

KEYSIGHT TECHNOLOGIES (AGILENT HP)

MXR608A

The Keysight Technologies MXR608A is a high-performance model in the Infiniium MXR-Series real-time oscilloscopes. It features an impressive 6 GHz of analog bandwidth across 8 channels simultaneously, utilizing a 10-bit ADC architecture to deliver exceptionally low noise floor measurements. Designed for comprehensive hardware debugging and multi-domain analysis, it integrates multiple instrument capabilities including an oscilloscope, logic analyzer, protocol analyzer, and digital voltmeter in a single benchtop form factor with a 15.6-inch Full HD touch display.

SPECIFICATIONS

General

Interfaces	USB 3.0 (host/device), Gigabit Ethernet (LAN), DisplayPort, HDMI, 10 MHz Reference Input/Output, Auxiliary Output
Display	15.6-inch capacitive multi-touch screen, Full HD (1920 x 1080) resolution

Physical

Power Supply	100 to 240 VAC (±10%) at 50/60 Hz, 500 W maximum power consumption
Operating Temperature	5 to 40 °C °C
Dimensions (W×H×D)	429 mm × 313 mm × 225 mm mm
Weight	12.0 kg

Key Specifications

Analog Bandwidth	6 GHz
Number of Analog Channels	8
Number of Digital Channels	16 (optional, requires MSO cable)
Max Real-Time Sample Rate	16 GSa/s on all 8 channels
Standard Memory Depth	200 Mpts per channel
Maximum Memory Depth	1.6 Gpts per channel (optional)
Vertical Resolution	10-bit ADC (up to 16-bit in High Resolution mode)
Waveform Update Rate	> 200,000 wfm/s

Vertical System - Analog Channels

Input Impedance	50 Ω ($\pm 1.5\%$) and 1 M Ω ($\pm 1\%$, ~ 15 pF)
Input Coupling	DC, AC (1 M Ω only)
Maximum Input Voltage (50 Ω)	5 V rms, overvoltage protection enabled
Vertical Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
Vertical Sensitivity Range (1 M Ω)	1 mV/div to 10 V/div
DC Vertical Gain Accuracy	$\pm 1.5\%$ of full scale
Channel-to-Channel Isolation	40 dB or greater (DC to 6 GHz)
Hardware Bandwidth Limits	20 MHz, 200 MHz
Calculated Rise Time (10% to 90%)	75 ps
Calculated Rise Time (20% to 80%)	53 ps
Offset Range (50 Ω)	± 1.2 V (scales ≤ 50 mV/div), ± 4 V (scales > 50 mV/div to 200 mV/div), ± 5 V (scales > 200 mV/div)
Vertical Resolution (High Resolution Mode)	Up to 16 bits

Vertical System - Digital Channels

Maximum Input Toggle Rate	400 MHz
Minimum Detectable Pulse Width	1.5 ns
Input Impedance (Digital)	100 k Ω $\pm 2\%$ (~ 8 pF)
Digital Threshold Selections	TTL, CMOS, ECL, PECL, User-defined
Digital Threshold Accuracy	$\pm(100$ mV + 3% of threshold setting)

Horizontal System

Timebase Range	5 ps/div to 20 s/div
Timebase Accuracy	± 100 ppb (initial)
Sample Clock Jitter	90 fs rms

Acquisition System

Segmented Memory Max Segments	524,288
Roll Mode Support	Supported
Analog-to-Digital Converters (ADC)	High-speed 10-bit ADC

Trigger System

Trigger Sources	Analog channels, Digital channels, Aux, Line
Trigger Coupling	DC, AC, LF Reject, HF Reject, Noise Reject
Trigger Holdoff Range	8 ns to 10 s
Hardware Trigger Types	Edge, Edge Transition, Glitch, Width, Runt, Timeout, Pattern, State, Setup/Hold, Window

Waveform Measurements and Analysis

Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Integrate, Differentiate, FFT Magnitude, FFT Phase
FFT Window Types	Hanning, Rectangular, Hamming, Blackman-Harris, Flattop

Display and User Interface

Internal Storage Capacity	500 GB removable SSD
Operating System	Windows 10 IoT Enterprise 64-bit

Connectivity and Interfaces

Reference Clock Input	10 MHz, 50 Ω , 0 dBm to +10 dBm
Reference Clock Output	10 MHz, 50 Ω , +4 dBm $\pm$ 2 dB

Power and Environmental

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 90% relative humidity at +40 °C (non-condensing)
Operating Altitude	Up to 3,000 m (9,842 ft)

Compliance and Standards

Calibration Interval	1 year
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Built-in Instruments

Digital Voltmeter	3-digit DVM (standard)
Frequency Counter	10-digit counter (standard)
Optional WaveGen Frequency Range	0.1 Hz to 50 MHz

Ordering Information and Upgrades

Standard Probes Included	N2873A 500 MHz passive probes (8 included)
Compatible Active Probes	InfiniiMax III/III+, InfiniiMode, AutoProbe II interface compatible

Processing & System

Processor	Intel Core i7 (6-core)
System Memory	32 GB RAM

Analog Channels

Simultaneous Channels at Full Bandwidth	4 channels
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Multi-Instrument Capabilities

Real-Time Spectrum Analysis (RTSA)	Supported up to 320 MHz span (optional)
Phase Noise Analyzer	Supported via optional software
Protocol Analyzer	Supported via optional license

Standard Software Applications

Standard Software Features	User-defined function, Quick Measure, Mask Testing, Search & Mark, History Mode
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Safety & Compliance

Safety Certifications	CAN/CSA-C22.2 No. 61010-1-12, UL Std. No. 61010-1 (3rd Edition)
EMC Standards	IEC 61326-1, EN 61326-1, CISPR 11/EN 55011 Class A

Connectivity & Interfaces

Front USB Ports	2x USB 3.0 Host
Ethernet Ports	1x 10G/5G/2.5G/1GBASE-T (RJ-45), 1x 1000BASE-T (RJ-45)
Video Output Ports	1x DisplayPort, 1x HDMI
GPIO Interface	Optional via USB-GPIO adapter

Electrical & Environmental

Max Power Consumption	850 W
Line Voltage Range	100 to 240 VAC
Line Frequency Range	50/60 Hz

TECHNOLOGY

Digital Storage Oscilloscope (DSO) / Mixed Signal Oscilloscope (MSO)

APPLICATIONS

High-speed digital design, power integrity, jitter analysis, automotive Ethernet, DDR memory debugging, and RF multi-channel analysis

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