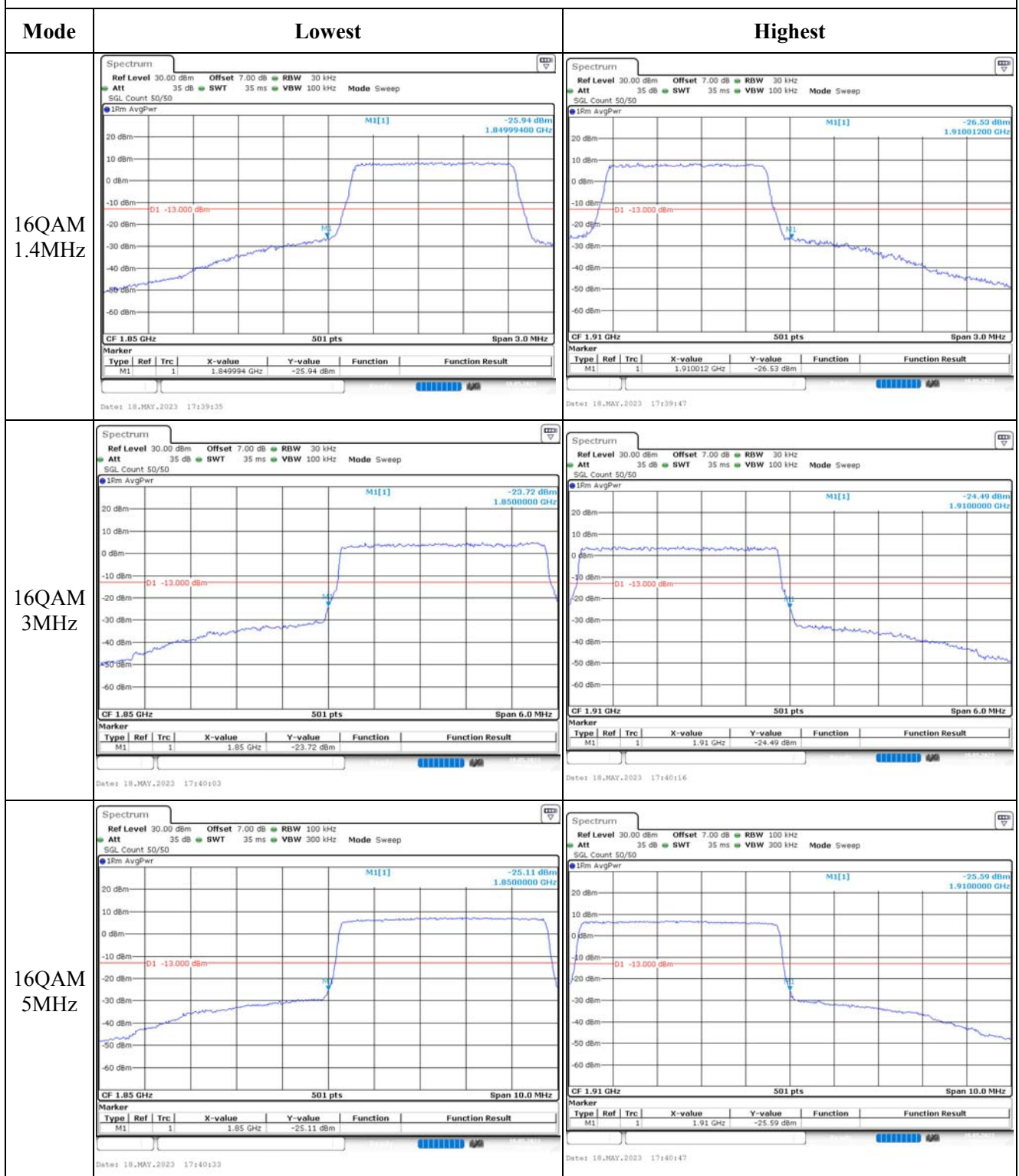
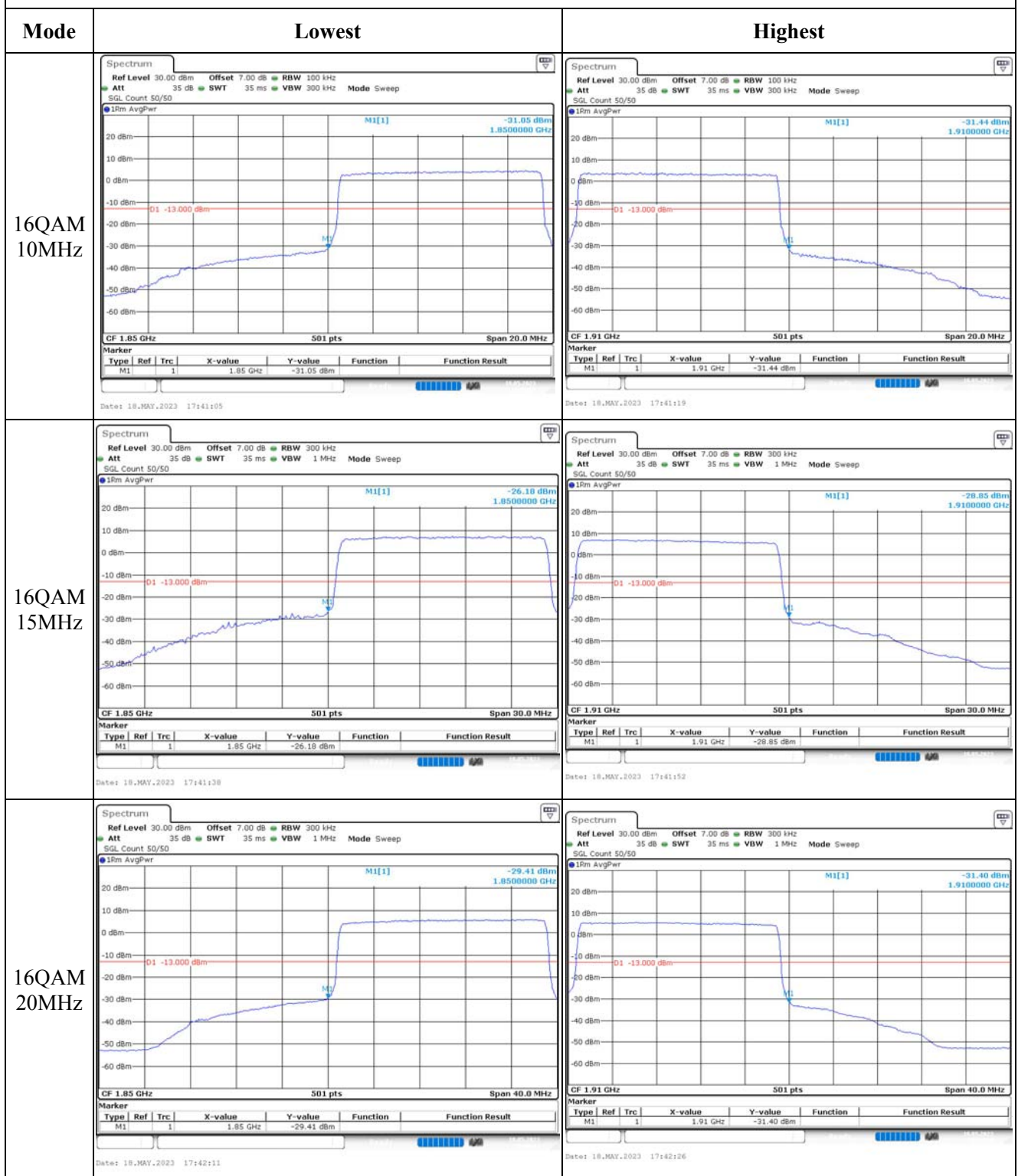


## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.6 Antenna Port Test Data and Results for LTE Band 4**

|                |         |              |                     |
|----------------|---------|--------------|---------------------|
| Serial Number: | 253A-1  | Test Date:   | 2023/5/18~2023/5/26 |
| Test Site:     | RF      | Test Mode:   | Transmitting        |
| Tester:        | One Luo | Test Result: | Pass                |

**Environmental Conditions:**

|                      |           |                           |       |                        |             |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 25.3~27.2 | Relative Humidity:<br>(%) | 42~61 | ATM Pressure:<br>(kPa) | 100.5~101.9 |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model         | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|---------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40         | 101474          | 2022-07-15       | 2023-07-14           |
| 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        | 149218          | 2022-07-15       | 2023-07-14           |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40    | 30174           | 2023-03-31       | 2024-03-30           |
| UNI-T         | Multimeter                          | UT39A+        | C210582554      | 2022-09-29       | 2023-09-28           |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D     | 21R6010D0912386 | N/A              | N/A                  |
| eastsheep     | Coaxial Attenuator                  | 2W-SMA-JK-18G | 21060301        | Each time        | 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) |
|---------------------|------------------------|------------------------|-------------------------|
| 1.4MHz              | 1710.7                 | 1732.5                 | 1754.3                  |
| 3MHz                | 1711.5                 | 1732.5                 | 1753.5                  |
| 5MHz                | 1712.5                 | 1732.5                 | 1752.5                  |
| 10MHz               | 1715                   | 1732.5                 | 1750                    |
| 15MHz               | 1717.5                 | 1732.5                 | 1747.5                  |
| 20MHz               | 1720                   | 1732.5                 | 1745                    |

**Test Data:****FCC§2.1046;§ 27.50(d)(4)****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                      | 23.4                                | 23.47          | 23.89           | 24.2              | 30              |
|                             | RB1#3                      | 23.5                                | 23.63          | 23.81           |                   |                 |
|                             | RB1#5                      | 23.5                                | 23.57          | 23.84           |                   |                 |
|                             | RB3#0                      | 23.6                                | 23.62          | 23.73           |                   |                 |
|                             | RB3#3                      | 23.61                               | 23.64          | 23.72           |                   |                 |
|                             | RB6#0                      | 22.4                                | 22.65          | 22.62           |                   |                 |
| 1.4MHz 16QAM                | RB1#0                      | 22.53                               | 23.37          | 22.67           | 23.68             | 30              |
|                             | RB1#3                      | 22.56                               | 23.37          | 22.71           |                   |                 |
|                             | RB1#5                      | 22.56                               | 23.32          | 22.79           |                   |                 |
|                             | RB3#0                      | 22.45                               | 22.52          | 22.7            |                   |                 |
|                             | RB3#3                      | 22.45                               | 22.52          | 22.75           |                   |                 |
|                             | RB6#0                      | 21.63                               | 21.8           | 22.04           |                   |                 |
| 3MHz QPSK                   | RB1#0                      | 23.75                               | 23.48          | 23.56           | 24.06             | 30              |
|                             | RB1#8                      | 23.67                               | 23.58          | 23.59           |                   |                 |
|                             | RB1#14                     | 23.68                               | 23.46          | 23.57           |                   |                 |
|                             | RB6#0                      | 22.65                               | 22.72          | 22.66           |                   |                 |
|                             | RB6#9                      | 22.51                               | 22.63          | 22.63           |                   |                 |
|                             | RB15#0                     | 22.66                               | 22.71          | 22.66           |                   |                 |
| 3MHz 16QAM                  | RB1#0                      | 22.81                               | 22.5           | 22.78           | 23.16             | 30              |
|                             | RB1#8                      | 22.78                               | 22.5           | 22.77           |                   |                 |
|                             | RB1#14                     | 22.76                               | 22.46          | 22.85           |                   |                 |
|                             | RB6#0                      | 21.85                               | 21.91          | 21.72           |                   |                 |
|                             | RB6#9                      | 21.83                               | 21.92          | 21.74           |                   |                 |
|                             | RB15#0                     | 21.76                               | 21.8           | 21.84           |                   |                 |
| 5MHz QPSK                   | RB1#0                      | 23.75                               | 23.66          | 23.69           | 24.14             | 30              |
|                             | RB1#13                     | 23.74                               | 23.59          | 23.76           |                   |                 |
|                             | RB1#24                     | 23.83                               | 23.06          | 23.74           |                   |                 |
|                             | RB15#0                     | 22.57                               | 22.69          | 22.85           |                   |                 |
|                             | RB15#10                    | 22.6                                | 22.57          | 22.76           |                   |                 |
|                             | RB25#0                     | 22.55                               | 22.6           | 22.66           |                   |                 |
| 5MHz 16QAM                  | RB1#0                      | 22.66                               | 22.37          | 21.96           | 23.05             | 30              |
|                             | RB1#13                     | 22.68                               | 22.35          | 22.06           |                   |                 |
|                             | RB1#24                     | 22.74                               | 22.45          | 22              |                   |                 |
|                             | RB15#0                     | 21.62                               | 21.78          | 21.86           |                   |                 |
|                             | RB15#10                    | 21.54                               | 21.84          | 21.82           |                   |                 |
|                             | RB25#0                     | 21.66                               | 21.75          | 21.88           |                   |                 |
| 10MHz QPSK                  | RB1#0                      | 23.58                               | 23.64          | 23.58           | 24.03             | 30              |
|                             | RB1#25                     | 23.64                               | 23.68          | 23.67           |                   |                 |
|                             | RB1#49                     | 23.65                               | 23.32          | 23.72           |                   |                 |

|             |         |       |       |       |       |    |
|-------------|---------|-------|-------|-------|-------|----|
|             | RB25#0  | 22.59 | 22.73 | 22.7  |       |    |
|             | RB25#25 | 22.69 | 22.64 | 22.65 |       |    |
|             | RB50#0  | 22.73 | 22.71 | 22.81 |       |    |
| 10MHz 16QAM | RB1#0   | 23.39 | 22.18 | 23.05 | 23.73 | 30 |
|             | RB1#25  | 23.37 | 22.16 | 23.08 |       |    |
|             | RB1#49  | 23.42 | 22.13 | 23.08 |       |    |
|             | RB25#0  | 21.73 | 21.92 | 21.82 |       |    |
|             | RB25#25 | 21.83 | 21.9  | 21.8  |       |    |
|             | RB50#0  | 21.74 | 21.81 | 22    |       |    |
| 15MHz QPSK  | RB1#0   | 23.59 | 23.53 | 23.07 | 24.01 | 30 |
|             | RB1#38  | 23.6  | 23.53 | 23.67 |       |    |
|             | RB1#74  | 23.63 | 23.12 | 23.7  |       |    |
|             | RB36#0  | 22.59 | 22.61 | 22.76 |       |    |
|             | RB36#39 | 22.63 | 22.66 | 22.74 |       |    |
|             | RB75#0  | 22.52 | 22.62 | 22.7  |       |    |
| 15MHz 16QAM | RB1#0   | 23.36 | 22.97 | 22.98 | 23.68 | 30 |
|             | RB1#38  | 23.37 | 22.98 | 23.06 |       |    |
|             | RB1#74  | 23.34 | 23.02 | 23.06 |       |    |
|             | RB36#0  | 21.75 | 21.81 | 21.84 |       |    |
|             | RB36#39 | 21.76 | 21.77 | 21.83 |       |    |
|             | RB75#0  | 21.83 | 21.77 | 21.77 |       |    |
| 20MHz QPSK  | RB1#0   | 23.7  | 23.74 | 23.46 | 24.35 | 30 |
|             | RB1#50  | 23.73 | 23.67 | 24.01 |       |    |
|             | RB1#99  | 23.78 | 23.62 | 24.04 |       |    |
|             | RB50#0  | 22.62 | 22.78 | 22.69 |       |    |
|             | RB50#50 | 22.71 | 22.72 | 22.85 |       |    |
|             | RB100#0 | 22.6  | 22.62 | 22.73 |       |    |
| 20MHz 16QAM | RB1#0   | 22.69 | 23.45 | 22.12 | 23.81 | 30 |
|             | RB1#50  | 22.63 | 23.47 | 22.24 |       |    |
|             | RB1#99  | 22.7  | 23.5  | 22.28 |       |    |
|             | RB50#0  | 21.71 | 21.8  | 21.87 |       |    |
|             | RB50#50 | 21.85 | 21.76 | 21.96 |       |    |
|             | RB100#0 | 21.64 | 21.87 | 21.82 |       |    |

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G<sub>T</sub>(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                      | 4.58                      | 3.8            | 5.3             | 13          |
|                             | RB100#0                    | 4.7                       | 4.7            | 4.96            | 13          |
| 20MHz 16QAM                 | RB1#0                      | 5.71                      | 4.9            | 5.57            | 13          |
|                             | RB100#0                    | 5.65                      | 5.62           | 5.94            | 13          |
|                             |                            |                           |                | <b>Result:</b>  | <b>Pass</b> |

| <b>FCC §2.1049, §27.53:Occupied Bandwidth</b>                        |                              |                |              |                                |                |              |
|----------------------------------------------------------------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
| 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                        | 1.102          | 1.102        | 1.254                          | 1.260          | 1.260        |
| 1.4MHz 16QAM                                                         | 1.11                         | 1.096          | 1.102        | 1.27                           | 1.254          | 1.260        |
| 3MHz QPSK                                                            | 2.707                        | 2.683          | 2.695        | 3.000                          | 3.024          | 2.988        |
| 3MHz 16QAM                                                           | 2.695                        | 2.695          | 2.695        | 2.976                          | 3.024          | 3.012        |
| 5MHz QPSK                                                            | 4.511                        | 4.511          | 4.531        | 5.000                          | 4.980          | 5.000        |
| 5MHz 16QAM                                                           | 4.531                        | 4.551          | 4.491        | 5.000                          | 5.040          | 5.000        |
| 10MHz QPSK                                                           | 8.902                        | 8.942          | 8.982        | 9.760                          | 9.800          | 9.800        |
| 10MHz 16QAM                                                          | 8.982                        | 8.942          | 8.942        | 9.800                          | 9.840          | 9.800        |
| 15MHz QPSK                                                           | 13.413                       | 13.533         | 13.533       | 15.000                         | 15.060         | 15.060       |
| 15MHz 16QAM                                                          | 13.473                       | 13.533         | 13.533       | 15.000                         | 15.060         | 15.060       |
| 20MHz QPSK                                                           | 17.884                       | 18.044         | 17.964       | 19.520                         | 19.840         | 19.680       |
| 20MHz 16QAM                                                          | 17.964                       | 18.044         | 18.044       | 19.760                         | 19.760         | 19.760       |
| Note: The test plots please refer to the Plots of Occupied Bandwidth |                              |                |              |                                |                |              |

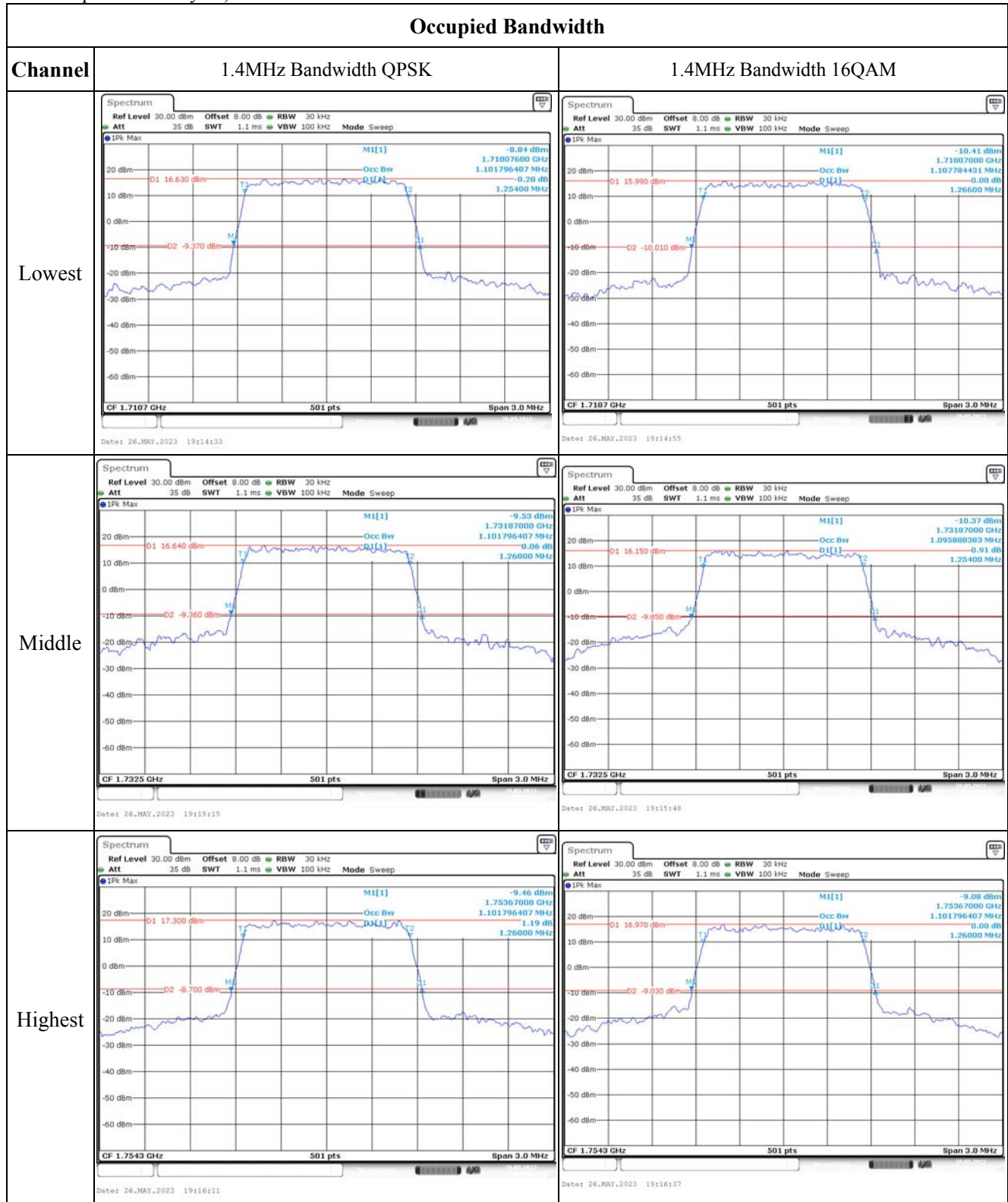
| <b>FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal</b> |                                                                                        |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Result:</b>                                                     | <b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b> |

| <b>FCC §2.1051, § 27.53:Out of band emission, Band Edge</b> |                                                                                 |
|-------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Result:</b>                                              | <b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b> |

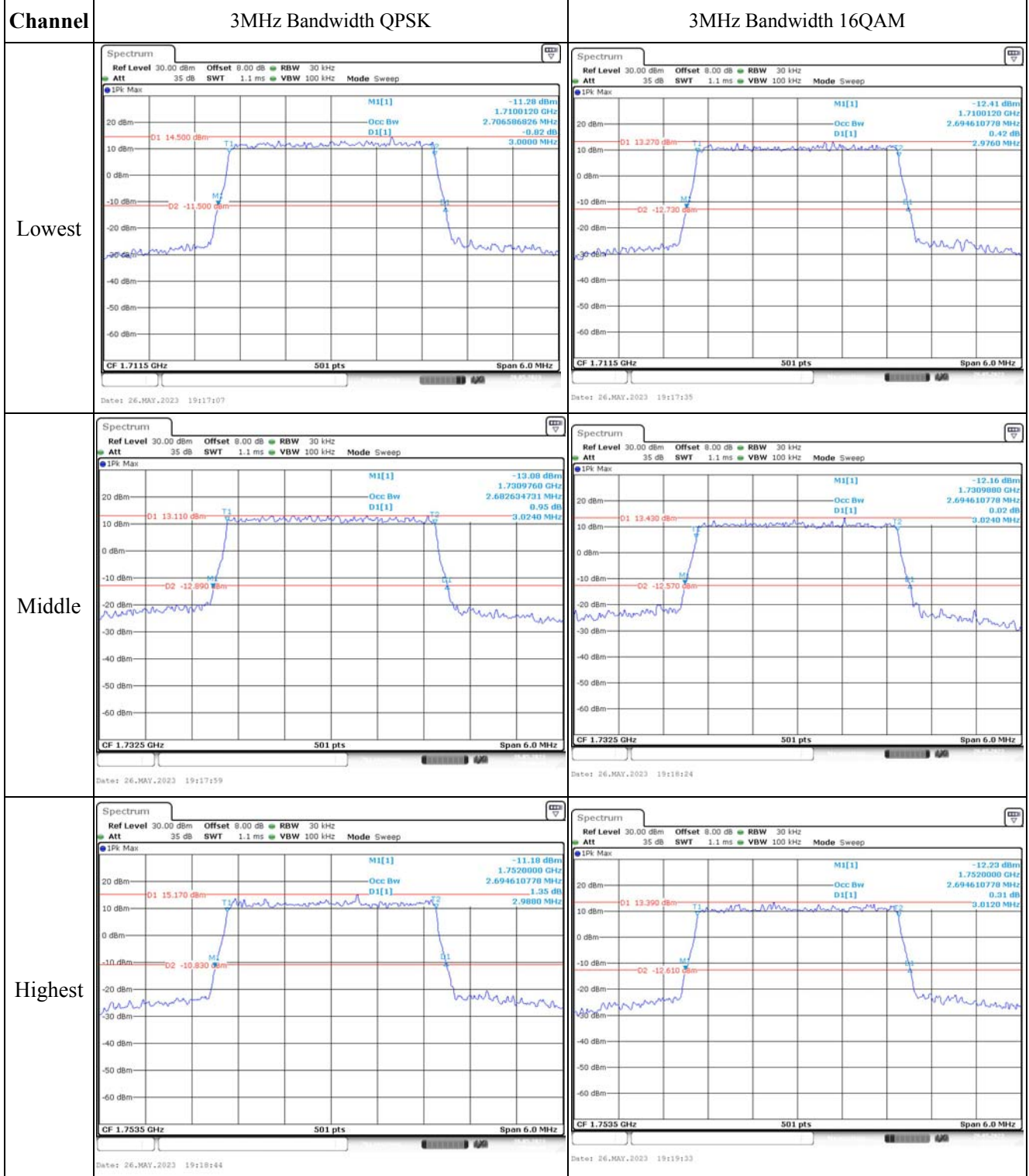
| <b>FCC §2.1055, §27.54: Frequency Stability</b> |                  |                                                            |                  |         |                  |       |
|-------------------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------|
| 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              | 3.7                                                        | 1711.023         | 1710.00 | 1754.011         | 1755  |
|                                                 | -20              | 3.7                                                        | 1711.003         | 1710.00 | 1754.032         | 1755  |
|                                                 | -10              | 3.7                                                        | 1711.068         | 1710.00 | 1754.006         | 1755  |
|                                                 | 0                | 3.7                                                        | 1711.036         | 1710.00 | 1754.021         | 1755  |
|                                                 | 10               | 3.7                                                        | 1711.094         | 1710.00 | 1754.080         | 1755  |
|                                                 | 20               | 3.7                                                        | 1711.058         | 1710.00 | 1754.022         | 1755  |
|                                                 | 30               | 3.7                                                        | 1711.078         | 1710.00 | 1754.039         | 1755  |
|                                                 | 40               | 3.7                                                        | 1711.033         | 1710.00 | 1754.033         | 1755  |
|                                                 | 50               | 3.7                                                        | 1711.075         | 1710.00 | 1754.071         | 1755  |
| Frequency Stability vs. Voltage                 | 20               | 3.6                                                        | 1711.076         | 1710.00 | 1754.038         | 1755  |
|                                                 | 20               | 4.35                                                       | 1711.021         | 1710.00 | 1754.041         | 1755  |
| <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              | 3.7                                                        | 1711.026         | 1710.00 | 1754.046         | 1755        |
|                                     | -20              | 3.7                                                        | 1711.060         | 1710.00 | 1754.048         | 1755        |
|                                     | -10              | 3.7                                                        | 1711.030         | 1710.00 | 1754.047         | 1755        |
|                                     | 0                | 3.7                                                        | 1711.027         | 1710.00 | 1754.084         | 1755        |
|                                     | 10               | 3.7                                                        | 1711.009         | 1710.00 | 1754.054         | 1755        |
|                                     | 20               | 3.7                                                        | 1711.058         | 1710.00 | 1754.102         | 1755        |
|                                     | 30               | 3.7                                                        | 1711.100         | 1710.00 | 1754.087         | 1755        |
|                                     | 40               | 3.7                                                        | 1711.053         | 1710.00 | 1754.072         | 1755        |
|                                     | 50               | 3.7                                                        | 1711.025         | 1710.00 | 1754.094         | 1755        |
| Frequency Stability vs. Voltage     | 20               | 3.6                                                        | 1711.018         | 1710.00 | 1754.067         | 1755        |
|                                     | 20               | 4.35                                                       | 1711.066         | 1710.00 | 1754.009         | 1755        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

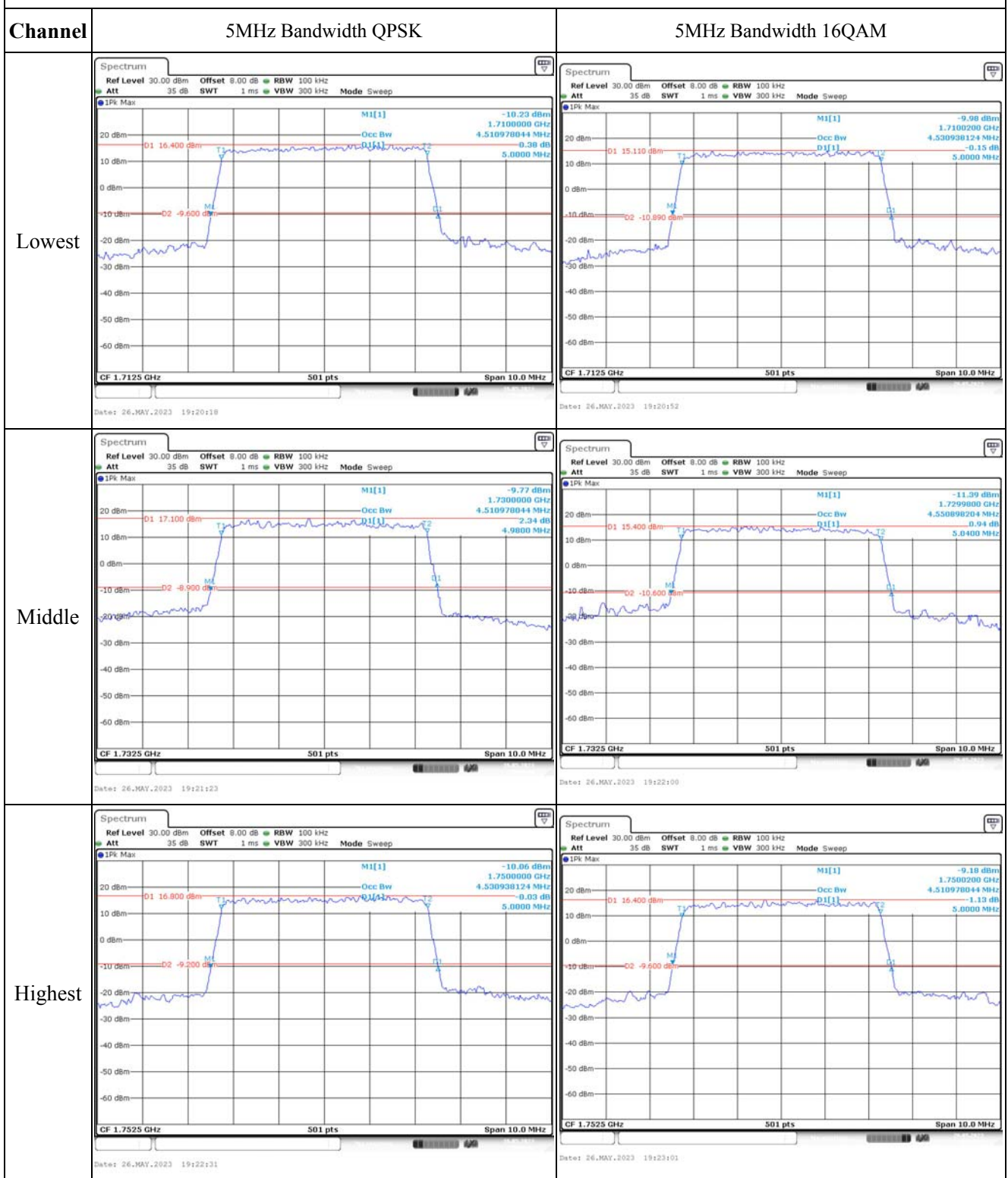
**Test Plots**(Note: The 8dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):



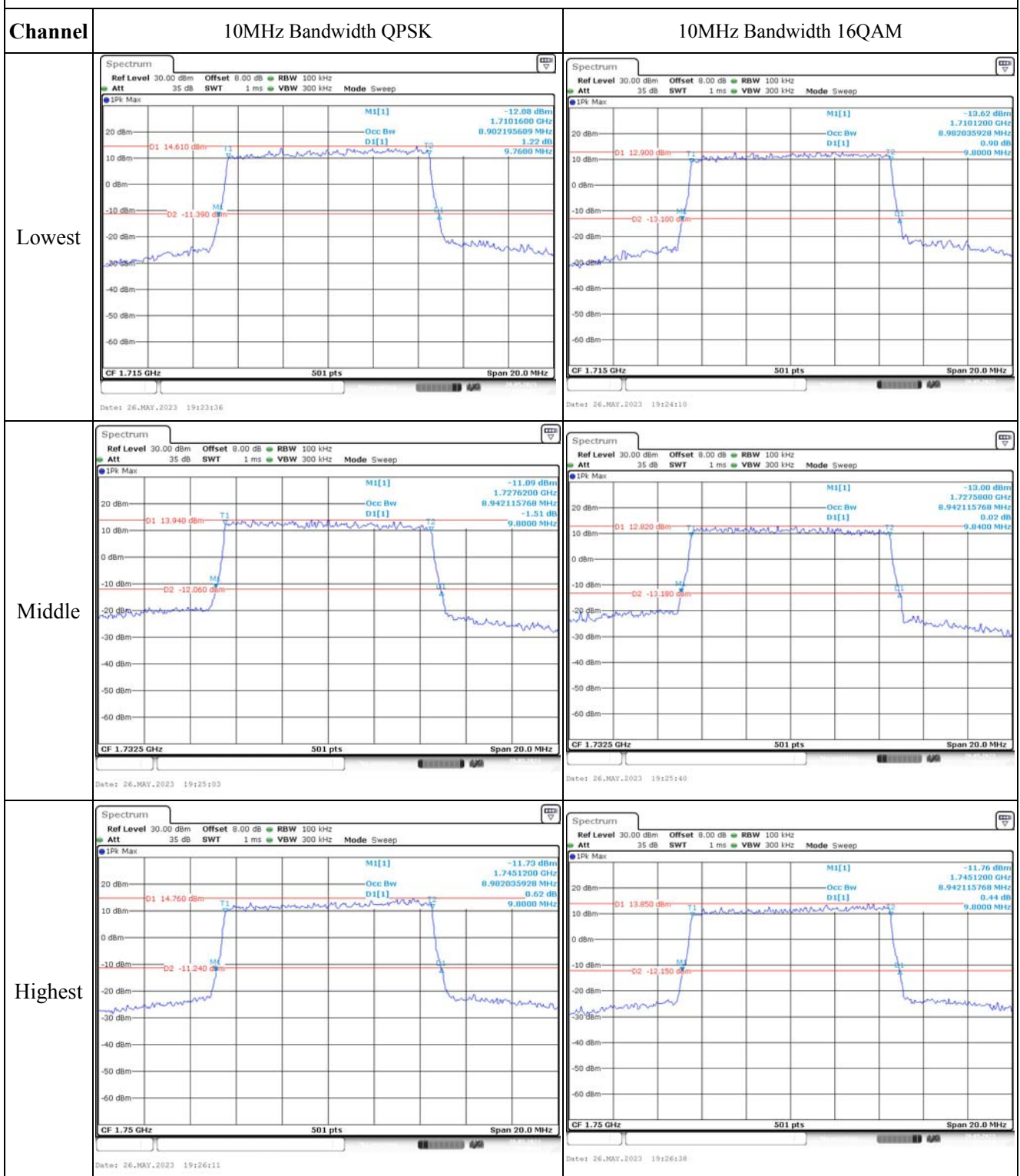
## Occupied Bandwidth



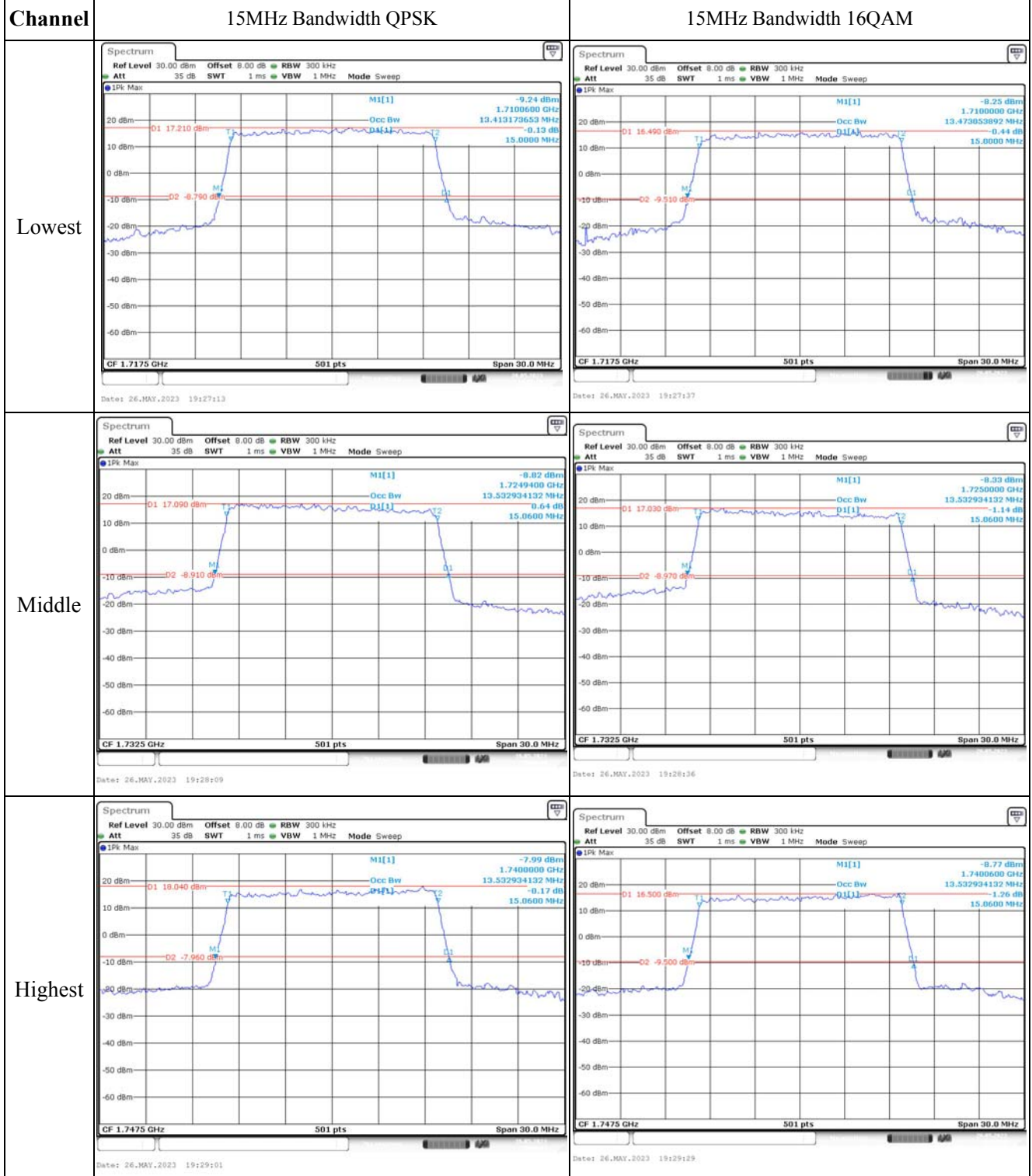
## Occupied Bandwidth



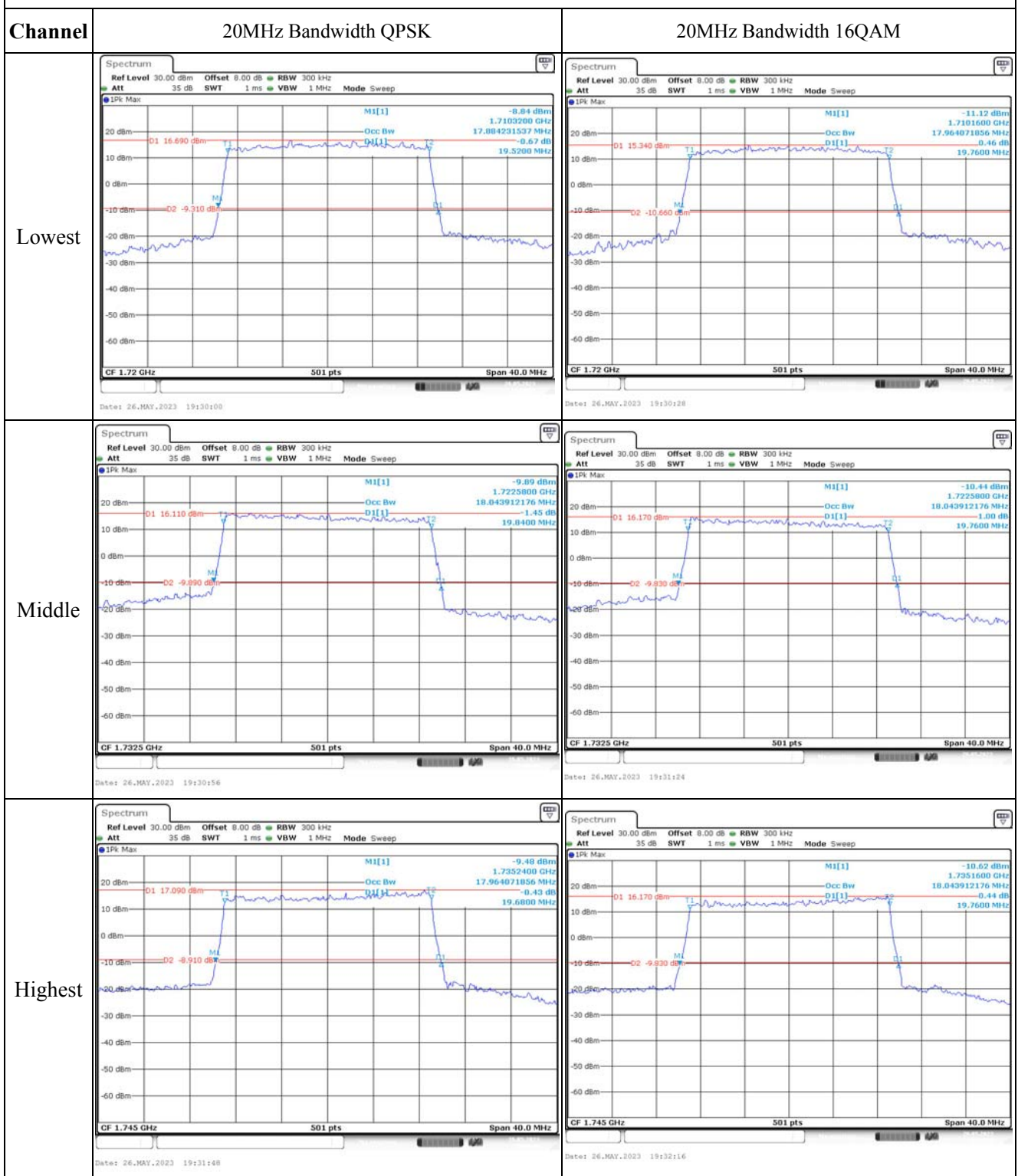
## Occupied Bandwidth



## Occupied Bandwidth



## Occupied Bandwidth

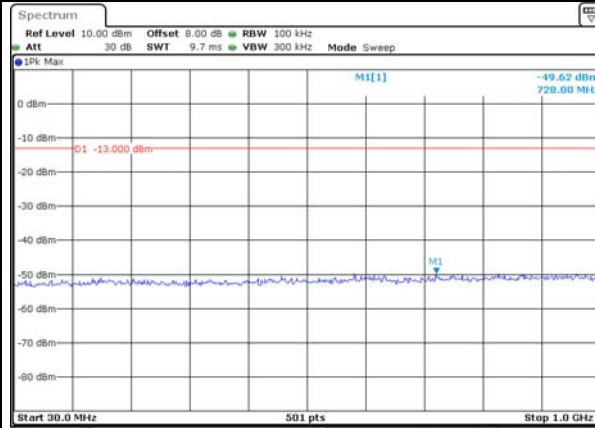


## Spurious Emissions at Antenna Terminal

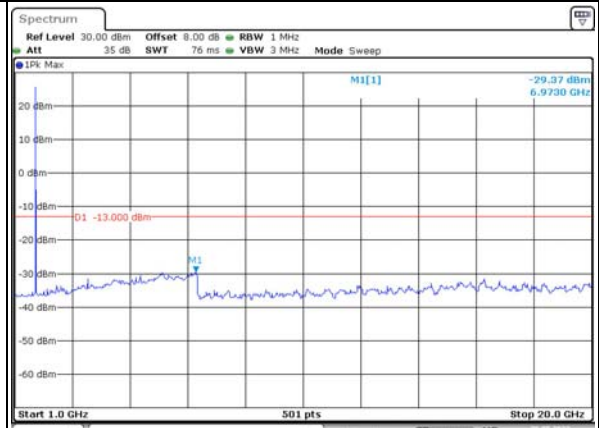
Channel

1.4MHz Bandwidth QPSK

Lowest

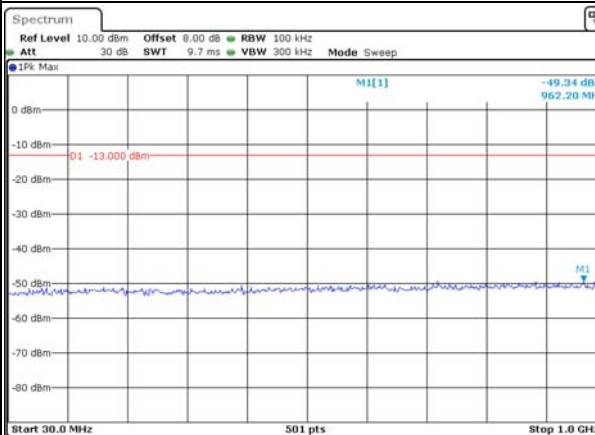


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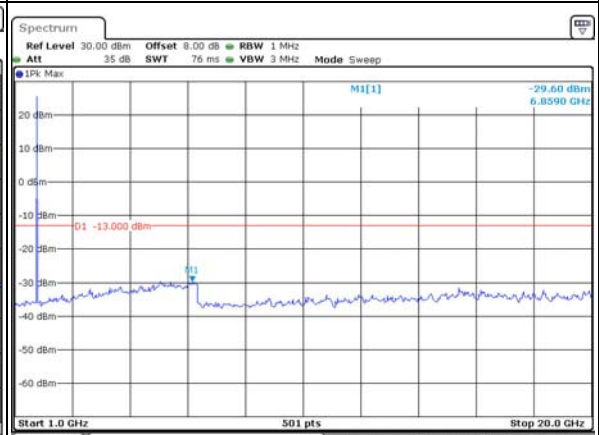


Date: 26.MAY.2023 19:38:53

Middle

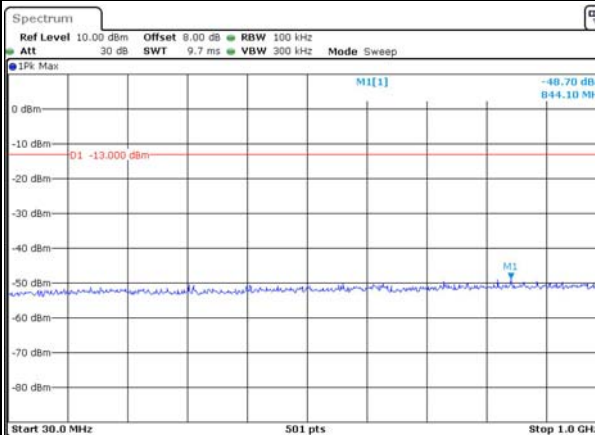


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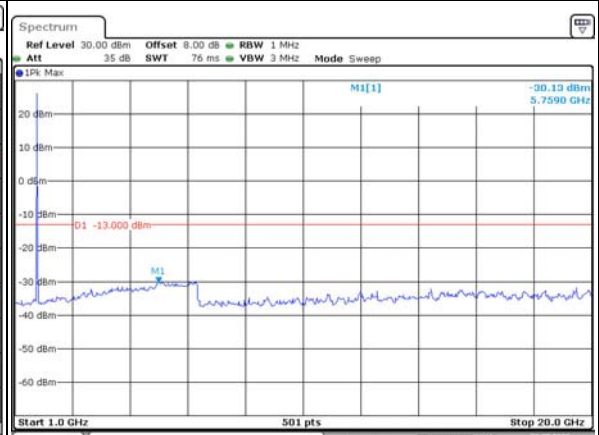


Date: 26.MAY.2023 19:40:06

Highest



Date: 26.MAY.2023 19:40:35



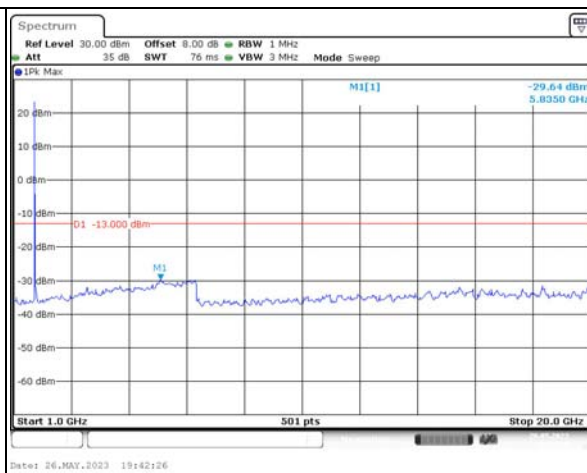
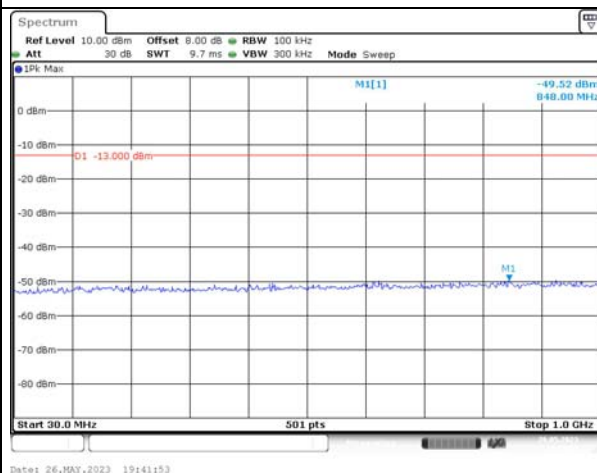
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## Spurious Emissions at Antenna Terminal

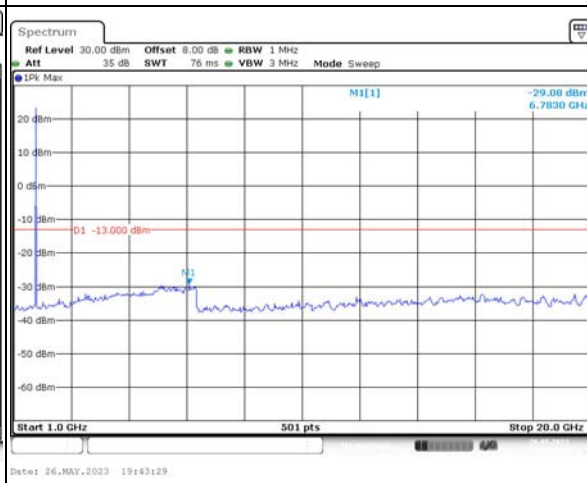
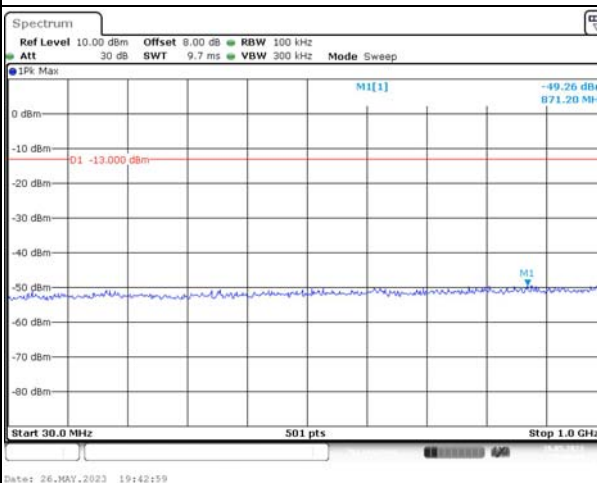
Channel

3MHz Bandwidth QPSK

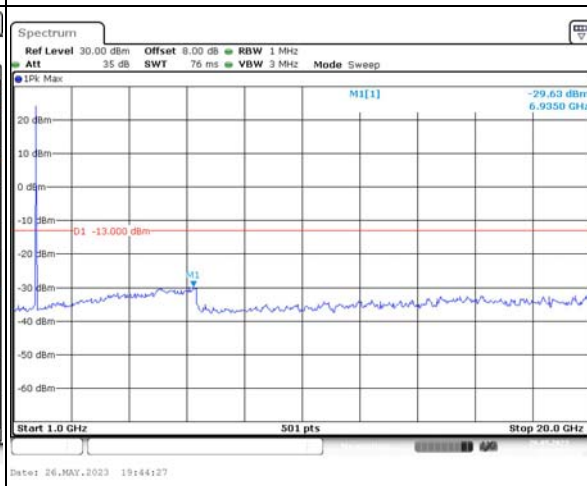
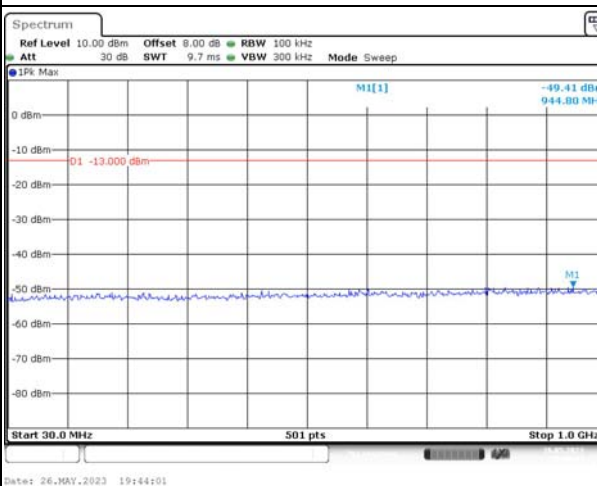
Lowest



Middle



Highest

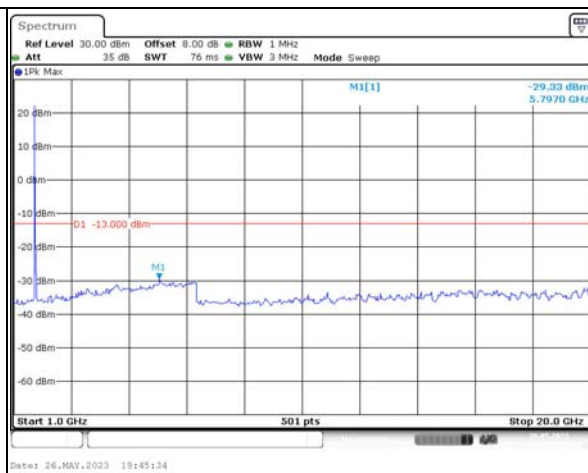
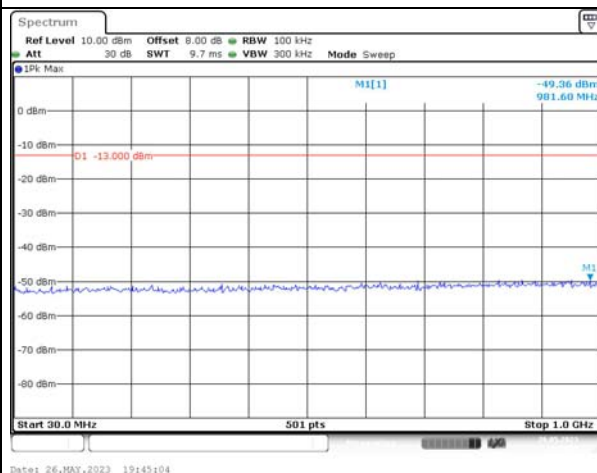


## Spurious Emissions at Antenna Terminal

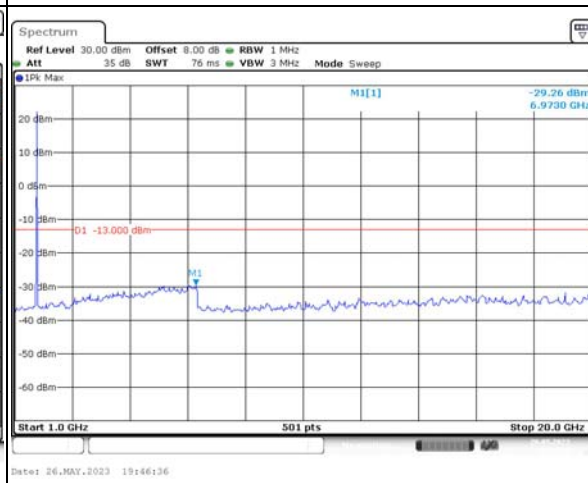
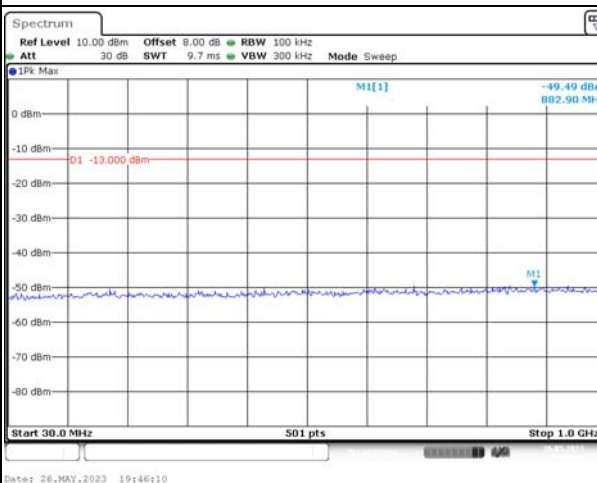
Channel

5MHz Bandwidth QPSK

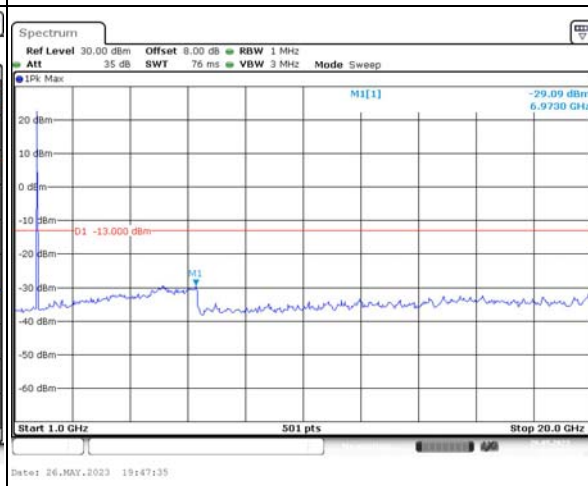
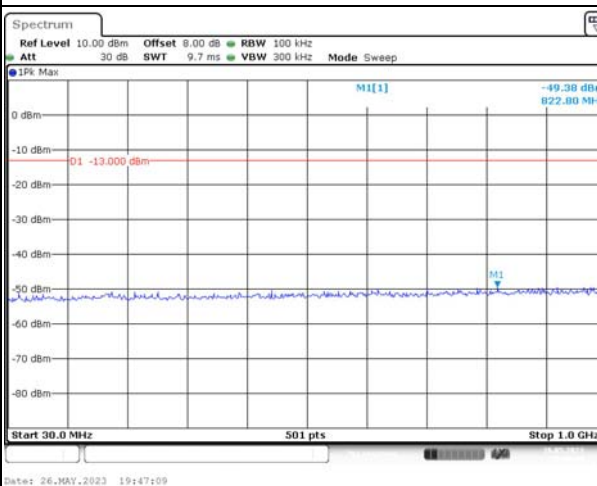
Lowest



Middle



Highest

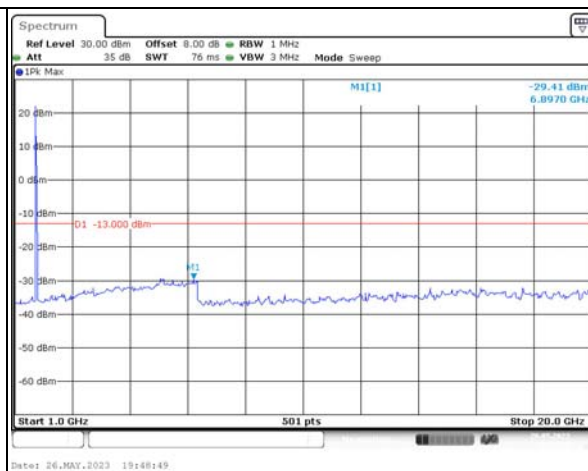
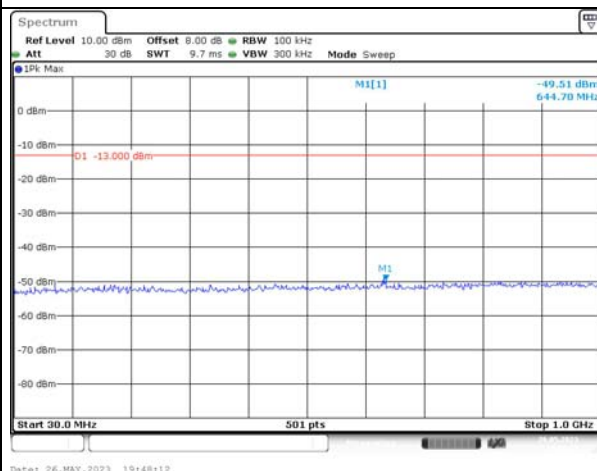


## Spurious Emissions at Antenna Terminal

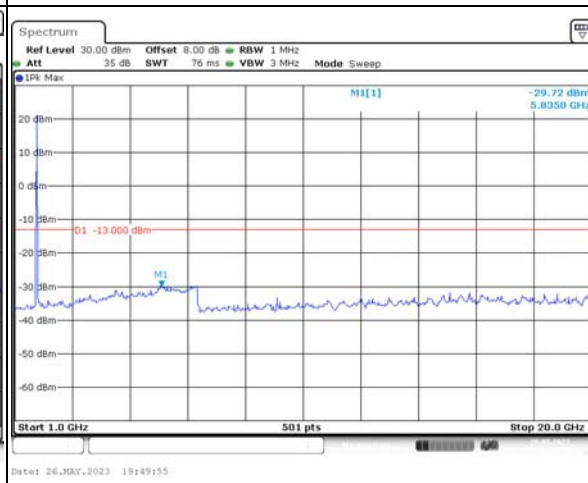
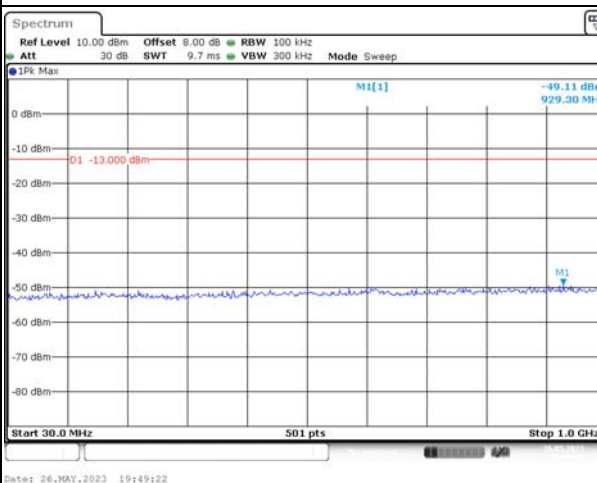
Channel

10MHz Bandwidth QPSK

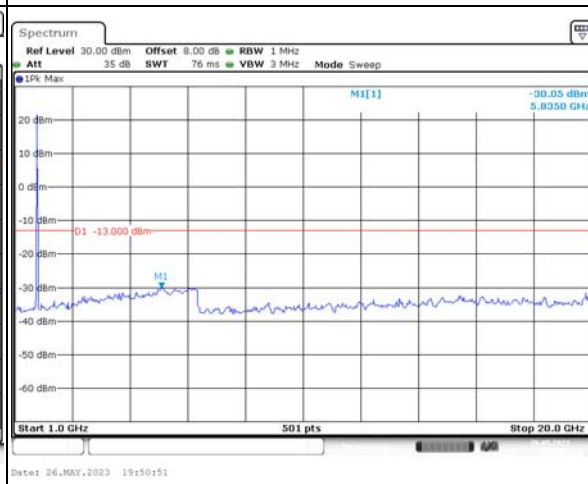
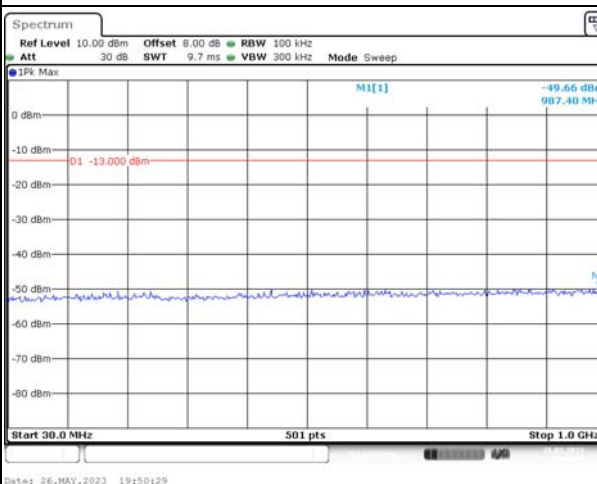
Lowest



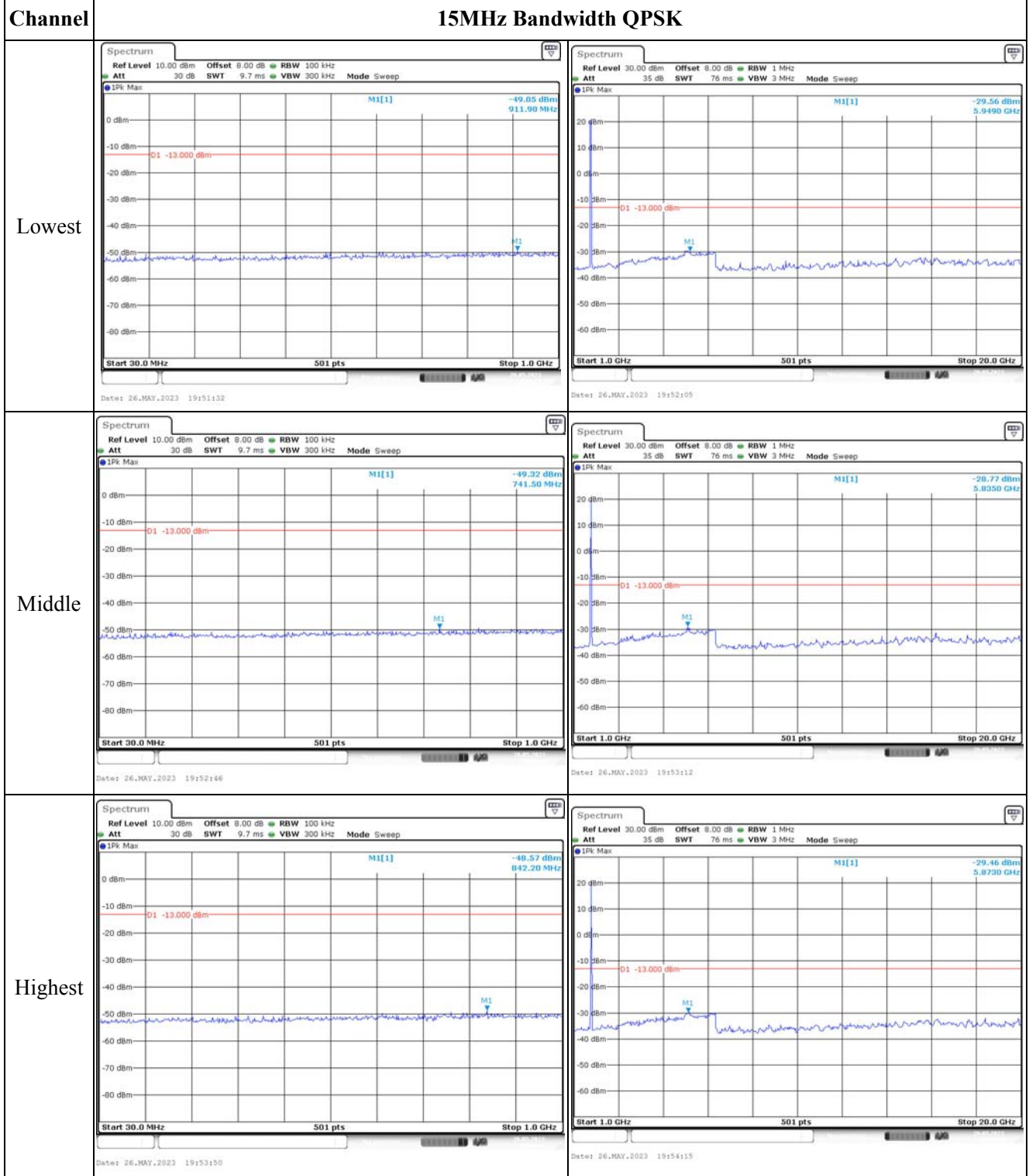
Middle



Highest



## Spurious Emissions at Antenna Terminal

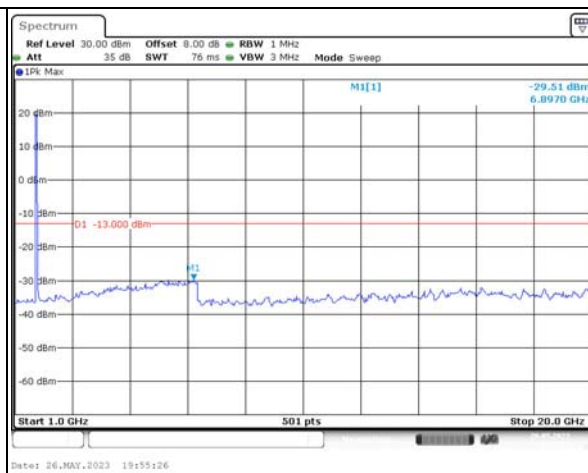
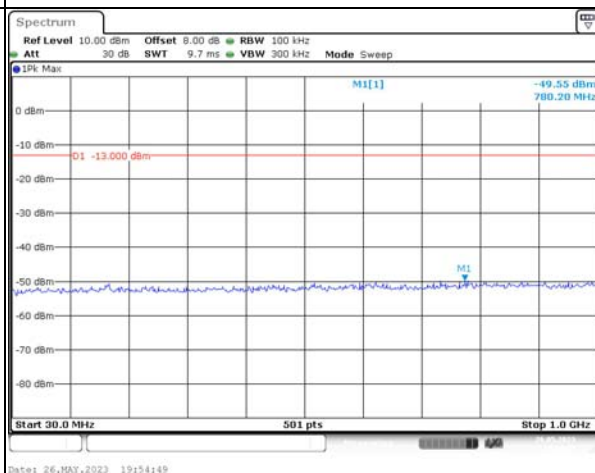


## Spurious Emissions at Antenna Terminal

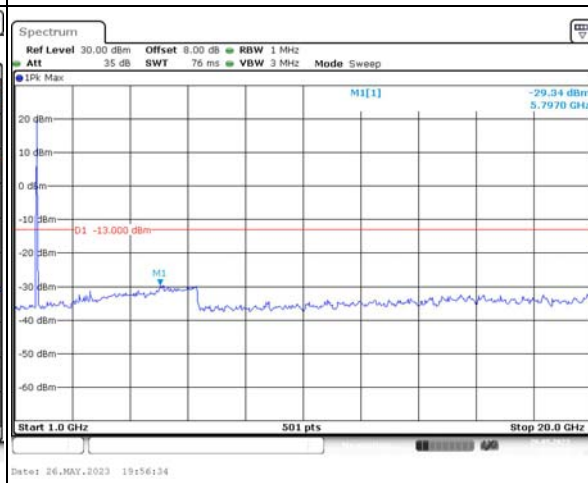
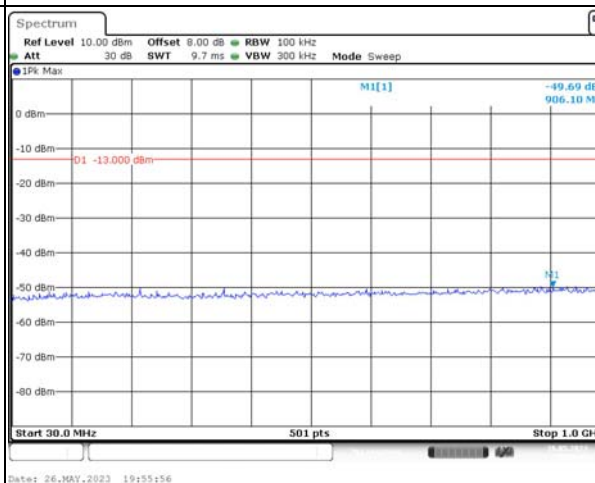
Channel

20MHz Bandwidth QPSK

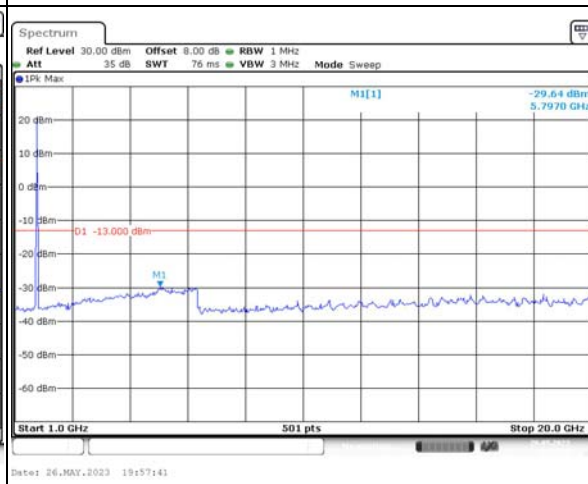
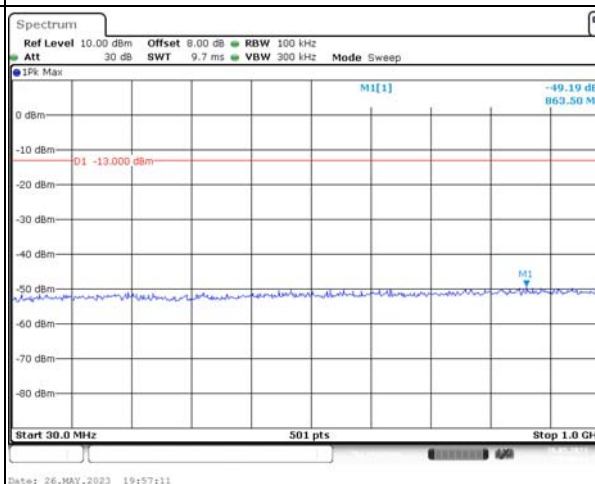
Lowest



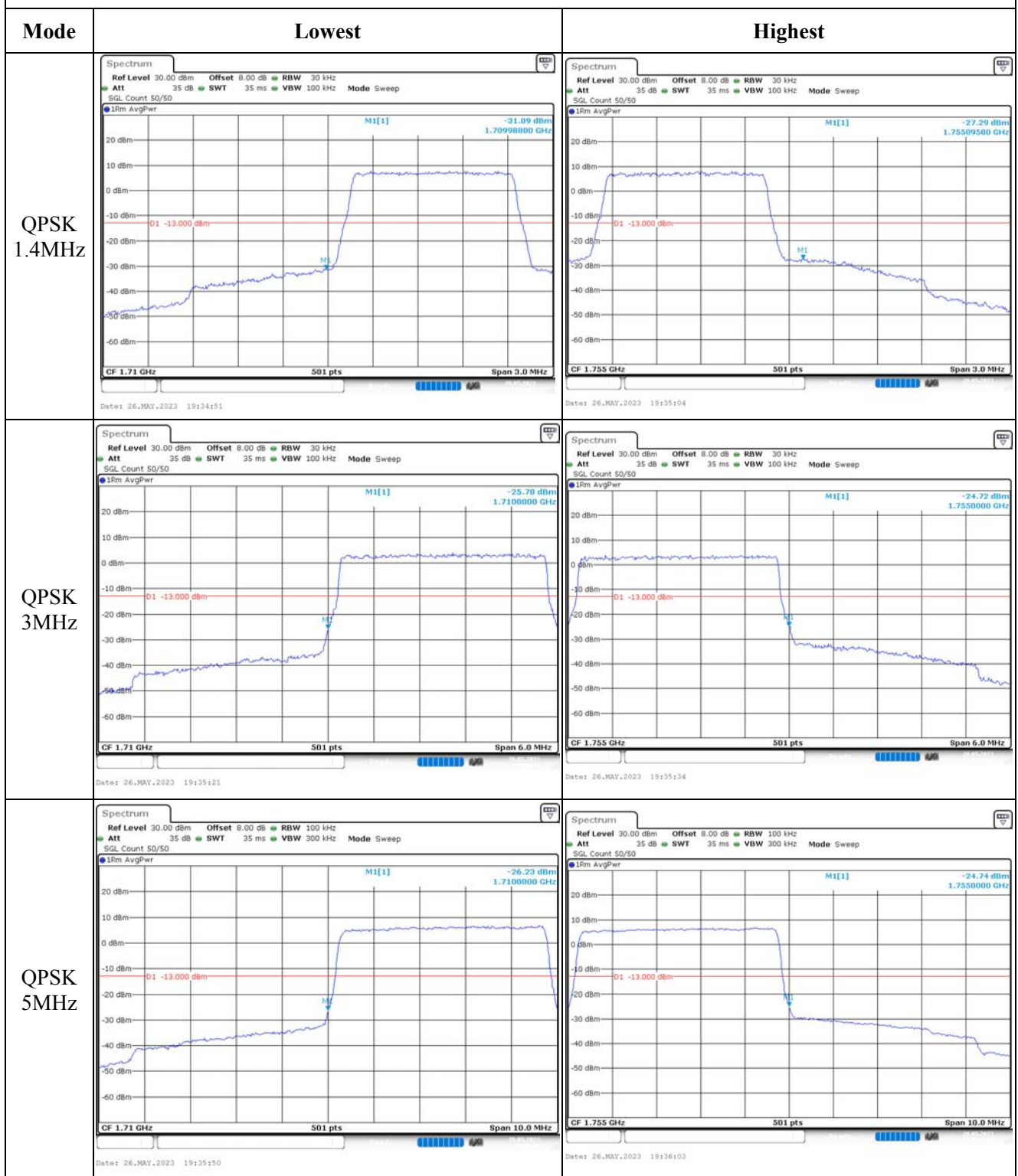
Middle



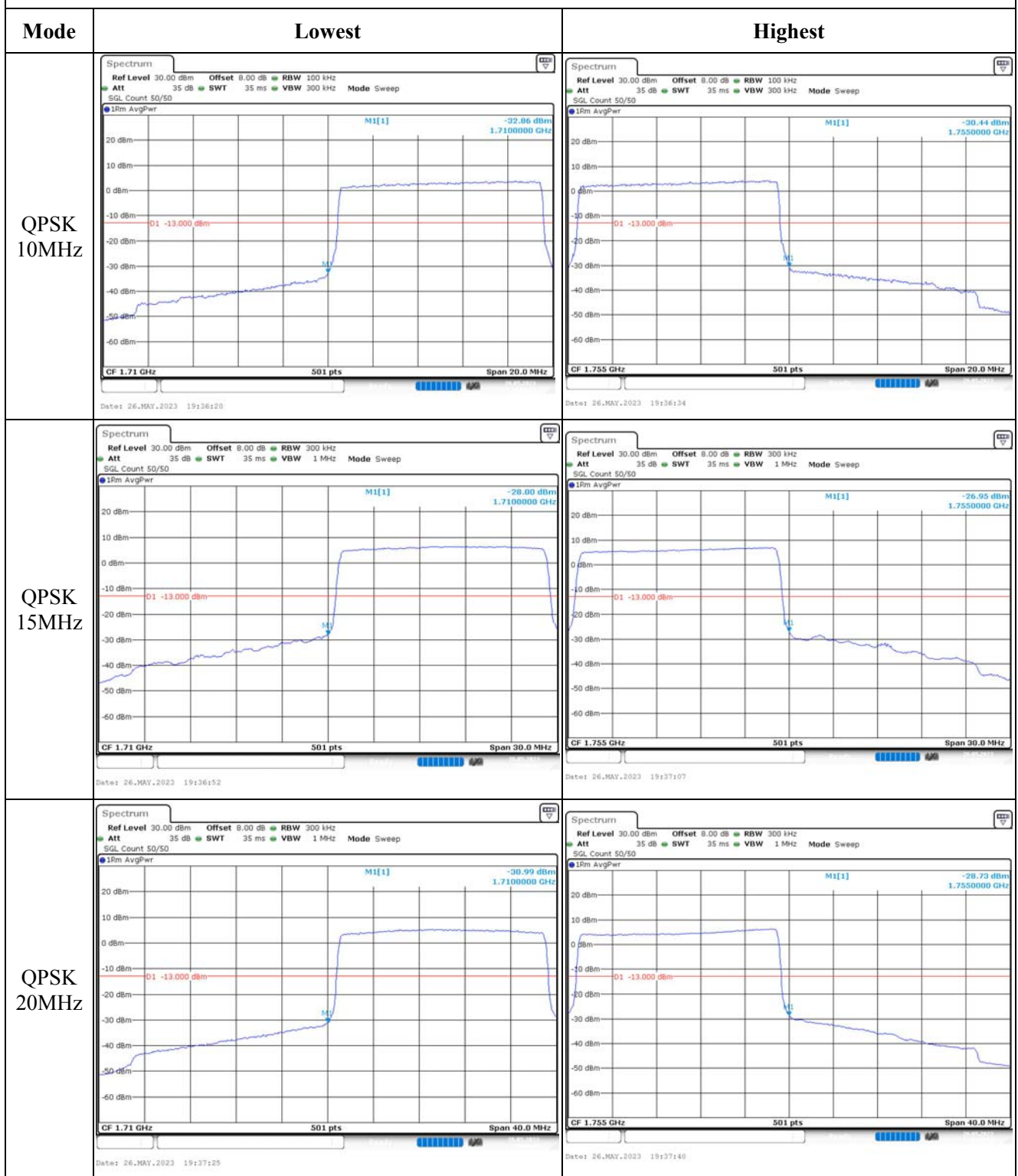
Highest



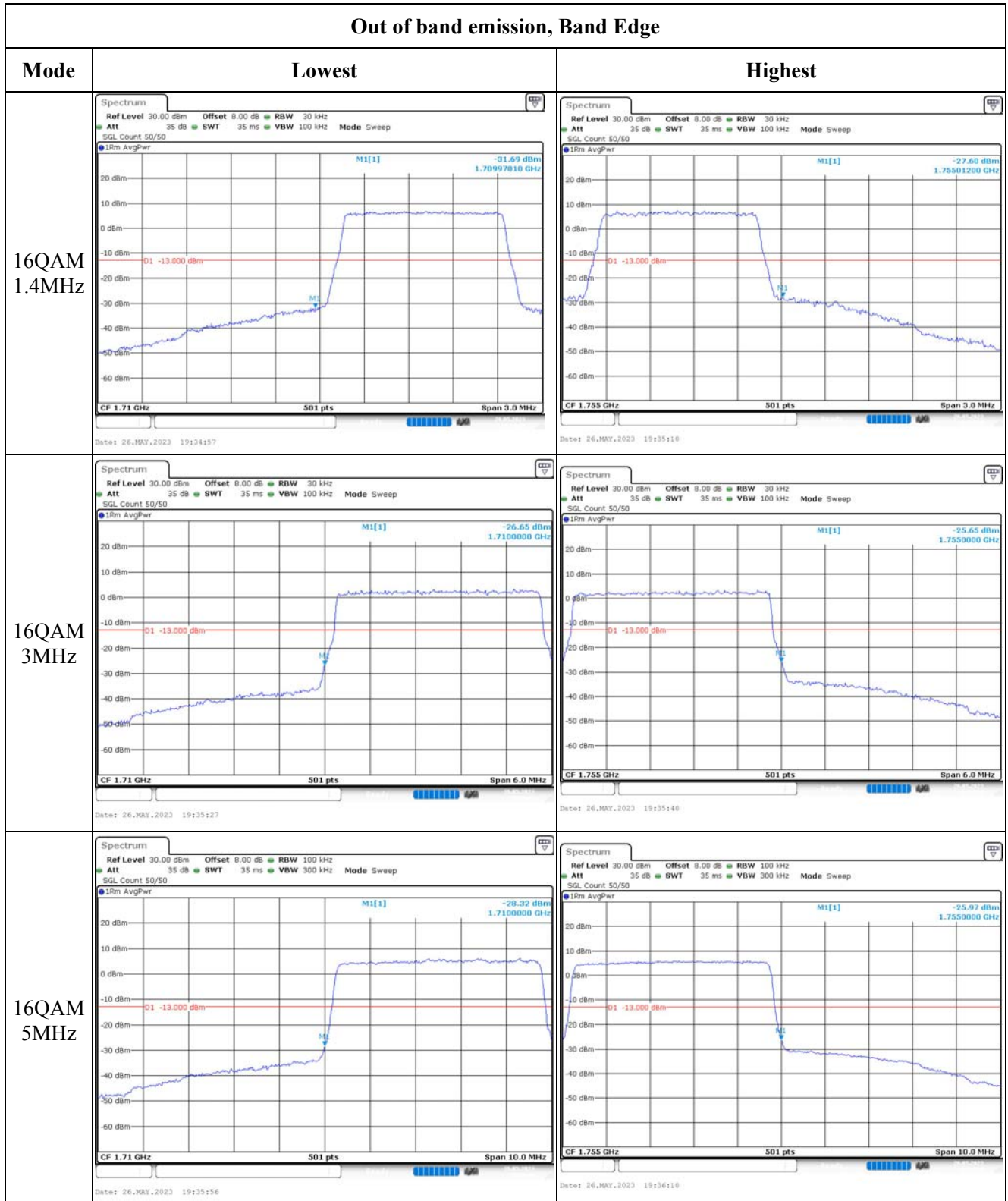
## Out of band emission, Band Edge



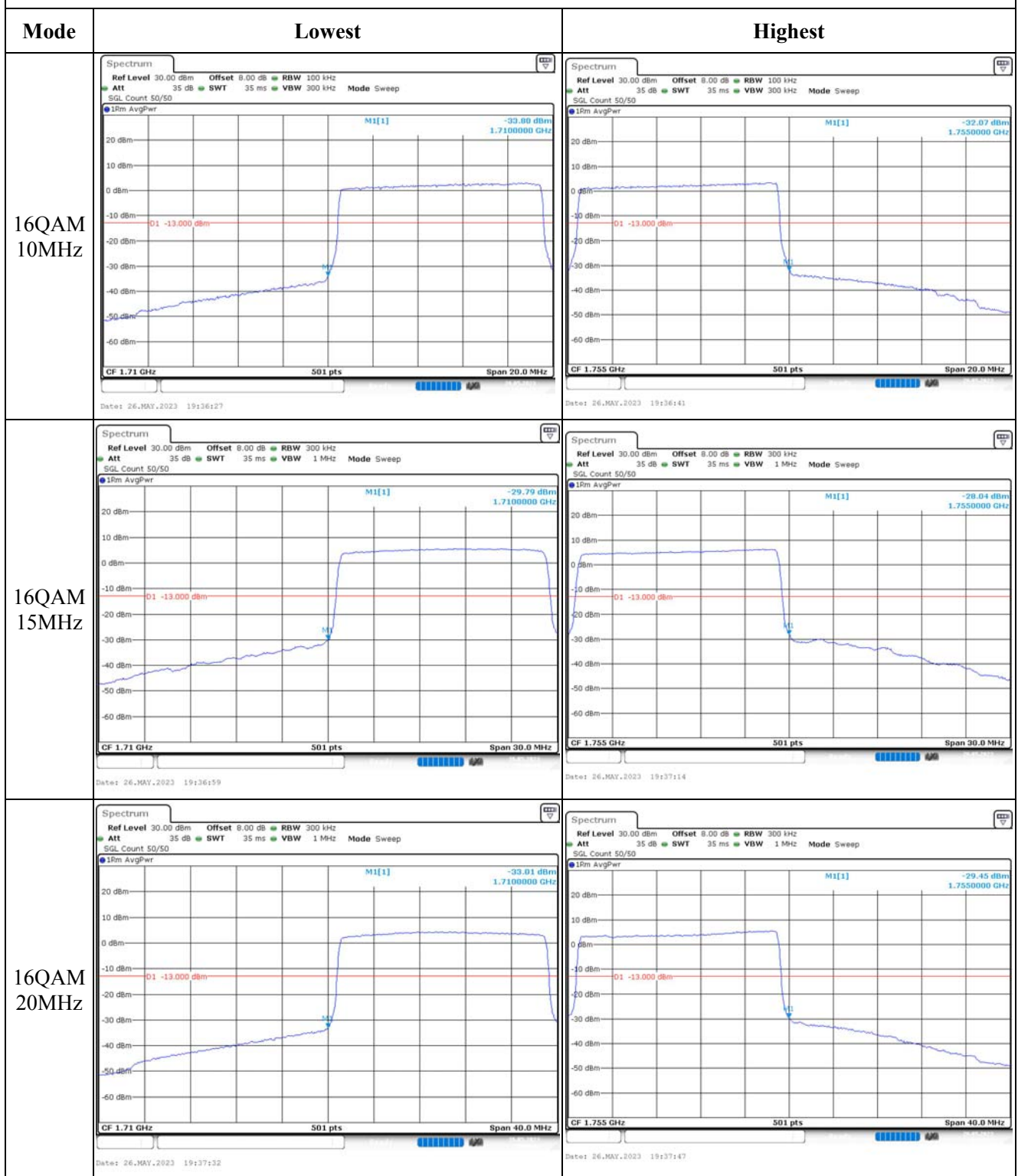
## Out of band emission, Band Edge



## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.7 Antenna Port Test Data and Results for LTE Band 5**

|                |         |              |                     |
|----------------|---------|--------------|---------------------|
| Serial Number: | 253A-1  | Test Date:   | 2023/5/18~2023/5/26 |
| Test Site:     | RF      | Test Mode:   | Transmitting        |
| Tester:        | One Luo | Test Result: | Pass                |

**Environmental Conditions:**

|                      |           |                           |       |                        |             |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 25.3~27.2 | Relative Humidity:<br>(%) | 42~61 | ATM Pressure:<br>(kPa) | 100.5~101.9 |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model         | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|---------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40         | 101474          | 2022-07-15       | 2023-07-14           |
| 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        | 149218          | 2022-07-15       | 2023-07-14           |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40    | 30174           | 2023-03-31       | 2024-03-30           |
| UNI-T         | Multimeter                          | UT39A+        | C210582554      | 2022-09-29       | 2023-09-28           |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D     | 21R6010D0912386 | N/A              | N/A                  |
| eastsheep     | Coaxial Attenuator                  | 2W-SMA-JK-18G | 21060301        | Each time        | 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) |
|---------------------|------------------------|------------------------|-------------------------|
| 1.4MHz              | 824.7                  | 836.5                  | 848.3                   |
| 3MHz                | 825.5                  | 836.5                  | 847.5                   |
| 5MHz                | 826.5                  | 836.5                  | 846.5                   |
| 10MHz               | 829                    | 836.5                  | 844                     |

**Test Data:****FCC§2.1046;§ 22.913 (a)****RF Output Power:**

| Test Bandwidth & Modulation | Resource Block & RB offset | Conducted Average Output Power(dBm) |                |                 | Maximum ERP (dBm) | ERP Limit (dBm) |
|-----------------------------|----------------------------|-------------------------------------|----------------|-----------------|-------------------|-----------------|
|                             |                            | Lowest Channel                      | Middle Channel | Highest Channel |                   |                 |
| 1.4MHz QPSK                 | RB1#0                      | 23.28                               | 23             | 23.13           | 20                | 38.45           |
|                             | RB1#3                      | 23.23                               | 22.93          | 23.22           |                   |                 |
|                             | RB1#5                      | 23.21                               | 22.99          | 23.18           |                   |                 |
|                             | RB3#0                      | 23.23                               | 23.13          | 23.17           |                   |                 |
|                             | RB3#3                      | 23.33                               | 23.19          | 23.11           |                   |                 |
|                             | RB6#0                      | 22.4                                | 22.17          | 22.15           |                   |                 |
| 1.4MHz 16QAM                | RB1#0                      | 22.93                               | 21.65          | 22.54           | 19.62             | 38.45           |
|                             | RB1#3                      | 22.95                               | 21.79          | 22.55           |                   |                 |
|                             | RB1#5                      | 22.89                               | 21.78          | 22.6            |                   |                 |
|                             | RB3#0                      | 22.19                               | 22.29          | 21.92           |                   |                 |
|                             | RB3#3                      | 22.17                               | 22.25          | 22.01           |                   |                 |
|                             | RB6#0                      | 21.82                               | 21.32          | 21.15           |                   |                 |
| 3MHz QPSK                   | RB1#0                      | 23.22                               | 23.13          | 23.08           | 20.04             | 38.45           |
|                             | RB1#8                      | 23.21                               | 22.99          | 23.05           |                   |                 |
|                             | RB1#14                     | 23.37                               | 22.98          | 23.15           |                   |                 |
|                             | RB6#0                      | 22.38                               | 22.13          | 22.1            |                   |                 |
|                             | RB6#9                      | 22.35                               | 22.24          | 22.11           |                   |                 |
|                             | RB15#0                     | 22.23                               | 22.21          | 22.08           |                   |                 |
| 3MHz 16QAM                  | RB1#0                      | 22.98                               | 21.68          | 22.26           | 19.65             | 38.45           |
|                             | RB1#8                      | 22.92                               | 21.72          | 22.31           |                   |                 |
|                             | RB1#14                     | 22.91                               | 21.76          | 22.34           |                   |                 |
|                             | RB6#0                      | 21.75                               | 21.78          | 21.48           |                   |                 |
|                             | RB6#9                      | 21.32                               | 21.34          | 21.02           |                   |                 |
|                             | RB15#0                     | 21.79                               | 21.18          | 21.52           |                   |                 |
| 5MHz QPSK                   | RB1#0                      | 23.23                               | 23.11          | 23.12           | 20.12             | 38.45           |
|                             | RB1#13                     | 23.45                               | 22.98          | 23.06           |                   |                 |
|                             | RB1#24                     | 23.16                               | 23.07          | 23.07           |                   |                 |
|                             | RB15#0                     | 22.19                               | 22.14          | 22.02           |                   |                 |
|                             | RB15#10                    | 22.24                               | 22.22          | 22.14           |                   |                 |
|                             | RB25#0                     | 22.33                               | 22.15          | 22.08           |                   |                 |
| 5MHz 16QAM                  | RB1#0                      | 22.35                               | 21.7           | 21.16           | 19.04             | 38.45           |
|                             | RB1#13                     | 22.36                               | 21.83          | 21.17           |                   |                 |
|                             | RB1#24                     | 22.37                               | 21.75          | 21.16           |                   |                 |
|                             | RB15#0                     | 21.63                               | 21.66          | 21.25           |                   |                 |
|                             | RB15#10                    | 21.15                               | 21.16          | 21.56           |                   |                 |
|                             | RB25#0                     | 21.23                               | 21.08          | 21.67           |                   |                 |
| 10MHz QPSK                  | RB1#0                      | 23.31                               | 23.19          | 23.04           | 19.99             | 38.45           |
|                             | RB1#25                     | 23.32                               | 23.05          | 23              |                   |                 |
|                             | RB1#49                     | 23.3                                | 23.22          | 23.07           |                   |                 |

|                                                                               |         |       |       |       |                |             |
|-------------------------------------------------------------------------------|---------|-------|-------|-------|----------------|-------------|
| 10MHz 16QAM                                                                   | RB25#0  | 22.29 | 22.17 | 22    | 19.08          | 38.45       |
|                                                                               | RB25#25 | 22.26 | 22.09 | 22.03 |                |             |
|                                                                               | RB50#0  | 22.33 | 22.21 | 22.1  |                |             |
|                                                                               | RB1#0   | 22.37 | 21.74 | 22.16 |                |             |
|                                                                               | RB1#25  | 22.41 | 21.67 | 22.23 |                |             |
|                                                                               | RB1#49  | 22.37 | 21.7  | 22.28 |                |             |
|                                                                               | RB25#0  | 21.34 | 21.8  | 21.55 |                |             |
|                                                                               | RB25#25 | 21.33 | 21.79 | 21.52 |                |             |
|                                                                               | RB50#0  | 21.36 | 21.21 | 21.52 |                |             |
| Note:<br>ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)<br>Gr(dBd)=Gr(dBi)-2.15 |         |       |       |       |                |             |
|                                                                               |         |       |       |       | <b>Result:</b> | <b>Pass</b> |

| 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 |            |
| 10MHz QPSK                  | RB1#0                      | 5.16                      | 5.68           | 5.3             | 13         |
|                             | RB50#0                     | 5.48                      | 5.45           | 5.25            | 13         |
| 10MHz 16QAM                 | RB1#0                      | 6.12                      | 6.64           | 6.03            | 13         |
|                             | RB50#0                     | 6.32                      | 6.38           | 6.14            | 13         |
|                             |                            |                           |                | Result:         | Pass       |

| FCC §2.1049, §22.905: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                        | 1.102          | 1.096        | 1.26                           | 1.26           | 1.26         |
| 1.4MHz 16QAM                                                         | 1.102                        | 1.09           | 1.102        | 1.254                          | 1.254          | 1.26         |
| 3MHz QPSK                                                            | 2.695                        | 2.695          | 2.695        | 3                              | 3.012          | 2.988        |
| 3MHz 16QAM                                                           | 2.683                        | 2.683          | 2.695        | 3                              | 3.024          | 3            |
| 5MHz QPSK                                                            | 4.511                        | 4.491          | 4.511        | 5                              | 4.98           | 5            |
| 5MHz 16QAM                                                           | 4.531                        | 4.531          | 4.491        | 5                              | 5.02           | 5            |
| 10MHz QPSK                                                           | 8.942                        | 8.942          | 8.942        | 9.76                           | 9.8            | 9.72         |
| 10MHz 16QAM                                                          | 8.942                        | 8.942          | 8.942        | 9.8                            | 9.84           | 9.72         |
| Note: The test plots please refer to the Plots of Occupied Bandwidth |                              |                |              |                                |                |              |

| FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal |                                                                                        |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Result:</b>                                                 | <b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b> |

| FCC §2.1051, §22.917(a):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> |

| <b>FCC §2.1055, §22.355: Frequency Stability</b> |                  |                            |                 |                |             |
|--------------------------------------------------|------------------|----------------------------|-----------------|----------------|-------------|
| Test Modulation:                                 | 10 MHz QPSK      |                            | Test Channel:   | 836.5          | MHz         |
| Test Item                                        | Temperature (°C) | Voltage (V <sub>DC</sub> ) | Frequency Error |                | Limit       |
|                                                  |                  |                            | (Hz)            | (ppm)          | (ppm)       |
| Frequency Stability vs. Temperature              | -30              | 3.7                        | -22.86          | -0.027         | 2.5         |
|                                                  | -20              | 3.7                        | -6.97           | -0.008         | 2.5         |
|                                                  | -10              | 3.7                        | -5.5            | -0.007         | 2.5         |
|                                                  | 0                | 3.7                        | 6.06            | 0.007          | 2.5         |
|                                                  | 10               | 3.7                        | 9.8             | 0.012          | 2.5         |
|                                                  | 20               | 3.7                        | 5.03            | 0.006          | 2.5         |
|                                                  | 30               | 3.7                        | -6.62           | -0.008         | 2.5         |
|                                                  | 40               | 3.7                        | -8.73           | -0.010         | 2.5         |
|                                                  | 50               | 3.7                        | -7.05           | -0.008         | 2.5         |
| Frequency Stability vs. Voltage                  | 20               | 3.6                        | 8.99            | 0.011          | 2.5         |
|                                                  | 20               | 4.35                       | -7.17           | -0.009         | 2.5         |
|                                                  |                  |                            |                 | <b>Result:</b> | <b>Pass</b> |

| Test Modulation:                    | 10 MHz 16QAM     |                            | Test Channel:   | 836.5          | MHz         |
|-------------------------------------|------------------|----------------------------|-----------------|----------------|-------------|
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> ) | Frequency Error |                | Limit       |
|                                     |                  |                            | (Hz)            | (ppm)          | (ppm)       |
| Frequency Stability vs. Temperature | -30              | 3.7                        | -34.68          | -0.041         | 2.5         |
|                                     | -20              | 3.7                        | 8.1             | 0.010          | 2.5         |
|                                     | -10              | 3.7                        | -8.59           | -0.010         | 2.5         |
|                                     | 0                | 3.7                        | 9.33            | 0.011          | 2.5         |
|                                     | 10               | 3.7                        | -6.94           | -0.008         | 2.5         |
|                                     | 20               | 3.7                        | 7.54            | 0.009          | 2.5         |
|                                     | 30               | 3.7                        | 6.43            | 0.008          | 2.5         |
|                                     | 40               | 3.7                        | -6.17           | -0.007         | 2.5         |
|                                     | 50               | 3.7                        | -6.44           | -0.008         | 2.5         |
| Frequency Stability vs. Voltage     | 20               | 3.6                        | 6.34            | 0.008          | 2.5         |
|                                     | 20               | 4.35                       | -6.89           | -0.008         | 2.5         |
|                                     |                  |                            |                 | <b>Result:</b> | <b>Pass</b> |

**Test Plots**(Note: The 8dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

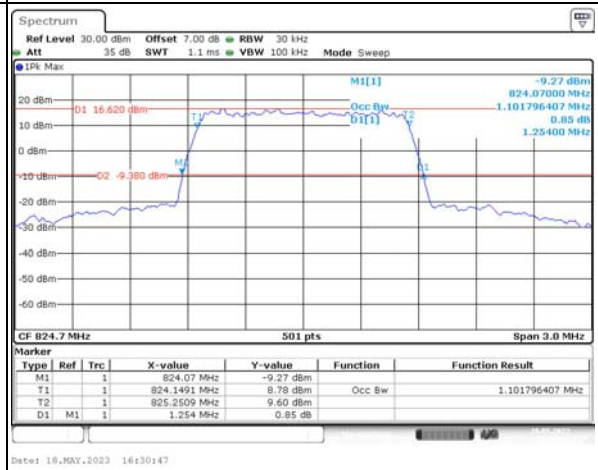
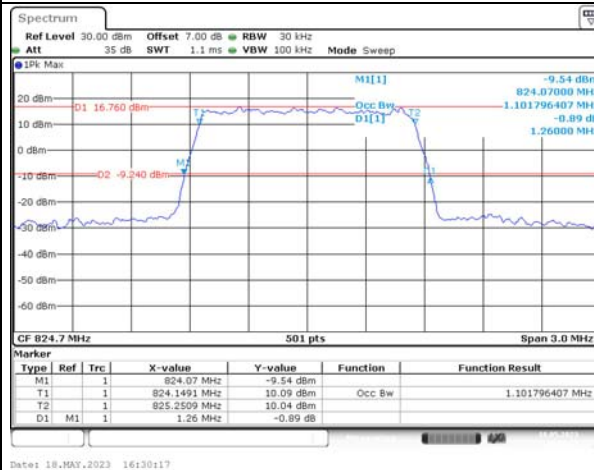
### Occupied Bandwidth

#### Channel

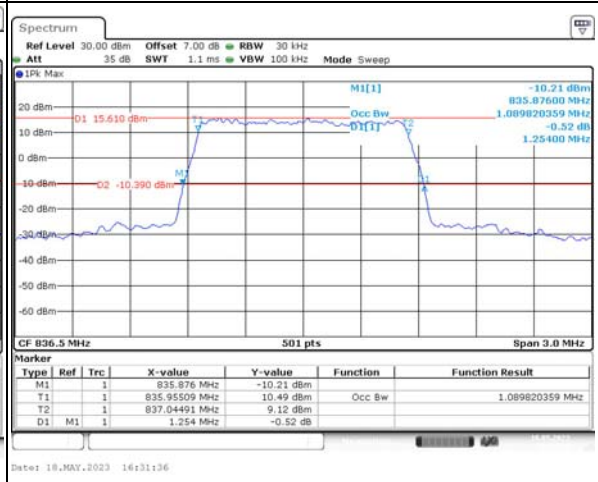
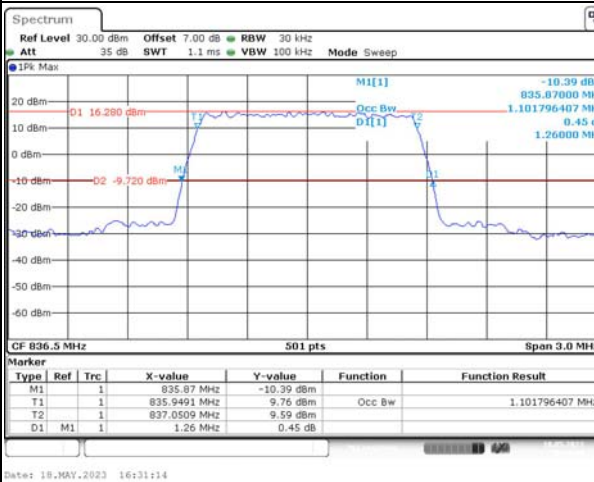
1.4MHz Bandwidth QPSK

1.4MHz Bandwidth 16QAM

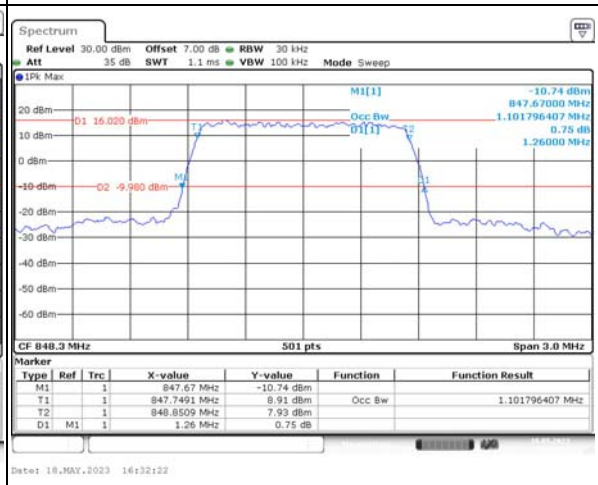
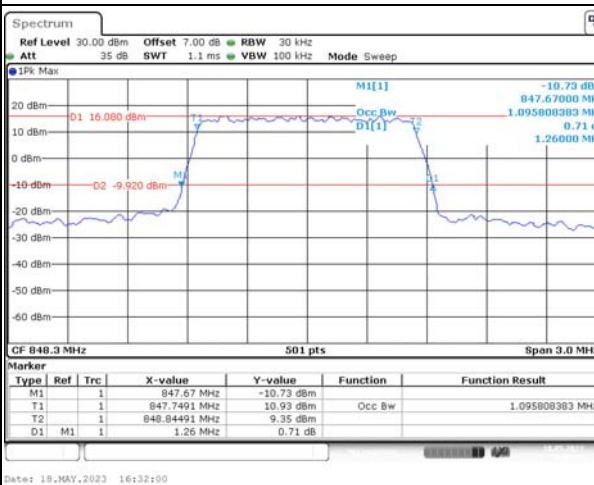
Lowest



Middle



Highest



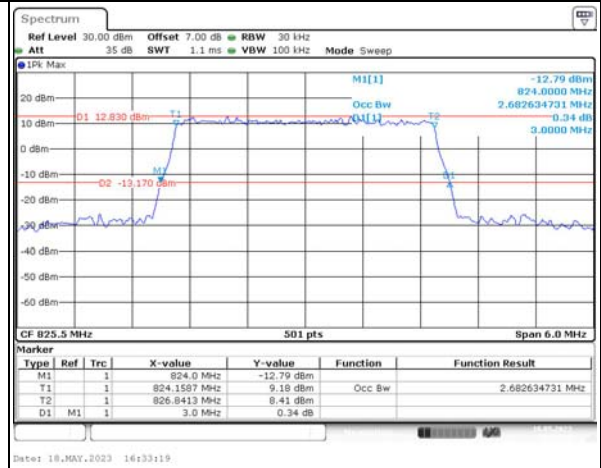
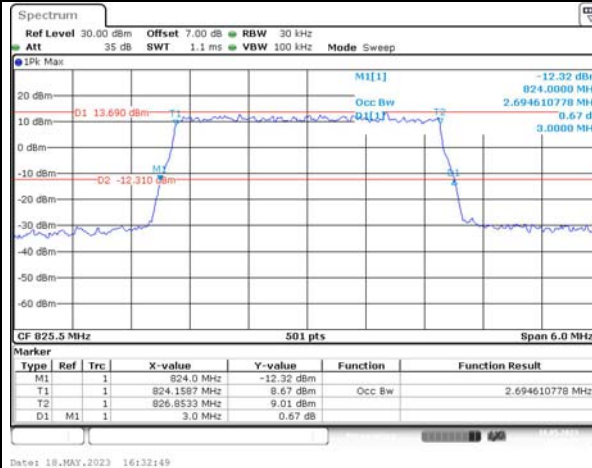
## Occupied Bandwidth

## Channel

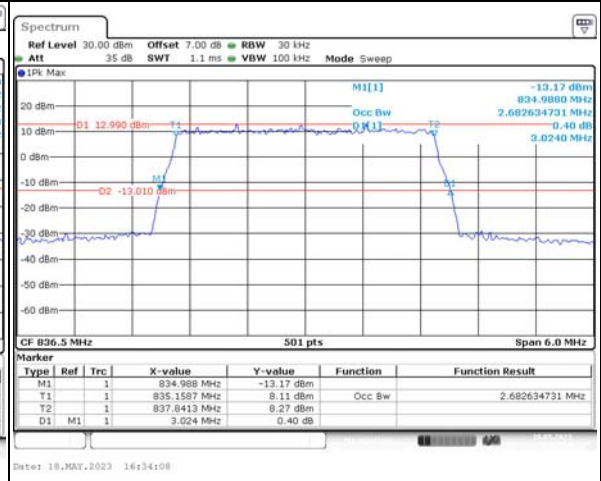
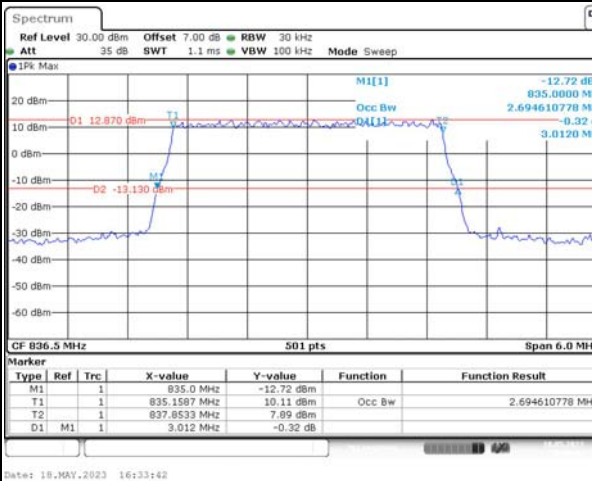
## 3MHz Bandwidth QPSK

## 3MHz Bandwidth 16QAM

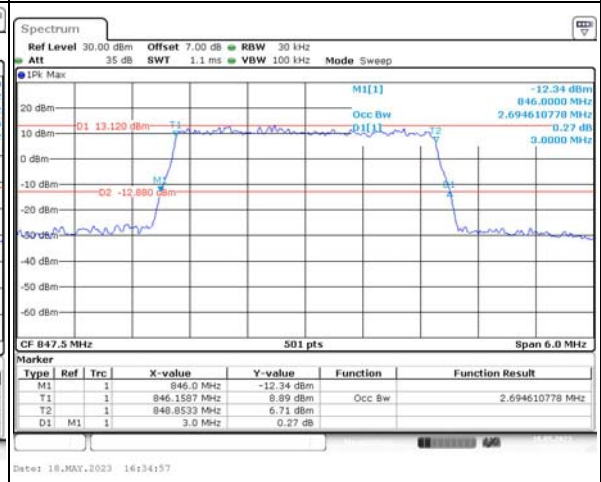
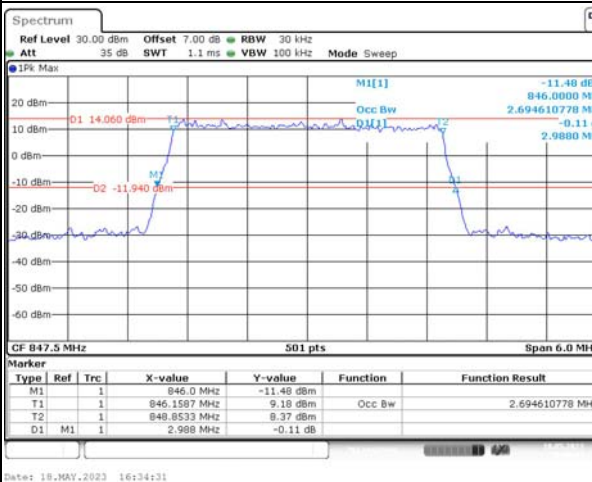
Lowest



Middle



Highest



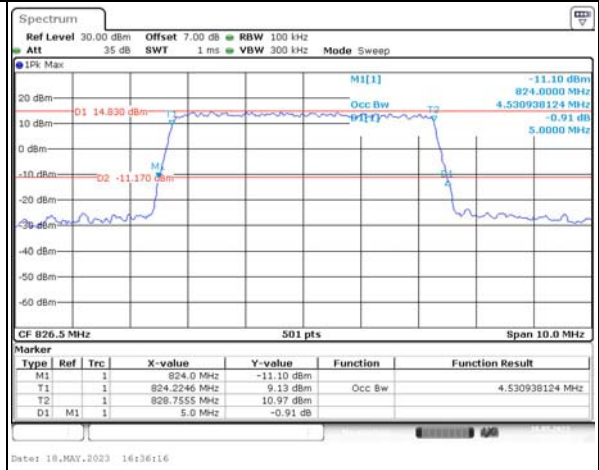
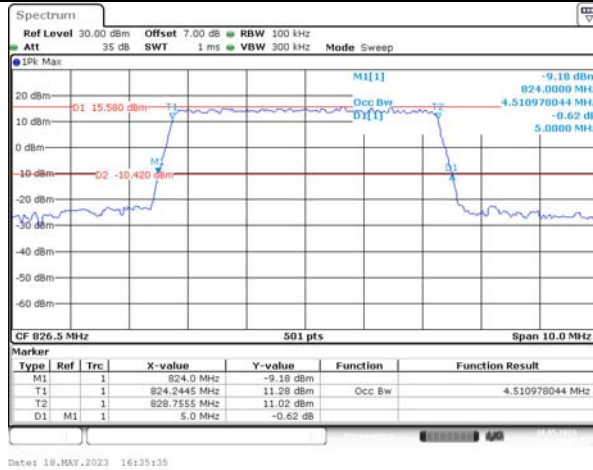
## Occupied Bandwidth

## Channel

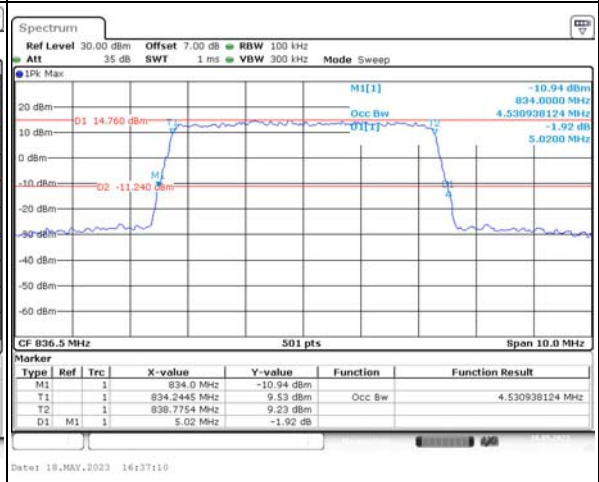
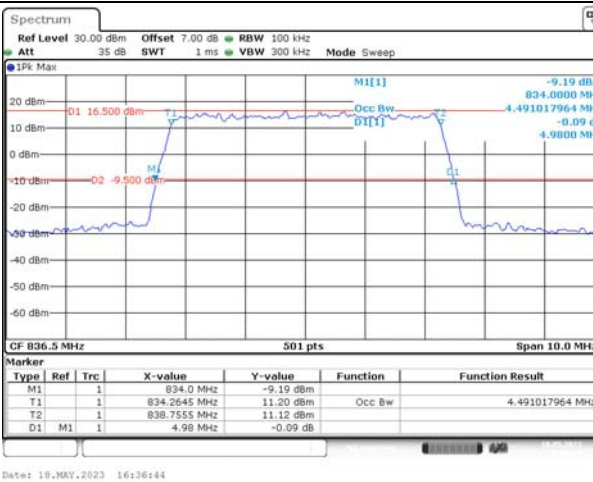
## 5MHz Bandwidth QPSK

## 5MHz Bandwidth 16QAM

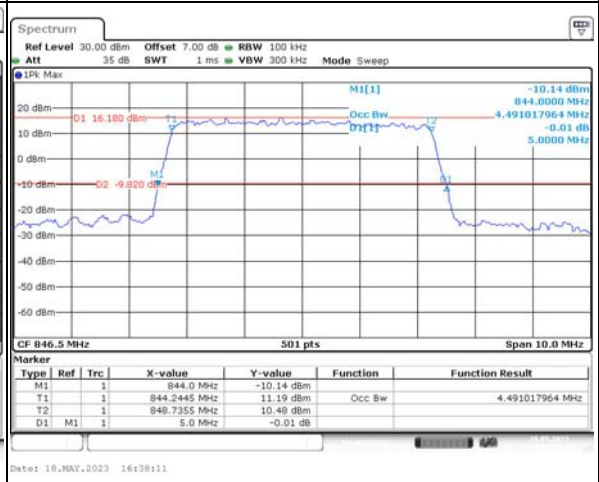
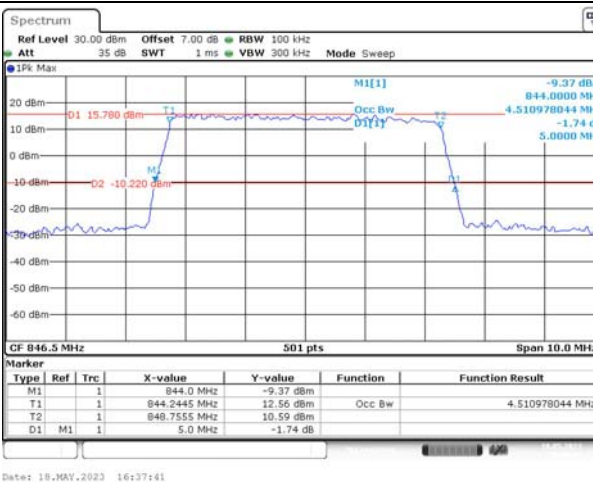
## Lowest



## Middle



## Highest



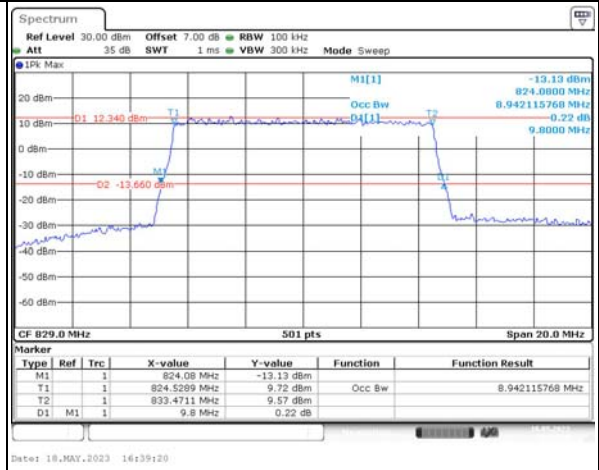
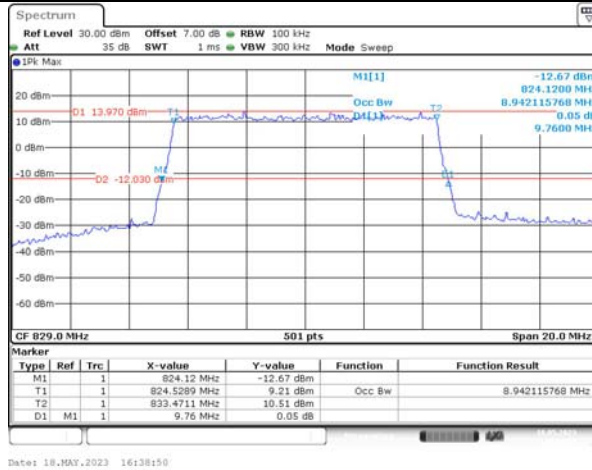
## Occupied Bandwidth

## Channel

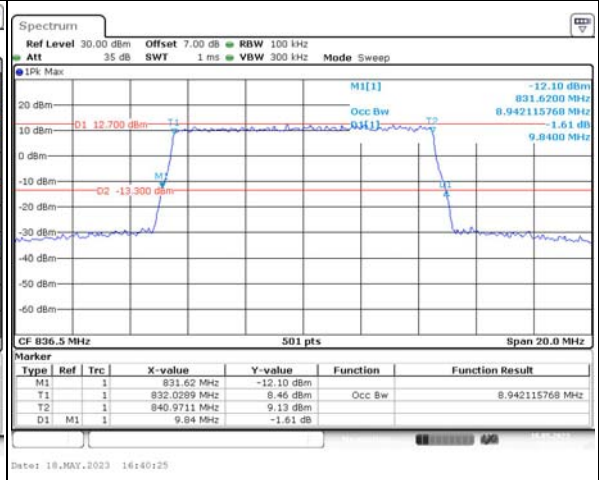
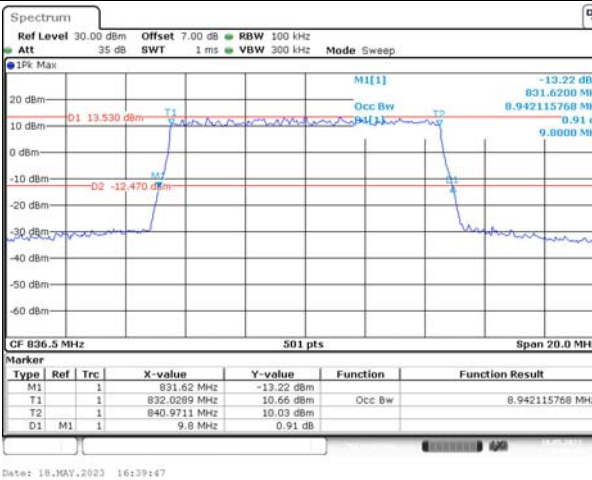
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

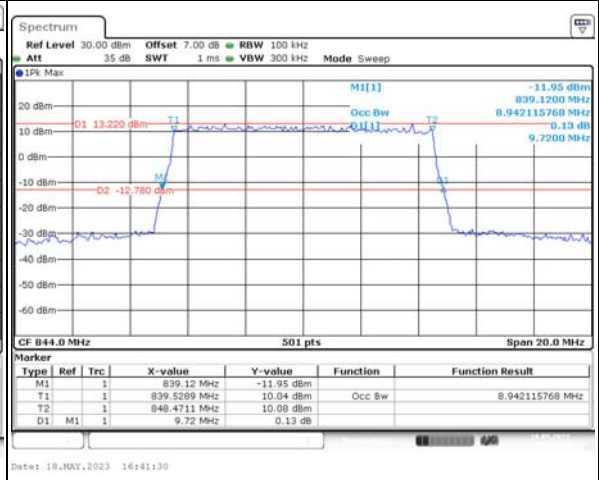
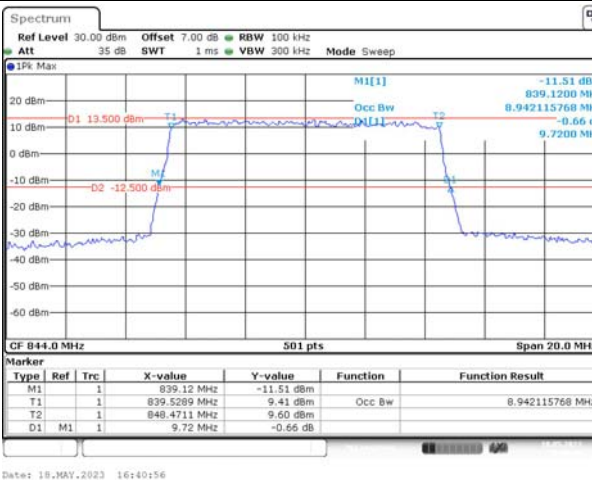
Lowest



Middle



Highest

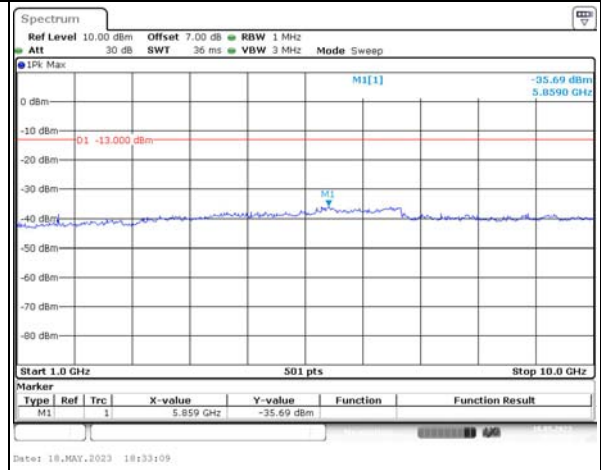
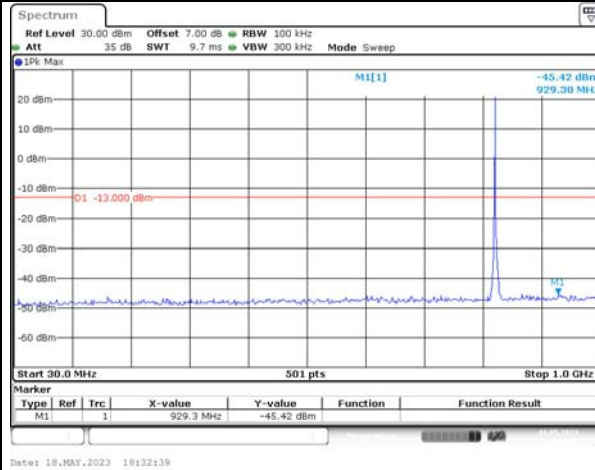


## Spurious Emissions at Antenna Terminal

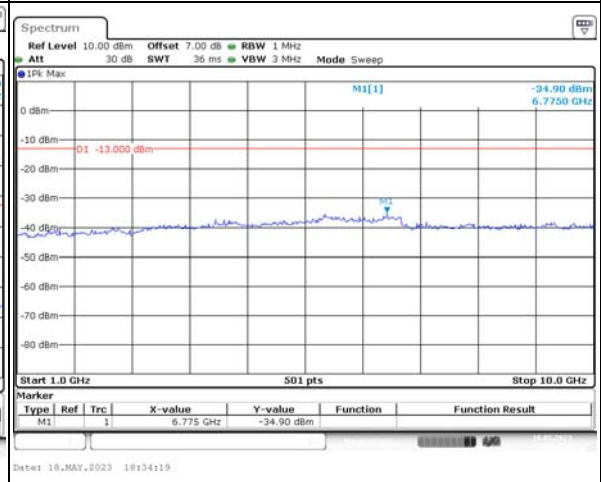
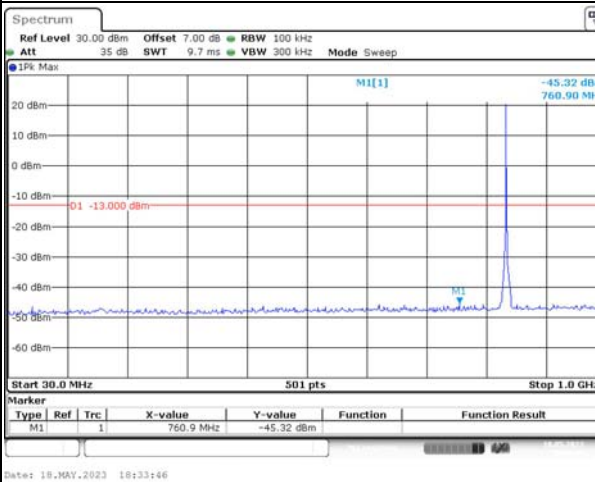
Channel

1.4MHz Bandwidth QPSK

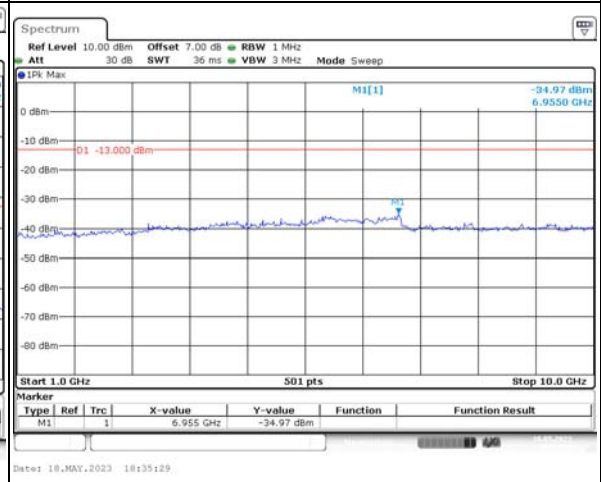
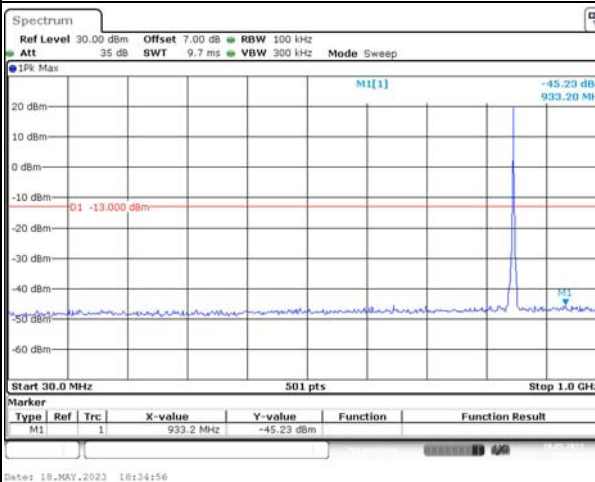
Lowest



Middle



Highest

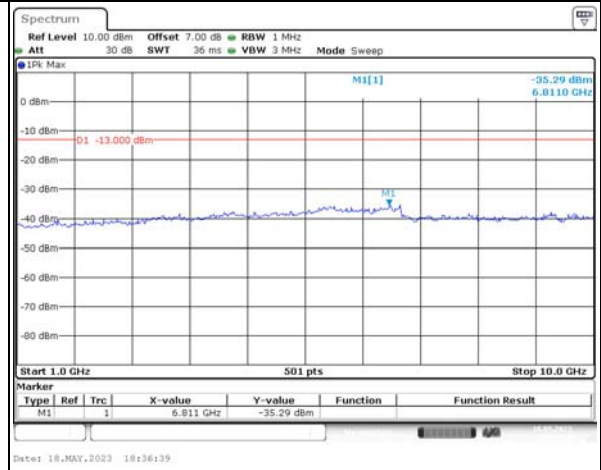
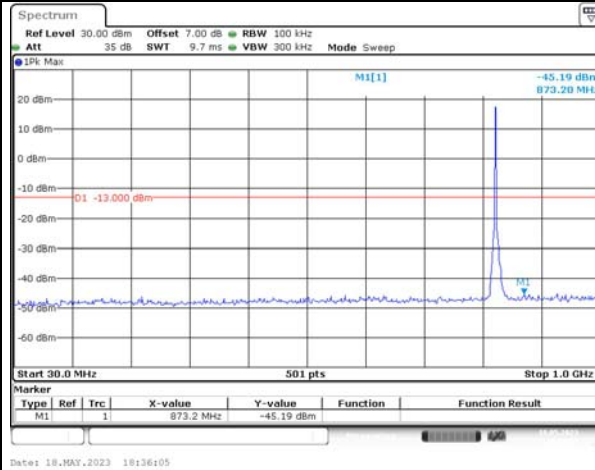


## Spurious Emissions at Antenna Terminal

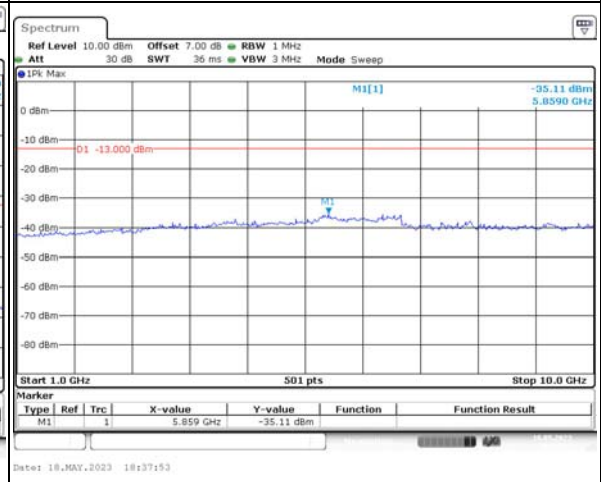
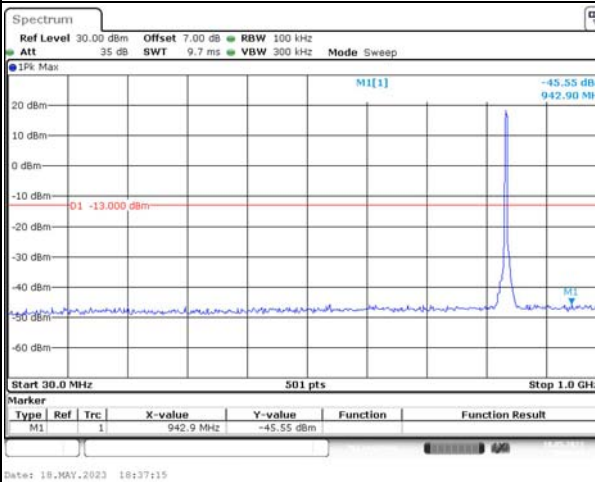
Channel

3MHz Bandwidth QPSK

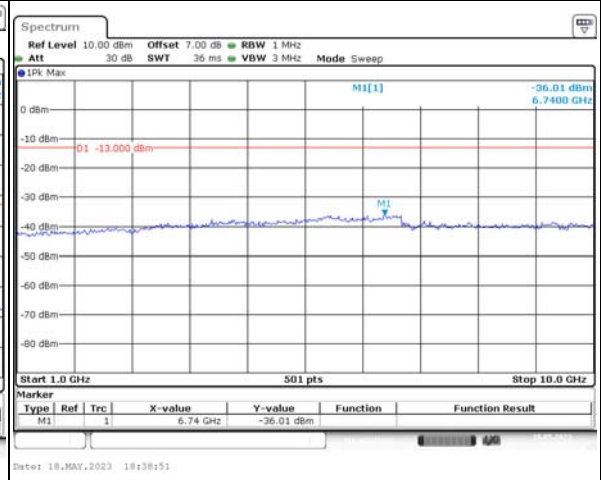
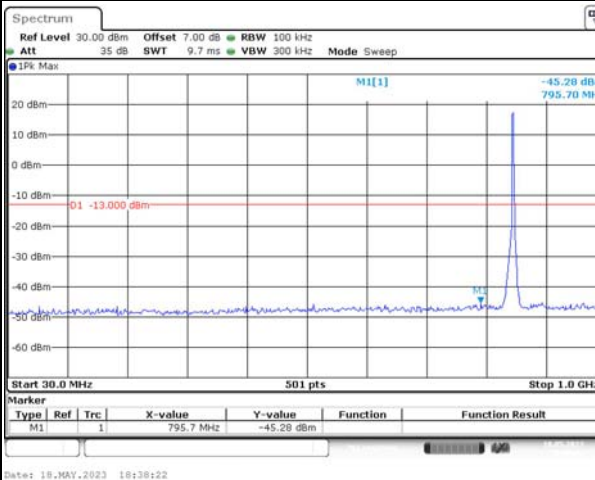
Lowest



Middle



Highest

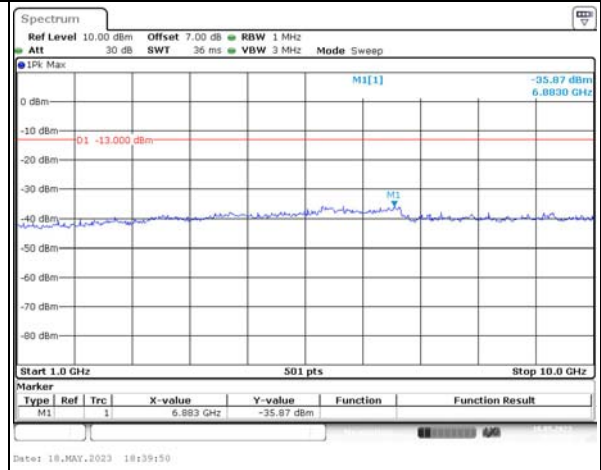
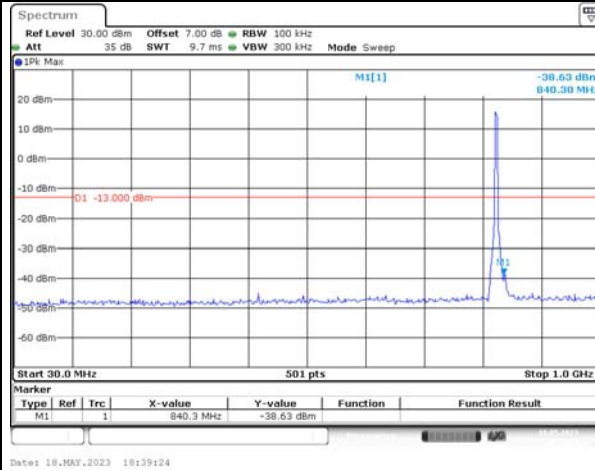


## Spurious Emissions at Antenna Terminal

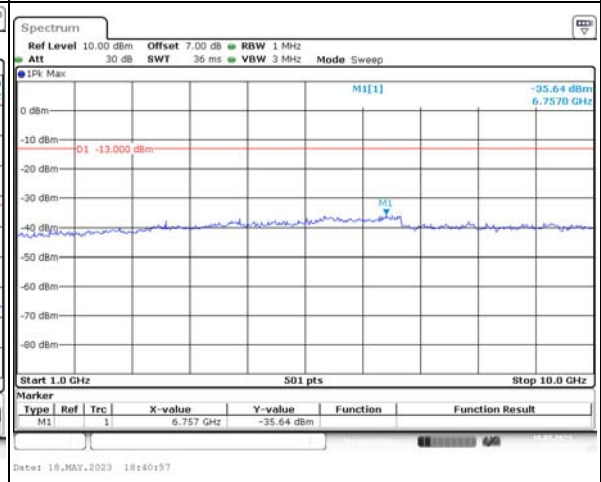
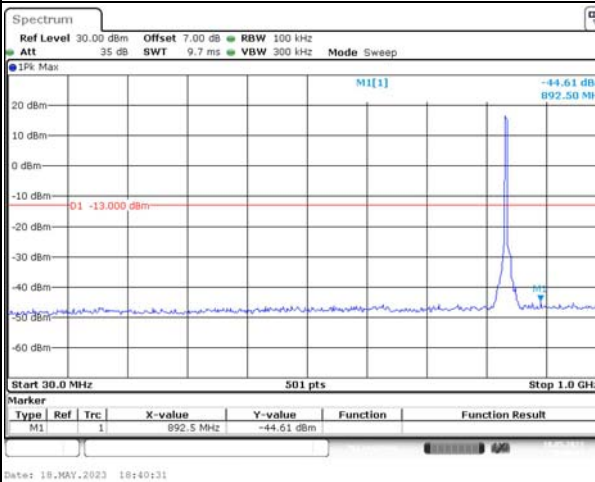
Channel

5MHz Bandwidth QPSK

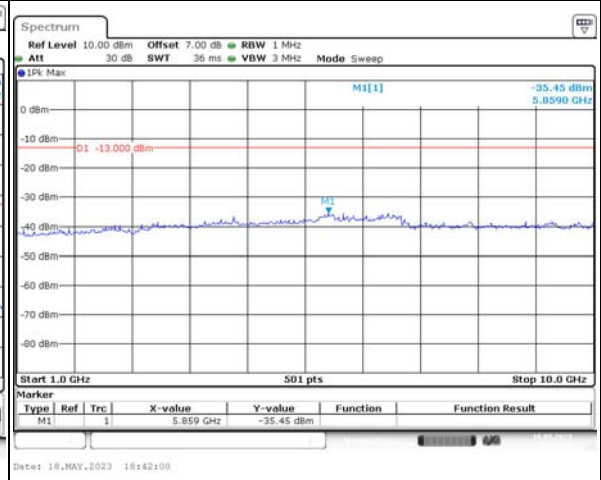
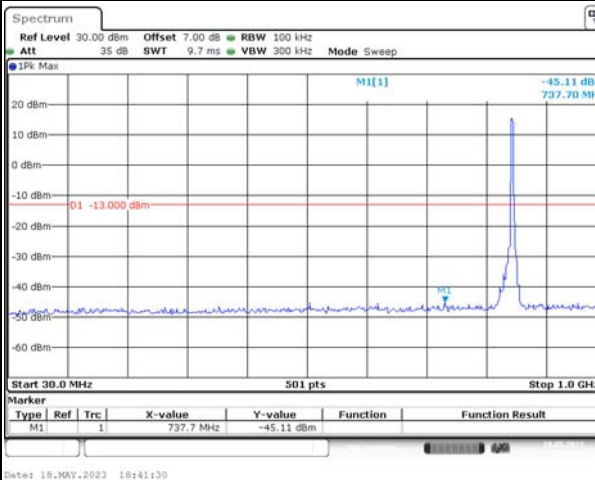
Lowest



Middle



Highest

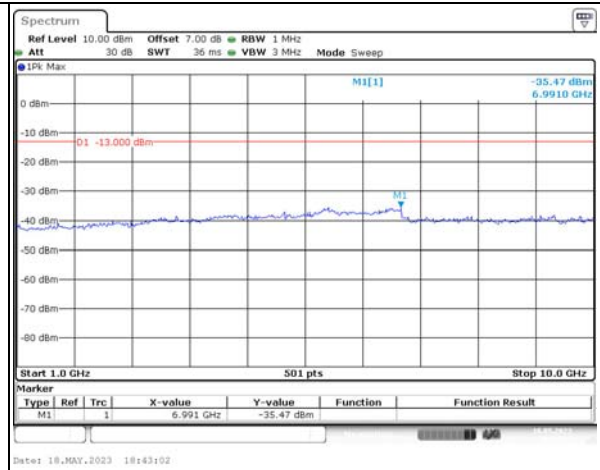
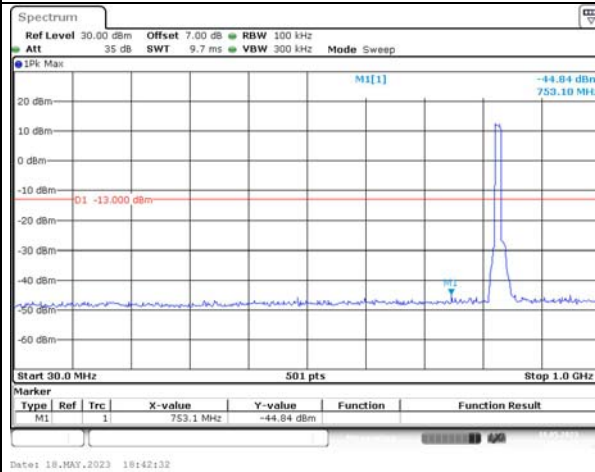


## Spurious Emissions at Antenna Terminal

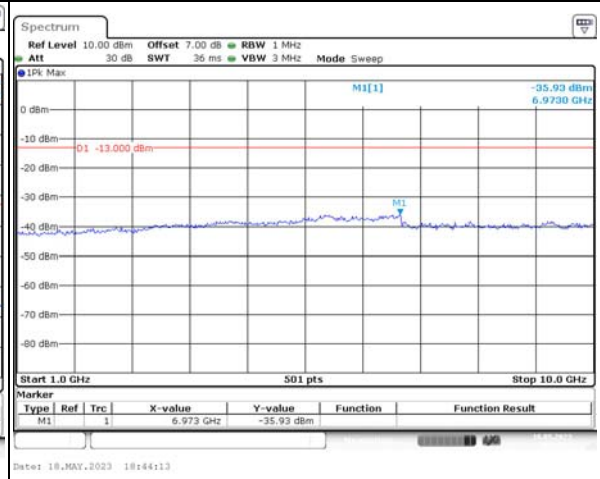
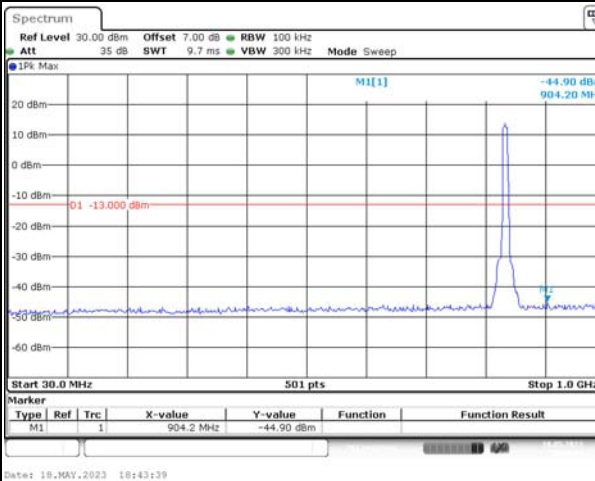
Channel

10MHz Bandwidth QPSK

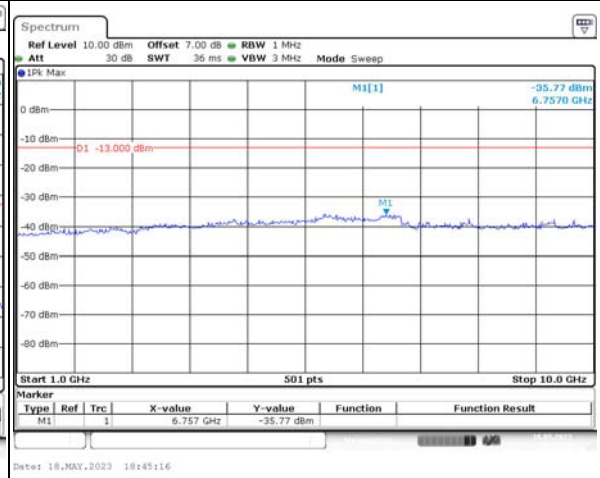
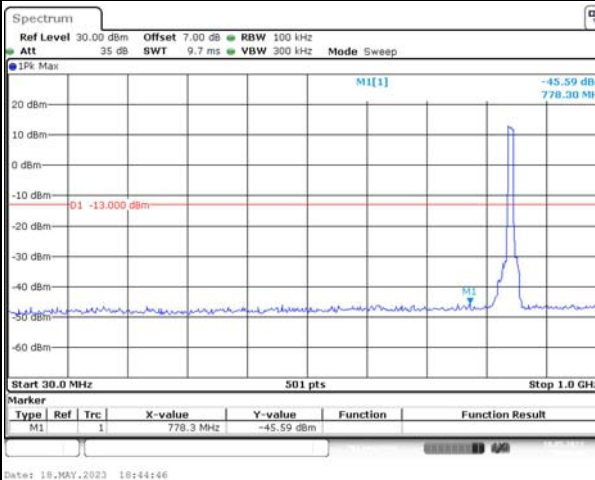
Lowest



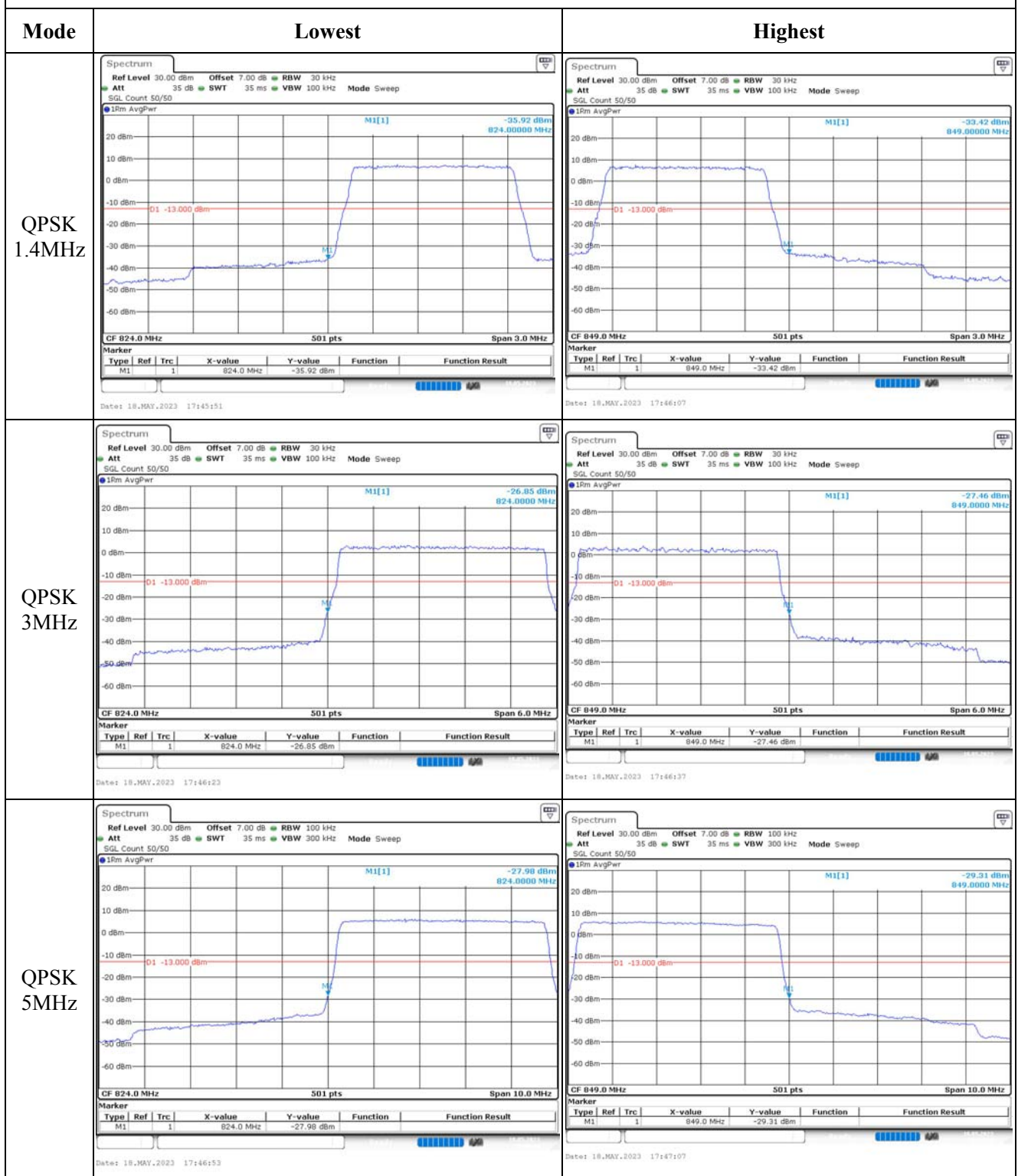
Middle



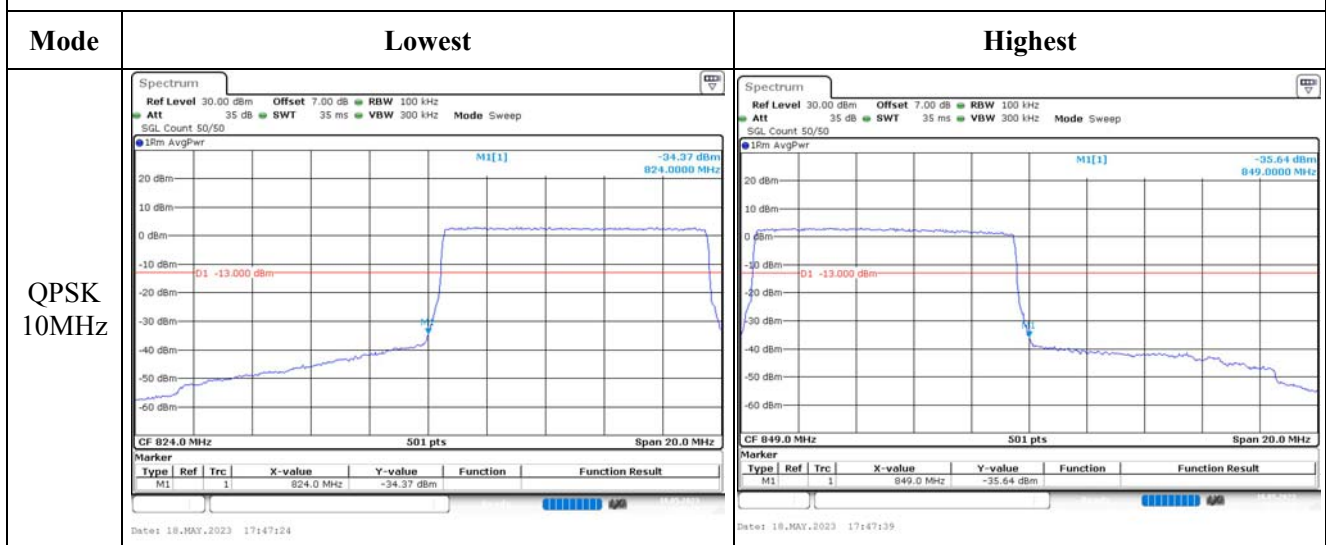
Highest



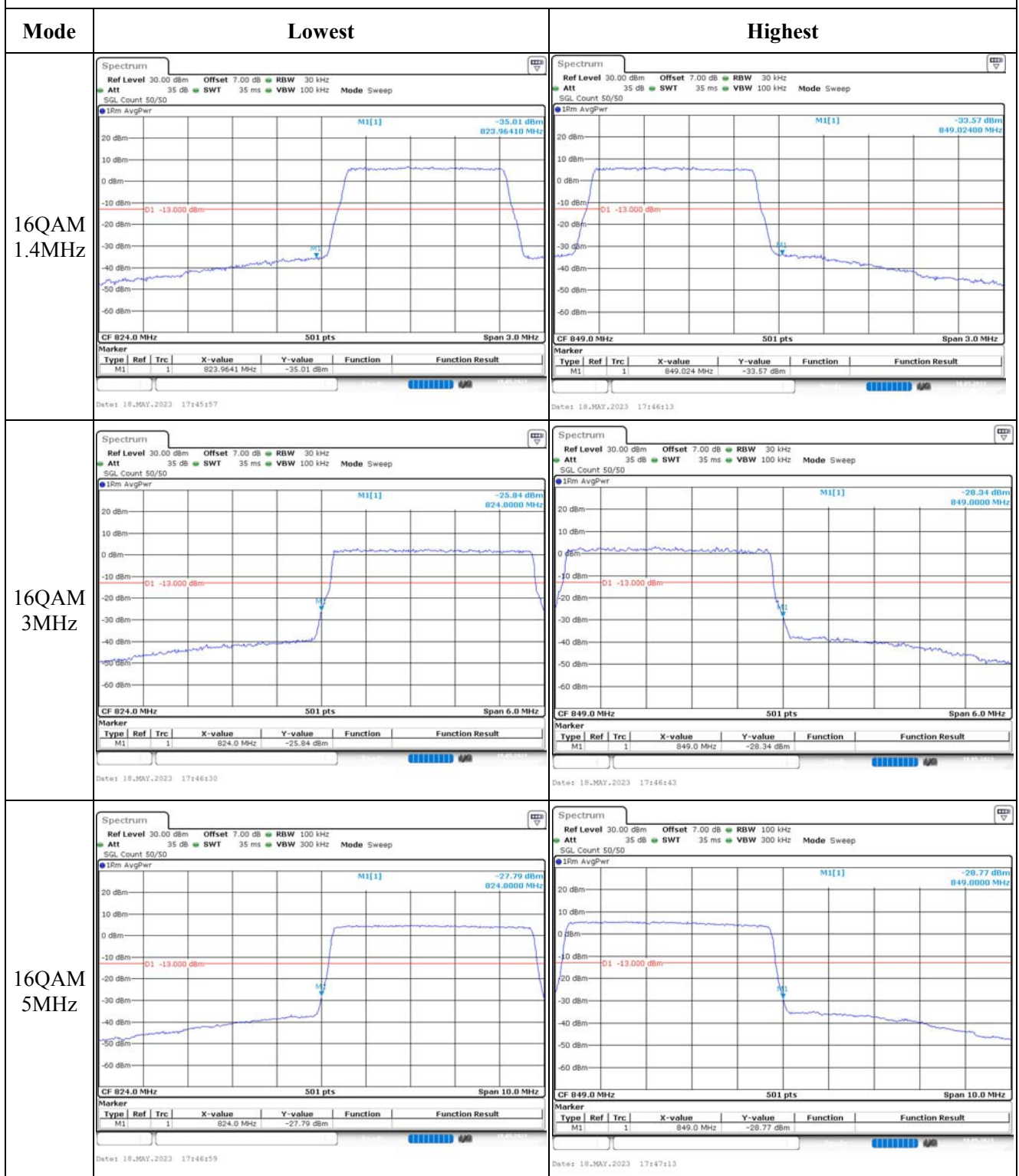
## Out of band emission, Band Edge



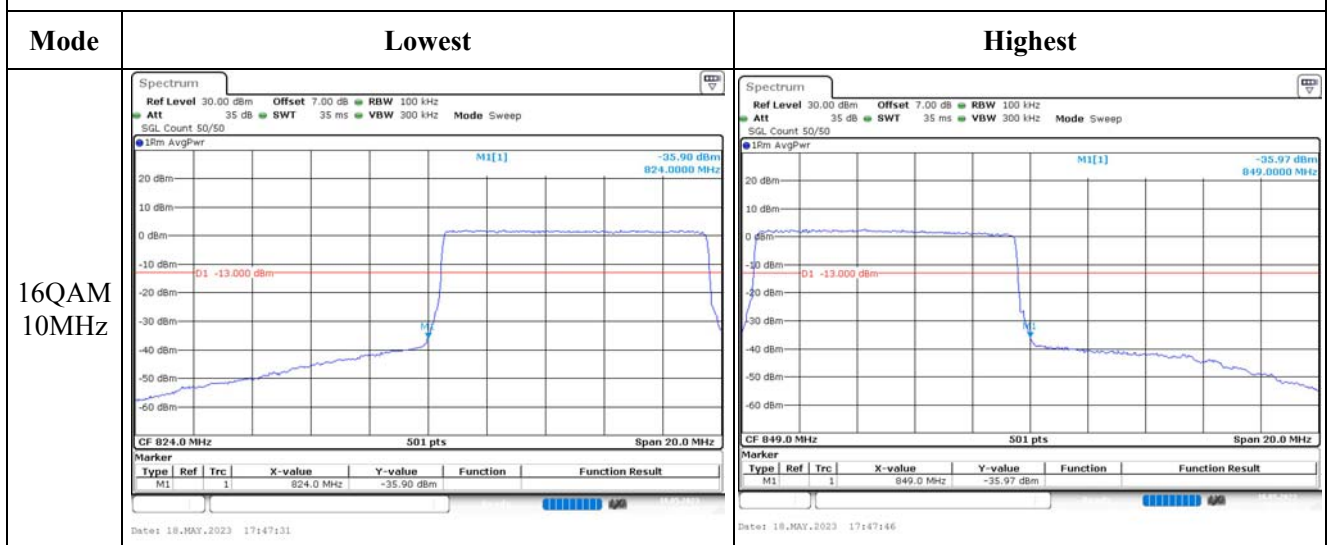
## Out of band emission, Band Edge



## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.8 Antenna Port Test Data and Results for LTE Band 7**

|                |         |              |                     |
|----------------|---------|--------------|---------------------|
| Serial Number: | 253A-1  | Test Date:   | 2023/5/18~2023/5/26 |
| Test Site:     | RF      | Test Mode:   | Transmitting        |
| Tester:        | One Luo | Test Result: | Pass                |

**Environmental Conditions:**

|                      |           |                           |       |                        |             |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 25.3~27.2 | Relative Humidity:<br>(%) | 42~61 | ATM Pressure:<br>(kPa) | 100.5~101.9 |
|----------------------|-----------|---------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model         | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|---------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40         | 101474          | 2022-07-15       | 2023-07-14           |
| 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        | 149218          | 2022-07-15       | 2023-07-14           |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40    | 30174           | 2023-03-31       | 2024-03-30           |
| UNI-T         | Multimeter                          | UT39A+        | C210582554      | 2022-09-29       | 2023-09-28           |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D     | 21R6010D0912386 | N/A              | N/A                  |
| eastsheep     | Coaxial Attenuator                  | 2W-SMA-JK-18G | 21060301        | Each time        | 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                | 2502.5                 | 2535                   | 2567.5                  |
| 10MHz               | 2505                   | 2535                   | 2565                    |
| 15MHz               | 2507.5                 | 2535                   | 2562.5                  |
| 20MHz               | 2510                   | 2535                   | 2560                    |

**Test Data:**

| <b>FCC§2.1046;§ 27.50(h)(2)</b> |                            |                                     |                |                 |                    |                  |
|---------------------------------|----------------------------|-------------------------------------|----------------|-----------------|--------------------|------------------|
| <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                      | 22.5                                | 22.59          | 22.54           | 22.86              | 33               |
|                                 | RB1#13                     | 22.45                               | 22.5           | 22.35           |                    |                  |
|                                 | RB1#24                     | 22.54                               | 22.56          | 22.36           |                    |                  |
|                                 | RB15#0                     | 21.42                               | 21.7           | 21.34           |                    |                  |
|                                 | RB15#10                    | 21.5                                | 21.65          | 21.41           |                    |                  |
|                                 | RB25#0                     | 21.44                               | 21.63          | 21.39           |                    |                  |
| 5MHz 16QAM                      | RB1#0                      | 21.53                               | 21.28          | 20.76           | 21.8               | 33               |
|                                 | RB1#13                     | 21.5                                | 21.12          | 20.61           |                    |                  |
|                                 | RB1#24                     | 21.51                               | 21.24          | 20.66           |                    |                  |
|                                 | RB15#0                     | 20.38                               | 20.28          | 19.91           |                    |                  |
|                                 | RB15#10                    | 20.49                               | 20.25          | 19.83           |                    |                  |
|                                 | RB25#0                     | 20.42                               | 20.05          | 19.87           |                    |                  |
| 10MHz QPSK                      | RB1#0                      | 22.52                               | 22.58          | 22.4            | 22.91              | 33               |
|                                 | RB1#25                     | 22.55                               | 22.52          | 22.39           |                    |                  |
|                                 | RB1#49                     | 22.64                               | 22.63          | 22.15           |                    |                  |
|                                 | RB25#0                     | 21.48                               | 21.57          | 21.48           |                    |                  |
|                                 | RB25#25                    | 21.56                               | 21.49          | 21.29           |                    |                  |
|                                 | RB50#0                     | 21.55                               | 21.65          | 21.47           |                    |                  |
| 10MHz 16QAM                     | RB1#0                      | 21.68                               | 21.11          | 21.6            | 21.95              | 33               |
|                                 | RB1#25                     | 21.62                               | 21.13          | 21.63           |                    |                  |
|                                 | RB1#49                     | 21.68                               | 21.08          | 21.49           |                    |                  |
|                                 | RB25#0                     | 20.38                               | 20.46          | 20.53           |                    |                  |
|                                 | RB25#25                    | 20.82                               | 20.59          | 20.54           |                    |                  |
|                                 | RB50#0                     | 20.6                                | 20.48          | 20.51           |                    |                  |
| 15MHz QPSK                      | RB1#0                      | 22.52                               | 22.55          | 22.32           | 22.92              | 33               |
|                                 | RB1#38                     | 22.54                               | 22.57          | 22.27           |                    |                  |
|                                 | RB1#74                     | 22.65                               | 22.51          | 22.34           |                    |                  |
|                                 | RB36#0                     | 21.54                               | 21.55          | 21.57           |                    |                  |
|                                 | RB36#39                    | 21.64                               | 21.63          | 21.45           |                    |                  |
|                                 | RB75#0                     | 21.46                               | 21.72          | 21.33           |                    |                  |
| 15MHz 16QAM                     | RB1#0                      | 21.71                               | 22.07          | 21.64           | 22.4               | 33               |
|                                 | RB1#38                     | 21.64                               | 22.13          | 21.51           |                    |                  |
|                                 | RB1#74                     | 21.8                                | 22.06          | 21.56           |                    |                  |
|                                 | RB36#0                     | 20.89                               | 20.51          | 20.44           |                    |                  |
|                                 | RB36#39                    | 21.19                               | 20.36          | 20.22           |                    |                  |
|                                 | RB75#0                     | 21.04                               | 20.34          | 20.36           |                    |                  |
| 20MHz QPSK                      | RB1#0                      | 22.65                               | 22.51          | 22.51           | 22.97              | 33               |
|                                 | RB1#50                     | 22.7                                | 22.53          | 22.44           |                    |                  |
|                                 | RB1#99                     | 22.69                               | 22.62          | 22.39           |                    |                  |

|             |         |       |       |       |       |    |
|-------------|---------|-------|-------|-------|-------|----|
| 20MHz 16QAM | RB50#0  | 21.56 | 21.54 | 21.48 | 22.78 | 33 |
|             | RB50#50 | 21.55 | 21.53 | 21.53 |       |    |
|             | RB100#0 | 21.57 | 21.55 | 21.49 |       |    |
|             | RB1#0   | 21.74 | 22.5  | 21.56 |       |    |
|             | RB1#50  | 21.77 | 22.51 | 21.44 |       |    |
|             | RB1#99  | 21.89 | 22.47 | 21.35 |       |    |
|             | RB50#0  | 20.58 | 20.68 | 20.32 |       |    |
|             | RB50#50 | 21.31 | 20.81 | 20.4  |       |    |
|             | RB100#0 | 20.96 | 20.74 | 20.39 |       |    |

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G<sub>T</sub>(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                      | 5.13                      | 5.13           | 4.87            | 13          |
|                             | RB100#0                    | 5.22                      | 5.16           | 5.04            | 13          |
| 20MHz 16QAM                 | RB1#0                      | 6.14                      | 6.12           | 5.74            | 13          |
|                             | RB100#0                    | 5.91                      | 5.97           | 5.94            | 13          |
|                             |                            |                           |                | <b>Result:</b>  | <b>Pass</b> |

**FCC §2.1049, §27.53: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          | 4.511        | 5                              | 5              | 5            |
| 5MHz 16QAM     | 4.531                        | 4.551          | 4.511        | 5.02                           | 5              | 4.98         |
| 10MHz QPSK     | 8.982                        | 8.942          | 8.942        | 9.8                            | 9.8            | 9.76         |
| 10MHz 16QAM    | 8.982                        | 8.942          | 8.942        | 9.84                           | 9.84           | 9.76         |
| 15MHz QPSK     | 13.473                       | 13.533         | 13.533       | 15                             | 15.12          | 15.06        |
| 15MHz 16QAM    | 13.593                       | 13.533         | 13.533       | 15.12                          | 15.06          | 15           |
| 20MHz QPSK     | 17.884                       | 18.044         | 17.964       | 19.52                          | 19.76          | 19.6         |
| 20MHz 16QAM    | 17.964                       | 17.964         | 17.964       | 19.76                          | 19.76          | 19.68        |

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

**FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal****Result:****Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.****FCC §2.1051, § 27.53:Out of band emission, Band Edge****Result:****Pass, Please refer to the test plots of Out of band emission, Band Edge.****FCC §2.1055, §27.54: 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              | 3.7                        | 2501.072         | 2500.00 | 2569.031         | 2570        |
|                                     | -20              | 3.7                        | 2501.058         | 2500.00 | 2569.028         | 2570        |
|                                     | -10              | 3.7                        | 2501.007         | 2500.00 | 2569.093         | 2570        |
|                                     | 0                | 3.7                        | 2501.033         | 2500.00 | 2569.054         | 2570        |
|                                     | 10               | 3.7                        | 2501.079         | 2500.00 | 2569.016         | 2570        |
|                                     | 20               | 3.7                        | 2501.032         | 2500.00 | 2569.022         | 2570        |
|                                     | 30               | 3.7                        | 2501.053         | 2500.00 | 2569.014         | 2570        |
|                                     | 40               | 3.7                        | 2501.046         | 2500.00 | 2569.025         | 2570        |
|                                     | 50               | 3.7                        | 2501.021         | 2500.00 | 2569.004         | 2570        |
| Frequency Stability vs. Voltage     | 20               | 3.6                        | 2501.067         | 2500.00 | 2569.001         | 2570        |
|                                     | 20               | 4.35                       | 2501.015         | 2500.00 | 2569.020         | 2570        |
|                                     |                  |                            |                  |         | <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              | 3.7                                                        | 2501.065         | 2500.00 | 2569.078         | 2570        |
|                                     | -20              | 3.7                                                        | 2501.062         | 2500.00 | 2569.019         | 2570        |
|                                     | -10              | 3.7                                                        | 2501.094         | 2500.00 | 2569.058         | 2570        |
|                                     | 0                | 3.7                                                        | 2501.020         | 2500.00 | 2569.011         | 2570        |
|                                     | 10               | 3.7                                                        | 2501.066         | 2500.00 | 2569.035         | 2570        |
|                                     | 20               | 3.7                                                        | 2501.058         | 2500.00 | 2569.022         | 2570        |
|                                     | 30               | 3.7                                                        | 2501.067         | 2500.00 | 2569.040         | 2570        |
|                                     | 40               | 3.7                                                        | 2501.006         | 2500.00 | 2569.056         | 2570        |
|                                     | 50               | 3.7                                                        | 2501.061         | 2500.00 | 2569.047         | 2570        |
| Frequency Stability vs. Voltage     | 20               | 3.6                                                        | 2501.092         | 2500.00 | 2569.094         | 2570        |
|                                     | 20               | 4.35                                                       | 2501.081         | 2500.00 | 2569.017         | 2570        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

**Test Plots**(Note: The 7dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

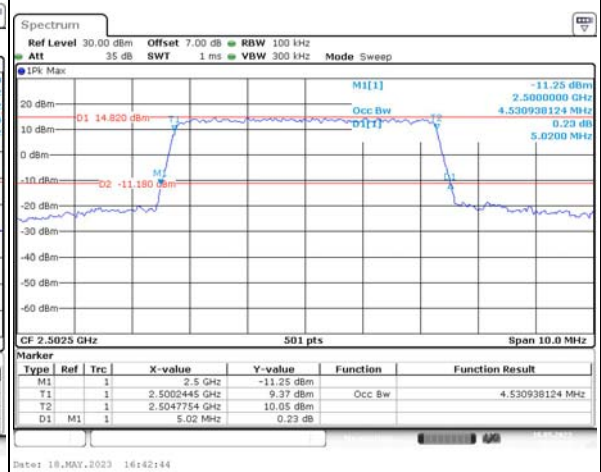
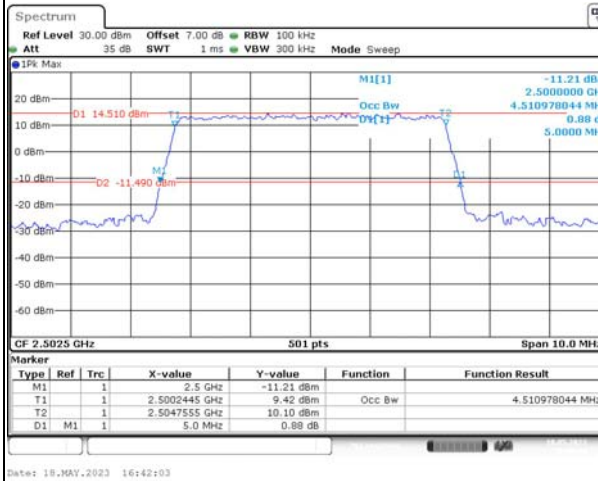
### Occupied Bandwidth

#### Channel

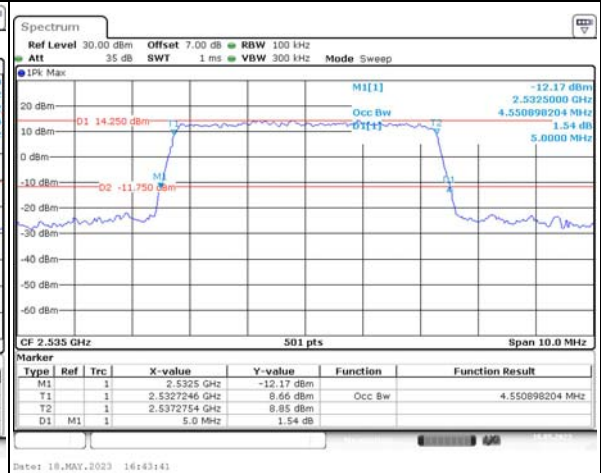
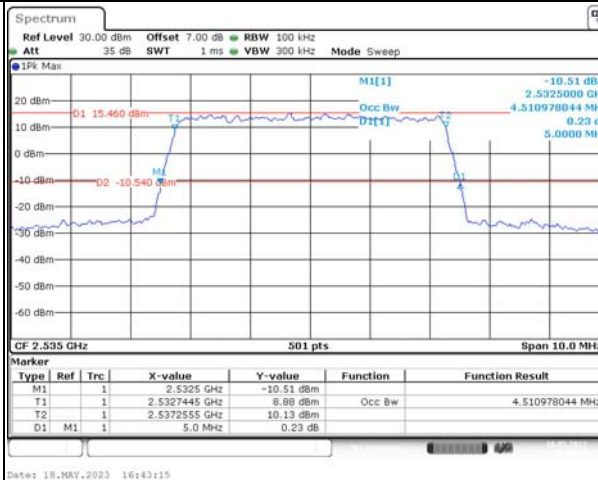
#### 5MHz Bandwidth QPSK

#### 5MHz Bandwidth 16QAM

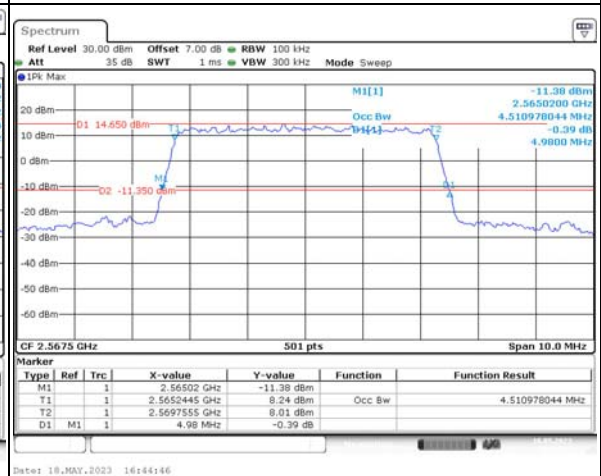
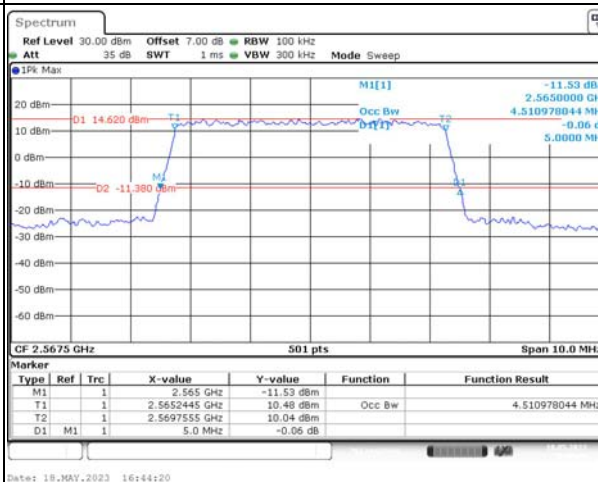
Lowest



Middle



Highest



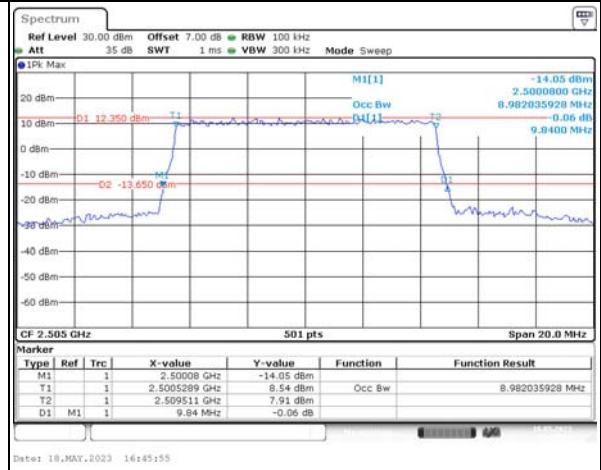
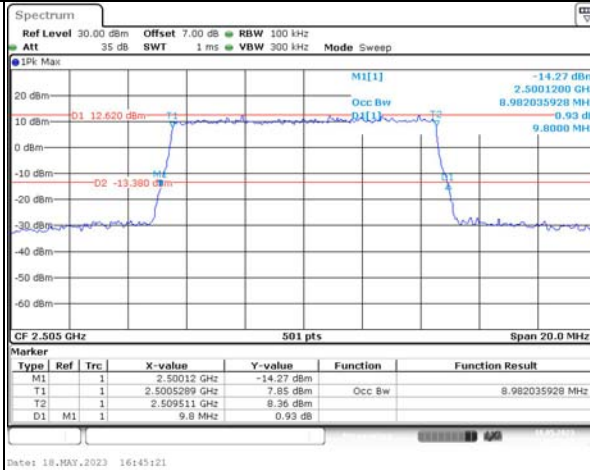
## Occupied Bandwidth

## Channel

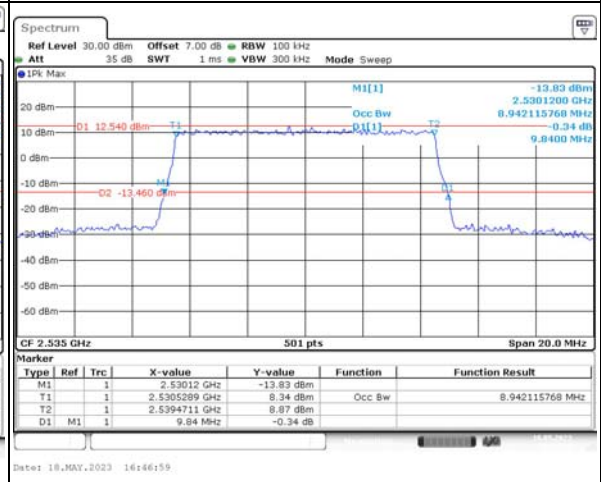
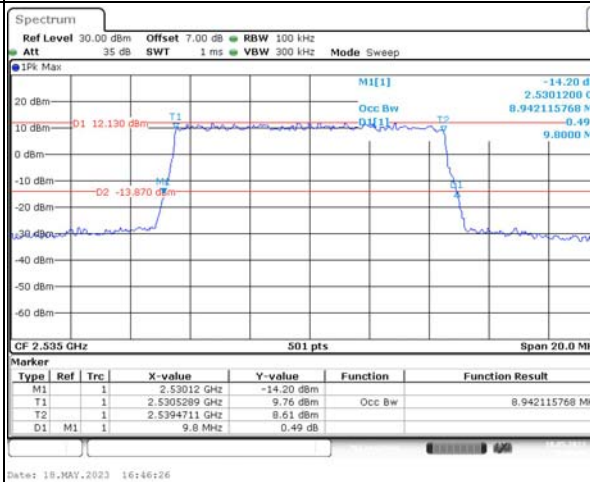
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Lowest



Middle



Highest

