

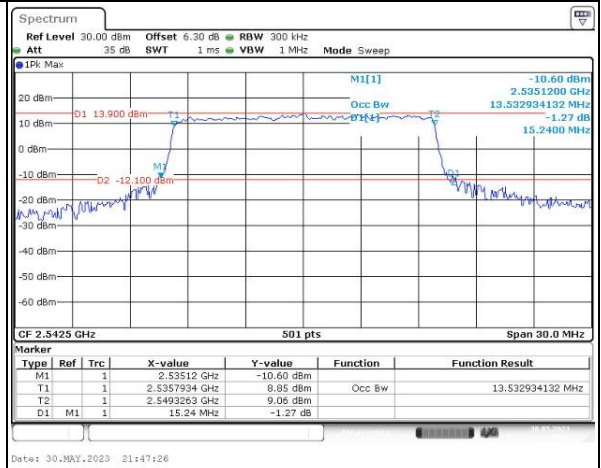
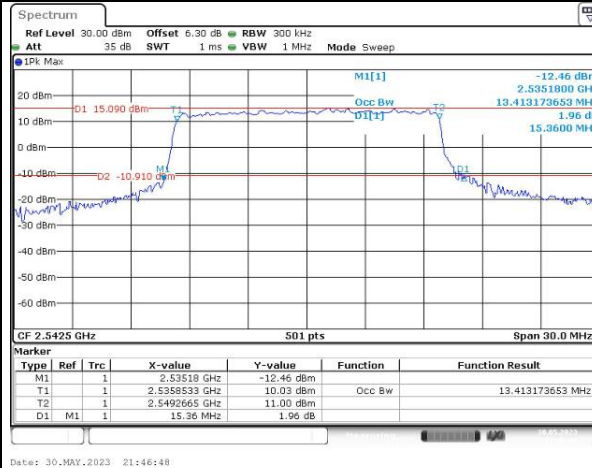
## Occupied Bandwidth

## Channel

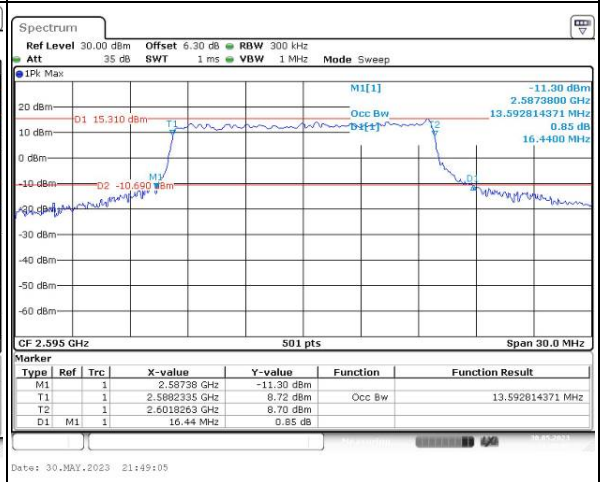
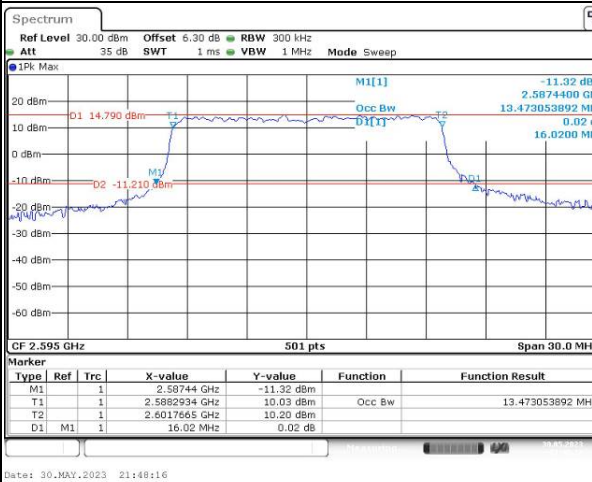
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

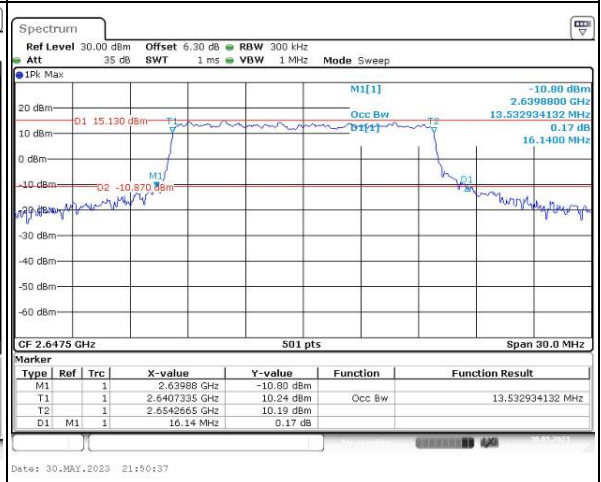
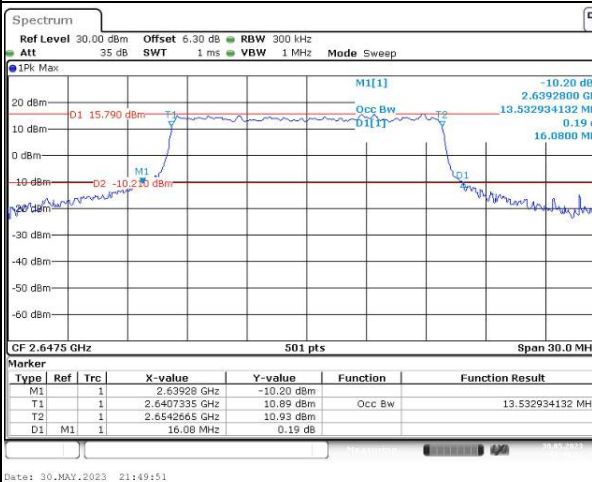
Lowest



Middle



Highest



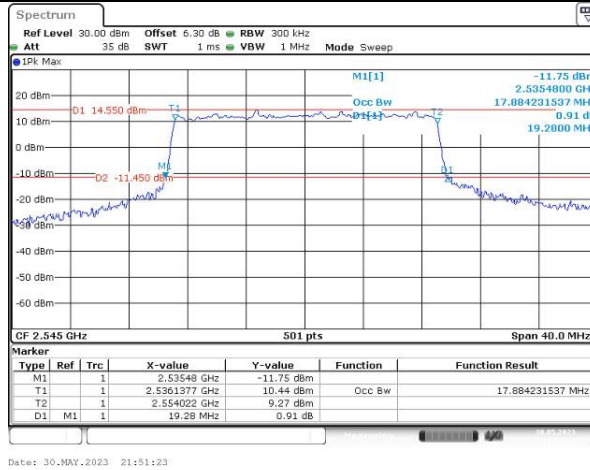
## Occupied Bandwidth

## Channel

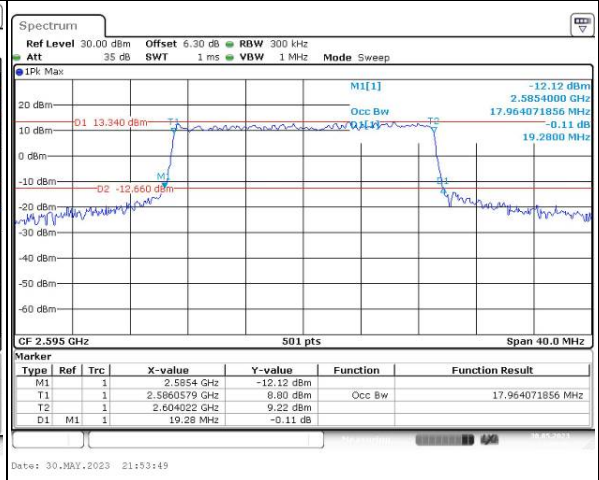
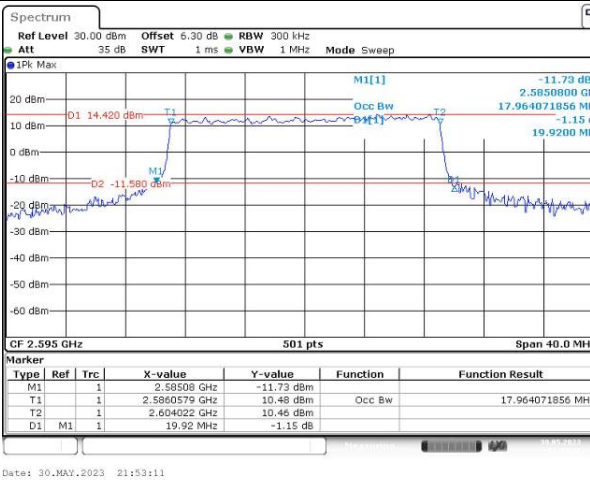
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

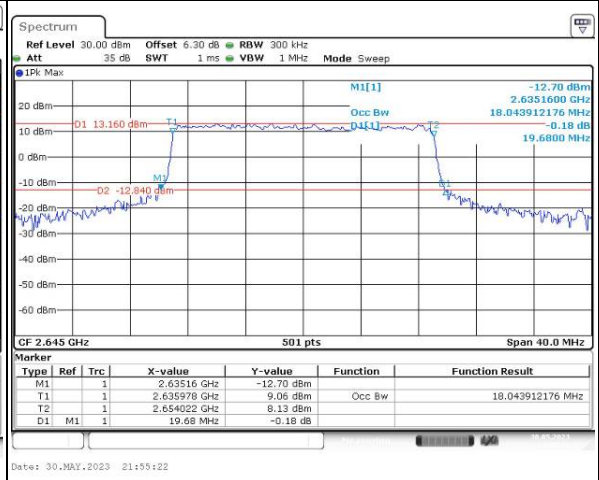
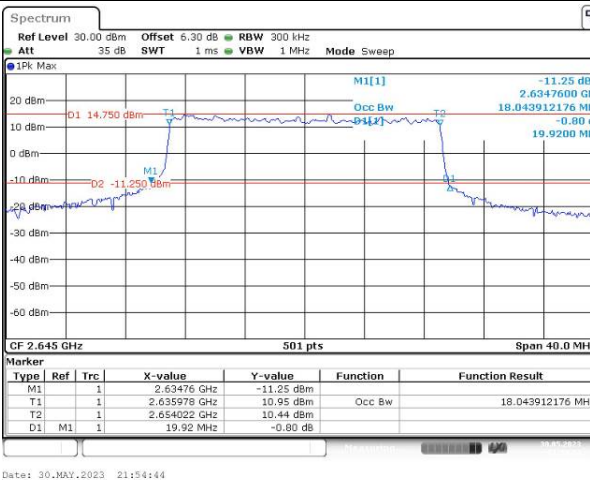
Lowest



Middle



Highest

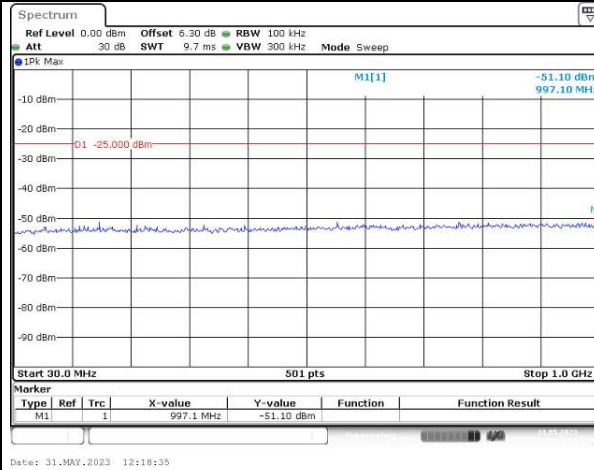


## Spurious Emissions at Antenna Terminal

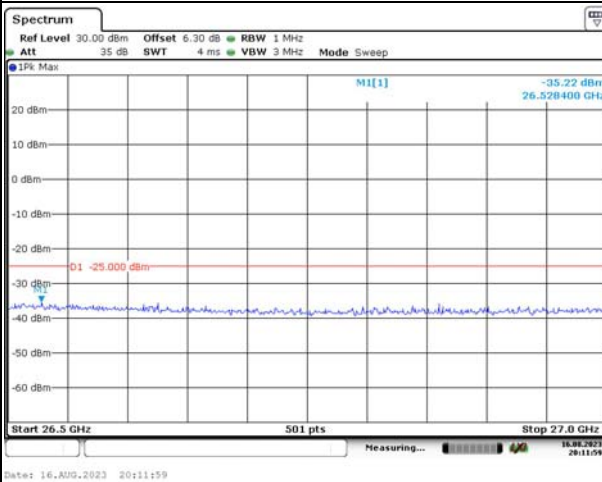
Channel

5MHz Bandwidth QPSK

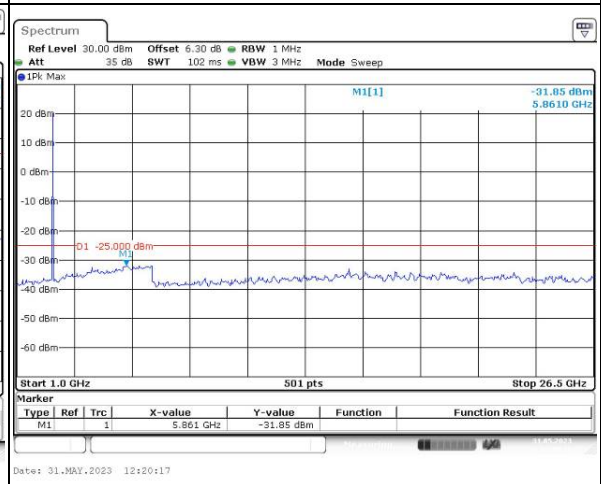
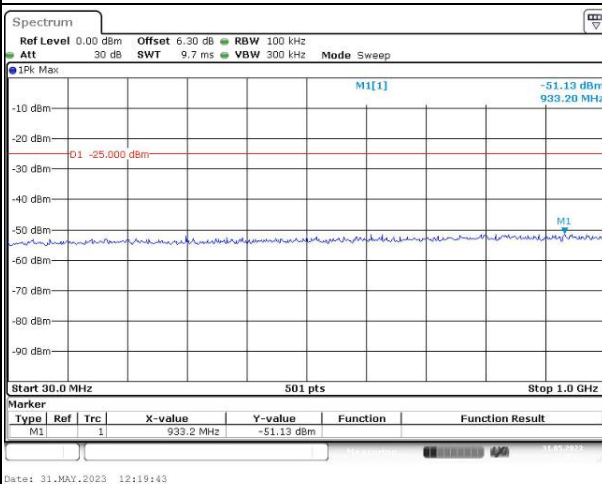
Lowest



Lowest



Middle

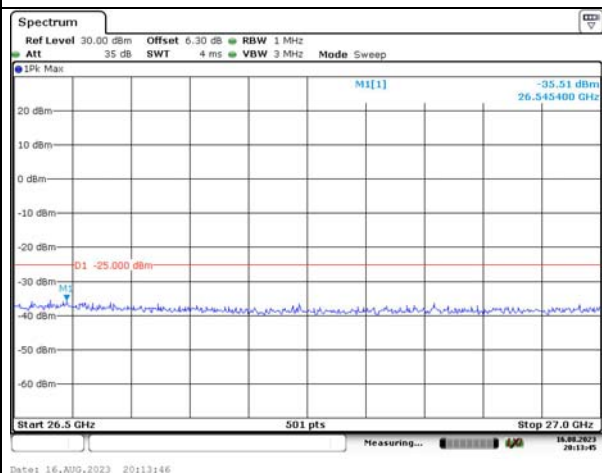


## Spurious Emissions at Antenna Terminal

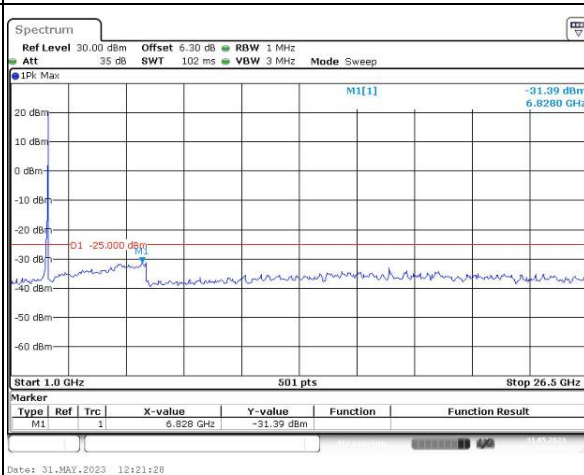
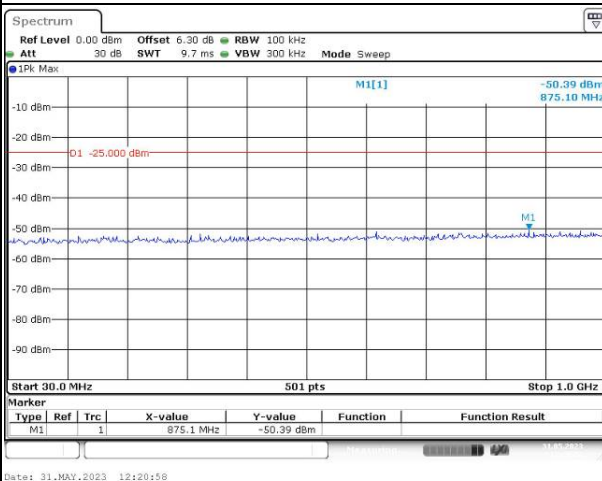
Channel

5MHz Bandwidth QPSK

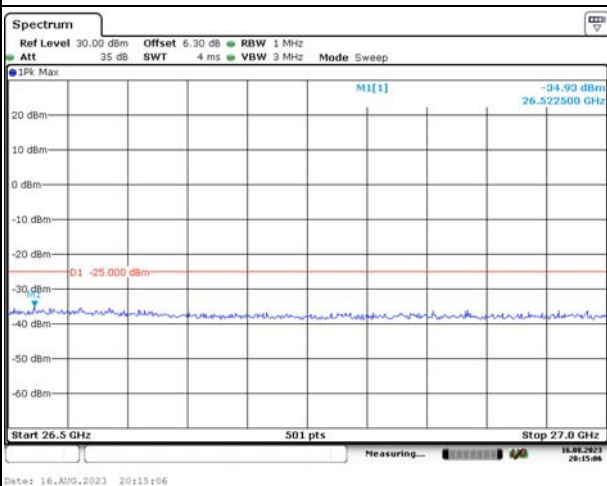
Middle



Highest



Highest

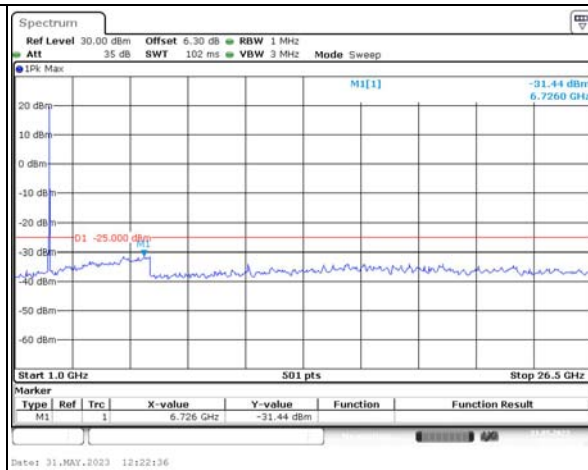
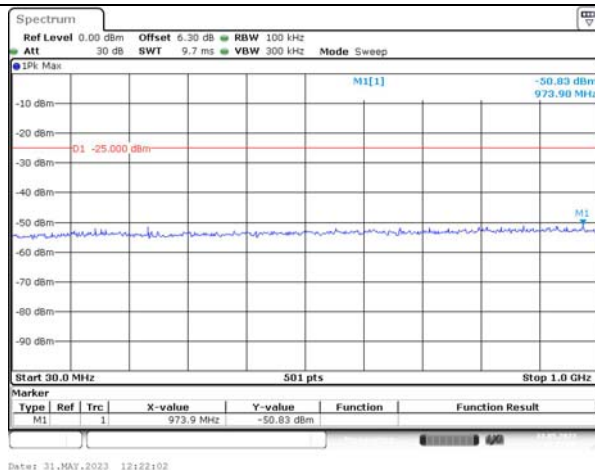


## Spurious Emissions at Antenna Terminal

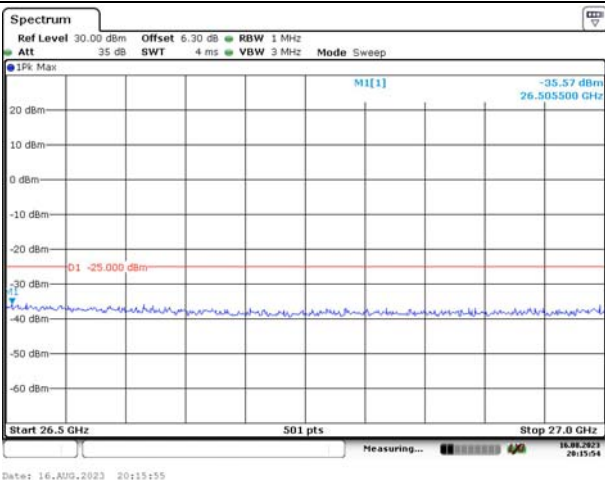
Channel

10MHz Bandwidth QPSK

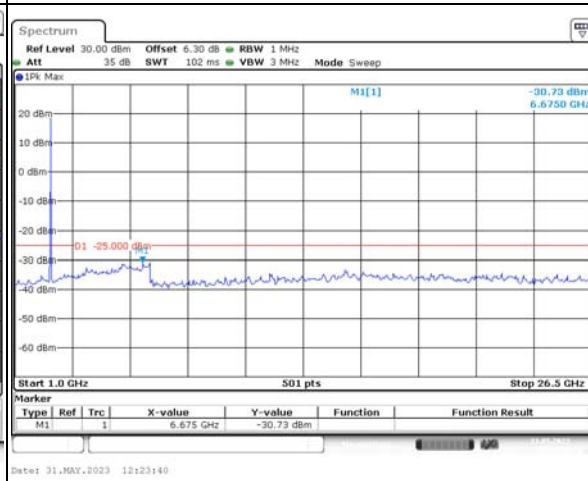
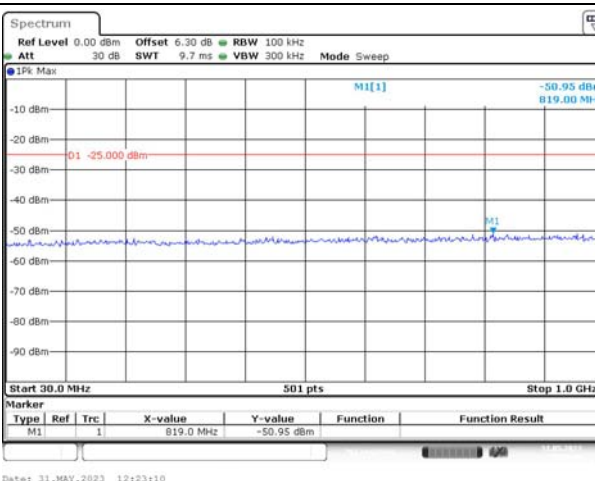
Lowest



Lowest



Middle

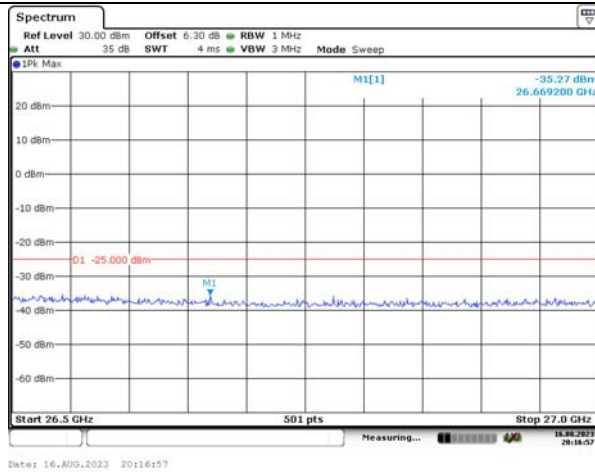


## Spurious Emissions at Antenna Terminal

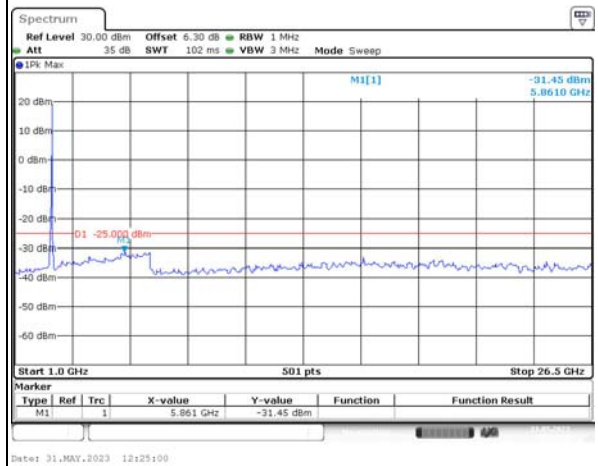
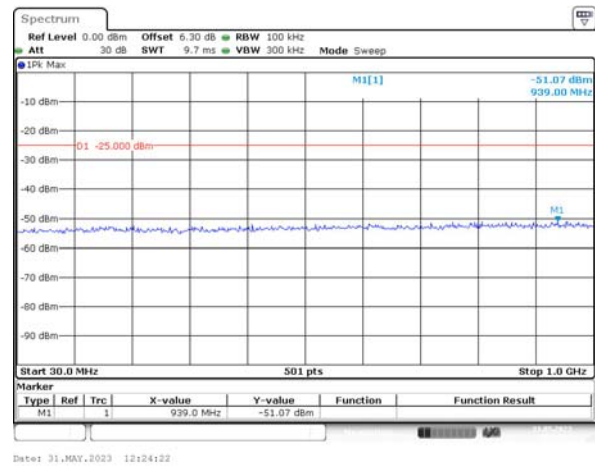
Channel

10MHz Bandwidth QPSK

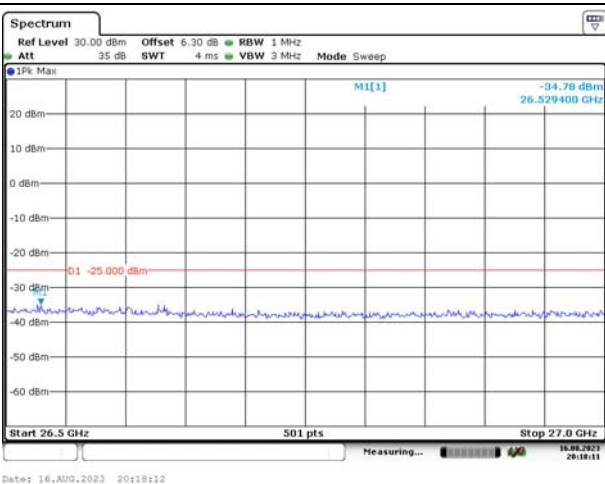
Middle



Highest



Highest

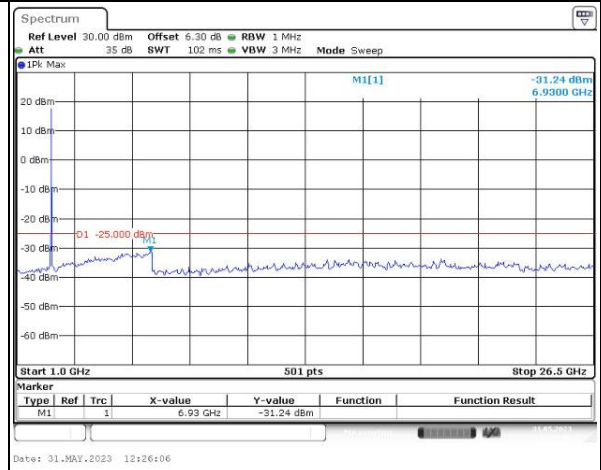
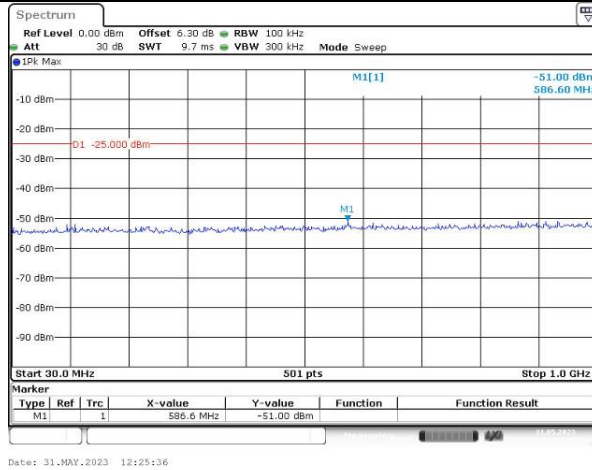


## Spurious Emissions at Antenna Terminal

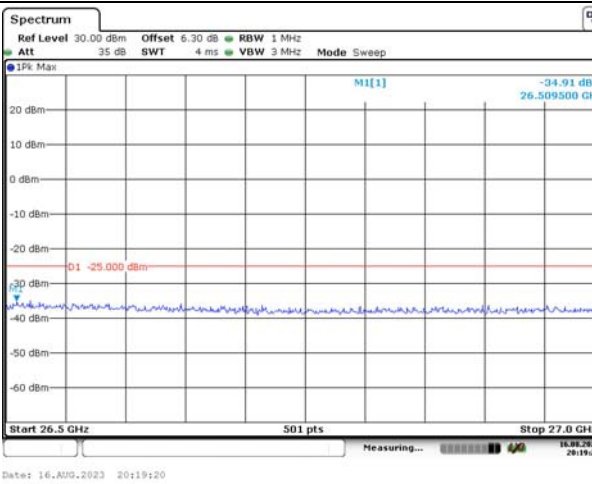
Channel

15MHz Bandwidth QPSK

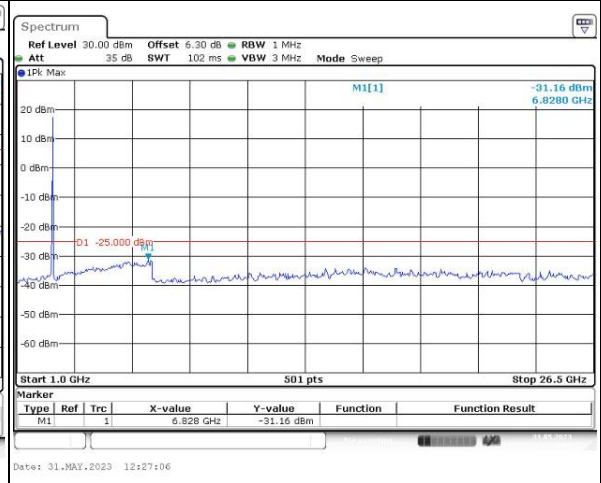
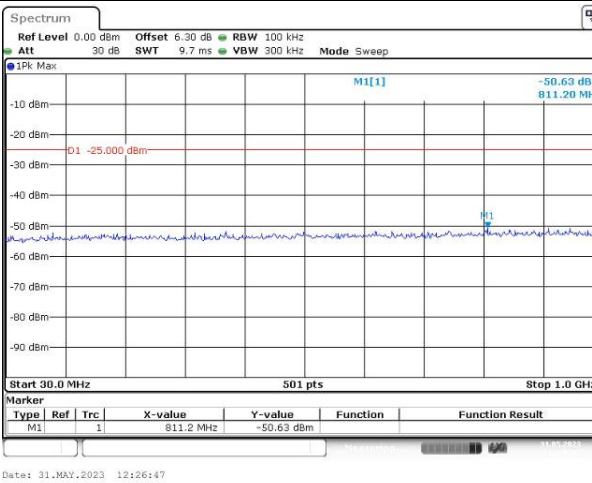
Lowest



Lowest



Middle

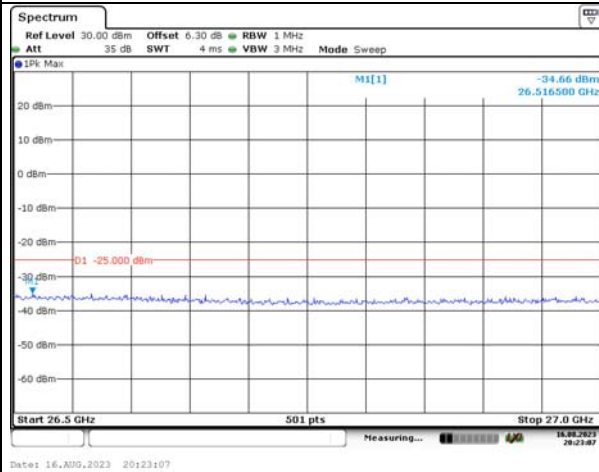


## Spurious Emissions at Antenna Terminal

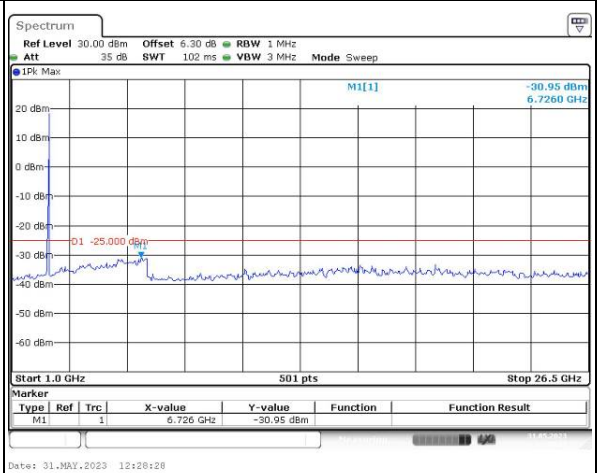
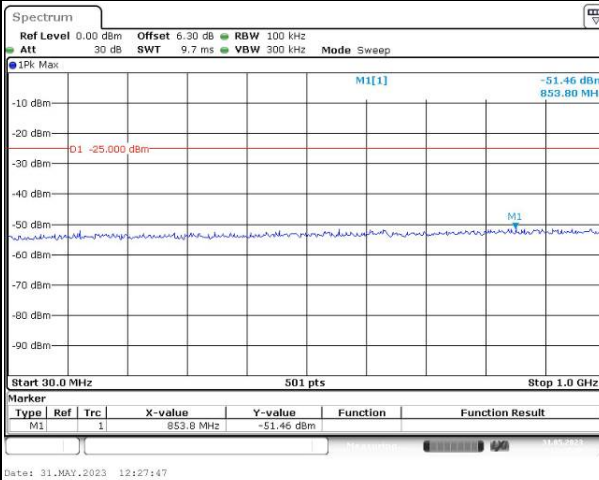
Channel

15MHz Bandwidth QPSK

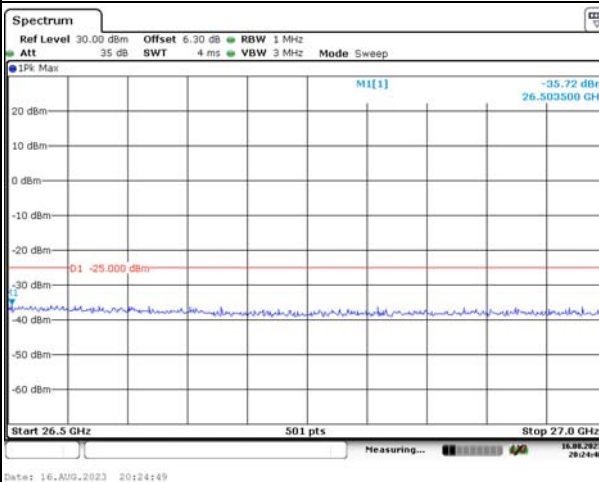
Middle



Highest



Highest

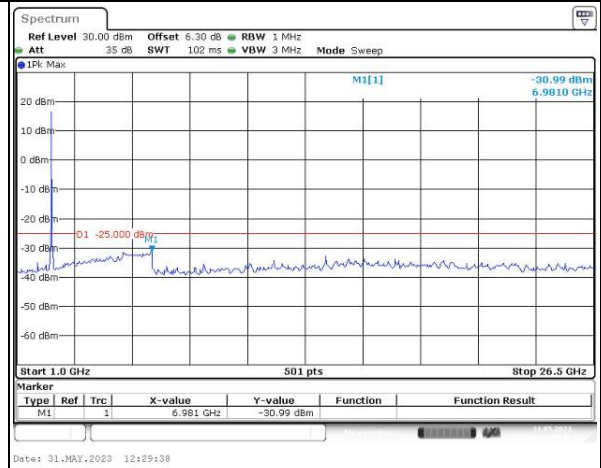
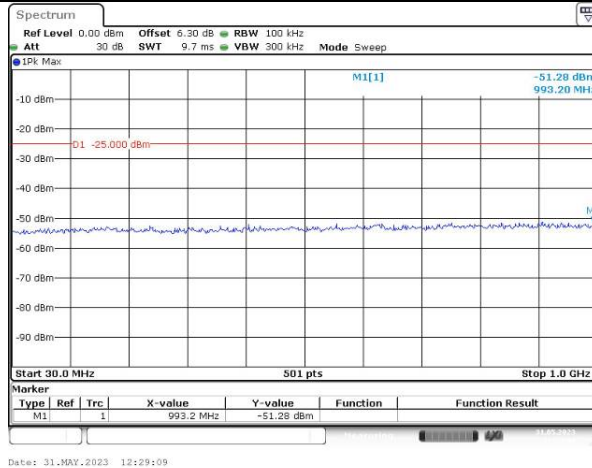


## Spurious Emissions at Antenna Terminal

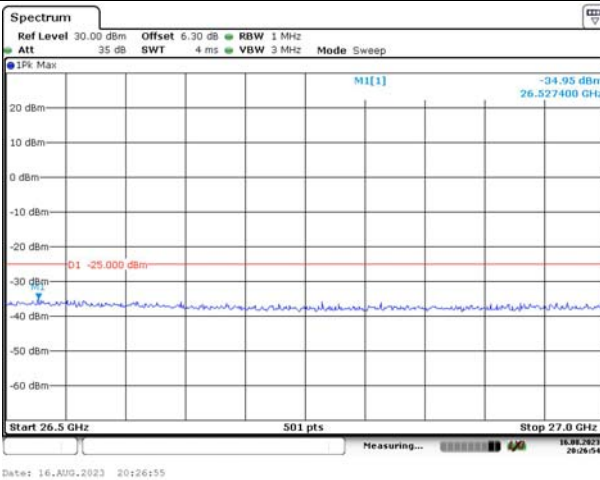
Channel

20MHz Bandwidth QPSK

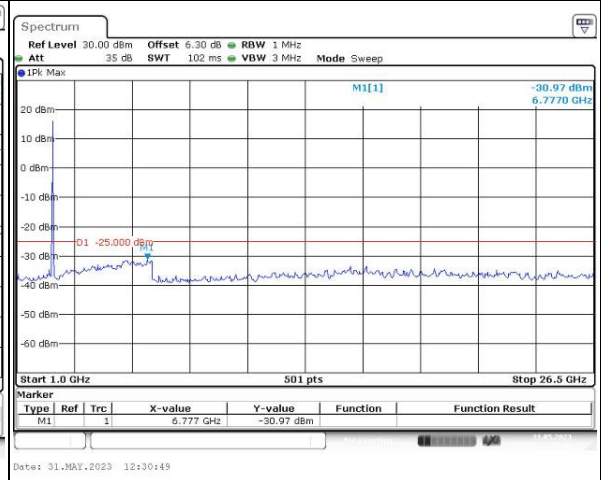
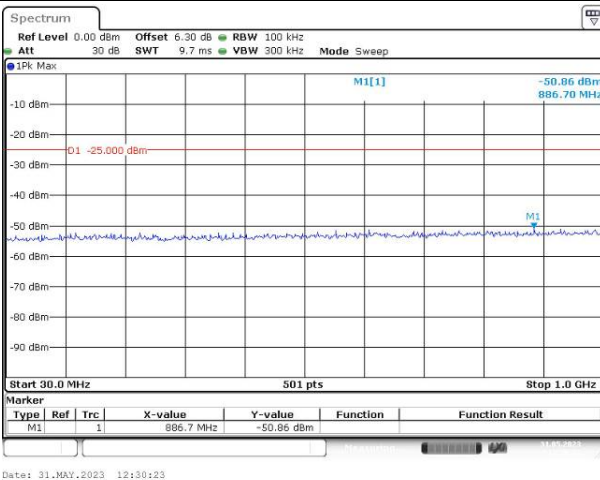
Lowest



Lowest



Middle

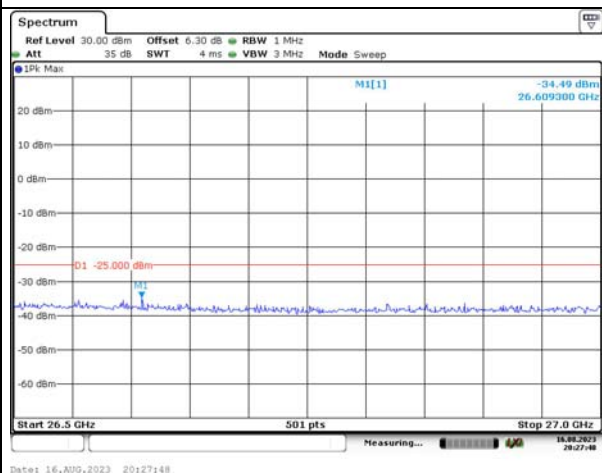


## Spurious Emissions at Antenna Terminal

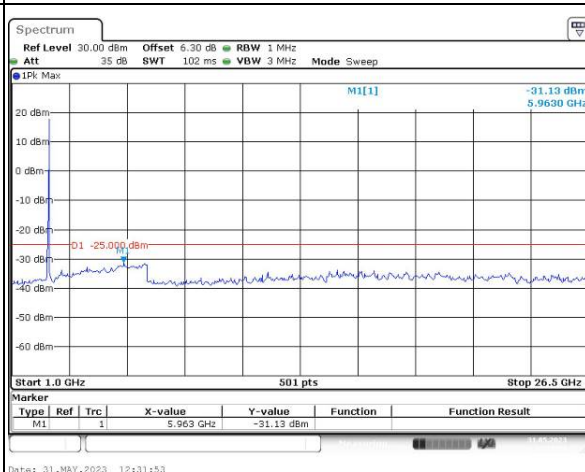
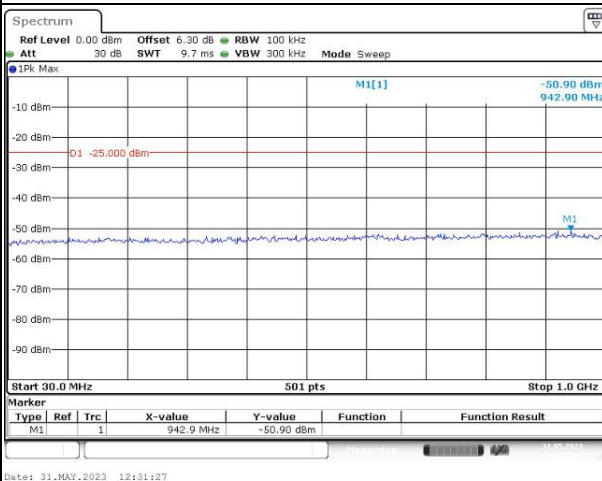
Channel

20MHz Bandwidth QPSK

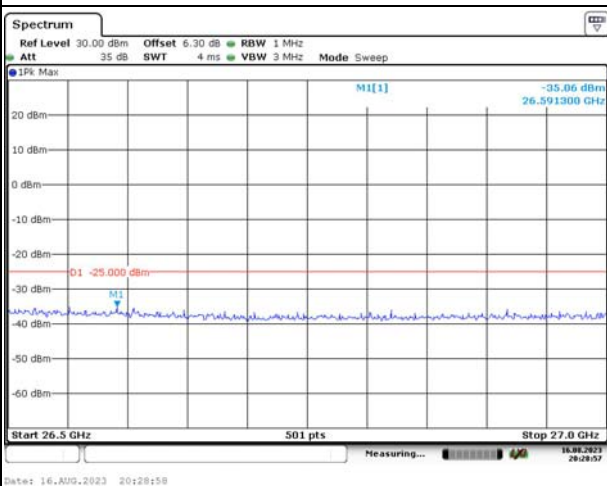
Middle



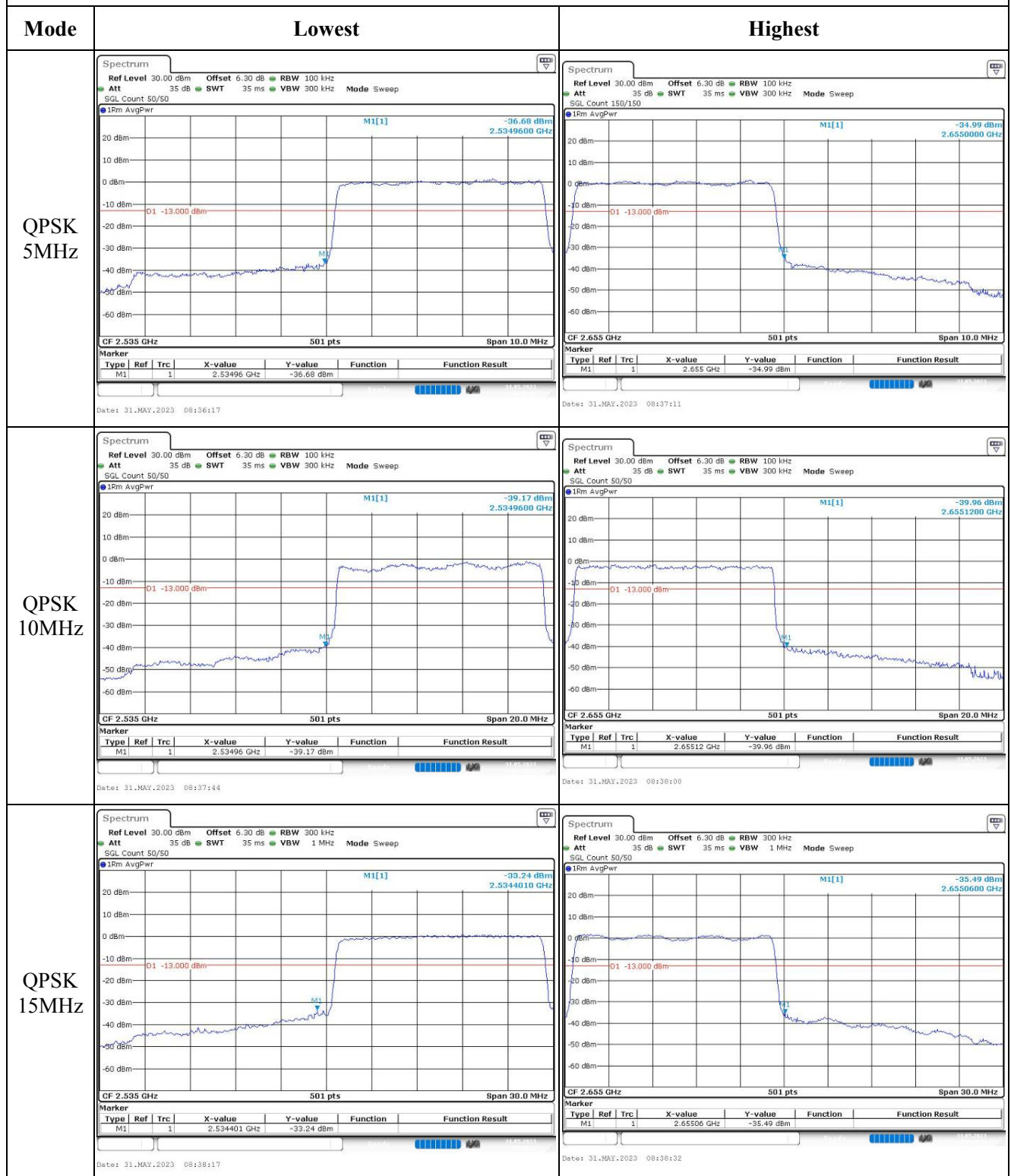
Highest



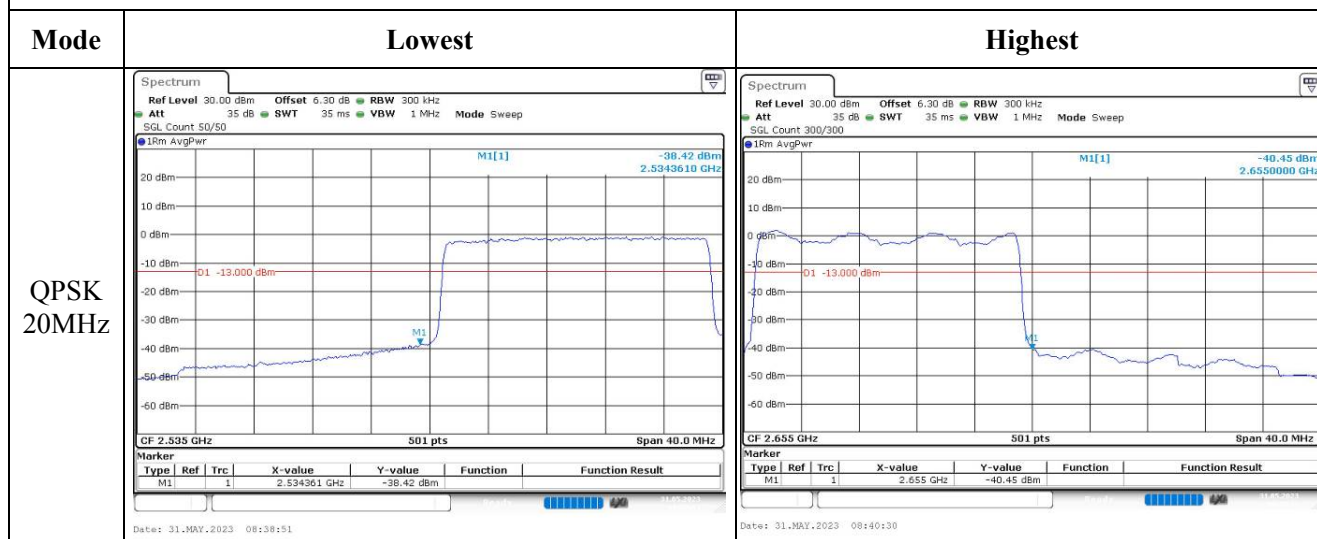
Highest



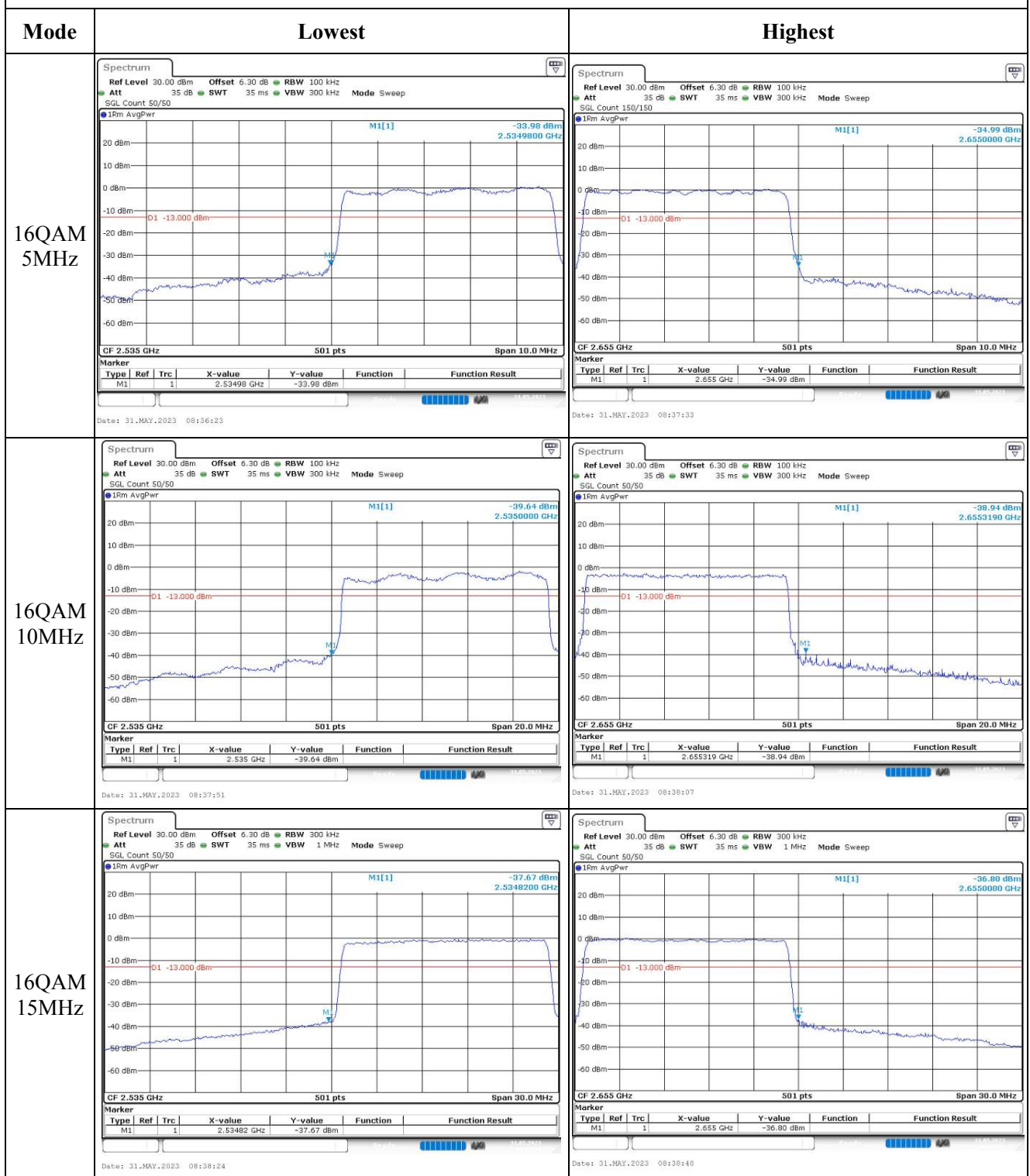
## Out of band emission, Band Edge



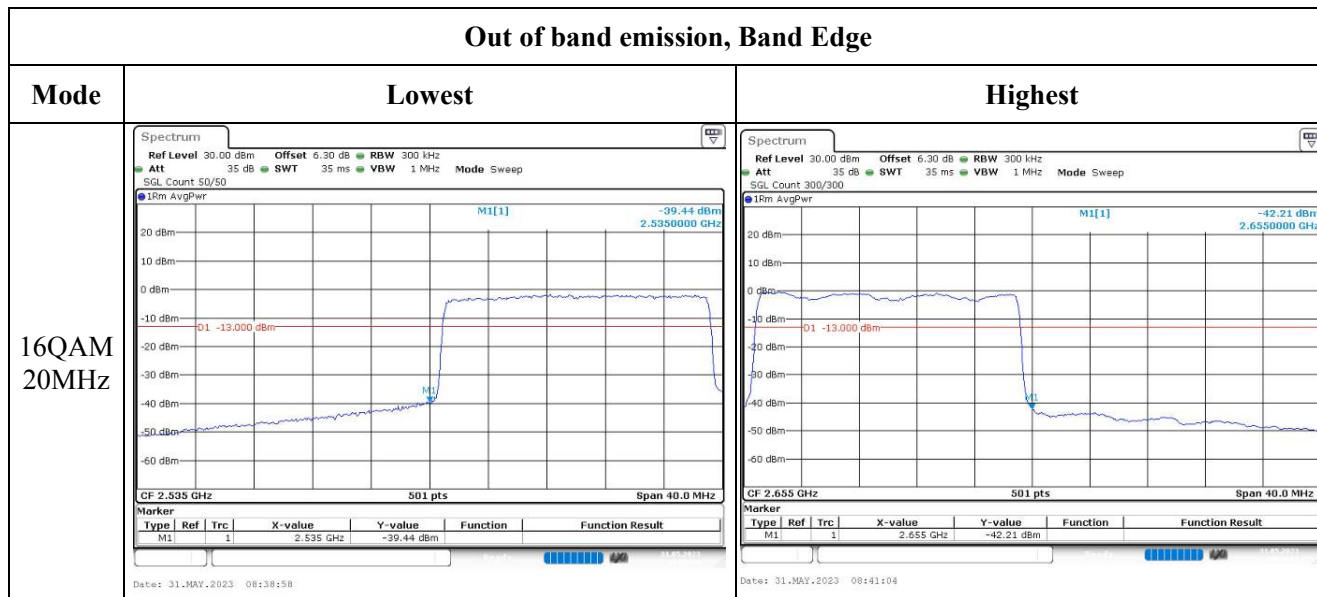
## Out of band emission, Band Edge



## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.18 Antenna Port Test Data and Results for LTE Band 66**

|                |             |              |                       |
|----------------|-------------|--------------|-----------------------|
| Serial Number: | 25K9-3      | Test Date:   | 2023/05/30~2023/05/31 |
| Test Site:     | RF          | Test Mode:   | Transmitting          |
| Tester:        | George Chen | Test Result: | Pass                  |

**Environmental Conditions:**

|              |           |                    |       |               |            |
|--------------|-----------|--------------------|-------|---------------|------------|
| Temperature: | 26.7~27.2 | Relative Humidity: | 49~55 | ATM Pressure: | 99.6~100.0 |
|--------------|-----------|--------------------|-------|---------------|------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model      | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40      | 101474          | 2023/3/31        | 2024/3/30            |
| zhuoxiang     | Coaxial Cable                       | SMA-178    | 211001          | Each time        | N/A                  |
| YINSAIGE      | Coaxial Cable                       | SS402      | SJ0100001       | Each time        | N/A                  |
| Mini-Circuits | DC Block                            | BLK-18-S+  | 1554403         | Each time        | N/A                  |
| Unknown       | Coaxial tee connector               | Unknown    | 2204004         | Each time        | N/A                  |
| R&S           | Wideband Radio Communication Tester | CMW500     | 149218          | 2023/3/31        | 2024/3/30            |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40 | 30174           | 2023/3/31        | 2024/3/30            |
| UNI-T         | Multimeter                          | UT39A+     | C210582554      | 2022/9/29        | 2023/9/28            |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D  | 21R6010D0912386 | N/A              | N/A                  |

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

**Test Frequency For Each Mode:**

| Operation Bandwidth | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|---------------------|------------------------|------------------------|-------------------------|
| 1.4MHz              | 1710.7                 | 1745                   | 1779.3                  |
| 3MHz                | 1711.5                 | 1745                   | 1778.5                  |
| 5MHz                | 1712.5                 | 1745                   | 1777.5                  |
| 10MHz               | 1715                   | 1745                   | 1775                    |
| 15MHz               | 1717.5                 | 1745                   | 1772.5                  |
| 20MHz               | 1720                   | 1745                   | 1770                    |

**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                      | 22.76                               | 22.68          | 22.49           | 24.68             | 30              |
|                             | RB1#3                      | 22.88                               | 22.86          | 22.67           |                   |                 |
|                             | RB1#5                      | 22.72                               | 22.66          | 22.5            |                   |                 |
|                             | RB3#0                      | 22.77                               | 22.75          | 22.62           |                   |                 |
|                             | RB3#3                      | 22.81                               | 22.76          | 22.54           |                   |                 |
|                             | RB6#0                      | 21.83                               | 21.74          | 21.56           |                   |                 |
| 1.4MHz 16QAM                | RB1#0                      | 21.8                                | 21.64          | 21.54           | 23.83             | 30              |
|                             | RB1#3                      | 22.03                               | 21.9           | 21.66           |                   |                 |
|                             | RB1#5                      | 21.83                               | 21.68          | 21.53           |                   |                 |
|                             | RB3#0                      | 21.66                               | 21.77          | 21.73           |                   |                 |
|                             | RB3#3                      | 21.68                               | 21.8           | 21.75           |                   |                 |
|                             | RB6#0                      | 20.82                               | 20.7           | 20.65           |                   |                 |
| 3MHz QPSK                   | RB1#0                      | 22.78                               | 22.77          | 22.62           | 24.58             | 30              |
|                             | RB1#8                      | 22.72                               | 22.76          | 22.62           |                   |                 |
|                             | RB1#14                     | 22.73                               | 22.76          | 22.61           |                   |                 |
|                             | RB6#0                      | 21.77                               | 21.72          | 21.52           |                   |                 |
|                             | RB6#9                      | 21.76                               | 21.73          | 21.58           |                   |                 |
|                             | RB15#0                     | 21.76                               | 21.76          | 21.56           |                   |                 |
| 3MHz 16QAM                  | RB1#0                      | 22.24                               | 21.89          | 21.63           | 24.04             | 30              |
|                             | RB1#8                      | 22.19                               | 21.87          | 21.61           |                   |                 |
|                             | RB1#14                     | 22.22                               | 21.86          | 21.58           |                   |                 |
|                             | RB6#0                      | 20.85                               | 20.75          | 20.56           |                   |                 |
|                             | RB6#9                      | 20.81                               | 20.8           | 20.54           |                   |                 |
|                             | RB15#0                     | 20.89                               | 20.75          | 20.67           |                   |                 |
| 5MHz QPSK                   | RB1#0                      | 22.71                               | 22.68          | 22.51           | 24.6              | 30              |
|                             | RB1#13                     | 22.76                               | 22.8           | 22.6            |                   |                 |
|                             | RB1#24                     | 22.67                               | 22.71          | 22.49           |                   |                 |
|                             | RB15#0                     | 21.78                               | 21.75          | 21.61           |                   |                 |
|                             | RB15#10                    | 21.74                               | 21.73          | 21.57           |                   |                 |
|                             | RB25#0                     | 21.71                               | 21.69          | 21.57           |                   |                 |
| 5MHz 16QAM                  | RB1#0                      | 21.58                               | 21.96          | 21.6            | 23.86             | 30              |
|                             | RB1#13                     | 21.66                               | 22.06          | 21.65           |                   |                 |
|                             | RB1#24                     | 21.67                               | 21.97          | 21.56           |                   |                 |
|                             | RB15#0                     | 20.88                               | 20.76          | 20.64           |                   |                 |
|                             | RB15#10                    | 20.82                               | 20.73          | 20.65           |                   |                 |
|                             | RB25#0                     | 20.8                                | 20.74          | 20.6            |                   |                 |

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**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                      | 3.94                      | 4.64           | 4.93            | 13          |
|                             | RB100#0                    | 4.84                      | 4.93           | 5.07            | 13          |
| 20MHz 16QAM                 | RB1#0                      | 4.72                      | 5.48           | 5.88            | 13          |
|                             | RB100#0                    | 5.77                      | 5.83           | 5.97            | 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                        | 1.102          | 1.102        | 1.314                          | 1.302          | 1.314        |
| 1.4MHz 16QAM   | 1.096                        | 1.096          | 1.102        | 1.284                          | 1.29           | 1.326        |
| 3MHz QPSK      | 2.695                        | 2.695          | 2.683        | 2.88                           | 2.88           | 2.892        |
| 3MHz 16QAM     | 2.683                        | 2.683          | 2.683        | 2.892                          | 2.88           | 2.88         |
| 5MHz QPSK      | 4.531                        | 4.511          | 4.531        | 5.2                            | 5.18           | 5.16         |
| 5MHz 16QAM     | 4.511                        | 4.551          | 4.531        | 5.14                           | 5.18           | 5.3          |
| 10MHz QPSK     | 8.982                        | 8.942          | 8.942        | 10                             | 9.84           | 9.92         |
| 10MHz 16QAM    | 8.982                        | 8.942          | 8.982        | 9.76                           | 9.88           | 10.04        |
| 15MHz QPSK     | 13.593                       | 13.473         | 13.533       | 15.24                          | 15.12          | 15.24        |
| 15MHz 16QAM    | 13.593                       | 13.533         | 13.533       | 15.18                          | 15.18          | 15.24        |
| 20MHz QPSK     | 17.964                       | 17.964         | 18.044       | 19.68                          | 19.6           | 20           |
| 20MHz 16QAM    | 17.964                       | 18.044         | 17.964       | 19.84                          | 19.84          | 19.68        |

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

**Spurious Emissions at Antenna Terminal**

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

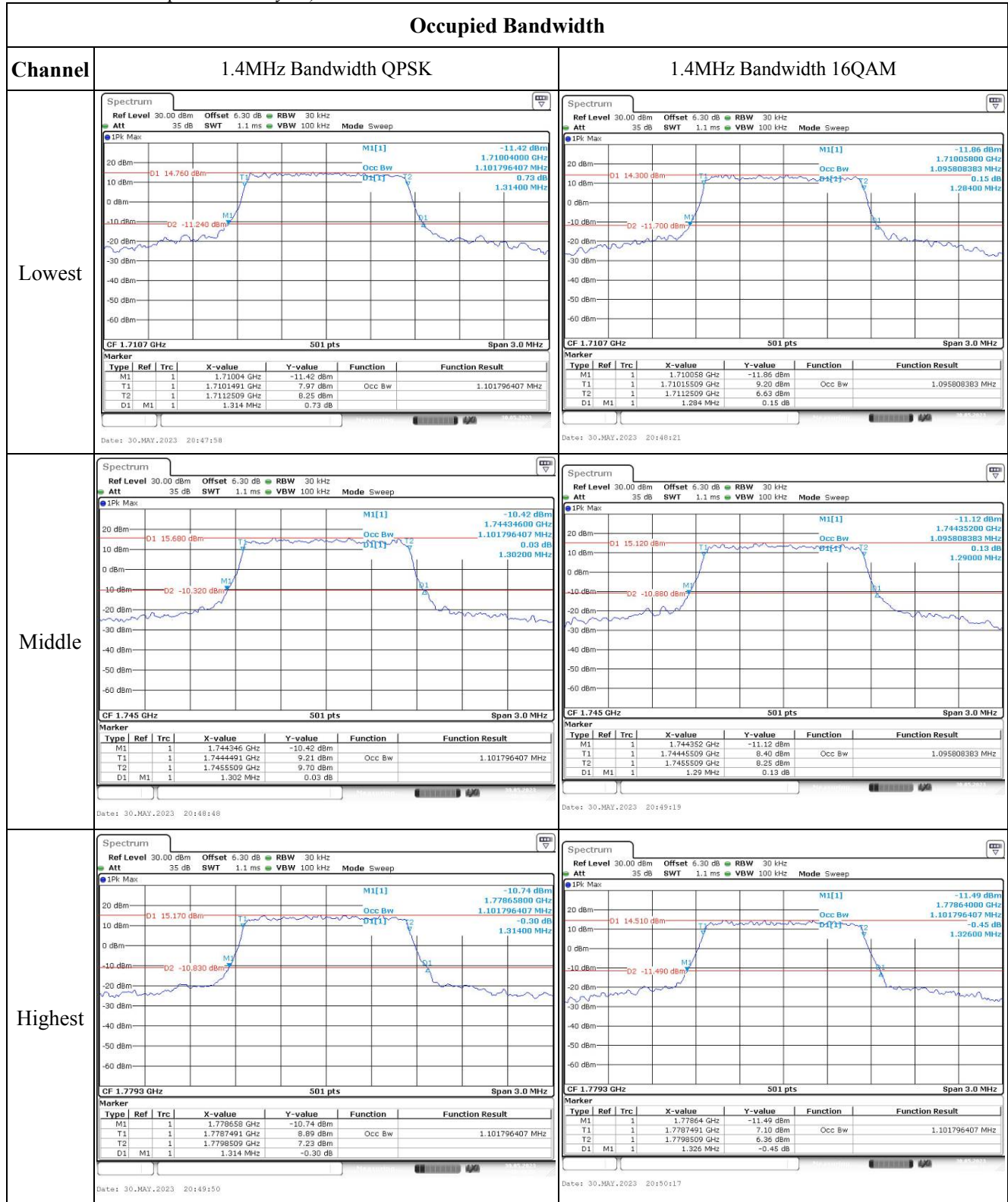
**Out of band emission, Band Edge**

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

| Frequency Stability                 |                  |                                                            |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Mode:                          | 20M QPSK         | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
| Test Item                           | Temperature (°C) | Voltage (V <sub>bc</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.87                                                       | 1711.069         | 1710.00 | 1779.084         | 1780        |
|                                     | -20              | 3.87                                                       | 1711.059         | 1710.00 | 1779.087         | 1780        |
|                                     | -10              | 3.87                                                       | 1711.044         | 1710.00 | 1779.037         | 1780        |
|                                     | 0                | 3.87                                                       | 1711.092         | 1710.00 | 1779.071         | 1780        |
|                                     | 10               | 3.87                                                       | 1711.010         | 1710.00 | 1779.078         | 1780        |
|                                     | 20               | 3.87                                                       | 1711.058         | 1710.00 | 1779.022         | 1780        |
|                                     | 30               | 3.87                                                       | 1711.076         | 1710.00 | 1779.025         | 1780        |
|                                     | 40               | 3.87                                                       | 1711.024         | 1710.00 | 1779.076         | 1780        |
|                                     | 50               | 3.87                                                       | 1711.031         | 1710.00 | 1779.083         | 1780        |
| Frequency Stability vs. Voltage     | 20               | 3.47                                                       | 1711.079         | 1710.00 | 1779.073         | 1780        |
|                                     | 20               | 4.45                                                       | 1711.016         | 1710.00 | 1779.064         | 1780        |
|                                     |                  |                                                            |                  |         | <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>bc</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.87                                                       | 1711.038         | 1710.00 | 1779.012         | 1780        |
|                                     | -20              | 3.87                                                       | 1711.082         | 1710.00 | 1779.011         | 1780        |
|                                     | -10              | 3.87                                                       | 1711.086         | 1710.00 | 1779.058         | 1780        |
|                                     | 0                | 3.87                                                       | 1711.010         | 1710.00 | 1779.005         | 1780        |
|                                     | 10               | 3.87                                                       | 1711.022         | 1710.00 | 1779.044         | 1780        |
|                                     | 20               | 3.87                                                       | 1711.058         | 1710.00 | 1779.022         | 1780        |
|                                     | 30               | 3.87                                                       | 1711.091         | 1710.00 | 1779.097         | 1780        |
|                                     | 40               | 3.87                                                       | 1711.022         | 1710.00 | 1779.089         | 1780        |
|                                     | 50               | 3.87                                                       | 1711.050         | 1710.00 | 1779.053         | 1780        |
| Frequency Stability vs. Voltage     | 20               | 3.47                                                       | 1711.028         | 1710.00 | 1779.002         | 1780        |
|                                     | 20               | 4.45                                                       | 1711.061         | 1710.00 | 1779.015         | 1780        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

**Test Plots**(Note: The 6.3dB is the Insertion loss of the RF cable, Coaxial tee connector and DC Block, which was offset into the Spectrum Analyzer):



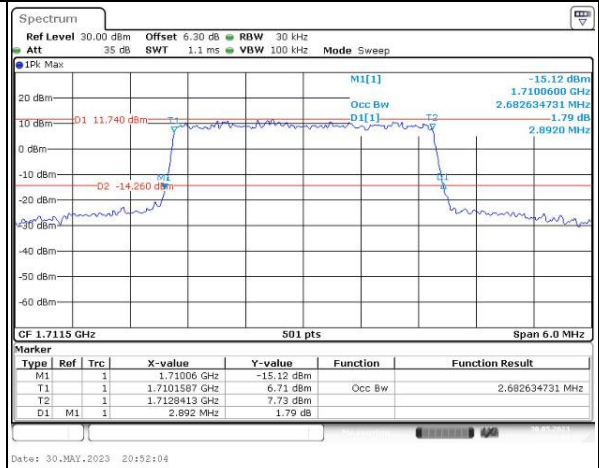
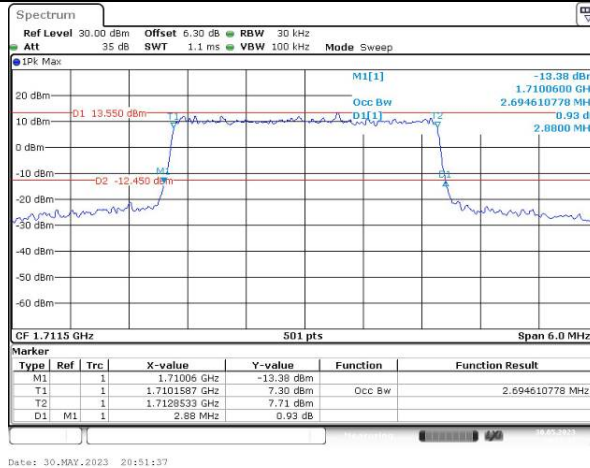
## Occupied Bandwidth

## Channel

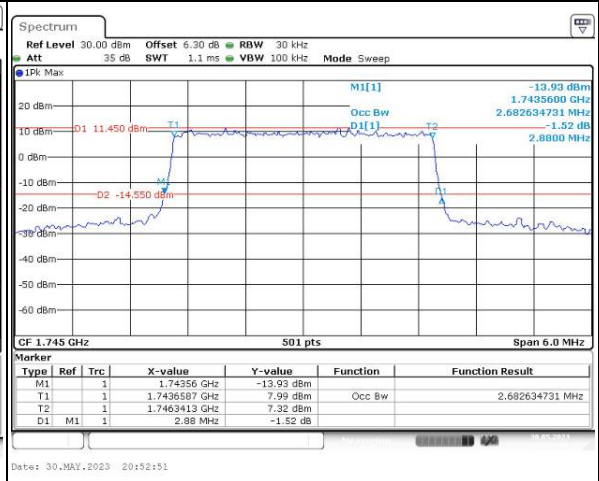
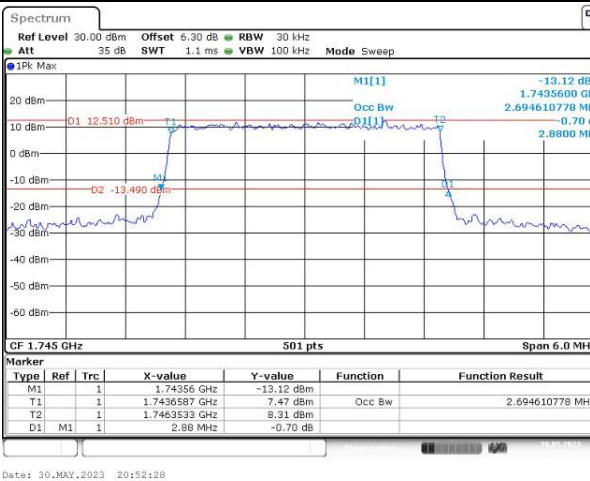
## 3MHz Bandwidth QPSK

## 3MHz Bandwidth 16QAM

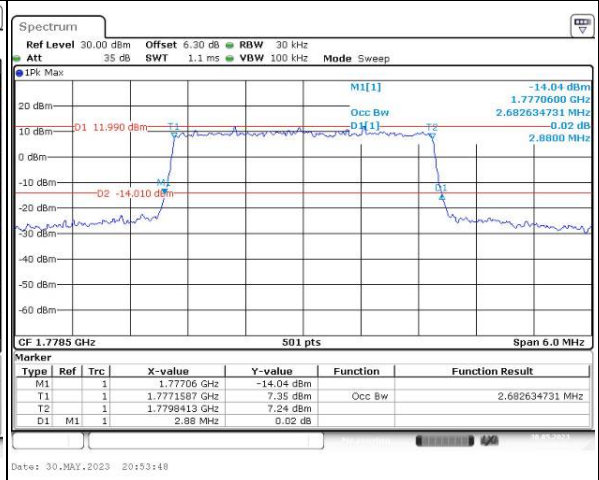
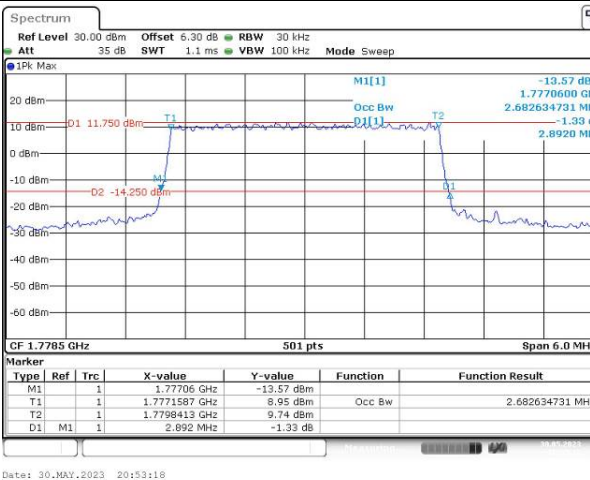
Lowest



Middle



Highest



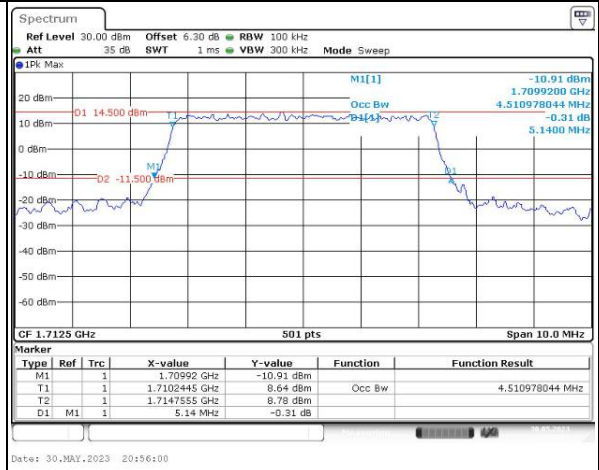
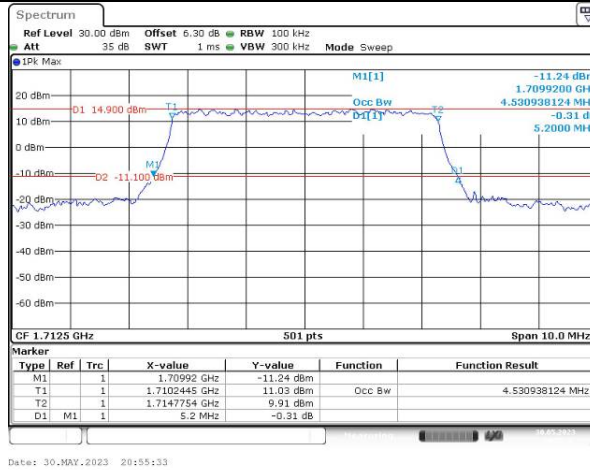
## Occupied Bandwidth

## Channel

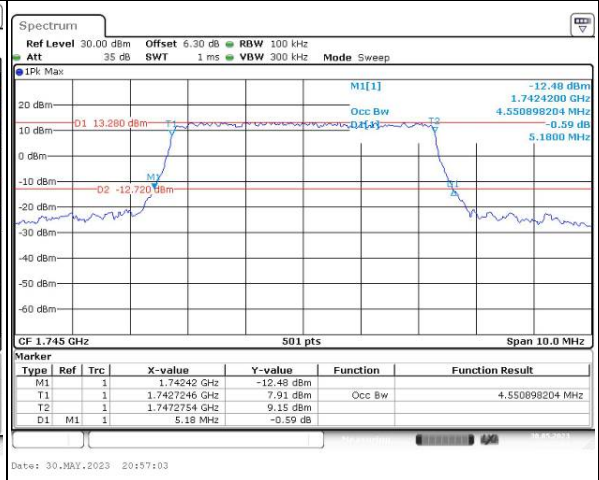
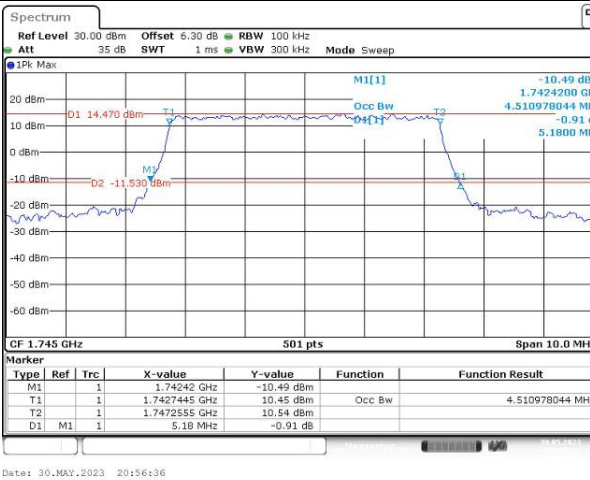
## 5MHz Bandwidth QPSK

## 5MHz Bandwidth 16QAM

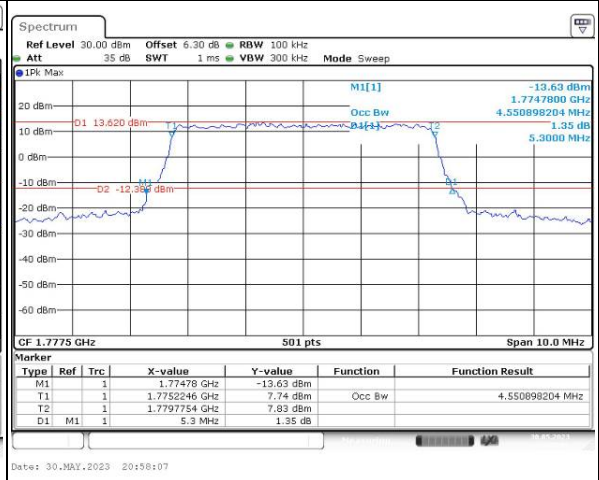
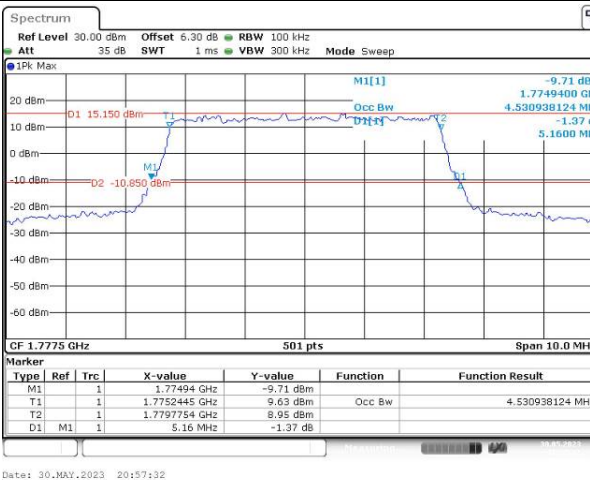
## Lowest



## Middle



## Highest



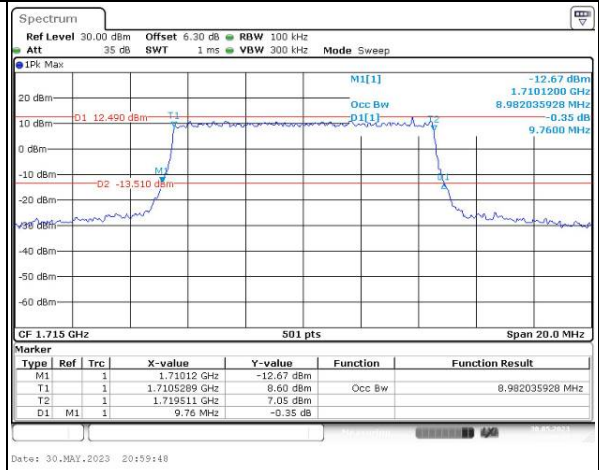
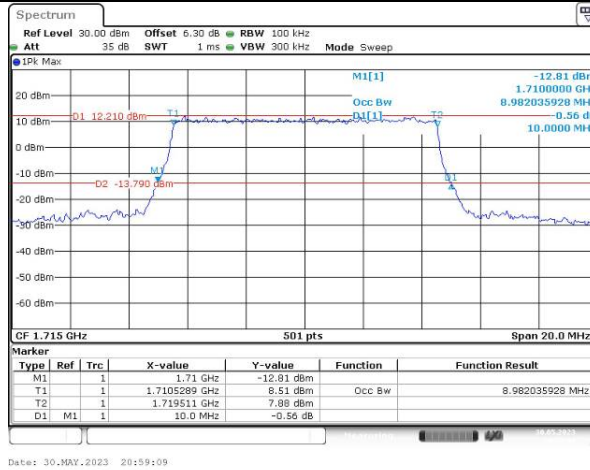
## Occupied Bandwidth

## Channel

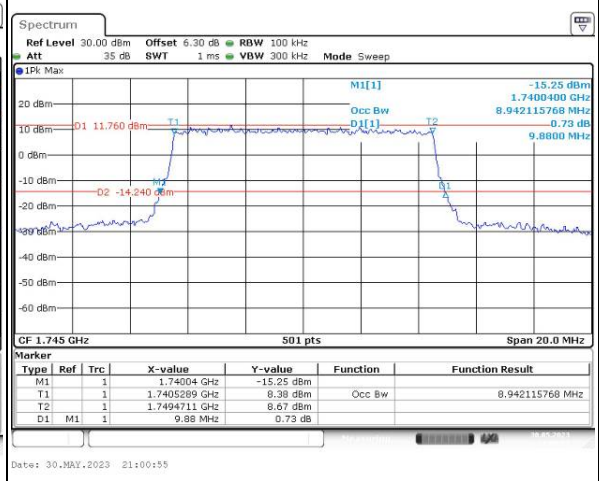
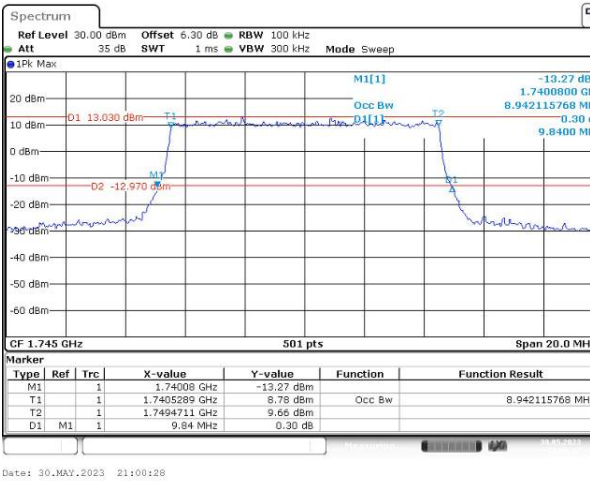
## 10MHz Bandwidth QPSK

## 10MHz Bandwidth 16QAM

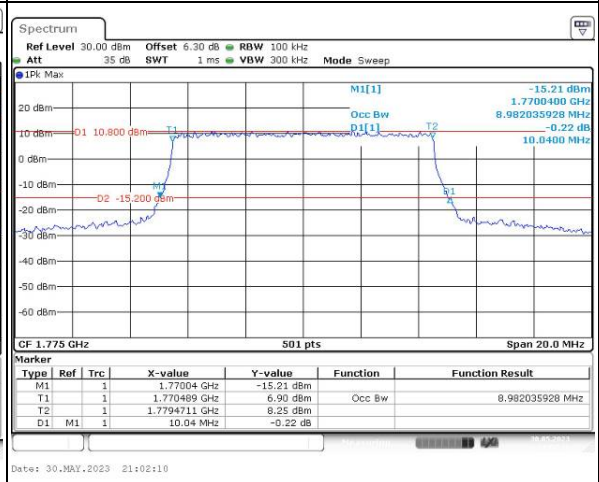
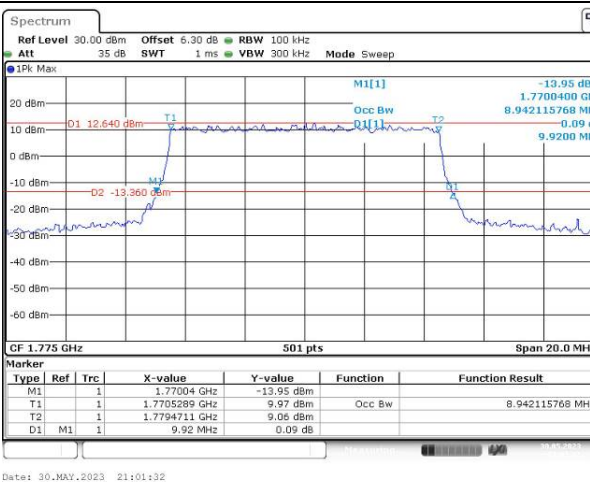
## Lowest



## Middle



## Highest



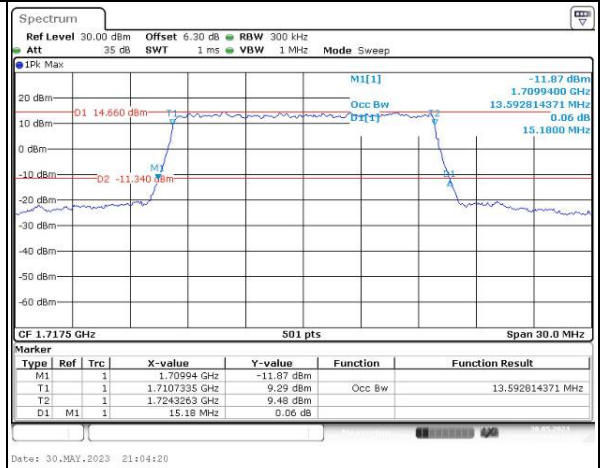
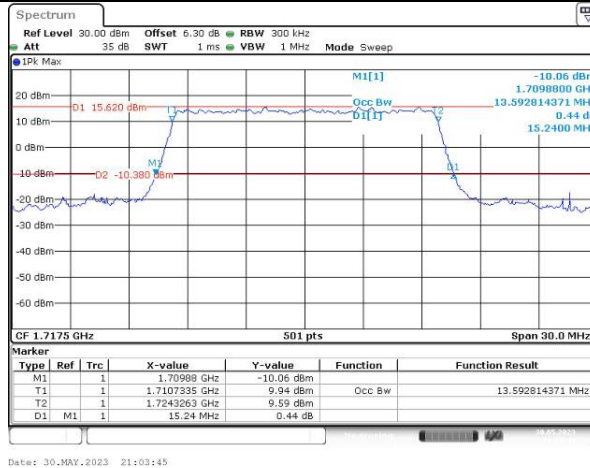
## Occupied Bandwidth

## Channel

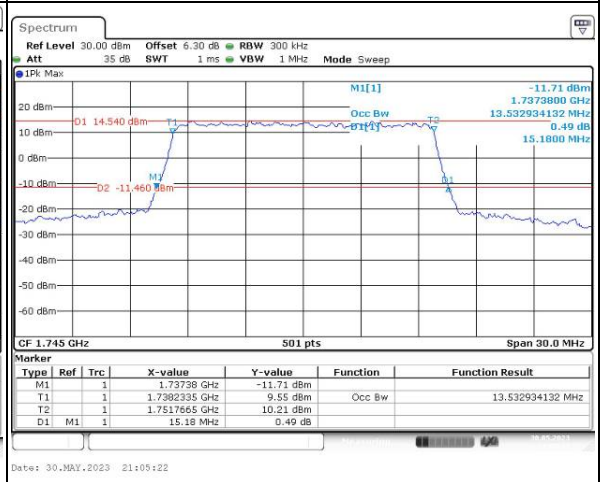
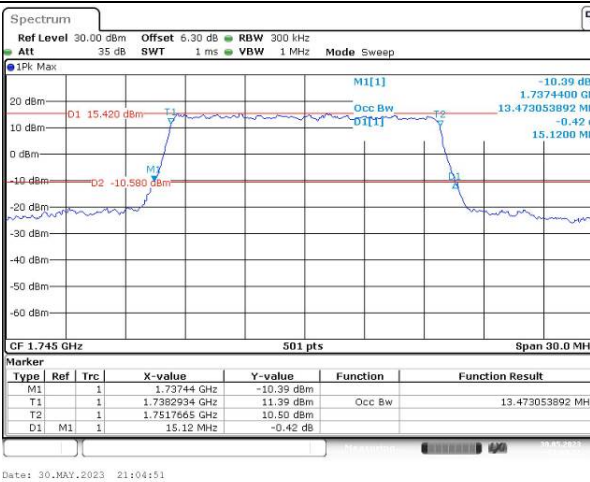
## 15MHz Bandwidth QPSK

## 15MHz Bandwidth 16QAM

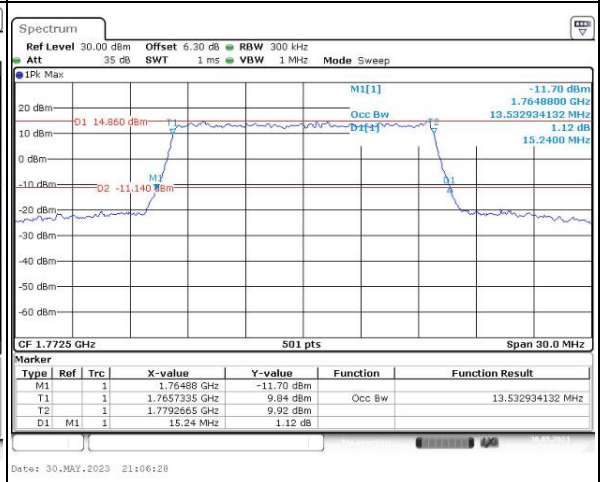
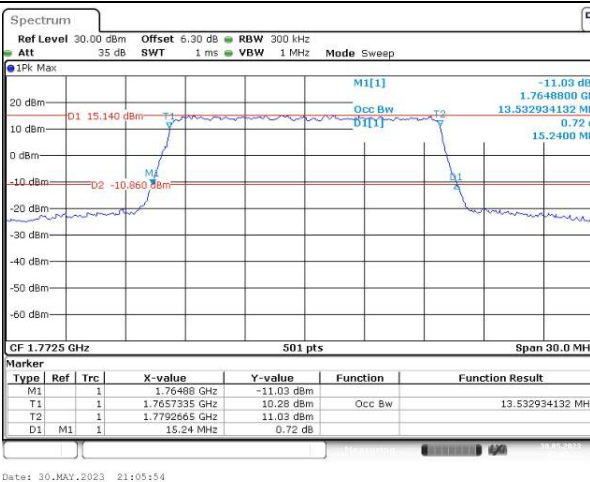
## Lowest



## Middle



## Highest



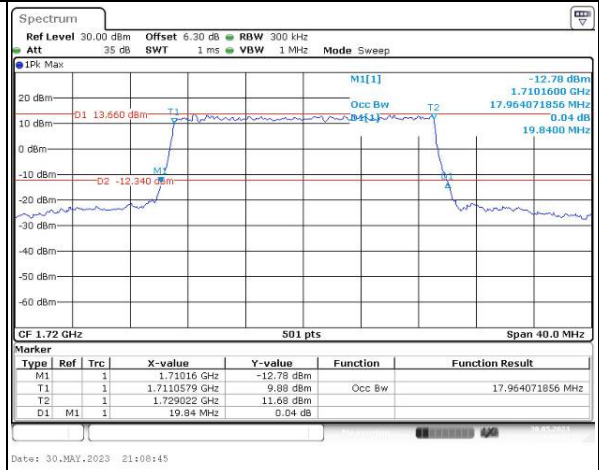
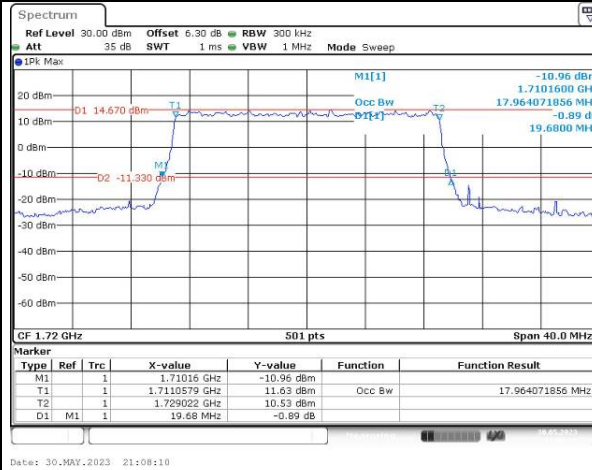
## Occupied Bandwidth

## Channel

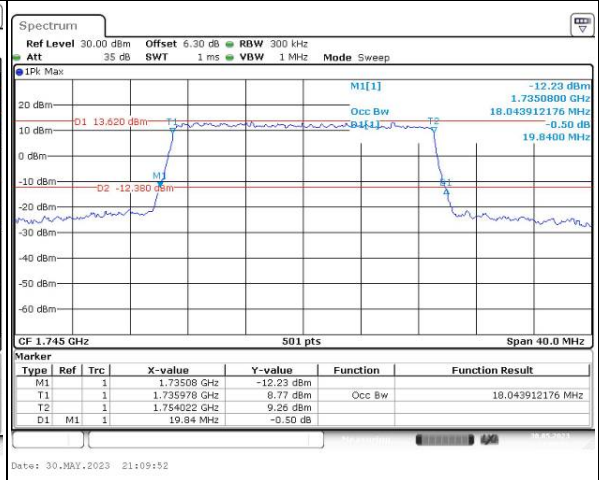
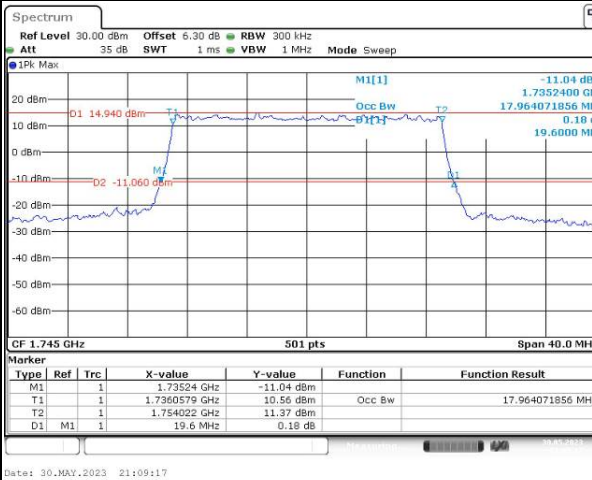
## 20MHz Bandwidth QPSK

## 20MHz Bandwidth 16QAM

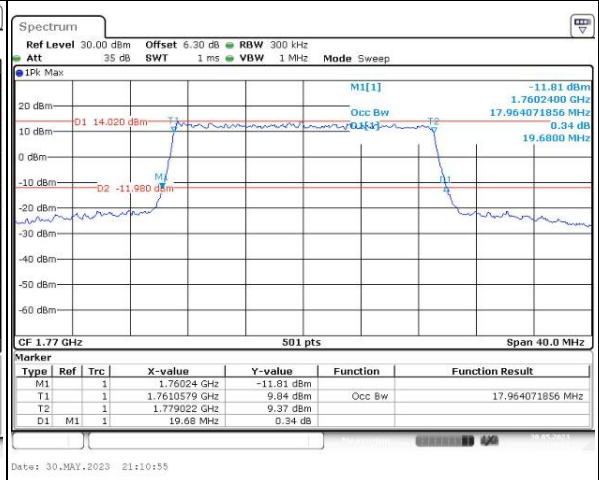
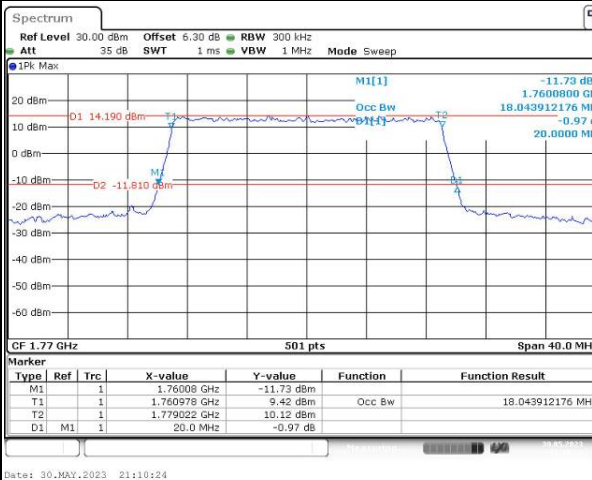
## Lowest



## Middle



## Highest

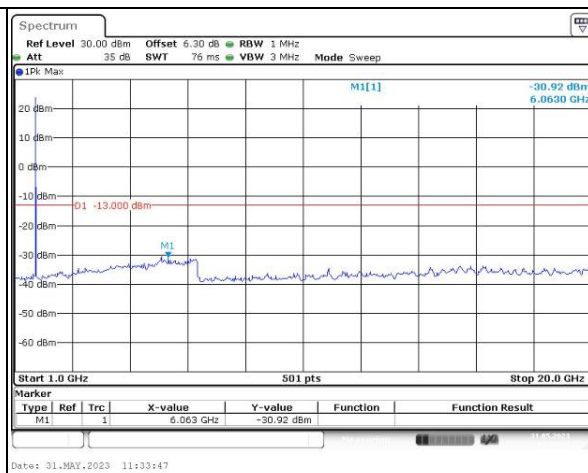
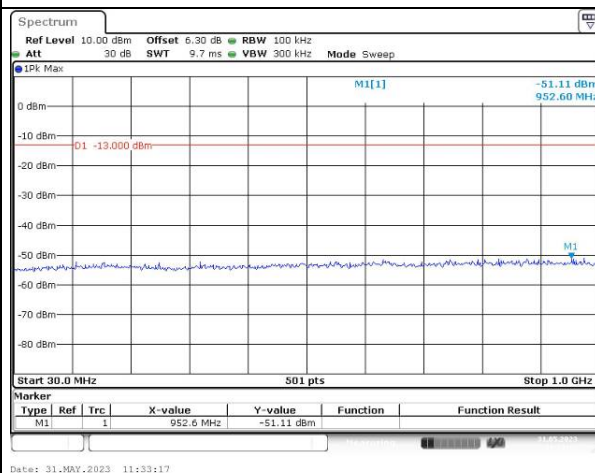


## Spurious Emissions at Antenna Terminal

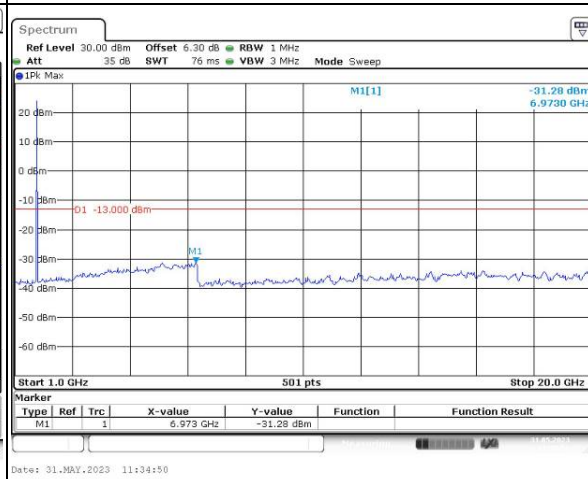
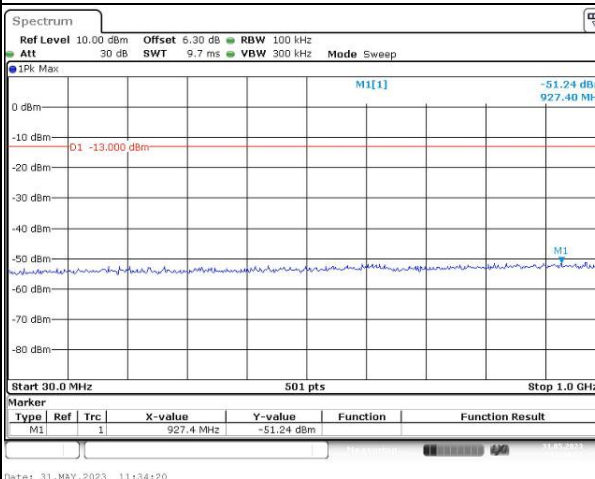
Channel

1.4MHz Bandwidth QPSK

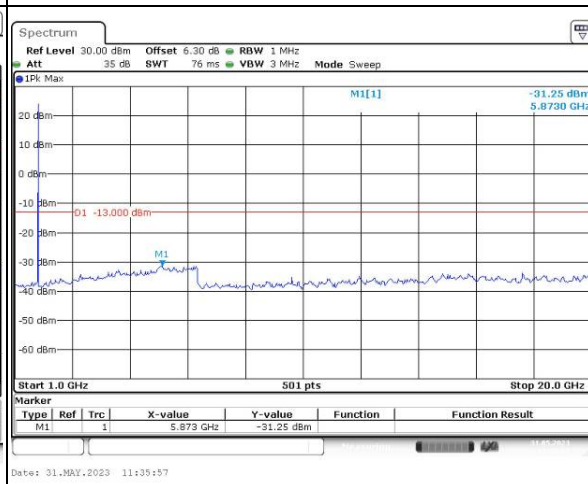
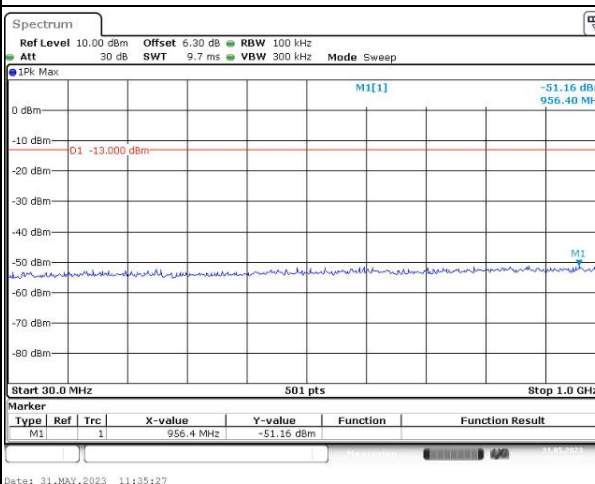
Lowest



Middle



Highest

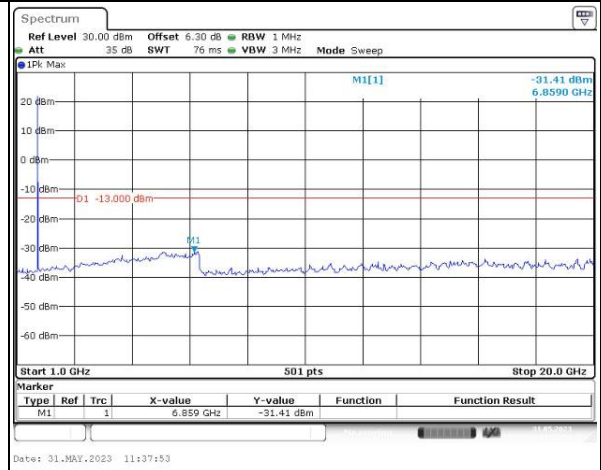
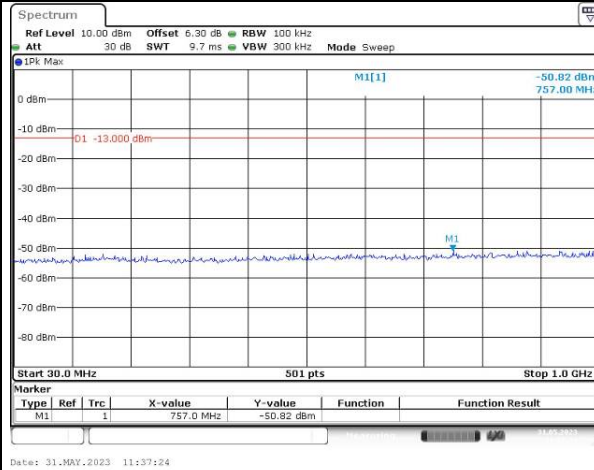


## Spurious Emissions at Antenna Terminal

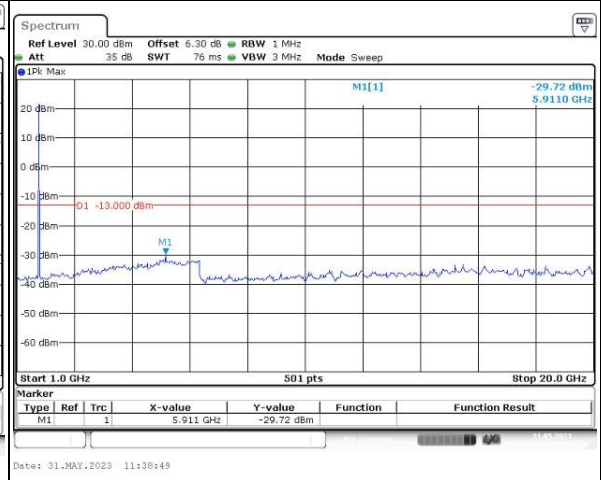
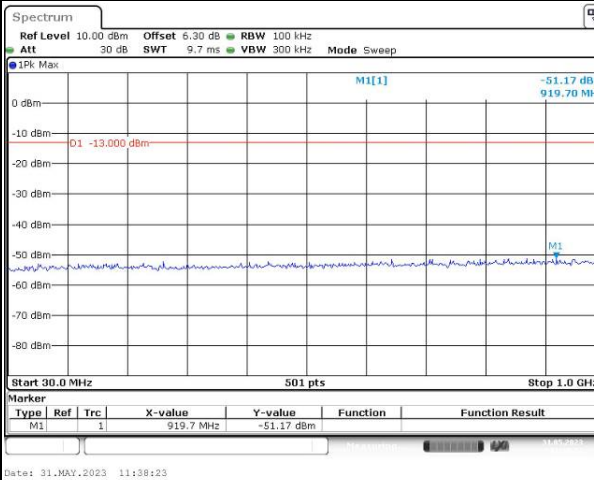
Channel

3MHz Bandwidth QPSK

Lowest



Middle



Highest

