

# Infiniium UXR-Series Oscilloscopes

The most advanced real-time oscilloscope on the planet

## Introduction

Keysight Infiniium UXR-Series oscilloscopes deliver world-leading performance, ultra-low noise, and the highest signal fidelity available today, so engineers and scientists can truly see and understand even the fastest phenomena – enabling you to develop next generation of technology and research more quickly.



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### NOTE:

For a description of key features, see the [Infiniium UXR-Series Oscilloscopes Technical Overview](#).

For a detail of specification, see the [Infiniium UXR-Series Oscilloscopes Data Sheet](#).

# Configure Your Ultra-High-Performance Real-Time Oscilloscope Solution

There has never been a better time to be in the market for an oscilloscope. The Infiniium UXR-Series offers the most accurate analysis, runs faster with hardware acceleration powered by custom ASICs and FPGAs, and is fully upgradeable. Now you can truly do what has never been done before.

Get the most out of your oscilloscope investment by choosing options and software to speed your most common tasks. Use option numbers when ordering at time of purchase. Use model numbers to add to an existing scope.

## Step 1: Choose Your UXR Oscilloscope Model

Choose your Infiniium UXR real-time oscilloscope model. There are 3 main models based on input connector size: 1mm, 1.85 mm, and 3.5 mm. Infiniium UXR-Series models offer bandwidths from 5 GHz to 110 GHz with various 1-channel, 2-channel, or 4-channel configurations available.



1 mm input model



1.85 mm input model



3.5 mm input model

Model		Bandwidth		Power required		Sample rate
4-Channel	2-channel	(maximum)	Connector	4-channel	2-channel	(maximum)
UXR1104A	UXR1102A	110 GHz	1 mm	200 to 240 V <sub>ac</sub> 2615 VA(Max)	110 to 240 V <sub>ac</sub> 1350 VA (Max)	256 GSa/s
UXR1004A	UXR1002A	100 GHz				
UXR0804A	UXR0802A	80 GHz				
UXR0704AP	UXR0702AP	70 GHz				
UXR0594AP	UXR0592AP	59 GHz				
UXR0404AP	UXR0402AP	40 GHz				
UXR0254AP	UXR0252AP	25 GHz				
N/A	UXR0051AP <sup>1</sup>	5 GHz	1.85 mm			
UXR0704A	UXR0702A	70 GHz				
UXR0594A	UXR0592A	59 GHz				
UXR0504A	UXR0502A	50 GHz				
UXR0404A	UXR0402A	40 GHz				
UXR0334A		33 GHz	3.5 mm	100 to 240 V <sub>ac</sub> 1350 VA (Max)	N/A	128 GSa/s
UXR0254A		25 GHz				
UXR0204A		20 GHz				
UXR0164A	N/A	16 GHz				
UXR0134A		13 GHz				
UXR0104A		10 GHz				

<sup>1</sup> The UXR0051AP includes two channels, but only one channel is licensed for use. The 2<sup>nd</sup> channel may be activated with the purchase of an upgrade license – N2166A Upgrade 1 channel UXR0051AP to 2 channel UXR0252AP.

All Infiniium UXR-Series models come standard with:

- 200 Mpts high-performance deep memory
- Removable 960 GB enterprise grade SSD 2.5" hard drive
- One Torque-Wrench 8 lb-in, 5/16 inch (Part Number: 8710-1765)
- Country-specific power cord
- Front cover
- Mini USB keyboard
- USB optical mouse
- ESD mat with wrist and heel straps
- Node-locked perpetual core software license and 1-year updates and enhancements subscription

3.5 mm input models also include:

- Five connector savers, 3.5 mm Female-to-Female (5061-5311)
- Ten connector saver collars

Note: 10 GHz and 13 GHz UXR-Series 3.5 mm models additionally include two Precision BNC 50  $\Omega$  adaptors (N5442A)

1.85 mm input models also include:

- One per channel adapters, 1.85 mm Female-to-Female (N5520B)
- One coaxial adapter, 2.92 mm to 2.40 mm Female-to-Female (11904B)
- One connector saver, 3.5 mm Female-to-Female (5061-5311)

1 mm input models also include:

- One per channel adapters, 1 mm Female Ruggedized to 1 mm Female (Y1900B)
- One per channel adapters, 1 mm Female Ruggedized to 1.85 mm Female (Y1901B)
- One adapter, 1 mm Female Ruggedized to 2.92 mm Female connector (Y1903B)
- One connector saver, 3.5 mm Female-to-Female (5061-5311)
- One Wrench, 2mm thick, dual-ended, fits 6mm and 7mm (54964-03801)
- One Wrench, 2mm thick, dual-ended, fits 8mm both ends (54964-03802)
- One Torque-Wrench, 4-in-lb 6mm-open end Gold-Handle (8710-2812)
- One Torque-Wrench, Special Double-end 14mm-open end 4 and 10-in-lb (8710-2819)

## Step 2: Select Add-On Software

Infiniium UXR-Series add-on software offers a wide variety of advanced measurement, analysis, and decode software applications. Choose the add-on software that best fits your needs and unlocks the full potential of your hardware with KeysightCare software support subscription.

Model number	Protocol software description
D9010AUTP	Automotive protocol decode/trigger software (CAN, LIN, CAN-FD, FlexRay ...)
D9020AUTP	High speed automotive protocol decode/trigger software (100/1000BASE-T1)
D9010EKR	10G/100GBASE-KR 64b/66b and link training decode/trigger software
D9010EMBP	Embedded protocol decode/trigger software (USB2.0, 10/100 ETH, PCIe 2/1 ...)
D9010LSSP	Low speed protocol decode/trigger software (I2C, SPI, RS232, I2S, JTAG ...)
D9010MCDP	MIPI CSI and DSI protocol decode/trigger software (C-PHY and D-PHY)
D9010MILP	Military protocol decode/trigger software (ARINC 429, MIL-STD 1553, SpaceWire)
D9010MPLP	Low speed MIPI protocol decode/trigger software (RFPE, I3C, SPMI)
D9010MPMP	MIPI M-PHY protocol decode/trigger software (DigRF, LLI, CSI-3, UniPro, UFS, SSIC)
D9010PCIP	Advanced PCIe protocol decode/trigger software (PCIe 6/5/4/3/2/1, SATA/SAS)
D9010USBP	USB4v2, USB4, USB 3.x protocol decode/trigger software (USB 3.1 - 5 and 10 Gbps)
D9020FEC	FEC (KP4) 400GE (100G Optical Lane) Decode/Trigger Software
D9011BDLP	Basic Infiniium Protocol Trigger/Decode Bundle for Infiniium Oscilloscopes
D9020BDLP	Complete Infiniium Protocol Trigger/Decode Bundle for Infiniium Oscilloscopes

Model number	Measurement and analysis software description
D9020PAMA	Pulse amplitude modulation PAM-N analysis software
D9010POWA	Power integrity analysis software
D9010UDAA	User defined application software
D9020JITA	EZJIT complete – Jitter and vertical noise analysis software (recommended)
D9020SCNA	InfiniScan event identification software (recommended)
D9020ASIA	Advanced signal integrity software (EQ, InfiniSimAdv, Crosstalk) (recommended)
D9010DMBA	De-embedding software (Precision Probe, InfiniSim Basic)
D9020WSAA	Wideband signal analysis extended package (required DDC option 602 for 320MHz RTSA)

## Step 3: Upgrade Your Oscilloscope Memory

Enable more capture depth with industry-leading deep memory. Get up to 2 Gpts per channel.

Option number	Protocol software description
UXR0000-01G	1 Gpts per channel high performance memory
UXR0000-02G	2 Gpts per channel high performance memory

## Step 4: Add Optional Frequency Extensions

For UXR-Series models that are not licensed to the maximum frequency their input connectors can support, available frequency extension options enable you to dynamically allocate up to 30 GHz wide bandwidth windows, for analysis of frequency ranges up to the max bandwidth of the hardware model, regardless of the oscilloscope's maximum licensed native bandwidth.

Option number	Protocol software description
UXR0000-605	5 GHz configurable mmWave extension bandwidth window <sup>1</sup>
UXR0000-610	10 GHz configurable mmWave extension bandwidth window <sup>1</sup>
UXR0000-620	20 GHz configurable mmWave extension bandwidth window <sup>1</sup>
UXR0000-630	30 GHz configurable mmWave extension bandwidth window <sup>1</sup>
UXR0000-682	5 GHz configurable mmWave extension bandwidth window <sup>1</sup> – (maximum frequency range limited 82 GHz)

## Step 5: Add Optional Digital Down Conversion

Optionally add Digital Down Conversion (DDC) to accelerate and expand your mmWave analysis.

Option number	Protocol software description
UXR0000-601	Hardware accelerated DDC for UXR-Series, 160 MHz analysis BW
UXR0000-602	Hardware accelerated DDC for UXR-Series, 2.16 GHz analysis BW

## Step 6: or, Choose the mmWave Analysis Package (Bundle of Steps 4-6)

Choose the mmWave Analysis Package for additional savings. It is a turn-key mmWave analysis package that includes node locked perpetual licenses for UXR0000-02G, UXR0000-610, and UXR0000-602, for a lower total cost than purchasing each feature individually..

Option number	Protocol software description
UXR0000-MWA	mmWave wideband analysis acceleration and extension package for UXR-Series, includes: <ul style="list-style-type: none"><li>• UXR0000-02G 2 Gpts memory/ch</li><li>• UXR0000-610 10 GHz Configurable mmWave extension bandwidth window<sup>1</sup></li><li>• UXR0000-602 hardware accelerated DDC 2 GHz bandwidth</li></ul>

1. mmWave extension windows may be dynamically placed at independent center frequencies per channel within the maximum supported frequency of the UXR-Series' input connector: 3.5 mm models provide a usable frequency range from DC to 33 GHz, 1.85 mm models provide a usable frequency range from DC to 70 GHz, and 1 mm ruggedized models provide a usable frequency range from DC to 113 GHz (except -682).

# Step 7: Choose Your Vector Signal Analysis Software for Your Wireless Applications

**PathWave Vector Signal Analysis (VSA)** software enables the measurement of over 75 signal standards and modulation types for various cellular communication technologies, including the 6G early research, the latest 5G New Radio, WLAN 802.11ax/11be, 802.15.4/4z HRP UWB, MILCOM, pulse analysis, satellite communications, and more. The software capitalizes on Keysight's reputation for being the first to offer support for emerging standards, even before their full ratification. The 89600 VSA software seamlessly integrates with the UXR-Series, offering hardware-accelerated analysis bandwidth exceeding 2 GHz for rapid and responsive mmWave wideband analysis up to 110 GHz. The UXR-Series is an outstanding solution for wideband analysis, Multiple Input Multiple Output (MIMO), and **cross-correlated Error Vector Magnitude (ccEVM) measurements**.

For 5G NR:

- 89601200C: Basic vector signal analysis and hardware connectivity
- 89601BHNC: 5G NR Modulation Analysis (MIMO support; ccEVM with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: Cross-correlated EVM

For 6G research:

- 89601200C: Basic vector signal analysis and hardware connectivity
- 89601AYAC: Digital demodulation analysis (FlexFrame; ccEVM with 89601EVMC)
- 89601BHFC: Custom OFDM modulation analysis (MIMO support; ccEVM with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: Cross-correlated EVM

For WLAN:

- 89601200C: Basic vector signal analysis and hardware connectivity
- 89601B7RC: Wireless connectivity modulation analysis (802.11a/b/g/j/p)
- 89601BHXC: High throughput WLAN modulation analysis (802.11n/ac/ax/be; MIMO support; ccEVM support with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: Cross-correlated EVM

For Pulse Analysis:

- 89601200C: Basic vector signal analysis and hardware connectivity
- 89601BHQC: Pulse analysis
- 89601BHQP: FMCW analysis

For UWB analysis:

- 89601200C: Basic vector signal analysis and hardware connectivity
- 89601BHTC: IoT modulation analysis

For additional details about the 89600 VSA and promotional bundles, please consult our [VSA brochure](#)



## Step 8: Add an Advanced or Accredited Calibration

Get a compliant or accredited calibration from the Keysight calibration test facility.

Option number	Description
UXR0001-1A7	Calibration + Uncertainties + Guardbanding (ISO 17025 & ANSI Z540.3/Z540-1 Compliant <sup>1</sup> )
UXR0001-AMG	Calibration + Uncertainties + Guardbanding (ISO 17025 & ANSI Z540.3/Z540-1 Accredited <sup>2</sup> )

## Step 9: Add an Optional Calibration Module

The Infiniium UXR-Series is the first real-time oscilloscope to offer an optional **self-calibration module** – capable of performing the same factory-quality vertical scale frame adjustments<sup>1</sup> you get when you return your oscilloscope to Keysight, but at your site and its environmental conditions. No longer do you have to lose productivity or time associated with returning your Infiniium UXR-Series oscilloscope back to the factory or a Keysight certified calibration center for calibration<sup>3</sup>, as long as you are equipped to perform the requisite performance verification steps to self-certify the calibration.

Model number	Description
N2125A	Infiniium UXR Real-Time Oscilloscope Calibration Module, 1 mm
N2126A	Infiniium UXR Real-Time Oscilloscope Calibration Module, 1.85 mm
N2127A	Infiniium UXR Real-Time Oscilloscope Calibration Module, 3.5 mm

## Step 10: Add a MultiScope Kit

The **MultiScope** functionality built into the Keysight Infiniium UXR-Series oscilloscopes enables the connection of up to 10 oscilloscopes, allowing for 40-channel acquisition. The Infiniium Core Software facilitates the use of a single graphical user interface (GUI) to support up to 40 channels, utilizing an 8 GHz reference clock for time-base synchronization. With this capability, users can perform multi-lane oscilloscope analysis for various applications, including coherent optical, 6G, MIMO, 3.2 T, and high-speed serial standards.

Model number	Description
N2164A	Infiniium UXR-Series Multi-Frame base cable kit for first two UXR-Series frames
N2170A	Infiniium UXR-Series Multi-Frame Two-To-Three Expansion Kit
N2165A	Infiniium UXR-Series add an additional UXR-Series frame to a multi-frame base kit

<sup>1</sup> Compliant: Denotes the Keysight calibration test facility has passed an internal audit with the same processes as an external audit. A compliant calibration will not receive an accreditation body symbol on the certificate of calibration.

<sup>2</sup> Accredited: Denotes the Keysight calibration test facility has passed an external audit performed by a 3rd party that has been authorized by an accreditation body. An accredited calibration will receive an accreditation body symbol on the certification of calibration.

<sup>3</sup> A full Keysight certified factory quality calibration consists of both vertical and horizontal frame calibration tests/adjustments, and subsequent performance testing and verification steps to ensure the oscilloscope is operating within its documented warranted specifications. The optional UXR-Series calibration modules perform only the factory-quality vertical frame adjustment calibration steps. Additional instrumentation and components are necessary to perform the required horizontal adjustments and vertical performance verification procedures to achieve an equivalent full self-verified and self-certified calibration. Please see the UXR-Series User's Guide for details of the necessary procedures and equipment. If an advanced or accredited calibration certificate is required (step 9 above), your UXR-Series oscilloscope must be returned to a qualified Keysight service center.

# Step 11: Choose Your Infiniium Probes and Accessories

The UXR is compatible with the Keysight InfiniiumMax probing system which includes probe amplifiers and tips ranging from 10 GHz to 59 GHz of low noise bandwidth. They are the most accurate and easiest to use probes in the market for measuring differential and single-ended signals across all high-speed digital designs. There are also optical-to-electrical converters, high-sensitivity photo-detector modules designed for direct optical-to-electrical conversion of telecom or datacom signals into the UXR. Please check the [Infiniium Oscilloscopes Probes Accessories](#) or visit [Keysight Probe Resource Center](#).

Model number	Description	Note
MX0032A	52 GHz InfiniiumMax 4 probe amplifier (40 GHz BT)	(RCRC architecture) Compatible with 1.85- and 1-mm models
MX0031A	52 GHz InfiniiumMax 4 probe amplifier	(RCRC architecture) Compatible with 1.85- and 1-mm models
MX0030A	42 GHz InfiniiumMax 4 probe amplifier	(RCRC architecture) Compatible with 1.85- and 1-mm models
N7012A	59 GHz Active Termination	Compatible with 1.85- and 1-mm models
N7011A	40 GHz Active Termination	Compatible with 1.85- and 1-mm models
N7010A	30 GHz Active Termination	Compatible with 3.5-mm models
MX0020A	10 GHz InfiniiumMax Ultra probe amplifier	(RC architecture) Need adaptor N2852A for 1.85- and 1-mm models
MX0021A	13 GHz InfiniiumMax Ultra probe amplifier	(RC architecture) Need adaptor N2852A for 1.85- and 1-mm models
MX0022A	16 GHz InfiniiumMax Ultra probe amplifier	(RC architecture) Need adaptor N2852A for 1.85- and 1-mm models
MX0024A	20 GHz InfiniiumMax Ultra probe amplifier	(RC architecture) Need adaptor N2852A for 1.85- and 1-mm models
MX0025A	25 GHz InfiniiumMax Ultra probe amplifier	(RC architecture) Need adaptor N2852A for 1.85- and 1-mm models
N2803A	30 GHz InfiniiumMax III probe amplifier	(RCRC architecture) Need adaptor N2852A for 1.85- and 1-mm models
N2802A	25 GHz InfiniiumMax III probe amplifier	(RCRC architecture) Need adaptor N2852A for 1.85- and 1-mm models
N2801A	20 GHz InfiniiumMax III probe amplifier	(RCRC architecture) Need adaptor N2852A for 1.85- and 1-mm models
N7004A	33 GHz optical to electrical converter	Need adaptor N2852A for 1.85- and 1-mm models
N7005A	60 GHz optical to electrical converter	Auto Probe III Interface
MX0100A-001	25 GHz micro probe head (set of 5)	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
MX0105A	21 GHz SMA probe head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
MX0106A	23 GHz solder-in probe head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2839A	21 GHz browser head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2837A	21 GHz browser head replace tip (set of 40)	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N5425B	18 GHz ZIF probe head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N5426A	18 GHz ZIF tip (set of 10)	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N5451A	4 GHz long-wired ZIF tip kit	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2884A	5 & 9.9 GHz fine wire tip	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
E2675B	6 GHz Differential browser head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
E2677B	12 GHz solder-in head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2880A	Coaxial attenuators	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2881A	DC blocking caps (set of 2)	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2851A	16 GHz QuickTip probe head	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
N2884A	Fine wire probing tips	(RC architecture) InfiniiumMax I/II/RC/Ultra probe heads and tips
MX0104A	Performance verification and deskew fixture	For InfiniiumMax RC and RCRC probes (up to 30 GHz)
N2852A	AutoProbe III to II interface adapter	For UXR 1.85- and 1-mm models to connect AutoProbe II probes
N5449A	High impedance probe adapter	Need adaptor N2852A for 1.85- and 1-mm models (N2873A included)
N5442A	AutoProbe II to I interface adapter	Need adaptor N2852A for 1.85- and 1-mm models

## Step 12: Choose Your Infiniium Accessories

Get additional connectors, adapters, wrenches, and more to fully outfit your lab. Some of the below items come standard with certain UXR models. See page 5 for what's already included before adding additional accessories. For Multi-Scope application, please check the expansion kits.

Model number	Description
N2156A	Rack mount kit for Infiniium UXR real-time oscilloscope
N4865B	GPIO adapter sold separately by ICS Electronics, LAN (UXR) to GPIO
82357B	USB/GPIO interface, USB (UXR) to GPIO
N2158A	Transit case for Infiniium UXR real-time oscilloscope
N2131A-01T	Additional 1 TB removable Windows 10 SSD for Infiniium UXR-A
N2183A	Additional 1 TB removable Windows 11 SSD for Infiniium UXR-B (UXR-A requires N2182AU or N2200A for required M910 motherboard upgrade)
Y1900B	Connector saver, 1 mm F ruggedized to 1 mm F
Y1900C	Connector saver, 1 mm F ruggedized to 1 mm M
Y1901B	Connector saver, 1 mm F ruggedized to 1.85 mm F
Y1903B	Connector saver, 1 mm F ruggedized to 2.92 mm F
11904B	Connector saver, 2.4 mm F to 2.92 mm F
1250-3782	Adapter, 2.4 mm F to 2.92 mm F (standard in 1.85mm UXR models)
11904D	Connector saver, 2.4 mm F to 2.92 mm M
N5520B	Adapter, 1.85 mm F-F
5061-5311	Adapter, 3.5 mm F to 3.5 mm F
N2823A	2.92 mm Coaxial Phased-matched Pair, 1 m
N2814A	1.85 mm Ultra-High Performance Cable, 65 GHz

## Step 13: Upgrade Your UXR-Series Oscilloscope

The UXR-Series is fully upgradeable. You might never need to buy a new oscilloscope again. You can easily upgrade the channel count, bandwidth, memory, frequency extension windows, and memory.

Model number	"A" and "AP" model channel upgrades (required return-to-Keysight Service Center)
N2129BU-030	Channel upgrade – 40 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-031	Channel upgrade – 50 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-032	Channel upgrade – 59 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-033	Channel upgrade – 70 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-034	Channel upgrade – 80 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-035	Channel upgrade – 100 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-036	Channel upgrade – 110 GHz Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-037	Channel upgrade – 25 GHz, 1mm Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-038	Channel upgrade – 40 GHz, 1mm Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-039	Channel upgrade – 59 GHz, 1mm Infiniium UXR real-time oscilloscope 2 to 4Ch
N2129BU-040	Channel upgrade – 70 GHz, 1mm Infiniium UXR real-time oscilloscope 2 to 4Ch

Model number	"A" model bandwidth upgrades
N2129BU-020	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 10 GHz to 13 GHz
N2129BU-003	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 13 GHz to 16 GHz
N2129BU-004	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 16 GHz to 20 GHz
N2129BU-005	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 20 GHz to 25 GHz
N2129BU-006	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 25 GHz to 33 GHz
N2129BU-007	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 33 GHz to 40 GHz Return-to-Keysight Service Center for upgrade
N2129BU-008	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 40 GHz to 50 GHz
N2129BU-009	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 50 GHz to 59 GHz
N2129BU-010	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 59 GHz to 70 GHz
N2129BU-011	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 70 GHz to 80 GHz Return-to-Keysight Service Center for upgrade
N2129BU-111	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 80 GHz to 90 GHz
N2129BU-112	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 90 GHz to 100 GHz
N2129BU-013	Bandwidth upgrade – 2 Ch Infiniium UXR real-time oscilloscope – 100 GHz to 110 GHz
N2129BU-014	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 40 GHz to 50 GHz
N2129BU-015	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 50 GHz to 59 GHz
N2129BU-016	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 59 GHz to 70 GHz
N2129BU-017	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 70 GHz to 80 GHz Return-to-Keysight Service Center for upgrade
N2129BU-117	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 80 GHz to 90 GHz
N2129BU-118	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 90 GHz to 100 GHz
N2129BU-019	Bandwidth upgrade – 4 Ch Infiniium UXR real-time oscilloscope – 100 GHz to 110 GHz

If multiple upgrade steps are needed, order all the corresponding upgrade products required to get from the current bandwidth to desired bandwidth.

<b>Model number</b>	<b>“AP” model channel upgrades (License Only)</b>
N2157A-011	Bandwidth upgrade 2 Ch Infiniium UXR real-time oscilloscope 25 GHz AP model to 40 GHz AP model (License Only)
N2157A-012	Bandwidth upgrade 4 Ch Infiniium UXR real-time oscilloscope 25 GHz AP model to 40 GHz AP model (License Only)
N2157A-013	Bandwidth upgrade 2 Ch Infiniium UXR real-time oscilloscope 40 GHz AP model to 59 GHz AP model (License Only)
N2157A-014	Bandwidth upgrade 4 Ch Infiniium UXR real-time oscilloscope 40 GHz AP model to 59 GHz AP model (License Only)
N2157A-015	Bandwidth upgrade 2 Ch Infiniium UXR real-time oscilloscope 59 GHz AP model to 70 GHz AP model (License Only)
N2157A-016	Bandwidth upgrade 4 Ch Infiniium UXR real-time oscilloscope 59 GHz AP model to 70 GHz AP model (License Only)
N2157A-017	Bandwidth upgrade 2 Ch Infiniium UXR real-time oscilloscope 70 GHz AP model to 80 GHz A model (License Only)
N2157A-018	Bandwidth upgrade 4 Ch Infiniium UXR real-time oscilloscope 70 GHz AP model to 80 GHz A model (License Only)
N2166A	Upgrade 1 Ch Infiniium UXR real-time oscilloscope 5 GHz AP model to 2Ch 25 GHz AP model (License Only)

<b>Model number</b>	<b>mmWave extension bandwidth window upgrades (License Only)</b>
N2163A-005	5 GHz configurable mmWave extension bandwidth window upgrade
N2163A-010	5 GHz to 10 GHz configurable mmWave extension bandwidth window upgrade
N2163A-020	Upgrade 10 GHz to 20 GHz configurable mmWave extension bandwidth window
N2163A-030	Upgrade 20 GHz to 30 GHz configurable mmWave extension bandwidth window
N2163A-082	5 GHz mmWave configurable bandwidth window – DC to 82 GHz
N2163A-601	Hardware accelerated DDC for UXR-Series, 160 MHz BW
N2163A-602	Upgrade hardware accelerated DDC for UXR-Series BW from 160 MHz to 2 GHz

<b>Model number</b>	<b>Memory upgrades (License Only)</b>
N2130A-01G	Memory upgrade – 200Mpts/Ch to 1Gpts/Ch, fixed perpetual license
N2130A-02G	Memory upgrade – 1Gpts/Ch to 2Gpts/Ch, fixed perpetual license

<b>Model number</b>	<b>Operating System Upgrades</b>
N2182AU <sup>1</sup>	Windows 11 upgrade for Infiniium UXR-A oscilloscopes with M900 motherboard
N2183A	Additional 1 TB removable Windows 11 SSD for Infiniium UXR-B (UXR-A requires N2182AU or N2200A for required M910 motherboard upgrade)

<sup>1</sup> Requires return-to-Keysight service center

## Step 14: Choose Your Infiniium UXR-Series Support, Services, and Training

Get more from your test investment with Keysight Services. Keysight's warranty and calibration services are the convenient way to ensure the ongoing accuracy and availability of all your test assets.

Model number	Description
R-51B-001-3C	Warranty Assurance Plan – Return to Keysight - 3 years
R-51B-001-5C	Warranty Assurance Plan – Return to Keysight - 5 years
R-50C-001-3	Calibration Assurance Plan – Return to Keysight - 3 years
R-50C-001-5	Calibration Assurance Plan – Return to Keysight - 5 years
PS-S10	Remote scheduled productivity assistance. Select 1 to 999 hours.
PS-S20	On site startup assistance, daily
PS-T10-SCOPES	On site 0.5 day – H7240B-100 – Digitizing Oscilloscope Fundamentals class. Max 8 students.
PS-X10	Custom services

## Step 15: Choose Your Infiniium Offline Software

Keysight offers a powerful offline analysis tool. The Infiniium office software let you view, analyze, share, and document scope measurements anywhere your PC goes.

Model number	Measurement and analysis offline software
D9010ASIO	Infiniium Offline – Adv signal integrity software (InfiniiSim Adv/EQ/Crosstalk)
D9010BSEO	Infiniium Offline – Base software
D9010HSPO	Infiniium Offline – High speed protocol software bundle
D9010JITO	Infiniium Offline – EZJIT complete software
D9010LSPO	Infiniium Offline – Low speed protocol software bundle

# Step 16: Choose Your Infiniium Compliance Software

Keysight offers a wide variety of compliance software applications for the Infiniium UXR-Series. Choose your license term, license type, and KeysightCare software support subscription that best fits your needs and budget.

All Infiniium UXR-Series models come standard with:

- Serial data analysis (SDA) software to provide flexible clock recovery including 1st, 2nd, and 3rd-order PLL and constant algorithms. With a stable clock, you can look at real-time eyes of transition and non-transition bits. UXR-Series oscilloscopes with SDA software also provide a new unique view of bits preceding an eye.
- User defined function
- Fast Fourier Transform (FFT) for frequency domain (spectrum) analysis. Use the FFT to compute both magnitude and phase and take advantage of several useful features to assist in spectral analysis. The FFT can control span and resolution bandwidth.
- 40 MHz of RTSA and DDC analysis bandwidth, with a frequency range up to the oscilloscope bandwidth.

Model number	Description
D9010SFPC	SFP+ and QSFP+ compliance test application (12 GHz+)
D9010XAUC	XAUI compliance test with 10GBASE-CX4, CPRI, OBSAI, and serial RapidIO support (13 GHz+)
D9010BJAC	Ethernet 40GBASE-CR4 and 100GBASE-CR10 compliance test application (25 GHz+ )
D9010ETHC	10M/100M/1GBASE-T and energy efficient ethernet (1 GHz +)
D9010EBZC	Ethernet 10GBASE-T, NBASE-T and MGBASE-T compliance test application (4 GHz +)
D9010EAPC	Ethernet 10GBASE-KR and 40GBASE-KR4 compliance test application (25 GHz+ )
D90103BQC	Ethernet 25GBASE-T, 10GBASE-T, NBASE-T and MGBASE-T (6 GHz +)
D9010BJBC	Ethernet 100GBASE-KR4 compliance test application (50 GHz+ )
D9010BJCC	Ethernet 100GBASE-CR4 compliance test application (50 GHz+ )
D9010CAUC	Ethernet CAUI-4 compliance test application (50 GHz+ )

Model number	Description
D9010EBSC	IEEE802.3bs/cd compliance test application (50 GHz+ )
D9010CEIC	OIF-CEI 4.0 compliance test application (70 GHz+)
D9050CEIC	Electrical TX test SW for OIF-CEI-112G VSR/MR/LR (70 GHz+)
D90103CKC	IEEE 802.3ck compliance test application (50 GHz+ )
D90203DJC	IEEE 802.3dj compliance test application (90 GHz+ )
D9010ONFC	ONFI (open NAND flash interface) compliance test application (4 GHz +)
D9020DDRC	DDR2 and LPDDR2 compliance test application (4 GHz +)
D9030DDRC	DDR3 and LPDDR3 compliance test application (8 GHz +)
D9040DDRC	DDR4 and LPDDR4 compliance test application (13 GHz +)
D9050DDRC	DDR5 TX compliance test application (16 GHz +)
D9060GDDC	GDDR6 Tx Compliance Test Software (33 GHz +)
D9060LDDC	LPDDR6 Tx Compliance Test Software (25 GHz +)
D9010CPHC	MIPI C-PHY compliance test application (16 GHz +)
D9030DPHC	MIPI D-PHY Compliance Test Software for Infiniium Oscilloscopes (25 GHz+)
D9050MPHC	MIPI M-PHY compliance test application up to Gear 5 (50 GHz +)
D9040PCIC	PCIe 1.0 to 4.0 transmitter electrical performance validation and compliance (25 GHz +)
D9050PCIC	PCI Express 5.0 transmitter electrical performance validation and compliance (50 GHz +)
D9010USBC	USB 2.0 transmitter compliance test application (2.5 GHz+)
D9020USBC	USB 3.2: 5 Gbps and 10 Gbps transmitter compliance (16 GHz+)
D9040USBC	USB 4 transmitter compliance test software (33 GHz +)
D9050USBC	USB 4v2 80Gbps TX Test Application software (25 GHz +)
D9030TBTC	Thunderbolt 3 transmitter compliance (25 GHz +)
D9030SATC	SATA 6Gb/s compliance test application (13 GHz +)
D9040SASC	SAS-4 (serial attached SCSI-4) compliance test application (33 GHz +)
D9040DPPC	DisplayPort 1.4 compliance and validation (16 GHz+)
D9042DPPC	DisplayPort UHBR Tx compliance test software (25 GHz +)
D9040EDPV	eDP 1.4 (embedded DisplayPort) electrical performance and characterization (16 GHz+)
D9021HDMC	HDMI 1.4 and HDMI 2.1 electrical performance, validation and compliance (20 GHz +)
D9010AGGC	Compliance test software measurement server license
AE6920T	Automotive Ethernet Tx Compliance Software 10M to 10Gbps (13 GHz +)
AE2000T	Automotive SerDes Transmit Compliance Test Solution (MIPI A-PHY, ASA)



# Compliance Test Software Subscription Suites

Keysight's new Compliance Test Software Suites provide a new way of ownership and management of Compliance Test Software for organizations using a subscription-based approach. Each suite will enable generational coverage across the technology.

Model number	Technology generation and variants coverage
<b>SW00PCIE</b> PCI Express Validation Suite	PCI Express Gen 4 TX Test (D9040PCIC) PCI Express Gen 5 TX Test (D9050PCIC) PCI Express Gen 6 TX Test
<b>SW02PCIE</b> PCI Express Full Tx Test Suite	PCI Express Gen 4 TX Test (D9040PCIC) PCI Express Gen 5 TX Test (D9050PCIC) PCI Express Gen 6 TX Test Advanced PCI Express Protocol Decode (D9010PCIP)
<b>SW00USBH</b> USB High Speed Validation Suite	USB 3.2 TX Test (D9020USBC) USB 4.0 TX Test (D9040USBC) USB 4v2 TX Test (D9050USBC)
<b>SW02USBH</b> USB High Speed Full Tx Test Suite	USB 3.2 TX Test (D9020USBC) USB 4.0 TX Test (D9040USBC) USB 4v2 TX Test (D9050USBC) USB 4v2, 4.0, 3.2, 2.0 Protocol Decode (D9010USBP)
<b>SW00LDDR</b> LPDDR Validation License	LPDDR5 TX Validation (D9050LDDC)
<b>SW00DDR3</b> DDR Validation Suite	DDR3 TX Validation (D9030DDRC) DDR4 TX Validation (D9040DDRC) DDR5 TX Validation (D9050DDRC)
<b>SW00LDR6</b> LPDDR6 Validation License Suite	LPDDR6 Tx Compliance Test Software (D9060LDDC) LPDDR6 Receiver Conformance and Characterization Test Application (M80896RCA)
<b>SW00DSPP</b> DisplayPort Validation Suite	Display Port TX Application (D9040DPPC) Display Port UHBR (2.0) TX Application (D9042DPPC)
<b>SW02DSPP</b> DisplayPort Full Validation Suite	DisplayPort TX Application (D9040DPPC) DisplayPort UHBR (2.0) TX Application (D9042DPPC) DisplayPort eDP TX Test (D9040EDPV)
<b>SW00MIPI</b> MIPI Validation Suite	C-PHY TX Validation (D9010CPHC) D-PHY TX Validation (D9020DPHC/D9030DPHC) M-PHY TX Validation (D9040MPHC)
<b>SW02MIPI</b> MIPI Full Tx Test Suite	C-PHY TX Validation (D9010CPHC) D-PHY TX Validation (D9020DPHC/D9030DPHC) M-PHY TX Validation (D9040MPHC) C-PHY and D-PHY Protocol Validation (D9010MCDP) M-PHY Protocol Validation (D9010MPMP) Low Speed Protocol Validation (D9010MPLP)
<b>SW00IECK</b> IEEE 802.3 CK TX License	IEEE 802.3 CK Validation (D90103CKC)
<b>SW00OIFC</b> OIF CEI TX License	OIF CEI Validation (D9050CEIC)

# Compliance Software Licensing and KeysightCare Software Support Subscriptions

Each of the Infiniium measurement, analysis, decode, triggering, and compliance software options are offered as various software licensing options. Choose your license term, type, and support contract for each software product.

## Select your software license:


1. Choose your software product (for example: D9050PCIC).
2. Choose your license term: perpetual or subscription.
  - a. **Perpetual** – Perpetual licenses can be used indefinitely.
  - b. **Subscription** – Subscription licenses can be only be used through the term of the license (6, 12, 24, or 36 months license options available).
3. Choose your license type: node-locked, transportable, USB portable, or floating.
  - a. **Node-locked** – License can be used on one specified instrument/computer.
  - b. **Transportable** – License can be used on one instrument/computer at a time but may be transferred to another using Keysight Software Manager (Internet connection required).
  - c. **USB Portable** – License can be used on one instrument/computer at a time but may be transferred to another using a certified USB dongle (available for additional purchase with Keysight part number E8900-D10).
  - d. **Floating (single site)** – Networked instruments/computers can access a license from a server one at a time. Multiple licenses can be purchased for concurrent usage.
4. Choose your support subscription duration.
  - a. Perpetual licenses are sold with a **12 (default), 24, 36, or 60-month software support subscription**. Support subscriptions can be renewed for a fee after that.
  - b. Subscription licenses include a **software support subscription through the term of the license**.

# Confidently Covered by Keysight Services

Prevent delays caused by technical questions and reduce system downtime due to instrument maintenance and repairs with Keysight Services. Keysight Services are here to support your test needs with expert technical support, instrument repair and calibration, software support, training, alternative acquisition program options, and more.

A KeysightCare agreement provides dedicated, proactive support through a single point of contact for instruments, software, and solutions. KeysightCare covers an extensive group of instruments, application software, and solutions and ensures optimal uptime, faster response, faster access to experts, and faster resolution.

## Keysight Services

Offering	Benefits
<b>KeysightCare</b> 	KeysightCare provides elevated support for Keysight instruments and software, with access to technical support experts that respond within a specified time and ensure committed repair and calibration turnaround times (TAT). KeysightCare offers multiple service agreement tiers, including KeysightCare Assured, Enhanced, and Application Software Support. See the <a href="#">KeysightCare data sheet</a> for details.
KeysightCare Assured	KeysightCare Assured goes beyond basic warranty with repair services that include committed TAT and unlimited access to technical experts.
KeysightCare Enhanced	KeysightCare Enhanced includes all the benefits of KeysightCare Assured plus Keysight's accurate and reliable <a href="#">Calibration Services</a> , accelerated, and committed TAT, and technical response.
<b>Keysight Support Portal &amp; Knowledge Center</b>	All KeysightCare tiers include access to the Keysight Support Portal where you can manage support and service resources related to your assets such as service requests, and status, or browse the Knowledge Center.
<b>Education Services</b>	Build confidence and gain new skills to make accurate measurements, with flexible Education Services developed by Keysight experts. Including Start-up Assistance.
<b>Alternative acquisition options</b>	
<b>KeysightAccess</b>	Reduce budget challenges with a leased-based subscription service, that offers low monthly payments, enabling you to get the instruments, software, and technical support you want for your test needs.

## Recommended services

Maximize your test system up-time by securing technical support, repair, and calibration services with committed response and turnaround times. 1-year KeysightCare Assured is included in every new instrument purchase. Obtain multi-year KeysightCare upfront to eliminate the need for lengthy and tedious paperwork and yearly requests for maintenance budget. Plus, you benefit from secured service for 2, 3, or 5 years.

Service	Function
<b>KeysightCare Enhanced*</b>	<b>Includes tech support, warranty and calibration</b>
R-55B-001-1	KeysightCare Enhanced – Upgrade 1 year
R-55B-001-2	KeysightCare Enhanced – Extend to 2 years
R-55B-001-3	KeysightCare Enhanced – Extend to 3 years (Recommended)
R-55B-001-5	KeysightCare Enhanced – Extend to 5 years (Recommended)
<b>KeysightCare Assured</b>	<b>Includes tech support and warranty</b>
R-55A-001-2	KeysightCare Assured – Extend to 2 years
R-55A-001-3	KeysightCare Assured – Extend to 3 years
R-55A-001-5	KeysightCare Assured – Extend to 5 years
<b>Start-Up Assistance</b>	
PS-S40-01	Included – instrument fundamentals and operations starter
PS-S40-04	Recommended – instrument fundamentals and operations starter
PS-S40-02	Optional, technology & measurement science standard learning

\* Available in select countries. For details, please view the [datasheet](#). R-55B-001-2/3/5 must be ordered with R-55B-001-1.

## More Information

Thank you for choosing a Keysight UXR-Series Oscilloscope. The Keysight Infiniium UXR-Series oscilloscopes set a new standard for real-time oscilloscope accuracy, with models ranging from 5 to 110 GHz. Extreme signal integrity, 10-bits of vertical resolution and ultra-low noise floor specifications allow for the truest representation of signals. Invest with confidence today, knowing you have the ability to meet the needs of technology advancements tomorrow. For more information on the UXR, check out the following:

- [UXR Datasheet](#)
- [UXR Technical Overview](#)
- [Infiniium Oscilloscope Probes and Accessories](#)

For more information on Keysight Technologies' products, applications, or services, please visit: [www.keysight.com](http://www.keysight.com)



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