



FCC RF Test Report

APPLICANT : Fibocom Wireless Inc.
EQUIPMENT : 5G module
BRAND NAME : Fibocom
MODEL NAME : FM350R-GL
FCC ID : ZMOFM350RGL
STANDARD : 47 CFR Part 2, 27 Subpart O (3700-3980MHz)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Apr. 30, 2024 ~ May 01, 2024

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 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. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG431133S	Rev. 01	Initial issue of report	Jun. 21, 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+10log ₁₀ (P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	< 43+10log ₁₀ (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+10log ₁₀ (P[Watts])	PASS	Under limit 17.13 dB at 6916.50 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/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Fibocom Wireless Inc.

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

1.2 Manufacturer

Fibocom Wireless Inc.

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

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G module
Brand Name	Fibocom
Model Name	FM350R-GL
FCC ID	ZMOFM350RGL
IMEI Code	Conducted : 863687070001797 Radiation : 863687070001516
HW Version	V1.1
SW Version	81601.0000.00.29.24.13
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	15kHz, 30kHz
Bandwidth	n77/n78(15kHz): 10 / 15 / 20 / 30 / 40 / 50MHz n77/n78(30kHz): 10 / 15 / 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	5G NR n77: 3 dBi 5G NR n78: 3 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The device has two optional antennas, they are same antenna gain, RSE pretest the two antennas, choose worst antenna to perform final test and recorded in the report.
2. There are two samples under test, sample 1 is 1st source and sample 2 is 2nd source, the detailed differences could be referred to the FM350R-GL_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, sample 1 perform full test,

sample 2 verify conducted power and found less than sample 1, and sample 2 additional verify the worst case of RSE(from Part22/24/27 rules) in another report(FG431133P).

3. 5G NR n77/n78 support SA and NSA mode. The whole testing has assessed SA mode for n77 by referring to the higher conducted power for conducted test items.
4. 5G NR n77/n78 SA & n77 NSA mode supports HPUE(PC2), n78 NSA (2A_n78A) supports HPUE(PC2), n78 other NSA mode support PC3.
5. 5G NR N77/n78 support SCS 15K & 30K, both SCS 15K & 30K are full tested.
6. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
7. 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 Conducted Power and Emission Designator

5G NR n77 SA for SCS 15kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.3750	9M30G7D	0.2767	9M29W7D
15	3705.505 ~ 3972.495	0.3873	14M0G7D	0.2825	14M1W7D
20	3710.01 ~ 3969.99	0.3819	18M9G7D	0.2767	19M0W7D
30	3715.005 ~ 3964.98	0.3724	28M6G7D	0.2773	28M6W7D
40	3720.00 ~ 3960.00	0.3404	38M6G7D	0.2518	38M6W7D
50	3725.01 ~ 3954.99	0.3945	48M1G7D	0.3126	48M3W7D



5G NR n77 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.3776	8M58G7D	0.2979	8M58W7D
15	3705.52 ~ 3972.48	0.3690	13M6G7D	0.2985	13M6W7D
20	3710.01 ~ 3969.99	0.3589	18M3G7D	0.2831	18M2W7D
30	3715.02 ~ 3964.98	0.3420	27M8G7D	0.2780	27M9W7D
40	3720.00 ~ 3960.00	0.3357	37M9G7D	0.2624	37M9W7D
50	3725.01 ~ 3954.99	0.3350	47M4G7D	0.2704	47M5W7D
60	3730.02 ~ 3949.98	0.3350	57M9G7D	0.2667	57M8W7D
70	3735.00 ~ 3945.00	0.3357	67M5G7D	0.2512	67M6W7D
80	3740.01 ~ 3939.99	0.3097	77M6G7D	0.2483	77M5W7D
90	3745.02 ~ 3934.98	0.3119	87M4G7D	0.2472	87M5W7D
100	3750.00 ~ 3930.00	0.3873	97M3G7D	0.3062	97M5W7D

5G NR n78 SA for SCS 15kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3705.00 ~ 3795.00	0.3365	9M30G7D	0.2600	9M29W7D
15	3705.505 ~ 3792.495	0.3499	14M0G7D	0.2692	14M1W7D
20	3710.01 ~ 3789.99	0.3516	18M9G7D	0.2612	19M0W7D
30	3715.005 ~ 3784.995	0.3281	28M6G7D	0.2506	28M6W7D
40	3720.00 ~ 3780.00	0.3027	38M6G7D	0.2280	38M6W7D
50	3725.01 ~ 3774.99	0.3639	48M1G7D	0.2831	48M3W7D



5G NR n78 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
10	3705.00 ~ 3795.00	0.3491	8M58G7D	0.2831	8M58W7D
15	3707.52 ~ 3792.48	0.3451	13M6G7D	0.2767	13M6W7D
20	3710.01 ~ 3789.99	0.3516	18M3G7D	0.2685	18M2W7D
30	3715.02 ~ 3784.98	0.3451	27M8G7D	0.2649	27M9W7D
40	3720.00 ~ 3780.00	0.3236	37M9G7D	0.2547	37M9W7D
50	3725.01 ~ 3774.99	0.3516	47M4G7D	0.2673	47M5W7D
60	3730.02 ~ 3769.98	0.3508	57M9G7D	0.2661	57M8W7D
70	3735.00 ~ 3765.00	0.3327	67M5G7D	0.2582	67M6W7D
80	3740.01 ~ 3759.99	0.3258	77M6G7D	0.2449	77M5W7D
90	3745.02 ~ 3754.98	0.3141	87M4G7D	0.2438	87M5W7D
100	3750.00 ~ 3750.00	0.3614	97M3G7D	0.2831	97M5W7D

Note:

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

1.7 Testing Location

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 Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH01-SZ	CN1256	421272



1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

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.

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.

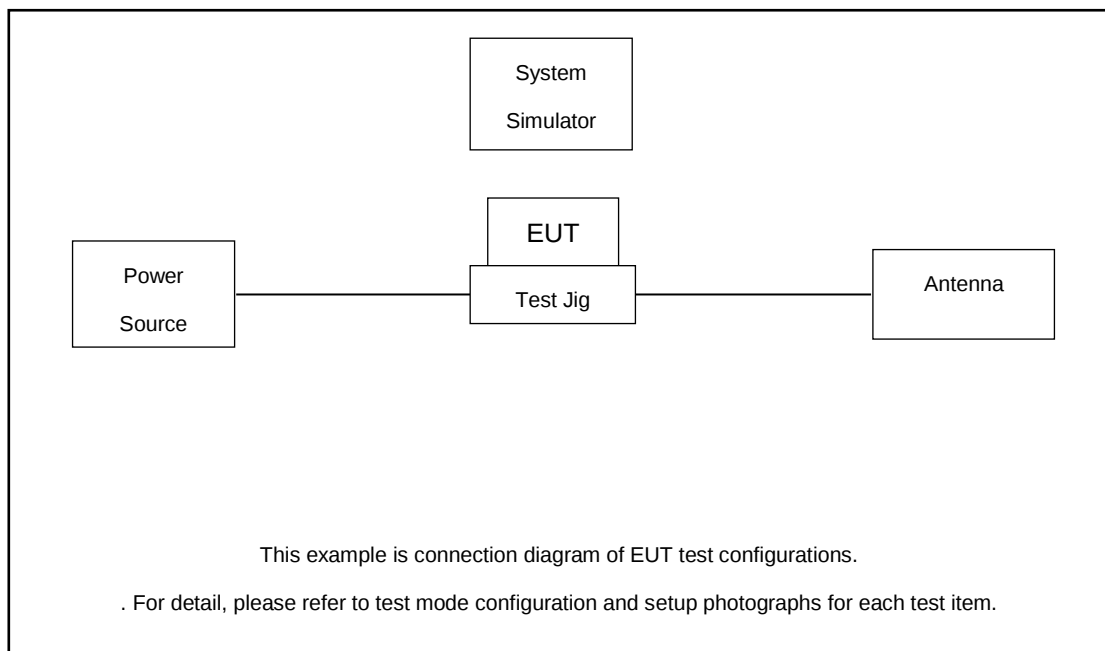
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

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	30	40	50	60	70	80~90	100	PI/2 BPSK	QPSK	16QAM	64QAM	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	v
	n78	v	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		
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 = 3.30V ; Low Voltage =3.135V; High Voltage =4.40V																						

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.	Antenna	N/A	N/A	N/A	N/A	N/A
5.	Adapter	N/A	N/A	N/A	N/A	N/A
6.	Test Jig	N/A	N/A	N/A	N/A	N/A



2.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 8.90 dB.

Example :

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 8.90 \text{ (dB)}\end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

5G n77 (15kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647667	656000	664332
	Frequency	3715.005	3840	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
15	Channel	647167	656000	664833
	Frequency	3707.505	3840	3972.495
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975

5G n77 (30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
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
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

5G n78(15kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647667	650000	652333
	Frequency	3715.005	3750	3784.995
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99
15	Channel	647167	650000	652833
	Frequency	3707.505	3750	3792.495
10	Channel	647000	650000	653000
	Frequency	3705	3750	3795



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
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

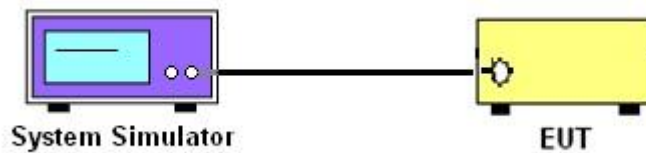
3 Conducted Test Items

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.

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 $\geq 1\%$ 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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13\text{dBm}.$$

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.

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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.

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.

4 Radiated Test Items

4.1 Measuring Instruments

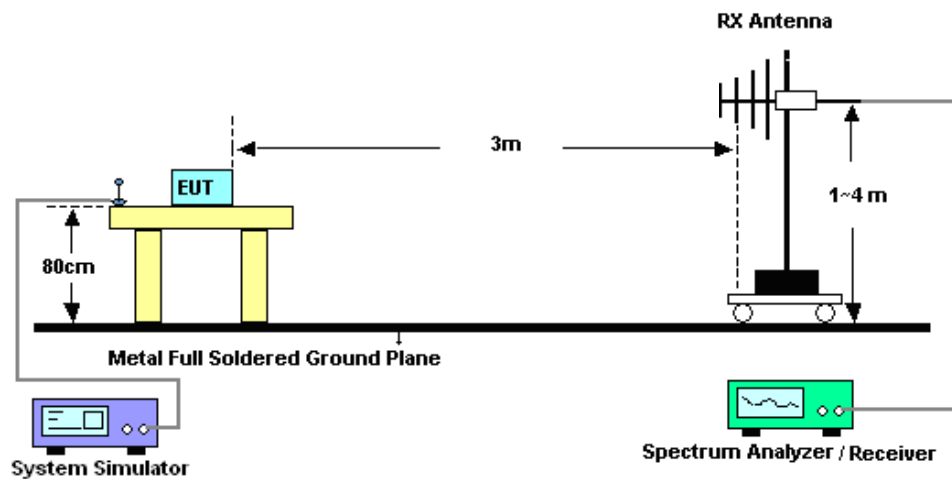
See list of measuring instruments of this test report.

4.2 Test Setup

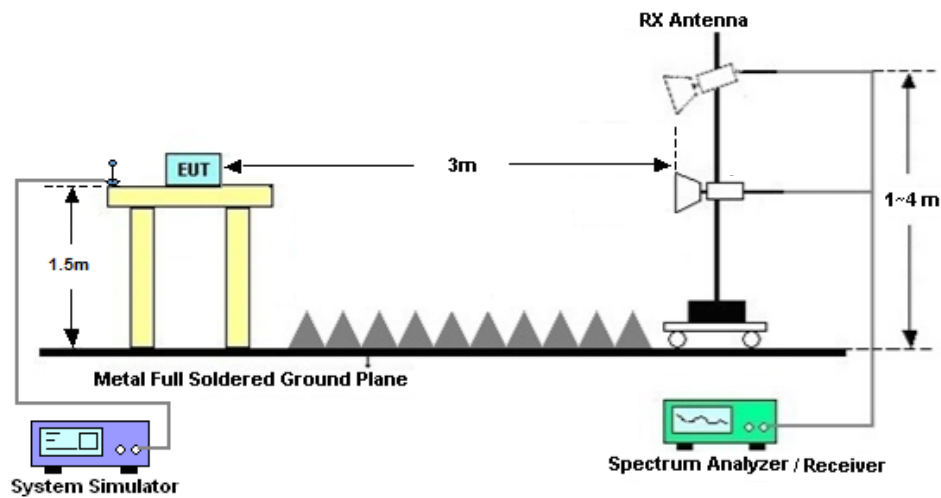
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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

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

$= P(W) - [43 + 10\log(P)] \text{ (dB)}$

$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$

$= -13\text{dBm}.$



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Apr. 30, 2024~May 01, 2024	Dec. 26, 2024	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct. 16, 2023	Apr. 30, 2024~May 01, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Apr. 30, 2024~May 01, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 05, 2023	Apr. 30, 2024~May 01, 2024	Jul. 04, 2024	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	May 01, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	May 01, 2024	Jul. 27, 2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 18, 2023	May 01, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	May 01, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	May 01, 2024	Jul. 07, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz-40GHz	Apr. 09, 2024	May 01, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 09, 2024	May 01, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 18, 2023	May 01, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 07, 2023	May 01, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Oct. 18, 2023	May 01, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	May 01, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	May 01, 2024	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.48 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.53 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.02 dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Khan Zhen	Temperature :	22~23°C
		Relative Humidity :	40~42%

FR1 N77-SCS 15K

Transmitter Conducted Output Power And EIRP, ($G_T - L_C$)=3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	15	10	647000	3705	DFT-s-OFDM QPSK	1@1	25.16	28.16	0.6546
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	23.85	26.85	0.4842
77	15	10	656000	3840	DFT-s-OFDM QPSK	1@1	25.74	28.74	0.7482
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.42	27.42	0.5521
77	15	10	665000	3975	DFT-s-OFDM QPSK	1@1	25.39	28.39	0.6902
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	24.06	27.06	0.5082
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@1	25.31	28.31	0.6776
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@1	23.93	26.93	0.4932
77	15	15	656000	3840	DFT-s-OFDM QPSK	1@1	25.65	28.65	0.7328
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.51	27.51	0.5636
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	1@1	25.88	28.88	0.7727
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	1@1	24.31	27.31	0.5383
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	25.33	28.33	0.6808
77	15	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	23.94	26.94	0.4943
77	15	20	656000	3840	DFT-s-OFDM QPSK	1@1	25.82	28.82	0.7621
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.42	27.42	0.5521
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	25.64	28.64	0.7311
77	15	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	24.15	27.15	0.5188
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@1	25.12	28.12	0.6486
77	15	30	647667	3715.005	DFT-s-OFDM 16 QAM	1@1	23.76	26.76	0.4742
77	15	30	656000	3840	DFT-s-OFDM QPSK	1@1	25.71	28.71	0.7430
77	15	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.43	27.43	0.5534
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	25.42	28.42	0.6950
77	15	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	24.09	27.09	0.5117
77	15	40	648000	3720	DFT-s-OFDM QPSK	1@1	24.94	27.94	0.6223
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	23.67	26.67	0.4645
77	15	40	656000	3840	DFT-s-OFDM QPSK	1@1	25.32	28.32	0.6792
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.01	27.01	0.5023
77	15	40	664000	3960	DFT-s-OFDM QPSK	1@1	24.84	27.84	0.6081
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	23.56	26.56	0.4529
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	135@67	25.31	28.31	0.6776
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	25.1	28.1	0.6457
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@268	25.37	28.37	0.6871
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	135@67	25.34	28.34	0.6823
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	25.28	28.28	0.6730
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@268	25.23	28.23	0.6653

77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	135@67	24.45	27.45	0.5559
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	23.82	26.82	0.4808
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@268	23.95	26.95	0.4955
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	135@67	22.79	25.79	0.3793
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@1	22.75	25.75	0.3758
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@268	22.77	25.77	0.3776
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	135@67	21.06	24.06	0.2547
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@1	20.69	23.69	0.2339
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@268	20.95	23.95	0.2483
77	15	50	648334	3725.01	CP-OFDM QPSK	135@67	23.95	26.95	0.4955
77	15	50	648334	3725.01	CP-OFDM QPSK	1@1	23.73	26.73	0.4710
77	15	50	648334	3725.01	CP-OFDM QPSK	1@268	23.8	26.8	0.4786
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	25.95	28.95	0.7852
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.61	28.61	0.7261
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@268	25.58	28.58	0.7211
77	15	50	656000	3840	DFT-s-OFDM QPSK	135@67	25.96	28.96	0.7870
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@1	25.54	28.54	0.7145
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@268	25.62	28.62	0.7278
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	135@67	24.95	27.95	0.6237
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.34	27.34	0.5420
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@268	24.36	27.36	0.5445
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	135@67	23.37	26.37	0.4335
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.19	26.19	0.4159
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@268	23.16	26.16	0.4130
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	135@67	21.36	24.36	0.2729
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.29	24.29	0.2685
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@268	21.21	24.21	0.2636
77	15	50	656000	3840	CP-OFDM QPSK	135@67	24.26	27.26	0.5321
77	15	50	656000	3840	CP-OFDM QPSK	1@1	24.04	27.04	0.5058
77	15	50	656000	3840	CP-OFDM QPSK	1@268	24.09	27.09	0.5117
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	135@67	25.69	28.69	0.7396
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	25.24	28.24	0.6668
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@268	25.55	28.55	0.7161
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	135@67	25.58	28.58	0.7211
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	25.29	28.29	0.6745
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@268	25.51	28.51	0.7096
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	135@67	24.55	27.55	0.5689
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.8	26.8	0.4786
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@268	24.34	27.34	0.5420
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	135@67	23.16	26.16	0.4130
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@1	22.58	25.58	0.3614
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@268	23.13	26.13	0.4102
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	135@67	21.35	24.35	0.2723
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@1	20.84	23.84	0.2421

77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@268	21.31	24.31	0.2698
77	15	50	663666	3954.99	CP-OFDM QPSK	135@67	24.18	27.18	0.5224
77	15	50	663666	3954.99	CP-OFDM QPSK	1@1	23.71	26.71	0.4688
77	15	50	663666	3954.99	CP-OFDM QPSK	1@268	24.24	27.24	0.5297

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0047	PASS	NV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0064	PASS	LV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0048	PASS	HV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0033	PASS	-30°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0031	PASS	-20°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0052	PASS	-10°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0037	PASS	0°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0065	PASS	10°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0047	PASS	20°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0056	PASS	30°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0070	PASS	40°C
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0060	PASS	50°C

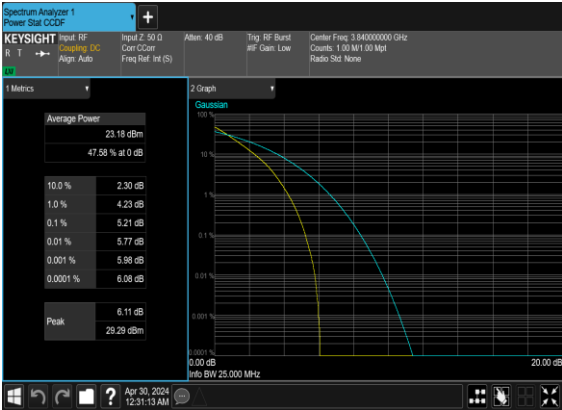
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	4.07	13	PASS
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	5.21	13	PASS

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



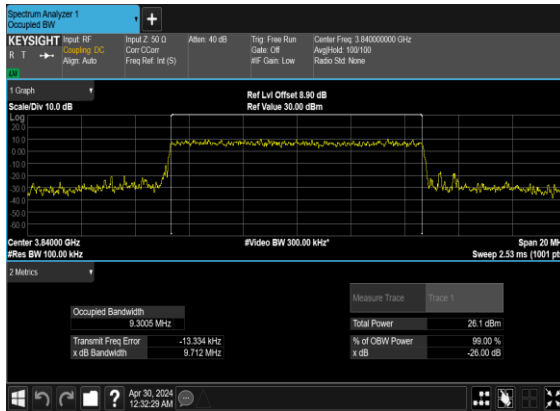
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



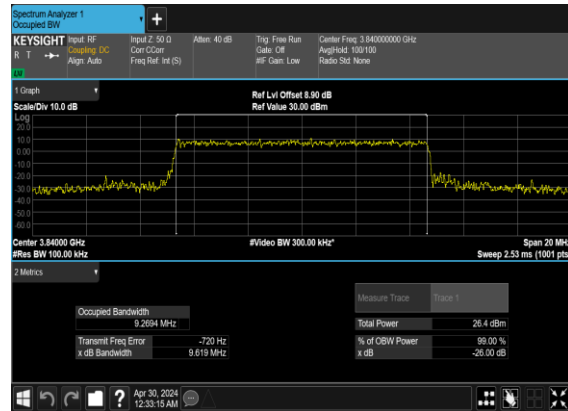
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	15	10	656000	3840.0	CP-OFDM QPSK	52@0	9.3005	9.712
77	15	10	656000	3840.0	CP-OFDM 16 QAM	52@0	9.2694	9.619
77	15	10	656000	3840.0	CP-OFDM 64 QAM	52@0	9.2925	9.711
77	15	10	656000	3840.0	CP-OFDM 256 QAM	52@0	9.2714	9.825
77	15	15	656000	3840.0	CP-OFDM QPSK	79@0	14.031	14.55
77	15	15	656000	3840.0	CP-OFDM 16 QAM	79@0	14.07	14.63
77	15	15	656000	3840.0	CP-OFDM 64 QAM	79@0	14.086	14.59
77	15	15	656000	3840.0	CP-OFDM 256 QAM	79@0	14.05	14.6
77	15	20	656000	3840.0	CP-OFDM QPSK	106@0	18.934	19.85
77	15	20	656000	3840.0	CP-OFDM 16 QAM	106@0	18.933	19.67
77	15	20	656000	3840.0	CP-OFDM 64 QAM	106@0	19.007	19.61
77	15	20	656000	3840.0	CP-OFDM 256 QAM	106@0	18.888	19.6
77	15	30	656000	3840.0	CP-OFDM QPSK	160@0	28.606	29.49
77	15	30	656000	3840.0	CP-OFDM 16 QAM	160@0	28.593	29.5
77	15	30	656000	3840.0	CP-OFDM 64 QAM	160@0	28.602	29.45
77	15	30	656000	3840.0	CP-OFDM 256 QAM	160@0	28.648	29.5
77	15	40	656000	3840.0	CP-OFDM QPSK	216@0	38.587	39.85
77	15	40	656000	3840.0	CP-OFDM 16 QAM	216@0	38.559	39.94
77	15	40	656000	3840.0	CP-OFDM 64 QAM	216@0	38.545	39.97
77	15	40	656000	3840.0	CP-OFDM 256 QAM	216@0	38.595	39.87
77	15	50	656000	3840.0	CP-OFDM QPSK	270@0	48.066	49.76
77	15	50	656000	3840.0	CP-OFDM 16 QAM	270@0	48.259	49.69
77	15	50	656000	3840.0	CP-OFDM 64 QAM	270@0	48.176	49.69
77	15	50	656000	3840.0	CP-OFDM 256 QAM	270@0	48.325	49.84

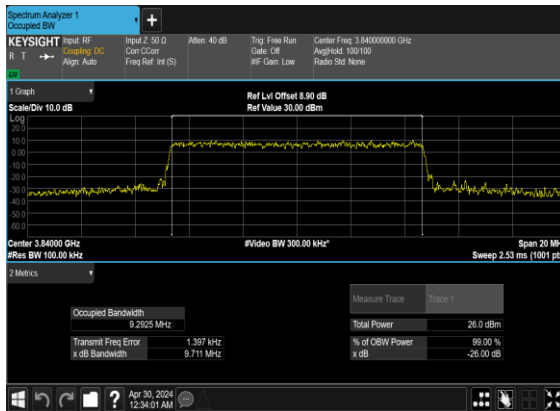
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OFDM_QPSK_Outer_Full_Mid_CH



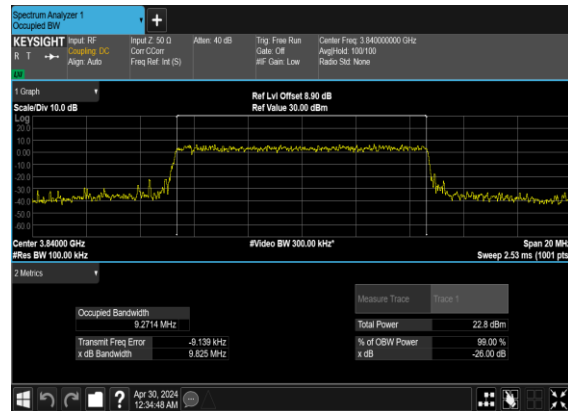
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QAM_Outer_Full_Mid_CH



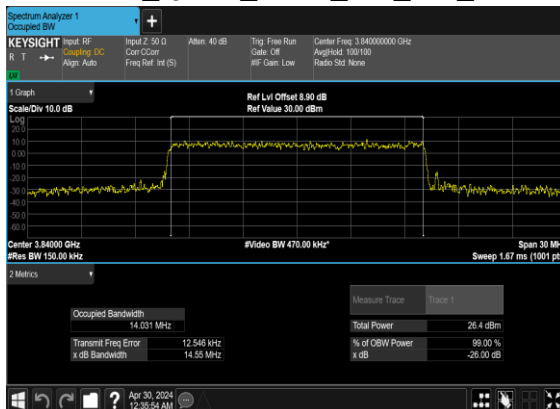
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QAM_Outer_Full_Mid_CH



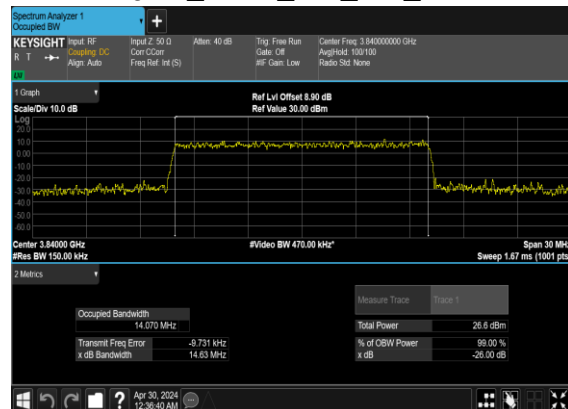
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QAM_Outer_Full_Mid_CH



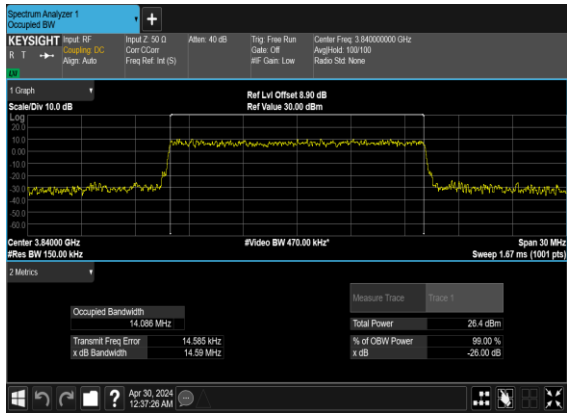
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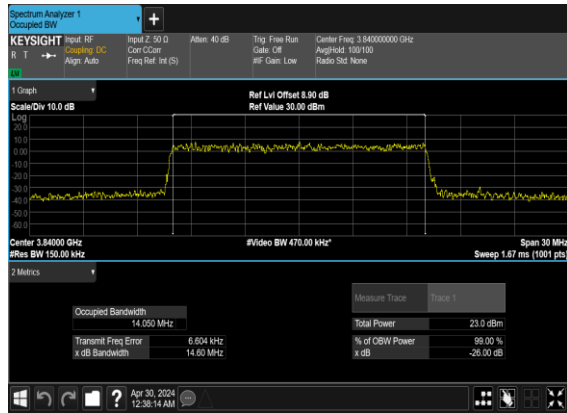
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QAM_Outer_Full_Mid_CH



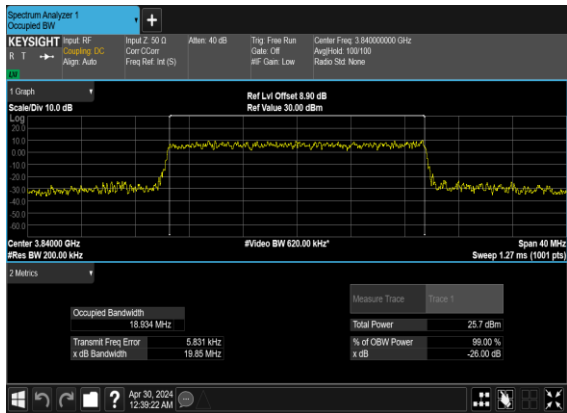
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QAM_Outer_Full_Mid_CH



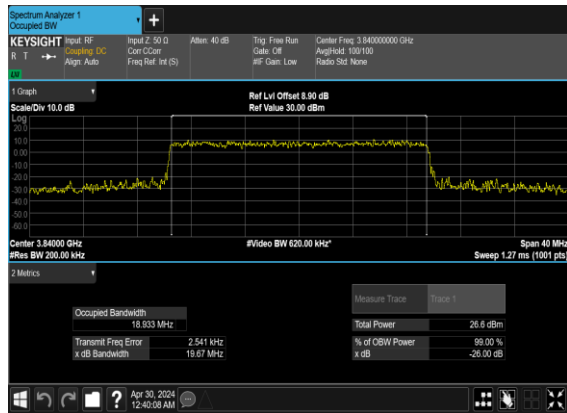
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QAM_Outer_Full_Mid_CH



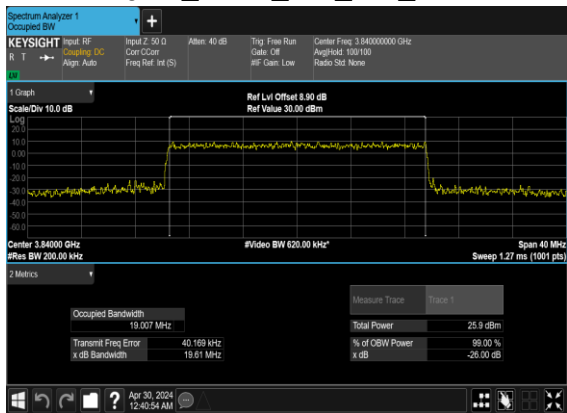
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OFDM_QPSK_Outer_Full_Mid_CH



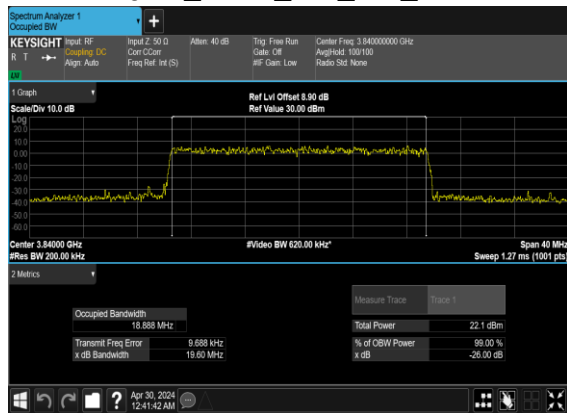
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QAM_Outer_Full_Mid_CH



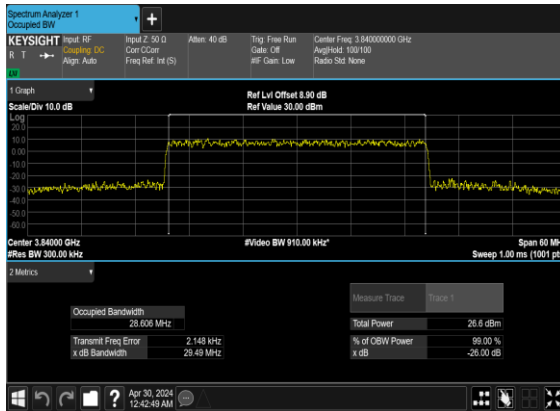
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QAM_Outer_Full_Mid_CH



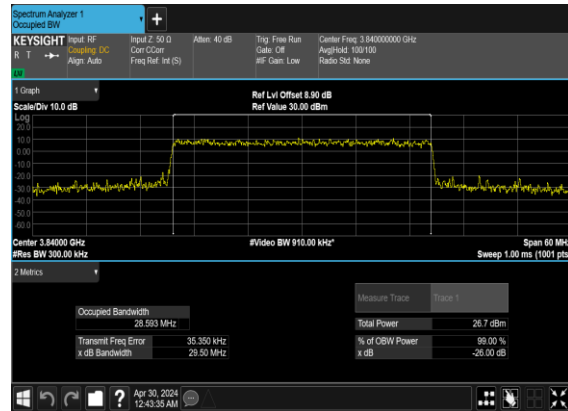
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QAM_Outer_Full_Mid_CH



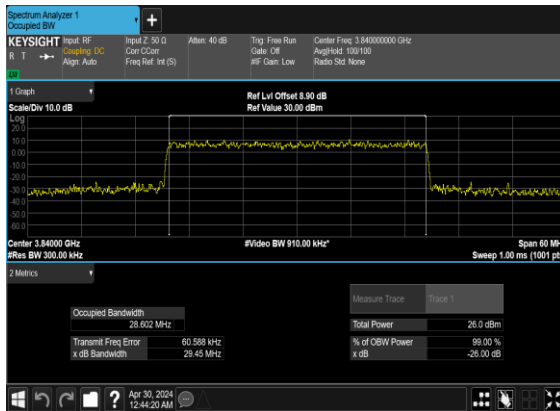
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OFDM_QPSK_Outer_Full_Mid_CH



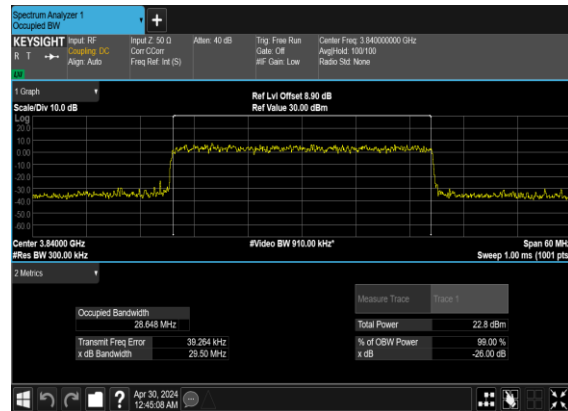
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QAM_Outer_Full_Mid_CH



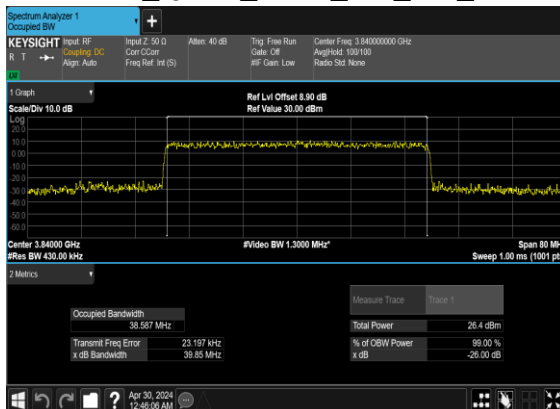
N77(30M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



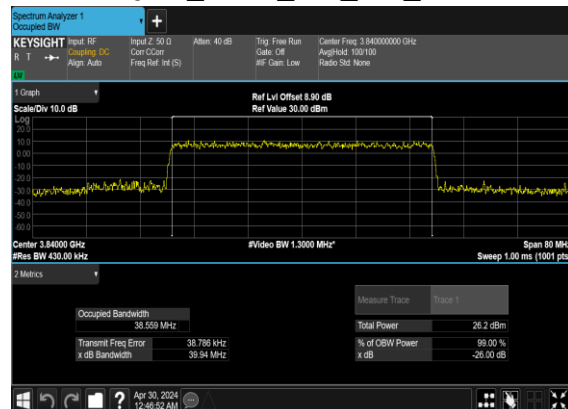
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QAM_Outer_Full_Mid_CH



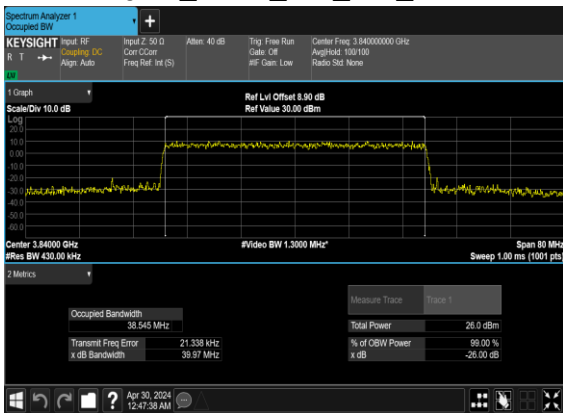
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OFDM_QPSK_Outer_Full_Mid_CH



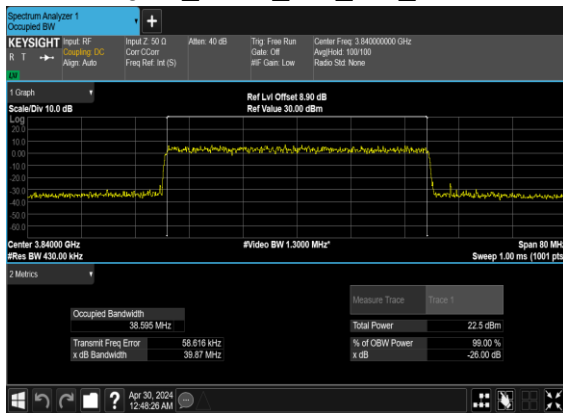
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QAM_Outer_Full_Mid_CH



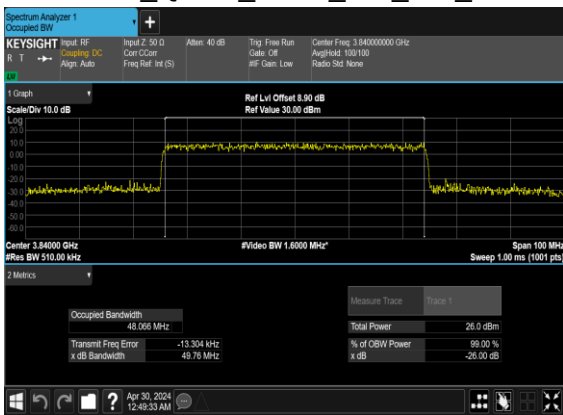
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QAM_Outer_Full_Mid_CH



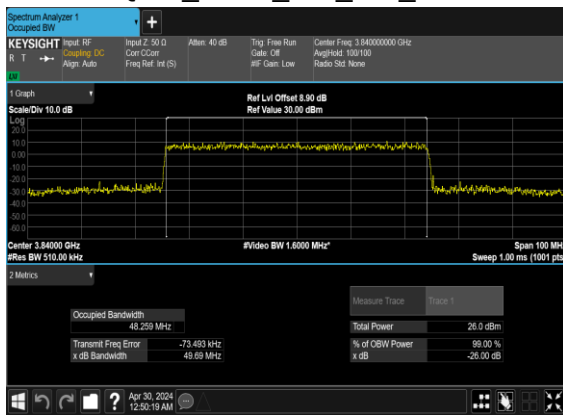
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QAM_Outer_Full_Mid_CH



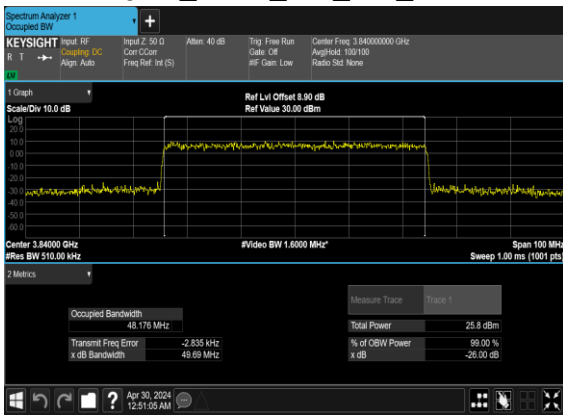
N77(50M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



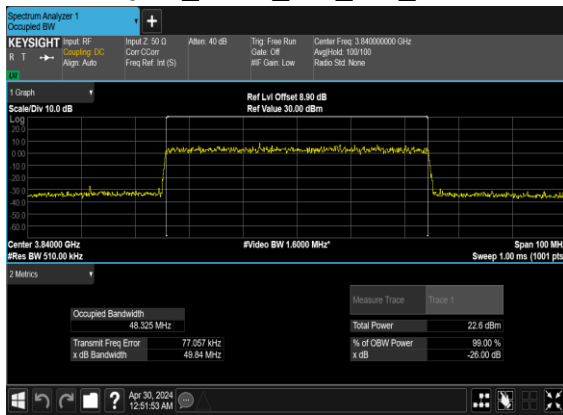
N77(50M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



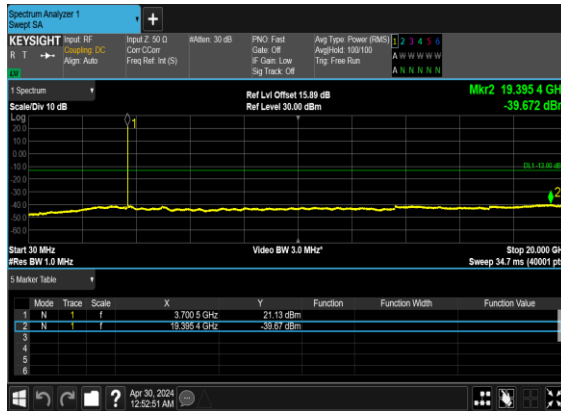
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	---

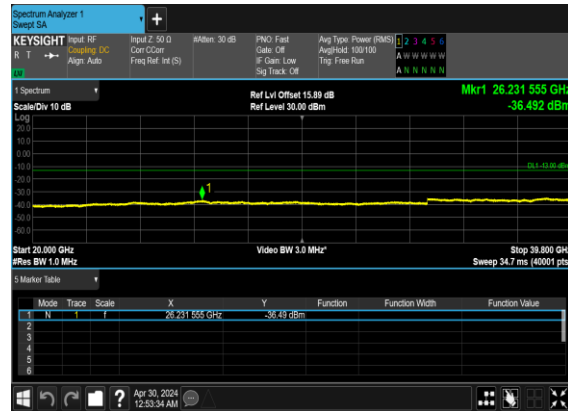
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	---

77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	PASS

N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



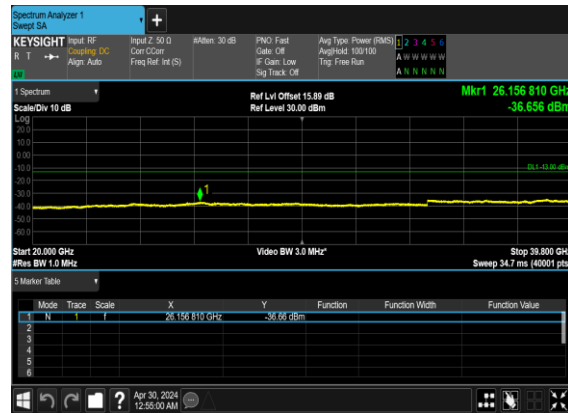
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



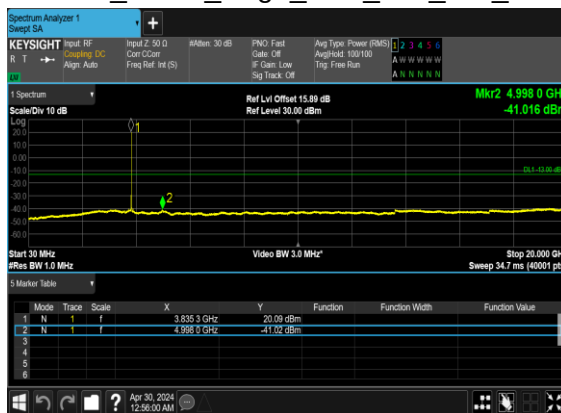
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



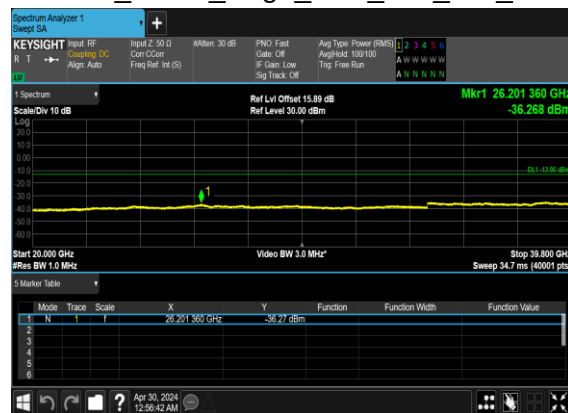
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



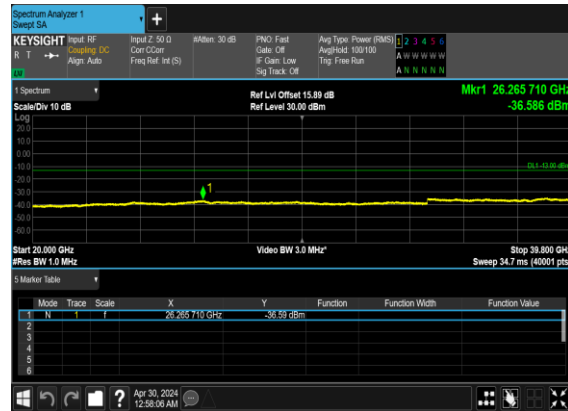
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



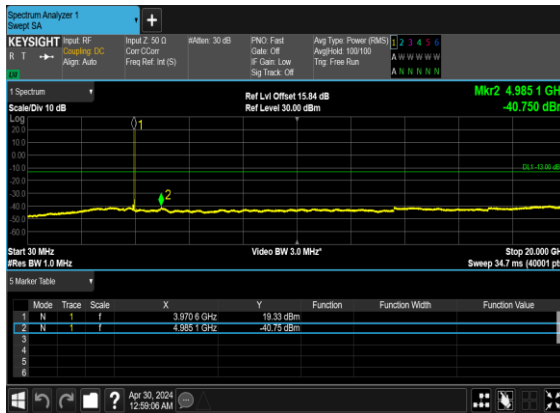
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



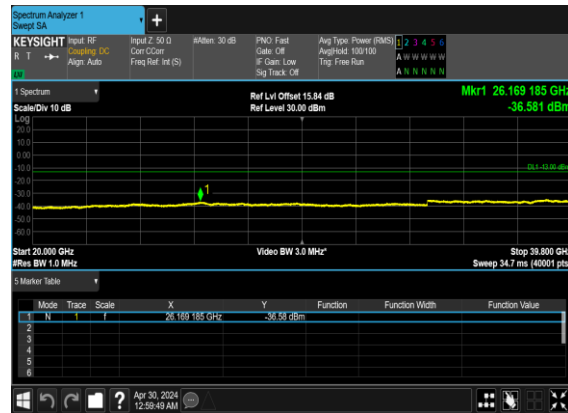
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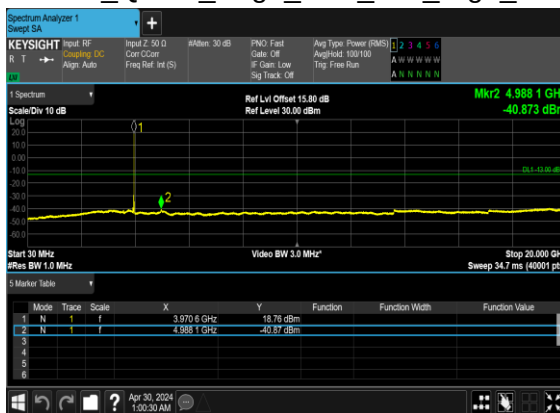
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



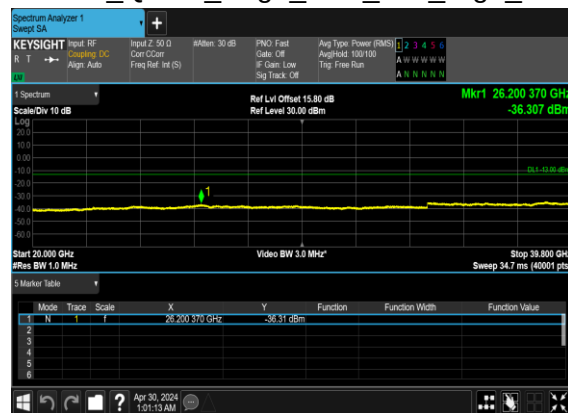
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N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



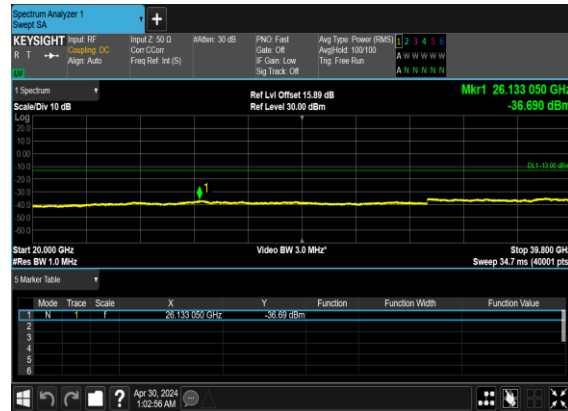
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



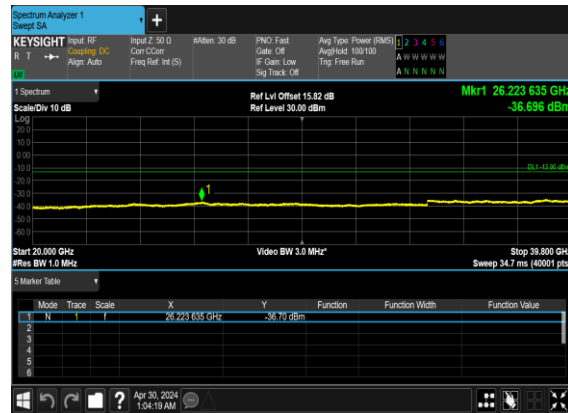
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



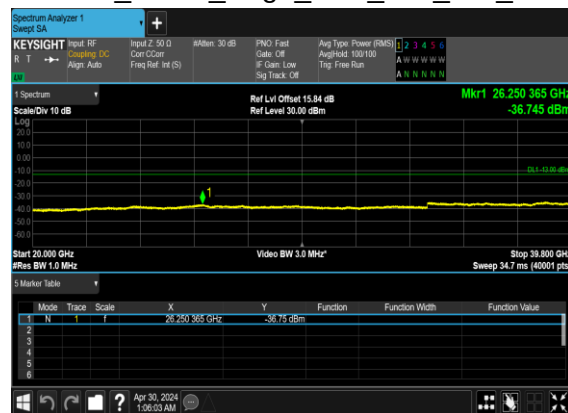
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Mid_CH



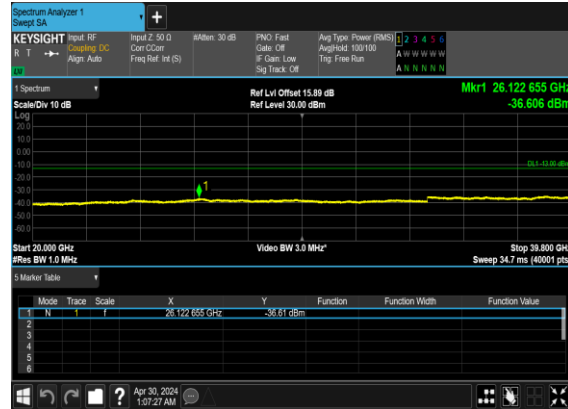
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OFDM_BPSK_Edge_1RB_Left_Mid_CH



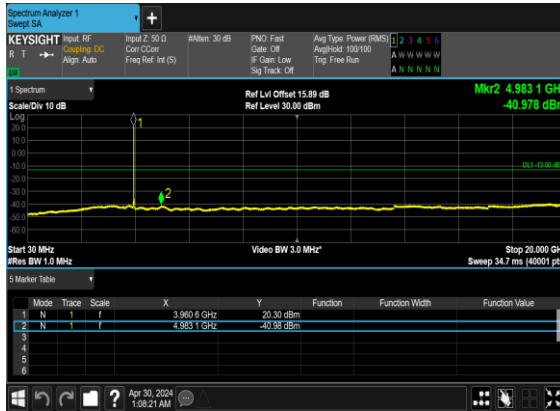
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Mid_CH



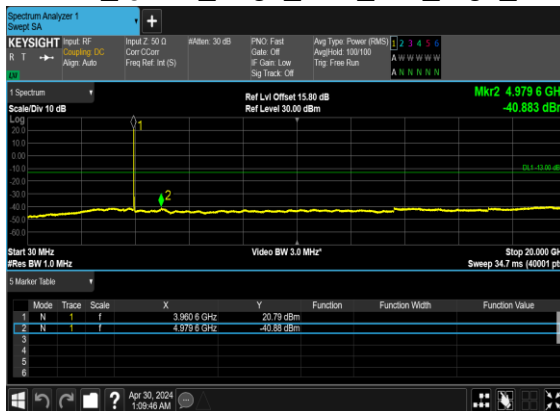
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_High_CH



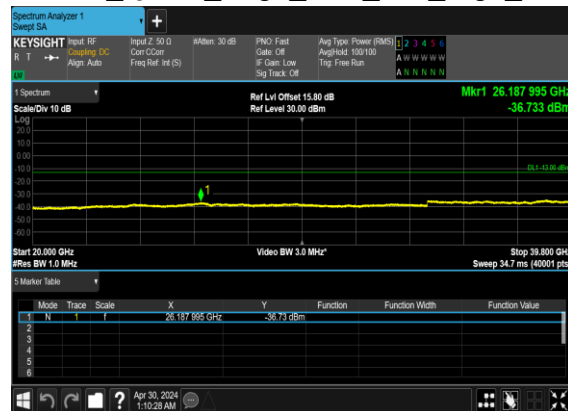
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_High_CH



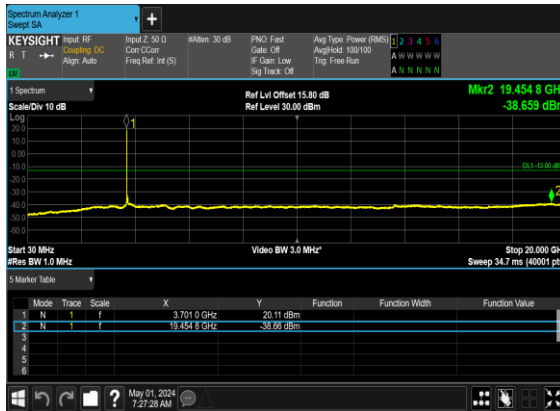
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_High_CH



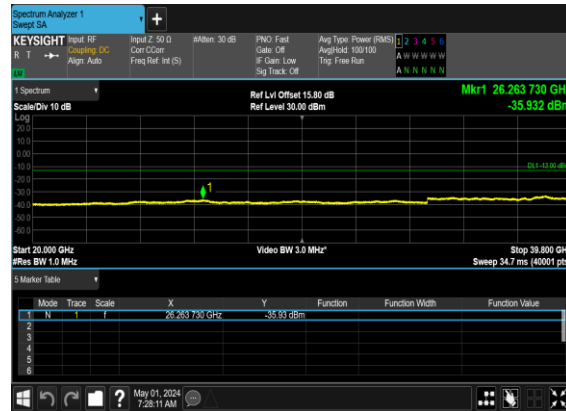
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



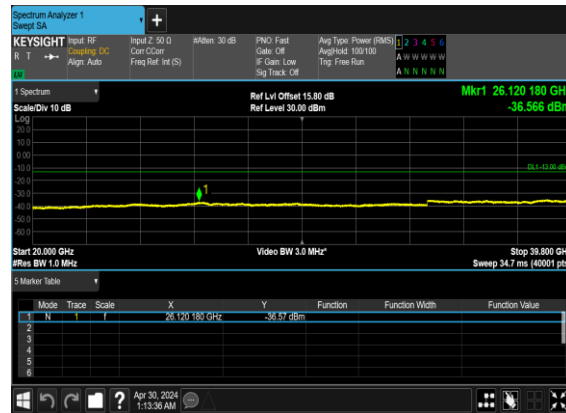
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OFDM_BPSK_Edge_1RB_Left_Low_CH



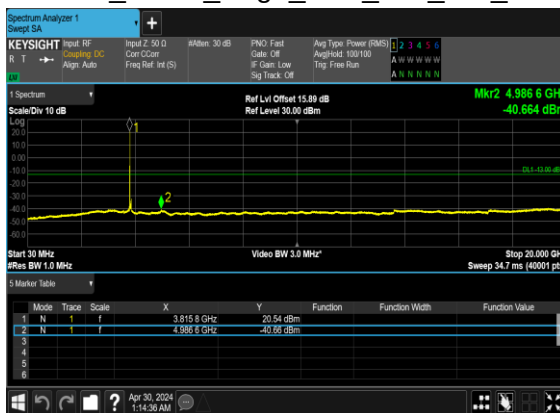
N77(50M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



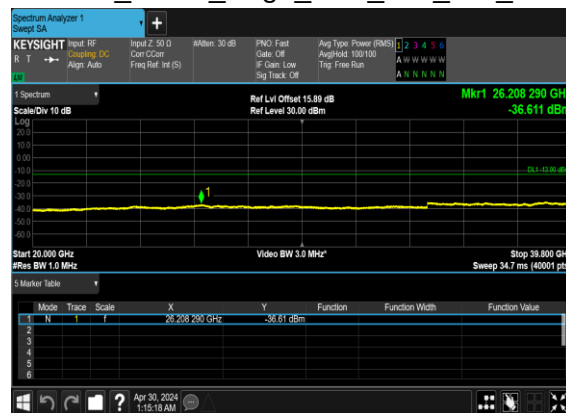
N77(50M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Mid_CH



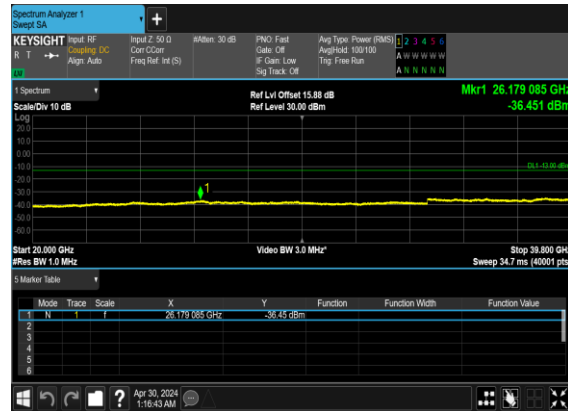
N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Mid_CH



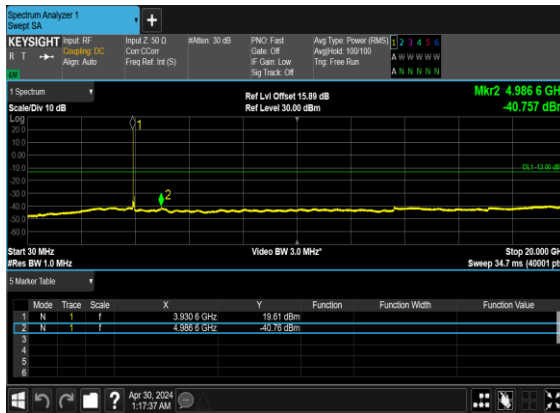
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



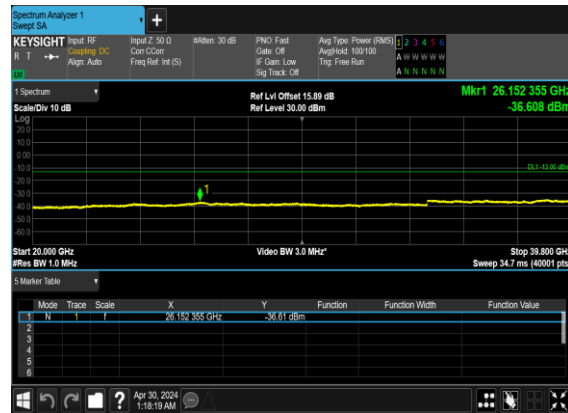
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



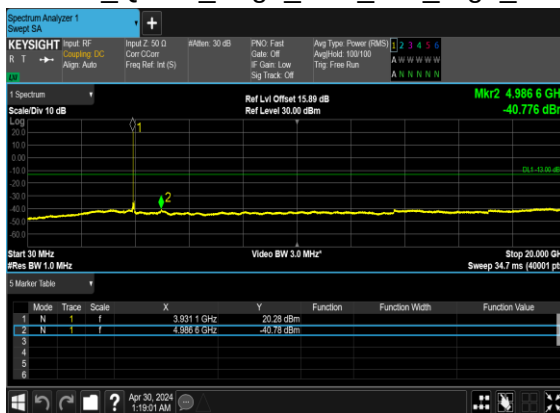
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



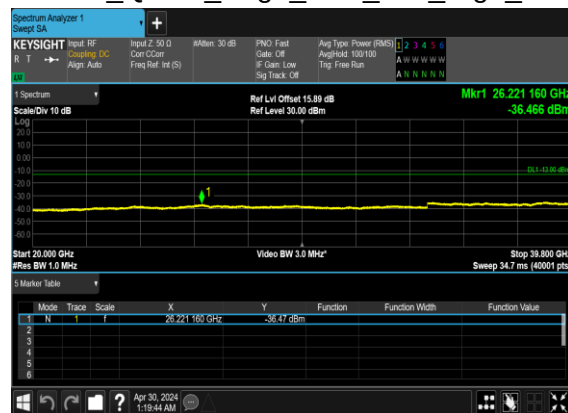
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



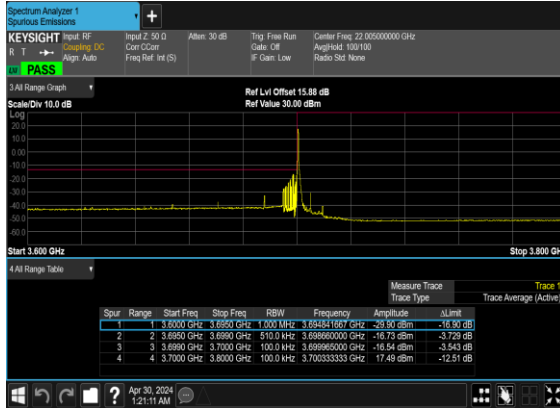
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



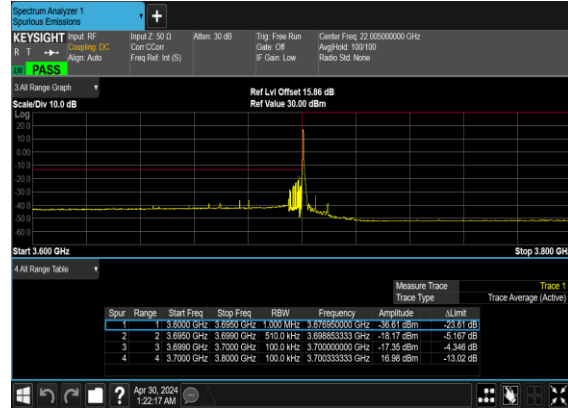
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@51	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@51	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM BPSK	1@105	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@105	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	270@0	see graph	PASS
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	270@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@269	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@269	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	270@0	see graph	PASS
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	270@0	see graph	PASS

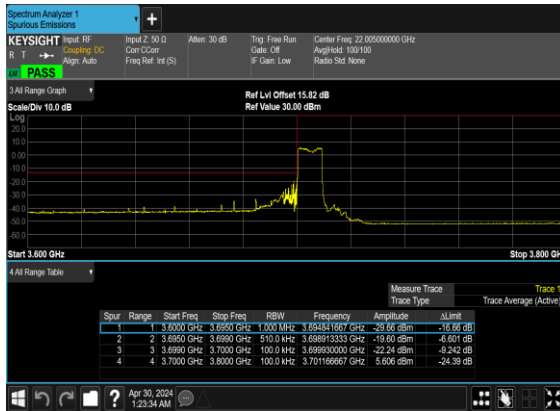
N77(10M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



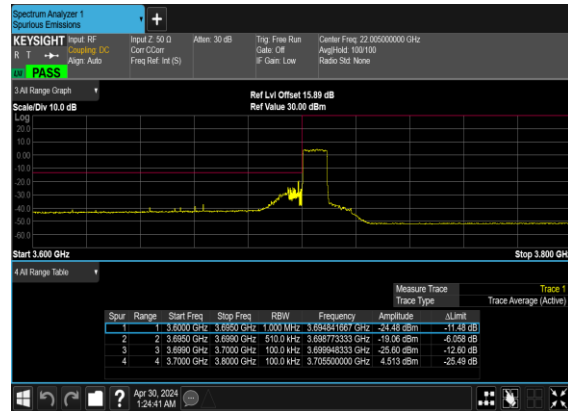
N77(10M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



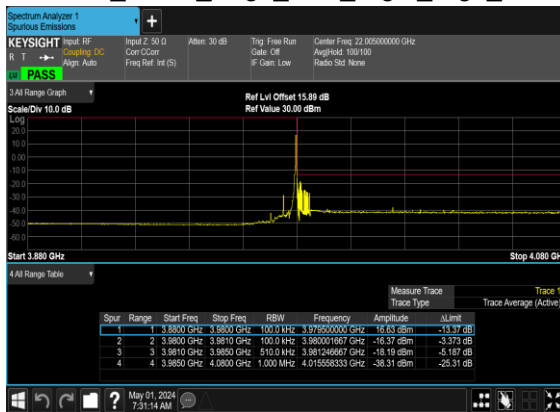
N77(10M)_DFT-s-
OFDM_BPSK_Outer_Full_Low_CH



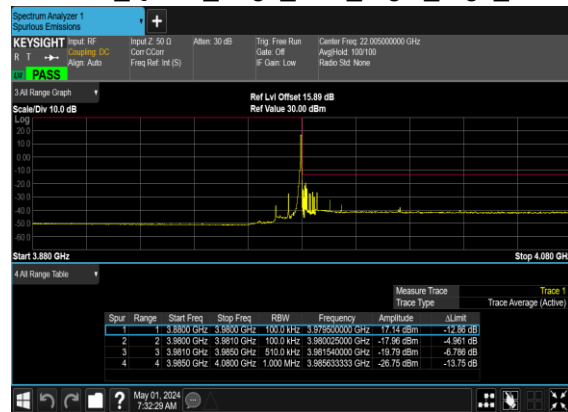
N77(10M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



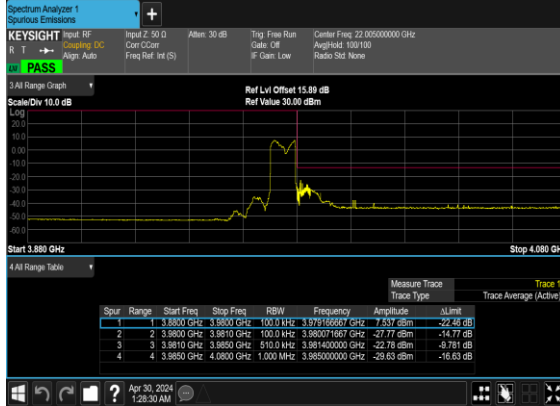
N77(10M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



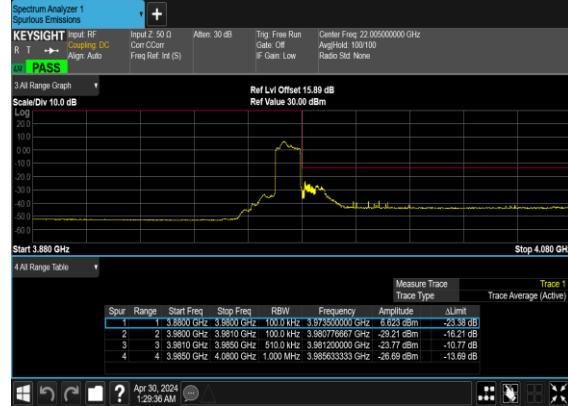
N77(10M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



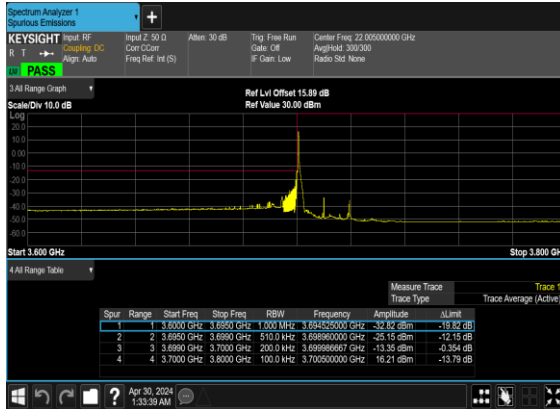
N77(10M)_DFT-s-
OFDM_BPSK_Outer_Full_High_CH



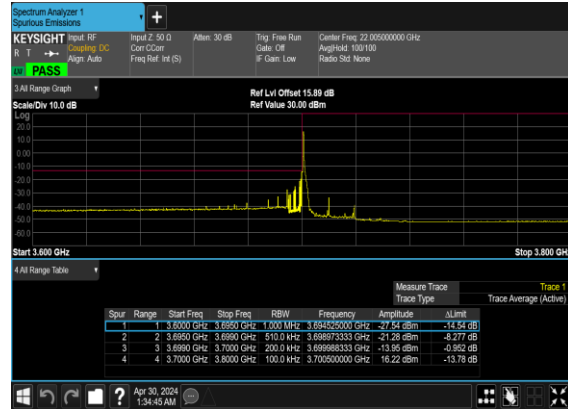
N77(10M)_DFT-s-
OFDM_QPSK_Outer_Full_High_CH



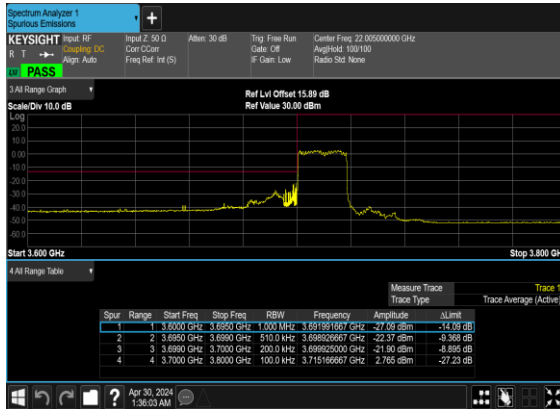
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



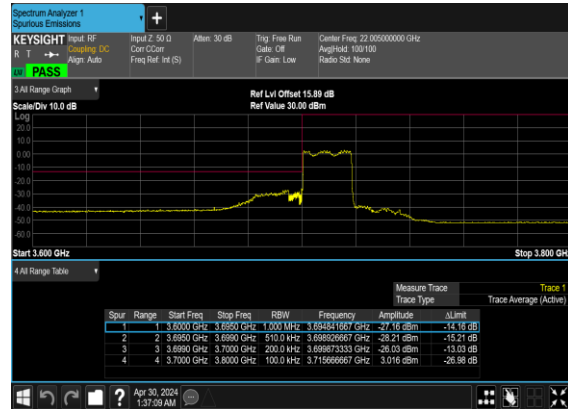
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



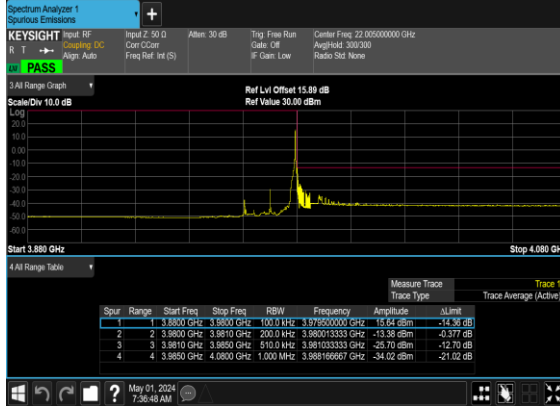
N77(20M)_DFT-s-
OFDM_BPSK_Outer_Full_Low_CH



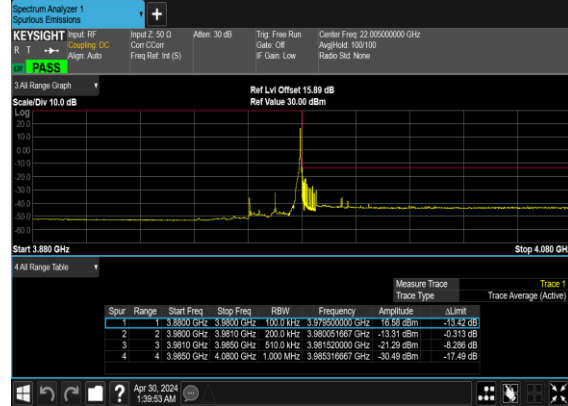
N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



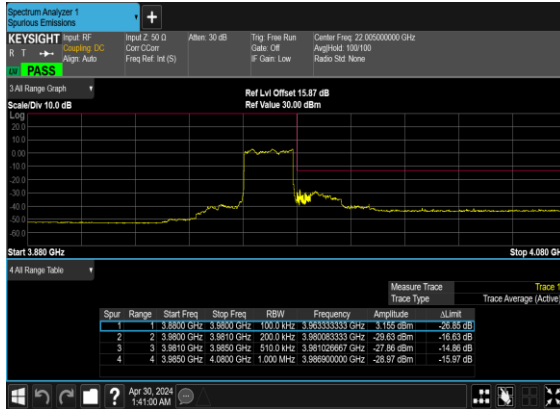
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



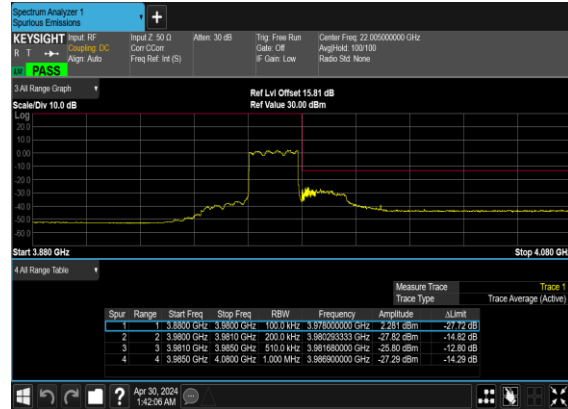
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



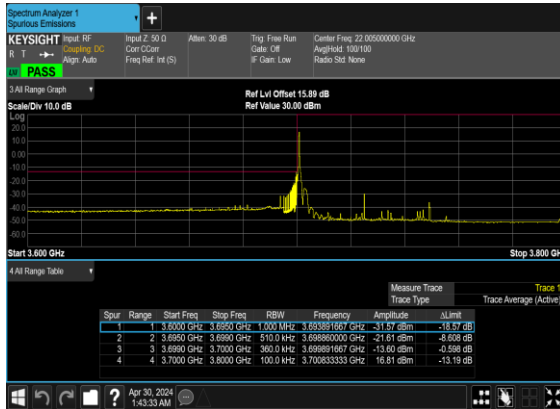
N77(20M)_DFT-s-
OFDM_BPSK_Outer_Full_High_CH



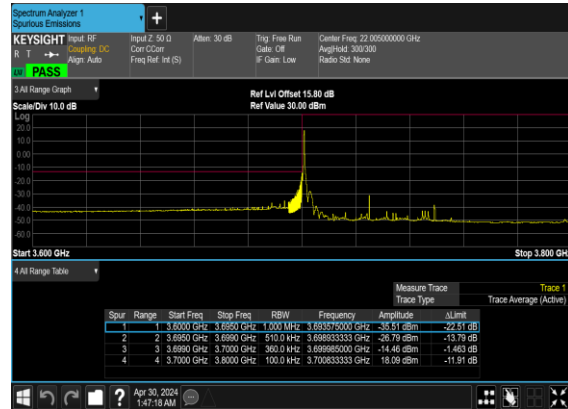
N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_High_CH



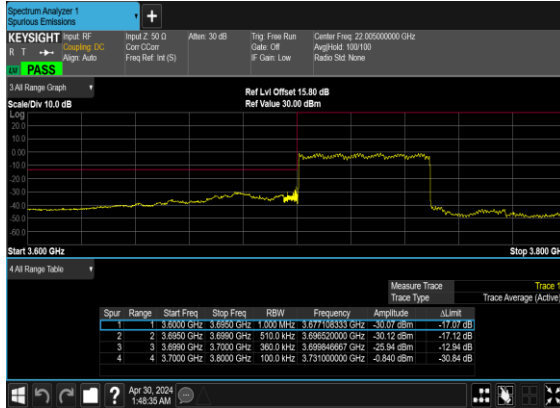
N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



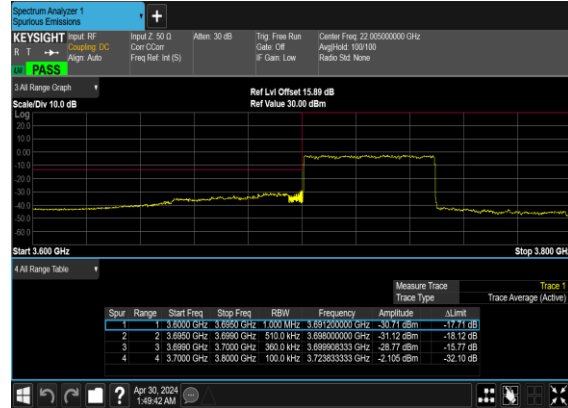
N77(50M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



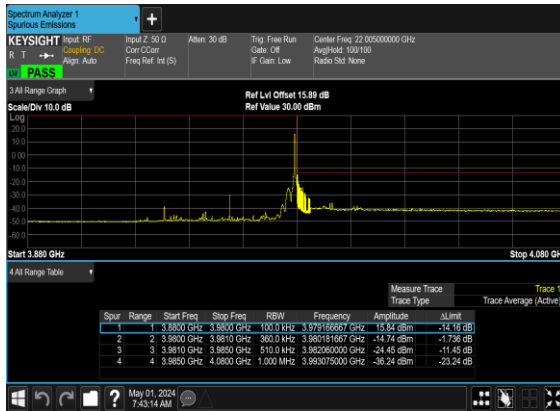
N77(50M)_DFT-s-
OFDM_BPSK_Outer_Full_Low_CH



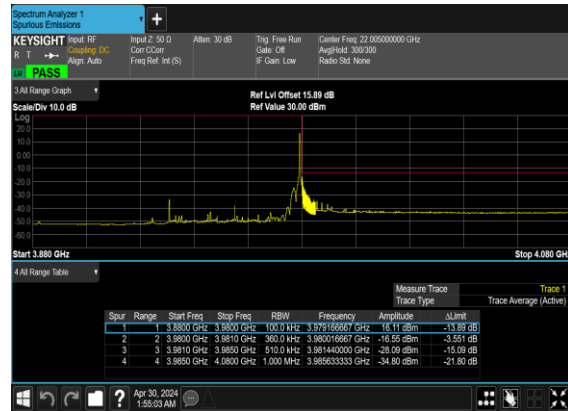
N77(50M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



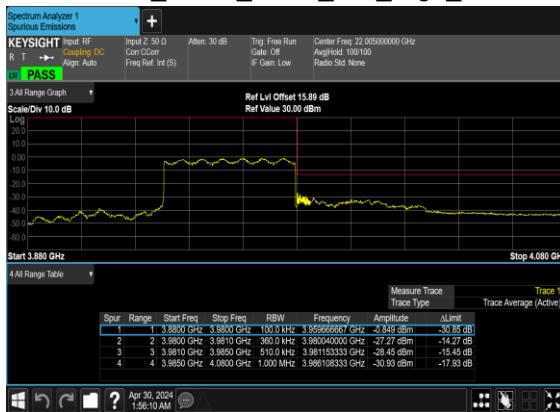
N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



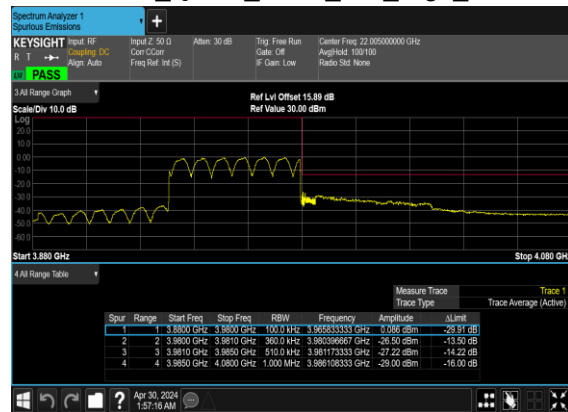
N77(50M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



N77(50M)_DFT-s-
OFDM_BPSK_Outer_Full_High_CH



N77(50M)_DFT-s-
OFDM_QPSK_Outer_Full_High_CH



FR1 N78-SCS 15K

Transmitter Conducted Output Power And EIRP, ($G_T - L_C$)=3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
78	15	10	647000	3705	DFT-s-OFDM QPSK	1@1	24.96	27.96	0.6252
78	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	23.87	26.87	0.4864
78	15	10	650000	3750	DFT-s-OFDM QPSK	1@1	25.15	28.15	0.6531
78	15	10	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.84	26.84	0.4831
78	15	10	653000	3795	DFT-s-OFDM QPSK	1@1	25.27	28.27	0.6714
78	15	10	653000	3795	DFT-s-OFDM 16 QAM	1@1	24.15	27.15	0.5188
78	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@1	25.19	28.19	0.6592
78	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@1	23.94	26.94	0.4943
78	15	15	650000	3750	DFT-s-OFDM QPSK	1@1	25.19	28.19	0.6592
78	15	15	650000	3750	DFT-s-OFDM 16 QAM	1@1	24.08	27.08	0.5105
78	15	15	652833	3792.495	DFT-s-OFDM QPSK	1@1	25.44	28.44	0.6982
78	15	15	652833	3792.495	DFT-s-OFDM 16 QAM	1@1	24.3	27.3	0.5370
78	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	25.27	28.27	0.6714
78	15	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	23.86	26.86	0.4853
78	15	20	650000	3750	DFT-s-OFDM QPSK	1@1	25.18	28.18	0.6577
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.78	26.78	0.4764
78	15	20	652666	3789.99	DFT-s-OFDM QPSK	1@1	25.46	28.46	0.7015
78	15	20	652666	3789.99	DFT-s-OFDM 16 QAM	1@1	24.17	27.17	0.5212
78	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@1	25.04	28.04	0.6368
78	15	30	647667	3715.005	DFT-s-OFDM 16 QAM	1@1	23.85	26.85	0.4842
78	15	30	650000	3750	DFT-s-OFDM QPSK	1@1	24.89	27.89	0.6152
78	15	30	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.88	26.88	0.4875
78	15	30	652333	3784.995	DFT-s-OFDM QPSK	1@1	25.16	28.16	0.6546
78	15	30	652333	3784.995	DFT-s-OFDM 16 QAM	1@1	23.99	26.99	0.5000
78	15	40	648000	3720	DFT-s-OFDM QPSK	1@1	24.74	27.74	0.5943
78	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	23.42	26.42	0.4385
78	15	40	650000	3750	DFT-s-OFDM QPSK	1@1	24.75	27.75	0.5957
78	15	40	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.54	26.54	0.4508
78	15	40	652000	3780	DFT-s-OFDM QPSK	1@1	24.81	27.81	0.6039

78	15	40	652000	3780	DFT-s-OFDM 16 QAM	1@1	23.58	26.58	0.4550
V	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	135@67	25.15	28.15	0.6531
78	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	25.04	28.04	0.6368
78	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@268	25.12	28.12	0.6486
78	15	50	648334	3725.01	DFT-s-OFDM QPSK	135@67	25.27	28.27	0.6714
78	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	24.93	27.93	0.6209
78	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@268	25.28	28.28	0.6730
78	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	135@67	24.22	27.22	0.5272
78	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	23.76	26.76	0.4742
78	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@268	23.86	26.86	0.4853
78	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	135@67	22.86	25.86	0.3855
78	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@1	22.5	25.5	0.3548
78	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@268	22.58	25.58	0.3614
78	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	135@67	20.85	23.85	0.2427
78	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@1	20.6	23.6	0.2291
78	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@268	20.72	23.72	0.2355
78	15	50	648334	3725.01	CP-OFDM QPSK	135@67	23.65	26.65	0.4624
78	15	50	648334	3725.01	CP-OFDM QPSK	1@1	23.42	26.42	0.4385
78	15	50	648334	3725.01	CP-OFDM QPSK	1@268	23.86	26.86	0.4853
78	15	50	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	25.48	28.48	0.7047
78	15	50	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	25.04	28.04	0.6368
78	15	50	650000	3750	DFT-s-OFDM PI/2 BPSK	1@268	25.2	28.2	0.6607
78	15	50	650000	3750	DFT-s-OFDM QPSK	135@67	25.28	28.28	0.6730
78	15	50	650000	3750	DFT-s-OFDM QPSK	1@1	24.97	27.97	0.6266
78	15	50	650000	3750	DFT-s-OFDM QPSK	1@268	25.34	28.34	0.6823
78	15	50	650000	3750	DFT-s-OFDM 16 QAM	135@67	24.52	27.52	0.5649
78	15	50	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.87	26.87	0.4864
78	15	50	650000	3750	DFT-s-OFDM 16 QAM	1@268	24.09	27.09	0.5117
78	15	50	650000	3750	DFT-s-OFDM 64 QAM	135@67	22.94	25.94	0.3926
78	15	50	650000	3750	DFT-s-OFDM 64 QAM	1@1	22.62	25.62	0.3648
78	15	50	650000	3750	DFT-s-OFDM 64 QAM	1@268	22.78	25.78	0.3784
78	15	50	650000	3750	DFT-s-OFDM 256 QAM	135@67	20.97	23.97	0.2495
78	15	50	650000	3750	DFT-s-OFDM 256 QAM	1@1	20.66	23.66	0.2323
78	15	50	650000	3750	DFT-s-OFDM 256 QAM	1@268	20.85	23.85	0.2427
78	15	50	650000	3750	CP-OFDM QPSK	135@67	23.81	26.81	0.4797

78	15	50	650000	3750	CP-OFDM QPSK	1@1	23.51	26.51	0.4477
78	15	50	650000	3750	CP-OFDM QPSK	1@268	23.79	26.79	0.4775
78	15	50	651666	3774.99	DFT-s-OFDM PI/2 BPSK	135@67	25.61	28.61	0.7261
78	15	50	651666	3774.99	DFT-s-OFDM PI/2 BPSK	1@1	25	28	0.6310
78	15	50	651666	3774.99	DFT-s-OFDM PI/2 BPSK	1@268	25.5	28.5	0.7079
78	15	50	651666	3774.99	DFT-s-OFDM QPSK	135@67	25.56	28.56	0.7178
78	15	50	651666	3774.99	DFT-s-OFDM QPSK	1@1	25.04	28.04	0.6368
78	15	50	651666	3774.99	DFT-s-OFDM QPSK	1@268	25.37	28.37	0.6871
78	15	50	651666	3774.99	DFT-s-OFDM 16 QAM	135@67	24.49	27.49	0.5610
78	15	50	651666	3774.99	DFT-s-OFDM 16 QAM	1@1	23.86	26.86	0.4853
78	15	50	651666	3774.99	DFT-s-OFDM 16 QAM	1@268	24.28	27.28	0.5346
78	15	50	651666	3774.99	DFT-s-OFDM 64 QAM	135@67	22.91	25.91	0.3899
78	15	50	651666	3774.99	DFT-s-OFDM 64 QAM	1@1	22.57	25.57	0.3606
78	15	50	651666	3774.99	DFT-s-OFDM 64 QAM	1@268	22.99	25.99	0.3972
78	15	50	651666	3774.99	DFT-s-OFDM 256 QAM	135@67	21.24	24.24	0.2655
78	15	50	651666	3774.99	DFT-s-OFDM 256 QAM	1@1	20.76	23.76	0.2377
78	15	50	651666	3774.99	DFT-s-OFDM 256 QAM	1@268	21.08	24.08	0.2559
78	15	50	651666	3774.99	CP-OFDM QPSK	135@67	23.93	26.93	0.4932
78	15	50	651666	3774.99	CP-OFDM QPSK	1@1	23.64	26.64	0.4613
78	15	50	651666	3774.99	CP-OFDM QPSK	1@268	24.05	27.05	0.5070

FR1 N77-SCS 30K

Transmitter Conducted Output Power And EIRP, ($G_T - L_C$)=3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	10	647000	3705	DFT-s-OFDM QPSK	1@1	25.2	28.2	0.6607
77	30	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	24.07	27.07	0.5093
77	30	10	656000	3840	DFT-s-OFDM QPSK	1@1	25.77	28.77	0.7534
77	30	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.74	27.74	0.5943
77	30	10	665000	3975	DFT-s-OFDM QPSK	1@1	25.26	28.26	0.6699
77	30	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	24.03	27.03	0.5047
77	30	15	647168	3707.52	DFT-s-OFDM QPSK	1@1	25.15	28.15	0.6531
77	30	15	647168	3707.52	DFT-s-OFDM 16 QAM	1@1	24.17	27.17	0.5212
77	30	15	656000	3840	DFT-s-OFDM QPSK	1@1	25.67	28.67	0.7362
77	30	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.75	27.75	0.5957
77	30	15	664832	3972.48	DFT-s-OFDM QPSK	1@1	25.11	28.11	0.6471
77	30	15	664832	3972.48	DFT-s-OFDM 16 QAM	1@1	24.14	27.14	0.5176
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	24.89	27.89	0.6152
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	24.1	27.1	0.5129
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	25.55	28.55	0.7161
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.52	27.52	0.5649
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	25.03	28.03	0.6353
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	24.06	27.06	0.5082
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	24.99	27.99	0.6295
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	24.04	27.04	0.5058
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	25.34	28.34	0.6823
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.44	27.44	0.5546
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	24.8	27.8	0.6026
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	23.84	26.84	0.4831
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	24.88	27.88	0.6138
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	23.89	26.89	0.4887
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	25.26	28.26	0.6699
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.19	27.19	0.5236
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	24.42	27.42	0.5521
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	23.42	26.42	0.4385
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	25.18	28.18	0.6577
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	24.09	27.09	0.5117
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@1	25.25	28.25	0.6683
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.32	27.32	0.5395
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	24.59	27.59	0.5741
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.72	26.72	0.4699

77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	25.1	28.1	0.6457
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	23.74	26.74	0.4721
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	25.25	28.25	0.6683
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.26	27.26	0.5321
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	24.88	27.88	0.6138
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	23.71	26.71	0.4688
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@1	24.89	27.89	0.6152
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@1	23.72	26.72	0.4699
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@1	25.26	28.26	0.6699
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.97	26.97	0.4977
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@1	24.92	27.92	0.6194
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@1	24	27	0.5012
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	24.71	27.71	0.5902
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	23.63	26.63	0.4603
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	24.91	27.91	0.6180
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.95	26.95	0.4955
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	24.77	27.77	0.5984
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	23.82	26.82	0.4808
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@1	24.78	27.78	0.5998
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@1	23.59	26.59	0.4560
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@1	24.69	27.69	0.5875
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.84	26.84	0.4831
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@1	24.94	27.94	0.6223
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@1	23.93	26.93	0.4932
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	25.3	28.3	0.6761
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	24.54	27.54	0.5675
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	24.85	27.85	0.6095
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	25.38	28.38	0.6887
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	24.6	27.6	0.5754
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	24.98	27.98	0.6281
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	24.4	27.4	0.5495
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.41	26.41	0.4375
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	23.86	26.86	0.4853
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	22.79	25.79	0.3793
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	22.13	25.13	0.3258
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	22.41	25.41	0.3475
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	20.74	23.74	0.2366
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	20.59	23.59	0.2286
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	21.05	24.05	0.2541
77	30	100	650000	3750	CP-OFDM QPSK	137@68	23.8	26.8	0.4786
77	30	100	650000	3750	CP-OFDM QPSK	1@1	22.98	25.98	0.3963
77	30	100	650000	3750	CP-OFDM QPSK	1@271	23.48	26.48	0.4446
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	25.78	28.78	0.7551
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.55	27.55	0.5689

77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	24.49	27.49	0.5610
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	25.88	28.88	0.7727
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	24.51	27.51	0.5636
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	24.54	27.54	0.5675
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	24.86	27.86	0.6109
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.58	26.58	0.4550
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	23.41	26.41	0.4375
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	23.18	26.18	0.4150
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	21.98	24.98	0.3148
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	21.87	24.87	0.3069
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	21.33	24.33	0.2710
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.68	23.68	0.2333
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	20.66	23.66	0.2323
77	30	100	656000	3840	CP-OFDM QPSK	137@68	24.41	27.41	0.5508
77	30	100	656000	3840	CP-OFDM QPSK	1@1	22.87	25.87	0.3864
77	30	100	656000	3840	CP-OFDM QPSK	1@271	22.83	25.83	0.3828
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	25.21	28.21	0.6622
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	24.8	27.8	0.6026
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	24.54	27.54	0.5675
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	25.15	28.15	0.6531
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	24.92	27.92	0.6194
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	24.69	27.69	0.5875
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	24.16	27.16	0.5200
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	24.07	27.07	0.5093
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	23.75	26.75	0.4732
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	22.57	25.57	0.3606
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	22.25	25.25	0.3350
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	22.26	25.26	0.3357
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	20.84	23.84	0.2421
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	21.23	24.23	0.2649
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	21	24	0.2512
77	30	100	662000	3930	CP-OFDM QPSK	137@68	23.58	26.58	0.4550
77	30	100	662000	3930	CP-OFDM QPSK	1@1	23.47	26.47	0.4436
77	30	100	662000	3930	CP-OFDM QPSK	1@271	23.12	26.12	0.4093

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0067	PASS	NV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0052	PASS	LV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0031	PASS	HV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0058	PASS	-30°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0047	PASS	-20°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0022	PASS	-10°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0037	PASS	0°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0021	PASS	10°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0067	PASS	20°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0058	PASS	30°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0055	PASS	40°C
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0028	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	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	4.33	13	PASS
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	5.47	13	PASS

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



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	10	656000	3840.0	CP-OFDM QPSK	24@0	8.5846	9.241
77	30	10	656000	3840.0	CP-OFDM 16 QAM	24@0	8.57	9.243
77	30	10	656000	3840.0	CP-OFDM 64 QAM	24@0	8.5749	9.284
77	30	10	656000	3840.0	CP-OFDM 256 QAM	24@0	8.5838	9.284
77	30	15	656000	3840.0	CP-OFDM QPSK	38@0	13.619	14.3
77	30	15	656000	3840.0	CP-OFDM 16 QAM	38@0	13.535	14.21
77	30	15	656000	3840.0	CP-OFDM 64 QAM	38@0	13.57	14.48
77	30	15	656000	3840.0	CP-OFDM 256 QAM	38@0	13.582	14.34
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.251	19.15
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.236	19.27
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.154	19.77
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.169	19.25
77	30	30	656000	3840.0	CP-OFDM QPSK	78@0	27.816	29.23
77	30	30	656000	3840.0	CP-OFDM 16 QAM	78@0	27.878	28.84
77	30	30	656000	3840.0	CP-OFDM 64 QAM	78@0	27.795	28.77
77	30	30	656000	3840.0	CP-OFDM 256 QAM	78@0	27.807	29.14
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.879	39.2
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.733	39.5
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.782	39.36
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.864	39.28
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.406	49.21
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.494	49.25
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.399	49.06
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.438	48.93
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.886	59.7

77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.79	59.68
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.716	60.09
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.767	59.64
77	30	70	656000	3840.0	CP-OFDM QPSK	189@0	67.514	69.71
77	30	70	656000	3840.0	CP-OFDM 16 QAM	189@0	67.577	70.02
77	30	70	656000	3840.0	CP-OFDM 64 QAM	189@0	67.318	69.76
77	30	70	656000	3840.0	CP-OFDM 256 QAM	189@0	67.554	70.02
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.589	79.88
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.529	80.01
77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.48	79.88
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.499	79.96
77	30	90	656000	3840.0	CP-OFDM QPSK	245@0	87.434	90.27
77	30	90	656000	3840.0	CP-OFDM 16 QAM	245@0	87.38	90.13
77	30	90	656000	3840.0	CP-OFDM 64 QAM	245@0	87.521	90.16
77	30	90	656000	3840.0	CP-OFDM 256 QAM	245@0	87.463	90.27
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.305	100.4
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.143	100.4
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.48	100.7
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.463	100.5