FCC RF Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Cellular Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2453-3,XT2453-4,XT2453-5,XT2453V
FCC ID	: IHDT56AR7
STANDARD	: 47 CFR Part 2, 22, 24
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	: Mar. 14, 2024 ~ Apr. 04, 2024

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

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

Approved by: Jason Jia

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG422203J	Rev. 01	Initial issue of report	Apr. 10, 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		
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)	Conducted Band Edge Measurement (5G NR n5, n26) (5G NR n2, n25)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission (5G NR n5, n26) (5G NR n2, n25)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§24.235		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a)	Radiated Spurious Emission (5G NR n5, n26) (5G NR n2, n25)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 33.65 dB at 5595.00 MHz

Conformity Assessment Condition:

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

Disclaimer:

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

1 General Description

1.1 Applicant

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	XT2453-3,XT2453-4,XT2453-5,XT2453V
FCC ID	IHDT56AR7
IMEI Code	Conducted : 358394210026253/358394210026261(N5/26) 358394210025412/358394210025438(N2/N25/5B) Radiation : 358394210031030/358394210031048
HW Version	DVT2
SW Version	U3UC34.22
EUT Stage	Identical Prototype

Note: The four model names are only for market segment, 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
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
Bandwidth	n2/n25: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 35MHz / 40MHz n5/n26: 5MHz / 10MHz / 15MHz / 20MHz
SCS	15kHz, 30kHz
Antenna Gain	**<Ant. 0>:** n2: -2.41 dBi n5: -4.07 dBi n25: -2.41 dBi n26: -3.82 dBi

	<Ant. 1>: n2: -3.16 dBi n5: -5.04 dBi n25: -3.16 dBi n26: -4.93 dBi **<Ant. 2>:** n2: -2.28 dBi n25: -2.28 dBi **<Ant. 3>:** n2: -2.73 dBi n25: -2.73 dBi
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 n5/26/5B for Ant. 0 and n2/25 for Ant. 2 and n2/25_UL MIMO for Ant.(2+3).
2. All the supported ENDC combinations are verified conducted power, only the ENDC combination with highest power are tested in the report.
3. 5G NR support SA (n2/n5/n25/n26/5B) mode and NSA (n2/n5/n25/n26) mode. According to the maximum power between SA and NSA mode, SA covers NSA mode and SCS 15kHz cover 30kHz.
4. The EN-DC mode combination could be referred to the product spec.
5. 5G NR n2/n25 supports UL MIMO mode (the two antennas are completely uncorrelated), the conducted BE/Spurious are tested at single antenna port and add 10*log(N_{ANT}) according to KDB 662911 D01.
6. 5G NR n2/n25 UL MIMO supports CP-OFDM Mode only.
7. The device supports n2/n25(1T4R) SRS resources on ant.0/1/2/3, only the test data of worst ant.2 is showed in the report according to the maximum power.
8. For 5G NR n2/n25, there are two paths, one path for SA and other path for NSA, the two paths are same RF components thus RF only verify the power for two paths, and full test the path with maximum power.

1.5 Modification of EUT

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

1.6 Specification of Accessory

Specification of Accessory				
Battery 1	**Brand Name**	Motorola	**Model Name**	QR11
Battery 2	**Brand Name**	Motorola	**Model Name**	QR31
USB Cable 1	**Brand Name**	Motorola(CABLETECH)	**Model Name**	SC18E05246
USB Cable 2	**Brand Name**	Motorola(SAIBAO)	**Model Name**	SC18D86732

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	0.1294	4M47G7D	0.1069	4M47W7D
10	1855.0 ~ 1905.0	0.1291	9M29G7D	0.1054	9M27W7D
15	1857.5 ~ 1902.5	0.1390	14M1G7D	0.1072	14M1W7D
20	1860.0 ~ 1900.0	0.1384	18M9G7D	0.1054	18M9W7D
25	1862.5 ~ 1897.5	0.1393	23M8G7D	0.1069	23M7W7D
30	1865.0 ~ 1895.0	0.1380	28M6G7D	0.1074	28M6W7D
35	1867.5 ~ 1892.5	0.1387	33M7G7D	0.1089	33M6W7D
40	1870.0 ~ 1890.0	0.1396	38M5G7D	0.1076	38M6W7D

5G NR n2 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)
5	1852.5 ~ 1907.5	0.0973	4M46G7D	0.0904	4M48W7D
10	1855.0 ~ 1905.0	0.0961	9M29G7D	0.0945	9M31W7D
15	1857.5 ~ 1902.5	0.0964	14M1G7D	0.0903	14M1W7D
20	1860.0 ~ 1900.0	0.0962	18M9G7D	0.0935	19M0W7D
25	1862.5 ~ 1897.5	0.0951	23M7G7D	0.0931	23M8W7D
30	1865.0 ~ 1895.0	0.0977	28M5G7D	0.0951	28M5W7D
35	1867.5 ~ 1892.5	0.0945	33M5G7D	0.0844	33M6W7D
40	1870.0 ~ 1890.0	0.0983	38M5G7D	0.0926	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	0.1400	4M47G7D	0.1069	4M47W7D
10	1855.0 ~ 1910.0	0.1377	9M29G7D	0.1057	9M27W7D
15	1857.5 ~ 1907.5	0.1387	14M1G7D	0.1059	14M1W7D
20	1860.0 ~ 1905.0	0.1384	18M9G7D	0.1059	18M9W7D
25	1862.5 ~ 1902.5	0.1380	23M8G7D	0.1042	23M7W7D
30	1865.0 ~ 1900.0	0.1406	28M6G7D	0.1072	28M6W7D
35	1867.5 ~ 1897.5	0.1409	33M7G7D	0.1064	33M6W7D
40	1870.0 ~ 1895.0	0.1413	38M5G7D	0.1079	38M6W7D

5G NR n25 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)
5	1852.5 ~ 1912.5	0.0960	4M46G7D	0.0956	4M48W7D
10	1855.0 ~ 1910.0	0.0953	9M29G7D	0.0929	9M31W7D
15	1857.5 ~ 1907.5	0.0951	14M1G7D	0.0929	14M1W7D
20	1860.0 ~ 1905.0	0.0969	18M9G7D	0.0920	19M0W7D
25	1862.5 ~ 1902.5	0.0946	23M7G7D	0.0884	23M8W7D
30	1865.0 ~ 1900.0	0.0961	28M5G7D	0.0939	28M5W7D
35	1867.5 ~ 1897.5	0.0953	33M5G7D	0.0843	33M6W7D
40	1870.0 ~ 1895.0	0.1005	38M5G7D	0.0929	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	0.0532	4M46G7D	0.0421	4M48W7D
10	829.0 ~ 844.0	0.0540	9M28G7D	0.0440	9M29W7D
15	831.5 ~ 841.5	0.0541	14M1G7D	0.0439	14M1W7D
20	834.0 ~ 839.0	0.0546	18M9G7D	0.0437	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	0.0560	4M46G7D	0.0441	4M48W7D
10	829.0 ~ 844.0	0.0562	9M28G7D	0.0436	9M29W7D
15	831.5 ~ 841.5	0.0568	14M1G7D	0.0447	14M1W7D
20	834.0 ~ 839.0	0.0582	18M9G7D	0.0453	18M9W7D

5G NR CA_5B	PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5MHz+5MHz	0.0027	9M19G7D	0.0027	9M23W7D
5MHz+10MHz	0.0081	14M1G7D	0.0081	14M1W7D
5MHz+15MHz	0.0451	18M9G7D	0.0449	18M9W7D
10MHz+5MHz	0.0081	14M0G7D	0.0081	14M1W7D
15MHz+5MHz	0.0254	18M8G7D	0.0254	18M9W7D
10MHz+10MHz	0.0452	19M1G7D	0.0362	19M1W7D

Note:

1. 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.
2. 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.
3. 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. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

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

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: Test cases in section 3.4~3.9 for 5G NR n2/n25/n5B of this report.

1.9 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	TH01-SZ	WCS	WCS-FCC	22.02.041801
3.	03CH04-KS	AUDIX	E3	210616

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 2, 22, 24
- 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 plane) were recorded in this report.

The EUT is a folding phone, pretest the open status and closed status, only the worst status perform final test and record in the report. For the accessories, pretest standalone mode / Earphone mode / Adapter mode / Wireless charging mode, only the worst status perform final test and record in the report.

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

	X Plane	Y Plane	Z Plane
Orthogonal Planes of EUT			

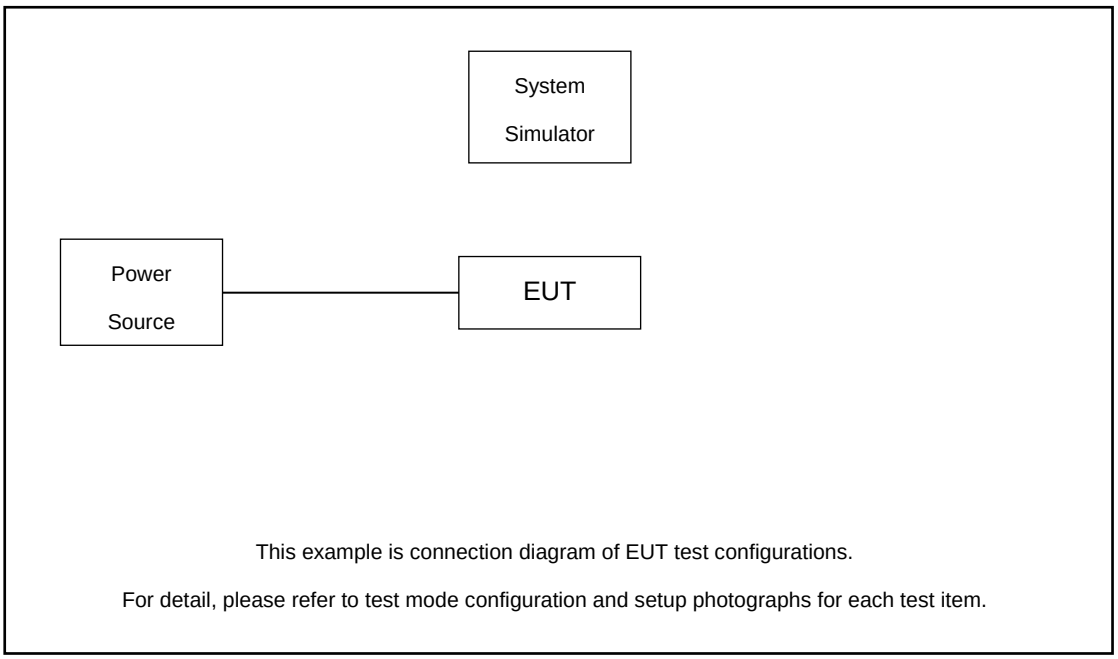
Test Items	5G NR	Bandwidth (MHz)													Modulation					RB #		Test Channel		
		5	10	15	20	25	30~35	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n2	v	v	v	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n5	v	v	v	v	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n25	v	v	v	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n26	v	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		v	
26dB and 99% Bandwidth	n25	v	v	v	v	v	v	v	-	-	-	-	-	-		v	v	v	v		v		v	
	n26	v	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
Conducted Spurious Emission	n25	v			v			v	-	-	-	-	-	-	v	v				v		v	v	v
	n26	v	v		v	-	-	-	-	-	-	-	-	-	v	v				v		v	v	v
Frequency	n25				v				-	-	-	-	-	-		v					v		v	

Test Items	5G NR	Bandwidth (MHz)													Modulation					RB #		Test Channel		
		5	10	15	20	25	30~35	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Full	L	M	H
Stability	n26				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
	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
	n26	v	v	v	v	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n25	Worst Case																					v	
	n26	Worst Case																					v	
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Frequency Stability：Normal Voltage = 3.88V ；Low Voltage =3.40V.；High Voltage =4.48V																							

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5+5M, 5+10M, 5+15, 10+5M, 15+5M, 10+10M	eg. PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	n5B	All supported Bandwidth	All Modulation	1RB, Partial RB, Full RB	L, M, H
26dB and 99% Bandwidth	n5B	All supported Bandwidth	QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	n5B	5+5M, 5+10M, 10+10M	PI/2 BPSK, QPSK	1RB, Full RB,	L, M, H
Conducted Spurious Emission	n5B	5+5M, 5+10M, 10+10M	PI/2 BPSK, QPSK	1RB, Full RB,	L, M, H
E.R.P	n5B	All supported Bandwidth	All Modulation	1RB, Partial RB, Full RB	L, M, H
Radiated Spurious Emission	n5B	Worst case from maximum power			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. Frequency Stability：Normal Voltage = 3.88V ；Low Voltage =3.40V.；High Voltage =4.48V

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

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 8.0 dB.

Example :

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

= 8.0(dB)

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	390000	392500	395000
	Frequency	1870	1882.5	1895
35	Channel	373500	392500	379500
	Frequency	1867.5	1882.5	1897.5
30	Channel	389000	392500	396000
	Frequency	1865	1882.5	1900
25	Channel	388500	392500	396500
	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

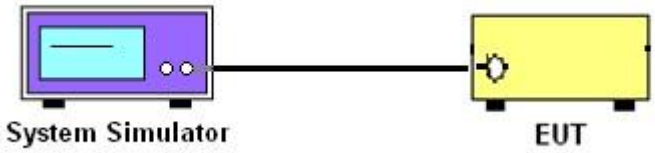
3 Conducted Test Items

3.1 Measuring Instruments

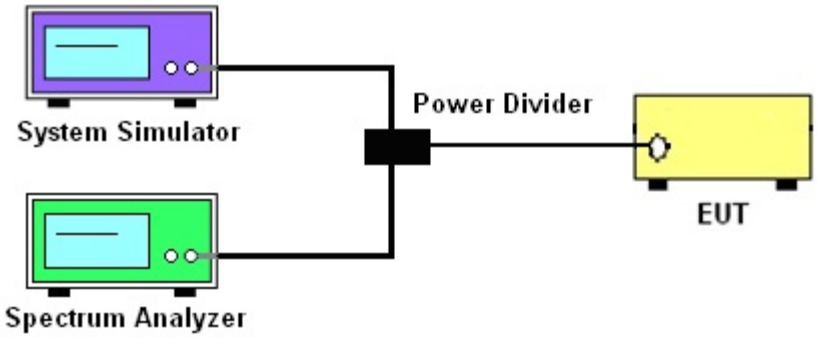
See list of measuring instruments of this test report.

3.2 Test Setup

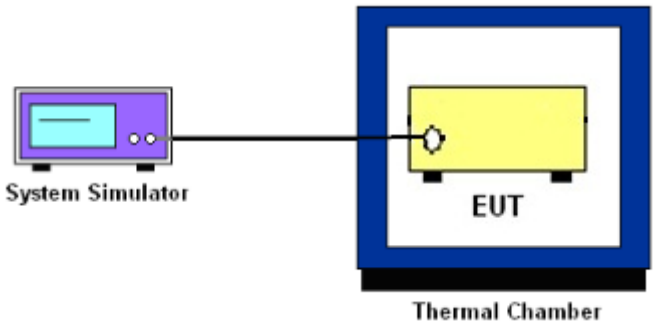
3.2.1 Conducted Output Power



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.

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[Watts]) dB below the transmitter power P(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[Watts]) dB below the transmitter power P(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.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used 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 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
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^{th} harmonic.

3.8.2 Test Procedures

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

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

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

3.9.2 Test Procedures for Temperature Variation

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

3.9.3 Test Procedures for Voltage Variation

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

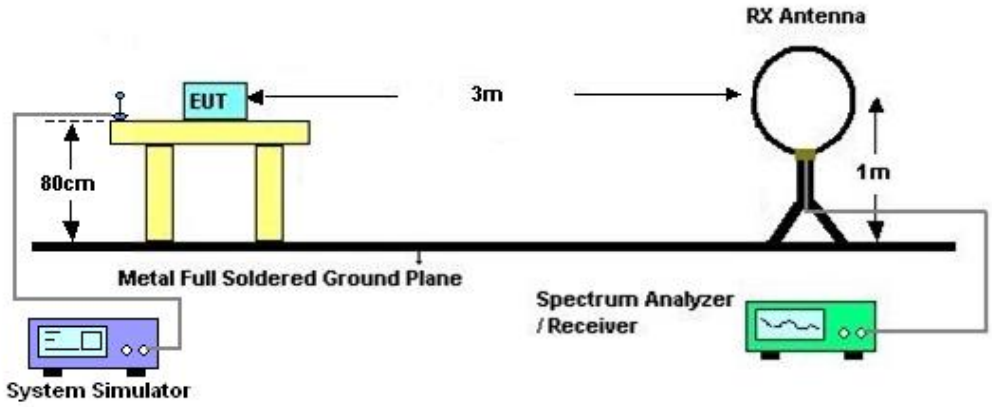
4 Radiated Test Items

4.1 Measuring Instruments

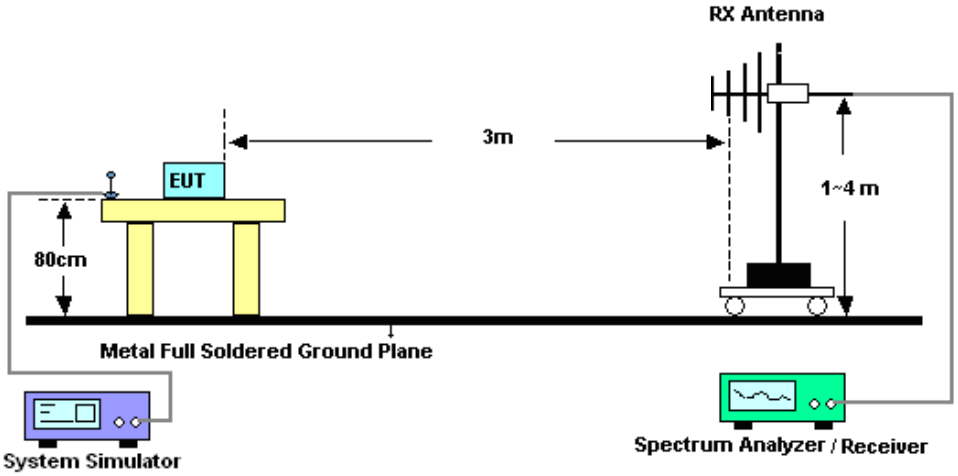
See list of measuring instruments of this test report.

4.2 Test Setup

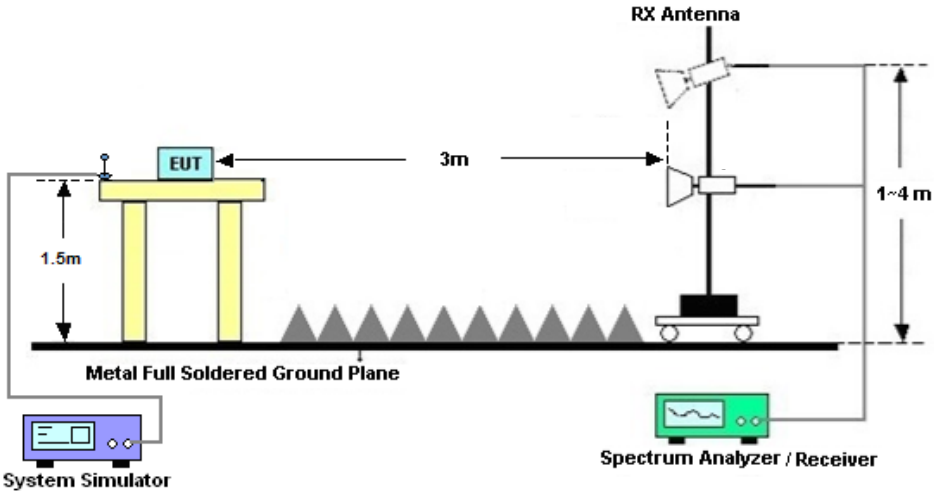
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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

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

4.4.2 Test Procedures

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

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Mar. 14, 2024~ Apr. 04, 2024~	Oct. 09, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Mar. 14, 2024~ Apr. 04, 2024~	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 06, 2023	Mar. 14, 2024~ Apr. 04, 2024~	Jul. 05, 2024	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 06, 2023	Mar. 14, 2024~ Apr. 04, 2024~	Apr. 05, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec. 25, 2023	Mar. 14, 2024~ Apr. 04, 2024~	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 05, 2023	Mar. 14, 2024~ Apr. 04, 2024~	Jul. 04, 2024	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Mar. 28, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11, 2023	Mar. 28, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Mar. 28, 2024	Apr. 08, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00251694	1GHz~18GHz	Jul. 12, 2023	Mar. 28, 2024	Jul. 11, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Mar. 28, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Mar. 28, 2024	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2024	Mar. 28, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Mar. 28, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Mar. 28, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 28, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 28, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 28, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

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

Uncertainty of Conducted Measurement (TH01-SZ)

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 Conducted Measurement (TH01-KS)

Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.46 dB
Peak to Average Ratio	±0.46 dB
Frequency Stability	±0.4 ppm

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

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

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

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

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

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

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang / Khan Zhen	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 23.06.1602

FR1 N2 (ANT2)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-2.28dB

NR Band	SCS	Band Width	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP(dBm)	EIRP(W)
2	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@1	23.25	20.97	0.1250
2	15	5	370500	1852.5	DFT-s-OFDM 16 QAM	1@1	22.4	20.12	0.1028
2	15	5	376000	1880	DFT-s-OFDM QPSK	1@1	23.4	21.12	0.1294
2	15	5	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.57	20.29	0.1069
2	15	5	381500	1907.5	DFT-s-OFDM QPSK	1@1	23.37	21.09	0.1285
2	15	5	381500	1907.5	DFT-s-OFDM 16 QAM	1@1	22.55	20.27	0.1064
2	15	10	371000	1855	DFT-s-OFDM QPSK	1@1	23.31	21.03	0.1268
2	15	10	371000	1855	DFT-s-OFDM 16 QAM	1@1	22.4	20.12	0.1028
2	15	10	376000	1880	DFT-s-OFDM QPSK	1@1	23.39	21.11	0.1291
2	15	10	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.51	20.23	0.1054
2	15	10	381000	1905	DFT-s-OFDM QPSK	1@1	23.36	21.08	0.1282
2	15	10	381000	1905	DFT-s-OFDM 16 QAM	1@1	22.49	20.21	0.1050
2	15	15	371500	1857.5	DFT-s-OFDM QPSK	1@1	23.38	21.1	0.1288
2	15	15	371500	1857.5	DFT-s-OFDM 16 QAM	1@1	22.5	20.22	0.1052
2	15	15	376000	1880	DFT-s-OFDM QPSK	1@1	23.71	21.43	0.1390
2	15	15	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.58	20.3	0.1072
2	15	15	380500	1902.5	DFT-s-OFDM QPSK	1@1	23.65	21.37	0.1371
2	15	15	380500	1902.5	DFT-s-OFDM 16 QAM	1@1	22.49	20.21	0.1050
2	15	20	372000	1860	DFT-s-OFDM QPSK	1@1	23.55	21.27	0.1340
2	15	20	372000	1860	DFT-s-OFDM 16 QAM	1@1	22.45	20.17	0.1040
2	15	20	376000	1880	DFT-s-OFDM QPSK	1@1	23.68	21.4	0.1380
2	15	20	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.48	20.2	0.1047
2	15	20	380000	1900	DFT-s-OFDM QPSK	1@1	23.69	21.41	0.1384
2	15	20	380000	1900	DFT-s-OFDM 16 QAM	1@1	22.51	20.23	0.1054
2	15	35	373500	1867.5	DFT-s-OFDM QPSK	1@1	23.64	21.36	0.1368
2	15	35	373500	1867.5	DFT-s-OFDM 16 QAM	1@1	22.62	20.34	0.1081
2	15	35	376000	1880	DFT-s-OFDM QPSK	1@1	23.7	21.42	0.1387
2	15	35	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.54	20.26	0.1062
2	15	35	378500	1892.5	DFT-s-OFDM QPSK	1@1	23.62	21.34	0.1361
2	15	35	378500	1892.5	DFT-s-OFDM 16 QAM	1@1	22.65	20.37	0.1089
2	15	25	372500	1862.5	DFT-s-OFDM QPSK	1@1	23.58	21.3	0.1349
2	15	25	372500	1862.5	DFT-s-OFDM 16 QAM	1@1	22.42	20.14	0.1033
2	15	25	376000	1880	DFT-s-OFDM QPSK	1@1	23.69	21.41	0.1384
2	15	25	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.57	20.29	0.1069
2	15	25	379500	1897.5	DFT-s-OFDM QPSK	1@1	23.72	21.44	0.1393
2	15	25	379500	1897.5	DFT-s-OFDM 16 QAM	1@1	22.48	20.2	0.1047
2	15	30	373000	1865	DFT-s-OFDM QPSK	1@1	23.63	21.35	0.1365
2	15	30	373000	1865	DFT-s-OFDM 16 QAM	1@1	22.45	20.17	0.1040
2	15	30	376000	1880	DFT-s-OFDM QPSK	1@1	23.68	21.4	0.1380
2	15	30	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.44	20.16	0.1038

2	15	30	379000	1895	DFT-s-OFDM QPSK	1@1	23.63	21.35	0.1365
2	15	30	379000	1895	DFT-s-OFDM 16 QAM	1@1	22.59	20.31	0.1074
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	108@54	23.73	21.45	0.1396
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@1	23.27	20.99	0.1256
2	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@214	23.43	21.15	0.1303
2	15	40	374000	1870	DFT-s-OFDM QPSK	108@54	23.59	21.31	0.1352
2	15	40	374000	1870	DFT-s-OFDM QPSK	1@1	23.12	20.84	0.1213
2	15	40	374000	1870	DFT-s-OFDM QPSK	1@214	23.31	21.03	0.1268
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	108@54	22.59	20.31	0.1074
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@1	22.33	20.05	0.1012
2	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@214	22.51	20.23	0.1054
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	108@54	21.03	18.75	0.0750
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@1	20.96	18.68	0.0738
2	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@214	21.07	18.79	0.0757
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	108@54	19.09	16.81	0.0480
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@1	18.88	16.6	0.0457
2	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@214	19.13	16.85	0.0484
2	15	40	374000	1870	CP-OFDM QPSK	108@54	22.1	19.82	0.0959
2	15	40	374000	1870	CP-OFDM QPSK	1@1	21.79	19.51	0.0893
2	15	40	374000	1870	CP-OFDM QPSK	1@214	22.02	19.74	0.0942
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	108@54	23.54	21.26	0.1337
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	1@1	23.24	20.96	0.1247
2	15	40	376000	1880	DFT-s-OFDM PI/2 BPSK	1@214	23.25	20.97	0.1250
2	15	40	376000	1880	DFT-s-OFDM QPSK	108@54	23.58	21.3	0.1349
2	15	40	376000	1880	DFT-s-OFDM QPSK	1@1	23.54	21.26	0.1337
2	15	40	376000	1880	DFT-s-OFDM QPSK	1@214	23.56	21.28	0.1343
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	108@54	22.59	20.31	0.1074
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	1@1	22.24	19.96	0.0991
2	15	40	376000	1880	DFT-s-OFDM 16 QAM	1@214	22.21	19.93	0.0984
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	108@54	21.04	18.76	0.0752
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	1@1	20.83	18.55	0.0716
2	15	40	376000	1880	DFT-s-OFDM 64 QAM	1@214	20.84	18.56	0.0718
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	108@54	21.03	18.75	0.0750
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	1@1	18.98	16.7	0.0468
2	15	40	376000	1880	DFT-s-OFDM 256 QAM	1@214	19.01	16.73	0.0471
2	15	40	376000	1880	CP-OFDM QPSK	108@54	22.07	19.79	0.0953
2	15	40	376000	1880	CP-OFDM QPSK	1@1	22.32	20.04	0.1009
2	15	40	376000	1880	CP-OFDM QPSK	1@214	22.08	19.8	0.0955
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	108@54	23.54	21.26	0.1337
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	1@1	23.38	21.1	0.1288
2	15	40	378000	1890	DFT-s-OFDM PI/2 BPSK	1@214	23.36	21.08	0.1282
2	15	40	378000	1890	DFT-s-OFDM QPSK	108@54	23.55	21.27	0.1340

2	15	40	378000	1890	DFT-s-OFDM QPSK	1@1	23.65	21.37	0.1371
2	15	40	378000	1890	DFT-s-OFDM QPSK	1@214	23.33	21.05	0.1274
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	108@54	22.6	20.32	0.1076
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	1@1	22.58	20.3	0.1072
2	15	40	378000	1890	DFT-s-OFDM 16 QAM	1@214	22.52	20.24	0.1057
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	108@54	21.06	18.78	0.0755
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	1@1	20.38	18.1	0.0646
2	15	40	378000	1890	DFT-s-OFDM 64 QAM	1@214	20.42	18.14	0.0652
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	108@54	19.12	16.84	0.0483
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	1@1	19.13	16.85	0.0484
2	15	40	378000	1890	DFT-s-OFDM 256 QAM	1@214	19.08	16.8	0.0479
2	15	40	378000	1890	CP-OFDM QPSK	108@54	22.04	19.76	0.0946
2	15	40	378000	1890	CP-OFDM QPSK	1@1	21.95	19.67	0.0927
2	15	40	378000	1890	CP-OFDM QPSK	1@214	21.91	19.63	0.0918

Software Version: 23.06.1602

FR1 N2(ANT2+3)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-2.28dB

NR Band	SCS	Band Width	Arfcn	Freq(MHz)	Modulation	RB	ANT2 Power (dBm)	ANT3 Power (dBm)	Conducted Power(dBm)	EIRP(dBm)	EIRP(W)
2	15	5	370500	1852.5	CP-OFDM QPSK	1@1	18.77	19.26	22.03	19.75	0.0945
2	15	5	370500	1852.5	CP-OFDM 16 QAM	1@1	18.46	18.39	21.44	19.16	0.0823
2	15	5	376000	1880	CP-OFDM QPSK	1@1	19.02	19.28	22.16	19.88	0.0973
2	15	5	376000	1880	CP-OFDM 16 QAM	1@1	18.62	19.03	21.84	19.56	0.0904
2	15	5	381500	1907.5	CP-OFDM QPSK	1@1	18.92	19.15	22.05	19.77	0.0948
2	15	5	381500	1907.5	CP-OFDM 16 QAM	1@1	18.51	18.4	21.47	19.19	0.0829
2	15	10	371000	1855	CP-OFDM QPSK	1@1	18.91	19.25	22.09	19.81	0.0958
2	15	10	371000	1855	CP-OFDM 16 QAM	1@1	18.48	18.99	21.75	19.47	0.0886
2	15	10	376000	1880	CP-OFDM QPSK	1@1	18.89	19.2	22.06	19.78	0.0950
2	15	10	376000	1880	CP-OFDM 16 QAM	1@1	18.51	18.44	21.49	19.21	0.0833
2	15	10	381000	1905	CP-OFDM QPSK	1@1	18.99	19.2	22.11	19.83	0.0961
2	15	10	381000	1905	CP-OFDM 16 QAM	1@1	18.75	19.28	22.03	19.75	0.0945
2	15	15	371500	1857.5	CP-OFDM QPSK	1@1	18.76	19.29	22.04	19.76	0.0947
2	15	15	371500	1857.5	CP-OFDM 16 QAM	1@1	18.36	18.51	21.45	19.17	0.0825
2	15	15	376000	1880	CP-OFDM QPSK	1@1	19	19.22	22.12	19.84	0.0964
2	15	15	376000	1880	CP-OFDM 16 QAM	1@1	18.64	19.01	21.84	19.56	0.0903
2	15	15	380500	1902.5	CP-OFDM QPSK	1@1	18.79	19.24	22.03	19.75	0.0944
2	15	15	380500	1902.5	CP-OFDM 16 QAM	1@1	18.39	18.41	21.41	19.13	0.0819
2	15	20	372000	1860	CP-OFDM QPSK	1@1	18.93	19.26	22.11	19.83	0.0961
2	15	20	372000	1860	CP-OFDM 16 QAM	1@1	18.58	19.34	21.99	19.71	0.0935
2	15	20	376000	1880	CP-OFDM QPSK	1@1	18.92	19.2	22.07	19.79	0.0953
2	15	20	376000	1880	CP-OFDM 16 QAM	1@1	18.43	18.45	21.45	19.17	0.0826
2	15	20	380000	1900	CP-OFDM QPSK	1@1	18.88	19.31	22.11	19.83	0.0962
2	15	20	380000	1900	CP-OFDM 16 QAM	1@1	18.52	19.36	21.97	19.69	0.0931
2	15	25	372500	1862.5	CP-OFDM QPSK	1@1	18.71	19.25	22.00	19.72	0.0937
2	15	25	372500	1862.5	CP-OFDM 16 QAM	1@1	18.3	18.46	21.39	19.11	0.0815
2	15	25	376000	1880	CP-OFDM QPSK	1@1	18.96	19.14	22.06	19.78	0.0951
2	15	25	376000	1880	CP-OFDM 16	1@1	18.67	19.23	21.97	19.69	0.0931

					QAM						
2	15	25	379500	1897.5	CP-OFDM QPSK	1@1	18.84	19.21	22.04	19.76	0.0946
2	15	25	379500	1897.5	CP-OFDM 16 QAM	1@1	18.4	18.4	21.41	19.13	0.0819
2	15	30	373000	1865	CP-OFDM QPSK	1@1	18.91	19.33	22.14	19.86	0.0967
2	15	30	373000	1865	CP-OFDM 16 QAM	1@1	18.56	19.29	21.95	19.67	0.0927
2	15	30	376000	1880	CP-OFDM QPSK	1@1	18.9	19.13	22.03	19.75	0.0943
2	15	30	376000	1880	CP-OFDM 16 QAM	1@1	18.41	18.42	21.43	19.15	0.0821
2	15	30	379000	1895	CP-OFDM QPSK	1@1	19.01	19.32	22.18	19.90	0.0977
2	15	30	379000	1895	CP-OFDM 16 QAM	1@1	18.68	19.39	22.06	19.78	0.0951
2	15	35	373500	1867.5	CP-OFDM QPSK	1@1	18.94	19.11	22.04	19.76	0.0945
2	15	35	373500	1867.5	CP-OFDM 16 QAM	1@1	18.41	18.22	21.33	19.05	0.0803
2	15	35	376000	1880	CP-OFDM QPSK	1@1	18.89	19.01	21.96	19.68	0.0929
2	15	35	376000	1880	CP-OFDM 16 QAM	1@1	18.43	18.63	21.54	19.26	0.0844
2	15	35	378500	1892.5	CP-OFDM QPSK	1@1	18.93	19.02	21.99	19.71	0.0934
2	15	35	378500	1892.5	CP-OFDM 16 QAM	1@1	18.45	18.53	21.50	19.22	0.0836
2	15	40	374000	1870	CP-OFDM QPSK	108@54	19.06	19.33	22.21	19.93	0.0983
2	15	40	374000	1870	CP-OFDM QPSK	1@1	18.76	19.28	22.04	19.76	0.0946
2	15	40	374000	1870	CP-OFDM QPSK	1@214	18.94	19.18	22.07	19.79	0.0953
2	15	40	374000	1870	CP-OFDM 16 QAM	108@54	18.6	18.8	21.71	19.43	0.0877
2	15	40	374000	1870	CP-OFDM 16 QAM	1@1	18.45	19.33	21.92	19.64	0.0921
2	15	40	374000	1870	CP-OFDM 16 QAM	1@214	18.6	19.25	21.95	19.67	0.0926
2	15	40	374000	1870	CP-OFDM 64 QAM	108@54	17.08	17.35	20.23	17.95	0.0623
2	15	40	374000	1870	CP-OFDM 64 QAM	1@1	16.47	17.37	19.95	17.67	0.0585
2	15	40	374000	1870	CP-OFDM 64 QAM	1@214	16.69	17.21	19.97	17.69	0.0587
2	15	40	374000	1870	CP-OFDM 256 QAM	108@54	14.17	14.39	17.29	15.01	0.0317
2	15	40	374000	1870	CP-OFDM 256 QAM	1@1	14.02	14.68	17.37	15.09	0.0323
2	15	40	374000	1870	CP-OFDM 256 QAM	1@214	14.22	14.56	17.40	15.12	0.0325
2	15	40	376000	1880	CP-OFDM QPSK	108@54	19.07	19.28	22.19	19.91	0.0979
2	15	40	376000	1880	CP-OFDM QPSK	1@1	18.8	19.09	21.96	19.68	0.0928
2	15	40	376000	1880	CP-OFDM QPSK	1@214	18.84	19.03	21.95	19.67	0.0926
2	15	40	376000	1880	CP-OFDM 16 QAM	108@54	18.64	18.78	21.72	19.44	0.0879
2	15	40	376000	1880	CP-OFDM 16 QAM	1@1	18.33	18.34	21.35	19.07	0.0806
2	15	40	376000	1880	CP-OFDM 16 QAM	1@214	18.4	18.19	21.31	19.03	0.0799
2	15	40	376000	1880	CP-OFDM 64 QAM	108@54	17.1	17.38	20.25	17.97	0.0627

2	15	40	376000	1880	CP-OFDM 64 QAM	1@1	17.35	17.13	20.25	17.97	0.0627
2	15	40	376000	1880	CP-OFDM 64 QAM	1@214	17.38	17.01	20.21	17.93	0.0621
2	15	40	376000	1880	CP-OFDM 256 QAM	108@54	14.12	14.36	17.25	14.97	0.0314
2	15	40	376000	1880	CP-OFDM 256 QAM	1@1	14.02	14.57	17.31	15.03	0.0319
2	15	40	376000	1880	CP-OFDM 256 QAM	1@214	14.07	14.49	17.30	15.02	0.0317
2	15	40	378000	1890	CP-OFDM QPSK	108@54	19.1	19.29	22.21	19.93	0.0983
2	15	40	378000	1890	CP-OFDM QPSK	1@1	18.85	19.31	22.10	19.82	0.0959
2	15	40	378000	1890	CP-OFDM QPSK	1@214	18.8	19.23	22.03	19.75	0.0944
2	15	40	378000	1890	CP-OFDM 16 QAM	108@54	18.59	18.82	21.72	19.44	0.0878
2	15	40	378000	1890	CP-OFDM 16 QAM	1@1	18.28	18.84	21.58	19.30	0.0851
2	15	40	378000	1890	CP-OFDM 16 QAM	1@214	18.25	18.7	21.49	19.21	0.0834
2	15	40	378000	1890	CP-OFDM 64 QAM	108@54	17.1	17.31	20.22	17.94	0.0622
2	15	40	378000	1890	CP-OFDM 64 QAM	1@1	17.03	17.68	20.38	18.10	0.0645
2	15	40	378000	1890	CP-OFDM 64 QAM	1@214	17.01	17.48	20.26	17.98	0.0628
2	15	40	378000	1890	CP-OFDM 256 QAM	108@54	14.11	14.38	17.26	14.98	0.0315
2	15	40	378000	1890	CP-OFDM 256 QAM	1@1	13.98	14.8	17.42	15.14	0.0327
2	15	40	378000	1890	CP-OFDM 256 QAM	1@214	14.02	14.72	17.39	15.11	0.0325

Software Version: 23.06.1602

FR1 N5 (ANT0)

Transmitter Conducted Output Power And ERP, (G_T - L_C)=-4.07dB

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	ERP(dBm)	ERP(W)
5	15	5	165300	826.5	DFT-s-OFDM PI/2 BPSK	1@1	23.33	17.11	0.0514
5	15	5	165300	826.5	DFT-s-OFDM QPSK	1@1	23.48	17.26	0.0532
5	15	5	165300	826.5	DFT-s-OFDM 16 QAM	1@1	22.46	16.24	0.0421
5	15	5	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	23.26	17.04	0.0506
5	15	5	167300	836.5	DFT-s-OFDM QPSK	1@1	23.35	17.13	0.0516
5	15	5	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.43	16.21	0.0418
5	15	5	169300	846.5	DFT-s-OFDM PI/2 BPSK	1@1	23.18	16.96	0.0497
5	15	5	169300	846.5	DFT-s-OFDM QPSK	1@1	23.31	17.09	0.0512
5	15	5	169300	846.5	DFT-s-OFDM 16 QAM	1@1	22.34	16.12	0.0409
5	15	10	165800	829	DFT-s-OFDM PI/2 BPSK	1@1	23.35	17.13	0.0516
5	15	10	165800	829	DFT-s-OFDM QPSK	1@1	23.54	17.32	0.0540
5	15	10	165800	829	DFT-s-OFDM 16 QAM	1@1	22.65	16.43	0.0440
5	15	10	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	23.25	17.03	0.0505
5	15	10	167300	836.5	DFT-s-OFDM QPSK	1@1	23.33	17.11	0.0514
5	15	10	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.21	15.99	0.0397
5	15	10	168800	844	DFT-s-OFDM PI/2 BPSK	1@1	23.24	17.02	0.0504
5	15	10	168800	844	DFT-s-OFDM QPSK	1@1	23.34	17.12	0.0515
5	15	10	168800	844	DFT-s-OFDM 16 QAM	1@1	22.46	16.24	0.0421
5	15	15	166300	831.5	DFT-s-OFDM PI/2 BPSK	1@1	23.35	17.13	0.0516
5	15	15	166300	831.5	DFT-s-OFDM QPSK	1@1	23.55	17.33	0.0541
5	15	15	166300	831.5	DFT-s-OFDM 16 QAM	1@1	22.29	16.07	0.0405
5	15	15	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	23.28	17.06	0.0508
5	15	15	167300	836.5	DFT-s-OFDM QPSK	1@1	23.28	17.06	0.0508
5	15	15	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.22	16	0.0398
5	15	15	168300	841.5	DFT-s-OFDM PI/2 BPSK	1@1	23.27	17.05	0.0507
5	15	15	168300	841.5	DFT-s-OFDM QPSK	1@1	23.39	17.17	0.0521
5	15	15	168300	841.5	DFT-s-OFDM 16 QAM	1@1	22.64	16.42	0.0439
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	50@25	23.31	17.09	0.0512
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	1@1	23.4	17.18	0.0522
5	15	20	166800	834	DFT-s-OFDM PI/2 BPSK	1@104	23.24	17.02	0.0504
5	15	20	166800	834	DFT-s-OFDM QPSK	50@25	23.31	17.09	0.0512
5	15	20	166800	834	DFT-s-OFDM QPSK	1@1	23.59	17.37	0.0546
5	15	20	166800	834	DFT-s-OFDM QPSK	1@104	23.3	17.08	0.0511
5	15	20	166800	834	DFT-s-OFDM 16 QAM	50@25	22.33	16.11	0.0408
5	15	20	166800	834	DFT-s-OFDM 16 QAM	1@1	22.62	16.4	0.0437
5	15	20	166800	834	DFT-s-OFDM 16 QAM	1@104	22.47	16.25	0.0422
5	15	20	166800	834	DFT-s-OFDM 64 QAM	50@25	20.85	14.63	0.0290
5	15	20	166800	834	DFT-s-OFDM 64 QAM	1@1	20.74	14.52	0.0283
5	15	20	166800	834	DFT-s-OFDM 64 QAM	1@104	20.62	14.4	0.0275
5	15	20	166800	834	DFT-s-OFDM 256 QAM	50@25	18.83	12.61	0.0182
5	15	20	166800	834	DFT-s-OFDM 256 QAM	1@1	18.94	12.72	0.0187

5	15	20	166800	834	DFT-s-OFDM 256 QAM	1@104	18.77	12.55	0.0180
5	15	20	166800	834	CP-OFDM QPSK	53@26	21.81	15.59	0.0362
5	15	20	166800	834	CP-OFDM QPSK	1@1	21.95	15.73	0.0374
5	15	20	166800	834	CP-OFDM QPSK	1@104	21.76	15.54	0.0358
5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	50@25	23.34	17.12	0.0515
5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	23.4	17.18	0.0522
5	15	20	167300	836.5	DFT-s-OFDM PI/2 BPSK	1@104	23.36	17.14	0.0518
5	15	20	167300	836.5	DFT-s-OFDM QPSK	50@25	23.33	17.11	0.0514
5	15	20	167300	836.5	DFT-s-OFDM QPSK	1@1	23.47	17.25	0.0531
5	15	20	167300	836.5	DFT-s-OFDM QPSK	1@104	23.37	17.15	0.0519
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	50@25	22.37	16.15	0.0412
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	1@1	22.32	16.1	0.0407
5	15	20	167300	836.5	DFT-s-OFDM 16 QAM	1@104	22.31	16.09	0.0406
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	50@25	20.8	14.58	0.0287
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	1@1	21.21	14.99	0.0316
5	15	20	167300	836.5	DFT-s-OFDM 64 QAM	1@104	21.1	14.88	0.0308
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	50@25	18.85	12.63	0.0183
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	1@1	19.01	12.79	0.0190
5	15	20	167300	836.5	DFT-s-OFDM 256 QAM	1@104	18.9	12.68	0.0185
5	15	20	167300	836.5	CP-OFDM QPSK	53@26	21.83	15.61	0.0364
5	15	20	167300	836.5	CP-OFDM QPSK	1@1	21.76	15.54	0.0358
5	15	20	167300	836.5	CP-OFDM QPSK	1@104	21.78	15.56	0.0360
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	50@25	23.34	17.12	0.0515
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	1@1	23.32	17.1	0.0513
5	15	20	167800	839	DFT-s-OFDM PI/2 BPSK	1@104	23.24	17.02	0.0504
5	15	20	167800	839	DFT-s-OFDM QPSK	50@25	23.33	17.11	0.0514
5	15	20	167800	839	DFT-s-OFDM QPSK	1@1	23.47	17.25	0.0531
5	15	20	167800	839	DFT-s-OFDM QPSK	1@104	23.34	17.12	0.0515
5	15	20	167800	839	DFT-s-OFDM 16 QAM	50@25	22.37	16.15	0.0412
5	15	20	167800	839	DFT-s-OFDM 16 QAM	1@1	22.46	16.24	0.0421
5	15	20	167800	839	DFT-s-OFDM 16 QAM	1@104	22.5	16.28	0.0425
5	15	20	167800	839	DFT-s-OFDM 64 QAM	50@25	20.83	14.61	0.0289
5	15	20	167800	839	DFT-s-OFDM 64 QAM	1@1	20.73	14.51	0.0282
5	15	20	167800	839	DFT-s-OFDM 64 QAM	1@104	20.66	14.44	0.0278
5	15	20	167800	839	DFT-s-OFDM 256 QAM	50@25	18.81	12.59	0.0182
5	15	20	167800	839	DFT-s-OFDM 256 QAM	1@1	18.88	12.66	0.0185
5	15	20	167800	839	DFT-s-OFDM 256 QAM	1@104	18.78	12.56	0.0180
5	15	20	167800	839	CP-OFDM QPSK	53@26	21.84	15.62	0.0365
5	15	20	167800	839	CP-OFDM QPSK	1@1	21.86	15.64	0.0366
5	15	20	167800	839	CP-OFDM QPSK	1@104	21.82	15.6	0.0363

Software Version: 23.06.1602

FR1 N25 (ANT2)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-2.28dB

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	23.57	21.29	0.1346
25	15	5	370500	1852.5	DFT-s-OFDM 16 QAM	1@1	22.4	20.12	0.1028
25	15	5	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.74	21.46	0.1400
25	15	5	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.57	20.29	0.1069
25	15	5	382500	1912.5	DFT-s-OFDM QPSK	1@1	23.56	21.28	0.1343
25	15	5	382500	1912.5	DFT-s-OFDM 16 QAM	1@1	22.55	20.27	0.1064
25	15	10	371000	1855	DFT-s-OFDM QPSK	1@1	23.62	21.34	0.1361
25	15	10	371000	1855	DFT-s-OFDM 16 QAM	1@1	22.52	20.24	0.1057
25	15	10	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.67	21.39	0.1377
25	15	10	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.48	20.2	0.1047
25	15	10	382000	1910	DFT-s-OFDM QPSK	1@1	23.63	21.35	0.1365
25	15	10	382000	1910	DFT-s-OFDM 16 QAM	1@1	22.5	20.22	0.1052
25	15	15	371500	1857.5	DFT-s-OFDM QPSK	1@1	23.62	21.34	0.1361
25	15	15	371500	1857.5	DFT-s-OFDM 16 QAM	1@1	22.39	20.11	0.1026
25	15	15	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.7	21.42	0.1387
25	15	15	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.53	20.25	0.1059
25	15	15	381500	1907.5	DFT-s-OFDM QPSK	1@1	23.7	21.42	0.1387
25	15	15	381500	1907.5	DFT-s-OFDM 16 QAM	1@1	22.43	20.15	0.1035
25	15	20	372000	1860	DFT-s-OFDM QPSK	1@1	23.61	21.33	0.1358
25	15	20	372000	1860	DFT-s-OFDM 16 QAM	1@1	22.39	20.11	0.1026
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.69	21.41	0.1384
25	15	20	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.53	20.25	0.1059
25	15	20	381000	1905	DFT-s-OFDM QPSK	1@1	23.63	21.35	0.1365
25	15	20	381000	1905	DFT-s-OFDM 16 QAM	1@1	22.39	20.11	0.1026
25	15	25	372500	1862.5	DFT-s-OFDM QPSK	1@1	23.61	21.33	0.1358
25	15	25	372500	1862.5	DFT-s-OFDM 16 QAM	1@1	22.46	20.18	0.1042
25	15	25	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.68	21.4	0.1380
25	15	25	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.31	20.03	0.1007
25	15	25	380500	1902.5	DFT-s-OFDM QPSK	1@1	23.63	21.35	0.1365

25	15	25	380500	1902.5	DFT-s-OFDM 16 QAM	1@1	22.43	20.15	0.1035
25	15	30	373000	1865	DFT-s-OFDM QPSK	1@1	23.68	21.4	0.1380
25	15	30	373000	1865	DFT-s-OFDM 16 QAM	1@1	22.58	20.3	0.1072
25	15	30	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.4	21.12	0.1294
25	15	30	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.29	20.01	0.1002
25	15	30	380000	1900	DFT-s-OFDM QPSK	1@1	23.76	21.48	0.1406
25	15	30	380000	1900	DFT-s-OFDM 16 QAM	1@1	22.54	20.26	0.1062
25	15	35	373500	1867.5	DFT-s-OFDM QPSK	1@1	23.71	21.43	0.1390
25	15	35	373500	1867.5	DFT-s-OFDM 16 QAM	1@1	22.55	20.27	0.1064
25	15	35	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.55	21.27	0.1340
25	15	35	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.48	20.2	0.1047
25	15	35	379500	1897.5	DFT-s-OFDM QPSK	1@1	23.77	21.49	0.1409
25	15	35	379500	1897.5	DFT-s-OFDM 16 QAM	1@1	22.38	20.1	0.1023
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	108@54	23.57	21.29	0.1346
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@1	23.26	20.98	0.1253
25	15	40	374000	1870	DFT-s-OFDM PI/2 BPSK	1@214	23.41	21.13	0.1297
25	15	40	374000	1870	DFT-s-OFDM QPSK	108@54	23.55	21.27	0.1340
25	15	40	374000	1870	DFT-s-OFDM QPSK	1@1	23.11	20.83	0.1211
25	15	40	374000	1870	DFT-s-OFDM QPSK	1@214	23.23	20.95	0.1245
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	108@54	22.56	20.28	0.1067
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@1	22.43	20.15	0.1035
25	15	40	374000	1870	DFT-s-OFDM 16 QAM	1@214	22.54	20.26	0.1062
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	108@54	21.07	18.79	0.0757
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@1	20.62	18.34	0.0682
25	15	40	374000	1870	DFT-s-OFDM 64 QAM	1@214	20.77	18.49	0.0706
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	108@54	19.08	16.8	0.0479
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@1	18.83	16.55	0.0452
25	15	40	374000	1870	DFT-s-OFDM 256 QAM	1@214	19.02	16.74	0.0472
25	15	40	374000	1870	CP-OFDM QPSK	108@54	22.02	19.74	0.0942
25	15	40	374000	1870	CP-OFDM QPSK	1@1	22.13	19.85	0.0966
25	15	40	374000	1870	CP-OFDM QPSK	1@214	21.97	19.69	0.0931
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	108@54	23.53	21.25	0.1334
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	1@1	23.33	21.05	0.1274
25	15	40	376500	1882.5	DFT-s-OFDM PI/2 BPSK	1@214	23.36	21.08	0.1282
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	108@54	23.58	21.3	0.1349

25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@1	23.23	20.95	0.1245
25	15	40	376500	1882.5	DFT-s-OFDM QPSK	1@214	23.29	21.01	0.1262
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	108@54	22.59	20.31	0.1074
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	1@1	22.57	20.29	0.1069
25	15	40	376500	1882.5	DFT-s-OFDM 16 QAM	1@214	22.5	20.22	0.1052
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	108@54	21.07	18.79	0.0757
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	1@1	20.42	18.14	0.0652
25	15	40	376500	1882.5	DFT-s-OFDM 64 QAM	1@214	20.45	18.17	0.0656
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	108@54	19.07	16.79	0.0478
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	1@1	18.97	16.69	0.0467
25	15	40	376500	1882.5	DFT-s-OFDM 256 QAM	1@214	19.09	16.81	0.0480
25	15	40	376500	1882.5	CP-OFDM QPSK	108@54	22.03	19.75	0.0944
25	15	40	376500	1882.5	CP-OFDM QPSK	1@1	22.11	19.83	0.0962
25	15	40	376500	1882.5	CP-OFDM QPSK	1@214	21.92	19.64	0.0920
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	108@54	23.56	21.28	0.1343
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	1@1	23.39	21.11	0.1291
25	15	40	379000	1895	DFT-s-OFDM PI/2 BPSK	1@214	23.37	21.09	0.1285
25	15	40	379000	1895	DFT-s-OFDM QPSK	108@54	23.58	21.3	0.1349
25	15	40	379000	1895	DFT-s-OFDM QPSK	1@1	23.78	21.5	0.1413
25	15	40	379000	1895	DFT-s-OFDM QPSK	1@214	23.27	20.99	0.1256
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	108@54	22.61	20.33	0.1079
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	1@1	22.6	20.32	0.1076
25	15	40	379000	1895	DFT-s-OFDM 16 QAM	1@214	22.59	20.31	0.1074
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	108@54	21.09	18.81	0.0760
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	1@1	21.13	18.85	0.0767
25	15	40	379000	1895	DFT-s-OFDM 64 QAM	1@214	20.97	18.69	0.0740
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	108@54	19.12	16.84	0.0483
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	1@1	19.04	16.76	0.0474
25	15	40	379000	1895	DFT-s-OFDM 256 QAM	1@214	19.04	16.76	0.0474
25	15	40	379000	1895	CP-OFDM QPSK	108@54	22.03	19.75	0.0944
25	15	40	379000	1895	CP-OFDM QPSK	1@1	22.24	19.96	0.0991
25	15	40	379000	1895	CP-OFDM QPSK	1@214	21.96	19.68	0.0929

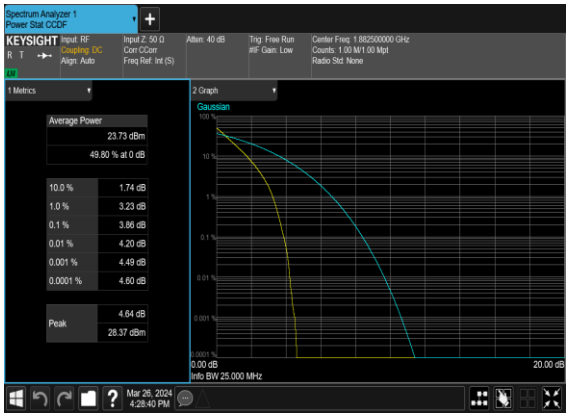
Frequency Stability

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	0.0067	**PASS**	NV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0057	**PASS**	LV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0032	**PASS**	HV
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0029	**PASS**	-30℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0022	**PASS**	-20℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0064	**PASS**	-10℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0036	**PASS**	0℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0066	**PASS**	10℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0067	**PASS**	20℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0046	**PASS**	30℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0070	**PASS**	40℃
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	0.0040	**PASS**	50℃

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	3.86	13	**PASS**
25	15	20	376500	1882.5	DFT-s-OFDM QPSK	100@0	4.67	13	**PASS**

N25(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



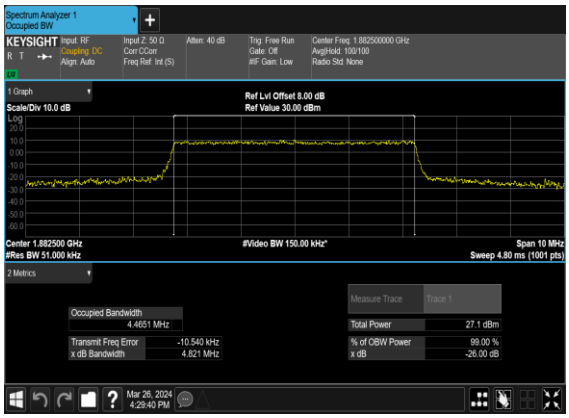
N25(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

Occupied Bandwidth

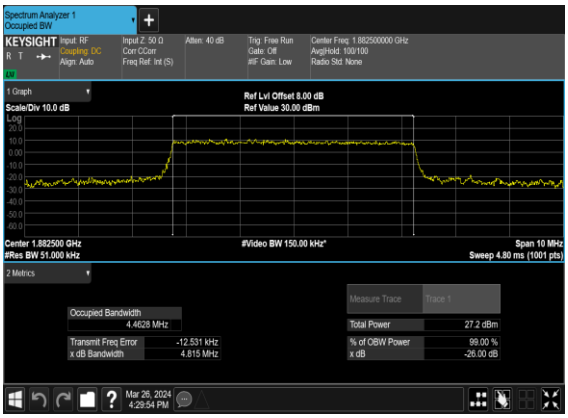
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
25	15	5	376500	1882.5	CP-OFDM QPSK	25@0	4.4651	4.821
25	15	5	376500	1882.5	CP-OFDM 16 QAM	25@0	4.4628	4.815
25	15	5	376500	1882.5	CP-OFDM 64 QAM	25@0	4.4738	4.775
25	15	5	376500	1882.5	CP-OFDM 256 QAM	25@0	4.4717	4.819
25	15	10	376500	1882.5	CP-OFDM QPSK	52@0	9.2889	9.693
25	15	10	376500	1882.5	CP-OFDM 16 QAM	52@0	9.2619	9.741
25	15	10	376500	1882.5	CP-OFDM 64 QAM	52@0	9.2748	9.707
25	15	10	376500	1882.5	CP-OFDM 256 QAM	52@0	9.273	9.667
25	15	15	376500	1882.5	CP-OFDM QPSK	79@0	14.077	14.68
25	15	15	376500	1882.5	CP-OFDM 16 QAM	79@0	14.108	14.72
25	15	15	376500	1882.5	CP-OFDM 64 QAM	79@0	14.099	14.73
25	15	15	376500	1882.5	CP-OFDM 256 QAM	79@0	14.126	14.74
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	18.92	19.68
25	15	20	376500	1882.5	CP-OFDM 16 QAM	106@0	18.892	19.7
25	15	20	376500	1882.5	CP-OFDM 64 QAM	106@0	18.933	19.67
25	15	20	376500	1882.5	CP-OFDM 256 QAM	106@0	18.908	19.62
25	15	25	376500	1882.5	CP-OFDM QPSK	133@0	23.782	24.71
25	15	25	376500	1882.5	CP-OFDM 16 QAM	133@0	23.727	24.67
25	15	25	376500	1882.5	CP-OFDM 64 QAM	133@0	23.74	24.66
25	15	25	376500	1882.5	CP-OFDM 256 QAM	133@0	23.735	24.69
25	15	30	376500	1882.5	CP-OFDM QPSK	160@0	28.571	29.59
25	15	30	376500	1882.5	CP-OFDM 16 QAM	160@0	28.564	29.57
25	15	30	376500	1882.5	CP-OFDM 64 QAM	160@0	28.602	29.64
25	15	30	376500	1882.5	CP-OFDM 256 QAM	160@0	28.533	29.63
25	15	35	376500	1882.5	CP-OFDM QPSK	188@0	33.675	36.84

25	15	35	376500	1882.5	CP-OFDM 16 QAM	188@0	33.532	37.74
25	15	35	376500	1882.5	CP-OFDM 64 QAM	188@0	33.649	34.75
25	15	35	376500	1882.5	CP-OFDM 256 QAM	188@0	33.464	34.91
25	15	40	376500	1882.5	CP-OFDM QPSK	216@0	38.522	39.86
25	15	40	376500	1882.5	CP-OFDM 16 QAM	216@0	38.503	39.95
25	15	40	376500	1882.5	CP-OFDM 64 QAM	216@0	38.558	39.91
25	15	40	376500	1882.5	CP-OFDM 256 QAM	216@0	38.578	39.95

N25(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

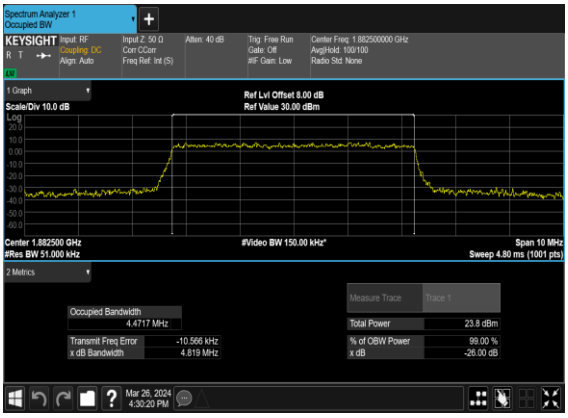


N25(5M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N25(5M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

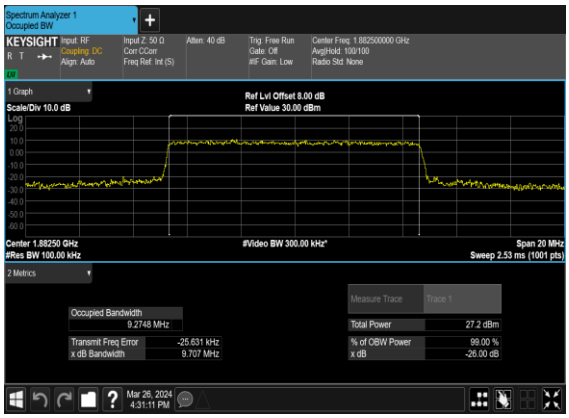
N25(5M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



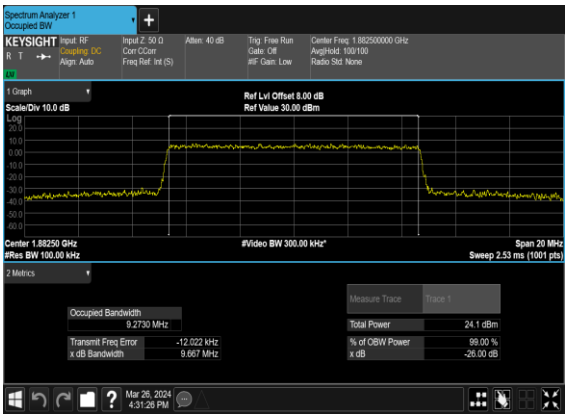
N25(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N25(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

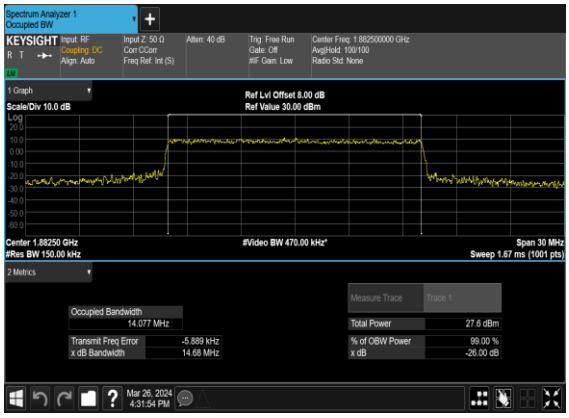
N25(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N25(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N25(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

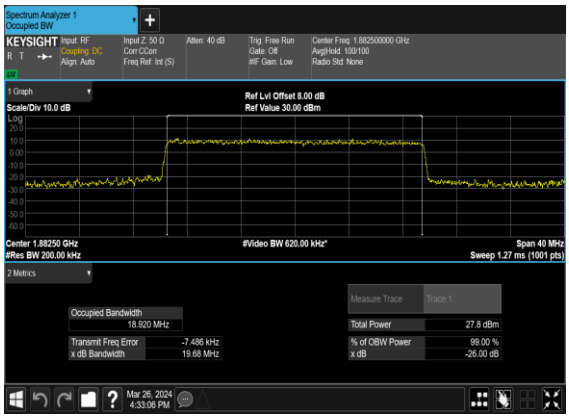


N25(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

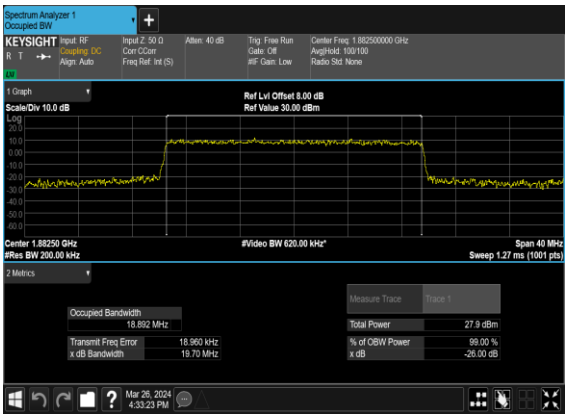
N25(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N25(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

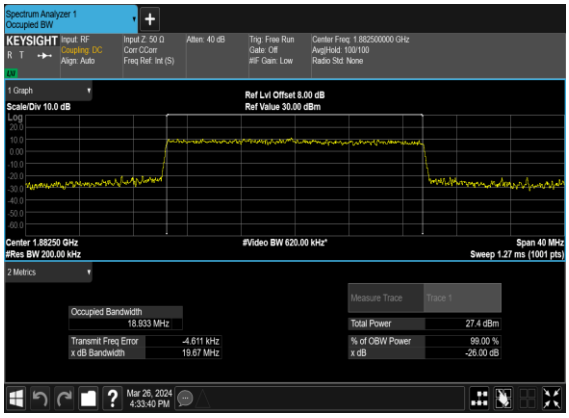
N25(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



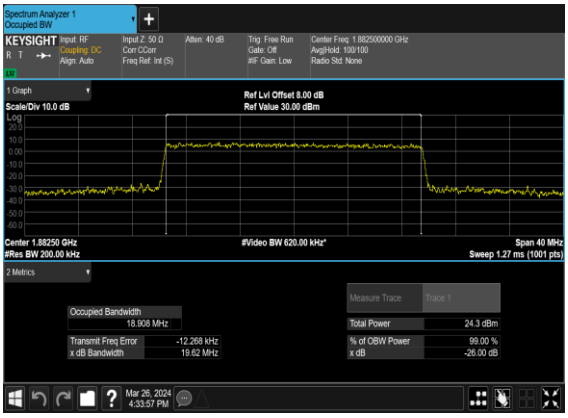
N25(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N25(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

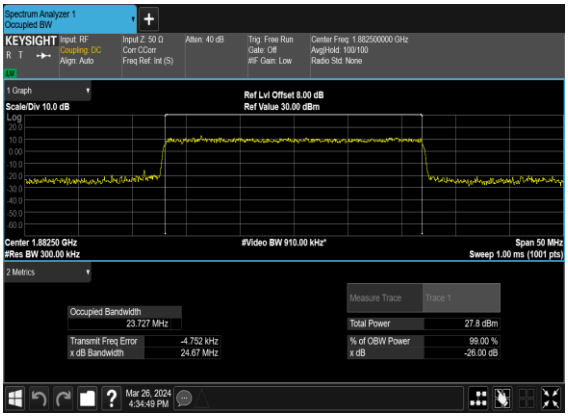


N25(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

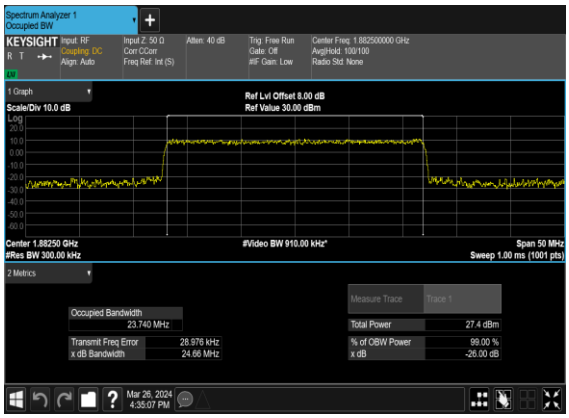


N25(25M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

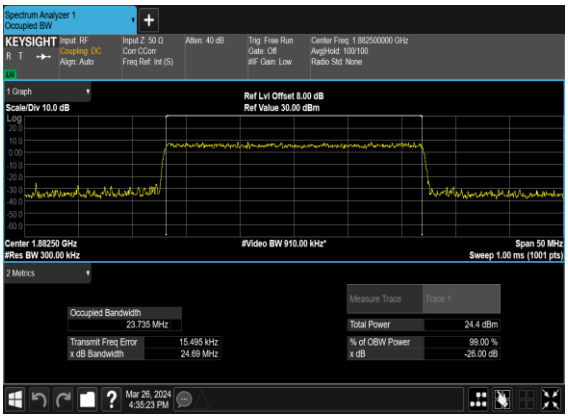
N25(25M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



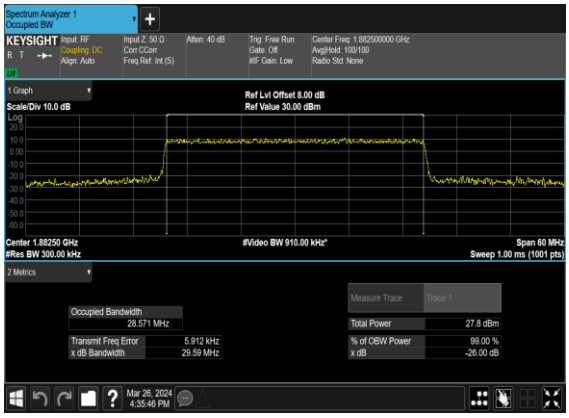
N25(25M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



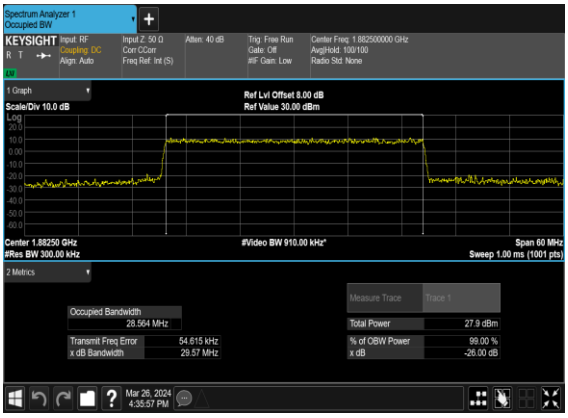
N25(25M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N25(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

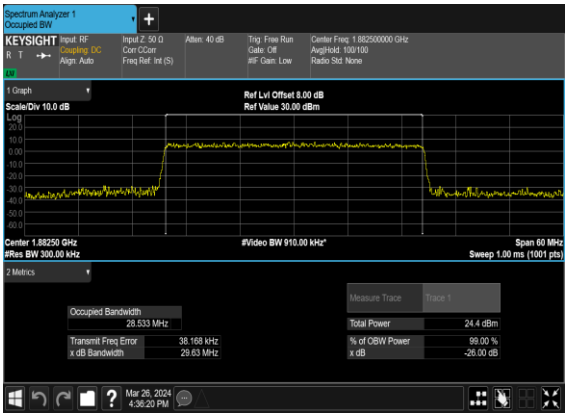


N25(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

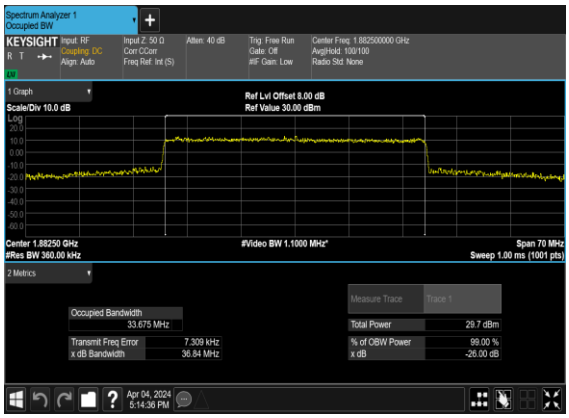


N25(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

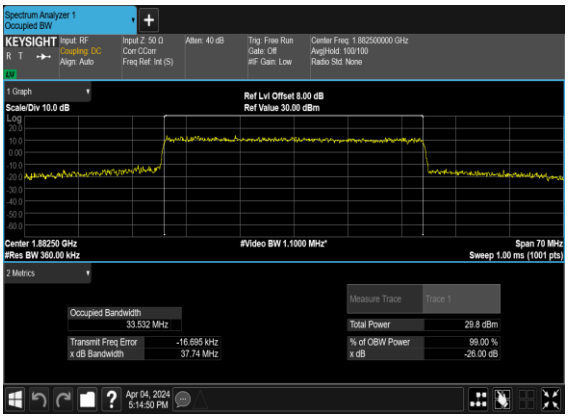
N25(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



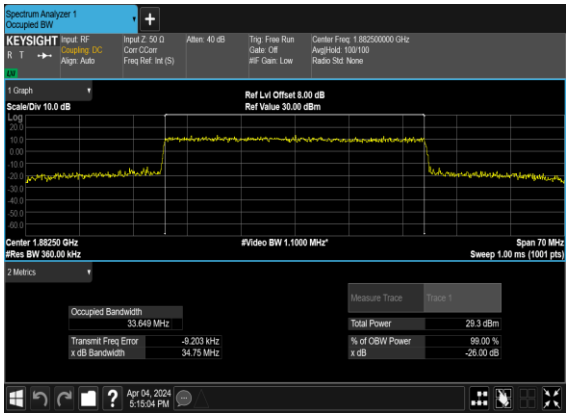
N25(35M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



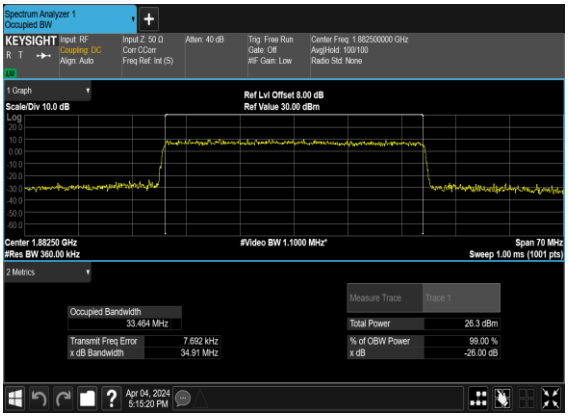
N25(35M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



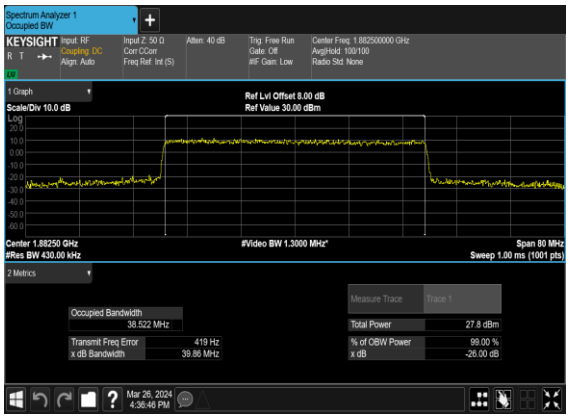
N25(35M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



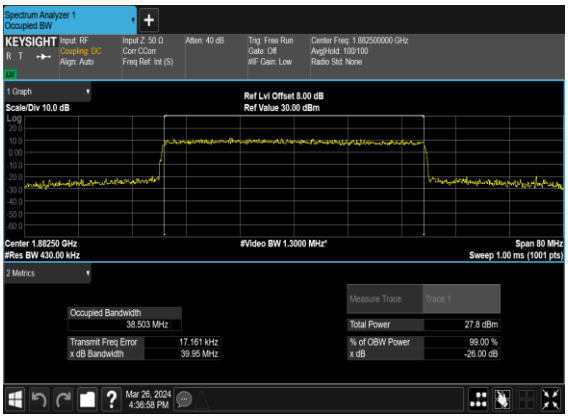
N25(35M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



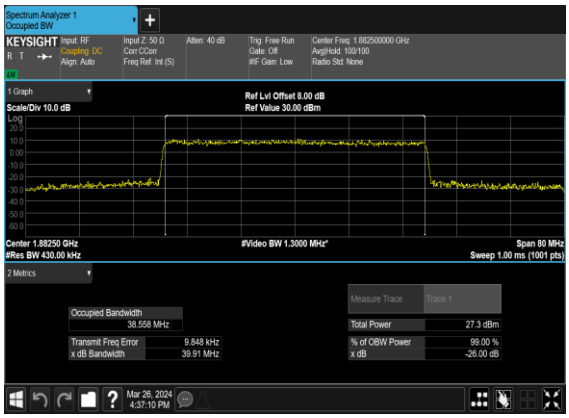
N25(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



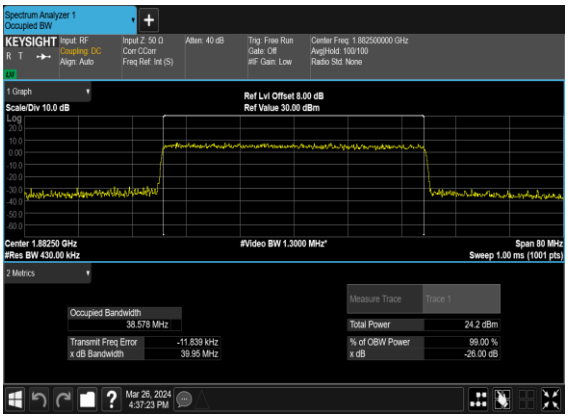
N25(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N25(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N25(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

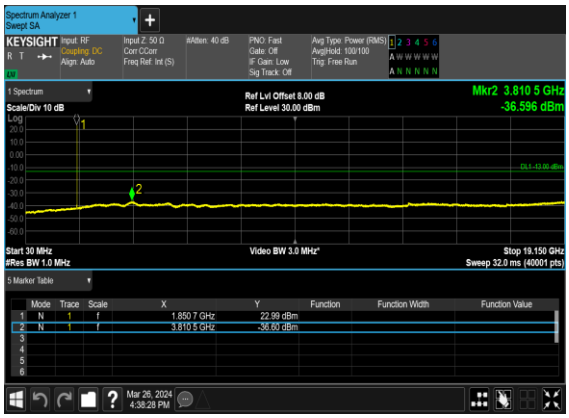


Conducted Spurious Emissions

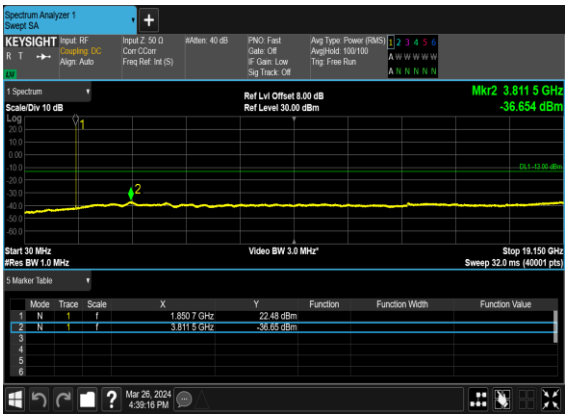
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	**---**
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	see graph	**---**
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	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**

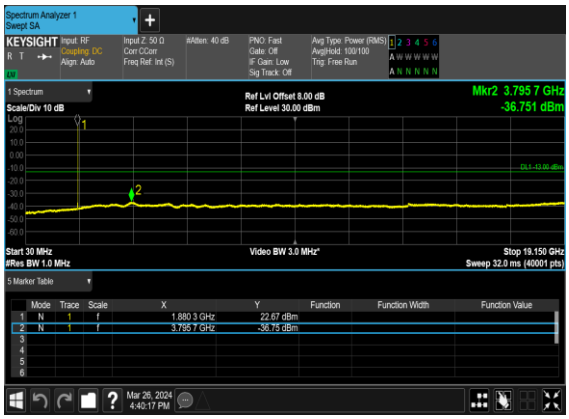
N25(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



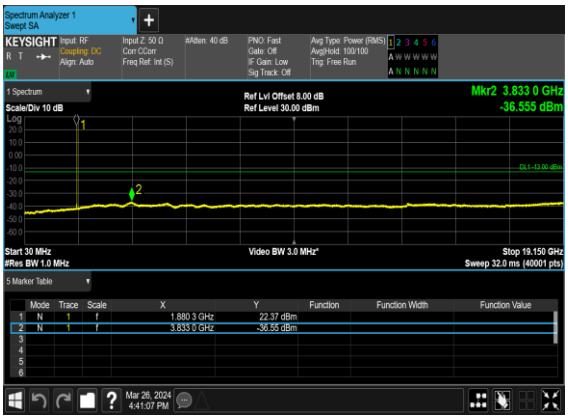
N25(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



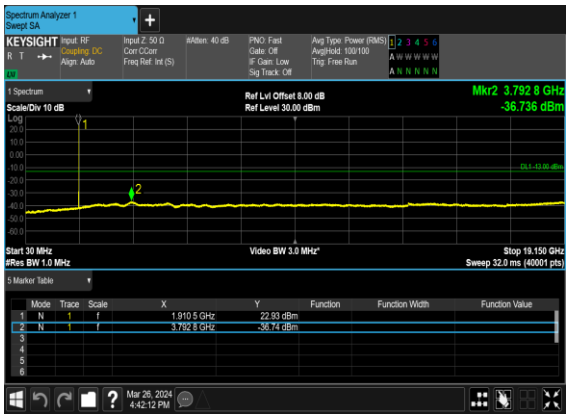
N25(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



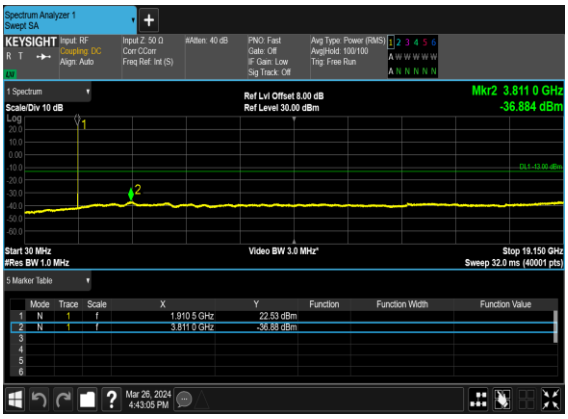
N25(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



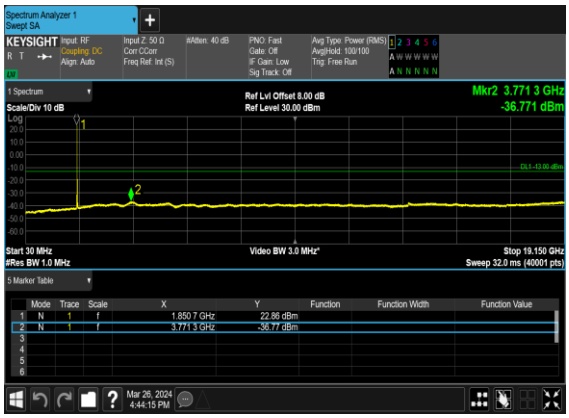
N25(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



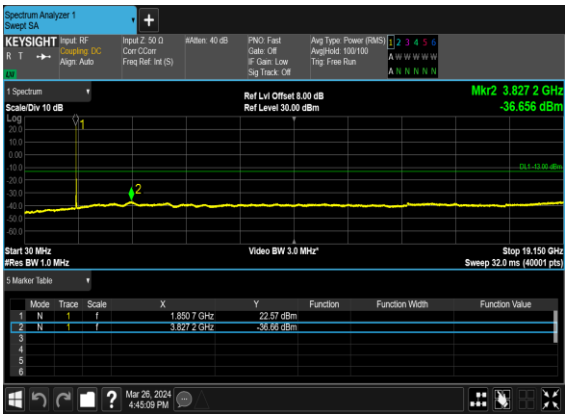
N25(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



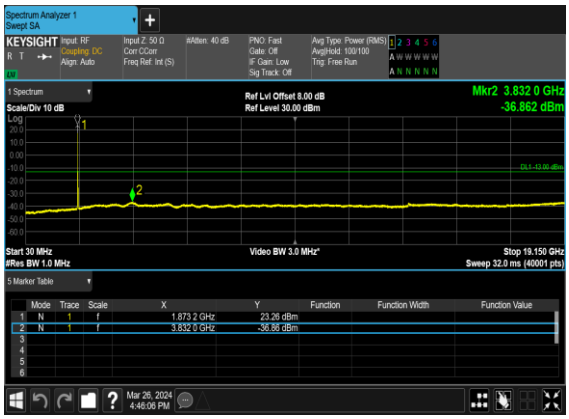
N25(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



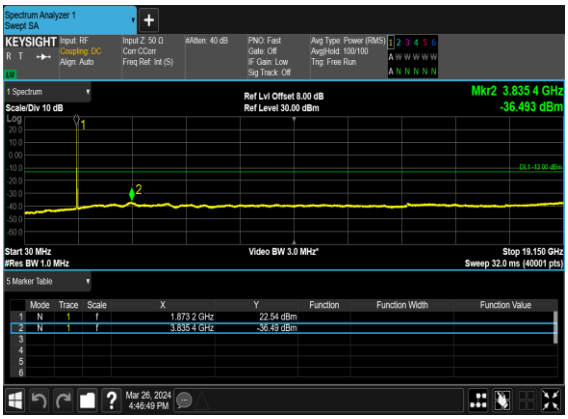
N25(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



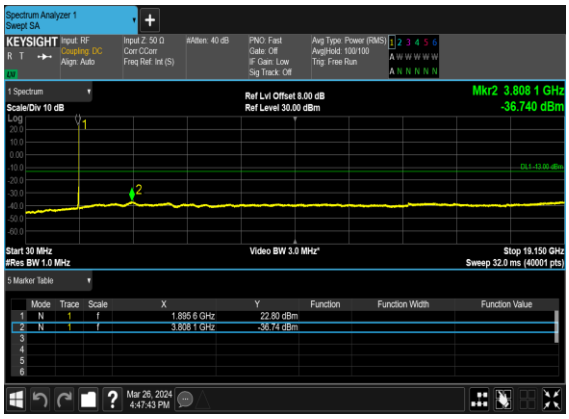
N25(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



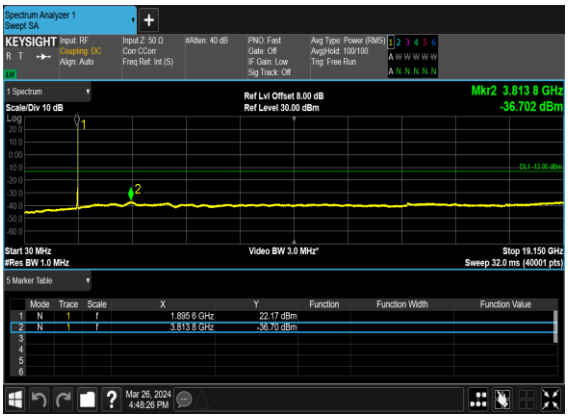
N25(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



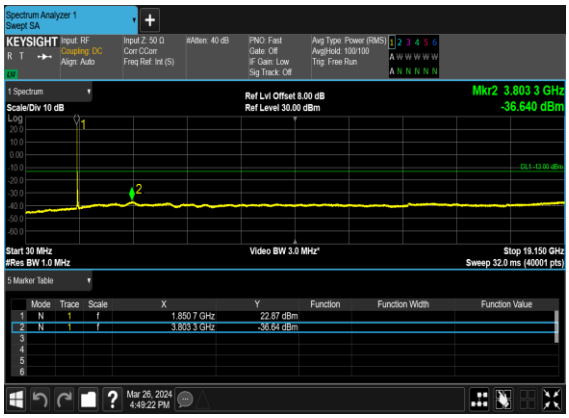
N25(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



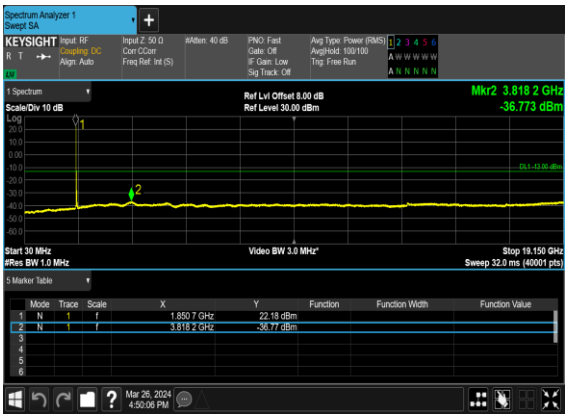
N25(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



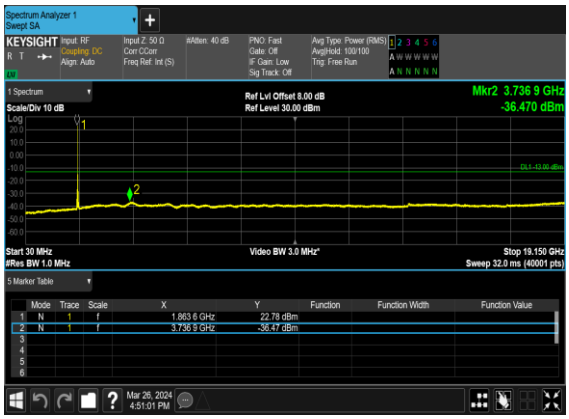
N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



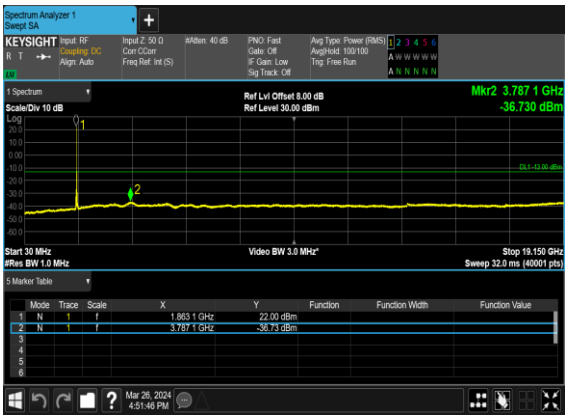
N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



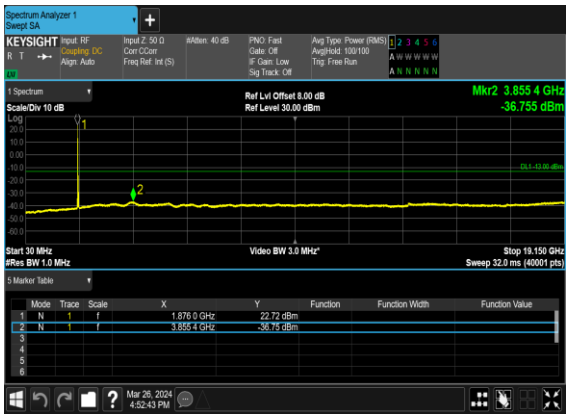
N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



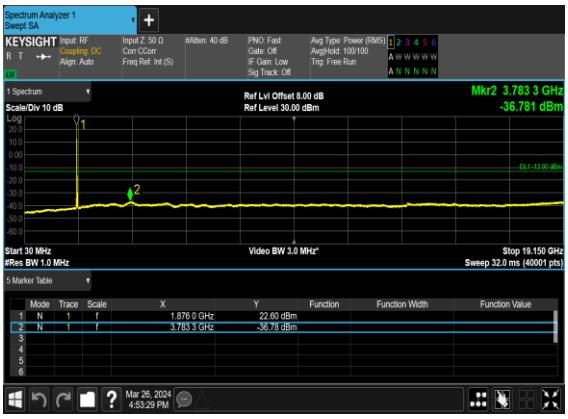
N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

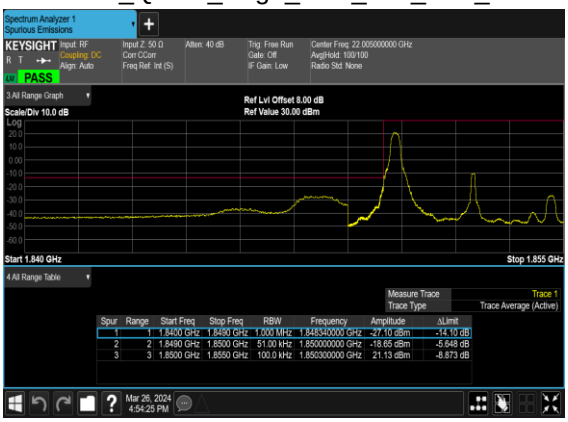


Conducted Band Edge

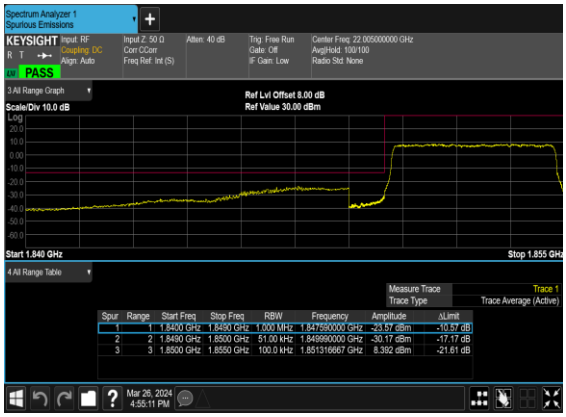
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
25	15	5	370500	1852.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
25	15	5	370500	1852.5	DFT-s-OFDM QPSK	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

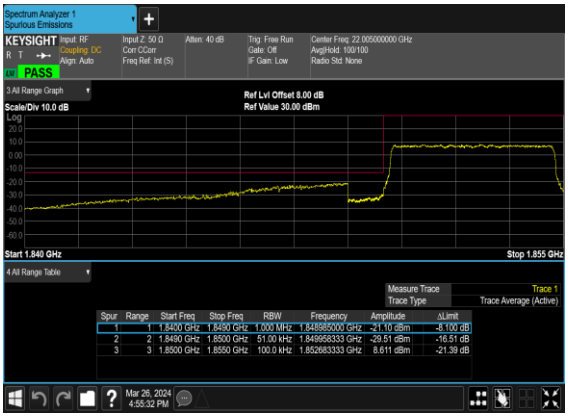
N25(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



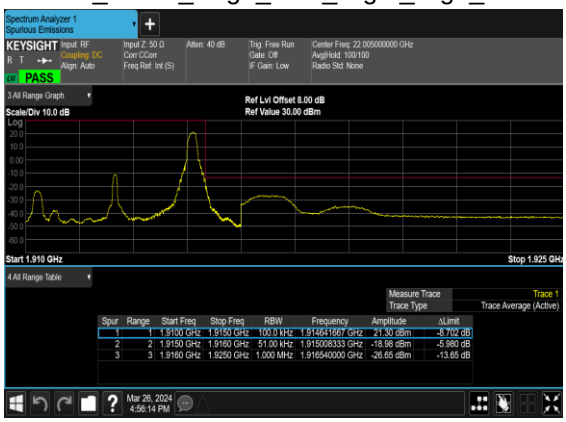
N25(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



N25(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

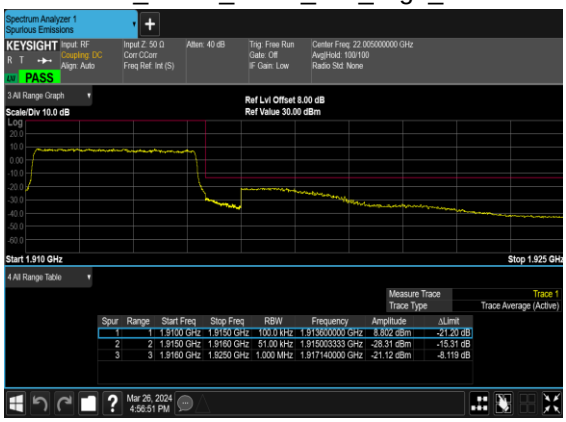


N25(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

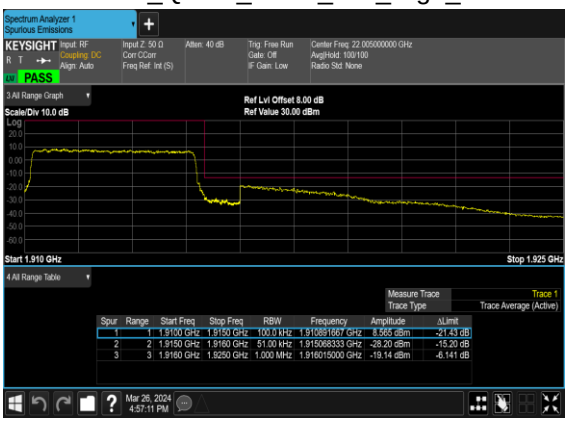


N25(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

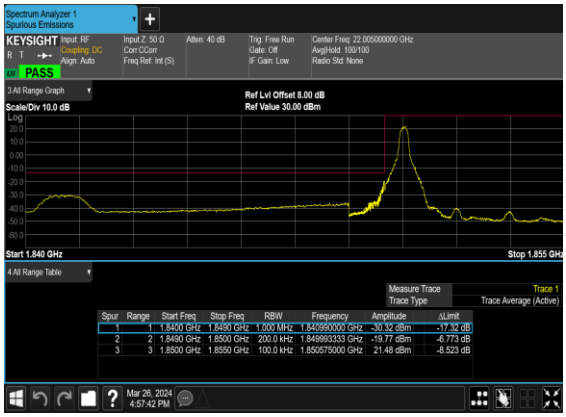
N25(5M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



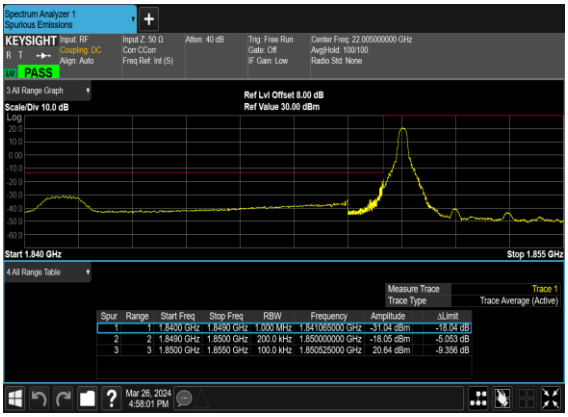
N25(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



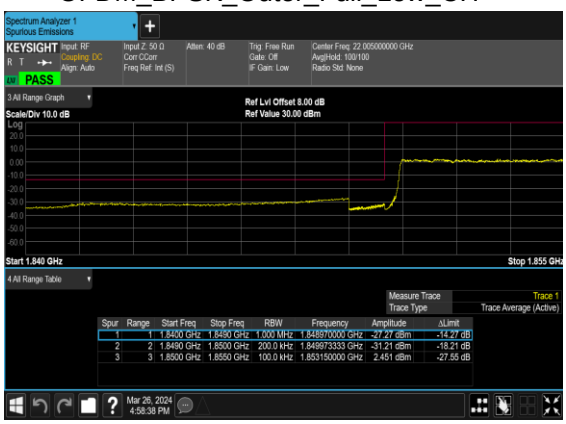
N25(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



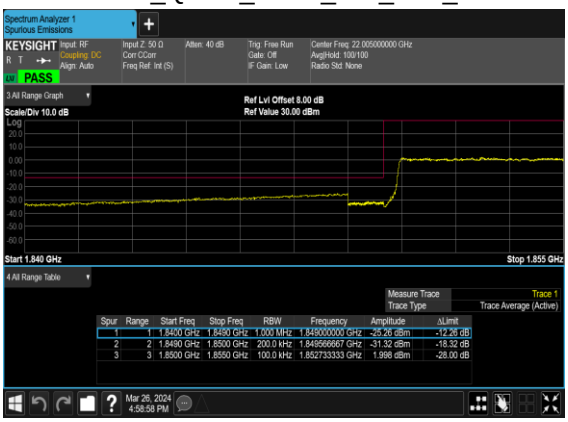
N25(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



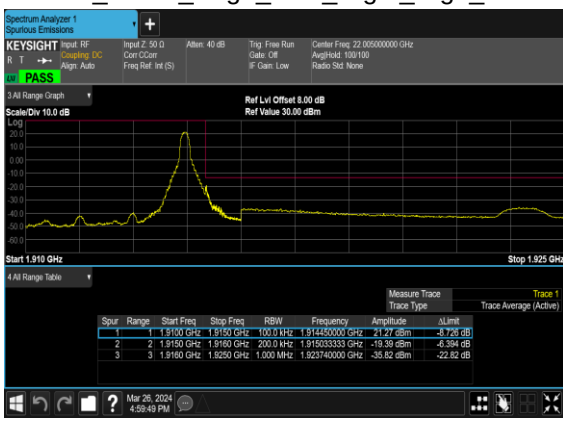
N25(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



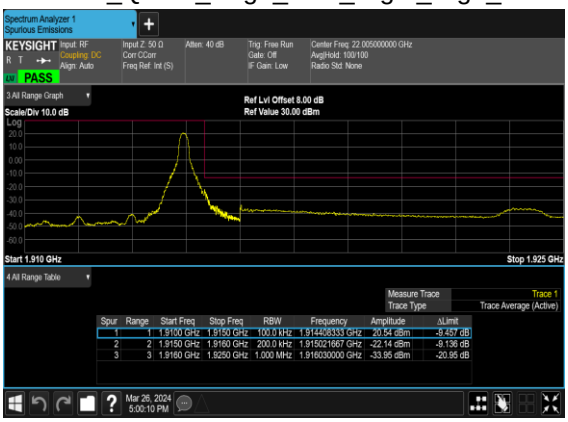
N25(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



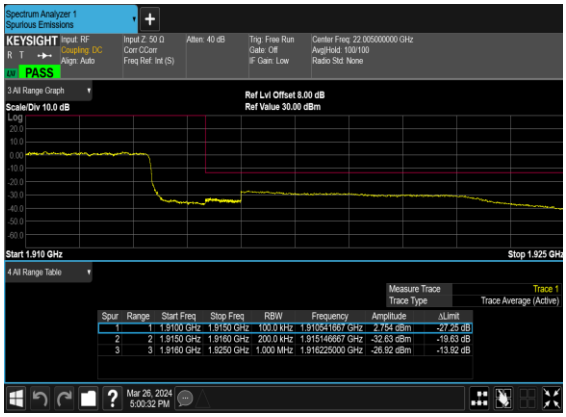
N25(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



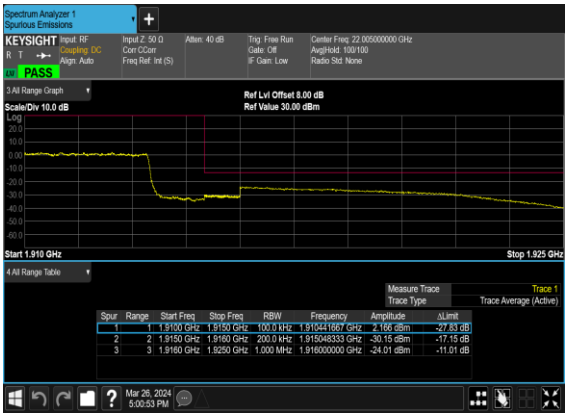
N25(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



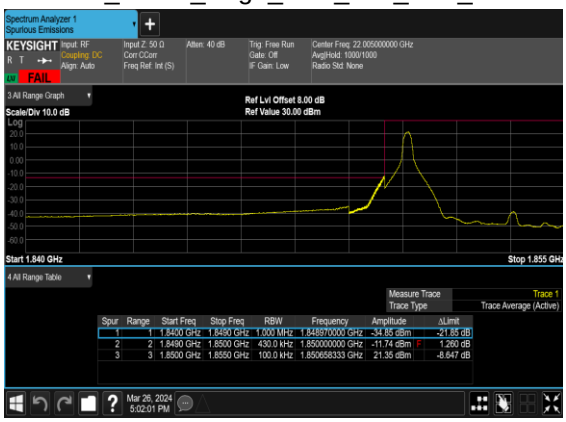
N25(20M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



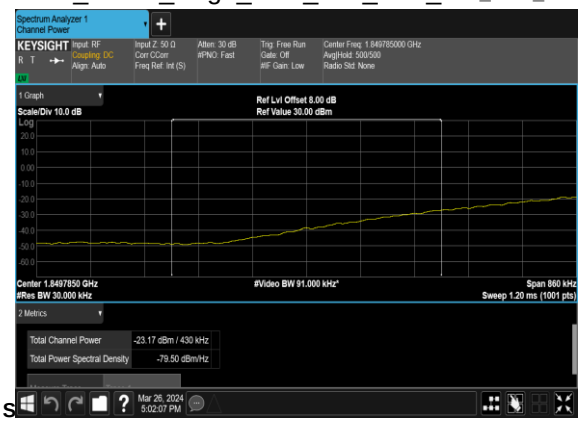
N25(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

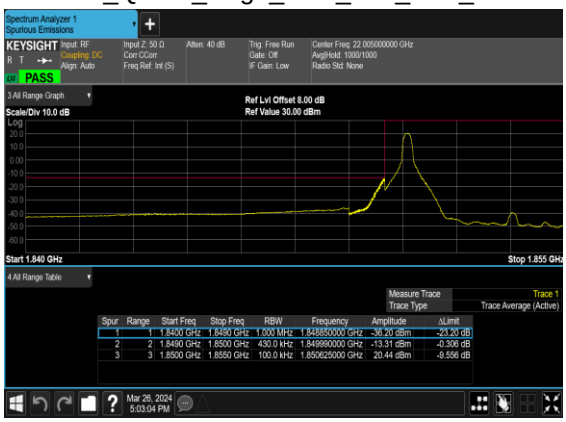


N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH_**CHP_PAS**

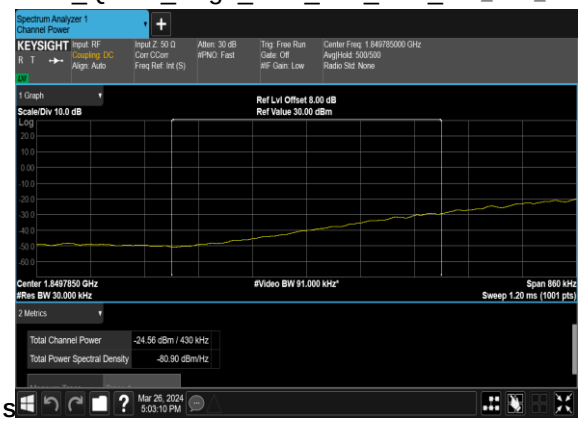


S

N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

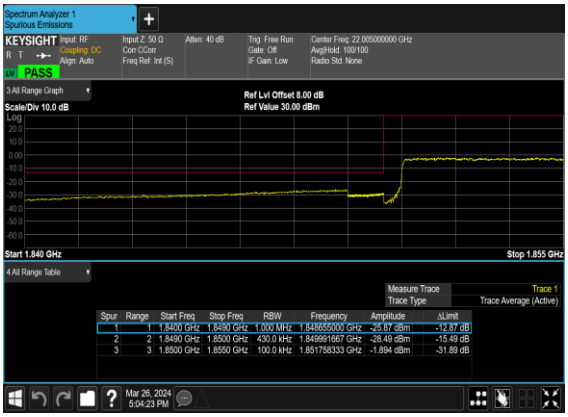


N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH_**CHP_PASS**

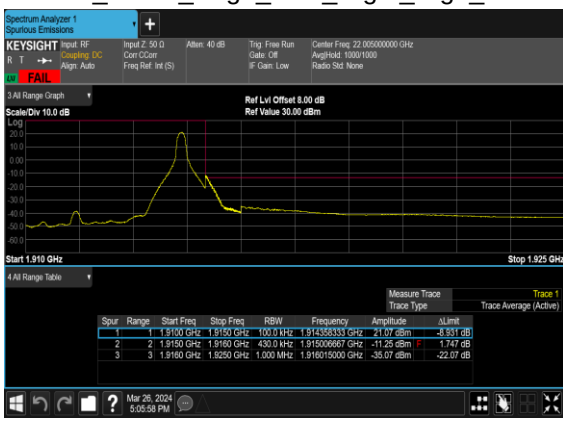


N25(40M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH

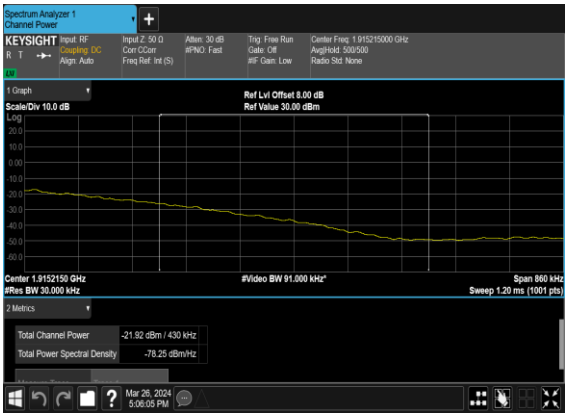
N25(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



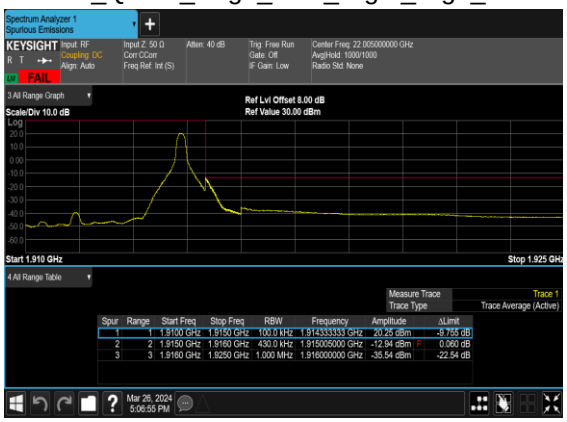
N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



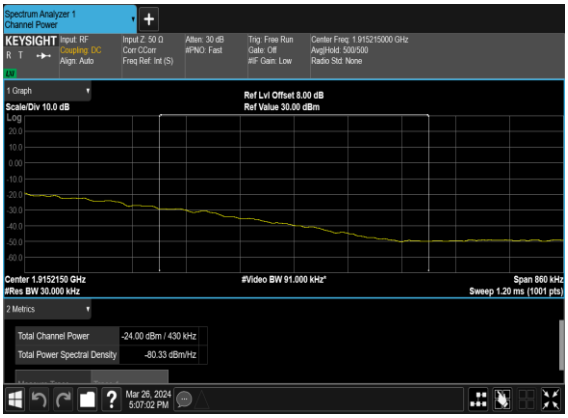
N25(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH_**CHP_PASS**



N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



N25(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH_CHP_PASS



N25(40M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH

N25(40M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

Software Version: 23.06.1602

FR1 N25 MIMO-ANT(2+3)_ANT2

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-2.28dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	ANT2 Power(dBm)	ANT3 Power(dBm)	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
25	15	5	370500	1852.5	CP-OFDM QPSK	1@1	18.8	19.17	22.00	19.72	0.0937
25	15	5	370500	1852.5	CP-OFDM 16 QAM	1@1	18.42	18.32	21.38	19.10	0.0813
25	15	5	376500	1882.5	CP-OFDM QPSK	1@1	18.97	19.21	22.10	19.82	0.0960
25	15	5	376500	1882.5	CP-OFDM 16 QAM	1@1	18.77	19.36	22.09	19.81	0.0956
25	15	5	382500	1912.5	CP-OFDM QPSK	1@1	18.79	19.08	21.95	19.67	0.0926
25	15	5	382500	1912.5	CP-OFDM 16 QAM	1@1	18.4	18.21	21.32	19.04	0.0801
25	15	10	371000	1855	CP-OFDM QPSK	1@1	18.87	19.24	22.07	19.79	0.0953
25	15	10	371000	1855	CP-OFDM 16 QAM	1@1	18.56	19.25	21.93	19.65	0.0922
25	15	10	376500	1882.5	CP-OFDM QPSK	1@1	18.84	19.22	22.04	19.76	0.0947
25	15	10	376500	1882.5	CP-OFDM 16 QAM	1@1	18.43	18.39	21.42	19.14	0.0820
25	15	10	382000	1910	CP-OFDM QPSK	1@1	18.92	19.16	22.05	19.77	0.0949
25	15	10	382000	1910	CP-OFDM 16 QAM	1@1	18.68	19.2	21.96	19.68	0.0929
25	15	15	371500	1857.5	CP-OFDM QPSK	1@1	18.73	19.27	22.02	19.74	0.0942
25	15	15	371500	1857.5	CP-OFDM 16 QAM	1@1	18.31	18.35	21.34	19.06	0.0805
25	15	15	376500	1882.5	CP-OFDM QPSK	1@1	18.93	19.17	22.06	19.78	0.0951
25	15	15	376500	1882.5	CP-OFDM 16 QAM	1@1	18.62	19.26	21.96	19.68	0.0929
25	15	15	381500	1907.5	CP-OFDM QPSK	1@1	18.83	19.15	22.00	19.72	0.0938
25	15	15	381500	1907.5	CP-OFDM 16 QAM	1@1	18.45	18.37	21.42	19.14	0.0820
25	15	20	372000	1860	CP-OFDM QPSK	1@1	18.85	19.16	22.02	19.74	0.0941
25	15	20	372000	1860	CP-OFDM 16 QAM	1@1	18.54	19.25	21.92	19.64	0.0920
25	15	20	376500	1882.5	CP-OFDM QPSK	1@1	18.85	19.16	22.02	19.74	0.0941
25	15	20	376500	1882.5	CP-OFDM 16 QAM	1@1	18.35	18.35	21.36	19.08	0.0809
25	15	20	381000	1905	CP-OFDM QPSK	1@1	18.8	19.44	22.14	19.86	0.0969
25	15	20	381000	1905	CP-OFDM 16 QAM	1@1	18.19	18.87	21.55	19.27	0.0846
25	15	25	372500	1862.5	CP-OFDM QPSK	1@1	18.72	19.21	21.98	19.70	0.0934
25	15	25	372500	1862.5	CP-OFDM 16 QAM	1@1	18.33	18.32	21.34	19.06	0.0805
25	15	25	376500	1882.5	CP-OFDM QPSK	1@1	18.89	19.16	22.04	19.76	0.0946
25	15	25	376500	1882.5	CP-OFDM 16 QAM	1@1	18.56	18.9	21.74	19.46	0.0884
25	15	25	380500	1902.5	CP-OFDM QPSK	1@1	18.75	19.2	21.99	19.71	0.0936

25	15	25	380500	1902.5	CP-OFDM 16 QAM	1@1	18.31	18.26	21.30	19.02	0.0797
25	15	30	373000	1865	CP-OFDM QPSK	1@1	18.91	19.27	22.10	19.82	0.0960
25	15	30	373000	1865	CP-OFDM 16 QAM	1@1	18.61	19.35	22.01	19.73	0.0939
25	15	30	376500	1882.5	CP-OFDM QPSK	1@1	18.91	19.22	22.08	19.80	0.0955
25	15	30	376500	1882.5	CP-OFDM 16 QAM	1@1	18.39	18.41	21.41	19.13	0.0819
25	15	30	380000	1900	CP-OFDM QPSK	1@1	18.96	19.23	22.11	19.83	0.0961
25	15	30	380000	1900	CP-OFDM 16 QAM	1@1	18.55	19.29	21.95	19.67	0.0926
25	15	35	373500	1867.5	CP-OFDM QPSK	1@1	18.92	19.01	21.98	19.70	0.0932
25	15	35	373500	1867.5	CP-OFDM 16 QAM	1@1	18.22	18.21	21.23	18.95	0.0784
25	15	35	376500	1882.5	CP-OFDM QPSK	1@1	18.93	19.06	22.01	19.73	0.0939
25	15	35	376500	1882.5	CP-OFDM 16 QAM	1@1	18.26	18.35	21.32	19.04	0.0801
25	15	35	379500	1897.5	CP-OFDM QPSK	1@1	19.01	19.11	22.07	19.79	0.0953
25	15	35	379500	1897.5	CP-OFDM 16 QAM	1@1	18.62	18.43	21.54	19.26	0.0843
25	15	40	374000	1870	CP-OFDM QPSK	108@54	19.25	19.33	22.30	20.02	0.1005
25	15	40	374000	1870	CP-OFDM QPSK	1@1	18.67	19.15	21.93	19.65	0.0922
25	15	40	374000	1870	CP-OFDM QPSK	1@214	18.82	19.22	22.03	19.75	0.0945
25	15	40	374000	1870	CP-OFDM 16 QAM	108@54	18.6	18.81	21.72	19.44	0.0878
25	15	40	374000	1870	CP-OFDM 16 QAM	1@1	18.25	18.3	21.29	19.01	0.0795
25	15	40	374000	1870	CP-OFDM 16 QAM	1@214	18.39	18.25	21.33	19.05	0.0804
25	15	40	374000	1870	CP-OFDM 64 QAM	108@54	17.05	17.34	20.21	17.93	0.0621
25	15	40	374000	1870	CP-OFDM 64 QAM	1@1	17.3	17.13	20.23	17.95	0.0623
25	15	40	374000	1870	CP-OFDM 64 QAM	1@214	17.47	17.11	20.30	18.02	0.0634
25	15	40	374000	1870	CP-OFDM 256 QAM	108@54	14.14	14.38	17.27	14.99	0.0316
25	15	40	374000	1870	CP-OFDM 256 QAM	1@1	13.96	14.61	17.31	15.03	0.0318
25	15	40	374000	1870	CP-OFDM 256 QAM	1@214	14.16	14.52	17.35	15.07	0.0322
25	15	40	376500	1882.5	CP-OFDM QPSK	108@54	19.07	19.26	22.18	19.90	0.0976
25	15	40	376500	1882.5	CP-OFDM QPSK	1@1	18.87	19.14	22.02	19.74	0.0941
25	15	40	376500	1882.5	CP-OFDM QPSK	1@214	18.94	19.1	22.03	19.75	0.0944
25	15	40	376500	1882.5	CP-OFDM 16 QAM	108@54	18.55	18.74	21.66	19.38	0.0866
25	15	40	376500	1882.5	CP-OFDM 16 QAM	1@1	18.6	19.27	21.96	19.68	0.0929
25	15	40	376500	1882.5	CP-OFDM 16 QAM	1@214	18.73	19.15	21.96	19.68	0.0928
25	15	40	376500	1882.5	CP-OFDM 64 QAM	108@54	17.04	17.31	20.19	17.91	0.0618
25	15	40	376500	1882.5	CP-OFDM 64 QAM	1@1	16.55	17.23	19.91	17.63	0.0580
25	15	40	376500	1882.5	CP-OFDM 64 QAM	1@214	16.58	17.15	19.88	17.60	0.0576
25	15	40	376500	1882.5	CP-OFDM 256 QAM	108@54	14.12	14.31	17.23	14.95	0.0312

25	15	40	376500	1882.5	CP-OFDM 256 QAM	1@1	14.18	14.52	17.36	15.08	0.0322
25	15	40	376500	1882.5	CP-OFDM 256 QAM	1@214	14.11	14.48	17.31	15.03	0.0318
25	15	40	379000	1895	CP-OFDM QPSK	108@54	19.06	19.28	22.18	19.90	0.0978
25	15	40	379000	1895	CP-OFDM QPSK	1@1	18.84	19.2	22.03	19.75	0.0945
25	15	40	379000	1895	CP-OFDM QPSK	1@214	18.82	19.11	21.98	19.70	0.0933
25	15	40	379000	1895	CP-OFDM 16 QAM	108@54	18.63	18.76	21.71	19.43	0.0876
25	15	40	379000	1895	CP-OFDM 16 QAM	1@1	18.38	18.35	21.38	19.10	0.0812
25	15	40	379000	1895	CP-OFDM 16 QAM	1@214	18.34	18.16	21.26	18.98	0.0791
25	15	40	379000	1895	CP-OFDM 64 QAM	108@54	17.06	17.35	20.22	0.00	0.0010
25	15	40	379000	1895	CP-OFDM 64 QAM	1@1	17.45	17.24	20.36	0.00	0.0010
25	15	40	379000	1895	CP-OFDM 64 QAM	1@214	17.42	17.07	20.26	0.00	0.0010
25	15	40	379000	1895	CP-OFDM 256 QAM	108@54	14.11	14.34	17.24	0.00	0.0010
25	15	40	379000	1895	CP-OFDM 256 QAM	1@1	14.2	14.67	17.45	0.00	0.0010
25	15	40	379000	1895	CP-OFDM 256 QAM	1@214	14.12	14.43	17.29	0.00	0.0010

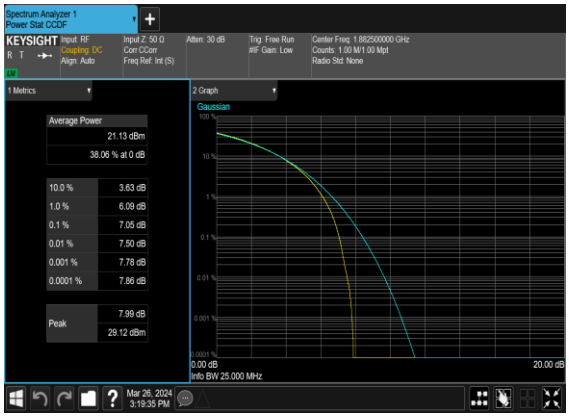
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0063	**PASS**	NV
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0038	**PASS**	LV
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0052	**PASS**	HV
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0047	**PASS**	-30℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0043	**PASS**	-20℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0034	**PASS**	-10℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0037	**PASS**	0℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0043	**PASS**	10℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0063	**PASS**	20℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0028	**PASS**	30℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0042	**PASS**	40℃
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	0.0023	**PASS**	50℃

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	CP-OFDM QPSK	106@0	7.05	13	**PASS**
25	15	20	376500	1882.5	CP-OFDM 16 QAM	106@0	7.03	13	**PASS**

N25(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



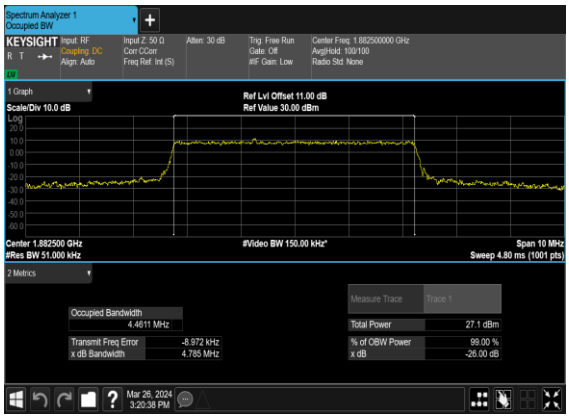
N25(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Occupied Bandwidth

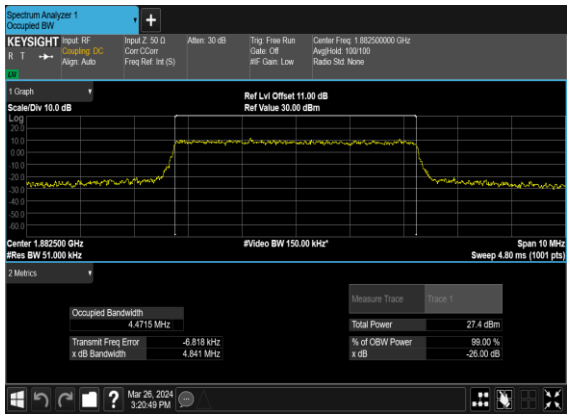
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
25	15	5	376500	1882.5	CP-OFDM QPSK	25@0	4.4611	4.785
25	15	5	376500	1882.5	CP-OFDM 16 QAM	25@0	4.4715	4.841
25	15	5	376500	1882.5	CP-OFDM 64 QAM	25@0	4.4702	4.766
25	15	5	376500	1882.5	CP-OFDM 256 QAM	25@0	4.468	4.809
25	15	10	376500	1882.5	CP-OFDM QPSK	52@0	9.2826	9.686
25	15	10	376500	1882.5	CP-OFDM 16 QAM	52@0	9.2804	9.761
25	15	10	376500	1882.5	CP-OFDM 64 QAM	52@0	9.2926	9.728
25	15	10	376500	1882.5	CP-OFDM 256 QAM	52@0	9.268	9.742
25	15	15	376500	1882.5	CP-OFDM QPSK	79@0	14.081	14.61
25	15	15	376500	1882.5	CP-OFDM 16 QAM	79@0	14.104	14.71
25	15	15	376500	1882.5	CP-OFDM 64 QAM	79@0	14.085	14.68
25	15	15	376500	1882.5	CP-OFDM 256 QAM	79@0	14.094	14.69
25	15	20	376500	1882.5	CP-OFDM QPSK	106@0	18.927	19.63
25	15	20	376500	1882.5	CP-OFDM 16 QAM	106@0	18.904	19.66
25	15	20	376500	1882.5	CP-OFDM 64 QAM	106@0	18.95	19.52
25	15	20	376500	1882.5	CP-OFDM 256 QAM	106@0	18.914	19.58
25	15	25	376500	1882.5	CP-OFDM QPSK	133@0	23.726	24.66
25	15	25	376500	1882.5	CP-OFDM 16 QAM	133@0	23.72	24.68
25	15	25	376500	1882.5	CP-OFDM 64 QAM	133@0	23.692	24.6
25	15	25	376500	1882.5	CP-OFDM 256 QAM	133@0	23.693	24.7
25	15	30	376500	1882.5	CP-OFDM QPSK	160@0	28.507	29.79
25	15	30	376500	1882.5	CP-OFDM 16 QAM	160@0	28.449	29.52
25	15	30	376500	1882.5	CP-OFDM 64 QAM	160@0	28.535	29.57
25	15	30	376500	1882.5	CP-OFDM 256 QAM	160@0	28.495	29.57
25	15	35	376500	1882.5	CP-OFDM QPSK	188@0	33.544	34.79

25	15	35	376500	1882.5	CP-OFDM 16 QAM	188@0	33.523	34.67
25	15	35	376500	1882.5	CP-OFDM 64 QAM	188@0	33.573	34.73
25	15	35	376500	1882.5	CP-OFDM 256 QAM	188@0	33.557	34.74
25	15	40	376500	1882.5	CP-OFDM QPSK	216@0	38.448	39.99
25	15	40	376500	1882.5	CP-OFDM 16 QAM	216@0	38.57	39.82
25	15	40	376500	1882.5	CP-OFDM 64 QAM	216@0	38.544	39.83
25	15	40	376500	1882.5	CP-OFDM 256 QAM	216@0	38.544	39.83

N25(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

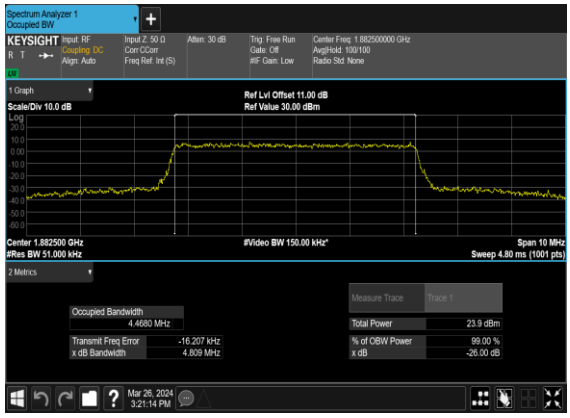


N25(5M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N25(5M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N25(5M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N25(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N25(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH