



# Single-Frequency Narrow Linewidth CW Fiber Laser

STNLFL Series



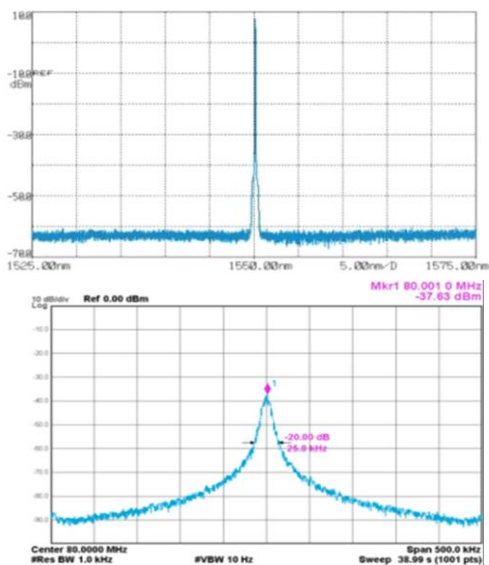
**2024 V1**

For customized projects please Contact us:

[info@simtrum.com](mailto:info@simtrum.com)

## Single-frequency Narrow-linewidth CW Fiber Laser

SIMTRUM's latest innovation, a Single-frequency Narrow-linewidth CW fiber laser, harnesses an erbium-doped fiber DFB laser cavity to deliver a 1550nm single longitudinal mode laser. With a spectral linewidth under 3kHz and side-mode suppression ratio exceeding 60dB, it offers a typical output power of 50mW, with higher power versions available. Available in both module and desktop forms, this laser is perfectly suited for distributed sensing and other precision applications.



### Features

- Spectral linewidth  $\leq 3\text{kHz}$
- All-fiber DFB resonant cavity
- Stable wavelength and no mode hopping

### Application

- LiDAR
- Acoustic sensing, hydrophone
- Fiber optic distributed sensing

### Specifications

Optical Parameters	Unit	Typical Value		Remarks
Wavelength Range	nm	1550 $\pm$ 0.1		1545~1560nm can be customized
Wavelength Spectrum	kHz	$\leq 3$		*3dB Linewidth = 20dB Linewidth/20
Linewidth @3dB Side	dB	$\geq 60$		
Side Mode Suppression Ratio	dB	$\leq \pm 25$		
Laser Operation Mode	-	CW		Continuous light
Output Power	mW	50/100/200/500		
Instability(15min.in)	dB	$\leq \pm 0.02$		Equivalent to $\leq \pm 0.5\%$
Instability(8 hr)	dB	$\leq \pm 0.05$		Equivalent to $\leq \pm 1.2\%$
Polarization State	-	Random	Linear polarization	
Optical Fiber	-	SMF-28	PM1550	
Fiber connector	-	FC/APC	FC/APC (slow axis alignment)	

## Specifications

General Parameters	Desktop	Module
Control Function	Keystroke / RS232 serial Communication	RS232 serial Communication
Remote control Port	DB9 Female	DB9 Female
Power Supply	AC100~240V, <30W	DC 5V, <15W
Dimensions	260(W)×280(D)×120(H)mm	125(W)×150(D)×31.5(H)mm
Operation Temperature	-5~+35°C	
Operation Humidity	0~70%	

Ordering Information/ Product Code					
Series	Wavelength(nm)	Output Power(mW)	Justable Power (Optional)	Fiber	Packaging
STNLFL	1550	50/100/200/500	*T	SM - SMF-28	B - Desktop
				PM - PM1550	M - Module