# FCC RF Test Report

| | | |
|---|---|---|
| APPLICANT | : | Fibocom Wireless Inc. |
| EQUIPMENT | : | 5G Module |
| BRAND NAME | : | Fibocom |
| MODEL NAME | : | FM150-NA |
| FCC ID | : | ZMOFM150NA |
| STANDARD | : | 47 CFR Part 2, 27(O) |
| CLASSIFICATION | : | PCS Licensed Transmitter (PCB) |

**The product was received on Feb. 04, 2021 and completely tested on Feb. 27, 2021. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.**

Jason Jia

**Reviewed by: Jason Jia / Supervisor**

James Huang

**Approved by: James Huang / Manager**

ACCREDITED
Cert #5145.02

***Sporton International (Kunshan) Inc.***
***No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China***

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# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FG051416-03G | Rev. 01 | Initial issue of report | Mar. 12, 2021 |
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# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|
| 3.4 | §2.1046 | Conducted Output Power | Reporting Only | PASS | - |
| | §27.50(j)(2) | Equivalent Isotropic Radiated Power (5G NR n77) | EIRP < 1640 Watt | | |
| 3.5 | §27.50(j)(4) | Peak-to-Average Ratio | <13 dB | PASS | - |
| 3.6 | §2.1049 | Occupied Bandwidth | Reporting Only | PASS | - |
| 3.7 | §2.1051<br>§27.53(l)(1) | Conducted Band Edge Measurement (5G NR n77) | < $43+10\log_{10}$(P[Watts]) | PASS | - |
| 3.8 | §2.1051<br>§27.53(l)(1) | Conducted Spurious Emission (5G NR n77) | < $43+10\log_{10}$(P[Watts]) | PASS | - |
| 3.9 | §2.1055<br>§27.54 | Frequency Stability Temperature & Voltage | Within Authorized Band | PASS | - |
| 4.4 | §2.1053<br>§27.53(l)(1) | Radiated Spurious Emission (5G NR n77) | < $43+10\log_{10}$(P[Watts]) | PASS | Under limit 44.99 dB at 15180.000 MHz |

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

# 1 General Description

## 1.1 Applicant

**Fibocom Wireless Inc.**
1101,Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

## 1.2 Manufacturer

**Fibocom Wireless Inc.**
1101,Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

## 1.3 Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | 5G Module |
| **Brand Name** | Fibocom |
| **Model Name** | FM150-NA |
| **FCC ID** | ZMOFM150NA |
| **EUT supports Radios application** | WCDMA/LTE/5G NR/GNSS |
| **IMEI Code** | Conducted : 867654040329944<br>Radiation : N/A |
| **HW Version** | V1.0.1 |
| **SW Version** | 89601.1000.00.03.04.33 |
| **EUT Stage** | Identical Prototype |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This module is limited to installation in fixed applications.

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|---|
| **Tx Frequency** | 5G NR n77: 3700 MHz ~ 3980 MHz<br>5G NR n78: 3700 MHz ~ 3800 MHz |
| **Rx Frequency** | 5G NR n77: 3700 MHz ~ 3980 MHz<br>5G NR n78: 3700 MHz ~ 3800 MHz |
| **Bandwidth** | n77: 20/40/50/60/80/90/100MHz<br>n78: 20/30/40/50/60/70/80/90/100MHz |
| **SCS** | n77/n78: 30kHz |
| **Type of Modulation** | CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM<br>DFT-s-OFDM: QPSK / 16QAM / 64QAM / 256QAM |

| WWAN ANTENNA GAIN (dBi) | | |
|---|---|---|
| **Frequency Band** | **ANT.1： GHT-019A** | **ANT.2： AN0750-64S01BSM** |
| **5G NR n77** | **3.69** | -2.30 |

**Remark:** Between the two type of antennas, only the worst antenna gain evaluated test is shown in bold.

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.6 Maximum Conducted Power, Frequency Tolerance, and Emission Designator

| 5G NR n77 | | QPSK | | 16QAM / 64QAM / 256QAM | |
|---|---|---|---|---|---|
| **BW (MHz)** | **Frequency Range (MHz)** | **Emission Designator (99%OBW)** | **Maximum Conducted power (W)** | **Emission Designator (99%OBW)** | **Maximum Conducted power (W)** |
| **100** | 3750.0 ~ 3930.0 | 97M3G7D | 0.4571 | 97M9W7D | 0.4355 |
| **Frequency Tolerance (ppm)** | | 0.0044 | | | |

**Note:** 5G NR n77 overlaps the entire frequency range of 5G NR n78. Therefore, the test results provided in this report covers n77 as well n78.

## 1.7 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

| | | | |
|---|---|---|---|
| **Test Firm** | Sporton International (Kunshan) Inc. | | |
| **Test Site Location** | No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158<br>FAX : +86-512-57900958 | | |
| **Test Site No.** | **Sporton Site No.** | **FCC Designation No.** | **FCC Test Firm Registration No.** |
| | 03CH04-KS<br>TH01-KS | CN1257 | 314309 |

## 1.8 Test Software

| Item | Site | Manufacturer | Name | Version |
|---|---|---|---|---|
| 1. | 03CH04-KS | AUDIX | E3 | 6.2009-8-24a |

## 1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 27O
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**Remark:**

All test items were verified and recorded according to the standards and without any deviation during the test.

# 2 Test Configuration of Equipment Under Test

## 2.1 Test Mode

Antenna port conducted and radiated test items are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

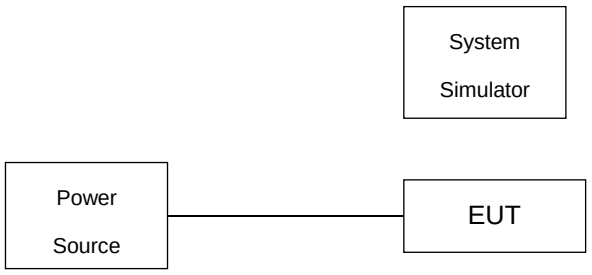
The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

| Orthogonal Planes of EUT | X Plane | Y Plane | Z Plane |
|---|---|---|---|
| | | | |

| Test Items | 5G NR | Bandwidth (MHz) | | | | | | Modulation | | | | | RB # | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | 40 | 50 | 60 | 80-90 | 100 | PI/2 BPSK | QPSK | 16QAM | 64QAM | 256QAM | 1 | Full | L | M | H |
| Max. Output Power | n77 | v | v | v | v | v | v | - | v | v | v | v | v | v | v | v | v |
| Max. Output Power | n78 | | | | | | v | - | v | v | v | v | v | v | v | v | v |
| Peak-to-Average Ratio | n77 | v | | | | - | - | - | v | v | v | v | | v | | v | |
| 26dB and 99% Bandwidth | n77 | | | | | - | v | - | v | v | | | | v | | v | |
| Conducted Band Edge | n77 | v | v | v | v | v | v | - | v | v | v | v | v | v | v | | v |
| Conducted Spurious Emission | n77 | v | v | | v | v | v | - | v | | | | v | v | v | v | v |
| Frequency Stability | n77 | | | | | - | v | - | v | | | | | v | | v | |
| E.R.P / E.I.R.P | n77 | v | v | v | v | v | v | - | v | v | v | v | v | v | v | v | v |
| Radiated Spurious Emission | n77 | Worst Case | | | | | | | | | | | | | | v | |
| Note | 1. The mark "**v** " means that this configuration is chosen for testing<br>2. The mark "-" means that this bandwidth is not supported.<br>3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.<br>4. This module is limited to installation in fixed applications.<br>5. 5G NR n77 supports HPUE. 5G NR n77 overlaps the entire frequency range of 5G NR n78. Therefore, the test results provided in this report covers n77 as well n78, n78 only verify max BW conducted power. | | | | | | | | | | | | | | | | |

| | |
|---|---|
| | 6. 5G NR supports SA and NSA mode (refer to the Operation Description), according to the maximum power, only show the worst mode in the report.<br>7. For modulation of CP-OFDM and DFT-s-OFDM , according to engineering evaluation, we chose the DFT-s-OFDM modulation to perform all tests and show in the report. |

## 2.2 Connection Diagram of Test System




This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

## 2.3 Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | DC Power Supply | GW | GPS-3030D | N/A | N/A | Unshielded, 1.8 m |
| 2. | LTE Base Station | Anritsu | MT8821C | N/A | N/A | Unshielded, 1.8 m |
| 3. | NR Base Station | Anritsu | MT8000A | N/A | N/A | Unshielded, 1.8 m |
| 4. | Antenna | N/A | N/A | N/A | N/A | N/A |
| 5. | Adapter | N/A | N/A | N/A | N/A | N/A |
| 6. | Test jig | N/A | N/A | N/A | N/A | N/A |

## 2.4 Measurement Results Explanation Example

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 3.24 dB and 10dB attenuator.

Example :

*Offset(dB) = RF cable loss(dB) + attenuator factor(dB).*

= 3.24 + 10 = 13.24 (dB)

## 2.5 Frequency List of Low/Middle/High Channels

| 5G NR n77 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 100 | Channel | 650000 | 656000 | 662000 |
| | Frequency | 3750 | 3840 | 3930 |
| 90 | Channel | 649668 | 656000 | 662334 |
| | Frequency | 3745.02 | 3840 | 3935.01 |
| 80 | Channel | 649334 | 656000 | 662668 |
| | Frequency | 3740.01 | 3840 | 3940.02 |
| 60 | Channel | 648668 | 656000 | 663334 |
| | Frequency | 3730.02 | 3840 | 3950.01 |
| 50 | Channel | 648334 | 656000 | 663668 |
| | Frequency | 3725.01 | 3840 | 3955.02 |
| 40 | Channel | 648000 | 656000 | 664000 |
| | Frequency | 3720 | 3840 | 3960 |
| 20 | Channel | 647334 | 656000 | 664668 |
| | Frequency | 3710.01 | 3840 | 3970.02 |

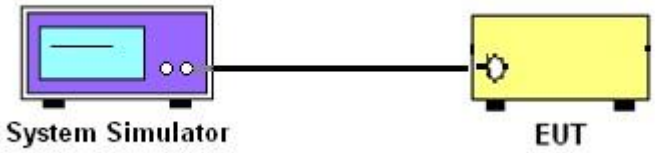
# 3 Conducted Test Items

## 3.1 Measuring Instruments

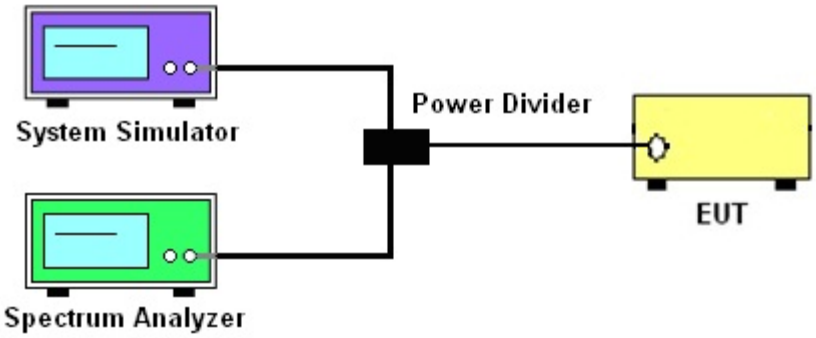
See list of measuring instruments of this test report.

## 3.2 Test Setup

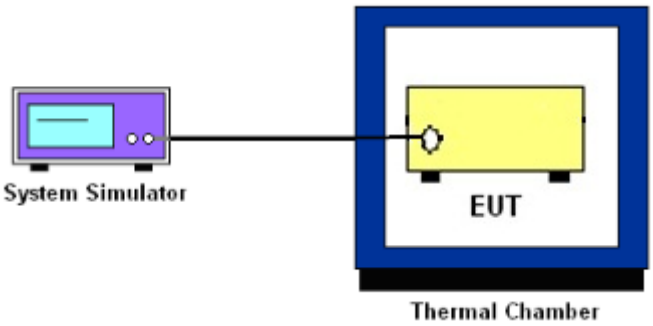
### 3.2.1 Conducted Output Power




### 3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission




### 3.2.3 Frequency Stability




## 3.3 Test Result of Conducted Test

Please refer to Appendix A.

## 3.4 Conducted Output Power and EIRP

### 3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

(1) The power of each fixed or base station transmitting in the 3700-3980 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to an equivalent isotropically radiated power (EIRP) of 3280 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

(2) The power of each fixed or base station transmitting in the 3700-3980 MHz band and situated in any geographic location other than that described in paragraph (j)(1) of this section is limited to an EIRP of 1640 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

(3) Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

$P_T$ = transmitter output power in dBm

$G_T$ = gain of the transmitting antenna in dBi

$L_C$ = signal attenuation in the connecting cable between the transmitter and antenna in dB

### 3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

## 3.5 Peak-to-Average Ratio

### 3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.6 (PAPR).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set EUT in maximum power output.
4. Set the RBW = 1MHz, VBW = 3MHz, Detector = Peak, Trace mode = max hold, Set span ≥ 2 × OBW in spectrum analyzer.
5. Set the RBW = 1MHz, VBW = 3MHz, Detector = power averaging, Trace mode = max hold, Set span ≥ 2 × OBW in spectrum analyzer.
6. Add [10 log (1/duty cycle)] to the measured maximum power level to compute the average power during continuous transmission.
7. PAPR (dB) = $P_{Pk}$ (dBm) − $P_{Avg}$ (dBm)

   where

   PAPR peak-to-average power ratio, in dB

   $P_{Pk}$ measured peak power level, in dBm

   $P_{Avg}$ measured average power level, in dBm
8. Record the deviation as Peak to Average Ratio.

## 3.6 Occupied Bandwidth

### 3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

### 3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
   (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

# 3.7 Conducted Band Edge

## 3.7.1 Description of Conducted Band Edge Measurement

27.53(l)(1)

For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

## 3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

   Example:

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

## 3.8 Conducted Spurious Emission

### 3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its $10^{th}$ harmonic.

### 3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

## 3.9 Frequency Stability

### 3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

### 3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### 3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

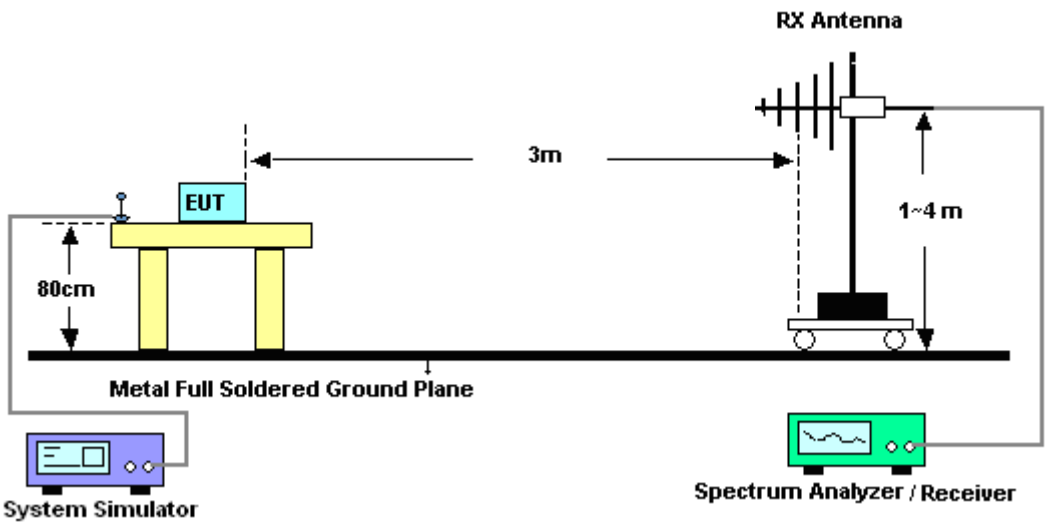
# 4 Radiated Test Items

## 4.1 Measuring Instruments

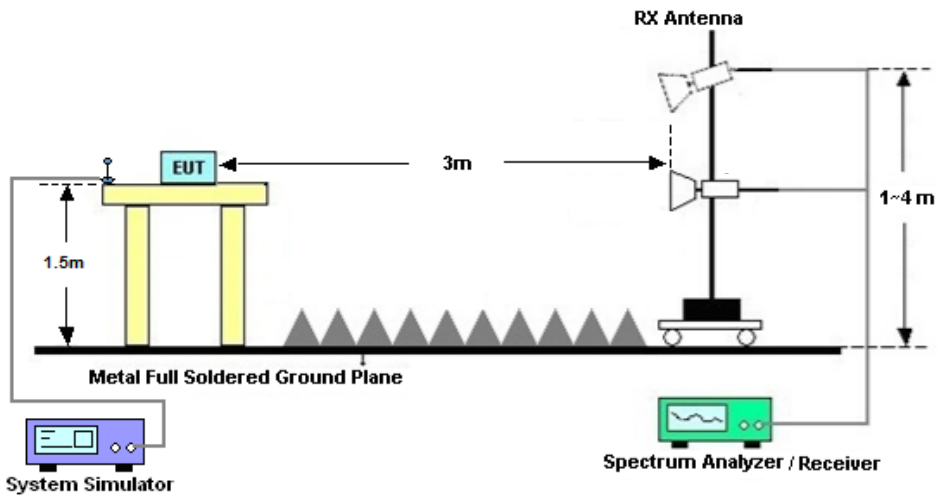
See list of measuring instruments of this test report.

## 4.2 Test Setup

### 4.2.1 For radiated test from 30MHz to 1GHz




### 4.2.2 For radiated test above 1GHz




## 4.3 Test Result of Radiated Test

Please refer to Appendix B.

## 4.4 Radiated Spurious Emission

### 4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

# 5 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 101040 | 10Hz~40GHz | Nov. 01, 2020 | Feb. 25, 2021~ Feb. 27, 2021 | Oct. 31, 2021 | Conducted (TH01-KS) |
| Temperature & humidity chamber | Hongzhan | LP-150U | H2014011440 | -40~+150°C 20%~95%RH | Jul. 03, 2020 | Feb. 25, 2021~ Feb. 27, 2021 | Jul. 02, 2021 | Conducted (TH01-KS) |
| EXA Spectrum Analyzer | Keysight | N9010A | MY55150244 | 10Hz-44G,MAX 30dB | Apr. 15, 2020 | Feb. 19, 2021 | Apr. 14, 2021 | Radiation (03CH04-KS) |
| Bilog Antenna | TeseQ | CBL6111D | 49922 | 30MHz-1GHz | Jun. 08, 2020 | Feb. 19, 2021 | Jun. 07, 2021 | Radiation (03CH04-KS) |
| Horn Antenna | Schwarzbeck | BBHA9120D | 1356 | 1GHz~18GHz | Apr. 20, 2020 | Feb. 19, 2021 | Apr. 19, 2021 | Radiation (03CH04-KS) |
| SHF-EHF Horn | Com-power | AH-840 | 101115 | 18GHz~40GHz | Jan. 06, 2021 | Feb. 19, 2021 | Jan. 05, 2022 | Radiation (03CH04-KS) |
| Amplifier | SONOMA | 310N | 187289 | 9KHz-1GHz | Jan. 06, 2021 | Feb. 19, 2021 | Jan. 05, 2022 | Radiation (03CH04-KS) |
| Amplifier | MITEQ | EM18G40G GA | 060728 | 18~40GHz | Jan. 07, 2021 | Feb. 19, 2021 | Jan. 06, 2022 | Radiation (03CH04-KS) |
| high gain Amplifier | MITEQ | AMF-7D-00 101800-30-1 0P | 2025788 | 1Ghz-18Ghz | Jan. 06, 2021 | Feb. 19, 2021 | Jan. 05, 2022 | Radiation (03CH04-KS) |
| Amplifier | Keysight | 83017A | MY57280106 | 500MHz~26.5GHz | Oct. 14, 2020 | Feb. 19, 2021 | Oct. 13, 2021 | Radiation (03CH04-KS) |
| AC Power Source | Chroma | 61601 | F104090004 | N/A | NCR | Feb. 19, 2021 | NCR | Radiation (03CH04-KS) |
| Turn Table | ChamPro | EM 1000-T | 060762-T | 0~360 degree | NCR | Feb. 19, 2021 | NCR | Radiation (03CH04-KS) |
| Antenna Mast | ChamPro | EM 1000-A | 060762-A | 1 m~4 m | NCR | Feb. 19, 2021 | NCR | Radiation (03CH04-KS) |

NCR: No Calibration Required

# 6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

**Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.3dB** |

**Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.8dB** |

**Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.8dB** |

# Appendix A. Test Results of Conducted Test

## Conducted Output Power(Average power and EIRP)

**5G NR n77 SA**

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Gain | EIRP | EIRP | EIRP |
|---|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 650000 | 656000 | 662000 | | L | M | H |
| Frequency (MHz) | | | | 3750 | 3840 | 3930 | | | | |
| 100 | QPSK | 1 | 1 | 26.53 | 26.56 | 26.60 | 3.69 | 1.0520 | 1.0593 | 1.0691 |
| 100 | QPSK | 1 | 137 | 26.01 | 26.03 | 26.09 | 3.69 | 0.9333 | 0.9376 | 0.9506 |
| 100 | QPSK | 1 | 271 | 25.95 | 25.88 | 25.83 | 3.69 | 0.9204 | 0.9057 | 0.8954 |
| 100 | QPSK | 135 | 0 | 25.72 | 25.75 | 25.82 | 3.69 | 0.8730 | 0.8790 | 0.8933 |
| 100 | QPSK | 135 | 69 | 26.12 | 26.03 | 26.11 | 3.69 | 0.9572 | 0.9376 | 0.9550 |
| 100 | QPSK | 135 | 138 | 25.35 | 25.15 | 25.22 | 3.69 | 0.8017 | 0.7656 | 0.7780 |
| 100 | QPSK | 270 | 0 | 25.56 | 25.87 | 25.77 | 3.69 | 0.8414 | 0.9036 | 0.8831 |
| 100 | 16QAM | 1 | 1 | 26.39 | 26.35 | 26.37 | 3.69 | 1.0186 | 1.0093 | 1.0139 |
| 100 | 64QAM | 1 | 1 | 23.90 | 23.82 | 23.77 | 3.69 | 0.5741 | 0.5636 | 0.5572 |
| 100 | 256QAM | 1 | 1 | 21.98 | 21.78 | 21.83 | 3.69 | 0.3690 | 0.3524 | 0.3565 |
| Channel | | | | 649668 | 656000 | 662334 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3745.02 | 3840 | 3935.01 | | | | |
| 90 | QPSK | 1 | 1 | 26.49 | 26.45 | 26.43 | 3.69 | 1.0423 | 1.0328 | 1.0280 |
| 90 | 16QAM | 1 | 1 | 26.15 | 26.18 | 26.20 | 3.69 | 0.9638 | 0.9705 | 0.9750 |
| Channel | | | | 649334 | 656000 | 662668 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3740.01 | 3840 | 3940.02 | | | | |
| 80 | QPSK | 1 | 1 | 26.41 | 26.35 | 26.39 | 3.69 | 1.0233 | 1.0093 | 1.0186 |
| 80 | 16QAM | 1 | 1 | 26.17 | 26.14 | 26.11 | 3.69 | 0.9683 | 0.9616 | 0.9550 |
| Channel | | | | 648668 | 656000 | 663334 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3730.02 | 3840 | 3950.01 | | | | |
| 60 | QPSK | 1 | 1 | 26.44 | 26.33 | 26.44 | 3.69 | 1.0304 | 1.0046 | 1.0304 |
| 60 | 16QAM | 1 | 1 | 26.12 | 26.16 | 26.18 | 3.69 | 0.9572 | 0.9661 | 0.9705 |
| Channel | | | | 648334 | 656000 | 663668 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3725.01 | 3840 | 3955.02 | | | | |
| 50 | QPSK | 1 | 1 | 26.45 | 26.47 | 26.50 | 3.69 | 1.0328 | 1.0375 | 1.0447 |
| 50 | 16QAM | 1 | 1 | 26.19 | 26.22 | 26.23 | 3.69 | 0.9727 | 0.9795 | 0.9817 |
| Channel | | | | 648000 | 656000 | 664000 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3720 | 3840 | 3960 | | | | |
| 40 | QPSK | 1 | 1 | 26.42 | 26.44 | 26.39 | 3.69 | 1.0257 | 1.0304 | 1.0186 |
| 40 | 16QAM | 1 | 1 | 26.25 | 26.19 | 26.25 | 3.69 | 0.9863 | 0.9727 | 0.9863 |
| Channel | | | | 647334 | 656000 | 664668 | Gain | EIRP | EIRP | EIRP |
| Frequency (MHz) | | | | 3710.01 | 3840 | 3970.02 | | | | |
| 20 | QPSK | 1 | 1 | 26.46 | 26.49 | 26.40 | 3.69 | 1.0351 | 1.0423 | 1.0209 |
| 20 | 16QAM | 1 | 1 | 26.13 | 26.17 | 26.20 | 3.69 | 0.9594 | 0.9683 | 0.9750 |

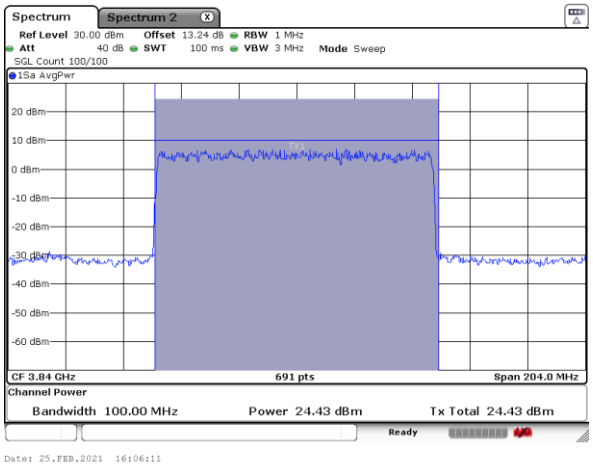
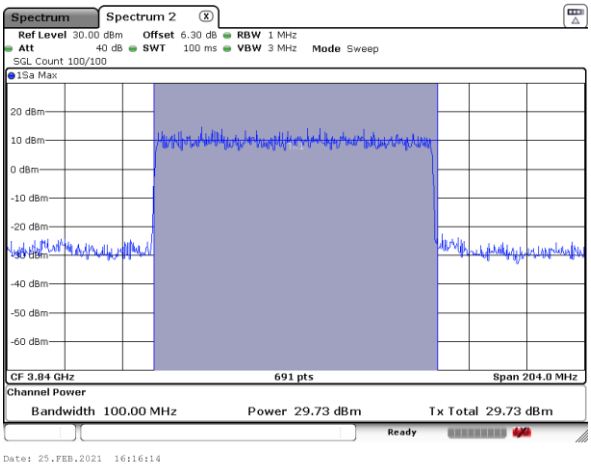
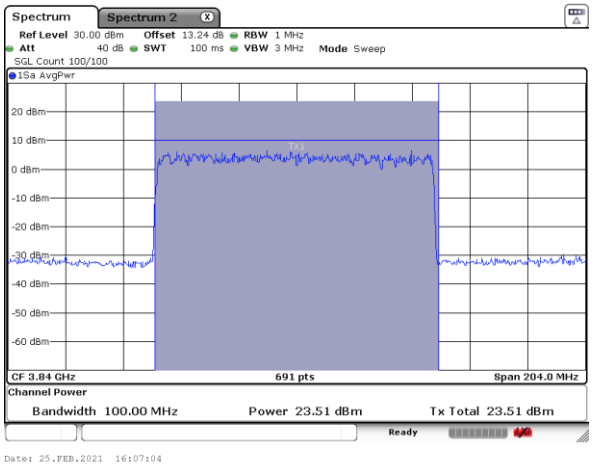
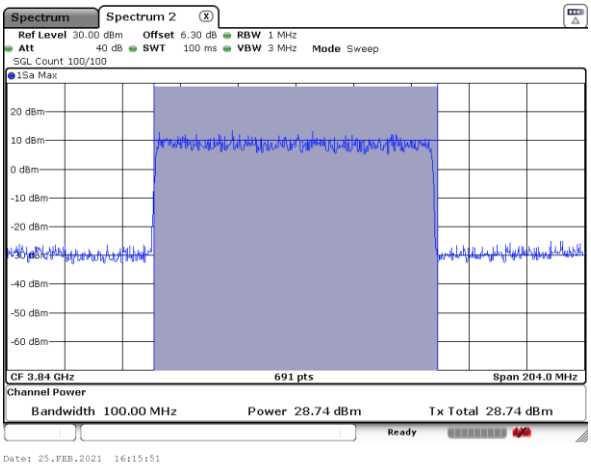
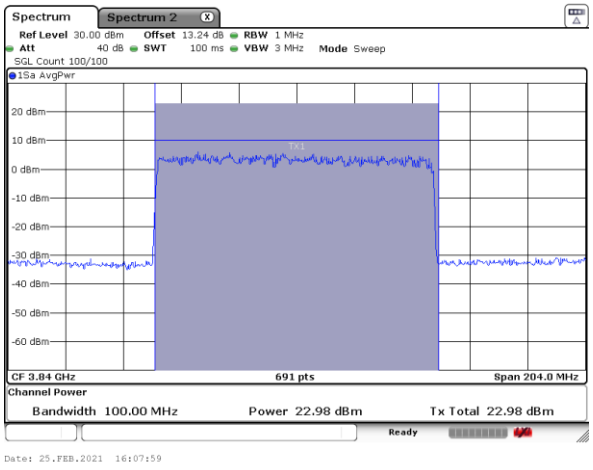
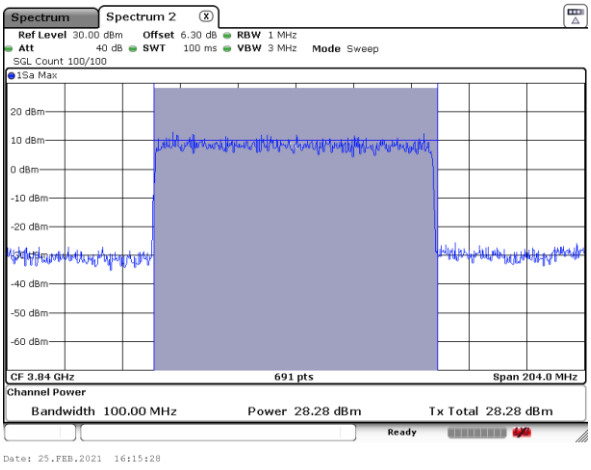
**5G NR n78 SA (only verify Max BW conducted power)**

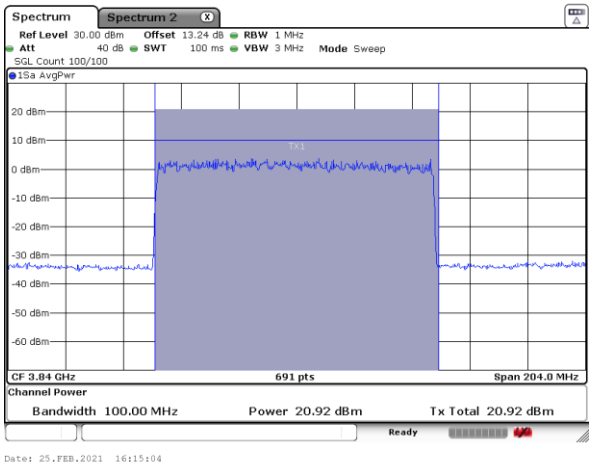
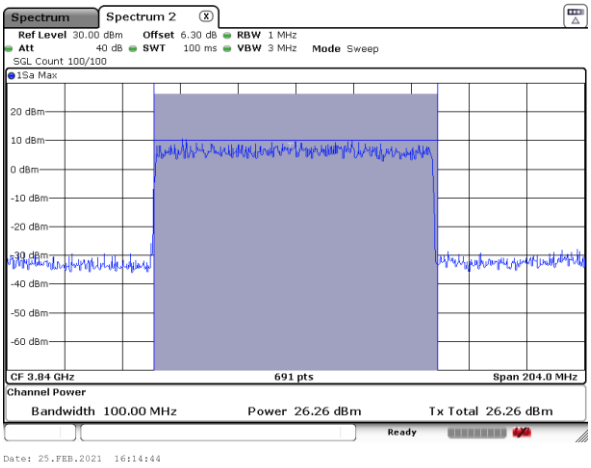
| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. |
|---|---|---|---|---|---|---|
| Channel | | | | | 650000 | |
| Frequency (MHz) | | | | | 3750 | |
| 100 | QPSK | 1 | 1 | | 21.71 | |
| 100 | QPSK | 1 | 271 | | 21.02 | |
| 100 | QPSK | 135 | 67 | | 21.22 | |
| 100 | QPSK | 1 | 0 | | 20.37 | |
| 100 | QPSK | 1 | 272 | | 20.02 | |
| 100 | QPSK | 270 | 0 | | 20.19 | |
| 100 | 16QAM | 1 | 1 | | 20.44 | |
| 100 | 64QAM | 1 | 1 | | 18.79 | |
| 100 | 256QAM | 1 | 1 | | 16.66 | |

# 5G NR n77 SA

## Peak-to-Average Ratio

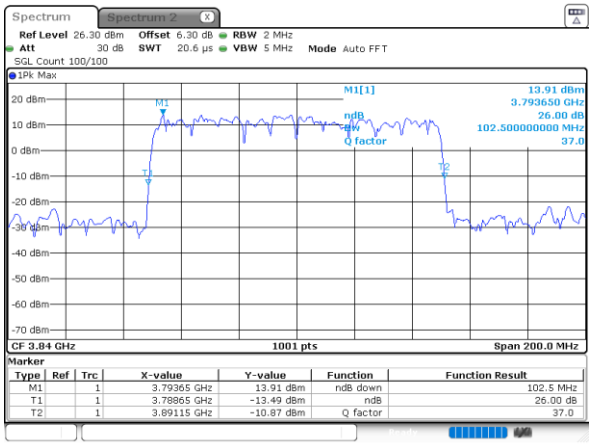
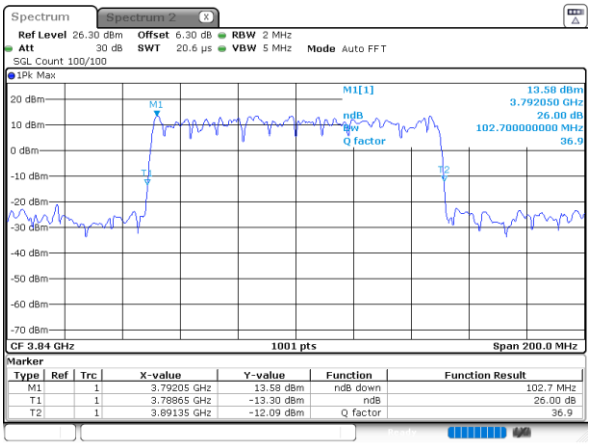
| Mode | FR1 n77 / 20MHz / DFT-S OFDM | | | | |
|---|---|---|---|---|---|
| Mod. | QPSK | 16QAM | 64QAM | 256QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Full RB | Result |
| Middle CH | 5.30 | 5.23 | 5.30 | 5.34 | PASS |

| QPSK-A | QPSK-P |
|---|---|
|  |  |
| 16QAM-A | 16QAM-P |
|  |  |
| 64QAM-A | 64QAM-P |
|  |  |

| 256QAM-A | 256QAM-P |
|---|---|
|  |  |

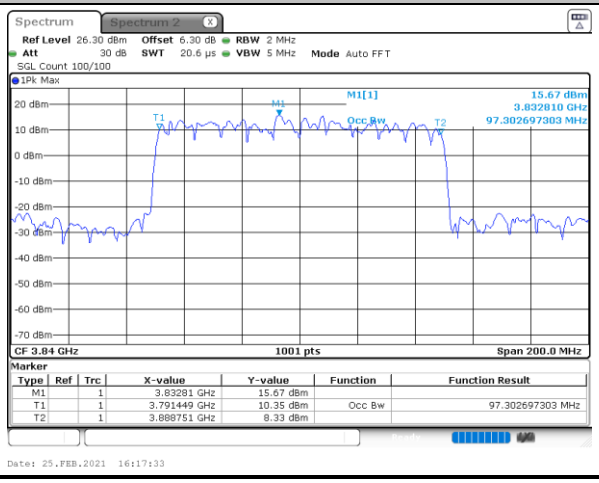
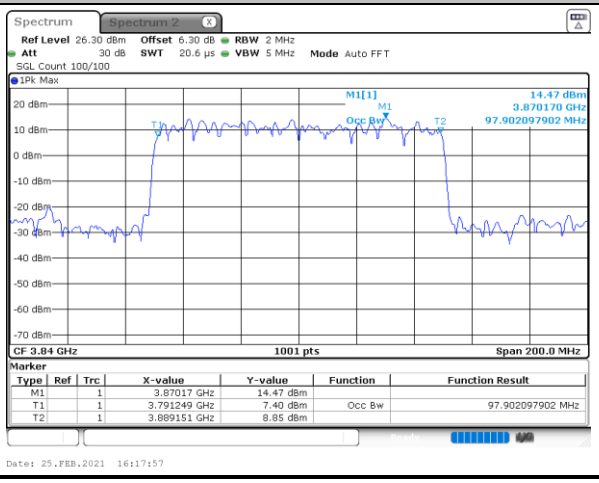
# 26dB Bandwidth

| Mode | FR1 n77 : 26dB BW(MHz) / DFT-S OFDM | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW | 100M | | | | | | | |
| Mod. | QPSK | 16QAM | | | | | | |
| Middle CH | 102.5 | 102.7 | | | | | | |

| QPSK | 16QAM |
|---|---|
|  |  |

# Occupied Bandwidth

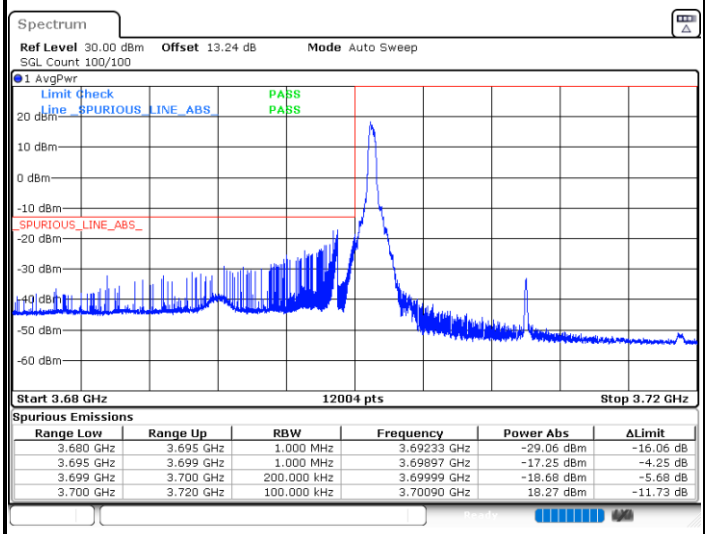
| Mode | FR1 n77 : OB BW(MHz) / DFT-S OFDM | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW | 100M | | | | | | | |
| Mod. | QPSK | 16QAM | | | | | | |
| Middle CH | 97.30 | 97.90 | | | | | | |

| QPSK | 16QAM |
|---|---|
|  |  |

# Conducted Band Edge

## FR1 n77 / 20MHz / DFT-S OFDM / QPSK

### Lowest Band Edge / 1RB0

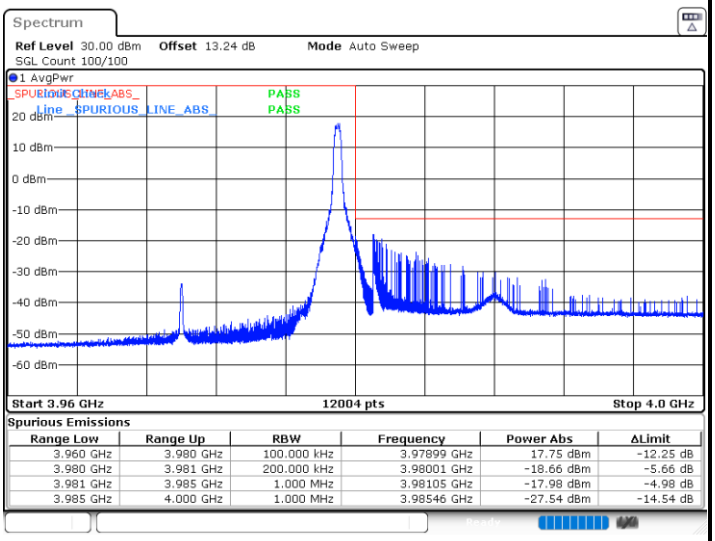



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69233 GHz | -29.06 dBm | -16.06 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69897 GHz | -17.25 dBm | -4.25 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69999 GHz | -18.68 dBm | -5.68 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70090 GHz | 18.27 dBm | -11.73 dB |

Date: 27.FEB.2021 15:12:18

### Highest Band Edge / 1RBmax

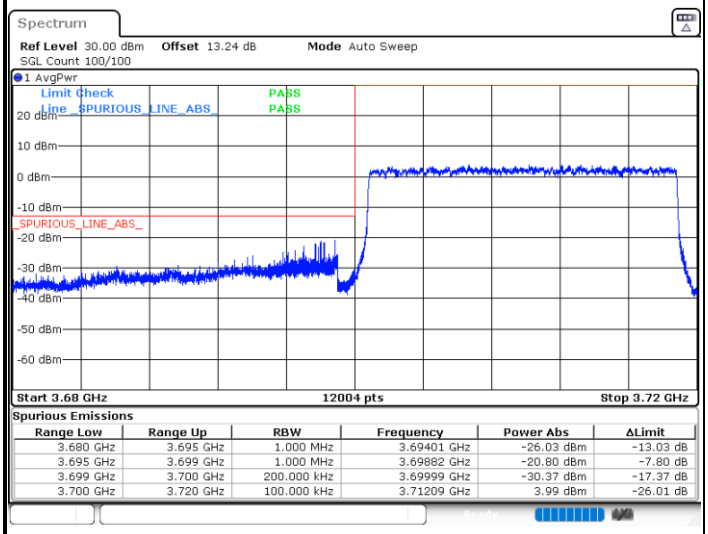



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97899 GHz | 17.75 dBm | -12.25 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98001 GHz | -18.66 dBm | -5.66 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98105 GHz | -17.98 dBm | -4.98 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98546 GHz | -27.54 dBm | -14.54 dB |

Date: 27.FEB.2021 15:29:07

### Lowest Band Edge / Full RB

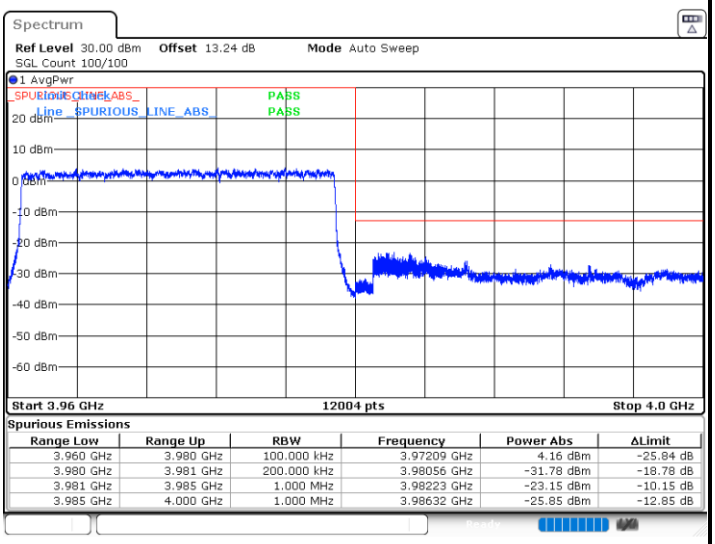



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69401 GHz | -26.03 dBm | -13.03 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69882 GHz | -20.80 dBm | -7.80 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69999 GHz | -30.37 dBm | -17.37 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.71209 GHz | 3.99 dBm | -26.01 dB |

Date: 27.FEB.2021 15:09:47

### Highest Band Edge / Full RB



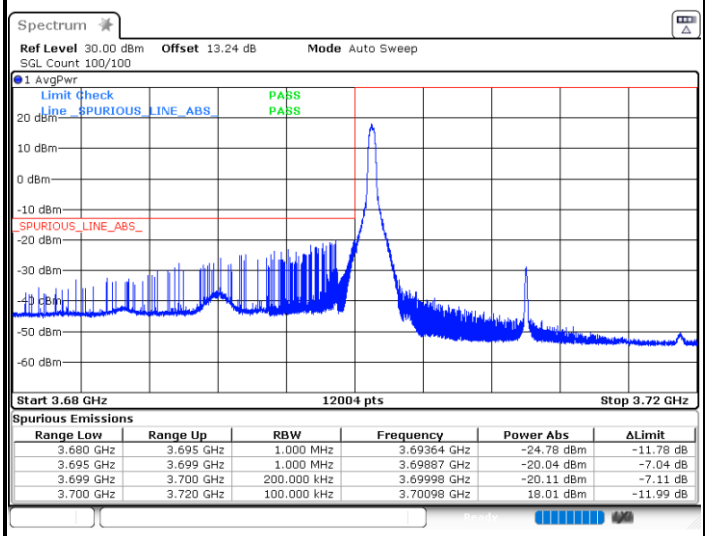

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97209 GHz | 4.16 dBm | -25.84 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98056 GHz | -31.78 dBm | -18.78 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98223 GHz | -23.15 dBm | -10.15 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98632 GHz | -25.85 dBm | -12.85 dB |

Date: 27.FEB.2021 15:26:28

## FR1 n77 / 20MHz / DFT-S OFDM / 16QAM

### Lowest Band Edge / 1RB0

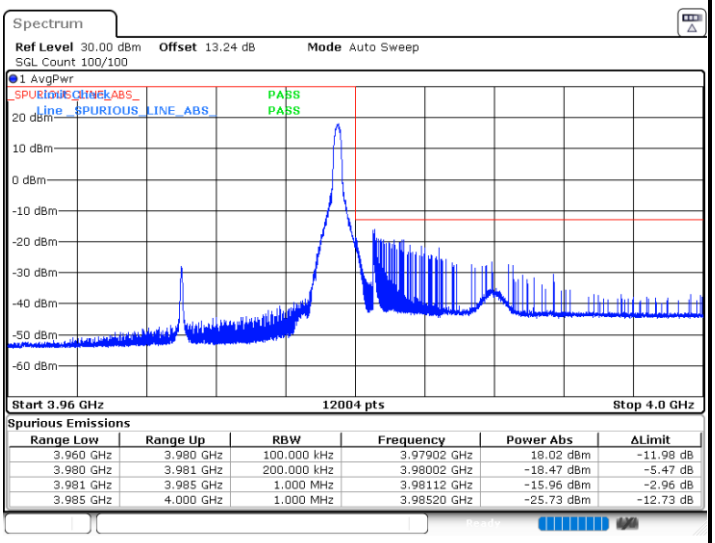



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69364 GHz | -24.78 dBm | -11.78 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69887 GHz | -20.04 dBm | -7.04 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69998 GHz | -20.11 dBm | -7.11 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70098 GHz | 18.01 dBm | -11.99 dB |

Date: 27.FEB.2021 15:13:21

### Highest Band Edge / 1RBmax

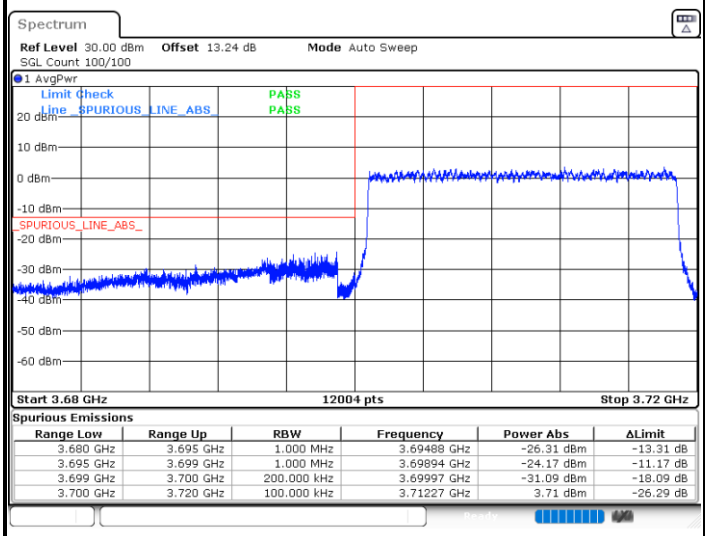



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97902 GHz | 18.02 dBm | -11.98 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98002 GHz | -18.47 dBm | -5.47 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98112 GHz | -15.96 dBm | -2.96 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98520 GHz | -25.73 dBm | -12.73 dB |

Date: 27.FEB.2021 15:29:48

### Lowest Band Edge / Full RB

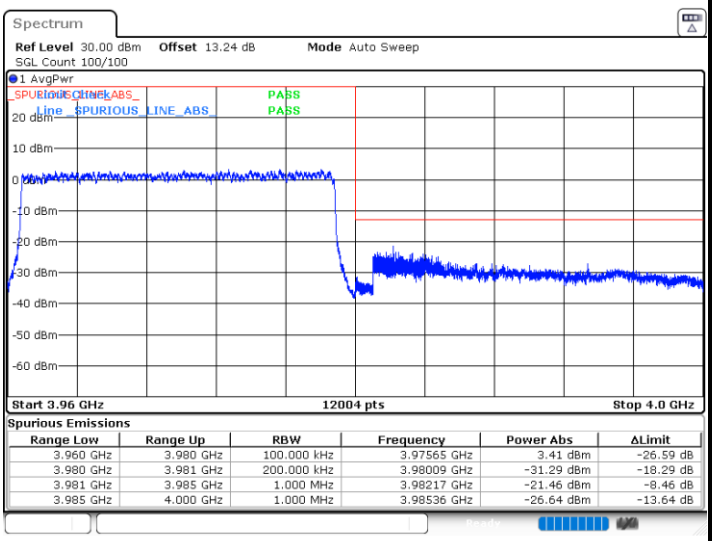



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69488 GHz | -26.31 dBm | -13.31 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69894 GHz | -24.17 dBm | -11.17 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69997 GHz | -31.09 dBm | -18.09 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.71227 GHz | 3.71 dBm | -26.29 dB |

Date: 27.FEB.2021 15:09:03

### Highest Band Edge / Full RB



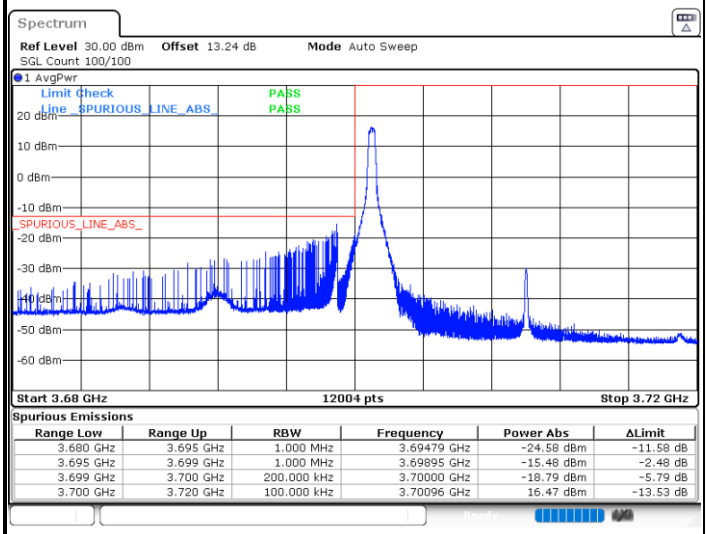

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97565 GHz | 3.41 dBm | -26.59 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98009 GHz | -31.29 dBm | -18.29 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98217 GHz | -21.46 dBm | -8.46 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98536 GHz | -26.64 dBm | -13.64 dB |

Date: 27.FEB.2021 15:25:47

## FR1 n77 / 20MHz / DFT-S OFDM / 64QAM

### Lowest Band Edge / 1RB0

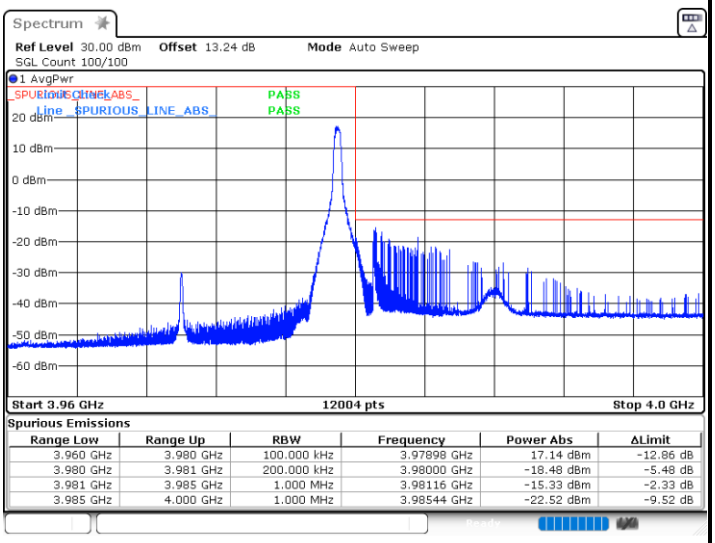



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69479 GHz | -24.58 dBm | -11.58 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69895 GHz | -15.48 dBm | -2.48 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.70000 GHz | -18.79 dBm | -5.79 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70096 GHz | 16.47 dBm | -13.53 dB |

Date: 27.FEB.2021 15:14:05

### Highest Band Edge / 1RBmax

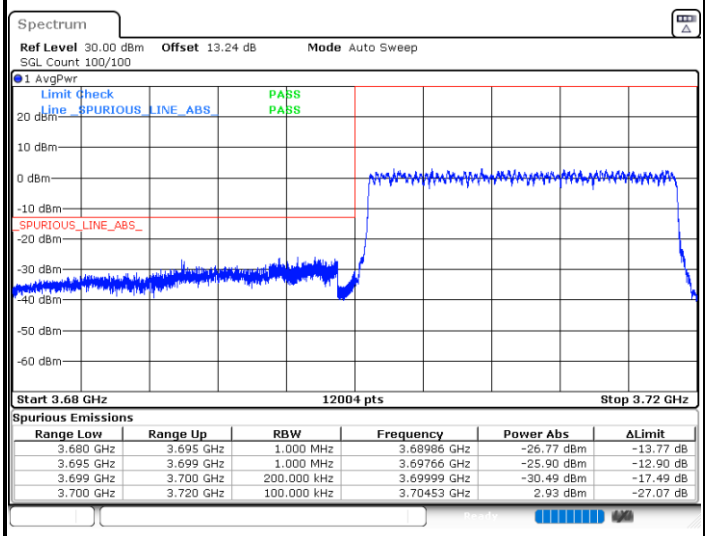



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97898 GHz | 17.14 dBm | -12.86 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98000 GHz | -18.48 dBm | -5.48 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98116 GHz | -15.33 dBm | -2.33 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98544 GHz | -22.52 dBm | -9.52 dB |

Date: 27.FEB.2021 15:32:05

### Lowest Band Edge / Full RB

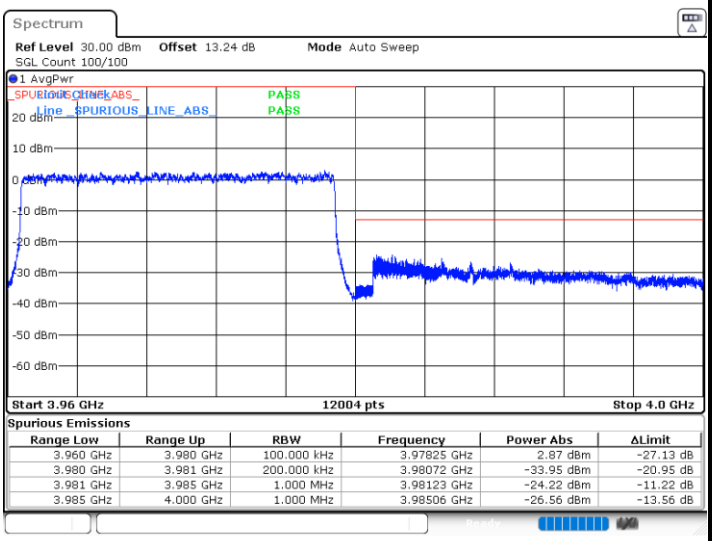



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68986 GHz | -26.77 dBm | -13.77 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69766 GHz | -25.90 dBm | -12.90 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69999 GHz | -30.49 dBm | -17.49 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70453 GHz | 2.93 dBm | -27.07 dB |

Date: 27.FEB.2021 15:08:20

### Highest Band Edge / Full RB



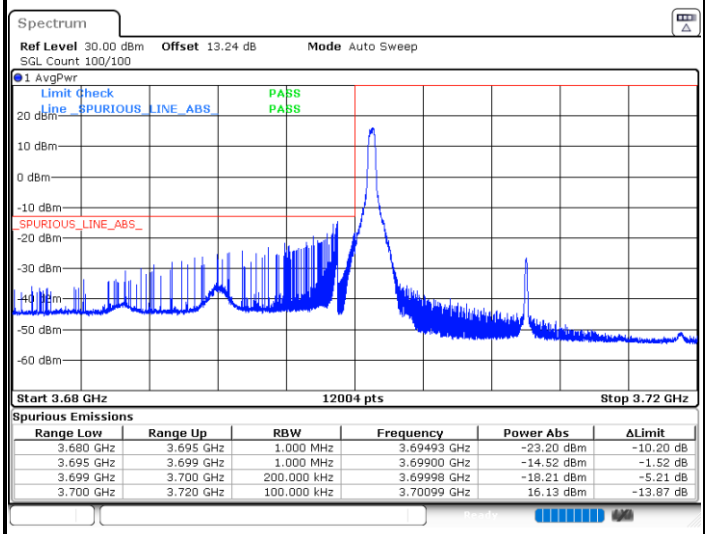

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97825 GHz | 2.87 dBm | -27.13 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98072 GHz | -33.95 dBm | -20.95 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98123 GHz | -24.22 dBm | -11.22 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98506 GHz | -26.56 dBm | -13.56 dB |

Date: 27.FEB.2021 15:25:04

## FR1 n77 / 20MHz / DFT-S OFDM / 256QAM

### Lowest Band Edge / 1RB0

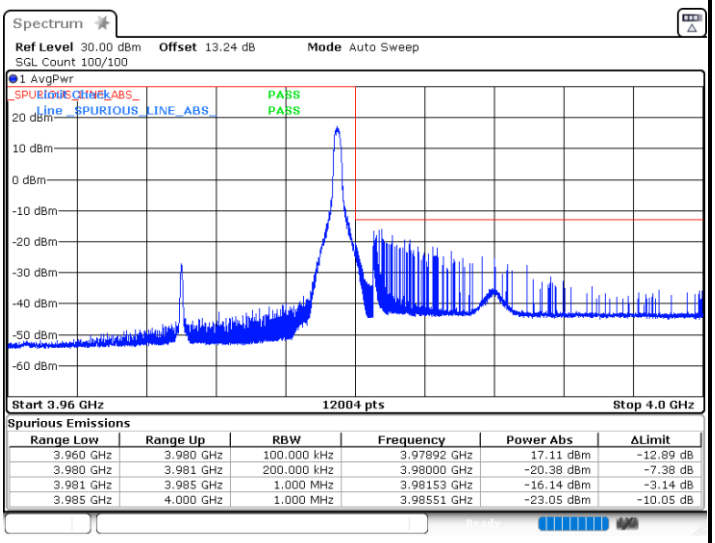



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69493 GHz | -23.20 dBm | -10.20 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69900 GHz | -14.52 dBm | -1.52 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69998 GHz | -18.21 dBm | -5.21 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70099 GHz | 16.13 dBm | -13.87 dB |

Date: 27.FEB.2021 15:15:04

### Highest Band Edge / 1RBmax

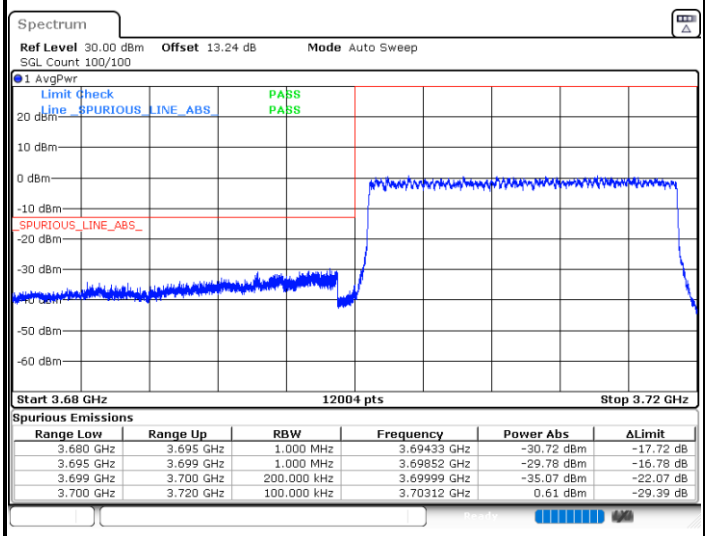



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97892 GHz | 17.11 dBm | -12.89 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98000 GHz | -20.38 dBm | -7.38 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98153 GHz | -16.14 dBm | -3.14 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98551 GHz | -23.05 dBm | -10.05 dB |

Date: 27.FEB.2021 15:34:19

### Lowest Band Edge / Full RB

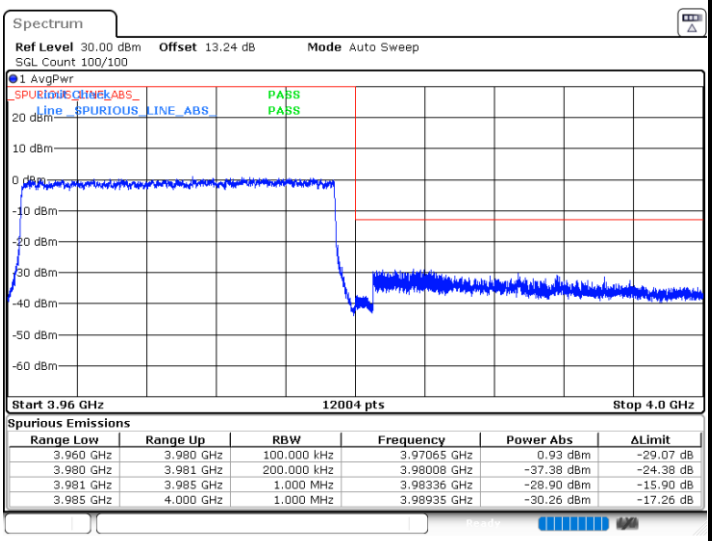



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69433 GHz | -30.72 dBm | -17.72 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69852 GHz | -29.78 dBm | -16.78 dB |
| 3.699 GHz | 3.700 GHz | 200.000 kHz | 3.69999 GHz | -35.07 dBm | -22.07 dB |
| 3.700 GHz | 3.720 GHz | 100.000 kHz | 3.70312 GHz | 0.61 dBm | -29.39 dB |

Date: 27.FEB.2021 15:06:53

### Highest Band Edge / Full RB



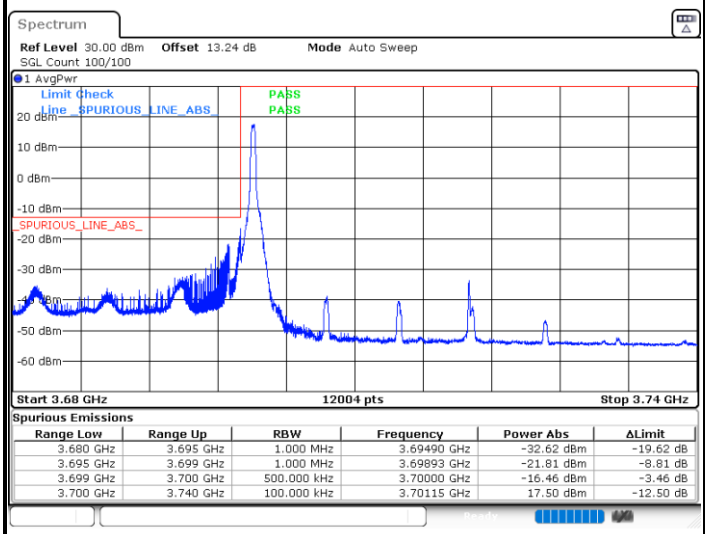

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.960 GHz | 3.980 GHz | 100.000 kHz | 3.97065 GHz | 0.93 dBm | -29.07 dB |
| 3.980 GHz | 3.981 GHz | 200.000 kHz | 3.98008 GHz | -37.38 dBm | -24.38 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98336 GHz | -28.90 dBm | -15.90 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98935 GHz | -30.26 dBm | -17.26 dB |

Date: 27.FEB.2021 15:24:16

## FR1 n77 / 40MHz / DFT-S OFDM / QPSK

### Lowest Band Edge / 1RB0

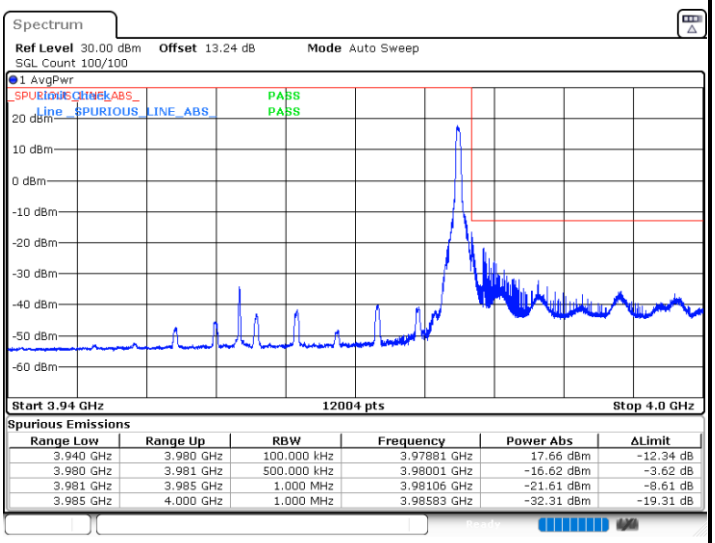



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69490 GHz | -32.62 dBm | -19.62 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69893 GHz | -21.81 dBm | -8.81 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -16.46 dBm | -3.46 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.70115 GHz | 17.50 dBm | -12.50 dB |

Date: 27.FEB.2021 15:40:23

### Highest Band Edge / 1RBmax

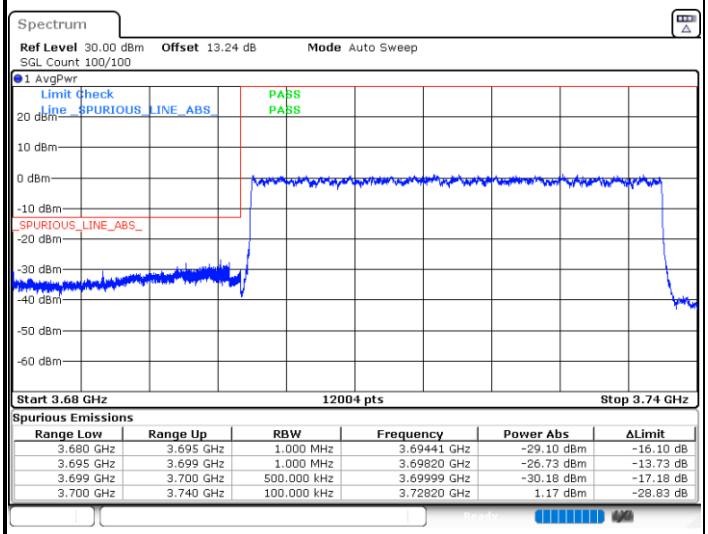



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.97881 GHz | 17.66 dBm | -12.34 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98001 GHz | -16.62 dBm | -3.62 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98106 GHz | -21.61 dBm | -8.61 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98583 GHz | -32.31 dBm | -19.31 dB |

Date: 27.FEB.2021 15:51:13

### Lowest Band Edge / Full RB

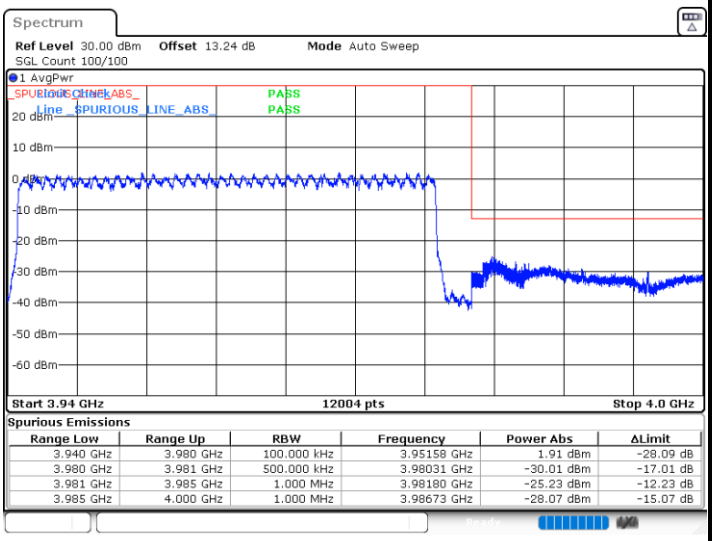



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69441 GHz | -29.10 dBm | -16.10 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69820 GHz | -26.73 dBm | -13.73 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69999 GHz | -30.18 dBm | -17.18 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.72820 GHz | 1.17 dBm | -28.83 dB |

Date: 27.FEB.2021 15:37:43

### Highest Band Edge / Full RB



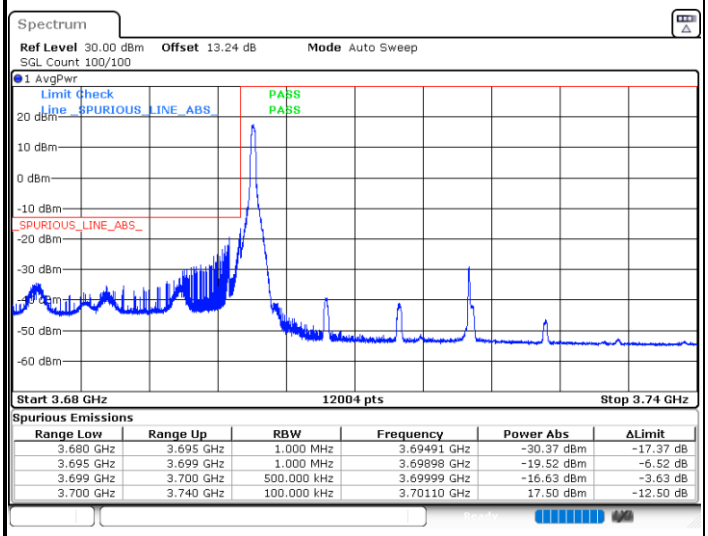

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.95158 GHz | 1.91 dBm | -28.09 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98031 GHz | -30.01 dBm | -17.01 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98180 GHz | -25.23 dBm | -12.23 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98673 GHz | -28.07 dBm | -15.07 dB |

Date: 27.FEB.2021 15:48:37

## FR1 n77 / 40MHz / DFT-S OFDM / 16QAM

### Lowest Band Edge / 1RB0

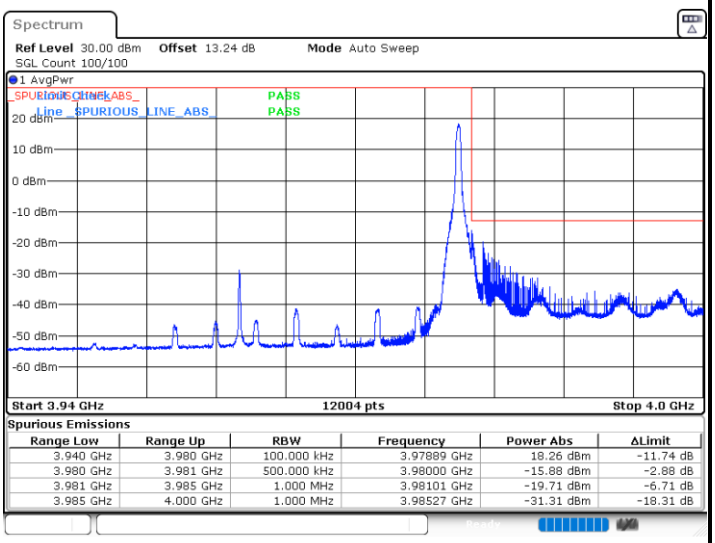



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69491 GHz | -30.37 dBm | -17.37 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69898 GHz | -19.52 dBm | -6.52 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69999 GHz | -16.63 dBm | -3.63 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.70110 GHz | 17.50 dBm | -12.50 dB |

Date: 27.FEB.2021 15:41:03

### Highest Band Edge / 1RBmax

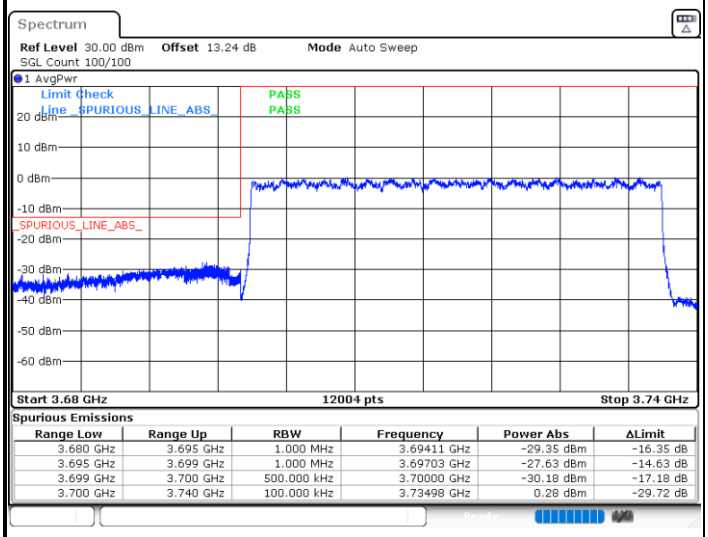



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.97889 GHz | 18.26 dBm | -11.74 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98000 GHz | -15.88 dBm | -2.88 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98101 GHz | -19.71 dBm | -6.71 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98527 GHz | -31.31 dBm | -18.31 dB |

Date: 27.FEB.2021 15:51:55

### Lowest Band Edge / Full RB

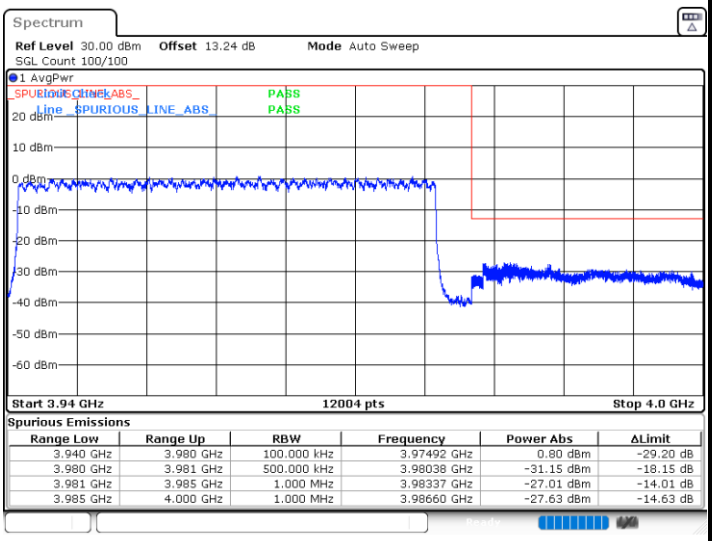



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69411 GHz | -29.35 dBm | -16.35 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69703 GHz | -27.63 dBm | -14.63 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -30.18 dBm | -17.18 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.73498 GHz | 0.28 dBm | -29.72 dB |

Date: 27.FEB.2021 15:37:01

### Highest Band Edge / Full RB



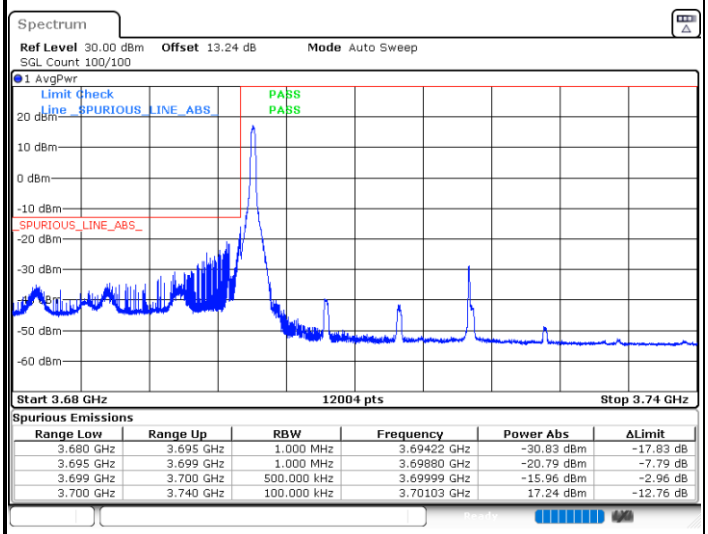

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.97492 GHz | 0.80 dBm | -29.20 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98038 GHz | -31.15 dBm | -18.15 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98337 GHz | -27.01 dBm | -14.01 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98660 GHz | -27.63 dBm | -14.63 dB |

Date: 27.FEB.2021 15:47:54

## FR1 n77 / 40MHz / DFT-S OFDM / 64QAM

### Lowest Band Edge / 1RB0

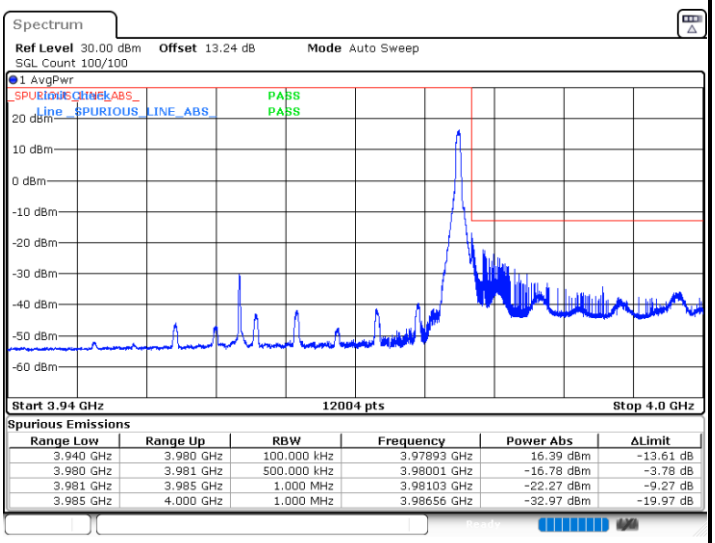



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69422 GHz | -30.83 dBm | -17.83 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69880 GHz | -20.79 dBm | -7.79 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69999 GHz | -15.96 dBm | -2.96 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.70103 GHz | 17.24 dBm | -12.76 dB |

Date: 27.FEB.2021 15:41:47

### Highest Band Edge / 1RBmax

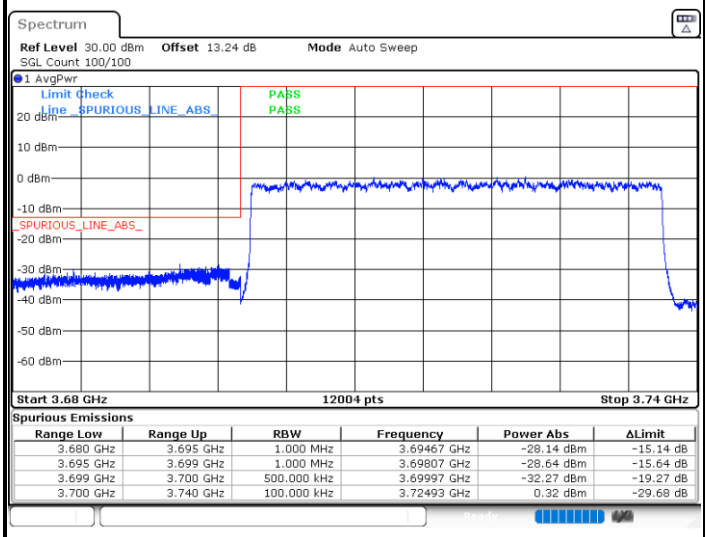



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.97893 GHz | 16.39 dBm | -13.61 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98001 GHz | -16.78 dBm | -3.78 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98103 GHz | -22.27 dBm | -9.27 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98656 GHz | -32.97 dBm | -19.97 dB |

Date: 27.FEB.2021 15:52:37

### Lowest Band Edge / Full RB

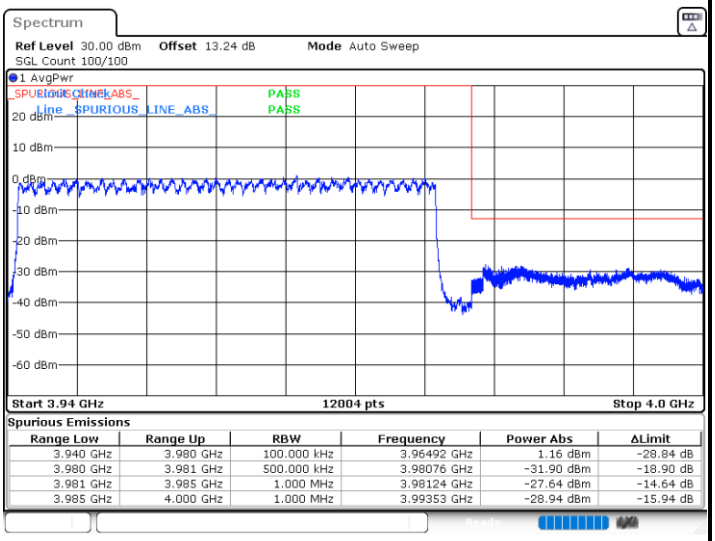



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69467 GHz | -28.14 dBm | -15.14 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69807 GHz | -28.64 dBm | -15.64 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69997 GHz | -32.27 dBm | -19.27 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.72493 GHz | 0.32 dBm | -29.68 dB |

Date: 27.FEB.2021 15:36:20

### Highest Band Edge / Full RB



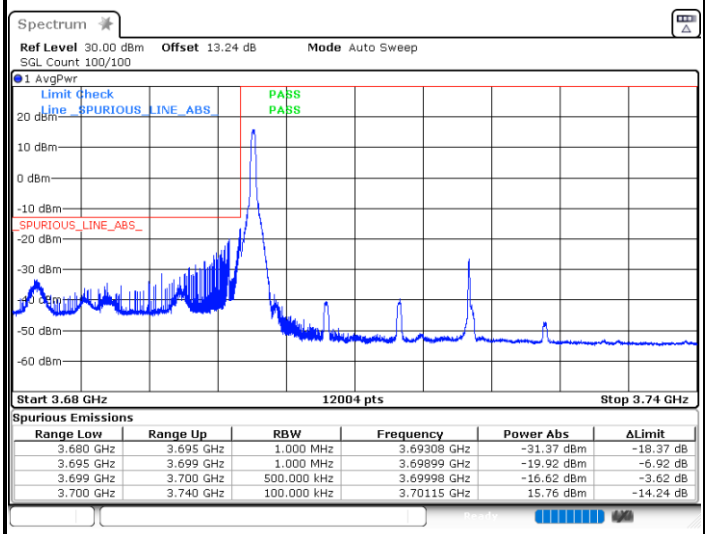

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.96492 GHz | 1.16 dBm | -28.84 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98076 GHz | -31.90 dBm | -18.90 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98124 GHz | -27.64 dBm | -14.64 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.99353 GHz | -28.94 dBm | -15.94 dB |

Date: 27.FEB.2021 15:47:14

## FR1 n77 / 40MHz / DFT-S OFDM / 256QAM

### Lowest Band Edge / 1RB0

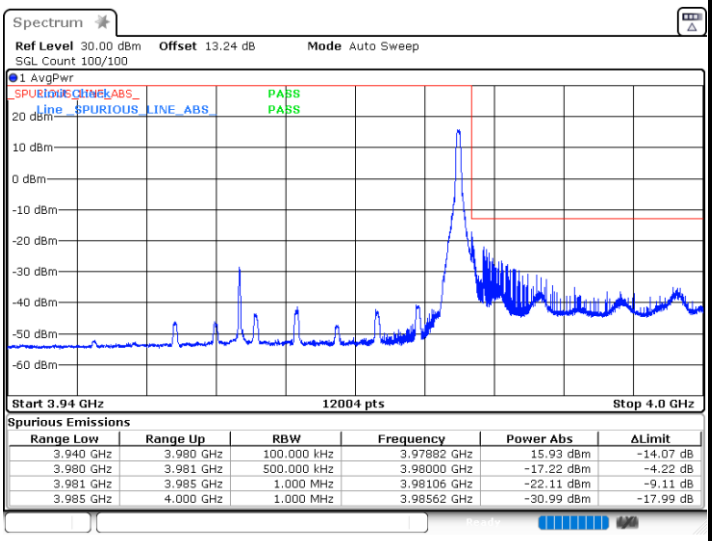



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69308 GHz | -31.37 dBm | -18.37 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69899 GHz | -19.92 dBm | -6.92 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69998 GHz | -16.62 dBm | -3.62 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.70115 GHz | 15.76 dBm | -14.24 dB |

Date: 27.FEB.2021 15:43:38

### Highest Band Edge / 1RBmax

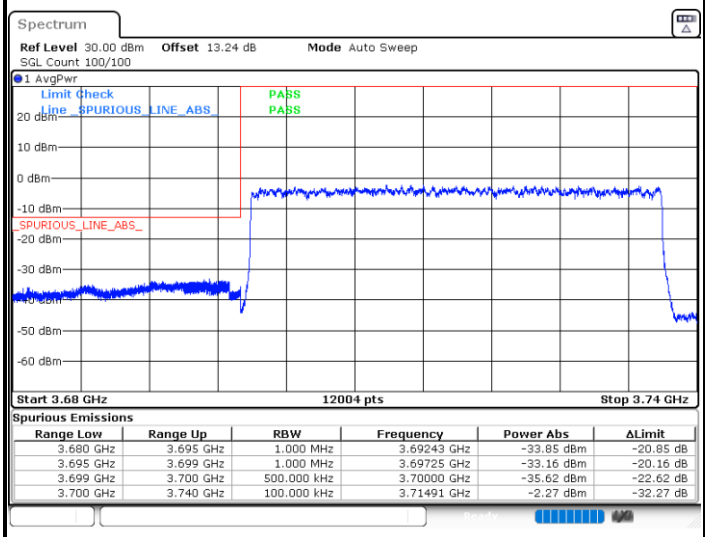



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.97882 GHz | 15.93 dBm | -14.07 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98000 GHz | -17.22 dBm | -4.22 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98106 GHz | -22.11 dBm | -9.11 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98562 GHz | -30.99 dBm | -17.99 dB |

Date: 27.FEB.2021 15:54:21

### Lowest Band Edge / Full RB

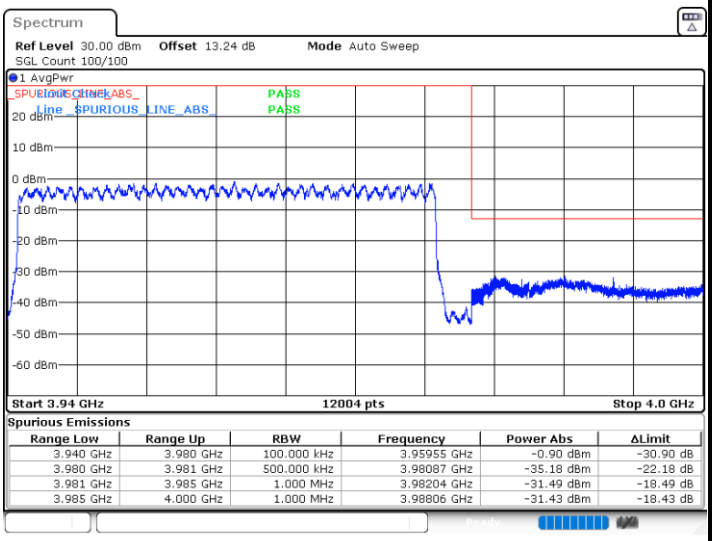



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69243 GHz | -33.85 dBm | -20.85 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69725 GHz | -33.16 dBm | -20.16 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -35.62 dBm | -22.62 dB |
| 3.700 GHz | 3.740 GHz | 100.000 kHz | 3.71491 GHz | -2.27 dBm | -32.27 dB |

Date: 27.FEB.2021 15:35:40

### Highest Band Edge / Full RB



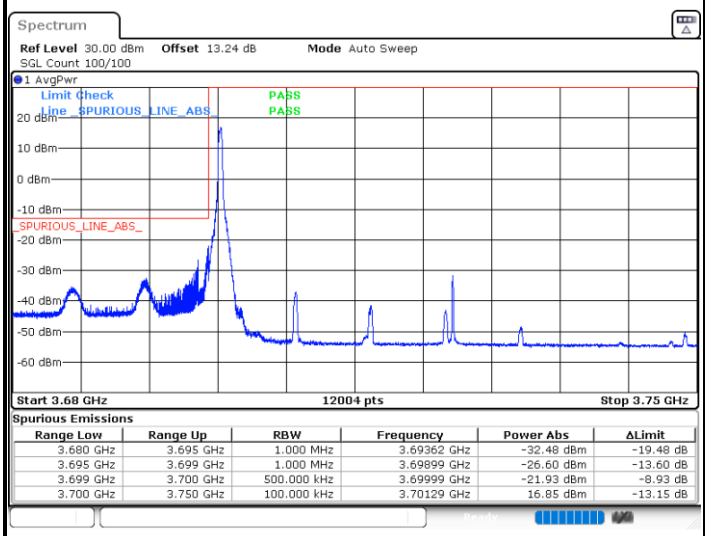

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.940 GHz | 3.980 GHz | 100.000 kHz | 3.95955 GHz | -0.90 dBm | -30.90 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98087 GHz | -35.18 dBm | -22.18 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98204 GHz | -31.49 dBm | -18.49 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98806 GHz | -31.43 dBm | -18.43 dB |

Date: 27.FEB.2021 15:46:32

## FR1 n77 / 50MHz / DFT-S OFDM / QPSK

### Lowest Band Edge / 1RB0

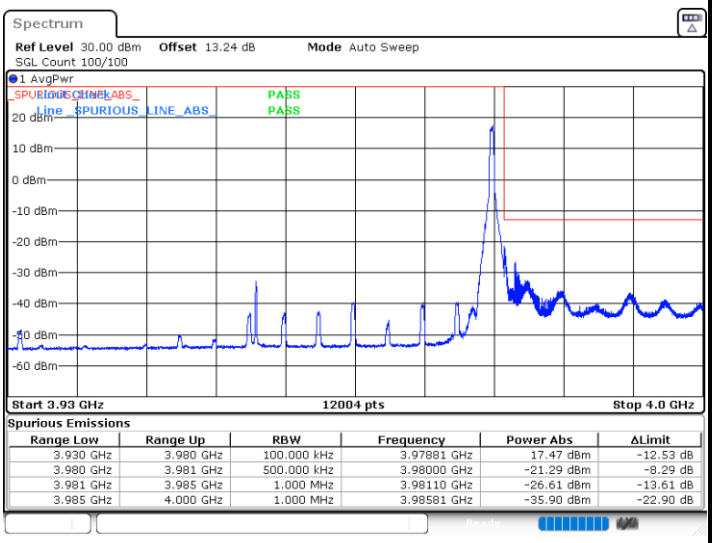



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69362 GHz | -32.48 dBm | -19.48 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69899 GHz | -26.60 dBm | -13.60 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69999 GHz | -21.93 dBm | -8.93 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.70129 GHz | 16.85 dBm | -13.15 dB |

Date: 27.FEB.2021 16:15:20

### Highest Band Edge / 1RBmax

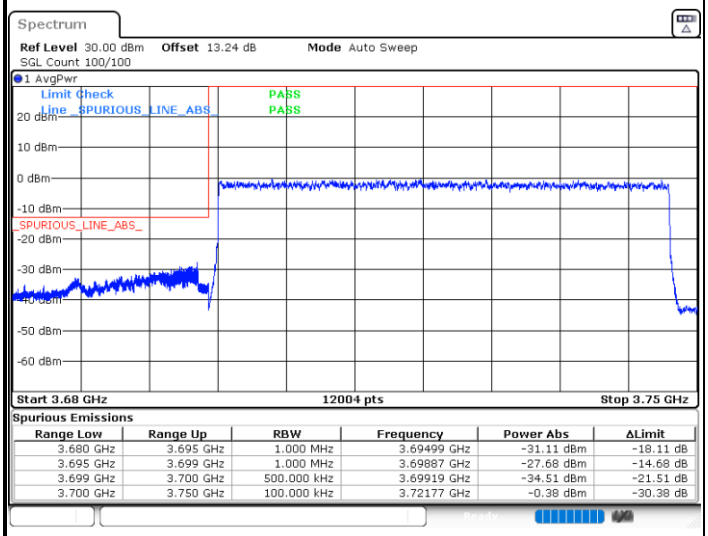



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.97881 GHz | 17.47 dBm | -12.53 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98000 GHz | -21.29 dBm | -8.29 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98110 GHz | -26.61 dBm | -13.61 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98581 GHz | -35.90 dBm | -22.90 dB |

Date: 27.FEB.2021 17:06:06

### Lowest Band Edge / Full RB

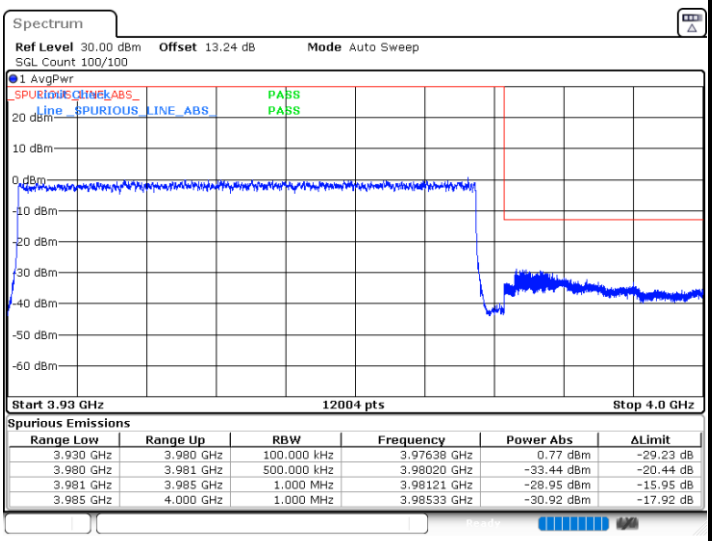



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69499 GHz | -31.11 dBm | -18.11 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69887 GHz | -27.68 dBm | -14.68 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69919 GHz | -34.51 dBm | -21.51 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.72177 GHz | -0.38 dBm | -30.38 dB |

Date: 27.FEB.2021 16:12:33

### Highest Band Edge / Full RB



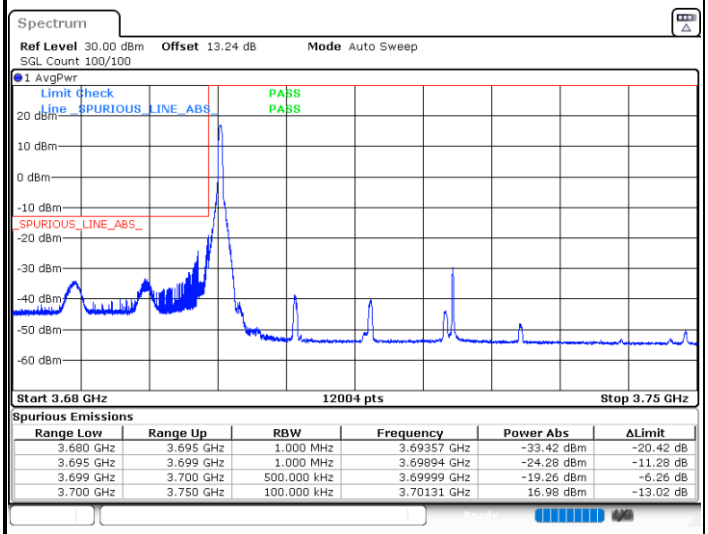

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.97638 GHz | 0.77 dBm | -29.23 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98020 GHz | -33.44 dBm | -20.44 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98121 GHz | -28.95 dBm | -15.95 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98533 GHz | -30.92 dBm | -17.92 dB |

Date: 27.FEB.2021 17:03:40

## FR1 n77 / 50MHz / DFT-S OFDM / 16QAM

### Lowest Band Edge / 1RB0

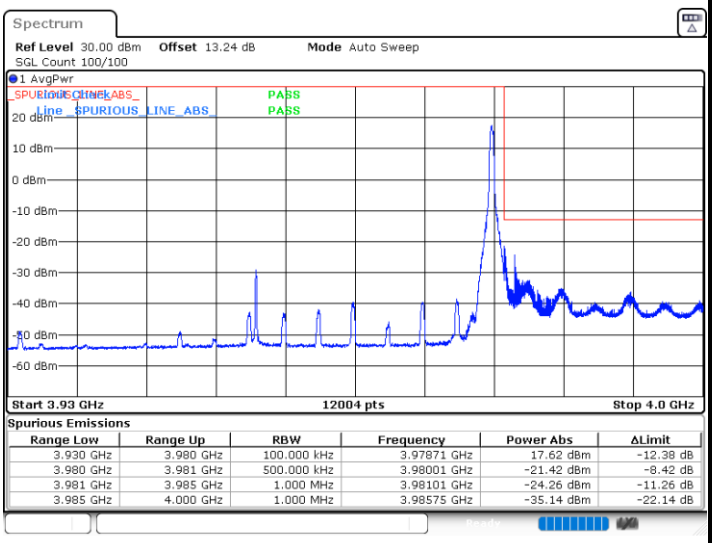



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69357 GHz | -33.42 dBm | -20.42 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69894 GHz | -24.28 dBm | -11.28 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69999 GHz | -19.26 dBm | -6.26 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.70131 GHz | 16.98 dBm | -13.02 dB |

Date: 27.FEB.2021 16:15:58

### Highest Band Edge / 1RBmax

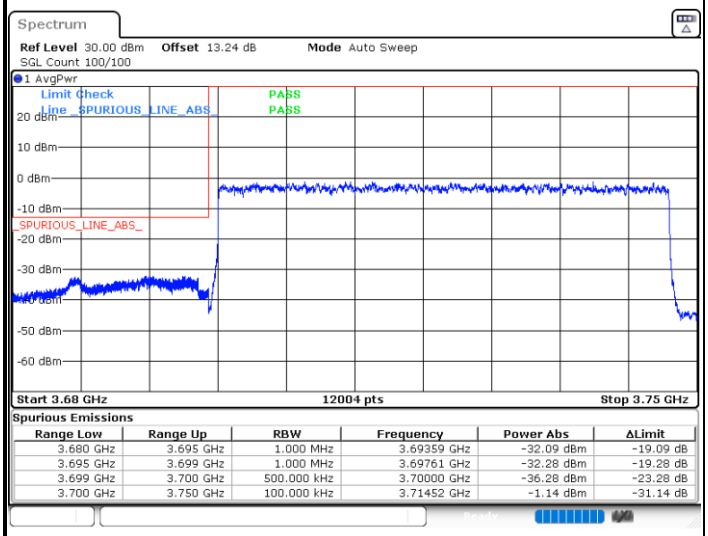



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.97871 GHz | 17.62 dBm | -12.38 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98001 GHz | -21.42 dBm | -8.42 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98101 GHz | -24.26 dBm | -11.26 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98575 GHz | -35.14 dBm | -22.14 dB |

Date: 27.FEB.2021 17:06:50

### Lowest Band Edge / Full RB

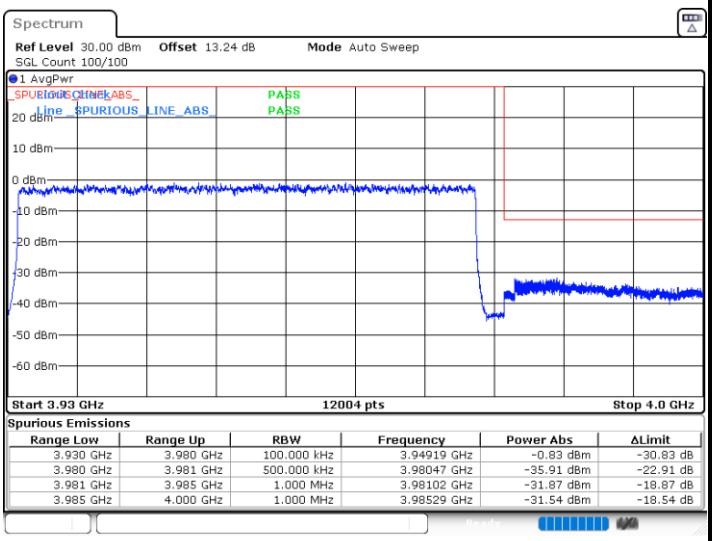



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69359 GHz | -32.09 dBm | -19.09 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69761 GHz | -32.28 dBm | -19.28 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -36.28 dBm | -23.28 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.71452 GHz | -1.14 dBm | -31.14 dB |

Date: 27.FEB.2021 16:11:54

### Highest Band Edge / Full RB



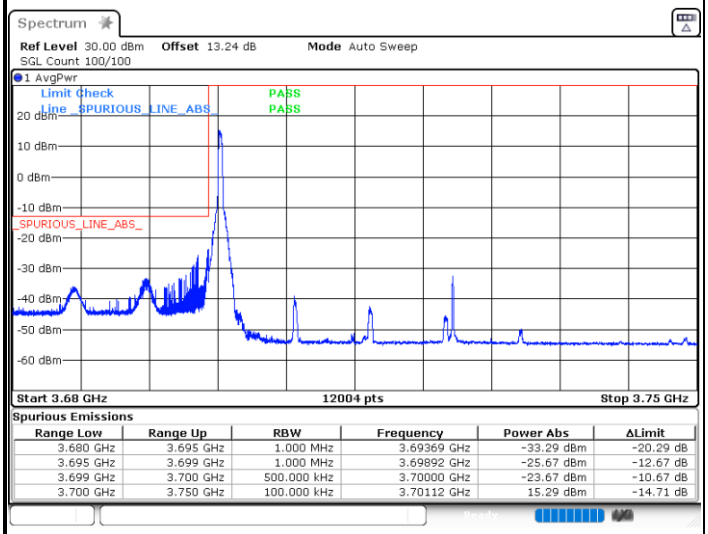

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.94919 GHz | -0.83 dBm | -30.83 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98047 GHz | -35.91 dBm | -22.91 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98102 GHz | -31.87 dBm | -18.87 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98529 GHz | -31.54 dBm | -18.54 dB |

Date: 27.FEB.2021 17:03:02

## FR1 n77 / 50MHz / DFT-S OFDM / 64QAM

### Lowest Band Edge / 1RB0

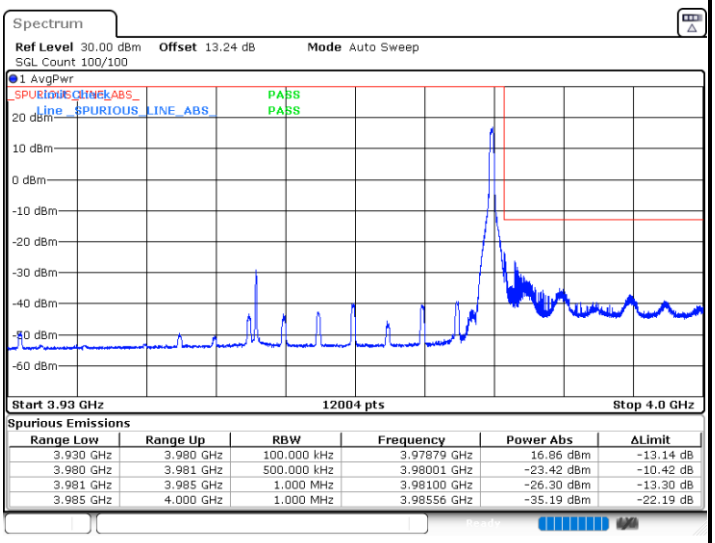



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69369 GHz | -33.29 dBm | -20.29 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69892 GHz | -25.67 dBm | -12.67 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -23.67 dBm | -10.67 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.70112 GHz | 15.29 dBm | -14.71 dB |

Date: 27.FEB.2021 16:17:32

### Highest Band Edge / 1RBmax

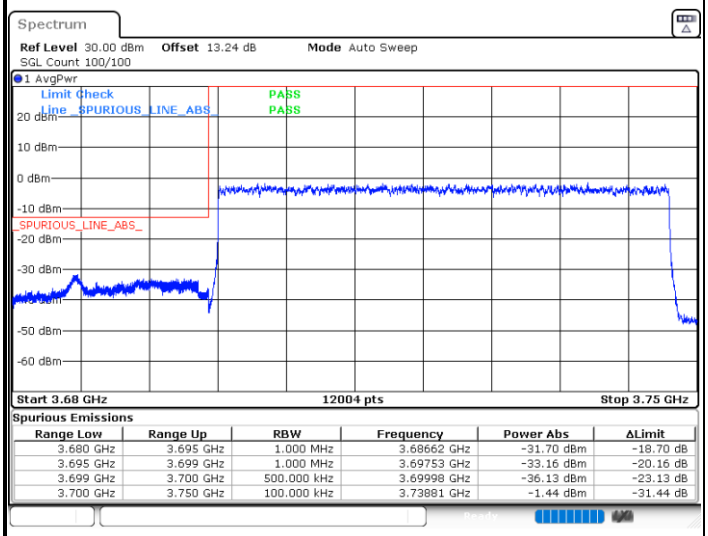



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.97879 GHz | 16.86 dBm | -13.14 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98001 GHz | -23.42 dBm | -10.42 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98100 GHz | -26.30 dBm | -13.30 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98556 GHz | -35.19 dBm | -22.19 dB |

Date: 27.FEB.2021 17:07:32

### Lowest Band Edge / Full RB

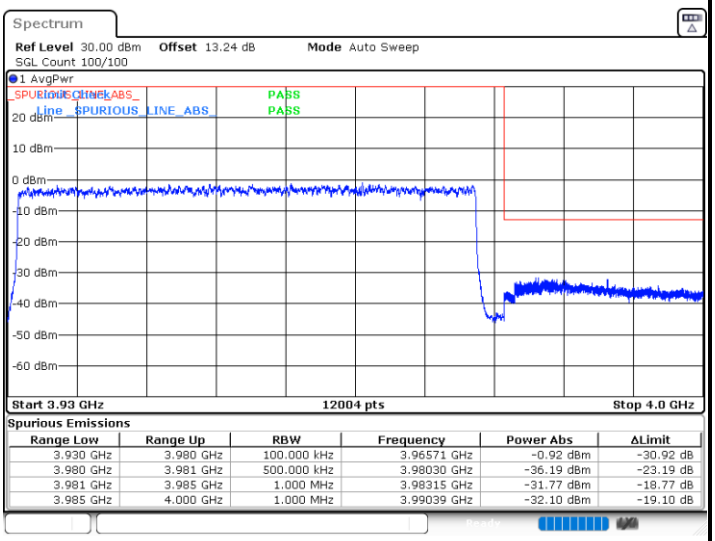



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68662 GHz | -31.70 dBm | -18.70 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69753 GHz | -33.16 dBm | -20.16 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69998 GHz | -36.13 dBm | -23.13 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.73881 GHz | -1.44 dBm | -31.44 dB |

Date: 27.FEB.2021 16:11:16

### Highest Band Edge / Full RB



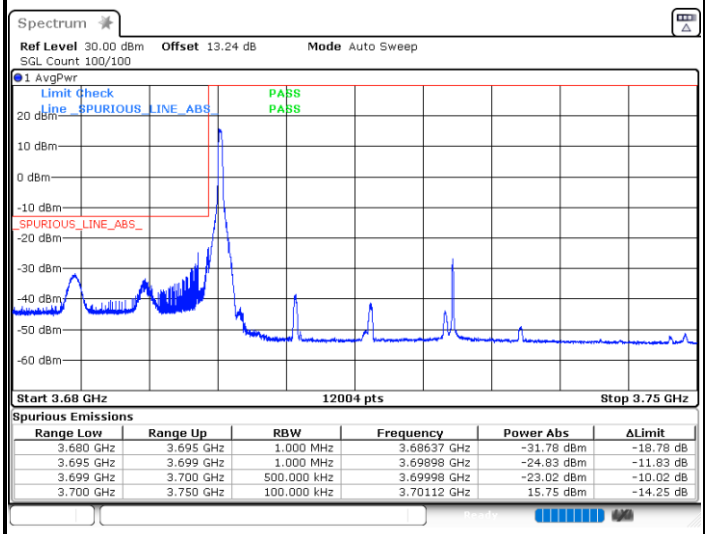

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.96571 GHz | -0.92 dBm | -30.92 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98030 GHz | -36.19 dBm | -23.19 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98315 GHz | -31.77 dBm | -18.77 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.99039 GHz | -32.10 dBm | -19.10 dB |

Date: 27.FEB.2021 17:02:11

## FR1 n77 / 50MHz / DFT-S OFDM / 256QAM

### Lowest Band Edge / 1RB0

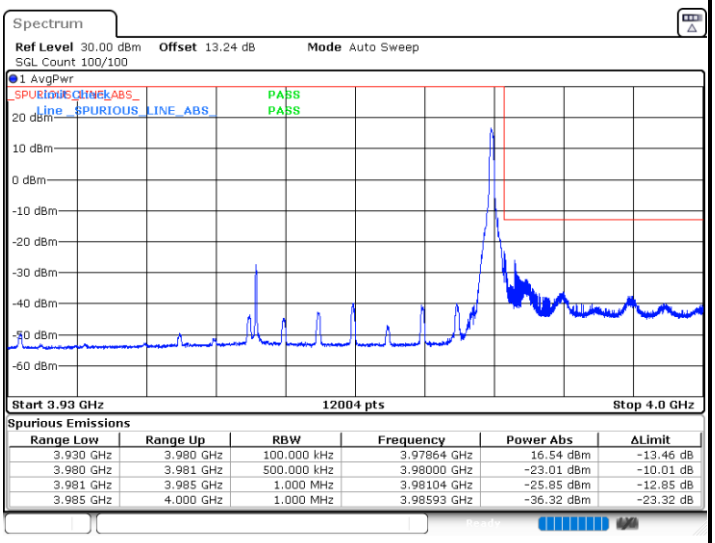



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68637 GHz | -31.78 dBm | -18.78 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69898 GHz | -24.83 dBm | -11.83 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.69998 GHz | -23.02 dBm | -10.02 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.70112 GHz | 15.75 dBm | -14.25 dB |

Date: 27.FEB.2021 16:18:25

### Highest Band Edge / 1RBmax

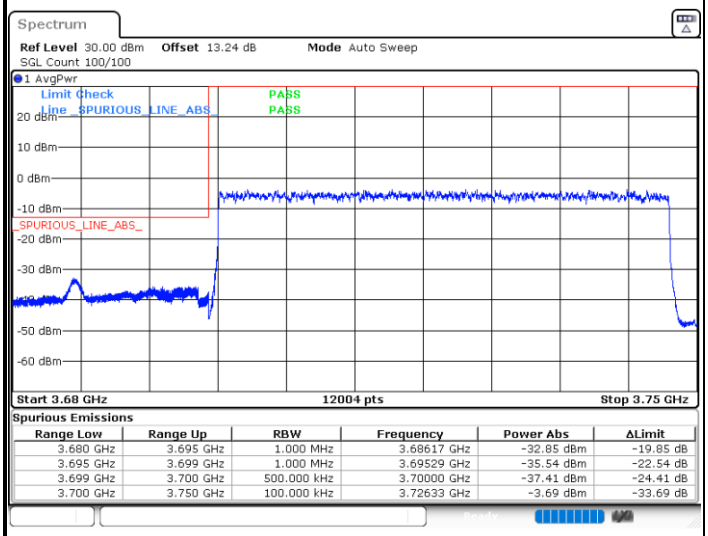



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.97864 GHz | 16.54 dBm | -13.46 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98000 GHz | -23.01 dBm | -10.01 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98104 GHz | -25.85 dBm | -12.85 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98593 GHz | -36.32 dBm | -23.32 dB |

Date: 27.FEB.2021 17:08:35

### Lowest Band Edge / Full RB

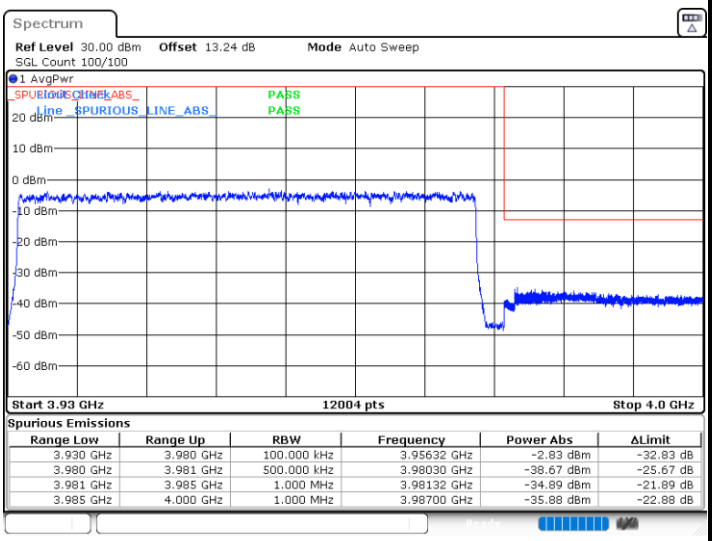



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68617 GHz | -32.85 dBm | -19.85 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69529 GHz | -35.54 dBm | -22.54 dB |
| 3.699 GHz | 3.700 GHz | 500.000 kHz | 3.70000 GHz | -37.41 dBm | -24.41 dB |
| 3.700 GHz | 3.750 GHz | 100.000 kHz | 3.72633 GHz | -3.69 dBm | -33.69 dB |

Date: 27.FEB.2021 16:10:37

### Highest Band Edge / Full RB



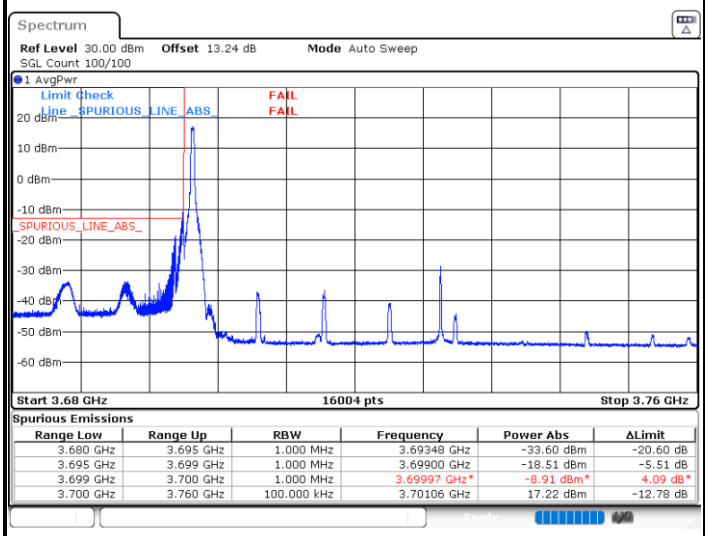

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.930 GHz | 3.980 GHz | 100.000 kHz | 3.95632 GHz | -2.83 dBm | -32.83 dB |
| 3.980 GHz | 3.981 GHz | 500.000 kHz | 3.98030 GHz | -38.67 dBm | -25.67 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98132 GHz | -34.89 dBm | -21.89 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98700 GHz | -35.88 dBm | -22.88 dB |

Date: 27.FEB.2021 17:01:29

## FR1 n77 / 60MHz / DFT-S OFDM / QPSK

### Lowest Band Edge / 1RB0

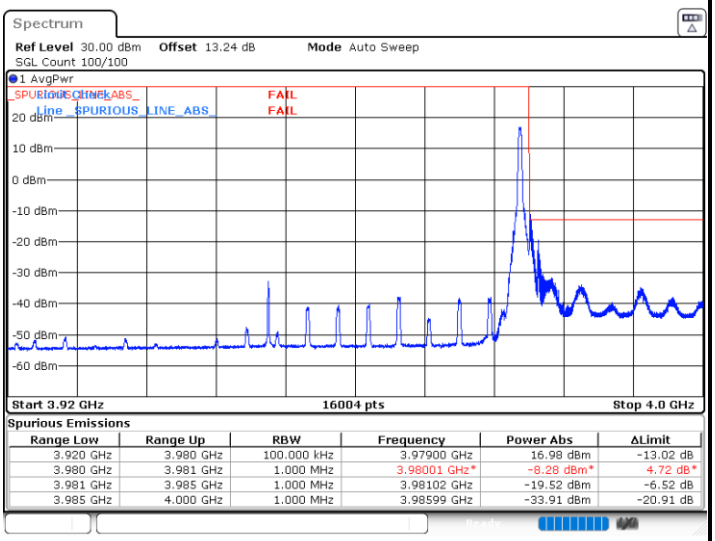



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69348 GHz | -33.60 dBm | -20.60 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69900 GHz | -18.51 dBm | -5.51 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69997 GHz* | -8.91 dBm* | 4.09 dB* |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.70106 GHz | 17.22 dBm | -12.78 dB |

Date: 27.FEB.2021 17:15:15

### Highest Band Edge / 1RBmax

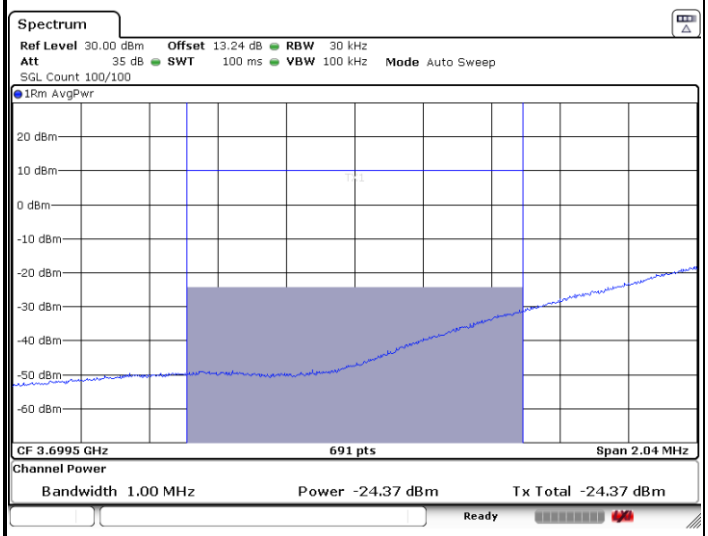



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.97900 GHz | 16.98 dBm | -13.02 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz* | -8.28 dBm* | 4.72 dB* |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98102 GHz | -19.52 dBm | -6.52 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98599 GHz | -33.91 dBm | -20.91 dB |

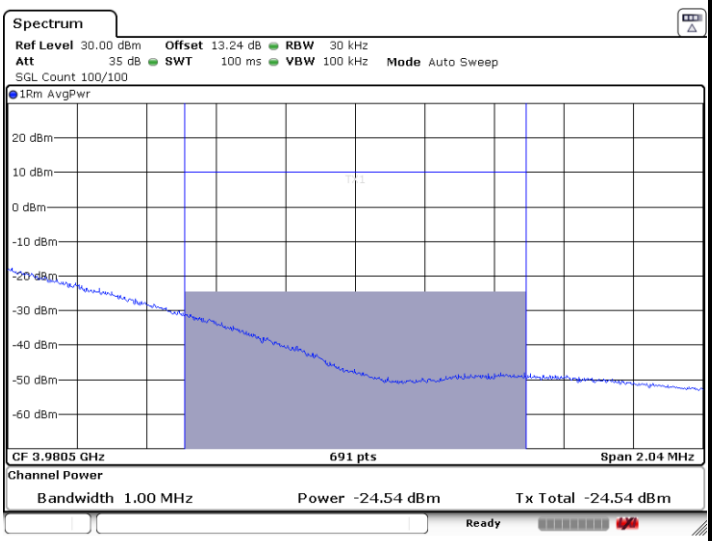
Date: 27.FEB.2021 17:24:56

### Channel Power <-13dBm Pass



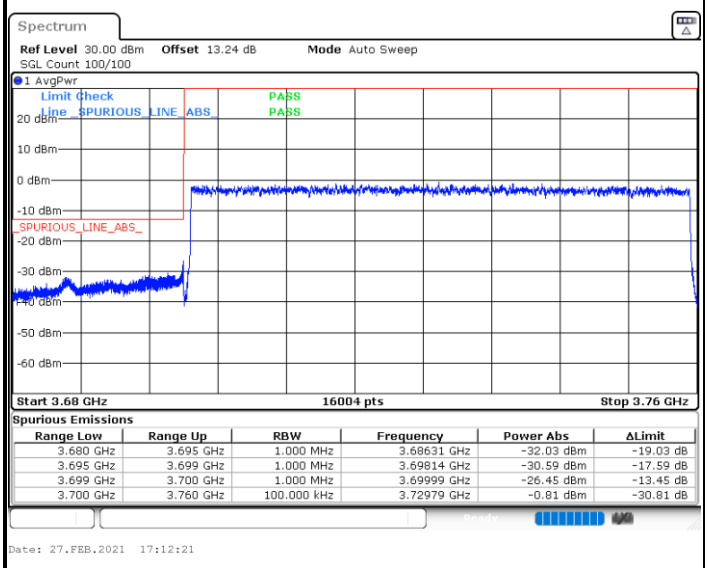

Date: 27.FEB.2021 20:13:36

### Channel Power <-13dBm Pass




Date: 27.FEB.2021 20:16:15

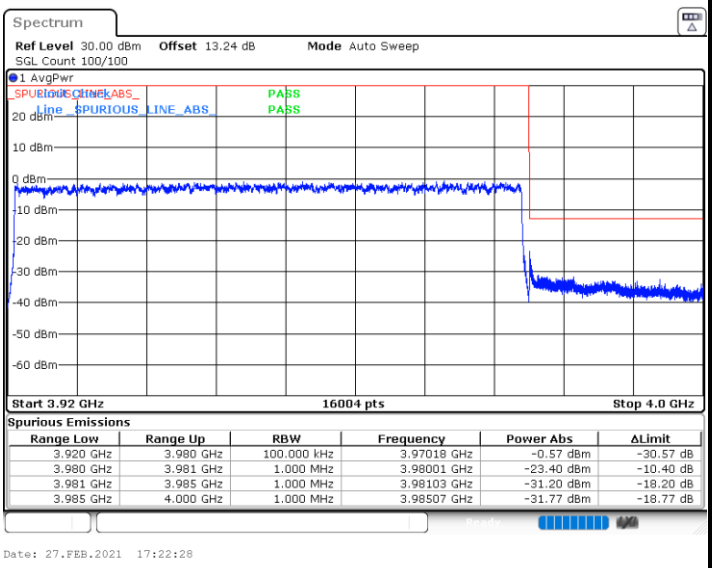
| Lowest Band Edge / Full RB | Highest Band Edge / Full RB |
|---|---|




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68631 GHz | -32.03 dBm | -19.03 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69814 GHz | -30.59 dBm | -17.59 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69999 GHz | -26.45 dBm | -13.45 dB |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.72979 GHz | -0.81 dBm | -30.81 dB |

Date: 27.FEB.2021 17:12:21



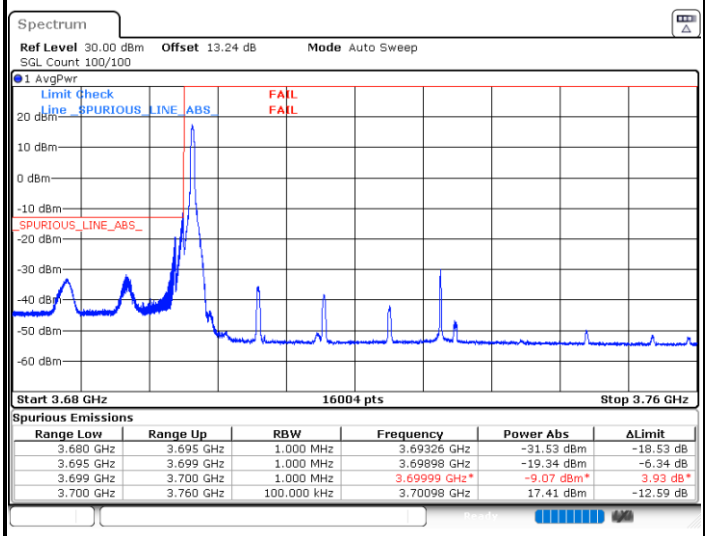

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.97018 GHz | -0.57 dBm | -30.57 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz | -23.40 dBm | -10.40 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98103 GHz | -31.20 dBm | -18.20 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98507 GHz | -31.77 dBm | -18.77 dB |

Date: 27.FEB.2021 17:22:28

## FR1 n77 / 60MHz / DFT-S OFDM / 16QAM

### Lowest Band Edge / 1RB0




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69326 GHz | -31.53 dBm | -18.53 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69898 GHz | -19.34 dBm | -6.34 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69999 GHz* | -9.07 dBm* | 3.93 dB* |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.70098 GHz | 17.41 dBm | -12.59 dB |

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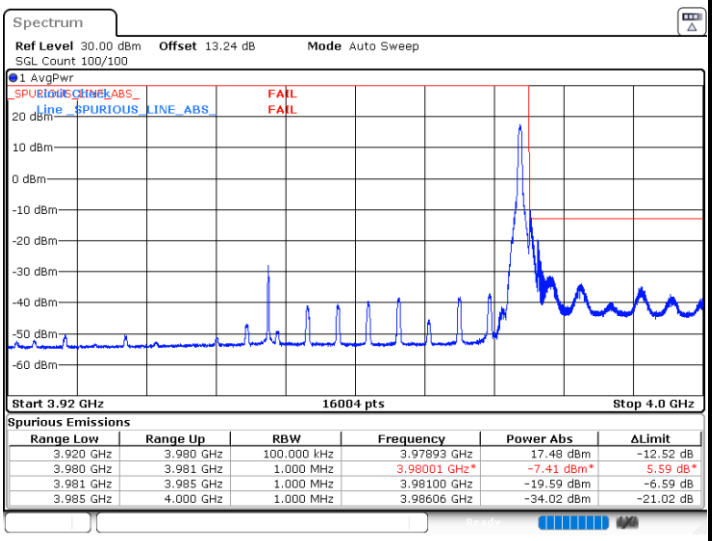
### Highest Band Edge / 1RBmax

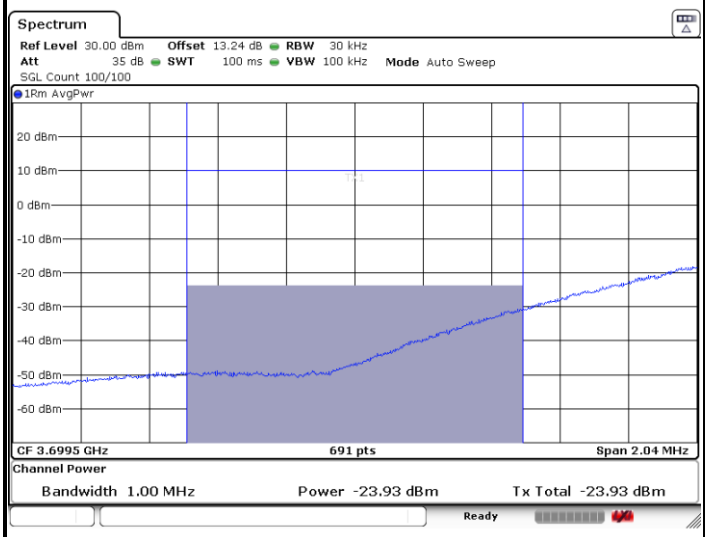



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.97893 GHz | 17.48 dBm | -12.52 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz* | -7.41 dBm* | 5.59 dB* |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98100 GHz | -19.59 dBm | -6.59 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98606 GHz | -34.02 dBm | -21.02 dB |

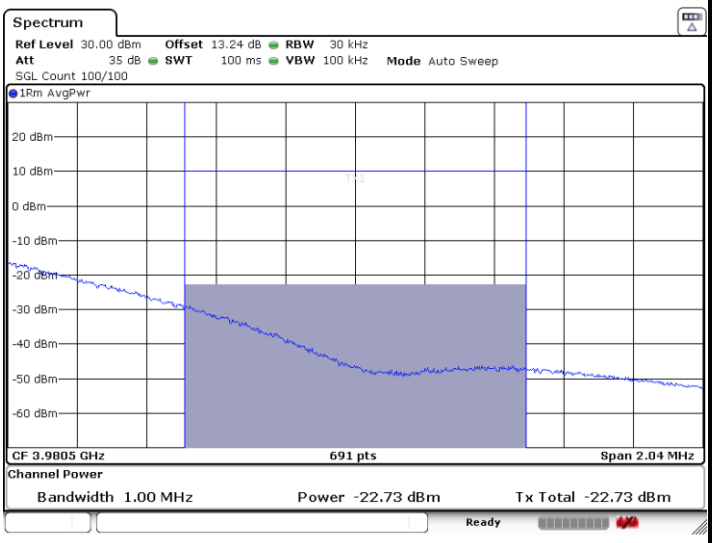
Date: 27.FEB.2021 17:25:42

### Channel Power <-13dBm Pass



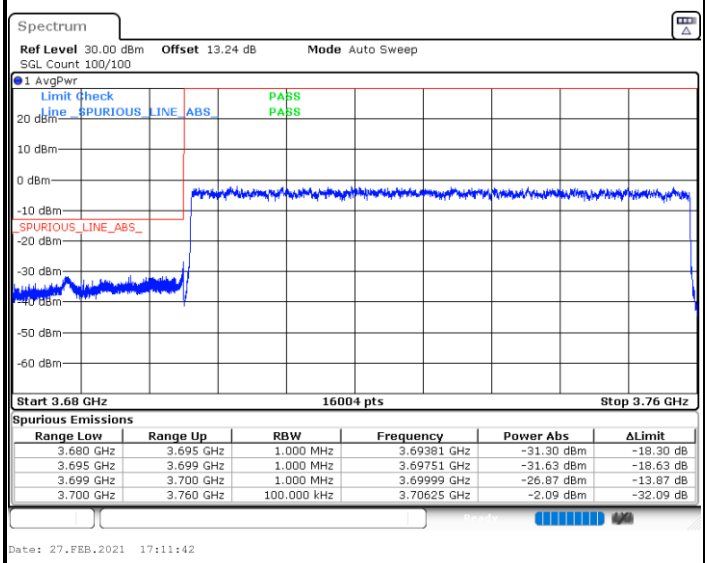

Date: 27.FEB.2021 20:13:09

### Channel Power <-13dBm Pass




Date: 27.FEB.2021 20:16:45

| Lowest Band Edge / Full RB | Highest Band Edge / Full RB |
|---|---|




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.69381 GHz | -31.30 dBm | -18.30 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69751 GHz | -31.63 dBm | -18.63 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69999 GHz | -26.87 dBm | -13.87 dB |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.70625 GHz | -2.09 dBm | -32.09 dB |

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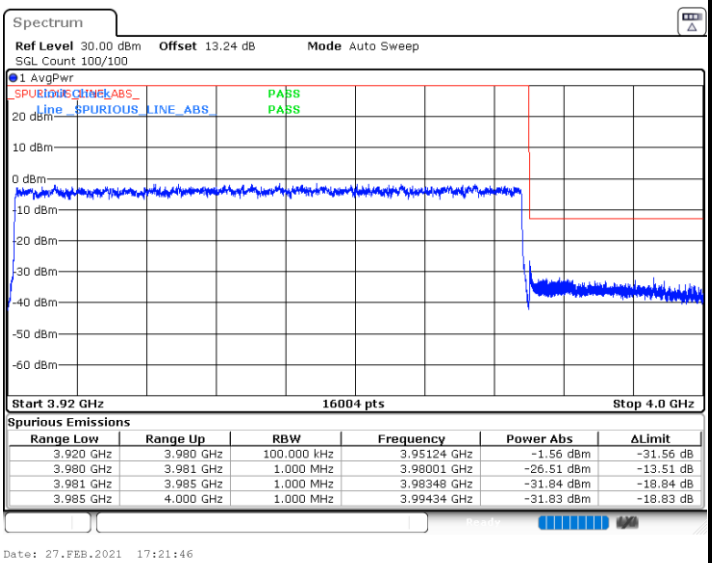


Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.95124 GHz | -1.56 dBm | -31.56 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz | -26.51 dBm | -13.51 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98348 GHz | -31.84 dBm | -18.84 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.99434 GHz | -31.83 dBm | -18.83 dB |

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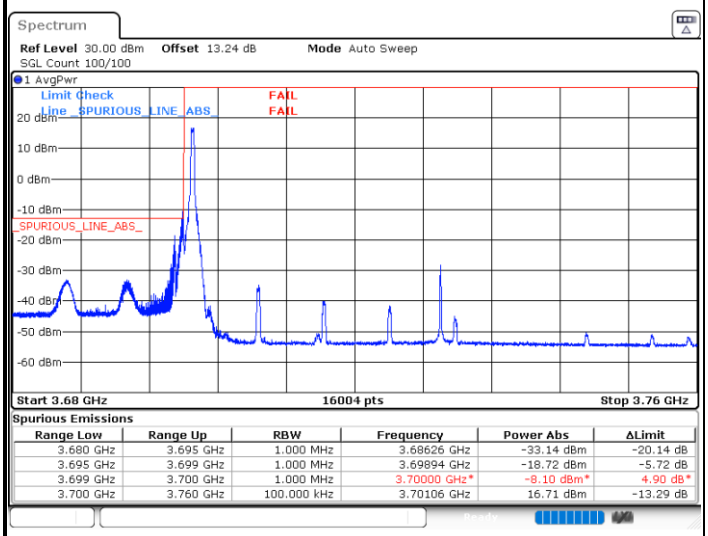
## FR1 n77 / 60MHz / DFT-S OFDM / 64QAM

### Lowest Band Edge / 1RB0




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68626 GHz | -33.14 dBm | -20.14 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69894 GHz | -18.72 dBm | -5.72 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.70000 GHz* | -8.10 dBm* | 4.90 dB* |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.70106 GHz | 16.71 dBm | -13.29 dB |

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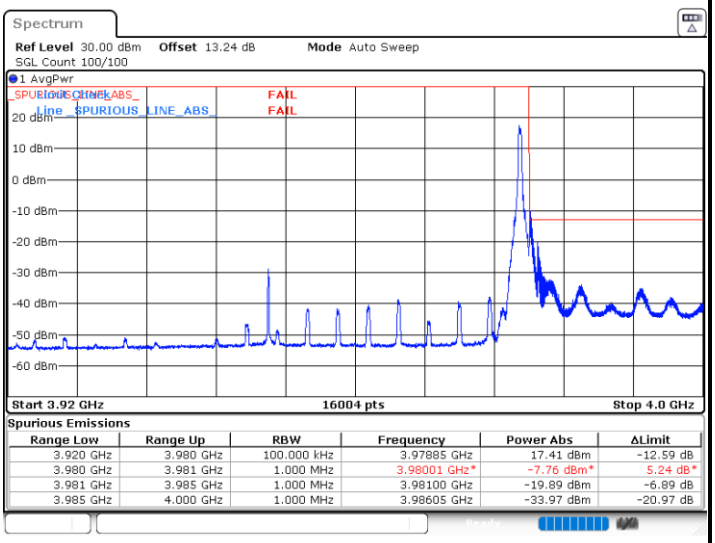
### Highest Band Edge / 1RBmax

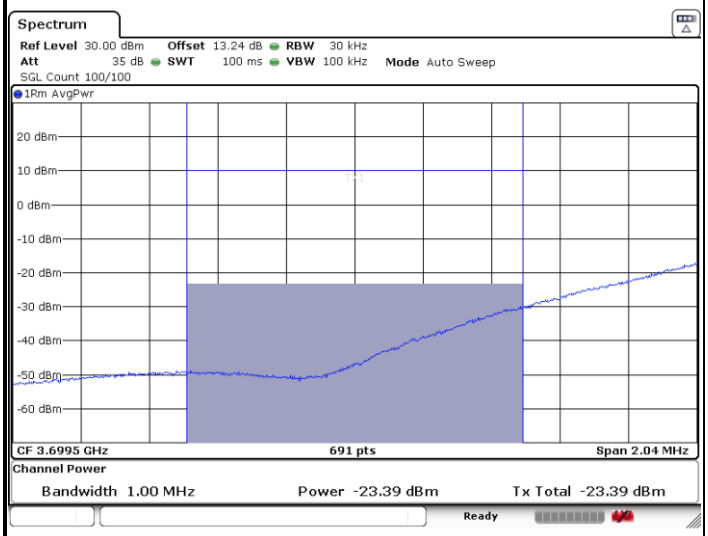



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.97885 GHz | 17.41 dBm | -12.59 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz* | -7.76 dBm* | 5.24 dB* |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98100 GHz | -19.89 dBm | -6.89 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98605 GHz | -33.97 dBm | -20.97 dB |

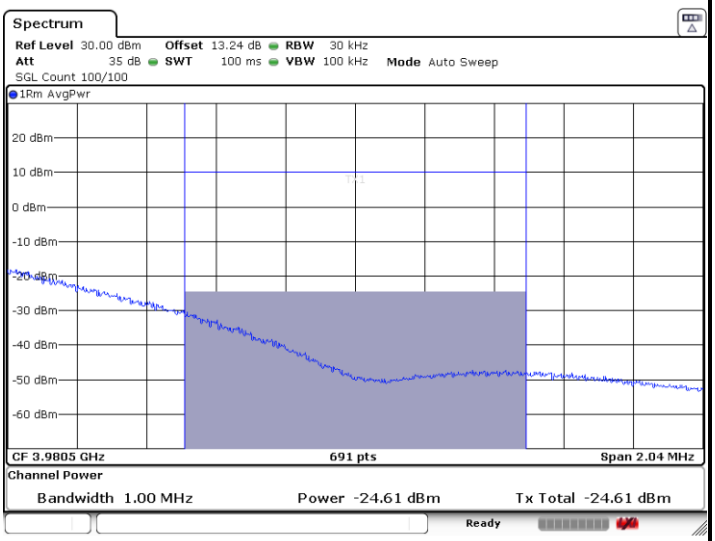
Date: 27.FEB.2021 17:26:22

### Channel Power <-13dBm Pass



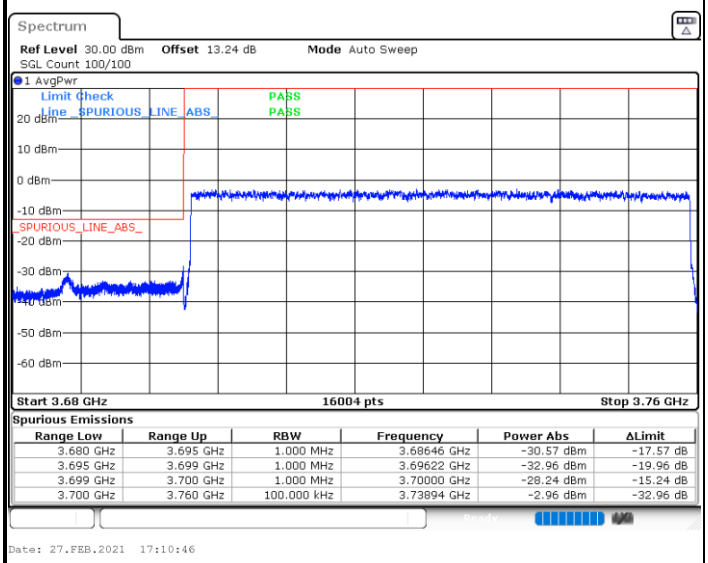

Date: 27.FEB.2021 20:12:42

### Channel Power <-13dBm Pass




Date: 27.FEB.2021 20:17:14

| Lowest Band Edge / Full RB | Highest Band Edge / Full RB |
|---|---|




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68646 GHz | -30.57 dBm | -17.57 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69622 GHz | -32.96 dBm | -19.96 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.70000 GHz | -28.24 dBm | -15.24 dB |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.73894 GHz | -2.96 dBm | -32.96 dB |

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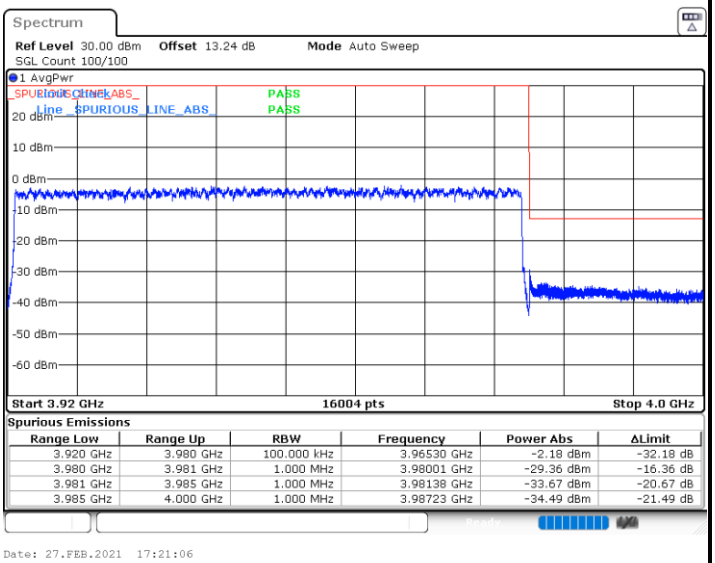


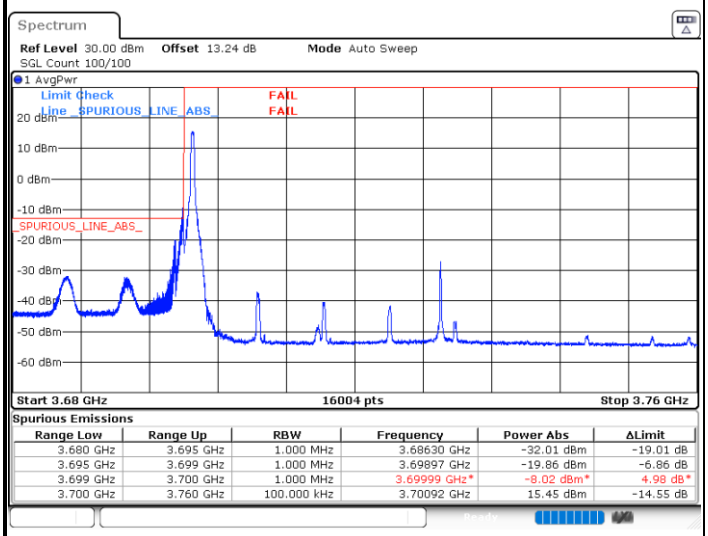

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.96530 GHz | -2.18 dBm | -32.18 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98001 GHz | -29.36 dBm | -16.36 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98138 GHz | -33.67 dBm | -20.67 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98723 GHz | -34.49 dBm | -21.49 dB |

Date: 27.FEB.2021 17:21:06

## FR1 n77 / 60MHz / DFT-S OFDM / 256QAM

### Lowest Band Edge / 1RB0

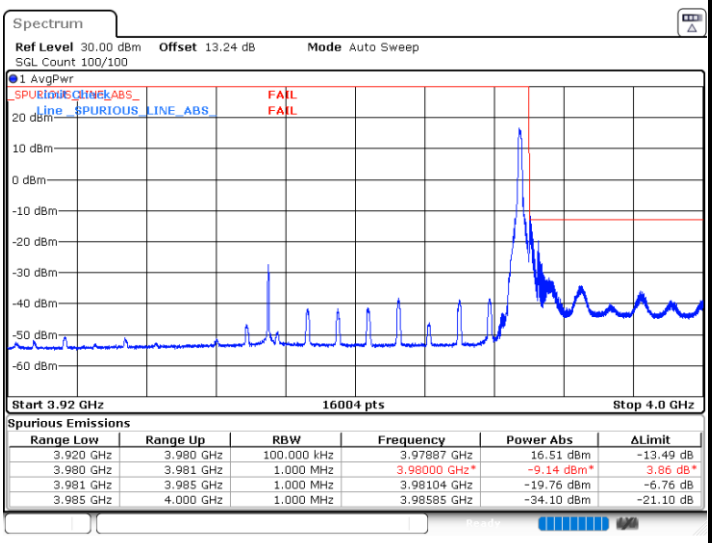



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68630 GHz | -32.01 dBm | -19.01 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69897 GHz | -19.86 dBm | -6.86 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69999 GHz* | -8.02 dBm* | 4.98 dB* |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.70092 GHz | 15.45 dBm | -14.55 dB |

Date: 27.FEB.2021 17:19:02

### Highest Band Edge / 1RBmax

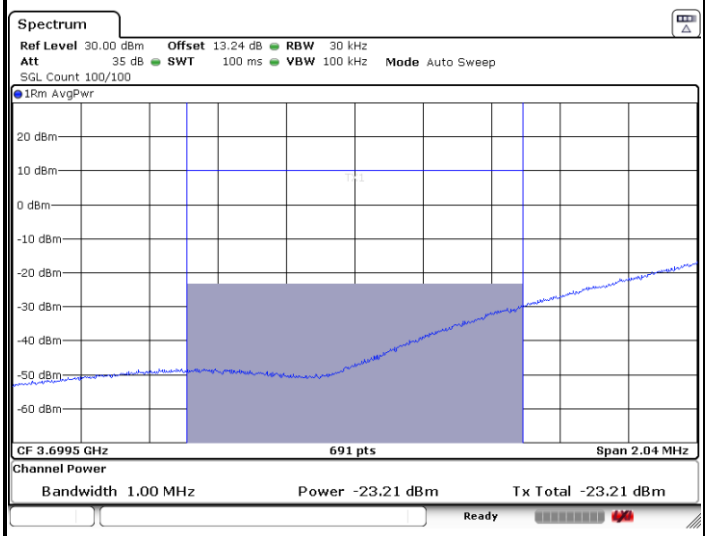



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.97887 GHz | 16.51 dBm | -13.49 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98000 GHz* | -9.14 dBm* | 3.86 dB* |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98104 GHz | -19.76 dBm | -6.76 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98585 GHz | -34.10 dBm | -21.10 dB |

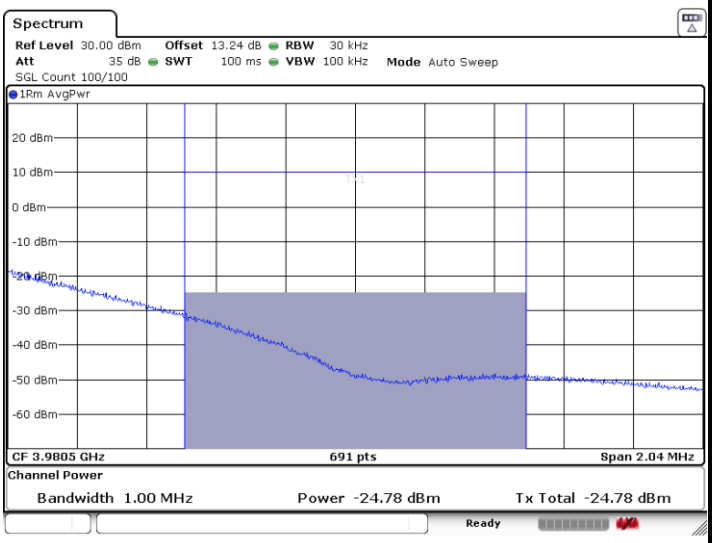
Date: 27.FEB.2021 17:27:18

### Channel Power <-13dBm Pass



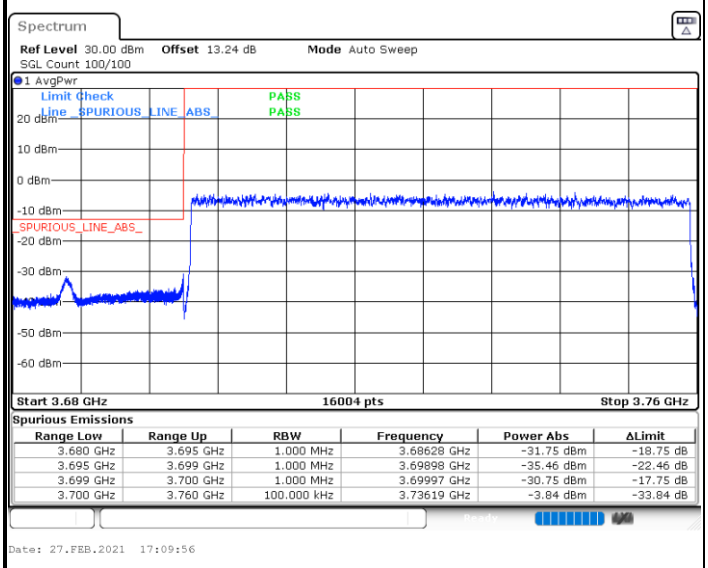

Date: 27.FEB.2021 20:12:08

### Channel Power <-13dBm Pass




Date: 27.FEB.2021 20:18:00

| Lowest Band Edge / Full RB | Highest Band Edge / Full RB |
|---|---|




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.680 GHz | 3.695 GHz | 1.000 MHz | 3.68628 GHz | -31.75 dBm | -18.75 dB |
| 3.695 GHz | 3.699 GHz | 1.000 MHz | 3.69898 GHz | -35.46 dBm | -22.46 dB |
| 3.699 GHz | 3.700 GHz | 1.000 MHz | 3.69997 GHz | -30.75 dBm | -17.75 dB |
| 3.700 GHz | 3.760 GHz | 100.000 kHz | 3.73619 GHz | -3.84 dBm | -33.84 dB |

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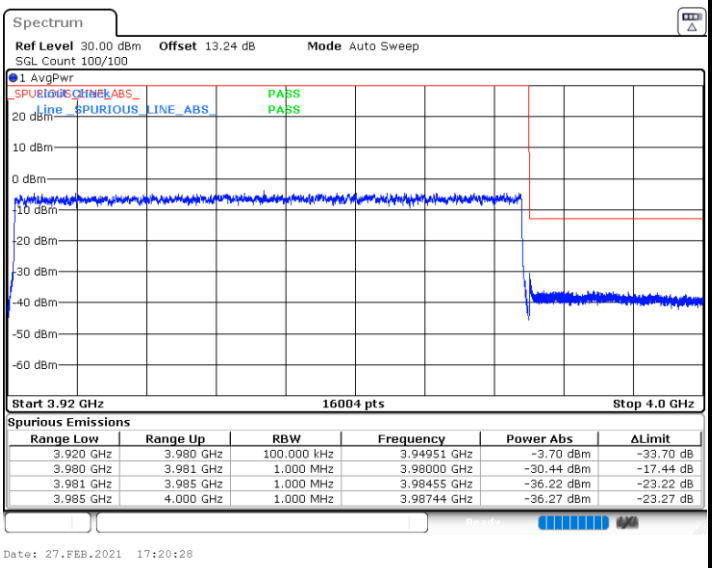


Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 3.920 GHz | 3.980 GHz | 100.000 kHz | 3.94951 GHz | -3.70 dBm | -33.70 dB |
| 3.980 GHz | 3.981 GHz | 1.000 MHz | 3.98000 GHz | -30.44 dBm | -17.44 dB |
| 3.981 GHz | 3.985 GHz | 1.000 MHz | 3.98455 GHz | -36.22 dBm | -23.22 dB |
| 3.985 GHz | 4.000 GHz | 1.000 MHz | 3.98744 GHz | -36.27 dBm | -23.27 dB |

Date: 27.FEB.2021 17:20:28