

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, Part 27 Subpart Q
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



Sporton International Inc. (ShenZhen)

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

People's Republic of China

TABLE OF CONTENTS

REVISION HISTORY.....	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test.....	5
1.4 Product Specification of Equipment Under Test.....	5
1.5 Modification of EUT	6
1.6 Maximum Conducted Power and Emission Designator	6
1.7 Testing Site	8
1.8 Test Software.....	8
1.9 Applied Standards	9
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	10
2.1 Test Mode	10
2.2 Connection Diagram of Test System.....	11
2.3 Support Unit used in test configuration and system	11
2.4 Measurement Results Explanation Example.....	12
2.5 Frequency List of Low/Middle/High Channels	12
3 CONDUCTED TEST ITEMS	14
3.1 Measuring Instruments	14
3.2 Test Setup	14
3.3 Test Result of Conducted Test	14
3.4 Conducted Output Power Measurement	15
3.5 Peak-to-Average Ratio	16
3.6 EIRP	17
3.7 Occupied Bandwidth.....	18
3.8 Conducted Band Edge Measurement	19
3.9 Conducted Spurious Emission Measurement	20
3.10 Frequency Stability Measurement.....	21
4 RADIATED TEST ITEMS	22
4.1 Measuring Instruments	22
4.2 Test Setup	22
4.3 Test Result of Radiated Test	23
4.4 Radiated Spurious Emission Measurement	24
5 LIST OF MEASURING EQUIPMENT	25
6 MEASUREMENT UNCERTAINTY	26
APPENDIX A. TEST RESULTS OF CONDUCTED TEST	
APPENDIX B. TEST RESULTS OF RADIATED TEST	
APPENDIX C. TEST SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG431133T	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	—	Report Only	-
3.5	§27.50 (k)(4)	Peak-to-Average Ratio	<13dB	PASS	
3.6	§27.50 (k)(3)	EIRP	EIRP < 1W (30dBm)	PASS	-
3.7	§2.1049	Occupied Bandwidth	—	Report Only	-
3.8	§2.1051 §27.53 (n)(2)	Conducted Band Edge Measurement	-13dBm/MHz	PASS	-
3.9	§2.1051 §27.53 (n)(2)	Conducted Spurious Emission	-13dBm/MHz	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission	-13dBm/MHz	PASS	Under limit 17.26 dB at 6916.50 MHz

Conformity Assessment Condition:

- 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.
- 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

Product Feature	
Tx/Rx Frequency	5G NR n77: 3450 MHz ~ 3550 MHz 5G NR n78: 3450 MHz ~ 3550 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	n77/n78: 3.0 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.

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	3455.01 ~ 3544.995	0.3750	9M27G7D	0.2767	9M30W7D
15	3457.50 ~ 3542.49	0.3926	14M1G7D	0.2897	14M1W7D
20	3460.005 ~ 3540.00	0.3828	18M9G7D	0.2877	19M0W7D
30	3465.00 ~ 3534.99	0.3606	28M6G7D	0.2742	28M6W7D
40	3470.01 ~ 3529.995	0.3467	38M6G7D	0.2523	38M6W7D
50	3475.005 ~ 3525.00	0.3972	48M2G7D	0.3097	48M1W7D
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	3455.01 ~ 3544.98	0.3784	8M58G7D	0.2924	8M57W7D
15	3457.50 ~ 3542.49	0.3837	13M6G7D	0.3076	13M6W7D
20	3460.02 ~ 3540.00	0.3819	18M2G7D	0.2999	18M2W7D
30	3465.00 ~ 3534.99	0.3767	27M8G7D	0.2958	27M9W7D
40	3470.01 ~ 3529.98	0.3467	37M8G7D	0.2786	37M9W7D
50	3475.02 ~ 3525.00	0.3733	47M5G7D	0.2985	47M5W7D
60	3480.00 ~ 3519.99	0.3715	57M9G7D	0.2938	57M8W7D
70	3485.01 ~ 3514.98	0.3631	67M4G7D	0.2951	67M6W7D

80	3490.02 ~ 3510.00	0.3656	77M3G7D	0.2871	77M6W7D
90	3495.00 ~ 3504.99	0.3428	87M4G7D	0.2767	87M6W7D
100	3500.01	0.3899	97M4G7D	0.3076	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	3455.01 ~ 3544.995	0.3776	9M27G7D	0.2793	9M30W7D
15	3457.50 ~ 3542.49	0.3908	14M1G7D	0.2979	14M1W7D
20	3460.005 ~ 3540.00	0.3767	18M9G7D	0.2877	19M0W7D
30	3465.00 ~ 3534.99	0.3733	28M6G7D	0.2805	28M6W7D
40	3470.01 ~ 3529.995	0.3483	38M6G7D	0.2582	38M6W7D
50	3475.005 ~ 3525.00	0.3917	48M2G7D	0.3112	48M1W7D
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	3455.01 ~ 3544.98	0.3864	8M58G7D	0.2992	8M57W7D
15	3457.50 ~ 3542.49	0.3864	13M6G7D	0.2958	13M6W7D
20	3460.02 ~ 3540.00	0.3631	18M2G7D	0.2897	18M2W7D
30	3465.00 ~ 3534.99	0.3664	27M8G7D	0.2884	27M9W7D
40	3470.01 ~ 3529.98	0.3475	37M8G7D	0.2742	37M9W7D
50	3475.02 ~ 3525.00	0.3565	47M5G7D	0.2773	47M5W7D
60	3480.00 ~ 3519.99	0.3606	57M9G7D	0.2851	57M8W7D
70	3485.01 ~ 3514.98	0.3565	67M4G7D	0.2748	67M6W7D
80	3490.02 ~ 3510.00	0.3491	77M3G7D	0.2754	77M6W7D
90	3495.00 ~ 3504.99	0.3459	87M4G7D	0.2673	87M6W7D
100	3500.01	0.3882	97M4G7D	0.3069	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 Site

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

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

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 Applied Standards

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

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

Remark:

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

2 Test Configuration of Equipment Under Test

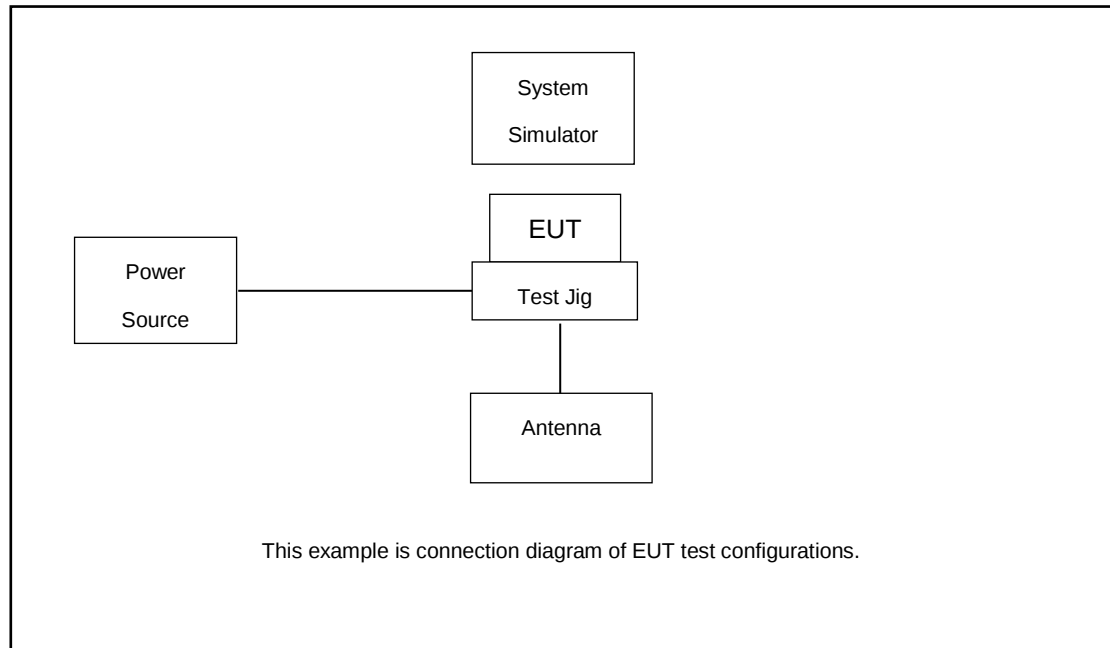
2.1 Test Mode

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

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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	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	
	n78	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		
26dB and 99% Bandwidth	n77	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		v	
Conducted Spurious Emission	n77	v		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	
	n78	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 = 3.3V; Low Voltage =3.14V; High Voltage =4.4V.																						

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.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	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 :

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

=8.90 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G n77/n78 Channel and Frequency List for SCS 15kHz				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	631667	633334	635000
	Frequency	3475.005	3500.01	3525
40	Channel	631334	633334	635333
	Frequency	3470.01	3500.01	3529.995
30	Channel	631000	633334	635666
	Frequency	3465	3500.01	3534.99
20	Channel	630667	633334	636000
	Frequency	3460.005	3500.01	3540
15	Channel	630500	633334	636166
	Frequency	3457.5	3500.01	3542.49
10	Channel	630334	633334	636333
	Frequency	3455.01	3500.01	3544.995

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

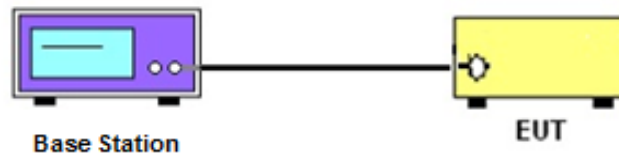
3 Conducted Test Items

3.1 Measuring Instruments

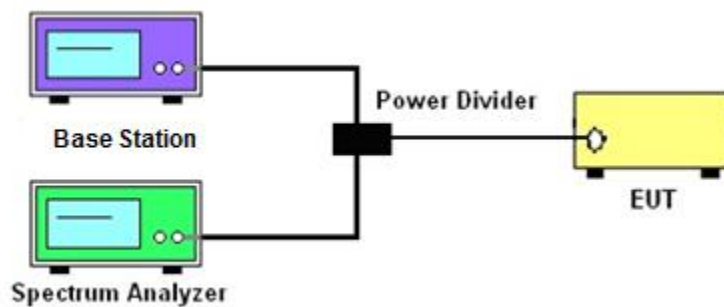
See list of measuring instruments of this test report.

3.2 Test Setup

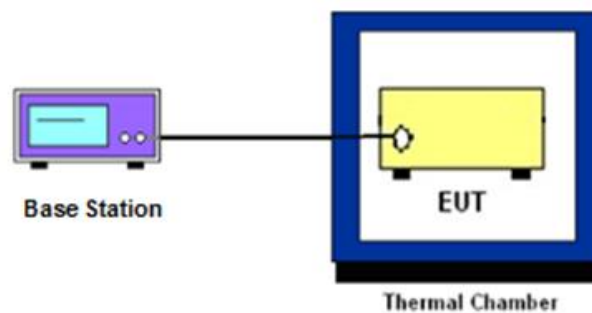
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power Measurement

3.4.1 Description of the Conducted Output Power Measurement

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 EIRP

3.6.1 Description of EIRP Limit

§ 27.50 (k)(3)

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

3.6.2 Test Procedures

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

3.7 Occupied Bandwidth

3.7.1 Description of Occupied Bandwidth Measurement

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

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

3.7.2 Test Procedures

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

3.8 Conducted Band Edge Measurement

3.8.1 Description of Conducted Band Edge Measurement

§ 27.53 (n)(2)

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

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

3.8.2 Test Procedures

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

3.9 Conducted Spurious Emission Measurement

3.9.1 Description of Conducted Spurious Emission Measurement

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

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10th harmonic.

3.9.2 Test Procedures

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

3.10 Frequency Stability Measurement

3.10.1 Description of Frequency Stability Measurement

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

3.10.2 Test Procedures for Temperature Variation

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

3.10.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5.
2. The EUT was placed in a temperature chamber at 20±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.

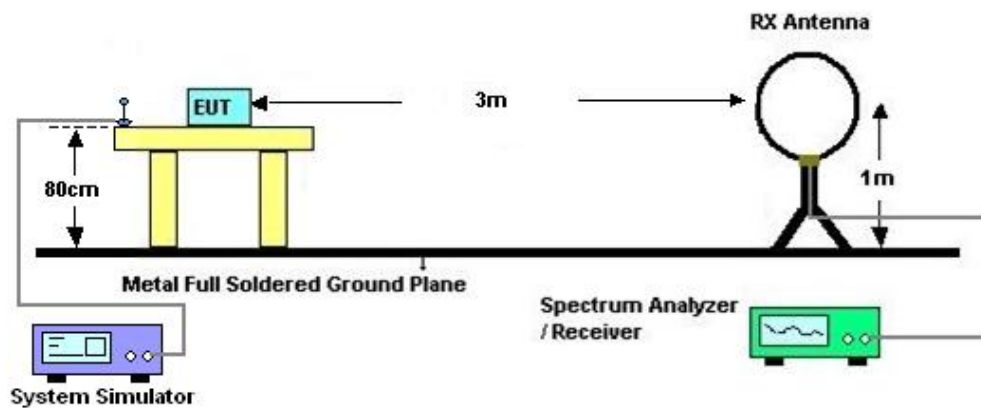
4 Radiated Test Items

4.1 Measuring Instruments

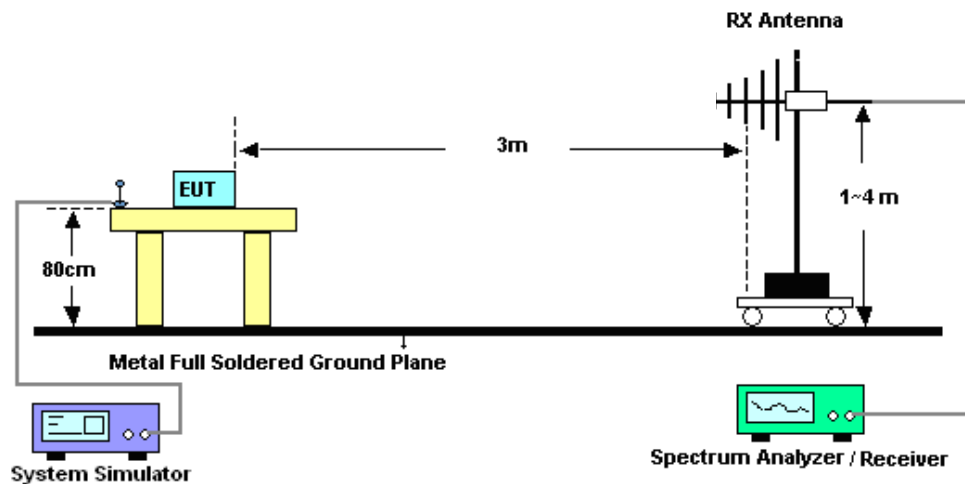
See list of measuring instruments of this test report.

4.2 Test Setup

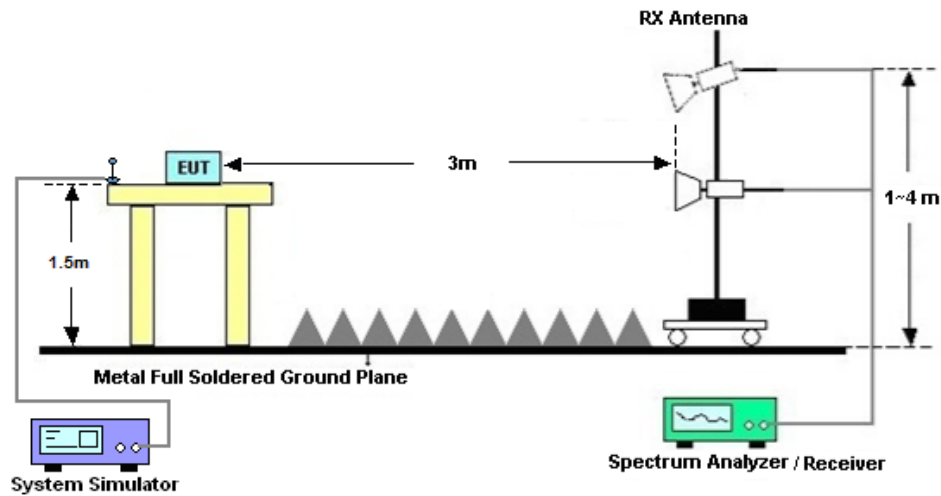
4.2.1 For radiated test below 30MHz



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 Measurement

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 shall not exceed -13 dBm/MHz.

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

4.4.2 Test Procedures

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

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Apr. 30, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct. 16, 2023	Apr. 30, 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	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 05, 2023	Apr. 30, 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
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.53 dB
---	---------

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

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

----- 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	630334	3455.01	DFT-s-OFDM QPSK	1@1	25.74	28.74	0.7482
77	15	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	24.42	27.42	0.5521
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.71	28.71	0.7430
77	15	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.35	27.35	0.5433
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@1	25.27	28.27	0.6714
77	15	10	636333	3544.995	DFT-s-OFDM 16 QAM	1@1	24.24	27.24	0.5297
77	15	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	25.94	28.94	0.7834
77	15	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	24.62	27.62	0.5781
77	15	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.91	28.91	0.7780
77	15	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.54	27.54	0.5675
77	15	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	25.73	28.73	0.7464
77	15	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	24.33	27.33	0.5408
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@1	25.83	28.83	0.7638
77	15	20	630667	3460.005	DFT-s-OFDM 16 QAM	1@1	24.59	27.59	0.5741
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.82	28.82	0.7621
77	15	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.53	27.53	0.5662
77	15	20	636000	3540	DFT-s-OFDM QPSK	1@1	25.47	28.47	0.7031
77	15	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	24.28	27.28	0.5346
77	15	30	631000	3465	DFT-s-OFDM QPSK	1@1	25.57	28.57	0.7194
77	15	30	631000	3465	DFT-s-OFDM 16 QAM	1@1	24.3	27.3	0.5370
77	15	30	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.57	28.57	0.7194
77	15	30	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.38	27.38	0.5470
77	15	30	635666	3534.99	DFT-s-OFDM QPSK	1@1	25.36	28.36	0.6855
77	15	30	635666	3534.99	DFT-s-OFDM 16 QAM	1@1	24.27	27.27	0.5333
77	15	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	25.4	28.4	0.6918
77	15	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	24.02	27.02	0.5035
77	15	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.38	28.38	0.6887
77	15	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	23.96	26.96	0.4966
77	15	40	635333	3529.995	DFT-s-OFDM QPSK	1@1	25.24	28.24	0.6668

77	15	40	635333	3529.995	DFT-s-OFDM 16 QAM	1@1	23.8	26.8	0.4786
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	135@67	25.83	28.83	0.7638
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@1	25.58	28.58	0.7211
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@268	25.59	28.59	0.7228
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	135@67	25.83	28.83	0.7638
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@1	25.67	28.67	0.7362
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@268	25.72	28.72	0.7447
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	135@67	24.91	27.91	0.6180
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@1	24.35	27.35	0.5433
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@268	24.32	27.32	0.5395
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	135@67	23.21	26.21	0.4178
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@1	23.21	26.21	0.4178
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@268	23.07	26.07	0.4046
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	135@67	21.47	24.47	0.2799
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@1	21.03	24.03	0.2529
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@268	21.32	24.32	0.2704
77	15	50	631667	3475.005	CP-OFDM QPSK	135@67	24.39	27.39	0.5483
77	15	50	631667	3475.005	CP-OFDM QPSK	1@1	24.1	27.1	0.5129
77	15	50	631667	3475.005	CP-OFDM QPSK	1@268	24.12	27.12	0.5152
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	25.99	28.99	0.7925
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.59	28.59	0.7228
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@268	25.57	28.57	0.7194
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	135@67	25.84	28.84	0.7656
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.72	28.72	0.7447
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@268	25.61	28.61	0.7261
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	24.77	27.77	0.5984
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.19	27.19	0.5236
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@268	24.33	27.33	0.5408
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.24	26.24	0.4207
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.1	26.1	0.4074
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@268	23.06	26.06	0.4036
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.6	24.6	0.2884
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.23	24.23	0.2649
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@268	21.09	24.09	0.2564
77	15	50	633334	3500.01	CP-OFDM QPSK	135@67	24.41	27.41	0.5508

77	15	50	633334	3500.01	CP-OFDM QPSK	1@1	24.28	27.28	0.5346
77	15	50	633334	3500.01	CP-OFDM QPSK	1@268	24.06	27.06	0.5082
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	135@67	25.81	28.81	0.7603
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@1	25.51	28.51	0.7096
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@268	24.52	27.52	0.5649
77	15	50	635000	3525	DFT-s-OFDM QPSK	135@67	25.7	28.7	0.7413
77	15	50	635000	3525	DFT-s-OFDM QPSK	1@1	25.45	28.45	0.6998
77	15	50	635000	3525	DFT-s-OFDM QPSK	1@268	24.48	27.48	0.5598
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	135@67	24.62	27.62	0.5781
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	24.26	27.26	0.5321
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@268	24.02	27.02	0.5035
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	135@67	23.3	26.3	0.4266
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@1	22.95	25.95	0.3936
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@268	22.72	25.72	0.3733
77	15	50	635000	3525	DFT-s-OFDM 256 QAM	135@67	21.35	24.35	0.2723
77	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@1	21.06	24.06	0.2547
77	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@268	20.89	23.89	0.2449
77	15	50	635000	3525	CP-OFDM QPSK	135@67	24.09	27.09	0.5117
77	15	50	635000	3525	CP-OFDM QPSK	1@1	24.14	27.14	0.5176
77	15	50	635000	3525	CP-OFDM QPSK	1@268	24	27	0.5012

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0034	PASS	NV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0041	PASS	LV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0051	PASS	HV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0031	PASS	-30°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0039	PASS	-20°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0056	PASS	-10°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0062	PASS	0°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0030	PASS	10°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0034	PASS	20°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0057	PASS	30°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0061	PASS	40°C
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0066	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	633334	3500.01	DFT-s-OFDM PI/2 BPSK	100@0	4.43	13	PASS
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	5.58	13	PASS

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



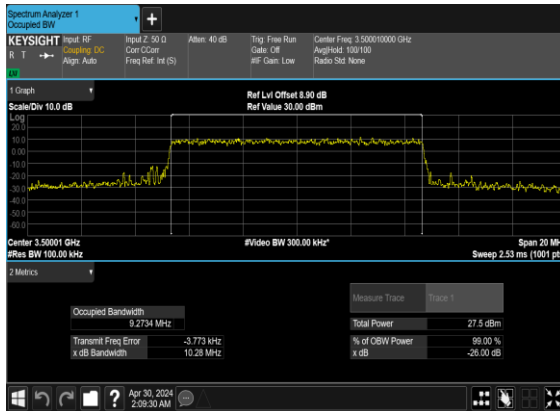
N77(20M)_DFT-s- OFDM_QPSK_Outer_Full_Mid_CH



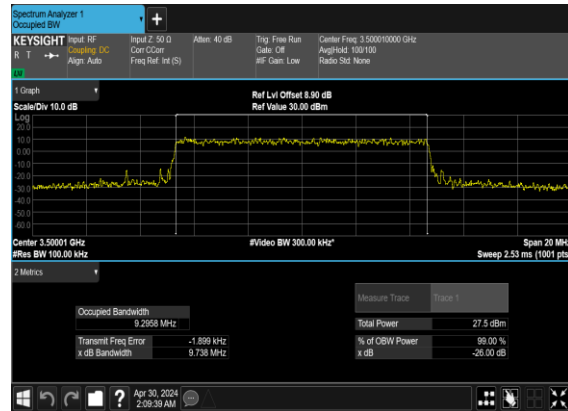
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	15	10	633334	3500.01	CP-OFDM QPSK	52@0	9.2734	10.28
77	15	10	633334	3500.01	CP-OFDM 16 QAM	52@0	9.2958	9.738
77	15	10	633334	3500.01	CP-OFDM 64 QAM	52@0	9.2891	9.693
77	15	10	633334	3500.01	CP-OFDM 256 QAM	52@0	9.2593	9.671
77	15	15	633334	3500.01	CP-OFDM QPSK	79@0	14.11	14.81
77	15	15	633334	3500.01	CP-OFDM 16 QAM	79@0	14.097	14.57
77	15	15	633334	3500.01	CP-OFDM 64 QAM	79@0	14.086	14.69
77	15	15	633334	3500.01	CP-OFDM 256 QAM	79@0	14.101	14.74
77	15	20	633334	3500.01	CP-OFDM QPSK	106@0	18.9	19.52
77	15	20	633334	3500.01	CP-OFDM 16 QAM	106@0	18.894	19.75
77	15	20	633334	3500.01	CP-OFDM 64 QAM	106@0	18.977	19.64
77	15	20	633334	3500.01	CP-OFDM 256 QAM	106@0	18.947	19.63
77	15	30	633334	3500.01	CP-OFDM QPSK	160@0	28.563	29.48
77	15	30	633334	3500.01	CP-OFDM 16 QAM	160@0	28.455	29.59
77	15	30	633334	3500.01	CP-OFDM 64 QAM	160@0	28.605	29.47
77	15	30	633334	3500.01	CP-OFDM 256 QAM	160@0	28.475	29.68
77	15	40	633334	3500.01	CP-OFDM QPSK	216@0	38.622	39.82
77	15	40	633334	3500.01	CP-OFDM 16 QAM	216@0	38.542	40.02
77	15	40	633334	3500.01	CP-OFDM 64 QAM	216@0	38.541	39.95
77	15	40	633334	3500.01	CP-OFDM 256 QAM	216@0	38.595	39.8
77	15	50	633334	3500.01	CP-OFDM QPSK	270@0	48.242	49.69
77	15	50	633334	3500.01	CP-OFDM 16 QAM	270@0	48.138	49.74
77	15	50	633334	3500.01	CP-OFDM 64 QAM	270@0	48.045	49.7
77	15	50	633334	3500.01	CP-OFDM 256 QAM	270@0	48.109	49.7

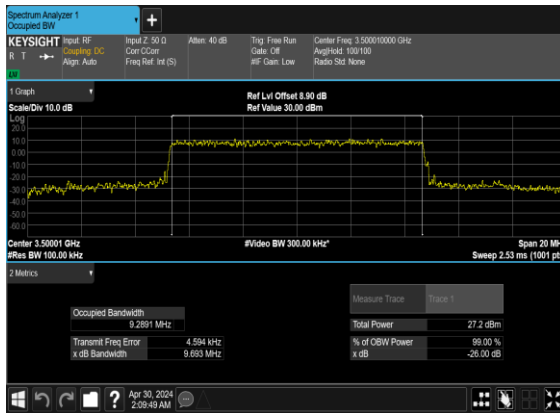
N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



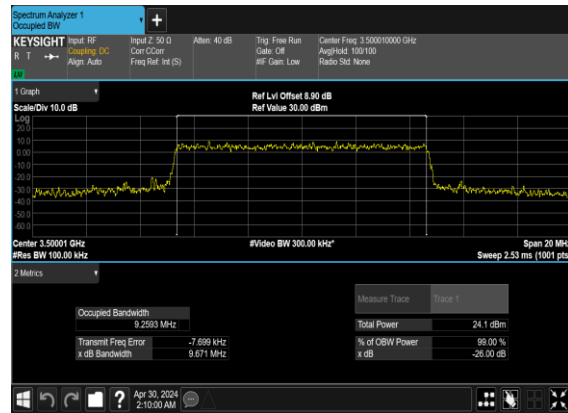
N77(10M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



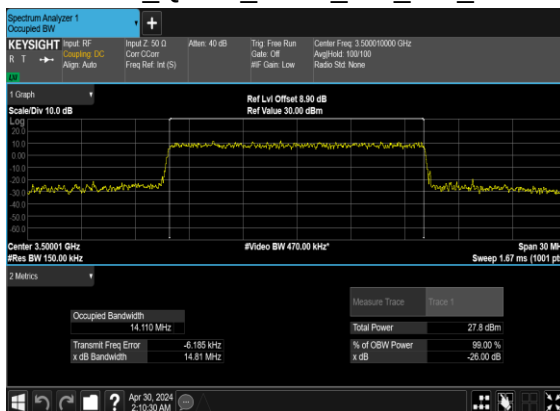
N77(10M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



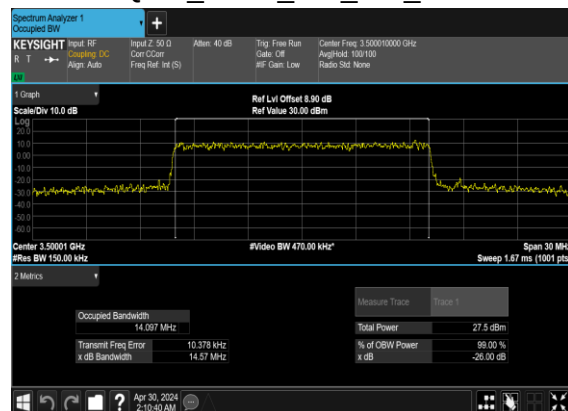
N77(10M)_CP-OFDM_256QAM_Outer_Full_Mid_CH



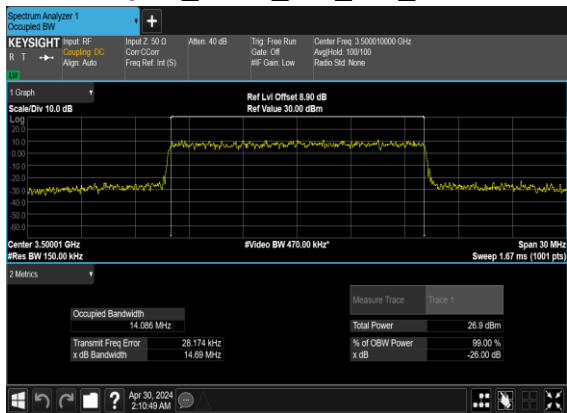
N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



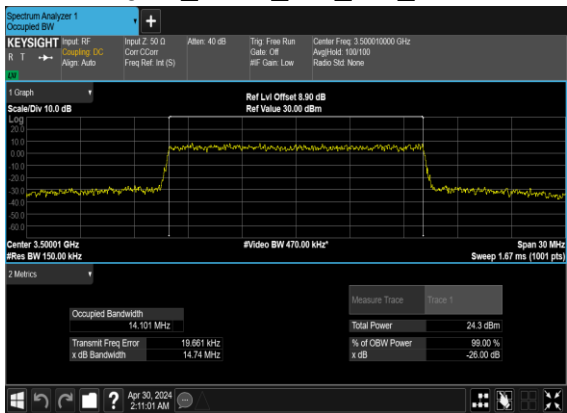
N77(15M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



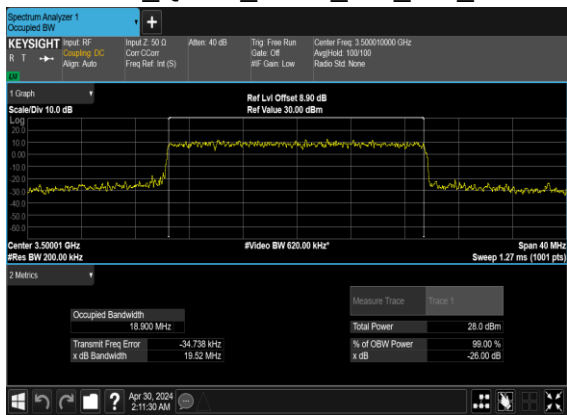
N77(15M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



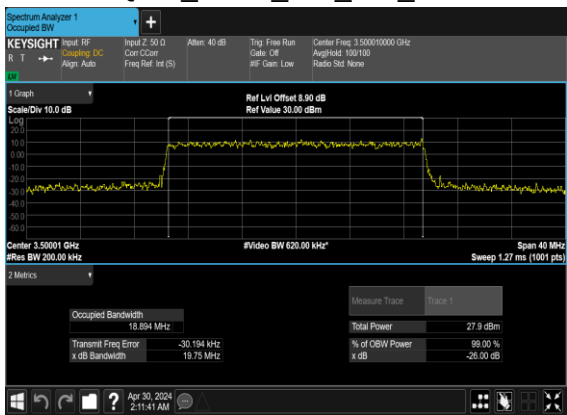
N77(15M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



N77(20M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



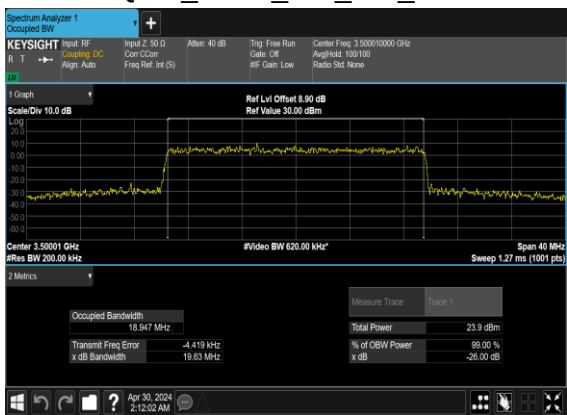
N77(20M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



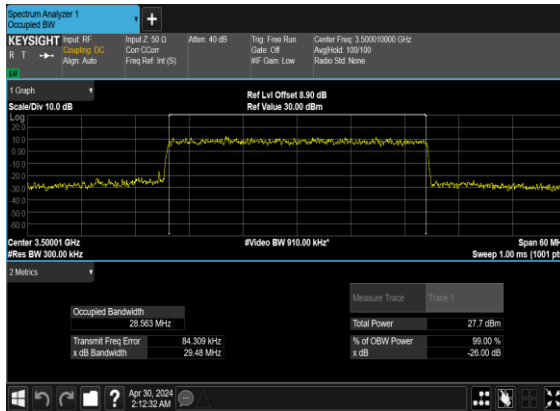
N77(20M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



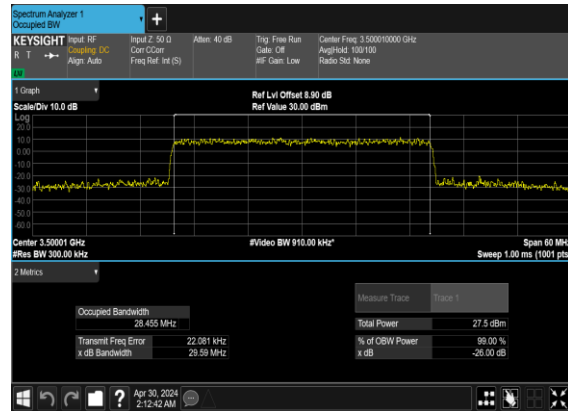
N77(20M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



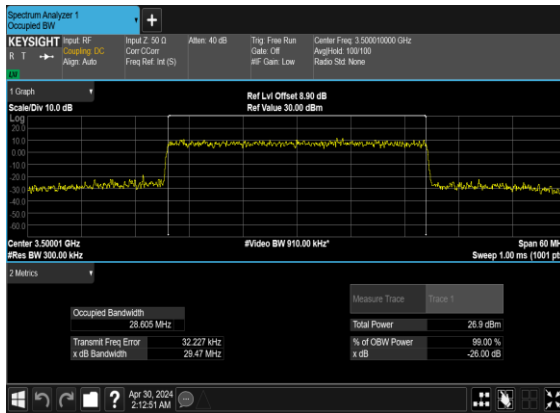
N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



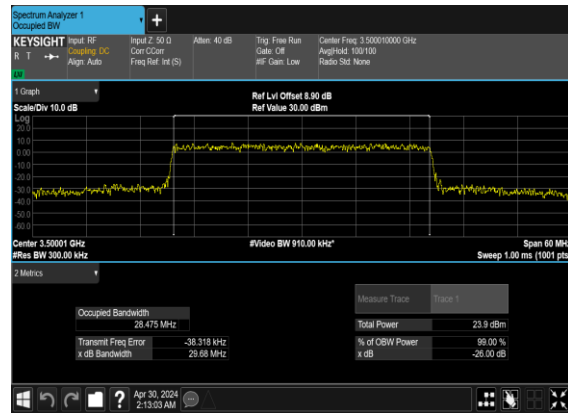
N77(30M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



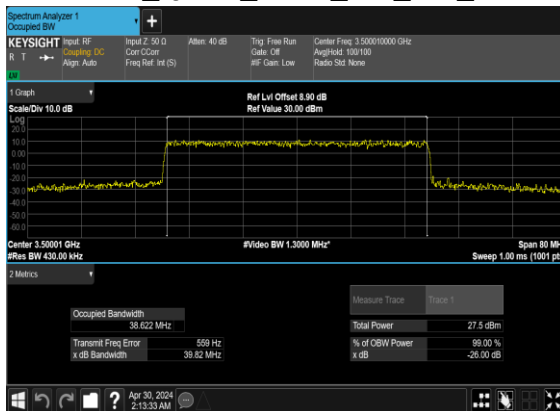
N77(30M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



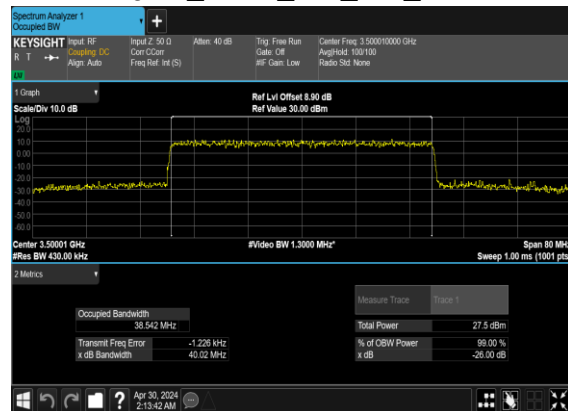
N77(30M)_CP-OFDM_256QAM_Outer_Full_Mid_CH



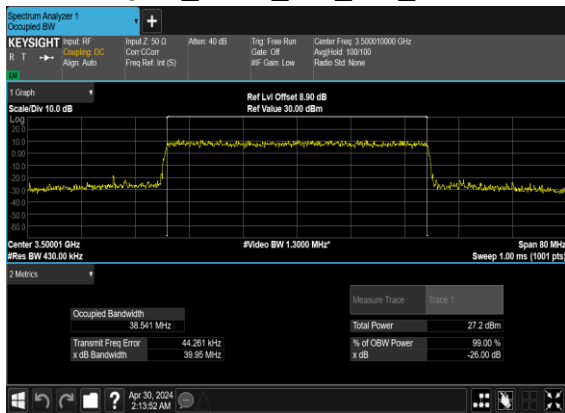
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



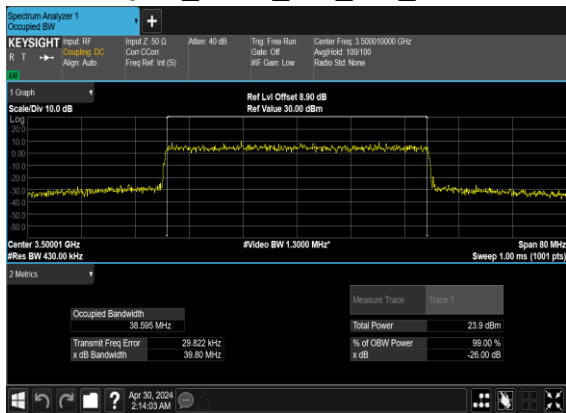
N77(40M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



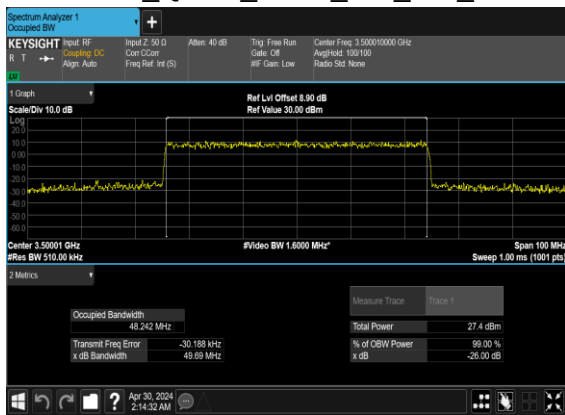
N77(40M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



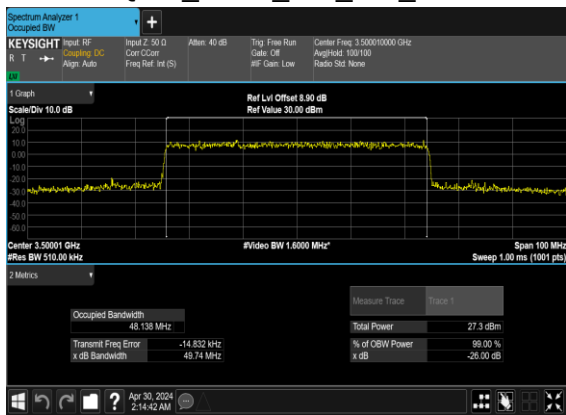
N77(40M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH



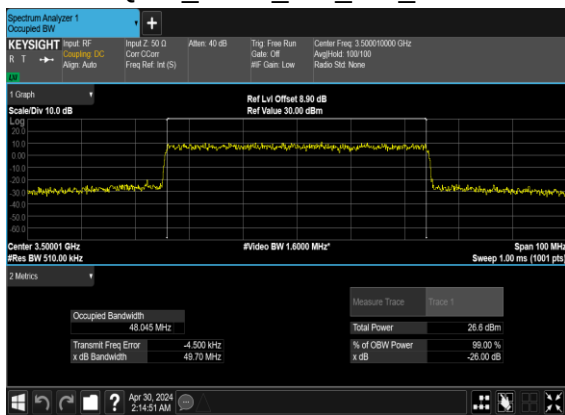
N77(50M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



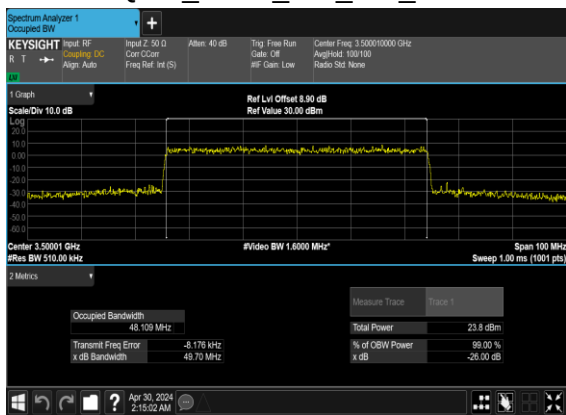
N77(50M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



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	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	see graph	---

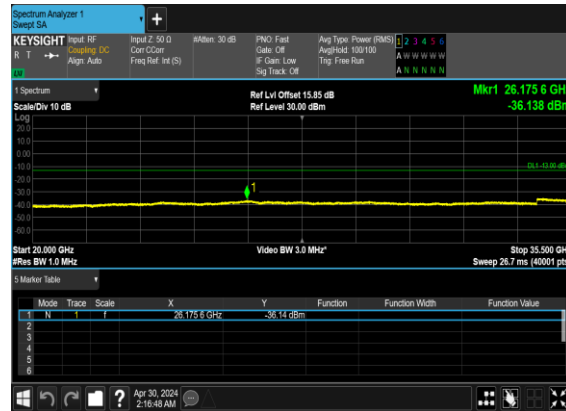
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	631667	3475.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---

77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	15	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	PASS

N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



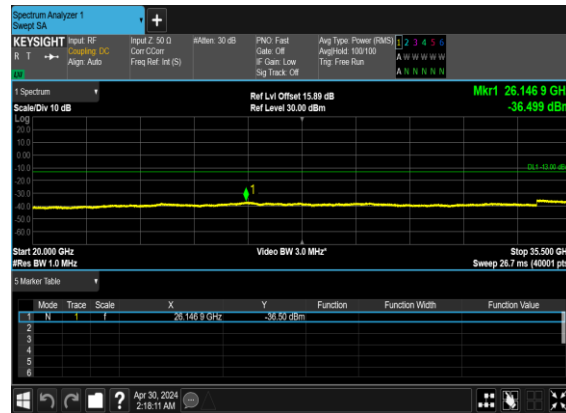
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



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



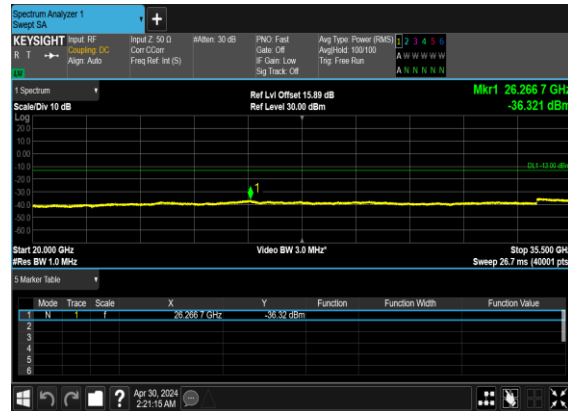
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



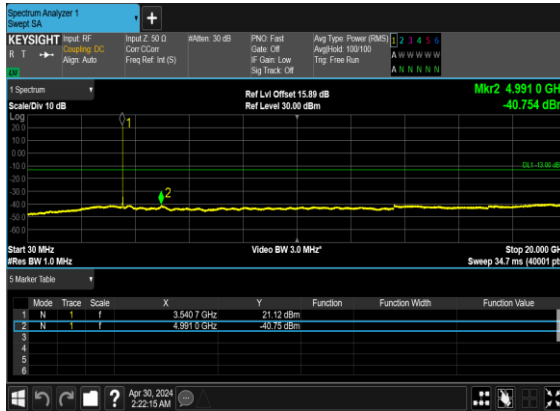
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



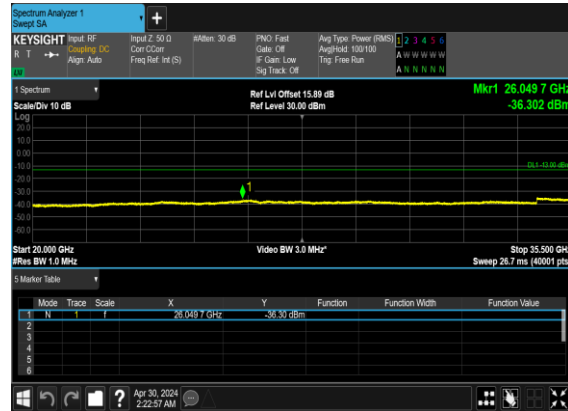
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



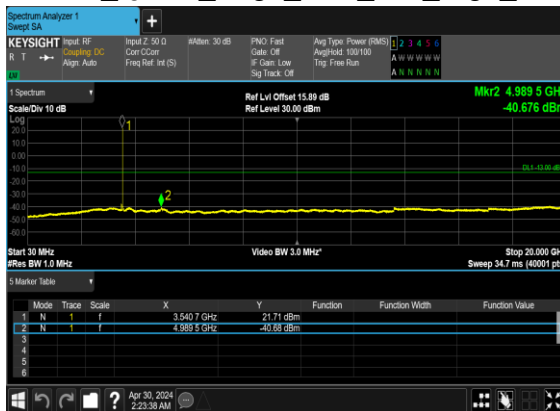
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



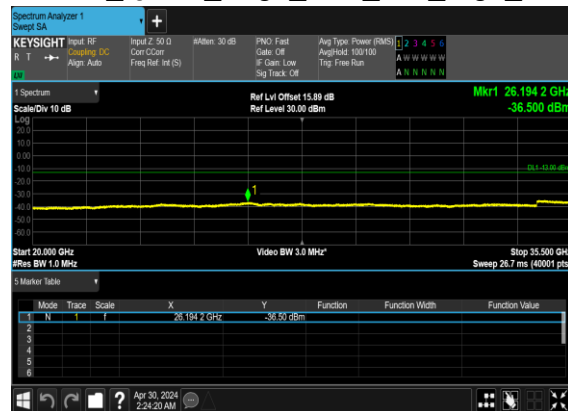
N77(10M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



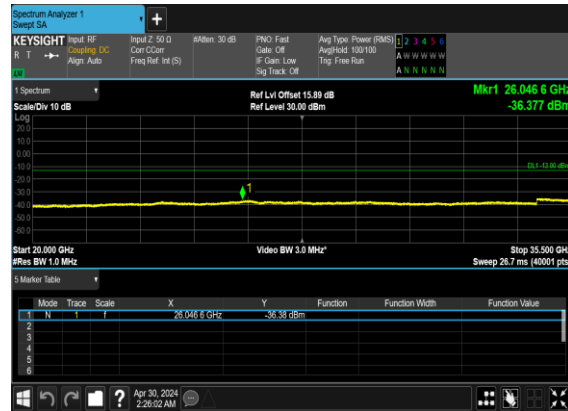
N77(10M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



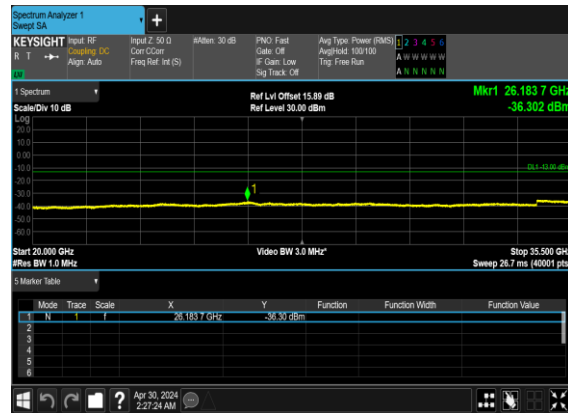
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



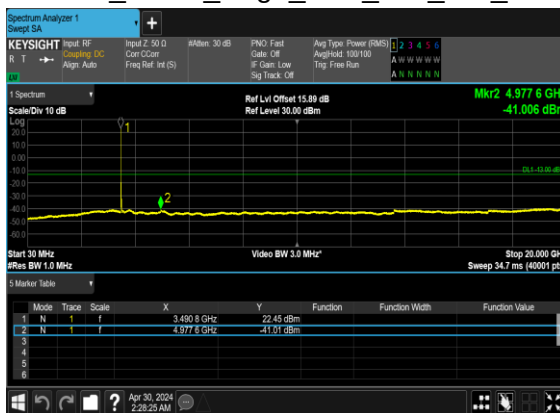
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



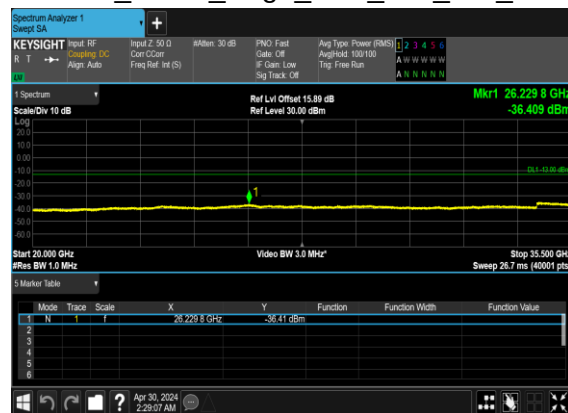
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



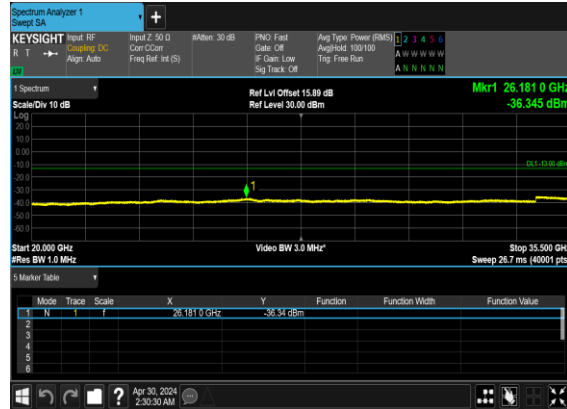
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



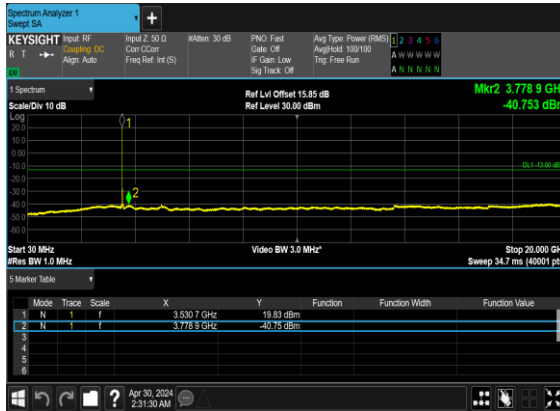
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



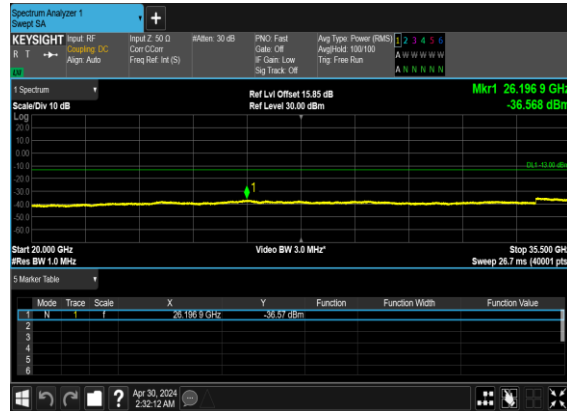
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



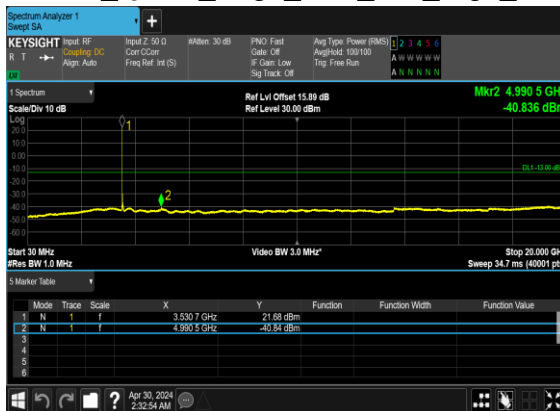
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



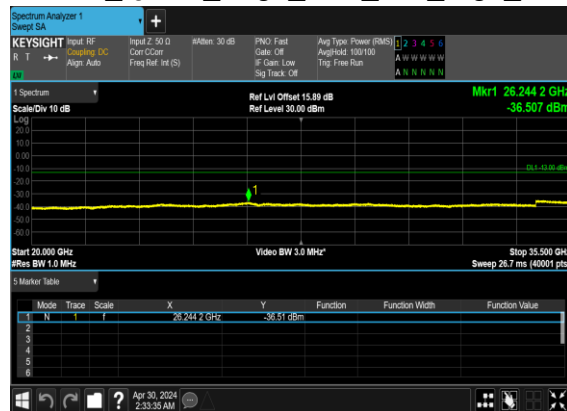
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



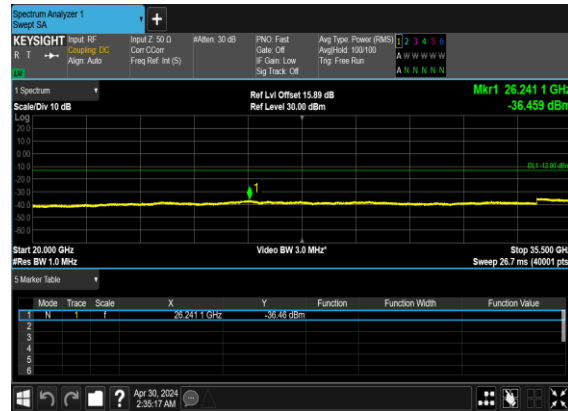
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



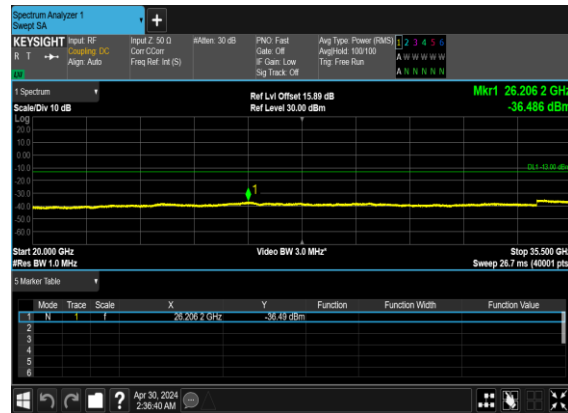
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



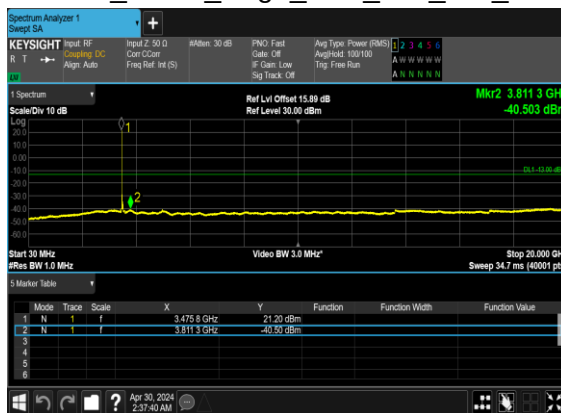
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



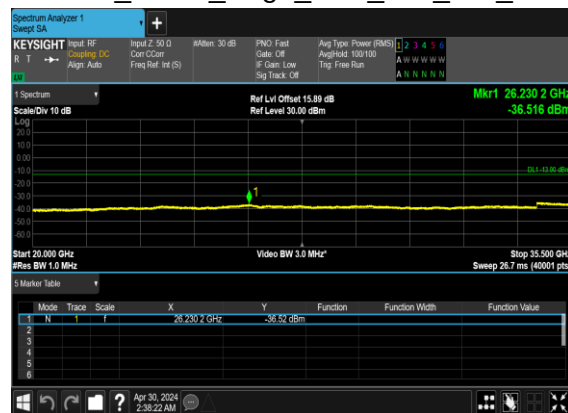
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



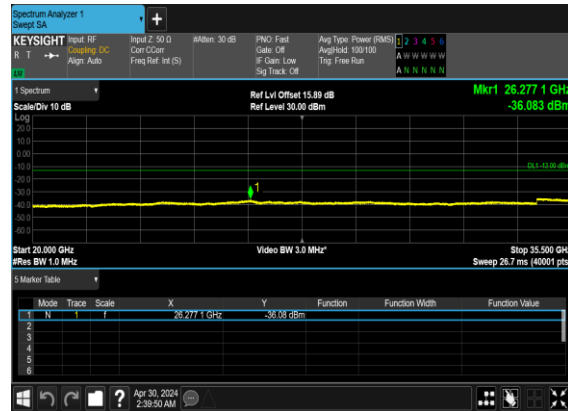
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



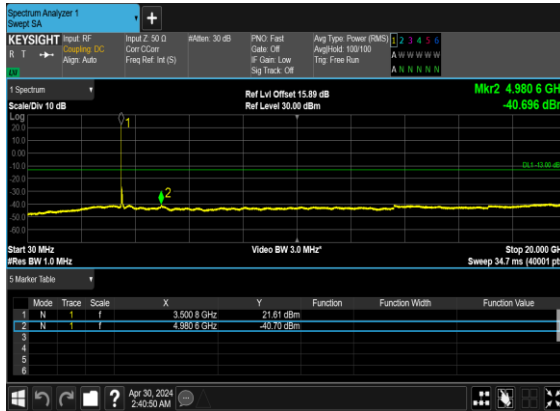
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



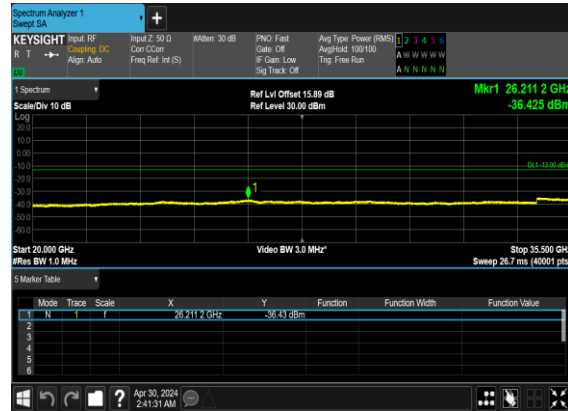
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



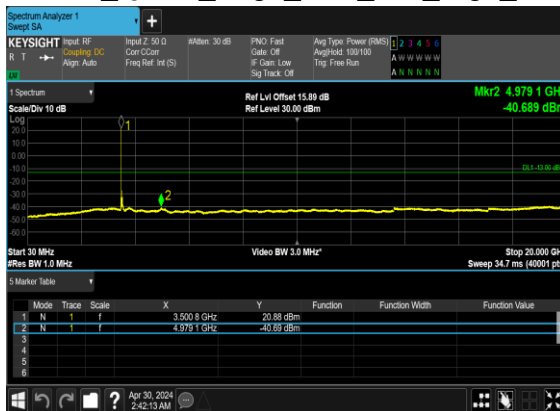
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



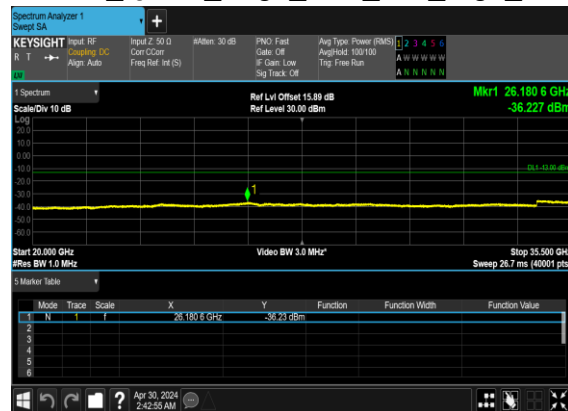
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



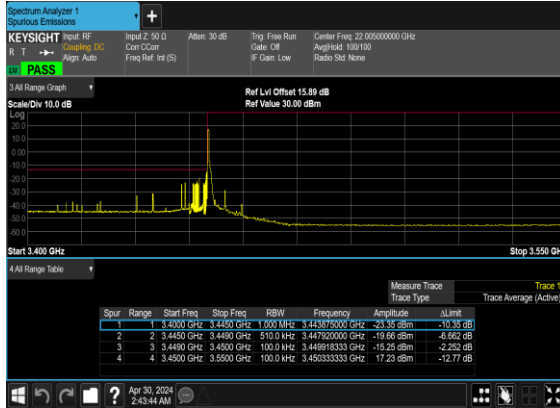
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



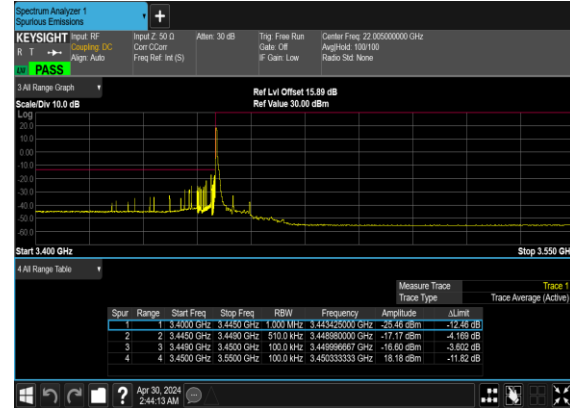
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@51	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@51	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM BPSK	1@105	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@105	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM BPSK	270@0	see graph	PASS
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	270@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM BPSK	1@269	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	1@269	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM BPSK	270@0	see graph	PASS
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	270@0	see graph	PASS

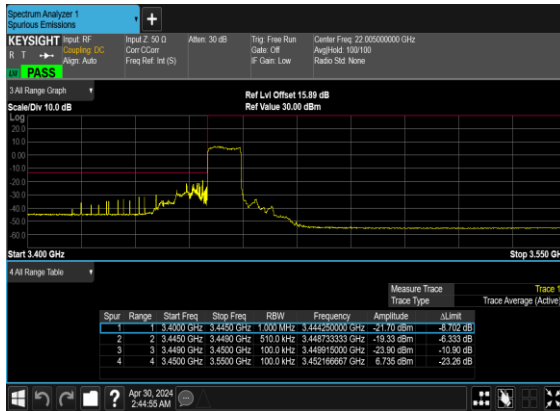
N77(10M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



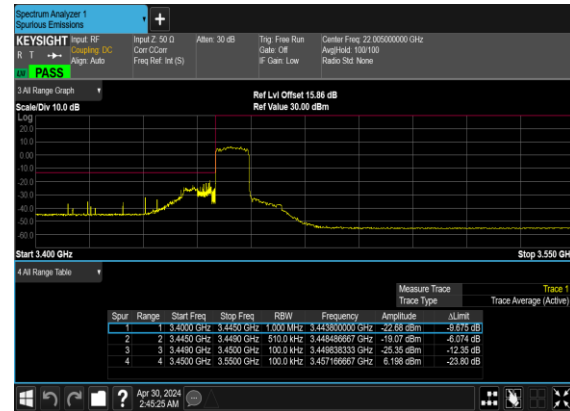
N77(10M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



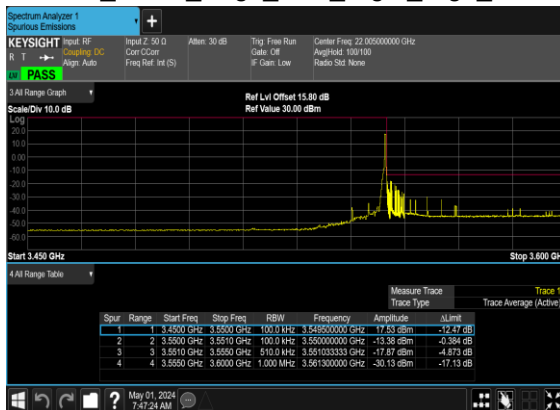
N77(10M)_DFT-s-
OFDM_BPSK_Outer_Full_Low_CH



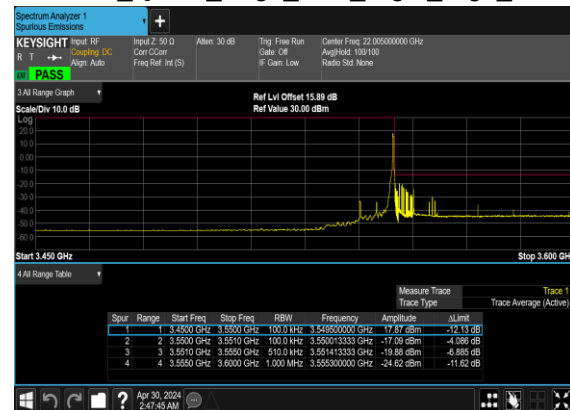
N77(10M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



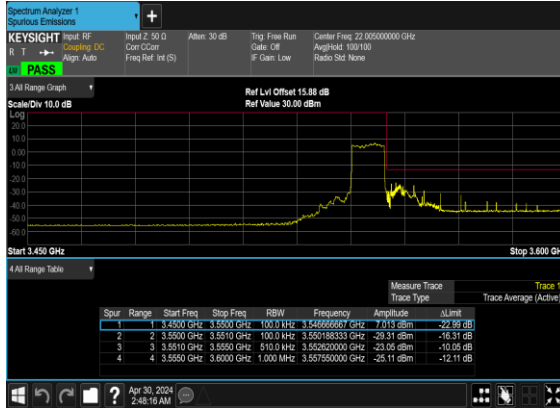
N77(10M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



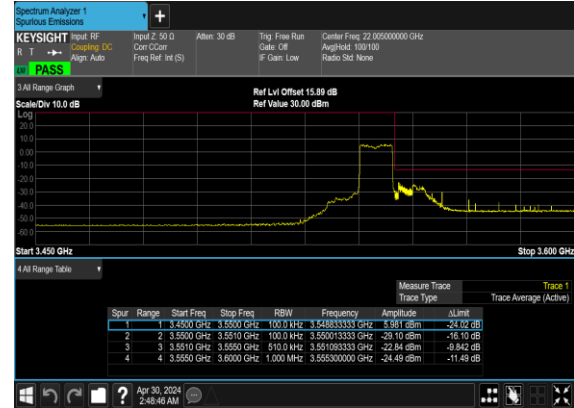
N77(10M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



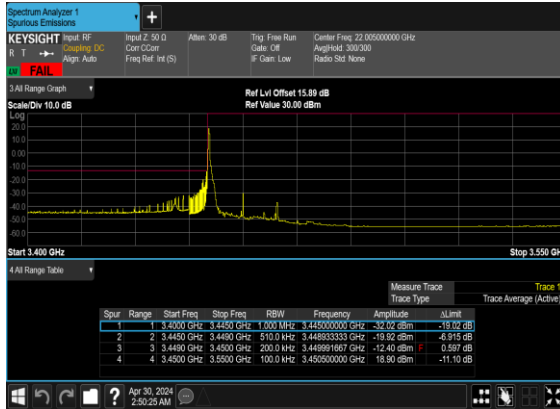
N77(10M)_DFT-s- OFDM_BPSK_Outer_Full_High_CH



N77(10M)_DFT-s- OFDM_QPSK_Outer_Full_High_CH



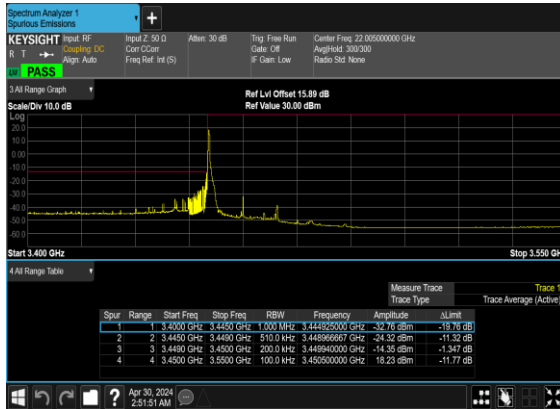
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



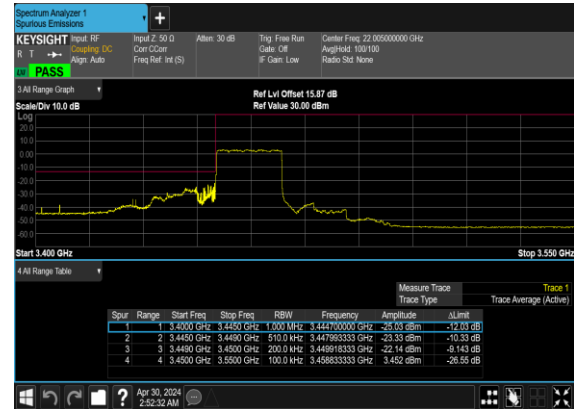
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH_CHP_PA SS



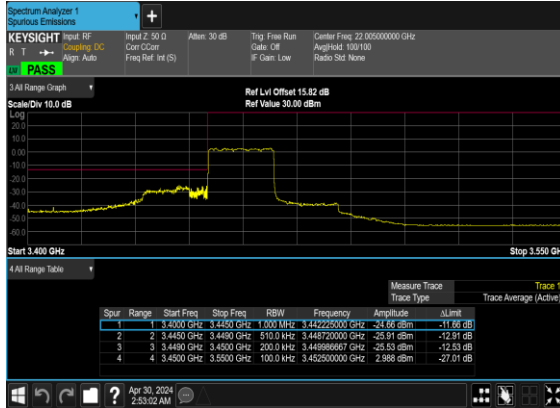
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s- OFDM_BPSK_Outer_Full_Low_CH



N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



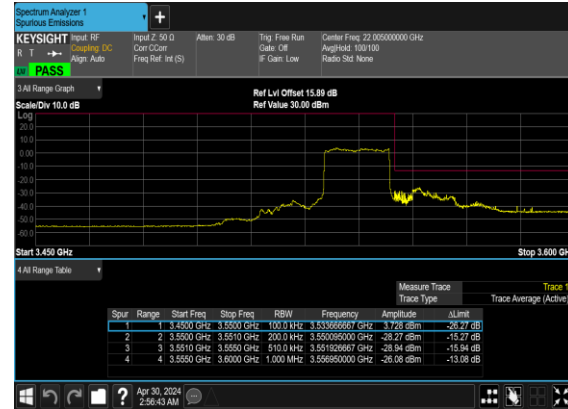
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



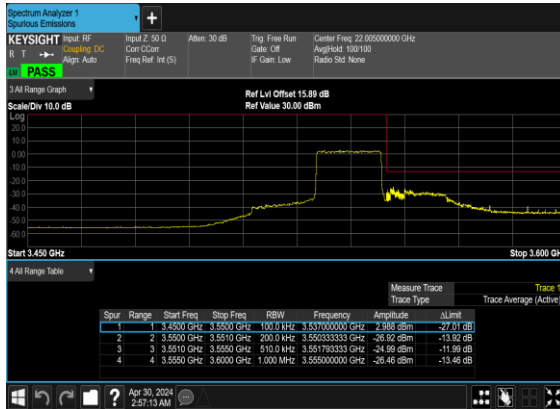
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



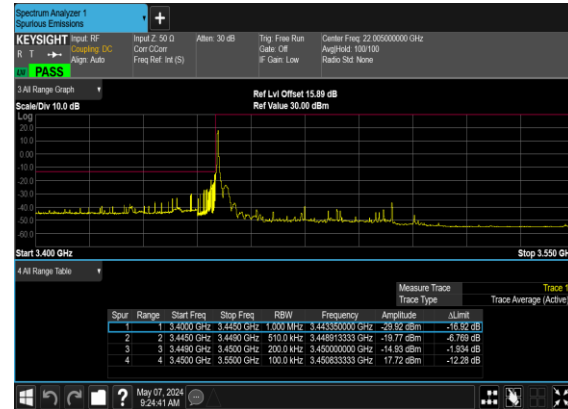
N77(20M)_DFT-s-
OFDM_BPSK_Outer_Full_High_CH



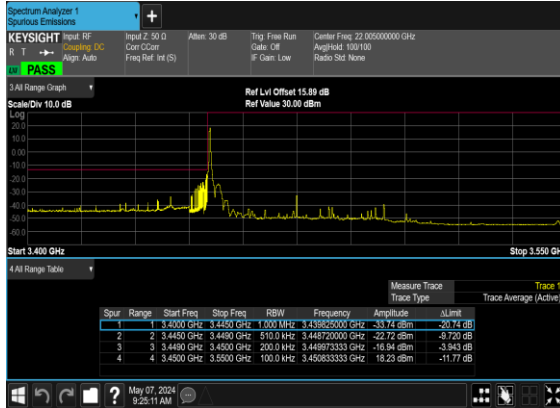
N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_High_CH



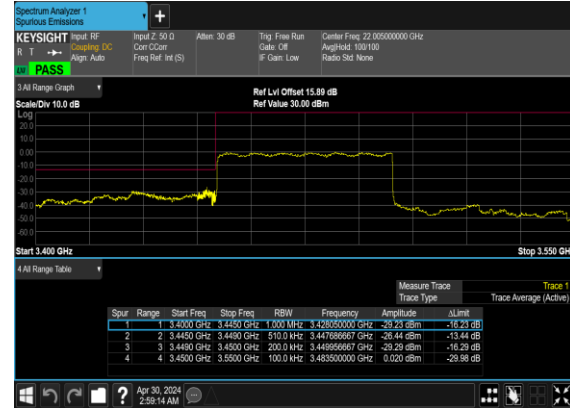
N77(50M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



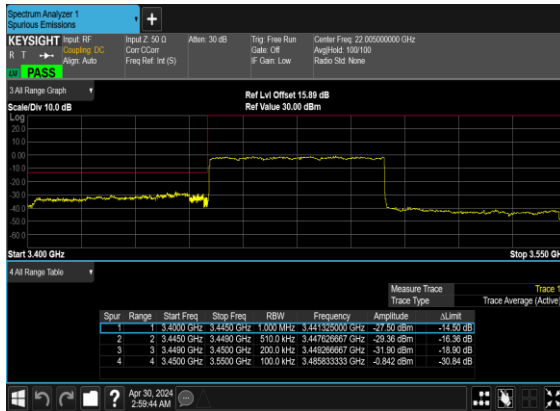
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



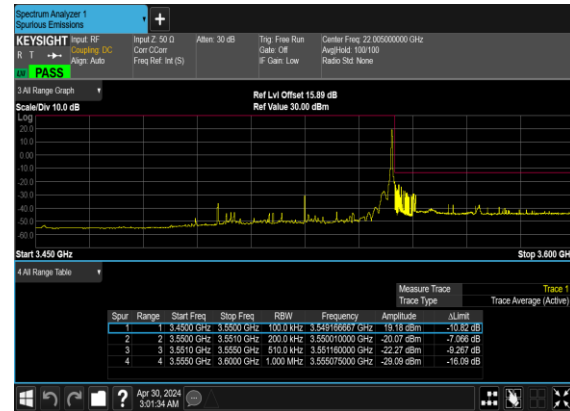
N77(50M)_DFT-s- OFDM_BPSK_Outer_Full_Low_CH



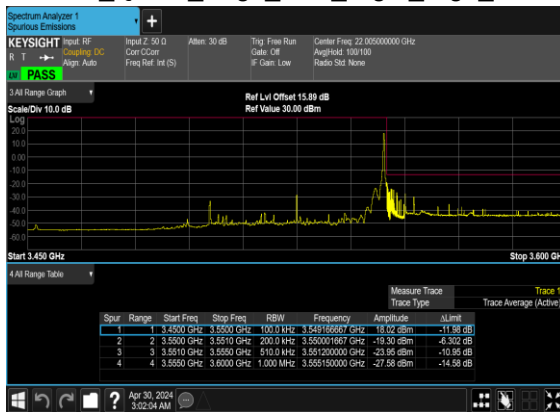
N77(50M)_DFT-s- OFDM_QPSK_Outer_Full_Low_CH



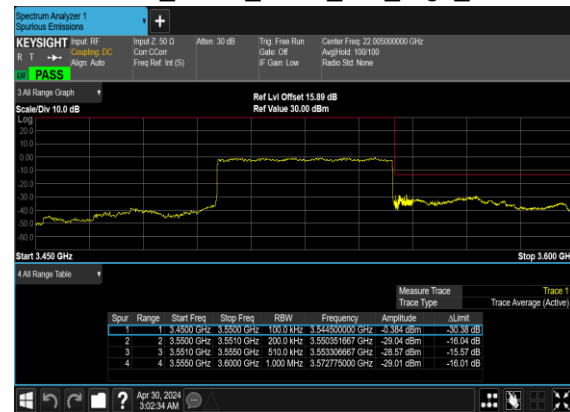
N77(50M)_DFT-s- OFDM_BPSK_Edge_1RB_Right_High_CH



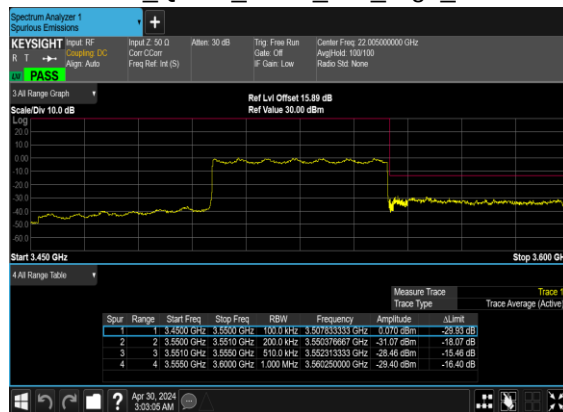
N77(50M)_DFT-s- OFDM_QPSK_Edge_1RB_Right_High_CH



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	630334	3455.01	DFT-s-OFDM QPSK	1@1	25.77	28.77	0.7534
78	15	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	24.46	27.46	0.5572
78	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.62	28.62	0.7278
78	15	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.38	27.38	0.5470
78	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@1	25.73	28.73	0.7464
78	15	10	636333	3544.995	DFT-s-OFDM 16 QAM	1@1	24.43	27.43	0.5534
78	15	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	25.8	28.8	0.7586
78	15	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	24.74	27.74	0.5943
78	15	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.92	28.92	0.7798
78	15	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.48	27.48	0.5598
78	15	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	25.92	28.92	0.7798
78	15	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	24.56	27.56	0.5702
78	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@1	25.76	28.76	0.7516
78	15	20	630667	3460.005	DFT-s-OFDM 16 QAM	1@1	24.59	27.59	0.5741
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.7	28.7	0.7413
78	15	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.35	27.35	0.5433
78	15	20	636000	3540	DFT-s-OFDM QPSK	1@1	25.73	28.73	0.7464
78	15	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	24.4	27.4	0.5495
78	15	30	631000	3465	DFT-s-OFDM QPSK	1@1	25.72	28.72	0.7447
78	15	30	631000	3465	DFT-s-OFDM 16 QAM	1@1	24.48	27.48	0.5598
78	15	30	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.54	28.54	0.7145
78	15	30	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.4	27.4	0.5495
78	15	30	635666	3534.99	DFT-s-OFDM QPSK	1@1	25.57	28.57	0.7194
78	15	30	635666	3534.99	DFT-s-OFDM 16 QAM	1@1	24.35	27.35	0.5433
78	15	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	25.42	28.42	0.6950
78	15	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	24.12	27.12	0.5152
78	15	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.27	28.27	0.6714
78	15	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.07	27.07	0.5093
78	15	40	635333	3529.995	DFT-s-OFDM QPSK	1@1	25.26	28.26	0.6699

78	15	40	635333	3529.995	DFT-s-OFDM 16 QAM	1@1	24.02	27.02	0.5035
78	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	135@67	25.73	28.73	0.7464
78	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@1	25.77	28.77	0.7534
78	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@268	25.55	28.55	0.7161
78	15	50	631667	3475.005	DFT-s-OFDM QPSK	135@67	25.78	28.78	0.7551
78	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@1	25.84	28.84	0.7656
78	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@268	25.73	28.73	0.7464
78	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	135@67	24.9	27.9	0.6166
78	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@1	24.39	27.39	0.5483
78	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@268	24.28	27.28	0.5346
78	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	135@67	23.28	26.28	0.4246
78	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@1	23.25	26.25	0.4217
78	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@268	22.96	25.96	0.3945
78	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	135@67	21.31	24.31	0.2698
78	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@1	21.27	24.27	0.2673
78	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@268	21.15	24.15	0.2600
78	15	50	631667	3475.005	CP-OFDM QPSK	135@67	24.27	27.27	0.5333
78	15	50	631667	3475.005	CP-OFDM QPSK	1@1	24.18	27.18	0.5224
78	15	50	631667	3475.005	CP-OFDM QPSK	1@268	24.18	27.18	0.5224
78	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	25.72	28.72	0.7447
78	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.59	28.59	0.7228
78	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@268	25.57	28.57	0.7194
78	15	50	633334	3500.01	DFT-s-OFDM QPSK	135@67	25.93	28.93	0.7816
78	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.52	28.52	0.7112
78	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@268	25.77	28.77	0.7534
78	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	24.93	27.93	0.6209
78	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.26	27.26	0.5321
78	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@268	24.37	27.37	0.5458
78	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.18	26.18	0.4150
78	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.16	26.16	0.4130
78	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@268	23.12	26.12	0.4093
78	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.35	24.35	0.2723
78	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.11	24.11	0.2576
78	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@268	21.26	24.26	0.2667
78	15	50	633334	3500.01	CP-OFDM QPSK	135@67	24.41	27.41	0.5508

78	15	50	633334	3500.01	CP-OFDM QPSK	1@1	24.19	27.19	0.5236
78	15	50	633334	3500.01	CP-OFDM QPSK	1@268	24.27	27.27	0.5333
78	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	135@67	25.8	28.8	0.7586
78	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@1	25.65	28.65	0.7328
78	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@268	25.71	28.71	0.7430
78	15	50	635000	3525	DFT-s-OFDM QPSK	135@67	25.72	28.72	0.7447
78	15	50	635000	3525	DFT-s-OFDM QPSK	1@1	25.53	28.53	0.7129
78	15	50	635000	3525	DFT-s-OFDM QPSK	1@268	25.64	28.64	0.7311
78	15	50	635000	3525	DFT-s-OFDM 16 QAM	135@67	24.74	27.74	0.5943
78	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	24.16	27.16	0.5200
78	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@268	24.37	27.37	0.5458
78	15	50	635000	3525	DFT-s-OFDM 64 QAM	135@67	23.31	26.31	0.4276
78	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@1	23.08	26.08	0.4055
78	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@268	23.08	26.08	0.4055
78	15	50	635000	3525	DFT-s-OFDM 256 QAM	135@67	21.33	24.33	0.2710
78	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@1	21.16	24.16	0.2606
78	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@268	21.02	24.02	0.2523
78	15	50	635000	3525	CP-OFDM QPSK	135@67	24.29	27.29	0.5358
78	15	50	635000	3525	CP-OFDM QPSK	1@1	24.08	27.08	0.5105
78	15	50	635000	3525	CP-OFDM QPSK	1@268	24.13	27.13	0.5164

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	630334	3455.01	DFT-s-OFDM QPSK	1@1	25.72	28.72	0.7447
77	30	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	24.66	27.66	0.5834
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.78	28.78	0.7551
77	30	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.65	27.65	0.5821
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@1	25.05	28.05	0.6383
77	30	10	636332	3544.98	DFT-s-OFDM 16 QAM	1@1	24.47	27.47	0.5585
77	30	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	25.79	28.79	0.7568
77	30	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	24.88	27.88	0.6138
77	30	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.84	28.84	0.7656
77	30	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.66	27.66	0.5834
77	30	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	25.79	28.79	0.7568
77	30	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	24.61	27.61	0.5768
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	25.82	28.82	0.7621
77	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	24.77	27.77	0.5984
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.58	28.58	0.7211
77	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.72	27.72	0.5916
77	30	20	636000	3540	DFT-s-OFDM QPSK	1@1	25.65	28.65	0.7328
77	30	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	24.7	27.7	0.5888
77	30	30	631000	3465	DFT-s-OFDM QPSK	1@1	25.68	28.68	0.7379
77	30	30	631000	3465	DFT-s-OFDM 16 QAM	1@1	24.67	27.67	0.5848
77	30	30	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.76	28.76	0.7516
77	30	30	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.71	27.71	0.5902
77	30	30	635666	3534.99	DFT-s-OFDM QPSK	1@1	25.68	28.68	0.7379
77	30	30	635666	3534.99	DFT-s-OFDM 16 QAM	1@1	24.51	27.51	0.5636
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	25.4	28.4	0.6918
77	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	24.23	27.23	0.5284
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.36	28.36	0.6855
77	30	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.45	27.45	0.5559
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	25.26	28.26	0.6699

77	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	24.39	27.39	0.5483
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@1	25.7	28.7	0.7413
77	30	50	631668	3475.02	DFT-s-OFDM 16 QAM	1@1	24.61	27.61	0.5768
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.72	28.72	0.7447
77	30	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.5	27.5	0.5623
77	30	50	635000	3525	DFT-s-OFDM QPSK	1@1	25.62	28.62	0.7278
77	30	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	24.75	27.75	0.5957
77	30	60	632000	3480	DFT-s-OFDM QPSK	1@1	25.57	28.57	0.7194
77	30	60	632000	3480	DFT-s-OFDM 16 QAM	1@1	24.68	27.68	0.5861
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.6	28.6	0.7244
77	30	60	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.66	27.66	0.5834
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@1	25.7	28.7	0.7413
77	30	60	634666	3519.99	DFT-s-OFDM 16 QAM	1@1	24.54	27.54	0.5675
77	30	70	632334	3485.01	DFT-s-OFDM QPSK	1@1	25.52	28.52	0.7112
77	30	70	632334	3485.01	DFT-s-OFDM 16 QAM	1@1	24.62	27.62	0.5781
77	30	70	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.42	28.42	0.6950
77	30	70	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.4	27.4	0.5495
77	30	70	634332	3514.98	DFT-s-OFDM QPSK	1@1	25.6	28.6	0.7244
77	30	70	634332	3514.98	DFT-s-OFDM 16 QAM	1@1	24.7	27.7	0.5888
77	30	80	632668	3490.02	DFT-s-OFDM QPSK	1@1	25.38	28.38	0.6887
77	30	80	632668	3490.02	DFT-s-OFDM 16 QAM	1@1	24.36	27.36	0.5445
77	30	80	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.55	28.55	0.7161
77	30	80	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.58	27.58	0.5728
77	30	80	634000	3510	DFT-s-OFDM QPSK	1@1	25.63	28.63	0.7295
77	30	80	634000	3510	DFT-s-OFDM 16 QAM	1@1	24.51	27.51	0.5636
77	30	90	633000	3495	DFT-s-OFDM QPSK	1@1	25.29	28.29	0.6745
77	30	90	633000	3495	DFT-s-OFDM 16 QAM	1@1	24.25	27.25	0.5309
77	30	90	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.35	28.35	0.6839
77	30	90	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.37	27.37	0.5458
77	30	90	633666	3504.99	DFT-s-OFDM QPSK	1@1	25.3	28.3	0.6761
77	30	90	633666	3504.99	DFT-s-OFDM 16 QAM	1@1	24.42	27.42	0.5521
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	25.91	28.91	0.7780
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.31	28.31	0.6776
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	23.63	26.63	0.4603
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	25.85	28.85	0.7674

77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.22	28.22	0.6637
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	23.75	26.75	0.4732
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	24.88	27.88	0.6138
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.32	27.32	0.5395
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	23.64	26.64	0.4613
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.13	26.13	0.4102
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	22.8	25.8	0.3802
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	22.2	25.2	0.3311
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.25	24.25	0.2661
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.17	24.17	0.2612
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	20.69	23.69	0.2339
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	24.3	27.3	0.5370
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	23.56	26.56	0.4529
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	23.32	26.32	0.4285

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0063	PASS	NV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0059	PASS	LV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0027	PASS	HV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0069	PASS	-30°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0066	PASS	-20°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0068	PASS	-10°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0031	PASS	0°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0022	PASS	10°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0063	PASS	20°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0027	PASS	30°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0053	PASS	40°C
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0033	PASS	50°C

Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@0	4.45	13	PASS
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	5.64	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	633334	3500.01	CP-OFDM QPSK	24@0	8.5821	9.526
77	30	10	633334	3500.01	CP-OFDM 16 QAM	24@0	8.5661	9.223
77	30	10	633334	3500.01	CP-OFDM 64 QAM	24@0	8.5644	9.258
77	30	10	633334	3500.01	CP-OFDM 256 QAM	24@0	8.5725	9.346
77	30	15	633334	3500.01	CP-OFDM QPSK	38@0	13.57	14.45
77	30	15	633334	3500.01	CP-OFDM 16 QAM	38@0	13.551	14.24
77	30	15	633334	3500.01	CP-OFDM 64 QAM	38@0	13.559	14.43
77	30	15	633334	3500.01	CP-OFDM 256 QAM	38@0	13.527	14.45
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.163	18.94
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.233	19.04
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.161	19.02
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.169	18.89
77	30	30	633334	3500.01	CP-OFDM QPSK	78@0	27.761	29.19
77	30	30	633334	3500.01	CP-OFDM 16 QAM	78@0	27.755	28.87
77	30	30	633334	3500.01	CP-OFDM 64 QAM	78@0	27.812	29.26
77	30	30	633334	3500.01	CP-OFDM 256 QAM	78@0	27.917	29.02
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.831	39.25
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.902	39.2
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.805	39.45
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.713	39.17
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.472	49.67
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.418	49.39
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.515	49.52
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.42	49.26
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.885	59.91

77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.833	59.55
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.838	59.75
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.835	59.6
77	30	70	633334	3500.01	CP-OFDM QPSK	189@0	67.417	69.8
77	30	70	633334	3500.01	CP-OFDM 16 QAM	189@0	67.636	69.63
77	30	70	633334	3500.01	CP-OFDM 64 QAM	189@0	67.378	69.74
77	30	70	633334	3500.01	CP-OFDM 256 QAM	189@0	67.54	69.94
77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.336	79.94
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.639	79.96
77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.476	80.04
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.537	79.95
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.437	90.17
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.321	90.19
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.563	90.19
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.421	90.19
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.448	100.5
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.327	100.6
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.215	100.6
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.463	100.6