



FCC RF Test Report

APPLICANT : Nokia Shanghai Bell Co. Ltd.
EQUIPMENT : Nokia FastMile 5G Gateway 3.2
BRAND NAME : Nokia
MODEL NAME : 5G16-12W-A
FCC ID : 2ADZR5G1612WA
STANDARD : 47 CFR Part 2, 96
CLASSIFICATION : Citizens Band End User Devices (CBE)
EQUIPMENT TYPE : End User Equipment
TEST DATE(S) : Dec. 17, 2021 ~ Feb. 11, 2023

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

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

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History of this test report

Report No.	Version	Description	Issued Date
FG1D2908-01A	01	Initial issue of report	Mar. 17, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Limit	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	-	Reporting only	-
-	§96.41	Peak-to-Average Ratio	-	Not Applicable	Not applicable for End User Devices
3.4	§96.41	Maximum E.I.R.P	< 23 dBm/10 MHz	Pass	-
		Maximum Power Spectral Density	-	Not Applicable	Not applicable for End User Devices
3.5	§2.1049 §96.41	Occupied Bandwidth	-	Reporting only	-
3.6	§2.1051 §96.41	Conducted Band Edge	$\leq -13 \text{ dBm/MHz}$ $\leq -25 \text{ dBm/MHz}$	Pass	-
		Adjacent Channel Leakage Ratio	> 30dB		
3.7	§2.1051 §96.41	Conducted Spurious Emission	< -40dBm/MHz	Pass	
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Within Authorized Band	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	< -40dBm/MHz	Pass	Under limit 17.33 dB at 7236.000 MHz

Declaration of Conformity:

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

Comments and Explanations:

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



1 General Description

1.1 Applicant

Nokia Shanghai Bell Co. Ltd.

No. 388, Ningqiao Rd. Pilot Free Trade Zone, Shanghai 201206, China

1.2 Manufacturer

Nokia Solutions and Networks Oy

Karakaari 7 02610 Espoo Finland

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Nokia FastMile 5G Gateway 3.2
Brand Name	Nokia
Model Name	5G16-12W-A
FCC ID	2ADZR5G1612WA
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Bandwidth	15kHz: 10MHz / 15MHz / 20MHz / 40MHz / 50MHz 30kHz: 10MHz / 15MHz / 20MHz / 40MHz / 50MHz / 60MHz / 80MHz / 100MHz
SCS	15kHz, 30kHz
Maximum Output Power to Antenna	16.96 dBm
Antenna Gain / Type	Ant. 5: 6.0 dBi / Dipole Antenna Ant. 6: 6.0 dBi / Dipole Antenna
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
HW Version	3TG01797A
SW Version	5GGW3-OMNI-1_D210400Bh3T0301E0156
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. Pre-scanned harmonic for USIM and eSIM sample, we choose the worse mode of the USIM sample to test.
3. There are two types of EUT: sample 1 with 1st source antenna and sample 2 with 2nd source antenna. According to the difference, we chose sample 1 to perform full test and sample 2 to verify the worst cases of RSE.
4. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP of Antenna 5 is shown in the report.
5. 5G NR n48 support SA mode only.
6. 5G NR n48 supports UL MIMO mode for Ant5+6, and only supports CP-OFDM modulation in UL



MIMO mode.

1.4 Maximum EIRP Power and Emission Designator

5G NR n48 (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	3555.00~3694.98	0.1968	9M28G7D	0.1963	9M29W7D
15	3557.52~3692.49	0.1866	14M1G7D	0.1968	14M1W7D
20	3560.01~3690.00	0.1849	18M9G7D	0.1782	18M9W7D
40	3570.00~3679.98	0.1932	38M6G7D	0.1972	38M5W7D
50	3575.01~3675.00	0.1977	48M2G7D	0.1928	48M2W7D

5G NR n48 (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	3555.00~3694.98	0.1954	8M58G7D	0.1950	8M58W7D
15	3557.52~3692.49	0.1959	13M6G7D	0.1928	13M6W7D
20	3560.01~3690.00	0.1762	18M2G7D	0.1936	18M2W7D
40	3570.00~3679.98	0.1910	37M7G7D	0.1837	37M8W7D
50	3575.01~3675.00	0.1959	47M6G7D	0.1910	47M5W7D
60	3580.02~3669.99	0.1866	57M9G7D	0.1845	57M9W7D
80	3590.01~3660.00	0.1858	77M3G7D	0.1941	77M4W7D
100	3600.00~3649.98	0.1968	97M1G7D	0.1897	97M3W7D

5G NR n48 (15kHz) UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3555.00~3694.98	0.1878	9M29G7D	0.1935	9M30W7D
15	3557.52~3692.49	0.1921	14M1G7D	0.1915	14M1W7D
20	3560.01~3690.00	0.1930	18M9G7D	0.1900	19M0W7D
40	3570.00~3679.98	0.1840	38M5G7D	0.1890	38M6W7D
50	3575.01~3675.00	0.1939	48M2G7D	0.1902	48M2W7D



5G NR n48 (30kHz) UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	3555.00~3694.98	0.1977	8M57G7D	0.1928	8M59W7D
15	3557.52~3692.49	0.1906	13M6G7D	0.1818	13M6W7D
20	3560.01~3690.00	0.1705	18M2G7D	0.1779	18M2W7D
40	3570.00~3679.98	0.1860	37M8G7D	0.1932	37M9W7D
50	3575.01~3675.00	0.1939	47M5G7D	0.1847	47M5W7D
60	3580.02~3669.99	0.1968	57M8G7D	0.1747	57M9W7D
80	3590.01~3660.00	0.1823	77M6G7D	0.1882	77M6W7D
100	3600.00~3649.98	0.1979	97M3G7D	0.1973	97M5W7D

Note: All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.5 Testing Site

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

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

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

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

Test data subcontracted: Conducted test case in section 3 of this report



1.6 Test Software

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

1.7 Applied Standards

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

- ♦ ANSI C63.26-2015
- ♦ 47 CFR Part 2, 96
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 940660 D01 Part 96 CBRS v03
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

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



2 Test Configuration of Equipment Under Test

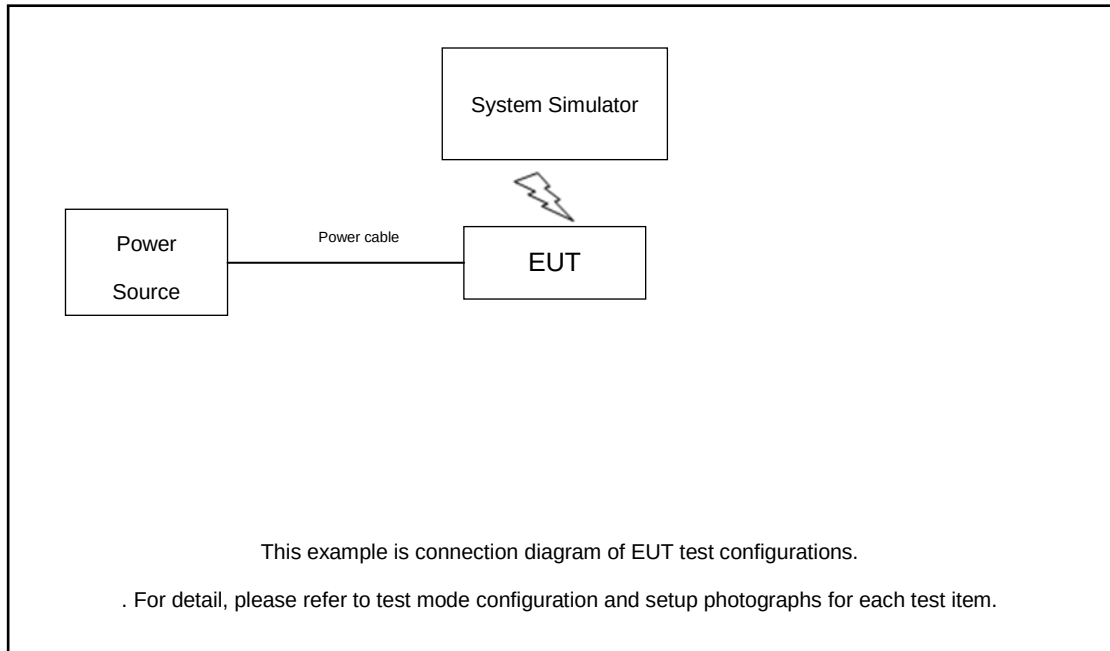
2.1 Test Mode

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

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

Test Items	Band	Bandwidth (MHz)												Modulation					RB #		Test Channel			
		10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H	
Max. Output Power	n48	v	v	v	-	-	v	v	v	-	v		v	v	v	v	v	v	v	v	v	v	v	
26dB and 99% Bandwidth	n48	v	v	v	-	-	v	v	v	-	v		v	v	v	v	v	v		v		v		
Adjacent Channel Leakage Ratio	n48	v		v	-	-		v		-			v	v	v				v	v	v	v	v	
Conducted Band Edge	n48	v		v	-	-		v		-			v	v	v				v	v	v	v	v	
Conducted Spurious Emission	n48	v		v	-	-		v		-			v	v	v				v	v	v	v	v	
E.I.R.P	n48	v	v	v	-	-	v	v	v	-	v		v	v	v	v	v	v	v	v	v	v	v	
Frequency Stability	n48			v	-	-				-					v					v		v		
Radiated Spurious Emission	n48	Worst Case																					v	
Remark	1. The mark “v “ means that this configuration is chosen for testing 2. The mark “-“ means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Frequency Stability : Normal Voltage = 12V ; Low Voltage =10.8V. ; High Voltage =13.2V 5. Test mode include SCS15KHz/30kHz test configuration could refer to Appendix A for details.																							

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	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 and attenuator factor 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 and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.98 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.98 + 10 = 14.98 \text{ (dB)}
 \end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List(15kHz)				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	638334	641666	645000
	Frequency	3575.01	3624.99	3675.00
40	Channel	638000	641666	645332
	Frequency	3570.00	3624.99	3679.98
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
15	Channel	637168	641666	646166
	Frequency	3557.52	3624.99	3692.49
10	Channel	637000	641666	646332
	Frequency	3555.0	3624.99	3694.98

5G NR n48 Channel and Frequency List(30kHz)				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	640000	641666	643332
	Frequency	3600.00	3624.99	3649.98
90	Channel	639668	641666	643666
	Frequency	3595.02	3624.99	3654.99
80	Channel	639334	641666	644000
	Frequency	3590.01	3624.99	3660.00
60	Channel	638668	641666	644666
	Frequency	3580.02	3624.99	3669.99
50	Channel	638334	641666	645000
	Frequency	3575.01	3624.99	3675.00
40	Channel	638000	641666	645332
	Frequency	3570.00	3624.99	3679.98
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
15	Channel	637168	641666	646166
	Frequency	3557.52	3624.99	3692.49
10	Channel	637000	641666	646332
	Frequency	3555.0	3624.99	3694.98

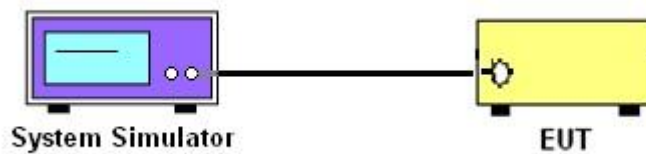
3 Conducted Test Items

3.1 Measuring Instruments

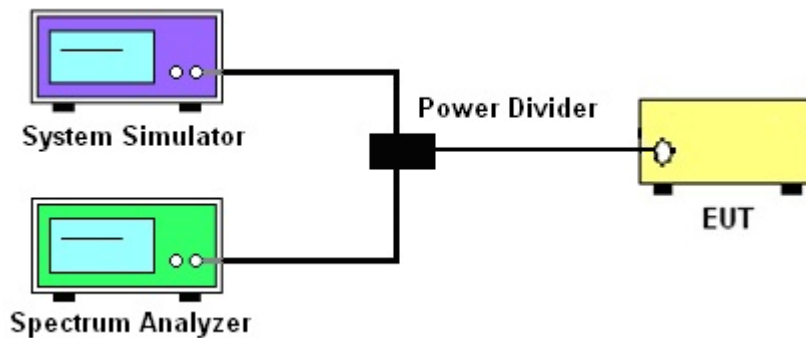
See list of measuring instruments of this test report.

3.1.1 Test Setup

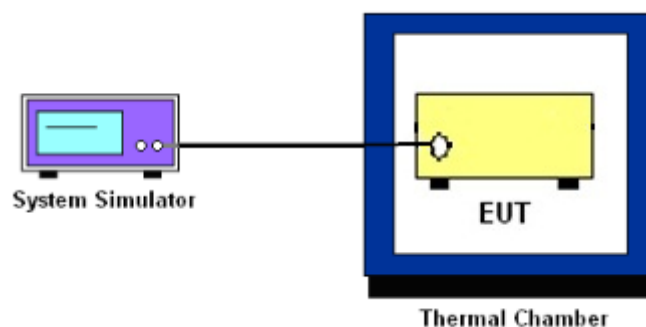
3.1.2 Conducted Output Power



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



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power

3.2.1 Description of the Conducted Output Power 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.

3.2.2 Test Procedures

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



3.3 Peak-to-Average Ratio

3.3.1 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.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

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

3.4 EIRP

3.4.1 Description of the EIRP Measurement

EIRP limits for CBRS equipment as below table:

Device		Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
Applied	End User Device	23	n/a
☐	Category A CBSD	30	20
☐	Category B CBSD	47	37

Remark: The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths for LTE Band 48 (i.e. 5, 10, 15, 20MHz)

3.4.2 Test Procedures for EIRP

1. Establishing a communications link with the call box (Base station) to measure the Maximum conducted power, the parameters were set to force the EUT transmitting at maximum output power level. Use the average power measurement function to measure total channel power of each channel bandwidth (per ANSI C63.26-2015 Section 5.2.1)
2. Determining ERP and/or EIRP from conducted RF output power measurements (Per ANSI C63.26-2015 Section 5.2.5.5)

$$\text{EIRP} = P_T + G_T - L_C, \text{ ERP} = \text{EIRP} - 2.15, \text{ where}$$

$$P_T = \text{transmitter output power in dBm}$$

$$G_T = \text{gain of the transmitting antenna in dBi}$$

$$L_C = \text{signal attenuation in the connecting cable between the transmitter and antenna in dB}$$



3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

Part 96.41 (e) (1) (i)

For CBSD the emission limits outside the fundamental are as follows:

Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz

Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz

Part 96.41 (e) (1) (ii)

For End User Devices the emission limits outside the fundamental are as follows:

Within 0 MHz to B MHz above and below the assigned channel ≤ -13 dBm/MHz

Greater than B MHz above and below the assigned channel ≤ -25 dBm/MHz

where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device.

Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Part 96.41 (e) (2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Offset has included the duty factor for LTE Band 48. Duty factor $=10 \log (1/x)$, where x is the measured duty cycle.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is -40dBm/MHz.



3.8 Frequency Stability

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

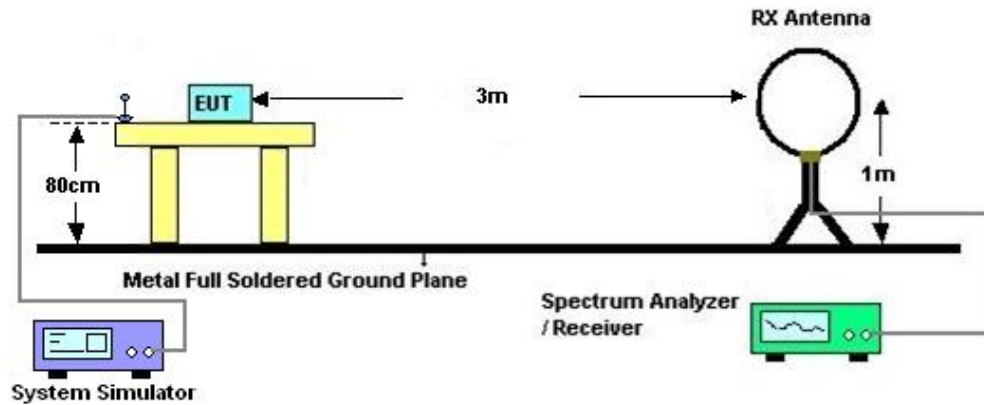
4 Radiated Test Items

4.1 Measuring Instruments

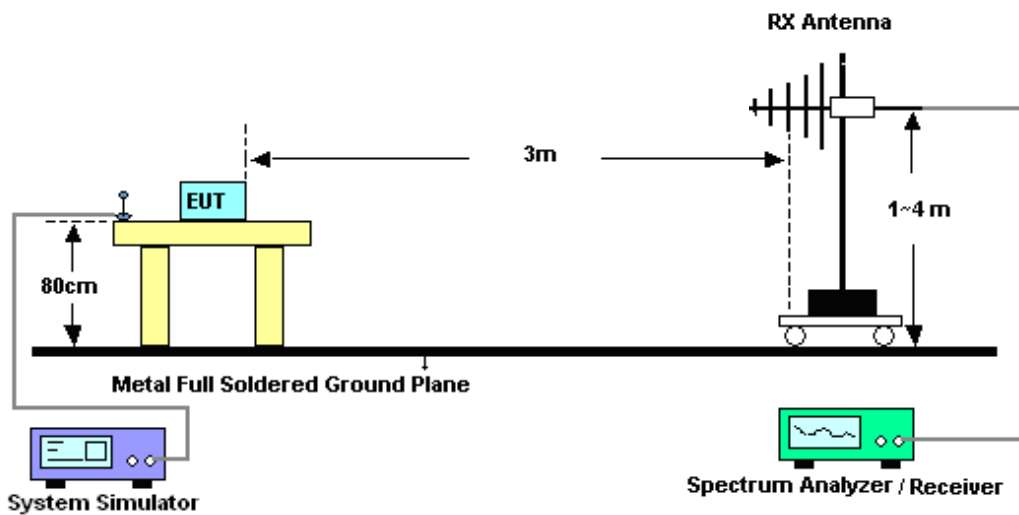
See list of measuring instruments of this test report.

4.2 Test Setup

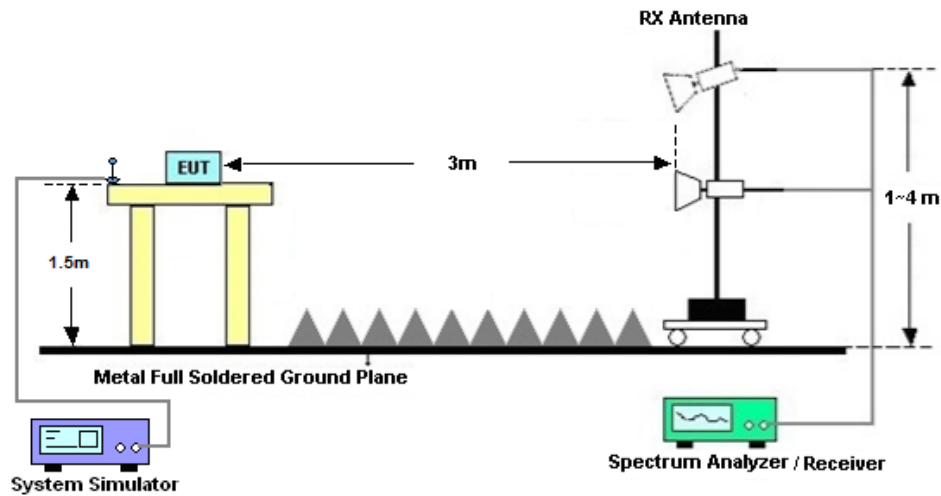
4.2.1 For radiated test below 30MHz



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 Measurement

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 -40dBm / MHz.

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

4.4.2 Test Procedures

1. 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.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$
$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is -40dBm/MHz



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Signal Analyzer	KEYSIGHT	N9010B	MY60240803	10Hz~44GHz	Apr. 03, 2021	Dec. 17, 2021~ Dec. 25, 2021	Apr. 02, 2022	Conducted (TH01-SZ)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Dec. 17, 2021~ Dec. 25, 2021	Aug. 25, 2022	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Dec. 17, 2021~ Dec. 25, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Feb. 11, 2023	Apr. 08, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2022	Feb. 11, 2023	Dec. 24, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul.07, 2022	Feb. 11, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44G,MAX 30dB	Apr. 13, 2021	Dec. 30, 2021~ Dec. 31, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Dec. 30, 2021~ Dec. 31, 2021	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	May 30, 2021	Dec. 30, 2021~ Dec. 31, 2021	May 29, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Dec. 30, 2021~ Dec. 31, 2021	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 06, 2021	Dec. 30, 2021~ Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz~1GHz	Jan. 06, 2021	Dec. 30, 2021~ Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 07, 2021	Dec. 30, 2021~ Dec. 31, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz~18Ghz	Jan. 06, 2021	Dec. 30, 2021~ Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Dec. 30, 2021~ Dec. 31, 2021	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 30, 2021~ Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 30, 2021~ Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 30, 2021~ Dec. 31, 2021	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required



6 Uncertainty of Evaluation

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% ($U = 2U_c(y)$)	3.3dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.8dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.8dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Jung Guo	Temperature :	22~23°C
		Relative Humidity :	40~42%

A1. Conducted Output Power(Average power) and EIRP

5G NR n48 (15KHz):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel				638334	641666	645000	Gain	L	M	H
Frequency (MHz)				3575.01	3624.99	3675				
50	PI/2 BPSK	1	1	16.76	16.79	16.85	6.0	0.1888	0.1901	0.1928
50	QPSK	1	1	16.27	16.56	16.96	6.0	0.1687	0.1803	0.1977
50	QPSK	1	0	16.59	16.41	16.86	6.0	0.1816	0.1742	0.1932
50	QPSK	1	269	15.69	16.45	16.04	6.0	0.1476	0.1758	0.1600
50	QPSK	270	0	9.59	9.51	10.29	6.0	0.0362	0.0356	0.0426
50	16QAM	1	1	16.85	16.09	16.50	0.9	0.1928	0.1618	0.1778
50	64QAM	1	1	16.68	16.59	16.58	0.9	0.1854	0.1816	0.1811
50	256QAM	1	1	16.72	16.49	16.32	0.9	0.1871	0.1774	0.1706
Channel				638000	641666	645332	Gain	EIRP(W)		
Frequency (MHz)				3570	3624.99	3679.98				
40	QPSK	1	1	16.80	16.86	16.80	6.0	0.1905	0.1932	0.1905
40	16QAM	1	1	16.79	16.95	16.86	6.0	0.1901	0.1972	0.1932
Channel				637334	641666	646000	Gain	EIRP(W)		
Frequency (MHz)				3560.01	3624.99	3690				
20	QPSK	1	1	16.67	16.47	16.27	6.0	0.1849	0.1766	0.1687
20	16QAM	1	1	16.36	16.07	16.51	6.0	0.1722	0.1611	0.1782
Channel				637168	641666	646166	Gain	EIRP(W)		
Frequency (MHz)				3557.52	3624.99	3692.49				
15	QPSK	1	1	16.68	16.47	16.71	6.0	0.1854	0.1766	0.1866
15	16QAM	1	1	16.94	16.60	16.78	6.0	0.1968	0.1820	0.1897
Channel				637000	641666	646332	Gain	EIRP(W)		
Frequency (MHz)				3555	3624.99	3694.98				
10	QPSK	1	1	16.70	16.94	16.44	6.0	0.1862	0.1968	0.1754
10	16QAM	1	1	16.93	16.61	16.32	6.0	0.1963	0.1824	0.1706



5G NR n48 (30KHz):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel				640000	641666	643332	Gain	L	M	H
Frequency (MHz)				3600	3624.99	3649.98				
100	PI/2 BPSK	1	1	16.54	16.21	16.93	6.0	0.1795	0.1663	0.1963
100	QPSK	1	1	16.94	16.73	16.57	6.0	0.1968	0.1875	0.1807
100	QPSK	1	0	16.88	16.29	16.63	6.0	0.1941	0.1694	0.1832
100	QPSK	1	272	16.53	15.87	15.78	6.0	0.1791	0.1538	0.1507
100	QPSK	270	0	8.39	8.90	8.48	6.0	0.0275	0.0309	0.0281
100	16QAM	1	1	16.71	16.33	16.57	6.0	0.1866	0.1710	0.1807
100	64QAM	1	1	16.75	16.41	16.78	6.0	0.1884	0.1742	0.1897
100	256QAM	1	1	15.66	15.28	15.74	6.0	0.1466	0.1343	0.1493
Channel				639334	641666	644000	Gain	EIRP(W)		
Frequency (MHz)				3590.01	3624.99	3660				
80	QPSK	1	1	16.69	16.42	16.35	6.0	0.1858	0.1746	0.1718
80	16QAM	1	1	16.35	16.39	16.88	6.0	0.1718	0.1734	0.1941
Channel				638668	641666	644666	Gain	EIRP(W)		
Frequency (MHz)				3580.02	3624.99	3669.99				
60	QPSK	1	1	16.63	16.71	16.48	6.0	0.1832	0.1866	0.1770
60	16QAM	1	1	16.12	16.66	16.47	6.0	0.1629	0.1845	0.1766
Channel				638334	641666	645000	Gain	EIRP(W)		
Frequency (MHz)				3575.01	3624.99	3675				
50	QPSK	1	1	16.89	16.51	16.92	6.0	0.1945	0.1782	0.1959
50	16QAM	1	1	16.81	16.50	16.80	6.0	0.1910	0.1778	0.1905
Channel				638000	641666	645332	Gain	EIRP(W)		
Frequency (MHz)				3570	3624.99	3679.98				
40	QPSK	1	1	15.96	16.81	16.79	6.0	0.1570	0.1910	0.1901
40	16QAM	1	1	16.29	16.64	16.60	6.0	0.1694	0.1837	0.1820
Channel				637334	641666	646000	Gain	EIRP(W)		
Frequency (MHz)				3560.01	3624.99	3690				
20	QPSK	1	1	16.46	16.16	16.38	6.0	0.1762	0.1644	0.1730
20	16QAM	1	1	16.75	16.24	16.87	6.0	0.1884	0.1675	0.1936
Channel				637168	641666	646166	Gain	EIRP(W)		
Frequency (MHz)				3557.52	3624.99	3692.49				
15	QPSK	1	1	16.92	16.63	16.65	6.0	0.1959	0.1832	0.1841
15	16QAM	1	1	16.85	16.59	16.63	6.0	0.1928	0.1816	0.1832
Channel				637000	641666	646332	Gain	EIRP(W)		
Frequency (MHz)				3555	3624.99	3694.98				
10	QPSK	1	1	16.89	16.59	16.91	6.0	0.1945	0.1816	0.1954
10	16QAM	1	1	16.83	16.69	16.90	6.0	0.1919	0.1858	0.1950



5G NR n48 (15KHz) UL MIMO:

				MIMO ANT5			MIMO ANT6									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Total power	Total power	Total power	Gain	EIRP(W)		
Channel				638334	641666	645000	638334	641666	645000	Low Ch.	Middle Ch.	High Ch.		L	M	H
Frequency (MHz)				3575.01	3624.99	3675	3575.01	3624.99	3675							
50	QPSK	1	1	13.36	13.26	13.30	13.82	13.79	13.55	16.61	16.54	16.44	6.0	0.1822	0.1796	0.1753
50	QPSK	1	0	13.43	13.41	13.77	13.93	13.56	13.96	16.70	16.50	16.88	6.0	0.1861	0.1777	0.1939
50	QPSK	1	272	12.16	13.07	12.83	13.62	13.89	13.81	15.96	16.51	16.36	6.0	0.1571	0.1782	0.1721
50	QPSK	270	0	6.18	6.08	6.23	6.90	6.89	6.96	9.57	9.51	9.62	6.0	0.0360	0.0356	0.0365
50	16QAM	1	1	13.54	13.51	13.63	13.94	13.56	13.93	16.75	16.55	16.79	6.0	0.1886	0.1797	0.1902
50	64QAM	1	1	13.48	13.45	13.19	13.92	13.69	13.86	16.72	16.58	16.55	6.0	0.1869	0.1812	0.1798
50	256QAM	1	1	13.12	13.42	13.62	13.87	13.59	13.72	16.52	16.52	16.68	6.0	0.1787	0.1785	0.1854
Channel				638000	641666	645332	638000	641666	645332	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3570	3624.99	3679.98	3570	3624.99	3679.98							
40	QPSK	1	1	13.25	13.46	13.37	13.78	13.81	13.69	16.53	16.65	16.54	6.0	0.1792	0.1840	0.1796
40	16QAM	1	1	13.04	13.03	13.79	13.98	13.83	13.72	16.55	16.46	16.77	6.0	0.1797	0.1761	0.1890
Channel				637334	641666	646000	637334	641666	646000	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3560.01	3624.99	3690	3560.01	3624.99	3690							
20	QPSK	1	1	13.87	13.97	13.95	13.82	13.46	13.65	16.86	16.73	16.81	6.0	0.1930	0.1876	0.1911
20	16QAM	1	1	13.61	13.69	13.31	13.94	13.35	13.30	16.79	16.53	16.32	6.0	0.1900	0.1792	0.1704
Channel				637168	641666	646166	637168	641666	646166	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3557.52	3624.99	3692.49	3557.52	3624.99	3692.49							
15	QPSK	1	1	13.84	13.85	13.94	13.81	13.76	13.53	16.84	16.82	16.75	6.0	0.1921	0.1912	0.1884
15	16QAM	1	1	13.81	13.74	13.82	13.13	13.88	13.40	16.49	16.82	16.63	6.0	0.1776	0.1915	0.1830
Channel				637000	641666	646332	637000	641666	646332	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3555	3624.99	3694.98	3555	3624.99	3694.98							
10	QPSK	1	1	13.63	13.66	13.26	13.82	13.74	13.84	16.74	16.71	16.57	6.0	0.1878	0.1867	0.1807
10	16QAM	1	1	13.80	13.79	13.24	13.78	13.92	13.03	16.80	16.87	16.15	6.0	0.1906	0.1935	0.1639



5G NR n48 (30KHz) UL MIMO:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Total power	Total power	Total power	Gain	EIRP(W)		
Channel				640000	641666	643332	640000	641666	643332	Low Ch.	Middle Ch.	High Ch.		L	M	H
Frequency (MHz)				3600	3624.99	3649.98	3600	3624.99	3649.98							
100	QPSK	1	1	13.89	13.45	13.48	13.83	13.99	13.56	16.87	16.74	16.53	6.0	0.1937	0.1879	0.1791
100	QPSK	1	0	13.56	13.69	13.96	13.87	13.98	13.95	16.73	16.85	16.97	6.0	0.1874	0.1927	0.1979
100	QPSK	1	272	13.09	13.12	12.40	13.45	13.86	13.40	16.28	16.52	15.94	6.0	0.1692	0.1785	0.1563
100	QPSK	273	0	4.30	4.68	4.54	5.27	5.65	5.32	7.82	8.20	7.96	6.0	0.0241	0.0263	0.0249
100	16QAM	1	1	13.30	13.96	13.71	13.75	13.92	13.38	16.54	16.95	16.56	6.0	0.1795	0.1973	0.1802
100	64QAM	1	1	13.46	13.47	13.69	13.30	13.22	13.71	16.39	16.36	16.71	6.0	0.1734	0.1721	0.1867
100	256QAM	1	1	13.90	13.76	13.76	13.72	13.53	13.39	16.82	16.66	16.59	6.0	0.1915	0.1844	0.1815
Channel				639334	641666	644000	639334	641666	644000	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3590.01	3624.99	3660	3590.01	3624.99	3660							
80	QPSK	1	1	13.22	13.75	13.46	13.49	13.44	13.41	16.37	16.61	16.45	6.0	0.1725	0.1823	0.1756
80	16QAM	1	1	13.28	13.64	13.24	13.68	13.83	13.26	16.49	16.75	16.26	6.0	0.1776	0.1882	0.1683
Channel				638668	641666	644666	638668	641666	644666	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3580.02	3624.99	3669.99	3580.02	3624.99	3669.99							
60	QPSK	1	1	13.25	13.89	13.61	13.56	13.97	13.90	16.42	16.94	16.77	6.0	0.1745	0.1968	0.1891
60	16QAM	1	1	13.16	13.23	13.79	13.43	13.52	13.00	16.31	16.39	16.42	6.0	0.1701	0.1733	0.1747
Channel				638334	641666	645000	638334	641666	645000	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3575.01	3624.99	3675	3575.01	3624.99	3675							
50	QPSK	1	1	13.13	13.86	13.98	13.72	13.22	13.75	16.45	16.56	16.88	6.0	0.1756	0.1804	0.1939
50	16QAM	1	1	13.44	13.70	13.96	13.86	13.09	13.06	16.67	16.42	16.54	6.0	0.1847	0.1744	0.1796
Channel				638000	641666	645332	638000	641666	645332	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3570	3624.99	3679.98	3570	3624.99	3679.98							
40	QPSK	1	1	13.25	13.89	13.61	13.93	13.26	13.76	16.61	16.60	16.70	6.0	0.1825	0.1818	0.1860
40	16QAM	1	1	13.16	13.23	13.79	13.71	13.14	13.91	16.45	16.20	16.86	6.0	0.1760	0.1658	0.1932
Channel				637334	641666	646000	637334	641666	646000	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3560.01	3624.99	3690	3560.01	3624.99	3690							
20	QPSK	1	1	13.17	13.18	13.20	13.35	13.43	13.12	16.27	16.32	16.17	6.0	0.1687	0.1705	0.1648
20	16QAM	1	1	13.61	13.17	13.09	13.37	13.31	13.56	16.50	16.25	16.34	6.0	0.1779	0.1679	0.1715
Channel				637168	641666	646166	637168	641666	646166	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3557.52	3624.99	3692.49	3557.52	3624.99	3692.49							
15	QPSK	1	1	13.52	13.67	13.30	13.46	13.91	13.77	16.50	16.80	16.55	6.0	0.1778	0.1906	0.1800
15	16QAM	1	1	13.37	13.54	13.55	13.24	13.63	13.46	16.32	16.60	16.52	6.0	0.1704	0.1818	0.1785
Channel				637000	641666	646332	637000	641666	646332	Low Ch.	Middle Ch.	High Ch.	Gain	EIRP(W)		
Frequency (MHz)				3555	3624.99	3694.98	3555	3624.99	3694.98							
10	QPSK	1	1	13.95	13.60	13.94	13.95	13.77	13.28	16.96	16.70	16.63	6.0	0.1977	0.1860	0.1834
10	16QAM	1	1	13.93	13.76	13.91	13.75	13.81	12.99	16.85	16.80	16.48	6.0	0.1928	0.1903	0.1772

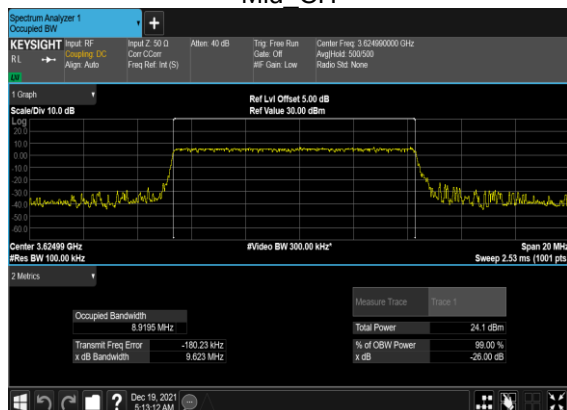
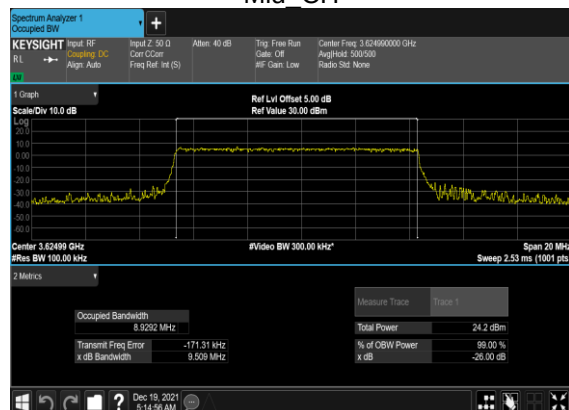
**A2. FR1 N48(ANT5) – SCS 15kHz****A2.1 Frequency Stability**

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0514	PASS	NV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0662	PASS	LV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0038	PASS	HV
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0289	PASS	-30℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0217	PASS	-20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0488	PASS	-10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0693	PASS	0℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0483	PASS	10℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0258	PASS	20℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0657	PASS	30℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0232	PASS	40℃
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.0608	PASS	50℃

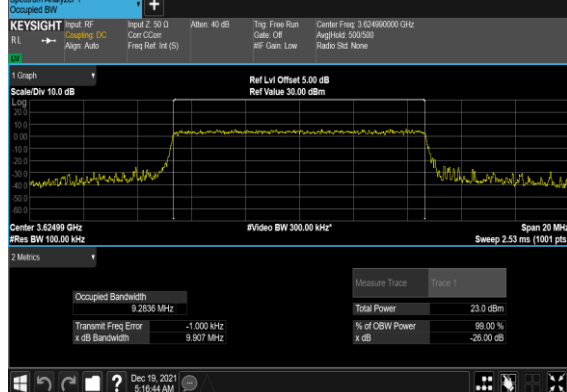
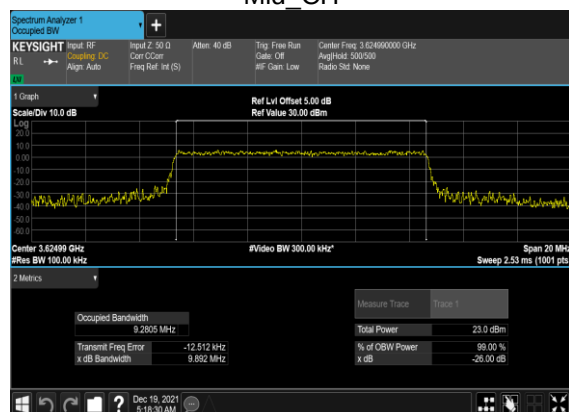


A2.2 Occupied Bandwidth

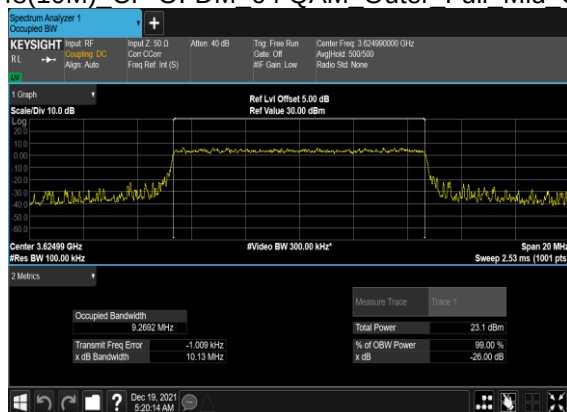
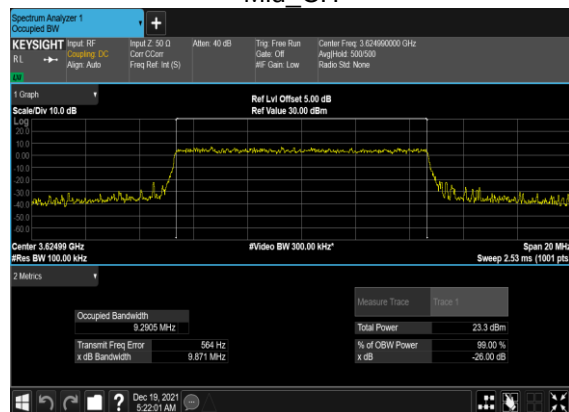
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	8.9195	9.623
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	8.9292	9.509
48	15	10	641666	3624.99	CP-OFDM QPSK	52@0	9.2836	9.907
48	15	10	641666	3624.99	CP-OFDM 16 QAM	52@0	9.2805	9.892
48	15	10	641666	3624.99	CP-OFDM 64 QAM	52@0	9.2692	10.13
48	15	10	641666	3624.99	CP-OFDM 256 QAM	52@0	9.2905	9.871
48	15	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	75@0	13.404	14.12
48	15	15	641666	3624.99	DFT-s-OFDM QPSK	75@0	13.383	14.1
48	15	15	641666	3624.99	CP-OFDM QPSK	79@0	14.087	14.79
48	15	15	641666	3624.99	CP-OFDM 16 QAM	79@0	14.092	14.76
48	15	15	641666	3624.99	CP-OFDM 64 QAM	79@0	14.119	14.78
48	15	15	641666	3624.99	CP-OFDM 256 QAM	79@0	14.098	14.77
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	17.853	18.79
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	17.871	18.9
48	15	20	641666	3624.99	CP-OFDM QPSK	106@0	18.918	19.79
48	15	20	641666	3624.99	CP-OFDM 16 QAM	106@0	18.944	19.87
48	15	20	641666	3624.99	CP-OFDM 64 QAM	106@0	18.879	19.74
48	15	20	641666	3624.99	CP-OFDM 256 QAM	106@0	18.866	19.73
48	15	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	216@0	38.549	39.96
48	15	40	641666	3624.99	DFT-s-OFDM QPSK	216@0	38.492	40.0
48	15	40	641666	3624.99	CP-OFDM QPSK	216@0	38.532	40.06
48	15	40	641666	3624.99	CP-OFDM 16 QAM	216@0	38.521	40.03
48	15	40	641666	3624.99	CP-OFDM 64 QAM	216@0	38.437	39.95
48	15	40	641666	3624.99	CP-OFDM 256 QAM	216@0	38.48	39.99
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	48.174	49.8
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	48.196	49.92
48	15	50	641666	3624.99	CP-OFDM QPSK	270@0	48.101	49.77
48	15	50	641666	3624.99	CP-OFDM 16 QAM	270@0	48.237	49.85
48	15	50	641666	3624.99	CP-OFDM 64 QAM	270@0	48.127	49.73
48	15	50	641666	3624.99	CP-OFDM 256 QAM	270@0	48.191	49.8

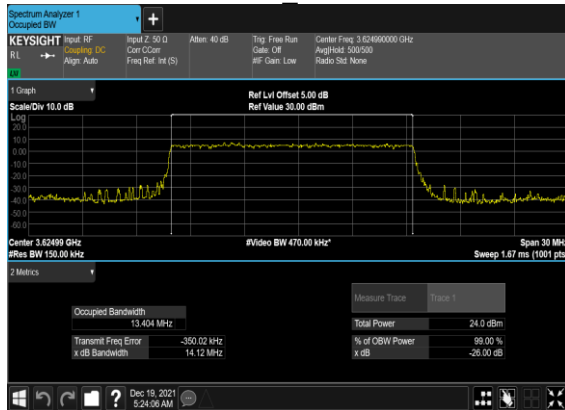
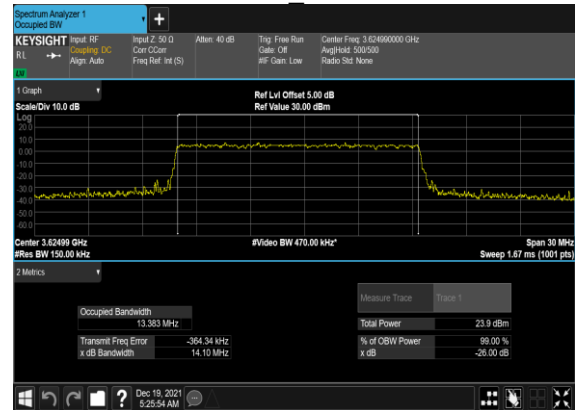
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
Mid_CHN48(10M)_DFT-s-OFDM_QPSK_Outer_Full_
Mid_CH

N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

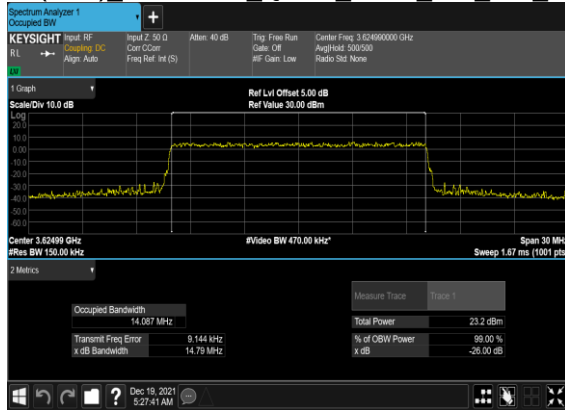
N48(10M)_CP-OFDM_16 QAM_Outer_Full_
Mid_CH

N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

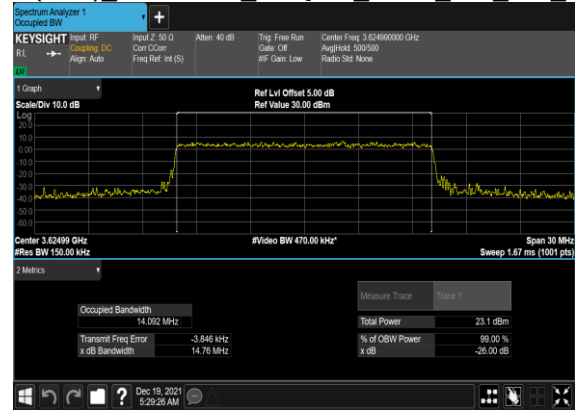
N48(10M)_CP-OFDM_256QAM_Outer_Full_
Mid_CH

N48(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
Mid_CHN48(15M)_DFT-s-OFDM_QPSK_Outer_Full_
Mid_CH

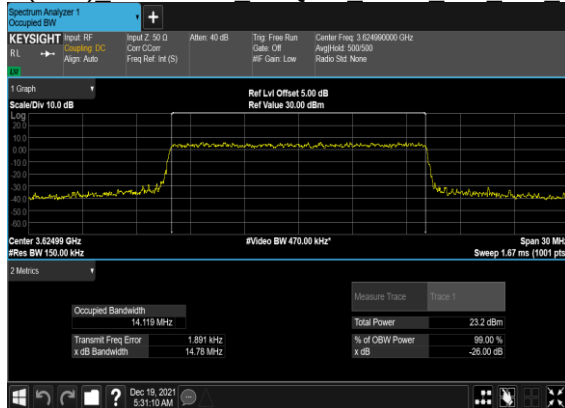
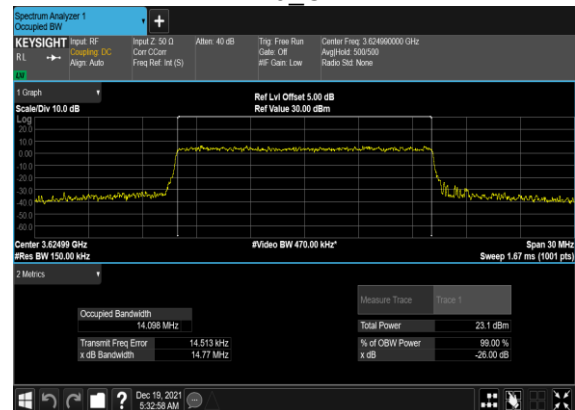
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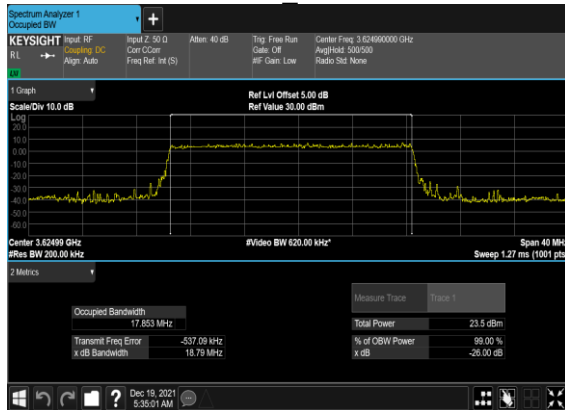
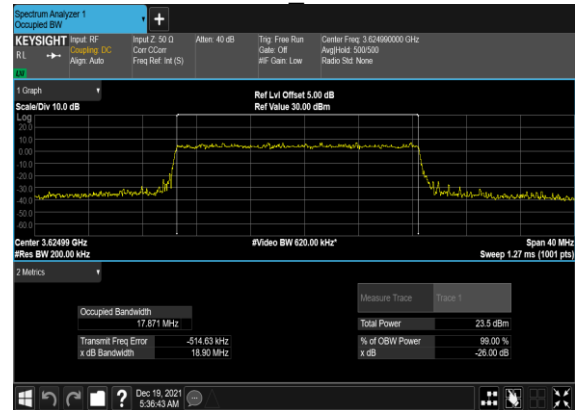


N48(15M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

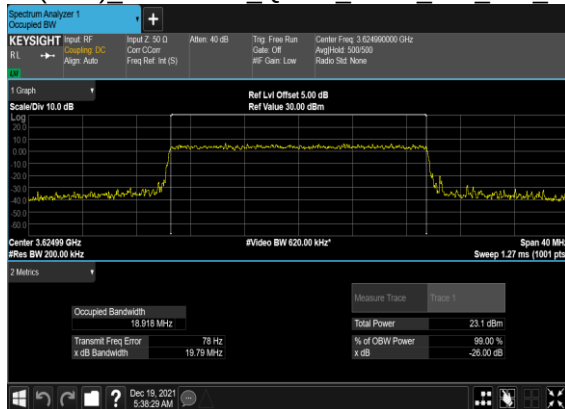


N48(15M)_CP-OFDM_64QAM_Outer_Full_Mid_CH

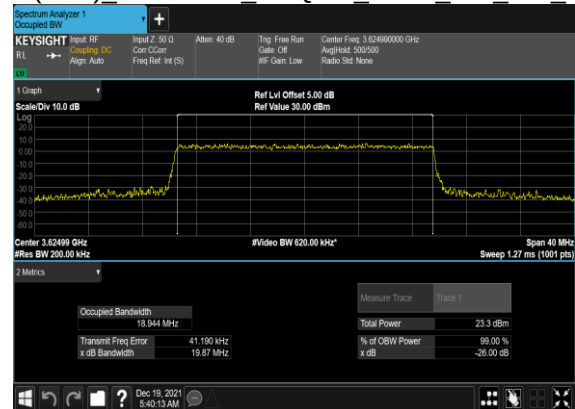
N48(15M)_CP-OFDM_256QAM_Outer_Full_
Mid_CH

N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
Mid_CHN48(20M)_DFT-s-OFDM_QPSK_Outer_Full_
Mid_CH

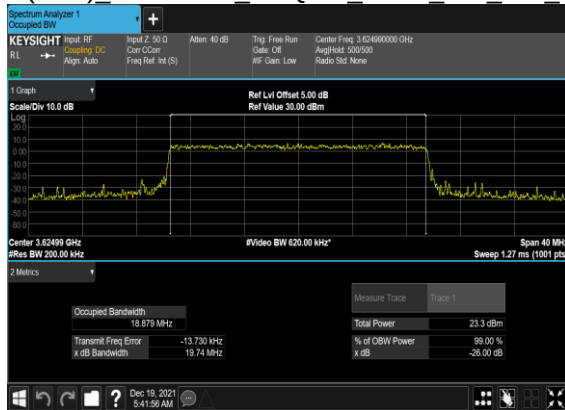
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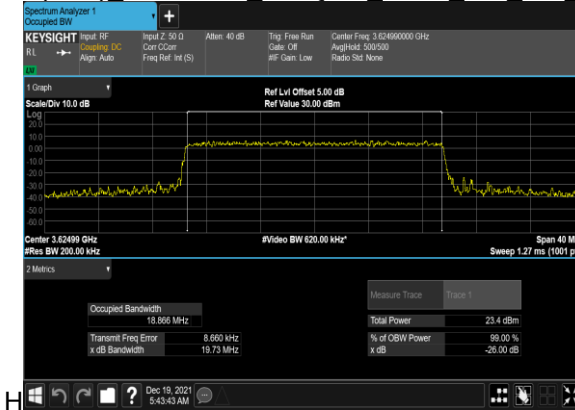
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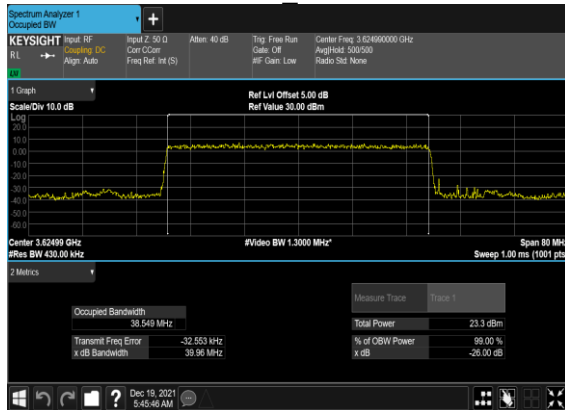
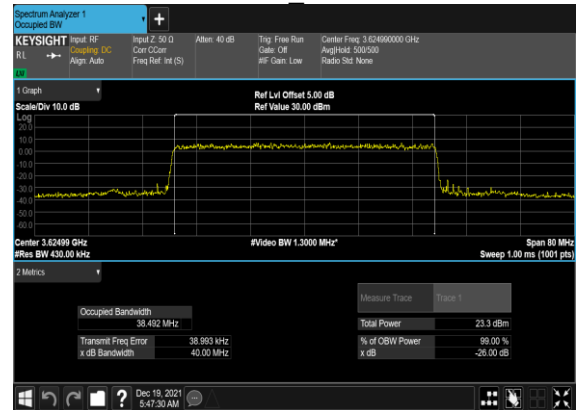


N48(20M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



N48(20M)_CP-OFDM_256QAM_Outer_Full_Mid_CH

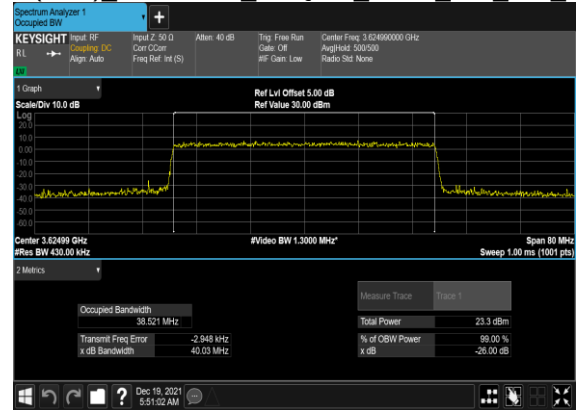


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
Mid_CHN48(40M)_DFT-s-OFDM_QPSK_Outer_Full_
Mid_CH

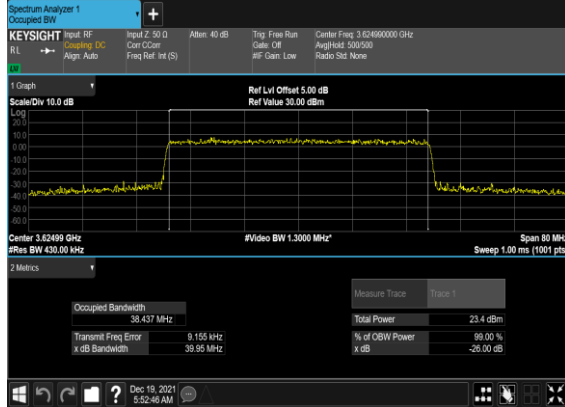
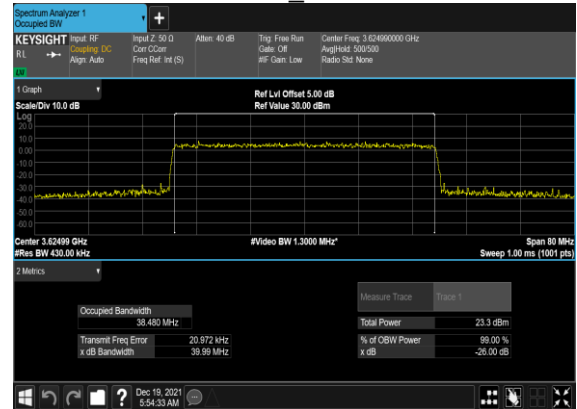
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

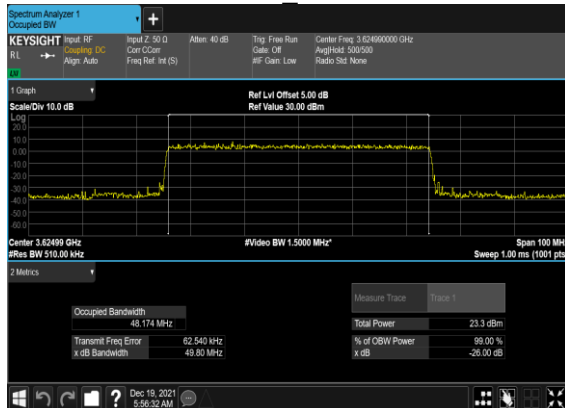
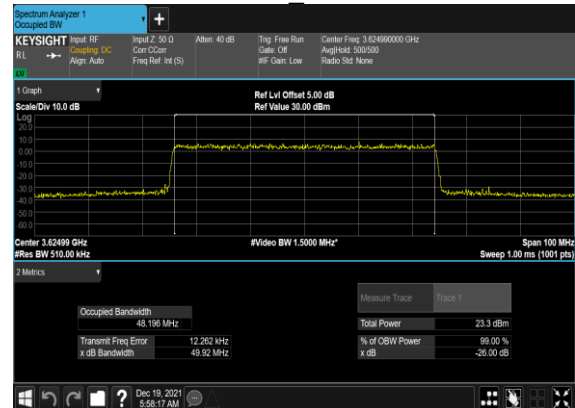


N48(40M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

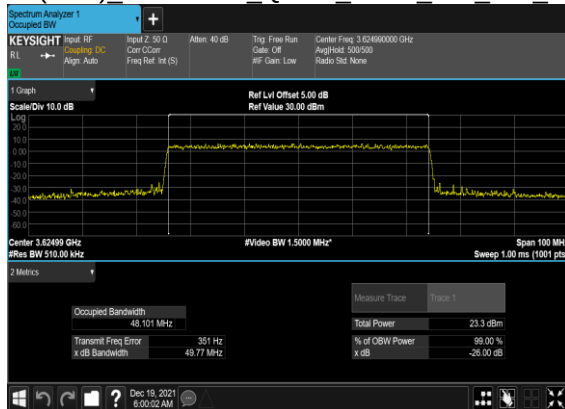


N48(40M)_CP-OFDM_64QAM_Outer_Full_Mid_CH

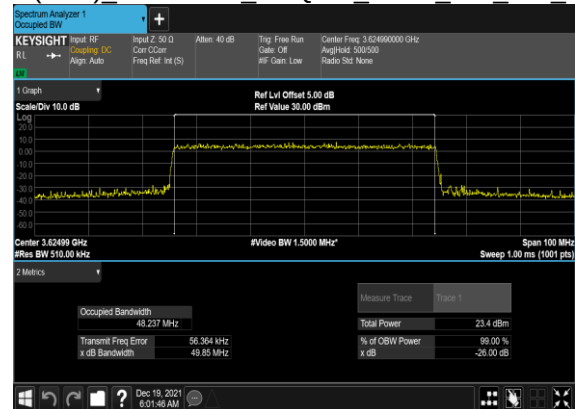
N48(40M)_CP-OFDM_256QAM_Outer_Full_
Mid_CH

N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
Mid_CHN48(50M)_DFT-s-OFDM_QPSK_Outer_Full_
Mid_CH

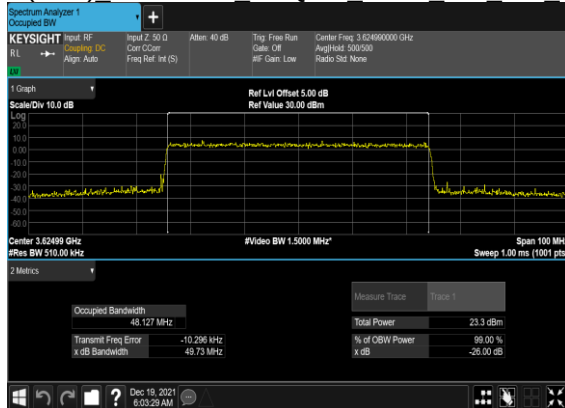
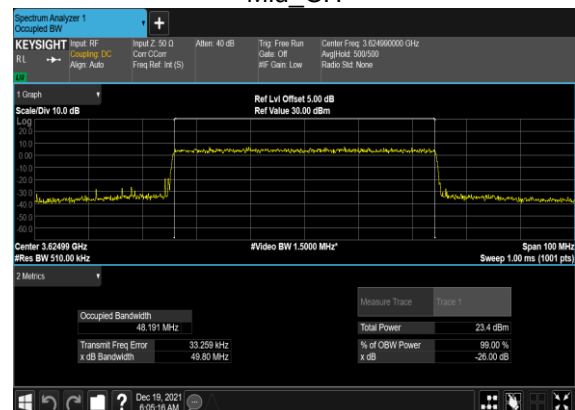
N48(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N48(50M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



N48(50M)_CP-OFDM_64QAM_Outer_Full_Mid_CH

N48(50M)_CP-OFDM_256QAM_Outer_Full_
Mid_CH



A2.3 Adjacent Channel Leakage Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	50@0	-10.89	-12.24	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-7.82	-24.56	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@51	-24.25	-8.96	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	-8.62	-9.65	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-8.58	-23.55	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	-23.7	-8.44	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-12.4	-13.97	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-8.68	-24.32	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@51	-24.47	-8.87	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	-6.79	-7.89	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-7.75	-23.49	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	-24.83	-9.73	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	50@0	-10.29	-11.64	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-7.88	-24.13	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@51	-23.44	-8.84	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	-8.66	-9.65	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-7.82	-22.17	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	-23.16	-8.7	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	100@0	-11.51	-13.23	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-7.59	-25.54	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@105	-24.63	-9.73	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	-9.04	-10.14	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-6.63	-23.85	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	-23.51	-9.08	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-9.59	-11.18	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-8.27	-24.36	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-23.9	-9.14	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	-9.78	-11.09	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-8.57	-22.25	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	-23.02	-9.59	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	100@0	-11.26	-12.87	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-8.1	-23.12	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@105	-23.61	-7.82	see graph	PASS

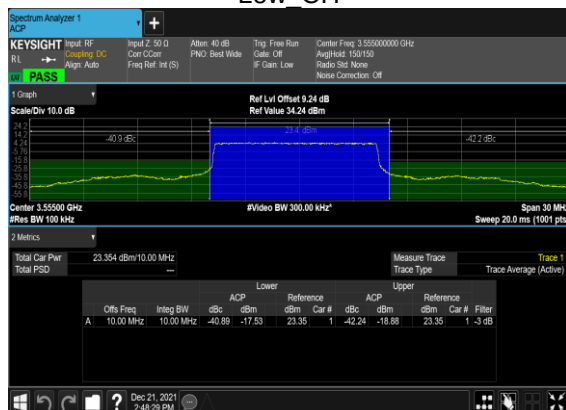


48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	-8.8	-9.89	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-8.57	-23.14	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	-23.11	-9.88	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	270@0	-10.65	-10.49	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@0	-11.65	-20.6	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@269	-21.0	-12.48	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	270@0	-8.69	-8.51	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	-11.88	-20.01	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@269	-21.16	-13.45	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	-10.32	-10.3	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-12.02	-20.53	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@269	-21.54	-13.53	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	-8.34	-8.47	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	-12.27	-20.06	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@269	-20.66	-12.63	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	270@0	-10.31	-10.56	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@0	-11.59	-20.54	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@269	-20.42	-12.19	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	270@0	-8.34	-8.81	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	-11.32	-18.47	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@269	-20.36	-12.99	see graph	PASS



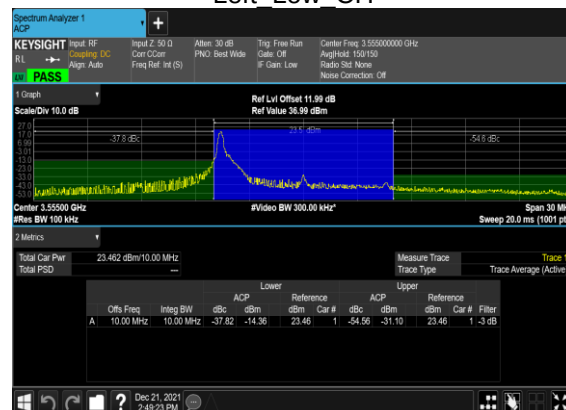
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Low CH



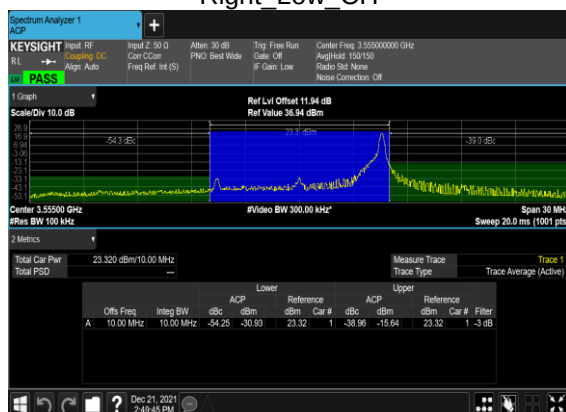
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Low CH



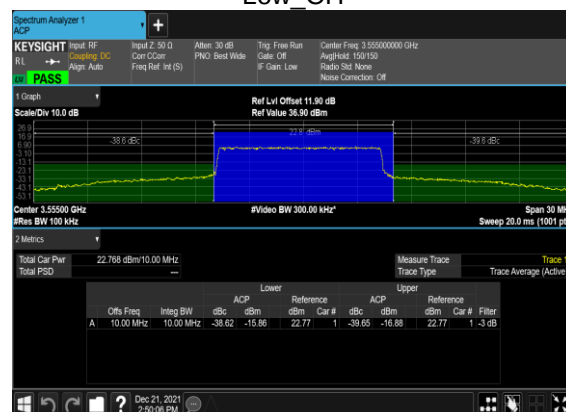
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Low CH



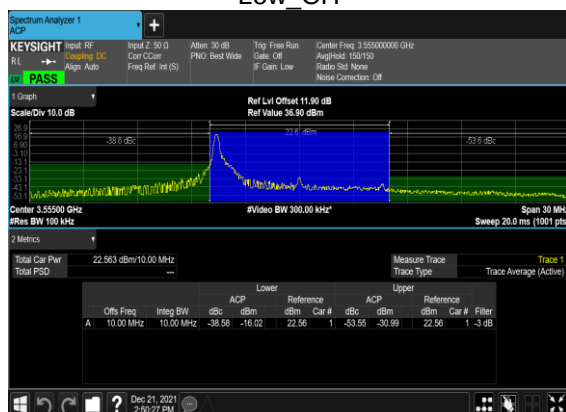
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_

Low CH



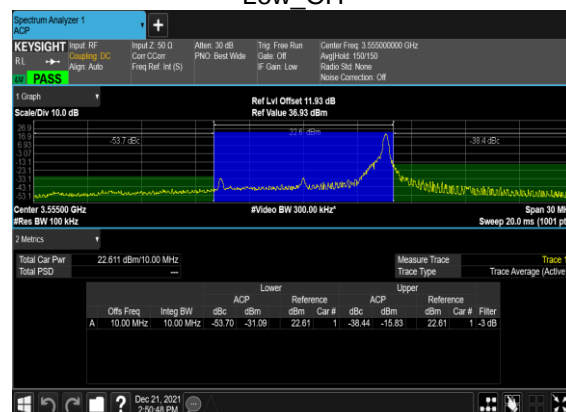
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

Low CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_

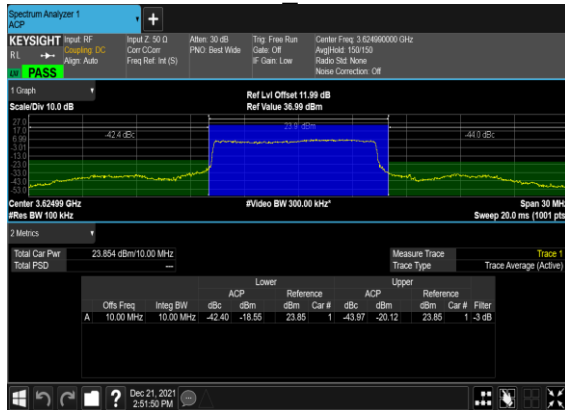
Low CH





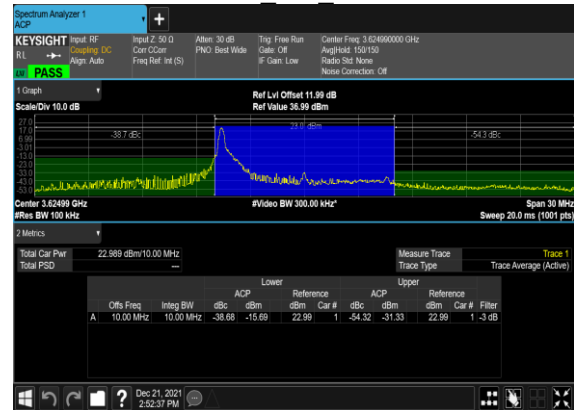
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Mid_CH



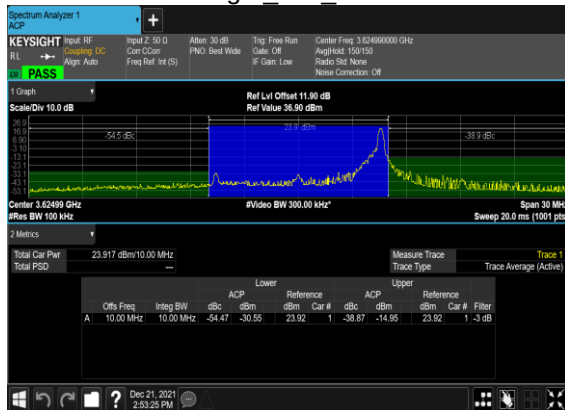
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Mid_CH



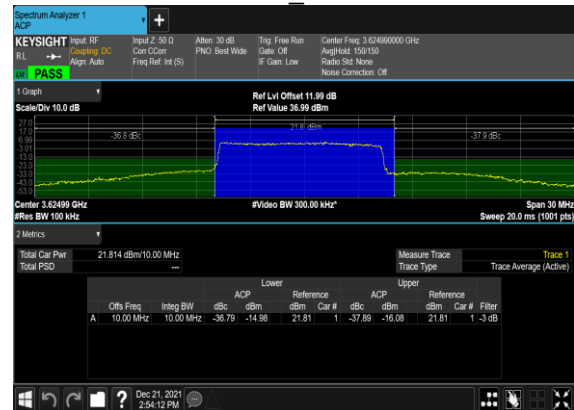
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Mid_CH



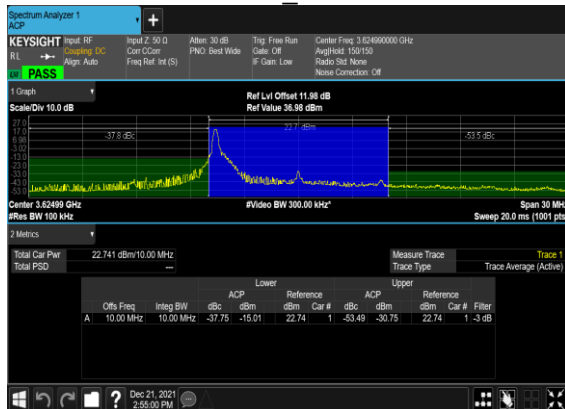
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_

Mid_CH



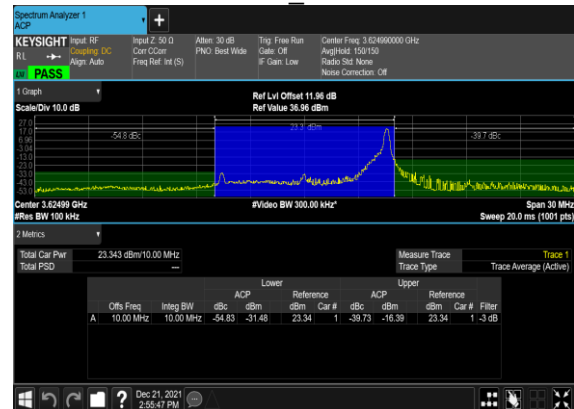
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

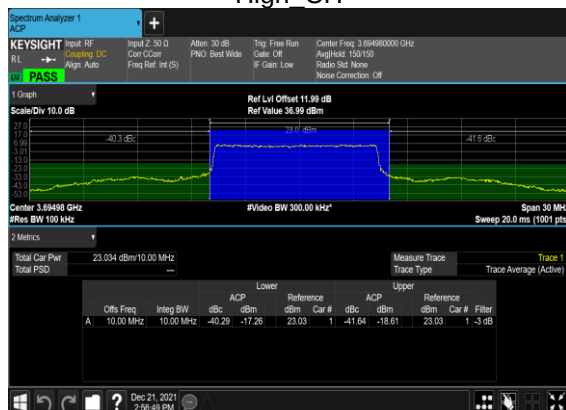
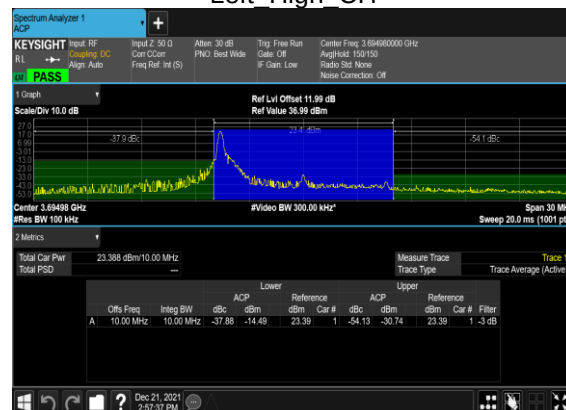
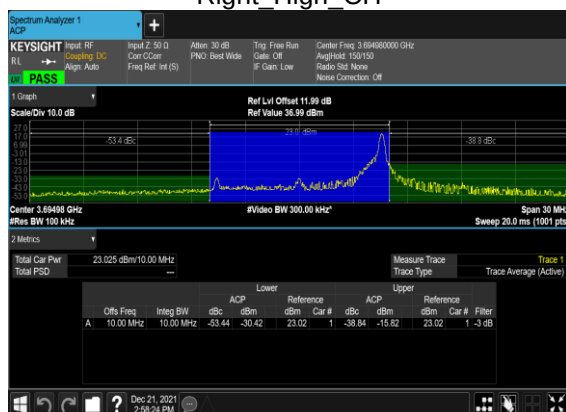
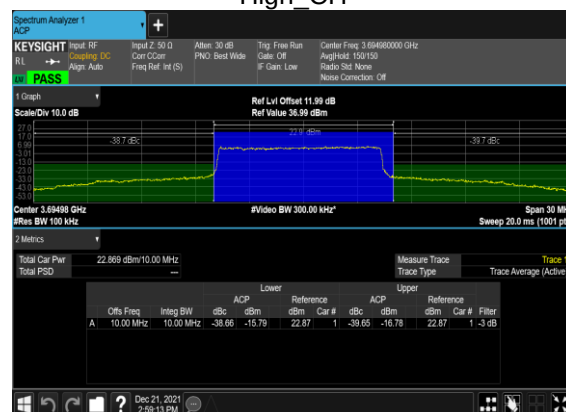
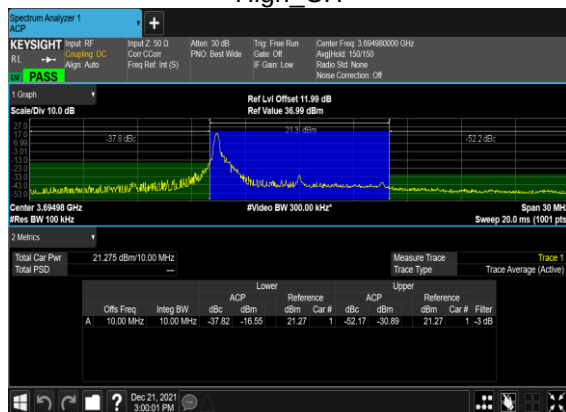
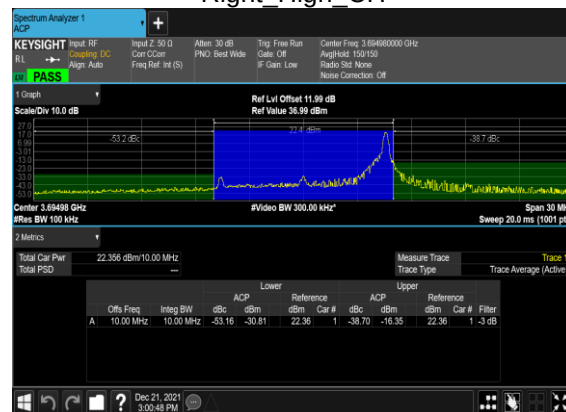
Mid_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_

Mid_CH

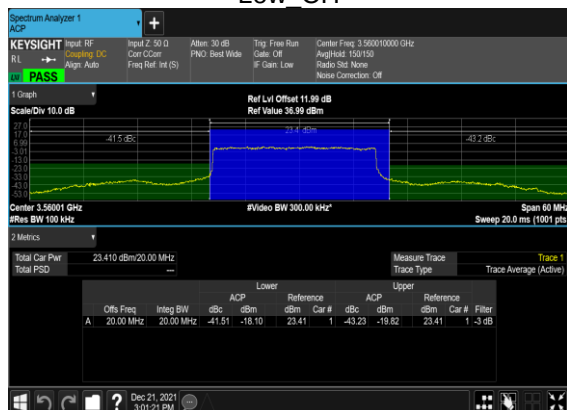


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
High_CHN48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Left High_CHN48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Right High_CHN48(10M)_DFT-s-OFDM_QPSK_Outer_Full_
High_CHN48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_
High_CHN48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_
Right High_CH



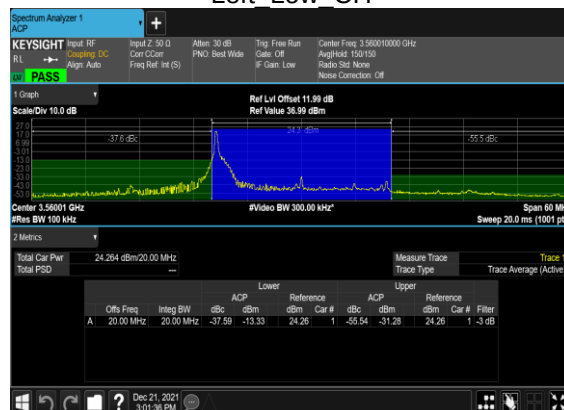
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Low CH



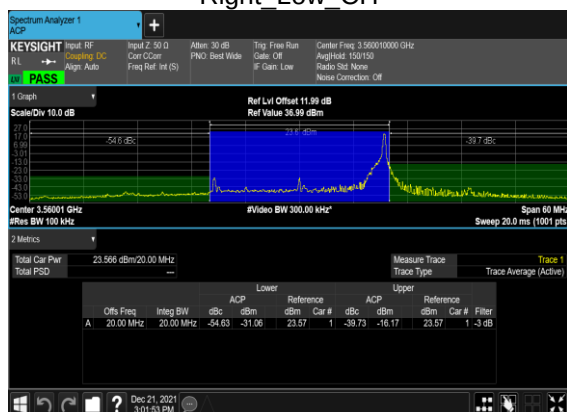
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Low CH



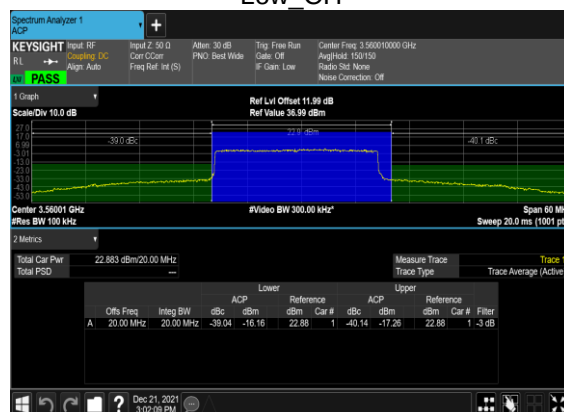
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Low CH



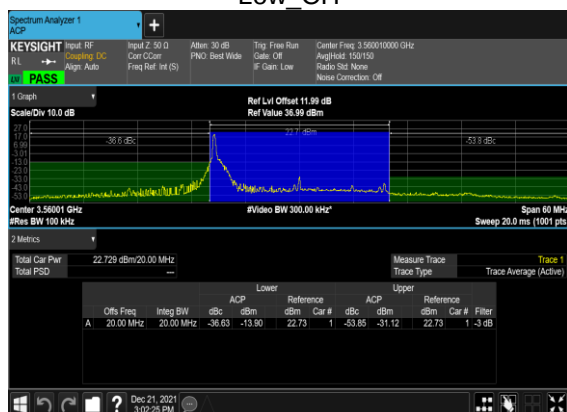
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_

Low CH



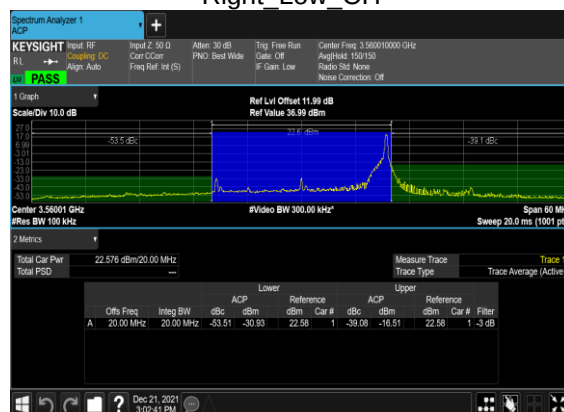
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

Low CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_

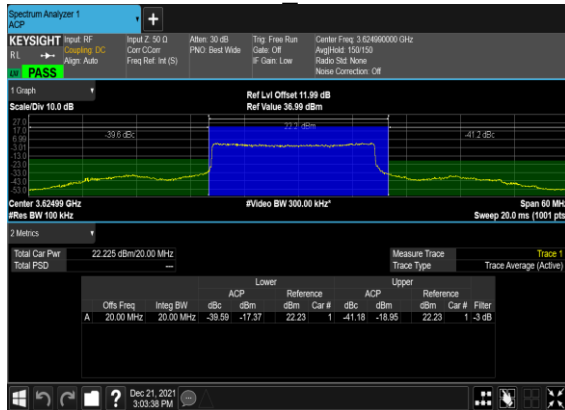
Right Low CH





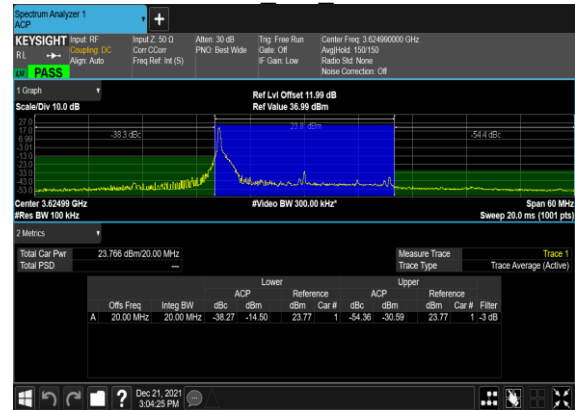
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Mid_CH



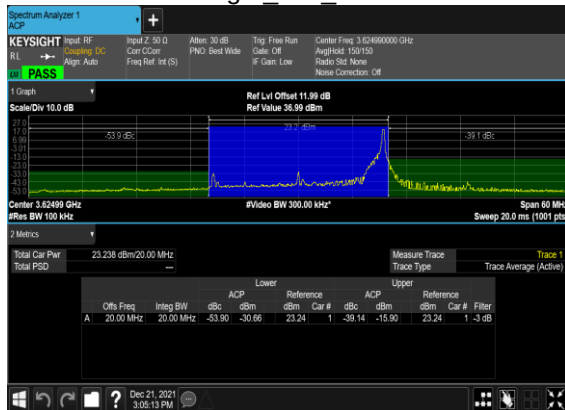
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Mid_CH



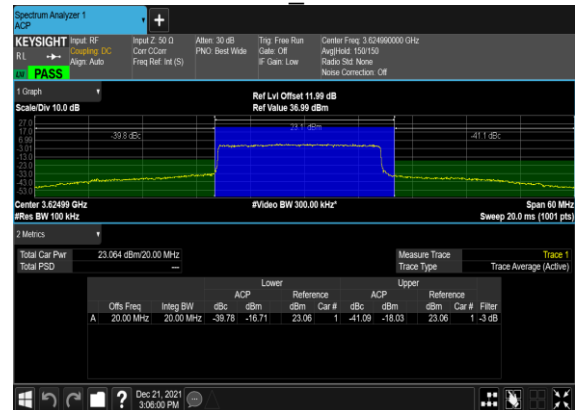
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Mid_CH



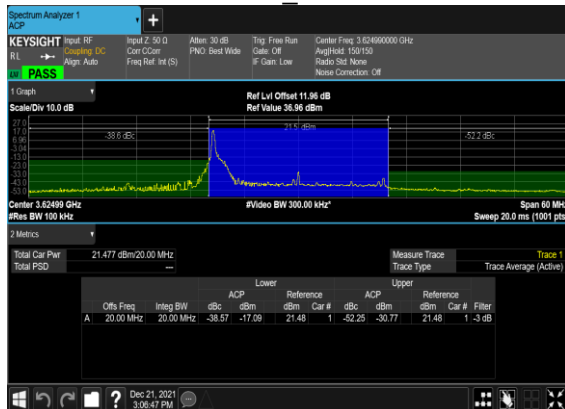
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_

Mid_CH



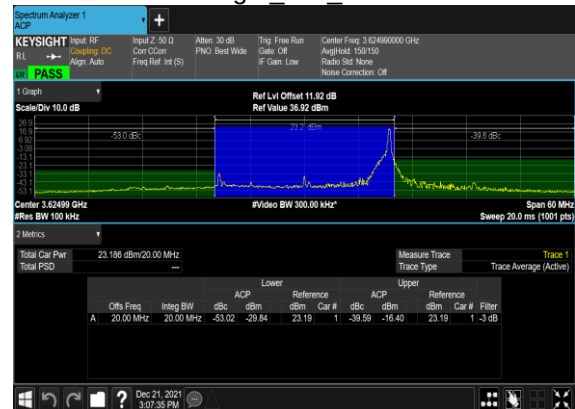
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

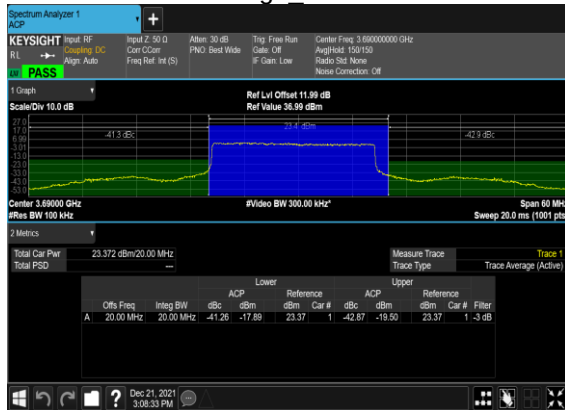
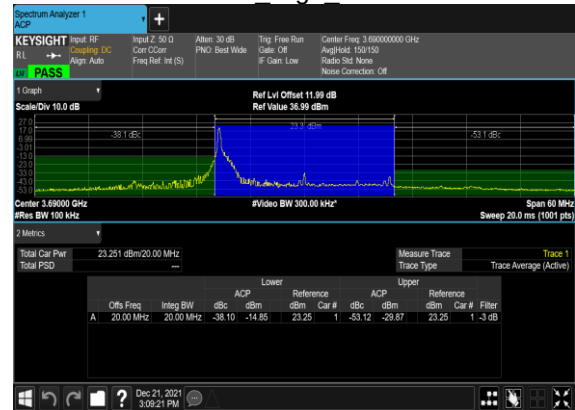
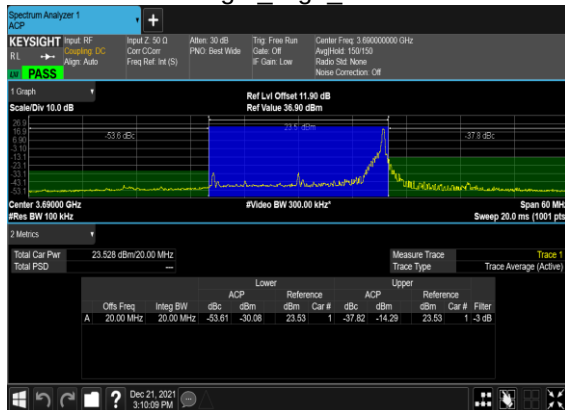
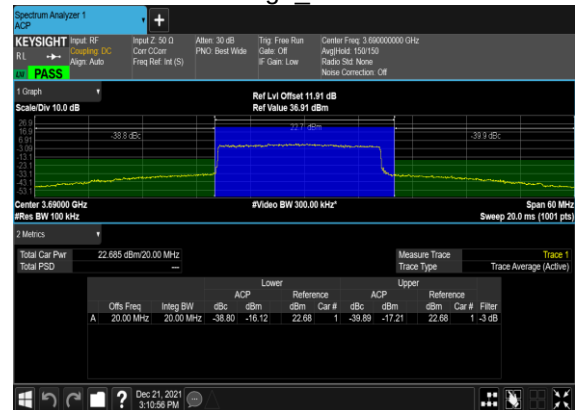
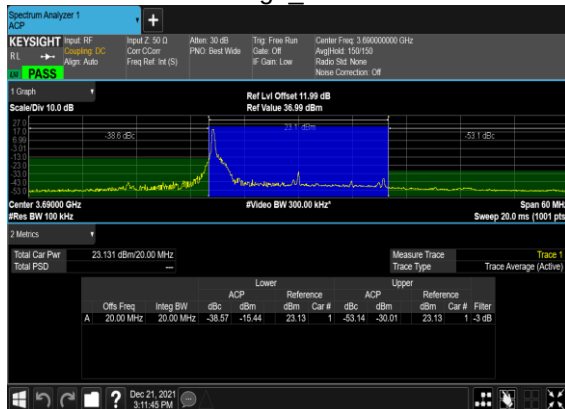
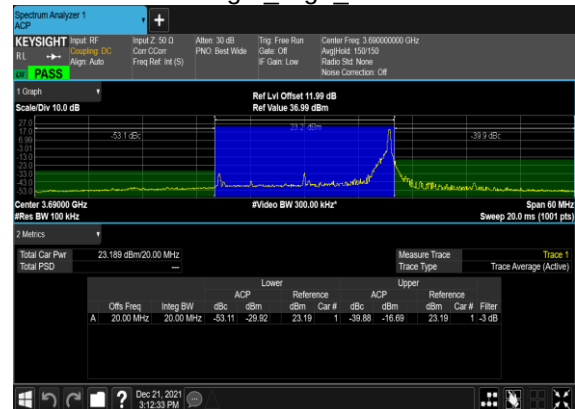
Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_

Right Mid_CH

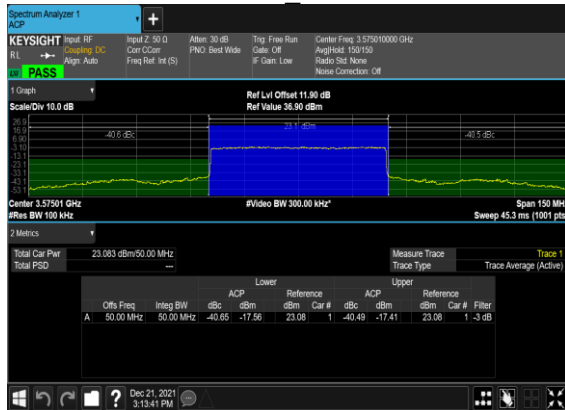


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
High_CHN48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Left_High_CHN48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Right_High_CHN48(20M)_DFT-s-OFDM_QPSK_Outer_Full_
High_CHN48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_
High_CHN48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_
Right_High_CH



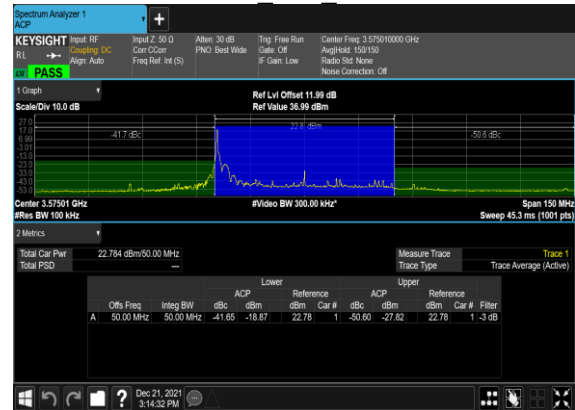
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Low CH



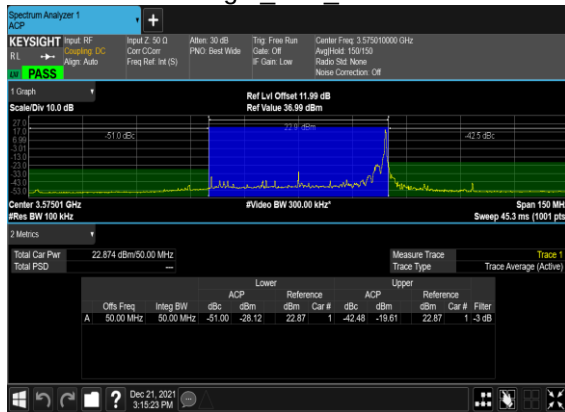
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Low CH



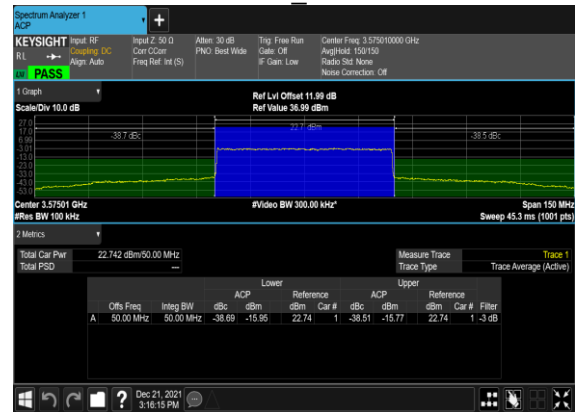
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Low CH



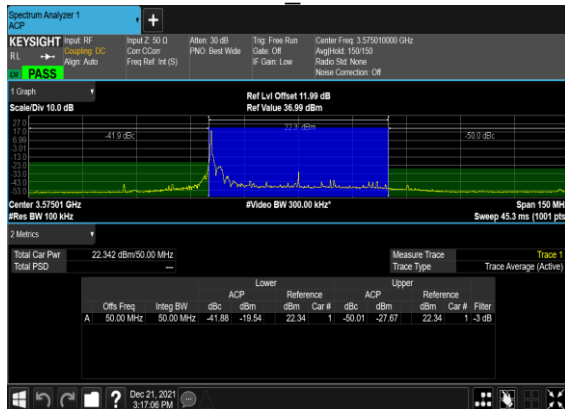
N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_

Low CH



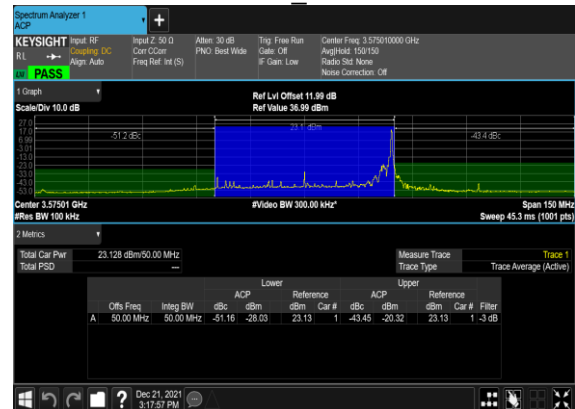
N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

Low CH



N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_

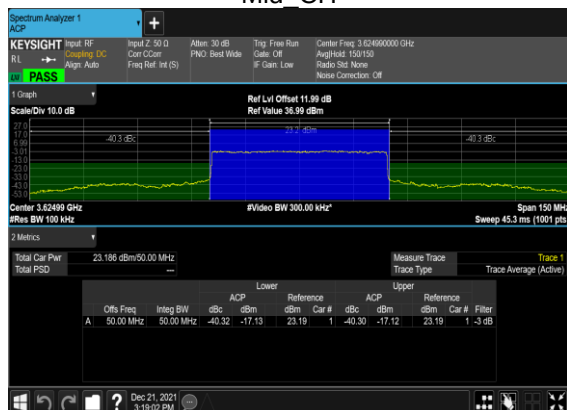
Low CH





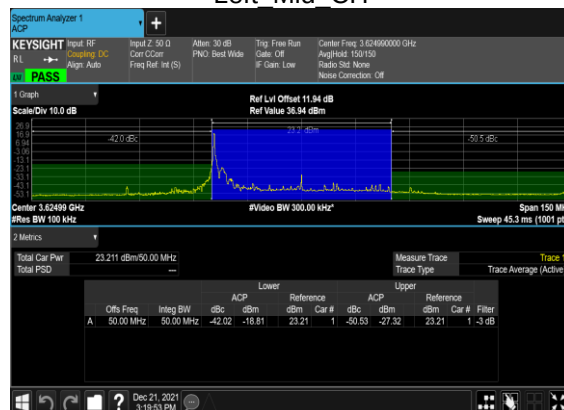
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_

Mid_CH



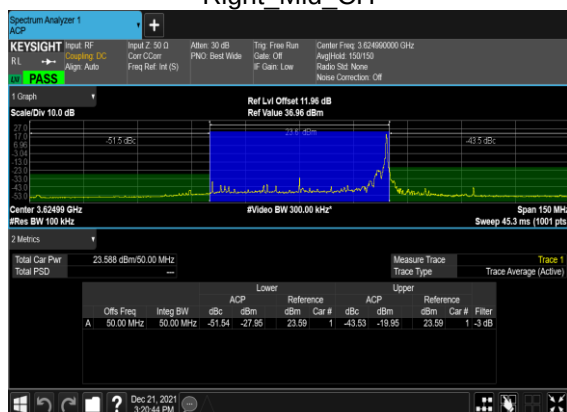
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Left Mid_CH



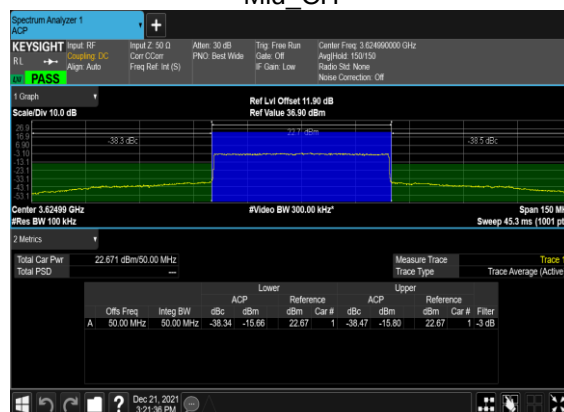
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_

Right Mid_CH



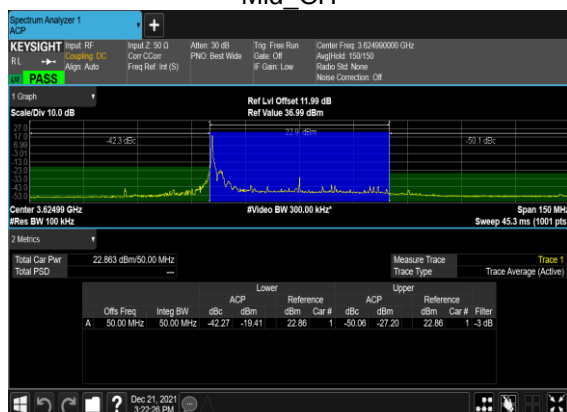
N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_

Mid_CH



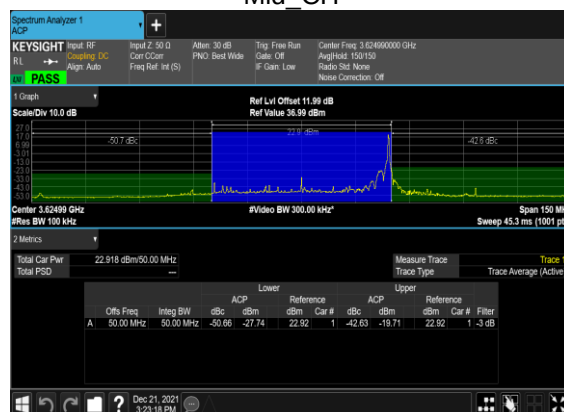
N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_

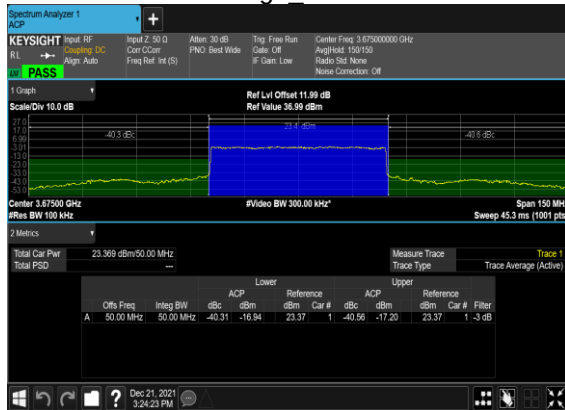
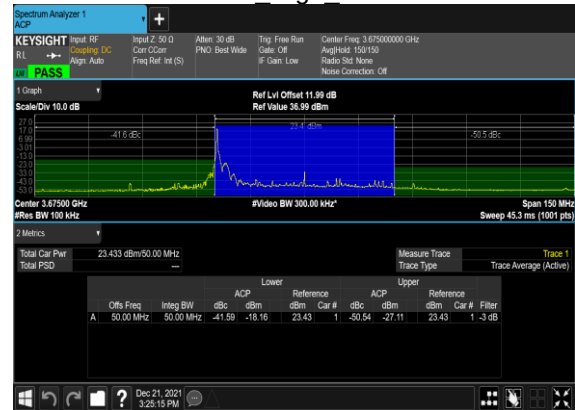
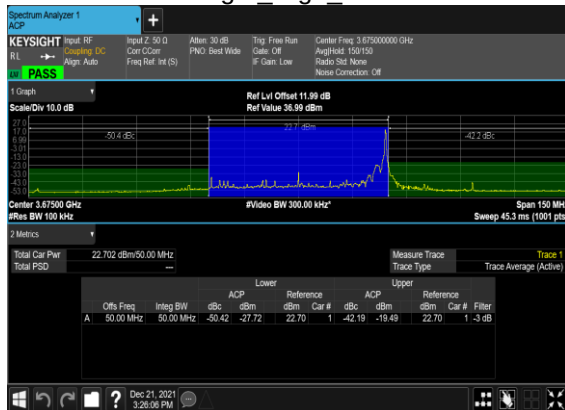
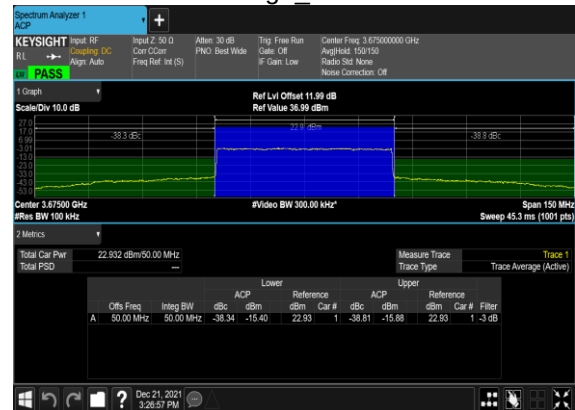
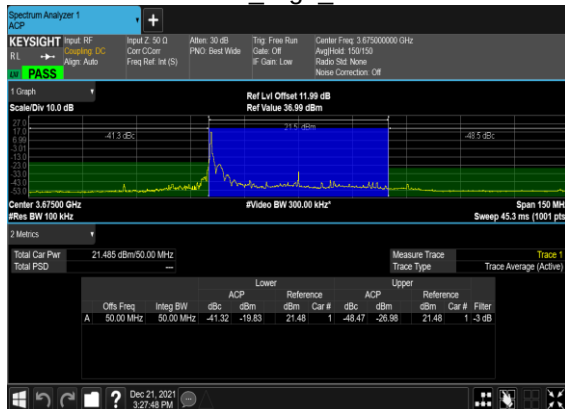
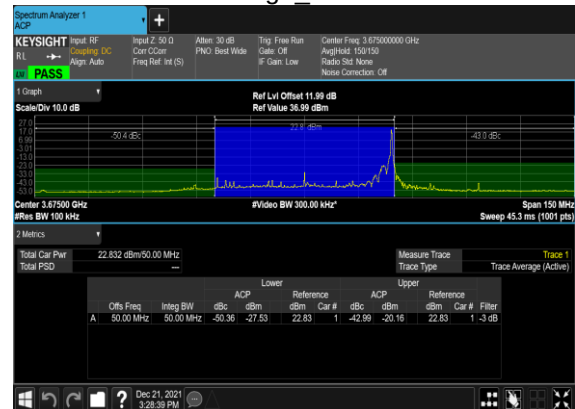
Mid_CH



N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_

Mid_CH



N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_
High_CHN48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Left High_CHN48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_
Right High_CHN48(50M)_DFT-s-OFDM_QPSK_Outer_Full_
High_CHN48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_
Left High_CHN48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_
High_CH



A2.4 Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM BPSK	50@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	---
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	10	637000	3555.0	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM BPSK	50@0	see graph	PASS



48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	---
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	10	641666	3624.99	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	1@51	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	1@51	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM BPSK	50@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	---
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	10	646332	3694.98	DFT-s-OFDM QPSK	50@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	PASS



48	15	20	637334	3560.01	DFT-s-OFDM BPSK	100@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	---
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	20	637334	3560.01	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM BPSK	100@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	---
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	---
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	1@105	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	---
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	1@105	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	---



48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	---
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	20	646000	3690.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@269	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@269	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@269	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	1@269	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	270@0	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	270@0	see graph	---
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	270@0	see graph	PASS
48	15	50	638334	3575.01	DFT-s-OFDM QPSK	270@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@269	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@269	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@269	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	1@269	see graph	PASS



48	15	50	641666	3624.99	DFT-s-OFDM BPSK	270@0	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	see graph	---
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	see graph	PASS
48	15	50	641666	3624.99	DFT-s-OFDM QPSK	270@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@0	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@269	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	1@269	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@269	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@269	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	1@269	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	270@0	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM BPSK	270@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	270@0	see graph	---
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	270@0	see graph	PASS
48	15	50	645000	3675.0	DFT-s-OFDM QPSK	270@0	see graph	PASS