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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86117A 50 GHz Dual Channel Electrical Module

Agilent Keysight 86117A Dual 50 GHz Electrical DCA Module The Agilent 86117A provides two electrical sampling channels with 30 GHz and 50 GHz bandwidth settings for 10 Gb/s-class electrical waveforms. OEM 86100 dual-electrical module tables list 11.7 ps (30 GHz) and 7 ps (50 GHz) 10-90 percent transition (0.35/BW), characteristic RMS noise 0.4 mV at 30 GHz and 0.6 mV at 50 GHz, and plus or minus 2 V maximum input. 10 Gb/s electrical transmitter, driver, and backplane waveform and eye tests on 86100 DCA mainframes. The Agilent 86117A provides two electrical sampling channels with 30 GHz and 50 GHz bandwidth settings for 10 Gb/s-class electrical waveforms. OEM 86100 dual-electrical module tables list 11.7 ps (30 GHz) and 7 ps (50 GHz) 10-90 percent transition (0.35/BW), characteristic RMS noise 0.4 mV at 30 GHz and 0.6 mV at 50 GHz, and plus or minus 2 V maximum input. 10 Gb/s electrical transmitter, driver, and backplane waveform and eye tests on 86100 DCA mainframes. User-selectable 30 GHz (lower noise) or 50 GHz (fidelity)



MODEL

**Agilent / Keysight
86117A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86117A

LISTING

<https://aumictechlabs.com/products/86117a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 86117A is a dual-channel 50 GHz electrical module for high-speed signal acquisition and analysis within Infiniium DCA mainframes. It delivers two independent 50 GHz

channels with selectable bandwidth settings, enabling simultaneous characterization of ultra-fast electrical signals with minimal measurement artifacts. Each channel features a 2.4 mm male connector and achieves 7 ps electrical risetime at 50 GHz bandwidth, making it ideal for 40 Gb/s signal integrity assessment, component testing, and eye diagram measurements.

Technical Specifications

Bandwidth:	50 GHz and 30 GHz settings per channel
Electrical Risetime:	7.0 ps (50 GHz), 11.7 ps (30 GHz)
RMS Noise:	0.4 mV (30 GHz), 0.6 mV (50 GHz)
Maximum Input Level:	±2 VDC
Connectors:	2.4 mm male (each channel); factory-installed 3.5 mm female-female connector

savers may ship with module

Channel Configuration: Dual independent channels

Key Features

- Two simultaneous 50 GHz measurement channels for parallel high-speed signal acquisition
- Selectable bandwidth enables trade-off between noise and temporal resolution
- Minimal pulse response aberrations preserve true device-under-test behavior
- Supports signal analysis up to 10 Gb/s and 40 Gb/s electrical testing
- Cost-effective alternative for bandwidth-limited applications

Typical Applications

- 40 Gb/s digital communication system characterization
- Ultra-fast electrical edge speed measurement and display
- Eye diagram generation for signal quality assessment
- High-speed component testing and validation
- Signal integrity and timing analysis

Compatibility & Integration

The 86117A integrates with Agilent/Keysight Infiniium DCA/DCA-J mainframes (86100A/B/C) and the 86100D Infiniium DCA-X mainframe. Certain mainframe models require specific firmware revisions; consult your mainframe documentation for version requirements.

86117A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Dual electrical sampling plug-in
Series Family	Agilent 86100 DCA modules
Channel Count	2 electrical
Electrical Bandwidth	30 GHz and 50 GHz
Transition Time 30 Ghz	11.7 ps (10-90 percent, 0.35/BW)
Transition Time 50 Ghz	7 ps (10-90 percent, 0.35/BW)
Rms Noise Characteristic 30 Ghz	0.4 mV characteristic
Rms Noise Characteristic 50 Ghz	0.6 mV characteristic
Rms Noise Maximum 30 Ghz	0.7 mV maximum
Rms Noise Maximum 50 Ghz	1.0 mV maximum
Dc Accuracy Family	plus or minus 0.4 percent of full scale plus or minus 2 mV plus percent of (reading-channel offset) per bandwidth setting
Dc Offset Range	plus or minus 500 mV referenced to screen center (family electrical table)
Input Dynamic Range	plus or minus 400 mV relative to channel offset (family)
Dc Accuracy 30 Ghz	plus or minus 0.4 percent of full scale plus or minus 2 mV plus or minus 1.2 percent of (reading-channel offset) at 30 GHz
Dc Accuracy 50 Ghz	plus or minus 0.4 percent of full scale plus or minus 2 mV plus or minus 2 percent of (reading-channel offset) at 50 GHz
Scale Factor Minimum	1 mV per division
Scale Factor Maximum	100 mV per division
Electrical Input	2.4 mm male
Reflections For 30 Ps	5 percent
Maximum Input Signal	plus or minus 2 V (plus 16 dBm)
Nominal Impedance	50 ohm
Target Symbol Rate	up to 10 Gb/s (OEM dual-electrical guide)
Sibling	86117B adds 65 GHz setting for 40 Gb/s

PARAMETER	VALUE
Host Mainframe	86100A/B/C/D Infiniium DCA family (see notes for exceptions)
Form Factor	86100 plug-in module
Specified Temperature Family	plus 10 C to plus 40 C class of 86100 modules unless noted
Bandwidth	30 GHz and 50 GHz

86117A Specifications

PARAMETER	VALUE
Applications	10 Gb/s electrical transmitter, driver, and backplane waveform and eye tests on 86100 DCA mainframes.
Two independent electrical channels	User-selectable 30 GHz (lower noise) or 50 GHz (fidelity)
Works with 86107A precision timebase	Ideal for signals up to 10 Gb/s per OEM module guide
Technical Specifications	Instrument Type: Dual electrical sampling plug-in

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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PARAMETER	VALUE
Instrument Type	Dual electrical sampling plug-in
Series Family	Agilent 86100 DCA modules
Channel Count	2 electrical
Electrical Bandwidth	30 GHz and 50 GHz
Transition Time 30 Ghz	11.7 ps (10-90 percent, 0.35/BW)
Transition Time 50 Ghz	7 ps (10-90 percent, 0.35/BW)
Rms Noise Characteristic 30 Ghz	0.4 mV characteristic
Rms Noise Characteristic 50 Ghz	0.6 mV characteristic
Rms Noise Maximum 30 Ghz	0.7 mV maximum
Rms Noise Maximum 50 Ghz	1.0 mV maximum
Dc Accuracy Family	plus or minus 0.4 percent of full scale plus or minus 2 mV plus percent of (reading-channel offset) per bandwidth setting
Dc Offset Range	plus or minus 500 mV referenced to screen center (family electrical table)
Input Dynamic Range	plus or minus 400 mV relative to channel offset (family)
Dc Accuracy 30 Ghz	plus or minus 0.4 percent of full scale plus or minus 2 mV plus or minus 1.2 percent of (reading-channel offset) at 30 GHz
Dc Accuracy 50 Ghz	plus or minus 0.4 percent of full scale plus or minus 2 mV plus or minus 2 percent of (reading-channel offset) at 50 GHz
Scale Factor Minimum	1 mV per division
Scale Factor Maximum	100 mV per division
Electrical Input	2.4 mm male
Reflections For 30 Ps	5 percent
Maximum Input Signal	plus or minus 2 V (plus 16 dBm)
Nominal Impedance	50 ohm
Target Symbol Rate	up to 10 Gb/s (OEM dual-electrical guide)
Sibling	86117B adds 65 GHz setting for 40 Gb/s
Host Mainframe	86100A/B/C/D Infiniium DCA family (see notes for exceptions)

PARAMETER	VALUE
Form Factor	86100 plug-in module
Specified Temperature Family	plus 10 C to plus 40 C class of 86100 modules unless noted

Notes

Numeric rows from Agilent/Keysight 86100 dual electrical channel module specification table (86117A: 30/50 GHz, transition, RMS noise). Scale-factor percent-of-reading terms follow that table's DC accuracy rows.

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.