FCC RF Test Report

APPLICANT	: Quectel Wireless Solutions Co., Ltd.
EQUIPMENT	: 5G NR Module
BRAND NAME	: QUECTEL
MODEL NAME	: AG555Q-GL
FCC ID	: XMR2024AG555QGL
STANDARD	: 47 CFR Part 2, Part 27 Subpart Q
CLASSIFICATION	: PCS Licensed Transmitter (PCB)
TEST DATE(S)	: Feb. 21, 2024 ~ Mar. 10, 2024

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

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

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.02

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG3D1801Q	Rev. 01	Initial issue of report	Jun. 06, 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 31.83 dB at 17256.00 MHz

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”

Disclaimer:

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

1 General Description

1.1 Applicant

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China

1.2 Manufacturer

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G NR Module
Brand Name	QUECTEL
Model Name	AG555Q-GL
FCC ID	XMR2024AG555QGL
IMEI Code	Conducted : 868637060025178 Radiation : 868637060025087
HW Version	R1.0
SW Version	BYA555QGLABR01A01M8G_OCPU
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	30kHz
Bandwidth	n77: 20 / 30 / 40 / 50 / 60 / 80 / 90 / 100MHz n78: 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	5G NR n77: 1.61 dBi 5G NR n78: 1.61 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. 5G NR n77/n78 support UL MIMO mode for Ant(0+2)
2. 5G NR n77/n78 SISO mode only support Antenna 2, not support Antenna 0.
3. 5G NR n77/n78 UL_MIMO mode only supports CP-OFDM Modulation, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.
4. For UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add

10*log(NANT) according to KDB 662911 D01.

5. 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.
6. The device supports HPUE mode for 5G NR n77/n78.
7. The device supports two PAs for 5G NR n77/78(main PA and other PA), both the PAs are full tested, the maximum power of main PA is higher than the other PA, therefore, we chose higher power of main PA to calculate the EIRP and show in the report.
8. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
9. 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		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)
20	3460.02 ~ 3540.00	0.4550	18M2G7D	0.3622	18M2W7D
30	3465.00 ~ 3534.99	0.4539	27M9G7D	0.3565	27M9W7D
40	3470.01 ~ 3529.98	0.4539	37M9G7D	0.3664	37M9W7D
50	3475.02 ~ 3525.00	0.4426	47M6G7D	0.3467	47M5W7D
60	3480.00 ~ 3519.99	0.4613	57M8G7D	0.3673	57M9W7D
80	3490.02 ~ 3510.00	0.4656	77M6G7D	0.3750	77M6W7D
90	3495.00 ~ 3504.99	0.4742	87M5G7D	0.3750	87M6W7D
100	3500.01	0.4764	97M4G7D	0.3724	97M6W7D

5G NR n78 SA		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)
20	3460.02 ~ 3540.00	0.4508	18M2G7D	0.3459	18M2W7D
30	3465.00 ~ 3534.99	0.4498	27M9G7D	0.3556	27M9W7D
40	3470.01 ~ 3529.98	0.4560	37M9G7D	0.3664	37M9W7D
50	3475.02 ~ 3525.00	0.4375	47M6G7D	0.3516	47M5W7D
60	3480.00 ~ 3519.99	0.4529	57M8G7D	0.3614	57M9W7D
70	3485.01 ~ 3514.98	0.4634	67M6G7D	0.4416	67M5W7D
80	3490.02 ~ 3510.00	0.4634	77M6G7D	0.3707	77M6W7D
90	3495.00 ~ 3504.99	0.4656	87M5G7D	0.3690	87M6W7D
100	3500.01	0.4677	97M4G7D	0.3917	97M6W7D

5G NR n77 UL MIMO		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)
20	3460.02 ~ 3540.00	0.3936	18M2G7D	0.3627	18M3W7D
30	3465.00 ~ 3534.99	0.3986	27M8G7D	0.3594	27M9W7D
40	3470.01 ~ 3529.98	0.4004	37M9G7D	0.3581	37M9W7D
50	3475.02 ~ 3525.00	0.3877	47M4G7D	0.3460	47M5W7D
60	3480.00 ~ 3519.99	0.3900	57M8G7D	0.3460	57M9W7D
80	3490.02 ~ 3510.00	0.4005	77M4G7D	0.3574	77M5W7D
90	3495.00 ~ 3504.99	0.4004	87M5G7D	0.3598	87M6W7D
100	3500.01	0.4296	97M5G7D	0.3420	97M7W7D

5G NR n78 UL MIMO		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)
20	3460.02 ~ 3540.00	0.4029	18M2G7D	0.3610	18M3W7D
30	3465.00 ~ 3534.99	0.4098	27M8G7D	0.3724	27M9W7D
40	3470.01 ~ 3529.98	0.4131	37M9G7D	0.3798	37M9W7D
50	3475.02 ~ 3525.00	0.3973	47M4G7D	0.3536	47M5W7D
60	3480.00 ~ 3519.99	0.4112	57M8G7D	0.3677	57M9W7D
70	3485.01 ~ 3514.98	0.4046	67M5G7D	0.3569	67M6W7D
80	3490.02 ~ 3510.00	0.4080	77M4G7D	0.3708	77M5W7D
90	3495.00 ~ 3504.99	0.4131	87M5G7D	0.3709	87M6W7D
100	3500.01	0.4198	97M5G7D	0.3620	97M7W7D

Note:

1. 5G NR n77 overlaps the entire frequency range of 5G NR n78, and n77 power > n78 power. Therefore, the conducted test results of n77 provided in this report cover n78 except the bandwidth of 70M.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.7 Testing Site

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

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

1.8 Test Software

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

1.9 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

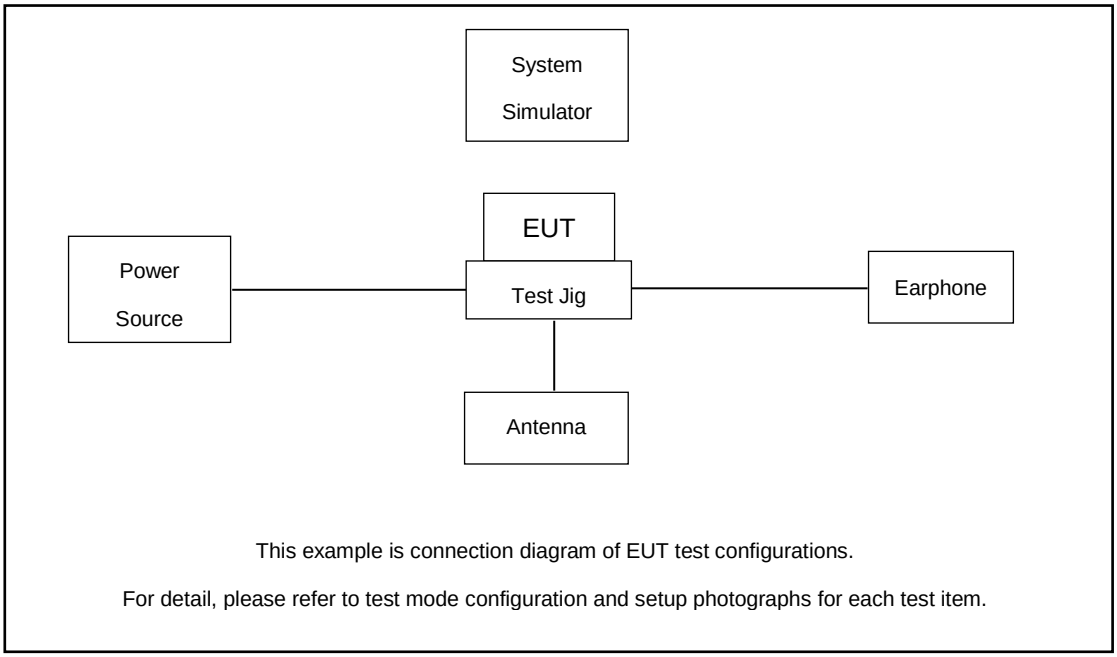
2.1 Test Mode

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 (X plane).

Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #			Test Channel		
		10	20	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Partial	Full	L	M	H
Max. Output Power	n77	-	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v		v	v	v	v
	n78	-	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	
	n78	-						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	
	n78	-						v					v	v	v	v			v		v	
Conducted Band Edge	n77	-	v				v	-			v	v	v				v		v	v		v
	n78	-						v				v	v				v		v	v		v
Conducted Spurious Emission	n77	-	v				v	-			v	v	v				v			v	v	v
	n78	-						v				v	v				v			v	v	v
Frequency Stability	n77	-	v					-					v						v		v	
	n78	-						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
	n78	-	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 = 3.80V; Low Voltage =3.3V; High Voltage =4.3V. 5. 5G NR n77 covers n78 for RSE test item.																					

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

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

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Test jig	N/A	N/A	N/A	N/A	N/A
5.	Antenna	N/A	N/A	N/A	N/A	N/A
6.	Adapter	N/A	N/A	N/A	N/A	N/A
7.	Earphone	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 and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 6.5 dB and 20dB attenuator.

Example :

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

= 6.5 + 20 = 26.5 (dB)

2.5 Frequency List of Low/Middle/High Channels

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

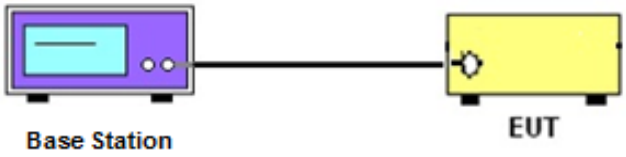
3 Conducted Test Items

3.1 Measuring Instruments

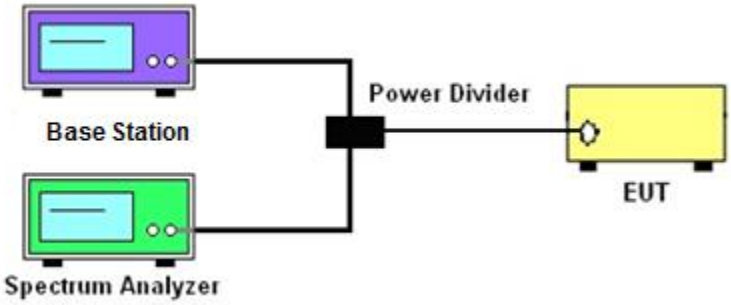
See list of measuring instruments of this test report.

3.2 Test Setup

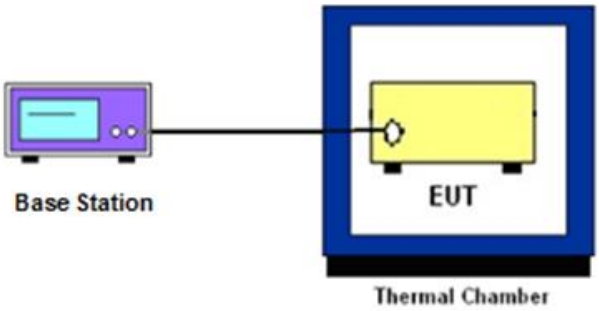
3.2.1 Conducted Output Power



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 ≥ 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 ≥ 500KHz.
6. Beyond the 5 MHz removed from the band edge, set RBW = 1MHz.
7. Set spectrum analyzer with RMS detector.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the emission limit line.

3.9 Conducted Spurious Emission Measurement

3.9.1 Description of Conducted Spurious Emission Measurement

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

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

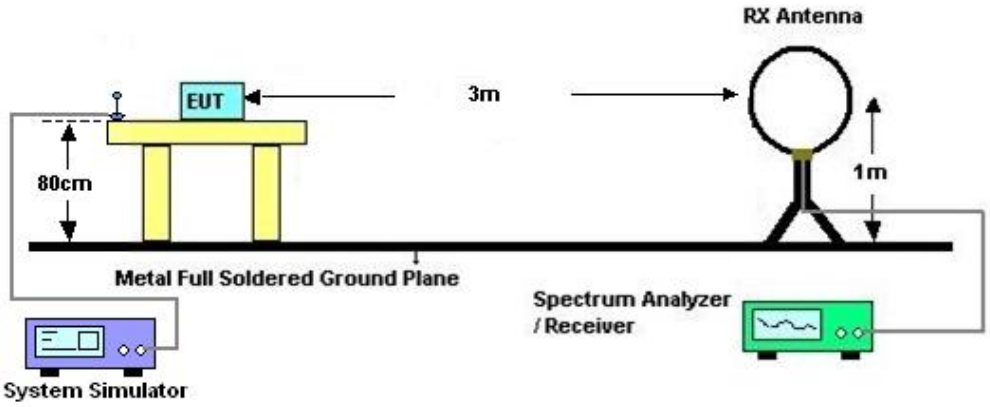
4 Radiated Test Items

4.1 Measuring Instruments

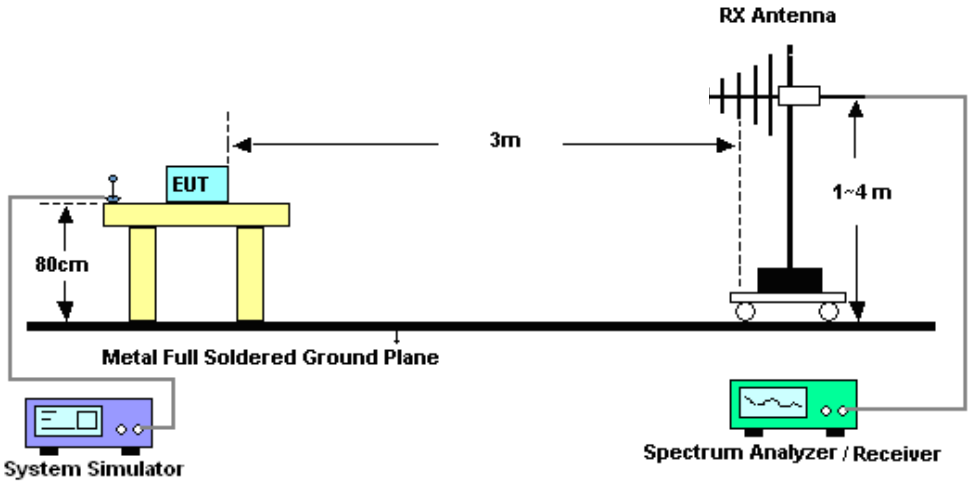
See list of measuring instruments of this test report.

4.2 Test Setup

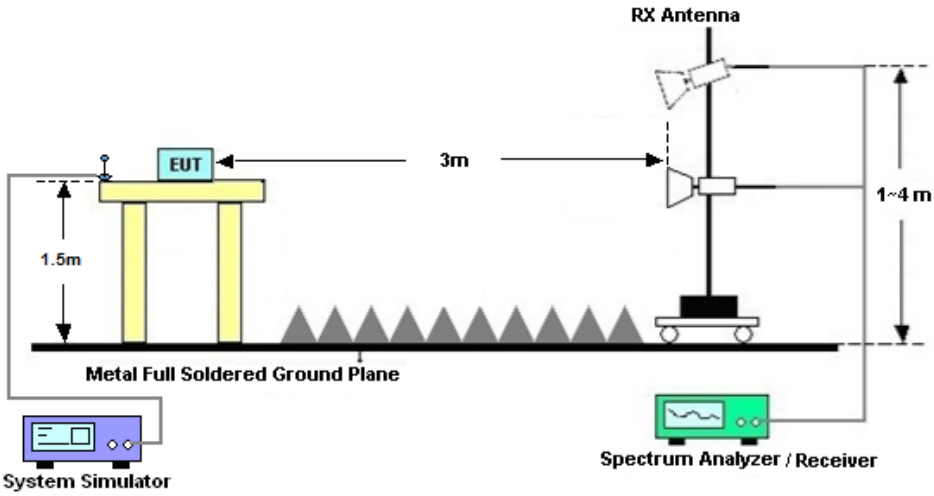
4.2.1 For radiated test below 30MHz



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/TIA-603-E.

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

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = 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
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Feb. 21, 2024~ Mar. 01, 2024	Oct. 09, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Feb. 21, 2024~ Mar. 01, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 06, 2023	Feb. 21, 2024~ Mar. 01, 2024	Jul. 05, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Mar. 10, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11, 2023	Mar. 10, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Mar. 10, 2024	Apr. 08, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00251694	1GHz~18GHz	Jul. 12, 2023	Mar. 10, 2024	Jul. 11, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Mar. 10, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Mar. 10, 2024	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2024	Mar. 10, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Mar. 10, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Mar. 10, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 10, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 10, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 10, 2024	NCR	Radiation (03CH04-KS)

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

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

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

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

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

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

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

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

Appendix A. Test Results of Conducted Test

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

Software Version: 23.06.1602

FR1 N77(ANT2)

Transmitter Conducted Output Power And EIRP, (G_T-L_C)=1.61dB

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power (dBm)	EIRP(dBm)	EIRP(W)
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	26.36	27.97	0.6266
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.78	28.39	0.6902
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	26.13	27.74	0.5943
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	26.33	27.94	0.6223
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.62	28.23	0.6653
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	26.13	27.74	0.5943
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	25.3	26.91	0.4909
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.71	27.32	0.5395
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	25.09	26.7	0.4677
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.88	25.49	0.3540
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	24.19	25.8	0.3802
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	23.55	25.16	0.3281
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.79	23.4	0.2188
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	22.17	23.78	0.2388
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	21.65	23.26	0.2118
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	24.83	26.44	0.4406
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	25.15	26.76	0.4742
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	24.69	26.3	0.4266
77	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	1@1	26.55	28.16	0.6546
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	26.58	28.19	0.6592
77	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	25.59	27.2	0.5248
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.32	27.93	0.6209
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.38	27.99	0.6295
77	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.28	26.89	0.4887
77	30	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@1	26.34	27.95	0.6237
77	30	20	636000	3540	DFT-s-OFDM QPSK	1@1	26.37	27.98	0.6281
77	30	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	25.45	27.06	0.5082
77	30	30	631000	3465	DFT-s-OFDM PI/2 BPSK	1@1	26.57	28.18	0.6577
77	30	30	631000	3465	DFT-s-OFDM QPSK	1@1	26.54	28.15	0.6531
77	30	30	631000	3465	DFT-s-OFDM 16 QAM	1@1	25.52	27.13	0.5164
77	30	30	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.41	28.02	0.6339
77	30	30	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.41	28.02	0.6339
77	30	30	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.41	27.02	0.5035
77	30	30	635666	3534.99	DFT-s-OFDM PI/2 BPSK	1@1	26.54	28.15	0.6531
77	30	30	635666	3534.99	DFT-s-OFDM QPSK	1@1	26.43	28.04	0.6368
77	30	30	635666	3534.99	DFT-s-OFDM 16 QAM	1@1	25.44	27.05	0.5070
77	30	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@1	26.41	28.02	0.6339
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	26.57	28.18	0.6577
77	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	25.64	27.25	0.5309
77	30	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.38	27.99	0.6295
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.39	28	0.6310

77	30	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.36	26.97	0.4977
77	30	40	635332	3529.98	DFT-s-OFDM PI/2 BPSK	1@1	26.52	28.13	0.6501
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	26.5	28.11	0.6471
77	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	25.41	27.02	0.5035
77	30	50	631668	3475.02	DFT-s-OFDM PI/2 BPSK	1@1	26.46	28.07	0.6412
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@1	26.36	27.97	0.6266
77	30	50	631668	3475.02	DFT-s-OFDM 16 QAM	1@1	25.38	26.99	0.5000
77	30	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.3	27.91	0.6180
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.33	27.94	0.6223
77	30	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.32	26.93	0.4932
77	30	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@1	26.37	27.98	0.6281
77	30	50	635000	3525	DFT-s-OFDM QPSK	1@1	26.35	27.96	0.6252
77	30	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	25.4	27.01	0.5023
77	30	60	632000	3480	DFT-s-OFDM PI/2 BPSK	1@1	26.64	28.25	0.6683
77	30	60	632000	3480	DFT-s-OFDM QPSK	1@1	26.53	28.14	0.6516
77	30	60	632000	3480	DFT-s-OFDM 16 QAM	1@1	25.65	27.26	0.5321
77	30	60	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.37	27.98	0.6281
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.43	28.04	0.6368
77	30	60	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.44	27.05	0.5070
77	30	60	634666	3519.99	DFT-s-OFDM PI/2 BPSK	1@1	26.43	28.04	0.6368
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@1	26.45	28.06	0.6397
77	30	60	634666	3519.99	DFT-s-OFDM 16 QAM	1@1	25.46	27.07	0.5093
77	30	80	632668	3490.02	DFT-s-OFDM PI/2 BPSK	1@1	26.52	28.13	0.6501
77	30	80	632668	3490.02	DFT-s-OFDM QPSK	1@1	26.44	28.05	0.6383
77	30	80	632668	3490.02	DFT-s-OFDM 16 QAM	1@1	25.74	27.35	0.5433
77	30	80	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.67	28.28	0.6730
77	30	80	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.68	28.29	0.6745
77	30	80	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.68	27.29	0.5358
77	30	80	634000	3510	DFT-s-OFDM PI/2 BPSK	1@1	26.53	28.14	0.6516
77	30	80	634000	3510	DFT-s-OFDM QPSK	1@1	26.6	28.21	0.6622
77	30	80	634000	3510	DFT-s-OFDM 16 QAM	1@1	25.62	27.23	0.5284
77	30	90	633000	3495	DFT-s-OFDM PI/2 BPSK	1@1	26.73	28.34	0.6823
77	30	90	633000	3495	DFT-s-OFDM QPSK	1@1	26.7	28.31	0.6776
77	30	90	633000	3495	DFT-s-OFDM 16 QAM	1@1	25.74	27.35	0.5433
77	30	90	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.76	28.37	0.6871
77	30	90	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.53	28.14	0.6516
77	30	90	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.68	27.29	0.5358
77	30	90	633666	3504.99	DFT-s-OFDM PI/2 BPSK	1@1	26.43	28.04	0.6368
77	30	90	633666	3504.99	DFT-s-OFDM QPSK	1@1	26.32	27.93	0.6209
77	30	90	633666	3504.99	DFT-s-OFDM 16 QAM	1@1	25.72	27.33	0.5408

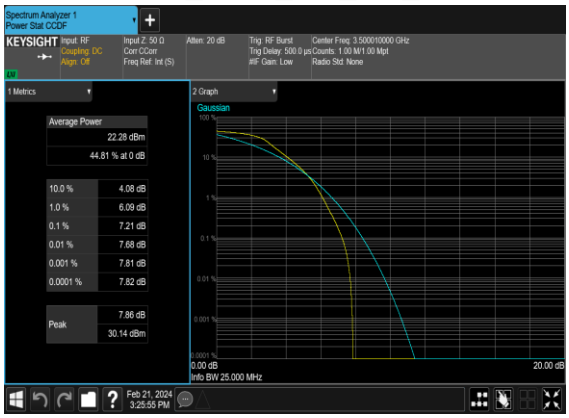
Frequency Stability

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	0.0027	**PASS**	NV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0042	**PASS**	LV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0025	**PASS**	HV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0031	**PASS**	-30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0013	**PASS**	-20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0028	**PASS**	-10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0012	**PASS**	0℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0025	**PASS**	10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0012	**PASS**	20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0020	**PASS**	30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0013	**PASS**	40℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0028	**PASS**	50℃

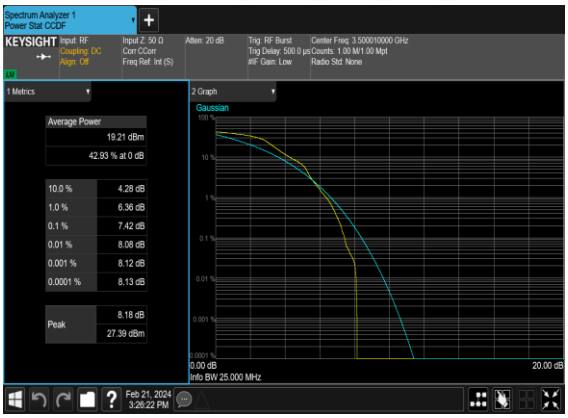
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@0	7.21	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	7.42	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	8.35	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	6.89	13	**PASS**

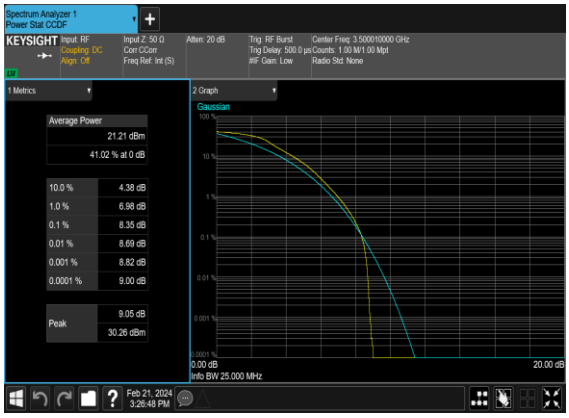
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



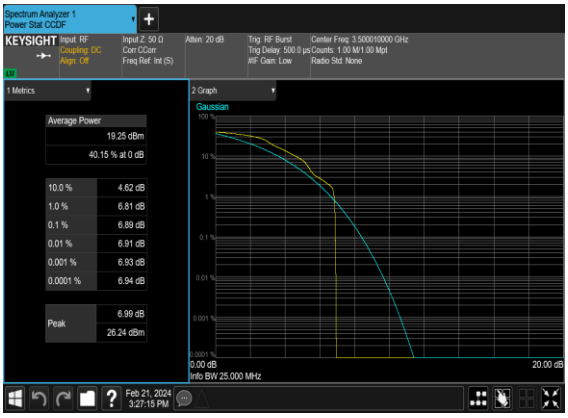
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



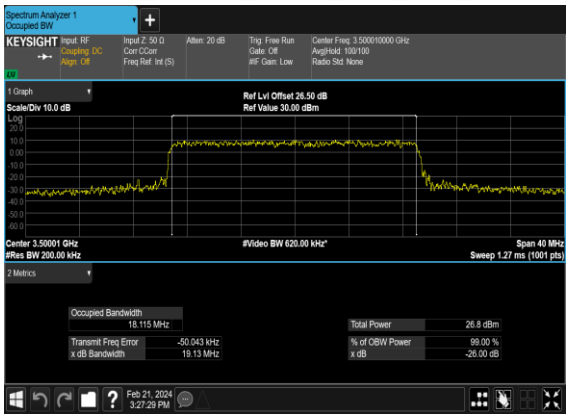
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



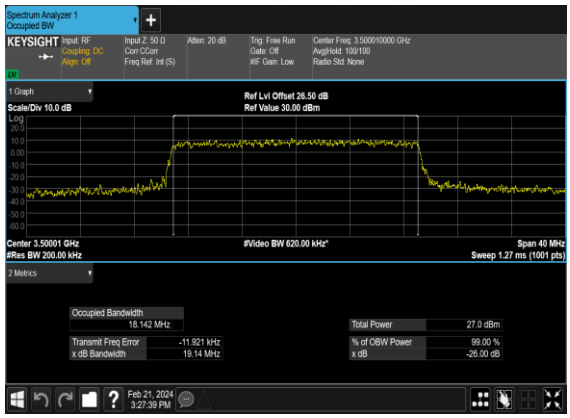
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.115	19.13
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.142	19.14
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.155	19.09
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.216	19.28
77	30	30	633334	3500.01	CP-OFDM QPSK	78@0	27.805	28.99
77	30	30	633334	3500.01	CP-OFDM 16 QAM	78@0	27.77	28.97
77	30	30	633334	3500.01	CP-OFDM 64 QAM	78@0	27.792	28.88
77	30	30	633334	3500.01	CP-OFDM 256 QAM	78@0	27.715	28.84
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.703	39.31
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.767	39.27
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.764	39.41
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.714	39.22
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.561	49.04
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.428	49.24
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.488	49.18
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.33	49.0
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.845	59.73
77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.743	59.73
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.767	59.67
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.654	59.89
77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.47	79.93
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.449	79.9
77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.646	79.95
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.436	80.04
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.31	90.22
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.626	90.06
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.35	90.26
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.461	90.23
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.432	100.6
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.384	100.4
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.372	100.6
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.235	100.5

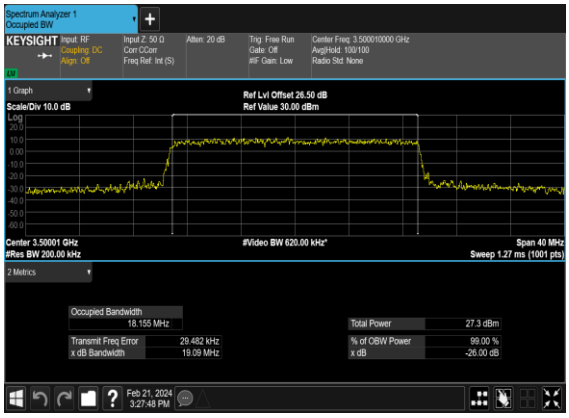
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



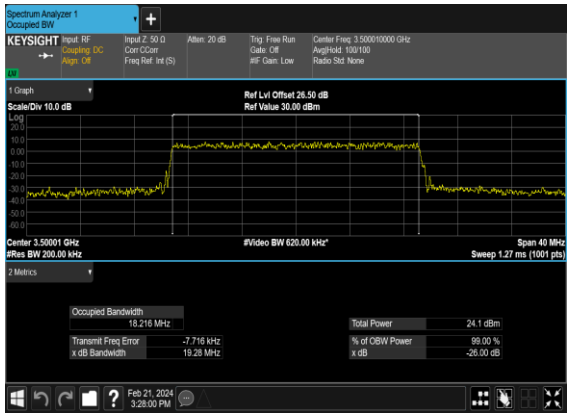
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



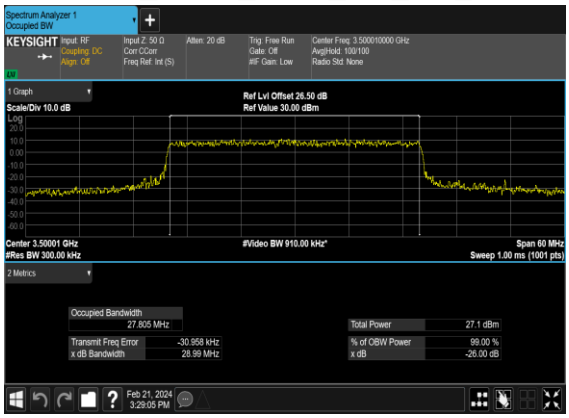
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



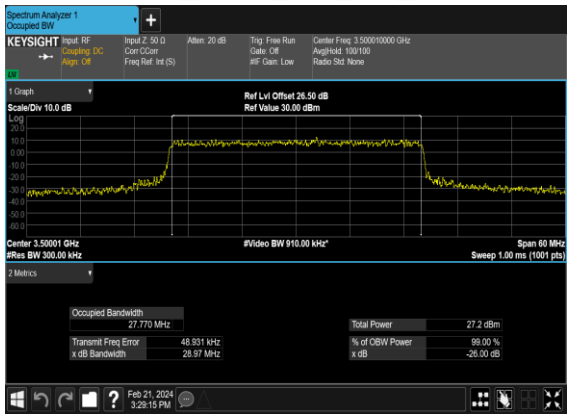
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



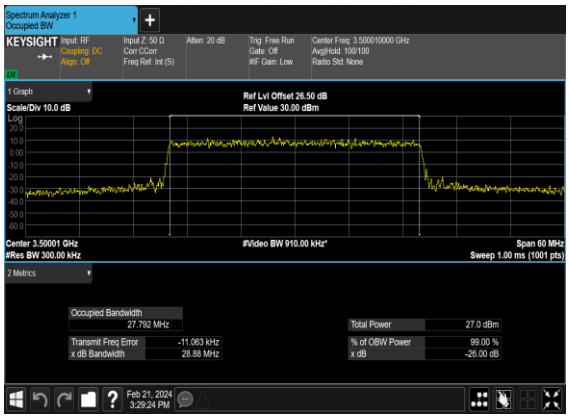
N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



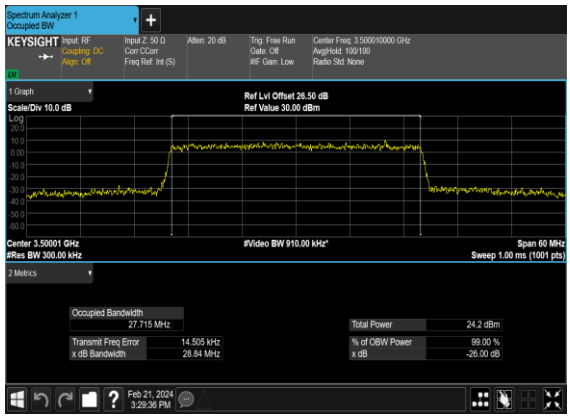
N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



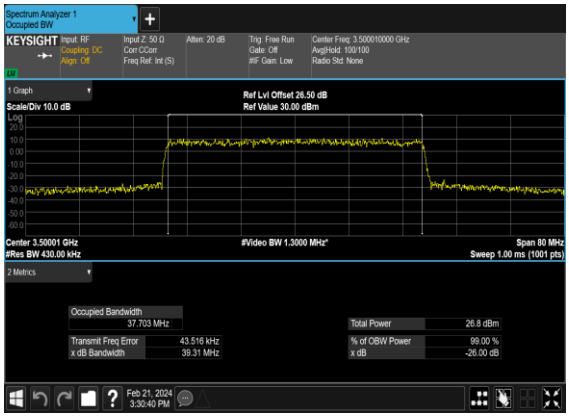
N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



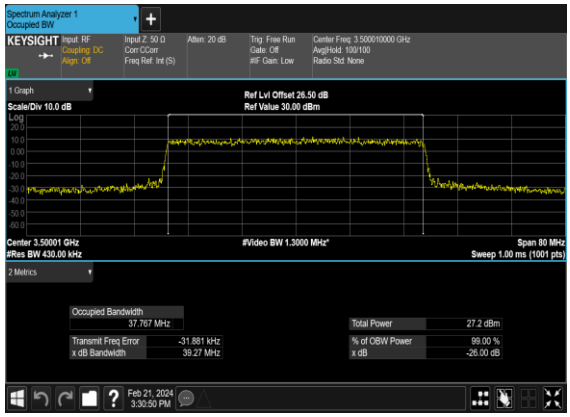
N77(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



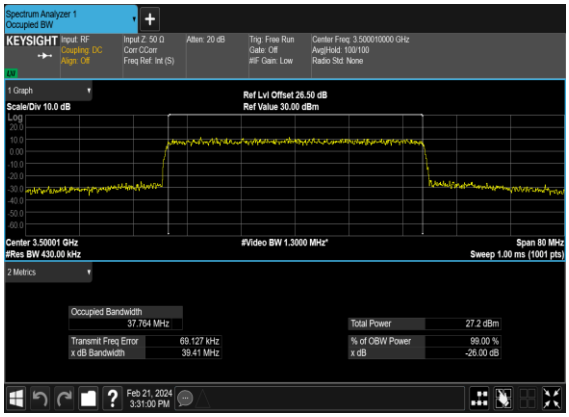
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



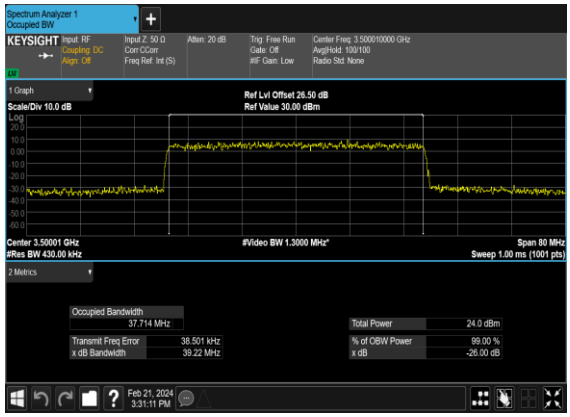
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



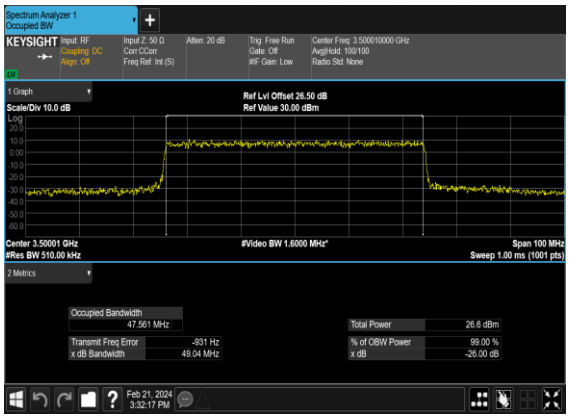
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



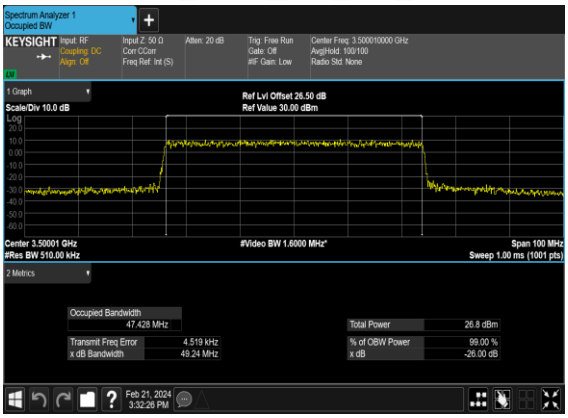
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



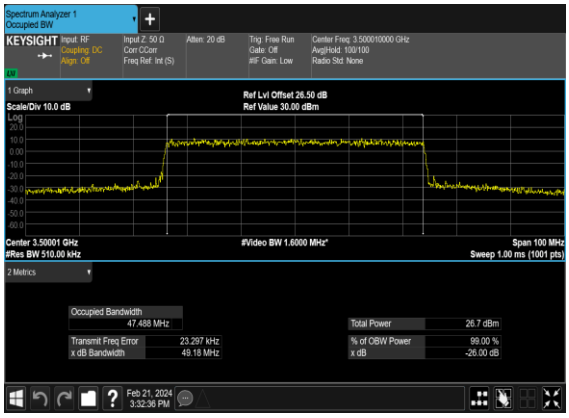
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



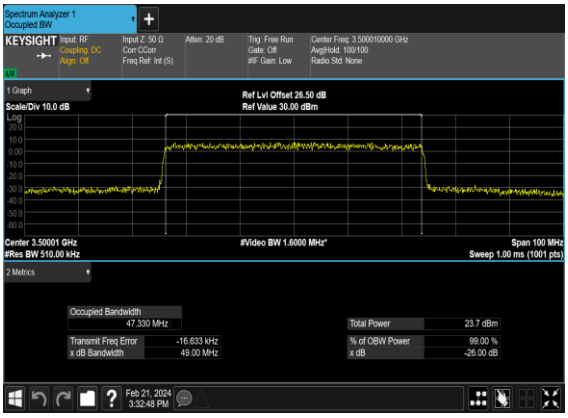
N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



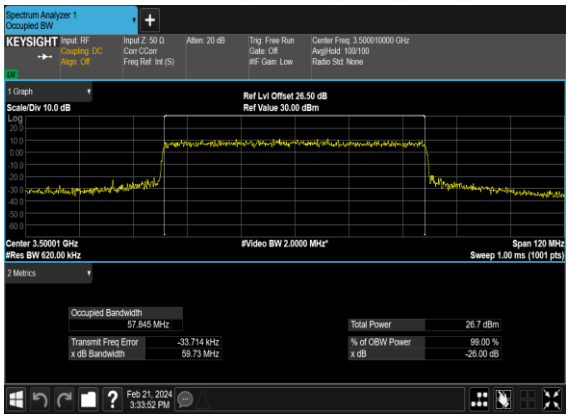
N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



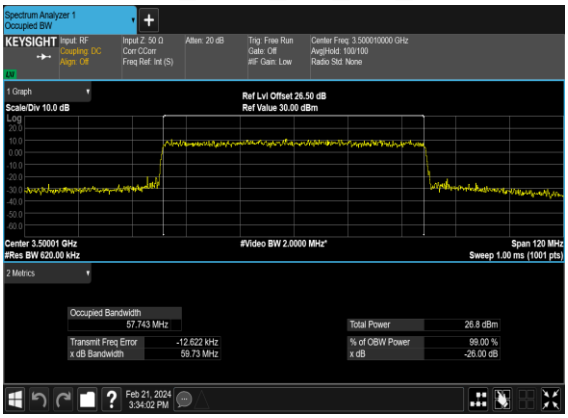
N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

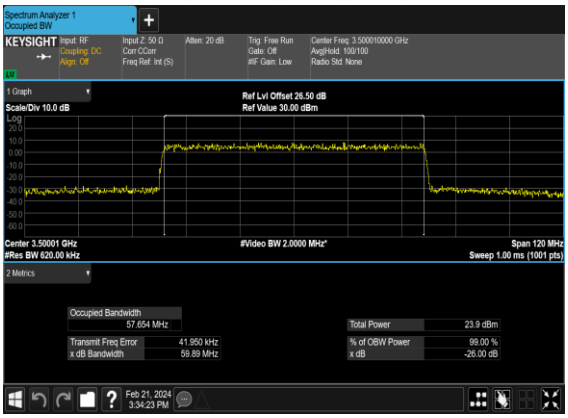


N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



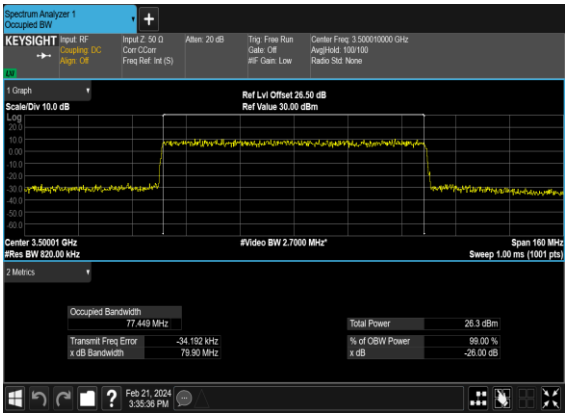
N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

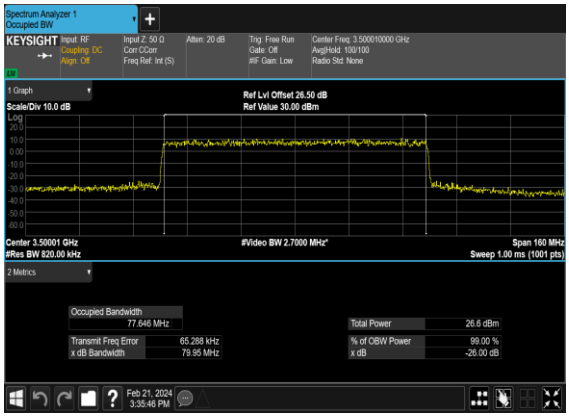


N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

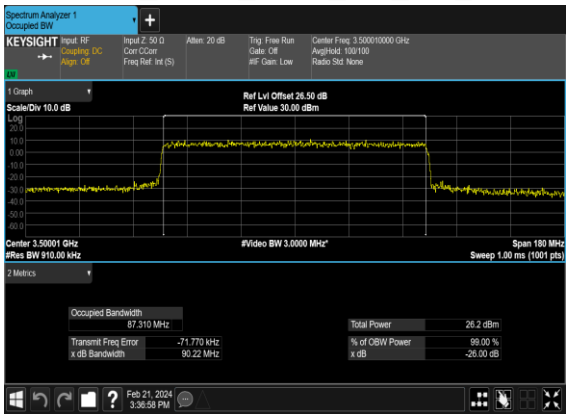


N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

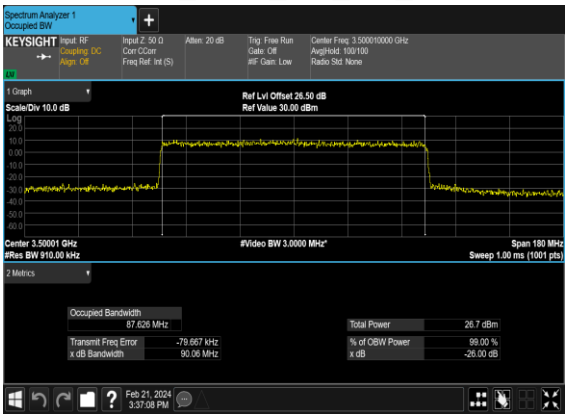


N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

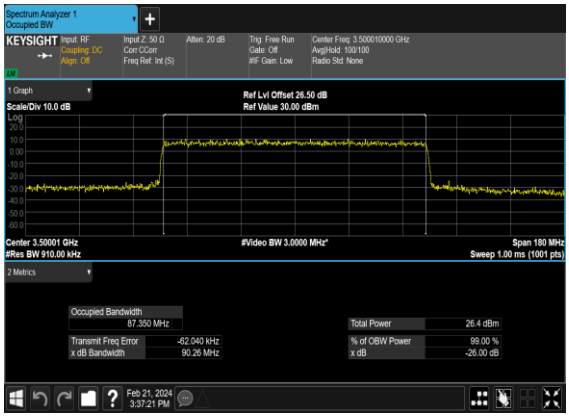
N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



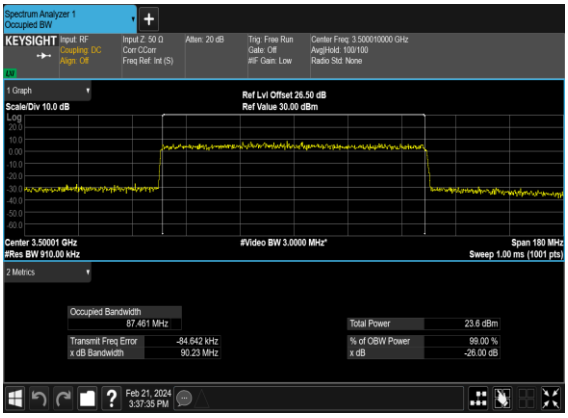
N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



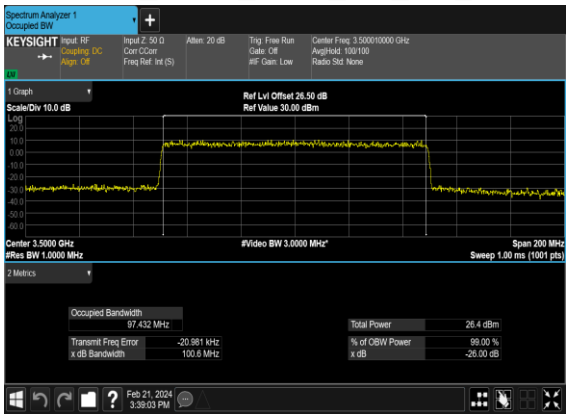
N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



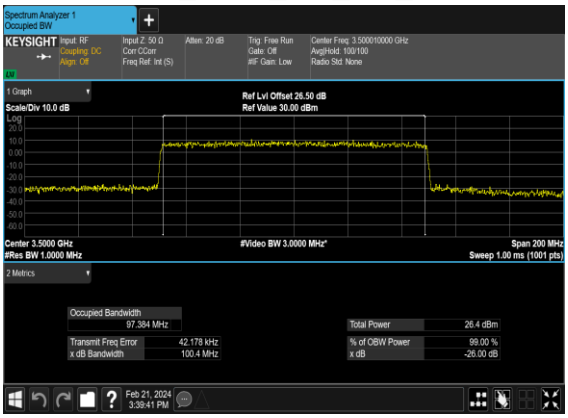
N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



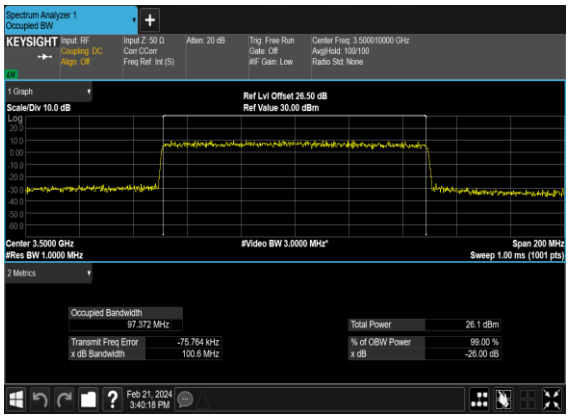
N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



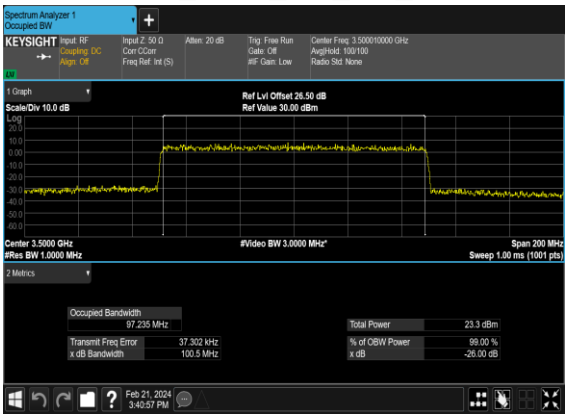
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

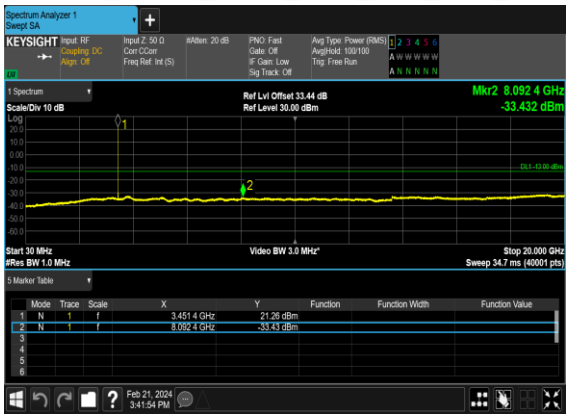


Conducted Spurious Emissions

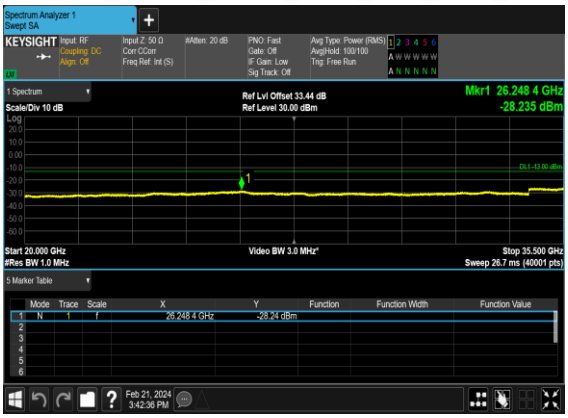
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	632000	3480.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	634666	3519.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

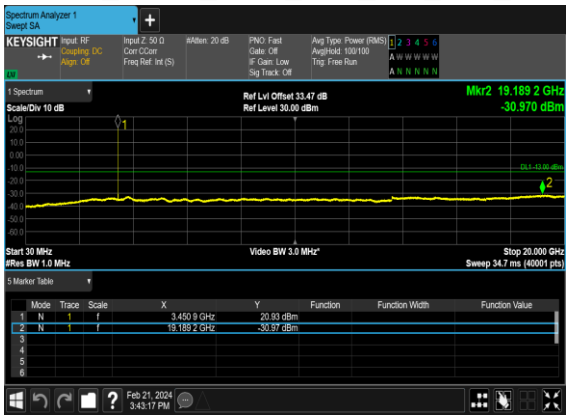
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



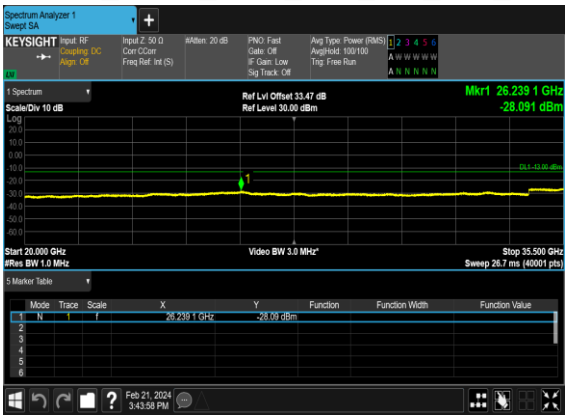
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



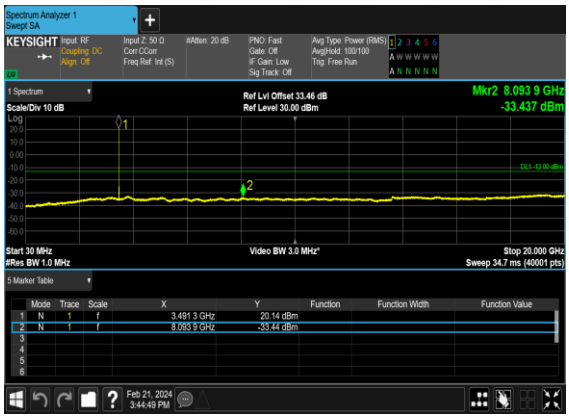
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

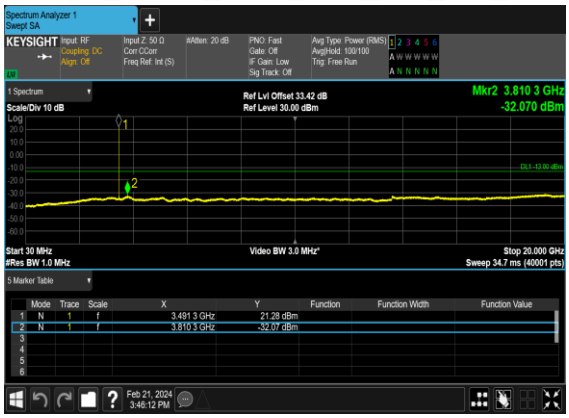


N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

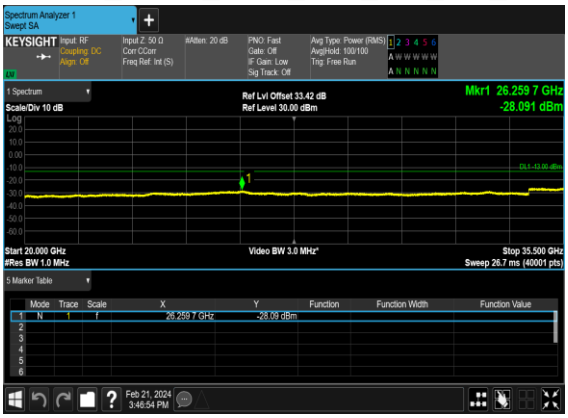


N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

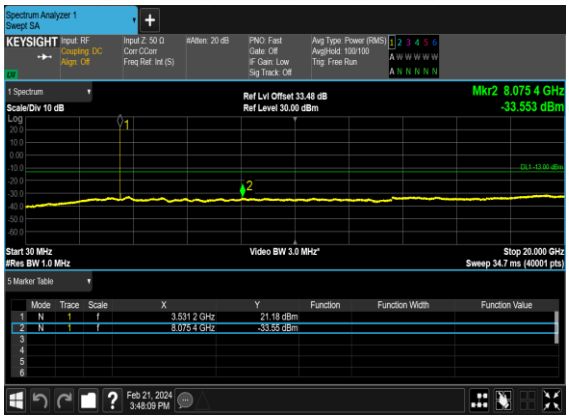
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



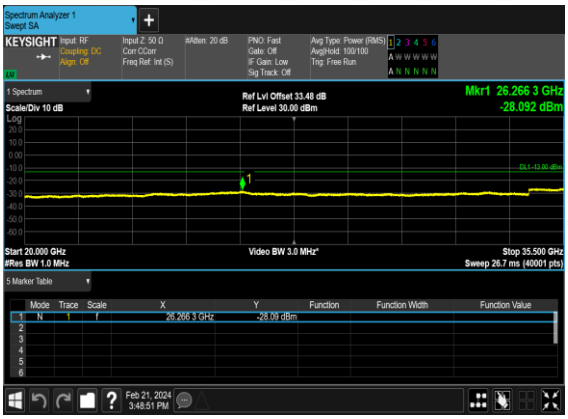
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



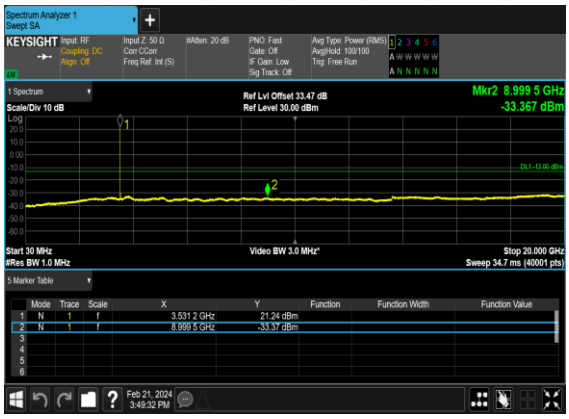
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



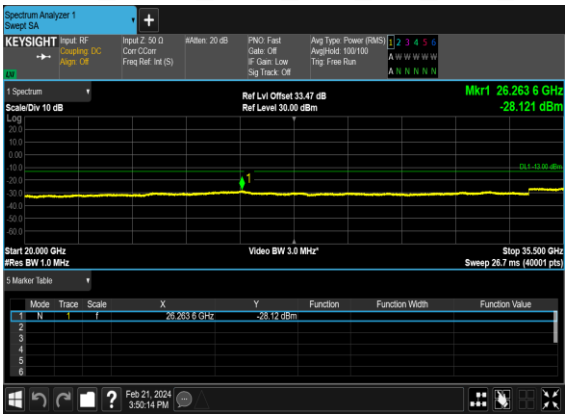
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



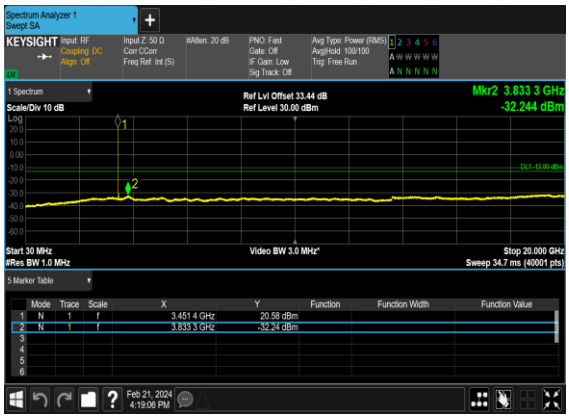
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



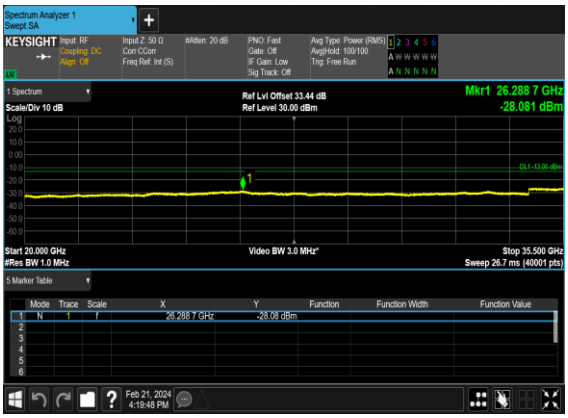
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



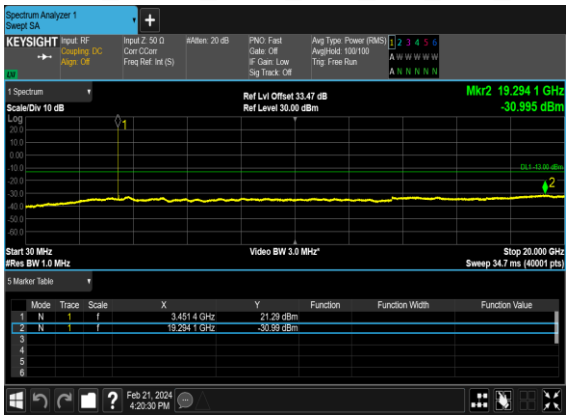
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



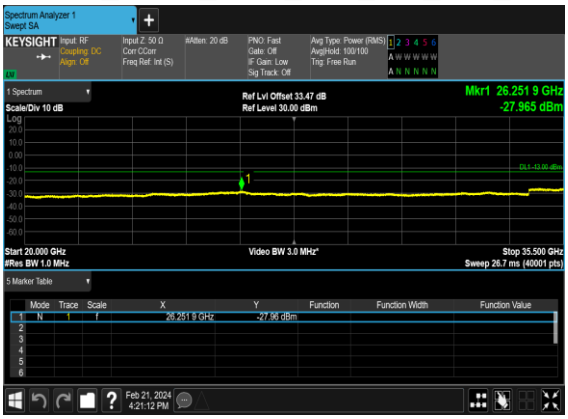
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



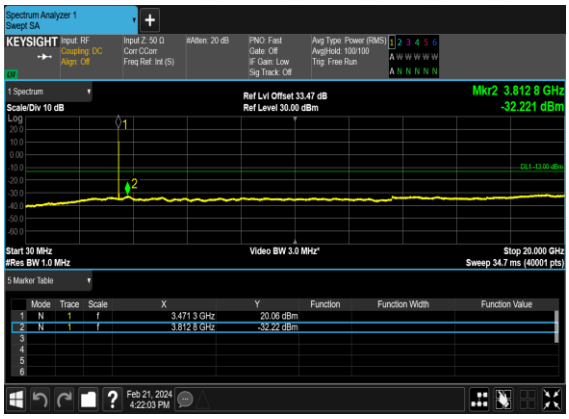
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

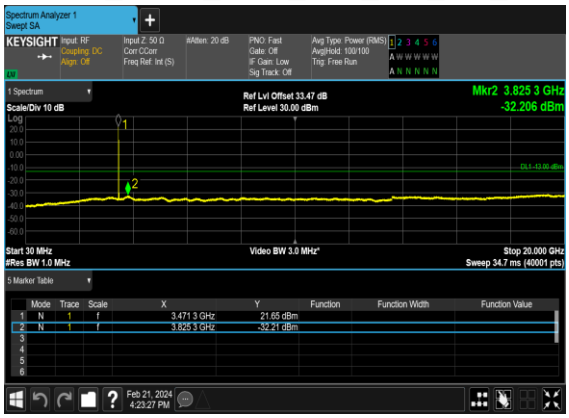


N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

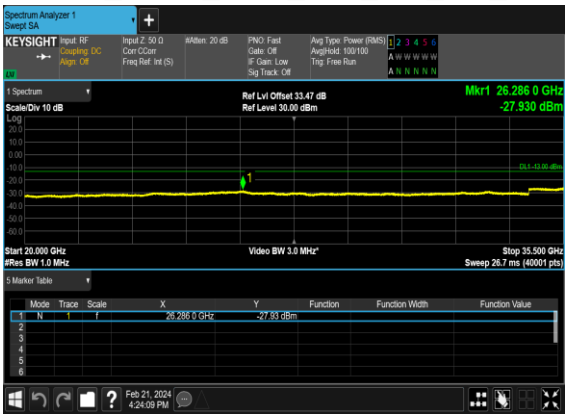


N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

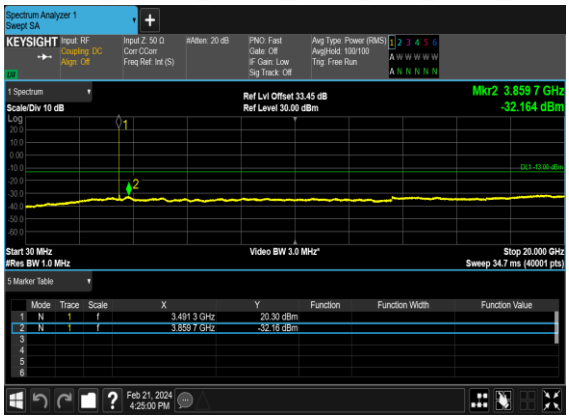
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



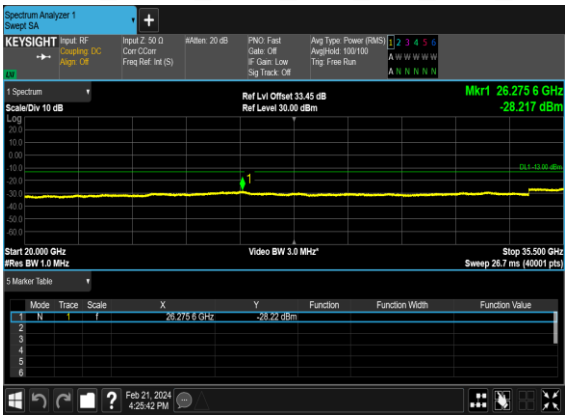
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



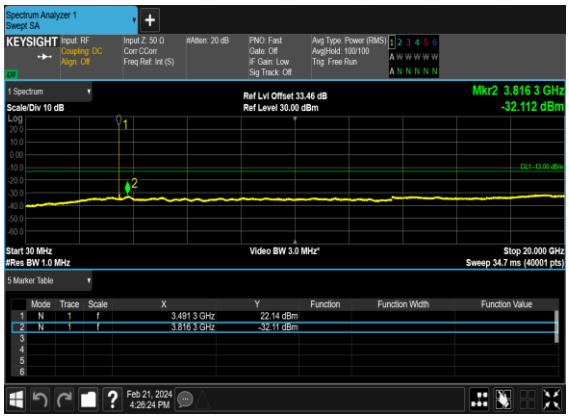
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



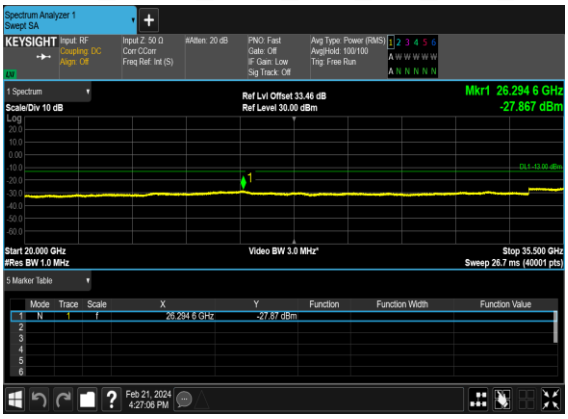
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



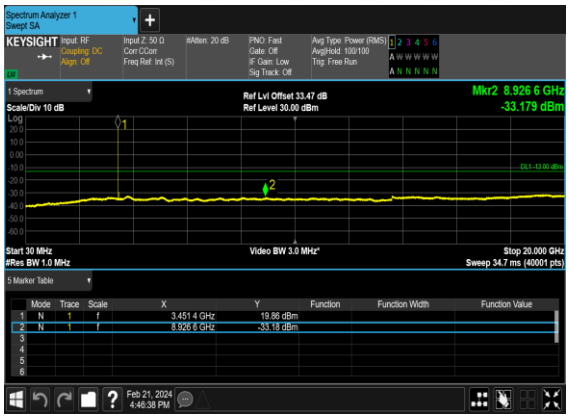
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



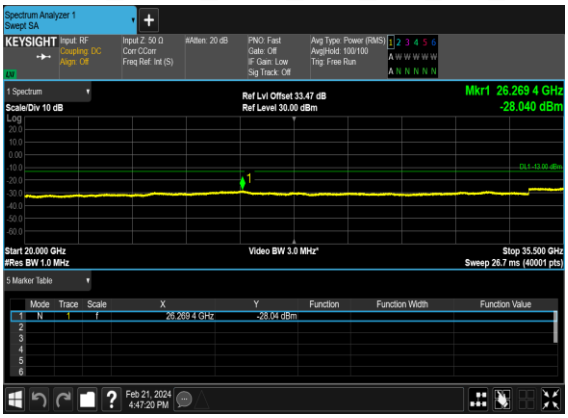
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



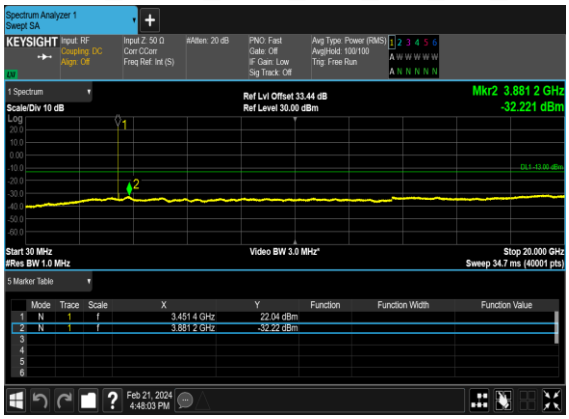
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



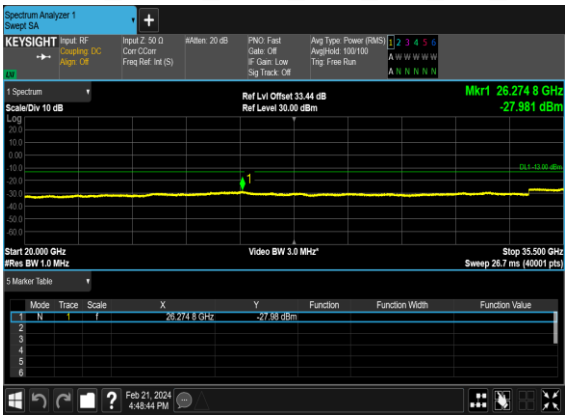
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



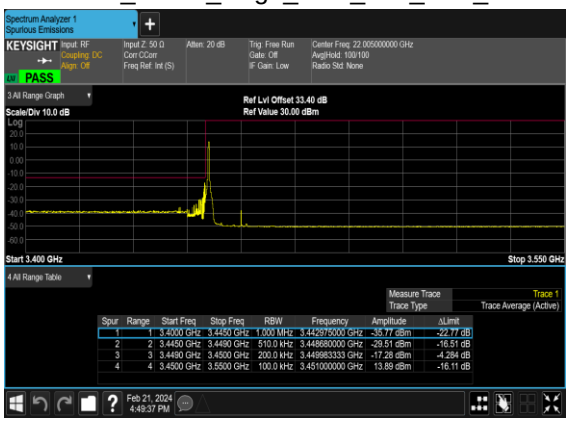
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



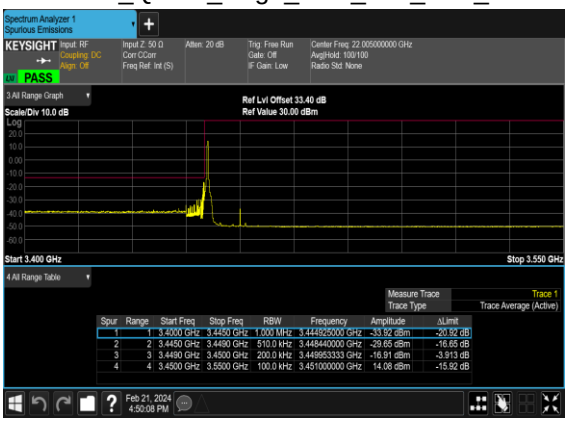
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@50	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@50	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM BPSK	162@0	see graph	**PASS**
77	30	60	632000	3480.0	DFT-s-OFDM QPSK	162@0	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM BPSK	1@161	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@161	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM BPSK	162@0	see graph	**PASS**
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	162@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@272	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@272	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	270@0	see graph	**PASS**

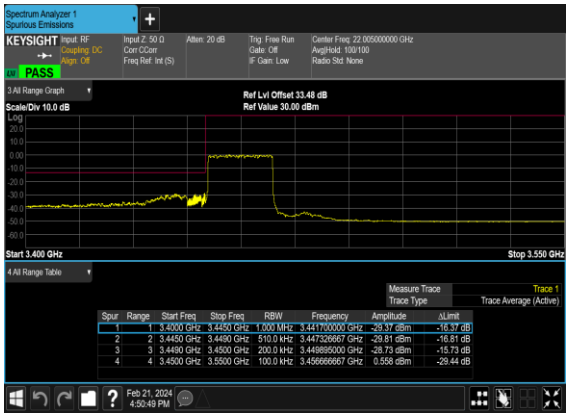
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



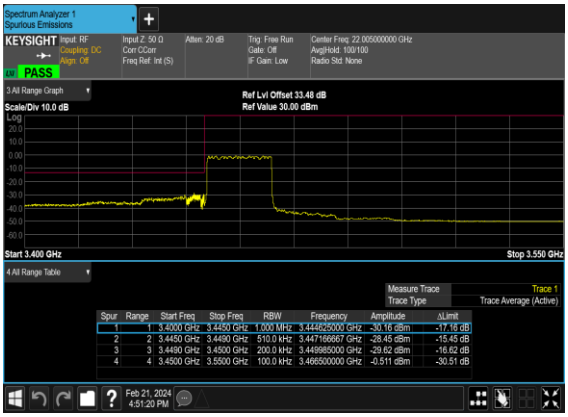
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



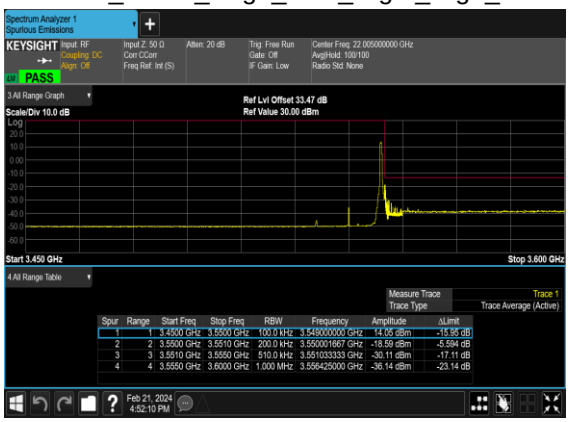
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



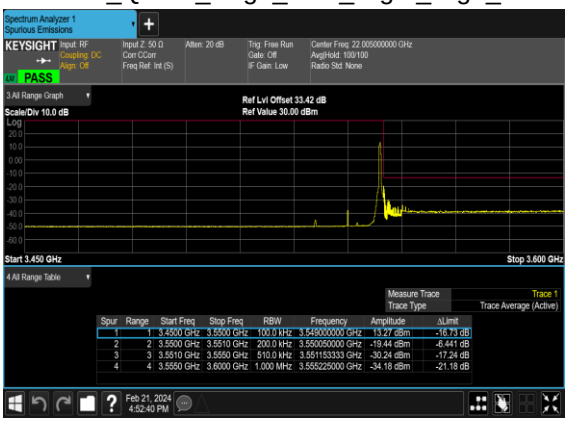
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



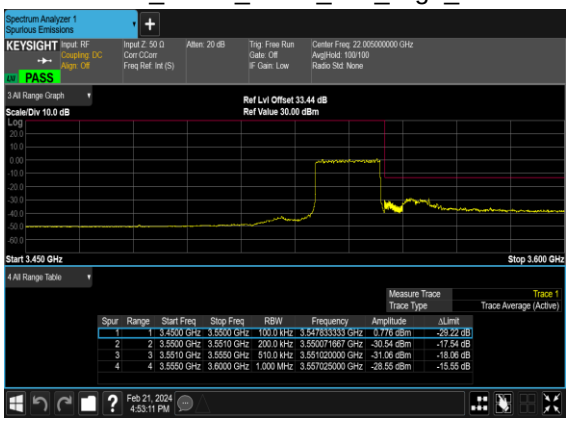
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



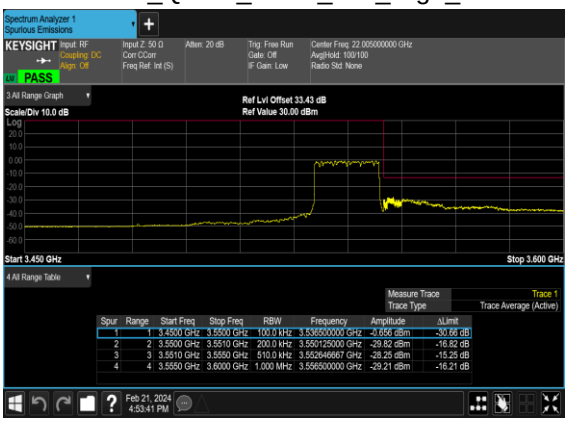
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



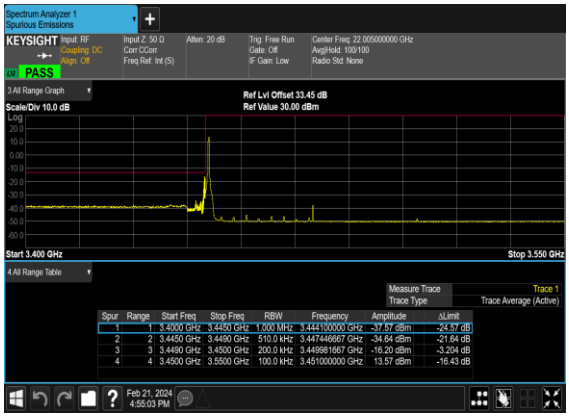
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

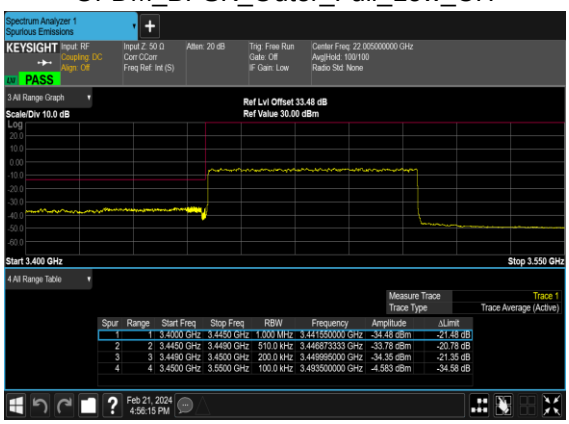


N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

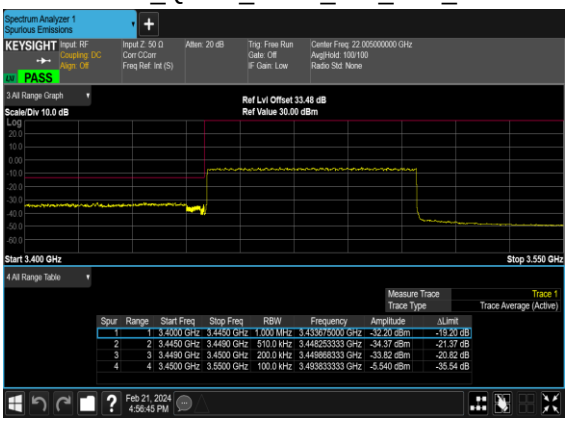


N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

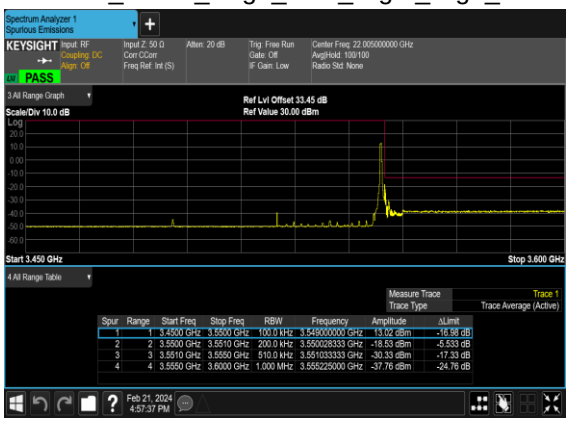
N77(60M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



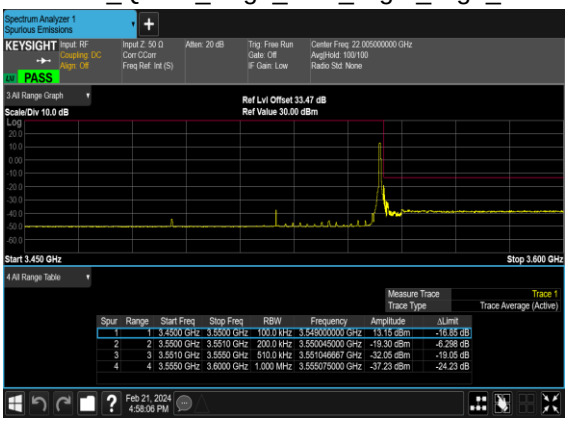
N77(60M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



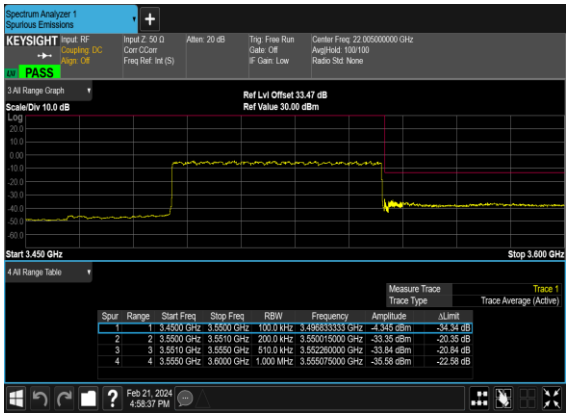
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



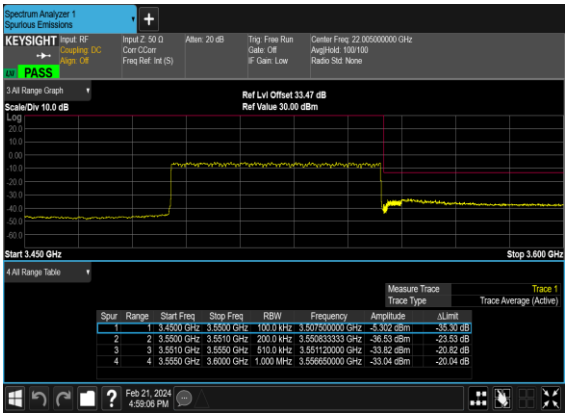
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



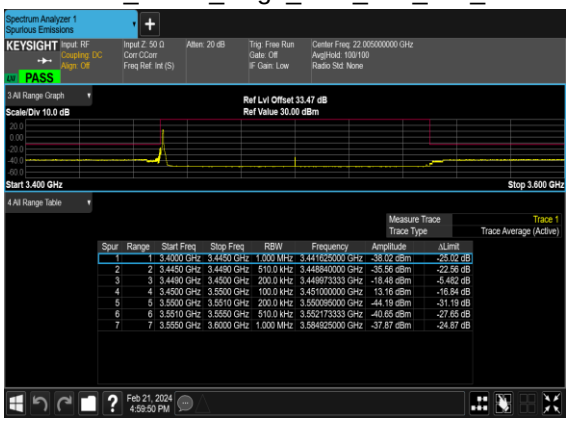
N77(60M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



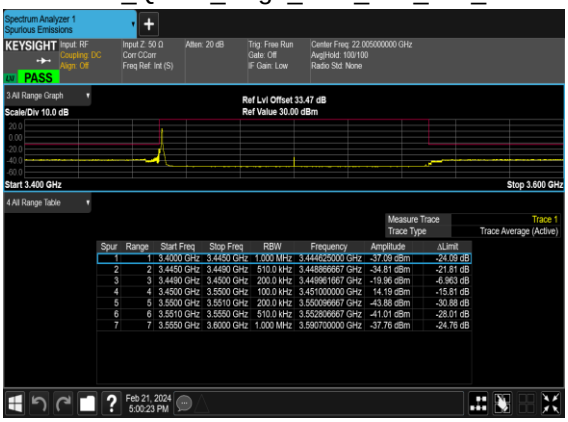
N77(60M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



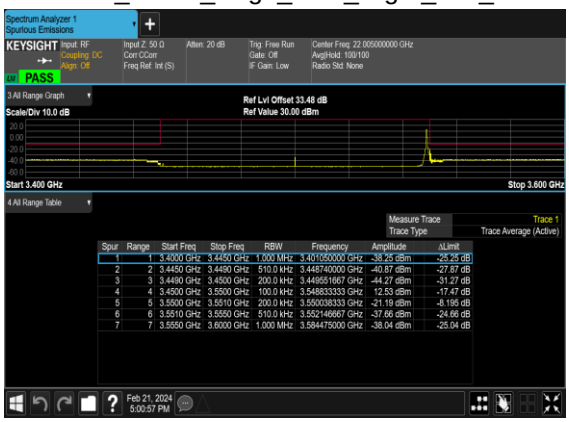
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



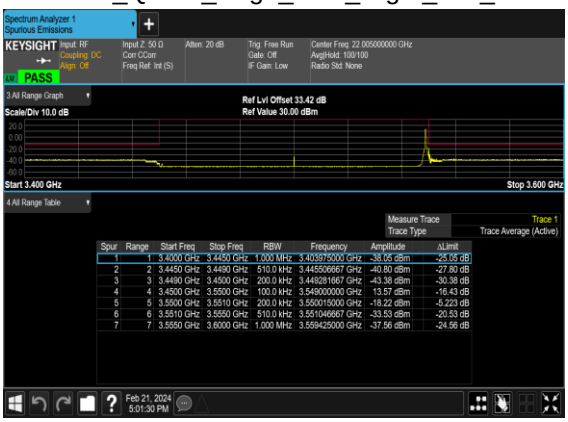
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH

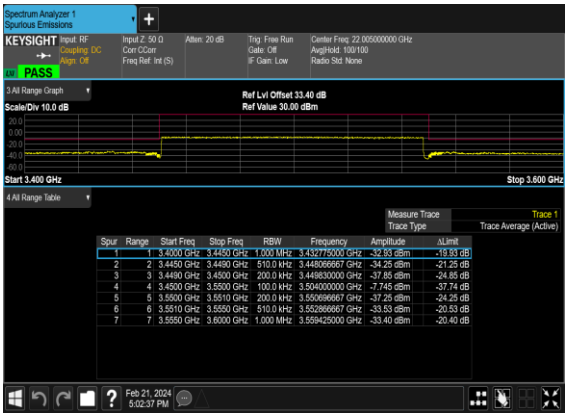


N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



N77(100M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH

N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



Software Version: 23.06.1602

FR1 N77 MIMO-ANT0+2

Transmitter Conducted Output Power And EIRP, (G_T-L_C)=1.61dB

NR Band	SCS	BandWidth	Arfcn	Freq (MHz)	Modulation	RB	ANT0 Power(dBm)	ANT2 Power(dBm)	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	20	630668	3460.02	CP-OFDM QPSK	1@1	22.98	22.78	25.89	27.50	0.5625
77	30	20	630668	3460.02	CP-OFDM 16 QAM	1@1	22.54	22.42	25.49	27.10	0.5129
77	30	20	630668	3460.02	CP-OFDM 64 QAM	1@1	21.08	20.95	24.03	25.64	0.3661
77	30	20	633334	3500.01	CP-OFDM QPSK	1@1	22.9	22.97	25.95	27.56	0.5696
77	30	20	633334	3500.01	CP-OFDM 16 QAM	1@1	22.52	22.65	25.60	27.21	0.5255
77	30	20	633334	3500.01	CP-OFDM 64 QAM	1@1	21.01	20.94	23.99	25.60	0.3627
77	30	20	636000	3540	CP-OFDM QPSK	1@1	22.93	22.95	25.95	27.56	0.5702
77	30	20	636000	3540	CP-OFDM 16 QAM	1@1	22.57	22.28	25.44	27.05	0.5067
77	30	20	636000	3540	CP-OFDM 64 QAM	1@1	21.08	20.93	24.02	25.63	0.3653
77	30	30	631000	3465	CP-OFDM QPSK	1@1	22.97	22.96	25.98	27.59	0.5735
77	30	30	631000	3465	CP-OFDM 16 QAM	1@1	22.44	22.43	25.45	27.06	0.5076
77	30	30	631000	3465	CP-OFDM 64 QAM	1@1	20.97	21.1	24.05	25.66	0.3678
77	30	30	633334	3500.01	CP-OFDM QPSK	1@1	22.95	22.94	25.96	27.57	0.5709
77	30	30	633334	3500.01	CP-OFDM 16 QAM	1@1	22.57	22.52	25.56	27.17	0.5206
77	30	30	633334	3500.01	CP-OFDM 64 QAM	1@1	20.97	21.05	24.02	25.63	0.3656
77	30	30	635666	3534.99	CP-OFDM QPSK	1@1	23.04	22.95	26.01	27.62	0.5775
77	30	30	635666	3534.99	CP-OFDM 16 QAM	1@1	22.55	22.52	25.55	27.16	0.5194
77	30	30	635666	3534.99	CP-OFDM 64 QAM	1@1	20.98	21.04	24.02	25.63	0.3656
77	30	40	631334	3470.01	CP-OFDM QPSK	1@1	22.95	23	25.99	27.60	0.5748
77	30	40	631334	3470.01	CP-OFDM 16 QAM	1@1	22.42	22.45	25.45	27.06	0.5076
77	30	40	631334	3470.01	CP-OFDM 64 QAM	1@1	21.06	20.87	23.98	25.59	0.3619
77	30	40	633334	3500.01	CP-OFDM QPSK	1@1	22.99	23.01	26.01	27.62	0.5781
77	30	40	633334	3500.01	CP-OFDM 16 QAM	1@1	22.52	22.54	25.54	27.15	0.5188
77	30	40	633334	3500.01	CP-OFDM 64 QAM	1@1	20.95	21.08	24.03	25.64	0.3661
77	30	40	635332	3529.98	CP-OFDM QPSK	1@1	23.05	22.98	26.03	27.64	0.5802
77	30	40	635332	3529.98	CP-OFDM 16 QAM	1@1	22.58	22.47	25.54	27.15	0.5183
77	30	40	635332	3529.98	CP-OFDM 64 QAM	1@1	21.12	20.97	24.06	25.67	0.3686
77	30	50	631668	3475.02	CP-OFDM QPSK	1@1	22.82	22.8	25.82	27.43	0.5534
77	30	50	631668	3475.02	CP-OFDM 16 QAM	1@1	22.34	22.42	25.39	27.00	0.5012
77	30	50	631668	3475.02	CP-OFDM 64 QAM	1@1	20.86	20.77	23.83	25.44	0.3496
77	30	50	633334	3500.01	CP-OFDM QPSK	1@1	22.87	22.88	25.89	27.50	0.5617
77	30	50	633334	3500.01	CP-OFDM 16 QAM	1@1	22.34	22.23	25.30	26.91	0.4904
77	30	50	633334	3500.01	CP-OFDM 64 QAM	1@1	20.91	20.91	23.92	25.53	0.3573
77	30	50	635000	3525	CP-OFDM QPSK	1@1	22.89	22.79	25.85	27.46	0.5573
77	30	50	635000	3525	CP-OFDM 16 QAM	1@1	22.31	22.26	25.30	26.91	0.4904
77	30	50	635000	3525	CP-OFDM 64 QAM	1@1	20.97	20.95	23.97	25.58	0.3614
77	30	60	632000	3480	CP-OFDM QPSK	1@1	22.91	22.79	25.86	27.47	0.5586
77	30	60	632000	3480	CP-OFDM 16 QAM	1@1	22.41	22.2	25.32	26.93	0.4928
77	30	60	632000	3480	CP-OFDM 64 QAM	1@1	20.93	20.73	23.84	25.45	0.3509
77	30	60	633334	3500.01	CP-OFDM QPSK	1@1	22.84	22.79	25.83	27.44	0.5540
77	30	60	633334	3500.01	CP-OFDM 16 QAM	1@1	22.43	22.33	25.39	27.00	0.5013

77	30	60	633334	3500.01	CP-OFDM 64 QAM	1@1	20.91	20.9	23.92	25.53	0.3569
77	30	60	634666	3519.99	CP-OFDM QPSK	1@1	22.92	22.88	25.91	27.52	0.5650
77	30	60	634666	3519.99	CP-OFDM 16 QAM	1@1	22.3	22.36	25.34	26.95	0.4955
77	30	60	634666	3519.99	CP-OFDM 64 QAM	1@1	21.1	20.96	24.04	25.65	0.3674
77	30	80	632668	3490.02	CP-OFDM QPSK	1@1	22.98	22.89	25.95	27.56	0.5696
77	30	80	632668	3490.02	CP-OFDM 16 QAM	1@1	22.5	22.38	25.45	27.06	0.5082
77	30	80	632668	3490.02	CP-OFDM 64 QAM	1@1	21.03	20.8	23.93	25.54	0.3578
77	30	80	633334	3500.01	CP-OFDM QPSK	1@1	22.92	22.98	25.96	27.57	0.5715
77	30	80	633334	3500.01	CP-OFDM 16 QAM	1@1	22.44	22.41	25.44	27.05	0.5064
77	30	80	633334	3500.01	CP-OFDM 64 QAM	1@1	21.01	20.91	23.97	25.58	0.3615
77	30	80	634000	3510	CP-OFDM QPSK	1@1	23.07	22.96	26.03	27.64	0.5802
77	30	80	634000	3510	CP-OFDM 16 QAM	1@1	22.62	22.42	25.53	27.14	0.5178
77	30	80	634000	3510	CP-OFDM 64 QAM	1@1	21.03	20.9	23.98	25.59	0.3619
77	30	90	633000	3495	CP-OFDM QPSK	1@1	22.99	22.96	25.99	27.60	0.5748
77	30	90	633000	3495	CP-OFDM 16 QAM	1@1	22.6	22.49	25.56	27.17	0.5207
77	30	90	633000	3495	CP-OFDM 64 QAM	1@1	21.13	20.94	24.05	25.66	0.3678
77	30	90	633334	3500.01	CP-OFDM QPSK	1@1	22.98	22.99	26.00	27.61	0.5761
77	30	90	633334	3500.01	CP-OFDM 16 QAM	1@1	22.53	22.57	25.56	27.17	0.5212
77	30	90	633334	3500.01	CP-OFDM 64 QAM	1@1	21.02	21.05	24.05	25.66	0.3677
77	30	90	633666	3504.99	CP-OFDM QPSK	1@1	23.04	22.99	26.03	27.64	0.5801
77	30	90	633666	3504.99	CP-OFDM 16 QAM	1@1	22.48	22.61	25.56	27.17	0.5207
77	30	90	633666	3504.99	CP-OFDM 64 QAM	1@1	20.98	21.02	24.01	25.62	0.3648
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	22.72	22.23	25.49	27.10	0.5131
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	23.36	23.28	26.33	27.94	0.6224
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	22.51	22.48	25.51	27.12	0.5147
77	30	100	633334	3500.01	CP-OFDM 16 QAM	137@68	22.29	22.21	25.26	26.87	0.4865
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@1	22.4	22.26	25.34	26.95	0.4955
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@271	21.96	22.01	25.00	26.61	0.4577
77	30	100	633334	3500.01	CP-OFDM 64 QAM	137@68	20.79	20.69	23.75	25.36	0.3436
77	30	100	633334	3500.01	CP-OFDM 64 QAM	1@1	20.95	20.7	23.84	25.45	0.3505
77	30	100	633334	3500.01	CP-OFDM 64 QAM	1@271	20.48	20.52	23.51	25.12	0.3251
77	30	100	633334	3500.01	CP-OFDM 256 QAM	137@68	17.85	17.66	20.77	22.38	0.1728
77	30	100	633334	3500.01	CP-OFDM 256 QAM	1@1	17.88	17.79	20.85	22.46	0.1760
77	30	100	633334	3500.01	CP-OFDM 256 QAM	1@271	17.5	17.47	20.50	22.11	0.1624

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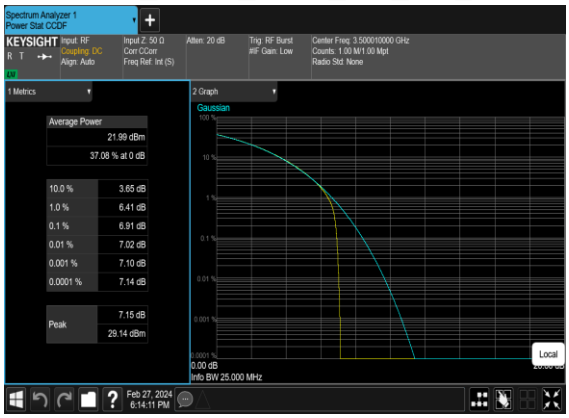
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0021	**PASS**	NV
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0035	**PASS**	LV
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0017	**PASS**	HV
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	-0.0028	**PASS**	-30℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0011	**PASS**	-20℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0024	**PASS**	-10℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0036	**PASS**	0℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0015	**PASS**	10℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	-0.0027	**PASS**	20℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	-0.0013	**PASS**	30℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0029	**PASS**	40℃
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	0.0021	**PASS**	50℃

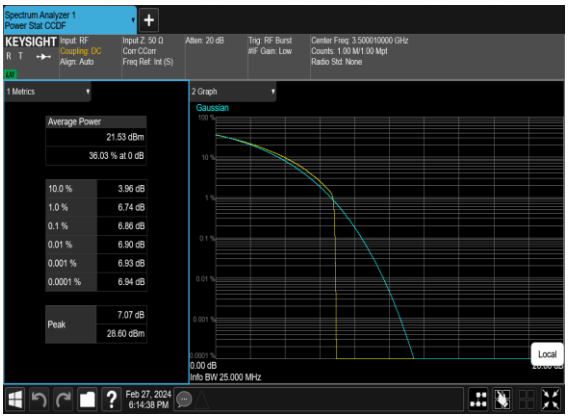
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	6.91	13	**PASS**
77	30	20	633334	3500.01	CP-OFDM QPSK	1@0	6.86	13	**PASS**
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	6.82	13	**PASS**
77	30	20	633334	3500.01	CP-OFDM 16 QAM	1@0	7.41	13	**PASS**

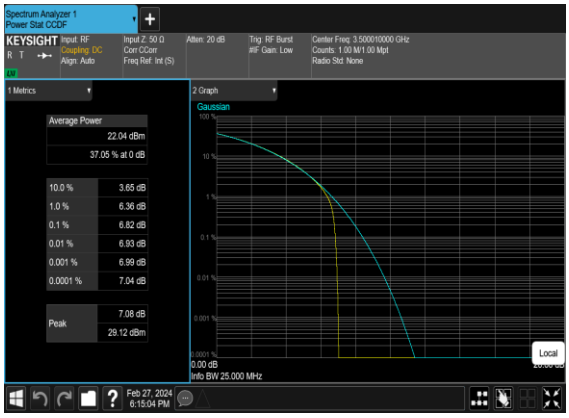
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



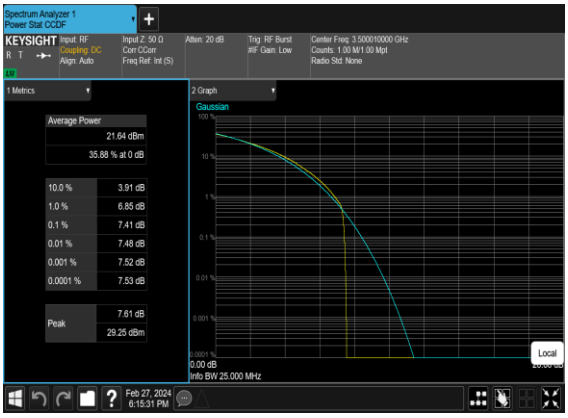
N77(20M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(20M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.214	18.94
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.148	19.5
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.225	19.27
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.165	19.2
77	30	30	633334	3500.01	CP-OFDM QPSK	78@0	27.792	28.85
77	30	30	633334	3500.01	CP-OFDM 16 QAM	78@0	27.812	29.12
77	30	30	633334	3500.01	CP-OFDM 64 QAM	78@0	27.759	28.88
77	30	30	633334	3500.01	CP-OFDM 256 QAM	78@0	27.799	28.81
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.865	39.18
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.679	39.28
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.873	39.19
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.856	39.41
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.289	48.94
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.484	49.05
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.451	49.05
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.34	49.26
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.671	59.74
77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.852	59.79
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.746	59.68
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.798	59.72
77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.311	79.93
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.447	79.87
77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.442	79.95
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.521	79.91
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.35	90.09
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.501	90.22
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.308	90.09
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.294	90.28
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.172	100.4
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.415	100.6
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.429	100.4
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.457	100.5