FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2301-1
FCC ID	:	IHDT56AH1
STANDARD	:	47 CFR Part 2, 96
CLASSIFICATION	:	Citizens Band End User Devices (CBE)
EQUIPMENT TYPE	:	End User Equipment
TEST DATE(S)	:	Oct. 28, 2022 ~ Nov. 29, 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 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

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG292622O	01	Initial issue of report	Dec. 12, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
3.3	§96.41	Peak-to-Average Ratio	Pass	Not applicable for End User Devices
3.4	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Pass	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 Measurement Adjacent Channel Leakage Ratio	Pass	-
3.7	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 4.45 dB at 10818.810 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 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2301-1
FCC ID	IHDT56AH1
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Bandwidth	10MHz / 15MHz / 20MHz / 30MHz / 40MHz
SCS	30kHz
Antenna Gain	Ant.3: -1.8 dBi Ant.8: -2.0 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted : 350007550015938/350007550016357 Radiation : 350007550014055/350007550014063
HW Version	DVT2
SW Version	TTR33.124
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. 5G NR n48 supports UL-MIMO for CP-OFDM modulation, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.
3. 5G NR n48 MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(N_{ANT}) according to KDB 662911 D01
4. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP of antenna 3 is shown in the report.

1.4 Maximum EIRP Power and Emission Designator

5G NR n48		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	**3555~3694.98**	0.1618	8M60G7D	0.1306	8M59W7D
15	**3557.52~3692.49**	0.1644	13M6G7D	0.1371	13M6W7D
20	**3560.01~3690**	0.1629	18M2G7D	0.1377	18M2W7D
30	**3565.02~3684.99**	0.1652	27M8G7D	0.1393	27M9W7D
40	**3570~3679.98**	0.1656	37M9G7D	0.1435	37M9W7D

5G NR n48 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	**3555~3694.98**	0.1276	8M59G7D	0.1274	8M60W7D
15	**3557.52~3692.49**	0.1334	13M6G7D	0.1324	13M6W7D
20	**3560.01~3690**	0.1358	18M2G7D	0.1340	18M2W7D
30	**3565.02~3684.99**	0.1377	27M8G7D	0.1368	27M9W7D
40	**3570~3679.98**	0.1637	37M9G7D	0.1611	37M9W7D

1.5 Testing Site

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.**
	03CH03-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24

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.

1.8 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-681N
AC Adapter 2(US)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-681N
Battery 1	**Brand Name**	Motorola(SCUD)	**Model Name**	PC51
Earphone 1	**Brand Name**	Motorola (Lyand)	**Model Name**	MI181C(SH38D62338)
USB Cable 1	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D24968
C to HDMI HDMI/USBC Cable 1	**Brand Name**	Motorola(Linxee)	**Model Name**	SC18D02146
C to HDMI HDMI/USBC Cable 2	**Brand Name**	Motorola(Linxee)	**Model Name**	SC18D38847

2 Test Configuration of Equipment Under Test

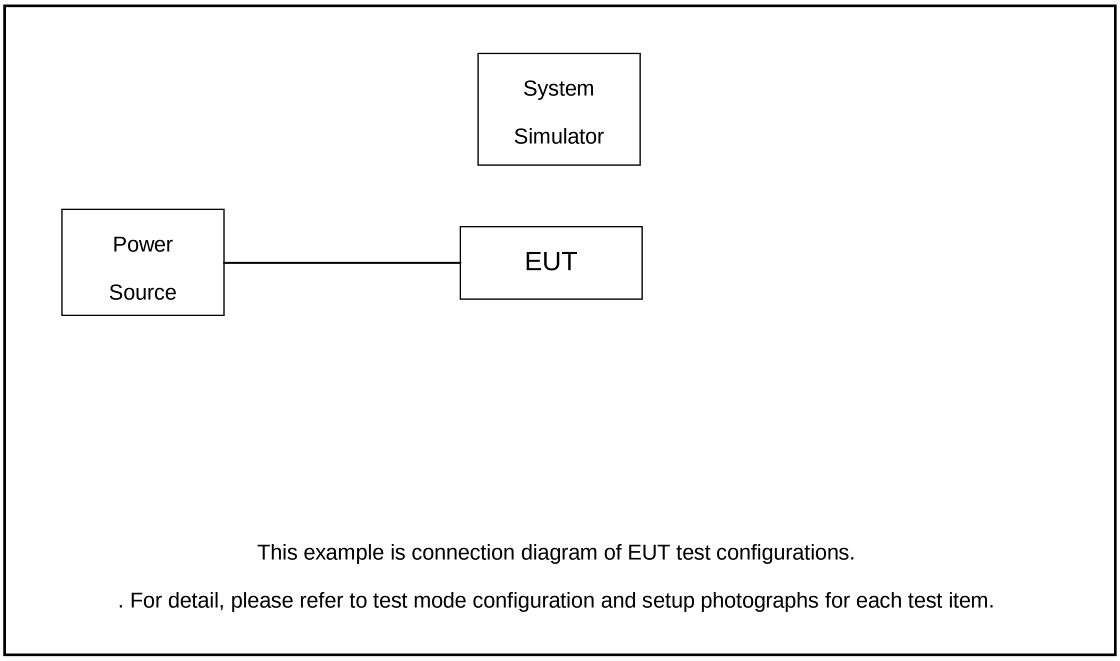
2.1 Test Mode

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 (Z plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)					Modulation					RB #		Test Channel		
		10	15	20	30	40	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
26dB and 99% Bandwidth	n48	v	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
Peak-to-Average Ratio	n48			v	-		v	v				v	v	v	v	v
Conducted Spurious Emission	n48	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
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. All the radiated test cases were performed with Adapter 1 and USB Cable 1. 5. Frequency Stability：Normal Voltage = 3.89V ；Low Voltage =3.40V.；High Voltage =4.48V															

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.	Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded,1.8m

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 5.66 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 5.66 + 10 = 15.66 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	638000	641666	645332
	Frequency	3570	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	3565.02	3624.99	3684.99
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

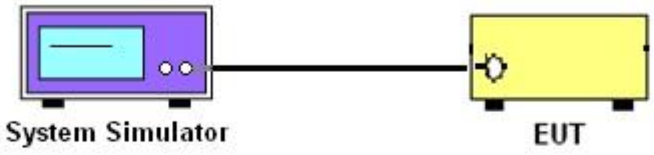
3 Conducted Test Items

3.1 Measuring Instruments

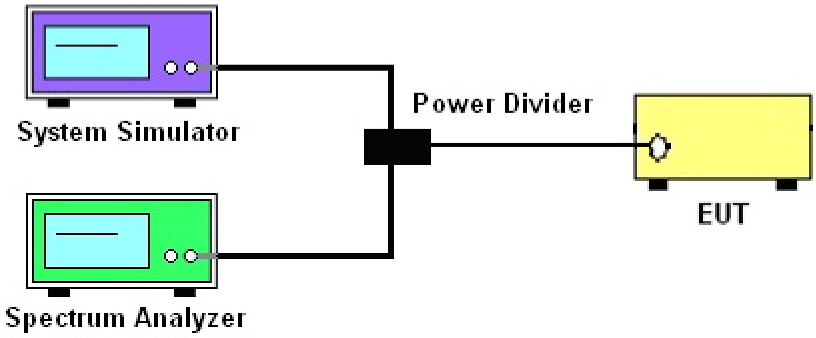
See list of measuring instruments of this test report.

3.1.1 Test Setup

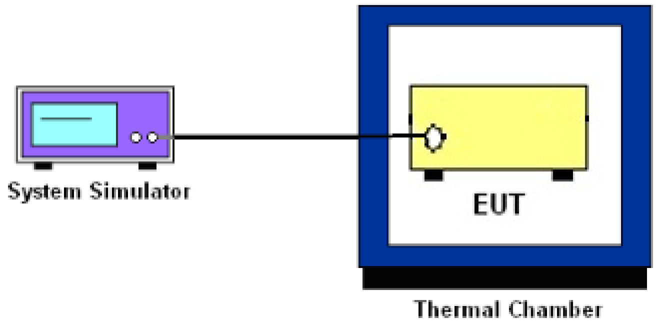
3.1.2 Conducted Output Power



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 and PSD

3.4.1 Description of the EIRP Measurement

EIRP and PSD 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)

   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

3.4.3 Test Procedures for EIRP PSD

1. Set instrument center frequency to OBW center frequency.
2. Set span to at least 2 times the OBW.
3. Set the RBW to the specified reference bandwidth (often 1 MHz).
4. Set VBW ⩾ 3 × RBW.
5. Detector = RMS (power averaging).
6. Ensure that the number of measurement points in the sweep ⩾ 2 × span/RBW.
7. Sweep time = auto couple.
8. Employ trace averaging (RMS) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).
10. Determine the EIRP by adding the effective antenna gain to the adjusted power level.
11. Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T - L_C$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

LC = 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 −40dBm/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 >= 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. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency

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.

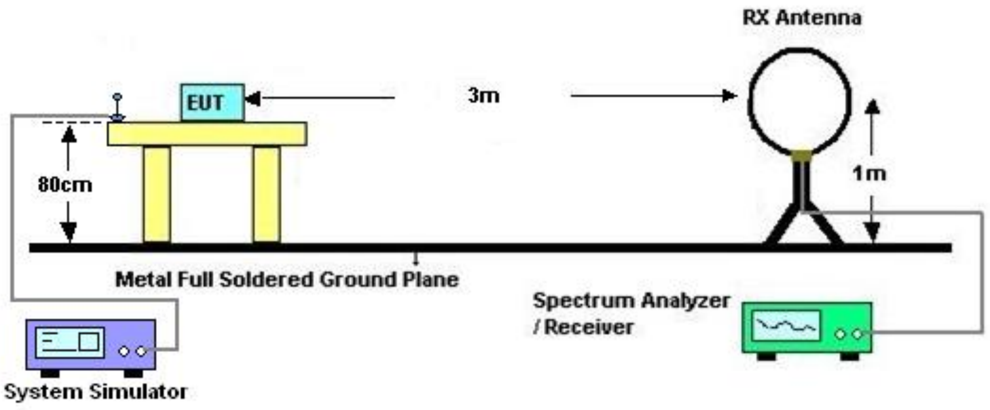
4 Radiated Test Items

4.1 Measuring Instruments

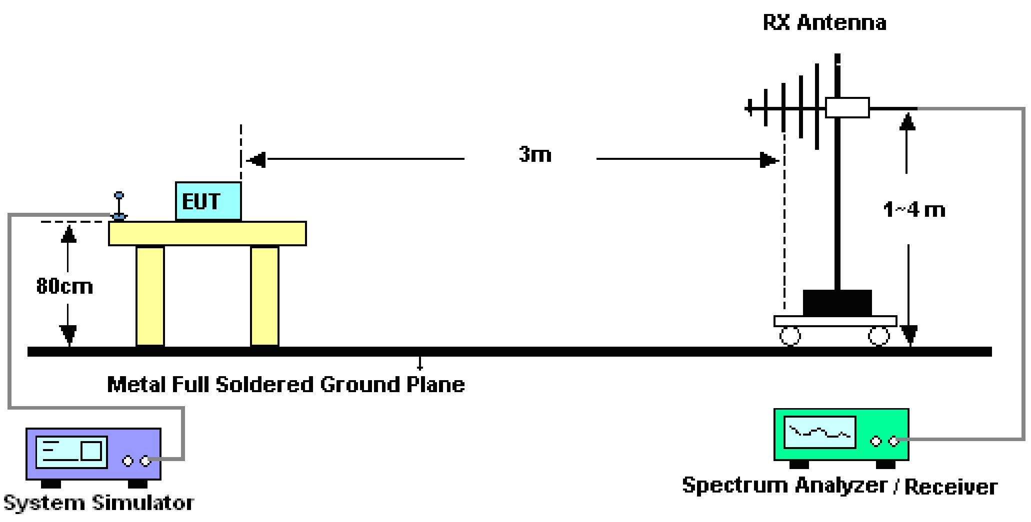
See list of measuring instruments of this test report.

4.2 Test Setup

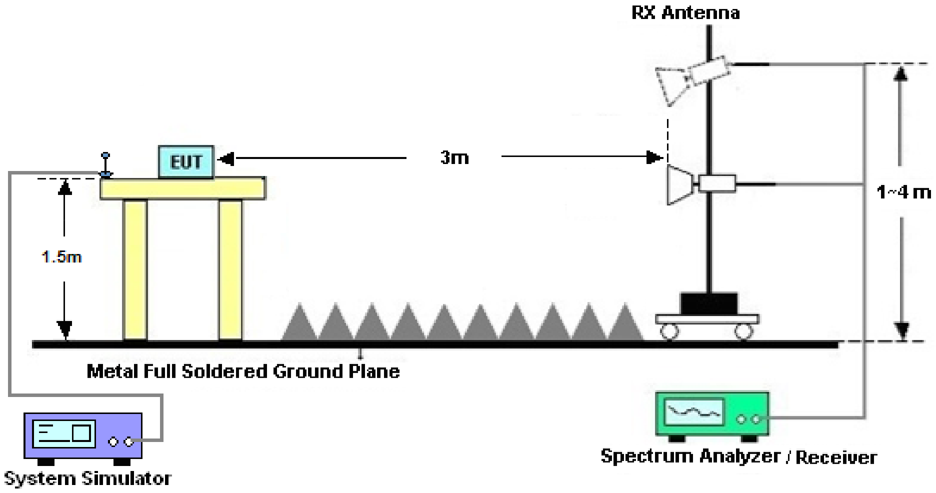
4.2.1 For radiated test below 30MHz



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 / TIA-603-E. 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.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = 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
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Oct. 28, 2022~ Nov. 29, 2022	Apr. 08, 2023	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 17, 2022	Oct. 28, 2022~ Nov. 29, 2022	Oct. 16, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2021	Oct. 28, 2022~ Nov. 29, 2022	Dec. 24, 2022	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Oct. 28, 2022~ Nov. 29, 2022	Jul. 06, 2023	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 06, 2022	Nov. 15, 2022	Apr. 05, 2023	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 28, 2022	Nov. 15, 2022	Jun. 27, 2024	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 06, 2022	Nov. 15, 2022	Apr. 05, 2023	Radiation (03CH03-SZ
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Aug. 09, 2021	Nov. 15, 2022	Aug. 09, 2023	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 08, 2022	Nov. 15, 2022	Apr. 07, 2023	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2022	Nov. 15, 2022	Oct. 18, 2023	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 06, 2022	Nov. 15, 2022	Jul.05, 2023	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	Nov. 15, 2022	Apr. 09, 2023	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2021	Nov. 15, 2022	Dec. 26, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	N/A	Nov. 10, 2022	Nov. 15, 2022	Nov. 09, 2023	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Nov. 15, 2022	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Nov. 15, 2022	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.0 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.6 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.8 dB

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

Appendix A. Test Results of Conducted Test

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

TEL : 86-755-8637-9589
FAX : 86-755-8637-9595

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Transmitter Conducted Output Power And ERP/EIRP, (G_T - L_C)=-1.8dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@1	23.81	22.01	0.1589
48	30	10	637000	3555.0	DFT-s-OFDM 16 QAM	1@1	22.96	21.16	0.1306
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.89	22.09	0.1618
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.96	21.16	0.1306
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	23.73	21.93	0.1560
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	22.77	20.97	0.1250
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	23.95	22.15	0.1641
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	23.15	21.35	0.1365
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.96	22.16	0.1644
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.17	21.37	0.1371
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	23.96	22.16	0.1644
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	23.02	21.22	0.1324
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	23.91	22.11	0.1626
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	23.19	21.39	0.1377
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.91	22.11	0.1626
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.18	21.38	0.1374
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@1	23.92	22.12	0.1629
48	30	20	646000	3690.0	DFT-s-OFDM 16 QAM	1@1	23	21.2	0.1318
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	23.92	22.12	0.1629
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	23.24	21.44	0.1393
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.91	22.11	0.1626
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.24	21.44	0.1393
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	23.98	22.18	0.1652
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	23.11	21.31	0.1352
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	50@25	23.99	22.19	0.1656
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1	23.94	22.14	0.1637

48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@104	23.91	22.11	0.1626
48	30	40	638000	3570	DFT-s-OFDM QPSK	50@25	23.97	22.17	0.1648
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	23.91	22.11	0.1626
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@104	23.98	22.18	0.1652
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	50@25	23.21	21.41	0.1384
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	23.14	21.34	0.1361
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@104	23.15	21.35	0.1365
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	50@25	21.73	19.93	0.0984
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@1	21.71	19.91	0.0979
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@104	21.6	19.8	0.0955
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	50@25	19.68	17.88	0.0614
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@1	19.24	17.44	0.0555
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@104	19.22	17.42	0.0552
48	30	40	638000	3570	CP-OFDM QPSK	53@26	22.67	20.87	0.1222
48	30	40	638000	3570	CP-OFDM QPSK	1@1	22.69	20.89	0.1227
48	30	40	638000	3570	CP-OFDM QPSK	1@104	22.72	20.92	0.1236
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@25	23.91	22.11	0.1626
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	23.95	22.15	0.1641
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@104	23.96	22.16	0.1644
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	50@25	23.95	22.15	0.1641
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.94	22.14	0.1637
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@104	23.93	22.13	0.1633
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	50@25	23.23	21.43	0.1390
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.21	21.41	0.1384
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@104	23.25	21.45	0.1396
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	50@25	21.77	19.97	0.0993
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	21.73	19.93	0.0984
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@104	21.8	20	0.1000
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	50@25	19.67	17.87	0.0612
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	19.38	17.58	0.0573
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@104	19.41	17.61	0.0577

48	30	40	641666	3624.99	CP-OFDM QPSK	53@26	22.69	20.89	0.1227
48	30	40	641666	3624.99	CP-OFDM QPSK	1@1	22.8	21	0.1259
48	30	40	641666	3624.99	CP-OFDM QPSK	1@104	22.7	20.9	0.1230
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	50@25	23.92	22.12	0.1629
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@1	23.97	22.17	0.1648
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@104	23.96	22.16	0.1644
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	50@25	23.95	22.15	0.1641
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	23.93	22.13	0.1633
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@104	23.94	22.14	0.1637
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	50@25	23.08	21.28	0.1343
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	23.37	21.57	0.1435
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@104	23.31	21.51	0.1416
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	50@25	21.74	19.94	0.0986
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@1	21.68	19.88	0.0973
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@104	21.65	19.85	0.0966
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	50@25	19.67	17.87	0.0612
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@1	19.45	17.65	0.0582
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@104	19.35	17.55	0.0569
48	30	40	645332	3679.98	CP-OFDM QPSK	53@26	22.67	20.87	0.1222
48	30	40	645332	3679.98	CP-OFDM QPSK	1@1	22.75	20.95	0.1245
48	30	40	645332	3679.98	CP-OFDM QPSK	1@104	22.68	20.88	0.1225

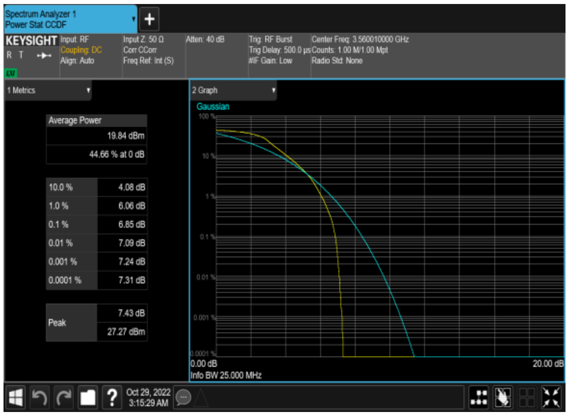
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0043	**PASS**	NV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0068	**PASS**	LV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0054	**PASS**	HV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0036	**PASS**	-30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0025	**PASS**	-20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0035	**PASS**	-10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0031	**PASS**	0℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0045	**PASS**	10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0043	**PASS**	20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0041	**PASS**	30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0068	**PASS**	40℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0053	**PASS**	50℃

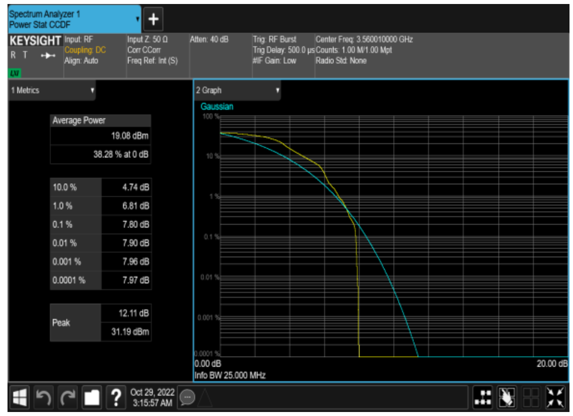
Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	50@0	6.85	13	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	7.8	13	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	50@0	7.46	13	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	7.47	13	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	6.78	13	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	7.29	13	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	7.44	13	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	7.27	13	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	50@0	6.76	13	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	7.84	13	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	50@0	7.46	13	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	7.4	13	**PASS**

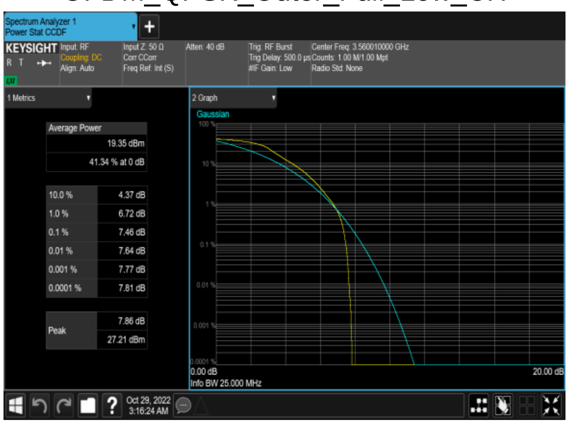
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



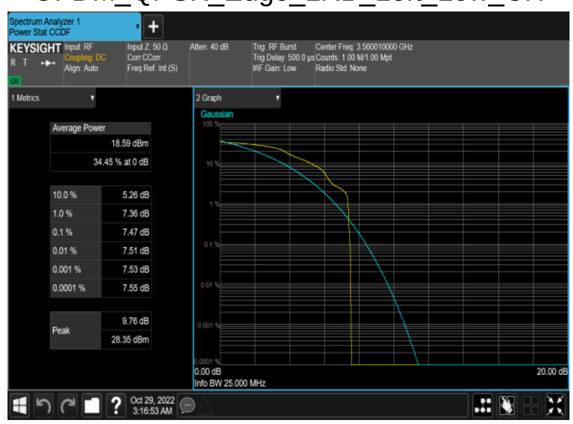
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



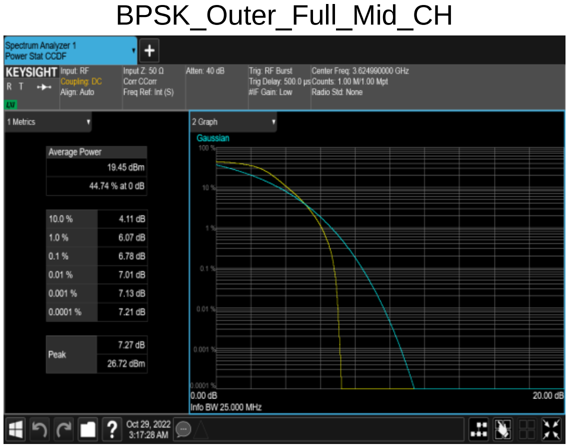
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



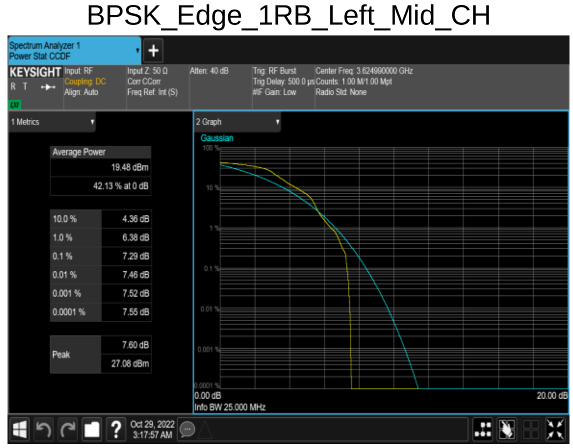
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



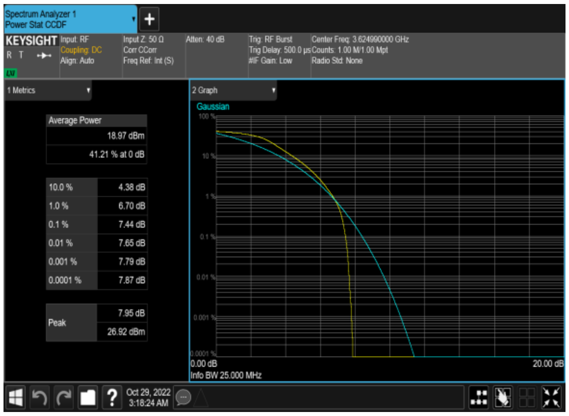
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



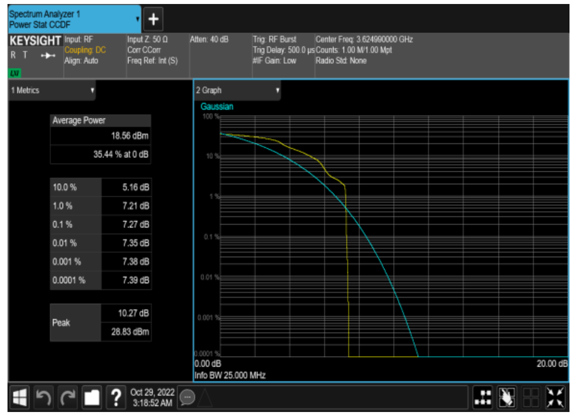
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



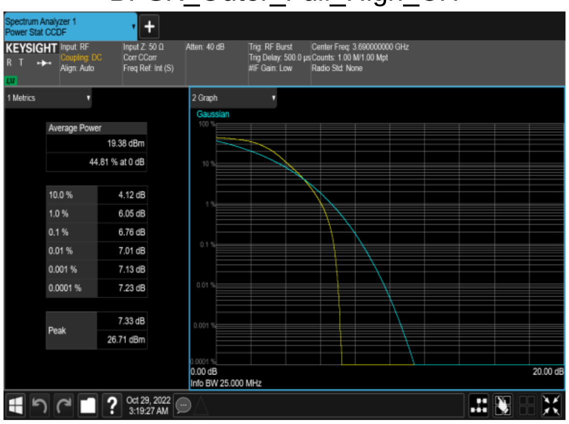
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



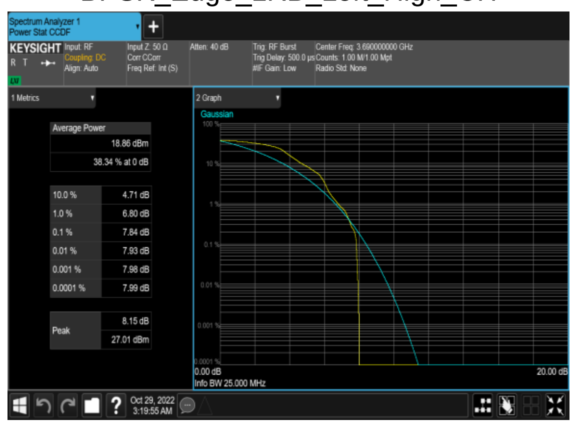
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



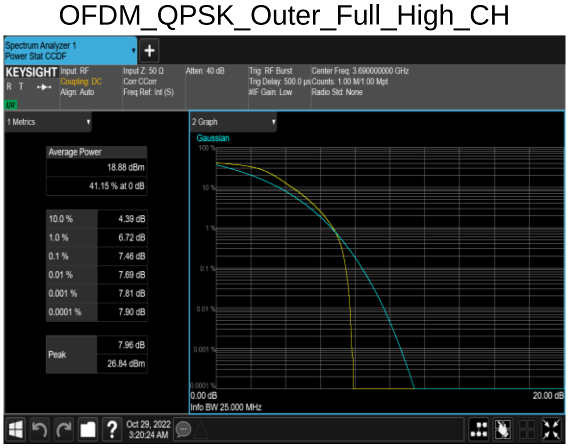
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



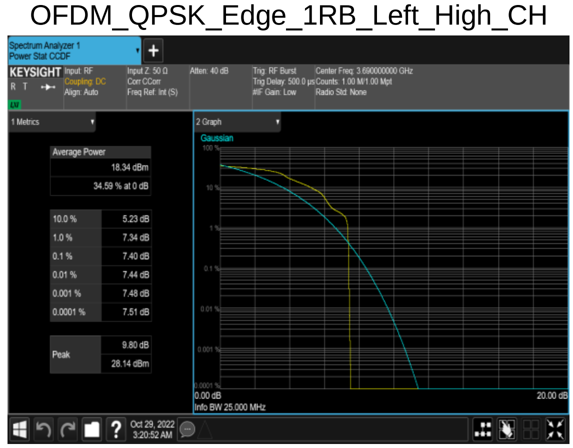
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



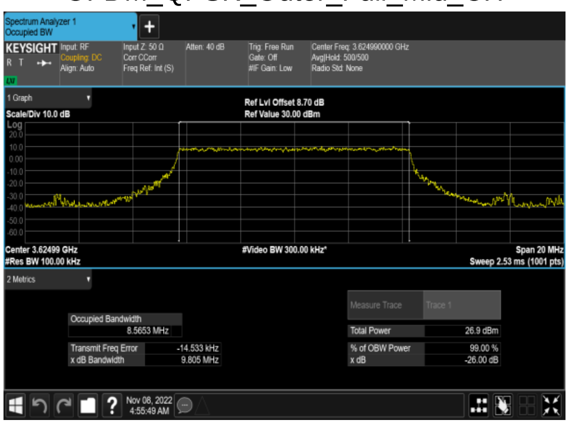
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	8.595	9.618
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	8.5938	9.652
48	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.5653	9.805
48	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.5862	9.731
48	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5918	9.703
48	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5679	9.427
48	30	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	36@0	12.83	13.95
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	36@0	12.852	14.05
48	30	15	641666	3624.99	CP-OFDM QPSK	38@0	13.56	15.05
48	30	15	641666	3624.99	CP-OFDM 16 QAM	38@0	13.563	14.84
48	30	15	641666	3624.99	CP-OFDM 64 QAM	38@0	13.577	14.8
48	30	15	641666	3624.99	CP-OFDM 256 QAM	38@0	13.571	14.87
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	17.82	19.41
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	17.863	18.95
48	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.22	19.94
48	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.243	19.94
48	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.216	19.71
48	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.205	19.63
48	30	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	75@0	26.739	28.51
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	75@0	26.769	28.37
48	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.839	29.81
48	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.845	29.65
48	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.826	29.43
48	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.919	29.39
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	35.757	37.25
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	100@0	35.71	37.47
48	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.869	39.69
48	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.814	39.59
48	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.809	39.31
48	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.89	39.97

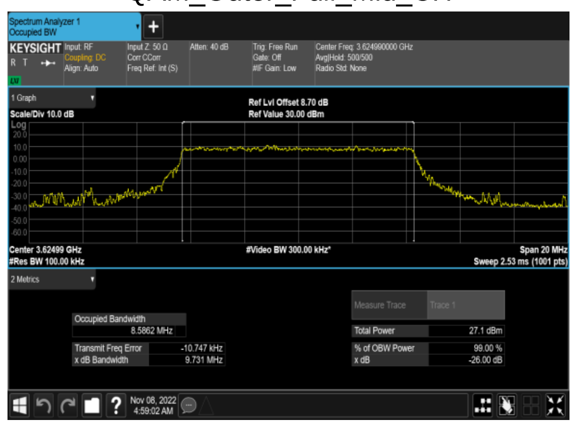
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

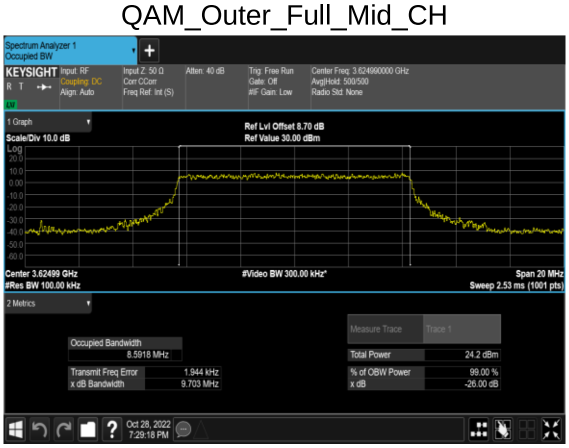
N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



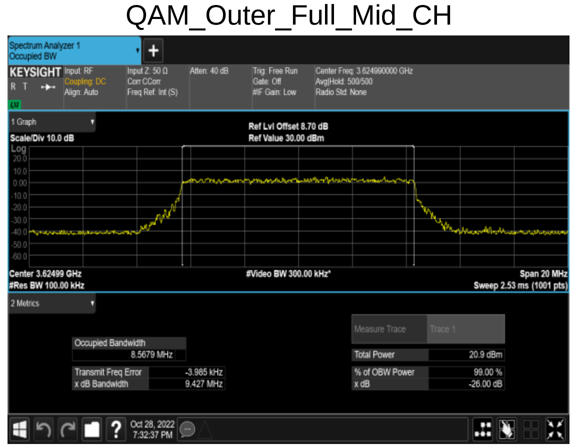
N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



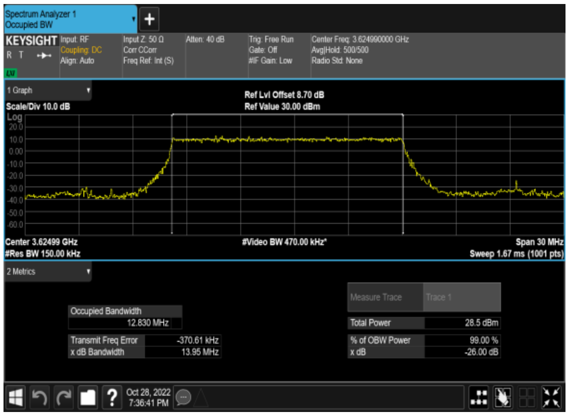
N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



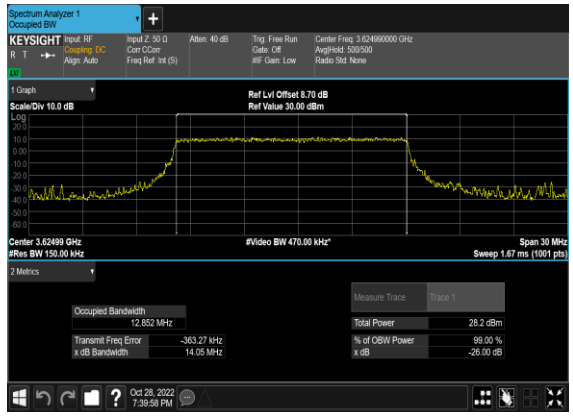
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N48(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



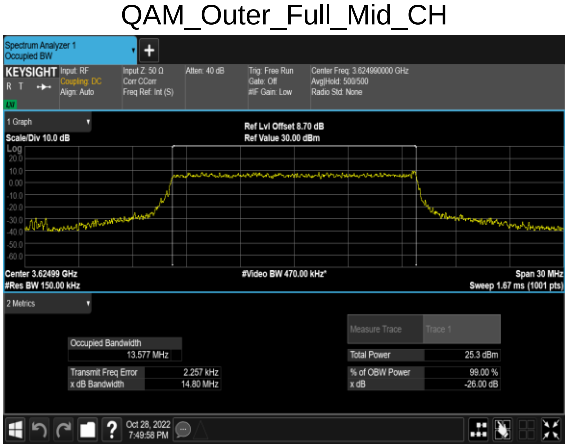
N48(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



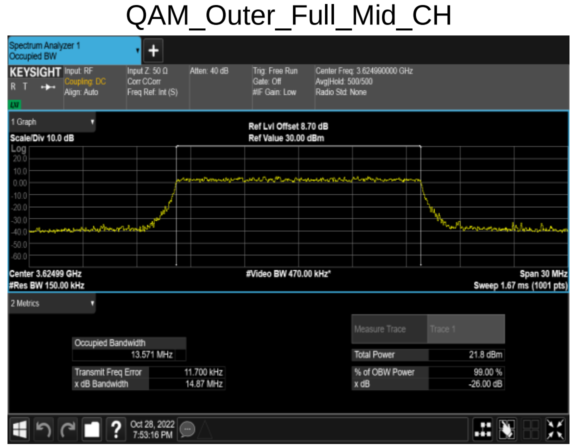
N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

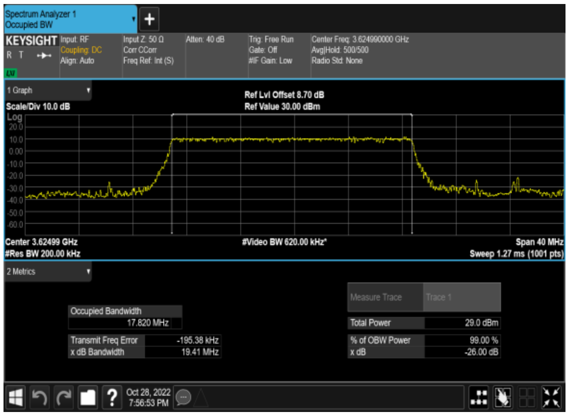
N48(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



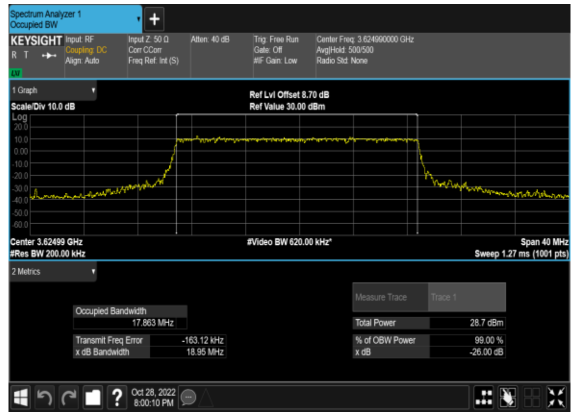
N48(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



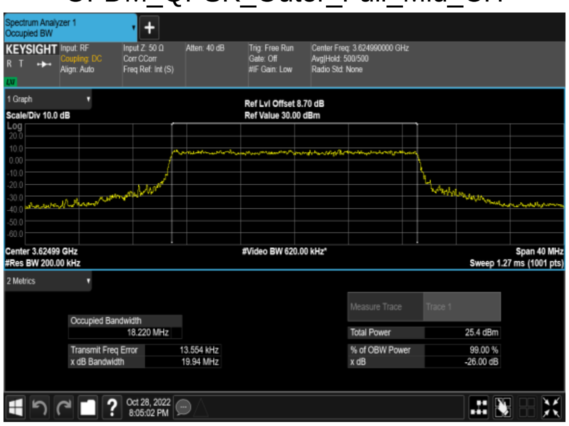
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

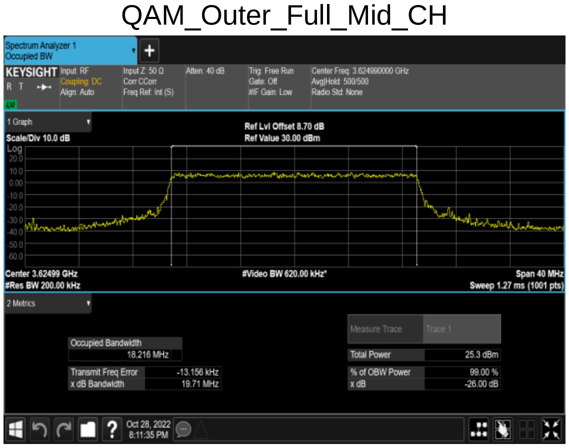


N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

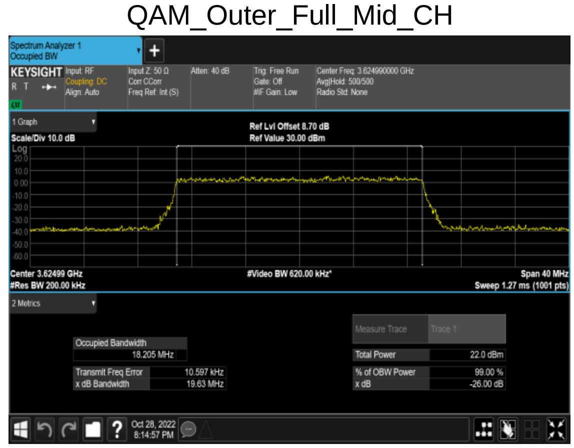


N48(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

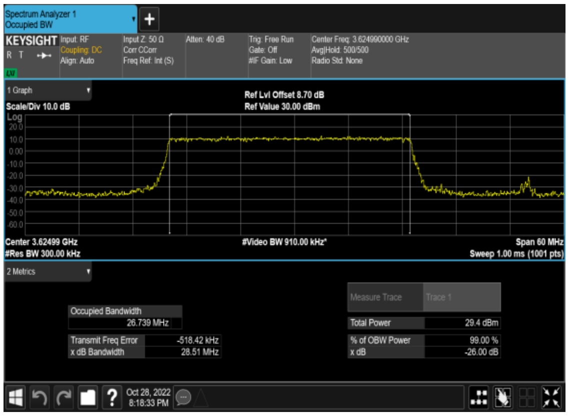
N48(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



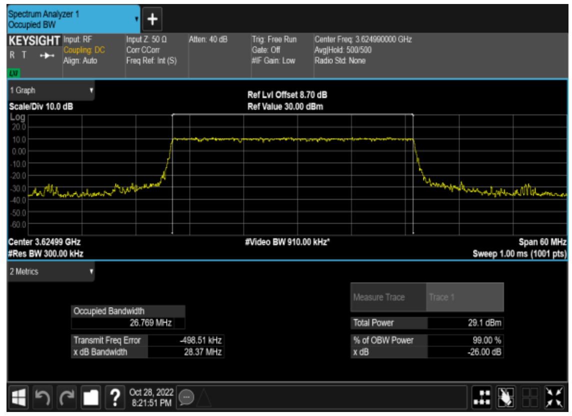
N48(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



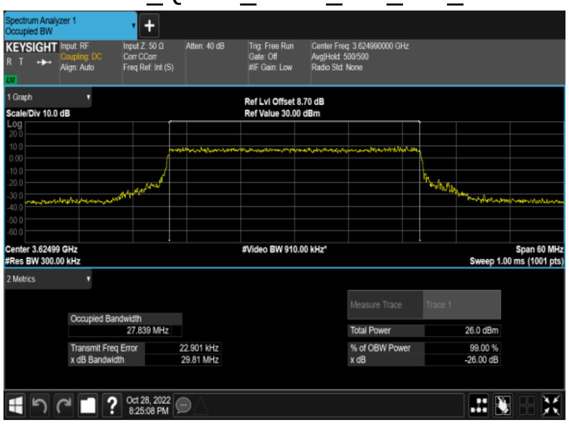
N48(30M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



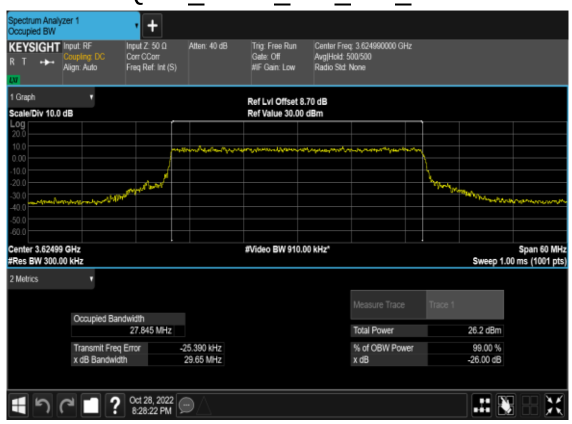
N48(30M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



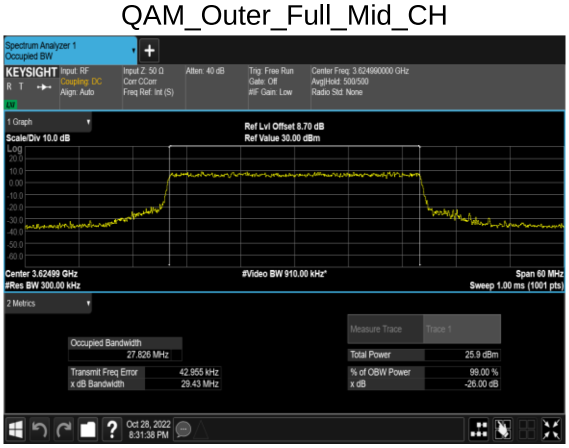
N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



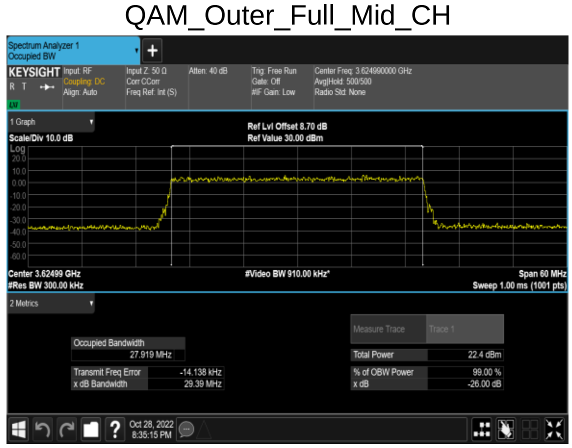
N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



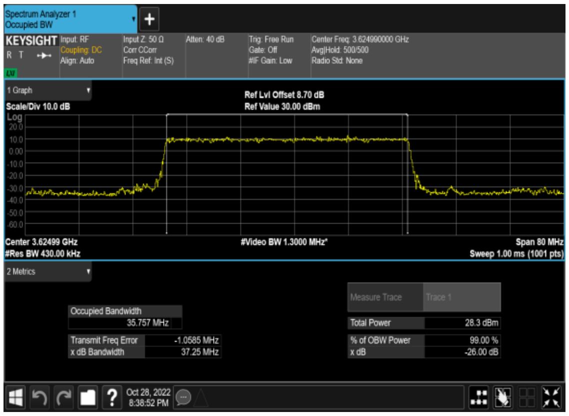
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



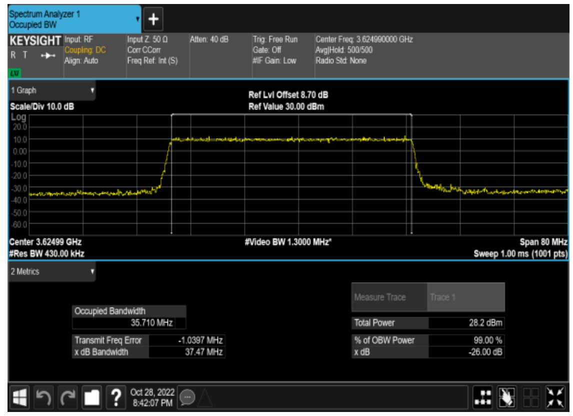
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



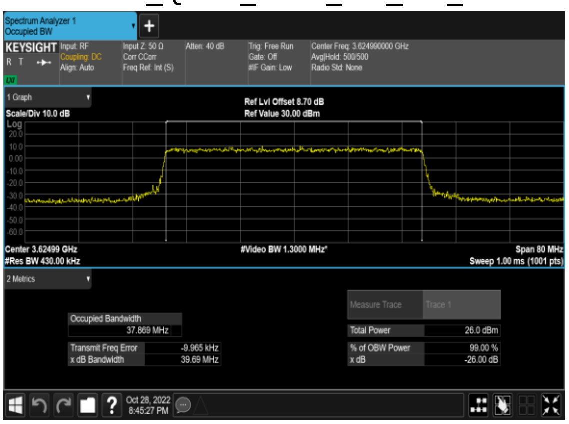
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



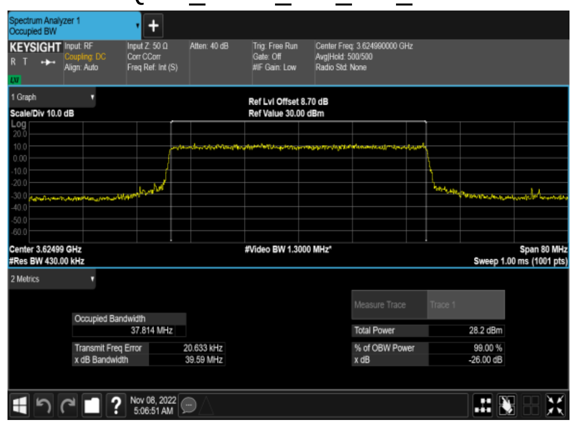
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



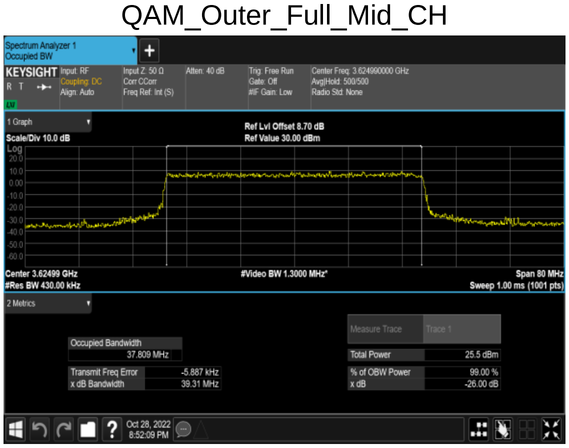
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



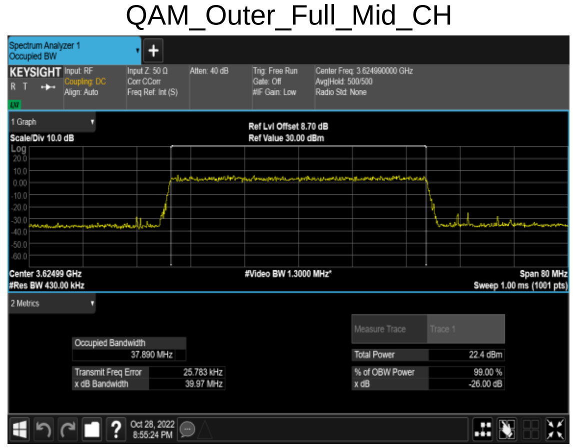
N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

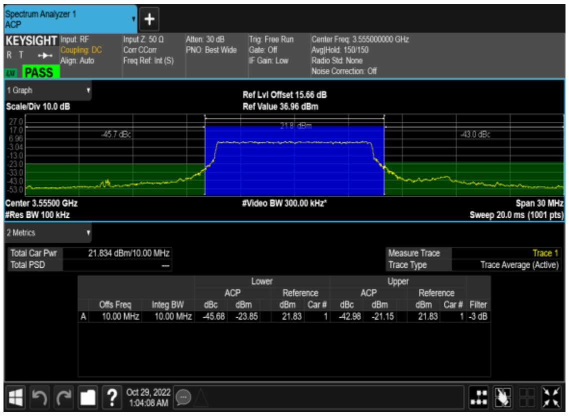


Adjacent Channel Leakage Ratio

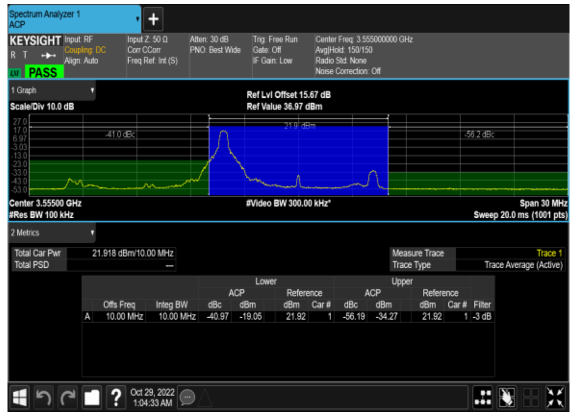
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	24@0	-15.68	-12.98	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-10.97	-26.19	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-26.53	-12.58	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-14.03	-14.23	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-10.98	-25.64	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-25.73	-11.62	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-14.59	-14.34	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-7.49	-18.29	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-17.09	-8.65	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-13.62	-13.67	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-12.32	-24.98	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-24.35	-12.58	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-14.06	-14.34	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-11.51	-23.2	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-23.84	-12.59	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-13.57	-13.75	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-9.13	-22.53	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-22.79	-12.34	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	50@0	-13.78	-13.02	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-12.12	-23.79	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@50	-24.21	-13.39	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	50@0	-13.55	-12.67	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-12.86	-23.8	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@50	-23.31	-10.92	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-16.26	-15.46	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-11.65	-20.67	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@50	-23.35	-14.12	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	-13.74	-13.9	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-12.49	-21.5	**see graph**	PASS

48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@50	-21.81	-13.4	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	50@0	-13.83	-16.34	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-12.47	-21.5	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@50	-20.56	-12.52	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	50@0	-13.05	-13.65	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-11.26	-19.77	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@50	-20.67	-12.61	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	100@0	-12.19	-12.09	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@0	-14.47	-18.3	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@105	-19.23	-14.32	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	100@0	-12.93	-12.15	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	-14.36	-18.45	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@105	-19.7	-14.9	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-14.61	-14.92	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-15.71	-21.11	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-18.93	-14.12	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	100@0	-14.87	-13.9	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	-13.95	-17.99	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@105	-17.15	-13.57	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	100@0	-13.23	-14.44	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@0	-13.23	-17.04	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@105	-18.41	-14.32	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	100@0	-14.4	-13.81	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	-13.5	-16.91	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@105	-18.62	-14.37	**see graph**	PASS

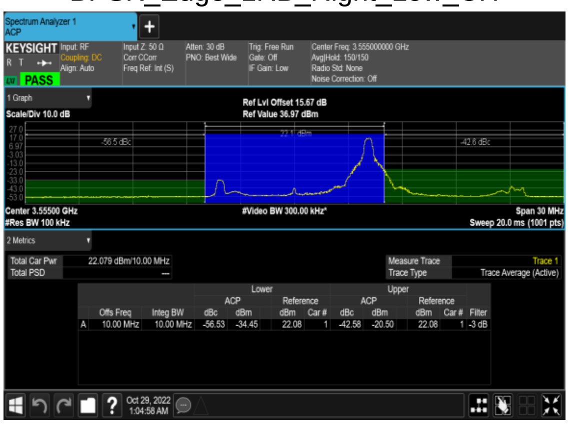
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



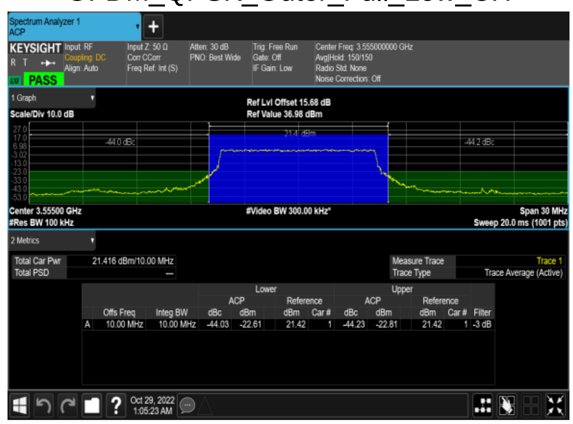
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



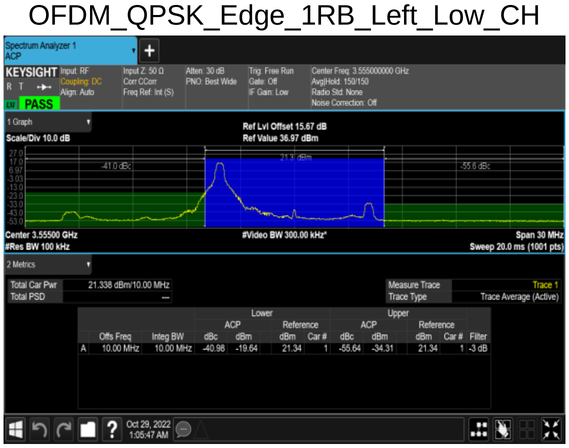
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



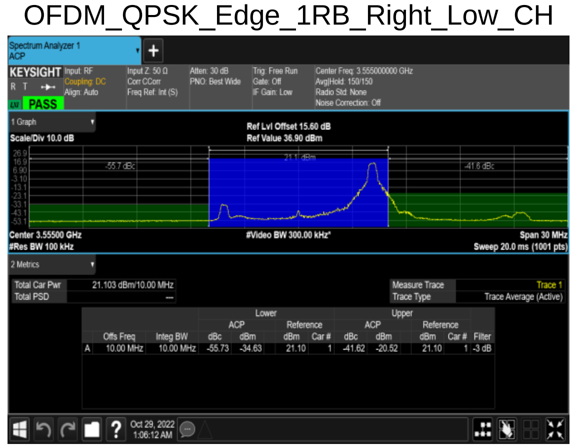
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



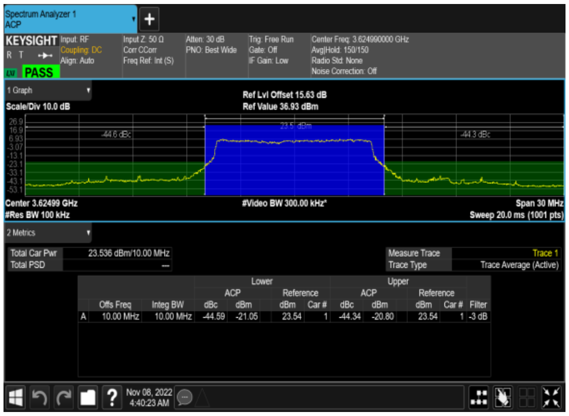
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

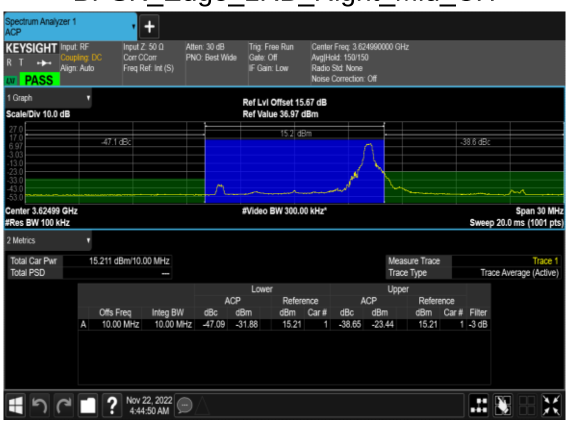


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

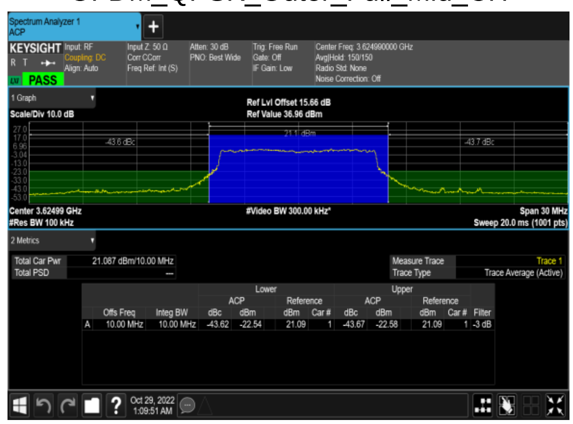


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

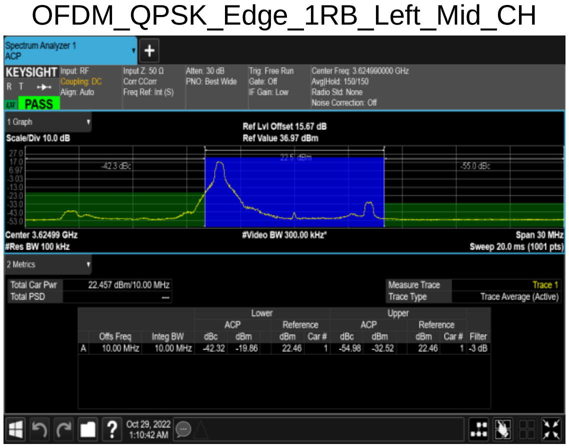
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



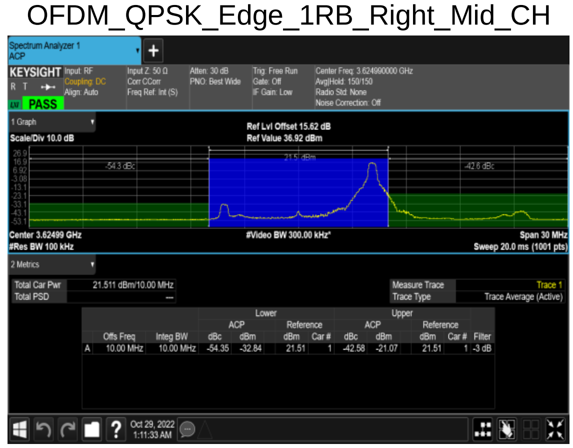
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



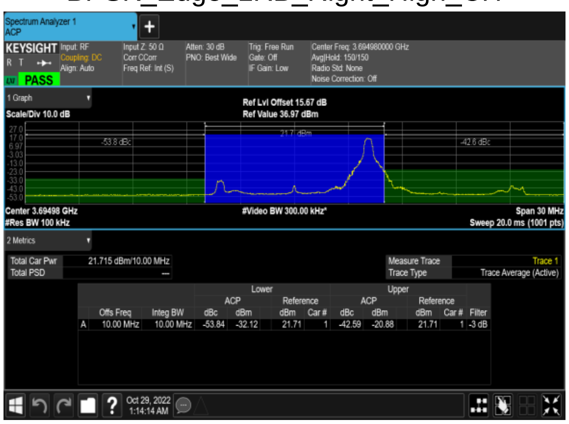
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



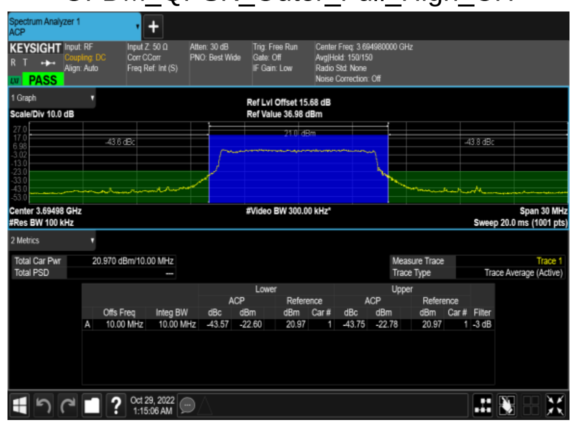
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

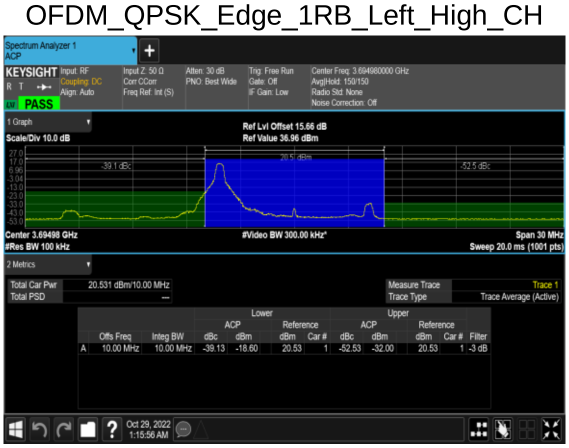
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



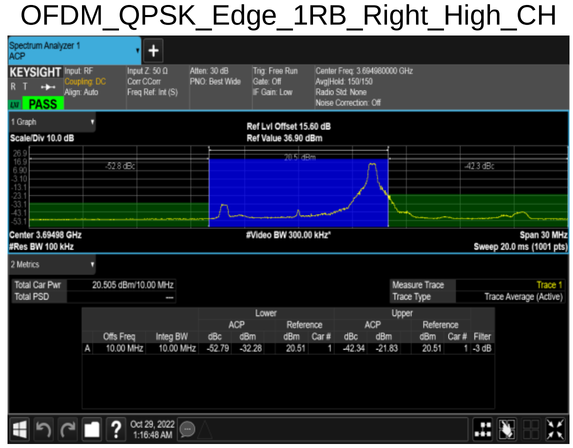
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



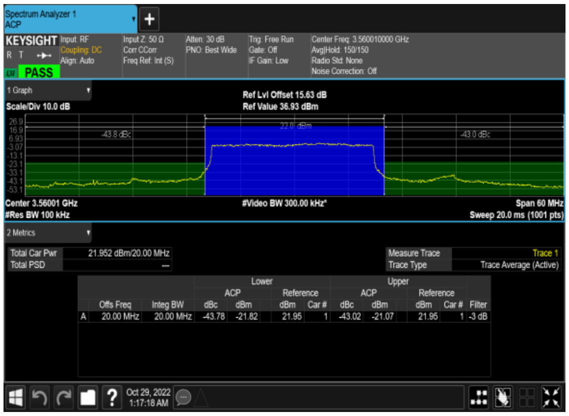
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



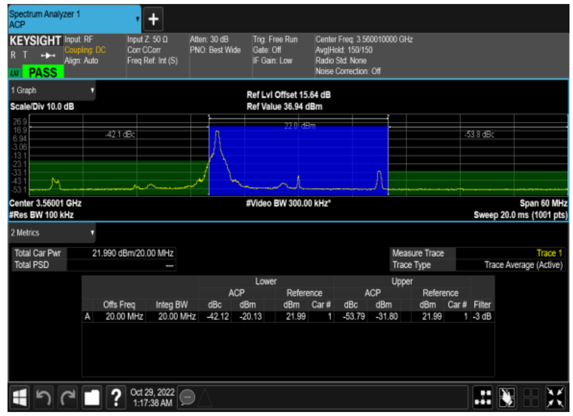
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



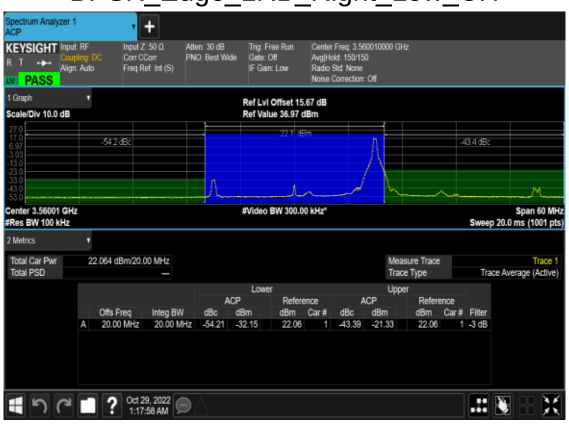
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



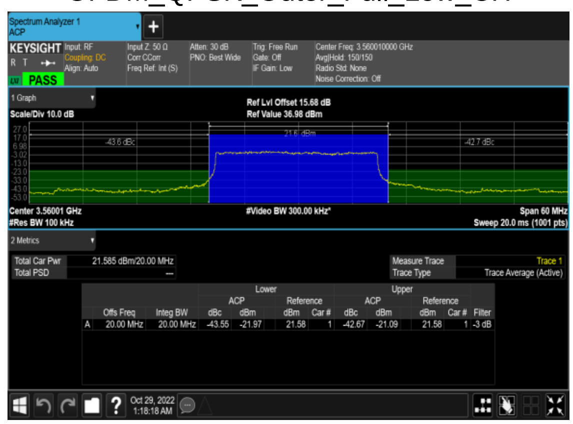
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



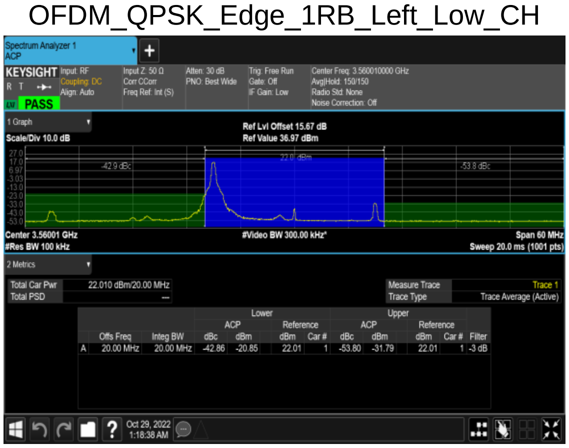
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



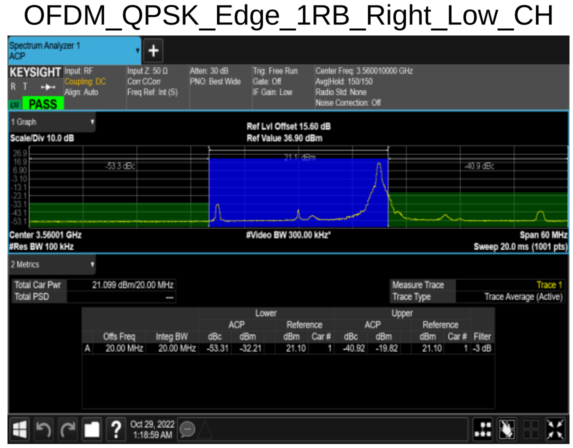
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



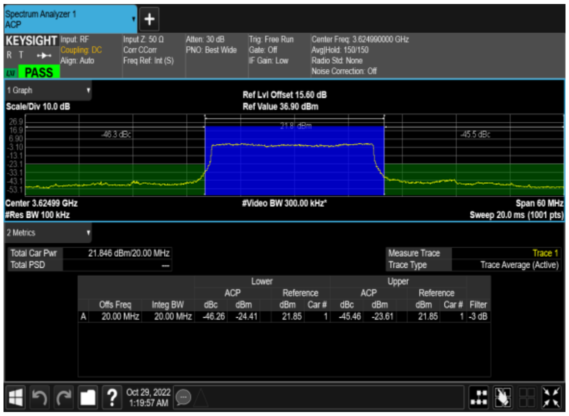
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



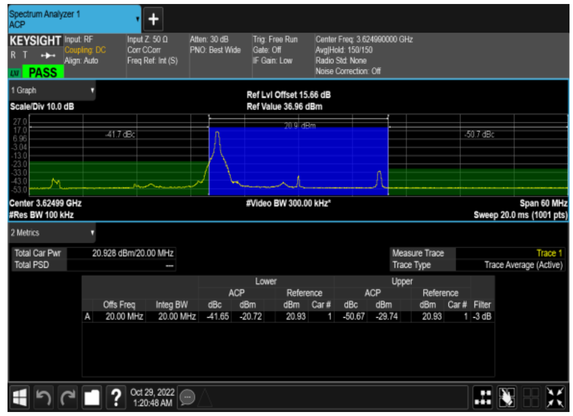
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



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



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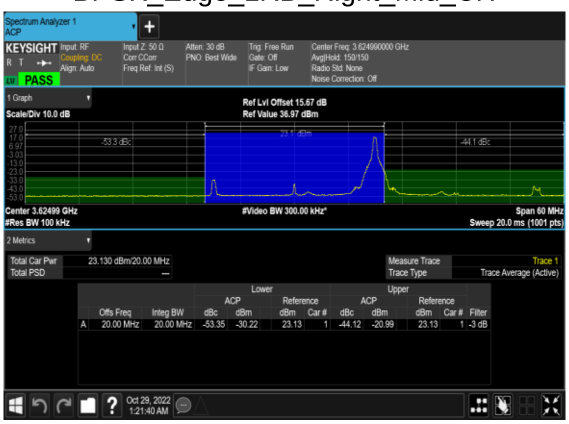
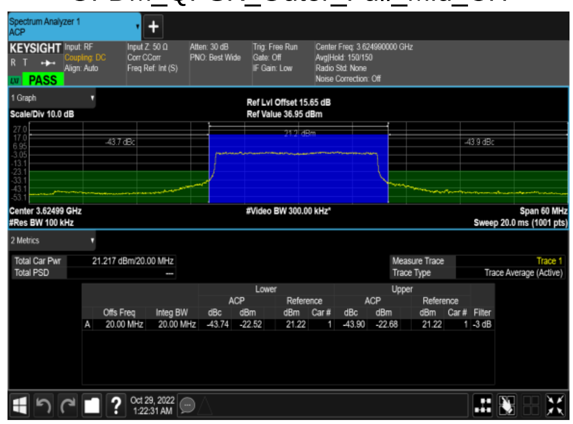
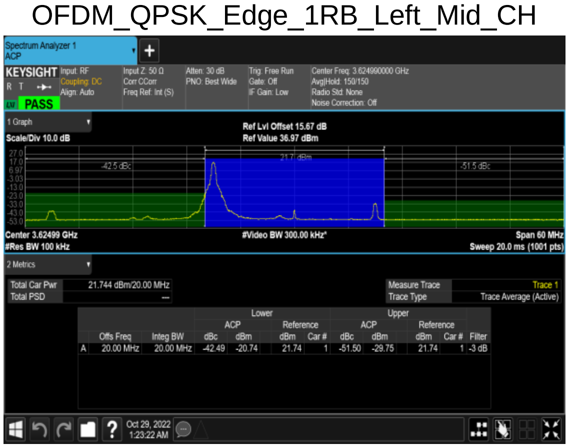


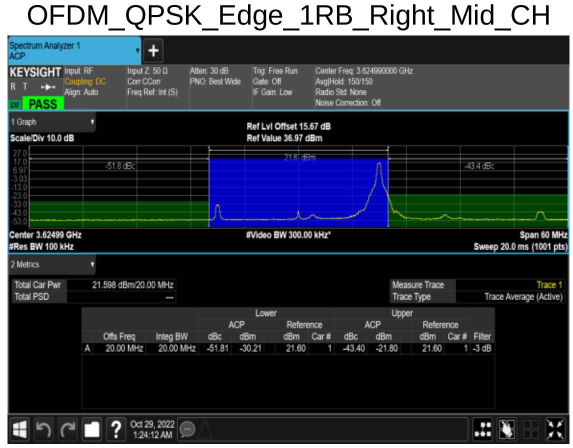
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



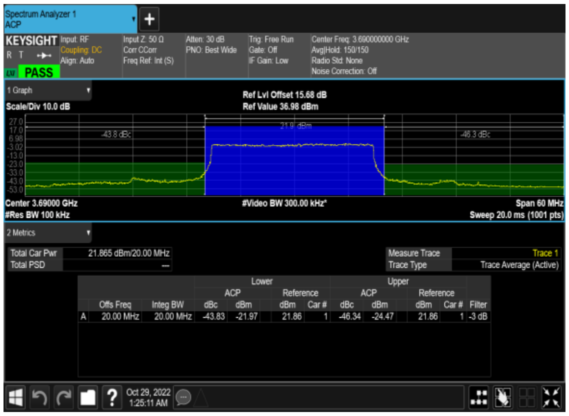
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



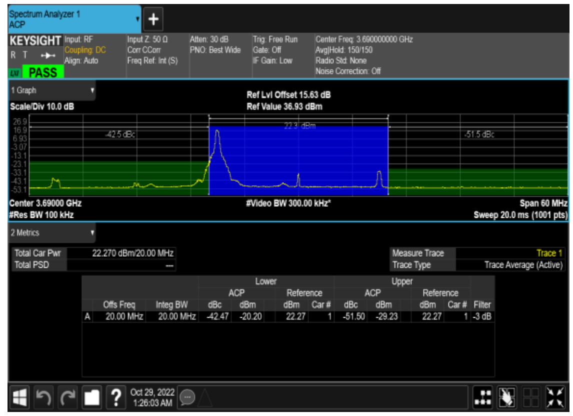
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



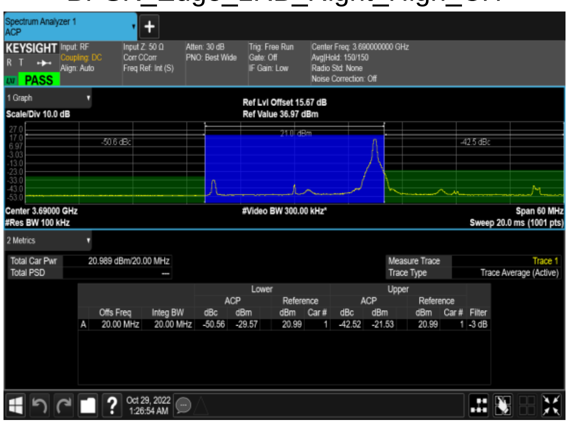
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



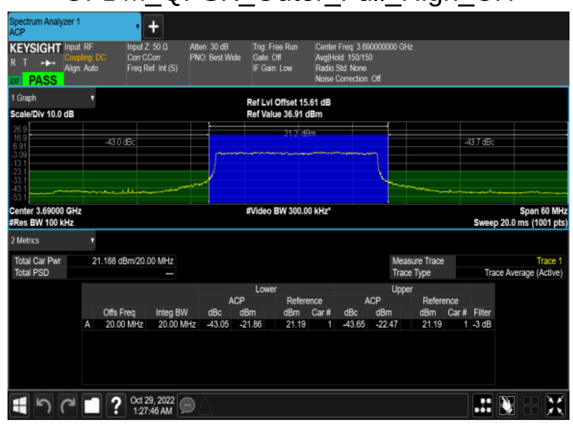
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



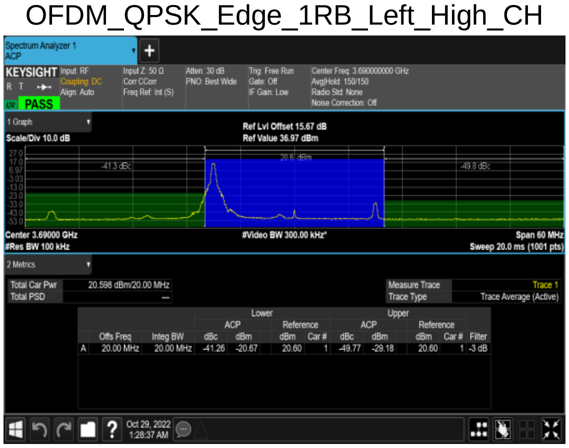
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



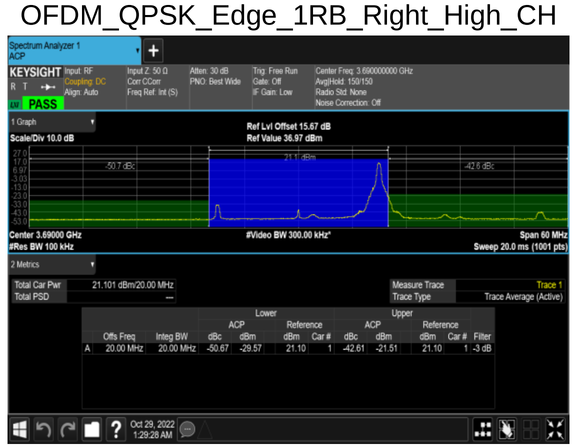
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



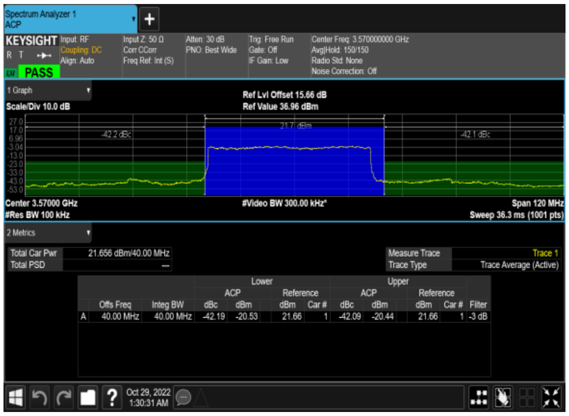
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



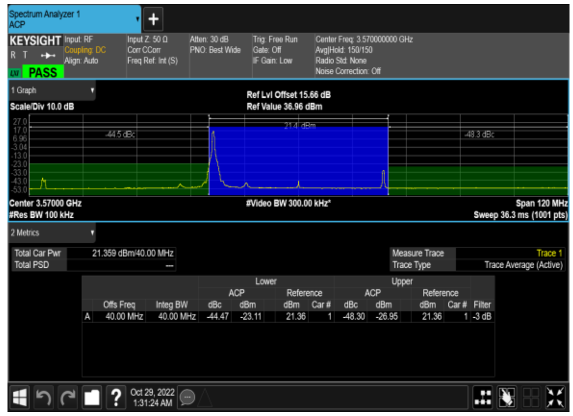
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



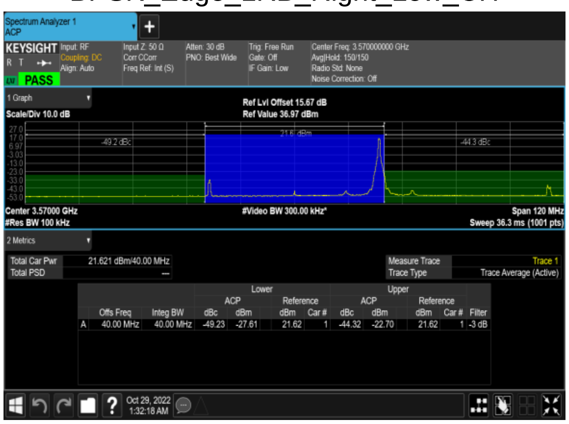
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



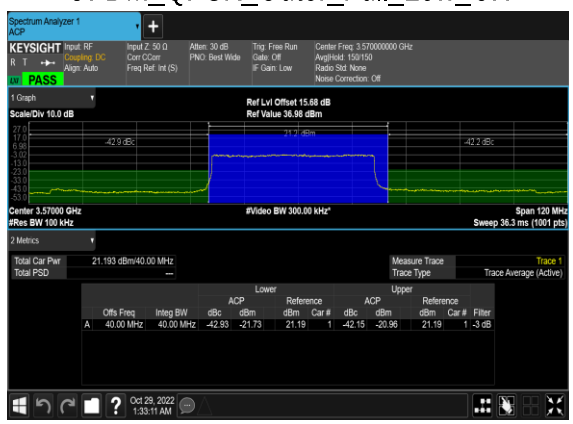
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



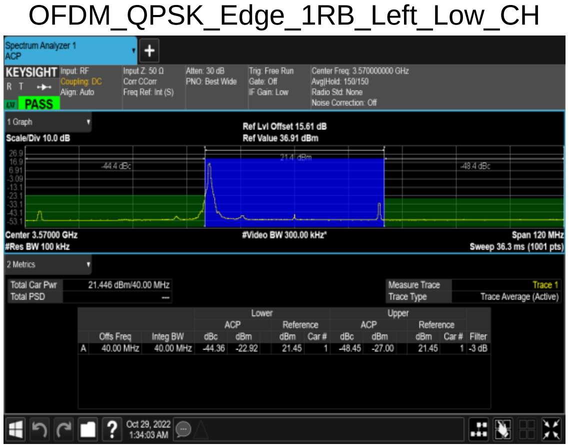
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH