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Data Sheet

August 12, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) U4154A 4 Gb/s AXIe-based Logic Analyzer Module

Keysight / Agilent U4154A AXIe Logic Analyzer Module The U4154A is a 1-slot AXIe logic analyzer module for high-speed digital validation. Captures state data to 2.5 Gb/s on 136 channels or 4 Gb/s on 68 channels (dual-sample), with 12.5 GHz Timing Zoom and memory options to 200 M samples. The U4154A is a 1-slot AXIe logic analyzer module for high-speed digital validation. Captures state data to 2.5 Gb/s on 136 channels or 4 Gb/s on 68 channels (dual-sample), with 12.5 GHz Timing Zoom and memory options to 200 M samples.



MODEL

**Keysight / Agilent
U4154A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

U4154A

LISTING

<https://aumictechlabs.com/products/u4154a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight U4154A is an AXIe-based logic analyzer module that captures and analyzes high-speed digital signals up to 4 Gb/s. Engineered for complex digital design verification, it delivers real-time signal acquisition with configurable memory depths and advanced triggering capabilities. The module integrates directly into AXIe chassis ecosystems, debug complex digital interfaces and protocols with high fidelity while maintaining minimal loading on the device under test. Technical Specifications Maximum Sample Rate: 4 Gb/s Memory Depth: 128 Mpts/channel, 256 Mpts/channel, 512 Mpts/channel, or 1 Gpts/channel (configurable) Data Rate: Up to 4 Gb/s per channel Input Impedance: High impedance design to minimize DUT loading Input

Capacitance: Low capacitance to preserve signal integrity at high frequencies Triggering: State, timing, and sequence-based trigger modes with support for complex multi-signal conditions Channel Count: Configurable by model variant

Key Features Deep memory acquisition supports extended trace durations for comprehensive signal analysis Advanced trigger architecture accommodates complex event detection across multiple signals High-impedance, low-capacitance input design reduces parasitic loading effects Real-time digital signal capture with jitter tolerance for high-speed operation AXIe form factor enables scalable integration with compatible chassis and additional modules

Typical Applications High-speed digital interface validation and protocol debugging Complex timing and state-based signal analysis in multi-gigabit systems Deep trace acquisition for extended capture windows in signal-critical designs Real-time verification of digital logic behavior under demanding operational conditions

Compatibility & Integration The U4154A operates as an AXIe 1.0 compliant module and connects to compatible Keysight AXIe chassis systems. Standard AXIe connectivity enables straightforward integration with other modular instruments. Logic analyzer probes designed for Keysight systems interface with the module's probe connectors for direct connection to devices under test.

Features & description

From manufacturer datasheet

Features

• Channels: 136 per module (full-channel mode) • Two modules combined: 272 channels, shared time base / trigger • State rate: 2.5 Gb/s on 136 channels (Option 02G class, either/both clock edges) • State rate dual-sample: 4 Gb/s on 68 channels (typ., one clock edge) • Option 01G class: 1.4 Gb/s on 136 ch / 2.8 Gb/s on 68 ch • Minimum data valid window: 100 ps; minimum eye height: 100 mV • Timing: 2.5 GHz full channel; 5.0 GHz half channel • Timing Zoom: 12.5 GHz with 256 K dedicated memory • Max state clock: 2.5 GHz; min state clock: 12.5 MHz (single edge) / 6.25 MHz (both edges) • Memory depth options: 2 M (std Opt 002) to 4/8/16/32/64/128/200 M samples • Pods: 4 probe cables × 2 pods = 8 pods; 17 channels/pod (16 data + 1 clock/bonus) • Trigger sequence: up to 2500 MHz (400 ps) • Chassis: AXIe (M9502A 2-slot / M9505A 5-slot class); Multiframe to 10,880 channels • Form: 1-slot AXIe module • Signal types: single-ended and differential • Probing: BGA, interposer, mid-bus, flying leads (U4201A cables)

Applications

• High-speed digital bus debug to 4 Gb/s • DDR2/3/4 and LPDDR capture with dual-sample read/write separation • Multi-module AXIe systems up to thousands of channels • Simultaneous state + Timing Zoom measurements

U4154A Characteristics / Specifications

PARAMETER	VALUE
Model	U4154A
Manufacturer	Keysight / Agilent
Instrument Type	AXIe Logic Analyzer Module
Alias	U4154A; Agilent U4154A; Keysight U4154A
Channels full	136
State rate 136 ch	2.5 Gb/s
State rate 68 ch	4 Gb/s
Min eye	100 ps × 100 mV
Timing full channel	2.5 GHz
Timing half channel	5.0 GHz
Timing Zoom	12.5 GHz with 256 K dedicated memory
Memory max	200 M samples
Slots	1 AXIe Notes Specs from Keysight U4154A data sheet 5990-7513 and product fact sheet. Confirm Option 02G vs 01G and memory option on the module.
Channels	136 per module (full-channel mode)
Two modules combined	272 channels, shared time base / trigger
State rate	2.5 Gb/s on 136 channels (Option 02G class, either/both clock edges)
State rate dual-sample	4 Gb/s on 68 channels (typ., one clock edge)
Option 01G class	1.4 Gb/s on 136 ch / 2.8 Gb/s on 68 ch
Minimum data valid window	100 ps; minimum eye height: 100 mV
Timing	2.5 GHz full channel; 5.0 GHz half channel
Max state clock	2.5 GHz; min state clock: 12.5 MHz (single edge) / 6.25 MHz (both edges)
Memory depth options	2 M (std Opt 002) to 4/8/16/32/64/128/200 M samples
Pods	4 probe cables × 2 pods = 8 pods; 17 channels/pod (16 data + 1 clock/bonus)

PARAMETER	VALUE
Trigger sequence	up to 2500 MHz (400 ps)
Chassis	AXIe (M9502A 2-slot / M9505A 5-slot class); Multiframe to 10,880 channels
Form	1-slot AXIe module
Signal types	single-ended and differential
Probing	BGA, interposer, mid-bus, flying leads (U4201A cables)

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	U4154A
Manufacturer	Keysight / Agilent
Instrument Type	AXIe Logic Analyzer Module
Alias	U4154A; Agilent U4154A; Keysight U4154A

Channels full: 136

Channels dual-sample: 68

Channels 2-module: 272

Specifications

PARAMETER	VALUE
State rate 136 ch	2.5 Gb/s
State rate 68 ch	4 Gb/s
Min eye	100 ps × 100 mV
Timing full channel	2.5 GHz
Timing half channel	5.0 GHz
Timing Zoom	12.5 GHz / 256 K
Memory max	200 M samples
Slots	1 AXIe

Notes

Specs from Keysight U4154A data sheet 5990-7513 and product fact sheet. Confirm Option 02G vs 01G and memory option on the module.

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

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.