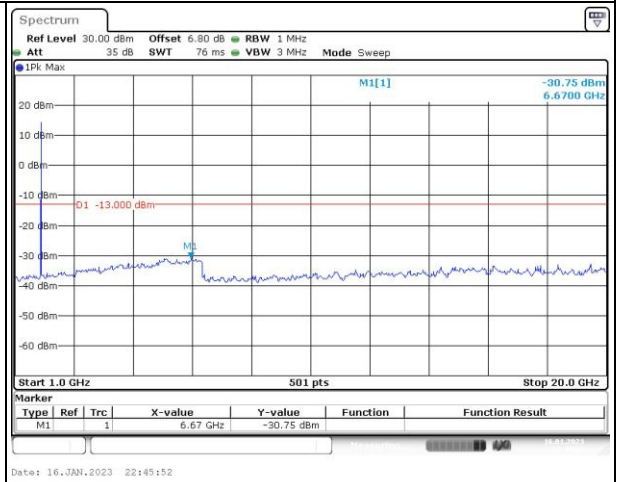
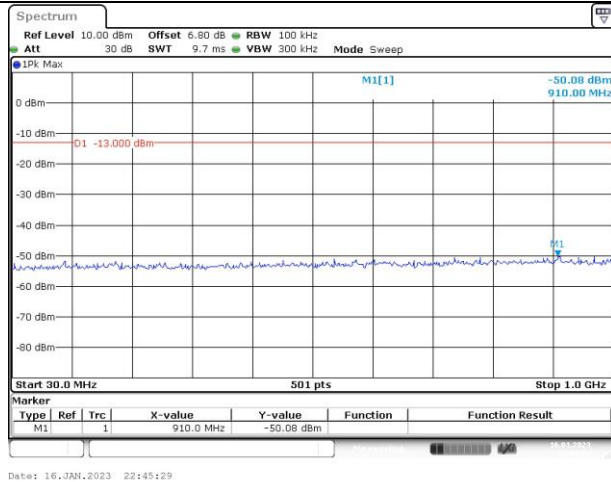


### Spurious Emissions at Antenna Terminal

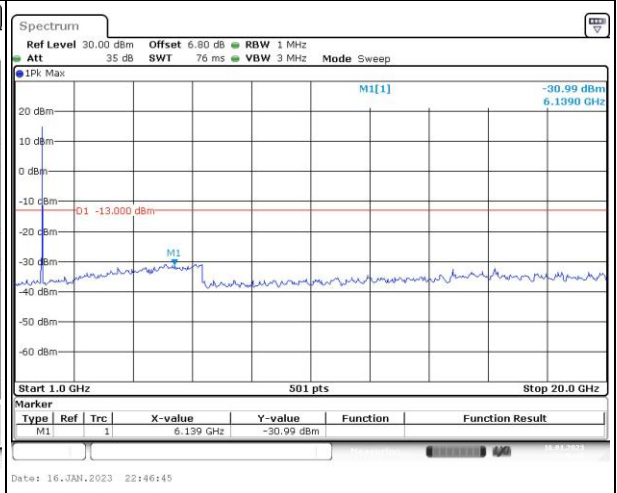
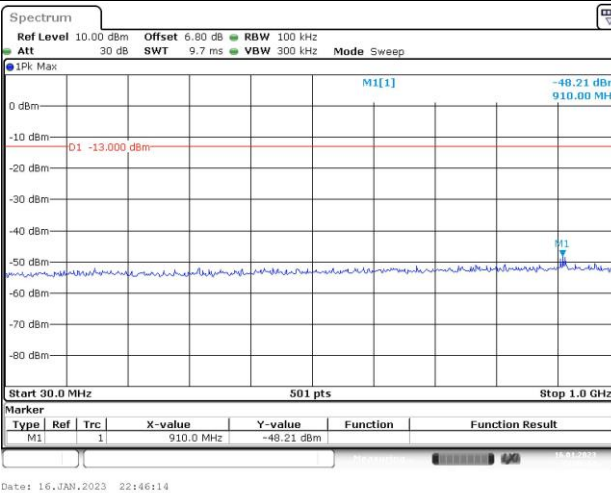
Channel

10MHz Bandwidth QPSK

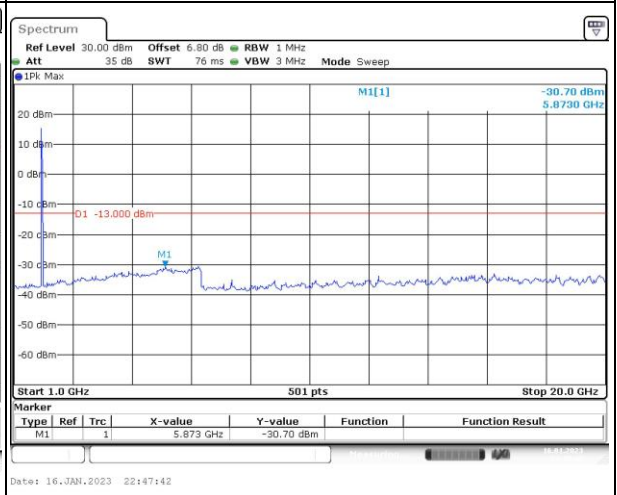
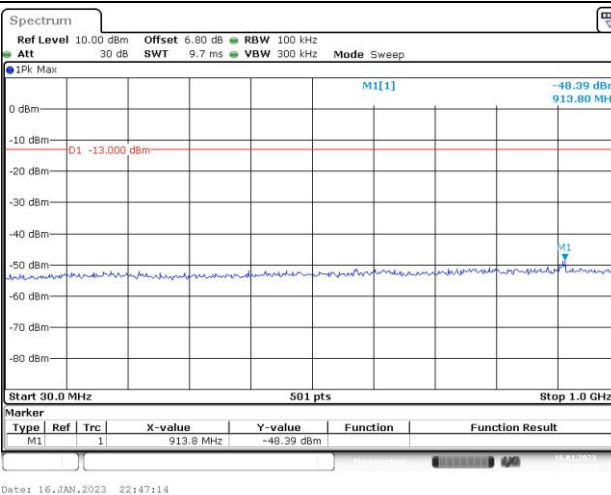
Lowest



Middle



Highest



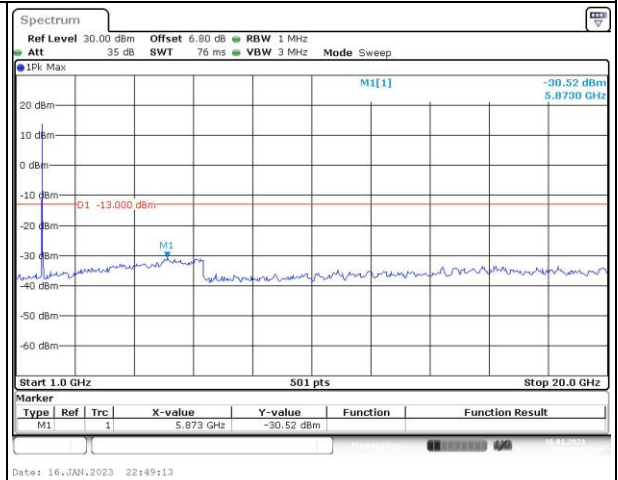
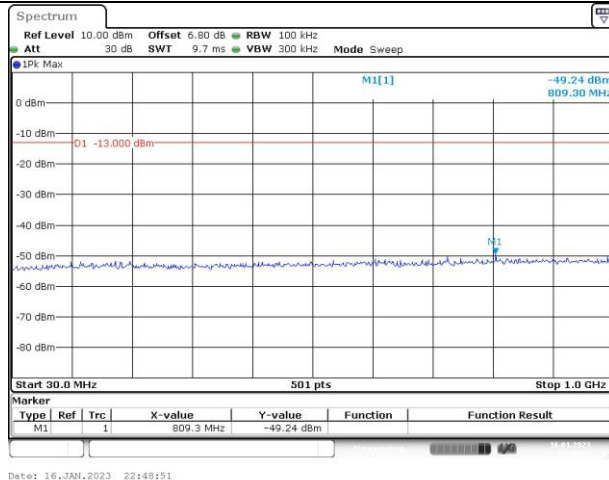
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Spurious Emissions at Antenna Terminal

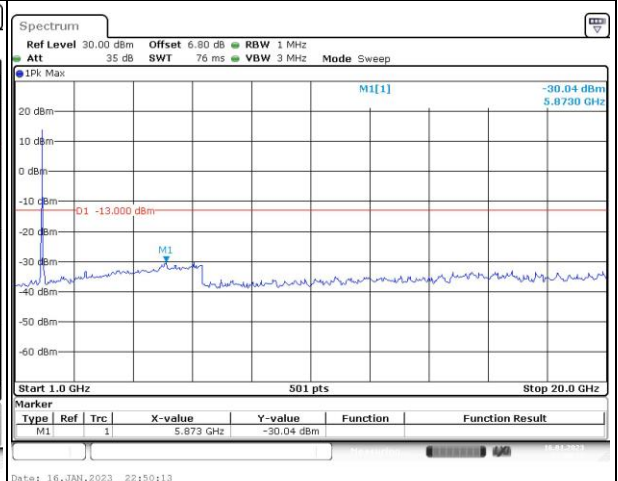
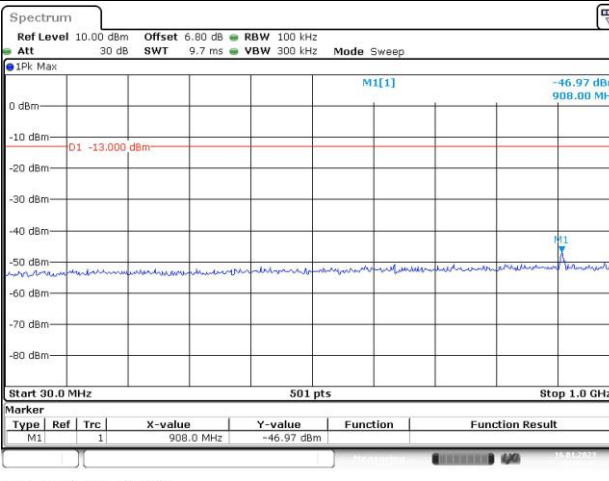
Channel

15MHz Bandwidth QPSK

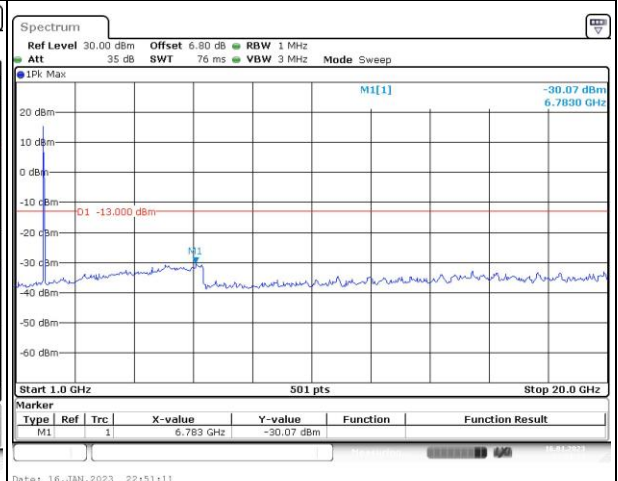
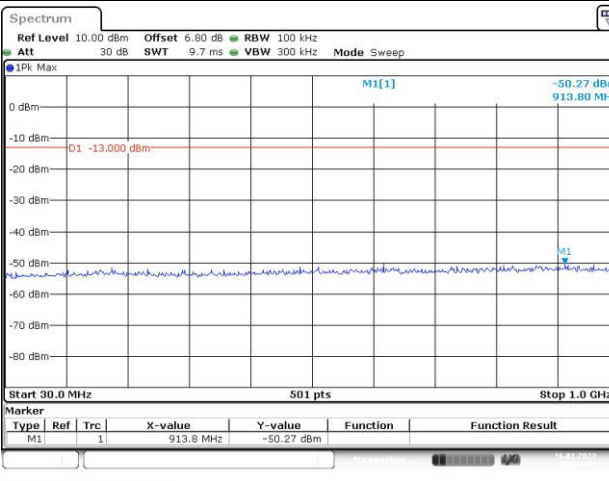
Lowest



Middle



Highest



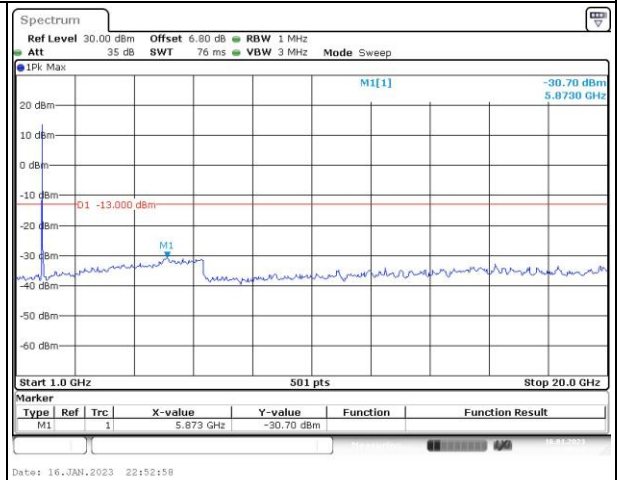
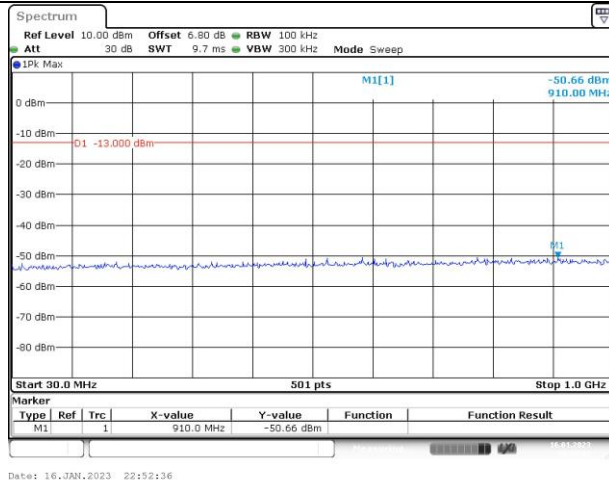
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Spurious Emissions at Antenna Terminal

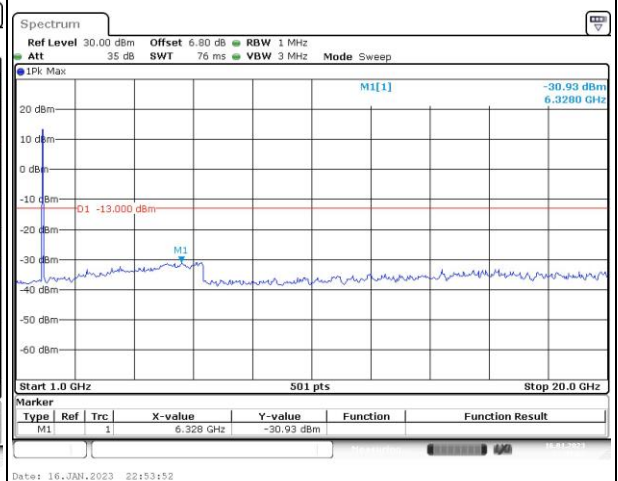
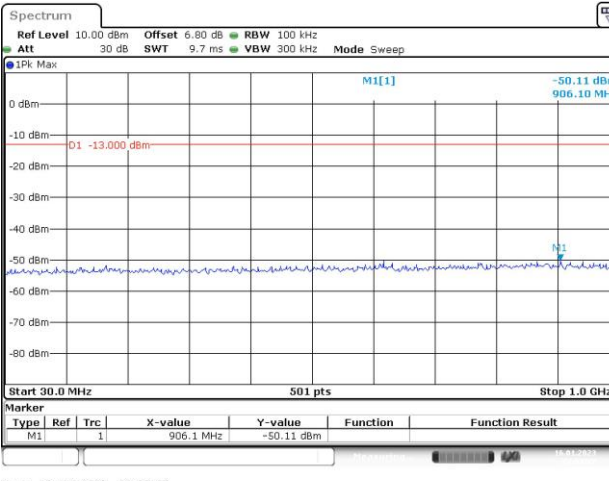
Channel

20MHz Bandwidth QPSK

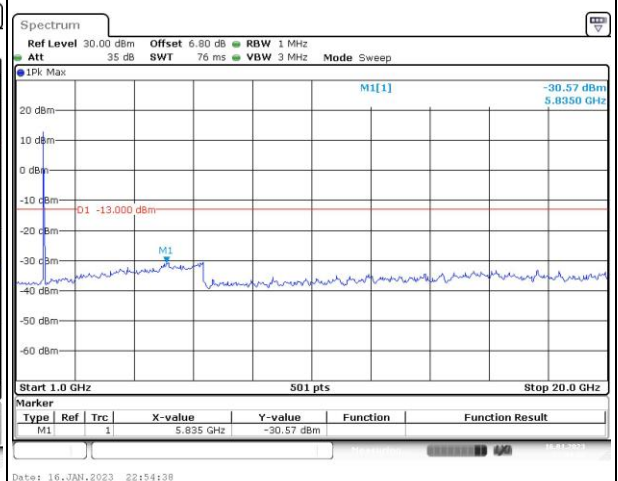
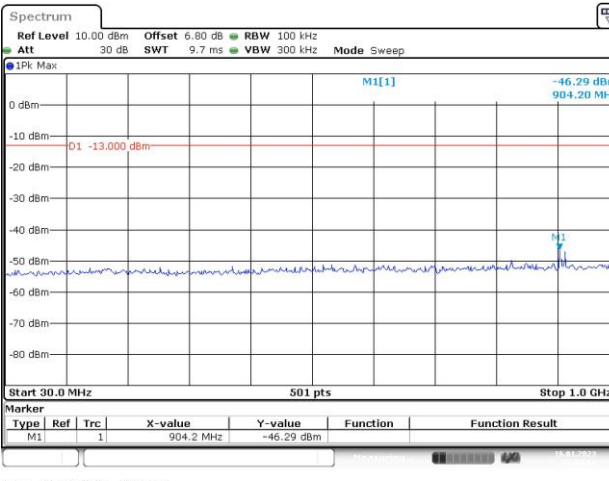
Lowest



Middle

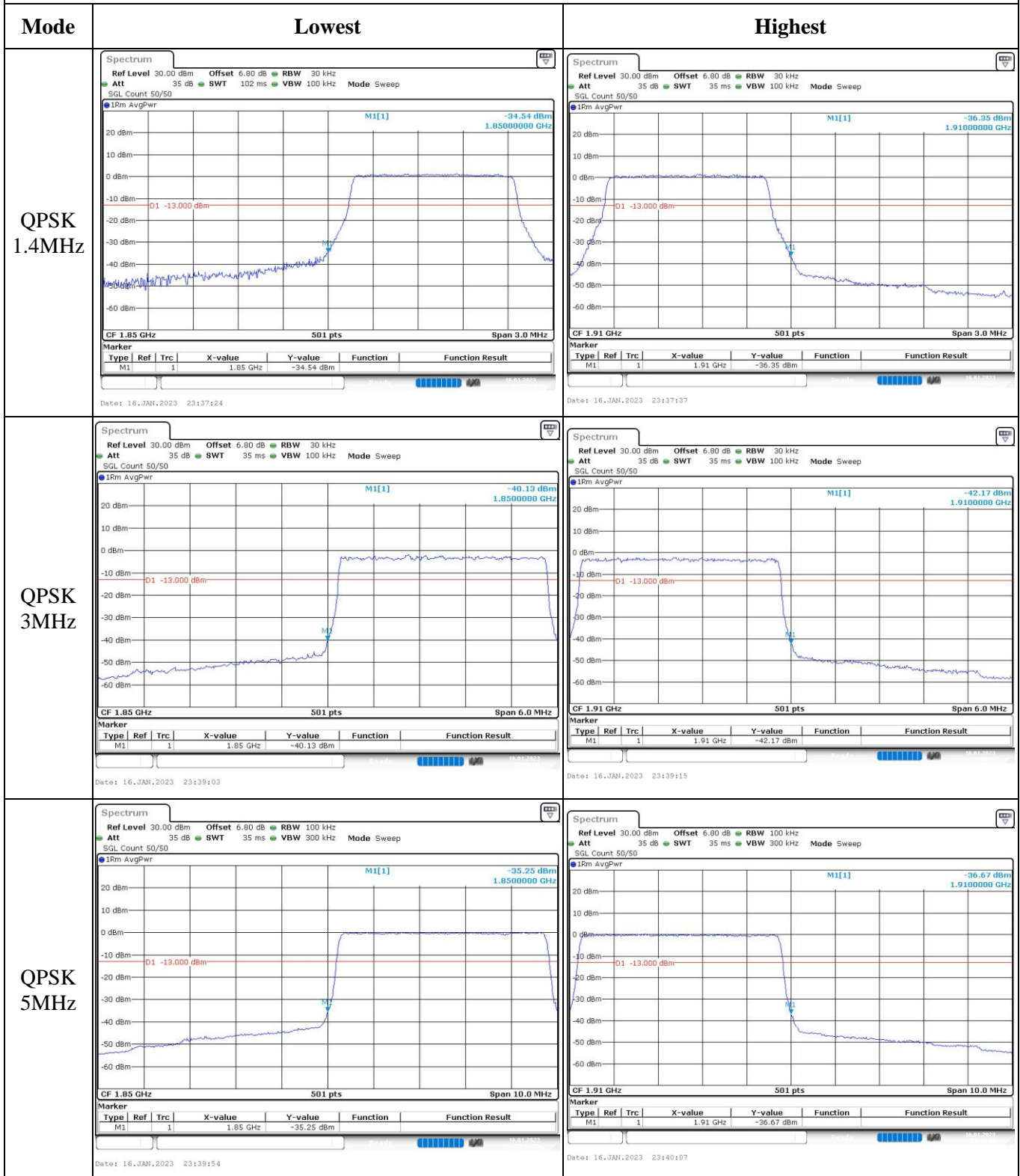


Highest



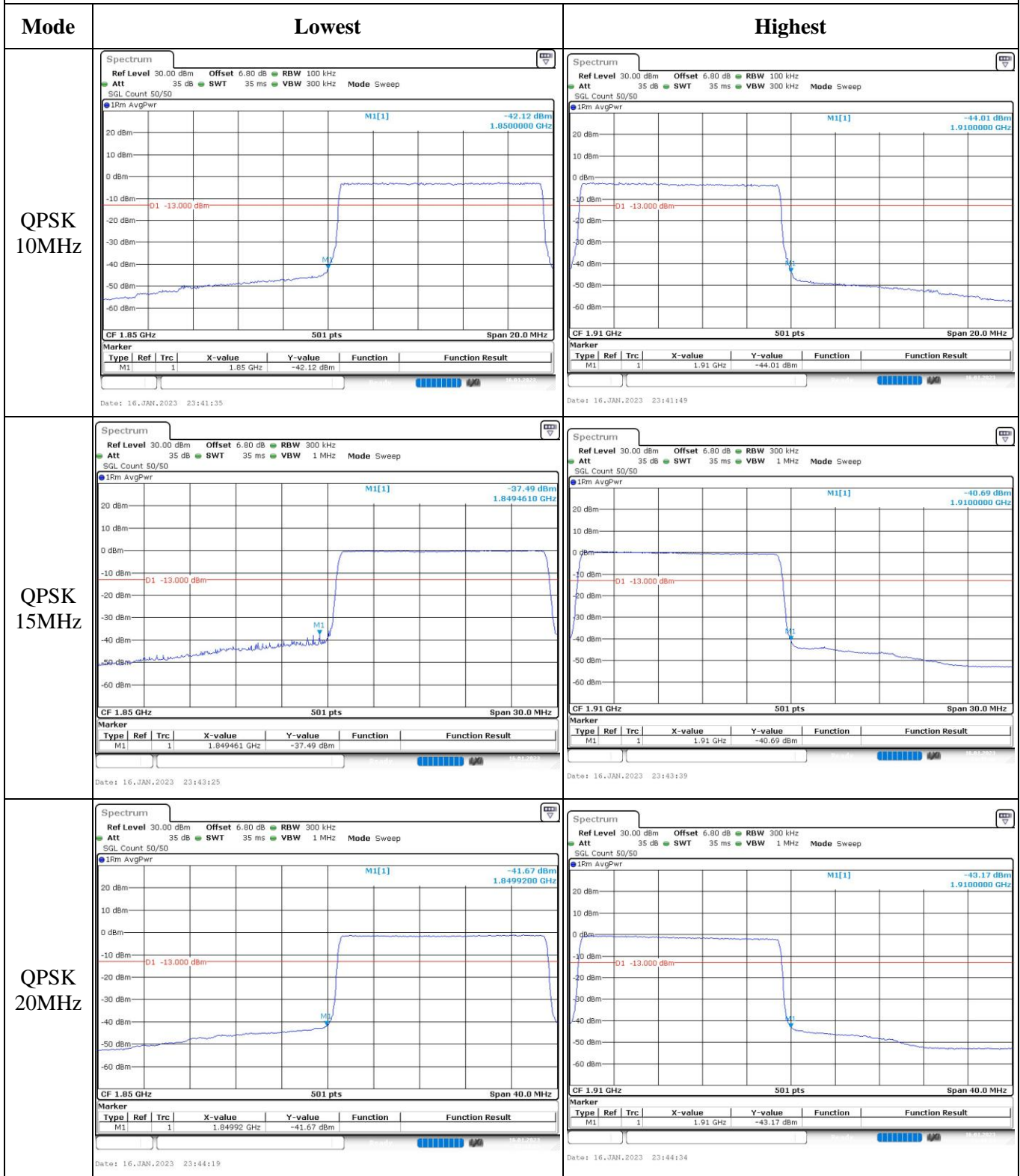
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

Out of band emission, Band Edge



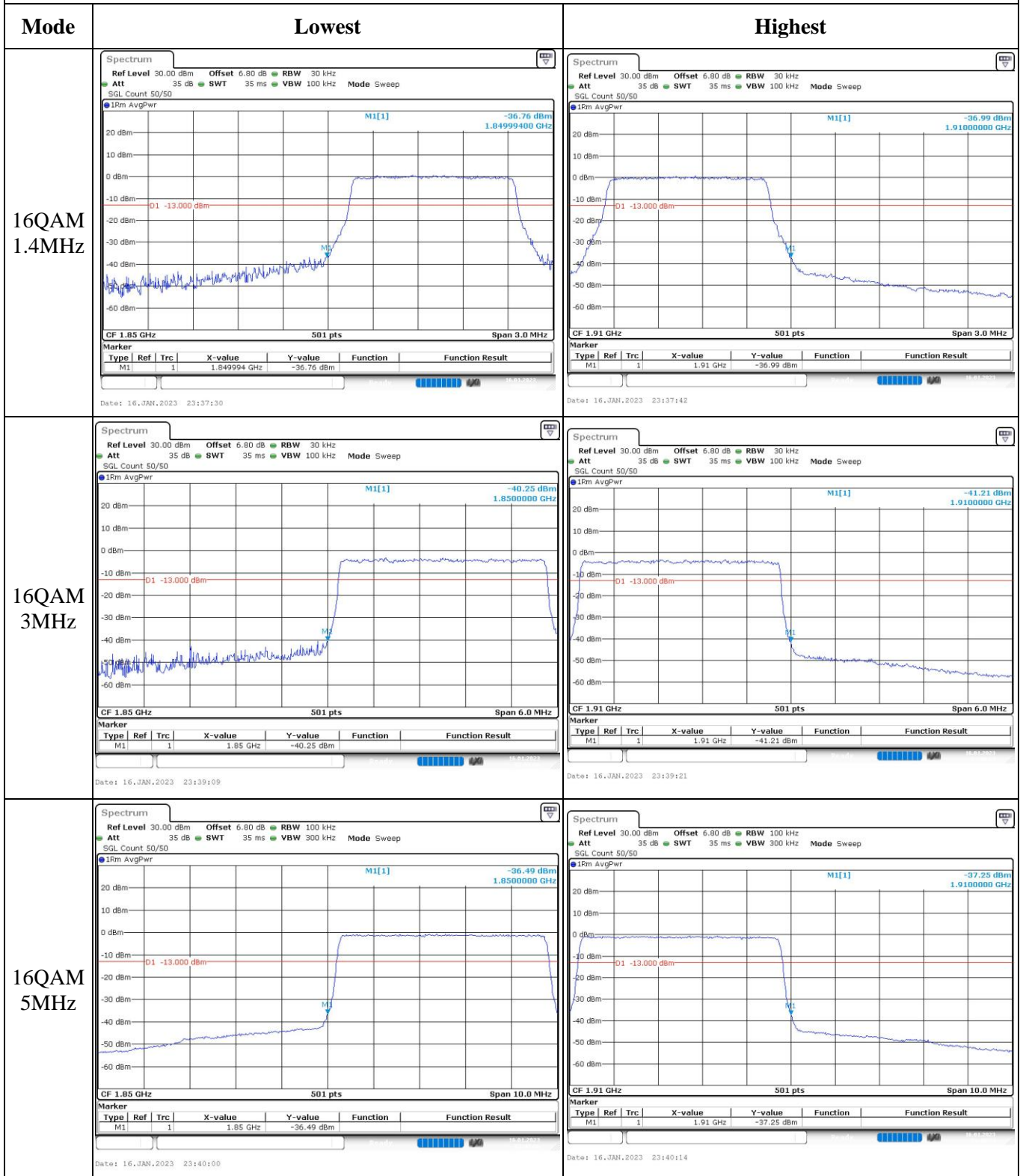
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

Out of band emission, Band Edge



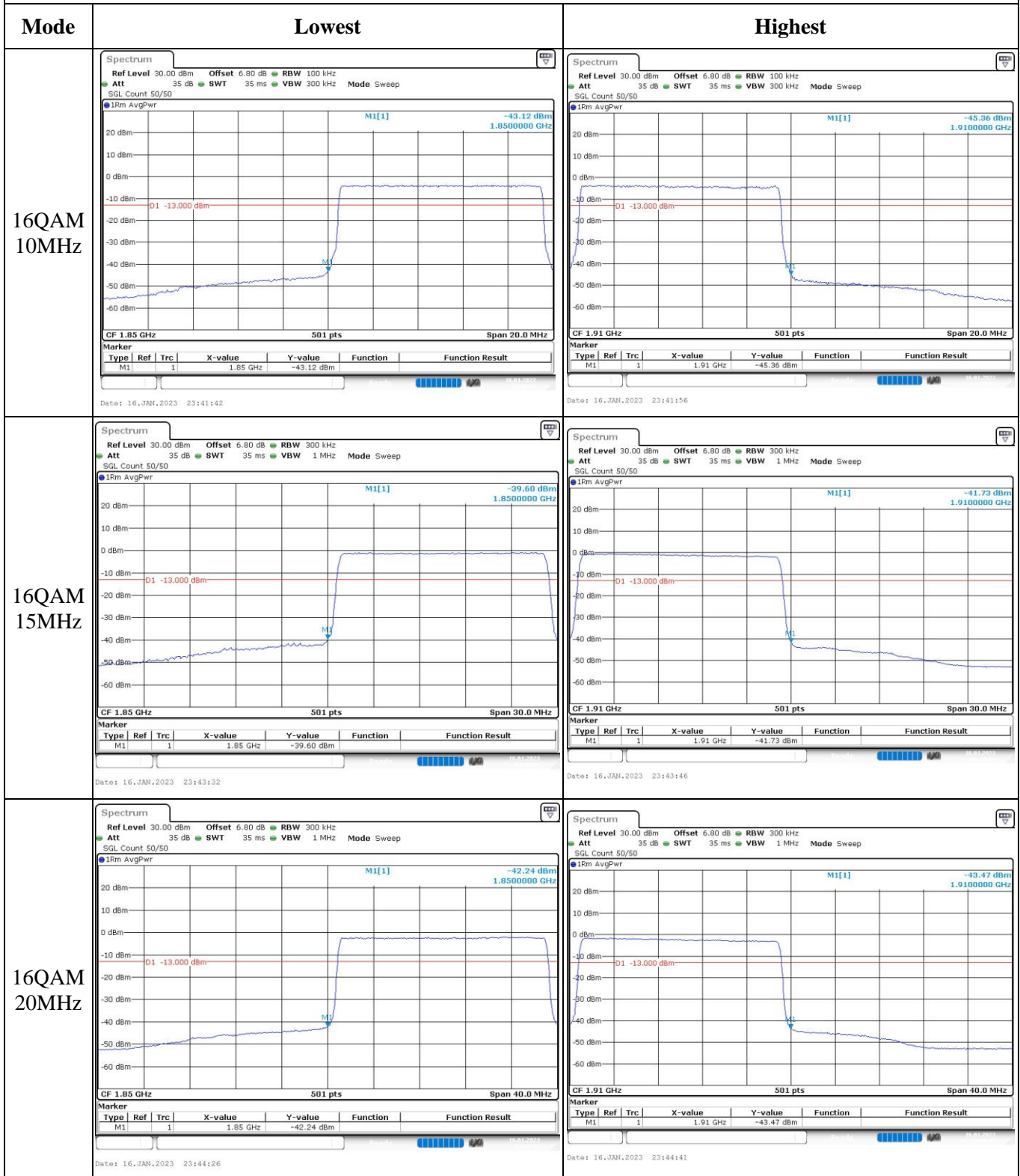
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

Out of band emission, Band Edge



Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Out of band emission, Band Edge



Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

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

|                |          |              |                    |
|----------------|----------|--------------|--------------------|
| Serial Number: | 1WP8     | Test Date:   | 2023/1/7~2023/1/17 |
| Test Site:     | RF       | Test Mode:   | Transmitting       |
| Tester:        | Rinka Li | Test Result: | Pass               |

**Environmental Conditions:**

|                      |           |                              |       |                        |             |
|----------------------|-----------|------------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 21.4~23.7 | Relative<br>Humidity:<br>(%) | 45~55 | ATM Pressure:<br>(kPa) | 101.4~101.6 |
|----------------------|-----------|------------------------------|-------|------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model      | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40      | 101474          | 2022/7/15        | 2023/7/14            |
| zhuoxiang     | Coaxial Cable                       | SMA-178    | 211001          | Each time        | N/A                  |
| YINSAIGE      | Coaxial Cable                       | SS402      | SJ0100002       | 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          | 2022/7/15        | 2023/7/14            |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40 | 30174           | 2022/4/6         | 2023/4/5             |
| UNI-T         | Multimeter                          | UT39A+     | C210582554      | 2022/9/30        | 2023/9/29            |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D  | 21R6010D0912386 | N/A              | N/A                  |
| Weinschel     | Power Splitter                      | 1515       | RA928           | Each time        | N/A                  |
| zhuoxiang     | Coaxial Cable                       | SMA-178    | 211006          | 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:**

| <b>FCC §2.1046; § 27.50(d)(4)</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 |                    |                  |
| 1.4MHz QPSK                       | RB1#0                      | 17.52                               | 17.29          | 17.33           | 15.89              | 30               |
|                                   | RB1#3                      | 17.61                               | 17.5           | 17.47           |                    |                  |
|                                   | RB1#5                      | 17.53                               | 17.33          | 17.33           |                    |                  |
|                                   | RB3#0                      | 17.63                               | 17.47          | 17.48           |                    |                  |
|                                   | RB3#3                      | 17.69                               | 17.48          | 17.43           |                    |                  |
|                                   | RB6#0                      | 16.62                               | 16.38          | 16.39           |                    |                  |
| 1.4MHz 16QAM                      | RB1#0                      | 16.64                               | 16.36          | 16.41           | 14.96              | 30               |
|                                   | RB1#3                      | 16.68                               | 16.57          | 16.55           |                    |                  |
|                                   | RB1#5                      | 16.62                               | 16.42          | 16.37           |                    |                  |
|                                   | RB3#0                      | 16.64                               | 16.6           | 16.66           |                    |                  |
|                                   | RB3#3                      | 16.76                               | 16.59          | 16.71           |                    |                  |
|                                   | RB6#0                      | 15.6                                | 15.38          | 15.47           |                    |                  |
| 3MHz QPSK                         | RB1#0                      | 17.59                               | 17.44          | 17.45           | 15.79              | 30               |
|                                   | RB1#8                      | 17.49                               | 17.47          | 17.4            |                    |                  |
|                                   | RB1#14                     | 17.53                               | 17.45          | 17.44           |                    |                  |
|                                   | RB6#0                      | 16.51                               | 16.39          | 16.35           |                    |                  |
|                                   | RB6#9                      | 16.5                                | 16.39          | 16.41           |                    |                  |
|                                   | RB15#0                     | 16.58                               | 16.46          | 16.46           |                    |                  |
| 3MHz 16QAM                        | RB1#0                      | 17.24                               | 16.65          | 16.53           | 15.44              | 30               |
|                                   | RB1#8                      | 17.18                               | 16.59          | 16.47           |                    |                  |
|                                   | RB1#14                     | 17.22                               | 16.6           | 16.48           |                    |                  |
|                                   | RB6#0                      | 15.64                               | 15.42          | 15.39           |                    |                  |
|                                   | RB6#9                      | 15.62                               | 15.49          | 15.37           |                    |                  |
|                                   | RB15#0                     | 15.65                               | 15.45          | 15.58           |                    |                  |
| 5MHz QPSK                         | RB1#0                      | 17.52                               | 17.35          | 17.45           | 15.8               | 30               |
|                                   | RB1#13                     | 17.6                                | 17.47          | 17.53           |                    |                  |
|                                   | RB1#24                     | 17.49                               | 17.42          | 17.48           |                    |                  |
|                                   | RB15#0                     | 16.58                               | 16.48          | 16.48           |                    |                  |
|                                   | RB15#10                    | 16.64                               | 16.46          | 16.48           |                    |                  |
|                                   | RB25#0                     | 16.59                               | 16.45          | 16.49           |                    |                  |
| 5MHz 16QAM                        | RB1#0                      | 16.65                               | 16.34          | 16.74           | 15.04              | 30               |
|                                   | RB1#13                     | 16.72                               | 16.4           | 16.84           |                    |                  |
|                                   | RB1#24                     | 16.64                               | 16.3           | 16.72           |                    |                  |
|                                   | RB15#0                     | 15.63                               | 15.57          | 15.48           |                    |                  |
|                                   | RB15#10                    | 15.66                               | 15.55          | 15.51           |                    |                  |
|                                   | RB25#0                     | 15.62                               | 15.56          | 15.49           |                    |                  |
| 10MHz QPSK                        | RB1#0                      | 17.61                               | 17.5           | 17.42           | 15.88              | 30               |

|             |         |       |       |       |       |    |
|-------------|---------|-------|-------|-------|-------|----|
|             | RB1#25  | 17.68 | 17.58 | 17.48 |       |    |
|             | RB1#49  | 17.56 | 17.45 | 17.45 |       |    |
|             | RB25#0  | 16.6  | 16.53 | 16.57 |       |    |
|             | RB25#25 | 16.63 | 16.49 | 16.53 |       |    |
|             | RB50#0  | 16.67 | 16.53 | 16.63 |       |    |
| 10MHz 16QAM | RB1#0   | 16.77 | 16.52 | 17.11 | 15.4  | 30 |
|             | RB1#25  | 16.8  | 16.63 | 17.2  |       |    |
|             | RB1#49  | 16.72 | 16.5  | 17.14 |       |    |
|             | RB25#0  | 15.67 | 15.69 | 15.67 |       |    |
|             | RB25#25 | 15.7  | 15.62 | 15.62 |       |    |
|             | RB50#0  | 15.69 | 15.6  | 15.64 |       |    |
| 15MHz QPSK  | RB1#0   | 17.47 | 17.42 | 17.38 | 15.69 | 30 |
|             | RB1#38  | 17.47 | 17.47 | 17.49 |       |    |
|             | RB1#74  | 17.39 | 17.42 | 17.38 |       |    |
|             | RB36#0  | 16.59 | 16.46 | 16.55 |       |    |
|             | RB36#39 | 16.58 | 16.49 | 16.5  |       |    |
|             | RB75#0  | 16.57 | 16.43 | 16.53 |       |    |
| 15MHz 16QAM | RB1#0   | 17.16 | 16.59 | 16.83 | 15.38 | 30 |
|             | RB1#38  | 17.18 | 16.67 | 16.94 |       |    |
|             | RB1#74  | 17.09 | 16.57 | 16.88 |       |    |
|             | RB36#0  | 15.58 | 15.52 | 15.52 |       |    |
|             | RB36#39 | 15.56 | 15.5  | 15.53 |       |    |
|             | RB75#0  | 15.58 | 15.47 | 15.52 |       |    |
| 20MHz QPSK  | RB1#0   | 17.38 | 17.24 | 17.21 | 15.91 | 30 |
|             | RB1#50  | 17.71 | 17.54 | 17.6  |       |    |
|             | RB1#99  | 17.29 | 17.22 | 17.26 |       |    |
|             | RB50#0  | 16.59 | 16.52 | 16.67 |       |    |
|             | RB50#50 | 16.66 | 16.49 | 16.47 |       |    |
|             | RB100#0 | 16.62 | 16.49 | 16.61 |       |    |
| 20MHz 16QAM | RB1#0   | 16.63 | 16.91 | 16.56 | 15.42 | 30 |
|             | RB1#50  | 16.95 | 17.22 | 16.95 |       |    |
|             | RB1#99  | 16.6  | 16.88 | 16.61 |       |    |
|             | RB50#0  | 15.6  | 15.52 | 15.67 |       |    |
|             | RB50#50 | 15.67 | 15.5  | 15.51 |       |    |
|             | RB100#0 | 15.63 | 15.52 | 15.63 |       |    |

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

**Result:**

**Pass**

| <b>Peak-to-average Ratio(PAR)</b> |                            |                           |                |                 |             |
|-----------------------------------|----------------------------|---------------------------|----------------|-----------------|-------------|
| Test Bandwidth & Modulation       | Resource Block & RB offset | Peak-to-average Ratio(dB) |                |                 | Limit (dB)  |
|                                   |                            | Lowest Channel            | Middle Channel | Highest Channel |             |
| 20MHz QPSK                        | RB1#0                      | 5.01                      | 5.22           | 5.16            | 13          |
|                                   | RB100#0                    | 4.32                      | 4.2            | 4.46            | 13          |
| 20MHz 16QAM                       | RB1#0                      | 6.03                      | 6.78           | 7.19            | 13          |
|                                   | RB100#0                    | 5.88                      | 5.88           | 5.97            | 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                                   | 1.11                         | 1.1            | 1.1          | 1.3                            | 1.28           | 1.3          |
| 1.4MHz 16QAM                                  | 1.1                          | 1.1            | 1.1          | 1.28                           | 1.3            | 1.32         |
| 3MHz QPSK                                     | 2.7                          | 2.68           | 2.68         | 2.89                           | 2.9            | 2.88         |
| 3MHz 16QAM                                    | 2.68                         | 2.68           | 2.68         | 2.88                           | 2.92           | 2.88         |
| 5MHz QPSK                                     | 4.51                         | 4.49           | 4.53         | 4.96                           | 4.92           | 4.98         |
| 5MHz 16QAM                                    | 4.53                         | 4.51           | 4.49         | 4.94                           | 4.98           | 4.94         |
| 10MHz QPSK                                    | 8.98                         | 8.94           | 8.94         | 9.68                           | 9.6            | 9.68         |
| 10MHz 16QAM                                   | 8.98                         | 8.94           | 8.94         | 9.56                           | 9.6            | 9.68         |
| 15MHz QPSK                                    | 13.53                        | 13.41          | 13.53        | 14.76                          | 14.64          | 14.94        |
| 15MHz 16QAM                                   | 13.53                        | 13.41          | 13.53        | 14.64                          | 14.64          | 14.76        |
| 20MHz QPSK                                    | 17.96                        | 17.88          | 17.96        | 19.52                          | 19.2           | 19.36        |
| 20MHz 16QAM                                   | 17.88                        | 17.96          | 18.04        | 19.44                          | 19.2           | 19.52        |

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> |

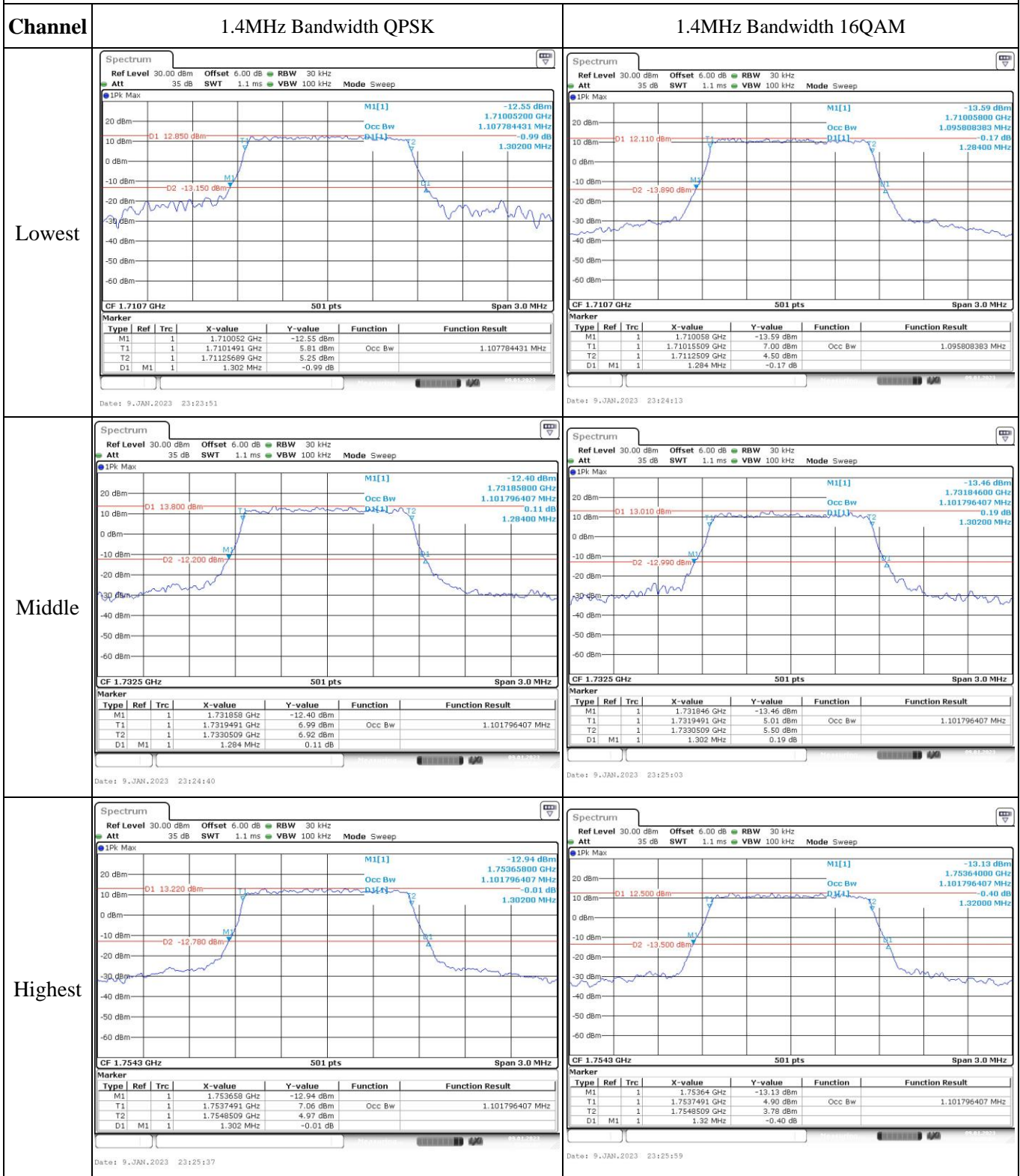
| <b>FCC §2.1051, §27.53:Out of band emission, Band Edge</b> |   |
|--|---|
| <b>Result:</b>   | <b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b> |

| <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              | 3.85   | 1710.4571        | 1710.00 | 1754.6038        | 1755        |
|   | -20              | 3.85   | 1710.4569        | 1710.00 | 1754.6033        | 1755        |
|   | -10              | 3.85   | 1710.4565        | 1710.00 | 1754.6030        | 1755        |
|   | 0                | 3.85   | 1710.4564        | 1710.00 | 1754.6027        | 1755        |
|   | 10               | 3.85   | 1710.4559        | 1710.00 | 1754.6024        | 1755        |
|   | 20               | 3.85   | 1710.4558        | 1710.00 | 1754.6022        | 1755        |
|   | 30               | 3.85   | 1710.4558        | 1710.00 | 1754.6022        | 1755        |
|   | 40               | 3.85   | 1710.4556        | 1710.00 | 1754.6017        | 1755        |
| Frequency Stability vs. Voltage                 | 20               | 3.4  | 1710.4560        | 1710.00 | 1754.6024        | 1755        |
|   | 20               | 4.4  | 1710.4553        | 1710.00 | 1754.6021        | 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              | 3.85   | 1710.4550        | 1710.00 | 1754.6037        | 1755        |
|                                     | -20              | 3.85   | 1710.4549        | 1710.00 | 1754.6035        | 1755        |
|                                     | -10              | 3.85   | 1710.4549        | 1710.00 | 1754.6033        | 1755        |
|                                     | 0                | 3.85   | 1710.4545        | 1710.00 | 1754.6030        | 1755        |
|                                     | 10               | 3.85   | 1710.4540        | 1710.00 | 1754.6026        | 1755        |
|                                     | 20               | 3.85   | 1710.4538        | 1710.00 | 1754.6022        | 1755        |
|                                     | 30               | 3.85   | 1710.4535        | 1710.00 | 1754.6018        | 1755        |
|                                     | 40               | 3.85   | 1710.4532        | 1710.00 | 1754.6016        | 1755        |
| Frequency Stability vs. Voltage     | 20               | 3.4  | 1710.4541        | 1710.00 | 1754.6025        | 1755        |
|                                     | 20               | 4.4  | 1710.4535        | 1710.00 | 1754.6021        | 1755        |
|                                     |                  |  |                  |         | <b>Result:</b>   | <b>Pass</b> |

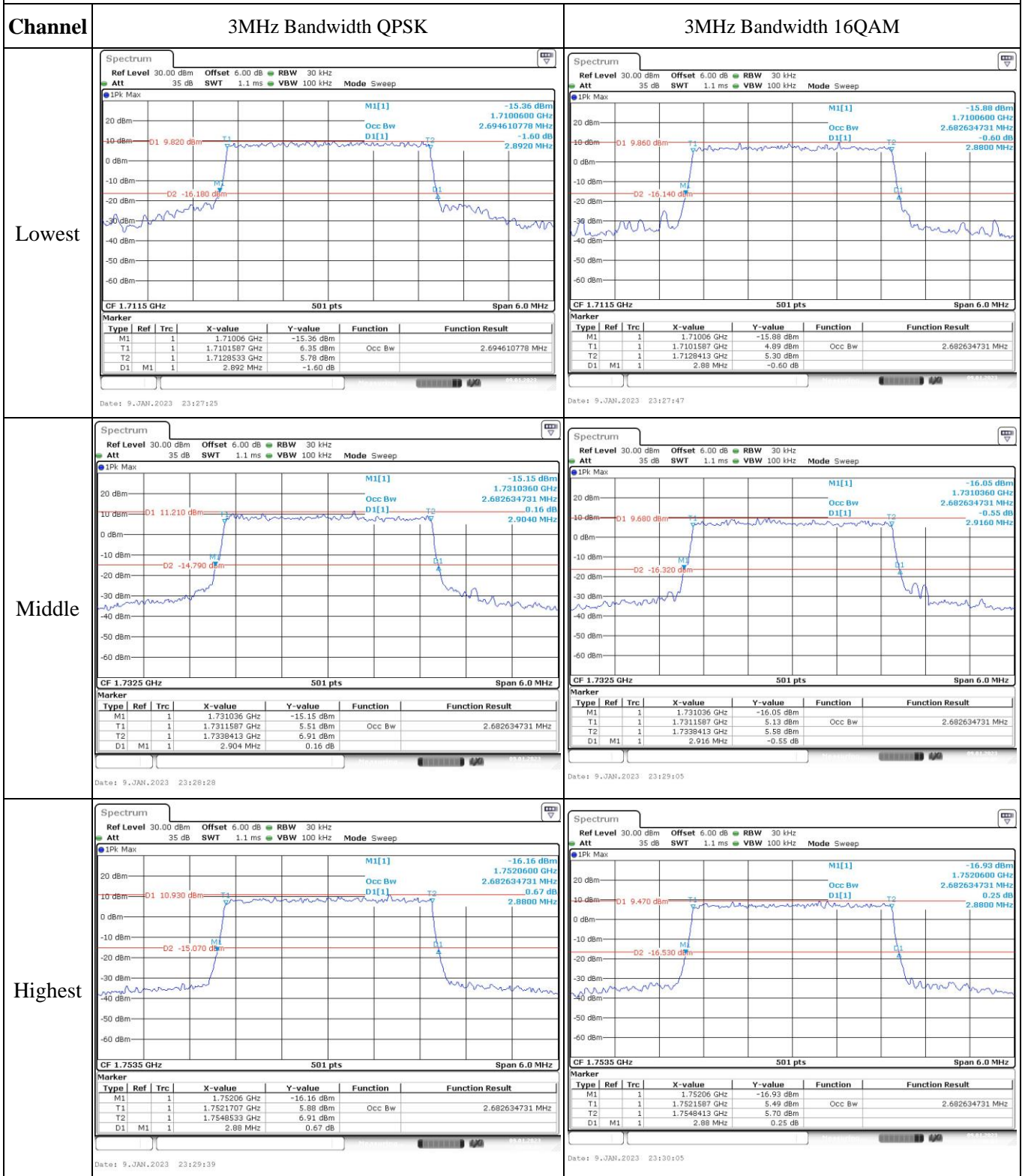
Test Plots:

Occupied Bandwidth



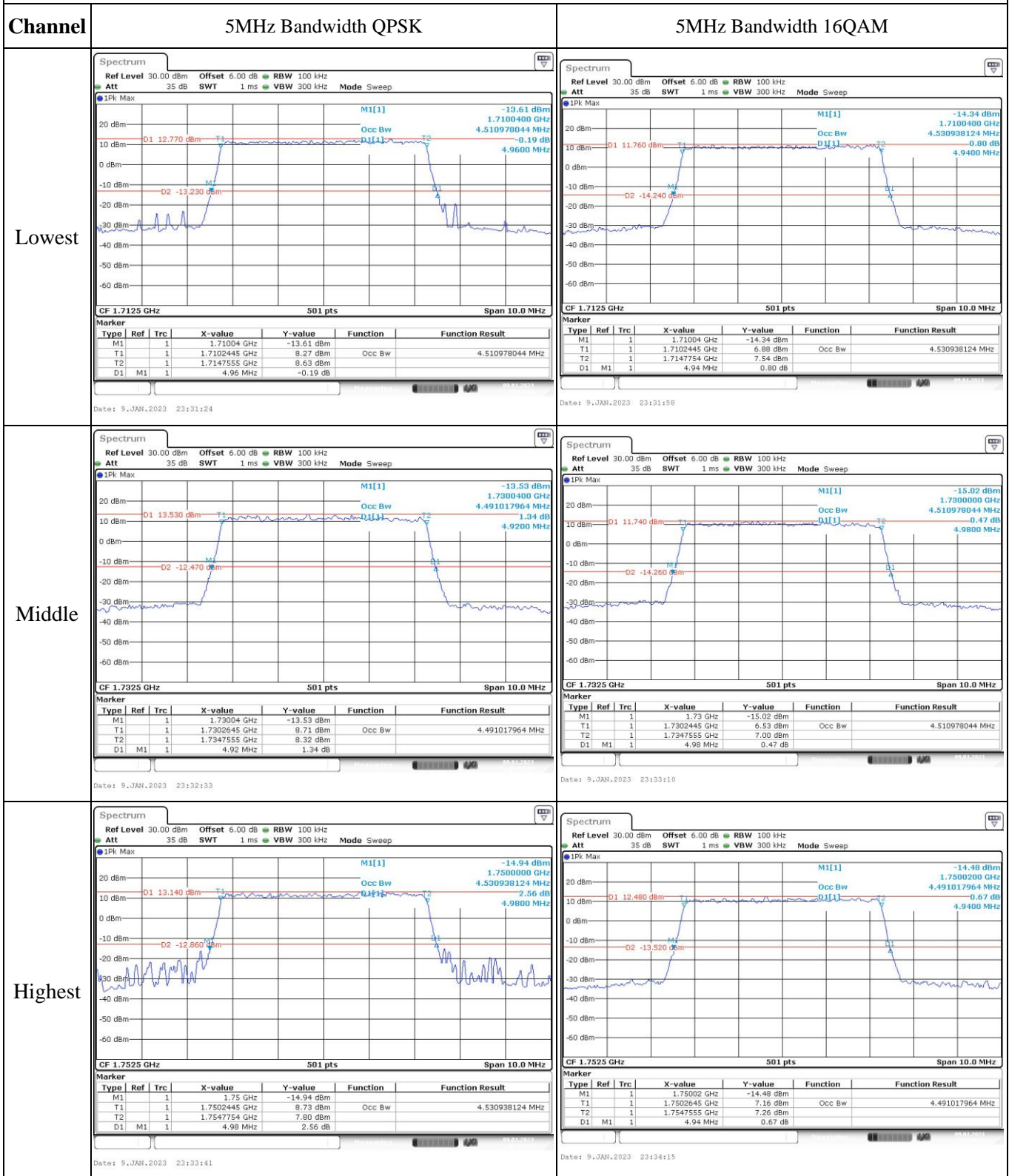
Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Occupied Bandwidth



Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Occupied Bandwidth



Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

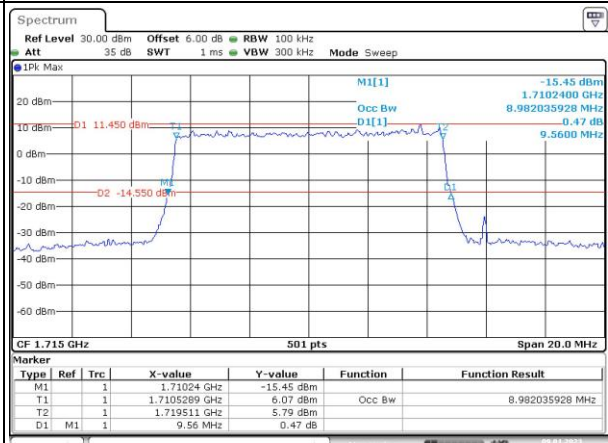
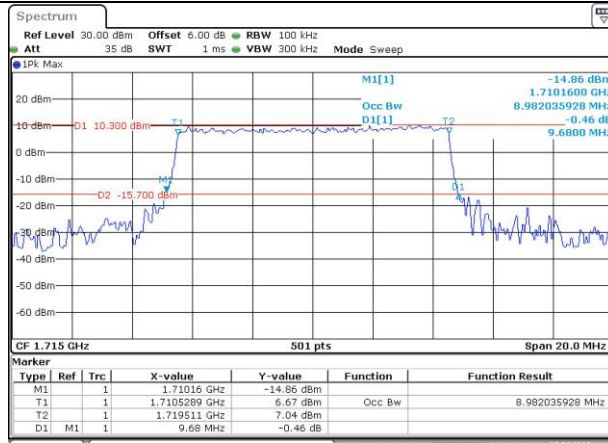
### Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

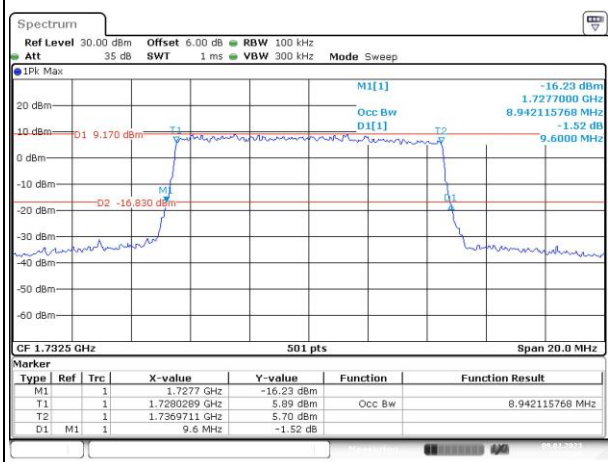
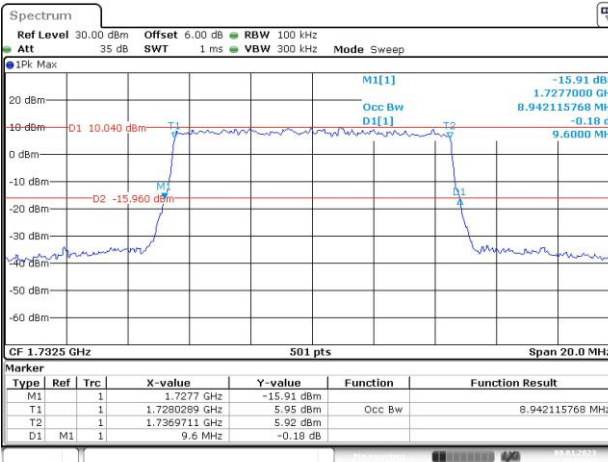
Lowest



Date: 9.JAN.2023 23:35:16

Date: 9.JAN.2023 23:35:16

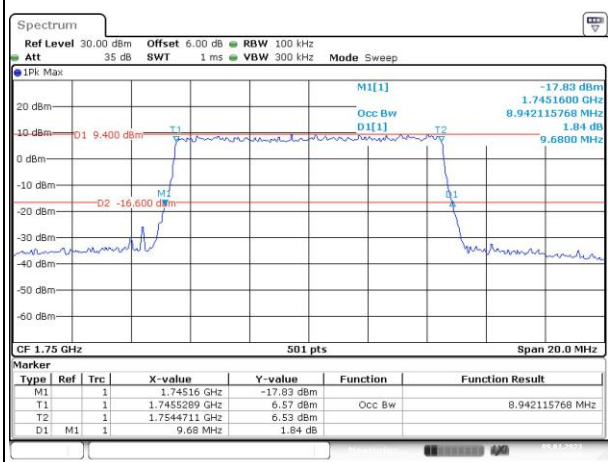
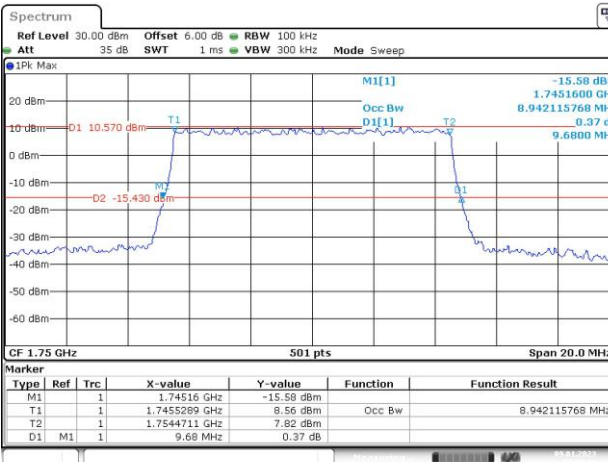
Middle



Date: 9.JAN.2023 23:36:17

Date: 9.JAN.2023 23:36:15

Highest



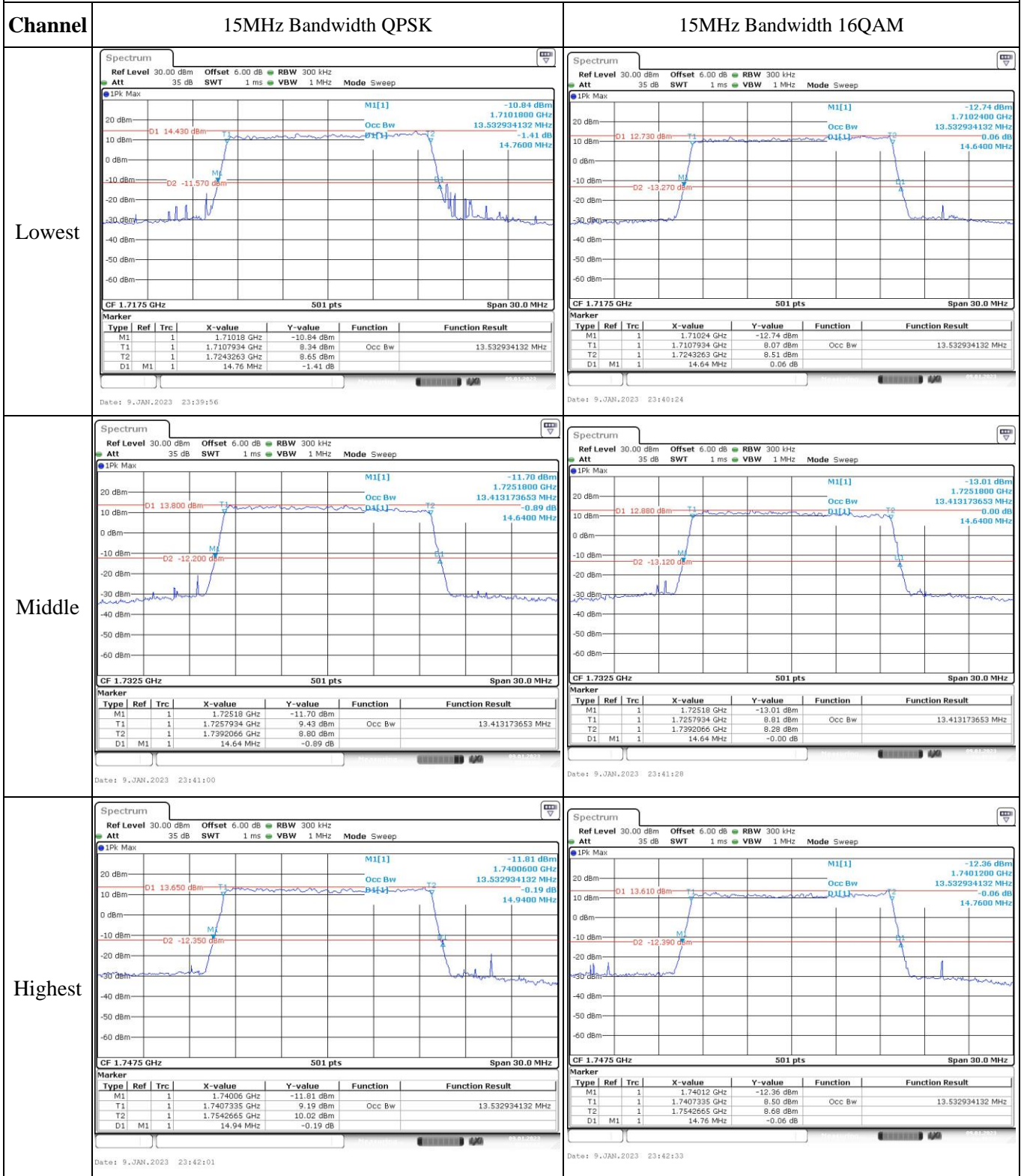
Date: 9.JAN.2023 23:37:37

Date: 9.JAN.2023 23:38:07

Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

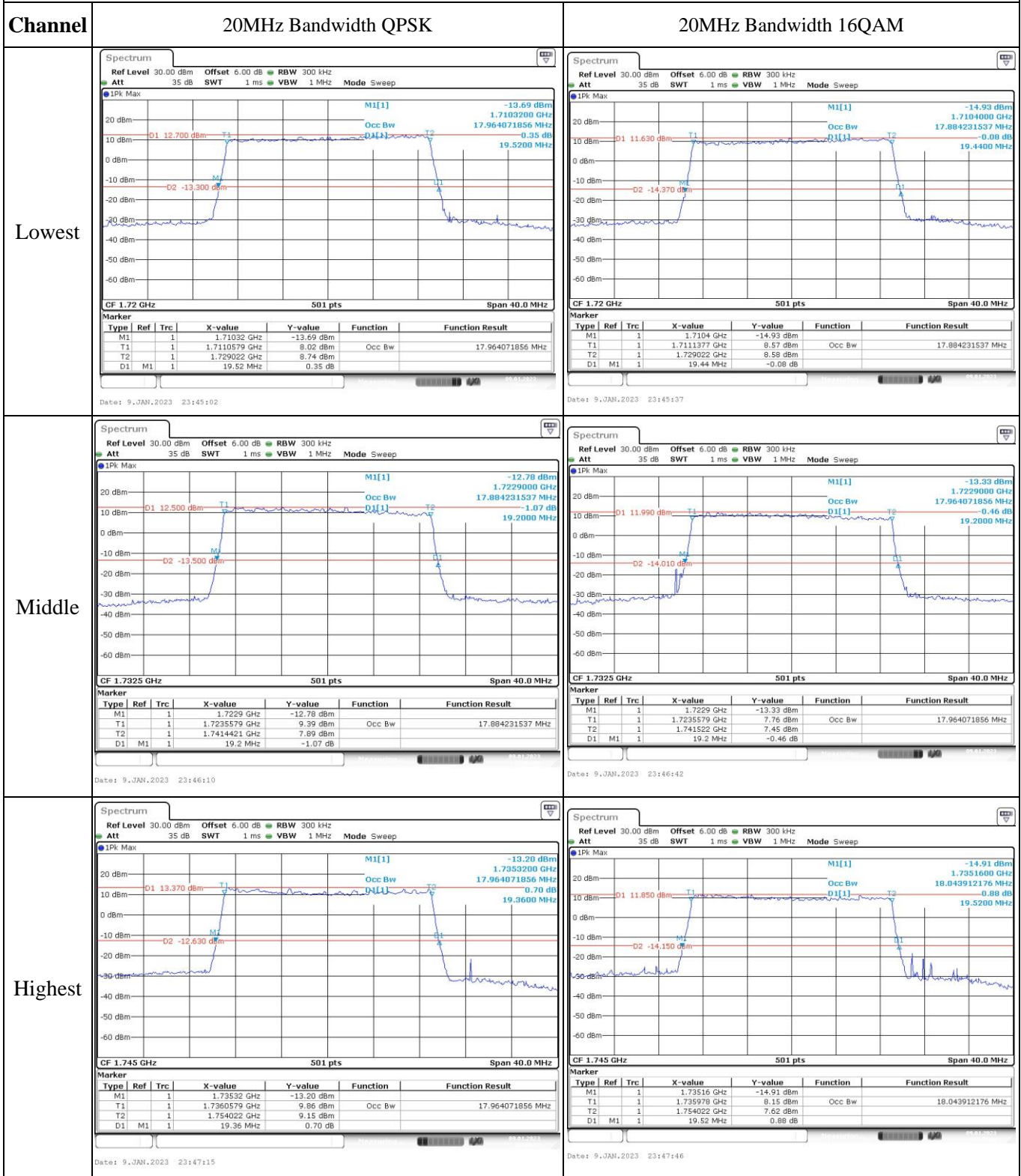


### Occupied Bandwidth



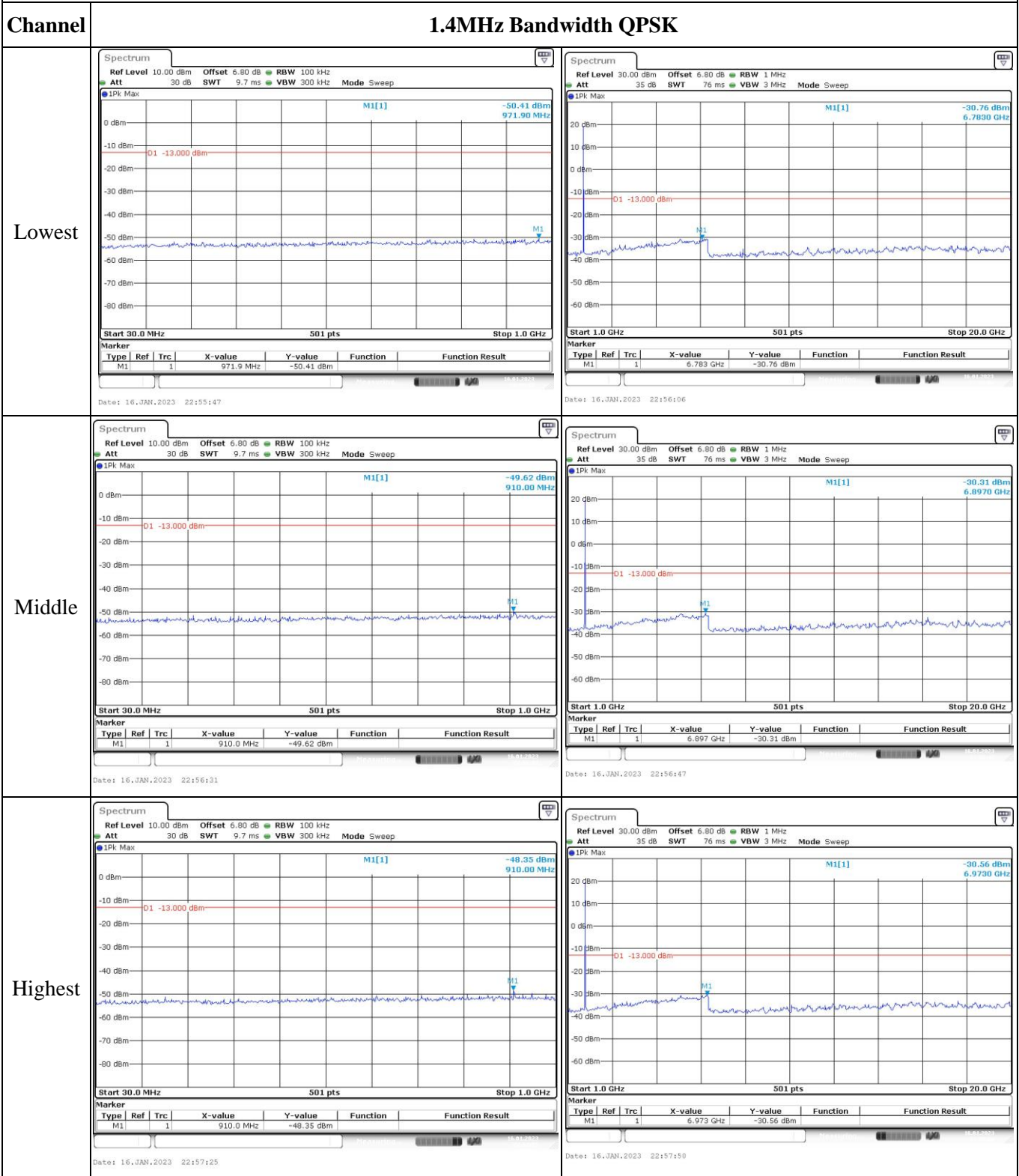
Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Occupied Bandwidth



Note: The 6.0 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Spurious Emissions at Antenna Terminal



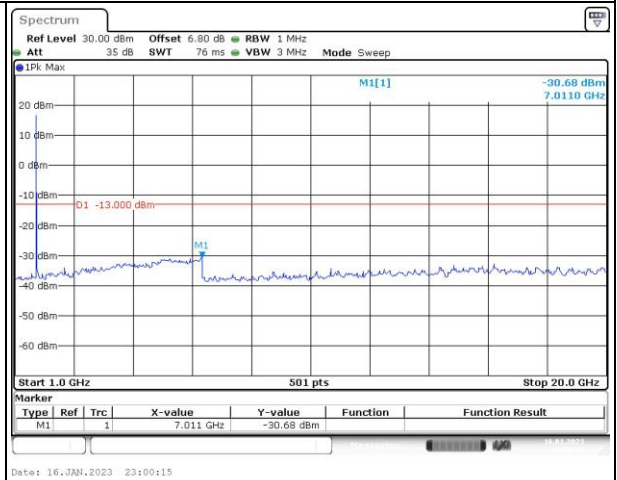
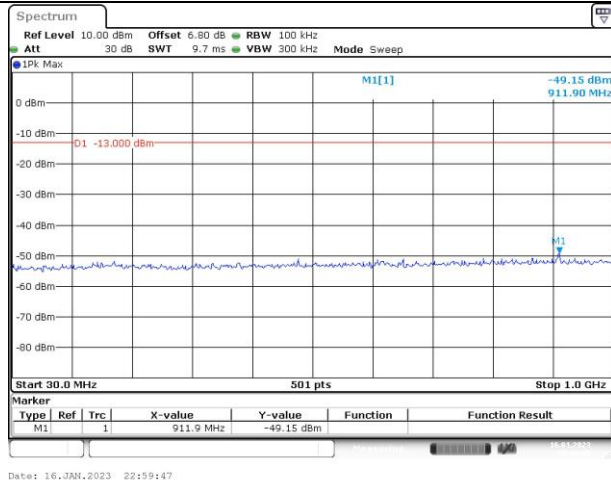
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Spurious Emissions at Antenna Terminal

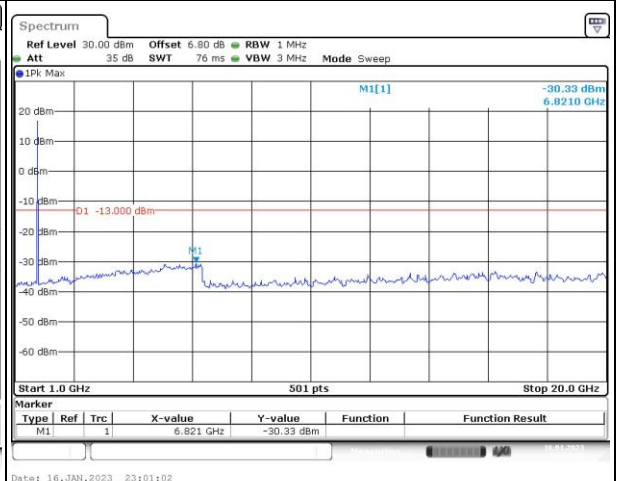
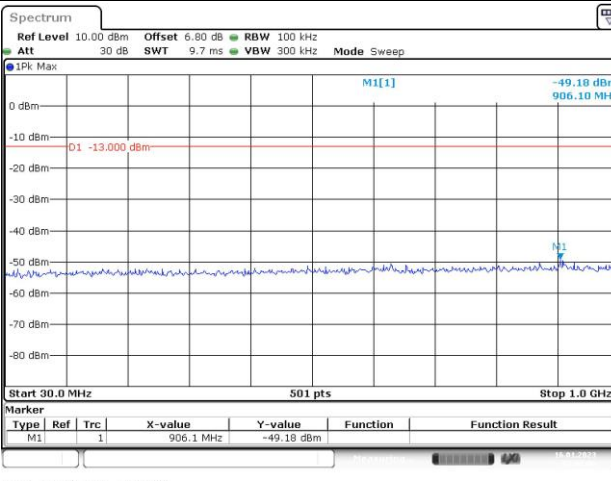
Channel

3MHz Bandwidth QPSK

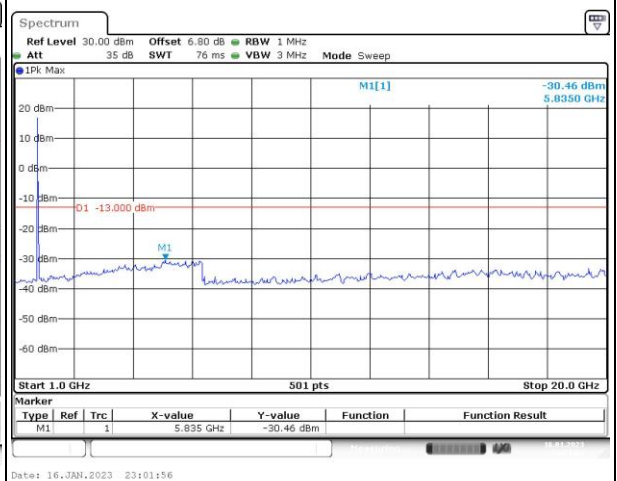
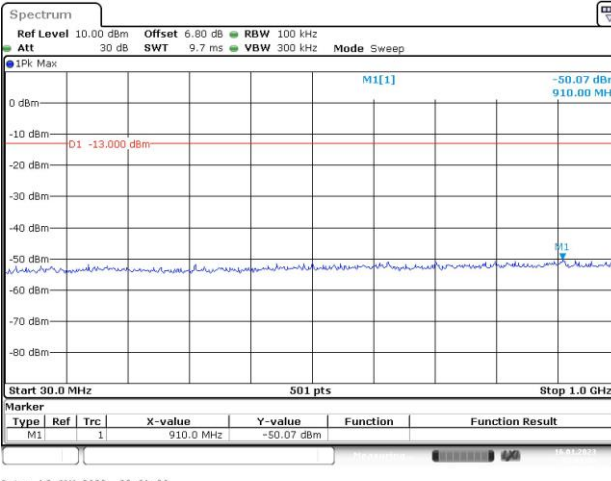
Lowest



Middle



Highest



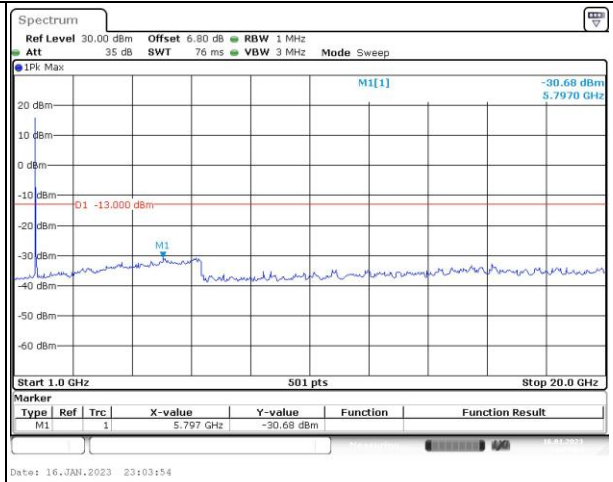
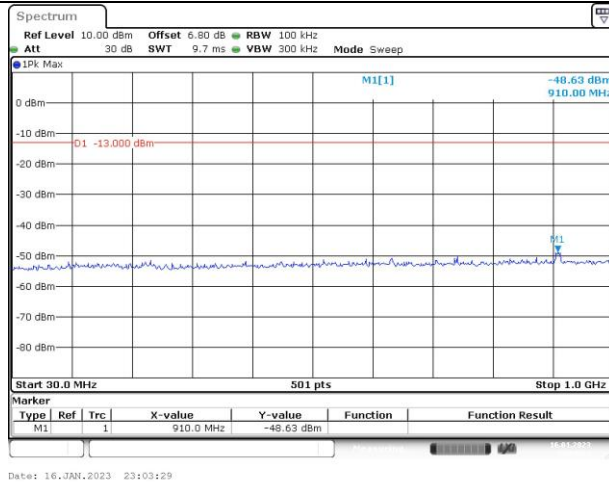
Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer

### Spurious Emissions at Antenna Terminal

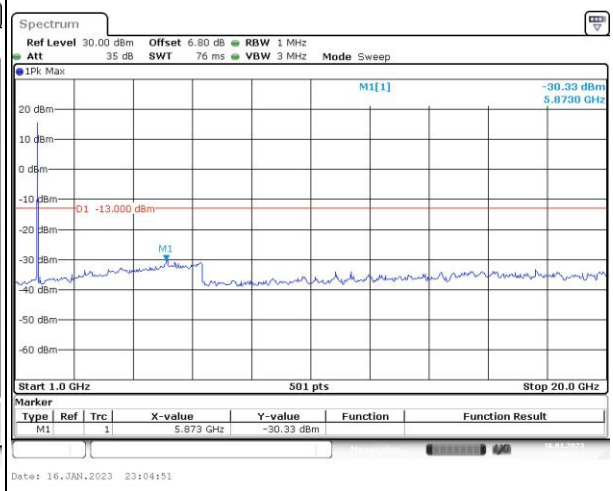
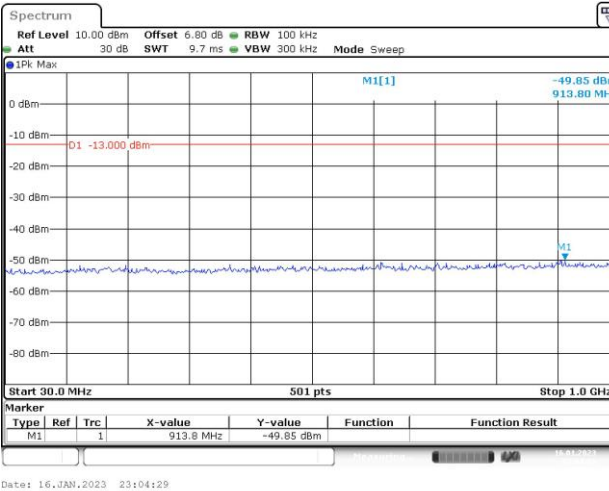
Channel

5MHz Bandwidth QPSK

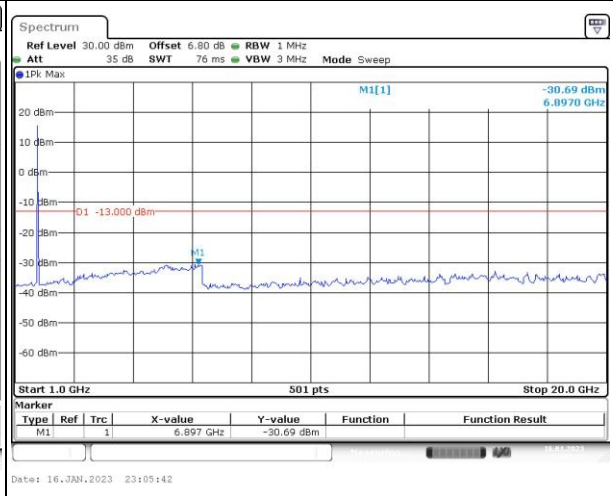
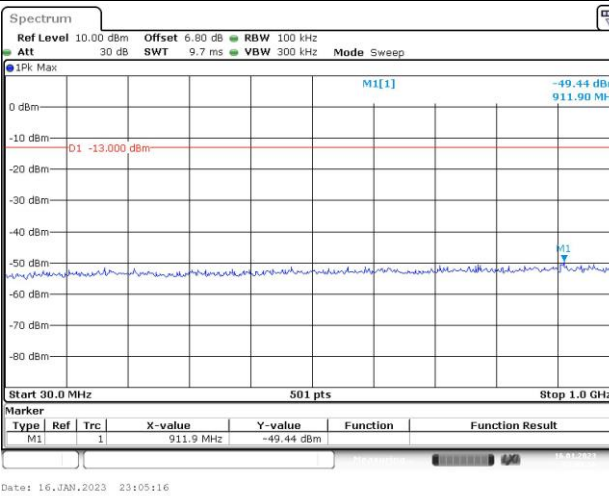
Lowest



Middle



Highest



Note: The 6.8 dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer