FCC RF Test Report

APPLICANT	:	Fibocom Wireless Inc.
EQUIPMENT	:	5G module
BRAND NAME	:	Fibocom
MODEL NAME	:	FG190W-NA, FG190-NA
FCC ID	:	ZMOFG190WNA
STANDARD	:	47 CFR Part 2, 96
CLASSIFICATION	:	Citizens Band End User Devices (CBE)
EQUIPMENT TYPE	:	End User Equipment
TEST DATE(S)	:	Aug. 04, 2024 ~ Aug 16, 2024

We, Sporton International Inc. (ShenZhen), 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.

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

Jason Jia

Approved by: Jason Jia

ilac-MRA · A2LA ACCREDITED Cert #5145.01

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FG472418Q	01	Initial issue of report	Sep. 04, 2024

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 11.26 dB at 7212.800 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

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

1.2 Manufacturer

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

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	5G module
Brand Name	Fibocom
Model Name	FG190W-NA, FG190-NA
FCC ID	ZMOFG190WNA
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
SCS	30kHz
Bandwidth	10MHz / 15MHz / 20MHz / 30MHz / 40MHz
Antenna Gain	**<Ant. 2>** 5G NR n48: -6.13 dBi **<Ant. 7>** 5G NR n48: -6.13 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted : 864410070003781 Radiation : 864410070004029
HW Version	V1.3
SW Version	99101.1000.00.01.06.23
EUT Stage	Production Unit

Remark:

1. There are two types of EUT: Sample1(FG190W-NA) and Sample2(FG190-NA). The difference between them is that Sample1 with RF interface while Sample2 without, all the others are the same. According to the difference, we only evaluated sample 1 to perform full test.
2. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP of Antenna 2 is shown in the report.
3. 5G NR n48 support UL MIMO mode for ANT 2+7, only supports CP-OFDM Modulation.
4. For UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(N_{ANT}) to test results according to KDB 662911 D01.
5. 5G NR n48 supports UL MIMO mode and the two antennas are correlated, the MIMO Antenna gain = 10 log[(10G1/20 + 10G2/20)2 /2].

6. 5G NR n48 support SA mode only.

1.4 Maximum Conducted Power and Emission Designator

5G NR n48		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3555.00~3694.98	0.2455	8M57G7D	0.2000	8M58W7D
15	3557.52~3692.49	0.2432	13M5G7D	0.2042	13M6W7D
20	3560.01~3690.00	0.2489	18M2G7D	0.2032	18M3W7D
30	3565.02~3684.99	0.2518	27M9G7D	0.2023	27M9W7D
40	3570.00~3679.98	0.2547	37M8G7D	0.2004	37M9W7D

5G NR n48 UL MIMO		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3555.00~3694.98	0.1932	8M58G7D	0.1714	8M61W7D
15	3557.52~3692.49	0.1845	13M6G7D	0.1618	13M6W7D
20	3560.01~3690.00	0.1841	18M2G7D	0.1626	18M2W7D
30	3565.02~3684.99	0.1914	27M9G7D	0.1710	27M9W7D
40	3570.00~3679.98	0.1950	38M0G7D	0.1622	37M9W7D

1.5 Testing Site

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

<table>
<tr><td>Test Firm</td><td colspan="3">Sporton International Inc. (ShenZhen)</td></tr>
<tr><td>Test Site Location</td><td colspan="3">101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People’s Republic of China
TEL: +86-755-86066985</td></tr>
<tr><td rowspan="2">Test Site No.</td><td>Sporton Site No.</td><td>FCC Designation No.</td><td>FCC Test Firm Registration No.</td></tr>
<tr><td>03CH03-SZ</td><td>CN1256</td><td>421272</td></tr>
</table>

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24

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

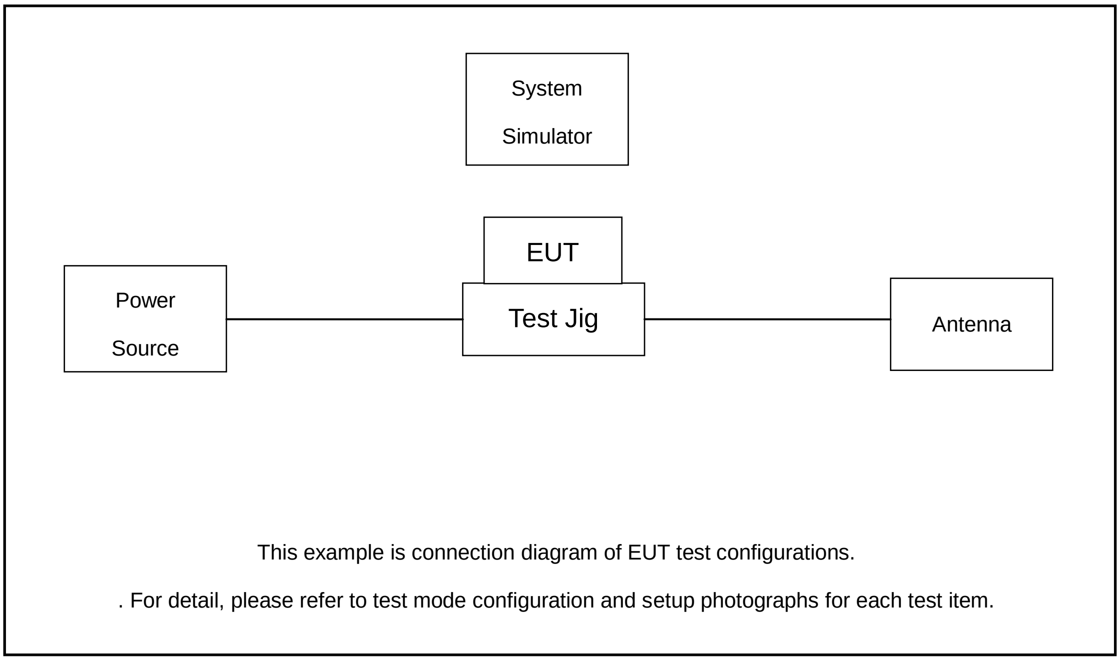
2.1 Test Mode

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 (X plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)						Modulation					RB #		Test Channel		
		5	10	15	20	30	40	PI/2 BPSK	QPSK	16QAM	64QAM	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
26dB and 99% Bandwidth	n48	-	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
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 = 3.80V ；Low Voltage =3.30V；High Voltage =4.40V																

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

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

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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 8.9 dB.

Example :

Offset(dB) = RF cable loss(dB)= 8.9(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**
40	Channel	638000	641666	645332
	Frequency	3570	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	3624.99	3694.98

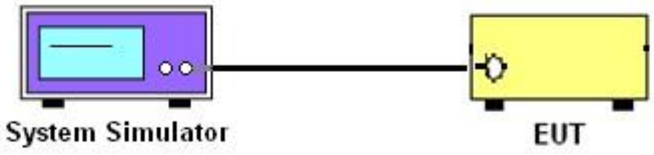
3 Conducted Test Items

3.1 Measuring Instruments

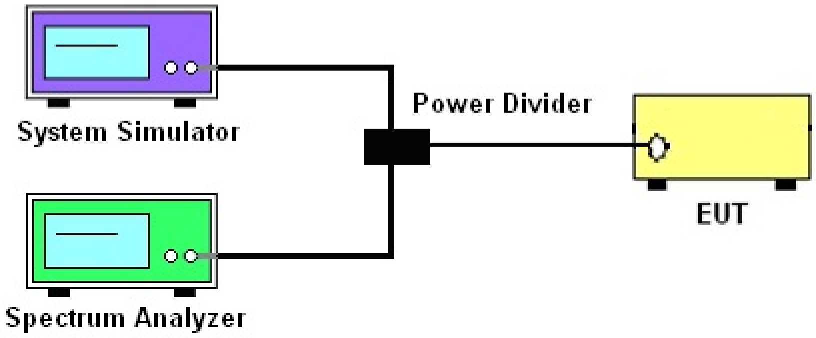
See list of measuring instruments of this test report.

3.1.1 Test Setup

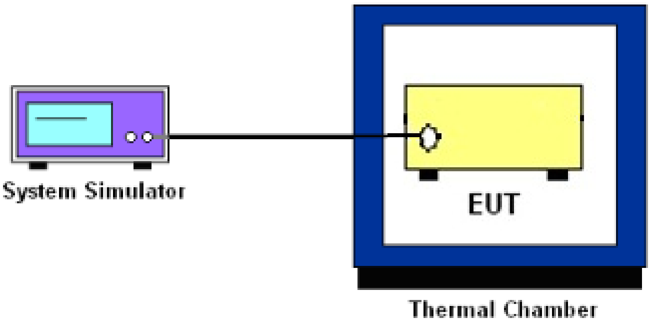
3.1.2 Conducted Output Power / ACLR



3.1.3 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 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 for Band n48 (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) (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 for Band n48. 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.

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.

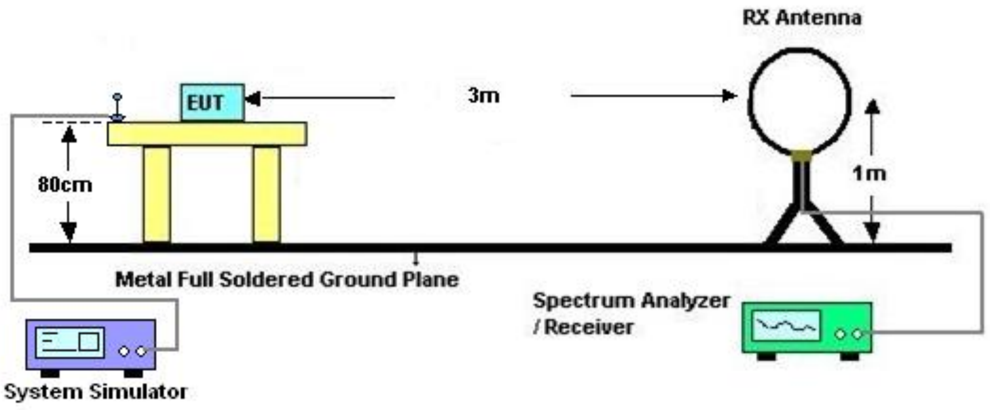
4 Radiated Test Items

4.1 Measuring Instruments

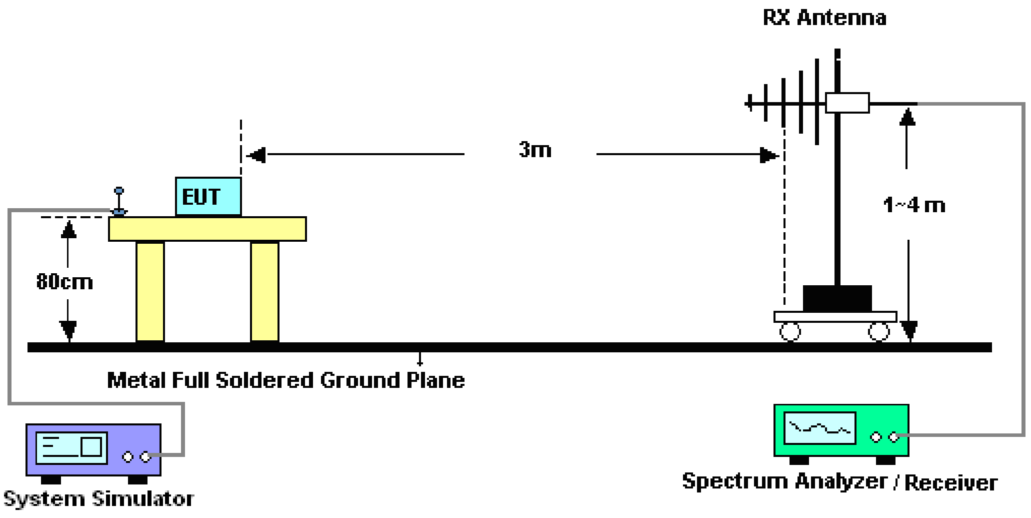
See list of measuring instruments of this test report.

4.2 Test Setup

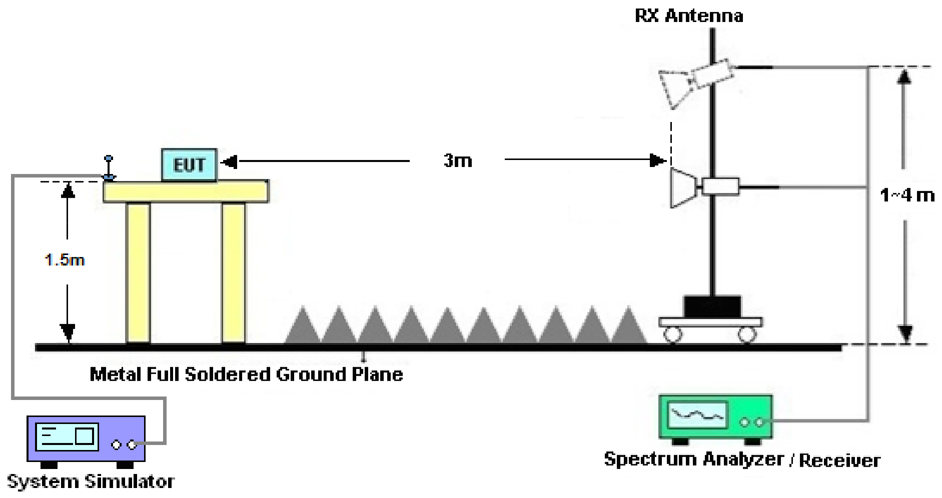
4.2.1 For radiated test below 30MHz



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. 09, 2024	Aug. 04, 2024~ Aug. 16, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Aug. 04, 2024~ Aug. 16, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Power Divider	SOLVANG TECHNOLOY	STI08-0055	-	Max 40GHz	Mar. 20, 2024	Aug. 04, 2024~ Aug. 16, 2024	Mar. 19, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Aug. 04, 2024~ Aug. 16, 2024	Jul. 02, 2025	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 09, 2024	Aug. 15, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Aug. 15, 2024	Dec. 28, 2024	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 09, 2024	Aug. 15, 2024	Apr. 08, 2025	Radiation (03CH03-SZ
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Aug. 20, 2023	Aug. 15, 2024	Aug. 19, 2025	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 09, 2024	Aug. 15, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023	Aug. 15, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 03, 2024	Aug. 15, 2024	Jul.02, 2025	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Aug. 15, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2023	Aug. 15, 2024	Dec. 26, 2024	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	N/A	Oct. 18, 2023	Aug. 15, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 15, 2024	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 15, 2024	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Peak to Average Ratio	±1.34 dB
Frequency Stability	±1.3 Hz

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.00 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.60 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.80 dB

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

Appendix A. Test Results of Conducted Test

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

Software Version: 23.06.1602

FR1 N48_ANT 2

Transmitter Conducted Output Power And EIRP, (G_T-L_C)=-6.13dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@1	23.85	17.72	0.0592
48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	22.94	16.81	0.0480
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.79	17.66	0.0583
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.84	16.71	0.0469
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	23.9	17.77	0.0598
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	23.01	16.88	0.0488
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	23.78	17.65	0.0582
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	22.81	16.68	0.0466
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.73	17.6	0.0575
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.88	16.75	0.0473
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	23.86	17.73	0.0593
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	23.1	16.97	0.0498
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	23.84	17.71	0.0590
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	22.91	16.78	0.0476
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.83	17.7	0.0589
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.82	16.69	0.0467
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@1	23.96	17.83	0.0607
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	23.08	16.95	0.0495
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	24	17.87	0.0612
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	23.06	16.93	0.0493
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.94	17.81	0.0604
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.94	16.81	0.0480
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	24.01	17.88	0.0614
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	23	16.87	0.0486
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	50@25	23.77	17.64	0.0581
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1	23.88	17.75	0.0596

48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@104	23.24	17.11	0.0514
48	30	40	638000	3570	DFT-s-OFDM QPSK	50@25	23.67	17.54	0.0568
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	23.8	17.67	0.0585
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@104	23.21	17.08	0.0511
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	50@25	22.65	16.52	0.0449
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	23.02	16.89	0.0489
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@104	22.38	16.25	0.0422
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	50@25	21.18	15.05	0.0320
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@1	21.42	15.29	0.0338
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@104	20.78	14.65	0.0292
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	50@25	19.12	12.99	0.0199
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@1	19.26	13.13	0.0206
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@104	18.61	12.48	0.0177
48	30	40	638000	3570	CP-OFDM QPSK	53@26	22.11	15.98	0.0396
48	30	40	638000	3570	CP-OFDM QPSK	1@1	22.4	16.27	0.0424
48	30	40	638000	3570	CP-OFDM QPSK	1@104	21.81	15.68	0.0370
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@25	23.75	17.62	0.0578
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	23.86	17.73	0.0593
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@104	23.19	17.06	0.0508
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	50@25	23.67	17.54	0.0568
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.83	17.7	0.0589
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@104	23.15	17.02	0.0504
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	50@25	22.64	16.51	0.0448
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.98	16.85	0.0484
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@104	22.29	16.16	0.0413
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	50@25	21.18	15.05	0.0320
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	21.38	15.25	0.0335
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@104	20.76	14.63	0.0290
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	50@25	19.14	13.01	0.0200
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	19.2	13.07	0.0203
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@104	18.57	12.44	0.0175
48	30	40	641666	3624.99	CP-OFDM QPSK	53@26	22.06	15.93	0.0392

48	30	40	641666	3624.99	CP-OFDM QPSK	1@1	22.35	16.22	0.0419
48	30	40	641666	3624.99	CP-OFDM QPSK	1@104	21.79	15.66	0.0368
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	50@25	24.06	17.93	0.0621
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@1	23.84	17.71	0.0590
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@104	23.65	17.52	0.0565
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	50@25	23.84	17.71	0.0590
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	23.77	17.64	0.0581
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@104	23.7	17.57	0.0571
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	50@25	22.82	16.69	0.0467
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	22.88	16.75	0.0473
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@104	22.79	16.66	0.0463
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	50@25	21.46	15.33	0.0341
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@1	21.39	15.26	0.0336
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@104	21.31	15.18	0.0330
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	50@25	19.3	13.17	0.0207
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@1	19.15	13.02	0.0200
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@104	18.99	12.86	0.0193
48	30	40	645332	3679.98	CP-OFDM QPSK	53@26	22.35	16.22	0.0419
48	30	40	645332	3679.98	CP-OFDM QPSK	1@1	22.37	16.24	0.0421
48	30	40	645332	3679.98	CP-OFDM QPSK	1@104	22.26	16.13	0.0410

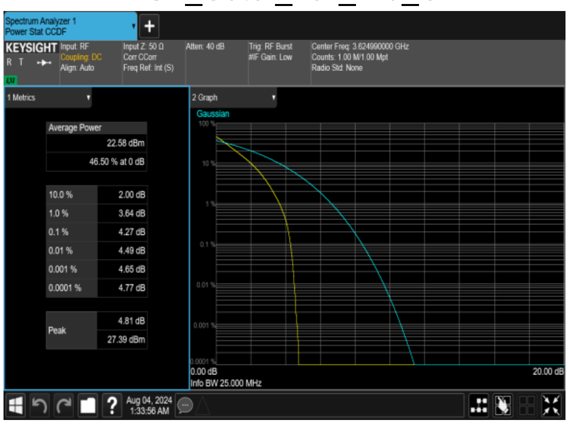
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0051	**PASS**	NV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0069	**PASS**	LV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0056	**PASS**	HV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0049	**PASS**	-30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0030	**PASS**	-20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0062	**PASS**	-10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0032	**PASS**	0℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0046	**PASS**	10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0051	**PASS**	20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0035	**PASS**	30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0035	**PASS**	40℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0066	**PASS**	50℃

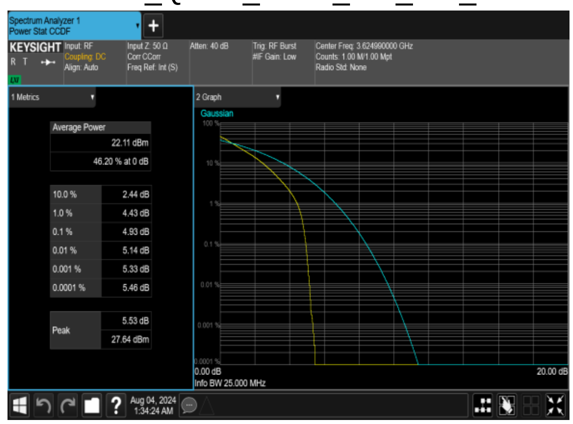
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	4.27	13	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	4.93	13	**PASS**

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



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



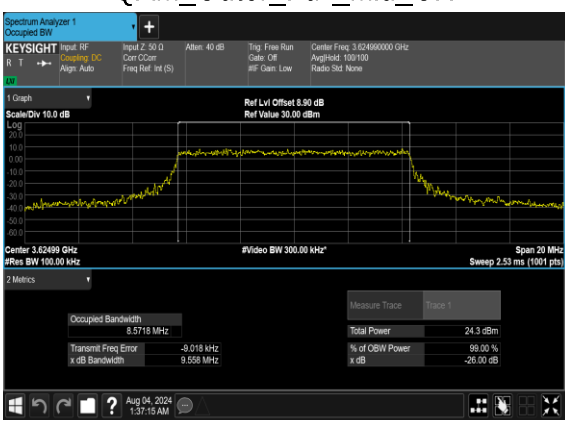
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.5746	9.601
48	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.576	9.233
48	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5718	9.558
48	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5676	9.466
48	30	15	641666	3624.99	CP-OFDM QPSK	38@0	13.549	15.02
48	30	15	641666	3624.99	CP-OFDM 16 QAM	38@0	13.593	14.5
48	30	15	641666	3624.99	CP-OFDM 64 QAM	38@0	13.56	15.0
48	30	15	641666	3624.99	CP-OFDM 256 QAM	38@0	13.556	14.52
48	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.219	19.49
48	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.279	19.34
48	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.195	19.71
48	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.169	19.6
48	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.853	29.45
48	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.891	29.26
48	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.881	28.91
48	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.834	29.18
48	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.84	39.14
48	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.898	39.33
48	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.874	39.42
48	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.855	39.57

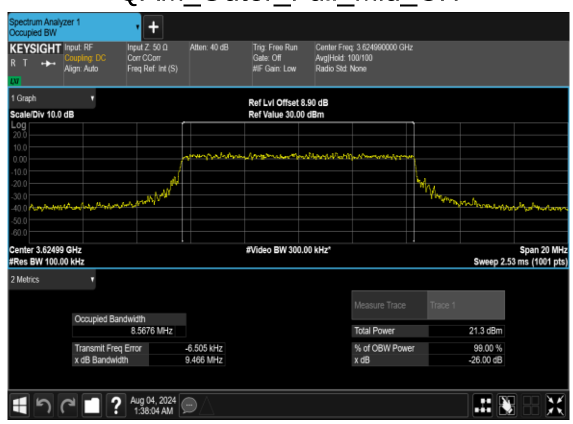
N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



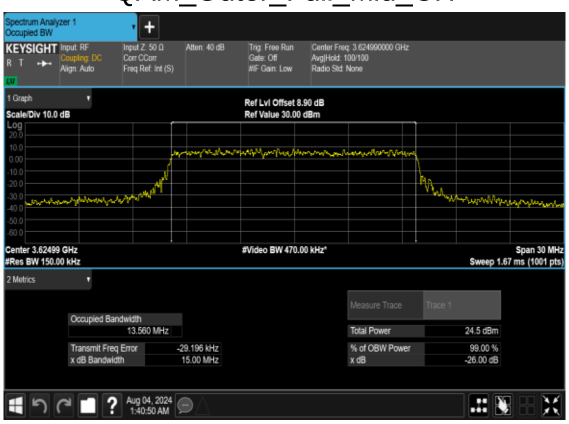
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

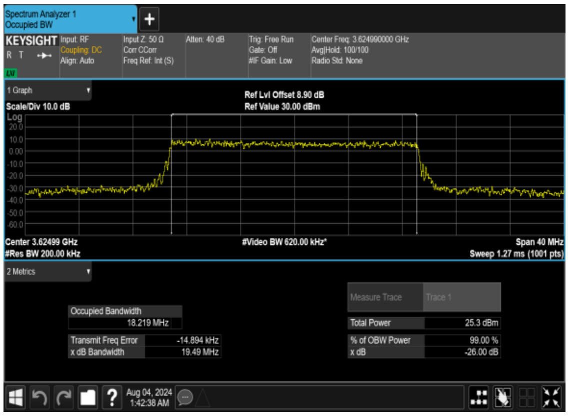
N48(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



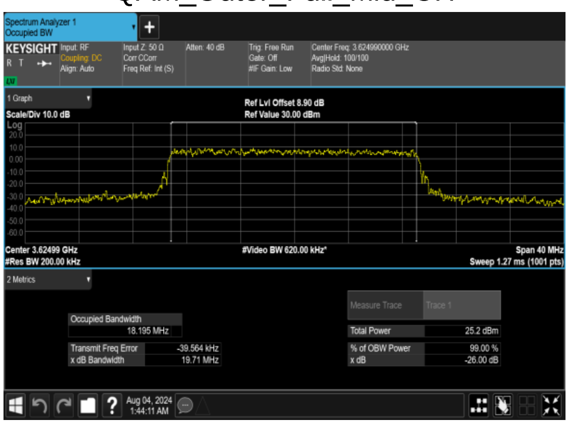
N48(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

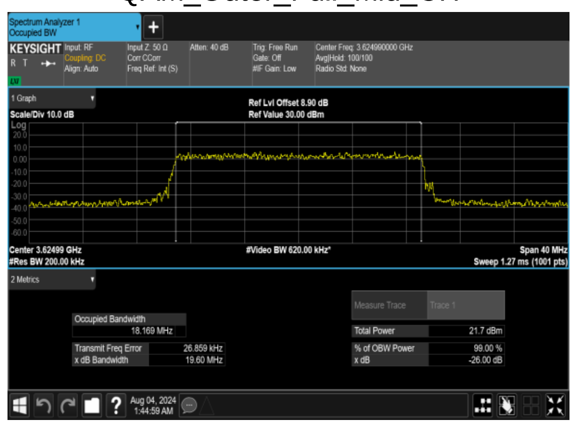


N48(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



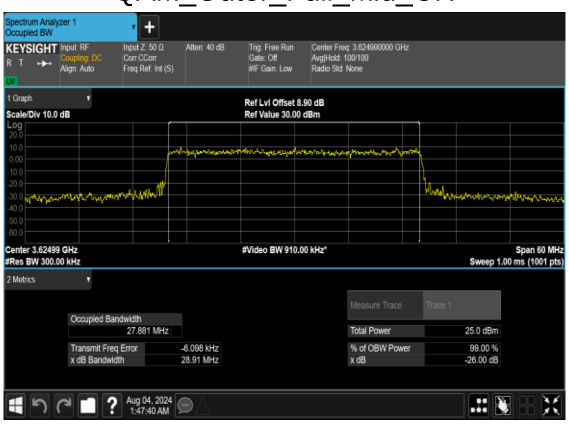
N48(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



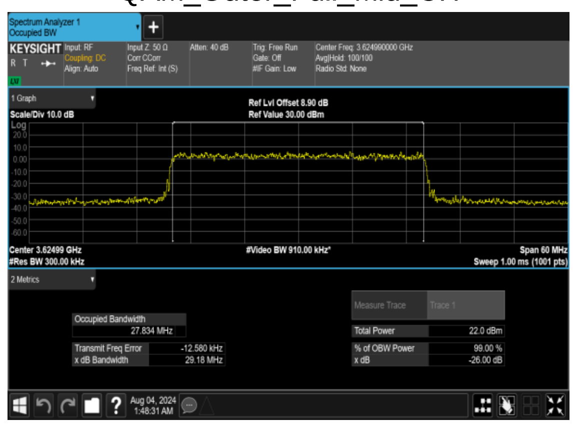
N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

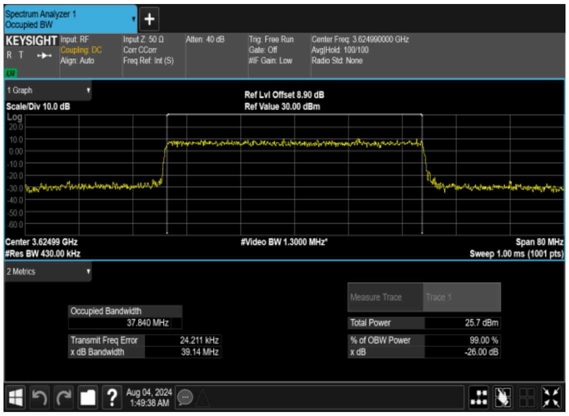
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



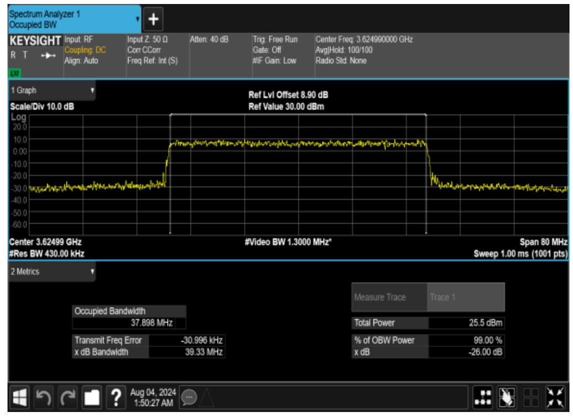
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



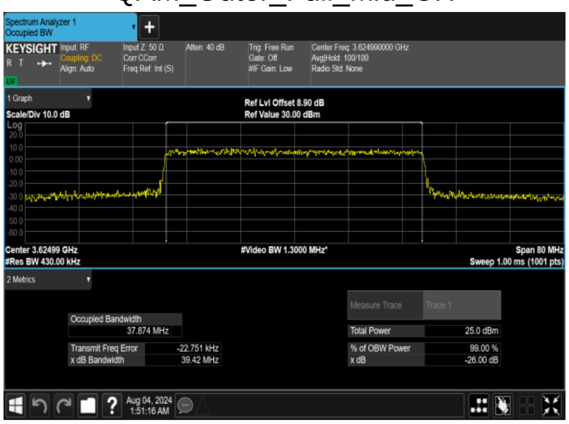
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



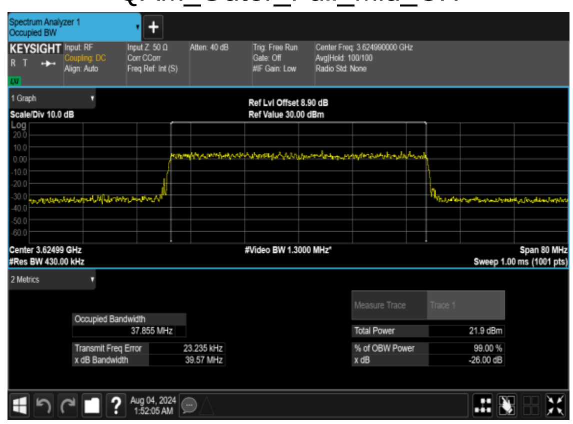
N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



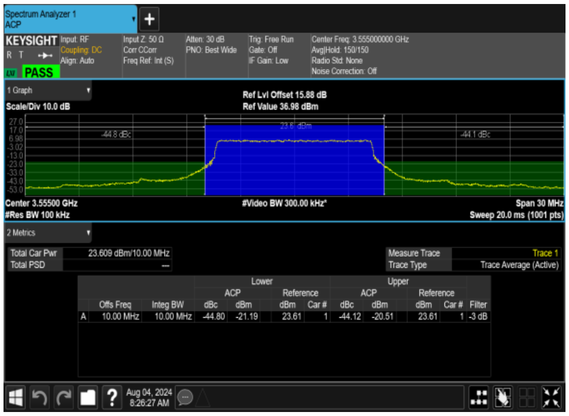
Adjacent Channel Leakage Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	24@0	-14.8	-14.12	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-8.84	-27.77	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-27.96	-9.69	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-13.58	-13.82	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-9.41	-27.47	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-27.53	-9.73	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-13.25	-14.23	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-8.22	-23.47	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-22.26	-7.43	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-12.82	-12.03	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-8.0	-21.8	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-24.17	-10.08	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-12.46	-12.39	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-8.89	-23.2	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-23.61	-9.73	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-12.1	-11.19	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-9.08	-23.18	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-23.47	-9.88	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	50@0	-15.87	-18.02	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-9.3	-24.41	**see graph**	PASS

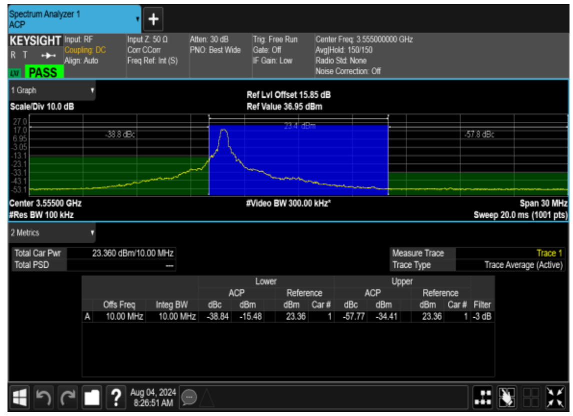
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@50	-24.37	-9.19	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	50@0	-14.37	-15.83	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-9.73	-24.09	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@50	-24.86	-10.13	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-13.65	-14.58	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-8.91	-19.05	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@50	-20.6	-9.1	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	-11.89	-13.04	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-10.08	-20.32	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@50	-19.92	-9.81	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	50@0	-12.34	-14.17	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-9.28	-19.67	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@50	-21.43	-10.19	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	50@0	-10.84	-12.71	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-9.23	-20.06	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@50	-20.59	-10.06	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	100@0	-13.71	-16.45	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@0	-11.54	-17.47	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@105	-18.77	-11.64	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	100@0	-11.82	-14.6	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	-11.36	-18.08	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@105	-17.41	-10.66	**see graph**	PASS

48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-12.39	-12.89	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-8.93	-15.35	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-18.28	-11.33	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	100@0	-9.91	-10.94	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	-11.7	-17.75	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@105	-19.43	-11.13	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	100@0	-11.17	-12.37	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@0	-10.14	-16.89	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@105	-16.74	-9.23	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	100@0	-9.17	-10.8	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	-10.59	-16.36	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@105	-18.22	-11.46	**see graph**	PASS

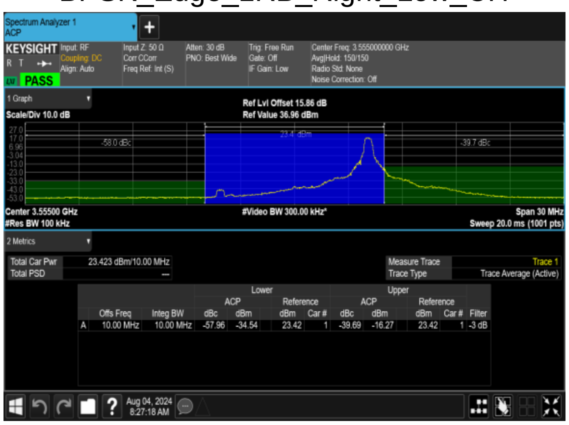
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



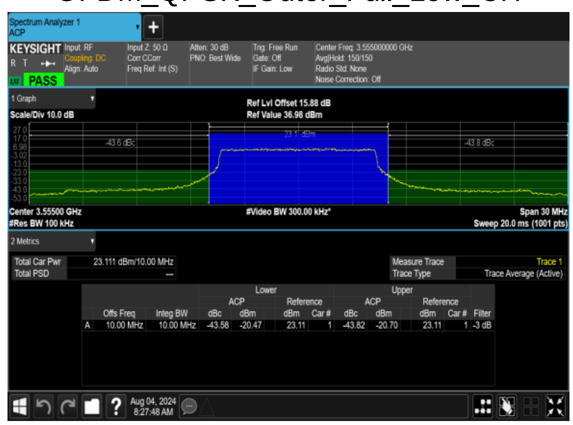
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



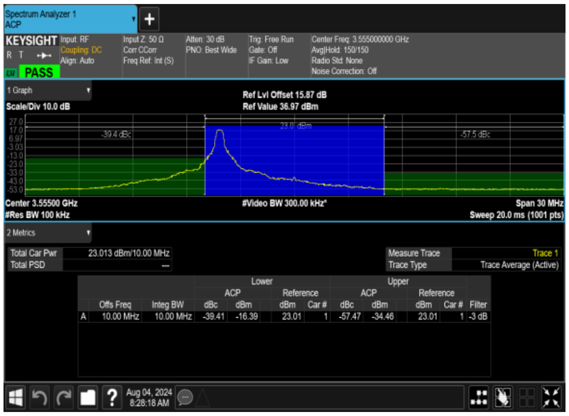
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



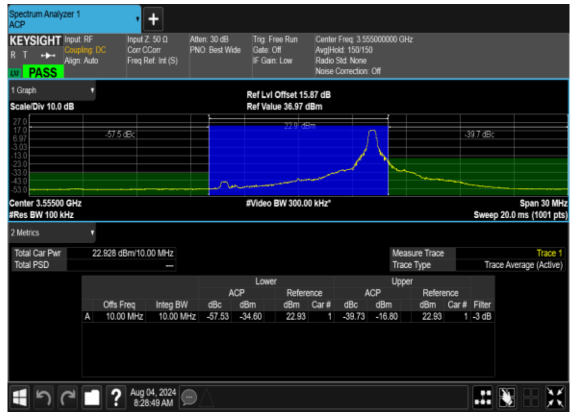
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



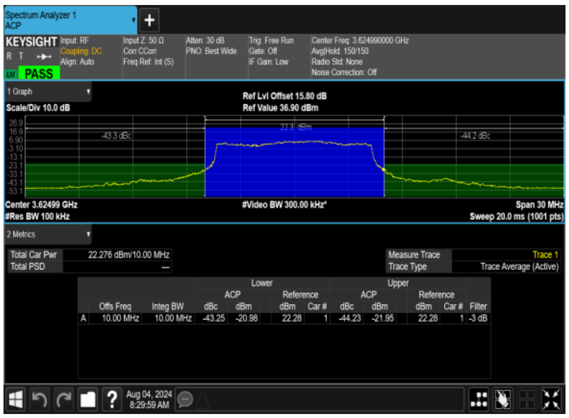
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



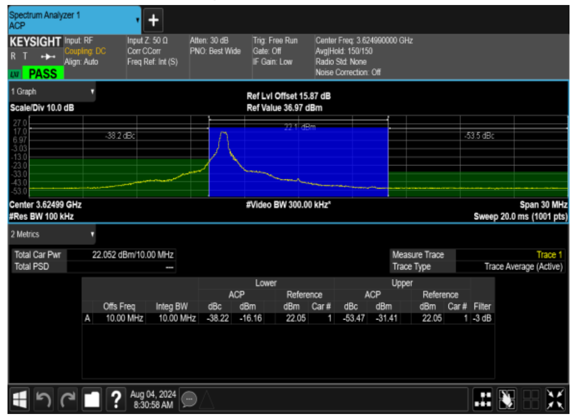
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



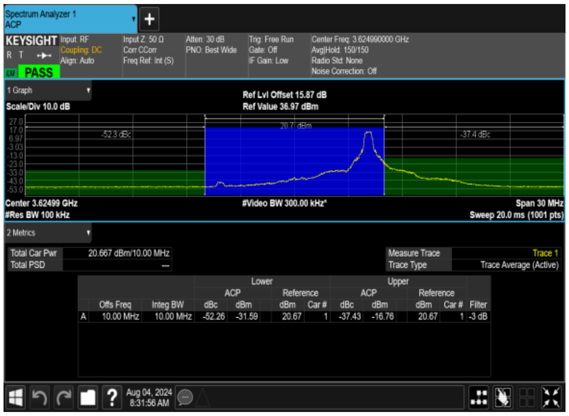
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



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

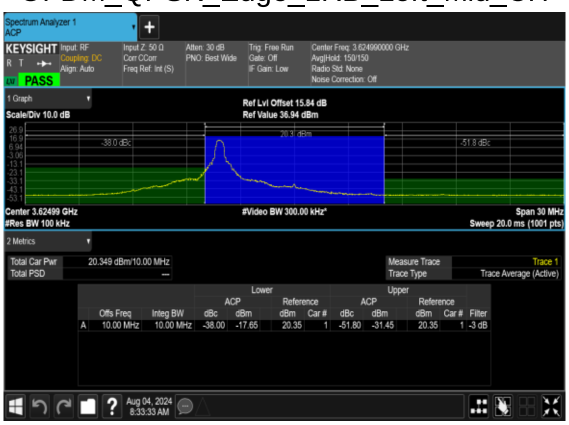


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

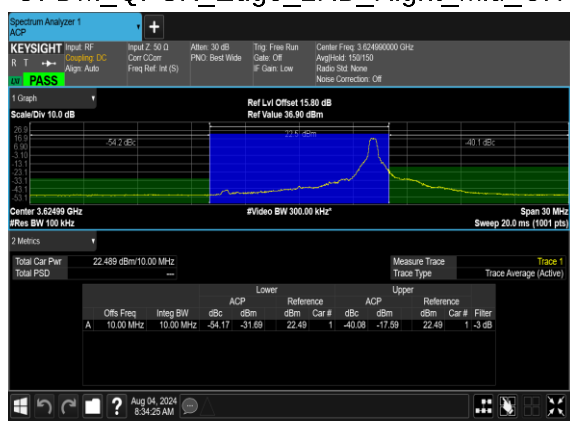


N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

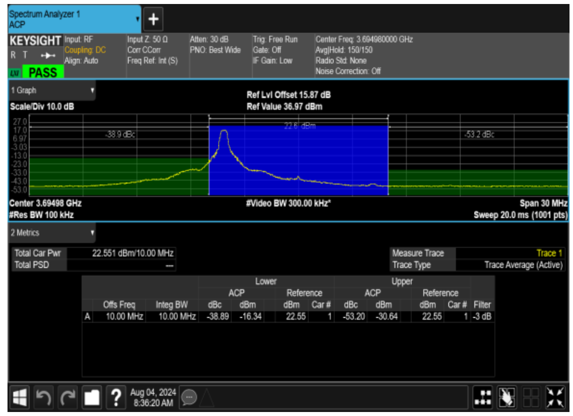


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

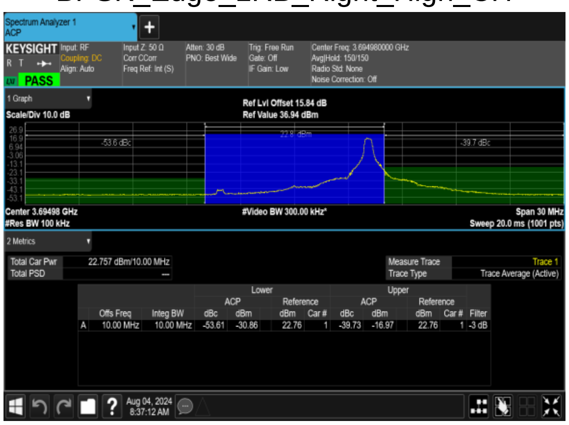


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

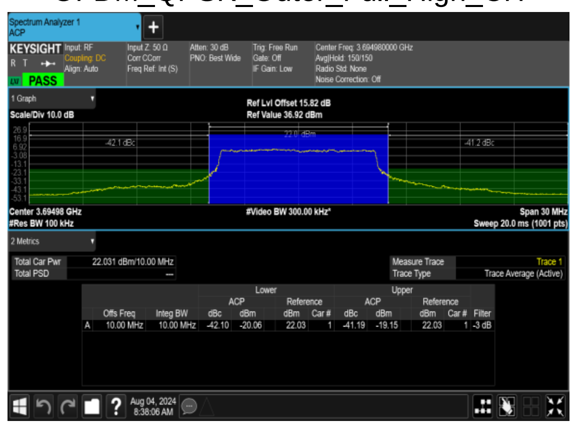
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



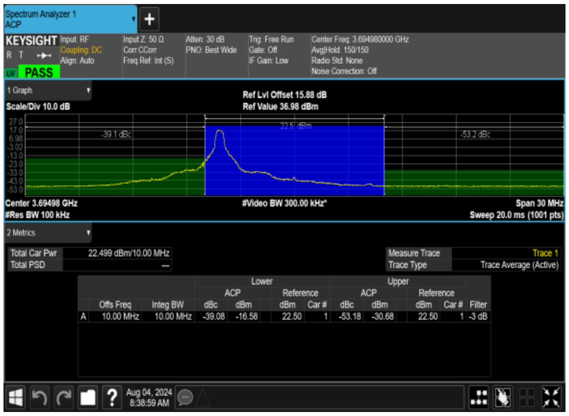
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



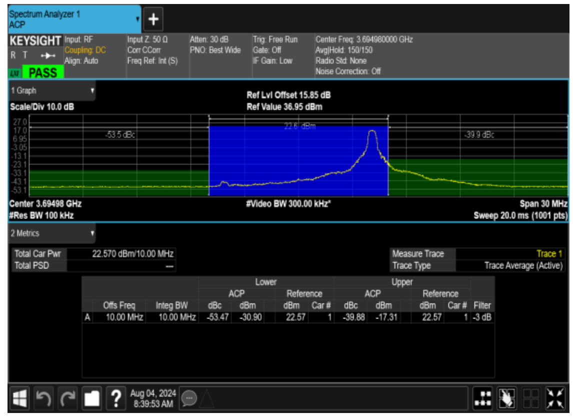
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



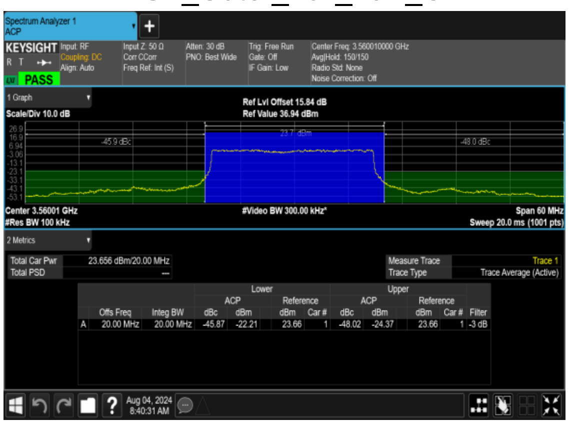
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



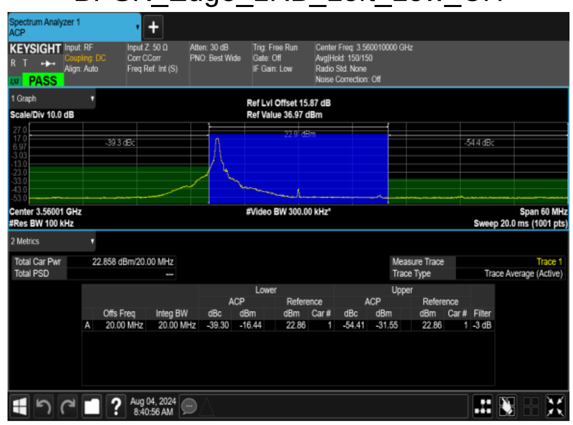
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



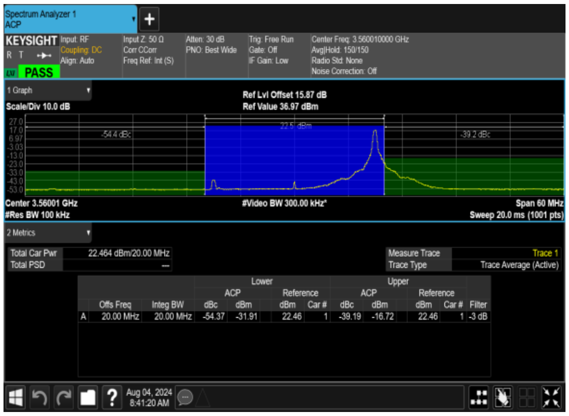
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



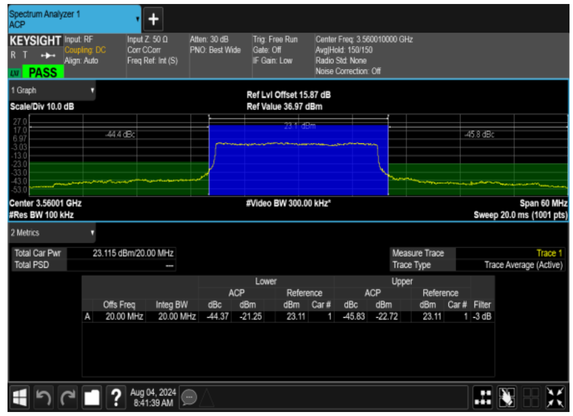
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



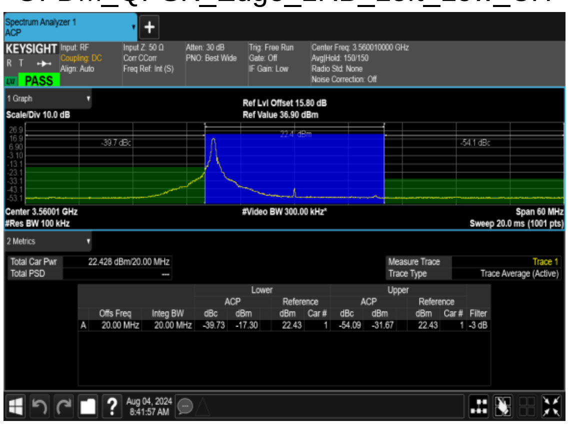
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



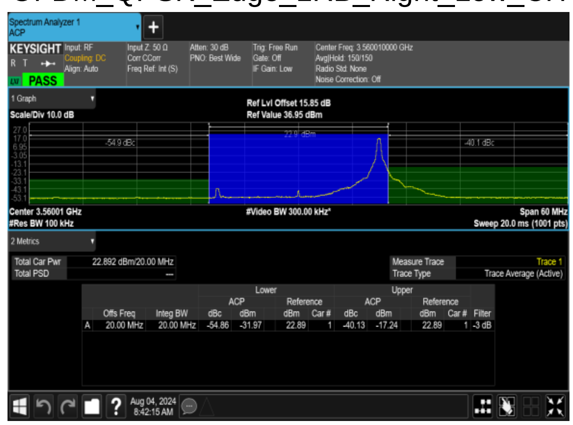
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



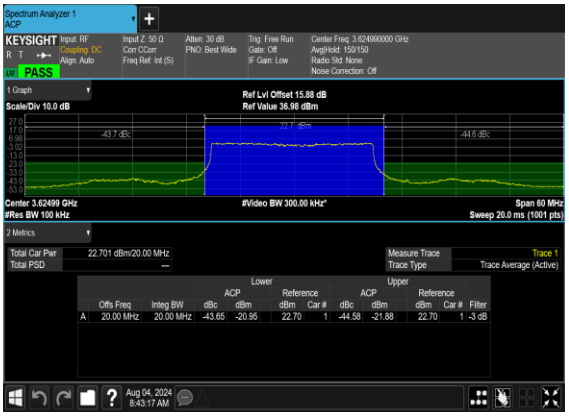
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



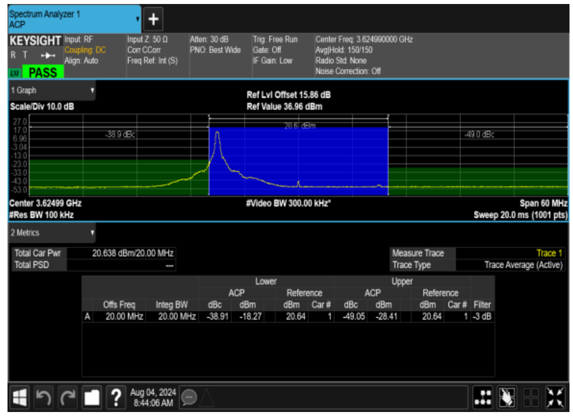
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



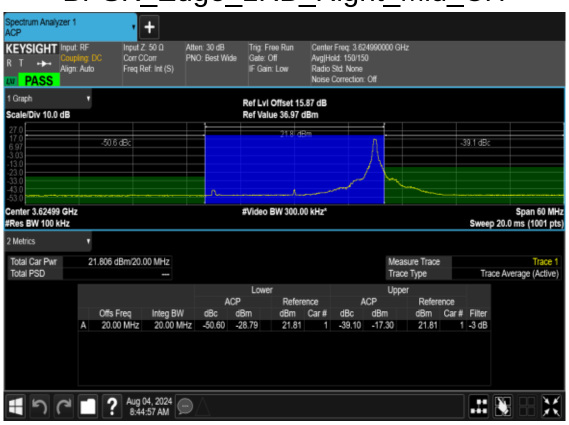
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



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

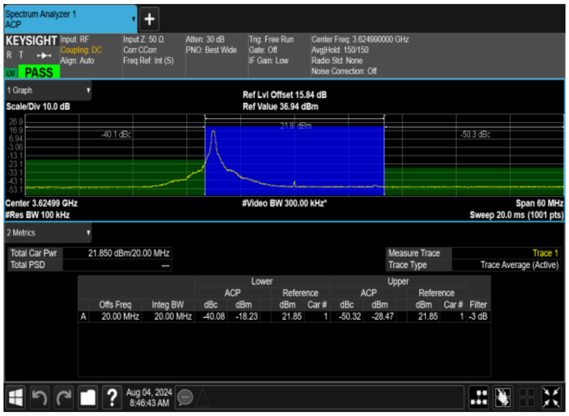


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

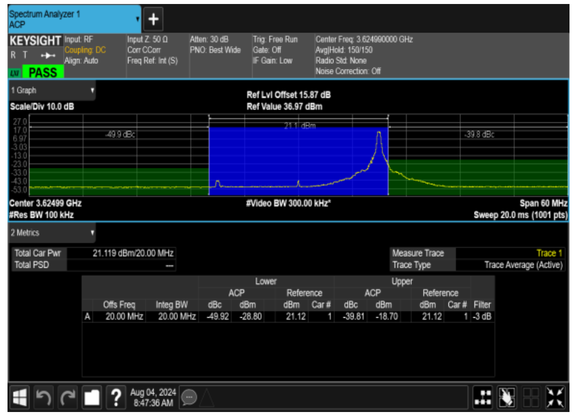


N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

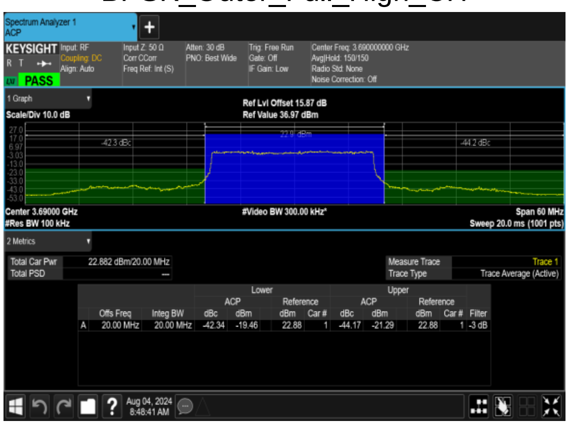
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



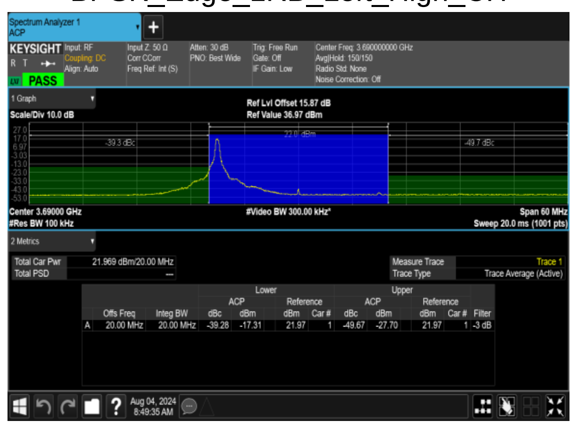
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



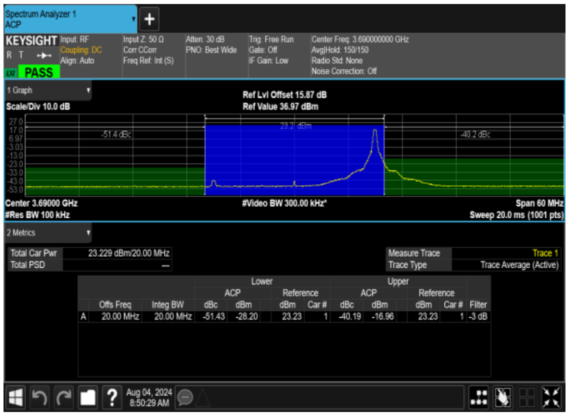
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



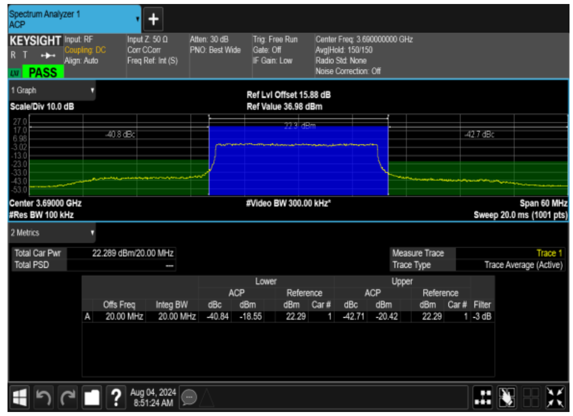
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



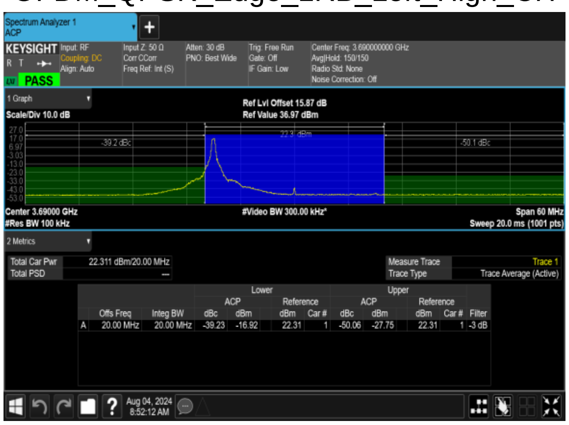
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



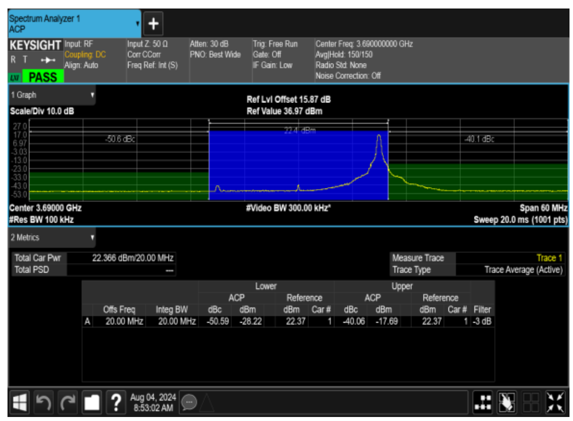
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



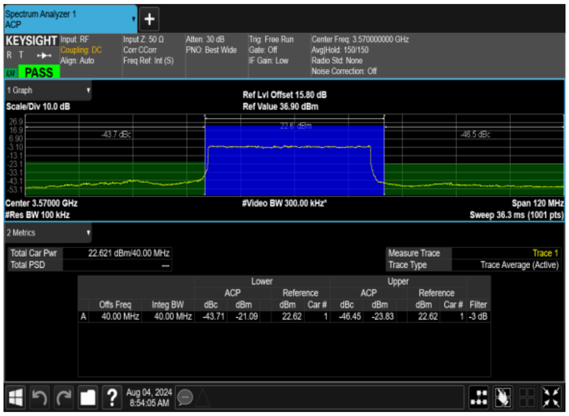
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



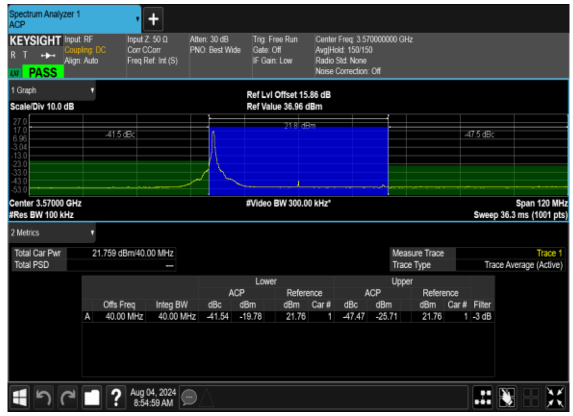
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



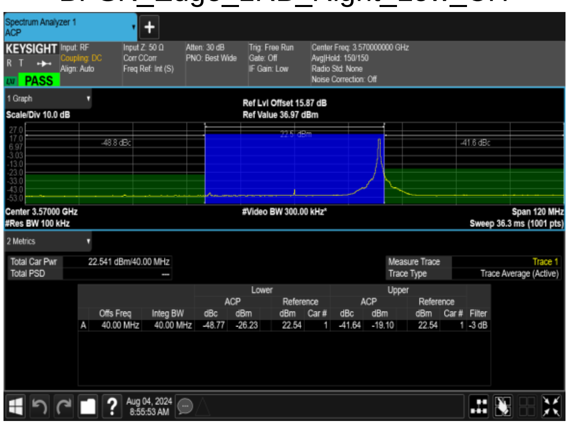
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

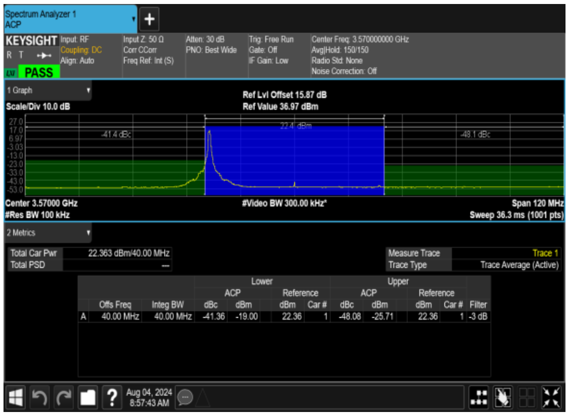


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

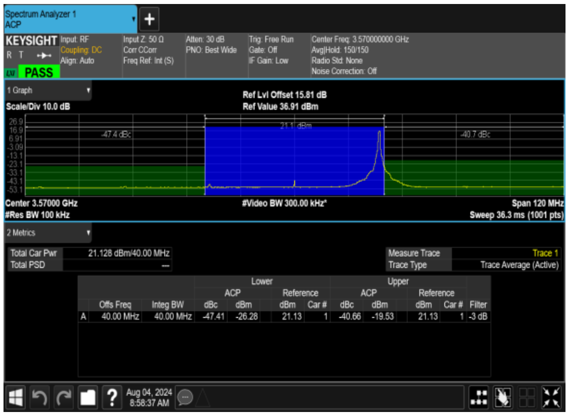


N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

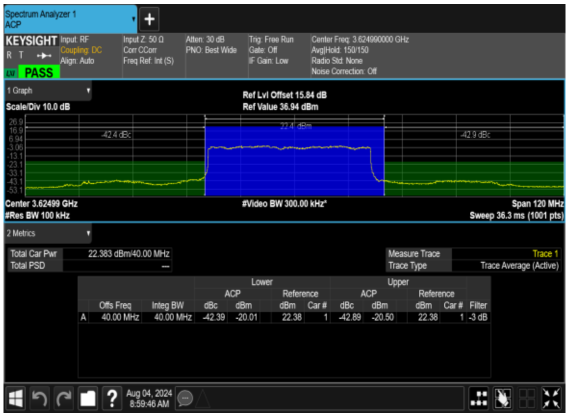
N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



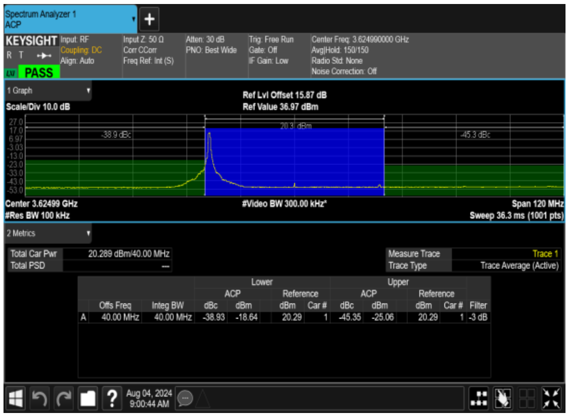
N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



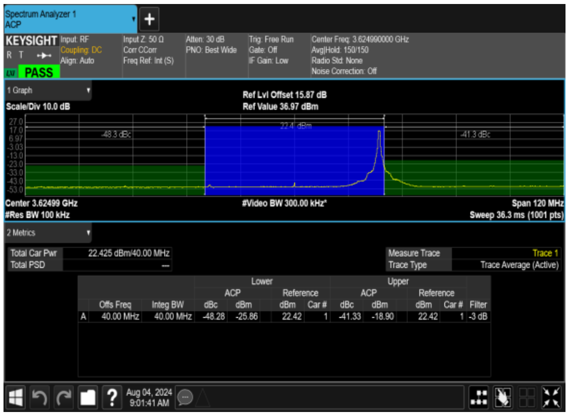
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



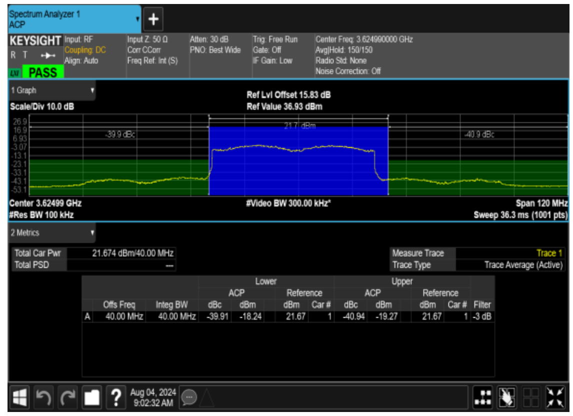
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



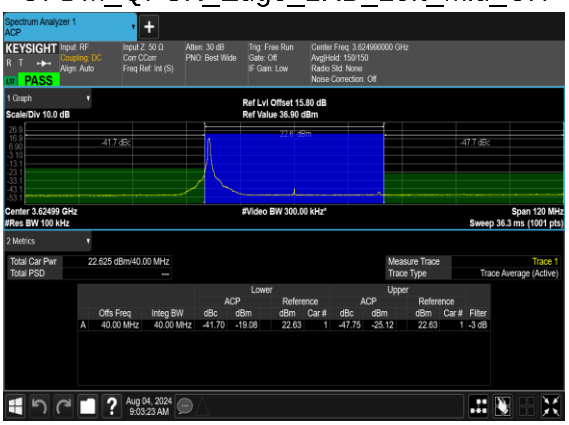
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



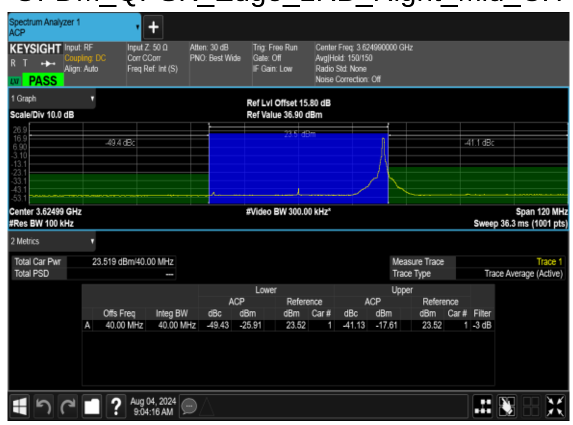
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



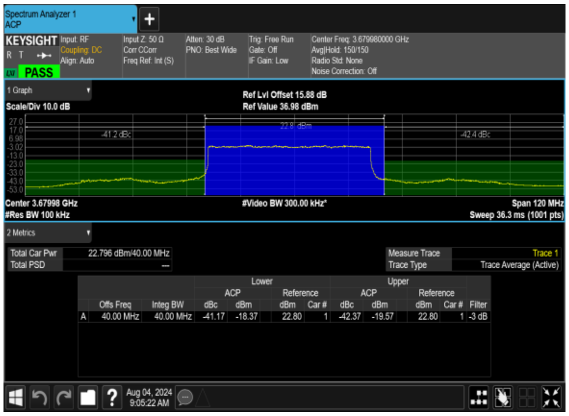
N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



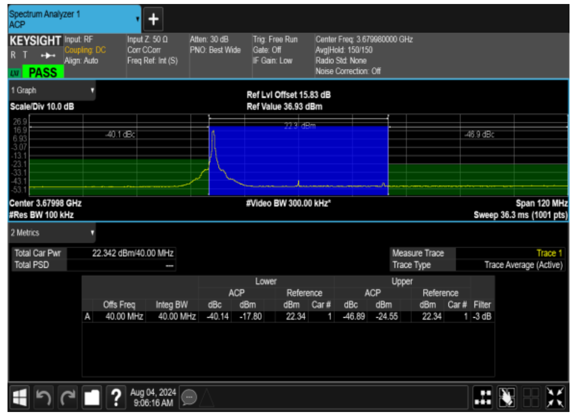
N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



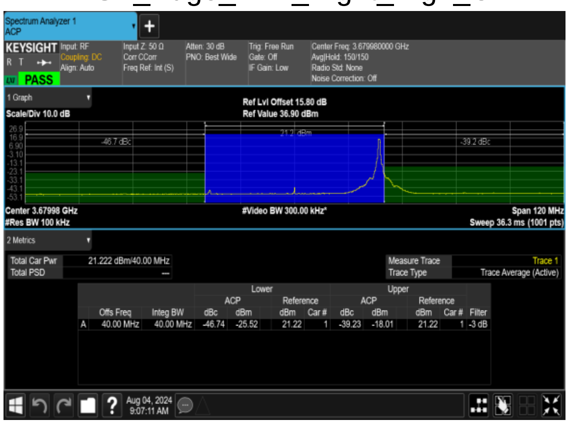
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



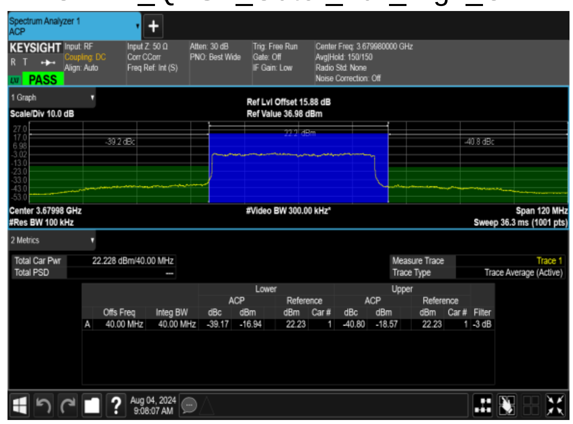
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



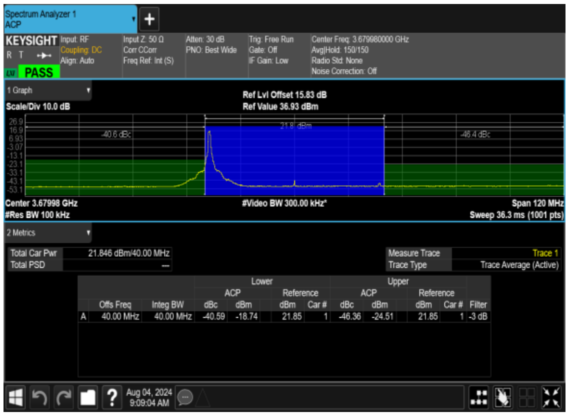
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



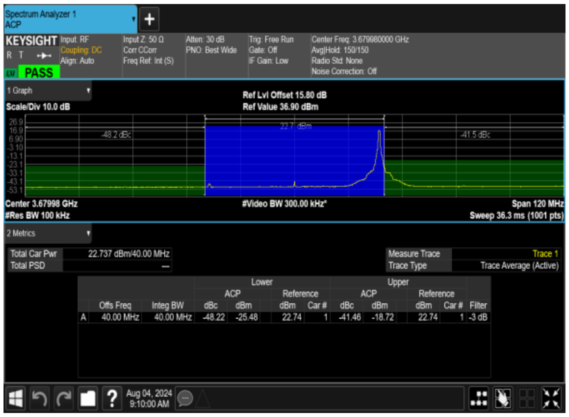
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



Conducted Spurious Emissions

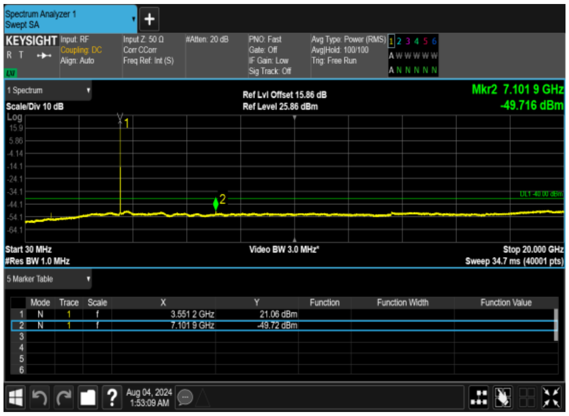
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**

TEL : +86-755-8637-9589
FAX : +86-755-8637-9595

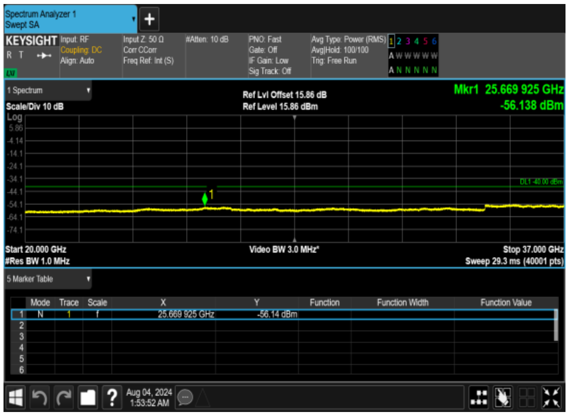
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

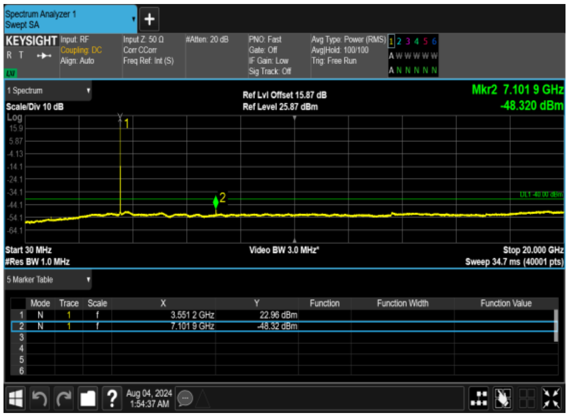
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



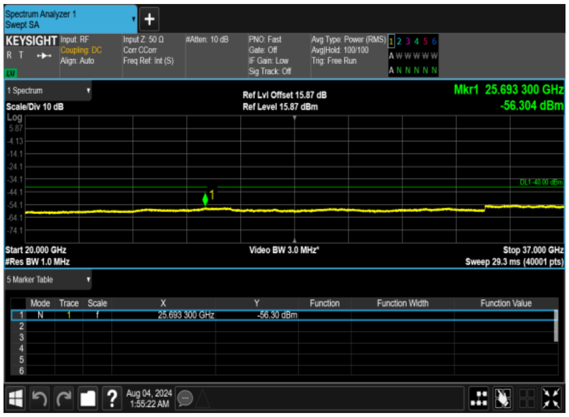
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



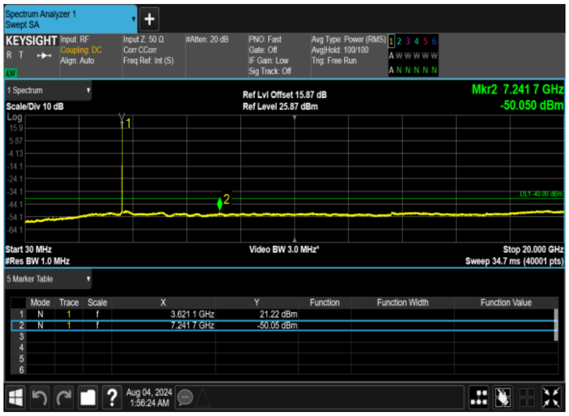
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



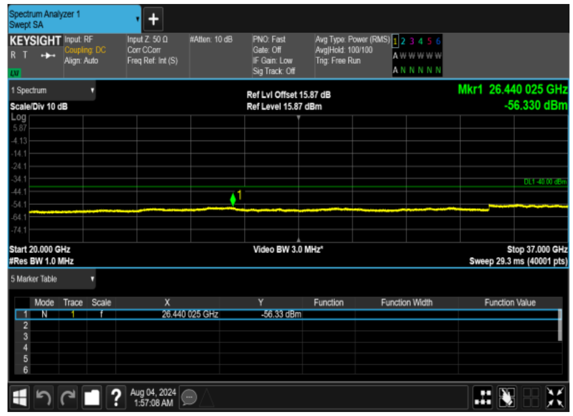
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_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