

Ultra-Narrow Linewidth CW Fiber Laser

SINGLE-FREQUENCY & NANOSECOND LASERS



The single-frequency narrow linewidth fiber laser employs a rare-earth-doped fiber DFB laser cavity structure, outputting a single longitudinal mode laser at a wavelength of 1550nm with a spectral linewidth of less than 3kHz. It features an output spectral side-mode suppression ratio exceeding 60dB, and a typical output power of 50mW, with options for higher power versions available. Offered in either module or benchtop packaging, it serves as an ideal laser source for applications such as distributed sensing.

- Spectral Linewidth $\leq 3\text{KHz}$
- Lidar
- Fiber DFB Cavity
- Hydrophone
- Mode-hop free
- Fiber distributed sensing

Specifications

Parameter	Specification
Wavelength (nm)	1550±0.1
Spectral Linewidth @3dB (kHz)	≤ 3
Side mode suppression ratio (dB)	≥ 60
Wavelength Instability (MHz)	$\leq \pm 25$
Laser Mode	CW
Output Power (mW)	50/100/200/500
Polarization	Random; linear polarization
Short-term stability (15 minutes) (dB)	$\leq \pm 0.02$
Long-term stability (8 hours) (dB)	$\leq \pm 0.05$
Optical fiber and connectors	SMF-28/PM1550

* Wavelength: 1545 ~ 1560 nm Customizable

* Spectral Linewidth @3dB: * 3dB Linewidth = 20dB Linewidth / 20

* Laser Mode: Continuous Light

* Short-term stability (15 minutes): Equivalent $\leq \pm 0.5\%$

* Long-term stability (8 hours): Equivalent $\leq \pm 1.2\%$

* Optical fiber and connectors: FC/APC

Source: WaveQuanta product database. For ordering, customization (wavelength, power, package) and quotation, contact sales@wavequanta.com.