

Fiber Coupled Single Mode Tunable Laser 450-2200nm



(ultra-wide wavelength tunable range, SM, PM)

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The SUTL is a fiber-coupled, single-mode tunable laser covering an ultra-wide spectral range of 450-2200 nm, delivering over 5W of average power with exceptional stability (<0.5% standard deviation). Powered by a 1060 nm pulsed fiber laser, it pumps photonic fiber to produce broadband, single-mode output. Tunability is achieved through a fiber optic tunable filter, offering a typical range of 200 nm, with the option to extend this range using multiple tunable filters and optical switches. The output has free space and fiber coupled option. Its symmetric design also enables excellent polarization-maintaining performance. The SUTL is a turn-key, plug-and-play benchtop unit, combining spatial coherence and broad-spectrum versatility, making it ideal for scientific and industrial applications.

Features

- Ultra Wide Tuning Range
- SM and PM
- Free-Space and Fiber Coupled
- Outstanding Power Stability

Applications

- Microscopy (FRET, TIRF, CLSM...)
- Absorption /Transmission / Reflection Spectroscopy
- Optical Device Characterization
- Metrology
- Hyperspectral Imaging

Specifications

Parameter	Min	Typical	Max	Unit	
Spectrum Range	450		2300	nm	
Laser Linewidth	0.4	0.7	2	nm	
Output Optical Power	0.7nm	0.08	0.15	0.2	mW
	2nm	0.1	0.3	0.5	
Repetition Rate	0.5	1	5	MHz	
Pulse Duration (at 1060nm)		< 10		ps	
Average Power Stability (std. dev.)		< 0.5		%	
Output Power Adjustability	1		100	%	
Spatial Mode Quality (M ²)		< 1.2			
Polarization Extinction Ratio (PM Fiber)	20	25	30	dB	
Power Requirements (50/60 Hz)	100		240	ACV	
Power Consumption		100		W	
Operating Temperature	20		30	°C	
Storage Temperature	-40		80	°C	

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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Rev 12/20/24

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Dimensions (Unit: mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Accessory - Tunable Output

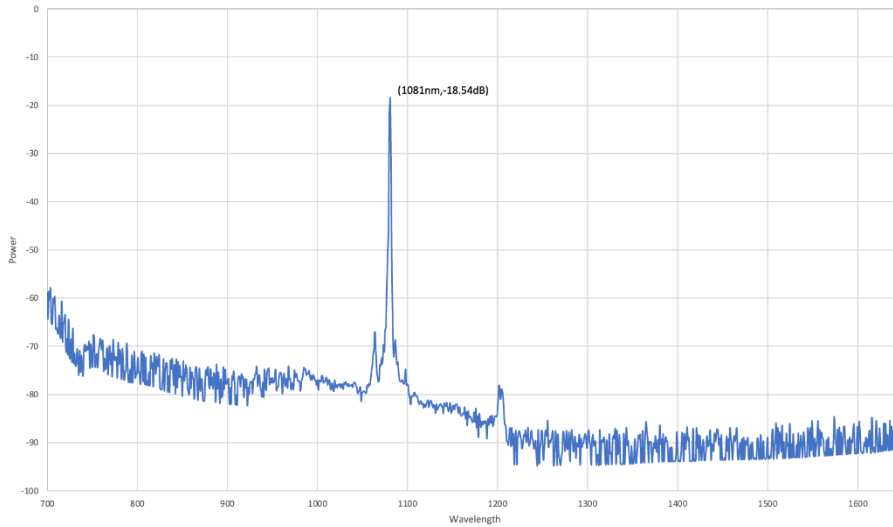
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Typical Spectrum



Ordering Information

Prefix	Config	Wavelength Range	Linewidth	Power	Tuning Method	Output *	Connector
SUTL-	Standard = 1 Special = 0	1300-1600nm = 1 1280-1760nm = 2 1900-2200nm = 3 850-1100nm = 4 650-850nm = 5 400-650nm = 6 1310-2200nm = 7 1280-2200nm = 8 900-2200nm = 9 Special = 0	0.7nm = 1 2nm = 2 Special = 0	Standard = 1 High = 2 Special = 0	Manual = 1 GUI = 2 Special = 0	Free Space = 11 50/125 Fiber = 71 105/125 Fiber = 73 <i>Select from below</i>	None = 1 FC/PC = 2 FC/APC = 3 Special = 0

* There is a cost associated with the difficulty of coupling into fiber. The larger the core, the lower the cost. SM fiber has limited up transmission band

Fiber Type Selection Table:

01	SMF-28	34	PM1550	71	MM 50/125µm
02	SMF-28e	35	PM1950	72	MM 62.5µm
03	Corning XB	36	PM1310	73	105/125µm
04	SM450	37	PM400	74	FG105LCA
05	SM1950	38	PM480	75	FG50LGA
06	SM600	39	PM630	76	STP 50/125
07	780HP	40	PM850	77	IRZS23
08	SM800	41	PM980	78	IRZS32
09	SM980	42	PM780	79	135 µm
10	Hi1060	43		80	400 µm
11	SM400	44	PM405	81	600 µm
12		45	PM460		
13		46			

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Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 μm .

Maximum power = 30 mW.

