Agilent U4154A 4Gb/s AXIe Logic Analyzer Module

DISCOVER the Alternatives...

Industries and Applications

- Digital debug and logic analysis
- High Speed DDR memory applications
- Analog to digital converter verification
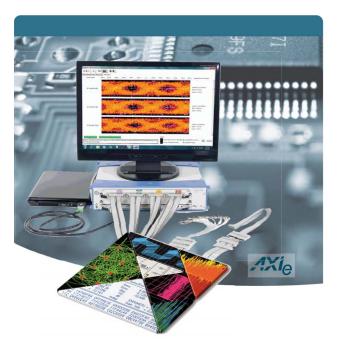- High-speed ASIC/FPGA debug and validation

Product Description

The Agilent U4154A AXIe logic analyzer system combines reliable data capture up to 136 channels with powerful analysis and validation tools to enable you to quickly and confidently validate and debug high-speed digital designs operating at speeds up to 4 Gb/s. Confidence in the state mode captures, and bus-level signal integrity insight, make the U4154A logic analyzer the ideal tool for DDR memory measurement and debug work.

(Photo shown is a typical AXIe logic analysis system configuration. The U4154A is only the logic analyzer module. Cables, probes, host PC, adapters and chassis are sold separately.)

... Agilent **Modular** Products

Models	
U4154A	AXIe Logic Analyzer Module

Main Features and Benefits

Product features	Your benefits
Up to 4 Gb/s state speed	Real time capture on high speed busses
100 ps data valid window	Reliable data capture even with small eye diagrams
12.5 GHz timing zoom	Get simultaneous state and high-resolution timing measurements
Dual sample mode	Sample DDR reads and writes simultaneously Achieves highest data rates
200 M sample memory depth	Debug problems where the cause and symptoms are separated by several seconds
2.5 trigger sequencer	Enabling accurate and precise triggering—even on complex burst events

Specifications and Characteristics

Hardware	
Size	1-slot AXIe module
Number of channels (multiple modules can be merged)	136 (full channel mode) per module
Supported signal types	Single-ended and differential
Max state data rate	2.5 Gb/s on 136 channels 4 Gb/s on 68 channels
Max state clock	2.5 GHz
Minimum state clock frequency	12.5 MHz (single edge) 6.25 MHz (both edges)
Minimum data valid window	100 ps
Minimum eye height	100 mV
Timing sample rate	2.5 GHz (full channel mode) 5 GHz (half channel mode)
Timing zoom sampling rate	12.5 GHz
Max trigger sequence speed	2500 MHz (400ps)

Chassis compatibility: AXIe

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Software Information

The U4154A module's graphical user interface is included in the U4000 series application software. The software is downloadable from the product's web page on Agilent.com. The software requires that only U4000A series modules are installed in the AXIe chassis.

Supported operating systems	Microsoft Windows® 7 (32/64-bit) Microsoft Windows® XP (32-bit) Microsoft Windows® Vista (32/64-bit)
Standard compliant drivers	N/A
Application software	U4000 Series Application Software (includes embedded COM server)
Agilent IO Libraries	Only required for Viewscope

Bus level signal integrity insight from eye scans of all signals simultaneously helps engineers rapidly identify signals that require further characterization with an oscilloscope. Eye scan clearly indicates the byte lane shift caused by fly-by routing on this DDR3 2133 Mb/s system.
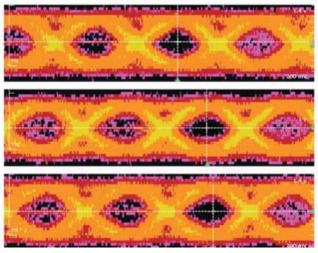

Figure 1. Eye scan measurement.

State waveforms allow engineers to follow signal flow. High resolution Timing Zoom waveform provide precision timing measurements.
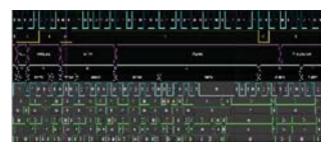

Figure 2. DDR signals timing waveforms.

Ordering Information

Typical Product Configuration	
Model	**Description**
U4154A U4154A-02G	Logic analyzer module State speed 136-channel, 2.5 Gb/s state 68 channel, 4Gb/s state (Other State speed option is –01G 136-channel, 1.4 Gb/s state 68 channel, 2.8 Gb/s state) 16M memory (other memory options include: 2M, 4M, 8M, 32M, 64M, 128M, 200M)
U4201A	Logic analyzer probe cable (4 per U4154A)
Application SW tools and Probes	Refer to ordering information in data sheet 5990-7513EN
M9502A / M9505A	2-slot AXIe chassis 2-slot AXIe chassis Either chassis requires either the M9536A embedded controller or a host PC and PCI express adapter and cable.

Advantage Services: Warranty	
Agilent Advantage Services is committed to your success throughout your equipment's lifetime.	
R-51B-001-5C	Return to Agilent Warranty - 5 years

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