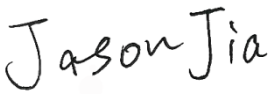
FCC RF Test Report

APPLICANT	: Xiaomi Communications Co., Ltd.
EQUIPMENT	: Mobile Phone
BRAND NAME	: POCO
MODEL NAME	: 21091116AG
FCC ID	: 2AFZZ116AG
STANDARD	: 47 CFR Part 2, 27(O)
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	: Sep. 01, 2021 ~ Sep. 05, 2021

We, Sporton International (Kunshan) Inc., 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.

This report contains data that were produced under subcontract by Sporton International (Shenzhen) Inc.

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



Reviewed by: Jason Jia / Supervisor

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ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
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People's Republic of China

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

APPENDIX C. TEST SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG180507E	Rev. 01	Initial issue of report	Sep. 24, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n77, n78)	< 43+10$\log_{10}$(P[Watts])	PASS	Under limit 25.65 dB at 11376.000 MHz

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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	POCO
Model Name	21091116AG
FCC ID	2AFZZ116AG
IMEI Code	Conducted: 864926050123141/864926050123158 Radiation: 864926050121822/864926050121878
HW Version	P2
SW Version	MIUI12.5
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	n77, n78: 15kHz / 30kHz
Bandwidth	SCS 15KHz: 10MHz / 15MHz / 20MHz / 40MHz / 50MHz SCS 30KHz: 10MHz / 15MHz / 20MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
Maximum Output Power to Antenna	**SCS:15kHz** **<Ant.1>:** 5G NR n77 : 24.61 dBm 5G NR n78 : 24.31 dBm **<Ant.3>:** 5G NR n77 : 24.63 dBm 5G NR n78 : 24.61 dBm **<Ant.5>:** 5G NR n77 : 25.35 dBm 5G NR n78 : 25.32 dBm **<Ant.8>:** 5G NR n77 : 24.36 dBm 5G NR n78 : 24.77 dBm **SCS:30kHz** **<Ant.1>:** 5G NR n77 : 24.51 dBm 5G NR n78 : 24.58 dBm **<Ant.3>:** 5G NR n77 : 24.78 dBm 5G NR n78 : 24.56 dBm **<Ant.5>:** 5G NR n77 : 25.31 dBm 5G NR n78 : 25.12 dBm **<Ant.8>:** 5G NR n77 : 24.23 dBm 5G NR n78 : 24.66 dBm
Antenna Gain	**Ant. 1:** 5G NR n77: -3.5 dBi 5G NR n78: -3.8 dBi **Ant. 3:** 5G NR n77: -4.8 dBi 5G NR n78: -5.5 dBi **Ant. 5:** 5G NR n77: -1.3 dBi 5G NR n78: -1.5 dBi **Ant. 8:** 5G NR n77: -5.7 dBi 5G NR n78: -6.1 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The ERP/EIRP is calculated from Output power and antenna gain, so the maximum ERP/EIRP is shown in the report, 5G NR n77/n78 for Antenna 5.
2. 5G NR n77/n78 support HPUE for SA mode.
3. 5G NR n78 supports SA and NSA mode and 5G NR n77 supports SA mode only. According to the maximum power between SA and NSA mode for n78 and SA mode for n77, SA covers NSA mode and 5G NR n77 covers 5G NR n78..
4. 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 (SCS=15 kHz)		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)
50	3725.01 ~ 3954.99	0.2541	48M2G7D	0.1968	48M2W7D
5G NR n77 (SCS=30 kHz)		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)
100	3750.00 ~ 3930.00	0.2518	97M3G7D	0.1871	97M4W7D
5G NR n78 (SCS=15 kHz)		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)
50	3724.995 ~ 3775.005	0.2541	48M2G7D	0.1968	48M2W7D
5G NR n78 (SCS=30 kHz)		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)
100	3750.00	0.2518	97M3G7D	0.1871	97M4W7D

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78. Therefore, the test results provided in this report covers Band n77 as well as Band n78.
2. All modulations (BPSK/QPSK/16QAM/64QAM/256QAM) have been tested, and only the worst test results of PSK & QAM are shown in the report .
3. Based on engineering evaluation, only the maximum bandwidth and the worst modulation test results are shown in the report.

1.7 Testing Location

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

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS	CN1257	314309

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

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

Test data subcontracted: conducted test items in section 3 of this report.

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.9 Applicable Standards

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

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

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

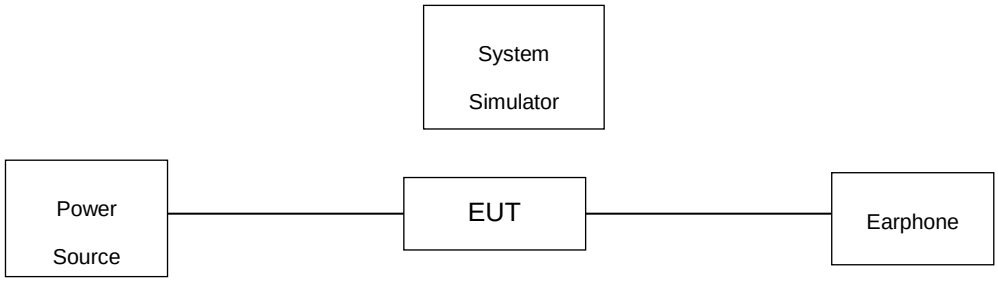
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

	X Plane	Y Plane	Z Plane
Orthogonal Planes of EUT			

Test Items	5G NR		Bandwidth (MHz)						Modulation					RB #		Test Channel		
		10	20	40-50	60	70-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n77	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
Peak-to-Average Ratio	n77		v					v	v					v	v	v	v
26dB and 99% Bandwidth	n77	v	v	v	v	v	v	v	v	v	v	v		v		v	
Conducted Band Edge	n77	v	v	v			v	v	v				v	v	v		v
Conducted Spurious Emission	n77	v	v	v			v	v	v				v		v	v	v
Frequency Stability	n77		v						v					v		v	
E.R.P / E.I.R.P	n77	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
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. For modulation of CP-OFDM and DFT-s-OFDM , the maximum power of CP-OFDM is lower than DFT-s-OFDM modulation, therefore, we chose higher power (DFT-s-OFDM modulation) to perform all tests and show in the report. 5. Based on engineering evaluation, only the worst modulations test results are shown in the report.																

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.	Power Supply	GWINSTEK	PSS-2002	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.	Earphone	Xiaomi	N/A	N/A	Unshielded,1.2m	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 4.8 dB.

Example :

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

=4.8 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n77 Channel and Frequency List for SCS 30kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	650000	656000	662000
	Frequency	3750.00	3840.00	3930.00
90	Channel	649668	656000	662332
	Frequency	3745.02	3840.00	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840.00	3939.99
70	Channel	649000	656000	663000
	Frequency	3735.00	3840.00	3945.00
60	Channel	648668	656000	663332
	Frequency	3730.02	3840.00	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840.00	3954.99
40	Channel	648000	656000	664000
	Frequency	3720.00	3840.00	3960.00
20	Channel	647334	656000	664666
	Frequency	3710.01	3840.00	3969.99
15	Channel	647168	656000	664832
	Frequency	3707.52	3840.00	3972.48
10	Channel	647000	656000	665000
	Frequency	3705	3840.00	3975

5G NR n78 Channel and Frequency List for SCS 30kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel		650000	
	Frequency		3750.00	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750.00	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750.00	3759.99
70	Channel	649000	650000	651000
	Frequency	3735.00	3750.00	3765.00
60	Channel	648668	650000	651332
	Frequency	3730.02	3750.00	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750.00	3774.99
40	Channel	648000	650000	652000
	Frequency	3720.00	3750.00	3780.00
20	Channel	647334	650000	652666
	Frequency	3710.01	3750.00	3789.99
15	Channel	647168	650000	652832
	Frequency	3707.52	3750.00	3792.48
10	Channel	647000	650000	653000
	Frequency	3705	3750.00	3795

5G NR n77 Channel and Frequency List for SCS 15kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	648334	656000	663666
	Frequency	3725.01	3840.00	3954.99
40	Channel	648000	656000	664000
	Frequency	3720.00	3840.00	3960.00
20	Channel	647333	656000	664667
	Frequency	3709.995	3840.00	3970.005
15	Channel	647167	656000	664833
	Frequency	3707.505	3840.00	3972.495
10	Channel	647000	656000	665000
	Frequency	3705	3840.00	3975

5G NR n78 Channel and Frequency List for SCS 15kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	648333	650000	651667
	Frequency	3724.995	3750.00	3775.005
40	Channel	648000	650000	652000
	Frequency	3720.00	3750.00	3780.00
20	Channel	647333	650000	652667
	Frequency	3709.995	3750.00	3790.005
15	Channel	647167	650000	652833
	Frequency	3707.505	3750.00	3792.495
10	Channel	647000	650000	653000
	Frequency	3705	3750.00	3795

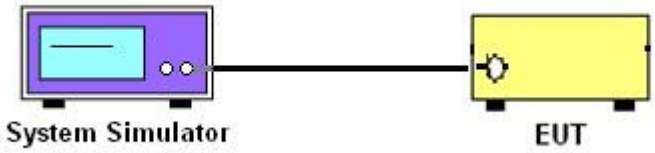
3 Conducted Test Items

3.1 Measuring Instruments

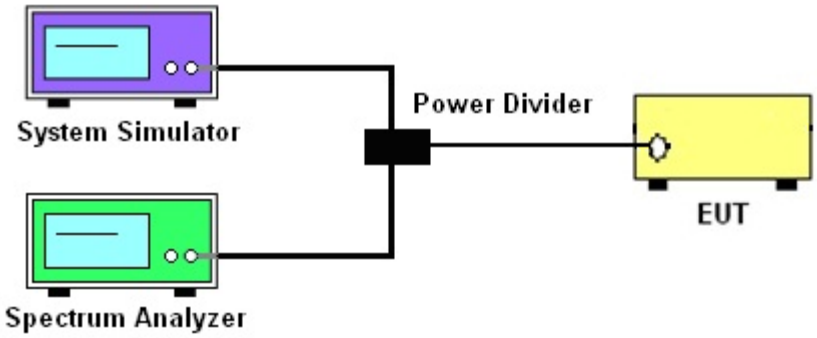
See list of measuring instruments of this test report.

3.2 Test Setup

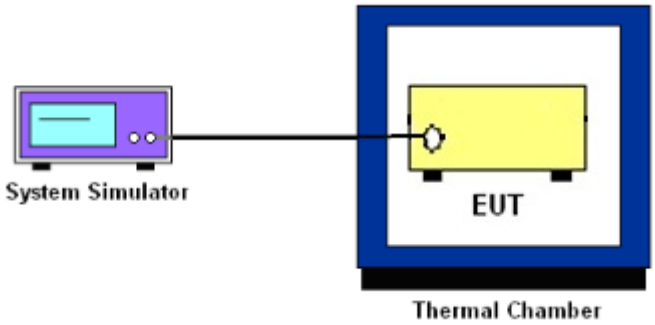
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53(l)(2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.7.2 Test Procedures

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

   Example:

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

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

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

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

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

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

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

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

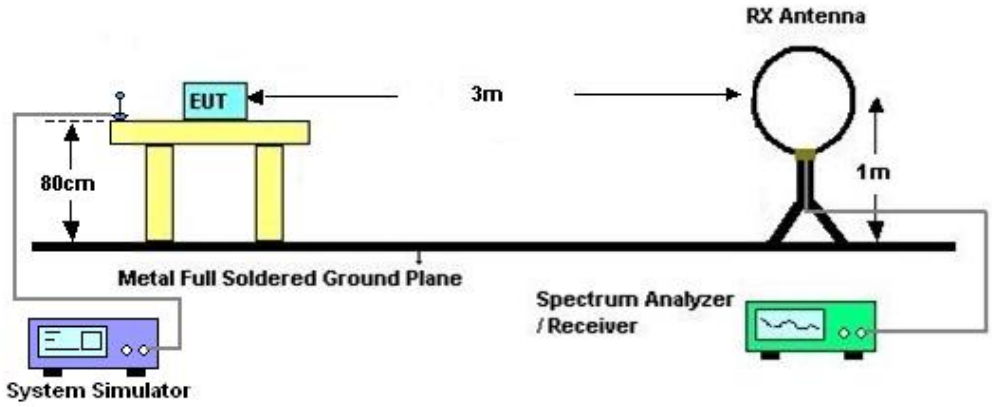
4 Radiated Test Items

4.1 Measuring Instruments

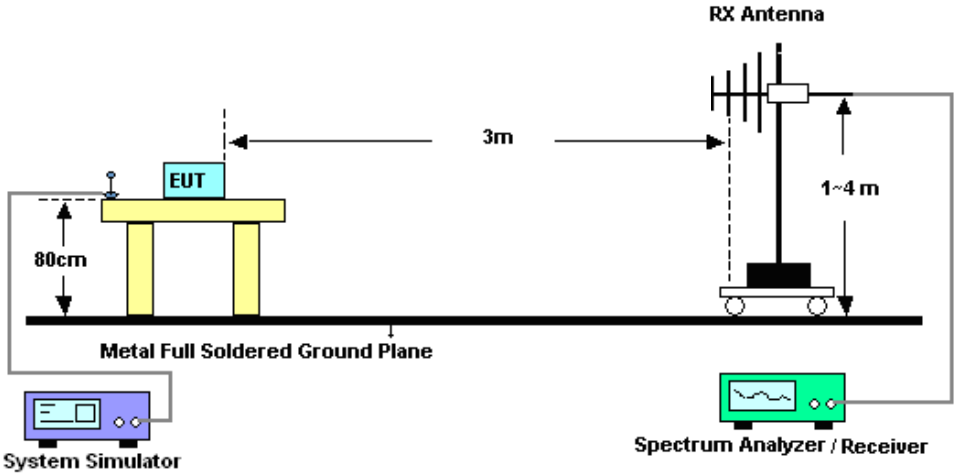
See list of measuring instruments of this test report.

4.2 Test Setup

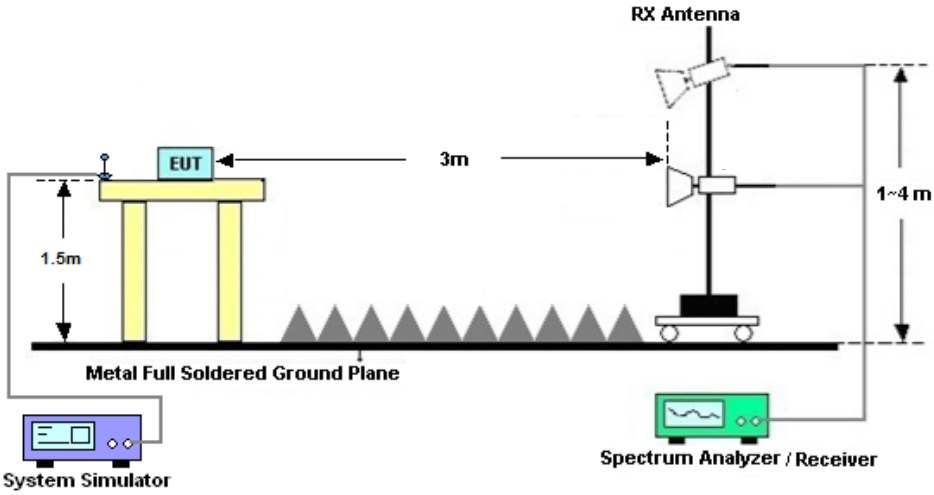
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Signal Analyzer	KEYSIGHT	N9010B	MY60240803	10Hz~44GHz	Apr. 03, 2021	Sep. 04, 2021~ Sep. 05, 2021	Apr. 02, 2022	Conducted (TH01-SZ)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Sep. 04, 2021~ Sep. 05, 2021	Aug. 25, 2022	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Sep. 04, 2021~ Sep. 05, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Sep. 01, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Sep. 01, 2021	Oct. 31, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2021	Sep. 01, 2021	May 29, 2022	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 01, 2020	Sep. 01, 2021	Oct. 31, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 06, 2021	Sep. 01, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Sep. 01, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 07, 2021	Sep. 01, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Sep. 01, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Sep. 01, 2021	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Sep. 01, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 01, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 01, 2021	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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 Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.3dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

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

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

Software Version: 21.02.090401

FR1 N77

<Ant. 5>

SCS=15 kHz:

Transmitter Conducted Output Power And ERP/EIRP, (G_T - L_C)=-1.3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	25@12	24.86	23.56	0.2270
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	1@1	24.77	23.47	0.2223
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	1@50	24.81	23.51	0.2244
77	15	10	647000	3705	DFT-s-OFDM QPSK	25@12	24.85	23.55	0.2265
77	15	10	647000	3705	DFT-s-OFDM QPSK	1@1	24.79	23.49	0.2234
77	15	10	647000	3705	DFT-s-OFDM QPSK	1@50	24.75	23.45	0.2213
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	25@12	23.86	22.56	0.1803
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	23.79	22.49	0.1774
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@50	23.84	22.54	0.1795
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	25@12	22.38	21.08	0.1282
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	1@1	22.29	20.99	0.1256
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	1@50	22.77	21.47	0.1403
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	25@12	20.27	18.97	0.0789
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	1@1	20.38	19.08	0.0809
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	1@50	20.11	18.81	0.0760
77	15	10	647000	3705	CP-OFDM QPSK	26@13	23.38	22.08	0.1614
77	15	10	647000	3705	CP-OFDM QPSK	1@1	23.26	21.96	0.1570
77	15	10	647000	3705	CP-OFDM QPSK	1@50	23.25	21.95	0.1567
77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	25@12	24.98	23.68	0.2333

77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.93	23.63	0.2307
77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	1@50	24.91	23.61	0.2296
77	15	10	656000	3840	DFT-s-OFDM QPSK	25@12	24.98	23.68	0.2333
77	15	10	656000	3840	DFT-s-OFDM QPSK	1@1	24.98	23.68	0.2333
77	15	10	656000	3840	DFT-s-OFDM QPSK	1@50	24.85	23.55	0.2265
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	25@12	24.02	22.72	0.1871
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.93	22.63	0.1832
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	1@50	23.92	22.62	0.1828
77	15	10	656000	3840	DFT-s-OFDM 64 QAM	25@12	22.47	21.17	0.1309
77	15	10	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.97	21.67	0.1469
77	15	10	656000	3840	DFT-s-OFDM 64 QAM	1@50	22.91	21.61	0.1449
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	25@12	20.46	19.16	0.0824
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.62	19.32	0.0855
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	1@50	20.25	18.95	0.0785
77	15	10	656000	3840	CP-OFDM QPSK	26@13	23.47	22.17	0.1648
77	15	10	656000	3840	CP-OFDM QPSK	1@1	23.45	22.15	0.1641
77	15	10	656000	3840	CP-OFDM QPSK	1@50	23.41	22.11	0.1626
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	25@12	25.02	23.72	0.2355
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	1@1	24.87	23.57	0.2275
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	1@50	24.91	23.61	0.2296
77	15	10	665000	3975	DFT-s-OFDM QPSK	25@12	25	23.7	0.2344
77	15	10	665000	3975	DFT-s-OFDM QPSK	1@1	24.88	23.58	0.2280
77	15	10	665000	3975	DFT-s-OFDM QPSK	1@50	24.86	23.56	0.2270
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	25@12	23.94	22.64	0.1837

77	15	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	23.92	22.62	0.1828
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	1@50	24.03	22.73	0.1875
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	25@12	22.49	21.19	0.1315
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	1@1	22.73	21.43	0.1390
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	1@50	22.5	21.2	0.1318
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	25@12	20.49	19.19	0.0830
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	1@1	20.54	19.24	0.0839
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	1@50	20.57	19.27	0.0845
77	15	10	665000	3975	CP-OFDM QPSK	26@13	23.44	22.14	0.1637
77	15	10	665000	3975	CP-OFDM QPSK	1@1	23.35	22.05	0.1603
77	15	10	665000	3975	CP-OFDM QPSK	1@50	23.42	22.12	0.1629
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	36@18	25.02	23.72	0.2355
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	1@1	24.84	23.54	0.2259
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	1@77	24.9	23.6	0.2291
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	36@18	25.02	23.72	0.2355
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@1	24.9	23.6	0.2291
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@77	24.9	23.6	0.2291
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	36@18	24.04	22.74	0.1879
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@1	23.82	22.52	0.1786
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@77	23.84	22.54	0.1795
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	36@18	22.47	21.17	0.1309
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	1@1	22.52	21.22	0.1324
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	1@77	22.28	20.98	0.1253
77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	36@18	20.55	19.25	0.0841

77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	1@1	20.5	19.2	0.0832
77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	1@77	20.5	19.2	0.0832
77	15	15	647167	3707.505	CP-OFDM QPSK	39@19	23.53	22.23	0.1671
77	15	15	647167	3707.505	CP-OFDM QPSK	1@1	23.39	22.09	0.1618
77	15	15	647167	3707.505	CP-OFDM QPSK	1@77	23.36	22.06	0.1607
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	36@18	25.21	23.91	0.2460
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.06	23.76	0.2377
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	1@77	25.08	23.78	0.2388
77	15	15	656000	3840	DFT-s-OFDM QPSK	36@18	25.15	23.85	0.2427
77	15	15	656000	3840	DFT-s-OFDM QPSK	1@1	25.02	23.72	0.2355
77	15	15	656000	3840	DFT-s-OFDM QPSK	1@77	25.08	23.78	0.2388
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	36@18	24.17	22.87	0.1936
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.02	22.72	0.1871
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	1@77	24.11	22.81	0.1910
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	36@18	22.66	21.36	0.1368
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.53	21.23	0.1327
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	1@77	22.49	21.19	0.1315
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	36@18	20.75	19.45	0.0881
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.77	19.47	0.0885
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	1@77	20.38	19.08	0.0809
77	15	15	656000	3840	CP-OFDM QPSK	39@19	23.64	22.34	0.1714
77	15	15	656000	3840	CP-OFDM QPSK	1@1	23.61	22.31	0.1702
77	15	15	656000	3840	CP-OFDM QPSK	1@77	23.5	22.2	0.1660
77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	36@18	25.1	23.8	0.2399
77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	1@1	24.93	23.63	0.2307

77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	1@77	24.91	23.61	0.2296
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	36@18	25.05	23.75	0.2371
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	1@1	24.85	23.55	0.2265
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	1@77	24.91	23.61	0.2296
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	36@18	24.11	22.81	0.1910
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	1@1	23.97	22.67	0.1849
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	1@77	24	22.7	0.1862
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	36@18	22.61	21.31	0.1352
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	1@1	22.46	21.16	0.1306
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	1@77	22.78	21.48	0.1406
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	36@18	20.66	19.36	0.0863
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	1@1	20.59	19.29	0.0849
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	1@77	20.3	19	0.0794
77	15	15	664833	3972.495	CP-OFDM QPSK	39@19	23.56	22.26	0.1683
77	15	15	664833	3972.495	CP-OFDM QPSK	1@1	23.41	22.11	0.1626
77	15	15	664833	3972.495	CP-OFDM QPSK	1@77	23.43	22.13	0.1633
77	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	50@25	25.06	23.76	0.2377
77	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@1	24.82	23.52	0.2249
77	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@104	24.81	23.51	0.2244
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	50@25	25.02	23.72	0.2355
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@1	24.75	23.45	0.2213
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@104	24.79	23.49	0.2234
77	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	50@25	24.06	22.76	0.1888
77	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@1	23.91	22.61	0.1824

77	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@104	23.96	22.66	0.1845
77	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	50@25	22.53	21.23	0.1327
77	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@1	22.34	21.04	0.1271
77	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@104	22.38	21.08	0.1282
77	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	50@25	20.53	19.23	0.0838
77	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@1	20.45	19.15	0.0822
77	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@104	20.15	18.85	0.0767
77	15	20	647333	3709.995	CP-OFDM QPSK	53@26	23.52	22.22	0.1667
77	15	20	647333	3709.995	CP-OFDM QPSK	1@1	23.32	22.02	0.1592
77	15	20	647333	3709.995	CP-OFDM QPSK	1@104	23.32	22.02	0.1592
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	50@25	25.19	23.89	0.2449
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.08	23.78	0.2388
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@104	24.98	23.68	0.2333
77	15	20	656000	3840	DFT-s-OFDM QPSK	50@25	25.22	23.92	0.2466
77	15	20	656000	3840	DFT-s-OFDM QPSK	1@1	25.11	23.81	0.2404
77	15	20	656000	3840	DFT-s-OFDM QPSK	1@104	25.04	23.74	0.2366
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	50@25	24.2	22.9	0.1950
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.09	22.79	0.1901
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	1@104	24.18	22.88	0.1941
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	50@25	22.73	21.43	0.1390
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.64	21.34	0.1361
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	1@104	22.59	21.29	0.1346
77	15	20	656000	3840	DFT-s-OFDM 256 QAM	50@25	20.71	19.41	0.0873
77	15	20	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.38	19.08	0.0809

77	15	20	656000	3840	DFT-s-OFDM 256 QAM	1@104	20.33	19.03	0.0800
77	15	20	656000	3840	CP-OFDM QPSK	53@26	23.64	22.34	0.1714
77	15	20	656000	3840	CP-OFDM QPSK	1@1	23.54	22.24	0.1675
77	15	20	656000	3840	CP-OFDM QPSK	1@104	23.47	22.17	0.1648
77	15	20	664667	3970.005	DFT-s-OFDM PI/2 BPSK	50@25	25.15	23.85	0.2427
77	15	20	664667	3970.005	DFT-s-OFDM PI/2 BPSK	1@1	24.91	23.61	0.2296
77	15	20	664667	3970.005	DFT-s-OFDM PI/2 BPSK	1@104	24.92	23.62	0.2301
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	50@25	25.12	23.82	0.2410
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@1	24.97	23.67	0.2328
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@104	24.97	23.67	0.2328
77	15	20	664667	3970.005	DFT-s-OFDM 16 QAM	50@25	24.16	22.86	0.1932
77	15	20	664667	3970.005	DFT-s-OFDM 16 QAM	1@1	24	22.7	0.1862
77	15	20	664667	3970.005	DFT-s-OFDM 16 QAM	1@104	24.02	22.72	0.1871
77	15	20	664667	3970.005	DFT-s-OFDM 64 QAM	50@25	22.64	21.34	0.1361
77	15	20	664667	3970.005	DFT-s-OFDM 64 QAM	1@1	22.36	21.06	0.1276
77	15	20	664667	3970.005	DFT-s-OFDM 64 QAM	1@104	22.82	21.52	0.1419
77	15	20	664667	3970.005	DFT-s-OFDM 256 QAM	50@25	20.61	19.31	0.0853
77	15	20	664667	3970.005	DFT-s-OFDM 256 QAM	1@1	20.62	19.32	0.0855
77	15	20	664667	3970.005	DFT-s-OFDM 256 QAM	1@104	20.63	19.33	0.0857
77	15	20	664667	3970.005	CP-OFDM QPSK	53@26	23.6	22.3	0.1698
77	15	20	664667	3970.005	CP-OFDM QPSK	1@1	23.43	22.13	0.1633
77	15	20	664667	3970.005	CP-OFDM QPSK	1@104	23.46	22.16	0.1644
77	15	40	648000	3720	DFT-s-OFDM PI/2 BPSK	108@54	25.01	23.71	0.2350
77	15	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@1	24.36	23.06	0.2023
77	15	40	648000	3720	DFT-s-OFDM PI/2	1@214	24.52	23.22	0.2099

					BPSK				
77	15	40	648000	3720	DFT-s-OFDM QPSK	108@54	24.99	23.69	0.2339
77	15	40	648000	3720	DFT-s-OFDM QPSK	1@1	24.83	23.53	0.2254
77	15	40	648000	3720	DFT-s-OFDM QPSK	1@214	24.86	23.56	0.2270
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	108@54	23.99	22.69	0.1858
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	23.3	22	0.1585
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@214	23.4	22.1	0.1622
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	108@54	22.49	21.19	0.1315
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	1@1	22.49	21.19	0.1315
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	1@214	22.39	21.09	0.1285
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	108@54	20.47	19.17	0.0826
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	1@1	19.65	18.35	0.0684
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	1@214	19.78	18.48	0.0705
77	15	40	648000	3720	CP-OFDM QPSK	108@54	23.47	22.17	0.1648
77	15	40	648000	3720	CP-OFDM QPSK	1@1	23.33	22.03	0.1596
77	15	40	648000	3720	CP-OFDM QPSK	1@214	23.44	22.14	0.1637
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	108@54	25.18	23.88	0.2443
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.63	23.33	0.2153
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@214	24.54	23.24	0.2109
77	15	40	656000	3840	DFT-s-OFDM QPSK	108@54	25.18	23.88	0.2443
77	15	40	656000	3840	DFT-s-OFDM QPSK	1@1	24.62	23.32	0.2148
77	15	40	656000	3840	DFT-s-OFDM QPSK	1@214	24.88	23.58	0.2280
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	108@54	24.17	22.87	0.1936
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.68	22.38	0.1730

77	15	40	656000	3840	DFT-s-OFDM 16 QAM	1@214	23.59	22.29	0.1694
77	15	40	656000	3840	DFT-s-OFDM 64 QAM	108@54	22.69	21.39	0.1377
77	15	40	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.41	21.11	0.1291
77	15	40	656000	3840	DFT-s-OFDM 64 QAM	1@214	22.32	21.02	0.1265
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	108@54	20.66	19.36	0.0863
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	1@1	19.98	18.68	0.0738
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	1@214	20.19	18.89	0.0774
77	15	40	656000	3840	CP-OFDM QPSK	108@54	23.68	22.38	0.1730
77	15	40	656000	3840	CP-OFDM QPSK	1@1	23.39	22.09	0.1618
77	15	40	656000	3840	CP-OFDM QPSK	1@214	23.29	21.99	0.1581
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	108@54	25.09	23.79	0.2393
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@1	24.49	23.19	0.2084
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@214	24.54	23.24	0.2109
77	15	40	664000	3960	DFT-s-OFDM QPSK	108@54	25.08	23.78	0.2388
77	15	40	664000	3960	DFT-s-OFDM QPSK	1@1	24.91	23.61	0.2296
77	15	40	664000	3960	DFT-s-OFDM QPSK	1@214	24.89	23.59	0.2286
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	108@54	24.07	22.77	0.1892
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	23.6	22.3	0.1698
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	1@214	23.67	22.37	0.1726
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	108@54	22.63	21.33	0.1358
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	1@1	22.36	21.06	0.1276
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	1@214	22.54	21.24	0.1330
77	15	40	664000	3960	DFT-s-OFDM 256 QAM	108@54	20.59	19.29	0.0849
77	15	40	664000	3960	DFT-s-OFDM 256 QAM	1@1	19.8	18.5	0.0708

77	15	40	664000	3960	DFT-s-OFDM 256 QAM	1@214	19.95	18.65	0.0733
77	15	40	664000	3960	CP-OFDM QPSK	108@54	23.52	22.22	0.1667
77	15	40	664000	3960	CP-OFDM QPSK	1@1	23.36	22.06	0.1607
77	15	40	664000	3960	CP-OFDM QPSK	1@214	23.33	22.03	0.1596
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	135@67	25	23.7	0.2344
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	24.72	23.42	0.2198
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@268	24.85	23.55	0.2265
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	135@67	25	23.7	0.2344
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	24.65	23.35	0.2163
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@268	24.81	23.51	0.2244
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	135@67	24.03	22.73	0.1875
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	23.63	22.33	0.1710
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@268	23.76	22.46	0.1762
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	135@67	22.52	21.22	0.1324
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@1	22.56	21.26	0.1337
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@268	22.27	20.97	0.1250
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	135@67	20.47	19.17	0.0826
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@1	20.02	18.72	0.0745
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@268	20.55	19.25	0.0841
77	15	50	648334	3725.01	CP-OFDM QPSK	135@67	23.51	22.21	0.1663
77	15	50	648334	3725.01	CP-OFDM QPSK	1@1	23.35	22.05	0.1603
77	15	50	648334	3725.01	CP-OFDM QPSK	1@268	23.39	22.09	0.1618
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	25.19	23.89	0.2449
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.97	23.67	0.2328
77	15	50	656000	3840	DFT-s-OFDM PI/2	1@268	24.89	23.59	0.2286

					BPSK				
77	15	50	656000	3840	DFT-s-OFDM QPSK	135@67	25.16	23.86	0.2432
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@1	24.86	23.56	0.2270
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@268	24.75	23.45	0.2213
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	135@67	24.24	22.94	0.1968
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.93	22.63	0.1832
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@268	23.82	22.52	0.1786
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	135@67	22.73	21.43	0.1390
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.5	21.2	0.1318
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@268	22.62	21.32	0.1355
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	135@67	20.73	19.43	0.0877
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.34	19.04	0.0802
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@268	20.61	19.31	0.0853
77	15	50	656000	3840	CP-OFDM QPSK	135@67	23.35	22.05	0.1603
77	15	50	656000	3840	CP-OFDM QPSK	1@1	23.43	22.13	0.1633
77	15	50	656000	3840	CP-OFDM QPSK	1@268	23.31	22.01	0.1589
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	135@67	25.35	24.05	0.2541
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	24.79	23.49	0.2234
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@268	24.83	23.53	0.2254
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	135@67	25.02	23.72	0.2355
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	24.78	23.48	0.2228
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@268	24.71	23.41	0.2193
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	135@67	24.03	22.73	0.1875
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.8	22.5	0.1778

77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@268	23.79	22.49	0.1774
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	135@67	22.58	21.28	0.1343
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@1	22.61	21.31	0.1352
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@268	22.63	21.33	0.1358
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	135@67	20.54	19.24	0.0839
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@1	20.56	19.26	0.0843
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@268	20.6	19.3	0.0851
77	15	50	663666	3954.99	CP-OFDM QPSK	135@67	23.52	22.22	0.1667
77	15	50	663666	3954.99	CP-OFDM QPSK	1@1	23.24	21.94	0.1563
77	15	50	663666	3954.99	CP-OFDM QPSK	1@268	23.24	21.94	0.1563

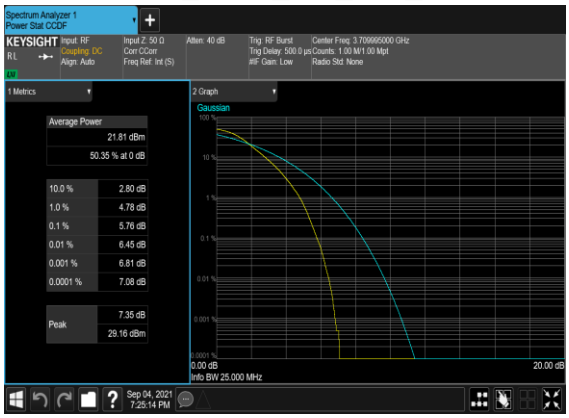
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00219	**PASS**	NV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00230	**PASS**	LV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00179	**PASS**	HV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00225	**PASS**	-30℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00246	**PASS**	-20℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00238	**PASS**	-10℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00198	**PASS**	0℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00159	**PASS**	10℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00296	**PASS**	20℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00364	**PASS**	30℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00275	**PASS**	40℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	-0.00322	**PASS**	50℃

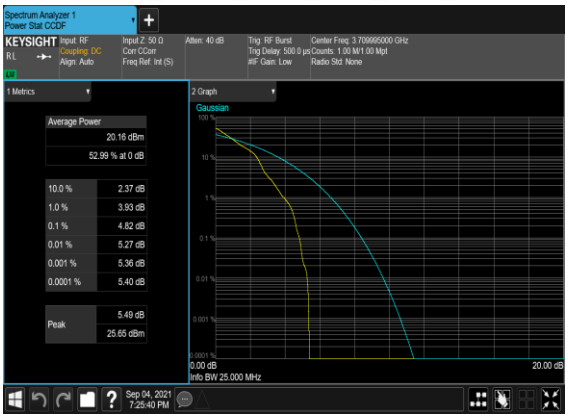
Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	100@0	5.76	13	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@0	4.82	13	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	100@0	6.53	13	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@0	5.28	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	5.52	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	1@0	5.26	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	6.08	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	6.89	13	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM PI/2 BPSK	100@0	6.96	13	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM PI/2 BPSK	1@0	5.24	13	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	100@0	6.76	13	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@0	6.17	13	**PASS**

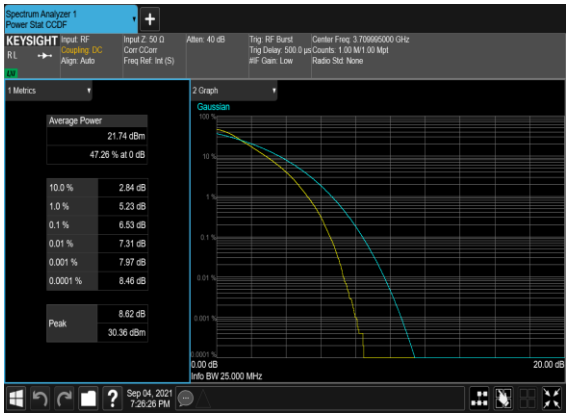
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



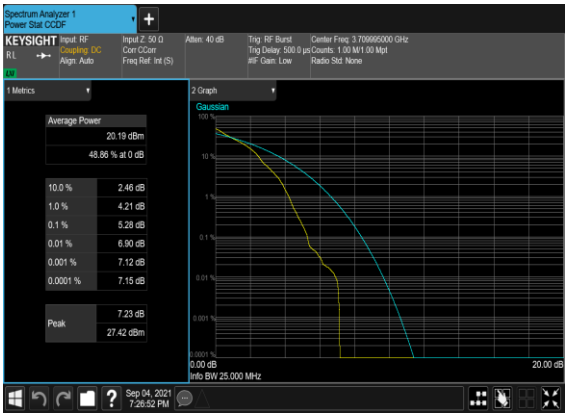
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

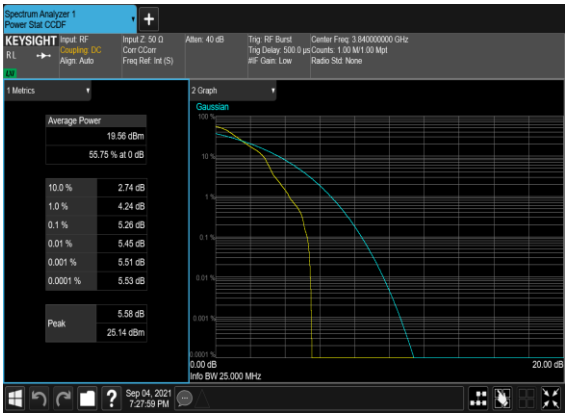


N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



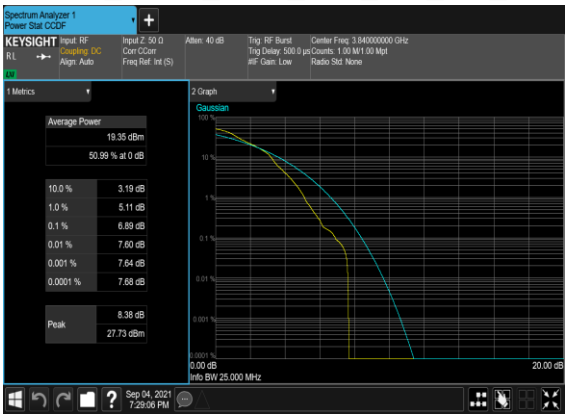
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

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

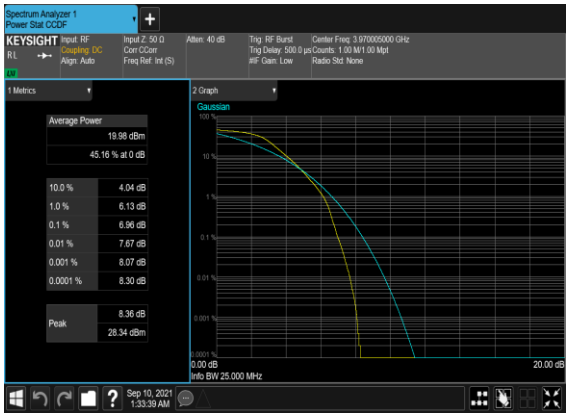


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

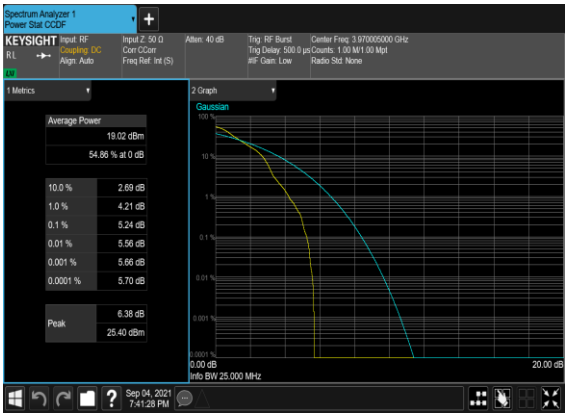
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



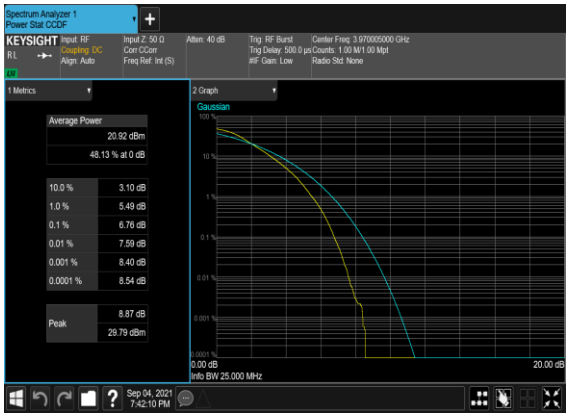
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



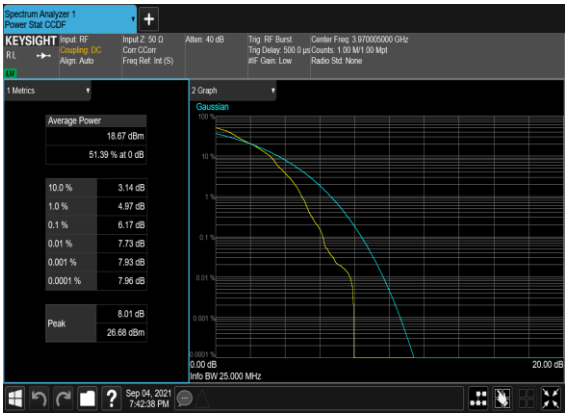
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

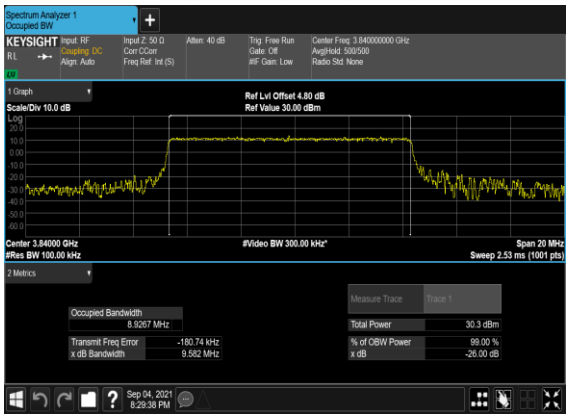


Occupied Bandwidth

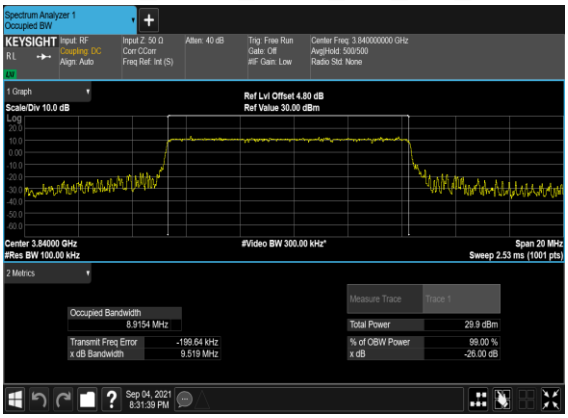
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
77	15	10	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	8.9267	9.582
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	50@0	8.9154	9.519
77	15	10	656000	3840.0	CP-OFDM QPSK	52@0	9.2613	9.865
77	15	10	656000	3840.0	CP-OFDM 16 QAM	52@0	9.2741	9.808
77	15	10	656000	3840.0	CP-OFDM 64 QAM	52@0	9.3042	9.905
77	15	10	656000	3840.0	CP-OFDM 256 QAM	52@0	9.2828	10.51
77	15	15	656000	3840.0	DFT-s-OFDM PI/2 BPSK	75@0	13.383	14.01
77	15	15	656000	3840.0	DFT-s-OFDM QPSK	75@0	13.395	14.2
77	15	15	656000	3840.0	CP-OFDM QPSK	79@0	14.112	14.81
77	15	15	656000	3840.0	CP-OFDM 16 QAM	79@0	14.102	14.68
77	15	15	656000	3840.0	CP-OFDM 64 QAM	79@0	14.091	14.75
77	15	15	656000	3840.0	CP-OFDM 256 QAM	79@0	14.108	14.68
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	17.865	18.78
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	17.869	18.9
77	15	20	656000	3840.0	CP-OFDM QPSK	106@0	18.913	19.67
77	15	20	656000	3840.0	CP-OFDM 16 QAM	106@0	18.899	19.76
77	15	20	656000	3840.0	CP-OFDM 64 QAM	106@0	18.888	19.89
77	15	20	656000	3840.0	CP-OFDM 256 QAM	106@0	18.893	19.79
77	15	40	656000	3840.0	DFT-s-OFDM PI/2 BPSK	216@0	38.497	40.38
77	15	40	656000	3840.0	DFT-s-OFDM QPSK	216@0	38.51	39.87
77	15	40	656000	3840.0	CP-OFDM QPSK	216@0	38.46	39.83
77	15	40	656000	3840.0	CP-OFDM 16 QAM	216@0	38.564	39.95
77	15	40	656000	3840.0	CP-OFDM 64 QAM	216@0	38.43	39.83
77	15	40	656000	3840.0	CP-OFDM 256 QAM	216@0	38.607	39.85

77	15	50	656000	3840.0	DFT-s-OFDM PI/2 BPSK	270@0	48.17	49.84
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	270@0	48.24	49.81
77	15	50	656000	3840.0	CP-OFDM QPSK	270@0	48.04	50.29
77	15	50	656000	3840.0	CP-OFDM 16 QAM	270@0	48.22	49.89
77	15	50	656000	3840.0	CP-OFDM 64 QAM	270@0	48.223	49.89
77	15	50	656000	3840.0	CP-OFDM 256 QAM	270@0	48.096	50.13

N77(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



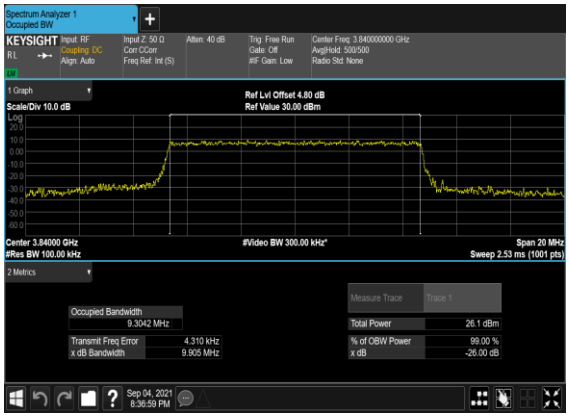
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

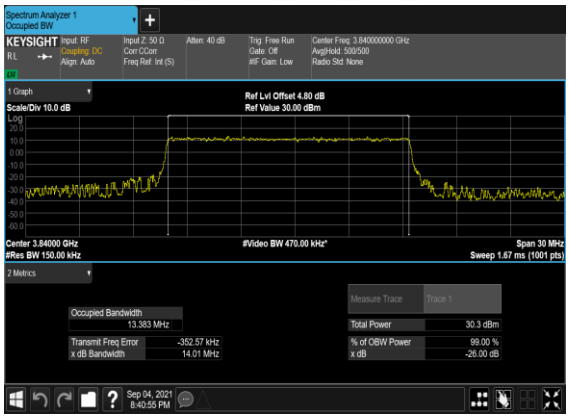
N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

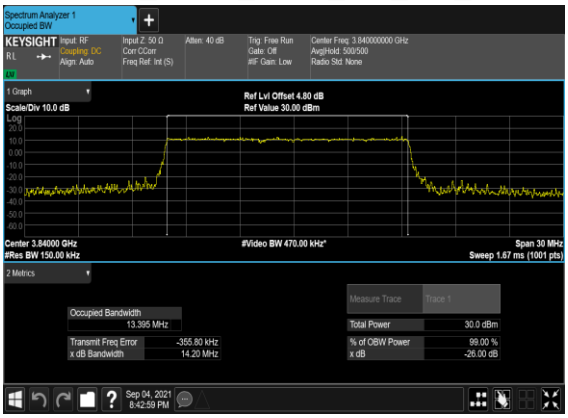


N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

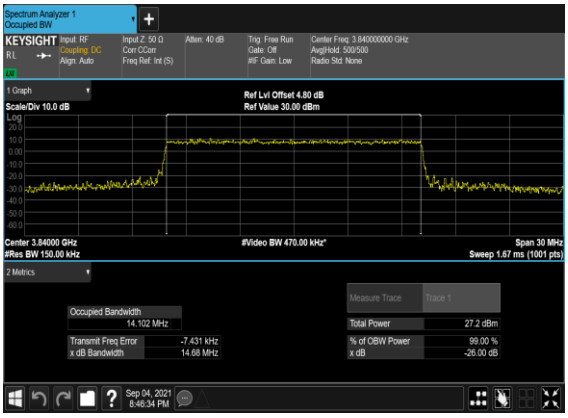


N77(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

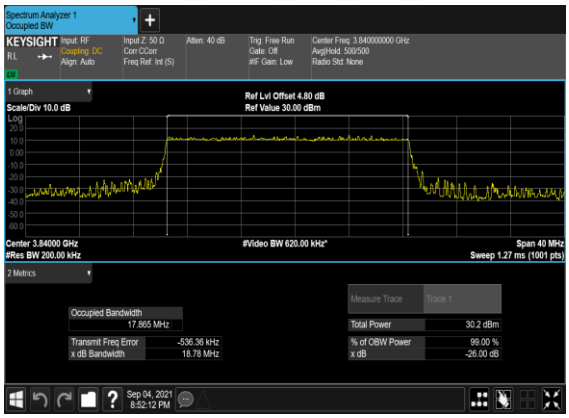
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



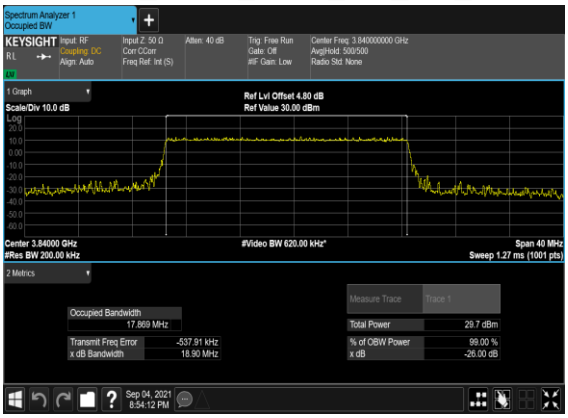
N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

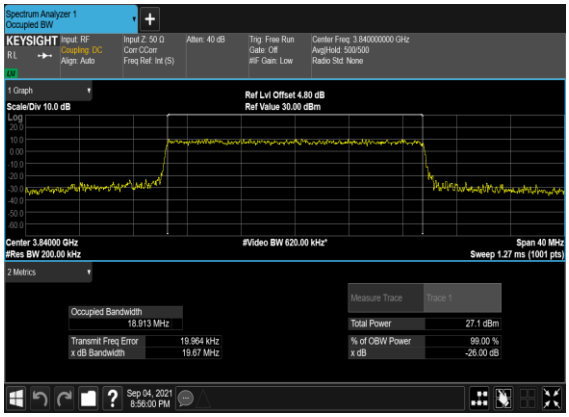
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



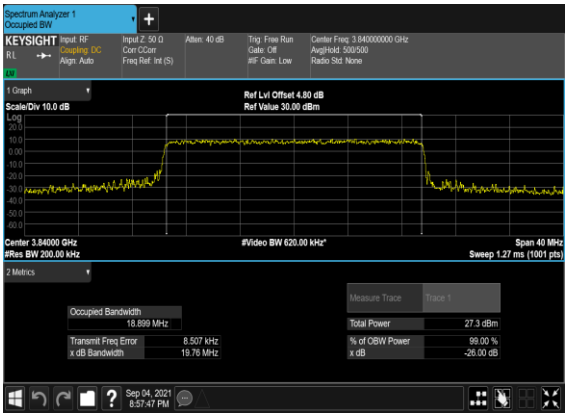
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



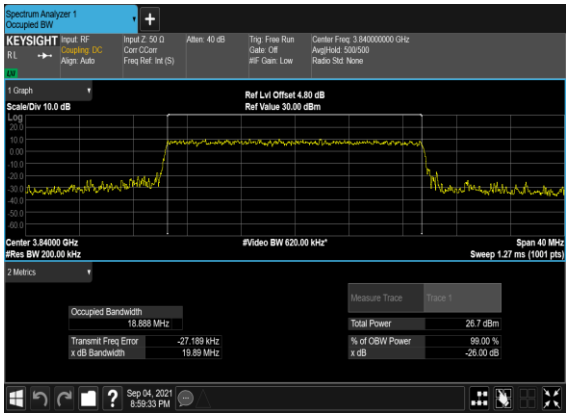
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



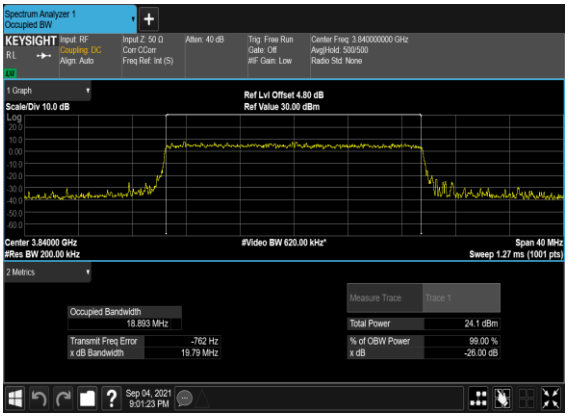
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



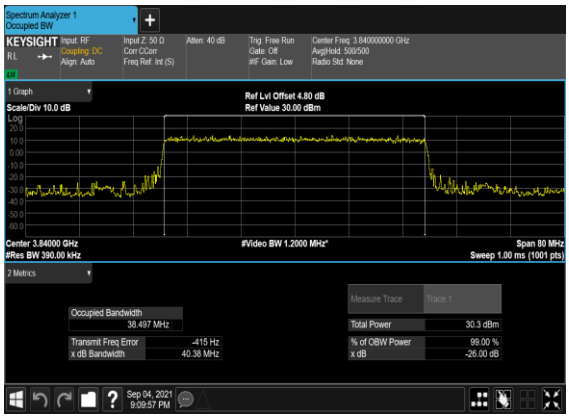
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



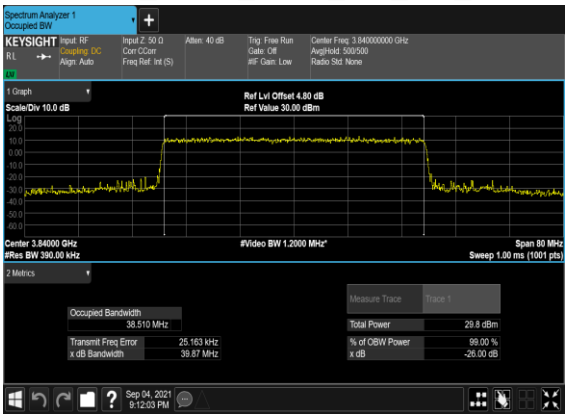
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



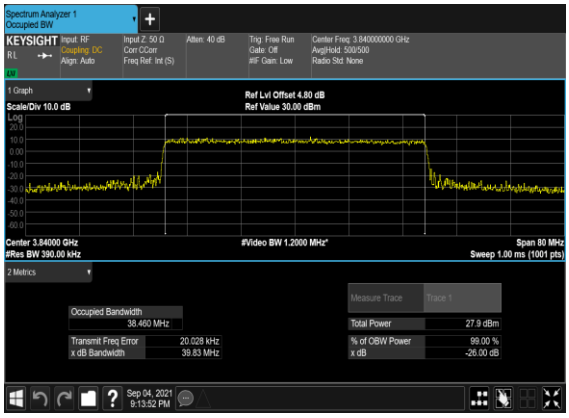
N77(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



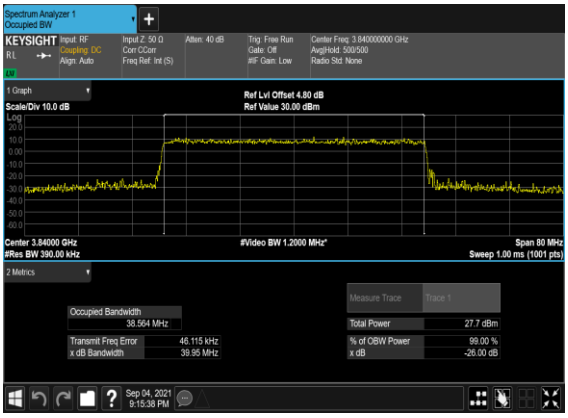
N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



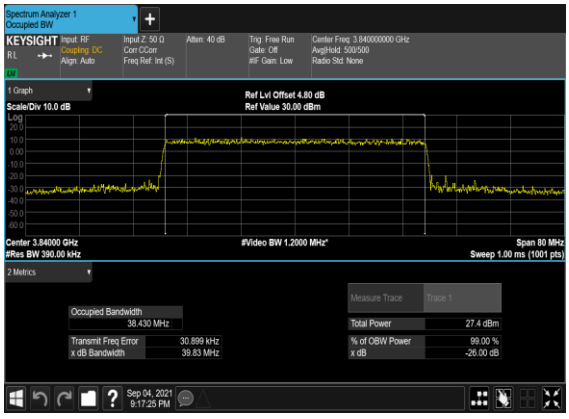
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



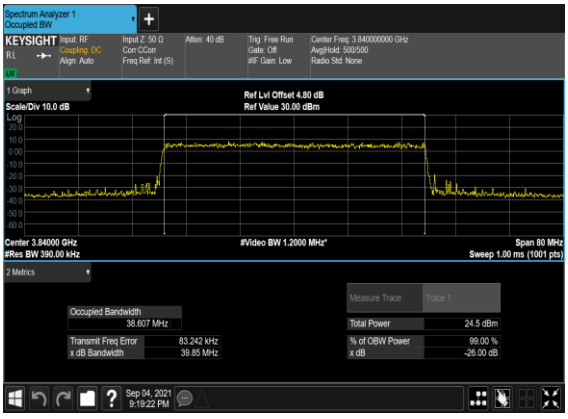
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



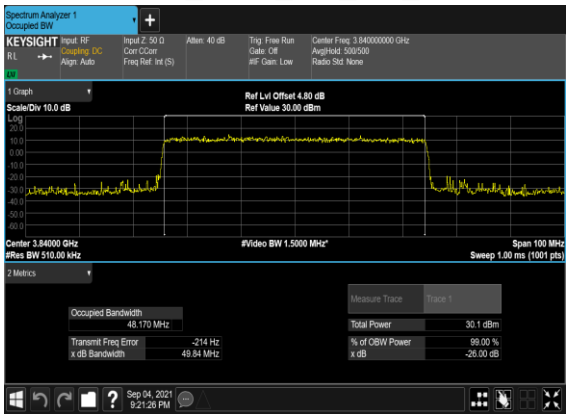
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



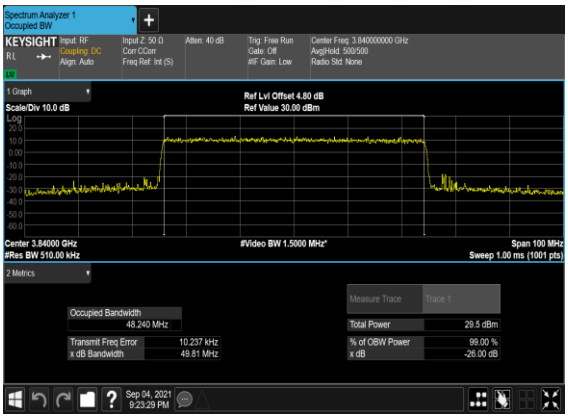
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



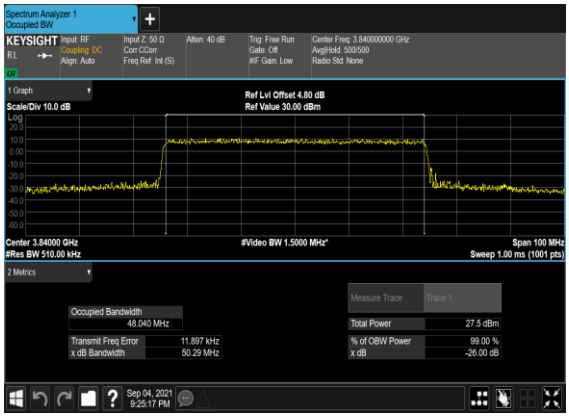
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



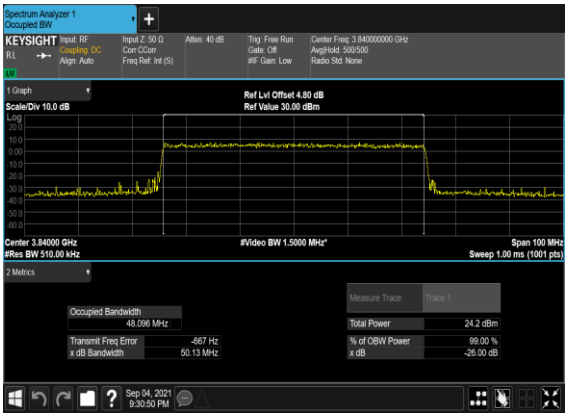
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



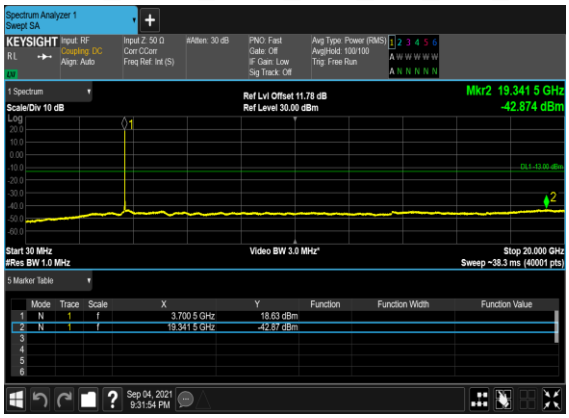
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	20	647333	3709.995	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**

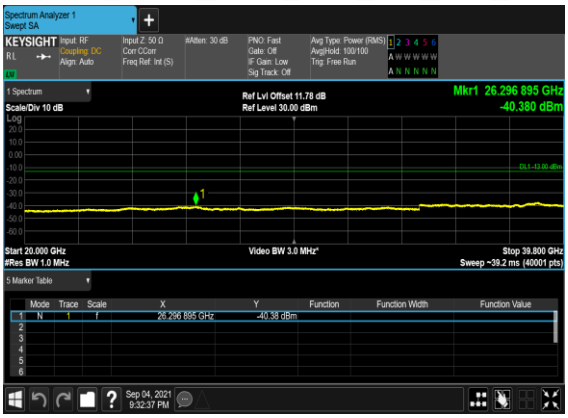
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	20	664667	3970.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	**---**

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

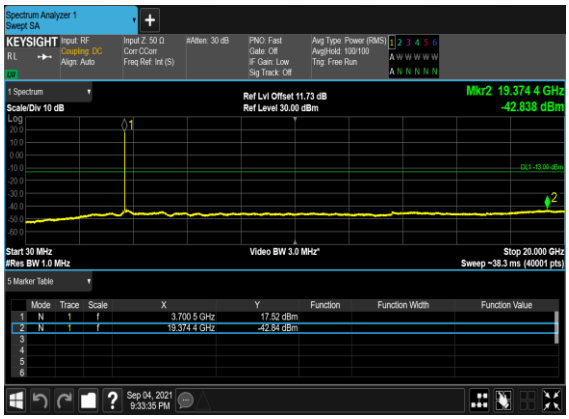
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



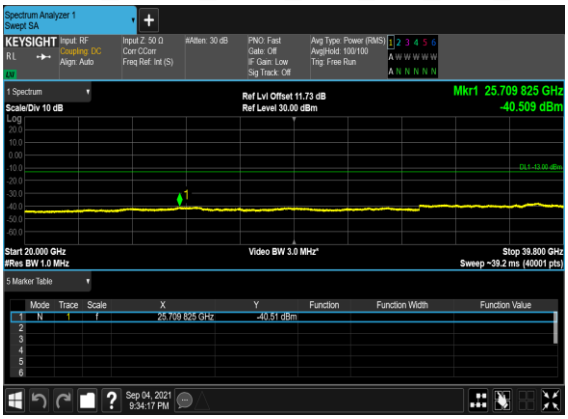
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



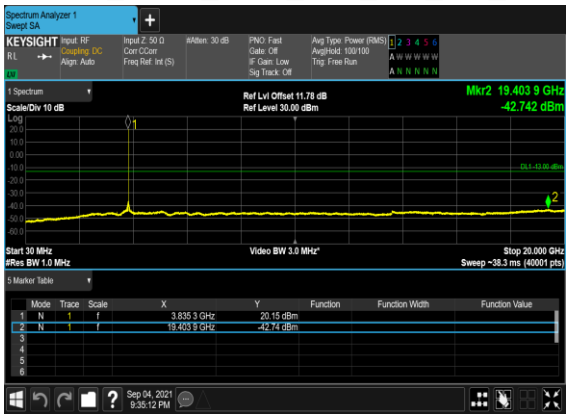
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



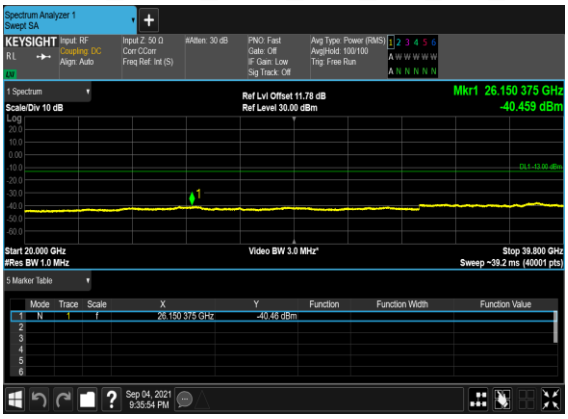
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



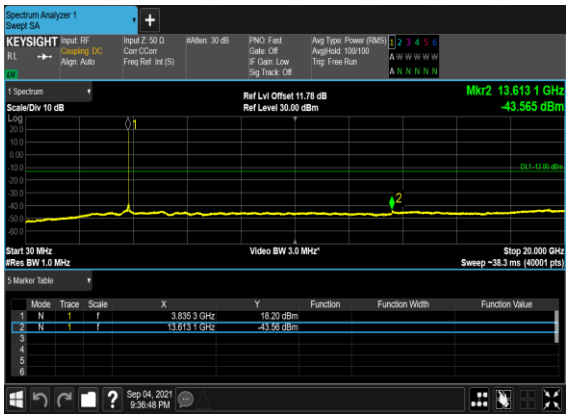
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



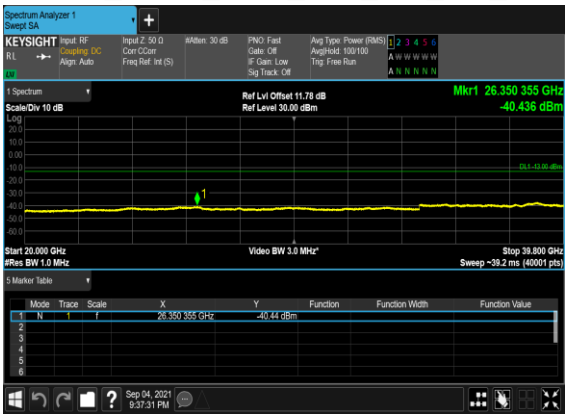
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



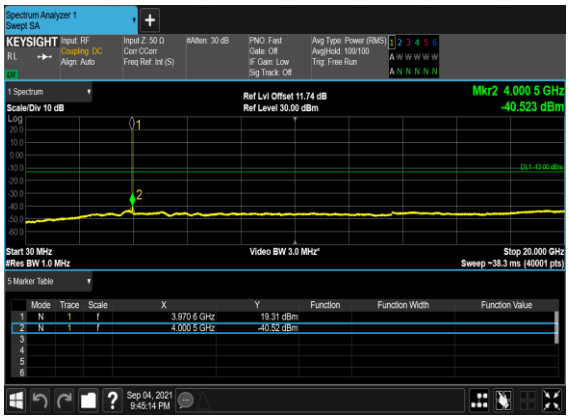
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



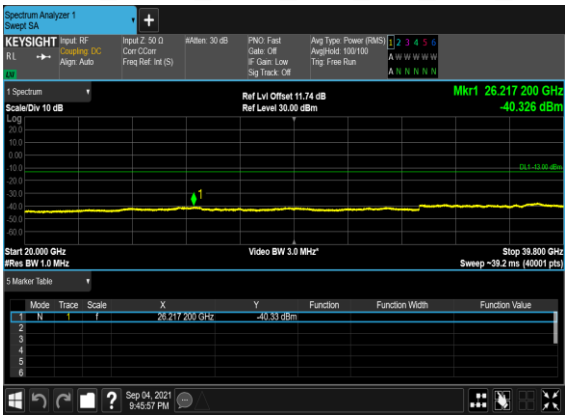
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



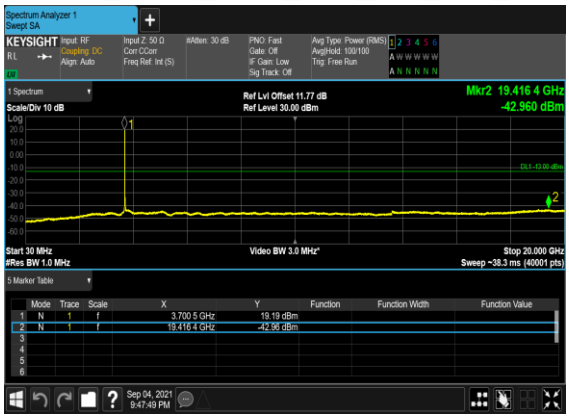
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



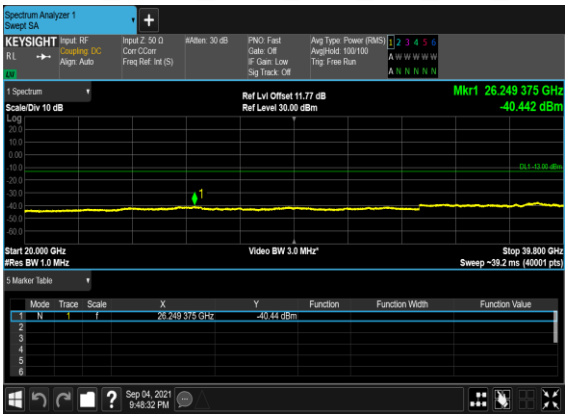
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



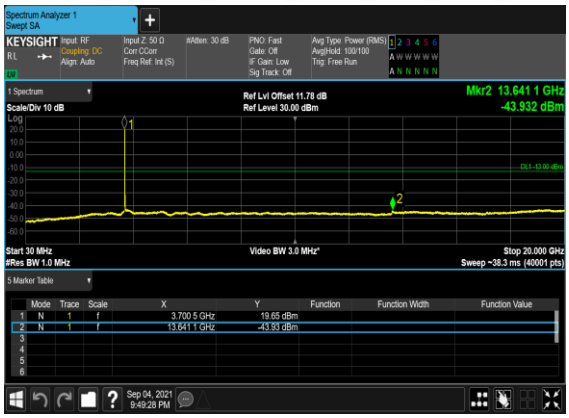
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



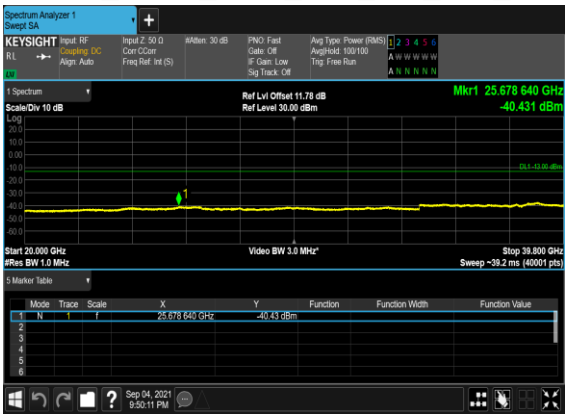
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



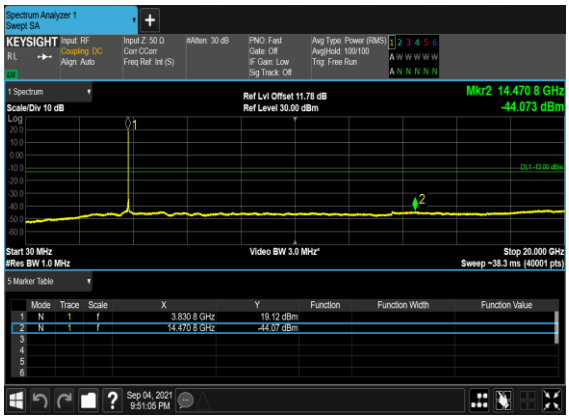
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



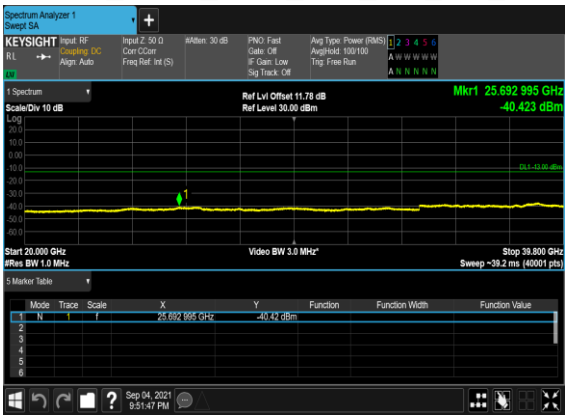
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



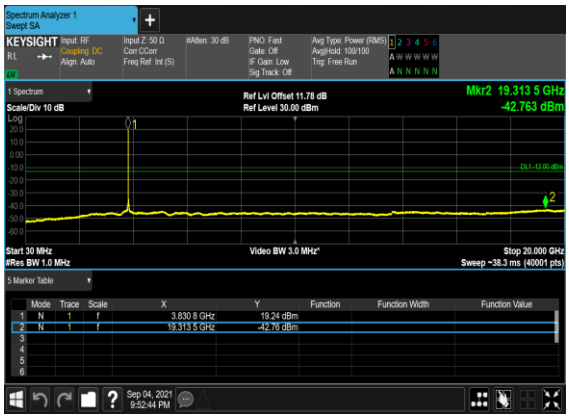
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



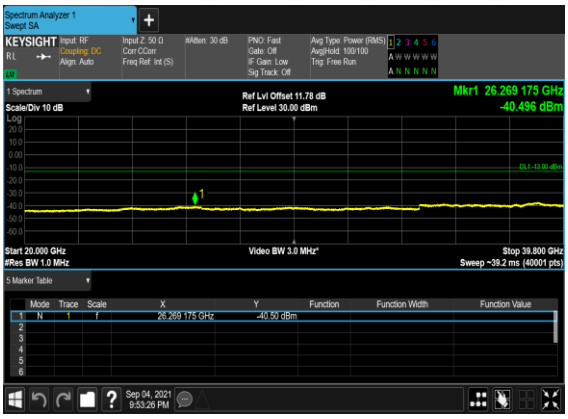
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



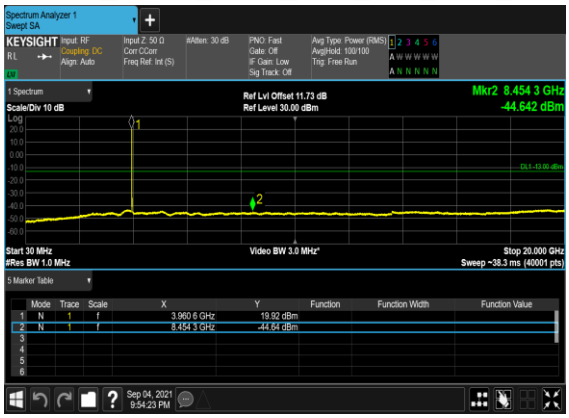
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



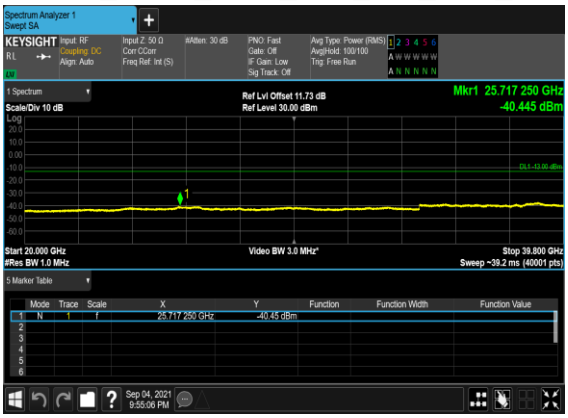
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



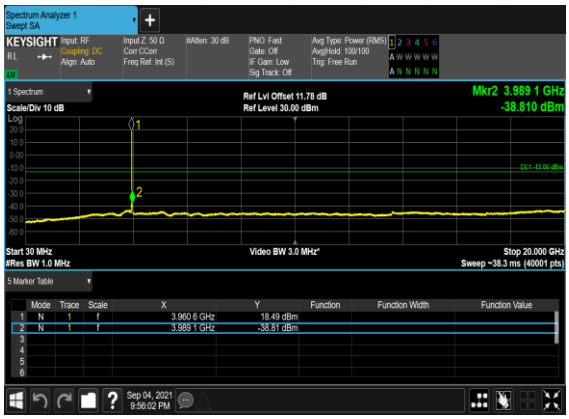
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



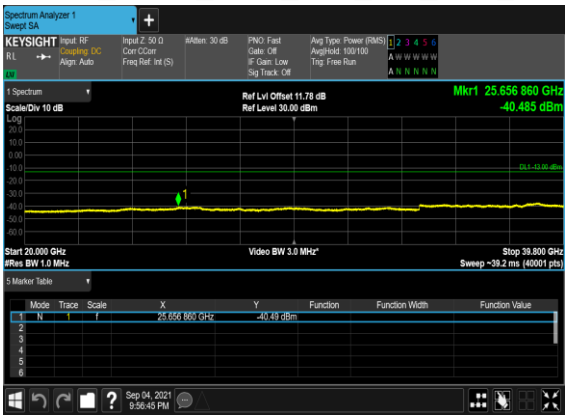
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



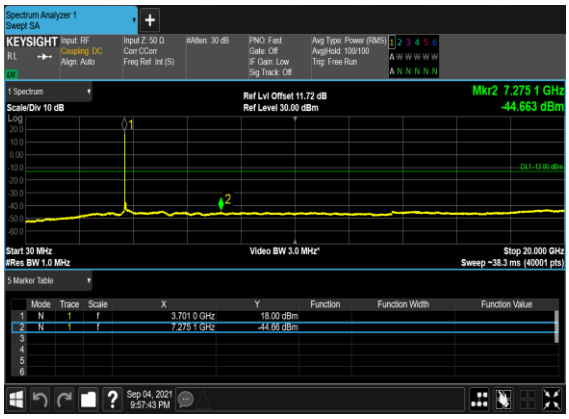
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



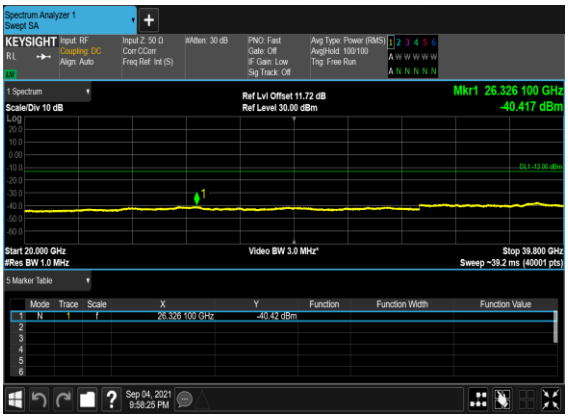
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



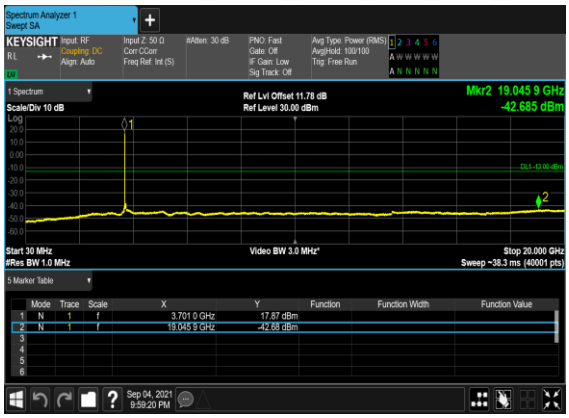
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



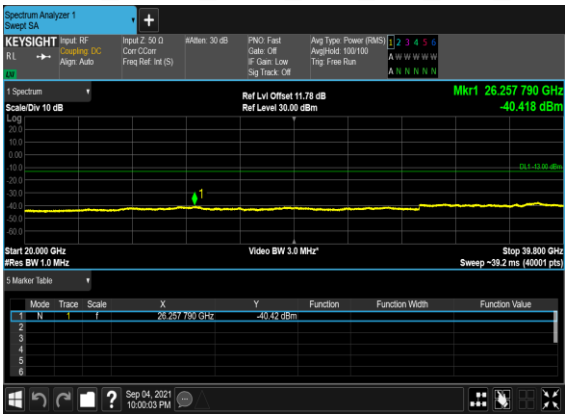
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



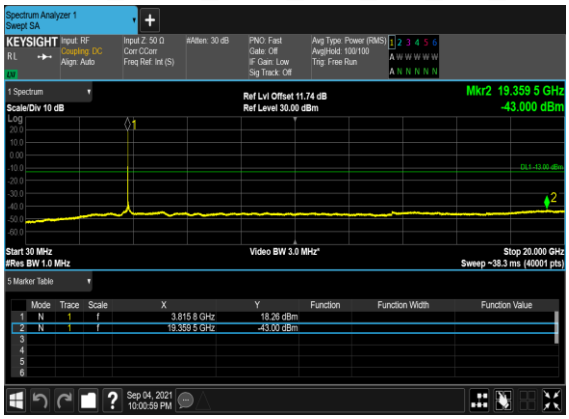
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



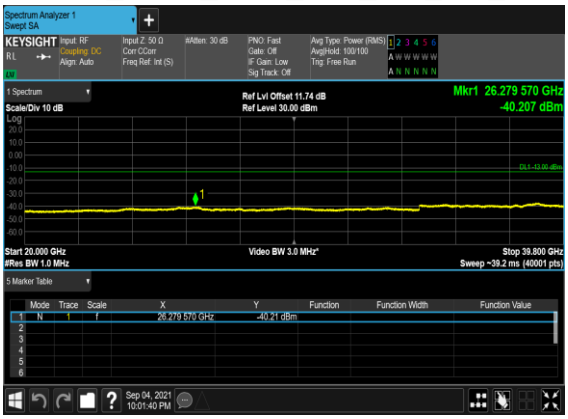
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



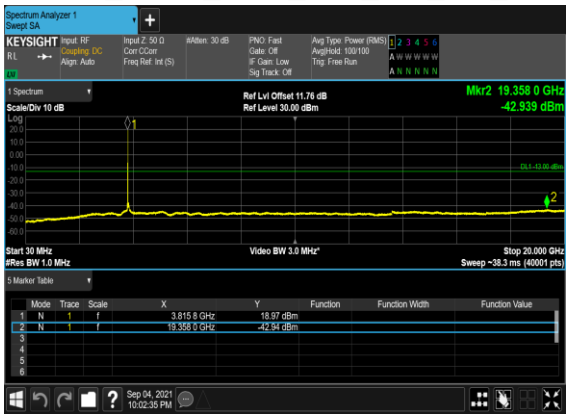
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



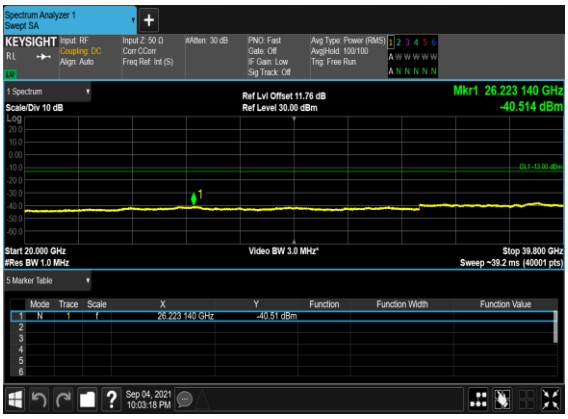
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



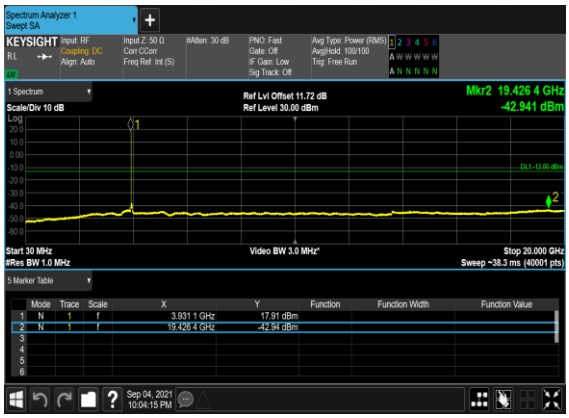
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



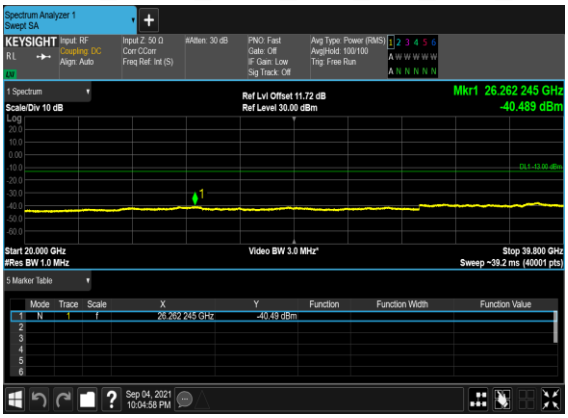
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



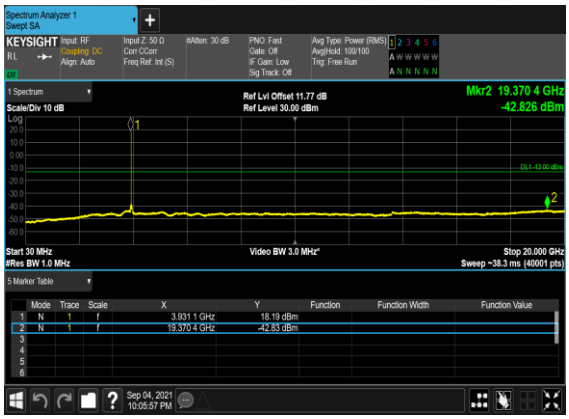
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



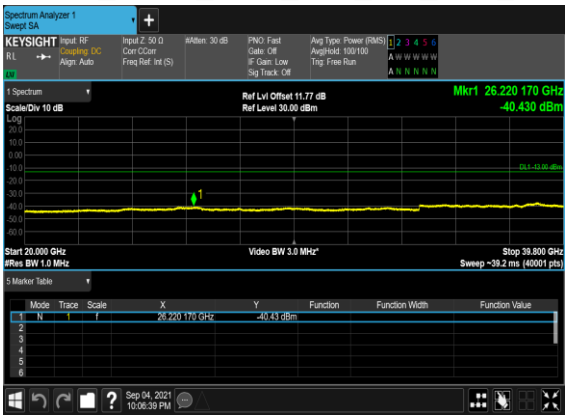
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

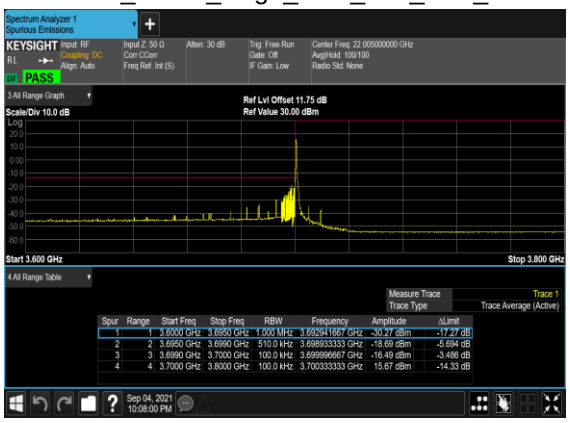


Conducted Band Edge

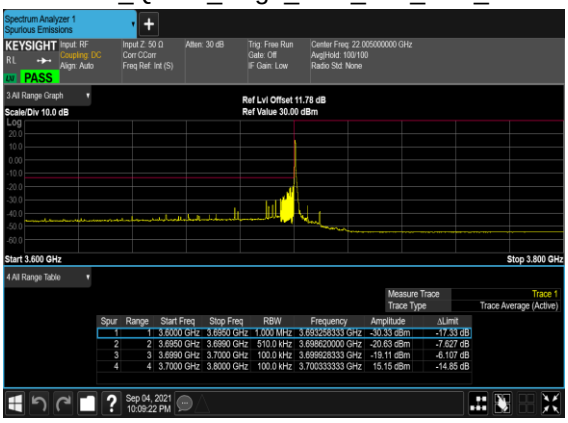
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
77	15	20	647333	3709.995	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	1@105	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
77	15	20	664667	3970.005	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	270@0	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@269	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@269	see graph	**PASS**

77	15	50	663666	3954.99	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	270@0	see graph	**PASS**

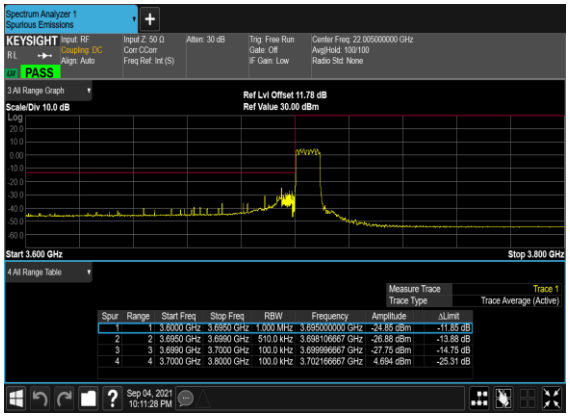
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



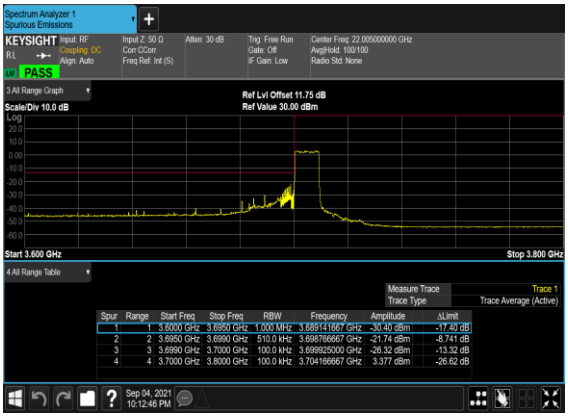
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH

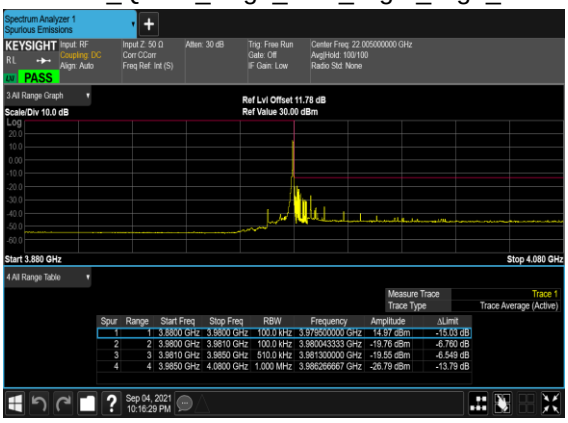


N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

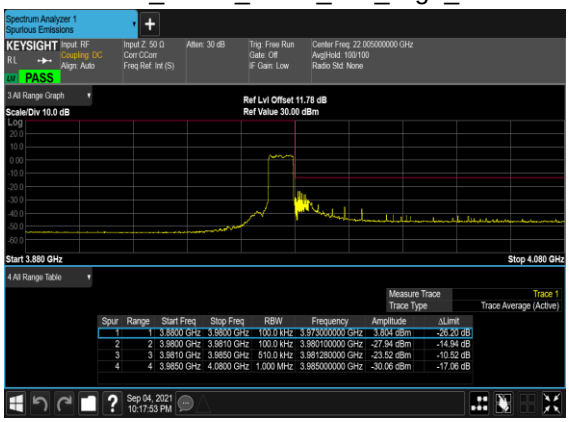


N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

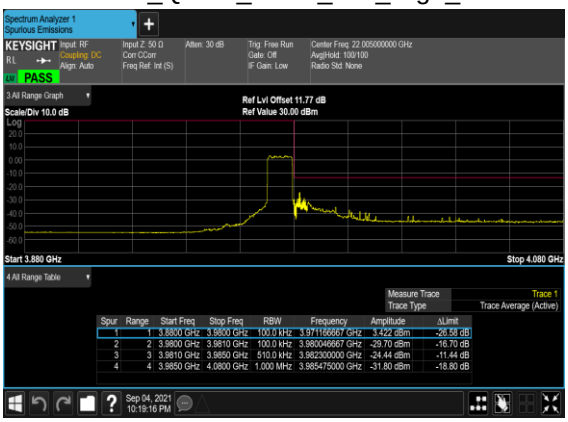
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



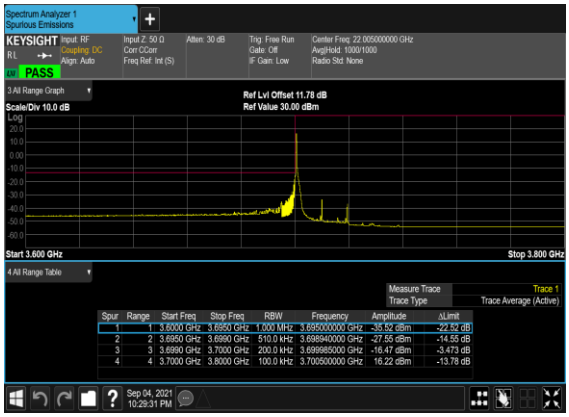
N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



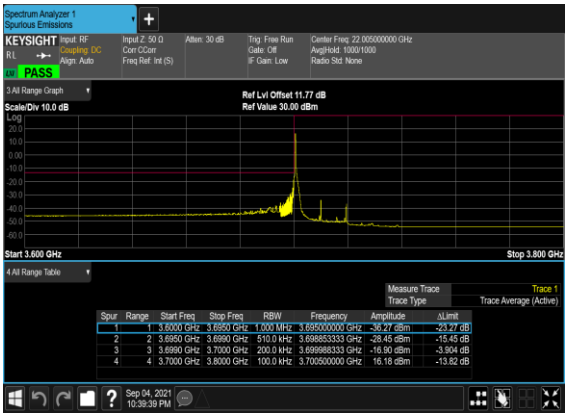
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



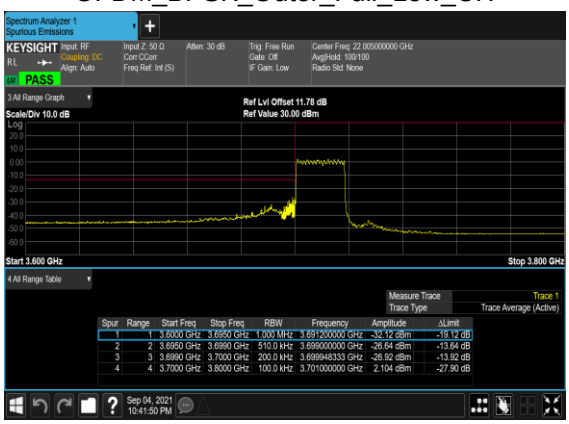
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



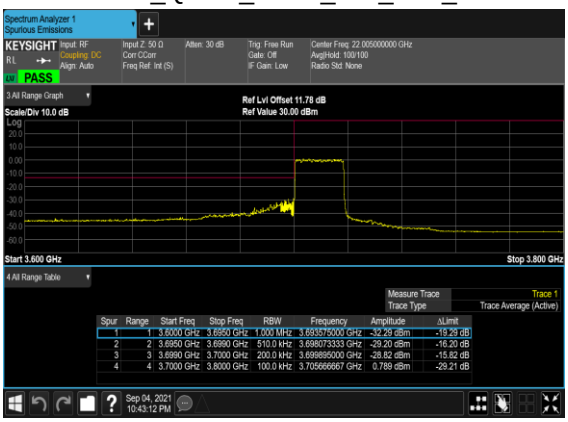
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



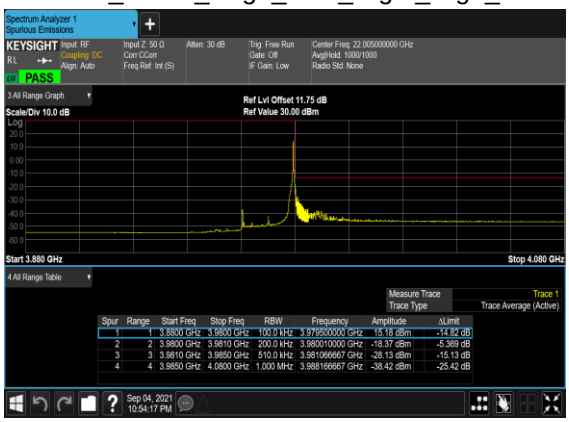
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



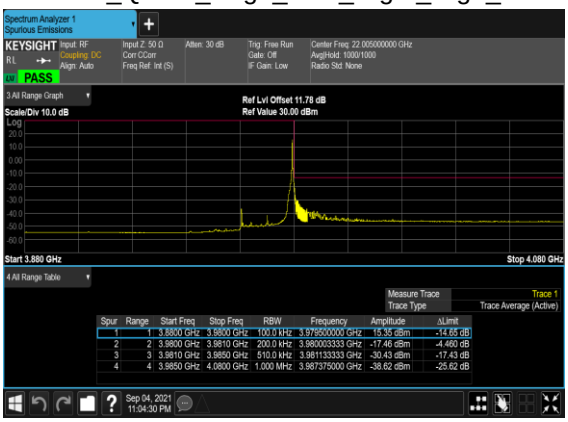
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



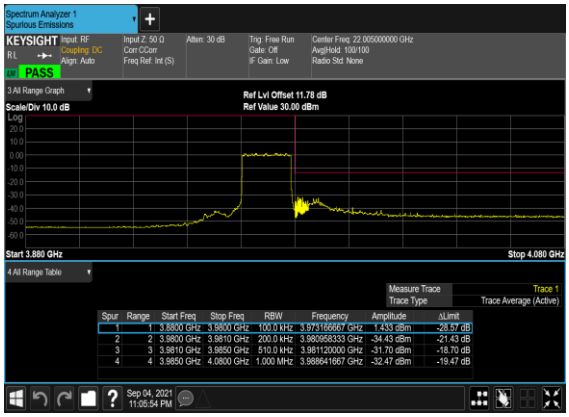
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



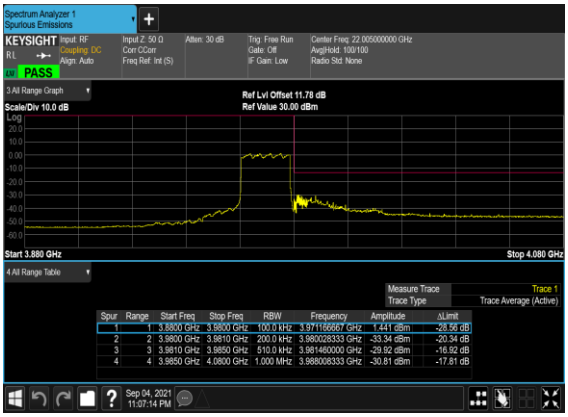
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



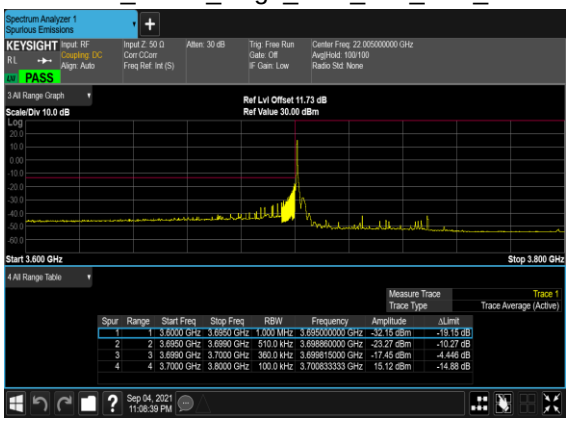
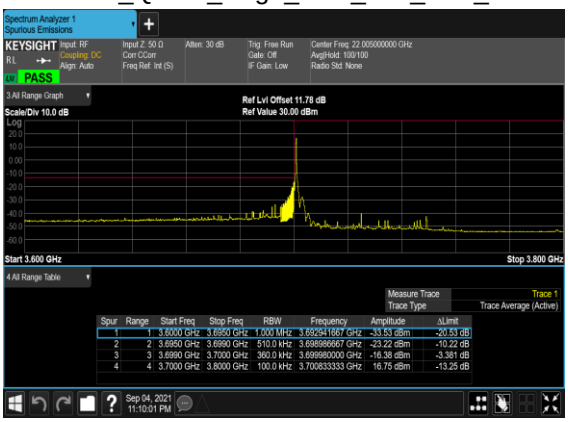
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH