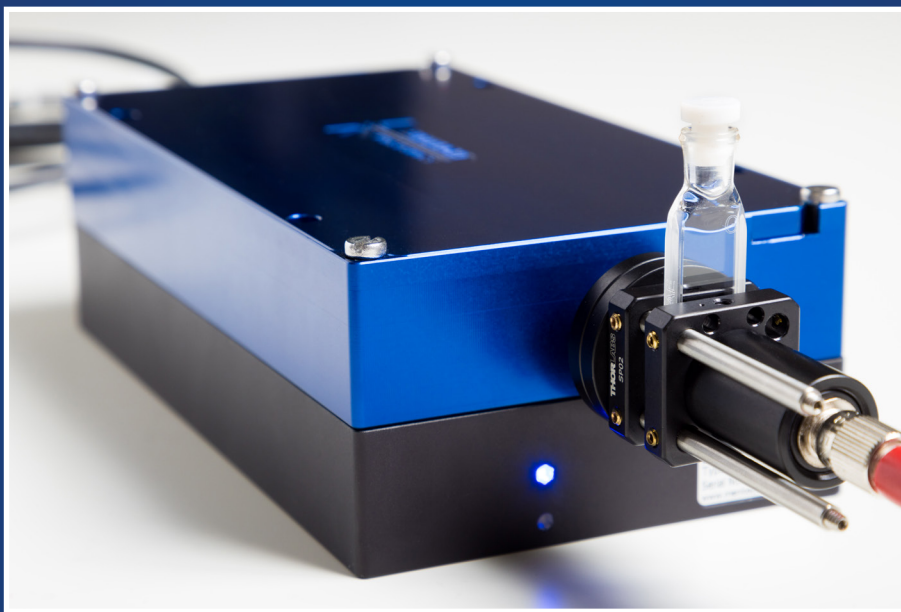


## SLP-1000 ON-CHIP SUPERCONTINUUM LASER

Low power, high quality, portable laser sub-system solution



### Next generation SCG platform

- 🌟 World-record, coherent wide bandwidth
- \*\*\* High quality, smooth spectral output
- 🔋 Energy efficient – battery operated
- ⚙️ Small size, low weight, portable & robust
- 🏆 Patented PAD - Patterned Alternating Dispersion™

# The SLP-1000 in a nutshell

## Unique and superior SCG features

### SLP-1000 ON-CHIP WIDEBAND LASER

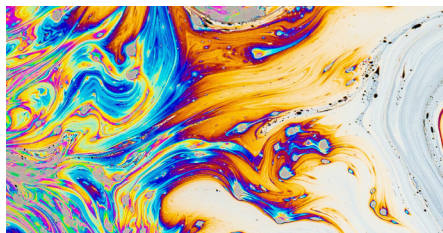
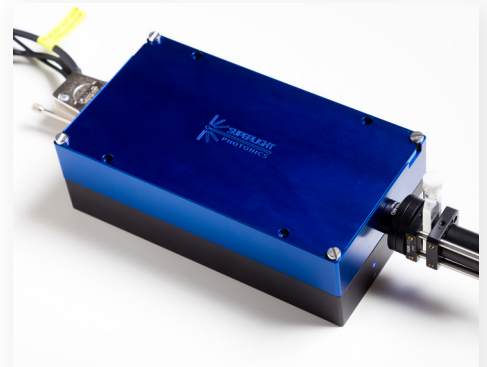
- PIC (Photon-IC) solution
- Patented PAD - Patterned Alternating Dispersion™
- Low maintenance and easy to install
- Fast start-up time, no (re-)calibration required, limited down-time
- Long lifetime, perfect alternative for halogen light sources with at least 5x longer lifetime

### SLP-1000 UNIQUE PORTABLE SOLUTION

- Energy efficient - battery operated
- Small size, low weight, portable & robust

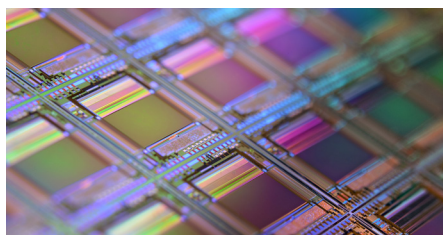
### SLP-1000 ADVANCED & SUPERIOR LIGHTSOURCE

- Superior light quality with high brightness and power
- High quality, smooth spectral output
- World-record, coherent wide bandwidth (time coherence & spectral coherence)
- Pulsed frequency comb laser to overcome the narrow spectrum of tunable lasers



### SLP-1000 WIDEBAND LASER APPLICATION INNOVATIONS

The SuperLight Photonics technology provides the ideal light source for industrial and bio-medical imaging applications and for the dynamic world of spectroscopy. Its innovative concept stands out in the industry and offers a portable, high-quality, fully coherent, and unrivaled light source and provides innovation to a broad field of applications.



- Environmental sensing
- Manufacturing inspection
- Medical examination, OCT - Optical Coherence Tomography
- Analysis in forensics for drugs, explosives, crime scene investigation
- Quality control for pharma & consumption industry
- Surface and glass inspection, evaluating pipe microfractures
- Defect tracing in assembly lines and electronic manufacturing
- Deviation detection in chip alignment
- Precision farming and crop monitoring
- Aerial surveillance and agro inspection
- Spectroscopy to define material's unique fingerprint
- Third harmonic surface imaging & transient absorption spectroscopy

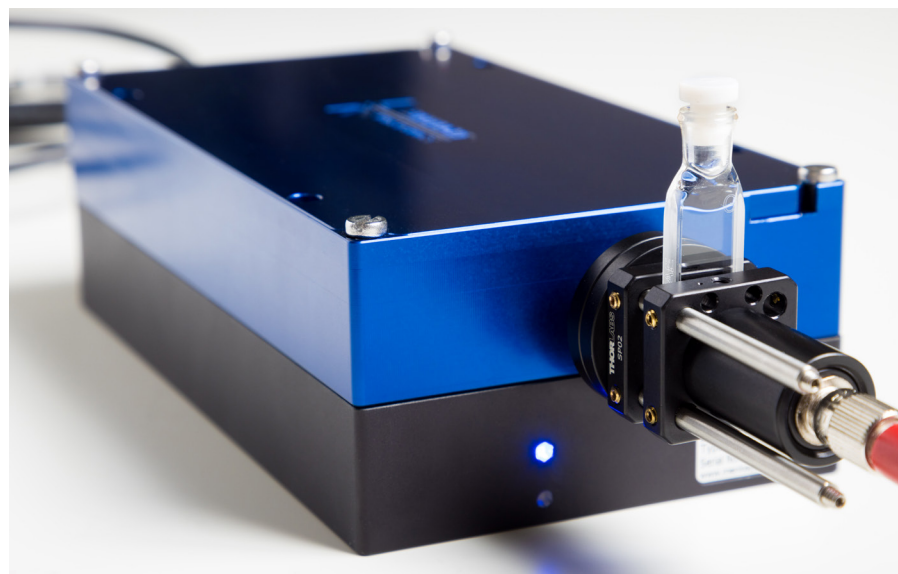
# The SuperLight Photonics SLP-1000, A breakthrough in wideband laser technology

Standard lasers emit highly focused (and coherent) beams of monochromatic light (single wavelength), resulting in a pure and well-defined color, crucial for various applications.

However, emission at only one wavelength also has limitations, and wideband lasers, also called SCG-lasers (supercontinuum lasers) have been developed with a significant advantage: a full spectrum of wavelengths with all the characteristics of a laser across the spectrum, in essence a multitude of monochromatic lasers in one.

The vastness of new information that can be accessed with this spectrum carries large advantages in various applications such as imaging, sensing, ranging and spectroscopy. Unfortunately, wideband lasers today are bulky and expensive...

**Here comes the SLP-1000**, generating unprecedented spectral power at the 3 dB range and femtoseconds compressed pulse duration all on chip! Which can be used in both stationary (small laboratory) and mobile, handheld and battery operated applications.



*SLP-1000 equipped with a Menlo seed laser and Thorlabs equipment*

The **SLP-1000** is a fully integrated supercontinuum generation module using the Elmo low power fiber laser from Menlo and the SLP-0900 as the internal spectrum generator.

Standard Thorlabs components can be attached directly at the output of the device, to easily build up portable and robust full optical setups.

This integrated module, less than a kilo in weight and less than a liter in volume, while covering a broad spectrum of 400 nm(@ -3dB) to 1000 nm(@ -30dB) and offering pulse durations of 20 fs in the near infra-red space truly takes SCG lasers out of the lab and into the field!

## KEY FEATURES

- Wide spectral band (NIR)
- Coherent
- Smooth spectral output
- Short pulse width
- Low power consumption
- Battery operated for true portability
- Takes the SCG laser out of the lab and into the field

## INTEGRATION

- Integrated seed laser from Menlo Systems
- Seamless integration with Thorlabs equipment and accessories

# SLP-1000 Wideband Laser Generator

## Preliminary Spec Sheet

	Unit	Typical	Minimum	Maximum	Remark
Spectral Coverage	nm	700			See spectral power density plots
Output Power	mW	2.5			
Pulse Length	fs	20			
RIN	/Hz	<10 <sup>-14</sup>			
Repetition Rate	MHz	100			
Total Power Stability	%	0.5			RMS amplitude noise over 24 hours
Output Beam	mm	1.8			Radius, collimated - See beam profile plot Customization (μlens) possible
Output Port Thread		SM05			Compatible with Thorlabs components

Power Supply (DC)	V	12			Mains or battery powered
Current	A	1			5A at warm-up
Power Consumption	W	12			
Warm-up Time	s	60			
Operating Temperature	C F	20 68			

Dimensions (WxHxL)	cm	175 x 96 x 52			See drawing
Weight	kg oz	0.9 32			Excluding control panel, cabling

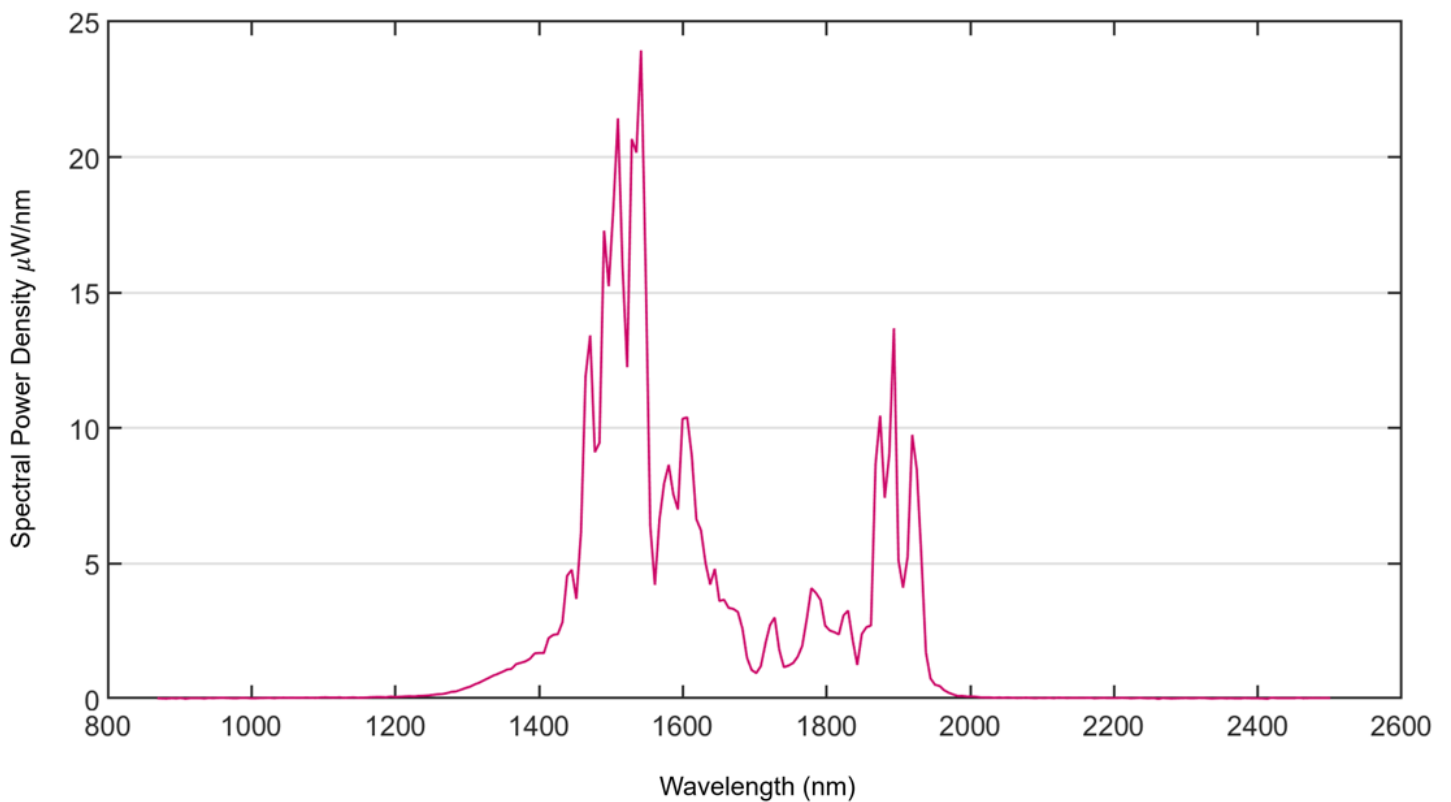
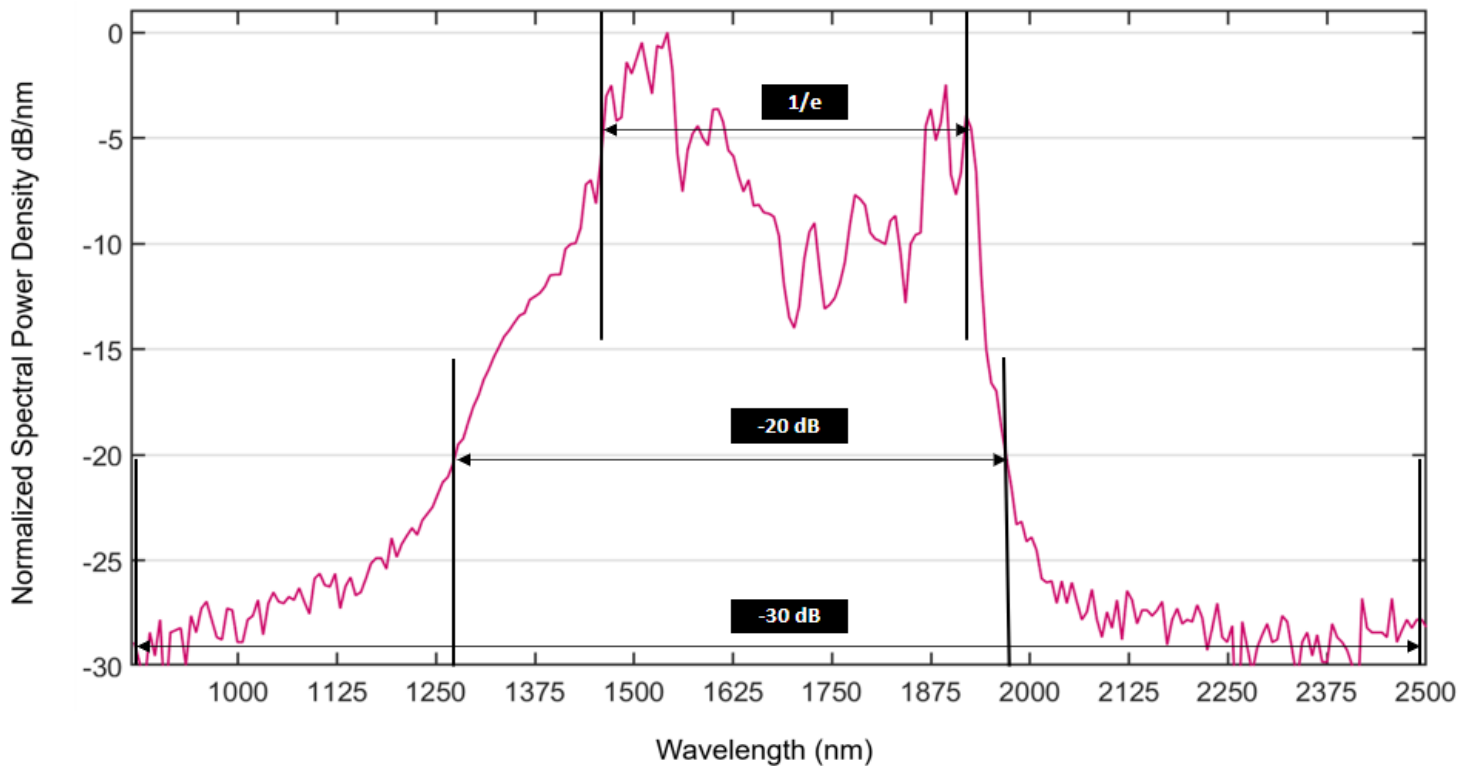
Disclaimer: the information provided in this preliminary datasheet is subject to change and is for informational purposes only. It does not guarantee product specifications or availability. Accuracy and completeness cannot be guaranteed, and final specifications may differ. Consult official documentation for the most up-to-date information. This datasheet does not imply any warranties, and our company disclaims liability for any damages resulting from its use. Unauthorized use or distribution is prohibited.



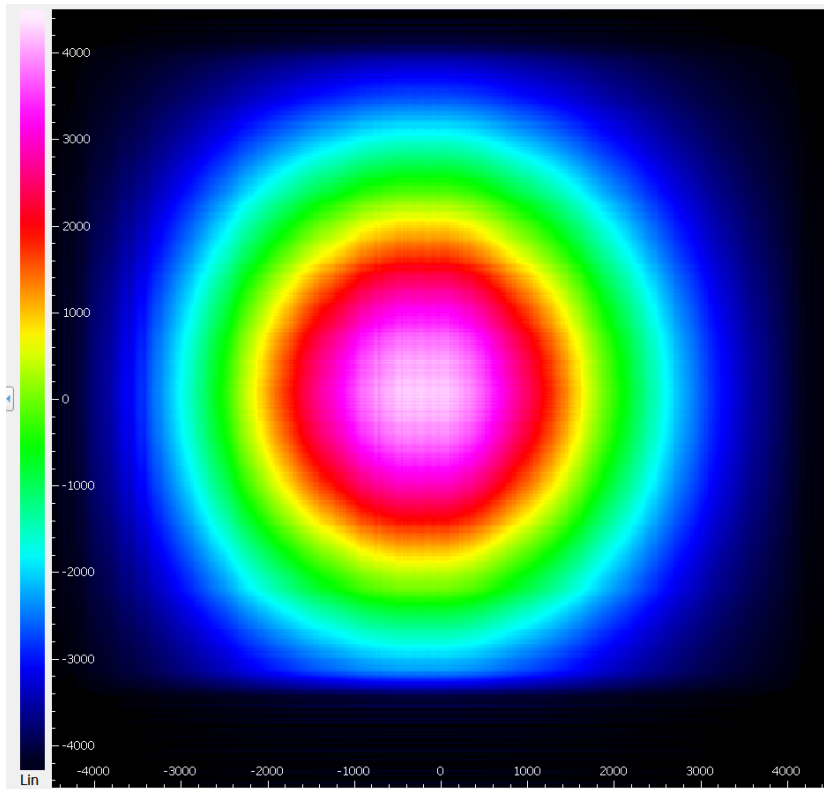
The SLP-1000 is the industry's first portable and maintenance-free wideband laser. Its smooth, wide and coherent spectral output offers an unrivalled light source.

# SLP-1000 Wideband Laser Generator

## Spectral Bandwidth



# SLP-1000 Wideband Laser Generator Beam Intensity Profile

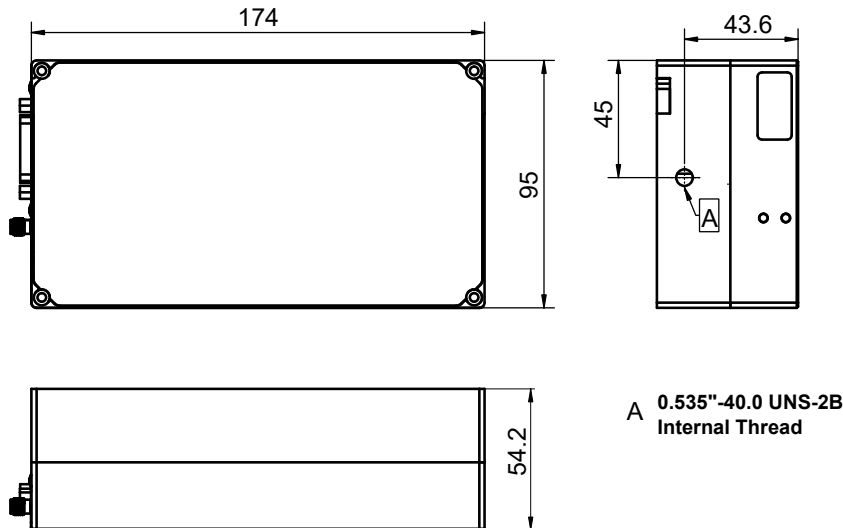


Disclaimer: the information provided in this preliminary datasheet is subject to change and is for informational purposes only. It does not guarantee product specifications or availability. Accuracy and completeness cannot be guaranteed, and final specifications may differ. Consult official documentation for the most up-to-date information. This datasheet does not imply any warranties, and our company disclaims liability for any damages resulting from its use. Unauthorized use or distribution is prohibited.

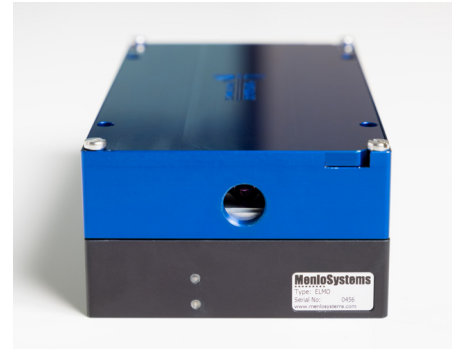
# SLP-1000 Wideband Laser Generator

## Dimensions & Weight

SuperLight Photonics has redefined the supercontinuum laser landscape by miniaturizing the SCG laser into a handheld Photon-IC (PIC) device, an industry first. The SLP-1000 brings the SCG laser lab to the field.



- 900 grams (32 oz)
- Small form factor (175 x 96 x 52 mm $\bar{3}$ )
- Laser output with Thorlabs-compatible screw thread (SM05) for seamless integration with Thorlabs equipment



## Laser Safety & Security

The SLP-1000 classifies under the product laser safety Class 3B. The SLP-1000 cannot be used by untrained or unauthorized personnel. Direct exposure to the beam, should be avoided. Laser eye protection is required.

## Electric & Signal Interfaces

The SLP1000 is supplied with a cable assembly connecting to power (AC mains, 12V DC battery/voltage supply) and signal control (proprietary control box/laptop). It also has an additional interlock input. The default delivery form is with a pigtail (to 12V DC power source) and signal control box. Please indicate your preferences.

## Warranty

Details on the SLP-1000 warranty are outlined in the SuperLight Photonics Terms & Conditions. The most recent version is available at the SuperLight Photonics website.

## Contact SuperLight Photonics

For more information, please contact:

- For (pre) sales questions [inquiries@superlightphotonics.com](mailto:inquiries@superlightphotonics.com)
- For technical support [support@superlightphotonics.com](mailto:support@superlightphotonics.com)

We are here to help and answer any questions you might have.

[www.superlightphotonics.com](http://www.superlightphotonics.com)

