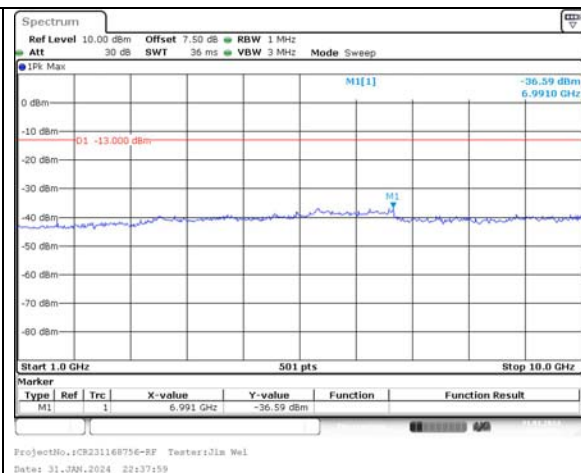
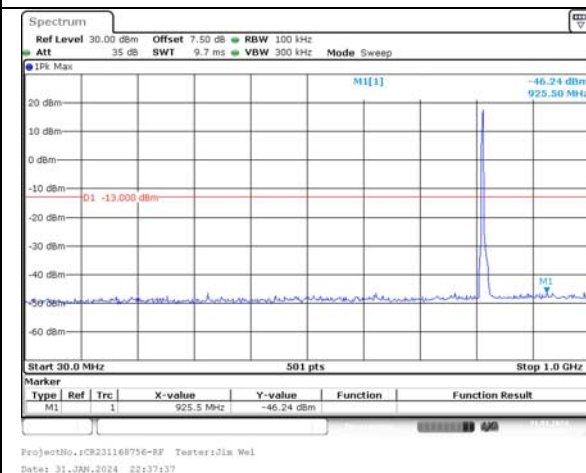
Cross  
90S and  
22H

## Spurious Emissions at Antenna Terminal

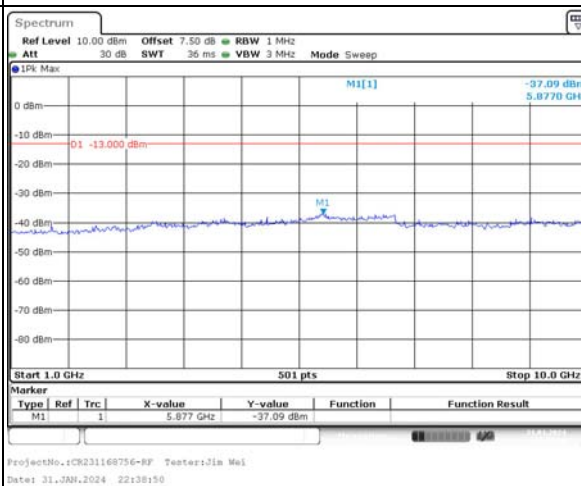
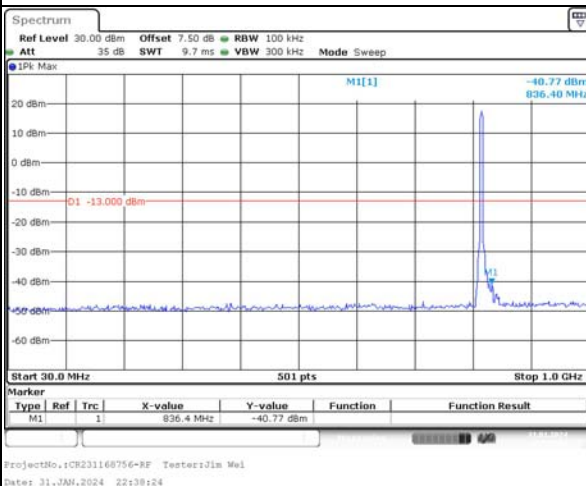
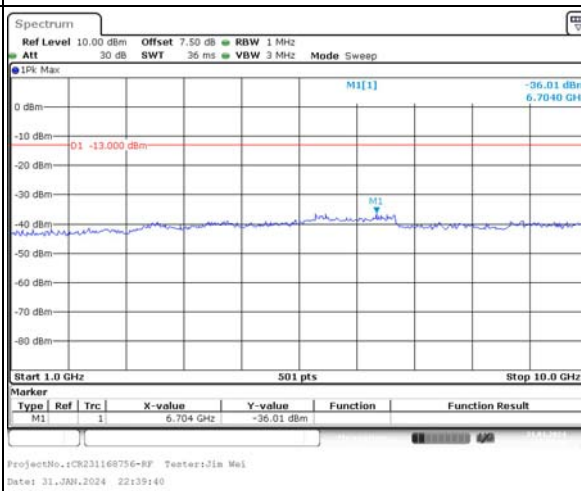
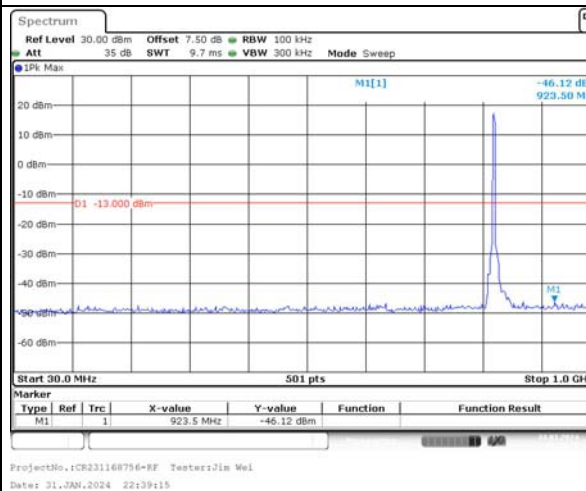
Channel

3MHz Bandwidth QPSK

Lowest



Highest

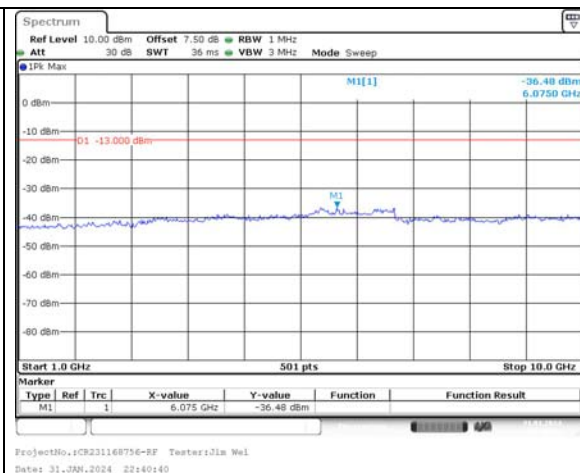
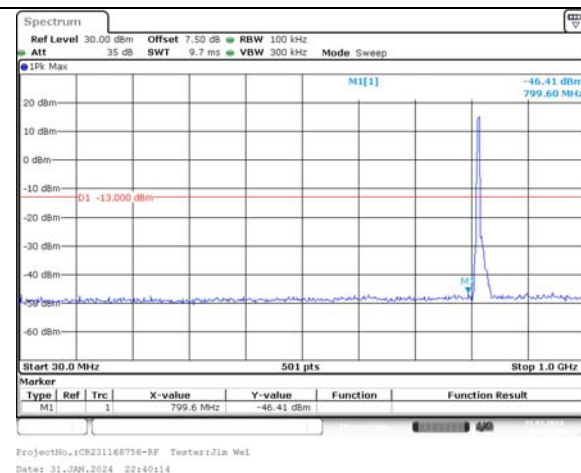
Cross  
90S and  
22H

## Spurious Emissions at Antenna Terminal

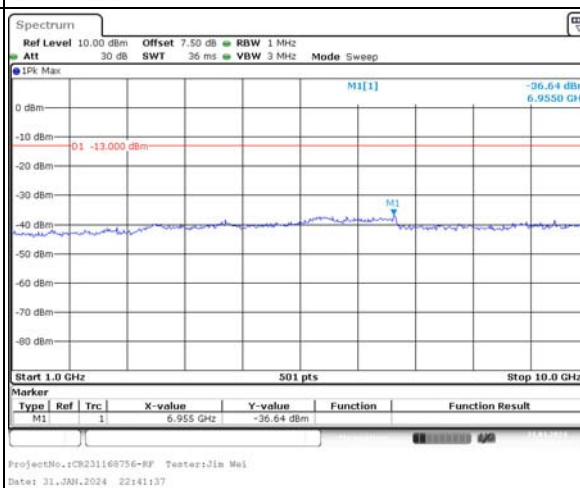
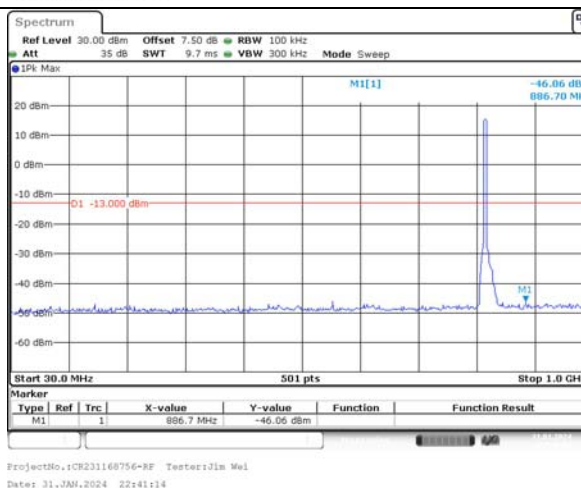
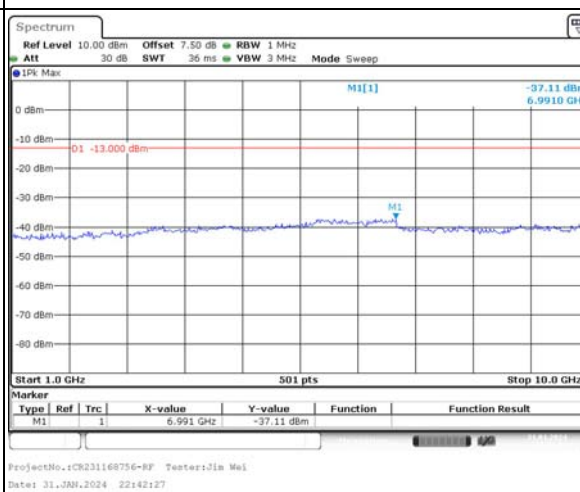
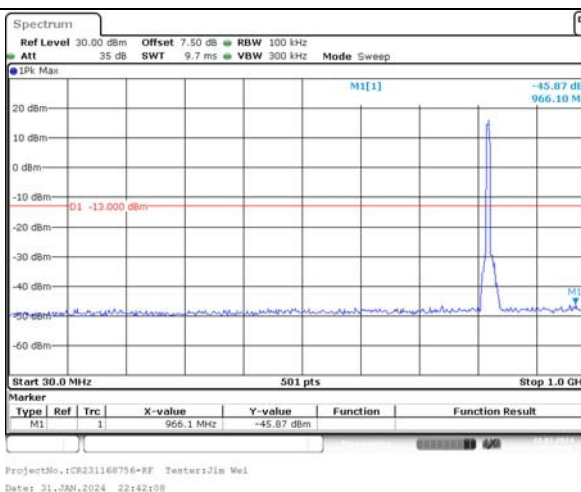
Channel

5MHz Bandwidth QPSK

Lowest



Highest

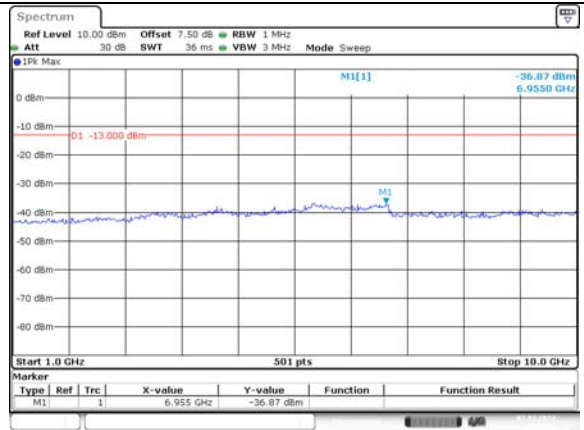
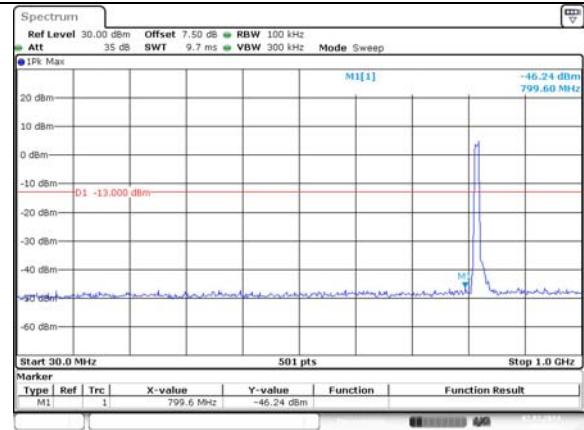
Cross  
90S and  
22H

Spurious Emissions at Antenna Terminal

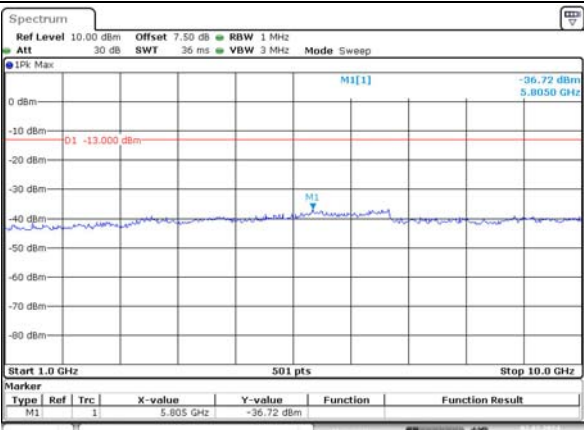
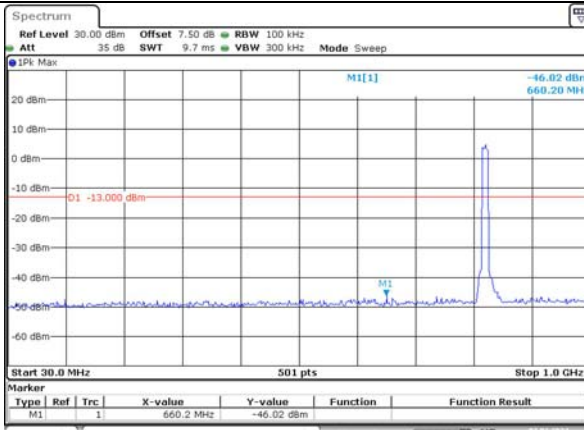
Channel

10MHz Bandwidth QPSK

Lowest



Cross  
90S and  
22H

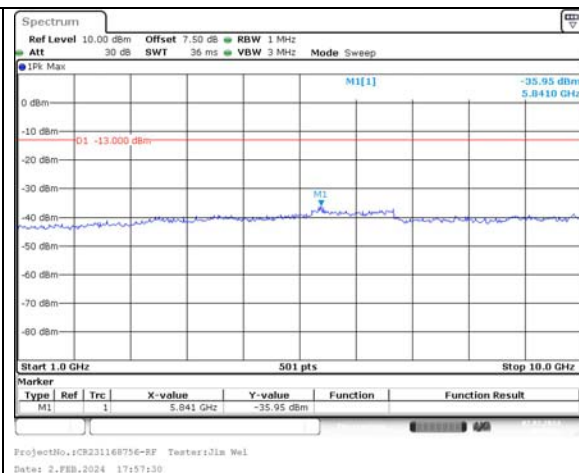
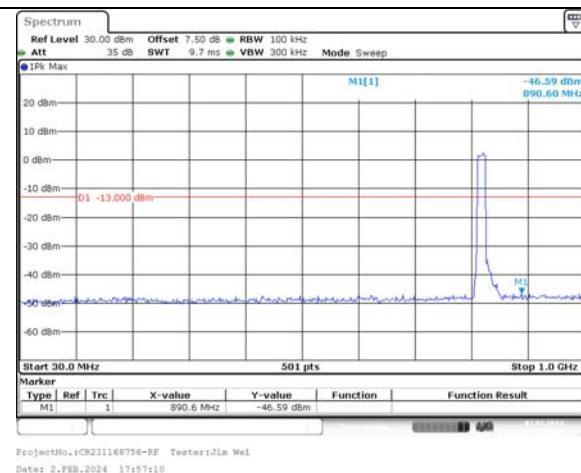
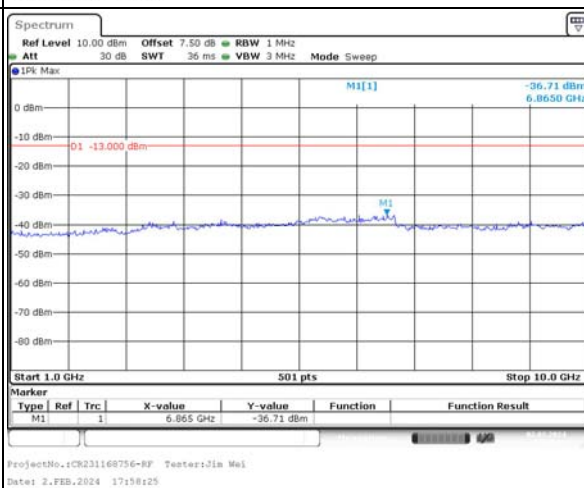
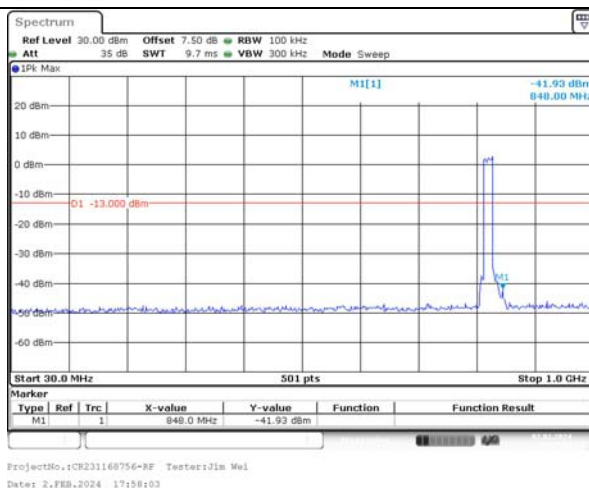


## Spurious Emissions at Antenna Terminal

Channel

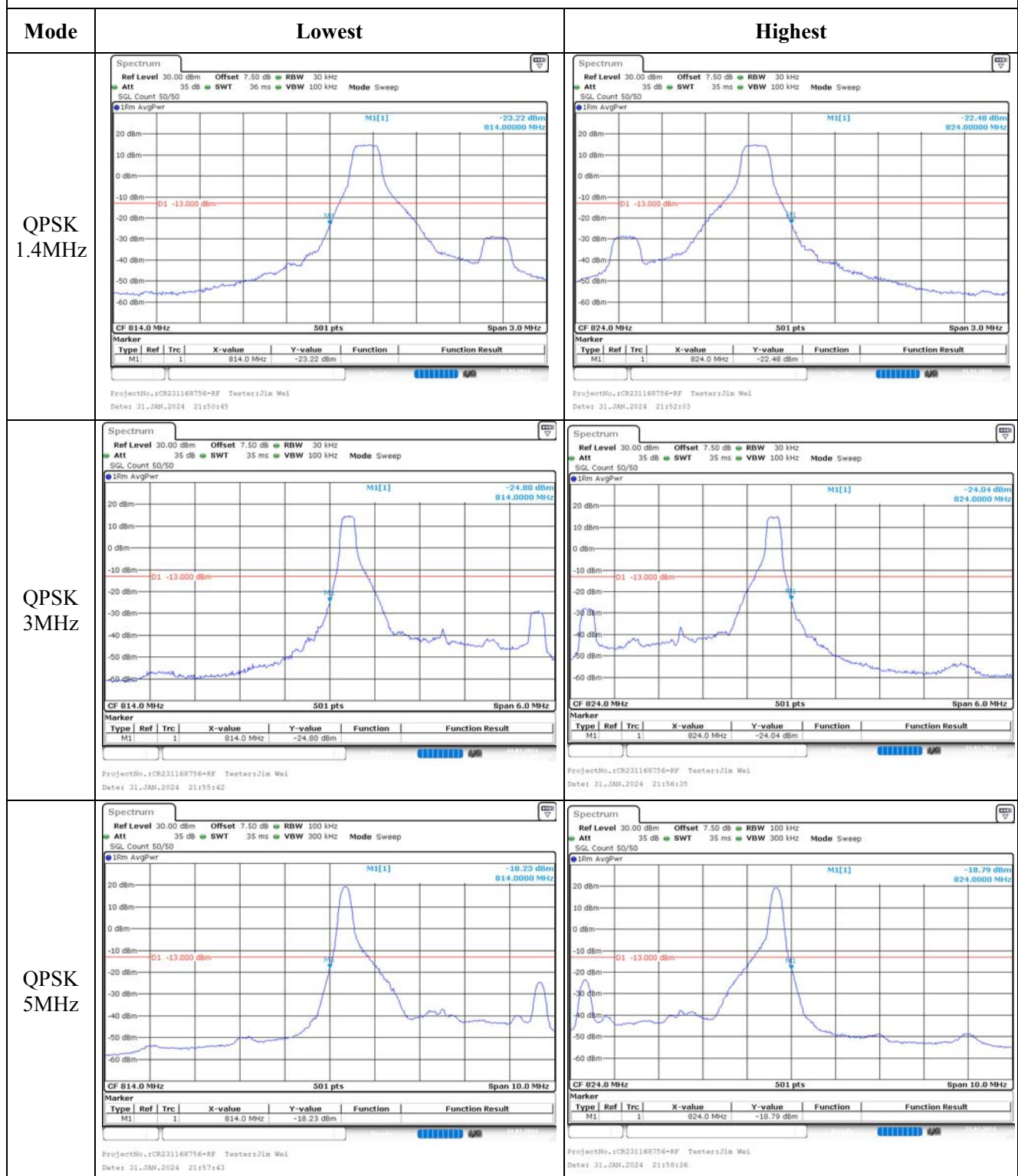
15MHz Bandwidth QPSK

Lowest

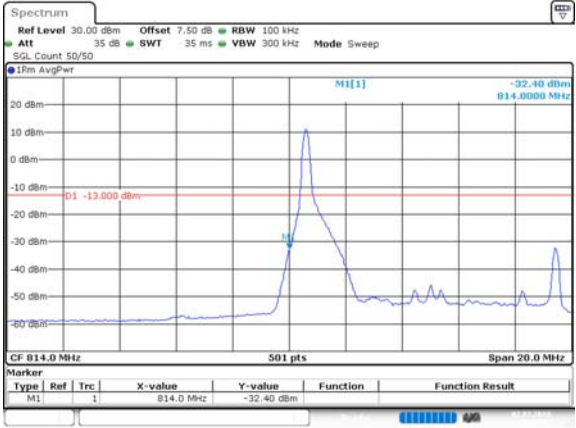
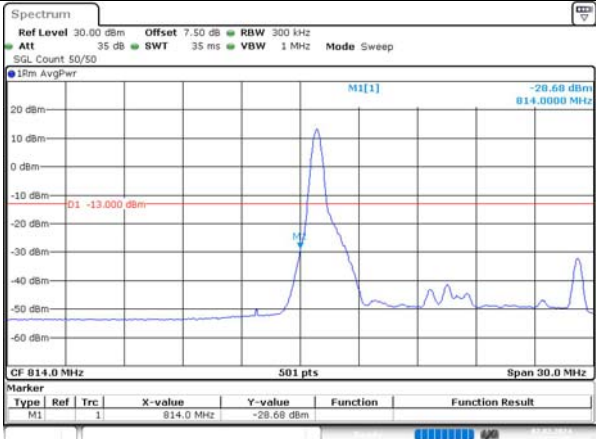
Cross  
90S and  
22H

## 1RB:

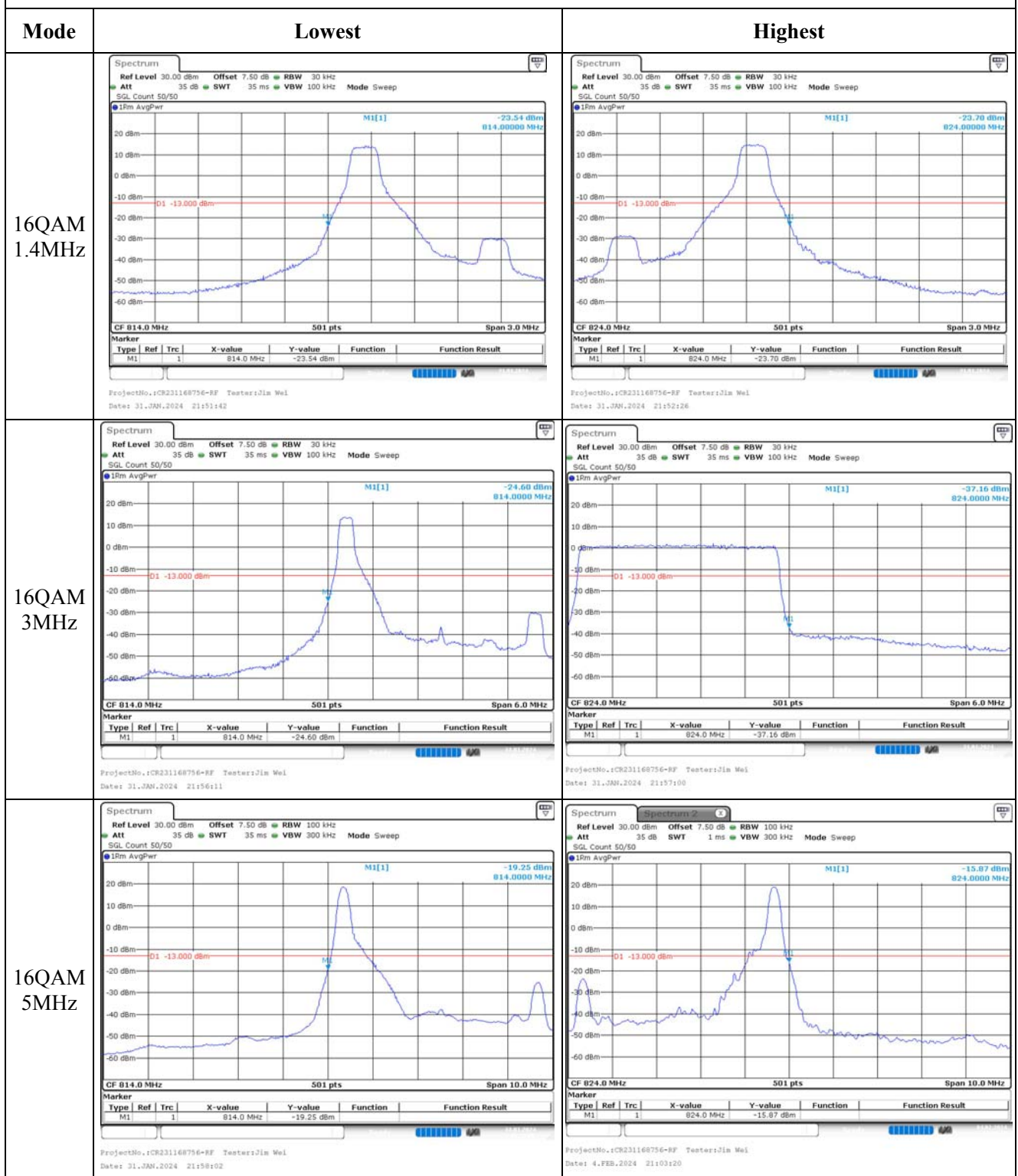
## Out of band emission, Band Edge



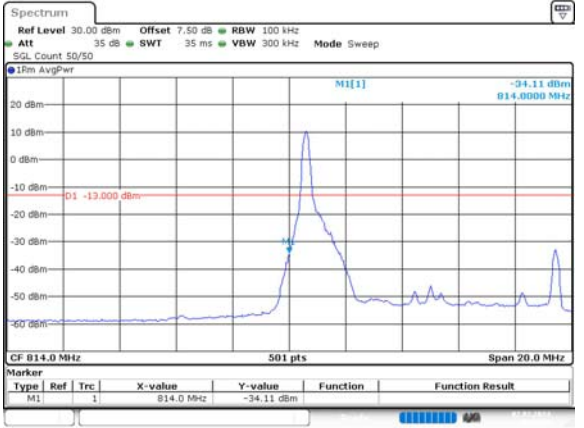
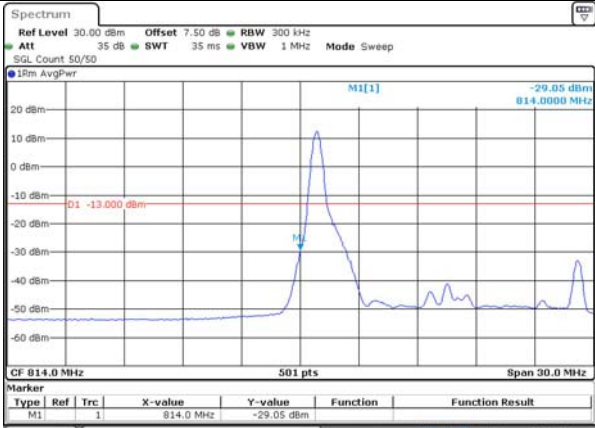
Out of band emission, Band Edge

| Mode          | Lowest                                                                                                                                                            | Highest |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| QPSK<br>10MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:32:47</p>  |         |
| QPSK<br>15MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:35:35</p> |         |

## Out of band emission, Band Edge

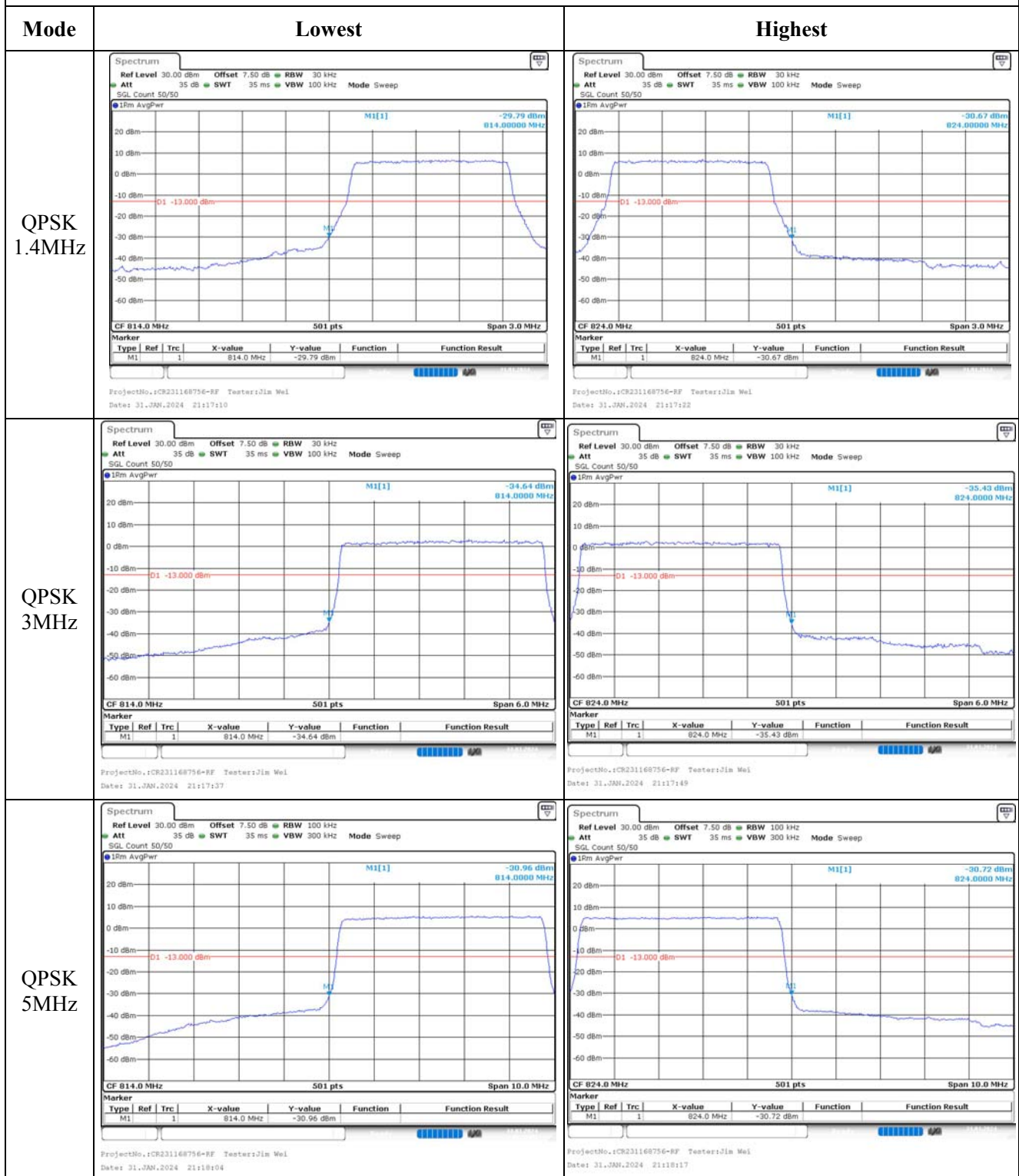


## Out of band emission, Band Edge

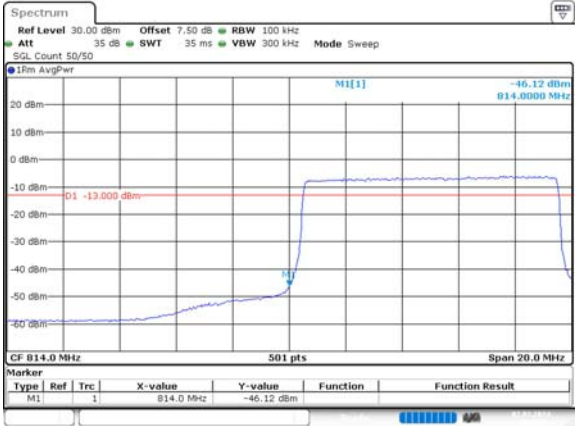
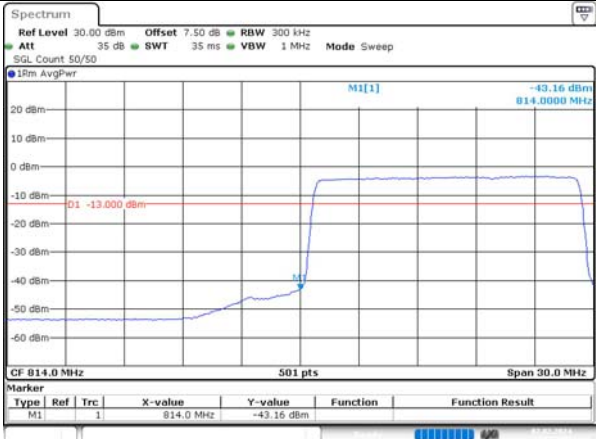
| Mode           | Lowest                                                                                                                                                            | Highest |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 16QAM<br>10MHz |  <p>ProjectNo.:CR231168756-RF Tester:Jin Wei<br/>Date: 2.FEB.2024 17:33:18</p>  |         |
| 16QAM<br>15MHz |  <p>ProjectNo.:CR231168756-RF Tester:Jin Wei<br/>Date: 2.FEB.2024 17:36:05</p> |         |

## Full RB:

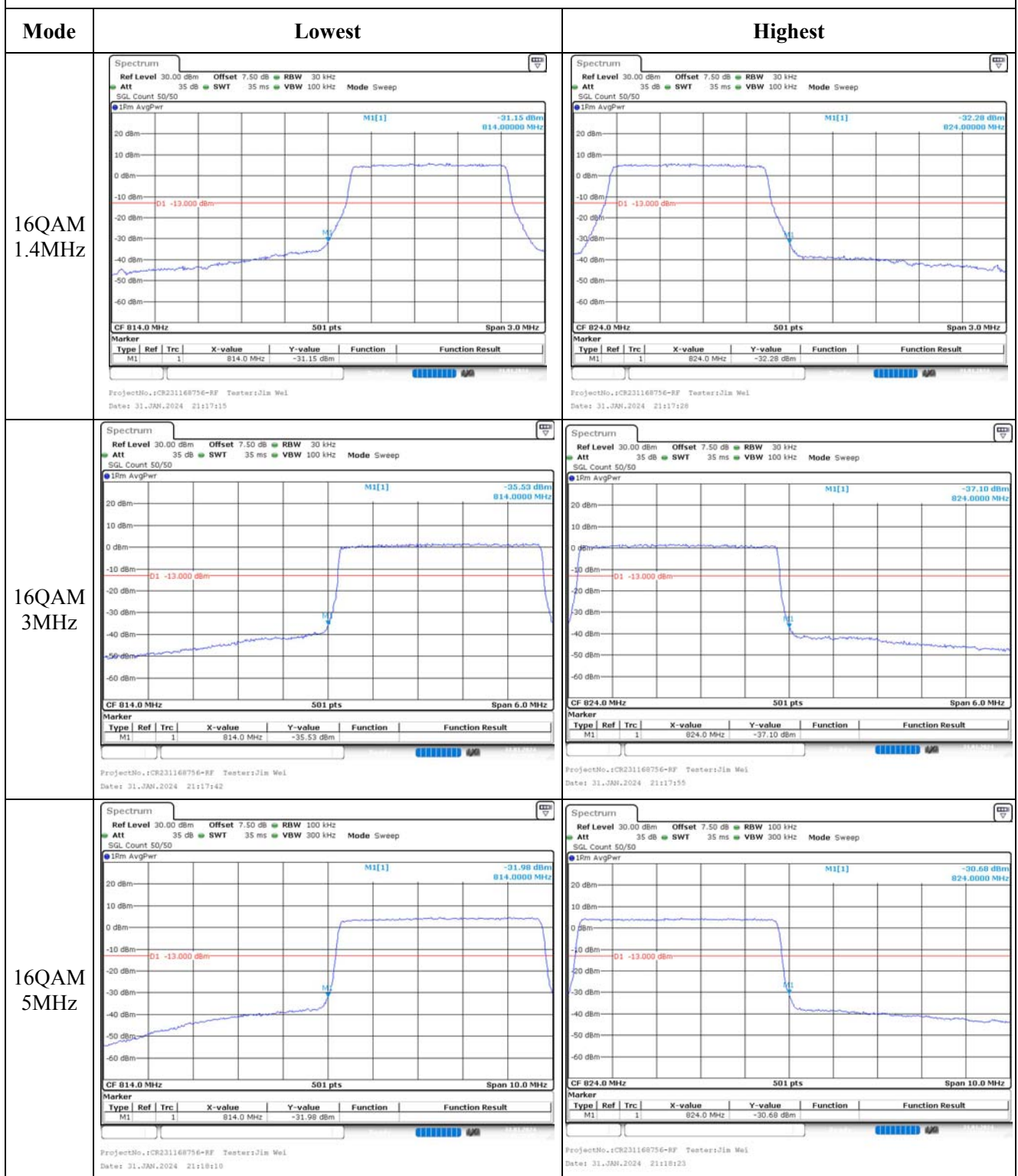
## Out of band emission, Band Edge



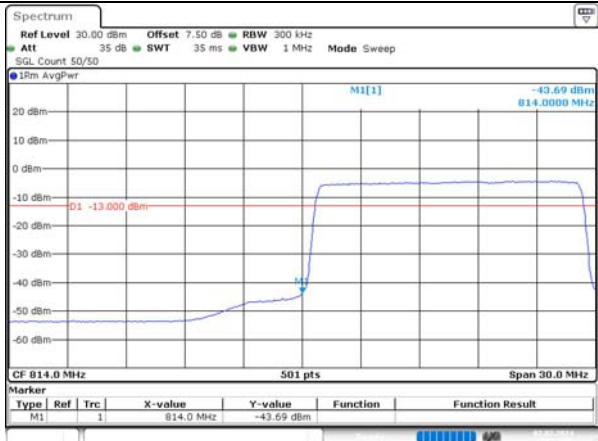
## Out of band emission, Band Edge

| Mode          | Lowest                                                                                                                                                            | Highest |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| QPSK<br>10MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:23:23</p>  |         |
| QPSK<br>15MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:23:53</p> |         |

## Out of band emission, Band Edge



## Out of band emission, Band Edge

| Mode           | Lowest                                                                                                                                                            | Highest |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 16QAM<br>10MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:23:30</p>  |         |
| 16QAM<br>15MHz |  <p>ProjectNo.:CR231168756-0F Tester:Jin Wei<br/>Date: 2.FEB.2024 17:23:59</p> |         |

**4.14 Antenna Port Test Data and Results for LTE Band 38**

|                |         |              |                   |
|----------------|---------|--------------|-------------------|
| Serial Number: | 2DYK-1  | Test Date:   | 2024/1/2-2024/3/7 |
| Test Site:     | RF      | Test Mode:   | Transmitting      |
| Tester:        | Jim Wei | Test Result: | Pass              |

**Environmental Conditions:**

|                      |           |                           |       |                        |             |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 25.5~26.5 | Relative Humidity:<br>(%) | 40~55 | ATM Pressure:<br>(kPa) | 101.1-101.9 |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model      | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40      | 101474          | 2023/3/31        | 2024/3/30            |
| zhuoxiang     | Coaxial Cable                       | SMA-178    | 211001          | Each time        | N/A                  |
| YINSAIGE      | Coaxial Cable                       | SS402      | SJ0100001       | Each time        | N/A                  |
| Mini-Circuits | DC Block                            | BLK-18-S+  | 1554403         | Each time        | N/A                  |
| Weinschel     | Power Splitter                      | 1515       | RA914           | Each time        | N/A                  |
| R&S           | Wideband Radio Communication Tester | CMW500     | 143458          | 2023/3/31        | 2024/3/30            |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40 | 30174           | 2023/3/31        | 2024/3/30            |
| UNI-T         | Multimeter                          | UT39A+     | C210582554      | 2023/9/29        | 2024/9/28            |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D  | 21R6010D0912386 | N/A              | N/A                  |

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency For Each Mode:**

| Operation Bandwidth | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|---------------------|------------------------|------------------------|-------------------------|
| 5MHz                | 2572.5                 | 2595                   | 2617.5                  |
| 10MHz               | 2575                   | 2595                   | 2615                    |
| 15MHz               | 2577.5                 | 2595                   | 2612.5                  |
| 20MHz               | 2580                   | 2595                   | 2610                    |

**Test Data:**

| <b>RF Output Power</b>      |                            |                                     |                |                 |                    |                  |
|-----------------------------|----------------------------|-------------------------------------|----------------|-----------------|--------------------|------------------|
| Test Bandwidth & Modulation | Resource Block & RB offset | Conducted Average Output Power(dBm) |                |                 | Maximum EIRP (dBm) | EIRP Limit (dBm) |
|                             |                            | Lowest Channel                      | Middle Channel | Highest Channel |                    |                  |
| 5MHz QPSK                   | RB1#0                      | 22.30                               | 22.35          | 22.38           | 24.43              | 33               |
|                             | RB1#13                     | 22.41                               | 22.48          | <b>22.50</b>    |                    |                  |
|                             | RB1#24                     | 22.34                               | 22.36          | 22.38           |                    |                  |
|                             | RB15#0                     | 21.30                               | 21.46          | 21.43           |                    |                  |
|                             | RB15#10                    | 21.31                               | 21.41          | 21.41           |                    |                  |
|                             | RB25#0                     | 21.30                               | 21.46          | 21.46           |                    |                  |
| 5MHz 16QAM                  | RB1#0                      | 21.48                               | 21.37          | 21.44           | 23.55              | 33               |
|                             | RB1#13                     | <b>21.62</b>                        | 21.50          | 21.56           |                    |                  |
|                             | RB1#24                     | 21.54                               | 21.37          | 21.41           |                    |                  |
|                             | RB15#0                     | 20.38                               | 20.42          | 20.45           |                    |                  |
|                             | RB15#10                    | 20.41                               | 20.37          | 20.44           |                    |                  |
|                             | RB25#0                     | 20.31                               | 20.51          | 20.48           |                    |                  |
| 10MHz QPSK                  | RB1#0                      | 22.49                               | 22.54          | 22.50           | 24.73              | 33               |
|                             | RB1#25                     | 22.64                               | <b>22.80</b>   | 22.79           |                    |                  |
|                             | RB1#49                     | 22.42                               | 22.48          | 22.49           |                    |                  |
|                             | RB25#0                     | 21.40                               | 21.53          | 21.52           |                    |                  |
|                             | RB25#25                    | 21.39                               | 21.48          | 21.51           |                    |                  |
|                             | RB50#0                     | 21.39                               | 21.50          | 21.55           |                    |                  |
| 10MHz 16QAM                 | RB1#0                      | 21.62                               | 21.42          | 21.64           | 23.82              | 33               |
|                             | RB1#25                     | <b>21.89</b>                        | 21.70          | <b>21.89</b>    |                    |                  |
|                             | RB1#49                     | 21.63                               | 21.39          | 21.63           |                    |                  |
|                             | RB25#0                     | 20.38                               | 20.62          | 20.60           |                    |                  |
|                             | RB25#25                    | 20.45                               | 20.58          | 20.55           |                    |                  |
|                             | RB50#0                     | 20.41                               | 20.55          | 20.58           |                    |                  |
| 15MHz QPSK                  | RB1#0                      | 22.35                               | 22.48          | 22.48           | 24.52              | 33               |
|                             | RB1#38                     | 22.48                               | <b>22.59</b>   | 22.54           |                    |                  |
|                             | RB1#74                     | 22.39                               | 22.43          | 22.44           |                    |                  |
|                             | RB36#0                     | 21.47                               | 21.51          | 21.54           |                    |                  |
|                             | RB36#39                    | 21.47                               | 21.49          | 21.53           |                    |                  |
|                             | RB75#0                     | 21.48                               | 21.50          | 21.56           |                    |                  |
| 15MHz 16QAM                 | RB1#0                      | 21.52                               | 21.41          | 21.71           | 23.69              | 33               |
|                             | RB1#38                     | 21.65                               | 21.49          | <b>21.76</b>    |                    |                  |
|                             | RB1#74                     | 21.59                               | 21.35          | 21.64           |                    |                  |
|                             | RB36#0                     | 20.44                               | 20.57          | 20.59           |                    |                  |
|                             | RB36#39                    | 20.42                               | 20.45          | 20.59           |                    |                  |
|                             | RB75#0                     | 20.43                               | 20.52          | 20.59           |                    |                  |
| 20MHz QPSK                  | RB1#0                      | 22.26                               | 22.29          | 22.40           | 24.79              | 33               |
|                             | RB1#50                     | 22.73                               | 22.77          | <b>22.86</b>    |                    |                  |
|                             | RB1#99                     | 22.29                               | 22.24          | 22.35           |                    |                  |

|             |         |       |       |              |    |    |
|-------------|---------|-------|-------|--------------|----|----|
| 20MHz 16QAM | RB50#0  | 21.51 | 21.58 | 21.56        | 24 | 33 |
|             | RB50#50 | 21.47 | 21.44 | 21.52        |    |    |
|             | RB100#0 | 21.50 | 21.55 | 21.53        |    |    |
|             | RB1#0   | 21.34 | 21.31 | 21.63        |    |    |
|             | RB1#50  | 21.82 | 21.76 | <b>22.07</b> |    |    |
|             | RB1#99  | 21.39 | 21.26 | 21.58        |    |    |
|             | RB50#0  | 20.50 | 20.64 | 20.61        |    |    |
|             | RB50#50 | 20.49 | 20.58 | 20.56        |    |    |
|             | RB100#0 | 20.46 | 20.57 | 20.56        |    |    |

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

**Result:** **Pass**

#### Peak-to-average Ratio(PAR)

| Test Bandwidth & Modulation | Resource Block & RB offset | Peak-to-average Ratio(dB) |                |                 | Limit (dB)  |
|-----------------------------|----------------------------|---------------------------|----------------|-----------------|-------------|
|                             |                            | Lowest Channel            | Middle Channel | Highest Channel |             |
| 20MHz QPSK                  | RB1#0                      | 8.28                      | 8.93           | 9.22            | 13          |
|                             | RB100#0                    | 8.81                      | 9.57           | 9.59            | 13          |
| 20MHz 16QAM                 | RB1#0                      | 9.88                      | 9.85           | 10.03           | 13          |
|                             | RB100#0                    | 10.29                     | 10.43          | 9.74            | 13          |
| <b>Result:</b>              |                            |                           |                |                 | <b>Pass</b> |

#### Occupied Bandwidth

| Operation Mode | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|----------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
|                | Low Channel                  | Middle channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| 5MHz QPSK      | 4.491                        | 4.511          | 4.511        | 4.960                          | 4.980          | 4.940        |
| 5MHz 16QAM     | 4.491                        | 4.511          | 4.491        | 4.960                          | 4.960          | 4.960        |
| 10MHz QPSK     | 8.942                        | 8.942          | 8.942        | 9.520                          | 9.640          | 9.800        |
| 10MHz 16QAM    | 8.942                        | 8.942          | 8.942        | 9.640                          | 9.480          | 9.520        |
| 15MHz QPSK     | 13.413                       | 13.533         | 13.533       | 14.760                         | 15.660         | 14.880       |
| 15MHz 16QAM    | 13.533                       | 13.533         | 13.533       | 15.420                         | 15.420         | 15.240       |
| 20MHz QPSK     | 17.964                       | 17.964         | 17.964       | 19.280                         | 19.280         | 19.920       |
| 20MHz 16QAM    | 17.884                       | 17.964         | 17.884       | 19.360                         | 20.240         | 19.280       |

Note: The test plots please refer to the Plots of Occupied Bandwidth

#### Spurious Emissions at Antenna Terminal

|                |                                                                                        |
|----------------|----------------------------------------------------------------------------------------|
| <b>Result:</b> | <b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b> |
|----------------|----------------------------------------------------------------------------------------|

#### Out of band emission, Band Edge

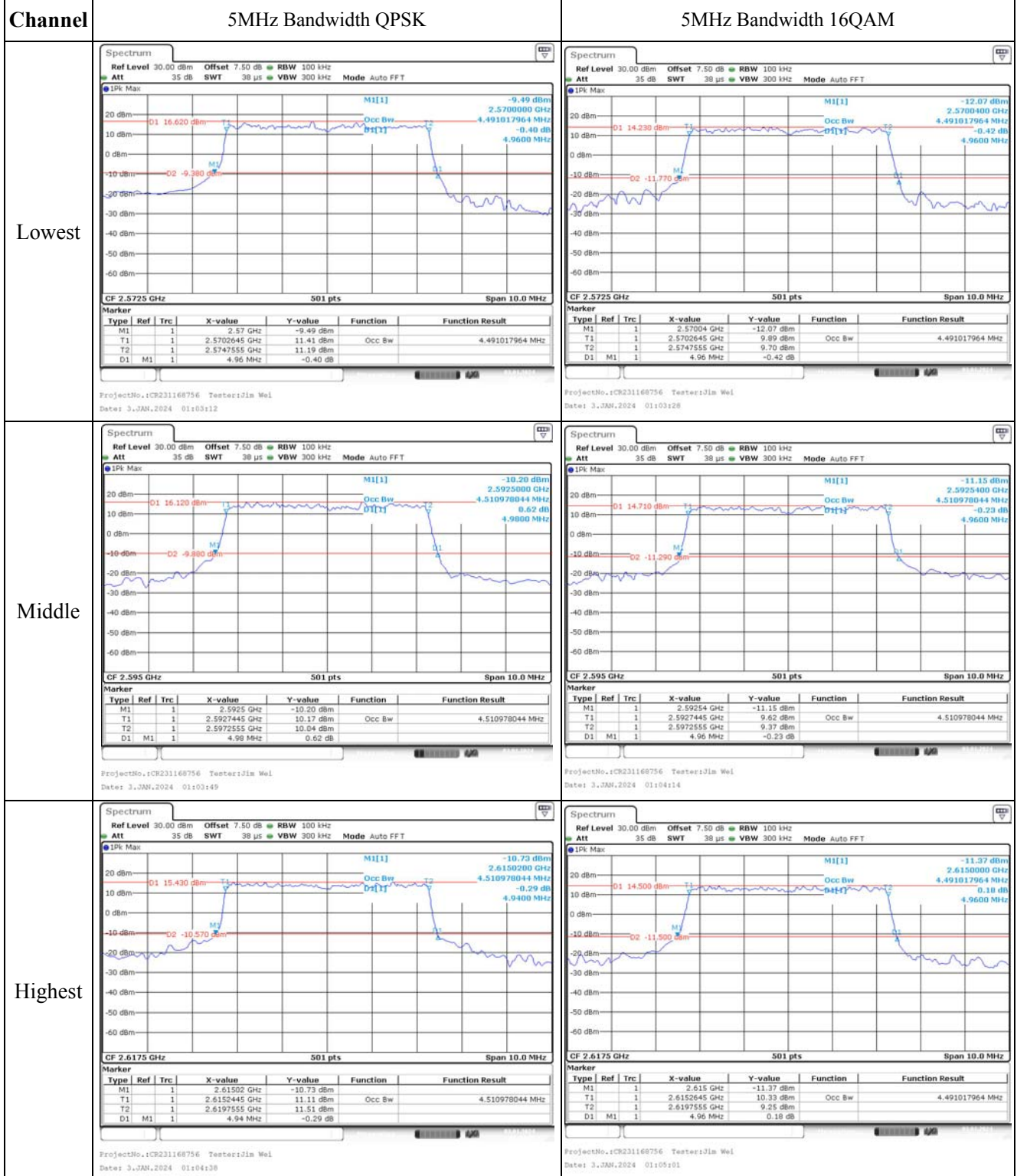
|                |                                                                                 |
|----------------|---------------------------------------------------------------------------------|
| <b>Result:</b> | <b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b> |
|----------------|---------------------------------------------------------------------------------|

| Frequency Stability                 |                  |                                                            |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Mode:                          | 20M QPSK         | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.8                                                        | 2570.960         | 2570.00 | 2618.924         | 2620        |
|                                     | -20              | 3.8                                                        | 2570.960         | 2570.00 | 2618.924         | 2620        |
|                                     | -10              | 3.8                                                        | 2570.960         | 2570.00 | 2618.915         | 2620        |
|                                     | 0                | 3.8                                                        | 2570.951         | 2570.00 | 2618.936         | 2620        |
|                                     | 10               | 3.8                                                        | 2570.972         | 2570.00 | 2618.933         | 2620        |
|                                     | 20               | 3.8                                                        | 2570.978         | 2570.00 | 2618.942         | 2620        |
|                                     | 30               | 3.8                                                        | 2570.984         | 2570.00 | 2618.954         | 2620        |
|                                     | 40               | 3.8                                                        | 2570.999         | 2570.00 | 2618.945         | 2620        |
|                                     | 50               | 3.8                                                        | 2571.005         | 2570.00 | 2618.951         | 2620        |
| Frequency Stability vs. Voltage     | 20               | 3.23                                                       | 2570.981         | 2570.00 | 2618.948         | 2620        |
|                                     | 20               | 4.18                                                       | 2571.005         | 2570.00 | 2618.951         | 2620        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

| Test Mode:                          | 20M 16QAM        | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.8                                                        | 2571.046         | 2570.00 | 2618.936         | 2620        |
|                                     | -20              | 3.8                                                        | 2571.055         | 2570.00 | 2618.915         | 2620        |
|                                     | -10              | 3.8                                                        | 2571.031         | 2570.00 | 2618.927         | 2620        |
|                                     | 0                | 3.8                                                        | 2571.034         | 2570.00 | 2618.924         | 2620        |
|                                     | 10               | 3.8                                                        | 2571.034         | 2570.00 | 2618.918         | 2620        |
|                                     | 20               | 3.8                                                        | 2571.058         | 2570.00 | 2618.942         | 2620        |
|                                     | 30               | 3.8                                                        | 2571.076         | 2570.00 | 2618.966         | 2620        |
|                                     | 40               | 3.8                                                        | 2571.076         | 2570.00 | 2618.948         | 2620        |
|                                     | 50               | 3.8                                                        | 2571.079         | 2570.00 | 2618.951         | 2620        |
| Frequency Stability vs. Voltage     | 20               | 3.23                                                       | 2571.085         | 2570.00 | 2618.951         | 2620        |
|                                     | 20               | 4.18                                                       | 2571.070         | 2570.00 | 2618.960         | 2620        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

**Test Plots**(Note: The 7.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

### Occupied Bandwidth



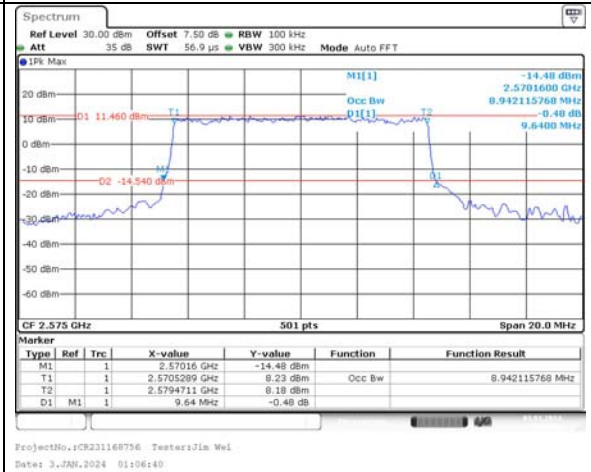
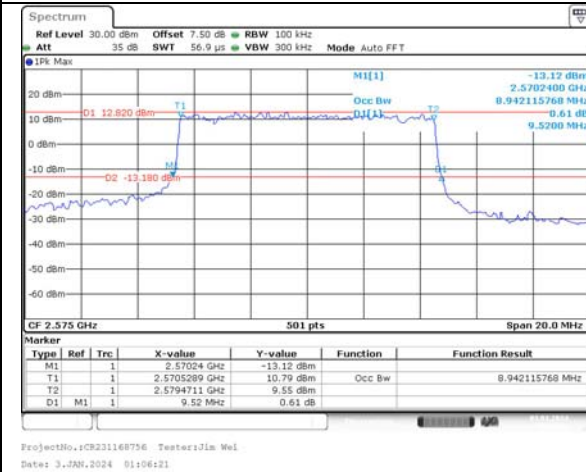
## Occupied Bandwidth

## Channel

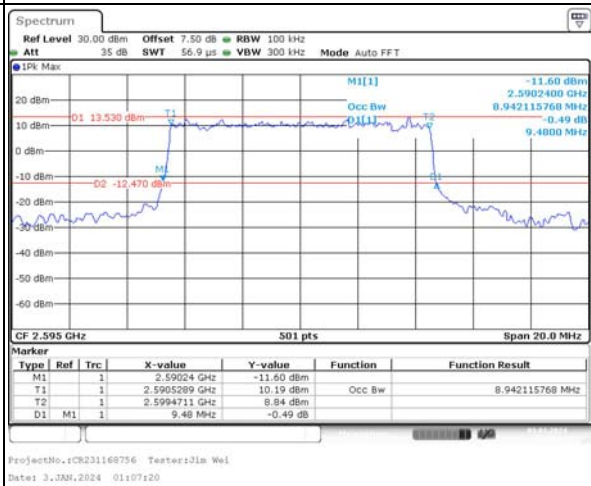
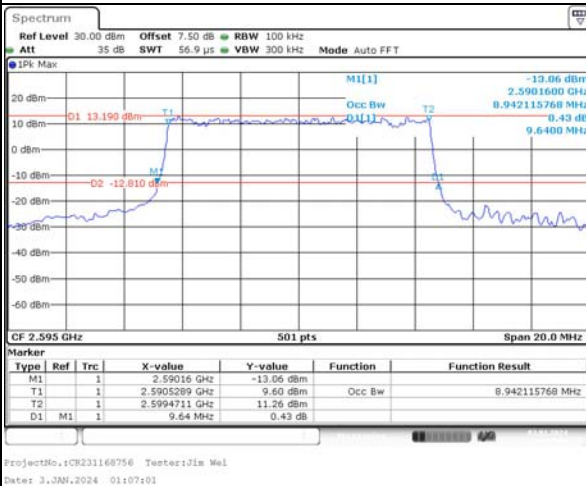
## 10MHz Bandwidth QPSK

## 10MHz Bandwidth 16QAM

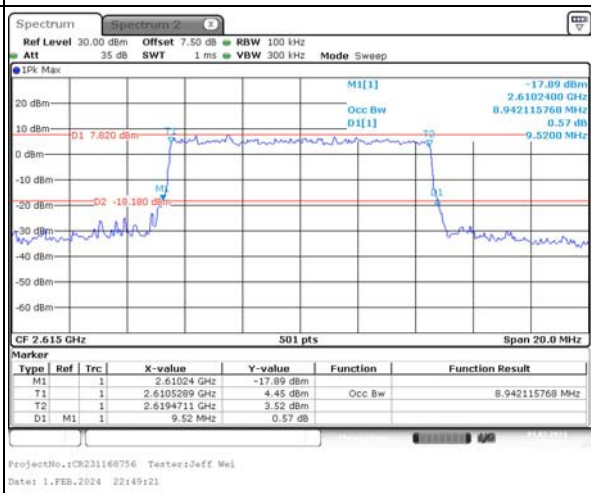
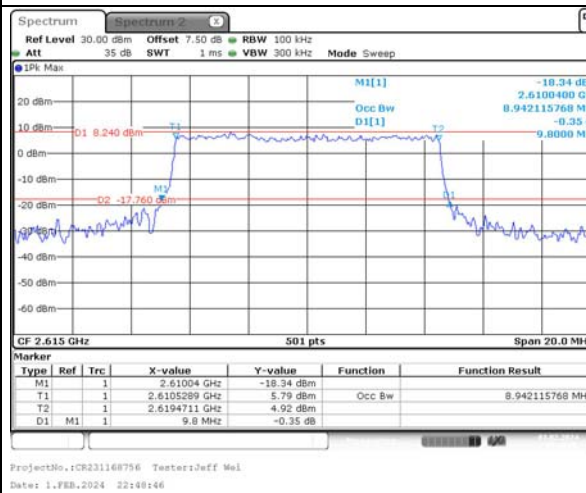
## Lowest



## Middle



## Highest



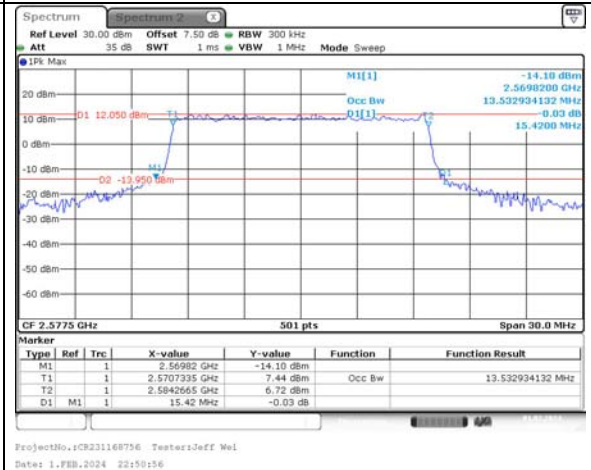
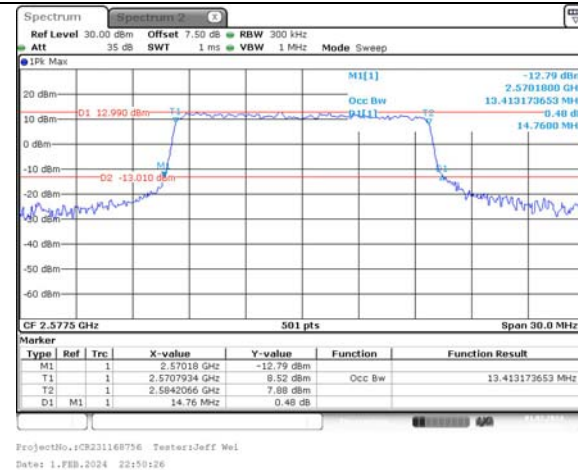
## Occupied Bandwidth

## Channel

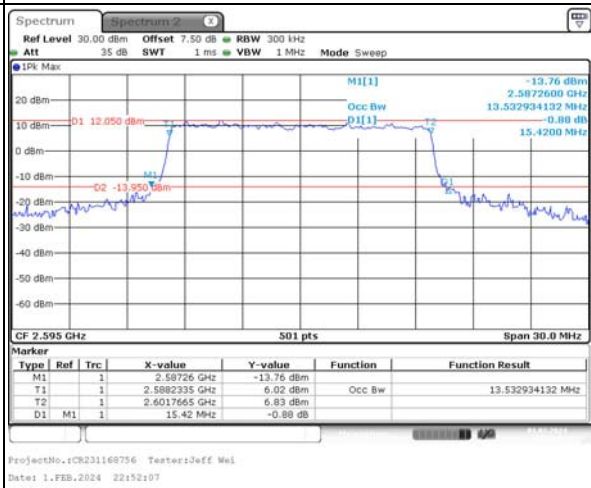
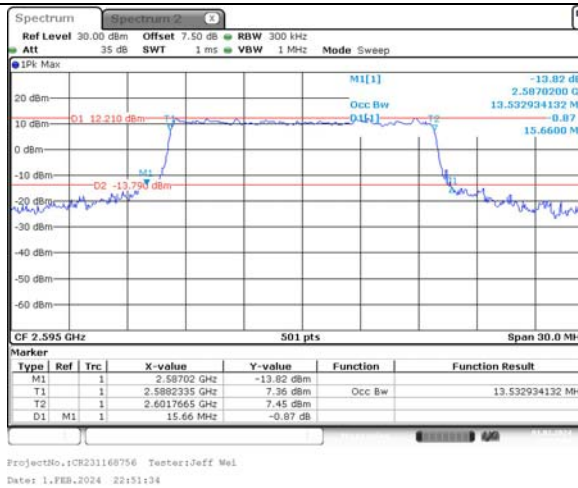
## 15MHz Bandwidth QPSK

## 15MHz Bandwidth 16QAM

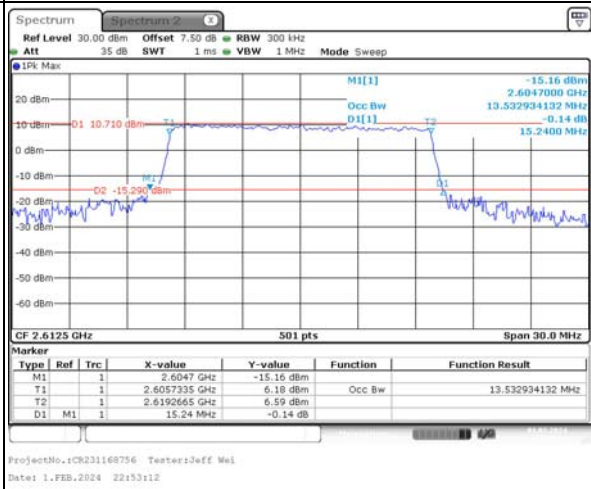
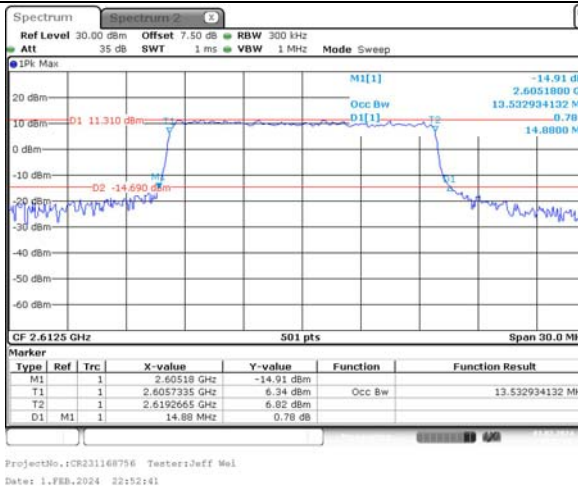
## Lowest



## Middle



## Highest



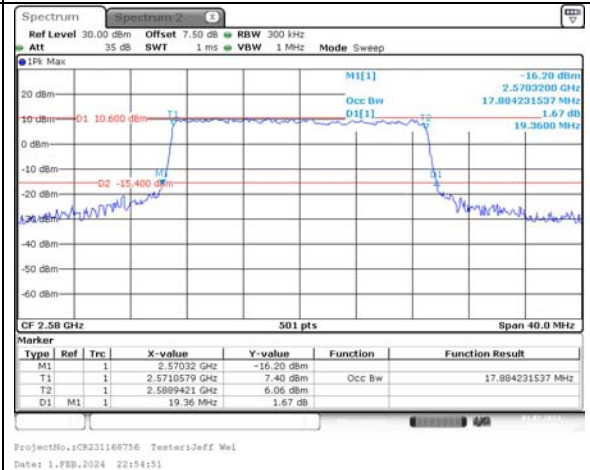
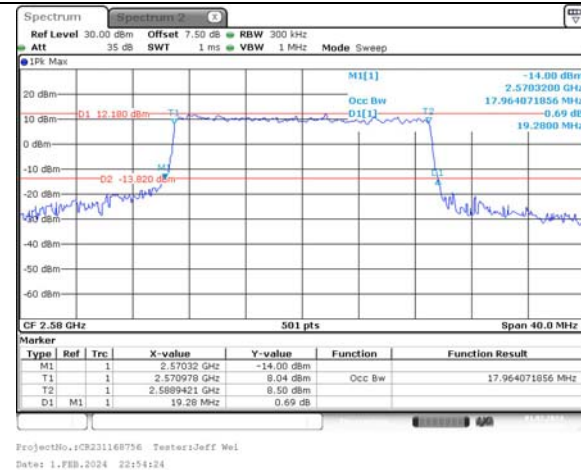
## Occupied Bandwidth

## Channel

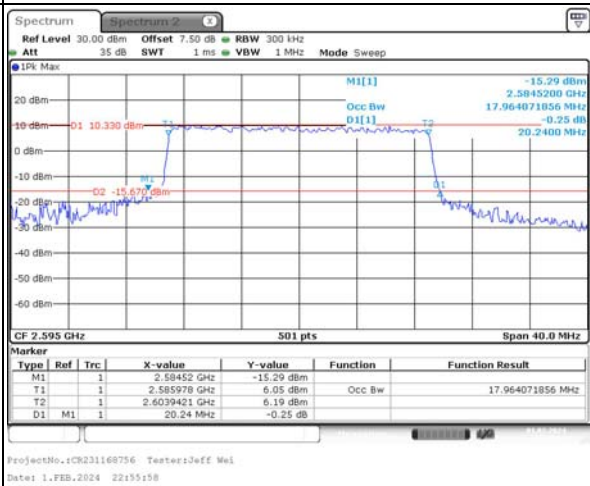
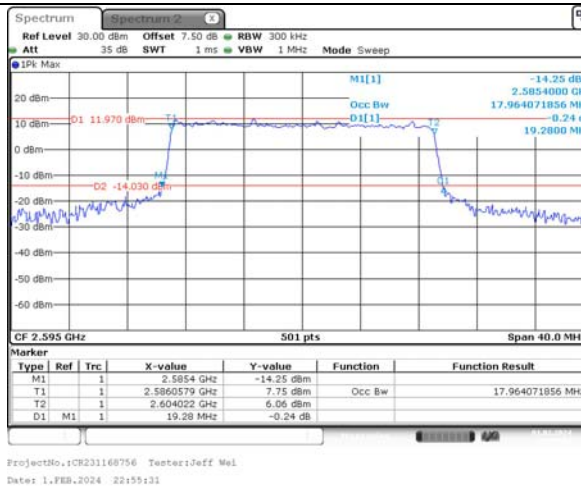
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

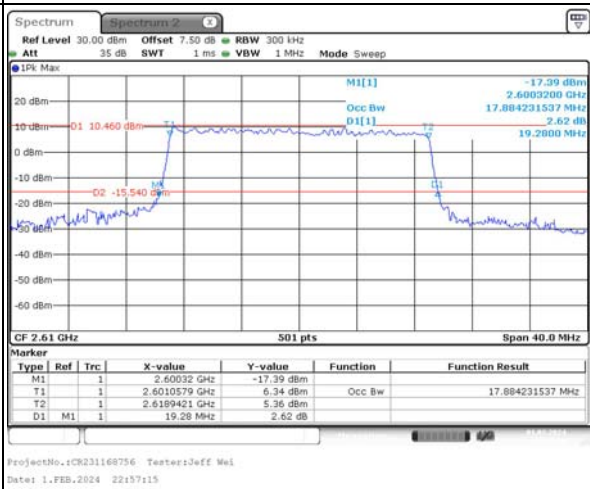
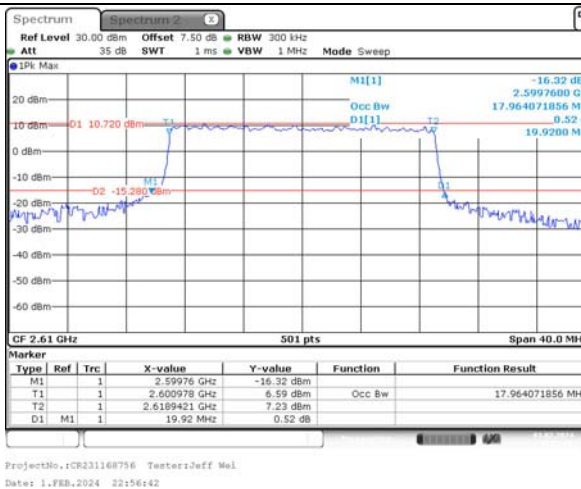
Lowest



Middle

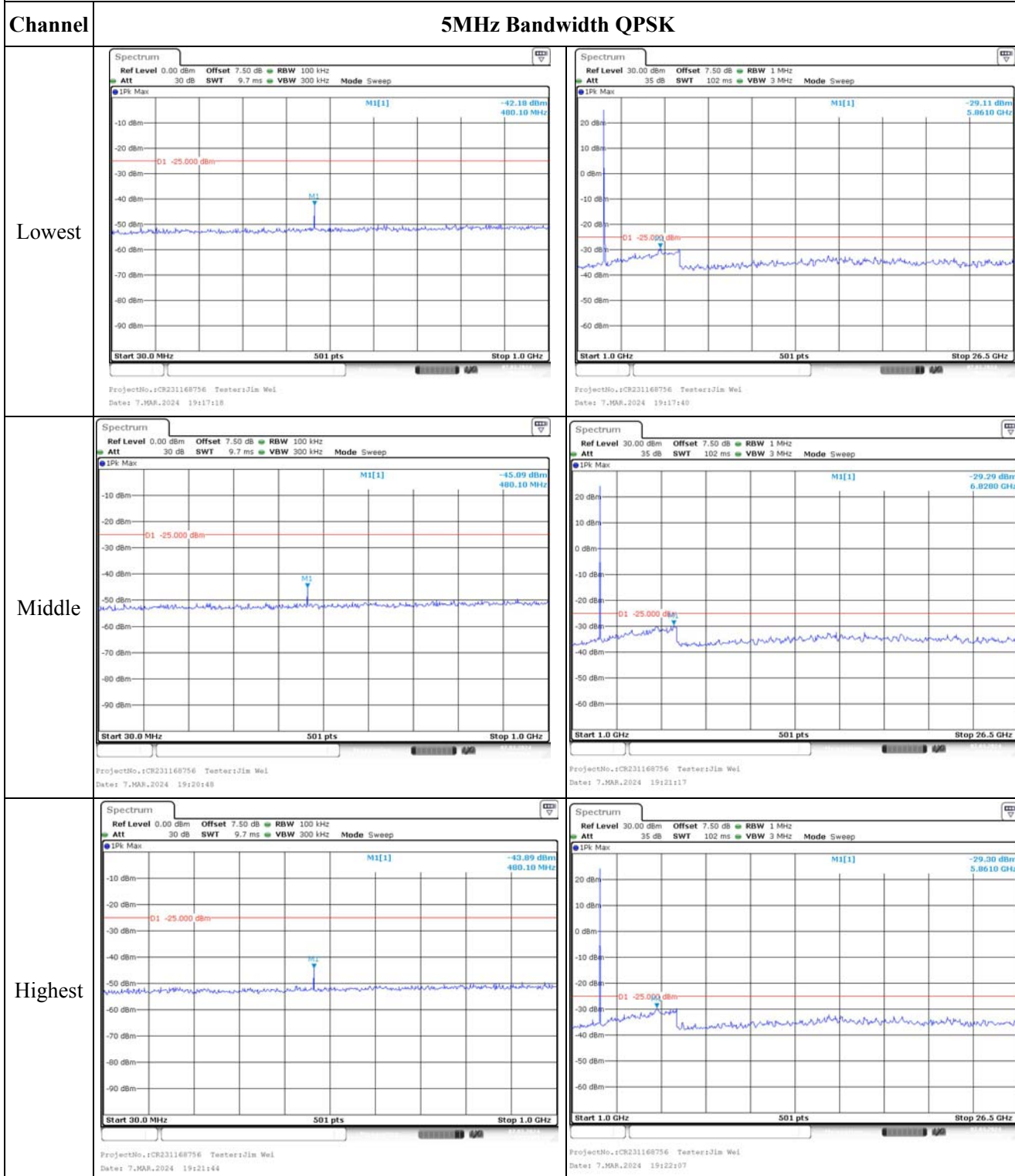


Highest



RB1#0:

## Spurious Emissions at Antenna Terminal



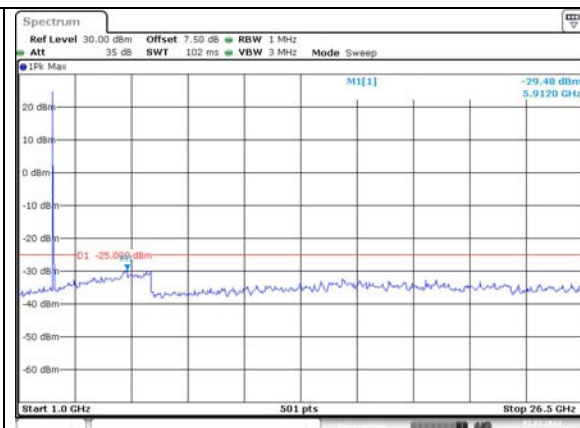
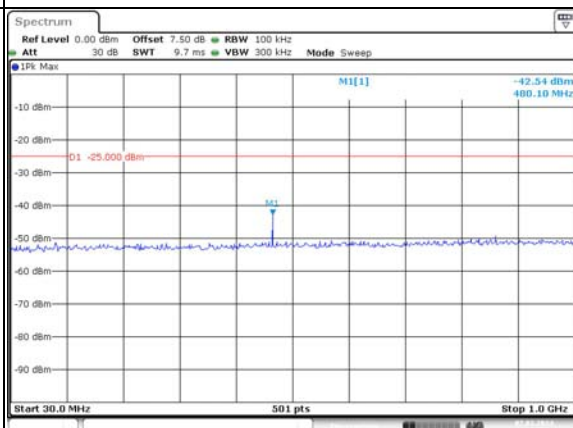
| Channel | 10MHz Bandwidth QPSK                                                       |                                                                            |
|---------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Lowest  | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:24:37</p> | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:25:04</p> |
| Middle  | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:25:49</p> | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:26:08</p> |
| Highest | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:26:40</p> | <p>ProjectNo.:CR231168756 TestersJim Wei<br/>Date: 7,MAR,2024 19:27:06</p> |

## Spurious Emissions at Antenna Terminal

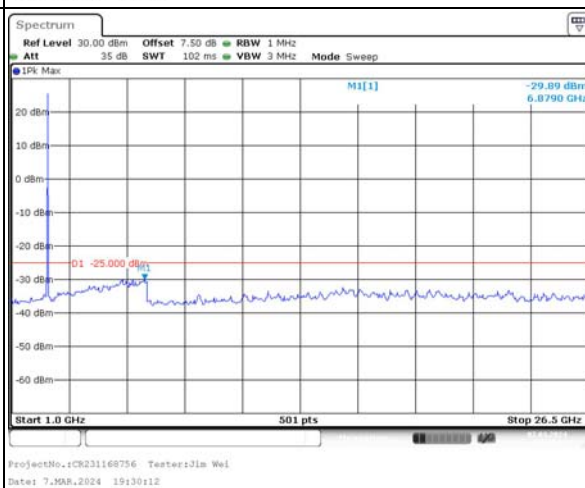
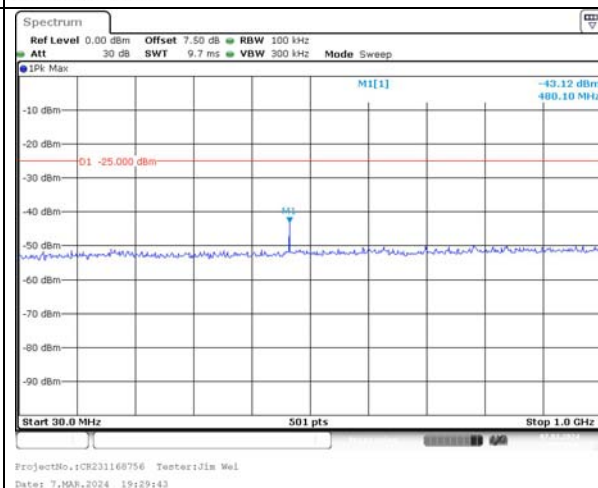
Channel

15MHz Bandwidth QPSK

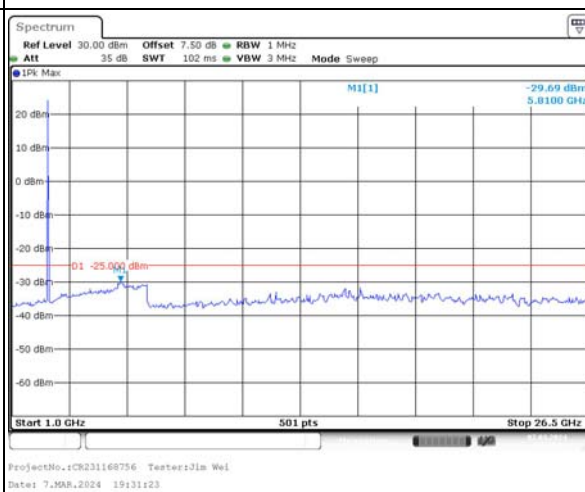
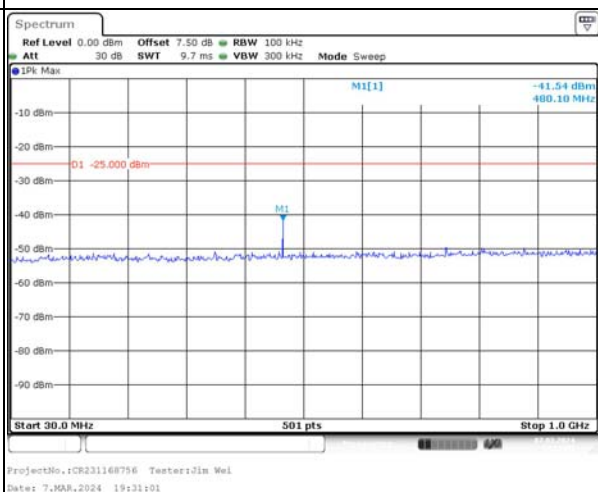
Lowest



Middle



Highest

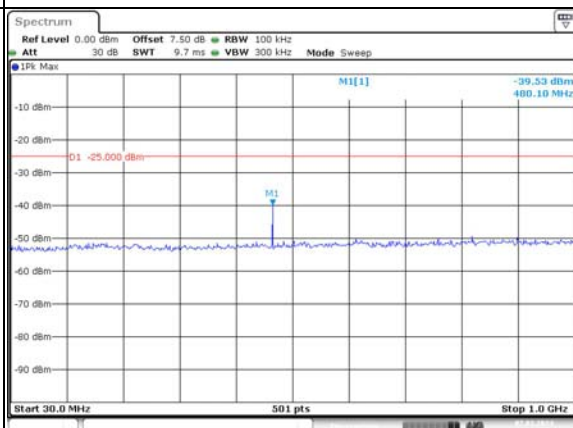
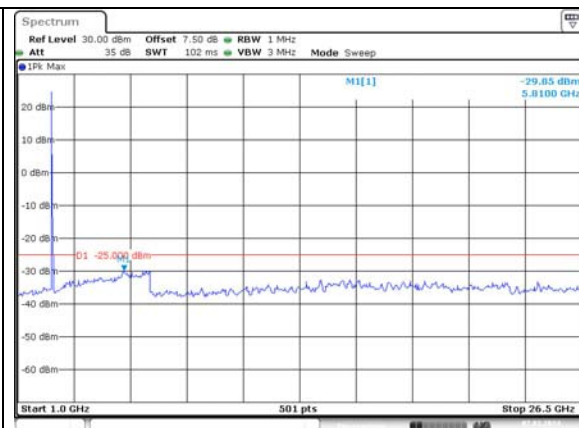


## Spurious Emissions at Antenna Terminal

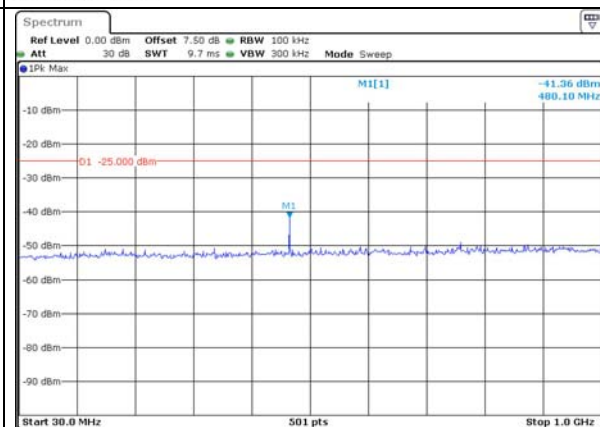
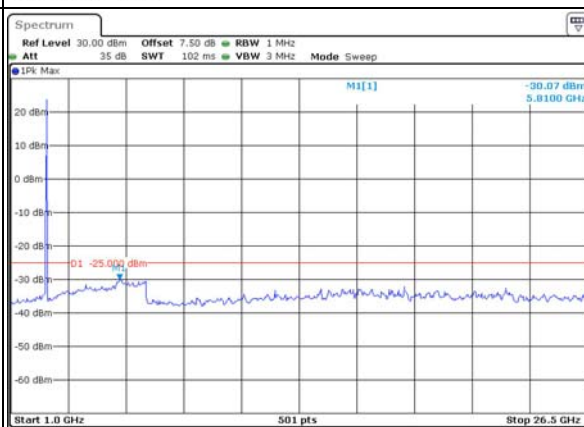
Channel

20MHz Bandwidth QPSK

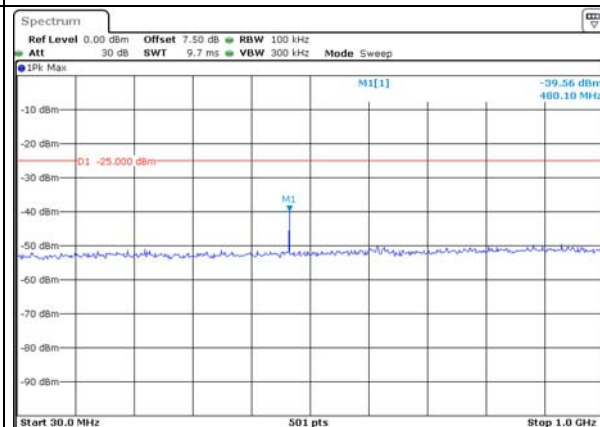
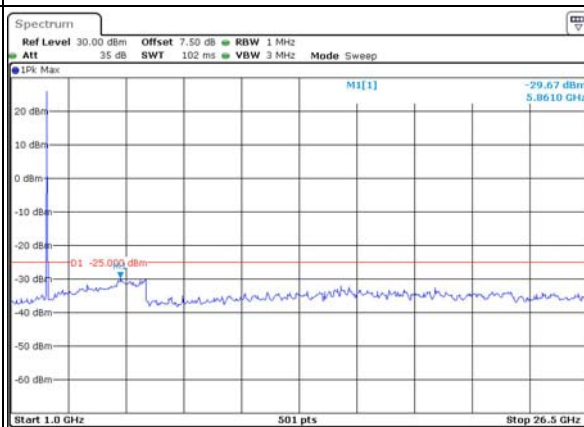
Lowest

ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:32:45ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:33:10

Middle

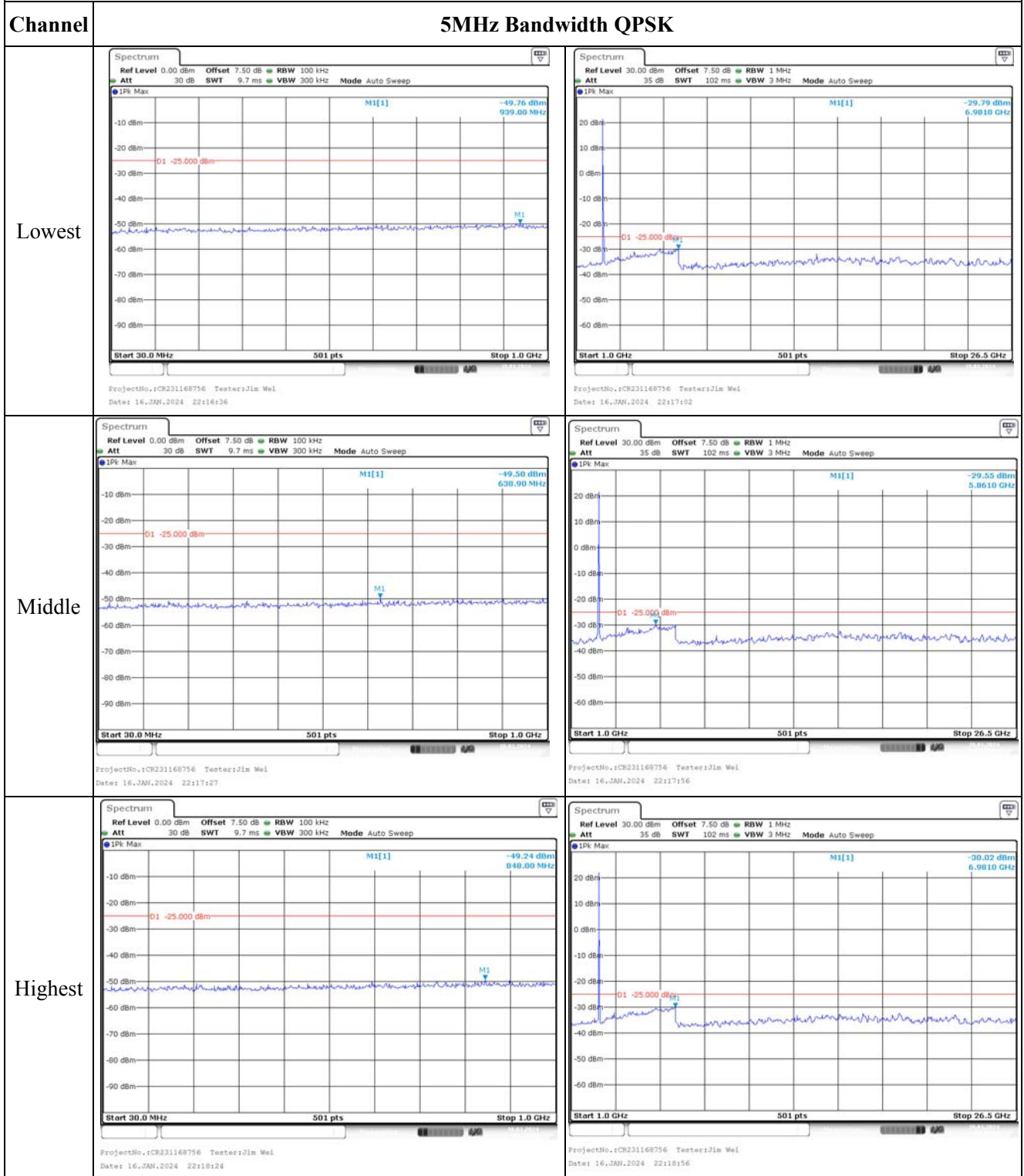
ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:33:49ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:34:14

Highest

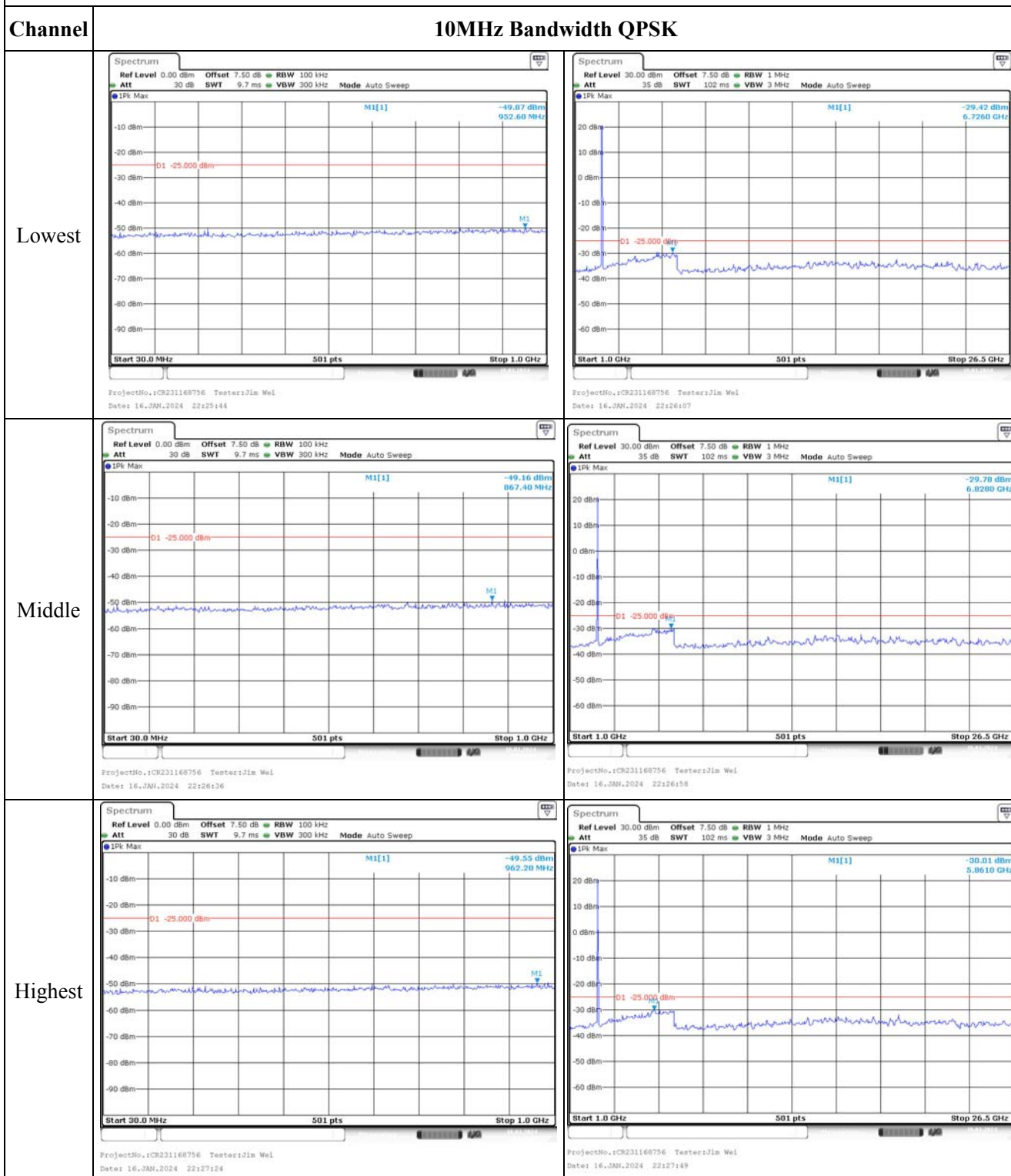
ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:34:59ProjectNo.:CR231168756 TestersJin Wei  
Date: 7.MAR.2024 19:35:25

Full RB:

## Spurious Emissions at Antenna Terminal



## Spurious Emissions at Antenna Terminal

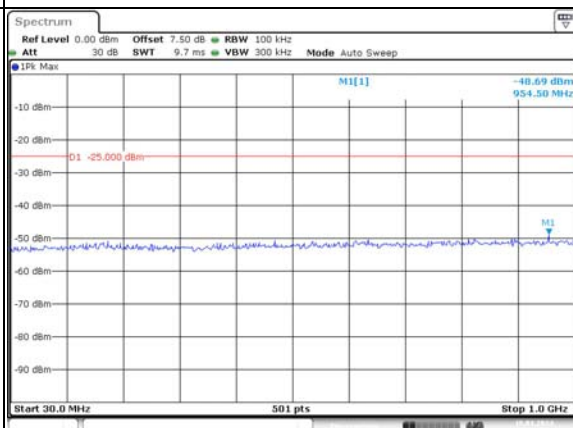


## Spurious Emissions at Antenna Terminal

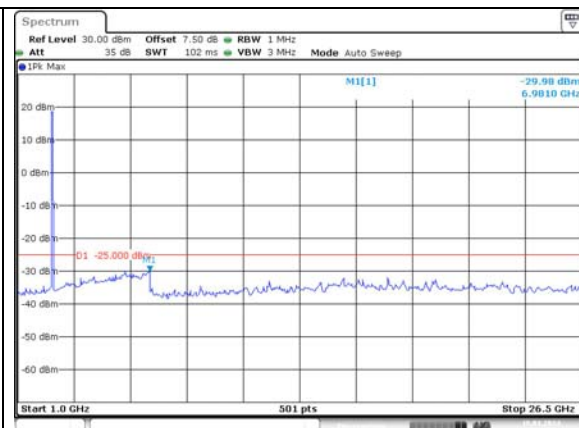
Channel

15MHz Bandwidth QPSK

Lowest

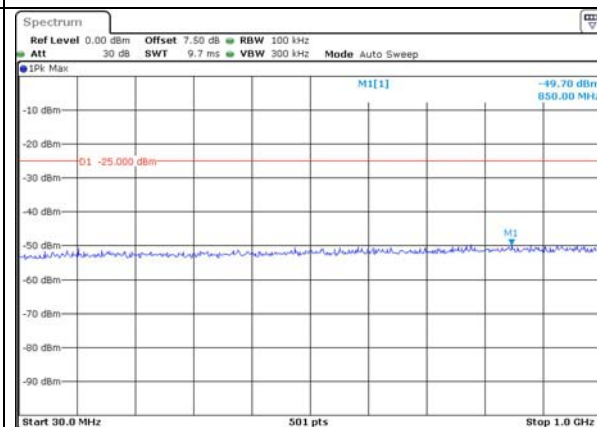


ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:46:21

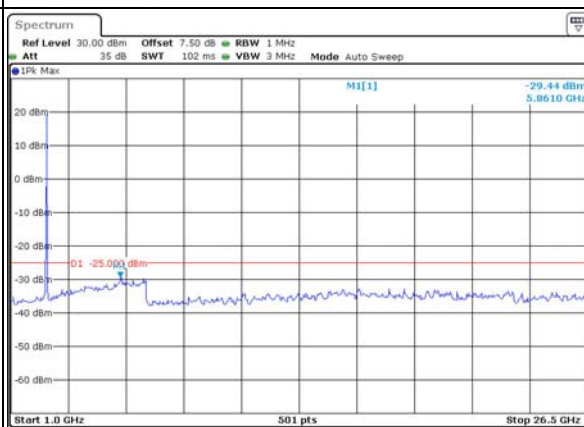


ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:46:43

Middle

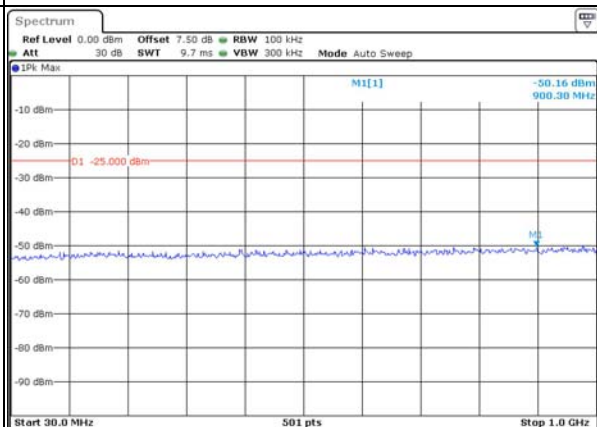


ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:47:15

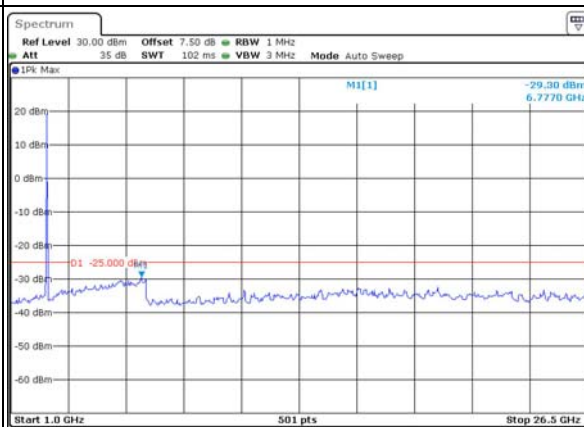


ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:47:38

Highest



ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:48:01



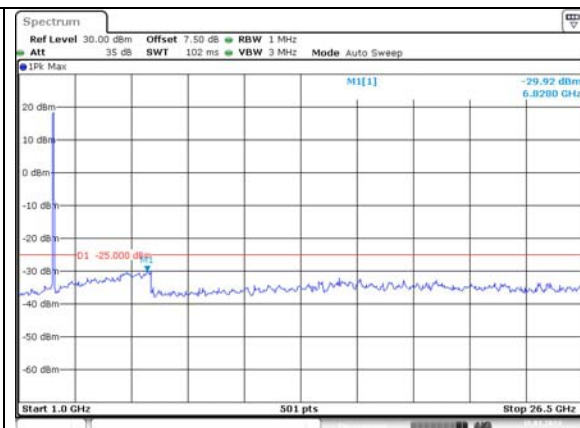
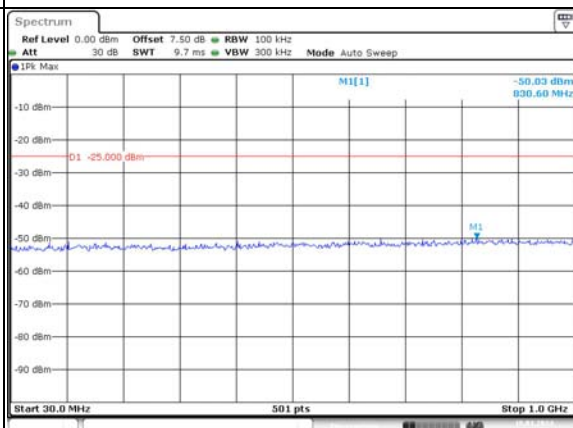
ProjectNo.:CR231168756 Tester:Jim Wei  
Date: 16.JAN.2024 22:48:26

## Spurious Emissions at Antenna Terminal

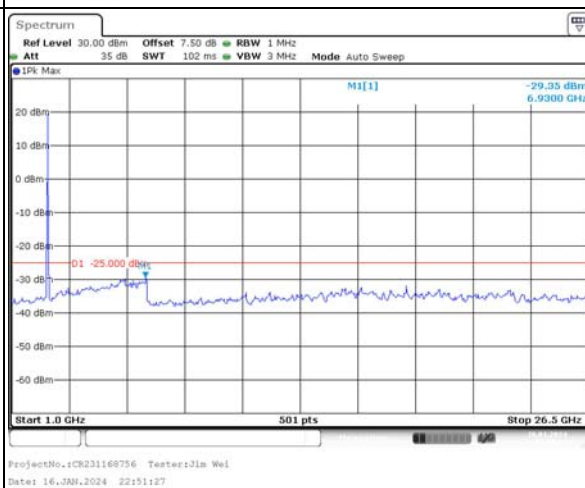
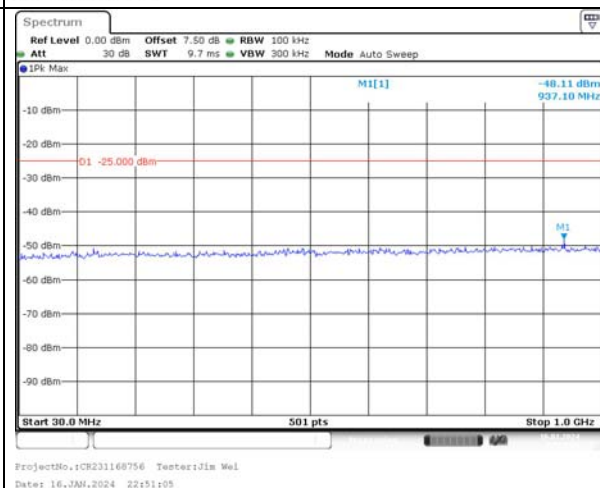
Channel

20MHz Bandwidth QPSK

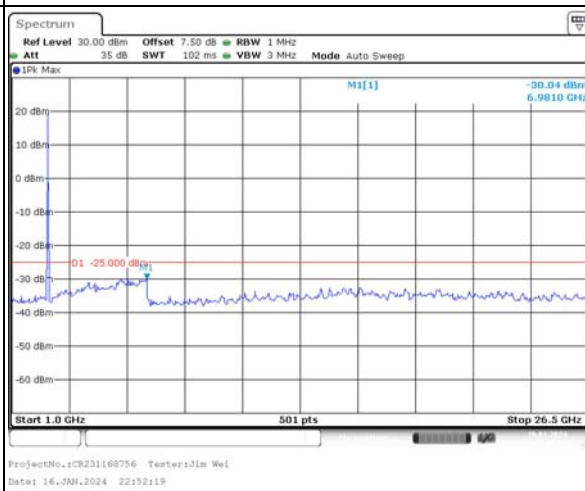
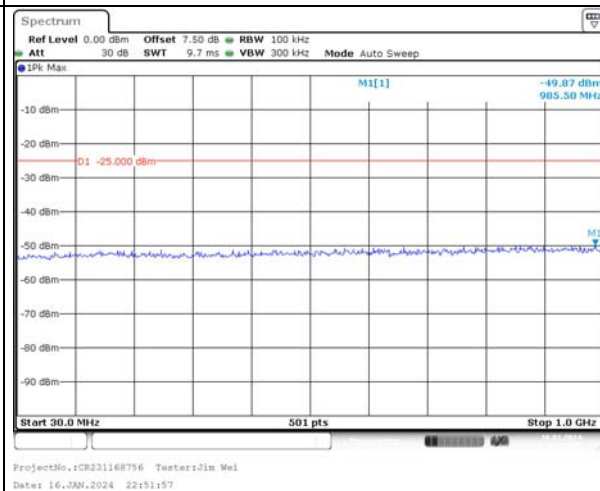
Lowest



Middle

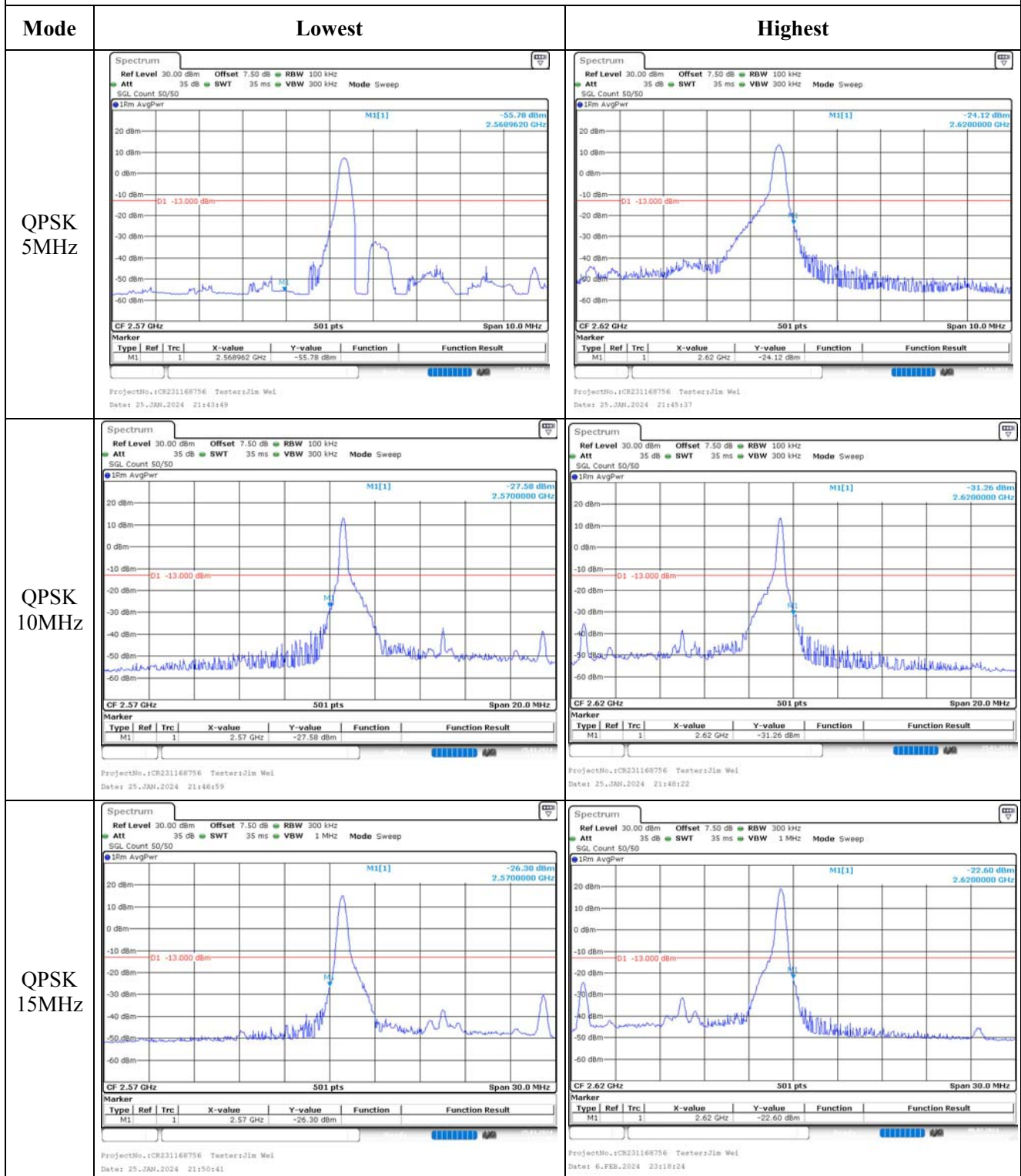


Highest

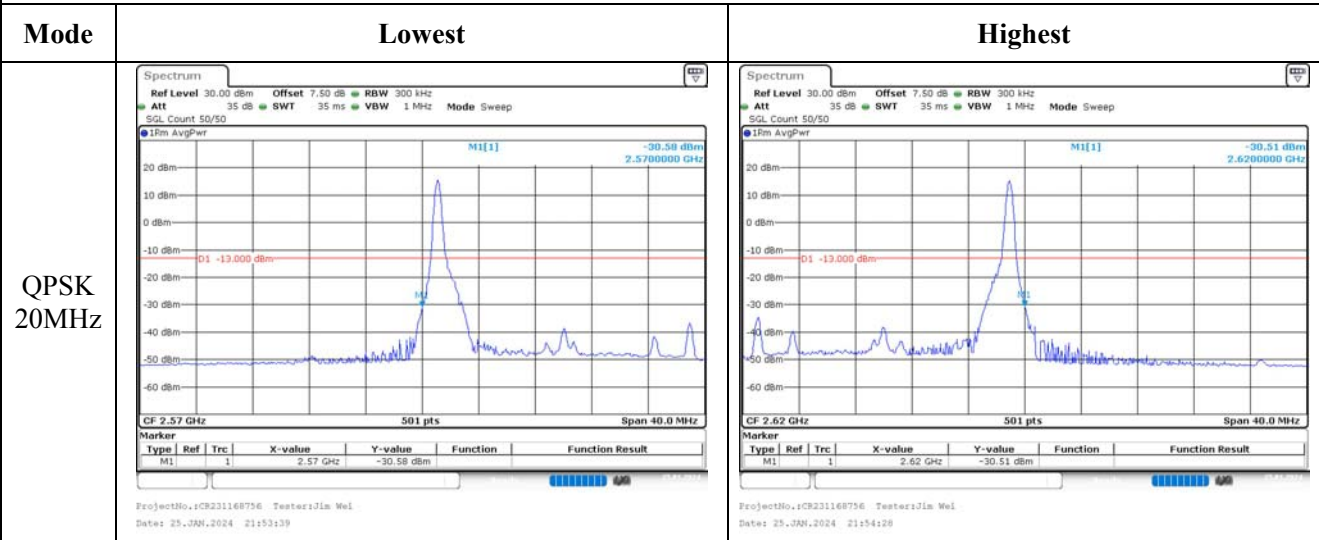


1RB:

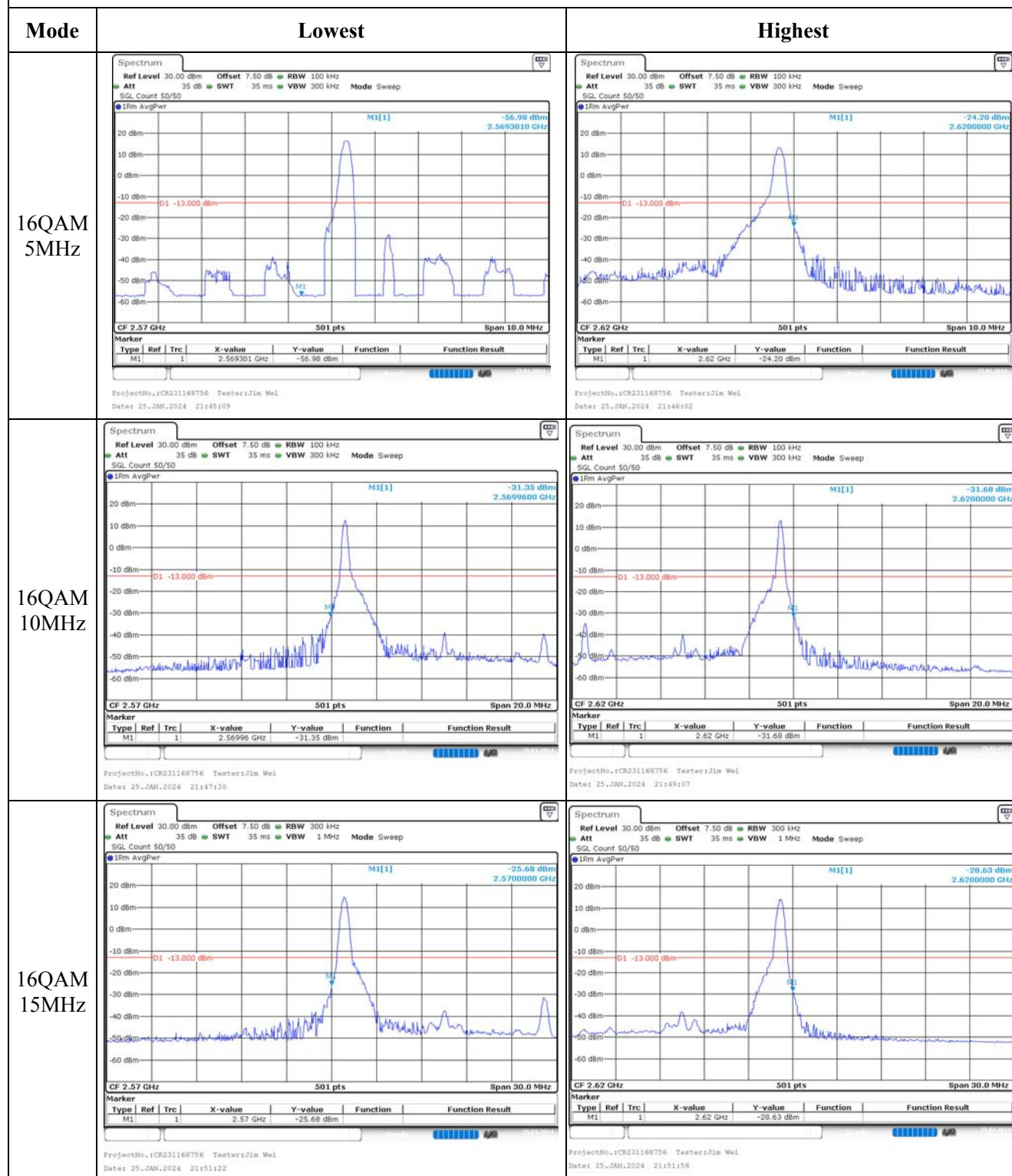
## Out of band emission, Band Edge



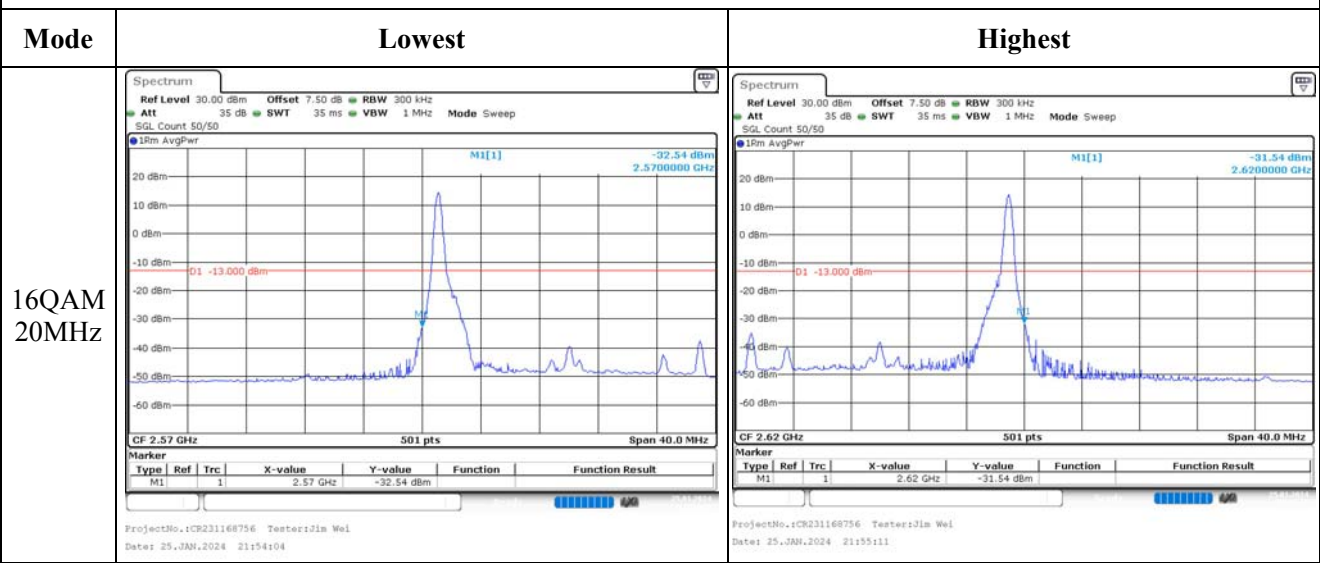
Out of band emission, Band Edge



## Out of band emission, Band Edge

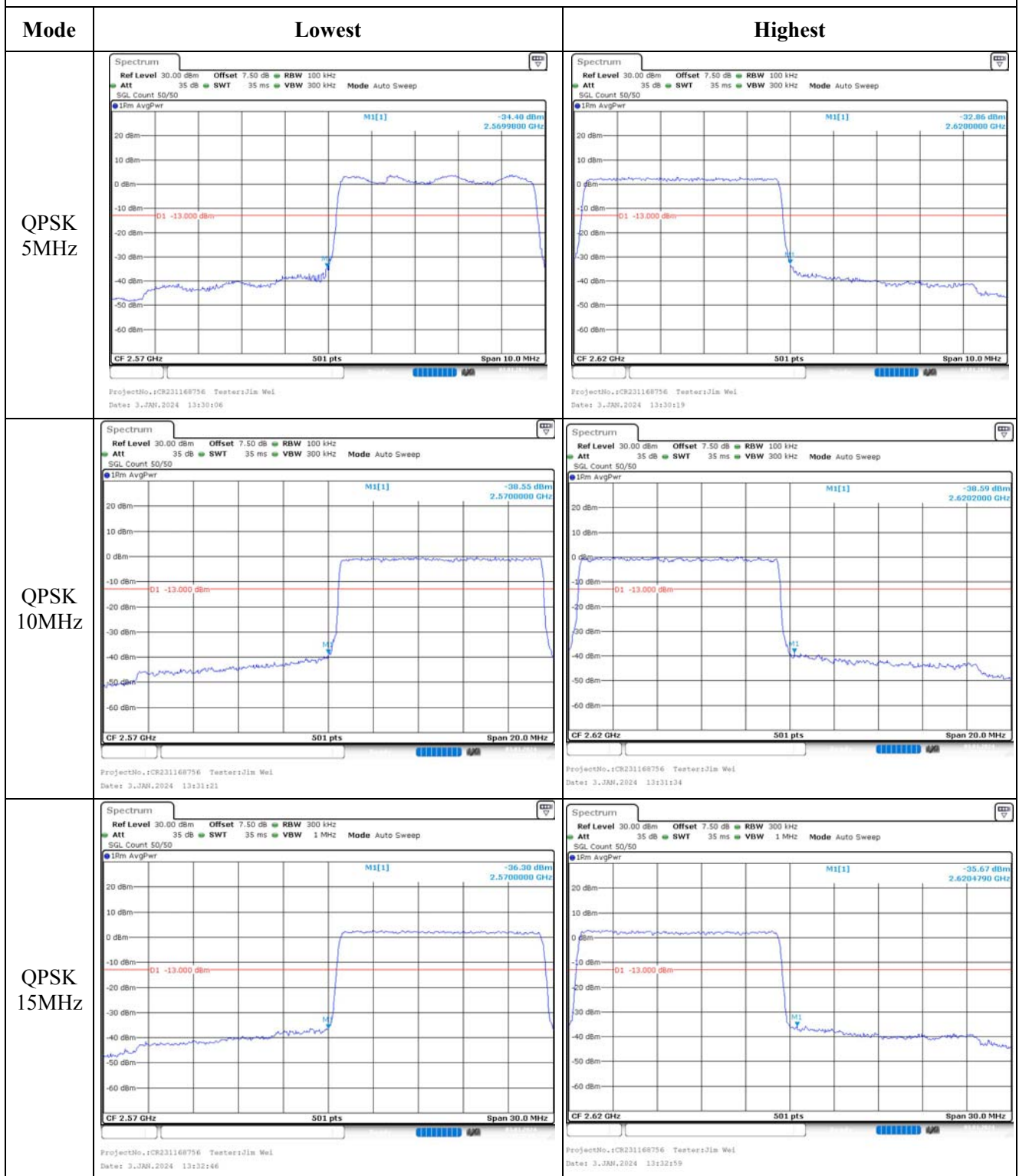


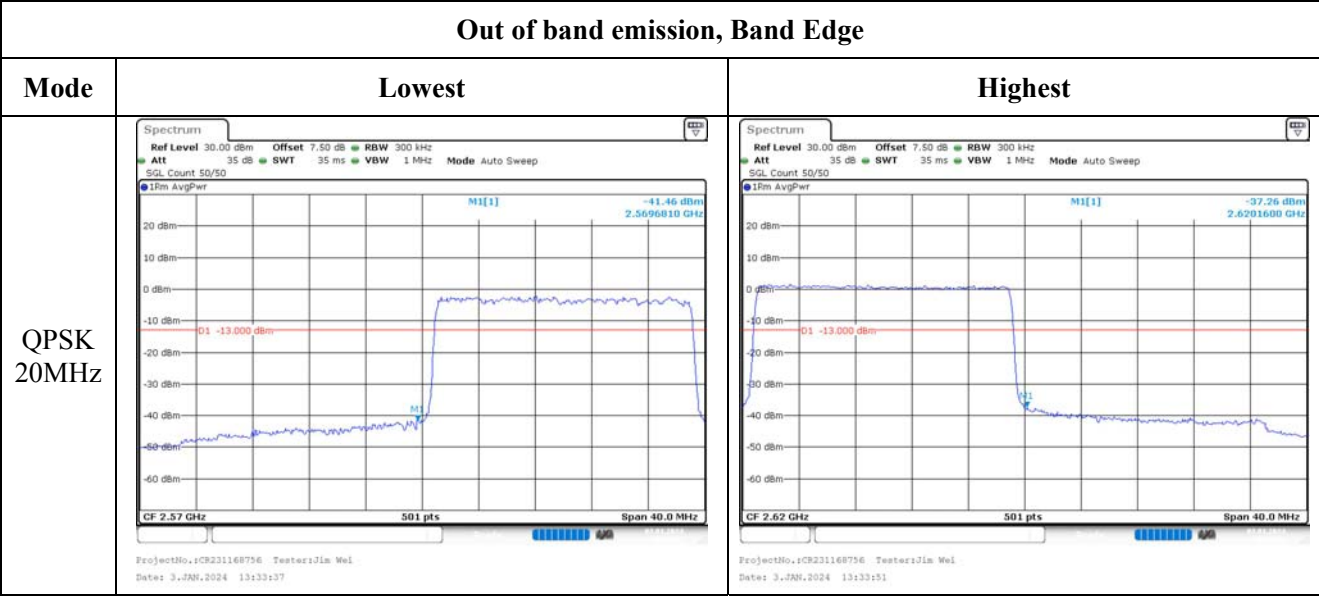
Out of band emission, Band Edge



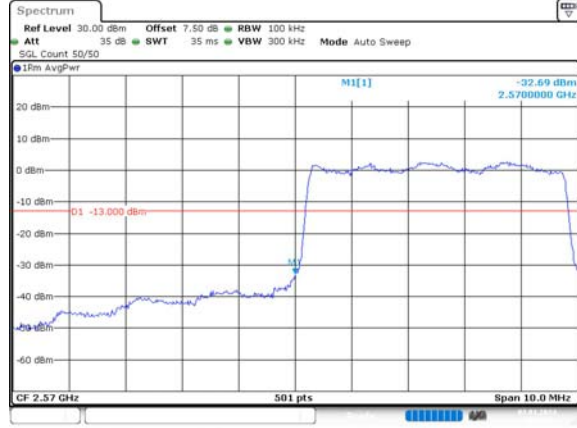
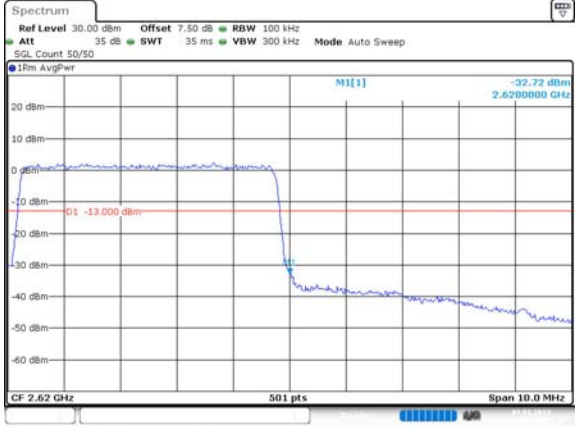
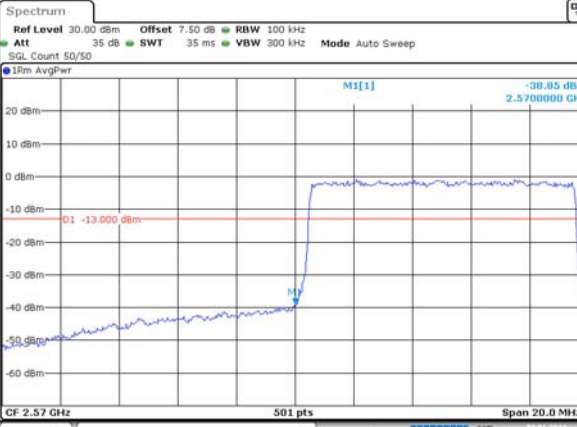
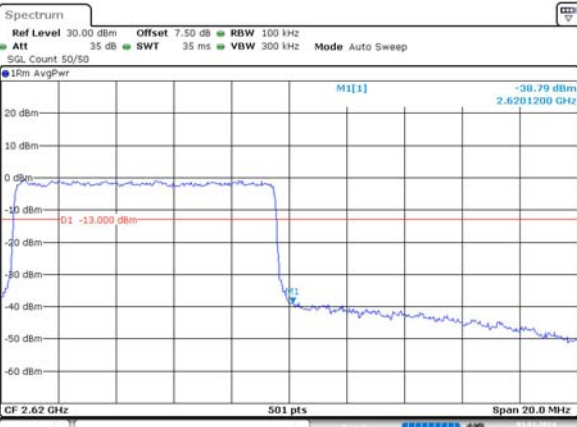
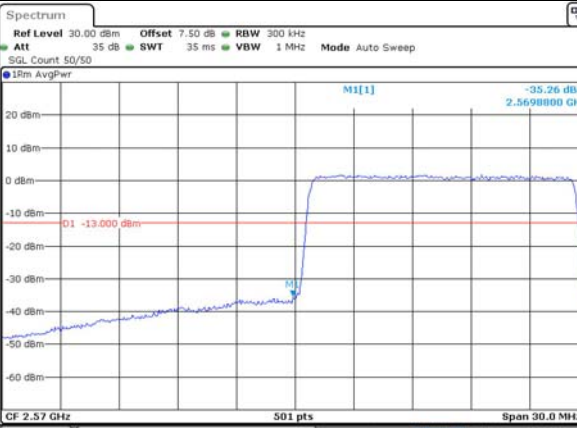
## Full RB:

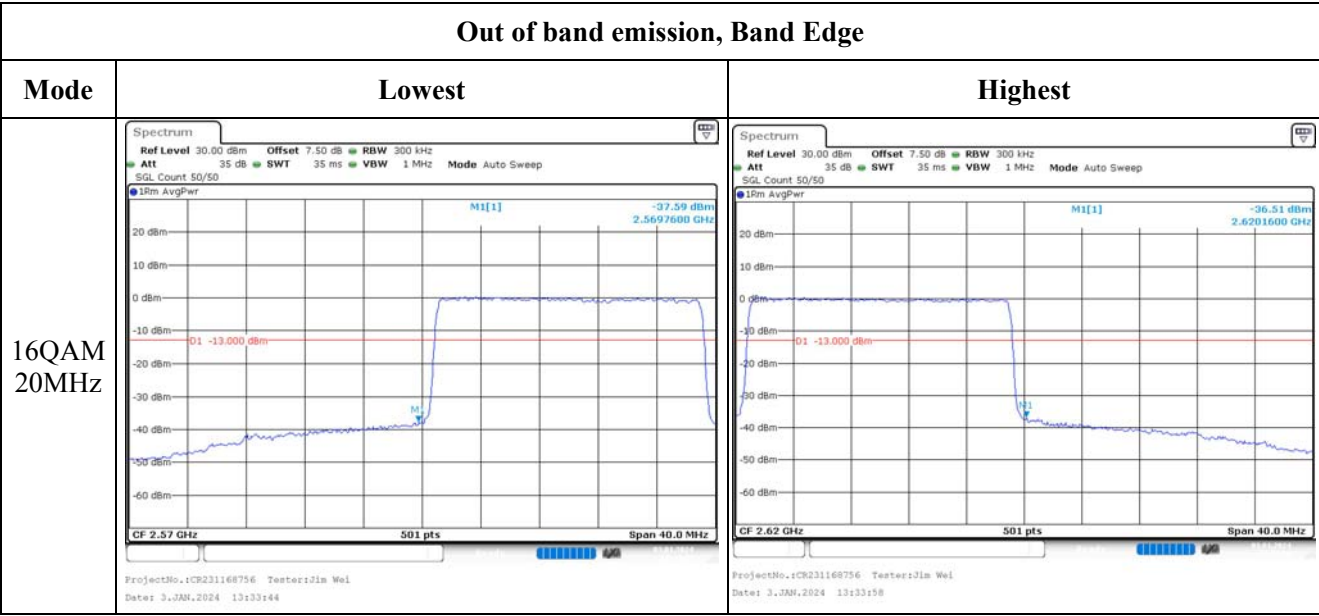
## Out of band emission, Band Edge





## Out of band emission, Band Edge

| Mode        | Lowest                                                                                                                                                           | Highest                                                                                                                                                           |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16QAM 5MHz  |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:30:12</p>   |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:30:25</p>   |
| 16QAM 10MHz |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:31:27</p>  |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:31:41</p>  |
| 16QAM 15MHz |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:32:52</p> |  <p>ProjectNo.: CR231168756 Testers:Jim Wei<br/>Date: 3.JAN.2024 13:33:06</p> |



**4.15 Antenna Port Test Data and Results for LTE Band 41**

|                |         |              |                   |
|----------------|---------|--------------|-------------------|
| Serial Number: | 2DYK-1  | Test Date:   | 2024/1/2-2024/3/7 |
| Test Site:     | RF      | Test Mode:   | Transmitting      |
| Tester:        | Jim Wei | Test Result: | Pass              |

**Environmental Conditions:**

|                      |           |                           |       |                        |             |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 25.5~26.5 | Relative Humidity:<br>(%) | 40~55 | ATM Pressure:<br>(kPa) | 101.1-101.9 |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model      | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40      | 101474          | 2023/3/31        | 2024/3/30            |
| zhuoxiang     | Coaxial Cable                       | SMA-178    | 211001          | Each time        | N/A                  |
| YINSAIGE      | Coaxial Cable                       | SS402      | SJ0100001       | Each time        | N/A                  |
| Mini-Circuits | DC Block                            | BLK-18-S+  | 1554403         | Each time        | N/A                  |
| Weinschel     | Power Splitter                      | 1515       | RA914           | Each time        | N/A                  |
| R&S           | Wideband Radio Communication Tester | CMW500     | 143458          | 2023/3/31        | 2024/3/30            |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40 | 30174           | 2023/3/31        | 2024/3/30            |
| UNI-T         | Multimeter                          | UT39A+     | C210582554      | 2023/9/29        | 2024/9/28            |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D  | 21R6010D0912386 | N/A              | N/A                  |

*\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

**Test Frequency for Each Mode:**

| Operation Bandwidth | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|---------------------|------------------------|------------------------|-------------------------|
| 5MHz                | 2537.5                 | 2595                   | 2652.5                  |
| 10MHz               | 2540                   | 2595                   | 2650                    |
| 15MHz               | 2542.5                 | 2595                   | 2647.5                  |
| 20MHz               | 2545                   | 2595                   | 2645                    |

**Test Data:**

| <b>RF Output Power</b>      |                            |                                     |                |                 |                    |                  |
|-----------------------------|----------------------------|-------------------------------------|----------------|-----------------|--------------------|------------------|
| Test Bandwidth & Modulation | Resource Block & RB offset | Conducted Average Output Power(dBm) |                |                 | Maximum EIRP (dBm) | EIRP Limit (dBm) |
|                             |                            | Lowest Channel                      | Middle Channel | Highest Channel |                    |                  |
| 5MHz QPSK                   | RB1#0                      | 23.17                               | 22.46          | 22.48           | 25.21              | 33               |
|                             | RB1#13                     | <b>23.28</b>                        | 22.62          | 22.58           |                    |                  |
|                             | RB1#24                     | 23.15                               | 22.45          | 22.49           |                    |                  |
|                             | RB15#0                     | 22.23                               | 21.54          | 21.60           |                    |                  |
|                             | RB15#10                    | 22.25                               | 21.51          | 21.55           |                    |                  |
|                             | RB25#0                     | 22.25                               | 21.53          | 21.55           |                    |                  |
| 5MHz 16QAM                  | RB1#0                      | 22.19                               | 21.70          | 21.47           | 24.25              | 33               |
|                             | RB1#13                     | <b>22.32</b>                        | 21.85          | 21.58           |                    |                  |
|                             | RB1#24                     | 22.21                               | 21.70          | 21.47           |                    |                  |
|                             | RB15#0                     | 21.22                               | 20.63          | 20.56           |                    |                  |
|                             | RB15#10                    | 21.26                               | 20.57          | 20.52           |                    |                  |
|                             | RB25#0                     | 21.28                               | 20.55          | 20.62           |                    |                  |
| 10MHz QPSK                  | RB1#0                      | 23.31                               | 22.53          | 22.55           | 25.49              | 33               |
|                             | RB1#25                     | <b>23.56</b>                        | 22.84          | 22.82           |                    |                  |
|                             | RB1#49                     | 23.23                               | 22.56          | 22.54           |                    |                  |
|                             | RB25#0                     | 22.27                               | 21.57          | 21.60           |                    |                  |
|                             | RB25#25                    | 22.33                               | 21.56          | 21.57           |                    |                  |
|                             | RB50#0                     | 22.25                               | 21.59          | 21.60           |                    |                  |
| 10MHz 16QAM                 | RB1#0                      | 22.17                               | 21.67          | 21.76           | 24.4               | 33               |
|                             | RB1#25                     | <b>22.47</b>                        | 21.93          | 21.96           |                    |                  |
|                             | RB1#49                     | 22.09                               | 21.69          | 21.73           |                    |                  |
|                             | RB25#0                     | 21.30                               | 20.64          | 20.61           |                    |                  |
|                             | RB25#25                    | 21.33                               | 20.62          | 20.58           |                    |                  |
|                             | RB50#0                     | 21.27                               | 20.62          | 20.59           |                    |                  |
| 15MHz QPSK                  | RB1#0                      | 23.19                               | 22.48          | 22.50           | 25.23              | 33               |
|                             | RB1#38                     | <b>23.30</b>                        | 22.63          | 22.58           |                    |                  |
|                             | RB1#74                     | 23.00                               | 22.48          | 22.44           |                    |                  |
|                             | RB36#0                     | 22.30                               | 21.56          | 21.60           |                    |                  |
|                             | RB36#39                    | 22.25                               | 21.59          | 21.58           |                    |                  |
|                             | RB75#0                     | 22.29                               | 21.57          | 21.61           |                    |                  |
| 15MHz 16QAM                 | RB1#0                      | 22.11                               | 21.73          | 21.67           | 24.16              | 33               |
|                             | RB1#38                     | <b>22.23</b>                        | 21.80          | 21.75           |                    |                  |
|                             | RB1#74                     | 21.96                               | 21.68          | 21.59           |                    |                  |
|                             | RB36#0                     | 21.19                               | 20.59          | 20.57           |                    |                  |
|                             | RB36#39                    | 21.26                               | 20.64          | 20.51           |                    |                  |
|                             | RB75#0                     | 21.27                               | 20.57          | 20.55           |                    |                  |
| 20MHz QPSK                  | RB1#0                      | 23.00                               | 22.38          | 22.29           | 25.39              | 33               |
|                             | RB1#50                     | <b>23.46</b>                        | 22.87          | 22.83           |                    |                  |
|                             | RB1#99                     | 22.59                               | 22.38          | 22.31           |                    |                  |
|                             | RB50#0                     | 22.21                               | 21.60          | 21.56           |                    |                  |

|                                                    |         |       |       |       |         |      |
|----------------------------------------------------|---------|-------|-------|-------|---------|------|
|                                                    | RB50#50 | 22.13 | 21.54 | 21.48 |         |      |
|                                                    | RB100#0 | 22.17 | 21.58 | 21.54 |         |      |
| 20MHz 16QAM                                        | RB1#0   | 21.97 | 21.60 | 21.37 | 24.36   | 33   |
|                                                    | RB1#50  | 22.43 | 22.10 | 21.87 |         |      |
|                                                    | RB1#99  | 21.57 | 21.58 | 21.34 |         |      |
|                                                    | RB50#0  | 21.24 | 20.61 | 20.56 |         |      |
|                                                    | RB50#50 | 21.20 | 20.55 | 20.47 |         |      |
|                                                    | RB100#0 | 21.18 | 20.57 | 20.53 |         |      |
| Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi) |         |       |       |       |         |      |
|                                                    |         |       |       |       | Result: | Pass |

**Peak-to-average Ratio(PAR)**

| Test Bandwidth & Modulation | Resource Block & RB offset | Peak-to-average Ratio(dB) |                |                 | Limit (dB) |
|-----------------------------|----------------------------|---------------------------|----------------|-----------------|------------|
|                             |                            | Lowest Channel            | Middle Channel | Highest Channel |            |
| 20MHz QPSK                  | RB1#0                      | 8.58                      | 9.07           | 8.96            | 13         |
|                             | RB100#0                    | 8.75                      | 9.57           | 9.44            | 13         |
| 20MHz 16QAM                 | RB1#0                      | 9.88                      | 9.44           | 9.68            | 13         |
|                             | RB100#0                    | 9.53                      | 10.46          | 10.23           | 13         |
|                             |                            |                           |                | Result:         | Pass       |

**Occupied Bandwidth**

| Operation Mode | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|----------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
|                | Low Channel                  | Middle channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| 5MHz QPSK      | 4.511                        | 4.511          | 4.491        | 4.880                          | 5.080          | 5.000        |
| 5MHz 16QAM     | 4.491                        | 4.511          | 4.511        | 4.980                          | 5.060          | 5.200        |
| 10MHz QPSK     | 8.942                        | 8.942          | 8.981        | 9.640                          | 9.800          | 10.000       |
| 10MHz 16QAM    | 8.942                        | 8.942          | 8.942        | 9.560                          | 9.880          | 9.680        |
| 15MHz QPSK     | 13.473                       | 13.413         | 13.593       | 14.820                         | 15.180         | 15.180       |
| 15MHz 16QAM    | 13.533                       | 13.533         | 13.533       | 15.060                         | 15.540         | 15.900       |
| 20MHz QPSK     | 17.964                       | 17.884         | 18.044       | 19.280                         | 19.520         | 19.440       |
| 20MHz 16QAM    | 17.964                       | 17.884         | 17.884       | 19.440                         | 19.360         | 19.360       |

Note: The test plots please refer to the Plots of Occupied Bandwidth

**Spurious Emissions at Antenna Terminal**

|                |                                                                                 |
|----------------|---------------------------------------------------------------------------------|
| <b>Result:</b> | Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal. |
|----------------|---------------------------------------------------------------------------------|

**Out of band emission, Band Edge**

|                |                                                                          |
|----------------|--------------------------------------------------------------------------|
| <b>Result:</b> | Pass, Please refer to the test plots of Out of band emission, Band Edge. |
|----------------|--------------------------------------------------------------------------|

| Frequency Stability                 |                  |                                                            |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Mode:                          | 20M QPSK         | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.8                                                        | 2536.043         | 2535.00 | 2653.998         | 2655        |
|                                     | -20              | 3.8                                                        | 2536.037         | 2535.00 | 2654.016         | 2655        |
|                                     | -10              | 3.8                                                        | 2536.040         | 2535.00 | 2654.016         | 2655        |
|                                     | 0                | 3.8                                                        | 2536.043         | 2535.00 | 2654.019         | 2655        |
|                                     | 10               | 3.8                                                        | 2536.052         | 2535.00 | 2653.995         | 2655        |
|                                     | 20               | 3.8                                                        | 2536.058         | 2535.00 | 2654.022         | 2655        |
|                                     | 30               | 3.8                                                        | 2536.079         | 2535.00 | 2654.034         | 2655        |
|                                     | 40               | 3.8                                                        | 2536.085         | 2535.00 | 2654.037         | 2655        |
|                                     | 50               | 3.8                                                        | 2536.085         | 2535.00 | 2654.040         | 2655        |
| Frequency Stability vs. Voltage     | 20               | 3.23                                                       | 2536.076         | 2535.00 | 2654.028         | 2655        |
|                                     | 20               | 4.18                                                       | 2536.079         | 2535.00 | 2654.040         | 2655        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

| Test Mode:                          | 20M 16QAM        | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.8                                                        | 2536.031         | 2535.00 | 2653.936         | 2655        |
|                                     | -20              | 3.8                                                        | 2536.034         | 2535.00 | 2653.921         | 2655        |
|                                     | -10              | 3.8                                                        | 2536.049         | 2535.00 | 2653.936         | 2655        |
|                                     | 0                | 3.8                                                        | 2536.034         | 2535.00 | 2653.915         | 2655        |
|                                     | 10               | 3.8                                                        | 2536.037         | 2535.00 | 2653.921         | 2655        |
|                                     | 20               | 3.8                                                        | 2536.058         | 2535.00 | 2653.942         | 2655        |
|                                     | 30               | 3.8                                                        | 2536.061         | 2535.00 | 2653.948         | 2655        |
|                                     | 40               | 3.8                                                        | 2536.070         | 2535.00 | 2653.969         | 2655        |
|                                     | 50               | 3.8                                                        | 2536.079         | 2535.00 | 2653.960         | 2655        |
| Frequency Stability vs. Voltage     | 20               | 3.23                                                       | 2536.082         | 2535.00 | 2653.960         | 2655        |
|                                     | 20               | 4.18                                                       | 2536.061         | 2535.00 | 2653.945         | 2655        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

**Test Plots**(Note: The 7.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer.):

### Occupied Bandwidth

