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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight Q347B

Agilent Keysight Q347B Millimeter-Wave Noise Source Qband The HP/Agilent/Keysight Q347B is a 347 Series waveguide noise source for millimeter-wave noise-figure measurements. OEM data sheets list 33 to 50 GHz coverage, stated ENR, and 28 V bias compatible with the 8970B. Noise figure and gain measurements on millimeter-wave amplifiers, mixers, and receivers in the stated waveguide band. Waveguide output matched to the named UG flange The HP/Agilent/Keysight Q347B is a 347 Series waveguide noise source for millimeter-wave noise-figure measurements. OEM data sheets list 33 to 50 GHz coverage, stated ENR, and 28 V bias compatible with the 8970B. Noise figure and gain measurements on millimeter-wave amplifiers, mixers, and receivers in the stated waveguide band. Waveguide output matched to the named UG flange Low ENR drift versus bias voltage and temperature



MODEL

**Agilent / Keysight
Q347B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

Q347B

LISTING

<https://aumictechlabs.com/products/q347b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight Q347B is a millimeter-wave noise source engineered for precise noise figure measurements across the Q-band frequency range. It generates stable broadband noise signals for characterization of devices and systems operating between 33 GHz and 50 GHz, enabling accurate gain and noise figure determination when paired with noise figure meters or compatible instrumentation. The Q347B produces two distinct noise states: powered-on noise output and powered-off thermal noise. These dual states allow measurement systems to calculate the gain

and added noise of a device under test, directly yielding noise figure results.

Technical Specifications

Frequency Range: 33 GHz to 50 GHz

Excess Noise Ratio (ENR): 6–13 dB; detailed specifications vary by frequency band (10–13 dB at 33–42 GHz, 6–12.5 dB at 42–50 GHz for one configuration; 14–17 dB at 33–42 GHz, 9–16 dB at 42–50 GHz for another)

ENR Stability: < 0.005 dB/V with respect to voltage variation; < 0.009 dB/°C with respect to temperature variation

VSWR: < 1.57 (source off, reflection coefficient 0.22); < 1.46 (source on, reflection coefficient 0.19)

Power Requirements: +28 V $\pm$ 1 V DC (automatically supplied by compatible noise figure meters)

Switching Speed: < 10 μ s

Maximum Reverse Power: 100 mW

Operating Temperature: 0 °C to 55 °C

Dimensions: 53 mm $\times$ 108 mm $\times$ 62 mm

Net Weight: 0.23 kg

Key Features

- Waveguide output with UG-383/U flange for direct integration into Q-band test systems
- Exceptional ENR stability enabling extended calibration intervals
- Low VSWR design minimizes reflections and measurement errors
- Compact form factor suited to integrated test benches
- Each unit supplied with calibration data documenting complex reflection coefficients in both ON and OFF states; annual recalibration recommended

Typical Applications

- Noise figure characterization of Q-band amplifiers, mixers, and transceivers
- System-level noise performance validation in 33–50 GHz applications
- Receiver noise figure verification in millimeter-wave communications systems

Compatibility & Integration

The Q347B interfaces via BNC female connector for bias input and Q-band waveguide output. It integrates with Keysight NFA series and X-Series instruments (PXA, MXA) and any instrumentation supporting UG-383/U waveguide flanges.

Q347B Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Millimeter-wave waveguide noise source
Series Family	HP Agilent Keysight 347 Series high frequency noise sources
Waveguide Band	Q band
Frequency Range	33 to 50 GHz
Excess Noise Ratio Range	14 to 17 dB from 33 to 42 GHz; 9 to 16 dB from 42 to 50 GHz
Maximum SWR Source Off	less than 1.57 (reflection coefficient 0.22)
Maximum SWR Source On	less than 1.46 (reflection coefficient 0.19)
Bias Voltage	28 V plus or minus 1 V automatically supplied by Keysight 8970B Noise Figure Meter
Maximum Reverse Power	100 mW
Bias Connector	BNC female
Noise Output Connector	Q-band waveguide UG-383/U flange
ENR Variation With Voltage	less than 0.005 dB/V
ENR Variation With Temperature	less than 0.009 dB/C
Switching Speed	less than 10 μ s
Operating Temperature	0 to 55 C
Dimensions	53 mm x 108 mm x 62 mm (2.1 in x 4.3 in x 2.5 in)
Net Weight	0.23 kg (0.51 lb)
Shipping Weight	0.38 kg (0.85 lb)
Compatible Meter Class	Keysight 8970B noise figure meter 28 V drive
Measurement Role	ENR ON/OFF ratio into system IF for noise figure and gain
ENR Stability Class	excellent ENR stability over time for longer recalibration cycles
Form Factor	waveguide millimeter-wave noise head
Calibration Data Class	traditional 347 Series (not SNS EEPROM class)

Q347B Specifications

PARAMETER	VALUE
Waveguide output matched to the named UG flange	Fast solid-state switching under 10 us
Low ENR drift versus bias voltage and temperature	Direct 28 V drive from 8970B class noise-figure meters
Technical Specifications	Instrument Type: Millimeter-wave waveguide noise source
Notes	Numeric rows from Keysight Q347B Millimeter-Wave Noise Source Q-Band data sheet 5992-3796.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 55 C
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Dimensions	53 mm x 108 mm x 62 mm (2.1 in x 4.3 in x 2.5 in)
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Shipping Weight	0.38 kg (0.85 lb)
Compatible Meter Class	Keysight 8970B noise figure meter 28 V drive
Measurement Role	ENR ON/OFF ratio into system IF for noise figure and gain
ENR Stability Class	excellent ENR stability over time for longer recalibration cycles
Form Factor	waveguide millimeter-wave noise head
Calibration Data Class	traditional 347 Series (not SNS EEPROM class) Notes Numeric rows from Keysight Q347B Millimeter-Wave Noise Source Q-Band data sheet 5992-3796.

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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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 ·
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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.