FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2305-1
FCC ID	:	IHDT56AL5
STANDARD	:	47 CFR Part 2, 96
CLASSIFICATION	:	Citizens Band End User Devices (CBE)
EQUIPMENT TYPE	:	End User Equipment
TEST DATE(S)	:	Mar. 09, 2023 ~ Apr. 10, 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.

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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

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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History of this test report

Report No.	Version	Description	Issued Date
FG322305O	01	Initial issue of report	Apr. 21, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
-	§96.41	Peak-to-Average Ratio	Not Applicable	Not applicable for End User Devices
3.3	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.4	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.6	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.7	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 10.24 dB at 10728.00 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2305-1
FCC ID	IHDT56AL5
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Bandwidth	**For SCS 15kHz:** 10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz **For SCS 30kHz:** 10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz
SCS	15kHz, 30kHz
Antenna Gain	**<Ant. 2>:** -5.5 dBi **<Ant. 4>:** -5.0 dBi **<Ant. 5>:** -9.5 dBi **<Ant. 7>:** -7.0 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted : 351048560017430/351072410011450 Radiation : 351048560020038/351048560020046
HW Version	DVT2
SW Version	TTT33.46
EUT Stage	Identical Prototype

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP of Ant. 4 for n48 SISO mode, and Ant.(4+2) for n48 UL_MIMO for are shown in the report.
2. The device supports n48 (1T4R) SRS resources on Ant.2/4/5/7, only the conducted test results of worst Ant.4 is showed in the report according to the maximum power.
3. 5G NR n48 supports SA mode only.
4. 5G NR n48 support UL MIMO mode for Ant(4+2)/ Ant(4+5)/ Ant(7+2)/ Ant(7+5), only the worst test data of Ant.(4+2) is shown in the report.
5. For n48 MIMO mode, the Ant (4+2) MIMO Gain = 10 log[$(10^{Ant.4\ /20} + 10^{Ant.2\ /20})^2$ /2] = -2.24dBi.

6. For n48 MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(NANT) according to KDB 662911 D01.

1.4 Modification of EUT

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

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-681N
AC Adapter 2(US)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-681N
Battery 1	**Brand Name**	Motorola(Amperex)	**Model Name**	PG44
USB Cable 1	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D86731
USB Cable 2	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D71644

1.6 Maximum EIRP and Emission Designator

5G NR n48 MIMO - SCS 15kHz		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	0.0933	9M28G7D	0.0847	9M29W7D
15	3557.52~3692.49	0.0968	14M1G7D	0.0857	14M1W7D
20	3560.01~3690.00	0.0968	19M0G7D	0.0841	18M9W7D
30	3565.02~3684.99	0.0977	28M6G7D	0.0853	28M6W7D
40	3570.00~3679.98	0.0959	38M7G7D	0.0847	38M7W7D
50	3575.01~3675.00	0.1023	48M3G7D	0.0895	48M3W7D

5G NR n48 MIMO - 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)
10	3555.00~3694.98	0.0964	8M58G7D	0.0836	8M58W7D
15	3557.52~3692.49	0.0984	13M6G7D	0.0847	13M6W7D
20	3560.01~3690.00	0.0984	18M2G7D	0.0787	18M2W7D
30	3565.02~3684.99	0.0989	27M8G7D	0.0841	27M9W7D
40	3570.00~3679.98	0.0986	37M8G7D	0.0851	37M9W7D
50	3575.01~3675.00	0.1007	47M5G7D	0.0871	47M6W7D
60	3580.02~3669.99	0.0989	57M8G7D	0.0843	57M8W7D
80	3590.01~3660.00	0.0973	77M5G7D	0.0863	77M7W7D
90	3595.02~3654.99	0.0951	87M6G7D	0.0815	87M6W7D
100	3600.00~3649.98	0.1014	97M6G7D	0.0817	97M7W7D

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.

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

1.8 Test Software

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

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

2 Test Configuration of Equipment Under Test

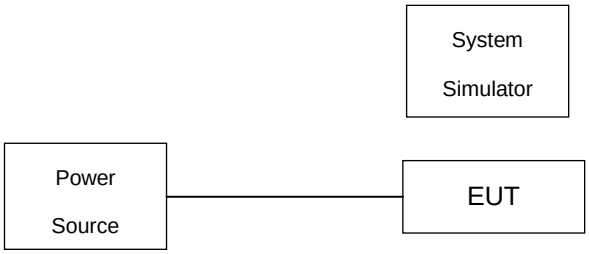
2.1 Test Mode

Antenna port conducted and radiated test items 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 (X plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)												Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n48	v	v	v	-	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak to Average Ratio	n48			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	v	v	v		v		v	
Adjacent Channel Leakage Ratio	n48	v			-			v		-			v	v	v				v	v	v	v	v
Conducted Band Edge	n48	v			-			v		-			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	v	v	v	v	v
Frequency Stability	n48			v	-					-					v					v		v	
Radiated Spurious Emission	n48	Worst Case																			v	v	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 the radiated test cases were performed with Adapter 1 and USB Cable 1. 5. Frequency Stability：Normal Voltage = 3.91V ；Low Voltage =3.40V.；High Voltage =4.50V																						

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.	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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 8.70dB.

Example :

Offset(dB) = RF cable loss(dB).

= 8.70 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	640000	641666	643332
	Frequency	3600.00	3624.99	3649.98
90	Channel	639668	641666	643666
	Frequency	3595.02	3624.99	3654.99
80	Channel	639334	641666	644000
	Frequency	3590.01	3624.99	3660.00
60	Channel	638668	641666	644666
	Frequency	3580.02	3624.99	3669.99
50	Channel	638334	641666	645000
	Frequency	3575.01	3624.99	3675.00
40	Channel	638000	641666	645332
	Frequency	3570.00	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	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

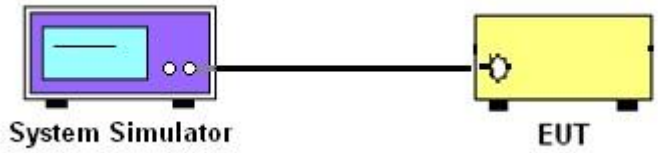
3 Conducted Test Items

3.1 Measuring Instruments

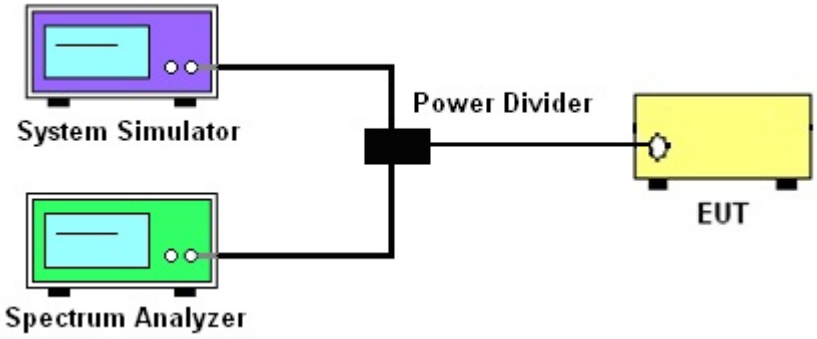
See list of measuring instruments of this test report.

3.1.1 Test Setup

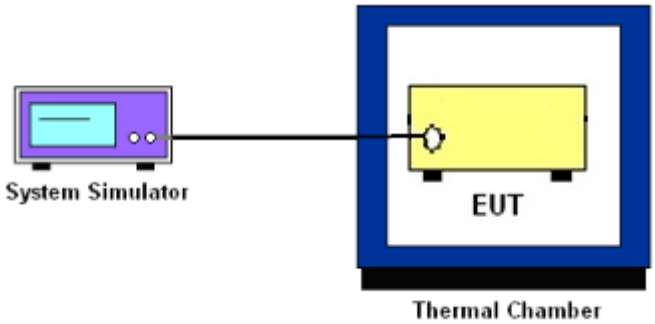
3.1.2 Conducted Output Power



3.1.3 PSD, Peak-to-Average Ratio, 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 EIRP

3.3.1 Description of the EIRP Measurement

EIRP limits for CBRS equipment as below table:

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

Remark:

The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e. 5, 10, 15, 20MHz).

3.3.2 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 Occupied Bandwidth

3.4.1 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.

3.4.2 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.

3.5 Conducted Band Edge

3.5.1 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

3.5.2 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. 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.

3.6 Conducted Spurious Emission

3.6.1 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.

3.6.2 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 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.

3.7 Frequency Stability

3.7.1 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

3.7.2 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.

3.7.3 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.

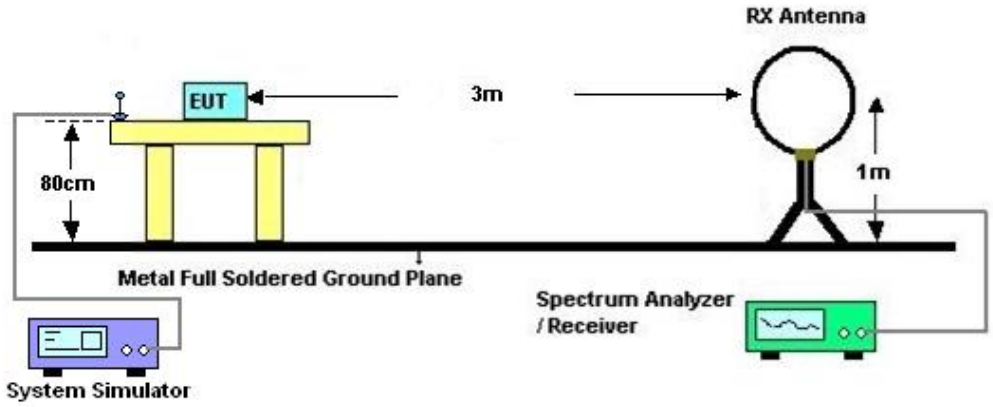
4 Radiated Test Items

4.1 Measuring Instruments

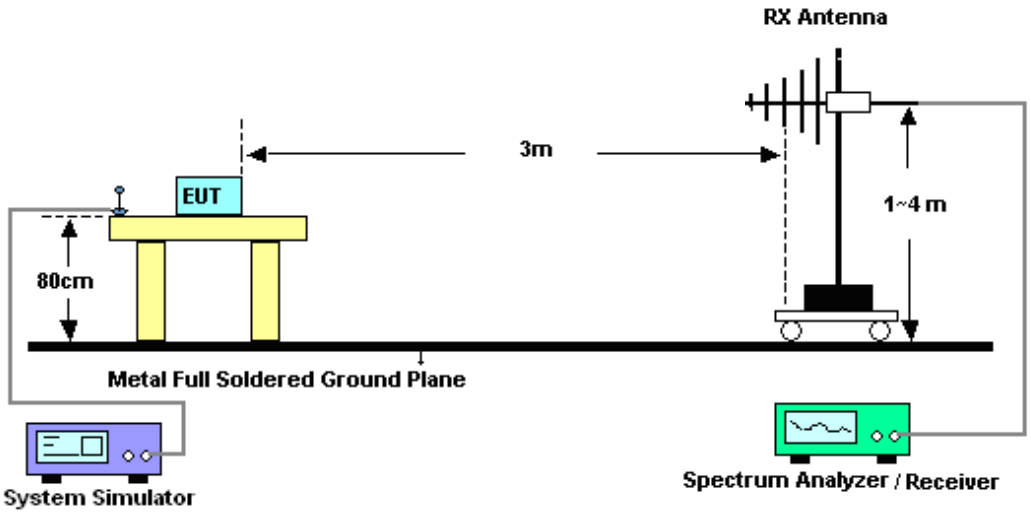
See list of measuring instruments of this test report.

4.2 Test Setup

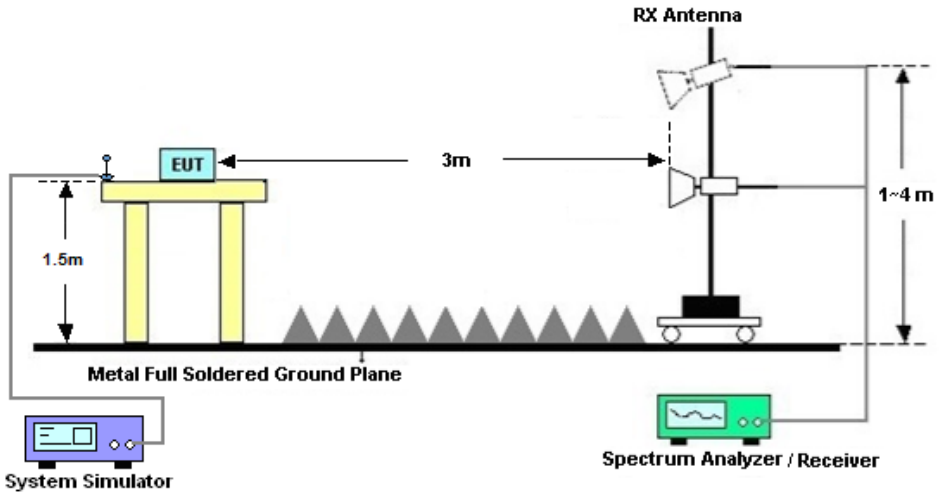
4.2.1 For radiated test below 30MHz



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	Mar. 09, 2023~ Apr. 10, 2023	Apr. 06, 2024	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 17, 2022	Mar. 09, 2023~ Apr. 10, 2023	Oct. 16, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec. 25, 2022	Mar. 09, 2023~ Apr. 10, 2023	Dec. 24, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Mar. 09, 2023~ Apr. 10, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	Mar. 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 29, 2022	Mar. 30, 2023	Oct. 28, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 24, 2022	Mar. 30, 2023	May 23, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 16, 2022	Mar. 30, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	Mar. 30, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	May 24, 2022	Mar. 30, 2023	May 23, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	Mar. 30, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 12, 2022	Mar. 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	Mar. 30, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 30, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 30, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 30, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required.

6 Uncertainty of Evaluation

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))	3.3dB

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

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

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

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

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Appendix A. Test Results of Conducted Test

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

Software Version: 22.12.120701

FR1 N48-SCS 15KHz (ANT4)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-5dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
48	15	10	637000	3555	DFT-s-OFDM QPSK	1@1	23.11	18.11	0.0647
48	15	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	22.11	17.11	0.0514
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.13	18.13	0.0650
48	15	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.17	17.17	0.0521
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	22.95	17.95	0.0624
48	15	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	21.85	16.85	0.0484
48	15	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	23.27	18.27	0.0671
48	15	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	22.32	17.32	0.0540
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.34	18.34	0.0682
48	15	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.07	17.07	0.0509
48	15	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	23.06	18.06	0.0640
48	15	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	22.01	17.01	0.0502
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	23.22	18.22	0.0664
48	15	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	22.15	17.15	0.0519
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.19	18.19	0.0659
48	15	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.26	17.26	0.0532
48	15	20	646000	3690	DFT-s-OFDM QPSK	1@1	23.22	18.22	0.0664
48	15	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	22.06	17.06	0.0508
48	15	30	637667	3565.005	DFT-s-OFDM QPSK	1@1	23.21	18.21	0.0662
48	15	30	637667	3565.005	DFT-s-OFDM 16 QAM	1@1	22.24	17.24	0.0530
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.34	18.34	0.0682
48	15	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.28	17.28	0.0535
48	15	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	23.23	18.23	0.0665
48	15	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	22.14	17.14	0.0518
48	15	40	638000	3570	DFT-s-OFDM QPSK	1@1	23.19	18.19	0.0659
48	15	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	22.37	17.37	0.0546
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.29	18.29	0.0675
48	15	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.15	17.15	0.0519
48	15	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	23.2	18.2	0.0661

48	15	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	22.18	17.18	0.0522
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	135@67	23.35	18.35	0.0684
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@1	23.36	18.36	0.0685
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@268	23.15	18.15	0.0653
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	135@67	23.31	18.31	0.0678
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@1	23.37	18.37	0.0687
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@268	23.31	18.31	0.0678
48	15	50	638334	3575.01	DFT-s-OFDM 16 QAM	135@67	22.4	17.4	0.0550
48	15	50	638334	3575.01	DFT-s-OFDM 16 QAM	1@1	22.32	17.32	0.0540
48	15	50	638334	3575.01	DFT-s-OFDM 16 QAM	1@268	22.08	17.08	0.0511
48	15	50	638334	3575.01	DFT-s-OFDM 64 QAM	135@67	20.8	15.8	0.0380
48	15	50	638334	3575.01	DFT-s-OFDM 64 QAM	1@1	20.91	15.91	0.0390
48	15	50	638334	3575.01	DFT-s-OFDM 64 QAM	1@268	20.78	15.78	0.0378
48	15	50	638334	3575.01	DFT-s-OFDM 256 QAM	135@67	18.89	13.89	0.0245
48	15	50	638334	3575.01	DFT-s-OFDM 256 QAM	1@1	18.91	13.91	0.0246
48	15	50	638334	3575.01	DFT-s-OFDM 256 QAM	1@268	18.82	13.82	0.0241
48	15	50	638334	3575.01	CP-OFDM QPSK	135@67	21.88	16.88	0.0488
48	15	50	638334	3575.01	CP-OFDM QPSK	1@1	21.84	16.84	0.0483
48	15	50	638334	3575.01	CP-OFDM QPSK	1@268	21.7	16.7	0.0468
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	135@67	23.38	18.38	0.0689
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	23.44	18.44	0.0698
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@268	23.13	18.13	0.0650
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	135@67	23.38	18.38	0.0689
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.41	18.41	0.0693
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@268	23.2	18.2	0.0661
48	15	50	641666	3624.99	DFT-s-OFDM 16 QAM	135@67	22.32	17.32	0.0540
48	15	50	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.44	17.44	0.0555
48	15	50	641666	3624.99	DFT-s-OFDM 16 QAM	1@268	22.01	17.01	0.0502
48	15	50	641666	3624.99	DFT-s-OFDM 64 QAM	135@67	20.87	15.87	0.0386
48	15	50	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	21.04	16.04	0.0402
48	15	50	641666	3624.99	DFT-s-OFDM 64 QAM	1@268	20.82	15.82	0.0382
48	15	50	641666	3624.99	DFT-s-OFDM 256 QAM	135@67	18.92	13.92	0.0247
48	15	50	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	18.98	13.98	0.0250
48	15	50	641666	3624.99	DFT-s-OFDM 256 QAM	1@268	18.79	13.79	0.0239
48	15	50	641666	3624.99	CP-OFDM QPSK	135@67	21.93	16.93	0.0493

48	15	50	641666	3624.99	CP-OFDM QPSK	1@1	22.02	17.02	0.0504
48	15	50	641666	3624.99	CP-OFDM QPSK	1@268	21.72	16.72	0.0470
48	15	50	645000	3675	DFT-s-OFDM PI/2 BPSK	135@67	23.22	18.22	0.0664
48	15	50	645000	3675	DFT-s-OFDM PI/2 BPSK	1@1	23.34	18.34	0.0682
48	15	50	645000	3675	DFT-s-OFDM PI/2 BPSK	1@268	23.04	18.04	0.0637
48	15	50	645000	3675	DFT-s-OFDM QPSK	135@67	23.18	18.18	0.0658
48	15	50	645000	3675	DFT-s-OFDM QPSK	1@1	23.24	18.24	0.0667
48	15	50	645000	3675	DFT-s-OFDM QPSK	1@268	23.11	18.11	0.0647
48	15	50	645000	3675	DFT-s-OFDM 16 QAM	135@67	22.39	17.39	0.0548
48	15	50	645000	3675	DFT-s-OFDM 16 QAM	1@1	22.21	17.21	0.0526
48	15	50	645000	3675	DFT-s-OFDM 16 QAM	1@268	21.79	16.79	0.0478
48	15	50	645000	3675	DFT-s-OFDM 64 QAM	135@67	20.83	15.83	0.0383
48	15	50	645000	3675	DFT-s-OFDM 64 QAM	1@1	20.78	15.78	0.0378
48	15	50	645000	3675	DFT-s-OFDM 64 QAM	1@268	20.78	15.78	0.0378
48	15	50	645000	3675	DFT-s-OFDM 256 QAM	135@67	18.75	13.75	0.0237
48	15	50	645000	3675	DFT-s-OFDM 256 QAM	1@1	18.85	13.85	0.0243
48	15	50	645000	3675	DFT-s-OFDM 256 QAM	1@268	18.58	13.58	0.0228
48	15	50	645000	3675	CP-OFDM QPSK	135@67	21.65	16.65	0.0462
48	15	50	645000	3675	CP-OFDM QPSK	1@1	21.88	16.88	0.0488
48	15	50	645000	3675	CP-OFDM QPSK	1@268	21.54	16.54	0.0451

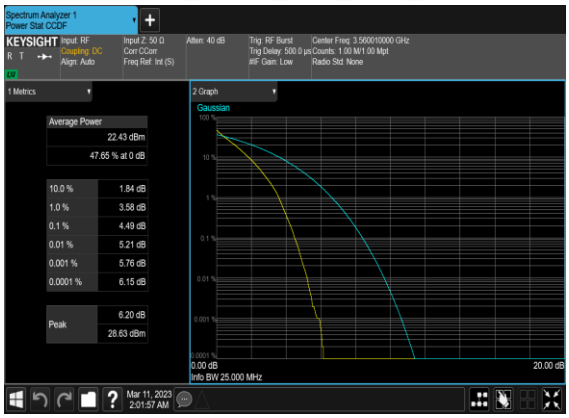
Frequency Stability

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	0.0046	**PASS**	NV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0028	**PASS**	LV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0065	**PASS**	HV
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	0.0025	**PASS**	-20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0067	**PASS**	-10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0051	**PASS**	0℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0022	**PASS**	10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0046	**PASS**	20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0021	**PASS**	30℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0054	**PASS**	40℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0032	**PASS**	50℃

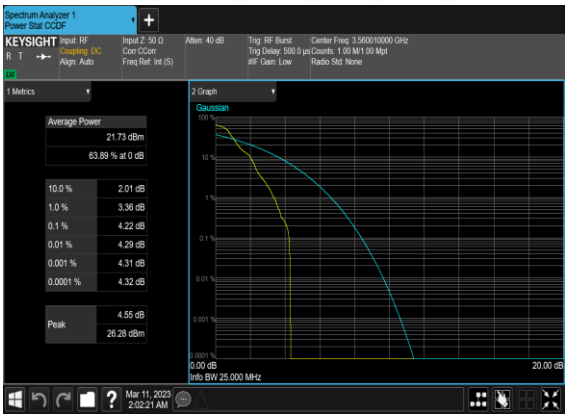
Peak to Average Ratio

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	4.49	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	4.22	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	5.75	13	**PASS**
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	6.59	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	4.38	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	3.86	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	5.67	13	**PASS**
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	6.15	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	100@0	4.33	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	4.29	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	5.67	13	**PASS**
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	5.81	13	**PASS**

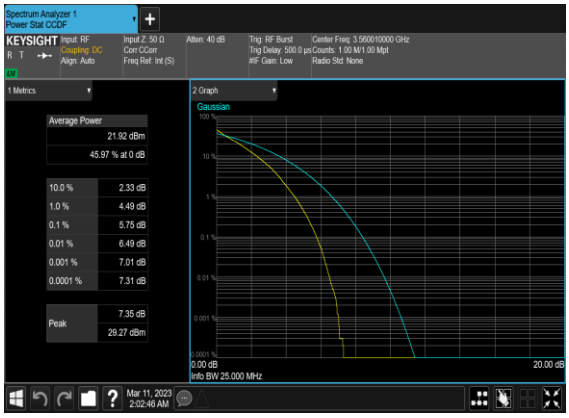
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



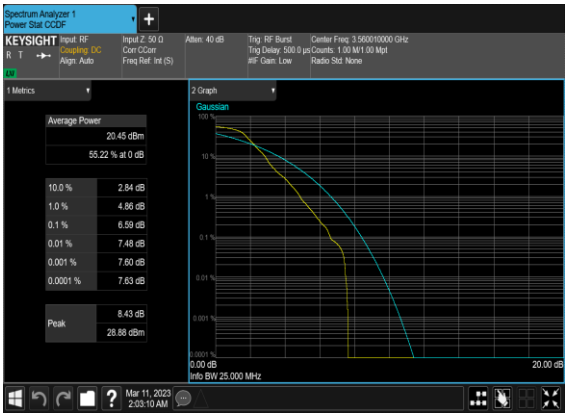
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



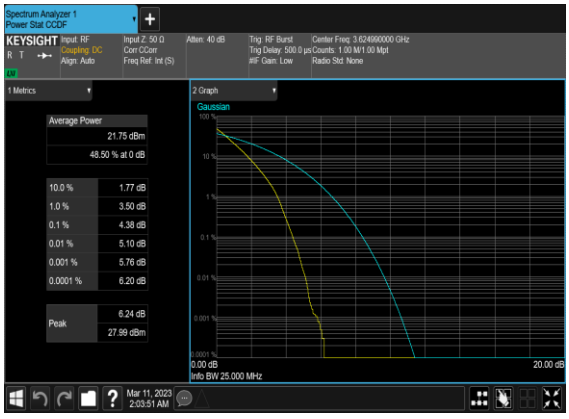
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



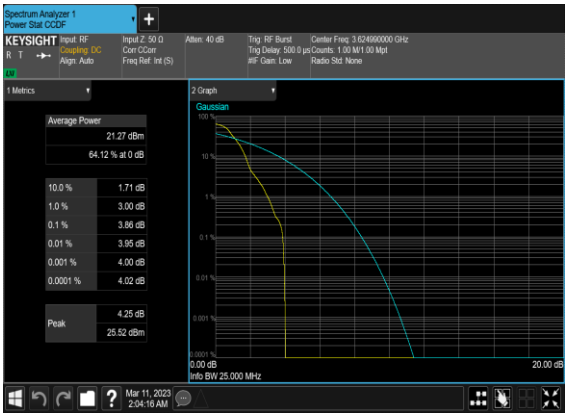
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



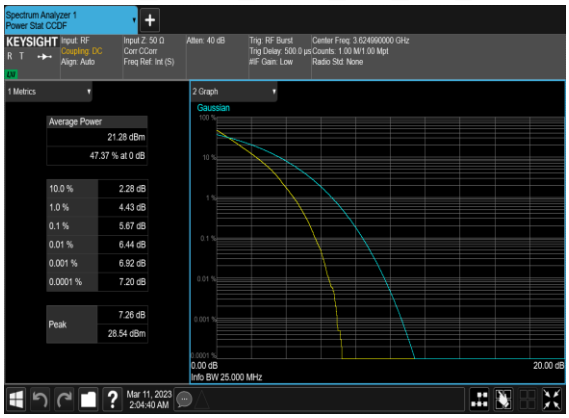
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



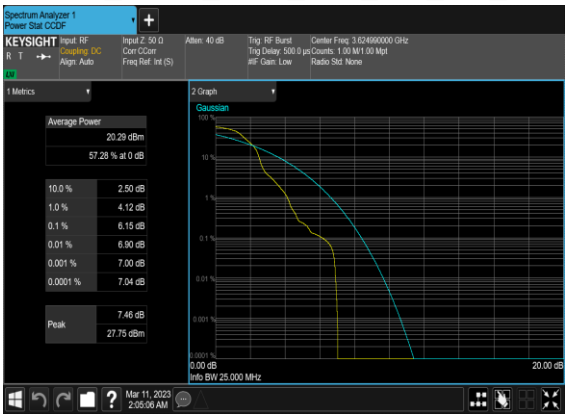
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



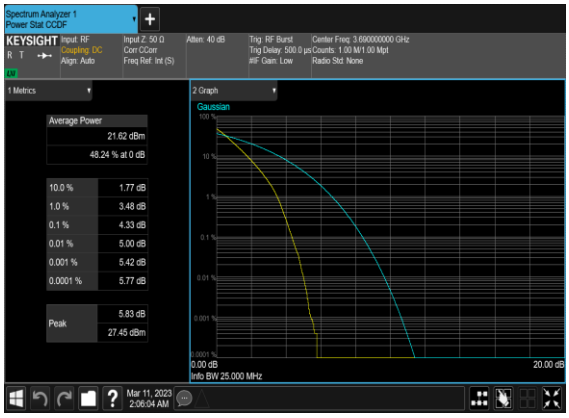
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



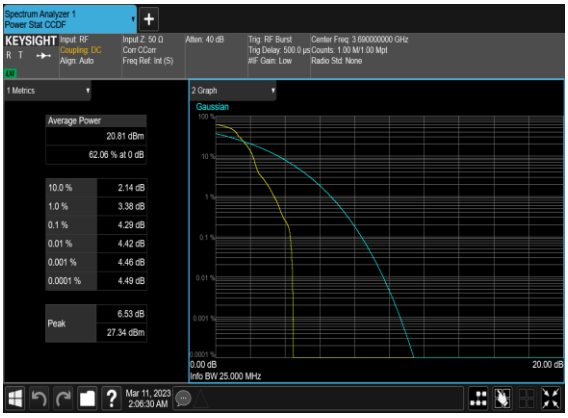
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



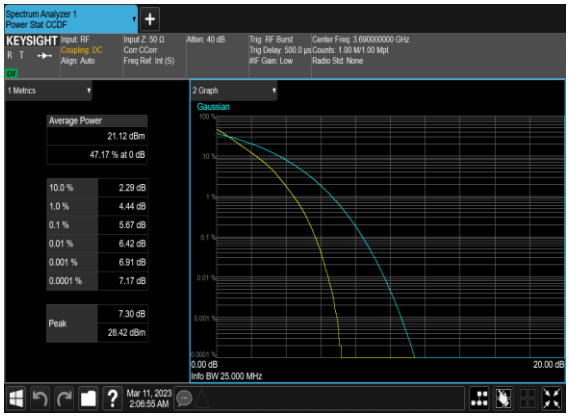
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



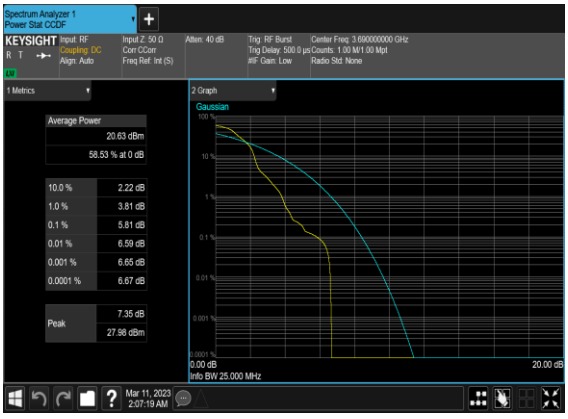
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

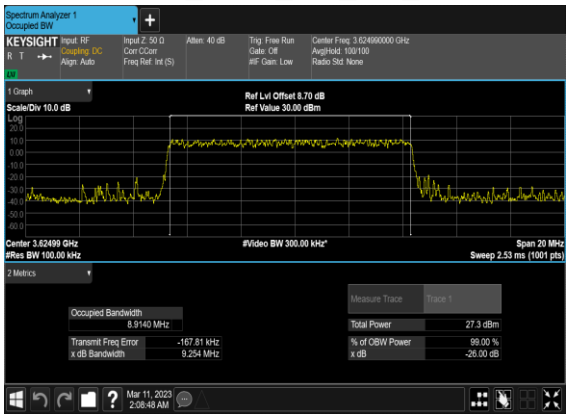


Occupied Bandwidth

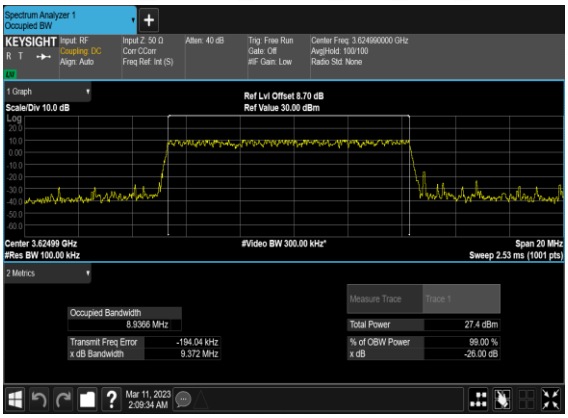
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	8.914	9.254
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	8.9366	9.372
48	15	10	641666	3624.99	CP-OFDM QPSK	52@0	9.2595	9.939
48	15	10	641666	3624.99	CP-OFDM 16 QAM	52@0	9.286	9.693
48	15	10	641666	3624.99	CP-OFDM 64 QAM	52@0	9.2674	9.589
48	15	10	641666	3624.99	CP-OFDM 256 QAM	52@0	9.2503	9.637
48	15	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	75@0	13.357	13.86
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	75@0	13.421	14.2
48	15	15	641666	3624.99	CP-OFDM QPSK	79@0	14.083	14.76
48	15	15	641666	3624.99	CP-OFDM 16 QAM	79@0	14.122	14.67
48	15	15	641666	3624.99	CP-OFDM 64 QAM	79@0	14.097	14.66
48	15	15	641666	3624.99	CP-OFDM 256 QAM	79@0	14.118	14.59
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	17.858	18.66
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	17.869	19.01
48	15	20	641666	3624.99	CP-OFDM QPSK	106@0	18.943	19.72
48	15	20	641666	3624.99	CP-OFDM 16 QAM	106@0	18.874	19.5
48	15	20	641666	3624.99	CP-OFDM 64 QAM	106@0	18.874	19.62
48	15	20	641666	3624.99	CP-OFDM 256 QAM	106@0	18.92	19.67
48	15	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	160@0	28.618	29.45
48	15	30	641666	3624.99	DFT-s-OFDM QPSK	160@0	28.519	29.52
48	15	30	641666	3624.99	CP-OFDM QPSK	160@0	28.529	29.5
48	15	30	641666	3624.99	CP-OFDM 16 QAM	160@0	28.579	29.51
48	15	30	641666	3624.99	CP-OFDM 64 QAM	160@0	28.613	29.52
48	15	30	641666	3624.99	CP-OFDM 256 QAM	160@0	28.529	29.46

48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	216@0	38.559	39.86
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	38.476	39.81
48	15	40	641666	3624.99	CP-OFDM QPSK	216@0	38.584	39.83
48	15	40	641666	3624.99	CP-OFDM 16 QAM	216@0	38.539	39.8
48	15	40	641666	3624.99	CP-OFDM 64 QAM	216@0	38.658	39.86
48	15	40	641666	3624.99	CP-OFDM 256 QAM	216@0	38.537	40.05
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	48.34	49.67
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	48.076	49.78
48	15	50	641666	3624.99	CP-OFDM QPSK	270@0	48.01	49.7
48	15	50	641666	3624.99	CP-OFDM 16 QAM	270@0	48.062	49.77
48	15	50	641666	3624.99	CP-OFDM 64 QAM	270@0	47.992	49.72
48	15	50	641666	3624.99	CP-OFDM 256 QAM	270@0	48.222	49.75

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

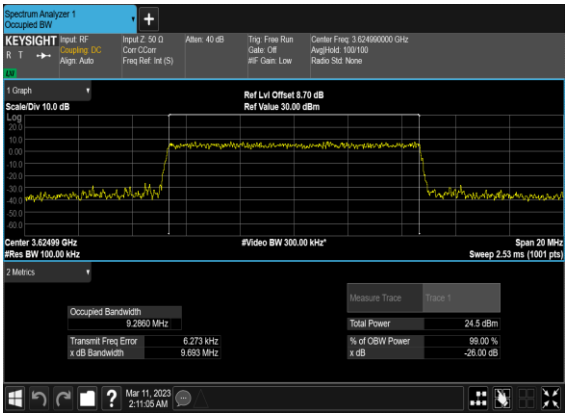


N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

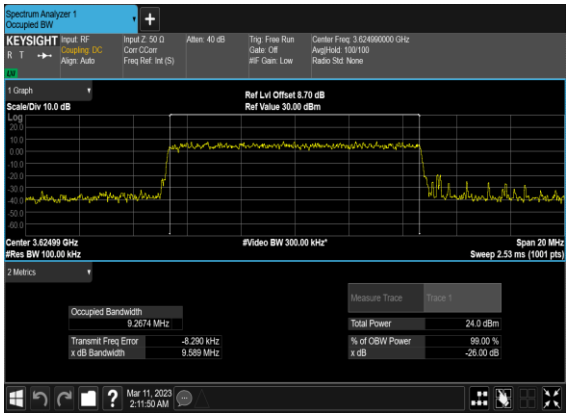


N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

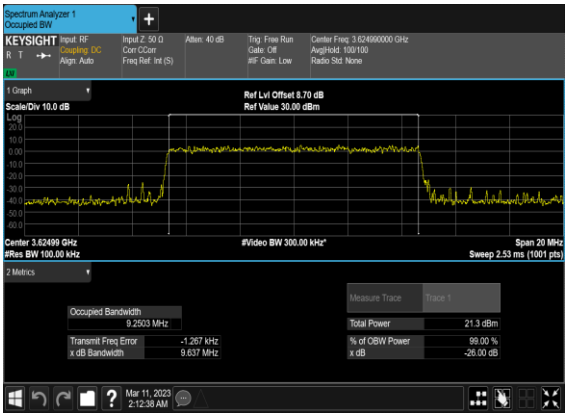
N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



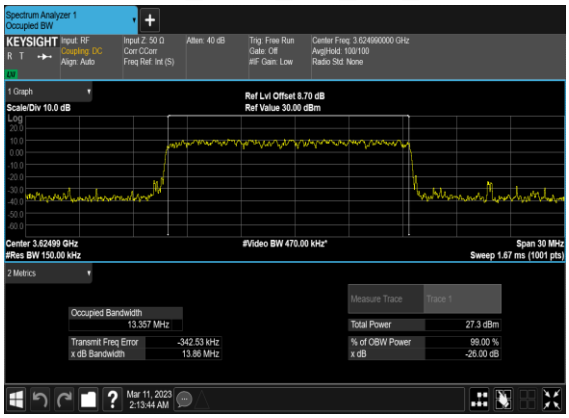
N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



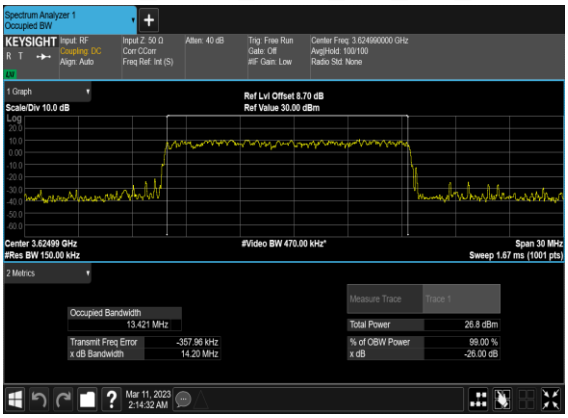
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



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

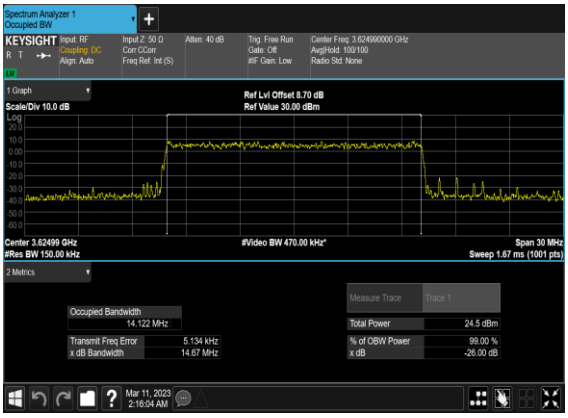


N48(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

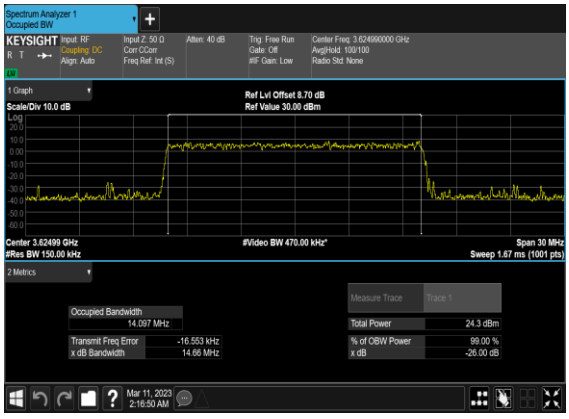


N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

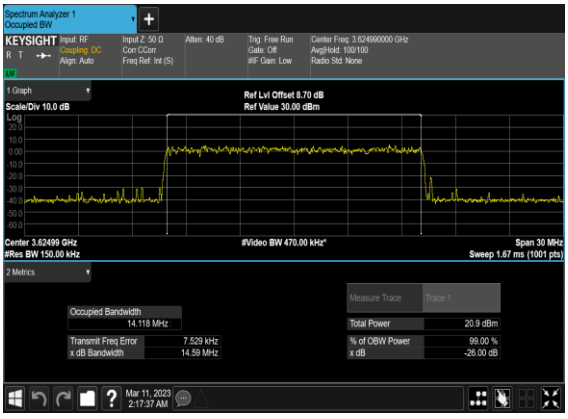
N48(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



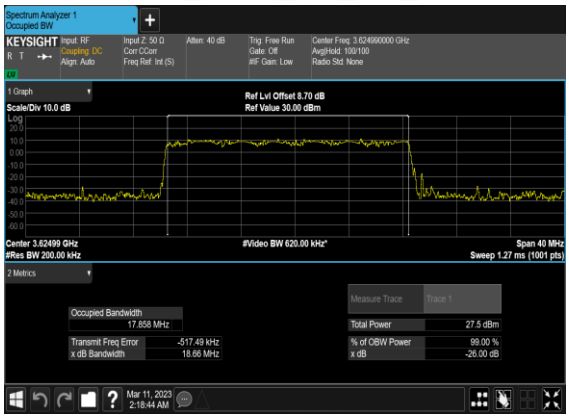
N48(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



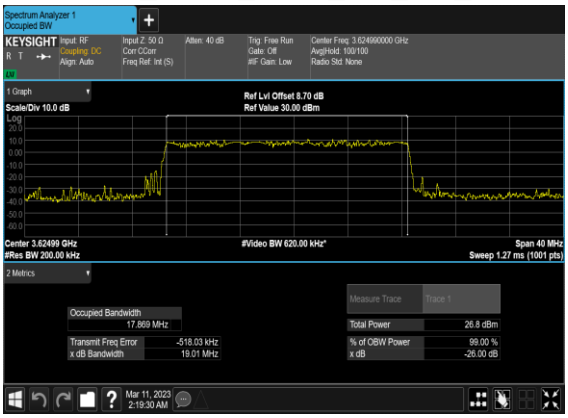
N48(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



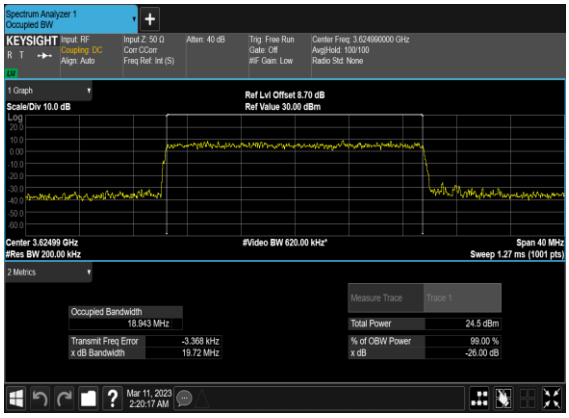
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

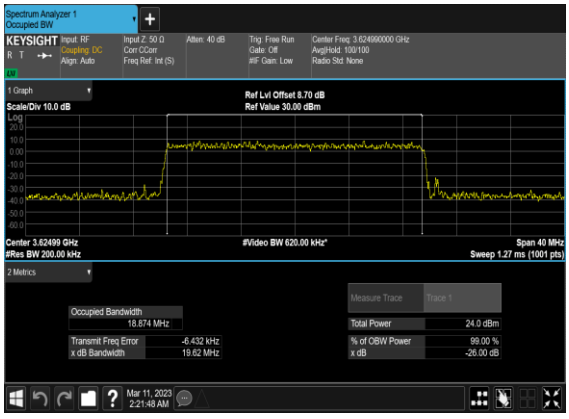


N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

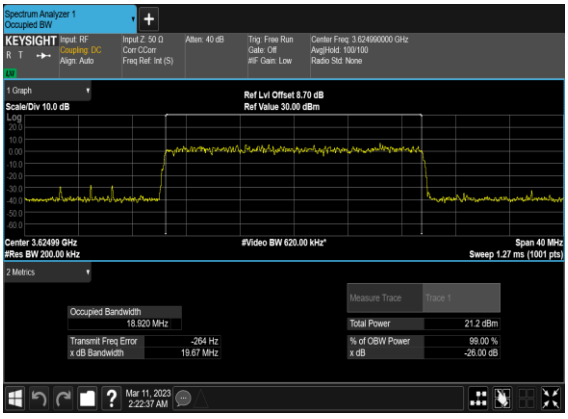


N48(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

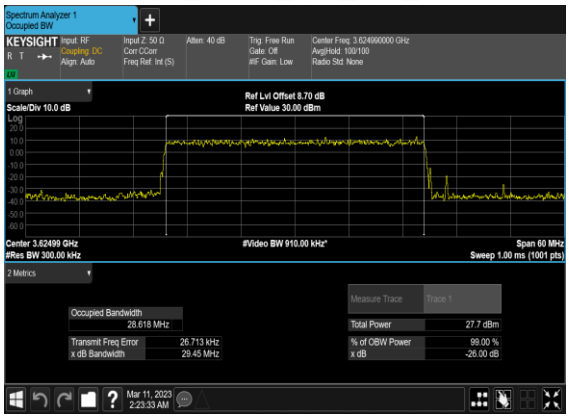
N48(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



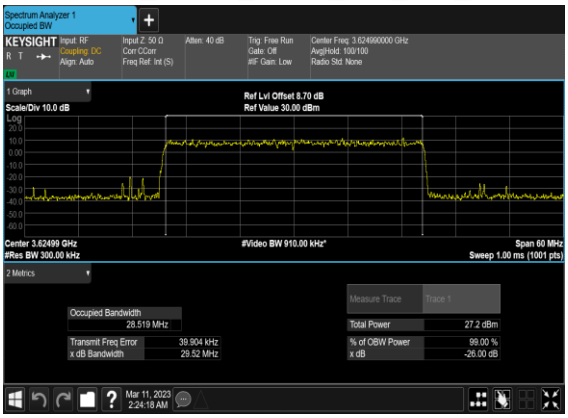
N48(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



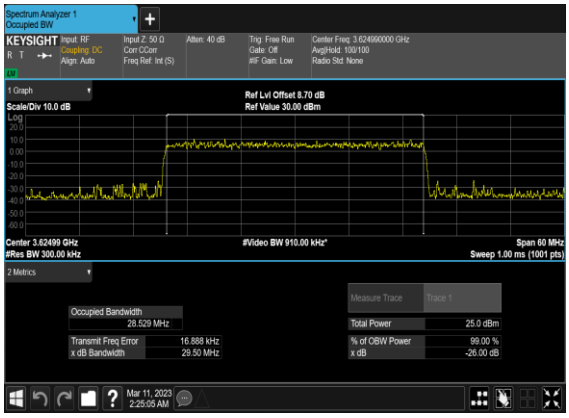
N48(30M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



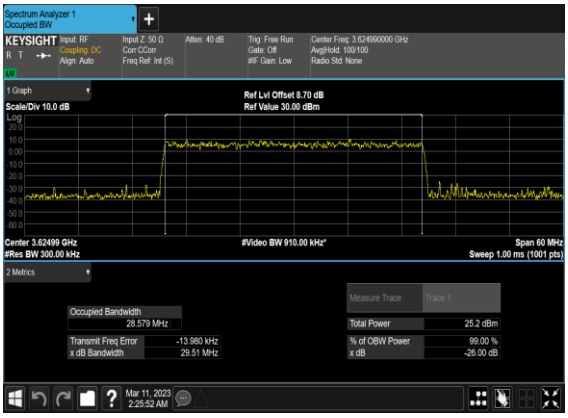
N48(30M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

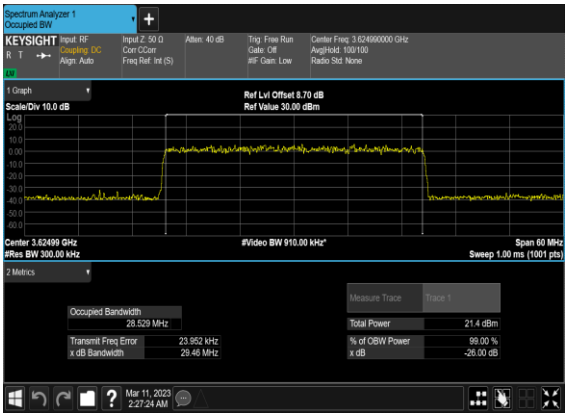


N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

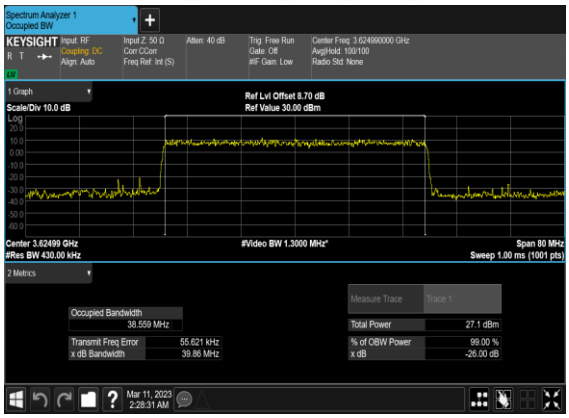


N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

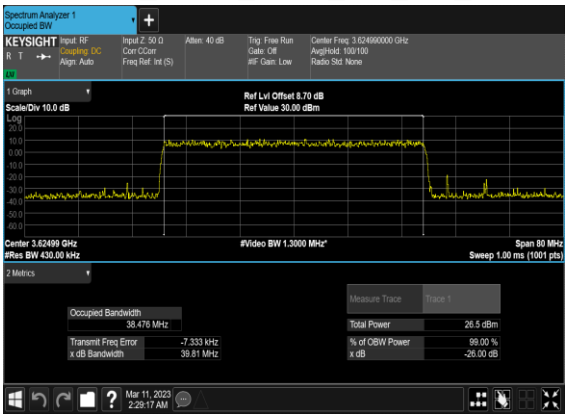
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



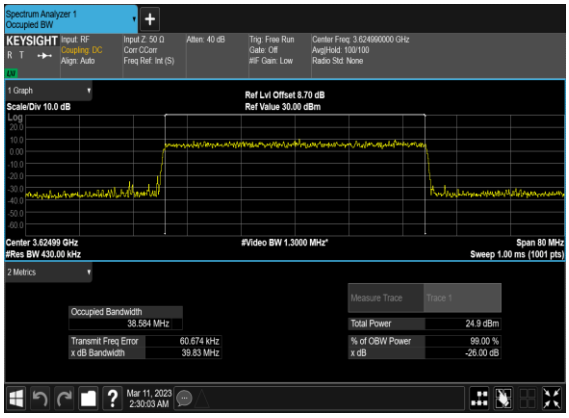
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

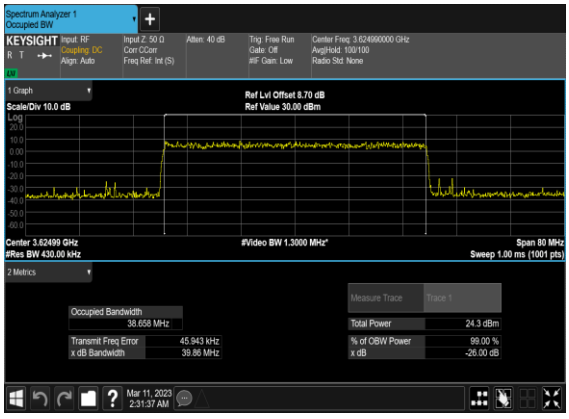


N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

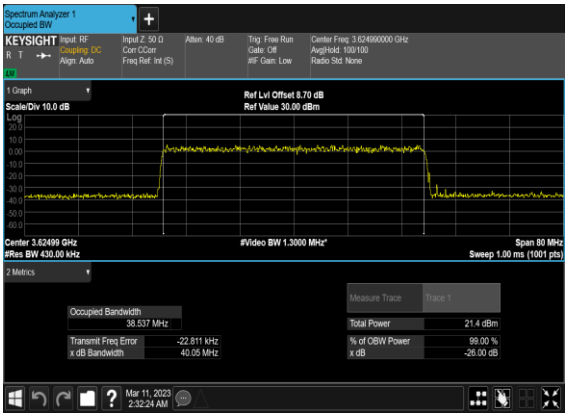


N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

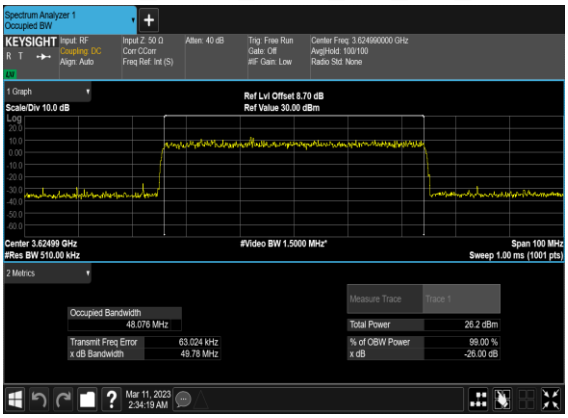


N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

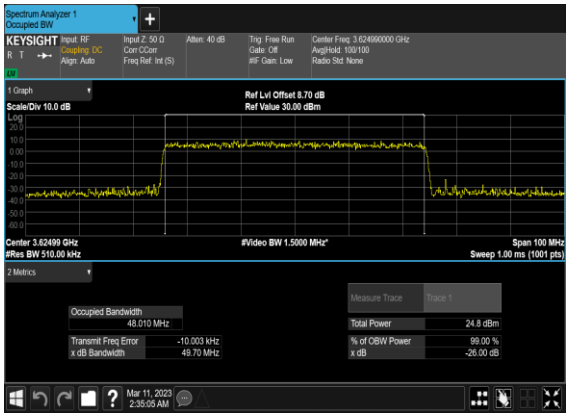


N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

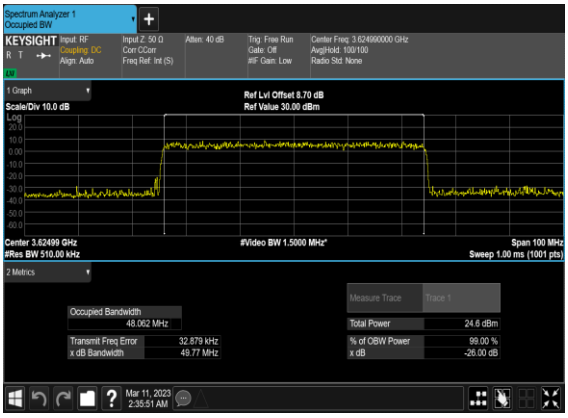
N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



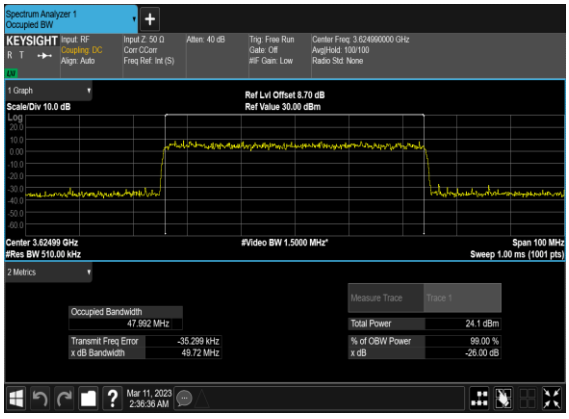
N48(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



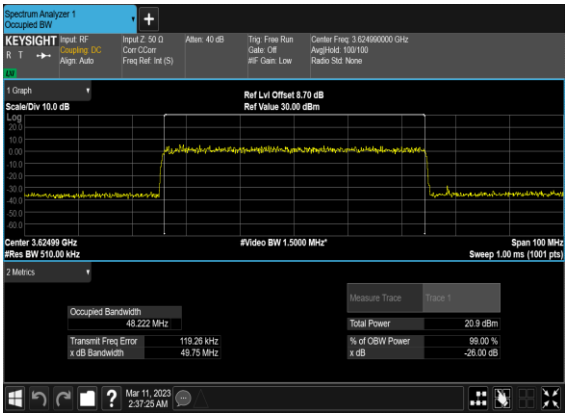
N48(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N48(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



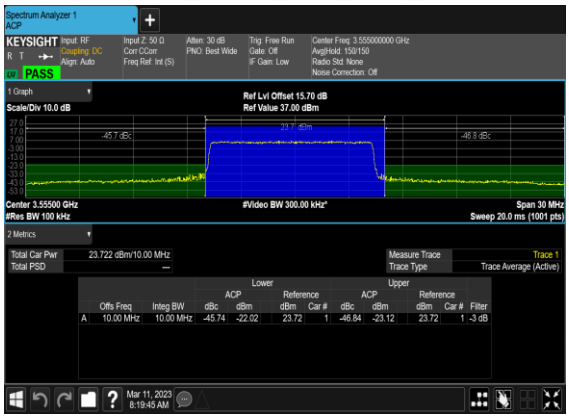
Adjacent Channel Leakage Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	50@0	-15.74	-16.84	**see graph**	PASS
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-10.48	-23.28	**see graph**	PASS
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@51	-22.99	-11.3	**see graph**	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	-16.07	-16.09	**see graph**	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-10.36	-22.75	**see graph**	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	-22.5	-11.12	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-15.92	-16.16	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-9.75	-19.41	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@51	-24.15	-13.0	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	-15.06	-15.02	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-11.55	-23.03	**see graph**	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	-19.54	-9.19	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	50@0	-14.95	-15.28	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-11.21	-21.36	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@51	-21.9	-12.47	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	-15.27	-15.4	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-12.06	-21.34	**see graph**	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	-21.56	-11.12	**see graph**	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	100@0	-15.92	-15.62	**see graph**	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-10.34	-20.33	**see graph**	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@105	-22.01	-12.2	**see graph**	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	-15.96	-15.38	**see graph**	PASS

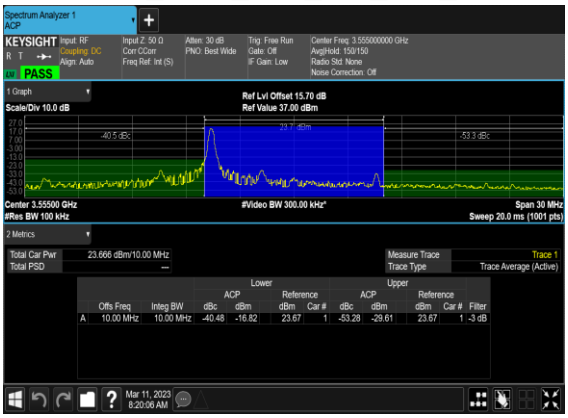
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-11.79	-21.14	**see graph**	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	-21.73	-10.73	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-14.14	-15.71	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-10.92	-19.72	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-19.66	-11.59	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	-12.84	-12.39	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-12.32	-21.87	**see graph**	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	-19.39	-10.61	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	100@0	-13.92	-13.51	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-11.61	-20.5	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@105	-19.05	-12.86	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	-13.78	-13.69	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-10.52	-19.15	**see graph**	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	-19.52	-11.9	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	270@0	-13.57	-12.94	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@0	-13.6	-17.14	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@269	-18.62	-14.59	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	270@0	-14.02	-13.2	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	-12.92	-16.8	**see graph**	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@269	-18.07	-14.42	**see graph**	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	-12.91	-12.6	**see graph**	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-14.27	-17.42	**see graph**	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@269	-17.61	-13.77	**see graph**	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	-13.96	-13.23	**see graph**	PASS

48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	-13.33	-16.5	**see graph**	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@269	-16.97	-12.91	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	270@0	-13.81	-13.24	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@0	-13.36	-15.67	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@269	-16.58	-12.86	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	270@0	-14.37	-13.75	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	-13.01	-16.59	**see graph**	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@269	-12.82	-9.22	**see graph**	PASS

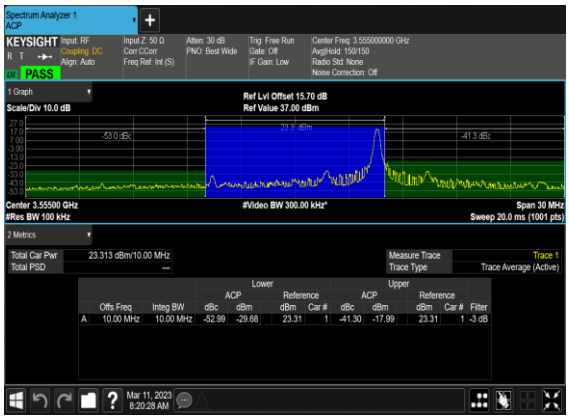
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



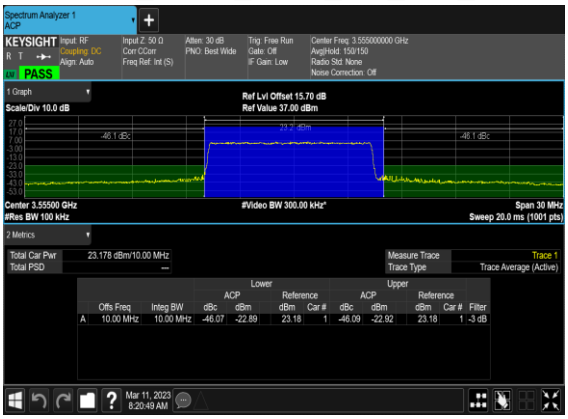
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



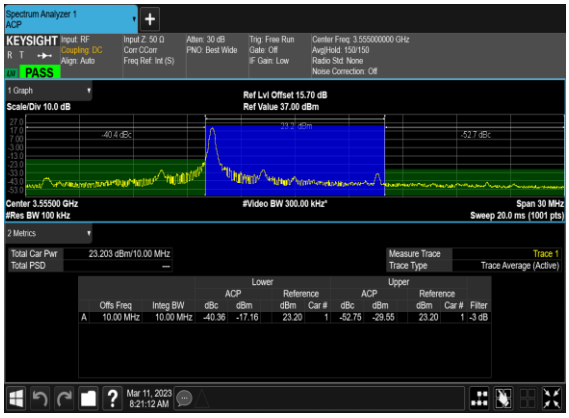
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



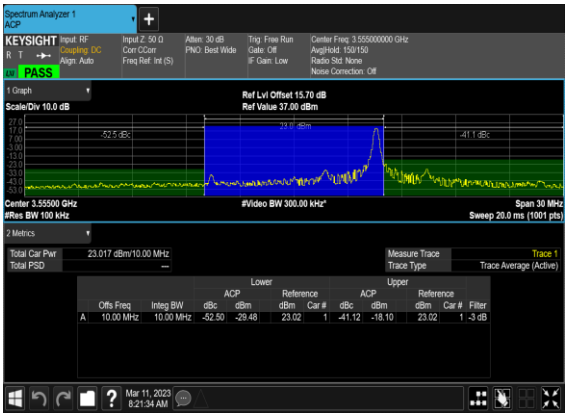
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



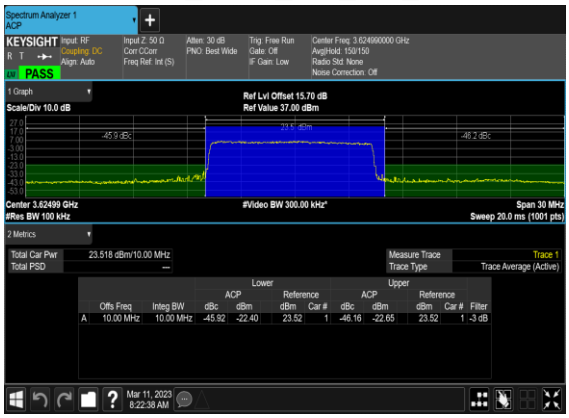
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

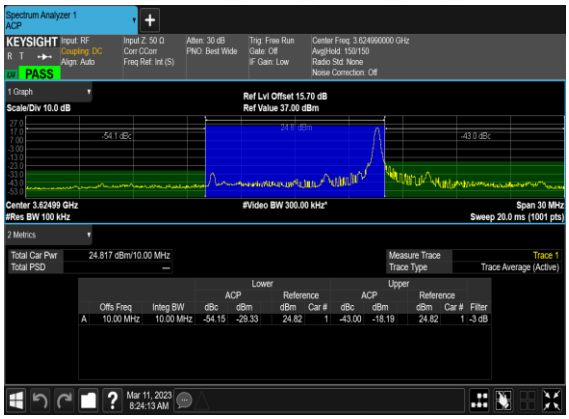


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

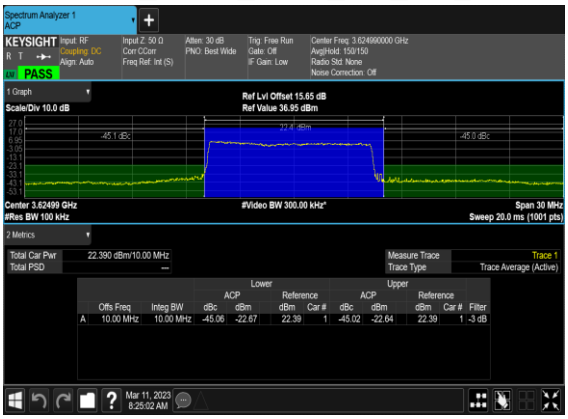


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

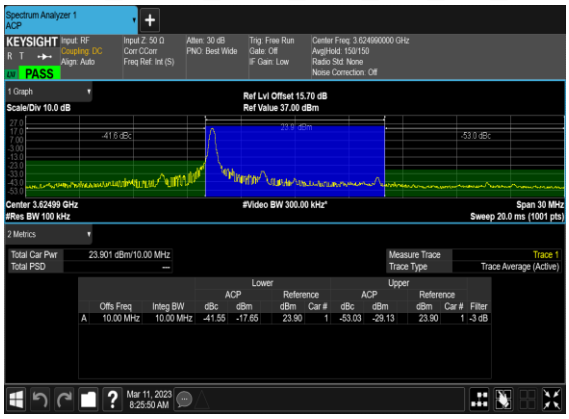
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



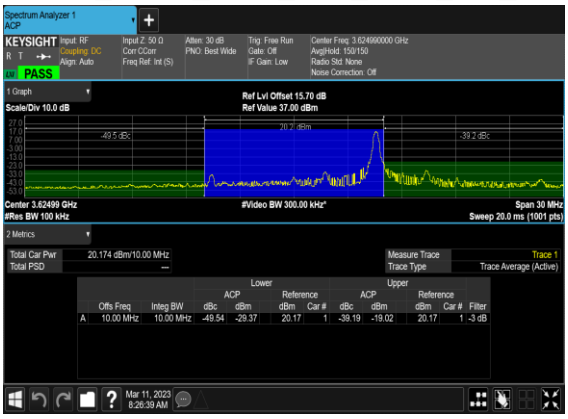
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



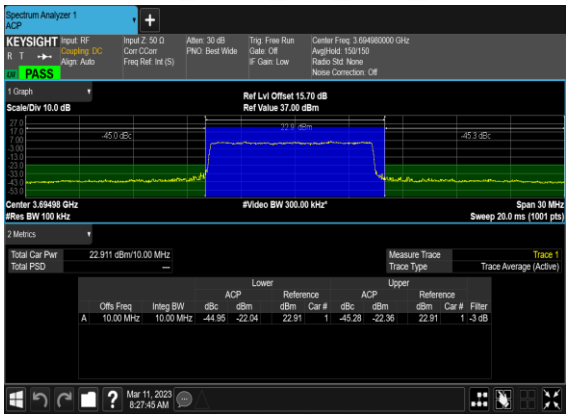
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



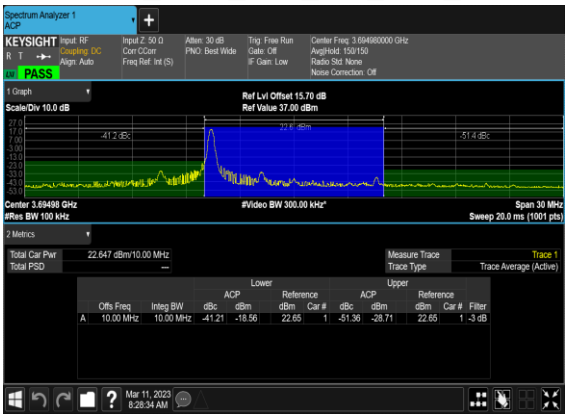
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



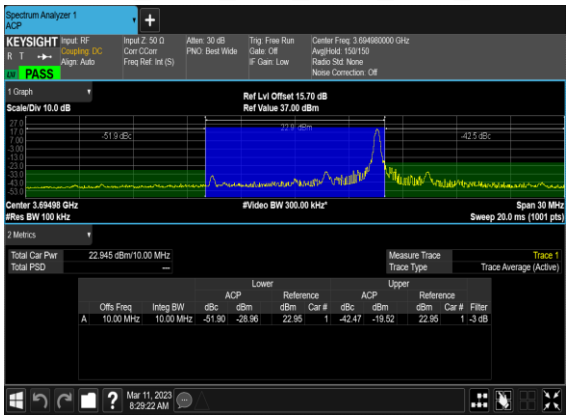
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



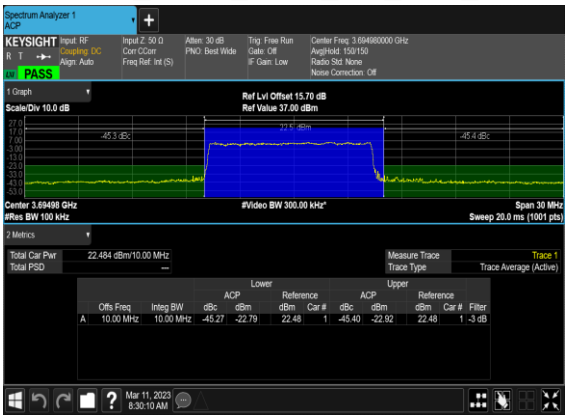
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



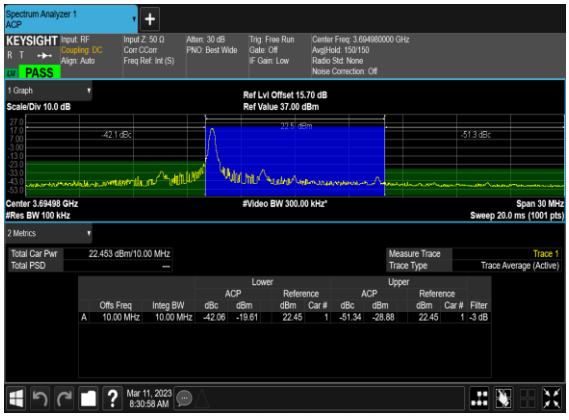
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

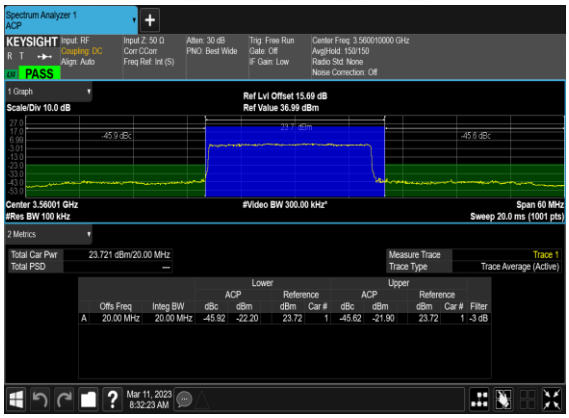


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

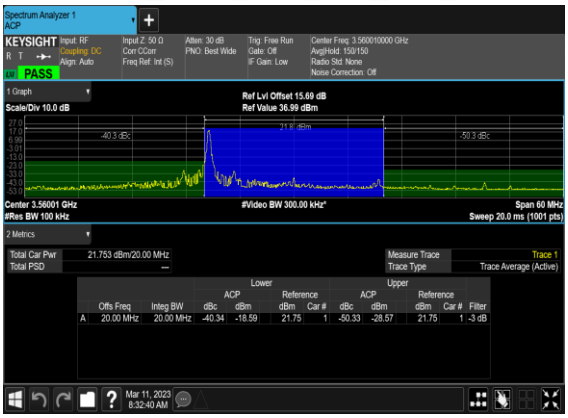


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

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

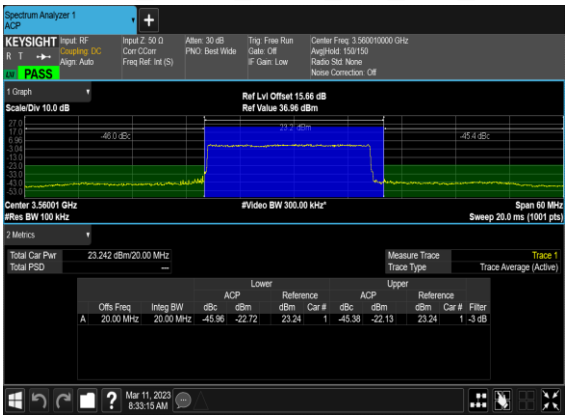


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

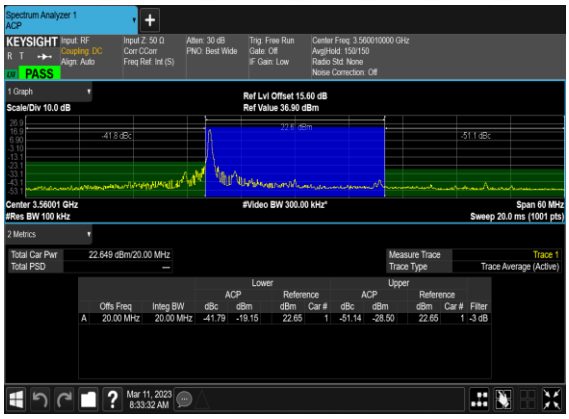


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

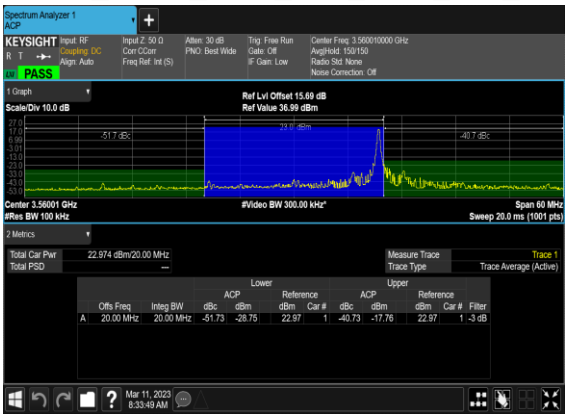
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



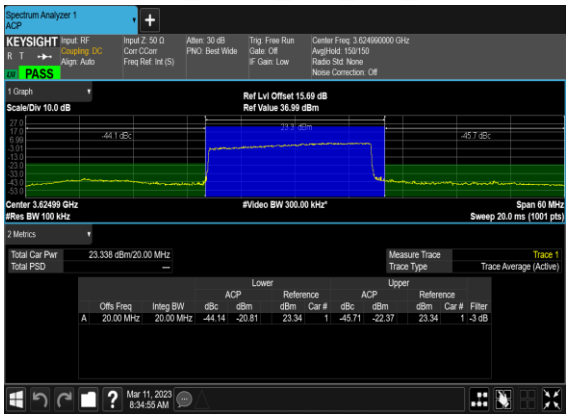
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



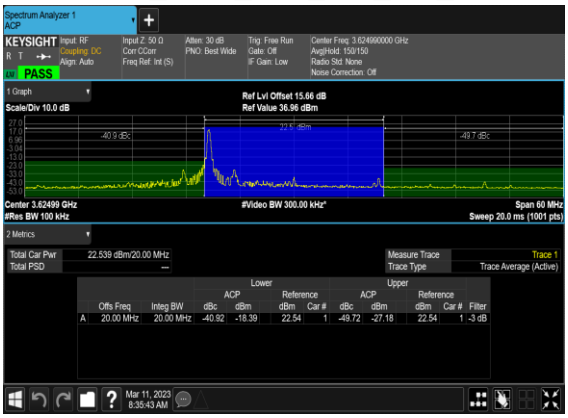
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



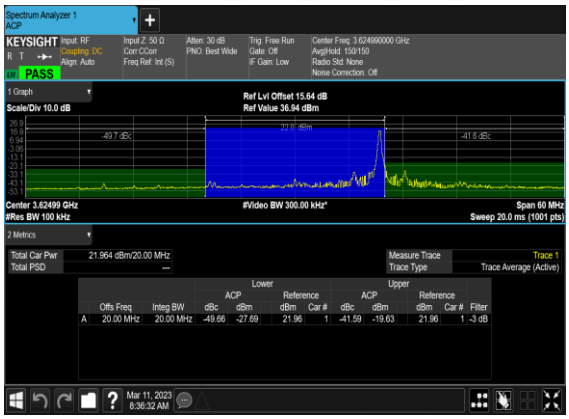
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



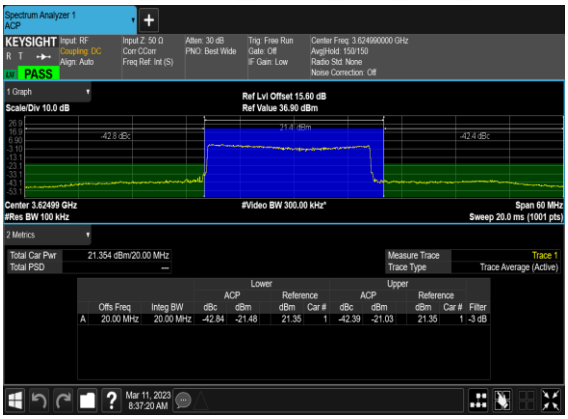
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



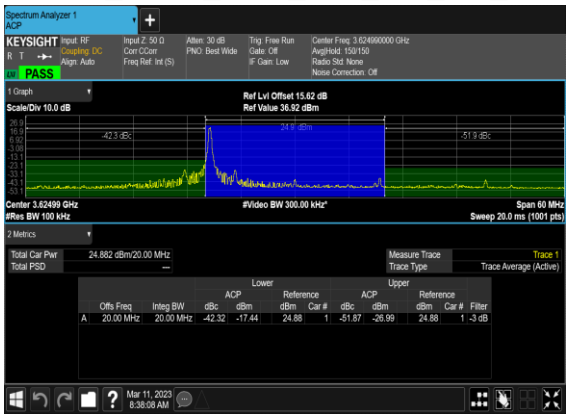
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



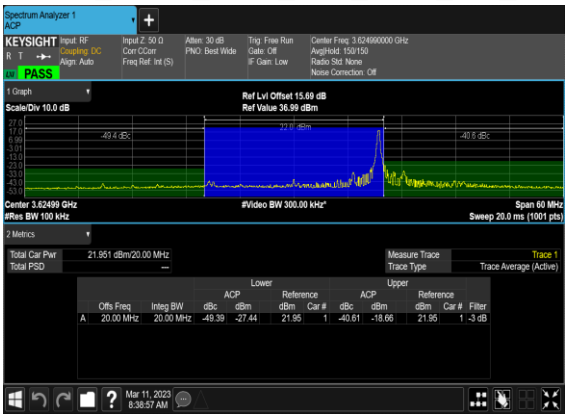
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



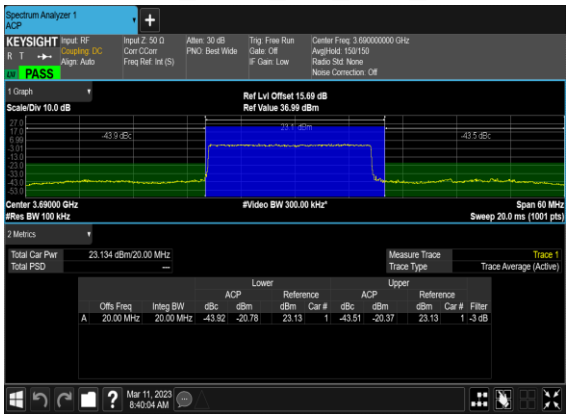
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



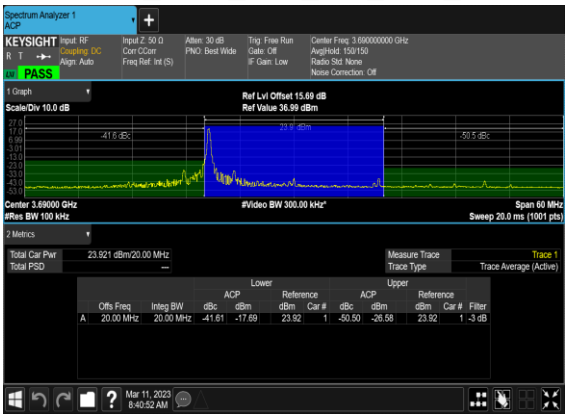
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



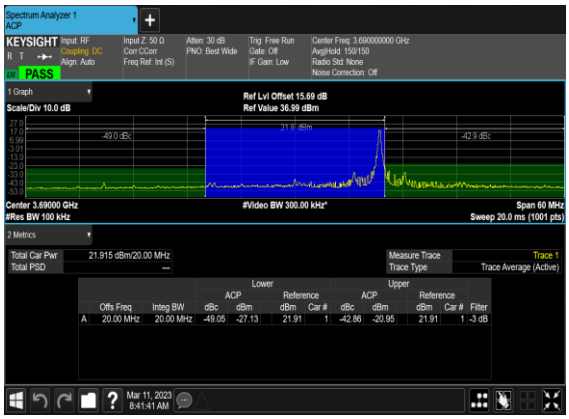
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



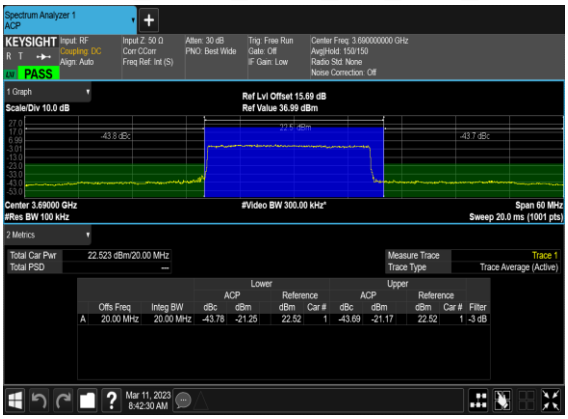
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



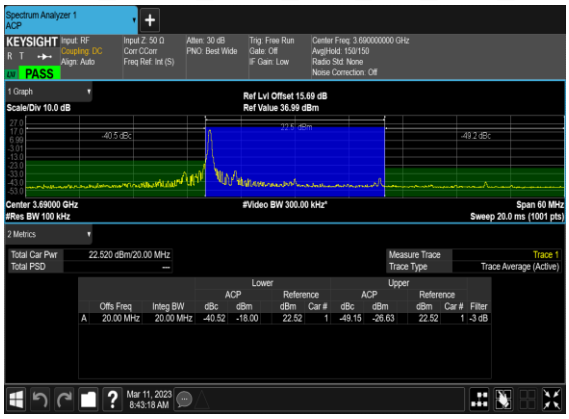
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH