

FCC RF Test Report

APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : POCO
MODEL NAME : 23049PCD8G
FCC ID : 2AFZZPCD8G
STANDARD : 47 CFR Part 2, Part 27 Subpart Q
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : Jan. 06, 2023 ~ Jan. 11, 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 C63.26-2015 and shown compliance with the applicable technical standards.

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

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

Jason Jia



Approved by: Jason Jia

Sporton International Inc. (Kunshan)

No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu

Province 215300 People's Republic of China



TABLE OF CONTENTS

REVISION HISTORY..... 3
SUMMARY OF TEST RESULT 4
1 GENERAL DESCRIPTION 5
1.1 Applicant 5
1.2 Manufacturer 5
1.3 Product Feature of Equipment Under Test 5
1.4 Product Specification of Equipment Under Test 5
1.5 Modification of EUT 6
1.6 Maximum EIRP and Emission Designator 6
1.7 Testing Site 7
1.8 Test Software 8
1.9 Applied Standards 8
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST 9
2.1 Test Mode 9
2.2 Connection Diagram of Test System 10
2.3 Support Unit used in test configuration and system 10
2.4 Measurement Results Explanation Example 10
2.5 Frequency List of Low/Middle/High Channels 11
3 CONDUCTED TEST ITEMS 12
3.1 Measuring Instruments 12
3.2 Test Setup 12
3.3 Test Result of Conducted Test 12
3.4 Conducted Output Power Measurement 13
3.5 Peak-to-Average Ratio 14
3.6 EIRP 15
3.7 Occupied Bandwidth 16
3.8 Conducted Band Edge Measurement 17
3.9 Conducted Spurious Emission Measurement 18
3.10 Frequency Stability Measurement 19
4 RADIATED TEST ITEMS 20
4.1 Measuring Instruments 20
4.2 Test Setup 20
4.3 Test Result of Radiated Test 21
4.4 Radiated Spurious Emission Measurement 22
5 LIST OF MEASURING EQUIPMENT 23
6 UNCERTAINTY OF EVALUATION 24
APPENDIX A. TEST RESULTS OF CONDUCTED TEST
APPENDIX B. TEST RESULTS OF RADIATED TEST
APPENDIX C. TEST SETUP PHOTOGRAPHS



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	—	Report Only	-
3.5	§27.50 (k)(4)	Peak-to-Average Ratio	<13dB	PASS	
3.6	§27.50 (k)(3)	EIRP	EIRP < 1W (30dBm)	PASS	-
3.7	§2.1049	Occupied Bandwidth	—	Report Only	-
3.8	§2.1051 §27.53 (n)(2)	Conducted Band Edge Measurement	-13dBm/MHz	PASS	-
3.9	§2.1051 §27.53 (n)(2)	Conducted Spurious Emission	-13dBm/MHz	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission	-13dBm/MHz	PASS	Under limit 48.82 dB at 13818.000 MHz

Declaration of Conformity:

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

Comments and Explanations:

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

1 General Description

1.1 Applicant

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	POCO
Model Name	23049PCD8G
FCC ID	2AFZZPCD8G
IMEI Code	Conducted : 860460060036121/860460060035628 Radiation : 860460060036709/860460060036717
HW Version	P2
SW Version	MIUI 14
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Product Feature	
Tx/Rx Frequency	5G NR n77: 3450 MHz ~ 3550 MHz 5G NR n78: 3450 MHz ~ 3550 MHz
Bandwidth	n77/n78: 10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
SCS	30kHz
Antenna Type	PIFA Antenna
Antenna Gain	<Ant. 6>: n77/n78: 2.0 dBi <Ant. 7>: n77/n78: 2.8 dBi <Ant. 8>: n77: 0.4 dBi; n78: -0.3 dBi <Ant. 10>: n77/n78: 1.5 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The device supports HPUE mode for 5G NR n77/n78.
2. The device supports n77(1T4R) SRS resources on Ant.6/7/8/10, only the worst test data of Antenna 6 is showed in the report.
3. 5G NR n78 support SA and NSA mode, n77 support SA mode only. According to the maximum

power between SA and NSA mode, SA covers NSA mode for conducted test items.

4. The EN-DC mode combination could be referred to the product spec.
5. For NSA mode of all EN-DC combination, we only show the combination of the maximum power among all NSA combinations in the report.

1.5 Modification of EUT

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

1.6 Maximum EIRP and Emission Designator

5G NR n77		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3455.01 ~ 3544.98	0.7145	8M60G7D	0.5702	8M58W7D
15	3457.50 ~ 3542.49	0.7586	13M6G7D	0.6053	13M6W7D
20	3460.02 ~ 3540.00	0.7516	18M2G7D	0.5998	18M2W7D
30	3465.00 ~ 3534.99	0.7780	27M7G7D	0.6223	27M8W7D
40	3470.01 ~ 3529.98	0.7889	37M8G7D	0.6324	37M8W7D
50	3475.02 ~ 3525.00	0.7379	47M5G7D	0.5888	47M5W7D
60	3480.00 ~ 3519.99	0.7328	57M9G7D	0.5916	57M9W7D
70	3485.01 ~ 3514.98	0.7194	67M5G7D	0.5848	67M6W7D
80	3490.02 ~ 3510.00	0.7112	77M6G7D	0.5598	77M5W7D
90	3495.00 ~ 3504.99	0.7178	87M5G7D	0.5768	87M6W7D
100	3500.01	0.8035	97M5G7D	0.6397	97M7W7D



5G NR n78		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3455.01 ~ 3544.98	0.7551	8M60G7D	0.5929	8M58W7D
15	3457.50 ~ 3542.49	0.7586	13M6G7D	0.6109	13M6W7D
20	3460.02 ~ 3540.00	0.7621	18M2G7D	0.6138	18M2W7D
30	3465.00 ~ 3534.99	0.7852	27M7G7D	0.6266	27M8W7D
40	3470.01 ~ 3529.98	0.7998	37M8G7D	0.6427	37M8W7D
50	3475.02 ~ 3525.00	0.7261	47M5G7D	0.5970	47M5W7D
60	3480.00 ~ 3519.99	0.7362	57M9G7D	0.5970	57M9W7D
70	3485.01 ~ 3514.98	0.7345	67M5G7D	0.5957	67M6W7D
80	3490.02 ~ 3510.00	0.7228	77M6G7D	0.5861	77M5W7D
90	3495.00 ~ 3504.99	0.7145	87M5G7D	0.5902	87M6W7D
100	3500.01	0.8017	97M5G7D	0.6531	97M7W7D

Note:

- 5G NR Band n77 overlaps the entire frequency range of Band n77, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78.
- 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 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH04-KS	CN1257	314309

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

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

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

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a1

1.9 Applied Standards

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

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

Remark:

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

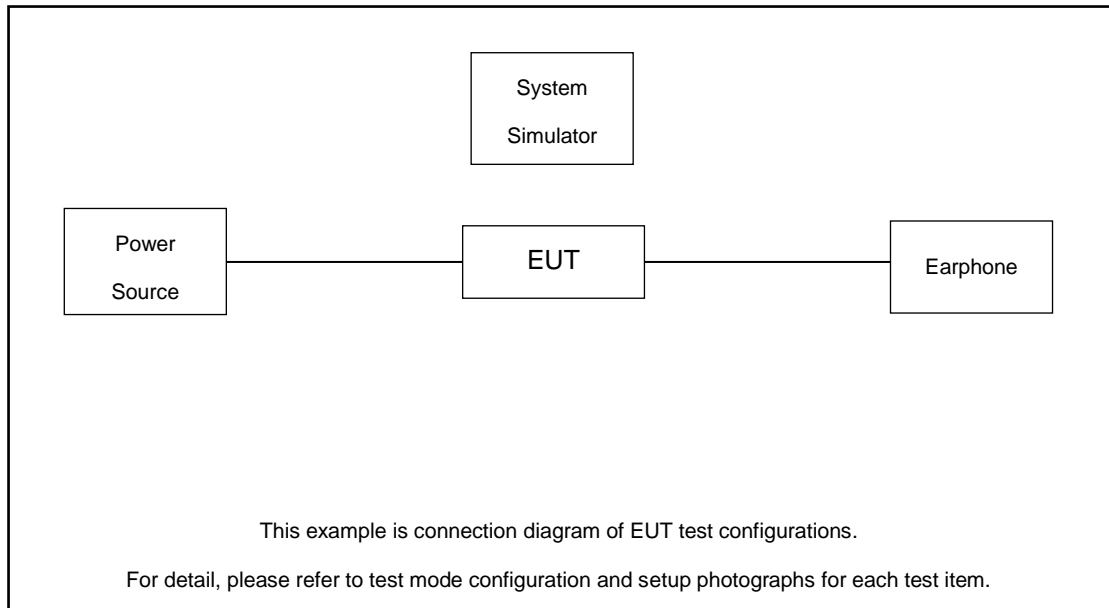
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission. (Z-Plane)

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	5G n77	10M, 15M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Full RB	L, M, H
	5G n78	10M, 15M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Full RB	L, M, H
Peak-to-Average Ratio	5G n77	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
E.I.R.P	5G n77	10M, 15M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Full RB	L, M, H
	5G n78	10M, 15M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	5G n77	10M, 15M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	5G n77	10M, 50M, 100M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
Conducted Spurious Emission	5G n77	10M, 50M, 100M	PI/2 BPSK, QPSK	1RB	L, M, H
Frequency Stability	5G n77	20M	QPSK	Full RB	M
Radiated Spurious Emission	5G n77	Worst case from maximum power			M
	5G n78	Worst case from maximum power			M

Note:

1. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
2. Based on engineering evaluation, only the worst modulations test results are shown in the report.
3. The n77 conducted test results cover n78 in this report.
4. Frequency Stability: Normal Voltage = 3.87V ; Low Voltage =3.6V.; High Voltage =4.45V

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	MI	EM023	N/A	Unshielded, 1.25m	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5.68 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 5.68 + 10 = 15.68 \text{ (dB)} \end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

5G n77/n78 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	-	633334	-
	Frequency	-	3500.01	-
90	Channel	633000	633334	633666
	Frequency	3495	3500.01	3504.99
80	Channel	632668	633334	634000
	Frequency	3490.02	3500.01	3510
70	Channel	632334	633334	634332
	Frequency	3485.01	3500.01	3514.98
60	Channel	632000	633334	634666
	Frequency	3480	3500.01	3519.99
50	Channel	631668	633334	635000
	Frequency	3475.02	3500.01	3525
40	Channel	631334	633334	635332
	Frequency	3470.01	3500.01	3529.98
30	Channel	631000	633334	635666
	Frequency	3465	3500.01	3534.99
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540
15	Channel	630500	633334	636166
	Frequency	3457.5	3500.01	3542.49
10	Channel	630334	633334	636332
	Frequency	3455.01	3500.01	3544.98

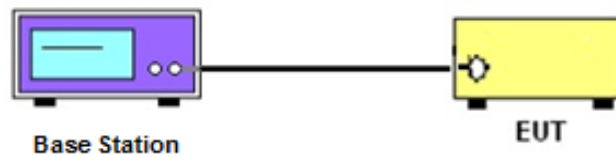
3 Conducted Test Items

3.1 Measuring Instruments

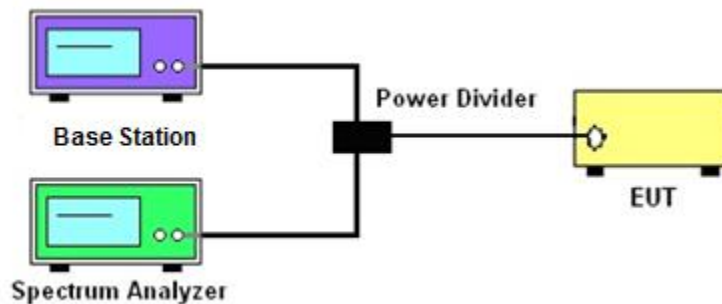
See list of measuring instruments of this test report.

3.2 Test Setup

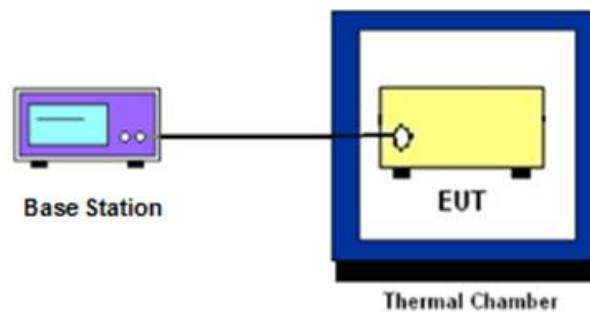
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied / 26dB Bandwidth, Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power Measurement

3.4.1 Description of the Conducted Output Power Measurement

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 EIRP

3.6.1 Description of EIRP Limit

§ 27.50 (k)(3)

Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications

3.6.2 Test Procedures

1. According to KDB 412172 D01 Power Approach,
2. $EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where
 P_T = transmitter output power in dBm
 G_T = gain of the transmitting antenna in dBi
 L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.7 Occupied Bandwidth

3.7.1 Description of Occupied Bandwidth Measurement

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

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

3.7.2 Test Procedures

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

3.8 Conducted Band Edge Measurement

3.8.1 Description of Conducted Band Edge Measurement

§ 27.53 (n)(2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW \geq 1% EBW but limited to a maximum of 200 kHz in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz and 5 MHz removed from the band edge, set RBW \geq 500KHz.
6. Beyond the 5 MHz removed from the band edge, set RBW = 1MHz.
7. Set spectrum analyzer with RMS detector.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the emission limit line.

3.9 Conducted Spurious Emission Measurement

3.9.1 Description of Conducted Spurious Emission Measurement

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

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

3.9.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. Checked that all the results comply with the emission limit line.

3.10 Frequency Stability Measurement

3.10.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

3.10.2 Test Procedures for Temperature Variation

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

3.10.3 Test Procedures for Voltage Variation

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

4 Radiated Test Items

4.1 Measuring Instruments

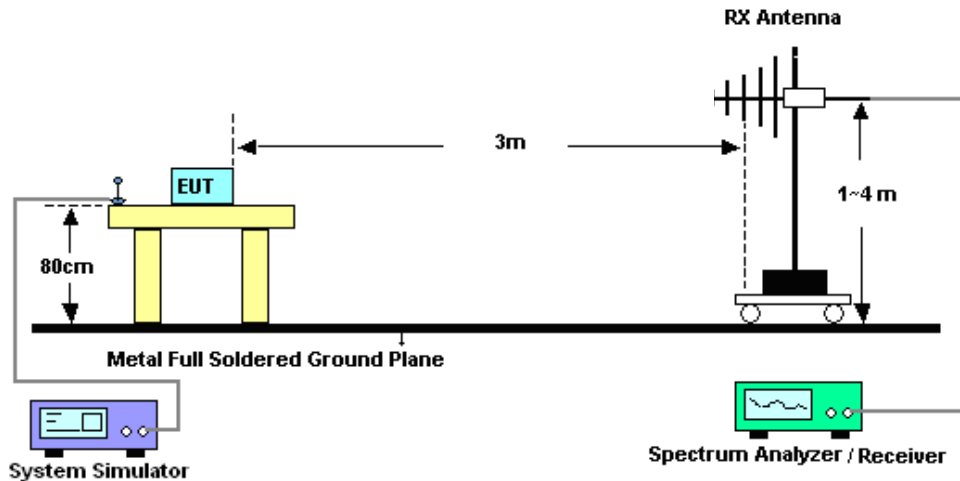
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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

Please refer to Appendix B.

4.4 Radiated Spurious Emission Measurement

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. The power of any emission outside of the authorized operating frequency ranges shall not exceed -13 dBm/MHz.

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

4.4.2 Test Procedures

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



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 26, 2022	Jan. 10, 2023~Jan. 11, 2023	Dec. 25, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 24, 2022	Jan. 10, 2023~Jan. 11, 2023	Dec. 23, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Jan. 10, 2023~Jan. 11, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	Jan. 06, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 29, 2022	Jan. 06, 2023	Oct. 28, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 24, 2022	Jan. 06, 2023	May 23, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Jan. 04, 2023	Jan. 06, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 04, 2023	Jan. 06, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 04, 2023	Jan. 06, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 04, 2023	Jan. 06, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz-18Ghz	Oct. 12, 2022	Jan. 06, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	Jan. 06, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 06, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 06, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 06, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.12 %

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
---	-------

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



Appendix A. Test Results of Conducted Test

Test Engineer :	Jung Kuo	Temperature :	22~23°C
		Relative Humidity :	40~42%

FR1 N77

Transmitter Conducted Output Power And EIRP, ($G_T - L_C$)=2.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@1	26.4	28.4	0.6918
77	30	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	25.38	27.38	0.5470
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.43	28.43	0.6966
77	30	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.39	27.39	0.5483
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@1	26.54	28.54	0.7145
77	30	10	636332	3544.98	DFT-s-OFDM 16 QAM	1@1	25.56	27.56	0.5702
77	30	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	26.7	28.7	0.7413
77	30	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	25.62	27.62	0.5781
77	30	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.74	28.74	0.7482
77	30	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.76	27.76	0.5970
77	30	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	26.8	28.8	0.7586
77	30	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	25.82	27.82	0.6053
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	26.7	28.7	0.7413
77	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	25.71	27.71	0.5902
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.71	28.71	0.7430
77	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.72	27.72	0.5916
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@1	26.76	28.76	0.7516
77	30	20	636000	3540.0	DFT-s-OFDM 16 QAM	1@1	25.78	27.78	0.5998
77	30	30	631000	3465.0	DFT-s-OFDM QPSK	1@1	26.87	28.87	0.7709
77	30	30	631000	3465.0	DFT-s-OFDM 16 QAM	1@1	25.94	27.94	0.6223
77	30	30	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.86	28.86	0.7691
77	30	30	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.83	27.83	0.6067
77	30	30	635666	3534.99	DFT-s-OFDM QPSK	1@1	26.91	28.91	0.7780
77	30	30	635666	3534.99	DFT-s-OFDM 16 QAM	1@1	25.88	27.88	0.6138
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	26.85	28.85	0.7674
77	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	26.01	28.01	0.6324
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.97	28.97	0.7889
77	30	40	633334	3500.01	DFT-s-OFDM	1@1	25.97	27.97	0.6266

16 QAM									
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	26.89	28.89	0.7745
77	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	25.93	27.93	0.6209
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@1	26.64	28.64	0.7311
77	30	50	631668	3475.02	DFT-s-OFDM 16 QAM	1@1	25.61	27.61	0.5768
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.58	28.58	0.7211
77	30	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.7	27.7	0.5888
77	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@1	26.68	28.68	0.7379
77	30	50	635000	3525.0	DFT-s-OFDM 16 QAM	1@1	25.66	27.66	0.5834
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	1@1	26.59	28.59	0.7228
77	30	60	632000	3480.0	DFT-s-OFDM 16 QAM	1@1	25.68	27.68	0.5861
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.6	28.6	0.7244
77	30	60	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.69	27.69	0.5875
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@1	26.65	28.65	0.7328
77	30	60	634666	3519.99	DFT-s-OFDM 16 QAM	1@1	25.72	27.72	0.5916
77	30	70	632334	3485.01	DFT-s-OFDM QPSK	1@1	26.47	28.47	0.7031
77	30	70	632334	3485.01	DFT-s-OFDM 16 QAM	1@1	25.44	27.44	0.5546
77	30	70	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.5	28.5	0.7079
77	30	70	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.59	27.59	0.5741
77	30	70	634332	3514.98	DFT-s-OFDM QPSK	1@1	26.57	28.57	0.7194
77	30	70	634332	3514.98	DFT-s-OFDM 16 QAM	1@1	25.67	27.67	0.5848
77	30	80	632668	3490.02	DFT-s-OFDM QPSK	1@1	26.51	28.51	0.7096
77	30	80	632668	3490.02	DFT-s-OFDM 16 QAM	1@1	25.46	27.46	0.5572
77	30	80	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.51	28.51	0.7096
77	30	80	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.46	27.46	0.5572
77	30	80	634000	3510.0	DFT-s-OFDM QPSK	1@1	26.52	28.52	0.7112
77	30	80	634000	3510.0	DFT-s-OFDM 16 QAM	1@1	25.48	27.48	0.5598
77	30	90	633000	3495.0	DFT-s-OFDM QPSK	1@1	26.53	28.53	0.7129
77	30	90	633000	3495.0	DFT-s-OFDM 16 QAM	1@1	25.52	27.52	0.5649
77	30	90	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.47	28.47	0.7031
77	30	90	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.61	27.61	0.5768
77	30	90	633666	3504.99	DFT-s-OFDM QPSK	1@1	26.56	28.56	0.7178
77	30	90	633666	3504.99	DFT-s-OFDM 16 QAM	1@1	25.47	27.47	0.5585
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	26.9	28.9	0.7762

77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.96	28.96	0.7870
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	26.79	28.79	0.7568
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	27.05	29.05	0.8035
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.94	28.94	0.7834
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	26.7	28.7	0.7413
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	25.94	27.94	0.6223
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	26.06	28.06	0.6397
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	25.89	27.89	0.6152
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	24.42	26.42	0.4385
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	24.47	26.47	0.4436
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	24.3	26.3	0.4266
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	22.45	24.45	0.2786
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	22.34	24.34	0.2716
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	22.16	24.16	0.2606
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	25.4	27.4	0.5495
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	25.5	27.5	0.5623
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	25.19	27.19	0.5236

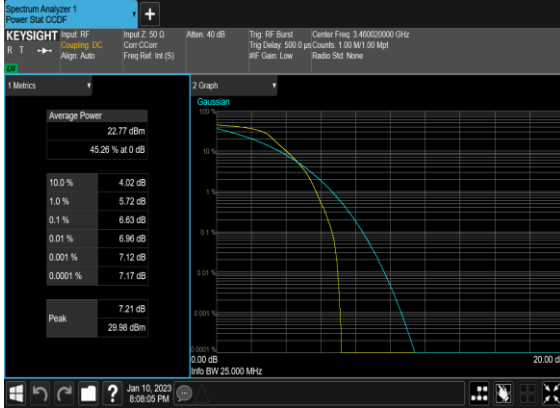
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0031	PASS	NV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0067	PASS	LV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0066	PASS	HV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0022	PASS	-30°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0048	PASS	-20°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0036	PASS	-10°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0068	PASS	0°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0042	PASS	10°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0031	PASS	20°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0057	PASS	30°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0069	PASS	40°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0033	PASS	50°C

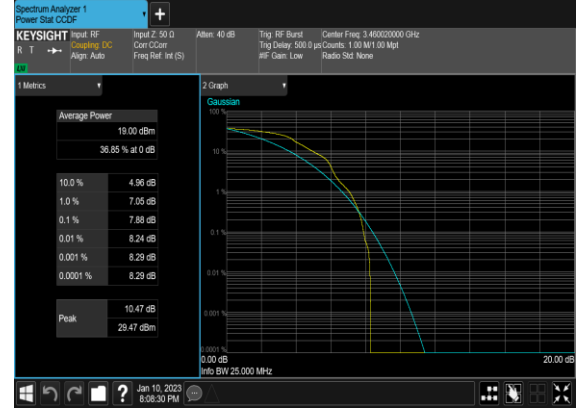
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	50@0	6.63	13	PASS
77	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	1@0	7.88	13	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	50@0	7.43	13	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	7.26	13	PASS
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@0	6.69	13	PASS
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	8.27	13	PASS
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	7.6	13	PASS
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	6.65	13	PASS
77	30	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	50@0	6.53	13	PASS
77	30	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	1@0	8.37	13	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	50@0	7.22	13	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	7.13	13	PASS

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



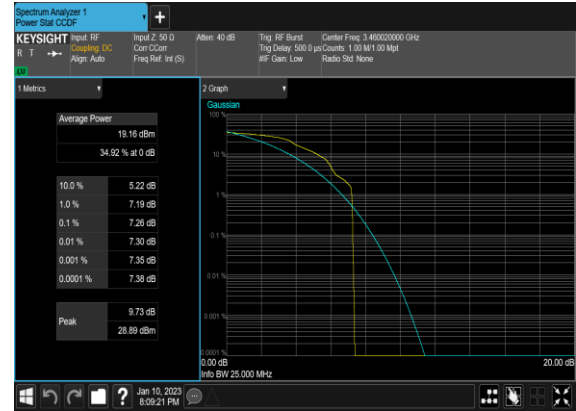
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



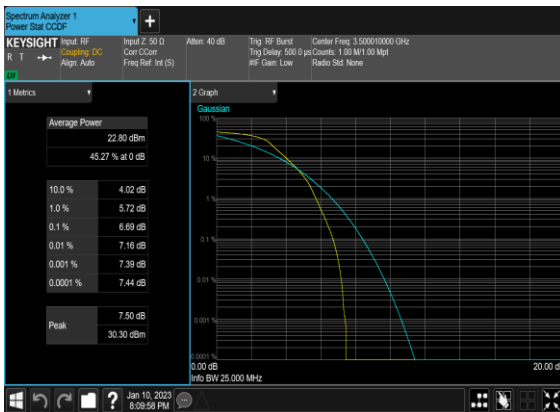
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



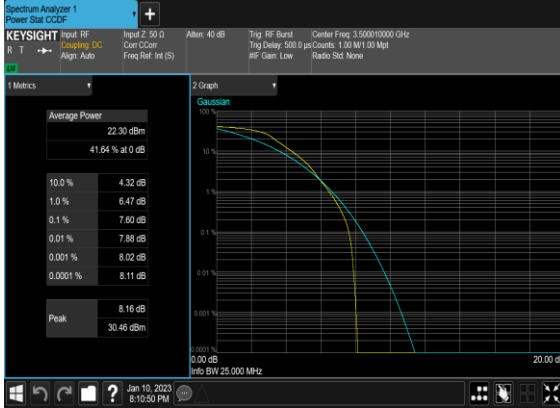
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



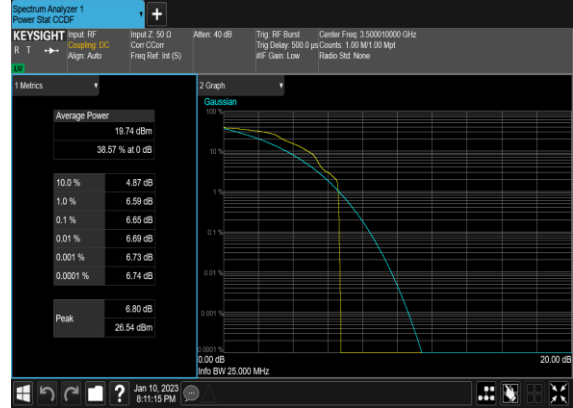
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



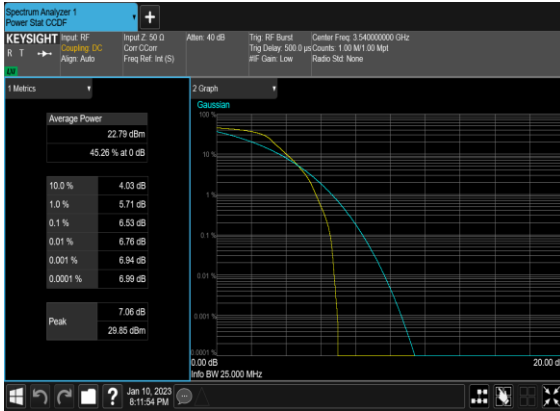
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



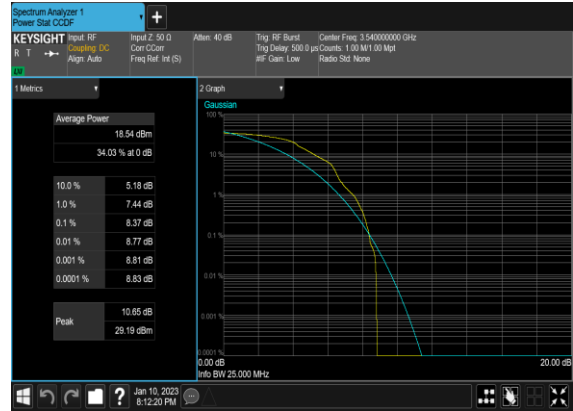
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



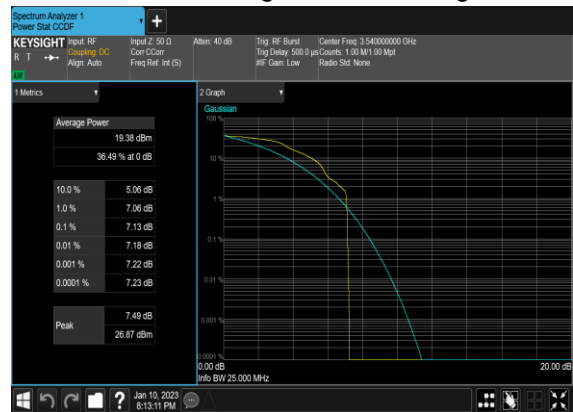
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N77(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)
77	30	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	24@0	8.5972	9.561
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	24@0	8.584	9.505
77	30	10	633334	3500.01	CP-OFDM QPSK	24@0	8.5656	9.752
77	30	10	633334	3500.01	CP-OFDM 16 QAM	24@0	8.5778	9.564
77	30	10	633334	3500.01	CP-OFDM 64 QAM	24@0	8.5843	9.484
77	30	10	633334	3500.01	CP-OFDM 256 QAM	24@0	8.584	9.251
77	30	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	36@0	12.839	13.82
77	30	15	633334	3500.01	DFT-s-OFDM QPSK	36@0	12.89	13.69
77	30	15	633334	3500.01	CP-OFDM QPSK	38@0	13.591	14.62
77	30	15	633334	3500.01	CP-OFDM 16 QAM	38@0	13.59	14.97
77	30	15	633334	3500.01	CP-OFDM 64 QAM	38@0	13.583	14.49
77	30	15	633334	3500.01	CP-OFDM 256 QAM	38@0	13.578	14.64
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@0	17.877	18.87
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	17.849	18.66
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.184	19.6
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.155	19.36
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.22	19.36
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.226	19.4
77	30	30	633334	3500.01	DFT-s-OFDM PI/2 BPSK	75@0	26.742	28.1
77	30	30	633334	3500.01	DFT-s-OFDM QPSK	75@0	26.865	27.97
77	30	30	633334	3500.01	CP-OFDM QPSK	78@0	27.739	29.03
77	30	30	633334	3500.01	CP-OFDM 16 QAM	78@0	27.752	28.93
77	30	30	633334	3500.01	CP-OFDM 64 QAM	78@0	27.761	29.1
77	30	30	633334	3500.01	CP-OFDM 256 QAM	78@0	27.815	29.18
77	30	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	100@0	35.715	37.04

77	30	40	633334	3500.01	DFT-s-OFDM QPSK	100@0	35.804	36.97
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.8	39.49
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.792	39.37
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.798	39.42
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.805	39.41
77	30	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	128@0	45.669	47.38
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	128@0	45.684	47.44
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.537	49.31
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.481	49.12
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.377	49.04
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.306	48.98
77	30	60	633334	3500.01	DFT-s-OFDM PI/2 BPSK	162@0	57.852	59.81
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	162@0	57.822	59.64
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.866	59.8
77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.698	60.27
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.932	59.95
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.909	60.09
77	30	70	633334	3500.01	DFT-s-OFDM PI/2 BPSK	180@0	64.211	66.93
77	30	70	633334	3500.01	DFT-s-OFDM QPSK	180@0	64.225	66.39
77	30	70	633334	3500.01	CP-OFDM QPSK	189@0	67.478	69.75
77	30	70	633334	3500.01	CP-OFDM 16 QAM	189@0	67.42	69.65
77	30	70	633334	3500.01	CP-OFDM 64 QAM	189@0	67.549	69.62
77	30	70	633334	3500.01	CP-OFDM 256 QAM	189@0	67.506	69.98
77	30	80	633334	3500.01	DFT-s-OFDM PI/2 BPSK	216@0	77.214	79.6
77	30	80	633334	3500.01	DFT-s-OFDM QPSK	216@0	77.18	79.55
77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.612	80.03
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.476	79.85

77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.421	80.04
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.476	79.86
77	30	90	633334	3500.01	DFT-s-OFDM PI/2 BPSK	240@0	85.442	88.54
77	30	90	633334	3500.01	DFT-s-OFDM QPSK	240@0	85.748	88.49
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.513	90.35
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.376	90.38
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.306	90.22
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.57	90.36
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	270@0	96.532	99.45
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	270@0	96.313	99.41
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.48	100.5
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.654	100.6
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.369	100.7
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.501	100.5

N77(10M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



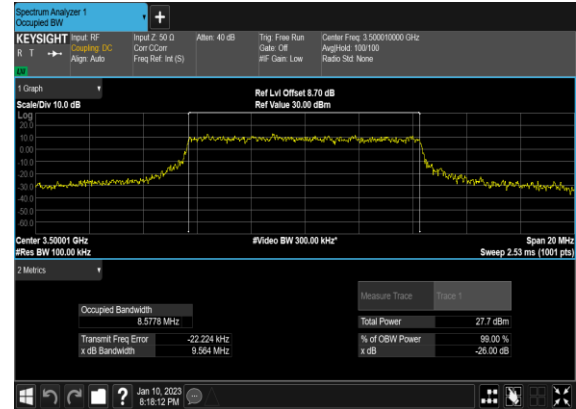
N77(10M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



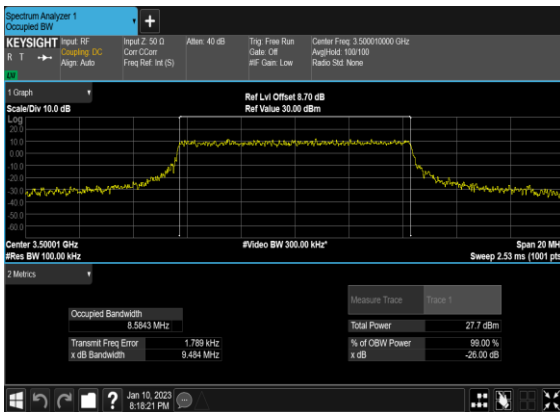
N77(10M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



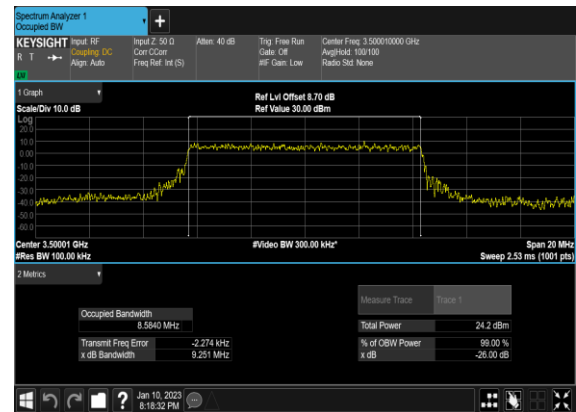
N77(10M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



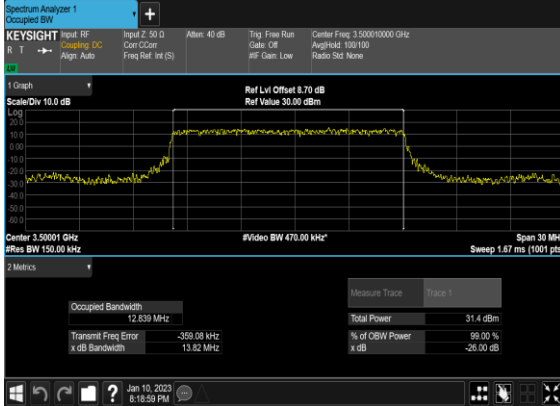
N77(10M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



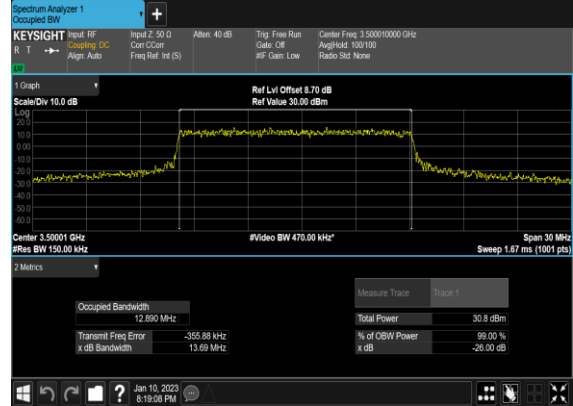
N77(10M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(15M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



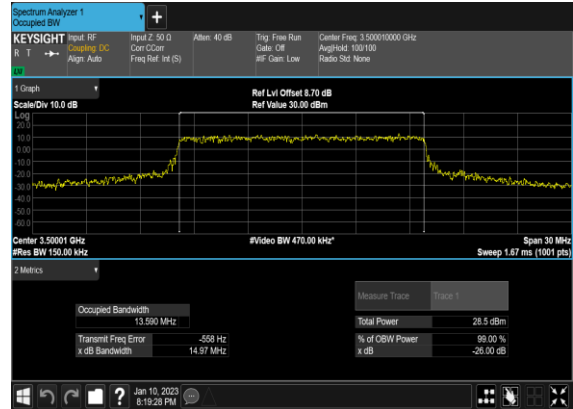
N77(15M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



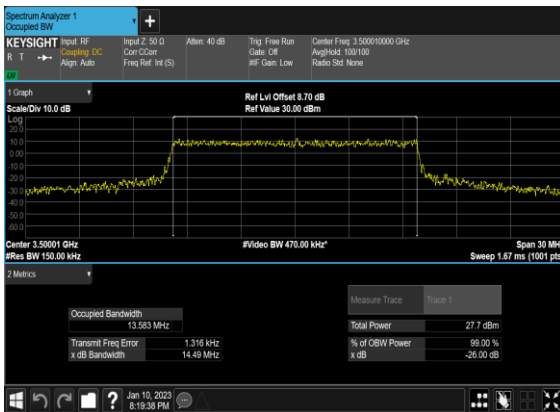
N77(15M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



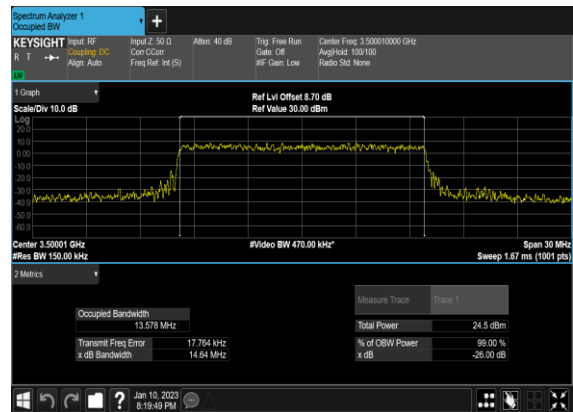
N77(15M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



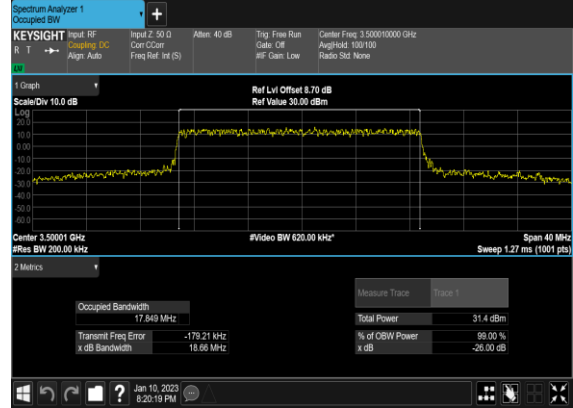
N77(15M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(20M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



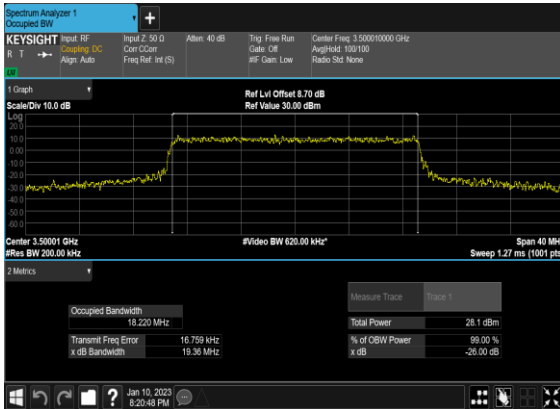
N77(20M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



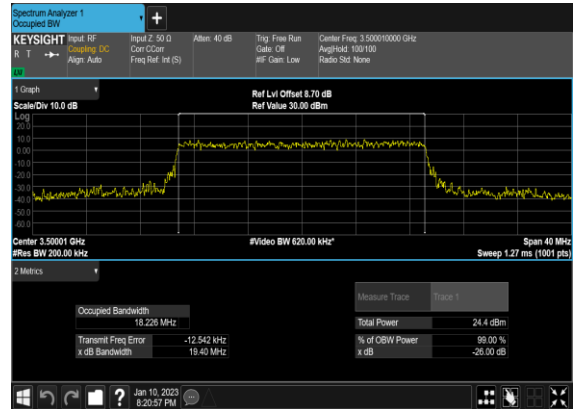
N77(20M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



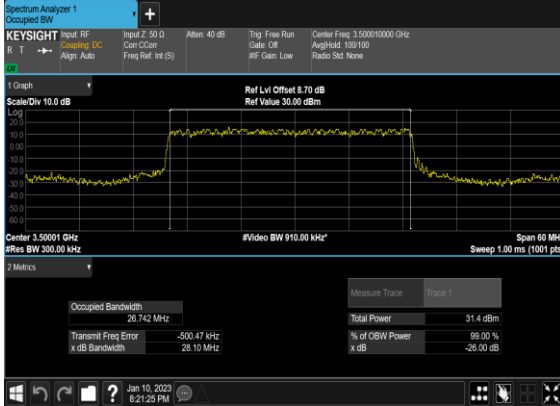
N77(20M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



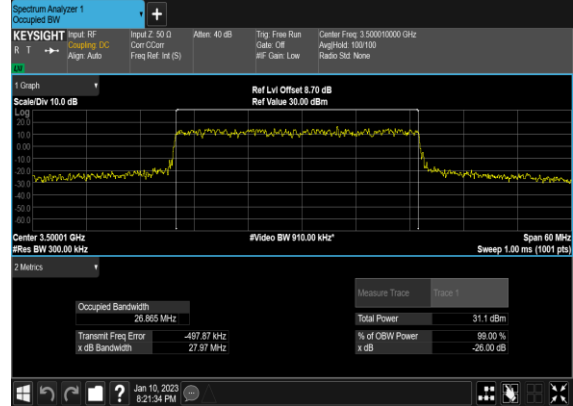
N77(20M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



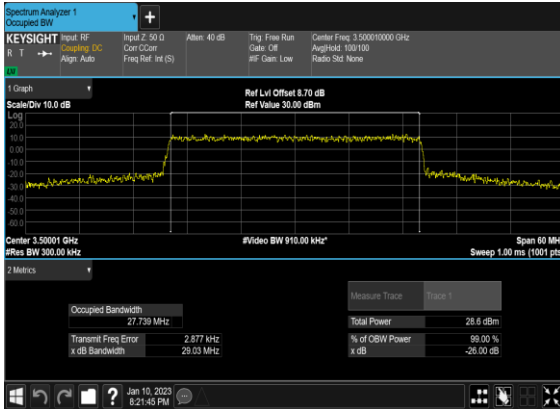
N77(30M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



N77(30M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



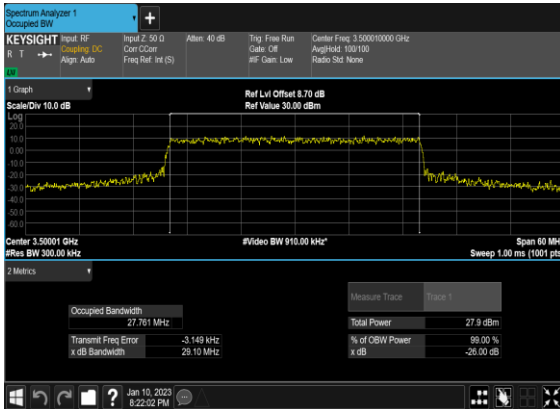
N77(30M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



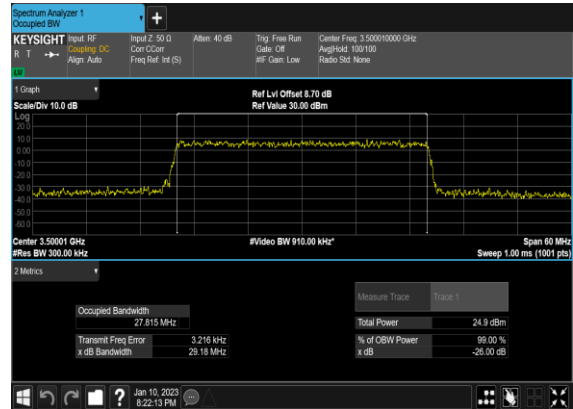
N77(30M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



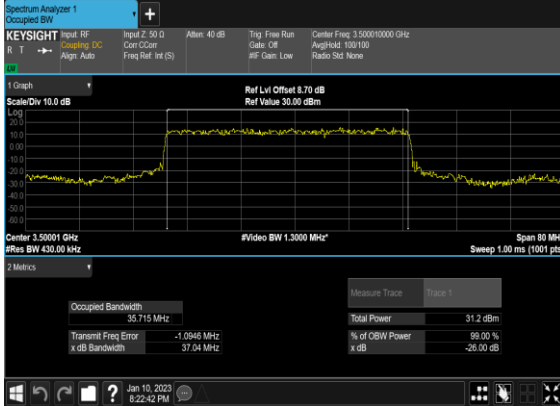
N77(30M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



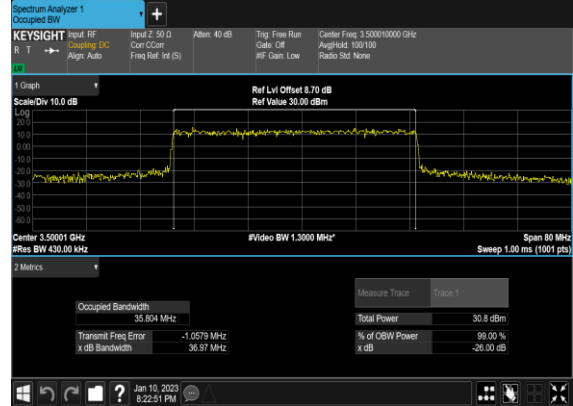
N77(30M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



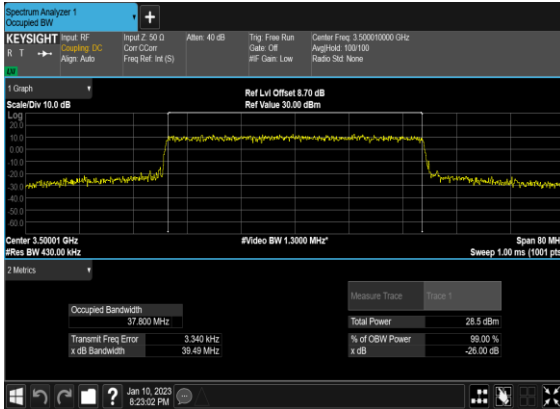
N77(40M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



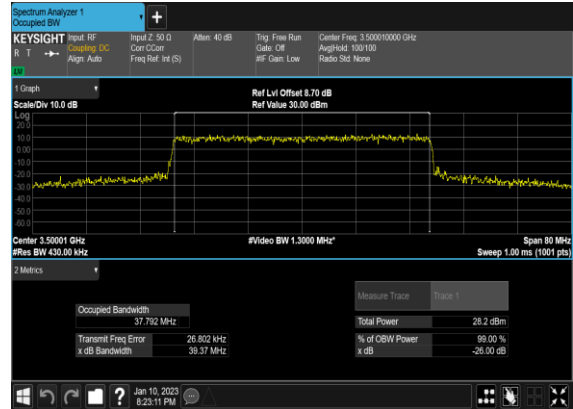
N77(40M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



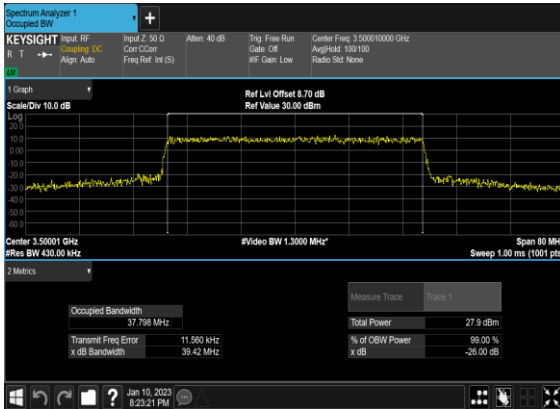
N77(40M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



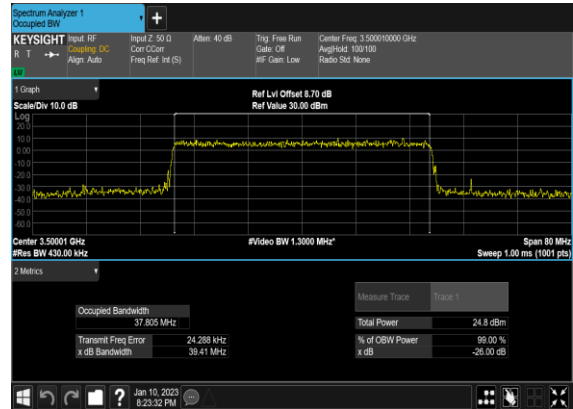
N77(40M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



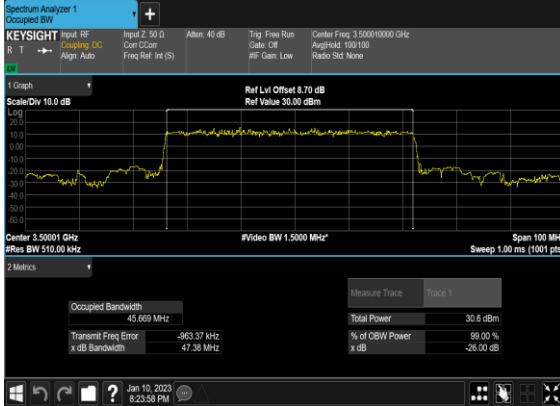
N77(40M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



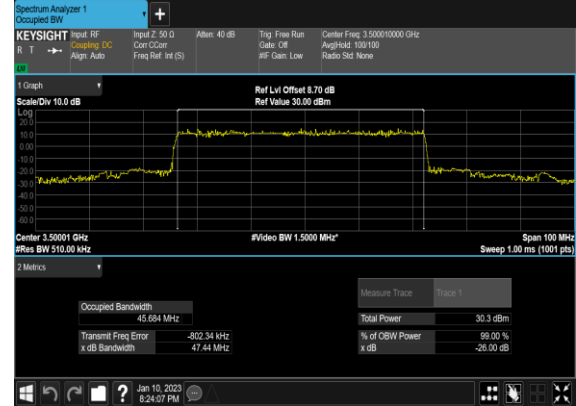
N77(40M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(50M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



N77(50M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



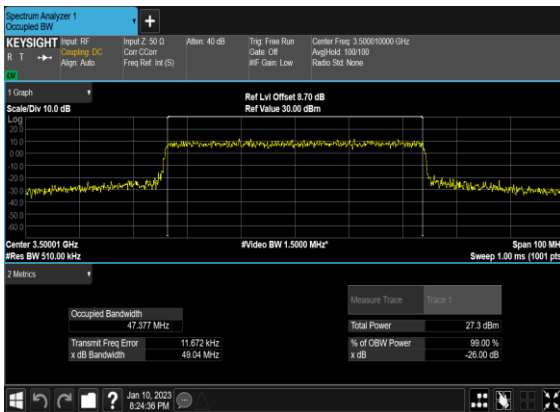
N77(50M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



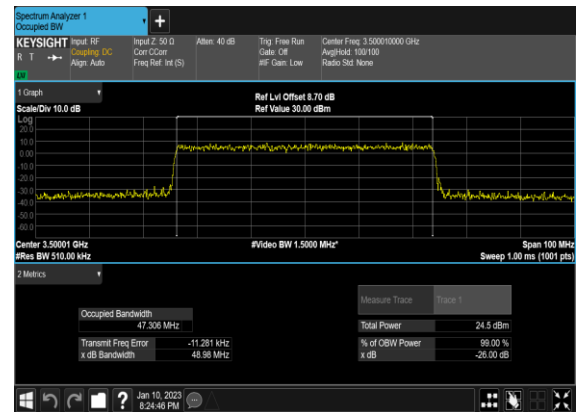
N77(50M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



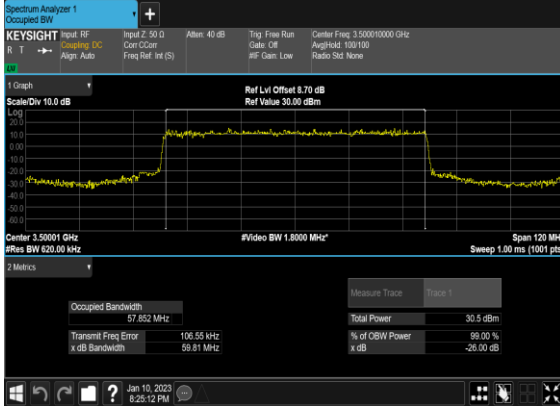
N77(50M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



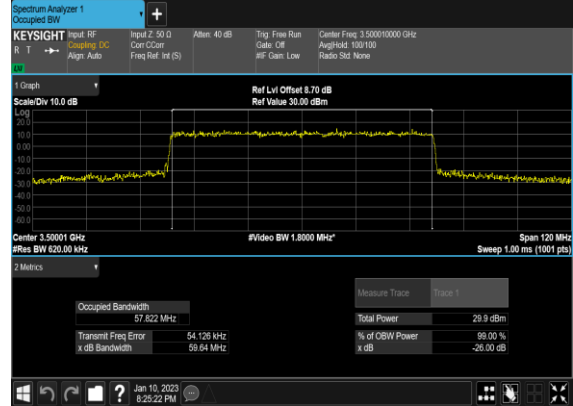
N77(50M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(60M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



N77(60M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



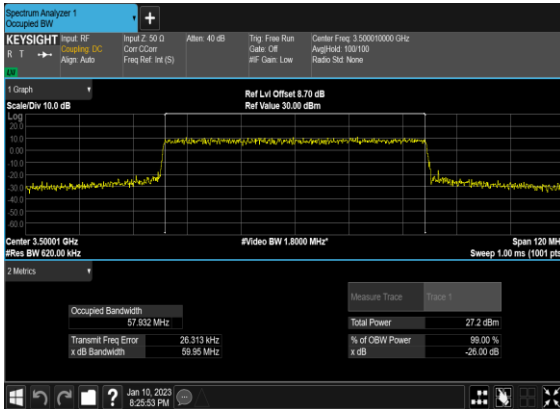
N77(60M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



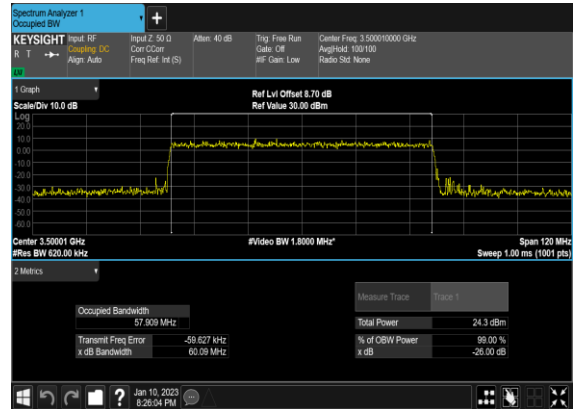
N77(60M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



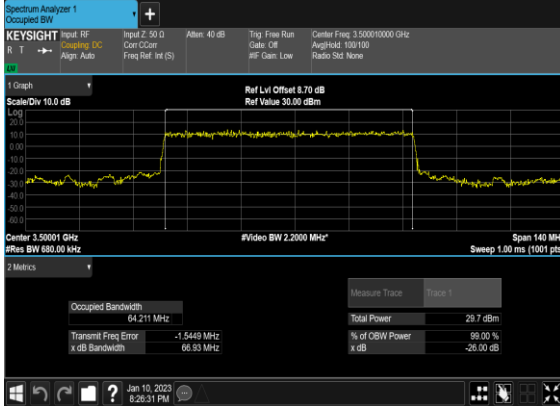
N77(60M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



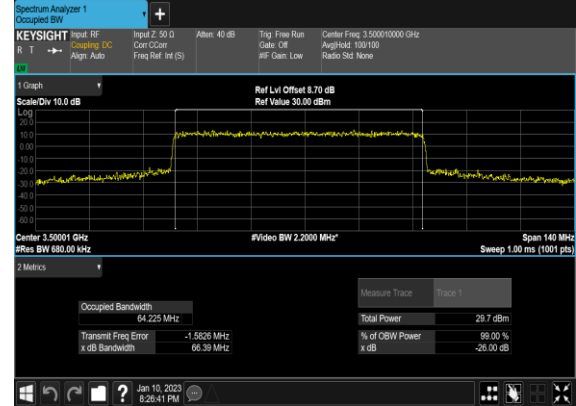
N77(60M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(70M)_DFT-s-OFDM_PI_2-
BPSK_Outer_Full_Mid_CH



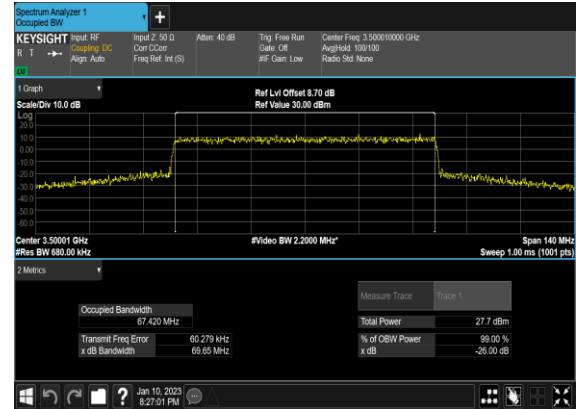
N77(70M)_DFT-s-
OFDM_QPSK_Outer_Full_Mid_CH



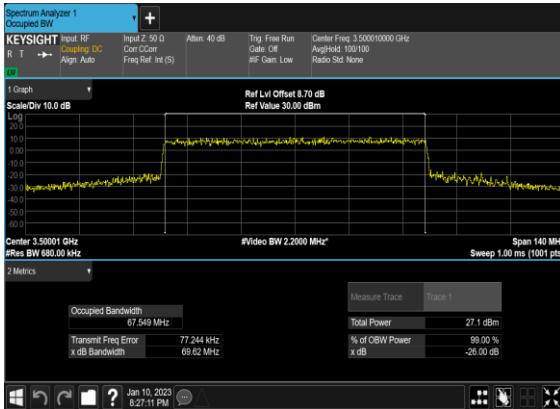
N77(70M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



N77(70M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



N77(70M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



N77(70M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH

