FCC RF Test Report

APPLICANT	:	Nokia Shanghai Bell Co. Ltd.
EQUIPMENT	:	Nokia FastMile 5G Gateway 3.2
BRAND NAME	:	Nokia
MODEL NAME	:	5G16-12W-A
FCC ID	:	2ADZR5G1612WA
STANDARD	:	47 CFR Part 2, Part 27 Subpart Q
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	:	Dec. 14, 2021 ~ Dec. 31, 2021

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.

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

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

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager

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

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG1O2908I	Rev. 01	Initial issue of report	Jan. 20, 2022

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)(2)	EIRP	EIRP < 1640W	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 45.72 dB at 13824.000 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

Nokia Shanghai Bell Co. Ltd.
No. 388, Ningqiao Rd. Pilot Free Trade Zone, Shanghai 201206, China

1.2 Manufacturer

Nokia Solutions and Networks Oy
Karakaari 7 02610 Espoo Finland

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Nokia FastMile 5G Gateway 3.2
Brand Name	Nokia
Model Name	5G16-12W-A
FCC ID	2ADZR5G1612WA
HW Version	3TG01797A
SW Version	5GGW3-OMNI-1_D210400Bh3T0301E0156
EUT Stage	Identical Prototype

Remark:

1. Pre-scanned harmonic for USIM and eSIM sample, we choose the worse mode of the USIM sample to test.
2. There are two types of EUT: sample 1 with 1st source antenna and sample 2 with 2nd source antenna. According to the difference, we chose sample 1 to perform full test and sample 2 to verify the worst cases of RSE.

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
Bandwidth	**For SCS 15kHz:** 5G NR n77/n78 : 10MHz / 15MHz / 20MHz / 40MHz / 50MHz **For SCS 30kHz:** 5G NR n77/n78 : 10MHz / 15MHz / 20MHz / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz
SCS	15kHz/30kHz
Antenna Gain	5G NR n77: 6.0 dBi 5G NR n78: 6.0 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. 5G NR n77/n78 support HPUE mode.
2. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP is shown in the report, 5G NR n77/78 for Antenna 5.
3. 5G NR Band supports SA and NSA mode for SCS 15kHz/30kHz. According to the maximum power between SA and NSA mode, SA covers NSA mode for 5G NR n77 covers n78.
4. The EN-DC mode combination could be referred to the product spec.
5. 5G NR n77/n78 support UL MIMO mode for Antenna 5+6, and only supports CP-OFDM modulation in UL MIMO mode.

1.5 Modification of EUT

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

1.6 Maximum EIRP and Emission Designator

For SCS 15kHz:

5G NR n77/n78		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~ 3544.995	1.7338	9M27G7D	1.3996	9M31W7D
15	3457.50 ~ 3542.49	1.7258	14M1G7D	1.3836	14M1W7D
20	3460.005 ~ 3540.00	1.7140	18M9G7D	1.4093	18M9W7D
40	3470.01 ~ 3529.995	1.6904	38M6G7D	1.3366	38M6W7D
50	3475.005 ~ 3525.00	1.7100	48M2G7D	1.3646	48M2W7D

5G NR n77/n78 UL MIMO		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~ 3544.995	1.2261	9M28G7D	1.0991	9M31W7D
15	3457.50 ~ 3542.49	1.2276	14M1G7D	1.0978	14M1W7D
20	3460.005 ~ 3540.00	1.2219	18M9G7D	1.0992	19M0W7D
40	3470.01 ~ 3529.995	1.2177	38M6G7D	1.0642	38M5W7D
50	3475.005 ~ 3525.00	1.2024	48M2G7D	1.0804	48M2W7D

For SCS 30kHz:

5G NR n77/n78		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	3445.01 ~ 3544.98	1.7219	8M59G7D	1.4256	8M58W7D
15	3457.50 ~ 3542.49	1.7219	13M6G7D	1.3804	13M6W7D
20	3460.02 ~ 3540.00	1.7022	18M2G7D	1.3677	18M2W7D
40	3470.01 ~ 3529.98	1.6558	37M8G7D	1.3062	37M9W7D
50	3475.02 ~ 3525.00	1.6672	47M5G7D	1.3305	47M6W7D
60	3480.00 ~ 3519.99	1.6749	58M0G7D	1.3243	57M9W7D
80	3490.02 ~ 3510.00	1.6558	77M6G7D	1.3243	77M5W7D
90	3495.00 ~ 3504.99	1.6293	87M4G7D	1.2942	87M6W7D
100	3500.01 ~ 3500.01	1.6069	97M4G7D	1.2853	97M4W7D

5G NR n77/n78 UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3445.01 ~ 3544.98	1.1724	8M57G7D	1.0557	8M60W7D
15	3457.50 ~ 3542.49	1.1795	13M6G7D	1.0490	13M6W7D
20	3460.02 ~ 3540.00	1.1866	18M2G7D	1.0583	18M2W7D
40	3470.01 ~ 3529.98	1.1468	37M8G7D	1.0273	37M9W7D
50	3475.02 ~ 3525.00	1.1692	47M5G7D	1.0461	47M5W7D
60	3480.00 ~ 3519.99	1.1817	57M8G7D	1.0545	57M9W7D
80	3490.02 ~ 3510.00	1.1645	77M5G7D	1.0379	77M6W7D
90	3495.00 ~ 3504.99	1.1631	87M4G7D	1.0379	87M5W7D
100	3500.01 ~ 3500.01	1.1528	97M3G7D	1.0248	97M4W7D

Note: All modulations have been evaluation, 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 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS	CN1257	314309

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

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

Test data subcontracted: conducted test items in section 3.4 ~ 3.10 of this report.

1.8 Test Software

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

1.9 Applied Standards

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

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

Remark:

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

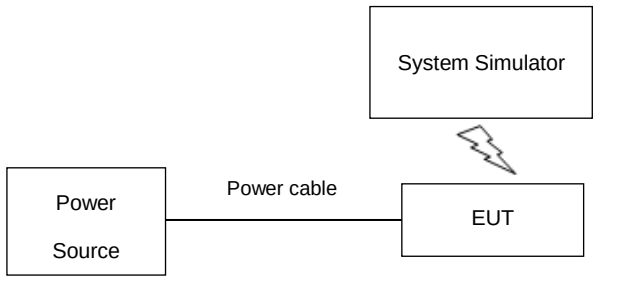
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	5G n77/n78 (15kHz)	10M, 15M, 20M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n77/n78 (30kHz)	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
Peak-to-Average Ratio	5G n77	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
E.I.R.P	5G n77 (15kHz)	10M, 15M, 20M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n77 (30kHz)	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
26dB and 99% Bandwidth	5G n77 (15kHz)	10M, 15M, 20M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
	5G n77 (30kHz)	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	5G n77 (15kHz)	10M, 20M, 50M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
	5G n77 (30kHz)	10M, 50M, 100M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
Conducted Spurious Emission	5G n77 (15kHz)	10M, 20M, 50M	PI/2 BPSK, QPSK	1RB	L, M, H
	5G n77 (30kHz)	10M, 50M, 100M	PI/2 BPSK, QPSK	1RB	L, M, H
Frequency Stability	5G n77	20M	QPSK	Full RB	M
Radiated Spurious Emission	5G n77	Worst case			M

Note:

1. 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.
2. 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	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 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 5.0dB.

Example :

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

= 5.0 (dB)

2.5 Frequency List of Low/Middle/High Channels

For SCS 15kHz:

5G n77/n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	631667	633334	635000
	Frequency	3475.005	3500.01	3525.00
40	Channel	631334	633334	635333
	Frequency	3470.01	3500.01	3529.995
20	Channel	630667	633334	636000
	Frequency	3460.005	3500.01	3540.00
15	Channel	630500	633334	636166
	Frequency	3457.50	3500.01	3542.49
10	Channel	630334	633334	636333
	Frequency	3455.01	3500.01	3544.995

For SCS 30kHz:

5G n77/n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	-	633334	-
	Frequency	-	3500.01	-
90	Channel	633000	633334	633666
	Frequency	3495.00	3500.01	3504.99
80	Channel	632668	633334	634000
	Frequency	3490.02	3500.01	3510.00
60	Channel	632000	633334	634666
	Frequency	3480.00	3500.01	3519.99
50	Channel	631668	633334	635000
	Frequency	3475.02	3500.01	3525.00
40	Channel	631334	633334	635332
	Frequency	3470.01	3500.01	3529.98
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540.00
15	Channel	630500	633334	636166
	Frequency	3457.50	3500.01	3542.49
10	Channel	630334	633334	636332
	Frequency	3455.01	3500.01	3544.98

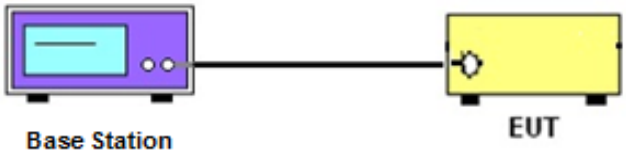
3 Conducted Test Items

3.1 Measuring Instruments

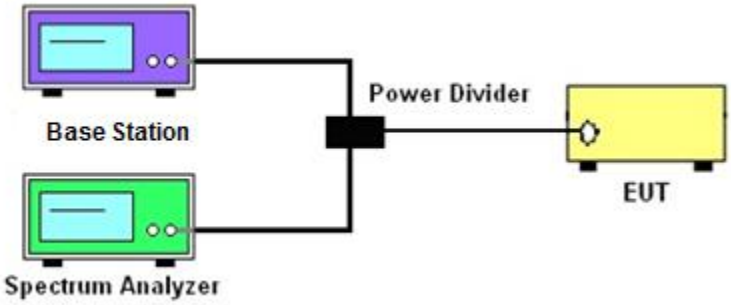
See list of measuring instruments of this test report.

3.2 Test Setup

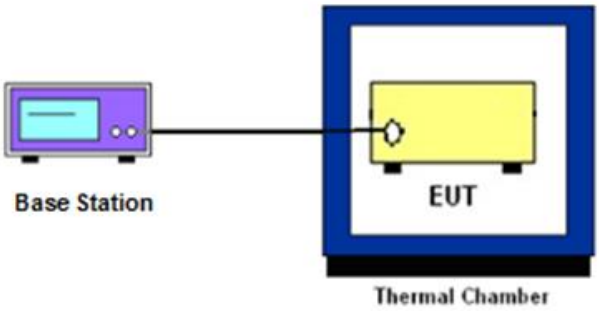
3.2.1 Conducted Output Power



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)(2)

Fixed devices are limited to 1640 Watt EIRP.

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 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.
10. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.9 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 30MHz 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.

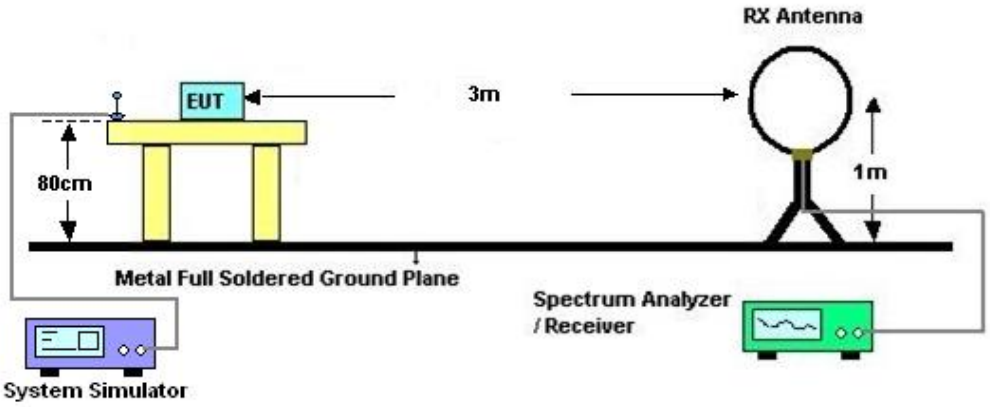
4 Radiated Test Items

4.1 Measuring Instruments

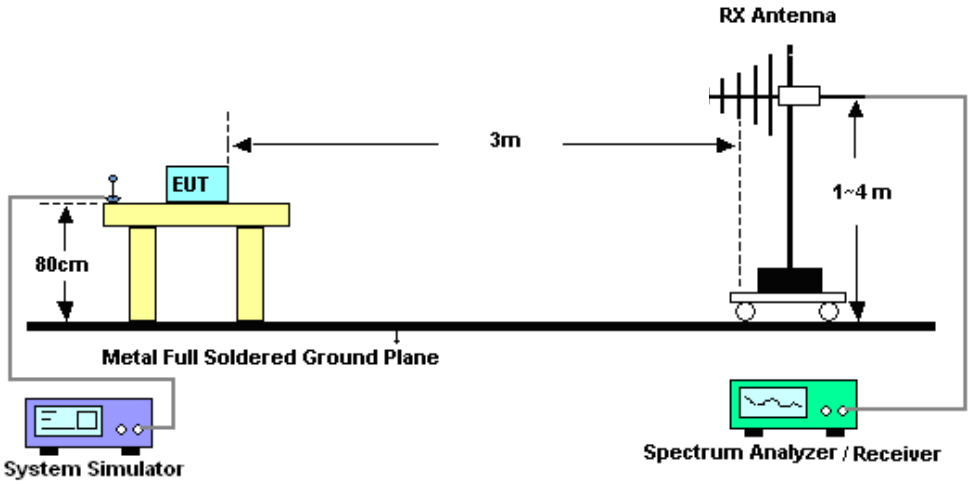
See list of measuring instruments of this test report.

4.2 Test Setup

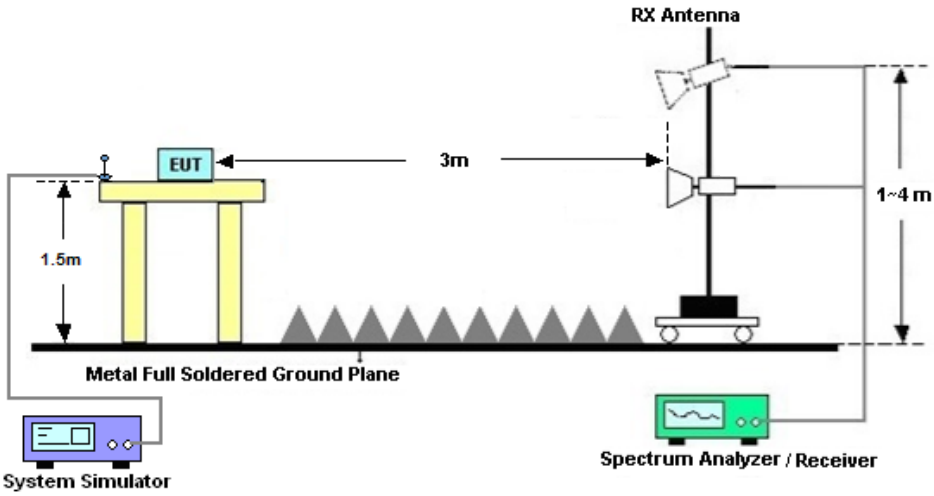
4.2.1 For radiated test below 30MHz



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
EXA Signal Analyzer	KEYSIGHT	N9010B	MY60240803	10Hz~44GHz	Apr. 03, 2021	Dec. 14, 2021~ Dec. 19, 2021	Apr. 02, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 26, 2020	Dec. 14, 2021~ Dec. 19, 2021	Dec. 25, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Dec. 14, 2021~ Dec. 19, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Dec. 31, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Dec. 31, 2021	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2021	Dec. 31, 2021	May 29, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Dec. 31, 2021	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 07, 2021	Dec. 31, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Dec. 31, 2021	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 31, 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

Test Engineer :	Jung Guo	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 21.02.121001

FR1 N77(ANT5) – SCS 15kHz

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=6.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	15	10	630334	3455.01	DFT-s-OFDM PI/2 BPSK	25@12	26.35	32.35	1.7179
77	15	10	630334	3455.01	DFT-s-OFDM PI/2 BPSK	1@1	26.22	32.22	1.6672
77	15	10	630334	3455.01	DFT-s-OFDM PI/2 BPSK	1@50	26.25	32.25	1.6788
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	25@12	26.39	32.39	1.7338
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@1	26.2	32.2	1.6596
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@50	26.25	32.25	1.6788
77	15	10	630334	3455.01	DFT-s-OFDM 16 QAM	25@12	25.42	31.42	1.3868
77	15	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@1	25.11	31.11	1.2912
77	15	10	630334	3455.01	DFT-s-OFDM 16 QAM	1@50	25.19	31.19	1.3152
77	15	10	630334	3455.01	DFT-s-OFDM 64 QAM	25@12	23.87	29.87	0.9705
77	15	10	630334	3455.01	DFT-s-OFDM 64 QAM	1@1	23.72	29.72	0.9376
77	15	10	630334	3455.01	DFT-s-OFDM 64 QAM	1@50	23.76	29.76	0.9462
77	15	10	630334	3455.01	DFT-s-OFDM 256 QAM	25@12	21.88	27.88	0.6138
77	15	10	630334	3455.01	DFT-s-OFDM 256 QAM	1@1	22.03	28.03	0.6353
77	15	10	630334	3455.01	DFT-s-OFDM 256 QAM	1@50	22.05	28.05	0.6383
77	15	10	630334	3455.01	CP-OFDM QPSK	26@13	24.86	30.86	1.2190
77	15	10	630334	3455.01	CP-OFDM QPSK	1@1	24.79	30.79	1.1995
77	15	10	630334	3455.01	CP-OFDM QPSK	1@50	24.83	30.83	1.2106
77	15	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	25@12	26.2	32.2	1.6596
77	15	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26.03	32.03	1.5959
77	15	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@50	26.14	32.14	1.6368
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	25@12	26.2	32.2	1.6596
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@1	26	32	1.5849
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@50	26.11	32.11	1.6255
77	15	10	633334	3500.01	DFT-s-OFDM 16 QAM	25@12	25.24	31.24	1.3305
77	15	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.25	31.25	1.3335
77	15	10	633334	3500.01	DFT-s-OFDM 16 QAM	1@50	25.38	31.38	1.3740
77	15	10	633334	3500.01	DFT-s-OFDM	25@12	23.68	29.68	0.9290

					64 QAM				
77	15	10	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.5	29.5	0.8913
77	15	10	633334	3500.01	DFT-s-OFDM 64 QAM	1@50	23.64	29.64	0.9204
77	15	10	633334	3500.01	DFT-s-OFDM 256 QAM	25@12	21.68	27.68	0.5861
77	15	10	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.75	27.75	0.5957
77	15	10	633334	3500.01	DFT-s-OFDM 256 QAM	1@50	21.88	27.88	0.6138
77	15	10	633334	3500.01	CP-OFDM QPSK	26@13	24.69	30.69	1.1722
77	15	10	633334	3500.01	CP-OFDM QPSK	1@1	24.6	30.6	1.1482
77	15	10	633334	3500.01	CP-OFDM QPSK	1@50	24.7	30.7	1.1749
77	15	10	636333	3544.995	DFT-s-OFDM PI/2 BPSK	25@12	26.33	32.33	1.7100
77	15	10	636333	3544.995	DFT-s-OFDM PI/2 BPSK	1@1	26.17	32.17	1.6482
77	15	10	636333	3544.995	DFT-s-OFDM PI/2 BPSK	1@50	26.22	32.22	1.6672
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	25@12	26.33	32.33	1.7100
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@1	26.18	32.18	1.6520
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@50	26.2	32.2	1.6596
77	15	10	636333	3544.995	DFT-s-OFDM 16 QAM	25@12	25.36	31.36	1.3677
77	15	10	636333	3544.995	DFT-s-OFDM 16 QAM	1@1	25.44	31.44	1.3932
77	15	10	636333	3544.995	DFT-s-OFDM 16 QAM	1@50	25.46	31.46	1.3996
77	15	10	636333	3544.995	DFT-s-OFDM 64 QAM	25@12	23.81	29.81	0.9572
77	15	10	636333	3544.995	DFT-s-OFDM 64 QAM	1@1	23.77	29.77	0.9484
77	15	10	636333	3544.995	DFT-s-OFDM 64 QAM	1@50	23.85	29.85	0.9661
77	15	10	636333	3544.995	DFT-s-OFDM 256 QAM	25@12	21.83	27.83	0.6067
77	15	10	636333	3544.995	DFT-s-OFDM 256 QAM	1@1	21.97	27.97	0.6266
77	15	10	636333	3544.995	DFT-s-OFDM 256 QAM	1@50	22	28	0.6310
77	15	10	636333	3544.995	CP-OFDM QPSK	26@13	24.84	30.84	1.2134
77	15	10	636333	3544.995	CP-OFDM QPSK	1@1	24.75	30.75	1.1885
77	15	10	636333	3544.995	CP-OFDM QPSK	1@50	24.83	30.83	1.2106
77	15	15	630500	3457.5	DFT-s-OFDM PI/2 BPSK	36@18	26.35	32.35	1.7179
77	15	15	630500	3457.5	DFT-s-OFDM PI/2 BPSK	1@1	26.2	32.2	1.6596
77	15	15	630500	3457.5	DFT-s-OFDM PI/2 BPSK	1@77	26.15	32.15	1.6406
77	15	15	630500	3457.5	DFT-s-OFDM QPSK	36@18	26.37	32.37	1.7258
77	15	15	630500	3457.5	DFT-s-OFDM QPSK	1@1	26.16	32.16	1.6444
77	15	15	630500	3457.5	DFT-s-OFDM QPSK	1@77	26.1	32.1	1.6218
77	15	15	630500	3457.5	DFT-s-OFDM 16 QAM	36@18	25.36	31.36	1.3677

77	15	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@1	25.41	31.41	1.3836
77	15	15	630500	3457.5	DFT-s-OFDM 16 QAM	1@77	25.35	31.35	1.3646
77	15	15	630500	3457.5	DFT-s-OFDM 64 QAM	36@18	23.88	29.88	0.9727
77	15	15	630500	3457.5	DFT-s-OFDM 64 QAM	1@1	23.76	29.76	0.9462
77	15	15	630500	3457.5	DFT-s-OFDM 64 QAM	1@77	23.69	29.69	0.9311
77	15	15	630500	3457.5	DFT-s-OFDM 256 QAM	36@18	21.92	27.92	0.6194
77	15	15	630500	3457.5	DFT-s-OFDM 256 QAM	1@1	21.97	27.97	0.6266
77	15	15	630500	3457.5	DFT-s-OFDM 256 QAM	1@77	21.91	27.91	0.6180
77	15	15	630500	3457.5	CP-OFDM QPSK	39@19	24.79	30.79	1.1995
77	15	15	630500	3457.5	CP-OFDM QPSK	1@1	24.76	30.76	1.1912
77	15	15	630500	3457.5	CP-OFDM QPSK	1@77	24.72	30.72	1.1803
77	15	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	36@18	26.18	32.18	1.6520
77	15	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.97	31.97	1.5740
77	15	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@77	26.09	32.09	1.6181
77	15	15	633334	3500.01	DFT-s-OFDM QPSK	36@18	26.18	32.18	1.6520
77	15	15	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.94	31.94	1.5631
77	15	15	633334	3500.01	DFT-s-OFDM QPSK	1@77	26.07	32.07	1.6106
77	15	15	633334	3500.01	DFT-s-OFDM 16 QAM	36@18	25.16	31.16	1.3062
77	15	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.19	31.19	1.3152
77	15	15	633334	3500.01	DFT-s-OFDM 16 QAM	1@77	25.31	31.31	1.3521
77	15	15	633334	3500.01	DFT-s-OFDM 64 QAM	36@18	23.68	29.68	0.9290
77	15	15	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.54	29.54	0.8995
77	15	15	633334	3500.01	DFT-s-OFDM 64 QAM	1@77	23.66	29.66	0.9247
77	15	15	633334	3500.01	DFT-s-OFDM 256 QAM	36@18	21.75	27.75	0.5957
77	15	15	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.72	27.72	0.5916
77	15	15	633334	3500.01	DFT-s-OFDM 256 QAM	1@77	21.83	27.83	0.6067
77	15	15	633334	3500.01	CP-OFDM QPSK	39@19	24.66	30.66	1.1641
77	15	15	633334	3500.01	CP-OFDM QPSK	1@1	24.58	30.58	1.1429
77	15	15	633334	3500.01	CP-OFDM QPSK	1@77	24.67	30.67	1.1668
77	15	15	636166	3542.49	DFT-s-OFDM PI/2 BPSK	36@18	26.29	32.29	1.6943
77	15	15	636166	3542.49	DFT-s-OFDM PI/2 BPSK	1@1	26.14	32.14	1.6368
77	15	15	636166	3542.49	DFT-s-OFDM PI/2 BPSK	1@77	26.15	32.15	1.6406
77	15	15	636166	3542.49	DFT-s-OFDM QPSK	36@18	26.31	32.31	1.7022
77	15	15	636166	3542.49	DFT-s-OFDM QPSK	1@1	26.09	32.09	1.6181

77	15	15	636166	3542.49	DFT-s-OFDM QPSK	1@77	26.11	32.11	1.6255
77	15	15	636166	3542.49	DFT-s-OFDM 16 QAM	36@18	25.31	31.31	1.3521
77	15	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@1	25.36	31.36	1.3677
77	15	15	636166	3542.49	DFT-s-OFDM 16 QAM	1@77	25.36	31.36	1.3677
77	15	15	636166	3542.49	DFT-s-OFDM 64 QAM	36@18	23.82	29.82	0.9594
77	15	15	636166	3542.49	DFT-s-OFDM 64 QAM	1@1	23.7	29.7	0.9333
77	15	15	636166	3542.49	DFT-s-OFDM 64 QAM	1@77	23.72	29.72	0.9376
77	15	15	636166	3542.49	DFT-s-OFDM 256 QAM	36@18	21.88	27.88	0.6138
77	15	15	636166	3542.49	DFT-s-OFDM 256 QAM	1@1	21.85	27.85	0.6095
77	15	15	636166	3542.49	DFT-s-OFDM 256 QAM	1@77	21.88	27.88	0.6138
77	15	15	636166	3542.49	CP-OFDM QPSK	39@19	24.76	30.76	1.1912
77	15	15	636166	3542.49	CP-OFDM QPSK	1@1	24.7	30.7	1.1749
77	15	15	636166	3542.49	CP-OFDM QPSK	1@77	24.74	30.74	1.1858
77	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	50@25	26.32	32.32	1.7061
77	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	1@1	26.22	32.22	1.6672
77	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	1@104	26.13	32.13	1.6331
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	50@25	26.34	32.34	1.7140
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@1	26.24	32.24	1.6749
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@104	26.14	32.14	1.6368
77	15	20	630667	3460.005	DFT-s-OFDM 16 QAM	50@25	25.37	31.37	1.3709
77	15	20	630667	3460.005	DFT-s-OFDM 16 QAM	1@1	25.49	31.49	1.4093
77	15	20	630667	3460.005	DFT-s-OFDM 16 QAM	1@104	25.37	31.37	1.3709
77	15	20	630667	3460.005	DFT-s-OFDM 64 QAM	50@25	23.78	29.78	0.9506
77	15	20	630667	3460.005	DFT-s-OFDM 64 QAM	1@1	23.88	29.88	0.9727
77	15	20	630667	3460.005	DFT-s-OFDM 64 QAM	1@104	23.76	29.76	0.9462
77	15	20	630667	3460.005	DFT-s-OFDM 256 QAM	50@25	21.95	27.95	0.6237
77	15	20	630667	3460.005	DFT-s-OFDM 256 QAM	1@1	22.04	28.04	0.6368
77	15	20	630667	3460.005	DFT-s-OFDM 256 QAM	1@104	21.89	27.89	0.6152
77	15	20	630667	3460.005	CP-OFDM QPSK	53@26	24.79	30.79	1.1995
77	15	20	630667	3460.005	CP-OFDM QPSK	1@1	24.85	30.85	1.2162
77	15	20	630667	3460.005	CP-OFDM QPSK	1@104	24.75	30.75	1.1885
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@25	26.19	32.19	1.6558
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	26	32	1.5849
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@104	26.11	32.11	1.6255

77	15	20	633334	3500.01	DFT-s-OFDM QPSK	50@25	26.2	32.2	1.6596
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	26	32	1.5849
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@104	26.11	32.11	1.6255
77	15	20	633334	3500.01	DFT-s-OFDM 16 QAM	50@25	25.21	31.21	1.3213
77	15	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	25.27	31.27	1.3397
77	15	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@104	25.33	31.33	1.3583
77	15	20	633334	3500.01	DFT-s-OFDM 64 QAM	50@25	23.63	29.63	0.9183
77	15	20	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.64	29.64	0.9204
77	15	20	633334	3500.01	DFT-s-OFDM 64 QAM	1@104	23.72	29.72	0.9376
77	15	20	633334	3500.01	DFT-s-OFDM 256 QAM	50@25	21.79	27.79	0.6012
77	15	20	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.8	27.8	0.6026
77	15	20	633334	3500.01	DFT-s-OFDM 256 QAM	1@104	21.88	27.88	0.6138
77	15	20	633334	3500.01	CP-OFDM QPSK	53@26	24.64	30.64	1.1588
77	15	20	633334	3500.01	CP-OFDM QPSK	1@1	24.62	30.62	1.1535
77	15	20	633334	3500.01	CP-OFDM QPSK	1@104	24.71	30.71	1.1776
77	15	20	636000	3540	DFT-s-OFDM PI/2 BPSK	50@25	26.29	32.29	1.6943
77	15	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@1	26.13	32.13	1.6331
77	15	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@104	26.14	32.14	1.6368
77	15	20	636000	3540	DFT-s-OFDM QPSK	50@25	26.3	32.3	1.6982
77	15	20	636000	3540	DFT-s-OFDM QPSK	1@1	26.12	32.12	1.6293
77	15	20	636000	3540	DFT-s-OFDM QPSK	1@104	26.11	32.11	1.6255
77	15	20	636000	3540	DFT-s-OFDM 16 QAM	50@25	25.34	31.34	1.3614
77	15	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	25.31	31.31	1.3521
77	15	20	636000	3540	DFT-s-OFDM 16 QAM	1@104	25.28	31.28	1.3428
77	15	20	636000	3540	DFT-s-OFDM 64 QAM	50@25	23.74	29.74	0.9419
77	15	20	636000	3540	DFT-s-OFDM 64 QAM	1@1	23.74	29.74	0.9419
77	15	20	636000	3540	DFT-s-OFDM 64 QAM	1@104	23.73	29.73	0.9397
77	15	20	636000	3540	DFT-s-OFDM 256 QAM	50@25	21.91	27.91	0.6180
77	15	20	636000	3540	DFT-s-OFDM 256 QAM	1@1	21.93	27.93	0.6209
77	15	20	636000	3540	DFT-s-OFDM 256 QAM	1@104	21.94	27.94	0.6223
77	15	20	636000	3540	CP-OFDM QPSK	53@26	24.76	30.76	1.1912
77	15	20	636000	3540	CP-OFDM QPSK	1@1	24.72	30.72	1.1803
77	15	20	636000	3540	CP-OFDM QPSK	1@104	24.74	30.74	1.1858
77	15	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	108@54	26.17	32.17	1.6482

77	15	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@1	25.76	31.76	1.4997
77	15	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@214	25.47	31.47	1.4028
77	15	40	631334	3470.01	DFT-s-OFDM QPSK	108@54	26.19	32.19	1.6558
77	15	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	25.74	31.74	1.4928
77	15	40	631334	3470.01	DFT-s-OFDM QPSK	1@214	25.5	31.5	1.4125
77	15	40	631334	3470.01	DFT-s-OFDM 16 QAM	108@54	25.18	31.18	1.3122
77	15	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	24.98	30.98	1.2531
77	15	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@214	24.72	30.72	1.1803
77	15	40	631334	3470.01	DFT-s-OFDM 64 QAM	108@54	23.67	29.67	0.9268
77	15	40	631334	3470.01	DFT-s-OFDM 64 QAM	1@1	23.35	29.35	0.8610
77	15	40	631334	3470.01	DFT-s-OFDM 64 QAM	1@214	23.09	29.09	0.8110
77	15	40	631334	3470.01	DFT-s-OFDM 256 QAM	108@54	21.77	27.77	0.5984
77	15	40	631334	3470.01	DFT-s-OFDM 256 QAM	1@1	21.57	27.57	0.5715
77	15	40	631334	3470.01	DFT-s-OFDM 256 QAM	1@214	21.28	27.28	0.5346
77	15	40	631334	3470.01	CP-OFDM QPSK	108@54	24.63	30.63	1.1561
77	15	40	631334	3470.01	CP-OFDM QPSK	1@1	24.36	30.36	1.0864
77	15	40	631334	3470.01	CP-OFDM QPSK	1@214	24.03	30.03	1.0069
77	15	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	108@54	26.11	32.11	1.6255
77	15	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.55	31.55	1.4289
77	15	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@214	25.49	31.49	1.4093
77	15	40	633334	3500.01	DFT-s-OFDM QPSK	108@54	26.13	32.13	1.6331
77	15	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.56	31.56	1.4322
77	15	40	633334	3500.01	DFT-s-OFDM QPSK	1@214	25.5	31.5	1.4125
77	15	40	633334	3500.01	DFT-s-OFDM 16 QAM	108@54	25.1	31.1	1.2882
77	15	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.79	30.79	1.1995
77	15	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@214	24.73	30.73	1.1830
77	15	40	633334	3500.01	DFT-s-OFDM 64 QAM	108@54	23.6	29.6	0.9120
77	15	40	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.15	29.15	0.8222
77	15	40	633334	3500.01	DFT-s-OFDM 64 QAM	1@214	23.08	29.08	0.8091
77	15	40	633334	3500.01	DFT-s-OFDM 256 QAM	108@54	21.7	27.7	0.5888
77	15	40	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.38	27.38	0.5470
77	15	40	633334	3500.01	DFT-s-OFDM 256 QAM	1@214	21.33	27.33	0.5408
77	15	40	633334	3500.01	CP-OFDM QPSK	108@54	24.56	30.56	1.1376
77	15	40	633334	3500.01	CP-OFDM QPSK	1@1	24.14	30.14	1.0328

77	15	40	633334	3500.01	CP-OFDM QPSK	1@214	24.03	30.03	1.0069
77	15	40	635333	3529.995	DFT-s-OFDM PI/2 BPSK	108@54	26.26	32.26	1.6827
77	15	40	635333	3529.995	DFT-s-OFDM PI/2 BPSK	1@1	25.73	31.73	1.4894
77	15	40	635333	3529.995	DFT-s-OFDM PI/2 BPSK	1@214	25.65	31.65	1.4622
77	15	40	635333	3529.995	DFT-s-OFDM QPSK	108@54	26.28	32.28	1.6904
77	15	40	635333	3529.995	DFT-s-OFDM QPSK	1@1	25.74	31.74	1.4928
77	15	40	635333	3529.995	DFT-s-OFDM QPSK	1@214	25.64	31.64	1.4588
77	15	40	635333	3529.995	DFT-s-OFDM 16 QAM	108@54	25.26	31.26	1.3366
77	15	40	635333	3529.995	DFT-s-OFDM 16 QAM	1@1	24.99	30.99	1.2560
77	15	40	635333	3529.995	DFT-s-OFDM 16 QAM	1@214	24.86	30.86	1.2190
77	15	40	635333	3529.995	DFT-s-OFDM 64 QAM	108@54	23.75	29.75	0.9441
77	15	40	635333	3529.995	DFT-s-OFDM 64 QAM	1@1	23.35	29.35	0.8610
77	15	40	635333	3529.995	DFT-s-OFDM 64 QAM	1@214	23.26	29.26	0.8433
77	15	40	635333	3529.995	DFT-s-OFDM 256 QAM	108@54	21.86	27.86	0.6109
77	15	40	635333	3529.995	DFT-s-OFDM 256 QAM	1@1	21.55	27.55	0.5689
77	15	40	635333	3529.995	DFT-s-OFDM 256 QAM	1@214	21.44	27.44	0.5546
77	15	40	635333	3529.995	CP-OFDM QPSK	108@54	24.71	30.71	1.1776
77	15	40	635333	3529.995	CP-OFDM QPSK	1@1	24.32	30.32	1.0765
77	15	40	635333	3529.995	CP-OFDM QPSK	1@214	24.2	30.2	1.0471
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	135@67	26.15	32.15	1.6406
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@1	26.13	32.13	1.6331
77	15	50	631667	3475.005	DFT-s-OFDM PI/2 BPSK	1@268	25.88	31.88	1.5417
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	135@67	26.17	32.17	1.6482
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@1	26.14	32.14	1.6368
77	15	50	631667	3475.005	DFT-s-OFDM QPSK	1@268	25.91	31.91	1.5524
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	135@67	25.18	31.18	1.3122
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@1	25.18	31.18	1.3122
77	15	50	631667	3475.005	DFT-s-OFDM 16 QAM	1@268	24.98	30.98	1.2531
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	135@67	23.64	29.64	0.9204
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@1	23.75	29.75	0.9441
77	15	50	631667	3475.005	DFT-s-OFDM 64 QAM	1@268	23.5	29.5	0.8913
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	135@67	21.77	27.77	0.5984
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@1	21.94	27.94	0.6223
77	15	50	631667	3475.005	DFT-s-OFDM 256 QAM	1@268	21.7	27.7	0.5888

77	15	50	631667	3475.005	CP-OFDM QPSK	135@67	24.66	30.66	1.1641
77	15	50	631667	3475.005	CP-OFDM QPSK	1@1	24.75	30.75	1.1885
77	15	50	631667	3475.005	CP-OFDM QPSK	1@268	24.54	30.54	1.1324
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	26.13	32.13	1.6331
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	25.96	31.96	1.5704
77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@268	25.89	31.89	1.5453
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	135@67	26.17	32.17	1.6482
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@1	25.97	31.97	1.5740
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	1@268	25.88	31.88	1.5417
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	25.18	31.18	1.3122
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	24.98	30.98	1.2531
77	15	50	633334	3500.01	DFT-s-OFDM 16 QAM	1@268	24.96	30.96	1.2474
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	23.64	29.64	0.9204
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	23.59	29.59	0.9099
77	15	50	633334	3500.01	DFT-s-OFDM 64 QAM	1@268	23.48	29.48	0.8872
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	21.75	27.75	0.5957
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	21.71	27.71	0.5902
77	15	50	633334	3500.01	DFT-s-OFDM 256 QAM	1@268	21.63	27.63	0.5794
77	15	50	633334	3500.01	CP-OFDM QPSK	135@67	24.64	30.64	1.1588
77	15	50	633334	3500.01	CP-OFDM QPSK	1@1	24.58	30.58	1.1429
77	15	50	633334	3500.01	CP-OFDM QPSK	1@268	24.54	30.54	1.1324
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	135@67	26.31	32.31	1.7022
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@1	26.11	32.11	1.6255
77	15	50	635000	3525	DFT-s-OFDM PI/2 BPSK	1@268	26.05	32.05	1.6032
77	15	50	635000	3525	DFT-s-OFDM QPSK	135@67	26.33	32.33	1.7100
77	15	50	635000	3525	DFT-s-OFDM QPSK	1@1	26.11	32.11	1.6255
77	15	50	635000	3525	DFT-s-OFDM QPSK	1@268	26.05	32.05	1.6032
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	135@67	25.35	31.35	1.3646
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@1	25.18	31.18	1.3122
77	15	50	635000	3525	DFT-s-OFDM 16 QAM	1@268	25.12	31.12	1.2942
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	135@67	23.82	29.82	0.9594
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@1	23.7	29.7	0.9333
77	15	50	635000	3525	DFT-s-OFDM 64 QAM	1@268	23.66	29.66	0.9247
77	15	50	635000	3525	DFT-s-OFDM 256 QAM	135@67	21.92	27.92	0.6194

77	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@1	21.85	27.85	0.6095
77	15	50	635000	3525	DFT-s-OFDM 256 QAM	1@268	21.85	27.85	0.6095
77	15	50	635000	3525	CP-OFDM QPSK	135@67	24.82	30.82	1.2078
77	15	50	635000	3525	CP-OFDM QPSK	1@1	24.72	30.72	1.1803
77	15	50	635000	3525	CP-OFDM QPSK	1@268	24.69	30.69	1.1722

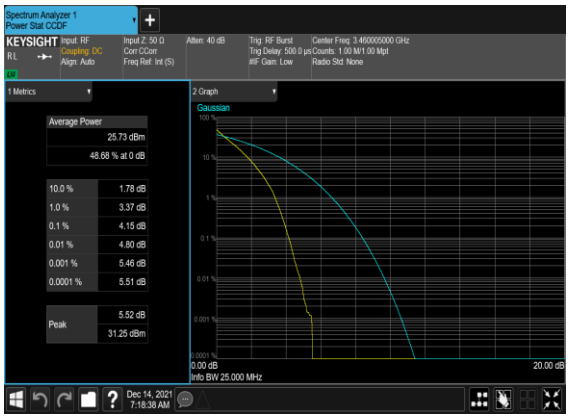
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0455	**PASS**	NV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0645	**PASS**	LV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0272	**PASS**	HV
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0222	**PASS**	-30℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0699	**PASS**	-20℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0311	**PASS**	-10℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0038	**PASS**	0℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0421	**PASS**	10℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0497	**PASS**	20℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0463	**PASS**	30℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0387	**PASS**	40℃
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	0.0446	**PASS**	50℃

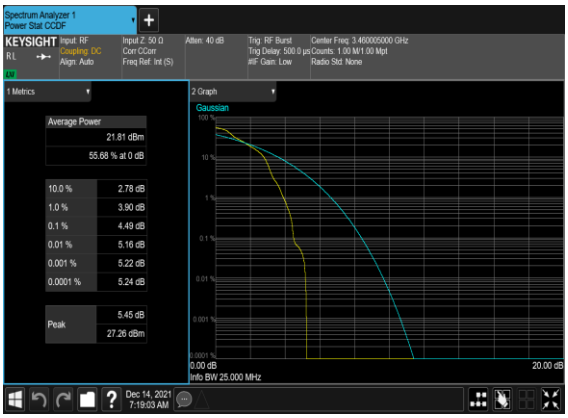
Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	100@0	4.15	13	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	1@0	4.49	13	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	100@0	5.18	13	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	5.82	13	**PASS**
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	100@0	4.2	13	**PASS**
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	4.45	13	**PASS**
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	5.2	13	**PASS**
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	6.07	13	**PASS**
77	15	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	100@0	4.14	13	**PASS**
77	15	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	1@0	4.33	13	**PASS**
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	100@0	5.16	13	**PASS**
77	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	5.4	13	**PASS**

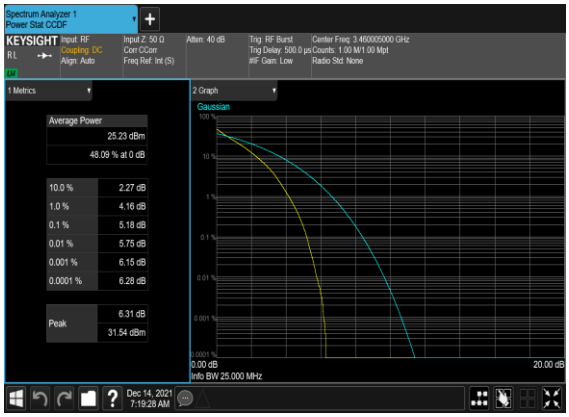
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



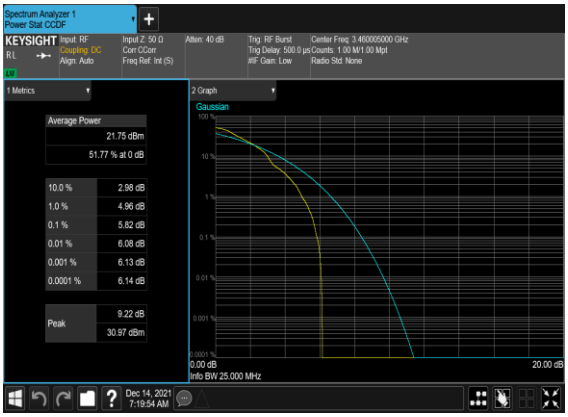
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



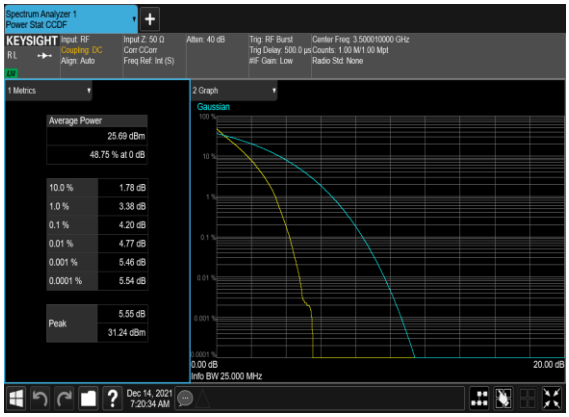
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



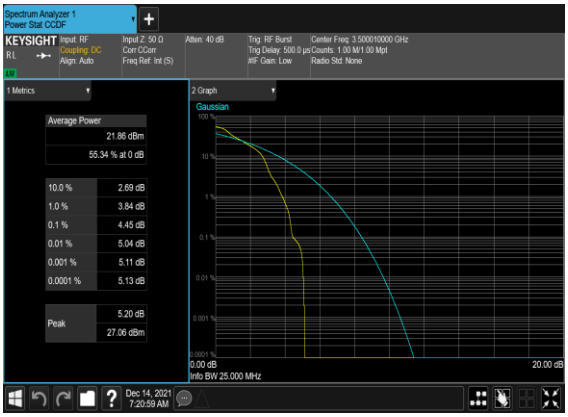
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



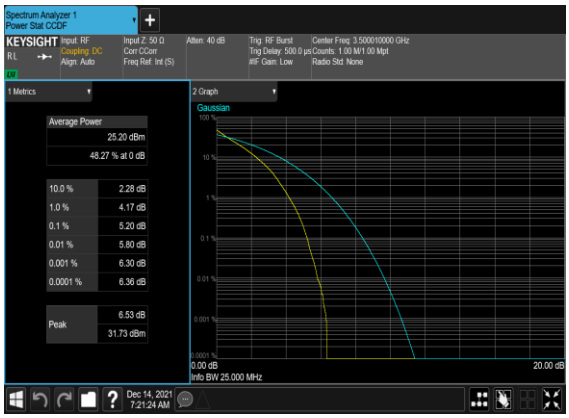
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



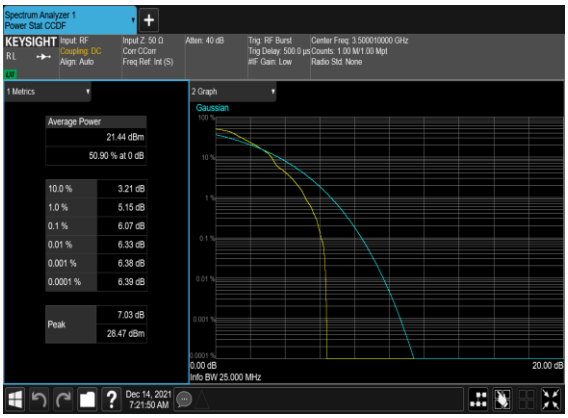
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



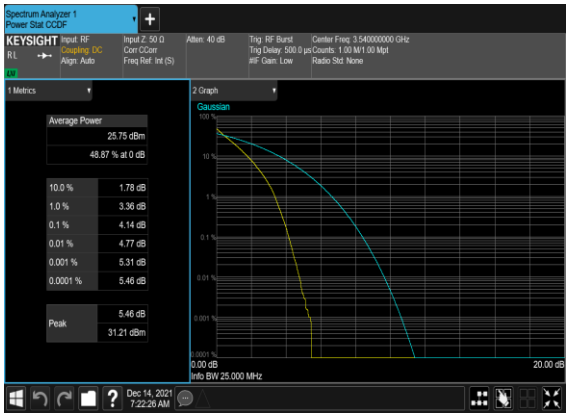
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



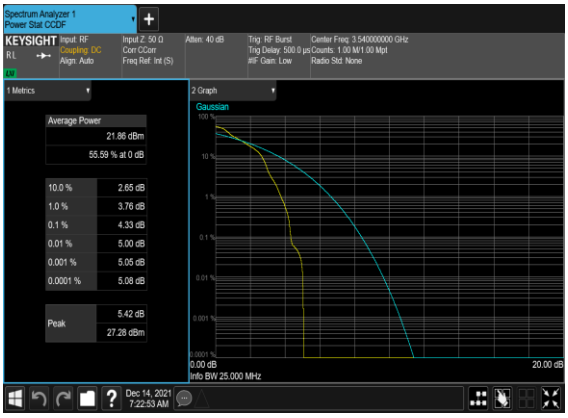
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



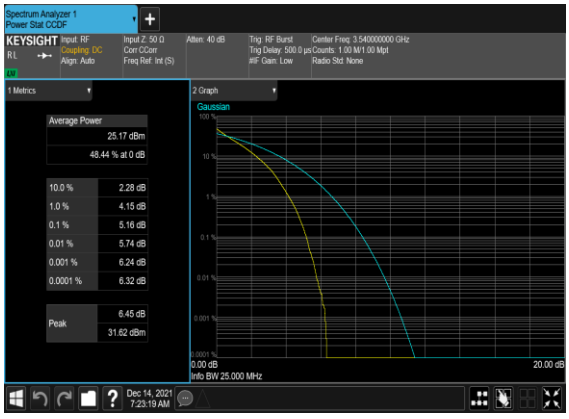
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



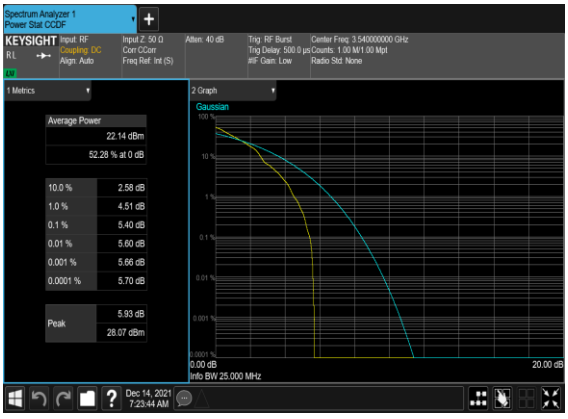
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



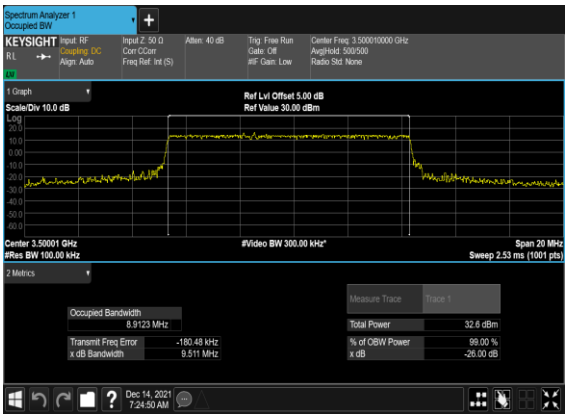
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
77	15	10	633334	3500.01	DFT-s-OFDM PI/2 BPSK	50@0	8.9243	9.519
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	50@0	8.9123	9.511
77	15	10	633334	3500.01	CP-OFDM QPSK	52@0	9.2693	9.825
77	15	10	633334	3500.01	CP-OFDM 16 QAM	52@0	9.2804	9.935
77	15	10	633334	3500.01	CP-OFDM 64 QAM	52@0	9.3058	9.915
77	15	10	633334	3500.01	CP-OFDM 256 QAM	52@0	9.2849	9.798
77	15	15	633334	3500.01	DFT-s-OFDM PI/2 BPSK	75@0	13.362	14.11
77	15	15	633334	3500.01	DFT-s-OFDM QPSK	75@0	13.413	14.05
77	15	15	633334	3500.01	CP-OFDM QPSK	79@0	14.11	14.67
77	15	15	633334	3500.01	CP-OFDM 16 QAM	79@0	14.086	14.8
77	15	15	633334	3500.01	CP-OFDM 64 QAM	79@0	14.077	14.72
77	15	15	633334	3500.01	CP-OFDM 256 QAM	79@0	14.084	14.71
77	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	100@0	17.826	18.92
77	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	17.853	18.8
77	15	20	633334	3500.01	CP-OFDM QPSK	106@0	18.876	19.84
77	15	20	633334	3500.01	CP-OFDM 16 QAM	106@0	18.881	19.88
77	15	20	633334	3500.01	CP-OFDM 64 QAM	106@0	18.93	19.96
77	15	20	633334	3500.01	CP-OFDM 256 QAM	106@0	18.882	19.77
77	15	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	216@0	38.526	40.07
77	15	40	633334	3500.01	DFT-s-OFDM QPSK	216@0	38.571	39.86
77	15	40	633334	3500.01	CP-OFDM QPSK	216@0	38.522	40.01
77	15	40	633334	3500.01	CP-OFDM 16 QAM	216@0	38.558	39.85
77	15	40	633334	3500.01	CP-OFDM 64 QAM	216@0	38.551	39.92
77	15	40	633334	3500.01	CP-OFDM 256 QAM	216@0	38.466	40.04

77	15	50	633334	3500.01	DFT-s-OFDM PI/2 BPSK	270@0	48.217	49.75
77	15	50	633334	3500.01	DFT-s-OFDM QPSK	270@0	48.201	50.13
77	15	50	633334	3500.01	CP-OFDM QPSK	270@0	48.163	49.83
77	15	50	633334	3500.01	CP-OFDM 16 QAM	270@0	48.247	49.76
77	15	50	633334	3500.01	CP-OFDM 64 QAM	270@0	48.203	49.87
77	15	50	633334	3500.01	CP-OFDM 256 QAM	270@0	48.149	49.7

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

N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



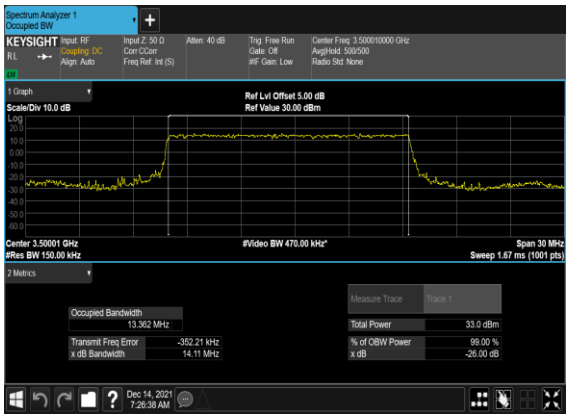
N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

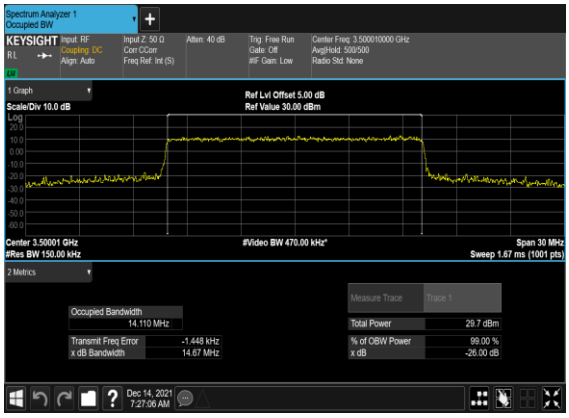
N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

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

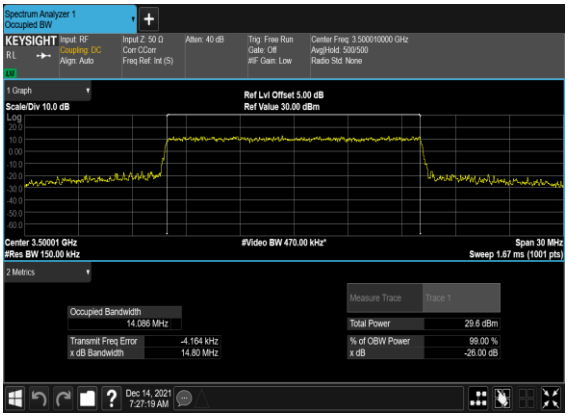


N77(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



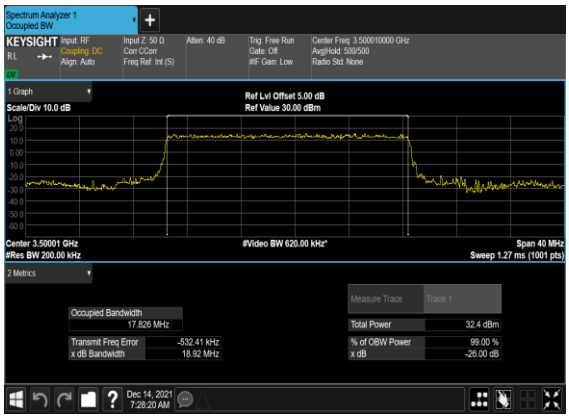
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

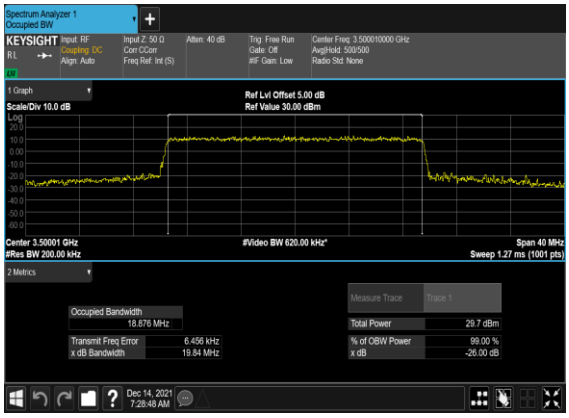
N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

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

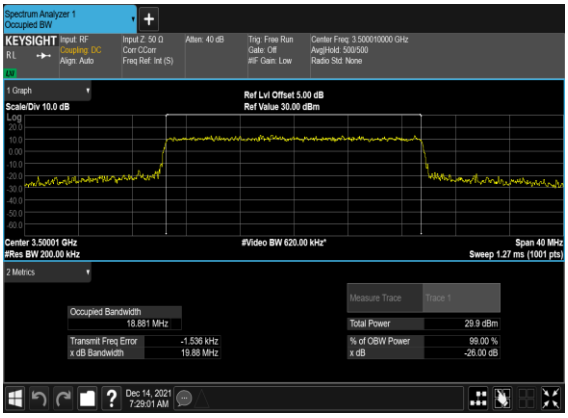


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

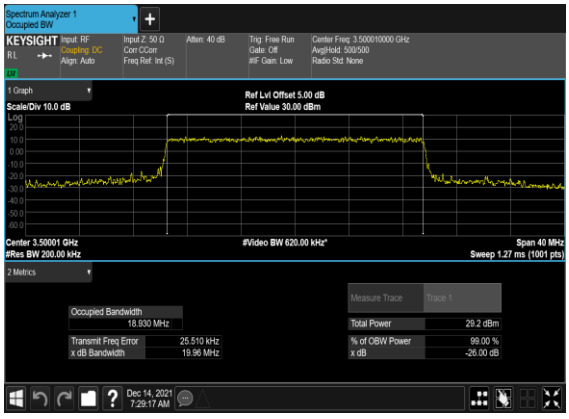
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



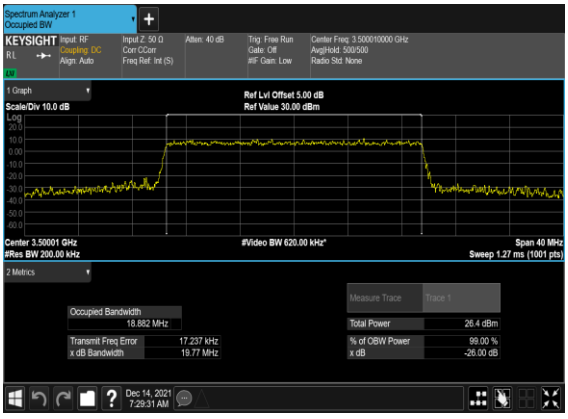
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



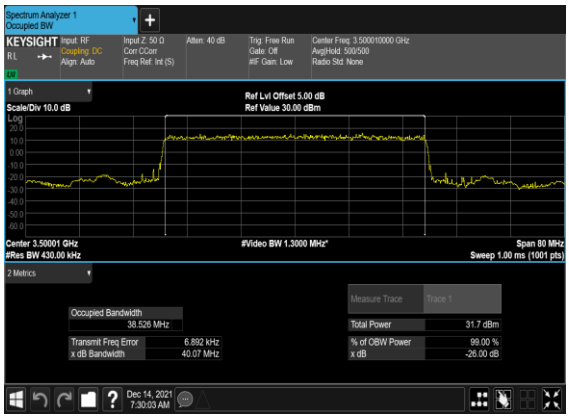
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



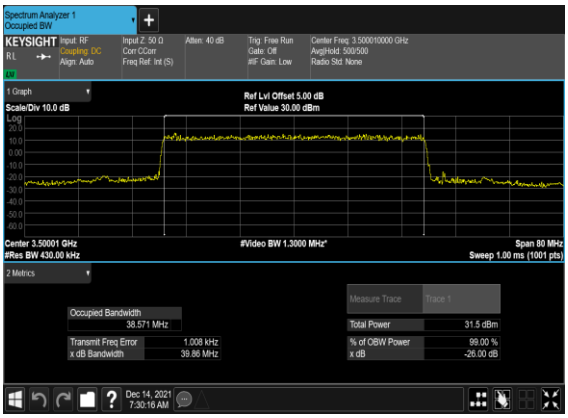
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



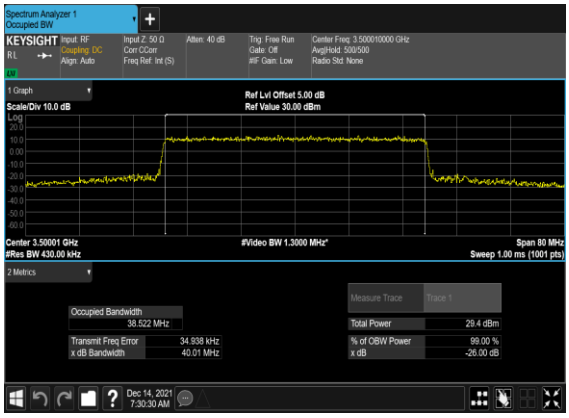
N77(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



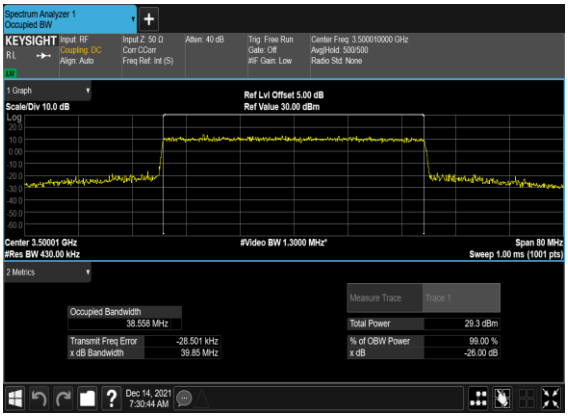
N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



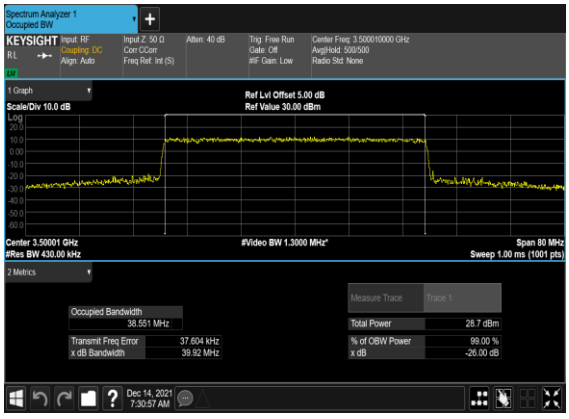
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

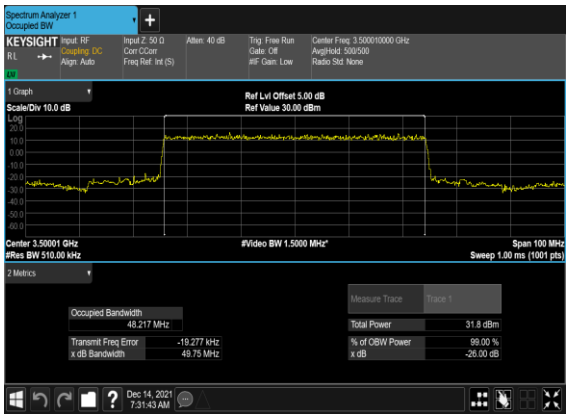


N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



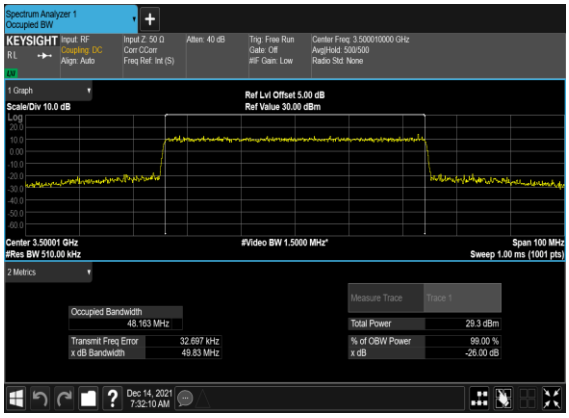
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

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

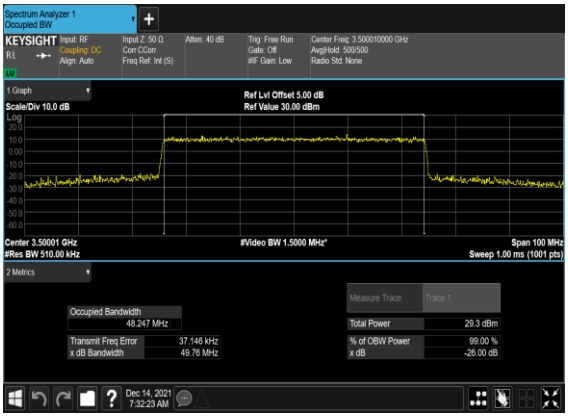


N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

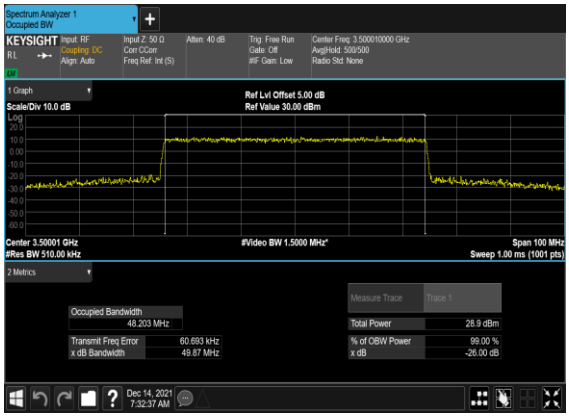
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



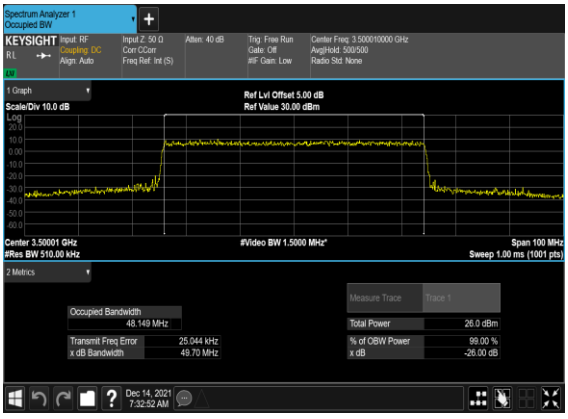
N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



Conducted Spurious Emissions

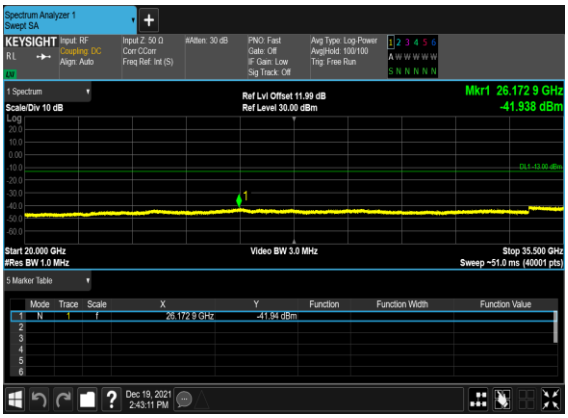
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	636333	3544.995	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	636333	3544.995	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	see graph	**---**

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

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

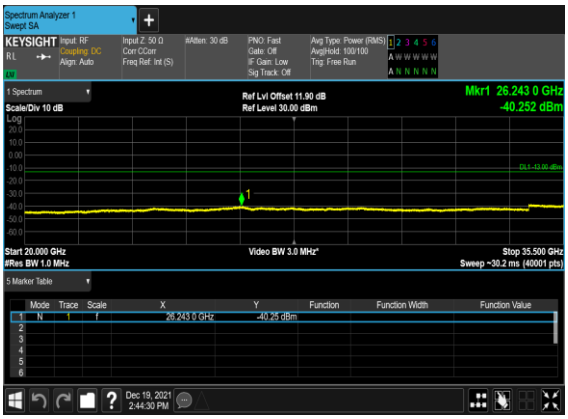
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

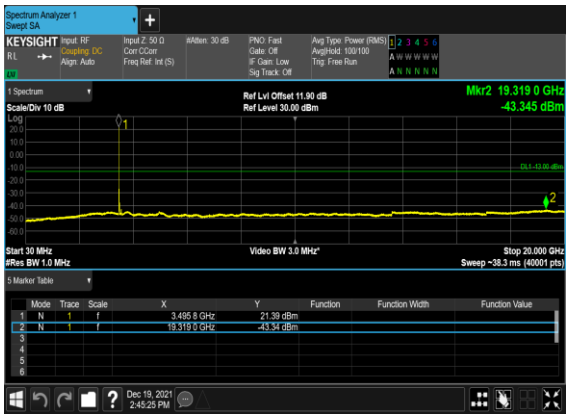


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

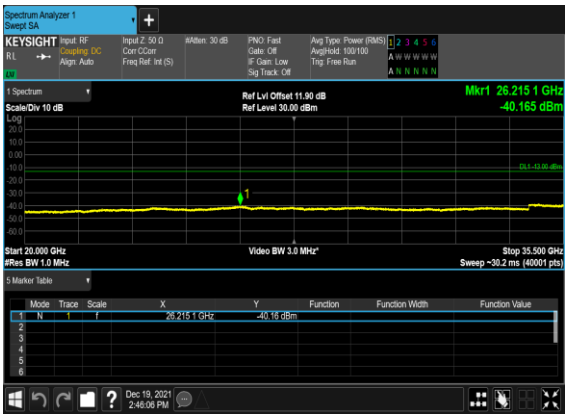
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



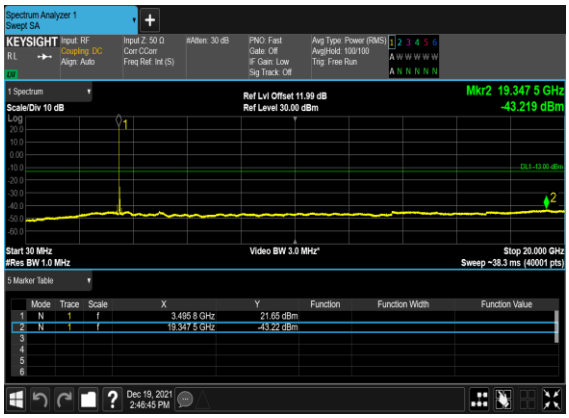
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



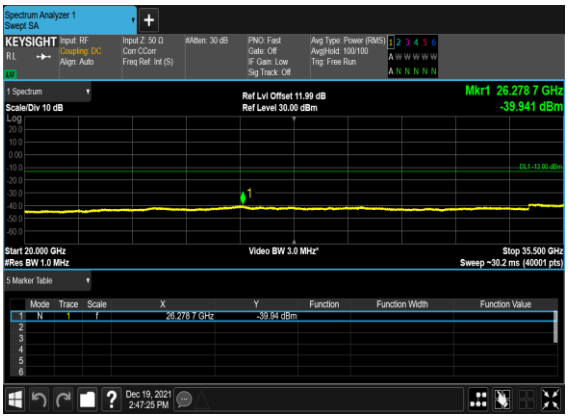
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

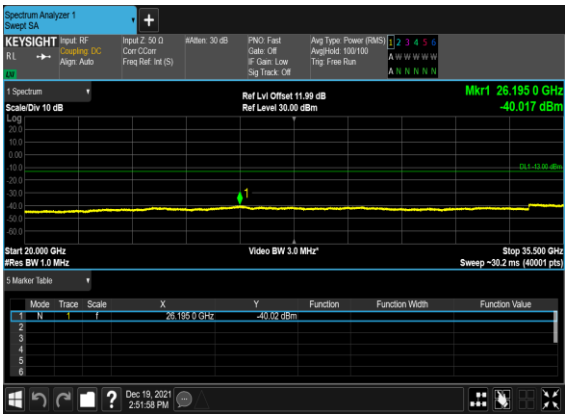
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

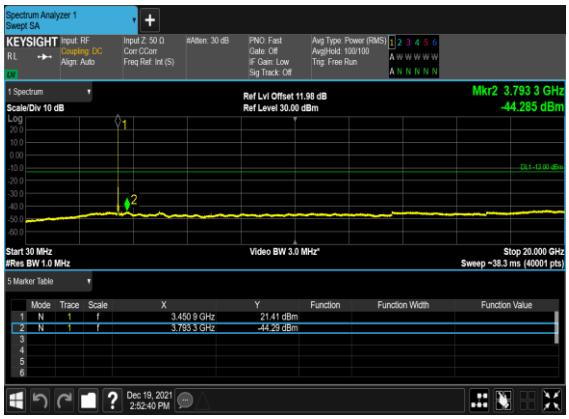
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



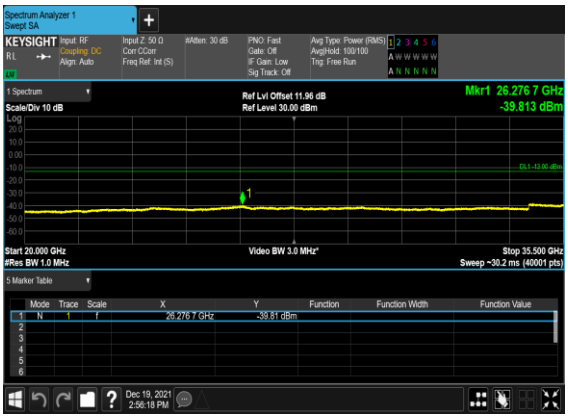
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

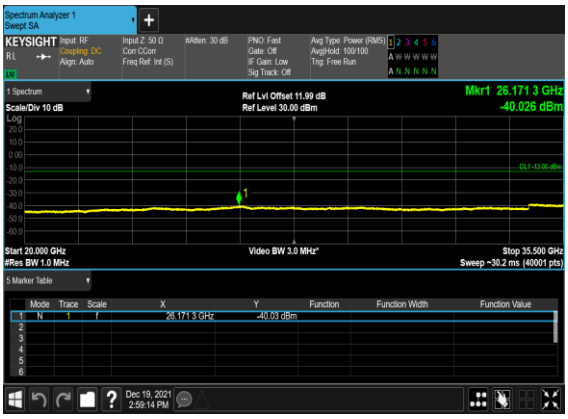


N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

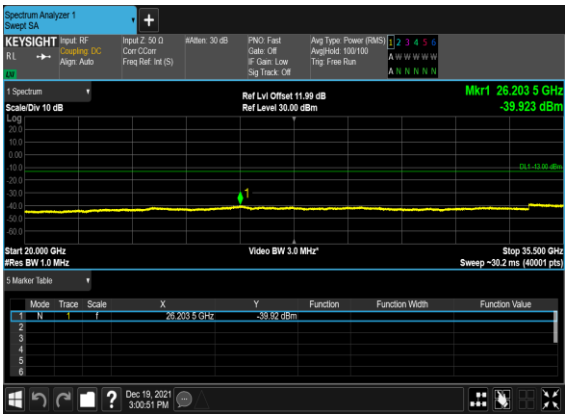
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

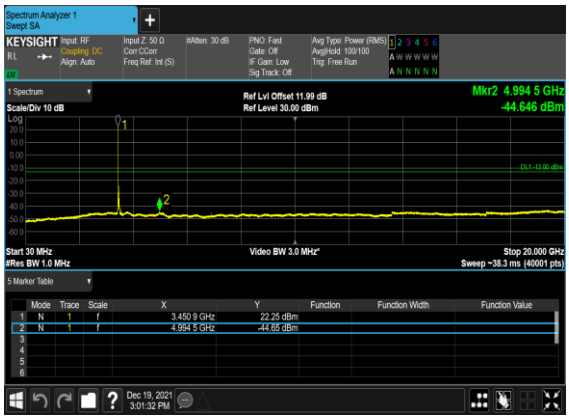


N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

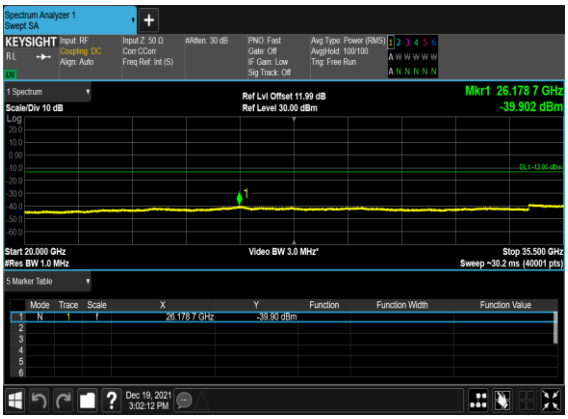
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

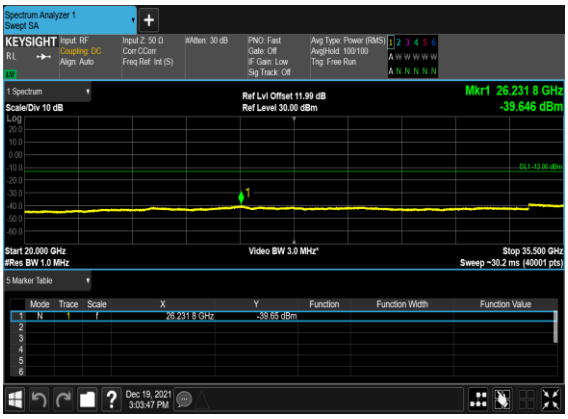


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

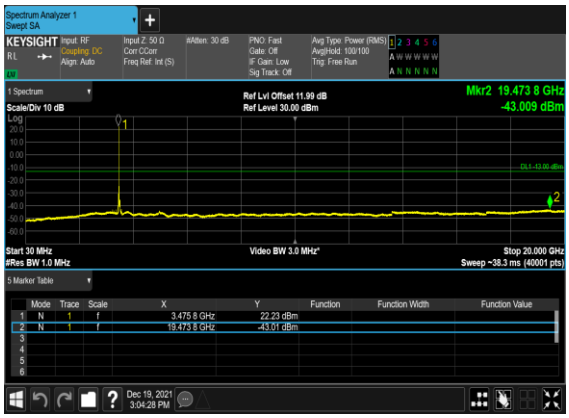


N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

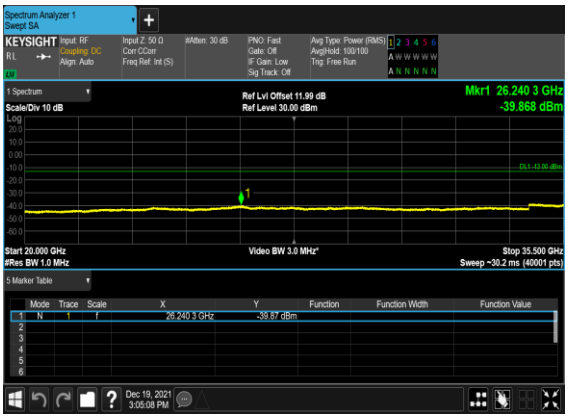
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

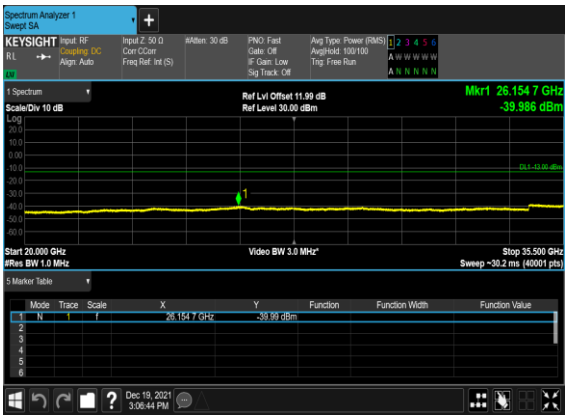


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



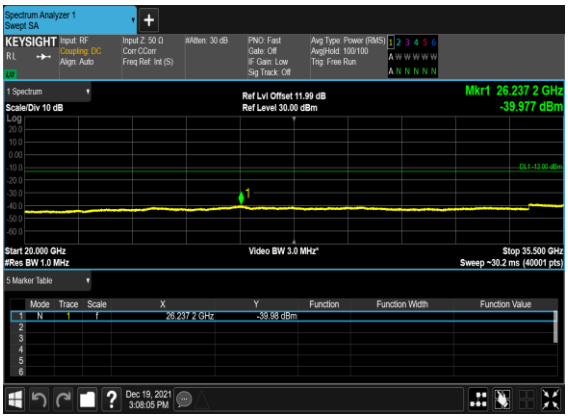
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

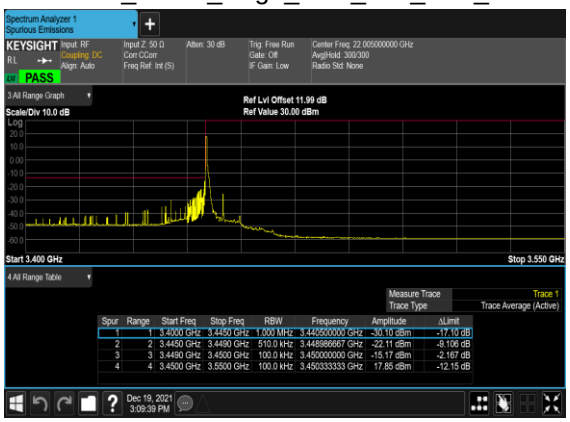


Conducted Band Edge

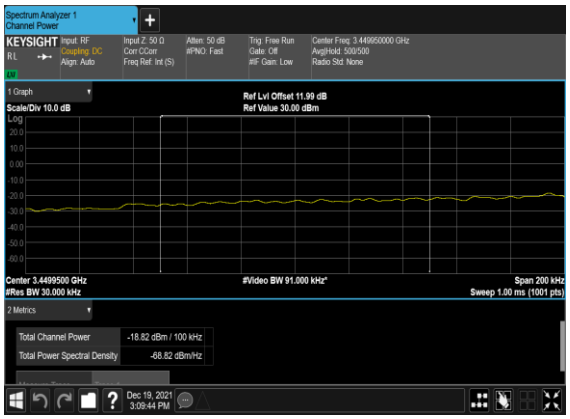
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	15	10	630334	3455.01	DFT-s-OFDM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

77	15	50	635000	3525.0	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	15	50	635000	3525.0	DFT-s-OFDM QPSK	270@0	see graph	**PASS**

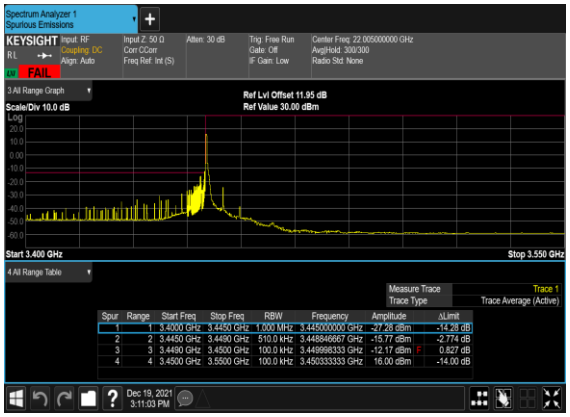
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



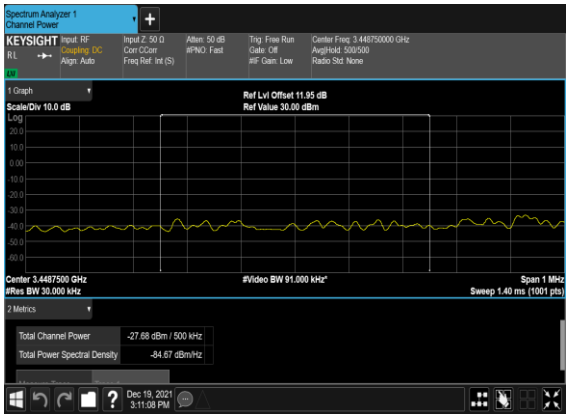
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH_**CHP**_**PASS**



N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

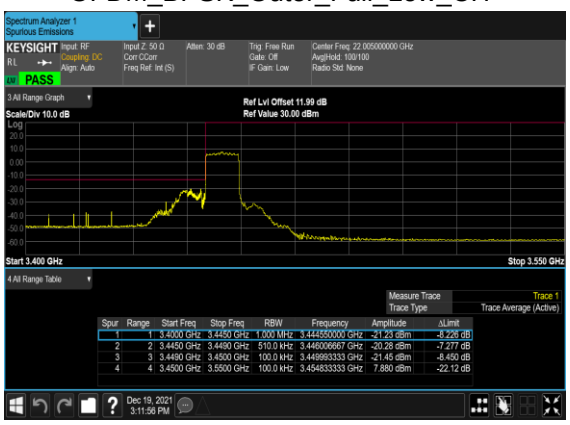


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH_**CHP**_**PASS**

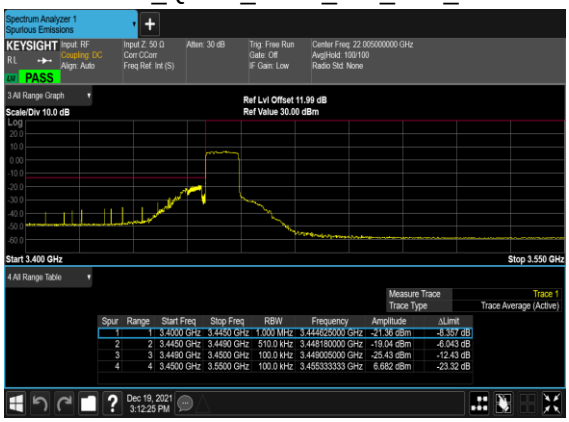


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH_**CHP**_**PASS**

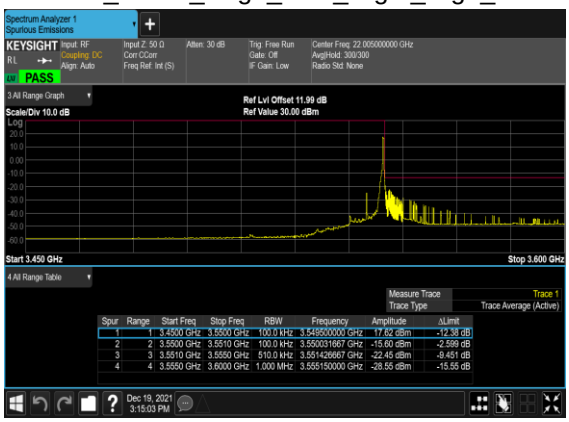
N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

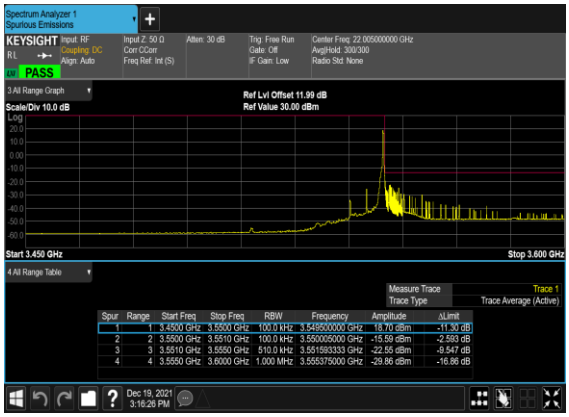


N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH_**CHP_PASS**

N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH_**CHP_PASS**

N77(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH