FCC RF Test Report

APPLICANT	:	**Nokia Shanghai Bell Co., Ltd.**
EQUIPMENT	:	**Nokia FastMile 5G Receiver High Gain**
BRAND NAME	:	**Nokia**
MODEL NAME	:	**5G16-A**
FCC ID	:	**2ADZR5G16A**
STANDARD	:	**47 CFR Part 2, 96**
CLASSIFICATION	:	**Citizens Band Category A and B Devices (CBD)**
EQUIPMENT TYPE	:	**CPE-CBSD (Category B)**
TEST DATE(S)	:	**Apr. 27, 2023 ~ Jun. 08, 2023**

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 and shown compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (Shenzhen).

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

ACCREDITED Cert #5145.02

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People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG341901J	01	Initial issue of report	Jun. 13, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Limit	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	-	Reporting only	-
3.3	§96.41	Peak-to-Average Ratio	<-13dB	Pass	-
3.4	§96.41	Maximum E.I.R.P	<47dBm/ 10MHz	Pass	-
		Maximum Power Spectral Density	<37dBm/MHz	Pass	-
3.5	§2.1049 §96.41	Occupied Bandwidth	-	Reporting only	-
3.6	§2.1051 §96.41	Conducted Band Edge Measurement	<−40dBm/MHz	Pass	-
3.7	§2.1051 §96.41	Conducted Spurious Emission	<−40dBm/MHz	Pass	
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Within Authorized Band	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	<−40dBm/MHz	Pass	Under limit 3.80 dB at 7200.00 MHz

Conformity Assessment Condition:

1. 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.
2. 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

Nokia Shanghai Bell Co., Ltd.
388#, Ningqiao Road, China (Shanghai) Pilot Free Trade Zone, Shanghai 201206, China

1.2 Manufacturer

Nokia Solutions and Networks Oy
Karakaari 7, 02610 Espoo, Finland

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Nokia FastMile 5G Receiver High Gain
Brand Name	Nokia
Model Name	5G16-A
FCC ID	2ADZR5G16A
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Bandwidth	**For SCS 15kHz:** 5MHz / 10MHz / 15MHz / 20MHz / 30MHz / 40MHz (BW 5MHz support SCC only) **For SCS 30kHz:** 10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz (BW 50/ 60/ 80/ 90/ 100MHz support SCC only)
SCS	15kHz, 30kHz
Antenna Gain	<Ant. 0> 5G NR n48: 17.94 dBi <Ant. 1> 5G NR n48: 17.99 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted: 355231280005192 Radiation: 355231280005010
HW Version	3TG02369Axxx, x:A~Z
SW Version	5GReceiver-HG-2_D230200B31T0001E0147
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. 5G NR n48 support SA and NSA mode for SCS 15kHz and 30kHz. According to the maximum power, SA covers NSA mode and SCS 15kHz covers 30kHz.
3. 5G NR n48AA & n48B support SCS 15kHz and 30kHz. According to the maximum power, SCS 15kHz was full test to cover SCS 30kHz.
4. 5G NR n48 supports UL MIMO mode, the MIMO mode is completely uncorrelated, the directional

gain is selected the maximum gain among Ant.0 & Ant.1.

5. For n48 UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(NANT) according to KDB 662911 D01.
6. For 5G NR n48, Ant.0 is only used for UL MIMO mode.
7. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
8. The EN-DC mode combination could be referred to the product spec.

1.4 Maximum EIRP and Emission Designator

5G NR n48		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3555.00~3694.98	14.8936	9M28G7D	11.5080	9M30W7D
15	3557.52~3692.5	14.8252	14M1G7D	11.3763	14M2W7D
20	3560.01~3690.00	14.5881	18M9G7D	12.0504	19M0W7D
30	3565.005~3684.99	15.1008	28M7G7D	12.2744	28M6W7D
40	3570.00~3679.98	15.1705	38M6G7D	14.5881	38M7W7D

EN_DC_n48AA		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
NR BW 10MHz	LTE BW 20MHz	7.7983	28M8G7D	6.2373	28M9W7D
NR BW 15MHz	LTE BW 20MHz	7.5858	33M5G7D	6.2230	33M6W7D
NR BW 20MHz	LTE BW 20MHz	7.7446	38M3G7D	5.8884	38M4W7D
NR BW 40MHz	LTE BW 20MHz	7.8343	58M1G7D	6.0954	58M5W7D

n48B	PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
NR BW 20MHz+20MHz	4.9769	39M0G7D	4.9270	39M1W7D
NR BW 20MHz+15MHz	4.6240	33M9G7D	4.5095	34M0W7D
NR BW 15MHz+20MHz	4.4683	33M7G7D	4.4573	33M9W7D
NR BW 20MHz+10MHz	4.5925	28M5G7D	4.3778	28M6W7D
NR BW 10MHz+20MHz	4.5711	28M7G7D	4.5717	28M7W7D
NR BW 15MHz+15MHz	4.6240	29M1G7D	4.6244	29M1W7D
NR BW 20MHz+5MHz	2.1380	23M8G7D	2.0894	23M9W7D
NR BW 15MHz+10MHz	4.5089	24M1G7D	4.6032	24M1W7D
NR BW 10MHz+15MHz	4.5927	24M1G7D	4.4779	24M2W7D
NR BW 15MHz+5MHz	2.1578	19M1G7D	2.1135	19M1W7D
NR BW 10MHz+10MHz	4.5396	19M2G7D	4.5815	19M2W7D

Note:

1. All modulations have been tested, only the worst test results of PSK & QAM are shown in the report.
2. 5G NR n48AA/ n48B supported bandwidth combinations and frequency are followed 3GPP 38.508-1.

1.5 Testing Site

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

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

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN1256	421272

Test data subcontracted: Conducted test cases in section 3 of this report.

1.6 Test Software

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

1.7 Applied Standards

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

- ANSI C63.26-2015
- 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS v03
- 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.

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

Test Items	Band	Bandwidth (MHz)					Modulation					RB #			Test Channel		
		10	15	20	30	40	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n48	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
EIRP PSD	n48	v	v	v	v	v		v	v			v		v	v	v	v
26dB and 99% Bandwidth	n48	v	v	v	v	v	v	v	v	v	v			v		v	
Conducted Band Edge	n48	v		v		v	v	v				v		v	v	v	v
Peak-to-Average Ratio	n48			v			v	v				v		v	v	v	v
Conducted Spurious Emission	n48	v		v		v	v	v				v		v	v	v	v
E.I.R.P	n48	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
Frequency Stability	n48			v				v						v		v	
Radiated Spurious Emission	n48	Worst Case														v	
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 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. 4. All test items are based on engineering evaluation. 5. Frequency Stability: Normal Voltage = 54V ; Low Voltage = 48V ; High Voltage = 57V.																

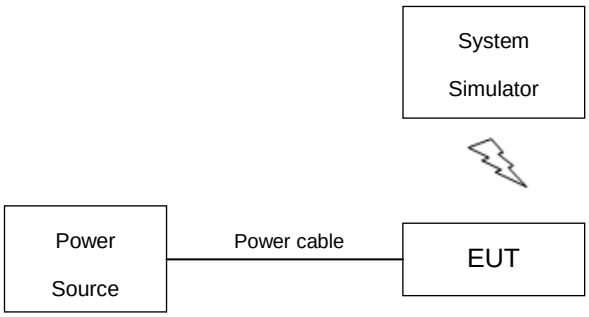
Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 10+20M, 15+20M, 20+20, 40+20M	eg. PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	n48AA	All supported Bandwidth	All Modulation	1RB, Full RB	L, M, H
E.I.R.P	n48AA	All supported Bandwidth	All Modulation	1RB, Full RB	L, M, H
EIRP PSD	n48AA	All supported Bandwidth	QPSK, 16QAM	1RB, Full RB	L, M, H
Peak-to-Average Ratio	n48AA	20+20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	n48AA	All supported Bandwidth	QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	n48AA	10+20M, 20+20M, 40+20M,	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
Conducted Spurious Emission	n48AA	10+20M, 20+20M, 40+20M,	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
Frequency Stability	n48AA	20+20M	PI/2 BPSK	Full RB	M
Radiated Spurious Emission	n48AA	Worst case from maximum power			M

Note:
1. 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.
2. All test items are based on engineering evaluation.
3. Frequency Stability: Normal Voltage = 54V ; Low Voltage = 48V ; High Voltage = 57V.

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 20+20M, 20+15M, 15+20M, 20+10M, 10+20M, 15+15M, 20+5M, 15+10M, 10+15M, 15+5M, 10+10M	eg. PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	n48B	All supported Bandwidth	All Modulation	1RB, Full RB	L, M, H
E.I.R.P	n48B	All supported Bandwidth	All Modulation	1RB, Full RB	L, M, H
EIRP PSD	n48B	All supported Bandwidth	QPSK, 16QAM	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	n48B	All supported Bandwidth	QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	n48B	10+10M, 20+10M, 20+20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
Conducted Spurious Emission	n48B	10+10M, 20+10M, 20+20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
Radiated Spurious Emission	n48B	Worst case from maximum power			M

Note:
4. 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.
5. All test items are based on engineering evaluation.

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

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.	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

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.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5.59 dB and 10dB attenuator.

Example :

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

= 5.59 + 10 = 15.59 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List for SCS 15k/30k				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
40	Channel	638000	641666	645332
	Frequency	3570	3624.99	3679.98
30	Channel	637667/637668	641666	645666
	Frequency	3565.005/3565.02	3624.99	3684.99
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
15	Channel	637168	641666	646166
	Frequency	3557.52	3624.99	3692.49
10	Channel	637000	641666	646332
	Frequency	3555.0	3624.99	3694.98

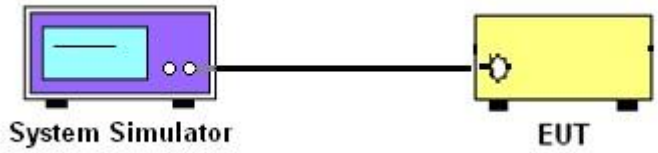
3 Conducted Test Items

3.1 Measuring Instruments

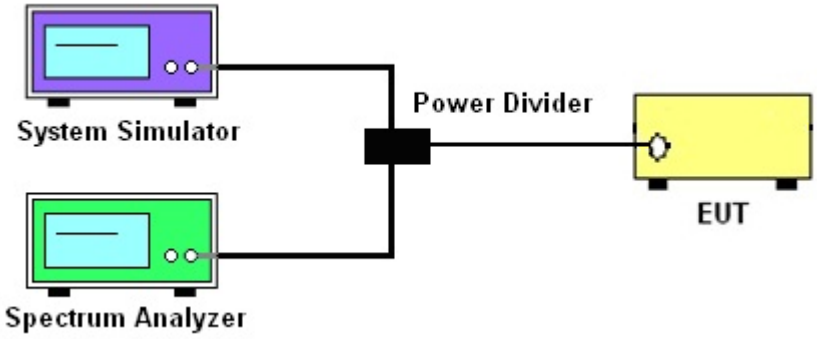
See list of measuring instruments of this test report.

3.1.1 Test Setup

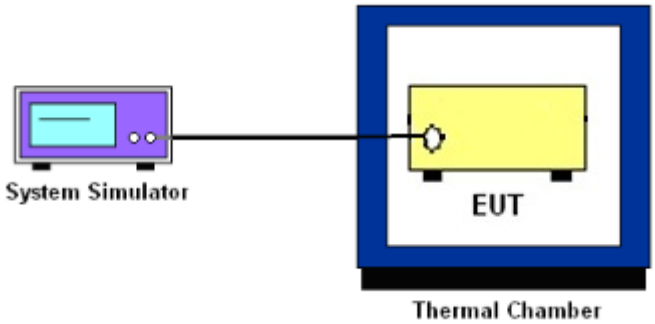
3.1.2 Conducted Output Power



3.1.3 PSD, Peak-to-Average Ratio, 26dB & 99% Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power

3.2.1 Description of the Conducted Output Power 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.

3.2.2 Test Procedures

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

3.3 Peak-to-Average Ratio

3.3.1 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.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

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

3.4 EIRP and PSD

3.4.1 Description of the EIRP Measurement

EIRP and PSD limits for CBRS equipment as below table:

Device		Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
☐	**End User Device**	23	n/a
☐	**Category A CBSD**	30	20
Applied	**Category B CBSD**	47	37

Remark:

1. The total channel bandwidth EIRP comply with the limit, thus any 10MHz EIRP also comply.
2. Maximum PSD values are radiated. Measurements can be done conducted and add antenna gain back in.

3.4.2 Test Procedures for EIRP

1. Establishing a communications link with the call box (Base station) to measure the Maximum conducted power, the parameters were set to force the EUT transmitting at maximum output power level. Use the average power measurement function to measure total channel power of each channel bandwidth (per ANSI C63.26-2015 Section 5.2.1)

2. Determining ERP and/or EIRP from conducted RF output power measurements (Per ANSI C63.26-2015 Section 5.2.5.5)

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

3.4.3 Test Procedures for EIRP PSD

1. Set instrument center frequency to OBW center frequency.
2. Set span to at least 2 times the OBW.
3. Set the RBW to the specified reference bandwidth (often 1 MHz).
4. Set VBW ≥ 3 × RBW.
5. Detector = RMS (power averaging).
6. Ensure that the number of measurement points in the sweep ≥ 2 × span/RBW.
7. Sweep time = auto couple.
8. Employ trace averaging (RMS) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).
10. Determine the EIRP by adding the effective antenna gain to the adjusted power level.
11. Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

Part 96.41 (e) (1) (i)

For CBSD the emission limits outside the fundamental are as follows:

Within 0 MHz to 10 MHz above and below the assigned channel ≤ −13 dBm/MHz

Greater than 10 MHz above and below the assigned channel ≤ −25 dBm/MHz

Part 96.41 (e) (1) (ii)

For End User Devices the emission limits outside the fundamental are as follows:

Within 0 MHz to B MHz above and below the assigned channel ≤ −13 dBm/MHz

Greater than B MHz above and below the assigned channel ≤ −25 dBm/MHz

where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device.

Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Part 96.41 (e) (2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Offset has included the duty factor for LTE Band 48. Duty factor =10 log (1/x), where x is the measured duty cycle.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is −40dBm/MHz.

3.8 Frequency Stability

3.8.1 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

3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

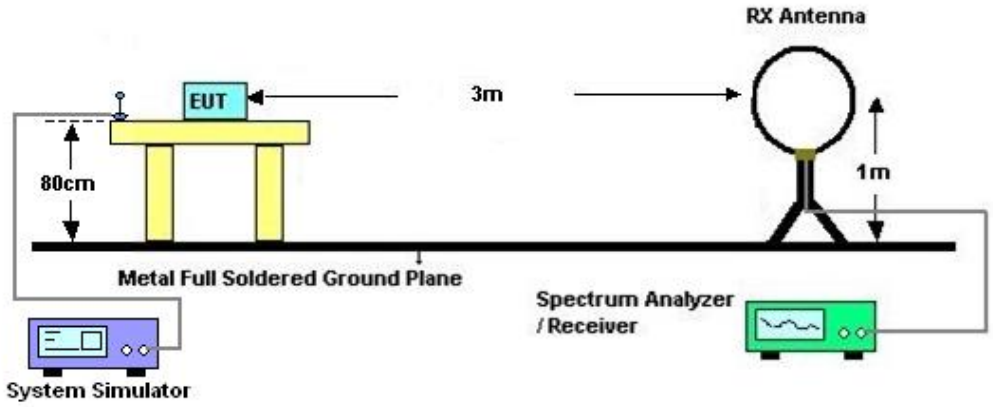
4 Radiated Test Items

4.1 Measuring Instruments

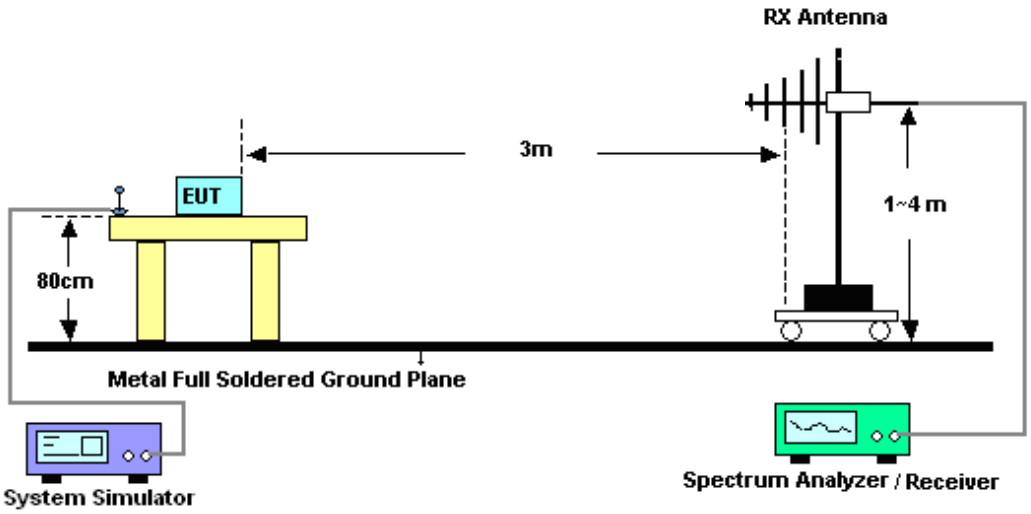
See list of measuring instruments of this test report.

4.2 Test Setup

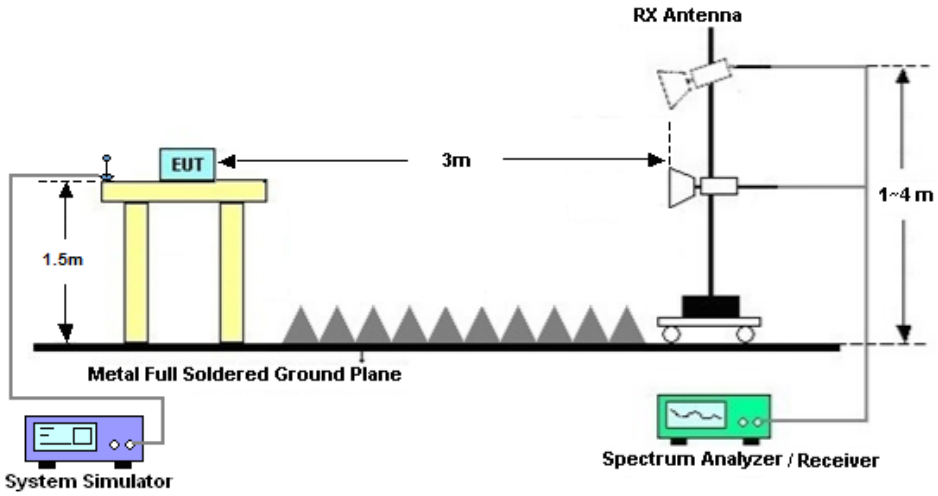
4.2.1 For radiated test below 30MHz



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

4.4.1 Description of Radiated Spurious Emission Measurement

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 -40dBm / MHz.

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

4.4.2 Test Procedures

1. 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.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
   Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
   The limit line is −40dBm/MHz

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Apr. 27, 2023~ Jun. 08, 2023	Apr. 08, 2023	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2022	Apr. 27, 2023~ Jun. 08, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec. 25, 2022	Apr. 27, 2023~ Jun. 08, 2023	Dec. 24, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Apr. 27, 2023~ Jun. 08, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	May 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 16, 2022	May 30, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	May 30, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 16, 2022	May 30, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	May 30, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 11, 2022	May 30, 2023	Jul. 10, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	May 30, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 12, 2022	May 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	May 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 30, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 30, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 30, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.13 %

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.82 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.56 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.54 dB

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Jung Guo	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 23.04.2601

FR1 N48 (ANT1) – SCS15kHz

Transmitter Conducted Output Power And EIRP,(G_T-L_C)=17.99dB

NR Band	SCS	Band Width	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power (dBm)	EIRP (dBm)	EIRP (W)
48	15	10	637000	3555	DFT-s-OFDM QPSK	1@1	18.66	36.65	4.6238
48	15	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	18.63	36.62	4.5920
48	15	10	637000	3555	DFT-s-OFDM QPSK	25@12	19.6	37.59	5.7412
48	15	10	637000	3555	DFT-s-OFDM 16 QAM	25@12	19.57	37.56	5.7016
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	18.58	36.57	4.5394
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.63	36.62	4.5920
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	25@12	19.48	37.47	5.5847
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	25@12	19.55	37.54	5.6754
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	18.58	36.57	4.5394
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	18.59	36.58	4.5499
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	25@12	19.54	37.53	5.6624
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	25@12	19.57	37.56	5.7016
48	15	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	18.58	36.57	4.5394
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	18.67	36.66	4.6345
48	15	15	637168	3557.52	DFT-s-OFDM QPSK	36@18	19.48	37.47	5.5847
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	36@18	19.65	37.64	5.8076
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	18.61	36.6	4.5709
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.6	36.59	4.5604
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	36@18	19.54	37.53	5.6624
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	36@18	19.54	37.53	5.6624
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	18.54	36.53	4.4978
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	18.53	36.52	4.4875
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	36@18	19.48	37.47	5.5847
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	36@18	19.47	37.46	5.5719
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	18.69	36.68	4.6559
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	18.43	36.42	4.3853
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	64@32	19.66	37.65	5.8210
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	64@32	19.33	37.32	5.3951
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	18.61	36.6	4.5709
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.71	36.7	4.6774
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	64@32	19.51	37.5	5.6234
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	64@32	19.61	37.6	5.7544
48	15	20	646000	3690	DFT-s-OFDM QPSK	1@1	18.51	36.5	4.4668
48	15	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	18.56	36.55	4.5186
48	15	20	646000	3690	DFT-s-OFDM QPSK	64@32	19.47	37.46	5.5719
48	15	20	646000	3690	DFT-s-OFDM 16 QAM	64@32	19.48	37.47	5.5847
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	1@1	18.67	36.66	4.6345
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	1@1	18.75	36.74	4.7206
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	80@40	19.58	37.57	5.7148
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	80@40	19.71	37.7	5.8884

48	15	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	18.6	36.59	4.5604
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.69	36.68	4.6559
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	80@40	19.58	37.57	5.7148
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	80@40	19.61	37.6	5.7544
48	15	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	18.51	36.5	4.4668
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	18.55	36.54	4.5082
48	15	30	645666	3684.99	DFT-s-OFDM QPSK	80@40	19.48	37.47	5.5847
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	80@40	19.46	37.45	5.5590
48	15	40	638000	3570	DFT-s-OFDM PI/2 BPSK	108@54	19.73	37.72	5.9156
48	15	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1	18.73	36.72	4.6989
48	15	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@214	18.61	36.6	4.5709
48	15	40	638000	3570	DFT-s-OFDM QPSK	108@54	**19.76**	37.75	5.9566
48	15	40	638000	3570	DFT-s-OFDM QPSK	1@1	18.74	36.73	4.7098
48	15	40	638000	3570	DFT-s-OFDM QPSK	1@214	18.61	36.6	4.5709
48	15	40	638000	3570	DFT-s-OFDM 16 QAM	108@54	19.74	37.73	5.9293
48	15	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	18.76	36.75	4.7315
48	15	40	638000	3570	DFT-s-OFDM 16 QAM	1@214	18.69	36.68	4.6559
48	15	40	638000	3570	DFT-s-OFDM 64 QAM	108@54	19.75	37.74	5.9429
48	15	40	638000	3570	DFT-s-OFDM 64 QAM	1@1	18.8	36.79	4.7753
48	15	40	638000	3570	DFT-s-OFDM 64 QAM	1@214	18.68	36.67	4.6452
48	15	40	638000	3570	DFT-s-OFDM 256 QAM	108@54	19.27	37.26	5.3211
48	15	40	638000	3570	DFT-s-OFDM 256 QAM	1@1	19.09	37.08	5.1050
48	15	40	638000	3570	DFT-s-OFDM 256 QAM	1@214	18.75	36.74	4.7206
48	15	40	638000	3570	CP-OFDM QPSK	108@54	19.73	37.72	5.9156
48	15	40	638000	3570	CP-OFDM QPSK	1@1	18.58	36.57	4.5394
48	15	40	638000	3570	CP-OFDM QPSK	1@214	18.53	36.52	4.4875
48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	108@54	19.62	37.61	5.7677
48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	18.72	36.71	4.6881
48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@214	18.43	36.42	4.3853
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	108@54	19.68	37.67	5.8479
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	18.66	36.65	4.6238
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@214	18.49	36.48	4.4463
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	108@54	19.71	37.7	5.8884
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.74	36.73	4.7098
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@214	18.49	36.48	4.4463
48	15	40	641666	3624.99	DFT-s-OFDM 64 QAM	108@54	19.7	37.69	5.8749
48	15	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	18.7	36.69	4.6666
48	15	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@214	18.49	36.48	4.4463
48	15	40	641666	3624.99	DFT-s-OFDM 256 QAM	108@54	19.21	37.2	5.2481
48	15	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	19.03	37.02	5.0350
48	15	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@214	18.87	36.86	4.8529
48	15	40	641666	3624.99	CP-OFDM QPSK	108@54	19.62	37.61	5.7677
48	15	40	641666	3624.99	CP-OFDM QPSK	1@1	18.64	36.63	4.6026
48	15	40	641666	3624.99	CP-OFDM QPSK	1@214	18.4	36.39	4.3551
48	15	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	108@54	19.61	37.6	5.7544
48	15	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@1	18.57	36.56	4.5290
48	15	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@214	18.62	36.61	4.5814
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	108@54	19.62	37.61	5.7677

48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	18.57	36.56	4.5290
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@214	18.64	36.63	4.6026
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	108@54	19.63	37.62	5.7810
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	18.59	36.58	4.5499
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@214	18.7	36.69	4.6666
48	15	40	645332	3679.98	DFT-s-OFDM 64 QAM	108@54	19.62	37.61	5.7677
48	15	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@1	18.58	36.57	4.5394
48	15	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@214	18.67	36.66	4.6345
48	15	40	645332	3679.98	DFT-s-OFDM 256 QAM	108@54	19.2	37.19	5.2360
48	15	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@1	18.89	36.88	4.8753
48	15	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@214	18.82	36.81	4.7973
48	15	40	645332	3679.98	CP-OFDM QPSK	108@54	19.6	37.59	5.7412
48	15	40	645332	3679.98	CP-OFDM QPSK	1@1	18.52	36.51	4.4771
48	15	40	645332	3679.98	CP-OFDM QPSK	1@214	18.57	36.56	4.5290

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0026	**PASS**	NV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0027	**PASS**	LV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0042	**PASS**	HV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0057	**PASS**	-30℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0062	**PASS**	-20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0058	**PASS**	-10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0031	**PASS**	0℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0052	**PASS**	10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0026	**PASS**	20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0026	**PASS**	30℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0021	**PASS**	40℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0061	**PASS**	50℃

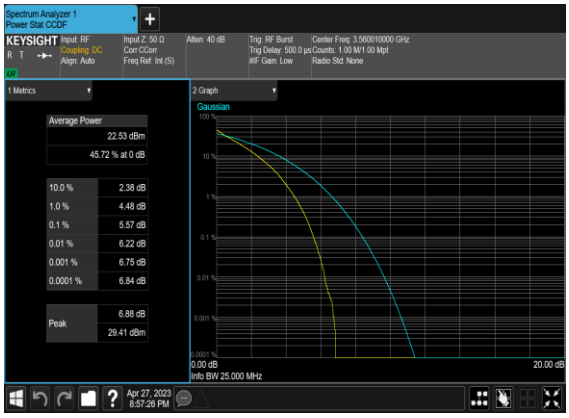
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	100@0	4.53	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	4.61	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	5.57	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	5.67	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	4.34	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	4.6	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	5.39	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	5.74	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	100@0	4.32	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	4.93	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	5.43	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	6.12	13	**PASS**

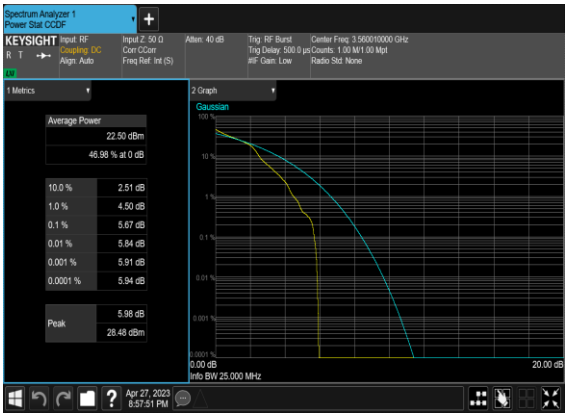
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

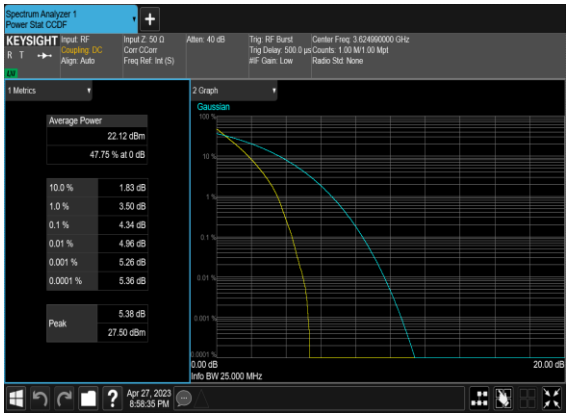
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



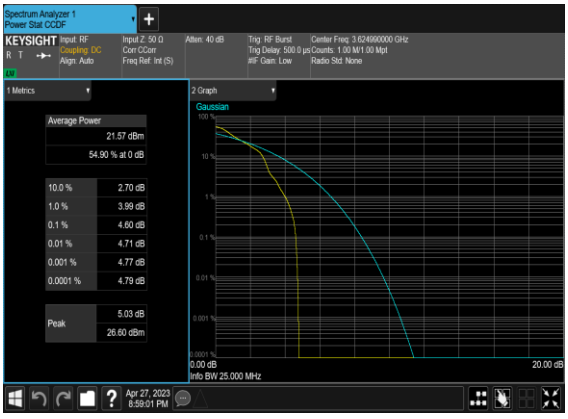
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

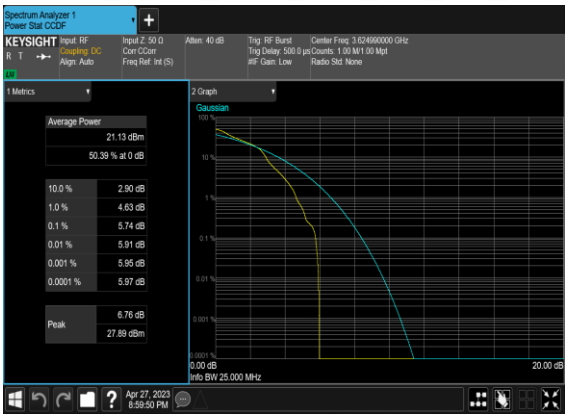


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

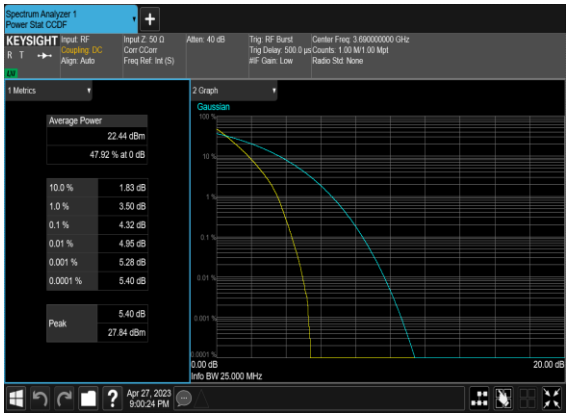


N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

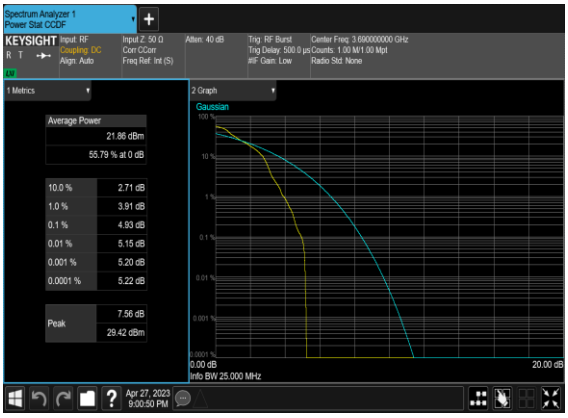
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



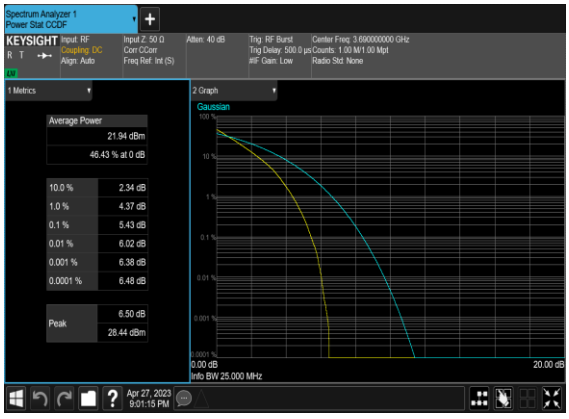
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



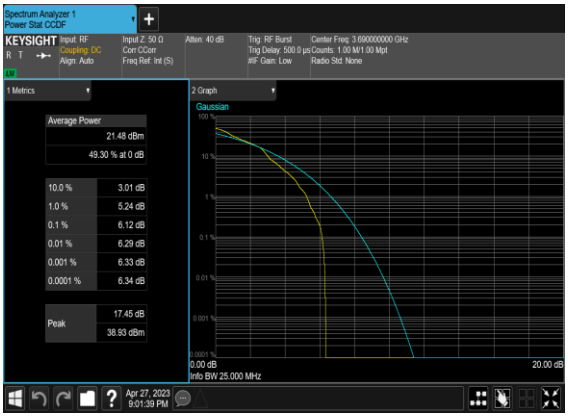
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

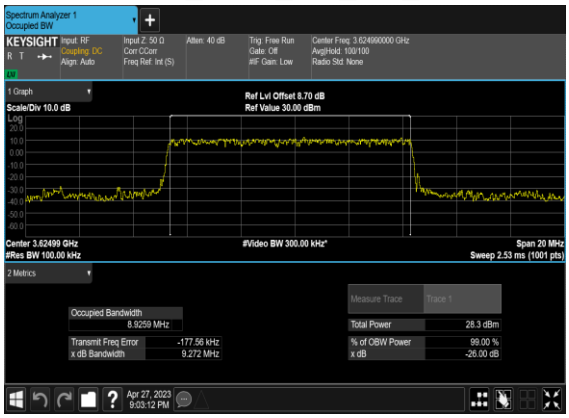


Occupied Bandwidth

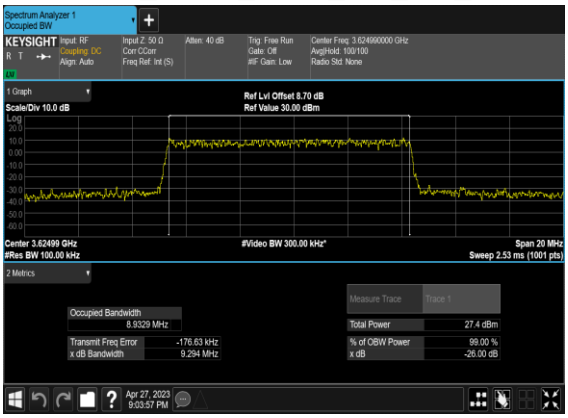
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	8.9259	9.272
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	8.9329	9.294
48	15	10	641666	3624.99	CP-OFDM QPSK	52@0	9.2467	9.701
48	15	10	641666	3624.99	CP-OFDM 16 QAM	52@0	9.262	9.635
48	15	10	641666	3624.99	CP-OFDM 64 QAM	52@0	9.2813	9.688
48	15	10	641666	3624.99	CP-OFDM 256 QAM	52@0	9.2983	9.694
48	15	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	75@0	13.35	13.92
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	75@0	13.383	13.91
48	15	15	641666	3624.99	CP-OFDM QPSK	79@0	14.073	14.69
48	15	15	641666	3624.99	CP-OFDM 16 QAM	79@0	14.097	14.64
48	15	15	641666	3624.99	CP-OFDM 64 QAM	79@0	14.077	14.56
48	15	15	641666	3624.99	CP-OFDM 256 QAM	79@0	14.117	14.61
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	17.856	18.53
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	17.878	18.49
48	15	20	641666	3624.99	CP-OFDM QPSK	106@0	18.926	19.63
48	15	20	641666	3624.99	CP-OFDM 16 QAM	106@0	18.927	19.66
48	15	20	641666	3624.99	CP-OFDM 64 QAM	106@0	18.957	19.57
48	15	20	641666	3624.99	CP-OFDM 256 QAM	106@0	18.872	19.53
48	15	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	160@0	28.585	29.46
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	160@0	28.552	29.48
48	15	30	641666	3624.99	CP-OFDM QPSK	160@0	28.59	29.65
48	15	30	641666	3624.99	CP-OFDM 16 QAM	160@0	28.537	29.44
48	15	30	641666	3624.99	CP-OFDM 64 QAM	160@0	28.567	29.51
48	15	30	641666	3624.99	CP-OFDM 256 QAM	160@0	28.585	29.64

48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	216@0	38.613	39.87
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	38.57	39.81
48	15	40	641666	3624.99	CP-OFDM QPSK	216@0	38.487	39.89
48	15	40	641666	3624.99	CP-OFDM 16 QAM	216@0	38.497	39.82
48	15	40	641666	3624.99	CP-OFDM 64 QAM	216@0	38.62	39.82
48	15	40	641666	3624.99	CP-OFDM 256 QAM	216@0	38.651	39.81

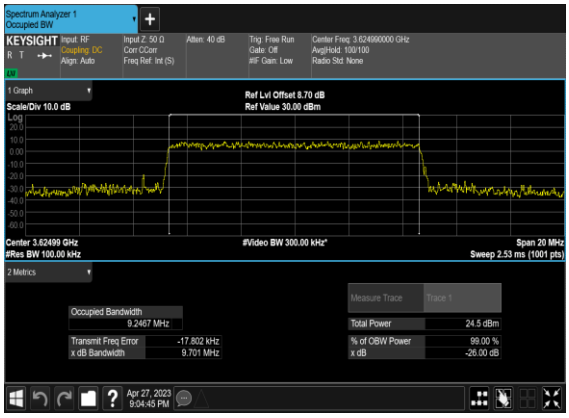
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



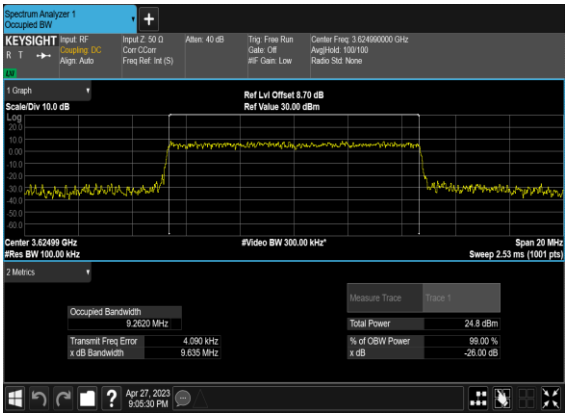
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



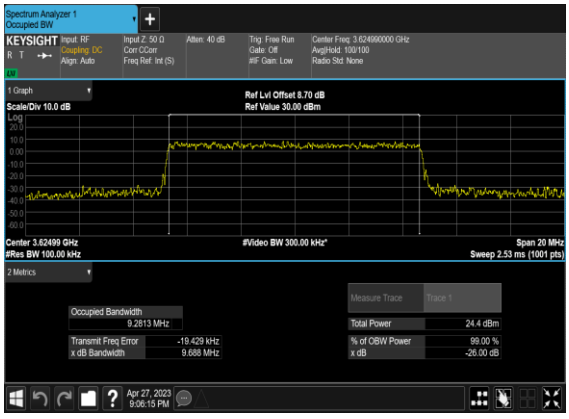
N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



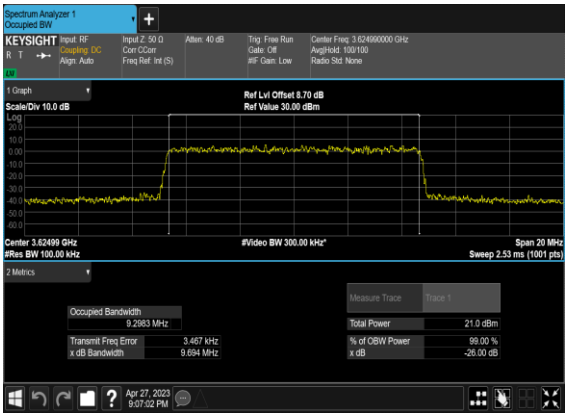
N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



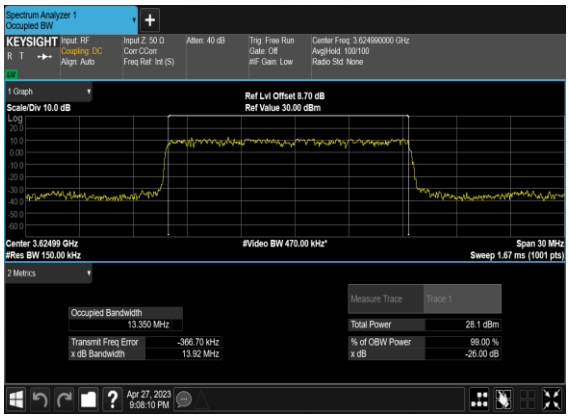
N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



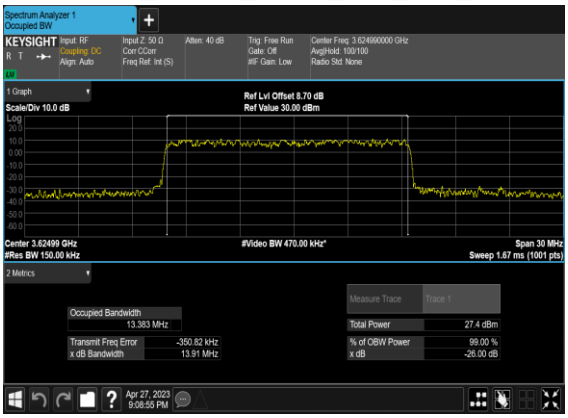
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



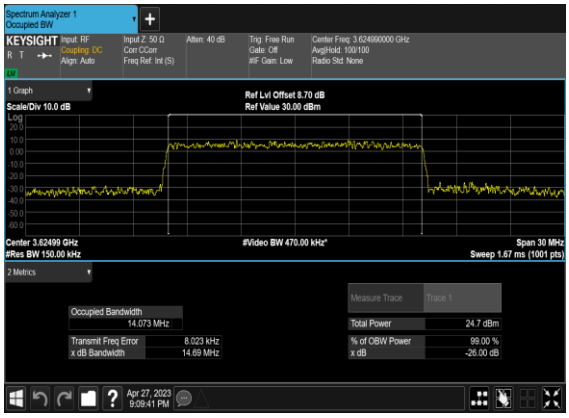
N48(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



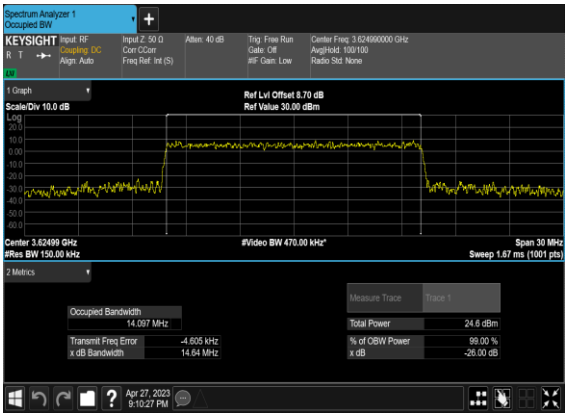
N48(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

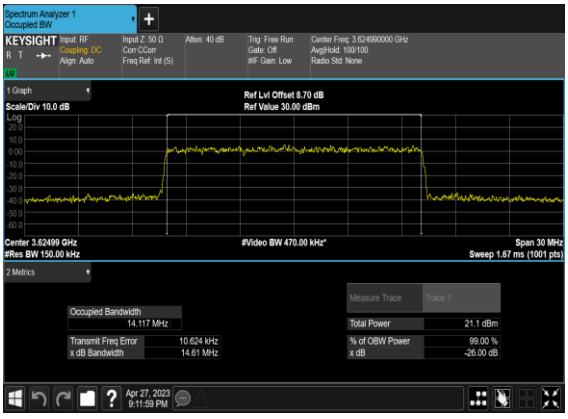


N48(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

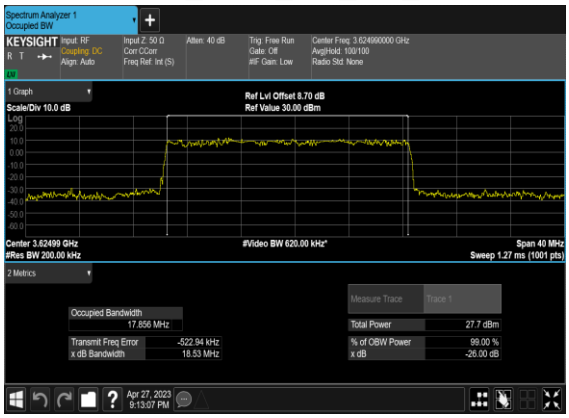


N48(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

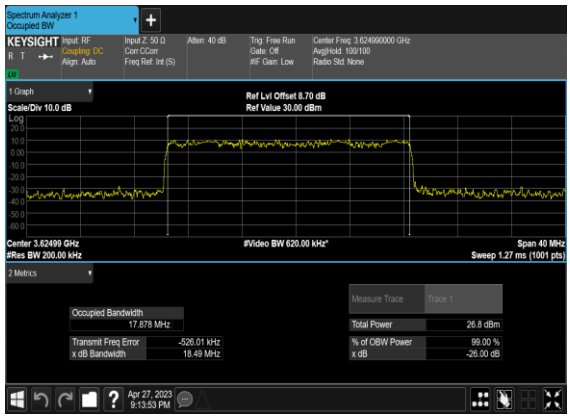
N48(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



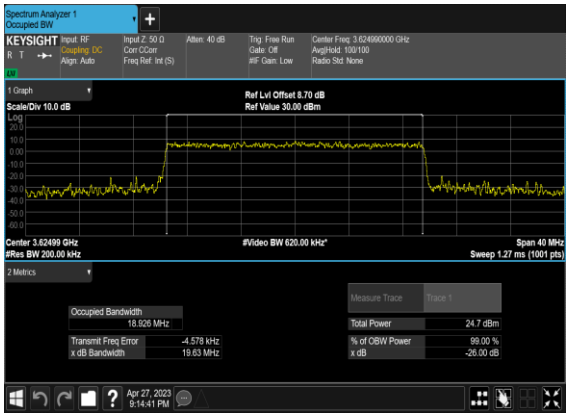
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

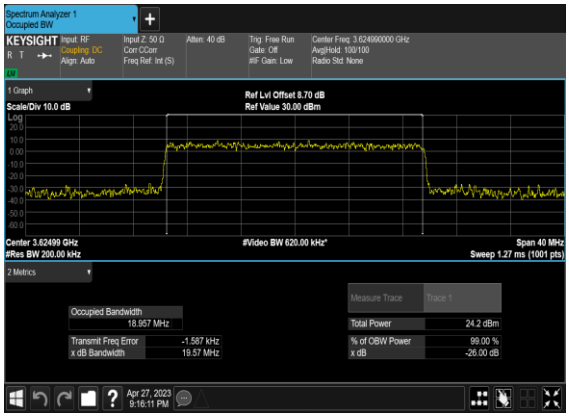


N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

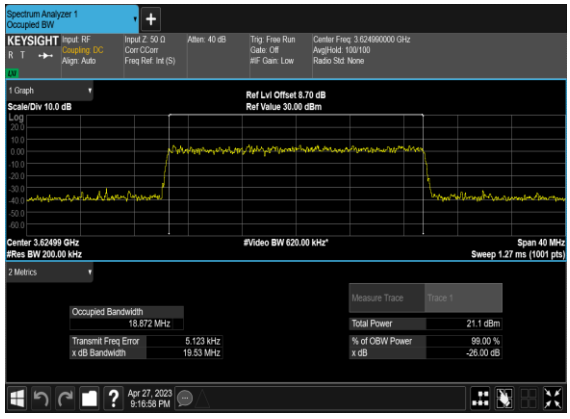


N48(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

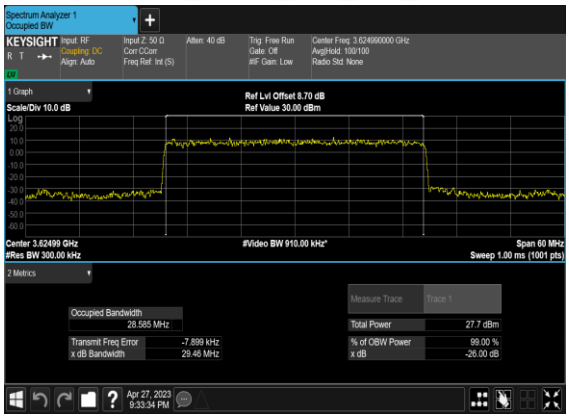
N48(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



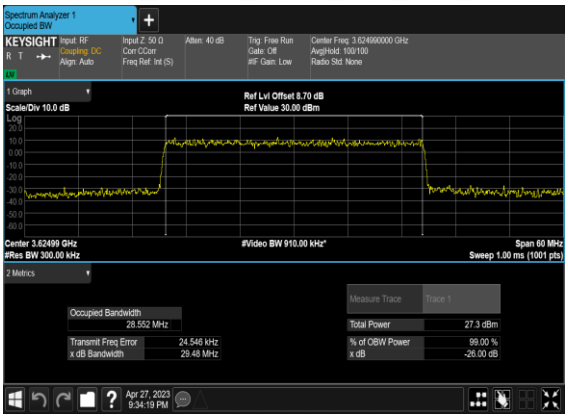
N48(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



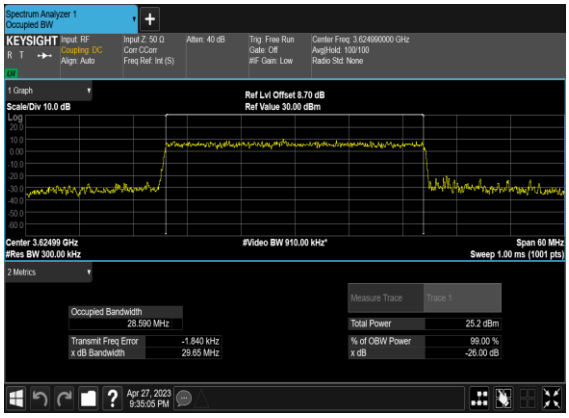
N48(30M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



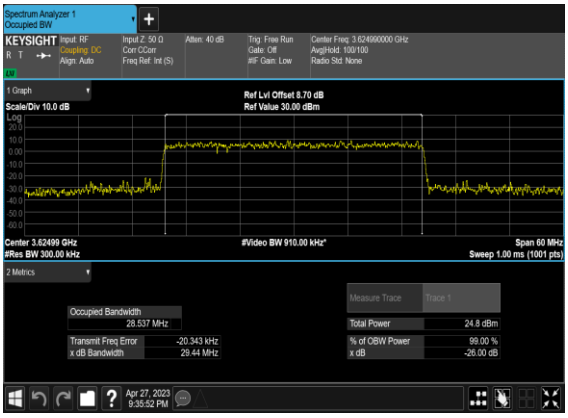
N48(30M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



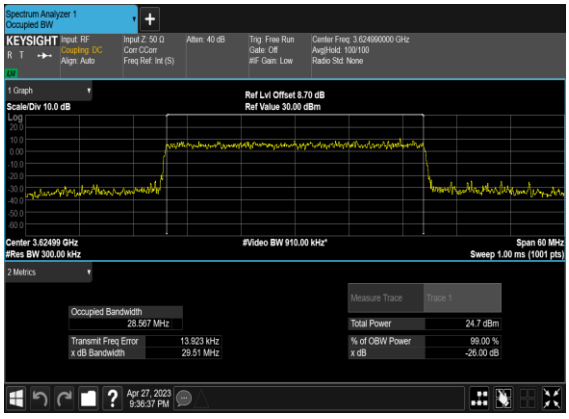
N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



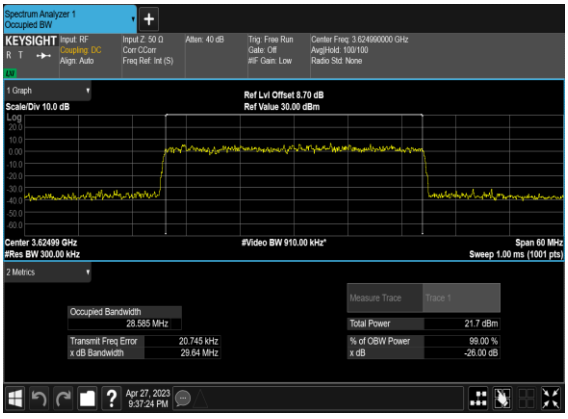
N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



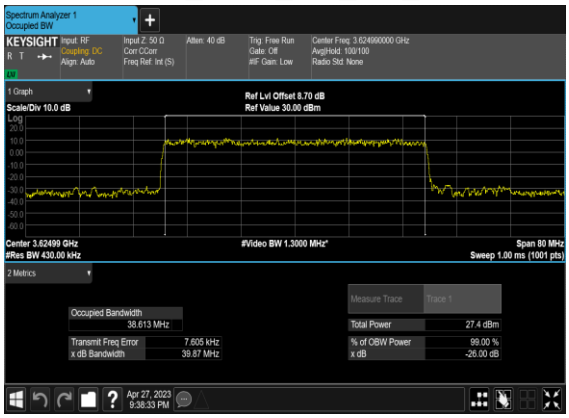
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



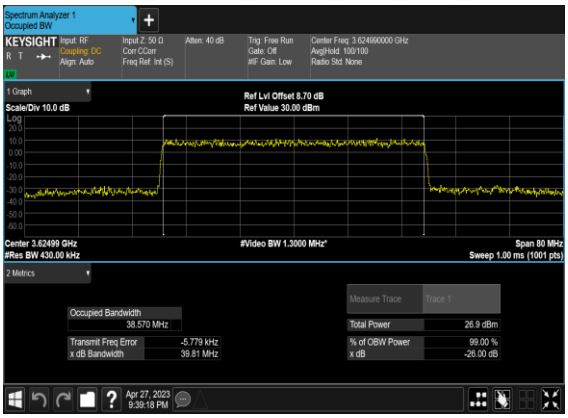
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



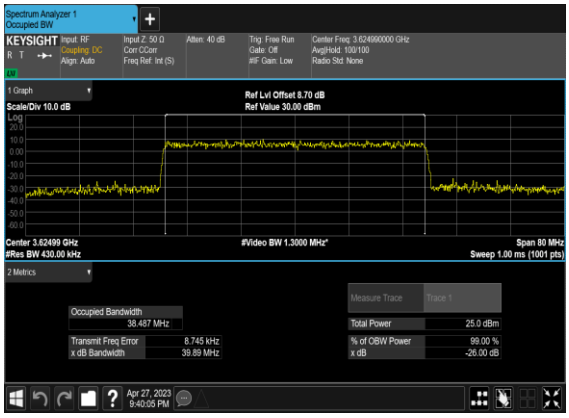
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



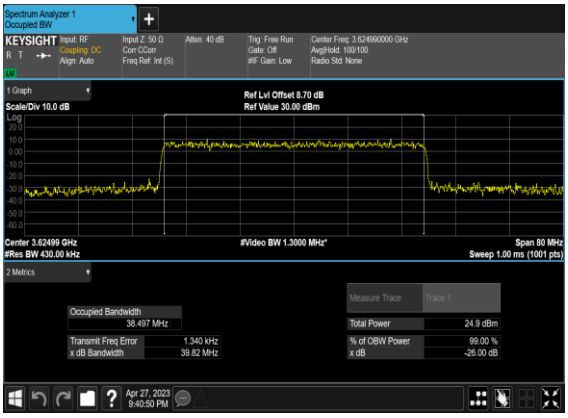
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



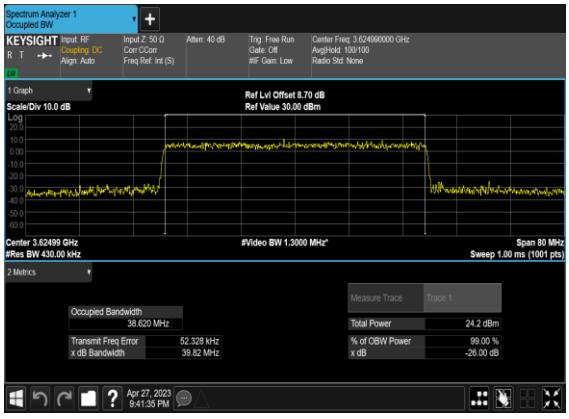
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



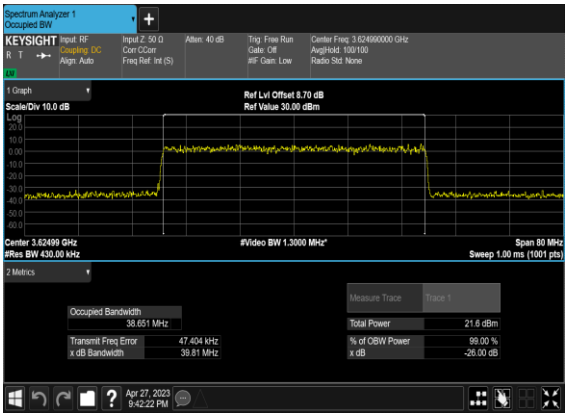
N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



Power Spectral Density

NR Band	SCS (kHz)	Band width (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted PSD (dBm/MHz)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@1	18.52	36.51	37	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@50	18.67	36.66	37	PASS
48	15	10	637000	3555.0	DFT-s-OFDM 16 QAM	1@1	18.06	36.05	37	PASS
48	15	10	637000	3555.0	DFT-s-OFDM 16 QAM	1@50	18.66	36.65	37	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	25@12	14.66	32.65	37	PASS
48	15	10	637000	3555.0	DFT-s-OFDM 16 QAM	25@12	14.56	32.55	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	17.38	35.37	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@50	17.23	35.22	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	17.8	35.79	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@50	17.61	35.6	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	25@12	14.13	32.12	37	PASS
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	25@12	13.97	31.96	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	17.71	35.7	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@50	17.19	35.18	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	17.95	35.94	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@50	18.01	36.0	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	25@12	13.91	31.9	37	PASS
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	25@12	14.17	32.16	37	PASS
48	15	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	18.11	36.1	37	PASS
48	15	15	637168	3557.52	DFT-s-OFDM QPSK	1@77	17.7	35.69	37	PASS
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	17.82	35.81	37	PASS
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@77	18.25	36.24	37	PASS

48	15	15	637168	3557.52	DFT-s-OFDM QPSK	36@18	12.06	30.05	37	PASS
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	36@18	11.6	29.59	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	17.63	35.62	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	1@77	17.83	35.82	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	17.45	35.44	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@77	17.79	35.78	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	36@18	11.23	29.22	37	PASS
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	36@18	11.65	29.64	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	17.48	35.47	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	1@77	17.73	35.72	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	17.62	35.61	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@77	17.52	35.51	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	36@18	11.87	29.86	37	PASS
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	36@18	11.18	29.17	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	18.47	36.46	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@104	17.82	35.81	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	18.51	36.5	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@104	18.67	36.66	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	50@25	11.78	29.77	37	PASS
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	50@25	11.66	29.65	37	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	17.65	35.64	37	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@104	17.14	35.13	37	PASS
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	17.9	35.89	37	PASS
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@104	17.93	35.92	37	PASS

48	15	20	641666	3624.99	DFT-s-OFDM QPSK	50@25	10.8	28.79	37	PASS
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	50@25	11.28	29.27	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@1	17.28	35.27	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@104	17.52	35.51	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM 16 QAM	1@1	17.66	35.65	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM 16 QAM	1@104	17.72	35.71	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	50@25	10.9	28.89	37	PASS
48	15	20	646000	3690.0	DFT-s-OFDM 16 QAM	50@25	10.81	28.8	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	1@1	17.76	35.75	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	1@158	17.99	35.98	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	1@1	17.72	35.71	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	1@158	18.17	36.16	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	80@40	8.71	26.7	37	PASS
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	80@40	8.34	26.33	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	17.94	35.93	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	1@158	18.45	36.44	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	17.78	35.77	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@158	18.21	36.2	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	80@40	8.78	26.77	37	PASS
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	80@40	8.48	26.47	37	PASS
48	15	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	18.17	36.16	37	PASS
48	15	30	645666	3684.99	DFT-s-OFDM QPSK	1@158	17.82	35.8	37	PASS
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	18.43	36.42	37	PASS
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@158	18.1	36.09	37	PASS

48	15	30	645666	3684.99	DFT-s-OFDM QPSK	80@40	8.64	26.63	37	PASS
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	80@40	8.54	26.53	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@1	18.6	36.59	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@214	17.84	35.83	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM 16 QAM	1@1	18.85	36.84	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM 16 QAM	1@214	18.35	36.34	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	108@54	8.37	26.36	37	PASS
48	15	40	638000	3570.0	DFT-s-OFDM 16 QAM	108@54	8.58	26.57	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	17.35	35.34	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@214	17.64	35.63	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	18.03	36.02	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@214	18.45	36.44	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	108@54	8.07	26.06	37	PASS
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	108@54	9.17	27.16	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	17.39	35.38	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@214	18.0	35.99	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	17.94	35.93	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@214	18.21	36.2	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	108@54	8.04	26.03	37	PASS
48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	108@54	8.12	26.11	37	PASS

Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	**---**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**

48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	**---**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	**---**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	**---**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	**---**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	**---**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	**---**

48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	**---**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	**---**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	**---**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	**---**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	**---**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	**---**

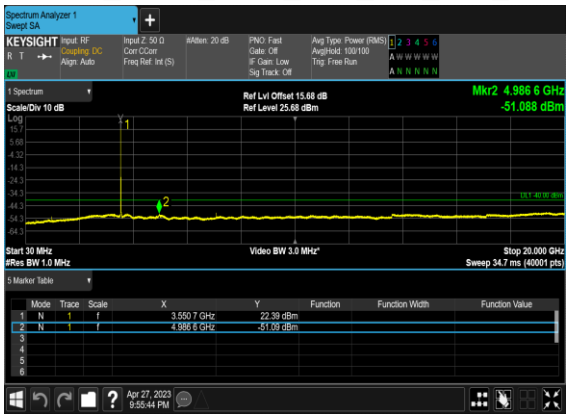
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	**---**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**---**

48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	**---**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	**---**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	**---**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	**---**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@215	see graph	**---**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@215	see graph	**---**

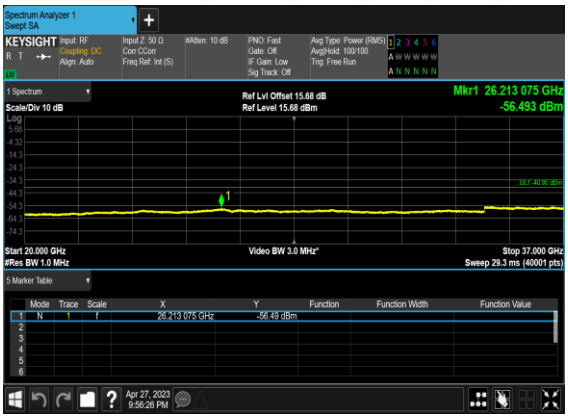
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	216@0	see graph	**---**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	216@0	see graph	**---**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	216@0	see graph	**PASS**
48	15	40	638000	3570.0	DFT-s-OFDM QPSK	216@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@215	see graph	**---**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@215	see graph	**---**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	216@0	see graph	**---**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	see graph	**---**

48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	see graph	**PASS**
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@215	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@215	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	216@0	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	216@0	see graph	**---**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	216@0	see graph	**PASS**
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	216@0	see graph	**PASS**

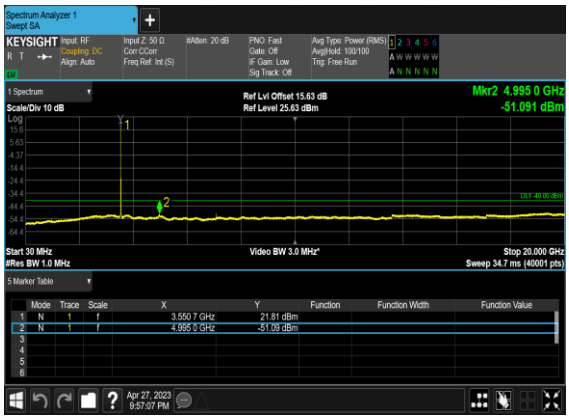
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



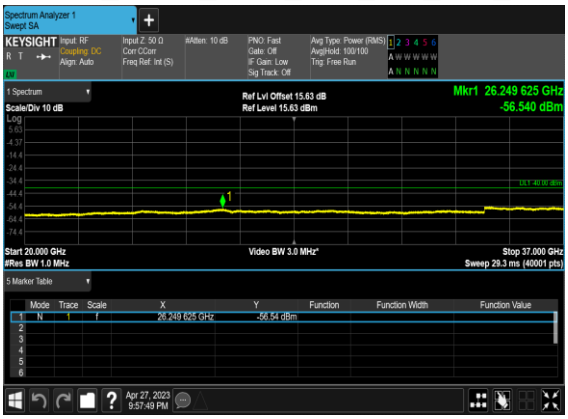
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



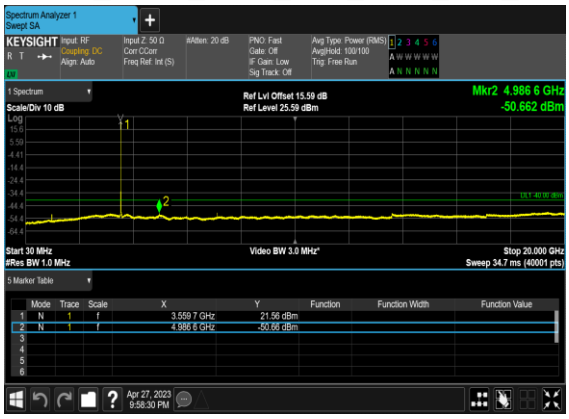
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



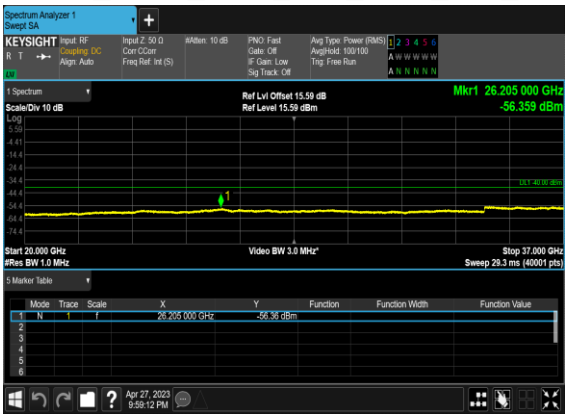
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



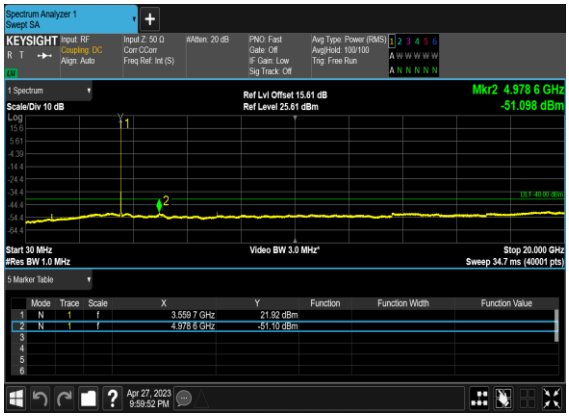
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH

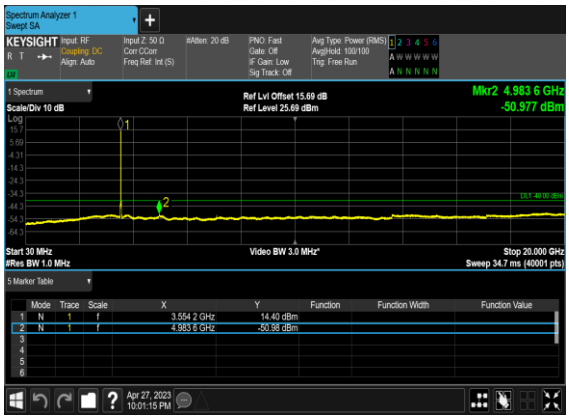


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

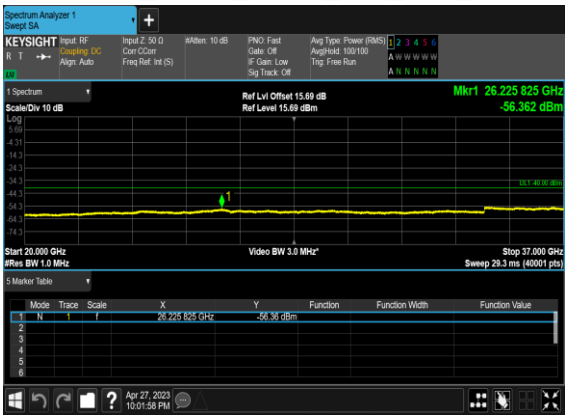


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

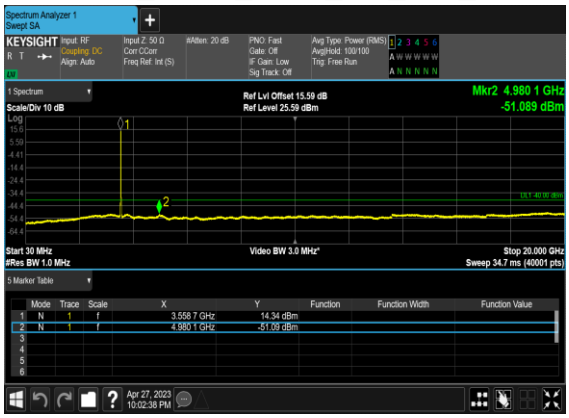
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



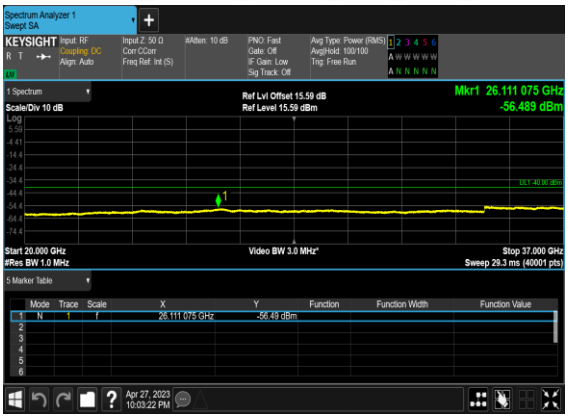
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



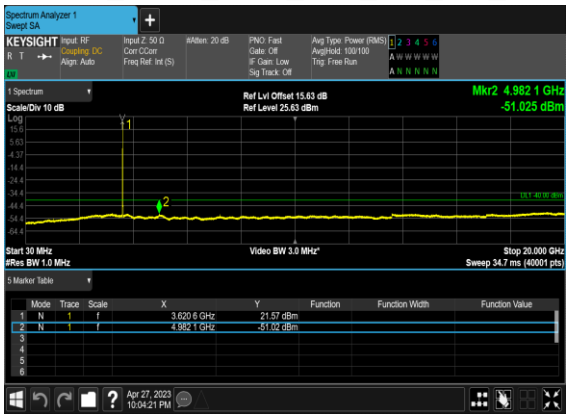
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



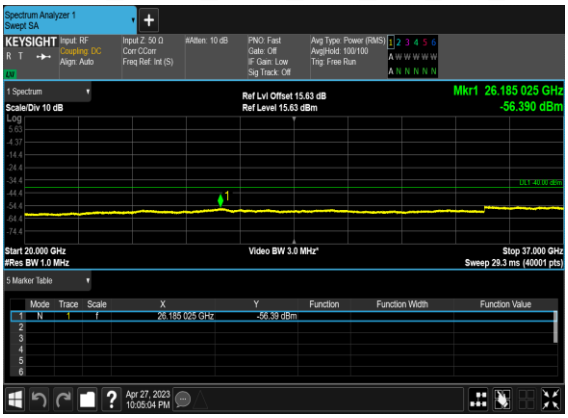
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



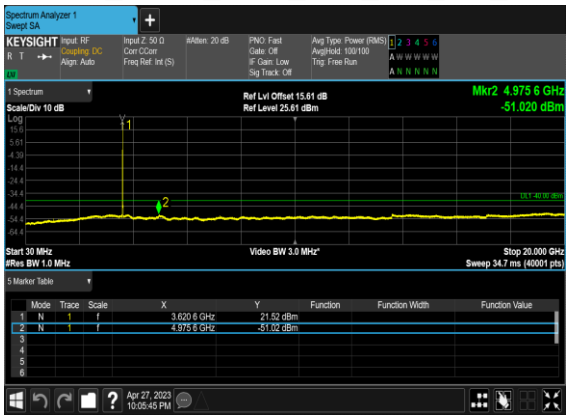
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



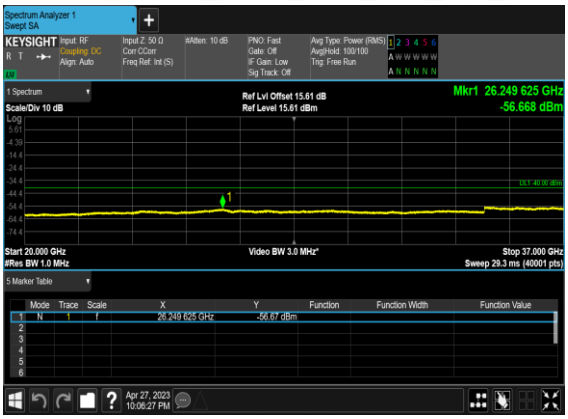
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



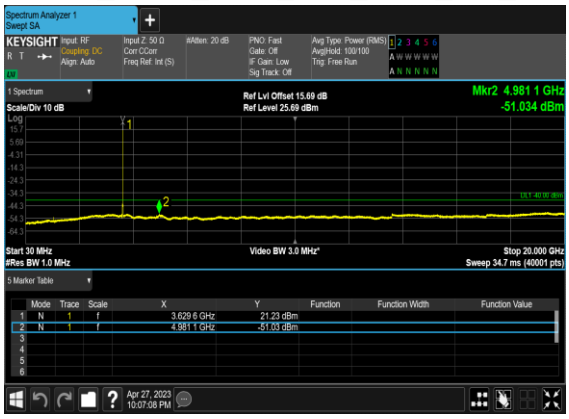
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



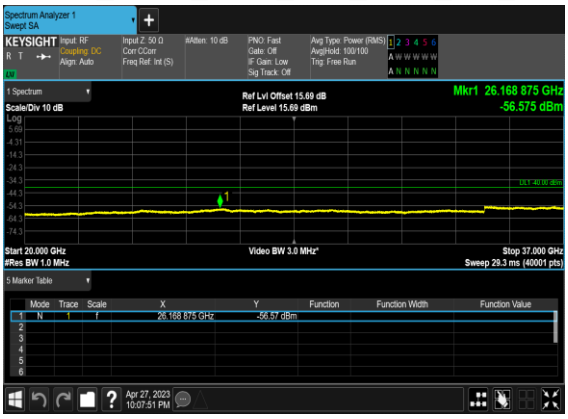
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



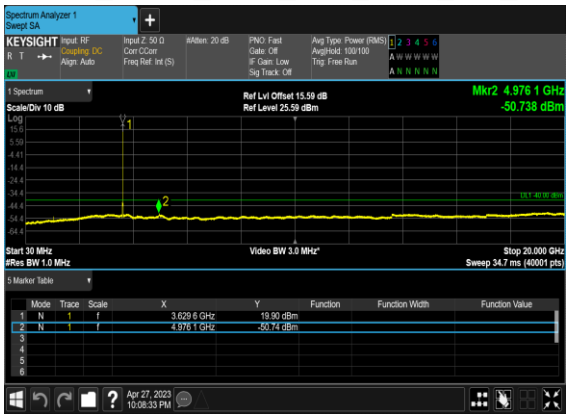
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



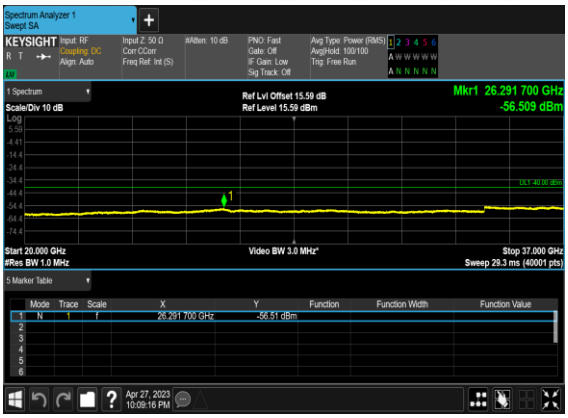
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



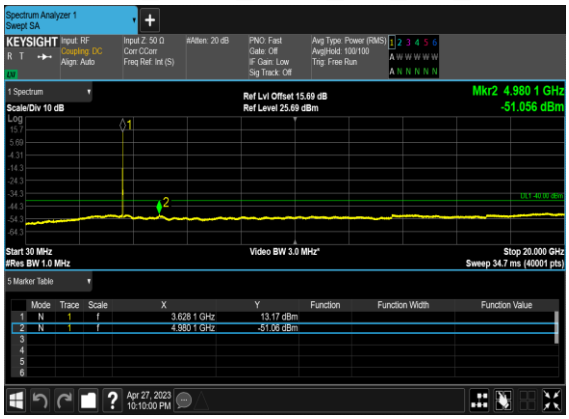
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



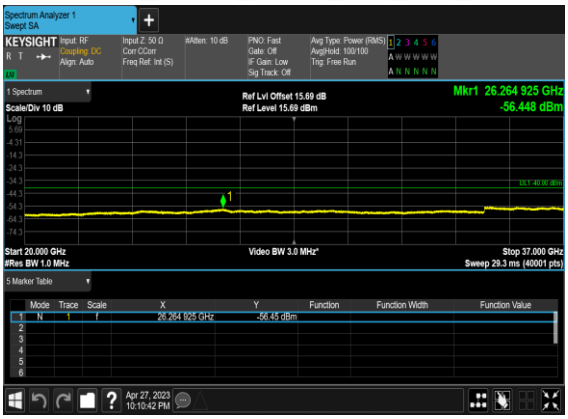
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



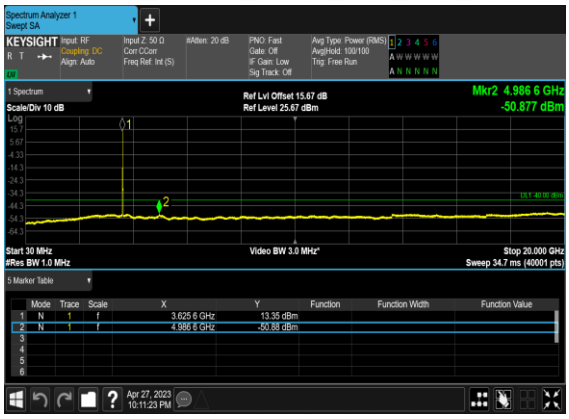
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



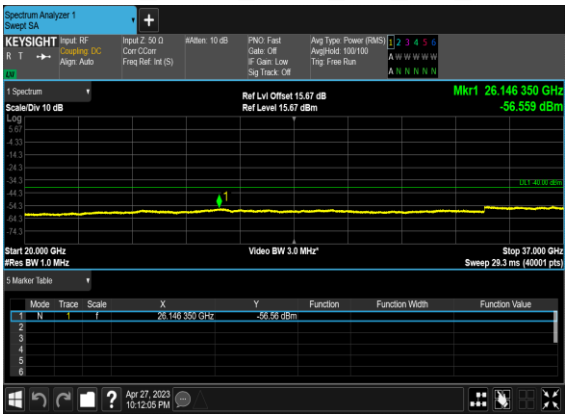
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



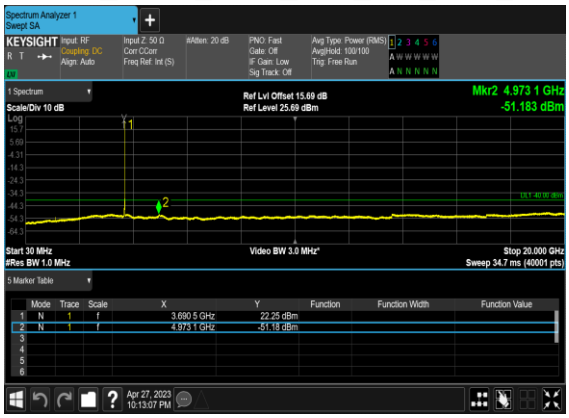
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



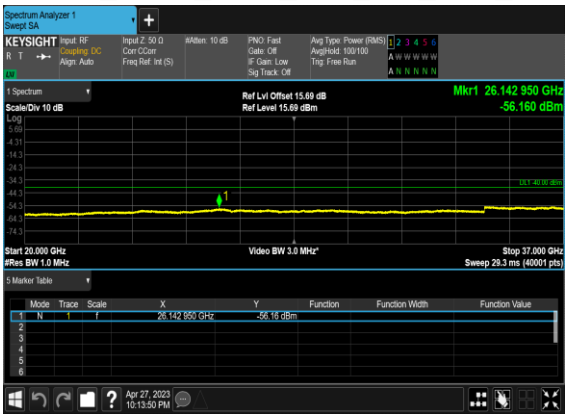
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



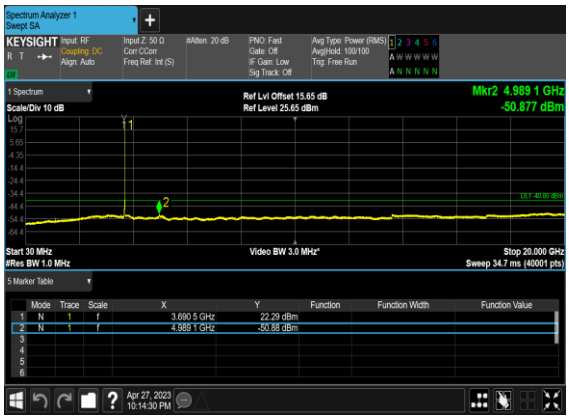
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



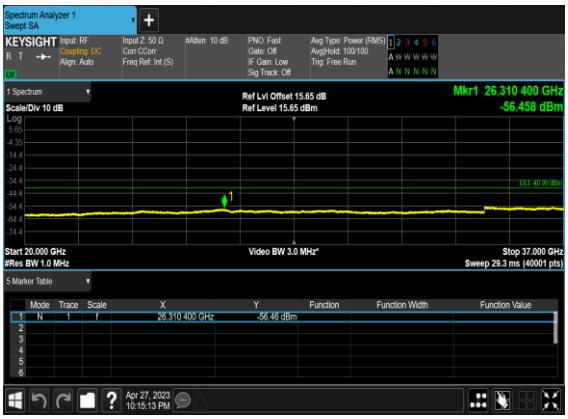
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



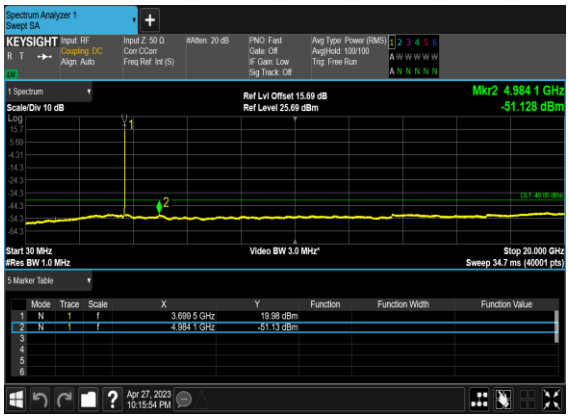
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



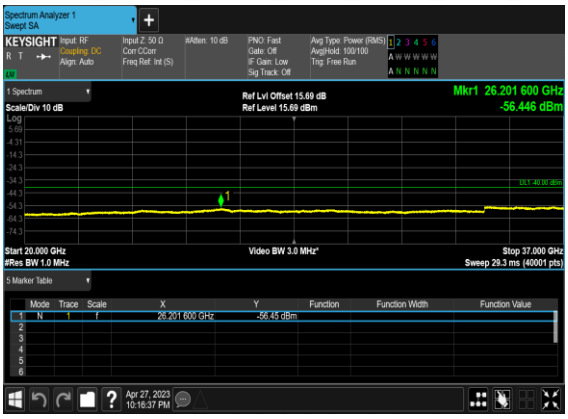
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



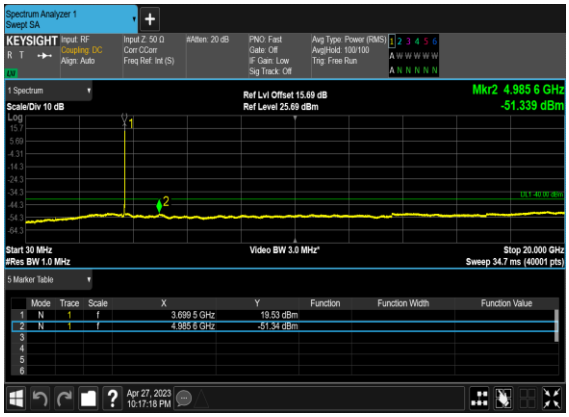
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

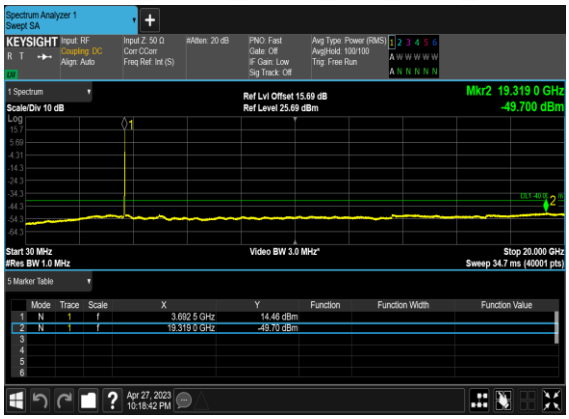


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

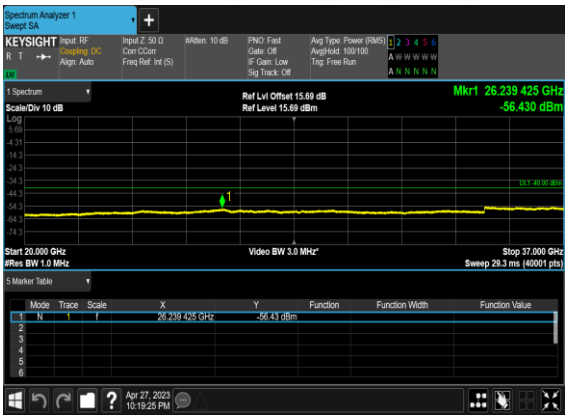


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

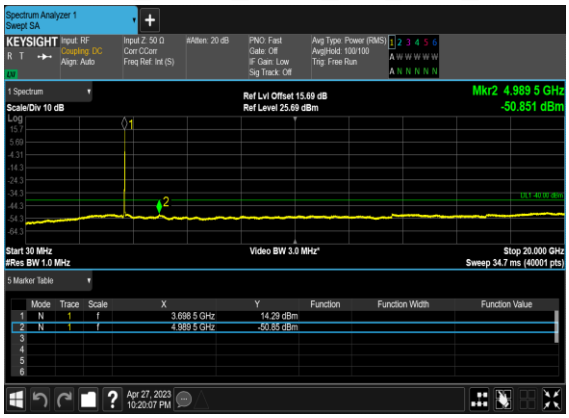
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



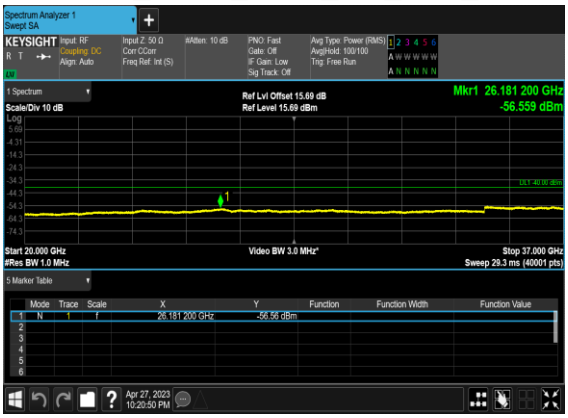
N48(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



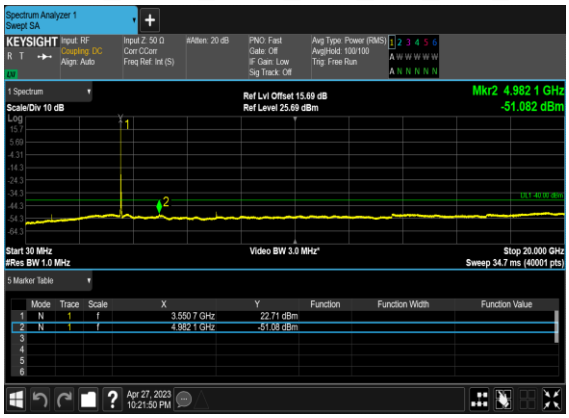
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



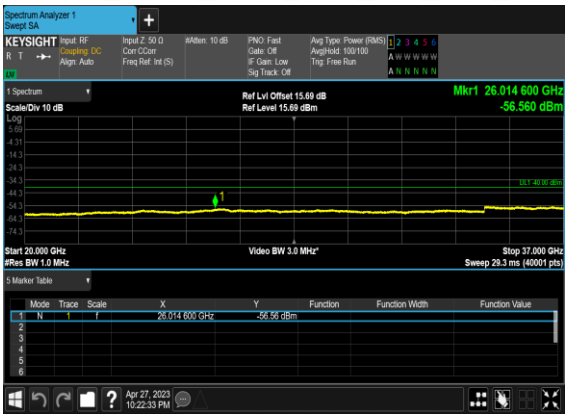
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



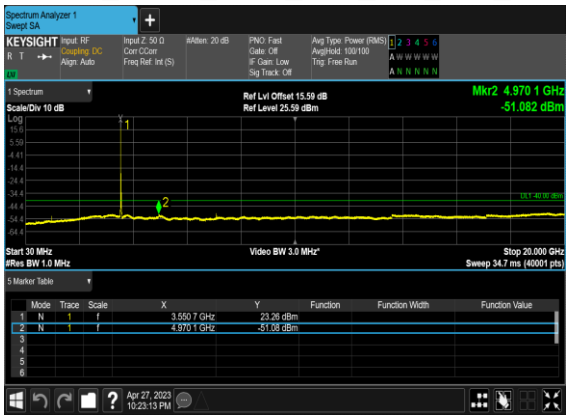
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



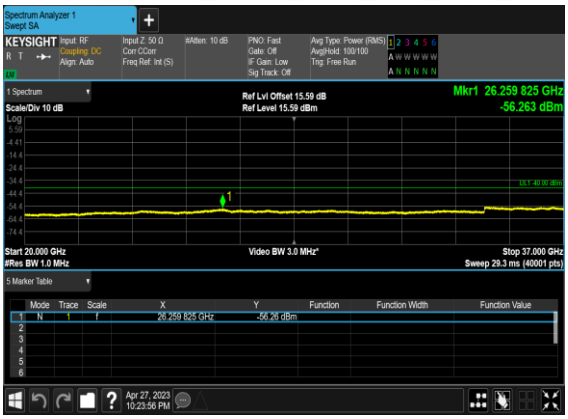
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



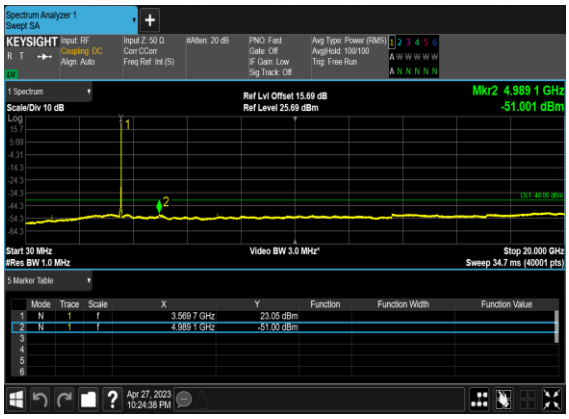
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



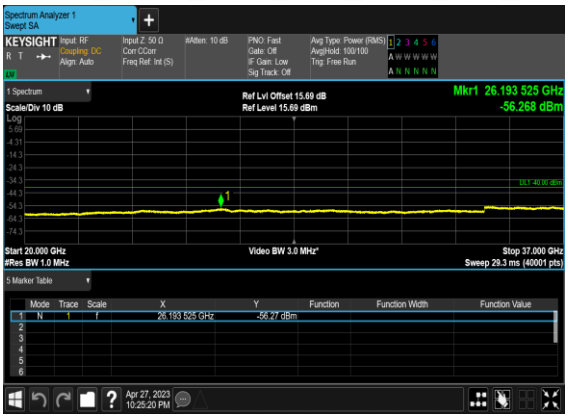
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



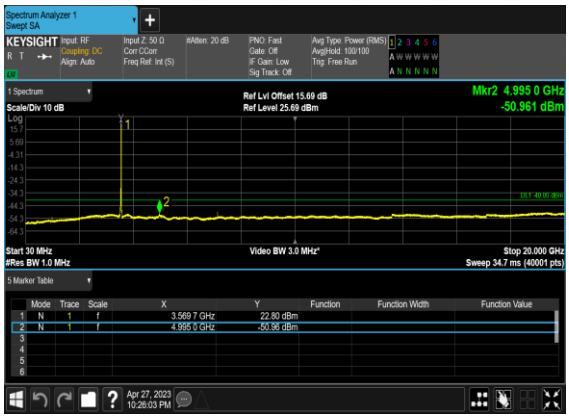
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



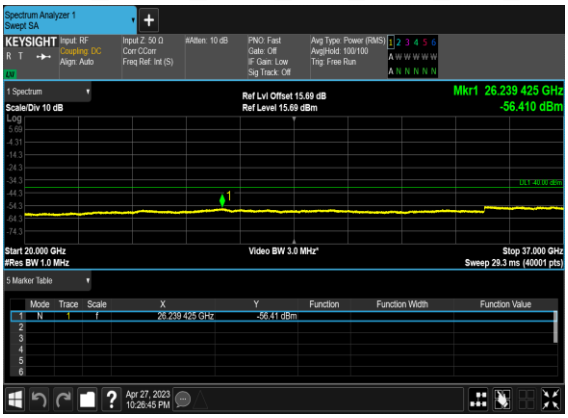
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



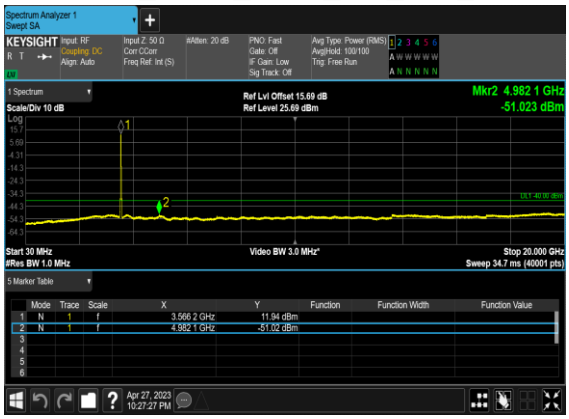
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



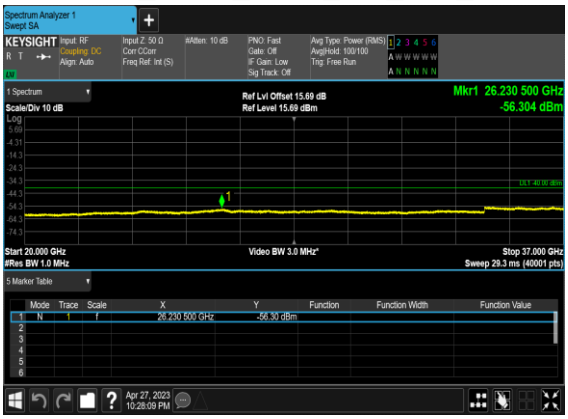
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



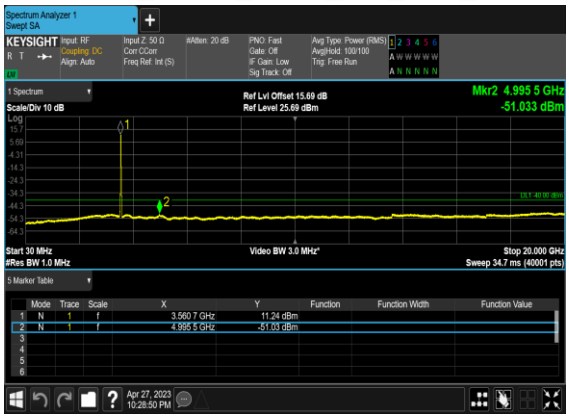
N48(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



N48(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH