FCC RF Test Report

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT2513-1, XT2513-2, XT2513-3, XT2513V**
FCC ID	:	**IHDT56AT9**
STANDARD	:	**47 CFR Part 96**
CLASSIFICATION	:	**Citizens Band End User Devices (CBE)**
EQUIPMENT TYPE	:	**End User Equipment**
TEST DATE(S)	:	**Aug. 29, 2024 ~ Sep. 20, 2024**

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26 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

ilac-MRA

A2LA ACCREDITED Cert #5145.01

Sporton International Inc. (ShenZhen)

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People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG482618O	01	Initial issue of report	Oct. 15, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	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
3.3	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.4	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.6	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.7	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 9.03 dB at 10653.550 MHz

Conformity Assessment Condition:

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

Disclaimer:

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

1 General Description

1.1 Applicant

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

1.2 Manufacturer

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

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2513-1, XT2513-2, XT2513-3, XT2513V
FCC ID	IHDT56AT9
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
SCS	30kHz
Bandwidth	10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70 MHz / 80MHz / 90MHz / 100MHz
Antenna Gain	<Ant. 5> 5G NR n48: -3.3 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted: 352291420069931/352291420069949 Radiation: 352291420055757/352291420055765
HW Version	DVT2
SW Version	VVK35.48
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. There are four models, the four models are for different markets and no other difference.
3. 5G NR n48 support SA and NSA mode. The whole testing has assessed SA mode by referring to the higher conducted power for conducted test items.
4. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
5. The EN-DC mode combination could be referred to the product spec.

1.4 Maximum EIRP Power and Emission Designator

5G NR n48		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	0.0953	8M56G7D	0.0826	8M58W7D
15	3557.52~ 3692.49	0.0940	13M6G7D	0.0752	13M6W7D
20	3560.01~3690.00	0.0951	18M2G7D	0.0748	18M2W7D
30	3565.02 ~ 3684.99	0.0951	27M8G7D	0.0760	27M8W7D
40	3570.00~3679.98	0.0944	37M8G7D	0.0769	37M9W7D
50	3575.01 ~ 3675	0.1014	47M3G7D	0.0824	47M5W7D
60	3580.02 ~ 3669.99	0.1014	57M7G7D	0.0809	57M9W7D
70	3585 ~ 3664.98	0.1012	67M6G7D	0.0818	67M6W7D
80	3590.01 ~ 3660	0.1035	77M3G7D	0.0839	77M6W7D
90	3595.02 ~ 3654.99	0.1033	87M4G7D	0.0836	87M6W7D
100	3600 ~ 3649.98	0.1042	97M5G7D	0.0822	97M5W7D

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

1.5 Specification of Accessory

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

1.6 Testing Site

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

<table>
<tr><td>Test Firm</td><td colspan="3">Sporton International Inc. (ShenZhen)</td></tr>
<tr><td>Test Site Location</td><td colspan="3">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</td></tr>
<tr><td rowspan="2">Test Site No.</td><td>Sporton Site No.</td><td>FCC Designation No.</td><td>FCC Test Firm Registration No.</td></tr>
<tr><td>TH01-SZ</td><td>CN1256</td><td>421272</td></tr>
</table>

<table>
<tr><td>Test Firm</td><td colspan="3">Sporton International Inc. (ShenZhen)</td></tr>
<tr><td>Test Site Location</td><td colspan="3">101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People’s Republic of China
TEL: +86-755-86066985</td></tr>
<tr><td rowspan="2">Test Site No.</td><td>Sporton Site No.</td><td>FCC Designation No.</td><td>FCC Test Firm Registration No.</td></tr>
<tr><td>03CH02-SZ</td><td>CN1256</td><td>421272</td></tr>
</table>

1.7 Test Software

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

1.8 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 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

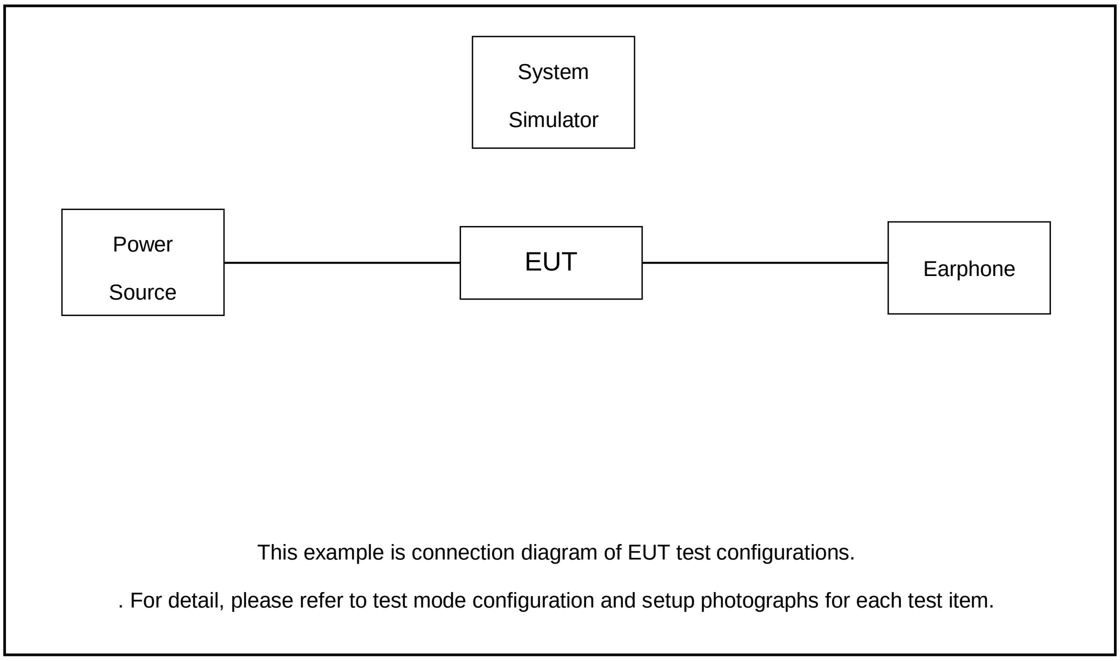
2.1 Test Mode

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	30-40	50	60-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	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
26dB and 99% Bandwidth	n48	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
Conducted Band Edge	n48	v				v		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	v	v
Frequency Stability	n48			v						v					v		v	
Radiated Spurious Emission	n48	Worst Case														v	v	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 test items are based on engineering evaluation. 5. Frequency Stability：Normal Voltage = 3.91V ；Low Voltage =3.45V；High Voltage =4.50V.																	

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	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	N/A	N/A	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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.

Following shows an offset computation example with cable loss 8.9 dB.

Example :

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

= 8.9 (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**
100	Channel	640000	641666	643332
	Frequency	3600	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
70	Channel	639000	641666	644332
	Frequency	3585	3624.99	3664.98
60	Channel	638668	641666	644666
	Frequency	3580.02	3624.99	3669.99
50	Channel	638334	645000	645000
	Frequency	3575.01	3624.99	3675
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	3624.99	3694.98

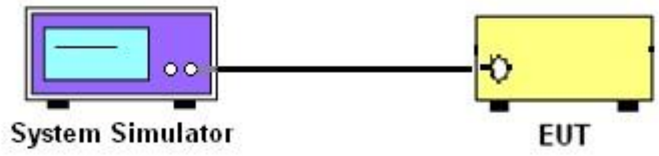
3 Conducted Test Items

3.1 Measuring Instruments

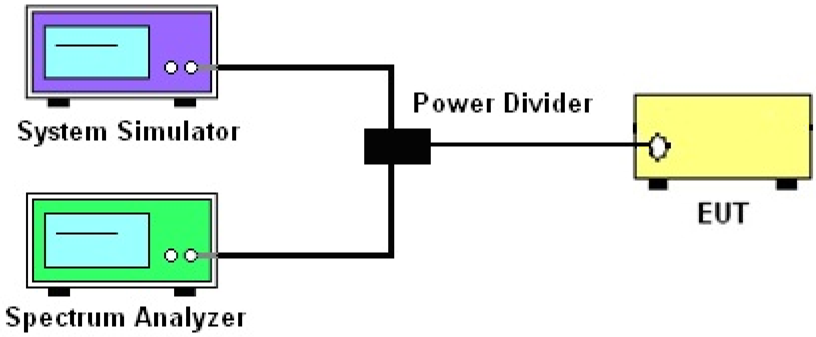
See list of measuring instruments of this test report.

3.1.1 Test Setup

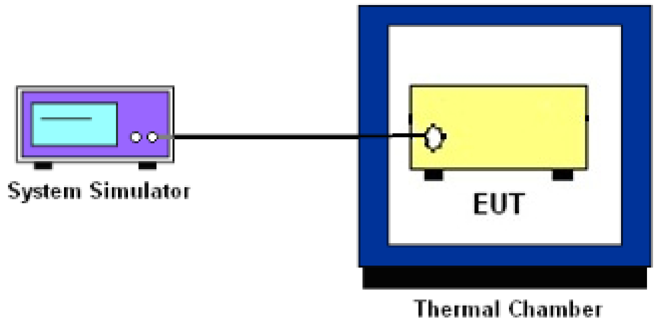
3.1.2 Conducted Output Power / ACLR



3.1.3 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 EIRP

3.3.1 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:

1. 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)

3.3.2 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 Occupied Bandwidth

3.4.1 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.

3.4.2 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.

3.5 Conducted Band Edge

3.5.1 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

3.5.2 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 or a narrower RBW was used (generally limited to no less than 1% of the OBW) and the measured power was integrated over the full required measurement bandwidth.
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.

3.6 Conducted Spurious Emission

3.6.1 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.

3.6.2 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 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.

3.7 Frequency Stability

3.7.1 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.

3.7.2 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.

3.7.3 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.

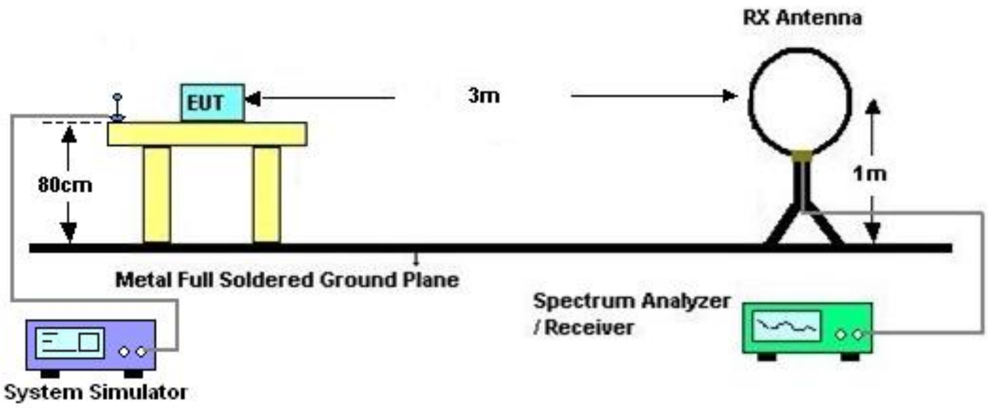
4 Radiated Test Items

4.1 Measuring Instruments

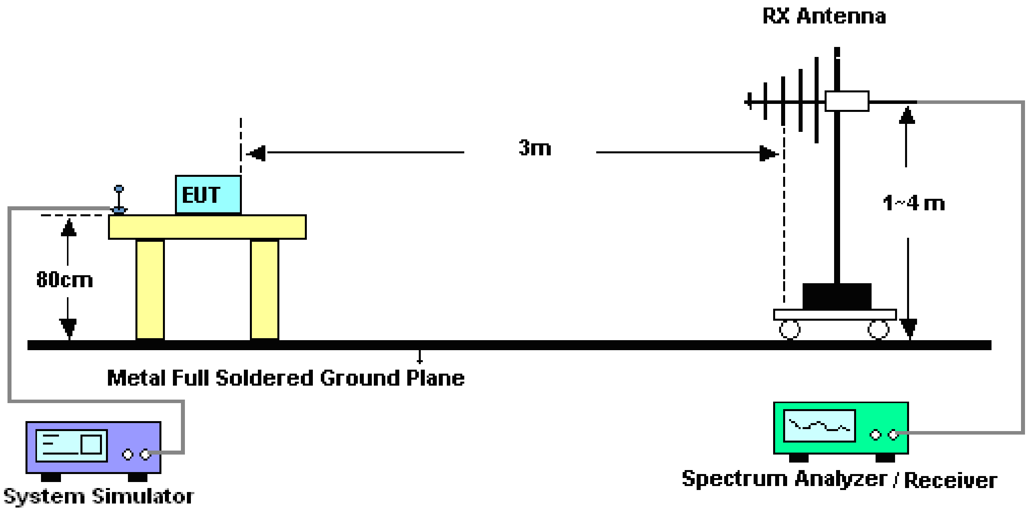
See list of measuring instruments of this test report.

4.2 Test Setup

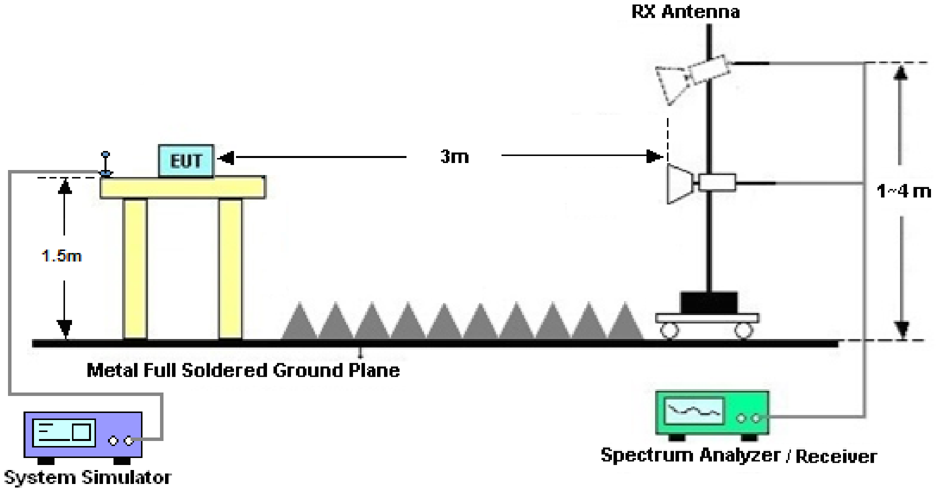
4.2.1 For radiated test below 30MHz



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.
   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. 09, 2024	Aug. 29, 2024~ Sep. 05, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 16, 2023	Aug. 29, 2024~ Sep. 05, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec. 25, 2023	Aug. 29, 2024~ Sep. 05, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Aug. 29, 2024~ Sep. 05, 2024	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Sep. 20, 2024	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Sep. 20, 2024	Dec. 28, 2024	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Sep. 20, 2024	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Sep. 20, 2024	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Sep. 20, 2024	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Sep. 20, 2024	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2023	Sep. 20, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Sep. 20, 2024	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Sep. 20, 2024	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

Uncertainty of Conducted Measurement

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

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

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

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

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

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

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

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Khan	**Temperature :**	24~26℃
		Relative Humidity :	50~53%

Software Version: 23.06.1602

FR1 N48

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-3.3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@1	23.09	19.79	0.0953
48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	22.47	19.17	0.0826
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.03	19.73	0.0940
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.1	18.8	0.0759
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	22.9	19.6	0.0912
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	21.98	18.68	0.0738
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	22.86	19.56	0.0904
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	21.88	18.58	0.0721
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.03	19.73	0.0940
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.06	18.76	0.0752
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	22.91	19.61	0.0914
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	21.88	18.58	0.0721
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	22.87	19.57	0.0906
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	21.91	18.61	0.0726
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.08	19.78	0.0951
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.04	18.74	0.0748
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@1	22.88	19.58	0.0908
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	21.92	18.62	0.0728
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	22.9	19.6	0.0912
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	21.94	18.64	0.0731
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.08	19.78	0.0951
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.11	18.81	0.0760
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	22.87	19.57	0.0906
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	21.96	18.66	0.0735
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	22.92	19.62	0.0916
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	22.05	18.75	0.0750
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.05	19.75	0.0944
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.16	18.86	0.0769
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	22.88	19.58	0.0908
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	21.92	18.62	0.0728
48	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@1	23.36	20.06	0.1014
48	30	50	638334	3575.01	DFT-s-OFDM 16 QAM	1@1	22.46	19.16	0.0824
48	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@1	23.13	19.83	0.0962
48	30	50	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	22.19	18.89	0.0774
48	30	50	645000	3675	DFT-s-OFDM QPSK	1@1	22.71	19.41	0.0873
48	30	50	645000	3675	DFT-s-OFDM 16 QAM	1@1	21.75	18.45	0.0700
48	30	60	638668	3580.02	DFT-s-OFDM QPSK	1@1	23.36	20.06	0.1014
48	30	60	638668	3580.02	DFT-s-OFDM 16 QAM	1@1	22.38	19.08	0.0809
48	30	60	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.93	19.63	0.0918
48	30	60	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.96	18.66	0.0735
48	30	60	644666	3669.99	DFT-s-OFDM QPSK	1@1	22.84	19.54	0.0899

48	30	60	644666	3669.99	DFT-s-OFDM 16 QAM	1@1	21.94	18.64	0.0731
48	30	70	639000	3585	DFT-s-OFDM QPSK	1@1	23.35	20.05	0.1012
48	30	70	639000	3585	DFT-s-OFDM 16 QAM	1@1	22.43	19.13	0.0818
48	30	70	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.66	19.36	0.0863
48	30	70	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.67	18.37	0.0687
48	30	70	644332	3664.98	DFT-s-OFDM QPSK	1@1	23.26	19.96	0.0991
48	30	70	644332	3664.98	DFT-s-OFDM 16 QAM	1@1	22.3	19	0.0794
48	30	80	639334	3590.01	DFT-s-OFDM QPSK	1@1	23.45	20.15	0.1035
48	30	80	639334	3590.01	DFT-s-OFDM 16 QAM	1@1	22.54	19.24	0.0839
48	30	80	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.7	19.4	0.0871
48	30	80	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.73	18.43	0.0697
48	30	80	644000	3660	DFT-s-OFDM QPSK	1@1	23.42	20.12	0.1028
48	30	80	644000	3660	DFT-s-OFDM 16 QAM	1@1	22.48	19.18	0.0828
48	30	90	639668	3595.02	DFT-s-OFDM QPSK	1@1	23.43	20.13	0.1030
48	30	90	639668	3595.02	DFT-s-OFDM 16 QAM	1@1	22.52	19.22	0.0836
48	30	90	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.86	19.56	0.0904
48	30	90	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.82	18.52	0.0711
48	30	90	643666	3654.99	DFT-s-OFDM QPSK	1@1	23.44	20.14	0.1033
48	30	90	643666	3654.99	DFT-s-OFDM 16 QAM	1@1	22.49	19.19	0.0830
48	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	135@67	22.85	19.55	0.0902
48	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	1@1	23.48	20.18	0.1042
48	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	1@271	22.46	19.16	0.0824
48	30	100	640000	3600	DFT-s-OFDM QPSK	135@67	22.86	19.56	0.0904
48	30	100	640000	3600	DFT-s-OFDM QPSK	1@1	23.46	20.16	0.1038
48	30	100	640000	3600	DFT-s-OFDM QPSK	1@271	22.37	19.07	0.0807
48	30	100	640000	3600	DFT-s-OFDM 16 QAM	135@67	21.89	18.59	0.0723
48	30	100	640000	3600	DFT-s-OFDM 16 QAM	1@1	22.45	19.15	0.0822
48	30	100	640000	3600	DFT-s-OFDM 16 QAM	1@271	21.44	18.14	0.0652
48	30	100	640000	3600	DFT-s-OFDM 64 QAM	135@67	20.42	17.12	0.0515
48	30	100	640000	3600	DFT-s-OFDM 64 QAM	1@1	20.93	17.63	0.0579
48	30	100	640000	3600	DFT-s-OFDM 64 QAM	1@271	19.89	16.59	0.0456
48	30	100	640000	3600	DFT-s-OFDM 256 QAM	135@67	18.53	15.23	0.0333
48	30	100	640000	3600	DFT-s-OFDM 256 QAM	1@1	19.03	15.73	0.0374
48	30	100	640000	3600	DFT-s-OFDM 256 QAM	1@271	17.81	14.51	0.0282
48	30	100	640000	3600	CP-OFDM QPSK	137@68	21.39	18.09	0.0644
48	30	100	640000	3600	CP-OFDM QPSK	1@1	21.98	18.68	0.0738
48	30	100	640000	3600	CP-OFDM QPSK	1@271	20.91	17.61	0.0577
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	135@67	23.12	19.82	0.0959
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	22.4	19.1	0.0813
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@271	22.25	18.95	0.0785
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	135@67	23.1	19.8	0.0955
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.36	19.06	0.0805
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@271	22.24	18.94	0.0783
48	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	135@67	22.13	18.83	0.0764
48	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.39	18.09	0.0644
48	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	1@271	21.24	17.94	0.0622
48	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	135@67	20.62	17.32	0.0540
48	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	19.77	16.47	0.0444
48	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	1@271	19.65	16.35	0.0432
48	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	135@67	18.68	15.38	0.0345

48	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	17.91	14.61	0.0289
48	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	1@271	17.61	14.31	0.0270
48	30	100	641666	3624.99	CP-OFDM QPSK	137@68	21.55	18.25	0.0668
48	30	100	641666	3624.99	CP-OFDM QPSK	1@1	20.86	17.56	0.0570
48	30	100	641666	3624.99	CP-OFDM QPSK	1@271	20.75	17.45	0.0556
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	135@67	22.76	19.46	0.0883
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@1	23.32	20.02	0.1005
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@271	23.21	19.91	0.0979
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	135@67	22.74	19.44	0.0879
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@1	23.27	19.97	0.0993
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@271	23.15	19.85	0.0966
48	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	135@67	21.78	18.48	0.0705
48	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	1@1	22.36	19.06	0.0805
48	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	1@271	22.22	18.92	0.0780
48	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	135@67	20.33	17.03	0.0505
48	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	1@1	20.78	17.48	0.0560
48	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	1@271	20.57	17.27	0.0533
48	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	135@67	18.33	15.03	0.0318
48	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	1@1	18.82	15.52	0.0356
48	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	1@271	18.56	15.26	0.0336
48	30	100	643332	3649.98	CP-OFDM QPSK	137@68	21.22	17.92	0.0619
48	30	100	643332	3649.98	CP-OFDM QPSK	1@1	21.78	18.48	0.0705
48	30	100	643332	3649.98	CP-OFDM QPSK	1@271	21.63	18.33	0.0681

Frequency Stability

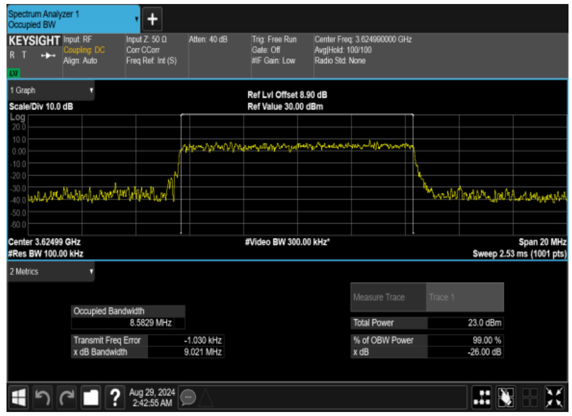
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0057	**PASS**	NV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0041	**PASS**	LV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0065	**PASS**	HV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0047	**PASS**	-30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0030	**PASS**	-20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0057	**PASS**	-10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0039	**PASS**	0℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0055	**PASS**	10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0057	**PASS**	20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0048	**PASS**	30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0034	**PASS**	40℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0060	**PASS**	50℃

Occupied Bandwidth

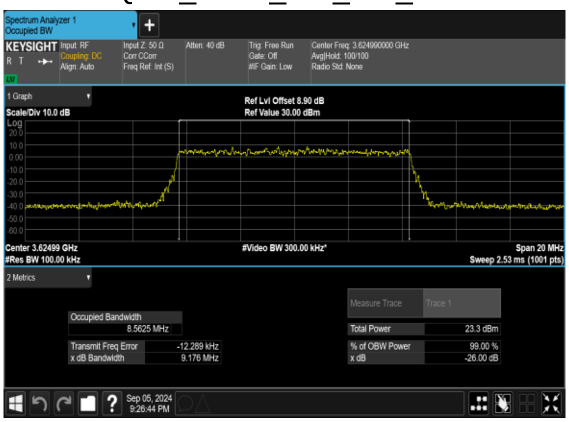
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.5635	9.131
48	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.5829	9.021
48	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5625	9.176
48	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5629	9.075
48	30	15	641666	3624.99	CP-OFDM QPSK	38@0	13.573	14.21
48	30	15	641666	3624.99	CP-OFDM 16 QAM	38@0	13.56	14.3
48	30	15	641666	3624.99	CP-OFDM 64 QAM	38@0	13.545	14.34
48	30	15	641666	3624.99	CP-OFDM 256 QAM	38@0	13.563	14.24
48	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.203	19.15
48	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.172	19.0
48	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.217	18.95
48	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.23	18.93
48	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.81	28.96
48	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.814	29.04
48	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.796	28.96
48	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.84	29.07
48	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.766	39.16
48	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.822	39.32
48	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.882	39.15
48	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.732	39.08
48	30	50	641666	3624.99	CP-OFDM QPSK	133@0	47.336	49.05
48	30	50	641666	3624.99	CP-OFDM 16 QAM	133@0	47.394	49.21
48	30	50	641666	3624.99	CP-OFDM 64 QAM	133@0	47.458	49.15
48	30	50	641666	3624.99	CP-OFDM 256 QAM	133@0	47.334	49.02
48	30	60	641666	3624.99	CP-OFDM QPSK	162@0	57.748	59.62
48	30	60	641666	3624.99	CP-OFDM 16 QAM	162@0	57.856	59.61
48	30	60	641666	3624.99	CP-OFDM 64 QAM	162@0	57.845	59.63
48	30	60	641666	3624.99	CP-OFDM 256 QAM	162@0	57.885	59.64
48	30	70	641666	3624.99	CP-OFDM QPSK	189@0	67.576	69.75
48	30	70	641666	3624.99	CP-OFDM 16 QAM	189@0	67.42	69.68
48	30	70	641666	3624.99	CP-OFDM 64 QAM	189@0	67.592	69.74
48	30	70	641666	3624.99	CP-OFDM 256 QAM	189@0	67.621	69.71
48	30	80	641666	3624.99	CP-OFDM QPSK	217@0	77.267	79.84
48	30	80	641666	3624.99	CP-OFDM 16 QAM	217@0	77.512	79.93
48	30	80	641666	3624.99	CP-OFDM 64 QAM	217@0	77.446	79.88
48	30	80	641666	3624.99	CP-OFDM 256 QAM	217@0	77.64	79.98
48	30	90	641666	3624.99	CP-OFDM QPSK	245@0	87.425	90.3
48	30	90	641666	3624.99	CP-OFDM 16 QAM	245@0	87.488	90.17
48	30	90	641666	3624.99	CP-OFDM 64 QAM	245@0	87.578	90.39
48	30	90	641666	3624.99	CP-OFDM 256 QAM	245@0	87.439	90.29
48	30	100	641666	3624.99	CP-OFDM QPSK	273@0	97.451	100.4
48	30	100	641666	3624.99	CP-OFDM 16 QAM	273@0	97.465	100.4
48	30	100	641666	3624.99	CP-OFDM 64 QAM	273@0	97.472	100.5
48	30	100	641666	3624.99	CP-OFDM 256 QAM	273@0	97.468	100.4

N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

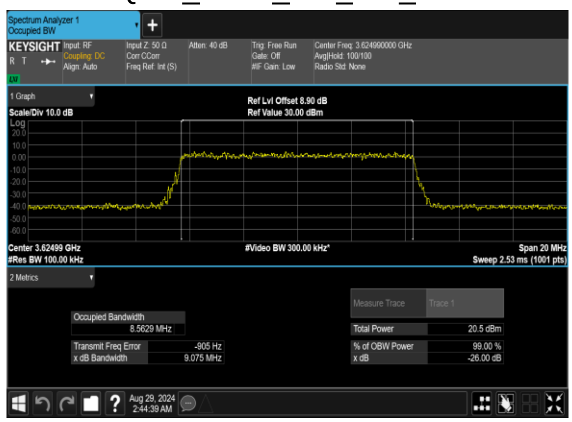
N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



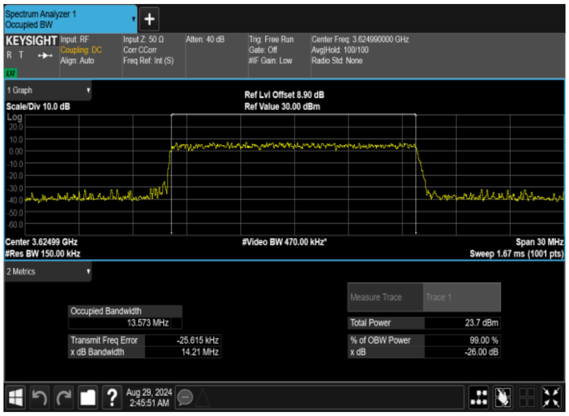
N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

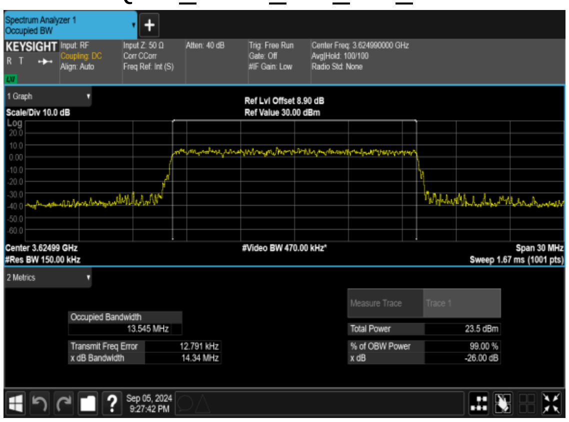


N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

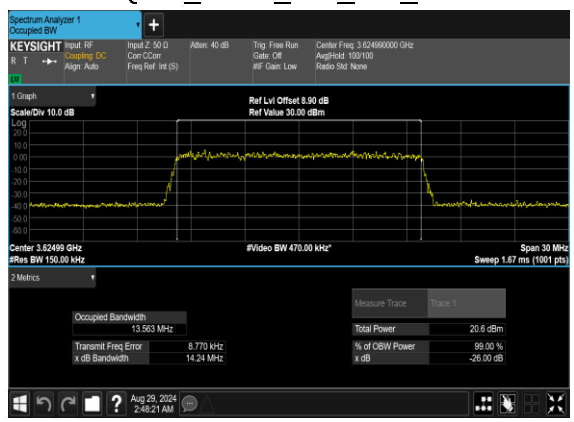


N48(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

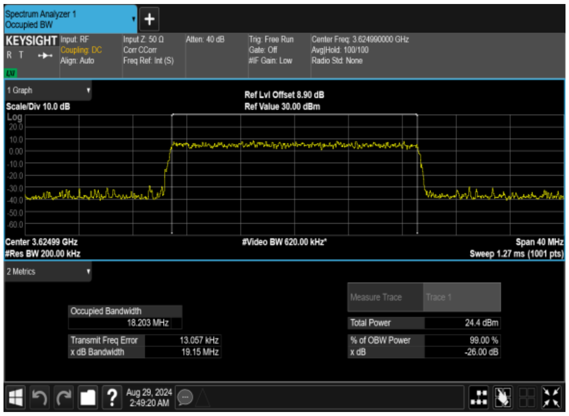
N48(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



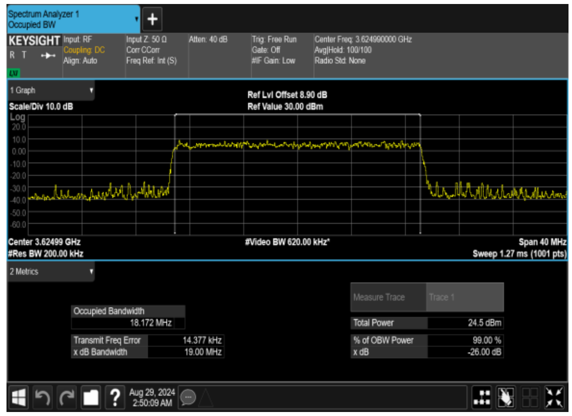
N48(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



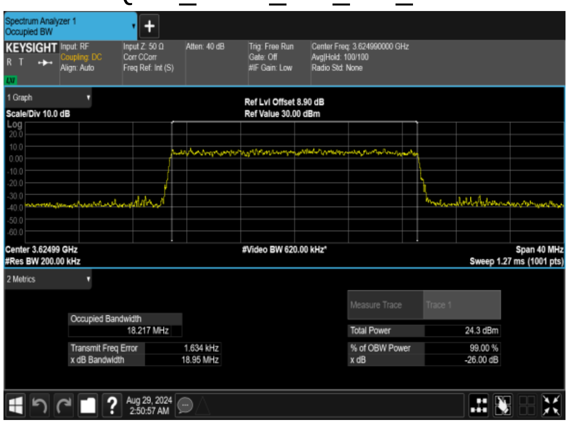
N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



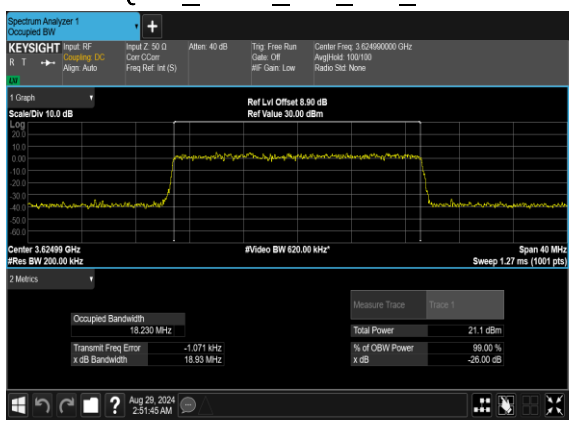
N48(20M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



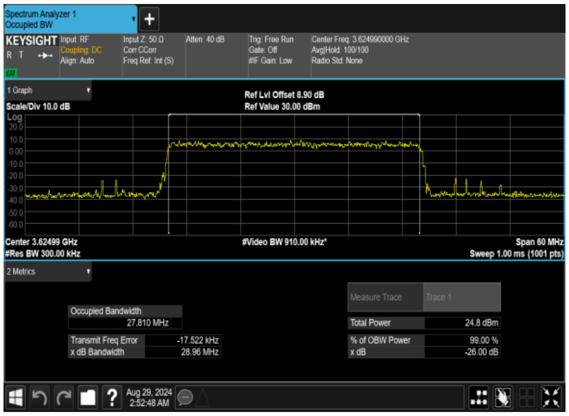
N48(20M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



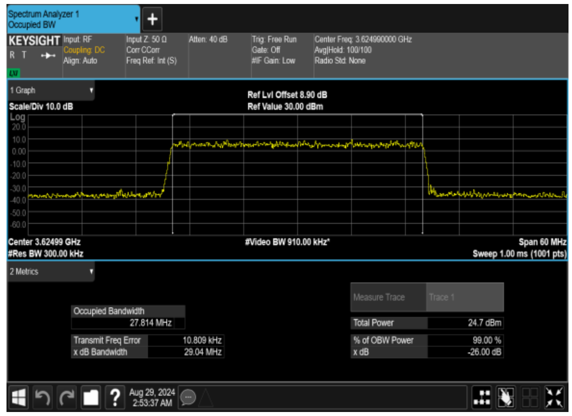
N48(20M)_CP-OFDM_256QAM_Outer_Full_Mid_CH



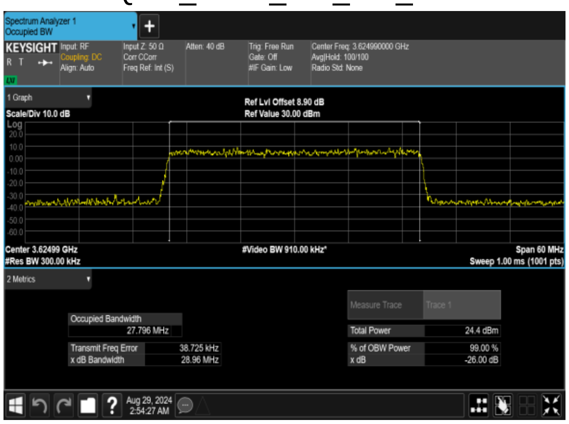
N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



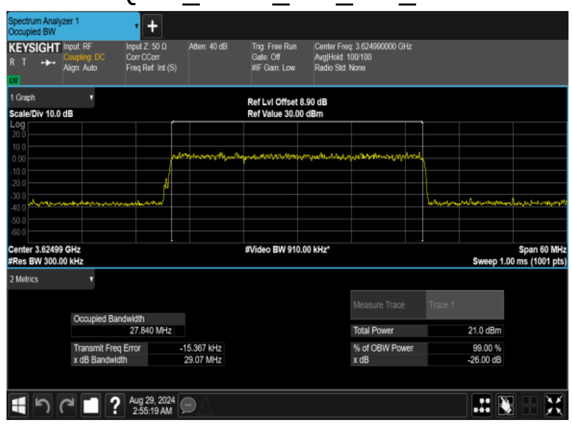
N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



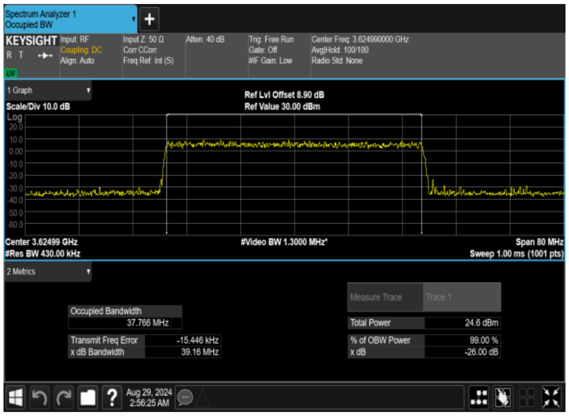
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



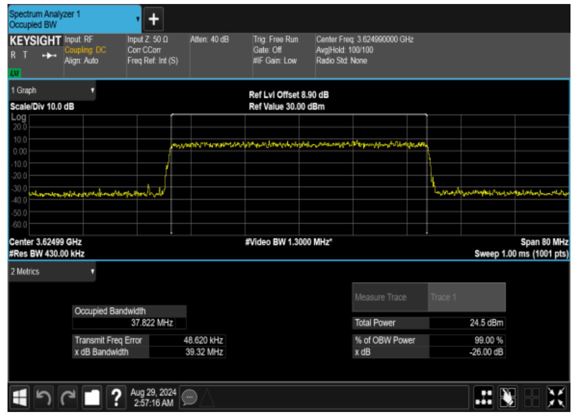
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



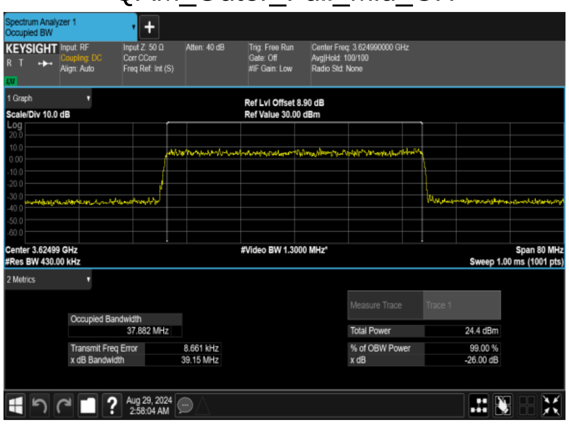
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



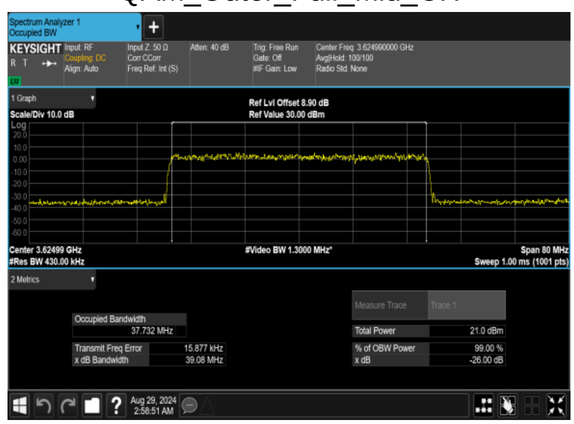
N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



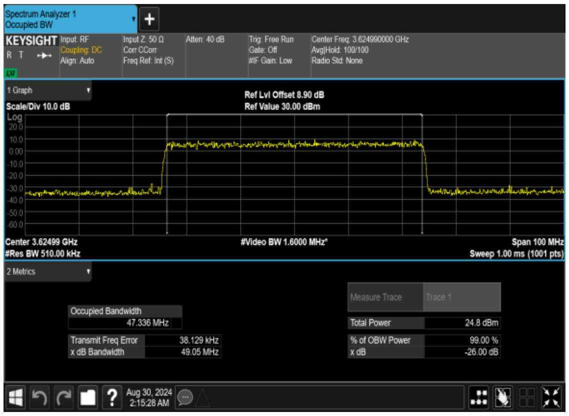
N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



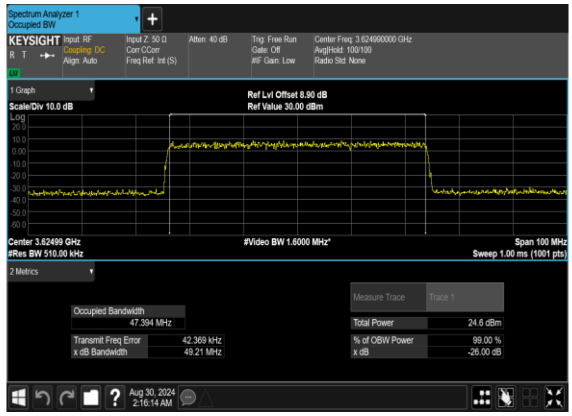
N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



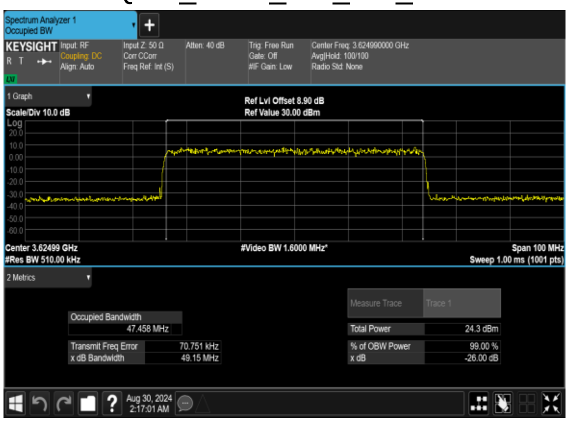
N48(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



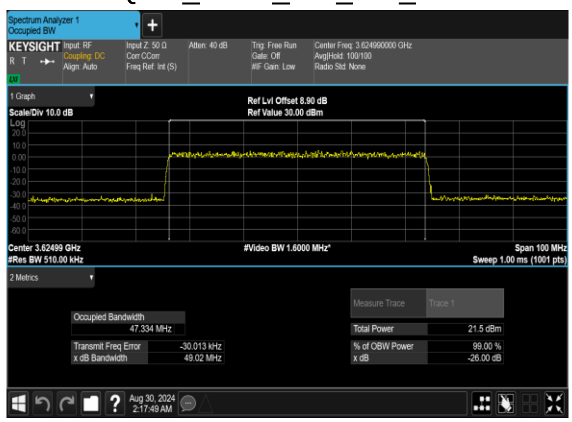
N48(50M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



N48(50M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



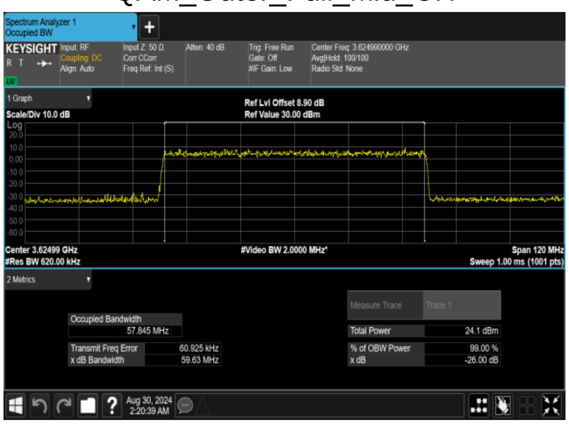
N48(50M)_CP-OFDM_256QAM_Outer_Full_Mid_CH



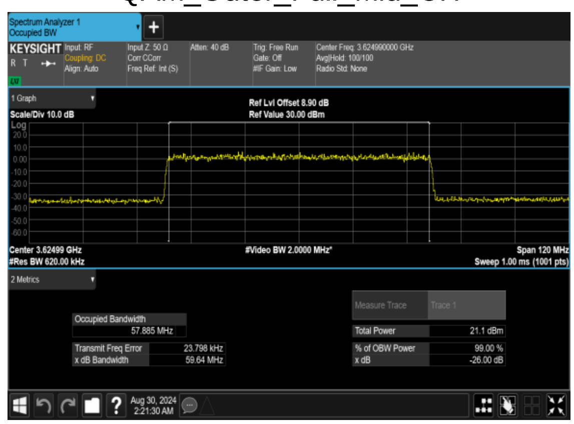
N48(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

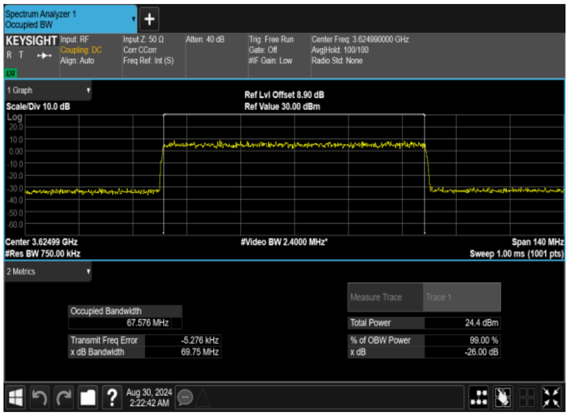
N48(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



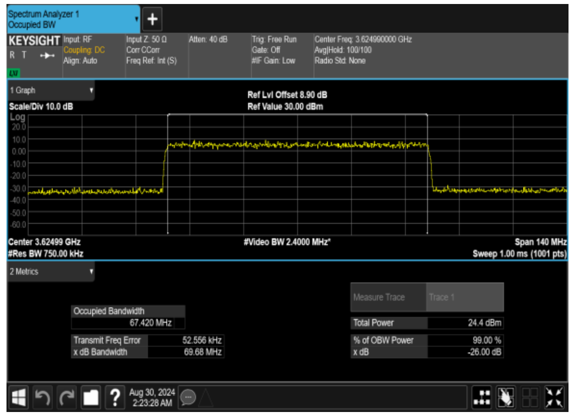
N48(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



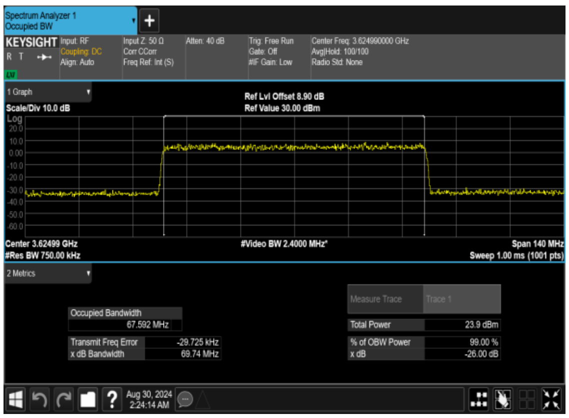
N48(70M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N48(70M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

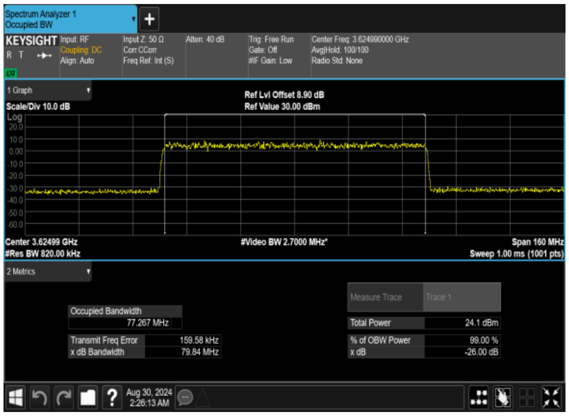


N48(70M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



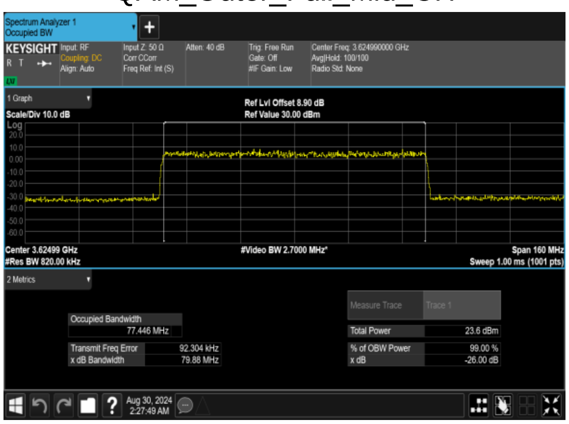
N48(70M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N48(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

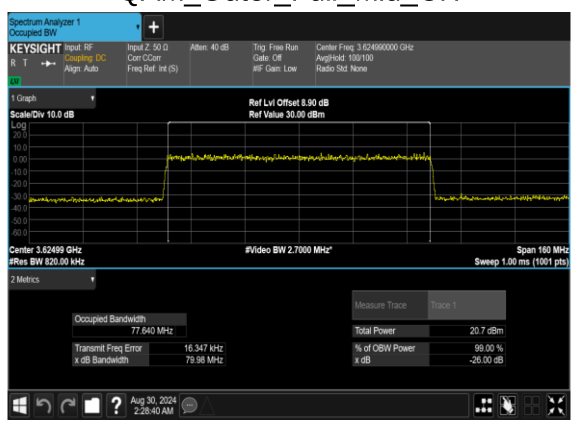


N48(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

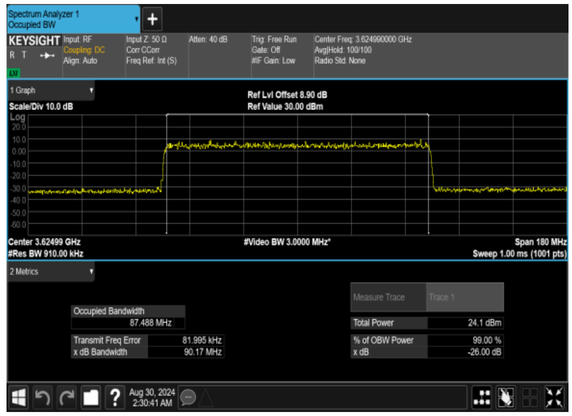


N48(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N48(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



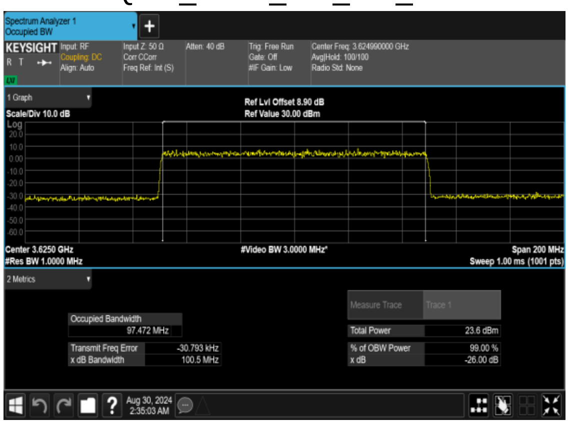
N48(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N48(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

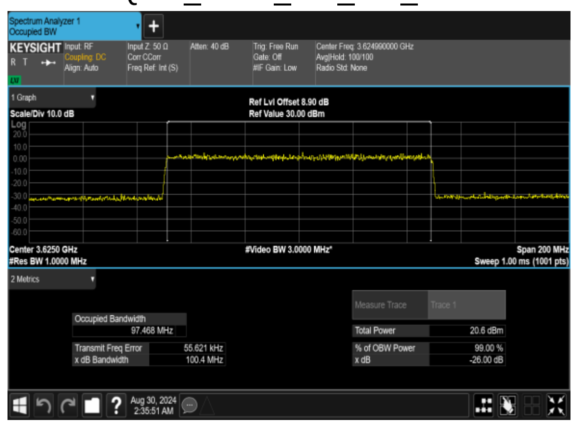
N48(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N48(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N48(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



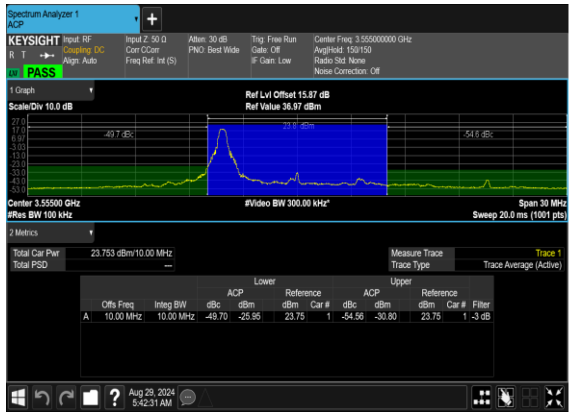
Adjacent Channel Leakage Ratio

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	-19.1	-18.38	see graph	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-19.7	-24.56	see graph	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-24.92	-21.07	see graph	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-21.37	-19.97	see graph	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-19.23	-24.07	see graph	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-24.23	-20.87	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-16.58	-16.52	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-17.4	-19.96	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-21.65	-18.93	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-19.21	-17.82	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-19.33	-20.96	see graph	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-19.35	-18.42	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-16.9	-16.7	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-18.54	-20.93	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-21.88	-19.2	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-18.65	-17.83	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-18.07	-20.4	see graph	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-21.09	-19.13	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	128@0	-15.26	-14.95	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@0	-16.16	-16.44	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@132	-16.92	-15.8	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM QPSK	128@0	-14.77	-14.23	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	-14.62	-14.6	see graph	PASS
48	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@132	-16.25	-15.07	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	128@0	-14.35	-14.18	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-15.94	-15.81	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@132	-16.51	-14.97	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM QPSK	128@0	-14.08	-13.41	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	-15.52	-15.28	see graph	PASS
48	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@132	-15.91	-14.6	see graph	PASS
48	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	128@0	-15.1	-14.14	see graph	PASS

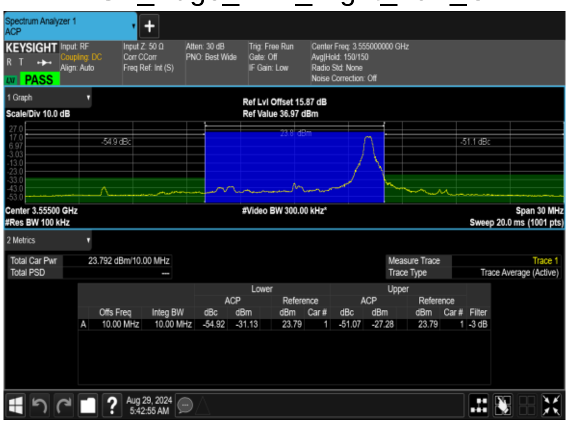
48	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@0	-16.16	-15.36	**see graph**	PASS
48	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@132	-14.19	-12.6	**see graph**	PASS
48	30	50	645000	3675.0	DFT-s-OFDM QPSK	128@0	-14.49	-13.49	**see graph**	PASS
48	30	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	-16.21	-15.82	**see graph**	PASS
48	30	50	645000	3675.0	DFT-s-OFDM QPSK	1@132	-15.88	-14.39	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	270@0	-14.79	-11.85	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	1@0	-15.77	-13.22	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	1@272	-16.1	-11.33	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM QPSK	270@0	-13.99	-11.22	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM QPSK	1@0	-14.04	-11.89	**see graph**	PASS
48	30	100	640000	3600.0	DFT-s-OFDM QPSK	1@272	-16.37	-11.68	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	-14.67	-11.51	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-14.41	-12.08	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@272	-17.14	-12.12	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	270@0	-13.79	-10.92	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@0	-13.6	-11.64	**see graph**	PASS
48	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@272	-15.55	-10.75	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	270@0	-13.57	-11.24	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@0	-14.75	-12.39	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@272	-16.27	-11.19	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	270@0	-13.36	-10.62	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@0	-13.52	-11.03	**see graph**	PASS
48	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@272	-15.58	-10.72	**see graph**	PASS

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

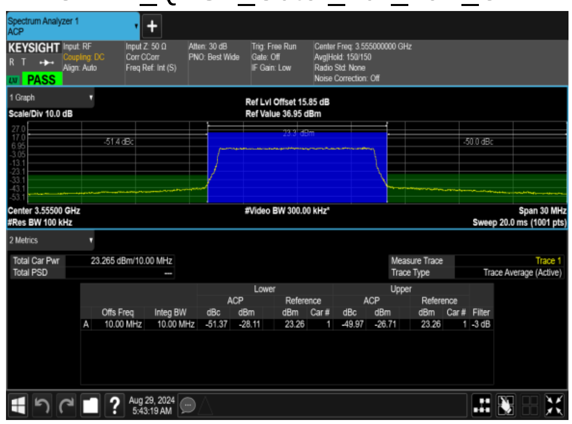
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



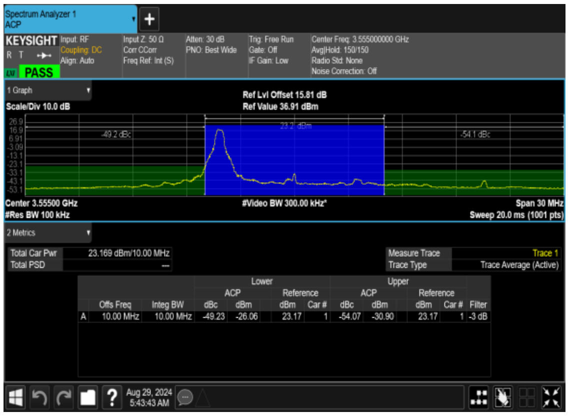
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



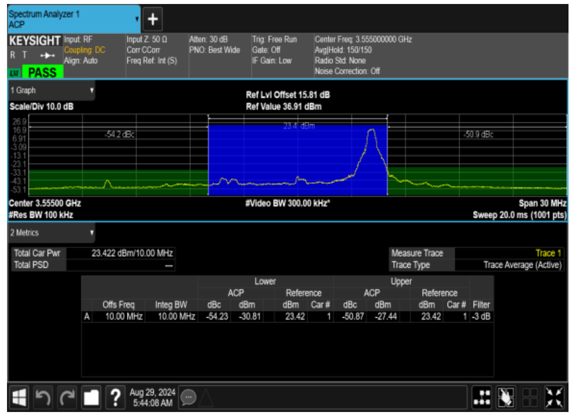
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



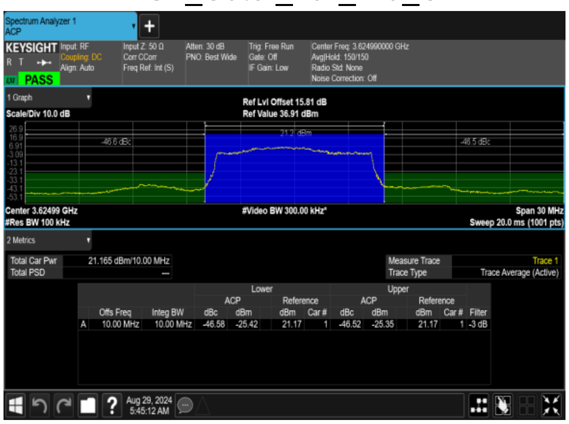
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



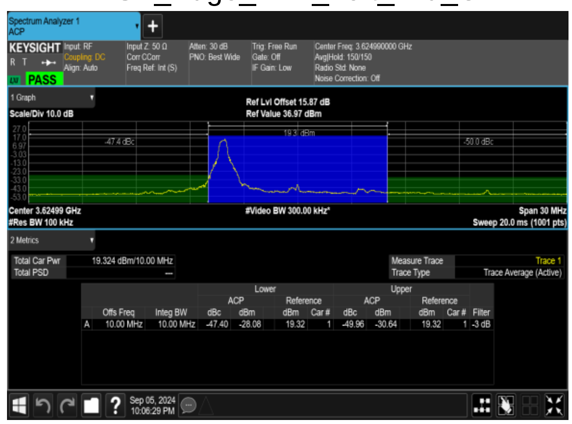
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



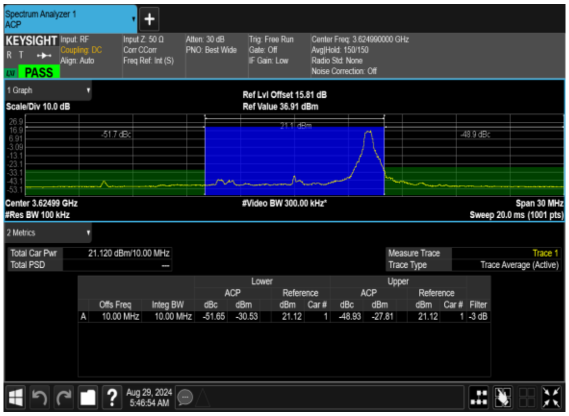
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



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

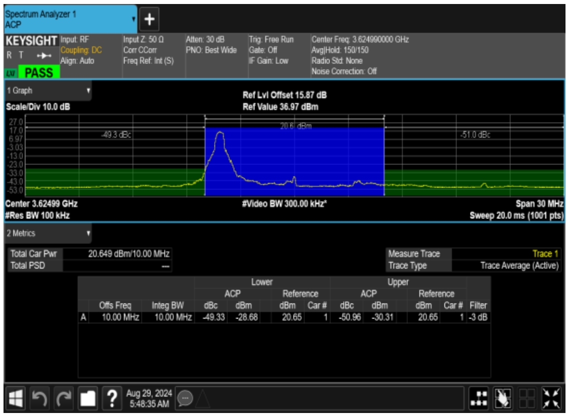


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

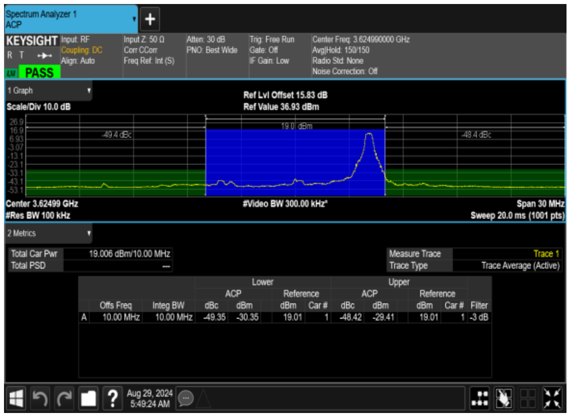


N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

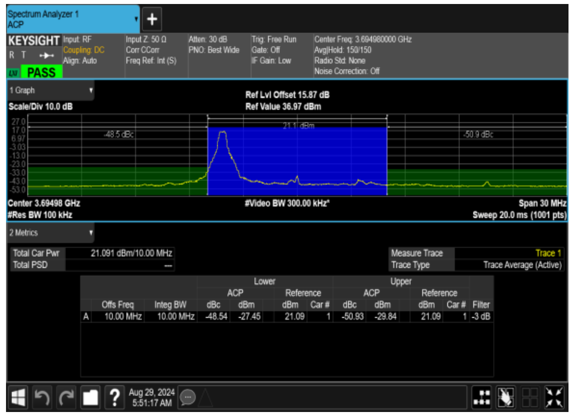


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



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



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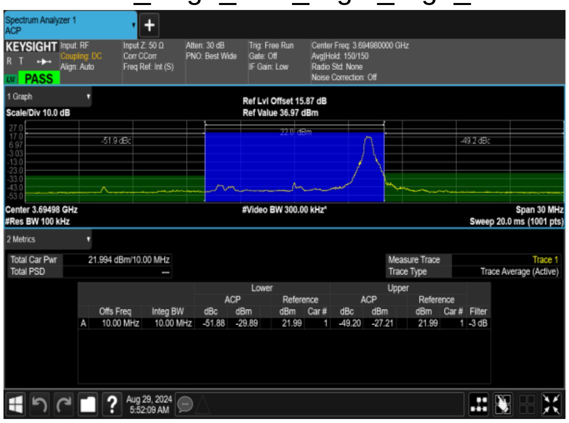
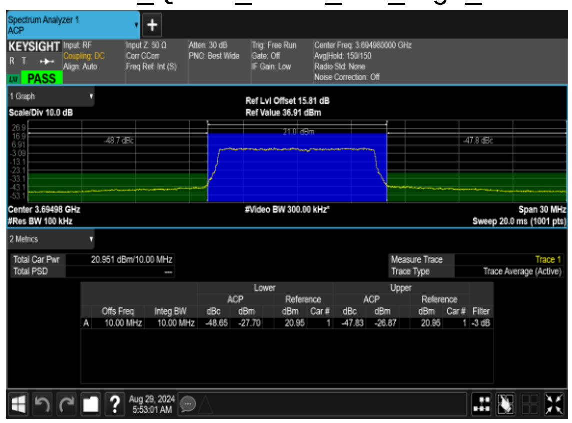
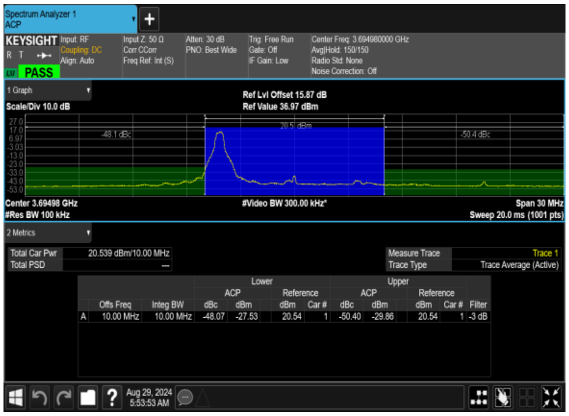


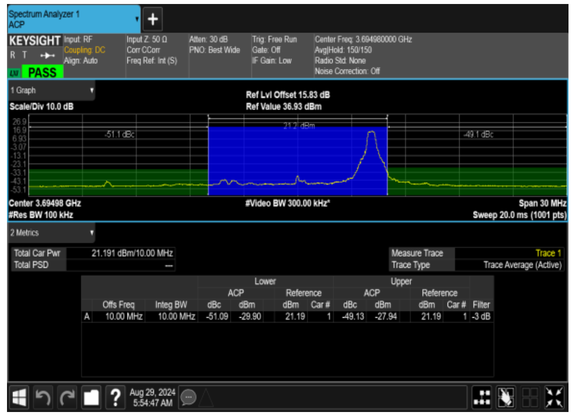
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



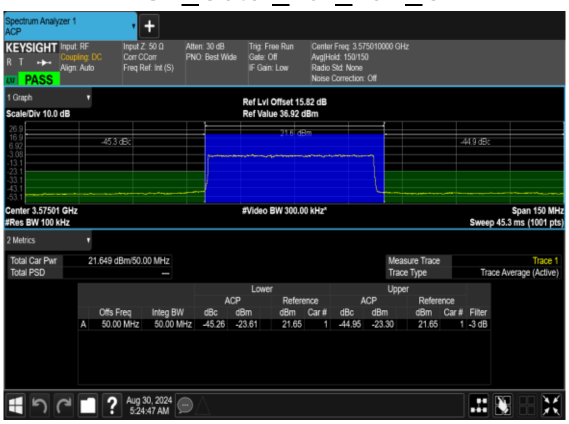
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



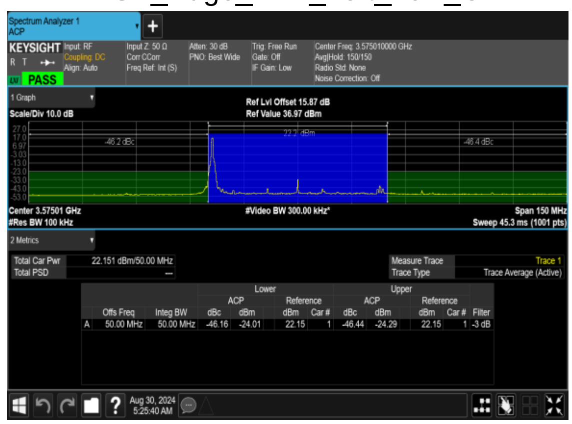
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



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

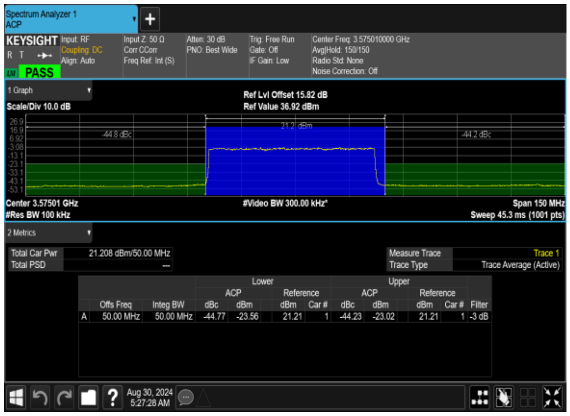


N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



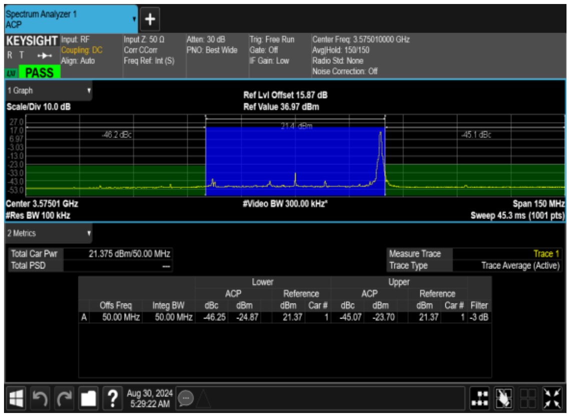
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

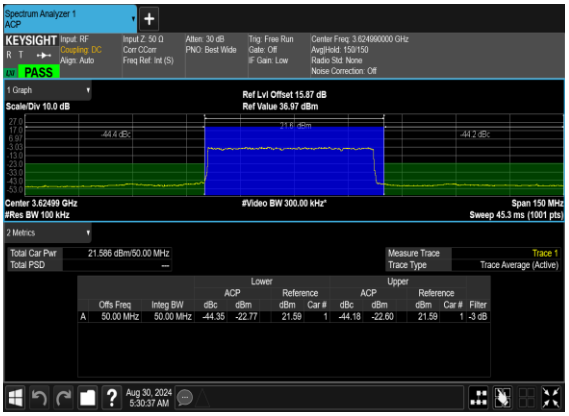


N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



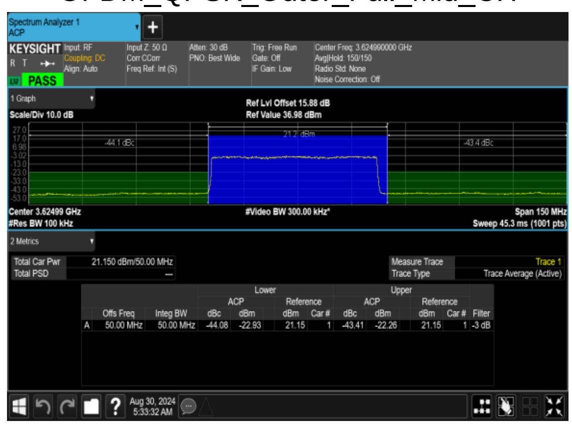
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



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

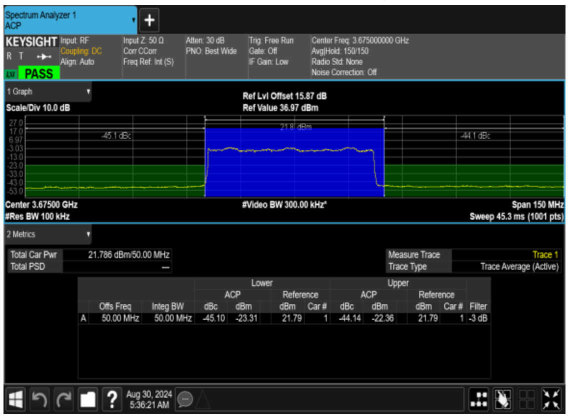
N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



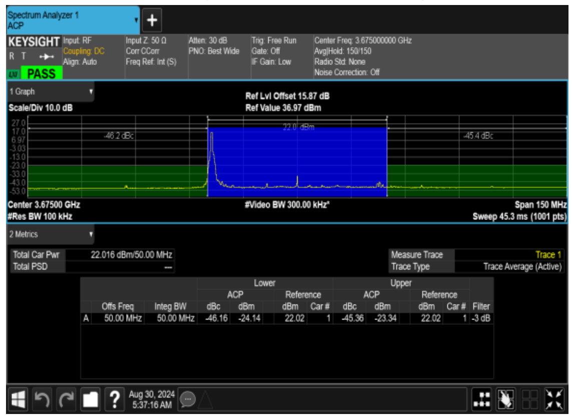
N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

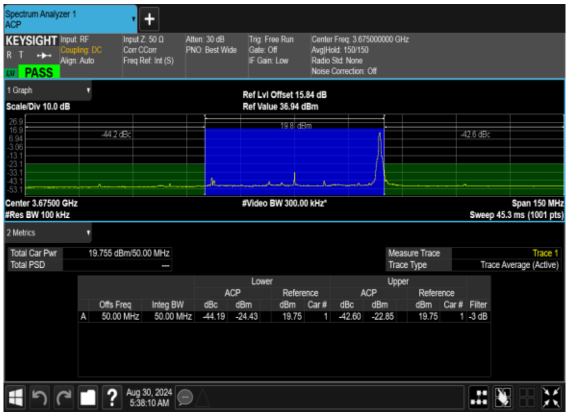
N48(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

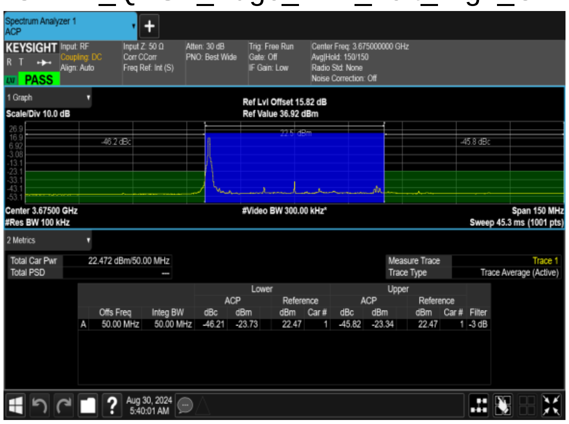


N48(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH

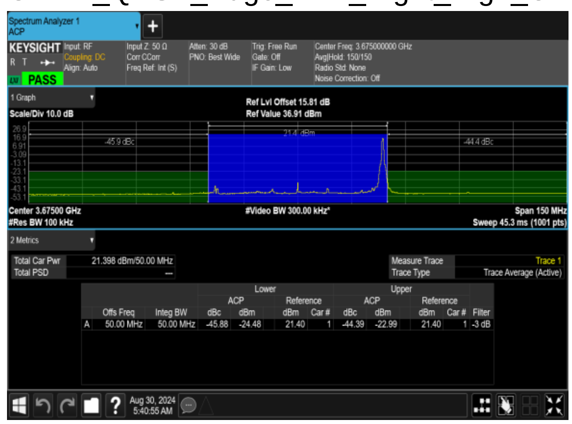


N48(50M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

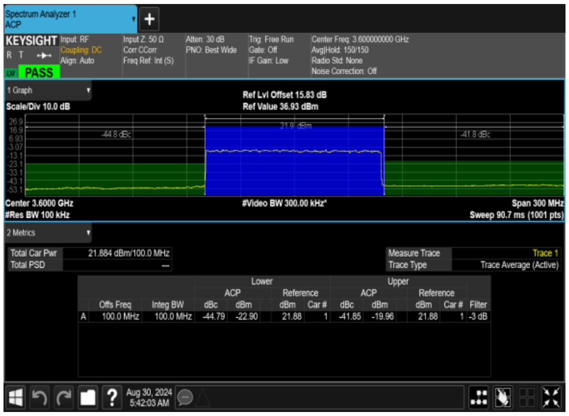
N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



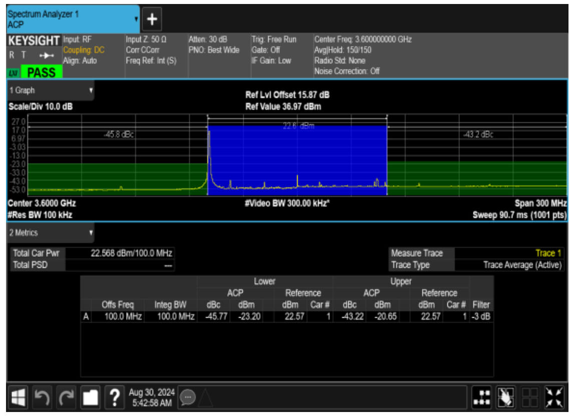
N48(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



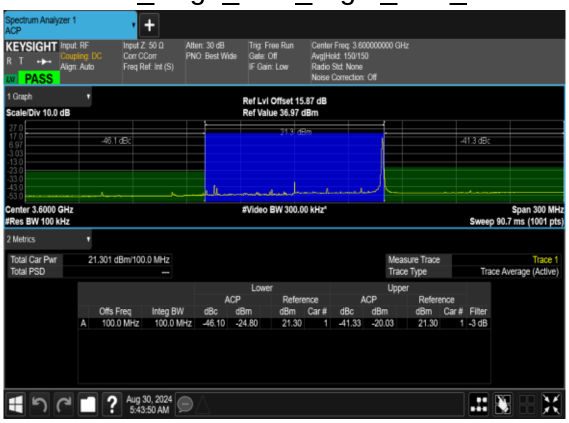
N48(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



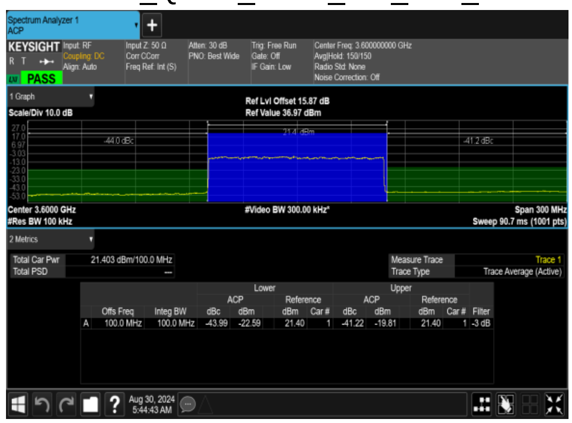
N48(100M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



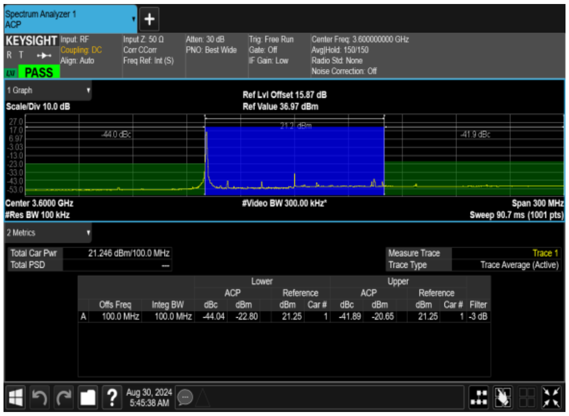
N48(100M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



N48(100M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

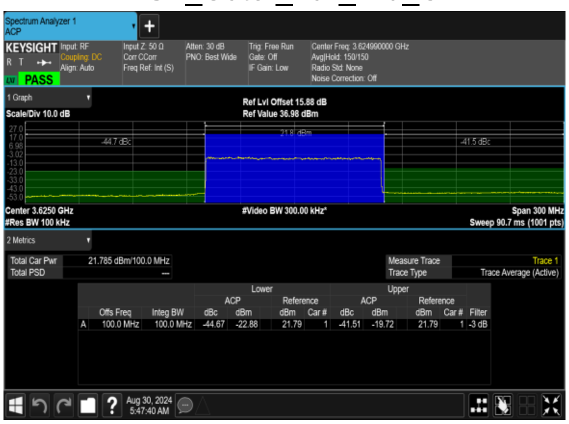


N48(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

N48(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(100M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH