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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 5517B

The Keysight 5517B isaClass II helium-neon two-frequency laser head for dual-frequency interferometry. OEM 5517-series product fact sheet 5990-5634 lists 2 ppb vacuum wavelength stability (1 hour) and 20 ppb lifetime, plus or minus 0.1 ppm wavelength accuracy standard (plus or minus 0.02 ppm with optional calibration), MTBF greater than 50,000 hours typical, reference frequency 1.9 to 2.4 MHz (Option H10: 2.2 to 2.4 MHz), minimum output greater than 120 uW (product page 120 uW; fact sheet greater than 120 uW), and 90 minutes warm-up. Primary uses include VME- and PC-based systems and 5527A where motion velocity is moderate. Machine-tool and metrology interferometers; VME/PC transducer systems; 5527/5530 laser calibration when used with matching electronics. Minimum Output Power: greater than 120 uW (product page 120 uW; fact sheet greater than 120 uW) Max Linear Velocity 10897D 10898D N1231: 538 mm/s (linear optics, worst-case direction) Maximum Beam Power Output Family: less than 1 mW (Class II) Beam Height 5517x: 79.5 mm (plus or minus 1.0 mm on 5517B product page)

**MODEL****Agilent / Keysight
5517B****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****5517B****LISTING**<https://aumictechlabs.com/products/5517b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 5517B is a helium-neon laser head engineered for precision metrology and measurement applications requiring nanometer-level accuracy. This gas laser operates at 633 nm (red, Class 2) with orthogonally polarized frequency components, delivering 180 μ W to 1 mW of

continuous-wave output power. Integrated control electronics and a compact form factor make it suitable for laser interferometer systems used in dimensional metrology, machine tool calibration, semiconductor alignment, and precision manufacturing workflows.

Technical Specifications

Wavelength: 633 nm Output Power (CW): 180 μ W to 1 mW; minimum 120 μ W Wavelength Stability (1 hour): 2 ppb (vacuum) Wavelength Stability (Lifetime): 20 ppb Wavelength Accuracy: ± 0.1 ppm (standard); ± 0.02 ppm (with optional calibration) Reference Frequency: 1.9 to 2.4 MHz Maximum Linear Velocity: 500 mm/s (with linear optics) Beam Diameter: 6 mm Beam Height: 79.5 mm Warm-up Time: Typical 4 minutes; up to 10 minutes standard; 90 minutes with connected vent fan MTBF: > 50,000 hours Power Supply: +15 V ± 0.3 V at 2.5 A max; -15 V ± 0.3 V at 0.02 A max Heat Dissipation: 23 W (operating); 35 W (warm-up) Operating Temperature: 0 to 40 °C Weight: 3.4 kg (7.5 lb) Laser Class: Class 2 Polarization: Orthogonally polarized frequency components (f1 horizontal, f2 vertical)

Key Features Sub-nanometer wavelength stability over one-hour intervals (2 ppb vacuum) Integrated control unit simplifies system integration Multiple mounting options: three M8 $\times$ 1.25 tapped feet or six-hole base configuration (M6 or 1/4-20 UNC) Extended operating lifetime (> 50,000 hours MTBF) Compact packaging smaller than 5517A predecessor

Typical Applications Coordinate measuring machine (CMM) calibration CNC machine tool alignment and verification Laser displacement and position measurement systems Precision length standards and dimensional calibration Semiconductor manufacturing alignment Scientific metrology and research

Compatibility & Integration The 5517B operates with compatible receiver electronics (e.g., E1709A) to achieve specified maximum linear velocity. Kinematic mounting recommended for rear foot placement when not using aluminum mounting surfaces.

5517B Characteristics / Specifications

PARAMETER	VALUE
Model	5517B
Instrument Type	Two-frequency HeNe laser head
Series Family	Keysight 5517/5519 laser heads
Laser Type	helium-neon, continuous, two-frequency
Wavelength Accuracy Standard	plus or minus 0.1 ppm
Wavelength Accuracy Optional Cal	plus or minus 0.02 ppm
Vacuum Wavelength Stability 1 Hour	2 ppb
Vacuum Wavelength Stability Lifetime	20 ppb
Mtbf Typical	greater than 50,000 hours typical
Reference Frequency	1.9 to 2.4 MHz (Option H10: 2.2 to 2.4 MHz)
Minimum Output Power	greater than 120 uW (product page 120 uW; fact sheet greater than 120 uW)
Warm Up Time	90 minutes
Available Beam Diameter	6 mm
Max Linear Velocity 10897D 10898D N12	538 mm/s (linear optics, worst-case direction)
Max Linear Velocity N1225A	443 mm/s
Maximum Beam Power Output Family	less than 1 mW (Class II)
Beam Height 5517x	79.5 mm (plus or minus 1.0 mm on 5517B product page)
Power Supply	Keysight 10884B or equivalent plus/minus 15 V
Laser Class	Class II / 21 CFR 1040.10 and 1040.11
Documentation	Keysight 5517 series product fact sheet 5990-5634
Weight	3.4 kg (7.5 lb)
Plus 15 V Current	3.0 A maximum at plus 15 V plus or minus 0.3 V
Minus 15 V Current	0.3 A maximum at minus 15 V plus or minus 0.3 V
Vacuum Wavelength Nominal	632.991372 nm (5517B operating manual)

PARAMETER	VALUE
Max Linear Velocity Linear Optics Product Page	500 mm/s with linear optics (product page); 538 mm/s on fact-sheet 10897D column
Wavelength stability	1 Hour: 2 ppb

5517B Specifications

PARAMETER	VALUE
Agilent Keysight 5517B HeNe Laser Head	Overview
Applications	Machine-tool and metrology interferometers; VME/PC transducer systems; 5527/5530 laser calibration when used with matching electronics.
Key Features	Two-frequency Zeeman-split HeNe at 633 nm
Internal reference receiver	Reference frequency 1.9 to 2.4 MHz (Option H10: 2.2 to 2.4 MHz)
Optional beam diameters 003/006/009 where listed	Requires 10884B or equivalent plus/minus 15 V supply
Technical Specifications	Model: 5517B

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
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Series Family	Keysight 5517/5519 laser heads
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Reference Frequency	1.9 to 2.4 MHz (Option H10: 2.2 to 2.4 MHz)
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Available Beam Diameter	6 mm
Max Linear Velocity 10897D 10898D N1231	538 mm/s (linear optics, worst-case direction)
Max Linear Velocity N1225A	443 mm/s
Maximum Beam Power Output Family	less than 1 mW (Class II)
Beam Height 5517x	79.5 mm (plus or minus 1.0 mm on 5517B product page)
Power Supply	Keysight 10884B or equivalent plus/minus 15 V
Laser Class	Class II / 21 CFR 1040.10 and 1040.11
Documentation	Keysight 5517 series product fact sheet 5990-5634
Weight	3.4 kg (7.5 lb)
Plus 15 V Current	3.0 A maximum at plus 15 V plus or minus 0.3 V
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Vacuum Wavelength Nominal	632.991372 nm (5517B operating manual)
Max Linear Velocity Linear Optics Product Page	500 mm/s with linear optics (product page); 538 mm/s on fact-sheet 10897D column

Notes

Numeric rows from Keysight 5517A/B/C/... Laser Heads for Transducer Systems product fact sheet 5990-5634 and model product pages. Vacuum wavelength nominal values for 5517B/C are in the 5517B/C/D operating manual (632.991372 nm 5517B; 632.991354 nm 5517C).

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.