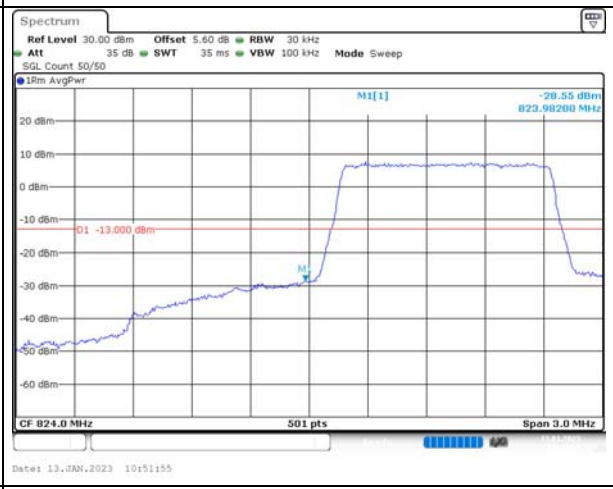
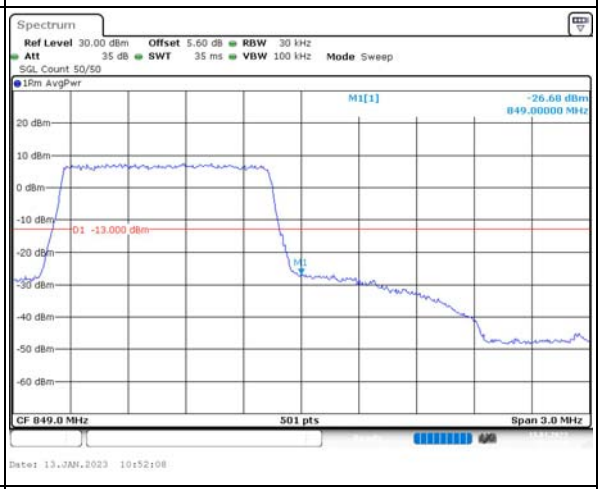
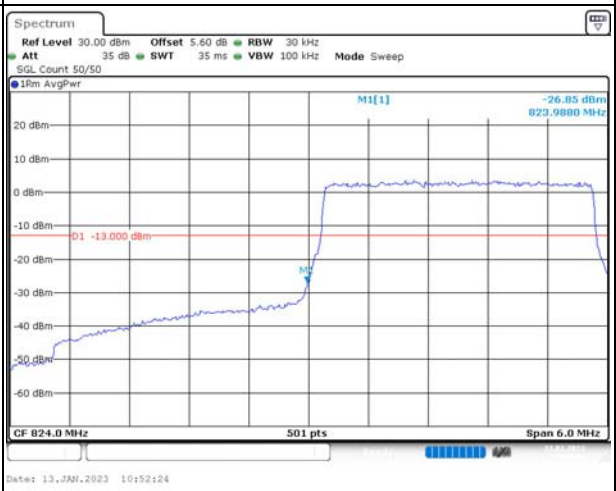
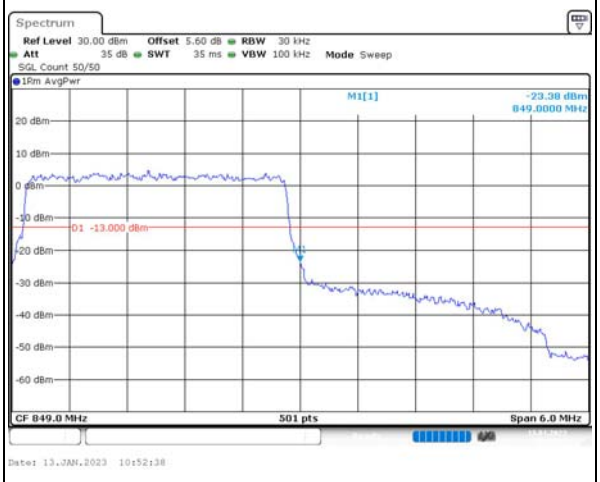
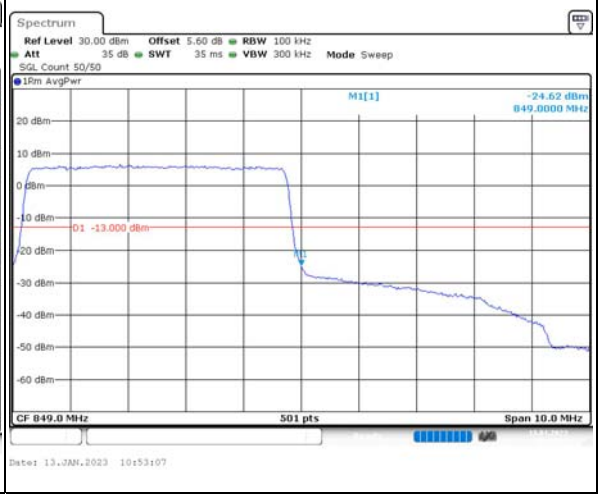
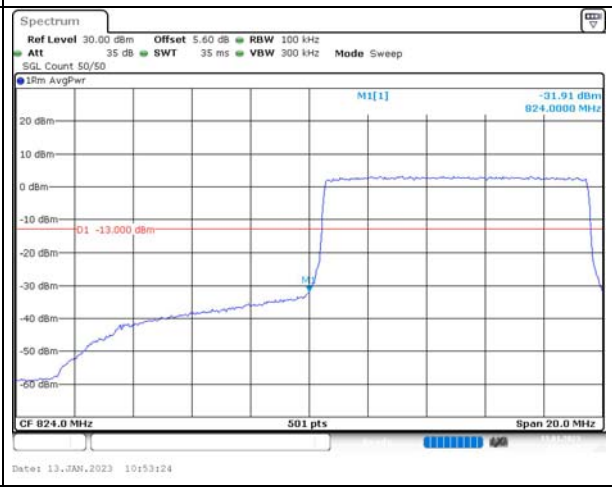
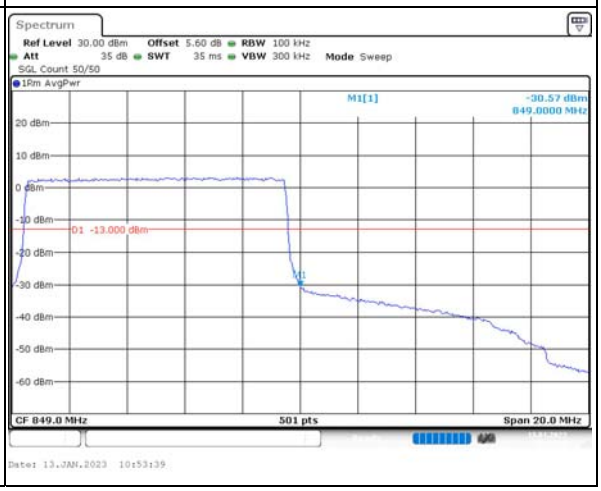
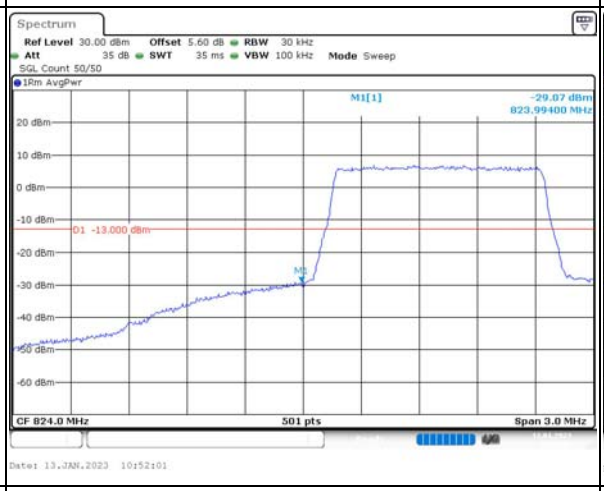
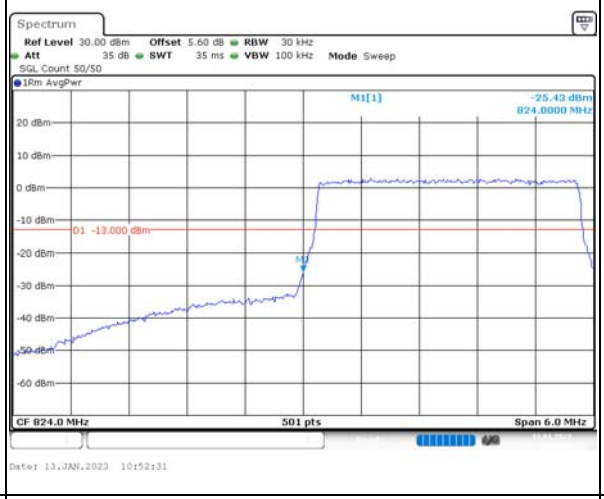
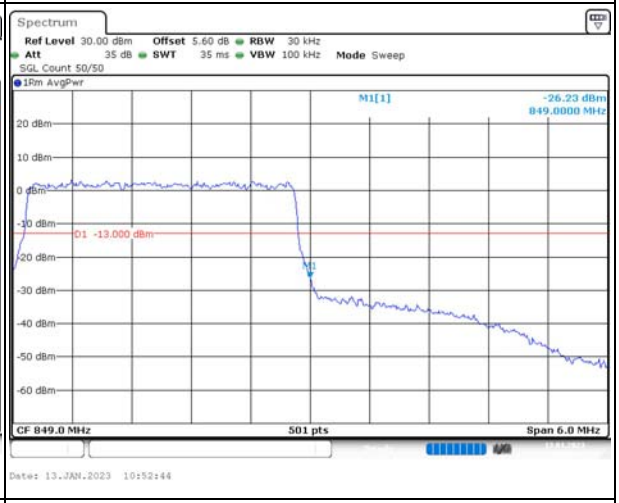
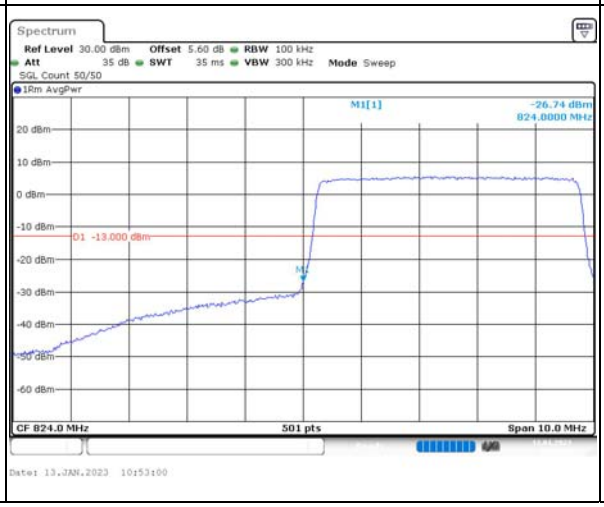
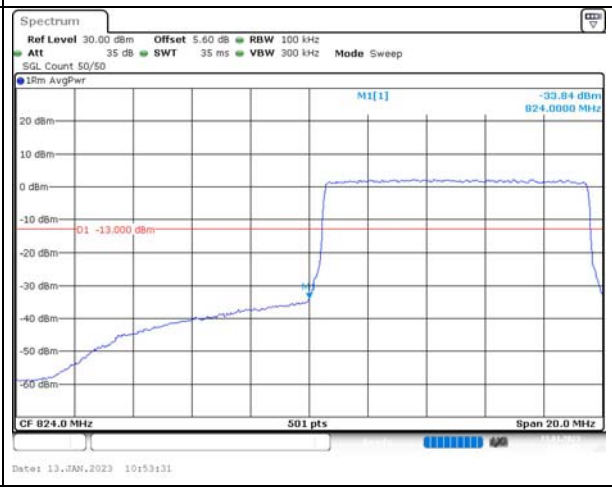
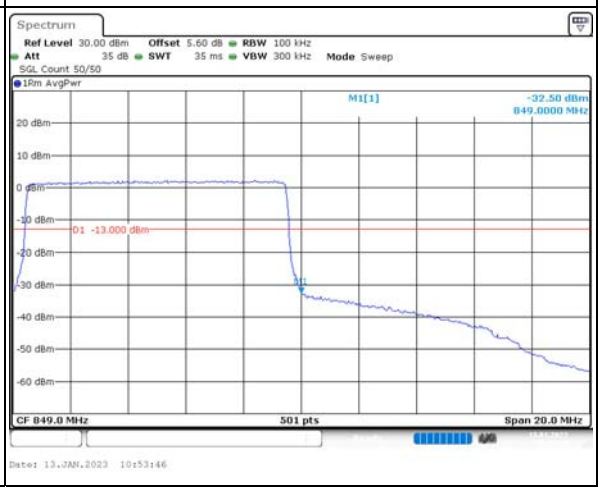
| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 1.4MHz |  |  |
| QPSK 3MHz |  |  |
| QPSK 5MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 10MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 1.4MHz |  |  |
| 16QAM 3MHz |  |  |
| 16QAM 5MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 10MHz |  |  |

## 4.9 Antenna Port Test Data and Results for LTE Band 12

| | | | |
|---|---|---|---|
| Serial Number: | 1WTO-1 | Test Date: | 2023/1/12~2023/1/17 |
| Test Site: | RF | Test Mode: | Transmitting |
| Tester: | George Chen | Test Result: | **Pass** |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 18.2~25.2 | Relative Humidity: (%) | 46~65 | ATM Pressure: (kPa) | 100.5~102.6 |

**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 | 2022-04-06 | 2023-04-05 |
| BACL | TEMP&HUMI Test Chamber | BTH-150-40 | 30174 | 2022-09-29 | 2023-09-28 |
| UNI-T | Multimeter | UT39A+ | C210582554 | N/A | N/A |
| ZHAOXIN | DC Power Supply | RXN-6010D | 21R6010D0912386 | 2022-07-15 | 2023-07-14 |

** 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 | 699.7 | 707.5 | 715.3 |
| 3MHz | 700.5 | 707.5 | 714.5 |
| 5MHz | 701.5 | 707.5 | 713.5 |
| 10MHz | 704 | 707.5 | 711 |

**Test Data:**

**FCC§2.1046;§ 27.50(c) (10)**

**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 | 23.34 | 23.08 | 23.3 | 21.23 | 34.77 |
| | RB1#3 | 23.32 | 23.22 | 23.32 | | |
| | RB1#5 | 23.33 | 23.29 | 23.28 | | |
| | RB3#0 | 23.33 | 23.35 | 23.3 | | |
| | RB3#3 | 23.36 | 23.33 | 23.33 | | |
| | RB6#0 | 22.57 | 22.27 | 22.11 | | |
| 1.4MHz 16QAM | RB1#0 | 22.14 | 22.91 | 22.62 | 20.81 | 34.77 |
| | RB1#3 | 22.17 | 22.94 | 22.64 | | |
| | RB1#5 | 22.19 | 22.91 | 22.66 | | |
| | RB3#0 | 22.67 | 22.09 | 22.28 | | |
| | RB3#3 | 22.68 | 22.12 | 22.33 | | |
| | RB6#0 | 21.81 | 21.65 | 21.78 | | |
| 3MHz QPSK | RB1#0 | 23.2 | 23.33 | 23.34 | 21.25 | 34.77 |
| | RB1#8 | 23.36 | 23.38 | 23.24 | | |
| | RB1#14 | 23.29 | 23.29 | 23.32 | | |
| | RB6#0 | 22.63 | 22.29 | 22.24 | | |
| | RB6#9 | 22.15 | 22.19 | 22.17 | | |
| | RB15#0 | 22.56 | 22.23 | 22.17 | | |
| 3MHz 16QAM | RB1#0 | 23.34 | 21.75 | 22.5 | 21.37 | 34.77 |
| | RB1#8 | 23.5 | 21.71 | 22.46 | | |
| | RB1#14 | 22.86 | 21.8 | 22.45 | | |
| | RB6#0 | 21.68 | 21.4 | 21.3 | | |
| | RB6#9 | 21.33 | 21.79 | 21.57 | | |
| | RB15#0 | 21.6 | 21.63 | 21.39 | | |
| 5MHz QPSK | RB1#0 | 23.27 | 23.18 | 23.25 | 21.19 | 34.77 |
| | RB1#13 | 23.18 | 23.11 | 23.32 | | |
| | RB1#24 | 23.26 | 23.07 | 23.31 | | |
| | RB15#0 | 22.6 | 22.25 | 22.21 | | |
| | RB15#10 | 22.02 | 22.21 | 22.29 | | |
| | RB25#0 | 22.06 | 22.33 | 22.19 | | |
| 5MHz 16QAM | RB1#0 | 22.73 | 21.81 | 21.3 | 20.6 | 34.77 |
| | RB1#13 | 22.26 | 21.76 | 21.36 | | |
| | RB1#24 | 22.26 | 21.81 | 21.41 | | |
| | RB15#0 | 21.55 | 21.24 | 21.66 | | |
| | RB15#10 | 21.13 | 21.63 | 21.33 | | |
| | RB25#0 | 21.24 | 21.5 | 21.34 | | |
| 10MHz QPSK | RB1#0 | 23.08 | 23.46 | 23.15 | 21.33 | 34.77 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | RB1#25 | 23.14 | 23.45 | 23.12 | | |
| | RB1#49 | 23.26 | 23.43 | 23.3 | | |
| | RB25#0 | 22.1 | 22.36 | 22.29 | | |
| | RB25#25 | 22.29 | 22.31 | 22.25 | | |
| | RB50#0 | 22.2 | 22.15 | 22.27 | | |
| 10MHz 16QAM | RB1#0 | 22.9 | 21.72 | 22.3 | 20.77 | 34.77 |
| | RB1#25 | 22.39 | 21.71 | 22.2 | | |
| | RB1#49 | 22.43 | 21.83 | 22.47 | | |
| | RB25#0 | 21.27 | 21.33 | 21.58 | | |
| | RB25#25 | 21.3 | 21.73 | 21.41 | | |
| | RB50#0 | 21.62 | 21.59 | 21.54 | | |

Note:
ERP= Conducted Power(dBm) - $L_C$(dB) + $G_T$(dBd)
$G_T$(dBd)=$G_T$(dBi)-2.15

| | |
|---|---|
| **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 | |
| 10MHz QPSK | RB1#0 | 4.67 | 4.58 | 4.67 | 13 |
| | RB50#0 | 5.19 | 5.39 | 5.3 | 13 |
| 10MHz 16QAM | RB1#0 | 5.28 | 5.77 | 5.88 | 13 |
| | RB50#0 | 6.06 | 6.2 | 6.09 | 13 |
| | | | | **Result:** | **Pass** |

**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 |
| 1.4MHz QPSK | 1.102 | 1.096 | 1.102 | 1.254 | 1.254 | 1.26 |
| 1.4MHz 16QAM | 1.102 | 1.108 | 1.096 | 1.254 | 1.26 | 1.254 |
| 3MHz QPSK | 2.695 | 2.683 | 2.695 | 3.012 | 3.012 | 2.988 |
| 3MHz 16QAM | 2.695 | 2.695 | 2.695 | 3 | 3.024 | 3.012 |
| 5MHz QPSK | 4.511 | 4.511 | 4.531 | 5.02 | 4.96 | 4.98 |
| 5MHz 16QAM | 4.531 | 4.511 | 4.491 | 5.02 | 5.02 | 5 |
| 10MHz QPSK | 8.942 | 8.942 | 8.982 | 9.72 | 9.8 | 9.76 |
| 10MHz 16QAM | 8.942 | 8.942 | 8.982 | 9.8 | 9.84 | 9.72 |

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.** |

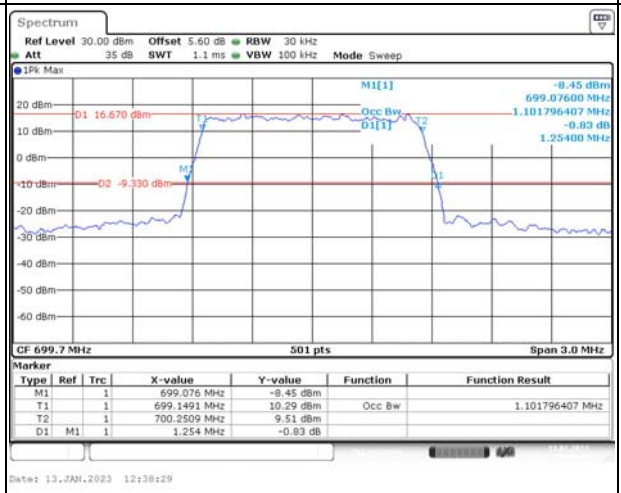
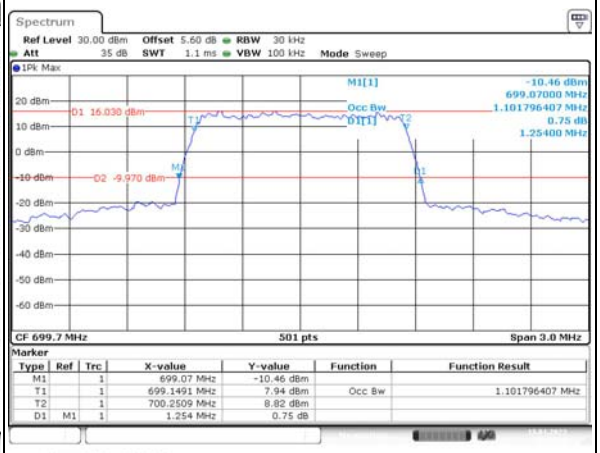
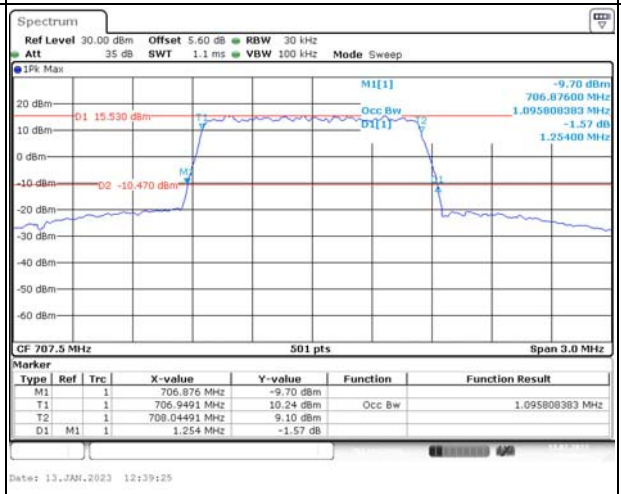
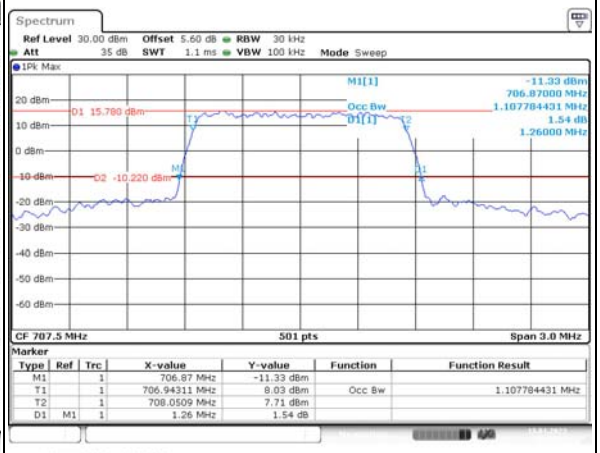
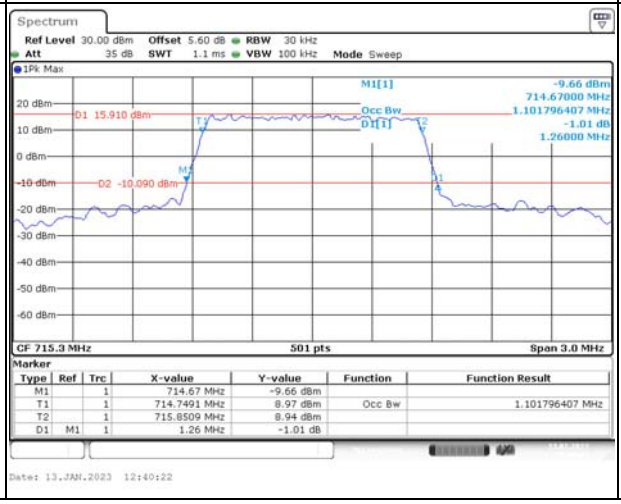
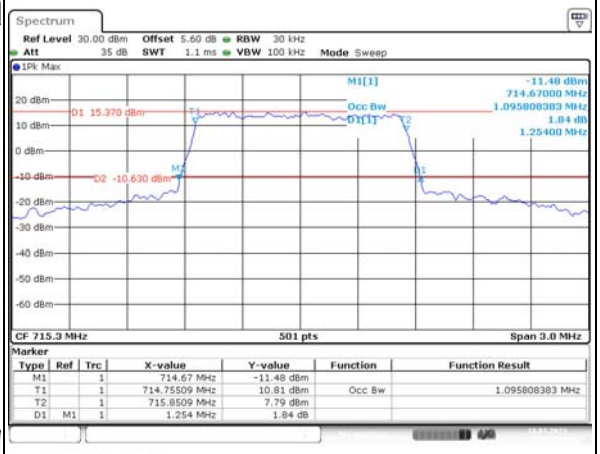
| FCC §2.1051, §27.53:Out of band emission, Band Edge | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Out of band emission, Band Edge.** |

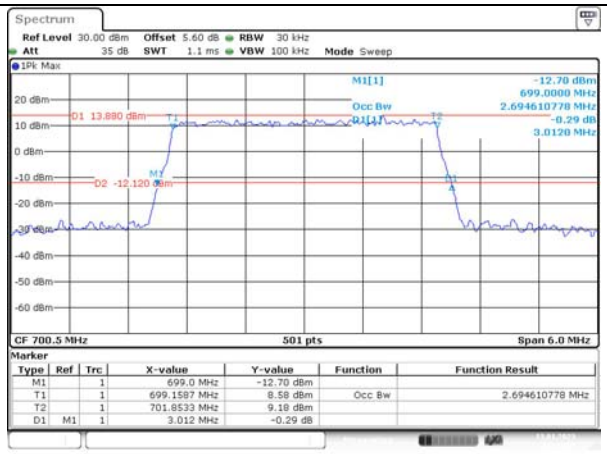
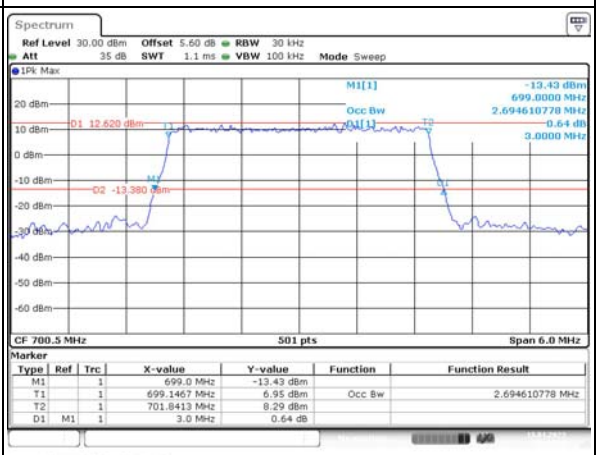
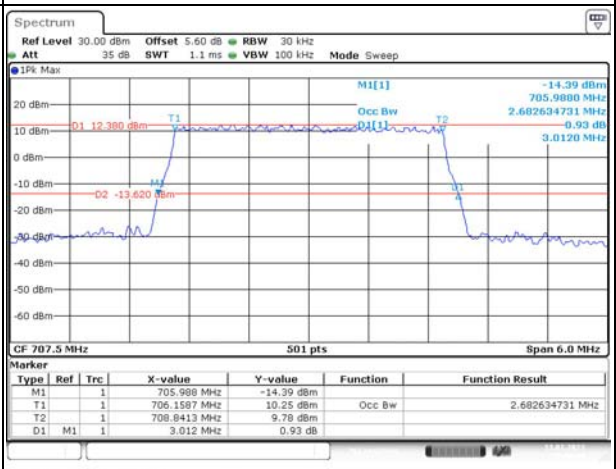
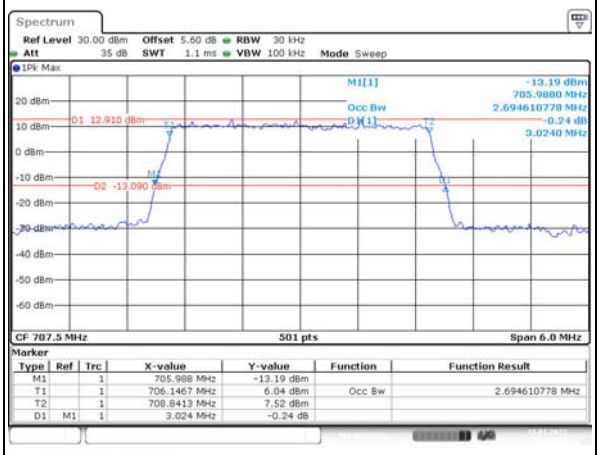
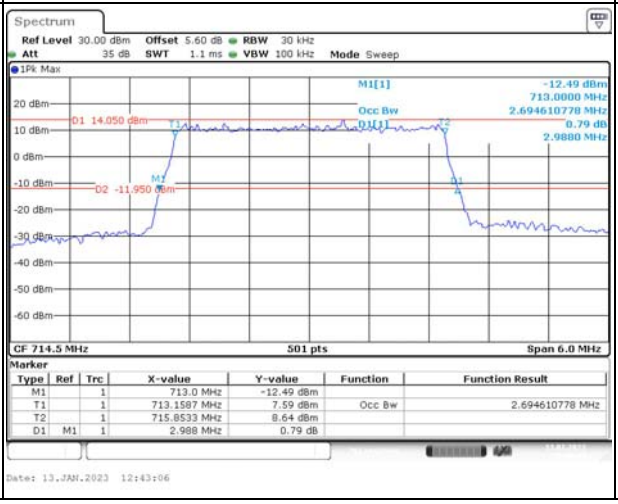
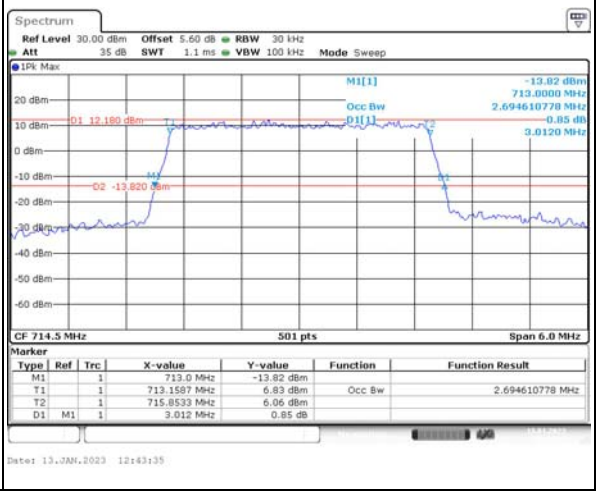
**FCC §2.1055, §27.54: Frequency Stability**

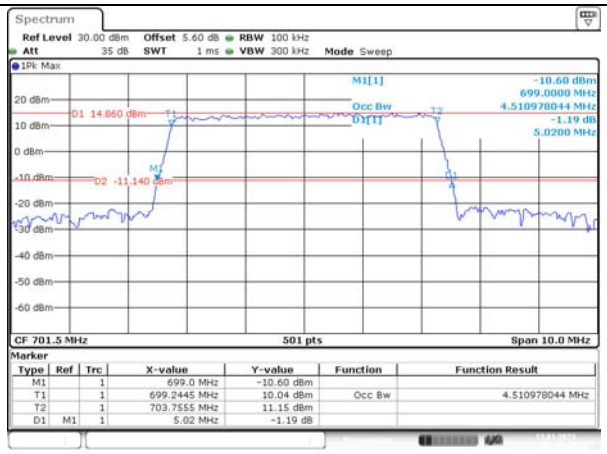
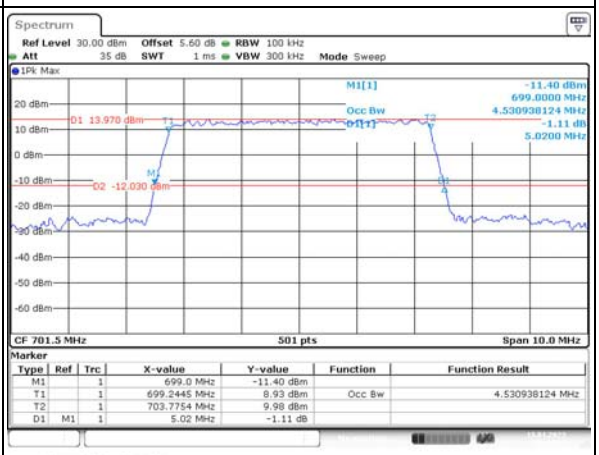
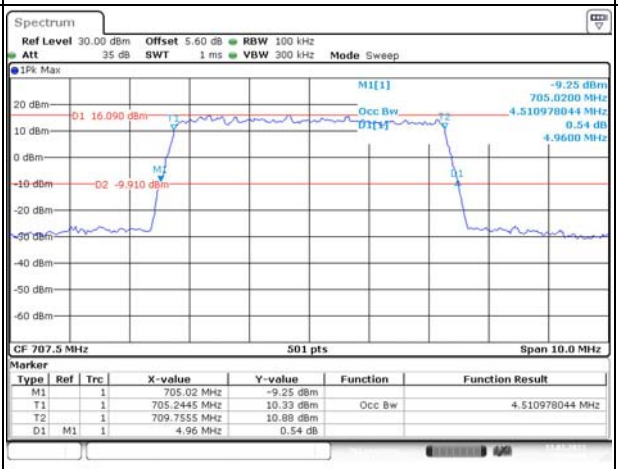
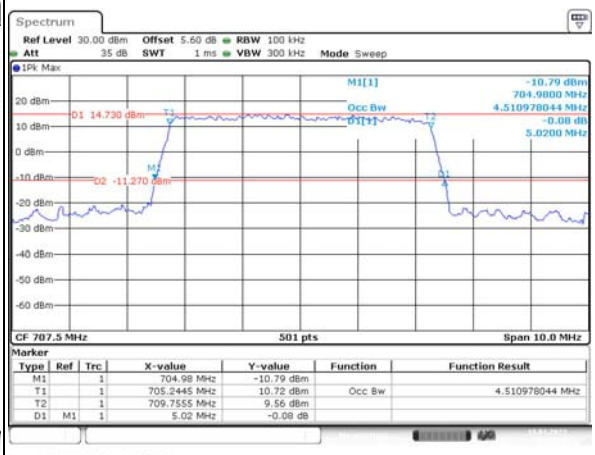
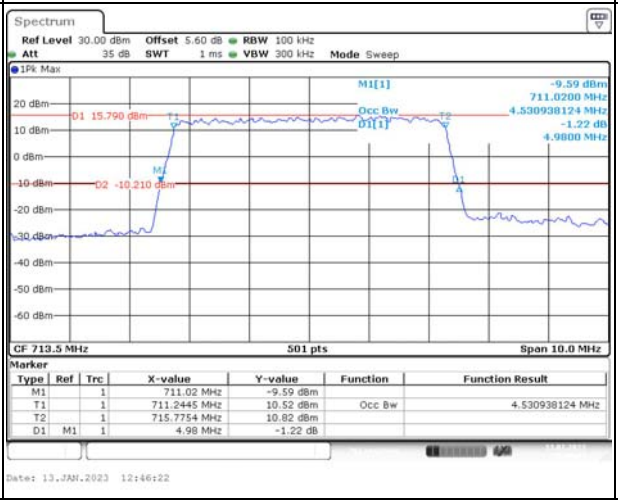
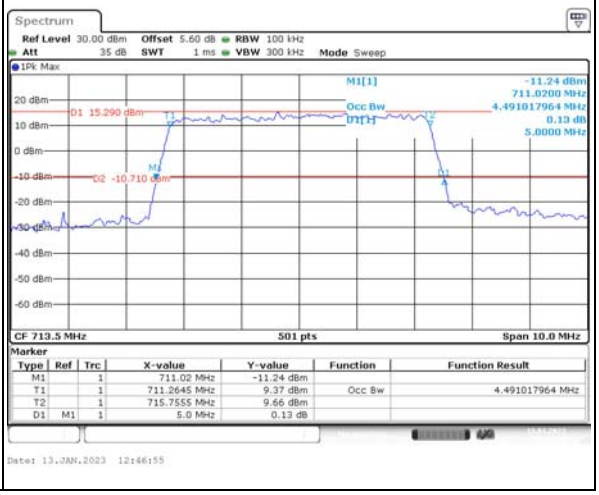
| Test Mode: | 10M QPSK | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 699.540 | 699.00 | 715.568 | 716.00 |
| | -20 | 3.8 | 699.559 | 699.00 | 715.586 | 716.00 |
| | -10 | 3.8 | 699.553 | 699.00 | 715.503 | 716.00 |
| | 0 | 3.8 | 699.568 | 699.00 | 715.598 | 716.00 |
| | 10 | 3.8 | 699.596 | 699.00 | 715.558 | 716.00 |
| | 20 | 3.8 | 699.529 | 699.00 | 715.511 | 716.00 |
| | 30 | 3.8 | 699.572 | 699.00 | 715.590 | 716.00 |
| | 40 | 3.8 | 699.574 | 699.00 | 715.517 | 716.00 |
| | 50 | 3.8 | 699.580 | 699.00 | 715.592 | 716.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 699.578 | 699.00 | 715.524 | 716.00 |
| | 20 | 4.35 | 699.573 | 699.00 | 715.594 | 716.00 |
| | | | | | **Result:** | **Pass** |

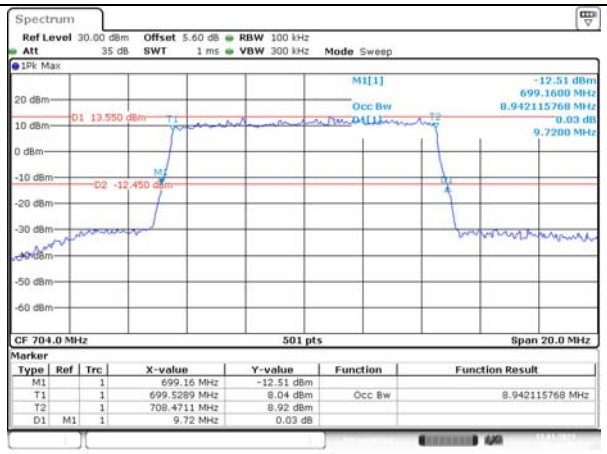
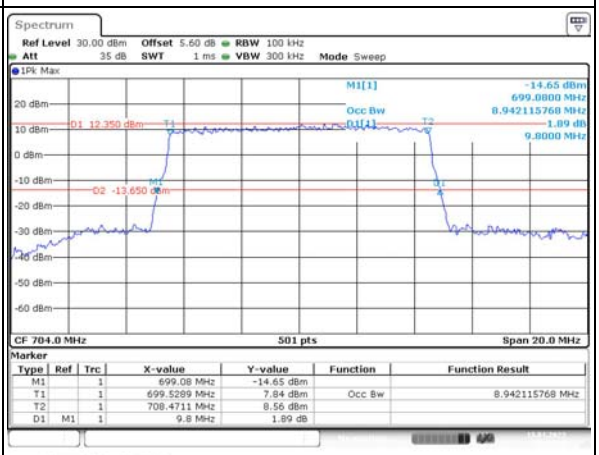
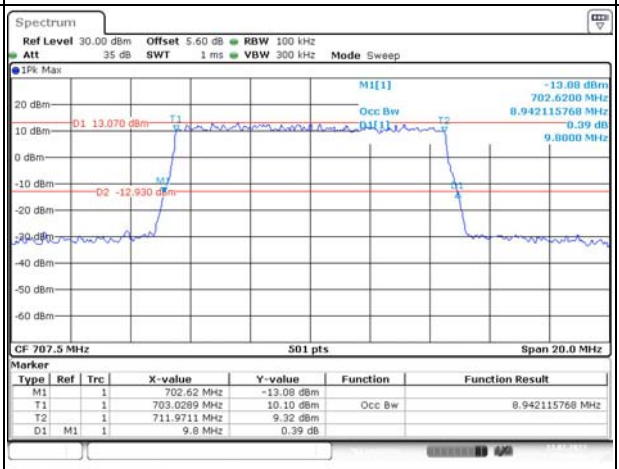
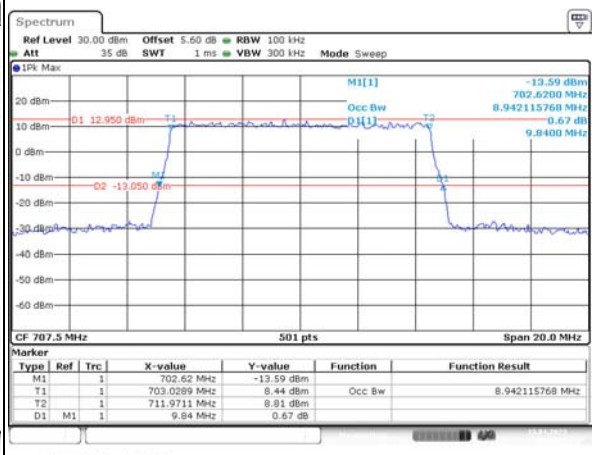
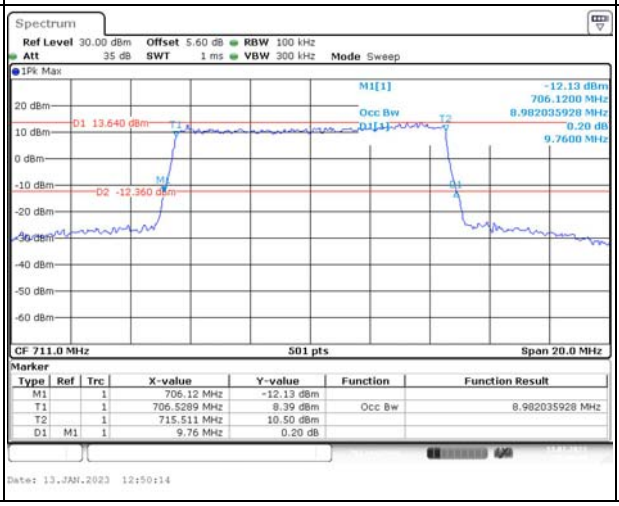
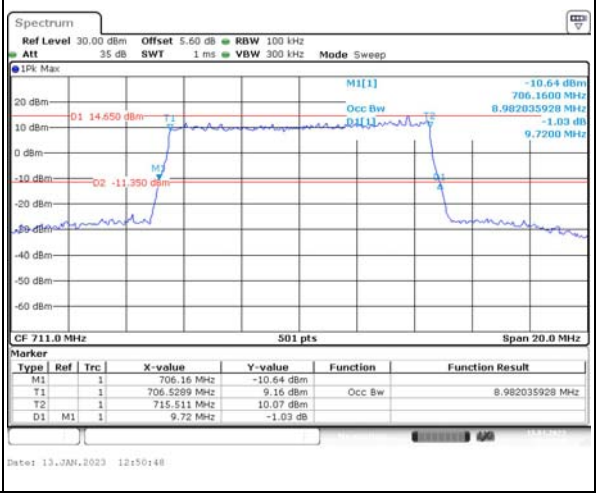
| Test Mode: | 10M 16QAM | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 699.574 | 699.00 | 715.542 | 716.00 |
| | -20 | 3.8 | 699.547 | 699.00 | 715.514 | 716.00 |
| | -10 | 3.8 | 699.508 | 699.00 | 715.543 | 716.00 |
| | 0 | 3.8 | 699.515 | 699.00 | 715.528 | 716.00 |
| | 10 | 3.8 | 699.578 | 699.00 | 715.547 | 716.00 |
| | 20 | 3.8 | 699.529 | 699.00 | 715.511 | 716.00 |
| | 30 | 3.8 | 699.590 | 699.00 | 715.527 | 716.00 |
| | 40 | 3.8 | 699.534 | 699.00 | 715.504 | 716.00 |
| | 50 | 3.8 | 699.589 | 699.00 | 715.561 | 716.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 699.570 | 699.00 | 715.585 | 716.00 |
| | 20 | 4.35 | 699.518 | 699.00 | 715.546 | 716.00 |
| | | | | | **Result:** | **Pass** |

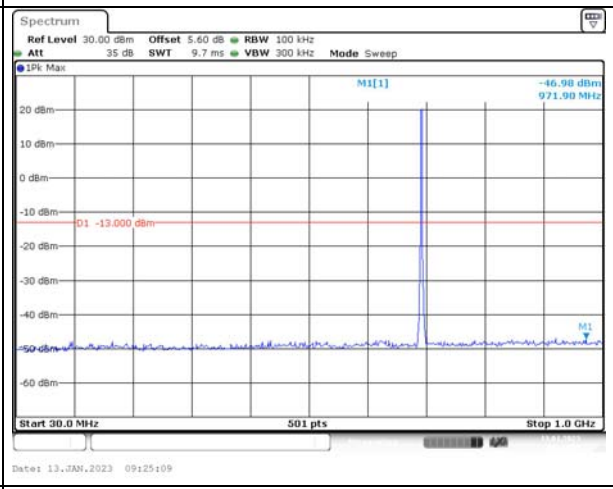
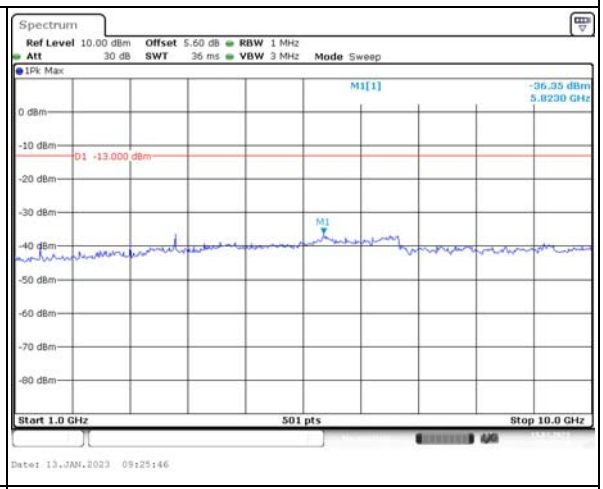
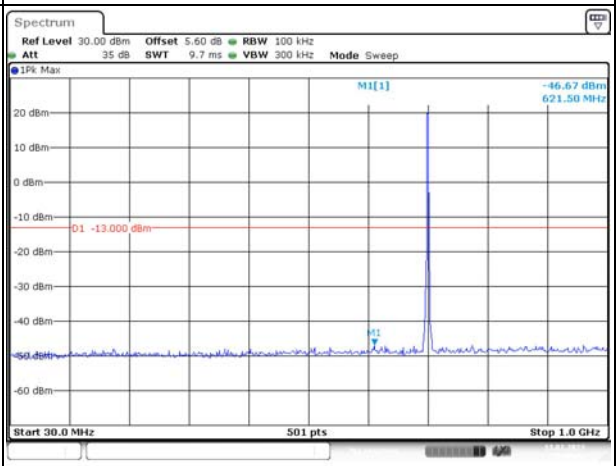
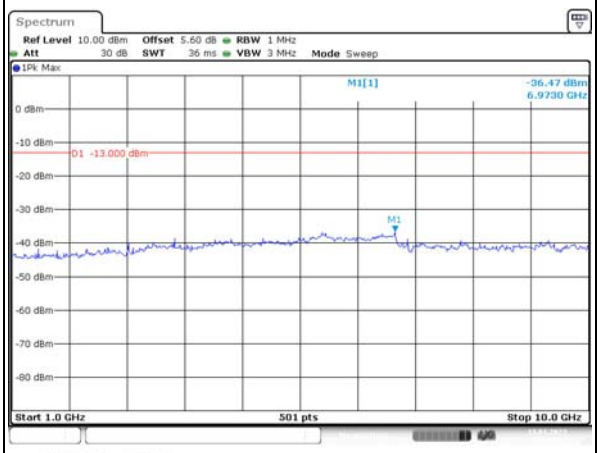
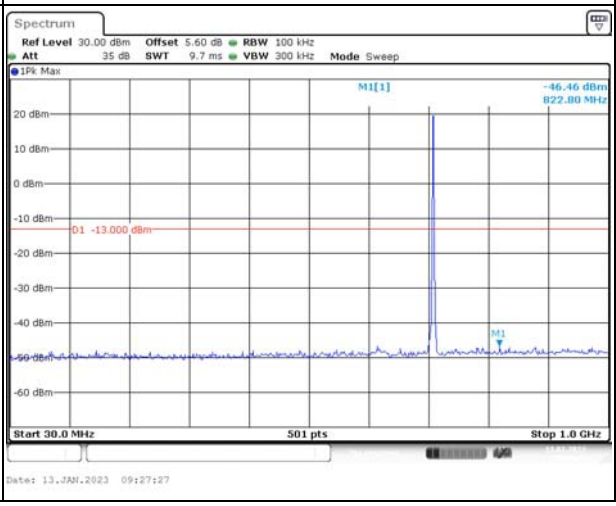
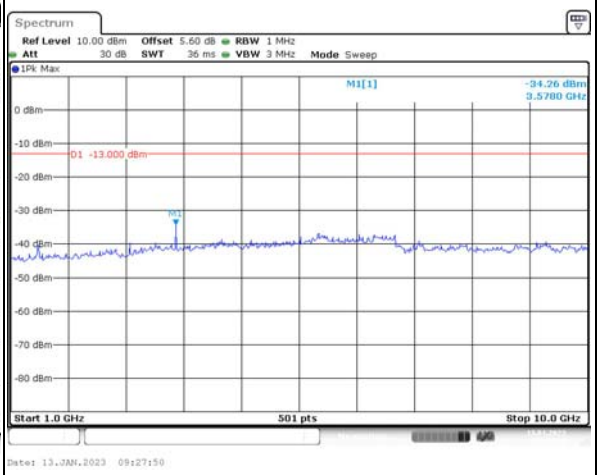
**Test Plots**(Note: The 5.6dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

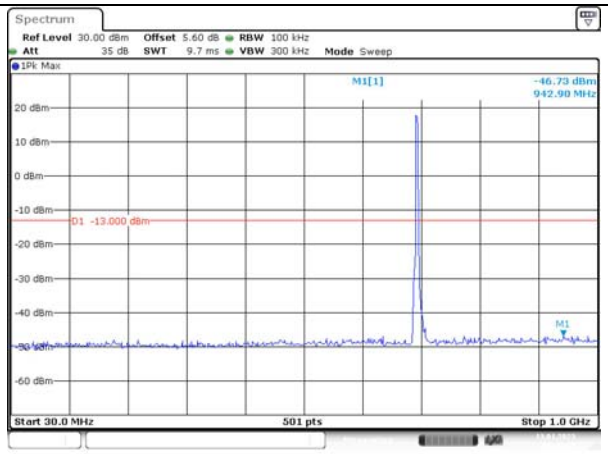
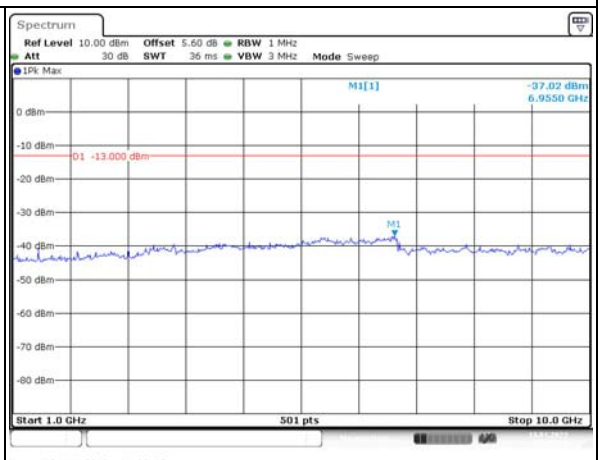
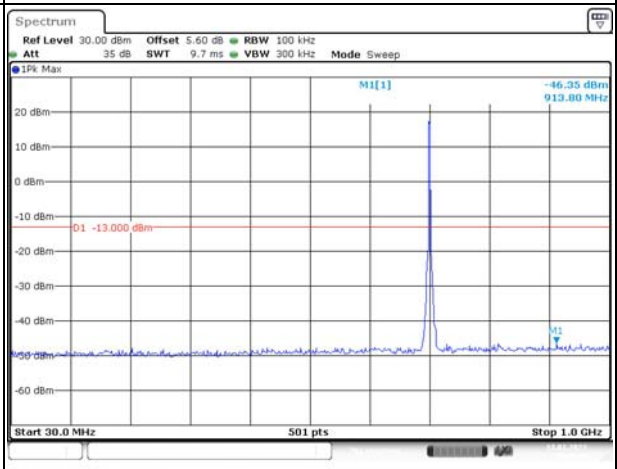
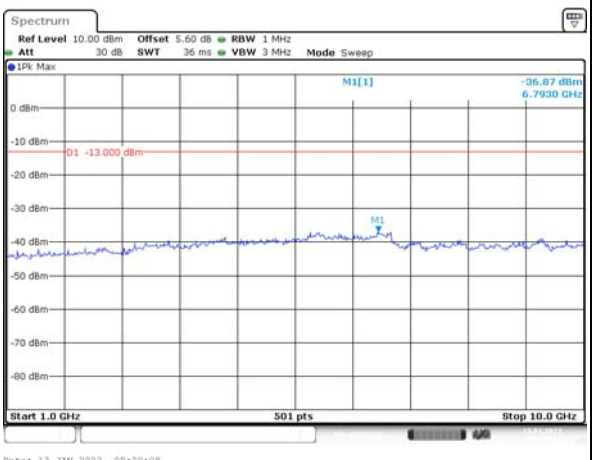
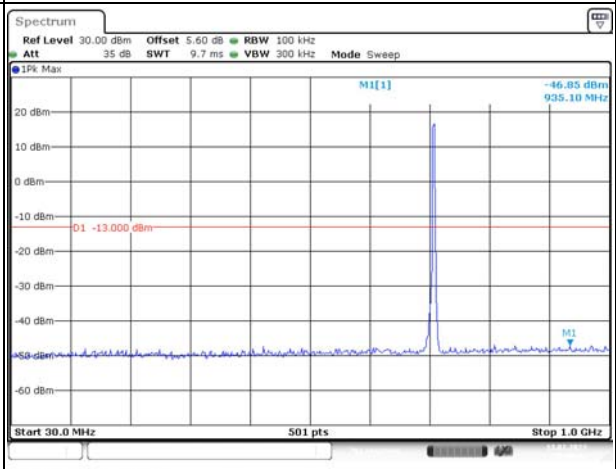
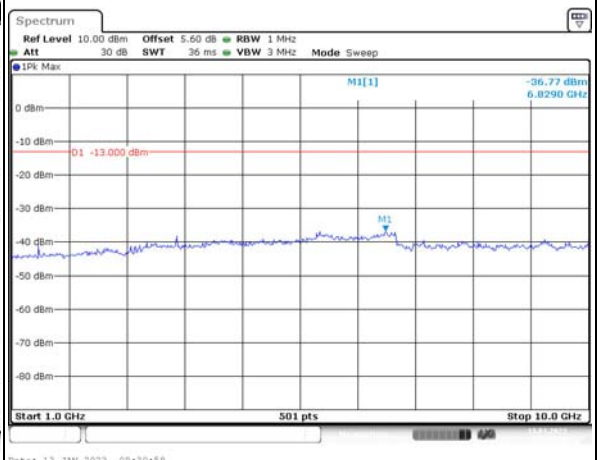
| **Occupied Bandwidth** | | |
|---|---|---|
| **Channel** | 1.4MHz Bandwidth QPSK | 1.4MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

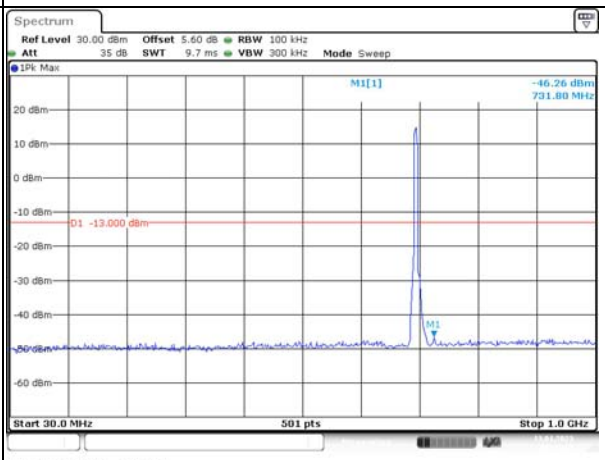
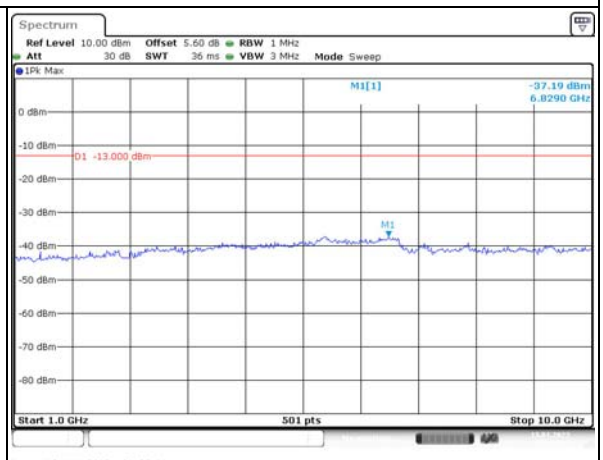
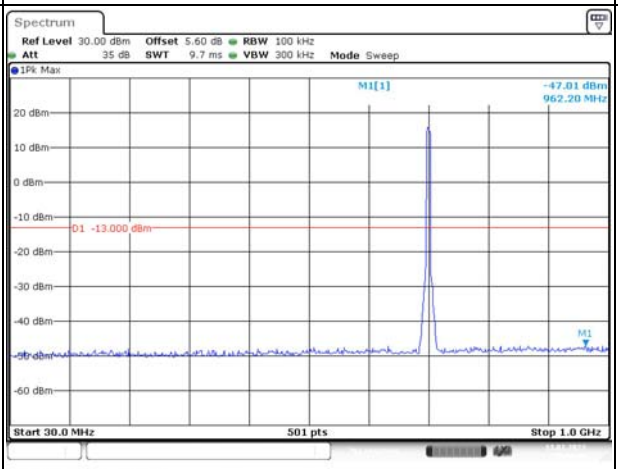
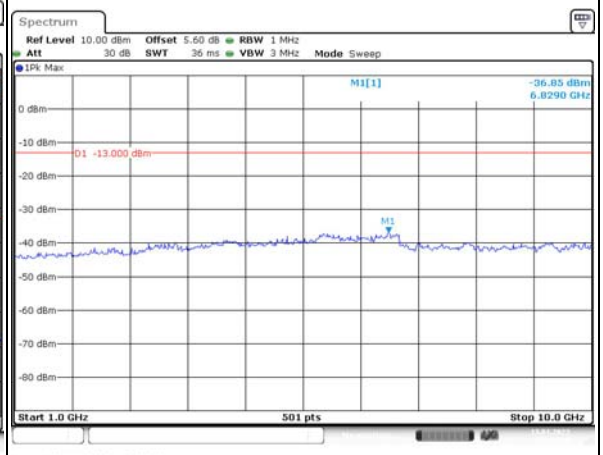
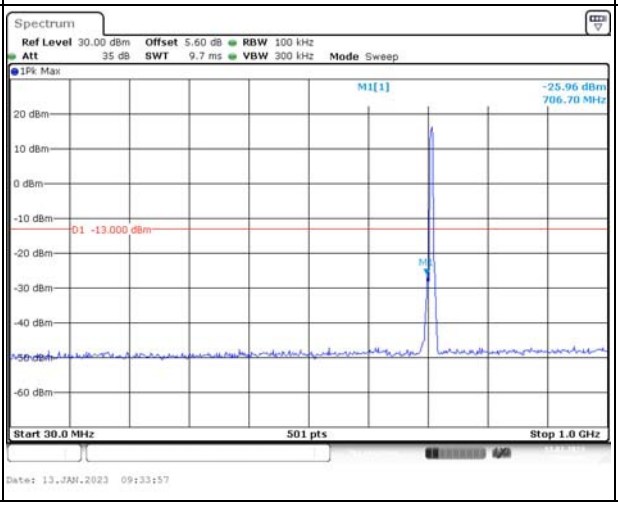
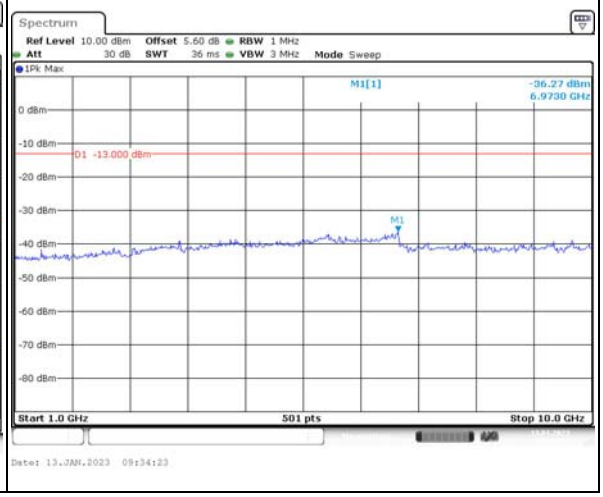
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 3MHz Bandwidth QPSK | 3MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

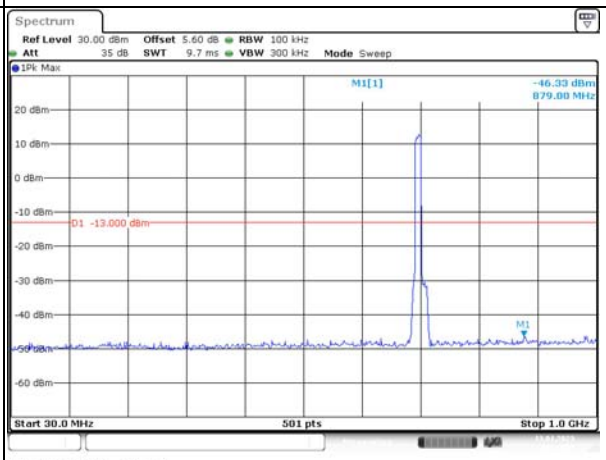
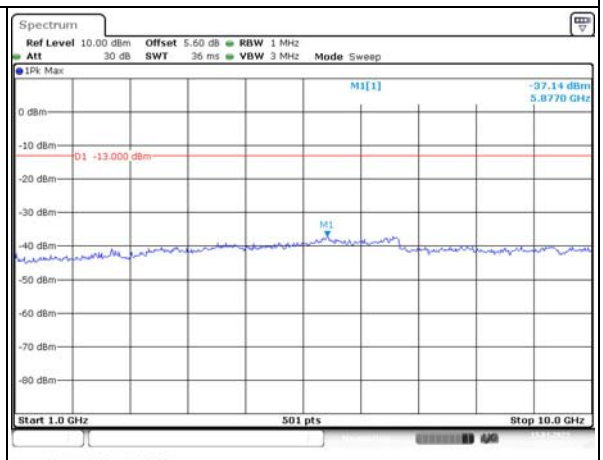
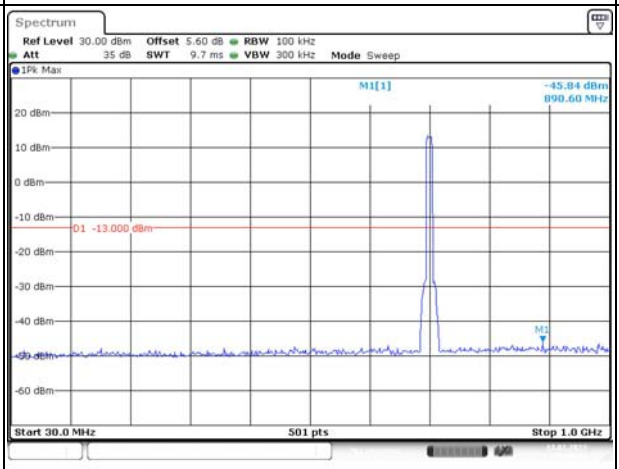
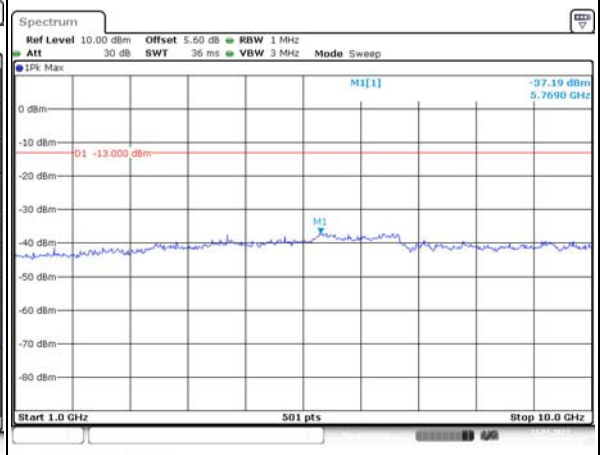
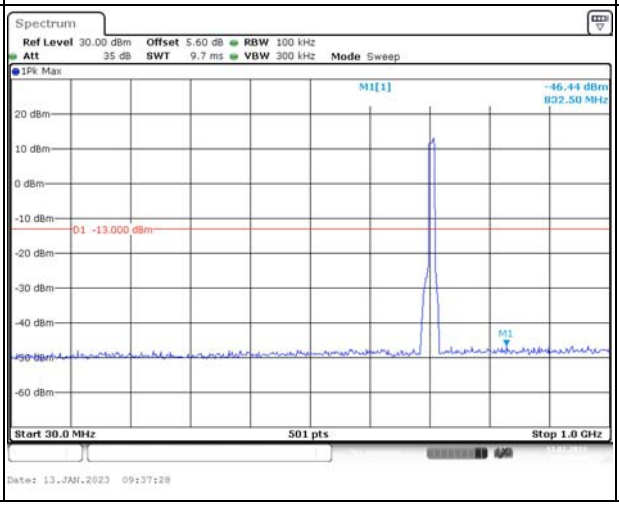
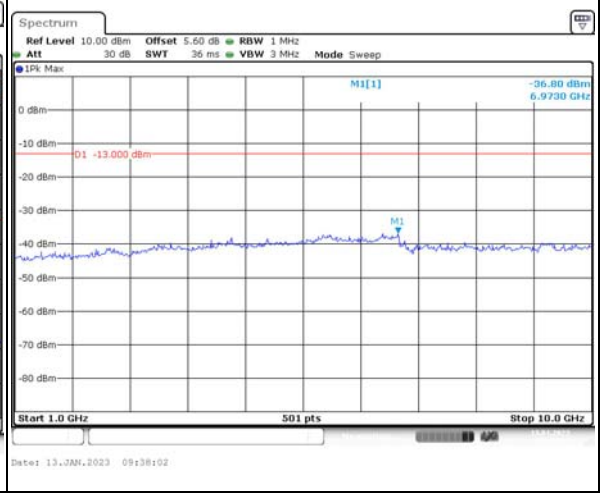
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 5MHz Bandwidth QPSK | 5MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

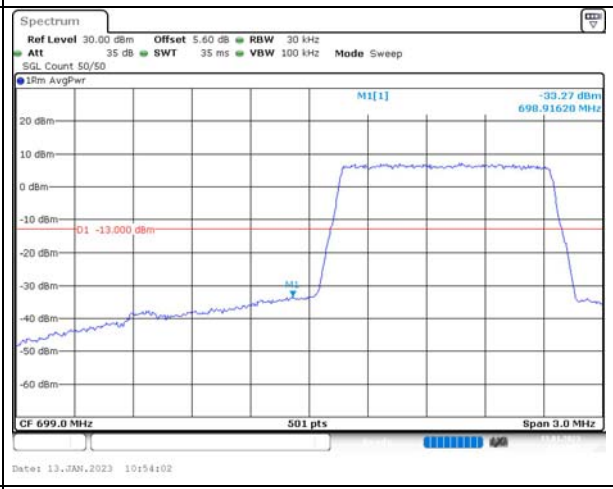
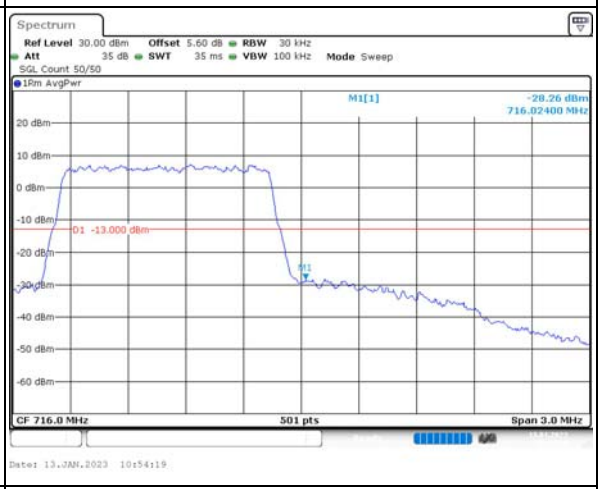
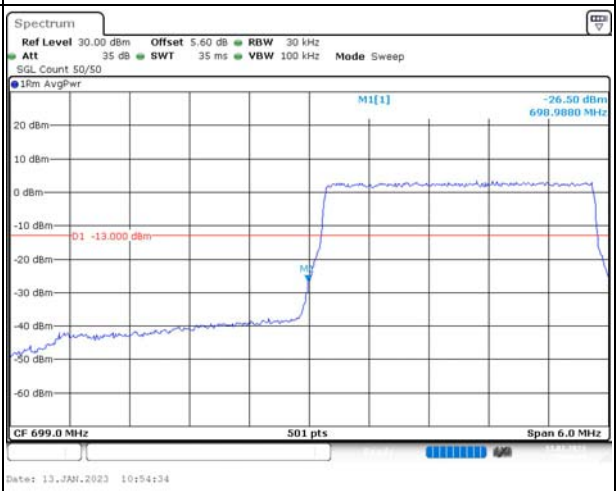
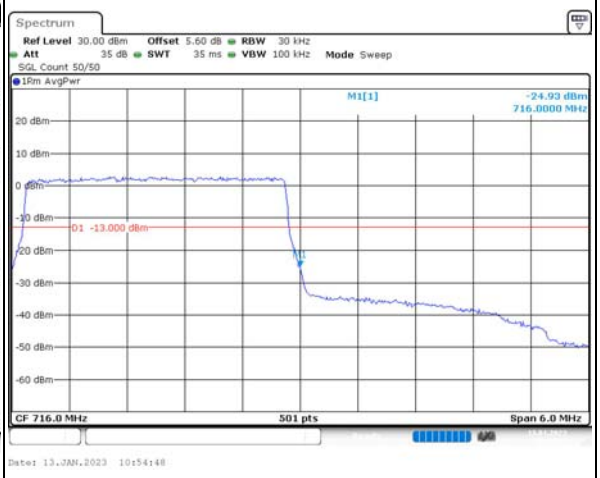
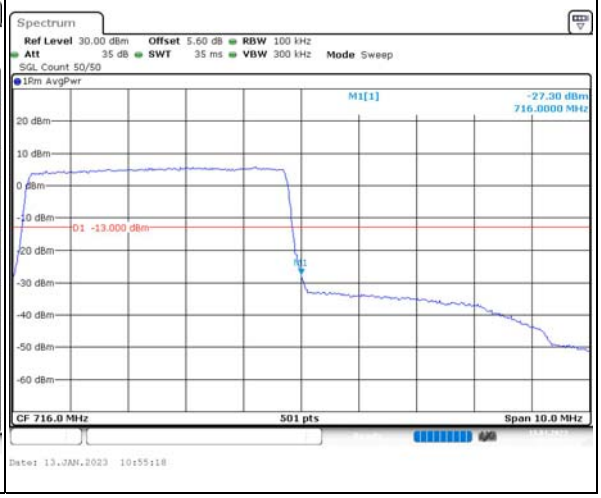
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 10MHz Bandwidth QPSK | 10MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

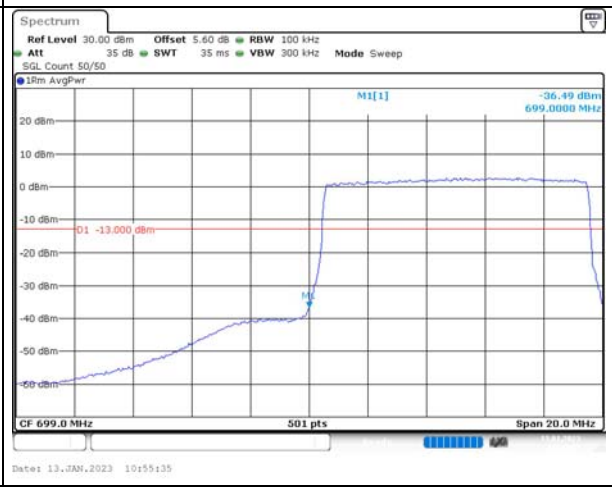
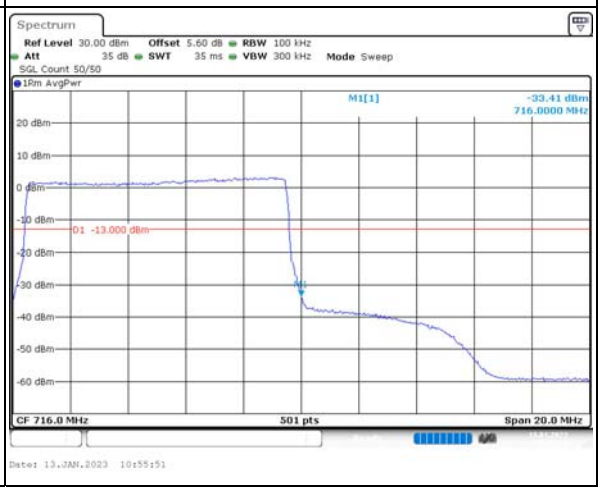
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **1.4MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

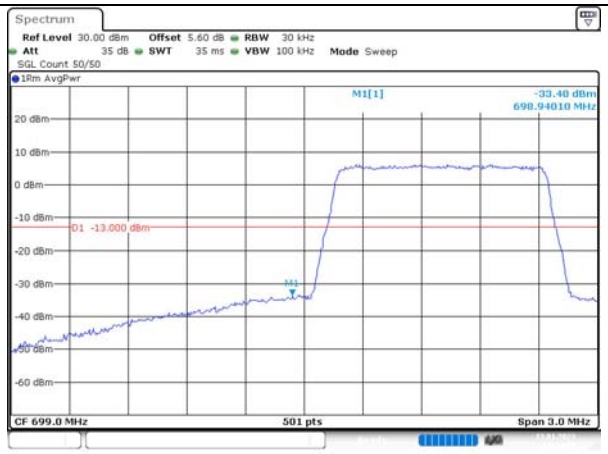
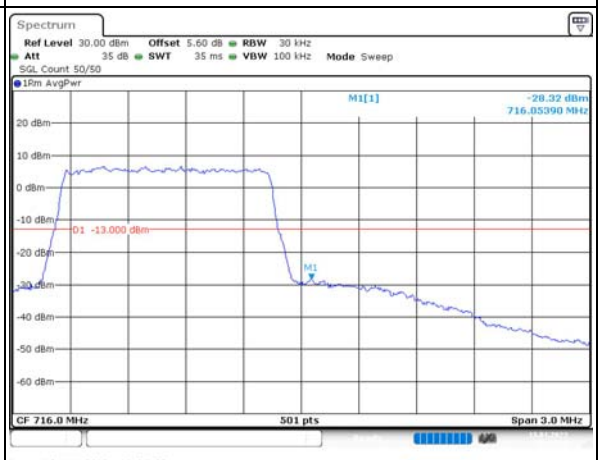
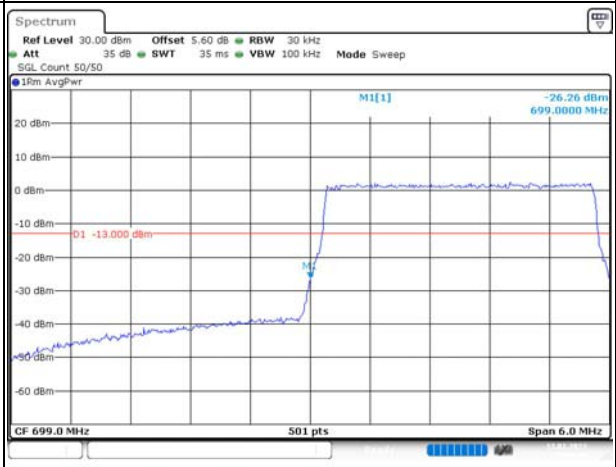
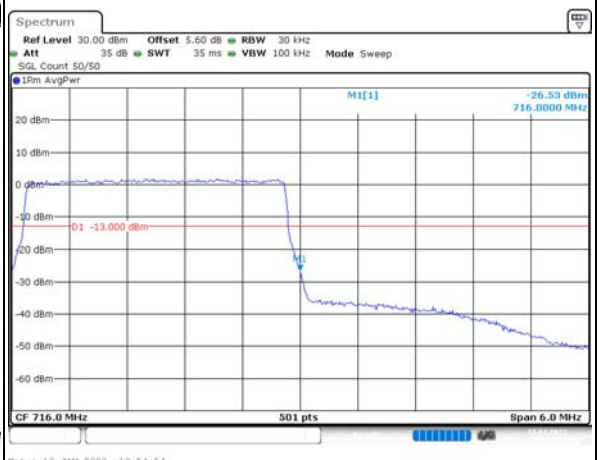
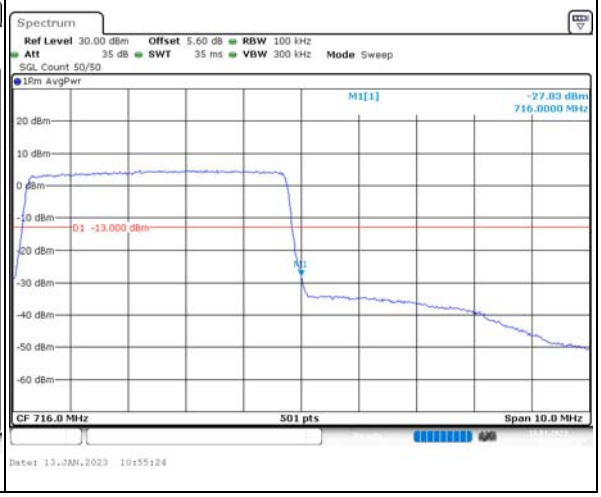
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **3MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

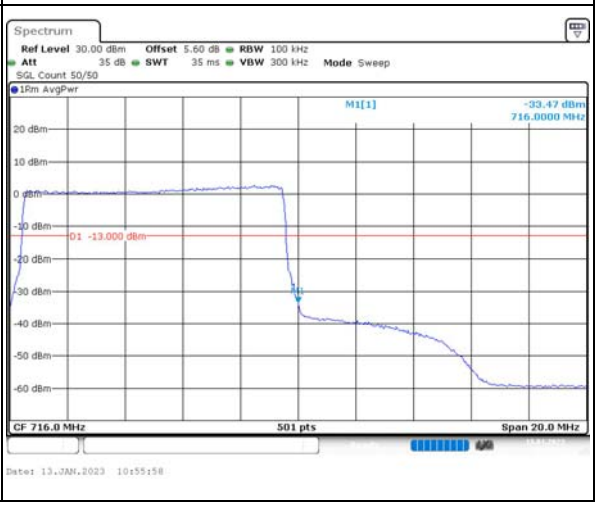
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **5MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **10MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 1.4MHz |  |  |
| QPSK 3MHz |  |  |
| QPSK 5MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 10MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 1.4MHz |  |  |
| 16QAM 3MHz |  |  |
| 16QAM 5MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 10MHz |  |  |

## 4.10 Antenna Port Test Data and Results for LTE Band 17

| | | | |
|---|---|---|---|
| Serial Number: | 1WTO-1 | Test Date: | 2023/1/12~2023/1/17 |
| Test Site: | RF | Test Mode: | Transmitting |
| Tester: | George Chen | Test Result: | **Pass** |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 18.2~25.2 | Relative Humidity: (%) | 46~65 | ATM Pressure: (kPa) | 100.5~102.6 |

**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 | 2022-04-06 | 2023-04-05 |
| BACL | TEMP&HUMI Test Chamber | BTH-150-40 | 30174 | 2022-09-29 | 2023-09-28 |
| UNI-T | Multimeter | UT39A+ | C210582554 | N/A | N/A |
| ZHAOXIN | DC Power Supply | RXN-6010D | 21R6010D0912386 | 2022-07-15 | 2023-07-14 |

** 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 | 706.5 | 710 | 713.5 |
| 10MHz | 709 | 710 | 711 |

**Test Data:**

**FCC§2.1046;§ 27.50(c) (10)**

**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 | | |
| 5MHz QPSK | RB1#0 | 23.15 | 23.09 | 23.24 | 21.2 | 34.77 |
| | RB1#13 | 23.31 | 23.08 | 23.33 | | |
| | RB1#24 | 23.27 | 23.13 | 23.28 | | |
| | RB15#0 | 22.29 | 22.23 | 22.24 | | |
| | RB15#10 | 22.15 | 22.19 | 22.24 | | |
| | RB25#0 | 22.31 | 22.3 | 22.24 | | |
| 5MHz 16QAM | RB1#0 | 22.16 | 21.7 | 21.33 | 20.11 | 34.77 |
| | RB1#13 | 22.24 | 21.71 | 21.35 | | |
| | RB1#24 | 22.18 | 21.82 | 21.42 | | |
| | RB15#0 | 21.12 | 21.65 | 21.68 | | |
| | RB15#10 | 21.47 | 21.58 | 21.32 | | |
| | RB25#0 | 21.32 | 21.46 | 21.37 | | |
| 10MHz QPSK | RB1#0 | 23.13 | 23.37 | 23.13 | 21.49 | 34.77 |
| | RB1#25 | 23.22 | 23.35 | 23.04 | | |
| | RB1#49 | 23.34 | 23.62 | 23.33 | | |
| | RB25#0 | 22.24 | 22.14 | 22.21 | | |
| | RB25#25 | 22.24 | 22.24 | 22.29 | | |
| | RB50#0 | 22.2 | 22.21 | 22.27 | | |
| 10MHz 16QAM | RB1#0 | 22.31 | 21.9 | 22.29 | 20.4 | 34.77 |
| | RB1#25 | 22.49 | 21.78 | 22.23 | | |
| | RB1#49 | 22.53 | 21.78 | 22.5 | | |
| | RB25#0 | 21.29 | 21.7 | 21.58 | | |
| | RB25#25 | 21.71 | 21.68 | 21.41 | | |
| | RB50#0 | 21.63 | 21.58 | 21.68 | | |

Note:
ERP= Conducted Power(dBm) - $L_C$(dB) + $G_T$(dBd)
$G_T$(dBd)=$G_T$(dBi)-2.15

| **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 | |
| 10MHz QPSK | RB1#0 | 4.75 | 4.46 | 4.67 | 13 |
| | RB50#0 | 5.45 | 5.39 | 5.3 | 13 |
| 10MHz 16QAM | RB1#0 | 5.68 | 5.65 | 5.86 | 13 |
| | RB50#0 | 6.23 | 6.2 | 6.14 | 13 |
| | | | | **Result:** | **Pass** |

| 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 | 4.531 | 5 | 4.98 | 4.98 |
| 5MHz 16QAM | 4.531 | 4.551 | 4.491 | 5 | 5.02 | 5 |
| 10MHz QPSK | 8.942 | 8.982 | 8.982 | 9.76 | 9.8 | 9.8 |
| 10MHz 16QAM | 8.982 | 8.982 | 8.982 | 9.84 | 9.84 | 9.72 |
| Note: The test plots please refer to the Plots of Occupied Bandwidth | | | | | | |

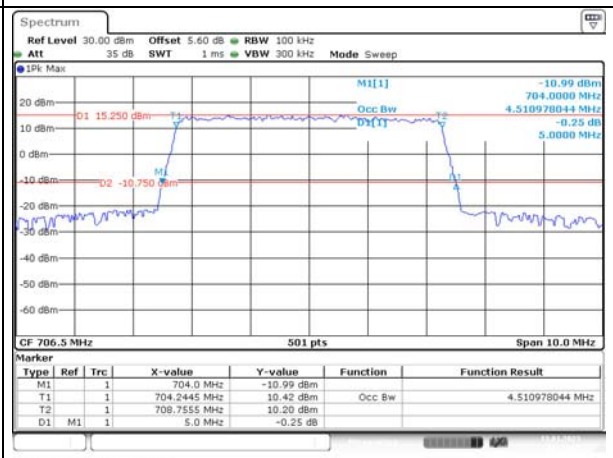
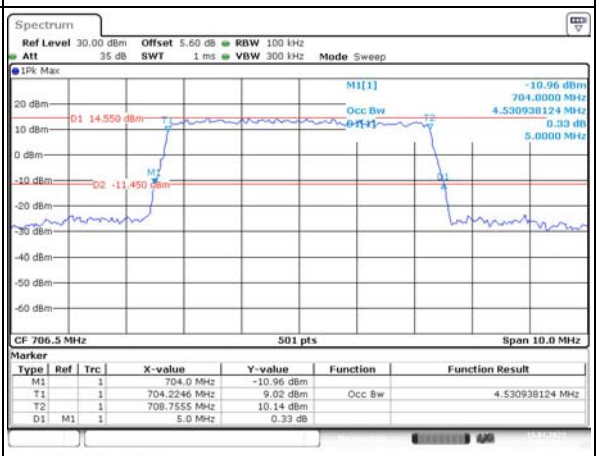
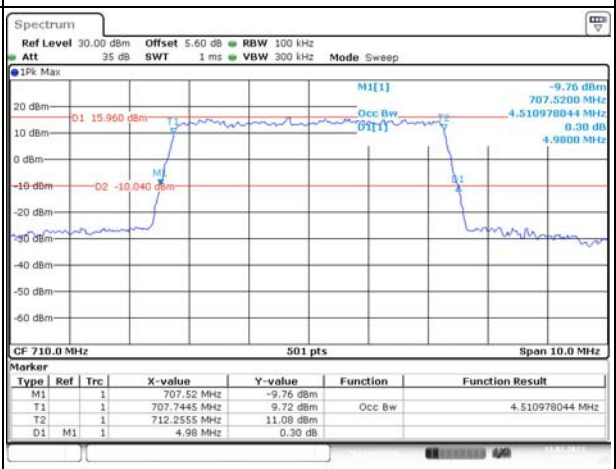
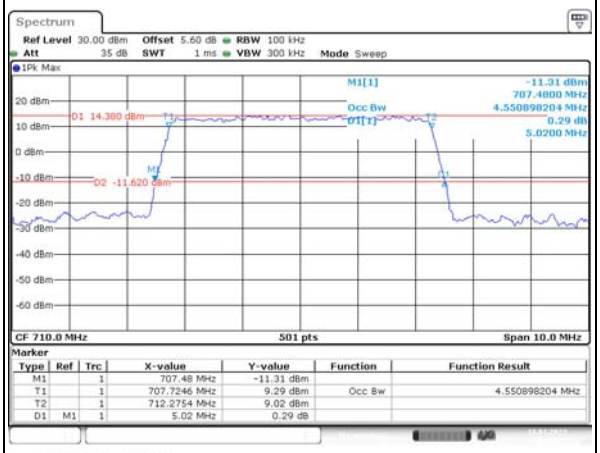
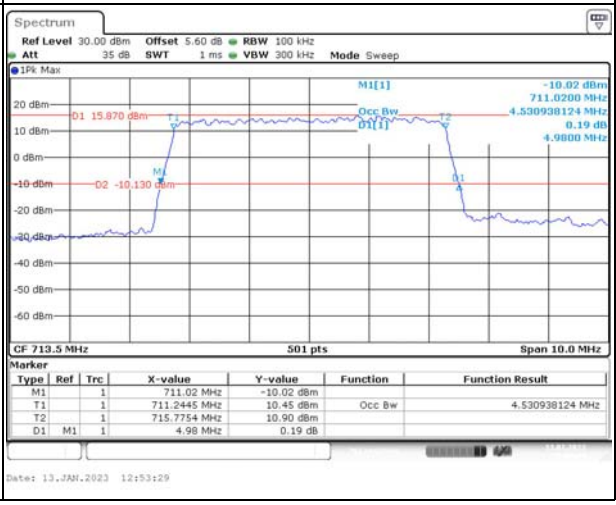
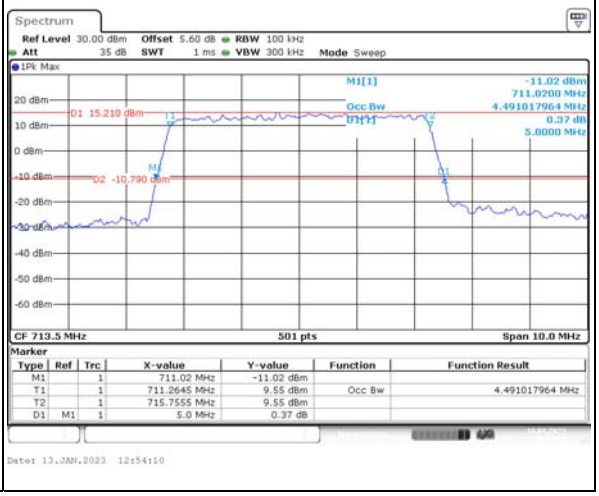
| FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.** |

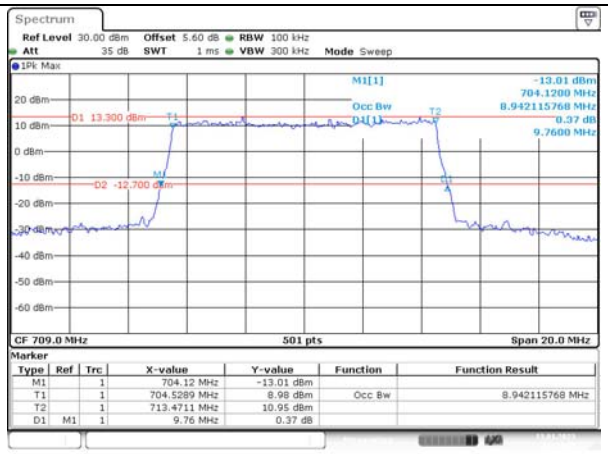
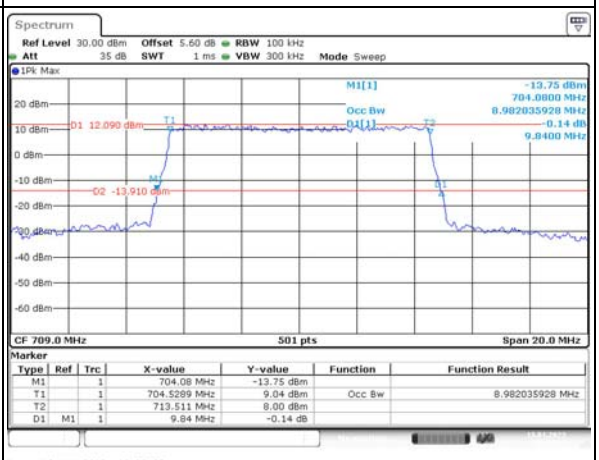
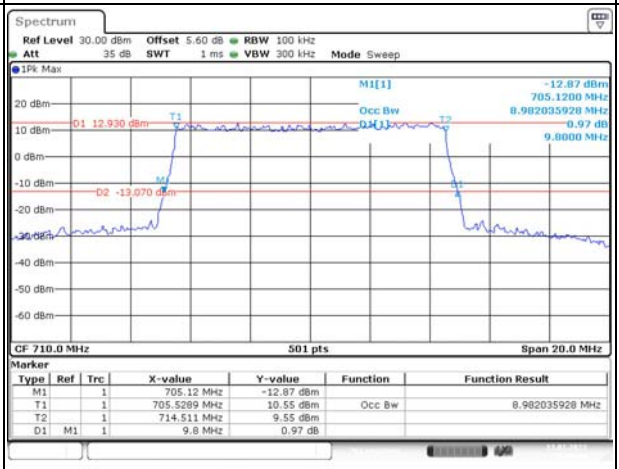
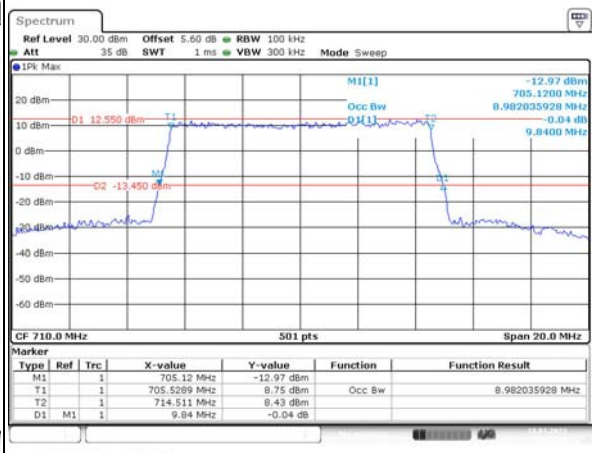
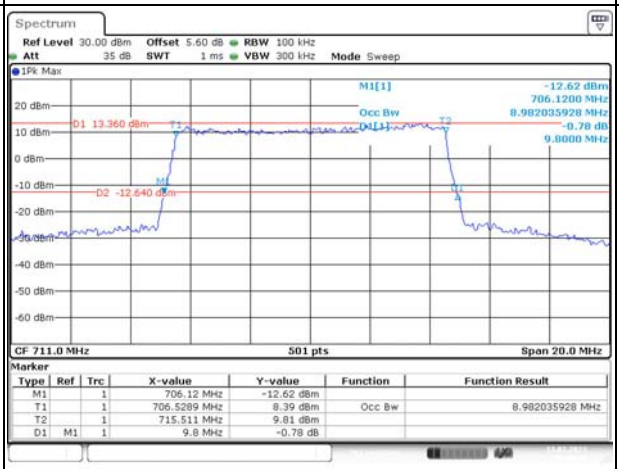
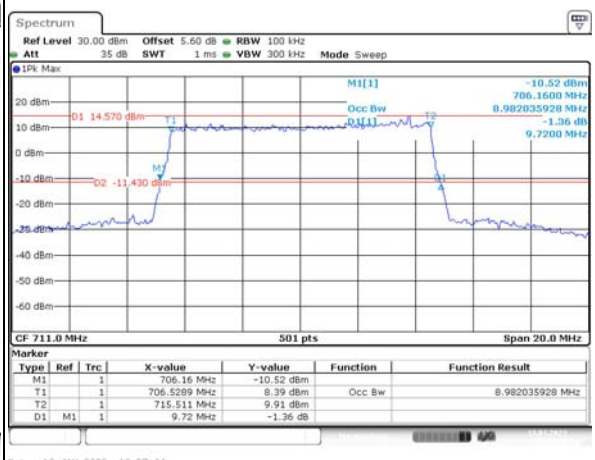
| FCC §2.1051, §27.53:Out of band emission, Band Edge | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Out of band emission, Band Edge.** |

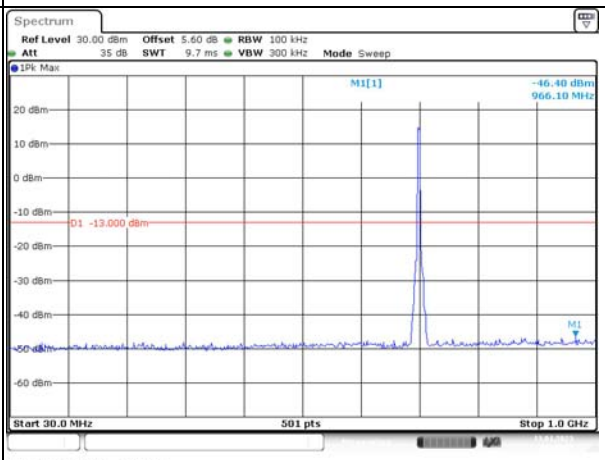
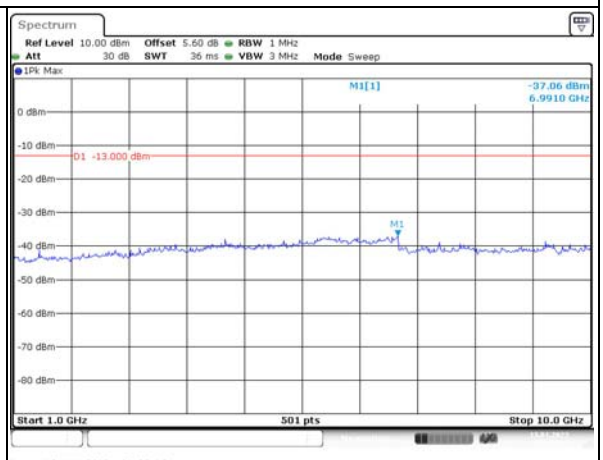
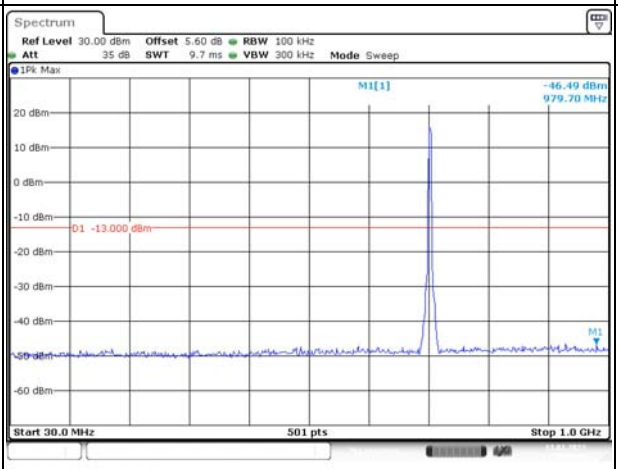
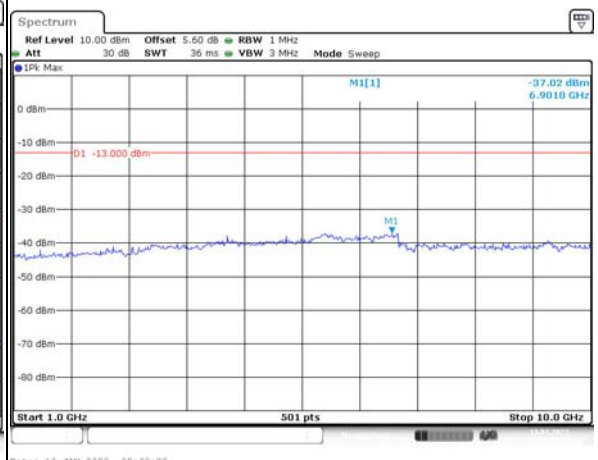
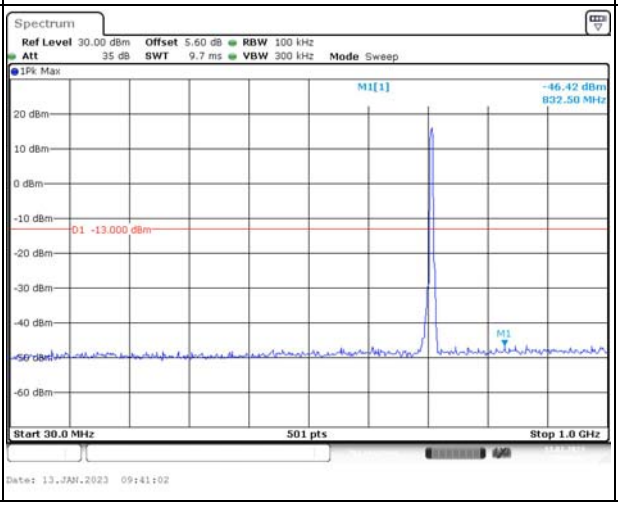
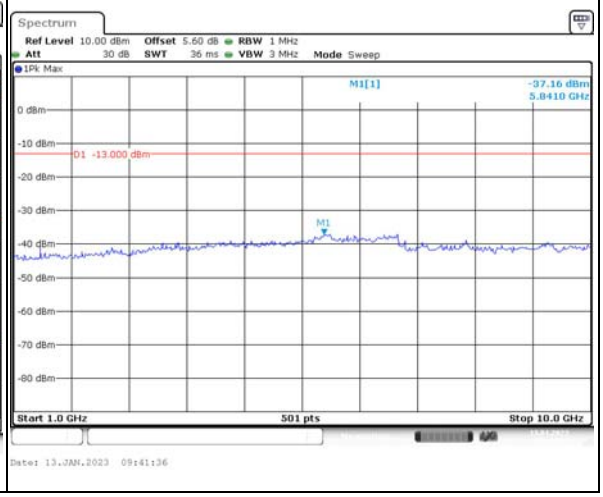
| FCC §2.1055, §27.54: Frequency Stability | | | | | | |
|---|---|---|---|---|---|---|
| Test Mode: | 10M QPSK | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 704.521 | 704.00 | 715.564 | 716.00 |
| | -20 | 3.8 | 704.574 | 704.00 | 715.545 | 716.00 |
| | -10 | 3.8 | 704.535 | 704.00 | 715.573 | 716.00 |
| | 0 | 3.8 | 704.562 | 704.00 | 715.551 | 716.00 |
| | 10 | 3.8 | 704.543 | 704.00 | 715.530 | 716.00 |
| | 20 | 3.8 | 704.529 | 704.00 | 715.511 | 716.00 |
| | 30 | 3.8 | 704.549 | 704.00 | 715.566 | 716.00 |
| | 40 | 3.8 | 704.551 | 704.00 | 715.569 | 716.00 |
| | 50 | 3.8 | 704.518 | 704.00 | 715.554 | 716.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 704.569 | 704.00 | 715.532 | 716.00 |
| | 20 | 4.35 | 704.581 | 704.00 | 715.514 | 716.00 |
| | | | | | **Result:** | **Pass** |

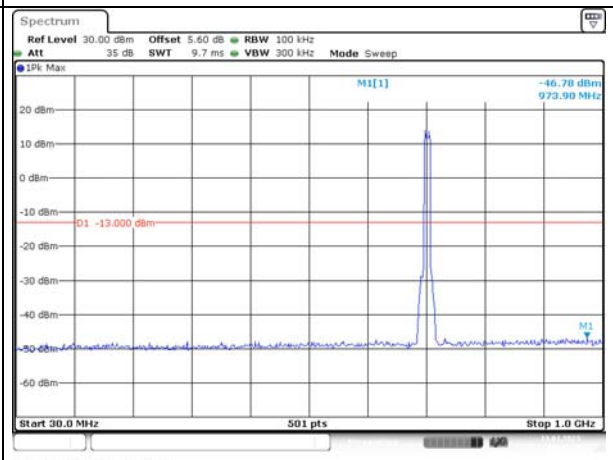
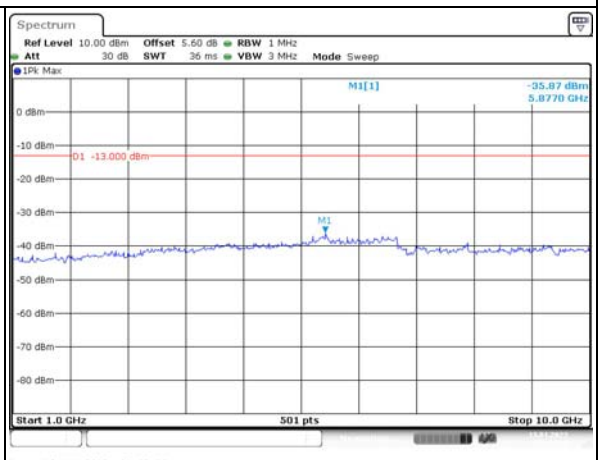
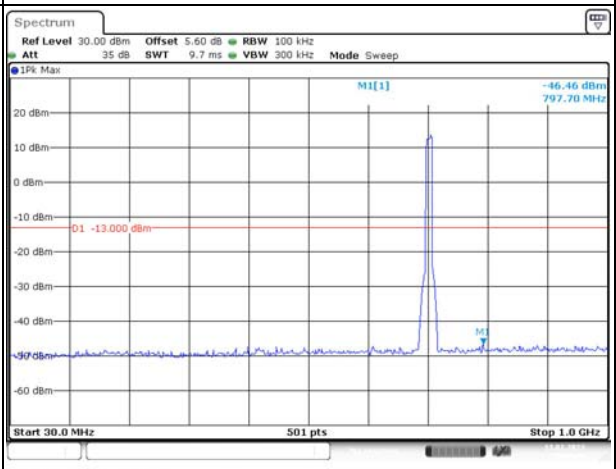
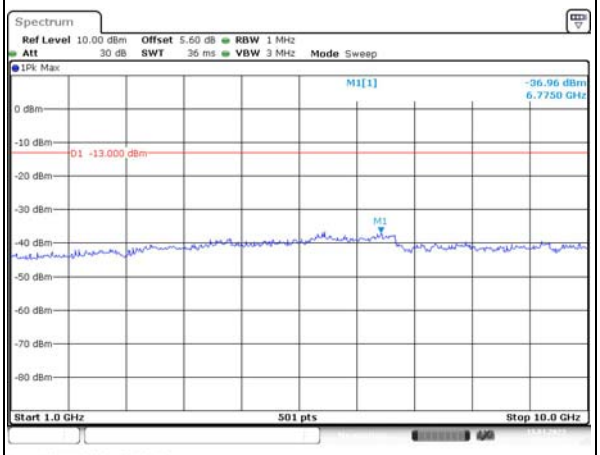
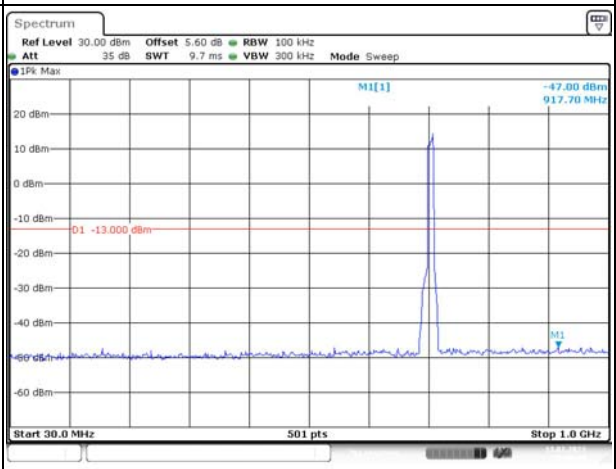
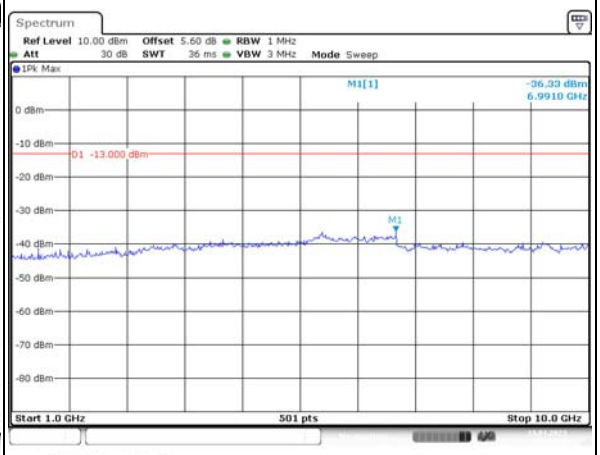
| Test Mode: | 10M 16QAM | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 704.531 | 704.00 | 715.596 | 716.00 |
| | -20 | 3.8 | 704.503 | 704.00 | 715.565 | 716.00 |
| | -10 | 3.8 | 704.529 | 704.00 | 715.514 | 716.00 |
| | 0 | 3.8 | 704.549 | 704.00 | 715.597 | 716.00 |
| | 10 | 3.8 | 704.580 | 704.00 | 715.550 | 716.00 |
| | 20 | 3.8 | 704.529 | 704.00 | 715.511 | 716.00 |
| | 30 | 3.8 | 704.546 | 704.00 | 715.589 | 716.00 |
| | 40 | 3.8 | 704.554 | 704.00 | 715.523 | 716.00 |
| | 50 | 3.8 | 704.585 | 704.00 | 715.515 | 716.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 704.558 | 704.00 | 715.537 | 716.00 |
| | 20 | 4.35 | 704.596 | 704.00 | 715.528 | 716.00 |
| | | | | | **Result:** | **Pass** |

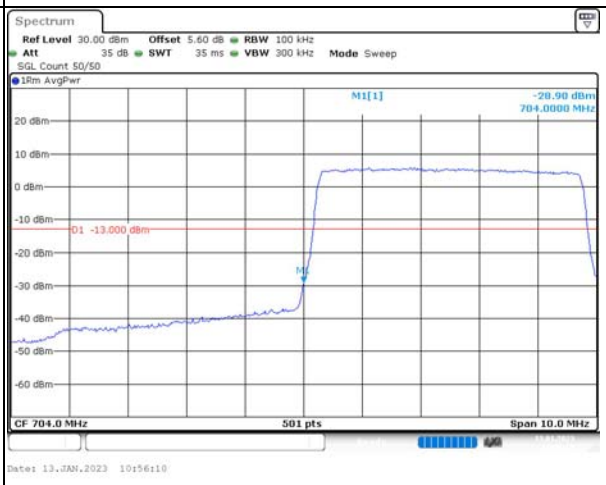
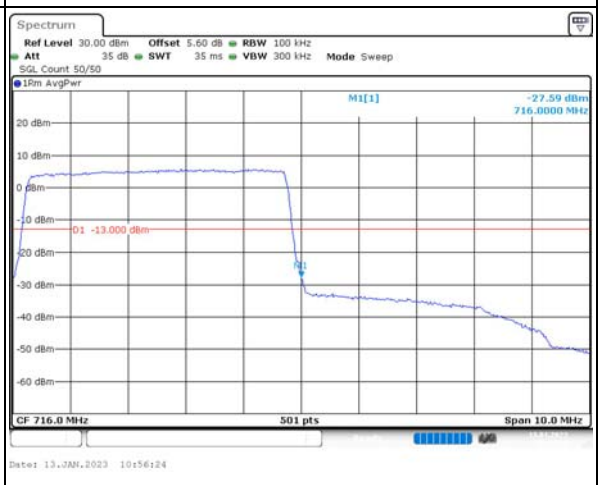
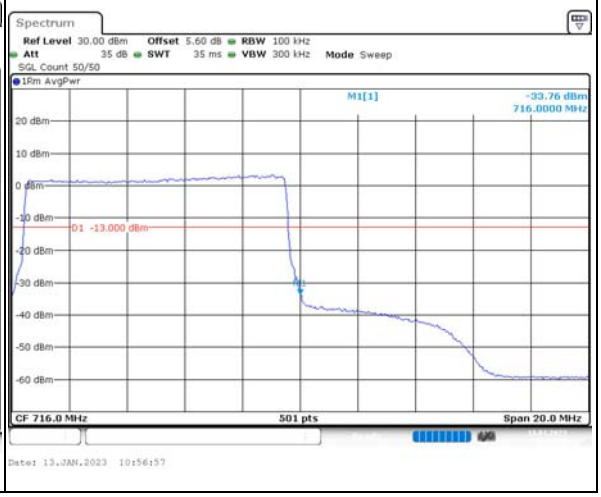
**Test Plots**(Note: The 5.6dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

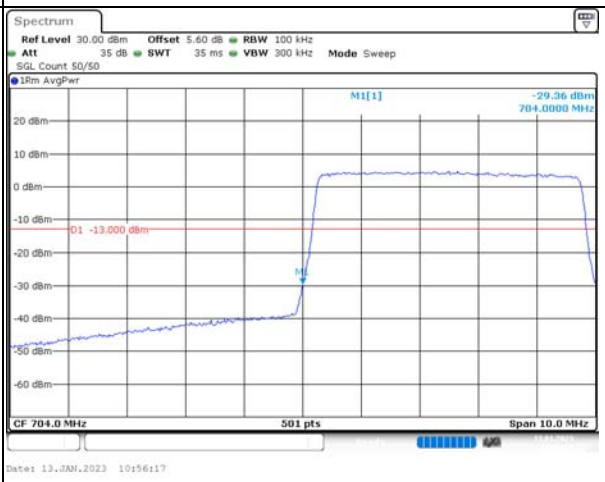
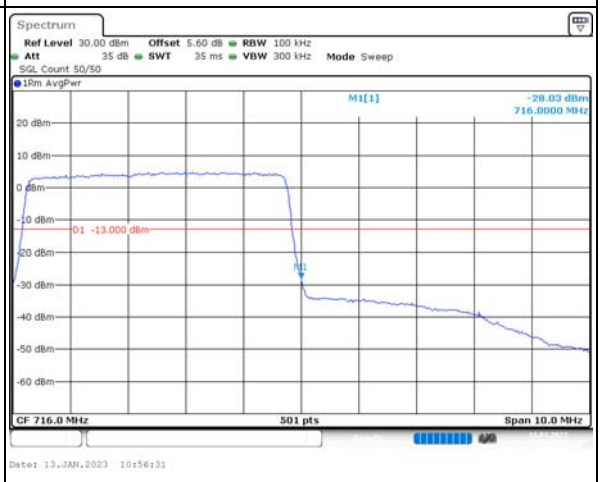
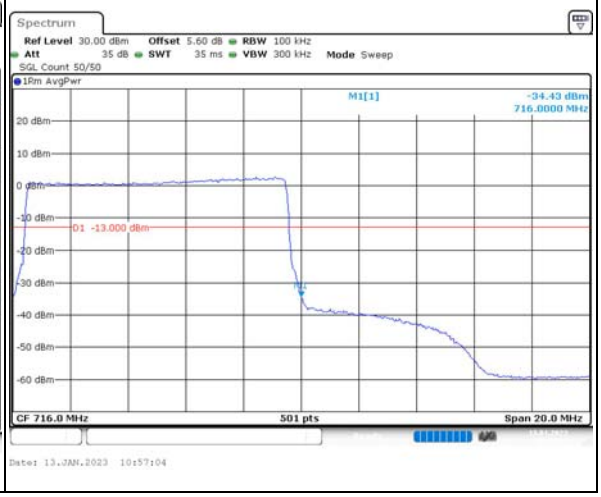
| **Occupied Bandwidth** | | |
|---|---|---|
| **Channel** | 5MHz Bandwidth QPSK | 5MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 10MHz Bandwidth QPSK | 10MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| 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 | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 5MHz |  |  |
| QPSK 10MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 5MHz |  |  |
| 16QAM 10MHz |  |  |

## 4.11 Antenna Port Test Data and Results for LTE Band 41

| | | | |
|---|---|---|---|
| Serial Number: | 1WTO-1 | Test Date: | 2023/1/12~2023/3/16 |
| Test Site: | RF | Test Mode: | Transmitting |
| Tester: | George Chen | Test Result: | **Pass** |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 18.2~25.2 | Relative Humidity: (%) | 46~65 | ATM Pressure: (kPa) | 100.5~102.6 |

**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 |
| R&S | Spectrum Analyzer | FSU26 | 200256 | 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 | 2022-04-06 | 2023-04-05 |
| BACL | TEMP&HUMI Test Chamber | BTH-150-40 | 30174 | 2022-09-29 | 2023-09-28 |
| UNI-T | Multimeter | UT39A+ | C210582554 | N/A | N/A |
| ZHAOXIN | DC Power Supply | RXN-6010D | 21R6010D0912386 | 2022-07-15 | 2023-07-14 |

** 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 | 2557.5 | 2605 | 2652.5 |
| 10MHz | 2560 | 2605 | 2650 |
| 15MHz | 2562.5 | 2605 | 2647.5 |
| 20MHz | 2565 | 2605 | 2645 |

**Test Data:**

| **FCC§2.1046;§ 27.50(h)(2)** | | | | | | |
|---|---|---|---|---|---|---|
| **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 | | |
| 5MHz QPSK | RB1#0 | 21.81 | 22.38 | 22.34 | 22.57 | 33 |
| | RB1#13 | 21.95 | 22.42 | 22.29 | | |
| | RB1#24 | 21.99 | 22.43 | 22.27 | | |
| | RB15#0 | 20.83 | 21.35 | 21.33 | | |
| | RB15#10 | 20.85 | 21.4 | 21.27 | | |
| | RB25#0 | 20.88 | 21.33 | 21.27 | | |
| 5MHz 16QAM | RB1#0 | 21.28 | 21.69 | 21.41 | 21.92 | 33 |
| | RB1#13 | 20.72 | 21.57 | 21.46 | | |
| | RB1#24 | 20.93 | 21.78 | 21.08 | | |
| | RB15#0 | 19.5 | 20.01 | 20.04 | | |
| | RB15#10 | 19.54 | 20.06 | 20.14 | | |
| | RB25#0 | 19.52 | 20.03 | 19.72 | | |
| 10MHz QPSK | RB1#0 | 22 | 22.35 | 22.48 | 22.66 | 33 |
| | RB1#25 | 22.02 | 22.37 | 22.38 | | |
| | RB1#49 | 22.1 | 22.52 | 22.38 | | |
| | RB25#0 | 20.87 | 21.26 | 21.33 | | |
| | RB25#25 | 20.92 | 21.28 | 21.44 | | |
| | RB50#0 | 20.96 | 21.28 | 21.38 | | |
| 10MHz 16QAM | RB1#0 | 20.56 | 21.75 | 21.53 | 22.27 | 33 |
| | RB1#25 | 20.77 | 22.13 | 21.43 | | |
| | RB1#49 | 20.79 | 22.08 | 21.42 | | |
| | RB25#0 | 19.48 | 20.03 | 20.13 | | |
| | RB25#25 | 19.49 | 20.01 | 20.07 | | |
| | RB50#0 | 19.55 | 19.9 | 20.04 | | |
| 15MHz QPSK | RB1#0 | 21.76 | 22.37 | 22.61 | 22.75 | 33 |
| | RB1#38 | 21.7 | 22.43 | 22.57 | | |
| | RB1#74 | 21.93 | 22.41 | 22.58 | | |
| | RB36#0 | 20.94 | 21.29 | 21.43 | | |
| | RB36#39 | 21.01 | 21.44 | 21.29 | | |
| | RB75#0 | 20.97 | 21.36 | 21.37 | | |
| 15MHz 16QAM | RB1#0 | 20.95 | 21.05 | 21.83 | 21.97 | 33 |
| | RB1#38 | 21.11 | 21.22 | 21.51 | | |
| | RB1#74 | 21.11 | 21.3 | 21.59 | | |
| | RB36#0 | 19.56 | 19.94 | 20.07 | | |
| | RB36#39 | 19.66 | 19.89 | 20.05 | | |
| | RB75#0 | 19.63 | 20 | 19.93 | | |
| 20MHz QPSK | RB1#0 | 21.84 | 22.53 | 22.56 | 22.86 | 33 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | RB1#50 | 21.93 | 22.53 | 22.43 | | |
| | RB1#99 | 22.18 | 22.72 | 22.43 | | |
| | RB50#0 | 21 | 21.38 | 21.52 | | |
| | RB50#50 | 21.07 | 21.56 | 21.38 | | |
| | RB100#0 | 21.05 | 21.46 | 21.47 | | |
| 20MHz 16QAM | RB1#0 | 20.53 | 22.11 | 21.76 | 22.33 | 33 |
| | RB1#50 | 20.72 | 22.03 | 21.65 | | |
| | RB1#99 | 20.86 | 22.19 | 21.94 | | |
| | RB50#0 | 19.67 | 20.03 | 20.23 | | |
| | RB50#50 | 19.66 | 20.25 | 20.26 | | |
| | RB100#0 | 19.69 | 20.03 | 20.14 | | |
| Note: EIRP=Conducted Power(dBm) - $L_C$(dB) + $G_T$(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 | 9.25 | 9.04 | 8.87 | 13 |
| | RB100#0 | 8.49 | 8.46 | 8.29 | 13 |
| 20MHz 16QAM | RB1#0 | 9.88 | 10.17 | 9.45 | 13 |
| | RB100#0 | 9.94 | 9.94 | 9.88 | 13 |
| | | | | **Result:** | **Pass** |

**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 | 4.491 | 4.511 | 4.98 | 4.94 | 5.14 |
| 5MHz 16QAM | 4.511 | 4.511 | 4.531 | 5 | 5 | 5.1 |
| 10MHz QPSK | 8.942 | 8.982 | 8.982 | 9.8 | 9.96 | 9.88 |
| 10MHz 16QAM | 8.942 | 8.982 | 8.942 | 9.72 | 9.84 | 9.76 |
| 15MHz QPSK | 13.533 | 13.473 | 13.533 | 15.18 | 15.78 | 15.18 |
| 15MHz 16QAM | 13.533 | 13.593 | 13.533 | 15.3 | 15.24 | 15.3 |
| 20MHz QPSK | 17.964 | 17.964 | 17.964 | 19.84 | 19.68 | 19.52 |
| 20MHz 16QAM | 17.884 | 17.964 | 17.964 | 19.68 | 19.68 | 19.76 |
| 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.** |

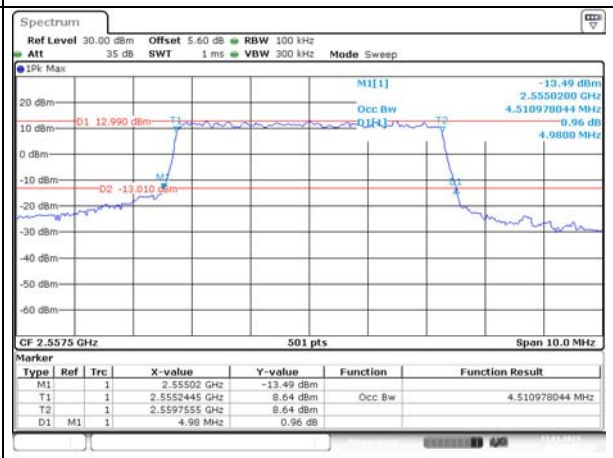
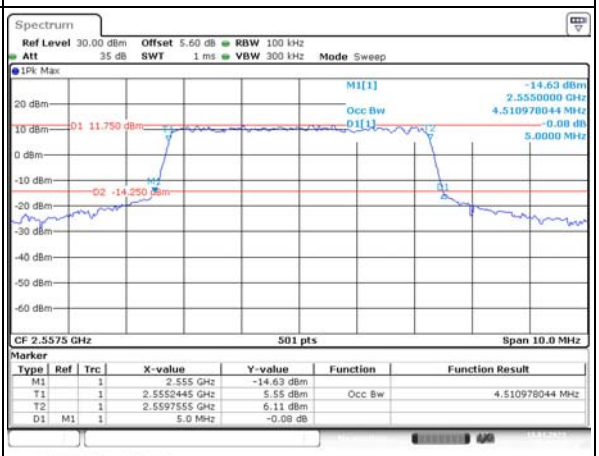
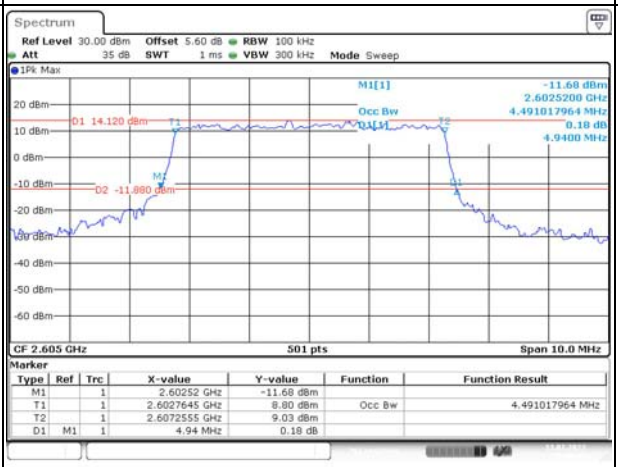
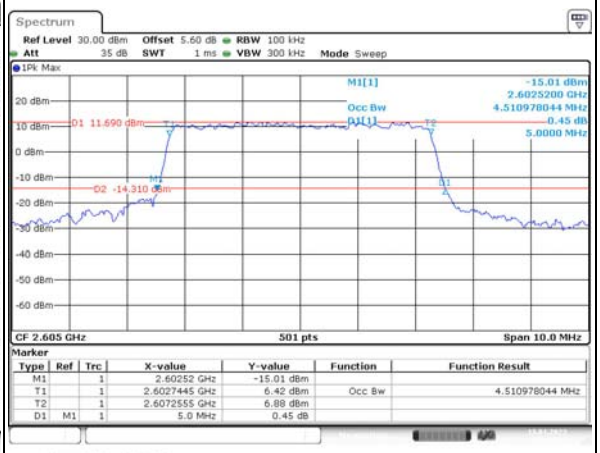
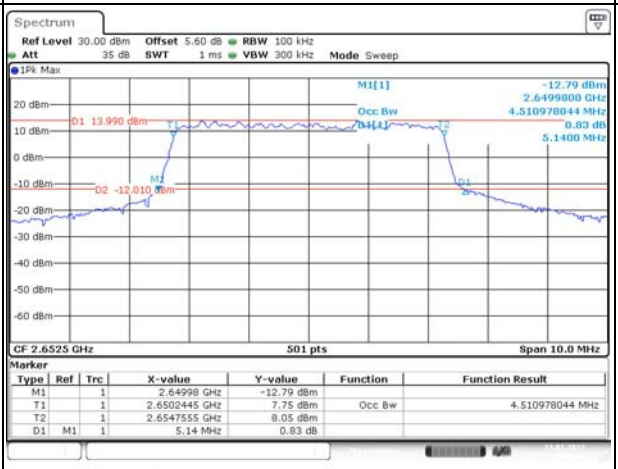
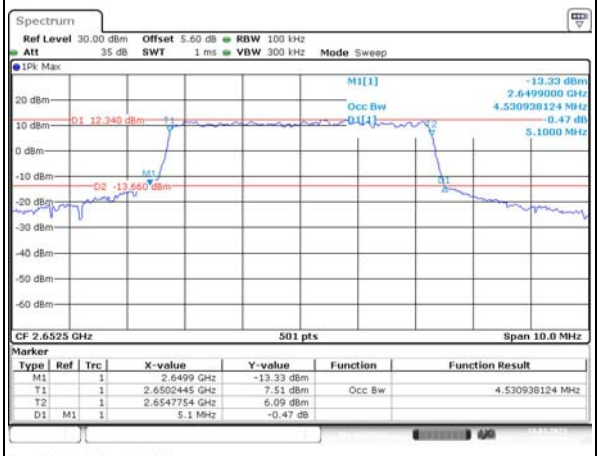
| FCC §2.1051, § 27.53:Out of band emission, Band Edge | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Out of band emission, Band Edge.** |

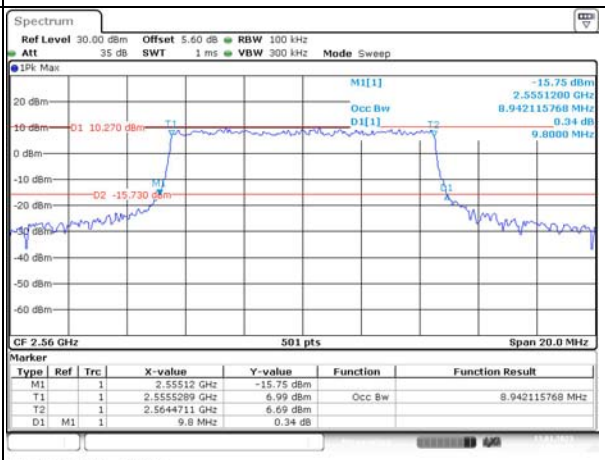
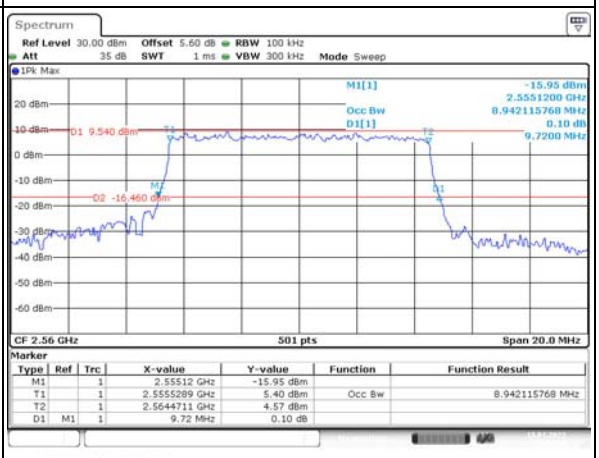
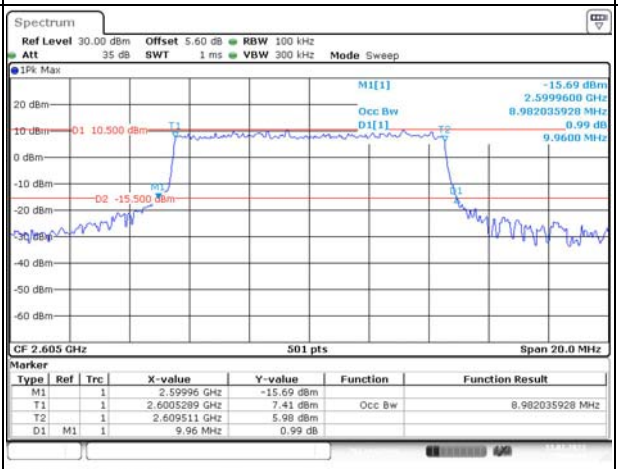
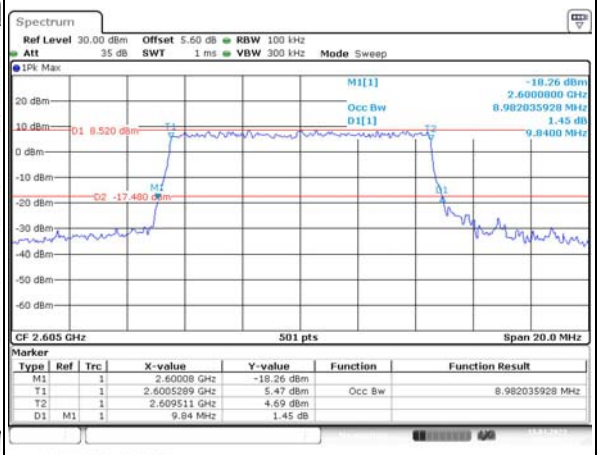
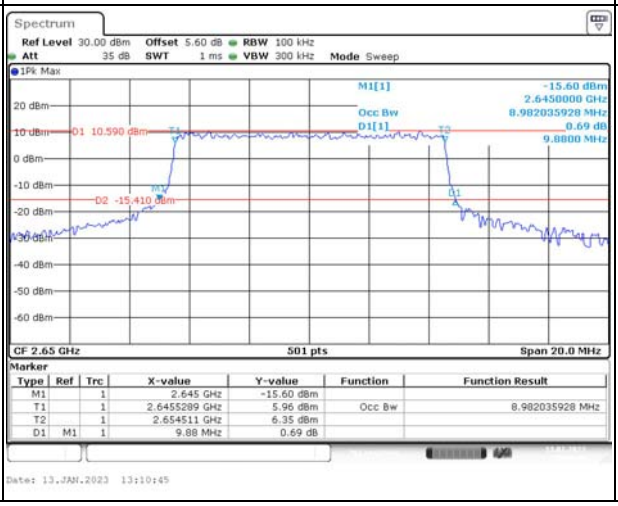
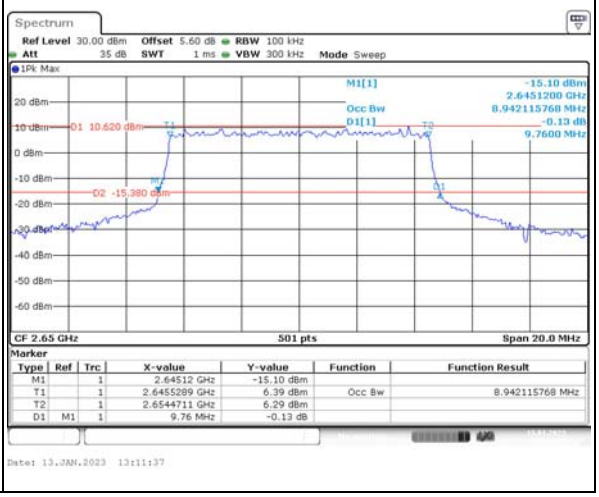
**FCC §2.1055, §27.54: Frequency Stability**

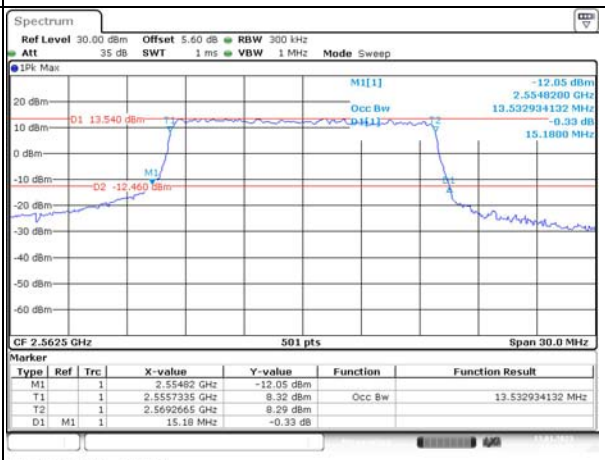
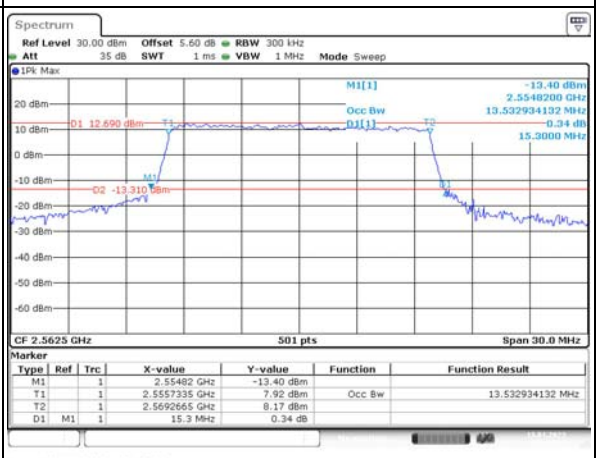
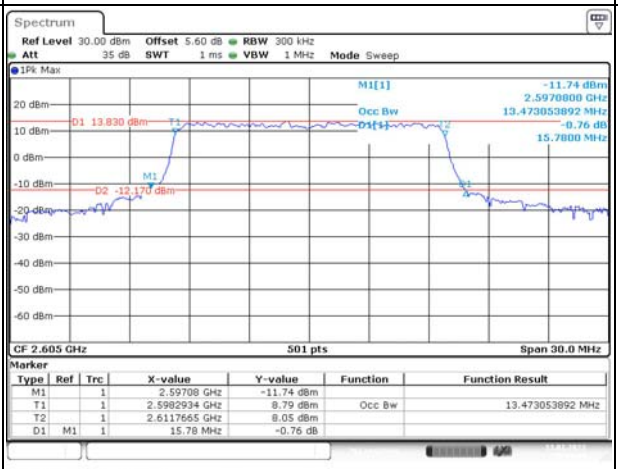
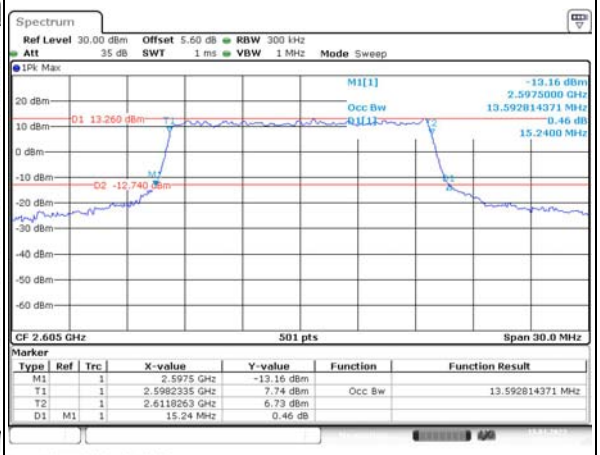
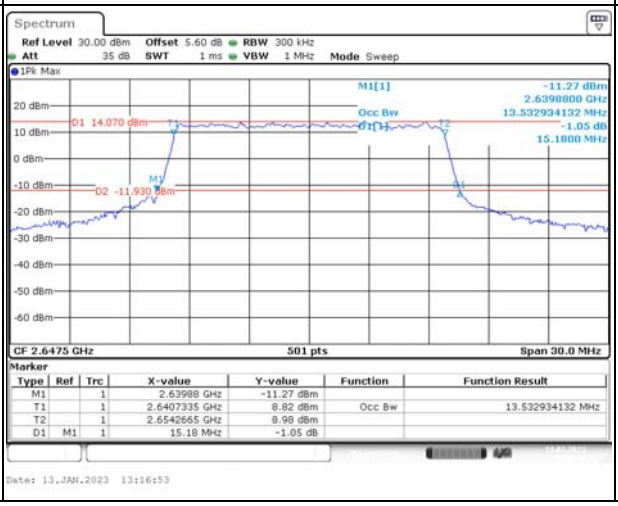
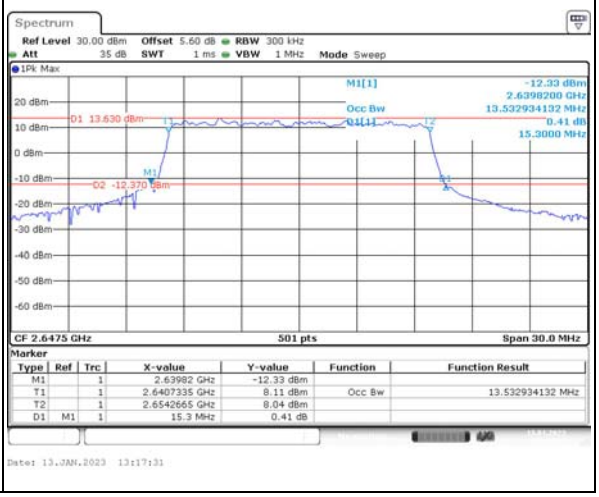
| Test Mode: | 20M QPSK | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 2555.948 | 2555.00 | 2654.002 | 2655 |
| | -20 | 3.8 | 2555.976 | 2555.00 | 2654.071 | 2655 |
| | -10 | 3.8 | 2555.949 | 2555.00 | 2654.067 | 2655 |
| | 0 | 3.8 | 2555.938 | 2555.00 | 2654.001 | 2655 |
| | 10 | 3.8 | 2555.929 | 2555.00 | 2654.029 | 2655 |
| | 20 | 3.8 | 2555.978 | 2555.00 | 2654.022 | 2655 |
| | 30 | 3.8 | 2555.967 | 2555.00 | 2654.041 | 2655 |
| | 40 | 3.8 | 2555.993 | 2555.00 | 2654.011 | 2655 |
| | 50 | 3.8 | 2555.941 | 2555.00 | 2654.049 | 2655 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 2555.941 | 2555.00 | 2654.090 | 2655 |
| | 20 | 4.35 | 2555.920 | 2555.00 | 2654.001 | 2655 |
| | | | | | **Result:** | **Pass** |

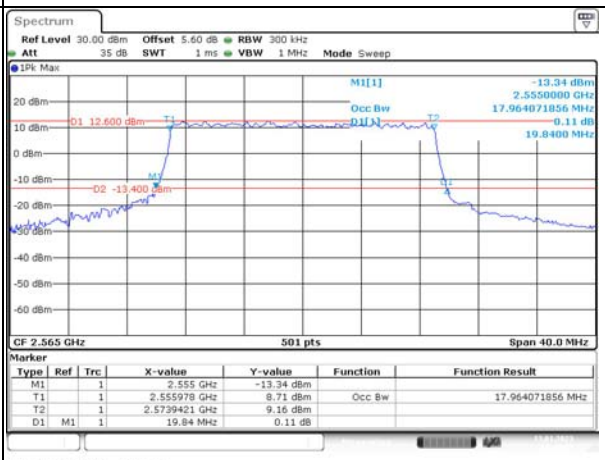
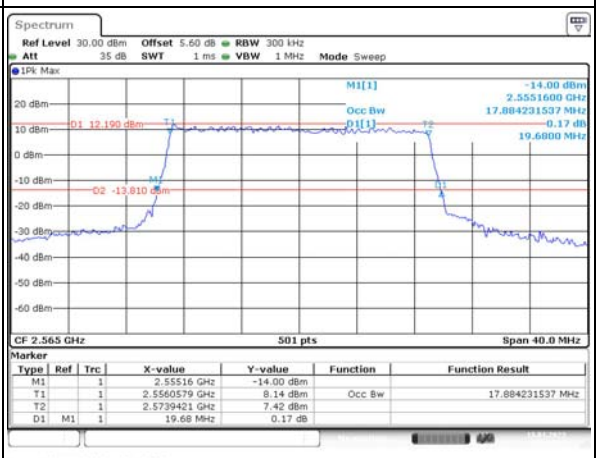
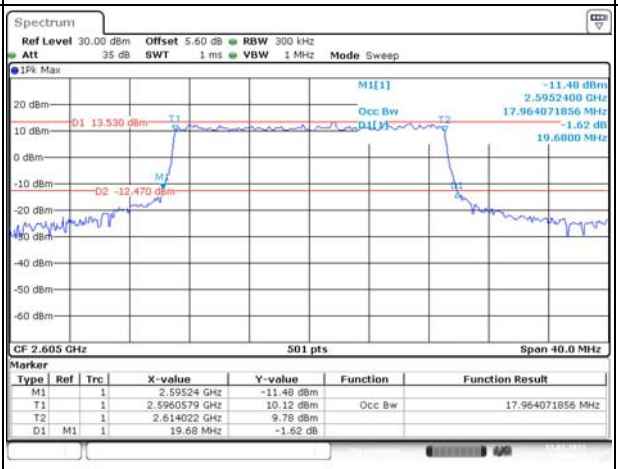
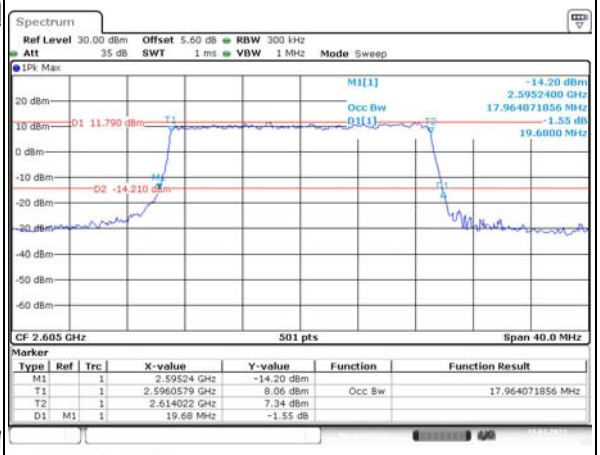
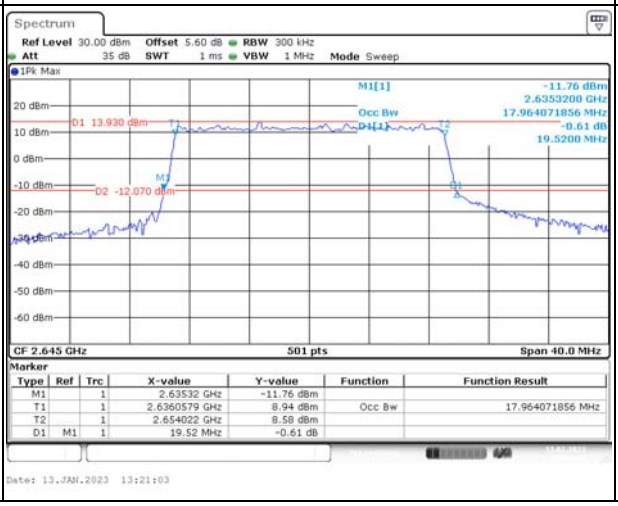
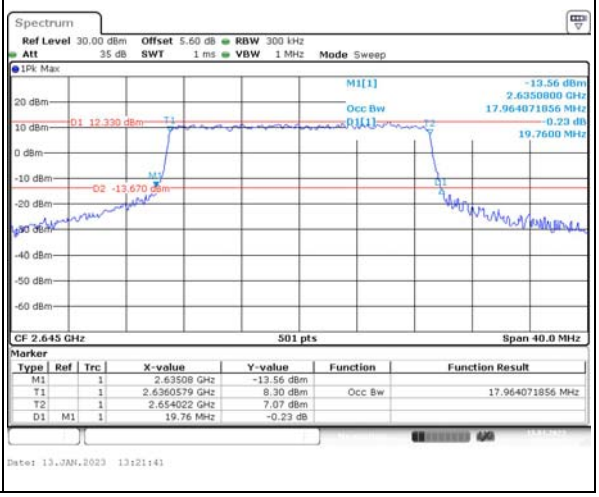
| Test Mode: | 20M 16QAM | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 2556.040 | 2555.00 | 2654.024 | 2655 |
| | -20 | 3.8 | 2556.076 | 2555.00 | 2654.083 | 2655 |
| | -10 | 3.8 | 2556.018 | 2555.00 | 2654.050 | 2655 |
| | 0 | 3.8 | 2556.021 | 2555.00 | 2654.013 | 2655 |
| | 10 | 3.8 | 2556.017 | 2555.00 | 2654.093 | 2655 |
| | 20 | 3.8 | 2556.058 | 2555.00 | 2654.022 | 2655 |
| | 30 | 3.8 | 2556.091 | 2555.00 | 2654.067 | 2655 |
| | 40 | 3.8 | 2556.038 | 2555.00 | 2654.057 | 2655 |
| | 50 | 3.8 | 2556.052 | 2555.00 | 2654.012 | 2655 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 2556.007 | 2555.00 | 2654.056 | 2655 |
| | 20 | 4.35 | 2556.027 | 2555.00 | 2654.015 | 2655 |
| | | | | | **Result:** | **Pass** |

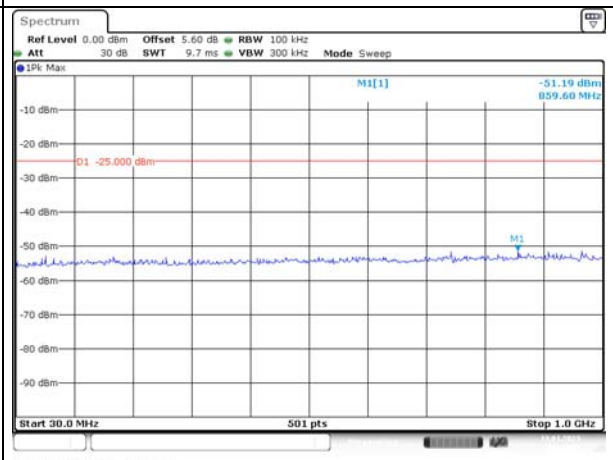
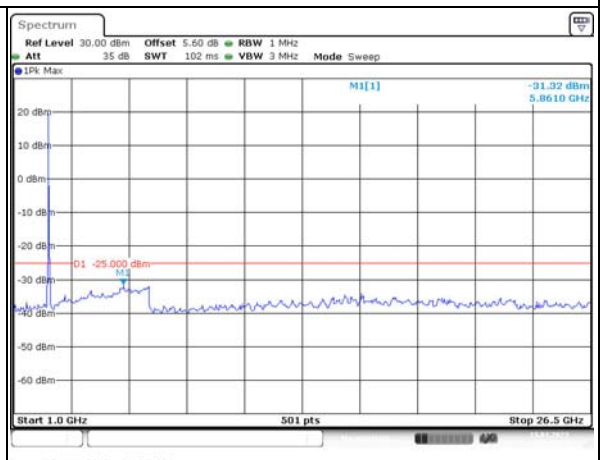
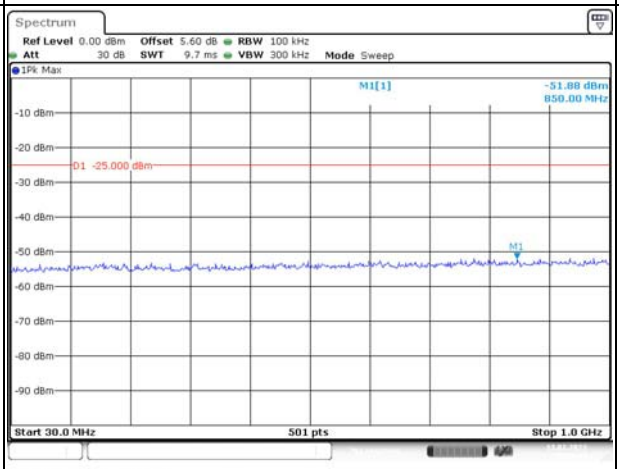
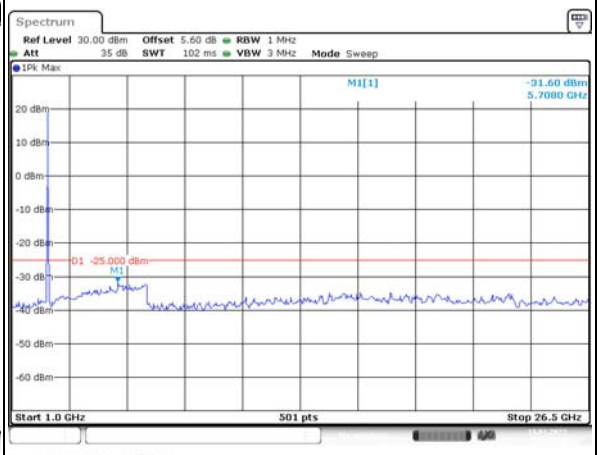
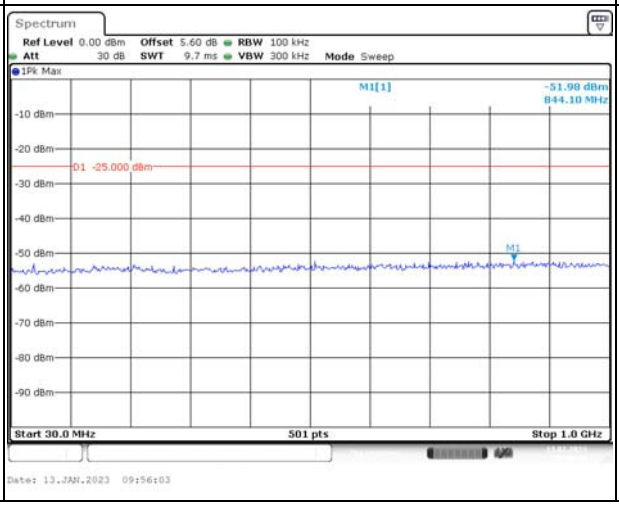
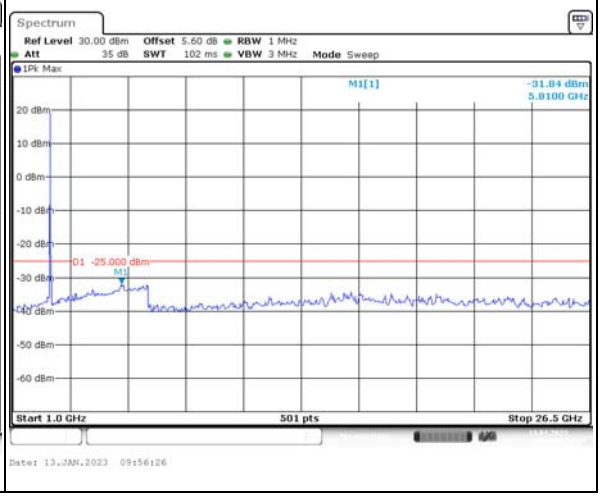
**Test Plots**(Note: The 5.6dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

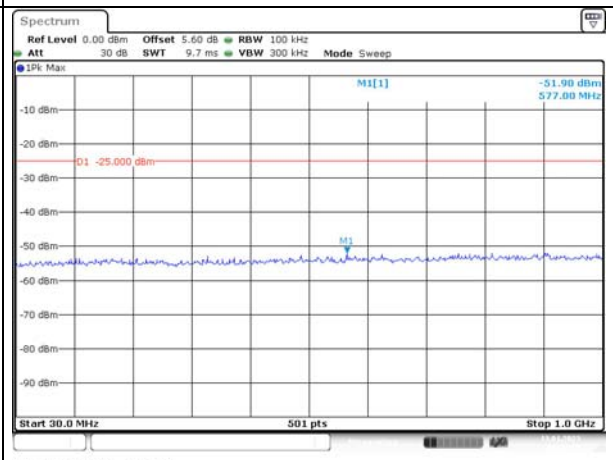
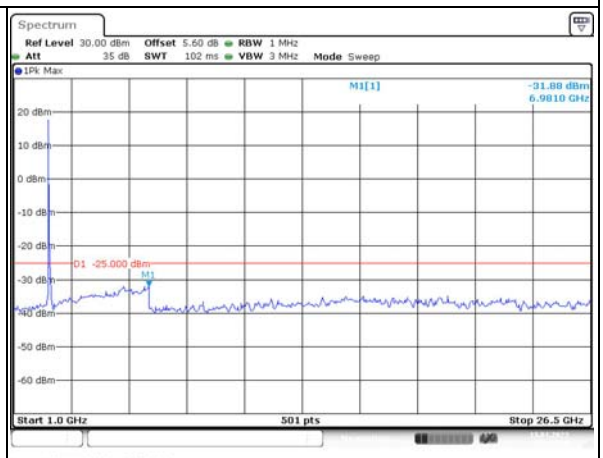
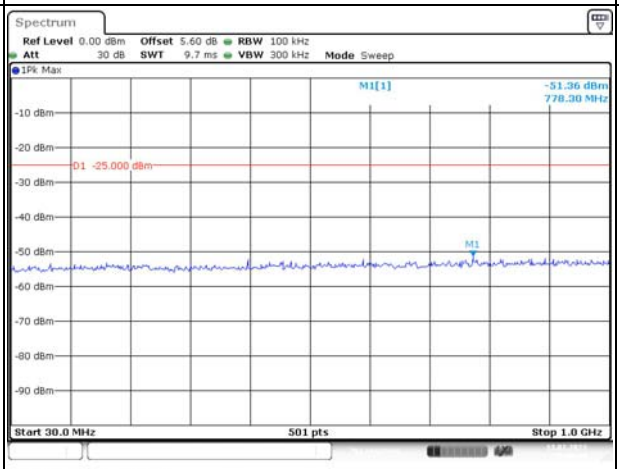
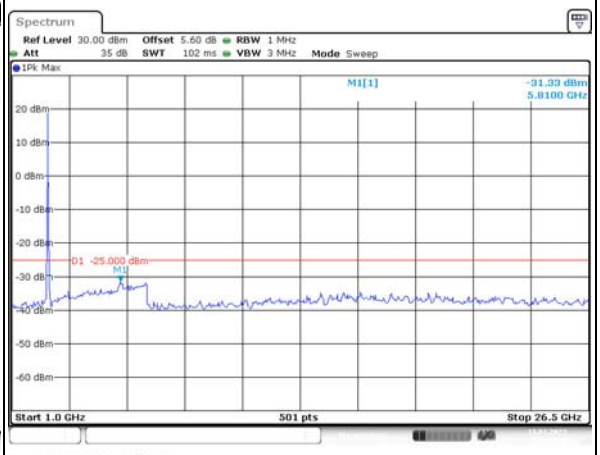
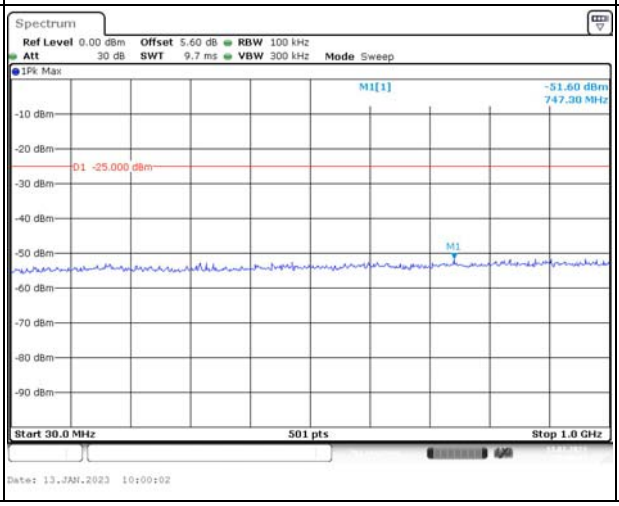
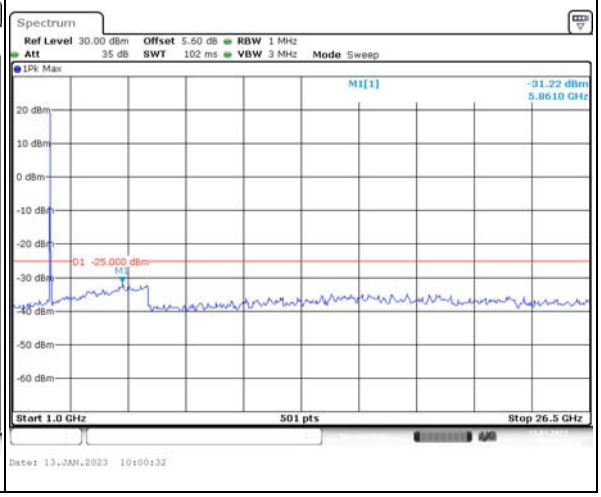
| **Occupied Bandwidth** | | |
|---|---|---|
| **Channel** | 5MHz Bandwidth QPSK | 5MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

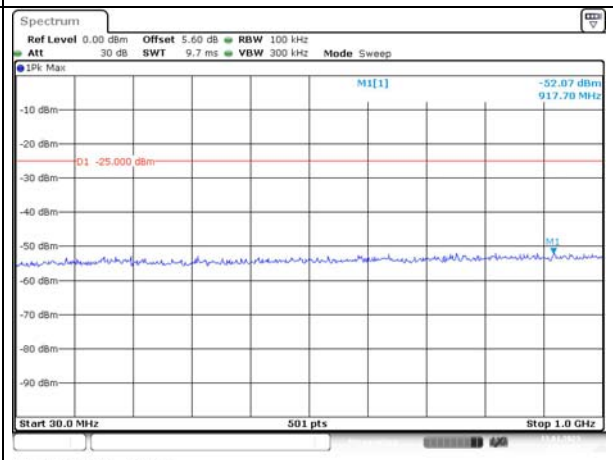
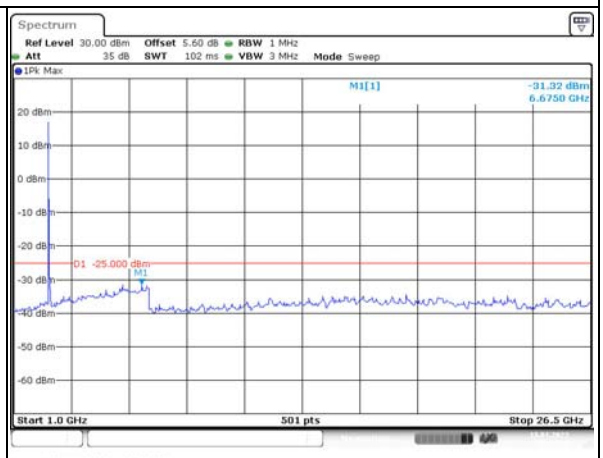
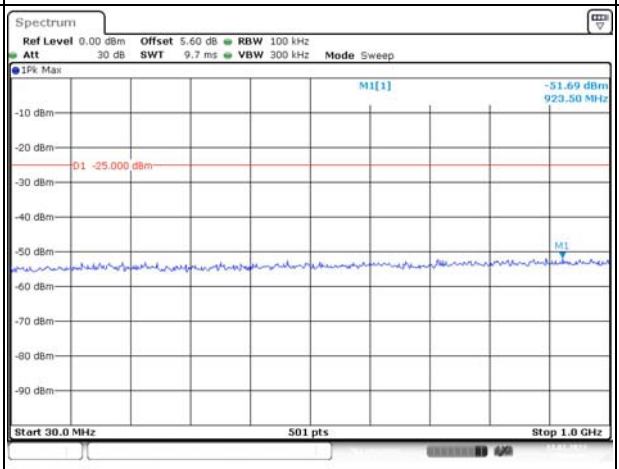
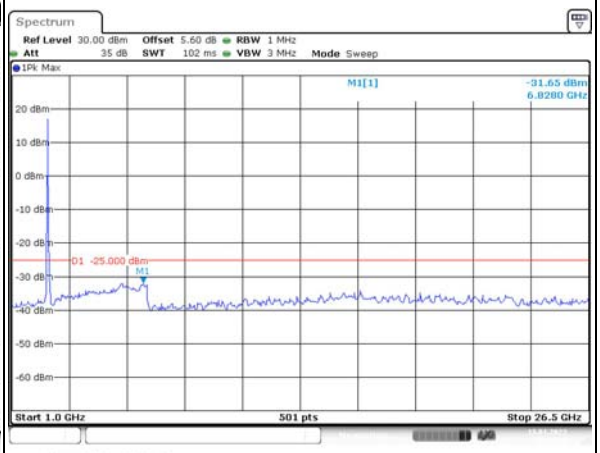
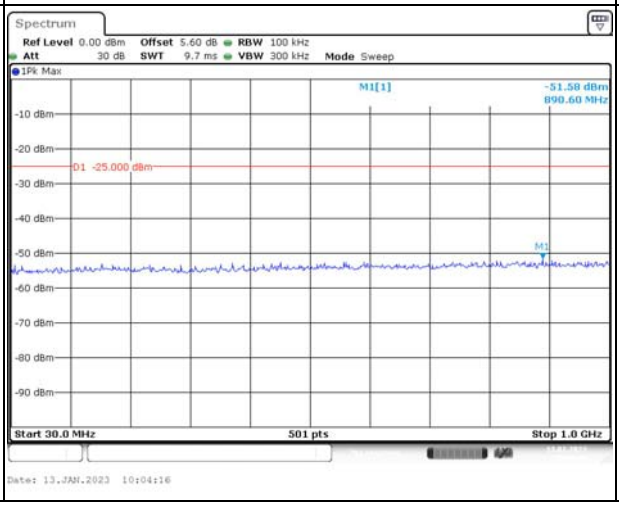
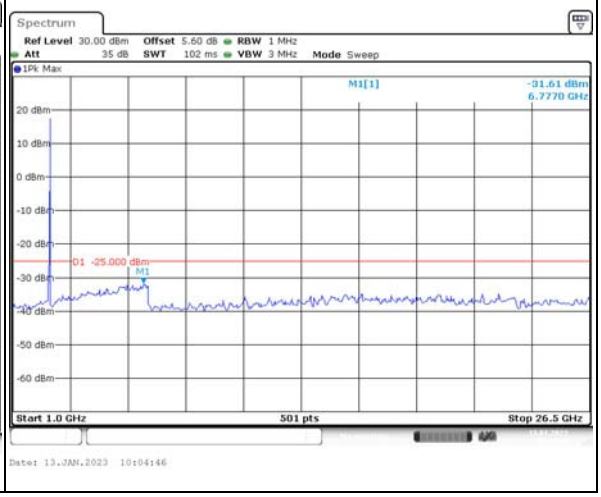
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 10MHz Bandwidth QPSK | 10MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

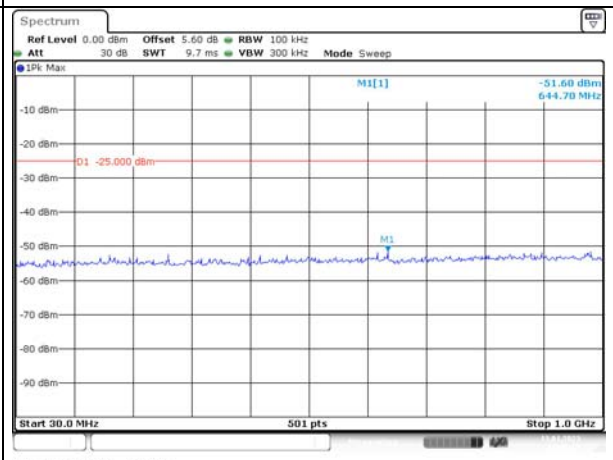
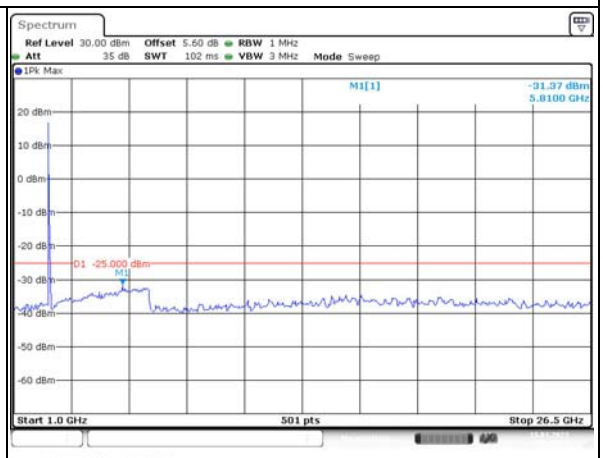
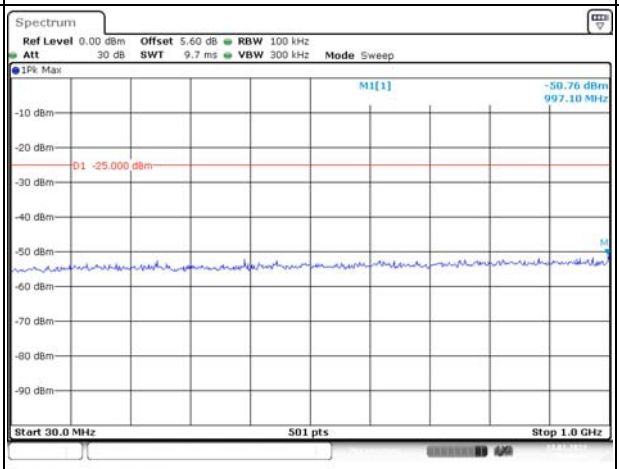
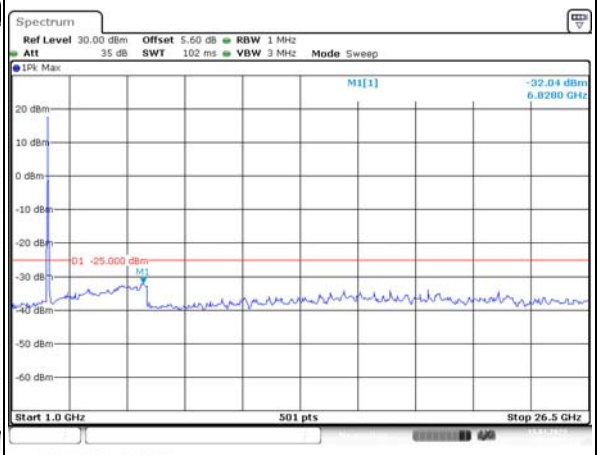
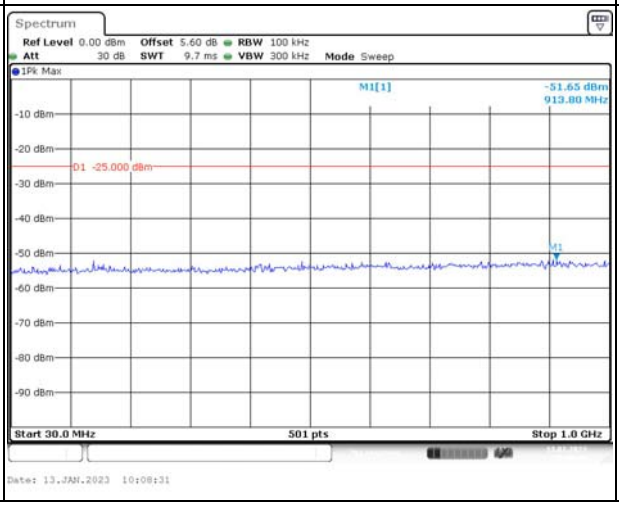
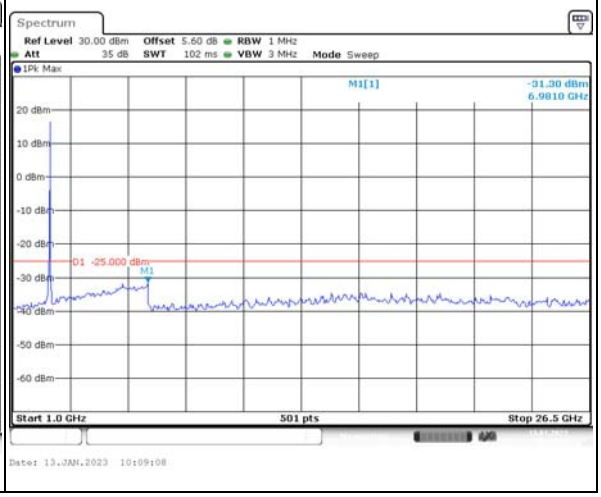
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 15MHz Bandwidth QPSK | 15MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

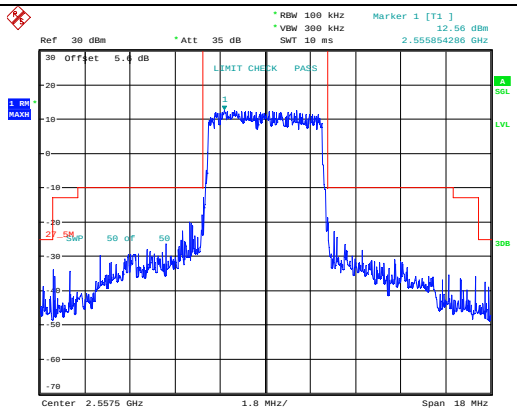
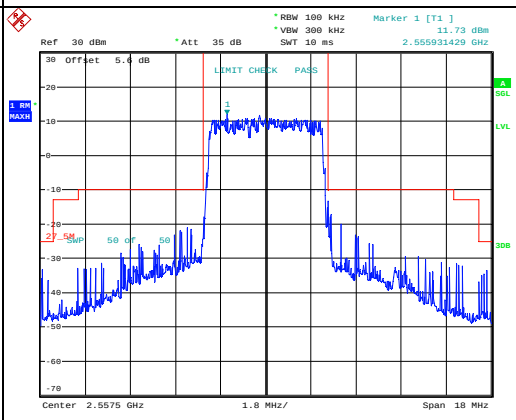
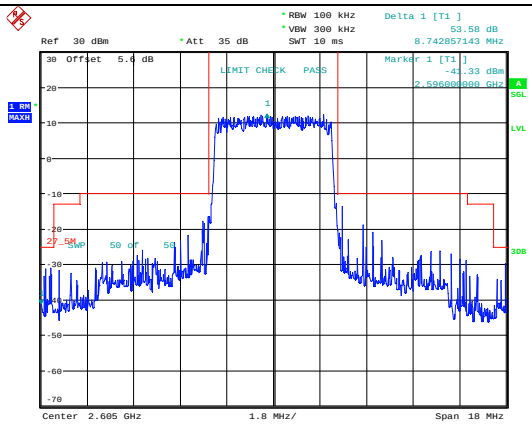
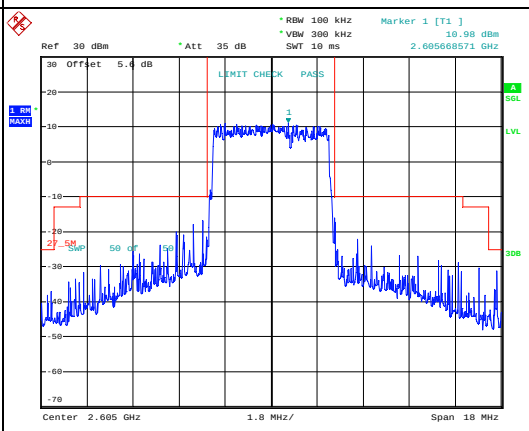
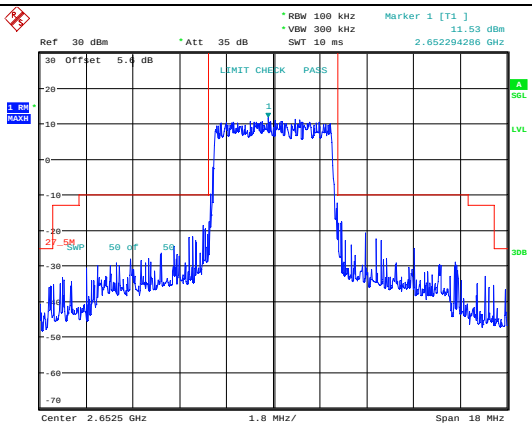
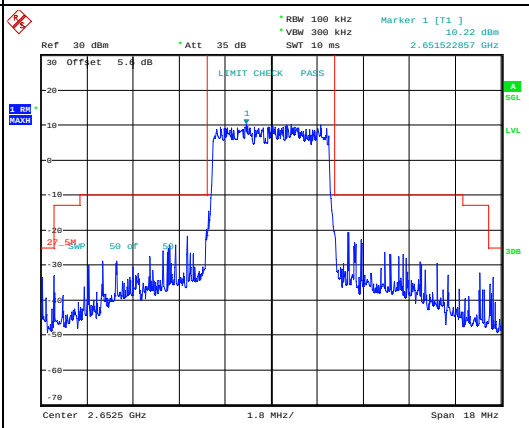
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 20MHz Bandwidth QPSK | 20MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

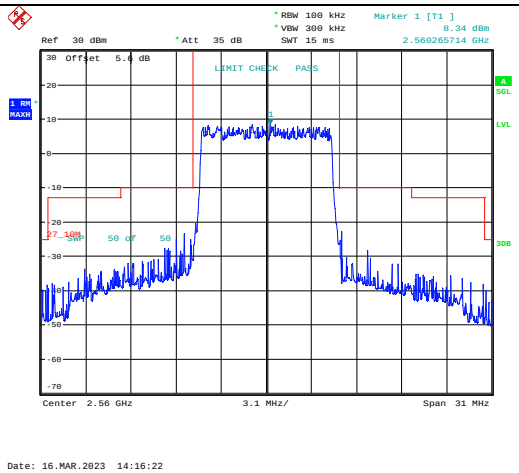
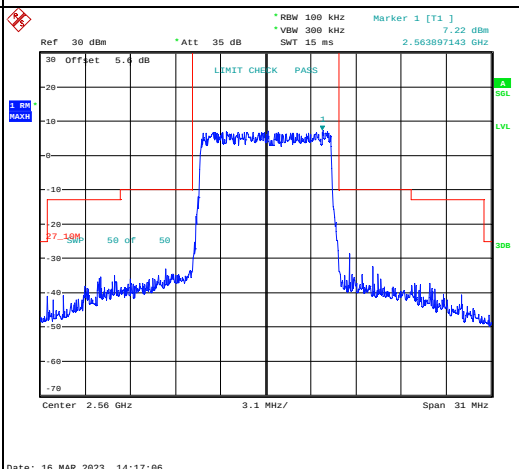
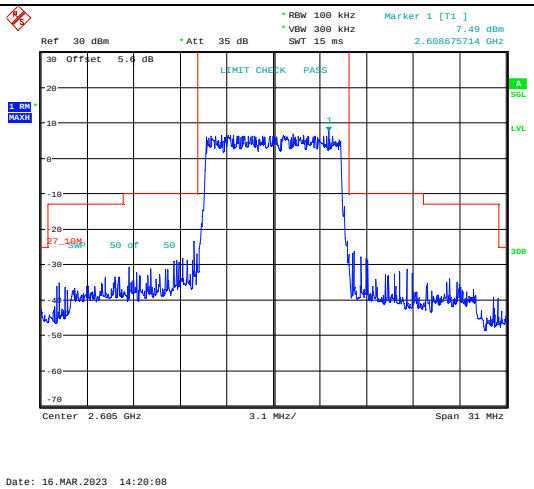
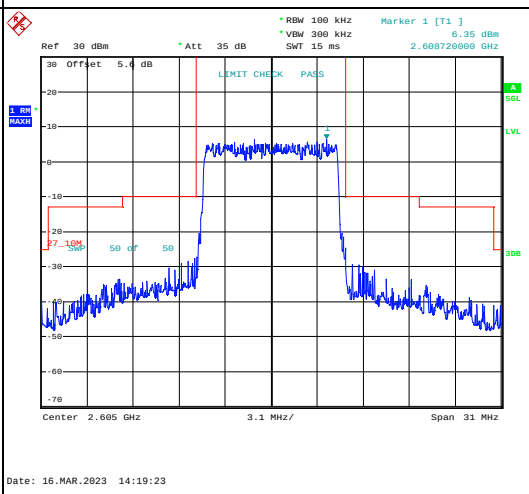
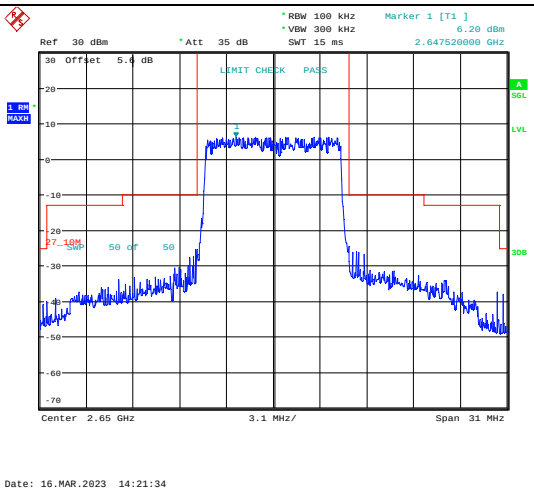
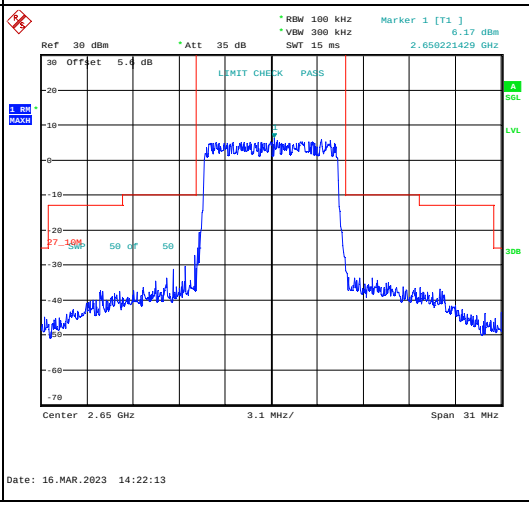
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **5MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

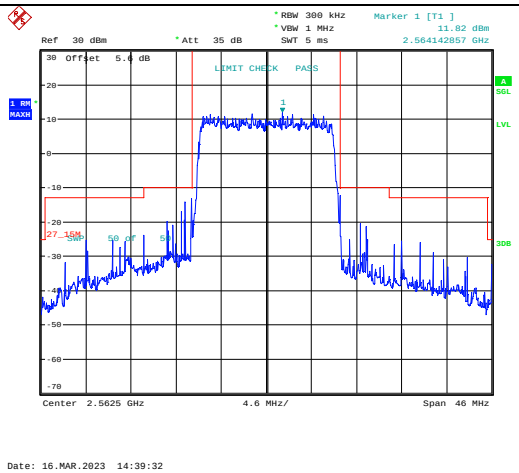
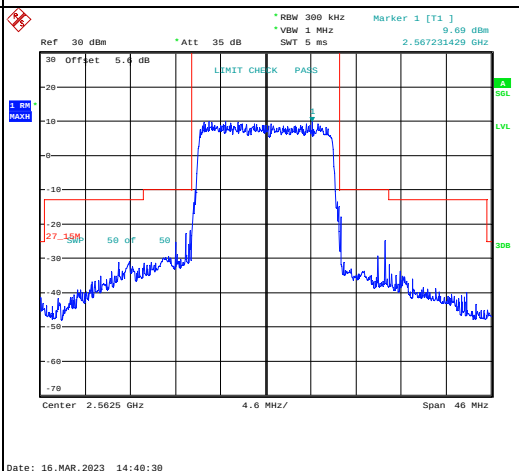
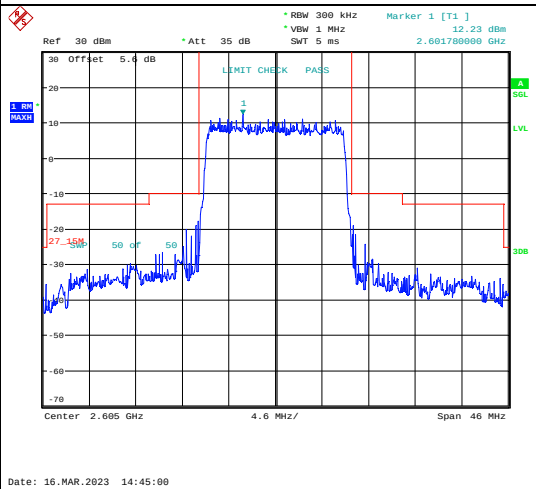
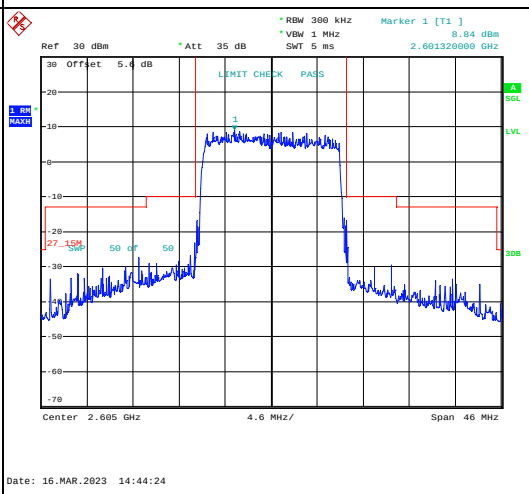
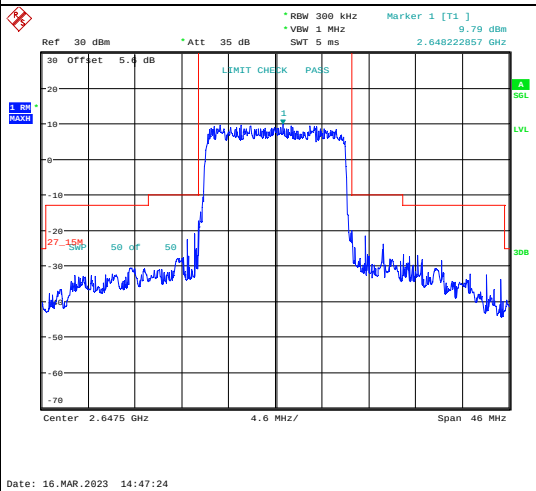
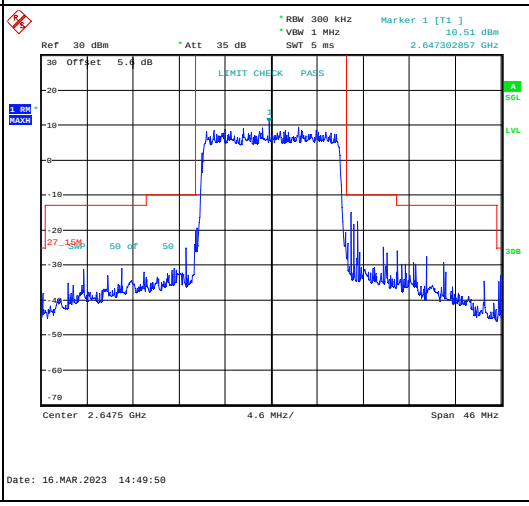
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **10MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

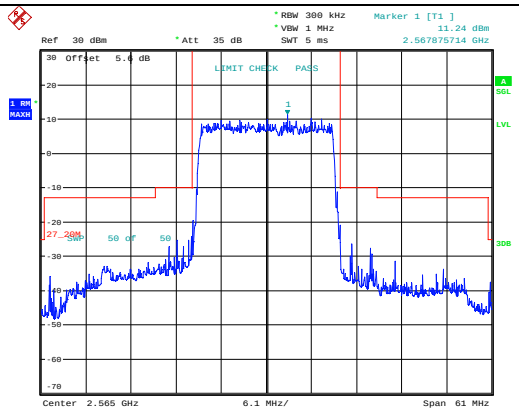
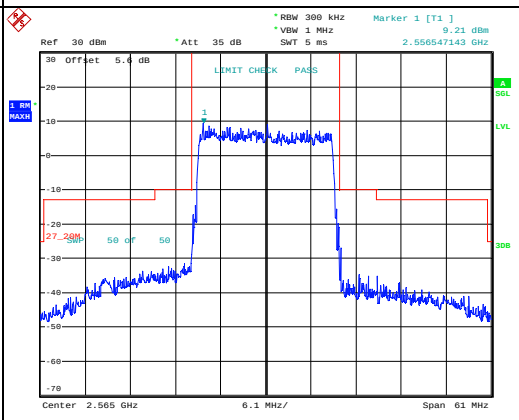
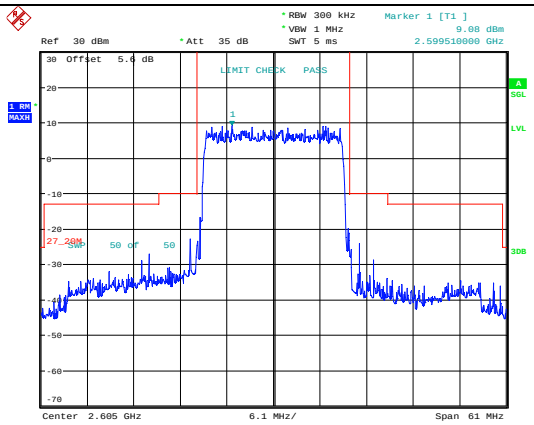
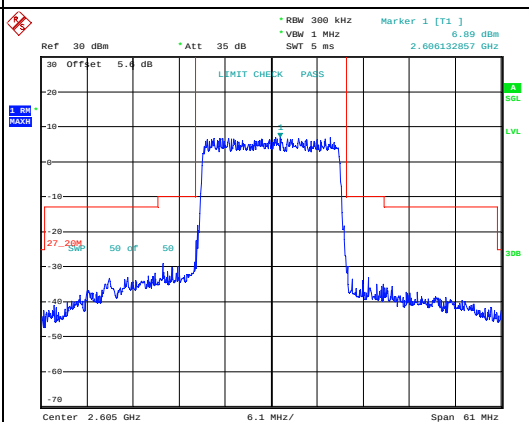
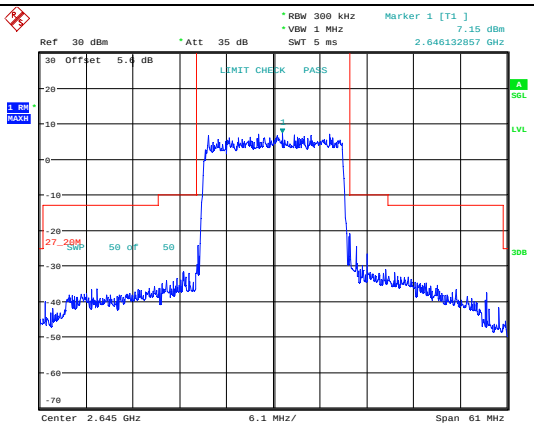
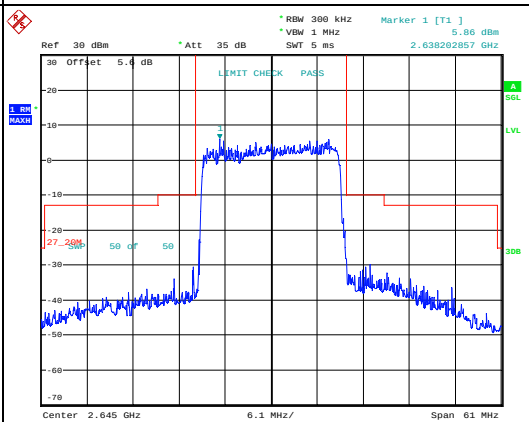
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **15MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **20MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Channel** | **5MHz Bandwidth QPSK** | **5MHz Bandwidth 16QAM** |
| Lowest |  <br>Date: 16.MAR.2023 13:18:20 |  <br>Date: 16.MAR.2023 13:38:15 |
| Middle |  <br>Date: 16.MAR.2023 13:34:23 |  <br>Date: 16.MAR.2023 13:37:00 |
| Highest |  <br>Date: 16.MAR.2023 13:56:53 |  <br>Date: 16.MAR.2023 13:55:37 |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Channel** | **10MHz Bandwidth QPSK** | **10MHz Bandwidth 16QAM** |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Channel** | **15MHz Bandwidth QPSK** | **15MHz Bandwidth 16QAM** |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Channel** | **20MHz Bandwidth QPSK** | **20MHz Bandwidth 16QAM** |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

## 4.12 Antenna Port Test Data and Results for LTE Band 66

| | | | |
|---|---|---|---|
| Serial Number: | 1WTO-1 | Test Date: | 2023/1/12~2023/1/17 |
| Test Site: | RF | Test Mode: | Transmitting |
| Tester: | George Chen | Test Result: | **Pass** |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 18.2~25.2 | Relative Humidity: (%) | 46~65 | ATM Pressure: (kPa) | 100.5~102.6 |

**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 | 2022-04-06 | 2023-04-05 |
| BACL | TEMP&HUMI Test Chamber | BTH-150-40 | 30174 | 2022-09-29 | 2023-09-28 |
| UNI-T | Multimeter | UT39A+ | C210582554 | N/A | N/A |
| ZHAOXIN | DC Power Supply | RXN-6010D | 21R6010D0912386 | 2022-07-15 | 2023-07-14 |

** 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:**

**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 | 22.64 | 23.02 | 22.71 | 23.14 | 30 |
| | RB1#3 | 22.68 | 23.04 | 22.81 | | |
| | RB1#5 | 22.71 | 23.03 | 22.79 | | |
| | RB3#0 | 22.89 | 22.94 | 23 | | |
| | RB3#3 | 22.95 | 22.9 | 23.02 | | |
| | RB6#0 | 21.92 | 21.84 | 22.02 | | |
| 1.4MHz 16QAM | RB1#0 | 22.65 | 22.03 | 22.64 | 22.81 | 30 |
| | RB1#3 | 22.67 | 22.08 | 22.71 | | |
| | RB1#5 | 22.71 | 22.08 | 22.7 | | |
| | RB3#0 | 21.79 | 21.95 | 21.88 | | |
| | RB3#3 | 21.87 | 21.92 | 21.88 | | |
| | RB6#0 | 20.95 | 21.29 | 22.06 | | |
| 3MHz QPSK | RB1#0 | 22.85 | 22.8 | 23.02 | 23.19 | 30 |
| | RB1#8 | 22.84 | 22.79 | 23.03 | | |
| | RB1#14 | 22.79 | 22.85 | 23.09 | | |
| | RB6#0 | 21.9 | 22 | 22.01 | | |
| | RB6#9 | 21.89 | 21.97 | 22.06 | | |
| | RB15#0 | 21.93 | 22.03 | 22.03 | | |
| 3MHz 16QAM | RB1#0 | 22.39 | 22.72 | 21.87 | 22.87 | 30 |
| | RB1#8 | 22.36 | 22.73 | 21.84 | | |
| | RB1#14 | 22.38 | 22.77 | 21.87 | | |
| | RB6#0 | 20.94 | 21.03 | 21.38 | | |
| | RB6#9 | 21.01 | 21.07 | 21.35 | | |
| | RB15#0 | 21.04 | 21.13 | 21.14 | | |
| 5MHz QPSK | RB1#0 | 23.15 | 22.94 | 23.01 | 23.29 | 30 |
| | RB1#13 | 23.12 | 22.9 | 22.97 | | |
| | RB1#24 | 23.19 | 22.99 | 22.9 | | |
| | RB15#0 | 21.91 | 21.98 | 22.05 | | |
| | RB15#10 | 21.97 | 21.97 | 22.04 | | |
| | RB25#0 | 21.97 | 22.05 | 22 | | |
| 5MHz 16QAM | RB1#0 | 22.2 | 21.82 | 21.45 | 22.31 | 30 |
| | RB1#13 | 22.21 | 21.83 | 21.4 | | |
| | RB1#24 | 22.19 | 21.85 | 21.47 | | |
| | RB15#0 | 21.05 | 21.13 | 21.18 | | |
| | RB15#10 | 21.01 | 21.14 | 21.22 | | |
| | RB25#0 | 21.13 | 21.01 | 21.31 | | |
| 10MHz QPSK | RB1#0 | 22.94 | 23.16 | 22.97 | 23.28 | 30 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | RB1#25 | 22.98 | 23.15 | 23.01 | | |
| | RB1#49 | 23 | 23.18 | 22.95 | | |
| | RB25#0 | 22.09 | 21.98 | 22 | | |
| | RB25#25 | 22.01 | 22.04 | 22.11 | | |
| | RB50#0 | 21.99 | 22.08 | 22.06 | | |
| 10MHz 16QAM | RB1#0 | 22.11 | 21.6 | 22.3 | 22.41 | 30 |
| | RB1#25 | 22.14 | 21.64 | 22.31 | | |
| | RB1#49 | 22.12 | 21.65 | 22.3 | | |
| | RB25#0 | 21.15 | 21.33 | 21.11 | | |
| | RB25#25 | 21.26 | 21.31 | 21.18 | | |
| | RB50#0 | 21.21 | 21.13 | 21.27 | | |
| 15MHz QPSK | RB1#0 | 22.9 | 23.13 | 23 | 23.29 | 30 |
| | RB1#38 | 22.92 | 23.12 | 22.99 | | |
| | RB1#74 | 23 | 23.19 | 22.93 | | |
| | RB36#0 | 21.99 | 21.88 | 22.1 | | |
| | RB36#39 | 21.93 | 22.13 | 22.06 | | |
| | RB75#0 | 21.92 | 21.93 | 22.06 | | |
| 15MHz 16QAM | RB1#0 | 22.09 | 22.42 | 22.28 | 22.52 | 30 |
| | RB1#38 | 22.1 | 22.37 | 22.28 | | |
| | RB1#74 | 22.1 | 22.35 | 22.28 | | |
| | RB36#0 | 21.18 | 21.16 | 21.28 | | |
| | RB36#39 | 21.23 | 21.16 | 21.22 | | |
| | RB75#0 | 21.1 | 21.14 | 21.23 | | |
| 20MHz QPSK | RB1#0 | 23.03 | 22.95 | 23.12 | 23.29 | 30 |
| | RB1#50 | 23.16 | 23.01 | 23.19 | | |
| | RB1#99 | 23.16 | 23.05 | 23.17 | | |
| | RB50#0 | 22.01 | 21.93 | 22.04 | | |
| | RB50#50 | 21.95 | 22.04 | 22.1 | | |
| | RB100#0 | 22.02 | 22.08 | 22.04 | | |
| 20MHz 16QAM | RB1#0 | 22.05 | 22.78 | 22.25 | 22.89 | 30 |
| | RB1#50 | 22.11 | 22.7 | 22.21 | | |
| | RB1#99 | 22.24 | 22.79 | 22.25 | | |
| | RB50#0 | 21.19 | 21.11 | 21.23 | | |
| | RB50#50 | 21.14 | 21.18 | 21.17 | | |
| | RB100#0 | 21.06 | 21.22 | 21.15 | | |
| Note: EIRP=Conducted Power(dBm) - $L_C$(dB) + $G_T$(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 | 3.91 | 4.35 | 4.14 | 13 |
| | RB100#0 | 4.09 | 3.65 | 3.91 | 13 |
| 20MHz 16QAM | RB1#0 | 4.72 | 5.62 | 5.07 | 13 |
| | RB100#0 | 5.71 | 5.33 | 5.59 | 13 |
| | | | | **Result:** | **Pass** |

| 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 |
| 1.4MHz QPSK | 1.102 | 1.102 | 1.102 | 1.254 | 1.254 | 1.254 |
| 1.4MHz 16QAM | 1.108 | 1.108 | 1.102 | 1.254 | 1.272 | 1.26 |
| 3MHz QPSK | 2.695 | 2.695 | 2.695 | 3 | 3.012 | 3 |
| 3MHz 16QAM | 2.695 | 2.695 | 2.695 | 3 | 3.024 | 3.024 |
| 5MHz QPSK | 4.511 | 4.531 | 4.531 | 5.02 | 5.02 | 5 |
| 5MHz 16QAM | 4.531 | 4.531 | 4.511 | 5 | 5 | 5.02 |
| 10MHz QPSK | 8.942 | 8.982 | 8.982 | 9.76 | 9.84 | 9.84 |
| 10MHz 16QAM | 8.982 | 8.982 | 8.942 | 9.76 | 9.84 | 9.72 |
| 15MHz QPSK | 13.473 | 13.533 | 13.533 | 15.06 | 15.18 | 15.12 |
| 15MHz 16QAM | 13.533 | 13.533 | 13.533 | 15.06 | 15.06 | 15.06 |
| 20MHz QPSK | 17.964 | 18.044 | 17.964 | 19.6 | 19.76 | 19.68 |
| 20MHz 16QAM | 18.044 | 17.964 | 18.044 | 19.84 | 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.** |

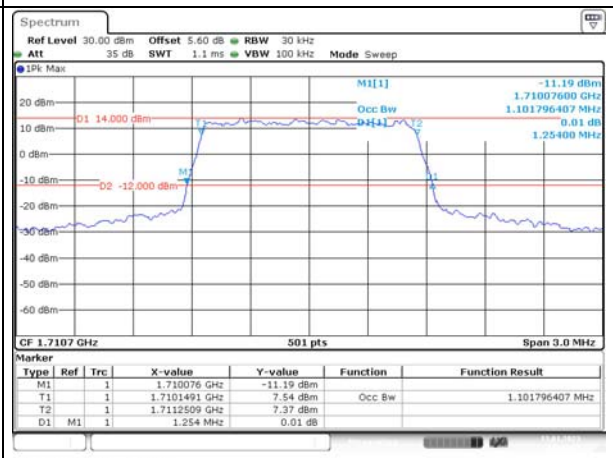
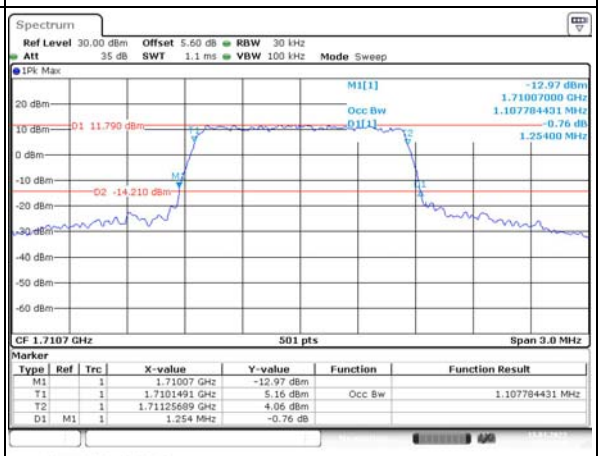
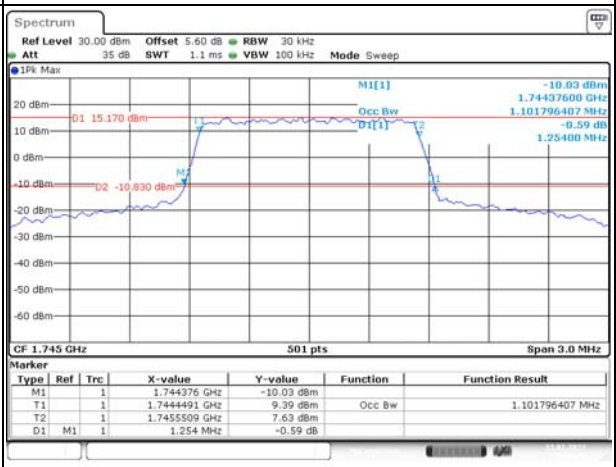
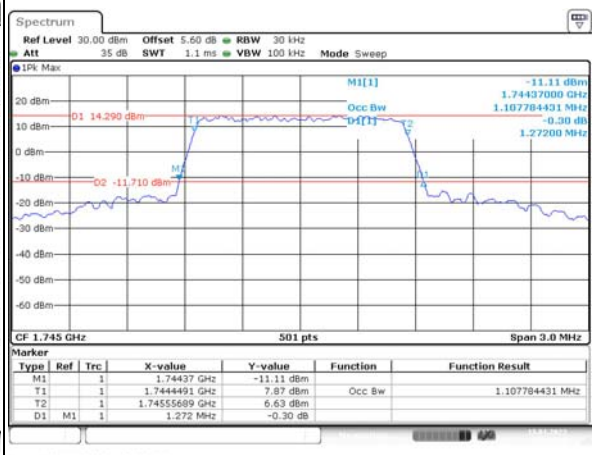
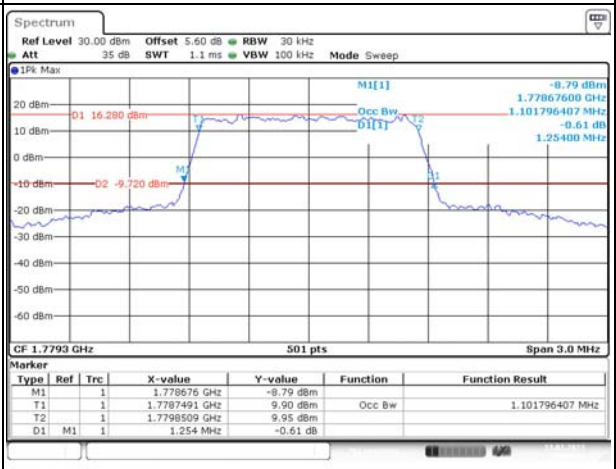
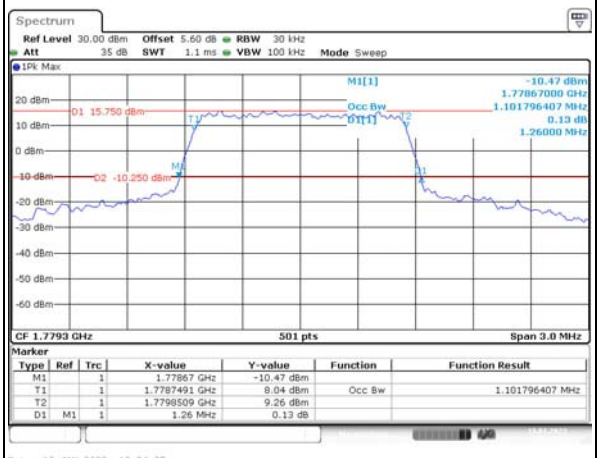
| FCC §2.1051, § 27.53:Out of band emission, Band Edge | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Out of band emission, Band Edge.** |

**FCC §2.1055, §27.54: Frequency Stability**

| Test Mode: | 20M QPSK | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 1711.053 | 1710.00 | 1779.090 | 1780 |
| | -20 | 3.8 | 1711.004 | 1710.00 | 1779.061 | 1780 |
| | -10 | 3.8 | 1711.017 | 1710.00 | 1779.053 | 1780 |
| | 0 | 3.8 | 1711.005 | 1710.00 | 1779.048 | 1780 |
| | 10 | 3.8 | 1711.079 | 1710.00 | 1779.098 | 1780 |
| | 20 | 3.8 | 1711.058 | 1710.00 | 1779.022 | 1780 |
| | 30 | 3.8 | 1711.014 | 1710.00 | 1779.021 | 1780 |
| | 40 | 3.8 | 1711.083 | 1710.00 | 1779.053 | 1780 |
| | 50 | 3.8 | 1711.031 | 1710.00 | 1779.002 | 1780 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 1711.092 | 1710.00 | 1779.075 | 1780 |
| | 20 | 4.35 | 1711.013 | 1710.00 | 1779.081 | 1780 |
| | | | | | **Result:** | **Pass** |

| Test Mode: | 20M 16QAM | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.8 | 1710.966 | 1710.00 | 1779.059 | 1780 |
| | -20 | 3.8 | 1710.919 | 1710.00 | 1779.091 | 1780 |
| | -10 | 3.8 | 1710.927 | 1710.00 | 1779.078 | 1780 |
| | 0 | 3.8 | 1710.904 | 1710.00 | 1779.051 | 1780 |
| | 10 | 3.8 | 1710.930 | 1710.00 | 1779.147 | 1780 |
| | 20 | 3.8 | 1710.978 | 1710.00 | 1779.102 | 1780 |
| | 30 | 3.8 | 1710.968 | 1710.00 | 1779.108 | 1780 |
| | 40 | 3.8 | 1710.984 | 1710.00 | 1779.080 | 1780 |
| | 50 | 3.8 | 1710.999 | 1710.00 | 1779.079 | 1780 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 1710.920 | 1710.00 | 1779.128 | 1780 |
| | 20 | 4.35 | 1710.905 | 1710.00 | 1779.127 | 1780 |
| | | | | | **Result:** | **Pass** |

**Test Plots**(Note: The 5.6dB 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 |  |  |