

**5.5 Antenna Port Test Data and Results for WCDMA Band 5:**

|                |                     |              |              |
|----------------|---------------------|--------------|--------------|
| Serial Number: | 2HPA-1              | Test Date:   | 2024/4/7     |
| Test Site:     | RF                  | Test Mode:   | Transmitting |
| Tester:        | Loge Long, Jeff Wei | Test Result: | Pass         |

**Environmental Conditions:**

|                      |    |                           |    |                           |       |
|----------------------|----|---------------------------|----|---------------------------|-------|
| Temperature:<br>(°C) | 25 | Relative Humidity:<br>(%) | 62 | ATM<br>Pressure:<br>(kPa) | 100.4 |
|----------------------|----|---------------------------|----|---------------------------|-------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model        | Serial Number | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|--------------|---------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40        | 101461        | 2023/11/27       | 2024/11/26           |
| Micro-Coax    | Coaxial Cable                       | UFB205A      | 323308-024    | 2024/1/2         | 2025/1/1             |
| Minl-Clrucits | Coaxial Power Splitters & Combiner  | ZFRSC-183-S+ | SF448201614   | 2024/2/25        | 2025/2/24            |
| R&S           | Wideband Radio Communication Tester | CMW500       | 110479        | 2023/10/18       | 2024/10/17           |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40   | 30173         | 2023/10/18       | 2024/10/17           |
| All-sun       | Clamp Meter                         | EM305A       | 8348897       | 2023/8/3         | 2024/8/2             |
| TDK-Lambda    | DC Power Supply                     | Z+60-14      | F-08-EM038-1  | N/A              | N/A                  |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency:**

| Operation Modes | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|-----------------|------------------------|------------------------|-------------------------|
| WCDMA           | 826.4                  | 836.6                  | 846.6                   |

**Test Data:****RF Output Power:**

| Test Mode          | Conducted Average Output Power(dBm) |                |                 | Maximum ERP (dBm) | ERP Limit (dBm) |
|--------------------|-------------------------------------|----------------|-----------------|-------------------|-----------------|
|                    | Lowest Channel                      | Middle Channel | Highest Channel |                   |                 |
| WCDMA R99          | 23.97                               | 23.99          | 24.03           | 19.94             | 38.45           |
| HSDPA Subtest 1    | 21.41                               | 21.15          | 21.11           | 17.32             | 38.45           |
| HSDPA Subtest 2    | 21.22                               | 21.26          | 21.44           | 17.35             | 38.45           |
| HSDPA Subtest 3    | 21.18                               | 21.63          | 21.23           | 17.54             | 38.45           |
| HSDPA Subtest 4    | 21.14                               | 21.5           | 21.73           | 17.64             | 38.45           |
| HSUPA Subtest 1    | 21.91                               | 21.64          | 21.53           | 17.82             | 38.45           |
| HSUPA Subtest 2    | 21.89                               | 22.08          | 22.28           | 18.19             | 38.45           |
| HSUPA Subtest 3    | 21.86                               | 22.34          | 22.08           | 18.25             | 38.45           |
| HSUPA Subtest 4    | 21.77                               | 22.1           | 22.16           | 18.07             | 38.45           |
| HSUPA Subtest 5    | 21.6                                | 21.7           | 21.77           | 17.68             | 38.45           |
| DC-HSDPA Subtest 1 | 23.88                               | 24.16          | 24.28           | 20.19             | 38.45           |
| DC-HSDPA Subtest 2 | 23.78                               | 23.98          | 24.17           | 20.08             | 38.45           |
| DC-HSDPA Subtest 3 | 23.77                               | 24.02          | 23.94           | 19.93             | 38.45           |
| DC-HSDPA Subtest 4 | 23.74                               | 23.91          | 23.87           | 19.82             | 38.45           |
| HSPA+ Subtest 1    | 23.66                               | 23.88          | 23.73           | 19.79             | 38.45           |

Note:

ERP= Conducted Power(dBm) - L<sub>c</sub>(dB) + G<sub>T</sub>(dBd)G<sub>T</sub>(dBd)=G<sub>T</sub>(dBi)-2.15The result was calculated with the maximum combination of G<sub>T</sub> - L<sub>c</sub>**Result:****Pass****Peak-to-average Ratio(PAR)**

| Test Mode | Peak-to-average Ratio(dB) |                |                 | Limit (dB) |
|-----------|---------------------------|----------------|-----------------|------------|
|           | Lowest Channel            | Middle Channel | Highest Channel |            |
| WCDMA R99 | 2.84                      | 2.87           | 2.81            | 13         |
| HSDPA     | 4.35                      | 4.46           | 4.67            | 13         |
| HSUPA     | 5.57                      | 5.65           | 5.19            | 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 |
| WCDMA R99                                                            | 4.124                        | 4.124          | 4.124        | 4.761                          | 4.747          | 4.747        |
| HSDPA                                                                | 4.124                        | 4.11           | 4.124        | 4.732                          | 4.732          | 4.718        |
| HSUPA                                                                | 4.124                        | 4.124          | 4.124        | 4.732                          | 4.747          | 4.732        |
| 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> |
|----------------|----------------------------------------------------------------------------------------|

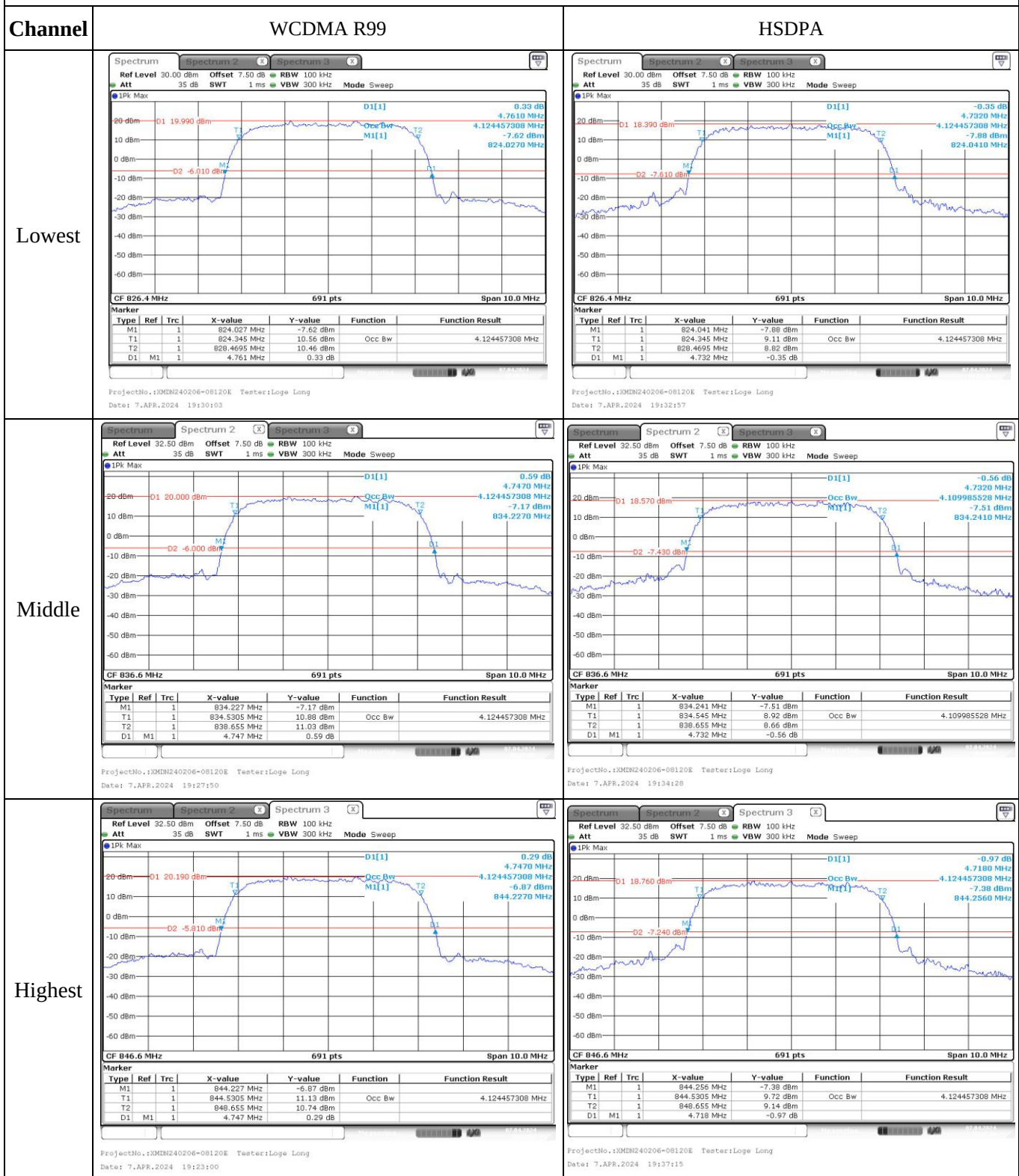
**Out of band emission, Band Edge**

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

| Frequency Stability                    |                     |                               |                 |                |             |
|----------------------------------------|---------------------|-------------------------------|-----------------|----------------|-------------|
| Test Modulation:                       | WCDMA R99           |                               | Test Channel:   | 836.6          | MHz         |
| Test Item                              | Temperature<br>(°C) | Voltage<br>(V <sub>DC</sub> ) | Frequency Error |                | Limit       |
|                                        |                     |                               | (Hz)            | (ppm)          | (ppm)       |
| Frequency Stability vs.<br>Temperature | -30                 | 7.7                           | 7.42            | 0.009          | 2.5         |
|                                        | -20                 | 7.7                           | -5.54           | -0.007         | 2.5         |
|                                        | -10                 | 7.7                           | -2.96           | -0.004         | 2.5         |
|                                        | 0                   | 7.7                           | -3.35           | -0.004         | 2.5         |
|                                        | 10                  | 7.7                           | -8.58           | -0.010         | 2.5         |
|                                        | 20                  | 7.7                           | -9.24           | -0.011         | 2.5         |
|                                        | 30                  | 7.7                           | 4.61            | 0.006          | 2.5         |
|                                        | 40                  | 7.7                           | 8.75            | 0.010          | 2.5         |
|                                        | 50                  | 7.7                           | 0.13            | 0.000          | 2.5         |
| Frequency Stability vs. Voltage        | 20                  | 6.8                           | -3.5            | -0.004         | 2.5         |
|                                        | 20                  | 8.8                           | 0.72            | 0.001          | 2.5         |
|                                        |                     |                               |                 | <b>Result:</b> | <b>Pass</b> |

## Test Plots:

## Occupied Bandwidth

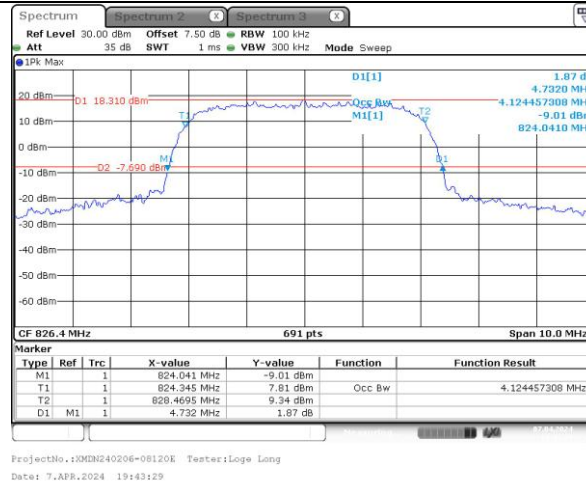


## Occupied Bandwidth

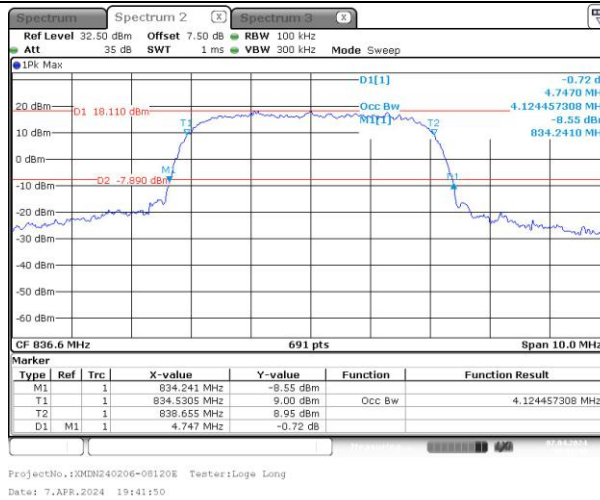
Channel

HSUPA

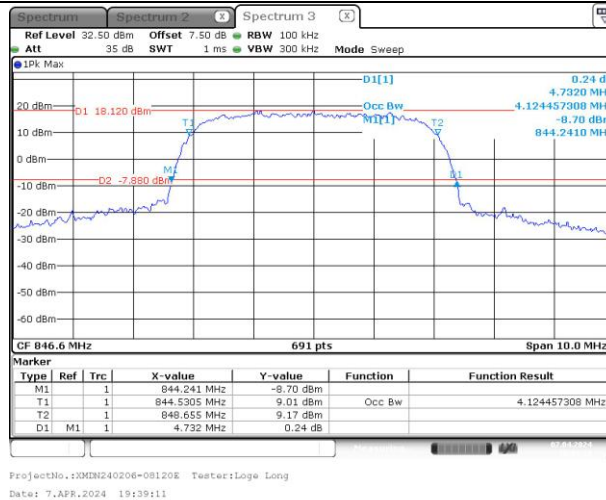
Lowest



Middle



Highest

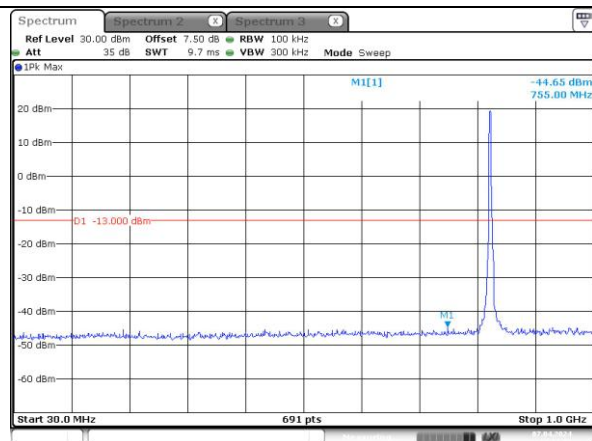


## Spurious Emissions at Antenna Terminal

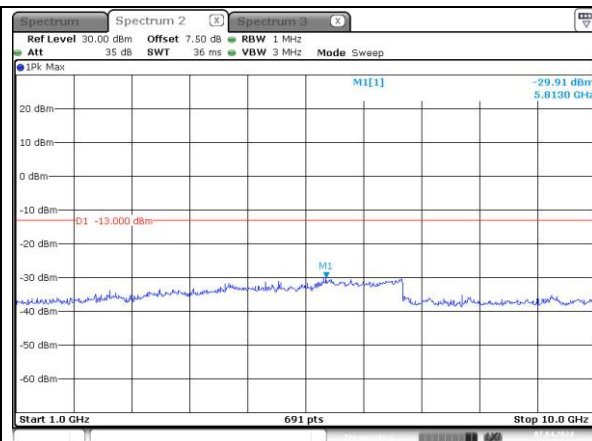
Channel

WCDMA R99

Lowest

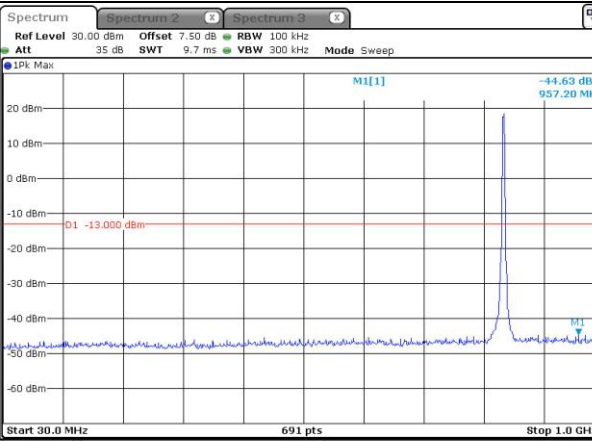


ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:11:39

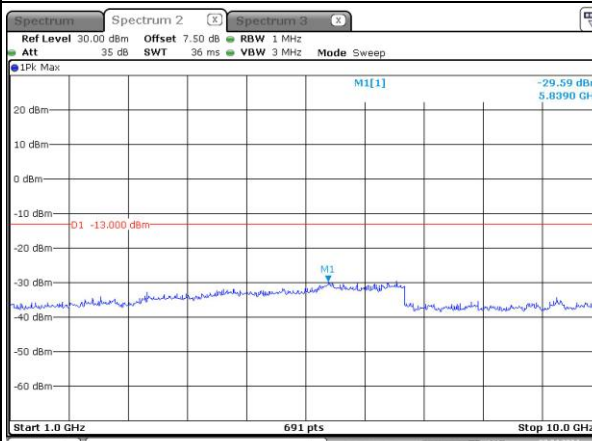


ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:12:33

Middle

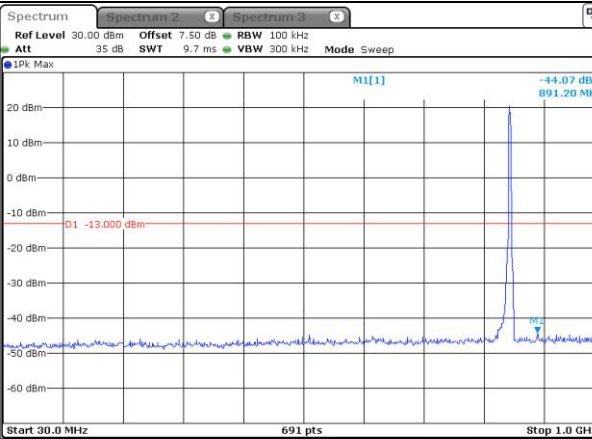


ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:13:41

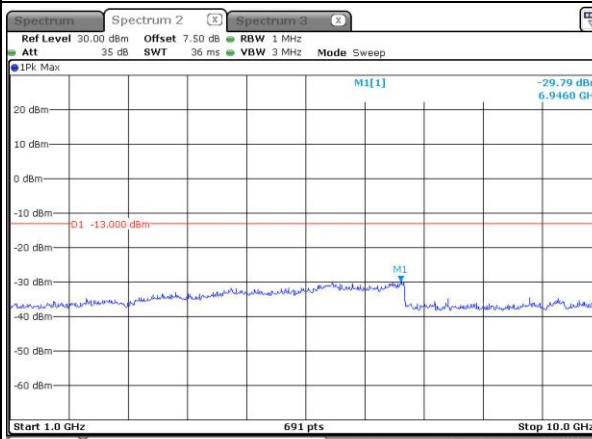


ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:13:06

Highest

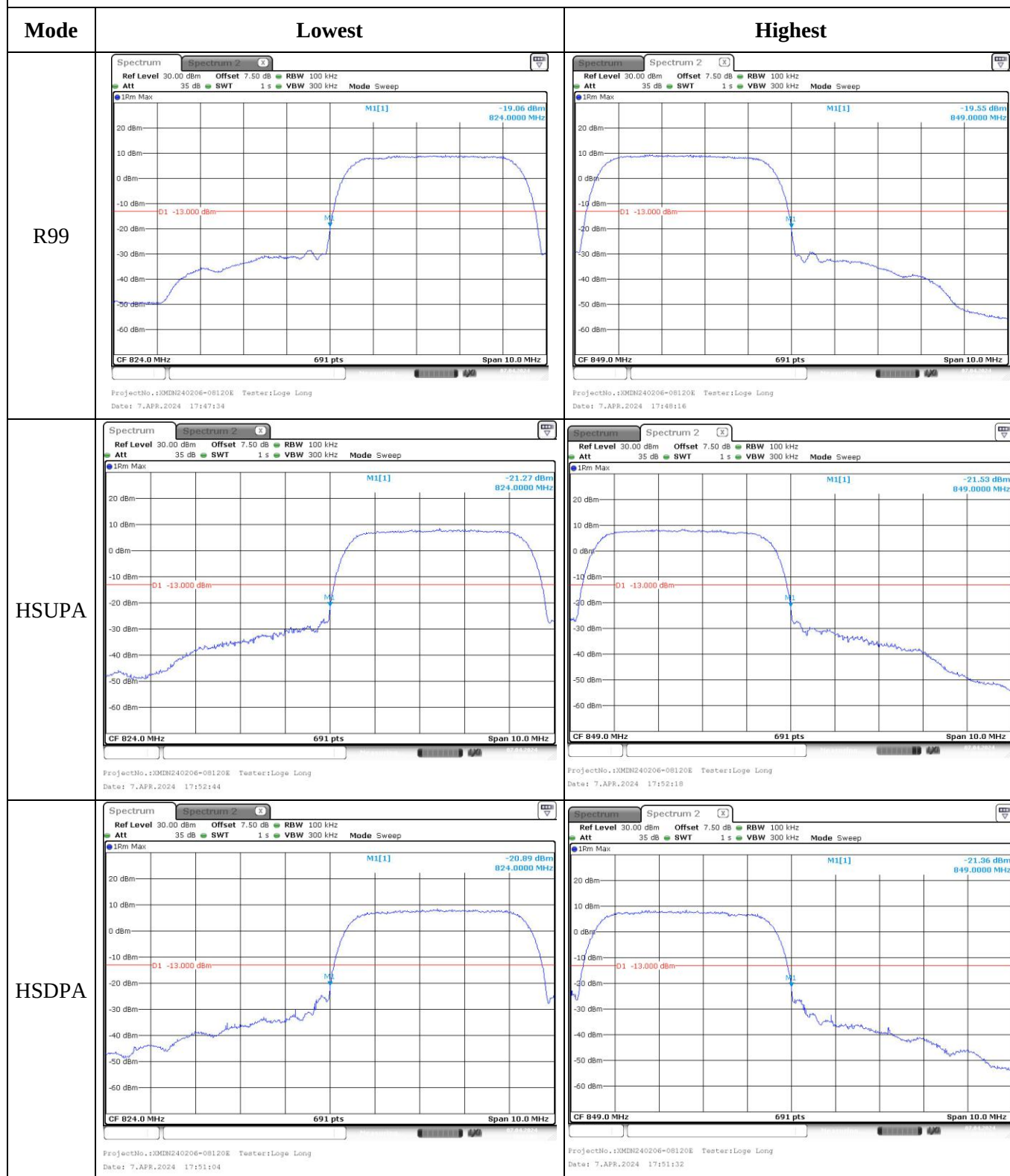


ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:14:36



ProjectNo.:XMDN240206-08120E Tester:Loge Long  
Date: 7.APR.2024 19:15:06

## Out of band emission, Band Edge



### 5.6 Antenna Port Test Data and Results for LTE Band 2

|                |                     |              |                    |
|----------------|---------------------|--------------|--------------------|
| Serial Number: | 2HPA-1              | Test Date:   | 2024/4/1~2024/4/11 |
| Test Site:     | RF                  | Test Mode:   | Transmitting       |
| Tester:        | Loge Long, Jeff Wei | Test Result: | Pass               |

#### Environmental Conditions:

|                      |           |                              |       |                           |             |
|----------------------|-----------|------------------------------|-------|---------------------------|-------------|
| Temperature:<br>(°C) | 25.1~26.9 | Relative<br>Humidity:<br>(%) | 49~72 | ATM<br>Pressure:<br>(kPa) | 100.2~101.1 |
|----------------------|-----------|------------------------------|-------|---------------------------|-------------|

#### Test Equipment List and Details:

| Manufacturer  | Description                         | Model        | Serial Number | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|--------------|---------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40        | 101461        | 2023/11/27       | 2024/11/26           |
| Micro-Coax    | Coaxial Cable                       | UFB205A      | 323308-024    | 2024/1/2         | 2025/1/1             |
| Minl-Clrcoits | Coaxial Power Splitters & Combiner  | ZFRSC-183-S+ | SF448201614   | 2024/2/25        | 2025/2/24            |
| R&S           | Wideband Radio Communication Tester | CMW500       | 110479        | 2023/10/18       | 2024/10/17           |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40   | 30173         | 2023/10/18       | 2024/10/17           |
| All-sun       | Clamp Meter                         | EM305A       | 8348897       | 2023/8/3         | 2024/8/2             |
| TDK-Lambda    | DC Power Supply                     | Z+60-14      | F-08-EM038-1  | N/A              | N/A                  |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (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) |
|---------------------|------------------------|------------------------|-------------------------|
| 1.4MHz              | 1850.7                 | 1880                   | 1909.3                  |
| 3MHz                | 1851.5                 | 1880                   | 1908.5                  |
| 5MHz                | 1852.5                 | 1880                   | 1907.5                  |
| 10MHz               | 1855                   | 1880                   | 1905                    |
| 15MHz               | 1857.5                 | 1880                   | 1902.5                  |
| 20MHz               | 1860                   | 1880                   | 1900                    |

**Test Data:****RF Output Power:**

| Test Bandwidth & Modulation | Resource Block & RB offset | Conducted Average Output Power(dBm) |                |                 | Maximum EIRP (dBm) | EIRP Limit (dBm) |
|-----------------------------|----------------------------|-------------------------------------|----------------|-----------------|--------------------|------------------|
|                             |                            | Lowest Channel                      | Middle Channel | Highest Channel |                    |                  |
| 1.4MHz QPSK                 | RB1#0                      | 23.37                               | 23.49          | 23.51           | 24.12              | 33               |
|                             | RB1#3                      | 23.55                               | 23.52          | 23.7            |                    |                  |
|                             | RB1#5                      | 23.42                               | 23.45          | 23.62           |                    |                  |
|                             | RB3#0                      | 23.27                               | 23.41          | 23.42           |                    |                  |
|                             | RB3#3                      | 23.33                               | 23.28          | 23.48           |                    |                  |
|                             | RB6#0                      | 22.41                               | 22.37          | 22.58           |                    |                  |
| 1.4MHz 16QAM                | RB1#0                      | 22.51                               | 22.42          | 22.64           | 23.07              | 33               |
|                             | RB1#3                      | 22.54                               | 22.65          | 22.58           |                    |                  |
|                             | RB1#5                      | 22.44                               | 22.5           | 22.5            |                    |                  |
|                             | RB3#0                      | 22.51                               | 22.4           | 22.54           |                    |                  |
|                             | RB3#3                      | 22.46                               | 22.52          | 22.59           |                    |                  |
|                             | RB6#0                      | 21.42                               | 21.52          | 21.49           |                    |                  |
| 3MHz QPSK                   | RB1#0                      | 22.79                               | 23.31          | 23.56           | 24.34              | 33               |
|                             | RB1#8                      | 22.79                               | 23.41          | 23.92           |                    |                  |
|                             | RB1#14                     | 22.74                               | 23.4           | 23.84           |                    |                  |
|                             | RB6#0                      | 21.96                               | 22.35          | 22.57           |                    |                  |
|                             | RB6#9                      | 21.98                               | 22.37          | 22.52           |                    |                  |
|                             | RB15#0                     | 21.97                               | 22.38          | 22.63           |                    |                  |
| 3MHz 16QAM                  | RB1#0                      | 22.29                               | 22.25          | 22.77           | 23.27              | 33               |
|                             | RB1#8                      | 22.28                               | 22.6           | 22.78           |                    |                  |
|                             | RB1#14                     | 22.22                               | 22.15          | 22.85           |                    |                  |
|                             | RB6#0                      | 21.29                               | 21.2           | 21.61           |                    |                  |
|                             | RB6#9                      | 21.36                               | 21.13          | 21.73           |                    |                  |
|                             | RB15#0                     | 21.28                               | 21.44          | 21.65           |                    |                  |
| 5MHz QPSK                   | RB1#0                      | 23.41                               | 23.13          | 23.48           | 24.02              | 33               |
|                             | RB1#13                     | 23.37                               | 23.22          | 23.47           |                    |                  |
|                             | RB1#24                     | 23.09                               | 23.02          | 23.6            |                    |                  |
|                             | RB15#0                     | 22.47                               | 22.43          | 22.61           |                    |                  |
|                             | RB15#10                    | 22.48                               | 22.38          | 22.6            |                    |                  |
|                             | RB25#0                     | 22.41                               | 22.4           | 22.53           |                    |                  |
| 5MHz 16QAM                  | RB1#0                      | 22.08                               | 22             | 22.74           | 23.67              | 33               |
|                             | RB1#13                     | 22.55                               | 22.08          | 23.25           |                    |                  |
|                             | RB1#24                     | 22.19                               | 21.63          | 22.99           |                    |                  |
|                             | RB15#0                     | 21.5                                | 21.31          | 21.36           |                    |                  |
|                             | RB15#10                    | 21.3                                | 21.27          | 21.42           |                    |                  |
|                             | RB25#0                     | 21.38                               | 21.31          | 21.39           |                    |                  |
| 10MHz QPSK                  | RB1#0                      | 23.37                               | 23.34          | 23.44           | 24.17              | 33               |
|                             | RB1#25                     | 23.75                               | 23.43          | 23.66           |                    |                  |
|                             | RB1#49                     | 23.45                               | 23.26          | 23.59           |                    |                  |
|                             | RB25#0                     | 22.43                               | 22.42          | 22.69           |                    |                  |

|             |         |       |       |       |       |    |
|-------------|---------|-------|-------|-------|-------|----|
|             | RB25#25 | 22.37 | 22.37 | 22.64 |       |    |
|             | RB50#0  | 22.44 | 22.4  | 22.61 |       |    |
| 10MHz 16QAM | RB1#0   | 22.43 | 22.97 | 22.75 | 23.92 | 33 |
|             | RB1#25  | 22.44 | 23.5  | 23.02 |       |    |
|             | RB1#49  | 22.23 | 22.71 | 23.31 |       |    |
|             | RB25#0  | 21.68 | 21.49 | 21.67 |       |    |
|             | RB25#25 | 21.64 | 21.45 | 21.71 |       |    |
|             | RB50#0  | 21.38 | 21.24 | 21.58 |       |    |
| 15MHz QPSK  | RB1#0   | 23.41 | 23.33 | 23.53 | 24.02 | 33 |
|             | RB1#38  | 23.45 | 23.25 | 23.6  |       |    |
|             | RB1#74  | 23.33 | 23.23 | 23.4  |       |    |
|             | RB36#0  | 22.4  | 22.44 | 22.4  |       |    |
|             | RB36#39 | 22.41 | 22.39 | 22.62 |       |    |
|             | RB75#0  | 22.41 | 22.36 | 22.52 |       |    |
| 15MHz 16QAM | RB1#0   | 22.59 | 22.94 | 23.1  | 23.62 | 33 |
|             | RB1#38  | 22.74 | 22.89 | 23.2  |       |    |
|             | RB1#74  | 21.54 | 22.66 | 23.2  |       |    |
|             | RB36#0  | 21.48 | 21.48 | 21.2  |       |    |
|             | RB36#39 | 21.42 | 21.43 | 21.41 |       |    |
|             | RB75#0  | 21.43 | 21.33 | 21.41 |       |    |
| 20MHz QPSK  | RB1#0   | 23.33 | 23.43 | 23.42 | 24.09 | 33 |
|             | RB1#50  | 23.53 | 23.54 | 23.67 |       |    |
|             | RB1#99  | 23.15 | 23.09 | 23.55 |       |    |
|             | RB50#0  | 22.41 | 22.45 | 22.31 |       |    |
|             | RB50#50 | 22.37 | 22.35 | 22.57 |       |    |
|             | RB100#0 | 22.31 | 22.4  | 22.45 |       |    |
| 20MHz 16QAM | RB1#0   | 23.15 | 22.6  | 22.59 | 24.09 | 33 |
|             | RB1#50  | 23.67 | 23.19 | 22.5  |       |    |
|             | RB1#99  | 23.08 | 22.68 | 22.5  |       |    |
|             | RB50#0  | 21.24 | 21.53 | 21.46 |       |    |
|             | RB50#50 | 21.22 | 21.37 | 21.54 |       |    |
|             | RB100#0 | 21.29 | 21.44 | 21.43 |       |    |

Note:

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

The result was calculated with the maximum combination of Gr – Lc

**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                      | 3.68                      | 4.32           | 4.14            | 13          |
|                             | RB100#0                    | 3.77                      | 3.86           | 3.94            | 13          |
| 20MHz 16QAM                 | RB1#0                      | 4.41                      | 5.16           | 4.96            | 13          |
|                             | RB100#0                    | 5.54                      | 5.59           | 5.57            | 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 |
| 1.4MHz QPSK                                                          | 1.102                        | 1.108          | 1.108        | 1.332                          | 1.332          | 1.338        |
| 1.4MHz 16QAM                                                         | 1.102                        | 1.102          | 1.102        | 1.32                           | 1.302          | 1.296        |
| 3MHz QPSK                                                            | 2.695                        | 2.695          | 2.695        | 2.952                          | 2.928          | 2.964        |
| 3MHz 16QAM                                                           | 2.695                        | 2.683          | 2.683        | 2.964                          | 2.952          | 2.952        |
| 5MHz QPSK                                                            | 4.491                        | 4.531          | 4.511        | 5.06                           | 5.02           | 5.02         |
| 5MHz 16QAM                                                           | 4.531                        | 4.491          | 4.531        | 5.04                           | 5.02           | 5.06         |
| 10MHz QPSK                                                           | 8.942                        | 8.942          | 8.942        | 9.76                           | 9.84           | 9.72         |
| 10MHz 16QAM                                                          | 8.942                        | 8.942          | 8.942        | 9.72                           | 9.64           | 9.8          |
| 15MHz QPSK                                                           | 13.473                       | 13.473         | 13.473       | 14.76                          | 14.88          | 14.94        |
| 15MHz 16QAM                                                          | 13.473                       | 13.473         | 13.473       | 14.82                          | 14.88          | 14.76        |
| 20MHz QPSK                                                           | 17.964                       | 17.964         | 17.964       | 19.52                          | 19.28          | 19.44        |
| 20MHz 16QAM                                                          | 17.884                       | 17.884         | 17.884       | 19.36                          | 19.52          | 19.52        |
| Note: The test plots please refer to the Plots of Occupied Bandwidth |                              |                |              |                                |                |              |

**Spurious Emissions at Antenna Terminal**

|                |                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Result:</b> | <b>Pass, Test was performed at RB1#0, 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              | 7.7                                                        | 1850.758         | 1850.000 | 1908.752         | 1910.000    |
|                                     | -20              | 7.7                                                        | 1850.818         | 1850.000 | 1908.782         | 1910.000    |
|                                     | -10              | 7.7                                                        | 1850.908         | 1850.000 | 1908.842         | 1910.000    |
|                                     | 0                | 7.7                                                        | 1850.938         | 1850.000 | 1908.902         | 1910.000    |
|                                     | 10               | 7.7                                                        | 1850.998         | 1850.000 | 1908.932         | 1910.000    |
|                                     | 20               | 7.7                                                        | 1851.058         | 1850.000 | 1909.022         | 1910.000    |
|                                     | 30               | 7.7                                                        | 1851.118         | 1850.000 | 1909.082         | 1910.000    |
|                                     | 40               | 7.7                                                        | 1851.178         | 1850.000 | 1909.142         | 1910.000    |
|                                     | 50               | 7.7                                                        | 1851.238         | 1850.000 | 1909.232         | 1910.000    |
| Frequency Stability vs. Voltage     | 20               | 6.8                                                        | 1851.028         | 1850.000 | 1908.962         | 1910.000    |
|                                     | 20               | 8.8                                                        | 1851.118         | 1850.000 | 1909.052         | 1910.000    |
|                                     |                  |                                                            |                  |          | <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              | 7.7                                                        | 1850.838         | 1850.000 | 1908.642         | 1910.000    |
|                                     | -20              | 7.7                                                        | 1850.928         | 1850.000 | 1908.702         | 1910.000    |
|                                     | -10              | 7.7                                                        | 1850.958         | 1850.000 | 1908.732         | 1910.000    |
|                                     | 0                | 7.7                                                        | 1851.048         | 1850.000 | 1908.822         | 1910.000    |
|                                     | 10               | 7.7                                                        | 1851.048         | 1850.000 | 1908.912         | 1910.000    |
|                                     | 20               | 7.7                                                        | 1851.138         | 1850.000 | 1908.942         | 1910.000    |
|                                     | 30               | 7.7                                                        | 1851.168         | 1850.000 | 1909.032         | 1910.000    |
|                                     | 40               | 7.7                                                        | 1851.258         | 1850.000 | 1909.062         | 1910.000    |
|                                     | 50               | 7.7                                                        | 1851.318         | 1850.000 | 1909.092         | 1910.000    |
| Frequency Stability vs. Voltage     | 20               | 6.8                                                        | 1851.078         | 1850.000 | 1908.912         | 1910.000    |
|                                     | 20               | 8.8                                                        | 1851.228         | 1850.000 | 1909.032         | 1910.000    |
|                                     |                  |                                                            |                  |          | <b>Result:</b>   | <b>Pass</b> |

## Test Plots:

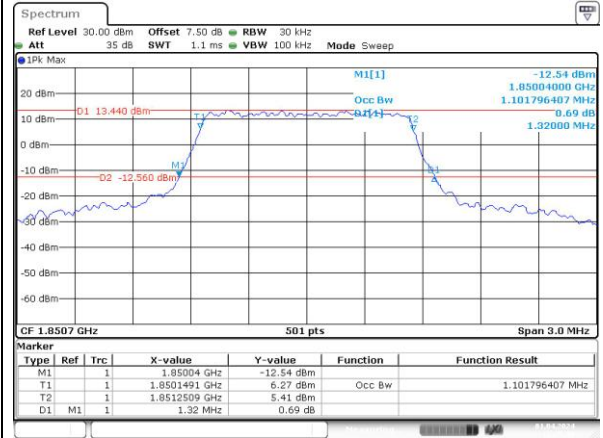
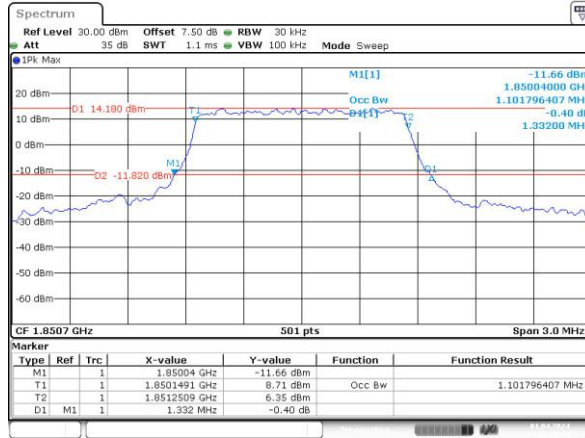
## Occupied Bandwidth

## Channel

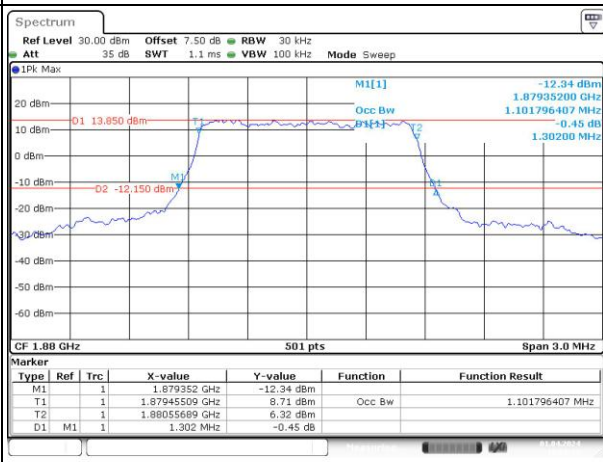
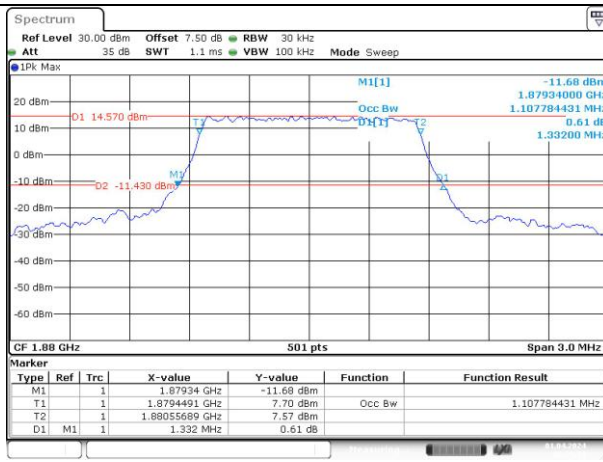
## 1.4MHz Bandwidth QPSK

## 1.4MHz Bandwidth 16QAM

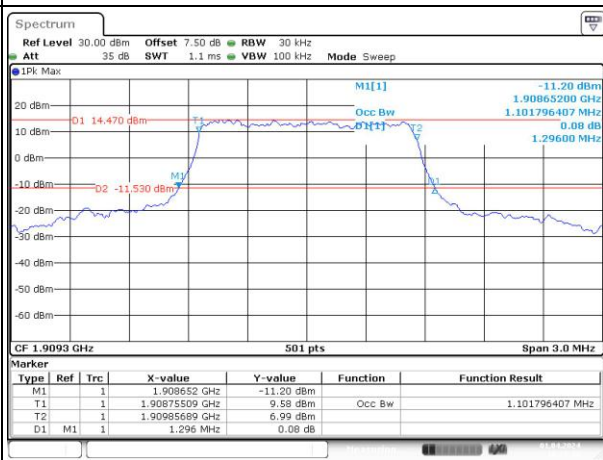
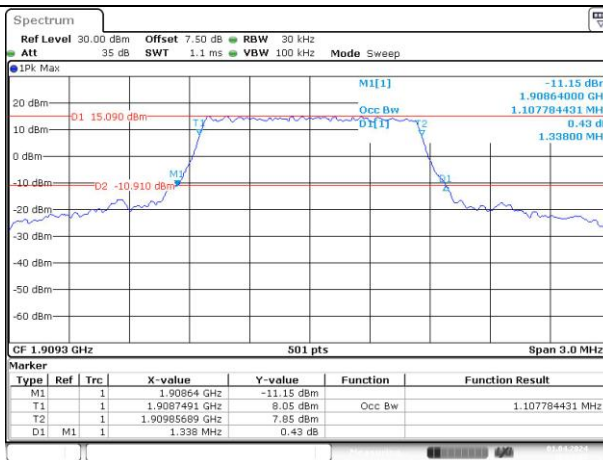
## Lowest



## Middle



## Highest



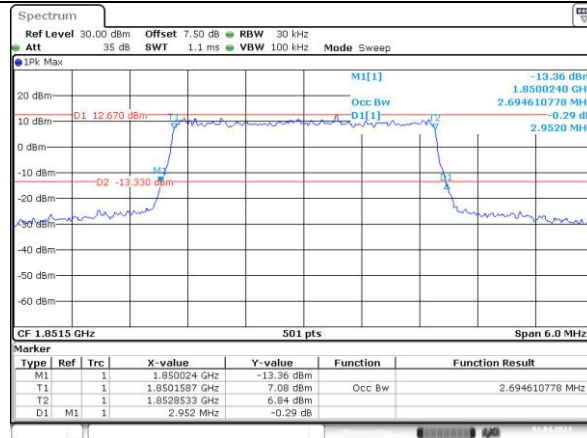
## Occupied Bandwidth

## Channel

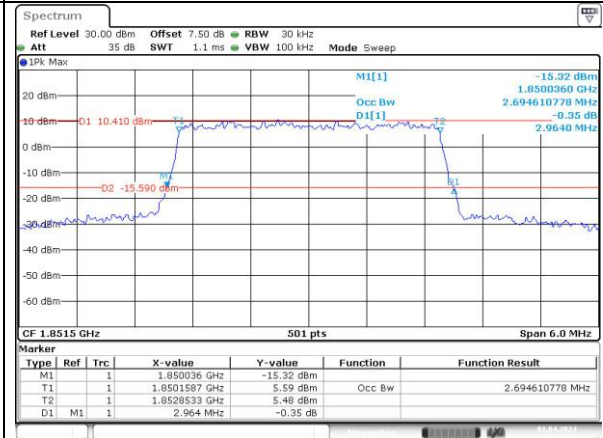
## 3MHz Bandwidth QPSK

## 3MHz Bandwidth 16QAM

## Lowest

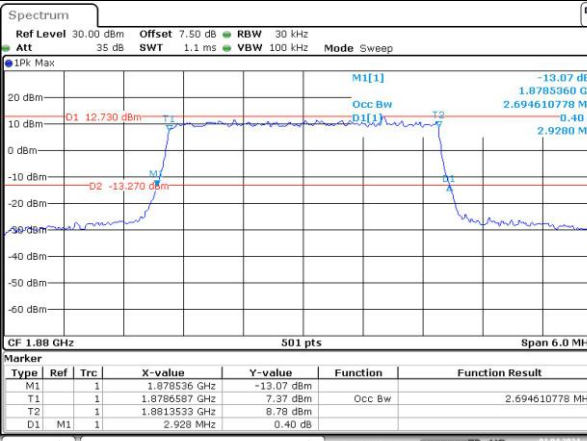


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:29:33

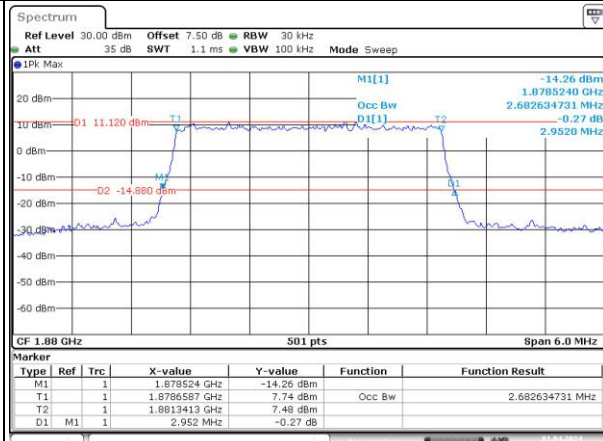


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:29:48

## Middle

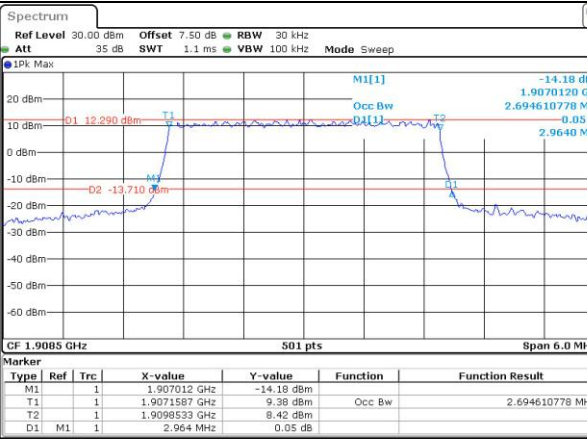


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:30:10

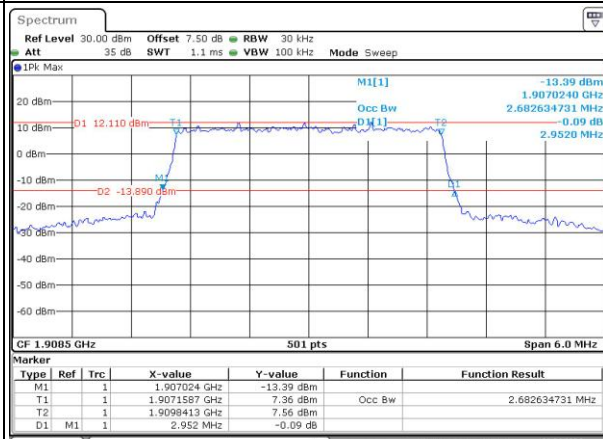


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:30:32

## Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:31:00



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:31:25

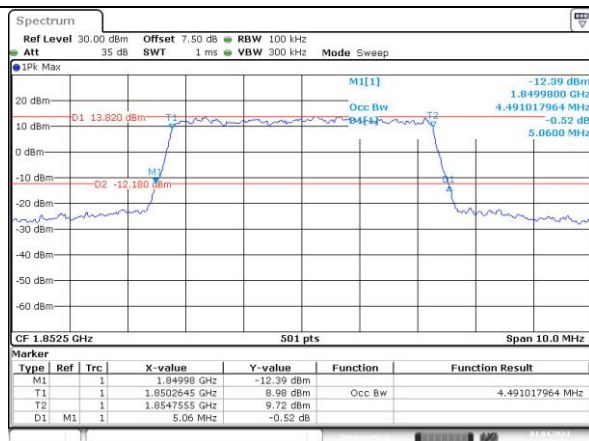
## Occupied Bandwidth

## Channel

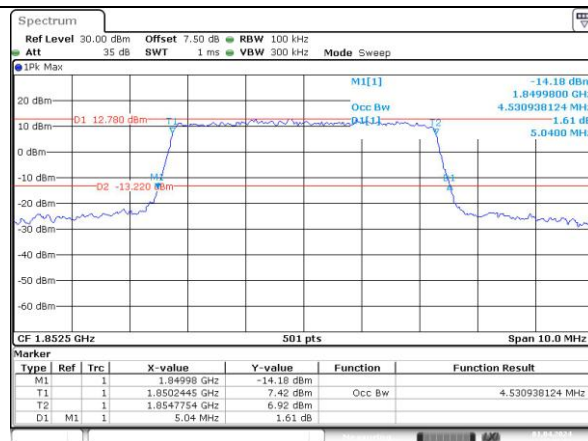
## 5MHz Bandwidth QPSK

## 5MHz Bandwidth 16QAM

## Lowest

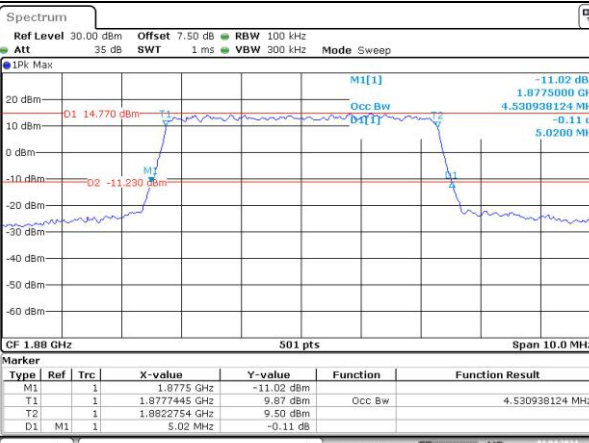


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:35:19

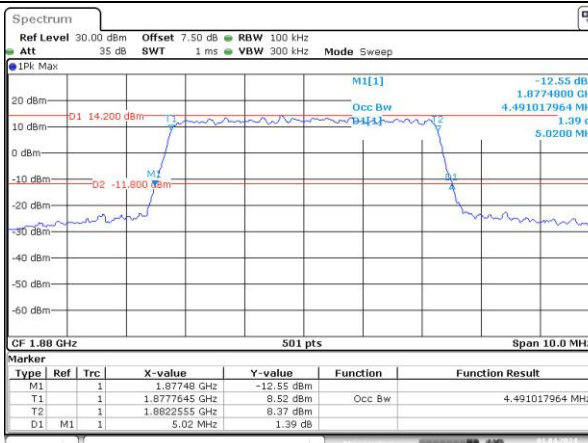


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:35:51

## Middle

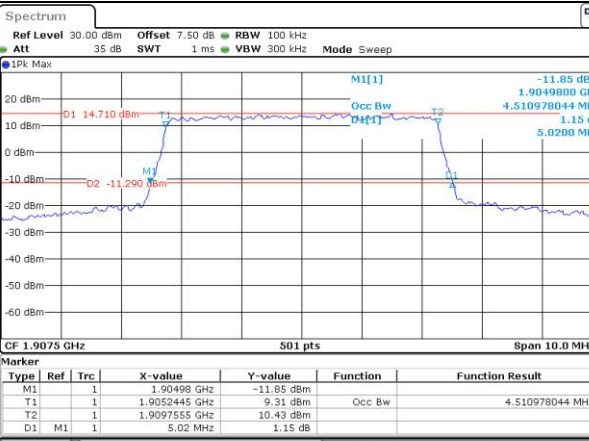


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:13:14

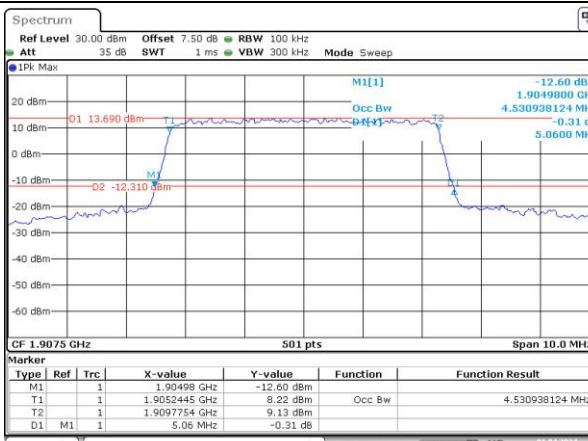


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:13:40

## Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:13:109



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:13:141

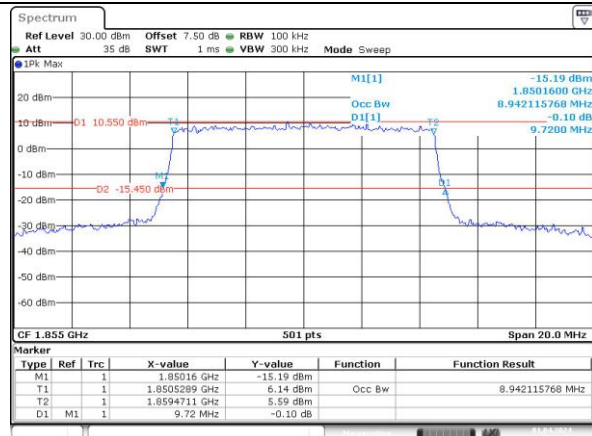
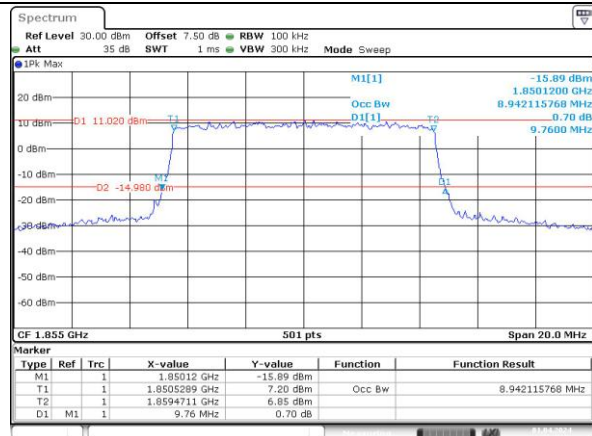
## Occupied Bandwidth

## Channel

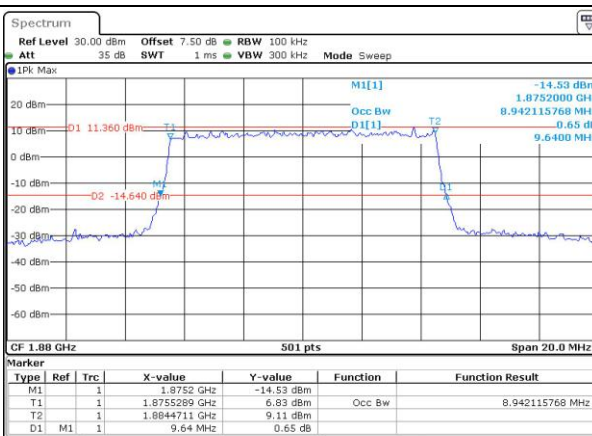
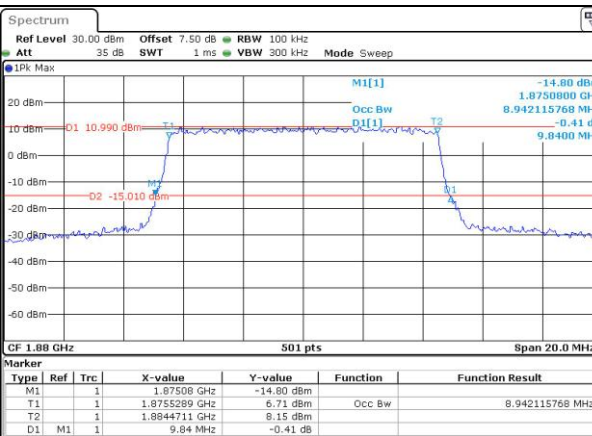
## 10MHz Bandwidth QPSK

## 10MHz Bandwidth 16QAM

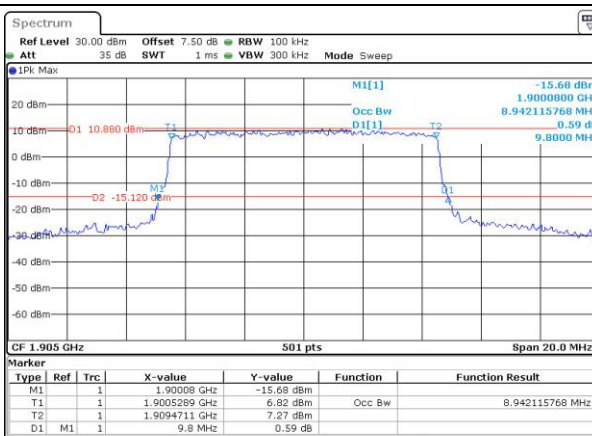
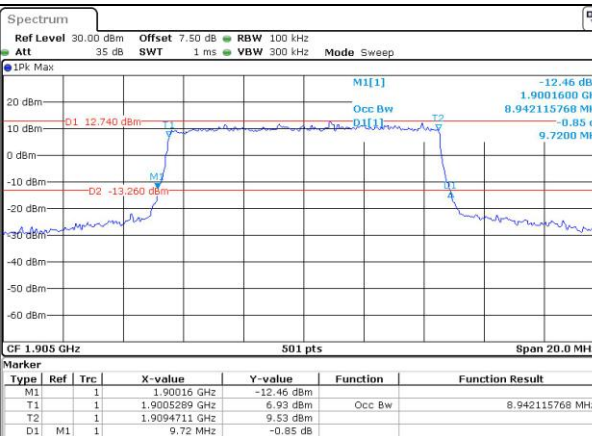
Lowest

ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:40:47ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:41:27

Middle

ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:41:58ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:42:37

Highest

ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:43:11ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:43:41

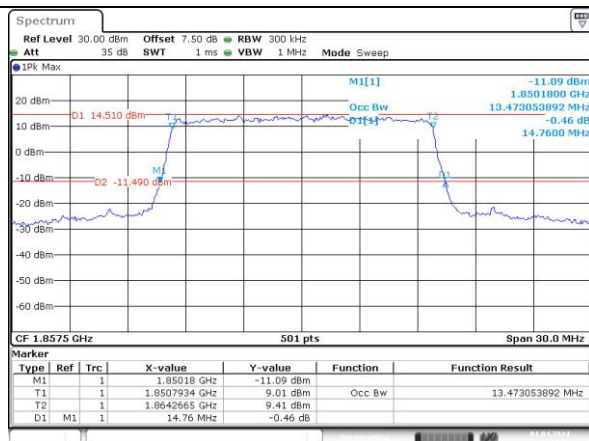
## Occupied Bandwidth

## Channel

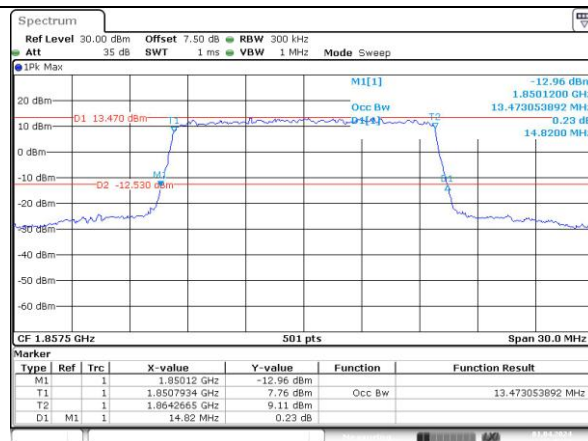
## 15MHz Bandwidth QPSK

## 15MHz Bandwidth 16QAM

## Lowest

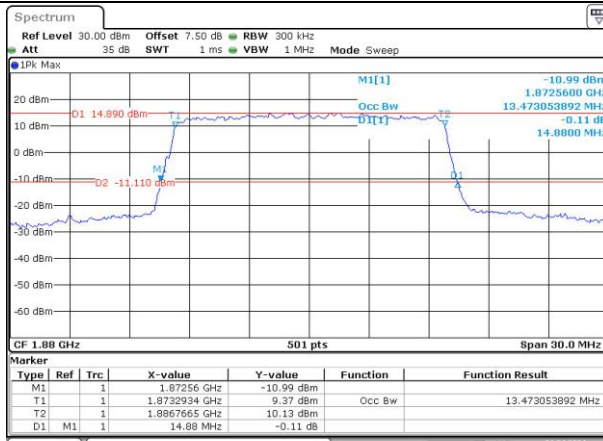


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:44:57

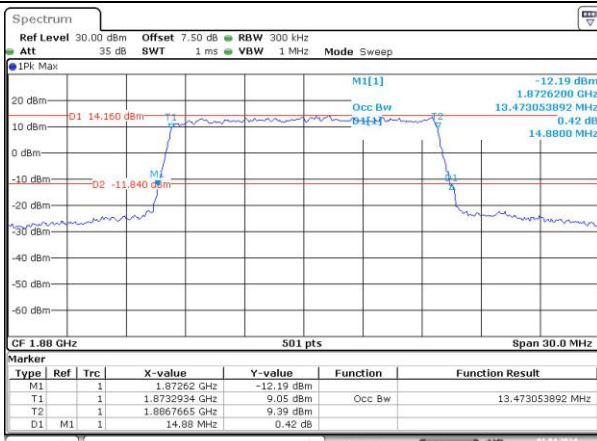


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:45:26

## Middle

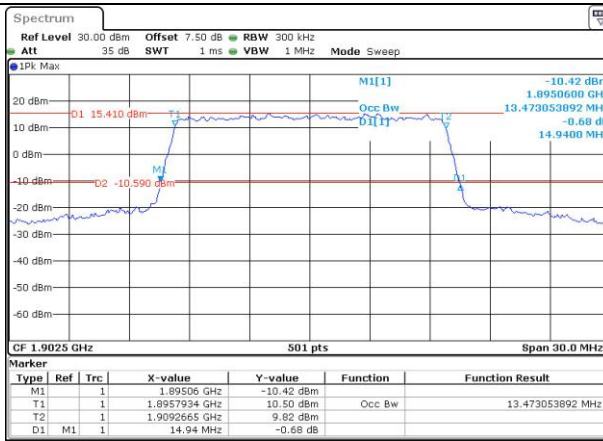


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:46:02

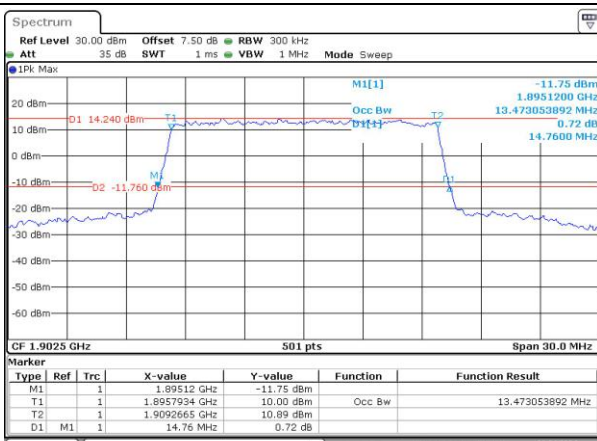


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:46:33

## Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:47:03



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:47:35

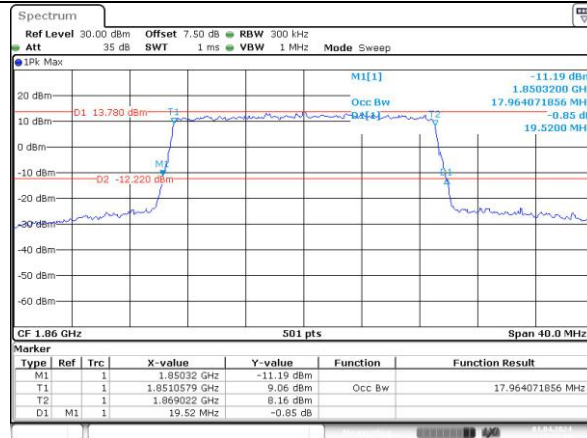
## Occupied Bandwidth

## Channel

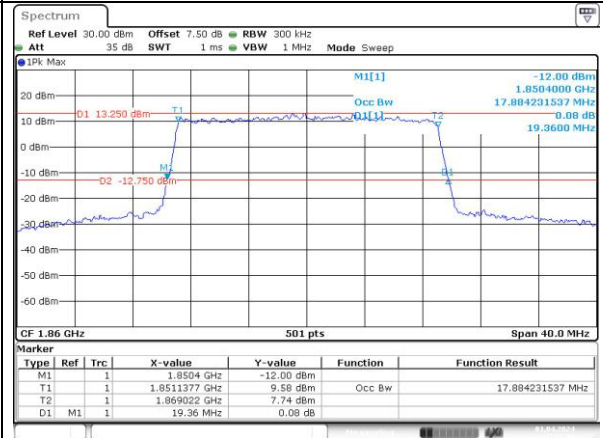
## 20MHz Bandwidth QPSK

## 20MHz Bandwidth 16QAM

## Lowest

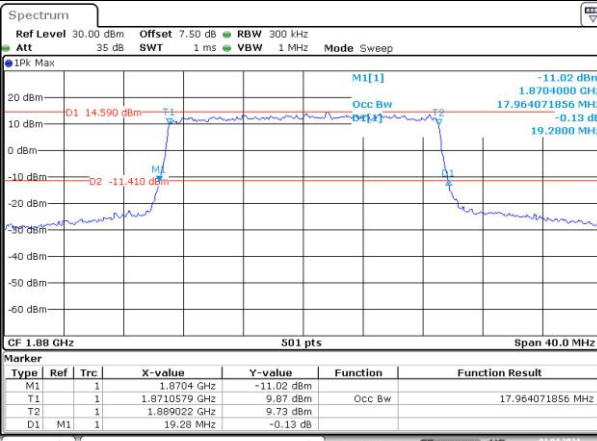


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:51:00

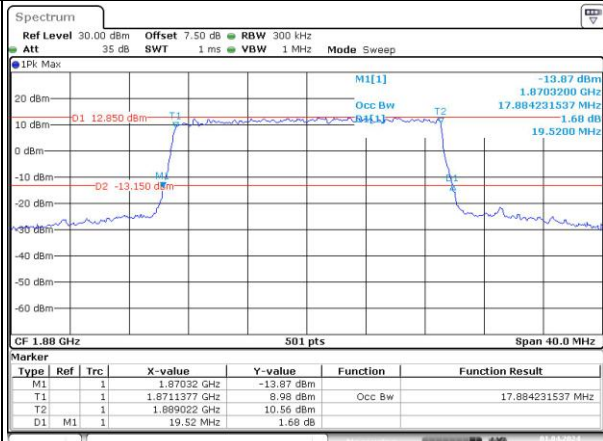


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:51:30

## Middle

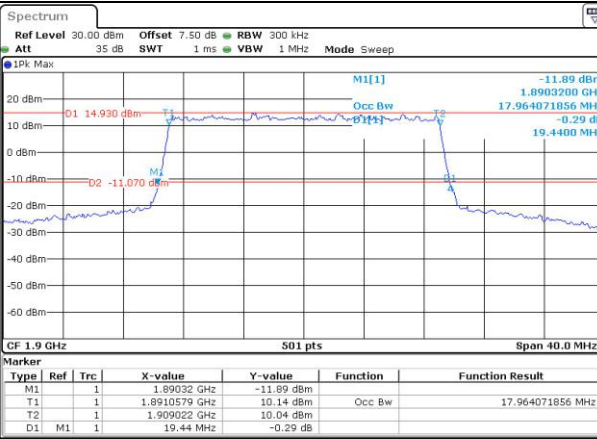


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:52:00

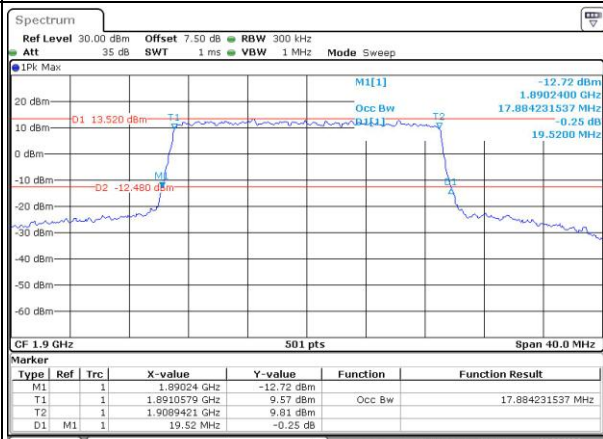


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:52:33

## Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:53:03



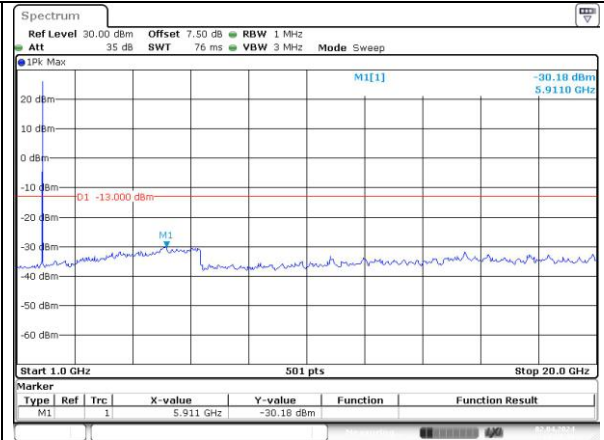
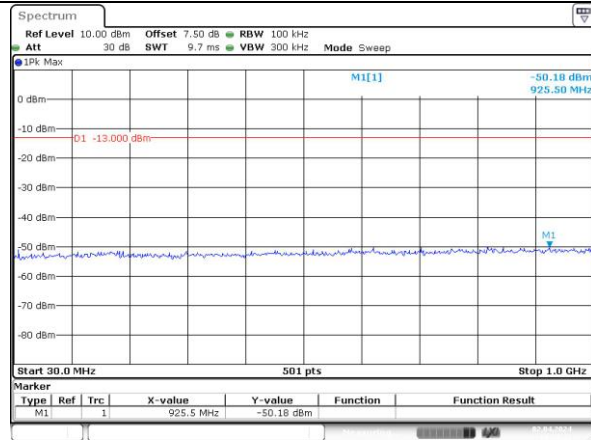
ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 1.APR.2024 16:53:39

## Spurious Emissions at Antenna Terminal

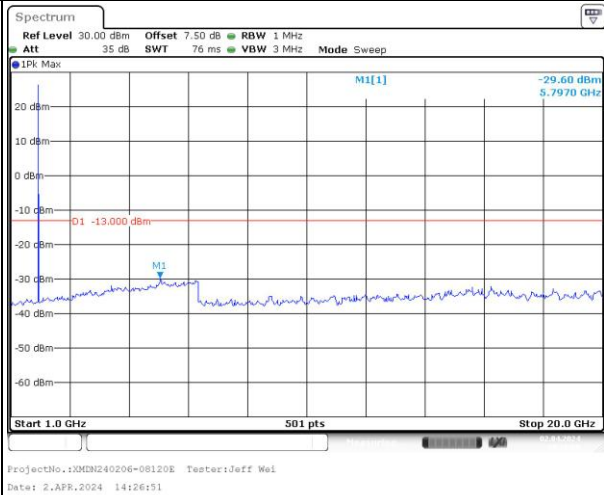
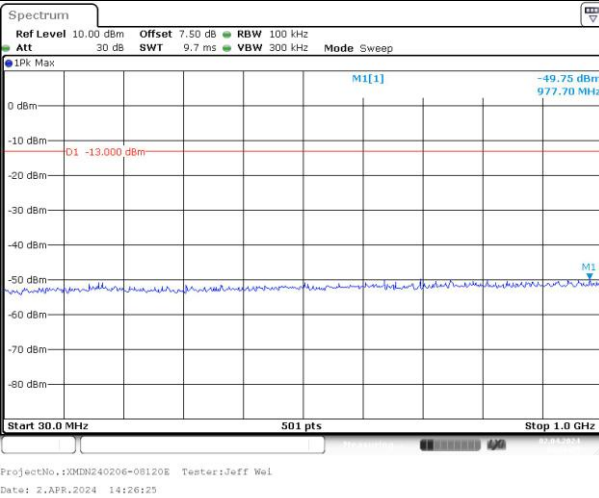
Channel

1.4MHz Bandwidth QPSK

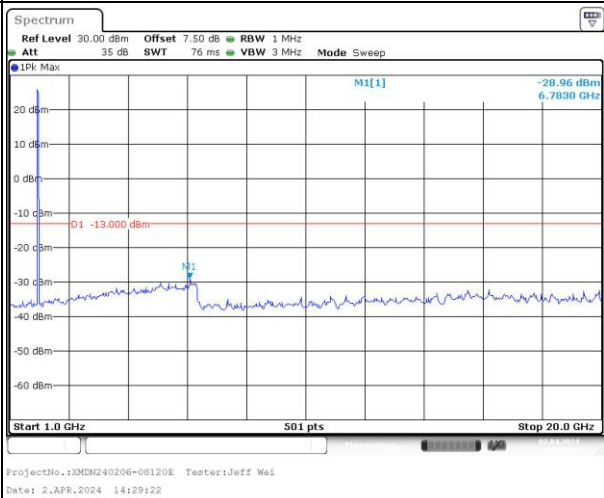
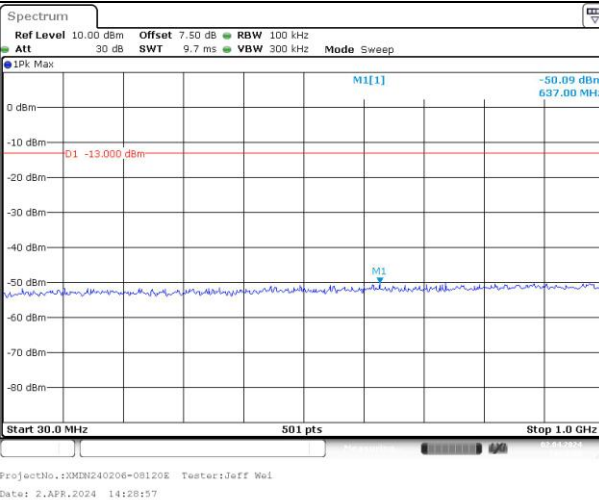
Lowest



Middle



Highest

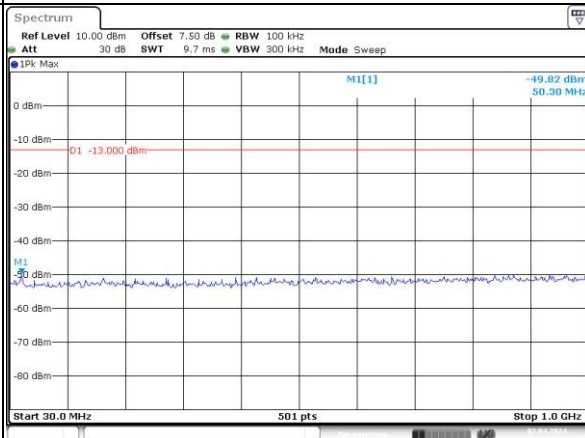


## Spurious Emissions at Antenna Terminal

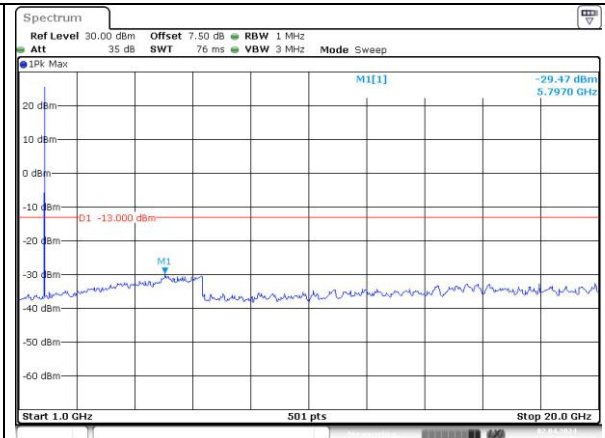
Channel

3MHz Bandwidth QPSK

Lowest

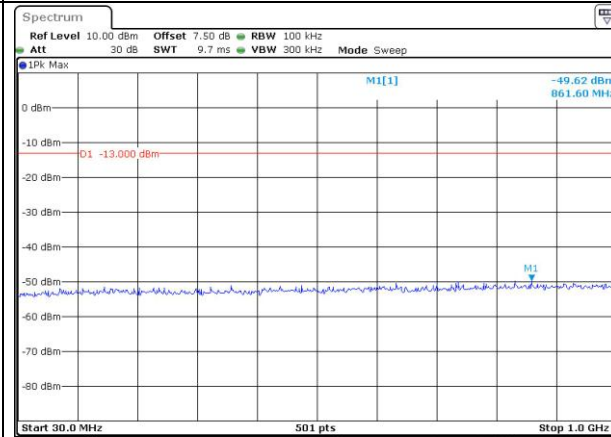


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:36:23

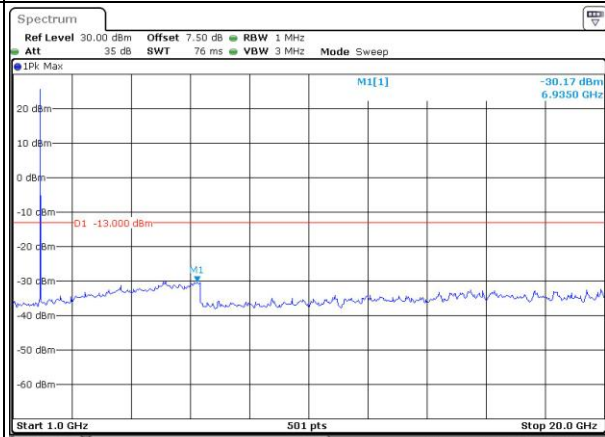


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:36:46

Middle

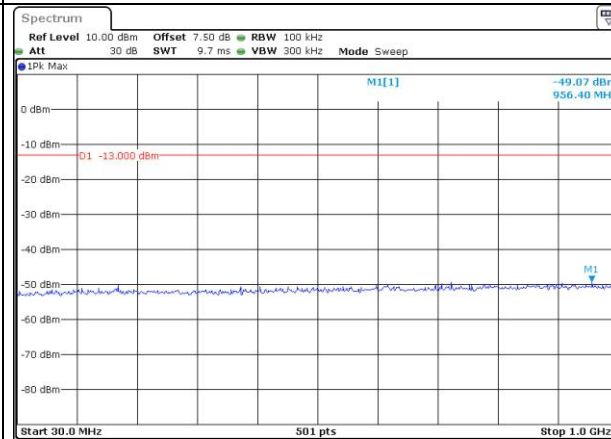


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:54:29

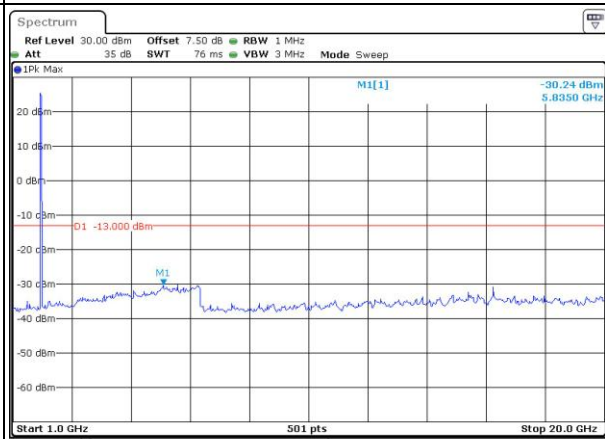


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:54:58

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:57:17



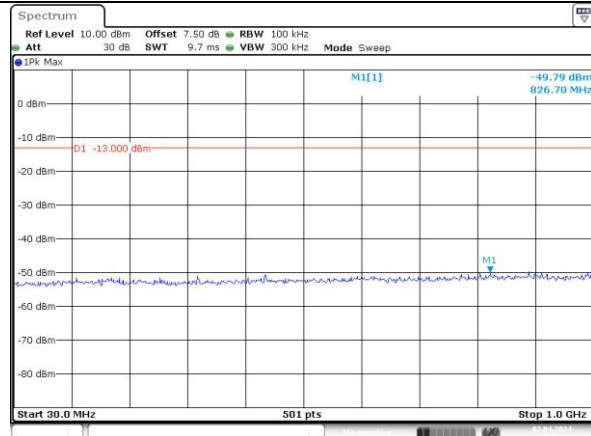
ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 14:57:33

## Spurious Emissions at Antenna Terminal

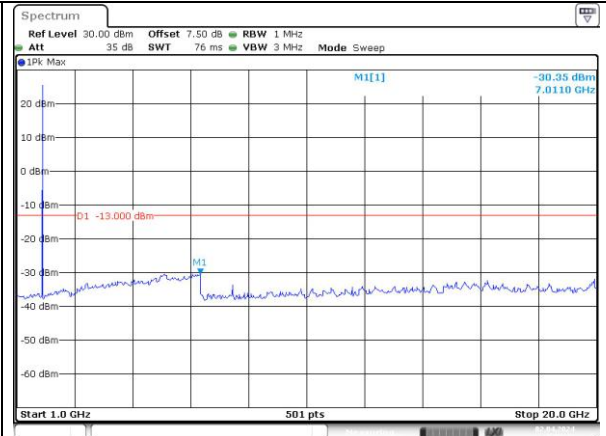
Channel

5MHz Bandwidth QPSK

Lowest

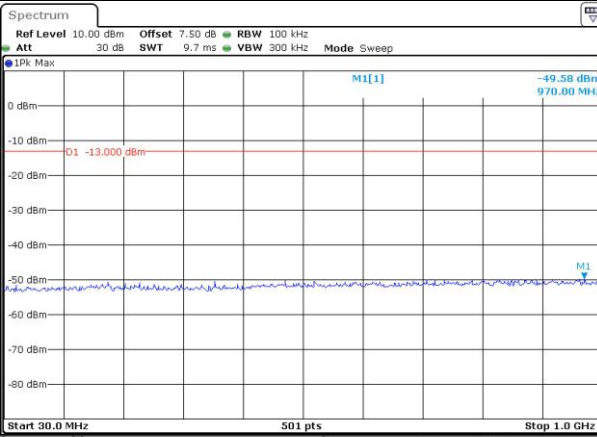


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:02:29

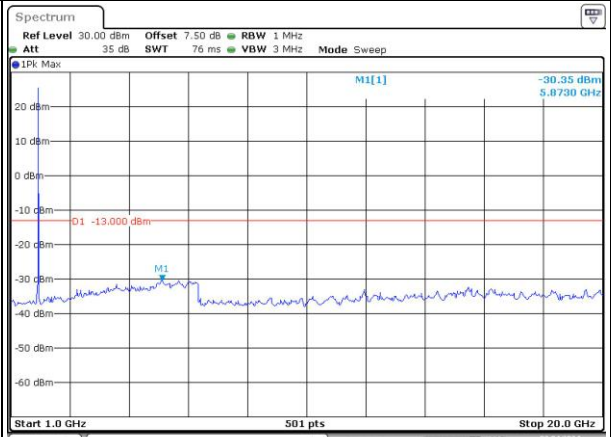


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:02:47

Middle

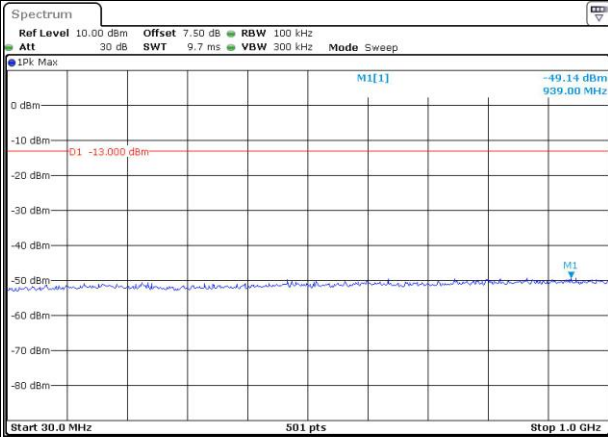


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:04:23

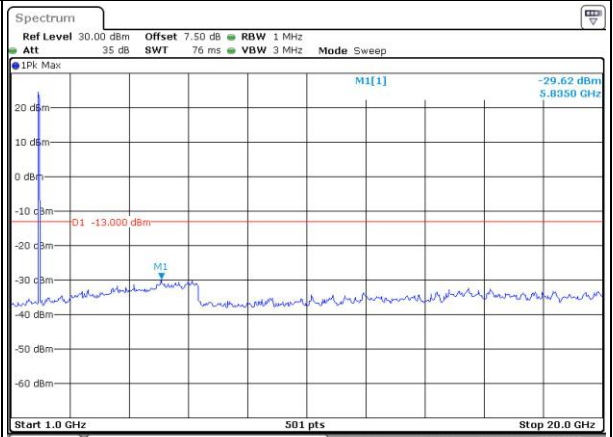


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:04:49

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:10:20



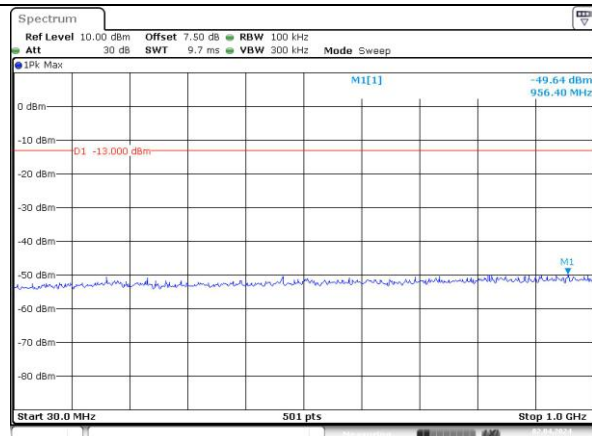
ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:10:42

## Spurious Emissions at Antenna Terminal

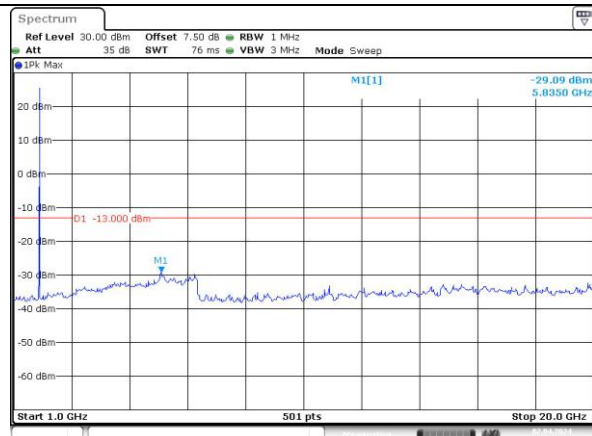
Channel

10MHz Bandwidth QPSK

Lowest

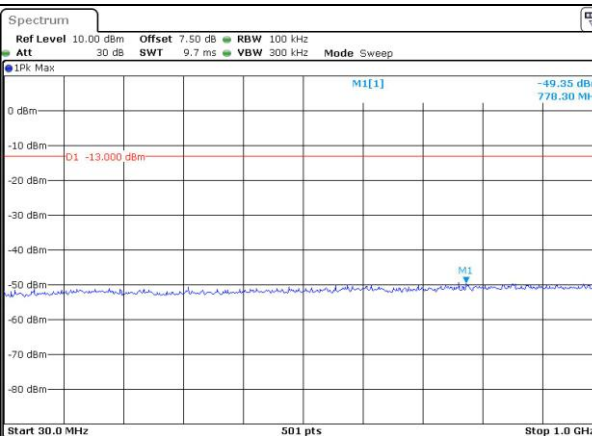


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:24:09

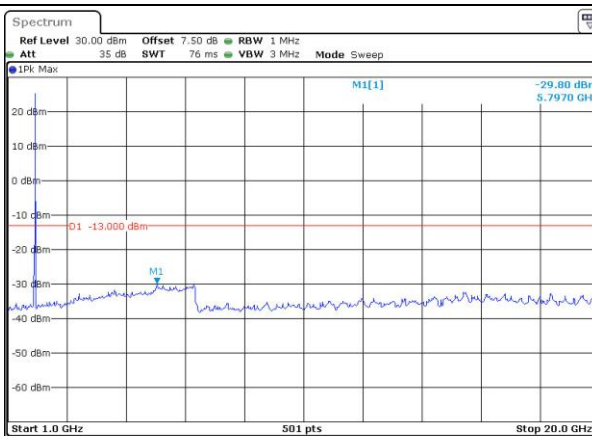


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:24:28

Middle

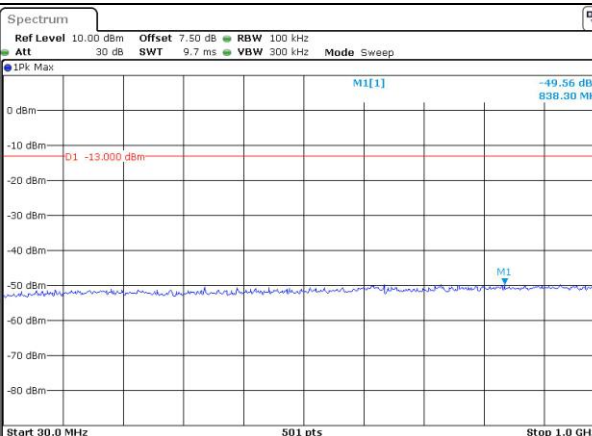


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:26:18

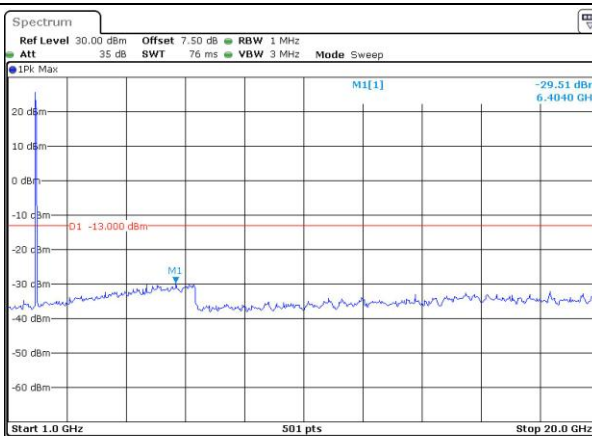


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:27:11

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:30:16



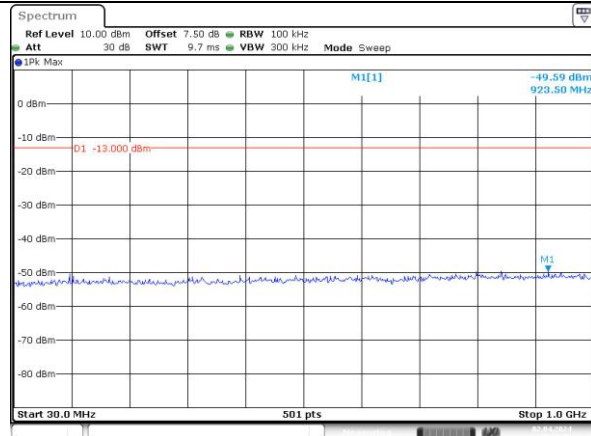
ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:30:48

## Spurious Emissions at Antenna Terminal

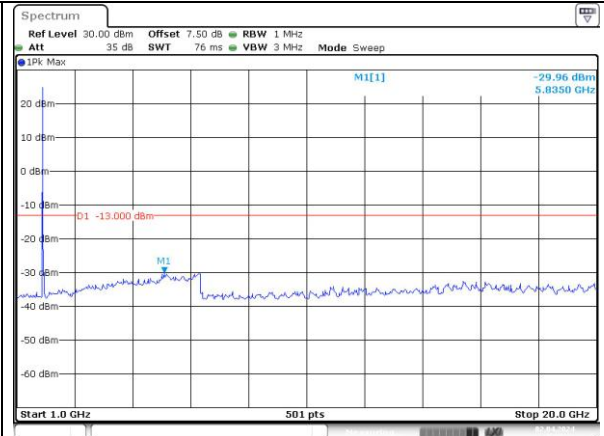
Channel

15MHz Bandwidth QPSK

Lowest

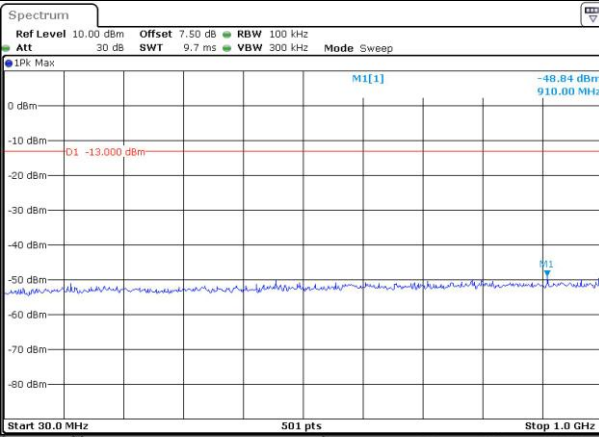


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:39:01

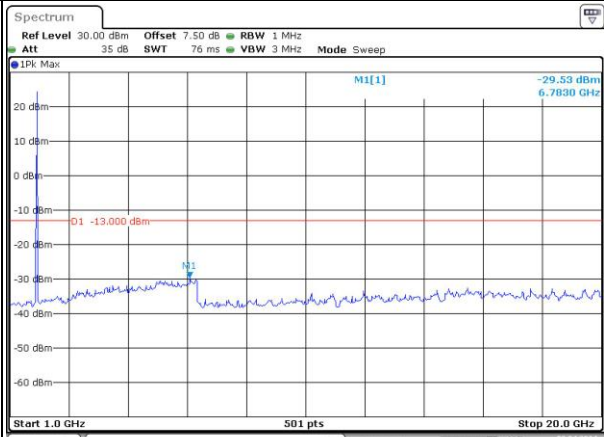


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:39:20

Middle

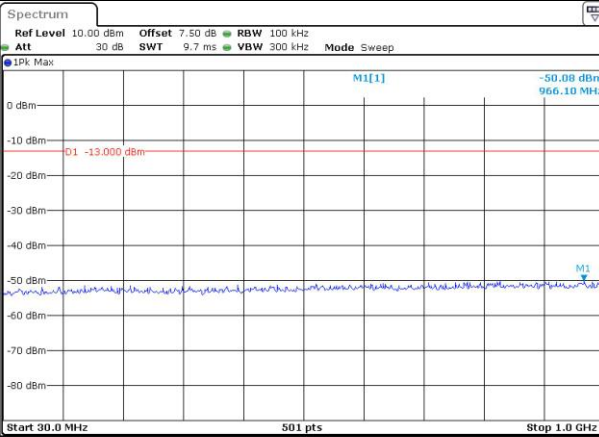


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:40:11

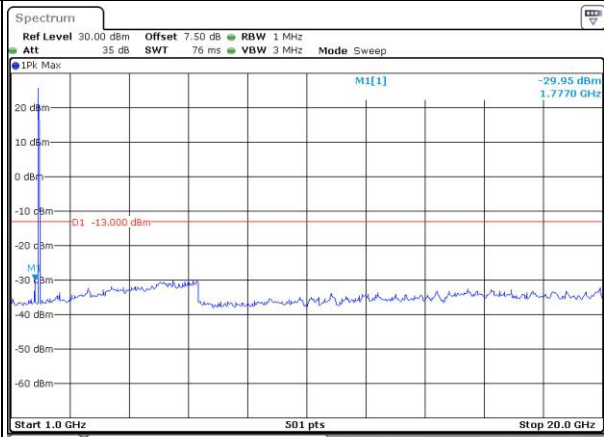


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 10:58:26

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:43:11



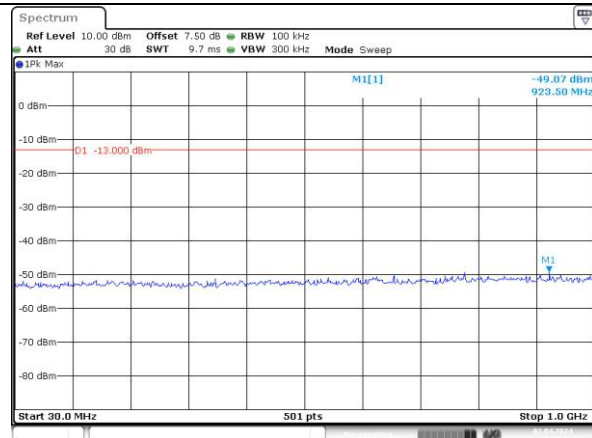
ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:43:43

## Spurious Emissions at Antenna Terminal

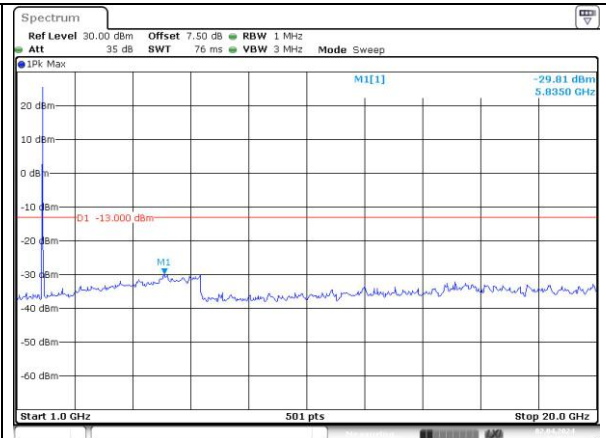
Channel

20MHz Bandwidth QPSK

Lowest

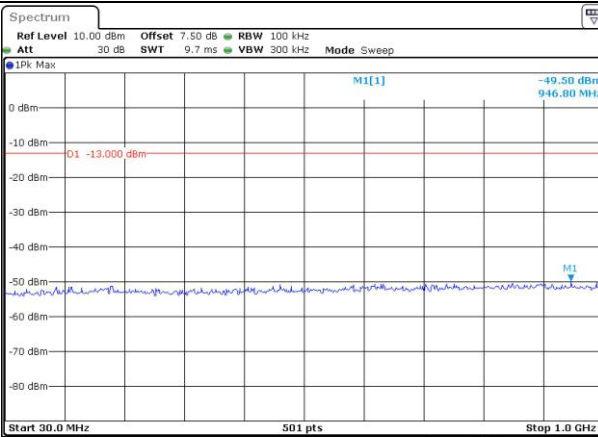


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:46:03

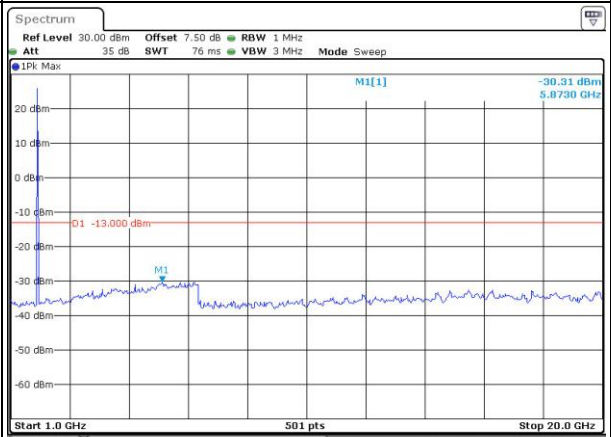


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:46:28

Middle

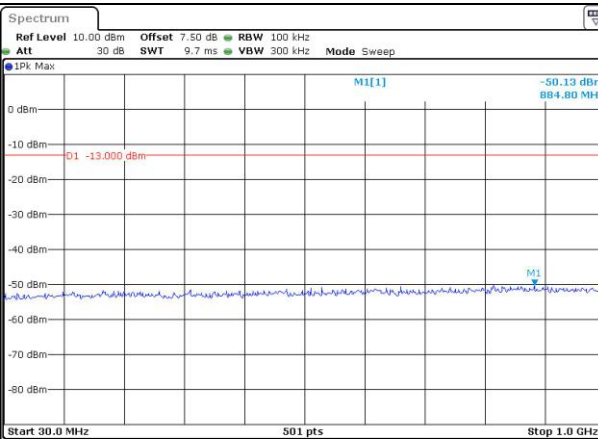


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:47:20

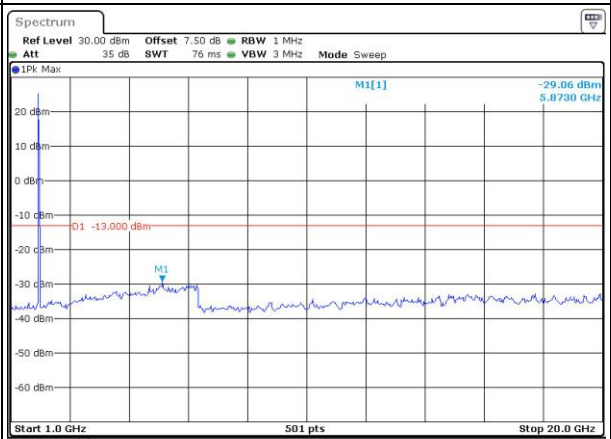


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:47:45

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:48:32



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei  
Date: 2.APR.2024 15:48:57