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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight E4853A

Keysight E4853A Serial Cell Generator and Analyzer Module The Keysight E4853A isaVXI C-size module for the E4859A Serial Cell Generator and Analyzer system. It provides one serial cell generator and one serial cell analyzer for burst-mode BER characterization from 170 kbit/s to 250 Mbit/s, optionally 660 Mbit/s. TDMA PON FTTC burst-mode transmitter/receiver R&D, proprietary cell-format margin testing, and point-to-multipoint physical-layer BER. One generator plus one analyzer on a single VXI slot The Keysight E4853A isaVXI C-size module for the E4859A Serial Cell Generator and Analyzer system. It provides one serial cell generator and one serial cell analyzer for burst-mode BER characterization from 170 kbit/s to 250 Mbit/s, optionally 660 Mbit/s. TDMA PON FTTC burst-mode transmitter/receiver R&D, proprietary cell-format margin testing, and point-to-multipoint physical-layer BER. One generator plus one analyzer on a single VXI slot Cells with up to 28 mixed PRBS and memory segments



MODEL

**Agilent / Keysight
E4853A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E4853A

LISTING

<https://aumictechlabs.com/products/e4853a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight E4853A is a serial cell generator and analyzer module for high-speed burst-mode data testing in telecommunications and networking environments. It integrates one serial cell generator and one analyzer into a single VXI-based instrument, delivering precise bit-error-rate measurement and flexible pattern generation across a wide bit rate range. Housed within a

VXI mainframe such as the Keysight E1401B, the E4853A supports multiple cascaded modules for scalable test system configurations.

Technical Specifications

Pattern Generation

Algorithmic patterns: PRBS (2^n-1) with $n = 7, 9, 10, 11, 15, 17, 20, 21, 23, 31$ per CCITT O.151

Memory-based patterns: 64 Kbit to 1024 Kbit programmable depths per channel

Bit rate: 170 kbit/s to 250 Mbit/s standard; up to 660 Mbit/s with Option 660

Cell structure: Variable length and timing with up to 28 mixed PRBS and user-defined pattern segments per cell

Output formats: Normal and inverted signals

Bit-Error-Rate Analysis

System clock for all generators and analyzers

External analyzer clock from recovered DUT output

Single sampling point per bit

Required eye-opening: >50% of bit period and >1 ns (standard); >400 ps with external analyzer clock

Analyzer clock input frequency: 170 kHz to 250 MHz standard; 330 MHz to 660 MHz with Option 660

Control and Timing

Multiple control signals triggerable from generated cells, analyzer expected cells, or frame start

Linked timing to DUT stimulation and external equipment

Key Features

Supports up to 28 pattern segments per cell for complex burst scenarios

Recovers timing from Device Under Test via external analyzer clock input

Accommodates input jitter and wander within specified eye-opening constraints

Optional auxiliary output (Option 001) and clock input module (Option 002)

Typical Applications

High-speed serial data link characterization and validation

Burst-mode receiver and transmitter BER testing

Telecommunications equipment verification

Data networking system analysis

Compatibility & Integration

Designed for VXI mainframe integration, particularly the Keysight E1401B 13-slot C-size frame. Multiple E4853A modules cascade within a single system for parallel test channels and expanded capacity.

E4853A Characteristics / Specifications

PARAMETER	VALUE
Model	E4853A
Instrument Type	serial cell generator and analyzer
Card Format	VXI C-size 1 slot
Generator Channels	1
Analyzer Channels	1
Bit Rate Range	170 kbit/s to 250 Mbit/s
Bit Rate With Class 6	up to 660 Mbit/s main outputs
Pattern Format	NRZ
Cell Segments Maximum	28
PRBS Polynomials	$2^n - 1$ n equals 7 9 10 11 15 17 20 21 23 31
Memory Based Pattern Range	64 Kbit to 1024 Kbit per channel vs bit rate
Frame Length Maximum	24 ms
Guard Time Range	0 to 24 ms
Guard Time Resolution	10 ps between different generators
Output Amplitude Range	0.30 to 2.50 V
Amplitude Resolution	10 mV
Output Voltage Window Into 50 Ohm	-2.00 to +3.00 V
Transition Time 10 To 90 Typical	500 ps
Transition Time 20 To 80 Typical	350 ps
Decision Threshold Range	-2.10 V to +5.10 V
Threshold Resolution	5 mV
Input Sensitivity	200 mV 300 mV above 500 MHz
Connector Type	SMA female 3.5 mm
Data Jitter Typical	less than 10 ps rms
Skew Between Outputs Typical	plus or minus 100 ps

PARAMETER	VALUE
Auto Adjust Delay Range	less than 1.50 ms

E4853A Specifications

PARAMETER	VALUE
One generator plus one analyzer on a single VXI slot	Cells with up to 28 mixed PRBS and memory segments
Technical Specifications	Model: E4853A
Notes	Numeric rows from HP E4859A Serial Cell Generator and Analyzer technical data 5963-9924E and overview 5963-9985E.

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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Auto Adjust Delay Range	less than 1.50 ms

Notes

Numeric rows from HP E4859A Serial Cell Generator and Analyzer technical data 5963-9924E and overview 5963-9985E.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.