FCC RF Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Redmi
MODEL NAME	:	24090RA29G
FCC ID	:	2AFZZRA29G
STANDARD	:	47 CFR Part 27 Subpart Q
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	:	Jul. 23, 2024 ~ Aug. 23, 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

ilac-MRA

A2LA 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
FG471506N	Rev. 01	Initial issue of report	Aug. 23, 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 37.89 dB at 10356.00 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

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	24090RA29G
FCC ID	2AFZZRA29G
IMEI Code	Conducted : 861793070041221/861793070041239 Radiation : 861793070039324/861793070039332
HW Version	135300O16
SW Version	Xiaomi HyperOS 1.0
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: 10 / 15 / 20 / 40 / 50 / 60 / 80 / 90 / 100MHz n78: 10 / 15 / 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	**<Ant. 2>** 5G NR n77: -1.81 dBi 5G NR n78: -1.81 dBi **<Ant. 3>** 5G NR n77: -0.81 dBi 5G NR n78: -4.71 dBi **<Ant. 5>** 5G NR n77: -0.6 dBi 5G NR n78: -0.6 dBi **<Ant. 7>** 5G NR n77: -2 dBi 5G NR n78: -2.94 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP of ANT 5 for 5G NR n77/n78 is shown in the report.
2. The device supports n77(1T4R) SRS resources on Antenna 2/3/5/7, only the test data of worst Antenna 5 is showed in the report according to the maximum power.
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. The device supports HPUE mode for 5G NR n77/n78.
5. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
6. The EN-DC mode combination could be referred to the product spec.

1.5 Modification of EUT

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

1.6 Maximum EIRP Power and Emission Designator

5G NR n77 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3455.01 ~ 3544.98	0.3639	8M56G7D	0.2904	8M58W7D
15	3457.50 ~ 3542.49	0.3589	13M5G7D	0.2938	13M6W7D
20	3460.02 ~ 3540.00	0.3614	18M2G7D	0.2931	18M2W7D
40	3470.01 ~ 3529.98	0.3565	37M8G7D	0.2911	37M9W7D
50	3475.02 ~ 3525.00	0.3664	47M5G7D	0.3013	47M5W7D
60	3480.00 ~ 3519.99	0.3681	57M9G7D	0.3055	57M9W7D
80	3490.02 ~ 3510.00	0.3540	77M5G7D	0.2917	77M4W7D
90	3495.00 ~ 3504.99	0.3540	87M4G7D	0.2917	87M6W7D
100	3500.01	0.3715	97M6G7D	0.2831	97M4W7D

5G NR n78 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3455.01 ~ 3544.98	0.3648	8M56G7D	0.2979	8M58W7D
15	3457.50 ~ 3542.49	0.3673	13M5G7D	0.2985	13M6W7D
20	3460.02 ~ 3540.00	0.3648	18M2G7D	0.2965	18M2W7D
30	3465.00 ~ 3534.99	0.3656	27M8G7D	0.2979	27M9W7D
40	3470.01 ~ 3529.98	0.3622	37M8G7D	0.2938	37M9W7D
50	3475.02 ~ 3525.00	0.3648	47M5G7D	0.3069	47M5W7D
60	3480.00 ~ 3519.99	0.3597	57M9G7D	0.3048	57M9W7D
70	3485.01 ~ 3514.98	0.3606	67M5G7D	0.2917	67M5W7D
80	3490.02 ~ 3510.00	0.3581	77M5G7D	0.2944	77M4W7D
90	3495.00 ~ 3504.99	0.3524	87M4G7D	0.2864	87M6W7D
100	3500.01	0.3698	97M6G7D	0.2851	97M4W7D

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, excepet the 30M and 70M BW of n78 are additional test.
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 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

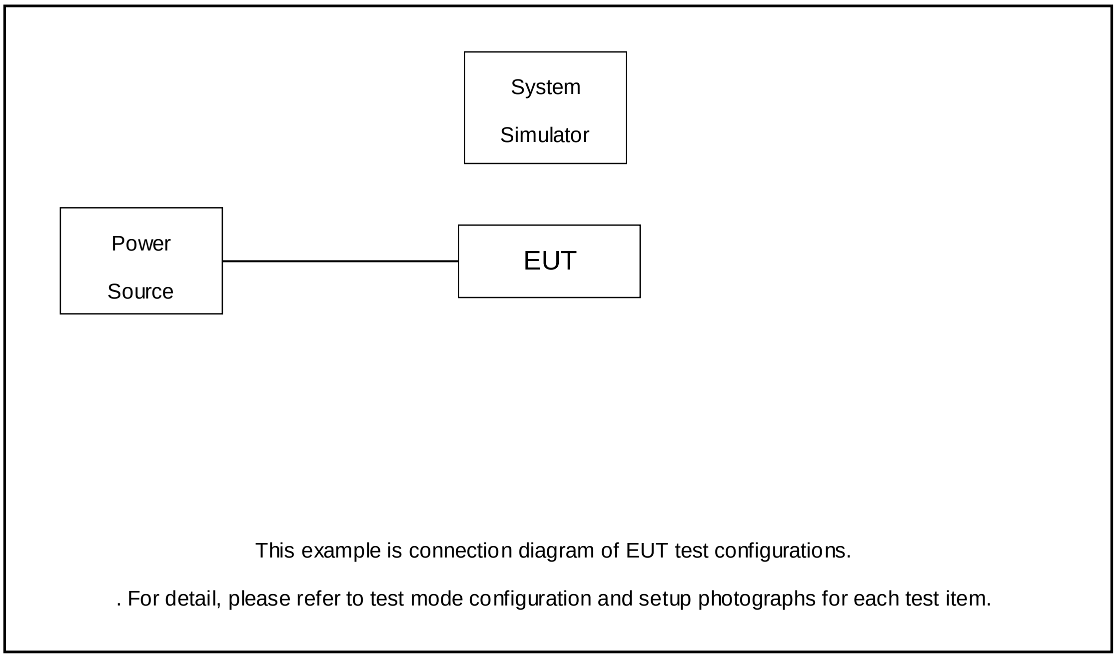
2.1 Test Mode

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	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	v
	n78	v	v	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77			v	-	-				-			v	v				v		v		v	
	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		v	
Conducted Band Edge	n77	v			-	-		v		-		v	v	v				v		v	v		v
	n78				-	v				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	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	v
	n78	v	v	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n77	Worst Case																				v	
	n78	Worst Case																				v	
Note	1. The mark "**v**" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Frequency Stability : Normal Voltage = 3.91V; Low Voltage =3.6V; High Voltage =4.3V.																						

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

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 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
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
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

5G 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

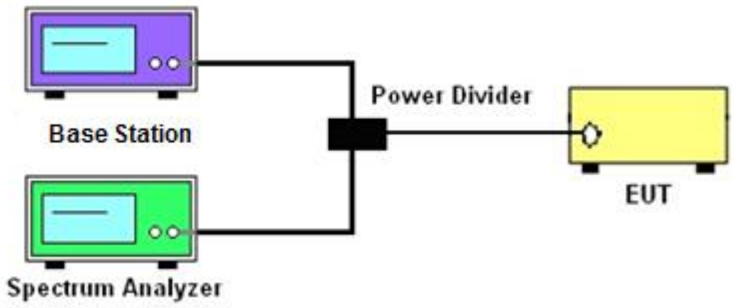
3.1 Measuring Instruments

See list of measuring instruments of this test report.

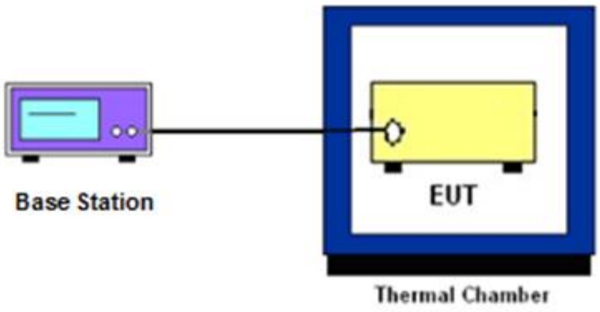
3.2 Test Setup

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 ≥ 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.

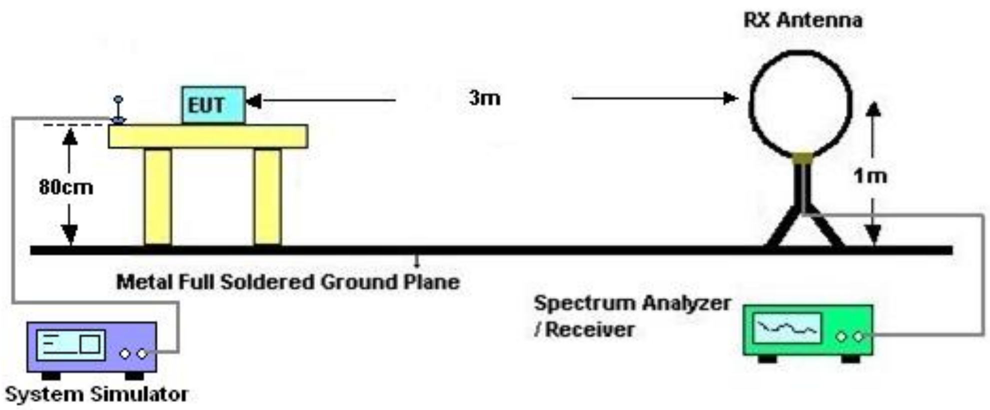
4 Radiated Test Items

4.1 Measuring Instruments

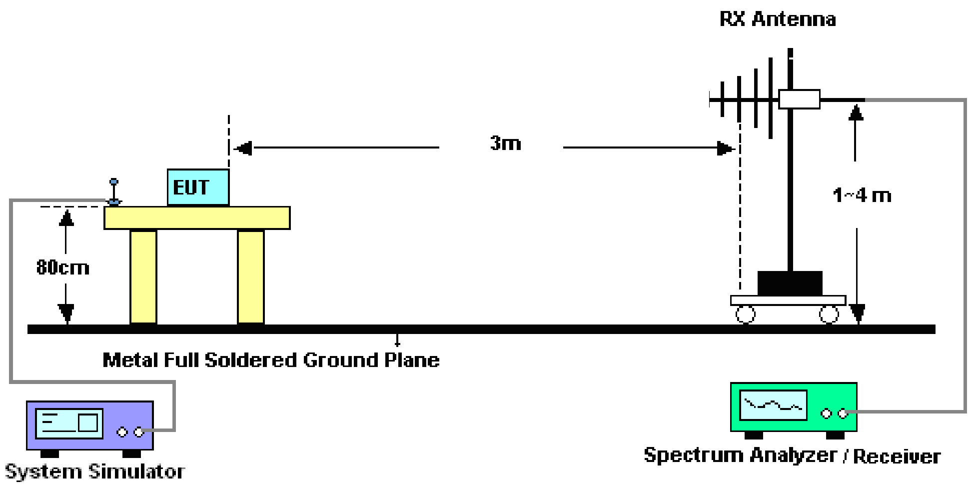
See list of measuring instruments of this test report.

4.2 Test Setup

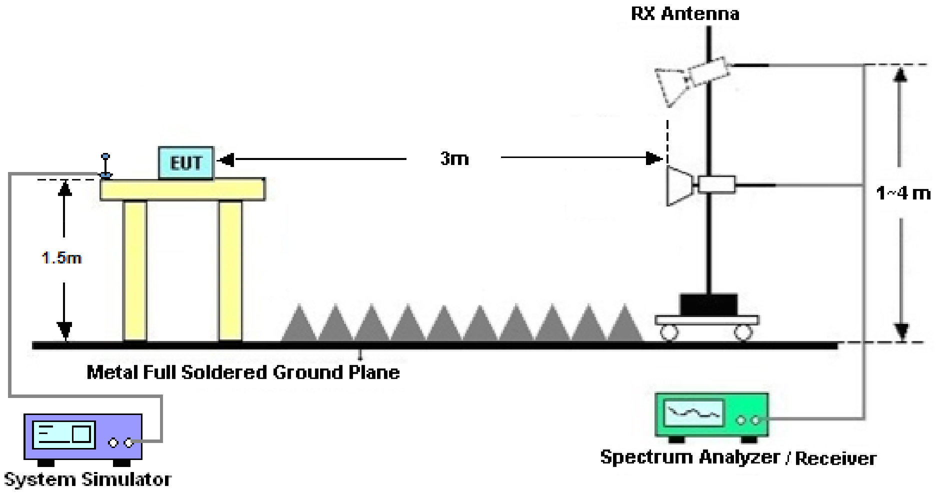
4.2.1 For radiated test below 30MHz



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 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.
   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
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Jul. 25, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Jul. 25, 2024	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Jul. 25, 2024	Jul. 03, 2025	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 11, 2023	Jul. 23, 2024~ Aug. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Jul. 23, 2024~ Aug. 23, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	Apr. 18, 2024	Jul. 23, 2024~ Aug. 23, 2024	Apr. 17, 2025	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Jul. 23, 2024~ Aug. 23, 2024	Oct. 22, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Jul. 23, 2024~ Aug. 23, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Jul. 23, 2024~ Aug. 23, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Jul. 23, 2024~ Aug. 23, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 11, 2023	Jul. 23, 2024~ Aug. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 11, 2023	Jul. 23, 2024~ Aug. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 23, 2024~ Aug. 23, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 23, 2024~ Aug. 23, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 23, 2024~ Aug. 23, 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

Conducted Spurious Emission & Bandedge	**±2.22 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.50 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))	**2.83dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.83dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.82dB**

----------- 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_ANT5

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-0.6dB

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP(W)
77	30	10	630334	3455.01	DFT-s-OFDM PI/2 BPSK	1@1	25.79	25.19	0.3304
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@1	25.88	25.28	0.3373
77	30	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	24.9	24.3	0.2692
77	30	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.11	25.51	0.3556
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.21	25.61	0.3639
77	30	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.23	24.63	0.2904
77	30	10	636332	3544.98	DFT-s-OFDM PI/2 BPSK	1@1	26.11	25.51	0.3556
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@1	26.11	25.51	0.3556
77	30	10	636332	3544.98	DFT-s-OFDM 16 QAM	1@1	25.21	24.61	0.2891
77	30	15	630500	3457.5	DFT-s-OFDM PI/2 BPSK	1@1	25.82	25.22	0.3327
77	30	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	25.86	25.26	0.3357
77	30	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	25	24.4	0.2754
77	30	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.13	25.53	0.3573
77	30	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.15	25.55	0.3589
77	30	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.28	24.68	0.2938
77	30	15	636166	3542.49	DFT-s-OFDM PI/2 BPSK	1@1	26.08	25.48	0.3532
77	30	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	26.12	25.52	0.3565
77	30	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	25.24	24.64	0.2911
77	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	1@1	25.84	25.24	0.3342
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	25.89	25.29	0.3381
77	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	24.93	24.33	0.2710
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.12	25.52	0.3565
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.18	25.58	0.3614
77	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.27	24.67	0.2931
77	30	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@1	26.07	25.47	0.3524
77	30	20	636000	3540	DFT-s-OFDM QPSK	1@1	26.09	25.49	0.3540
77	30	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	25.25	24.65	0.2917
77	30	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@1	25.81	25.21	0.3319
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	25.86	25.26	0.3357
77	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	24.99	24.39	0.2748
77	30	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.92	25.32	0.3404
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	26	25.4	0.3467
77	30	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.15	24.55	0.2851
77	30	40	635332	3529.98	DFT-s-OFDM PI/2 BPSK	1@1	26.06	25.46	0.3516
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	26.12	25.52	0.3565
77	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	25.24	24.64	0.2911
77	30	50	631668	3475.02	DFT-s-OFDM PI/2 BPSK	1@1	25.81	25.21	0.3319

77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@1	25.82	25.22	0.3327
77	30	50	631668	3475.02	DFT-s-OFDM 16 QAM	1@1	24.93	24.33	0.2710
77	30	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.94	25.34	0.3420
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.97	25.37	0.3443
77	30	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.09	24.49	0.2812
77	30	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@1	26.21	25.61	0.3639
77	30	50	635000	3525	DFT-s-OFDM QPSK	1@1	26.24	25.64	0.3664
77	30	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	25.39	24.79	0.3013
77	30	60	632000	3480	DFT-s-OFDM PI/2 BPSK	1@1	25.84	25.24	0.3342
77	30	60	632000	3480	DFT-s-OFDM QPSK	1@1	25.87	25.27	0.3365
77	30	60	632000	3480	DFT-s-OFDM 16 QAM	1@1	25	24.4	0.2754
77	30	60	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.92	25.32	0.3404
77	30	60	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.02	25.42	0.3483
77	30	60	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.05	24.45	0.2786
77	30	60	634666	3519.99	DFT-s-OFDM PI/2 BPSK	1@1	26.2	25.6	0.3631
77	30	60	634666	3519.99	DFT-s-OFDM QPSK	1@1	26.26	25.66	0.3681
77	30	60	634666	3519.99	DFT-s-OFDM 16 QAM	1@1	25.45	24.85	0.3055
77	30	80	632668	3490.02	DFT-s-OFDM PI/2 BPSK	1@1	26.03	25.43	0.3491
77	30	80	632668	3490.02	DFT-s-OFDM QPSK	1@1	26.07	25.47	0.3524
77	30	80	632668	3490.02	DFT-s-OFDM 16 QAM	1@1	25.12	24.52	0.2831
77	30	80	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.06	25.46	0.3516
77	30	80	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.08	25.48	0.3532
77	30	80	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.25	24.65	0.2917
77	30	80	634000	3510	DFT-s-OFDM PI/2 BPSK	1@1	26.07	25.47	0.3524
77	30	80	634000	3510	DFT-s-OFDM QPSK	1@1	26.09	25.49	0.3540
77	30	80	634000	3510	DFT-s-OFDM 16 QAM	1@1	25.22	24.62	0.2897
77	30	90	633000	3495	DFT-s-OFDM PI/2 BPSK	1@1	25.98	25.38	0.3451
77	30	90	633000	3495	DFT-s-OFDM QPSK	1@1	26.03	25.43	0.3491
77	30	90	633000	3495	DFT-s-OFDM 16 QAM	1@1	25.16	24.56	0.2858
77	30	90	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26	25.4	0.3467
77	30	90	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.06	25.46	0.3516
77	30	90	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.2	24.6	0.2884
77	30	90	633666	3504.99	DFT-s-OFDM PI/2 BPSK	1@1	26.07	25.47	0.3524
77	30	90	633666	3504.99	DFT-s-OFDM QPSK	1@1	26.09	25.49	0.3540
77	30	90	633666	3504.99	DFT-s-OFDM 16 QAM	1@1	25.25	24.65	0.2917
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	26.3	25.7	0.3715
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.99	25.39	0.3459
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	25.9	25.3	0.3388
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	26.15	25.55	0.3589
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	26.06	25.46	0.3516
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	25.89	25.29	0.3381
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	25.12	24.52	0.2831
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.08	24.48	0.2805
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	25.02	24.42	0.2767
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.62	23.02	0.2004

77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.82	23.22	0.2099
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	23.66	23.06	0.2023
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.74	21.14	0.1300
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.54	20.94	0.1242
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	21.41	20.81	0.1205
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	24.55	23.95	0.2483
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	24.59	23.99	0.2506
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	24.52	23.92	0.2466

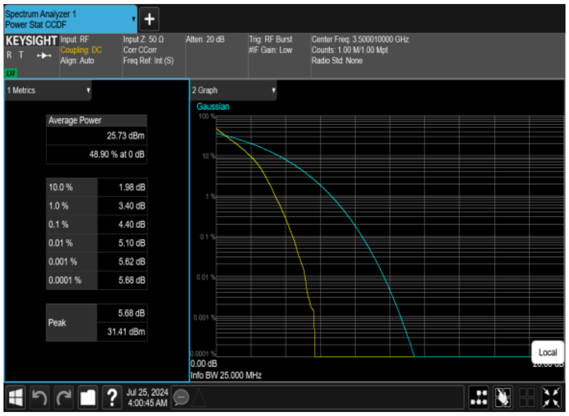
Frequency Stability

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	0.0022	**PASS**	NV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0019	**PASS**	LV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0035	**PASS**	HV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0041	**PASS**	-30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0057	**PASS**	-20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0016	**PASS**	-10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0024	**PASS**	0℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.034	**PASS**	10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0052	**PASS**	20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0055	**PASS**	30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0091	**PASS**	40℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0057	**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	4.4	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	4.18	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	5.57	13	**PASS**
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	5.78	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

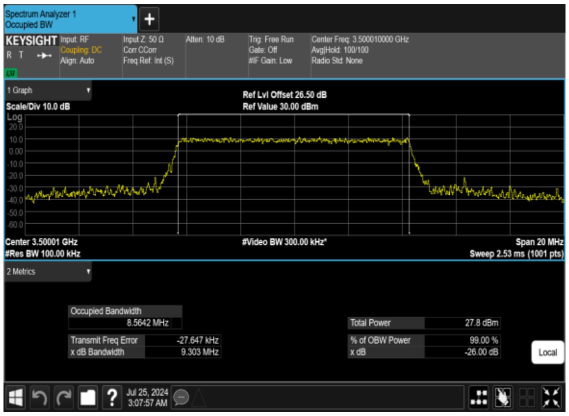
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

Occupied Bandwidth

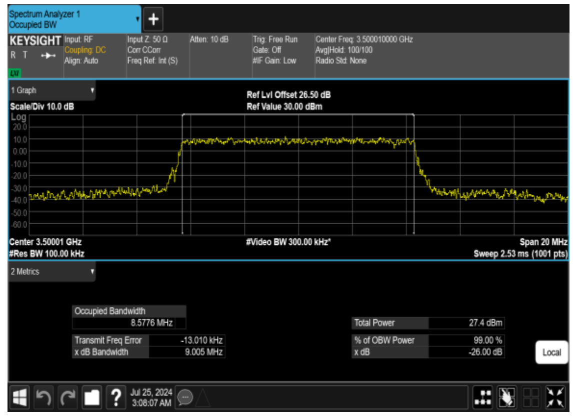
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	10	633334	3500.01	CP-OFDM QPSK	24@0	8.5642	9.303
77	30	10	633334	3500.01	CP-OFDM 16 QAM	24@0	8.5776	9.005
77	30	10	633334	3500.01	CP-OFDM 64 QAM	24@0	8.5325	9.076
77	30	10	633334	3500.01	CP-OFDM 256 QAM	24@0	8.5846	9.108
77	30	15	633334	3500.01	CP-OFDM QPSK	38@0	13.516	14.26
77	30	15	633334	3500.01	CP-OFDM 16 QAM	38@0	13.594	14.21
77	30	15	633334	3500.01	CP-OFDM 64 QAM	38@0	13.609	14.3
77	30	15	633334	3500.01	CP-OFDM 256 QAM	38@0	13.57	14.26
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.214	19.08
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.191	18.98
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.178	18.97
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.136	18.82
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.845	39.19
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.886	39.31
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.799	39.4
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.858	39.27
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.454	49.11
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.548	48.99
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.487	48.97
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.426	49.02
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.862	59.65
77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.835	59.69
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.864	59.69
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.822	59.74

77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.517	79.93
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.216	79.85
77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.196	79.93
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.422	80.0
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.36	90.16
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.542	90.27
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.587	90.13
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.406	90.22
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.573	100.5
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.324	100.4
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.26	100.5
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.408	100.5

N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



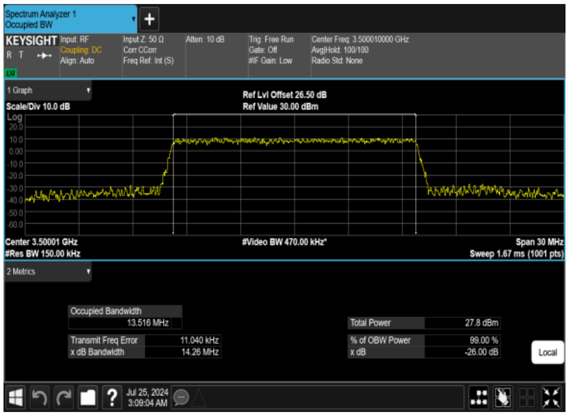
N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



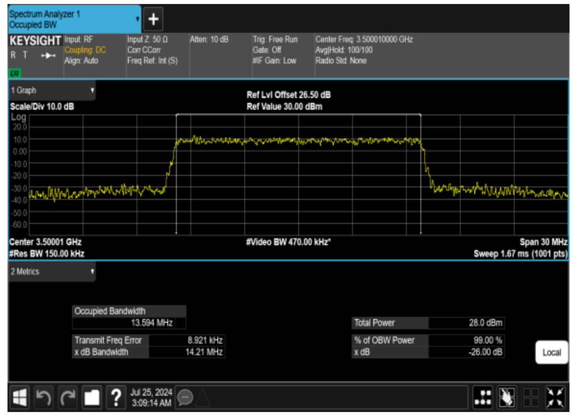
N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

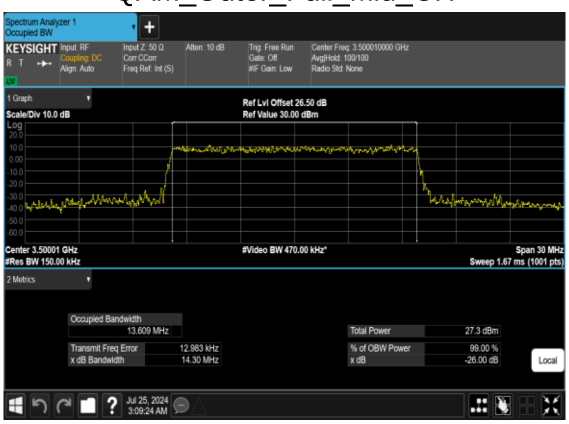
N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



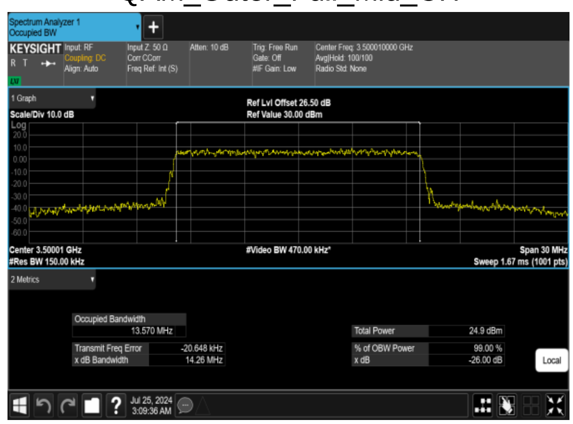
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



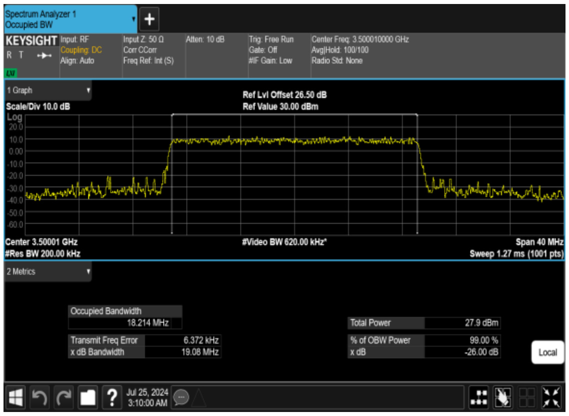
N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

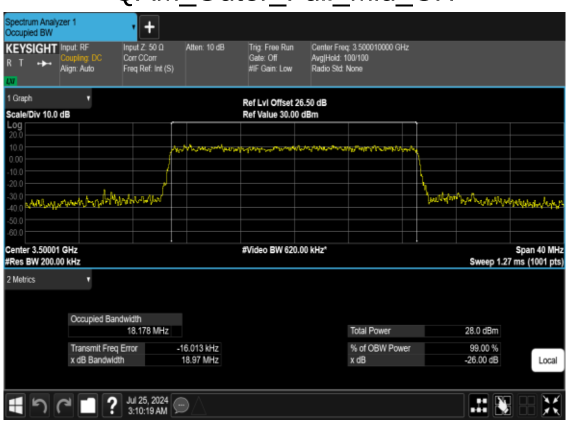


N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

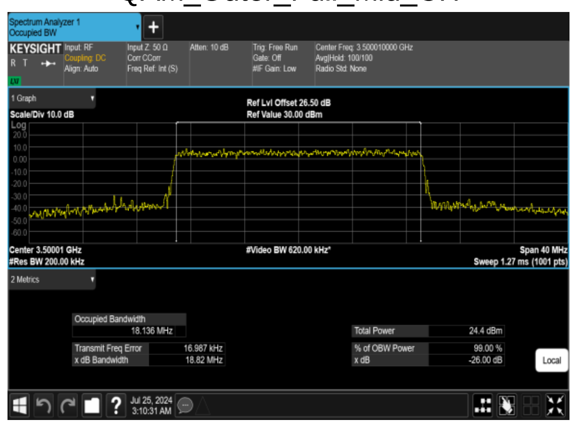


N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

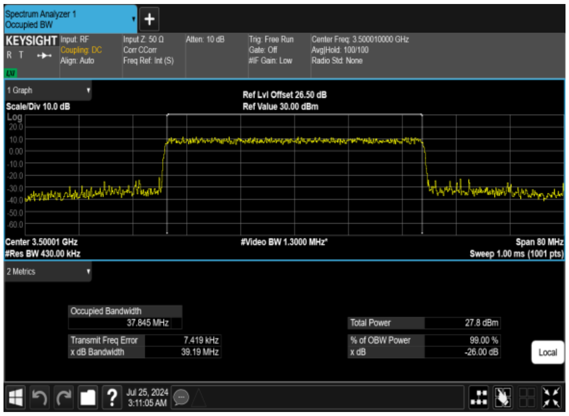
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

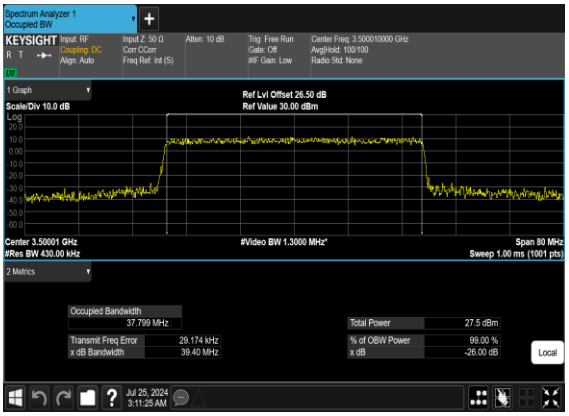


N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

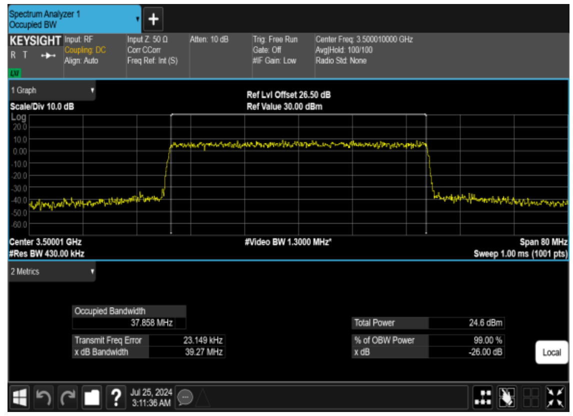


N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

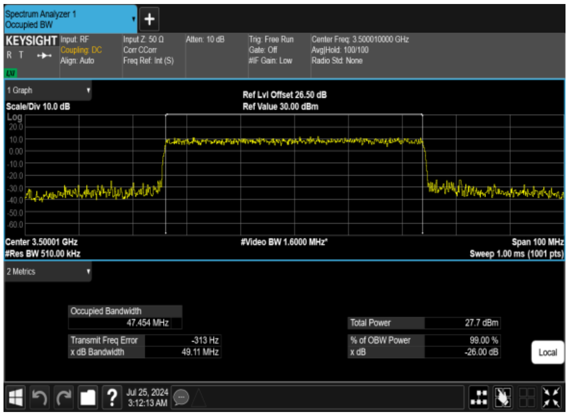
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



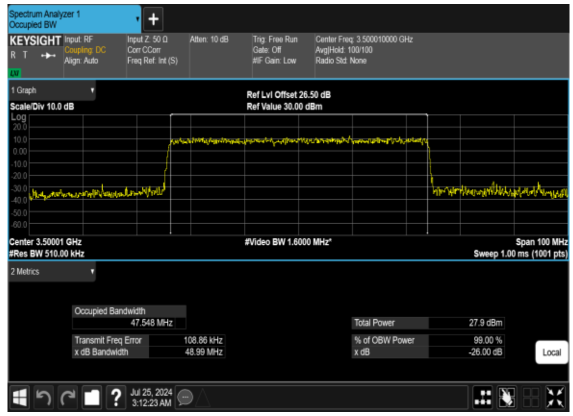
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



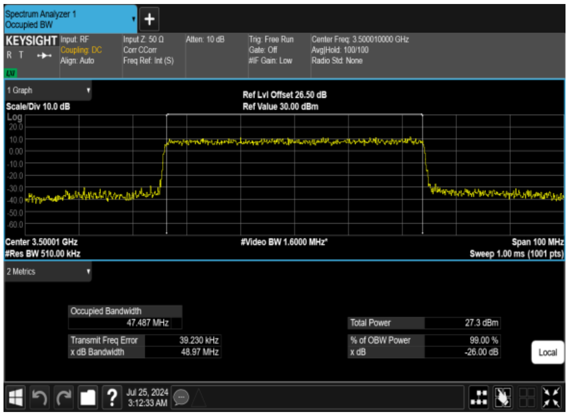
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

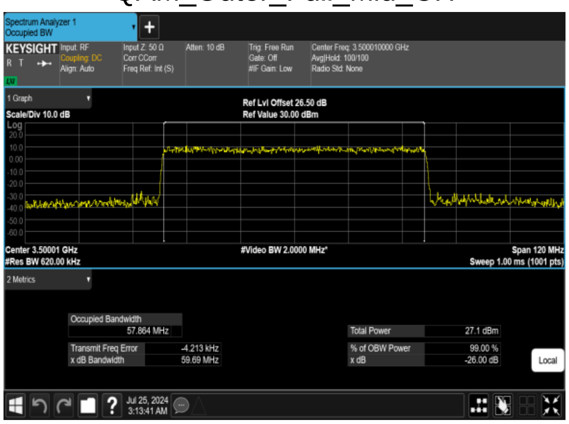


N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

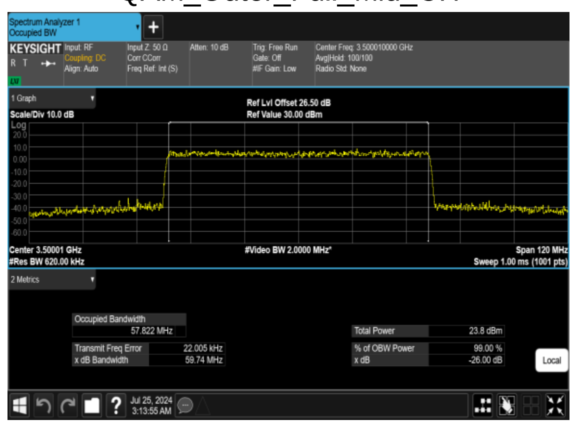
N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



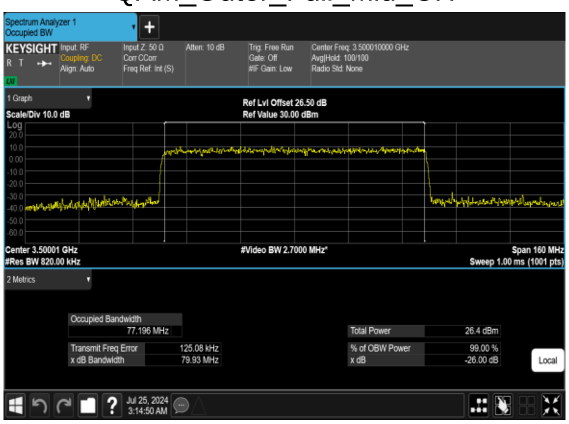
N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



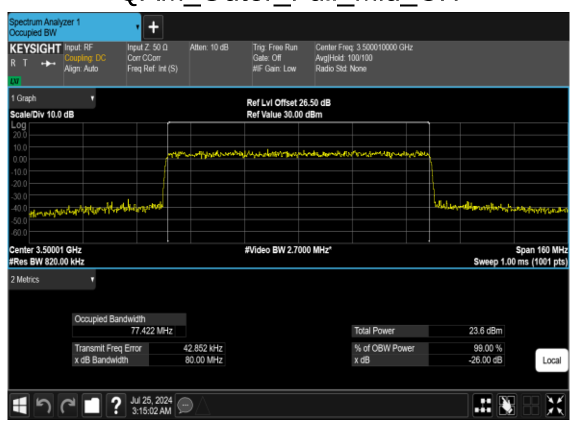
N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

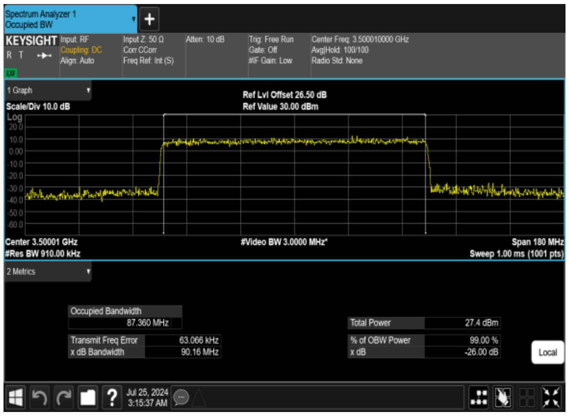
N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

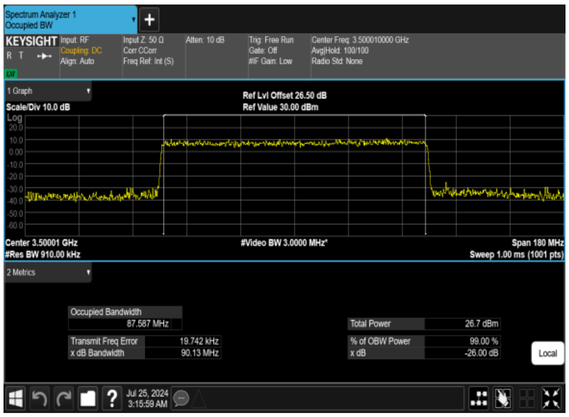


N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

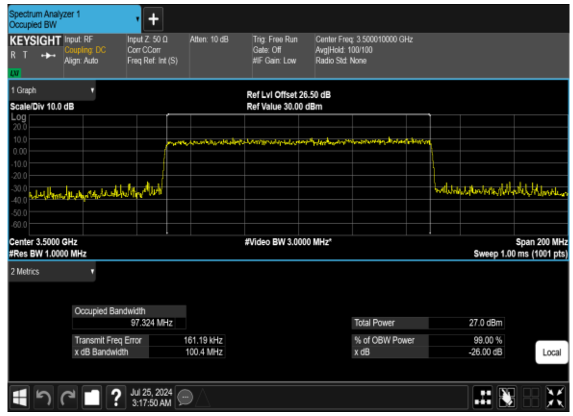
N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



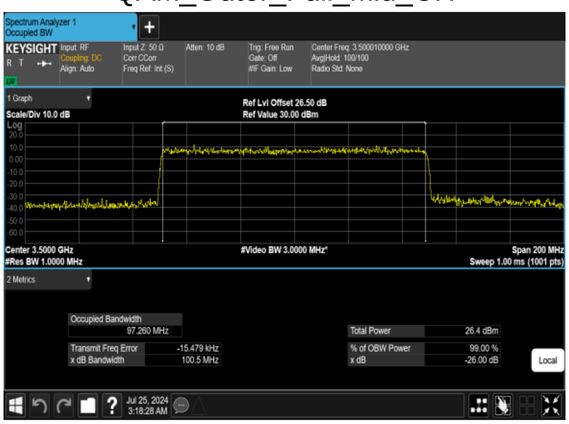
N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

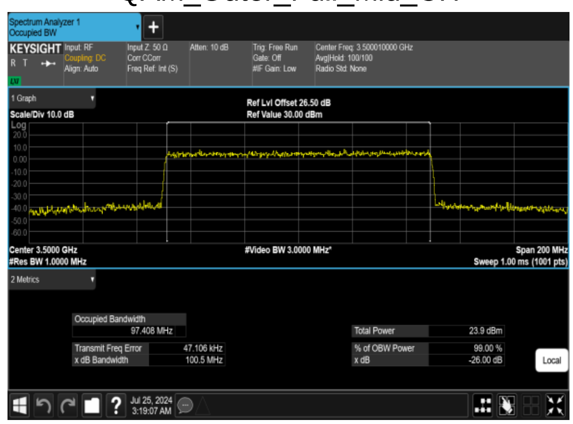
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

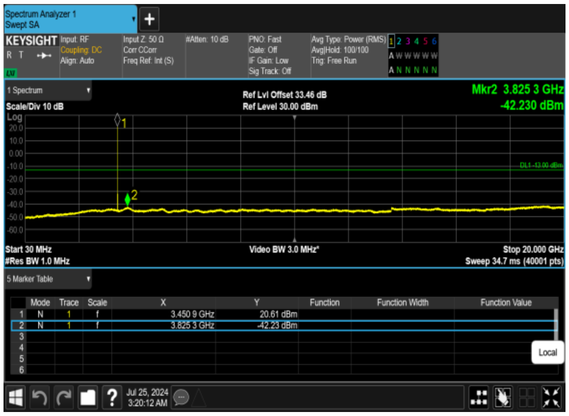


Conducted Spurious Emissions

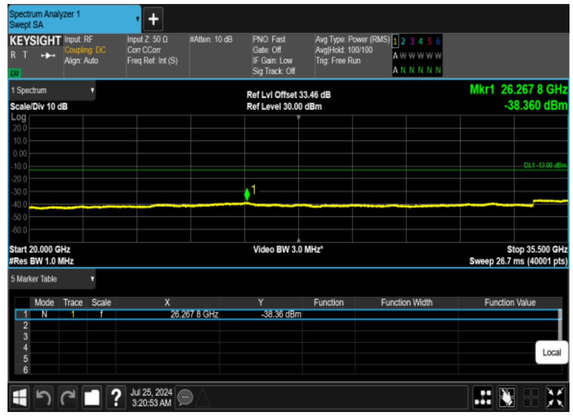
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**

77	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	635000	3525.0	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(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

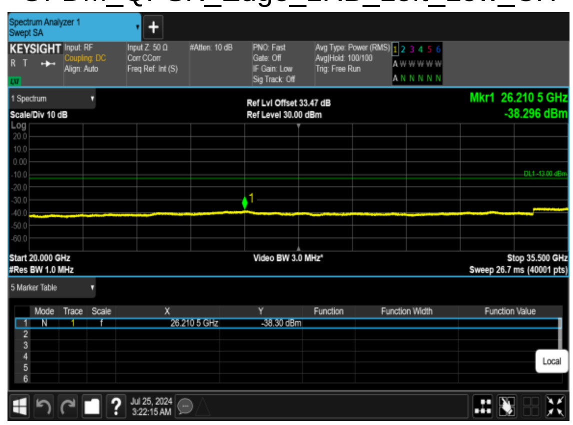


N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

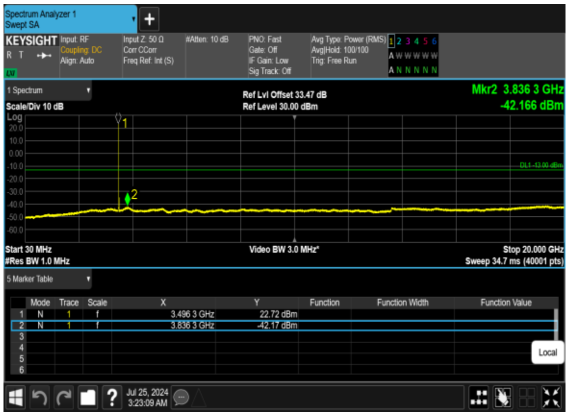


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

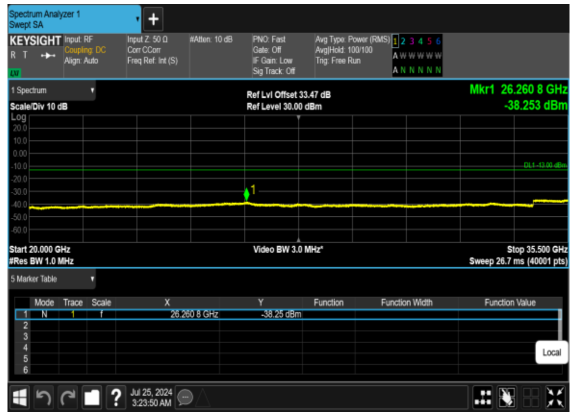
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

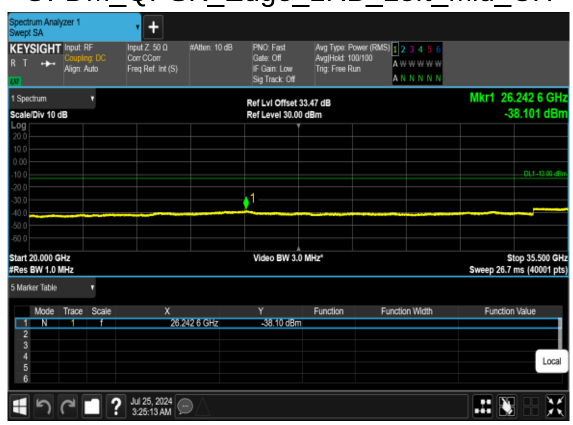


N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

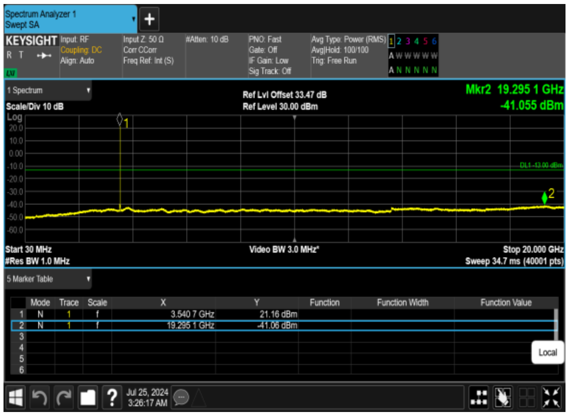


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

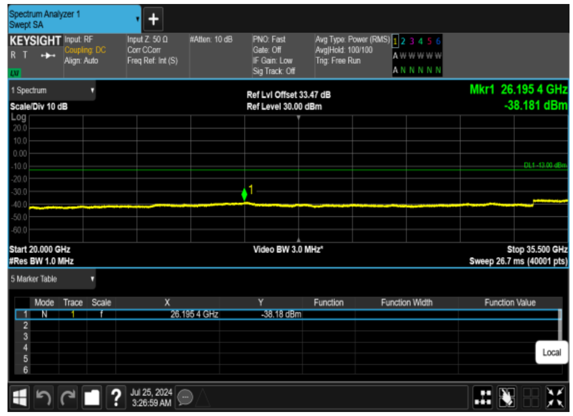
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



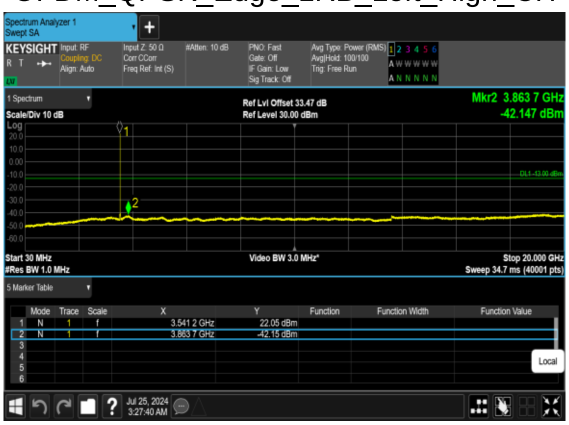
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



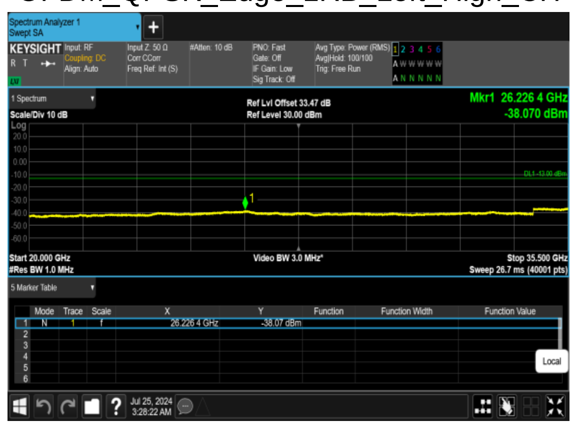
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



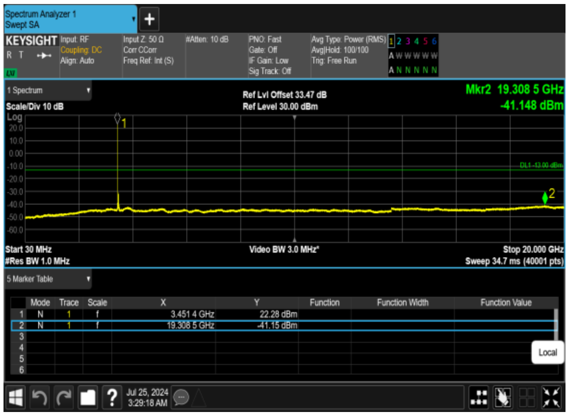
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



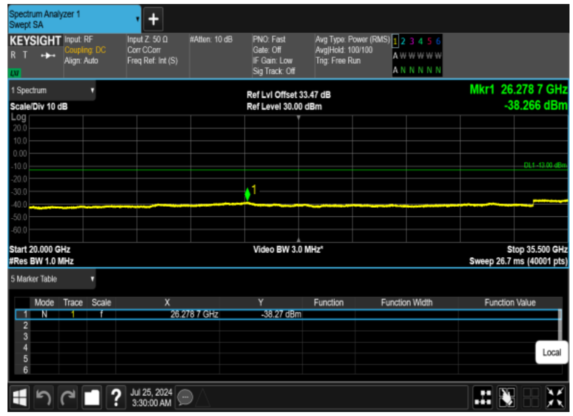
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



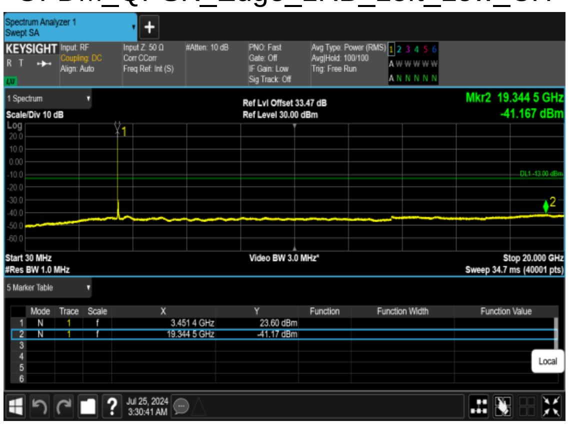
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



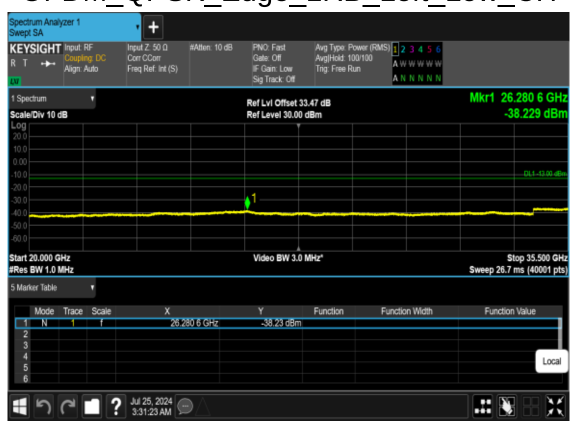
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



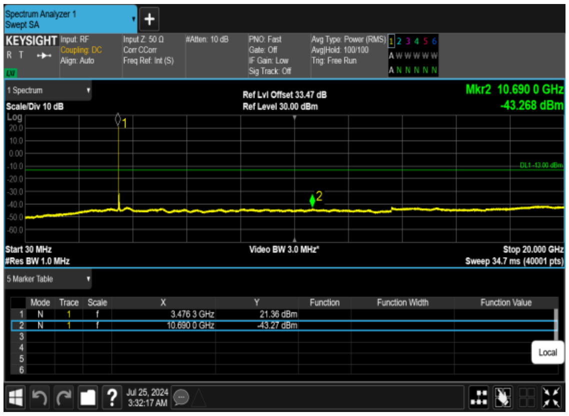
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



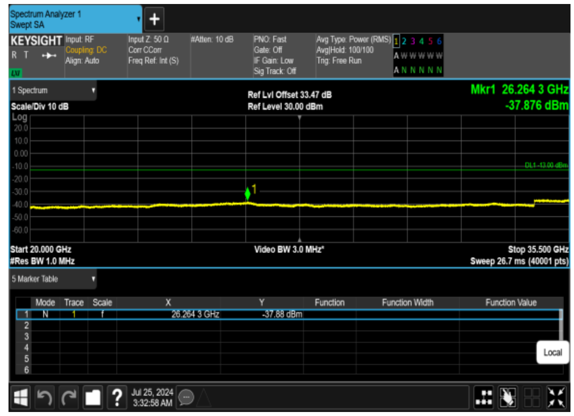
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

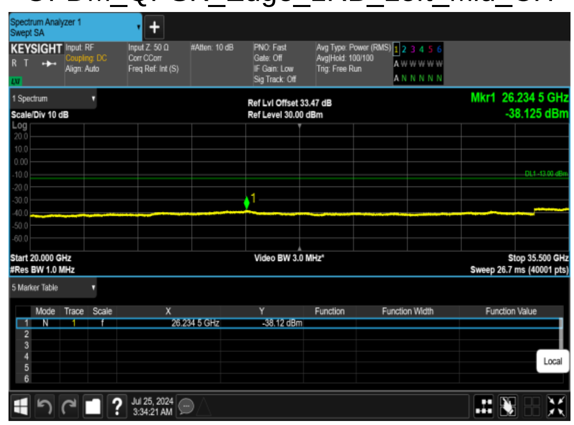


N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

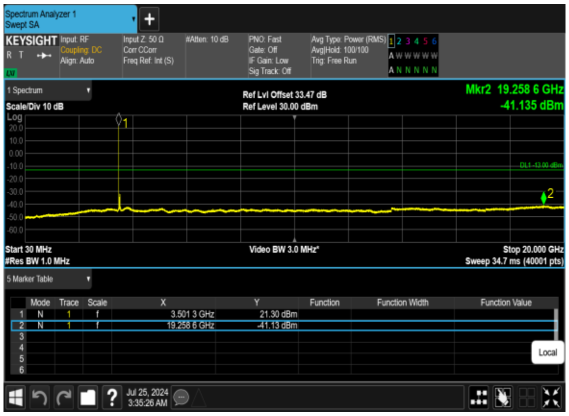


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

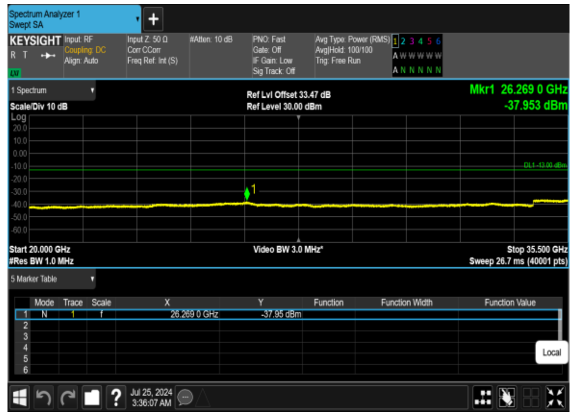
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



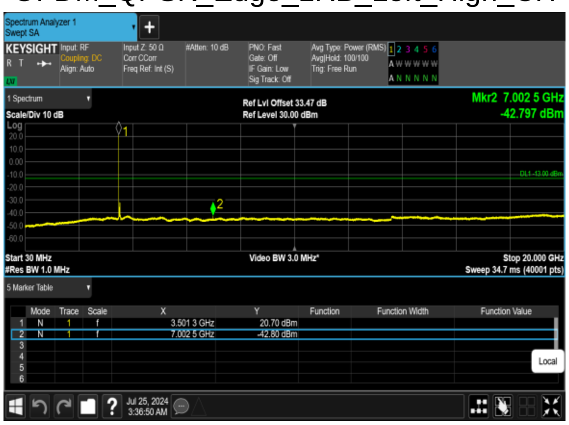
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



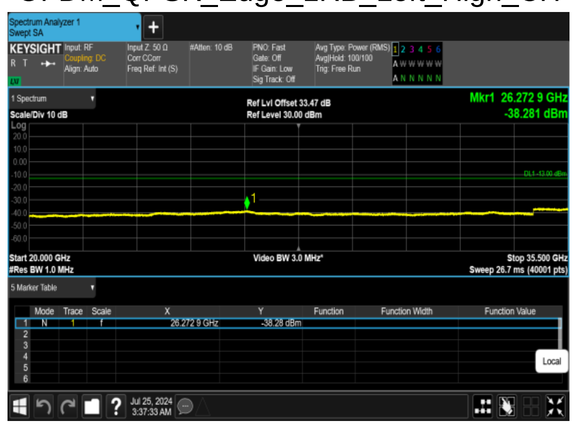
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



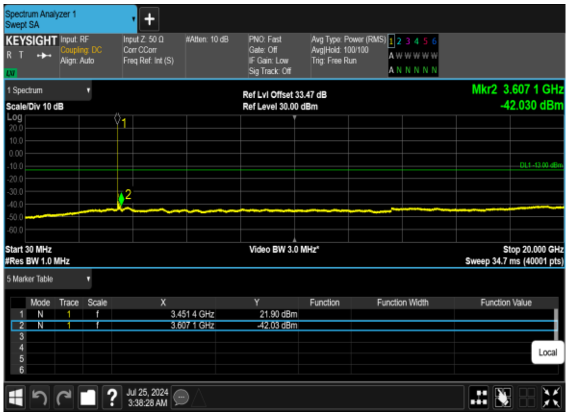
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



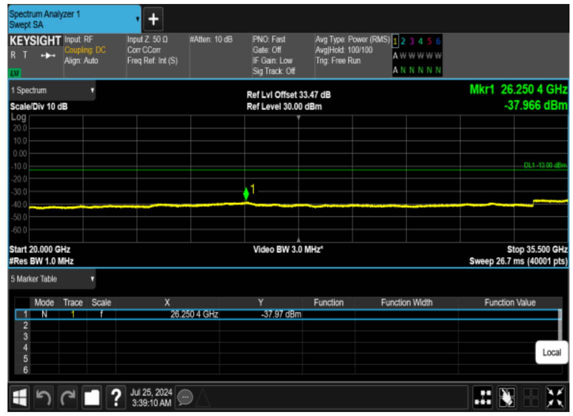
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



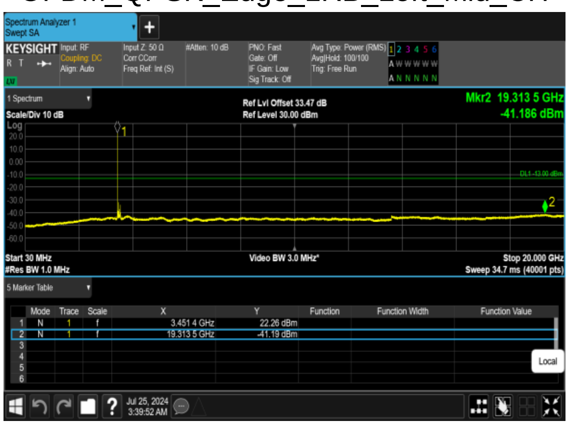
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



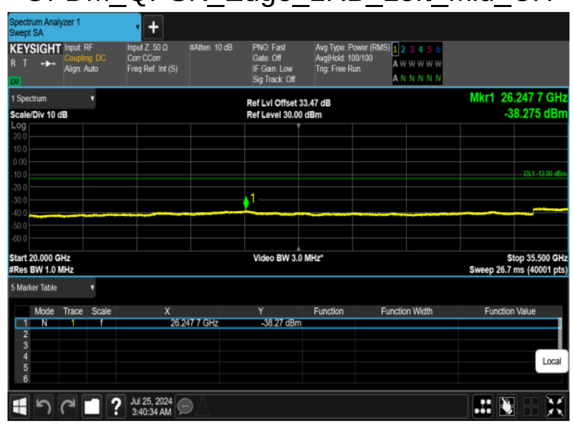
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



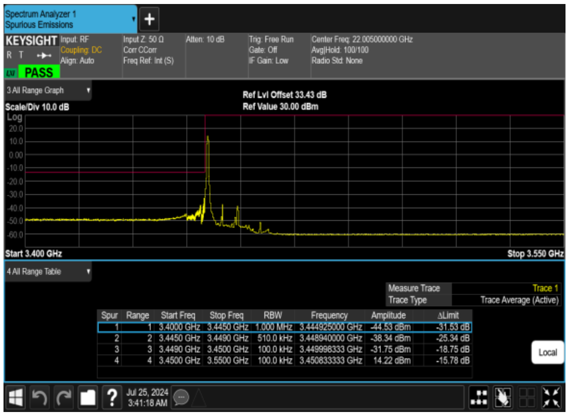
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



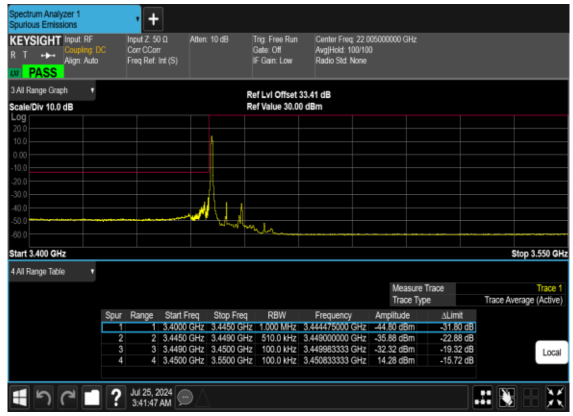
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
77	30	10	630334	3455.01	DFT-s-OFDM QPSK	24@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@23	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@23	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
77	30	10	636332	3544.98	DFT-s-OFDM QPSK	24@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
77	30	50	631668	3475.02	DFT-s-OFDM QPSK	128@0	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@132	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@132	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
77	30	50	635000	3525.0	DFT-s-OFDM QPSK	128@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**

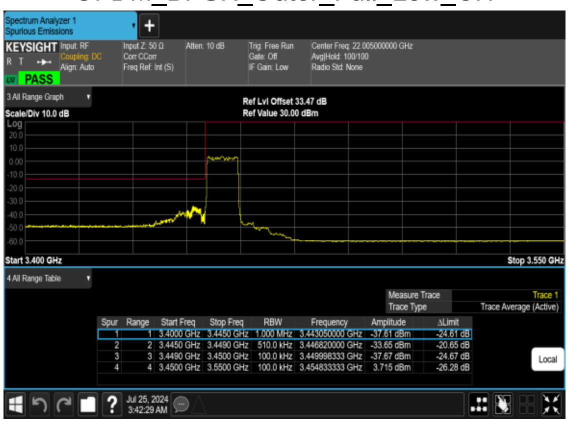
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



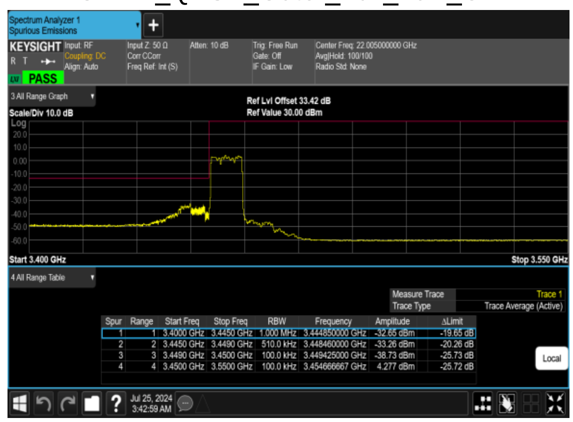
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



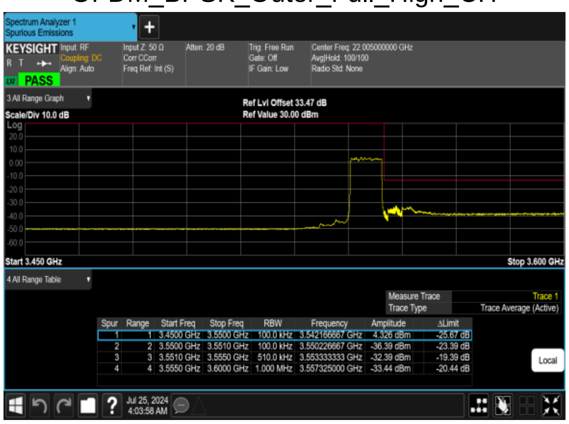
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



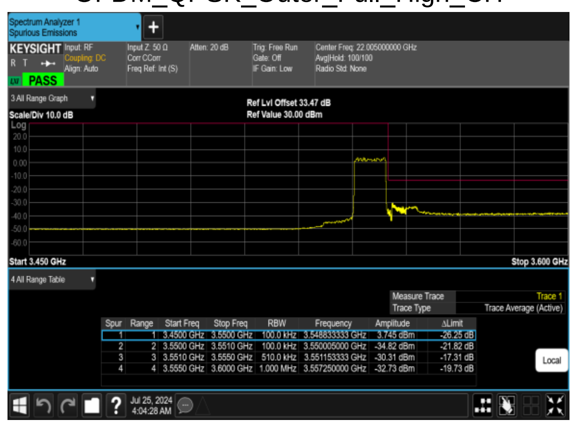
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

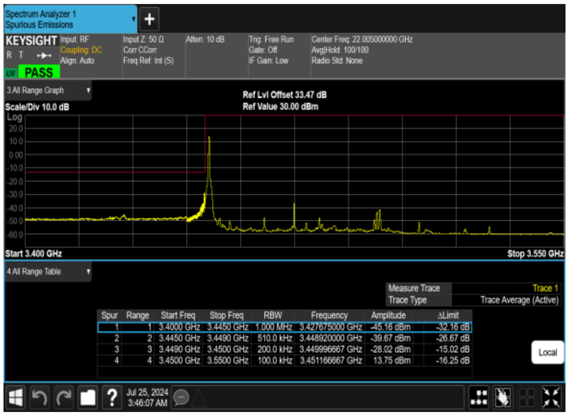
N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



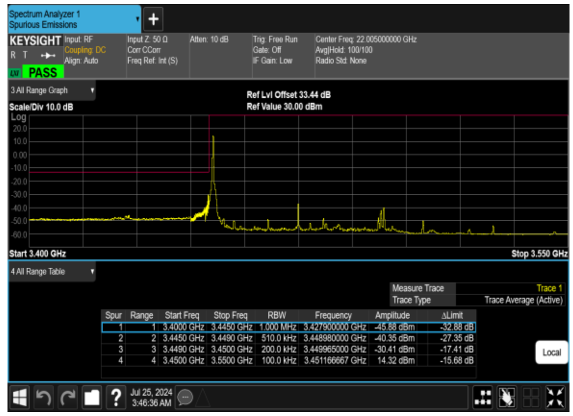
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



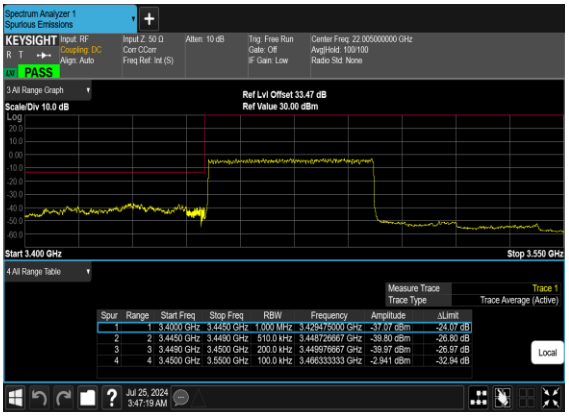
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



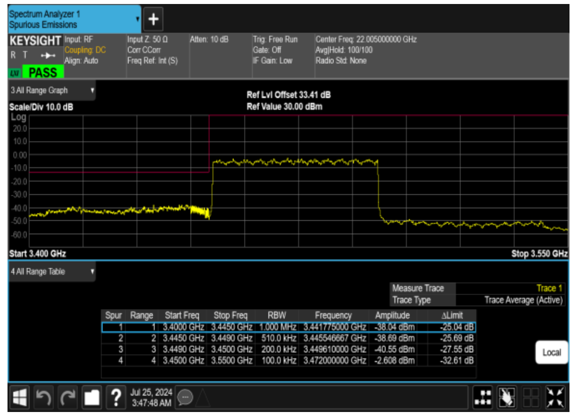
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



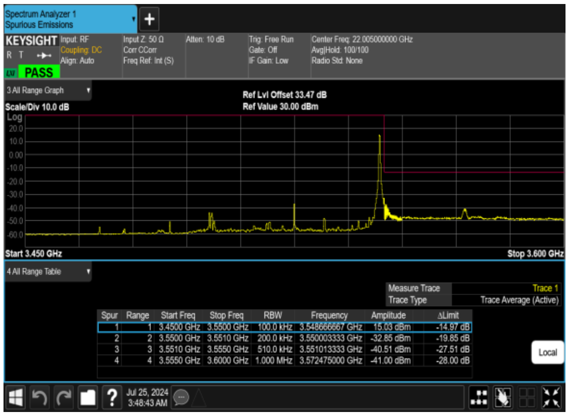
N77(50M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



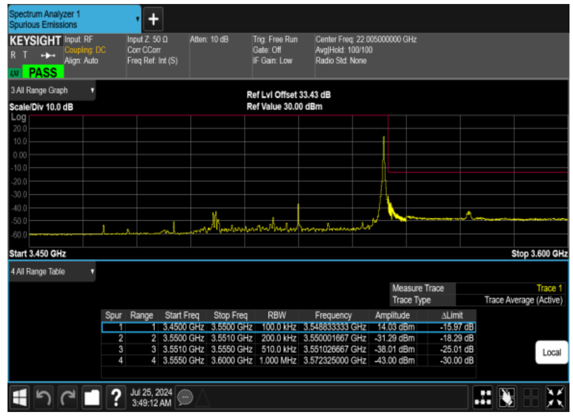
N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



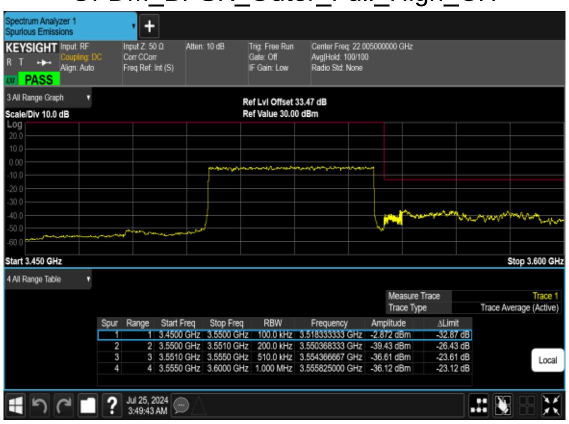
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



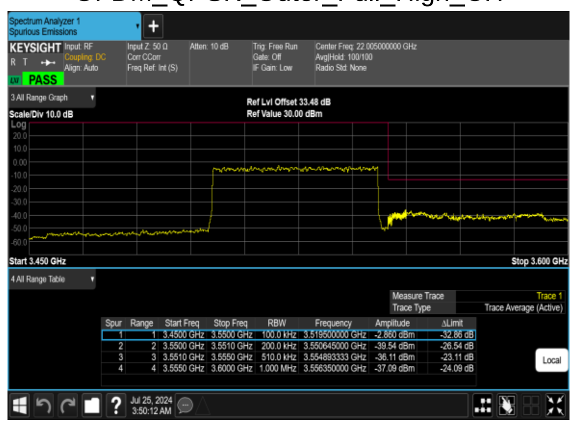
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



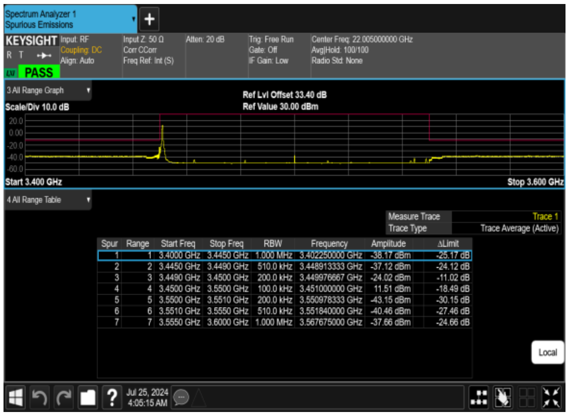
N77(50M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



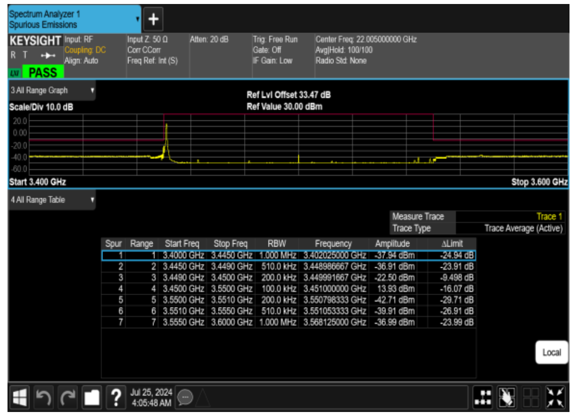
N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



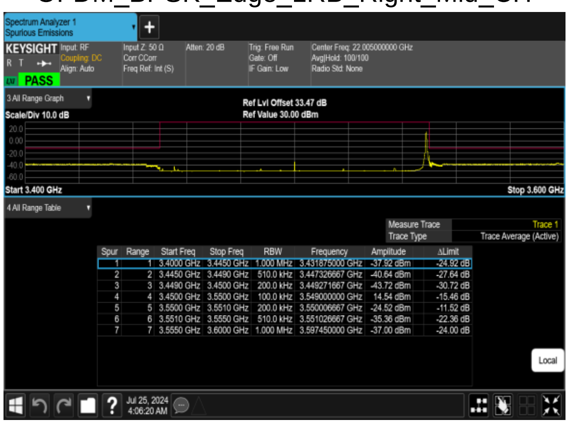
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



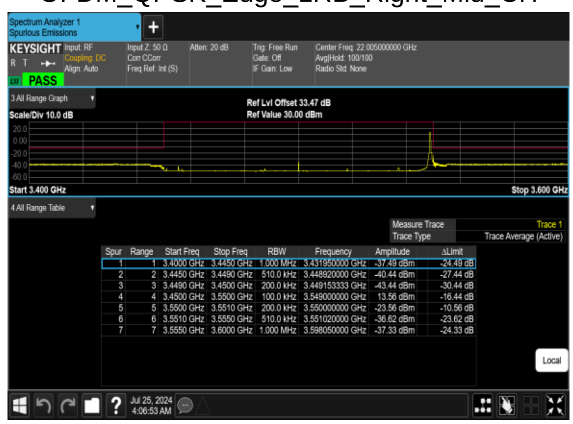
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



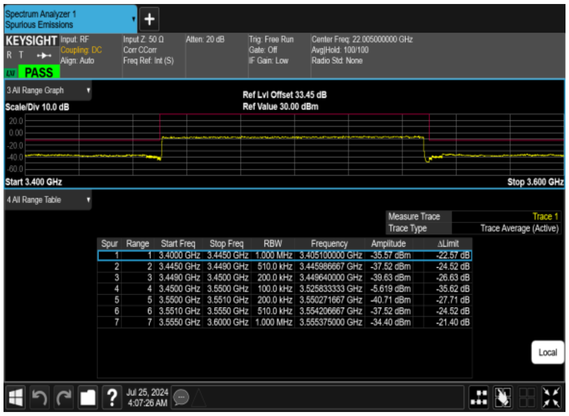
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



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