

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight M8020A

Keysight M8020A J-BERT High Performance BERT The Keysight J-BERT M8020A is a high performance BERT for accurate receiver characterization of single and multi-lane devices. Built-in jitter, interference, de-emphasis, clock recovery, and equalization support compliance and characterization up to 16 Gb/s natively and 32 Gb/s with the M8062A front end. PCIe, USB 3.x, SATA/SAS, Fibre Channel, 10GbE/100GbE electrical lanes, SFP+/CFP class optics, MIPI M-PHY, memory buses, backplanes, repeaters, and active optical cable receiver testing. The Keysight J-BERT M8020A is a high performance BERT for accurate receiver characterization of single and multi-lane devices. Built-in jitter, interference, de-emphasis, clock recovery, and equalization support compliance and characterization up to 16 Gb/s natively and 32 Gb/s with the M8062A front end. PCIe, USB 3.x, SATA/SAS, Fibre Channel, 10GbE/100GbE electrical lanes, SFP+/CFP class optics, MIPI M-PHY, memory buses, backplanes, repeaters, and active optical cable receiver testing. Data rates to 8.5 and 16 Gb/s expandable to 32 Gb/s with M8062A



MODEL

**Agilent / Keysight
M8020A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

M8020A

LISTING

<https://aumictechlabs.com/products/m8020a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight M8020A J-BERT is a bit error ratio tester engineered for receiver characterization of single and multi-lane serial I/O devices. Operating from 8.5 Gb/s to 32 Gb/s, it delivers integrated

jitter injection, equalization, and link training capabilities across 1 to 4 BERT channels. The system supports PCI Express, USB, SATA, SAS, and Ethernet standards with automated calibration and repeatable measurements for physical layer validation.

Technical Specifications

Data Rates 8.5 Gb/s baseline; 16 Gb/s via M8041A modules 32 Gb/s via M8062A front-end or M8061A multiplexer with N4877A CDR/de-multiplexer

Channel Configuration 1 to 4 BERT channels in 5-slot AXIe chassis

Module options: M8041A, M8051A, M8062A

Jitter Injection Random Jitter (RJ), Periodic Jitter (PJ1, PJ2) Sinusoidal Jitter (SJ), Butterworth Jitter (BUJ), Clock/2 Jitter Spread Spectrum Clocking (SSC) - triangular, arbitrary, and residual Sinusoidal level interference (common and differential modes) 2-tone PJ and sRJ

Signal Conditioning Up to 8-tap de-emphasis with positive/negative settings

Continuous Time Linear Equalizer (CTLE) with preset options

Built-in clock recovery with adjustable loop bandwidth

Integrated and adjustable Inter-Symbol Interference (ISI) for loss emulation

Key Features

Link Training & Standards Support Interactive training for PCI Express (8 GT/s, 16 GT/s), USB 3.0/3.1, SATA/SAS, SAS-3 10GBASE-KR, 25GBASE-KR, 100GBASE-KR4 with TxEQ training

Recovery state machine for device loopback configuration

Calibration & Measurement Automated in-situ calibration of signal conditions

Repeatable BER measurements with integrated clock recovery

Interference Testing Common and differential-mode level interference injection

Sinusoidal interference capability across both modes

Typical Applications Receiver compliance validation for high-speed serial links, jitter tolerance characterization, equalization optimization, and link training verification across multiple industry standards.

Compatibility & Integration Key component of the Keysight M8000 Series physical layer test ecosystem. De-emphasis negotiation via M8051A-0G4 or M8041A-0G4 options.

M8020A Characteristics / Specifications

PARAMETER	VALUE
Model	M8020A
Instrument Type	J-BERT high performance BERT
Native Data Rate Options	256 Mb/s to 8.50 Gb/s and 256 Mb/s to 16.20 Gb/s
Expanded Data Rate With M8062A	up to 32.4 Gb/s class
Chassis Format	5 slot AXIe
Channel Count Class	1 to 4 BERT channels
Output Voltage Window Class M8041A/M8051A	up to about 1.8 Vpp class into ground at specified conditions
Intrinsic Total Jitter Typical	8 ps peak to peak
Intrinsic Random Jitter Typical	300 fs rms
Data Delay Range	0 to 10 ns
Data Delay Resolution	100 fs
Data Delay Accuracy Typical	plus or minus 1 percent plus or minus 20 mUI
Deskew Accuracy Typical	plus or minus 10 ps between data out 1 and 2 same module
De Emphasis Taps	8 tap positive and negative
De Emphasis Depth Class	up to 20 dB class
CDR Loop Bandwidth Max Class	20 MHz
Equalizer	built in adjustable equalizer on analyzer
Jitter Types Integrated	RJ PJ1 PJ2 SJ BUJ SSC residual SSC Clock/2
Sinusoidal Interference	common mode and differential mode
Electrical Idle Transition Time Typical	within 4 ns full swing to idle
Pattern Support	PRBS and memory based patterns with sequencers
Reference Clock Multiplier	built in for SSC bearing refs
ISI Emulation	integrated adjustable ISI
Upgrade Path	options and modules upgradeable
Bandwidth	Max Class: 20 MHz

PARAMETER	VALUE
Data Rate	Options: 256 Mb/s to 8.50 Gb/s and 256 Mb/s to 16.20 Gb/s

M8020A Specifications

PARAMETER	VALUE
Key Features	Data rates to 8.5 and 16 Gb/s expandable to 32 Gb/s with M8062A
One to four BERT channels in a 5 slot AXIe chassis	Integrated calibrated jitter RJ PJ1 PJ2 SJ BUJ SSC and Clock/2
Technical Specifications	Model: M8020A
Notes	Numeric rows from Keysight J-BERT M8020A High-Performance BERT data sheet Ver. 9.0 / M8000 series BERT solutions datasheet.

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.

Performance BERT

Overview

The Keysight J-BERT M8020A is a high performance BERT for accurate receiver characterization of single and multi-lane devices. Built-in jitter, interference, de-emphasis, clock recovery, and equalization support compliance and characterization up to 16 Gb/s natively and 32 Gb/s with the M8062A front end.

Applications

PCIe, USB 3.x, SATA/SAS, Fibre Channel, 10GbE/100GbE electrical lanes, SFP+/CFP class optics, MIPI M-PHY, memory buses, backplanes, repeaters, and active optical cable receiver testing.

Key Features

Data rates to 8.5 and 16 Gb/s expandable to 32 Gb/s with M8062A
One to four BERT channels in a 5 slot AXIe chassis
Integrated calibrated jitter RJ PJ1 PJ2 SJ BUJ SSC and Clock/2
Eight tap de emphasis positive and negative
Built in clock recovery with adjustable loop bandwidth
Interactive link training for PCIe and USB

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	M8020A
Instrument Type	J-BERT high performance BERT
Native Data Rate Options	256 Mb/s to 8.50 Gb/s and 256 Mb/s to 16.20 Gb/s
Expanded Data Rate With M8062A	up to 32.4 Gb/s class
Chassis Format	5 slot AXIe
Channel Count Class	1 to 4 BERT channels
Output Voltage Window Class M8041A/M8051A	up to about 1.8 Vpp class into ground at specified conditions
Intrinsic Total Jitter Typical	8 ps peak to peak
Intrinsic Random Jitter Typical	300 fs rms
Data Delay Range	0 to 10 ns
Data Delay Resolution	100 fs
Data Delay Accuracy Typical	plus or minus 1 percent plus or minus 20 mUI
Deskew Accuracy Typical	plus or minus 10 ps between data out 1 and 2 same module
De Emphasis Taps	8 tap positive and negative
De Emphasis Depth Class	up to 20 dB class
CDR Loop Bandwidth Max Class	20 MHz
Equalizer	built in adjustable equalizer on analyzer

PARAMETER	VALUE
Jitter Types Integrated	RJ PJ1 PJ2 SJ BUJ SSC residual SSC Clock/2
Sinusoidal Interference	common mode and differential mode
Electrical Idle Transition Time Typical	within 4 ns full swing to idle
Pattern Support	PRBS and memory based patterns with sequencers
Reference Clock Multiplier	built in for SSC bearing refs
ISI Emulation	integrated adjustable ISI
Upgrade Path	options and modules upgradeable

Notes
Numeric rows from Keysight J-BERT M8020A High-Performance BERT data sheet Ver. 9.0 / M8000 series BERT solutions datasheet.

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>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 15, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.