



# FCC RF Test Report

**APPLICANT** : Motorola Mobility LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : XT2513-1, XT2513-2, XT2513-3, XT2513V  
**FCC ID** : IHDT56AT9  
**STANDARD** : 47 CFR Part 22, 24, 27  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)  
**TEST DATE(S)** : Aug. 30, 2024 ~ Sep. 20, 2024

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

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

*Jason Jia*



Approved by: Jason Jia

**Sporton International Inc. (ShenZhen)**

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**People's Republic of China**



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### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG482618J	Rev. 01	Initial issue of report	Oct. 11, 2024



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (5G NR n5, n26)	ERP < 7 Watt		
	§24.232(c)	Equivalent Isotropic Radiated Power (5G NR n2, n25)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (5G NR n66, n70)	EIRP < 1Watt		
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Band Edge Measurement (5G NR n5, n26) (5G NR n2, n25) (5G NR n66, n70)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Spurious Emission (5G NR n5, n26) (5G NR n2, n25) (5G NR n66, n70)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(h)	Radiated Spurious Emission (5G NR n5, n26) (5G NR n2, n25) (5G NR n66, n70)	< 43+10log10(P[Watts])	PASS	Under limit 9.19 dB at 14482.00 MHz

**Conformity Assessment Condition:**

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

**Disclaimer:**

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



# 1 General Description

## 1.1 Applicant

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

## 1.2 Manufacturer

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2513-1, XT2513-2, XT2513-3, XT2513V
FCC ID	IHDT56AT9
IMEI Code	Conducted: 352291420069931/352291420069949 Radiation: 352291420055757/352291420055765
HW Version	DVT2
SW Version	VVK35.48
EUT Stage	Identical Prototype

Remark: There are four models, the four models are for different markets and no other difference.

## 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 824 MHz ~ 849 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n70 : 1695 MHz ~ 1710 MHz
Rx Frequency	5G NR n2 : 1930 MHz ~ 1990 MHz 5G NR n5 : 869 MHz ~ 894 MHz 5G NR n25 : 1930 MHz ~ 1995 MHz 5G NR n26 : 869 MHz ~ 894 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n70 : 1995 MHz ~ 2020 MHz
Bandwidth	n2: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 35MHz / 40MHz n25: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 35MHz / 40MHz (45MHz DL only) n5: 5MHz / 10MHz / 15MHz / 20MHz (25MHz DL only) n26: 5MHz / 10MHz / 15MHz / 20MHz (25/30MHz DL only)



	n66: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 35MHz / 40MHz / 45MHz n70: 5MHz / 10MHz / 15MHz (20/25MHz DL only)
SCS	15kHz
Antenna Gain	<p>&lt;Ant. 0&gt;: n2: -2.7 dBi n5: -3.8 dBi n25: -2.7 dBi n26: -3.8 dBi n66: -2.5 dBi n70: -2.5 dBi</p> <p>&lt;Ant. 4&gt;: n2: -3.2 dBi n5: -4.8 dBi n25: -3.2 dBi n26: -4.8 dBi n66: -3.8 dBi n70: -3.8 dBi</p>
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

**Remark:**

1. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP are shown in the report, 5G NR n2/n5/n25/n26/n66/n70 for Ant. 0.
2. 5G NR n2/n25/n5/n66 support SA mode and NSA mode. According to the maximum power between SA and NSA mode, SA covers NSA mode.
3. All the supported ENDC combinations are verified conducted power, only the ENDC combination with highest power are shown in the report.
4. 5G NR n26/n70 support SA mode only.
5. 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 Specification of Accessory

Accessories Information				
AC Adapter 1	Brand Name	Motorola (AOHA)	Model Name	MC-201L
AC Adapter 2	Brand Name	Motorola (Salcomp)	Model Name	MC-201L
USB Cable 1	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-04
USB Cable 2	Brand Name	Motorola(SAIBAO)	Model Name	STN-A131A
USB Cable 3	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-07
USB Cable 4	Brand Name	Motorola(SAIBAO)	Model Name	STN-A132A
Battery 1	Brand Name	Motorola(CosMX)	Model Name	RA50
Battery 2	Brand Name	Motorola(ATL)	Model Name	RA50



### 1.7 Maximum ERP/EIRP and Emission Designator

5G NR n2		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)
5	1852.5 ~ 1907.5	0.1197	4M46G7D	0.0948	4M47W7D
10	1855.0 ~ 1905.0	0.1186	9M28G7D	0.0975	9M28W7D
15	1857.5 ~ 1902.5	0.1178	14M1G7D	0.0986	14M1W7D
20	1860.0 ~ 1900.0	0.1197	18M9G7D	0.1014	19M0W7D
25	1862.5 ~ 1897.5	0.1199	23M8G7D	0.0995	23M8W7D
30	1865.0 ~ 1895.0	0.1197	28M6G7D	0.0944	28M6W7D
35	1867.5 ~ 1892.5	0.1211	33M5G7D	0.0964	33M5W7D
40	1870.0 ~ 1890.0	0.1216	38M5G7D	0.1002	38M6W7D

5G NR n25		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)
5	1852.5 ~ 1912.5	0.1216	4M46G7D	0.0984	4M47W7D
10	1855.0 ~ 1910.0	0.1216	9M28G7D	0.1002	9M28W7D
15	1857.5 ~ 1907.5	0.1216	14M1G7D	0.1012	14M1W7D
20	1860.0 ~ 1905.0	0.1202	18M9G7D	0.0991	19M0W7D
25	1862.5 ~ 1902.5	0.1208	23M8G7D	0.0973	23M8W7D
30	1865.0 ~ 1900.0	0.1222	28M6G7D	0.1000	28M6W7D
35	1867.5 ~ 1897.5	0.1216	33M5G7D	0.0973	33M5W7D
40	1870.0 ~ 1895.0	0.1225	38M5G7D	0.1019	38M6W7D

5G NR n5		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	826.5 ~ 846.5	0.0531	4M46G7D	0.0418	4M48W7D
10	829.0 ~ 844.0	0.0524	9M27G7D	0.0420	9M29W7D
15	831.5 ~ 841.5	0.0526	14M1G7D	0.0414	14M1W7D
20	834.0 ~ 839.0	0.0532	18M9G7D	0.0420	18M9W7D



5G NR n26		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	826.5 ~ 846.5	0.0543	4M46G7D	0.0435	4M48W7D
10	829.0 ~ 844.0	0.0553	9M27G7D	0.0426	9M29W7D
15	831.5 ~ 841.5	0.0553	14M1G7D	0.0445	14M1W7D
20	834.0 ~ 839.0	0.0575	18M9G7D	0.0466	18M9W7D

5G NR n66		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)
5	1712.5 ~ 1777.5	0.1253	4M46G7D	0.1000	4M48W7D
10	1715.0 ~ 1775.0	0.1253	9M27G7D	0.1009	9M28W7D
15	1717.5 ~ 1772.5	0.1262	14M1G7D	0.1054	14M1W7D
20	1720.0 ~ 1770.0	0.1256	18M9G7D	0.1067	18M9W7D
25	1722.5 ~ 1767.5	0.1250	23M7G7D	0.1009	23M8W7D
30	1725.0 ~ 1765.0	0.1230	28M6G7D	0.0986	28M6W7D
35	1727.5 ~ 1762.5	0.1225	33M6G7D	0.0966	33M6W7D
40	1730.0 ~ 1760.0	0.1225	38M5G7D	0.0962	38M6W7D
45	1732.5 ~ 1757.5	0.1265	43M2G7D	0.1112	43M2W7D

5G NR n70		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)
5	1697.5 ~ 1707.5	0.1186	4M47G7D	0.0998	4M47W7D
10	1700.0 ~ 1705.0	0.1189	9M28G7D	0.1000	9M28W7D
15	1702.5	0.1271	14M1G7D	0.1035	14M1W7D

Note:

- 5G NR n26 overlaps the entire frequency range of 5G NR n5. Therefore, the test results provided in this report covers 5G NR n5 and the portion of 5G NR n26 subject to Part 22.
- 5G NR n25 overlaps the entire frequency range of 5G NR n2. Therefore, the test results provided in this report covers 5G NR n25 as well as 5G NR n2.
- All modulations have been tested, only the worst test results of PSK & QAM are shown in the report.





### 1.8 Testing Location

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

<b>Test Firm</b>	Sporton International Inc. (ShenZhen)		
<b>Test Site Location</b>	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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-SZ	CN1256	421272

<b>Test Firm</b>	Sporton International Inc. (ShenZhen)		
<b>Test Site Location</b>	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH02-SZ	CN1256	421272

### 1.9 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a

### 1.10 Applicable Standards

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

- ♦ 47 CFR Part 22, 24, 27
- ♦ 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 (X/Y/Z 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.

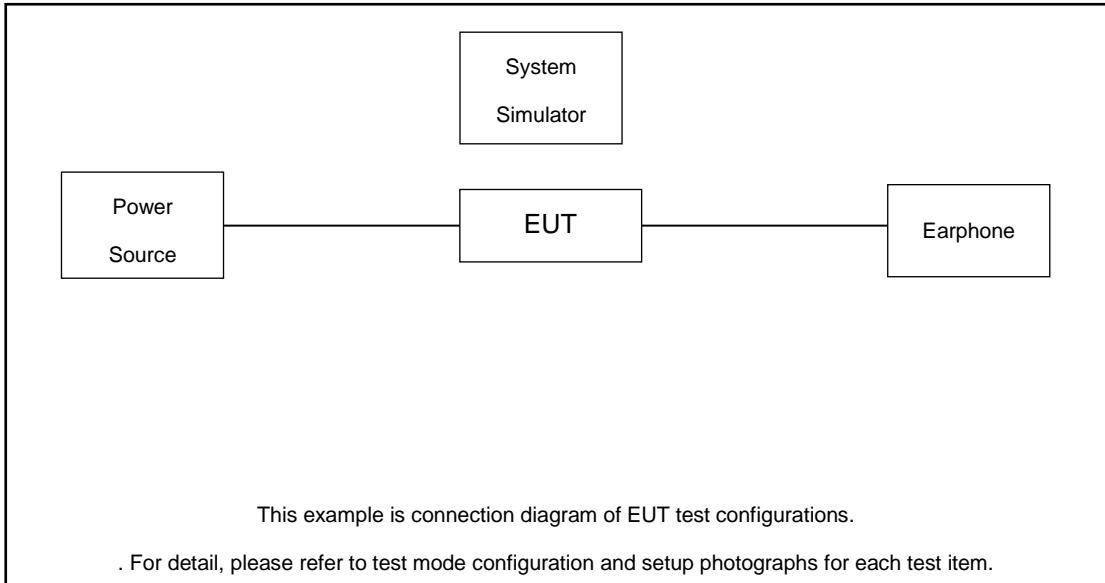
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)										Modulation				RB #		Test Channel			
		5	10	15	20	25	30	35	40	45	50	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n2	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n5	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n25	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n26	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
	n70	v	v	v	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n25				v					-	-	v	v					v		v	
	n26				v	-	-	-	-	-	-	v	v					v		v	
	n66				v						-	v	v					v		v	
	n70		v		-	-	-	-	-	-	-	v	v					v		v	
26dB and 99% Bandwidth	n25	v	v	v	v	v	v	v	v	-	-		v	v	v	v		v		v	
	n26	v	v	v	v	-	-	-	-	-	-		v	v	v	v		v		v	
	n66	v	v	v	v	v	v	v	v	v	-		v	v	v	v		v		v	
	n70	v	v	v	-	-	-	-	-	-	-		v	v	v	v		v		v	
Conducted Band Edge	n25	v			v				v	-	-	v	v					v	v	v	v
	n26	v	v		v	-	-	-	-	-	-	v	v					v	v	v	v
	n66	v				v					v	-	v	v				v	v	v	v



Test Items	5G NR	Bandwidth (MHz)										Modulation				RB #		Test Channel			
		5	10	15	20	25	30	35	40	45	50	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
	n70	v	v	v	-	-	-	-	-	-	-	v	v				v	v	v		v
Conducted Spurious Emission	n25	v			v				v	-	-	v	v				v		v	v	v
	n26	v	v		v	-	-	-	-	-	-	v	v				v		v	v	v
	n66	v				v					v	-	v	v			v		v	v	v
	n70	v	v	v	-	-	-	-	-	-	-	-	v	v			v		v	v	v
Frequency Stability	n25				v					-	-		v					v		v	
	n26				v	-	-	-	-	-	-		v					v		v	
	n66				v						-		v					v		v	
	n70		v		-	-	-	-	-	-	-		v					v		v	
E.R.P / E.I.R.P	n2	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n5	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n25	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n26	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	n70	v	v	v	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n5	Worst Case																	v	v	v
	n25	Worst Case																	v	v	v
	n26	Worst Case																	v	v	v
	n66	Worst Case																	v	v	v
	n70	Worst Case																	v	v	v
Note	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Frequency Stability : Normal Voltage = 3.91V ; Low Voltage =3.45V. ; High Voltage =4.50V																				

## 2.2 Connection Diagram of Test System



The EUT has been configuration operated in a manner tended to maximize its emission characteristics in a typical application.

## 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	N/A	N/A	N/A	N/A	N/A

## 2.4 Measurement Results Explanation Example

### For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

*Offset = RF cable loss.*

Following shows an offset computation example with cable loss 8 dB.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 8 \text{ (dB)} \end{aligned}$$



### 2.5 Frequency List of Low/Middle/High Channels

5G NR n2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	374000	376000	378000
	Frequency	1870	1880	1890
35	Channel	373500	376000	378500
	Frequency	1867.5	1880	1892.5
30	Channel	373000	376000	379000
	Frequency	1865	1880	1895
25	Channel	372500	376000	379500
	Frequency	1862.5	1880	1897.5
20	Channel	372000	376000	380000
	Frequency	1860	1880	1900
15	Channel	371500	376000	380500
	Frequency	1857.5	1880	1902.5
10	Channel	371000	376000	381000
	Frequency	1855	1880	1905
5	Channel	370500	376000	381500
	Frequency	1852.5	1880	1907.5

5G NR n5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	166800	167300	167800
	Frequency	834	836.5	839
15	Channel	166300	167300	168300
	Frequency	831.5	836.5	841.5
10	Channel	165800	167300	168800
	Frequency	829	836.5	844
5	Channel	165300	167300	169300
	Frequency	826.5	836.5	846.5



5G NR n25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	374000	376500	379000
	Frequency	1870	1882.5	1895
35	Channel	373500	376500	379500
	Frequency	1867.5	1882.5	1897.5
30	Channel	373000	376500	380000
	Frequency	1865	1882.5	1900
25	Channel	372500	376500	380500
	Frequency	1862.5	1882.5	1902.5
20	Channel	372000	376500	381000
	Frequency	1860	1882.5	1905
15	Channel	371500	376500	381500
	Frequency	1857.5	1882.5	1907.5
10	Channel	371000	376500	382000
	Frequency	1855	1882.5	1910
5	Channel	370500	376500	382500
	Frequency	1852.5	1882.5	1912.5

5G NR n26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	166800	167300	167800
	Frequency	834	836.5	839
15	Channel	166300	167300	168300
	Frequency	831.5	836.5	841.5
10	Channel	165800	167300	168800
	Frequency	829	836.5	844
5	Channel	165300	167300	169300
	Frequency	826.5	836.5	846.5



5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
45	Channel	346500	349000	351500
	Frequency	1732.5	1745	1757.5
40	Channel	346000	349000	352000
	Frequency	1730	1745	1760
35	Channel	345500	349000	352500
	Frequency	1727.5	1745	1762.5
30	Channel	345000	349000	353000
	Frequency	1725	1745	1765
25	Channel	344500	349000	353500
	Frequency	1722.5	1745	1767.5
20	Channel	344000	349000	354000
	Frequency	1720	1745	1770
15	Channel	343500	349000	354500
	Frequency	1717.5	1745	1772.5
10	Channel	343000	349000	355000
	Frequency	1715	1745	1775
5	Channel	342500	349000	355500
	Frequency	1712.5	1745	1777.5

5G NR n70 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	340500		
	Frequency	1702.5		
10	Channel	340000	340500	341000
	Frequency	1700	1702.5	1705
5	Channel	399500	340500	341500
	Frequency	1697.5	1702.5	1707.5

### 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 ERP/EIRP

#### 3.4.1 Description of the Conducted Output Power Measurement and ERP/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 ERP of mobile transmitters must not exceed 7 Watts for 5G NR n5, n26.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n2, n25.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n66, n70.

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

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100kHz bandwidth. However, in the 1MHz 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.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1 MHz bandwidth. However, in the 1MHz 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.



### 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  $\geq$  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 or a narrower RBW was used (generally limited to no less than 1% of the OBW) and the measured power was integrated over the full required measurement bandwidth.
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  $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13\text{dBm}.$$

9. 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.



### 3.8 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<sup>th</sup> 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  $43 + 10\log(P)$ 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  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) 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  $-30^{\circ}\text{C}$  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  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . 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  $20\pm 5^{\circ}\text{C}$  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.

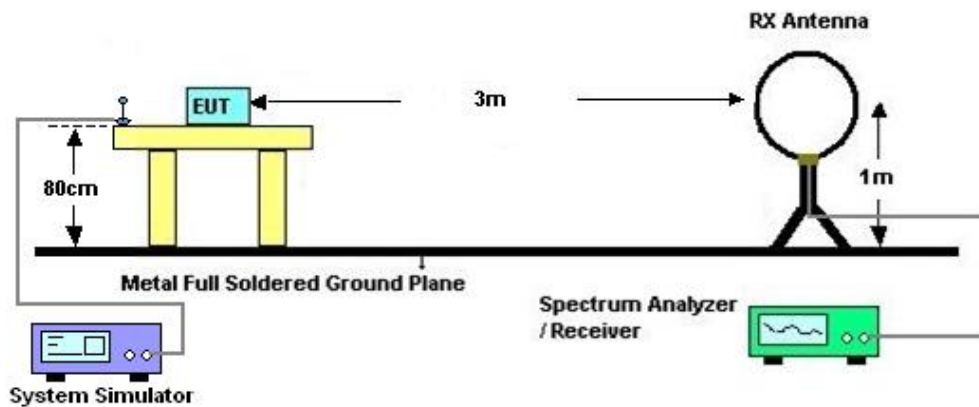
## 4 Radiated Test Items

### 4.1 Measuring Instruments

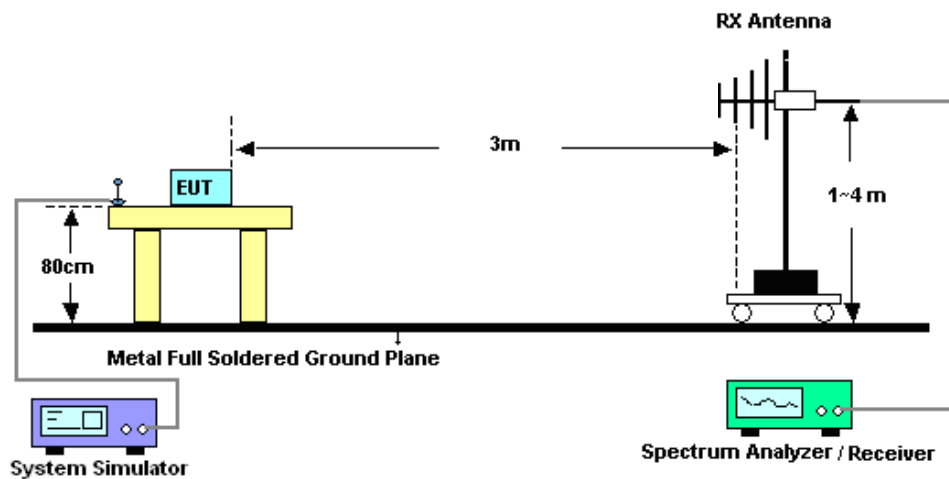
See list of measuring instruments of this test report.

### 4.2 Test Setup

#### 4.2.1 For radiated test below 30MHz

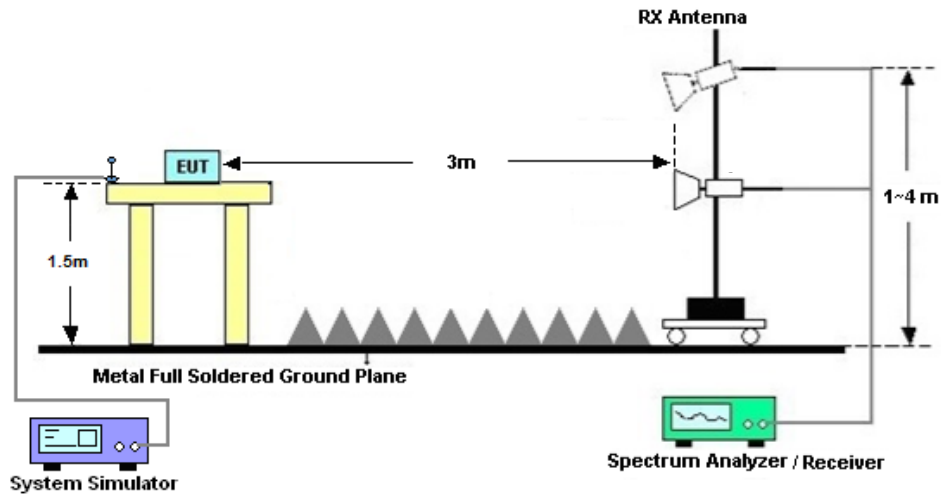


#### 4.2.2 For radiated test from 30MHz to 1GHz





### 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.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11.  $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [43 + 10\log(P)] \text{ (dB)}$   
=  $[30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
= -13dBm.



## 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Aug. 30, 2024~ Sep. 12, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct. 16, 2023	Aug. 30, 2024~ Sep. 12, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Aug. 30, 2024~ Sep. 12, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Aug. 30, 2024~ Sep. 12, 2024	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Sep. 20, 2024	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Sep. 20, 2024	Dec. 28, 2024	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2023	Sep. 20, 2024	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Sep. 20, 2024	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 03, 2024	Sep. 20, 2024	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 09, 2024	Sep. 20, 2024	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Sep. 20, 2024	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Sep. 20, 2024	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required



## 6 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

### Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Peak to Average Ratio	±1.34 dB
Frequency Stability	±1.3 Hz

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.47 dB
---------------------------------------------------------------------	---------

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.31 dB
---------------------------------------------------------------------	---------

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.72 dB
---------------------------------------------------------------------	---------

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



## Appendix A. Test Results of Conducted Test

Test Engineer :	Khan Zheng	Temperature :	22~23°C
		Relative Humidity :	40~42%



# FR1 N2(ANT0)

## Transmitter Conducted Output Power and EIRP, (G<sub>T</sub> - L<sub>C</sub>)=-2.7dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
2	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@1	23.39	20.69	0.1172
2	15	5	370500	1852.5	DFT-s-OFDM 16 QAM	1@1	22.43	19.73	0.0940
2	15	5	376000	1880	DFT-s-OFDM QPSK	1@1	23.48	20.78	0.1197
2	15	5	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.47	19.77	0.0948
2	15	5	381500	1907.5	DFT-s-OFDM QPSK	1@1	22.93	20.23	0.1054
2	15	5	381500	1907.5	DFT-s-OFDM 16 QAM	1@1	22.16	19.46	0.0883
2	15	10	371000	1855	DFT-s-OFDM QPSK	1@1	23.41	20.71	0.1178
2	15	10	371000	1855	DFT-s-OFDM 16 QAM	1@1	22.42	19.72	0.0938
2	15	10	376000	1880	DFT-s-OFDM QPSK	1@1	23.44	20.74	0.1186
2	15	10	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.59	19.89	0.0975
2	15	10	381000	1905	DFT-s-OFDM QPSK	1@1	23.04	20.34	0.1081
2	15	10	381000	1905	DFT-s-OFDM 16 QAM	1@1	22.07	19.37	0.0865
2	15	15	371500	1857.5	DFT-s-OFDM QPSK	1@1	23.16	20.46	0.1112
2	15	15	371500	1857.5	DFT-s-OFDM 16 QAM	1@1	22.44	19.74	0.0942
2	15	15	376000	1880	DFT-s-OFDM QPSK	1@1	23.41	20.71	0.1178
2	15	15	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.64	19.94	0.0986
2	15	15	380500	1902.5	DFT-s-OFDM QPSK	1@1	22.95	20.25	0.1059
2	15	15	380500	1902.5	DFT-s-OFDM 16 QAM	1@1	21.96	19.26	0.0843
2	15	20	372000	1860	DFT-s-OFDM QPSK	1@1	23.17	20.47	0.1114
2	15	20	372000	1860	DFT-s-OFDM 16 QAM	1@1	22.46	19.76	0.0946
2	15	20	376000	1880	DFT-s-OFDM QPSK	1@1	23.48	20.78	0.1197
2	15	20	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.76	20.06	0.1014
2	15	20	380000	1900	DFT-s-OFDM QPSK	1@1	22.85	20.15	0.1035
2	15	20	380000	1900	DFT-s-OFDM 16 QAM	1@1	22.1	19.4	0.0871
2	15	25	372500	1862.5	DFT-s-OFDM QPSK	1@1	23.39	20.69	0.1172
2	15	25	372500	1862.5	DFT-s-OFDM 16 QAM	1@1	22.35	19.65	0.0923
2	15	25	376000	1880	DFT-s-OFDM QPSK	1@1	23.49	20.79	0.1199
2	15	25	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.68	19.98	0.0995
2	15	25	379500	1897.5	DFT-s-OFDM QPSK	1@1	23.11	20.41	0.1099
2	15	25	379500	1897.5	DFT-s-OFDM 16 QAM	1@1	22.08	19.38	0.0867
2	15	30	373000	1865	DFT-s-OFDM QPSK	1@1	23.43	20.73	0.1183
2	15	30	373000	1865	DFT-s-OFDM 16 QAM	1@1	22.45	19.75	0.0944
2	15	30	376000	1880	DFT-s-OFDM QPSK	1@1	23.4	20.7	0.1175
2	15	30	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.41	19.71	0.0935
2	15	30	379000	1895	DFT-s-OFDM QPSK	1@1	23.48	20.78	0.1197
2	15	30	379000	1895	DFT-s-OFDM 16 QAM	1@1	22.35	19.65	0.0923
2	15	35	373500	1867.5	DFT-s-OFDM QPSK	1@1	23.37	20.67	0.1167



2	15	35	373500	1867.5	DFT-s-OFDM 16 QAM	1@1	22.38	19.68	0.0929
2	15	35	376000	1880	DFT-s-OFDM QPSK	1@1	23.42	20.72	0.1180
2	15	35	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.44	19.74	0.0942
2	15	35	378500	1892.5	DFT-s-OFDM QPSK	1@1	23.53	20.83	0.1211
2	15	35	378500	1892.5	DFT-s-OFDM 16 QAM	1@1	22.54	19.84	0.0964
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	108@54	23.45	20.75	0.1189
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@1	23.1	20.4	0.1096
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@214	22.91	20.21	0.1050
2	15	40	374000	1870	DFT-s-OFDM QPSK	108@54	23.55	20.85	0.1216
2	15	40	374000	1870	DFT-s-OFDM QPSK	1@1	23.36	20.66	0.1164
2	15	40	374000	1870	DFT-s-OFDM QPSK	1@214	22.95	20.25	0.1059
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	108@54	22.68	19.98	0.0995
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@1	22.42	19.72	0.0938
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@214	22.05	19.35	0.0861
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	108@54	21.11	18.41	0.0693
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@1	20.52	17.82	0.0605
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@214	20.2	17.5	0.0562
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	108@54	19.12	16.42	0.0439
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@1	18.73	16.03	0.0401
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@214	18.36	15.66	0.0368
2	15	40	374000	1870	CP-OFDM QPSK	108@54	22.18	19.48	0.0887
2	15	40	374000	1870	CP-OFDM QPSK	1@1	21.67	18.97	0.0789
2	15	40	374000	1870	CP-OFDM QPSK	1@214	21.37	18.67	0.0736
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	108@54	23.32	20.62	0.1153
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	1@1	23.33	20.63	0.1156
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	1@214	22.72	20.02	0.1005
2	15	40	376000	1880	DFT-s-OFDM QPSK	108@54	23.32	20.62	0.1153
2	15	40	376000	1880	DFT-s-OFDM QPSK	1@1	23.36	20.66	0.1164
2	15	40	376000	1880	DFT-s-OFDM QPSK	1@214	22.8	20.1	0.1023
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	108@54	22.33	19.63	0.0918
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.67	19.97	0.0993
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	1@214	21.98	19.28	0.0847
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	108@54	20.84	18.14	0.0652
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	1@1	20.72	18.02	0.0634
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	1@214	20.11	17.41	0.0551
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	108@54	18.84	16.14	0.0411
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	1@1	18.98	16.28	0.0425
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	1@214	18.32	15.62	0.0365
2	15	40	376000	1880	CP-OFDM QPSK	108@54	21.85	19.15	0.0822
2	15	40	376000	1880	CP-OFDM QPSK	1@1	21.95	19.25	0.0841
2	15	40	376000	1880	CP-OFDM QPSK	1@214	21.29	18.59	0.0723
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	108@54	23.01	20.31	0.1074
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	1@1	23.46	20.76	0.1191
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	1@214	23.17	20.47	0.1114
2	15	40	378000	1890	DFT-s-OFDM QPSK	108@54	23	20.3	0.1072



2	15	40	378000	1890	DFT-s-OFDM QPSK	1@1	23.45	20.75	0.1189
2	15	40	378000	1890	DFT-s-OFDM QPSK	1@214	23.19	20.49	0.1119
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	108@54	22.01	19.31	0.0853
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	1@1	22.71	20.01	0.1002
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	1@214	22.4	19.7	0.0933
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	108@54	20.51	17.81	0.0604
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	1@1	20.8	18.1	0.0646
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	1@214	20.57	17.87	0.0612
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	108@54	18.49	15.79	0.0379
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	1@1	19.01	16.31	0.0428
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	1@214	18.71	16.01	0.0399
2	15	40	378000	1890	CP-OFDM QPSK	108@54	21.5	18.8	0.0759
2	15	40	378000	1890	CP-OFDM QPSK	1@1	22.12	19.42	0.0875
2	15	40	378000	1890	CP-OFDM QPSK	1@214	21.84	19.14	0.0820





# FR1 N5(ANT0)

## Transmitter Conducted Output Power and ERP, (G<sub>T</sub> - L<sub>C</sub>)=-3.8dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	ERP (dBm)	ERP (W)
5	15	5	165300	826.5	DFT-s-OFDM QPSK	1@1	23.02	17.07	0.0509
5	15	5	165300	826.5	DFT-s-OFDM 16 QAM	1@1	21.87	15.92	0.0391
5	15	5	167300	836.5	DFT-s-OFDM QPSK	1@1	23.2	17.25	0.0531
5	15	5	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.16	16.21	0.0418
5	15	5	169300	846.5	DFT-s-OFDM QPSK	1@1	23.19	17.24	0.0530
5	15	5	169300	846.5	DFT-s-OFDM 16 QAM	1@1	22.12	16.17	0.0414
5	15	10	165800	829	DFT-s-OFDM QPSK	1@1	23.06	17.11	0.0514
5	15	10	165800	829	DFT-s-OFDM 16 QAM	1@1	21.88	15.93	0.0392
5	15	10	167300	836.5	DFT-s-OFDM QPSK	1@1	23	17.05	0.0507
5	15	10	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.13	16.18	0.0415
5	15	10	168800	844	DFT-s-OFDM QPSK	1@1	23.14	17.19	0.0524
5	15	10	168800	844	DFT-s-OFDM 16 QAM	1@1	22.18	16.23	0.0420
5	15	15	166300	831.5	DFT-s-OFDM QPSK	1@1	23.02	17.07	0.0509
5	15	15	166300	831.5	DFT-s-OFDM 16 QAM	1@1	21.81	15.86	0.0385
5	15	15	167300	836.5	DFT-s-OFDM QPSK	1@1	23.16	17.21	0.0526
5	15	15	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.06	16.11	0.0408
5	15	15	168300	841.5	DFT-s-OFDM QPSK	1@1	23.15	17.2	0.0525
5	15	15	168300	841.5	DFT-s-OFDM 16 QAM	1@1	22.12	16.17	0.0414
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	50@25	23.18	17.23	0.0528
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	1@1	22.87	16.92	0.0492
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	1@104	23.11	17.16	0.0520
5	15	20	166800	834	DFT-s-OFDM QPSK	50@25	23.18	17.23	0.0528
5	15	20	166800	834	DFT-s-OFDM QPSK	1@1	23.2	17.25	0.0531
5	15	20	166800	834	DFT-s-OFDM QPSK	1@104	22.98	17.03	0.0505
5	15	20	166800	834	DFT-s-OFDM 16 QAM	50@25	22.11	16.16	0.0413
5	15	20	166800	834	DFT-s-OFDM 16 QAM	1@1	22.04	16.09	0.0406
5	15	20	166800	834	DFT-s-OFDM 16 QAM	1@104	22.11	16.16	0.0413
5	15	20	166800	834	DFT-s-OFDM 64 QAM	50@25	20.72	14.77	0.0300
5	15	20	166800	834	DFT-s-OFDM 64 QAM	1@1	20.23	14.28	0.0268
5	15	20	166800	834	DFT-s-OFDM 64 QAM	1@104	20.15	14.2	0.0263
5	15	20	166800	834	DFT-s-OFDM 256 QAM	53@26	18.58	12.63	0.0183
5	15	20	166800	834	DFT-s-OFDM 256 QAM	1@1	18.38	12.43	0.0175
5	15	20	166800	834	DFT-s-OFDM 256 QAM	1@104	18.49	12.54	0.0179
5	15	20	166800	834	CP-OFDM QPSK	50@25	21.72	15.77	0.0378
5	15	20	166800	834	CP-OFDM QPSK	1@1	21.32	15.37	0.0344
5	15	20	166800	834	CP-OFDM QPSK	1@104	21.48	15.53	0.0357
5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	50@25	23.17	17.22	0.0527



5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	22.85	16.9	0.0490
5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@104	23.01	17.06	0.0508
5	15	20	167300	836.5	DFT-s-OFDM QPSK	50@25	23.2	17.25	0.0531
5	15	20	167300	836.5	DFT-s-OFDM QPSK	1@1	23.21	17.26	0.0532
5	15	20	167300	836.5	DFT-s-OFDM QPSK	1@104	22.92	16.97	0.0498
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	50@25	22.14	16.19	0.0416
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.05	16.1	0.0407
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	1@104	22.15	16.2	0.0417
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	50@25	20.66	14.71	0.0296
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	1@1	20.15	14.2	0.0263
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	1@104	20.3	14.35	0.0272
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	53@26	18.64	12.69	0.0186
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	1@1	18.3	12.35	0.0172
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	1@104	18.47	12.52	0.0179
5	15	20	167300	836.5	CP-OFDM QPSK	50@25	21.68	15.73	0.0374
5	15	20	167300	836.5	CP-OFDM QPSK	1@1	21.31	15.36	0.0344
5	15	20	167300	836.5	CP-OFDM QPSK	1@104	21.45	15.5	0.0355
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	50@25	23.11	17.16	0.0520
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	1@1	22.95	17	0.0501
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	1@104	23.08	17.13	0.0516
5	15	20	167800	839	DFT-s-OFDM QPSK	50@25	23.11	17.16	0.0520
5	15	20	167800	839	DFT-s-OFDM QPSK	1@1	23.18	17.23	0.0528
5	15	20	167800	839	DFT-s-OFDM QPSK	1@104	22.93	16.98	0.0499
5	15	20	167800	839	DFT-s-OFDM 16 QAM	50@25	22.1	16.15	0.0412
5	15	20	167800	839	DFT-s-OFDM 16 QAM	1@1	22.11	16.16	0.0413
5	15	20	167800	839	DFT-s-OFDM 16 QAM	1@104	22.18	16.23	0.0420
5	15	20	167800	839	DFT-s-OFDM 64 QAM	50@25	20.82	14.87	0.0307
5	15	20	167800	839	DFT-s-OFDM 64 QAM	1@1	20.5	14.55	0.0285
5	15	20	167800	839	DFT-s-OFDM 64 QAM	1@104	20.38	14.43	0.0277
5	15	20	167800	839	DFT-s-OFDM 256 QAM	53@26	18.62	12.67	0.0185
5	15	20	167800	839	DFT-s-OFDM 256 QAM	1@1	18.32	12.37	0.0173
5	15	20	167800	839	DFT-s-OFDM 256 QAM	1@104	18.41	12.46	0.0176
5	15	20	167800	839	CP-OFDM QPSK	67@33	21.69	15.74	0.0375
5	15	20	167800	839	CP-OFDM QPSK	1@1	21.33	15.38	0.0345
5	15	20	167800	839	CP-OFDM QPSK	1@131	21.44	15.49	0.0354



# FR1 N25(ANT0)

## Transmitter Conducted Output Power and EIRP, (G<sub>T</sub> - L<sub>c</sub>)=-2.7dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@1	23.5	20.8	0.1202
25	15	5	370500	1852.5	DFT-s-OFDM 16 QAM	1@1	22.63	19.93	0.0984
25	15	5	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.55	20.85	0.1216
25	15	5	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.63	19.93	0.0984
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	1@1	23.47	20.77	0.1194
25	15	5	382500	1912.5	DFT-s-OFDM 16 QAM	1@1	22.41	19.71	0.0935
25	15	10	371000	1855	DFT-s-OFDM QPSK	1@1	23.55	20.85	0.1216
25	15	10	371000	1855	DFT-s-OFDM 16 QAM	1@1	22.71	20.01	0.1002
25	15	10	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.46	20.76	0.1191
25	15	10	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.44	19.74	0.0942
25	15	10	382000	1910	DFT-s-OFDM QPSK	1@1	23.14	20.44	0.1107
25	15	10	382000	1910	DFT-s-OFDM 16 QAM	1@1	22.47	19.77	0.0948
25	15	15	371500	1857.5	DFT-s-OFDM QPSK	1@1	23.49	20.79	0.1199
25	15	15	371500	1857.5	DFT-s-OFDM 16 QAM	1@1	22.68	19.98	0.0995
25	15	15	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.55	20.85	0.1216
25	15	15	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.75	20.05	0.1012
25	15	15	381500	1907.5	DFT-s-OFDM QPSK	1@1	22.99	20.29	0.1069
25	15	15	381500	1907.5	DFT-s-OFDM 16 QAM	1@1	22.23	19.53	0.0897
25	15	20	372000	1860	DFT-s-OFDM QPSK	1@1	23.33	20.63	0.1156
25	15	20	372000	1860	DFT-s-OFDM 16 QAM	1@1	22.66	19.96	0.0991
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.5	20.8	0.1202
25	15	20	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.51	19.81	0.0957
25	15	20	381000	1905	DFT-s-OFDM QPSK	1@1	23.17	20.47	0.1114
25	15	20	381000	1905	DFT-s-OFDM 16 QAM	1@1	22.25	19.55	0.0902
25	15	25	372500	1862.5	DFT-s-OFDM QPSK	1@1	23.52	20.82	0.1208
25	15	25	372500	1862.5	DFT-s-OFDM 16 QAM	1@1	22.5	19.8	0.0955
25	15	25	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.5	20.8	0.1202
25	15	25	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.58	19.88	0.0973
25	15	25	380500	1902.5	DFT-s-OFDM QPSK	1@1	23.06	20.36	0.1086
25	15	25	380500	1902.5	DFT-s-OFDM 16 QAM	1@1	22.1	19.4	0.0871
25	15	30	373000	1865	DFT-s-OFDM QPSK	1@1	23.57	20.87	0.1222
25	15	30	373000	1865	DFT-s-OFDM 16 QAM	1@1	22.7	20	0.1000
25	15	30	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.5	20.8	0.1202
25	15	30	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.55	19.85	0.0966
25	15	30	380000	1900	DFT-s-OFDM QPSK	1@1	23.26	20.56	0.1138
25	15	30	380000	1900	DFT-s-OFDM 16 QAM	1@1	22.36	19.66	0.0925
25	15	35	373500	1867.5	DFT-s-OFDM QPSK	1@1	23.51	20.81	0.1205



25	15	35	373500	1867.5	DFT-s-OFDM 16 QAM	1@1	22.58	19.88	0.0973
25	15	35	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.52	20.82	0.1208
25	15	35	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.51	19.81	0.0957
25	15	35	379500	1897.5	DFT-s-OFDM QPSK	1@1	23.55	20.85	0.1216
25	15	35	379500	1897.5	DFT-s-OFDM 16 QAM	1@1	22.52	19.82	0.0959
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	108@54	23.32	20.62	0.1153
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@1	23.06	20.36	0.1086
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@214	23.32	20.62	0.1153
25	15	40	374000	1870	DFT-s-OFDM QPSK	108@54	23.37	20.67	0.1167
25	15	40	374000	1870	DFT-s-OFDM QPSK	1@1	23.32	20.62	0.1153
25	15	40	374000	1870	DFT-s-OFDM QPSK	1@214	23.35	20.65	0.1161
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	108@54	22.48	19.78	0.0951
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@1	22.36	19.66	0.0925
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@214	22.55	19.85	0.0966
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	108@54	20.92	18.22	0.0664
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@1	20.54	17.84	0.0608
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@214	20.66	17.96	0.0625
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	108@54	18.93	16.23	0.0420
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@1	18.69	15.99	0.0397
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@214	18.9	16.2	0.0417
25	15	40	374000	1870	CP-OFDM QPSK	108@54	21.95	19.25	0.0841
25	15	40	374000	1870	CP-OFDM QPSK	1@1	21.61	18.91	0.0778
25	15	40	374000	1870	CP-OFDM QPSK	1@214	21.83	19.13	0.0818
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	108@54	23.38	20.68	0.1169
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	1@1	23.06	20.36	0.1086
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	1@214	23.27	20.57	0.1140
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	108@54	23.38	20.68	0.1169
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.26	20.56	0.1138
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@214	23.29	20.59	0.1146
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	108@54	22.46	19.76	0.0946
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.4	19.7	0.0933
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	1@214	22.56	19.86	0.0968
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	108@54	20.96	18.26	0.0670
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	1@1	20.57	17.87	0.0612
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	1@214	20.68	17.98	0.0628
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	108@54	19	16.3	0.0427
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	1@1	18.75	16.05	0.0403
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	1@214	18.9	16.2	0.0417
25	15	40	376500	1882.5	CP-OFDM QPSK	108@54	22	19.3	0.0851
25	15	40	376500	1882.5	CP-OFDM QPSK	1@1	21.8	19.1	0.0813
25	15	40	376500	1882.5	CP-OFDM QPSK	1@214	21.94	19.24	0.0839
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	108@54	23.49	20.79	0.1199
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	1@1	23.3	20.6	0.1148
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	1@214	23.47	20.77	0.1194
25	15	40	379000	1895	DFT-s-OFDM QPSK	108@54	23.51	20.81	0.1205



25	15	40	379000	1895	DFT-s-OFDM QPSK	1@1	23.58	20.88	0.1225
25	15	40	379000	1895	DFT-s-OFDM QPSK	1@214	23.47	20.77	0.1194
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	108@54	22.58	19.88	0.0973
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	1@1	22.59	19.89	0.0975
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	1@214	22.78	20.08	0.1019
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	108@54	21.06	18.36	0.0685
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	1@1	20.74	18.04	0.0637
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	1@214	20.9	18.2	0.0661
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	108@54	19.09	16.39	0.0436
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	1@1	18.96	16.26	0.0423
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	1@214	19.09	16.39	0.0436
25	15	40	379000	1895	CP-OFDM QPSK	108@54	22.09	19.39	0.0869
25	15	40	379000	1895	CP-OFDM QPSK	1@1	21.98	19.28	0.0847
25	15	40	379000	1895	CP-OFDM QPSK	1@214	22.22	19.52	0.0895



### Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0064	PASS	NV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0070	PASS	LV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0056	PASS	HV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0035	PASS	-30°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0058	PASS	-20°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0067	PASS	-10°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0028	PASS	0°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0060	PASS	10°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0064	PASS	20°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0028	PASS	30°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0031	PASS	40°C
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0058	PASS	50°C



### Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
25	15	20	376500	1882.5	DFT-s-OFDM PI/2 BPSK	100@0	4.41	13	PASS
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	5.43	13	PASS

N25(20M)\_DFT-s-OFDM\_PI\_2-BPSK\_Outer\_Full\_Mid\_CH



N25(20M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_Mid\_CH





### Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
25	15	5	376500	1882.5	CP-OFDM QPSK	25@0	4.4639	4.796
25	15	5	376500	1882.5	CP-OFDM 16 QAM	25@0	4.4647	4.789
25	15	5	376500	1882.5	CP-OFDM 64 QAM	25@0	4.4702	4.767
25	15	5	376500	1882.5	CP-OFDM 256 QAM	25@0	4.4695	4.794
25	15	10	376500	1882.5	CP-OFDM QPSK	52@0	9.2815	9.715
25	15	10	376500	1882.5	CP-OFDM 16 QAM	52@0	9.2758	9.728
25	15	10	376500	1882.5	CP-OFDM 64 QAM	52@0	9.2833	9.693
25	15	10	376500	1882.5	CP-OFDM 256 QAM	52@0	9.2795	9.728
25	15	15	376500	1882.5	CP-OFDM QPSK	79@0	14.113	14.76
25	15	15	376500	1882.5	CP-OFDM 16 QAM	79@0	14.1	14.73
25	15	15	376500	1882.5	CP-OFDM 64 QAM	79@0	14.125	14.67
25	15	15	376500	1882.5	CP-OFDM 256 QAM	79@0	14.107	14.61
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	18.914	19.66
25	15	20	376500	1882.5	CP-OFDM 16 QAM	106@0	18.907	19.65
25	15	20	376500	1882.5	CP-OFDM 64 QAM	106@0	18.971	19.58
25	15	20	376500	1882.5	CP-OFDM 256 QAM	106@0	18.923	19.74
25	15	25	376500	1882.5	CP-OFDM QPSK	133@0	23.784	24.7
25	15	25	376500	1882.5	CP-OFDM 16 QAM	133@0	23.786	24.63
25	15	25	376500	1882.5	CP-OFDM 64 QAM	133@0	23.772	24.67
25	15	25	376500	1882.5	CP-OFDM 256 QAM	133@0	23.778	24.68
25	15	30	376500	1882.5	CP-OFDM QPSK	160@0	28.635	29.69
25	15	30	376500	1882.5	CP-OFDM 16 QAM	160@0	28.617	29.64
25	15	30	376500	1882.5	CP-OFDM 64 QAM	160@0	28.614	29.59
25	15	30	376500	1882.5	CP-OFDM 256 QAM	160@0	28.585	29.57
25	15	35	376500	1882.5	CP-OFDM QPSK	188@0	33.531	34.74
25	15	35	376500	1882.5	CP-OFDM 16 QAM	188@0	33.521	34.8





25	15	35	376500	1882.5	CP-OFDM 64 QAM	188@0	33.548	34.73
25	15	35	376500	1882.5	CP-OFDM 256 QAM	188@0	33.519	34.74
25	15	40	376500	1882.5	CP-OFDM QPSK	216@0	38.487	39.89
25	15	40	376500	1882.5	CP-OFDM 16 QAM	216@0	38.524	39.87
25	15	40	376500	1882.5	CP-OFDM 64 QAM	216@0	38.577	39.91
25	15	40	376500	1882.5	CP-OFDM 256 QAM	216@0	38.593	39.89



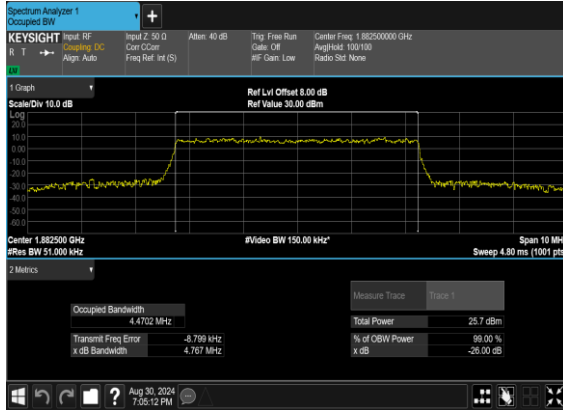
N25(5M)\_CP-OFDM\_QPSK\_Outer\_Full\_Mid\_CH



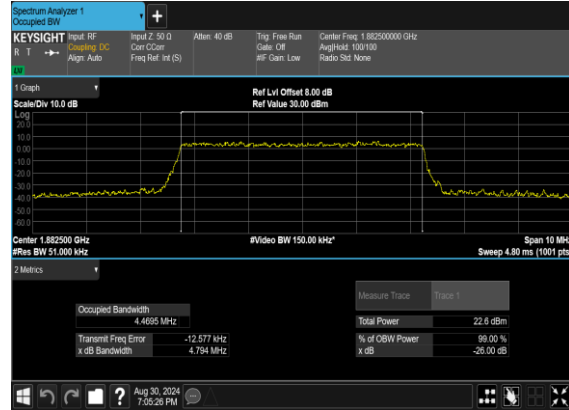
N25(5M)\_CP-OFDM\_16QAM\_Outer\_Full\_Mid\_CH



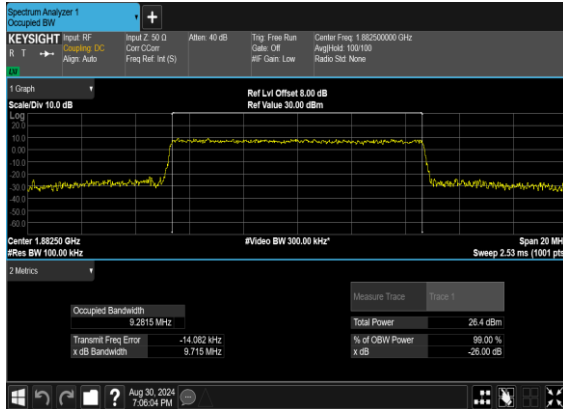
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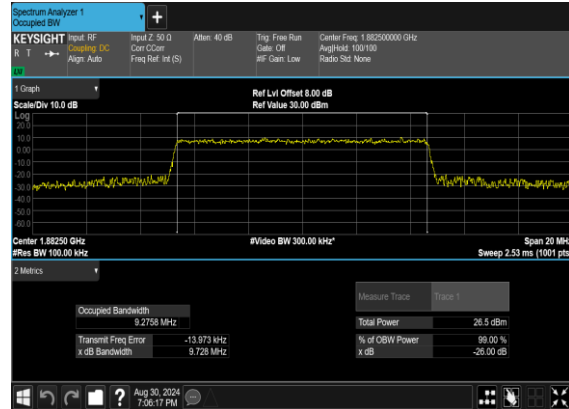
N25(5M)\_CP-OFDM\_256QAM\_Outer\_Full\_Mid\_CH



N25(10M)\_CP-OFDM\_QPSK\_Outer\_Full\_Mid\_CH

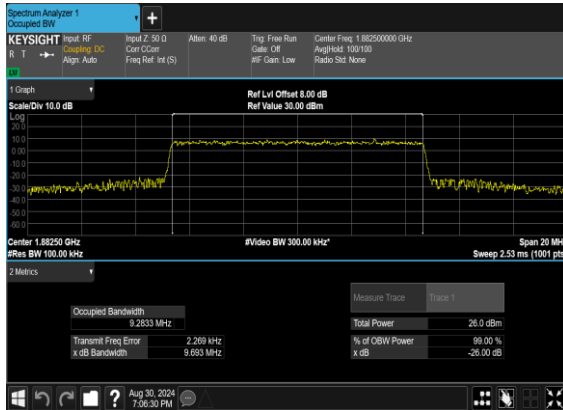


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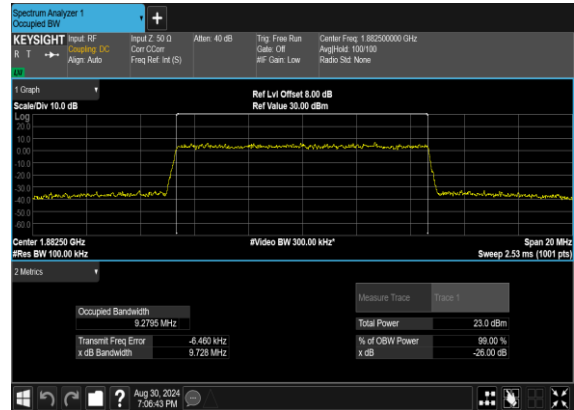




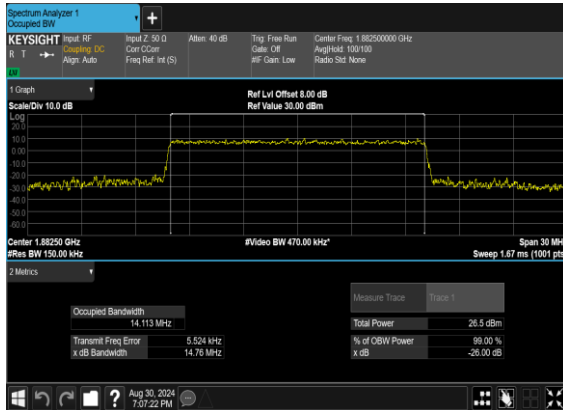
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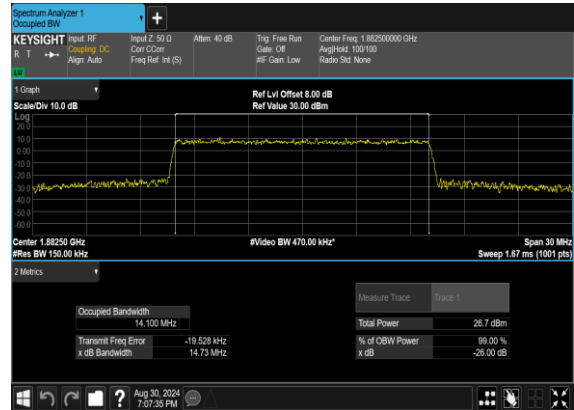
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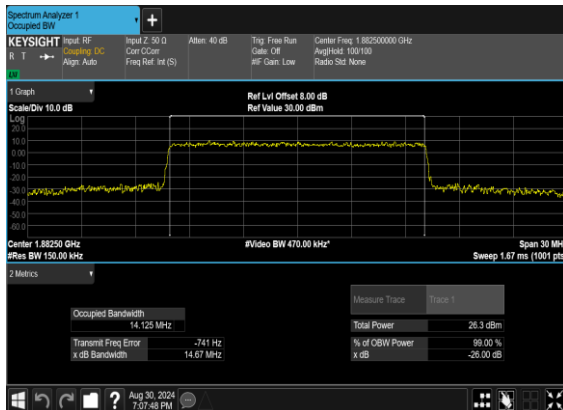
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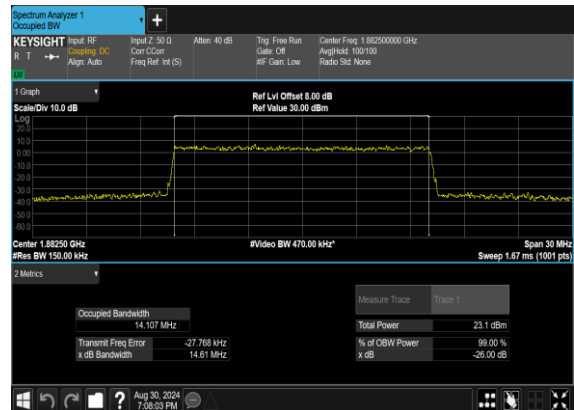
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N25(15M)\_CP-OFDM\_64 QAM\_Outer\_Full\_Mid\_CH

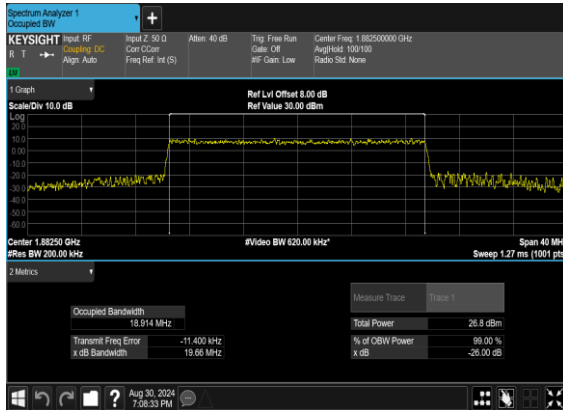


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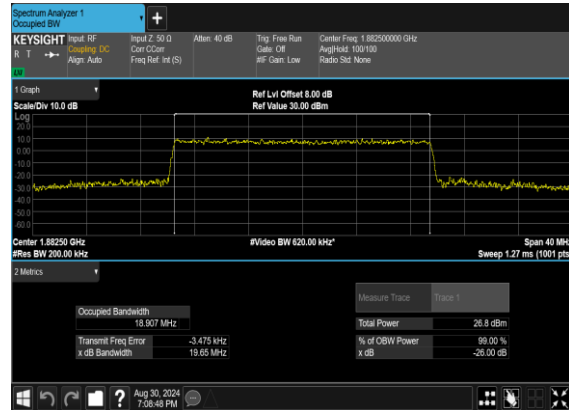




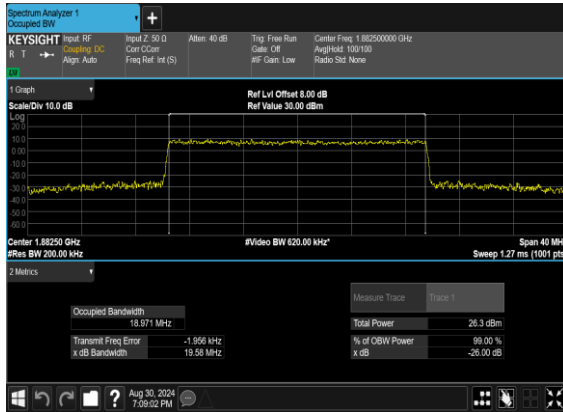
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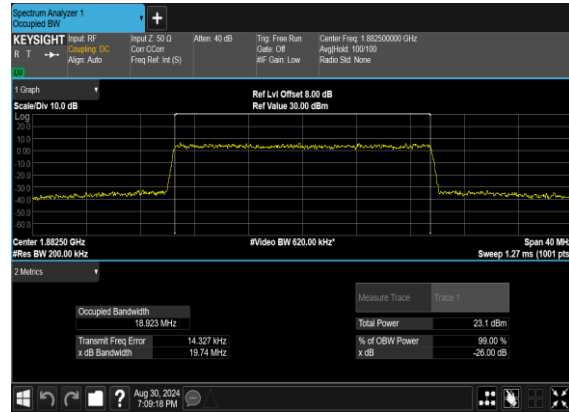
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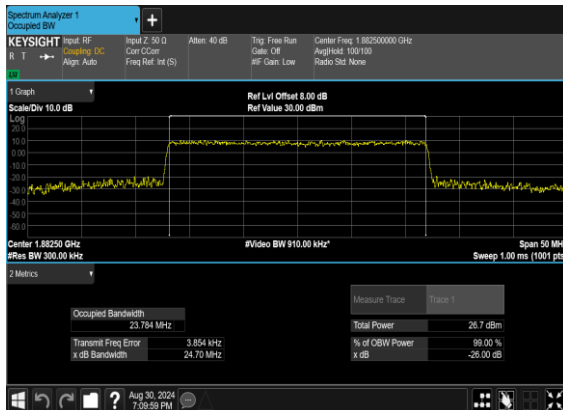
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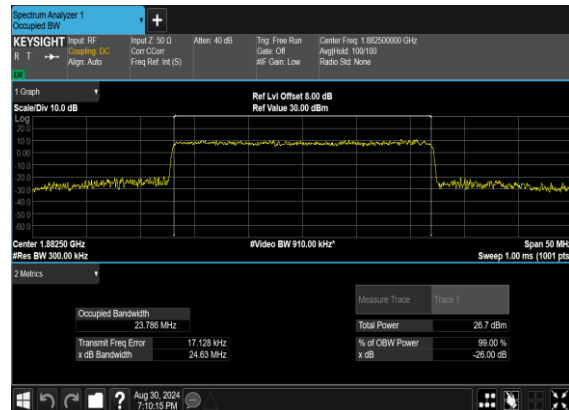
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N25(25M)\_CP-OFDM\_QPSK\_Outer\_Full\_Mid\_CH

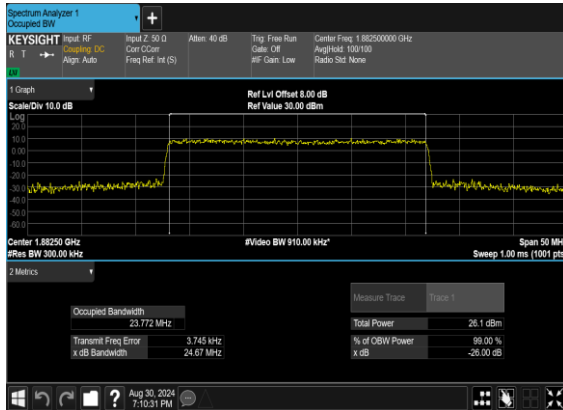


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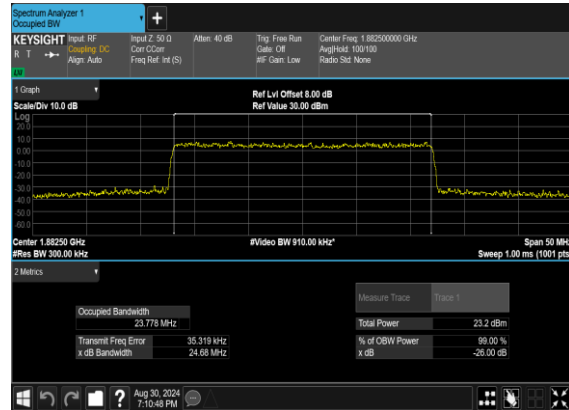




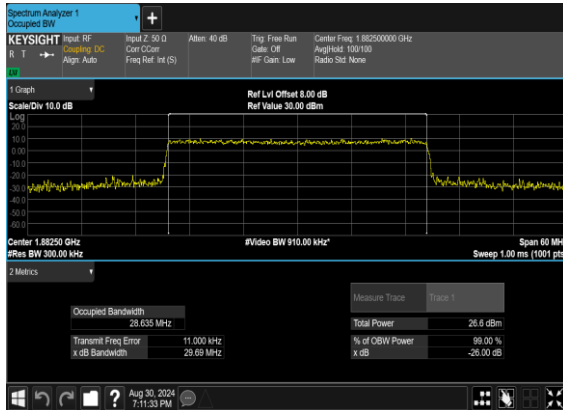
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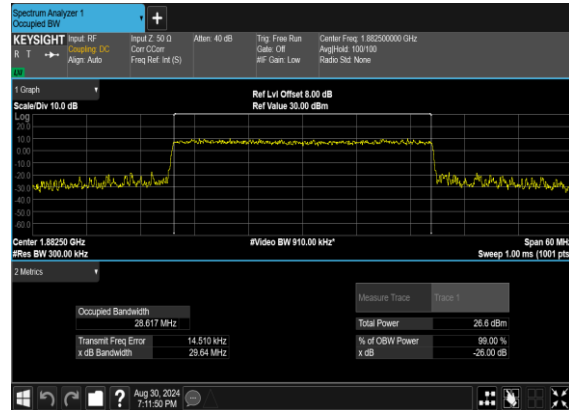
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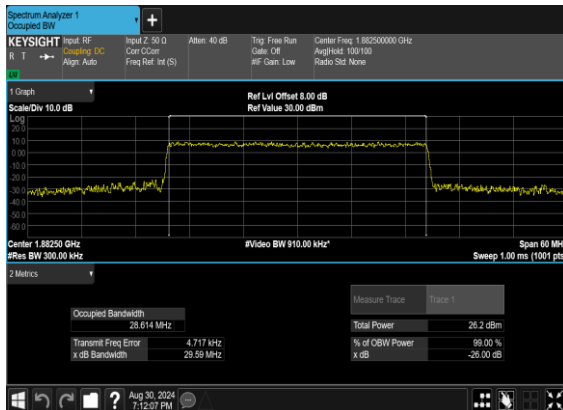
N25(30M)\_CP-OFDM\_QPSK\_Outer\_Full\_Mid\_CH



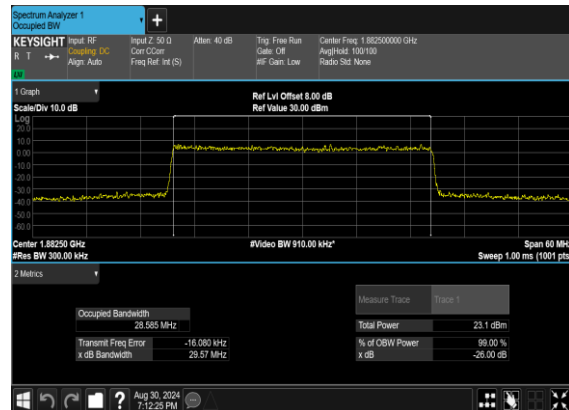
N25(30M)\_CP-OFDM\_16 QAM\_Outer\_Full\_Mid\_CH



N25(30M)\_CP-OFDM\_64 QAM\_Outer\_Full\_Mid\_CH

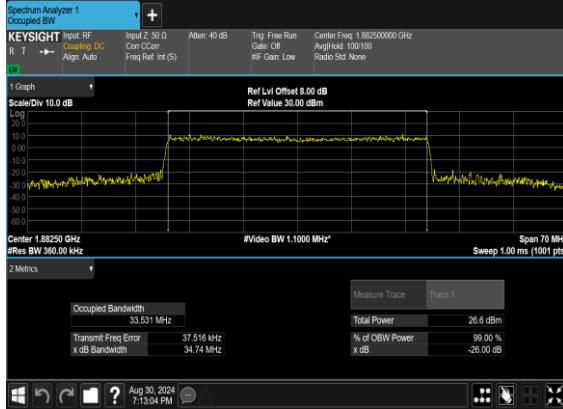


N25(30M)\_CP-OFDM\_256 QAM\_Outer\_Full\_Mid\_CH





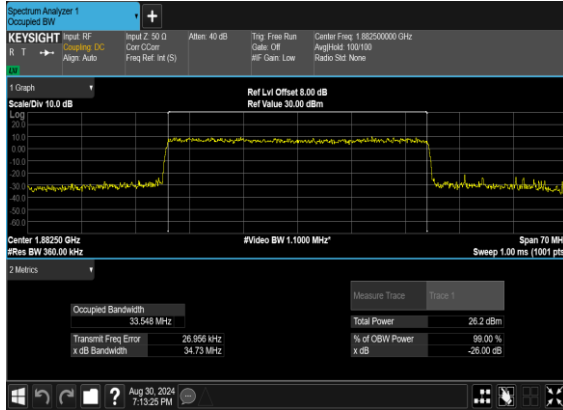
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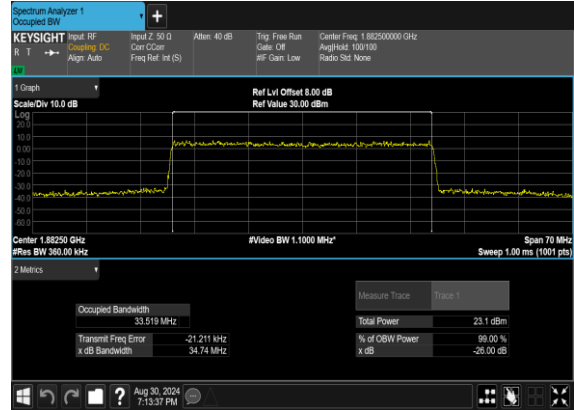
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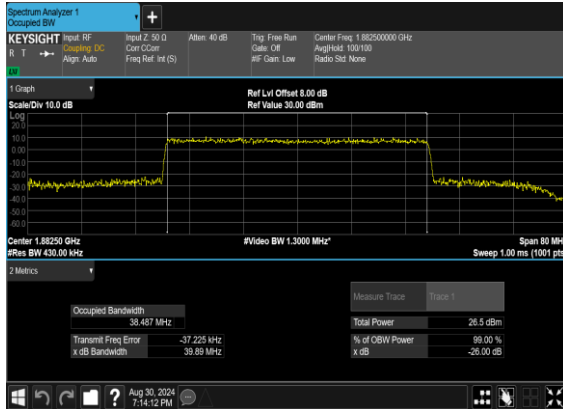
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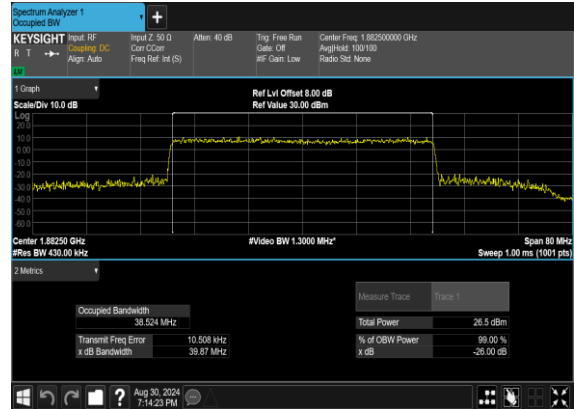
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N25(40M)\_CP-OFDM\_QPSK\_Outer\_Full\_Mid\_CH

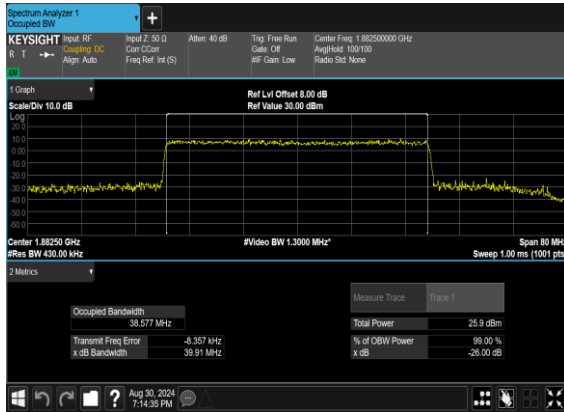


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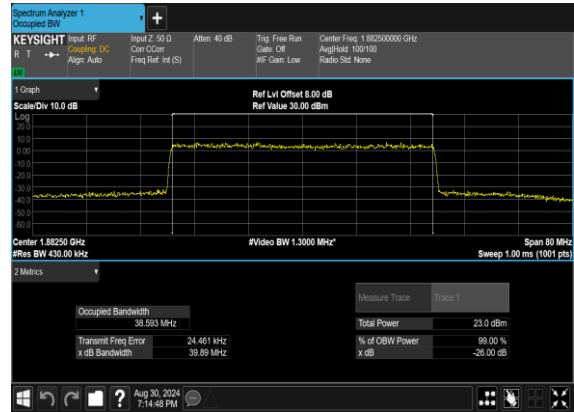




N25(40M)\_CP-OFDM\_64  
QAM\_Outer\_Full\_Mid\_CH



N25(40M)\_CP-OFDM\_256  
QAM\_Outer\_Full\_Mid\_CH





### Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	5	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	5	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	5	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	5	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	5	382500	1912.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	20	372000	1860.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	20	372000	1860.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	20	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	20	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	20	381000	1905.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM QPSK	1@0	see graph	---

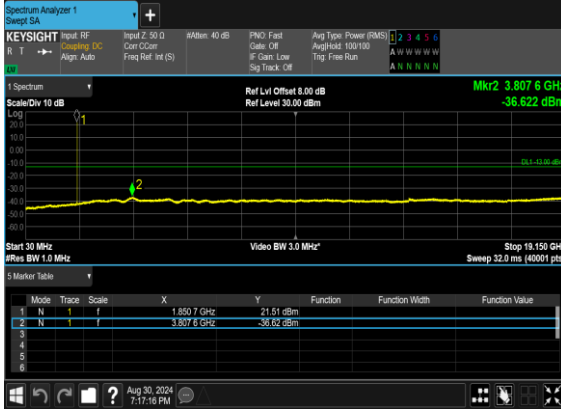




25	15	20	381000	1905.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	40	374000	1870.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	40	374000	1870.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	40	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	40	376500	1882.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM BPSK	1@0	see graph	---
25	15	40	379000	1895.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM QPSK	1@0	see graph	---
25	15	40	379000	1895.0	DFT-s-OFDM QPSK	1@0	see graph	PASS



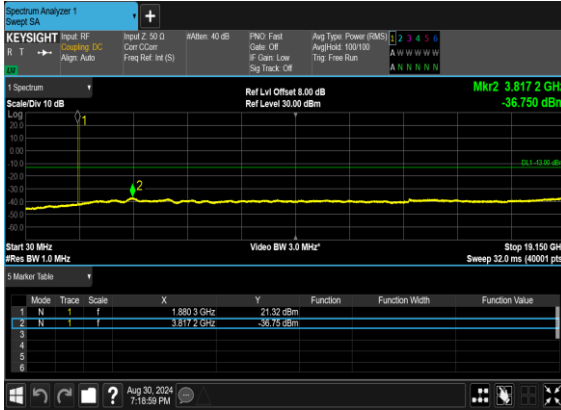
N25(5M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



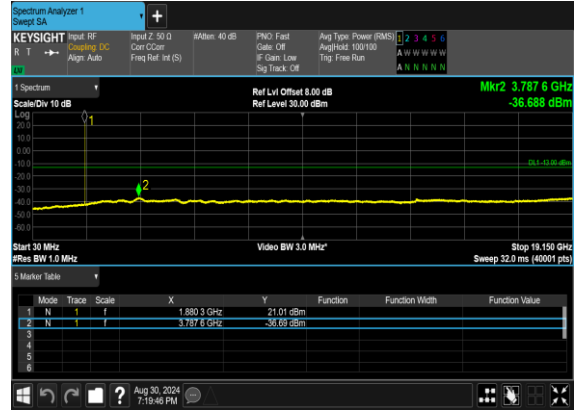
N25(5M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



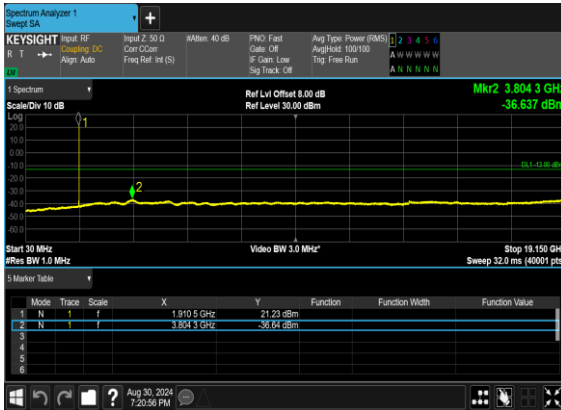
N25(5M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Mid\_CH



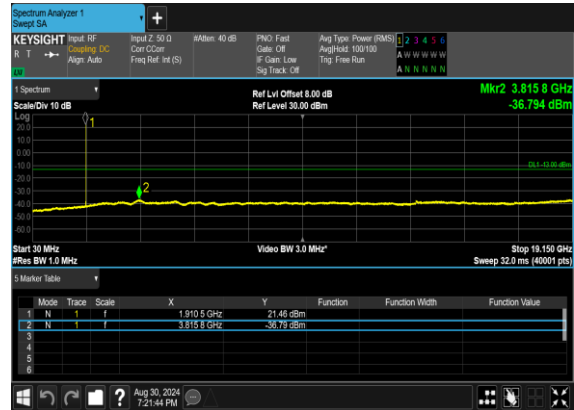
N25(5M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Mid\_CH



N25(5M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_High\_CH

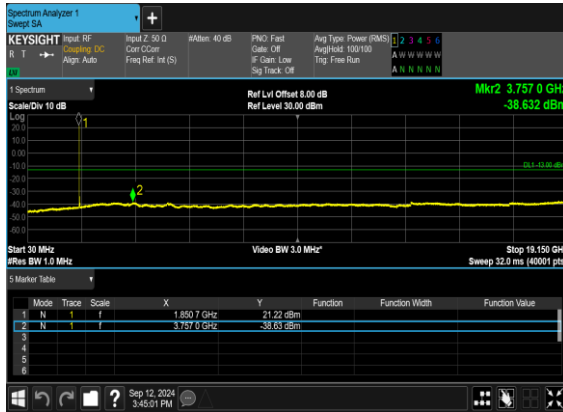


N25(5M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_High\_CH

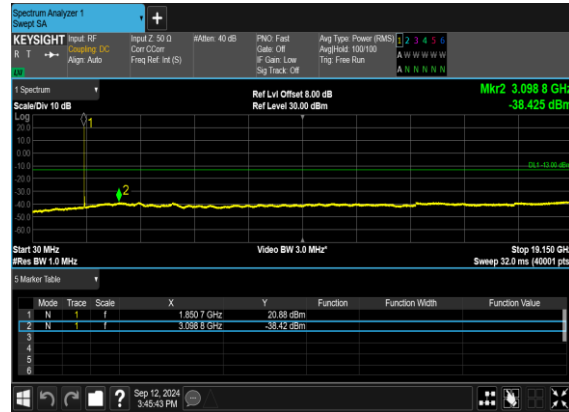




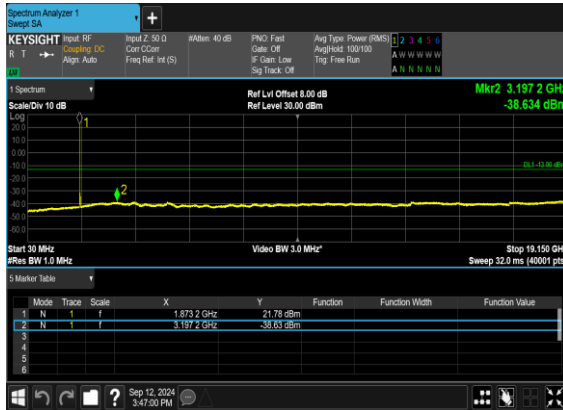
N25(20M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



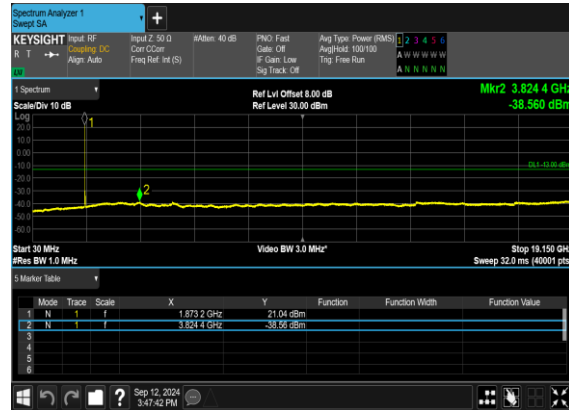
N25(20M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



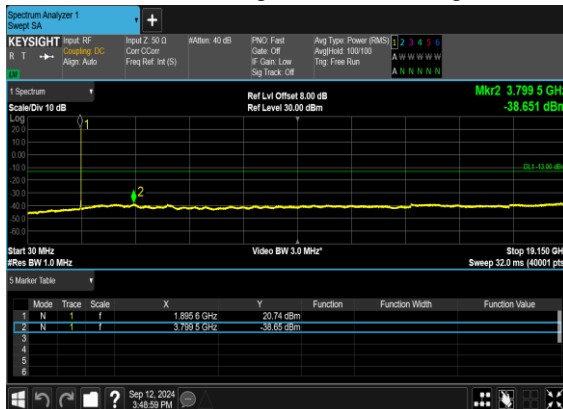
N25(20M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Mid\_CH



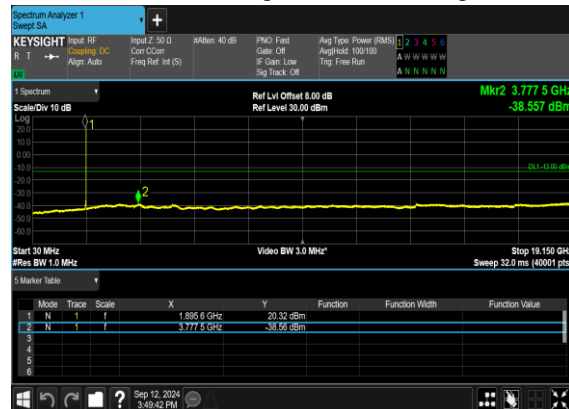
N25(20M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Mid\_CH



N25(20M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_High\_CH

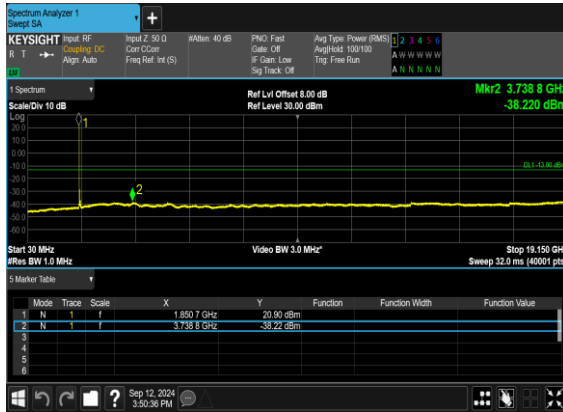


N25(20M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_High\_CH

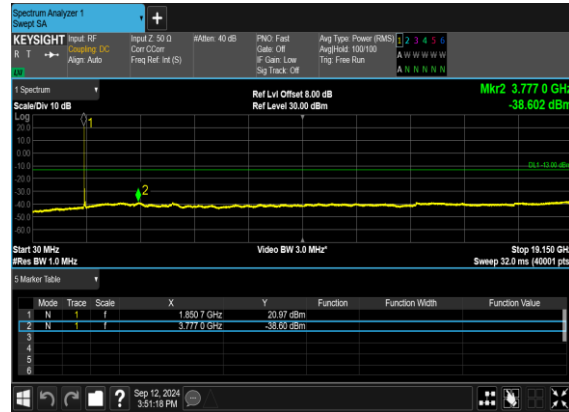




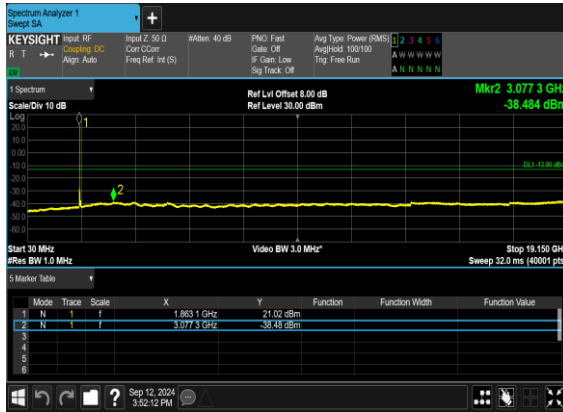
N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



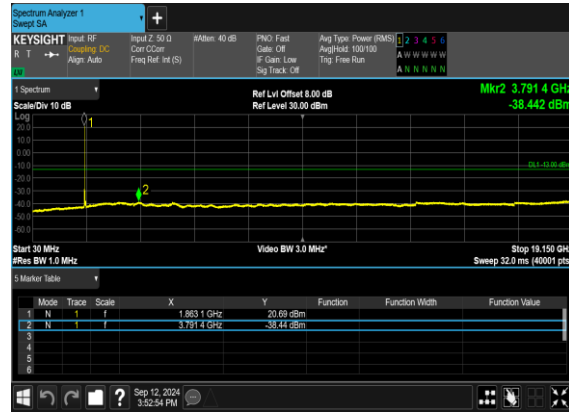
N25(40M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



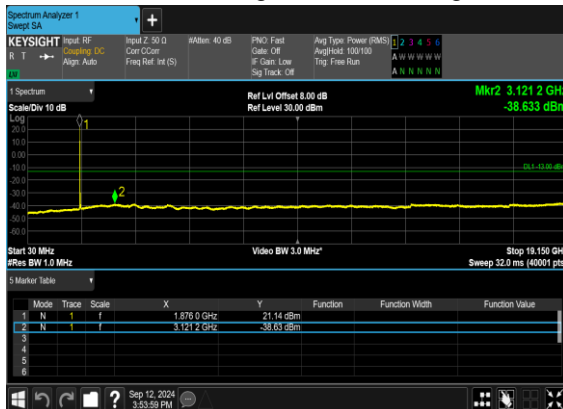
N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Mid\_CH



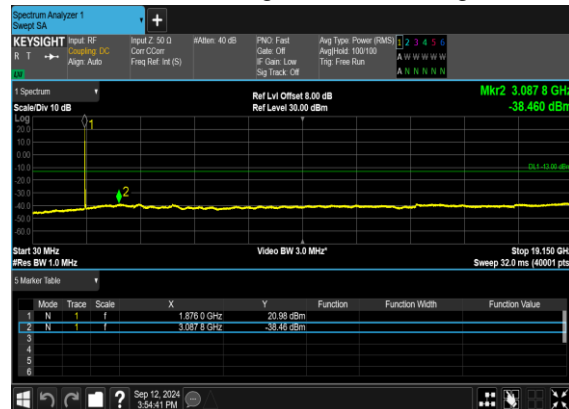
N25(40M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Mid\_CH



N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_High\_CH



N25(40M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_High\_CH



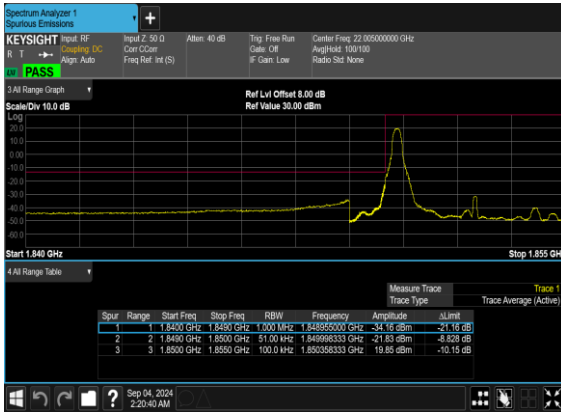


### Conducted Band Edge

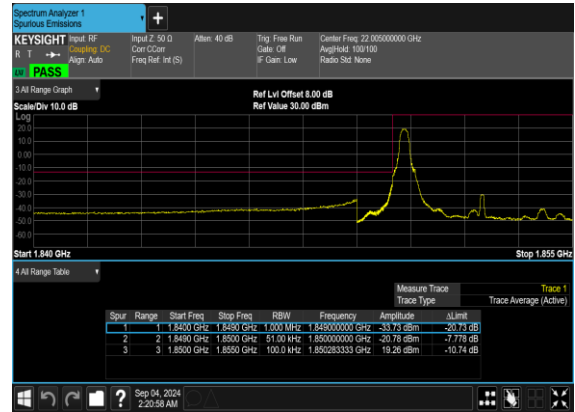
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	25@0	see graph	PASS
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	25@0	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM BPSK	1@24	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	1@24	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM BPSK	25@0	see graph	PASS
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	25@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
25	15	20	372000	1860.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM BPSK	1@105	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM QPSK	1@105	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
25	15	20	381000	1905.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM BPSK	216@0	see graph	PASS
25	15	40	374000	1870.0	DFT-s-OFDM QPSK	216@0	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM BPSK	1@215	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM QPSK	1@215	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM BPSK	216@0	see graph	PASS
25	15	40	379000	1895.0	DFT-s-OFDM QPSK	216@0	see graph	PASS



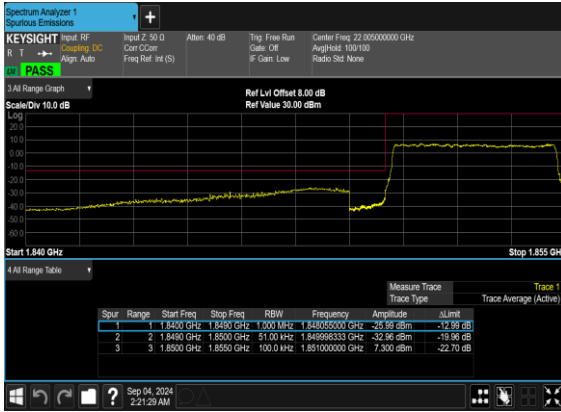
N25(5M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



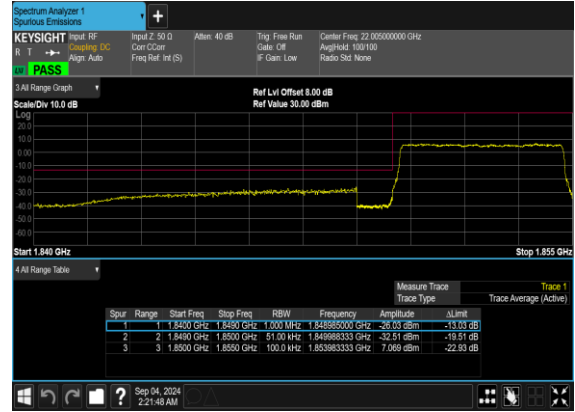
N25(5M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



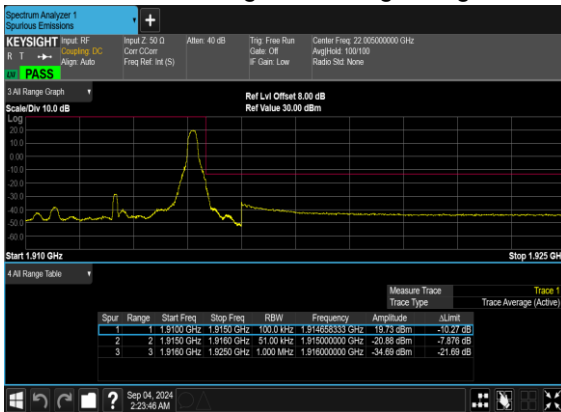
N25(5M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_Low\_CH



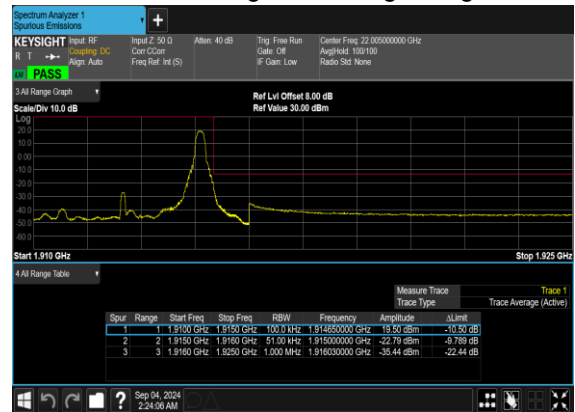
N25(5M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_Low\_CH



N25(5M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Right\_High\_CH

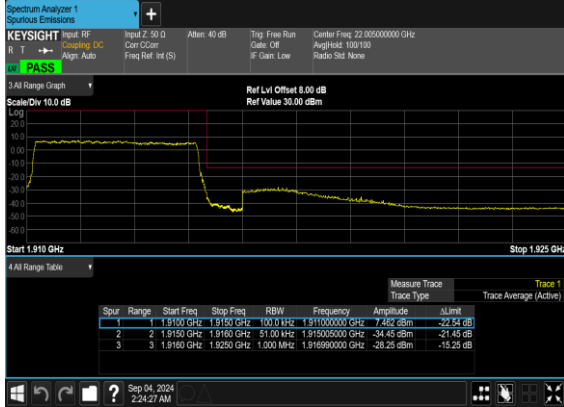


N25(5M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Right\_High\_CH

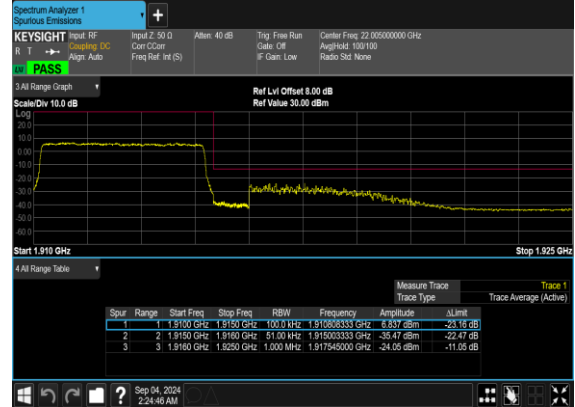




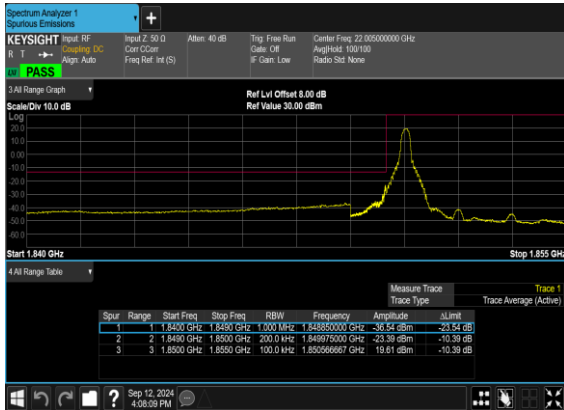
N25(5M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_High\_CH



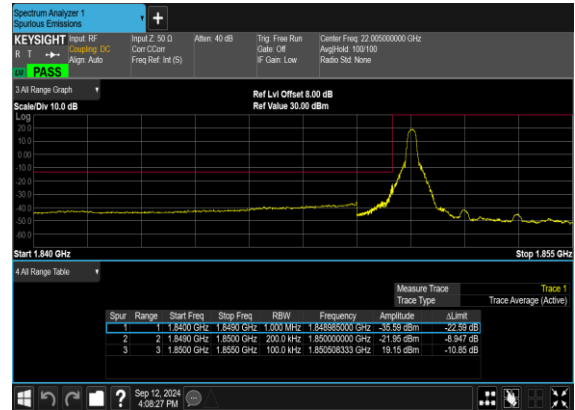
N25(5M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_High\_CH



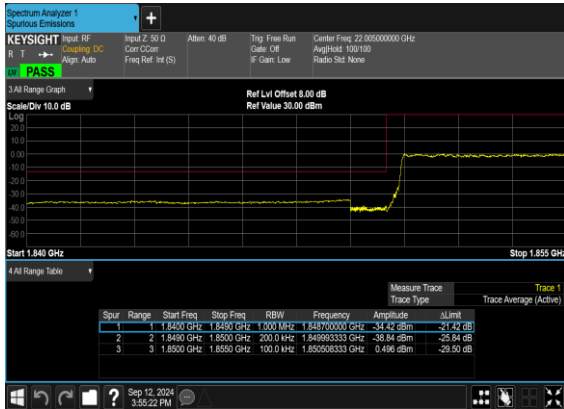
N25(20M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



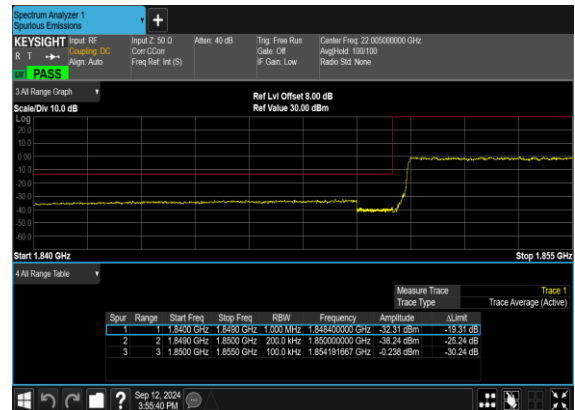
N25(20M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



N25(20M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_Low\_CH

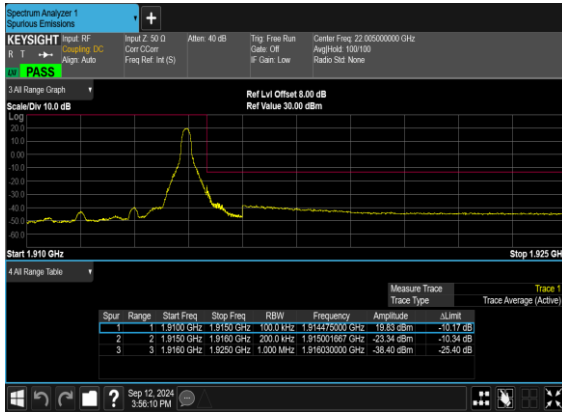


N25(20M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_Low\_CH

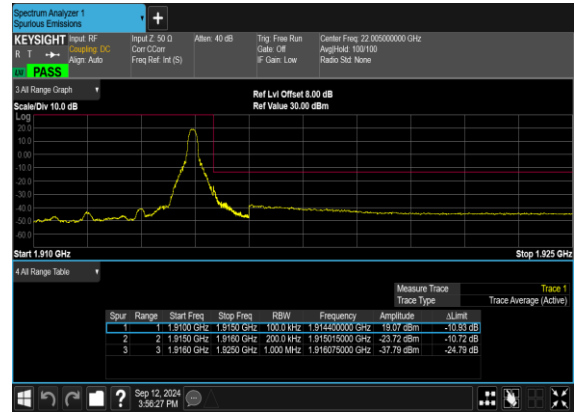




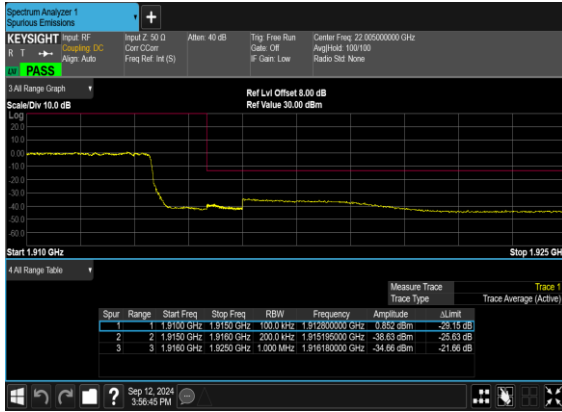
N25(20M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Right\_High\_CH



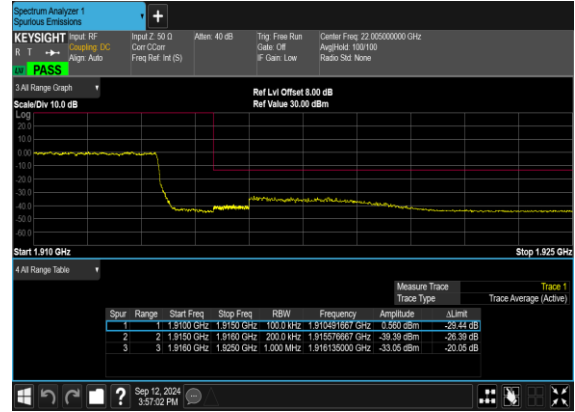
N25(20M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Right\_High\_CH



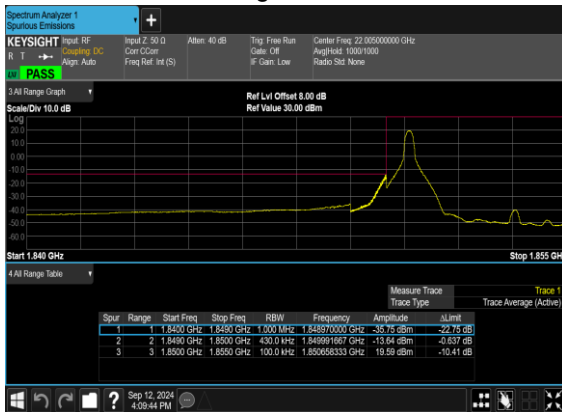
N25(20M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_High\_CH



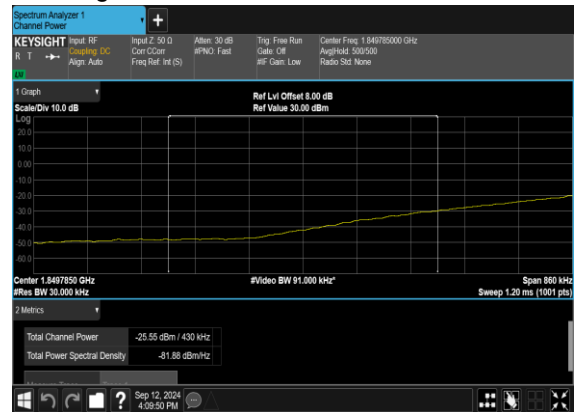
N25(20M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_High\_CH



N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH



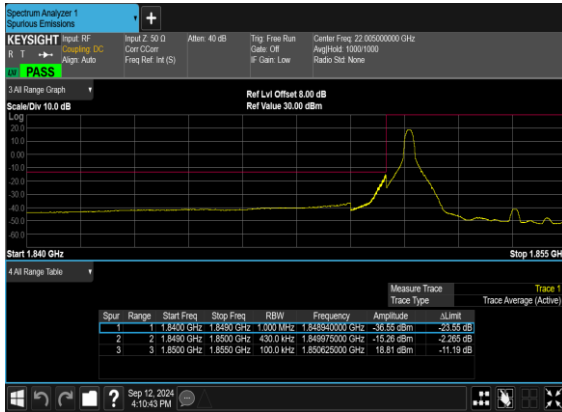
N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Left\_Low\_CH\_CHP\_PASS



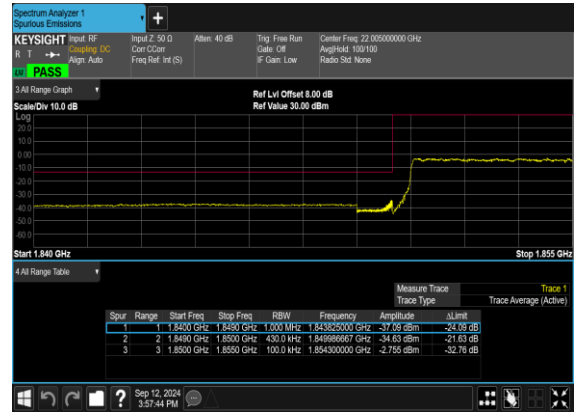




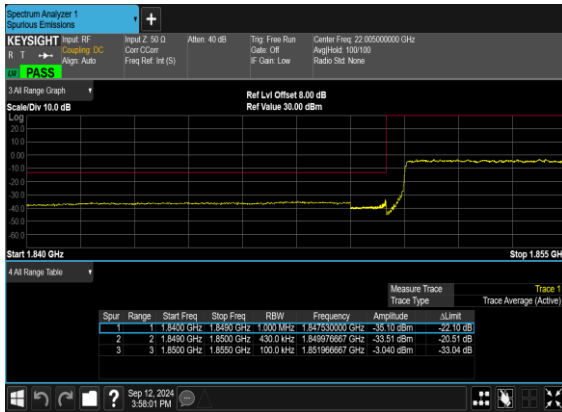
N25(40M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Left\_Low\_CH



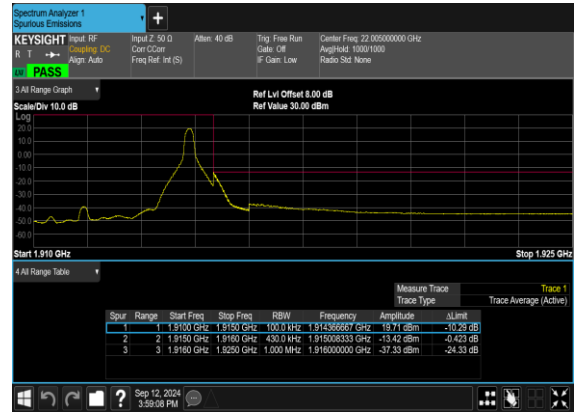
N25(40M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_Low\_CH



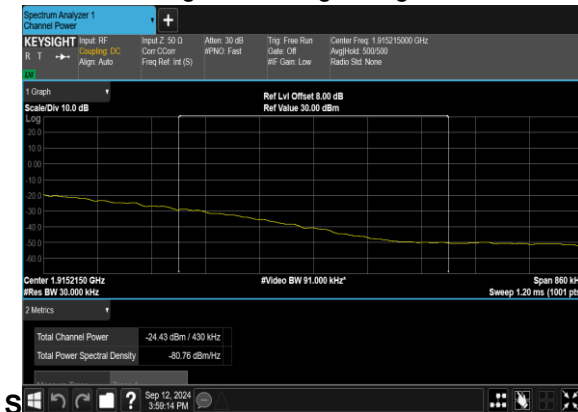
N25(40M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_Low\_CH



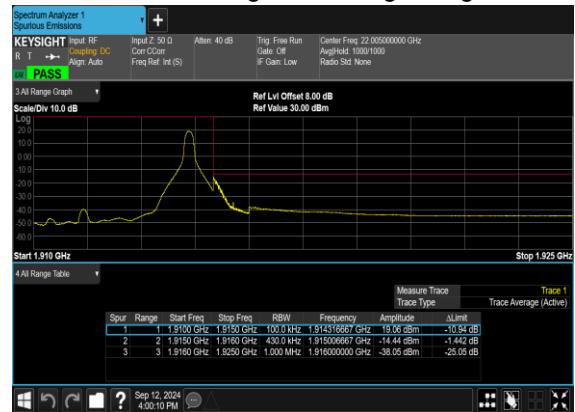
N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Right\_High\_CH



N25(40M)\_DFT-s-OFDM\_BPSK\_Edge\_1RB\_Right\_High\_CH\_CHP\_PAS



N25(40M)\_DFT-s-OFDM\_QPSK\_Edge\_1RB\_Right\_High\_CH





N25(40M)\_DFT-s-OFDM\_BPSK\_Outer\_Full\_High\_CH



N25(40M)\_DFT-s-OFDM\_QPSK\_Outer\_Full\_High\_CH

