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Data Sheet
August 13, 2026

AGILENT / KEYSIGHT

Agilent / Keysight M8296A Electrical High Speed Digitizer

Keysight M8296A Electrical High Speed Digitizer 92 GSa/s The Keysight M8296A is a 1-slot AXIe four-channel electrical high-speed digitizer sampling at 83 to 92 GSa/s with 8-bit ADCs and about 37 GHz analog bandwidth. It synchronously digitizes differential outputs from integrated coherent receivers (ICR) for optical modulation analysis and parametric ICR testing within the M8290A solution family. The Keysight M8296A is a 1-slot AXIe four-channel electrical high-speed digitizer sampling at 83 to 92 GSa/s with 8-bit ADCs and about 37 GHz analog bandwidth. It synchronously digitizes differential outputs from integrated coherent receivers (ICR) for optical modulation analysis and parametric ICR testing within the M8290A solution family.

MODEL **Agilent / Keysight M8296A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **M8296A**	LISTING **https://aumictechlabs.com/products/m8296a-2/**

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

NAICS 423690 · 811210 · 541380

This unit

The Keysight M8296A Electrical High-Speed Digitizer is a four-channel modular instrument housed in a single AXIe slot, purpose-built for real-time capture and analysis of transient waveforms, serial data, and jitter across communication and electronics applications. Operating from 50 kHz to 42 GHz with 37 GHz analog bandwidth (3 dB), the M8296A achieves 92 GSa/s

sampling and supports symbol rates to 74 Gbaud, delivering 8-bit resolution across 512 kSa maximum record length per channel. The digitizer integrates with Keysight's Vector Signal Analyzer and Optical Modulation Analyzer software platforms and combines with complementary AXIe modules - including the M8292A optical modulation analyzer and M8196A arbitrary waveform generator - for multi-domain test solutions.On-board FPGA processing enables real-time algorithm execution for immediate signal characteristic detection, with optional firmware supporting specialized functions such as digital down-conversion and waveform averaging. Captured data streams to external post-processing environments including MATLAB, supporting parametric characterization of coherent optical receivers, IQ impairment analysis, and gain imbalance measurements. The M8296A addresses signal integrity validation, coherent receiver testing, and modulation analysis where high bandwidth, fast sampling, and integrated processing accelerate measurement cycles.Technical Specifications ADC Resolution: 8 bits Analog Bandwidth: 37 GHz (3 dB) Frequency Range: 50 kHz to 42 GHz Maximum Sample Rate: 92 GSa/s Maximum Detectable Symbol Rate: 74 Gbaud Maximum Record Length: 512 kSa/channel Channels: 4 electrical inputs Form Factor: 1-slot AXIe moduleKey Features Real-time FPGA-based algorithm processing for fast transient detection Firmware options for averagers and digital down-conversion Integration with Vector Signal Analyzer and Optical Modulation Analyzer software 8-bit sampling across four independent channels with synchronized acquisitionTypical Applications Dual-polarization coherent receiver output digitization Integrated Coherent Receiver (ICR) module parametric testing S21 magnitude response and IQ skew characterization EVM noise floor and image suppression measurement Multi-channel signal integrity and jitter analysisCompatibility & Integration Operates within AXIe chassis architecture Combines with M8292A modular optical modulation analyzer and M8196A 92 GSa/s arbitrary waveform generator Exports waveform data for external processing via MATLAB and equivalent environments Interfaces through Keysight VSA and OMA software suites

Features & description

From manufacturer datasheet

Features

• Four channel electrical high speed digitizer • Sample rate range 83 to 92 GSa/s • Analog bandwidth uncorrected 37 GHz (3 dB) guaranteed • Maximum detectable symbol rate 74 GBd • Input amplitude ranges 150 to 800 mVpp differential • 1-slot AXIe modular form factor

Applications

• Dual polarization coherent receiver digitization • Optical modulation analyzer electrical front end • Integrated coherent receiver S21 IQ skew and EVM tests • Multi-module AXIe optical/electrical test systems with M8196A AWG

M8296A Characteristics / Specifications

PARAMETER	VALUE
Model	M8296A
Manufacturer	Keysight
Instrument Type	Electrical High Speed Digitizer
Alias	M8296A; Keysight M8296A Digitizer
Maximum detectable symbol rate	74 GBd
Sample rate range	83 to 92 GSa/s
Maximum record length per channel	512 kSa
ADC resolution	8 bit
Operating frequency range	50 kHz to 42 GHz
Analog bandwidth uncorrected	37 GHz 3 dB guaranteed
Skew between input channels	less than plus or minus 250 fs
Skew between normal and complement	less than plus or minus 1 ps
Input amplitude ranges	150 300 500 800 mVpp differential
Input impedance	50 ohm nominal
Number of input channels	4
Trigger input range	-4 V to plus 4 V
Trigger threshold resolution	10 mV
Trigger sensitivity	100 mV
Reference clock input frequency	10 MHz to 17 GHz
Reference clock amplitude	500 mVpp to 2 Vpp
Reference clock output amplitude	0.9 Vpp nominal
Form factor	1 slot AXIe
Dimensions	322.25 mm x 30 mm x 281.5 mm
Weight	3.3 kg
Power consumption	100 W at 92 GSa/s

PARAMETER	VALUE
Operating temperature	plus 5 C to plus 35 C
Related solution	M8290A Optical Modulation and High Speed Digitizer
Related AWG companion	M8196A 92 GSa/s
Publication	Keysight 5992-2480 M8290A datasheet Notes Specs from Keysight M8290A / M8296A electrical high-speed digitizer datasheet 5992-2480. Confirm firmware, record-length effective samples, and companion M8292A/M8196A population in the chassis.
Bandwidth	uncorrected 37 GHz (3 dB) guaranteed - Maximum detectable symbol rate 74 GBd - Input amplitude ranges 150 to 800 mVpp differential - 1-slot AXIe modular form factor

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	plus 5 C to plus 35 C
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Related AWG companion	M8196A 92 GSa/s
Publication	Keysight 5992-2480 M8290A datasheet Notes Specs from Keysight M8290A / M8296A electrical high-speed digitizer datasheet 5992-2480. Confirm firmware, record-length effective samples, and companion M8292A/M8196A population in the chassis.

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

Specifications

PARAMETER	VALUE
Model	M8296A
Manufacturer	Keysight
Instrument Type	Electrical High Speed Digitizer
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Sample rate range	83 to 92 GSa/s
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PARAMETER	VALUE
Related solution	M8290A Optical Modulation and High Speed Digitizer
Related AWG companion	M8196A 92 GSa/s
Publication	Keysight 5992-2480 M8290A datasheet

Notes
Specs from Keysight M8290A / M8296A electrical high-speed digitizer datasheet 5992-2480. Confirm firmware, record-length effective samples, and companion M8292A/M8196A population in the chassis.

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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Generated August 13, 2026