Cycle

SOPRANO

1560 nm Er femtosecond laser

Low-noise fiber laser for multiphoton imaging, material processing and more

APPLICATIONS

Femtosecond fiber laser for

- Materials processing (e.g. Silica)
- Semiconductor testing (e.g. OBIC)
- Multiphoton microscopy
- Spectroscopy

BENEFITS

- Up to 130 nJ pulse energy at 1550 nm
- Pulse duration < 160 fs with clean spectrum
- Rep rate control actuators available
- No water-cooling required
- Turn-key operation

DESCRIPTION

Cycle's SOPRANO femtosecond laser delivers outstanding performance, acclaimed for its clean pulse and spectrum shape and low relative intensity noise. This makes it exceptionally suitable for materials analysis, semiconductor testing, and more. SOPRANO merges advanced features with cost-effectiveness, making it an attractive option for both scientific and industrial settings.

Contact us at sales@cyclelasers.com to explore the SOPRANO series. Our engineers will help optimize parameters for your needs.

SPECIFICATIONS

Parameter	Specification	Comment
Center wavelength	1560 +/- 10 nm	
Pulse duration	<160 fs	Typ. < 140 fs
Avg. output power	> 400 mW	up to 4 W on request
Pulse energy	14 nJ	At 30 MHz with 420-mW output power
Pulse repetition rate	30-110 MHz	
Spectral bandwidth	>25 nm	
Beam quality	M2 < 1.1, TEM_{00}	
PER	>20 dB	
Laser output	collimated free space	Additional fiber output port possible
Output beam diameter	2 mm	Other beam sizes possible
2H generator	Optional	
PZTs for Synchronization	Optional	
Technical		
Laser head dimensions	119 ×231 ×266 mm (H×W×D)	
Electronic head	3U rack unit	
Power supply	100 – 240VAC, 50 – 60Hz	

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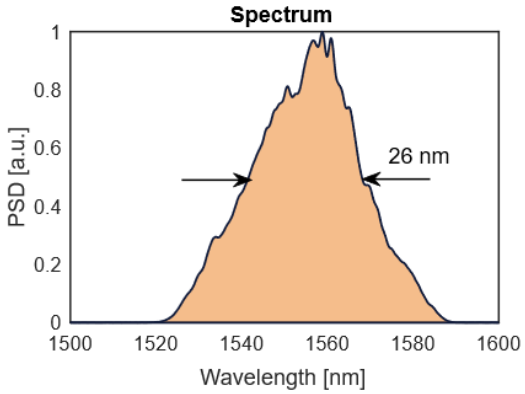
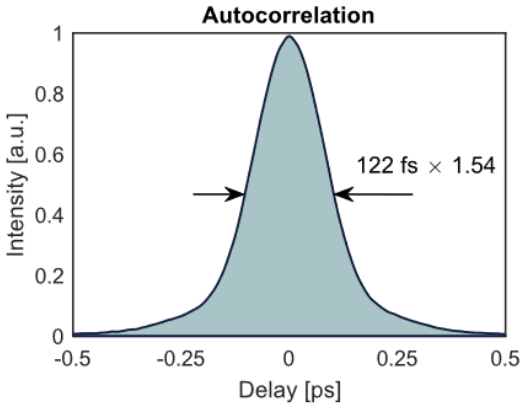
Our team of experienced laser engineers will find a useful combination of parameters which will best fit your needs and application.

MEASUREMENT DATA

The laser output measurement for the SOPRANO prototype at 30MHz, which has an average output power of 420 mW, is provided for reference purposes.

Spectrum & Autocorrelation





Power log & RIN spectral density