

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N4001A

The Keysight Technologies (formerly Agilent) N4001A is a high-performance SNS Series smart noise source designed for noise figure measurements from 10 MHz to 18 GHz. With a nominal Excess Noise Ratio (ENR) of 15 dB, it is optimized for general-purpose applications and capable of accurately characterizing devices with noise figures up to 30 dB. The N4001A features an integrated EEPROM that stores calibration data for automatic download to compatible Keysight instruments, as well as a built-in temperature sensor for real-time ENR compensation.

SPECIFICATIONS

General

Interfaces	Multi-pin SNS smart connector (provides +28 V pulse bias and digital communications)
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Physical

Power Supply	+28 V pulsed (supplied by host instrument via SNS cable)
Operating Temperature	0 to 55 °C °C

RF & Noise Performance

Frequency Range	10 MHz to 18 GHz
Nominal Excess Noise Ratio (ENR)	15 dB
Impedance	50 Ω nominal
Noise Figure Measurement Range	Up to 30 dB
Maximum VSWR (10 to 1500 MHz)	1.15:1
Maximum VSWR (1.5 to 3.0 GHz)	1.15:1
Maximum VSWR (3.0 to 10.0 GHz)	1.20:1
Maximum VSWR (10.0 to 18.0 GHz)	1.25:1
Reflection Coefficient (10 to 1500 MHz)	0.07
Reflection Coefficient (1.5 to 3.0 GHz)	0.07
Reflection Coefficient (3.0 to 10.0 GHz)	0.09
Reflection Coefficient (10.0 to 18.0 GHz)	0.11
Maximum Reverse Power	1 W

Power & Pulse Interface

Bias Voltage Range	+28 V ± 1 V
Control Interface Type	SNS Smart Interface with automated serial connection
EEPROM Storage Capability	Integrated memory holds complete ENR calibration data points
Temperature Compensation Sensor	Built-in thermal sensor communicates directly with host instrument for ENR correction

Connectors & Physical Interfaces

RF Output Connector (Standard)	APC 3.5 (m)
RF Output Connector (Option 001)	Type-N (m)
RF Output Connector (Option 002)	APC 7

Metrology & Calibration Data

Recommended Calibration Cycle	1 year
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Environmental Specifications

Operating Altitude	Up to 4,600 m (15,000 ft)
Non-Operating Altitude	Up to 15,300 m (50,000 ft)

General Information

Standard Warranty	1 year
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TECHNOLOGY

Solid-state diode noise generation with integrated digital EEPROM and temperature sensor

APPLICATIONS

RF and microwave noise figure measurements, receiver characterization, amplifier testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.