

# Infiniium XR8 Oscilloscopes

A Next-Generation High-Performance Real-Time Platform with 8–33 GHz Bandwidth

## Introduction

The XR8 oscilloscope platform defines a new generation of high-performance real-time measurement for modern high-speed digital and SerDes applications. Built on smarter software, a smaller and more efficient hardware design, and superior signal integrity, XR8 delivers targeted performance gains that directly improve engineering productivity and measurement confidence.



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## NOTE:

For a description of key features, see the Infiniium XR8 Oscilloscopes Technical Overview.

For detailed specifications, see the Infiniium XR8 Oscilloscopes Data Sheet.

# Configure Your XR8 High Performance Real-Time Oscilloscope Solution

The Keysight Infiniium XR8 oscilloscope platform introduces a next-generation approach to high-performance real-time measurement, purpose-built for advanced digital and SerDes designs. By combining smarter software, a smaller footprint, and superior signal integrity, XR8 delivers practical performance improvements where they matter most.

Infiniium XR8 oscilloscopes combine unmatched measurement accuracy with accelerated analysis powered by custom ASIC technology and Infiniium 2026 software. With fully upgradeable architecture, the XR8 enables capabilities that were previously unattainable — while preserving flexibility and long-term investment value.

Choose configuration options and software to optimize your workflows or expand an existing instrument using model-based upgrades as your measurement needs grow.

## Step 1: Choose Your XR8 Bandwidth Options

The Infiniium XR8 oscilloscope platform is offered under a single model number, XR804KA, and features native 2.92 mm input connectors with bandwidth options ranging from 8 GHz to 33 GHz. Each channel supports 128 GSa/s sampling, and configuration options allow uniform bandwidth operation across all four channels or full bandwidth on the first two channels with lower bandwidth operation on the remaining two channels, enabling performance to be matched precisely to application and measurement requirements.



Model	Option	Bandwidth (Maximum / Channel)
XR804KA	XR804KA-084	8 GHz / 4 channels
	XR804KA-104	10 GHz / 4 channels
	XR804KA-134	13 GHz / 4 channels
	XR804KA-164	16 GHz / 4 channels
	XR804KA-204	20 GHz / 4 channels
	XR804KA-252	25 GHz / 2 channels; 13 GHz / 2 channels
	XR804KA-254	25 GHz / 4 channels
	XR804KA-332	33 GHz / 2 channels; 25 GHz / 2 channels
	XR804KA-334	33 GHz / 4 channels

All Infiniium XR8 Real-Time Oscilloscopes come standard with the following accessories:

- Removable 960 GB Windows 11 enterprise grade SSD 2.5" hard drive
- 2.92 mm connector savers, kit of 5 (1250-4105)
- One Torque-Wrench 8 lb-in, 5/16 inch (8710-1765)
- One Torque-Wrench 8 lb-in, 20 mm open end (8710-1764)
- One Wrench for fixed position, 2 mm thick, dual-ended, fits 6 mm and 7 mm (54964-03801)
- Country-specific power cord
- Front cover (54955-44101)
- USB keyboard
- USB optical mouse
- ESD mat with wrist straps (9300-2665)
- ESD Warning sticker Sheet
- Tips for Preventing Damage to Oscilloscopes
- Envelope Calibration Certificate
- Pre-Power-On Safety Notes
- Keysight safety leaflet

All Infiniium XR8 Real-Time come standard with the following software features:

- New Infiniium 2026 Baseline Software
- 1 Gpt of high-performance deep memory per channel
- 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.
- Zone qualification trigger
- Measurement qualification trigger
- User defined function
- User defined measurement
- 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.

## Step 2: Select Add-On Software

Infiniium XR8 add-on software offers a wide range of advanced measurement and analysis applications that extend the capability of the instrument. The zone-based qualification trigger, previously known as InfiniiScan, is now included as a standard feature on XR8 and no longer requires a separate option. Select additional add-on software to match your specific measurement needs and unlock the full potential of your hardware through a KeysightCare software support subscription.

Model Number	Measurement and Analysis Software Description
D9320PAMA	Pulse amplitude modulation PAM-N analysis software
D9320JITA	Jitter and vertical noise analysis software (recommended)
D9320ASIA	Advanced signal integrity software (EQ, InfiniiSimAdv, Crosstalk) (recommended)
D9310AGGC	Compliance application measurement server software

## Step 3: Upgrade Your Oscilloscope Memory

Enable more capture depth with industry-leading deep memory. Get up to 8 Gpts per channel.

Option Number	Description
XR804KA-02G	2 Gpts per channel high performance memory
XR804KA-08G	8 Gpts per channel high performance memory

## Step 4: Choose Your Infiniium Probes and Accessories

The XR8 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. 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)
MX0031A	52 GHz InfiniiumMax 4 Probe Amplifier	(RCRC architecture)
MX0030A	42 GHz InfiniiumMax 4 Probe Amplifier	(RCRC architecture)
N7012A	59 GHz Active Termination Adapter	
N7011A	40 GHz Active Termination Adapter	
N7010A	30 GHz Active Termination Adapter	N2852A Adapter Required
MX0020A	10 GHz InfiniiumMax Ultra Probe Amplifier	(RC architecture) N2852A Adapter Required
MX0021A	13 GHz InfiniiumMax Ultra Probe Amplifier	(RC architecture) N2852A Adapter Required
MX0022A	16 GHz InfiniiumMax Ultra Probe Amplifier	(RC architecture) N2852A Adapter Required
MX0024A	20 GHz InfiniiumMax Ultra Probe Amplifier	(RC architecture) N2852A Adapter Required
MX0025A	25 GHz InfiniiumMax Ultra Probe Amplifier	(RC architecture) N2852A Adapter Required

## Step 5: Choose Your Infiniium Accessories

Get additional connectors, adapters, wrenches, and more to fully outfit your lab. Some of the below items come standard with XR8 models. See page 4 for what's already included before adding additional accessories.

Model Number	Description
N3079A	Additional Windows 11 removable SSD for Infiniium XR804KA Oscilloscopes
N2178A	Rack Mount Kit for Infiniium XR8 Oscilloscope
N2179A	Transit Case for Infiniium XR8 Oscilloscope
1250-4105	Adapter, 2.92 mm F to 2.92 mm F
N2823A	2.92 mm Coaxial Phased-matched Pair, 1 m
8710-1765	Torque-Wrench 8 lb-in, 5/16 inch
8710-1764	Torque-Wrench 8 lb-in, 20 mm open-ended
54964-03801	Wrench, 2 mm thick, dual-ended, fits 6 mm and 7 mm
AC0199A	ESD Cable Discharger for 1.85 mm to 3.5 mm Connectors

## Step 6: Upgrade Your Infiniium XR8 Oscilloscope

XR8 oscilloscopes are designed for complete, long-term upgradability. You might never need to buy a new oscilloscope again. With every XR8 already factory-calibrated to peak bandwidth, upgrading bandwidth or memory is as easy as ordering and activating a license.

Model Number	Memory (License Only)
N3075AU-12G	Upgrade- Memory 1G to 2G
N3075AU-28G	Upgrade- Memory 2G to 8G

Model Number	Bandwidth (License Only)
N3074AU-001	Upgrade - 4Ch Infiniium XR8 8 GHz to 10 GHz
N3074AU-002	Upgrade - 4Ch Infiniium XR8 10 GHz to 13 GHz
N3074AU-003	Upgrade - 4Ch Infiniium XR8 13 GHz to 16 GHz
N3074AU-004	Upgrade - 4Ch Infiniium XR8 16 GHz to 20 GHz
N3074AU-005	Upgrade - 4Ch Infiniium XR8 20 GHz to 25 GHz
N3074AU-006	Upgrade - 4Ch Infiniium XR8 25 GHz to 33 GHz
N3074AU-010	Upgrade - 25 GHz 2Ch and 13 GHz 2Ch to 33 GHz 2Ch and 25 GHz 2Ch
N3074AU-014	Upgrade - 25 GHz 2Ch and 13 GHz 2Ch to 25 GHz 4Ch
N3074AU-015	Upgrade - 33 GHz 2Ch and 25 GHz 2Ch to 33 GHz 4Ch

## Step 7: Choose Your Infiniium XR8 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-S20-1	Recommended 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 8: Choose Your Infiniium Compliance Software

Keysight offers a wide variety of compliance software applications for the Infiniium XR8 Oscilloscope. Choose your license term, license type, and KeysightCare software support subscription that best fits your needs and budget.

Model Number	Description
D9350DDRC	DDR5 TX compliance test software (16 GHz +)
D9320USBC	USB 3.2 5 Gbps and 10 Gbps TX compliance test software (16 GHz+)
D9340USBC	USB 4 TX test software (33 GHz +)
D9350USBC	USB 4v2 80 Gbps TX test software (25 GHz +)
D9310CPHC	MIPI C-PHY TX compliance test software (16 GHz +)
D9330DPHC	MIPI D-PHY TX compliance test software (25 GHz +)
D9342DPPC	DisplayPort UHBR TX test software (25 GHz +)
D9350LDDC	LPDDR5 TX compliance test software (25 GHz +)
D9360LDDC	LPDDR6 TX compliance test software (25 GHz +)

## Step 9: 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 technology.

Model Number	Technology Generation and Variants Coverage
SW30DDR DDR Validation Suite	DDR5 TX compliance test software
SW30LDDR LPDDR Validation Suite	LPDDR5 TX compliance test software LPDDR6 TX compliance test software
SW30USBH USB High Speed Validation Suite	USB 3.2 TX compliance test software USB 4.0 TX test software USB 4v2 TX test software
SW30DSPP DisplayPort Validation Suite	DisplayPort UHBR TX compliance test software DisplayPort 1.4a TX compliance test software

# Step 10: 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/5G-Advanced, WLAN 802.11ax/11be/bn, 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 XR8, provides an outstanding solution for wideband analysis, Multiple Input Multiple Output (MIMO), and support EVM improvement technologies including cross-correlated Error Vector Magnitude (ccEVM) and IQ Noise Correction (IQ-NC).

For 5G NR/5G-Advanced:

- 89601201C: Advanced vector signal analysis with hardware connectivity, unlimited frequency and IF/BBIQ bandwidth, as well as up to 64 measurement channels and 512 parallel VSA instances
- 89601BHNC: 5G NR Modulation Analysis (MIMO support; ccEVM and IQ-NC with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: EVM improvement with cross-correlated EVM and IQ-NC

For 6G research or general purpose:

- 89601201C: Advanced vector signal analysis with hardware connectivity, unlimited frequency and IF/BBIQ bandwidth, as well as up to 64 measurement channels and 512 parallel VSA instances
- 89601AYAC: Digital demodulation analysis (FlexFrame; IQ-NC and ccEVM with 89601EVMC)
- 89601BHFC: Custom OFDM modulation analysis (MIMO support; ccEVM and IQ-NC with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: EVM improvement with cross-correlated EVM and IQ-NC

For WLAN:

- 89601201C: Advanced vector signal analysis with hardware connectivity, unlimited frequency and IF/BBIQ bandwidth, as well as up to 64 measurement channels and 512 parallel VSA instances
- 89601B7RC: Wireless connectivity modulation analysis (802.11a/b/g//j/p)
- 89601BHXC: High throughput WLAN modulation analysis (802.11n/ac/ax/be/bn; MIMO support; ccEVM and IQ-NC support with 89601EVMC)
- 89601PSMC: Power Suite measurement (ACP/SEM)
- 89601EVMC: EVM improvement with cross-correlated EVM and IQ-NC

For pulse analysis:

- 89601201C: Advanced vector signal analysis with hardware connectivity, unlimited frequency and IF/BBIQ bandwidth, as well as up to 64 measurement channels and 512 parallel VSA instances
- 89601BHQC: Pulse analysis
- 89601BHQP: FMCW analysis

For satellite communication:

- 89601201C: Advanced vector signal analysis with hardware connectivity, unlimited frequency and IF/BBIQ bandwidth, as well as up to 64 measurement channels and 512 parallel VSA instances
- 89601DVBC: SatComm Analysis for DVB-S2/S2X (ccEVM and IQ-NC support with 89601EVMC)
- 89601EVMC: EVM improvement with cross-correlated EVM and IQ-NC

For UWB analysis:

- 89601202C: Standard vector signal analysis with hardware connectivity, up to 55 GHz center frequency, IF/BBIQ bandwidth up to 2.16 GHz, as well as up to 4 measurement channels and parallel VSA instances
- 89601BHTC: IoT modulation analysis

Three different tiered models 89601201C, 89601202C and 89601203C are newly introduced to cover the capabilities with different center frequency (CF), intermediate frequency (IF) bandwidth, baseband IQ (BBIQ) bandwidth, and measurement channels and parallel VSA instances limitations.

89600 VSA also supports the post-upgrade from 89601202C "Standard" tier to "Advanced" tier working together with 89601201U, and from 89601203C "Essential" tier to "Standard" tier working together with 89601202U. Those upgrades are supported with VSA2025 U2 (Build 29.40) or above release.

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

Model Number	Description
89601201C	Advanced tier with no center frequency, bandwidth up to 64 measurement channels, and 512 parallel VSA instances
89601202C	Standard tier up to 55 GHz CF, 2.16 GHz bandwidth, up to four measurement channels, and four parallel VSA instances
89601AYAC	Digital demodulation analysis (Digital demod, Custom IQ, and Flex Frame)
89601B7NC	3G modulation analysis (W-CDMA/HSPA, TD-SCDMA, cdma2000, 1xEV-DO)
89601B7RC	Wireless connectivity modulation analysis (802.11a/b/j/j/p)
89601BHFC	Custom OFDM modulation analysis
89601BHGC	LTE/LTE-A FDD modulation analysis
89601BHHC	LTE/LTE-A TDD modulation analysis
89601BHMC	DOCSIS modulation analysis (DOCSIS3.1 and 4.0)

89601BHNC	5G NR/5G-Advanced modulation analysis
89601BHPC	FMCW radar analysis
89601BHQC	Pulse analysis (Pulse modulated radar analysis, frequency hopping, advanced radar)
89601BHXC	High-throughput WLAN modulation analysis (802.11n/ac/ax/be/bn)
89601BHTC	IoT modulation analysis (NB-IoT, RFID, HRP UWB)
89601CSDC	Channel sounding signal analysis
89601DVBC	Satellite communication demodulation analysis (DVB-S2, DVB-S2X)
89601EVMC	EVM improvement with cross-correlated EVM (ccEVM) and IQ-NC
89601PSMC	PowerSuite measurement (ACP/SEM)
89601ULPC	O-RAN ULPI measurement for 5G NR
89601ITQC	Radar pulse analysis for electric warfare (ITAR version)

## 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.
  - 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.

# Keysight Support Services

Accelerate your learning curve, enhance your test uptime, and confidently guarantee your instrument accuracy with Keysight Support Services. Keysight Services are here to support your test needs with expert technical support, instrument repair and calibration, training, alternative acquisition program options, and more.

A KeysightCare agreement provides dedicated, proactive support through a single point of contact for an extensive group of instruments, software, and solutions to ensure optimal uptime, with fast response times and resolution. Explore the services that are right for you.

## Keysight Services

Offering	Benefits
<b>KeysightCare</b> 	KeysightCare provides elevated support for Keysight instruments and software, with access to technical support experts who 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 provides a commitment to respond to your engineer's technical needs quickly. When unexpected repairs are necessary, you can count on a committed repair service turnaround time to get you back up and running.
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 lease-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 instrument uptime and confidently make accurate measurements by securing technical support, repair, and calibration services with committed response and turnaround times. High-performance instruments include 1 year of KeysightCare Assured. 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 Infiniium XR8 Oscilloscope. The Keysight Infiniium XR8 oscilloscopes set a new standard for real-time oscilloscope accuracy, with models ranging from 8 to 33 GHz. Extreme signal integrity, 12-bits of vertical resolution and ultra-low noise floor specifications allow for the truest representation of signals. Invest with confidence today, knowing you can meet the needs of technology advancements tomorrow. For more information on the XR8, check out the following:

- [Infiniium XR8 Datasheet](#)
- [Infiniium XR8 Technical Overview](#)
- [Infiniium Oscilloscope Probes](#) and Accessories

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at [www.keysight.com](http://www.keysight.com).



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