FCC RF Test Report

APPLICANT : **Xiaomi Communications Co., Ltd.**

EQUIPMENT : **Mobile Phone**

BRAND NAME : **Xiaomi**

MODEL NAME : **2405CPX3DG**

FCC ID : **2AFZZPX3DG**

STANDARD : **47 CFR Part 2, 27 Subpart O (3700-3980MHz)**

CLASSIFICATION : **PCS Licensed Transmitter Held to Ear (PCE)**

TEST DATE(S) : **Apr. 03, 2024 ~ Apr. 26, 2024**

We, Sporton International Inc. (KunShan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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

Jason Jia

Approved by: Jason Jia

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG440220M	Rev. 01	Initial issue of report	Jun. 04, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n77, n78)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 39.29 dB at 7583.00 MHz

Conformity Assessment Condition:
1.   The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2.   The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

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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	Xiaomi
Model Name	2405CPX3DG
FCC ID	2AFZZPX3DG
IMEI Code	Conducted : 866568070020507/866568070020515 Radiation : 866568070019426/866568070019434
HW Version	135100N8
SW Version	Xiaomi HyperOS 1.0
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	30kHz
Bandwidth	n77/n78: 10 / 15 / 20 / 25 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	**Open:** **<Ant. 1>** 5G NR n77: -3.3 dBi 5G NR n78: -3.3 dBi **<Ant. 6>** 5G NR n77: -6.0 dBi 5G NR n78: -6.0 dBi **<Ant. 7>** 5G NR n77: -0.15 dBi 5G NR n78: -0.15 dBi **<Ant. 8>** 5G NR n77: -2.5 dBi 5G NR n78: -2.5 dBi **Close:** **<Ant. 1>** 5G NR n77: -6.6 dBi 5G NR n78: -6.6 dBi

	<Ant. 6> 5G NR n77: -6.2 dBi 5G NR n78: -6.2 dBi <Ant. 7> 5G NR n77: -1.7 dBi 5G NR n78: -1.7 dBi <Ant. 8> 5G NR n77: -5.0 dBi 5G NR n78: -5.0 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP is shown in the report, 5G NR n77/n78 for Antenna 7.

2. The device supports n77(1T4R) SRS resources on Antenna 1/6/7/8, only the test data of worst Antenna 7 is showed in the report according to the maximum power.

3. 5G NR n77 support UL MIMO mode for Ant(7+6) / Ant(7+1) / Ant(7+8) / Ant(6+1) / Ant(6+8) / Ant(1+8), only the worst test data of Ant(7+1) is shown in the report.

4. 5G NR n77/n78 UL_MIMO mode only supports CP-OFDM Modulation, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.

5. For UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add $10*log(N_{ANT})$ according to KDB 662911 D01.

6. 5G NR n77 supports SA mode and n78 supports SA and NSA mode. The whole testing has assessed SA mode for n77 by referring to the higher conducted power for conducted test items.

7. The device supports HPUE mode for 5G NR n77/n78.

8. The device supports two PAs for 5G NR n78(main PA for SA mode and other PA for NSA mode), the maximum power of the other PA is higher than main PA, therefore, we chose higher power of the other PA to calculate the EIRP and show in the report.

9. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.

10. The EN-DC mode combination could be referred to the product spec.

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 SA for SCS 30kHz		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	3705.00 ~ 3975.00	0.3573	8M58G7D	0.2786	8M58W7D
15	3705.52 ~ 3972.48	0.3698	13M6G7D	0.2805	13M6W7D
20	3710.01 ~ 3969.99	0.5200	18M2G7D	0.4036	18M2W7D
25	3712.50 ~ 3967.50	0.3664	23M2G7D	0.2851	23M2W7D
30	3715.02 ~ 3964.98	0.5383	27M8G7D	0.4188	27M9W7D
40	3720.00 ~ 3960.00	0.5126	37M9G7D	0.4111	37M8W7D
50	3725.01 ~ 3954.99	0.5445	47M5G7D	0.4227	47M6W7D
60	3730.02 ~ 3949.98	0.5236	57M9G7D	0.4046	57M8W7D
70	3735.00 ~ 3945.00	0.5358	67M6G7D	0.4169	67M4W7D
80	3740.01 ~ 3939.99	0.5358	77M5G7D	0.4236	77M5W7D
90	3745.02 ~ 3934.98	0.5470	87M5G7D	0.5445	87M6W7D
100	3750.00 ~ 3930.00	0.5781	97M5G7D	0.4624	97M7W7D

EN DC_26A-n78A 30kHz		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	3705.00 ~ 3795.00	0.4519	8M59G7D	0.3565	8M59W7D
15	3707.52 ~ 3792.48	0.4550	13M6G7D	0.3631	13M6W7D
20	3710.01 ~ 3789.99	0.4645	18M2G7D	0.3715	18M2W7D
25	3712.50 ~ 3787.50	0.5105	23M2G7D	0.4018	23M3W7D
30	3715.02 ~ 3784.98	0.5023	27M9G7D	0.4055	27M9W7D
40	3720.00 ~ 3780.00	0.4887	37M9G7D	0.3945	38M0W7D
50	3725.01 ~ 3774.99	0.4977	47M6G7D	0.3999	47M6W7D
60	3730.02 ~ 3769.98	0.4864	57M9G7D	0.3864	58M0W7D
70	3735.00 ~ 3765.00	0.5297	67M6G7D	0.4898	67M5W7D
80	3740.01 ~ 3759.99	0.5236	77M6G7D	0.4102	77M6W7D
90	3745.02 ~ 3754.98	0.5248	87M5G7D	0.4256	87M6W7D
100	3750.00 ~ 3750.00	0.5420	97M6G7D	0.4365	97M5W7D

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5G NR n77 UL MIMO for SCS 30kHz		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.3843	8M58G7D	0.3417	8M58W7D
15	3705.52 ~ 3972.48	0.3832	13M6G7D	0.3301	13M6W7D
20	3710.01 ~ 3969.99	0.3882	18M2G7D	0.3270	18M3W7D
25	3712.50 ~ 3967.50	0.3953	23M2G7D	0.3465	23M3W7D
30	3715.02 ~ 3964.98	0.3664	27M8G7D	0.3136	27M9W7D
40	3720.00 ~ 3960.00	0.3571	37M8G7D	0.3044	37M9W7D
50	3725.01 ~ 3954.99	0.3793	47M5G7D	0.3217	47M6W7D
60	3730.02 ~ 3949.98	0.3631	57M8G7D	0.3095	58M0W7D
70	3735.00 ~ 3945.00	0.3771	67M5G7D	0.3122	67M6W7D
80	3740.01 ~ 3939.99	0.3795	77M5G7D	0.3133	77M7W7D
90	3745.02 ~ 3934.98	0.4186	87M5G7D	0.3621	87M5W7D
100	3750.00 ~ 3930.00	0.4332	97M3G7D	0.4270	97M7W7D

5G NR n78 UL MIMO for SCS 30kHz		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3795.00	0.3108	8M58G7D	0.2906	8M58W7D
15	3707.52 ~ 3792.48	0.3285	13M6G7D	0.3113	13M6W7D
20	3710.01 ~ 3789.99	0.3270	18M2G7D	0.2942	18M3W7D
25	3712.50 ~ 3787.50	0.3171	23M2G7D	0.3152	23M3W7D
30	3715.02 ~ 3784.98	0.3233	27M8G7D	0.2861	27M9W7D
40	3720.00 ~ 3780.00	0.3267	37M8G7D	0.2798	37M9W7D
50	3725.01 ~ 3774.99	0.3453	47M5G7D	0.3222	47M6W7D
60	3730.02 ~ 3769.98	0.3285	57M8G7D	0.3278	58M0W7D
70	3735.00 ~ 3765.00	0.3539	67M5G7D	0.3256	67M6W7D
80	3740.01 ~ 3759.99	0.3488	77M5G7D	0.3282	77M7W7D
90	3745.02 ~ 3754.98	0.3388	87M5G7D	0.3339	87M5W7D
100	3750.00 ~ 3750.00	0.3508	97M3G7D	0.3263	97M7W7D

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78.

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

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1.7 Testing Location

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

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

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	03CH04-KS	AUDIX	E3	210616

1.9 Applicable Standards

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

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

Remark:

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

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2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.
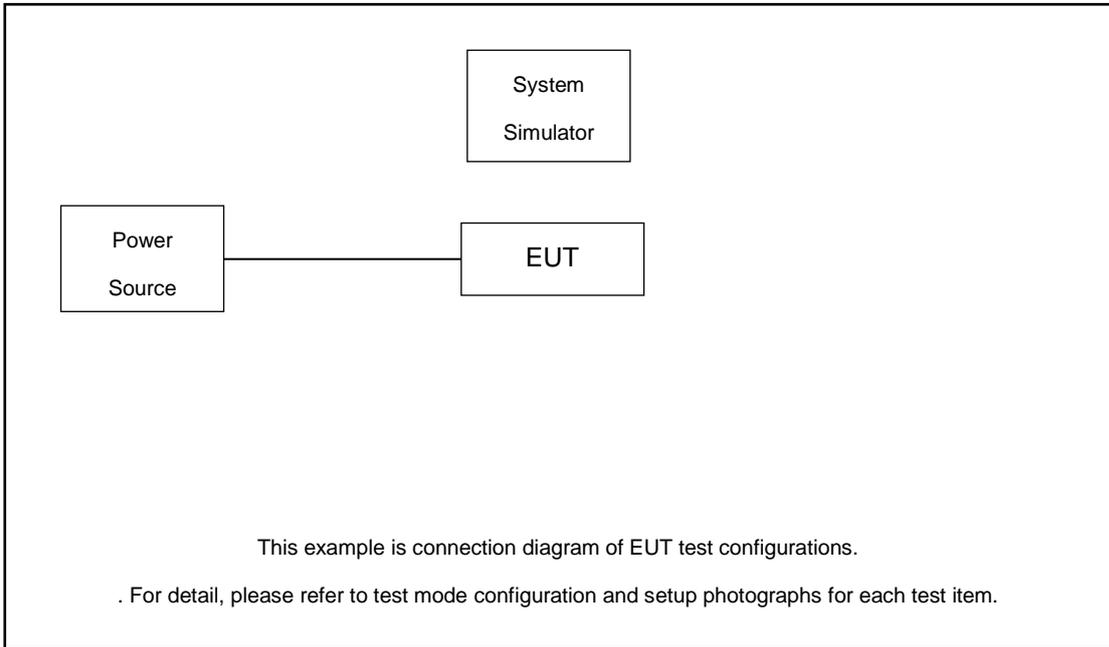
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

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.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane

Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #			Test Channel		
		10	15	20	25	30	40	50	60	70~90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Partial	Full	L	M	H
Max. Output Power	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77			v								v	v				v		v		v	
26dB and 99% Bandwidth	n77	v	v	v	v	v	v	v	v	v	v		v	v	v	v			v		v	
Conducted Band Edge	n77	v						v		v		v	v				v		v	v		v
Conducted Spurious Emission	n77	v						v		v		v	v				v				v	v	v
Frequency Stability	n77										v		v						v	v	
E.I.R.P	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n77	Worst Case																			v	
	n78	Worst Case																			v	
Note	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. Frequency Stability : Normal Voltage = 3.86V; Low Voltage =3.6V; High Voltage =4.3V.																					

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2.2 Connection Diagram of Test System

This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration 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

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 6.5 dB and 20dB attenuator.

Example :

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

$\quad\quad$ = 6.5 + 20 = 26.5 (dB)

2.5 Frequency List of Low/Middle/High Channels

BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
5G n77 (30kHz) Channel and Frequency List				
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
25	Channel	647500	656000	664500
	Frequency	3712.5	3840	3967.5
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
15	Channel	647168	656000	664832
	Frequency	3707.52	3840	3972.48
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975

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| 5G n78(30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel		650000	
	Frequency		3750	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
25	Channel	647500	650000	652500
	Frequency	3712.5	3750	3787.5
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99
15	Channel	647168	650000	652832
	Frequency	3707.52	3750	3792.48
10	Channel	647000	650000	653000
	Frequency	3705	3750	3795

3   Conducted Test Items
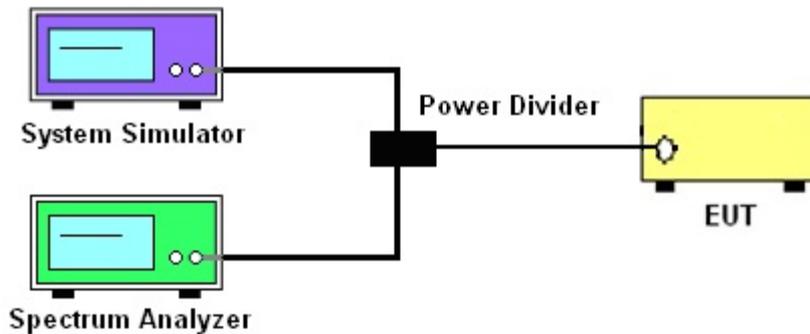
3.1 Measuring Instruments

See list of measuring instruments of this test report.
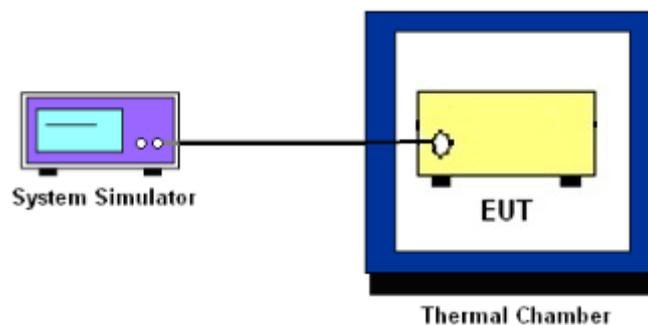
3.2 Test Setup

3.2.1   Conducted Output Power
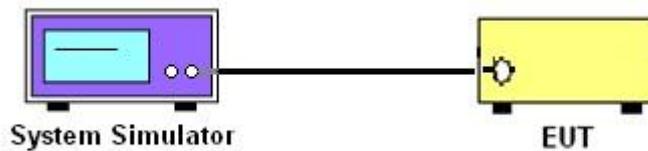
3.2.2   Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission

3.2.3   Frequency Stability

3.3 Test Result of Conducted Test

Please refer to Appendix A.

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3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP 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.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n77, n78.

According to KDB 412172 D01 Power Approach,

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

3.4.2 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 Occupied Bandwidth

3.6.1   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.

3.6.2   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.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53(l)(2)

For mobile operations in the 3700-3980 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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 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.

3.7.2 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 >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used or a narrower RBW was used (generally limited to no less than 1% of the OBW) and the measured power was integrated over the full required measurement bandwidth.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   Example:
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

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3.8 Conducted Spurious Emission

3.8.1   Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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

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 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. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

    = P(W)- [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

3.9 Frequency Stability

3.9.1 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.

3.9.2 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.

3.9.3 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±5°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.

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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
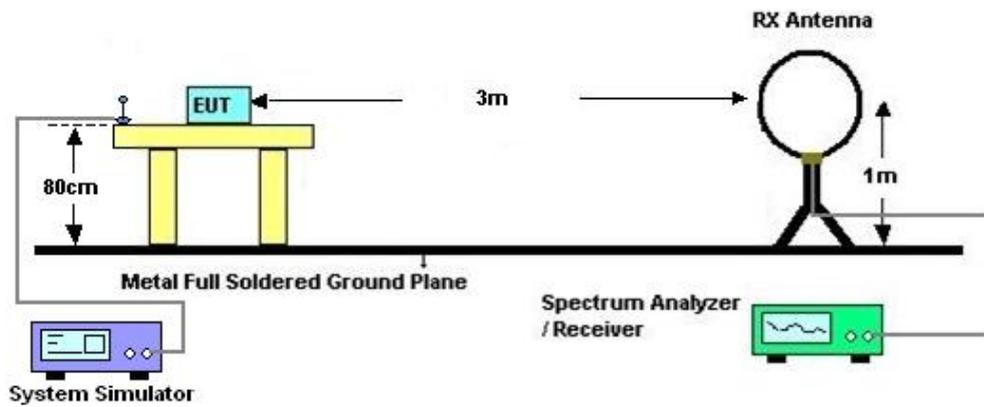
4.2.2   For radiated test from 30MHz to 1GHz
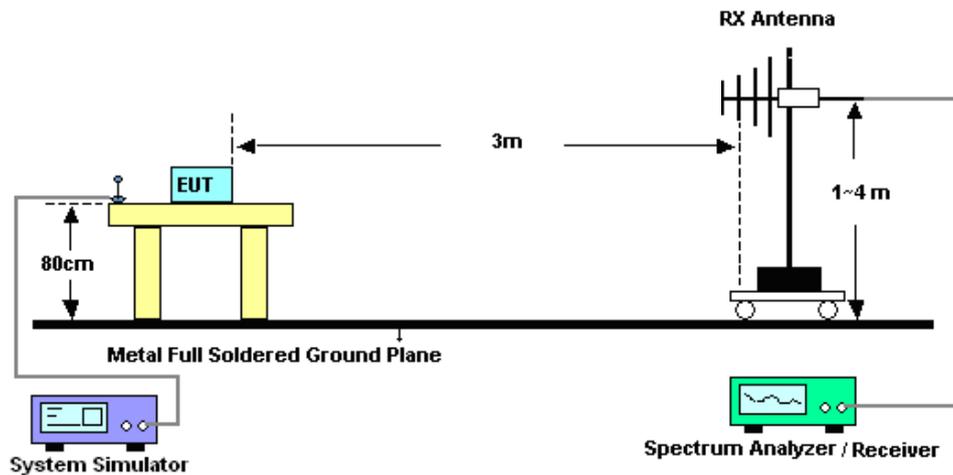
4.2.3 For radiated test above 1GHz
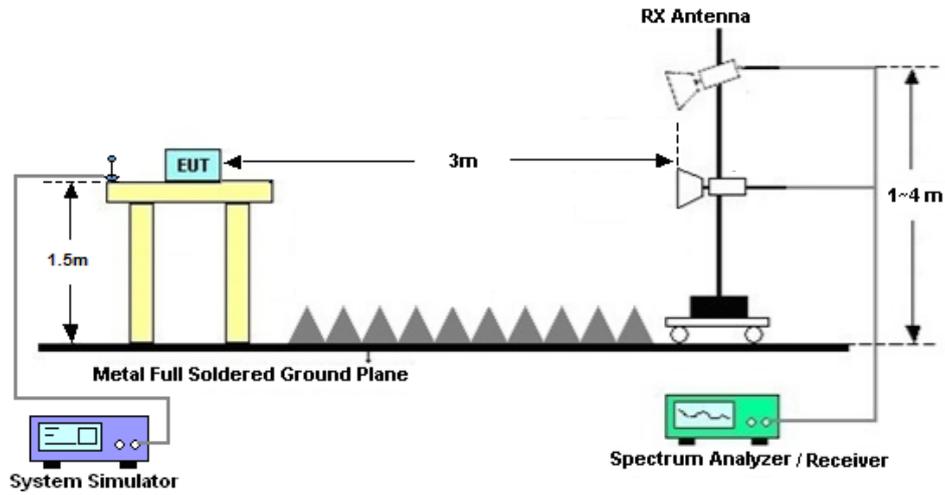
4.3 Test Result of Radiated Test

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.

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4.4 Radiated Spurious Emission

4.4.1   Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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

     The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

     = P(W)- [43 + 10log(P)] (dB)

     = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

     = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Apr. 03, 2024~ Apr. 26, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Apr. 03, 2024~ Apr. 26, 2024	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 06, 2023	Apr. 03, 2024~ Apr. 26, 2024	Jul. 05, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Apr. 14, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Apr. 14, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 19, 2023	Apr. 14, 2024	Aug. 18, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00251694	1GHz~18GHz	Jul. 12, 2023	Apr. 14, 2024	Jul. 11, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Apr. 14, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Apr. 14, 2024	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2024	Apr. 14, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz-18Ghz	Oct. 10, 2023	Apr. 14, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Apr. 14, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Apr. 14, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Apr. 14, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Apr. 14, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

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6 Measurement Uncertainty

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

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.46 dB
Peak to Average Ratio	±0.46 dB
Frequency Stability	±0.4 Hz

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

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

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

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

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

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

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

FR1 N77(ANT7)

Transmitter Conducted Output Power And EIRP, $(G_T - L_C)$=-0.15dB

NR Band	SCS	Band Width	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP(dBm)	EIRP(W)
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@1	27.14	26.99	0.5000
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	27.11	26.96	0.4966
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	26.21	26.06	0.4036
77	30	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.31	27.16	0.5200
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	27.17	27.02	0.5035
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.16	26.01	0.3990
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@1	27.01	26.86	0.4853
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	26.84	26.69	0.4667
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	25.81	25.66	0.3681
77	30	30	647668	3715.02	DFT-s-OFDM PI/2 BPSK	1@1	27.3	27.15	0.5188
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	27.25	27.1	0.5129
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	26.37	26.22	0.4188
77	30	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.46	27.31	0.5383
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	27.31	27.16	0.5200
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.33	26.18	0.4150
77	30	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@1	27.07	26.92	0.4920
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	27.04	26.89	0.4887
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	25.92	25.77	0.3776
77	30	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@1	27.2	27.05	0.5070
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	27.14	26.99	0.5000
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	26.29	26.14	0.4111
77	30	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.25	27.1	0.5129
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	27.19	27.04	0.5058
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.2	26.05	0.4027
77	30	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@1	27.1	26.95	0.4955
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	26.95	26.8	0.4786
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	25.91	25.76	0.3767
77	30	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	27.4	27.25	0.5309
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	27.32	27.17	0.5212
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	26.4	26.25	0.4217
77	30	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.51	27.36	0.5445
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@1	27.47	27.32	0.5395
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.41	26.26	0.4227
77	30	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	27.17	27.02	0.5035
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	26.97	26.82	0.4808
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	26.03	25.88	0.3873
77	30	60	648668	3730.02	DFT-s-OFDM PI/2 BPSK	1@1	27.1	26.95	0.4955
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	27.09	26.94	0.4943
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	26.18	26.03	0.4009
77	30	60	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.34	27.19	0.5236

77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	27.3	27.15	0.5188
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.22	26.07	0.4046
77	30	60	663332	3949.98	DFT-s-OFDM PI/2 BPSK	1@1	27.04	26.89	0.4887
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	27.03	26.88	0.4875
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	25.95	25.8	0.3802
77	30	70	649000	3735	DFT-s-OFDM PI/2 BPSK	1@1	27.39	27.24	0.5297
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@1	27.24	27.09	0.5117
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@1	26.28	26.13	0.4102
77	30	70	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.44	27.29	0.5358
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@1	27.4	27.25	0.5309
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.35	26.2	0.4169
77	30	70	663000	3945	DFT-s-OFDM PI/2 BPSK	1@1	27.16	27.01	0.5023
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@1	27.2	27.05	0.5070
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@1	26.13	25.98	0.3963
77	30	80	649334	3740.01	DFT-s-OFDM PI/2 BPSK	1@1	27.27	27.12	0.5152
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	27.22	27.07	0.5093
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	26.26	26.11	0.4083
77	30	80	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.44	27.29	0.5358
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	27.39	27.24	0.5297
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.42	26.27	0.4236
77	30	80	662666	3939.99	DFT-s-OFDM PI/2 BPSK	1@1	27.11	26.96	0.4966
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	27.02	26.87	0.4864
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	25.99	25.84	0.3837
77	30	90	649668	3745.02	DFT-s-OFDM PI/2 BPSK	1@1	27.5	27.35	0.5433
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@1	27.44	27.29	0.5358
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@1	27.51	27.36	0.5445
77	30	90	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.53	27.38	0.5470
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@1	27.46	27.31	0.5383
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.46	26.31	0.4276
77	30	90	662332	3934.98	DFT-s-OFDM PI/2 BPSK	1@1	27.21	27.06	0.5082
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@1	27.05	26.9	0.4898
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@1	26.05	25.9	0.3890
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	27.22	27.07	0.5093
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	27.7	27.55	0.5689
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	27.74	27.59	0.5741
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	27.16	27.01	0.5023
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	27.72	27.57	0.5715
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	27.77	27.62	0.5781
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	26.28	26.13	0.4102
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	26.74	26.59	0.4560
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	26.8	26.65	0.4624
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	24.81	24.66	0.2924
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	25	24.85	0.3055
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	25.07	24.92	0.3105
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	22.77	22.62	0.1828
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	23.05	22.9	0.1950
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	23.17	23.02	0.2004
77	30	100	650000	3750	CP-OFDM QPSK	137@68	25.59	25.44	0.3499

77	30	100	650000	3750	CP-OFDM QPSK	1@1	26.39	26.24	0.4207
77	30	100	650000	3750	CP-OFDM QPSK	1@271	26.48	26.33	0.4295
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	27.29	27.14	0.5176
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	27.62	27.47	0.5585
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	27.35	27.2	0.5248
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	27.29	27.14	0.5176
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	27.62	27.47	0.5585
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	27.34	27.19	0.5236
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	26.24	26.09	0.4064
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	26.55	26.4	0.4365
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	26.29	26.14	0.4111
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	24.85	24.7	0.2951
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	24.79	24.64	0.2911
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	24.48	24.33	0.2710
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	22.84	22.69	0.1858
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	22.92	22.77	0.1892
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	22.65	22.5	0.1778
77	30	100	656000	3840	CP-OFDM QPSK	137@68	25.64	25.49	0.3540
77	30	100	656000	3840	CP-OFDM QPSK	1@1	26.1	25.95	0.3936
77	30	100	656000	3840	CP-OFDM QPSK	1@271	25.97	25.82	0.3819
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	27.22	27.07	0.5093
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	27.27	27.12	0.5152
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	27.38	27.23	0.5284
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	27.18	27.03	0.5047
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	27.33	27.18	0.5224
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	27.39	27.24	0.5297
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	26.17	26.02	0.3999
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	26.15	26	0.3981
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	26.28	26.13	0.4102
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	24.69	24.54	0.2844
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	24.53	24.38	0.2742
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	24.57	24.42	0.2767
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	22.68	22.53	0.1791
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	22.63	22.48	0.1770
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	22.7	22.55	0.1799
77	30	100	662000	3930	CP-OFDM QPSK	137@68	25.5	25.35	0.3428
77	30	100	662000	3930	CP-OFDM QPSK	1@1	25.85	25.7	0.3715
77	30	100	662000	3930	CP-OFDM QPSK	1@271	25.92	25.77	0.3776
77	30	10	647000	3705	DFT-s-OFDM PI/2 BPSK	1@1	22.41	22.26	0.1683
77	30	10	647000	3705	DFT-s-OFDM QPSK	1@1	25.64	25.49	0.3540
77	30	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	24.52	24.37	0.2735
77	30	10	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.67	25.52	0.3565
77	30	10	656000	3840	DFT-s-OFDM QPSK	1@1	25.68	25.53	0.3573
77	30	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.6	24.45	0.2786
77	30	10	665000	3975	DFT-s-OFDM PI/2 BPSK	1@1	25.58	25.43	0.3491
77	30	10	665000	3975	DFT-s-OFDM QPSK	1@1	25.58	25.43	0.3491
77	30	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	24.54	24.39	0.2748
77	30	15	647168	3707.52	DFT-s-OFDM PI/2 BPSK	1@1	25.55	25.4	0.3467

77	30	15	647168	3707.52	DFT-s-OFDM QPSK	1@1	25.49	25.34	0.3420
77	30	15	647168	3707.52	DFT-s-OFDM 16 QAM	1@1	24.51	24.36	0.2729
77	30	15	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.83	25.68	0.3698
77	30	15	656000	3840	DFT-s-OFDM QPSK	1@1	25.77	25.62	0.3648
77	30	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.63	24.48	0.2805
77	30	15	664832	3972.48	DFT-s-OFDM PI/2 BPSK	1@1	25.51	25.36	0.3436
77	30	15	664832	3972.48	DFT-s-OFDM QPSK	1@1	25.39	25.24	0.3342
77	30	15	664832	3972.48	DFT-s-OFDM 16 QAM	1@1	24.42	24.27	0.2673
77	30	25	647500	3712.5	DFT-s-OFDM PI/2 BPSK	1@1	25.6	25.45	0.3508
77	30	25	647500	3712.5	DFT-s-OFDM QPSK	1@1	25.45	25.3	0.3388
77	30	25	647500	3712.5	DFT-s-OFDM 16 QAM	1@1	24.46	24.31	0.2698
77	30	25	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.79	25.64	0.3664
77	30	25	656000	3840	DFT-s-OFDM QPSK	1@1	25.73	25.58	0.3614
77	30	25	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.7	24.55	0.2851
77	30	25	664500	3967.5	DFT-s-OFDM PI/2 BPSK	1@1	25.63	25.48	0.3532
77	30	25	664500	3967.5	DFT-s-OFDM QPSK	1@1	25.51	25.36	0.3436
77	30	25	664500	3967.5	DFT-s-OFDM 16 QAM	1@1	24.47	24.32	0.2704

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00242	**PASS**	NV
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	-0.00301	**PASS**	LV
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00347	**PASS**	HV
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00216	**PASS**	-30℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00101	**PASS**	-20℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00310	**PASS**	-10℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00123	**PASS**	0℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00219	**PASS**	10℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	-0.00206	**PASS**	20℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00332	**PASS**	30℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00345	**PASS**	40℃
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	270@0	0.00356	**PASS**	50℃

Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	3.73	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	1@0	3.95	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	4.41	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	4.68	13	**PASS**

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

Average Power	25.53 dBm
	48.25 % at 0 dB
10.0 %	1.91 dB
1.0 %	3.34 dB
0.1 %	3.73 dB
0.01 %	3.89 dB
0.001 %	4.00 dB
0.0001 %	4.15 dB
Peak	4.15 dB
	29.68 dBm

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

Average Power	22.66 dBm
	48.94 % at 0 dB
10.0 %	2.24 dB
1.0 %	3.67 dB
0.1 %	3.95 dB
0.01 %	4.07 dB
0.001 %	4.17 dB
0.0001 %	4.19 dB
Peak	4.20 dB
	26.86 dBm

N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

Average Power	24.98 dBm
	48.12 % at 0 dB
10.0 %	2.38 dB
1.0 %	4.03 dB
0.1 %	4.41 dB
0.01 %	4.60 dB
0.001 %	4.82 dB
0.0001 %	4.87 dB
Peak	4.87 dB
	29.85 dBm

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

Average Power	22.62 dBm
	47.86 % at 0 dB
10.0 %	2.41 dB
1.0 %	4.38 dB
0.1 %	4.68 dB
0.01 %	4.70 dB
0.001 %	4.72 dB
0.0001 %	4.73 dB
Peak	4.73 dB
	27.35 dBm

Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.17	19.51
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.208	19.65
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.121	18.92
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.223	20.15
77	30	30	656000	3840.0	CP-OFDM QPSK	78@0	27.823	29.41
77	30	30	656000	3840.0	CP-OFDM 16 QAM	78@0	27.888	29.16
77	30	30	656000	3840.0	CP-OFDM 64 QAM	78@0	27.908	29.0
77	30	30	656000	3840.0	CP-OFDM 256 QAM	78@0	27.895	29.12
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.858	39.71
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.795	39.44
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.771	39.27
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.844	39.74
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.458	49.34
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.571	48.99
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.471	48.96
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.496	49.15
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.933	59.81
77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.758	60.09
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.795	59.85
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.762	59.73
77	30	70	656000	3840.0	CP-OFDM QPSK	189@0	67.55	69.95
77	30	70	656000	3840.0	CP-OFDM 16 QAM	189@0	67.374	69.9
77	30	70	656000	3840.0	CP-OFDM 64 QAM	189@0	67.406	69.93
77	30	70	656000	3840.0	CP-OFDM 256 QAM	189@0	67.23	69.74
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.523	80.2
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.527	80.26

77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.5	80.26
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.486	79.78
77	30	90	656000	3840.0	CP-OFDM QPSK	245@0	87.484	90.24
77	30	90	656000	3840.0	CP-OFDM 16 QAM	245@0	87.527	90.46
77	30	90	656000	3840.0	CP-OFDM 64 QAM	245@0	87.447	90.44
77	30	90	656000	3840.0	CP-OFDM 256 QAM	245@0	87.564	90.28
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.519	100.4
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.413	100.4
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.501	100.5
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.666	100.4
77	30	10	656000	3840.0	CP-OFDM QPSK	24@0	8.5808	9.606
77	30	10	656000	3840.0	CP-OFDM 16 QAM	24@0	8.577	9.858
77	30	10	656000	3840.0	CP-OFDM 64 QAM	24@0	8.5814	9.444
77	30	10	656000	3840.0	CP-OFDM 256 QAM	24@0	8.571	9.604
77	30	15	656000	3840.0	CP-OFDM QPSK	38@0	13.582	14.45
77	30	15	656000	3840.0	CP-OFDM 16 QAM	38@0	13.61	14.74
77	30	15	656000	3840.0	CP-OFDM 64 QAM	38@0	13.578	14.66
77	30	15	656000	3840.0	CP-OFDM 256 QAM	38@0	13.555	14.61
77	30	25	656000	3840.0	CP-OFDM QPSK	65@0	23.204	24.48
77	30	25	656000	3840.0	CP-OFDM 16 QAM	65@0	23.219	24.7
77	30	25	656000	3840.0	CP-OFDM 64 QAM	65@0	23.212	24.67
77	30	25	656000	3840.0	CP-OFDM 256 QAM	65@0	23.233	24.64

N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

Occupied Bandwidth: 18.170 MHz
Total Power: 28.8 dBm
Transmit Freq Error: -1.779 kHz
x dB Bandwidth: 19.51 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Occupied Bandwidth: 18.208 MHz
Total Power: 28.6 dBm
Transmit Freq Error: -5.037 kHz
x dB Bandwidth: 19.65 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

Occupied Bandwidth: 18.121 MHz
Total Power: 27.1 dBm
Transmit Freq Error: -3.391 kHz
x dB Bandwidth: 18.92 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

Occupied Bandwidth: 18.223 MHz
Total Power: 23.8 dBm
Transmit Freq Error: 6.957 kHz
x dB Bandwidth: 20.15 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

Occupied Bandwidth: 27.823 MHz
Total Power: 28.4 dBm
Transmit Freq Error: -13.314 kHz
x dB Bandwidth: 29.41 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Occupied Bandwidth: 27.888 MHz
Total Power: 28.5 dBm
Transmit Freq Error: 22.062 kHz
x dB Bandwidth: 29.16 MHz
% of OBW Power: 99.00 %
x dB: -26.00 dB

N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH
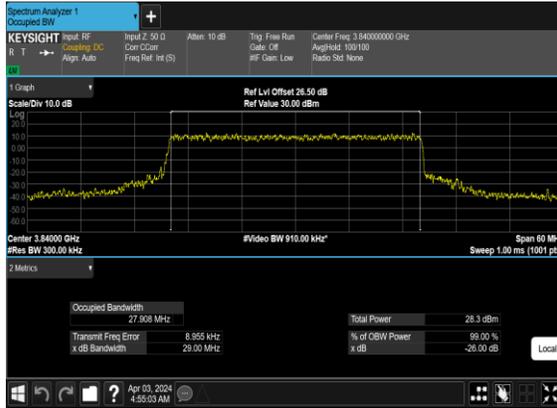
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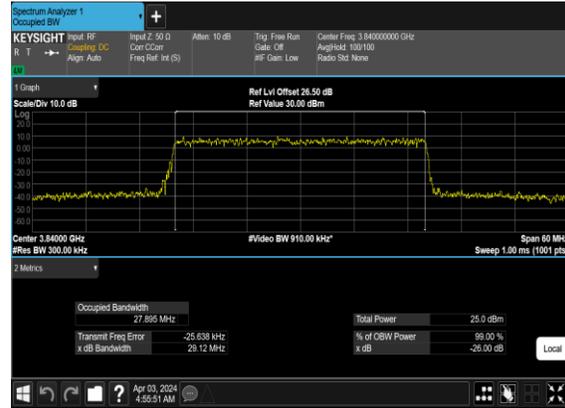
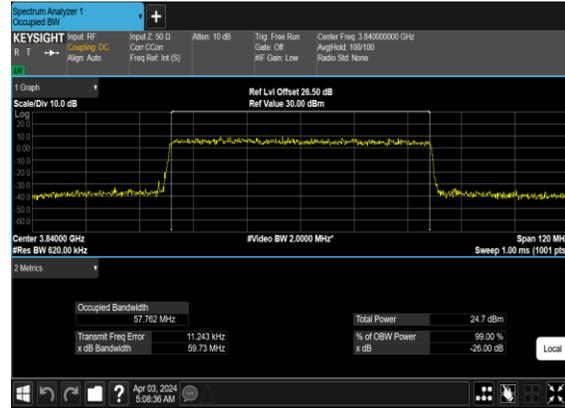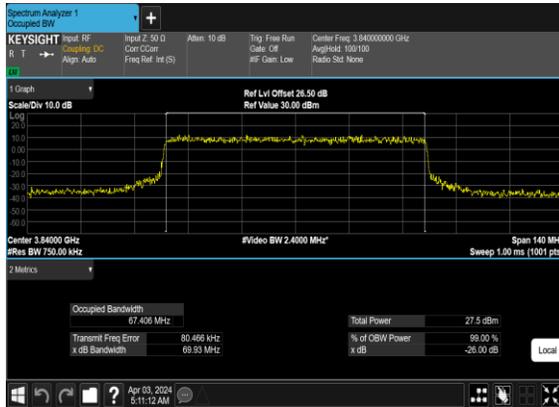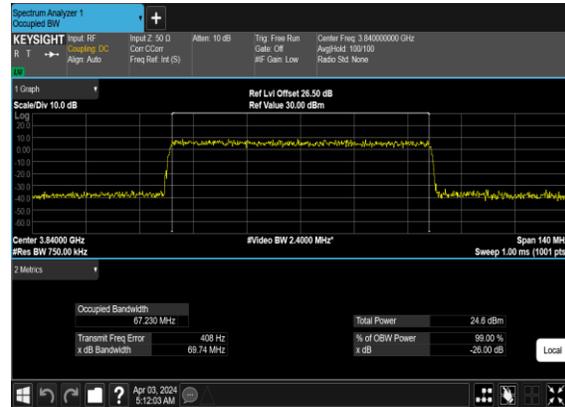## N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH
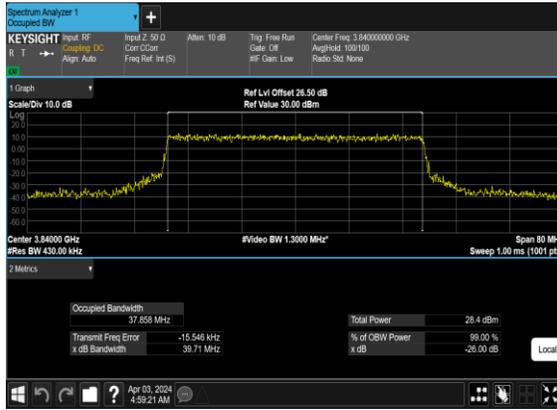
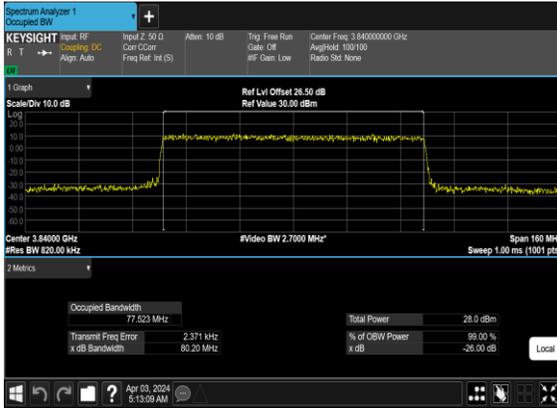## N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

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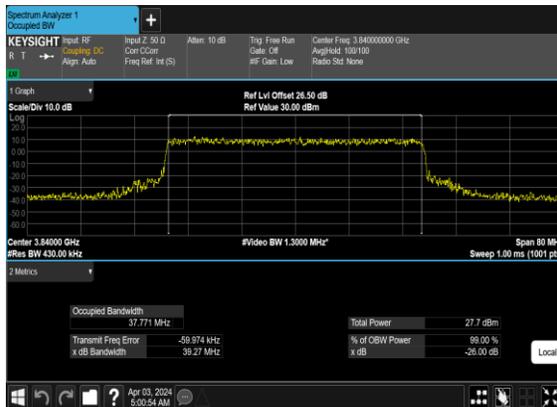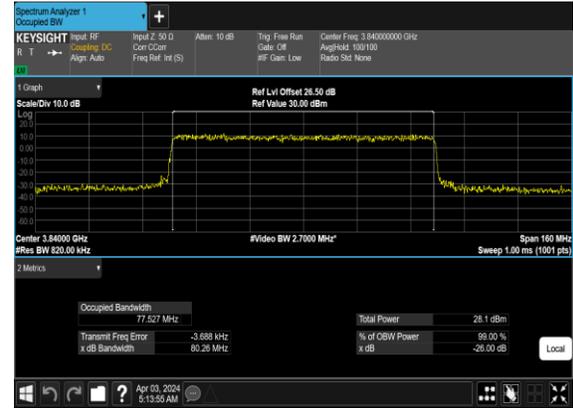

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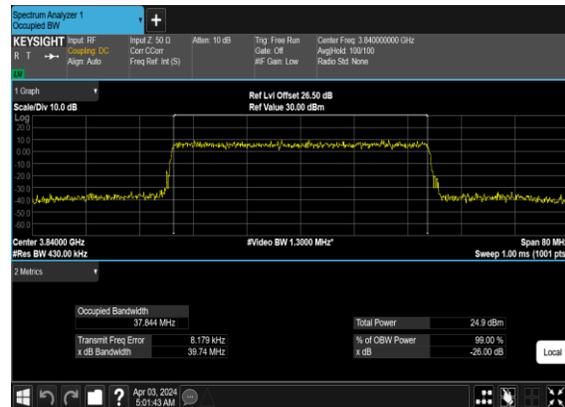
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

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

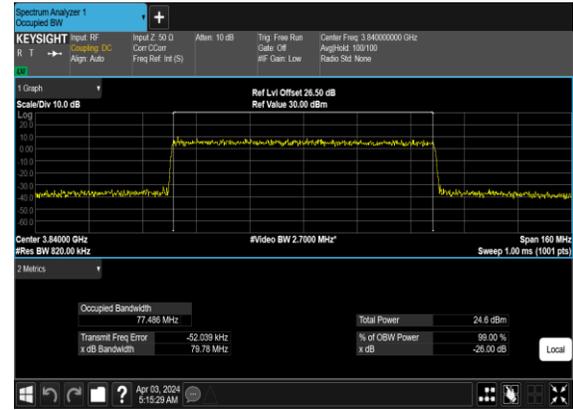## N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

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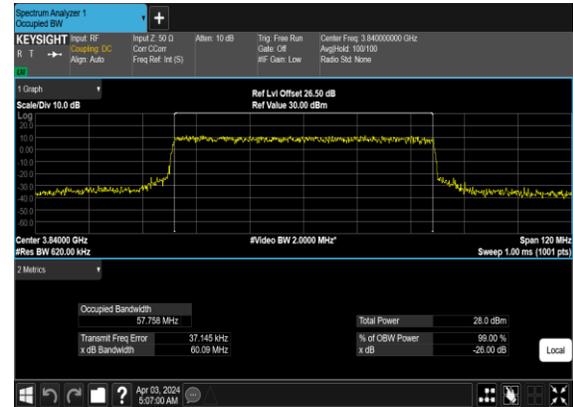
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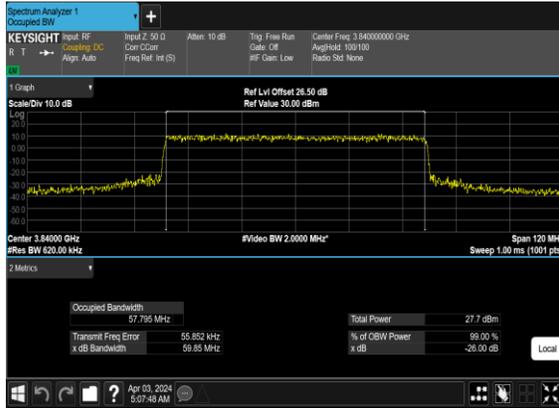
N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

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

N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

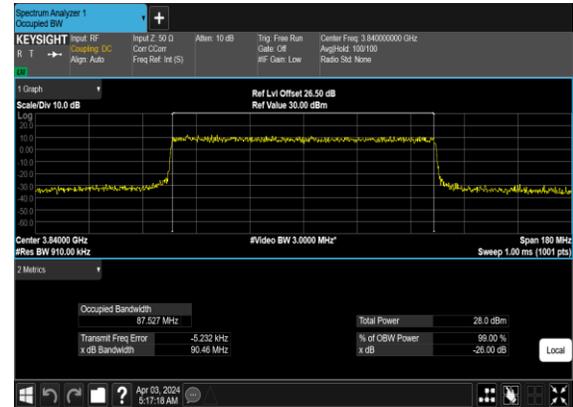## N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

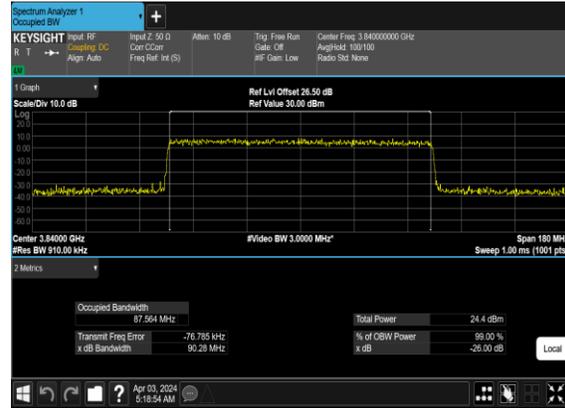## N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

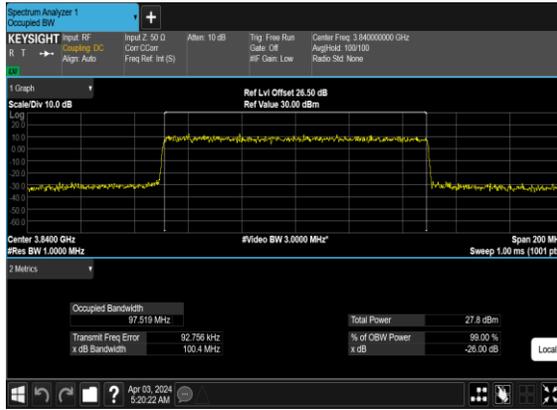## N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH
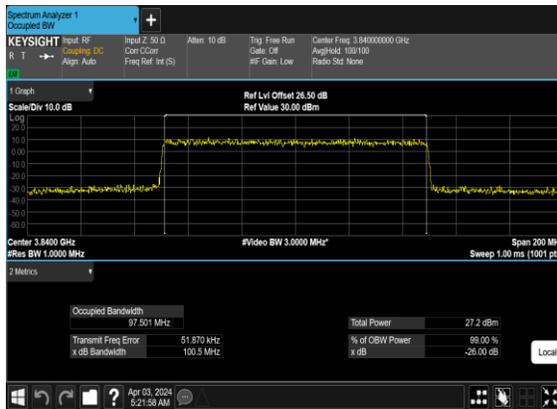

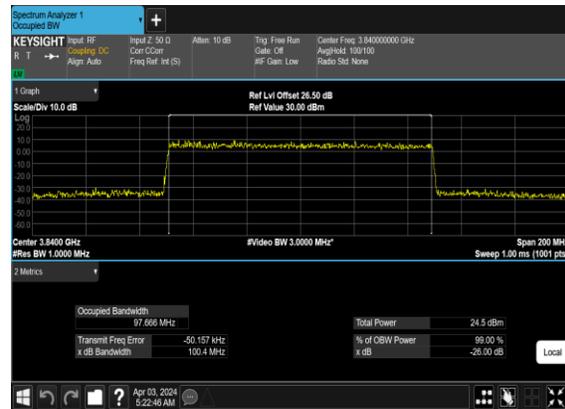## N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH
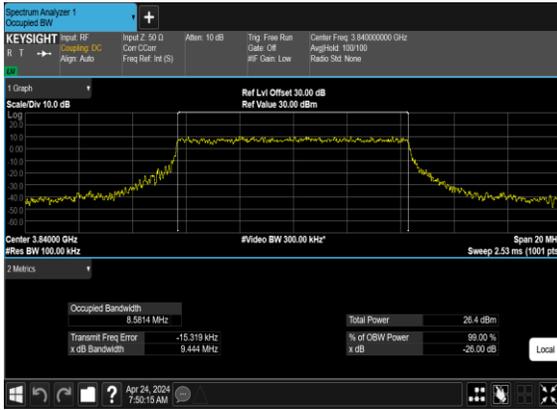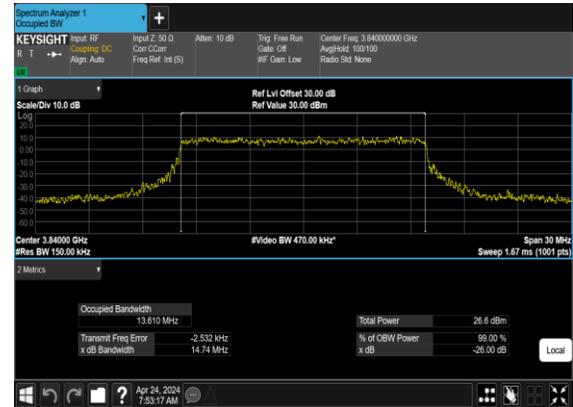

N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 300.00 kHz*   Span 20 MHz
#Res BW 100.00 kHz   Sweep 2.53 ms (1001 pts)

2 Metrics
Occupied Bandwidth
8.5808 MHz   Total Power   26.7 dBm
Transmit Freq Error   -12.777 kHz   % of OBW Power   99.00 %
x dB Bandwidth   9.606 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:48:44 AM

N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 300.00 kHz*   Span 20 MHz
#Res BW 100.00 kHz   Sweep 2.53 ms (1001 pts)

2 Metrics
Occupied Bandwidth
8.5770 MHz   Total Power   26.7 dBm
Transmit Freq Error   -12.101 kHz   % of OBW Power   99.00 %
x dB Bandwidth   9.858 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:49:30 AM

N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 300.00 kHz*   Span 20 MHz
#Res BW 100.00 kHz   Sweep 2.53 ms (1001 pts)

2 Metrics
Occupied Bandwidth
8.5814 MHz   Total Power   26.4 dBm
Transmit Freq Error   -15.319 kHz   % of OBW Power   99.00 %
x dB Bandwidth   9.444 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:50:15 AM

N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 300.00 kHz*   Span 20 MHz
#Res BW 100.00 kHz   Sweep 2.53 ms (1001 pts)

2 Metrics
Occupied Bandwidth
8.5710 MHz   Total Power   23.2 dBm
Transmit Freq Error   -4.442 kHz   % of OBW Power   99.00 %
x dB Bandwidth   9.604 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:51:03 AM

N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 470.00 kHz*   Span 30 MHz
#Res BW 150.00 kHz   Sweep 1.67 ms (1001 pts)

2 Metrics
Occupied Bandwidth
13.582 MHz   Total Power   26.7 dBm
Transmit Freq Error   -1.259 kHz   % of OBW Power   99.00 %
x dB Bandwidth   14.45 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:52:32 AM

N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW
KEYSIGHT Input: RF   Input Z: 50 Ω   Atten: 10 dB   Trig: Free Run   Center Freq: 3.840000000 GHz
R T ⇥   Coupling: DC   Corr CCorr   Gate: Off   AvgHold: 100/100
          Align: Auto   Freq Ref: Int (S) #IF Gain: Low   Radio Std: None

1 Graph
Scale/Div 10.0 dB   Ref Lvl Offset 30.00 dB
Log   Ref Value 30.00 dBm

Center 3.84000 GHz   #Video BW 470.00 kHz*   Span 30 MHz
#Res BW 150.00 kHz   Sweep 1.67 ms (1001 pts)

2 Metrics
Occupied Bandwidth
13.610 MHz   Total Power   26.6 dBm
Transmit Freq Error   -2.532 kHz   % of OBW Power   99.00 %
x dB Bandwidth   14.74 MHz   x dB   -26.00 dB   Local

Apr 24, 2024 7:53:17 AM

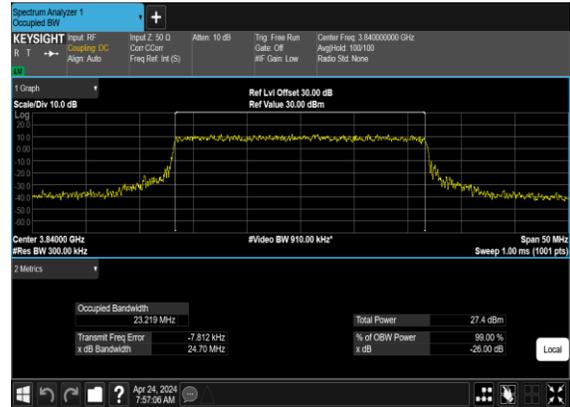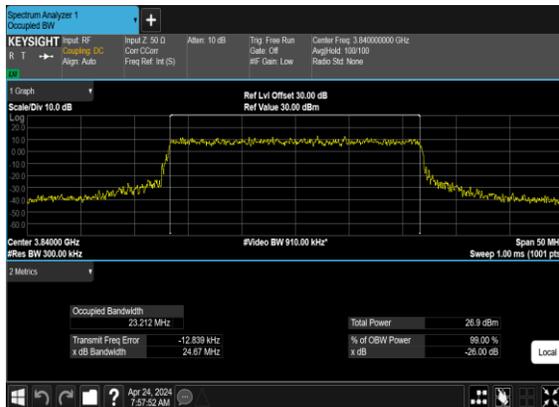## N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

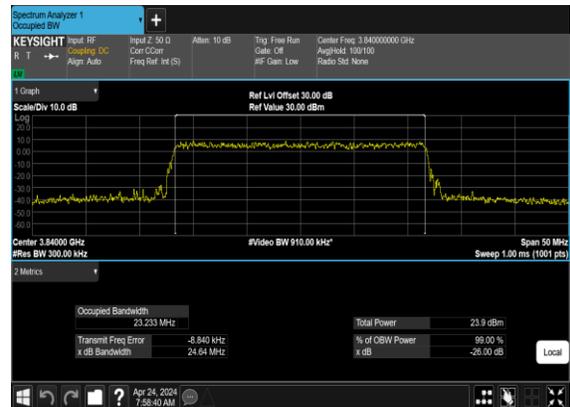
N77(25M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(25M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(25M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(25M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH
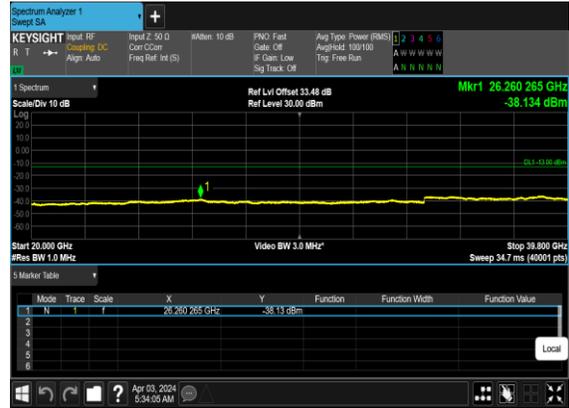
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	60	648668	3730.02	CP-OFDM QPSK	1@0	see graph	---
77	30	60	648668	3730.02	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	648668	3730.02	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	60	648668	3730.02	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	60	656000	3840.0	CP-OFDM QPSK	1@0	see graph	---
77	30	60	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	60	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	60	663332	3949.98	CP-OFDM QPSK	1@0	see graph	---
77	30	60	663332	3949.98	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	663332	3949.98	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	60	663332	3949.98	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	---
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	---
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	---
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**

77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

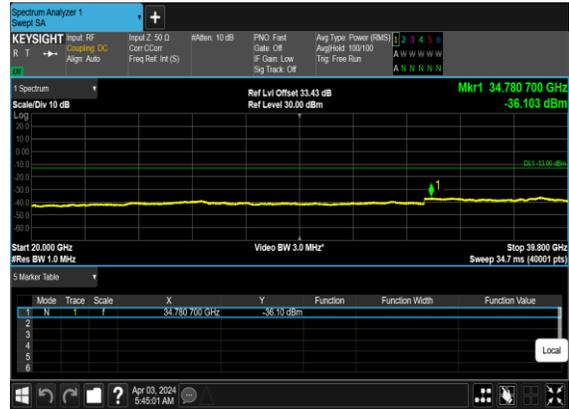## N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

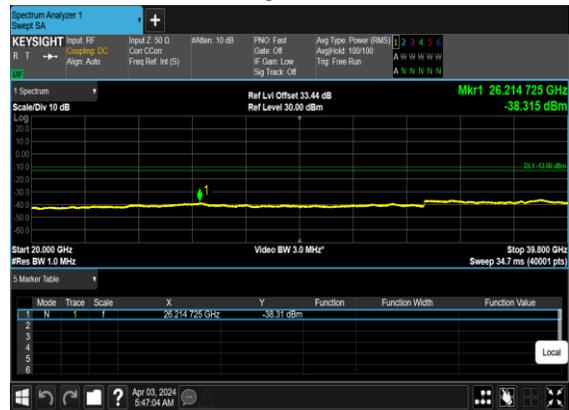## N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH

N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH

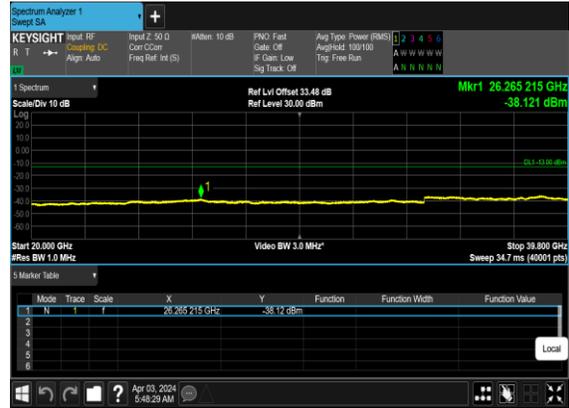## N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH

N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH

N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH

N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH
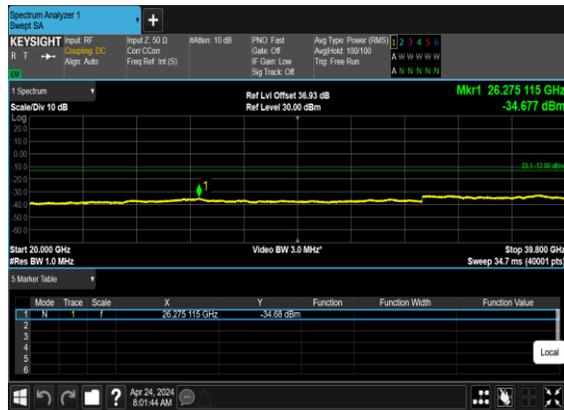
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_630334_CH

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_630334_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_630334_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_630334_CH

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_633334_CH
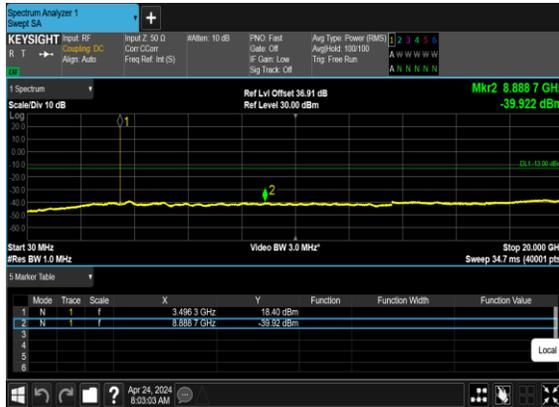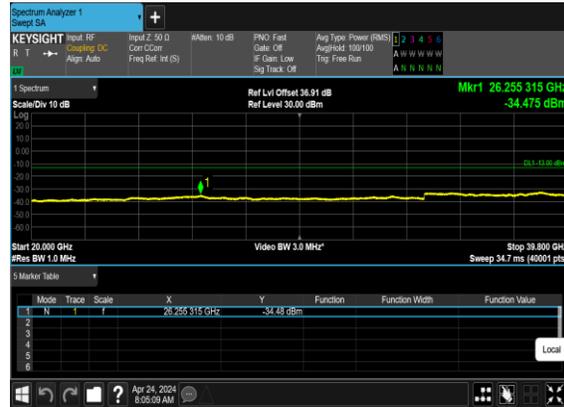

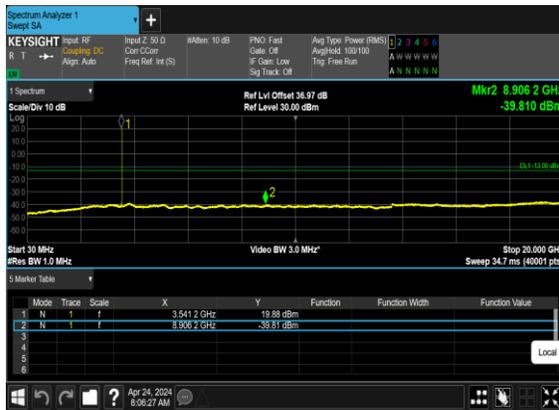## N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_633334_CH
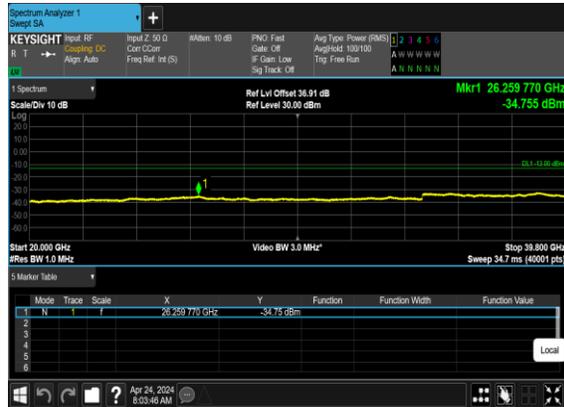
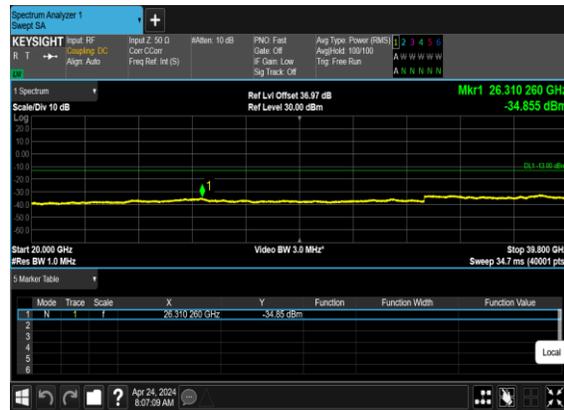## N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_633334_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_633334_CH

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_636332_CH
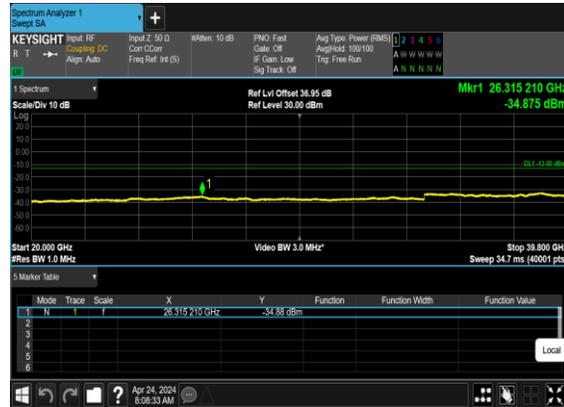

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_636332_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_636332_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_636332_CH

Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	60	648668	3730.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM BPSK	162@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	162@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM BPSK	1@161	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@161	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM BPSK	162@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	162@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	270@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@272	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@272	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	270@0	see graph	**PASS**
77	30	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	647000	3705.0	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
77	30	10	647000	3705.0	DFT-s-OFDM QPSK	24@0	see graph	**PASS**
77	30	10	665000	3975.0	DFT-s-OFDM BPSK	1@23	see graph	**PASS**
77	30	10	665000	3975.0	DFT-s-OFDM QPSK	1@23	see graph	**PASS**
77	30	10	665000	3975.0	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
77	30	10	665000	3975.0	DFT-s-OFDM QPSK	24@0	see graph	**PASS**