

# FCC RF Test Report

**APPLICANT** : Casa Systems, Inc.  
**EQUIPMENT** : 5G Enterprise Small Cell  
**BRAND NAME** : Casa Systems  
**MODEL NAME** : 5G2105-48  
**FCC ID** : 2AO385G2105-48  
**STANDARD** : 47 CFR Part 2, Part 27 Subpart Q  
**CLASSIFICATION** : Licensed Non-Broadcast Station Transmitter (TNB)  
**TEST DATE(S)** : Jan. 26, 2024 ~ Feb. 01, 2024

We, Sporton International Inc. (KunShan), 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 Inc. (KunShan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



**Sporton International Inc. (Kunshan)**

**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
FG410208C	Rev. 01	Initial issue of report	Feb. 22, 2024



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	—	Report Only	-
3.5	§27.50 (k)(4)	Peak-to-Average Ratio	<13dB	PASS	
3.6	§27.50 (k)(2)	EIRP	EIRP < 1640W	PASS	-
3.7	§2.1049	Occupied Bandwidth	—	Report Only	-
3.8	§2.1051 §27.53 (n)(1)	Conducted Band Edge Measurement	-13dBm/MHz	PASS	-
3.9	§2.1051 §27.53 (n)(1)	Conducted Spurious Emission	-13dBm/MHz	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (n)(1)	Radiated Spurious Emission	-13dBm/MHz	PASS	Under limit 14.52 dB at 10500.000 MHz

**Conformity Assessment Condition:**

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

# 1 General Description

## 1.1 Applicant

Casa Systems, Inc.  
100 Old River Road Andover MA 01810 USA

## 1.2 Manufacturer

Casa Systems, Inc.  
100 Old River Road Andover MA 01810 USA

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G Enterprise Small Cell
Brand Name	Casa Systems
Model Name	5G2105-48
FCC ID	2AO385G2105-48
HW Version	V03
SW Version	FR4.7
EUT Stage	Production Unit

## 1.4 Product Specification of Equipment Under Test

Product Feature	
Tx/Rx Frequency	5G NR n78: 3450 MHz ~ 3550 MHz
SCS	30kHz
Bandwidth	n78: 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
EN-DC	4A_n78A, 66A_n78A
Maximum Output Power	MIMO <Internal Ant.3+4>: 27.50 dBm MIMO <External Ant.3+4>: 27.80 dBm
Antenna Gain	<b>External Ant. 3:</b> n78 : 8.0 dBi <b>External Ant. 4:</b> n78 : 8.0 dBi <b>Internal Ant. 3:</b> n78 : 6.18 dBi <b>Internal Ant. 4:</b> n78 : 6.22 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM

**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. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP is shown in the report, 5G NR n78 for External Antenna is shown on the report for MIMO

mode.

3. 5G NR Tx is non-signaling mode (Control tool "QRCT").
4. The base station only support 5G NR full RB.
5. For SISO & MIMO mode, the testing has assessed only MIMO mode by referring to the higher output power. The MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.
6. For Internal & External Antenna, they are the same transmitter, thus Conducted items only test External antenna port by referring to higher output power, and RSE test both Internal & External Antenna.
7. The Internal Antenna and External Antenna support manual switch, the Internal & External antenna can't work at the same time, thus MIMO mode only support MIMO <Internal Ant.3+4> or MIMO <External Ant.3+4>, not support MIMO <Internal Ant.3/4 + External Ant.3/4>.
8. The EUT supports SA and NSA, RSE execution FTM Mode.
9. The device supports Power class 3 and HPUE (power class 2) under SISO mode and HPUE (power class 1.5) under UL MIMO mode for 5G NR n78, so HPUE (power class 1.5) has been performed according to the maximum power.

### 1.5 Modification of EUT

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

### 1.6 Maximum EIRP Power and Emission Designator

5G NR n78 UL MIMO for SCS 30kHz		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	3460.02 ~ 3540.00	3.5954	18M3G7D	3.6419	18M3W7D
30	3465.00 ~ 3534.99	3.4478	27M9G7D	3.3387	27M9W7D
40	3470.01 ~ 3529.98	3.3974	38M1G7D	3.7297	38M2W7D
50	3475.02 ~ 3525.00	3.3721	47M8G7D	3.4716	47M8W7D
60	3480.00 ~ 3519.99	3.3182	58M0G7D	3.8000	58M3W7D
70	3485.01 ~ 3514.98	3.0913	67M7G7D	3.5650	67M9W7D
80	3490.02 ~ 3510.00	3.0587	77M7G7D	3.5521	77M7W7D
90	3495.00 ~ 3504.99	3.1093	87M9G7D	3.4881	87M9W7D
100	3500.01	3.0028	97M7G7D	3.4879	98M3W7D

**Note:** All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

## 1.7 Testing Site

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

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

## 1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH04-KS	AUDIX	E3	210616

## 1.9 Applied Standards

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

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

### Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

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

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission (Y plane).

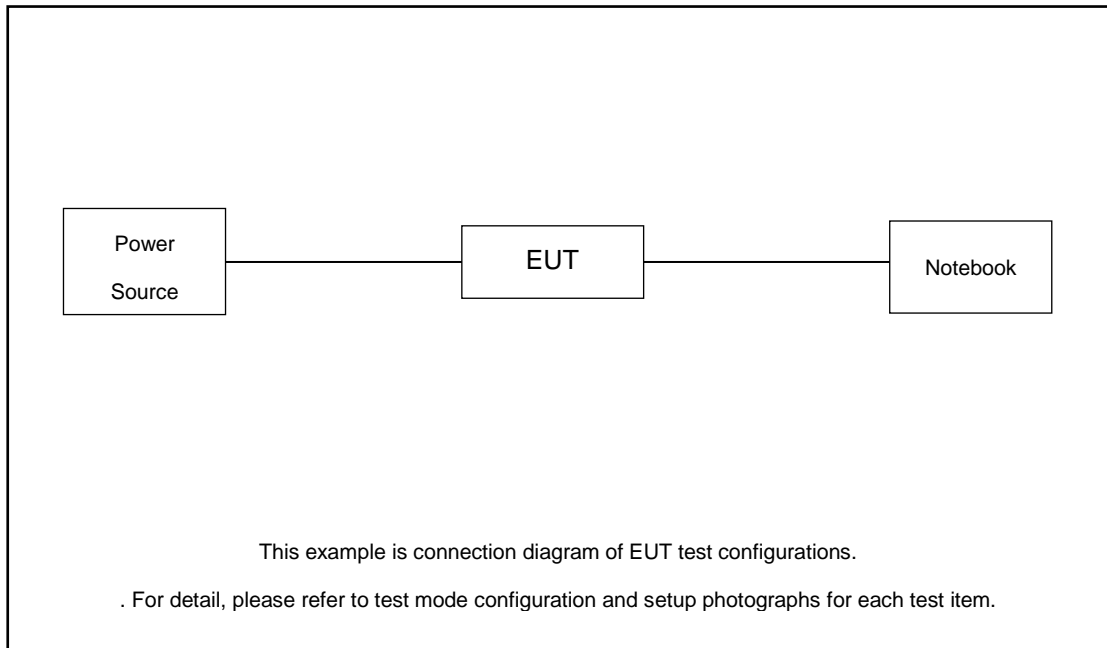
Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	5G n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	QPSK, 16QAM, 64QAM, 256QAM	Full RB	L, M, H
Peak-to-Average Ratio	5G n78	20M	QPSK, 16QAM	Full RB	M
E.I.R.P	5G n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	QPSK, 16QAM, 64QAM, 256QAM	Full RB	L, M, H
26dB and 99% Bandwidth	5G n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	QPSK, 16QAM, 64QAM, 256QAM	Full RB	L, M, H
Conducted Band Edge	5G n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	QPSK, 16QAM, 64QAM, 256QAM	Full RB	L, H
Conducted Spurious Emission	5G n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	QPSK, 16QAM, 64QAM, 256QAM	Full RB	L, M, H
Frequency Stability	5G n78	20M	QPSK	Full RB	M
Radiated Spurious Emission	5G n78	Worst case from maximum power			M

**Note:**

- 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.
- Frequency Stability: Normal Voltage = 12V; Low Voltage =11.4V; High Voltage =12.6V.



## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	Unshielded AC I/P cable 1.8m
3.	POE Adapter	N/A	N/A	N/A	N/A	N/A

## 2.4 Measurement Results Explanation Example

### For all conducted test items:

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.

$$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}.$$

Following shows an offset computation example with cable loss 6.2 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset}(dB) &= \text{RF cable loss}(dB) + \text{attenuator factor}(dB). \\ &= 6.2 + 10 = 16.2 \text{ (dB)} \end{aligned}$$



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

5G n78 Channel and Frequency List for SCS 30kHz				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	-	633334	-
	Frequency	-	3500.01	-
90	Channel	633000	633334	633666
	Frequency	3495	3500.01	3504.99
80	Channel	632668	633334	634000
	Frequency	3490.02	3500.01	3510
70	Channel	632334	633334	634332
	Frequency	3485.01	3500.01	3514.98
60	Channel	632000	633334	634666
	Frequency	3480	3500.01	3519.99
50	Channel	631668	633334	635000
	Frequency	3475.02	3500.01	3525
40	Channel	631334	633334	635332
	Frequency	3470.01	3500.01	3529.98
30	Channel	631000	633334	635666
	Frequency	3465	3500.01	3534.99
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540

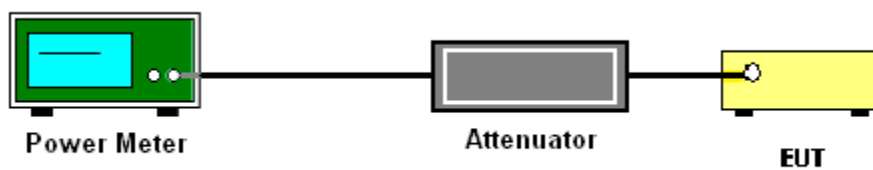
### 3 Conducted Test Items

#### 3.1 Measuring Instruments

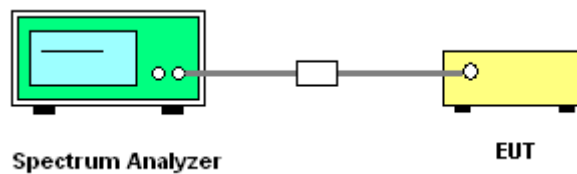
See list of measuring instruments of this test report.

#### 3.2 Test Setup

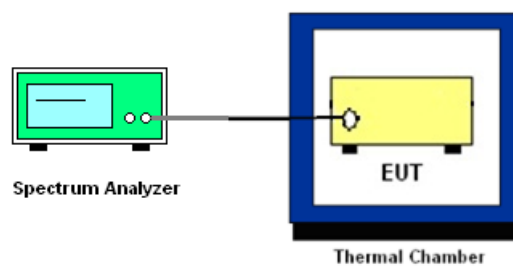
##### 3.2.1 Conducted Output Power



##### 3.2.2 Peak-to-Average Ratio, Occupied / 26dB Bandwidth, 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 Measurement

### 3.4.1 Description of the Conducted Output Power Measurement

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

### 3.4.2 Test Procedures

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

## 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 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.



## 3.6 EIRP

### 3.6.1 Description of EIRP Limit

#### § 27.50 (k)(2)

The power of each fixed or base station transmitting in the 3450–3550 MHz band and situated in any geographic location other than that described in paragraph (k)(1) of this section is limited to an EIRP of 1640 Watts/MHz.

### 3.6.2 Test Procedures

1. According to KDB 412172 D01 Power Approach,
2.  $EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , 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

## 3.7 Occupied Bandwidth

### 3.7.1 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.

### 3.7.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer.
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.

## 3.8 Conducted Band Edge Measurement

### 3.8.1 Description of Conducted Band Edge Measurement

#### § 27.53 (n)(1)

For base station operations in the 3450–3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed  $-13$  dBm/MHz. Compliance with the provisions of this paragraph (n)(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, but limited to a maximum of 200 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Notwithstanding the channel edge requirement of  $-13$  dBm per megahertz, for base station operations in the 3450–3550 MHz band, the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed  $-25$  dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed  $-40$  dBm/MHz.

### 3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW  $\geq 1\%$  EBW but limited to a maximum of 200 kHz in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz removed from the band edge, set RBW = 1MHz.
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.



## 3.9 Conducted Spurious Emission Measurement

### 3.9.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges shall not exceed -13 dBm/MHz.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10<sup>th</sup> harmonic.

### 3.9.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer.
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. Checked that all the results comply with the emission limit line.

## 3.10 Frequency Stability Measurement

### 3.10.1 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.

### 3.10.2 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 spectrum analyzer.
3. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  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  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . 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.

### 3.10.3 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  $20\pm 5^{\circ}\text{C}$  and connected with the spectrum analyzer.
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.

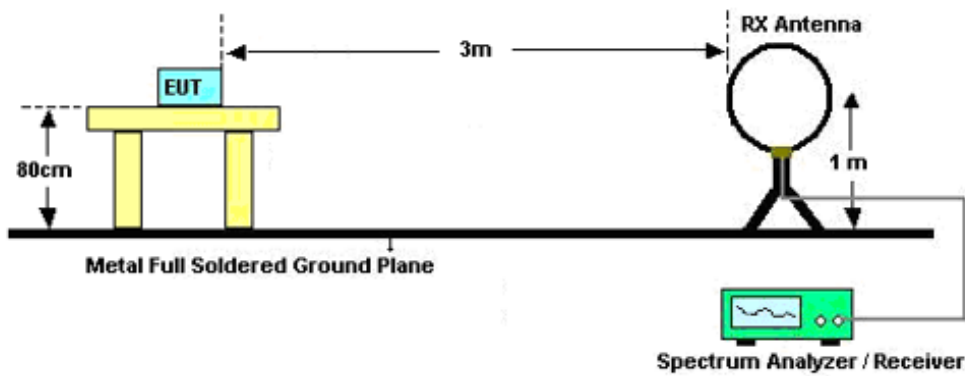
## 4 Radiated Test Items

### 4.1 Measuring Instruments

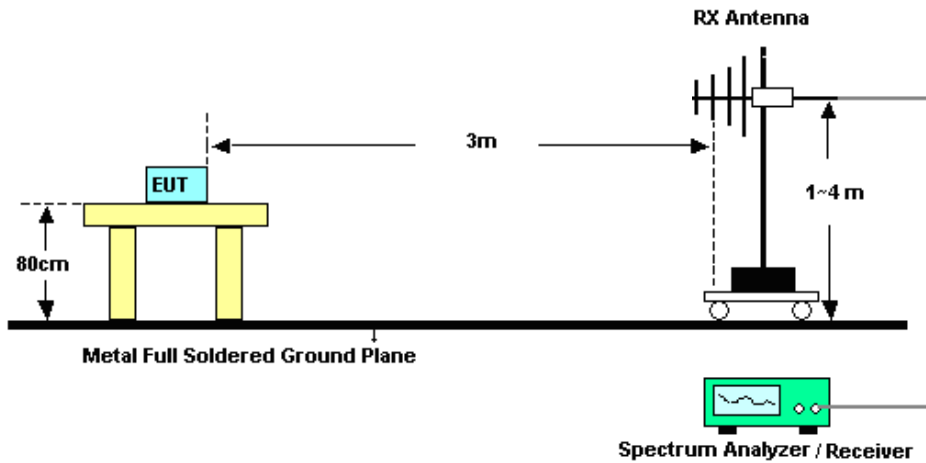
See list of measuring instruments of this test report.

### 4.2 Test Setup

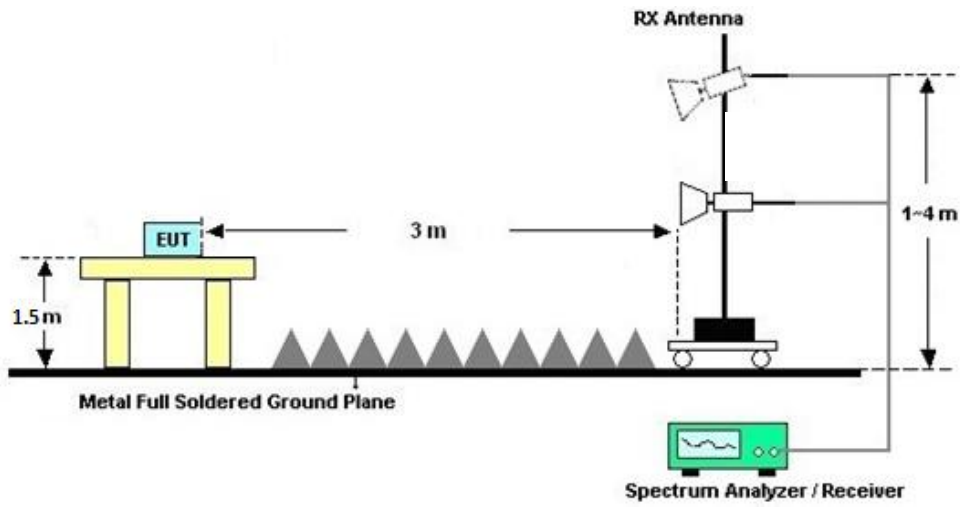
#### 4.2.1 For radiated test below 30MHz



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



#### 4.2.3 For radiated test above 1GHz



#### 4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

## 4.4 Radiated Spurious Emission Measurement

### 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 shall not exceed -13 dBm/MHz.

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.  
$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$
$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



## 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	Oct. 11, 2023	Jan. 26, 2024~ Feb. 01, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1435004	50MHz Bandwidth	Jan. 02, 2024	Jan. 26, 2024~ Feb. 01, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011 440	-40~+150°C 20%~95%RH	Jul. 06, 2023	Jan. 26, 2024~ Feb. 01, 2024	Jul. 05, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY574710 79	10Hz-44G,MAX 30dB	Oct. 10, 2023	Jan. 26, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Jan. 26, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Jan. 26, 2024	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 10, 2023	Jan. 26, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Jan. 26, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul 06, 2023	Jan. 26, 2024	Jul 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 05, 2024	Jan. 26, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Jan. 26, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A023 70	1Ghz-18Ghz	Oct. 10, 2023	Jan. 26, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Jan. 26, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 26, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 26, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

## 6 Measurement Uncertainty

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 Conducted Measurement

<b>Conducted Spurious Emission &amp; Bandedge</b>	<b>±2.26 dB</b>
<b>Occupied Channel Bandwidth</b>	<b>±0.1%</b>
<b>Conducted Power</b>	<b>±0.46 dB</b>
<b>Peak to Average Ratio</b>	<b>±0.46 dB</b>
<b>Frequency Stability</b>	<b>±0.4 Hz</b>

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

<b>Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))</b>	<b>3.82dB</b>
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))</b>	<b>3.56dB</b>
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))</b>	<b>3.54dB</b>
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----- THE END -----



## Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

### Conducted Output Power(Average power) and EIRP

MIMO External Antenna <Ant 3+4>:

5G NR n78								
Ant.	BW	Type of Modulation	Channel	Frequency MHz	Power	Gain	EIRP	
3+4	20M	QPSK	630668	3460.02	27.26	8	3.3551	
		QPSK	633334	3500.01	27.18	8	3.2933	
		QPSK	636000	3540	27.56	8	3.5954	
	30M	QPSK	631000	3465	27.38	8	3.4478	
		QPSK	633334	3500.01	26.93	8	3.1099	
		QPSK	635666	3534.99	27.00	8	3.1590	
	40M	QPSK	631334	3470.01	27.27	8	3.3676	
		QPSK	633334	3500.01	26.96	8	3.1342	
		QPSK	635332	3529.98	27.31	8	3.3974	
	50M	QPSK	631668	3475.02	27.28	8	3.3702	
		QPSK	633334	3500.01	26.89	8	3.0833	
		QPSK	635000	3525	27.28	8	3.3721	
	60M	QPSK	632000	3480	27.21	8	3.3182	
		QPSK	633334	3500.01	26.87	8	3.0662	
		QPSK	634666	3519.99	26.81	8	3.0238	
	70M	QPSK	632334	3485.01	26.86	8	3.0601	
		QPSK	633334	3500.01	26.89	8	3.0848	
		QPSK	634332	3514.98	26.90	8	3.0913	
	80M	QPSK	632668	3490.02	26.86	8	3.0587	
		QPSK	633334	3500.01	26.66	8	2.9247	
		QPSK	634000	3510	26.71	8	2.9572	
	90M	QPSK	633000	3495	26.93	8	3.1093	
		QPSK	633334	3500.01	26.79	8	3.0117	
		QPSK	633666	3504.99	26.91	8	3.0954	
	100M							
		QPSK	633334	3500.01	26.78	8	3.0028	
	20M	16QAM	630668	3460.02	27.45	8	3.5050	
		16QAM	633334	3500.01	27.39	8	3.4631	
		16QAM	636000	3540	27.57	8	3.6099	
	30M	16QAM	631000	3465	27.05	8	3.2022	
16QAM		633334	3500.01	27.22	8	3.3269		
16QAM		635666	3534.99	27.11	8	3.2451		
40M	16QAM	631334	3470.01	27.35	8	3.4274		
	16QAM	633334	3500.01	27.33	8	3.4154		
	16QAM	635332	3529.98	27.72	8	3.7297		





50M	16QAM	631668	3475.02	27.41	8	3.4716
	16QAM	633334	3500.01	26.96	8	3.1337
	16QAM	635000	3525	27.23	8	3.3355
60M	16QAM	632000	3480	27.80	8	3.8000
	16QAM	633334	3500.01	27.24	8	3.3388
	16QAM	634666	3519.99	27.34	8	3.4231
70M	16QAM	632334	3485.01	27.20	8	3.3124
	16QAM	633334	3500.01	27.24	8	3.3439
	16QAM	634332	3514.98	27.22	8	3.3229
80M	16QAM	632668	3490.02	27.41	8	3.4782
	16QAM	633334	3500.01	27.00	8	3.1649
	16QAM	634000	3510	27.06	8	3.2097
90M	16QAM	633000	3495	27.41	8	3.4781
	16QAM	633334	3500.01	27.21	8	3.3154
	16QAM	633666	3504.99	27.43	8	3.4881
100M	16QAM	633334	3500.01	27.39	8	3.4579
20M	64QAM	630668	3460.02	27.20	8	3.3133
	64QAM	633334	3500.01	27.18	8	3.2929
	64QAM	636000	3540	27.51	8	3.5526
30M	64QAM	631000	3465	27.24	8	3.3387
	64QAM	633334	3500.01	27.10	8	3.2324
	64QAM	635666	3534.99	27.12	8	3.2482
40M	64QAM	631334	3470.01	27.27	8	3.3654
	64QAM	633334	3500.01	27.02	8	3.1776
	64QAM	635332	3529.98	27.27	8	3.3669
50M	64QAM	631668	3475.02	27.11	8	3.2445
	64QAM	633334	3500.01	27.15	8	3.2700
	64QAM	635000	3525	27.34	8	3.4202
60M	64QAM	632000	3480	27.59	8	3.6230
	64QAM	633334	3500.01	27.25	8	3.3494
	64QAM	634666	3519.99	27.34	8	3.4229
70M	64QAM	632334	3485.01	27.52	8	3.5625
	64QAM	633334	3500.01	27.24	8	3.3417
	64QAM	634332	3514.98	27.52	8	3.5650
80M	64QAM	632668	3490.02	27.35	8	3.4277
	64QAM	633334	3500.01	27.13	8	3.2595
	64QAM	634000	3510	27.24	8	3.3417
90M	64QAM	633000	3495	26.99	8	3.1521
	64QAM	633334	3500.01	27.25	8	3.3491
	64QAM	633666	3504.99	27.11	8	3.2435
100M	64QAM	633334	3500.01	27.43	8	3.4879
20M	256QAM	630668	3460.02	27.20	8	3.3111
	256QAM	633334	3500.01	27.18	8	3.2978
	256QAM	636000	3540	27.61	8	3.6419
30M	256QAM	631000	3465	27.19	8	3.3008

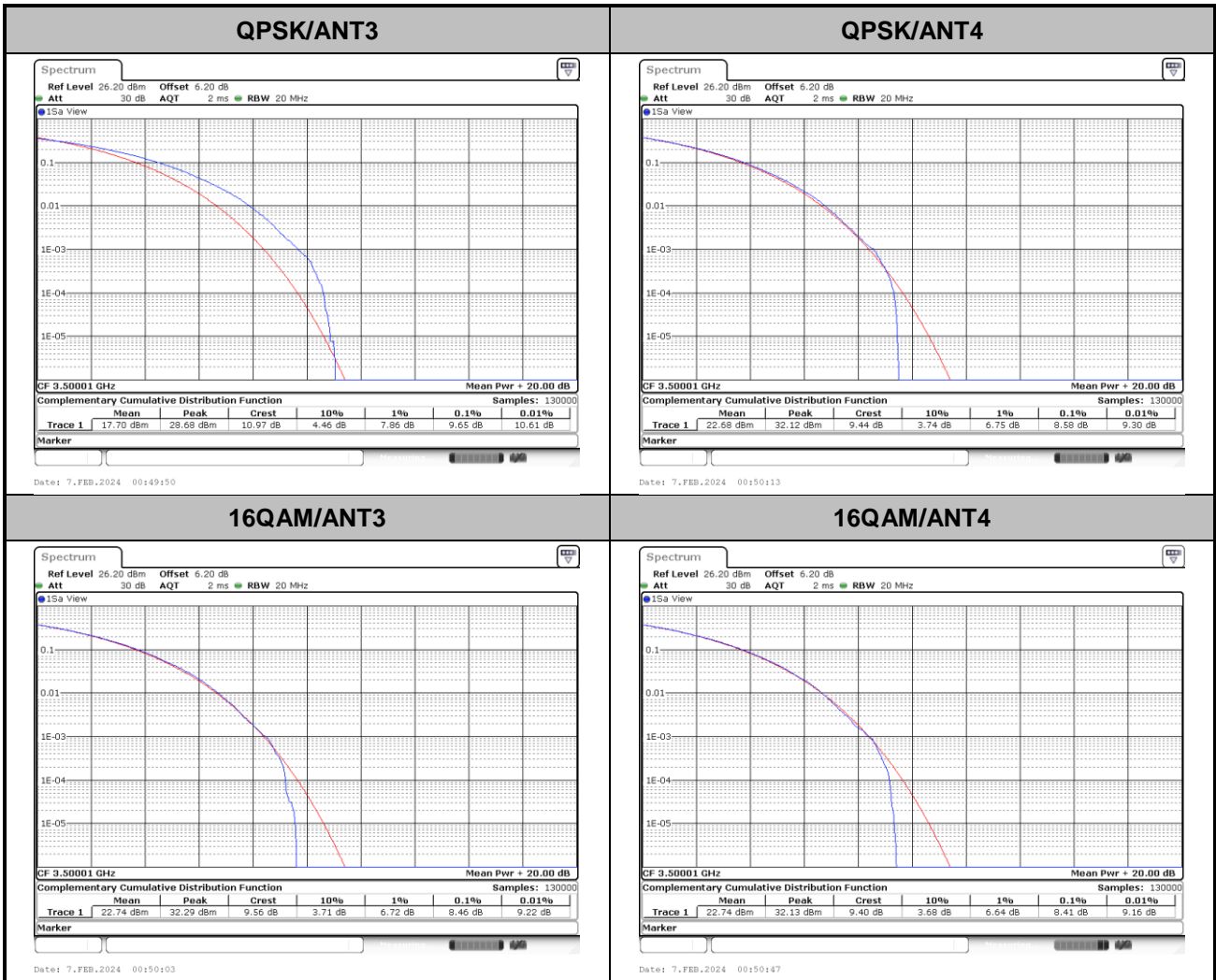


		256QAM	633334	3500.01	27.07	8	3.2153
		256QAM	635666	3534.99	27.14	8	3.2626
	40M	256QAM	631334	3470.01	27.26	8	3.3579
		256QAM	633334	3500.01	27.16	8	3.2780
		256QAM	635332	3529.98	27.32	8	3.4044
	50M	256QAM	631668	3475.02	27.38	8	3.4494
		256QAM	633334	3500.01	27.11	8	3.2439
		256QAM	635000	3525	27.27	8	3.3679
	60M	256QAM	632000	3480	27.52	8	3.5629
		256QAM	633334	3500.01	26.98	8	3.1444
		256QAM	634666	3519.99	27.27	8	3.3641
	70M	256QAM	632334	3485.01	27.51	8	3.5590
		256QAM	633334	3500.01	27.49	8	3.5426
		256QAM	634332	3514.98	27.43	8	3.4936
	80M	256QAM	632668	3490.02	27.50	8	3.5521
		256QAM	633334	3500.01	27.17	8	3.2859
		256QAM	634000	3510	27.15	8	3.2751
	90M	256QAM	633000	3495	27.15	8	3.2731
		256QAM	633334	3500.01	27.12	8	3.2521
		256QAM	633666	3504.99	27.09	8	3.2315
100M							
	256QAM	633334	3500.01	27.26	8	3.3612	

# R1 n78 External Antenna

## Peak-to-Average Ratio

Mode	FR1 n77 / 20MHz / CP OFDM/ANT3		
Mod.	20M		Limit: 13dB
RB Size	QPSK	16QAM	Result
Middle CH	9.65	8.46	PASS
Mode	FR1 n77 / 20MHz / CP OFDM/ANT4		
Mod.	20M		Limit: 13dB
RB Size	QPSK	16QAM	Result
Middle CH	8.58	8.41	PASS





**26DB Bandwidth**

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
BW	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	19.66	19.38	19.22	19.46
Middle CH	19.50	19.66	19.62	19.34
Highest CH	19.34	19.42	19.46	19.34

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
BW	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	19.58	19.38	19.14	19.34
Middle CH	19.34	19.30	19.26	19.30
Highest CH	19.38	19.54	19.14	19.82

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
BW	30MHz	30MHz	30MHz	30MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	29.07	29.13	29.37	29.37
Middle CH	29.25	29.13	29.25	29.19
Highest CH	29.01	28.89	29.13	29.13

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
BW	30MHz	30MHz	30MHz	30MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	29.01	29.01	28.95	29.19
Middle CH	28.89	29.01	29.07	29.13
Highest CH	29.07	29.01	29.13	29.13

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
BW	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	40.44	40.28	40.20	40.52
Middle CH	40.28	40.36	40.52	40.44
Highest CH	40.28	40.52	40.52	40.44

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
BW	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	40.28	40.28	40.36	40.44
Middle CH	40.28	40.2	40.68	40.36
Highest CH	40.60	40.2	40.28	40.28

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
BW	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	49.85	49.95	50.15	49.95
Middle CH	49.95	50.05	49.85	49.75
Highest CH	49.95	50.35	50.45	49.85

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
BW	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH	49.75	49.85	49.95	49.85
Middle CH	49.75	49.95	50.05	49.95
Highest CH	49.85	49.95	49.95	49.95

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
<b>BW</b>	<b>60MHz</b>	<b>60MHz</b>	<b>60MHz</b>	<b>60MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	60.42	60.66	60.54	60.54
<b>Middle CH</b>	60.42	60.66	60.78	60.66
<b>Highest CH</b>	60.42	60.66	60.66	60.54

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
<b>BW</b>	<b>60MHz</b>	<b>60MHz</b>	<b>60MHz</b>	<b>60MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	60.9	60.42	60.42	60.54
<b>Middle CH</b>	60.54	60.42	60.78	60.42
<b>Highest CH</b>	60.78	60.42	60.54	60.66

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
<b>BW</b>	<b>70MHz</b>	<b>70MHz</b>	<b>70MHz</b>	<b>70MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	70.49	70.07	70.25	70.25
<b>Middle CH</b>	70.35	70.63	70.25	70.01
<b>Highest CH</b>	70.35	70.35	70.37	70.25

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
<b>BW</b>	<b>70MHz</b>	<b>70MHz</b>	<b>70MHz</b>	<b>70MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	70.21	70.35	70.61	70.49
<b>Middle CH</b>	70.21	70.21	70.25	70.37
<b>Highest CH</b>	70.77	70.21	70.37	70.25

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
<b>BW</b>	<b>80MHz</b>	<b>80MHz</b>	<b>80MHz</b>	<b>80MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	80.08	80.24	80.08	80.24
<b>Middle CH</b>	80.24	80.24	80.08	80.24
<b>Highest CH</b>	80.24	80.08	80.24	80.24

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
<b>BW</b>	<b>80MHz</b>	<b>80MHz</b>	<b>80MHz</b>	<b>80MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	80.24	79.92	80.08	80.24
<b>Middle CH</b>	80.24	80.08	80.24	80.08
<b>Highest CH</b>	80.24	80.24	80.24	80.24

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
<b>BW</b>	<b>90MHz</b>	<b>90MHz</b>	<b>90MHz</b>	<b>90MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	92.43	92.25	92.25	92.43
<b>Middle CH</b>	92.43	92.43	92.61	92.61
<b>Highest CH</b>	92.25	92.25	92.43	92.25

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
<b>BW</b>	<b>90MHz</b>	<b>90MHz</b>	<b>90MHz</b>	<b>90MHz</b>
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>	<b>64QAM</b>	<b>256QAM</b>
<b>Lowest CH</b>	92.25	92.43	92.07	92.25
<b>Middle CH</b>	92.43	92.25	92.25	92.43
<b>Highest CH</b>	92.07	92.25	92.43	92.43



Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant3			
BW	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH				
Middle CH	102.5	102.9	102.3	102.3
Highest CH				

Mode	FR1 n78 : 26dB BW(MHz) / CP			
ANT.	Ant4			
BW	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM
Lowest CH				
Middle CH	102.5	102.7	102.7	102.7
Highest CH				





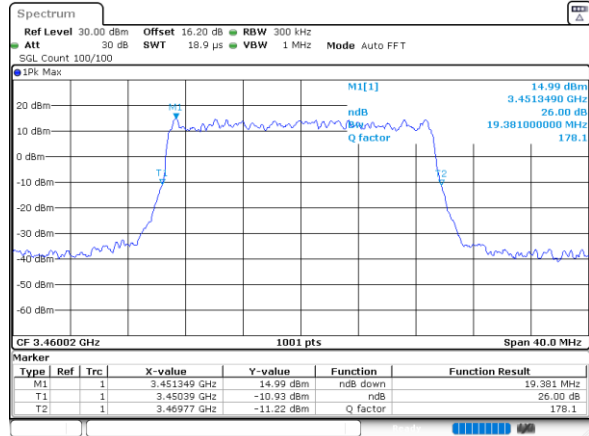
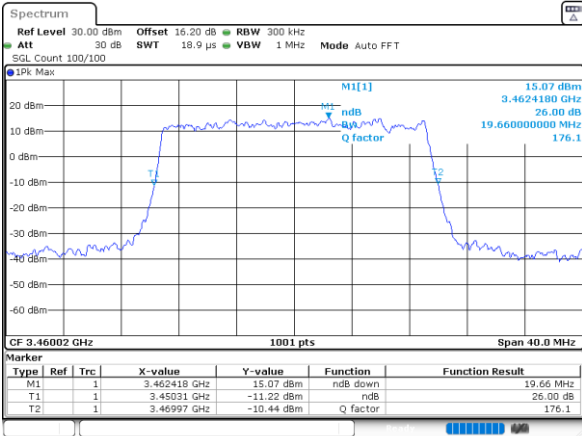
FR1 n78 / 20MHz Ant3 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

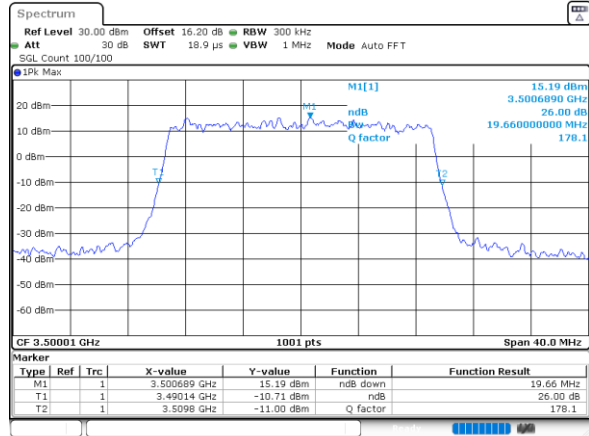
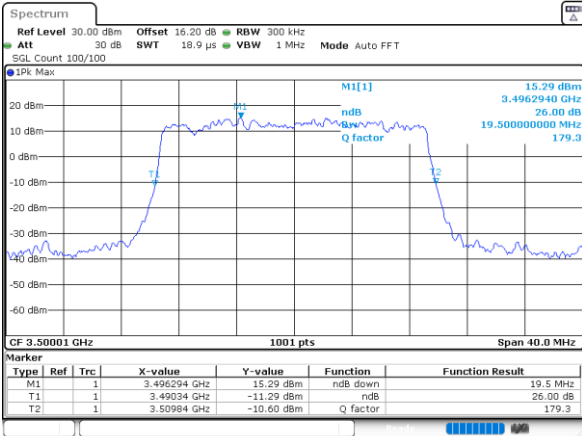


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Middle Channel

Middle Channel

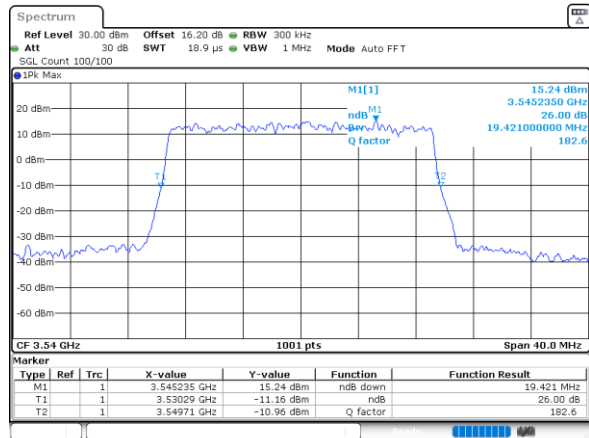
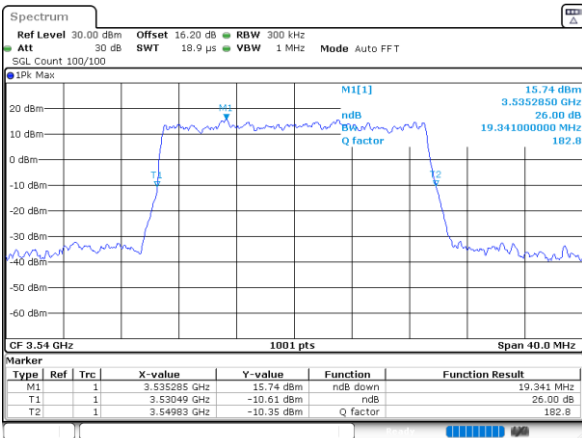


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Highest Channel

Highest Channel



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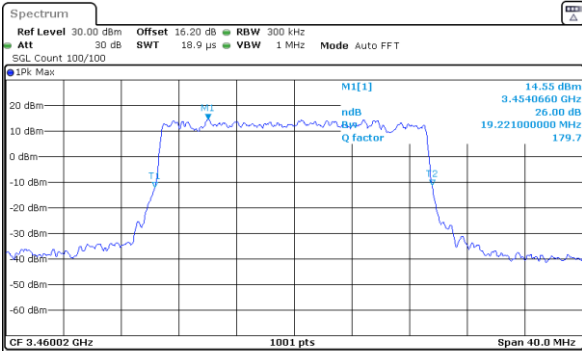
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FR1 n78 / 20MHz Ant3 / CP

64QAM

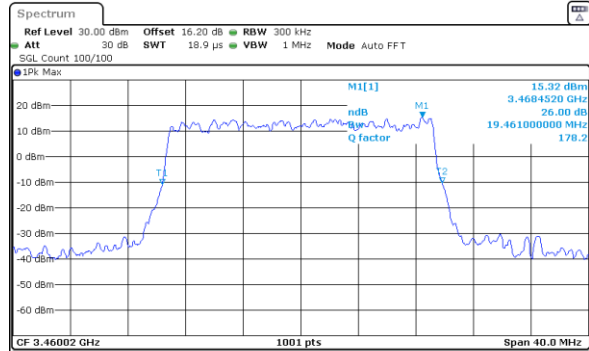
Lowest Channel



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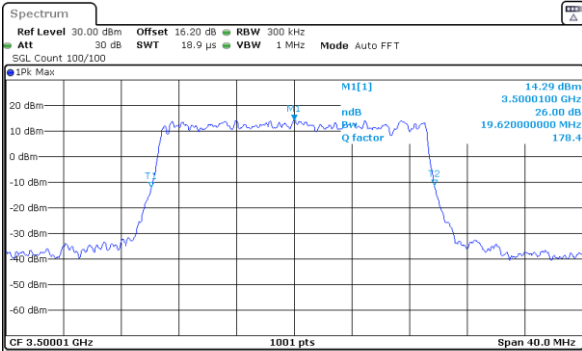
256QAM

Lowest Channel



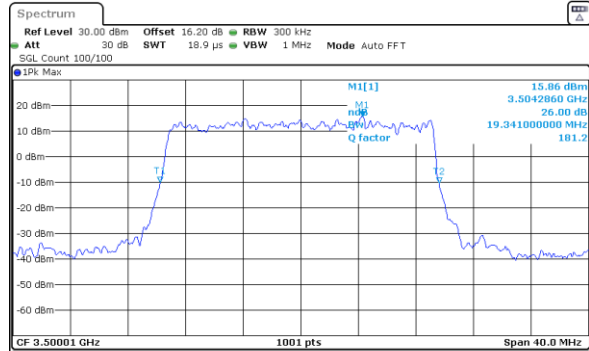
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Middle Channel



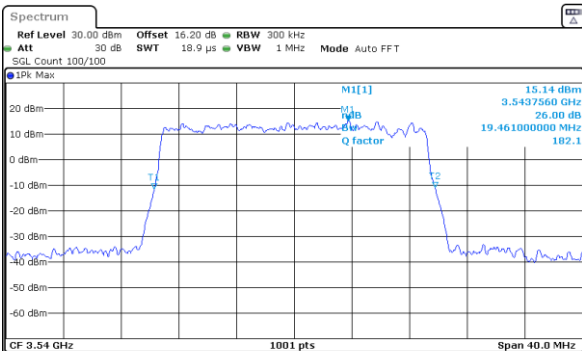
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Middle Channel



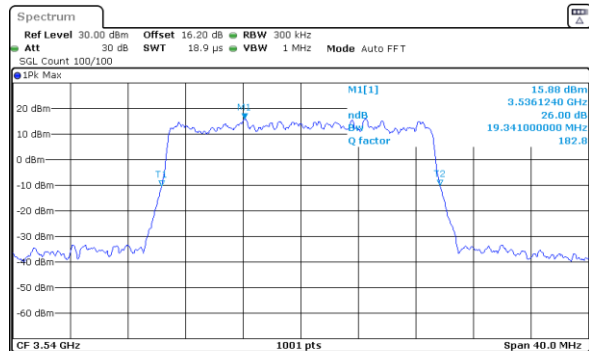
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Highest Channel



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Highest Channel



Date: 31.JAN.2024 16:21:07



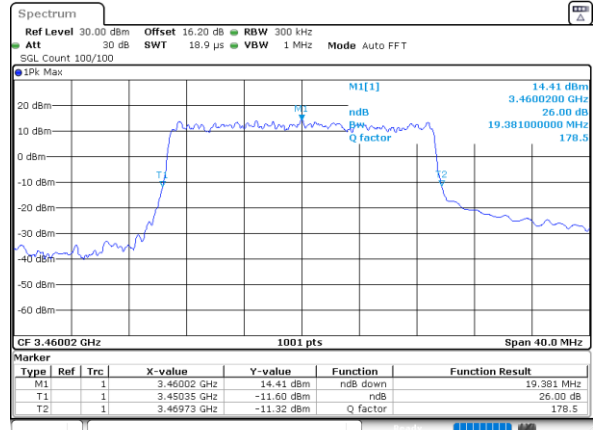
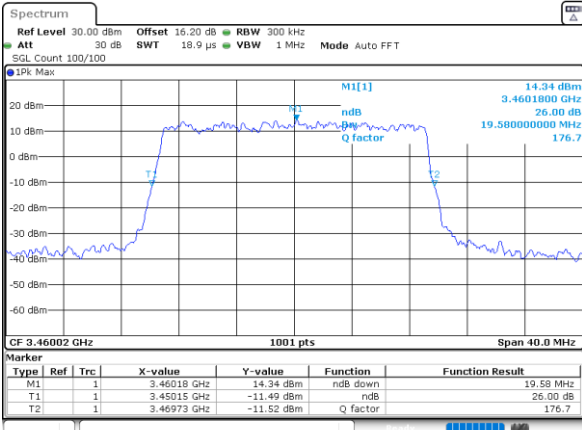
FR1 n78 / 20MHz Ant4 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

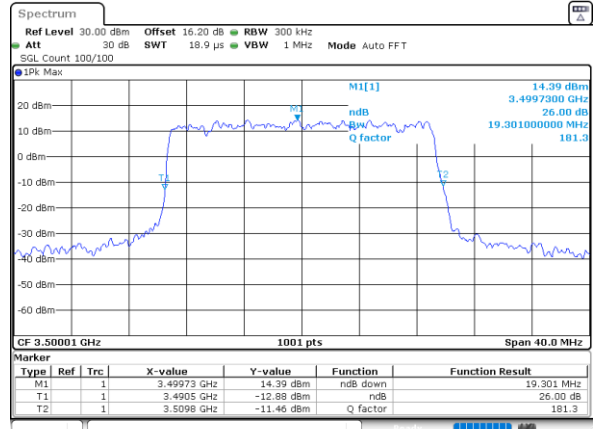
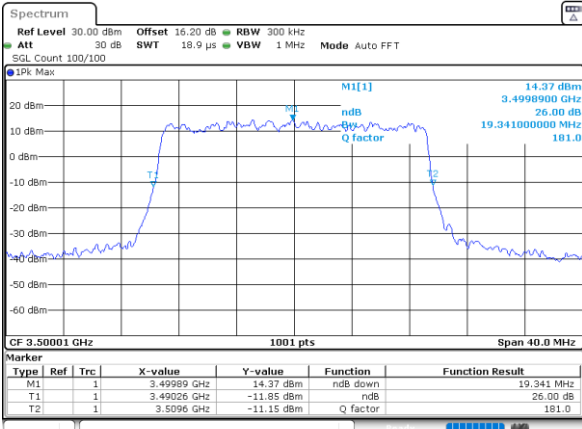


Date: 31.JAN.2024 09:57:23

Date: 31.JAN.2024 10:25:18

Middle Channel

Middle Channel

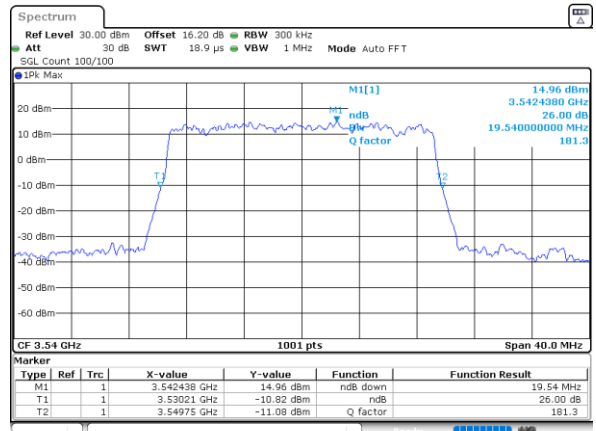
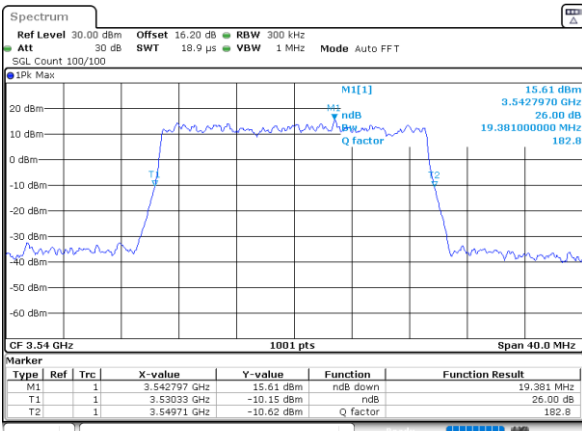


Date: 31.JAN.2024 09:58:29

Date: 31.JAN.2024 10:33:42

Highest Channel

Highest Channel



Date: 31.JAN.2024 09:59:34

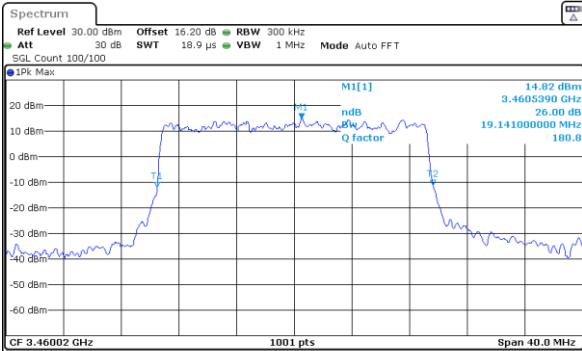
Date: 31.JAN.2024 10:37:04



FR1 n78 / 20MHz Ant4 / CP

64QAM

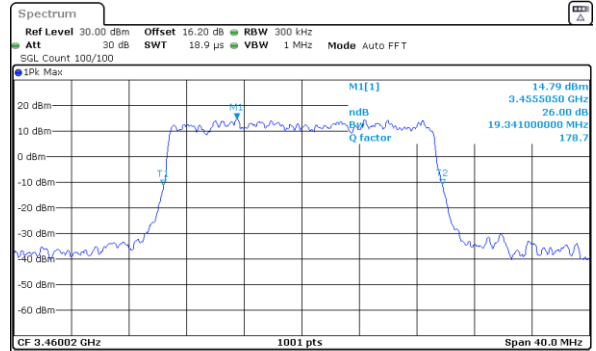
Lowest Channel



Date: 31.JAN.2024 15:50:17

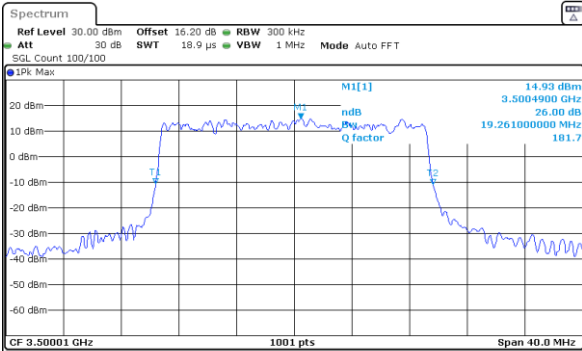
256QAM

Lowest Channel



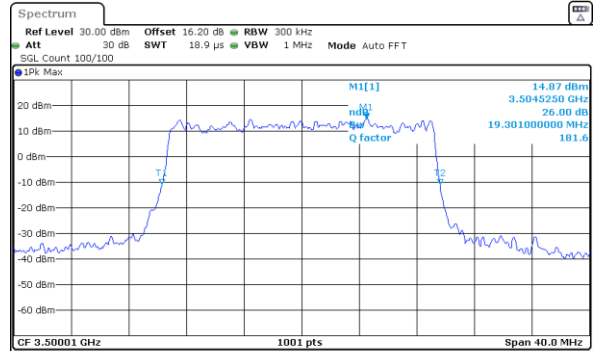
Date: 31.JAN.2024 15:55:27

Middle Channel



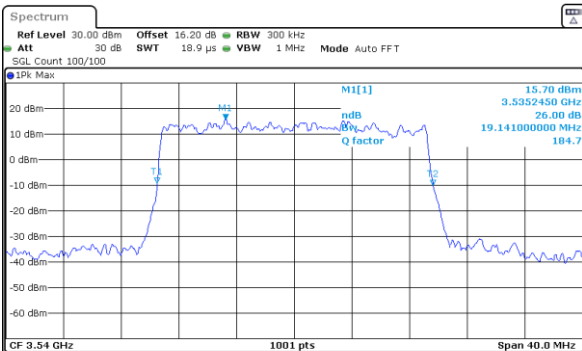
Date: 31.JAN.2024 16:04:43

Middle Channel



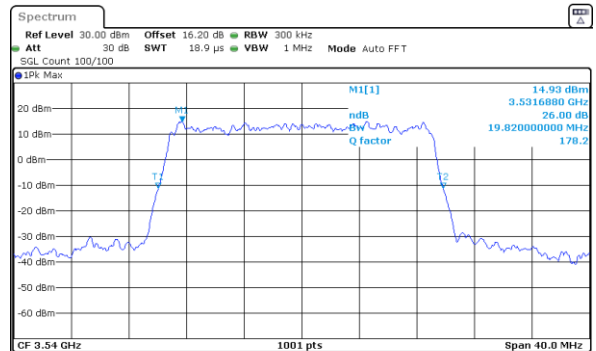
Date: 31.JAN.2024 16:08:25

Highest Channel



Date: 31.JAN.2024 16:15:58

Highest Channel



Date: 31.JAN.2024 16:20:11

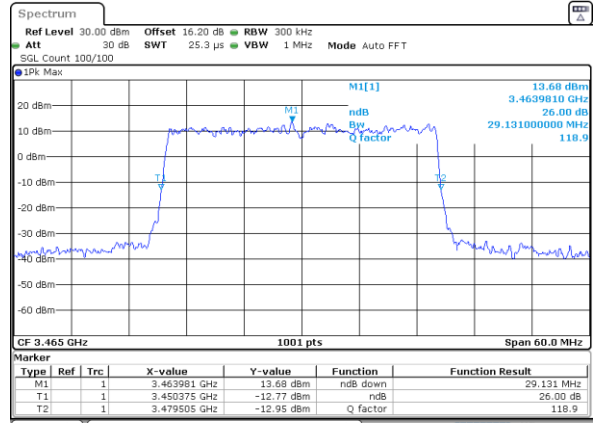
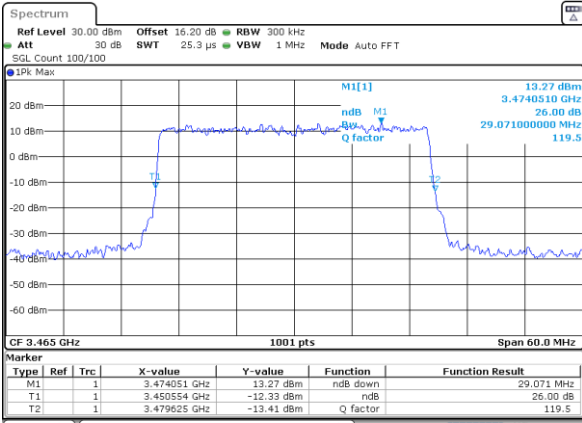
FR1 n78 / 30MHz Ant3 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

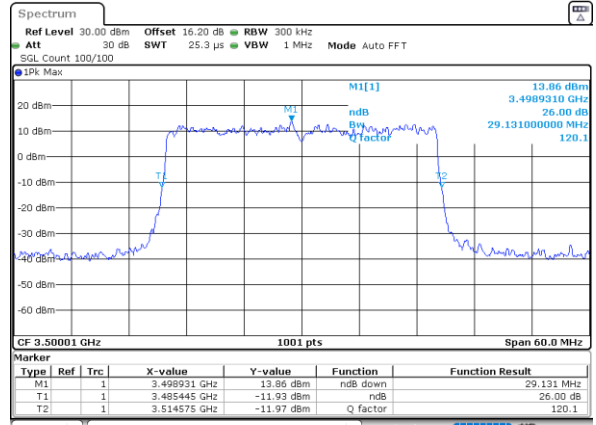
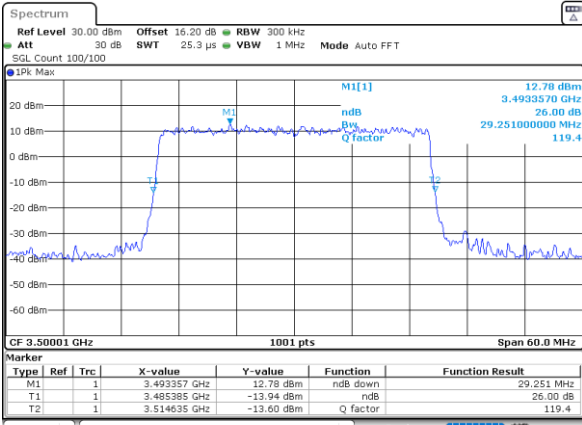


Date: 31.JAN.2024 08:08:56

Date: 31.JAN.2024 12:00:43

Middle Channel

Middle Channel

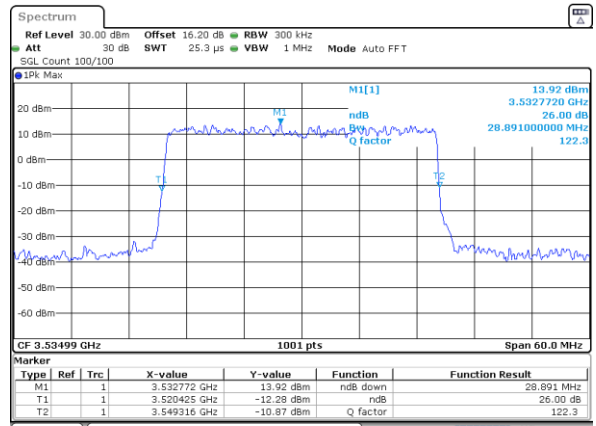
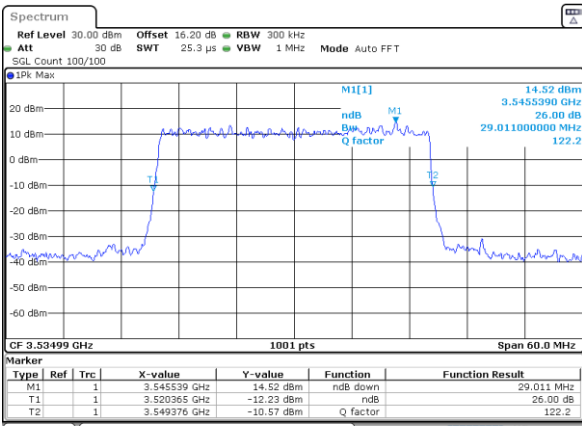


Date: 31.JAN.2024 08:10:36

Date: 31.JAN.2024 12:09:48

Highest Channel

Highest Channel



Date: 31.JAN.2024 08:13:10

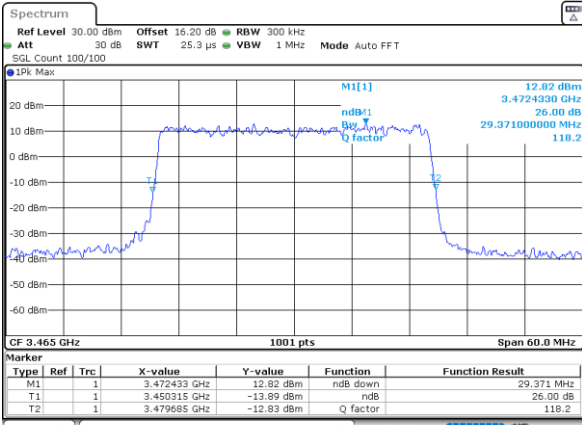
Date: 31.JAN.2024 12:11:06



FR1 n78 / 30MHz Ant3 / CP

64QAM

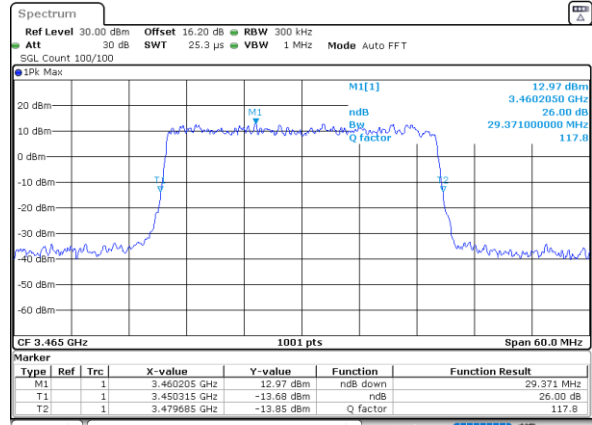
Lowest Channel



Date: 31.JAN.2024 17:04:19

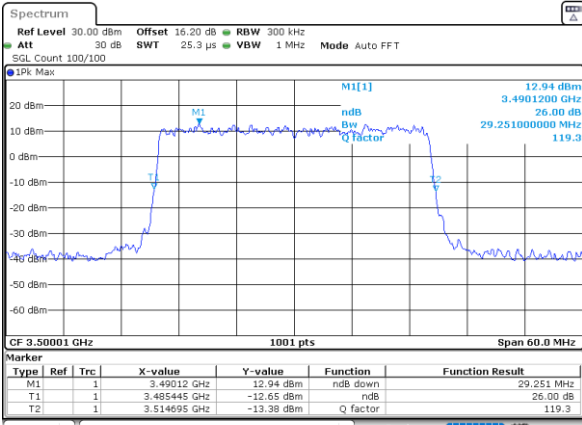
256QAM

Lowest Channel



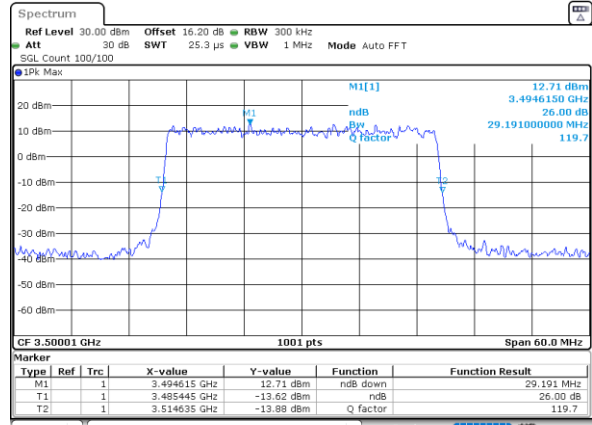
Date: 31.JAN.2024 17:11:17

Middle Channel



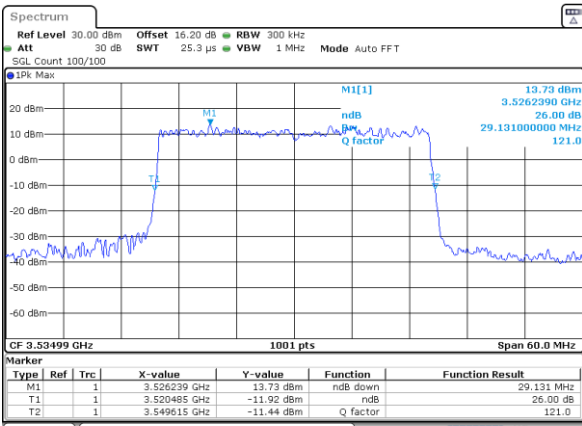
Date: 31.JAN.2024 17:24:34

Middle Channel



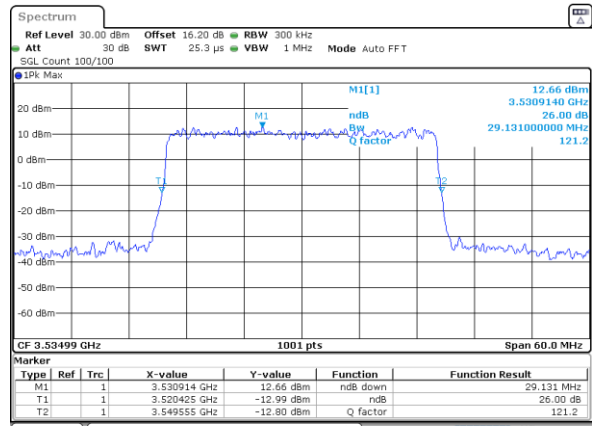
Date: 31.JAN.2024 17:43:24

Highest Channel



Date: 31.JAN.2024 17:48:08

Highest Channel



Date: 31.JAN.2024 18:12:14



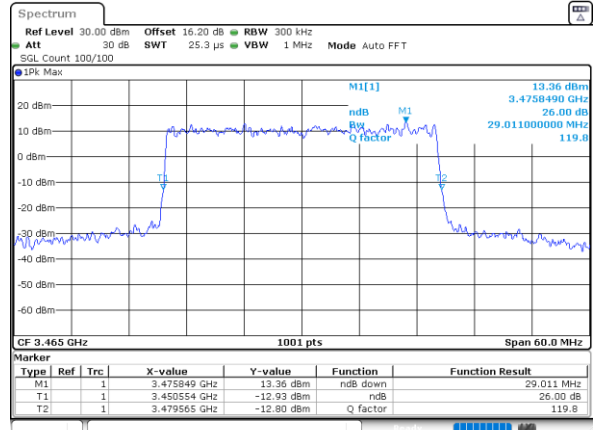
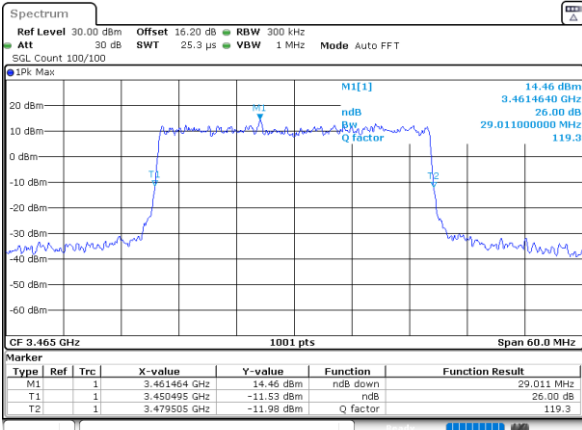
FR1 n78 / 30MHz Ant4 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

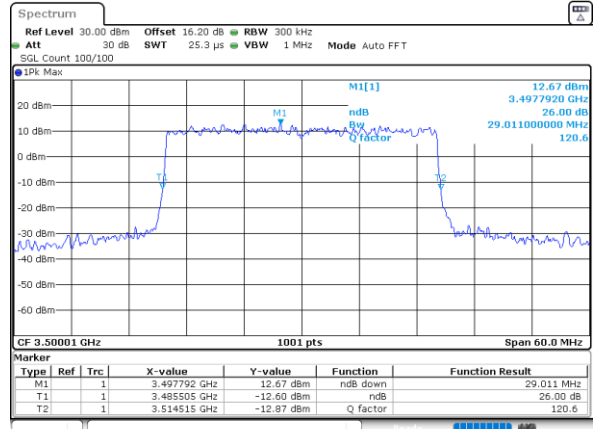
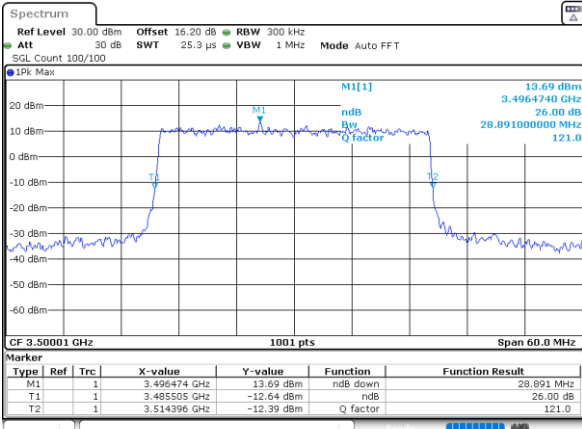


Date: 31.JAN.2024 09:50:06

Date: 31.JAN.2024 12:04:00

Middle Channel

Middle Channel

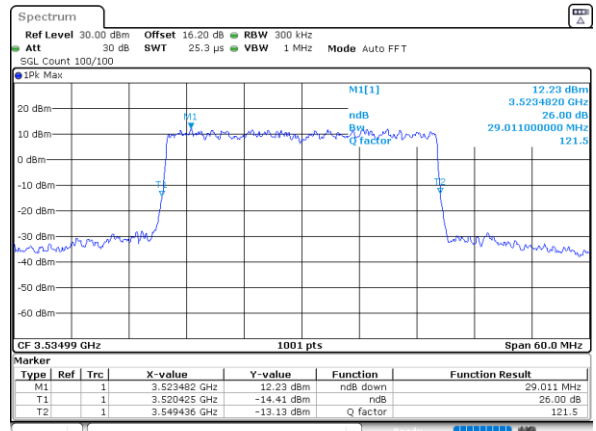
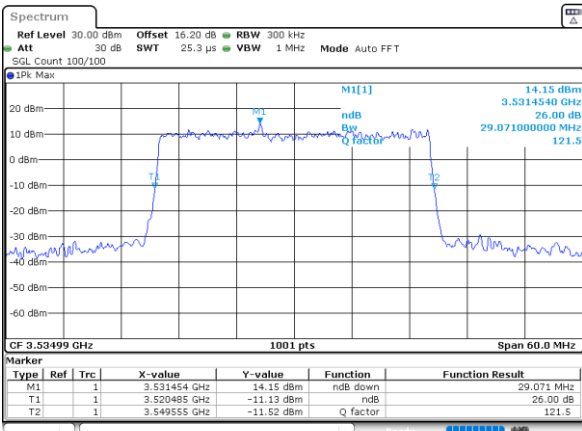


Date: 31.JAN.2024 09:52:02

Date: 31.JAN.2024 12:07:13

Highest Channel

Highest Channel



Date: 31.JAN.2024 09:53:59

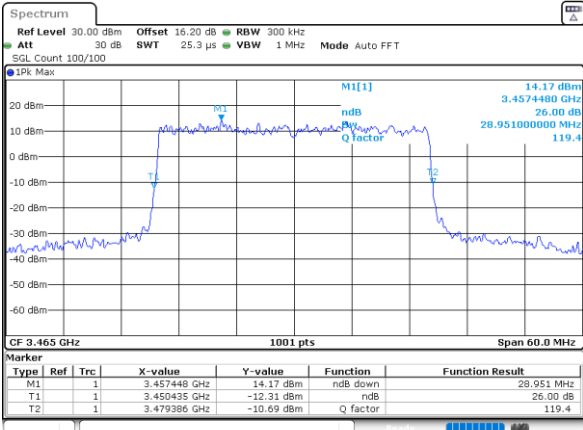
Date: 31.JAN.2024 12:15:41



FR1 n78 / 30MHz Ant4 / CP

64QAM

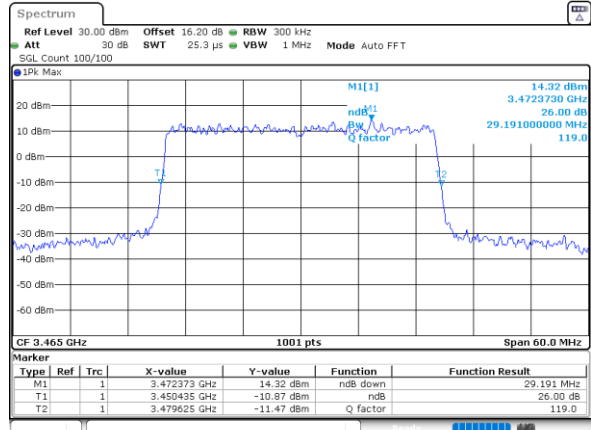
Lowest Channel



Date: 31.JAN.2024 17:08:56

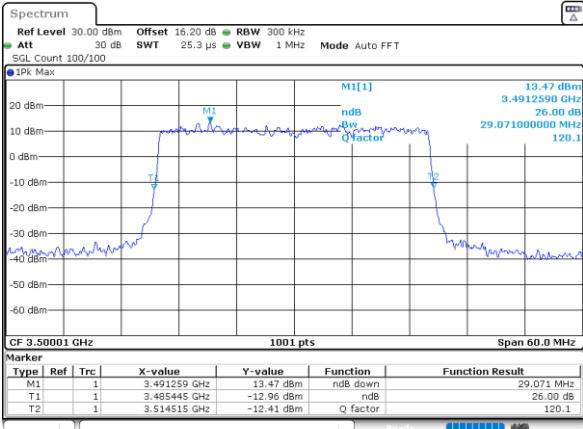
256QAM

Lowest Channel



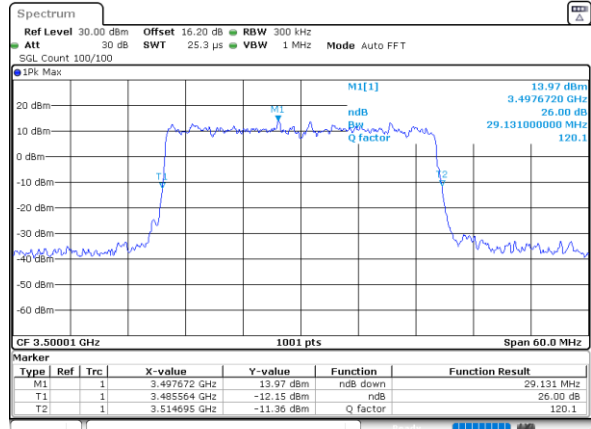
Date: 31.JAN.2024 17:15:26

Middle Channel



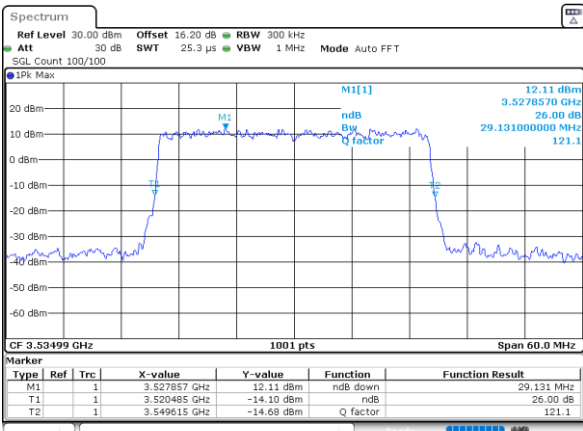
Date: 31.JAN.2024 17:28:58

Middle Channel



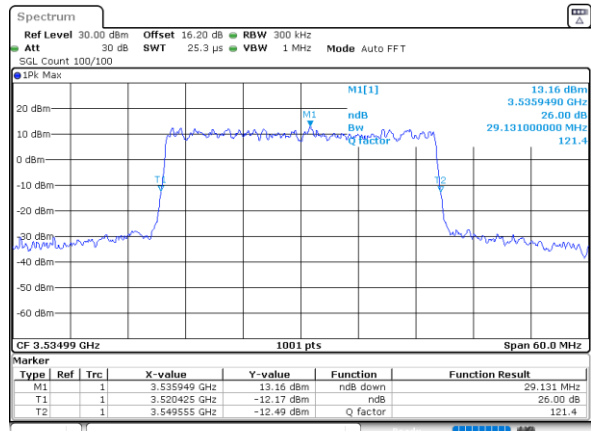
Date: 31.JAN.2024 17:34:19

Highest Channel



Date: 31.JAN.2024 18:01:23

Highest Channel



Date: 31.JAN.2024 18:10:49





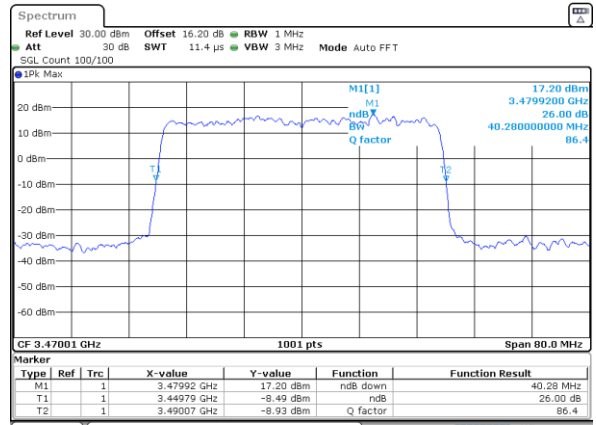
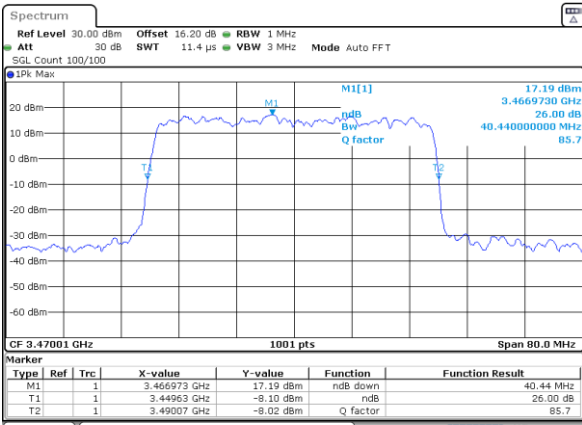
FR1 n78 / 40MHz Ant3 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

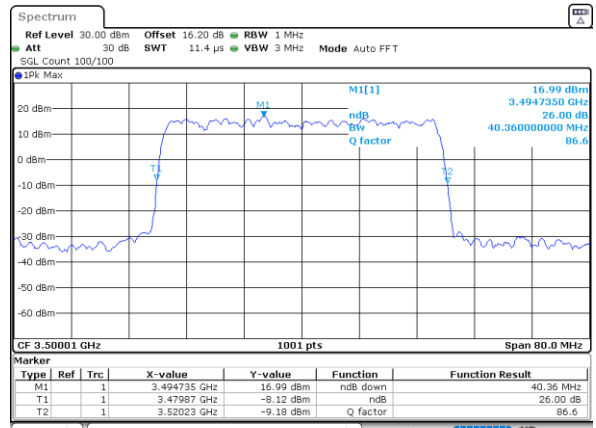
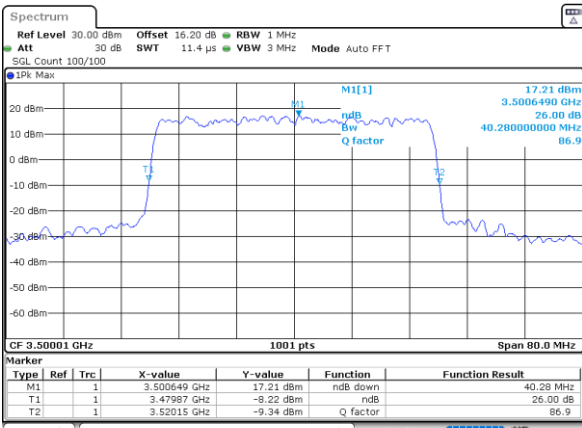


Date: 31.JAN.2024 08:16:27

Date: 31.JAN.2024 12:23:12

Middle Channel

Middle Channel

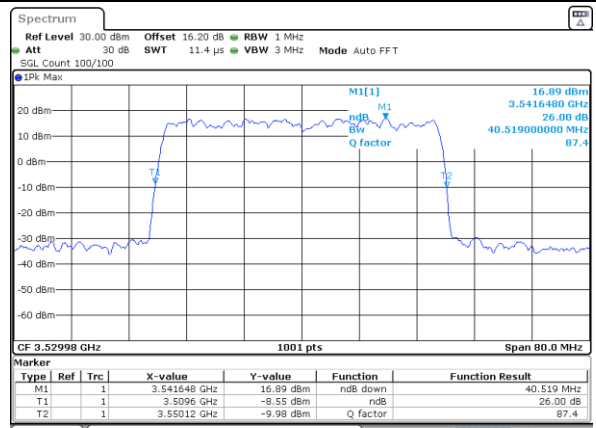
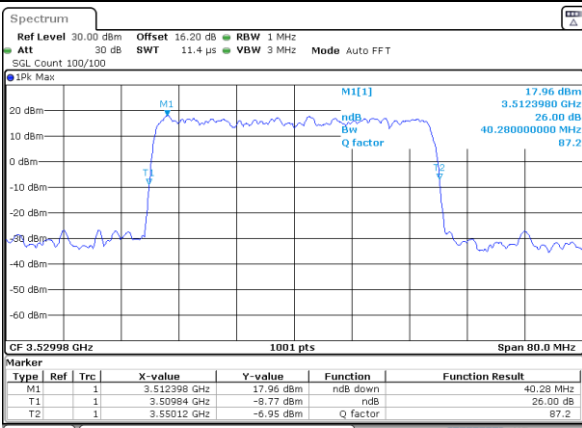


Date: 31.JAN.2024 08:17:37

Date: 31.JAN.2024 12:26:36

Highest Channel

Highest Channel



Date: 31.JAN.2024 08:20:22

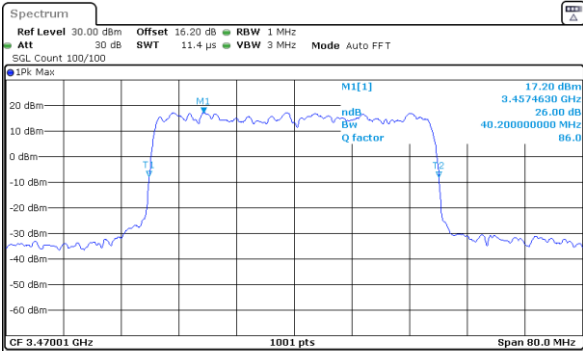
Date: 31.JAN.2024 12:35:50



FR1 n78 / 40MHz Ant3 / CP

64QAM

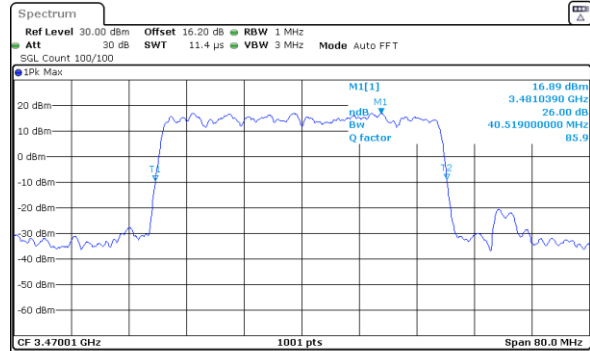
Lowest Channel



Date: 31.JAN.2024 18:33:03

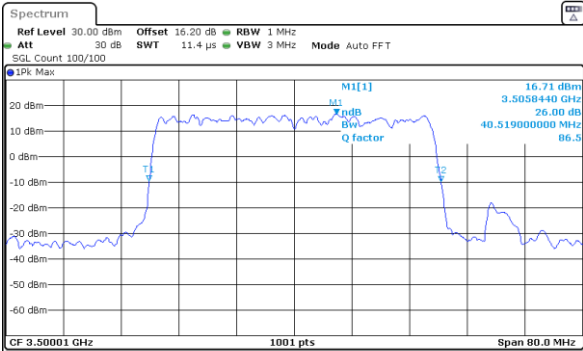
256QAM

Lowest Channel



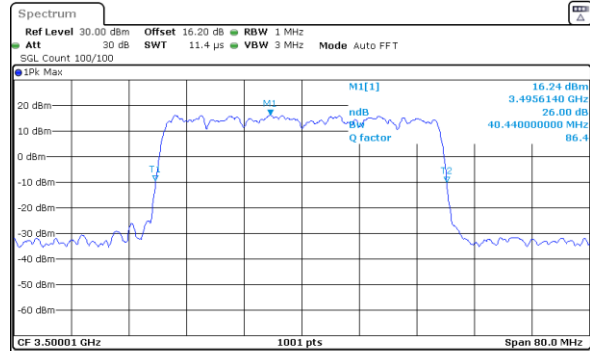
Date: 31.JAN.2024 18:40:26

Middle Channel



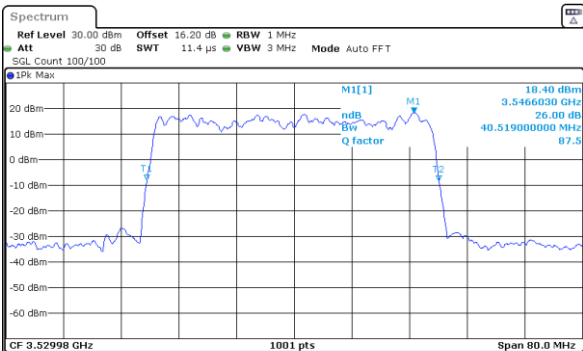
Date: 31.JAN.2024 18:44:35

Middle Channel



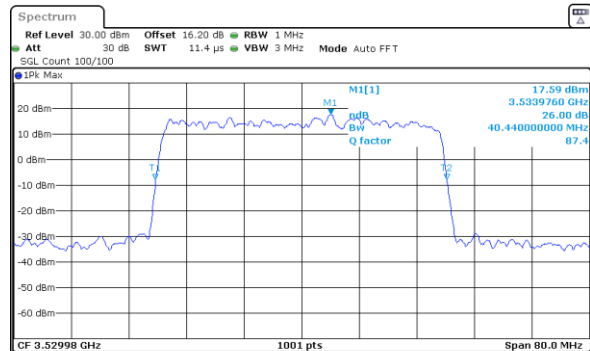
Date: 31.JAN.2024 18:51:42

Highest Channel



Date: 31.JAN.2024 18:58:18

Highest Channel



Date: 31.JAN.2024 19:07:44



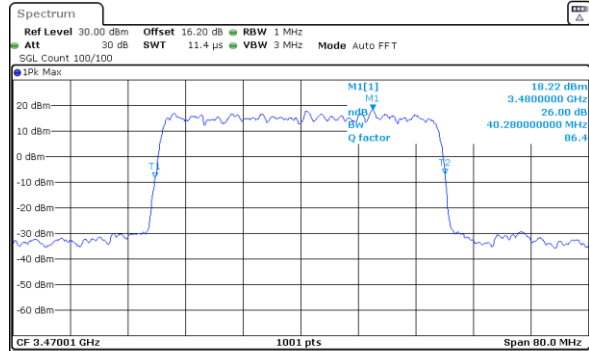
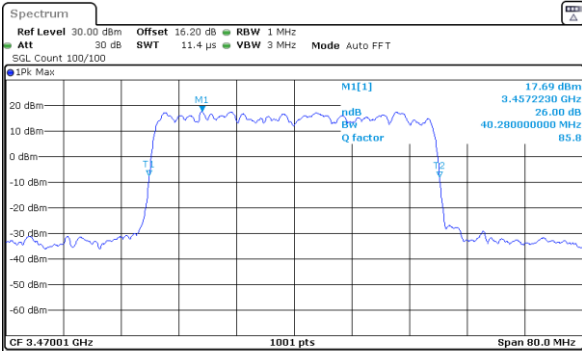
FR1 n78 / 40MHz Ant4 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

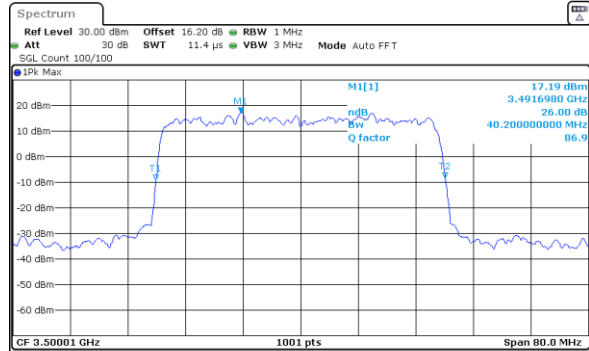
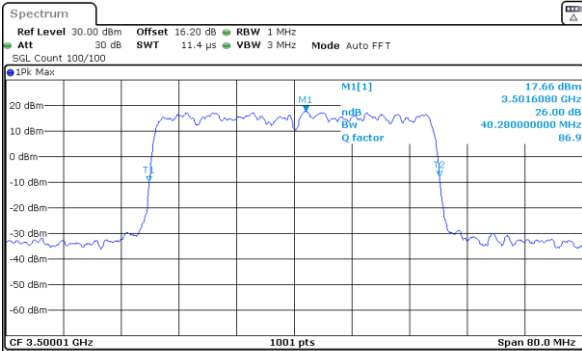


Date: 31.JAN.2024 09:43:05

Date: 31.JAN.2024 12:22:15

Middle Channel

Middle Channel

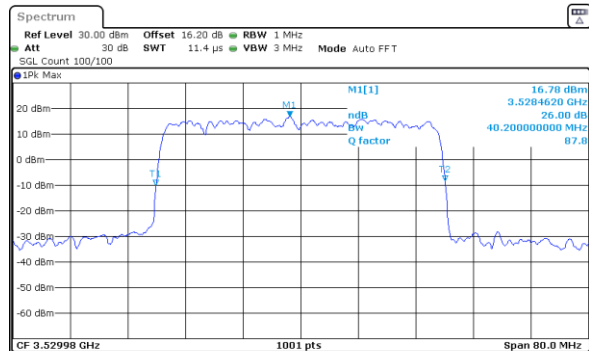
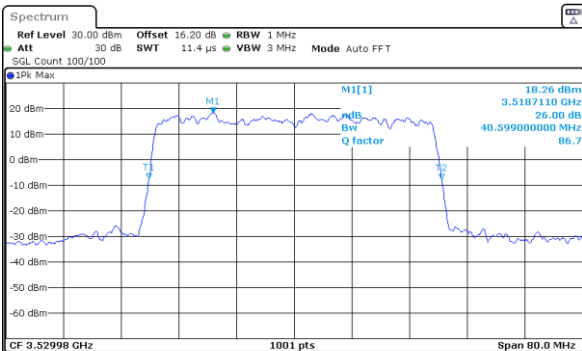


Date: 31.JAN.2024 09:44:28

Date: 31.JAN.2024 12:28:19

Highest Channel

Highest Channel



Date: 31.JAN.2024 09:48:08

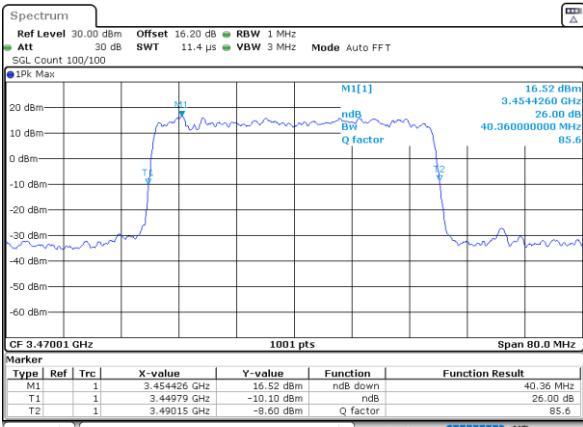
Date: 31.JAN.2024 12:33:31



FR1 n78 / 40MHz Ant4 / CP

64QAM

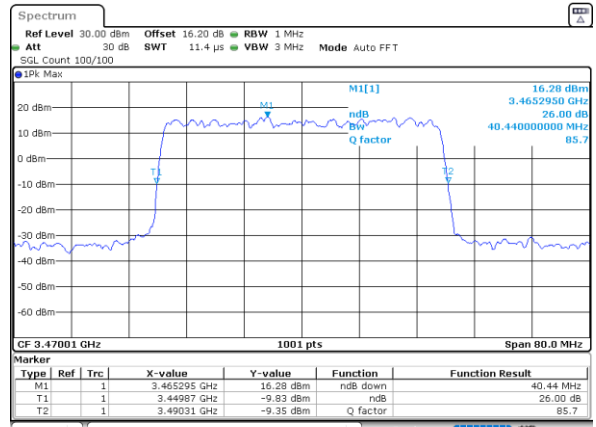
Lowest Channel



Date: 31.JAN.2024 18:34:27

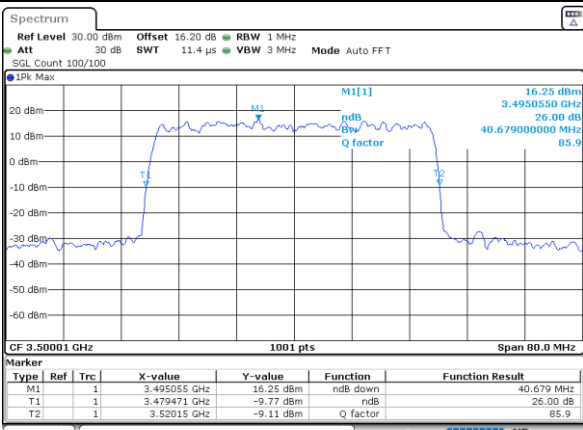
256QAM

Lowest Channel



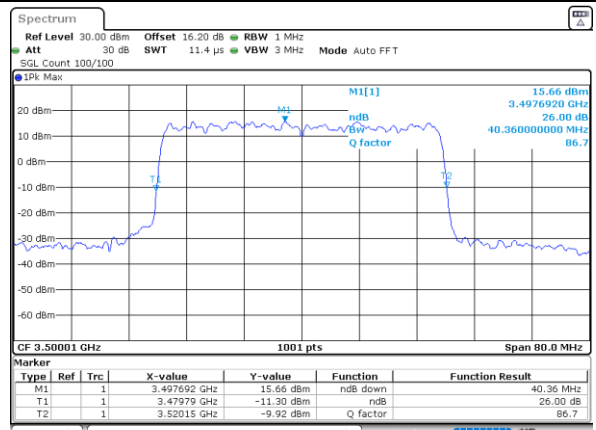
Date: 31.JAN.2024 18:39:20

Middle Channel



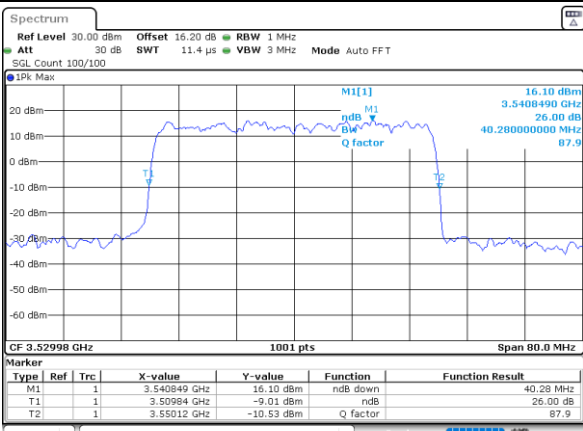
Date: 31.JAN.2024 18:45:44

Middle Channel



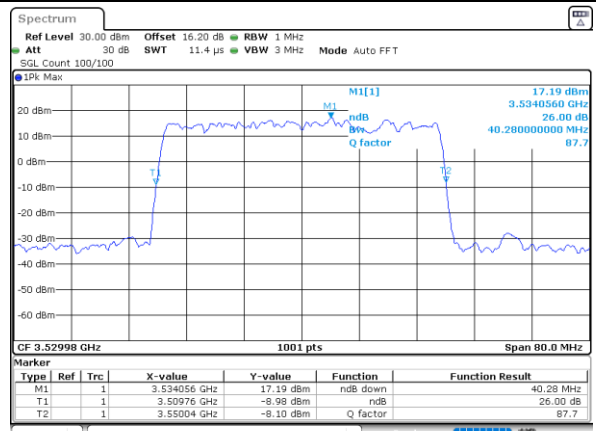
Date: 31.JAN.2024 18:50:19

Highest Channel



Date: 31.JAN.2024 18:59:50

Highest Channel



Date: 31.JAN.2024 19:04:00



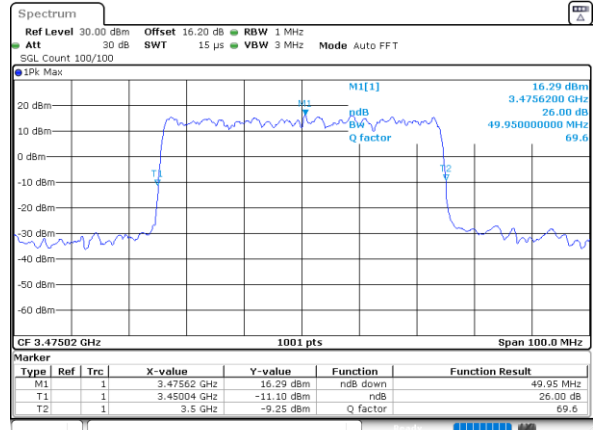
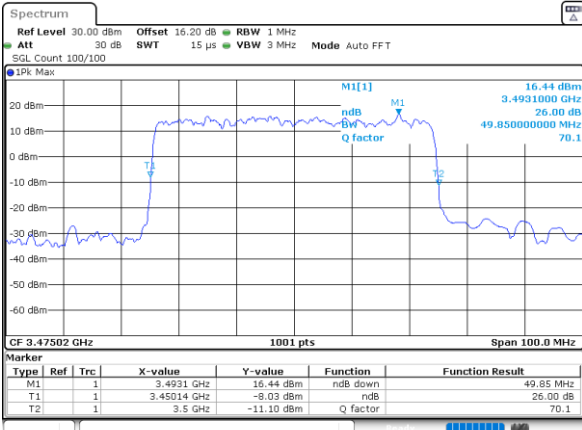
FR1 n78 / 50MHz Ant3 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

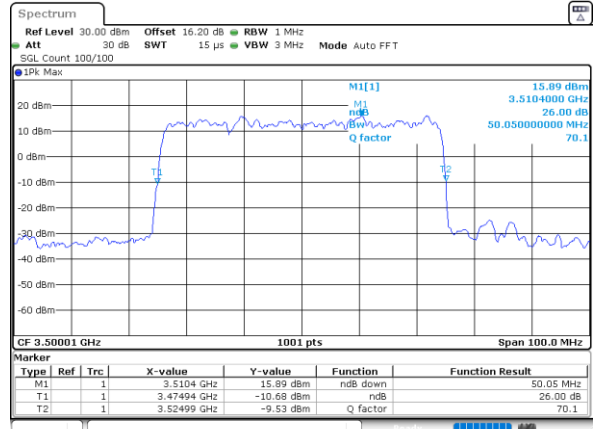
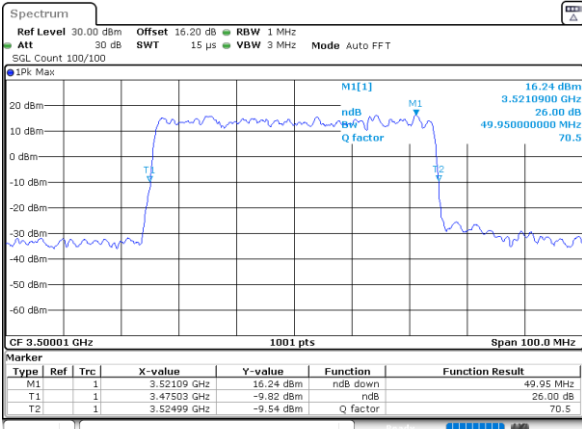


Date: 31.JAN.2024 08:23:08

Date: 31.JAN.2024 12:46:21

Middle Channel

Middle Channel

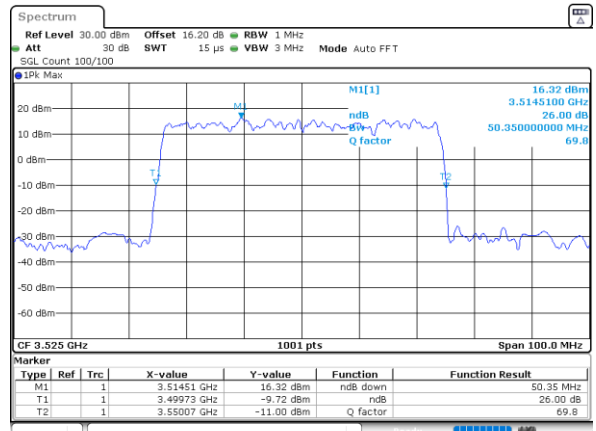
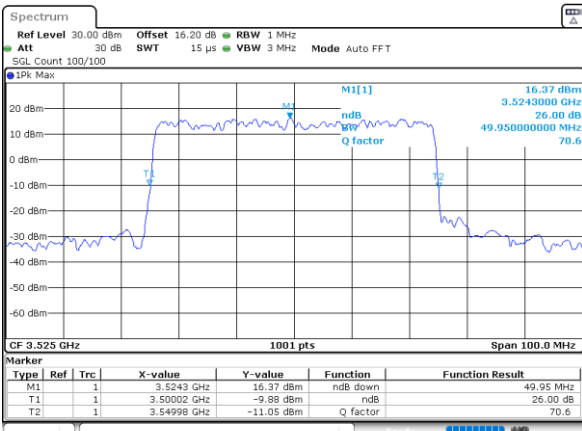


Date: 31.JAN.2024 08:23:57

Date: 31.JAN.2024 12:53:56

Highest Channel

Highest Channel



Date: 31.JAN.2024 08:25:09

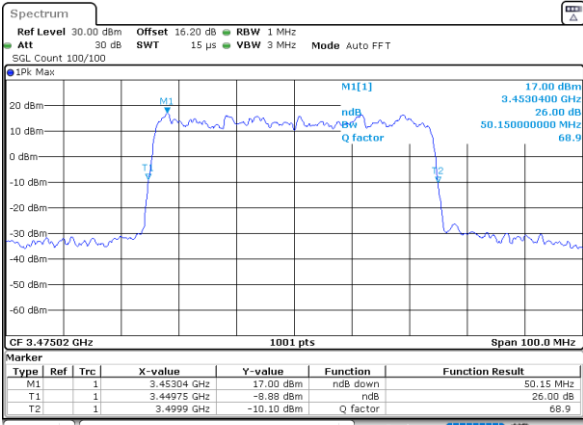
Date: 31.JAN.2024 12:57:17



FR1 n78 / 50MHz Ant3 / CP

64QAM

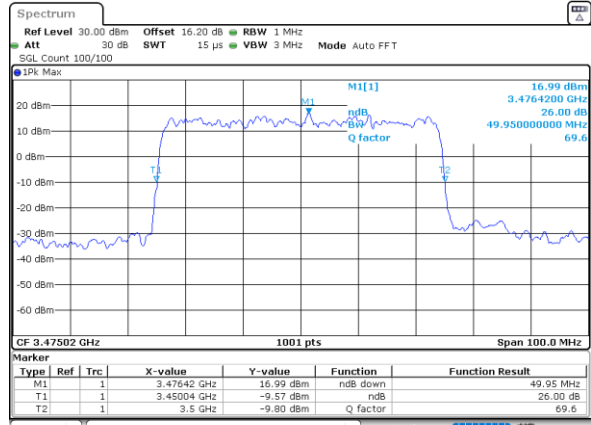
Lowest Channel



Date: 31.JAN.2024 19:42:19

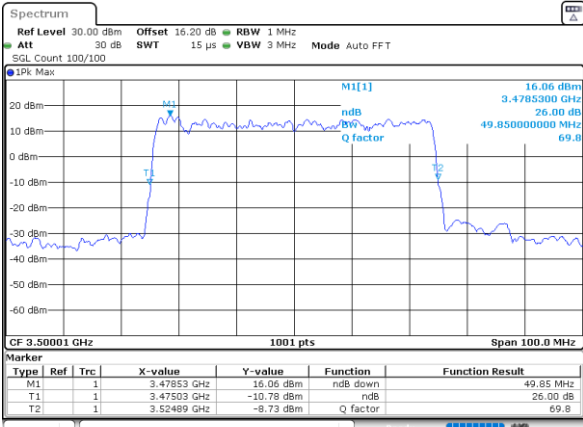
256QAM

Lowest Channel



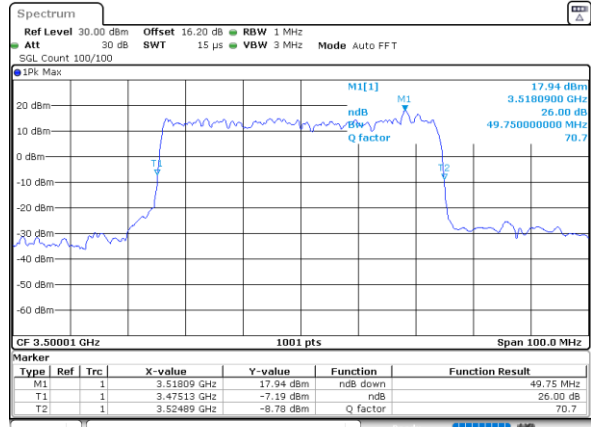
Date: 31.JAN.2024 19:50:40

Middle Channel



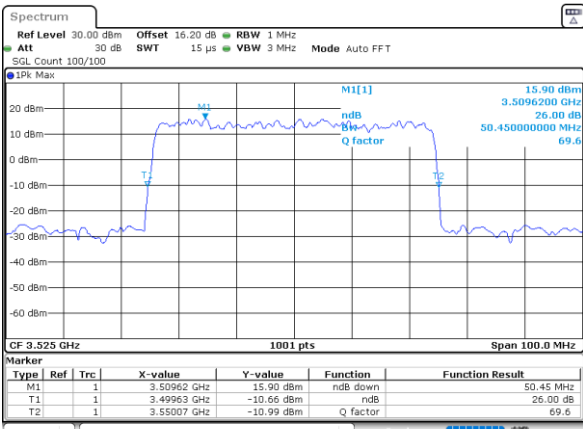
Date: 31.JAN.2024 19:55:34

Middle Channel



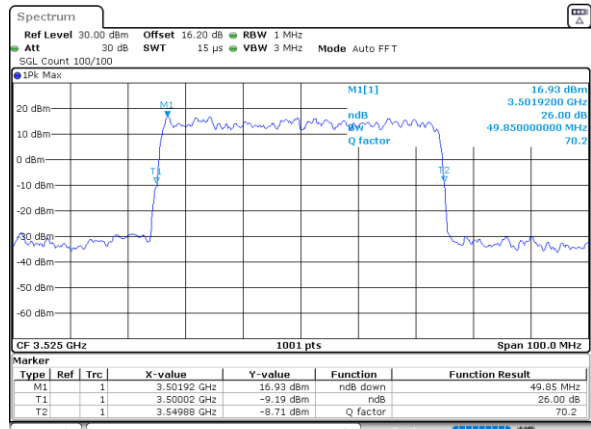
Date: 31.JAN.2024 20:12:56

Highest Channel



Date: 31.JAN.2024 20:22:24

Highest Channel



Date: 31.JAN.2024 21:34:53



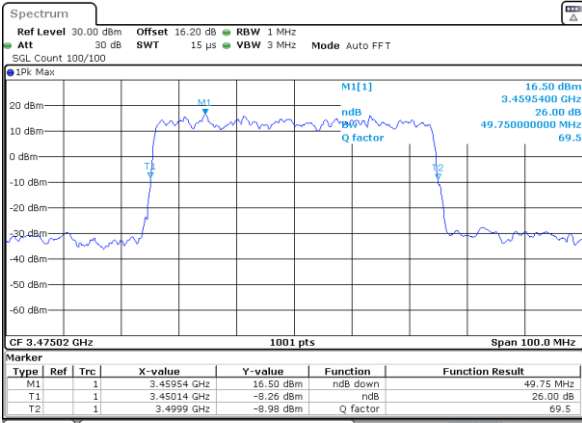
FR1 n78 / 50MHz Ant4 / CP

QPSK

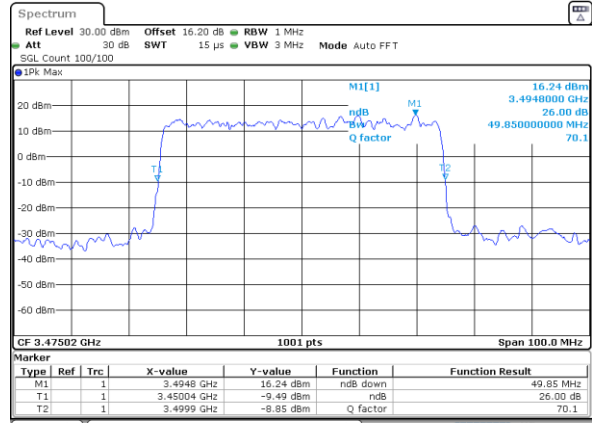
16QAM

Lowest Channel

Lowest Channel



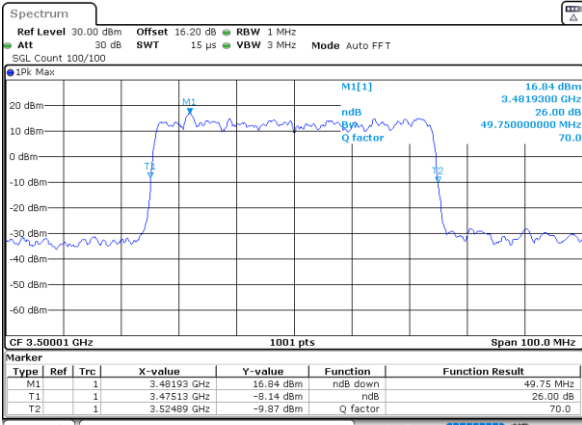
Date: 31.JAN.2024 09:34:33



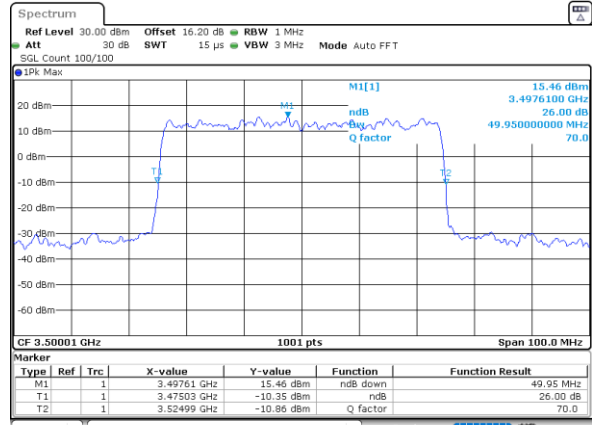
Date: 31.JAN.2024 12:47:37

Middle Channel

Middle Channel



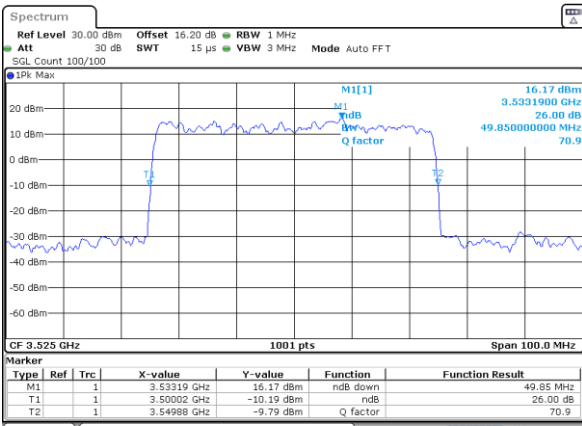
Date: 31.JAN.2024 09:40:13



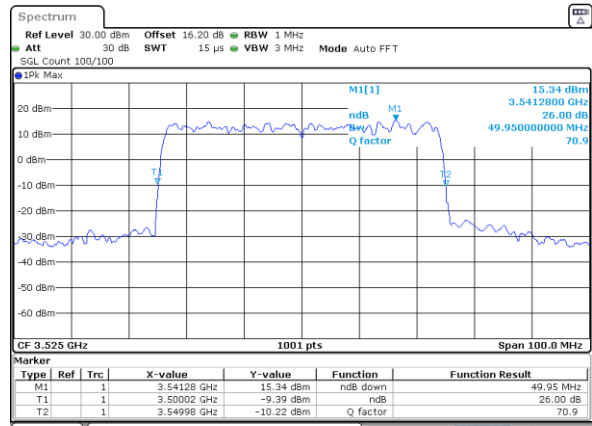
Date: 31.JAN.2024 12:52:34

Highest Channel

Highest Channel



Date: 31.JAN.2024 09:43:18



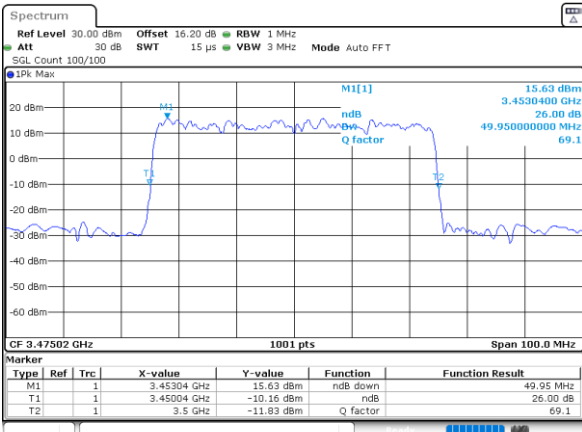
Date: 31.JAN.2024 13:01:11



FR1 n78 / 50MHz Ant4 / CP

64QAM

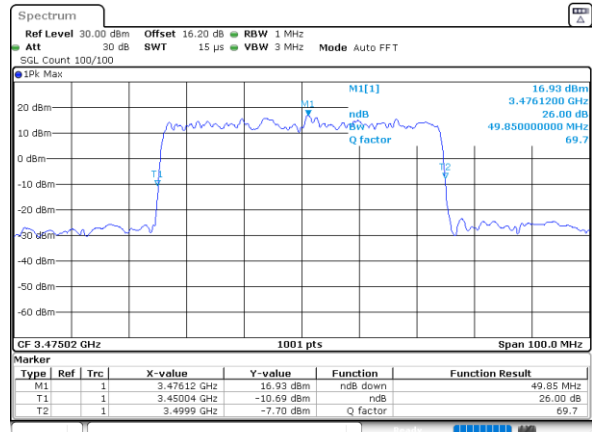
Lowest Channel



Date: 31.JAN.2024 19:43:28

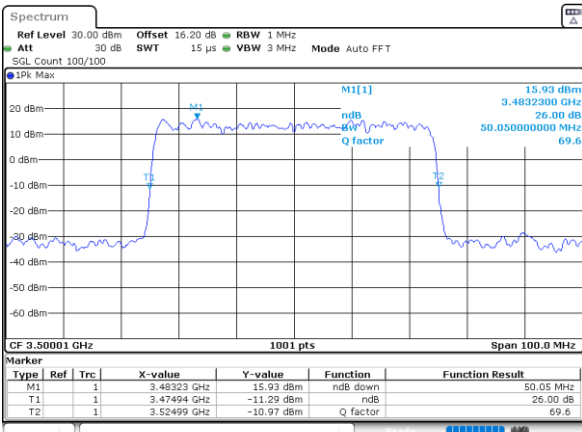
256QAM

Lowest Channel



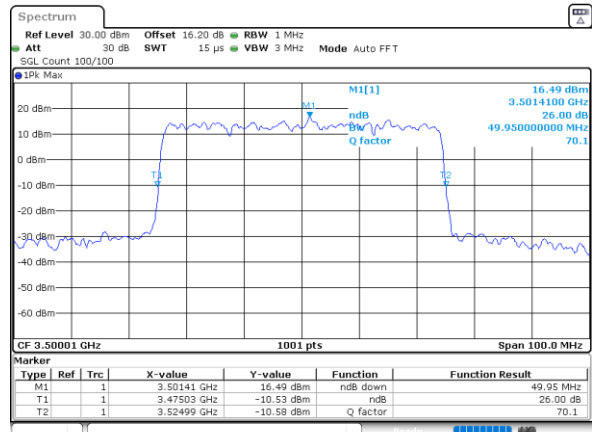
Date: 31.JAN.2024 19:47:55

Middle Channel



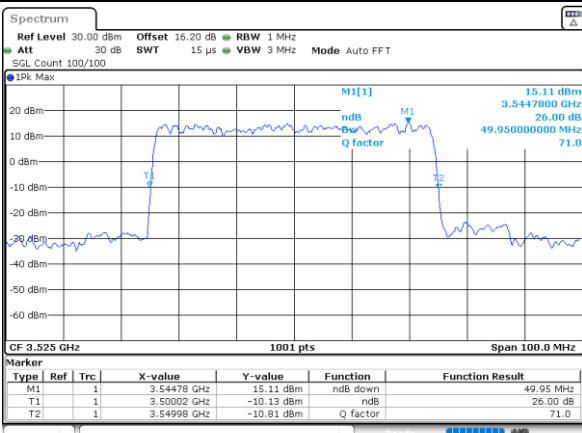
Date: 31.JAN.2024 19:57:02

Middle Channel



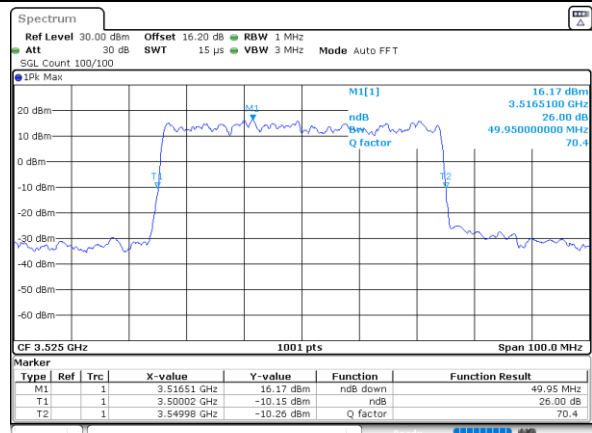
Date: 31.JAN.2024 20:10:32

Highest Channel



Date: 31.JAN.2024 20:23:03

Highest Channel



Date: 31.JAN.2024 21:28:52





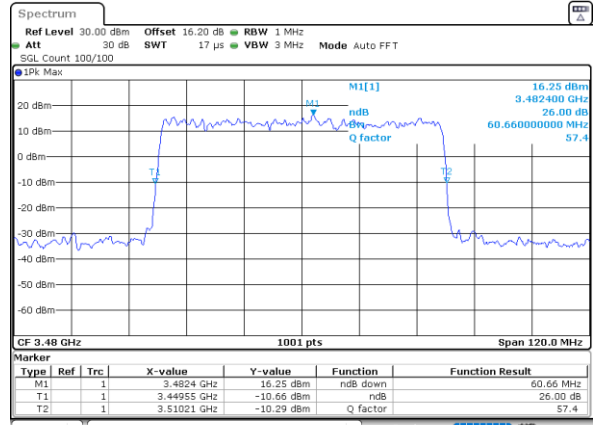
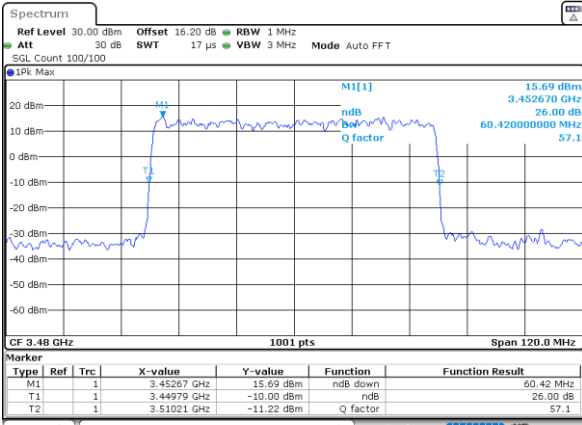
FR1 n78 / 60MHz Ant3 / CP

QPSK

16QAM

Lowest Channel

Lowest Channel

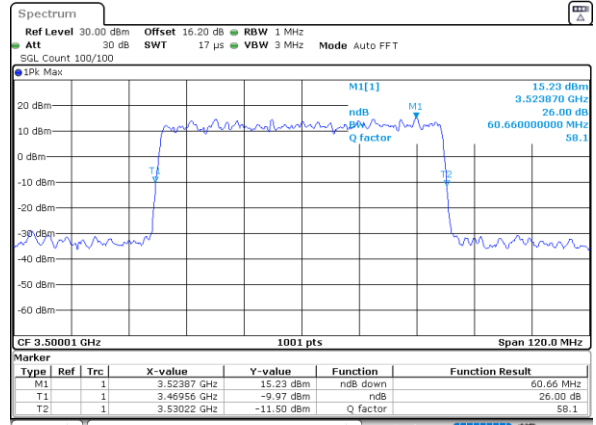
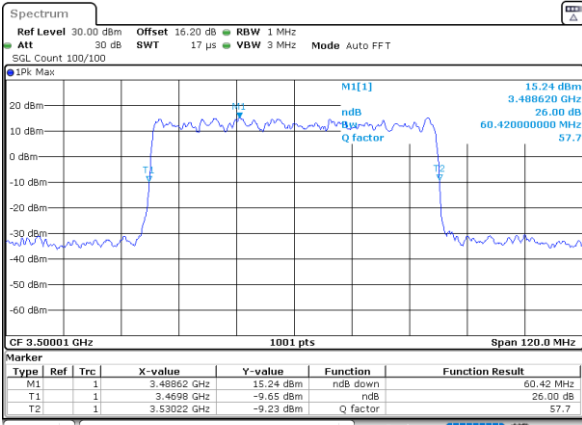


Date: 31.JAN.2024 08:26:55

Date: 31.JAN.2024 13:32:50

Middle Channel

Middle Channel

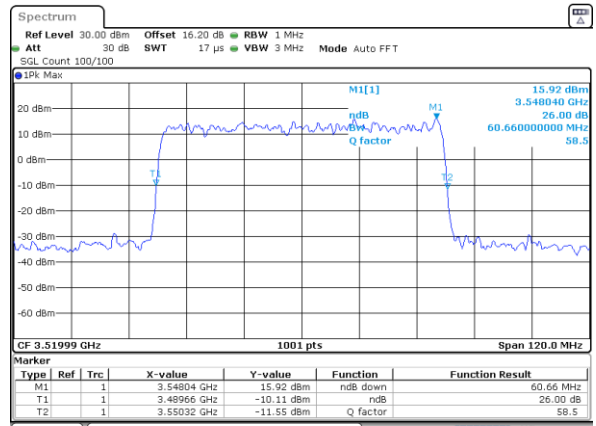
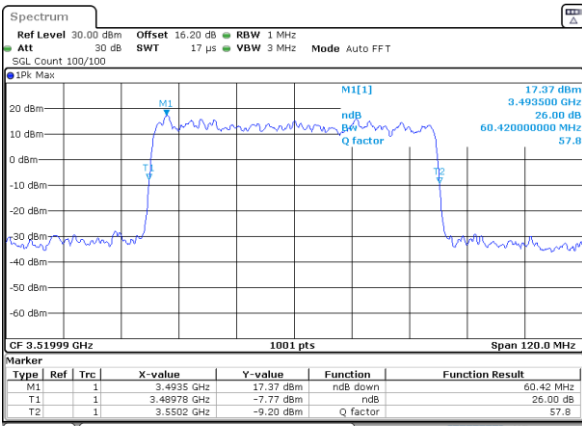


Date: 31.JAN.2024 08:28:02

Date: 31.JAN.2024 13:39:45

Highest Channel

Highest Channel



Date: 31.JAN.2024 08:28:49

Date: 31.JAN.2024 13:49:05