

# **Single-frequency Narrow Linewidth CW Fiber Laser Semiconductor STNLSL Series**



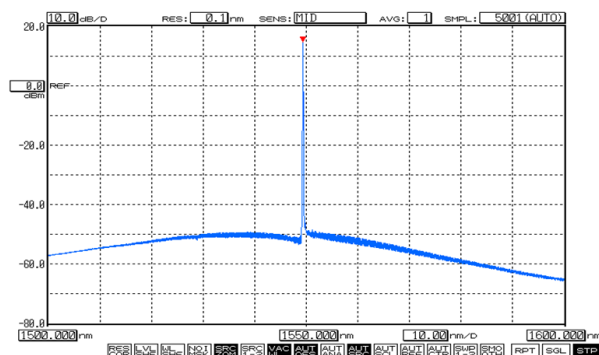
**2024 V1**

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## Single-frequency Narrow-linewidth CW Fiber Laser STNLSL

Introducing SIMTRUM's advanced single-frequency narrow-linewidth fiber laser, featuring an ultra-narrow linewidth external cavity semiconductor laser chip. Emitting at 1550nm, this laser produces a single longitudinal mode with a spectral linewidth under 100kHz. Available with single-mode or polarization-maintaining fiber coupling outputs, it is offered in both module and desktop forms. This cost-effective laser is ideally suited for distributed sensing applications, combining high performance with exceptional value.

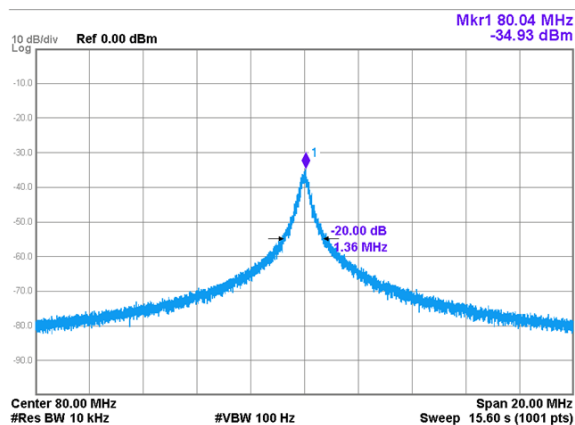


### Features

- Spectral linewidth  $\leq 100\text{kHz}$
- 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		
Wavelength Spectrum	kHz	$\leq 100$		*3dB Linewidth = 20dB Linewidth/20
Linewidth @3dB Side	dB	$\geq 50$		
Side Mode Suppression Ratio	dB	$\leq \pm 100$		at 8H
Laser Operation Mode	-	CW		Continuous light
Output Power	mW	30		
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		

## 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	70(W)×90(D)×15(H)mm
Operation Temperature	-5~+35°C	
Operation Humidity	0~70%	

Ordering Information/ Product Code				
Series	Wavelength(nm)	Output Power(mW)	Fiber	Packaging
STNLSL	1550	20/50/100	SM - SMF-28	B - Desktop
			PM - PM1550	M - Module