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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight MSOX6004A

Agilent Keysight MSOX6004A Mixed Signal Oscilloscope 1 GHz 4+16 ch The Keysight InfiniiVision MSOX6004A is a 6000 X-Series oscilloscope with 1 GHz base analog bandwidth and 4 analog channels plus 16 digital channels. OEM 6000 X-Series data sheet 5991-4087 lists 20 GSa/s half channel / 10 GSa/s all channel sample rate, 4 Mpts half / 2 Mpts all memory at 2 GSa/s or less, calculated rise time 350 ps or less at 1 GHz, and 115 uVrms typical noise floor at 1 mV/div 50 ohm. High speed mixed signal debug, jitter and real time eye option path, and bandwidth upgradeable validation from 1 GHz toward 6 GHz. The Keysight InfiniiVision MSOX6004A is a 6000 X-Series oscilloscope with 1 GHz base analog bandwidth and 4 analog channels plus 16 digital channels. OEM 6000 X-Series data sheet 5991-4087 lists 20 GSa/s half channel / 10 GSa/s all channel sample rate, 4 Mpts half / 2 Mpts all memory at 2 GSa/s or less, calculated rise time 350 ps or less at 1 GHz, and 115 uVrms typical noise floor at 1 mV/div 50 ohm. High speed mixed signal debug, jitter and real time eye option path, and bandwidth upgradeable validation from 1 GHz toward 6 GHz.

MODEL Agilent / Keysight MSOX6004A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU MSOX6004A	LISTING https://aumictechlabs.com/products/msox6004a-2/

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight MSOX6004A is a 1 GHz mixed-signal oscilloscope integrating analog capture, 16 digital channels, and optional serial protocol analysis in a single instrument. Built on the InfiniiVision 6000 X-Series platform, it delivers 20 GSa/s maximum sample rate (half channels) and up to 4 Mpts memory

depth, supported by waveform update rates exceeding 450,000 waveforms per second. The 12.1-inch capacitive multi-touch display with gesture controls and embedded OS interface - including voice commands in 14 languages - streamlines signal acquisition and analysis workflows.Engineers deploying this oscilloscope gain access to seven integrated instruments: oscilloscope, mixed-signal analyzer, optional waveform generator, Bode plot analysis, 3-digit DVM, and 10-digit counter. Advanced triggering includes Zone Touch Trigger, edge, pulse width, logic, sequence, and holdoff modes. Signal integrity work benefits from histogram and color-grade visualization, enhanced color FFT, and optional jitter and real-time eye diagram analysis.Bandwidth upgrades extend the base 1 GHz specification to 2.5 GHz, 4.0 GHz, or 6.0 GHz via license activation.Technical Specifications Analog Channels: 4 Digital Channels: 16 Base Bandwidth: 1 GHz (upgradeable to 2.5 GHz, 4.0 GHz, or 6.0 GHz) Maximum Sample Rate: 20 GSa/s (half channels); 10 GSa/s (all channels) Maximum Memory Depth: 4 Mpts (half channels); 2 Mpts (all channels) Vertical Resolution: 8 bits Waveform Update Rate: >450,000 waveforms/second Display: 12.1-inch capacitive multi-touch Segmented Memory: Standard Hardware Bandwidth Limits: 20 MHz, 200 MHz (per channel) Operating Temperature: 0 to +50 °C Maximum Altitude: 3962 m Power Consumption: 200 W maximum Dimensions: 425 mm W × 288 mm H × 148 mm D Net Weight: 6.8 kgKey Features Zone Touch Trigger, edge, pulse width, logic, sequence, and holdoff triggering Histogram, color-grade, and enhanced color FFT visualization Optional jitter and real-time eye diagram analysis Dual-channel waveform generator (optional) Serial protocol analyzer (optional) Frequency response analysis (Bode plot) 3-digit digital voltmeter 10-digit counter and totalizer Voice control in 14 languages USB 2.0 Host (front/rear) and Device (rear) 10/100/1000 LAN connectivityTypical Applications Embedded systems development, RF design, digital system validation, and signal integrity analysis.Compatibility & Integration Supports USB memory devices, printers, keyboards, mice, and microphones. Segmented memory enables efficient capture of complex, multi-event sequences.

MSOX6004A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Mixed Signal Oscilloscope
Series Family	InfiniiVision 6000 X-Series
Model	MSOX6004A
Half Channel Bandwidth Base	1 GHz (minus 3 dB); upgradeable to 2.5, 4, or 6 GHz
Full Channel Bandwidth Base	1 GHz (minus 3 dB)
Calculated Rise Time 10 to 90 At 1 GHz	350 ps or less
Analog Channels	4
Digital Channels	16
Maximum Sample Rate Half Channel	20 GSa/s
Maximum Sample Rate All Channels	10 GSa/s
Memory Depth At Or Below 2 GSas	4 Mpts half channels; 2 Mpts all channels
Memory Depth Above 2 GSas	1 Mpts half channels; 500 kpts all channels
Waveform Update Rate	greater than 450,000 waveforms per second
Display	12.1 inch capacitive multi touch gesture enabled
Typical Noise Floor 1 GHz	115 uVrms at 1 mV/div, 50 ohm
Vertical Resolution	8 bits (12 bits with averaging)
Input Impedance	1 MOhm plus or minus 1 percent (14 pF); 50 ohm plus or minus 3 percent
Input Sensitivity 1 MOhm	1 mV/div to 5 V/div (200 MHz bandwidth limit at 2 mV/div or less)
Input Sensitivity 50 Ohm	1 mV/div to 1 V/div
Hardware Bandwidth Limits 1 MOhm	20 MHz, 200 MHz selectable per channel
Hardware Bandwidth Limits 50 Ohm	20 MHz, 200 MHz, 1.5 GHz, 3 GHz selectable per channel
DC Vertical Gain Accuracy Warranted	plus or minus 2.5 percent full scale at plus or minus 4 div
DC Vertical Gain Accuracy Typical	plus or minus 1.5 percent full scale at plus or minus 3 div
Time Base Range At 1 GHz	500 ps/div to 50 s/div
Time Base Accuracy	plus or minus 1.6 ppm plus aging (1 year plus or minus 0.5 ppm)

PARAMETER	VALUE
Time Base Resolution	2.5 ps
Segmented Memory Maximum Segments	1000
Segmented Memory Rearm Time	as fast as 1 us
Digital Input Impedance	100 kOhm plus or minus 2 percent at probe tip
Digital Min Voltage Swing	500 mVpp
Voice Control	standard
WaveGen Option	optional dual channel 20 MHz function/AWG (DSOX6WAVEGEN2)
Connectivity Standard	USB 2.0, LAN 10/100/1000, video; GPIB option
Dimensions WxHxD	425 mm x 288 mm x 148 mm
Weight Net	6.8 kg (15 lb)
Weight Shipping	11.3 kg (25 lb)
Form Factor	benchtop oscilloscope
Bandwidth	Base: 1 GHz (minus 3 dB); upgradeable to 2.5, 4, or 6 GHz
Rise Time	10 to 90 At 1 GHz: 350 ps or less

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

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PARAMETER	VALUE
Instrument Type	Mixed Signal Oscilloscope
Series Family	InfiniiVision 6000 X-Series
Model	MSOX6004A
Half Channel Bandwidth Base	1 GHz (minus 3 dB); upgradeable to 2.5, 4, or 6 GHz
Full Channel Bandwidth Base	1 GHz (minus 3 dB)

Calculated Rise Time 10 to 90 At 1 GHz: 350 ps or less

Specifications

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Analog Channels	4
Digital Channels	16
Maximum Sample Rate Half Channel	20 GSa/s
Maximum Sample Rate All Channels	10 GSa/s
Memory Depth At Or Below 2 GSas	4 Mpts half channels; 2 Mpts all channels
Memory Depth Above 2 GSas	1 Mpts half channels; 500 kpts all channels
Waveform Update Rate	greater than 450,000 waveforms per second
Display	12.1 inch capacitive multi touch gesture enabled
Typical Noise Floor 1 GHz	115 uVrms at 1 mV/div, 50 ohm
Vertical Resolution	8 bits (12 bits with averaging)
Input Impedance	1 MOhm plus or minus 1 percent (14 pF); 50 ohm plus or minus 3 percent
Input Sensitivity 1 MOhm	1 mV/div to 5 V/div (200 MHz bandwidth limit at 2 mV/div or less)
Input Sensitivity 50 Ohm	1 mV/div to 1 V/div
Hardware Bandwidth Limits 1 MOhm	20 MHz, 200 MHz selectable per channel
Hardware Bandwidth Limits 50 Ohm	20 MHz, 200 MHz, 1.5 GHz, 3 GHz selectable per channel
DC Vertical Gain Accuracy Warranted	plus or minus 2.5 percent full scale at plus or minus 4 div
DC Vertical Gain Accuracy Typical	plus or minus 1.5 percent full scale at plus or minus 3 div

PARAMETER	VALUE
Time Base Range At 1 GHz	500 ps/div to 50 s/div
Time Base Accuracy	plus or minus 1.6 ppm plus aging (1 year plus or minus 0.5 ppm)
Time Base Resolution	2.5 ps
Segmented Memory Maximum Segments	1000
Segmented Memory Rearm Time	as fast as 1 us
Digital Input Impedance	100 kOhm plus or minus 2 percent at probe tip
Digital Min Voltage Swing	500 mVpp
Voice Control	standard
WaveGen Option	optional dual channel 20 MHz function/AWG (DSOX6WAVEGEN2)
Connectivity Standard	USB 2.0, LAN 10/100/1000, video; GPIB option
Dimensions WxHxD	425 mm x 288 mm x 148 mm
Weight Net	6.8 kg (15 lb)
Weight Shipping	11.3 kg (25 lb)
Form Factor	benchtop oscilloscope

Notes
Numeric rows from Keysight InfiniiVision 6000 X-Series oscilloscope data sheet 5991-4087 for MSOX6004A at the 1 GHz base bandwidth license. Quote installed bandwidth option for 2.5/4/6 GHz rise time and noise floor rows.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

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