FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2205-1, XT2205-2
FCC ID	:	IHDT56AE7
STANDARD	:	47 CFR Part 2, 27 Subpart O (3700-3980MHz)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	:	Apr. 20, 2022 ~ May 27, 2022

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

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

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.01

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG240834L	Rev. 01	Initial issue of report	Jun. 06, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n77, n78)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 13.11 dB at 10875.00 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

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	XT2205-1, XT2205-2
FCC ID	IHDT56AE7
IMEI Code	Conducted : 351397430007982 Radiation : 357910940014326
HW Version	DVT2
SW Version	S2ST32.48
EUT Stage	Identical Prototype

Remark:

1. Only 5G NR bands are tested in this report, all the other RF bands are tested in the other reports separately.
2. The two models XT2205-1 and XT2205-2 are only for market differentiation, all the others are the same.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	15kHz, 30kHz
Bandwidth	n77/n78(15kHz): 10 / 15 / 20 / 25 / 30 / 40 / 50MHz n77/n78(30kHz): 10 / 15 / 20 / 25 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	**Ant. 3:** 5G NR n77: -6.3 dBi 5G NR n78: -6.8 dBi **Ant. 4:** 5G NR n77: -5.7 dBi 5G NR n78: -5.2 dBi **Ant. 5:** 5G NR n77: -10.0 dBi 5G NR n78: -10.0 dBi **Ant. 8:** 5G NR n77: -7.2 dBi 5G NR n78: -7.2 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP is shown in the report, 5G NR n77/n78 for Antenna 3 and n77 UL MIMO for Antenna 3+5.
2. The device supports n77(2T4R) SRS resources on Antenna 3/4/5/8, only the test data of worst Antenna 3 is showed in the report according to the maximum power.
3. 5G NR n77/n78 support SA and NSA mode. The whole testing has assessed SA mode for n77 by referring to the higher conducted power for conducted test items.
4. The device supports HPUE mode for 5G NR n77.
5. For 5G NR n78, all the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
6. The EN-DC mode combination could be referred to the product spec.
7. 5G NR n77 support MIMO Antenna Ant(3+5) / Ant(4+8), only the maximum Ant(3+5) is shown in the report.
8. MIMO Antenna gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 /2]$.
9. For n77 MIMO mode, the conducted BE/Spurious are tested at single antenna port and add $10*\log(N_{ANT})$ according to KDB 662911 D01.

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola(Salom)	**Model Name**	MC-301
AC Adapter 2	**Brand Name**	Motorola(Acbel)	**Model Name**	MC-301
Battery	**Brand Name**	Motorola(ATL)	**Model Name**	NF50
USB Cable 1	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D13215
USB Cable 2	**Brand Name**	Motorola(Cabletech)	**Model Name**	SC18D13216
USB Cable 3	**Brand Name**	Motorola(Luxshare)	**Model Name**	SC18D13217

1.6 Modification of EUT

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

1.7 Maximum EIRP and Emission Designator

5G NR n77 SA for SCS 15kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.0984	9M29G7D	0.0785	9M28W7D
15	3705.505 ~ 3972.495	0.0989	14M1G7D	0.0780	14M1W7D
20	3710.01 ~ 3969.99	0.0993	18M9G7D	0.0813	19M0W7D
25	3712.50 ~ 3967.50	0.0971	23M7G7D	0.0789	23M8W7D
30	3715.005 ~ 3964.98	0.0971	28M6G7D	0.0778	28M6W7D
40	3720.00 ~ 3960.00	0.0977	38M6G7D	0.0802	38M7W7D
50	3725.01 ~ 3954.99	0.0975	48M2G7D	0.0789	48M3W7D
5G NR n77 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.0916	8M60G7D	0.0731	8M58W7D
15	3705.52 ~ 3972.48	0.0904	13M6G7D	0.0710	13M6W7D
20	3710.01 ~ 3969.99	0.0902	18M2G7D	0.0714	18M2W7D
25	3712.50 ~ 3967.50	0.0883	23M2G7D	0.0721	23M2W7D
30	3715.02 ~ 3964.98	0.0879	27M8G7D	0.0703	27M9W7D
40	3720.00 ~ 3960.00	0.0891	37M8G7D	0.0718	37M9W7D
50	3725.01 ~ 3954.99	0.0875	47M4G7D	0.0706	47M5W7D
60	3730.02 ~ 3949.98	0.0883	57M9G7D	0.0690	57M8W7D
70	3735.00 ~ 3945.00	0.0977	67M5G7D	0.0794	67M5W7D
80	3740.01 ~ 3939.99	0.0971	77M5G7D	0.0780	77M6W7D
90	3745.02 ~ 3934.98	0.0959	87M6G7D	0.0778	87M6W7D
100	3750.00 ~ 3930.00	0.0962	97M3G7D	0.0787	97M6W7D

5G NR n77 UL MIMO for SCS 15kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.1268	9M30G7D	0.0984	9M30W7D
15	3705.505 ~ 3972.495	0.1245	14M1G7D	0.0988	14M1W7D
20	3710.01 ~ 3969.99	0.1264	18M9G7D	0.0979	18M9W7D
25	3712.50 ~ 3967.50	0.1256	23M8G7D	0.0982	23M8W7D
30	3715.005 ~ 3964.98	0.1249	28M7G7D	0.0987	28M6W7D
40	3720.00 ~ 3960.00	0.1256	38M6G7D	0.0986	38M6W7D
50	3725.01 ~ 3954.99	0.1290	48M3G7D	0.1001	48M2W7D
5G NR n77 UL MIMO for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3975.00	0.1298	8M61G7D	0.1049	8M60W7D
15	3705.52 ~ 3972.48	0.1278	13M6G7D	0.1024	13M6W7D
20	3710.01 ~ 3969.99	0.1286	18M2G7D	0.1033	18M2W7D
25	3712.50 ~ 3967.50	0.1300	23M2G7D	0.1046	23M2W7D
30	3715.02 ~ 3964.98	0.1292	27M8G7D	0.1013	27M9W7D
40	3720.00 ~ 3960.00	0.1310	37M8G7D	0.1034	37M9W7D
50	3725.01 ~ 3954.99	0.1290	47M5G7D	0.1020	47M5W7D
60	3730.02 ~ 3949.98	0.1286	58M0G7D	0.1031	57M8W7D
70	3735.00 ~ 3945.00	0.1300	67M7G7D	0.1031	67M5W7D
80	3740.01 ~ 3939.99	0.1296	77M6G7D	0.1035	77M7W7D
90	3745.02 ~ 3934.98	0.1289	87M4G7D	0.1027	87M5W7D
100	3750.00 ~ 3930.00	0.1290	97M5G7D	0.1026	97M7W7D

5G NR n78 SA for SCS 15kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3795.00	0.0390	9M29G7D	0.0324	9M28W7D
15	3705.505 ~ 3792.495	0.0389	14M1G7D	0.0316	14M1W7D
20	3710.01 ~ 3789.99	0.0392	18M9G7D	0.0326	19M0W7D
25	3712.50 ~ 3787.50	0.0393	23M7G7D	0.0329	23M8W7D
30	3715.005 ~ 3784.995	0.0384	28M6G7D	0.0310	28M6W7D
40	3720.00 ~ 3780.00	0.0387	38M6G7D	0.0321	38M7W7D
50	3725.01 ~ 3774.99	0.0385	48M2G7D	0.0319	48M3W7D
5G NR n78 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3705.00 ~ 3795.00	0.0388	8M60G7D	0.0310	8M58W7D
15	3705.505 ~ 3792.495	0.0385	13M6G7D	0.0298	13M6W7D
20	3710.01 ~ 3789.99	0.0386	18M2G7D	0.0302	18M2W7D
25	3712.50 ~ 3787.50	0.0381	23M2G7D	0.0296	23M2W7D
30	3715.005 ~ 3784.995	0.0388	27M8G7D	0.0307	27M9W7D
40	3720.00 ~ 3780.00	0.0380	37M8G7D	0.0296	37M9W7D
50	3725.01 ~ 3774.99	0.0378	47M4G7D	0.0297	47M5W7D
60	3730.02 ~ 3769.98	0.0375	57M9G7D	0.0299	57M8W7D
70	3735.00 ~ 3765.00	0.0374	67M5G7D	0.0288	67M5W7D
80	3740.01 ~ 3759.99	0.0372	77M5G7D	0.0290	77M6W7D
90	3745.02 ~ 3754.98	0.0368	87M6G7D	0.0287	87M6W7D
100	3750.00 ~ 3750.00	0.0366	97M3G7D	0.0296	97M6W7D

Note:

1. 5G NR Band n77 support HPUE, n78 not support HPUE, therefore n77 and n78 maximum power are tested separately.
2. 5G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78.
3. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.8 Testing Location

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

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 Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH01-SZ	CN1256	421272

1.9 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

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

Remark:

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

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

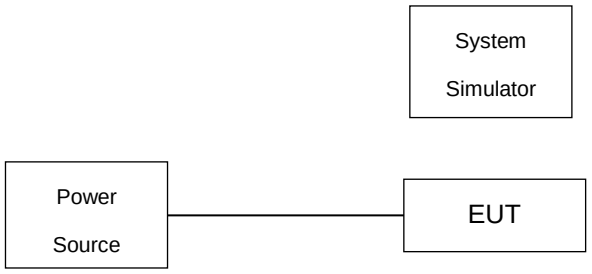
The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane

Test Items	5G NR	Bandwidth (MHz)									Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77			v							v	v				v	v	v	v	v
26dB and 99% Bandwidth	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v		v	
Conducted Band Edge	n77	v				v		v		v	v	v				v	v	v		v
Conducted Spurious Emission	n77	v				v		v		v	v	v				v		v	v	v
Frequency Stability	n77			v								v					v		v	
E.R.P / E.I.R.P	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n77	Worst Case																v	v	v
	n78	Worst Case																v	v	v
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Normal Voltage: 3.89Vdc, Extreme Voltage: 3.6Vdc ~4.48Vdc																			

Test Items	5G NR	Bandwidth (MHz)									Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n77 MIMO	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77 MIMO			v							v	v				v	v	v	v	v
26dB and 99% Bandwidth	n77 MIMO	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v		v	
Conducted Band Edge	n77 MIMO	v			v			v		v	v	v				v	v	v		v
Conducted Spurious Emission	n77 MIMO	v			v			v		v	v	v				v		v	v	v
Frequency Stability	n77 MIMO			v								v					v		v	
E.R.P / E.I.R.P	n77 MIMO	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n77	Worst Case																v	v	v
	n78	Worst Case																v	v	v
Note	5. The mark "**v** " means that this configuration is chosen for testing 6. The mark "-" means that this bandwidth is not supported. 7. 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. 8. Normal Voltage: 3.89Vdc, Extreme Voltage: 3.6Vdc ~4.48Vdc																			

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	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 8.6 dB.

Example :

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

= 8.6 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G n77 (15kHz) Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647667	656000	664332
	Frequency	3715.005	3840	3964.98
25	Channel	647500	656000	664500
	Frequency	3712.5	3840	3967.5
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
15	Channel	647167	656000	664833
	Frequency	3707.505	3840	3972.495
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975

5G n77 (30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
25	Channel	647500	656000	664500
	Frequency	3712.5	3840	3967.5
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
15	Channel	647168	656000	664832
	Frequency	3707.52	3840	3972.48
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975

5G n78(15kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647667	650000	652333
	Frequency	3715.005	3750	3784.995
25	Channel	647500	650000	652500
	Frequency	3712.5	3750	3787.5
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99
15	Channel	647167	650000	652833
	Frequency	3707.505	3750	3792.495
10	Channel	647000	650000	653000
	Frequency	3705	3750	3795

5G n78(30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000		
	Frequency	3750		
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
25	Channel	647500	650000	652500
	Frequency	3712.5	3750	3787.5
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99
15	Channel	647168	650000	652832
	Frequency	3707.52	3750	3792.48
10	Channel	647000	650000	653000
	Frequency	3705	3750	3795

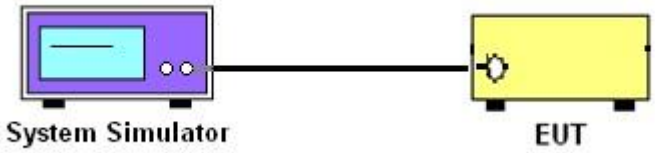
3 Conducted Test Items

3.1 Measuring Instruments

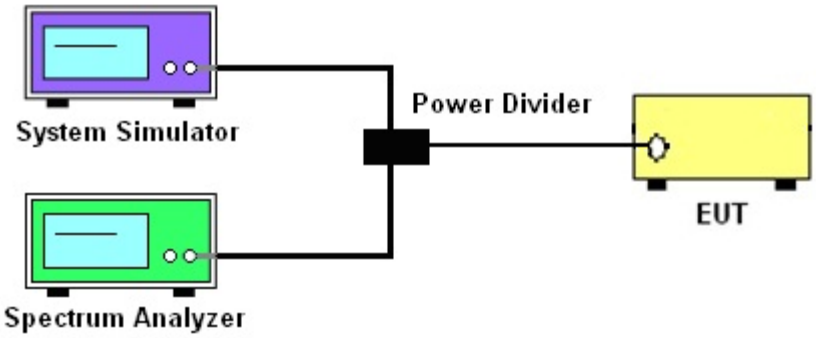
See list of measuring instruments of this test report.

3.2 Test Setup

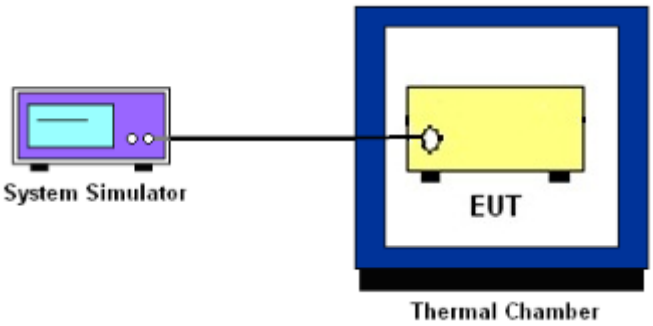
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53(l)(2)

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

3.7.2 Test Procedures

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

   Example:

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

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

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

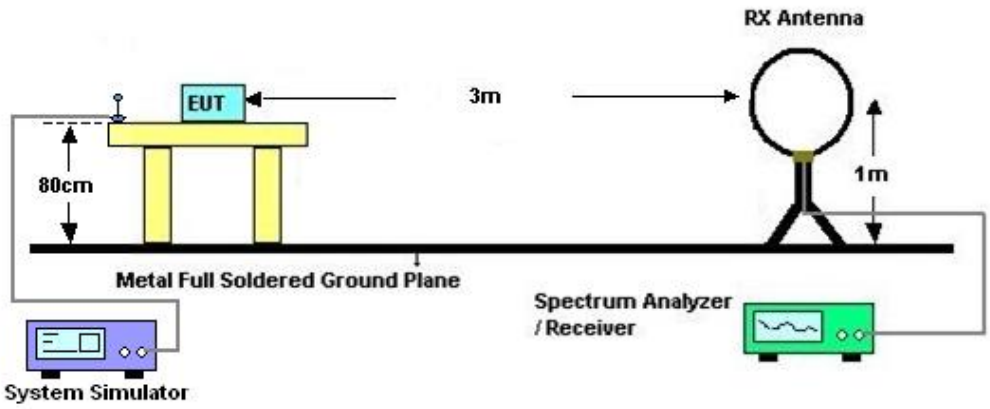
4 Radiated Test Items

4.1 Measuring Instruments

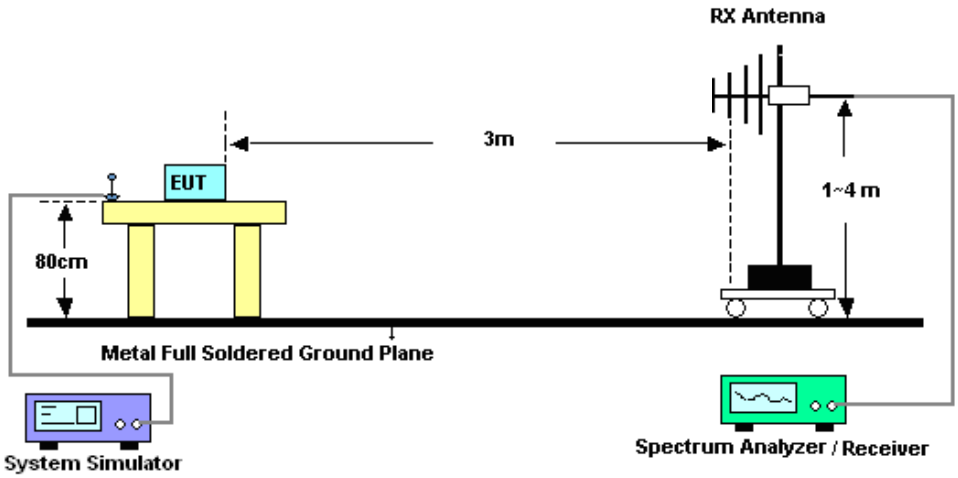
See list of measuring instruments of this test report.

4.2 Test Setup

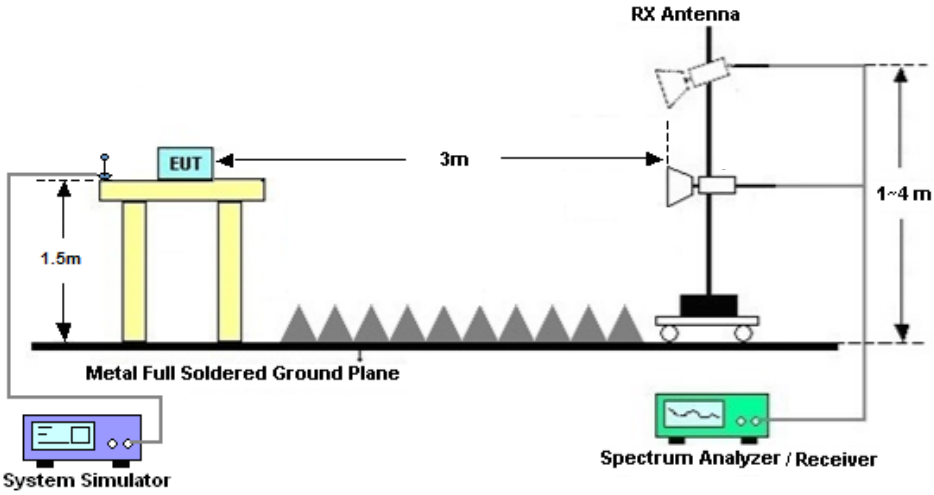
4.2.1 For radiated test below 30MHz



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
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Apr. 20, 2022~ May 27, 2022	Apr. 06, 2023	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 25, 2021	Apr. 20, 2022~ May 27, 2022	Oct. 24, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2021	Apr. 20, 2022~ May 27, 2022	Dec. 24, 2022	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Apr. 20, 2022~ May 27, 2022	Jul. 13, 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2021	May 12, 2022	Dec. 26, 2022	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 14, 2021	May 12, 2022	Jul. 13, 2022	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	May 12, 2022	Jun. 21, 2022	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 22, 2021	May 12, 2022	Oct. 21, 2022	Radiation (03CH01-SZ
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2021	May 12, 2022	Sep. 27, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 18, 2021	May 12, 2022	Jul. 17, 2022	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	May 12, 2022	Apr. 09, 2023	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 06, 2022	May 12, 2022	Apr. 05, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 22, 2021	May 12, 2022	Oct. 21, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 13, 2021	May 12, 2022	Jul. 12, 2022	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	May 12, 2022	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	May 12, 2022	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	May 12, 2022	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.13 %

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.48dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.53dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.02dB

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

Appendix A. Test Results of Conducted Test

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

Software Version: 22.02.041801

FR1 N77 SCS 15kHz (ANT3)

Conducted Power and EIRP (ANT gain=-6.3dBi)

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power (dBm)	EIRP (dBm)	EIRP (W)
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	25@12	26.13	19.83	0.0962
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	1@1	26	19.7	0.0933
77	15	10	647000	3705	DFT-s-OFDM PI/2 BPSK	1@50	25.94	19.64	0.0920
77	15	10	647000	3705	DFT-s-OFDM QPSK	25@12	26.07	19.77	0.0948
77	15	10	647000	3705	DFT-s-OFDM QPSK	1@1	26	19.7	0.0933
77	15	10	647000	3705	DFT-s-OFDM QPSK	1@50	26.01	19.71	0.0935
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	25@12	25.06	18.76	0.0752
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	25.19	18.89	0.0774
77	15	10	647000	3705	DFT-s-OFDM 16 QAM	1@50	25.22	18.92	0.0780
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	25@12	23.48	17.18	0.0522
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	1@1	23.71	17.41	0.0551
77	15	10	647000	3705	DFT-s-OFDM 64 QAM	1@50	23.76	17.46	0.0557
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	25@12	21.55	15.25	0.0335
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	1@1	21.76	15.46	0.0352
77	15	10	647000	3705	DFT-s-OFDM 256 QAM	1@50	21.87	15.57	0.0361
77	15	10	647000	3705	CP-OFDM QPSK	26@13	24.56	18.26	0.0670
77	15	10	647000	3705	CP-OFDM QPSK	1@1	24.44	18.14	0.0652
77	15	10	647000	3705	CP-OFDM QPSK	1@50	24.49	18.19	0.0659
77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	25@12	26.09	19.79	0.0953
77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.85	19.55	0.0902
77	15	10	656000	3840	DFT-s-OFDM PI/2 BPSK	1@50	25.85	19.55	0.0902
77	15	10	656000	3840	DFT-s-OFDM QPSK	25@12	25.97	19.67	0.0927
77	15	10	656000	3840	DFT-s-OFDM QPSK	1@1	25.91	19.61	0.0914
77	15	10	656000	3840	DFT-s-OFDM QPSK	1@50	25.9	19.6	0.0912
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	25@12	24.99	18.69	0.0740
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.04	18.74	0.0748
77	15	10	656000	3840	DFT-s-OFDM 16 QAM	1@50	25.02	18.72	0.0745
77	15	10	656000	3840	DFT-s-OFDM	25@12	23.41	17.11	0.0514

					64 QAM				
77	15	10	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.61	17.31	0.0538
77	15	10	656000	3840	DFT-s-OFDM 64 QAM	1@50	23.59	17.29	0.0536
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	25@12	21.48	15.18	0.0330
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.69	15.39	0.0346
77	15	10	656000	3840	DFT-s-OFDM 256 QAM	1@50	21.76	15.46	0.0352
77	15	10	656000	3840	CP-OFDM QPSK	26@13	24.47	18.17	0.0656
77	15	10	656000	3840	CP-OFDM QPSK	1@1	24.34	18.04	0.0637
77	15	10	656000	3840	CP-OFDM QPSK	1@50	24.43	18.13	0.0650
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	25@12	26.23	19.93	0.0984
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	1@1	26.02	19.72	0.0938
77	15	10	665000	3975	DFT-s-OFDM PI/2 BPSK	1@50	26.04	19.74	0.0942
77	15	10	665000	3975	DFT-s-OFDM QPSK	25@12	25.85	19.55	0.0902
77	15	10	665000	3975	DFT-s-OFDM QPSK	1@1	26.12	19.82	0.0959
77	15	10	665000	3975	DFT-s-OFDM QPSK	1@50	26.18	19.88	0.0973
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	25@12	25.2	18.9	0.0776
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	25.23	18.93	0.0782
77	15	10	665000	3975	DFT-s-OFDM 16 QAM	1@50	25.25	18.95	0.0785
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	25@12	23.64	17.34	0.0542
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	1@1	23.74	17.44	0.0555
77	15	10	665000	3975	DFT-s-OFDM 64 QAM	1@50	23.69	17.39	0.0548
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	25@12	21.7	15.4	0.0347
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	1@1	22.01	15.71	0.0372
77	15	10	665000	3975	DFT-s-OFDM 256 QAM	1@50	22	15.7	0.0372
77	15	10	665000	3975	CP-OFDM QPSK	26@13	24.71	18.41	0.0693
77	15	10	665000	3975	CP-OFDM QPSK	1@1	24.59	18.29	0.0675
77	15	10	665000	3975	CP-OFDM QPSK	1@50	24.69	18.39	0.0690
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	36@18	26.15	19.85	0.0966
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	1@1	26.06	19.76	0.0946
77	15	15	647167	3707.505	DFT-s-OFDM PI/2 BPSK	1@77	25.93	19.63	0.0918
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	36@18	26.15	19.85	0.0966
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@1	26.02	19.72	0.0938
77	15	15	647167	3707.505	DFT-s-OFDM QPSK	1@77	26.05	19.75	0.0944
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	36@18	25.1	18.8	0.0759

77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@1	25.08	18.78	0.0755
77	15	15	647167	3707.505	DFT-s-OFDM 16 QAM	1@77	25.09	18.79	0.0757
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	36@18	23.63	17.33	0.0541
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	1@1	23.7	17.4	0.0550
77	15	15	647167	3707.505	DFT-s-OFDM 64 QAM	1@77	23.68	17.38	0.0547
77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	36@18	21.64	15.34	0.0342
77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	1@1	21.83	15.53	0.0357
77	15	15	647167	3707.505	DFT-s-OFDM 256 QAM	1@77	21.84	15.54	0.0358
77	15	15	647167	3707.505	CP-OFDM QPSK	39@19	24.58	18.28	0.0673
77	15	15	647167	3707.505	CP-OFDM QPSK	1@1	24.52	18.22	0.0664
77	15	15	647167	3707.505	CP-OFDM QPSK	1@77	24.56	18.26	0.0670
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	36@18	26.16	19.86	0.0968
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.89	19.59	0.0910
77	15	15	656000	3840	DFT-s-OFDM PI/2 BPSK	1@77	25.83	19.53	0.0897
77	15	15	656000	3840	DFT-s-OFDM QPSK	36@18	26.03	19.73	0.0940
77	15	15	656000	3840	DFT-s-OFDM QPSK	1@1	25.99	19.69	0.0931
77	15	15	656000	3840	DFT-s-OFDM QPSK	1@77	25.89	19.59	0.0910
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	36@18	25.03	18.73	0.0746
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.15	18.85	0.0767
77	15	15	656000	3840	DFT-s-OFDM 16 QAM	1@77	25.09	18.79	0.0757
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	36@18	23.54	17.24	0.0530
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.68	17.38	0.0547
77	15	15	656000	3840	DFT-s-OFDM 64 QAM	1@77	23.62	17.32	0.0540
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	36@18	21.59	15.29	0.0338
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.83	15.53	0.0357
77	15	15	656000	3840	DFT-s-OFDM 256 QAM	1@77	21.77	15.47	0.0352
77	15	15	656000	3840	CP-OFDM QPSK	39@19	24.53	18.23	0.0665
77	15	15	656000	3840	CP-OFDM QPSK	1@1	24.55	18.25	0.0668
77	15	15	656000	3840	CP-OFDM QPSK	1@77	24.46	18.16	0.0655
77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	36@18	26.25	19.95	0.0989
77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	1@1	26.08	19.78	0.0951
77	15	15	664833	3972.495	DFT-s-OFDM PI/2 BPSK	1@77	26.06	19.76	0.0946
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	36@18	26.21	19.91	0.0979
77	15	15	664833	3972.495	DFT-s-OFDM QPSK	1@1	26.11	19.81	0.0957

77	15	15	664833	3972.495	DFT-s-OFDM QPSK	1@77	26.14	19.84	0.0964
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	36@18	25.2	18.9	0.0776
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	1@1	25.19	18.89	0.0774
77	15	15	664833	3972.495	DFT-s-OFDM 16 QAM	1@77	25.22	18.92	0.0780
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	36@18	23.72	17.42	0.0552
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	1@1	23.77	17.47	0.0558
77	15	15	664833	3972.495	DFT-s-OFDM 64 QAM	1@77	23.81	17.51	0.0564
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	36@18	21.72	15.42	0.0348
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	1@1	21.9	15.6	0.0363
77	15	15	664833	3972.495	DFT-s-OFDM 256 QAM	1@77	21.95	15.65	0.0367
77	15	15	664833	3972.495	CP-OFDM QPSK	39@19	24.68	18.38	0.0689
77	15	15	664833	3972.495	CP-OFDM QPSK	1@1	24.59	18.29	0.0675
77	15	15	664833	3972.495	CP-OFDM QPSK	1@77	24.63	18.33	0.0681
77	15	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	50@25	26.13	19.83	0.0962
77	15	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@1	26.05	19.75	0.0944
77	15	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@104	25.94	19.64	0.0920
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	50@25	26.1	19.8	0.0955
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	26.03	19.73	0.0940
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@104	26.02	19.72	0.0938
77	15	20	647334	3710.01	DFT-s-OFDM 16 QAM	50@25	25.12	18.82	0.0762
77	15	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	25.26	18.96	0.0787
77	15	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@104	25.24	18.94	0.0783
77	15	20	647334	3710.01	DFT-s-OFDM 64 QAM	50@25	23.61	17.31	0.0538
77	15	20	647334	3710.01	DFT-s-OFDM 64 QAM	1@1	23.76	17.46	0.0557
77	15	20	647334	3710.01	DFT-s-OFDM 64 QAM	1@104	23.81	17.51	0.0564
77	15	20	647334	3710.01	DFT-s-OFDM 256 QAM	50@25	21.6	15.3	0.0339
77	15	20	647334	3710.01	DFT-s-OFDM 256 QAM	1@1	21.81	15.51	0.0356
77	15	20	647334	3710.01	DFT-s-OFDM 256 QAM	1@104	21.85	15.55	0.0359
77	15	20	647334	3710.01	CP-OFDM QPSK	53@26	24.56	18.26	0.0670
77	15	20	647334	3710.01	CP-OFDM QPSK	1@1	24.48	18.18	0.0658
77	15	20	647334	3710.01	CP-OFDM QPSK	1@104	24.61	18.31	0.0678
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	50@25	26.07	19.77	0.0948
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.05	19.75	0.0944
77	15	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@104	25.82	19.52	0.0895

77	15	20	656000	3840	DFT-s-OFDM QPSK	50@25	26.04	19.74	0.0942
77	15	20	656000	3840	DFT-s-OFDM QPSK	1@1	26.04	19.74	0.0942
77	15	20	656000	3840	DFT-s-OFDM QPSK	1@104	25.91	19.61	0.0914
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	50@25	25.06	18.76	0.0752
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.23	18.93	0.0782
77	15	20	656000	3840	DFT-s-OFDM 16 QAM	1@104	25.09	18.79	0.0757
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	50@25	23.51	17.21	0.0526
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.8	17.5	0.0562
77	15	20	656000	3840	DFT-s-OFDM 64 QAM	1@104	23.65	17.35	0.0543
77	15	20	656000	3840	DFT-s-OFDM 256 QAM	50@25	21.48	15.18	0.0330
77	15	20	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.88	15.58	0.0361
77	15	20	656000	3840	DFT-s-OFDM 256 QAM	1@104	21.78	15.48	0.0353
77	15	20	656000	3840	CP-OFDM QPSK	53@26	24.52	18.22	0.0664
77	15	20	656000	3840	CP-OFDM QPSK	1@1	24.45	18.15	0.0653
77	15	20	656000	3840	CP-OFDM QPSK	1@104	24.4	18.1	0.0646
77	15	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	50@25	26.27	19.97	0.0993
77	15	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@1	26.14	19.84	0.0964
77	15	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@104	26.06	19.76	0.0946
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	50@25	26.22	19.92	0.0982
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	26.13	19.83	0.0962
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@104	26.18	19.88	0.0973
77	15	20	664666	3969.99	DFT-s-OFDM 16 QAM	50@25	25.28	18.98	0.0791
77	15	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	25.37	19.07	0.0807
77	15	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@104	25.4	19.1	0.0813
77	15	20	664666	3969.99	DFT-s-OFDM 64 QAM	50@25	23.72	17.42	0.0552
77	15	20	664666	3969.99	DFT-s-OFDM 64 QAM	1@1	23.91	17.61	0.0577
77	15	20	664666	3969.99	DFT-s-OFDM 64 QAM	1@104	23.95	17.65	0.0582
77	15	20	664666	3969.99	DFT-s-OFDM 256 QAM	50@25	21.7	15.4	0.0347
77	15	20	664666	3969.99	DFT-s-OFDM 256 QAM	1@1	21.92	15.62	0.0365
77	15	20	664666	3969.99	DFT-s-OFDM 256 QAM	1@104	22.02	15.72	0.0373
77	15	20	664666	3969.99	CP-OFDM QPSK	53@26	24.7	18.4	0.0692
77	15	20	664666	3969.99	CP-OFDM QPSK	1@1	24.65	18.35	0.0684
77	15	20	664666	3969.99	CP-OFDM QPSK	1@104	24.71	18.41	0.0693
77	15	25	647500	3712.5	DFT-s-OFDM PI/2 BPSK	64@32	26.1	19.8	0.0955

77	15	25	647500	3712.5	DFT-s-OFDM PI/2 BPSK	1@1	26	19.7	0.0933
77	15	25	647500	3712.5	DFT-s-OFDM PI/2 BPSK	1@131	25.89	19.59	0.0910
77	15	25	647500	3712.5	DFT-s-OFDM QPSK	64@32	26.06	19.76	0.0946
77	15	25	647500	3712.5	DFT-s-OFDM QPSK	1@1	25.99	19.69	0.0931
77	15	25	647500	3712.5	DFT-s-OFDM QPSK	1@131	25.99	19.69	0.0931
77	15	25	647500	3712.5	DFT-s-OFDM 16 QAM	64@32	25.04	18.74	0.0748
77	15	25	647500	3712.5	DFT-s-OFDM 16 QAM	1@1	25.08	18.78	0.0755
77	15	25	647500	3712.5	DFT-s-OFDM 16 QAM	1@131	25.07	18.77	0.0753
77	15	25	647500	3712.5	DFT-s-OFDM 64 QAM	64@32	23.57	17.27	0.0533
77	15	25	647500	3712.5	DFT-s-OFDM 64 QAM	1@1	23.62	17.32	0.0540
77	15	25	647500	3712.5	DFT-s-OFDM 64 QAM	1@131	23.6	17.3	0.0537
77	15	25	647500	3712.5	DFT-s-OFDM 256 QAM	64@32	21.58	15.28	0.0337
77	15	25	647500	3712.5	DFT-s-OFDM 256 QAM	1@1	21.87	15.57	0.0361
77	15	25	647500	3712.5	DFT-s-OFDM 256 QAM	1@131	21.86	15.56	0.0360
77	15	25	647500	3712.5	CP-OFDM QPSK	67@33	24.55	18.25	0.0668
77	15	25	647500	3712.5	CP-OFDM QPSK	1@1	24.58	18.28	0.0673
77	15	25	647500	3712.5	CP-OFDM QPSK	1@131	24.56	18.26	0.0670
77	15	25	656000	3840	DFT-s-OFDM PI/2 BPSK	64@32	26.11	19.81	0.0957
77	15	25	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.08	19.78	0.0951
77	15	25	656000	3840	DFT-s-OFDM PI/2 BPSK	1@131	25.86	19.56	0.0904
77	15	25	656000	3840	DFT-s-OFDM QPSK	64@32	26.02	19.72	0.0938
77	15	25	656000	3840	DFT-s-OFDM QPSK	1@1	26.08	19.78	0.0951
77	15	25	656000	3840	DFT-s-OFDM QPSK	1@131	25.9	19.6	0.0912
77	15	25	656000	3840	DFT-s-OFDM 16 QAM	64@32	25.04	18.74	0.0748
77	15	25	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.16	18.86	0.0769
77	15	25	656000	3840	DFT-s-OFDM 16 QAM	1@131	25.06	18.76	0.0752
77	15	25	656000	3840	DFT-s-OFDM 64 QAM	64@32	23.54	17.24	0.0530
77	15	25	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.74	17.44	0.0555
77	15	25	656000	3840	DFT-s-OFDM 64 QAM	1@131	23.65	17.35	0.0543
77	15	25	656000	3840	DFT-s-OFDM 256 QAM	64@32	21.54	15.24	0.0334
77	15	25	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.94	15.64	0.0366
77	15	25	656000	3840	DFT-s-OFDM 256 QAM	1@131	21.83	15.53	0.0357
77	15	25	656000	3840	CP-OFDM QPSK	67@33	24.54	18.24	0.0667
77	15	25	656000	3840	CP-OFDM QPSK	1@1	24.6	18.3	0.0676

77	15	25	656000	3840	CP-OFDM QPSK	1@131	24.45	18.15	0.0653
77	15	25	664500	3967.5	DFT-s-OFDM PI/2 BPSK	64@32	26.13	19.83	0.0962
77	15	25	664500	3967.5	DFT-s-OFDM PI/2 BPSK	1@1	25.98	19.68	0.0929
77	15	25	664500	3967.5	DFT-s-OFDM PI/2 BPSK	1@131	26.02	19.72	0.0938
77	15	25	664500	3967.5	DFT-s-OFDM QPSK	64@32	26.17	19.87	0.0971
77	15	25	664500	3967.5	DFT-s-OFDM QPSK	1@1	26.06	19.76	0.0946
77	15	25	664500	3967.5	DFT-s-OFDM QPSK	1@131	26.15	19.85	0.0966
77	15	25	664500	3967.5	DFT-s-OFDM 16 QAM	64@32	25.11	18.81	0.0760
77	15	25	664500	3967.5	DFT-s-OFDM 16 QAM	1@1	25.17	18.87	0.0771
77	15	25	664500	3967.5	DFT-s-OFDM 16 QAM	1@131	25.27	18.97	0.0789
77	15	25	664500	3967.5	DFT-s-OFDM 64 QAM	64@32	23.63	17.33	0.0541
77	15	25	664500	3967.5	DFT-s-OFDM 64 QAM	1@1	23.76	17.46	0.0557
77	15	25	664500	3967.5	DFT-s-OFDM 64 QAM	1@131	23.79	17.49	0.0561
77	15	25	664500	3967.5	DFT-s-OFDM 256 QAM	64@32	21.65	15.35	0.0343
77	15	25	664500	3967.5	DFT-s-OFDM 256 QAM	1@1	21.9	15.6	0.0363
77	15	25	664500	3967.5	DFT-s-OFDM 256 QAM	1@131	22.01	15.71	0.0372
77	15	25	664500	3967.5	CP-OFDM QPSK	67@33	24.63	18.33	0.0681
77	15	25	664500	3967.5	CP-OFDM QPSK	1@1	24.43	18.13	0.0650
77	15	25	664500	3967.5	CP-OFDM QPSK	1@131	24.67	18.37	0.0687
77	15	30	647667	3715.005	DFT-s-OFDM PI/2 BPSK	80@40	26.17	19.87	0.0971
77	15	30	647667	3715.005	DFT-s-OFDM PI/2 BPSK	1@1	26.03	19.73	0.0940
77	15	30	647667	3715.005	DFT-s-OFDM PI/2 BPSK	1@158	25.92	19.62	0.0916
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	80@40	26.17	19.87	0.0971
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@1	26.05	19.75	0.0944
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@158	26.03	19.73	0.0940
77	15	30	647667	3715.005	DFT-s-OFDM 16 QAM	80@40	25.13	18.83	0.0764
77	15	30	647667	3715.005	DFT-s-OFDM 16 QAM	1@1	25.11	18.81	0.0760
77	15	30	647667	3715.005	DFT-s-OFDM 16 QAM	1@158	25.09	18.79	0.0757
77	15	30	647667	3715.005	DFT-s-OFDM 64 QAM	80@40	23.64	17.34	0.0542
77	15	30	647667	3715.005	DFT-s-OFDM 64 QAM	1@1	23.58	17.28	0.0535
77	15	30	647667	3715.005	DFT-s-OFDM 64 QAM	1@158	23.62	17.32	0.0540
77	15	30	647667	3715.005	DFT-s-OFDM 256 QAM	80@40	21.65	15.35	0.0343
77	15	30	647667	3715.005	DFT-s-OFDM 256 QAM	1@1	21.93	15.63	0.0366
77	15	30	647667	3715.005	DFT-s-OFDM 256 QAM	1@158	21.91	15.61	0.0364

77	15	30	647667	3715.005	CP-OFDM QPSK	80@40	24.6	18.3	0.0676
77	15	30	647667	3715.005	CP-OFDM QPSK	1@1	24.51	18.21	0.0662
77	15	30	647667	3715.005	CP-OFDM QPSK	1@158	24.68	18.38	0.0689
77	15	30	656000	3840	DFT-s-OFDM PI/2 BPSK	80@40	26.15	19.85	0.0966
77	15	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.09	19.79	0.0953
77	15	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@158	25.82	19.52	0.0895
77	15	30	656000	3840	DFT-s-OFDM QPSK	80@40	26.09	19.79	0.0953
77	15	30	656000	3840	DFT-s-OFDM QPSK	1@1	26.11	19.81	0.0957
77	15	30	656000	3840	DFT-s-OFDM QPSK	1@158	25.89	19.59	0.0910
77	15	30	656000	3840	DFT-s-OFDM 16 QAM	80@40	25.11	18.81	0.0760
77	15	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.17	18.87	0.0771
77	15	30	656000	3840	DFT-s-OFDM 16 QAM	1@158	25.01	18.71	0.0743
77	15	30	656000	3840	DFT-s-OFDM 64 QAM	80@40	23.61	17.31	0.0538
77	15	30	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.71	17.41	0.0551
77	15	30	656000	3840	DFT-s-OFDM 64 QAM	1@158	23.48	17.18	0.0522
77	15	30	656000	3840	DFT-s-OFDM 256 QAM	80@40	21.6	15.3	0.0339
77	15	30	656000	3840	DFT-s-OFDM 256 QAM	1@1	22	15.7	0.0372
77	15	30	656000	3840	DFT-s-OFDM 256 QAM	1@158	21.83	15.53	0.0357
77	15	30	656000	3840	CP-OFDM QPSK	80@40	24.55	18.25	0.0668
77	15	30	656000	3840	CP-OFDM QPSK	1@1	24.54	18.24	0.0667
77	15	30	656000	3840	CP-OFDM QPSK	1@158	24.53	18.23	0.0665
77	15	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	80@40	26.17	19.87	0.0971
77	15	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@1	25.98	19.68	0.0929
77	15	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@158	25.98	19.68	0.0929
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	80@40	26.07	19.77	0.0948
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	26.04	19.74	0.0942
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@158	26.1	19.8	0.0955
77	15	30	664332	3964.98	DFT-s-OFDM 16 QAM	80@40	25.11	18.81	0.0760
77	15	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	25.08	18.78	0.0755
77	15	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@158	25.21	18.91	0.0778
77	15	30	664332	3964.98	DFT-s-OFDM 64 QAM	80@40	23.6	17.3	0.0537
77	15	30	664332	3964.98	DFT-s-OFDM 64 QAM	1@1	23.63	17.33	0.0541
77	15	30	664332	3964.98	DFT-s-OFDM 64 QAM	1@158	23.69	17.39	0.0548
77	15	30	664332	3964.98	DFT-s-OFDM 256 QAM	80@40	21.63	15.33	0.0341

77	15	30	664332	3964.98	DFT-s-OFDM 256 QAM	1@1	21.9	15.6	0.0363
77	15	30	664332	3964.98	DFT-s-OFDM 256 QAM	1@158	22	15.7	0.0372
77	15	30	664332	3964.98	CP-OFDM QPSK	80@40	24.53	18.23	0.0665
77	15	30	664332	3964.98	CP-OFDM QPSK	1@1	24.39	18.09	0.0644
77	15	30	664332	3964.98	CP-OFDM QPSK	1@158	24.69	18.39	0.0690
77	15	40	648000	3720	DFT-s-OFDM PI/2 BPSK	108@54	26.14	19.84	0.0964
77	15	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@1	25.96	19.66	0.0925
77	15	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@214	25.87	19.57	0.0906
77	15	40	648000	3720	DFT-s-OFDM QPSK	108@54	26.11	19.81	0.0957
77	15	40	648000	3720	DFT-s-OFDM QPSK	1@1	26.04	19.74	0.0942
77	15	40	648000	3720	DFT-s-OFDM QPSK	1@214	25.98	19.68	0.0929
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	108@54	25.14	18.84	0.0766
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	25.14	18.84	0.0766
77	15	40	648000	3720	DFT-s-OFDM 16 QAM	1@214	25.09	18.79	0.0757
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	108@54	23.58	17.28	0.0535
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	1@1	23.73	17.43	0.0553
77	15	40	648000	3720	DFT-s-OFDM 64 QAM	1@214	23.66	17.36	0.0545
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	108@54	21.6	15.3	0.0339
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	1@1	21.88	15.58	0.0361
77	15	40	648000	3720	DFT-s-OFDM 256 QAM	1@214	21.87	15.57	0.0361
77	15	40	648000	3720	CP-OFDM QPSK	108@54	24.63	18.33	0.0681
77	15	40	648000	3720	CP-OFDM QPSK	1@1	24.41	18.11	0.0647
77	15	40	648000	3720	CP-OFDM QPSK	1@214	24.48	18.18	0.0658
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	108@54	26.12	19.82	0.0959
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.12	19.82	0.0959
77	15	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@214	25.77	19.47	0.0885
77	15	40	656000	3840	DFT-s-OFDM QPSK	108@54	26.09	19.79	0.0953
77	15	40	656000	3840	DFT-s-OFDM QPSK	1@1	26.13	19.83	0.0962
77	15	40	656000	3840	DFT-s-OFDM QPSK	1@214	25.83	19.53	0.0897
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	108@54	25.05	18.75	0.0750
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.29	18.99	0.0793
77	15	40	656000	3840	DFT-s-OFDM 16 QAM	1@214	24.99	18.69	0.0740
77	15	40	656000	3840	DFT-s-OFDM 64 QAM	108@54	23.59	17.29	0.0536
77	15	40	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.85	17.55	0.0569

77	15	40	656000	3840	DFT-s-OFDM 64 QAM	1@214	23.58	17.28	0.0535
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	108@54	21.59	15.29	0.0338
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	1@1	22.03	15.73	0.0374
77	15	40	656000	3840	DFT-s-OFDM 256 QAM	1@214	21.82	15.52	0.0356
77	15	40	656000	3840	CP-OFDM QPSK	108@54	24.57	18.27	0.0671
77	15	40	656000	3840	CP-OFDM QPSK	1@1	24.53	18.23	0.0665
77	15	40	656000	3840	CP-OFDM QPSK	1@214	24.39	18.09	0.0644
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	108@54	26.2	19.9	0.0977
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@1	25.97	19.67	0.0927
77	15	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@214	26.08	19.78	0.0951
77	15	40	664000	3960	DFT-s-OFDM QPSK	108@54	26.17	19.87	0.0971
77	15	40	664000	3960	DFT-s-OFDM QPSK	1@1	26.01	19.71	0.0935
77	15	40	664000	3960	DFT-s-OFDM QPSK	1@214	26.2	19.9	0.0977
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	108@54	25.13	18.83	0.0764
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	25.15	18.85	0.0767
77	15	40	664000	3960	DFT-s-OFDM 16 QAM	1@214	25.34	19.04	0.0802
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	108@54	23.67	17.37	0.0546
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	1@1	23.72	17.42	0.0552
77	15	40	664000	3960	DFT-s-OFDM 64 QAM	1@214	23.9	17.6	0.0575
77	15	40	664000	3960	DFT-s-OFDM 256 QAM	108@54	21.7	15.4	0.0347
77	15	40	664000	3960	DFT-s-OFDM 256 QAM	1@1	21.86	15.56	0.0360
77	15	40	664000	3960	DFT-s-OFDM 256 QAM	1@214	22.05	15.75	0.0376
77	15	40	664000	3960	CP-OFDM QPSK	108@54	24.64	18.34	0.0682
77	15	40	664000	3960	CP-OFDM QPSK	1@1	24.47	18.17	0.0656
77	15	40	664000	3960	CP-OFDM QPSK	1@214	24.72	18.42	0.0695
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	135@67	26.13	19.83	0.0962
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	25.95	19.65	0.0923
77	15	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@268	25.95	19.65	0.0923
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	135@67	26.07	19.77	0.0948
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	26.03	19.73	0.0940
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@268	26.04	19.74	0.0942
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	135@67	25.02	18.72	0.0745
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	25.13	18.83	0.0764
77	15	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@268	25.09	18.79	0.0757

77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	135@67	23.52	17.22	0.0527
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@1	23.7	17.4	0.0550
77	15	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@268	23.73	17.43	0.0553
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	135@67	21.6	15.3	0.0339
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@1	21.9	15.6	0.0363
77	15	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@268	21.9	15.6	0.0363
77	15	50	648334	3725.01	CP-OFDM QPSK	135@67	24.55	18.25	0.0668
77	15	50	648334	3725.01	CP-OFDM QPSK	1@1	24.48	18.18	0.0658
77	15	50	648334	3725.01	CP-OFDM QPSK	1@268	24.58	18.28	0.0673
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	26.12	19.82	0.0959
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.19	19.89	0.0975
77	15	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@268	25.79	19.49	0.0889
77	15	50	656000	3840	DFT-s-OFDM QPSK	135@67	26.12	19.82	0.0959
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@1	26.17	19.87	0.0971
77	15	50	656000	3840	DFT-s-OFDM QPSK	1@268	25.87	19.57	0.0906
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	135@67	25.06	18.76	0.0752
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.27	18.97	0.0789
77	15	50	656000	3840	DFT-s-OFDM 16 QAM	1@268	24.93	18.63	0.0729
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	135@67	23.56	17.26	0.0532
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.84	17.54	0.0568
77	15	50	656000	3840	DFT-s-OFDM 64 QAM	1@268	23.55	17.25	0.0531
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	135@67	21.62	15.32	0.0340
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@1	22.06	15.76	0.0377
77	15	50	656000	3840	DFT-s-OFDM 256 QAM	1@268	21.78	15.48	0.0353
77	15	50	656000	3840	CP-OFDM QPSK	135@67	24.59	18.29	0.0675
77	15	50	656000	3840	CP-OFDM QPSK	1@1	24.7	18.4	0.0692
77	15	50	656000	3840	CP-OFDM QPSK	1@268	24.45	18.15	0.0653
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	135@67	26.11	19.81	0.0957
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	25.78	19.48	0.0887
77	15	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@268	26.08	19.78	0.0951
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	135@67	26.06	19.76	0.0946
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	25.89	19.59	0.0910
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@268	26.15	19.85	0.0966
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	135@67	25.03	18.73	0.0746

77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	24.97	18.67	0.0736
77	15	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@268	25.26	18.96	0.0787
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	135@67	23.54	17.24	0.0530
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@1	23.59	17.29	0.0536
77	15	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@268	23.84	17.54	0.0568
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	135@67	21.58	15.28	0.0337
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@1	21.76	15.46	0.0352
77	15	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@268	22.05	15.75	0.0376
77	15	50	663666	3954.99	CP-OFDM QPSK	135@67	24.53	18.23	0.0665
77	15	50	663666	3954.99	CP-OFDM QPSK	1@1	24.41	18.11	0.0647
77	15	50	663666	3954.99	CP-OFDM QPSK	1@268	24.7	18.4	0.0692

Frequency Stability

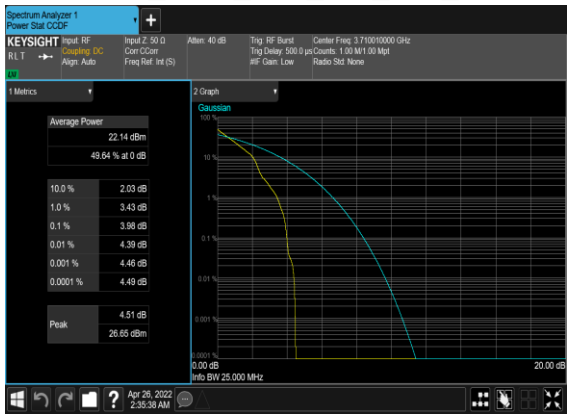
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00586	**PASS**	NV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00677	**PASS**	LV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00314	**PASS**	HV
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00426	**PASS**	-30℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00694	**PASS**	-20℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0063	**PASS**	-10℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00536	**PASS**	0℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00244	**PASS**	10℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.0041	**PASS**	20℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00684	**PASS**	30℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00457	**PASS**	40℃
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	0.00591	**PASS**	50℃

Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	15	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	100@0	4.63	13	**PASS**
77	15	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@0	3.98	13	**PASS**
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	100@0	5.93	13	**PASS**
77	15	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	6.44	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	4.59	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	1@0	4.72	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	6.39	13	**PASS**
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	5.82	13	**PASS**
77	15	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	100@0	4.56	13	**PASS**
77	15	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@0	4.69	13	**PASS**
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	100@0	5.85	13	**PASS**
77	15	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	5.9	13	**PASS**

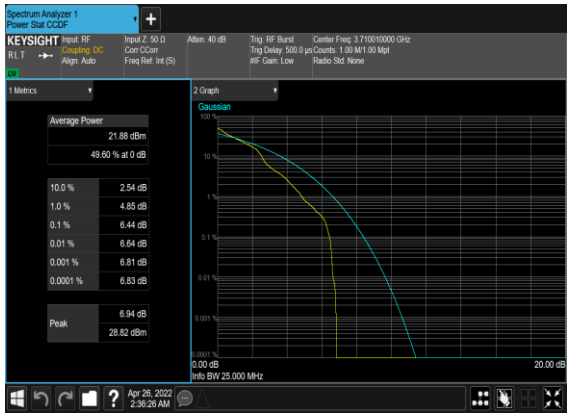
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

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

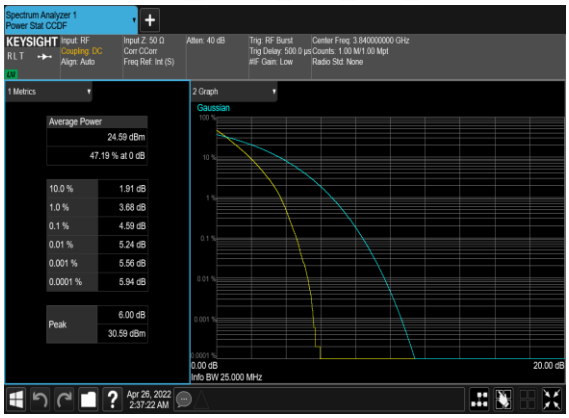


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

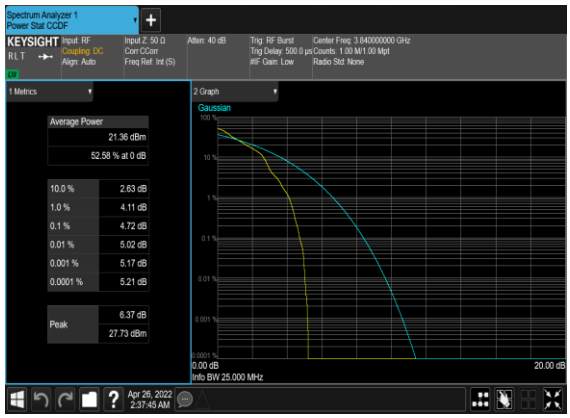
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



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

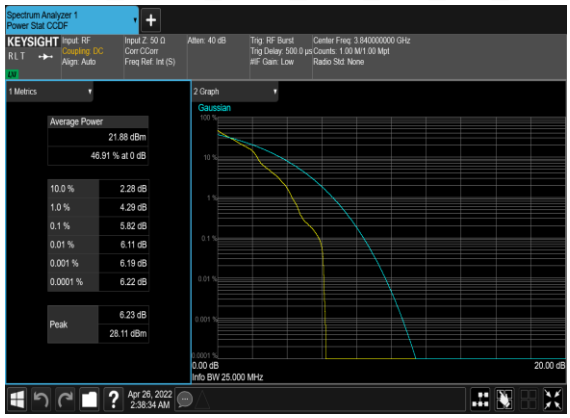


N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

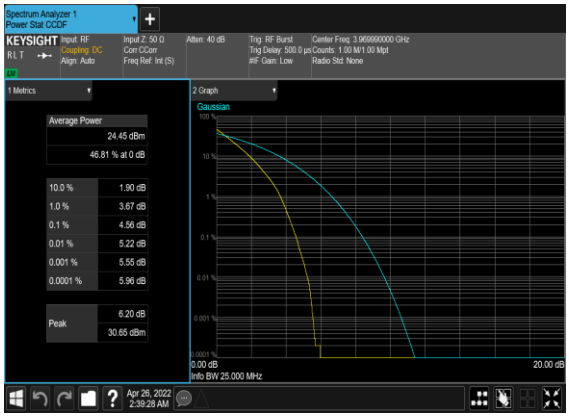


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

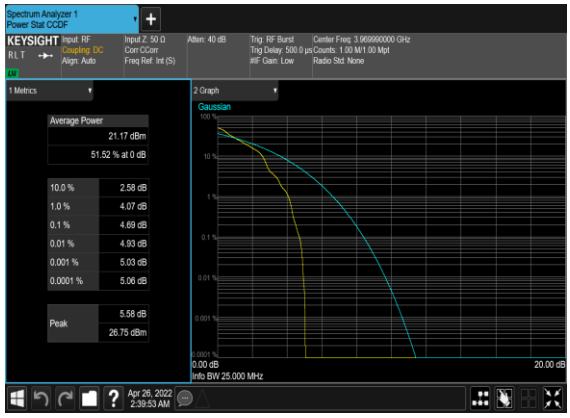
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



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

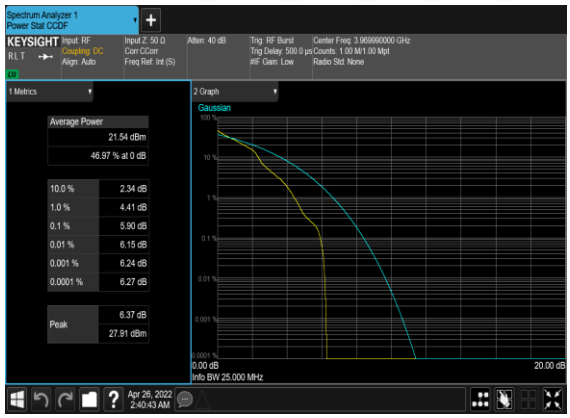


N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

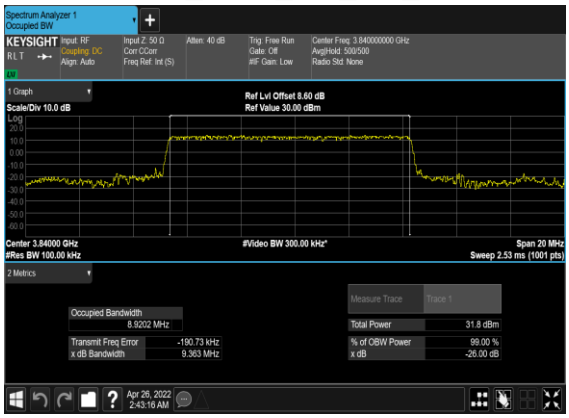


Occupied Bandwidth

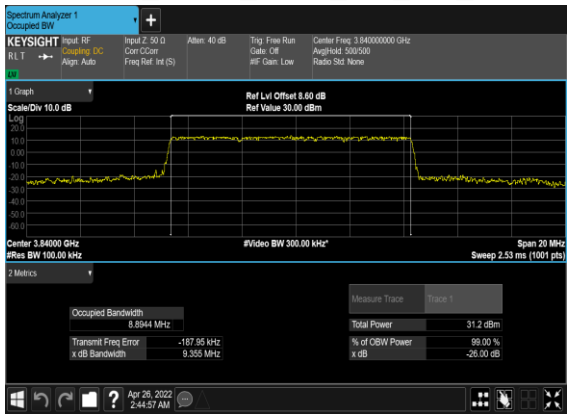
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
77	15	10	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	8.9202	9.363
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	50@0	8.8944	9.355
77	15	10	656000	3840.0	CP-OFDM QPSK	52@0	9.2916	9.719
77	15	10	656000	3840.0	CP-OFDM 16 QAM	52@0	9.2645	9.758
77	15	10	656000	3840.0	CP-OFDM 64 QAM	52@0	9.2739	9.992
77	15	10	656000	3840.0	CP-OFDM 256 QAM	52@0	9.2753	9.716
77	15	15	656000	3840.0	DFT-s-OFDM PI/2 BPSK	75@0	13.392	14.14
77	15	15	656000	3840.0	DFT-s-OFDM QPSK	75@0	13.379	13.9
77	15	15	656000	3840.0	CP-OFDM QPSK	79@0	14.087	15.38
77	15	15	656000	3840.0	CP-OFDM 16 QAM	79@0	14.07	14.66
77	15	15	656000	3840.0	CP-OFDM 64 QAM	79@0	14.058	14.74
77	15	15	656000	3840.0	CP-OFDM 256 QAM	79@0	14.074	15.06
77	15	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	17.884	18.59
77	15	20	656000	3840.0	DFT-s-OFDM QPSK	100@0	17.871	18.63
77	15	20	656000	3840.0	CP-OFDM QPSK	106@0	18.921	19.77
77	15	20	656000	3840.0	CP-OFDM 16 QAM	106@0	18.946	19.58
77	15	20	656000	3840.0	CP-OFDM 64 QAM	106@0	18.953	19.64
77	15	20	656000	3840.0	CP-OFDM 256 QAM	106@0	18.922	19.63
77	15	25	656000	3840.0	DFT-s-OFDM PI/2 BPSK	128@0	22.847	24.04
77	15	25	656000	3840.0	DFT-s-OFDM QPSK	128@0	22.856	23.77
77	15	25	656000	3840.0	CP-OFDM QPSK	133@0	23.675	24.51
77	15	25	656000	3840.0	CP-OFDM 16 QAM	133@0	23.734	24.63
77	15	25	656000	3840.0	CP-OFDM 64 QAM	133@0	23.771	24.64
77	15	25	656000	3840.0	CP-OFDM 256 QAM	133@0	23.749	24.66
77	15	30	656000	3840.0	DFT-s-OFDM PI/2 BPSK	160@0	28.58	29.6

77	15	30	656000	3840.0	DFT-s-OFDM QPSK	160@0	28.569	29.69
77	15	30	656000	3840.0	CP-OFDM QPSK	160@0	28.501	29.68
77	15	30	656000	3840.0	CP-OFDM 16 QAM	160@0	28.547	29.71
77	15	30	656000	3840.0	CP-OFDM 64 QAM	160@0	28.551	29.65
77	15	30	656000	3840.0	CP-OFDM 256 QAM	160@0	28.588	29.67
77	15	40	656000	3840.0	DFT-s-OFDM PI/2 BPSK	216@0	38.551	39.94
77	15	40	656000	3840.0	DFT-s-OFDM QPSK	216@0	38.62	39.92
77	15	40	656000	3840.0	CP-OFDM QPSK	216@0	38.522	39.99
77	15	40	656000	3840.0	CP-OFDM 16 QAM	216@0	38.574	40.08
77	15	40	656000	3840.0	CP-OFDM 64 QAM	216@0	38.699	39.89
77	15	40	656000	3840.0	CP-OFDM 256 QAM	216@0	38.48	40.24
77	15	50	656000	3840.0	DFT-s-OFDM PI/2 BPSK	270@0	48.239	49.88
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	270@0	48.163	49.95
77	15	50	656000	3840.0	CP-OFDM QPSK	270@0	48.197	49.82
77	15	50	656000	3840.0	CP-OFDM 16 QAM	270@0	48.22	49.81
77	15	50	656000	3840.0	CP-OFDM 64 QAM	270@0	48.25	49.74
77	15	50	656000	3840.0	CP-OFDM 256 QAM	270@0	48.115	50.05

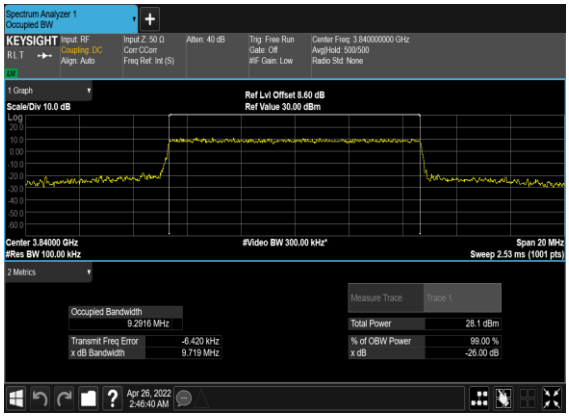
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



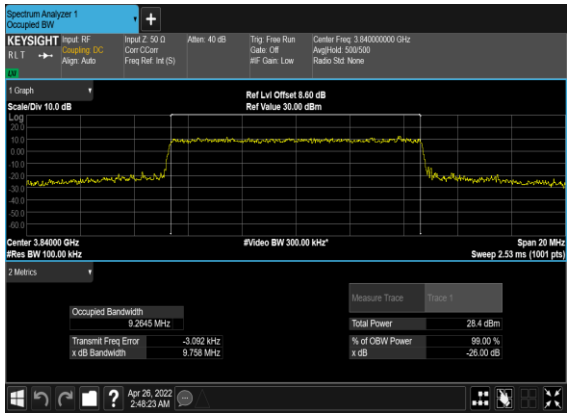
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



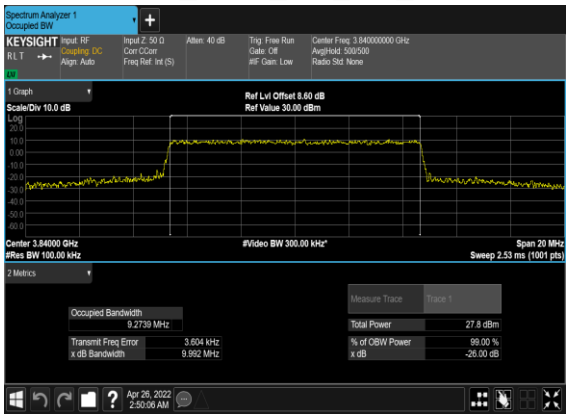
N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



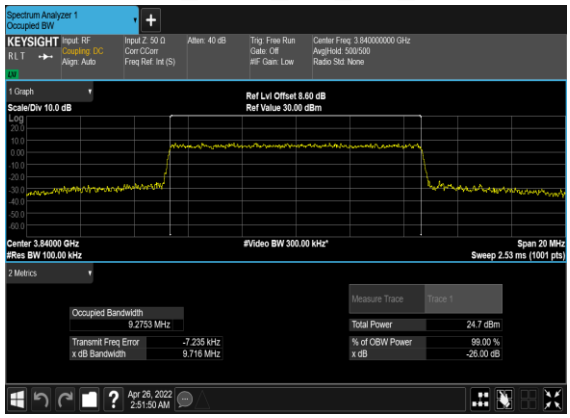
N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

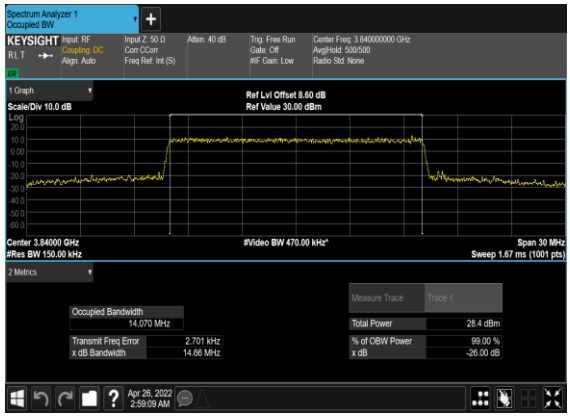


N77(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

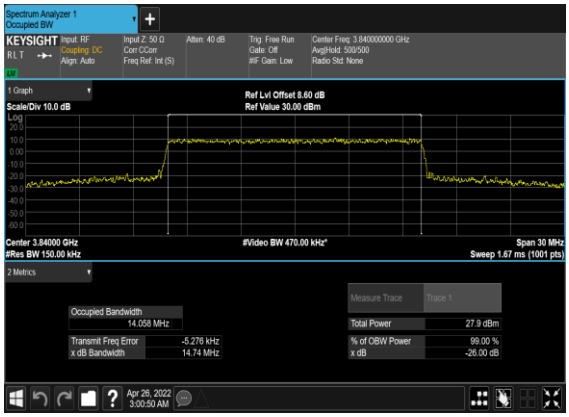
N77(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

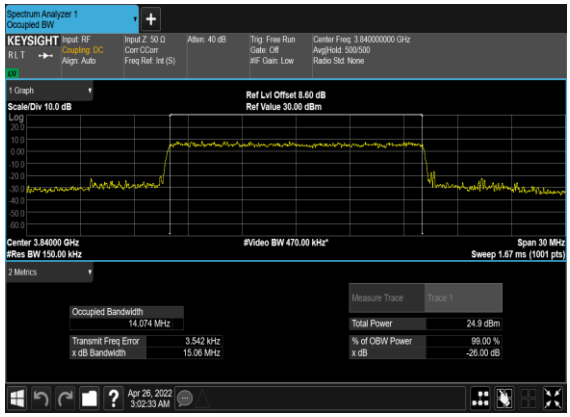
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



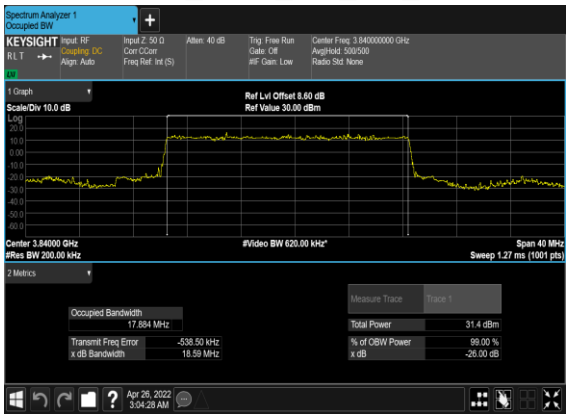
N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

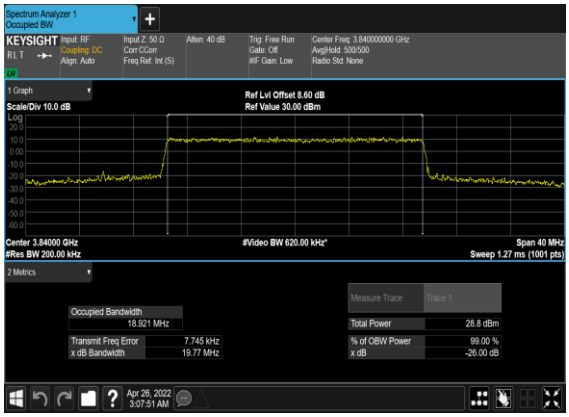


N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

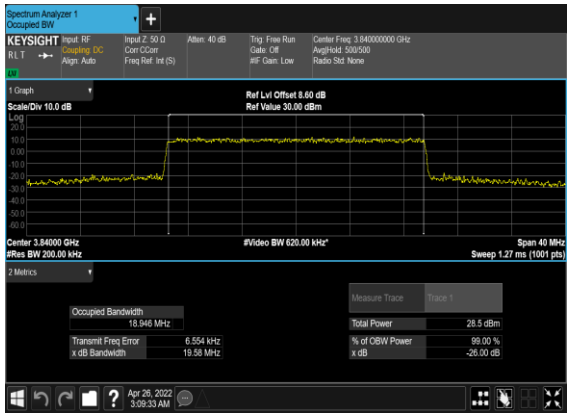


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

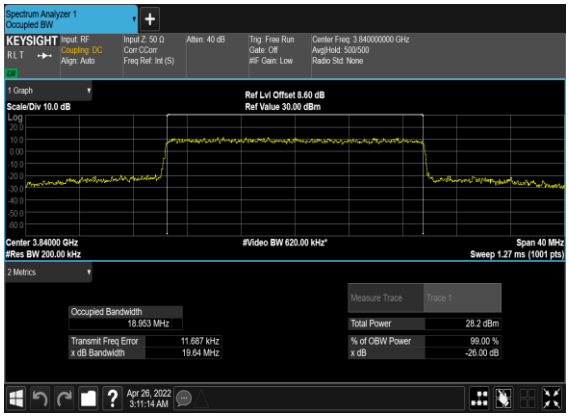
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



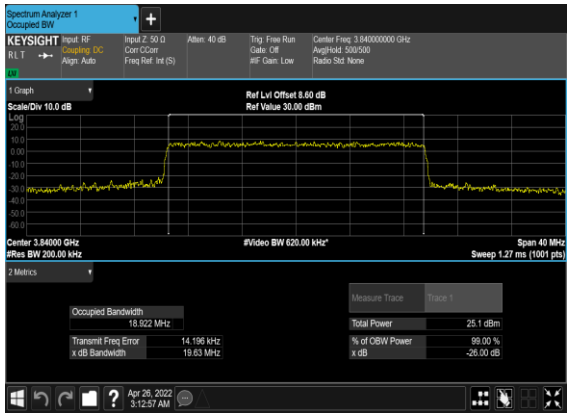
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



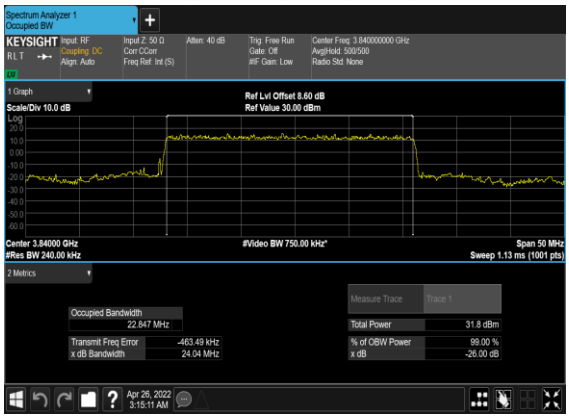
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



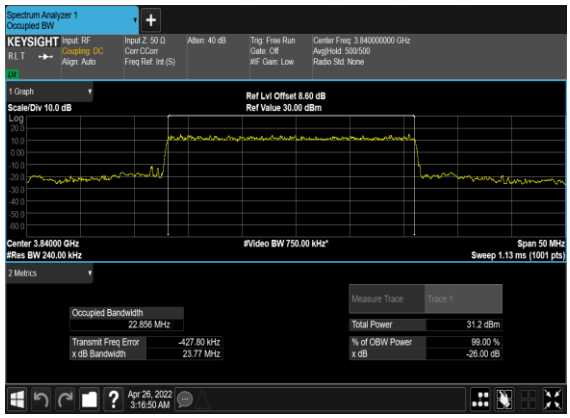
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



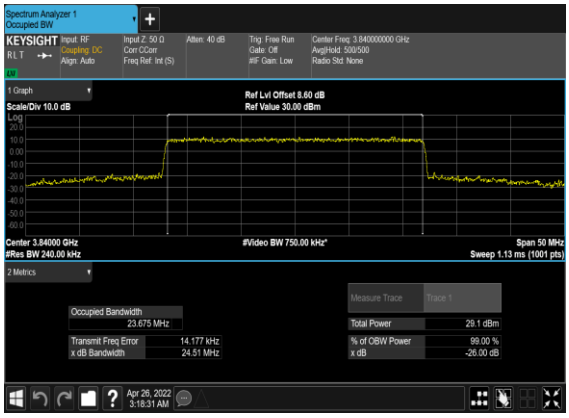
N77(25M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



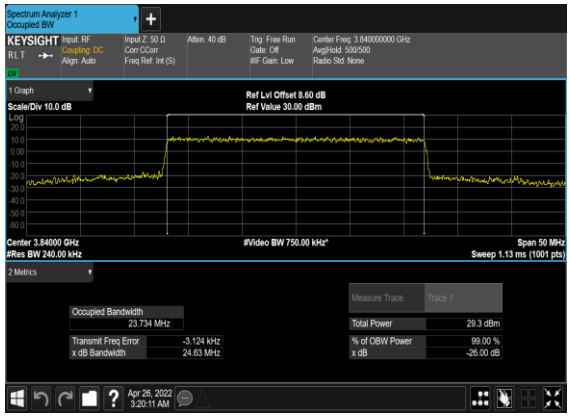
N77(25M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



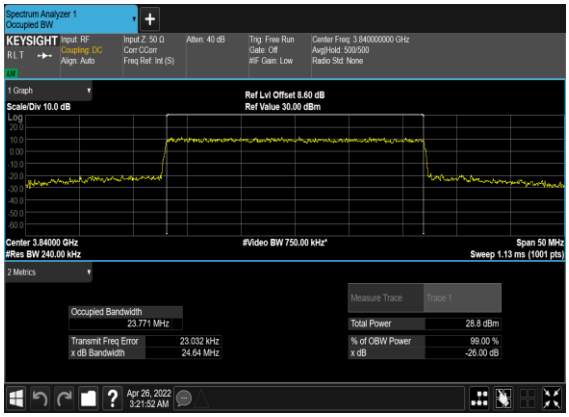
N77(25M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



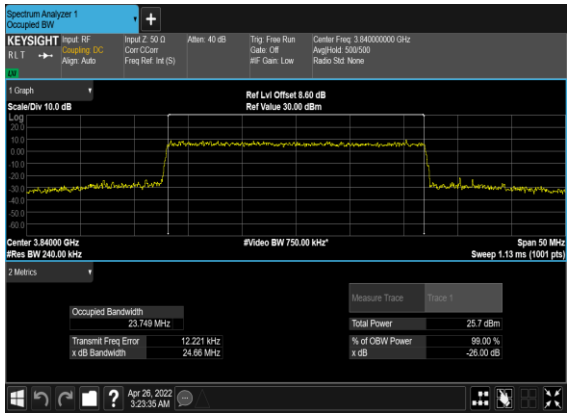
N77(25M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(25M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

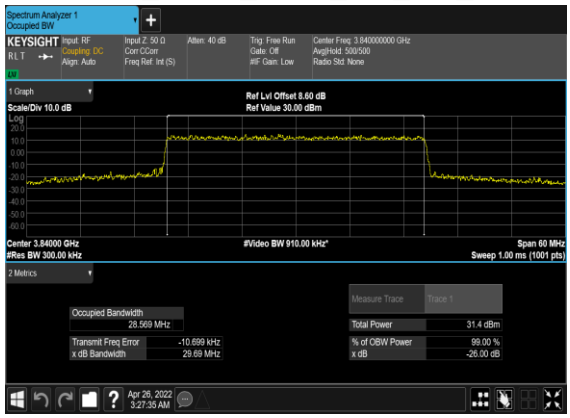


N77(25M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

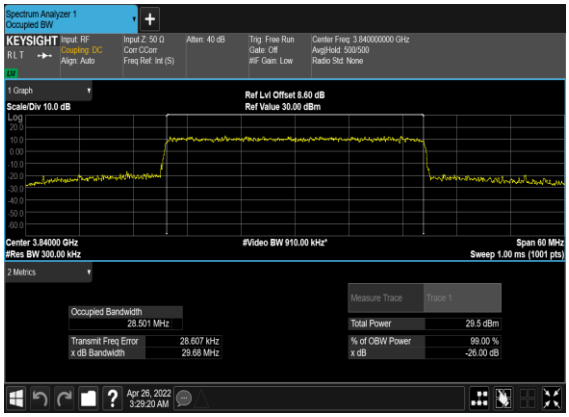


N77(30M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

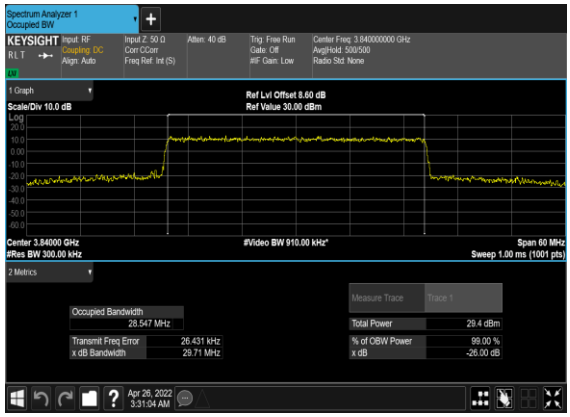
N77(30M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



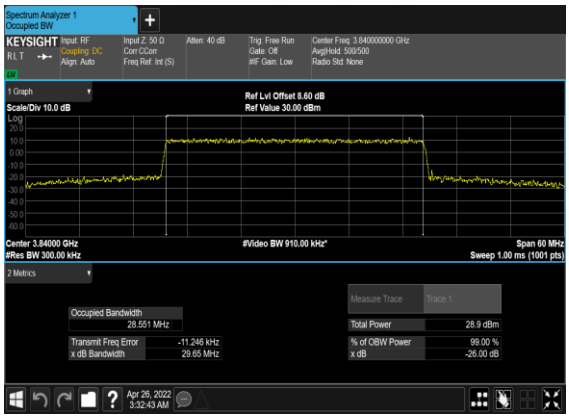
N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



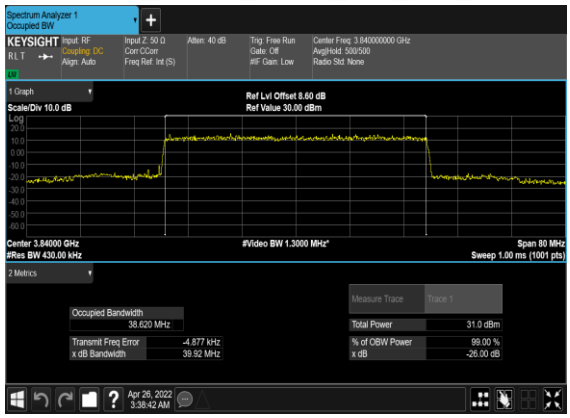
N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



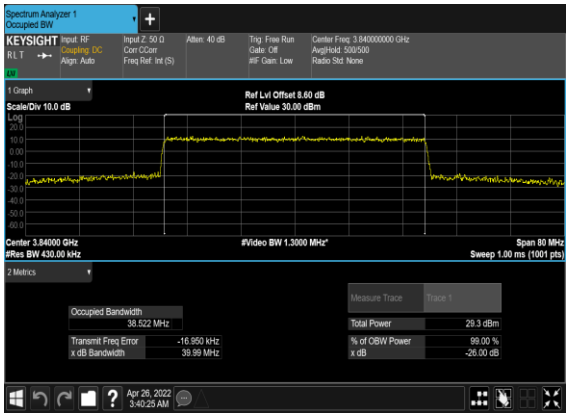
N77(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

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

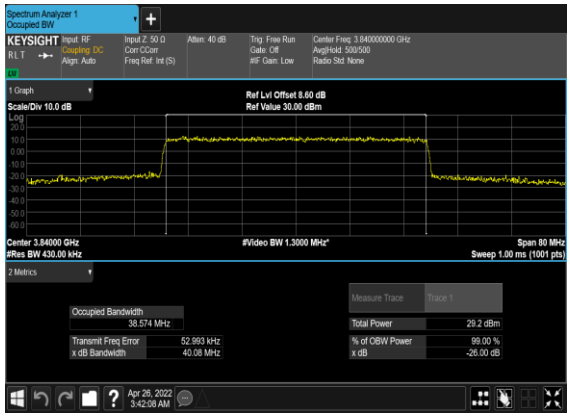
N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



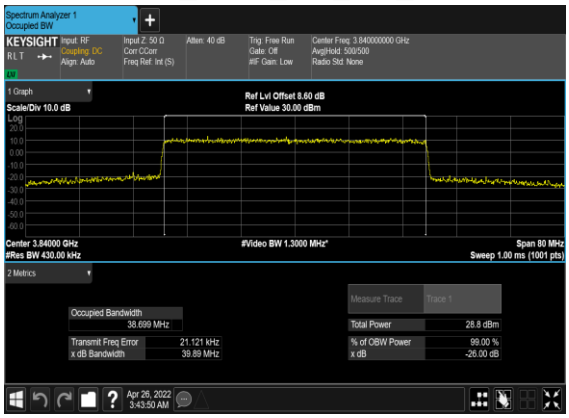
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



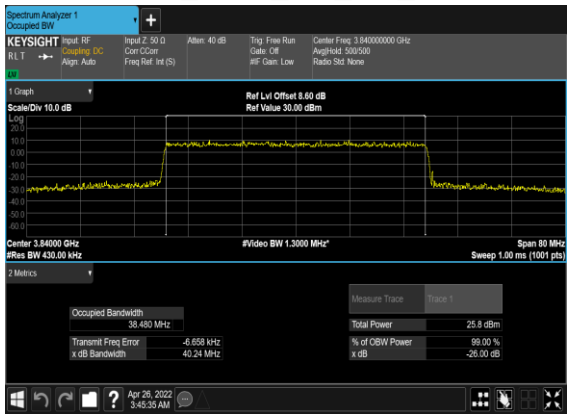
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



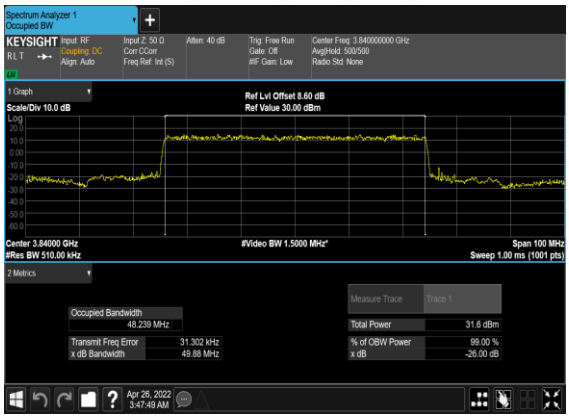
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



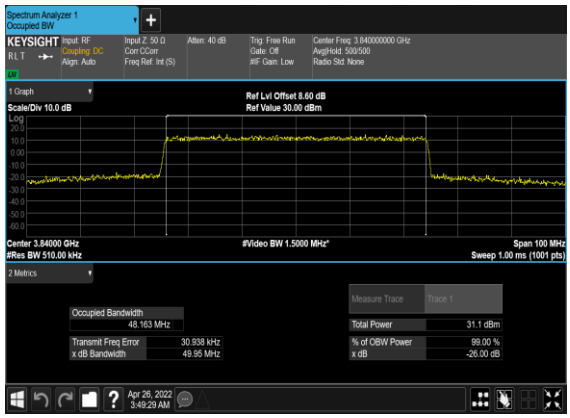
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



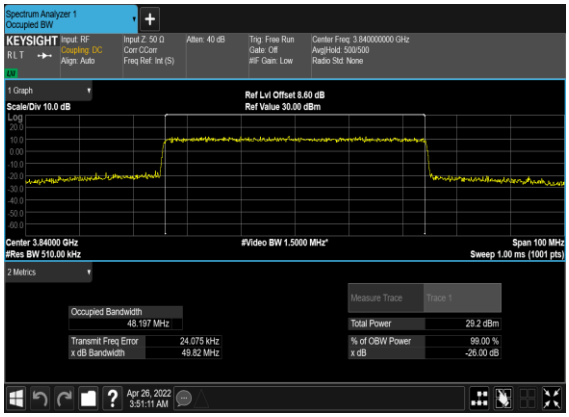
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



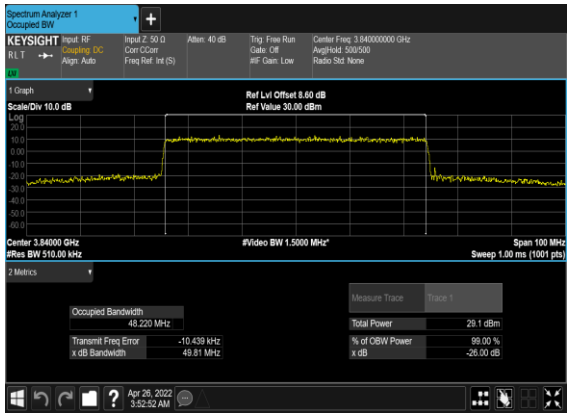
N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

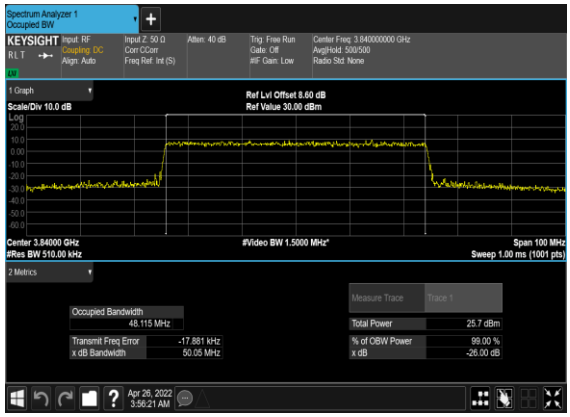


N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



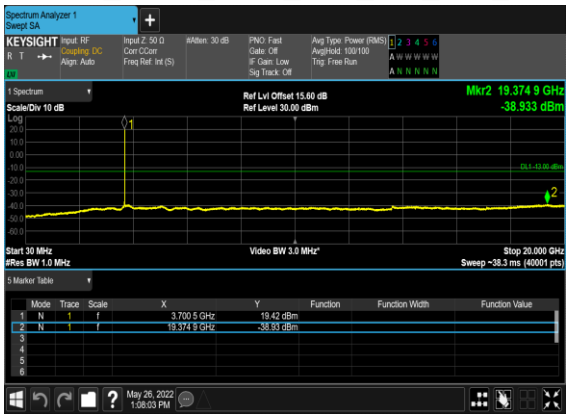
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	30	647667	3715.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@0	see graph	**---**

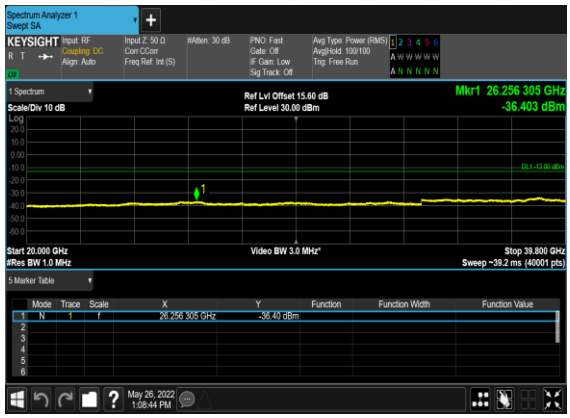
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	30	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	30	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	30	664332	3964.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**

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

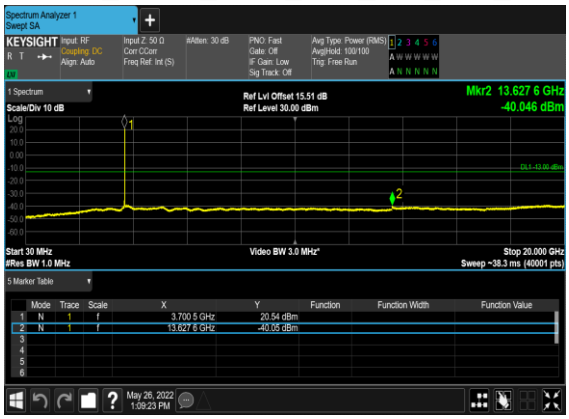
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



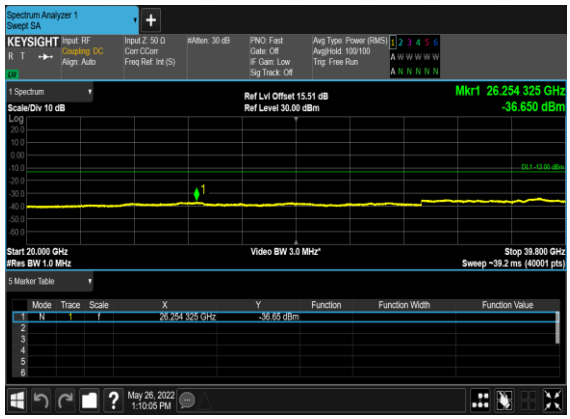
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



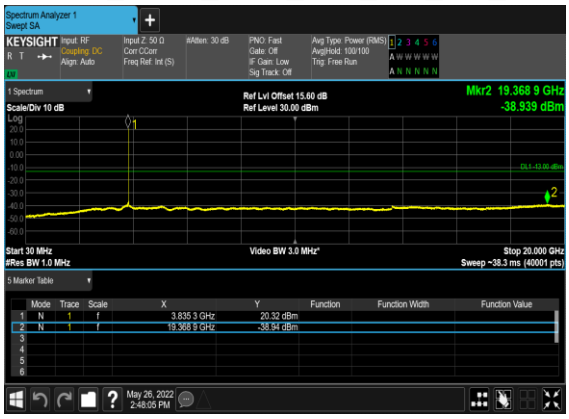
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



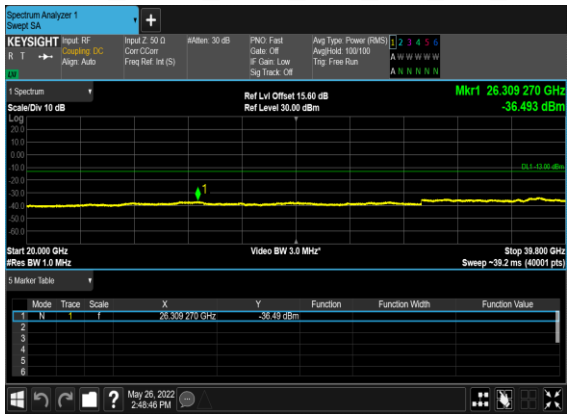
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



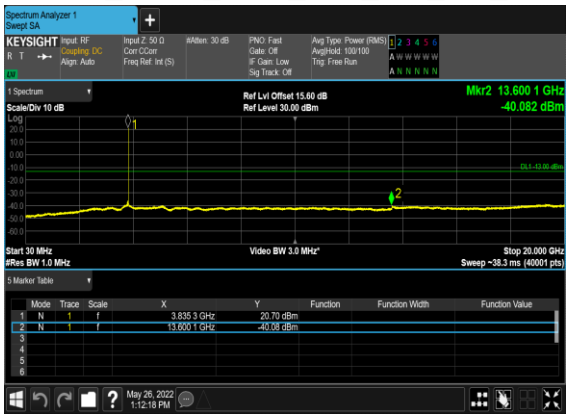
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



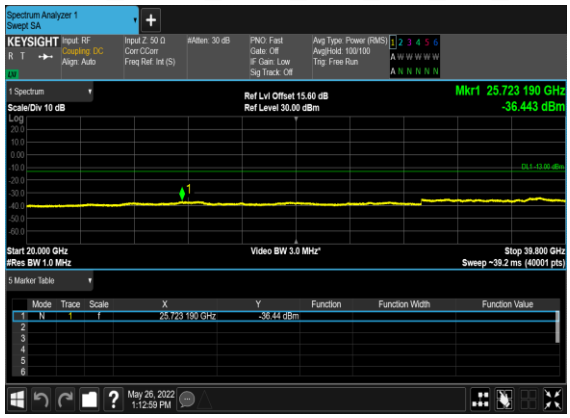
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



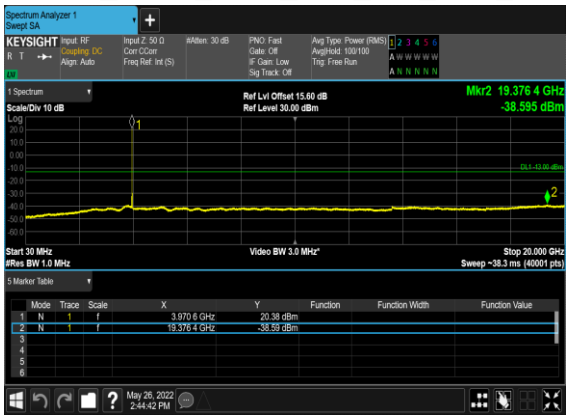
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



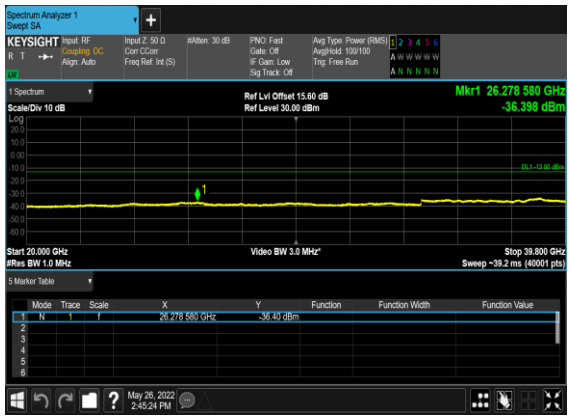
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



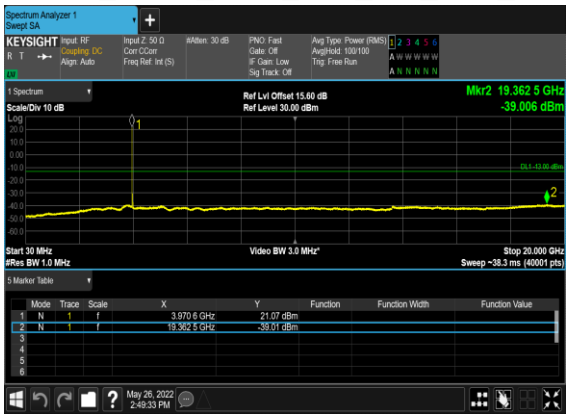
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



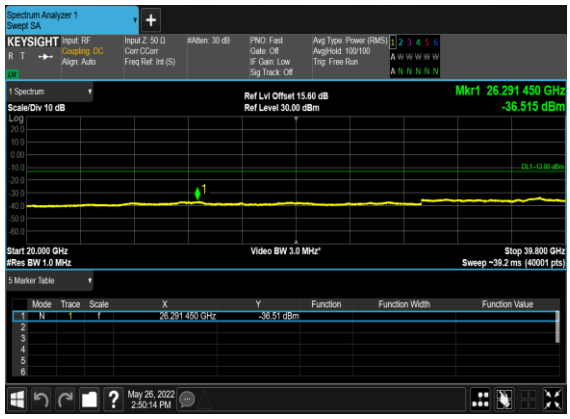
N77(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



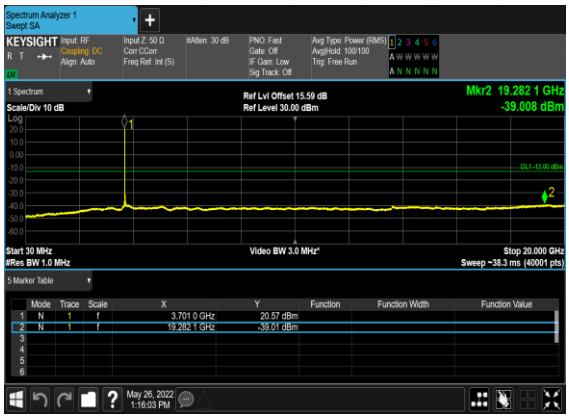
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



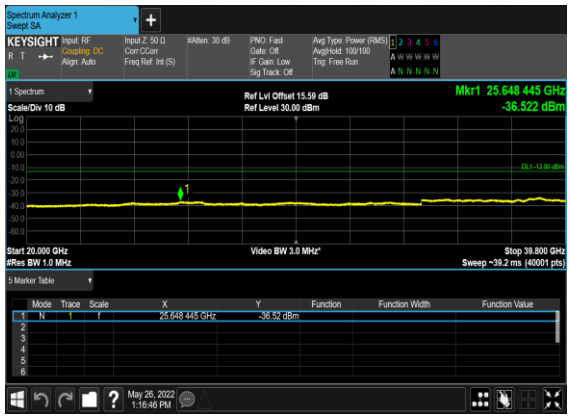
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



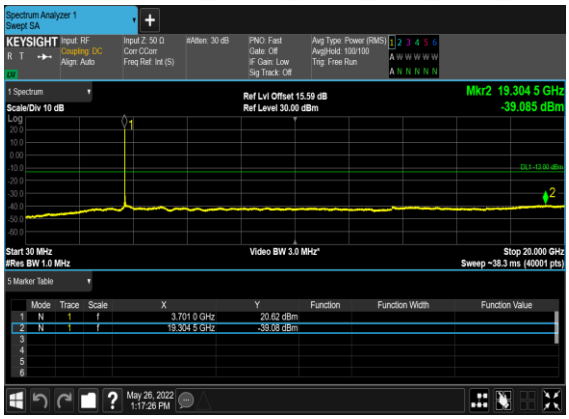
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



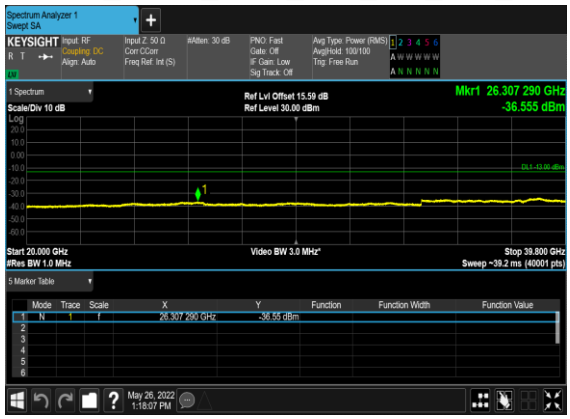
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



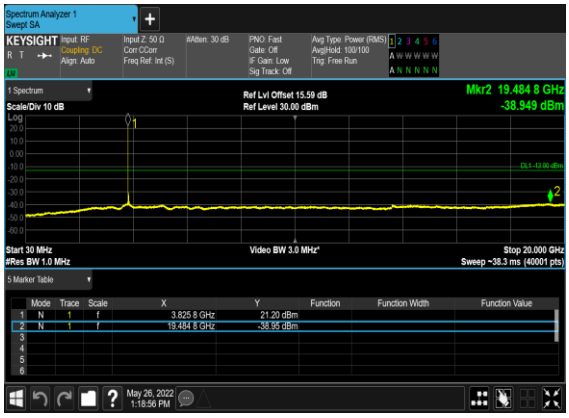
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



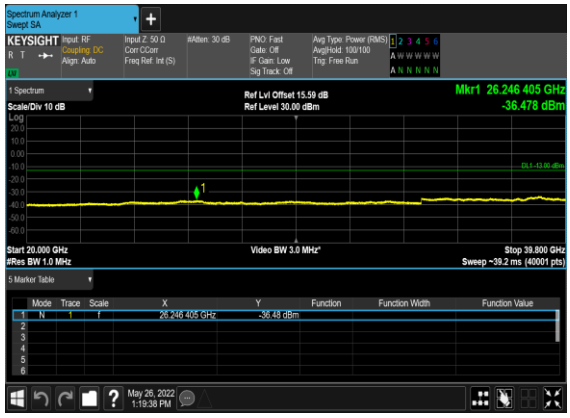
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



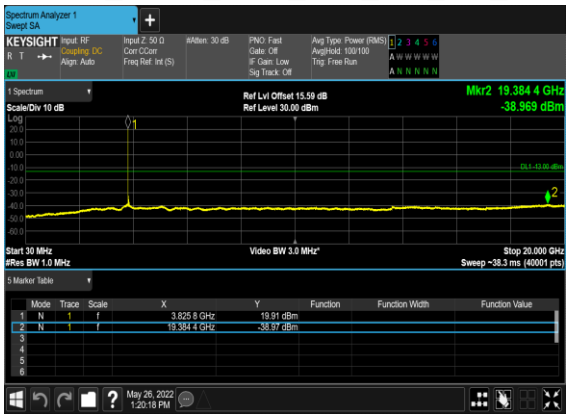
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



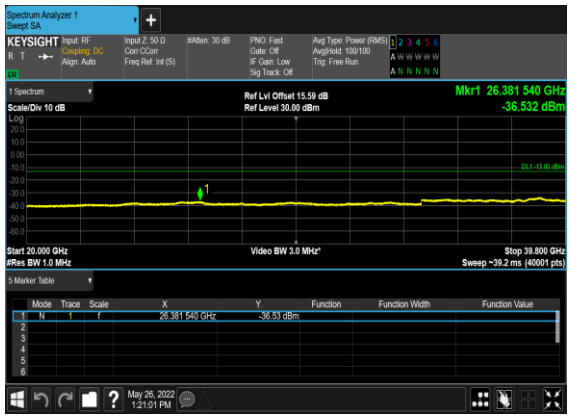
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



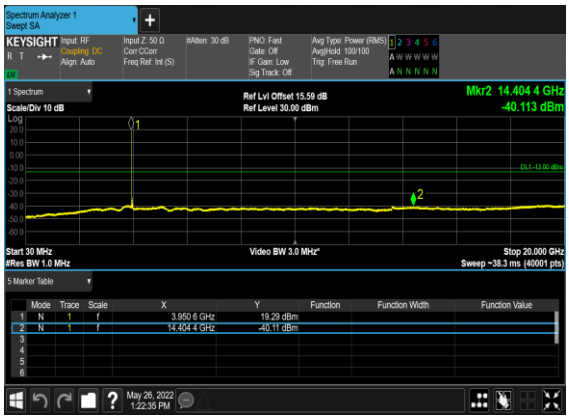
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



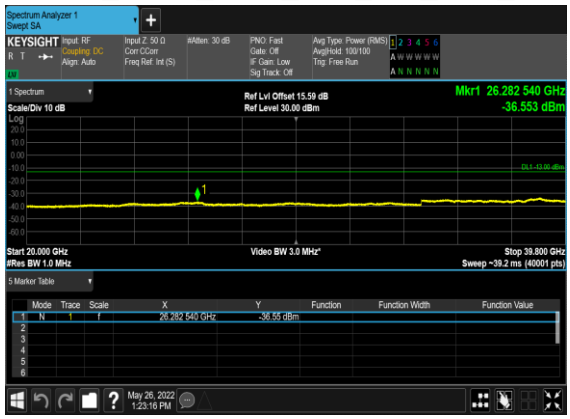
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



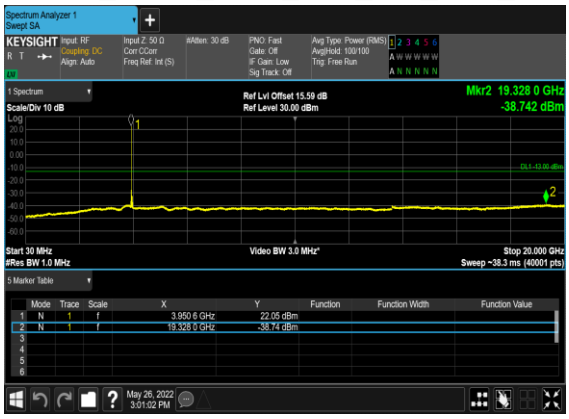
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



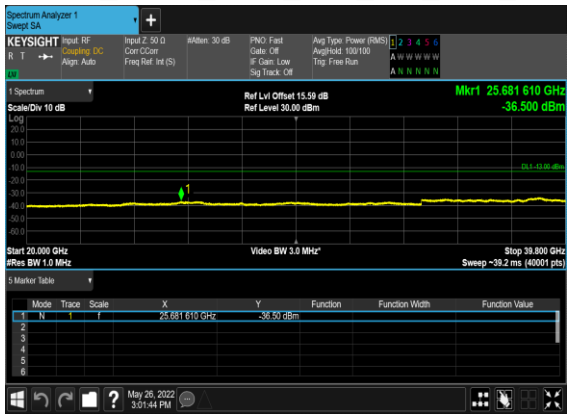
N77(30M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



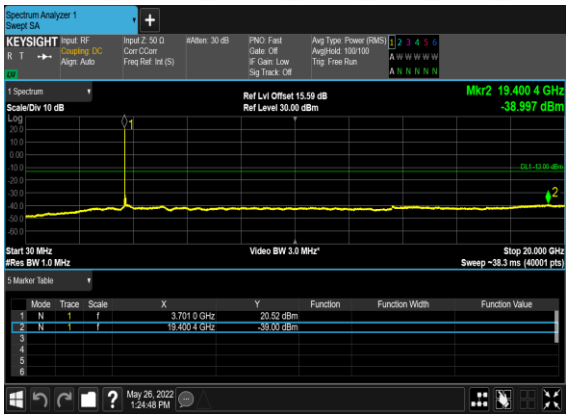
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



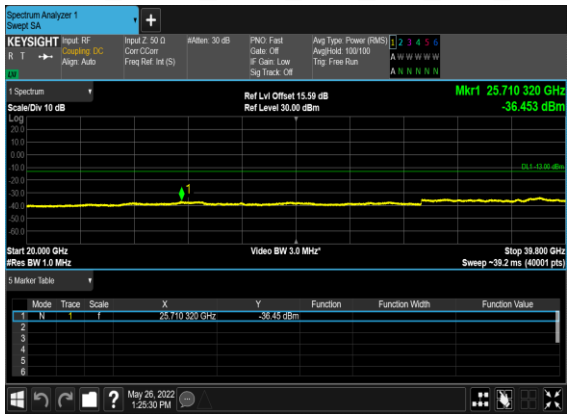
N77(30M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



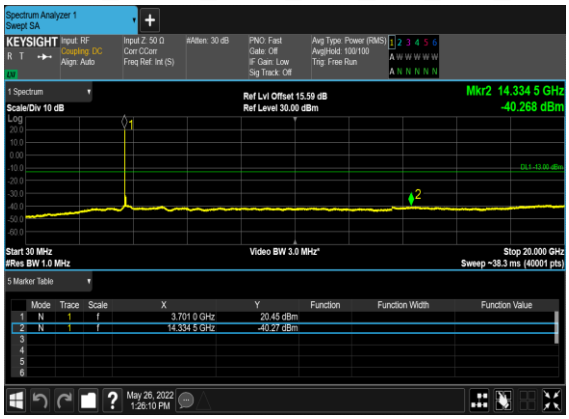
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



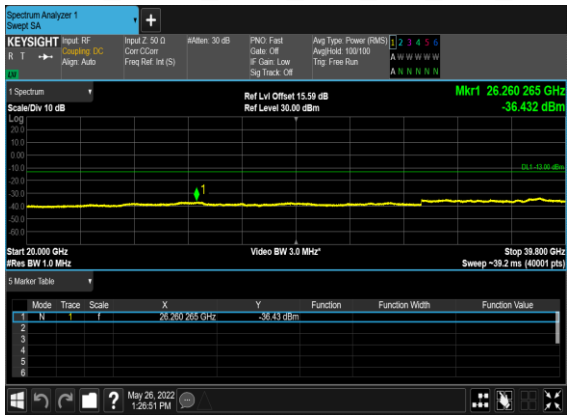
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



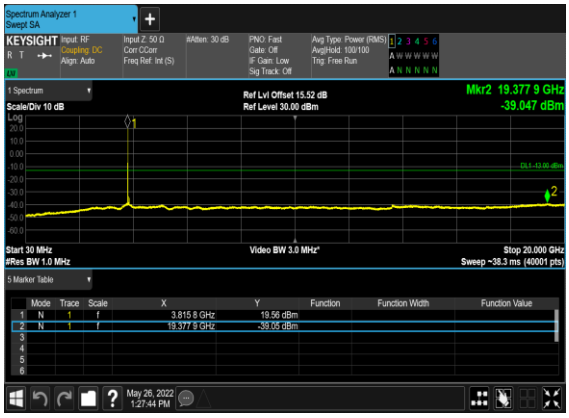
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



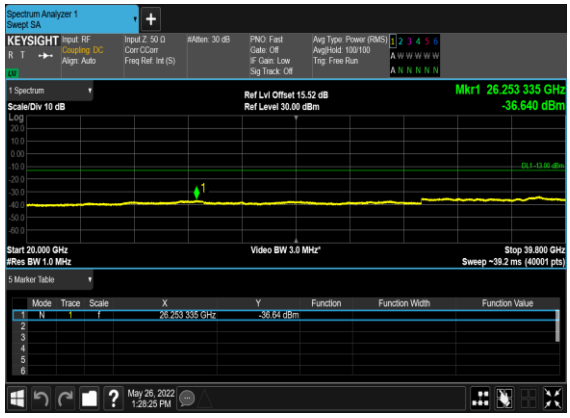
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



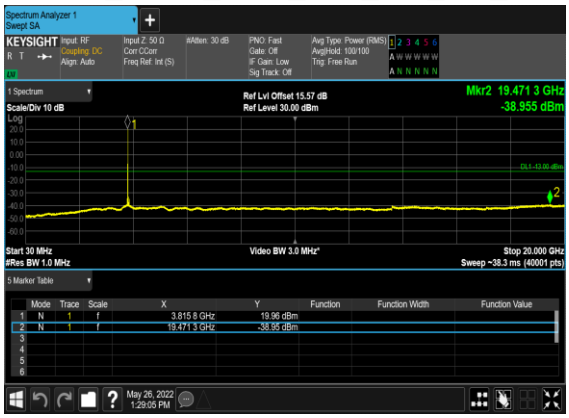
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



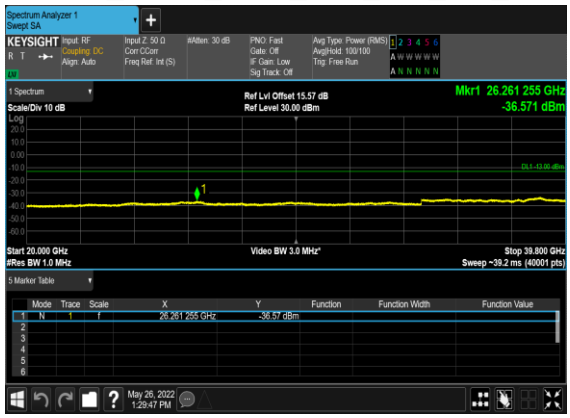
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



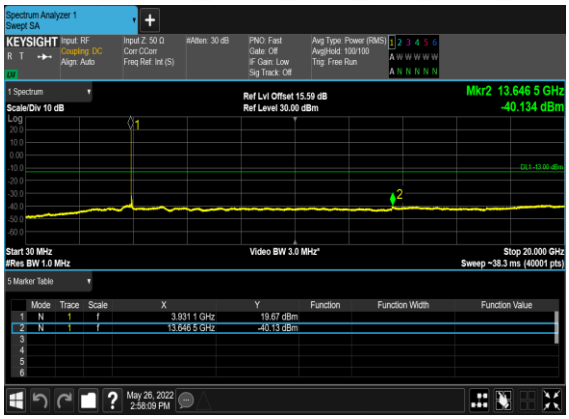
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



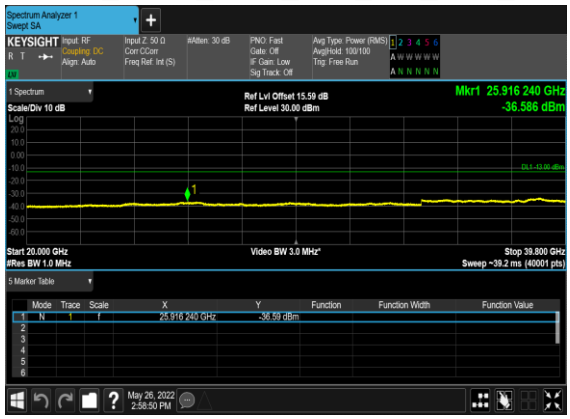
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



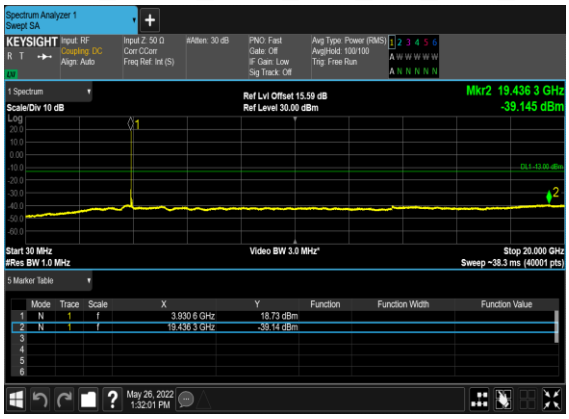
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



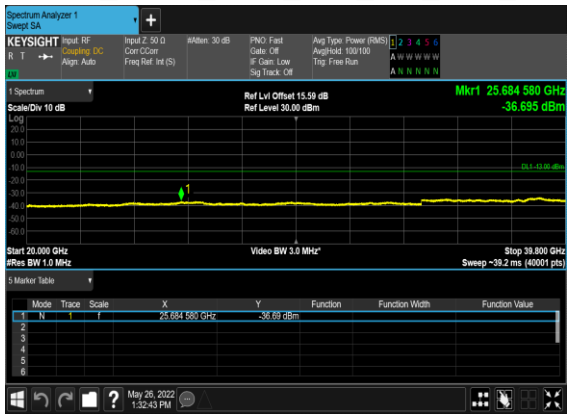
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	15	10	647000	3705.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	15	10	665000	3975.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM BPSK	160@0	see graph	**PASS**
77	15	30	647667	3715.005	DFT-s-OFDM QPSK	160@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM BPSK	1@159	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	1@159	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM BPSK	160@0	see graph	**PASS**
77	15	30	664332	3964.98	DFT-s-OFDM QPSK	160@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	15	50	648334	3725.01	DFT-s-OFDM QPSK	270@0	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	1@269	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	1@269	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	15	50	663666	3954.99	DFT-s-OFDM QPSK	270@0	see graph	**PASS**