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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 8449A Preamplifier

The Agilent/HP 8449A is a low-noise, high-gain microwave preamplifier covering 2.0 to 22.0 GHz. OEM specifications emphasize at least 26 dB small-signal gain from 20 °C to 30 °C, flatness within ± 3.8 dB, and strong reverse isolation to reduce spectrum-analyzer LO emissions for low-level signal detection. Placed between a signal source and a spectrum analyzer RF input to lower system noise figure, detect extremely low-level microwave signals, and support ATE racks in a compact half-width System II package. Maximum safe power input: +20 dBm (100 mW) Power requirements: 100, 120, 220, or 240 V $\pm 10\%$, 47 to 63 Hz Type test: MIL-T-28800C Type III Class 5 Style E Minimum frequency: 2.0 GHz Specifications are from Agilent/HP 8449A preamplifier product documentation. Gain and flatness apply under the stated temperature conditions; verify connector torque and cleanliness for microwave VSWR performance.



MODEL

HP / Agilent 8449A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

8449A

LISTING

<https://aumictechlabs.com/products/8449a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 8449A Preamplifier is a high-gain, low-noise instrument that enhances the sensitivity of microwave spectrum analyzers and measurement systems operating across the 2.0 to 22.0 GHz band. By reducing system noise figure and providing stable gain, this preamplifier enables detection of weak signals while maintaining measurement accuracy across extended frequency ranges. Technical Specifications Frequency Range: 2.0 to 22.0 GHz Small-Signal Gain:

Minimum: 23 dB At 25°C (minimum): 28 dB Power Gain: 26 dB Noise Figure: Less than 10 dB
Output Power: Rated at 5 mW Gain Flatness: ± 3.4 dB across 2 to 22 GHz Typically 2.4 dB (0–55°C operating range) Physical: 12 × 10 × 8 in; 2.9 kg (6.4 lbs). Half-width System II package. Operating Temperature: 0–55°C Key Features Reduces measurement time through wider analysis bandwidth without sacrificing weak-signal detection Compact half-width System II form factor enables straightforward integration into existing instrument racks and ATE platforms Stable gain performance across operating temperature range supports reliable production test environments Designed to international safety standards with ESD-protective handling requirements during installation and service Typical Applications Sensitivity enhancement for microwave spectrum analyzers Low-level signal detection in RF/microwave test environments Integration into automatic test equipment (ATE) systems requiring improved dynamic range Production testing and characterization of wireless components Compatibility & Integration The 8449A interfaces with spectrum analyzers and microwave measurement instruments through standard RF connectors typical of instruments in its class. Its compact System II packaging allows direct mounting in automatic test equipment racks. Comprehensive operation and service documentation is available (manuals 08449-90011 and 08449-90005) covering installation, performance verification, and component replacement procedures.

8449A Characteristics / Specifications

PARAMETER	VALUE
Frequency range	2.0 to 22.0 GHz
Flatness 2.0 to 22.0 GHz	±3.8 dB (±2.4 dB typical)
Temperature drift	≤0.12 dB per °C
Gain compression	≤1 dB for +7 dBm output
Third order intercept at amplifier output	+15 dBm
Second harmonic intercept at amplifier output	≥+30 dBm
Reverse isolation LO emission reduction	greater than 75 dB
Maximum safe power input	+20 dBm (100 mW)
Maximum DC input	±20 V
Input connector	SMA, 50 ohm nominal
Output connector	SMA, 50 ohm nominal
VSWR input 2.0 to 22 GHz	≤2.0:1
VSWR output 2.0 to 22 GHz	≤2.0:1
Power requirements	100, 120, 220, or 240 V ±10%, 47 to 63 Hz
Operating temperature	0 °C to +55 °C
Storage temperature	−40 °C to +75 °C
Type test	MIL-T-28800C Type III Class 5 StyleE Minimum frequency: 2.0 GHz
Maximum frequency	22.0 GHz
Typical flatness	±2.4 dB
Typical gain 20 to 30 C	≥30 dB
Safe input power maximum	+20 dBm
DC block rating	±20 V

8449A Specifications

PARAMETER	VALUE
HP Agilent 8449A Microwave Preamplifier	Overview
Key Features	High gain with low noise for improved analyzer sensitivity
Temperature drift controlled for stable gain	Suitable for continuous 0 °C to 55 °C operation
Technical Specifications	Frequency range: 2.0 to 22.0 GHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	−40 °C to +75 °C
Operating temperature	0 °C to +55 °C
Operating Temperature	0 °C to +55 °C
Type test	MIL-T-28800C Type III Class 5 StyleEMinimum frequency: 2.0 GHz
Maximum frequency	22.0 GHz
Typical flatness	±2.4 dB
Typical gain 20 to 30 C	≥30 dB
Safe input power maximum	+20 dBm
DC block rating	±20 V Notes Specifications are from Agilent/HP 8449A preamplifier product documentation. Gain and flatness apply under the stated temperature conditions; verify connector torque and cleanliness for microwave VSWR performance.

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 emphasize at least 26 dB small-signal gain from 20 °C to 30 °C, flatness within ±3.8 dB, and strong reverse isolation to reduce spectrum-analyzer LO emissions for low-level signal detection.

Applications

Placed between a signal source and a spectrum analyzer RF input to lower system noise figure, detect extremely low-level microwave signals, and support ATE racks in a compact half-width System II package.

Key Features

High gain with low noise for improved analyzer sensitivity

Reduces spectrum analyzer LO emissions by greater than 75 dB reverse isolation

SMA 50 ohm input and output connectors

Compact industry-standard half-width System II housing

Temperature drift controlled for stable gain

Suitable for continuous 0 °C to 55 °C operation

Technical Specifications

Frequency range: 2.0 to 22.0 GHz

Flatness 2.0 to 22.0 GHz: ±3.8 dB (±2.4 dB typical)

Small signal gain 0 °C to 55 °C: ≥23 dB

Small signal gain 20 °C to 30 °C: ≥26 dB (≥30 dB typical)

Specifications

PARAMETER	VALUE
Temperature drift	≤0.12 dB per °C
Gain compression	≤1 dB for +7 dBm output
Third order intercept at amplifier output	+15 dBm
Second harmonic intercept at amplifier output	≥+30 dBm
Reverse isolation LO emission reduction	greater than 75 dB
Maximum safe power input	+20 dBm (100 mW)
Maximum DC input	±20 V
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Output connector	SMA, 50 ohm nominal
VSWR input 2.0 to 22 GHz	≤2.0:1
VSWR output 2.0 to 22 GHz	≤2.0:1
Power requirements	100, 120, 220, or 240 V ±10%, 47 to 63 Hz
Operating temperature	0 °C to +55 °C
Storage temperature	−40 °C to +75 °C
Type test	MIL-T-28800C Type III Class 5 Style E
Minimum frequency	2.0 GHz

PARAMETER	VALUE
Maximum frequency	22.0 GHz
Typical flatness	±2.4 dB
Typical gain 20 to 30 C	≥30 dB
Safe input power maximum	+20 dBm
DC block rating	±20 V

Specifications

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Notes
Specifications are from Agilent/HP 8449A preamplifier product documentation. Gain and flatness apply under the stated temperature conditions; verify connector torque and cleanliness for microwave VSWR performance.

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