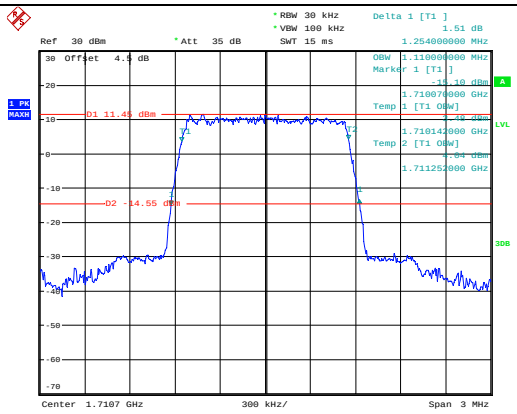
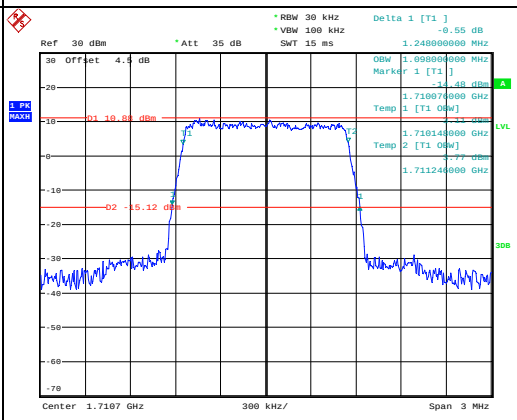
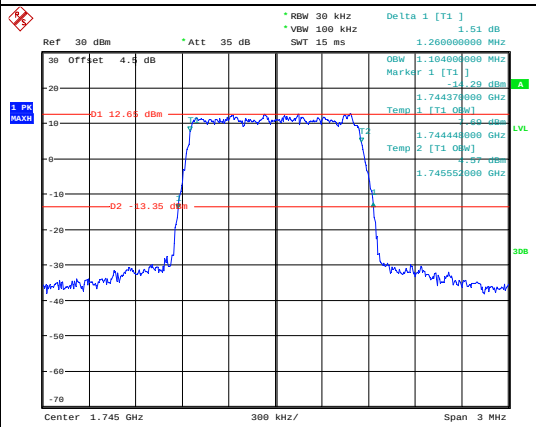
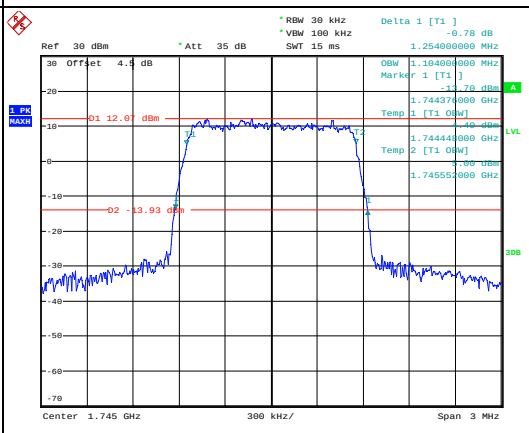
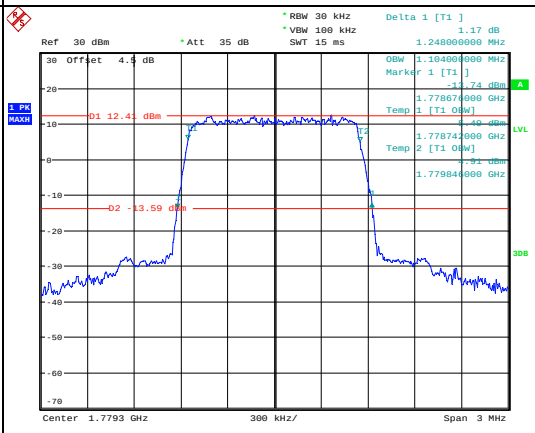
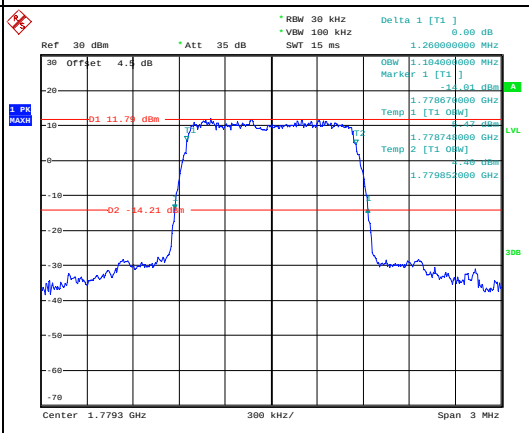
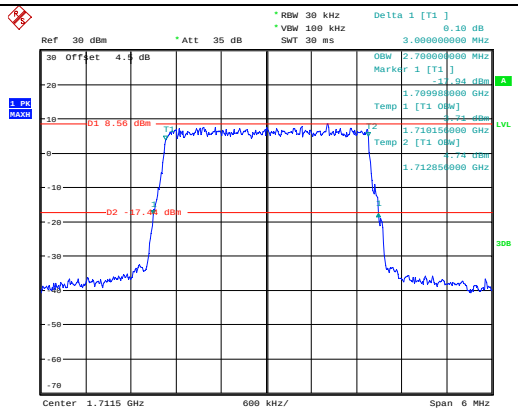
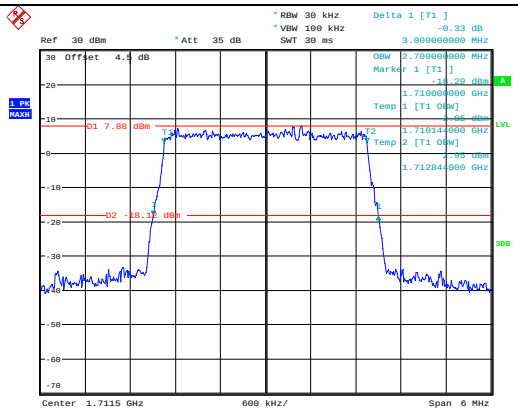
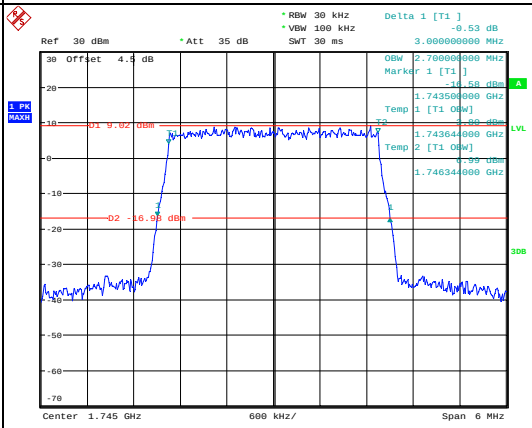
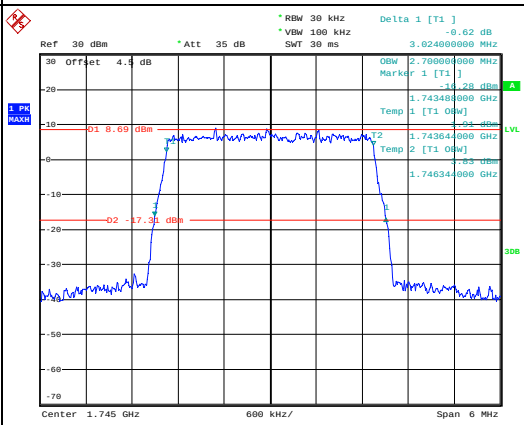
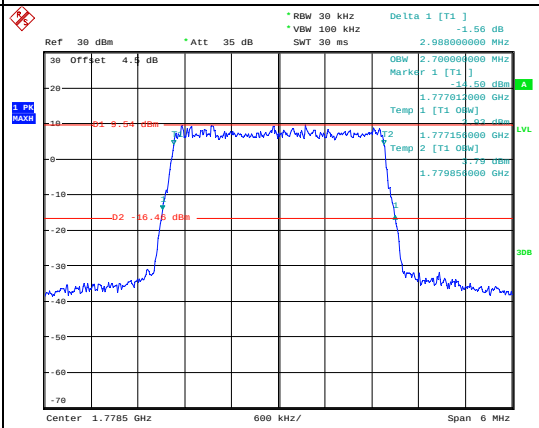
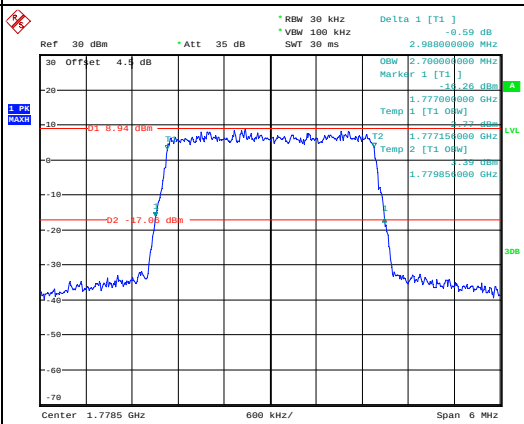
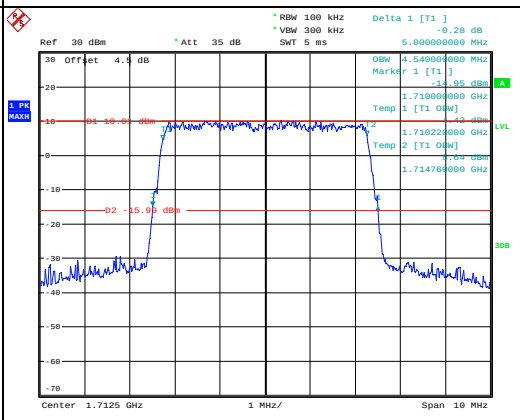
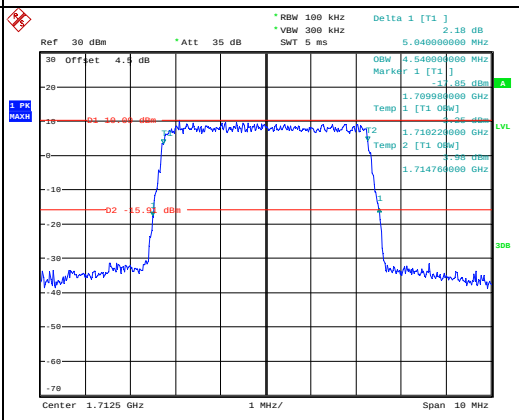
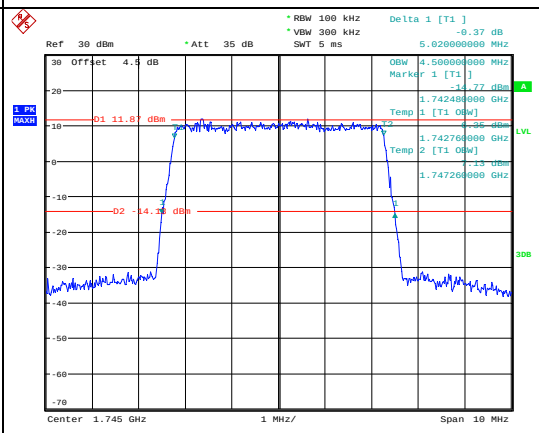
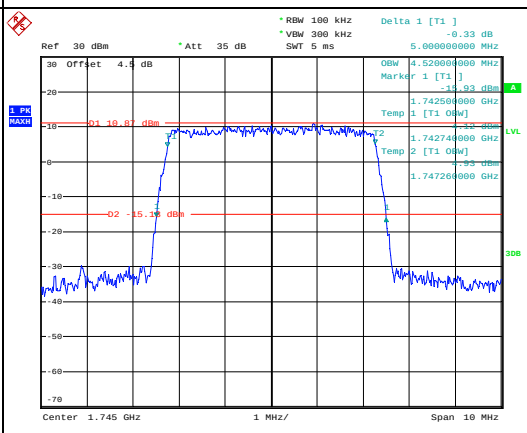
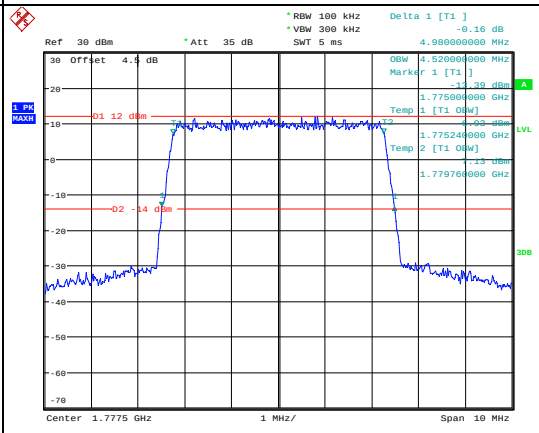
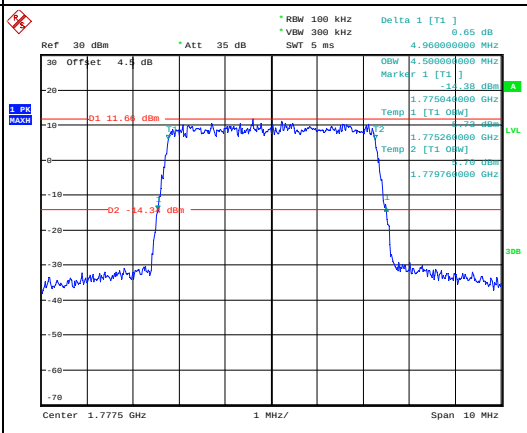
**Test Plots**(Note: The 4.5dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer)**:**

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

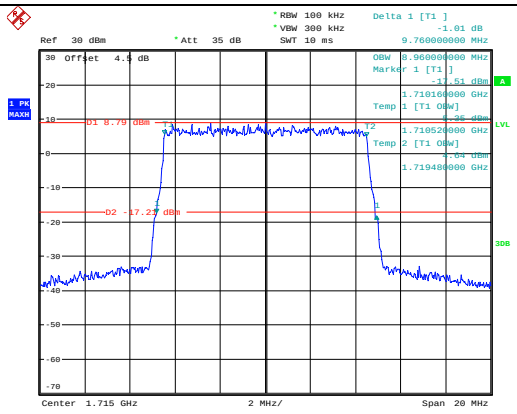
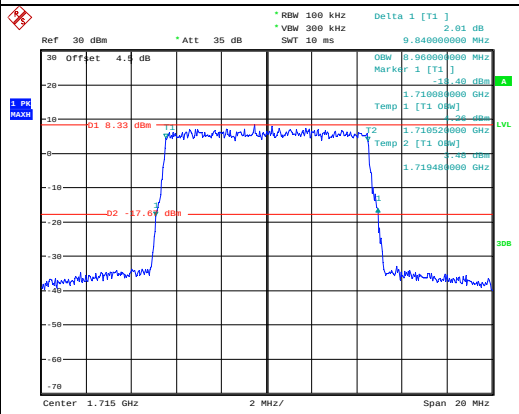
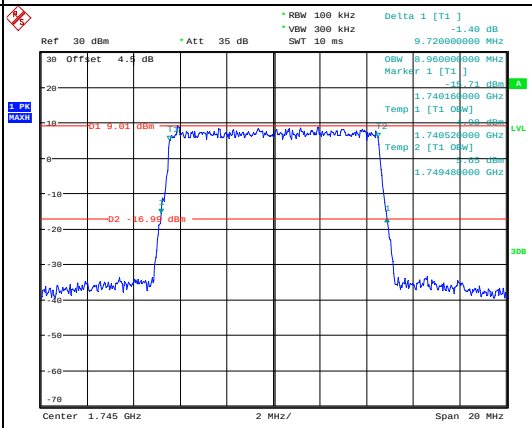
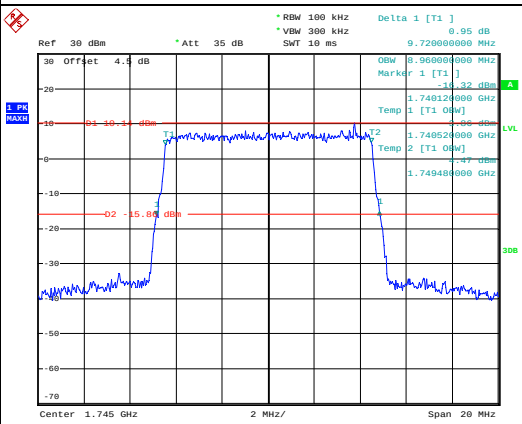
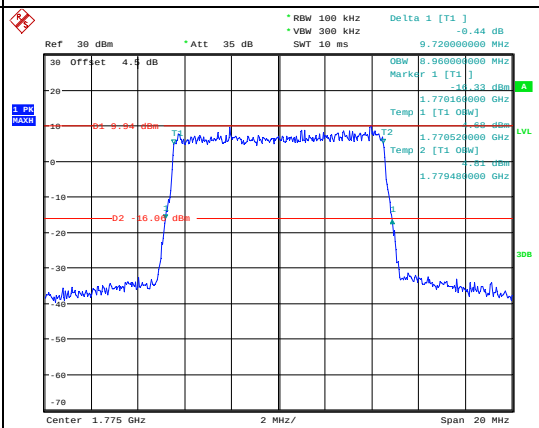
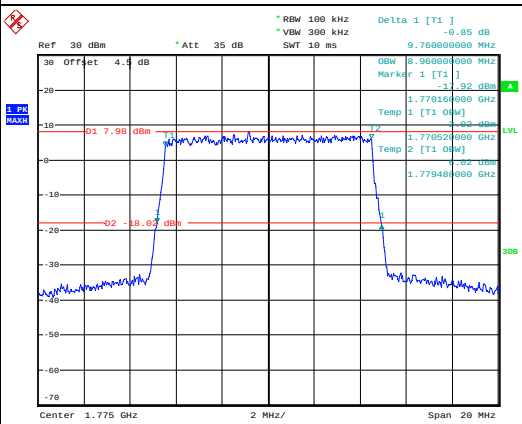
## Occupied Bandwidth

| Channel | 3MHz Bandwidth QPSK | 3MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  <br>Date: 21.NOV.2022 14:14:31 |  <br>Date: 21.NOV.2022 14:14:49 |
| Middle |  <br>Date: 21.NOV.2022 14:15:05 |  <br>Date: 21.NOV.2022 14:15:23 |
| Highest |  <br>Date: 21.NOV.2022 14:15:41 |  <br>Date: 21.NOV.2022 14:15:59 |

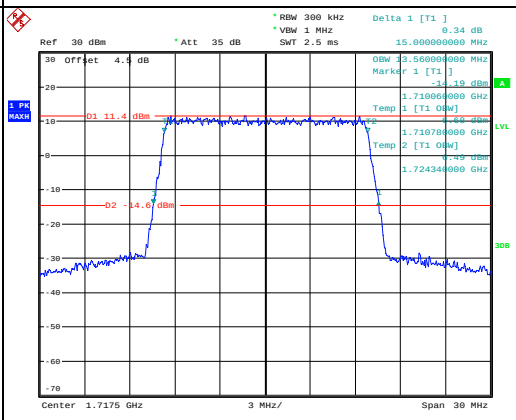
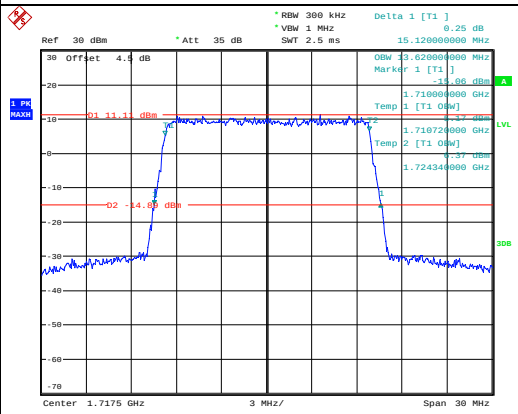
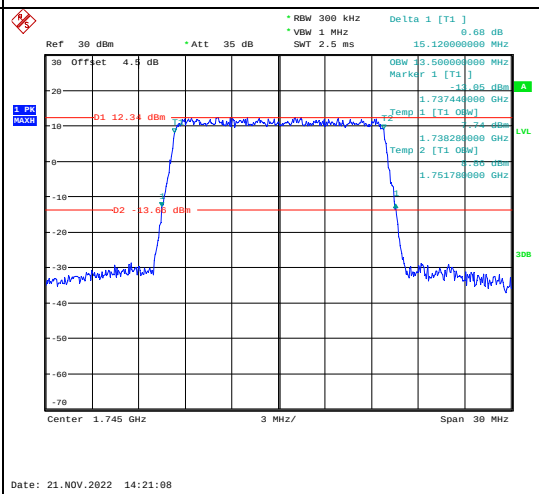
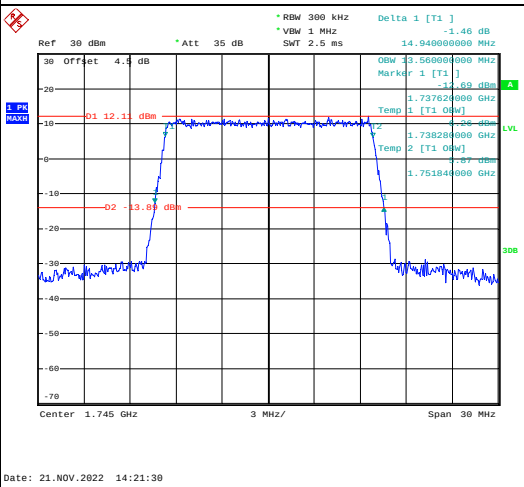
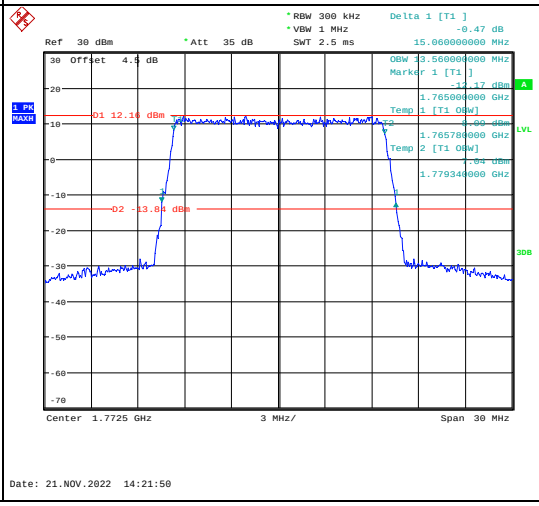
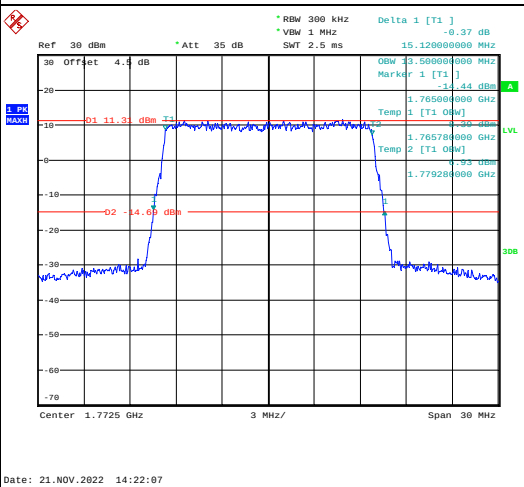
## Occupied Bandwidth

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

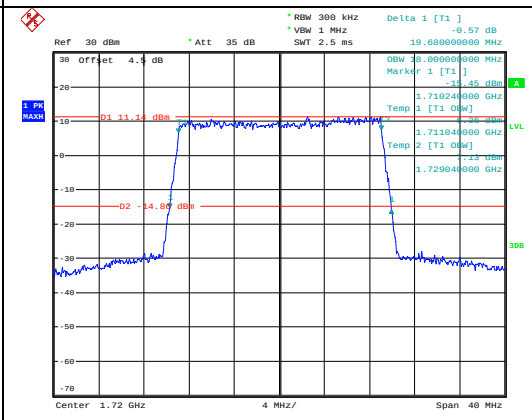
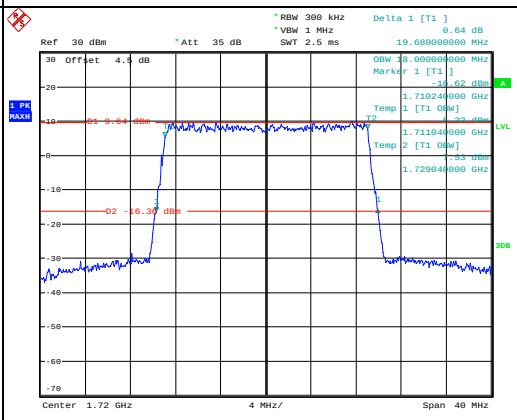
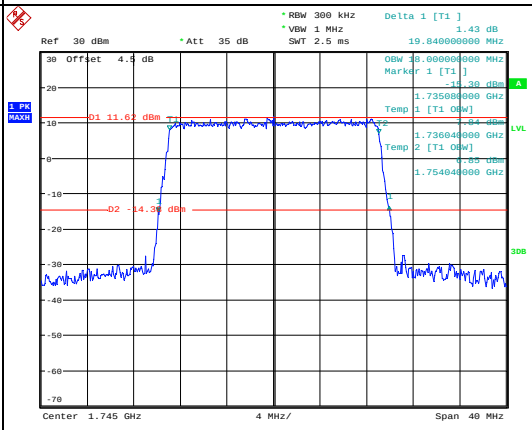
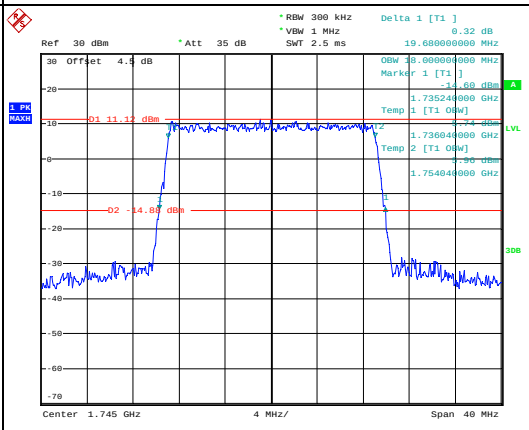
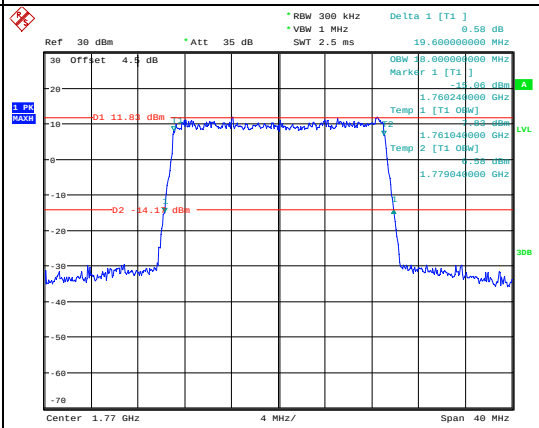
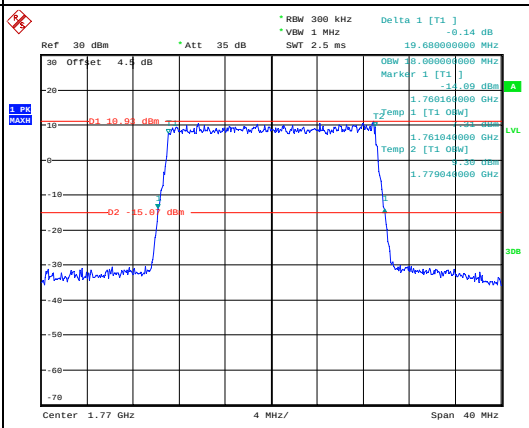
## Occupied Bandwidth

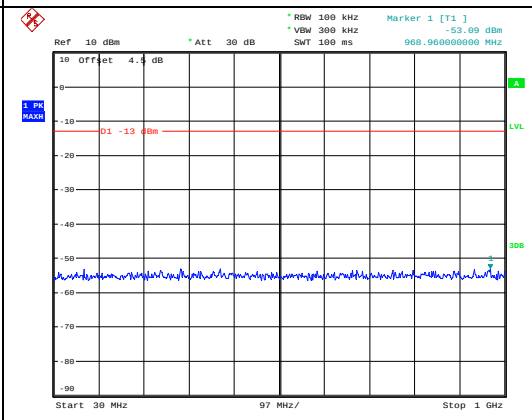
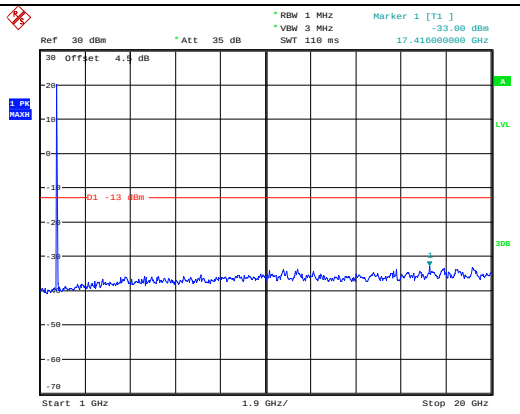
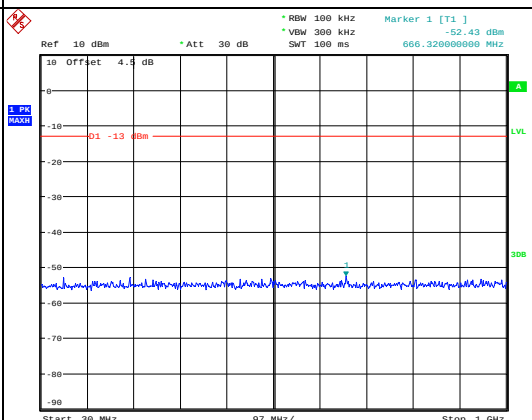
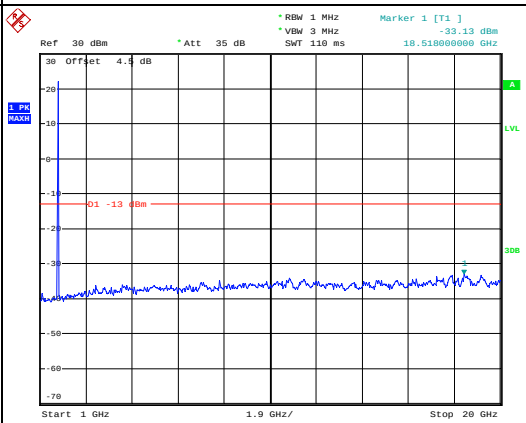
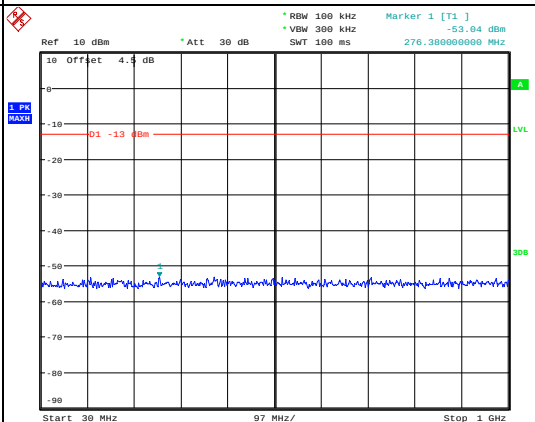
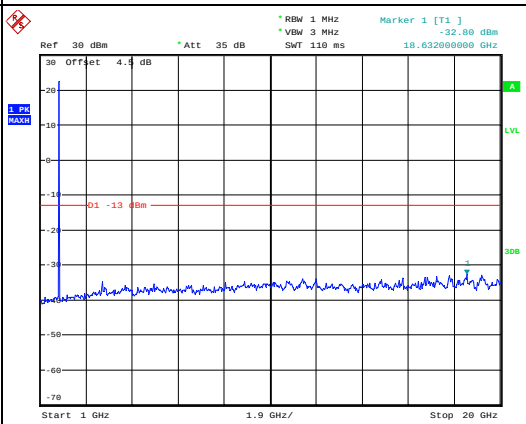
| Channel | 10MHz Bandwidth QPSK | 10MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

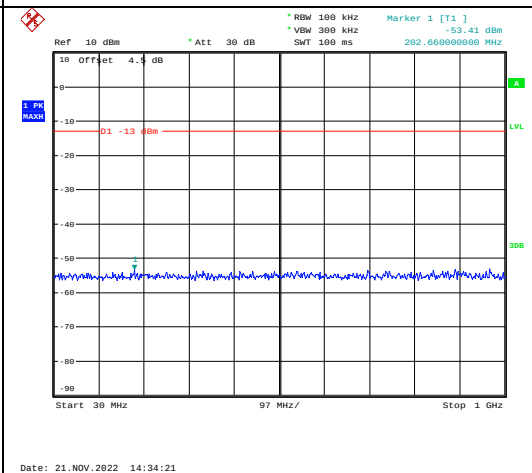
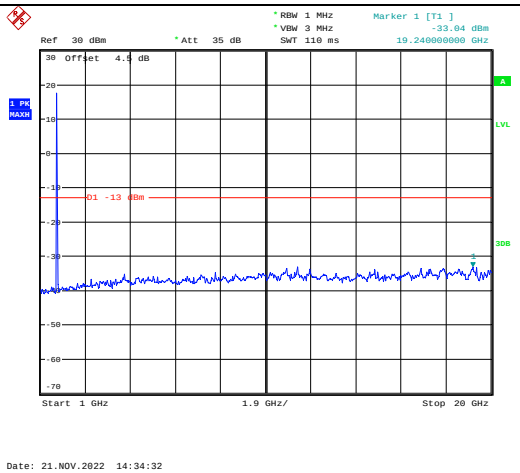
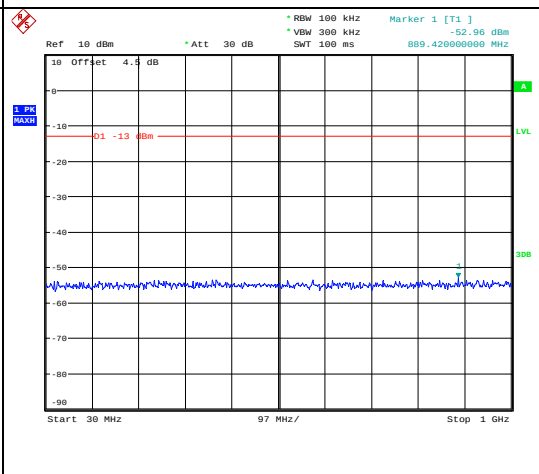
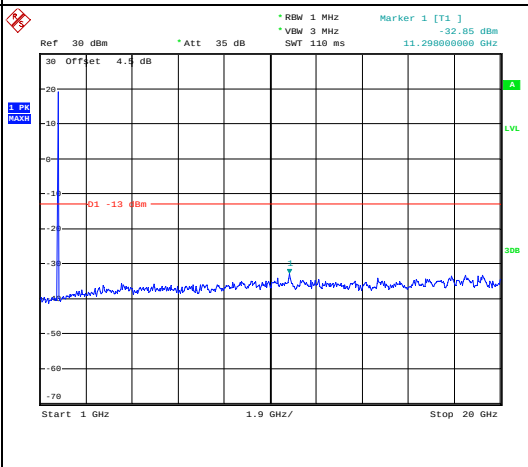
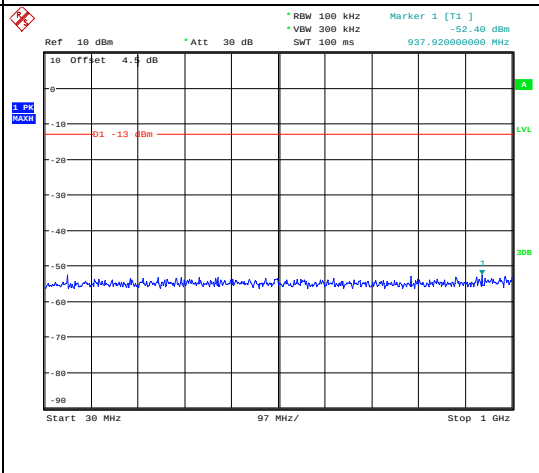
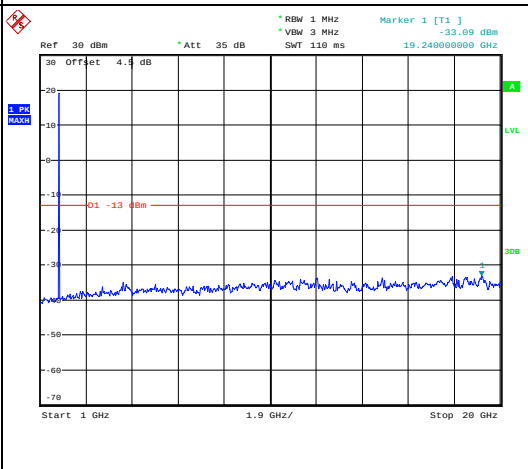
## Occupied Bandwidth

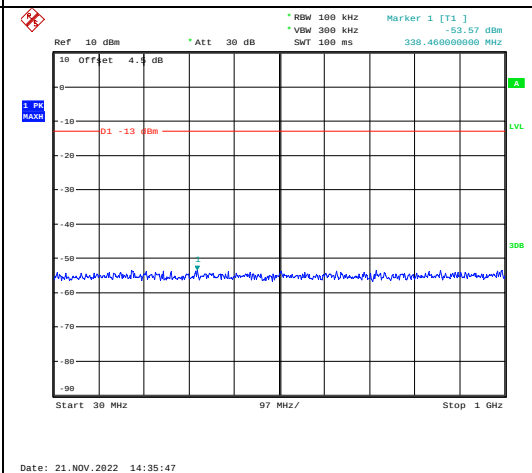
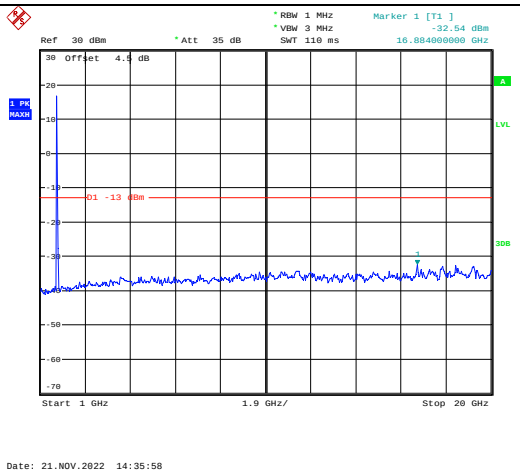
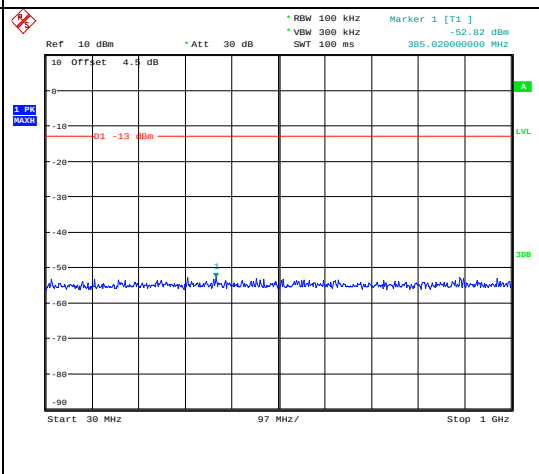
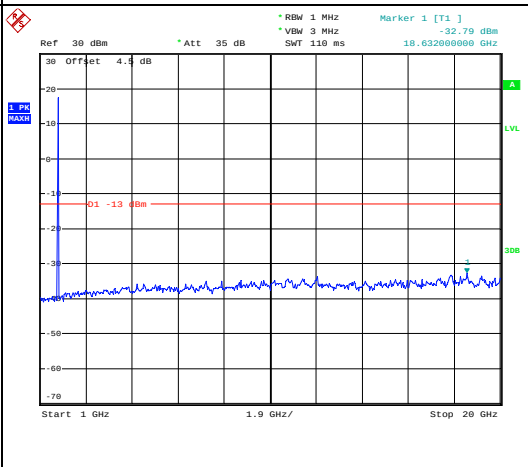
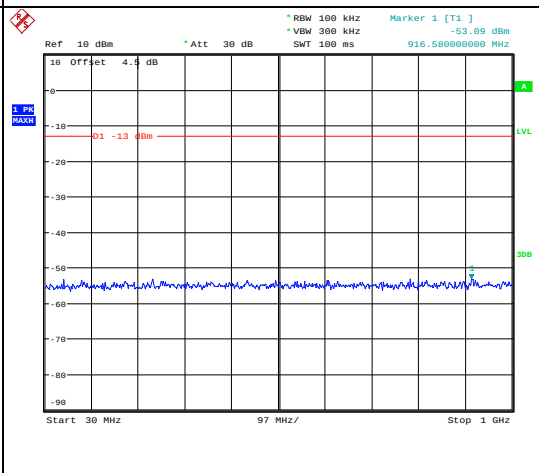
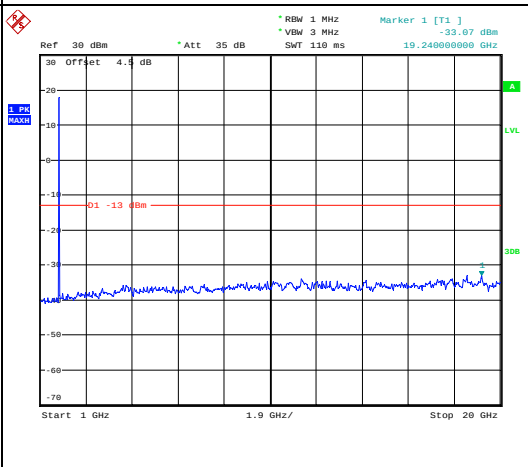
| Channel | 15MHz Bandwidth QPSK | 15MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

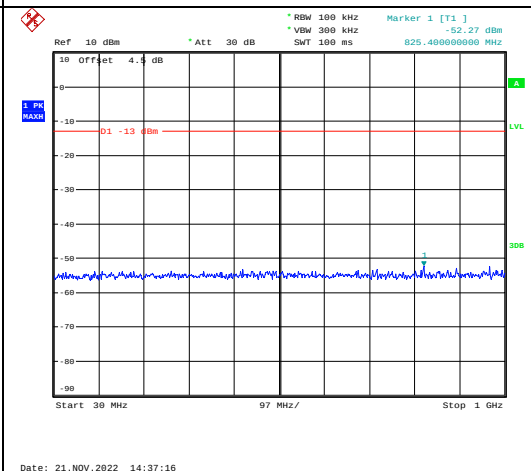
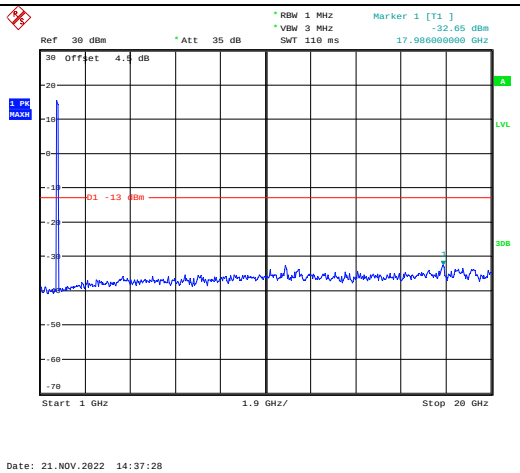
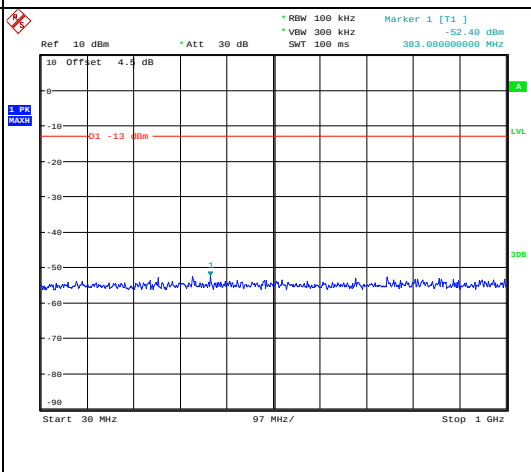
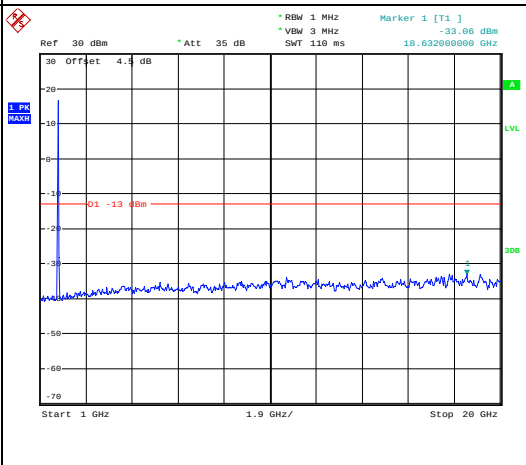
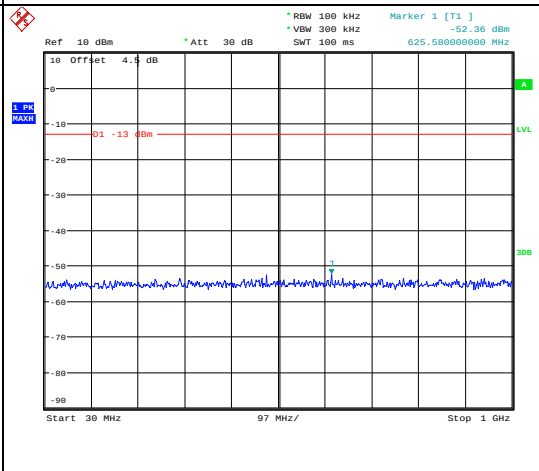
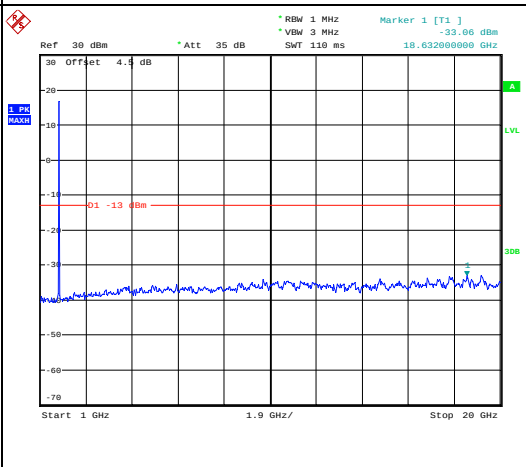
## Occupied Bandwidth

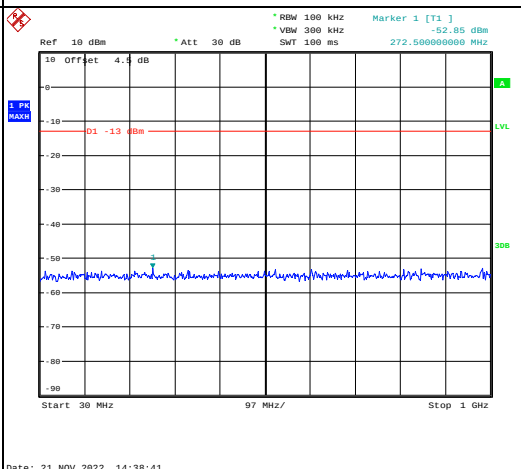
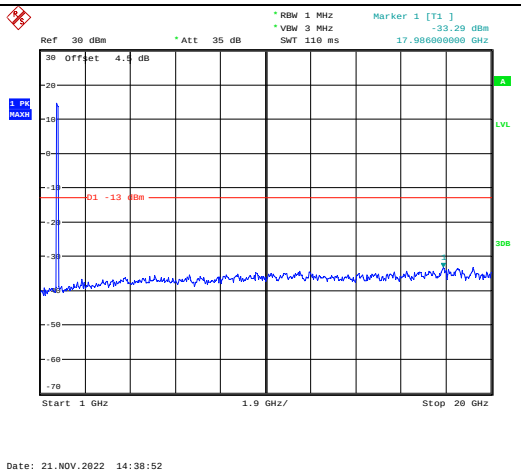
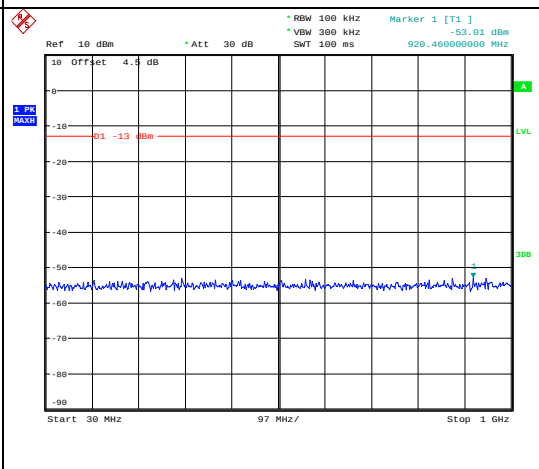
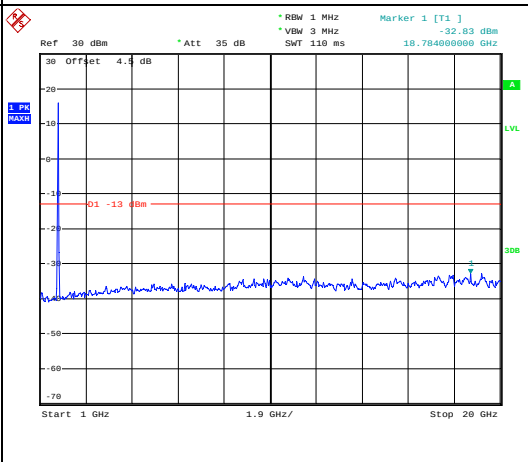
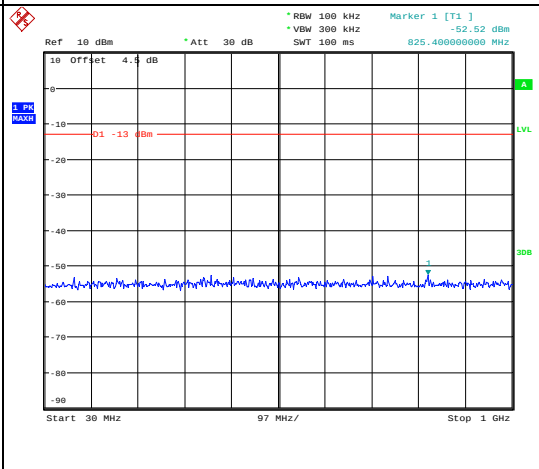
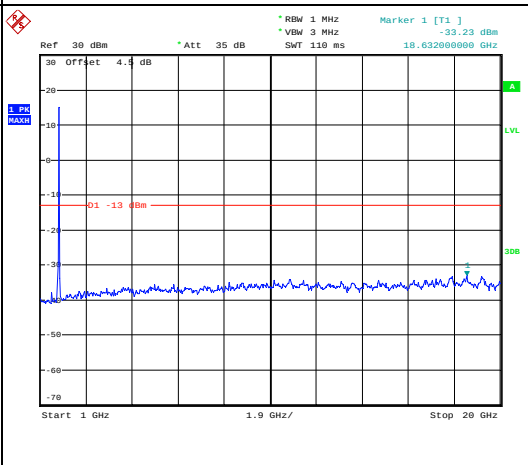
| Channel | 20MHz Bandwidth QPSK | 20MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

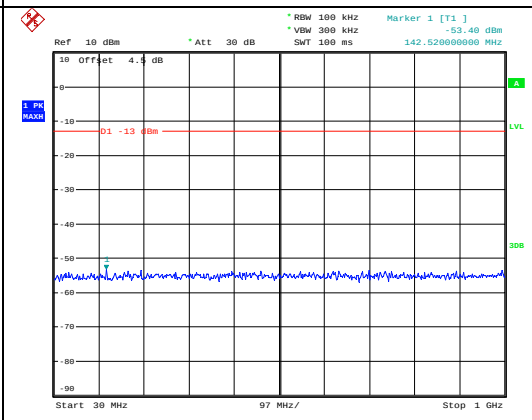
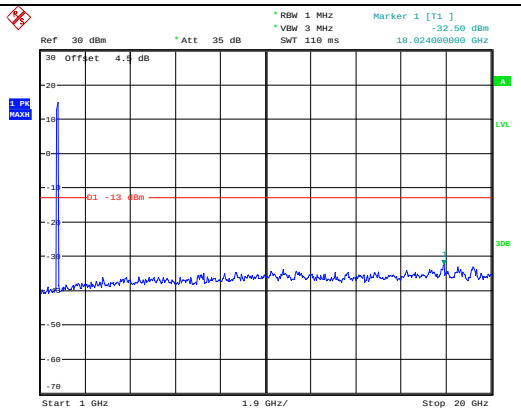
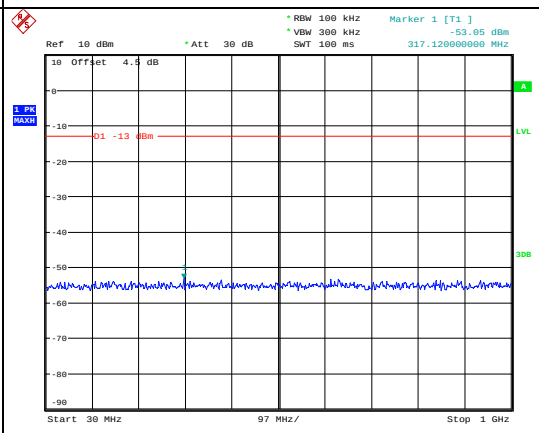
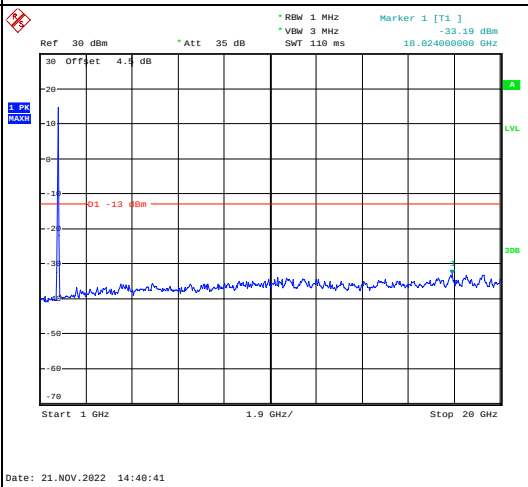
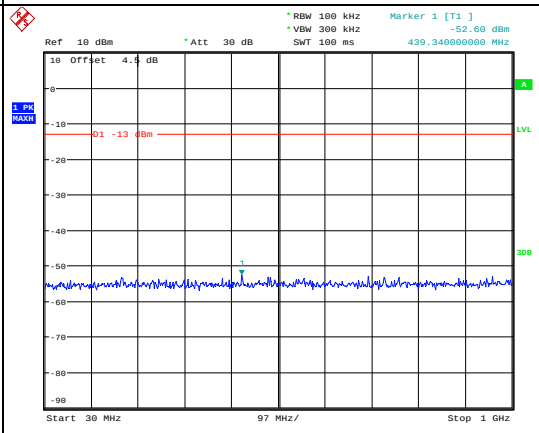
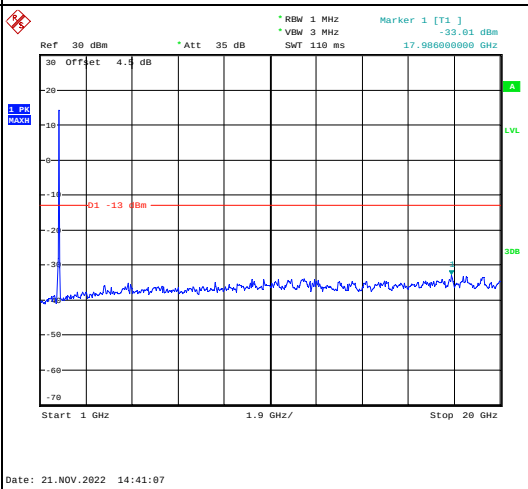
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **1.4MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

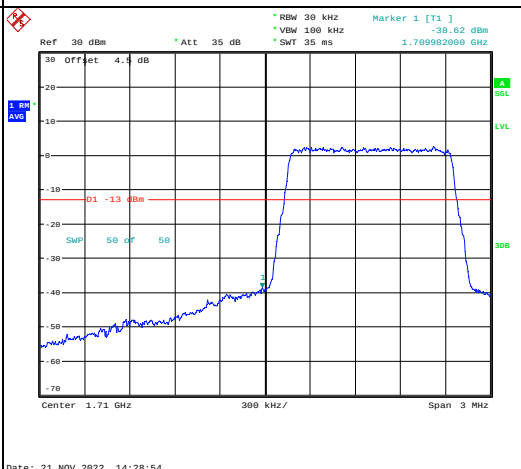
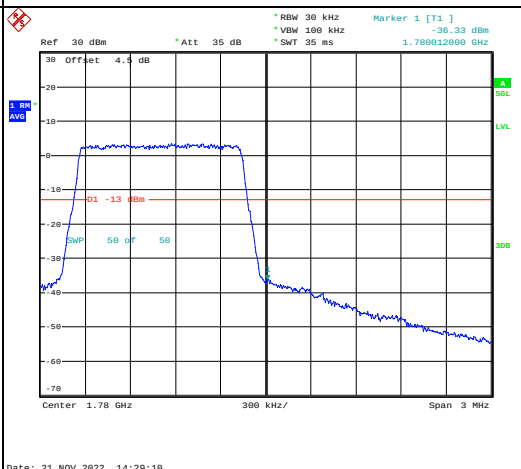
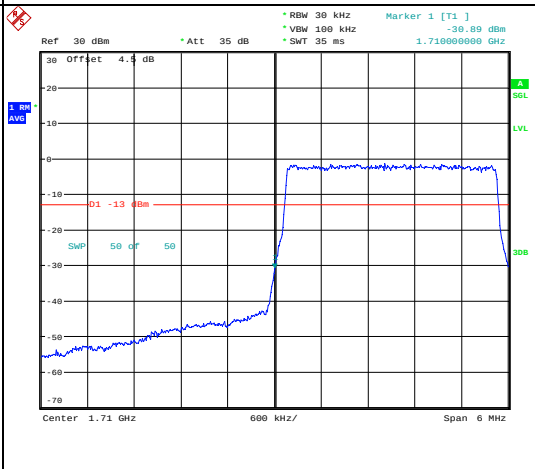
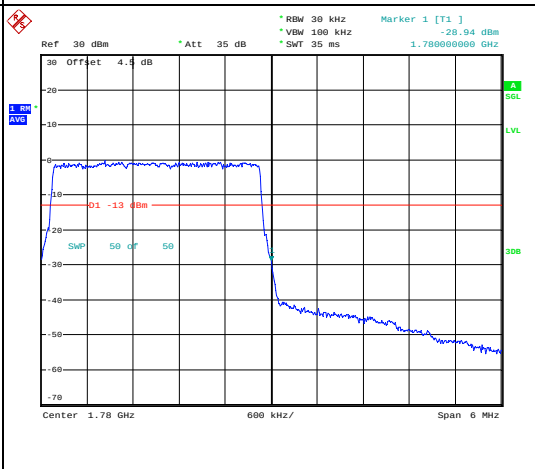
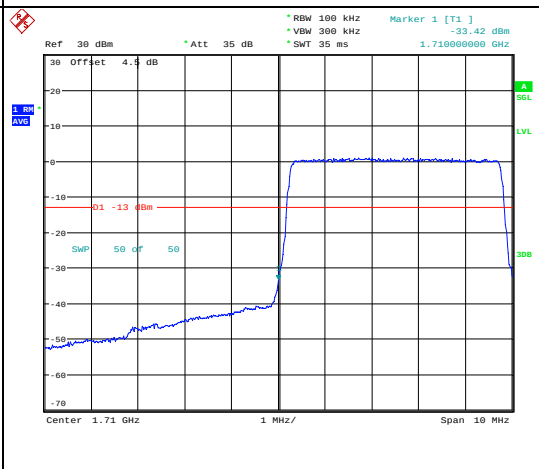
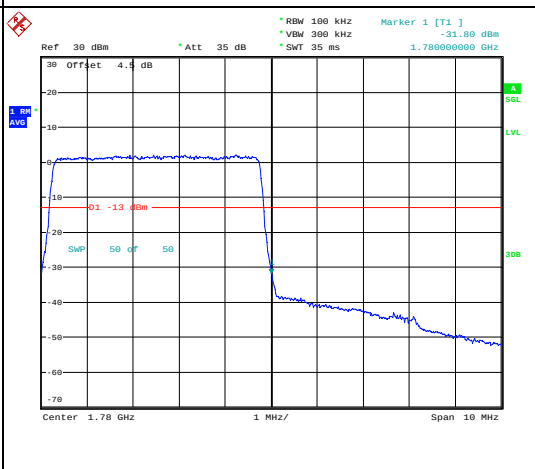
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **3MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

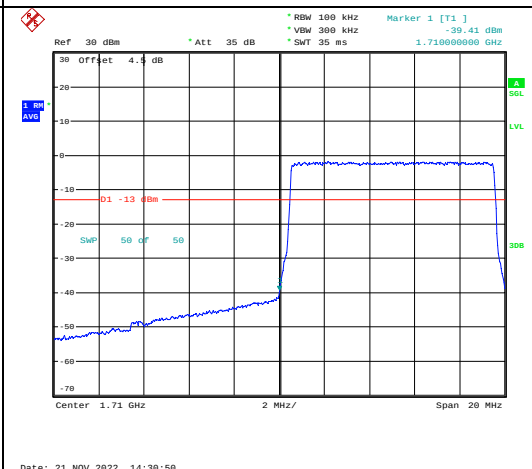
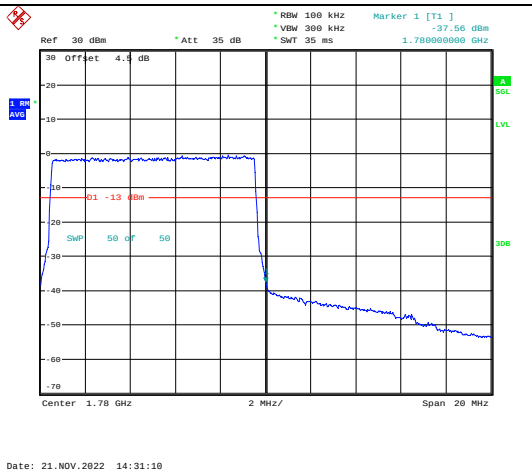
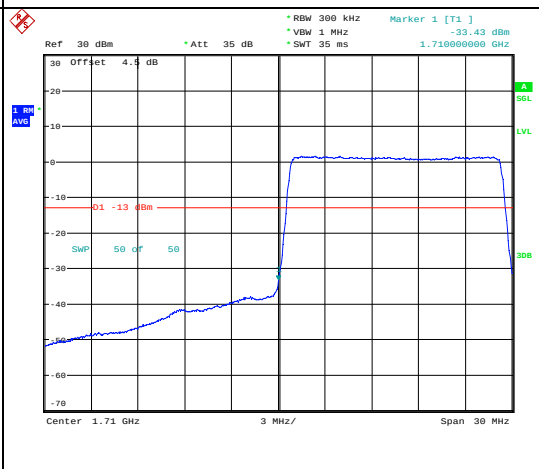
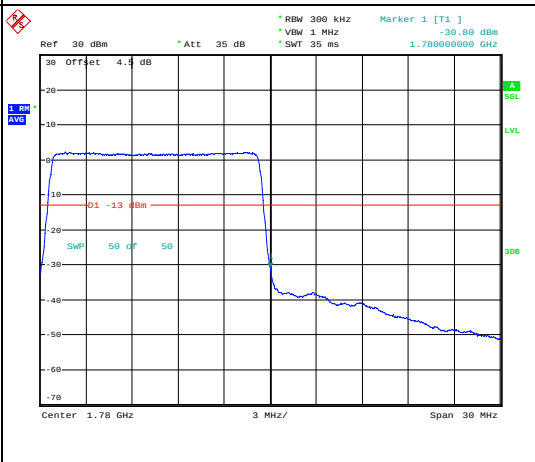
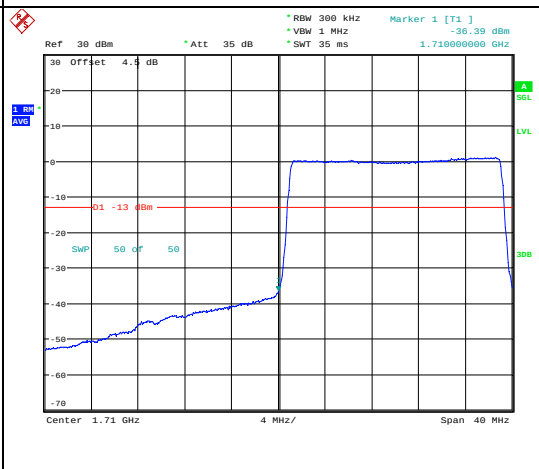
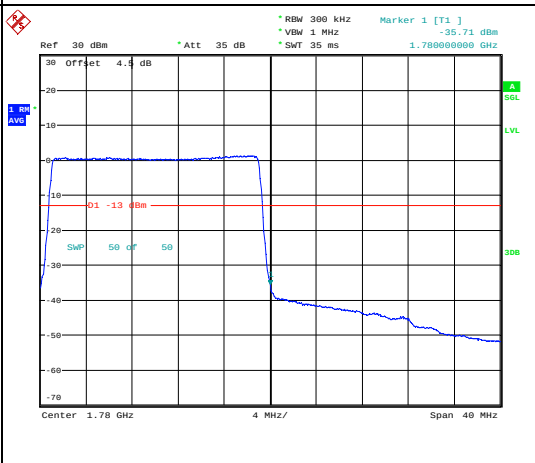
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **5MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

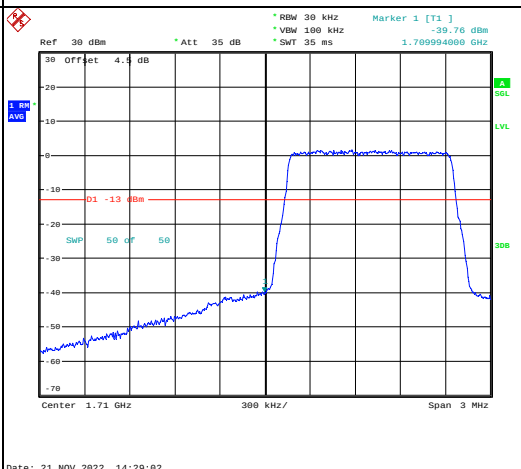
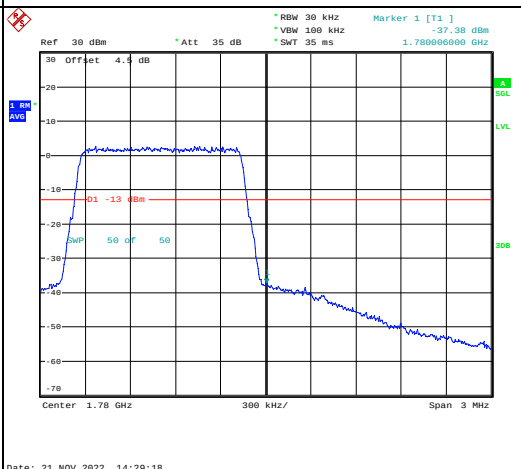
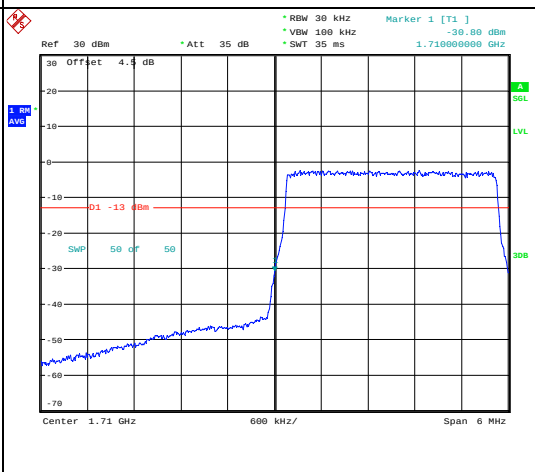
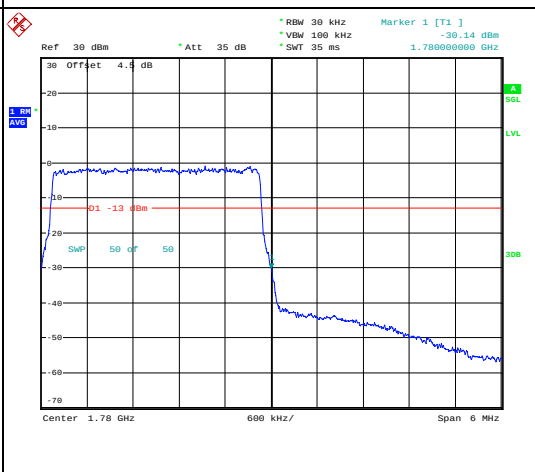
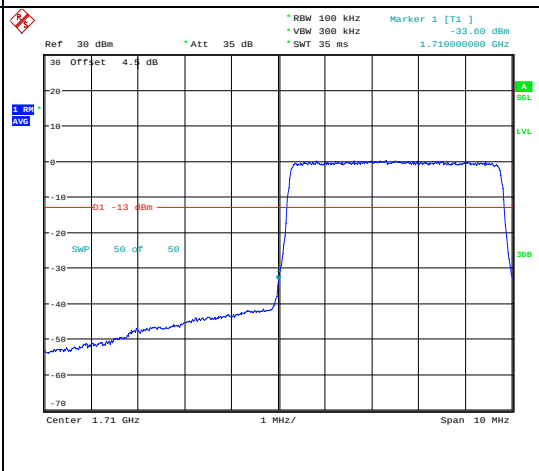
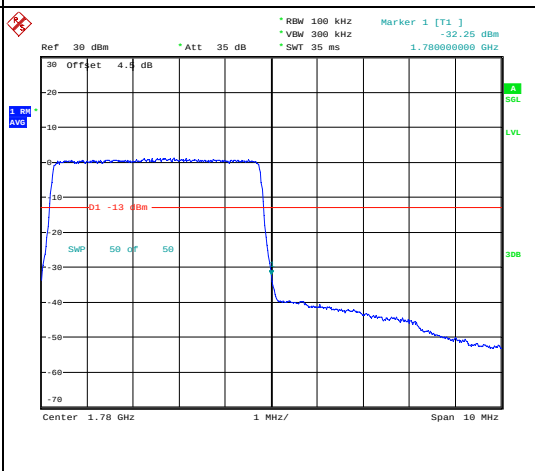
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **10MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

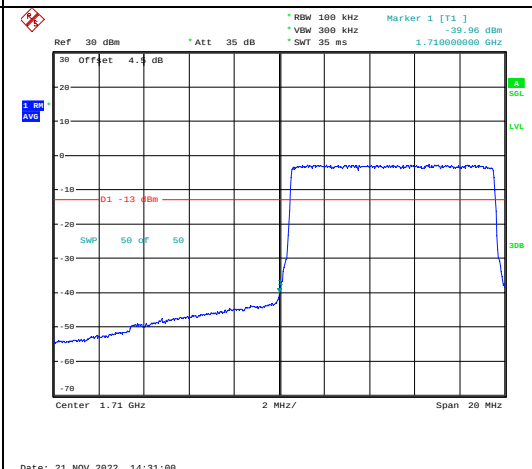
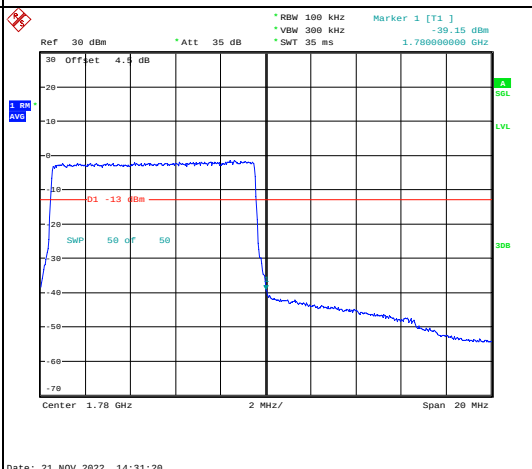
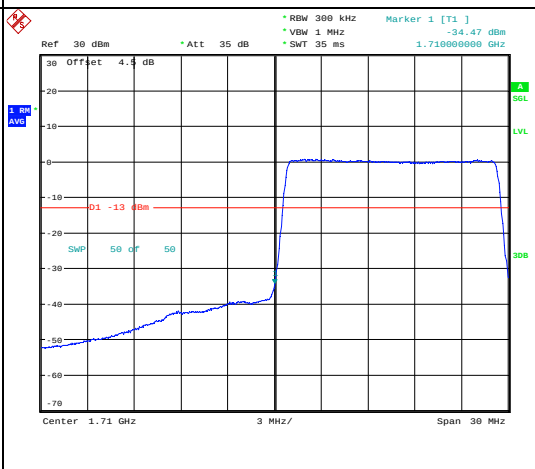
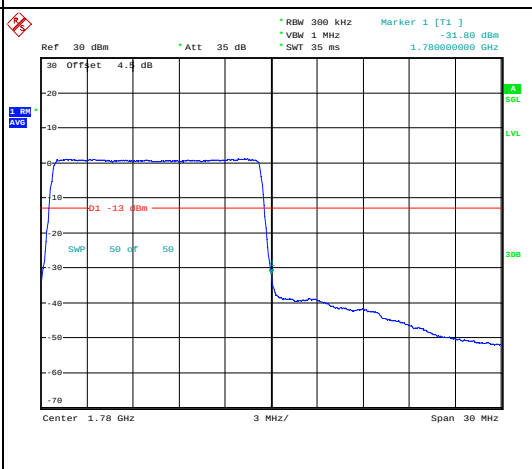
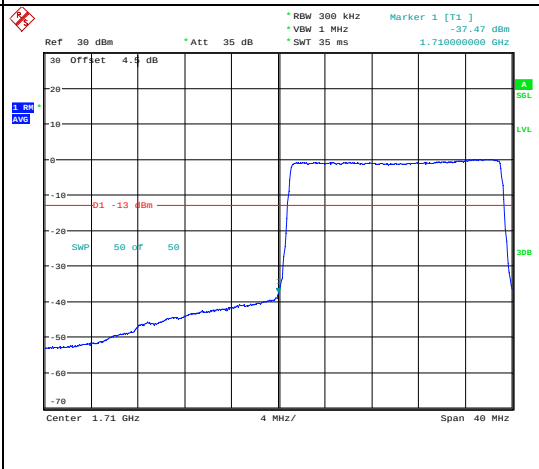
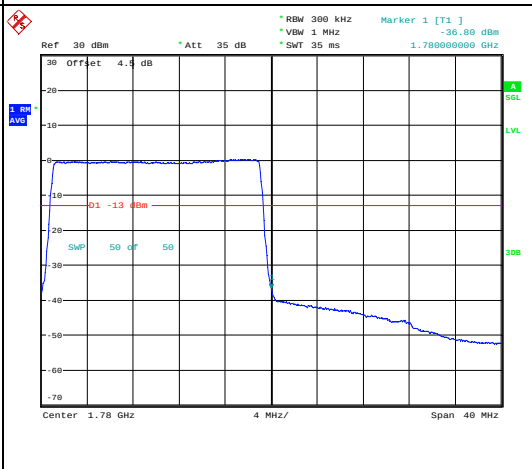
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **15MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

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

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

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 10MHz |  |  |
| QPSK 15MHz |  |  |
| QPSK 20MHz |  |  |

| 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 |  |  |
| 16QAM 15MHz |  |  |
| 16QAM 20MHz |  |  |

## 4.13 Antenna Port Test Data and Results for LTE Band 71

| | | | |
|---|---|---|---|
| Serial Number: | 1O3D-1 | Test Date: | 2022/11/5~2022/11/25 |
| Test Site: | RF | Test Mode: | Transmitting |
| Tester: | Arthur | Test Result: | Pass |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 24.3~25.1 | Relative Humidity: (%) | 58 | ATM Pressure: (kPa) | 100.5~101 |

**Test Equipment List and Details:**

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| R&S | Spectrum Analyzer | FSU26 | 200445 | 2022/04/05 | 2023/04/04 |
| R&S | Wideband Radio Communication Tester | CMW500 | 149218 | 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 |
| Weinschel | Power Splitter | 1515 | RA914 | Each time | N/A |
| BACL | TEMP&HUMI Test Chamber | BTH-150-40 | 30174 | 2022/04/06 | 2023/04/05 |
| UNI-T | Multimeter | UT39A+ | C210582554 | 2022/09/29 | 2023/09/28 |
| ZHAOXIN | DC Power Supply | RXN-6010D | 21R6010D0912386 | N/A | N/A |

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

**Test Frequency For Each Mode:**

| Operation Bandwidth | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|---|---|---|---|
| 5MHz | 665.5 | 680.5 | 695.5 |
| 10MHz | 668 | 680.5 | 693 |
| 15MHz | 670.5 | 680.5 | 690.5 |
| 20MHz | 673 | 680.5 | 688 |

**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 | 23.03 | 22.97 | 22.85 | 20.55 | 34.77 |
| | RB1#13 | 22.92 | 22.79 | 22.65 | | |
| | RB1#24 | 22.89 | 22.9 | 22.9 | | |
| | RB15#0 | 22.17 | 22.05 | 21.95 | | |
| | RB15#10 | 22.18 | 22.03 | 22.07 | | |
| | RB25#0 | 22.21 | 21.98 | 22.05 | | |
| 5MHz 16QAM | RB1#0 | 21.26 | 21.4 | 21.26 | 18.92 | 34.77 |
| | RB1#13 | 21.31 | 21.14 | 21.26 | | |
| | RB1#24 | 21.27 | 21.2 | 20.99 | | |
| | RB15#0 | 21.01 | 21.11 | 21.2 | | |
| | RB15#10 | 21.06 | 21.2 | 21.24 | | |
| | RB25#0 | 21.15 | 21.09 | 21.31 | | |
| 10MHz QPSK | RB1#0 | 22.97 | 22.71 | 22.77 | 20.49 | 34.77 |
| | RB1#25 | 22.81 | 22.71 | 22.66 | | |
| | RB1#49 | 22.78 | 22.79 | 22.89 | | |
| | RB25#0 | 22.13 | 22.31 | 22.03 | | |
| | RB25#25 | 22.08 | 22.05 | 22.06 | | |
| | RB50#0 | 22.23 | 21.97 | 21.99 | | |
| 10MHz 16QAM | RB1#0 | 22.1 | 22.13 | 22.2 | 19.72 | 34.77 |
| | RB1#25 | 22.19 | 21.95 | 21.99 | | |
| | RB1#49 | 22.08 | 21.87 | 21.89 | | |
| | RB25#0 | 20.98 | 21.11 | 21.16 | | |
| | RB25#25 | 21.18 | 21.09 | 21.25 | | |
| | RB50#0 | 21.17 | 21.06 | 21.13 | | |
| 15MHz QPSK | RB1#0 | 22.92 | 23.07 | 22.7 | 20.59 | 34.77 |
| | RB1#38 | 22.72 | 22.79 | 22.68 | | |
| | RB1#74 | 22.92 | 22.96 | 22.94 | | |
| | RB36#0 | 22.29 | 22.32 | 22.13 | | |
| | RB36#39 | 22.07 | 21.85 | 22.09 | | |
| | RB75#0 | 22.1 | 22.05 | 21.94 | | |
| 15MHz 16QAM | RB1#0 | 22.08 | 22.22 | 21.89 | 19.84 | 34.77 |
| | RB1#38 | 22.08 | 22.1 | 22.27 | | |
| | RB1#74 | 22.23 | 22.32 | 22.22 | | |
| | RB36#0 | 21.26 | 21.18 | 21.15 | | |
| | RB36#39 | 21.3 | 20.86 | 21.14 | | |
| | RB75#0 | 21.38 | 21.07 | 21.09 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 20MHz QPSK | RB1#0 | 23.02 | 22.85 | 23.03 | 20.55 | 34.77 |
| | RB1#50 | 22.85 | 22.85 | 23 | | |
| | RB1#99 | 22.97 | 22.82 | 22.79 | | |
| | RB50#0 | 22.22 | 22.06 | 22.02 | | |
| | RB50#50 | 22.31 | 21.87 | 21.89 | | |
| | RB100#0 | 22.15 | 21.94 | 22.06 | | |
| 20MHz 16QAM | RB1#0 | 22.23 | 22.61 | 22.69 | 20.28 | 34.77 |
| | RB1#50 | 22.09 | 22.49 | 22.76 | | |
| | RB1#99 | 21.96 | 22.56 | 22.54 | | |
| | RB50#0 | 21.28 | 21.18 | 20.83 | | |
| | RB50#50 | 21.22 | 20.81 | 21.12 | | |
| | RB100#0 | 20.94 | 21.13 | 21.35 | | |
| Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd) | | | | | | |
| | | | | | **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 | 6.09 | 6.22 | 5.93 | 13 |
| | RB100#0 | 5.64 | 5.87 | 5.8 | 13 |
| 20MHz 16QAM | RB1#0 | 7.21 | 7.31 | 7.15 | 13 |
| | RB100#0 | 6.44 | 6.63 | 6.54 | 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 | 4.52 | 4.54 | 4.52 | 4.96 | 4.98 | 4.98 |
| 5MHz 16QAM | 4.5 | 4.52 | 4.52 | 4.96 | 5 | 5 |
| 10MHz QPSK | 8.96 | 8.96 | 8.96 | 9.68 | 9.76 | 9.8 |
| 10MHz 16QAM | 8.92 | 9 | 9 | 9.72 | 9.6 | 9.72 |
| 15MHz QPSK | 13.5 | 13.62 | 13.5 | 15.12 | 15 | 14.82 |
| 15MHz 16QAM | 13.5 | 13.62 | 13.5 | 14.94 | 15 | 15 |
| 20MHz QPSK | 18 | 18.08 | 17.92 | 19.44 | 19.6 | 19.52 |
| 20MHz 16QAM | 17.92 | 18.08 | 18 | 19.52 | 19.68 | 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.** |

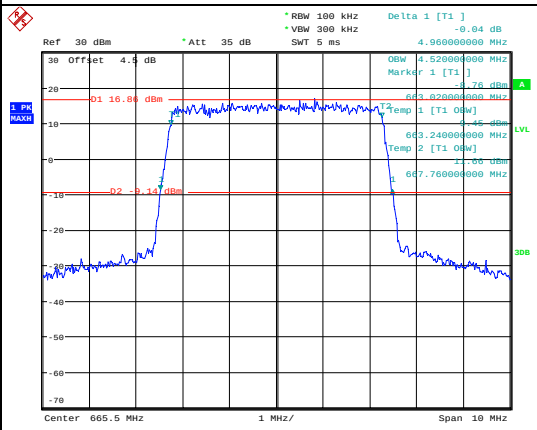
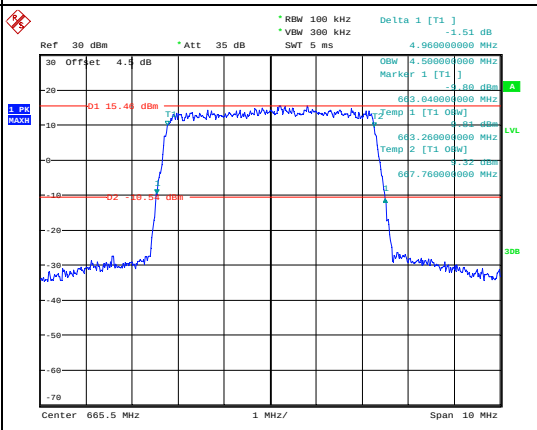
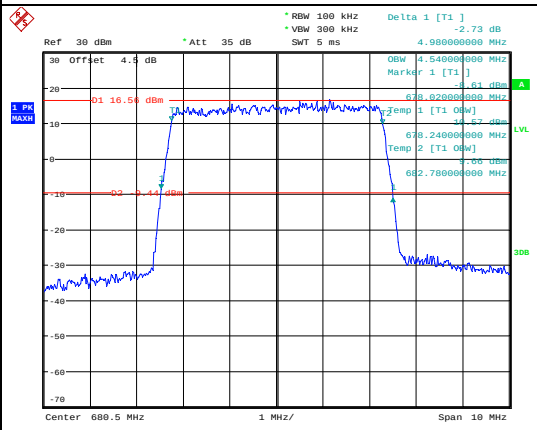
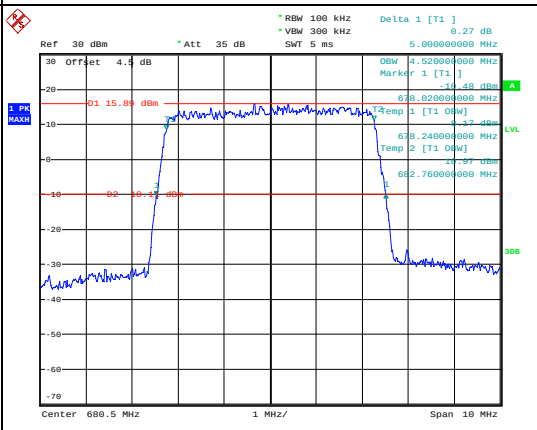
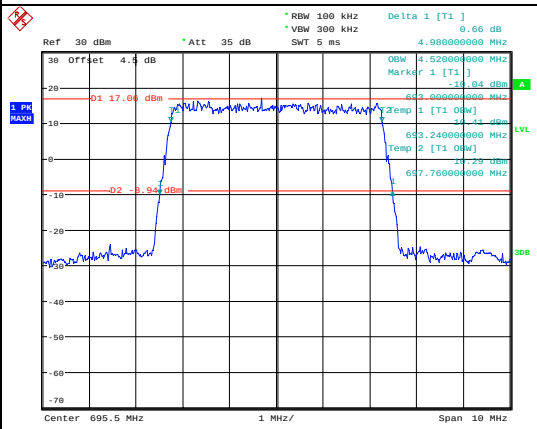
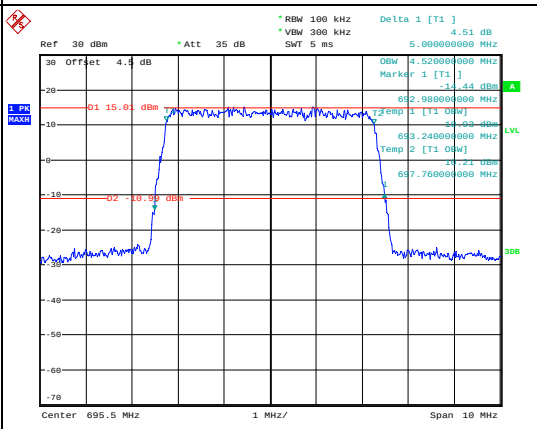
| FCC §2.1051, §27.53:Out of band emission, Band Edge | |
|---|---|
| **Result:** | **Pass, Please refer to the test plots of Out of band emission, Band Edge.** |

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

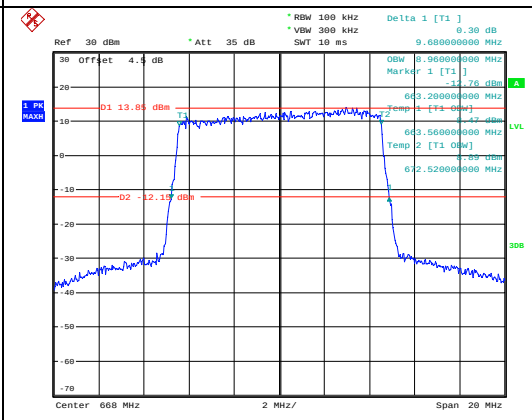
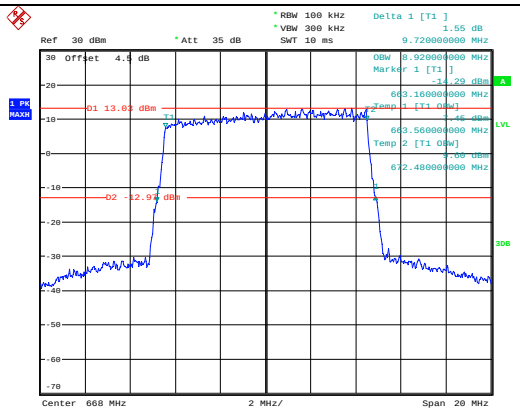
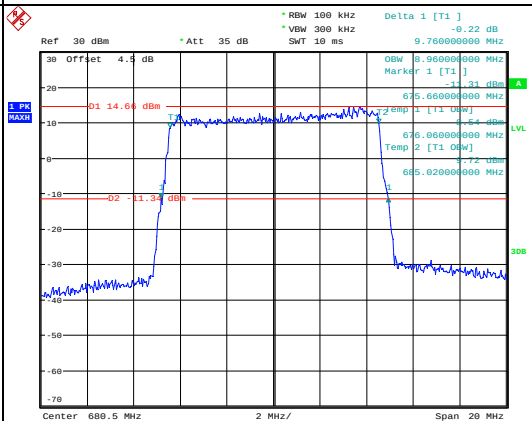
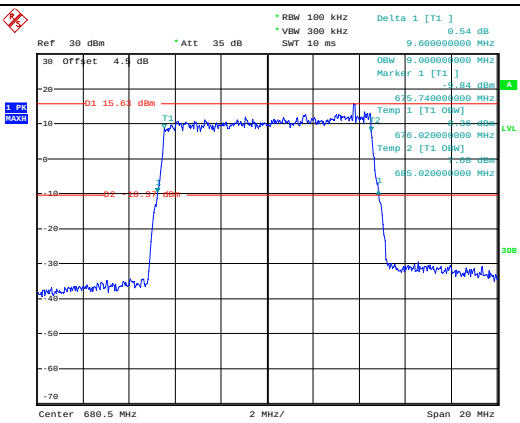
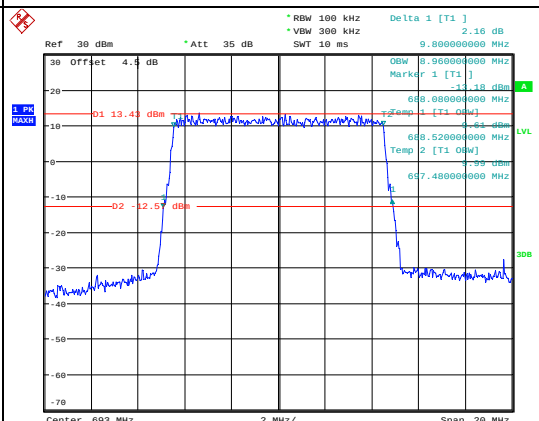
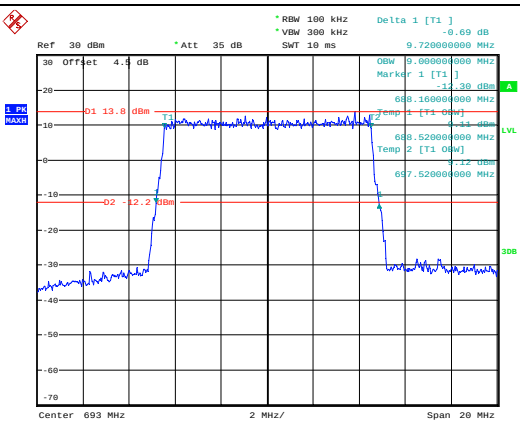
| Test Mode: | 20M QPSK | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.85 | 664.016 | 663.00 | 697.170 | 698.00 |
| | -20 | 3.85 | 664.058 | 663.00 | 697.136 | 698.00 |
| | -10 | 3.85 | 664.071 | 663.00 | 697.130 | 698.00 |
| | 0 | 3.85 | 664.084 | 663.00 | 697.153 | 698.00 |
| | 10 | 3.85 | 664.075 | 663.00 | 697.096 | 698.00 |
| | 20 | 3.85 | 664.040 | 663.00 | 697.040 | 698.00 |
| | 30 | 3.85 | 664.067 | 663.00 | 697.107 | 698.00 |
| | 40 | 3.85 | 664.051 | 663.00 | 697.122 | 698.00 |
| | 50 | 3.85 | 664.022 | 663.00 | 697.112 | 698.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 664.012 | 663.00 | 697.161 | 698.00 |
| | 20 | 4.35 | 664.046 | 663.00 | 697.104 | 698.00 |
| | | | | | **Result:** | **Pass** |

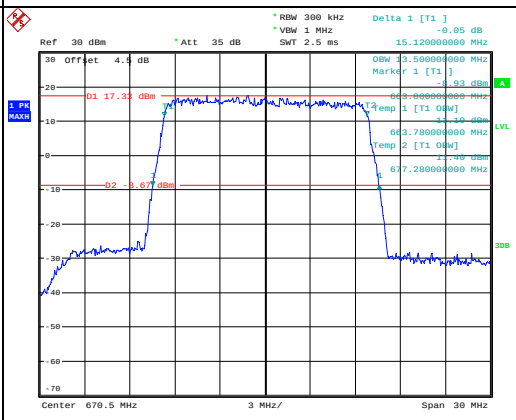
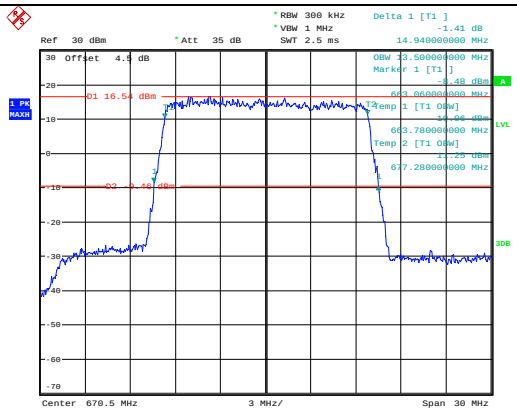
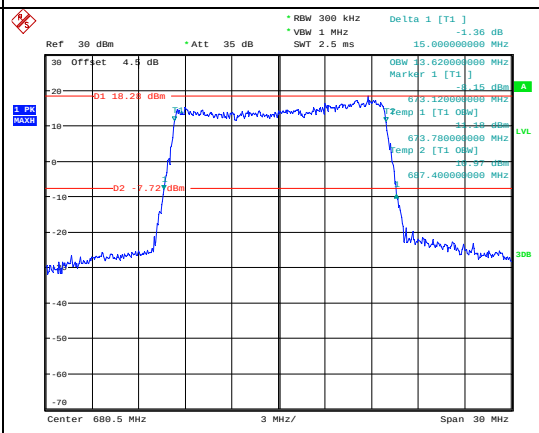
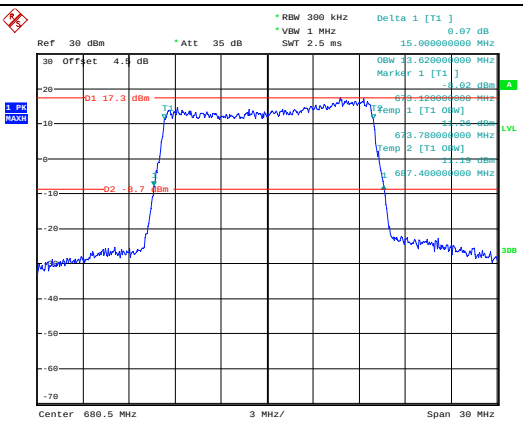
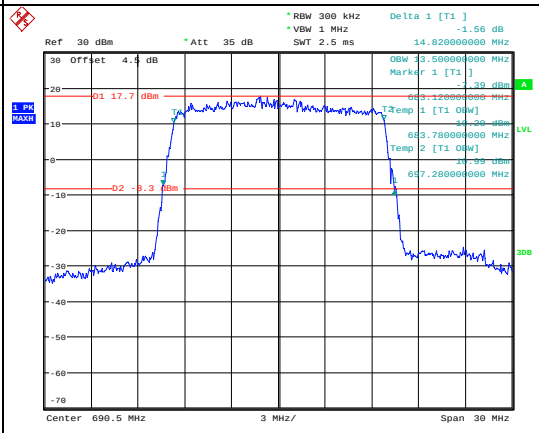
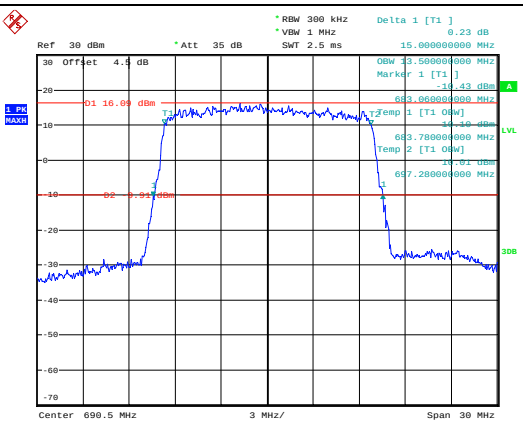
| Test Mode: | 20M 16QAM | Test Channel: Lowest for Lower Edge,Highest for Upper Edge | | | | |
|---|---|---|---|---|---|---|
| Test Item | Temperature (℃) | Voltage ($V_{DC}$) | Lower Edge (MHz) | | Upper Edge (MHz) | |
| | | | Result | Limit | Result | Limit |
| Frequency Stability vs. Temperature | -30 | 3.85 | 664.097 | 663.00 | 697.100 | 698.00 |
| | -20 | 3.85 | 664.015 | 663.00 | 697.129 | 698.00 |
| | -10 | 3.85 | 664.055 | 663.00 | 697.107 | 698.00 |
| | 0 | 3.85 | 664.017 | 663.00 | 697.092 | 698.00 |
| | 10 | 3.85 | 664.022 | 663.00 | 697.108 | 698.00 |
| | 20 | 3.85 | 664.120 | 663.00 | 697.120 | 698.00 |
| | 30 | 3.85 | 664.085 | 663.00 | 697.092 | 698.00 |
| | 40 | 3.85 | 664.044 | 663.00 | 697.136 | 698.00 |
| | 50 | 3.85 | 664.041 | 663.00 | 697.107 | 698.00 |
| Frequency Stability vs. Voltage | 20 | 3.6 | 664.003 | 663.00 | 697.102 | 698.00 |
| | 20 | 4.35 | 664.055 | 663.00 | 697.103 | 698.00 |
| | | | | | **Result:** | **Pass** |

**Test Plots**(Note: The 4.5dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer)**:**

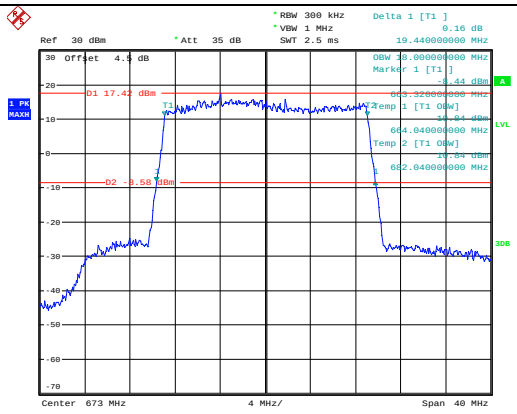
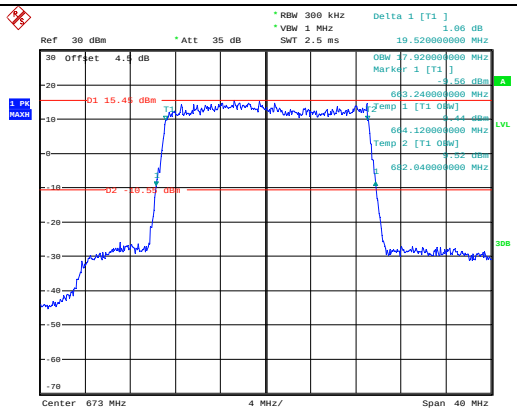
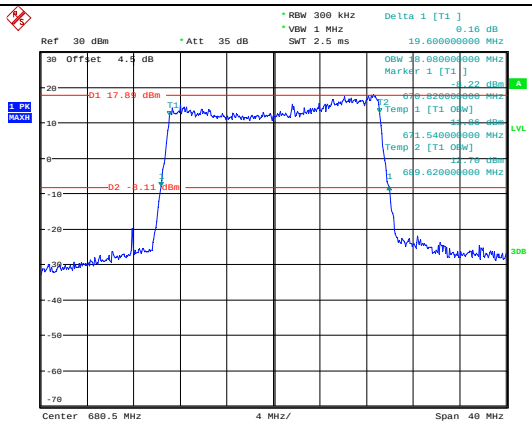
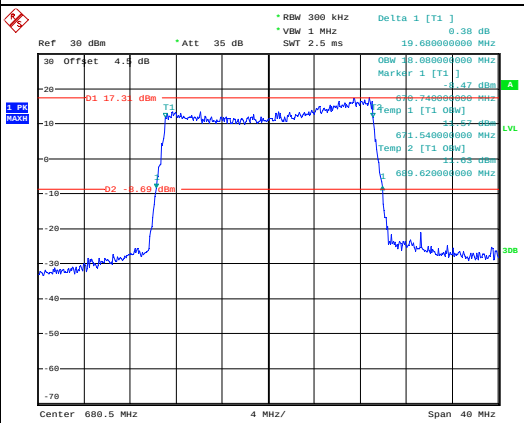
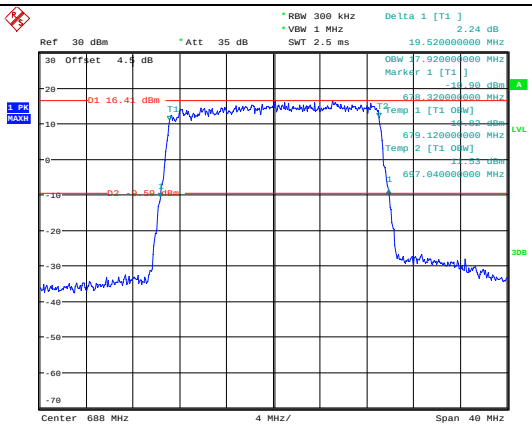
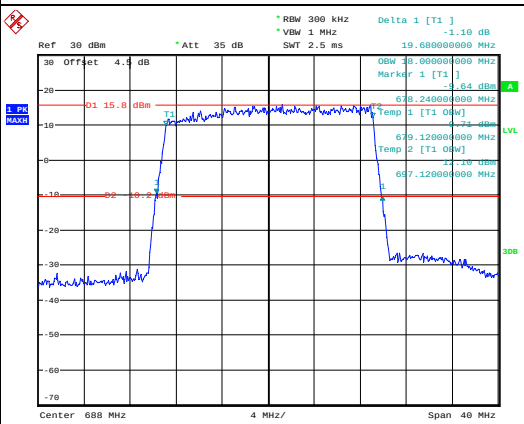
| **Occupied Bandwidth** | | |
|---|---|---|
| **Channel** | 5MHz Bandwidth QPSK | 5MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

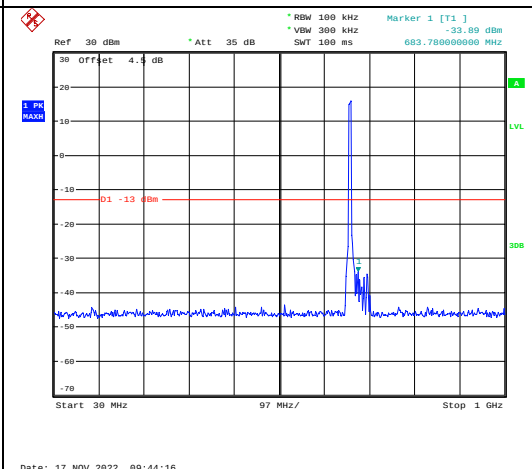
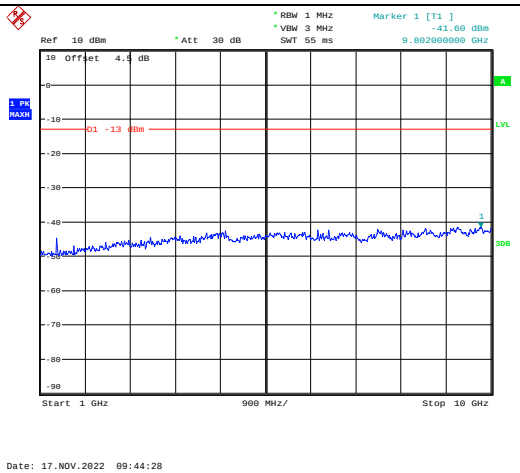
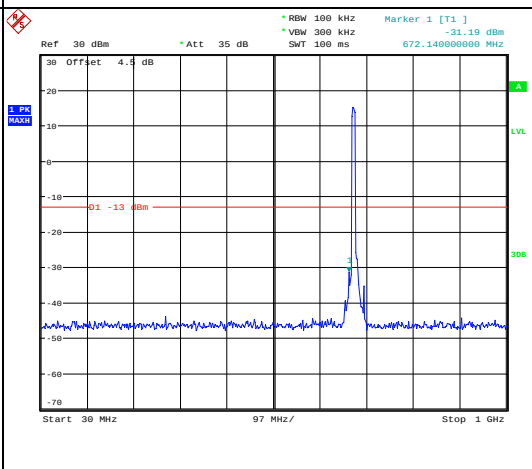
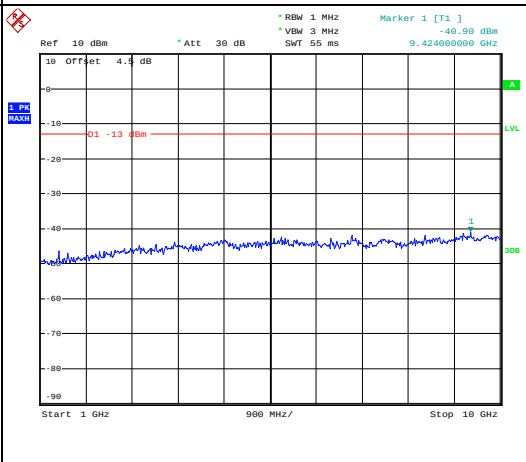
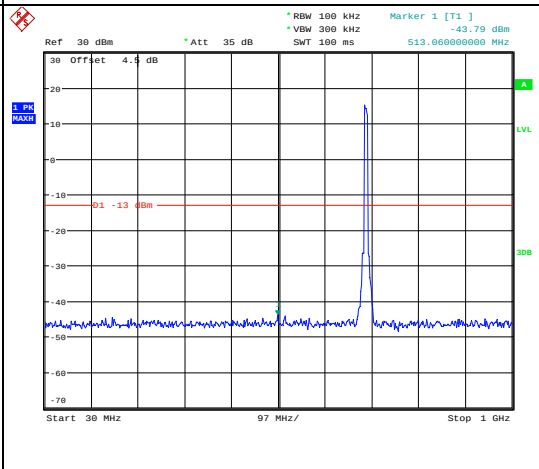
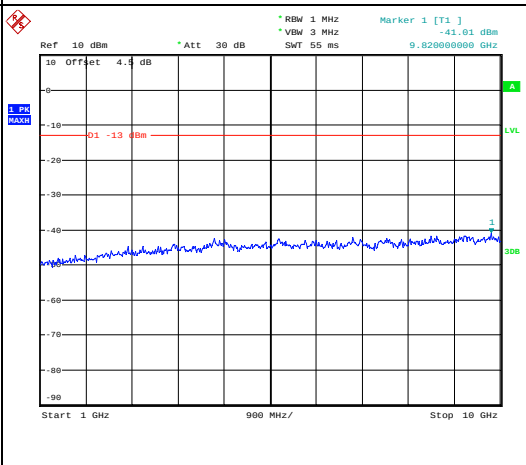
## Occupied Bandwidth

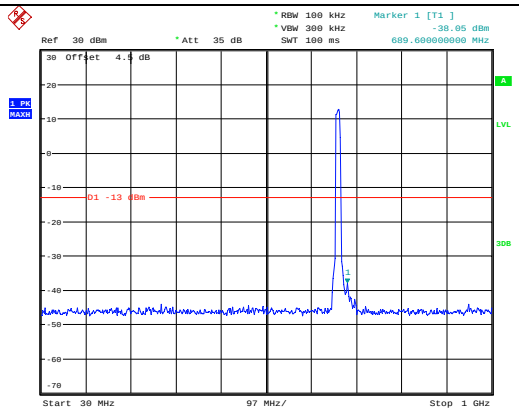
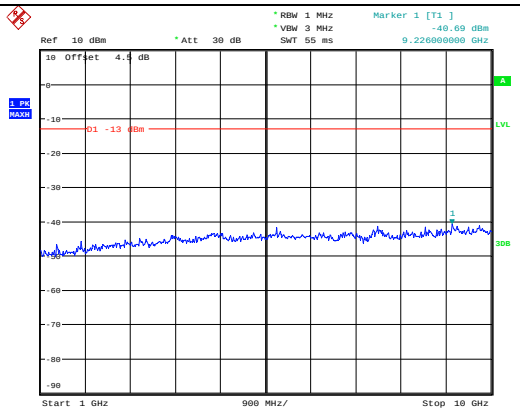
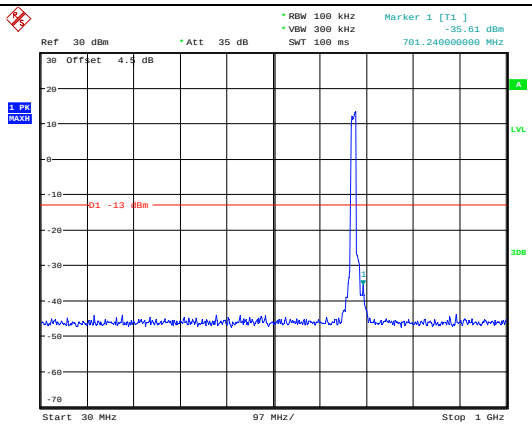
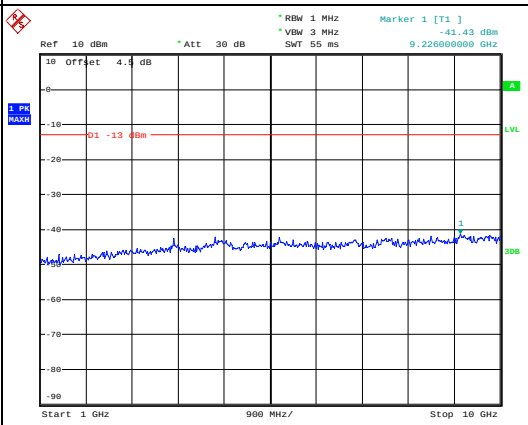
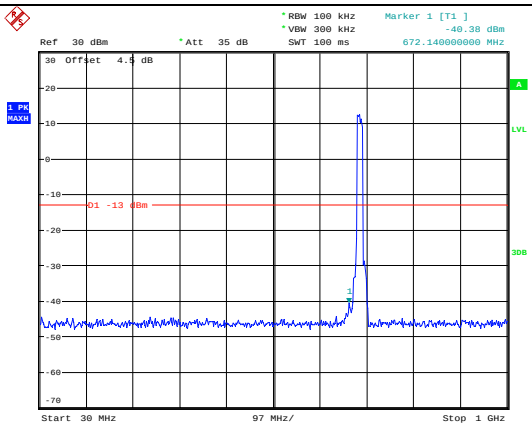
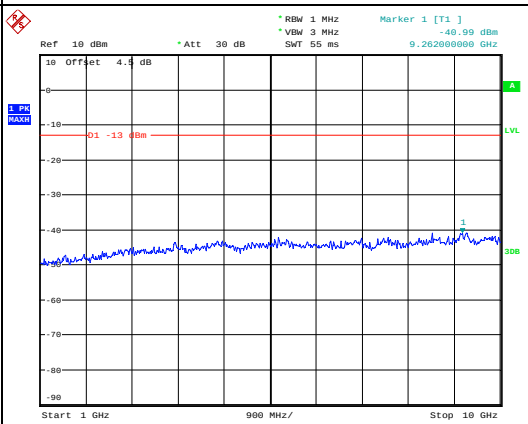
| Channel | 10MHz Bandwidth QPSK | 10MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  <br>Date: 16.NOV.2022 15:45:48 |  <br>Date: 16.NOV.2022 15:46:06 |
| Middle |  <br>Date: 16.NOV.2022 15:47:39 |  <br>Date: 16.NOV.2022 15:47:57 |
| Highest |  <br>Date: 16.NOV.2022 15:49:14 |  <br>Date: 16.NOV.2022 15:49:32 |

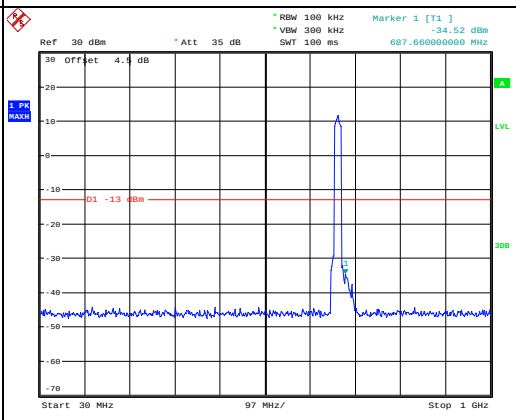
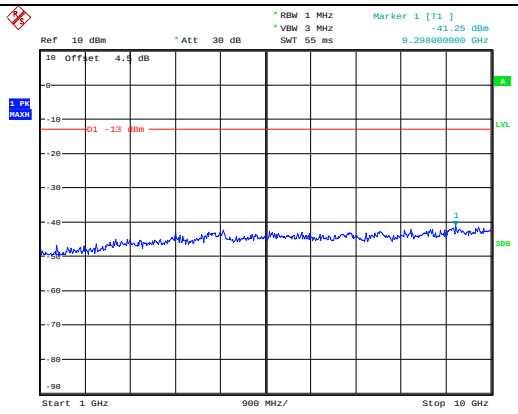
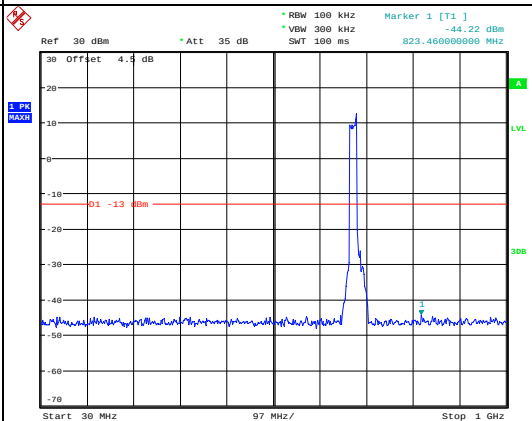
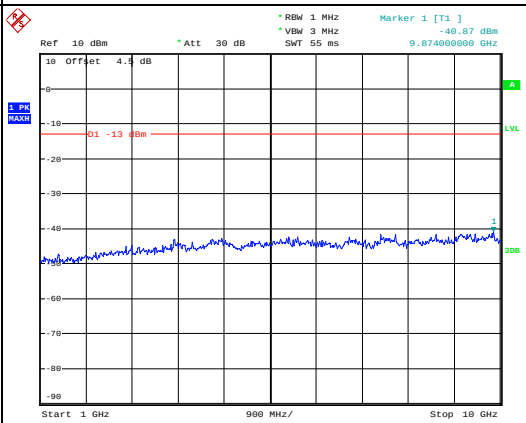
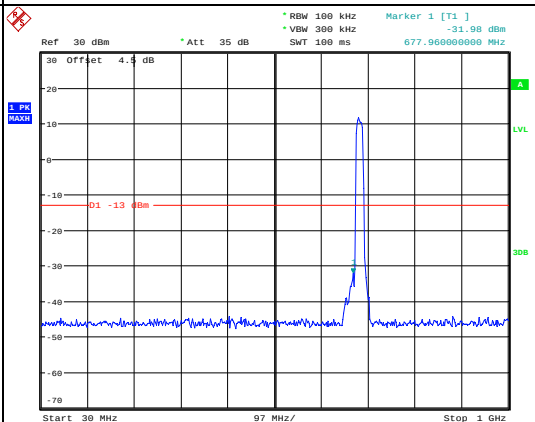
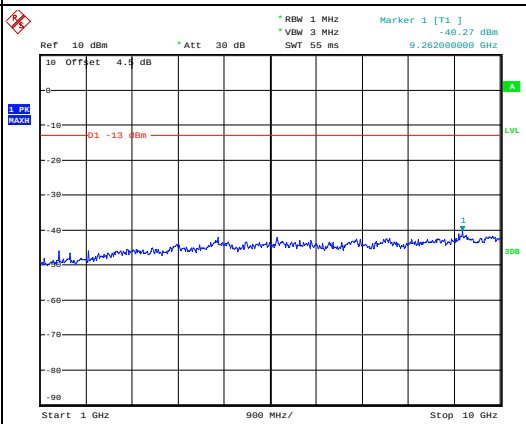
| Occupied Bandwidth | | |
|---|---|---|
| **Channel** | 15MHz Bandwidth QPSK | 15MHz Bandwidth 16QAM |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

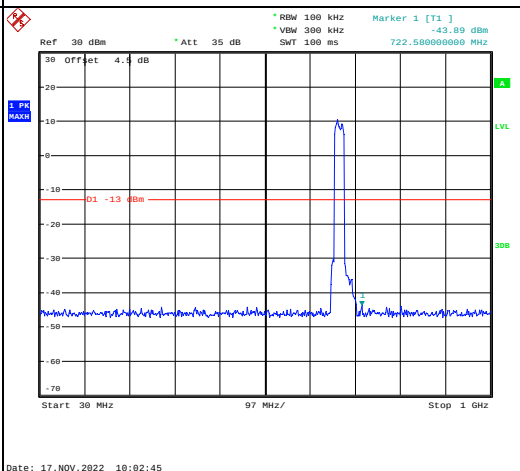
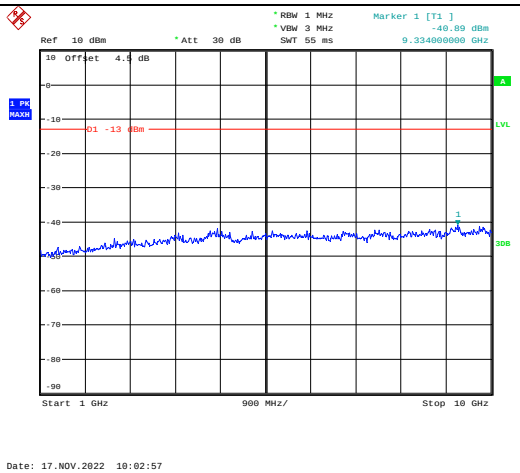
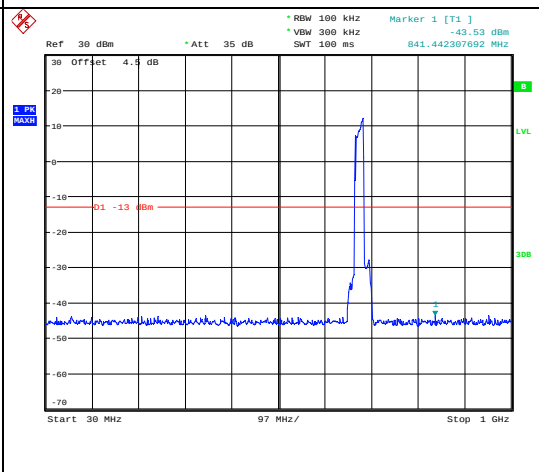
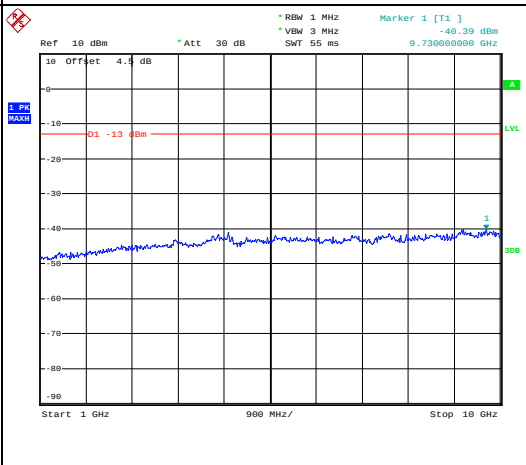
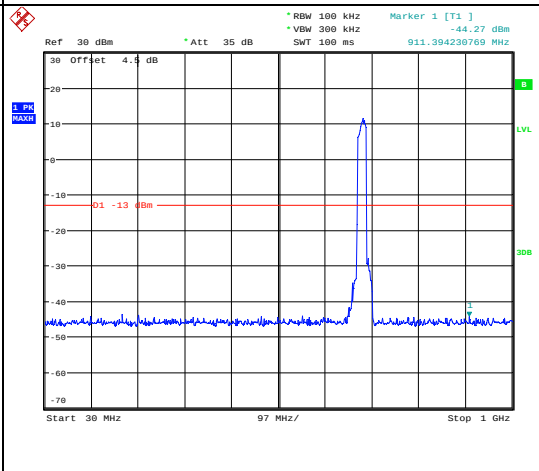
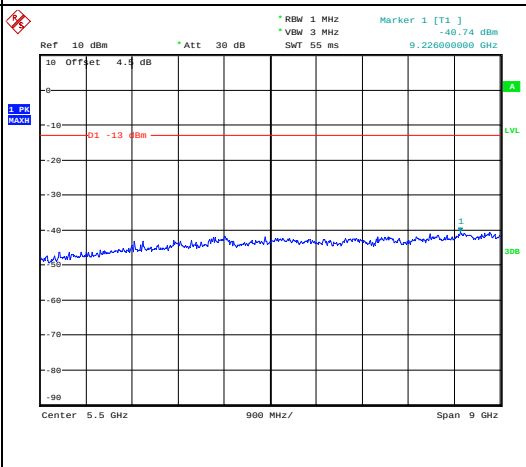
## Occupied Bandwidth

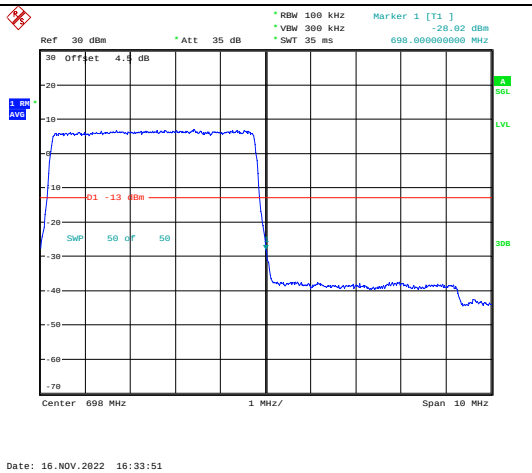
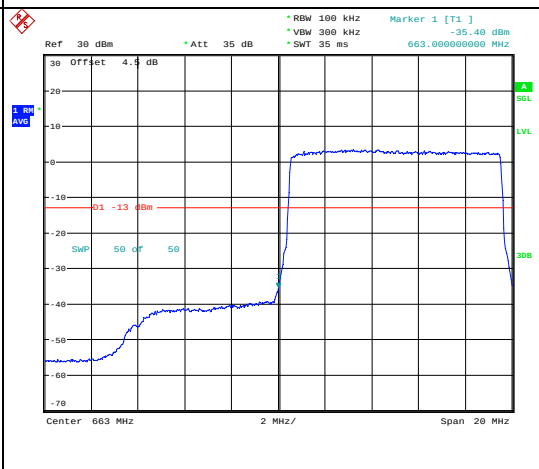
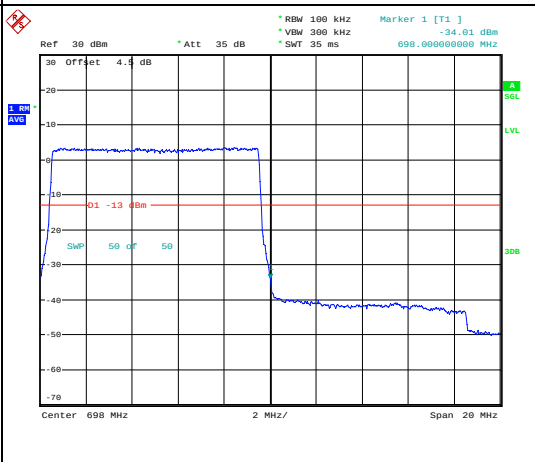
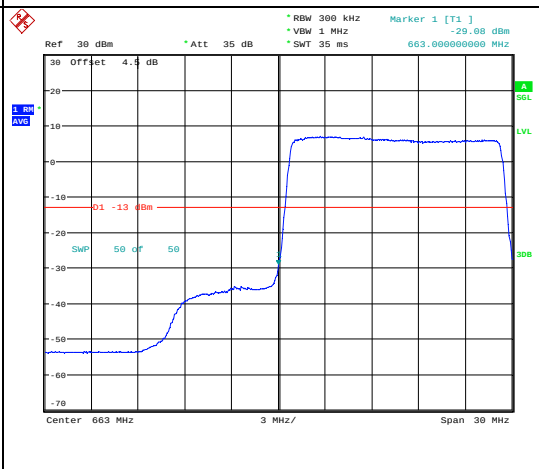
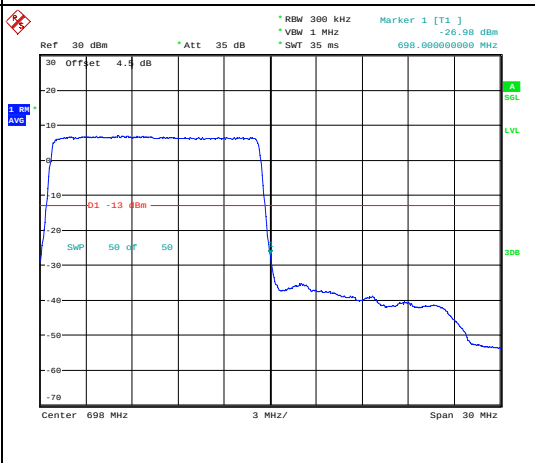
| Channel | 20MHz Bandwidth QPSK | 20MHz Bandwidth 16QAM |
|---|---|---|
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

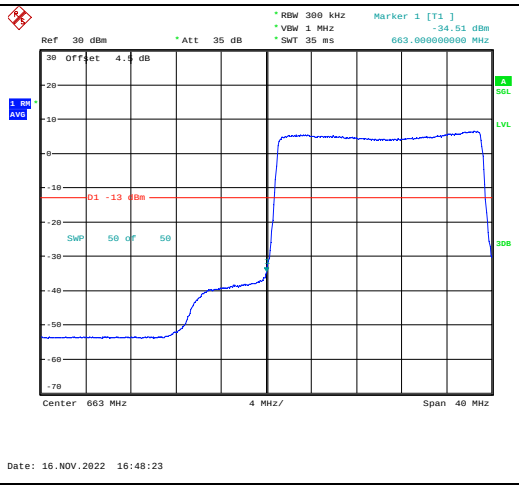
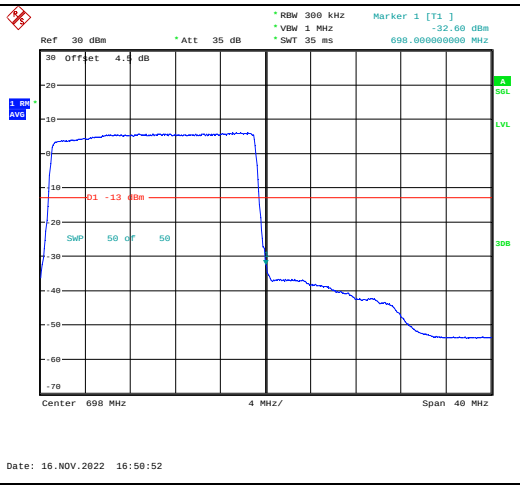
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **5MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

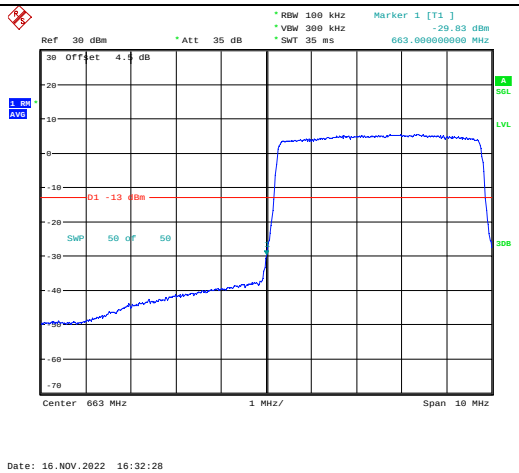
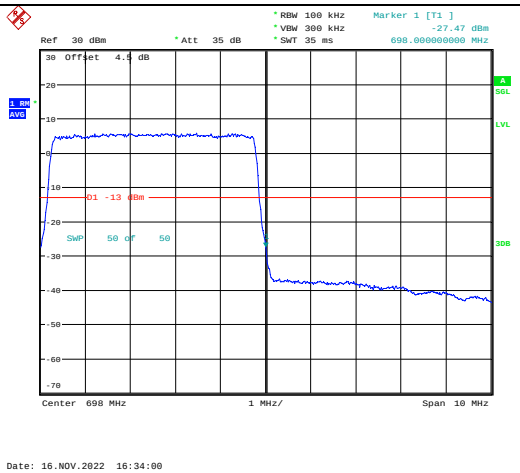
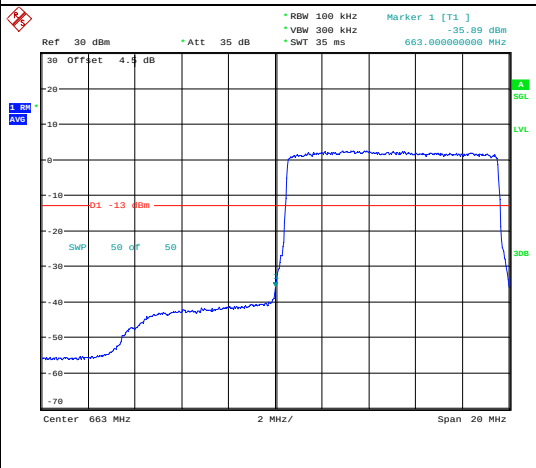
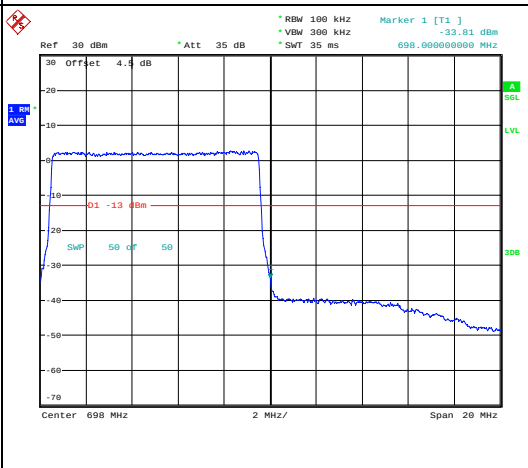
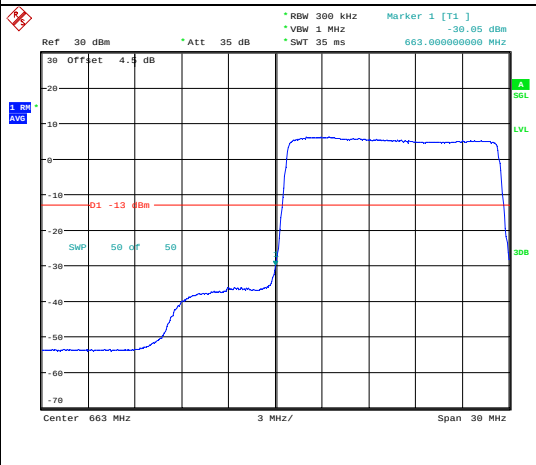
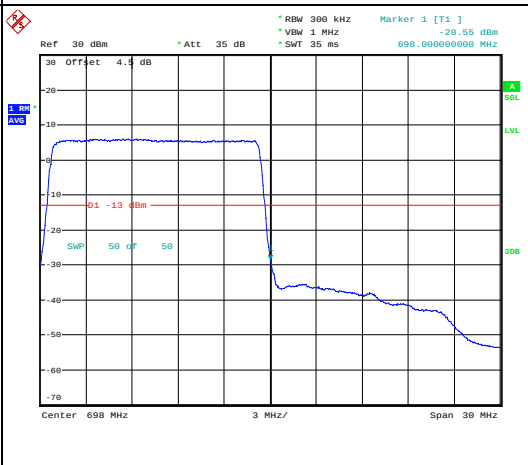
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **10MHz Bandwidth QPSK** | |
| Lowest |  <br>Date: 17.NOV.2022 09:53:45 |  <br>Date: 17.NOV.2022 09:53:56 |
| Middle |  <br>Date: 17.NOV.2022 09:56:27 |  <br>Date: 17.NOV.2022 09:56:38 |
| Highest |  <br>Date: 17.NOV.2022 09:58:12 |  <br>Date: 17.NOV.2022 09:58:24 |

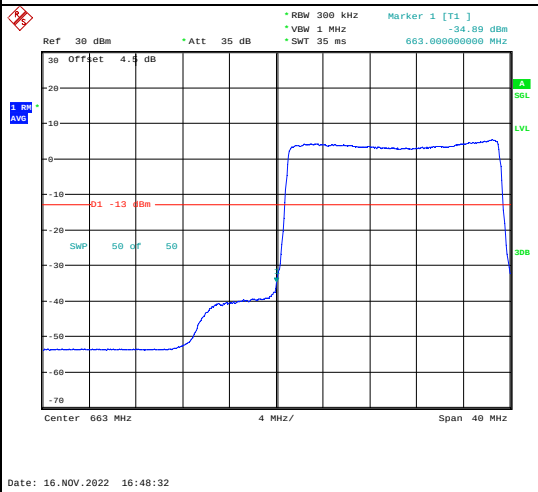
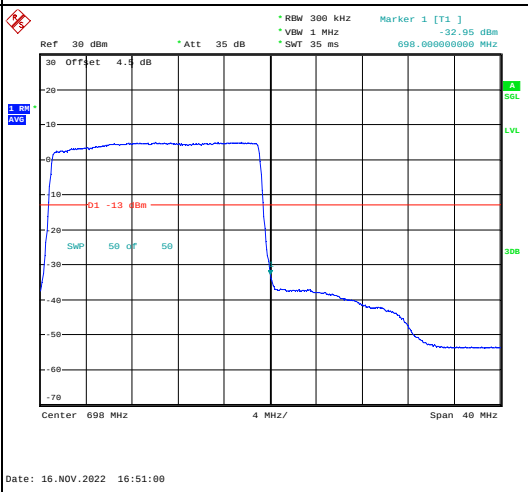
| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **15MHz Bandwidth QPSK** | |
| Lowest |  |  |
| Middle |  |  |
| Highest |  |  |

| Spurious Emissions at Antenna Terminal | | |
|---|---|---|
| **Channel** | **20MHz Bandwidth QPSK** | |
| Lowest |  <br>Date: 17.NOV.2022 10:02:45 |  <br>Date: 17.NOV.2022 10:02:57 |
| Middle |  <br>Date: 17.NOV.2022 10:22:15 |  <br>Date: 17.NOV.2022 10:17:05 |
| Highest |  <br>Date: 17.NOV.2022 10:25:45 |  <br>Date: 17.NOV.2022 10:27:16 |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 5MHz |  |  |
| QPSK 10MHz |  |  |
| QPSK 15MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| QPSK 20MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 5MHz |  |  |
| 16QAM 10MHz |  |  |
| 16QAM 15MHz |  |  |

| Out of band emission, Band Edge | | |
|---|---|---|
| **Mode** | **Lowest** | **Highest** |
| 16QAM 20MHz |  |  |

## 4.14 Radiated Spurious Emissions

| | | | |
|---|---|---|---|
| Serial Number: | 1O3D-1 | Test Date: | 2022/11/6~2022/11/9 |
| Test Site: | 996-1, 966-2 | Test Mode: | Transmitting |
| Tester: | Carl Xue,coco | Test Result: | Pass |

| **Environmental Conditions:** | | | | | |
|---|---|---|---|---|---|
| Temperature: (℃) | 24~25.6 | Relative Humidity: (%) | 52~62 | ATM Pressure: (kPa) | 100.9~101.4 |

**Test Equipment List and Details:**

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Sunol Sciences | Antenna | JB6 | A082520-5 | 2020/10/19 | 2023/10/18 |
| R&S | EMI Test Receiver | ESR3 | 102724 | 2022/07/15 | 2023/07/14 |
| TIMES MICROWAVE | Coaxial Cable | LMR-600-UltraFlex | C-0470-02 | 2022/07/17 | 2023/07/16 |
| TIMES MICROWAVE | Coaxial Cable | LMR-600-UltraFlex | C-0780-01 | 2022/07/17 | 2023/07/16 |
| EMCO | Adjustable Dipole Antenna | 3121C | 9109-756 | N/A | N/A |
| MICRO-COAX | Coaxial Cable | UFA210B-0-0720-300300 | 99G1448 | 2022/07/17 | 2023/07/16 |
| ETS-Lindgren | Horn Antenna | 3115 | 9912-5985 | 2020/10/13 | 2023/10/12 |
| R&S | Spectrum Analyzer | FSV40 | 101591 | 2022/07/15 | 2023/07/14 |
| MICRO-COAX | Coaxial Cable | UFA210A-1-1200-70U300 | 217423-008 | 2022/08/07 | 2023/08/06 |
| MICRO-COAX | Coaxial Cable | UFA210A-1-2362-300300 | 235780-001 | 2022/08/07 | 2023/08/06 |
| Mini | Pre-amplifier | ZVA-183-S+ | 5969001149 | 2021/11/10 | 2022/11/09 |
| AH | Double Ridge Guide Horn Antenna | SAS-571 | 1396 | 2021/10/18 | 2024/10/17 |
| MICRO-COAX | Coaxial Cable | UFA210B-0-0720-300300 | 99G1448 | 2022/07/17 | 2023/07/16 |
| Agilent | Signal Generator | E8247C | MY43321352 | 2022/04/01 | 2023/03/31 |
| PASTERNACK | Horn Antenna | PE9852/2F-20 | 112002 | 2021/02/05 | 2024/02/04 |
| PASTERNACK | Horn Antenna | PE9852/2F-20 | 112001 | 2021/02/05 | 2024/02/04 |
| AH | Preamplifier | PAM-1840VH | 190 | 2021/11/19 | 2022/11/18 |
| PASTERNACK | Horn Antenna | PE9850/2F-20 | 072001 | 2021/02/05 | 2024/02/04 |
| PASTERNACK | Horn Antenna | PE9850/2F-20 | 072002 | 2021/02/05 | 2024/02/04 |
| MICRO-COAX | Coaxial Cable | UFB142A-1-2362-200200 | 235772-001 | 2022/08/07 | 2023/08/06 |

**** 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 Data(Adapter 1# was the worst):**

Please refer to the below table and plots.

Note: The device can be mounted in multiple orientations, test was performed with X,Y, Z Axis according to C63.26 figure 5, the worst orientation was photographed and it`s data was recorded.

**Cellular Band (PART 22H)**

**30 MHz-10 GHz:**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| GSM 850 Frequency:824.2MHz | | | | | | | | |
| 701.87 | H | 20.91 | -52.37 | 0.00 | 0.55 | -52.92 | -13.00 | 39.92 |
| 714.27 | V | 21.03 | -48.58 | 0.00 | 0.50 | -49.08 | -13.00 | 36.08 |
| 1648.400 | H | 39.32 | -65.01 | 8.68 | 0.80 | -57.13 | -13.00 | 44.13 |
| 1648.400 | V | 42.85 | -61.56 | 8.68 | 0.80 | -53.68 | -13.00 | 40.68 |
| 2472.600 | H | 38.23 | -62.55 | 9.38 | 1.00 | -54.17 | -13.00 | 41.17 |
| 2472.600 | V | 46.60 | -54.13 | 9.38 | 1.00 | -45.75 | -13.00 | 32.75 |
| 3296.800 | H | 39.02 | -57.66 | 10.32 | 1.15 | -48.49 | -13.00 | 35.49 |
| 3296.800 | V | 37.57 | -58.87 | 10.32 | 1.15 | -49.70 | -13.00 | 36.70 |
| GSM 850 Frequency:836.6MHz | | | | | | | | |
| 724.36 | H | 21.81 | -51.02 | 0.00 | 0.51 | -51.53 | -13.00 | 38.53 |
| 661.30 | V | 20.79 | -49.83 | 0.00 | 0.51 | -50.34 | -13.00 | 37.34 |
| 1673.200 | H | 39.07 | -65.24 | 8.71 | 0.85 | -57.38 | -13.00 | 44.38 |
| 1673.200 | V | 45.16 | -59.25 | 8.71 | 0.85 | -51.39 | -13.00 | 38.39 |
| 2509.800 | H | 38.69 | -61.92 | 9.42 | 1.01 | -53.51 | -13.00 | 40.51 |
| 2509.800 | V | 23.68 | -76.94 | 9.42 | 1.01 | -68.53 | -13.00 | 55.53 |
| 3346.400 | H | 38.24 | -58.93 | 10.34 | 1.16 | -49.75 | -13.00 | 36.75 |
| 3346.400 | V | 38.90 | -58.13 | 10.34 | 1.16 | -48.95 | -13.00 | 35.95 |
| GSM 850 Frequency:848.8MHz | | | | | | | | |
| 467.51 | H | 21.07 | -55.42 | 0.00 | 0.43 | -55.85 | -13.00 | 42.85 |
| 574.85 | V | 20.80 | -50.89 | 0.00 | 0.46 | -51.35 | -13.00 | 38.35 |
| 1697.600 | H | 42.64 | -61.65 | 8.74 | 0.90 | -53.81 | -13.00 | 40.81 |
| 1697.600 | V | 50.72 | -53.70 | 8.74 | 0.90 | -45.86 | -13.00 | 32.86 |
| 2546.400 | H | 38.99 | -61.34 | 9.47 | 1.01 | -52.88 | -13.00 | 39.88 |
| 2546.400 | V | 46.42 | -53.86 | 9.47 | 1.01 | -45.40 | -13.00 | 32.40 |
| 3395.200 | H | 39.86 | -57.83 | 10.36 | 1.19 | -48.66 | -13.00 | 35.66 |
| 3395.200 | V | 40.31 | -57.35 | 10.36 | 1.19 | -48.18 | -13.00 | 35.18 |

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| WCDMA Band 5 Frequency:826.4 MHz | | | | | | | | |
| 160.33 | H | 21.17 | -59.09 | 0.00 | 0.23 | -59.32 | -13.00 | 46.32 |
| 655.51 | V | 21.25 | -49.48 | 0.00 | 0.52 | -50.00 | -13.00 | 37.00 |
| 1652.800 | H | 37.84 | -66.49 | 8.68 | 0.81 | -58.62 | -13.00 | 45.62 |
| 1652.800 | V | 40.68 | -63.73 | 8.68 | 0.81 | -55.86 | -13.00 | 42.86 |
| 2479.200 | H | 35.07 | -65.69 | 9.39 | 1.01 | -57.31 | -13.00 | 44.31 |
| 2479.200 | V | 34.81 | -65.92 | 9.39 | 1.01 | -57.54 | -13.00 | 44.54 |
| 3305.600 | H | 40.47 | -56.26 | 10.32 | 1.15 | -47.09 | -13.00 | 34.09 |
| 3305.600 | V | 40.01 | -56.49 | 10.32 | 1.15 | -47.32 | -13.00 | 34.32 |
| WCDMA Band 5 Frequency:836.6MHz | | | | | | | | |
| 726.25 | H | 21.10 | -51.69 | 0.00 | 0.52 | -52.21 | -13.00 | 39.21 |
| 911.33 | V | 21.53 | -44.38 | 0.00 | 0.55 | -44.93 | -13.00 | 31.93 |
| 1673.200 | H | 36.81 | -67.50 | 8.71 | 0.85 | -59.64 | -13.00 | 46.64 |
| 1673.200 | V | 38.29 | -66.12 | 8.71 | 0.85 | -58.26 | -13.00 | 45.26 |
| 2509.800 | H | 35.84 | -64.77 | 9.42 | 1.01 | -56.36 | -13.00 | 43.36 |
| 2509.800 | V | 36.44 | -64.18 | 9.42 | 1.01 | -55.77 | -13.00 | 42.77 |
| 3346.400 | H | 41.09 | -56.08 | 10.34 | 1.16 | -46.90 | -13.00 | 33.90 |
| 3346.400 | V | 40.85 | -56.18 | 10.34 | 1.16 | -47.00 | -13.00 | 34.00 |
| WCDMA Band 5 Frequency:846.6MHz | | | | | | | | |
| 721.40 | H | 21.02 | -51.87 | 0.00 | 0.50 | -52.37 | -13.00 | 39.37 |
| 564.42 | V | 20.70 | -50.98 | 0.00 | 0.46 | -51.44 | -13.00 | 38.44 |
| 1693.200 | H | 36.45 | -67.85 | 8.73 | 0.89 | -60.01 | -13.00 | 47.01 |
| 1693.200 | V | 36.89 | -67.53 | 8.73 | 0.89 | -59.69 | -13.00 | 46.69 |
| 2539.800 | H | 36.43 | -63.95 | 9.46 | 1.01 | -55.50 | -13.00 | 42.50 |
| 2539.800 | V | 35.87 | -64.47 | 9.46 | 1.01 | -56.02 | -13.00 | 43.02 |
| 3386.400 | H | 43.05 | -54.54 | 10.35 | 1.18 | -45.37 | -13.00 | 32.37 |
| 3386.400 | V | 42.14 | -55.40 | 10.35 | 1.18 | -46.23 | -13.00 | 33.23 |

**PCS Band (PART 24E)**

**30 MHz-20 GHz:**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| GSM 1900 Frequency:1850.2MHz | | | | | | | | |
| 549.01 | H | 21.34 | -53.52 | 0.00 | 0.47 | -53.99 | -13.00 | 40.99 |
| 719.31 | V | 20.78 | -48.72 | 0.00 | 0.49 | -49.21 | -13.00 | 36.21 |
| 3700.400 | H | 35.96 | -61.36 | 10.60 | 1.25 | -52.01 | -13.00 | 39.01 |
| 3700.400 | V | 35.54 | -61.76 | 10.60 | 1.25 | -52.41 | -13.00 | 39.41 |
| 5550.600 | H | 35.54 | -57.72 | 11.44 | 1.49 | -47.77 | -13.00 | 34.77 |
| 5550.600 | V | 34.25 | -58.85 | 11.44 | 1.49 | -48.90 | -13.00 | 35.90 |
| GSM 1900 Frequency:1880MHz | | | | | | | | |
| 721.72 | H | 21.37 | -51.51 | 0.00 | 0.50 | -52.01 | -13.00 | 39.01 |
| 547.42 | V | 20.80 | -50.85 | 0.00 | 0.47 | -51.32 | -13.00 | 38.32 |
| 3760.000 | H | 37.15 | -59.26 | 10.66 | 1.24 | -49.84 | -13.00 | 36.84 |
| 3760.000 | V | 36.80 | -59.49 | 10.66 | 1.24 | -50.07 | -13.00 | 37.07 |
| 5640.000 | H | 35.64 | -57.81 | 11.33 | 1.54 | -48.02 | -13.00 | 35.02 |
| 5640.000 | V | 34.27 | -59.06 | 11.33 | 1.54 | -49.27 | -13.00 | 36.27 |
| GSM 1900 Frequency:1909.8MHz | | | | | | | | |
| 719.37 | H | 21.64 | -51.29 | 0.00 | 0.49 | -51.78 | -13.00 | 38.78 |
| 729.35 | V | 21.25 | -48.03 | 0.00 | 0.53 | -48.56 | -13.00 | 35.56 |
| 3819.600 | H | 41.26 | -54.60 | 10.72 | 1.29 | -45.17 | -13.00 | 32.17 |
| 3819.600 | V | 40.15 | -55.57 | 10.72 | 1.29 | -46.14 | -13.00 | 33.14 |
| 5729.400 | H | 35.77 | -57.71 | 11.22 | 1.59 | -48.08 | -13.00 | 35.08 |
| 5729.400 | V | 34.13 | -59.23 | 11.22 | 1.59 | -49.60 | -13.00 | 36.60 |

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| WCDMA Band II, Frequency:1852.4 MHz | | | | | | | | |
| 703.96 | H | 21.75 | -51.49 | 0.00 | 0.55 | -52.04 | -13.00 | 39.04 |
| 705.90 | V | 20.96 | -48.83 | 0.00 | 0.54 | -49.37 | -13.00 | 36.37 |
| 3704.800 | H | 42.89 | -54.37 | 10.60 | 1.25 | -45.02 | -13.00 | 32.02 |
| 3704.800 | V | 42.15 | -55.08 | 10.60 | 1.25 | -45.73 | -13.00 | 32.73 |
| 5557.200 | H | 33.20 | -60.08 | 11.43 | 1.49 | -50.14 | -13.00 | 37.14 |
| 5557.200 | V | 33.58 | -59.55 | 11.43 | 1.49 | -49.61 | -13.00 | 36.61 |
| WCDMA Band II, Frequency:1880 MHz | | | | | | | | |
| 726.25 | H | 21.39 | -51.40 | 0.00 | 0.52 | -51.92 | -13.00 | 38.92 |
| 717.53 | V | 20.82 | -48.72 | 0.00 | 0.49 | -49.21 | -13.00 | 36.21 |
| 3760.000 | H | 43.37 | -53.04 | 10.66 | 1.24 | -43.62 | -13.00 | 30.62 |
| 3760.000 | V | 42.16 | -54.13 | 10.66 | 1.24 | -44.71 | -13.00 | 31.71 |
| 5640.000 | H | 33.89 | -59.56 | 11.33 | 1.54 | -49.77 | -13.00 | 36.77 |
| 5640.000 | V | 34.27 | -59.06 | 11.33 | 1.54 | -49.27 | -13.00 | 36.27 |
| WCDMA Band II, Frequency:1907.6MHz | | | | | | | | |
| 562.48 | H | 21.02 | -53.58 | 0.00 | 0.47 | -54.05 | -13.00 | 41.05 |
| 730.12 | V | 21.04 | -48.22 | 0.00 | 0.53 | -48.75 | -13.00 | 35.75 |
| 3815.200 | H | 44.27 | -51.58 | 10.72 | 1.29 | -42.15 | -13.00 | 29.15 |
| 3815.200 | V | 42.17 | -53.52 | 10.72 | 1.29 | -44.09 | -13.00 | 31.09 |
| 5722.800 | H | 34.76 | -58.73 | 11.23 | 1.58 | -49.08 | -13.00 | 36.08 |
| 5722.800 | V | 34.43 | -58.92 | 11.23 | 1.58 | -49.27 | -13.00 | 36.27 |

**AWS Band(Part 27)**

**30 MHz-20 GHz:**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| WCDMA Band Ⅳ, Frequency:1712.4 MHz | | | | | | | | |
| 582.83 | H | 21.07 | -53.13 | 0.00 | 0.46 | -53.59 | -13.00 | 40.59 |
| 726.25 | V | 21.53 | -47.82 | 0.00 | 0.52 | -48.34 | -13.00 | 35.34 |
| 3424.800 | H | 37.18 | -60.59 | 10.37 | 1.17 | -51.39 | -13.00 | 38.39 |
| 3424.800 | V | 36.12 | -61.62 | 10.37 | 1.17 | -52.42 | -13.00 | 39.42 |
| 5137.200 | H | 34.21 | -59.41 | 11.28 | 1.46 | -49.59 | -13.00 | 36.59 |
| 5137.200 | V | 34.37 | -59.13 | 11.28 | 1.46 | -49.31 | -13.00 | 36.31 |
| WCDMA Band Ⅳ, Frequency:1732.6 MHz | | | | | | | | |
| 714.62 | H | 20.95 | -52.07 | 0.00 | 0.50 | -52.57 | -13.00 | 39.57 |
| 725.28 | V | 21.25 | -48.12 | 0.00 | 0.51 | -48.63 | -13.00 | 35.63 |
| 3465.200 | H | 37.64 | -60.17 | 10.39 | 1.15 | -50.93 | -13.00 | 37.93 |
| 3465.200 | V | 35.89 | -61.88 | 10.39 | 1.15 | -52.64 | -13.00 | 39.64 |
| 5197.800 | H | 34.72 | -59.41 | 11.32 | 1.44 | -49.53 | -13.00 | 36.53 |
| 5197.800 | V | 34.26 | -59.72 | 11.32 | 1.44 | -49.84 | -13.00 | 36.84 |
| WCDMA Band Ⅳ, Frequency:1752.6MHz | | | | | | | | |
| 724.31 | H | 20.81 | -52.02 | 0.00 | 0.51 | -52.53 | -13.00 | 39.53 |
| 721.40 | V | 20.92 | -48.53 | 0.00 | 0.50 | -49.03 | -13.00 | 36.03 |
| 3505.200 | H | 40.19 | -57.64 | 10.41 | 1.18 | -48.41 | -13.00 | 35.41 |
| 3505.200 | V | 38.42 | -59.35 | 10.41 | 1.18 | -50.12 | -13.00 | 37.12 |
| 5257.800 | H | 35.07 | -58.66 | 11.35 | 1.47 | -48.78 | -13.00 | 35.78 |
| 5257.800 | V | 34.64 | -58.87 | 11.35 | 1.47 | -48.99 | -13.00 | 35.99 |

**LTE Bands:**
(The Worst modulation and bandwidth was below)

**LTE Band 2 (30MHz-20GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK,Frequency:1850.7 MHz | | | | | | | | |
| 160.34 | H | 22.36 | -57.90 | 0.00 | 0.23 | -58.13 | -13.00 | 45.13 |
| 875.24 | V | 20.90 | -45.63 | 0.00 | 0.60 | -46.23 | -13.00 | 33.23 |
| 3701.400 | H | 49.99 | -47.32 | 10.60 | 1.25 | -37.97 | -13.00 | 24.97 |
| 3701.400 | V | 49.06 | -48.23 | 10.60 | 1.25 | -38.88 | -13.00 | 25.88 |
| 5552.100 | H | 33.81 | -59.46 | 11.44 | 1.49 | -49.51 | -13.00 | 36.51 |
| 5552.100 | V | 34.02 | -59.08 | 11.44 | 1.49 | -49.13 | -13.00 | 36.13 |
| QPSK,Frequency:1880 MHz | | | | | | | | |
| 721.72 | H | 21.81 | -51.07 | 0.00 | 0.50 | -51.57 | -13.00 | 38.57 |
| 731.92 | V | 21.48 | -47.74 | 0.00 | 0.53 | -48.27 | -13.00 | 35.27 |
| 3760.000 | H | 47.27 | -49.14 | 10.66 | 1.24 | -39.72 | -13.00 | 26.72 |
| 3760.000 | V | 48.72 | -47.57 | 10.66 | 1.24 | -38.15 | -13.00 | 25.15 |
| 5640.000 | H | 34.75 | -58.70 | 11.33 | 1.54 | -48.91 | -13.00 | 35.91 |
| 5640.000 | V | 34.26 | -59.07 | 11.33 | 1.54 | -49.28 | -13.00 | 36.28 |
| QPSK,Frequency:1909.3 MHz | | | | | | | | |
| 162.30 | H | 21.73 | -58.61 | 0.00 | 0.24 | -58.85 | -13.00 | 45.85 |
| 729.58 | V | 21.66 | -47.62 | 0.00 | 0.53 | -48.15 | -13.00 | 35.15 |
| 3818.600 | H | 50.59 | -45.27 | 10.72 | 1.29 | -35.84 | -13.00 | 22.84 |
| 3818.600 | V | 48.43 | -47.28 | 10.72 | 1.29 | -37.85 | -13.00 | 24.85 |
| 5727.900 | H | 35.57 | -57.91 | 11.23 | 1.59 | -48.27 | -13.00 | 35.27 |
| 5727.900 | V | 35.33 | -58.03 | 11.23 | 1.59 | -48.39 | -13.00 | 35.39 |

**LTE Band 4 (30MHz-20GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK,Frequency:1710.7 MHz | | | | | | | | |
| 160.04 | H | 22.70 | -57.55 | 0.00 | 0.23 | -57.78 | -13.00 | 44.78 |
| 729.45 | V | 21.18 | -48.10 | 0.00 | 0.53 | -48.63 | -13.00 | 35.63 |
| 3421.400 | H | 39.26 | -58.50 | 10.37 | 1.17 | -49.30 | -13.00 | 36.30 |
| 3421.400 | V | 37.96 | -59.77 | 10.37 | 1.17 | -50.57 | -13.00 | 37.57 |
| 5132.100 | H | 33.94 | -59.63 | 11.28 | 1.47 | -49.82 | -13.00 | 36.82 |
| 5132.100 | V | 33.57 | -59.89 | 11.28 | 1.47 | -50.08 | -13.00 | 37.08 |
| QPSK,Frequency:1732.5 MHz | | | | | | | | |
| 159.48 | H | 21.52 | -58.74 | 0.00 | 0.23 | -58.97 | -13.00 | 45.97 |
| 719.28 | V | 21.15 | -48.35 | 0.00 | 0.49 | -48.84 | -13.00 | 35.84 |
| 3465.000 | H | 39.64 | -58.17 | 10.39 | 1.15 | -48.93 | -13.00 | 35.93 |
| 3465.000 | V | 38.41 | -59.36 | 10.39 | 1.15 | -50.12 | -13.00 | 37.12 |
| 5197.500 | H | 34.37 | -59.76 | 11.32 | 1.44 | -49.88 | -13.00 | 36.88 |
| 5197.500 | V | 34.68 | -59.30 | 11.32 | 1.44 | -49.42 | -13.00 | 36.42 |
| QPSK,Frequency:1754.3MHz | | | | | | | | |
| 161.73 | H | 21.52 | -58.80 | 0.00 | 0.24 | -59.04 | -13.00 | 46.04 |
| 510.28 | V | 21.28 | -50.32 | 0.00 | 0.45 | -50.77 | -13.00 | 37.77 |
| 3505.200 | H | 41.14 | -56.69 | 10.41 | 1.18 | -47.46 | -13.00 | 34.46 |
| 3505.200 | V | 39.64 | -58.13 | 10.41 | 1.18 | -48.90 | -13.00 | 35.90 |
| 5257.800 | H | 34.94 | -58.79 | 11.35 | 1.47 | -48.91 | -13.00 | 35.91 |
| 5257.800 | V | 35.09 | -58.42 | 11.35 | 1.47 | -48.54 | -13.00 | 35.54 |

**LTE Band 5(30MHz-10GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 824.7 MHz | | | | | | | | |
| 157.82 | H | 21.63 | -58.68 | 0.00 | 0.23 | -58.91 | -13.00 | 45.91 |
| 580.92 | V | 21.02 | -50.68 | 0.00 | 0.46 | -51.14 | -13.00 | 38.14 |
| 1649.400 | H | 38.81 | -65.52 | 8.68 | 0.80 | -57.64 | -13.00 | 44.64 |
| 1649.400 | V | 40.77 | -63.64 | 8.68 | 0.80 | -55.76 | -13.00 | 42.76 |
| 2474.100 | H | 37.66 | -63.12 | 9.38 | 1.00 | -54.74 | -13.00 | 41.74 |
| 2474.100 | V | 37.31 | -63.42 | 9.38 | 1.00 | -55.04 | -13.00 | 42.04 |
| 3298.800 | H | 43.53 | -53.15 | 10.32 | 1.15 | -43.98 | -13.00 | 30.98 |
| 3298.800 | V | 42.54 | -53.90 | 10.32 | 1.15 | -44.73 | -13.00 | 31.73 |
| QPSK, Frequency: 836.5 MHz | | | | | | | | |
| 161.17 | H | 22.75 | -57.55 | 0.00 | 0.24 | -57.79 | -13.00 | 44.79 |
| 551.17 | V | 21.13 | -50.53 | 0.00 | 0.47 | -51.00 | -13.00 | 38.00 |
| 1673.000 | H | 37.45 | -66.86 | 8.71 | 0.85 | -59.00 | -13.00 | 46.00 |
| 1673.000 | V | 39.17 | -65.24 | 8.71 | 0.85 | -57.38 | -13.00 | 44.38 |
| 2509.500 | H | 38.46 | -62.15 | 9.42 | 1.01 | -53.74 | -13.00 | 40.74 |
| 2509.500 | V | 38.71 | -61.91 | 9.42 | 1.01 | -53.50 | -13.00 | 40.50 |
| 3346.000 | H | 46.47 | -50.69 | 10.34 | 1.16 | -41.51 | -13.00 | 28.51 |
| 3346.000 | V | 43.23 | -53.79 | 10.34 | 1.16 | -44.61 | -13.00 | 31.61 |
| QPSK, Frequency: 848.3 MHz | | | | | | | | |
| 161.74 | H | 22.09 | -58.23 | 0.00 | 0.24 | -58.47 | -13.00 | 45.47 |
| 638.55 | V | 21.13 | -49.90 | 0.00 | 0.52 | -50.42 | -13.00 | 37.42 |
| 1696.600 | H | 37.40 | -66.89 | 8.74 | 0.89 | -59.04 | -13.00 | 46.04 |
| 1696.600 | V | 39.80 | -64.62 | 8.74 | 0.89 | -56.77 | -13.00 | 43.77 |
| 2544.900 | H | 39.52 | -60.82 | 9.47 | 1.01 | -52.36 | -13.00 | 39.36 |
| 2544.900 | V | 39.33 | -60.97 | 9.47 | 1.01 | -52.51 | -13.00 | 39.51 |
| 3393.200 | H | 50.59 | -47.08 | 10.36 | 1.19 | -37.91 | -13.00 | 24.91 |
| 3393.200 | V | 48.52 | -49.11 | 10.36 | 1.19 | -39.94 | -13.00 | 26.94 |

**LTE Band 12 (30MHz-10GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 699.7 MHz | | | | | | | | |
| 160.02 | H | 21.71 | -58.54 | 0.00 | 0.23 | -58.77 | -13.00 | 45.77 |
| 438.86 | V | 20.59 | -53.42 | 0.00 | 0.42 | -53.84 | -13.00 | 40.84 |
| 1399.400 | H | 40.03 | -63.67 | 8.22 | 0.71 | -56.16 | -13.00 | 43.16 |
| 1399.400 | V | 39.10 | -64.65 | 8.22 | 0.71 | -57.14 | -13.00 | 44.14 |
| 2099.100 | H | 37.51 | -64.37 | 9.16 | 0.91 | -56.12 | -13.00 | 43.12 |
| 2099.100 | V | 38.93 | -62.90 | 9.16 | 0.91 | -54.65 | -13.00 | 41.65 |
| 2798.800 | H | 35.69 | -64.24 | 9.88 | 1.04 | -55.40 | -13.00 | 42.40 |
| 2798.800 | V | 36.16 | -63.64 | 9.88 | 1.04 | -54.80 | -13.00 | 41.80 |
| QPSK, Frequency:707.5 MHz | | | | | | | | |
| 159.46 | H | 21.87 | -58.39 | 0.00 | 0.23 | -58.62 | -13.00 | 45.62 |
| 497.84 | V | 20.34 | -51.33 | 0.00 | 0.45 | -51.78 | -13.00 | 38.78 |
| 1415.000 | H | 39.16 | -64.51 | 8.26 | 0.72 | -56.97 | -13.00 | 43.97 |
| 1415.000 | V | 38.75 | -64.97 | 8.26 | 0.72 | -57.43 | -13.00 | 44.43 |
| 2122.500 | H | 37.36 | -64.63 | 9.17 | 0.92 | -56.38 | -13.00 | 43.38 |
| 2122.500 | V | 38.12 | -63.85 | 9.17 | 0.92 | -55.60 | -13.00 | 42.60 |
| 2830.000 | H | 35.92 | -63.88 | 9.93 | 1.06 | -55.01 | -13.00 | 42.01 |
| 2830.000 | V | 36.44 | -63.29 | 9.93 | 1.06 | -54.42 | -13.00 | 41.42 |
| QPSK, Frequency: 715.3 MHz | | | | | | | | |
| 160.12 | H | 22.48 | -57.77 | 0.00 | 0.23 | -58.00 | -13.00 | 45.00 |
| 214.77 | V | 20.79 | -57.79 | 0.00 | 0.27 | -58.06 | -13.00 | 45.06 |
| 1430.600 | H | 37.79 | -65.84 | 8.31 | 0.73 | -58.26 | -13.00 | 45.26 |
| 1430.600 | V | 38.44 | -65.25 | 8.31 | 0.73 | -57.67 | -13.00 | 44.67 |
| 2145.900 | H | 37.20 | -64.90 | 9.19 | 0.93 | -56.64 | -13.00 | 43.64 |
| 2145.900 | V | 37.57 | -64.54 | 9.19 | 0.93 | -56.28 | -13.00 | 43.28 |
| 2861.200 | H | 36.16 | -63.49 | 9.98 | 1.07 | -54.58 | -13.00 | 41.58 |
| 2861.200 | V | 36.64 | -63.03 | 9.98 | 1.07 | -54.12 | -13.00 | 41.12 |

**LTE Band 17 (30MHz-10GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 706.5 MHz | | | | | | | | |
| 159.46 | H | 22.49 | -57.77 | 0.00 | 0.23 | -58.00 | -13.00 | 45.00 |
| 656.57 | V | 21.94 | -48.77 | 0.00 | 0.52 | -49.29 | -13.00 | 36.29 |
| 1413.000 | H | 37.94 | -65.73 | 8.26 | 0.72 | -58.19 | -13.00 | 45.19 |
| 1413.000 | V | 38.23 | -65.49 | 8.26 | 0.72 | -57.95 | -13.00 | 44.95 |
| 2119.500 | H | 37.09 | -64.88 | 9.17 | 0.92 | -56.63 | -13.00 | 43.63 |
| 2119.500 | V | 37.20 | -64.75 | 9.17 | 0.92 | -56.50 | -13.00 | 43.50 |
| 2826.000 | H | 35.64 | -64.17 | 9.92 | 1.06 | -55.31 | -13.00 | 42.31 |
| 2826.000 | V | 35.64 | -64.10 | 9.92 | 1.06 | -55.24 | -13.00 | 42.24 |
| QPSK, Frequency:710 MHz | | | | | | | | |
| 160.58 | H | 22.54 | -57.73 | 0.00 | 0.24 | -57.97 | -13.00 | 44.97 |
| 584.90 | V | 20.93 | -50.78 | 0.00 | 0.46 | -51.24 | -13.00 | 38.24 |
| 1420.000 | H | 38.21 | -65.45 | 8.28 | 0.73 | -57.90 | -13.00 | 44.90 |
| 1420.000 | V | 38.46 | -65.25 | 8.28 | 0.73 | -57.70 | -13.00 | 44.70 |
| 2130.000 | H | 37.58 | -64.44 | 9.18 | 0.92 | -56.18 | -13.00 | 43.18 |
| 2130.000 | V | 38.15 | -63.86 | 9.18 | 0.92 | -55.60 | -13.00 | 42.60 |
| 2840.000 | H | 35.34 | -64.41 | 9.94 | 1.06 | -55.53 | -13.00 | 42.53 |
| 2840.000 | V | 35.51 | -64.20 | 9.94 | 1.06 | -55.32 | -13.00 | 42.32 |
| QPSK, Frequency: 713.5 MHz | | | | | | | | |
| 158.90 | H | 22.78 | -57.50 | 0.00 | 0.23 | -57.73 | -13.00 | 44.73 |
| 469.06 | V | 21.18 | -51.63 | 0.00 | 0.43 | -52.06 | -13.00 | 39.06 |
| 1427.000 | H | 39.24 | -64.40 | 8.30 | 0.73 | -56.83 | -13.00 | 43.83 |
| 1427.000 | V | 38.79 | -64.90 | 8.30 | 0.73 | -57.33 | -13.00 | 44.33 |
| 2140.500 | H | 38.65 | -63.42 | 9.18 | 0.93 | -55.17 | -13.00 | 42.17 |
| 2140.500 | V | 38.98 | -63.10 | 9.18 | 0.93 | -54.85 | -13.00 | 41.85 |
| 2854.000 | H | 35.10 | -64.59 | 9.97 | 1.07 | -55.69 | -13.00 | 42.69 |
| 2854.000 | V | 35.49 | -64.19 | 9.97 | 1.07 | -55.29 | -13.00 | 42.29 |

**LTE Band 41 (30MHz-26.5GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 2537.5 MHz | | | | | | | | |
| 160.63 | H | 22.45 | -57.83 | 0.00 | 0.24 | -58.07 | -25.00 | 33.07 |
| 566.94 | V | 21.31 | -50.37 | 0.00 | 0.46 | -50.83 | -25.00 | 25.83 |
| 5075.000 | H | 34.10 | -59.11 | 11.25 | 1.48 | -49.34 | -25.00 | 24.34 |
| 5075.000 | V | 33.65 | -59.46 | 11.25 | 1.48 | -49.69 | -25.00 | 24.69 |
| 7612.500 | H | 34.27 | -55.21 | 10.88 | 2.02 | -46.35 | -25.00 | 21.35 |
| 7612.500 | V | 34.37 | -55.82 | 10.88 | 2.02 | -46.96 | -25.00 | 21.96 |
| QPSK, Frequency:2595 MHz | | | | | | | | |
| 161.17 | H | 21.95 | -58.35 | 0.00 | 0.24 | -58.59 | -25.00 | 33.59 |
| 714.28 | V | 20.95 | -48.66 | 0.00 | 0.50 | -49.16 | -25.00 | 24.16 |
| 5190.000 | H | 35.64 | -58.43 | 11.31 | 1.44 | -48.56 | -25.00 | 23.56 |
| 5190.000 | V | 35.16 | -58.76 | 11.31 | 1.44 | -48.89 | -25.00 | 23.89 |
| 7785.000 | H | 34.84 | -54.65 | 10.84 | 1.99 | -45.80 | -25.00 | 20.80 |
| 7785.000 | V | 34.53 | -55.39 | 10.84 | 1.99 | -46.54 | -25.00 | 21.54 |
| QPSK, Frequency: 2652.5 MHz | | | | | | | | |
| 162.30 | H | 22.02 | -58.32 | 0.00 | 0.24 | -58.56 | -25.00 | 33.56 |
| 727.03 | V | 21.56 | -47.77 | 0.00 | 0.52 | -48.29 | -25.00 | 23.29 |
| 5305.000 | H | 41.28 | -52.16 | 11.38 | 1.46 | -42.24 | -25.00 | 17.24 |
| 5305.000 | V | 36.54 | -56.64 | 11.38 | 1.46 | -46.72 | -25.00 | 21.72 |
| 7957.500 | H | 41.98 | -46.44 | 10.81 | 2.09 | -37.72 | -25.00 | 12.72 |
| 7957.500 | V | 41.12 | -47.75 | 10.81 | 2.09 | -39.03 | -25.00 | 14.03 |

**LTE Band 66(30MHz-20GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 1710.7 MHz | | | | | | | | |
| 160.07 | H | 22.29 | -57.96 | 0.00 | 0.23 | -58.19 | -13.00 | 45.19 |
| 726.90 | V | 21.02 | -48.31 | 0.00 | 0.52 | -48.83 | -13.00 | 35.83 |
| 3421.400 | H | 35.46 | -62.30 | 10.37 | 1.17 | -53.10 | -13.00 | 40.10 |
| 3421.400 | V | 36.12 | -61.61 | 10.37 | 1.17 | -52.41 | -13.00 | 39.41 |
| 5132.100 | H | 34.01 | -59.56 | 11.28 | 1.47 | -49.75 | -13.00 | 36.75 |
| 5132.100 | V | 33.97 | -59.49 | 11.28 | 1.47 | -49.68 | -13.00 | 36.68 |
| QPSK, Frequency:1745 MHz | | | | | | | | |
| 162.82 | H | 21.44 | -58.93 | 0.00 | 0.24 | -59.17 | -13.00 | 46.17 |
| 729.24 | V | 21.15 | -48.13 | 0.00 | 0.53 | -48.66 | -13.00 | 35.66 |
| 3490.000 | H | 35.46 | -62.38 | 10.40 | 1.17 | -53.15 | -13.00 | 40.15 |
| 3490.000 | V | 34.28 | -63.50 | 10.40 | 1.17 | -54.27 | -13.00 | 41.27 |
| 5235.000 | H | 33.92 | -59.98 | 11.34 | 1.46 | -50.10 | -13.00 | 37.10 |
| 5235.000 | V | 33.74 | -59.97 | 11.34 | 1.46 | -50.09 | -13.00 | 37.09 |
| QPSK, Frequency: 1779.3 MHz | | | | | | | | |
| 160.34 | H | 22.09 | -58.17 | 0.00 | 0.23 | -58.40 | -13.00 | 45.40 |
| 709.18 | V | 21.50 | -48.22 | 0.00 | 0.52 | -48.74 | -13.00 | 35.74 |
| 3558.600 | H | 37.70 | -59.97 | 10.46 | 1.22 | -50.73 | -13.00 | 37.73 |
| 3558.600 | V | 39.70 | -57.87 | 10.46 | 1.22 | -48.63 | -13.00 | 35.63 |
| 5337.900 | H | 33.85 | -59.62 | 11.40 | 1.47 | -49.69 | -13.00 | 36.69 |
| 5337.900 | V | 33.59 | -59.74 | 11.40 | 1.47 | -49.81 | -13.00 | 36.81 |

**LTE Band 71 (30MHz-10GHz):**

| Frequency (MHz) | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| | | | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) | | | |
| QPSK, Frequency: 665.5 MHz | | | | | | | | |
| 160.33 | H | 21.35 | -58.91 | 0.00 | 0.23 | -59.14 | -13.00 | 46.14 |
| 572.17 | V | 20.58 | -51.11 | 0.00 | 0.46 | -51.57 | -13.00 | 38.57 |
| 1331.000 | H | 36.42 | -66.61 | 8.03 | 0.76 | -59.34 | -13.00 | 46.34 |
| 1331.000 | V | 35.80 | -67.56 | 8.03 | 0.76 | -60.29 | -13.00 | 47.29 |
| 1996.500 | H | 35.80 | -66.36 | 9.10 | 0.89 | -58.15 | -13.00 | 45.15 |
| 1996.500 | V | 35.12 | -66.42 | 9.10 | 0.89 | -58.21 | -13.00 | 45.21 |
| 2662.000 | H | 36.10 | -63.86 | 9.66 | 1.06 | -55.26 | -13.00 | 42.26 |
| 2662.000 | V | 35.42 | -64.46 | 9.66 | 1.06 | -55.86 | -13.00 | 42.86 |
| QPSK, Frequency:680.5 MHz | | | | | | | | |
| 160.71 | H | 21.63 | -58.65 | 0.00 | 0.24 | -58.89 | -13.00 | 45.89 |
| 583.80 | V | 20.82 | -50.89 | 0.00 | 0.46 | -51.35 | -13.00 | 38.35 |
| 1361.000 | H | 36.04 | -67.29 | 8.11 | 0.77 | -59.95 | -13.00 | 46.95 |
| 1361.000 | V | 35.43 | -68.10 | 8.11 | 0.77 | -60.76 | -13.00 | 47.76 |
| 2041.500 | H | 35.47 | -66.56 | 9.12 | 0.91 | -58.35 | -13.00 | 45.35 |
| 2041.500 | V | 34.74 | -66.90 | 9.12 | 0.91 | -58.69 | -13.00 | 45.69 |
| 2722.000 | H | 35.71 | -64.26 | 9.76 | 1.05 | -55.55 | -13.00 | 42.55 |
| 2722.000 | V | 35.09 | -64.82 | 9.76 | 1.05 | -56.11 | -13.00 | 43.11 |
| QPSK, Frequency: 695.5 MHz | | | | | | | | |
| 161.12 | H | 21.55 | -58.75 | 0.00 | 0.24 | -58.99 | -13.00 | 45.99 |
| 504.34 | V | 20.86 | -50.73 | 0.00 | 0.45 | -51.18 | -13.00 | 38.18 |
| 1391.000 | H | 35.90 | -67.72 | 8.19 | 0.72 | -60.25 | -13.00 | 47.25 |
| 1391.000 | V | 35.45 | -68.25 | 8.19 | 0.72 | -60.78 | -13.00 | 47.78 |
| 2086.500 | H | 35.34 | -66.57 | 9.15 | 0.91 | -58.33 | -13.00 | 45.33 |
| 2086.500 | V | 34.66 | -67.13 | 9.15 | 0.91 | -58.89 | -13.00 | 45.89 |
| 2782.000 | H | 35.43 | -64.51 | 9.85 | 1.05 | -55.71 | -13.00 | 42.71 |
| 2782.000 | V | 34.46 | -65.37 | 9.85 | 1.05 | -56.57 | -13.00 | 43.57 |

Note:
1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
3) Margin = Limit-Absolute Level

**==== END OF REPORT =====**