

# Rainbow 2000 Pro

## 2000 nm Ultrafast Fiber Laser

Rainbow 2000 Pro is a thulium-fiber based high-performance ultrafast fiber laser specifically designed for scientific users and has flexible parameters upon user requests. It has a center wavelength of  $1970\pm 10$  nm, a pulse width of 200 fs (15 ps Optional), repetition rate of 80MHz, and an average output power of 200mW (4W Optional)

Rainbow 2000 Pro is based on SESAM passive locking technology and has an all-PM fiber structure. It uses NPI Lasers' proprietary optical switch packaging technology, and integrates with NPI Lasers' unique "Smart-Lock" processes to ensure long-term stability and reliability. The laser is an easy-to-use turn-key system, and can also be computer controlled.

Rainbow 2000 Pro is well-suited for applications such as Mid-IR frequency conversion, Nonlinear optics and Silicon photonics. It can meet a broad range of R&D requirements of the scientific community.

### Applications :

- Mid-IR frequency conversion
- Nonlinear optics
- Multiphoton imaging
- Silicon photonics
- Mid-IR spectroscopy

## Main Specification

### Laser Parameters

Operating Wavelength	1970±10 nm	Average Power Stability	<0.5% RMS(12h@25°C)
Pulse width (FWHM)	200 fs; 15 ps	Single-pulse energy	2.5 nJ; 50 nJ
Repetition Rate	80 MHz	Polarization Extinction Ratio	>20 dB
Average Power	>200 mW; 4 W	Output Type	FC/APC connector; Free-space

### Electrical, Environmental and Mechanical Parameters

Supply Voltage	100-240 VAC	Weight	17 Kg
Operational Temperature Range	15-35 °C	Dimensions	391×298×115 mm
Operational Humidity Range	20~80 °C	Cooling	Air cooling

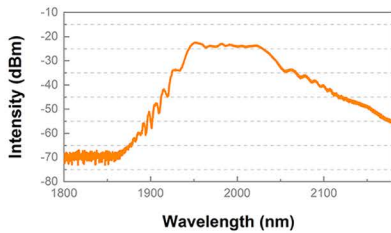


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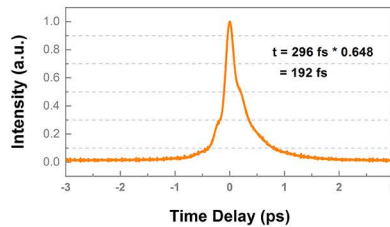
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### Test Data

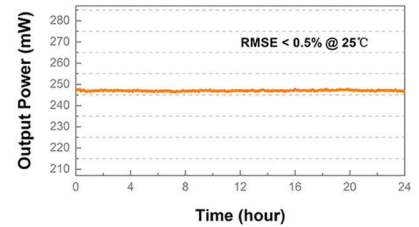
Output spectrum



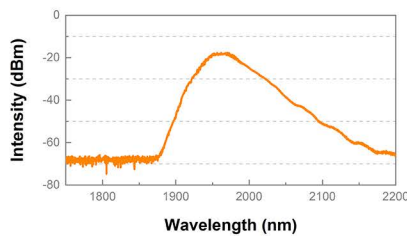
Typical output pulse width



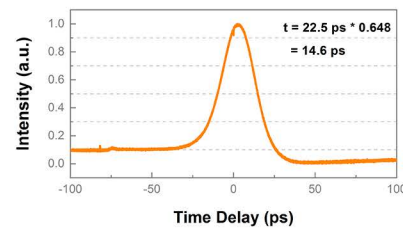
Power Stability



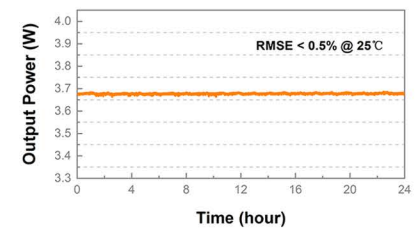
Output spectrum



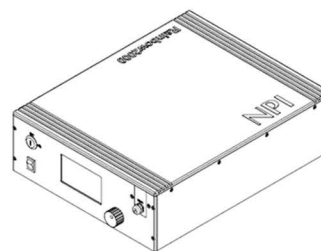
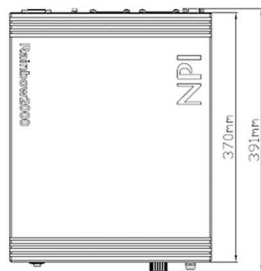
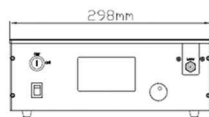
Typical output pulse width



Power Stability



### Machine Drawing



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