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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 5517EL

HP Agilent Keysight 5517EL Low Heat HeNe Laser Head The Keysight 5517EL isaClass II helium-neon two-frequency laser head in the 5517xL low-heat family. OEM 5517 series product fact sheet 5990-5634 lists reference frequency greater than or equal to 5.8 MHz, minimum output greater than 65 uW, 45 minute warm-up with fan on the vent body, 2 ppb vacuum wavelength stability (1 hour) and 20 ppb lifetime, plus or minus 0.1 ppm accuracy standard (plus or minus 0.02 ppm with optional calibration), and MTBF greater than 50,000 hours typical. The Keysight 5517EL isaClass II helium-neon two-frequency laser head in the 5517xL low-heat family. OEM 5517 series product fact sheet 5990-5634 lists reference frequency greater than or equal to 5.8 MHz, minimum output greater than 65 uW, 45 minute warm-up with fan on the vent body, 2 ppb vacuum wavelength stability (1 hour) and 20 ppb lifetime, plus or minus 0.1 ppm accuracy standard (plus or minus 0.02 ppm with optional calibration), and MTBF greater than 50,000 hours typical. Machine-tool and semiconductor interferometers needing higher slew rate than 5517C with forced-air thermal management on the L-series vented cover.

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 5517EL is a helium-neon two-frequency laser head delivering stable 632.99139 nm light for precision dual-frequency interferometry. This continuous-wave source provides wavelength accuracy of ± 0.1 ppm (vacuum, 3 sigma, lifetime) with exceptional stability of

± 0.002 ppm per hour, meeting demands in metrology, positioning, and calibration systems where high measurement accuracy is critical.

Technical Specifications

Laser Source Type: Helium-neon, continuous wave, two-frequency (heterodyne) Wavelength: 632.99139 nm (nominal, in vacuum) Wavelength Accuracy: ± 0.1 ppm (vacuum, 3 sigma, lifetime); ± 0.02 ppm with MIL-STD 45663 factory calibration Wavelength Stability: ± 0.002 ppm per hour (typical, vacuum); ± 0.02 ppm lifetime (vacuum) Reference Frequency: ≥ 5.8 MHz Classification: Class II Laser Product (21 CFR 1040.10 and 1040.11) Performance Output Power: 65–220 μ W (minimum 50 μ W after 3 years) Beam Diameter: 6 mm Beam Height: 80.8 ± 1.0 mm Maximum Linear Velocity: 1740 mm/s (with linear optics) Measurement Range: 40 meters (130 feet) for sum of all axes Mean Time Between Failures: >50,000 hours (typical) Electrical Requirements Input: +15 V $\pm$ 0.3 V @ 2.2 A max; -15 V $\pm$ 0.3 V @ 0.03 A max Power Supply: Agilent/Keysight 10884B or equivalent Heat Dissipation: 23 W operating, 35 W warm-up Physical & Environmental Weight: 3.2 kg (7 lb) Warm-up Time: 45 minutes (with fan connected to vent body) Mounting: M8 $\times$ 1.25 tapped holes; kinematic rear-foot mounting recommended for non-aluminum surfaces Clearance: 10.16 cm (4 inches) required beyond back of unit for cabling

Key Features Two-frequency heterodyne output enables direct velocity and acceleration measurement ± 0.002 ppm/hour stability supports long-term metrology without frequent recalibration Optional MIL-STD 45663 factory calibration reduces wavelength uncertainty to ± 0.02 ppm >50,000 hour MTBF ensures reliability in production-critical applications 40-meter measurement range accommodates large-scale positioning systems

Typical Applications Laser interferometry for precision displacement and velocity measurement Semiconductor lithography equipment calibration Flat panel display manufacturing alignment systems Precision metrology and dimensional calibration instruments

Compatibility & Integration Requires Agilent/Keysight 10884B power supply. High-velocity applications may require specialized receivers such as the E1709A. Mounting feet accommodate standard M8 $\times$ 1.25 fasteners on aluminum or equivalent surfaces.

5517EL Characteristics / Specifications

PARAMETER	VALUE
Model	5517EL
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	greater than or equal to 5.8 MHz
Minimum Output Power	greater than 65 uW
Warm Up Time	45 minutes (fan connected to vent body)
Available Beam Diameter	6 mm
Max Linear Velocity 10897D 10898D N12	1740 mm/s (requires E1709A receiver)
Max Linear Velocity N1225A	1677 mm/s
Max Linear Velocity 10898D N1231 Alt	1772 mm/s (requires E1709A receiver)
Maximum Beam Power Output Family	less than 1 mW (Class II)
Beam Height 5517xL	80.8 mm
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
Vacuum Wavelength Nominal Family	632.99137 nm class (5517CL data sheet 632.99137 nm)
Airflow 5517CL Class	4 m/s min exiting 50 mm duct (5517CL data sheet)
Enclosure 5517CL Class	IP10 per IEC 529 (5517CL data sheet)
Mass 5517CL Class	3.2 kg (5517CL data sheet)

PARAMETER	VALUE
Plus 15 V Current 5517CL	2.2 A maximum (5517CL data sheet)
Minus 15 V Current 5517CL	0.02 A maximum (5517CL data sheet)
Wavelength stability	1 Hour: 2 ppb

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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Notes

Numeric rows from Keysight 5517A/B/C/CL/D/DL/EL/FL/GL Laser Heads for Transducer Systems product fact sheet 5990-5634. 5517CL electrical, mass, airflow, and vacuum wavelength rows also from the 5517CL Laser Head data sheet. High-velocity rows marked with E1709A on the fact sheet require that receiver.

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.